



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 08:22 PM GMT

PDB ID : 4P70
Title : Crystal Structure of Unmodified tRNA Proline (CGG) Bound to Codon CCG on the Ribosome
Authors : Maehigashi, T.; Dunkle, J.A.; Dunham, C.M.
Deposited on : 2014-03-25
Resolution : 3.68 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.7 (RC4), CSD as536be (2015)
Xtriage (Phenix) : 1.9-1692
EDS : rb-20026688
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk26865

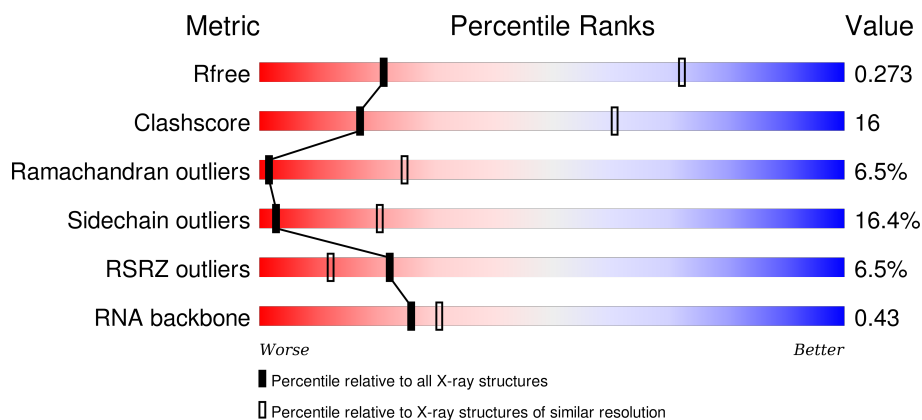
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.68 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	91344	1033 (3.86-3.50)
Clashscore	102246	1148 (3.86-3.50)
Ramachandran outliers	100387	1100 (3.86-3.50)
Sidechain outliers	100360	1098 (3.86-3.50)
RSRZ outliers	91569	1040 (3.86-3.50)
RNA backbone	2183	1066 (4.52-2.80)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	QA	1522	<div> <div>5%</div> <div>35%</div> <div>47%</div> <div>14%</div> <div>..</div> </div>
1	XA	1522	<div> <div>5%</div> <div>33%</div> <div>48%</div> <div>15%</div> <div>..</div> </div>
2	QB	256	<div> <div>4%</div> <div>49%</div> <div>36%</div> <div>7%</div> <div>7%</div> </div>
2	XB	256	<div> <div>46%</div> <div>36%</div> <div>9%</div> <div>7%</div> </div>

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Mol	Chain	Length	Quality of chain
3	QC	239	
3	XC	239	
4	QD	209	
4	XD	209	
5	QE	162	
5	XE	162	
6	QF	101	
6	XF	101	
7	QG	156	
7	XG	156	
8	QH	138	
8	XH	138	
9	QI	128	
9	XI	128	
10	QJ	105	
10	XJ	105	
11	QK	129	
11	XK	129	
12	QL	132	
12	XL	132	
13	QM	126	
13	XM	126	
14	QN	61	
14	XN	61	
15	QO	89	

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Mol	Chain	Length	Quality of chain
15	XO	89	
16	QP	88	
16	XP	88	
17	QQ	105	
17	XQ	105	
18	QR	88	
18	XR	88	
19	QS	93	
19	XS	93	
20	QT	106	
20	XT	106	
21	QU	27	
21	XU	27	
22	RA	2916	
22	YA	2916	
23	RB	122	
23	YB	122	
24	RD	276	
24	YD	276	
25	RE	206	
25	YE	206	
26	RF	210	
26	YF	210	
27	RG	182	
27	YG	182	


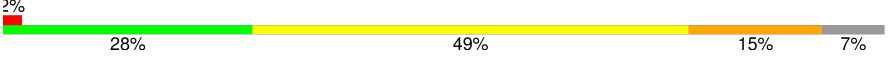

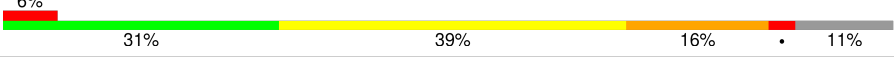
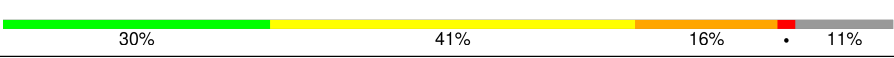
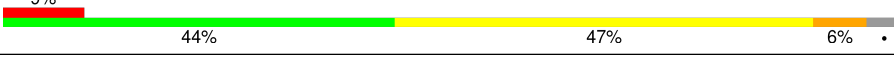
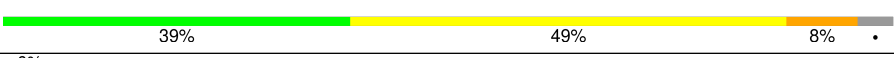
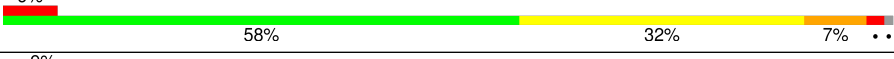
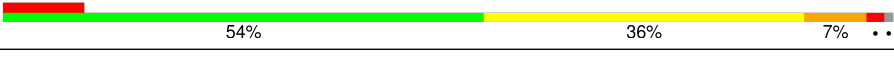

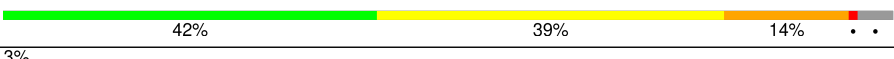
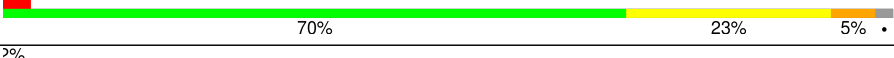

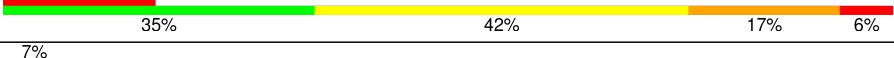
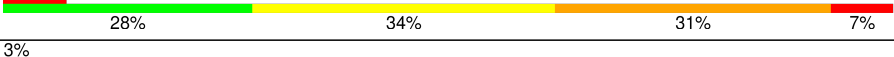
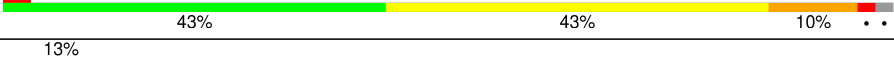


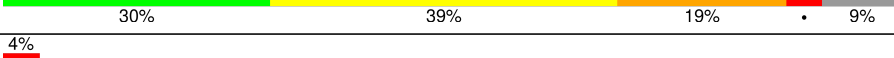
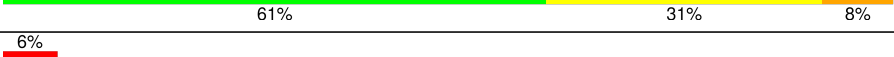
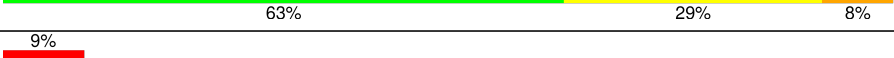

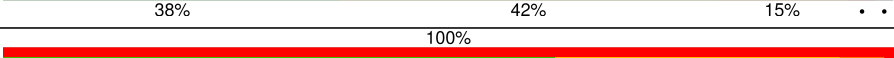
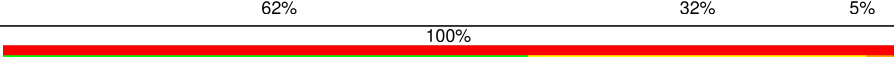

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Mol	Chain	Length	Quality of chain
28	RH	180	
28	YH	180	
29	RI	148	
29	YI	148	
30	RN	140	
30	YN	140	
31	RO	122	
31	YO	122	
32	RP	150	
32	YP	150	
33	RQ	141	
33	YQ	141	
34	RR	118	
34	YR	118	
35	RS	112	
35	YS	112	
36	RT	146	
36	YT	146	
37	RU	118	
37	YU	118	
38	RV	101	
38	YV	101	
39	RW	113	
39	YW	113	
40	RX	96	

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Mol	Chain	Length	Quality of chain
40	YX	96	
41	RY	110	
41	YY	110	
42	RZ	206	
42	YZ	206	
43	R0	85	
43	Y0	85	
44	R1	98	
44	Y1	98	
45	R2	72	
45	Y2	72	
46	R3	60	
46	Y3	60	
47	R4	71	
47	Y4	71	
48	R5	60	
48	Y5	60	
49	R6	54	
49	Y6	54	
50	R7	49	
50	Y7	49	
51	R8	65	
51	Y8	65	
52	R9	37	
52	Y9	37	

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Mol	Chain	Length	Quality of chain
53	QV	77	
53	XV	77	
54	QX	25	
54	XX	25	
55	QY	17	
55	XY	17	
56	Z6	3	
56	Z8	3	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
57	PAR	QA	1601	-	-	-	X
57	PAR	XA	1601	-	-	-	X
58	MG	QA	1634	-	-	-	X
58	MG	RA	3007	-	-	-	X
58	MG	RA	3009	-	-	-	X
58	MG	RA	3033	-	-	-	X
58	MG	RA	3036	-	-	-	X
58	MG	RA	3039	-	-	-	X
58	MG	RA	3067	-	-	-	X
58	MG	RA	3080	-	-	-	X
58	MG	RA	3093	-	-	-	X
58	MG	RA	3094	-	-	-	X
58	MG	RA	3096	-	-	-	X
58	MG	RA	3102	-	-	-	X
58	MG	RA	3125	-	-	-	X
58	MG	RA	3138	-	-	-	X
58	MG	RA	3141	-	-	-	X
58	MG	RA	3142	-	-	-	X
58	MG	RA	3144	-	-	-	X
58	MG	RA	3151	-	-	-	X
58	MG	RA	3164	-	-	-	X
58	MG	RA	3169	-	-	-	X
58	MG	RA	3175	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
58	MG	RA	3183	-	-	-	X
58	MG	RA	3188	-	-	-	X
58	MG	RA	3196	-	-	-	X
58	MG	RA	3225	-	-	-	X
58	MG	RA	3227	-	-	-	X
58	MG	RA	3229	-	-	-	X
58	MG	RA	3235	-	-	-	X
58	MG	RP	201	-	-	-	X
58	MG	RP	202	-	-	-	X
58	MG	XA	1620	-	-	-	X
58	MG	XA	1666	-	-	-	X
58	MG	XA	1671	-	-	-	X
58	MG	XA	1675	-	-	-	X
58	MG	Y0	101	-	-	-	X
58	MG	YA	3003	-	-	-	X
58	MG	YA	3010	-	-	-	X
58	MG	YA	3014	-	-	-	X
58	MG	YA	3015	-	-	-	X
58	MG	YA	3035	-	-	-	X
58	MG	YA	3038	-	-	-	X
58	MG	YA	3047	-	-	-	X
58	MG	YA	3049	-	-	-	X
58	MG	YA	3080	-	-	-	X
58	MG	YA	3090	-	-	-	X
58	MG	YA	3099	-	-	-	X
58	MG	YA	3140	-	-	-	X
58	MG	YA	3142	-	-	-	X
58	MG	YA	3154	-	-	-	X
58	MG	YA	3161	-	-	-	X
58	MG	YA	3164	-	-	-	X
58	MG	YA	3165	-	-	-	X
58	MG	YA	3170	-	-	-	X
58	MG	YA	3180	-	-	-	X
58	MG	YA	3184	-	-	-	X
58	MG	YA	3197	-	-	-	X
58	MG	YA	3199	-	-	-	X
58	MG	YA	3204	-	-	-	X
58	MG	YA	3205	-	-	-	X
58	MG	YA	3206	-	-	-	X
58	MG	YA	3207	-	-	-	X
58	MG	YA	3216	-	-	-	X
58	MG	YA	3218	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
58	MG	YA	3227	-	-	-	X
58	MG	YA	3237	-	-	-	X
58	MG	YA	3255	-	-	-	X
58	MG	YA	3258	-	-	-	X
58	MG	YA	3260	-	-	-	X
58	MG	YA	3261	-	-	-	X
58	MG	YD	301	-	-	-	X
58	MG	YP	201	-	-	-	X

2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 291730 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	QA	1500	Total	C	N	O	P	0	0	0
			32247	14353	5981	10414	1499			
1	XA	1500	Total	C	N	O	P	0	0	0
			32249	14354	5984	10412	1499			

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	QB	237	Total	C	N	O	S	0	0	0
			1924	1228	344	347	5			
2	XB	237	Total	C	N	O	S	0	0	0
			1924	1228	344	347	5			

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	QC	205	Total	C	N	O	S	0	0	0
			1605	1011	313	280	1			
3	XC	205	Total	C	N	O	S	0	0	0
			1605	1011	313	280	1			

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	QD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			
4	XD	208	Total	C	N	O	S	0	0	0
			1703	1066	339	291	7			

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	QE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			
5	XE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	QF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			
6	XF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	QG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
7	XG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	QH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			
8	XH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	QI	127	Total	C	N	O		0	0	0
			1010	639	197	174				
9	XI	127	Total	C	N	O		0	0	0
			1010	639	197	174				

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	QJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	XJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	QK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			
11	XK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	QL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			
12	XL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QM	121	Total	C	N	O	S	0	0	0
			964	597	199	166	2			
13	XM	121	Total	C	N	O	S	0	0	0
			964	597	199	166	2			

- Molecule 14 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	QN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
14	XN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	QO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
15	XO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	QP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			
16	XP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	QQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			
17	XQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	QR	70	Total	C	N	O	0	0	0
			574	367	112	95			
18	XR	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	QS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			
19	XS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	QT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			
20	XT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

- Molecule 21 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	QU	25	Total	C	N	O	0	0	0
			217	134	52	31			
21	XU	25	Total	C	N	O	0	0	0
			217	134	52	31			

- Molecule 22 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	RA	2882	Total	C	N	O	P	0	0	0
			62071	27627	11611	19952	2881			
22	YA	2883	Total	C	N	O	P	0	0	0
			62091	27636	11613	19960	2882			

- Molecule 23 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	RB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			
23	YB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			

- Molecule 24 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	RD	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			
24	YD	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			

- Molecule 25 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	RE	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			
25	YE	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			

- Molecule 26 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	RF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	YF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

- Molecule 27 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	RG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			
27	YG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

- Molecule 28 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	RH	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			
28	YH	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			

- Molecule 29 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	RI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			
29	YI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			

- Molecule 30 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	RN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			
30	YN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 31 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	RO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			
31	YO	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

- Molecule 32 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	RP	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			
32	YP	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			

- Molecule 33 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	RQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
33	YQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 34 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	RR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
34	YR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 35 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
35	RS	111	Total	C	N	O	0	0	0
			882	556	176	150			
35	YS	111	Total	C	N	O	0	0	0
			882	556	176	150			

- Molecule 36 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	RT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			
36	YT	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			

- Molecule 37 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	RU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			
37	YU	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 38 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	RV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			
38	YV	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 39 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	RW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			
39	YW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 40 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
40	RX	92	Total	C	N	O	0	0	0
			725	471	131	123			
40	YX	92	Total	C	N	O	0	0	0
			725	471	131	123			

- Molecule 41 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	RY	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			
41	YY	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			

- Molecule 42 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	RZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	YZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

- Molecule 43 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
43	R0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			
43	Y0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			

- Molecule 44 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	R1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			
44	Y1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			

- Molecule 45 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	R2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			
45	Y2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			

- Molecule 46 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
46	R3	59	Total	C	N	O	0	0	0
			469	298	90	81			
46	Y3	59	Total	C	N	O	0	0	0
			469	298	90	81			

- Molecule 47 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	R4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			
47	Y4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			

- Molecule 48 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	R5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
48	Y5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 49 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	R6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			
49	Y6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			

- Molecule 50 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	R7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			
50	Y7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 51 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	R8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
51	Y8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 52 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	R9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
52	Y9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 53 is a RNA chain called P-site tRNA fMET.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	QV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			
53	XV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			

- Molecule 54 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	QX	8	Total	C	N	O	P	0	0	0
			173	77	33	55	8			
54	XX	8	Total	C	N	O	P	0	0	0
			173	77	33	55	8			

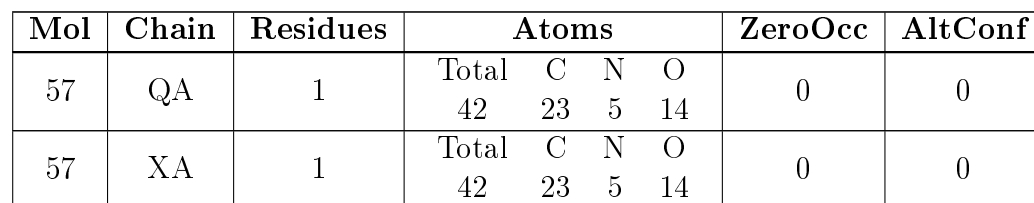
- Molecule 55 is a RNA chain called A site ASL of tRNA-Proline CGG (unmodified).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	QY	8	Total	C	N	O	P	0	0	0
			174	77	33	56	8			
55	XY	8	Total	C	N	O	P	0	0	0
			174	77	33	56	8			

- Molecule 56 is a RNA chain called tRNA acceptor end mimic.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	Z6	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			
56	Z8	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

- Molecule 57 is PAROMOMYCIN (three-letter code: PAR) (formula: C₂₃H₄₅N₅O₁₄).



- | Mol | Chain | Residues | Atoms | ZeroOcc | AltConf |
|-----|-------|----------|------------------------|---------|---------|
| 58 | QA | 76 | Total
76 Mg
76 | 0 | 0 |
| 58 | RP | 2 | Total
2 Mg
2 | 0 | 0 |
| 58 | YA | 265 | Total
265 Mg
265 | 0 | 0 |
| 58 | QM | 1 | Total
1 Mg
1 | 0 | 0 |
| 58 | YD | 2 | Total
2 Mg
2 | 0 | 0 |
| 58 | QV | 1 | Total
1 Mg
1 | 0 | 0 |
| 58 | XA | 82 | Total
82 Mg
82 | 0 | 0 |
| 58 | R0 | 1 | Total
1 Mg
1 | 0 | 0 |
| 58 | Y0 | 1 | Total
1 Mg
1 | 0 | 0 |
| 58 | YQ | 1 | Total
1 Mg
1 | 0 | 0 |

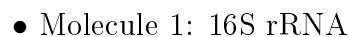


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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
58	R8	2	Total 2	Mg 2	0	0
58	YX	1	Total 1	Mg 1	0	0
58	RD	1	Total 1	Mg 1	0	0
58	XB	1	Total 1	Mg 1	0	0
58	QF	1	Total 1	Mg 1	0	0
58	R5	1	Total 1	Mg 1	0	0
58	RA	247	Total 247	Mg 247	0	0
58	YP	2	Total 2	Mg 2	0	0
58	Y5	1	Total 1	Mg 1	0	0
58	RE	2	Total 2	Mg 2	0	0
58	YB	3	Total 3	Mg 3	0	0
58	XV	2	Total 2	Mg 2	0	0
58	RB	2	Total 2	Mg 2	0	0
58	RF	1	Total 1	Mg 1	0	0
58	XM	1	Total 1	Mg 1	0	0

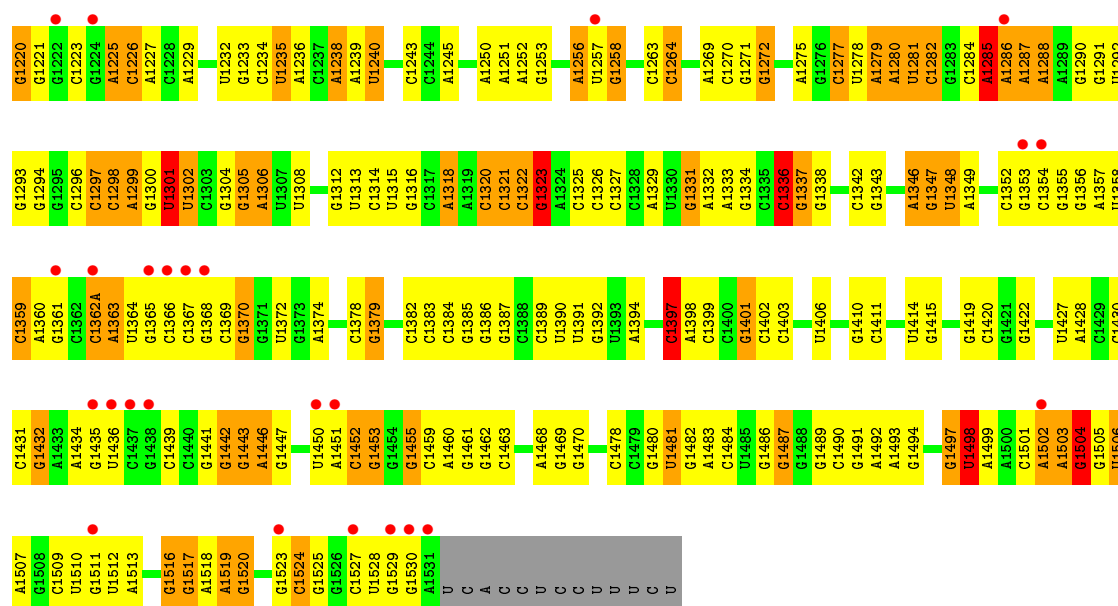
- Molecule 59 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	XD	1	Total 1	Zn 1	0	0
59	QD	1	Total 1	Zn 1	0	0
59	QN	1	Total 1	Zn 1	0	0
59	XN	1	Total 1	Zn 1	0	0

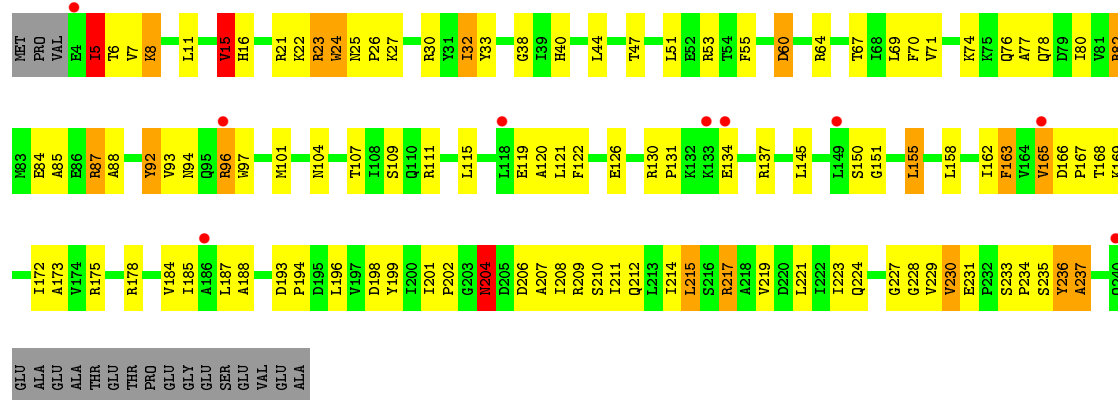


Category	Sub-category	Value
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	C67	67
	G68	68
	G69	69
	C75	75
	G76	76
	C77	77
	G78	78
	G79	79
U	G80	80
	G81	81
	U	82
	U	83
	U	84
	A87	87
	C88	88
	U89	89
	C90	90
	C91	91
U	G92	92
	G93	93
	G95	95
	G96	96
	U97	97
	C99	99
	A101	101
	G102	102
	C103	103
	G104	104
U	G105	105
	C106	106
	G107	107
	C108	108
	A109	109
	C110	110
	G111	111
	G112	112
	G113	113
	U114	114
U	G115	115
	A116	116
	G117	117
	C121	121
	G122	122
	C123	123
	G126	126
	G127	127
	G128	128
	U129	129
U	G129A	129A
	A130	130
	C131	131
	C132	132
	C133	133
	C134	134
	C135	135
	C136	136
	C137	137
	C138	138
U	C139	139
	A140	140
	C141	141
	C142	142
	C143	143
	C144	144
	C145	145
	C146	146
	C147	147
	C148	148
U	C149	149
	A150	150
	A151	151
	U156	156
	G157	157
	C158	158
	A159	159
	A160	160
	C161	161
	C162	162
U	C163	163
	C164	164
	C165	165
	C166	166
	C167	167
	C168	168
	C169	169
	C170	170
	C171	171
	C172	172

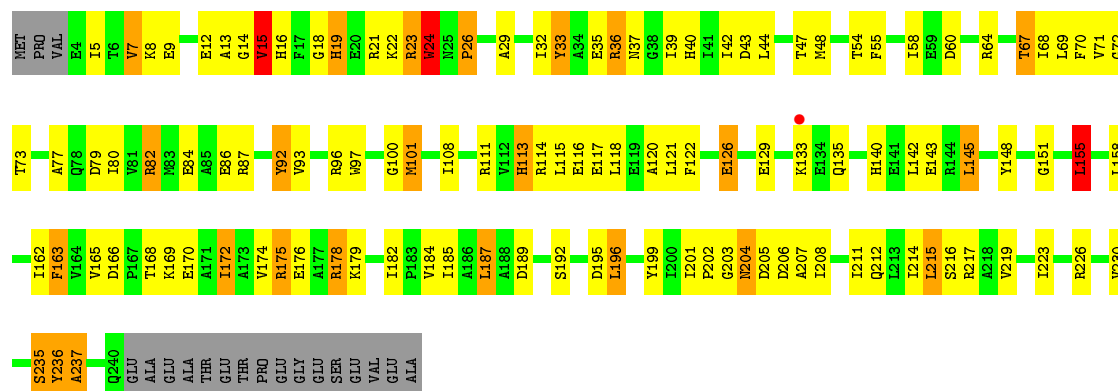
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C1149	U1086	G1022	A958	U884	A807	G724	G639	A559	G492	A414	G348	G281	C201	C136
A1150	G1087	G1023	A959	G890	C808	G725	A640	U560	G493	U420	A349	A282	U208	C137
A1152	G1088	G1024	U960	G891	C809	G726	C643	U561	U494	U421	G350	G283	U209	G138
C1153	U1025	U1025	U961	U891	C810	A729	C644	C562	A495	C422	G351	G284	U210	A143
A1154	G1026	G1026	C962	A892	C811	G730	G645	A563	A496	U423	C352	G285	C217	A144
G1155	C1027	C1027	G963	C893	G812	G731	C647	C564	U497	G424	A353	G286	C218	G145
G1156	A1028	A1028	A964	G894	U813	G732	A648	U565	G500	G425	C354	G289	C219	G146
A1157	G1029	G1029	G966	C895	A814	G733	A649	U571	G501	G426	C355	G290	G220	G147
C1158	C1030	C1030	C967	C896	A815	A733	C651	A572	G502	U427	A356	G291	G221	G148
U1159	U1095	G1031	C968	C897	C817	G734	U652	A573	C503	G428	U358	G292	U222	A149
G1160	G1032	A1032	A969	C898	G818	G735	A653	A574	C504	G429	U359	G293		
C1161	G1032A	G1032A	C970	A819	A819	A737	A654	G576	G505	A430	A360	U294		
C1162	G1032B	G1032B	C971	U820	U820	G738	G657	G577	A509	A431	U365	G295	G226	C154
C1163	G1033	G1033	G972	G821	G821	G739	G658	C578	A510	A432	U366	G296	G227	
A1101	G973	G973	A974	C822	G822	U740	G662	G579	C511	A434	U367	G297	U229	
A1169	U1036	G1036	A975	G825	G825	G741	G663	U580	U512	U437	U368	A298	G230	G159
A1170	C1037	C1037	G976	C826	C826	G742	G664	G581	G513	A300	U369	G299	G231	A161
G1171	C1038	C1038	A977	C827	C827	G743	G665	G585	C514	G438	G371	G301	G232	A162
A1105	C1039	C1039	G978	A828	A828	G744	G666	G588	U515	A439	A372	G302	C234	C163
G1106	U1040	U1040	C979	G829	G829	G745	G667	G589	U516	A440	A373	G303	C235	U164
C1107	A1041	A1041	A915	G830	G830	G746	G668	C590	G517	G444	A374	G306	G236	C165
G1108	G1042	G1042	U832	U833	U833	G747	G673	C591	C518	G445	U375	G307	C237	G166
C1109	A1043	A1043	A833	C834	C834	G748	G674	U591	C519		G376	G309		G167
G1112	G1045	G1045	A986	U835	U835	G749	G675	G592	C522	A448	G377	G310	C240	G168
C1114	U1049	U1049	G987	G836	G836	G750	A676	G595	A523	A449	C379	C311	C242	A171
G1117	G1050	G1050	G988	G837	G837	G751	U677	C596	G527	G450	G380	G312	A243	A172
C1118	G1053	G1053	U991	A923	A923	G752	C679	G597	C528	A451	C381	A313	U244	U173
G1119	C1054	C1054	U992	G924	G924	G753	C680	U598	C529	A452	A382	G314	C245	C174
A1188	U1055	U1055	A994	G925	G925	G754	G681	C600	U531	A453	A383	G315	A246	
G1190	G1056	G1056	G995	G926	G926	G755	G682	G601	G530	C455	G384	G316	G247	C177
U1122	G1057	G1057	C996	G927	G927	G756	G683	A602	A532	C456	U387	G317	G248	
A1123	G1058	G1058	A996	G931	G931	G757	G684	A606	A533	C457	U388	G318	A250	A179
G1124	C1059	C1059	U997	C932	C932	G758	G685	A607	U534	C458	A389	G319	G251	U180
U1125	G1060	G1060	G998	G933	G933	G759	G686			A465	C390	G320	U252	G181
G1126	C1061	C1061	A1000	C934	C934	G760	G687	G617	G537	G466	G391	C322	G253	U182
C1127	U1062	U1062	G1001	A935	A935	G761	G688	U619	A538	C467	G392	A323	G254	C186
U1128	C1063	C1063	G1002	C936	C936	G762	G689	C620	A539	A468	A393	G324	U255	
G1129	G1064	G1064	G1003	A937	A937	G763	G690	A621	G540	G474	G396	A325	G257	U188
A1130	U1065	U1065	A1004	A938	A938	G764	G691	A622	C541	G475	A397	G326	G258	U189
G1131	C1066	C1066	G999	G939	G939	G765	G692	A623	G542	G476	C398	A327	G259	U189
C1133	G1068	G1068	C1005	C940	C940	G766	G693	C624	G543	A477	G399	G328	G260	G190
U1136	U1069	U1069	A1006	G941	G941	G767	G694	G625	G544	C478	C401	G329	U261	G191A
C1137	C1071	C1071	G1007	G945	G945	G768	G695	U626	G545	A479	G402	G330	A262	G191B
G1138	G1074	G1074	G1010	A946	A946	G769	G696	U627	A547	G481	G403	G331	U263	G191C
U1139	C1075	C1075	G1011	G947	G947	G770	G697	G628	G548	A482	U404	G332	U264	U191D
C1140	U1076	U1076	A1014	C948	C948	G771	G698	G629	G549	C483	G405	G333	G265	G191E
A1141	G1077	G1077	A1015	U950	U950	G772	G699	G630	G550	G484	U406	C337	G266	U191F
G1142	C1078	C1078	G1016	G951	G951	G773	G700	G631	U552	G485	G407	A338	C268	G191
C1143	U1079	U1079	A1017	U952	U952	G774	G701	A632	G553	U486	C339	A339	C269	U192
G1144	G1080	G1080	G1018	G953	G953	G775	G702	G633	C554	A487	U408	U340	A270	A195
C1145	G1081	G1081	C1019	U954	U954	G776	G703	G634	C555	C488	G409		C271	A196
A1146	U1082	U1082	U1020	U956	U956	G777	G704	G635	C556	C489	G410	A344	A273	C345
C1147	G1084	G1084				G778	G705	G636	G557	G490	A411	C345	G199	G199



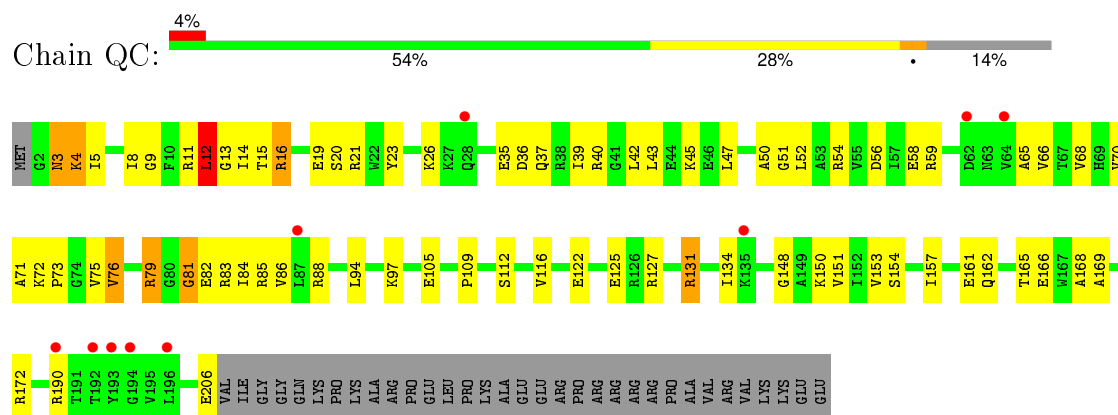
• Molecule 2: 30S ribosomal protein S2



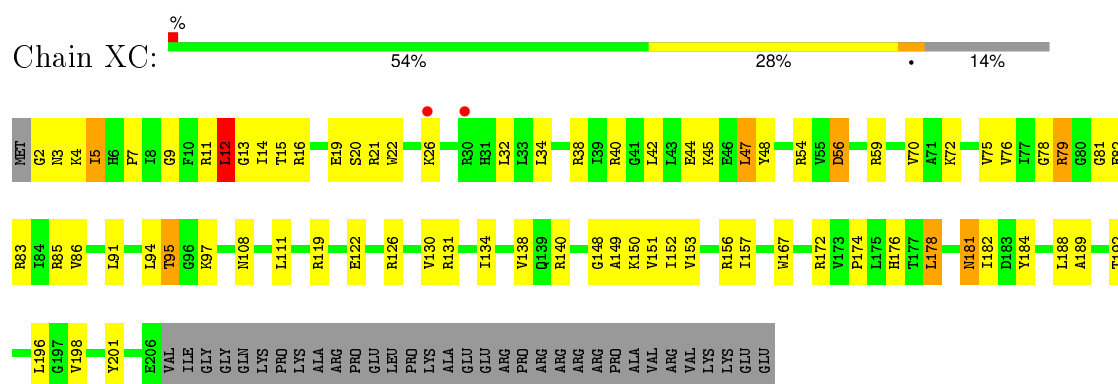
• Molecule 2: 30S ribosomal protein S2



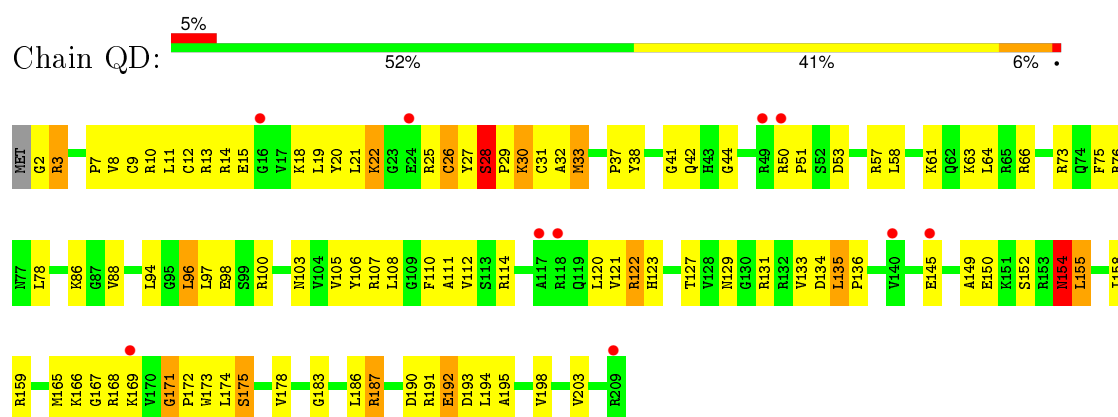
- Molecule 3: 30S ribosomal protein S3



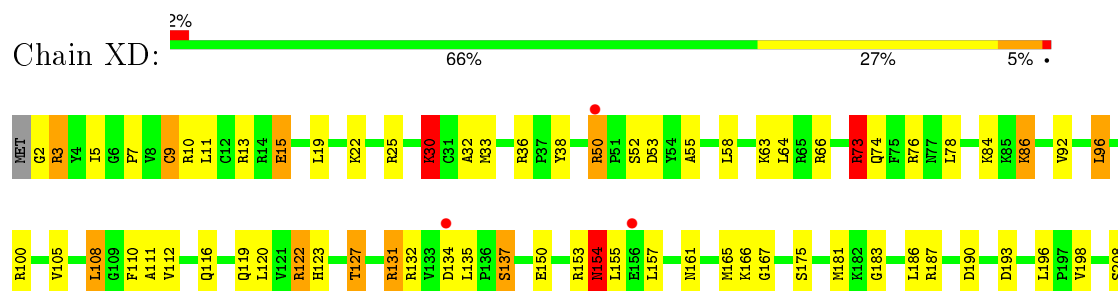
- Molecule 3: 30S ribosomal protein S3



- Molecule 4: 30S ribosomal protein S4



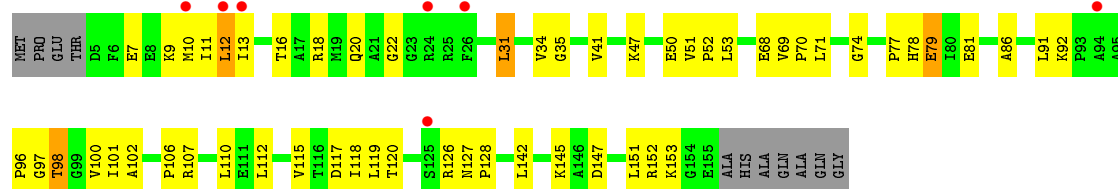
- Molecule 4: 30S ribosomal protein S4



R209

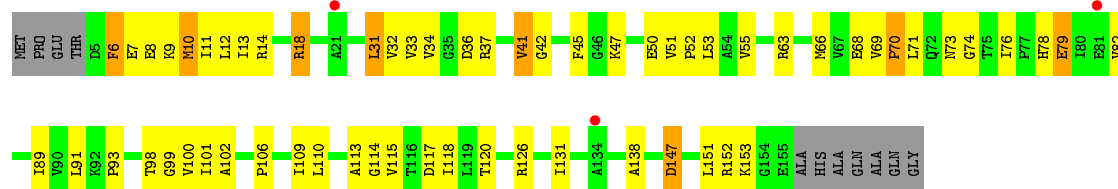
- Molecule 5: 30S ribosomal protein S5

Chain QE: 



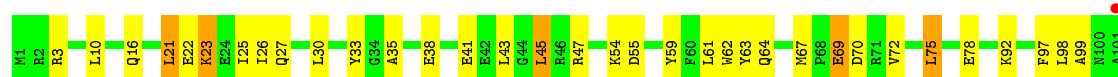
- Molecule 5: 30S ribosomal protein S5

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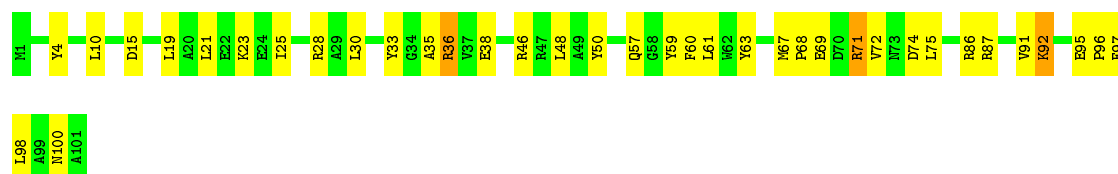
- Molecule 6: 30S ribosomal protein S6

Chain QF: 



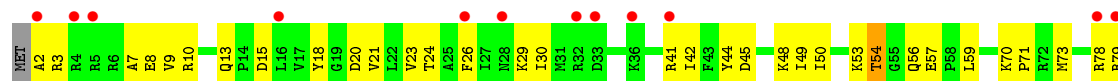
- Molecule 6: 30S ribosomal protein S6

Chain XF: 



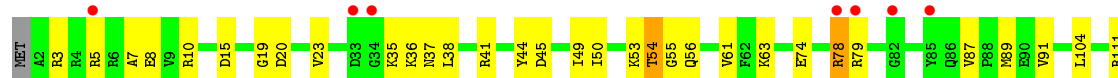
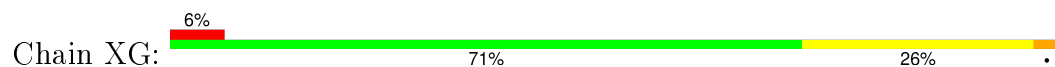
- Molecule 7: 30S ribosomal protein S7

Chain QG: 





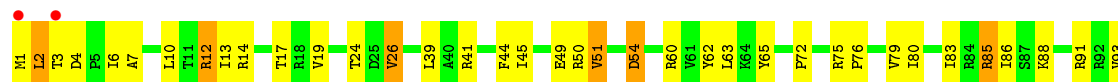
- Molecule 7: 30S ribosomal protein S7



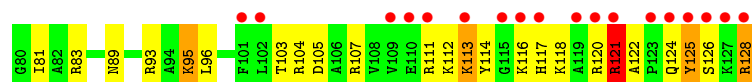
- Molecule 8: 30S ribosomal protein S8



- Molecule 8: 30S ribosomal protein S8

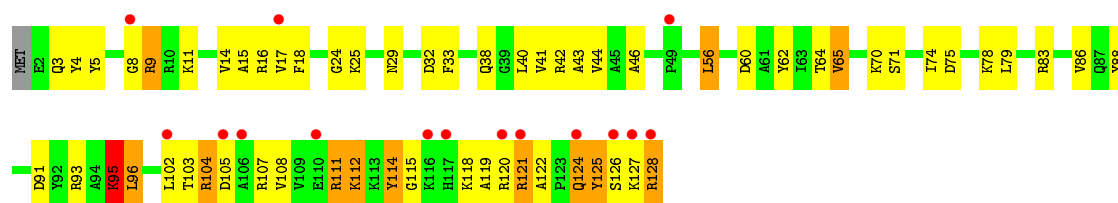


- Molecule 9: 30S ribosomal protein S9

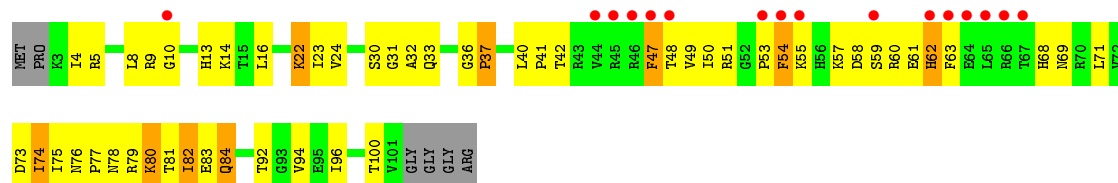


- Molecule 9: 30S ribosomal protein S9

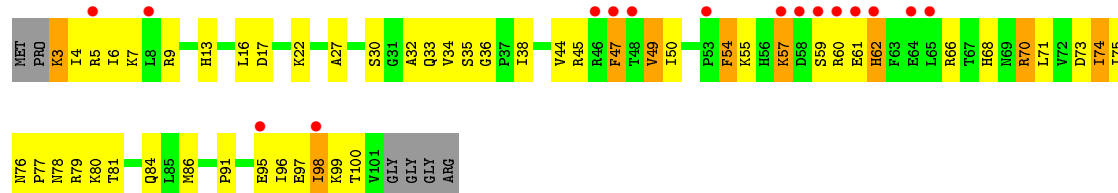




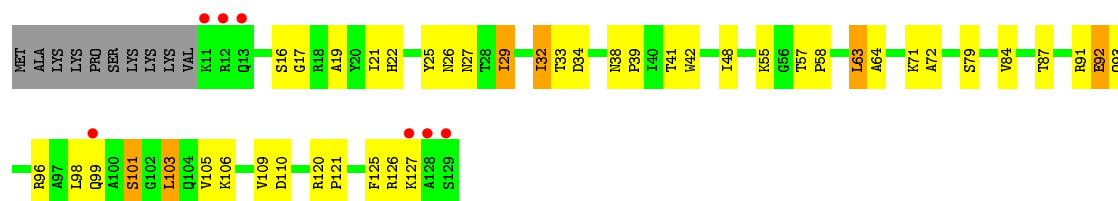
• Molecule 10: 30S ribosomal protein S10



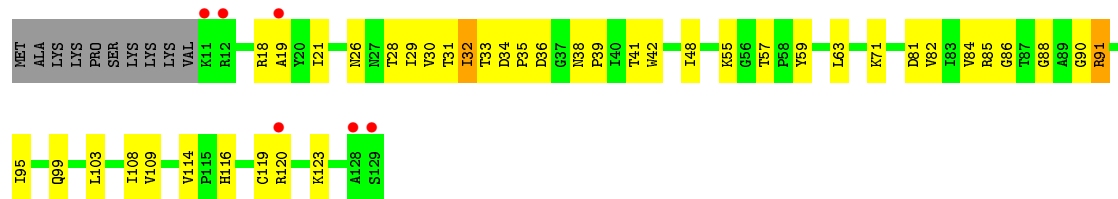
• Molecule 10: 30S ribosomal protein S10



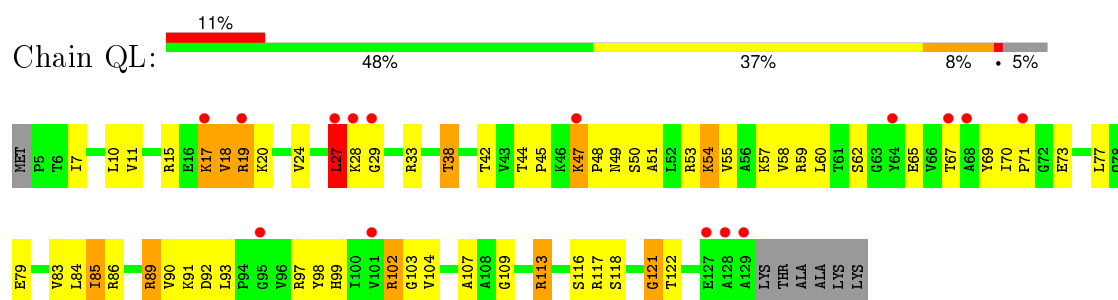
• Molecule 11: 30S ribosomal protein S11



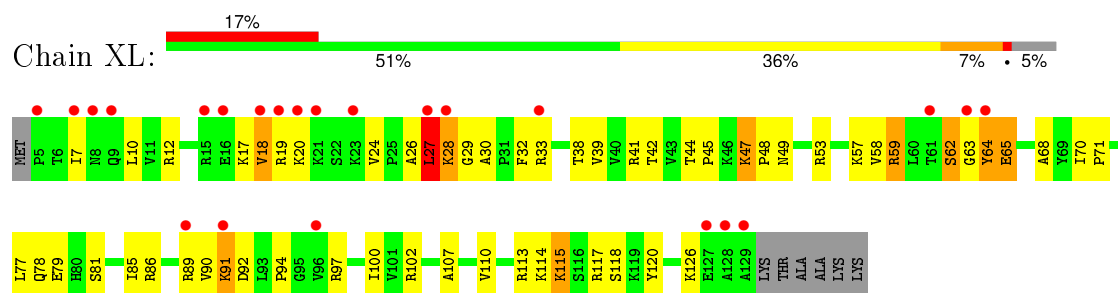
• Molecule 11: 30S ribosomal protein S11



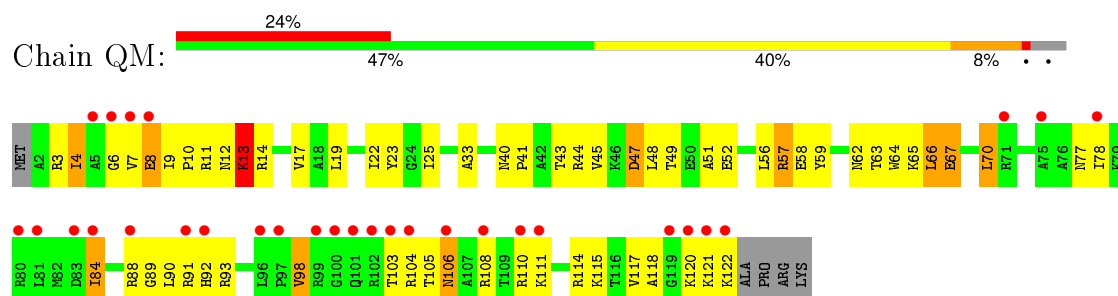
• Molecule 12: 30S ribosomal protein S12



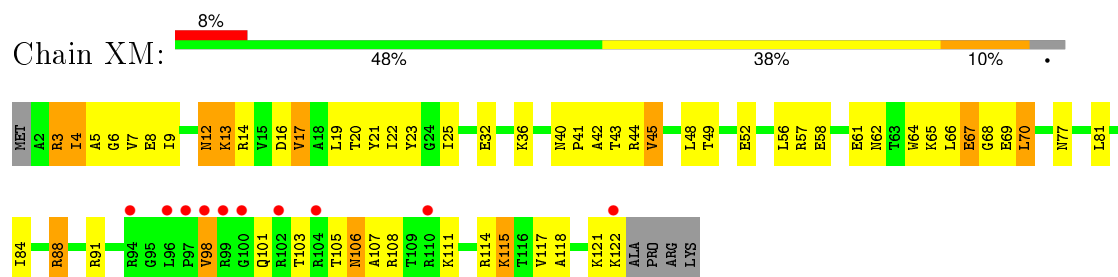
- Molecule 12: 30S ribosomal protein S12



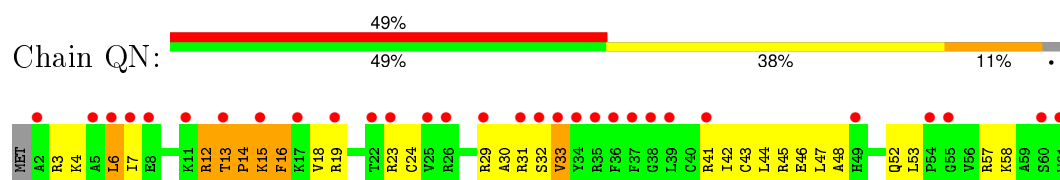
- Molecule 13: 30S ribosomal protein S13



- Molecule 13: 30S ribosomal protein S13

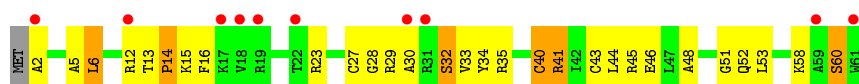


- Molecule 14: 30S ribosomal protein S14 type Z



- Molecule 14: 30S ribosomal protein S14 type Z





- Molecule 15: 30S ribosomal protein S15



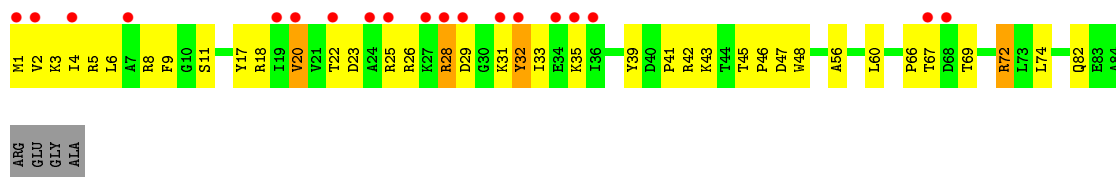
- Molecule 15: 30S ribosomal protein S15



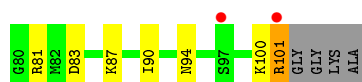
- Molecule 16: 30S ribosomal protein S16



- Molecule 16: 30S ribosomal protein S16

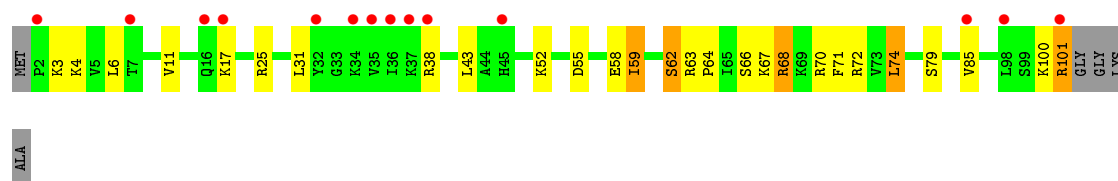


- Molecule 17: 30S ribosomal protein S17

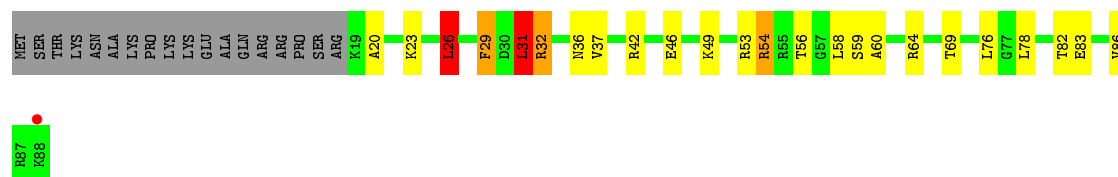


- Molecule 17: 30S ribosomal protein S17

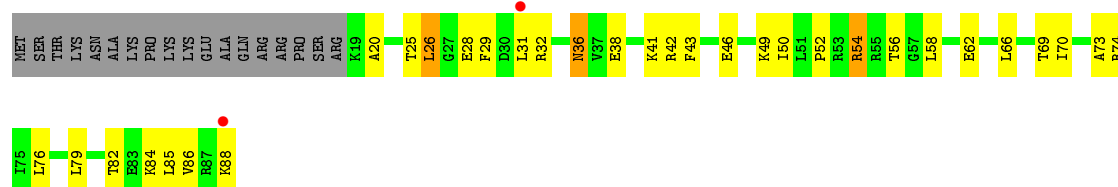
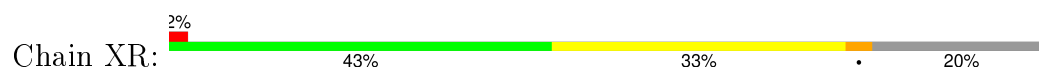




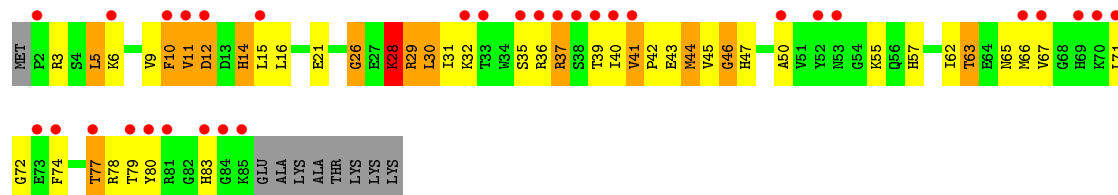
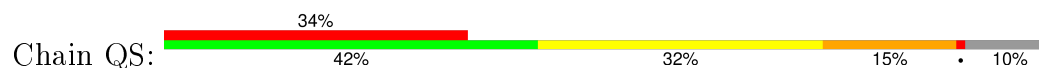
- Molecule 18: 30S ribosomal protein S18



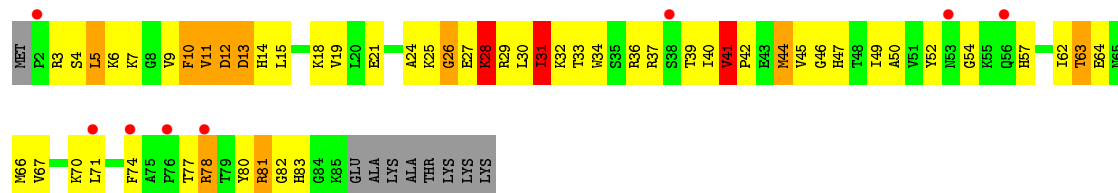
- Molecule 18: 30S ribosomal protein S18



- Molecule 19: 30S ribosomal protein S19

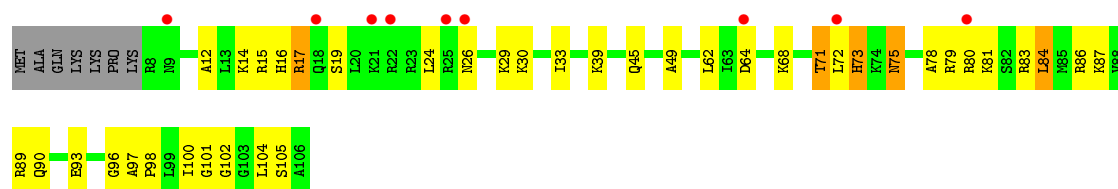


- Molecule 19: 30S ribosomal protein S19

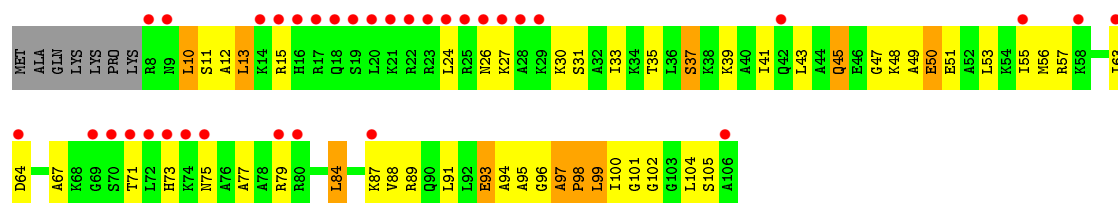


- Molecule 20: 30S ribosomal protein S20

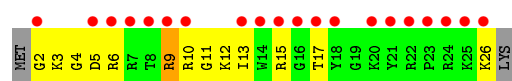
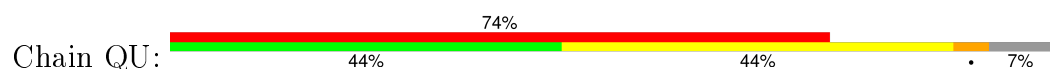




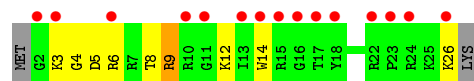
• Molecule 20: 30S ribosomal protein S20



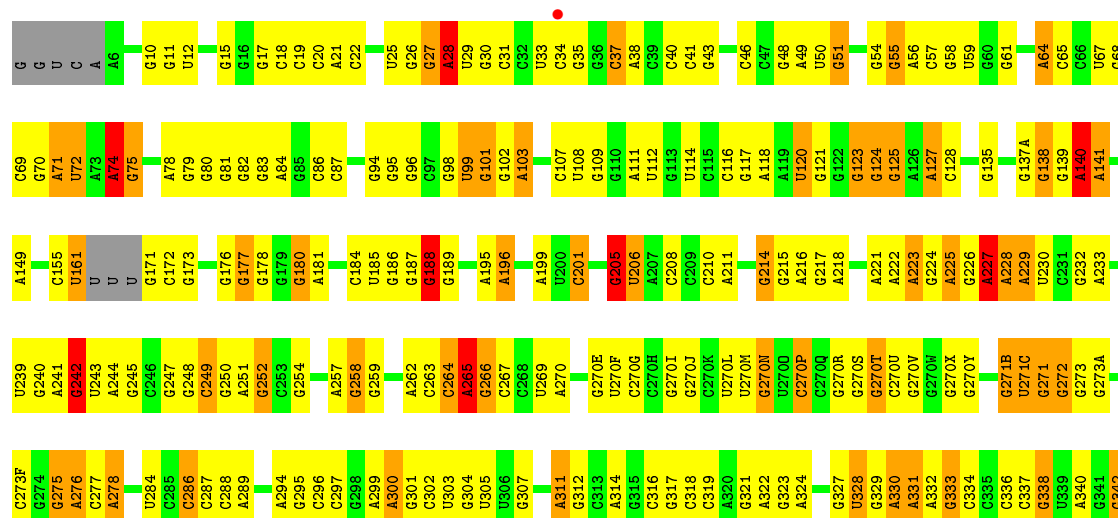
• Molecule 21: 30S ribosomal protein Thx



• Molecule 21: 30S ribosomal protein Thx

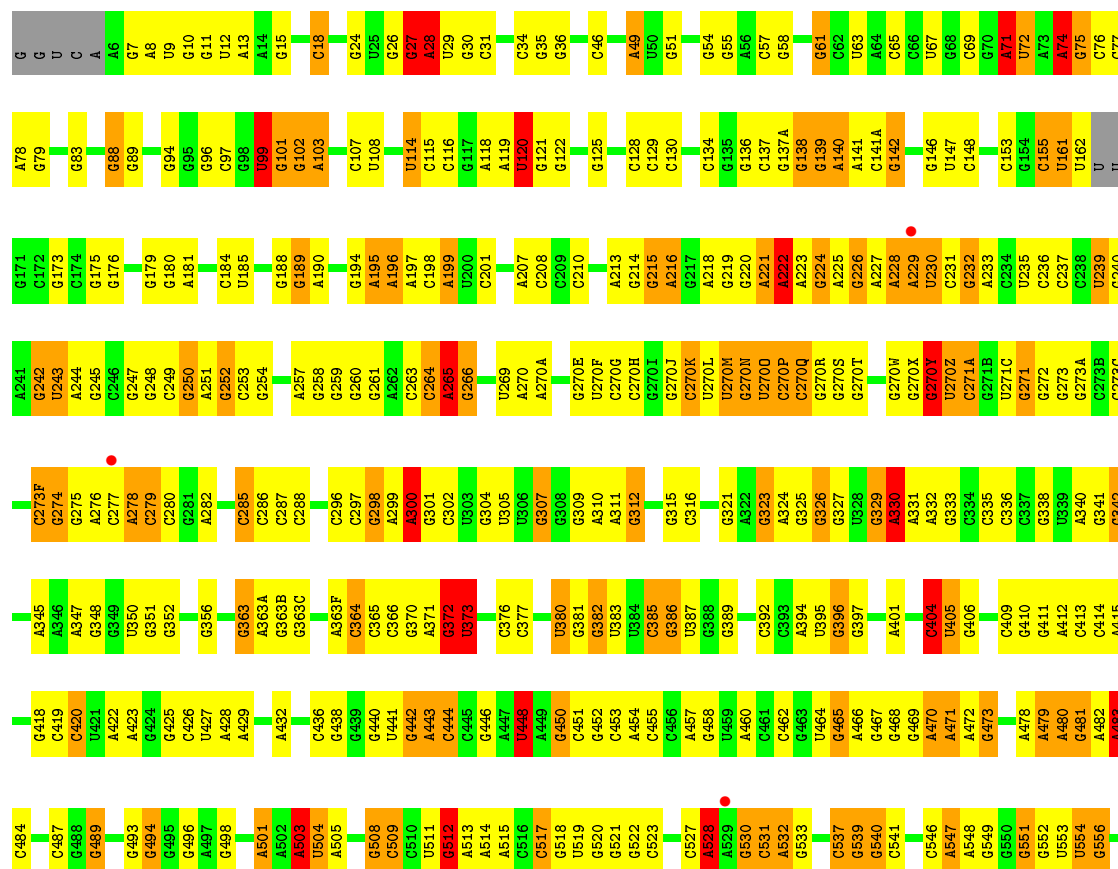


• Molecule 22: 23S rRNA



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A1284	U1211	G1070	A1010	G944	G873	G805	G739	C873	A628	C560	A493	A423	A345
G1285	G1212	G1071	A1011	A945	G874	C906	U740	G628	G629	G563	G494	U427	A346
A1286	A1213	C1072	U1012	G946	G879	U807	G741	G629	G630	C564	G495	A428	A347
G1287	G1214	A1073	U1013	G947	G880	G808	G742	A675	G631	C565	G496	U429	G348
U1288	U1215	G1074	C1013	G948	G881	G809	G743	A676	A632	U566	G497	G430	G352
C1289		C1075	U1014		G882	U810			A633	A567	G498	U431	
C1290		C1076	G1015	G952	G883	U811	A746	C579	A634	G570	U499		A357
G1291	A1219	U1077	G1016	G953	C884	C912	U747	G680	C635	G571	U500	U434	
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C1293	A1143	C1079	G1018	G955	C886	C914	A750	G682	A637	A573	U502	G438	G361
	A1148	C1080	U1019	G956	A887	C915	A751		G638	G573	U503	U439	U362
C1297	G1149	U1081	A1020	A957	C888	C916	A752	A685	U639	C574	U504	G440	G363
G1298	C1150	U1082	G1021	U958	C889	C917	G753	G686		A575	A505	U441	A363A
C1299	G1151	U1083	A1022	A959	G890	G918	G754	C687		U576	G506	G442	
U1300	C1152	A1084	U1023	A960	C892	U819	G755	U688	G642	U577	A507	A443	C364
A1301	C1153	A1085	G1024	C961	C893	U822	G756	G690	C645	A578	C509	C444	
A1302	G1154	A1086	G1025	G962	A896	G823	G757	C891	A646	C579	C510	C445	G370
G1303	A1155	G1087	U1026	U963	C897	A824	G758	C892	G647	C580	G511	G446	A371
		A1088	A1027	C965	C898	C925	A761	C893	G651	C581	G512	A447	G372
				G966	A899	U826	U762	U694	G652	C582	A513	U448	U373
				C967	A900	U827	G763	G695	A653	G585	A514	A449	U380
				G968	A901	U828	A764		A654	A586	A515	A450	G381
				U969	C902	A829	G765	A699	G654	C587	C516	G451	G382
				C970	C903	G830	G766	G700	G654B	U588	C517	G452	U383
				C971	C904	G831	U767	G701	G	C589	U518	C453	U384
				G972	U905	G832	G768	G702	G	C590	U519	A454	U385
				G973	G906	C834	G769	U703	G	C591	G520	C455	C386
				G974	U907	A835	G770	G704	G	A457	G621	C456	G387
				G974A	U907		G771	A705	C	G388	C527	A458	G388
					A910	C838	U779	A706	C	A528	A529	U459	G389
				G975	C914	U839	A774	G707	G	A530	A531	G461	C392
				G977	C915	C940	G775	C708	C	C531	C532	C462	C393
				G978	C916	A841	G776	U709	A	A532	A533	C463	A394
				G979	G917	G842	A777	G710	C	G534	G535	C464	U395
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					A918		U779		C	C537	C538	C467	G397
				A983	G919	C846	G780	U714	G654S	A608	G539	C468	G400
				A984	G920	U847	A781		G654T	A609	G540	C469	C404
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				C990	G927	G855	A788	G723	G659	G615	A549	A479	G411
				C991	G928	G856	A789	U724	G660	A616	G550	A480	C412
				C992	G929	C857	C790	G725	U657	G617	C551	A481	C413
				C993	U930	C858	C791	G726	C658	G618	G552	A482	C414
				C994	G931	U858	G792	G727	G659	G620	U553	A483	C416
				C995	G932	G859	A793	G728	G660	A621	U554	A484	C419
				A996	U933	U860	G793	G729	G661	G622	C556	C485	C420
				C997	G934	A861	A794	G730	G664	G623			
				C998	C935	G862	G795	C731	C665				
				A1000	C936	A863	G796		G666				
				A1001	U937	G864	G799	G732	U667				
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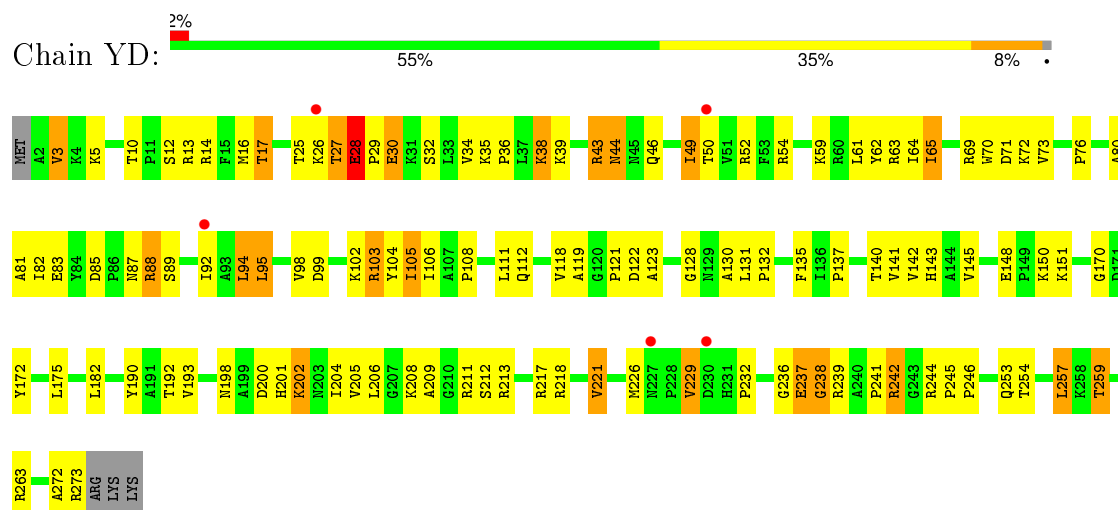




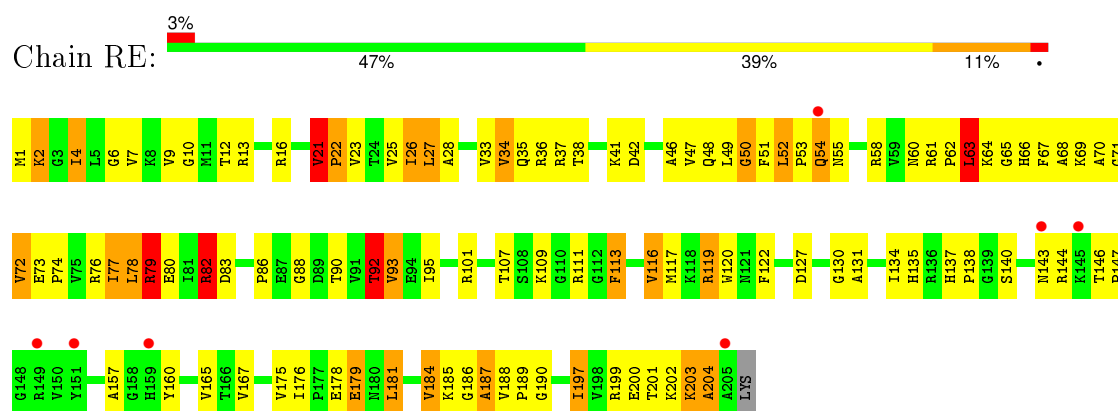
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C817	G818	A819	C825	U826	U827	U828	G829	C830	C834	A835	C840	A841	G842	G845	C846	G848	G852	G853	G854	G855	C856	C857	U858	A782	A783	A784	G785	G786	U787	A788	A789	C790	C791	G792	A793	G794	C795	C796	C797	G879	G880	G881	G882	G883	C884	C885	C886	A887	C888	C889	A890	G892	C893				
C671	C672	C673	G674	A675	A676	C679	G680	G681	G682	A637	G638	U639	C640	C641	C645	A646	G647	G648	A699	G700	G651	G702	U703	G704	A705	C654A	C654B	G	G	G	G	A	C	C	C	C	C	C	G654S	C654T	G656	U657	C658	C659	G660	C661	G662	G663	C664	G668	G669	G744	G745				
U562	G563	U566	A567	U568	U569	A570	A571	A572	G573	C574	A575	U576	G577	A578	C580	C581	G582	G583	A586	C587	U588	C589	A590	C591	G592	G	G	G	G	C	C	C	C	C	C	C	C	C	C	G609A	C610	C611	G612	U613	U614	G615	A616	G617	G618	G620	A621	G622	G623	C624	U626		

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G2599	U2528	A2483	C2386	G2319	G2285	U2180	G2120	C2050	G1980	A1913	A1825	A1759	A1686	G1595
A2602	G2529	G2454	A2387	A2320	G2256	G2181	U2122	A2051	A1981	C1914	G1826	C1761	G1666	A1596
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G2543	A2543	G2468	C2395	G2330	A2268	U2189	G2129	A2059	U1991	G1922	U1834	G1675	A1609	A1608
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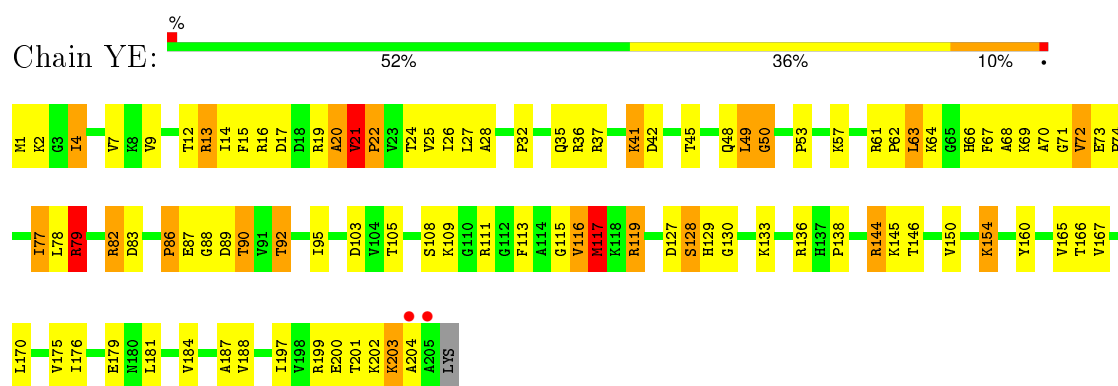
- Molecule 24: 50S ribosomal protein L2



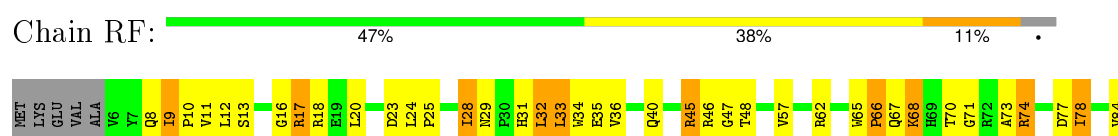
- Molecule 25: 50S ribosomal protein L3

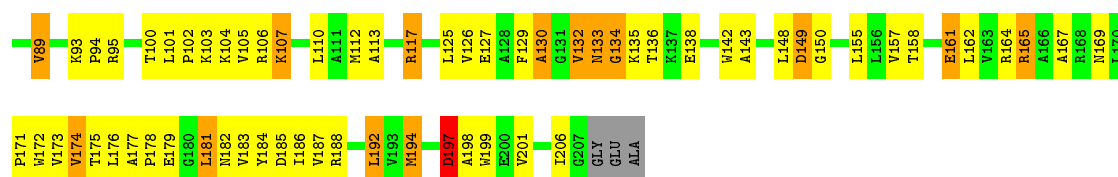


- Molecule 25: 50S ribosomal protein L3



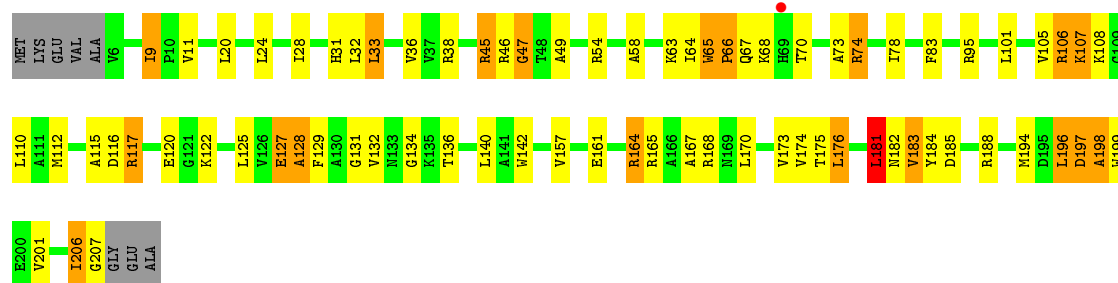
- Molecule 26: 50S ribosomal protein L4





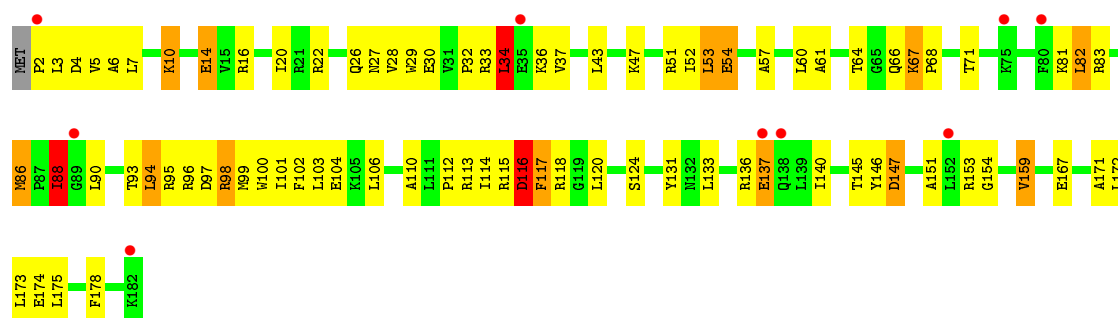
- Molecule 26: 50S ribosomal protein L4

Chain YF: 60% 26% 9%



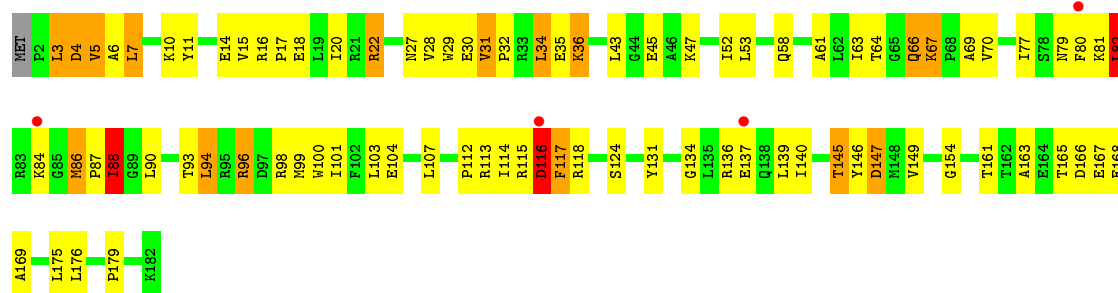
- Molecule 27: 50S ribosomal protein L5

Chain RG: 5% 54% 37% 7%



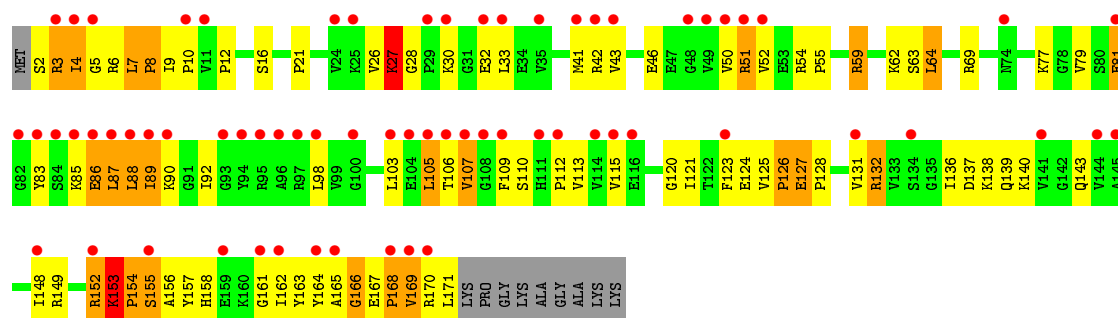
- Molecule 27: 50S ribosomal protein L5

Chain YG: 2% 53% 36% 9%

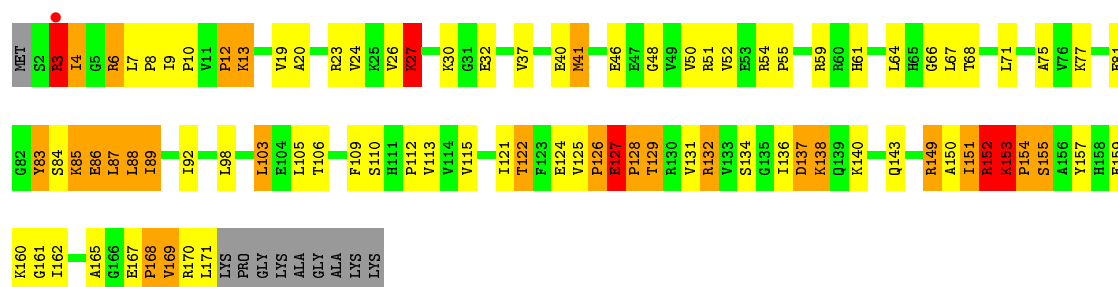


- Molecule 28: 50S ribosomal protein L6

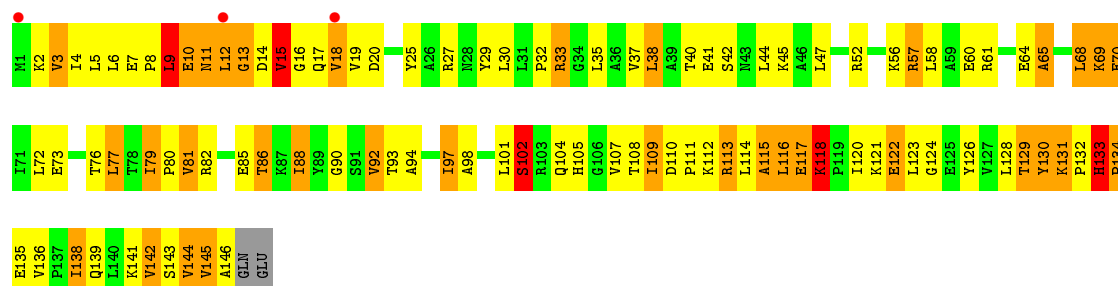
Chain RH: 37% 45% 36% 13% 6%

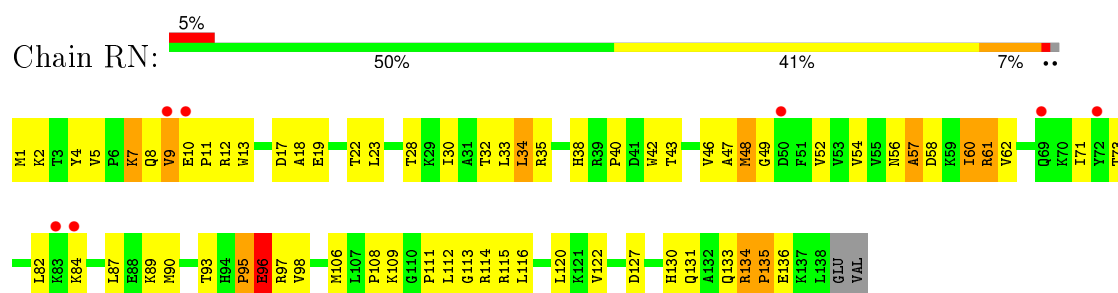


- Molecule 28: 50S ribosomal protein L6

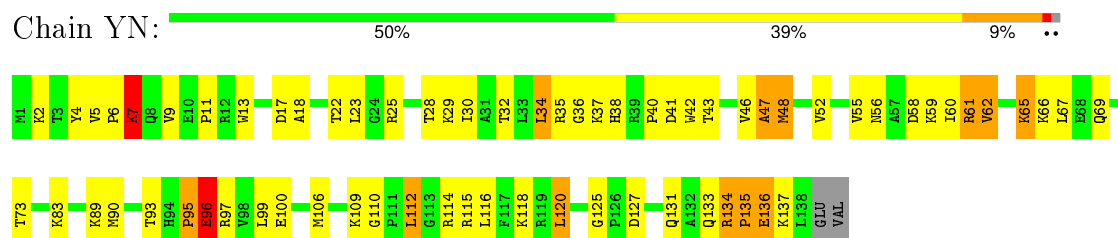


- Molecule 29: 50S ribosomal protein L9

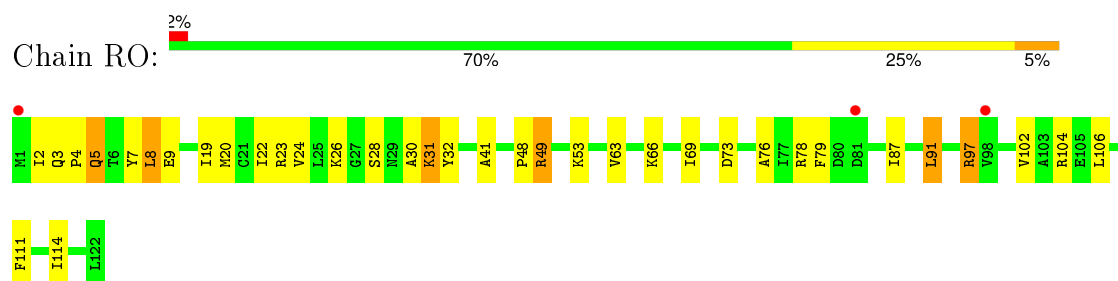




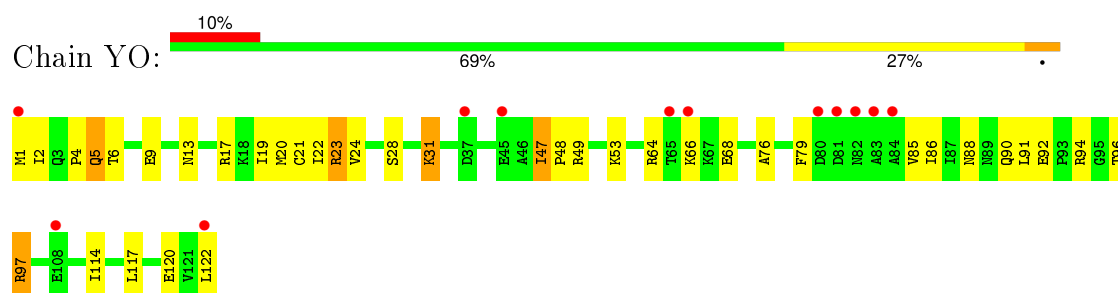
• Molecule 30: 50S ribosomal protein L13



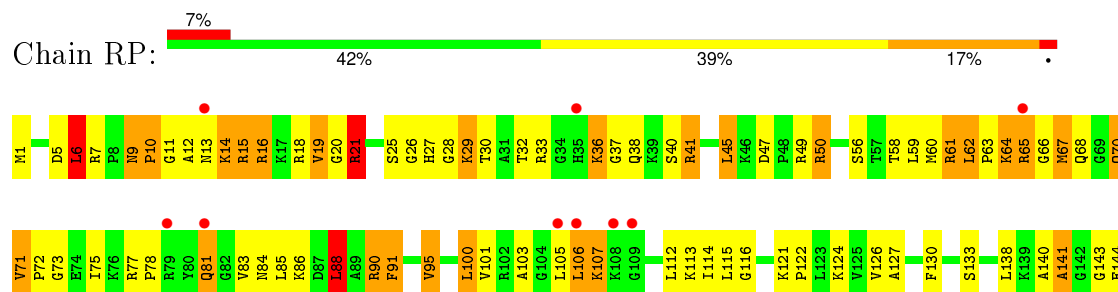
• Molecule 31: 50S ribosomal protein L14

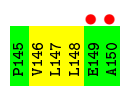


• Molecule 31: 50S ribosomal protein L14

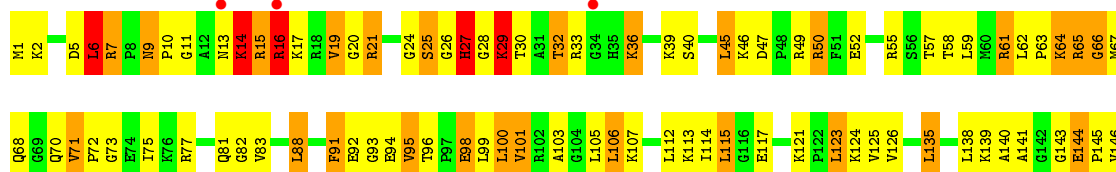
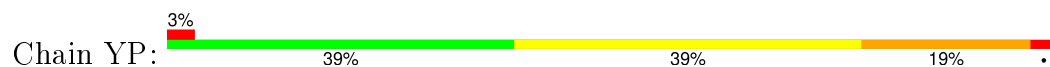


• Molecule 32: 50S ribosomal protein L15

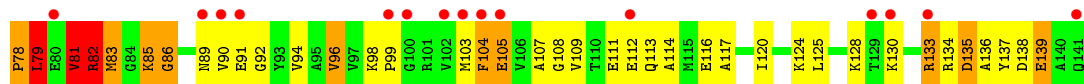
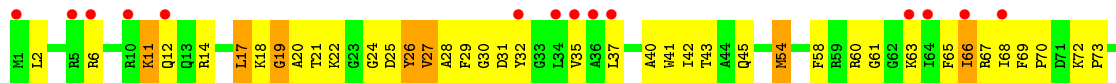




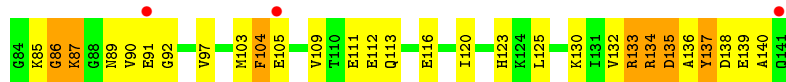
- Molecule 32: 50S ribosomal protein L15



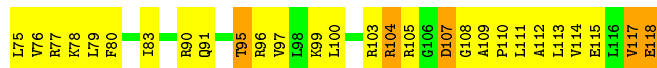
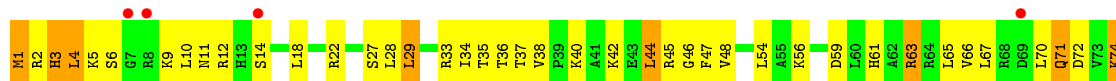
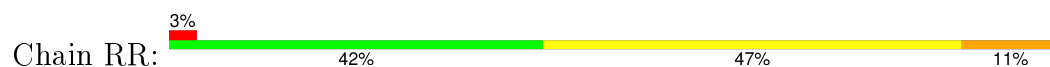
- Molecule 33: 50S ribosomal protein L16



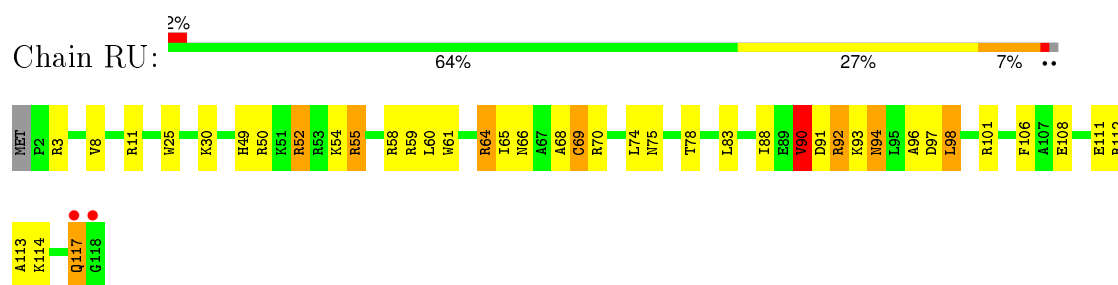
- Molecule 33: 50S ribosomal protein L16



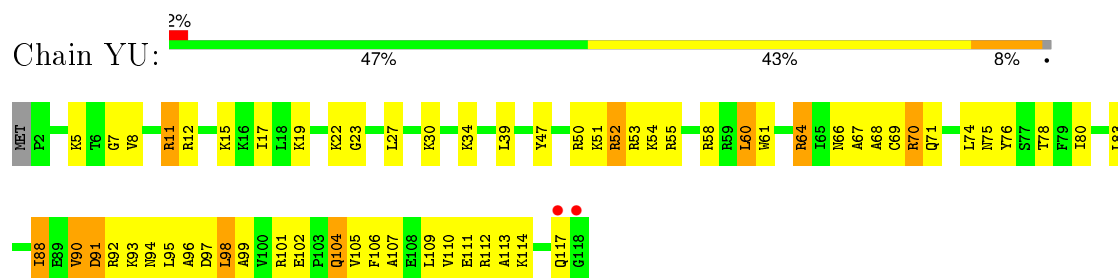
- Molecule 34: 50S ribosomal protein L17



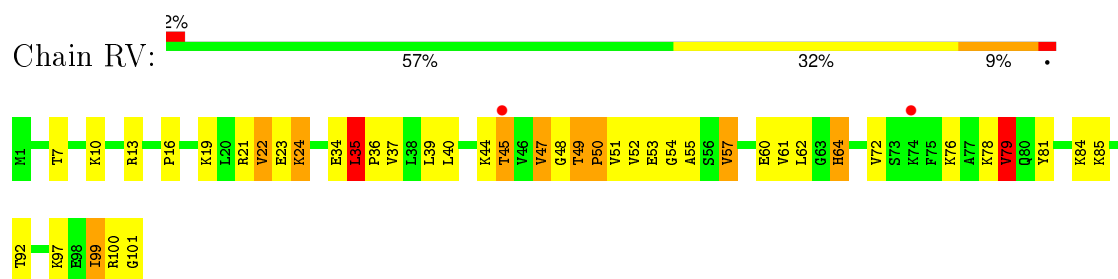
- Molecule 34: 50S ribosomal protein L17



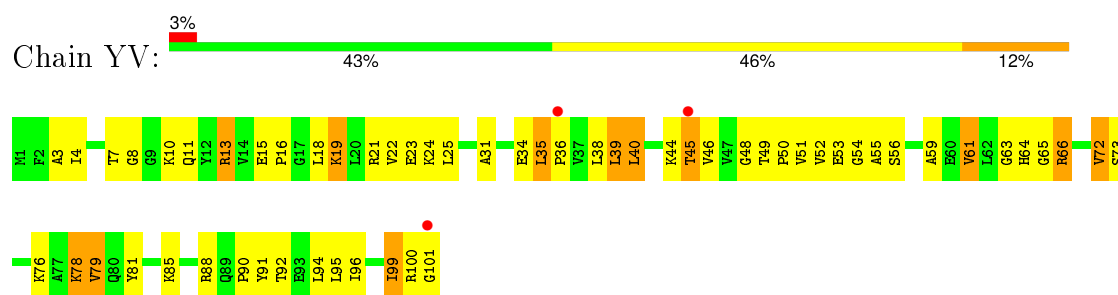
- Molecule 37: 50S ribosomal protein L20



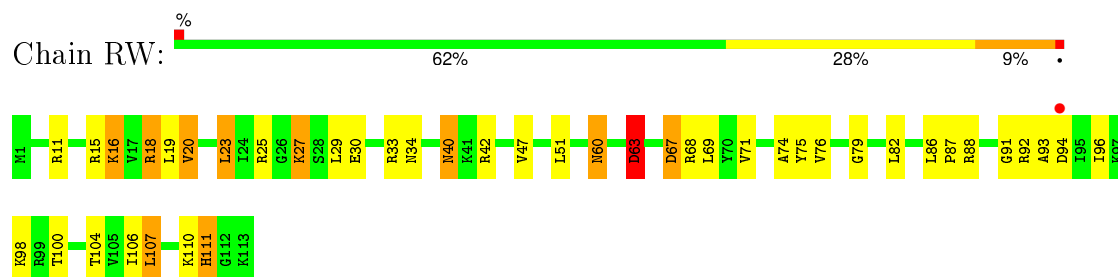
- Molecule 38: 50S ribosomal protein L21



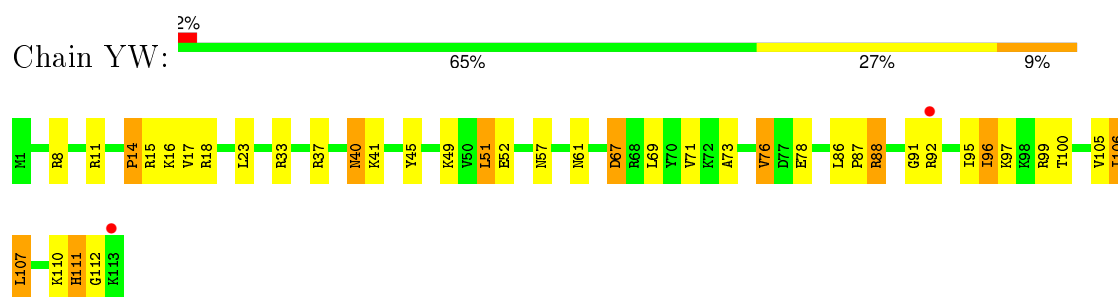
- Molecule 38: 50S ribosomal protein L21



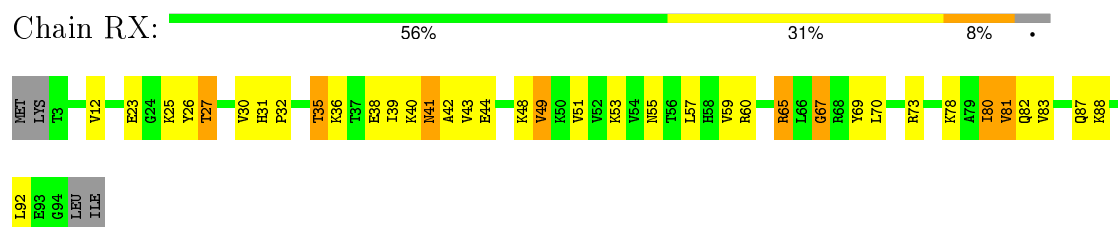
- Molecule 39: 50S ribosomal protein L22



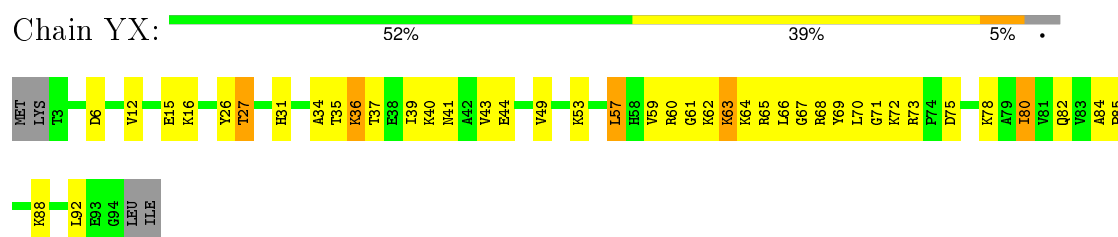
- Molecule 39: 50S ribosomal protein L22



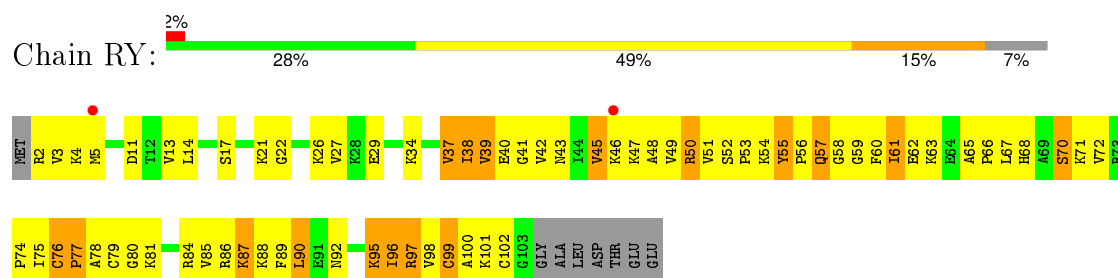
- Molecule 40: 50S ribosomal protein L23



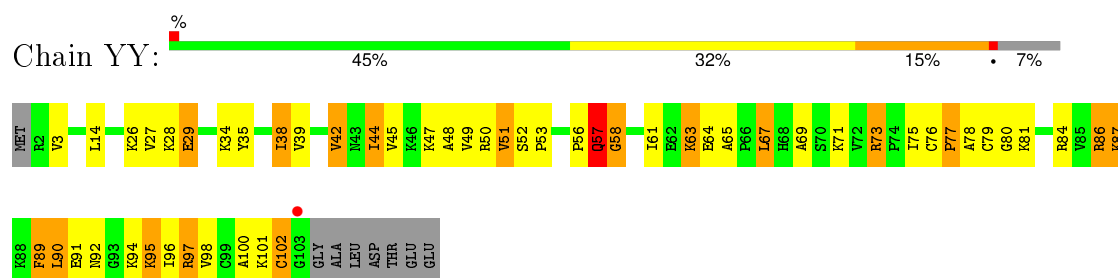
- Molecule 40: 50S ribosomal protein L23



- Molecule 41: 50S ribosomal protein L24

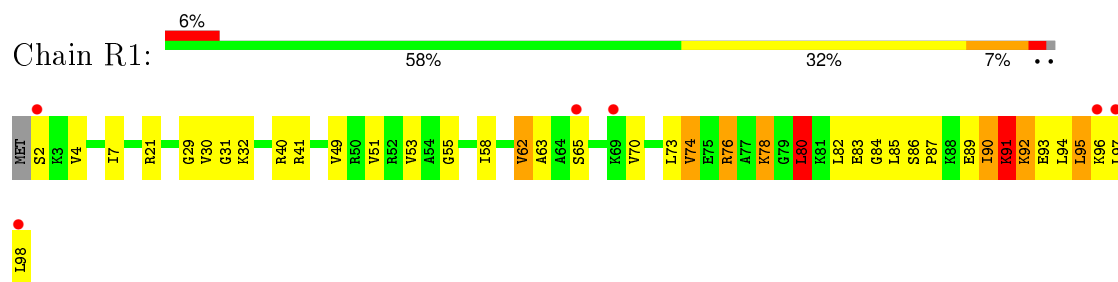


- Molecule 41: 50S ribosomal protein L24

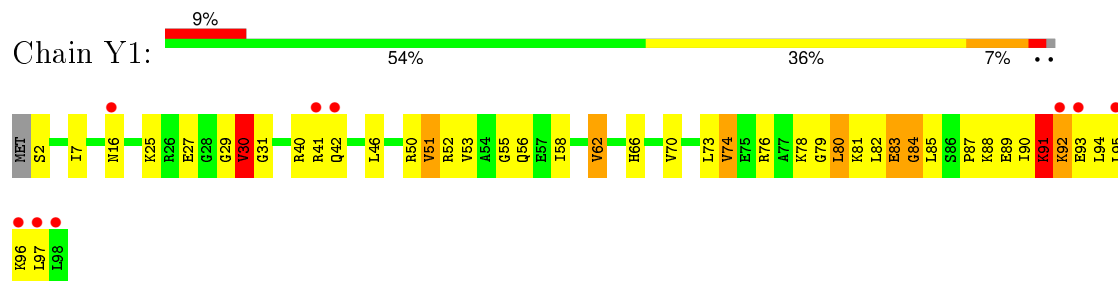


- Molecule 42: 50S ribosomal protein L25

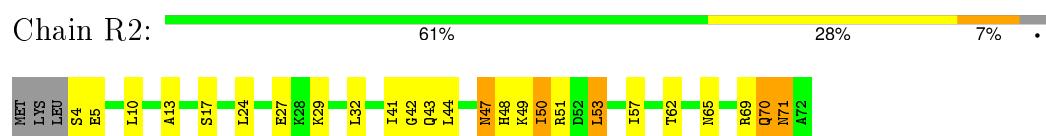
- Molecule 44: 50S ribosomal protein L28



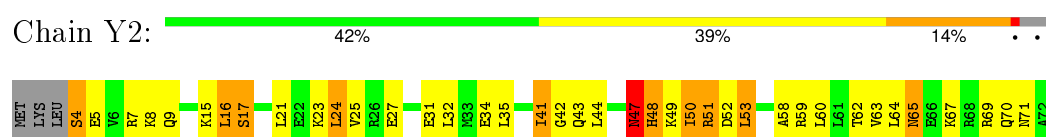
- Molecule 44: 50S ribosomal protein L28



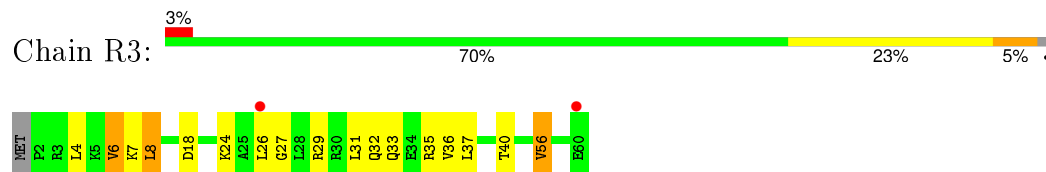
- Molecule 45: 50S ribosomal protein L29



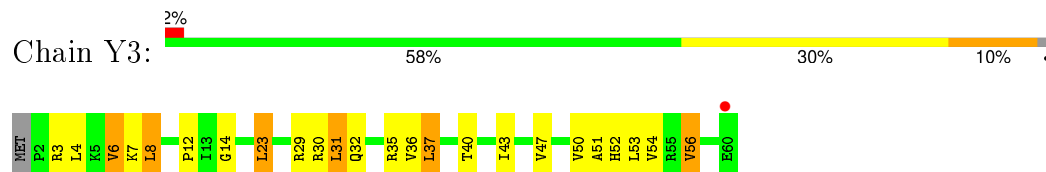
- Molecule 45: 50S ribosomal protein L29



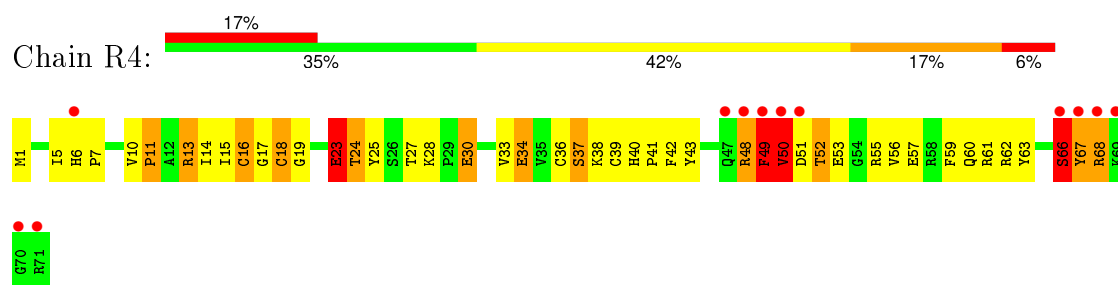
- Molecule 46: 50S ribosomal protein L30



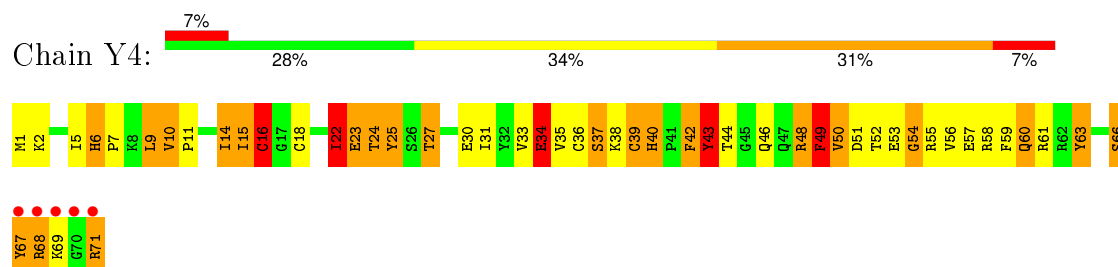
- Molecule 46: 50S ribosomal protein L30



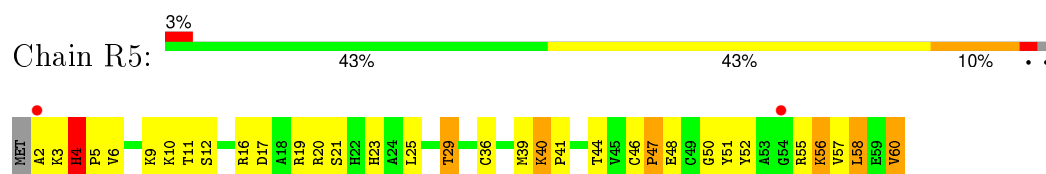
- Molecule 47: 50S ribosomal protein L31



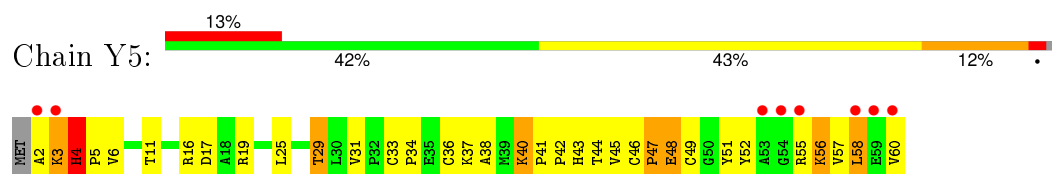
- Molecule 47: 50S ribosomal protein L31



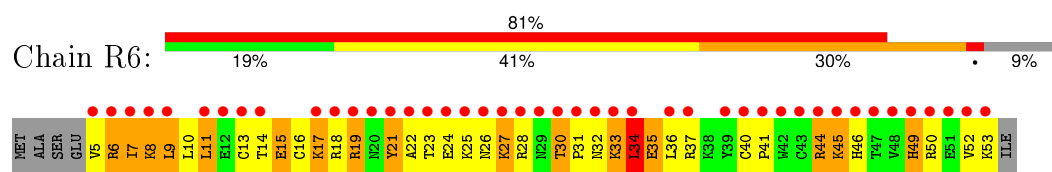
- Molecule 48: 50S ribosomal protein L32



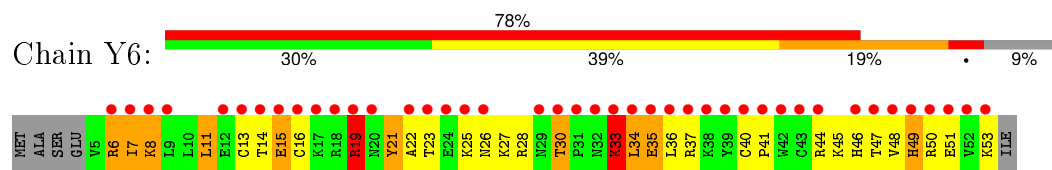
- Molecule 48: 50S ribosomal protein L32



- Molecule 49: 50S ribosomal protein L33

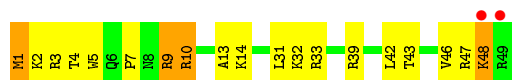


- Molecule 49: 50S ribosomal protein L33



- Molecule 50: 50S ribosomal protein L34

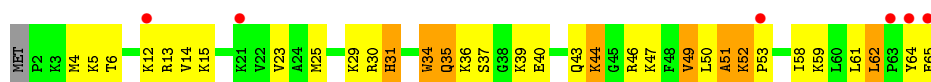




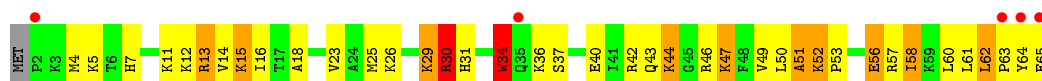
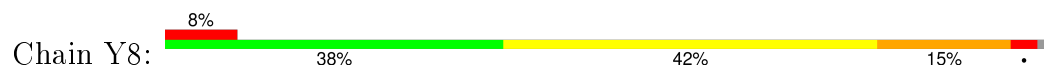
- Molecule 50: 50S ribosomal protein L34



- Molecule 51: 50S ribosomal protein L35



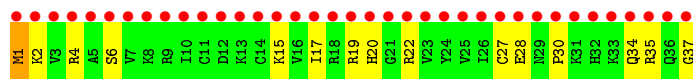
- Molecule 51: 50S ribosomal protein L35



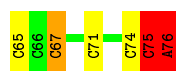
- Molecule 52: 50S ribosomal protein L36



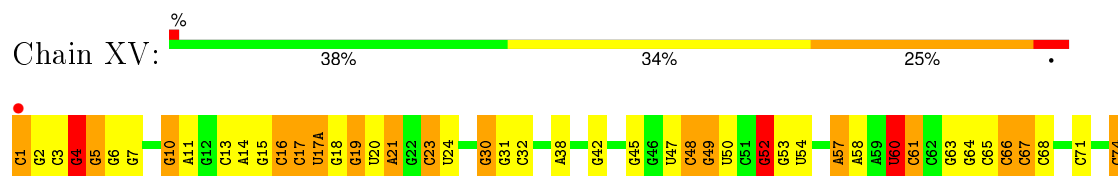
- Molecule 52: 50S ribosomal protein L36



- Molecule 53: P-site tRNA fMET



- Molecule 53: P-site tRNA fMET



C75
A76

- Molecule 54: mRNA



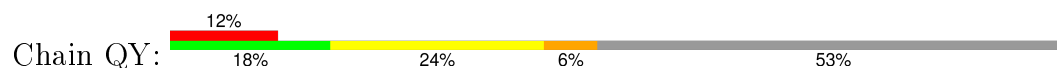
G G C C A A G G A A A1 U2 G3 C4 C5 G6 G7 A A

- Molecule 54: mRNA



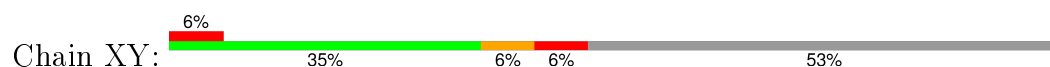
G G C C A A G G A A A1 U2 G3 C4 C5 G6 G7 A A

- Molecule 55: A site ASL of tRNA-Proline CGG (unmodified)



G C U U U33 G34 G35 G36 G37 A38 G39 G40 A G C

- Molecule 55: A site ASL of tRNA-Proline CGG (unmodified)



G C U U U33 G34 G35 G36 G40 A G C

- Molecule 56: tRNA acceptor end mimic



C74
C75
A76

- Molecule 56: tRNA acceptor end mimic



C74
C75
A76

4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	209.82Å 447.39Å 619.86Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	187.58 – 3.68 189.96 – 3.54	Depositor EDS
% Data completeness (in resolution range)	99.1 (187.58-3.68) 99.2 (189.96-3.54)	Depositor EDS
R_{merge}	0.34	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.37 (at 3.58Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.3_1479)	Depositor
R, R_{free}	0.212 , 0.272 0.218 , 0.273	Depositor DCC
R_{free} test set	27993 reflections (4.72%)	DCC
Wilson B-factor (Å ²)	83.8	Xtriage
Anisotropy	0.184	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.28 , 77.6	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.40$, $\langle L^2 \rangle = 0.23$	Xtriage
Outliers	0 of 696967 reflections	Xtriage
F_o, F_c correlation	0.84	EDS
Total number of atoms	291730	wwPDB-VP
Average B, all atoms (Å ²)	71.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.79% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.375 respectively for untwinned datasets, and 0.333, 0.2 for perfectly twinned datasets.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG, PAR, PPU

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	QA	0.59	3/36098 (0.0%)	1.21	155/56341 (0.3%)
1	XA	0.65	1/36101 (0.0%)	1.27	208/56346 (0.4%)
2	QB	0.31	0/1959	0.52	0/2642
2	XB	0.32	0/1959	0.54	0/2642
3	QC	0.31	0/1629	0.53	0/2195
3	XC	0.37	0/1629	0.56	0/2195
4	QD	0.38	0/1733	0.58	1/2318 (0.0%)
4	XD	0.40	0/1733	0.60	0/2318
5	QE	0.35	0/1171	0.56	0/1576
5	XE	0.39	0/1171	0.59	0/1576
6	QF	0.38	0/856	0.54	0/1154
6	XF	0.38	0/856	0.58	0/1154
7	QG	0.33	0/1276	0.50	0/1709
7	XG	0.34	0/1276	0.50	0/1709
8	QH	0.33	0/1136	0.55	0/1527
8	XH	0.38	0/1136	0.58	0/1527
9	QI	0.31	0/1029	0.55	0/1379
9	XI	0.34	0/1029	0.58	0/1379
10	QJ	0.33	0/814	0.54	0/1095
10	XJ	0.35	0/814	0.60	0/1095
11	QK	0.36	0/900	0.57	0/1213
11	XK	0.39	0/900	0.58	0/1213
12	QL	0.37	0/991	0.61	0/1327
12	XL	0.45	0/991	0.74	1/1327 (0.1%)
13	QM	0.32	0/974	0.59	0/1303
13	XM	0.37	0/974	0.63	0/1303
14	QN	0.41	0/501	0.60	0/664
14	XN	0.42	0/501	0.66	0/664
15	QO	0.35	0/745	0.54	0/992
15	XO	0.39	0/745	0.54	0/992
16	QP	0.36	0/721	0.57	0/970
16	XP	0.35	0/721	0.57	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	QQ	0.35	0/847	0.54	0/1131
17	XQ	0.35	0/847	0.54	0/1131
18	QR	0.35	0/579	0.64	1/768 (0.1%)
18	XR	0.37	0/579	0.59	0/768
19	QS	0.33	0/689	0.61	0/926
19	XS	0.38	0/689	0.69	1/926 (0.1%)
20	QT	0.36	0/765	0.64	0/1007
20	XT	0.31	0/765	0.59	0/1007
21	QU	0.31	0/221	0.54	0/288
21	XU	0.31	0/221	0.62	0/288
22	RA	0.72	8/69521 (0.0%)	1.34	555/108529 (0.5%)
22	YA	0.80	28/69543 (0.0%)	1.43	823/108563 (0.8%)
23	RB	0.58	0/2878	1.22	15/4490 (0.3%)
23	YB	0.63	0/2878	1.28	17/4490 (0.4%)
24	RD	0.51	0/2165	0.70	0/2919
24	YD	0.58	0/2165	0.78	1/2919 (0.0%)
25	RE	0.43	0/1601	0.73	3/2160 (0.1%)
25	YE	0.46	0/1601	0.75	2/2160 (0.1%)
26	RF	0.42	0/1620	0.62	0/2194
26	YF	0.48	0/1620	0.71	1/2194 (0.0%)
27	RG	0.31	0/1499	0.57	1/2016 (0.0%)
27	YG	0.40	0/1499	0.60	0/2016
28	RH	0.29	0/1332	0.58	0/1802
28	YH	0.45	0/1332	0.73	0/1802
29	RI	0.52	0/1151	0.79	1/1558 (0.1%)
29	YI	0.55	0/1151	0.80	0/1558
30	RN	0.41	0/1131	0.62	0/1525
30	YN	0.43	0/1131	0.64	0/1525
31	RO	0.41	0/943	0.62	1/1269 (0.1%)
31	YO	0.50	0/943	0.65	0/1269
32	RP	0.44	0/1162	0.81	1/1544 (0.1%)
32	YP	0.49	0/1162	0.90	2/1544 (0.1%)
33	RQ	0.47	0/1143	0.74	2/1527 (0.1%)
33	YQ	0.57	0/1143	0.80	1/1527 (0.1%)
34	RR	0.42	0/982	0.69	0/1312
34	YR	0.44	0/982	0.73	0/1312
35	RS	0.36	0/892	0.65	0/1187
35	YS	0.40	0/892	0.75	1/1187 (0.1%)
36	RT	0.42	0/1155	0.63	0/1542
36	YT	0.44	0/1155	0.67	0/1542
37	RU	0.40	0/982	0.65	0/1306
37	YU	0.50	0/982	0.68	0/1306
38	RV	0.38	0/790	0.61	1/1057 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
38	YV	0.45	0/790	0.73	1/1057 (0.1%)
39	RW	0.49	0/911	0.67	0/1220
39	YW	0.45	0/911	0.68	0/1220
40	RX	0.47	0/739	0.62	0/993
40	YX	0.49	0/739	0.66	0/993
41	RY	0.44	0/798	0.68	0/1064
41	YY	0.46	0/798	0.70	0/1064
42	RZ	0.58	1/1493 (0.1%)	0.77	0/2026
42	YZ	0.56	0/1493	0.79	1/2026 (0.0%)
43	R0	0.65	0/657	0.80	0/874
43	Y0	0.74	1/657 (0.2%)	0.90	1/874 (0.1%)
44	R1	0.44	0/770	0.66	0/1022
44	Y1	0.46	0/770	0.69	0/1022
45	R2	0.39	0/583	0.65	0/771
45	Y2	0.52	0/583	0.73	0/771
46	R3	0.35	0/474	0.57	0/635
46	Y3	0.41	0/474	0.59	0/635
47	R4	0.33	0/594	0.68	0/795
47	Y4	0.37	0/594	0.68	0/795
48	R5	0.44	0/473	0.73	0/639
48	Y5	0.43	0/473	0.77	1/639 (0.2%)
49	R6	0.35	0/431	0.69	0/575
49	Y6	0.37	0/431	0.67	0/575
50	R7	0.49	0/438	0.68	0/575
50	Y7	0.57	0/438	0.71	0/575
51	R8	0.55	0/525	0.79	0/691
51	Y8	0.58	0/525	0.82	0/691
52	R9	0.26	0/310	0.45	0/407
52	Y9	0.32	0/310	0.48	0/407
53	QV	0.85	1/1836 (0.1%)	1.45	24/2859 (0.8%)
53	XV	0.89	1/1836 (0.1%)	1.54	25/2859 (0.9%)
54	QX	0.95	0/193	1.91	7/299 (2.3%)
54	XX	1.12	0/193	1.83	4/299 (1.3%)
55	QY	0.68	0/194	1.53	0/301
55	XY	0.72	0/194	1.25	1/301 (0.3%)
56	Z6	0.74	0/40	1.58	1/60 (1.7%)
56	Z8	0.92	0/40	1.50	0/60
All	All	0.64	44/316105 (0.0%)	1.20	1861/472575 (0.4%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
12	QL	0	1
12	XL	0	1
25	RE	0	1
25	YE	0	1
26	YF	0	1
28	RH	0	2
28	YH	0	2
29	RI	0	1
35	YS	0	1
42	YZ	0	2
45	Y2	0	1
47	R4	0	1
51	R8	0	2
51	Y8	0	2
All	All	0	19

All (44) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	QV	1	C	OP3-P	-10.81	1.48	1.61
53	XV	1	C	OP3-P	-10.09	1.49	1.61
22	YA	783	A	N9-C4	-8.12	1.32	1.37
22	YA	2542	A	N9-C4	-7.43	1.33	1.37
22	YA	1966	A	N9-C4	-7.42	1.33	1.37
22	RA	1918	A	N9-C4	-6.88	1.33	1.37
1	QA	1227	A	N9-C4	-6.86	1.33	1.37
22	YA	1938	A	N9-C4	-6.62	1.33	1.37
22	YA	2082	A	N9-C4	-6.52	1.33	1.37
22	YA	1142(A)	A	N9-C4	-6.52	1.33	1.37
22	RA	471	A	N9-C4	-6.35	1.34	1.37
22	YA	774	A	N9-C4	-6.31	1.34	1.37
22	YA	783	A	C5-C6	-6.04	1.35	1.41
22	YA	783	A	N7-C5	-6.04	1.35	1.39
22	YA	783	A	N3-C4	-5.83	1.31	1.34
22	YA	2712(A)	A	N7-C5	-5.81	1.35	1.39
22	RA	2589	A	N9-C4	-5.73	1.34	1.37
22	YA	2764	A	N9-C4	-5.67	1.34	1.37
1	QA	1434	A	N9-C4	-5.66	1.34	1.37
22	YA	2518	A	N9-C4	-5.65	1.34	1.37
22	RA	1677	A	N9-C4	-5.56	1.34	1.37
43	Y0	68	GLU	CG-CD	5.51	1.60	1.51
22	YA	917	A	N9-C4	-5.50	1.34	1.37
22	YA	528	A	N9-C4	-5.46	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	YA	793	A	N7-C5	-5.44	1.35	1.39
1	QA	32	A	N9-C4	5.42	1.41	1.37
22	YA	2251	G	N3-C4	-5.39	1.31	1.35
22	YA	2060	A	N9-C4	-5.33	1.34	1.37
22	YA	2032	G	N9-C4	-5.30	1.33	1.38
22	YA	917	A	N3-C4	-5.28	1.31	1.34
42	RZ	54	HIS	CG-ND1	-5.27	1.27	1.38
22	YA	2251	G	C6-N1	-5.26	1.35	1.39
22	RA	2062	A	N9-C4	5.18	1.41	1.37
22	YA	2826	A	N9-C4	-5.15	1.34	1.37
1	XA	1468	A	N9-C4	-5.15	1.34	1.37
22	RA	397	G	N9-C4	-5.13	1.33	1.38
22	YA	71	A	N9-C4	-5.11	1.34	1.37
22	RA	1931	U	N3-C4	-5.09	1.33	1.38
22	YA	676	A	N9-C4	-5.09	1.34	1.37
22	YA	957	A	N9-C4	-5.05	1.34	1.37
22	YA	140	A	N7-C5	-5.03	1.36	1.39
22	YA	2430	A	N3-C4	-5.02	1.31	1.34
22	YA	142	G	N9-C4	-5.01	1.33	1.38
22	RA	74	A	N7-C5	-5.01	1.36	1.39

All (1861) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	QV	75	C	O5'-P-OP2	-13.28	93.75	105.70
22	YA	774	A	C2-N3-C4	-12.25	104.47	110.60
22	RA	1931	U	N3-C2-O2	-12.05	113.77	122.20
22	YA	1332	G	C6-C5-N7	-11.94	123.24	130.40
22	YA	450	G	C5-C6-N1	-11.37	105.81	111.50
22	YA	783	A	C2-N3-C4	-11.03	105.08	110.60
22	RA	28	A	C8-N9-C4	-10.75	101.50	105.80
22	YA	783	A	N1-C6-N6	10.53	124.92	118.60
22	YA	2573	C	N1-C2-O2	10.33	125.10	118.90
22	YA	917	A	C2-N3-C4	-10.11	105.55	110.60
22	YA	570	G	C5-C6-N1	-10.10	106.45	111.50
22	YA	140	A	N7-C8-N9	9.96	118.78	113.80
22	RA	140	A	C8-N9-C4	-9.94	101.82	105.80
22	RA	1931	U	C5-C4-O4	9.85	131.81	125.90
22	YA	783	A	C5-N7-C8	-9.85	98.98	103.90
22	YA	805	G	N3-C4-N9	9.81	131.89	126.00
22	RA	774	A	C2-N3-C4	-9.80	105.70	110.60
22	RA	28	A	N7-C8-N9	9.79	118.69	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1054	C	C2-N1-C1'	9.70	129.47	118.80
22	YA	189	G	C6-C5-N7	-9.69	124.59	130.40
1	XA	812	C	N1-C2-O2	9.58	124.65	118.90
53	XV	67	C	C6-N1-C2	-9.58	116.47	120.30
22	YA	2573	C	N3-C2-O2	-9.58	115.19	121.90
22	YA	140	A	C8-N9-C4	-9.56	101.97	105.80
22	YA	1332	G	C4-N9-C1'	9.56	138.92	126.50
1	QA	1301	U	N3-C2-O2	-9.51	115.54	122.20
53	QV	17	C	N1-C2-O2	9.47	124.58	118.90
22	RA	791	C	C6-N1-C2	9.40	124.06	120.30
22	YA	783	A	C6-C5-N7	-9.32	125.77	132.30
22	RA	828	U	C5-C4-O4	9.32	131.49	125.90
22	YA	2712(A)	A	N7-C8-N9	9.31	118.45	113.80
1	XA	328	C	C6-N1-C2	-9.30	116.58	120.30
53	XV	17	C	N1-C2-O2	9.26	124.45	118.90
22	YA	1216	G	N1-C6-O6	9.21	125.42	119.90
22	YA	1899	G	C2-N3-C4	-9.16	107.32	111.90
53	XV	74	C	C5-C4-N4	-9.13	113.81	120.20
22	YA	2542	A	C2-N3-C4	-9.10	106.05	110.60
1	XA	1054	C	C6-N1-C1'	-9.08	109.91	120.80
22	YA	528	A	N1-C2-N3	9.05	133.82	129.30
22	RA	140	A	N7-C8-N9	9.04	118.32	113.80
22	YA	671	C	N3-C2-O2	-8.99	115.61	121.90
22	YA	1662	C	C6-N1-C2	8.89	123.86	120.30
22	RA	2544	G	N1-C6-O6	8.86	125.21	119.90
22	RA	2519	U	O5'-P-OP1	-8.85	97.73	105.70
22	RA	1931	U	N1-C2-N3	8.82	120.19	114.90
22	YA	1786	A	N1-C6-N6	8.82	123.89	118.60
1	XA	812	C	N3-C2-O2	-8.79	115.75	121.90
1	XA	963	G	N3-C4-N9	8.78	131.27	126.00
22	YA	1929	G	C4-C5-N7	8.77	114.31	110.80
22	YA	2681	C	C6-N1-C2	-8.77	116.79	120.30
22	YA	450	G	C4-C5-C6	8.75	124.05	118.80
1	XA	1108	G	C5-C6-N1	-8.74	107.13	111.50
22	YA	1942	C	C6-N1-C2	-8.69	116.83	120.30
1	XA	518	C	C6-N1-C2	-8.68	116.83	120.30
53	XV	17	C	C2-N1-C1'	8.61	128.27	118.80
22	YA	2681	C	P-O3'-C3'	8.55	129.97	119.70
22	YA	679	C	C5-C4-N4	-8.55	114.22	120.20
22	YA	2712(A)	A	C8-N9-C4	-8.55	102.38	105.80
23	YB	47	C	C6-N1-C2	8.54	123.72	120.30
22	YA	2058	A	N1-C6-N6	8.53	123.72	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	2036	C	O5'-P-OP2	-8.52	98.03	105.70
22	RA	2712	U	O4'-C1'-N1	8.52	115.01	108.20
22	YA	1942	C	N1-C2-O2	8.52	124.01	118.90
22	RA	449	A	O5'-P-OP1	-8.51	98.04	105.70
1	QA	1200	C	N1-C2-O2	8.49	123.99	118.90
22	YA	1970	A	O5'-P-OP2	-8.48	98.07	105.70
1	QA	1301	U	N1-C2-O2	8.40	128.68	122.80
22	YA	1950	G	N7-C8-N9	8.40	117.30	113.10
1	XA	963	G	C4-N9-C1'	8.37	137.37	126.50
1	QA	1336	C	C6-N1-C2	-8.33	116.97	120.30
22	YA	783	A	C4-C5-N7	8.33	114.87	110.70
22	RA	1786	A	C5-N7-C8	-8.31	99.75	103.90
22	YA	528	A	C2-N3-C4	-8.31	106.44	110.60
22	YA	1332	G	C8-N9-C1'	-8.31	116.20	127.00
53	QV	8	U	C6-N1-C2	-8.31	116.01	121.00
22	RA	2612	C	N1-C2-O2	8.30	123.88	118.90
22	RA	1204	A	O4'-C1'-N9	8.29	114.83	108.20
22	RA	2611	U	O5'-P-OP2	-8.29	98.24	105.70
22	YA	1786	A	C5-C6-N1	-8.28	113.56	117.70
22	YA	2612	C	N1-C2-O2	8.28	123.87	118.90
1	XA	963	G	N3-C4-C5	-8.28	124.46	128.60
22	YA	142	G	N3-C4-C5	8.26	132.73	128.60
1	XA	789	U	C6-N1-C2	-8.21	116.08	121.00
22	YA	2513	G	N1-C6-O6	8.18	124.81	119.90
1	QA	1322	C	C2-N1-C1'	8.15	127.76	118.80
53	QV	17	C	C2-N1-C1'	8.14	127.76	118.80
22	YA	1198	U	N3-C2-O2	-8.14	116.50	122.20
22	YA	1130	U	P-O3'-C3'	8.13	129.45	119.70
22	RA	828	U	N3-C2-O2	-8.10	116.53	122.20
1	XA	963	G	C8-N9-C1'	-8.10	116.47	127.00
22	YA	2430	A	C2-N3-C4	-8.07	106.56	110.60
22	RA	1130	U	P-O3'-C3'	8.07	129.39	119.70
22	RA	1653	G	N3-C4-C5	-8.05	124.57	128.60
22	RA	1377	G	N3-C4-C5	-8.03	124.58	128.60
22	RA	791	C	N3-C4-C5	8.01	125.10	121.90
22	YA	783	A	C5-C6-N1	-8.00	113.70	117.70
22	YA	2430	A	C5-C6-N1	-7.99	113.70	117.70
22	YA	792	G	C5-C6-O6	7.98	133.39	128.60
22	YA	2388	A	C8-N9-C4	7.97	108.99	105.80
22	RA	1786	A	C6-C5-N7	-7.96	126.73	132.30
22	RA	2439	A	C8-N9-C4	-7.95	102.62	105.80
22	RA	74	A	N1-C6-N6	7.94	123.36	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1397	C	C6-N1-C2	-7.93	117.13	120.30
1	XA	299	G	C5-C6-N1	-7.93	107.54	111.50
1	XA	1197	G	O5'-P-OP2	-7.92	98.57	105.70
22	YA	774	A	C5-C6-N1	-7.91	113.74	117.70
22	YA	2036	C	C6-N1-C2	-7.89	117.14	120.30
22	YA	265	A	O4'-C1'-N9	7.89	114.51	108.20
22	YA	828	U	C2-N1-C1'	7.88	127.16	117.70
22	YA	2430	A	N1-C2-N3	7.84	133.22	129.30
22	RA	1786	A	N1-C6-N6	7.84	123.30	118.60
22	YA	1992	G	P-O3'-C3'	7.83	129.09	119.70
22	YA	1786	A	C6-C5-N7	-7.83	126.82	132.30
22	YA	1786	A	C2-N3-C4	-7.82	106.69	110.60
1	QA	932	C	N1-C2-O2	7.79	123.58	118.90
1	QA	1302	U	C2-N1-C1'	7.78	127.04	117.70
22	YA	982	C	C6-N1-C2	-7.78	117.19	120.30
1	QA	401	C	C6-N1-C2	-7.77	117.19	120.30
54	QX	6	G	N1-C6-O6	7.77	124.56	119.90
1	QA	1336	C	N1-C2-O2	7.75	123.55	118.90
22	YA	1942	C	N3-C2-O2	-7.74	116.48	121.90
1	QA	1336	C	C2-N1-C1'	7.73	127.31	118.80
22	YA	1786	A	C5-N7-C8	-7.72	100.04	103.90
22	YA	676	A	C5-N7-C8	-7.70	100.05	103.90
22	YA	582	G	N1-C6-O6	7.68	124.51	119.90
22	YA	676	A	C2-N3-C4	-7.67	106.76	110.60
22	RA	1627	G	N1-C6-O6	7.66	124.49	119.90
22	YA	1332	G	C4-C5-N7	7.65	113.86	110.80
22	YA	2518	A	N1-C6-N6	7.64	123.19	118.60
22	YA	1906	G	C5-C6-N1	-7.62	107.69	111.50
22	RA	860	U	C4-C5-C6	7.61	124.27	119.70
22	RA	1647	G	N3-C4-C5	7.60	132.40	128.60
1	XA	1336	C	C6-N1-C2	-7.60	117.26	120.30
22	RA	783	A	C5-N7-C8	-7.58	100.11	103.90
22	RA	1930	G	N7-C8-N9	-7.58	109.31	113.10
22	RA	2782	G	C8-N9-C4	-7.58	103.37	106.40
22	YA	2595	G	C6-C5-N7	-7.57	125.86	130.40
22	RA	382	G	N1-C6-O6	7.57	124.44	119.90
22	RA	74	A	C6-C5-N7	-7.57	127.00	132.30
22	YA	372	G	C8-N9-C4	7.57	109.43	106.40
1	XA	1301	U	C2-N1-C1'	7.56	126.78	117.70
53	XV	67	C	N3-C2-O2	-7.56	116.61	121.90
22	RA	385	C	N1-C2-O2	7.55	123.43	118.90
22	RA	2318	G	O4'-C1'-N9	7.55	114.24	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	205	G	P-O3'-C3'	7.55	128.76	119.70
1	XA	812	C	C2-N1-C1'	7.54	127.09	118.80
22	RA	2063	C	O5'-P-OP2	-7.54	98.92	105.70
22	RA	406	G	O5'-P-OP1	-7.54	98.92	105.70
22	RA	1899	G	N1-C2-N2	-7.54	109.42	116.20
1	QA	932	C	C2-N1-C1'	7.53	127.08	118.80
22	RA	2577	A	N1-C6-N6	7.52	123.11	118.60
1	XA	1108	G	C4-C5-N7	-7.50	107.80	110.80
22	YA	805	G	C6-C5-N7	-7.50	125.90	130.40
22	RA	1644	C	C2-N1-C1'	7.50	127.05	118.80
22	RA	2782	G	N3-C4-C5	-7.49	124.85	128.60
22	YA	1598	C	C6-N1-C2	-7.49	117.30	120.30
1	XA	690	G	C5-N7-C8	-7.47	100.56	104.30
22	YA	828	U	N3-C2-O2	-7.46	116.98	122.20
22	RA	1930	G	C8-N9-C4	7.45	109.38	106.40
54	QX	6	G	C4-C5-N7	7.45	113.78	110.80
22	RA	1786	A	N7-C8-N9	7.43	117.52	113.80
22	RA	2506	U	N1-C2-O2	7.43	128.00	122.80
22	YA	2062	A	N9-C4-C5	-7.43	102.83	105.80
1	XA	812	C	C6-N1-C2	-7.42	117.33	120.30
22	YA	752	A	C8-N9-C4	7.41	108.76	105.80
22	YA	1950	G	C5-N7-C8	-7.40	100.60	104.30
22	RA	1496	A	N7-C8-N9	7.39	117.50	113.80
22	YA	2542	A	N3-C4-C5	7.39	131.97	126.80
22	RA	1786	A	C4-C5-N7	7.39	114.39	110.70
1	QA	337	C	C6-N1-C2	-7.38	117.35	120.30
53	QV	17	C	N3-C2-O2	-7.37	116.74	121.90
22	RA	2712(A)	A	C8-N9-C4	-7.37	102.85	105.80
22	RA	1840	G	N1-C6-O6	7.37	124.32	119.90
22	YA	1377	G	N1-C6-O6	7.37	124.32	119.90
54	QX	6	G	C6-C5-N7	-7.37	125.98	130.40
22	YA	1332	G	N7-C8-N9	7.36	116.78	113.10
22	RA	2544	G	C5-C6-N1	-7.36	107.82	111.50
22	YA	1358	G	N3-C4-C5	-7.36	124.92	128.60
22	YA	142	G	N3-C4-N9	-7.35	121.59	126.00
1	QA	789	U	C6-N1-C2	-7.35	116.59	121.00
22	YA	1786	A	C4-C5-N7	7.35	114.37	110.70
22	YA	2311	A	C2-N3-C4	-7.34	106.93	110.60
53	QV	74	C	C6-N1-C2	-7.32	117.37	120.30
22	YA	1929	G	N1-C6-O6	7.31	124.28	119.90
22	YA	1950	G	O4'-C1'-N9	7.29	114.03	108.20
22	RA	2032	G	C4-C5-N7	7.29	113.72	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	2573	C	C6-N1-C2	-7.26	117.39	120.30
1	XA	558	G	C6-C5-N7	-7.26	126.05	130.40
22	YA	2439	A	P-O3'-C3'	7.26	128.41	119.70
22	RA	2083	G	C8-N9-C4	7.25	109.30	106.40
22	YA	1929	G	C5-N7-C8	-7.24	100.68	104.30
22	YA	2682	U	OP1-P-OP2	-7.24	108.74	119.60
22	RA	2779	U	O4'-C1'-N1	7.24	113.99	108.20
22	YA	1187	G	C5-C6-N1	-7.24	107.88	111.50
22	YA	1425	G	C8-N9-C4	-7.24	103.51	106.40
22	RA	2490	G	C8-N9-C4	-7.23	103.51	106.40
22	YA	508	G	C8-N9-C4	-7.22	103.51	106.40
22	RA	676	A	N7-C8-N9	7.22	117.41	113.80
1	XA	1195	C	C6-N1-C2	-7.22	117.41	120.30
22	YA	1799	G	P-O3'-C3'	7.21	128.35	119.70
22	YA	1829	A	O5'-P-OP1	-7.21	99.21	105.70
22	RA	2490	G	N7-C8-N9	7.21	116.70	113.10
22	YA	2250	G	O5'-P-OP2	-7.21	99.21	105.70
22	RA	783	A	N7-C8-N9	7.21	117.40	113.80
22	YA	140	A	C6-C5-N7	-7.21	127.25	132.30
22	RA	1931	U	N3-C4-O4	-7.20	114.36	119.40
1	QA	894	G	N3-C4-N9	-7.20	121.68	126.00
25	YE	21	VAL	C-N-CD	-7.20	104.76	120.60
22	RA	1142	U	N1-C2-O2	7.20	127.84	122.80
22	YA	1820	U	C5-C6-N1	-7.19	119.10	122.70
1	QA	1158	C	N1-C2-O2	7.19	123.22	118.90
22	RA	2583	G	N3-C4-C5	-7.19	125.01	128.60
22	YA	1262	A	C5-C6-N1	7.18	121.29	117.70
22	YA	2032	G	N3-C4-C5	7.18	132.19	128.60
22	YA	1678	G	C4-C5-N7	7.17	113.67	110.80
1	XA	766	A	C8-N9-C4	7.17	108.67	105.80
22	YA	572	A	C8-N9-C4	-7.15	102.94	105.80
12	XL	47	LYS	C-N-CD	-7.15	104.88	120.60
22	YA	1358	G	N3-C4-N9	7.13	130.28	126.00
1	XA	1108	G	C5-C6-O6	7.13	132.88	128.60
22	RA	74	A	N7-C8-N9	7.12	117.36	113.80
22	RA	1606	G	N1-C6-O6	7.12	124.17	119.90
1	XA	1128	C	C6-N1-C2	-7.12	117.45	120.30
22	RA	1950	G	O4'-C1'-N9	7.11	113.89	108.20
1	QA	449	C	C6-N1-C2	-7.10	117.46	120.30
1	QA	1322	C	C6-N1-C1'	-7.09	112.29	120.80
22	YA	674	G	C5-C6-O6	-7.08	124.35	128.60
22	RA	2448	A	N1-C6-N6	-7.08	114.36	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	917	A	N1-C6-N6	7.08	122.84	118.60
22	YA	140	A	C5-N7-C8	-7.07	100.36	103.90
22	YA	1332	G	N1-C6-O6	7.07	124.14	119.90
22	RA	1688	U	C6-N1-C2	-7.07	116.76	121.00
1	QA	1297	C	P-O3'-C3'	7.06	128.18	119.70
22	RA	124	G	C5-C6-N1	-7.06	107.97	111.50
22	RA	1992	G	P-O3'-C3'	7.06	128.17	119.70
22	YA	958	U	N3-C2-O2	-7.05	117.26	122.20
1	QA	117	G	N9-C4-C5	-7.05	102.58	105.40
22	RA	1930	G	C4-N9-C1'	-7.04	117.34	126.50
22	RA	2011	U	N3-C2-O2	7.04	127.13	122.20
1	XA	186(A)	C	C6-N1-C2	-7.04	117.48	120.30
22	YA	945	A	N1-C6-N6	7.04	122.83	118.60
22	YA	813	U	N3-C2-O2	-7.04	117.27	122.20
22	YA	1544	C	N1-C2-O2	7.02	123.11	118.90
22	YA	2713	A	C2-N3-C4	-7.02	107.09	110.60
22	YA	2032	G	N1-C6-O6	7.02	124.11	119.90
22	YA	298	G	C4-C5-C6	-7.01	114.59	118.80
22	YA	1662	C	C5-C6-N1	-7.00	117.50	121.00
1	QA	328	C	C2-N1-C1'	7.00	126.50	118.80
22	RA	530	G	O4'-C1'-N9	7.00	113.80	108.20
22	YA	2430	A	C4-C5-C6	7.00	120.50	117.00
22	YA	2318	G	O4'-C1'-N9	7.00	113.80	108.20
22	YA	2271	G	C6-C5-N7	-6.99	126.20	130.40
22	YA	783	A	N7-C8-N9	6.99	117.30	113.80
1	QA	634	C	N1-C2-O2	-6.99	114.71	118.90
22	YA	2218	G	N1-C6-O6	6.99	124.09	119.90
1	XA	690	G	N7-C8-N9	6.99	116.59	113.10
22	RA	2287	A	C2-N3-C4	-6.97	107.11	110.60
22	YA	572	A	N1-C6-N6	-6.96	114.42	118.60
22	RA	265	A	O4'-C1'-N9	6.96	113.77	108.20
22	YA	1678	G	C6-C5-N7	-6.96	126.22	130.40
23	RB	44	G	C4-N9-C1'	-6.95	117.47	126.50
22	YA	828	U	C6-N1-C2	-6.95	116.83	121.00
22	RA	1528	A	N7-C8-N9	6.94	117.27	113.80
22	YA	2532	G	C6-C5-N7	-6.94	126.24	130.40
22	YA	2388	A	N7-C8-N9	-6.94	110.33	113.80
1	XA	1054	C	N1-C2-O2	6.92	123.06	118.90
1	XA	117	G	N1-C6-O6	6.92	124.05	119.90
22	YA	74	A	C2-N3-C4	-6.92	107.14	110.60
22	RA	1528	A	O4'-C1'-N9	6.92	113.73	108.20
22	YA	28	A	N7-C8-N9	6.92	117.26	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1204	A	O4'-C1'-N9	6.92	113.73	108.20
1	XA	254	G	O5'-P-OP1	-6.92	99.48	105.70
22	YA	576	U	N3-C2-O2	6.91	127.04	122.20
22	RA	774	A	N1-C6-N6	6.91	122.74	118.60
22	YA	1814	G	C5-C6-N1	-6.91	108.05	111.50
22	YA	1635	G	OP2-P-O3'	6.90	120.39	105.20
22	YA	912	C	C2-N1-C1'	6.90	126.39	118.80
22	YA	508	G	N3-C4-C5	-6.89	125.15	128.60
22	YA	1977	A	C8-N9-C4	6.89	108.56	105.80
22	YA	1184	G	N3-C4-C5	-6.88	125.16	128.60
22	YA	1626	G	C8-N9-C4	-6.88	103.65	106.40
22	RA	1930	G	C6-C5-N7	6.87	134.52	130.40
1	XA	749	C	C6-N1-C2	-6.87	117.55	120.30
22	YA	2518	A	C2-N3-C4	-6.87	107.17	110.60
1	XA	731	G	N1-C6-O6	6.87	124.02	119.90
22	YA	2439	A	N7-C8-N9	6.86	117.23	113.80
1	QA	754	C	N1-C2-O2	6.86	123.02	118.90
22	YA	1842	G	C5-C6-N1	-6.86	108.07	111.50
22	RA	1811	G	C8-N9-C4	6.85	109.14	106.40
22	YA	2249	U	N3-C4-C5	-6.85	110.49	114.60
22	RA	1989	G	N3-C2-N2	-6.85	115.10	119.90
1	QA	1322	C	N1-C2-O2	6.85	123.01	118.90
22	YA	189	G	N1-C6-O6	6.84	124.01	119.90
22	YA	805	G	N9-C4-C5	-6.84	102.66	105.40
22	YA	2258	C	C2-N1-C1'	6.84	126.33	118.80
1	QA	328	C	N1-C2-O2	6.84	123.00	118.90
22	YA	1332	G	C4-C5-C6	6.84	122.90	118.80
22	RA	205	G	OP2-P-O3'	6.84	120.25	105.20
53	QV	71	C	C6-N1-C2	-6.83	117.57	120.30
22	RA	1979	C	C6-N1-C2	-6.83	117.57	120.30
22	YA	2242	G	C5-C6-O6	-6.83	124.50	128.60
22	YA	2392	A	C8-N9-C4	-6.83	103.07	105.80
22	RA	54	G	N1-C6-O6	6.82	123.99	119.90
1	XA	529	G	C5-C6-O6	-6.82	124.51	128.60
22	YA	1198	U	N1-C2-N3	6.82	118.99	114.90
22	YA	2058	A	C6-C5-N7	-6.82	127.53	132.30
1	QA	786	G	C8-N9-C4	6.82	109.13	106.40
22	RA	395	U	O4'-C1'-N1	6.81	113.65	108.20
1	QA	1158	C	N3-C2-O2	-6.80	117.14	121.90
1	XA	481	G	C4-C5-N7	-6.80	108.08	110.80
22	RA	1624	G	C8-N9-C4	6.80	109.12	106.40
22	YA	2837	G	N1-C6-O6	6.79	123.98	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	856	C	C6-N1-C2	-6.79	117.58	120.30
1	QA	1336	C	C5-C6-N1	6.79	124.40	121.00
22	RA	2067	G	N1-C6-O6	6.79	123.97	119.90
1	XA	518	C	N1-C2-N3	6.79	123.95	119.20
22	RA	1790	C	C2-N1-C1'	-6.79	111.33	118.80
1	XA	353	A	O5'-P-OP1	-6.78	99.60	105.70
22	RA	1950	G	C4-N9-C1'	6.76	135.29	126.50
1	XA	1336	C	N3-C2-O2	-6.76	117.17	121.90
22	YA	1022	G	P-O3'-C3'	6.76	127.81	119.70
22	YA	140	A	N1-C6-N6	6.76	122.65	118.60
22	YA	621	A	C2-N3-C4	-6.75	107.22	110.60
22	RA	2430	A	N1-C2-N3	6.75	132.68	129.30
22	YA	592	G	N3-C4-N9	6.74	130.04	126.00
22	YA	2250	G	C8-N9-C4	-6.74	103.70	106.40
22	YA	2392	A	N7-C8-N9	6.74	117.17	113.80
22	RA	385	C	C2-N1-C1'	6.74	126.21	118.80
22	RA	1314	C	N1-C2-O2	6.74	122.94	118.90
22	RA	1602	U	N3-C4-C5	-6.74	110.56	114.60
22	YA	508	G	P-O3'-C3'	6.74	127.79	119.70
22	RA	676	A	C5-N7-C8	-6.74	100.53	103.90
22	YA	654	A	O5'-P-OP2	-6.73	99.65	105.70
1	QA	328	C	N3-C2-O2	-6.72	117.19	121.90
1	QA	1322	C	C5-C6-N1	6.72	124.36	121.00
22	YA	1950	G	C4-N9-C1'	6.71	135.23	126.50
22	YA	1568	G	C4-N9-C1'	-6.71	117.78	126.50
22	RA	664	C	N3-C2-O2	-6.71	117.20	121.90
22	RA	1980	G	P-O3'-C3'	6.71	127.75	119.70
53	QV	41	C	N3-C2-O2	-6.70	117.21	121.90
22	YA	621	A	C6-C5-N7	-6.70	127.61	132.30
22	RA	2542	A	C8-N9-C4	6.70	108.48	105.80
23	YB	44	G	C8-N9-C4	6.70	109.08	106.40
22	YA	471	A	C2-N3-C4	-6.70	107.25	110.60
22	YA	1214	A	N7-C8-N9	-6.70	110.45	113.80
22	YA	1698	A	N1-C2-N3	6.70	132.65	129.30
22	YA	1698	A	C4-C5-C6	6.69	120.35	117.00
1	QA	913	A	P-O3'-C3'	6.69	127.73	119.70
1	QA	1528	U	P-O3'-C3'	6.69	127.73	119.70
22	RA	2083	G	N3-C4-C5	6.69	131.94	128.60
22	RA	2452	C	C6-N1-C2	-6.68	117.63	120.30
22	RA	2755	C	C5-C6-N1	6.68	124.34	121.00
1	XA	529	G	C4-C5-N7	6.68	113.47	110.80
1	XA	558	G	N1-C6-O6	6.68	123.91	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1901	A	N1-C6-N6	-6.68	114.59	118.60
22	YA	1708	C	C6-N1-C2	6.67	122.97	120.30
22	YA	1607	C	C5-C6-N1	6.67	124.33	121.00
22	YA	450	G	C4-N9-C1'	6.67	135.17	126.50
22	YA	556	G	N3-C4-C5	-6.67	125.27	128.60
22	RA	1811	G	N3-C4-C5	6.67	131.93	128.60
53	XV	74	C	N3-C4-N4	6.67	122.67	118.00
1	QA	117	G	C4-C5-N7	6.67	113.47	110.80
22	YA	2532	G	N1-C6-O6	6.66	123.90	119.90
1	XA	792	A	O4'-C1'-N9	6.66	113.53	108.20
53	XV	23	C	C6-N1-C2	6.66	122.96	120.30
1	QA	117	G	N1-C6-O6	6.65	123.89	119.90
22	RA	396	G	C6-C5-N7	-6.65	126.41	130.40
22	YA	2573	C	C2-N1-C1'	6.65	126.11	118.80
1	XA	558	G	N9-C4-C5	-6.64	102.74	105.40
1	XA	913	A	P-O3'-C3'	6.64	127.67	119.70
22	YA	446	G	N3-C4-N9	6.64	129.98	126.00
22	YA	848	G	N9-C4-C5	-6.64	102.74	105.40
22	YA	1671	U	C5-C6-N1	6.64	126.02	122.70
53	QV	11	A	C8-N9-C4	6.64	108.45	105.80
22	RA	2439	A	N7-C8-N9	6.63	117.12	113.80
22	RA	2032	G	N9-C4-C5	-6.63	102.75	105.40
22	YA	1358	G	C6-C5-N7	-6.62	126.43	130.40
1	XA	652	U	C2-N1-C1'	6.62	125.64	117.70
22	RA	1258	C	C6-N1-C2	6.62	122.95	120.30
22	RA	2392	A	N7-C8-N9	6.62	117.11	113.80
53	QV	74	C	C2-N1-C1'	6.62	126.08	118.80
1	XA	789	U	N1-C2-N3	6.62	118.87	114.90
53	XV	61	C	C6-N1-C2	-6.62	117.65	120.30
22	YA	1678	G	N1-C6-O6	6.61	123.87	119.90
22	YA	2281	C	O5'-P-OP2	-6.61	99.75	105.70
1	QA	785	G	N1-C6-O6	6.61	123.87	119.90
1	XA	690	G	N3-C4-N9	-6.61	122.03	126.00
22	YA	2335	A	O4'-C1'-N9	6.61	113.49	108.20
22	RA	258	G	C6-C5-N7	-6.61	126.44	130.40
22	YA	974	G	N3-C4-C5	-6.61	125.30	128.60
22	RA	1377	G	N3-C4-N9	6.60	129.96	126.00
1	QA	792	A	O4'-C1'-N9	6.60	113.48	108.20
22	YA	298	G	N3-C4-C5	6.60	131.90	128.60
22	YA	1835	G	N3-C4-C5	-6.60	125.30	128.60
22	YA	2713	A	C5-C6-N1	-6.59	114.41	117.70
22	YA	1950	G	C6-C5-N7	-6.59	126.45	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	298	G	C4-N9-C1'	-6.58	117.94	126.50
22	RA	1543	A	O4'-C1'-N9	6.58	113.47	108.20
53	XV	57	A	N1-C2-N3	6.58	132.59	129.30
22	RA	372	G	O4'-C1'-N9	6.58	113.46	108.20
22	RA	2722	G	C4-N9-C1'	6.57	135.04	126.50
22	YA	140	A	O4'-C1'-N9	6.57	113.45	108.20
22	YA	2702	U	C2-N1-C1'	6.56	125.58	117.70
53	XV	61	C	N3-C2-O2	-6.56	117.31	121.90
22	RA	389	G	N9-C4-C5	-6.56	102.78	105.40
22	RA	1319	G	N1-C6-O6	6.56	123.83	119.90
22	YA	1358	G	C4-N9-C1'	6.56	135.02	126.50
1	QA	1301	U	C2-N1-C1'	6.55	125.56	117.70
22	RA	1627	G	C5-C6-N1	-6.55	108.22	111.50
22	YA	945	A	C6-C5-N7	-6.55	127.71	132.30
35	YS	56	LEU	CA-CB-CG	6.55	130.37	115.30
22	YA	2495	G	C8-N9-C4	-6.55	103.78	106.40
1	QA	690	G	N3-C4-N9	-6.55	122.07	126.00
1	XA	1370	G	C5-C6-N1	-6.55	108.23	111.50
1	XA	812	C	P-O3'-C3'	6.54	127.55	119.70
1	QA	1302	U	N1-C2-O2	6.54	127.38	122.80
22	RA	527	C	N1-C2-O2	6.54	122.82	118.90
22	YA	958	U	C6-N1-C2	-6.54	117.08	121.00
1	XA	619	U	C2-N1-C1'	6.53	125.54	117.70
22	YA	1616	A	O4'-C1'-N9	6.53	113.42	108.20
1	XA	1498	U	P-O3'-C3'	6.53	127.53	119.70
22	YA	1992	G	N3-C4-C5	-6.53	125.34	128.60
22	YA	2271	G	N1-C6-O6	6.53	123.82	119.90
25	RE	21	VAL	C-N-CD	-6.53	106.25	120.60
22	RA	664	C	N1-C2-O2	6.52	122.81	118.90
1	XA	1204	A	N1-C6-N6	6.52	122.51	118.60
1	QA	117	G	C6-C5-N7	-6.52	126.49	130.40
22	RA	676	A	O4'-C1'-N9	6.51	113.41	108.20
22	RA	1930	G	C4-C5-N7	-6.51	108.19	110.80
22	YA	860	U	N3-C2-O2	-6.51	117.64	122.20
22	RA	2506	U	N3-C2-O2	-6.51	117.64	122.20
22	YA	530	G	O4'-C1'-N9	6.51	113.41	108.20
22	YA	2058	A	C5-C6-N6	-6.51	118.49	123.70
22	YA	805	G	C8-N9-C1'	-6.50	118.55	127.00
53	QV	25	C	C6-N1-C2	-6.50	117.70	120.30
22	YA	69	C	C6-N1-C2	-6.50	117.70	120.30
22	YA	83	G	N3-C4-C5	6.49	131.85	128.60
22	YA	382	G	C2-N3-C4	-6.49	108.66	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	685	G	N3-C4-C5	6.49	131.84	128.60
22	RA	2490	G	C4-N9-C1'	6.48	134.92	126.50
22	YA	1950	G	C8-N9-C4	-6.48	103.81	106.40
1	XA	690	G	C8-N9-C4	-6.48	103.81	106.40
22	RA	2499	C	C6-N1-C2	-6.48	117.71	120.30
1	XA	1301	U	N1-C2-O2	6.47	127.33	122.80
22	RA	2067	G	C6-C5-N7	-6.46	126.52	130.40
1	QA	496	A	N1-C6-N6	-6.46	114.72	118.60
22	RA	1786	A	C2-N3-C4	-6.46	107.37	110.60
22	YA	1698	A	O4'-C1'-N9	6.46	113.37	108.20
22	YA	621	A	N7-C8-N9	6.46	117.03	113.80
22	RA	242	G	P-O3'-C3'	6.46	127.45	119.70
22	YA	582	G	C5-C6-O6	-6.45	124.73	128.60
22	YA	2046	G	N3-C4-C5	-6.44	125.38	128.60
1	QA	701	C	P-O3'-C3'	6.44	127.42	119.70
1	QA	785	G	C5-C6-N1	-6.44	108.28	111.50
22	RA	2686	G	C6-C5-N7	-6.44	126.54	130.40
22	YA	2584	U	C6-N1-C2	-6.43	117.14	121.00
22	YA	1607	C	C2-N3-C4	6.43	123.11	119.90
22	YA	2070	G	N1-C6-O6	-6.43	116.04	119.90
22	RA	2688	U	N3-C2-O2	-6.43	117.70	122.20
22	YA	51	G	N1-C6-O6	-6.43	116.05	119.90
22	RA	613	U	N3-C2-O2	-6.42	117.70	122.20
22	RA	676	A	C8-N9-C4	-6.42	103.23	105.80
1	XA	1297	C	P-O3'-C3'	6.41	127.40	119.70
1	QA	690	G	C8-N9-C4	-6.41	103.84	106.40
22	YA	1568	G	C8-N9-C1'	6.41	135.33	127.00
22	YA	142	G	C4-N9-C1'	-6.41	118.17	126.50
1	XA	960	U	C2-N1-C1'	6.40	125.38	117.70
22	RA	465	G	C5-C6-N1	-6.40	108.30	111.50
22	RA	1840	G	C6-C5-N7	-6.40	126.56	130.40
1	XA	1503	A	P-O3'-C3'	6.40	127.38	119.70
1	XA	1484	C	C6-N1-C2	6.39	122.86	120.30
22	YA	1966	A	N3-C4-C5	6.39	131.28	126.80
22	YA	1790	C	C6-N1-C2	6.39	122.86	120.30
22	YA	792	G	N1-C6-O6	-6.39	116.07	119.90
22	YA	1620	G	C6-C5-N7	-6.39	126.57	130.40
22	RA	1698	A	C6-C5-N7	-6.38	127.83	132.30
22	RA	2251	G	C4-N9-C1'	6.38	134.80	126.50
22	YA	1314	C	N1-C2-O2	6.38	122.73	118.90
22	YA	114	U	C2-N1-C1'	6.38	125.36	117.70
22	RA	1377	G	C4-N9-C1'	6.38	134.79	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1370	G	N1-C6-O6	6.38	123.73	119.90
22	RA	74	A	P-O3'-C3'	6.38	127.36	119.70
22	YA	74	A	C5-C6-N1	-6.38	114.51	117.70
22	YA	1183	G	N1-C6-O6	6.38	123.73	119.90
22	RA	1192	G	N1-C6-O6	6.38	123.72	119.90
22	YA	1287	A	O5'-P-OP2	-6.38	99.96	105.70
1	QA	932	C	N3-C2-O2	-6.37	117.44	121.90
22	YA	1781	C	C2-N1-C1'	6.37	125.81	118.80
22	YA	2010	G	N1-C6-O6	6.37	123.72	119.90
22	YA	1258	C	C6-N1-C2	6.37	122.85	120.30
22	RA	1142	U	C2-N1-C1'	6.37	125.34	117.70
22	YA	179	G	C5-C6-N1	-6.37	108.32	111.50
22	YA	1858	G	C8-N9-C4	-6.37	103.85	106.40
22	YA	1781	C	O4'-C1'-N1	6.37	113.29	108.20
22	YA	1425	G	C4-N9-C1'	6.36	134.77	126.50
22	YA	2698	U	O5'-P-OP2	-6.36	99.98	105.70
22	YA	446	G	C6-C5-N7	-6.35	126.59	130.40
1	QA	1435	G	C5-C6-N1	-6.35	108.32	111.50
22	YA	1311	G	N9-C4-C5	-6.35	102.86	105.40
22	YA	270(Y)	G	C5-C6-N1	-6.34	108.33	111.50
22	YA	1781	C	C6-N1-C1'	-6.34	113.19	120.80
22	RA	860	U	N3-C2-O2	-6.34	117.76	122.20
1	XA	749	C	C5-C6-N1	6.34	124.17	121.00
22	YA	1425	G	C4-C5-C6	6.34	122.61	118.80
22	RA	338	G	C6-C5-N7	-6.34	126.60	130.40
22	YA	1929	G	N9-C4-C5	-6.34	102.86	105.40
1	XA	1128	C	C5-C6-N1	6.34	124.17	121.00
22	RA	1762	A	N1-C6-N6	-6.33	114.80	118.60
22	YA	2242	G	N1-C6-O6	6.33	123.70	119.90
1	QA	244	U	P-O3'-C3'	6.33	127.30	119.70
22	YA	222	A	P-O3'-C3'	6.32	127.29	119.70
22	RA	848	G	N3-C4-C5	-6.32	125.44	128.60
22	RA	1310	G	C6-C5-N7	-6.32	126.61	130.40
22	YA	1332	G	C5-N7-C8	-6.32	101.14	104.30
22	RA	1568	G	N1-C6-O6	-6.32	116.11	119.90
22	YA	2712	U	C5-C4-O4	6.32	129.69	125.90
22	YA	676	A	N7-C8-N9	6.32	116.96	113.80
1	QA	401	C	C5-C6-N1	6.31	124.16	121.00
22	YA	760	G	N1-C6-O6	6.31	123.69	119.90
22	YA	2439	A	C8-N9-C4	-6.31	103.28	105.80
1	XA	449	C	C6-N1-C2	-6.31	117.78	120.30
22	YA	674	G	C4-C5-N7	6.31	113.32	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1510	A	C2-N3-C4	6.31	113.75	110.60
22	YA	572	A	N9-C4-C5	6.30	108.32	105.80
22	YA	805	G	N3-C4-C5	-6.30	125.45	128.60
22	YA	1786	A	N7-C8-N9	6.30	116.95	113.80
22	YA	1830	C	N3-C4-C5	6.30	124.42	121.90
1	QA	337	C	C5-C6-N1	6.30	124.15	121.00
1	QA	818	G	N3-C4-N9	-6.30	122.22	126.00
22	YA	2318	G	C4-C5-N7	6.29	113.32	110.80
1	QA	1227	A	C2-N3-C4	-6.29	107.46	110.60
1	XA	1195	C	C2-N1-C1'	6.29	125.72	118.80
22	YA	2234	G	N1-C6-O6	6.29	123.67	119.90
22	RA	783	A	N1-C6-N6	6.28	122.37	118.60
1	XA	690	G	N3-C4-C5	6.28	131.74	128.60
22	RA	2439	A	P-O3'-C3'	6.28	127.24	119.70
22	YA	1950	G	C4-C5-N7	6.28	113.31	110.80
1	XA	328	C	C2-N1-C1'	6.28	125.71	118.80
1	QA	701	C	N3-C2-O2	-6.28	117.51	121.90
22	RA	2311	A	N7-C8-N9	6.28	116.94	113.80
1	XA	890	G	O4'-C1'-N9	6.27	113.22	108.20
22	YA	2832	U	P-O3'-C3'	6.27	127.23	119.70
22	YA	2702	U	O4'-C1'-N1	6.27	113.21	108.20
22	YA	2712(A)	A	C5-N7-C8	-6.26	100.77	103.90
22	YA	88	G	N3-C4-N9	6.26	129.76	126.00
22	RA	783	A	C8-N9-C4	-6.26	103.30	105.80
22	RA	1799	G	P-O3'-C3'	6.26	127.21	119.70
22	YA	1905	C	C2-N1-C1'	6.26	125.68	118.80
1	QA	1158	C	C2-N1-C1'	6.25	125.68	118.80
22	RA	1496	A	C5-N7-C8	-6.25	100.77	103.90
1	QA	422	C	C6-N1-C2	-6.25	117.80	120.30
22	RA	1319	G	C6-C5-N7	-6.25	126.65	130.40
22	YA	811	U	N1-C2-N3	6.25	118.65	114.90
22	YA	1493	C	C6-N1-C2	6.25	122.80	120.30
22	YA	811	U	C5-C4-O4	6.24	129.65	125.90
22	YA	910	A	C8-N9-C4	6.24	108.30	105.80
22	YA	2032	G	C2-N3-C4	-6.24	108.78	111.90
22	RA	2782	G	C4-N9-C1'	6.24	134.61	126.50
22	RA	2401	U	N3-C2-O2	-6.24	117.83	122.20
22	RA	2251	G	C8-N9-C1'	-6.23	118.90	127.00
53	XV	67	C	C2-N1-C1'	6.23	125.66	118.80
1	XA	1397	C	C6-N1-C2	-6.23	117.81	120.30
22	YA	83	G	N3-C4-N9	-6.23	122.26	126.00
22	YA	1407	C	N1-C2-O2	6.23	122.64	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	285	C	C6-N1-C2	6.22	122.79	120.30
22	YA	566	U	C5-C6-N1	-6.22	119.59	122.70
1	QA	328	C	C6-N1-C2	-6.22	117.81	120.30
1	QA	44	G	C4-N9-C1'	6.22	134.58	126.50
22	YA	1929	G	N3-C4-C5	6.21	131.71	128.60
1	XA	102	G	N3-C4-C5	-6.21	125.50	128.60
22	YA	142	G	C2-N3-C4	-6.21	108.80	111.90
22	RA	74	A	C5-N7-C8	-6.21	100.80	103.90
22	YA	1130	U	N3-C2-O2	-6.21	117.86	122.20
1	XA	413	G	O4'-C1'-N9	6.20	113.16	108.20
22	RA	809	G	C4-N9-C1'	6.20	134.56	126.50
22	RA	1049	C	C6-N1-C2	-6.20	117.82	120.30
22	YA	1201	C	N3-C2-O2	6.20	126.24	121.90
22	RA	2345	G	C4-C5-N7	-6.20	108.32	110.80
22	YA	671	C	C6-N1-C2	-6.20	117.82	120.30
53	QV	32	C	N1-C2-O2	6.19	122.61	118.90
22	RA	28	A	C4-C5-C6	6.18	120.09	117.00
22	YA	1675	C	N1-C2-O2	-6.18	115.19	118.90
22	YA	1906	G	N1-C6-O6	6.18	123.61	119.90
1	XA	1501	C	C6-N1-C2	6.18	122.77	120.30
22	YA	446	G	N9-C4-C5	-6.18	102.93	105.40
1	XA	1406	U	N3-C2-O2	-6.18	117.88	122.20
22	YA	397	G	C2-N3-C4	-6.17	108.81	111.90
22	YA	729	G	C4-N9-C1'	6.17	134.52	126.50
23	YB	82	G	C5-C6-N1	-6.17	108.42	111.50
22	YA	679	C	N3-C4-C5	6.17	124.37	121.90
22	YA	2056	G	C4-C5-N7	6.17	113.27	110.80
26	YF	74	ARG	NE-CZ-NH1	6.17	123.38	120.30
1	QA	328	C	P-O3'-C3'	6.17	127.10	119.70
22	RA	2062	A	C2-N3-C4	6.17	113.68	110.60
22	RA	1792	G	C2-N3-C4	6.16	114.98	111.90
22	YA	270(X)	G	C8-N9-C4	-6.16	103.94	106.40
22	RA	1653	G	N3-C4-N9	6.16	129.70	126.00
22	YA	1021	A	C2-N3-C4	-6.16	107.52	110.60
22	RA	1890	A	C4-C5-C6	-6.16	113.92	117.00
22	YA	570	G	C6-N1-C2	6.16	128.79	125.10
22	YA	1427	A	P-O3'-C3'	6.16	127.09	119.70
22	RA	1982	C	C6-N1-C2	6.15	122.76	120.30
22	YA	774	A	N3-C4-C5	6.15	131.10	126.80
22	YA	2516	G	C5-C6-O6	-6.15	124.91	128.60
22	RA	776	G	C4-N9-C1'	6.15	134.49	126.50
1	XA	299	G	C5-C6-O6	6.15	132.29	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1516	G	C5-C6-N1	-6.15	108.43	111.50
1	QA	444	C	C6-N1-C2	6.15	122.76	120.30
22	YA	537	C	C2-N1-C1'	6.15	125.56	118.80
22	YA	621	A	O4'-C1'-N9	6.14	113.11	108.20
22	RA	1142(A)	A	C2-N3-C4	-6.14	107.53	110.60
22	YA	556	G	N3-C4-N9	6.14	129.69	126.00
22	YA	2468	G	O4'-C1'-N9	6.14	113.11	108.20
54	QX	1	A	C2-N3-C4	-6.14	107.53	110.60
1	QA	1511	G	C5-C6-N1	-6.14	108.43	111.50
22	YA	1028	A	N1-C6-N6	-6.14	114.92	118.60
1	QA	119	A	P-O3'-C3'	6.14	127.07	119.70
22	RA	570	G	N3-C4-C5	-6.14	125.53	128.60
22	YA	2558	C	C6-N1-C2	6.14	122.75	120.30
22	RA	601	C	C6-N1-C2	-6.14	117.84	120.30
22	YA	1764	G	N1-C6-O6	-6.14	116.22	119.90
22	YA	554	U	O5'-P-OP1	-6.13	100.18	105.70
22	RA	271(B)	G	P-O3'-C3'	6.13	127.06	119.70
22	RA	2777	G	N1-C6-O6	6.13	123.58	119.90
1	XA	956	U	C6-N1-C2	-6.13	117.32	121.00
1	XA	299	G	C4-C5-N7	-6.13	108.35	110.80
22	YA	792	G	N9-C4-C5	6.13	107.85	105.40
22	YA	788	A	N1-C6-N6	6.13	122.28	118.60
53	QV	32	C	N3-C2-O2	-6.12	117.61	121.90
22	YA	944	G	C4-N9-C1'	6.12	134.46	126.50
23	YB	25	A	C8-N9-C4	-6.12	103.35	105.80
22	RA	915	C	C6-N1-C2	-6.12	117.85	120.30
1	XA	1114	C	C6-N1-C2	-6.12	117.85	120.30
22	RA	1762	A	N9-C4-C5	6.12	108.25	105.80
22	YA	265	A	N1-C6-N6	-6.12	114.93	118.60
22	YA	298	G	C6-C5-N7	6.12	134.07	130.40
22	YA	1763	G	O5'-P-OP2	-6.12	100.20	105.70
22	YA	1834	U	N3-C2-O2	-6.11	117.92	122.20
53	XV	17	C	C6-N1-C1'	-6.11	113.46	120.80
22	RA	848	G	C4-N9-C1'	6.11	134.44	126.50
22	RA	1653	G	P-O3'-C3'	6.11	127.03	119.70
22	YA	805	G	C4-N9-C1'	6.11	134.44	126.50
22	YA	2383	G	C4-N9-C1'	6.11	134.44	126.50
22	YA	2725	A	C8-N9-C4	-6.11	103.36	105.80
1	XA	1481	U	C6-N1-C2	-6.10	117.34	121.00
53	XV	17	C	N3-C2-O2	-6.10	117.63	121.90
22	RA	2726	U	C2-N1-C1'	6.10	125.02	117.70
22	YA	2544	G	C6-C5-N7	-6.10	126.74	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	QV	25	C	N3-C4-C5	-6.10	119.46	121.90
22	RA	2581	G	C8-N9-C4	-6.09	103.96	106.40
22	YA	1437	C	C6-N1-C2	-6.09	117.86	120.30
53	XV	71	C	O5'-P-OP1	-6.09	100.22	105.70
22	RA	2499	C	N3-C2-O2	-6.09	117.64	121.90
22	YA	912	C	N1-C2-O2	6.09	122.55	118.90
22	YA	676	A	C4-C5-N7	6.08	113.74	110.70
22	YA	856	C	N1-C2-O2	6.08	122.55	118.90
22	YA	917	A	N1-C2-N3	6.08	132.34	129.30
1	QA	1473	A	C8-N9-C4	6.08	108.23	105.80
22	YA	2441	C	C6-N1-C2	6.08	122.73	120.30
22	YA	2518	A	C5-N7-C8	-6.08	100.86	103.90
1	XA	687	A	P-O3'-C3'	6.07	126.99	119.70
1	XA	518	C	N3-C2-O2	-6.07	117.65	121.90
22	YA	856	C	C5-C6-N1	6.07	124.03	121.00
22	YA	517	C	C6-N1-C2	-6.07	117.87	120.30
22	RA	2035	G	N3-C4-N9	-6.07	122.36	126.00
22	YA	537	C	N1-C2-O2	6.07	122.54	118.90
22	RA	2722	G	C8-N9-C1'	-6.07	119.11	127.00
22	YA	74	A	O4'-C1'-N9	-6.07	103.35	108.20
22	YA	2471	C	C6-N1-C2	-6.07	117.87	120.30
22	RA	809	G	N3-C4-C5	-6.06	125.57	128.60
22	YA	527	C	N1-C2-O2	6.06	122.54	118.90
22	YA	1012	U	OP2-P-O3'	6.06	118.53	105.20
22	YA	2321	G	N1-C6-O6	-6.06	116.27	119.90
22	YA	2429	G	OP2-P-O3'	6.05	118.52	105.20
1	XA	131	C	N1-C2-O2	6.05	122.53	118.90
22	YA	576	U	N1-C2-N3	-6.05	111.27	114.90
22	YA	1528	A	N7-C8-N9	6.05	116.83	113.80
22	YA	1653	G	P-O3'-C3'	6.05	126.96	119.70
1	XA	326	G	C5-C6-N1	-6.05	108.48	111.50
22	RA	743	G	C8-N9-C4	6.05	108.82	106.40
1	XA	1301	U	C6-N1-C1'	-6.05	112.73	121.20
22	YA	912	C	C6-N1-C2	-6.05	117.88	120.30
1	QA	243	A	P-O3'-C3'	6.04	126.95	119.70
22	RA	537	C	C5-C6-N1	6.04	124.02	121.00
22	RA	1204	A	C2-N3-C4	-6.04	107.58	110.60
22	RA	2251	G	N3-C4-N9	6.04	129.63	126.00
1	XA	1145	C	P-O3'-C3'	6.04	126.95	119.70
22	RA	1890	A	C8-N9-C4	6.04	108.22	105.80
22	YA	1247	A	N7-C8-N9	-6.04	110.78	113.80
22	YA	1328	G	N1-C2-N3	6.04	127.52	123.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1686	C	C5-C6-N1	6.03	124.02	121.00
22	RA	798	G	N1-C6-O6	6.03	123.52	119.90
22	RA	2275	C	C5-C6-N1	-6.03	117.98	121.00
1	QA	754	C	N3-C2-O2	-6.03	117.68	121.90
1	QA	685	G	C4-N9-C1'	-6.02	118.67	126.50
1	QA	754	C	C2-N1-C1'	6.02	125.43	118.80
33	RQ	79	LEU	CA-CB-CG	6.02	129.16	115.30
22	YA	2371	G	C5-C6-N1	-6.02	108.49	111.50
22	RA	2518	A	N1-C6-N6	6.02	122.21	118.60
22	YA	1204	A	N1-C2-N3	6.02	132.31	129.30
23	RB	83	G	C4-C5-C6	6.02	122.41	118.80
22	YA	977	G	N3-C4-N9	6.02	129.61	126.00
22	YA	2776	A	P-O3'-C3'	6.02	126.92	119.70
22	YA	621	A	C5-C6-N1	-6.01	114.69	117.70
53	QV	71	C	N3-C2-O2	-6.01	117.69	121.90
22	RA	2605	U	C6-N1-C2	-6.01	117.39	121.00
22	YA	2550	G	N1-C6-O6	6.01	123.51	119.90
22	RA	1947	C	C5-C6-N1	6.01	124.01	121.00
22	YA	1190	G	C4-C5-N7	6.01	113.20	110.80
22	RA	1795	C	N1-C2-O2	-6.01	115.29	118.90
22	YA	830	G	C8-N9-C4	-6.01	104.00	106.40
22	YA	1005	C	N3-C2-O2	-6.01	117.69	121.90
23	YB	81	G	C4-C5-N7	6.01	113.20	110.80
53	XV	17	C	C5-C6-N1	6.01	124.00	121.00
22	RA	962	G	C8-N9-C4	-6.00	104.00	106.40
27	RG	34	LEU	CA-CB-CG	6.00	129.10	115.30
1	XA	1053	G	C4-N9-C1'	-6.00	118.70	126.50
22	YA	2413	G	N3-C4-N9	-6.00	122.40	126.00
1	QA	1285	A	P-O3'-C3'	6.00	126.90	119.70
1	QA	1498	U	P-O3'-C3'	6.00	126.90	119.70
1	XA	633	G	N1-C6-O6	6.00	123.50	119.90
22	YA	88	G	N3-C4-C5	-6.00	125.60	128.60
1	QA	797	C	C5-C6-N1	6.00	124.00	121.00
22	RA	1819	A	C2-N3-C4	-6.00	107.60	110.60
22	YA	2392	A	C5-N7-C8	-5.99	100.90	103.90
22	RA	974(A)	C	P-O3'-C3'	5.99	126.89	119.70
22	YA	273(F)	C	N1-C2-O2	5.99	122.49	118.90
22	RA	2585	U	C2-N1-C1'	5.99	124.89	117.70
1	QA	587	G	C6-C5-N7	-5.99	126.81	130.40
22	YA	1835	G	C8-N9-C4	-5.99	104.00	106.40
22	RA	343	C	N1-C2-O2	5.99	122.49	118.90
1	XA	1385	G	N1-C6-O6	5.99	123.49	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1342	A	O5'-P-OP1	-5.98	100.31	105.70
22	YA	130	C	C6-N1-C2	5.98	122.69	120.30
22	YA	567	A	O5'-P-OP2	-5.98	100.32	105.70
1	XA	320	C	C6-N1-C2	5.98	122.69	120.30
22	YA	1493	C	C5-C6-N1	-5.98	118.01	121.00
53	QV	30	G	N1-C6-O6	5.98	123.49	119.90
22	RA	2444	G	O5'-P-OP2	-5.97	100.32	105.70
23	RB	44	G	N3-C4-N9	-5.97	122.42	126.00
1	XA	1506	U	N3-C2-O2	5.97	126.38	122.20
22	YA	789	A	N1-C6-N6	-5.97	115.02	118.60
22	YA	793	A	N1-C6-N6	5.97	122.18	118.60
22	RA	966	G	O5'-P-OP2	-5.97	100.33	105.70
22	RA	1792	G	C5-C6-N1	5.97	114.48	111.50
22	YA	1313	U	C2-N1-C1'	5.97	124.86	117.70
1	XA	511	C	C5-C6-N1	-5.97	118.02	121.00
53	XV	32	C	N3-C4-C5	-5.96	119.51	121.90
22	RA	141	A	N7-C8-N9	5.96	116.78	113.80
54	QX	6	G	C5-N7-C8	-5.96	101.32	104.30
22	YA	210	C	C6-N1-C2	5.96	122.69	120.30
22	YA	1313	U	N3-C2-O2	-5.96	118.03	122.20
22	RA	915	C	N3-C2-O2	-5.96	117.73	121.90
22	RA	803	U	C5-C4-O4	-5.96	122.33	125.90
22	RA	2506	U	C2-N1-C1'	5.96	124.85	117.70
22	YA	1685	C	C6-N1-C2	5.96	122.68	120.30
22	RA	389	G	N1-C6-O6	5.96	123.47	119.90
22	RA	577	G	O5'-P-OP1	-5.96	100.34	105.70
22	YA	621	A	C5-N7-C8	-5.96	100.92	103.90
22	YA	1434	A	C8-N9-C4	5.96	108.18	105.80
22	YA	1992	G	O4'-C1'-N9	-5.95	103.44	108.20
22	RA	2552	U	N1-C2-O2	-5.95	118.64	122.80
1	QA	1157	A	P-O3'-C3'	5.95	126.83	119.70
38	YV	35	LEU	CA-CB-CG	5.95	128.97	115.30
22	YA	1800	C	C6-N1-C2	5.94	122.68	120.30
22	YA	1313	U	O4'-C1'-N1	5.94	112.95	108.20
1	QA	117	G	N3-C4-N9	5.94	129.56	126.00
54	QX	6	G	C5-C6-O6	-5.94	125.04	128.60
22	YA	404	C	P-O3'-C3'	5.94	126.83	119.70
22	RA	406	G	C6-C5-N7	-5.93	126.84	130.40
1	QA	44	G	C8-N9-C1'	-5.93	119.29	127.00
22	RA	1496	A	C8-N9-C4	-5.93	103.43	105.80
53	QV	17	C	C6-N1-C1'	-5.93	113.69	120.80
22	YA	1425	G	N7-C8-N9	5.93	116.06	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	989	G	N3-C4-C5	-5.93	125.64	128.60
23	RB	22	U	C2-N1-C1'	5.93	124.81	117.70
22	RA	1606	G	C4-C5-N7	5.92	113.17	110.80
22	RA	2689	U	P-O3'-C3'	5.92	126.81	119.70
22	YA	917	A	C5-C6-N1	-5.92	114.74	117.70
22	RA	859	G	C8-N9-C4	-5.92	104.03	106.40
22	YA	760	G	C6-C5-N7	-5.92	126.85	130.40
1	QA	701	C	N1-C2-O2	5.92	122.45	118.90
54	XX	8	A	C8-N9-C4	-5.92	103.43	105.80
22	RA	2509	G	C4-N9-C1'	5.92	134.19	126.50
22	YA	845	G	N3-C4-C5	5.92	131.56	128.60
22	YA	1955	U	P-O3'-C3'	5.92	126.80	119.70
22	YA	2358	G	N9-C4-C5	5.92	107.77	105.40
22	YA	189	G	N3-C4-N9	5.91	129.55	126.00
22	YA	2700	C	C5-C6-N1	-5.91	118.04	121.00
1	QA	1346	A	P-O3'-C3'	5.91	126.79	119.70
22	RA	180	G	O5'-P-OP1	-5.91	100.39	105.70
22	RA	1602	U	C6-N1-C2	-5.91	117.46	121.00
22	RA	2499	C	N1-C2-O2	5.90	122.44	118.90
22	YA	929	G	C5-C6-N1	-5.90	108.55	111.50
22	YA	1395	A	O4'-C1'-N9	5.90	112.92	108.20
22	YA	1612	C	C6-N1-C2	5.90	122.66	120.30
22	YA	285	C	C5-C6-N1	-5.90	118.05	121.00
22	YA	448	U	N3-C2-O2	-5.90	118.07	122.20
22	RA	2688	U	C5-C4-O4	5.90	129.44	125.90
22	YA	2025	C	C6-N1-C2	-5.90	117.94	120.30
1	XA	320	C	C2-N1-C1'	-5.90	112.31	118.80
22	YA	1968	G	C6-C5-N7	-5.90	126.86	130.40
22	YA	2830	G	C6-C5-N7	-5.90	126.86	130.40
22	RA	1624	G	N9-C4-C5	-5.89	103.04	105.40
22	YA	189	G	C4-C5-C6	5.89	122.34	118.80
22	RA	1204	A	N1-C2-N3	5.89	132.25	129.30
22	YA	2010	G	C5-C6-O6	-5.89	125.06	128.60
22	YA	2031	A	O4'-C1'-N9	5.89	112.91	108.20
22	RA	917	A	C2-N3-C4	-5.89	107.66	110.60
22	YA	1314	C	C2-N1-C1'	5.89	125.28	118.80
22	YA	2406	U	O4'-C1'-N1	-5.89	103.49	108.20
22	YA	2558	C	N3-C4-C5	5.89	124.25	121.90
22	RA	1450	C	C6-N1-C2	-5.89	117.94	120.30
22	RA	2590	A	C8-N9-C4	5.89	108.16	105.80
22	RA	695	G	C8-N9-C4	5.88	108.75	106.40
1	XA	789	U	N3-C4-C5	-5.88	111.07	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1698	A	C2-N3-C4	-5.88	107.66	110.60
1	XA	1053	G	O4'-C1'-N9	5.88	112.91	108.20
22	YA	573	G	C4-C5-N7	5.88	113.15	110.80
22	YA	1383	C	C2-N1-C1'	5.88	125.27	118.80
22	YA	1386	C	N1-C2-O2	-5.88	115.37	118.90
22	RA	729	G	C8-N9-C4	-5.88	104.05	106.40
1	XA	1397	C	C2-N1-C1'	5.88	125.27	118.80
22	YA	1842	G	C2-N3-C4	-5.88	108.96	111.90
22	YA	102	G	P-O3'-C3'	5.88	126.75	119.70
22	RA	754	C	C6-N1-C2	5.88	122.65	120.30
1	XA	1455	G	C8-N9-C4	5.87	108.75	106.40
22	YA	326	G	N1-C6-O6	5.87	123.42	119.90
1	XA	833	U	C2-N1-C1'	-5.87	110.66	117.70
22	RA	385	C	C6-N1-C1'	-5.87	113.76	120.80
22	RA	2867	G	C8-N9-C4	5.87	108.75	106.40
22	YA	582	G	C6-C5-N7	-5.86	126.88	130.40
22	YA	2499	C	C5-C4-N4	-5.86	116.10	120.20
1	QA	1403	C	C6-N1-C2	-5.86	117.96	120.30
1	QA	666	G	C8-N9-C4	-5.86	104.06	106.40
22	YA	801	G	N3-C4-C5	-5.86	125.67	128.60
22	YA	1349	A	N1-C6-N6	5.86	122.11	118.60
22	YA	1776	G	O5'-P-OP2	5.85	117.72	110.70
22	YA	1210	A	N7-C8-N9	5.85	116.72	113.80
22	RA	828	U	N1-C2-N3	5.85	118.41	114.90
22	YA	1602	U	N3-C4-C5	-5.84	111.09	114.60
22	YA	2282	G	N3-C4-C5	-5.84	125.68	128.60
22	RA	2712	U	P-O3'-C3'	5.84	126.71	119.70
23	RB	44	G	C6-C5-N7	5.84	133.91	130.40
22	YA	944	G	C8-N9-C1'	-5.84	119.41	127.00
54	QX	6	G	N7-C8-N9	5.84	116.02	113.10
1	QA	777	A	O4'-C1'-N9	5.84	112.87	108.20
1	XA	1091	U	N3-C2-O2	-5.84	118.11	122.20
22	RA	741	G	C5-C6-O6	-5.83	125.10	128.60
23	RB	44	G	C8-N9-C1'	5.83	134.58	127.00
23	YB	94	C	C6-N1-C2	-5.83	117.97	120.30
22	YA	503	A	P-O3'-C3'	5.83	126.69	119.70
1	QA	718	G	N3-C4-C5	5.83	131.51	128.60
22	YA	1425	G	C5-C6-N1	-5.83	108.59	111.50
1	XA	1432	G	O5'-P-OP1	-5.83	100.46	105.70
22	YA	1653	G	N3-C4-C5	-5.83	125.69	128.60
1	QA	99	C	C6-N1-C2	-5.82	117.97	120.30
22	RA	2241	A	O5'-P-OP1	-5.82	100.46	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	974(A)	C	P-O3'-C3'	5.82	126.69	119.70
22	RA	1528	A	C8-N9-C4	-5.82	103.47	105.80
22	RA	2062	A	N1-C6-N6	-5.82	115.11	118.60
22	RA	2852	G	C6-C5-N7	-5.82	126.91	130.40
22	YA	512	G	C4-N9-C1'	-5.82	118.93	126.50
22	YA	1471	A	C8-N9-C4	-5.82	103.47	105.80
22	RA	1310	G	N1-C6-O6	5.82	123.39	119.90
22	YA	2310	A	C4-C5-C6	5.82	119.91	117.00
22	RA	1502	C	C2-N1-C1'	5.82	125.20	118.80
1	XA	117	G	C4-C5-N7	5.82	113.13	110.80
25	RE	63	LEU	CA-CB-CG	5.81	128.67	115.30
22	YA	2505	G	N1-C6-O6	5.81	123.39	119.90
22	RA	1694	C	P-O3'-C3'	5.81	126.68	119.70
22	YA	1773	A	N3-C4-C5	-5.81	122.73	126.80
22	RA	1319	G	N9-C4-C5	-5.81	103.08	105.40
22	YA	570	G	N3-C4-N9	-5.81	122.51	126.00
22	RA	2526	G	N3-C4-N9	-5.81	122.51	126.00
22	YA	729	G	C6-C5-N7	-5.81	126.91	130.40
22	RA	856	C	C5-C6-N1	5.81	123.90	121.00
1	XA	6	G	C6-C5-N7	-5.81	126.92	130.40
22	YA	450	G	C2-N3-C4	-5.81	109.00	111.90
22	YA	1614	A	C5-C6-N6	-5.81	119.05	123.70
22	RA	2251	G	N3-C4-C5	-5.81	125.70	128.60
22	RA	752	A	C8-N9-C4	-5.80	103.48	105.80
22	YA	382	G	C6-C5-N7	-5.80	126.92	130.40
1	QA	1336	C	N3-C2-O2	-5.79	117.84	121.90
22	RA	2401	U	C2-N1-C1'	5.79	124.65	117.70
1	XA	703	G	N3-C4-N9	5.79	129.47	126.00
22	RA	1672	C	C5-C6-N1	5.79	123.89	121.00
22	YA	2544	G	N1-C6-O6	5.78	123.37	119.90
53	XV	67	C	N1-C2-O2	5.78	122.37	118.90
22	YA	1929	G	C6-C5-N7	-5.78	126.94	130.40
1	XA	345	C	P-O3'-C3'	5.77	126.62	119.70
22	RA	2814	C	C5-C6-N1	-5.77	118.12	121.00
22	RA	1840	G	C4-C5-N7	5.77	113.11	110.80
54	XX	6	G	C6-C5-N7	-5.77	126.94	130.40
22	YA	18	C	C6-N1-C2	-5.76	118.00	120.30
22	RA	395	U	C2-N1-C1'	-5.76	110.79	117.70
22	RA	1672	C	C2-N3-C4	5.75	122.78	119.90
1	XA	775	G	C6-C5-N7	-5.75	126.95	130.40
22	YA	1193	G	N3-C4-N9	-5.75	122.55	126.00
22	YA	2033	A	N1-C6-N6	-5.75	115.15	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	2550	G	C5-C6-O6	-5.75	125.15	128.60
22	RA	1695	G	C6-C5-N7	-5.75	126.95	130.40
22	YA	2542	A	C8-N9-C4	5.75	108.10	105.80
22	YA	772	C	O5'-P-OP2	-5.75	100.53	105.70
22	YA	1686	C	C6-N1-C2	-5.75	118.00	120.30
22	RA	74	A	C4-C5-C6	5.75	119.87	117.00
23	YB	66	A	P-O3'-C3'	5.75	126.60	119.70
22	RA	848	G	N3-C4-N9	5.75	129.45	126.00
22	RA	2722	G	C6-C5-N7	-5.75	126.95	130.40
22	YA	2008	C	O5'-P-OP2	-5.75	100.53	105.70
22	RA	227	A	P-O3'-C3'	5.75	126.59	119.70
22	RA	688	U	C5-C6-N1	5.74	125.57	122.70
22	RA	688	U	N3-C4-O4	5.74	123.42	119.40
22	RA	450	G	C8-N9-C4	-5.74	104.10	106.40
1	XA	229	U	C5-C6-N1	5.74	125.57	122.70
22	RA	2043	C	N1-C2-O2	5.74	122.34	118.90
22	RA	1902	C	N3-C4-C5	5.73	124.19	121.90
33	YQ	82	ARG	N-CA-C	5.73	126.47	111.00
1	QA	1302	U	N3-C2-O2	-5.73	118.19	122.20
22	YA	1386	C	C6-N1-C1'	5.73	127.67	120.80
22	YA	2062	A	N1-C6-N6	5.73	122.04	118.60
22	YA	2500	U	N3-C2-O2	-5.73	118.19	122.20
22	YA	2713	A	N7-C8-N9	5.73	116.66	113.80
22	YA	2856	C	C6-N1-C2	-5.73	118.01	120.30
22	YA	1698	A	C5-C6-N1	-5.72	114.84	117.70
22	YA	2498	C	C6-N1-C2	-5.72	118.01	120.30
22	RA	2346	A	C2-N3-C4	-5.72	107.74	110.60
22	RA	2776	A	P-O3'-C3'	5.72	126.57	119.70
22	RA	1627	G	C6-C5-N7	-5.72	126.97	130.40
1	XA	558	G	C4-C5-N7	5.72	113.09	110.80
22	RA	1684	C	C6-N1-C2	-5.72	118.01	120.30
22	YA	1022	G	N1-C6-O6	-5.71	116.47	119.90
22	YA	2591	C	C6-N1-C2	-5.71	118.01	120.30
1	QA	266	G	P-O3'-C3'	5.71	126.56	119.70
22	RA	2520	C	C6-N1-C2	5.71	122.58	120.30
22	RA	227	A	C8-N9-C4	-5.71	103.52	105.80
1	QA	932	C	C6-N1-C1'	-5.71	113.95	120.80
22	RA	1781	C	N3-C2-O2	-5.71	117.90	121.90
22	RA	2584	U	N3-C2-O2	-5.71	118.20	122.20
22	YA	1987	G	N3-C4-C5	-5.71	125.75	128.60
22	YA	446	G	C8-N9-C1'	-5.71	119.58	127.00
1	QA	117	G	C5-C6-O6	-5.71	125.18	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	243	A	P-O3'-C3'	5.70	126.54	119.70
1	XA	1524	C	N1-C2-O2	-5.70	115.48	118.90
22	YA	2597	G	C5-C6-N1	-5.70	108.65	111.50
1	XA	328	C	P-O3'-C3'	5.70	126.54	119.70
1	XA	544	G	C6-C5-N7	-5.70	126.98	130.40
22	YA	1437	C	C5-C6-N1	5.70	123.85	121.00
22	YA	1332	G	N3-C4-N9	5.69	129.41	126.00
22	RA	1789	A	C8-N9-C4	-5.69	103.52	105.80
22	YA	298	G	C8-N9-C1'	5.69	134.40	127.00
22	YA	1905	C	C5-C6-N1	5.69	123.84	121.00
22	YA	2046	G	C4-N9-C1'	5.69	133.90	126.50
1	QA	1200	C	N3-C2-O2	-5.69	117.92	121.90
22	YA	189	G	C4-C5-N7	5.68	113.07	110.80
22	RA	1501	C	C6-N1-C2	-5.68	118.03	120.30
1	XA	703	G	C4-N9-C1'	5.68	133.89	126.50
32	YP	59	LEU	CA-CB-CG	5.68	128.37	115.30
22	RA	1967	C	C6-N1-C2	5.68	122.57	120.30
22	RA	2401	U	C6-N1-C2	-5.68	117.59	121.00
22	RA	2420	C	O5'-P-OP1	-5.68	100.59	105.70
22	YA	298	G	N3-C4-N9	-5.68	122.59	126.00
53	XV	42	G	C6-C5-N7	-5.68	126.99	130.40
22	RA	810	U	N1-C2-N3	5.67	118.30	114.90
22	YA	676	A	O4'-C1'-N9	5.67	112.74	108.20
22	YA	1729	A	O4'-C1'-N9	5.67	112.74	108.20
22	YA	1568	G	N3-C4-N9	-5.67	122.60	126.00
22	RA	1992	G	N3-C4-C5	-5.67	125.77	128.60
22	YA	2712	U	O4'-C1'-N1	5.67	112.74	108.20
22	YA	2053	G	N3-C4-C5	5.67	131.43	128.60
1	XA	1504	G	O5'-P-OP1	-5.67	100.60	105.70
22	YA	88	G	C4-N9-C1'	5.67	133.87	126.50
1	XA	792	A	C3'-C2'-C1'	-5.66	96.97	101.50
22	YA	138	G	O4'-C1'-N9	5.66	112.73	108.20
22	YA	2310	A	N1-C6-N6	5.66	122.00	118.60
22	RA	1012	U	P-O3'-C3'	5.66	126.49	119.70
43	Y0	44	ARG	NE-CZ-NH1	-5.66	117.47	120.30
22	YA	1942	C	C2-N1-C1'	5.65	125.02	118.80
22	RA	776	G	C8-N9-C1'	-5.65	119.65	127.00
22	YA	2760	C	C6-N1-C2	5.65	122.56	120.30
22	YA	2053	G	N1-C6-O6	5.65	123.29	119.90
22	YA	2234	G	C5-C6-O6	-5.65	125.21	128.60
22	YA	2513	G	C5-C6-N1	-5.65	108.68	111.50
22	YA	251	A	O5'-P-OP1	-5.65	100.62	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1214	A	C8-N9-C4	5.65	108.06	105.80
22	YA	1797	C	O5'-P-OP1	-5.65	100.62	105.70
1	QA	703	G	N3-C4-C5	-5.65	125.78	128.60
22	YA	621	A	C8-N9-C4	-5.65	103.54	105.80
22	RA	2544	G	C6-C5-N7	-5.64	127.01	130.40
1	XA	539	A	O5'-P-OP1	-5.64	100.62	105.70
22	YA	2689	U	P-O3'-C3'	5.64	126.47	119.70
22	RA	1786	A	N9-C1'-C2'	5.64	121.33	114.00
22	YA	676	A	C5-C6-N1	-5.64	114.88	117.70
22	YA	2595	G	N9-C4-C5	-5.64	103.14	105.40
22	YA	592	G	N3-C4-C5	-5.64	125.78	128.60
22	YA	1214	A	N1-C6-N6	-5.64	115.22	118.60
22	RA	496	G	C8-N9-C1'	-5.63	119.68	127.00
22	RA	2401	U	N1-C2-O2	5.63	126.74	122.80
22	YA	1311	G	N3-C4-N9	5.63	129.38	126.00
22	RA	860	U	N1-C2-N3	5.63	118.28	114.90
22	YA	1136	G	N1-C6-O6	5.63	123.28	119.90
22	RA	1379	A	C4-C5-C6	-5.63	114.19	117.00
1	XA	328	C	N3-C2-O2	-5.63	117.96	121.90
1	XA	1084	G	N3-C4-C5	-5.63	125.78	128.60
22	YA	729	G	C8-N9-C1'	-5.63	119.68	127.00
22	YA	1770	G	C2-N3-C4	-5.63	109.08	111.90
22	YA	827	U	O4'-C1'-N1	5.63	112.70	108.20
22	RA	2306	C	N1-C2-O2	5.63	122.28	118.90
22	RA	271(C)	U	P-O3'-C3'	5.63	126.45	119.70
22	RA	1534	G	N3-C4-C5	-5.62	125.79	128.60
22	YA	621	A	N1-C6-N6	5.62	121.97	118.60
22	YA	1559	G	N3-C4-C5	5.62	131.41	128.60
1	QA	44	G	C6-C5-N7	-5.62	127.03	130.40
1	XA	731	G	N3-C4-C5	5.62	131.41	128.60
1	XA	775	G	N1-C6-O6	5.62	123.27	119.90
22	YA	99	U	P-O3'-C3'	5.62	126.45	119.70
53	XV	4	G	N9-C1'-C2'	-5.62	105.82	112.00
22	YA	141	A	N7-C8-N9	5.62	116.61	113.80
22	YA	448	U	OP1-P-O3'	5.62	117.56	105.20
22	RA	2311	A	C8-N9-C4	-5.62	103.55	105.80
22	YA	1187	G	C4-C5-C6	5.62	122.17	118.80
24	YD	229	VAL	CB-CA-C	-5.61	100.73	111.40
1	QA	252	U	N3-C2-O2	-5.61	118.27	122.20
1	QA	1200	C	OP2-P-O3'	5.61	117.54	105.20
22	RA	1786	A	O4'-C1'-N9	5.61	112.69	108.20
22	YA	842	G	N1-C6-O6	5.61	123.26	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1698	A	C6-C5-N7	-5.61	128.38	132.30
22	YA	2700	C	C2-N3-C4	-5.61	117.10	119.90
22	YA	848	G	C4-C5-N7	5.60	113.04	110.80
22	YA	2234	G	C4-C5-N7	5.60	113.04	110.80
1	QA	611	A	C8-N9-C4	5.60	108.04	105.80
22	RA	2642	G	C5-C6-O6	-5.59	125.25	128.60
22	YA	679	C	C6-N1-C1'	-5.59	114.09	120.80
22	YA	1558	A	P-O3'-C3'	5.59	126.41	119.70
22	YA	2731	G	O5'-P-OP1	-5.59	100.67	105.70
22	YA	801	G	C8-N9-C4	-5.59	104.16	106.40
22	RA	2555	U	N1-C2-O2	-5.59	118.89	122.80
1	XA	1159	U	O4'-C1'-N1	5.59	112.67	108.20
22	YA	774	A	N3-C4-N9	-5.59	122.93	127.40
22	YA	2071	A	N1-C6-N6	5.59	121.95	118.60
22	YA	1128	A	C8-N9-C4	-5.58	103.57	105.80
1	QA	753	A	P-O3'-C3'	5.58	126.40	119.70
32	YP	25	SER	N-CA-C	-5.58	95.93	111.00
22	RA	1790	C	O5'-P-OP1	-5.58	100.68	105.70
1	XA	1235	U	C5-C6-N1	5.58	125.49	122.70
22	YA	2686	G	N3-C4-N9	5.58	129.35	126.00
22	RA	1771	C	C5-C6-N1	-5.58	118.21	121.00
1	XA	652	U	N1-C2-O2	5.58	126.70	122.80
22	YA	2028	U	N3-C4-O4	5.58	123.30	119.40
1	QA	1435	G	N3-C4-C5	5.57	131.39	128.60
1	XA	115	G	P-O3'-C3'	5.57	126.39	119.70
22	YA	845	G	C8-N9-C4	5.57	108.63	106.40
22	YA	2612	C	N3-C2-O2	-5.57	118.00	121.90
22	RA	2430	A	C2-N3-C4	-5.57	107.81	110.60
22	YA	1782	C	N3-C4-N4	5.57	121.90	118.00
22	RA	300	A	N1-C6-N6	5.57	121.94	118.60
22	RA	1882	C	C5-C6-N1	5.57	123.79	121.00
1	XA	122	G	C8-N9-C4	5.57	108.63	106.40
22	YA	1216	G	C5-C6-N1	-5.57	108.72	111.50
22	YA	1930	G	C4-N9-C1'	-5.57	119.26	126.50
22	YA	2032	G	C4-C5-N7	5.57	113.03	110.80
22	RA	373	U	C2-N1-C1'	5.57	124.38	117.70
22	YA	141	A	C8-N9-C4	-5.57	103.57	105.80
53	XV	52	G	C4-C5-N7	5.57	113.03	110.80
22	RA	2573	C	C6-N1-C2	-5.57	118.07	120.30
22	YA	1942	C	C5-C6-N1	5.57	123.78	121.00
1	QA	1302	U	C6-N1-C1'	-5.57	113.41	121.20
22	RA	1548	C	C6-N1-C2	5.57	122.53	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	828	U	C6-N1-C2	-5.56	117.66	121.00
1	XA	893	C	C6-N1-C2	5.56	122.53	120.30
22	YA	1776	G	C4-N9-C1'	5.56	133.73	126.50
22	RA	2456	C	N3-C4-C5	-5.56	119.68	121.90
23	RB	83	G	C6-C5-N7	-5.56	127.06	130.40
22	RA	2035	G	N3-C4-C5	5.56	131.38	128.60
22	RA	2581	G	N1-C6-O6	-5.55	116.57	119.90
22	YA	637	A	P-O3'-C3'	5.55	126.36	119.70
22	YA	966	G	O5'-P-OP2	-5.55	100.70	105.70
22	YA	2418	A	N1-C6-N6	5.55	121.93	118.60
23	YB	16	G	N1-C6-O6	5.55	123.23	119.90
22	RA	1696	G	N1-C6-O6	-5.55	116.57	119.90
23	RB	83	G	C4-N9-C1'	5.55	133.72	126.50
22	YA	1568	G	C6-C5-N7	5.55	133.73	130.40
53	QV	76	A	C8-N9-C4	5.55	108.02	105.80
22	YA	2468	G	C4-N9-C1'	5.55	133.72	126.50
22	YA	792	G	C4-C5-N7	-5.55	108.58	110.80
22	YA	1938	A	O4'-C1'-N9	5.55	112.64	108.20
22	RA	1313	U	C2-N1-C1'	5.55	124.36	117.70
22	YA	1269	A	OP2-P-O3'	5.55	117.40	105.20
22	RA	1506	C	C2-N1-C1'	5.54	124.90	118.80
22	YA	1807	G	N9-C1'-C2'	-5.54	105.90	112.00
22	RA	2002	G	N3-C4-N9	5.54	129.33	126.00
22	YA	69	C	N3-C2-O2	-5.54	118.02	121.90
22	YA	296	C	C6-N1-C2	5.54	122.52	120.30
22	YA	793	A	C4-C5-N7	5.54	113.47	110.70
22	YA	1665	A	N1-C6-N6	5.54	121.93	118.60
22	RA	972	G	N1-C6-O6	-5.54	116.58	119.90
22	RA	1899	G	N3-C2-N2	5.54	123.78	119.90
22	RA	693	C	C5-C6-N1	-5.54	118.23	121.00
22	YA	1070	A	O4'-C1'-N9	5.54	112.63	108.20
22	RA	2573	C	C5-C6-N1	5.54	123.77	121.00
1	XA	1094	G	P-O3'-C3'	5.54	126.35	119.70
22	YA	1613	G	N3-C4-N9	5.54	129.32	126.00
22	RA	2583	G	N3-C4-N9	5.54	129.32	126.00
22	RA	1771	C	C2-N3-C4	-5.54	117.13	119.90
22	YA	2711	A	C2-N3-C4	-5.54	107.83	110.60
23	YB	94	C	C5-C6-N1	5.54	123.77	121.00
22	RA	1558	A	P-O3'-C3'	5.53	126.34	119.70
22	RA	2712(A)	A	N9-C4-C5	5.53	108.01	105.80
22	RA	1929	G	C5-N7-C8	-5.53	101.53	104.30
1	XA	1094	G	OP2-P-O3'	5.53	117.37	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	603	U	C6-N1-C2	-5.53	117.68	121.00
22	RA	685	A	N1-C6-N6	-5.53	115.28	118.60
22	YA	1333	C	C5-C6-N1	5.53	123.77	121.00
22	YA	2310	A	C6-C5-N7	-5.53	128.43	132.30
1	XA	1195	C	C5-C6-N1	5.53	123.77	121.00
1	QA	894	G	N3-C4-C5	5.53	131.36	128.60
22	YA	2032	G	C5-N7-C8	-5.53	101.54	104.30
22	YA	2299	G	N1-C6-O6	5.52	123.21	119.90
22	RA	2832	U	P-O3'-C3'	5.52	126.33	119.70
22	YA	146	G	C5-C6-N1	-5.52	108.74	111.50
22	YA	2702	U	O5'-P-OP2	-5.52	100.73	105.70
23	YB	25	A	N7-C8-N9	5.52	116.56	113.80
22	RA	2581	G	N3-C4-C5	-5.52	125.84	128.60
22	YA	1542	G	N3-C4-C5	-5.52	125.84	128.60
22	YA	146	G	N1-C6-O6	5.52	123.21	119.90
1	QA	691	G	N1-C6-O6	5.51	123.21	119.90
22	YA	1506	C	C5-C6-N1	5.51	123.76	121.00
22	YA	1678	G	C5-N7-C8	-5.51	101.55	104.30
22	YA	326	G	C5-C6-N1	-5.50	108.75	111.50
22	YA	2453	A	C2-N3-C4	5.50	113.35	110.60
22	YA	796	C	C6-N1-C2	5.50	122.50	120.30
22	YA	945	A	P-O3'-C3'	5.50	126.30	119.70
22	YA	2484	G	C6-C5-N7	-5.50	127.10	130.40
22	YA	2595	G	N3-C4-N9	5.50	129.30	126.00
22	RA	1557	C	C6-N1-C2	5.50	122.50	120.30
29	RI	77	LEU	CA-CB-CG	5.50	127.94	115.30
22	YA	537	C	C5-C6-N1	5.50	123.75	121.00
22	RA	2060	A	P-O3'-C3'	5.49	126.29	119.70
22	RA	2593	U	OP2-P-O3'	5.49	117.29	105.20
22	YA	239	U	C5-C6-N1	-5.49	119.95	122.70
22	YA	991	C	C6-N1-C2	5.49	122.50	120.30
22	YA	1528	A	C8-N9-C4	-5.49	103.60	105.80
22	YA	2681	C	N3-C2-O2	-5.49	118.05	121.90
22	RA	965	C	C6-N1-C2	-5.49	118.10	120.30
22	RA	2440	C	C2-N1-C1'	-5.49	112.76	118.80
22	YA	2207	C	C6-N1-C2	-5.49	118.10	120.30
1	QA	291	C	C6-N1-C2	-5.49	118.10	120.30
1	QA	690	G	O4'-C1'-N9	5.49	112.59	108.20
1	QA	894	G	C8-N9-C1'	5.49	134.14	127.00
22	RA	1684	C	N3-C4-C5	-5.49	119.70	121.90
22	RA	2448	A	N9-C4-C5	5.49	108.00	105.80
25	RE	27	LEU	CA-CB-CG	5.49	127.93	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	1773	A	C8-N9-C4	-5.49	103.61	105.80
1	XA	793	U	C6-N1-C2	-5.49	117.71	121.00
22	RA	1623	G	N1-C6-O6	5.49	123.19	119.90
22	RA	1904	G	C8-N9-C4	5.49	108.59	106.40
1	XA	775	G	N9-C4-C5	-5.49	103.21	105.40
22	YA	1838	C	C6-N1-C2	5.49	122.49	120.30
22	RA	537	C	C6-N1-C2	-5.48	118.11	120.30
22	RA	1310	G	N3-C4-N9	5.48	129.29	126.00
1	XA	775	G	C4-C5-N7	5.48	112.99	110.80
22	YA	530	G	N3-C4-C5	5.48	131.34	128.60
22	YA	2713	A	C5-N7-C8	-5.48	101.16	103.90
22	RA	622	G	N3-C4-C5	5.48	131.34	128.60
22	YA	189	G	N9-C4-C5	-5.48	103.21	105.40
22	RA	1929	G	N7-C8-N9	5.48	115.84	113.10
22	RA	140	A	O4'-C1'-N9	5.48	112.58	108.20
22	YA	974(A)	C	N3-C2-O2	-5.47	118.07	121.90
22	YA	1528	A	O4'-C1'-N9	5.47	112.58	108.20
22	RA	227	A	C4-C5-C6	5.47	119.74	117.00
22	YA	450	G	N1-C2-N3	5.47	127.18	123.90
22	YA	784	A	N1-C6-N6	-5.47	115.32	118.60
22	YA	1214	A	C5-N7-C8	5.47	106.64	103.90
1	QA	1027	C	P-O3'-C3'	5.47	126.26	119.70
22	RA	553	U	N1-C2-N3	5.47	118.18	114.90
22	RA	1377	G	C8-N9-C4	-5.47	104.21	106.40
22	RA	1525	G	N9-C4-C5	-5.47	103.21	105.40
22	YA	99	U	OP2-P-O3'	5.47	117.23	105.20
22	YA	194	G	C4-N9-C1'	-5.47	119.39	126.50
22	YA	1012	U	P-O3'-C3'	5.46	126.26	119.70
22	RA	948	G	N3-C4-C5	5.46	131.33	128.60
22	YA	1343	G	C4-N9-C1'	5.46	133.60	126.50
22	YA	483	A	C6-C5-N7	-5.46	128.48	132.30
22	YA	1786	A	N9-C4-C5	-5.46	103.62	105.80
22	YA	2318	G	C5-N7-C8	-5.46	101.57	104.30
22	YA	2447	G	OP1-P-O3'	5.46	117.20	105.20
54	XX	7	G	N3-C2-N2	-5.46	116.08	119.90
1	QA	703	G	C4-N9-C1'	5.46	133.59	126.50
22	RA	1698	A	N1-C6-N6	5.46	121.87	118.60
1	XA	487	A	N1-C2-N3	5.46	132.03	129.30
23	YB	49	C	C5-C6-N1	5.46	123.73	121.00
22	RA	2318	G	N7-C8-N9	5.45	115.83	113.10
22	YA	945	A	OP2-P-O3'	5.45	117.19	105.20
22	YA	2254	C	N1-C2-O2	-5.45	115.63	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	2846	G	C5-C6-N1	-5.45	108.77	111.50
22	RA	1215	G	N1-C6-O6	5.45	123.17	119.90
22	RA	1534	G	C2-N3-C4	5.45	114.62	111.90
1	QA	410	G	P-O3'-C3'	5.45	126.24	119.70
32	RP	88	LEU	CA-CB-CG	5.45	127.83	115.30
1	QA	330	C	N1-C2-O2	5.45	122.17	118.90
22	RA	2067	G	C5-C6-N1	-5.45	108.78	111.50
22	YA	2234	G	N3-C4-C5	5.45	131.32	128.60
1	QA	934	C	P-O3'-C3'	5.44	126.23	119.70
22	YA	1968	G	C4-C5-N7	5.44	112.98	110.80
1	XA	1323	G	N1-C6-O6	5.44	123.17	119.90
22	YA	1773	A	C6-N1-C2	-5.44	115.33	118.60
22	RA	1757	U	N3-C2-O2	-5.44	118.39	122.20
22	YA	2383	G	C8-N9-C1'	-5.44	119.93	127.00
22	YA	2487	G	C4-C5-C6	5.44	122.06	118.80
22	RA	141	A	O4'-C1'-N9	5.44	112.55	108.20
22	RA	467	G	O5'-P-OP2	-5.44	100.81	105.70
22	RA	2456	C	C6-N1-C2	-5.44	118.12	120.30
22	YA	783	A	N3-C4-C5	5.44	130.61	126.80
22	YA	1284	A	N1-C6-N6	5.44	121.86	118.60
22	YA	1814	G	C4-C5-C6	5.44	122.06	118.80
23	YB	11	C	C6-N1-C2	-5.44	118.13	120.30
1	QA	1157	A	O4'-C1'-N9	5.43	112.55	108.20
22	YA	1987	G	N3-C4-N9	5.43	129.26	126.00
1	QA	410	G	N9-C1'-C2'	-5.43	106.03	112.00
22	RA	450	G	C6-C5-N7	-5.43	127.14	130.40
1	XA	117	G	C6-C5-N7	-5.43	127.14	130.40
22	RA	1608	A	N1-C6-N6	-5.43	115.34	118.60
22	YA	307	G	C4-C5-N7	5.43	112.97	110.80
1	QA	682	G	N1-C6-O6	5.43	123.16	119.90
22	RA	396	G	N1-C6-O6	5.43	123.16	119.90
22	RA	1024	G	C4-N9-C1'	5.43	133.56	126.50
22	YA	1957	C	C2-N3-C4	-5.43	117.19	119.90
22	YA	2439	A	N1-C6-N6	5.43	121.86	118.60
22	YA	2466	C	C6-N1-C2	5.43	122.47	120.30
22	YA	2518	A	C5-C6-N1	-5.43	114.99	117.70
1	QA	428	G	N3-C4-C5	5.42	131.31	128.60
22	RA	271(C)	U	OP2-P-O3'	5.42	117.13	105.20
22	YA	1243	G	C5-C6-N1	-5.42	108.79	111.50
22	YA	1624	G	N3-C4-C5	5.42	131.31	128.60
22	YA	2474	C	N1-C2-O2	5.42	122.15	118.90
22	RA	2782	G	N7-C8-N9	5.42	115.81	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	517	C	C5-C6-N1	5.42	123.71	121.00
22	YA	2495	G	O5'-P-OP2	-5.42	100.82	105.70
22	RA	1781	C	N3-C4-N4	-5.42	114.21	118.00
22	YA	593	G	O5'-P-OP2	-5.42	100.83	105.70
1	QA	685	G	N3-C4-N9	-5.42	122.75	126.00
22	RA	688	U	C6-N1-C2	-5.42	117.75	121.00
22	YA	1880	C	C6-N1-C2	-5.42	118.13	120.30
22	RA	860	U	C6-N1-C2	-5.41	117.75	121.00
22	YA	2358	G	C8-N9-C4	-5.41	104.23	106.40
22	YA	2595	G	N1-C6-O6	5.41	123.15	119.90
1	XA	481	G	P-O3'-C3'	5.41	126.19	119.70
22	YA	27	G	N3-C2-N2	-5.41	116.11	119.90
22	YA	1835	G	C4-N9-C1'	5.41	133.53	126.50
22	YA	2441	C	C2-N1-C1'	-5.41	112.85	118.80
22	RA	2509	G	C8-N9-C1'	-5.41	119.97	127.00
22	RA	2814	C	C6-N1-C2	5.41	122.46	120.30
22	YA	945	A	C5-C6-N1	-5.41	115.00	117.70
22	RA	2261	C	N1-C2-O2	-5.40	115.66	118.90
1	XA	781	A	C5-C6-N1	5.40	120.40	117.70
22	YA	966	G	C8-N9-C4	5.40	108.56	106.40
22	YA	1976	U	N1-C2-N3	5.40	118.14	114.90
22	YA	2595	G	C4-C5-N7	5.40	112.96	110.80
22	YA	2867	G	P-O3'-C3'	5.40	126.18	119.70
1	XA	789	U	C4-C5-C6	5.40	122.94	119.70
22	YA	1240	U	C2-N1-C1'	5.39	124.17	117.70
22	RA	1931	U	C6-N1-C2	-5.39	117.76	121.00
22	RA	2391	G	O4'-C1'-N9	5.39	112.51	108.20
22	RA	2505	G	N3-C4-N9	5.39	129.24	126.00
22	YA	330	A	C2-N3-C4	-5.39	107.90	110.60
22	RA	2487	G	C6-C5-N7	-5.39	127.17	130.40
1	XA	1285	A	P-O3'-C3'	5.39	126.17	119.70
22	RA	1021	A	N7-C8-N9	5.39	116.49	113.80
1	XA	114	U	C5-C6-N1	-5.39	120.01	122.70
22	YA	788	A	N9-C4-C5	-5.39	103.64	105.80
22	YA	2439	A	C6-C5-N7	-5.39	128.53	132.30
22	YA	862	G	N1-C2-N3	5.38	127.13	123.90
22	YA	2499	C	N3-C4-N4	5.38	121.77	118.00
22	RA	1790	C	C6-N1-C1'	5.38	127.25	120.80
23	RB	24	G	P-O3'-C3'	5.38	126.16	119.70
22	YA	142	G	C8-N9-C1'	5.38	133.99	127.00
22	YA	1642	G	C5-C6-O6	-5.38	125.37	128.60
22	YA	2336	A	O4'-C1'-N9	-5.38	103.90	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	783	A	C6-C5-N7	-5.38	128.54	132.30
22	RA	1950	G	C8-N9-C1'	-5.38	120.01	127.00
22	YA	1391	U	N3-C2-O2	-5.37	118.44	122.20
22	RA	1332	G	C8-N9-C4	-5.37	104.25	106.40
22	RA	2318	G	C4-N9-C1'	5.37	133.48	126.50
1	XA	440	A	C8-N9-C4	-5.37	103.65	105.80
22	YA	2518	A	C6-C5-N7	-5.37	128.54	132.30
22	RA	1506	C	N1-C2-O2	5.36	122.12	118.90
22	YA	774	A	C5-N7-C8	-5.36	101.22	103.90
22	RA	1558	A	C2-N3-C4	-5.36	107.92	110.60
22	RA	1653	G	C4-N9-C1'	5.36	133.47	126.50
22	YA	1535	U	N1-C2-O2	5.36	126.55	122.80
53	XV	17	C	C6-N1-C2	-5.36	118.16	120.30
1	XA	1498	U	O4'-C1'-N1	-5.36	103.91	108.20
22	YA	1184	G	N3-C4-N9	5.36	129.21	126.00
22	RA	328	U	C5-C6-N1	-5.36	120.02	122.70
22	YA	621	A	C4-C5-C6	5.36	119.68	117.00
23	YB	117	G	C8-N9-C4	5.36	108.54	106.40
22	RA	450	G	N7-C8-N9	5.35	115.78	113.10
22	YA	1922	G	C8-N9-C4	5.35	108.54	106.40
22	RA	37	C	C6-N1-C2	-5.35	118.16	120.30
22	YA	489	G	C8-N9-C4	-5.35	104.26	106.40
22	YA	1228	G	N1-C6-O6	5.35	123.11	119.90
22	YA	1863	G	N3-C4-C5	5.35	131.28	128.60
22	YA	51	G	C5-C6-O6	5.35	131.81	128.60
22	YA	1377	G	C6-C5-N7	-5.35	127.19	130.40
22	RA	2401	U	C5-C6-N1	5.35	125.37	122.70
22	RA	1142	U	C6-N1-C1'	-5.34	113.72	121.20
22	YA	1256	G	C4-N9-C1'	5.34	133.44	126.50
1	QA	1053	G	O4'-C1'-N9	5.34	112.47	108.20
22	RA	1621	U	N1-C2-N3	5.34	118.10	114.90
22	RA	2392	A	C8-N9-C4	-5.34	103.66	105.80
22	YA	125	G	N1-C6-O6	-5.34	116.70	119.90
22	YA	1687	G	C6-C5-N7	-5.34	127.20	130.40
22	YA	2352	A	C8-N9-C4	-5.34	103.66	105.80
1	XA	1397	C	N3-C2-O2	-5.34	118.16	121.90
22	YA	676	A	C6-C5-N7	-5.34	128.56	132.30
22	YA	2713	A	C6-C5-N7	-5.33	128.57	132.30
1	QA	353	A	OP2-P-O3'	5.33	116.93	105.20
1	XA	1432	G	N7-C8-N9	5.33	115.77	113.10
22	YA	1535	U	C2-N1-C1'	5.33	124.10	117.70
22	YA	1544	C	C2-N1-C1'	5.33	124.66	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	11	G	N1-C6-O6	5.33	123.10	119.90
22	RA	452	G	C4-N9-C1'	5.33	133.43	126.50
1	XA	633	G	C6-C5-N7	-5.33	127.20	130.40
22	YA	1930	G	C6-C5-N7	5.33	133.60	130.40
22	YA	860	U	C5-C6-N1	-5.33	120.04	122.70
22	YA	1425	G	C6-C5-N7	-5.33	127.20	130.40
22	RA	509	C	C5-C6-N1	-5.33	118.34	121.00
22	YA	1824	G	C2-N3-C4	5.33	114.56	111.90
22	RA	382	G	C6-C5-N7	-5.32	127.21	130.40
22	RA	2755	C	C6-N1-C2	-5.32	118.17	120.30
22	YA	1916	A	C5-C6-N1	-5.32	115.04	117.70
22	RA	2036	C	C6-N1-C2	-5.32	118.17	120.30
1	XA	498	A	O4'-C1'-N9	5.32	112.46	108.20
1	QA	1397	C	C5-C6-N1	5.32	123.66	121.00
22	YA	857	C	C5-C6-N1	5.32	123.66	121.00
1	XA	792	A	P-O3'-C3'	5.32	126.08	119.70
22	YA	446	G	C4-N9-C1'	5.32	133.41	126.50
22	YA	473	G	C2-N3-C4	-5.32	109.24	111.90
22	RA	1974	C	C6-N1-C2	5.32	122.43	120.30
22	RA	2432	A	C2-N3-C4	-5.32	107.94	110.60
22	YA	1138	G	N3-C4-N9	5.32	129.19	126.00
22	YA	1667	G	N9-C4-C5	-5.32	103.27	105.40
22	YA	1471	A	C4-C5-C6	5.31	119.66	117.00
1	QA	1336	C	C2-N3-C4	5.31	122.56	119.90
22	YA	1966	A	C8-N9-C4	5.31	107.92	105.80
22	YA	2310	A	C5-C6-N1	-5.31	115.04	117.70
1	XA	576	G	C4-N9-C1'	5.31	133.40	126.50
1	QA	309	G	C5-C6-O6	-5.31	125.41	128.60
1	QA	1065	U	OP2-P-O3'	5.31	116.88	105.20
22	RA	1528	A	C5-N7-C8	-5.31	101.25	103.90
22	YA	945	A	C4-C5-N7	5.31	113.36	110.70
22	YA	1514	U	C5-C6-N1	5.31	125.35	122.70
22	RA	732	C	C6-N1-C2	5.31	122.42	120.30
22	YA	645	C	C5-C6-N1	5.31	123.65	121.00
22	YA	771	G	O5'-P-OP2	5.31	117.07	110.70
22	RA	139	G	N1-C6-O6	-5.31	116.72	119.90
22	RA	774	A	N3-C4-C5	5.31	130.51	126.80
22	RA	1220	A	O4'-C1'-N9	5.31	112.44	108.20
1	QA	31	G	P-O3'-C3'	5.30	126.07	119.70
1	QA	685	G	C8-N9-C4	5.30	108.52	106.40
22	RA	1078	U	P-O3'-C3'	5.30	126.06	119.70
22	YA	450	G	C5-C6-O6	5.30	131.78	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	780	G	C4-N9-C1'	5.30	133.40	126.50
53	QV	28	C	C6-N1-C2	-5.30	118.18	120.30
22	YA	860	U	C5-C4-O4	5.30	129.08	125.90
22	YA	1598	C	C5-C6-N1	5.30	123.65	121.00
22	RA	1653	G	N1-C6-O6	-5.30	116.72	119.90
22	RA	2772	C	C5-C4-N4	-5.30	116.49	120.20
22	RA	2468	G	C4-N9-C1'	5.30	133.39	126.50
22	YA	573	G	O4'-C1'-N9	-5.30	103.96	108.20
22	YA	2311	A	C5-N7-C8	-5.30	101.25	103.90
22	YA	2557	G	N1-C6-O6	-5.30	116.72	119.90
18	QR	31	LEU	CA-CB-CG	5.29	127.48	115.30
22	RA	1625	C	C6-N1-C2	5.29	122.42	120.30
22	RA	271(B)	G	OP2-P-O3'	5.29	116.84	105.20
22	RA	1535	U	N3-C2-O2	-5.29	118.50	122.20
22	RA	1678	G	C5-N7-C8	-5.29	101.65	104.30
22	RA	1899	G	C2-N3-C4	-5.29	109.25	111.90
22	YA	1964	G	C4-C5-N7	5.29	112.92	110.80
22	YA	450	G	C4-C5-N7	-5.29	108.68	110.80
22	YA	1241	A	C2-N3-C4	-5.29	107.95	110.60
56	Z6	74	C	N1-C2-O2	5.29	122.08	118.90
22	YA	2056	G	C5-C6-O6	-5.29	125.43	128.60
54	XX	1	A	O5'-P-OP1	-5.29	100.94	105.70
22	YA	140	A	C4-C5-C6	5.29	119.64	117.00
22	RA	1312	U	P-O3'-C3'	5.29	126.04	119.70
22	RA	1606	G	C5-N7-C8	-5.29	101.66	104.30
22	RA	1947	C	C6-N1-C2	-5.29	118.19	120.30
1	XA	1108	G	C4-C5-C6	5.29	121.97	118.80
22	YA	813	U	N1-C2-N3	5.29	118.07	114.90
22	YA	2082	A	C8-N9-C4	5.29	107.91	105.80
22	RA	2423	U	C5-C4-O4	-5.28	122.73	125.90
22	RA	2686	G	N1-C6-O6	5.28	123.07	119.90
1	XA	1452	C	C2-N1-C1'	5.28	124.61	118.80
22	YA	1263	U	N1-C2-N3	5.28	118.07	114.90
22	RA	2585	U	C6-N1-C1'	-5.28	113.81	121.20
1	QA	1206	G	N3-C4-C5	-5.28	125.96	128.60
22	RA	825	C	OP1-P-O3'	5.28	116.81	105.20
22	RA	846	C	P-O3'-C3'	5.28	126.04	119.70
22	RA	1651	G	C6-C5-N7	-5.28	127.23	130.40
22	RA	2392	A	C5-N7-C8	-5.28	101.26	103.90
22	RA	2779	U	N3-C4-O4	-5.28	115.70	119.40
1	XA	111	G	N3-C4-C5	5.28	131.24	128.60
1	XA	1397	C	N1-C2-O2	5.28	122.07	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	2494	G	C8-N9-C4	5.28	108.51	106.40
22	YA	1183	G	C4-C5-N7	5.28	112.91	110.80
22	RA	496	G	C4-N9-C1'	5.28	133.36	126.50
1	XA	1113	C	C6-N1-C2	-5.28	118.19	120.30
1	XA	1516	G	N3-C4-N9	-5.28	122.83	126.00
22	RA	553	U	C5-C4-O4	5.28	129.07	125.90
22	YA	1671	U	N3-C4-O4	5.28	123.09	119.40
22	YA	1858	G	C4-N9-C1'	5.28	133.36	126.50
23	YB	56	G	N3-C4-C5	-5.27	125.96	128.60
22	RA	921	G	C5-C6-N1	-5.27	108.86	111.50
22	RA	2779	U	N3-C2-O2	-5.27	118.51	122.20
22	YA	120	U	C5-C4-O4	5.27	129.06	125.90
22	YA	528	A	C5-N7-C8	-5.27	101.26	103.90
23	YB	14	U	N3-C2-O2	-5.27	118.51	122.20
1	QA	851	G	C4-N9-C1'	5.27	133.35	126.50
1	XA	1354	C	C6-N1-C2	-5.27	118.19	120.30
1	QA	1297	C	OP2-P-O3'	5.27	116.79	105.20
22	RA	405	U	C5-C6-N1	5.27	125.33	122.70
1	XA	625	G	C8-N9-C4	-5.27	104.29	106.40
22	RA	2330	G	O5'-P-OP1	-5.27	100.96	105.70
22	RA	1606	G	N3-C4-C5	5.26	131.23	128.60
22	RA	1644	C	C6-N1-C2	-5.26	118.19	120.30
22	RA	2702	U	N3-C2-O2	-5.26	118.52	122.20
22	YA	805	G	C4-C5-N7	5.26	112.91	110.80
22	YA	2010	G	C4-C5-N7	5.26	112.91	110.80
22	RA	2089	U	C5-C6-N1	5.26	125.33	122.70
22	YA	945	A	C5-N7-C8	-5.26	101.27	103.90
22	YA	1130	U	C2-N1-C1'	5.26	124.02	117.70
22	YA	1922	G	N3-C4-C5	5.26	131.23	128.60
22	RA	622	G	C4-N9-C1'	-5.26	119.66	126.50
22	RA	857	C	C6-N1-C2	-5.26	118.19	120.30
22	RA	1790	C	N1-C2-O2	-5.26	115.74	118.90
22	RA	2665	A	O4'-C1'-N9	5.26	112.41	108.20
22	YA	752	A	N7-C8-N9	-5.26	111.17	113.80
22	YA	2217	G	N1-C6-O6	5.26	123.06	119.90
48	Y5	4	HIS	C-N-CD	5.26	139.45	128.40
22	RA	1950	G	C6-C5-N7	-5.26	127.24	130.40
1	XA	1053	G	C8-N9-C4	5.26	108.50	106.40
22	YA	1968	G	N1-C6-O6	5.26	123.06	119.90
1	QA	177	C	C6-N1-C2	-5.26	118.20	120.30
1	XA	481	G	C5-C6-O6	5.26	131.75	128.60
22	YA	739	G	O5'-P-OP1	5.26	117.01	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	314	C	C2-N1-C1'	5.25	124.58	118.80
22	RA	396	G	C4-C5-C6	5.25	121.95	118.80
22	YA	1084	A	O4'-C1'-N9	5.25	112.40	108.20
22	RA	1816	G	N1-C6-O6	5.25	123.05	119.90
1	XA	320	C	C5-C6-N1	-5.25	118.37	121.00
22	YA	1807	G	N1-C6-O6	5.25	123.05	119.90
22	YA	1899	G	N1-C2-N3	5.25	127.05	123.90
1	XA	227	G	C8-N9-C4	5.25	108.50	106.40
1	XA	653	A	C8-N9-C4	-5.25	103.70	105.80
22	YA	2505	G	C5-C6-N1	-5.25	108.88	111.50
1	XA	365	U	O4'-C1'-N1	5.25	112.40	108.20
22	YA	2430	A	C8-N9-C4	-5.25	103.70	105.80
53	QV	10	G	O5'-P-OP1	-5.25	100.98	105.70
22	RA	783	A	C5-C6-N1	-5.25	115.08	117.70
1	XA	781	A	C4-C5-C6	-5.25	114.38	117.00
22	RA	809	G	N3-C4-N9	5.24	129.15	126.00
22	RA	2302	G	C8-N9-C4	-5.24	104.30	106.40
1	QA	1435	G	C2-N3-C4	-5.24	109.28	111.90
22	YA	1612	C	C2-N1-C1'	-5.24	113.03	118.80
1	QA	244	U	C5-C6-N1	5.24	125.32	122.70
22	YA	511	U	C2-N1-C1'	5.24	123.99	117.70
22	YA	2503	A	C5-C6-N1	5.24	120.32	117.70
22	YA	2587	A	N1-C6-N6	-5.24	115.46	118.60
1	XA	1502	A	C6-C5-N7	-5.24	128.63	132.30
22	YA	1138	G	N3-C4-C5	-5.24	125.98	128.60
22	RA	205	G	N3-C4-C5	-5.24	125.98	128.60
1	XA	821	G	C8-N9-C4	5.24	108.49	106.40
22	YA	1332	G	O4'-C1'-N9	-5.23	104.01	108.20
22	RA	986	C	N3-C2-O2	-5.23	118.24	121.90
22	YA	420	C	N1-C2-O2	5.23	122.04	118.90
22	YA	774	A	N1-C2-N3	5.23	131.92	129.30
22	YA	1406	U	C5-C6-N1	5.23	125.31	122.70
22	YA	2318	G	N7-C8-N9	5.23	115.72	113.10
1	QA	894	G	C4-N9-C1'	-5.23	119.70	126.50
22	RA	2333	A	C8-N9-C4	5.22	107.89	105.80
22	RA	2385	C	N3-C2-O2	-5.22	118.24	121.90
1	XA	1432	G	C5-C6-N1	-5.22	108.89	111.50
22	YA	2025	C	N3-C4-C5	-5.22	119.81	121.90
22	YA	2766	G	C4-C5-N7	5.22	112.89	110.80
1	QA	718	G	N3-C4-N9	-5.22	122.87	126.00
22	YA	450	G	C6-C5-N7	-5.22	127.27	130.40
22	YA	1668	A	N1-C6-N6	-5.22	115.47	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	1021	A	C8-N9-C4	-5.22	103.71	105.80
22	RA	385	C	C2-N3-C4	5.22	122.51	119.90
22	RA	1332	G	C6-C5-N7	-5.22	127.27	130.40
22	YA	848	G	C5-C6-O6	-5.22	125.47	128.60
1	QA	181	G	P-O3'-C3'	5.22	125.96	119.70
1	QA	1159	U	O4'-C1'-N1	5.22	112.37	108.20
22	YA	372	G	N9-C4-C5	-5.22	103.31	105.40
22	YA	1647	G	O4'-C1'-N9	-5.22	104.03	108.20
1	QA	1347	G	P-O3'-C3'	5.21	125.96	119.70
22	RA	859	G	P-O3'-C3'	5.21	125.96	119.70
22	YA	300	A	N1-C6-N6	5.21	121.73	118.60
1	XA	1513	A	N1-C6-N6	5.21	121.73	118.60
55	XY	34	C	C5-C6-N1	5.21	123.61	121.00
22	RA	2594	C	C6-N1-C2	5.21	122.39	120.30
1	XA	511	C	C2-N3-C4	-5.21	117.30	119.90
22	YA	679	C	C6-N1-C2	5.21	122.38	120.30
22	YA	1699	G	C5-C6-O6	5.21	131.73	128.60
22	YA	2593	U	N3-C4-C5	-5.21	111.47	114.60
1	QA	244	U	C2-N1-C1'	5.21	123.95	117.70
22	RA	397	G	N3-C4-C5	5.21	131.21	128.60
22	YA	2253	G	C4-C5-N7	-5.21	108.72	110.80
22	YA	2776	A	C8-N9-C4	-5.21	103.72	105.80
22	RA	1264	G	N3-C4-C5	-5.21	126.00	128.60
1	XA	513	C	C5-C6-N1	5.21	123.60	121.00
22	RA	22	C	N3-C4-C5	5.21	123.98	121.90
22	RA	2025	C	N3-C4-C5	-5.21	119.82	121.90
22	YA	138	G	C5-C6-N1	5.21	114.10	111.50
22	YA	2377	A	C8-N9-C4	5.21	107.88	105.80
22	RA	929	G	C4-N9-C1'	5.20	133.26	126.50
22	YA	1426	G	C8-N9-C4	-5.20	104.32	106.40
1	QA	938	A	C8-N9-C4	-5.20	103.72	105.80
22	YA	848	G	N3-C4-N9	5.20	129.12	126.00
22	RA	124	G	N1-C6-O6	5.20	123.02	119.90
22	RA	140	A	C5-N7-C8	-5.20	101.30	103.90
22	RA	2307	G	C8-N9-C4	-5.20	104.32	106.40
22	RA	2713	A	O4'-C1'-N9	-5.20	104.04	108.20
22	YA	1383	C	N1-C2-O2	5.20	122.02	118.90
23	RB	41	U	C2-N1-C1'	-5.20	111.46	117.70
1	XA	1509	C	N3-C4-C5	-5.20	119.82	121.90
1	QA	1065	U	P-O3'-C3'	5.20	125.94	119.70
22	RA	1801	G	C5-C6-N1	5.20	114.10	111.50
22	RA	2711	A	C2-N3-C4	-5.20	108.00	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	576	G	C8-N9-C4	-5.20	104.32	106.40
22	RA	2563	U	C5-C4-O4	5.20	129.02	125.90
1	XA	529	G	N1-C6-O6	5.20	123.02	119.90
22	YA	754	C	C5-C6-N1	-5.20	118.40	121.00
22	YA	1753	G	C8-N9-C4	-5.20	104.32	106.40
22	YA	2439	A	C5-C6-N6	-5.20	119.54	123.70
1	QA	573	A	N1-C6-N6	-5.19	115.48	118.60
1	XA	664	G	C5-C6-O6	5.19	131.72	128.60
22	YA	1205	U	N3-C4-C5	-5.19	111.48	114.60
1	XA	792	A	C4-C5-N7	5.19	113.30	110.70
22	YA	1667	G	N1-C6-O6	5.19	123.02	119.90
1	XA	60	A	P-O3'-C3'	5.19	125.93	119.70
1	XA	690	G	O4'-C1'-N9	5.19	112.35	108.20
22	RA	546	C	C6-N1-C2	-5.19	118.22	120.30
22	RA	1980	G	OP1-P-O3'	5.19	116.61	105.20
22	RA	2306	C	N3-C2-O2	-5.19	118.27	121.90
1	XA	1506	U	C6-N1-C2	5.19	124.11	121.00
19	XS	41	VAL	C-N-CD	-5.19	109.19	120.60
22	YA	114	U	C6-N1-C1'	-5.19	113.94	121.20
22	YA	582	G	C4-C5-N7	5.19	112.88	110.80
22	YA	1662	C	C2-N3-C4	-5.18	117.31	119.90
22	RA	828	U	N3-C4-O4	-5.18	115.77	119.40
22	RA	1428	C	C6-N1-C2	5.18	122.37	120.30
22	RA	2511	U	N3-C2-O2	-5.18	118.57	122.20
31	RO	8	LEU	CA-CB-CG	5.18	127.22	115.30
53	QV	75	C	N3-C2-O2	-5.18	118.27	121.90
1	XA	703	G	C8-N9-C1'	-5.18	120.26	127.00
22	YA	792	G	N3-C4-N9	-5.18	122.89	126.00
1	XA	1219	U	N1-C2-O2	-5.18	119.17	122.80
22	YA	1965	C	N3-C4-C5	5.18	123.97	121.90
22	YA	2050	C	N3-C2-O2	-5.18	118.28	121.90
53	QV	57	A	N1-C6-N6	-5.18	115.49	118.60
22	YA	2430	A	N7-C8-N9	5.18	116.39	113.80
22	RA	1525	G	C5-C6-O6	-5.17	125.50	128.60
22	YA	551	G	C4-N9-C1'	-5.17	119.77	126.50
22	YA	1425	G	N3-C4-C5	-5.17	126.01	128.60
22	YA	570	G	N3-C4-C5	5.17	131.19	128.60
22	YA	620	G	N3-C4-N9	-5.17	122.90	126.00
22	RA	1022	G	C8-N9-C4	-5.17	104.33	106.40
22	RA	2032	G	C5-C6-O6	-5.17	125.50	128.60
22	RA	2587	A	C8-N9-C4	5.17	107.87	105.80
22	YA	28	A	O5'-P-OP1	-5.17	101.05	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	YA	917	A	C6-C5-N7	-5.17	128.68	132.30
1	QA	1509	C	C6-N1-C2	5.17	122.37	120.30
1	QA	818	G	C5-C6-N1	-5.17	108.92	111.50
22	RA	783	A	C2-N3-C4	-5.17	108.02	110.60
1	QA	317	G	N3-C4-C5	-5.17	126.02	128.60
22	YA	2271	G	C8-N9-C1'	-5.16	120.29	127.00
22	RA	2415	G	N3-C4-N9	5.16	129.10	126.00
22	YA	1915	U	N1-C2-O2	5.16	126.41	122.80
53	QV	30	G	C6-C5-N7	-5.16	127.30	130.40
22	RA	1806	C	C6-N1-C2	5.16	122.36	120.30
1	XA	652	U	C5-C6-N1	5.16	125.28	122.70
1	XA	1113	C	C5-C6-N1	5.16	123.58	121.00
22	YA	2430	A	C6-C5-N7	-5.16	128.69	132.30
53	XV	23	C	C5-C6-N1	-5.16	118.42	121.00
22	RA	848	G	C6-C5-N7	-5.16	127.30	130.40
22	RA	1627	G	C2-N3-C4	-5.16	109.32	111.90
22	YA	1216	G	C6-C5-N7	-5.16	127.31	130.40
22	YA	1657	C	C5-C6-N1	-5.16	118.42	121.00
53	XV	68	C	N3-C4-C5	5.16	123.96	121.90
1	XA	346	G	N3-C4-N9	5.16	129.09	126.00
22	YA	1502	C	C6-N1-C2	-5.16	118.24	120.30
1	QA	785	G	C2-N3-C4	-5.15	109.32	111.90
4	QD	28	SER	C-N-CD	5.15	139.22	128.40
22	RA	270(X)	G	C5-C6-N1	-5.15	108.92	111.50
22	RA	754	C	N1-C2-N3	-5.15	115.59	119.20
22	RA	1989	G	N1-C6-O6	5.15	122.99	119.90
22	RA	2071	A	C8-N9-C4	-5.15	103.74	105.80
22	YA	450	G	C8-N9-C1'	-5.15	120.30	127.00
22	RA	860	U	N3-C4-C5	-5.15	111.51	114.60
22	RA	1805	U	C2-N1-C1'	5.15	123.88	117.70
22	RA	2061	G	N9-C4-C5	5.15	107.46	105.40
22	RA	2423	U	C6-N1-C1'	-5.15	113.99	121.20
1	XA	792	A	N9-C1'-C2'	5.15	120.70	114.00
22	YA	1142(A)	A	C2-N3-C4	-5.15	108.03	110.60
22	YA	1332	G	C5-C6-N1	-5.15	108.93	111.50
22	RA	1894	C	O5'-P-OP2	-5.15	101.07	105.70
22	RA	1651	G	N1-C6-O6	5.14	122.99	119.90
22	RA	2612	C	C6-N1-C1'	-5.14	114.63	120.80
22	RA	966	G	C8-N9-C4	5.14	108.46	106.40
1	XA	1091	U	C6-N1-C2	-5.14	117.92	121.00
1	QA	266	G	C5-N7-C8	-5.14	101.73	104.30
22	RA	1678	G	N3-C4-C5	5.14	131.17	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	2392	A	C6-C5-N7	-5.14	128.70	132.30
22	RA	2455	G	C4-N9-C1'	5.14	133.18	126.50
1	XA	1432	G	C6-C5-N7	-5.14	127.32	130.40
22	YA	2048	G	N9-C4-C5	5.14	107.46	105.40
22	RA	693	C	C2-N3-C4	-5.14	117.33	119.90
22	YA	1773	A	C2-N3-C4	5.14	113.17	110.60
22	YA	1908	C	C6-N1-C2	-5.14	118.25	120.30
22	YA	2095	C	N3-C2-O2	-5.14	118.30	121.90
22	RA	809	G	C8-N9-C1'	-5.13	120.33	127.00
53	XV	60	U	N3-C4-O4	5.13	122.99	119.40
1	QA	1478	C	N1-C2-O2	5.13	121.98	118.90
22	RA	1390	U	C5-C6-N1	5.13	125.27	122.70
23	RB	94	C	C6-N1-C2	-5.13	118.25	120.30
22	RA	1022	G	P-O3'-C3'	5.13	125.86	119.70
22	RA	2511	U	C2-N1-C1'	5.13	123.86	117.70
22	RA	2779	U	N1-C2-O2	5.13	126.39	122.80
22	YA	452	G	C8-N9-C4	-5.13	104.35	106.40
22	YA	780	G	C6-C5-N7	-5.13	127.32	130.40
22	YA	1888	G	C2-N3-C4	5.13	114.47	111.90
1	QA	356	A	O4'-C1'-N9	5.13	112.30	108.20
22	RA	74	A	C2-N3-C4	-5.13	108.04	110.60
22	YA	974(A)	C	OP2-P-O3'	5.13	116.48	105.20
22	RA	284	U	C5-C6-N1	5.13	125.26	122.70
22	RA	1215	G	C6-C5-N7	-5.13	127.32	130.40
1	QA	1190	G	N3-C4-C5	-5.12	126.04	128.60
1	QA	1435	G	N1-C6-O6	5.12	122.97	119.90
22	RA	1319	G	C4-C5-N7	5.12	112.85	110.80
22	RA	2782	G	N3-C4-N9	5.12	129.07	126.00
22	RA	1895	C	C6-N1-C2	-5.12	118.25	120.30
22	YA	940	G	C8-N9-C4	-5.12	104.35	106.40
22	YA	1612	C	N3-C2-O2	5.12	125.48	121.90
22	RA	1789	A	N9-C4-C5	5.12	107.85	105.80
38	RV	35	LEU	CA-CB-CG	5.12	127.07	115.30
1	XA	749	C	C2-N3-C4	5.12	122.46	119.90
1	XA	1158	C	C2-N1-C1'	5.12	124.43	118.80
22	YA	2070	G	C4-C5-N7	-5.12	108.75	110.80
22	YA	2299	G	N7-C8-N9	5.12	115.66	113.10
22	YA	2048	G	C8-N9-C4	-5.12	104.35	106.40
1	XA	1158	C	N1-C2-O2	5.12	121.97	118.90
22	YA	929	G	C4-C5-N7	-5.12	108.75	110.80
22	YA	1614	A	C5-C6-N1	5.12	120.26	117.70
1	QA	634	C	C2-N1-C1'	-5.11	113.17	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	1613	G	N3-C4-N9	5.11	129.07	126.00
22	YA	197	A	C6-C5-N7	-5.11	128.72	132.30
22	YA	912	C	N3-C2-O2	-5.11	118.32	121.90
22	YA	385	C	N1-C2-O2	-5.11	115.83	118.90
22	YA	1358	G	C8-N9-C4	-5.11	104.36	106.40
22	YA	1888	G	N3-C4-C5	-5.11	126.04	128.60
22	RA	1799	G	N3-C4-C5	-5.11	126.04	128.60
1	XA	108	G	C4-C5-N7	5.11	112.84	110.80
22	YA	814	C	C2-N1-C1'	-5.11	113.18	118.80
22	YA	2070	G	C6-C5-N7	5.11	133.47	130.40
22	RA	188	G	C8-N9-C4	5.11	108.44	106.40
22	RA	2311	A	N1-C2-N3	5.11	131.85	129.30
22	RA	2455	G	N3-C4-N9	5.11	129.06	126.00
23	RB	60	C	C6-N1-C2	-5.11	118.26	120.30
22	YA	1022	G	N3-C4-C5	-5.11	126.05	128.60
22	YA	1835	G	N7-C8-N9	5.11	115.65	113.10
22	RA	456	C	C2-N1-C1'	5.11	124.42	118.80
22	RA	783	A	C4-C5-N7	5.11	113.25	110.70
22	RA	2584	U	C6-N1-C2	-5.11	117.94	121.00
1	XA	328	C	C5-C6-N1	5.11	123.55	121.00
22	YA	2779	U	N3-C2-O2	-5.11	118.63	122.20
22	RA	1021	A	C2-N3-C4	-5.10	108.05	110.60
22	RA	1559	G	C4-C5-N7	5.10	112.84	110.80
22	RA	2820	A	P-O3'-C3'	5.10	125.83	119.70
22	YA	860	U	C4-C5-C6	5.10	122.76	119.70
22	RA	1337	G	C8-N9-C4	-5.10	104.36	106.40
22	RA	1817	G	C6-C5-N7	-5.10	127.34	130.40
22	YA	1790	C	N3-C4-C5	5.10	123.94	121.90
22	RA	1184	G	N9-C4-C5	-5.10	103.36	105.40
22	YA	197	A	N1-C6-N6	5.10	121.66	118.60
22	YA	974	G	C6-N1-C2	-5.10	122.04	125.10
22	YA	2582	G	N3-C4-C5	-5.10	126.05	128.60
22	RA	2494	G	N3-C4-N9	5.10	129.06	126.00
22	YA	2271	G	C4-N9-C1'	5.10	133.13	126.50
22	YA	2362	G	C4-N9-C1'	5.10	133.13	126.50
22	RA	1658	C	C5-C6-N1	5.10	123.55	121.00
22	RA	1806	C	N3-C2-O2	5.10	125.47	121.90
1	XA	899	C	C6-N1-C2	5.10	122.34	120.30
22	YA	509	C	O5'-P-OP1	-5.10	101.11	105.70
22	RA	2307	G	N7-C8-N9	5.10	115.65	113.10
22	YA	1187	G	C4-N9-C1'	5.10	133.12	126.50
23	YB	117	G	N3-C4-C5	5.10	131.15	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	YE	117	MET	CA-CB-CG	5.10	121.96	113.30
22	YA	1699	G	C4-C5-N7	-5.09	108.76	110.80
22	YA	1782	C	C6-N1-C2	-5.09	118.26	120.30
22	YA	2686	G	N3-C4-C5	-5.09	126.05	128.60
22	RA	622	G	C8-N9-C4	5.09	108.44	106.40
1	XA	692	U	N3-C4-O4	5.09	122.97	119.40
1	QA	938	A	N7-C8-N9	5.09	116.34	113.80
22	YA	530	G	C4-N9-C1'	-5.09	119.88	126.50
22	YA	539	G	N3-C4-C5	-5.09	126.05	128.60
22	YA	1247	A	C8-N9-C4	5.09	107.84	105.80
22	YA	1701	A	C8-N9-C4	-5.09	103.77	105.80
22	RA	752	A	P-O3'-C3'	5.09	125.81	119.70
22	RA	762	U	N3-C2-O2	5.09	125.76	122.20
22	RA	1792	G	N3-C4-C5	-5.09	126.06	128.60
22	RA	2392	A	C2-N3-C4	-5.09	108.06	110.60
22	YA	1343	G	N3-C4-C5	-5.09	126.06	128.60
1	QA	1403	C	C5-C6-N1	5.09	123.54	121.00
22	YA	846	C	C6-N1-C2	-5.09	118.27	120.30
22	YA	1386	C	C2-N1-C1'	-5.09	113.20	118.80
23	YB	81	G	C6-C5-N7	-5.09	127.35	130.40
1	QA	700	G	N1-C6-O6	-5.08	116.85	119.90
22	RA	593	G	N3-C4-C5	5.08	131.14	128.60
1	XA	1516	G	N3-C4-C5	5.08	131.14	128.60
22	RA	445	C	OP2-P-O3'	5.08	116.38	105.20
22	RA	2087	G	C8-N9-C1'	-5.08	120.39	127.00
22	RA	2642	G	C4-C5-N7	5.08	112.83	110.80
22	YA	253	C	O5'-P-OP1	-5.08	101.13	105.70
22	YA	621	A	N1-C2-N3	5.08	131.84	129.30
22	YA	699	A	C8-N9-C4	-5.08	103.77	105.80
22	YA	1187	G	C8-N9-C4	-5.08	104.37	106.40
22	RA	389	G	N3-C4-N9	5.08	129.05	126.00
22	RA	2230	G	N3-C4-N9	5.08	129.05	126.00
1	XA	827	U	N3-C2-O2	-5.08	118.64	122.20
22	YA	556	G	C4-N9-C1'	5.08	133.10	126.50
53	XV	52	G	C5-C6-O6	-5.08	125.55	128.60
22	YA	2073	C	OP1-P-O3'	5.08	116.37	105.20
22	RA	2702	U	N1-C2-O2	5.08	126.35	122.80
22	YA	282	A	C8-N9-C4	5.08	107.83	105.80
22	YA	333	G	C8-N9-C4	-5.08	104.37	106.40
22	YA	1655	A	N1-C6-N6	5.08	121.64	118.60
22	YA	2062	A	C4-C5-N7	5.08	113.24	110.70
1	QA	593	G	N1-C6-O6	5.07	122.94	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	585	G	OP2-P-O3'	5.07	116.36	105.20
22	RA	854	G	C5-C6-N1	-5.07	108.96	111.50
22	RA	1644	C	C6-N1-C1'	-5.07	114.72	120.80
23	RB	103	U	C5-C6-N1	-5.07	120.16	122.70
22	YA	2487	G	C5-C6-N1	-5.07	108.97	111.50
1	QA	266	G	C4-C5-N7	5.07	112.83	110.80
22	RA	576	U	C5-C6-N1	5.07	125.23	122.70
1	QA	230	G	C5-C6-N1	-5.07	108.97	111.50
22	YA	88	G	C8-N9-C1'	-5.07	120.41	127.00
22	YA	573	G	C5-N7-C8	-5.07	101.77	104.30
22	YA	1998	G	C8-N9-C4	5.07	108.43	106.40
22	YA	1193	G	N3-C4-C5	5.06	131.13	128.60
22	RA	1568	G	C6-C5-N7	5.06	133.44	130.40
22	YA	971	C	N1-C2-O2	-5.06	115.86	118.90
1	XA	809	G	N1-C6-O6	5.06	122.94	119.90
22	YA	530	G	N3-C4-N9	-5.06	122.97	126.00
22	YA	2830	G	C4-N9-C1'	5.06	133.08	126.50
22	YA	338	G	N3-C4-N9	5.06	129.03	126.00
22	YA	551	G	O5'-P-OP2	-5.06	101.15	105.70
22	RA	270(Y)	G	C4-C5-N7	-5.06	108.78	110.80
22	RA	1930	G	C5-N7-C8	5.06	106.83	104.30
1	QA	220	G	C4-C5-N7	5.05	112.82	110.80
1	XA	1211	U	C5-C4-O4	5.05	128.93	125.90
22	YA	744	G	C8-N9-C4	-5.05	104.38	106.40
22	YA	1240	U	N3-C2-O2	-5.05	118.66	122.20
22	RA	1733	G	C6-C5-N7	-5.05	127.37	130.40
1	XA	819	A	N1-C6-N6	5.05	121.63	118.60
22	YA	790	C	N3-C2-O2	5.05	125.44	121.90
22	RA	539	G	C6-C5-N7	-5.05	127.37	130.40
22	RA	1525	G	N1-C6-O6	5.05	122.93	119.90
22	YA	373	U	C2-N1-C1'	5.05	123.76	117.70
22	RA	2419	U	C6-N1-C2	-5.05	117.97	121.00
22	YA	1689	A	N1-C6-N6	-5.05	115.57	118.60
22	YA	2566	A	P-O3'-C3'	5.05	125.76	119.70
1	QA	1338	G	N1-C6-O6	-5.04	116.87	119.90
22	RA	475	U	C2-N1-C1'	5.04	123.75	117.70
22	RA	2254	C	OP2-P-O3'	5.04	116.30	105.20
1	XA	1027	C	OP1-P-O3'	5.04	116.30	105.20
22	YA	114	U	C5-C4-O4	-5.04	122.87	125.90
22	YA	1835	G	N3-C4-N9	5.04	129.03	126.00
22	YA	1974	C	N3-C4-N4	-5.04	114.47	118.00
1	XA	811	C	C6-N1-C2	5.04	122.32	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	123	G	C8-N9-C4	5.04	108.42	106.40
23	RB	89	G	C8-N9-C4	-5.04	104.39	106.40
1	XA	297	G	C6-C5-N7	-5.04	127.38	130.40
1	XA	456	C	C5-C6-N1	5.04	123.52	121.00
22	YA	2869	G	C5-C6-N1	-5.04	108.98	111.50
22	YA	1403	C	N3-C2-O2	-5.04	118.38	121.90
22	RA	1024	G	C6-C5-N7	-5.03	127.38	130.40
22	RA	2345	G	C5-C6-O6	5.03	131.62	128.60
22	RA	2499	C	C2-N1-C1'	5.03	124.34	118.80
22	YA	663	G	C6-C5-N7	-5.03	127.38	130.40
22	YA	845	G	N9-C4-C5	-5.03	103.39	105.40
22	YA	1614	A	C2-N3-C4	5.03	113.12	110.60
22	YA	116	C	C4-C5-C6	5.03	119.92	117.40
1	QA	561	U	P-O3'-C3'	5.03	125.74	119.70
22	RA	2307	G	C4-N9-C1'	5.03	133.04	126.50
22	RA	2430	A	C5-C6-N1	-5.03	115.19	117.70
22	RA	2767	C	C6-N1-C2	-5.03	118.29	120.30
22	YA	1614	A	C6-N1-C2	-5.03	115.58	118.60
22	YA	1834	U	C4-C5-C6	5.03	122.72	119.70
22	YA	2318	G	C6-C5-N7	-5.03	127.38	130.40
22	YA	1148	A	C8-N9-C4	5.03	107.81	105.80
22	YA	2453	A	C5-C6-N1	5.03	120.21	117.70
22	RA	2307	G	O4'-C1'-N9	5.03	112.22	108.20
1	XA	968	A	C8-N9-C4	5.03	107.81	105.80
22	YA	487	C	C6-N1-C2	-5.03	118.29	120.30
22	YA	2283	C	N1-C2-O2	-5.03	115.89	118.90
22	YA	2301	C	C6-N1-C2	-5.03	118.29	120.30
1	QA	244	U	N1-C2-O2	5.02	126.32	122.80
1	QA	252	U	N1-C2-O2	5.02	126.32	122.80
22	RA	475	U	N3-C2-O2	-5.02	118.68	122.20
1	XA	509	A	C8-N9-C4	-5.02	103.79	105.80
22	YA	2497	A	C2-N3-C4	5.02	113.11	110.60
22	YA	2500	U	N1-C2-O2	5.02	126.32	122.80
22	RA	917	A	C5-C6-N1	-5.02	115.19	117.70
22	RA	1613	G	N3-C4-C5	-5.02	126.09	128.60
22	RA	1930	G	O4'-C1'-N9	5.02	112.22	108.20
1	XA	690	G	C4-C5-N7	5.02	112.81	110.80
1	XA	1279	A	C8-N9-C4	-5.02	103.79	105.80
22	YA	773	U	C5-C6-N1	-5.02	120.19	122.70
22	YA	846	C	C4-C5-C6	5.02	119.91	117.40
22	YA	1900	A	O5'-P-OP1	-5.02	101.18	105.70
22	YA	2345	G	N9-C4-C5	5.02	107.41	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	RA	2490	G	O4'-C1'-N9	5.02	112.22	108.20
22	RA	2505	G	N3-C4-C5	-5.02	126.09	128.60
22	YA	659	C	C6-N1-C2	5.02	122.31	120.30
22	YA	1155	A	C5-C6-N6	-5.02	119.68	123.70
1	XA	136	C	C5-C6-N1	-5.02	118.49	121.00
22	YA	465	G	N3-C4-N9	5.02	129.01	126.00
53	QV	41	C	N1-C2-O2	5.02	121.91	118.90
22	YA	1247	A	C5-N7-C8	5.02	106.41	103.90
22	RA	2509	G	C6-C5-N7	-5.01	127.39	130.40
22	YA	139	G	N3-C4-C5	-5.01	126.09	128.60
22	YA	2035	G	O5'-P-OP2	-5.01	101.19	105.70
22	YA	2592	G	C8-N9-C4	-5.01	104.39	106.40
22	RA	2371	G	N3-C4-N9	-5.01	122.99	126.00
23	RB	44	G	N3-C4-C5	5.01	131.11	128.60
22	YA	512	G	O4'-C1'-N9	5.01	112.21	108.20
22	YA	1314	C	C5-C6-N1	5.01	123.51	121.00
22	YA	1620	G	C4-N9-C1'	5.01	133.02	126.50
22	YA	2468	G	N7-C8-N9	5.01	115.61	113.10
22	RA	2126	A	P-O3'-C3'	5.01	125.71	119.70
22	YA	201	C	C6-N1-C2	5.01	122.30	120.30
22	YA	551	G	C8-N9-C4	5.01	108.40	106.40
22	YA	2228	G	O5'-P-OP2	-5.01	101.19	105.70
1	XA	420	U	C2-N1-C1'	5.01	123.71	117.70
42	YZ	150	LEU	CA-CB-CG	5.01	126.82	115.30
22	RA	1786	A	C5-C6-N1	-5.01	115.20	117.70
22	RA	1819	A	P-O3'-C3'	5.01	125.71	119.70
1	XA	545	C	N3-C2-O2	-5.01	118.39	121.90
1	XA	619	U	C5-C6-N1	5.01	125.20	122.70
22	YA	512	G	C8-N9-C1'	5.01	133.51	127.00
22	RA	1398	C	C5-C4-N4	-5.00	116.70	120.20
22	RA	2422	A	P-O3'-C3'	5.00	125.70	119.70
33	RQ	82	ARG	N-CA-C	5.00	124.51	111.00
1	XA	31	G	P-O3'-C3'	5.00	125.70	119.70
1	XA	799	G	N3-C4-C5	-5.00	126.10	128.60
1	XA	557	G	C8-N9-C1'	-5.00	120.50	127.00
1	XA	557	G	C6-C5-N7	-5.00	127.40	130.40
22	YA	1948	G	C5-C6-N1	5.00	114.00	111.50

There are no chirality outliers.

All (19) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	QL	47	LYS	Peptide
47	R4	38	LYS	Peptide
51	R8	30	ARG	Peptide
51	R8	35	GLN	Peptide
25	RE	21	VAL	Peptide
28	RH	127	GLU	Peptide
28	RH	153	LYS	Peptide
29	RI	134	PRO	Peptide
12	XL	47	LYS	Peptide
45	Y2	17	SER	Peptide
51	Y8	30	ARG	Peptide
51	Y8	51	ALA	Peptide
25	YE	21	VAL	Peptide
26	YF	47	GLY	Peptide
28	YH	127	GLU	Peptide
28	YH	153	LYS	Peptide
35	YS	109	GLY	Peptide
42	YZ	181	GLU	Peptide
42	YZ	61	LEU	Peptide

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32247	0	16277	775	0
1	XA	32249	0	16279	824	0
2	QB	1924	0	1975	64	0
2	XB	1924	0	1975	83	0
3	QC	1605	0	1668	50	0
3	XC	1605	0	1668	63	0
4	QD	1703	0	1763	68	0
4	XD	1703	0	1764	48	0
5	QE	1155	0	1213	36	0
5	XE	1155	0	1213	43	0
6	QF	843	0	857	20	0
6	XF	843	0	857	23	0
7	QG	1257	0	1296	41	0
7	XG	1257	0	1296	30	0
8	QH	1116	0	1177	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	XH	1116	0	1177	32	0
9	QI	1010	0	1037	43	0
9	XI	1010	0	1037	60	0
10	QJ	801	0	849	50	0
10	XJ	801	0	849	40	0
11	QK	885	0	904	29	0
11	XK	885	0	904	33	0
12	QL	975	0	1062	43	0
12	XL	975	0	1062	47	0
13	QM	964	0	1034	46	0
13	XM	964	0	1034	62	0
14	QN	492	0	529	27	0
14	XN	492	0	529	23	0
15	QO	734	0	771	23	0
15	XO	734	0	771	22	0
16	QP	705	0	725	21	0
16	XP	705	0	725	29	0
17	QQ	834	0	904	26	0
17	XQ	834	0	904	20	0
18	QR	574	0	644	13	0
18	XR	574	0	644	21	0
19	QS	674	0	699	39	0
19	XS	674	0	699	55	0
20	QT	763	0	861	25	0
20	XT	763	0	861	40	0
21	QU	217	0	234	12	0
21	XU	217	0	234	8	0
22	RA	62071	0	31292	1370	0
22	YA	62091	0	31301	1336	1
23	RB	2573	0	1306	57	0
23	YB	2573	0	1306	64	1
24	RD	2115	0	2195	107	0
24	YD	2115	0	2195	106	0
25	RE	1568	0	1634	67	0
25	YE	1568	0	1634	68	0
26	RF	1585	0	1632	76	0
26	YF	1585	0	1632	64	0
27	RG	1474	0	1535	62	0
27	YG	1474	0	1535	69	0
28	RH	1307	0	1382	67	0
28	YH	1307	0	1382	62	0
29	RI	1136	0	1223	84	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	YI	1136	0	1223	73	0
30	RN	1104	0	1180	38	0
30	YN	1104	0	1180	51	0
31	RO	933	0	996	23	0
31	YO	933	0	996	25	0
32	RP	1145	0	1227	79	0
32	YP	1145	0	1228	95	0
33	RQ	1122	0	1179	58	0
33	YQ	1122	0	1179	49	0
34	RR	968	0	1033	48	0
34	YR	968	0	1033	37	0
35	RS	882	0	943	45	0
35	YS	882	0	943	43	0
36	RT	1141	0	1202	51	0
36	YT	1141	0	1202	56	0
37	RU	964	0	1022	36	0
37	YU	964	0	1022	54	0
38	RV	779	0	852	24	0
38	YV	779	0	852	43	0
39	RW	900	0	964	28	0
39	YW	900	0	964	26	0
40	RX	725	0	778	31	0
40	YX	725	0	778	24	0
41	RY	785	0	878	52	0
41	YY	785	0	878	43	0
42	RZ	1461	0	1493	96	0
42	YZ	1461	0	1493	104	0
43	R0	648	0	671	37	0
43	Y0	648	0	672	41	0
44	R1	763	0	848	32	0
44	Y1	763	0	848	36	0
45	R2	581	0	629	14	0
45	Y2	581	0	629	23	0
46	R3	469	0	518	7	0
46	Y3	469	0	518	15	0
47	R4	581	0	574	30	0
47	Y4	581	0	574	76	0
48	R5	459	0	480	30	0
48	Y5	459	0	480	31	0
49	R6	424	0	450	30	0
49	Y6	424	0	450	29	0
50	R7	430	0	480	17	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
50	Y7	430	0	480	19	0
51	R8	517	0	582	36	0
51	Y8	517	0	582	43	0
52	R9	307	0	338	14	0
52	Y9	307	0	338	17	0
53	QV	1644	0	836	29	0
53	XV	1644	0	836	36	0
54	QX	173	0	88	3	0
54	XX	173	0	88	3	0
55	QY	174	0	88	4	0
55	XY	174	0	88	2	0
56	Z6	74	0	51	0	0
56	Z8	74	0	51	4	0
57	QA	42	0	45	1	0
57	XA	42	0	45	2	0
58	QA	76	0	0	0	0
58	QF	1	0	0	0	0
58	QM	1	0	0	0	0
58	QV	1	0	0	0	0
58	R0	1	0	0	0	0
58	R5	1	0	0	0	0
58	R8	2	0	0	0	0
58	RA	247	0	0	0	0
58	RB	2	0	0	0	0
58	RD	1	0	0	0	0
58	RE	2	0	0	0	0
58	RF	1	0	0	0	0
58	RP	2	0	0	0	0
58	XA	82	0	0	0	0
58	XB	1	0	0	0	0
58	XM	1	0	0	0	0
58	XV	2	0	0	0	0
58	Y0	1	0	0	0	0
58	Y5	1	0	0	0	0
58	YA	265	0	0	0	0
58	YB	3	0	0	0	0
58	YD	2	0	0	0	0
58	YP	2	0	0	0	0
58	YQ	1	0	0	0	0
58	YX	1	0	0	0	0
59	QD	1	0	0	0	0
59	QN	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
59	XD	1	0	0	0	0
59	XN	1	0	0	0	0
All	All	291730	0	198220	7613	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 16.

All (7613) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2701:C:H3'	22:RA:2702:U:H5''	1.27	1.07
1:XA:963:G:N3	10:XJ:55:LYS:NZ	2.02	1.07
24:YD:43:ARG:NH1	24:YD:44:ASN:OD1	1.86	1.06
22:YA:2701:C:H3'	22:YA:2702:U:H5''	1.38	1.05
22:YA:1138:G:H21	30:YN:106:MET:HE3	1.22	1.04
22:RA:1310:G:OP2	50:R7:9:ARG:NH1	1.91	1.01
13:XM:3:ARG:HB3	47:Y4:34:GLU:HB3	1.42	1.01
22:YA:498:G:N3	41:YY:47:LYS:NZ	2.07	1.01
22:YA:571:A:H5'	22:YA:2030:A:H62	1.26	1.00
1:XA:1298:C:OP2	7:XG:114:ARG:NH2	1.93	0.99
1:QA:1244:C:H42	1:QA:1293:G:H1	1.10	0.98
22:RA:617:G:OP1	26:RF:40:GLN:NE2	1.95	0.98
22:YA:140:A:H8	22:YA:1408:C:HO2'	1.00	0.97
13:XM:7:VAL:HG21	27:YG:113:ARG:O	1.64	0.97
4:QD:9:CYS:SG	4:QD:22:LYS:CE	2.52	0.97
1:XA:1298:C:H2'	7:XG:114:ARG:HH12	1.29	0.96
4:QD:9:CYS:SG	4:QD:31:CYS:O	2.23	0.96
22:RA:768:G:O2'	22:RA:1379:A:N6	1.99	0.96
22:RA:2392:A:H8	32:RP:60:MET:HG2	1.25	0.96
22:RA:1019:U:H3	22:RA:1142(A):A:H62	1.11	0.95
1:XA:1305:G:HO2'	1:XA:1306:A:H8	1.09	0.95
22:YA:631:A:OP2	51:Y8:46:ARG:NH2	1.99	0.95
4:QD:9:CYS:SG	4:QD:22:LYS:HE3	2.07	0.95
22:RA:2068:U:H3	22:RA:2430:A:H2	1.06	0.94
1:XA:1299:A:H2'	1:XA:1301:U:H1'	1.48	0.94
22:YA:483:A:H4'	41:YY:49:VAL:HA	1.48	0.94
42:YZ:9:TYR:HE2	42:YZ:35:ARG:HD3	1.33	0.94
1:QA:559:A:H4'	1:QA:560:U:H3'	1.49	0.93
2:QB:185:ILE:HG22	2:QB:199:TYR:HB2	1.48	0.93
1:XA:1002:G:H1	1:XA:1038:C:H42	1.16	0.93
22:YA:2580:U:H4'	25:YE:130:GLY:HA3	1.51	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2287:A:H62	22:YA:2344:U:H3	1.14	0.92
22:RA:900:A:H3'	22:RA:901:A:H8	1.35	0.92
22:RA:242:G:H5''	51:R8:62:LEU:HD13	1.50	0.92
32:RP:58:THR:O	32:RP:61:ARG:NE	2.03	0.92
13:QM:3:ARG:HB3	47:R4:34:GLU:HB3	1.52	0.91
25:YE:24:THR:HG21	25:YE:188:VAL:HG11	1.52	0.91
22:YA:993:G:OP1	37:YU:50:ARG:NH2	2.04	0.91
23:RB:22:U:H3	23:RB:61:G:H1	1.16	0.91
22:YA:674:G:H1'	26:YF:74:ARG:HD3	1.51	0.90
22:YA:1496:A:H8	22:YA:1577:C:HO2'	1.18	0.90
22:YA:2470:G:H5'	33:YQ:56:ARG:HH22	1.35	0.90
1:XA:1094:G:O2'	1:XA:1095:U:OP2	1.88	0.90
22:RA:442:G:H1'	26:RF:48:THR:HG21	1.51	0.90
13:XM:3:ARG:HG2	47:Y4:34:GLU:HG2	1.55	0.89
48:R5:55:ARG:HG3	48:R5:57:VAL:H	1.37	0.89
25:YE:50:GLY:HA2	25:YE:77:ILE:HA	1.53	0.89
29:YI:29:TYR:HD2	29:YI:30:LEU:HD23	1.39	0.89
41:YY:79:CYS:SG	41:YY:80:GLY:N	2.45	0.88
1:QA:963:G:N3	10:QJ:55:LYS:NZ	2.21	0.88
22:YA:2820:A:C8	25:YE:109:LYS:HE2	2.08	0.88
42:YZ:151:HIS:HB3	42:YZ:170:THR:HA	1.53	0.88
36:RT:26:ASP:HB3	36:RT:92:GLY:H	1.36	0.88
33:YQ:134:ARG:NH2	42:YZ:119:GLU:OE2	2.05	0.88
53:XV:6:G:H1	53:XV:67:C:H42	1.17	0.88
32:RP:64:LYS:O	32:RP:66:GLY:N	2.07	0.87
22:YA:1728:G:N1	22:YA:1730:U:OP2	2.07	0.87
29:YI:71:ILE:HG23	29:YI:72:LEU:HD13	1.54	0.87
22:RA:1464:C:HO2'	22:RA:1528:A:H8	1.23	0.87
22:YA:910:A:H62	33:YQ:12:GLN:HA	1.39	0.87
32:YP:58:THR:O	32:YP:61:ARG:NE	2.08	0.87
22:YA:122:G:N2	22:YA:129:C:O2	2.08	0.87
41:YY:76:CYS:HB3	41:YY:96:ILE:HD13	1.57	0.87
1:QA:1410:G:H1	1:QA:1490:C:H42	1.23	0.87
48:Y5:40:LYS:HG2	48:Y5:47:PRO:HD2	1.56	0.86
32:RP:19:VAL:HG13	32:RP:21:ARG:H	1.40	0.86
4:XD:157:LEU:O	4:XD:161:ASN:ND2	2.07	0.86
22:RA:708:C:H42	22:RA:723:G:H1	1.20	0.86
1:QA:1124:G:H3'	1:QA:1145:C:N4	1.89	0.86
22:YA:1844:C:H2'	22:YA:1845:G:H8	1.41	0.86
1:QA:448:A:OP2	1:QA:485:G:N2	2.08	0.86
22:RA:674:G:H1'	26:RF:74:ARG:HD3	1.57	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1243:C:OP2	21:QU:10:ARG:NH2	2.09	0.86
22:RA:2502:G:H5''	22:RA:2503:A:H5''	1.57	0.86
24:RD:43:ARG:NH1	24:RD:44:ASN:OD1	2.08	0.86
22:RA:1061:U:H5'	22:RA:1070:A:H1'	1.56	0.86
22:YA:265:A:N6	22:YA:427:U:O2'	2.07	0.86
22:YA:2593:U:H2'	22:YA:2594:C:H6	1.39	0.85
5:QE:50:GLU:HB3	5:QE:53:LEU:HD13	1.59	0.85
22:YA:2015:A:H1'	48:Y5:2:ALA:HA	1.57	0.85
22:RA:2701:C:H3'	22:RA:2702:U:C5'	2.04	0.85
1:XA:58:C:O2'	1:XA:388:G:N7	2.09	0.85
1:XA:1346:A:OP1	9:XI:120:ARG:NH1	2.09	0.85
23:RB:83:G:H1	23:RB:93:C:H42	1.24	0.85
1:QA:1127:G:N1	1:QA:1145:C:O2	2.08	0.84
39:YW:18:ARG:HG3	39:YW:76:VAL:HG13	1.58	0.84
22:RA:2839:G:H5'	34:RR:46:GLY:HA2	1.59	0.84
41:RY:79:CYS:SG	41:RY:80:GLY:N	2.45	0.84
22:RA:2106:G:H1	22:RA:2183:C:H42	1.21	0.84
1:QA:1298:C:OP2	7:QG:114:ARG:NH2	2.10	0.84
22:YA:67:U:H3	22:YA:74:A:H2	1.25	0.84
22:YA:270(T):G:H5''	44:Y1:97:LEU:HD22	1.59	0.84
36:YT:26:ASP:HB3	36:YT:92:GLY:H	1.42	0.84
30:YN:4:TYR:O	37:YU:64:ARG:NH1	2.10	0.83
22:RA:1187:G:H5''	38:RV:81:TYR:CE2	2.13	0.83
22:RA:2107:C:H42	22:RA:2182:G:H1	1.26	0.83
1:XA:448:A:OP2	1:XA:485:G:N2	2.08	0.83
2:QB:80:ILE:HD11	2:QB:208:ILE:HG23	1.58	0.83
27:YG:27:ASN:HB3	27:YG:30:GLU:HG3	1.60	0.83
1:QA:346:G:H1'	1:QA:347:G:H5'	1.58	0.83
22:YA:2849:U:H5	36:YT:93:ARG:HH12	1.26	0.83
32:YP:19:VAL:HG13	32:YP:21:ARG:H	1.41	0.83
37:YU:90:VAL:O	37:YU:92:ARG:N	2.11	0.82
48:R5:4:HIS:HB3	48:R5:5:PRO:HD3	1.61	0.82
22:YA:1063:G:H22	22:YA:1076:C:H1'	1.44	0.82
22:YA:462:C:H42	22:YA:467:G:H1	1.26	0.82
22:RA:1285:G:N2	22:RA:1329:U:OP1	2.10	0.82
1:QA:677:U:H3	1:QA:713:G:H22	1.28	0.82
1:XA:1342:C:H4'	9:XI:125:TYR:HB3	1.60	0.82
22:YA:994:C:H3'	37:YU:54:LYS:HE3	1.61	0.82
26:RF:197:ASP:O	26:RF:199:TRP:N	2.12	0.82
29:RI:4:ILE:HD11	29:RI:44:LEU:HD12	1.62	0.82
48:R5:16:ARG:NH1	48:R5:17:ASP:OD1	2.13	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:Y1:7:ILE:HD12	44:Y1:62:VAL:HG11	1.62	0.82
22:YA:2115:G:N2	22:YA:2165:G:N7	2.27	0.82
22:RA:676:A:H8	22:RA:2069:G:H21	1.28	0.82
41:RY:29:GLU:HB3	41:RY:38:ILE:HG12	1.62	0.82
22:YA:2099:U:H3	22:YA:2190:G:H1	1.25	0.82
32:RP:62:LEU:HD21	51:R8:25:MET:HB2	1.61	0.81
22:YA:286:C:H2'	22:YA:287:C:H6	1.43	0.81
29:RI:81:VAL:HG21	29:RI:142:VAL:HG12	1.62	0.81
48:Y5:16:ARG:NH1	48:Y5:17:ASP:OD1	2.13	0.81
22:RA:1053:C:H42	22:RA:1106:G:H1	1.28	0.81
42:YZ:94:GLU:HB2	42:YZ:130:PRO:HD2	1.63	0.81
45:Y2:47:ASN:O	45:Y2:49:LYS:N	2.12	0.81
22:YA:250:G:OP2	51:Y8:13:ARG:NH2	2.13	0.81
30:YN:4:TYR:OH	30:YN:7:LYS:NZ	2.14	0.81
22:RA:270(R):G:N3	44:R1:78:LYS:NZ	2.26	0.81
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.61	0.81
26:RF:103:LYS:HA	26:RF:106:ARG:HG3	1.63	0.81
22:RA:2107:C:N3	22:RA:2182:G:N2	2.26	0.81
53:QV:6:G:H1	53:QV:67:C:H42	1.25	0.81
1:XA:1192:C:OP2	3:XC:4:LYS:NZ	2.14	0.81
45:R2:47:ASN:O	45:R2:49:LYS:N	2.13	0.81
13:XM:3:ARG:HG2	47:Y4:34:GLU:CG	2.11	0.81
22:RA:631:A:OP2	51:R8:46:ARG:NH2	2.13	0.81
22:RA:249:C:O2	51:R8:12:LYS:NZ	2.13	0.81
1:XA:1281:U:OP2	1:XA:1282:C:N4	2.14	0.81
22:YA:138:G:N2	40:YX:44:GLU:OE2	2.14	0.81
22:YA:237:C:N4	22:YA:260:G:O6	2.14	0.81
22:RA:685:A:H5''	22:RA:788:A:H62	1.46	0.80
36:RT:24:PRO:HA	36:RT:49:VAL:HG13	1.61	0.80
13:QM:14:ARG:H	13:QM:44:ARG:HD3	1.45	0.80
25:RE:201:THR:HG22	25:RE:203:LYS:H	1.45	0.80
22:YA:984:A:H5''	22:YA:985:C:H5	1.46	0.80
22:RA:2712:U:O2'	22:RA:2712(A):A:O5'	1.97	0.80
30:RN:42:TRP:O	37:RU:64:ARG:NH2	2.15	0.80
22:YA:581:C:H2'	22:YA:582:G:H8	1.46	0.80
25:RE:50:GLY:HA2	25:RE:77:ILE:HA	1.64	0.80
22:YA:1310:G:OP2	50:Y7:9:ARG:NH1	2.14	0.80
43:R0:53:MET:HG3	43:R0:59:LEU:HD23	1.62	0.80
41:YY:76:CYS:SG	41:YY:77:PRO:HD2	2.22	0.80
13:QM:3:ARG:HA	13:QM:9:ILE:HG21	1.62	0.80
22:RA:27:G:HO2'	22:RA:28:A:H8	1.30	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1667:G:O2'	22:RA:1991:U:O4	2.00	0.80
1:QA:1346:A:H5''	9:QI:120:ARG:HH12	1.47	0.80
1:QA:1129:C:N4	1:QA:1133:G:O6	2.15	0.80
42:RZ:182:LYS:HD3	42:RZ:182:LYS:H	1.45	0.80
22:YA:869:G:N2	22:YA:908:C:O2	2.15	0.80
22:YA:819:A:OP2	22:YA:1187:G:N2	2.15	0.79
13:XM:65:LYS:HD3	13:XM:69:GLU:HG3	1.63	0.79
1:XA:257:G:H1	1:XA:269:C:H42	1.28	0.79
22:YA:879:G:O6	22:YA:898:C:N4	2.14	0.79
22:YA:620:G:H4'	22:YA:621:A:H5'	1.63	0.79
42:YZ:60:GLU:HA	42:YZ:66:SER:HA	1.63	0.79
29:YI:82:ARG:HD3	29:YI:146:ALA:HB3	1.62	0.79
1:QA:337:C:H2'	1:QA:338:A:H8	1.47	0.79
22:YA:1479:G:N7	22:YA:1510:A:N6	2.30	0.79
22:RA:468:G:H4'	26:RF:62:ARG:HH12	1.46	0.79
40:YX:67:GLY:O	40:YX:69:TYR:N	2.15	0.79
22:RA:996:A:H4'	37:RU:92:ARG:HE	1.45	0.79
3:XC:32:LEU:HD13	3:XC:59:ARG:HD3	1.64	0.79
20:XT:33:ILE:O	20:XT:37:SER:OG	2.00	0.79
34:RR:104:ARG:HD2	34:RR:111:LEU:HD21	1.63	0.79
29:RI:41:GLU:HA	29:RI:44:LEU:HB2	1.64	0.79
15:QO:26:GLU:OE2	15:QO:77:ARG:NH1	2.16	0.79
22:RA:301:G:N2	22:RA:316:C:O2	2.14	0.79
22:YA:1422:G:N2	22:YA:1498:C:O2	2.14	0.79
11:QK:21:ILE:HB	11:QK:84:VAL:HG12	1.65	0.79
22:YA:1798:U:H5'	24:YD:259:THR:HG22	1.64	0.79
22:YA:2233:U:H2'	22:YA:2234:G:C8	2.18	0.79
2:XB:77:ALA:HB2	2:XB:211:ILE:HD13	1.64	0.79
22:RA:507:A:H5''	22:RA:508:G:H5'	1.64	0.79
3:XC:59:ARG:HH12	3:XC:97:LYS:HE3	1.47	0.79
22:YA:271:G:H2'	22:YA:272:G:H8	1.46	0.79
1:XA:1298:C:H2'	7:XG:114:ARG:NH1	1.96	0.78
1:XA:134:A:H61	16:XP:25:ARG:NH1	1.82	0.78
22:YA:2015:A:N3	48:Y5:2:ALA:N	2.30	0.78
3:QC:79:ARG:CZ	11:XK:99:GLN:HB2	2.12	0.78
22:RA:2580:U:H4'	25:RE:130:GLY:HA3	1.63	0.78
4:QD:27:TYR:OH	6:XF:15:ASP:OD2	2.01	0.78
4:XD:9:CYS:SG	4:XD:22:LYS:NZ	2.52	0.78
53:QV:40:C:H2'	53:QV:41:C:H6	1.49	0.78
22:YA:2292:C:P	35:YS:17:ARG:HH22	2.06	0.78
33:YQ:60:ARG:HH11	42:YZ:113:ALA:HB3	1.47	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RN:95:PRO:O	30:RN:97:ARG:N	2.15	0.78
47:Y4:1:MET:SD	47:Y4:6:HIS:NE2	2.56	0.78
32:RP:126:VAL:HG12	32:RP:147:LEU:HD21	1.63	0.78
1:QA:976:G:N2	1:QA:1362(A):C:OP2	2.15	0.78
22:YA:1568:G:H4'	24:YD:59:LYS:HB3	1.65	0.78
22:YA:1055:G:H1	22:YA:1104:C:H42	1.32	0.78
1:QA:191:G:O2'	20:QT:101:GLY:O	2.01	0.78
1:QA:191:G:H1'	20:QT:105:SER:HB3	1.66	0.78
22:YA:630:G:OP1	51:Y8:46:ARG:NH1	2.16	0.78
22:RA:1542:G:O6	22:RA:1543:A:N6	2.17	0.78
1:QA:792:A:H4'	1:QA:793:U:O5'	1.84	0.78
24:RD:69:ARG:NH2	24:RD:128:GLY:O	2.17	0.78
31:YO:88:ASN:HD21	31:YO:92:GLU:HB2	1.47	0.78
20:QT:100:ILE:HG13	20:QT:102:GLY:H	1.48	0.78
1:QA:1292:U:OP1	7:QG:41:ARG:NH2	2.17	0.78
1:XA:1263:C:N4	1:XA:1272:G:O6	2.15	0.78
1:QA:542:G:OP1	4:QD:10:ARG:NH2	2.17	0.78
1:QA:885:G:O2'	1:QA:914:A:N1	2.16	0.78
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	1.66	0.78
22:YA:1434:A:H61	22:YA:1558:A:H62	1.29	0.78
13:XM:14:ARG:H	13:XM:44:ARG:HD3	1.49	0.77
1:QA:244:U:H5'	1:QA:244:U:H6	1.48	0.77
22:YA:1021:A:OP2	30:YN:65:LYS:NZ	2.17	0.77
1:QA:1196:U:O2	3:QC:162:GLN:NE2	2.17	0.77
3:XC:20:SER:HB2	3:XC:40:ARG:HH22	1.50	0.77
24:YD:69:ARG:NH2	24:YD:128:GLY:O	2.18	0.77
22:RA:2011:U:OP2	39:RW:16:LYS:NZ	2.15	0.77
42:RZ:94:GLU:HB2	42:RZ:130:PRO:HD2	1.65	0.77
26:RF:66:PRO:O	26:RF:68:LYS:N	2.18	0.77
1:XA:1130:A:O2'	9:XI:3:GLN:NE2	2.16	0.77
30:YN:95:PRO:O	30:YN:97:ARG:N	2.18	0.77
1:QA:1127:G:H22	1:QA:1145:C:H1'	1.47	0.77
1:XA:388:G:O2'	1:XA:389:A:OP2	2.01	0.77
22:RA:484:C:O2	22:RA:496:G:N2	2.17	0.77
43:R0:26:TYR:N	43:R0:29:GLN:OE1	2.18	0.77
32:YP:47:ASP:OD1	32:YP:50:ARG:NH2	2.17	0.77
22:RA:1454:U:OP1	34:RR:77:ARG:NH1	2.18	0.76
22:YA:180:G:N2	22:YA:215:G:O6	2.19	0.76
1:XA:1077:G:N2	1:XA:1080:A:OP2	2.17	0.76
22:RA:483:A:H4'	41:RY:49:VAL:HA	1.67	0.76
22:RA:2293:C:H5''	35:RS:89:ARG:HH12	1.51	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RI:92:VAL:HG13	29:RI:120:ILE:HG23	1.67	0.76
22:RA:2392:A:C8	32:RP:60:MET:HG2	2.16	0.76
13:XM:62:ASN:HA	47:Y4:49:PHE:CD2	2.21	0.76
1:XA:1094:G:HO2'	1:XA:1095:U:P	2.08	0.76
25:RE:9:VAL:HB	25:RE:25:VAL:HG23	1.66	0.76
22:YA:443:A:N7	26:YF:45:ARG:HD2	2.00	0.76
42:RZ:79:ARG:HB3	42:RZ:80:ARG:HD3	1.66	0.76
22:YA:2134:A:OP2	22:YA:2157:G:N2	2.19	0.76
16:XP:45:THR:HG22	16:XP:47:ASP:H	1.51	0.76
1:QA:662:G:O2'	1:QA:836:G:OP1	2.04	0.76
34:RR:3:HIS:O	34:RR:5:LYS:N	2.19	0.76
35:RS:62:LYS:HB3	35:RS:97:ARG:HD3	1.67	0.76
22:YA:2415:G:H4'	32:YP:67:MET:N	2.00	0.76
19:XS:5:LEU:HD21	47:Y4:66:SER:HB2	1.68	0.76
13:XM:61:GLU:O	47:Y4:49:PHE:CE2	2.38	0.76
34:YR:74:LYS:O	34:YR:76:VAL:N	2.18	0.76
22:RA:2818:G:OP2	34:RR:42:LYS:NZ	2.18	0.76
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.51	0.76
28:YH:153:LYS:HG2	28:YH:162:ILE:HG13	1.67	0.76
26:YF:197:ASP:O	26:YF:199:TRP:N	2.19	0.76
1:XA:523:A:H61	12:XL:92:ASP:HB2	1.51	0.75
13:XM:3:ARG:CB	47:Y4:34:GLU:HB3	2.15	0.75
22:YA:581:C:H2'	22:YA:582:G:C8	2.22	0.75
22:RA:1059:G:O6	22:RA:1079:C:N4	2.18	0.75
41:RY:95:LYS:HB3	41:RY:100:ALA:HA	1.69	0.75
1:XA:451:A:OP1	1:XA:481:G:N2	2.17	0.75
42:RZ:150:LEU:HD23	42:RZ:171:ILE:HG13	1.68	0.75
36:YT:57:PHE:O	36:YT:58:ASN:ND2	2.19	0.75
22:RA:2439:A:C8	22:RA:2439:A:H5'	2.21	0.75
41:RY:87:LYS:HD3	41:RY:92:ASN:HB3	1.69	0.75
1:QA:689:C:OP1	11:QK:27:ASN:ND2	2.19	0.75
36:YT:27:THR:HG23	36:YT:90:GLN:HB3	1.67	0.75
1:XA:1352:C:H42	1:XA:1370:G:H1	1.35	0.75
1:XA:564:C:O2'	8:XH:91:ARG:NH2	2.20	0.75
37:YU:92:ARG:O	37:YU:94:ASN:N	2.20	0.75
42:YZ:97:GLU:HB3	42:YZ:125:LEU:HD11	1.68	0.75
1:QA:1316:G:H22	1:QA:1319:A:H5''	1.52	0.75
22:RA:2572:A:H5''	22:RA:2574:G:H4'	1.68	0.75
32:RP:14:LYS:O	32:RP:16:ARG:N	2.20	0.75
42:RZ:156:LYS:HG2	42:RZ:158:PRO:HD3	1.66	0.75
1:QA:979:C:OP1	1:QA:1223:C:N4	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:R6:41:PRO:HG2	49:R6:45:LYS:H	1.52	0.75
1:XA:559:A:OP1	5:XE:126:ARG:NH2	2.19	0.75
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.69	0.75
4:QD:57:ARG:HH22	5:QE:107:ARG:HD3	1.50	0.75
38:YV:24:LYS:HA	38:YV:92:THR:HG23	1.68	0.75
50:R7:9:ARG:HH21	50:R7:48:LYS:HD2	1.52	0.74
41:RY:86:ARG:HB2	41:RY:95:LYS:HD2	1.69	0.74
30:YN:13:TRP:HB2	30:YN:133:GLN:HG3	1.69	0.74
22:RA:984:A:H5''	22:RA:985:C:H5	1.52	0.74
34:RR:56:LYS:NZ	34:RR:90:ARG:O	2.20	0.74
22:RA:2298:A:H62	22:RA:2318:G:H8	1.32	0.74
1:QA:1305:G:HO2'	1:QA:1306:A:H8	1.35	0.74
34:RR:74:LYS:O	34:RR:76:VAL:N	2.18	0.74
5:QE:7:GLU:HG2	5:QE:112:LEU:HD22	1.69	0.74
1:XA:793:U:O2	1:XA:1516:G:H4'	1.87	0.74
29:YI:64:GLU:O	29:YI:67:ARG:NH2	2.20	0.74
1:XA:581:G:N2	1:XA:760:G:N7	2.35	0.74
35:YS:78:LEU:HD21	35:YS:108:GLY:HA3	1.68	0.74
22:RA:1614:A:H62	39:RW:93:ALA:HB2	1.52	0.74
29:RI:8:PRO:HD3	29:RI:15:VAL:HG13	1.68	0.74
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.21	0.74
22:YA:1209:G:H21	22:YA:1210:A:H62	1.32	0.74
22:YA:1630(A):C:N4	22:YA:1635:G:O6	2.16	0.74
42:YZ:101:PRO:HA	42:YZ:123:ASP:HB3	1.70	0.74
1:XA:931:C:O2	1:XA:1386:G:N2	2.18	0.74
27:RG:34:LEU:HB2	27:RG:172:LEU:HD21	1.69	0.74
22:YA:1996:C:OP1	31:YO:31:LYS:NZ	2.20	0.74
2:XB:178:ARG:HG3	8:XH:72:PRO:HA	1.69	0.74
1:XA:1279:A:O2'	1:XA:1282:C:N4	2.20	0.74
1:QA:1204:A:OP1	14:QN:3:ARG:NH2	2.20	0.74
22:RA:620:G:H4'	22:RA:621:A:H5''	1.68	0.74
1:XA:356:A:H2'	1:XA:357:G:H8	1.51	0.74
1:XA:606:G:H1	1:XA:631:G:H5''	1.51	0.74
1:QA:147:G:H1	1:QA:175:C:H42	1.34	0.74
8:QH:29:SER:HB3	8:QH:32:LYS:HG3	1.69	0.74
22:YA:2444:G:OP2	26:YF:68:LYS:HE3	1.88	0.74
36:YT:51:ARG:HG2	36:YT:98:LYS:HG3	1.70	0.74
22:YA:2701:C:H3'	22:YA:2702:U:C5'	2.17	0.74
43:Y0:53:MET:HB3	43:Y0:59:LEU:HD23	1.70	0.74
27:YG:161:THR:HG22	27:YG:163:ALA:H	1.53	0.74
23:YB:28:C:OP1	35:YS:36:TYR:OH	2.06	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:144:LEU:HD12	42:YZ:174:VAL:HG23	1.70	0.74
1:QA:411:A:C5	1:QA:413:G:H1'	2.23	0.74
25:RE:62:PRO:O	25:RE:64:LYS:N	2.20	0.74
22:YA:1688:U:O2	22:YA:1700:A:H5''	1.88	0.74
1:QA:1023:G:H3'	1:QA:1024:G:H5''	1.70	0.74
22:RA:602:G:O2'	22:RA:604:G:O2'	2.05	0.74
22:RA:140:A:H8	22:RA:1408:C:HO2'	1.35	0.73
5:QE:100:VAL:O	5:QE:107:ARG:NH2	2.20	0.73
43:R0:65:GLY:HA3	43:R0:83:PRO:HA	1.70	0.73
22:RA:2115:G:N2	22:RA:2165:G:N7	2.34	0.73
22:RA:1080:C:N4	22:RA:1088:A:OP2	2.16	0.73
22:RA:259:G:O2'	22:RA:621:A:O2'	2.04	0.73
53:XV:23:C:H2'	53:XV:24:U:H6	1.51	0.73
47:Y4:9:LEU:H	47:Y4:27:THR:HG23	1.53	0.73
1:XA:1286:A:H5''	21:XU:26:LYS:HD2	1.70	0.73
23:YB:15:A:H5'	23:YB:16:G:C8	2.22	0.73
22:YA:776:G:H4'	22:YA:777:A:H5''	1.70	0.73
40:YX:27:THR:HB	40:YX:80:ILE:HB	1.69	0.73
22:YA:1190:G:OP1	32:YP:30:THR:OG1	2.05	0.73
22:RA:2509:G:H1	22:RA:2579:C:H42	1.35	0.73
32:YP:14:LYS:O	32:YP:16:ARG:N	2.22	0.73
1:XA:396:G:O2'	1:XA:398:C:OP1	2.07	0.73
22:RA:2112:G:O6	22:RA:2169:A:N6	2.20	0.73
29:RI:29:TYR:O	29:RI:33:ARG:HB2	1.88	0.73
22:YA:1359:A:N6	22:YA:1372:U:H3	1.86	0.73
22:RA:2245:U:H5'	22:RA:2246:G:H5'	1.71	0.73
23:RB:28:C:N4	23:RB:56:G:O6	2.17	0.73
4:XD:7:PRO:HB2	4:XD:10:ARG:HD2	1.69	0.73
1:QA:1244:C:N4	1:QA:1293:G:H1	1.83	0.73
33:YQ:104:PHE:HE1	33:YQ:125:LEU:HD11	1.53	0.73
28:YH:86:GLU:HG3	28:YH:165:ALA:H	1.53	0.73
22:RA:2074:U:H2'	22:RA:2075:U:C6	2.24	0.73
33:YQ:111:GLU:OE1	33:YQ:133:ARG:NH2	2.22	0.73
22:YA:1754:C:OP1	36:YT:96:ARG:NH1	2.21	0.73
33:YQ:24:GLY:O	33:YQ:26:TYR:N	2.19	0.73
22:RA:1086:A:O2'	22:RA:1087:G:N7	2.22	0.73
22:YA:273(C):C:H42	22:YA:363(C):G:H1	1.34	0.73
1:XA:674:G:H2'	1:XA:675:A:H8	1.54	0.72
22:RA:530:G:O2'	22:RA:532:A:N7	2.22	0.72
4:QD:175:SER:HB3	4:QD:186:LEU:HD21	1.69	0.72
22:YA:1509:C:N3	22:YA:1511:A:N6	2.37	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:QV:40:C:H2'	53:QV:41:C:C6	2.24	0.72
7:QG:9:VAL:HG13	7:QG:94:ARG:HH21	1.54	0.72
22:RA:273:G:H1	22:RA:364:C:H42	1.38	0.72
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.70	0.72
1:QA:1055:A:O2'	3:QC:161:GLU:OE2	2.07	0.72
22:RA:155:C:H42	22:RA:171:G:H1	1.37	0.72
22:RA:774:A:O2'	22:RA:775:G:O5'	2.08	0.72
22:RA:1449:A:O2'	22:RA:1530:G:N2	2.22	0.72
22:RA:2328:A:H2'	22:RA:2329:G:C8	2.25	0.72
22:RA:1754:C:OP1	36:RT:96:ARG:NH1	2.18	0.72
43:R0:72:ARG:HB2	43:R0:75:LEU:HB2	1.70	0.72
22:RA:239:U:H3	22:RA:258:G:H1	1.37	0.72
3:QC:20:SER:HB2	3:QC:40:ARG:HH22	1.54	0.72
29:YI:68:LEU:HA	29:YI:71:ILE:HG22	1.71	0.72
47:Y4:48:ARG:HH12	47:Y4:52:THR:HG22	1.54	0.72
23:RB:65:C:H41	23:RB:108:C:H2'	1.53	0.72
22:RA:2540:C:O2'	22:RA:2740:A:N3	2.23	0.72
1:QA:957:U:H4'	19:QS:79:THR:HB	1.72	0.72
22:RA:1474:C:H42	22:RA:1519:G:H1	1.38	0.72
22:YA:530:G:O2'	22:YA:532:A:N7	2.23	0.72
22:YA:2287:A:N6	22:YA:2344:U:H3	1.87	0.72
24:YD:35:LYS:HD2	24:YD:104:TYR:CE1	2.25	0.72
45:Y2:42:GLY:O	45:Y2:44:LEU:N	2.20	0.72
27:YG:6:ALA:H	47:Y4:23:GLU:HG2	1.54	0.72
29:RI:88:ILE:HG12	29:RI:122:GLU:H	1.54	0.72
23:YB:60:C:H2'	23:YB:61:G:H8	1.55	0.72
22:RA:1856:G:H1	22:RA:1886:C:H42	1.37	0.72
28:YH:129:THR:OG1	28:YH:129:THR:O	2.08	0.72
27:YG:64:THR:HG23	27:YG:66:GLN:H	1.55	0.72
41:YY:51:VAL:HG13	41:YY:52:SER:H	1.54	0.72
31:YO:47:ILE:HG13	31:YO:48:PRO:HD2	1.72	0.72
17:QQ:4:LYS:HE3	17:QQ:6:LEU:HD21	1.72	0.72
42:YZ:53:ILE:HG22	42:YZ:71:VAL:HG13	1.72	0.72
42:YZ:151:HIS:HA	42:YZ:171:ILE:HG13	1.72	0.71
22:YA:1403:C:H5''	22:YA:1471:A:H1'	1.73	0.71
22:YA:242:G:H5''	51:Y8:62:LEU:HD13	1.72	0.71
1:QA:1286:A:H5''	21:QU:26:LYS:HD2	1.72	0.71
1:XA:1455:G:H5''	20:XT:31:SER:HB2	1.72	0.71
22:YA:286:C:H2'	22:YA:287:C:C6	2.24	0.71
22:RA:27:G:N2	22:RA:513:A:OP2	2.23	0.71
6:XF:50:TYR:OH	18:XR:74:ARG:O	2.06	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RZ:76:LEU:HA	42:RZ:83:PRO:HA	1.71	0.71
1:QA:1502:A:H2	1:QA:1505:G:H1	1.35	0.71
5:XE:10:MET:HB3	5:XE:32:VAL:HG22	1.70	0.71
22:RA:2364:C:OP1	43:R0:55:ARG:NH1	2.23	0.71
22:RA:1063:G:N2	22:RA:1076:C:O2'	2.23	0.71
9:XI:114:TYR:HE1	10:XJ:60:ARG:H	1.38	0.71
22:RA:2319:G:N1	22:RA:2334:G:OP2	2.22	0.71
2:QB:115:LEU:HB2	2:QB:145:LEU:HD12	1.73	0.71
22:RA:997:G:OP1	37:RU:93:LYS:HD3	1.88	0.71
29:RI:2:LYS:HA	29:RI:20:ASP:HA	1.70	0.71
22:YA:1062:G:H2'	22:YA:1063:G:C8	2.25	0.71
49:R6:17:LYS:HB3	49:R6:44:ARG:HH22	1.55	0.71
22:RA:259:G:H21	22:RA:621:A:H8	1.35	0.71
46:R3:8:LEU:HD13	46:R3:31:LEU:HD23	1.71	0.71
30:YN:89:LYS:O	30:YN:93:THR:HG22	1.90	0.71
1:QA:404:U:H2'	1:QA:405:U:H6	1.53	0.71
25:YE:170:LEU:HD21	25:YE:187:ALA:HB3	1.72	0.71
22:YA:443:A:H3'	26:YF:45:ARG:HH12	1.56	0.71
32:RP:38:GLN:HG2	32:RP:45:LEU:HD12	1.72	0.71
41:YY:29:GLU:HB3	41:YY:38:ILE:HG23	1.70	0.71
27:RG:61:ALA:HB2	27:RG:68:PRO:HD3	1.72	0.71
42:YZ:45:ASP:OD1	42:YZ:49:ARG:NE	2.22	0.71
4:QD:28:SER:HB3	4:QD:29:PRO:HD3	1.72	0.71
13:XM:62:ASN:OD1	47:Y4:49:PHE:HD2	1.74	0.71
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.72	0.71
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.72	0.71
42:RZ:63:ASP:HB3	42:RZ:65:GLN:HG3	1.73	0.71
22:RA:27:G:H22	22:RA:512:G:H1'	1.56	0.71
10:QJ:61:GLU:OE2	14:QN:45:ARG:NH1	2.23	0.71
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.26	0.71
41:YY:42:VAL:HG12	41:YY:65:ALA:HB3	1.71	0.71
22:YA:24:G:O2'	39:YW:78:GLU:O	2.09	0.71
22:YA:1434:A:H61	22:YA:1558:A:N6	1.88	0.71
22:RA:597:U:O2	22:RA:660:G:N1	2.19	0.71
22:YA:2681:C:O2'	22:YA:2682:U:OP2	2.09	0.71
35:YS:106:ARG:HA	35:YS:110:LEU:HD21	1.73	0.71
33:RQ:81:VAL:O	33:RQ:82:ARG:NE	2.22	0.71
22:YA:2245:U:H5'	22:YA:2246:G:H5'	1.71	0.71
20:XT:45:GLN:HB2	20:XT:91:LEU:HD13	1.73	0.71
36:YT:77:PRO:HB2	36:YT:80:SER:HB2	1.72	0.71
22:RA:2287:A:N6	22:RA:2344:U:H3	1.89	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1338:G:N7	40:YX:62:LYS:NZ	2.39	0.71
31:YO:2:ILE:HD12	31:YO:6:THR:HG21	1.72	0.71
35:YS:24:LEU:HB2	35:YS:85:VAL:HG12	1.71	0.71
22:RA:2377:A:H2'	22:RA:2378:A:C8	2.25	0.70
51:Y8:58:ILE:HD13	51:Y8:61:LEU:HD21	1.73	0.70
1:QA:1321:C:H3'	1:QA:1322:C:H5''	1.73	0.70
22:YA:1586:A:H3'	22:YA:1587:A:H8	1.56	0.70
42:YZ:152:ALA:HB2	42:YZ:168:GLU:HA	1.72	0.70
22:YA:1264:G:H3'	22:YA:1265:A:H5''	1.72	0.70
22:RA:1693:U:O2'	24:RD:14:ARG:NH2	2.23	0.70
45:R2:29:LYS:HE3	45:R2:57:ILE:HG21	1.73	0.70
22:YA:2610:C:H4'	22:YA:2611:U:OP2	1.91	0.70
22:YA:1649:G:O2'	34:YR:107:ASP:OD1	2.08	0.70
22:RA:1860:G:H1	22:RA:1882:C:H42	1.40	0.70
19:QS:41:VAL:HB	19:QS:42:PRO:HA	1.73	0.70
36:RT:18:ASP:N	36:RT:18:ASP:OD1	2.19	0.70
10:XJ:50:ILE:HA	10:XJ:60:ARG:HG2	1.72	0.70
19:QS:40:ILE:HD11	19:QS:62:ILE:HD12	1.74	0.70
27:YG:47:LYS:HD3	27:YG:81:LYS:HB2	1.73	0.70
39:RW:29:LEU:HD22	39:RW:69:LEU:HD11	1.72	0.70
22:RA:503:A:H4'	22:RA:504:U:H5'	1.73	0.70
13:XM:57:ARG:NH2	47:Y4:34:GLU:O	2.24	0.70
1:XA:1239:A:H62	1:XA:1299:A:H62	1.40	0.70
1:XA:501:C:OP1	12:XL:117:ARG:NH2	2.24	0.70
13:XM:65:LYS:HE2	47:Y4:50:VAL:HG11	1.72	0.70
10:XJ:61:GLU:OE2	14:XN:45:ARG:NH1	2.25	0.70
22:YA:2712:U:H1'	22:YA:2712(A):A:C8	2.27	0.70
1:XA:962:C:H2'	1:XA:963:G:H8	1.55	0.70
39:YW:17:VAL:HG12	39:YW:76:VAL:HG11	1.72	0.70
22:RA:2355:C:H1'	43:R0:39:ARG:HH21	1.56	0.70
1:QA:1002:G:H2'	1:QA:1003:G:C8	2.26	0.70
22:RA:1496:A:H8	22:RA:1577:C:HO2'	1.39	0.70
13:QM:59:TYR:O	13:QM:63:THR:OG1	2.07	0.70
18:XR:58:LEU:HD23	18:XR:62:GLU:HB3	1.74	0.70
1:XA:1315:U:H2'	1:XA:1316:G:O4'	1.92	0.70
28:RH:106:THR:HG22	28:RH:112:PRO:HB3	1.72	0.70
22:YA:1184:G:OP1	46:Y3:29:ARG:NH1	2.24	0.70
24:YD:43:ARG:HB3	24:YD:54:ARG:HB2	1.74	0.70
22:RA:2287:A:H62	22:RA:2344:U:H3	1.39	0.70
1:XA:113:G:H1	1:XA:314:C:H42	1.37	0.70
22:RA:141:A:H8	22:RA:1595:G:H21	1.38	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:923:C:H2'	22:RA:924:C:H6	1.56	0.70
13:XM:8:GLU:OE2	27:YG:115:ARG:NH1	2.24	0.70
22:YA:1446:C:H42	22:YA:1465:G:H1	1.38	0.70
1:QA:337:C:H2'	1:QA:338:A:C8	2.25	0.70
22:RA:2444:G:OP2	26:RF:68:LYS:HE3	1.91	0.70
1:QA:1226:C:H4'	19:QS:80:TYR:CZ	2.25	0.70
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.55	0.70
14:XN:48:ALA:HB2	14:XN:53:LEU:HD12	1.73	0.70
22:RA:694:U:N3	22:RA:768:G:O6	2.17	0.70
22:YA:2470:G:H5'	33:YQ:56:ARG:NH2	2.05	0.70
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.74	0.70
24:RD:93:ALA:HB3	24:RD:105:ILE:HG22	1.74	0.70
26:YF:185:ASP:HA	26:YF:188:ARG:HD3	1.72	0.70
22:RA:1899:G:H21	22:RA:1902:C:N4	1.90	0.70
22:YA:1794:U:H2'	22:YA:1795:C:H6	1.56	0.70
25:RE:119:ARG:HB3	25:RE:120:TRP:CD1	2.27	0.70
1:XA:339:C:OP2	31:YO:97:ARG:NH1	2.25	0.70
22:RA:2418:A:OP2	51:R8:29:LYS:HE2	1.92	0.70
22:RA:1769:G:O2'	22:RA:1958:C:OP1	2.10	0.69
29:YI:77:LEU:HD22	29:YI:101:LEU:HG	1.74	0.69
43:R0:23:VAL:HG13	43:R0:38:VAL:HG22	1.74	0.69
22:RA:1310:G:H1	22:RA:1604:C:H42	1.39	0.69
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.74	0.69
1:QA:1051:C:O2	1:QA:1207:G:N2	2.19	0.69
13:XM:7:VAL:CG2	27:YG:113:ARG:O	2.40	0.69
47:R4:18:CYS:SG	47:R4:19:GLY:N	2.66	0.69
1:XA:976:G:N2	1:XA:1362(A):C:OP2	2.25	0.69
29:YI:9:LEU:HD21	29:YI:12:LEU:HB2	1.74	0.69
1:XA:474:G:H2'	1:XA:475:G:H8	1.57	0.69
26:YF:182:ASN:ND2	26:YF:185:ASP:OD2	2.19	0.69
22:YA:2308:G:H22	22:YA:2311:A:H2	1.41	0.69
10:QJ:48:THR:HA	10:QJ:62:HIS:HB3	1.73	0.69
1:XA:971:G:N2	1:XA:1363:A:OP2	2.24	0.69
19:XS:10:PHE:HB2	19:XS:39:THR:H	1.54	0.69
22:RA:2392:A:OP2	22:RA:2422:A:N6	2.26	0.69
22:RA:1543:A:H1'	22:RA:1545:A:O4'	1.91	0.69
42:RZ:74:VAL:HG13	42:RZ:86:VAL:HG22	1.75	0.69
42:RZ:69:THR:HG22	42:RZ:90:VAL:HA	1.73	0.69
1:XA:1132:C:H2'	1:XA:1133:G:H8	1.56	0.69
24:YD:182:LEU:H	24:YD:272:ALA:HB3	1.56	0.69
29:YI:93:THR:HG22	29:YI:119:PRO:HB3	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XF:68:PRO:HG2	6:XF:71:ARG:HG3	1.75	0.69
1:QA:1322:C:O2'	1:QA:1323:G:H5'	1.93	0.69
20:XT:100:ILE:HG13	20:XT:102:GLY:H	1.56	0.69
26:YF:110:LEU:HD11	26:YF:181:LEU:HD13	1.74	0.69
24:YD:71:ASP:HB2	24:YD:103:ARG:HH22	1.58	0.69
47:R4:7:PRO:HB2	47:R4:27:THR:HG21	1.74	0.69
26:YF:184:TYR:O	26:YF:188:ARG:HG3	1.93	0.69
29:YI:128:LEU:HD23	29:YI:140:LEU:HD21	1.75	0.69
1:XA:136:C:H42	1:XA:227:G:H1	1.39	0.69
1:XA:601:C:H2'	1:XA:602:A:C8	2.27	0.69
22:YA:2331:G:H4'	43:Y0:43:THR:H	1.58	0.69
1:XA:243:A:H4'	1:XA:244:U:O5'	1.93	0.69
49:Y6:11:LEU:HD11	49:Y6:51:GLU:HG3	1.75	0.69
48:R5:41:PRO:O	48:R5:44:THR:OG1	2.11	0.69
22:RA:265:A:N6	22:RA:427:U:O2'	2.25	0.69
23:RB:5:C:OP1	23:RB:61:G:O2'	2.10	0.69
43:R0:56:ASP:OD2	43:R0:58:THR:N	2.20	0.69
22:RA:392:C:H5''	22:RA:409:C:H5''	1.75	0.69
25:YE:128:SER:OG	25:YE:129:HIS:N	2.24	0.69
22:YA:443:A:H3'	26:YF:45:ARG:NH1	2.08	0.69
39:RW:29:LEU:HG	39:RW:33:ARG:HD2	1.74	0.69
42:RZ:60:GLU:HA	42:RZ:66:SER:HA	1.75	0.69
26:YF:157:VAL:HB	26:YF:194:MET:HB3	1.75	0.69
22:RA:2093:G:N2	22:RA:2196:C:O2	2.24	0.69
33:RQ:37:LEU:HD21	33:RQ:130:LYS:HE3	1.74	0.69
22:RA:2445:G:OP1	26:RF:74:ARG:NH2	2.26	0.68
1:XA:601:C:H2'	1:XA:602:A:H8	1.57	0.68
24:RD:25:THR:O	24:RD:27:THR:N	2.26	0.68
28:RH:86:GLU:HG3	28:RH:165:ALA:H	1.56	0.68
22:YA:2781:A:H5''	22:YA:2782:G:H5'	1.75	0.68
22:YA:521:G:H2'	22:YA:522:G:H8	1.58	0.68
25:RE:2:LYS:HD3	25:RE:95:ILE:HG22	1.75	0.68
32:YP:64:LYS:C	32:YP:66:GLY:H	1.96	0.68
1:XA:978:A:OP2	1:XA:1362(A):C:N4	2.25	0.68
22:RA:2889:C:H3'	22:RA:2891:G:H8	1.58	0.68
44:Y1:73:LEU:HD13	44:Y1:90:ILE:HG22	1.76	0.68
22:RA:1403:C:H5''	22:RA:1471:A:H1'	1.75	0.68
53:XV:4:G:O2'	53:XV:5:G:H8	1.76	0.68
22:RA:1266:G:O5'	39:RW:15:ARG:NH2	2.26	0.68
1:XA:977:A:H8	1:XA:1223:C:N3	1.91	0.68
3:QC:3:ASN:N	3:QC:3:ASN:OD1	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:501:C:H2'	1:XA:502:G:H8	1.56	0.68
27:RG:66:GLN:NE2	27:RG:93:THR:O	2.26	0.68
22:RA:1048:A:H2	22:RA:1112:G:H21	1.40	0.68
1:QA:1065:U:O2'	1:QA:1066:C:OP2	2.11	0.68
22:YA:1689:A:H62	22:YA:1698:A:H2	1.41	0.68
36:YT:123:GLN:O	36:YT:125:ARG:N	2.26	0.68
1:XA:547:A:OP1	4:XD:73:ARG:NH2	2.25	0.68
27:RG:47:LYS:HD3	27:RG:81:LYS:HB2	1.76	0.68
22:YA:458:G:O2'	22:YA:469:G:O6	2.11	0.68
13:QM:8:GLU:OE2	27:RG:115:ARG:HD3	1.93	0.68
1:XA:1129:C:O2'	1:XA:1131:G:N7	2.27	0.68
22:YA:2698:U:H2'	22:YA:2699:C:C6	2.29	0.68
24:YD:25:THR:O	24:YD:27:THR:N	2.26	0.68
2:XB:235:SER:OG	2:XB:236:TYR:N	2.25	0.68
1:QA:108:G:H5''	1:QA:109:A:H5''	1.74	0.68
5:QE:11:ILE:HG13	5:QE:31:LEU:HB3	1.76	0.68
14:YN:13:THR:N	14:YN:14:PRO:HD2	2.09	0.68
34:RR:38:VAL:HG22	34:RR:112:ALA:HB2	1.75	0.68
16:QP:4:ILE:HG12	16:QP:21:VAL:HG12	1.75	0.68
1:XA:24:U:H2'	1:XA:25:C:H6	1.59	0.68
25:YE:95:ILE:HD12	25:YE:95:ILE:H	1.59	0.68
22:RA:819:A:OP2	22:RA:1187:G:N2	2.27	0.68
32:YP:64:LYS:C	32:YP:66:GLY:N	2.48	0.68
33:YQ:37:LEU:HD21	33:YQ:130:LYS:HE3	1.74	0.68
24:YD:142:VAL:HG23	24:YD:193:VAL:HA	1.75	0.68
22:RA:2602:A:N6	53:QV:76:A:H2'	2.09	0.68
33:RQ:12:GLN:HG2	33:RQ:73:PRO:HD2	1.75	0.68
22:YA:2753:A:O2'	52:Y9:15:LYS:NZ	2.27	0.68
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	1.75	0.68
30:YN:133:GLN:HB2	30:YN:135:PRO:HD3	1.76	0.68
22:RA:2120:G:H2'	22:RA:2121:G:C8	2.29	0.68
22:RA:754:C:H2'	22:RA:755:C:H6	1.59	0.68
22:RA:2331:G:O2'	43:R0:43:THR:HG22	1.93	0.68
32:YP:39:LYS:HG3	32:YP:45:LEU:HD22	1.75	0.68
1:QA:552:U:O2'	12:QL:86:ARG:O	2.11	0.68
22:RA:2438:U:O3'	22:RA:2439:A:H3'	1.94	0.67
22:RA:923:C:H2'	22:RA:924:C:C6	2.28	0.67
27:RG:83:ARG:H	27:RG:86:MET:HG3	1.59	0.67
22:RA:185:U:H2'	22:RA:186:G:C8	2.30	0.67
1:QA:346:G:OP1	36:RT:41:ARG:NH2	2.27	0.67
2:QB:27:LYS:HD2	2:QB:193:ASP:HB2	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1649:G:O2'	34:RR:107:ASP:OD1	2.07	0.67
22:YA:2582:G:N2	22:YA:2583:G:H1'	2.10	0.67
22:YA:607:U:H3	22:YA:621:A:H2	1.43	0.67
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.28	0.67
28:RH:152:ARG:HG3	28:RH:153:LYS:HD2	1.77	0.67
22:RA:1696:G:H21	22:RA:1978:A:H5'	1.58	0.67
1:QA:376:G:H1	1:QA:387:U:H3	1.41	0.67
1:QA:297:G:N2	1:QA:300:A:OP2	2.28	0.67
51:Y8:29:LYS:O	51:Y8:31:HIS:N	2.27	0.67
1:QA:1053:G:H5'	1:QA:1054:C:H5'	1.75	0.67
42:YZ:72:ARG:NH2	42:YZ:97:GLU:O	2.26	0.67
19:XS:40:ILE:HG12	19:XS:41:VAL:HG13	1.76	0.67
22:YA:1048:A:P	22:YA:1110:G:H22	2.17	0.67
22:RA:300:A:H2'	22:RA:334:C:H1'	1.75	0.67
19:QS:29:ARG:HD3	19:QS:30:LEU:HD13	1.77	0.67
4:QD:154:ASN:OD1	4:QD:154:ASN:N	2.26	0.67
22:YA:1270:C:H5''	22:YA:1271:G:H5'	1.77	0.67
22:YA:2757:A:OP1	52:Y9:19:ARG:HA	1.94	0.67
8:XH:120:THR:H	8:XH:123:GLU:HB2	1.59	0.67
24:RD:182:LEU:H	24:RD:272:ALA:HB3	1.59	0.67
5:XE:31:LEU:HD23	5:XE:45:PHE:CD1	2.30	0.67
33:YQ:89:ASN:O	33:YQ:92:GLY:N	2.18	0.67
28:YH:137:ASP:OD1	28:YH:138:LYS:N	2.27	0.67
1:QA:983:A:N1	1:QA:1222:G:N2	2.43	0.67
28:RH:41:MET:HE1	28:RH:64:LEU:HD22	1.76	0.67
23:RB:28:C:N3	23:RB:56:G:N1	2.29	0.67
1:XA:353:A:H8	1:XA:353:A:H5'	1.60	0.67
22:YA:2393:A:H5'	32:YP:62:LEU:HB3	1.77	0.67
22:RA:270(I):G:H2'	22:RA:270(J):G:H8	1.60	0.67
38:RV:72:VAL:HG13	38:RV:85:LYS:HB3	1.75	0.67
25:YE:1:MET:N	25:YE:83:ASP:O	2.28	0.67
42:YZ:182:LYS:HG3	42:YZ:183:LEU:HA	1.76	0.67
1:XA:973:G:OP1	10:XJ:57:LYS:NZ	2.27	0.67
22:YA:1665:A:H1'	31:YO:1:MET:HG3	1.76	0.67
1:XA:322:C:O2	1:XA:332:G:N2	2.28	0.67
2:XB:168:THR:HB	2:XB:192:SER:HB2	1.77	0.67
36:YT:16:ARG:NH2	36:YT:83:ILE:O	2.27	0.67
24:RD:49:ILE:HD11	24:RD:52:ARG:HA	1.77	0.67
2:XB:174:VAL:HG13	2:XB:184:VAL:HG11	1.76	0.67
34:YR:78:LYS:HE2	34:YR:83:ILE:HD11	1.77	0.67
36:RT:84:GLN:HG2	36:RT:85:LYS:HG2	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:138:G:N2	40:RX:44:GLU:OE2	2.24	0.67
38:YV:52:VAL:HG21	38:YV:55:ALA:HB3	1.76	0.67
22:YA:712:G:H1	22:YA:719:C:H42	1.43	0.67
22:YA:27:G:N2	22:YA:512:G:O2'	2.28	0.67
22:YA:27:G:O2'	22:YA:28:A:H8	1.76	0.67
5:XE:37:ARG:HA	5:XE:114:GLY:H	1.59	0.67
22:RA:969:U:H2'	22:RA:970:C:C6	2.29	0.67
22:RA:1139:G:O2'	22:RA:1143:A:N1	2.22	0.67
22:RA:1859:A:N6	22:RA:1883:G:O2'	2.28	0.67
48:Y5:4:HIS:HB3	48:Y5:5:PRO:HD3	1.77	0.67
33:RQ:30:GLY:HA2	33:RQ:107:ALA:HB2	1.77	0.67
22:RA:252:G:OP2	32:RP:50:ARG:NH1	2.28	0.67
22:YA:2294:C:OP2	35:YS:13:ARG:NH1	2.28	0.67
1:XA:266:G:H5''	1:XA:267:C:C5	2.29	0.67
42:RZ:62:PRO:O	42:RZ:64:GLY:N	2.27	0.67
26:RF:143:ALA:HB1	26:RF:148:LEU:HB2	1.75	0.67
24:YD:35:LYS:HG2	24:YD:64:ILE:H	1.59	0.66
1:QA:1104:G:H4'	2:QB:111:ARG:NH1	2.09	0.66
22:YA:2263:C:H2'	22:YA:2264:C:H6	1.59	0.66
1:QA:757:U:O2'	1:QA:879:C:O2	2.12	0.66
22:RA:2404:C:H1'	32:RP:67:MET:HE1	1.77	0.66
22:YA:1061:U:H3'	22:YA:1062:G:H5''	1.77	0.66
22:RA:1041:C:H42	22:RA:1114:G:H1	1.43	0.66
22:RA:2655:G:N2	22:RA:2665:A:OP2	2.28	0.66
33:YQ:62:GLY:HA2	42:YZ:116:VAL:HG21	1.78	0.66
1:QA:946:A:O2'	1:QA:1333:A:N3	2.24	0.66
1:QA:405:U:O4	4:QD:2:GLY:N	2.28	0.66
22:YA:589:C:H2'	22:YA:590:A:C8	2.30	0.66
22:RA:1019:U:H3	22:RA:1142(A):A:N6	1.90	0.66
22:YA:1798:U:C5'	24:YD:259:THR:HG22	2.25	0.66
28:YH:86:GLU:HG3	28:YH:165:ALA:N	2.10	0.66
1:XA:1008:C:H42	1:XA:1021:G:H1	1.41	0.66
10:XJ:7:LYS:HB2	10:XJ:97:GLU:HB2	1.76	0.66
39:YW:45:TYR:CZ	39:YW:49:LYS:HD2	2.30	0.66
22:YA:31:C:O3'	22:YA:1238:G:H5''	1.94	0.66
44:R1:7:ILE:HG12	44:R1:91:LYS:NZ	2.11	0.66
52:R9:27:CYS:SG	52:R9:29:ASN:ND2	2.69	0.66
41:YY:49:VAL:O	41:YY:51:VAL:N	2.29	0.66
42:YZ:33:LEU:HD21	42:YZ:35:ARG:HD2	1.75	0.66
1:QA:411:A:H62	1:QA:413:G:H21	1.41	0.66
22:RA:848:G:H2'	22:RA:849:A:C8	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.60	0.66
13:XM:105:THR:O	13:XM:107:ALA:N	2.29	0.66
1:XA:250:A:H4'	1:XA:251:G:O5'	1.95	0.66
41:YY:97:ARG:HE	41:YY:98:VAL:HB	1.61	0.66
1:XA:321:A:N6	1:XA:329:A:OP2	2.29	0.66
22:RA:1309:G:H4'	50:R7:7:PRO:HB2	1.78	0.66
1:XA:651:C:H2'	1:XA:652:U:H6	1.60	0.66
1:XA:940:C:H2'	1:XA:941:G:C8	2.31	0.66
19:QS:39:THR:HG22	19:QS:40:ILE:H	1.61	0.66
22:RA:2781:A:H5''	22:RA:2782:G:H5'	1.76	0.66
22:YA:1167:U:H2'	22:YA:1168:G:H8	1.60	0.66
27:RG:6:ALA:H	47:R4:23:GLU:HG2	1.60	0.66
22:YA:1407:C:H42	22:YA:1595:G:H1	1.44	0.66
23:RB:8:U:H5'	35:RS:15:ARG:HH12	1.61	0.66
22:YA:758:C:O2'	22:YA:1981:A:N3	2.23	0.66
30:YN:35:ARG:O	30:YN:37:LYS:N	2.29	0.66
41:RY:49:VAL:O	41:RY:51:VAL:N	2.29	0.66
25:RE:63:LEU:HD13	25:RE:65:GLY:H	1.60	0.66
23:YB:15:A:H5'	23:YB:16:G:H8	1.61	0.66
32:YP:105:LEU:O	32:YP:106:LEU:HB2	1.95	0.66
1:XA:880:C:OP1	12:XL:12:ARG:NH1	2.28	0.66
22:RA:2065:C:H1'	22:RA:2449:U:H3	1.61	0.66
1:QA:1128:C:OP1	9:QI:66:ARG:NH2	2.27	0.66
1:QA:975:A:H4'	1:QA:976:G:H5''	1.79	0.66
36:RT:102:ILE:HB	36:RT:110:ILE:HD13	1.78	0.66
22:RA:414:C:O2	22:RA:1864:U:O2'	2.13	0.66
22:YA:2612:C:H2'	22:YA:2613:U:H5'	1.77	0.66
1:XA:1060:C:C4	3:XC:2:GLY:HA2	2.31	0.66
1:XA:403:C:OP1	4:XD:137:SER:OG	2.13	0.66
33:RQ:135:ASP:OD1	33:RQ:135:ASP:N	2.23	0.66
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.77	0.66
22:YA:1061:U:H4'	22:YA:1070:A:H1'	1.76	0.65
38:YV:21:ARG:HD2	38:YV:91:TYR:CD1	2.31	0.65
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.31	0.65
22:RA:1409:C:H42	22:RA:1593:G:H1	1.44	0.65
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.31	0.65
1:QA:35:G:O2'	12:QL:118:SER:O	2.14	0.65
22:RA:1444(A):A:H4'	22:RA:1460:A:O2'	1.95	0.65
22:RA:1657:C:H2'	22:RA:1658:C:C6	2.30	0.65
1:QA:1286:A:H8	1:QA:1287:A:H4'	1.61	0.65
24:RD:27:THR:HG21	24:RD:81:ALA:HB1	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YT:16:ARG:HD3	36:YT:19:LEU:HD11	1.77	0.65
1:QA:501:C:H2'	1:QA:502:G:H8	1.60	0.65
22:RA:1854:A:H62	22:RA:1888:G:H8	1.42	0.65
24:RD:108:PRO:HG2	24:RD:111:LEU:HG	1.78	0.65
44:Y1:29:GLY:O	44:Y1:31:GLY:N	2.30	0.65
1:XA:1366:C:H2'	1:XA:1367:C:H6	1.61	0.65
29:RI:77:LEU:HD21	29:RI:97:ILE:HG22	1.78	0.65
2:QB:82:ARG:HA	2:QB:92:TYR:CE2	2.31	0.65
32:RP:59:LEU:HA	32:RP:61:ARG:NE	2.12	0.65
48:Y5:40:LYS:HZ1	48:Y5:48:GLU:HB2	1.61	0.65
1:QA:1318:A:H4'	19:QS:11:VAL:HG11	1.77	0.65
22:RA:1939:U:OP1	22:RA:2604:U:O2'	2.14	0.65
42:YZ:30:ASN:HD22	42:YZ:90:VAL:HB	1.61	0.65
1:XA:1280:A:O2'	1:XA:1281:U:OP1	2.14	0.65
1:XA:392:G:H2'	1:XA:393:A:C8	2.31	0.65
37:YU:8:VAL:HG23	37:YU:11:ARG:HH21	1.62	0.65
49:R6:11:LEU:HD23	49:R6:26:ASN:HB3	1.78	0.65
22:YA:1952:A:C2	31:YO:22:ILE:HG23	2.31	0.65
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.60	0.65
47:R4:1:MET:SD	47:R4:6:HIS:NE2	2.69	0.65
29:RI:109:ILE:HB	29:RI:130:TYR:OH	1.96	0.65
22:RA:1681:G:O2'	22:RA:1762:A:O2'	2.13	0.65
22:YA:2227:A:H5''	24:YD:263:ARG:NH1	2.11	0.65
19:QS:28:LYS:HB2	19:QS:47:HIS:CE1	2.32	0.65
1:XA:412:A:H4'	1:XA:413:G:O5'	1.95	0.65
11:XK:21:ILE:HB	11:XK:84:VAL:HG12	1.77	0.65
45:Y2:50:ILE:HD12	45:Y2:51:ARG:H	1.62	0.65
41:RY:38:ILE:HG22	41:RY:66:PRO:HA	1.79	0.65
2:XB:178:ARG:NH1	2:XB:196:LEU:O	2.28	0.65
22:RA:1833:U:O2'	22:RA:1969:A:N1	2.26	0.65
22:YA:2023:G:H5'	22:YA:2617:C:H4'	1.78	0.65
16:QP:53:VAL:HG12	16:QP:79:VAL:HG22	1.77	0.65
28:YH:20:ALA:HB3	28:YH:23:ARG:HG2	1.77	0.65
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.32	0.65
22:RA:1278:A:H2'	22:RA:1279:G:C8	2.31	0.65
29:RI:73:GLU:HG3	29:RI:136:VAL:HG23	1.78	0.65
22:RA:1204:A:H2	22:RA:1241:A:N1	1.93	0.65
22:RA:404:C:O2'	22:RA:405:U:OP2	2.15	0.65
1:XA:1125:U:OP2	1:XA:1145:C:N4	2.29	0.65
22:YA:1049:C:H2'	22:YA:1050:A:H5''	1.79	0.65
20:XT:97:ALA:O	20:XT:99:LEU:N	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:589:C:H2'	22:YA:590:A:H8	1.62	0.65
29:YI:113:ARG:HB3	29:YI:131:LYS:HD3	1.78	0.65
3:QC:9:GLY:HA2	3:QC:12:LEU:HD23	1.78	0.65
32:RP:71:VAL:HG13	32:RP:72:PRO:HD3	1.78	0.65
22:YA:2133:G:H1'	22:YA:2158:A:H61	1.62	0.65
19:XS:5:LEU:CD1	47:Y4:66:SER:HA	2.27	0.65
32:RP:47:ASP:OD1	32:RP:50:ARG:NH2	2.30	0.65
22:YA:2818:G:HO2'	22:YA:2836:U:HO2'	1.44	0.65
22:YA:2787:C:HO2'	22:YA:2810:A:HO2'	1.42	0.65
48:R5:58:LEU:HD13	48:R5:60:VAL:HG12	1.77	0.65
24:YD:80:ALA:HB3	24:YD:94:LEU:HD13	1.79	0.65
1:QA:1395:C:O2'	1:QA:1401:G:O2'	2.15	0.65
23:RB:33:G:H5'	27:RG:2:PRO:HG3	1.78	0.65
32:RP:85:LEU:HA	32:RP:88:LEU:HD22	1.79	0.65
24:YD:44:ASN:HB3	24:YD:49:ILE:HA	1.78	0.64
13:QM:3:ARG:HD2	13:QM:9:ILE:HG12	1.79	0.64
23:YB:56:G:H5'	27:YG:27:ASN:HD21	1.62	0.64
43:R0:36:ILE:HD11	43:R0:39:ARG:HG2	1.79	0.64
28:YH:153:LYS:HG3	28:YH:161:GLY:HA2	1.79	0.64
22:YA:1930:G:H2'	22:YA:1968:G:C6	2.32	0.64
22:YA:1485:G:O6	22:YA:1504:C:N4	2.20	0.64
22:RA:592:G:H1	22:RA:665:C:H42	1.45	0.64
13:XM:77:ASN:OD1	47:Y4:71:ARG:NH1	2.30	0.64
22:YA:1535:U:H5''	22:YA:1537:C:C4	2.31	0.64
26:YF:107:LYS:HD2	26:YF:207:GLY:H	1.62	0.64
48:Y5:56:LYS:HD2	48:Y5:56:LYS:H	1.60	0.64
1:XA:1023:G:H3'	1:XA:1024:G:H5''	1.78	0.64
22:RA:630:G:N2	22:RA:633:A:OP2	2.30	0.64
22:YA:995:C:H5''	37:YU:54:LYS:HG2	1.79	0.64
22:RA:2355:C:H4'	43:R0:24:LYS:HG3	1.79	0.64
22:YA:1048:A:OP2	22:YA:1110:G:N2	2.30	0.64
1:XA:1221:G:O3'	19:XS:77:THR:HG21	1.98	0.64
3:XC:122:GLU:OE1	3:XC:126:ARG:NH2	2.29	0.64
31:RO:4:PRO:O	31:RO:5:GLN:HB2	1.96	0.64
22:RA:587:C:OP2	32:RP:21:ARG:NH2	2.29	0.64
37:YU:88:ILE:HG22	37:YU:90:VAL:HG23	1.79	0.64
22:YA:2115:G:N2	22:YA:2164:C:OP2	2.30	0.64
1:QA:1123:A:H4'	10:QJ:36:GLY:HA3	1.79	0.64
29:YI:92:VAL:HG13	29:YI:120:ILE:HG23	1.79	0.64
42:RZ:17:ALA:HA	42:RZ:20:ARG:HB2	1.78	0.64
22:YA:2068:U:H3	22:YA:2430:A:H2	1.43	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2494:G:H2'	22:YA:2495:G:H8	1.62	0.64
28:YH:153:LYS:HB3	28:YH:162:ILE:H	1.63	0.64
10:QJ:77:PRO:O	10:QJ:79:ARG:NH1	2.30	0.64
22:RA:1370:C:O2'	22:RA:1811:G:O2'	2.14	0.64
24:RD:35:LYS:HG2	24:RD:64:ILE:N	2.12	0.64
22:YA:2145:C:O2	22:YA:2147:G:N2	2.29	0.64
22:YA:2343:C:O2'	22:YA:2373:G:O2'	2.16	0.64
22:YA:128:C:H4'	50:Y7:49:ARG:HH12	1.62	0.64
22:RA:1020:A:N6	22:RA:1141:U:O2'	2.29	0.64
24:YD:30:GLU:HG3	24:YD:63:ARG:NH2	2.12	0.64
1:QA:405:U:OP1	1:QA:406:G:O2'	2.12	0.64
33:YQ:78:PRO:O	33:YQ:79:LEU:HB2	1.97	0.64
22:YA:2693:A:H2'	22:YA:2694:G:H8	1.62	0.64
22:RA:1138:G:H21	30:RN:106:MET:HE3	1.61	0.64
22:YA:1499:C:H2'	22:YA:1500:G:C8	2.33	0.64
22:RA:345:A:H2'	22:RA:347:A:H62	1.60	0.64
1:XA:910:C:P	12:XL:97:ARG:HH22	2.21	0.64
15:XO:26:GLU:OE2	15:XO:77:ARG:NH1	2.31	0.64
1:QA:1179:A:O3'	9:QI:103:THR:HG23	1.97	0.64
22:YA:1020:A:N6	22:YA:1141:U:O2'	2.29	0.64
1:XA:1129:C:H4'	1:XA:1130:A:H5'	1.80	0.64
19:XS:5:LEU:HD11	47:Y4:66:SER:C	2.18	0.64
53:XV:23:C:H2'	53:XV:24:U:C6	2.32	0.64
24:RD:8:PRO:HB3	24:RD:14:ARG:HB2	1.79	0.64
1:XA:1004:A:H1'	1:XA:1036:G:H1	1.62	0.64
24:RD:65:ILE:HD11	24:RD:67:PHE:CE1	2.31	0.64
10:QJ:53:PRO:HA	14:QN:42:ILE:HD12	1.79	0.64
25:YE:9:VAL:HB	25:YE:25:VAL:HG23	1.80	0.64
22:YA:593:G:O4'	51:Y8:4:MET:HE1	1.97	0.64
42:YZ:17:ALA:HA	42:YZ:20:ARG:HB2	1.79	0.64
1:XA:129(A):G:H1'	1:XA:190:G:H5''	1.80	0.64
22:RA:1043:C:H42	22:RA:1112:G:H1	1.43	0.64
42:YZ:182:LYS:H	42:YZ:183:LEU:HB2	1.62	0.64
29:RI:98:ALA:HB2	29:RI:111:PRO:HB3	1.79	0.64
1:XA:191:G:O2'	20:XT:101:GLY:O	2.16	0.64
22:RA:1728:G:H3'	22:RA:1729:A:H5''	1.78	0.64
26:RF:192:LEU:HD22	26:RF:194:MET:HG2	1.80	0.64
1:QA:738:C:OP2	6:QF:92:LYS:NZ	2.29	0.64
1:QA:370:C:H2'	1:QA:371:G:C8	2.33	0.64
1:QA:1238:A:H62	1:QA:1299:A:N6	1.96	0.64
22:YA:1069:A:H4'	22:YA:1070:A:H5''	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RU:90:VAL:O	37:RU:92:ARG:N	2.30	0.64
34:RR:104:ARG:HD3	34:RR:109:ALA:HB3	1.79	0.64
22:RA:2306:C:H3'	22:RA:2307:G:H5''	1.80	0.64
5:QE:11:ILE:HD11	5:QE:31:LEU:HD12	1.80	0.64
24:RD:35:LYS:HG2	24:RD:64:ILE:H	1.63	0.64
34:YR:51:LEU:HD13	34:YR:66:VAL:HG13	1.79	0.64
1:QA:750:G:N2	15:QO:23:GLY:O	2.30	0.64
1:QA:1122:U:O4	1:QA:1123:A:N6	2.30	0.64
8:XH:7:ALA:HB2	8:XH:85:ARG:HD3	1.80	0.64
22:YA:1129:A:N6	22:YA:2491:U:OP1	2.31	0.64
33:RQ:17:LEU:HD21	33:RQ:41:TRP:CD1	2.33	0.64
22:RA:2734:A:H2'	22:RA:2735:G:O4'	1.97	0.64
22:YA:602:G:O2'	22:YA:604:G:O2'	2.15	0.64
22:YA:2599:G:OP2	24:YD:236:GLY:HA2	1.98	0.64
2:QB:5:ILE:HG21	2:QB:221:LEU:HD23	1.78	0.64
3:XC:19:GLU:O	3:XC:40:ARG:NH2	2.30	0.64
22:RA:984:A:H5''	22:RA:985:C:C5	2.33	0.64
1:XA:501:C:H2'	1:XA:502:G:C8	2.31	0.64
22:RA:300:A:H1'	22:RA:319:C:H1'	1.80	0.64
1:XA:881:G:P	12:XL:12:ARG:HH22	2.20	0.64
29:RI:77:LEU:HB2	29:RI:104:GLN:HE22	1.62	0.64
36:YT:36:GLU:HG3	36:YT:41:ARG:HE	1.62	0.64
2:XB:187:LEU:HA	2:XB:201:ILE:HB	1.78	0.64
1:XA:1029:G:O2'	1:XA:1032(A):G:N2	2.31	0.64
22:YA:309:G:N3	22:YA:329:G:O2'	2.31	0.64
22:RA:137(A):G:H1'	40:RX:41:ASN:ND2	2.13	0.64
47:R4:48:ARG:O	47:R4:50:VAL:N	2.31	0.64
1:XA:561:U:O2'	1:XA:562:C:OP2	2.16	0.64
1:QA:1443:G:N2	36:RT:119:LYS:HB2	2.13	0.64
22:YA:577:G:O2'	22:YA:1254:A:OP1	2.15	0.64
27:YG:112:PRO:HB3	47:Y4:37:SER:HB2	1.80	0.63
22:RA:270(R):G:H2'	22:RA:270(S):G:C8	2.33	0.63
24:YD:35:LYS:NZ	24:YD:64:ILE:O	2.31	0.63
1:XA:686:U:O4	1:XA:703:G:H1'	1.97	0.63
28:RH:88:LEU:HD11	28:RH:165:ALA:HB2	1.80	0.63
40:RX:43:VAL:HG13	40:RX:51:VAL:HG21	1.79	0.63
3:XC:11:ARG:O	3:XC:13:GLY:N	2.30	0.63
44:R1:29:GLY:O	44:R1:31:GLY:N	2.29	0.63
22:RA:1022:G:O2'	22:RA:1023:U:OP2	2.16	0.63
32:YP:58:THR:HG22	32:YP:61:ARG:HG3	1.80	0.63
42:YZ:102:LEU:HD21	42:YZ:124:ILE:HG13	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:Y2:41:ILE:HD11	45:Y2:44:LEU:HG	1.80	0.63
19:XS:42:PRO:HB3	47:Y4:60:GLN:OE1	1.98	0.63
10:QJ:4:ILE:HB	10:QJ:74:ILE:HG13	1.81	0.63
35:YS:59:LYS:HD3	35:YS:60:GLY:H	1.62	0.63
22:YA:2025:C:H2'	22:YA:2026:C:H6	1.62	0.63
22:RA:1378:A:HO2'	22:RA:1379:A:P	2.19	0.63
1:XA:1305:G:H5'	21:XU:4:GLY:HA3	1.80	0.63
29:RI:94:ALA:H	29:RI:116:LEU:HD13	1.63	0.63
12:QL:7:ILE:HG21	17:QQ:34:LYS:HB2	1.80	0.63
51:Y8:16:ILE:HD13	51:Y8:57:ARG:HG2	1.80	0.63
22:RA:873:G:H1	22:RA:904:C:H42	1.44	0.63
1:XA:777:A:H2'	1:XA:778:G:C8	2.34	0.63
22:YA:1674:G:N2	22:YA:1677:A:N1	2.46	0.63
1:QA:438:G:N2	1:QA:495:A:OP2	2.27	0.63
1:QA:718:G:OP2	1:QA:720:C:N4	2.31	0.63
1:XA:258:G:H2'	1:XA:259:G:H8	1.63	0.63
2:QB:24:TRP:HD1	2:QB:24:TRP:H	1.46	0.63
22:YA:1437:C:HO2'	22:YA:1518:C:HO2'	1.44	0.63
1:QA:1141:C:H2'	1:QA:1142:G:H8	1.63	0.63
4:QD:7:PRO:HB2	4:QD:10:ARG:HD2	1.81	0.63
22:RA:1474:C:N4	22:RA:1519:G:H1	1.95	0.63
45:R2:65:ASN:HB3	45:R2:69:ARG:HH22	1.61	0.63
35:RS:26:LEU:HB3	35:RS:87:PHE:HA	1.81	0.63
1:QA:165:C:H2'	1:QA:166:G:H8	1.63	0.63
34:RR:33:ARG:HG3	34:RR:115:GLU:HB3	1.79	0.63
47:Y4:48:ARG:O	47:Y4:50:VAL:N	2.31	0.63
47:Y4:23:GLU:O	47:Y4:25:TYR:N	2.31	0.63
19:QS:40:ILE:HG23	19:QS:41:VAL:HG22	1.79	0.63
22:YA:2632:A:O2'	22:YA:2811:G:O2'	2.09	0.63
1:XA:67:C:H2'	1:XA:68:G:H8	1.63	0.63
41:YY:91:GLU:HG3	41:YY:92:ASN:H	1.63	0.63
37:RU:66:ASN:O	37:RU:70:ARG:HB2	1.98	0.63
22:YA:404:C:O2'	22:YA:405:U:OP2	2.13	0.63
39:YW:41:LYS:HE3	48:Y5:25:LEU:HD21	1.80	0.63
5:XE:98:THR:HB	5:XE:117:ASP:HB3	1.79	0.63
22:RA:1999:C:O2	22:RA:2687:U:O2'	2.16	0.63
42:RZ:52:SER:O	42:RZ:52:SER:OG	2.15	0.63
22:RA:1467:C:H42	22:RA:1525:G:H1	1.46	0.63
1:QA:1053:G:H2'	1:QA:1199:U:H5	1.64	0.63
37:YU:83:LEU:HD12	37:YU:113:ALA:HB2	1.79	0.63
50:Y7:9:ARG:HH21	50:Y7:48:LYS:HD2	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:27:G:O2'	22:RA:28:A:H8	1.79	0.63
24:YD:35:LYS:HG2	24:YD:64:ILE:N	2.13	0.63
24:YD:25:THR:HG23	24:YD:27:THR:HB	1.80	0.63
28:YH:83:TYR:CZ	28:YH:138:LYS:HD2	2.34	0.63
1:XA:406:G:H5'	4:XD:5:ILE:HD13	1.81	0.63
22:YA:2151:G:H2'	22:YA:2152:G:C8	2.33	0.63
2:XB:79:ASP:HA	2:XB:82:ARG:HB2	1.81	0.63
1:XA:1321:C:H3'	1:XA:1322:C:H5''	1.79	0.63
23:YB:116:G:H4'	35:YS:54:LEU:HD13	1.81	0.63
32:YP:13:ASN:O	32:YP:15:ARG:N	2.32	0.63
1:XA:429:U:H1'	1:XA:430:A:H5''	1.80	0.63
22:RA:1245:G:OP1	32:RP:13:ASN:ND2	2.32	0.63
22:YA:774:A:H2	22:YA:787:U:HO2'	1.45	0.63
13:XM:91:ARG:HB2	13:XM:98:VAL:HG13	1.80	0.63
22:YA:1899:G:N2	22:YA:1902:C:H41	1.97	0.63
5:XE:147:ASP:O	5:XE:151:LEU:HG	1.97	0.63
22:RA:676:A:H2	22:RA:802:A:H61	1.45	0.63
32:RP:95:VAL:HG13	32:RP:100:LEU:HD21	1.80	0.63
1:XA:1152:A:H2'	1:XA:1153:C:H6	1.63	0.63
22:YA:2502:G:H5''	22:YA:2503:A:H5''	1.79	0.63
22:RA:1839:G:C8	22:RA:1927:A:H1'	2.34	0.63
13:XM:23:TYR:HB3	13:XM:67:GLU:HA	1.81	0.63
31:YO:13:ASN:ND2	31:YO:96:THR:O	2.30	0.63
22:RA:815:C:H2'	22:RA:816:C:H6	1.63	0.63
53:QV:16:C:O2'	53:QV:61:C:OP1	2.17	0.63
22:RA:1980:G:O2'	22:RA:1982:C:OP2	2.15	0.63
49:Y6:41:PRO:HG2	49:Y6:45:LYS:H	1.63	0.63
22:RA:861:A:H62	22:RA:916:G:H21	1.46	0.63
22:YA:620:G:H4'	22:YA:621:A:C5'	2.28	0.63
41:RY:51:VAL:HG13	41:RY:52:SER:H	1.64	0.63
28:YH:152:ARG:HG3	28:YH:153:LYS:HD2	1.81	0.63
22:RA:141:A:N6	22:RA:1595:G:O2'	2.32	0.63
30:RN:133:GLN:HB2	30:RN:135:PRO:HD3	1.79	0.63
1:QA:620:C:C2	4:QD:135:LEU:HG	2.34	0.63
22:YA:1882:C:H5'	22:YA:1883:G:OP2	1.99	0.63
1:QA:196:A:OP1	20:QT:68:LYS:NZ	2.30	0.63
1:QA:1068:G:N3	1:QA:1191:A:H2	1.95	0.63
1:XA:826:C:H2'	1:XA:827:U:O2	1.99	0.63
22:YA:571:A:H5'	22:YA:2030:A:N6	2.07	0.62
22:YA:2469:A:H2	22:YA:2481:G:H21	1.47	0.62
1:QA:1133:G:H2'	1:QA:1134:G:H8	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:45:ASP:CG	42:YZ:49:ARG:HE	2.02	0.62
30:RN:13:TRP:HB2	30:RN:133:GLN:HG3	1.81	0.62
13:XM:68:GLY:HA3	27:YG:116:ASP:OD2	1.98	0.62
1:XA:346:G:H1'	1:XA:347:G:H5'	1.81	0.62
22:RA:993:G:OP1	37:RU:50:ARG:NH2	2.32	0.62
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.80	0.62
28:YH:26:VAL:HG11	28:YH:75:ALA:HB1	1.81	0.62
9:XI:24:GLY:N	9:XI:60:ASP:OD1	2.29	0.62
22:RA:2870:C:H5''	34:RR:65:LEU:HD21	1.81	0.62
42:YZ:9:TYR:CE2	42:YZ:35:ARG:HD3	2.25	0.62
1:XA:1126:U:H1'	1:XA:1280:A:C5	2.34	0.62
22:RA:2327:A:H2'	22:RA:2328:A:C8	2.33	0.62
22:RA:185:U:H2'	22:RA:186:G:H8	1.62	0.62
35:RS:15:ARG:HH11	35:RS:25:ARG:HH21	1.44	0.62
1:QA:619:U:N3	4:QD:134:ASP:OD2	2.32	0.62
22:YA:2822:G:H2'	22:YA:2823:A:H5''	1.80	0.62
22:YA:1441:G:H2'	22:YA:1442:G:H8	1.64	0.62
10:XJ:32:ALA:HB3	10:XJ:76:ASN:HB2	1.79	0.62
25:RE:119:ARG:HG2	25:RE:160:TYR:HB2	1.80	0.62
2:XB:212:GLN:NE2	2:XB:235:SER:HB2	2.15	0.62
26:RF:12:LEU:HD12	26:RF:17:ARG:HG2	1.80	0.62
22:RA:2610:C:H4'	22:RA:2611:U:OP2	1.98	0.62
22:YA:229:A:OP1	22:YA:229:A:H4'	2.00	0.62
7:QG:155:ARG:HD3	7:QG:155:ARG:H	1.65	0.62
43:R0:56:ASP:OD2	43:R0:57:PHE:N	2.32	0.62
27:YG:115:ARG:NH2	27:YG:137:GLU:OE1	2.33	0.62
44:R1:7:ILE:HG12	44:R1:91:LYS:HZ1	1.61	0.62
2:XB:92:TYR:CE1	2:XB:151:GLY:HA3	2.35	0.62
22:RA:670:A:H4'	22:RA:671:C:H5''	1.80	0.62
22:RA:2680:C:H5'	25:RE:189:PRO:HA	1.80	0.62
1:XA:1502:A:H2	1:XA:1505:G:H22	1.45	0.62
22:RA:2537:U:H2'	22:RA:2538:C:C6	2.35	0.62
22:YA:1423:G:H2'	22:YA:1424:G:H8	1.65	0.62
22:RA:805:G:N2	22:RA:829:A:OP1	2.33	0.62
2:XB:12:GLU:O	2:XB:16:HIS:ND1	2.21	0.62
27:YG:3:LEU:HD12	27:YG:4:ASP:H	1.64	0.62
1:XA:735:C:H2'	1:XA:736:C:H6	1.64	0.62
22:RA:2760:C:H2'	22:RA:2761:G:H5''	1.81	0.62
1:QA:1142:G:H3'	1:QA:1143:G:H8	1.65	0.62
22:RA:1058:G:N2	22:RA:1080:C:O2	2.32	0.62
22:YA:273(C):C:N3	22:YA:363(C):G:N2	2.44	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2817:G:H21	22:YA:2836:U:H1'	1.65	0.62
22:RA:2015:A:H1'	48:R5:2:ALA:HA	1.82	0.62
36:YT:1:MET:O	36:YT:3:ARG:N	2.29	0.62
1:QA:10:A:H2'	1:QA:11:G:H8	1.63	0.62
1:QA:1448:C:H2'	1:QA:1449:C:H6	1.63	0.62
26:YF:46:ARG:HG2	26:YF:46:ARG:HH11	1.65	0.62
19:XS:13:ASP:N	19:XS:13:ASP:OD1	2.32	0.62
40:RX:53:LYS:HB2	40:RX:82:GLN:HB3	1.80	0.62
10:XJ:5:ARG:HH21	10:XJ:99:LYS:HD2	1.63	0.62
22:YA:2820:A:O5'	34:YR:4:LEU:HD23	1.99	0.62
1:QA:1237:C:O2'	1:QA:1300:G:N2	2.23	0.62
2:XB:54:THR:HG21	2:XB:201:ILE:HD11	1.82	0.62
22:RA:2831:G:H1'	22:RA:2883:A:H2'	1.80	0.62
36:RT:54:ARG:HA	36:RT:59:THR:HG23	1.82	0.62
7:XG:111:ARG:NH1	7:XG:113:GLU:OE2	2.32	0.62
11:QK:98:LEU:O	11:QK:101:SER:OG	2.13	0.62
22:YA:2065:C:O2	22:YA:2449:U:N3	2.28	0.62
22:RA:1181:C:H2'	22:RA:1182:A:C8	2.34	0.62
22:YA:72:U:N3	45:Y2:62:THR:HG22	2.14	0.62
22:YA:153:C:OP1	44:Y1:88:LYS:HE2	2.00	0.62
13:QM:3:ARG:HG2	47:R4:34:GLU:HG2	1.81	0.62
22:RA:140:A:H8	22:RA:1408:C:O2'	1.82	0.62
12:QL:57:LYS:HG2	12:QL:67:THR:HG22	1.81	0.62
22:RA:2753:A:O2'	52:R9:15:LYS:NZ	2.31	0.62
22:RA:852:G:H2'	22:RA:853:G:C8	2.35	0.62
22:RA:2354:G:O2'	43:R0:36:ILE:HG22	2.00	0.62
22:YA:1237:A:H4'	22:YA:1238:G:H5'	1.80	0.62
1:XA:894:G:H2'	1:XA:895:G:C8	2.35	0.62
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.18	0.62
47:Y4:37:SER:HB3	47:Y4:42:PHE:CD1	2.35	0.62
22:RA:1899:G:H21	22:RA:1902:C:H41	1.45	0.62
8:QH:6:ILE:HB	8:QH:85:ARG:NH1	2.15	0.62
22:YA:1470:G:N2	22:YA:1522:G:OP2	2.32	0.62
22:RA:2704:C:H2'	22:RA:2705:A:O4'	2.00	0.62
22:YA:2154:G:H2'	22:YA:2155:G:H8	1.65	0.62
22:YA:2439:A:H8	22:YA:2439:A:H5'	1.64	0.62
4:XD:111:ALA:HB2	4:XD:120:LEU:HD12	1.82	0.62
22:YA:1113:U:H2'	22:YA:1114:G:C8	2.33	0.62
22:RA:717:G:H2'	22:RA:718:A:O4'	2.00	0.62
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.33	0.62
22:YA:2840:C:H2'	22:YA:2841:C:C6	2.35	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:729:G:H2'	22:YA:1775:U:H1'	1.80	0.62
22:YA:443:A:C5	26:YF:45:ARG:HD2	2.33	0.62
1:QA:690:G:H2'	1:QA:691:G:O4'	2.00	0.62
22:YA:1359:A:H2'	22:YA:1360:A:H5'	1.82	0.62
24:RD:35:LYS:HD2	24:RD:104:TYR:CD1	2.35	0.62
22:YA:1382:G:H2'	22:YA:1383:C:H6	1.65	0.62
22:YA:298:G:O2'	22:YA:340:A:N6	2.33	0.62
42:RZ:27:VAL:HG23	42:RZ:36:LYS:HA	1.81	0.62
22:YA:2461:C:H2'	22:YA:2462:U:C6	2.35	0.62
22:YA:2159:G:H2'	22:YA:2160:G:H8	1.63	0.62
1:QA:444:C:H2'	1:QA:445:G:H8	1.65	0.62
9:XI:29:ASN:OD1	9:XI:65:VAL:N	2.29	0.62
1:QA:658:G:OP1	15:QO:8:LYS:NZ	2.32	0.62
1:XA:449:C:H5	16:XP:42:ARG:HH11	1.46	0.62
51:Y8:23:VAL:HG11	51:Y8:46:ARG:HD3	1.81	0.61
22:YA:252:G:OP2	32:YP:50:ARG:NH1	2.32	0.61
19:XS:5:LEU:HG	47:Y4:66:SER:CB	2.30	0.61
29:RI:8:PRO:HG3	29:RI:14:ASP:HB2	1.82	0.61
22:YA:1789:A:H2'	22:YA:1790:C:O4'	2.00	0.61
22:YA:2306:C:H3'	22:YA:2307:G:H5''	1.81	0.61
22:YA:2882:A:OP1	34:YR:96:ARG:NH1	2.33	0.61
25:RE:51:PHE:CD1	25:RE:52:LEU:HG	2.34	0.61
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.64	0.61
5:XE:42:GLY:HA3	5:XE:66:MET:HG2	1.82	0.61
22:RA:817:C:H2'	22:RA:818:G:O4'	2.00	0.61
1:XA:1525:G:OP1	11:XK:120:ARG:NH2	2.33	0.61
1:QA:561:U:O2'	1:QA:562:C:OP2	2.15	0.61
22:RA:1449:A:HO2'	22:RA:1530:G:H21	1.43	0.61
1:QA:304:U:H2'	1:QA:305:G:C8	2.35	0.61
22:RA:1047:G:H2'	22:RA:1110:G:N1	2.15	0.61
22:YA:1454:U:H5'	34:YR:63:ARG:HE	1.66	0.61
11:QK:121:PRO:HD2	11:QK:126:ARG:HD3	1.80	0.61
1:QA:508:C:O2	1:QA:509:A:N6	2.28	0.61
26:RF:28:ILE:HG22	26:RF:112:MET:HB3	1.80	0.61
22:RA:270:A:OP1	44:R1:98:LEU:HB3	1.98	0.61
22:RA:270(N):G:OP1	29:RI:57:ARG:NH2	2.31	0.61
22:YA:413:C:H2'	22:YA:414:C:H6	1.66	0.61
25:RE:67:PHE:O	25:RE:69:LYS:N	2.32	0.61
1:QA:853:G:H2'	1:QA:854:G:H8	1.64	0.61
10:QJ:40:LEU:HB2	10:QJ:69:ASN:HB3	1.82	0.61
37:YU:92:ARG:HD2	38:YV:11:GLN:HB2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2198:A:C2	29:RI:29:TYR:HB2	2.34	0.61
35:YS:83:LYS:C	35:YS:109:GLY:HA3	2.21	0.61
22:RA:1869:G:N2	22:RA:1872:A:OP2	2.33	0.61
22:YA:918:A:N3	23:YB:80:U:O2'	2.33	0.61
1:XA:991:U:O2'	1:XA:992:U:O5'	2.17	0.61
14:QN:13:THR:N	14:QN:14:PRO:HD2	2.15	0.61
26:YF:197:ASP:OD2	26:YF:197:ASP:N	2.33	0.61
20:XT:100:ILE:HG13	20:XT:102:GLY:N	2.15	0.61
22:YA:2632:A:HO2'	22:YA:2811:G:HO2'	1.36	0.61
22:RA:1069:A:H2'	22:RA:1073:A:N7	2.15	0.61
22:RA:1359:A:N6	22:RA:1372:U:H3	1.99	0.61
22:RA:2820:A:C6	34:RR:4:LEU:HD11	2.35	0.61
1:XA:973:G:H3'	1:XA:974:A:H5''	1.82	0.61
22:YA:1055:G:O2'	22:YA:1085:A:N1	2.27	0.61
1:QA:791:G:H2'	1:QA:792:A:H5'	1.82	0.61
22:YA:330:A:HO2'	22:YA:331:A:H8	1.49	0.61
22:RA:620:G:H4'	22:RA:621:A:C5'	2.30	0.61
23:YB:15:A:H1'	23:YB:109:G:C4	2.36	0.61
22:YA:27:G:HO2'	22:YA:28:A:H8	1.46	0.61
53:XV:15:G:N2	53:XV:21:A:N3	2.49	0.61
22:YA:2302:G:N2	22:YA:2314:C:O2	2.30	0.61
1:XA:1336:C:H1'	1:XA:1337:G:C2	2.36	0.61
1:XA:737:A:H2'	1:XA:738:C:C6	2.35	0.61
52:R9:25:VAL:HB	52:R9:34:GLN:HB2	1.82	0.61
1:QA:45:U:H2'	1:QA:46:G:C8	2.36	0.61
22:RA:1856:G:H1	22:RA:1886:C:N4	1.97	0.61
44:R1:53:VAL:HG22	44:R1:74:VAL:HG13	1.83	0.61
1:XA:894:G:H2'	1:XA:895:G:H8	1.66	0.61
22:YA:2123:G:H2'	22:YA:2124:G:H8	1.66	0.61
53:XV:74:C:O2'	53:XV:75:C:H5'	2.00	0.61
11:QK:22:HIS:HB3	11:QK:29:ILE:HG23	1.83	0.61
3:QC:14:ILE:O	3:QC:16:ARG:N	2.33	0.61
19:XS:5:LEU:CD2	47:Y4:66:SER:HB2	2.30	0.61
22:RA:1026:U:H4'	22:RA:1027:A:OP1	2.01	0.61
22:YA:2832:U:H4'	22:YA:2833:G:H5''	1.83	0.61
1:QA:250:A:O2'	1:QA:251:G:OP2	2.18	0.61
1:XA:1292:U:OP2	7:XG:41:ARG:NH2	2.34	0.61
15:QO:82:ILE:O	15:QO:86:GLY:N	2.32	0.61
22:YA:1364:G:C8	44:Y1:2:SER:N	2.68	0.61
32:RP:84:ASN:HB3	32:RP:86:LYS:HG2	1.83	0.61
4:QD:30:LYS:C	4:QD:32:ALA:H	2.03	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1437:C:H2'	1:QA:1438:G:C8	2.36	0.61
22:YA:2756:U:OP2	52:Y9:19:ARG:NH2	2.33	0.61
29:RI:133:HIS:HB2	29:RI:134:PRO:CD	2.31	0.61
22:RA:2751:G:N7	28:RH:2:SER:HB3	2.16	0.61
33:RQ:65:PHE:O	33:RQ:67:ARG:N	2.34	0.61
14:QN:6:LEU:HD23	14:QN:23:ARG:HH22	1.64	0.61
1:QA:664:G:H22	1:QA:741:G:H1	1.49	0.61
8:XH:4:ASP:OD1	8:XH:85:ARG:NH1	2.34	0.61
22:RA:1210:A:H5''	22:RA:1210:A:C8	2.35	0.61
1:QA:328:C:O2	1:QA:328:C:H2'	2.01	0.61
1:QA:573:A:N3	1:QA:883:C:O2'	2.33	0.61
37:YU:52:ARG:HA	37:YU:55:ARG:HG3	1.83	0.61
2:XB:67:THR:HG21	2:XB:155:LEU:HG	1.81	0.61
39:RW:25:ARG:NH2	39:RW:74:ALA:O	2.33	0.61
21:QU:6:ARG:HE	21:QU:15:ARG:NH2	1.99	0.61
22:RA:669:G:H2'	22:RA:669:G:N3	2.14	0.61
15:XO:87:ILE:HG22	15:XO:88:ARG:H	1.65	0.61
35:RS:88:ASP:O	35:RS:89:ARG:HB3	2.01	0.61
22:RA:1060:U:H3	22:RA:1088:A:H1'	1.66	0.61
1:QA:864:A:H5'	5:QE:86:ALA:HB2	1.83	0.61
1:XA:266:G:H5''	1:XA:267:C:H5	1.65	0.61
1:XA:67:C:H2'	1:XA:68:G:C8	2.35	0.61
1:QA:1152:A:OP1	10:QJ:68:HIS:NE2	2.33	0.61
1:QA:1251:A:H2'	1:QA:1252:A:C8	2.35	0.61
44:Y1:83:GLU:O	44:Y1:85:LEU:N	2.34	0.61
29:RI:65:ALA:O	29:RI:68:LEU:N	2.33	0.61
48:Y5:16:ARG:HH11	48:Y5:16:ARG:HG2	1.66	0.60
37:RU:90:VAL:HG11	38:RV:40:LEU:HD12	1.82	0.60
1:QA:147:G:H2'	1:QA:148:G:H8	1.66	0.60
23:RB:3:C:H2'	23:RB:4:C:C6	2.35	0.60
36:RT:77:PRO:HB2	36:RT:80:SER:HB2	1.83	0.60
1:QA:980:C:H5''	1:QA:981:U:C5	2.36	0.60
24:YD:72:LYS:NZ	24:YD:99:ASP:OD1	2.33	0.60
1:QA:192:U:H2'	1:QA:193:C:H6	1.66	0.60
22:YA:444:C:H4'	26:YF:49:ALA:HB2	1.82	0.60
23:YB:15:A:H4'	23:YB:15:A:OP1	2.00	0.60
1:QA:17:U:H2'	1:QA:18:C:C6	2.36	0.60
1:XA:538:G:H5''	12:XL:114:LYS:HB2	1.81	0.60
1:XA:24:U:H2'	1:XA:25:C:C6	2.36	0.60
33:YQ:35:VAL:HG13	33:YQ:130:LYS:HB3	1.83	0.60
22:YA:1930:G:H2'	22:YA:1968:G:O6	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:11:ARG:O	3:QC:13:GLY:N	2.34	0.60
3:QC:8:ILE:HG23	3:QC:16:ARG:HG2	1.83	0.60
29:YI:79:ILE:HB	29:YI:142:VAL:HA	1.83	0.60
1:XA:145:G:H1	1:XA:177:C:H42	1.48	0.60
22:YA:1878:G:H2'	22:YA:1879:C:C6	2.35	0.60
22:YA:2030:A:H5''	22:YA:2031:A:OP1	2.00	0.60
23:RB:82:G:H2'	23:RB:83:G:H8	1.66	0.60
22:YA:1803:A:O2'	24:YD:259:THR:HG21	2.01	0.60
22:RA:155:C:N4	22:RA:161:U:O4	2.34	0.60
47:Y4:56:VAL:HA	47:Y4:60:GLN:HB2	1.84	0.60
28:YH:113:VAL:HG11	28:YH:151:ILE:HD12	1.83	0.60
1:QA:1280:A:O2'	1:QA:1281:U:OP1	2.17	0.60
1:XA:677:U:H3	1:XA:713:G:H22	1.47	0.60
22:YA:691:C:H2'	22:YA:692:C:H6	1.66	0.60
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.82	0.60
53:XV:49:G:O6	53:XV:65:C:N4	2.33	0.60
24:YD:108:PRO:HB3	24:YD:143:HIS:CE1	2.35	0.60
14:QN:24:CYS:HB3	14:QN:29:ARG:H	1.66	0.60
13:XM:8:GLU:OE2	27:YG:115:ARG:HD3	2.01	0.60
1:XA:332:G:H2'	1:XA:333:G:H8	1.65	0.60
29:YI:79:ILE:O	29:YI:143:SER:N	2.34	0.60
32:YP:95:VAL:HG13	32:YP:100:LEU:HD21	1.83	0.60
22:RA:2745:C:H42	22:RA:2759:G:H1	1.47	0.60
1:QA:229:U:H2'	1:QA:230:G:H8	1.66	0.60
17:XQ:11:VAL:HG12	17:XQ:85:VAL:HG13	1.83	0.60
22:YA:2257:U:H2'	22:YA:2258:C:C6	2.36	0.60
1:QA:1422:G:H5''	31:RO:48:PRO:HB3	1.83	0.60
22:YA:2451:A:C6	56:Z8:76:PPU:HE2	2.36	0.60
1:XA:1070:U:OP1	5:XE:18:ARG:NH1	2.34	0.60
28:RH:8:PRO:HG2	28:RH:69:ARG:HE	1.66	0.60
22:YA:573:G:O2'	22:YA:574:C:H3'	2.01	0.60
41:RY:87:LYS:O	41:RY:88:LYS:NZ	2.33	0.60
24:YD:35:LYS:HD2	24:YD:104:TYR:CD1	2.35	0.60
31:YO:96:THR:O	31:YO:97:ARG:HB3	2.01	0.60
34:RR:70:LEU:O	34:RR:72:ASP:N	2.31	0.60
22:RA:1689:A:H62	22:RA:1698:A:H2	1.49	0.60
1:QA:709:G:H2'	1:QA:710:G:H8	1.66	0.60
36:YT:84:GLN:OE1	36:YT:85:LYS:NZ	2.34	0.60
22:YA:2119:A:H61	22:YA:2168:G:H22	1.50	0.60
34:RR:33:ARG:NH2	48:R5:55:ARG:HG2	2.15	0.60
24:RD:44:ASN:HB3	24:RD:49:ILE:HA	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:27:G:N2	22:RA:512:G:H1'	2.16	0.60
22:YA:363:G:H2'	22:YA:363(A):A:H8	1.66	0.60
47:R4:23:GLU:O	47:R4:25:TYR:N	2.34	0.60
15:QO:39:LEU:HD13	15:QO:56:LEU:HB2	1.82	0.60
22:YA:2477:C:H2'	52:Y9:1:MET:HG3	1.82	0.60
1:XA:690:G:H22	11:XK:55:LYS:HZ1	1.48	0.60
7:QG:26:PHE:O	7:QG:30:ILE:HG12	2.01	0.60
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.36	0.60
22:YA:325:G:H2'	22:YA:326:G:H8	1.66	0.60
29:YI:10:GLU:OE2	29:YI:11:ASN:N	2.35	0.60
1:XA:1453:G:H2'	20:XT:39:LYS:HE2	1.83	0.60
28:YH:4:ILE:HB	28:YH:6:ARG:HG2	1.82	0.60
48:R5:16:ARG:HH11	48:R5:16:ARG:HG2	1.65	0.60
42:RZ:94:GLU:HB2	42:RZ:130:PRO:CD	2.31	0.60
28:RH:154:PRO:HD3	28:RH:162:ILE:N	2.16	0.60
1:QA:833:U:H3	1:QA:853:G:H1	1.49	0.60
1:XA:1292:U:H2'	1:XA:1293:G:C8	2.36	0.60
10:QJ:42:THR:HG23	10:QJ:68:HIS:HA	1.83	0.60
43:Y0:23:VAL:HB	43:Y0:26:TYR:HE2	1.66	0.60
4:QD:105:VAL:HG13	4:QD:110:PHE:HB2	1.83	0.60
22:YA:61:G:O6	22:YA:94:G:N2	2.35	0.60
32:YP:147:LEU:O	32:YP:148:LEU:HB2	2.02	0.60
1:XA:131:C:H2'	1:XA:132:C:C6	2.37	0.60
2:QB:15:VAL:H	2:QB:16:HIS:CE1	2.20	0.60
27:YG:28:VAL:HG23	27:YG:29:TRP:CD1	2.36	0.60
22:RA:1068:G:N2	22:RA:1095:A:O2'	2.35	0.60
22:RA:438:G:H2'	22:RA:439:G:H8	1.67	0.60
5:XE:152:ARG:NH1	8:XH:44:PHE:CZ	2.70	0.60
22:YA:1064:C:N4	22:YA:1070:A:OP1	2.35	0.60
1:QA:1129:C:H4'	1:QA:1130:A:H5'	1.84	0.60
22:RA:996:A:H4'	37:RU:92:ARG:NE	2.15	0.60
1:XA:1422:G:H5''	31:YO:48:PRO:HB3	1.82	0.60
22:YA:2439:A:C8	22:YA:2439:A:H5'	2.36	0.60
22:YA:1872:A:H5'	22:YA:1878:G:OP2	2.02	0.60
52:Y9:35:ARG:HH21	52:Y9:37:GLY:HA3	1.67	0.60
1:XA:1410:G:H2'	1:XA:1411:C:H6	1.67	0.60
22:RA:125:G:H1'	50:R7:13:ALA:HB1	1.84	0.60
22:RA:127:A:H5''	22:RA:128:C:C6	2.36	0.60
22:RA:1803:A:O2'	24:RD:259:THR:HG21	2.02	0.60
1:XA:556:C:H2'	1:XA:557:G:H8	1.67	0.60
1:QA:1292:U:H2'	1:QA:1293:G:H8	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:631:A:OP1	32:RP:64:LYS:HE2	2.02	0.60
22:RA:1464:C:O2'	22:RA:1528:A:H8	1.83	0.60
27:RG:64:THR:HG23	27:RG:66:GLN:H	1.65	0.60
1:XA:267:C:OP2	17:XQ:67:LYS:HD2	2.01	0.60
22:YA:2468:G:H5''	33:YQ:120:ILE:HD12	1.83	0.60
22:RA:954:G:O2'	22:RA:2274:A:N1	2.30	0.60
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.36	0.60
22:YA:1530:G:O6	22:YA:1542:G:N2	2.34	0.60
22:RA:479:A:N3	22:RA:481:G:H5''	2.17	0.60
1:QA:191:G:C1'	20:QT:105:SER:HB3	2.31	0.60
22:YA:1790:C:O2'	24:YD:209:ALA:HB2	2.02	0.60
22:RA:1796:U:H2'	22:RA:1797:C:C6	2.37	0.60
12:QL:84:LEU:HD22	12:QL:104:VAL:HG11	1.84	0.60
51:Y8:50:LEU:HD12	51:Y8:51:ALA:H	1.67	0.60
1:XA:401:C:H2'	1:XA:402:G:H8	1.67	0.60
27:RG:114:ILE:HD13	27:RG:140:ILE:HG21	1.83	0.60
22:RA:2629:A:H4'	22:RA:2629:A:OP1	2.00	0.60
24:RD:70:TRP:CH2	24:RD:150:LYS:HA	2.36	0.60
22:RA:2620:C:O2'	25:RE:157:ALA:O	2.18	0.60
22:YA:1728:G:H3'	22:YA:1729:A:H5''	1.84	0.59
1:XA:1256:A:OP2	3:XC:26:LYS:NZ	2.30	0.59
22:RA:2509:G:H1	22:RA:2579:C:N4	2.00	0.59
2:XB:235:SER:O	2:XB:237:ALA:N	2.35	0.59
1:QA:1152:A:H5''	10:QJ:13:HIS:HD2	1.66	0.59
22:YA:1652:A:OP1	34:YR:8:ARG:NH1	2.34	0.59
22:RA:1423:G:H2'	22:RA:1424:G:H8	1.67	0.59
22:YA:419:C:H2'	22:YA:420:C:O4'	2.02	0.59
1:QA:1219:U:OP1	14:QN:19:ARG:NH2	2.24	0.59
34:YR:42:LYS:HA	34:YR:45:ARG:HD2	1.84	0.59
13:XM:3:ARG:HA	13:XM:9:ILE:HG21	1.83	0.59
42:YZ:94:GLU:HB2	42:YZ:130:PRO:CD	2.31	0.59
1:XA:1130:A:N6	1:XA:1144:G:H21	1.99	0.59
1:QA:1437:C:H2'	1:QA:1438:G:H8	1.66	0.59
22:RA:1576:U:H2'	22:RA:1577:C:H6	1.67	0.59
42:RZ:166:SER:HB3	42:RZ:168:GLU:H	1.67	0.59
23:YB:82:G:H2'	23:YB:83:G:H8	1.67	0.59
22:YA:270(R):G:H2'	22:YA:270(S):G:H8	1.66	0.59
1:XA:1298:C:H4'	1:XA:1299:A:O4'	2.03	0.59
1:QA:1298:C:H4'	1:QA:1299:A:C4	2.36	0.59
36:RT:105:LEU:O	36:RT:107:ASP:N	2.36	0.59
1:XA:1453:G:N7	20:XT:55:ILE:HD11	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1204:A:H2	22:YA:1241:A:N1	2.00	0.59
42:YZ:158:PRO:O	42:YZ:160:GLY:N	2.36	0.59
35:RS:38:GLN:OE1	35:RS:47:THR:OG1	2.18	0.59
39:YW:86:LEU:HD12	39:YW:87:PRO:HD2	1.83	0.59
51:R8:29:LYS:HB2	51:R8:44:LYS:HG2	1.84	0.59
1:QA:618:C:H5'	1:QA:619:U:H5''	1.83	0.59
22:YA:2154:G:H2'	22:YA:2155:G:C8	2.38	0.59
23:YB:95:U:H2'	23:YB:96:G:C8	2.37	0.59
1:QA:301:G:H2'	1:QA:302:G:H8	1.67	0.59
42:RZ:103:ARG:HD3	42:RZ:136:PHE:CG	2.38	0.59
1:QA:696:A:N1	1:QA:797:C:O2'	2.35	0.59
1:XA:1226:C:O2'	13:XM:111:LYS:NZ	2.36	0.59
1:QA:811:C:H4'	1:QA:900:A:N6	2.18	0.59
6:XF:61:LEU:HB3	6:XF:63:TYR:HE2	1.66	0.59
34:YR:33:ARG:NH2	48:Y5:55:ARG:HG2	2.17	0.59
9:QI:9:ARG:HB3	9:QI:14:VAL:HG13	1.84	0.59
1:XA:1002:G:H2'	1:XA:1003:G:H8	1.68	0.59
22:YA:1337:G:H2'	22:YA:1338:G:H8	1.68	0.59
2:XB:92:TYR:HE1	2:XB:151:GLY:HA3	1.65	0.59
22:RA:1101:U:H2'	22:RA:1102:C:H6	1.65	0.59
4:QD:64:LEU:HB2	4:QD:198:VAL:HG11	1.83	0.59
28:YH:98:LEU:HD22	28:YH:125:VAL:HB	1.83	0.59
22:RA:70:G:H21	22:RA:71:A:N6	2.00	0.59
3:QC:50:ALA:HB2	3:QC:75:VAL:HB	1.85	0.59
25:YE:36:ARG:HH21	25:YE:88:GLY:HA2	1.68	0.59
23:RB:80:U:H2'	23:RB:81:G:H21	1.67	0.59
1:QA:565:U:H5''	1:QA:566:G:H2'	1.83	0.59
1:QA:828:A:H2'	1:QA:829:G:O4'	2.02	0.59
22:YA:2471:C:H5'	22:YA:2472:G:OP2	2.02	0.59
22:YA:1429:G:H2'	22:YA:1430:C:C6	2.38	0.59
22:YA:1434:A:H2'	22:YA:1435:G:C8	2.36	0.59
5:XE:45:PHE:CE2	5:XE:47:LYS:HD2	2.38	0.59
27:RG:67:LYS:HE2	47:R4:6:HIS:CE1	2.38	0.59
1:XA:191:G:N3	20:XT:105:SER:HB3	2.18	0.59
22:YA:1274:A:N3	22:YA:1297:C:H1'	2.17	0.59
42:YZ:77:ASP:OD2	42:YZ:80:ARG:HD3	2.02	0.59
50:Y7:35:ARG:HG3	50:Y7:42:LEU:HD11	1.85	0.59
22:RA:1337:G:OP2	40:RX:73:ARG:NH2	2.35	0.59
39:YW:111:HIS:CD2	39:YW:112:GLY:H	2.20	0.59
22:YA:943:U:OP2	32:YP:36:LYS:NZ	2.35	0.59
22:RA:385:C:O2'	22:RA:388:G:N2	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1443:G:N2	22:YA:2864:G:OP1	2.28	0.59
22:RA:94:G:H21	45:R2:47:ASN:HD22	1.51	0.59
1:XA:1288:A:N3	1:XA:1352:C:O2'	2.25	0.59
1:QA:1163:C:H42	1:QA:1173:G:H1	1.50	0.59
22:RA:1663:C:HO2'	22:RA:1664:A:H8	1.49	0.59
13:QM:49:THR:HB	13:QM:52:GLU:HG3	1.85	0.59
39:RW:86:LEU:HD12	39:RW:87:PRO:HD2	1.85	0.59
1:QA:110:C:O2'	16:QP:25:ARG:O	2.17	0.59
47:R4:16:CYS:SG	47:R4:17:GLY:N	2.75	0.59
49:R6:52:VAL:HG22	49:R6:53:LYS:HG3	1.84	0.59
22:RA:84:A:N1	22:RA:98:G:O2'	2.31	0.59
1:XA:148:G:H2'	1:XA:149:A:H8	1.68	0.59
46:Y3:6:VAL:HG13	46:Y3:56:VAL:HG13	1.84	0.59
22:RA:2563:U:H4'	31:RO:28:SER:HA	1.84	0.59
28:RH:105:LEU:HD13	28:RH:105:LEU:H	1.68	0.59
22:RA:1918:A:O2'	22:RA:1920:C:N4	2.36	0.59
1:XA:376:G:OP1	16:XP:5:ARG:HB2	2.03	0.59
42:YZ:140:ASP:N	42:YZ:140:ASP:OD2	2.35	0.59
3:QC:131:ARG:HH11	5:QE:50:GLU:HG2	1.68	0.59
42:YZ:52:SER:O	42:YZ:54:HIS:N	2.35	0.59
42:YZ:48:PHE:HE2	42:YZ:71:VAL:HG11	1.66	0.59
22:RA:806:C:P	32:RP:41:ARG:HH11	2.26	0.59
1:QA:452:A:O2'	1:QA:453:A:O5'	2.20	0.59
1:QA:1221:G:OP1	1:QA:1320:C:N4	2.35	0.59
22:YA:2334:G:H5'	35:YS:9:ARG:HG2	1.85	0.59
22:YA:2789:C:H1'	22:YA:2892:A:C2	2.37	0.59
32:YP:26:GLY:O	32:YP:28:GLY:N	2.35	0.59
33:RQ:109:VAL:HG12	33:RQ:114:ALA:HB2	1.83	0.59
22:RA:507:A:C5'	22:RA:508:G:H5'	2.31	0.59
22:YA:2729:G:H1'	25:YE:187:ALA:HB2	1.85	0.59
1:QA:164:U:H2'	1:QA:165:C:C6	2.37	0.59
28:YH:6:ARG:NH2	28:YH:54:ARG:HH22	2.01	0.59
1:XA:376:G:H1	1:XA:387:U:H3	1.51	0.59
1:QA:1326:C:OP1	21:QU:17:THR:OG1	2.18	0.59
22:YA:1778:U:H2'	22:YA:1784:A:N6	2.18	0.59
22:YA:142:G:H1'	40:YX:37:THR:HG21	1.84	0.59
22:YA:2636:U:H1'	22:YA:2783:G:H22	1.67	0.59
24:RD:85:ASP:HB2	24:RD:92:ILE:HD13	1.84	0.59
22:RA:1534:G:H2'	22:RA:1535:U:H4'	1.84	0.59
22:RA:2749:A:H4'	28:RH:62:LYS:HB3	1.84	0.59
7:QG:73:MET:HG2	7:QG:90:GLU:HA	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1795:C:O2	24:RD:255:LYS:HE2	2.02	0.59
22:RA:2392:A:H2	22:RA:2424:C:H42	1.49	0.59
30:YN:40:PRO:HB3	37:YU:68:ALA:HB2	1.85	0.59
4:XD:9:CYS:SG	4:XD:22:LYS:HE2	2.39	0.59
13:XM:13:LYS:HA	13:XM:44:ARG:HD2	1.83	0.59
10:XJ:76:ASN:O	10:XJ:78:ASN:ND2	2.36	0.59
22:YA:1918:A:O2'	22:YA:1920:C:N4	2.35	0.59
20:XT:10:LEU:HG	20:XT:12:ALA:H	1.67	0.59
23:YB:14:U:O3'	23:YB:107:U:O2'	2.20	0.59
14:YN:23:ARG:HD2	14:YN:28:GLY:O	2.03	0.59
44:R1:92:LYS:HG3	44:R1:96:LYS:HB2	1.84	0.59
15:XO:56:LEU:HD21	22:YA:715:G:C4	2.38	0.59
22:RA:49:A:H61	22:RA:177:G:H2'	1.66	0.59
1:QA:1465:C:H2'	1:QA:1466:C:O4'	2.02	0.59
22:RA:389:G:H1	32:RP:70:GLN:HB3	1.67	0.59
42:RZ:117:LEU:HD12	42:RZ:141:VAL:HG21	1.84	0.59
28:RH:121:ILE:HG13	28:RH:140:LYS:HD2	1.84	0.59
1:XA:1239:A:H62	1:XA:1299:A:N6	1.99	0.58
1:QA:1348:U:H4'	9:QL:120:ARG:HD2	1.85	0.58
35:YS:106:ARG:HA	35:YS:110:LEU:HD11	1.85	0.58
22:YA:2712:U:H1'	22:YA:2712(A):A:N7	2.17	0.58
48:Y5:4:HIS:HB3	48:Y5:5:PRO:CD	2.32	0.58
22:YA:2146:C:H4'	22:YA:2147:G:C8	2.38	0.58
22:RA:439:G:H2'	22:RA:440:G:H8	1.68	0.58
22:RA:439:G:H2'	22:RA:440:G:C8	2.38	0.58
22:RA:1534:G:H2'	22:RA:1534:G:N3	2.17	0.58
35:YS:26:LEU:HB3	35:YS:87:PHE:HA	1.85	0.58
29:YI:4:ILE:HG12	29:YI:18:VAL:HG22	1.85	0.58
1:XA:933:G:O6	7:XG:3:ARG:NH2	2.36	0.58
12:XL:38:THR:HG23	12:XL:57:LYS:HB3	1.84	0.58
24:RD:44:ASN:CB	24:RD:49:ILE:HA	2.33	0.58
1:XA:606:G:O2'	1:XA:632:A:N6	2.34	0.58
1:QA:523:A:H61	12:QL:53:ARG:HH12	1.51	0.58
22:RA:2146:C:H4'	22:RA:2147:G:C8	2.38	0.58
24:YD:28:GLU:OE1	24:YD:29:PRO:HD2	2.03	0.58
22:YA:1680:U:O2'	22:YA:1763:G:N7	2.32	0.58
22:RA:2689:U:OP1	22:RA:2719:G:N2	2.23	0.58
22:YA:1678:G:H8	22:YA:1678:G:O5'	1.86	0.58
22:RA:823:G:H2'	22:RA:824:A:C8	2.38	0.58
3:XC:14:ILE:HG12	3:XC:15:THR:H	1.67	0.58
22:RA:900:A:H3'	22:RA:901:A:C8	2.27	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1069:A:H2'	22:YA:1073:A:N7	2.18	0.58
22:RA:774:A:H2	22:RA:787:U:HO2'	1.51	0.58
1:QA:243:A:H4'	1:QA:244:U:O5'	2.03	0.58
34:YR:67:LEU:HD13	34:YR:76:VAL:HG21	1.85	0.58
22:YA:746:A:C5	22:YA:2611:U:H5''	2.39	0.58
1:XA:390:C:O3'	16:XP:28:ARG:NH2	2.36	0.58
27:YG:136:ARG:O	27:YG:154:GLY:HA2	2.02	0.58
22:RA:702:G:N2	22:RA:730:C:O2	2.36	0.58
24:RD:71:ASP:OD2	24:RD:103:ARG:NH2	2.36	0.58
1:QA:997:U:H2'	1:QA:998:G:C8	2.38	0.58
22:RA:1533:C:H42	22:RA:1538:G:H1	1.51	0.58
13:XM:57:ARG:HE	47:Y4:35:VAL:HG22	1.68	0.58
28:YH:153:LYS:HB3	28:YH:154:PRO:HD3	1.85	0.58
1:QA:429:U:H1'	1:QA:430:A:H5''	1.86	0.58
1:XA:675:A:H2'	1:XA:676:A:H8	1.68	0.58
16:QP:21:VAL:O	16:QP:33:ILE:HG12	2.02	0.58
10:QJ:49:VAL:HG13	14:QN:41:ARG:HB2	1.85	0.58
29:YI:110:ASP:N	29:YI:130:TYR:OH	2.36	0.58
1:QA:685:G:H5'	11:QK:39:PRO:O	2.03	0.58
40:YX:61:GLY:N	40:YX:75:ASP:OD2	2.36	0.58
22:RA:1006:C:H5'	30:RN:28:THR:HG23	1.85	0.58
20:XT:63:ILE:HG22	20:XT:77:ALA:HB1	1.86	0.58
44:Y1:51:VAL:HG11	44:Y1:74:VAL:HG21	1.84	0.58
24:RD:35:LYS:HD2	24:RD:104:TYR:CE1	2.39	0.58
22:YA:574:C:N3	25:YE:145:LYS:NZ	2.46	0.58
22:YA:1203:G:O6	22:YA:1204:A:N6	2.37	0.58
38:YV:44:LYS:O	38:YV:46:VAL:N	2.36	0.58
20:XT:56:MET:HG3	20:XT:88:VAL:HG21	1.86	0.58
4:QD:111:ALA:HB2	4:QD:120:LEU:HD12	1.85	0.58
13:QM:121:LYS:NZ	55:QY:40:G:O2'	2.33	0.58
1:QA:745:C:H2'	1:QA:746:A:C8	2.38	0.58
22:RA:738:G:H3'	22:RA:739:G:C8	2.38	0.58
47:Y4:42:PHE:O	47:Y4:44:THR:N	2.36	0.58
1:XA:1305:G:N2	1:XA:1331:G:H2'	2.19	0.58
22:RA:630:G:OP1	51:R8:46:ARG:NH1	2.37	0.58
1:QA:446:G:H2'	1:QA:447:G:O4'	2.04	0.58
2:QB:77:ALA:HB2	2:QB:211:ILE:HD13	1.86	0.58
1:XA:1358:U:H3	1:XA:1363:A:H61	1.49	0.58
29:YI:93:THR:N	29:YI:96:ASP:OD1	2.35	0.58
24:RD:182:LEU:N	24:RD:272:ALA:HB3	2.17	0.58
9:XI:43:ALA:HA	9:XI:74:ILE:HD13	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:RB:15:A:H5'	23:RB:16:G:C8	2.38	0.58
6:XF:36:ARG:NH1	6:XF:38:GLU:OE2	2.36	0.58
22:YA:957:A:N1	22:YA:2458:G:H4'	2.18	0.58
12:QL:10:LEU:HB3	17:QQ:32:TYR:CE1	2.39	0.58
43:Y0:35:ASN:OD1	43:Y0:35:ASN:N	2.34	0.58
22:YA:270(Q):C:OP1	29:YI:45:LYS:NZ	2.37	0.58
27:RG:136:ARG:O	27:RG:154:GLY:HA2	2.03	0.58
22:RA:1278:A:H2'	22:RA:1279:G:H8	1.68	0.58
29:YI:72:LEU:HD21	29:YI:107:VAL:HG11	1.86	0.58
1:XA:1029:G:H1'	1:XA:1032(A):G:H1	1.68	0.58
1:QA:165:C:H2'	1:QA:166:G:C8	2.38	0.58
1:XA:1070:U:H2'	1:XA:1071:C:H6	1.68	0.58
22:RA:534:U:O2'	37:RU:49:HIS:ND1	2.27	0.58
1:XA:1320:C:C4	19:XS:36:ARG:HG3	2.38	0.58
5:XE:91:LEU:HD12	5:XE:120:THR:HG22	1.85	0.58
8:XH:39:LEU:HB3	8:XH:45:ILE:HG12	1.86	0.58
28:RH:89:ILE:O	28:RH:89:ILE:HG12	2.04	0.58
22:RA:2582:G:N2	22:RA:2583:G:H1'	2.18	0.58
22:RA:685:A:H5''	22:RA:788:A:N6	2.16	0.58
22:RA:2067:G:H1	22:RA:2443:C:H42	1.51	0.58
22:RA:2439:A:H8	22:RA:2439:A:H5'	1.67	0.58
28:RH:87:LEU:HD22	28:RH:162:ILE:HG22	1.85	0.58
32:RP:47:ASP:OD1	32:RP:49:ARG:NH1	2.37	0.58
29:RI:133:HIS:HB2	29:RI:134:PRO:HD2	1.85	0.58
30:RN:13:TRP:O	30:RN:135:PRO:HD2	2.03	0.58
2:XB:15:VAL:H	2:XB:16:HIS:CE1	2.22	0.58
22:YA:834:C:H2'	22:YA:835:A:C8	2.38	0.58
22:YA:1278:A:H4'	34:YR:34:ILE:HD12	1.84	0.58
34:YR:27:SER:HB3	34:YR:34:ILE:HD11	1.84	0.58
2:XB:72:GLY:HA2	2:XB:165:VAL:HG22	1.86	0.58
43:Y0:72:ARG:HB2	43:Y0:75:LEU:HB2	1.85	0.58
2:XB:96:ARG:H	2:XB:96:ARG:HD2	1.67	0.58
22:RA:270(T):G:H5''	44:R1:97:LEU:HD22	1.86	0.58
22:YA:2359:C:H2'	22:YA:2360:A:O4'	2.04	0.58
27:RG:112:PRO:HB3	47:R4:37:SER:HB2	1.85	0.58
8:QH:121:ASP:N	8:QH:121:ASP:OD1	2.34	0.58
31:YO:64:ARG:HG2	31:YO:79:PHE:CG	2.38	0.58
42:RZ:110:GLY:HA2	42:RZ:111:VAL:C	2.24	0.58
1:XA:1298:C:P	7:XG:114:ARG:HH22	2.27	0.58
22:YA:2593:U:H2'	22:YA:2594:C:C6	2.30	0.58
36:YT:24:PRO:HA	36:YT:49:VAL:HG13	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:486:U:H2'	1:XA:487:A:C8	2.39	0.58
3:XC:95:THR:HG22	3:XC:97:LYS:HG3	1.84	0.58
29:RI:14:ASP:H	29:RI:17:GLN:HB2	1.68	0.58
1:XA:673:G:H2'	1:XA:674:G:C8	2.39	0.58
22:YA:1109:C:O2'	22:YA:1110:G:OP1	2.21	0.58
22:RA:1309:G:HO2'	22:RA:1611:C:HO2'	1.51	0.58
22:YA:2693:A:H2'	22:YA:2694:G:C8	2.39	0.58
1:XA:1486:G:H2'	1:XA:1487:G:O4'	2.04	0.58
7:QG:26:PHE:CE2	7:QG:30:ILE:HD11	2.38	0.58
12:QL:53:ARG:HD3	12:QL:93:LEU:HD21	1.86	0.58
22:RA:2041:U:H2'	22:RA:2042:A:C8	2.38	0.58
1:XA:877:C:H5''	8:XH:88:LYS:HD3	1.85	0.58
22:YA:1614:A:N6	39:YW:88:ARG:H	2.02	0.58
22:RA:586:A:H5'	26:RF:89:VAL:HG21	1.86	0.58
22:YA:2232:U:P	44:Y1:40:ARG:HH12	2.26	0.58
19:XS:80:TYR:O	19:XS:82:GLY:N	2.36	0.58
22:RA:2022:U:O2'	22:RA:2617:C:H5'	2.04	0.58
22:YA:768:G:O2'	22:YA:1379:A:N6	2.32	0.58
1:XA:1157:A:H62	1:XA:1178:G:N2	2.02	0.58
1:QA:715:A:H2'	1:QA:716:A:C8	2.38	0.58
1:QA:517:G:O2'	1:QA:531:U:OP2	2.21	0.58
22:RA:1226:G:H4'	38:RV:84:LYS:HG2	1.85	0.58
30:RN:54:VAL:HB	30:RN:122:VAL:HG22	1.85	0.58
22:YA:1520:U:H2'	22:YA:1521:G:O4'	2.04	0.58
22:RA:2227:A:H5''	24:RD:263:ARG:NH1	2.19	0.58
22:RA:2415:G:H4'	32:RP:66:GLY:HA3	1.84	0.58
1:QA:1059:C:O3'	14:QN:45:ARG:NH2	2.37	0.58
22:YA:2712:U:O2'	22:YA:2712(A):A:H8	1.87	0.58
1:QA:1226:C:H4'	19:QS:80:TYR:OH	2.04	0.58
1:XA:328:C:H4'	1:XA:329:A:H5'	1.86	0.58
22:YA:1167:U:H2'	22:YA:1168:G:C8	2.39	0.58
29:RI:110:ASP:N	29:RI:130:TYR:OH	2.36	0.58
1:QA:973:G:H3'	1:QA:974:A:C5'	2.34	0.58
35:YS:59:LYS:HD3	35:YS:60:GLY:N	2.19	0.58
22:YA:1490:A:O2'	24:YD:99:ASP:OD2	2.20	0.58
22:YA:2112:G:O6	22:YA:2169:A:N6	2.37	0.58
24:RD:24:ILE:HD11	24:RD:91:ARG:HD2	1.85	0.58
23:YB:44:G:H1'	23:YB:47:C:N4	2.18	0.58
22:RA:443:A:N7	26:RF:45:ARG:HD2	2.19	0.58
34:YR:117:VAL:HG22	34:YR:118:GLU:H	1.68	0.58
22:RA:1427:A:H4'	22:RA:1428:C:O5'	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2738:A:H2	22:YA:2766:G:H22	1.52	0.58
23:RB:31:C:H4'	27:RG:29:TRP:HH2	1.69	0.58
34:YR:24:GLN:OE1	34:YR:36:THR:HG21	2.04	0.58
37:YU:92:ARG:HD3	37:YU:94:ASN:HB3	1.85	0.57
33:YQ:66:ILE:HA	33:YQ:104:PHE:HA	1.85	0.57
1:XA:1020:U:H2'	1:XA:1021:G:C8	2.39	0.57
22:YA:625:G:O6	32:YP:107:LYS:HE2	2.04	0.57
42:RZ:141:VAL:HG23	42:RZ:144:LEU:HG	1.86	0.57
22:RA:2757:A:P	52:R9:20:HIS:H	2.27	0.57
7:XG:89:MET:HE1	7:XG:156:TRP:H	1.69	0.57
1:XA:405:U:O4	4:XD:2:GLY:N	2.37	0.57
22:RA:1012:U:OP1	37:RU:75:ASN:ND2	2.36	0.57
22:YA:2074:U:H2'	22:YA:2075:U:C6	2.39	0.57
22:RA:609(A):G:H2'	22:RA:610:C:H6	1.69	0.57
1:QA:365:U:H5''	1:QA:366:C:OP1	2.04	0.57
39:YW:73:ALA:HB3	39:YW:106:ILE:HD13	1.84	0.57
26:YF:127:GLU:O	26:YF:129:PHE:N	2.32	0.57
13:QM:14:ARG:N	13:QM:44:ARG:HD3	2.18	0.57
27:YG:67:LYS:HE2	47:Y4:6:HIS:CE1	2.38	0.57
41:RY:95:LYS:NZ	41:RY:99:CYS:O	2.37	0.57
22:RA:251:A:C5	22:RA:252:G:H1'	2.39	0.57
1:XA:560:U:O2'	1:XA:561:U:OP2	2.19	0.57
22:RA:1389:G:H2'	22:RA:1390:U:C6	2.40	0.57
22:YA:956:G:H5''	33:YQ:77:LYS:HE2	1.85	0.57
22:YA:846:C:O2'	22:YA:847:U:OP2	2.10	0.57
13:QM:58:GLU:O	13:QM:62:ASN:ND2	2.31	0.57
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.69	0.57
39:RW:71:VAL:HA	39:RW:107:LEU:HD12	1.86	0.57
51:R8:36:LYS:HB3	51:R8:40:GLU:HG2	1.85	0.57
22:RA:1378:A:OP1	50:R7:10:ARG:NH2	2.36	0.57
22:YA:898:C:H3'	22:YA:899:A:H8	1.70	0.57
4:XD:9:CYS:HB3	4:XD:32:ALA:HB2	1.87	0.57
27:YG:98:ARG:NH1	47:Y4:1:MET:SD	2.77	0.57
24:YD:65:ILE:H	24:YD:65:ILE:HD13	1.68	0.57
25:RE:131:ALA:HB1	25:RE:135:HIS:HE1	1.69	0.57
1:XA:1124:G:H3'	1:XA:1145:C:H41	1.69	0.57
42:RZ:121:HIS:CD2	42:RZ:169:GLU:HG2	2.38	0.57
22:RA:225:A:H5'	22:RA:226:G:OP2	2.04	0.57
3:XC:70:VAL:HG21	3:XC:76:VAL:HG11	1.85	0.57
3:QC:134:ILE:HG23	3:QC:151:VAL:HB	1.85	0.57
25:YE:35:GLN:HB3	25:YE:48:GLN:HB2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:15:ASP:OD2	7:QG:44:TYR:OH	2.22	0.57
22:YA:2741:A:OP1	52:Y9:22:ARG:NH1	2.36	0.57
1:XA:518:C:H2'	1:XA:530:G:C2	2.39	0.57
22:RA:2506:U:O2	22:RA:2506:U:H2'	2.04	0.57
26:YF:28:ILE:HG22	26:YF:112:MET:HB3	1.85	0.57
22:RA:642:G:H21	22:RA:646:A:H2	1.50	0.57
1:XA:388:G:HO2'	1:XA:389:A:P	2.27	0.57
22:YA:1187:G:H5''	38:YV:81:TYR:CE2	2.38	0.57
22:YA:1820:U:C2	24:YD:202:LYS:HB3	2.38	0.57
22:YA:2292:C:OP2	35:YS:17:ARG:NH2	2.30	0.57
27:RG:68:PRO:HB2	27:RG:90:LEU:HD12	1.86	0.57
28:RH:153:LYS:HB3	28:RH:154:PRO:CD	2.34	0.57
11:XK:21:ILE:HG13	11:XK:30:VAL:HG12	1.86	0.57
33:YQ:116:GLU:O	33:YQ:120:ILE:HG12	2.05	0.57
3:QC:134:ILE:HG22	3:QC:168:ALA:HB3	1.86	0.57
34:RR:117:VAL:O	34:RR:118:GLU:HB2	2.04	0.57
42:YZ:25:PRO:O	42:YZ:85:HIS:HA	2.04	0.57
22:YA:2193:G:H2'	22:YA:2194:G:H8	1.69	0.57
1:XA:1305:G:O2'	1:XA:1306:A:H8	1.83	0.57
22:YA:2469:A:H5'	22:YA:2470:G:OP2	2.04	0.57
22:RA:587:C:N3	32:RP:33:ARG:NH1	2.53	0.57
22:YA:2712:U:OP1	22:YA:2714:G:H4'	2.05	0.57
1:XA:244:U:H4'	1:XA:245:C:O5'	2.03	0.57
22:YA:1967:C:H2'	22:YA:1968:G:H5'	1.86	0.57
1:QA:1446:A:H4'	36:RT:125:ARG:HH22	1.69	0.57
22:YA:2438:U:O3'	22:YA:2439:A:H3'	2.04	0.57
1:XA:1525:G:P	11:XK:120:ARG:HH22	2.28	0.57
35:YS:10:ARG:NH2	35:YS:91:PRO:O	2.36	0.57
54:XX:5:C:C2	55:XY:36:G:N2	2.73	0.57
22:RA:223:A:O2'	22:RA:420:C:O2	2.22	0.57
1:XA:1114:C:H1'	14:XN:60:SER:HB2	1.86	0.57
1:XA:27:G:H4'	4:XD:209:ARG:HG3	1.86	0.57
27:YG:98:ARG:HH12	47:Y4:1:MET:HB3	1.69	0.57
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.39	0.57
1:QA:1466:C:H2'	1:QA:1467:G:O4'	2.05	0.57
42:RZ:104:PHE:HB3	42:RZ:141:VAL:CG1	2.35	0.57
22:RA:1385:G:O2'	22:RA:1396:U:O2	2.13	0.57
1:XA:123:C:OP1	1:XA:311:C:O2'	2.13	0.57
16:XP:20:VAL:HG23	16:XP:35:LYS:HA	1.86	0.57
1:XA:914:A:H2'	1:XA:915:A:H8	1.70	0.57
17:XQ:55:ASP:HA	17:XQ:79:SER:HA	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:107:G:O6	20:XT:15:ARG:HD3	2.05	0.57
22:RA:2712:U:OP1	22:RA:2714:G:H4'	2.05	0.57
41:RY:76:CYS:SG	41:RY:77:PRO:HD2	2.45	0.57
22:RA:884:C:C2	22:RA:885:C:H5	2.23	0.57
1:QA:166:G:H2'	1:QA:167:G:C8	2.39	0.57
2:XB:96:ARG:HD3	2:XB:148:TYR:HE1	1.70	0.57
22:YA:99:U:H4'	22:YA:101:G:H5''	1.85	0.57
22:YA:2281:C:O2'	22:YA:2282:G:H5'	2.05	0.57
27:RG:22:ARG:HH21	27:RG:171:ALA:HB1	1.69	0.57
1:XA:1491:G:N7	57:XA:1601:PAR:O53	2.30	0.57
4:XD:154:ASN:OD1	4:XD:154:ASN:N	2.37	0.57
32:RP:58:THR:C	32:RP:61:ARG:HE	2.05	0.57
28:YH:149:ARG:HG3	28:YH:162:ILE:O	2.05	0.57
22:YA:1210:A:H8	22:YA:1210:A:H5'	1.70	0.57
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.86	0.57
1:XA:1243:C:H42	1:XA:1294:G:H1	1.52	0.57
1:QA:452:A:O2'	1:QA:453:A:O4'	2.12	0.57
22:RA:443:A:C5	26:RF:45:ARG:HD2	2.40	0.57
32:YP:135:LEU:O	32:YP:139:LYS:HB2	2.04	0.57
24:RD:145:VAL:HG13	24:RD:191:ALA:HB2	1.87	0.57
1:XA:591:U:H2'	1:XA:592:G:H8	1.70	0.57
1:XA:272:C:H2'	1:XA:273:A:H8	1.69	0.57
7:QG:79:ARG:HH12	7:QG:82:GLY:HA2	1.69	0.57
24:RD:241:PRO:O	24:RD:242:ARG:HB2	2.04	0.57
1:XA:903:G:H2'	1:XA:904:C:C6	2.39	0.57
22:RA:515:A:H1'	22:RA:581:C:H1'	1.87	0.57
19:QS:41:VAL:HB	19:QS:42:PRO:CA	2.34	0.57
24:YD:71:ASP:CB	24:YD:103:ARG:HH22	2.18	0.57
1:QA:1152:A:H2'	1:QA:1153:C:H6	1.69	0.57
22:RA:823:G:H2'	22:RA:824:A:H8	1.70	0.57
1:XA:1459:C:OP1	20:XT:27:LYS:NZ	2.37	0.57
43:R0:68:GLU:OE2	43:R0:82:ARG:NH1	2.33	0.57
22:YA:950:G:H1	22:YA:967:C:H42	1.51	0.57
13:QM:23:TYR:HB3	13:QM:67:GLU:HG2	1.87	0.57
22:YA:863:A:H2'	22:YA:864:G:C8	2.40	0.57
1:XA:1327:C:OP2	21:XU:12:LYS:NZ	2.36	0.57
22:RA:1328:G:H2'	22:RA:1330:C:C4	2.40	0.57
40:RX:60:ARG:NH1	50:R7:47:ARG:HH22	2.03	0.57
24:RD:44:ASN:HB2	24:RD:48:ARG:O	2.05	0.57
22:RA:483:A:H5'	41:RY:49:VAL:HG22	1.86	0.57
22:RA:2197:U:H1'	22:RA:2198:A:C8	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2811:G:O6	22:YA:2889:C:N4	2.37	0.57
1:XA:345:C:OP2	36:YT:41:ARG:HD2	2.05	0.57
9:XI:15:ALA:HB2	9:XI:65:VAL:HG23	1.86	0.57
22:YA:2123:G:H2'	22:YA:2124:G:C8	2.40	0.57
1:XA:690:G:H2'	1:XA:691:G:O4'	2.04	0.57
22:YA:54:G:O2'	50:Y7:35:ARG:HD3	2.05	0.57
22:RA:1341:U:OP1	22:RA:1397:U:N3	2.37	0.57
22:YA:2695:C:H2'	22:YA:2696:U:C6	2.39	0.57
22:YA:1301:A:C8	22:YA:1303:G:C8	2.93	0.57
6:QF:3:ARG:NH1	6:QF:38:GLU:OE2	2.37	0.57
22:YA:1444(A):A:H4'	22:YA:1460:A:H2'	1.87	0.57
2:QB:51:LEU:HD23	2:QB:201:ILE:HD12	1.86	0.57
22:YA:1138:G:N2	30:YN:106:MET:HE3	2.06	0.56
22:YA:26:G:O2'	22:YA:514:A:N6	2.31	0.56
3:QC:73:PRO:HG3	3:QC:105:GLU:HG3	1.88	0.56
12:QL:117:ARG:HB3	12:QL:122:THR:HB	1.87	0.56
47:Y4:71:ARG:HB2	47:Y4:71:ARG:HH11	1.68	0.56
1:XA:1158:C:H4'	2:XB:133:LYS:NZ	2.20	0.56
22:YA:2688:U:H5	22:YA:2720:U:OP2	1.88	0.56
33:RQ:32:TYR:HE1	33:RQ:133:ARG:HG3	1.69	0.56
22:YA:2395:C:O2'	44:Y1:30:VAL:HG12	2.05	0.56
33:YQ:85:LYS:O	33:YQ:87:LYS:N	2.38	0.56
22:YA:764:A:N3	24:YD:213:ARG:NH1	2.52	0.56
22:RA:550:G:O2'	22:RA:1220:A:O2'	2.11	0.56
38:RV:52:VAL:HG21	38:RV:55:ALA:HB3	1.87	0.56
22:YA:1222:C:H2'	22:YA:1223:C:H6	1.69	0.56
22:RA:2556:C:H2'	22:RA:2557:G:O4'	2.05	0.56
22:RA:520:G:H2'	22:RA:521:G:H8	1.70	0.56
22:YA:2277:G:OP2	43:Y0:12:ASN:ND2	2.27	0.56
22:RA:1053:C:N4	22:RA:1106:G:H1	2.00	0.56
1:XA:1126:U:H1'	1:XA:1280:A:N7	2.20	0.56
22:YA:1210:A:C5'	22:YA:1210:A:H8	2.18	0.56
1:QA:407:G:OP1	4:QD:3:ARG:NH1	2.37	0.56
27:YG:81:LYS:O	27:YG:82:LEU:HB2	2.04	0.56
29:YI:5:LEU:HD13	29:YI:17:GLN:HB3	1.87	0.56
33:RQ:43:THR:HA	33:RQ:94:VAL:HG12	1.87	0.56
24:RD:108:PRO:HB3	24:RD:143:HIS:CE1	2.40	0.56
26:YF:107:LYS:HD2	26:YF:206:ILE:HA	1.86	0.56
22:YA:1790:C:H5''	22:YA:1791:A:OP1	2.05	0.56
22:RA:307:G:H21	22:RA:330:A:H62	1.51	0.56
1:XA:712:A:H2'	1:XA:713:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2749:A:H1'	28:RH:63:SER:OG	2.05	0.56
1:XA:1389:C:H2'	1:XA:1390:U:O4'	2.04	0.56
22:YA:852:G:H2'	22:YA:853:G:C8	2.40	0.56
22:YA:675:A:C8	22:YA:804:A:C6	2.93	0.56
8:QH:102:ARG:NH1	8:QH:105:ARG:NH2	2.53	0.56
22:RA:1717:G:H1	22:RA:1742:C:H42	1.53	0.56
1:XA:284:G:H2'	1:XA:285:G:C8	2.39	0.56
10:XJ:50:ILE:HD11	10:XJ:57:LYS:HD3	1.86	0.56
22:YA:630:G:N2	22:YA:633:A:OP2	2.33	0.56
22:RA:631:A:H2'	22:RA:632:A:O4'	2.05	0.56
34:RR:67:LEU:HD13	34:RR:76:VAL:HG21	1.86	0.56
36:YT:60:THR:HG22	36:YT:77:PRO:HA	1.86	0.56
22:RA:1043:C:N3	22:RA:1112:G:N2	2.46	0.56
32:YP:101:VAL:HG23	32:YP:106:LEU:HB3	1.88	0.56
1:XA:1321:C:H5''	1:XA:1322:C:C5'	2.36	0.56
26:RF:11:VAL:HG12	26:RF:12:LEU:H	1.69	0.56
22:YA:2306:C:H2'	22:YA:2307:G:N2	2.20	0.56
42:YZ:105:VAL:HG13	42:YZ:140:ASP:HA	1.86	0.56
22:YA:2277:G:OP2	43:Y0:10:THR:OG1	2.23	0.56
24:RD:148:GLU:HB2	24:RD:151:LYS:HD2	1.87	0.56
29:RI:144:VAL:HG22	29:RI:145:VAL:H	1.70	0.56
22:RA:974(A):C:H4'	22:RA:975:G:O5'	2.05	0.56
38:YV:59:ALA:HB2	38:YV:96:ILE:HD13	1.88	0.56
22:YA:10:G:N2	22:YA:2802:G:OP1	2.39	0.56
22:YA:1053:C:H42	22:YA:1106:G:H1	1.51	0.56
1:QA:1095:U:P	1:QA:1108:G:H1	2.28	0.56
22:RA:262:A:H2'	22:RA:263:C:O4'	2.05	0.56
31:YO:85:VAL:HG11	31:YO:114:ILE:HD11	1.87	0.56
22:RA:372:G:H8	44:R1:65:SER:O	1.87	0.56
22:YA:1467:C:C5	22:YA:1546:C:H2'	2.40	0.56
25:RE:10:GLY:HA3	36:RT:8:LYS:HD2	1.85	0.56
22:YA:1833:U:H2'	22:YA:1834:U:H6	1.69	0.56
22:YA:937:U:H2'	22:YA:938:G:O4'	2.05	0.56
38:RV:44:LYS:HE2	38:RV:45:THR:H	1.70	0.56
42:RZ:153:SER:HA	42:RZ:155:LEU:HD12	1.88	0.56
32:RP:106:LEU:O	32:RP:107:LYS:HB2	2.05	0.56
1:QA:474:G:H5'	16:QP:81:ARG:HG3	1.87	0.56
1:XA:382:A:H2'	1:XA:383:A:H8	1.70	0.56
1:XA:1005:A:H5''	1:XA:1038:C:H1'	1.87	0.56
22:YA:2864:G:OP1	36:YT:119:LYS:HD2	2.05	0.56
22:RA:1282:U:H2'	22:RA:1283:G:O4'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2086:U:H2'	22:YA:2087:G:C8	2.41	0.56
41:RY:81:LYS:HZ3	41:RY:98:VAL:HG11	1.69	0.56
1:QA:690:G:H22	11:QK:55:LYS:HZ1	1.53	0.56
22:RA:2576:G:O2'	22:RA:2579:C:OP2	2.15	0.56
22:RA:822:U:H2'	22:RA:823:G:C8	2.40	0.56
42:RZ:157:LEU:HB3	42:RZ:161:VAL:O	2.06	0.56
39:YW:71:VAL:HA	39:YW:107:LEU:HD12	1.87	0.56
22:YA:2540:C:H2'	22:YA:2541:A:O4'	2.05	0.56
1:QA:476:G:H2'	1:QA:477:G:H8	1.69	0.56
22:YA:732:C:H2'	22:YA:733:G:O4'	2.05	0.56
17:QQ:90:ILE:O	17:QQ:94:ASN:ND2	2.38	0.56
22:YA:1138:G:H2'	22:YA:1139:G:O4'	2.06	0.56
22:RA:1021:A:H2'	22:RA:1023:U:H5'	1.88	0.56
22:RA:1473:G:H2'	22:RA:1474:C:O4'	2.06	0.56
22:RA:2311:A:H8	27:RG:82:LEU:HD11	1.70	0.56
33:RQ:66:ILE:HA	33:RQ:104:PHE:HA	1.87	0.56
16:XP:20:VAL:HG21	16:XP:32:TYR:CD1	2.40	0.56
22:RA:2784:C:H2'	22:RA:2785:C:C6	2.41	0.56
22:RA:486:C:N4	22:RA:487:C:H41	2.04	0.56
1:XA:316:G:OP2	1:XA:351:G:O2'	2.22	0.56
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.86	0.56
1:XA:503:C:H2'	1:XA:504:C:H6	1.69	0.56
38:YV:66:ARG:HH11	38:YV:88:ARG:HD3	1.71	0.56
22:YA:2354:G:N2	22:YA:2363:C:O2	2.39	0.56
22:YA:2299:G:N2	22:YA:2318:G:H1'	2.20	0.56
23:RB:13:A:H2'	23:RB:70:C:O2'	2.06	0.56
22:RA:50:U:H3'	22:RA:51:G:H5'	1.87	0.56
22:YA:2532:G:H1'	22:YA:2663:G:H22	1.70	0.56
2:QB:82:ARG:HA	2:QB:92:TYR:HE2	1.71	0.56
22:YA:2877:G:H2'	22:YA:2878:U:O4'	2.06	0.56
22:RA:108:U:H2'	22:RA:109:G:H8	1.69	0.56
35:RS:106:ARG:HA	35:RS:110:LEU:HD11	1.87	0.56
33:RQ:24:GLY:O	33:RQ:26:TYR:N	2.36	0.56
49:Y6:25:LYS:HE2	49:Y6:27:LYS:HE3	1.87	0.56
7:XG:54:THR:O	7:XG:56:GLN:N	2.39	0.56
22:YA:481:G:OP2	41:YY:47:LYS:HG3	2.06	0.56
32:RP:68:GLN:HG2	51:R8:12:LYS:HD3	1.88	0.56
19:XS:5:LEU:HD11	47:Y4:66:SER:CA	2.35	0.56
31:YO:97:ARG:HA	31:YO:117:LEU:HD22	1.88	0.56
1:QA:501:C:H2'	1:QA:502:G:C8	2.39	0.56
1:QA:1152:A:H5''	10:QJ:13:HIS:CD2	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:977:A:H2'	1:QA:978:A:H5''	1.88	0.56
40:RX:31:HIS:CD2	40:RX:32:PRO:HD2	2.40	0.56
29:RI:115:ALA:O	29:RI:117:GLU:N	2.32	0.56
42:RZ:128:VAL:HG22	42:RZ:129:SER:H	1.71	0.56
22:YA:654(A):G:OP2	22:YA:654(A):G:H8	1.89	0.56
1:XA:210:U:O2'	1:XA:216:G:N7	2.38	0.56
1:QA:1220:G:O3'	19:QS:36:ARG:HD3	2.06	0.56
25:RE:4:ILE:HD12	25:RE:28:ALA:HB1	1.88	0.56
22:RA:987:G:O2'	22:RA:1000:A:N3	2.35	0.56
2:XB:21:ARG:O	2:XB:23:ARG:HD3	2.05	0.56
13:QM:7:VAL:HG21	27:RG:113:ARG:O	2.06	0.56
22:YA:462:C:N4	22:YA:467:G:H1	1.99	0.56
22:YA:307:G:H21	22:YA:330:A:N6	2.04	0.56
1:XA:320:C:H2'	1:XA:321:A:C8	2.41	0.56
22:YA:1899:G:H21	22:YA:1902:C:H41	1.52	0.56
12:QL:45:PRO:HB3	12:QL:92:ASP:HB3	1.87	0.56
22:YA:2801:A:C5	22:YA:2802:G:H1'	2.41	0.56
22:RA:108:U:H2'	22:RA:109:G:C8	2.41	0.56
22:RA:74:A:H4'	22:RA:75:G:O5'	2.06	0.56
1:XA:1213:A:N6	1:XA:1215:G:N3	2.54	0.56
12:QL:89:ARG:HB3	12:QL:97:ARG:HA	1.87	0.56
1:QA:1167:A:H2'	1:QA:1169:A:O4'	2.06	0.56
42:RZ:178:GLU:O	42:RZ:179:ASP:HB2	2.06	0.56
3:XC:174:PRO:HD2	3:XC:182:ILE:HD11	1.88	0.56
22:YA:1854:A:H2	22:YA:2087:G:N3	2.03	0.56
1:QA:790:A:C6	1:QA:791:G:C6	2.94	0.56
22:YA:1754:C:P	36:YT:96:ARG:HH12	2.29	0.56
22:RA:934:G:H2'	22:RA:935:C:C6	2.41	0.56
23:YB:41:U:C4	27:YG:70:VAL:HG23	2.41	0.56
41:YY:95:LYS:HB3	41:YY:100:ALA:HA	1.87	0.56
33:YQ:81:VAL:C	33:YQ:82:ARG:HG2	2.25	0.56
26:RF:110:LEU:HD11	26:RF:181:LEU:HD12	1.88	0.56
1:XA:1347:G:N2	1:XA:1374:A:O5'	2.38	0.56
22:RA:1259:G:H2'	22:RA:1260:G:C8	2.41	0.56
28:YH:92:ILE:HD12	28:YH:92:ILE:H	1.71	0.56
22:YA:2205:C:H2'	22:YA:2206:C:H6	1.70	0.56
30:YN:40:PRO:O	37:YU:64:ARG:HD2	2.06	0.56
1:QA:1333:A:H2'	1:QA:1334:G:O4'	2.06	0.56
22:YA:601:C:O2	22:YA:605:C:H4'	2.06	0.56
1:QA:811:C:H4'	1:QA:900:A:H61	1.71	0.56
10:QJ:5:ARG:HG3	10:QJ:71:LEU:HD11	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:339:C:OP2	31:RO:97:ARG:NH1	2.39	0.56
1:XA:1333:A:H2'	1:XA:1334:G:O4'	2.05	0.56
4:XD:122:ARG:NH1	4:XD:134:ASP:O	2.39	0.56
8:QH:106:GLY:O	8:QH:122:ARG:NH2	2.36	0.56
37:RU:94:ASN:HD22	37:RU:94:ASN:C	2.09	0.56
2:XB:158:LEU:HD13	2:XB:182:ILE:HD11	1.89	0.56
1:QA:754:C:H5'	15:QO:72:ARG:HH22	1.70	0.56
32:RP:121:LYS:HD3	32:RP:122:PRO:HD2	1.88	0.56
1:QA:579:G:H2'	1:QA:580:U:C6	2.40	0.56
4:QD:187:ARG:NH2	4:QD:193:ASP:OD2	2.38	0.56
24:YD:232:PRO:HB3	24:YD:244:ARG:NH1	2.21	0.56
1:XA:1349:A:OP2	9:XI:118:LYS:NZ	2.29	0.56
48:R5:4:HIS:HB3	48:R5:5:PRO:CD	2.32	0.55
1:QA:1128:C:H4'	9:QI:16:ARG:HH12	1.71	0.55
29:RI:5:LEU:HB2	29:RI:16:GLY:H	1.69	0.55
1:QA:107:G:C2	1:QA:108:G:H1'	2.41	0.55
1:XA:690:G:H1	11:XK:55:LYS:HZ1	1.54	0.55
22:YA:1203:G:H3'	22:YA:1204:A:H5''	1.89	0.55
22:RA:1337:G:H2'	22:RA:1338:G:H8	1.72	0.55
39:RW:86:LEU:HD22	39:RW:96:ILE:HD11	1.88	0.55
3:XC:9:GLY:HA2	3:XC:12:LEU:HD23	1.88	0.55
2:QB:71:VAL:HG12	2:QB:93:VAL:HB	1.88	0.55
4:XD:11:LEU:HD13	4:XD:66:ARG:HG2	1.88	0.55
49:R6:36:LEU:HB2	49:R6:50:ARG:HA	1.88	0.55
22:RA:1801:G:OP2	24:RD:154:LYS:HE2	2.05	0.55
22:YA:1068:G:O2'	22:YA:1096:A:N3	2.39	0.55
22:YA:1093:G:H5'	28:YH:170:ARG:NH1	2.21	0.55
36:YT:29:ARG:HB2	36:YT:46:GLU:HG3	1.88	0.55
36:RT:26:ASP:O	36:RT:49:VAL:HG12	2.07	0.55
1:QA:1317:C:N3	19:QS:37:ARG:NH2	2.53	0.55
25:RE:63:LEU:CD1	25:RE:65:GLY:H	2.19	0.55
1:XA:674:G:H2'	1:XA:675:A:C8	2.39	0.55
22:YA:2712:U:HO2'	22:YA:2712(A):A:P	2.28	0.55
29:YI:13:GLY:HA3	29:YI:17:GLN:HB2	1.86	0.55
5:XE:37:ARG:HA	5:XE:114:GLY:N	2.21	0.55
23:RB:75:G:H4'	42:RZ:36:LYS:HG3	1.88	0.55
22:YA:2584:U:H2'	22:YA:2585:U:H2'	1.87	0.55
22:RA:1803:A:H2	22:RA:1822:G:N3	2.05	0.55
22:YA:1614:A:H61	39:YW:88:ARG:H	1.52	0.55
22:YA:956:G:OP2	33:YQ:14:ARG:NH2	2.39	0.55
22:YA:1545(A):A:H2'	22:YA:1546:C:O4'	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:78:ASN:O	10:QJ:81:THR:OG1	2.24	0.55
31:RO:78:ARG:HH21	36:RT:103:ARG:NH2	2.03	0.55
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.06	0.55
10:QJ:16:LEU:HD23	10:QJ:94:VAL:HG13	1.88	0.55
1:XA:807:A:H2'	1:XA:808:C:C6	2.42	0.55
30:YN:56:ASN:N	30:YN:125:GLY:O	2.22	0.55
22:YA:448:U:C4	22:YA:583:G:H1'	2.41	0.55
22:RA:1825:A:OP2	24:RD:220:HIS:NE2	2.38	0.55
42:RZ:182:LYS:HD3	42:RZ:182:LYS:N	2.17	0.55
1:QA:570:G:H2'	1:QA:571:U:C6	2.41	0.55
22:RA:445:C:H5''	37:RU:3:ARG:HB3	1.89	0.55
1:QA:1399:C:C2	1:QA:1502:A:N6	2.74	0.55
22:RA:2250:G:C4	33:RQ:82:ARG:HG3	2.41	0.55
22:YA:2263:C:H2'	22:YA:2264:C:C6	2.42	0.55
47:R4:24:THR:OG1	47:R4:25:TYR:N	2.38	0.55
1:QA:1161:C:H2'	1:QA:1162:C:H6	1.71	0.55
1:QA:585:G:O3'	17:QQ:34:LYS:NZ	2.39	0.55
22:YA:1204:A:H1'	22:YA:1206:G:C8	2.42	0.55
1:XA:95:G:H3'	1:XA:96:G:H8	1.71	0.55
36:YT:39:ARG:HG2	36:YT:40:THR:H	1.72	0.55
10:XJ:34:VAL:HG22	10:XJ:74:ILE:HG22	1.89	0.55
29:YI:129:THR:HA	29:YI:137:PRO:HA	1.88	0.55
43:Y0:27:GLU:HG3	43:Y0:68:GLU:HA	1.89	0.55
1:QA:701:C:H1'	1:QA:703:G:C6	2.40	0.55
6:XF:97:PHE:HD2	18:XR:31:LEU:HD21	1.70	0.55
26:YF:101:LEU:O	26:YF:106:ARG:NH1	2.40	0.55
9:QI:77:ILE:O	9:QI:81:ILE:HG12	2.06	0.55
1:XA:963:G:C2	10:XJ:55:LYS:NZ	2.75	0.55
43:R0:56:ASP:OD1	43:R0:58:THR:OG1	2.24	0.55
1:XA:1004:A:N1	1:XA:1024:G:H2'	2.20	0.55
22:YA:2159:G:H2'	22:YA:2160:G:C8	2.40	0.55
51:Y8:50:LEU:HD12	51:Y8:51:ALA:N	2.21	0.55
1:XA:1226:C:OP2	13:XM:103:THR:OG1	2.15	0.55
22:YA:1459:G:H2'	22:YA:1460:A:H5'	1.89	0.55
22:RA:1846:G:H5'	22:RA:1847:A:OP2	2.05	0.55
38:RV:7:THR:HG23	38:RV:22:VAL:HG11	1.88	0.55
5:XE:50:GLU:HB3	5:XE:53:LEU:HD13	1.88	0.55
22:YA:699:A:H2'	22:YA:700:G:O4'	2.07	0.55
49:Y6:28:ARG:HB3	49:Y6:30:THR:H	1.71	0.55
1:XA:1053:G:H2'	1:XA:1199:U:H5	1.71	0.55
22:RA:195:A:H5''	22:RA:196:A:O5'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:1:MET:HG2	42:YZ:2:GLU:H	1.71	0.55
15:XO:18:PHE:CE1	15:XO:21:ASP:HB2	2.41	0.55
1:QA:963:G:H21	10:QJ:55:LYS:HD3	1.71	0.55
27:YG:67:LYS:HZ3	47:Y4:6:HIS:CD2	2.24	0.55
19:XS:67:VAL:HG21	47:Y4:60:GLN:HE22	1.70	0.55
28:YH:121:ILE:HG12	28:YH:140:LYS:HD2	1.89	0.55
33:RQ:30:GLY:CA	33:RQ:107:ALA:HB2	2.37	0.55
44:R1:53:VAL:HG11	44:R1:90:ILE:HD11	1.88	0.55
20:XT:49:ALA:HB1	20:XT:99:LEU:HB2	1.89	0.55
29:RI:116:LEU:O	29:RI:118:LYS:N	2.40	0.55
36:YT:3:ARG:HG3	36:YT:7:ILE:HG12	1.88	0.55
22:YA:2306:C:H2'	22:YA:2307:G:H21	1.71	0.55
51:Y8:60:LEU:HB3	51:Y8:63:PRO:HG2	1.89	0.55
22:RA:1753:G:N1	22:RA:1756:G:OP2	2.38	0.55
22:RA:1418:G:N1	22:RA:1579:A:OP2	2.36	0.55
22:RA:78:A:H2'	22:RA:79:G:C8	2.42	0.55
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.55	0.55
42:YZ:136:PHE:HE1	42:YZ:138:GLU:HG3	1.71	0.55
14:QN:48:ALA:HB2	14:QN:53:LEU:HD12	1.88	0.55
38:YV:38:LEU:H	38:YV:51:VAL:HG13	1.70	0.55
1:QA:909:A:O2'	1:QA:1413:A:O2'	2.21	0.55
2:QB:178:ARG:HH21	8:QH:74:PRO:HG3	1.71	0.55
32:YP:52:GLU:HG3	32:YP:57:THR:HG22	1.88	0.55
22:YA:2356:C:O3'	43:Y0:20:ARG:HD3	2.07	0.55
26:RF:101:LEU:O	26:RF:106:ARG:NH1	2.40	0.55
41:RY:96:ILE:HG12	41:RY:101:LYS:HB2	1.88	0.55
41:RY:81:LYS:HB2	41:RY:96:ILE:HG22	1.89	0.55
32:YP:62:LEU:HD12	51:Y8:30:ARG:NH1	2.22	0.55
1:XA:411:A:C4	1:XA:413:G:H1'	2.42	0.55
25:YE:63:LEU:HD12	25:YE:64:LYS:N	2.22	0.55
22:YA:1534:G:H1	22:YA:1538:G:N2	2.03	0.55
2:QB:5:ILE:HD12	2:QB:224:GLN:HG2	1.89	0.55
2:XB:82:ARG:NH1	2:XB:86:GLU:OE2	2.40	0.55
22:YA:958:U:OP2	33:YQ:14:ARG:NH1	2.40	0.55
1:QA:985:C:H42	1:QA:1220:G:H1	1.54	0.55
1:QA:1301:U:H3'	1:QA:1302:U:H5'	1.89	0.55
37:RU:52:ARG:HA	37:RU:55:ARG:HG3	1.88	0.55
28:YH:157:TYR:HA	28:YH:171:LEU:O	2.06	0.55
22:RA:2543:G:H2'	22:RA:2544:G:C8	2.42	0.55
1:QA:632:A:H3'	1:QA:633:G:H8	1.72	0.55
22:YA:468:G:N7	50:Y7:39:ARG:NH2	2.51	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RY:37:VAL:HG21	41:RY:72:VAL:HG21	1.88	0.55
8:QH:86:ILE:HG13	8:QH:133:LEU:HD22	1.89	0.55
22:RA:1210:A:H4'	22:RA:1211:U:O5'	2.07	0.55
1:XA:262:A:H2'	1:XA:263:A:C8	2.42	0.55
22:YA:2467:C:H4'	33:YQ:123:HIS:CD2	2.40	0.55
47:R4:16:CYS:SG	47:R4:36:CYS:N	2.79	0.55
1:XA:1497:G:H2'	1:XA:1498:U:H5'	1.88	0.55
22:RA:589:C:H2'	22:RA:590:A:C8	2.42	0.55
1:XA:1175:G:H2'	1:XA:1176:A:C8	2.42	0.55
1:XA:1359:C:OP2	14:YN:35:ARG:NH1	2.40	0.55
1:XA:45:U:H2'	1:XA:46:G:C8	2.42	0.55
22:YA:900:A:H3'	22:YA:901:A:H8	1.71	0.55
22:RA:288:C:H2'	22:RA:289:A:H8	1.72	0.55
32:YP:71:VAL:HG13	32:YP:72:PRO:HD3	1.88	0.55
24:YD:43:ARG:HD2	24:YD:44:ASN:OD1	2.07	0.55
22:YA:630:G:OP2	51:Y8:15:LYS:NZ	2.39	0.55
39:YW:14:PRO:O	39:YW:17:VAL:N	2.40	0.55
4:QD:27:TYR:HE2	6:XF:15:ASP:HB3	1.71	0.55
1:QA:1002:G:H1	1:QA:1038:C:H42	1.54	0.55
22:RA:1576:U:H2'	22:RA:1577:C:C6	2.42	0.55
1:XA:1318:A:H5'	19:XS:11:VAL:HG11	1.89	0.55
29:YI:77:LEU:HD23	29:YI:138:ILE:HD11	1.89	0.55
22:RA:2888:C:H2'	22:RA:2889:C:H6	1.72	0.55
28:RH:109:PHE:HZ	28:RH:152:ARG:HG2	1.72	0.55
22:RA:2611:U:O2	48:R5:3:LYS:HE3	2.06	0.55
22:RA:70:G:H21	22:RA:71:A:H62	1.55	0.55
1:QA:474:G:H2'	1:QA:475:G:H8	1.72	0.55
43:Y0:18:ALA:HB3	43:Y0:20:ARG:NH1	2.22	0.55
22:YA:1841:U:H2'	22:YA:1842:G:C8	2.42	0.55
9:XI:16:ARG:HB2	9:XI:64:THR:HB	1.89	0.55
1:QA:711:G:OP1	6:QF:54:LYS:NZ	2.36	0.55
22:YA:528:A:C2	22:YA:2043:C:H4'	2.42	0.55
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.39	0.55
22:YA:612:G:O2'	22:YA:616:A:N1	2.33	0.55
36:YT:26:ASP:O	36:YT:49:VAL:HG12	2.07	0.55
1:XA:1256:A:OP2	1:XA:1279:A:N6	2.40	0.55
1:XA:539:A:OP1	12:XL:114:LYS:NZ	2.32	0.55
22:RA:265:A:O2'	22:RA:266:G:H4'	2.07	0.55
24:RD:35:LYS:NZ	24:RD:104:TYR:HB2	2.22	0.55
22:YA:1499:C:H2'	22:YA:1500:G:H8	1.71	0.55
1:QA:745:C:H2'	1:QA:746:A:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1320:C:N4	19:XS:36:ARG:HG3	2.21	0.55
8:XH:86:ILE:HG22	8:XH:93:VAL:HG21	1.89	0.55
38:YV:34:GLU:O	38:YV:36:PRO:HD3	2.06	0.55
1:XA:965:A:H4'	1:XA:966:G:OP1	2.07	0.55
23:RB:37:C:O2	35:RS:95:HIS:NE2	2.40	0.55
23:YB:70:C:H2'	23:YB:71:C:C6	2.42	0.55
48:R5:56:LYS:H	48:R5:56:LYS:HD2	1.72	0.55
40:RX:25:LYS:HD3	40:RX:80:ILE:HD11	1.89	0.55
22:RA:1466:G:N2	22:RA:1547:C:N3	2.55	0.55
41:RY:95:LYS:CB	41:RY:100:ALA:HA	2.36	0.55
29:RI:13:GLY:HA3	29:RI:17:GLN:CD	2.28	0.55
1:QA:414:A:N6	1:QA:431:A:N3	2.55	0.55
22:RA:1728:G:H3'	22:RA:1729:A:C5'	2.36	0.55
22:RA:2688:U:H5	22:RA:2720:U:OP2	1.90	0.55
10:QJ:13:HIS:CE1	10:QJ:14:LYS:HE3	2.42	0.55
22:YA:862:G:H2'	22:YA:863:A:O4'	2.06	0.55
38:YV:61:VAL:HG23	38:YV:63:GLY:H	1.71	0.55
1:XA:767:A:H2'	1:XA:768:A:O4'	2.07	0.55
22:RA:2469:A:OP1	22:RA:2469:A:H4'	2.06	0.55
22:YA:771:G:OP1	50:Y7:14:LYS:HE3	2.06	0.55
12:XL:70:ILE:HG12	12:XL:100:ILE:HD12	1.88	0.55
9:QI:26:VAL:HG22	9:QI:61:ALA:HB3	1.89	0.55
1:XA:719:C:O2'	18:XR:49:LYS:HB3	2.07	0.55
26:YF:116:ASP:OD2	32:YP:1:MET:N	2.26	0.55
23:RB:103:U:O2'	42:RZ:72:ARG:HD3	2.07	0.55
23:RB:40:U:H1'	23:RB:45:A:H61	1.71	0.55
22:YA:2394:C:OP1	32:YP:63:PRO:HD2	2.06	0.54
30:YN:42:TRP:O	37:YU:64:ARG:NH2	2.40	0.54
22:RA:1283:G:N2	22:RA:1286:A:H5'	2.22	0.54
22:YA:271:G:H2'	22:YA:272:G:C8	2.34	0.54
51:R8:29:LYS:HD3	51:R8:44:LYS:HB2	1.88	0.54
22:YA:2110:G:OP1	22:YA:2145:C:N4	2.40	0.54
22:RA:1167:U:H2'	22:RA:1168:G:O4'	2.07	0.54
10:XJ:33:GLN:HB2	10:XJ:75:ILE:HD11	1.88	0.54
22:YA:2585:U:H5	56:Z8:76:PPU:HO2'	1.54	0.54
22:RA:2041:U:H2'	22:RA:2042:A:H8	1.72	0.54
22:YA:2298:A:H62	22:YA:2318:G:H8	1.53	0.54
22:YA:2205:C:H2'	22:YA:2206:C:C6	2.42	0.54
1:XA:1128:C:H5'	9:XI:16:ARG:HH22	1.71	0.54
28:RH:124:GLU:HB3	28:RH:132:ARG:HG3	1.89	0.54
22:RA:1028:A:N3	22:RA:2486:G:O2'	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1354:A:OP1	24:RD:38:LYS:HE2	2.06	0.54
22:YA:2788:C:O2'	22:YA:2809:A:N3	2.37	0.54
1:XA:221:C:H2'	1:XA:222:U:H6	1.73	0.54
22:RA:1050:A:H2'	22:RA:1051:G:O4'	2.07	0.54
4:QD:167:GLY:CA	24:YD:135:PHE:CE2	2.89	0.54
42:RZ:140:ASP:OD2	42:RZ:140:ASP:N	2.38	0.54
13:XM:3:ARG:HH22	27:YG:139:LEU:HD13	1.70	0.54
1:XA:1095:U:OP1	1:XA:1108:G:N2	2.38	0.54
33:YQ:60:ARG:HA	42:YZ:178:GLU:O	2.07	0.54
22:YA:2336:A:H61	43:Y0:43:THR:HG21	1.73	0.54
34:YR:56:LYS:NZ	34:YR:87:TYR:O	2.40	0.54
1:XA:392:G:H2'	1:XA:393:A:H8	1.72	0.54
22:RA:2867:G:O2'	22:RA:2868:A:P	2.66	0.54
22:RA:861:A:N3	23:RB:79:C:O2'	2.39	0.54
48:Y5:55:ARG:HG3	48:Y5:57:VAL:H	1.72	0.54
22:YA:834:C:H2'	22:YA:835:A:H8	1.72	0.54
3:XC:150:LYS:HE2	3:XC:152:ILE:HD11	1.88	0.54
22:RA:2543:G:H21	22:RA:2646:C:H5''	1.71	0.54
13:XM:22:ILE:HD12	13:XM:25:ILE:HD12	1.89	0.54
34:YR:55:ALA:HB2	34:YR:79:LEU:HD13	1.89	0.54
33:YQ:109:VAL:HG13	33:YQ:113:GLN:HB3	1.89	0.54
33:RQ:31:ASP:O	33:RQ:134:ARG:HB2	2.07	0.54
36:RT:1:MET:O	36:RT:3:ARG:N	2.40	0.54
1:QA:1402:C:H2'	1:QA:1403:C:O4'	2.06	0.54
30:RN:40:PRO:HB3	37:RU:68:ALA:HB2	1.89	0.54
26:RF:184:TYR:CE2	26:RF:188:ARG:HD2	2.42	0.54
1:QA:249:U:O2'	1:QA:252:U:O2'	2.21	0.54
36:YT:62:THR:HG22	36:YT:75:ILE:HG12	1.89	0.54
22:YA:2366:A:H2'	22:YA:2367:G:O4'	2.07	0.54
22:YA:2562:U:O2'	31:YO:23:ARG:HD3	2.07	0.54
8:XH:54:ASP:N	8:XH:54:ASP:OD1	2.39	0.54
22:RA:2126:A:H4'	22:RA:2127:G:O5'	2.08	0.54
3:QC:79:ARG:HD2	11:XK:99:GLN:OE1	2.07	0.54
1:QA:790:A:N6	1:QA:791:G:O6	2.41	0.54
22:YA:1149:G:H2'	22:YA:1150:C:C6	2.43	0.54
22:YA:1794:U:H2'	22:YA:1795:C:C6	2.42	0.54
22:RA:1999:C:H5''	22:RA:2723:C:O2'	2.08	0.54
22:RA:2758:A:C2	22:RA:2759:G:H1'	2.43	0.54
22:YA:501:A:H8	22:YA:501:A:O5'	1.90	0.54
1:QA:523:A:H61	12:QL:92:ASP:HB2	1.72	0.54
24:YD:12:SER:O	24:YD:16:MET:HB2	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:729:A:H2'	1:XA:730:G:H8	1.71	0.54
1:XA:128:G:O2'	17:XQ:3:LYS:NZ	2.33	0.54
5:QE:78:HIS:CE1	5:QE:142:LEU:HD23	2.42	0.54
4:XD:92:VAL:O	4:XD:96:LEU:HD22	2.07	0.54
22:RA:2343:C:O2'	22:RA:2373:G:O2'	2.14	0.54
22:YA:609(A):G:H2'	22:YA:610:C:C6	2.41	0.54
1:QA:187:C:H1'	1:QA:191(A):G:N2	2.22	0.54
33:RQ:54:MET:HG3	33:RQ:117:ALA:HB1	1.89	0.54
22:RA:1843:C:H5'	24:RD:253:GLN:OE1	2.07	0.54
25:RE:35:GLN:HE21	25:RE:37:ARG:CZ	2.21	0.54
23:YB:12:C:O2'	43:Y0:74:ARG:HG3	2.07	0.54
33:YQ:137:TYR:OH	42:YZ:45:ASP:OD2	2.20	0.54
44:R1:58:ILE:HD11	44:R1:86:SER:HB2	1.88	0.54
22:YA:1423:G:H2'	22:YA:1424:G:C8	2.41	0.54
1:QA:530:G:O6	54:QX:6:G:H1'	2.08	0.54
45:R2:42:GLY:O	45:R2:44:LEU:N	2.35	0.54
1:QA:1425:U:H2'	1:QA:1426:C:C6	2.43	0.54
34:RR:103:ARG:NH1	34:RR:108:GLY:O	2.41	0.54
30:RN:30:ILE:HG22	30:RN:34:LEU:HD22	1.88	0.54
42:RZ:100:VAL:HG11	42:RZ:134:PRO:HG2	1.89	0.54
37:YU:76:TYR:CZ	37:YU:80:ILE:HG13	2.43	0.54
22:YA:2421:G:OP1	49:Y6:6:ARG:NH2	2.39	0.54
13:QM:3:ARG:CB	47:R4:34:GLU:HB3	2.31	0.54
29:RI:8:PRO:HA	29:RI:14:ASP:HA	1.88	0.54
22:YA:2847:U:P	36:YT:98:LYS:HZ3	2.30	0.54
1:XA:881:G:OP1	12:XL:12:ARG:NH2	2.40	0.54
1:QA:988:G:H2'	1:QA:989:C:O4'	2.07	0.54
1:QA:1152:A:H2'	1:QA:1153:C:C6	2.42	0.54
1:XA:382:A:H2'	1:XA:383:A:C8	2.42	0.54
10:QJ:8:LEU:HB3	10:QJ:16:LEU:HD21	1.88	0.54
1:XA:1161:C:H2'	1:XA:1162:C:C6	2.43	0.54
22:YA:247:G:H4'	22:YA:386:G:C5	2.43	0.54
22:RA:1849:G:H2'	22:RA:1850:G:H8	1.73	0.54
45:R2:50:ILE:HD12	45:R2:51:ARG:H	1.72	0.54
1:XA:707:C:OP1	11:XK:85:ARG:NH1	2.40	0.54
27:RG:16:ARG:NH2	27:RG:28:VAL:O	2.41	0.54
1:QA:865:A:H5'	1:QA:1078:U:C5	2.43	0.54
5:XE:100:VAL:HG22	5:XE:118:ILE:HG22	1.90	0.54
48:R5:40:LYS:HG2	48:R5:47:PRO:HD2	1.90	0.54
47:Y4:54:GLY:O	47:Y4:59:PHE:HB2	2.07	0.54
22:RA:2586:C:OP2	22:RA:2608:G:N1	2.32	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.40	0.54
42:YZ:169:GLU:HG2	42:YZ:170:THR:N	2.22	0.54
30:YN:35:ARG:HB2	30:YN:42:TRP:CH2	2.42	0.54
22:YA:1510:A:OP1	22:YA:1511:A:H8	1.91	0.54
1:XA:1314:C:OP1	19:XS:6:LYS:HE3	2.08	0.54
12:XL:115:LYS:O	12:XL:117:ARG:N	2.35	0.54
32:YP:64:LYS:O	32:YP:66:GLY:N	2.41	0.54
5:XE:12:LEU:HD21	5:XE:14:ARG:HD3	1.89	0.54
24:RD:35:LYS:HZ1	24:RD:104:TYR:HB2	1.71	0.54
22:RA:861:A:H2'	22:RA:862:G:O4'	2.07	0.54
22:YA:2439:A:H4'	22:YA:2440:C:O5'	2.08	0.54
22:YA:573:G:OP2	38:YV:78:LYS:NZ	2.39	0.54
22:RA:520:G:H2'	22:RA:521:G:C8	2.43	0.54
29:RI:115:ALA:HB3	29:RI:128:LEU:HD12	1.89	0.54
18:XR:31:LEU:H	18:XR:31:LEU:HD23	1.73	0.54
29:RI:82:ARG:HG2	29:RI:146:ALA:HB3	1.88	0.54
7:XG:20:ASP:HB3	7:XG:23:VAL:HG23	1.88	0.54
37:RU:112:ARG:NH2	38:RV:47:VAL:HG13	2.23	0.54
1:XA:1252:A:H2'	1:XA:1253:G:O4'	2.08	0.54
4:QD:149:ALA:HB3	4:QD:152:SER:HB2	1.89	0.54
22:RA:994:C:OP2	37:RU:54:LYS:NZ	2.38	0.54
40:RX:83:VAL:CG1	40:RX:87:GLN:HB2	2.38	0.54
13:QM:22:ILE:HB	13:QM:25:ILE:HD12	1.89	0.54
23:RB:5:C:O2'	23:RB:27:C:O2	2.26	0.54
22:YA:674:G:N3	26:YF:74:ARG:NH1	2.56	0.54
1:XA:940:C:H2'	1:XA:941:G:H8	1.71	0.54
1:XA:941:G:H1	1:XA:1342:C:H42	1.55	0.54
36:RT:111:ARG:O	36:RT:112:ARG:HG3	2.08	0.54
1:XA:513:C:H42	1:XA:538:G:H1	1.54	0.54
53:XV:3:C:H2'	53:XV:4:G:H5'	1.89	0.54
1:QA:498:A:H4'	1:QA:500:G:OP1	2.06	0.54
1:XA:1368:G:OP1	9:XI:111:ARG:NH2	2.37	0.54
1:QA:1095:U:OP1	1:QA:1108:G:N1	2.41	0.54
3:XC:150:LYS:HB3	3:XC:201:TYR:HB2	1.90	0.54
36:RT:37:GLY:O	36:RT:39:ARG:N	2.34	0.54
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.89	0.54
1:XA:585:G:O2'	1:XA:879:C:OP1	2.21	0.54
45:Y2:35:LEU:HD12	45:Y2:53:LEU:HD12	1.89	0.54
22:YA:964:C:O2'	22:YA:2273:A:N3	2.38	0.54
7:XG:49:ILE:O	7:XG:53:LYS:HB3	2.08	0.54
1:XA:20:U:H2'	1:XA:21:G:O4'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:28:MET:O	42:YZ:34:ASN:HA	2.08	0.54
1:XA:1190:G:OP2	3:XC:5:ILE:HG23	2.08	0.54
5:QE:7:GLU:N	5:QE:35:GLY:O	2.36	0.54
32:RP:38:GLN:HG2	32:RP:45:LEU:CD1	2.36	0.54
25:RE:111:ARG:HG3	25:RE:160:TYR:CD1	2.43	0.54
1:XA:347:G:H1'	1:XA:348:G:H5''	1.90	0.54
10:XJ:32:ALA:H	10:XJ:78:ASN:HD21	1.55	0.54
3:XC:15:THR:HG23	3:XC:181:ASN:HD22	1.73	0.54
32:RP:9:ASN:HB2	32:RP:10:PRO:HD2	1.90	0.54
22:YA:2807:G:H22	22:YA:2893:G:H1	1.56	0.54
22:RA:699:A:H2'	22:RA:700:G:O4'	2.08	0.54
22:YA:1178:C:H2'	22:YA:1179:C:C6	2.43	0.54
22:YA:2028:U:H2'	22:YA:2029:G:O4'	2.08	0.54
13:XM:3:ARG:HA	13:XM:9:ILE:CG2	2.37	0.54
22:RA:242:G:O2'	22:RA:254:G:O6	2.10	0.54
22:YA:1013:C:H42	22:YA:1149:G:H1	1.54	0.54
22:YA:1149:G:H2'	22:YA:1150:C:H6	1.73	0.54
34:RR:45:ARG:HA	34:RR:95:THR:HG21	1.90	0.54
22:RA:1423:G:H2'	22:RA:1424:G:C8	2.42	0.54
29:YI:109:ILE:HB	29:YI:130:TYR:CZ	2.43	0.54
1:QA:633:G:H5'	1:QA:634:C:OP2	2.08	0.54
22:YA:2396:G:C2	22:YA:2397:G:C8	2.96	0.54
22:RA:855:G:H1	22:RA:922:U:H3	1.56	0.54
22:RA:945:A:C4	22:RA:2448:A:C2	2.96	0.54
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.16	0.54
30:YN:6:PRO:HG3	30:YN:41:ASP:HB2	1.89	0.54
27:YG:15:VAL:HG21	27:YG:176:LEU:HD23	1.90	0.54
1:QA:279:A:H4'	1:QA:280:C:H5''	1.90	0.54
16:XP:43:LYS:HG2	16:XP:48:TRP:CE3	2.42	0.54
22:YA:2389:G:H5''	22:YA:2390:U:O4'	2.08	0.54
22:YA:1341:U:O4'	40:YX:57:LEU:HD23	2.08	0.54
2:XB:162:ILE:O	2:XB:185:ILE:HG12	2.07	0.54
22:RA:2712:U:HO2'	22:RA:2712(A):A:P	2.27	0.54
1:QA:1371:G:OP1	9:QI:12:GLU:HB2	2.08	0.54
22:RA:2509:G:N2	22:RA:2579:C:N3	2.47	0.54
22:YA:2245:U:C5'	22:YA:2246:G:H5'	2.37	0.54
19:QS:10:PHE:HE2	19:QS:16:LEU:HD22	1.73	0.54
32:YP:62:LEU:HD12	51:Y8:30:ARG:HH11	1.72	0.54
22:RA:1203:G:H5''	22:RA:1204:A:H5''	1.90	0.54
22:RA:902:C:H2'	22:RA:903:C:C6	2.42	0.54
22:YA:340:A:H2'	22:YA:341:G:O4'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2315:G:OP1	27:YG:36:LYS:NZ	2.41	0.54
22:RA:245:G:O2'	22:RA:384:U:O2	2.14	0.54
49:Y6:25:LYS:HZ2	51:Y8:34:TRP:HZ2	1.56	0.54
4:QD:194:LEU:HD12	4:QD:195:ALA:H	1.73	0.54
2:QB:204:ASN:HD22	2:QB:206:ASP:H	1.56	0.54
23:YB:40:U:H3	23:YB:43:C:H5''	1.73	0.54
25:YE:111:ARG:HD2	25:YE:160:TYR:CD1	2.42	0.54
22:RA:679:C:H2'	22:RA:680:G:C8	2.43	0.54
10:XJ:9:ARG:HB2	10:XJ:95:GLU:HB3	1.88	0.54
22:RA:2549:G:N2	22:RA:2560:C:C2	2.76	0.54
22:RA:1924:C:H4'	53:QV:13:C:O2'	2.07	0.54
22:YA:2262:U:OP2	43:Y0:16:SER:HB2	2.08	0.54
22:RA:559:G:H2'	22:RA:560:C:O4'	2.07	0.54
24:YD:70:TRP:CH2	24:YD:150:LYS:HA	2.43	0.54
22:RA:2224:G:OP1	24:RD:268:ARG:NH1	2.39	0.54
22:YA:2853:C:H2'	22:YA:2854:G:H8	1.73	0.53
1:QA:1336:C:O2	1:QA:1336:C:H2'	2.08	0.53
32:RP:14:LYS:O	32:RP:16:ARG:HG2	2.08	0.53
22:YA:1270:C:O2'	22:YA:1648:C:OP2	2.17	0.53
29:YI:131:LYS:HB3	29:YI:132:PRO:HA	1.90	0.53
2:XB:82:ARG:HA	2:XB:92:TYR:CE2	2.43	0.53
32:YP:88:LEU:HD12	32:YP:95:VAL:HG11	1.90	0.53
1:XA:1225:A:N3	1:XA:1225:A:H2'	2.22	0.53
1:XA:591:U:H2'	1:XA:592:G:C8	2.43	0.53
22:RA:2267:A:H5''	22:RA:2268:A:H5'	1.89	0.53
2:QB:235:SER:O	2:QB:237:ALA:N	2.41	0.53
22:RA:478:A:N1	22:RA:500:G:H4'	2.23	0.53
22:YA:304:G:H2'	22:YA:305:U:C6	2.43	0.53
22:RA:2102:U:H2'	22:RA:2103:C:C6	2.43	0.53
22:RA:2309:A:C6	22:RA:2310:A:C6	2.95	0.53
24:YD:43:ARG:CB	24:YD:54:ARG:HB2	2.38	0.53
32:RP:61:ARG:HD2	51:R8:13:ARG:HD2	1.90	0.53
1:QA:1410:G:H1	1:QA:1490:C:N4	2.00	0.53
24:RD:44:ASN:HD22	24:RD:44:ASN:N	2.06	0.53
1:XA:1191:A:H5''	3:XC:4:LYS:HZ2	1.73	0.53
22:RA:686:G:H21	22:RA:788:A:H61	1.56	0.53
33:YQ:137:TYR:CE2	42:YZ:83:PRO:HG3	2.44	0.53
22:YA:1265:A:H3'	48:Y5:19:ARG:NH1	2.23	0.53
25:YE:78:LEU:HG	25:YE:79:ARG:NE	2.23	0.53
3:XC:14:ILE:O	3:XC:16:ARG:N	2.35	0.53
24:YD:244:ARG:HB2	24:YD:245:PRO:HD2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:190:A:N3	22:YA:679:C:O2'	2.40	0.53
22:RA:2050:C:N4	22:RA:2051:A:N1	2.55	0.53
3:QC:84:ILE:HD11	3:QC:88:ARG:HH21	1.73	0.53
36:RT:33:LYS:HD2	36:RT:82:LEU:HA	1.89	0.53
15:QO:6:GLU:OE2	15:QO:6:GLU:N	2.35	0.53
1:QA:1072:G:H2'	1:QA:1073:U:C6	2.43	0.53
22:RA:2277:G:H5''	33:RQ:85:LYS:HB2	1.90	0.53
22:RA:271:G:H2'	22:RA:272:G:H8	1.73	0.53
47:R4:56:VAL:HA	47:R4:60:GLN:HB2	1.89	0.53
1:XA:1075:C:OP1	2:XB:179:LYS:HE2	2.09	0.53
30:YN:30:ILE:HG23	30:YN:52:VAL:HG11	1.91	0.53
22:RA:321:G:H5''	26:RF:136:THR:HG23	1.90	0.53
1:QA:191(D):U:H2'	1:QA:191(E):G:C8	2.44	0.53
22:YA:270(E):G:H2'	22:YA:270(F):U:O4'	2.08	0.53
22:RA:2772:C:H2'	22:RA:2773:C:C6	2.43	0.53
22:YA:1076:C:H2'	22:YA:1077:A:H5''	1.90	0.53
22:RA:1053:C:N3	22:RA:1106:G:N2	2.42	0.53
22:YA:1509:C:H2'	22:YA:1511:A:C8	2.43	0.53
1:QA:689:C:OP2	11:QK:55:LYS:NZ	2.41	0.53
29:RI:7:GLU:O	29:RI:9:LEU:HD13	2.08	0.53
22:RA:2250:G:C8	22:RA:2496:C:H5''	2.44	0.53
1:XA:327:A:C4	1:XA:329:A:C8	2.97	0.53
22:RA:1204:A:O2'	22:RA:1205:U:O5'	2.26	0.53
1:XA:1145:C:H5'	1:XA:1146:A:OP1	2.08	0.53
22:RA:2687:U:C4	22:RA:2688:U:C5	2.96	0.53
22:YA:1454:U:H5'	34:YR:63:ARG:NE	2.23	0.53
22:RA:2563:U:O2	22:RA:2565:A:H8	1.90	0.53
22:YA:2636:U:OP1	25:YE:79:ARG:HA	2.09	0.53
22:RA:49:A:N7	22:RA:120:U:H5	2.06	0.53
19:XS:36:ARG:NH1	19:XS:52:TYR:O	2.42	0.53
29:RI:144:VAL:HG13	29:RI:145:VAL:HG23	1.91	0.53
38:YV:66:ARG:NH1	38:YV:88:ARG:HD3	2.23	0.53
22:YA:528:A:H3'	22:YA:528:A:C8	2.42	0.53
45:Y2:15:LYS:H	45:Y2:67:LYS:HE2	1.73	0.53
1:QA:598:U:H4'	8:QH:94:TYR:CD2	2.43	0.53
12:QL:55:VAL:HG12	12:QL:69:TYR:HA	1.90	0.53
2:XB:60:ASP:O	2:XB:64:ARG:HG2	2.09	0.53
1:QA:593:G:H1	1:QA:646:U:H3	1.55	0.53
22:RA:1930:G:O2'	22:RA:1931:U:P	2.66	0.53
22:RA:1289:C:H2'	22:RA:1290:C:C6	2.44	0.53
10:XJ:4:ILE:HG12	10:XJ:100:THR:HG22	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1238:A:H62	1:XA:1301:U:H3	1.54	0.53
1:QA:1350:A:OP2	9:QI:118:LYS:NZ	2.41	0.53
1:QA:147:G:H2'	1:QA:148:G:C8	2.44	0.53
1:QA:1321:C:N4	1:QA:1322:C:N3	2.57	0.53
1:QA:299:G:H2'	1:QA:300:A:C8	2.44	0.53
9:XI:111:ARG:NE	9:XI:112:LYS:O	2.38	0.53
11:XK:84:VAL:HG11	11:XK:95:ILE:HD11	1.90	0.53
22:YA:2789:C:H1'	22:YA:2892:A:H2	1.73	0.53
33:RQ:32:TYR:CE1	33:RQ:133:ARG:HG3	2.43	0.53
22:YA:528:A:C2	22:YA:2042:A:H2'	2.44	0.53
22:RA:554:U:H2'	22:RA:556:G:C8	2.44	0.53
23:RB:105:G:H2'	23:RB:106:G:H8	1.73	0.53
22:RA:1224:G:N2	22:RA:1227:A:OP2	2.42	0.53
31:RO:2:ILE:HD13	31:RO:8:LEU:HD11	1.90	0.53
1:QA:606:G:H22	1:QA:631:G:H5'	1.73	0.53
8:QH:51:VAL:HG11	8:QH:60:ARG:HG3	1.90	0.53
22:RA:2562:U:O2'	31:RO:23:ARG:NH1	2.35	0.53
22:RA:1264:G:H3'	22:RA:1265:A:H5''	1.89	0.53
1:QA:6:G:N2	5:QE:98:THR:OG1	2.41	0.53
38:RV:99:ILE:O	38:RV:101:GLY:N	2.42	0.53
22:RA:674:G:C1'	26:RF:74:ARG:HD3	2.35	0.53
22:RA:247:G:H4'	22:RA:386:G:C5	2.44	0.53
22:RA:511:U:O4	22:RA:512:G:N1	2.42	0.53
42:YZ:102:LEU:HG	42:YZ:123:ASP:HA	1.89	0.53
36:YT:51:ARG:CG	36:YT:98:LYS:HG3	2.38	0.53
24:YD:30:GLU:HG3	24:YD:63:ARG:HH21	1.73	0.53
22:RA:2332:U:H4'	22:RA:2336:A:N6	2.24	0.53
28:RH:149:ARG:HE	28:RH:154:PRO:HG2	1.73	0.53
22:YA:1165:U:H2'	22:YA:1166:C:C6	2.43	0.53
13:QM:62:ASN:OD1	47:R4:49:PHE:HD2	1.92	0.53
23:YB:77:U:P	42:YZ:19:ARG:HH22	2.31	0.53
1:XA:1347:G:OP2	9:XI:107:ARG:HG2	2.09	0.53
3:QC:35:GLU:HG2	3:QC:59:ARG:NH2	2.24	0.53
22:YA:747:U:OP2	48:Y5:3:LYS:HD2	2.08	0.53
22:YA:2033:A:O2'	22:YA:2035:G:OP2	2.26	0.53
1:QA:920:U:H2'	1:QA:921:U:C6	2.43	0.53
22:RA:270(F):U:H2'	22:RA:270(G):C:C6	2.44	0.53
1:XA:514:C:H2'	1:XA:515:G:C8	2.44	0.53
1:QA:636:U:H2'	1:QA:637:G:C8	2.44	0.53
22:RA:1620:G:O2'	22:RA:1621:U:H5'	2.09	0.53
36:YT:112:ARG:NE	36:YT:112:ARG:O	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RF:135:LYS:HB3	26:RF:138:GLU:HG3	1.90	0.53
45:R2:10:LEU:O	45:R2:13:ALA:N	2.40	0.53
52:Y9:27:CYS:SG	52:Y9:28:GLU:N	2.82	0.53
22:RA:380:U:H2'	22:RA:381:G:C8	2.43	0.53
33:YQ:12:GLN:HG2	33:YQ:73:PRO:HD2	1.90	0.53
23:YB:16:G:C6	23:YB:69:G:C2	2.97	0.53
42:YZ:52:SER:OG	42:YZ:52:SER:O	2.24	0.53
22:YA:1953:A:N1	22:YA:2549:G:O2'	2.38	0.53
26:RF:32:LEU:O	26:RF:36:VAL:HG23	2.09	0.53
1:XA:933:G:N2	1:XA:1384:C:O2	2.39	0.53
1:XA:107:G:C2	1:XA:108:G:H1'	2.44	0.53
29:RI:114:LEU:HD12	29:RI:129:THR:O	2.08	0.53
1:QA:1004:A:H1'	1:QA:1036:G:H22	1.74	0.53
17:XQ:4:LYS:HE3	17:XQ:6:LEU:HD21	1.90	0.53
36:YT:105:LEU:O	36:YT:107:ASP:N	2.42	0.53
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.44	0.53
1:QA:892:A:H2'	1:QA:893:C:C6	2.43	0.53
22:RA:1405:U:H2'	22:RA:1406:U:C6	2.44	0.53
8:XH:121:ASP:HB2	8:XH:125:ARG:NH2	2.24	0.53
22:YA:1162:G:H2'	22:YA:1163:G:H8	1.72	0.53
22:RA:2010:G:H5''	39:RW:42:ARG:HB2	1.91	0.53
22:RA:1035:U:H2'	22:RA:1036:G:C8	2.44	0.53
13:QM:7:VAL:HB	27:RG:115:ARG:NH1	2.24	0.53
22:RA:676:A:H8	22:RA:2069:G:N2	2.02	0.53
1:QA:1346:A:H5''	9:QI:120:ARG:NH1	2.20	0.53
30:YN:96:GLU:HG2	30:YN:97:ARG:N	2.23	0.53
19:XS:5:LEU:HD11	47:Y4:67:TYR:N	2.24	0.53
22:RA:1058:G:H1	22:RA:1079:C:N4	2.06	0.53
41:RY:98:VAL:HG13	41:RY:99:CYS:SG	2.48	0.53
1:XA:356:A:N3	1:XA:368:U:O2'	2.35	0.53
1:QA:148:G:H2'	1:QA:149:A:H8	1.72	0.53
22:YA:273(C):C:N4	22:YA:363(C):G:H1	2.04	0.53
36:YT:16:ARG:HE	36:YT:19:LEU:HD21	1.73	0.53
29:RI:132:PRO:HB2	29:RI:133:HIS:CE1	2.43	0.53
22:YA:2022:U:O2'	22:YA:2617:C:H5'	2.09	0.53
22:YA:729:G:C6	24:YD:208:LYS:HB2	2.43	0.53
35:RS:106:ARG:HA	35:RS:110:LEU:HD21	1.91	0.53
22:RA:2277:G:OP2	43:R0:10:THR:HG21	2.09	0.53
1:QA:872:A:O2'	1:QA:873:A:H5''	2.08	0.53
22:YA:1933:G:H2'	22:YA:1934:C:O4'	2.09	0.53
32:YP:92:GLU:HA	32:YP:123:LEU:HD23	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:QF:10:LEU:HD13	6:QF:61:LEU:HD13	1.90	0.53
23:YB:37:C:O2	35:YS:95:HIS:NE2	2.42	0.53
22:RA:2823:A:OP1	25:RE:113:PHE:HB2	2.08	0.53
9:QI:71:SER:HA	9:QI:74:ILE:HD12	1.90	0.53
1:QA:382:A:H2'	1:QA:383:A:H8	1.73	0.53
1:XA:865:A:H2	1:XA:918:A:H4'	1.72	0.53
1:QA:665:A:H2'	1:QA:725:G:N2	2.22	0.53
1:XA:1312:G:H3'	47:Y4:67:TYR:OH	2.09	0.53
22:RA:445:C:H2'	22:RA:446:G:O4'	2.09	0.53
1:QA:1432:G:OP1	36:RT:107:ASP:HB2	2.09	0.53
22:RA:960:A:H2'	22:RA:962:G:H5'	1.91	0.53
22:YA:1413:G:H2'	22:YA:1414:G:O4'	2.09	0.53
19:QS:44:MET:O	19:QS:46:GLY:N	2.40	0.53
20:XT:95:ALA:O	20:XT:97:ALA:N	2.42	0.53
26:RF:157:VAL:HB	26:RF:194:MET:HB3	1.91	0.53
22:YA:1676:A:H2'	22:YA:1677:A:O4'	2.08	0.53
45:R2:65:ASN:HB3	45:R2:69:ARG:NH2	2.24	0.53
1:XA:68:G:H5'	1:XA:171:A:H1'	1.90	0.53
22:RA:1871:A:H2'	22:RA:1872:A:C8	2.44	0.53
42:RZ:111:VAL:O	42:RZ:113:ALA:N	2.42	0.53
22:RA:609(A):G:H2'	22:RA:610:C:C6	2.44	0.53
1:XA:947:G:H2'	1:XA:948:C:C6	2.44	0.53
37:YU:102:GLU:OE1	38:YV:13:ARG:NH2	2.42	0.53
22:RA:864:G:H1'	22:RA:914:C:H42	1.74	0.53
1:QA:922:G:H2'	1:QA:923:A:C8	2.44	0.53
22:RA:2128:C:H1'	22:RA:2173:A:N3	2.23	0.53
1:QA:1342:C:H4'	9:QI:125:TYR:HB3	1.90	0.53
39:RW:110:LYS:HG3	39:RW:111:HIS:ND1	2.23	0.53
22:RA:295:G:H1	22:RA:343:C:H42	1.56	0.53
24:YD:206:LEU:O	24:YD:211:ARG:HD3	2.09	0.53
22:YA:2734:A:H5'	22:YA:2735:G:OP2	2.09	0.53
32:RP:113:LYS:HG2	32:RP:115:LEU:HD23	1.90	0.53
19:XS:31:ILE:HG23	19:XS:49:ILE:HA	1.91	0.53
27:YG:179:PRO:HG3	47:Y4:38:LYS:NZ	2.24	0.53
22:RA:768:G:H2'	22:RA:769:G:H8	1.74	0.53
22:RA:709:U:H3	22:RA:722:A:H61	1.55	0.53
1:QA:447:G:O6	1:QA:485:G:H2'	2.09	0.53
25:RE:203:LYS:HE3	25:RE:204:ALA:HB2	1.91	0.53
22:RA:26:G:H1'	22:RA:515:A:H61	1.73	0.53
29:YI:82:ARG:O	29:YI:89:TYR:HD1	1.92	0.53
22:YA:1510:A:N3	22:YA:1510:A:H2'	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:303:U:H2'	22:RA:304:G:C8	2.43	0.53
28:YH:149:ARG:NH1	28:YH:167:GLU:OE1	2.42	0.53
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.38	0.53
22:RA:415:A:H2'	22:RA:416:C:O4'	2.08	0.53
1:XA:1321:C:H5''	1:XA:1322:C:H5''	1.91	0.53
22:YA:2572:A:C8	25:YE:144:ARG:NE	2.75	0.53
1:XA:381:C:H2'	1:XA:382:A:O4'	2.09	0.53
22:YA:528:A:H2	22:YA:2043:C:C5'	2.22	0.53
49:Y6:26:ASN:ND2	49:Y6:35:GLU:OE2	2.42	0.53
22:RA:2262:U:H5	43:R0:16:SER:HG	1.57	0.53
4:QD:78:LEU:HD22	4:QD:96:LEU:HB3	1.89	0.53
18:XR:25:THR:HB	18:XR:26:LEU:HD23	1.91	0.53
44:R1:80:LEU:HD23	44:R1:80:LEU:H	1.74	0.53
1:QA:7:G:H2'	5:QE:119:LEU:HD22	1.90	0.53
1:QA:1194:U:H5''	1:QA:1195:C:OP2	2.09	0.53
29:RI:101:LEU:HD23	29:RI:105:HIS:HB2	1.90	0.53
22:YA:270(T):G:OP1	44:Y1:97:LEU:HD13	2.09	0.53
30:YN:13:TRP:O	30:YN:135:PRO:HD2	2.08	0.53
22:RA:1496:A:H8	22:RA:1577:C:O2'	1.92	0.53
1:XA:243:A:H4'	1:XA:244:U:H3'	1.91	0.53
22:RA:2888:C:H2'	22:RA:2889:C:C6	2.44	0.53
22:RA:137(A):G:N3	40:RX:41:ASN:ND2	2.54	0.53
49:Y6:40:CYS:HB2	49:Y6:45:LYS:HD3	1.90	0.53
1:XA:130:A:N3	1:XA:263:A:O2'	2.37	0.53
23:RB:13:A:O2'	23:RB:14:U:H3'	2.08	0.53
22:YA:1093:G:OP1	28:YH:170:ARG:NH1	2.42	0.53
1:QA:918:A:H2'	1:QA:919:A:O4'	2.09	0.53
48:R5:40:LYS:NZ	48:R5:46:CYS:HB3	2.24	0.53
1:XA:946:A:H2'	1:XA:947:G:C8	2.43	0.53
22:RA:2232:U:P	44:R1:40:ARG:HH12	2.32	0.53
22:YA:2441:C:OP2	22:YA:2586:C:O2'	2.24	0.53
43:R0:70:GLN:OE1	43:R0:80:HIS:NE2	2.40	0.53
1:XA:255:G:H4'	17:XQ:17:LYS:HD3	1.91	0.53
28:RH:10:PRO:HD2	28:RH:50:VAL:HG13	1.89	0.53
22:RA:1652:A:N6	34:RR:11:ASN:OD1	2.38	0.53
1:QA:939:G:H5''	7:QG:102:ARG:NH2	2.24	0.53
2:XB:44:LEU:HD12	2:XB:44:LEU:H	1.74	0.53
41:YY:35:TYR:CE1	41:YY:69:ALA:HB3	2.44	0.53
1:XA:1003:G:H21	1:XA:1005:A:H5'	1.74	0.52
33:YQ:60:ARG:NH1	42:YZ:113:ALA:HB3	2.20	0.52
22:YA:1055:G:N2	22:YA:1104:C:N3	2.47	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:37:U:O2'	1:QA:500:G:H4'	2.09	0.52
1:QA:36:C:O2'	12:QL:117:ARG:NH2	2.42	0.52
1:XA:1399:C:C2	1:XA:1502:A:N6	2.77	0.52
29:YI:124:GLY:H	29:YI:142:VAL:HG23	1.74	0.52
35:YS:10:ARG:O	35:YS:12:PHE:N	2.42	0.52
1:QA:476:G:H2'	1:QA:477:G:C8	2.44	0.52
22:RA:2844:G:H3'	22:RA:2845:G:H8	1.74	0.52
22:RA:1858:G:H1'	22:RA:1884:A:N6	2.24	0.52
12:XL:7:ILE:HD13	12:XL:10:LEU:HD12	1.90	0.52
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.74	0.52
22:RA:1532:C:O2	22:RA:1540:G:N2	2.42	0.52
45:R2:4:SER:OG	45:R2:5:GLU:OE2	2.16	0.52
1:QA:1275:A:H2'	1:QA:1276:G:O4'	2.10	0.52
25:RE:1:MET:N	25:RE:83:ASP:O	2.41	0.52
1:QA:1244:C:N3	1:QA:1293:G:N2	2.41	0.52
22:RA:1007:C:H5"	30:RN:35:ARG:HH11	1.75	0.52
42:YZ:144:LEU:HD11	42:YZ:149:SER:HA	1.90	0.52
27:YG:96:ARG:O	27:YG:98:ARG:N	2.42	0.52
1:QA:1305:G:N2	1:QA:1331:G:H2'	2.24	0.52
29:YI:5:LEU:HD21	29:YI:12:LEU:HB3	1.91	0.52
20:XT:47:GLY:O	20:XT:49:ALA:N	2.41	0.52
22:RA:1181:C:H2'	22:RA:1182:A:H8	1.73	0.52
14:QN:24:CYS:HB3	14:QN:29:ARG:N	2.23	0.52
42:YZ:10:ARG:NH2	42:YZ:26:GLY:H	2.07	0.52
1:XA:1161:C:O2'	1:XA:1162:C:H5'	2.09	0.52
30:YN:110:GLY:O	30:YN:114:ARG:HG3	2.09	0.52
24:RD:206:LEU:O	24:RD:211:ARG:NH1	2.38	0.52
1:XA:1439:C:H42	1:XA:1462:G:H1	1.57	0.52
1:XA:261:U:OP2	20:XT:79:ARG:NH2	2.42	0.52
1:XA:1067:A:N1	1:XA:1108:G:O2'	2.36	0.52
29:RI:79:ILE:HD13	29:RI:80:PRO:HD2	1.91	0.52
1:XA:1277:C:O2'	1:XA:1279:A:H1'	2.09	0.52
3:XC:40:ARG:O	3:XC:44:GLU:HB2	2.09	0.52
1:QA:410:G:H3'	4:QD:25:ARG:HH21	1.73	0.52
24:YD:85:ASP:OD2	24:YD:88:ARG:HD2	2.08	0.52
29:YI:5:LEU:HD12	29:YI:5:LEU:N	2.24	0.52
22:YA:1114:G:H2'	22:YA:1115:G:H8	1.72	0.52
35:YS:6:ALA:O	35:YS:10:ARG:HD3	2.09	0.52
22:YA:2688:U:H1'	22:YA:2721:A:N6	2.25	0.52
1:QA:940:C:H42	1:QA:1343:G:H1	1.56	0.52
33:YQ:20:ALA:HB3	42:YZ:79:ARG:NH2	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:98:GLU:OE2	4:QD:107:ARG:NE	2.43	0.52
22:RA:943:U:OP2	32:RP:36:LYS:HG2	2.08	0.52
22:YA:2261:C:OP2	43:Y0:17:GLN:N	2.40	0.52
24:YD:132:PRO:HD3	24:YD:190:TYR:CZ	2.44	0.52
22:YA:669:G:N3	22:YA:669:G:H2'	2.23	0.52
38:RV:60:GLU:HB2	38:RV:97:LYS:HE3	1.92	0.52
22:RA:2106:G:H1	22:RA:2183:C:N4	2.01	0.52
22:YA:1287:A:N7	34:YR:107:ASP:HB2	2.25	0.52
24:RD:35:LYS:NZ	24:RD:64:ILE:O	2.41	0.52
22:YA:297:C:H2'	22:YA:298:G:O4'	2.09	0.52
22:YA:1614:A:N1	39:YW:91:GLY:HA2	2.25	0.52
13:QM:66:LEU:HA	13:QM:70:LEU:HB2	1.92	0.52
26:RF:134:GLY:HA3	26:RF:165:ARG:NH1	2.25	0.52
1:XA:1245:A:OP2	21:XU:9:ARG:NH2	2.42	0.52
2:QB:134:GLU:HA	2:QB:137:ARG:HB3	1.92	0.52
22:RA:548:A:C5	22:RA:549:G:H1'	2.43	0.52
1:QA:625:G:H2'	1:QA:626:U:H6	1.75	0.52
28:RH:46:GLU:OE2	28:RH:51:ARG:NH1	2.42	0.52
22:YA:2845:G:H5''	36:YT:54:ARG:O	2.08	0.52
1:QA:396:G:O2'	1:QA:398:C:OP1	2.20	0.52
1:QA:42:G:H8	1:QA:42:G:O5'	1.93	0.52
22:RA:1297:C:H2'	22:RA:1298:C:H6	1.74	0.52
22:YA:347:A:H2'	22:YA:348:G:C8	2.44	0.52
22:RA:2105:C:N4	22:RA:2106:G:O6	2.42	0.52
29:RI:29:TYR:CD2	29:RI:30:LEU:HD23	2.44	0.52
28:RH:86:GLU:HG3	28:RH:165:ALA:N	2.25	0.52
27:RG:82:LEU:HA	27:RG:86:MET:SD	2.48	0.52
1:XA:987:G:H1	1:XA:1218:C:H42	1.57	0.52
22:RA:2247:A:H2'	22:RA:2248:C:C6	2.44	0.52
1:QA:617:G:H1	1:QA:623:C:H42	1.57	0.52
22:YA:325:G:H2'	22:YA:326:G:C8	2.43	0.52
22:YA:2193:G:H2'	22:YA:2194:G:C8	2.44	0.52
22:YA:528:A:OP2	30:YN:114:ARG:NH1	2.42	0.52
1:XA:757:U:OP1	1:XA:822:C:O2'	2.27	0.52
1:XA:1203:C:H2'	1:XA:1204:A:H8	1.75	0.52
22:RA:2019:A:OP2	48:R5:9:LYS:NZ	2.40	0.52
1:QA:1464:G:OP1	36:RT:108:ARG:NH2	2.43	0.52
3:QC:37:GLN:NE2	14:QN:52:GLN:OE1	2.32	0.52
22:RA:1790:C:H5''	22:RA:1791:A:OP1	2.10	0.52
22:YA:213:A:H2'	22:YA:214:G:O4'	2.09	0.52
22:RA:1247:A:OP1	26:RF:95:ARG:NH2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2461:C:H2'	22:RA:2462:U:H6	1.73	0.52
22:RA:1432:C:H2'	22:RA:1433:U:O4'	2.10	0.52
16:XP:8:ARG:O	16:XP:9:PHE:HD2	1.93	0.52
34:RR:59:ASP:OD1	34:RR:61:HIS:HB3	2.08	0.52
29:RI:124:GLY:O	29:RI:142:VAL:HG23	2.09	0.52
1:QA:690:G:H22	11:QK:55:LYS:NZ	2.08	0.52
24:RD:108:PRO:HB3	24:RD:143:HIS:HE1	1.73	0.52
53:XV:74:C:C2'	53:XV:75:C:H5'	2.40	0.52
1:XA:1320:C:H5'	19:XS:70:LYS:HG3	1.92	0.52
42:RZ:111:VAL:HG13	42:RZ:112:ARG:H	1.74	0.52
22:RA:78:A:H2'	22:RA:79:G:H8	1.73	0.52
22:RA:537:C:H5'	22:RA:539:G:OP2	2.10	0.52
24:RD:133:LEU:HB3	24:RD:173:VAL:HG11	1.91	0.52
22:YA:1658:C:H2'	22:YA:1659:U:C6	2.45	0.52
22:YA:11:G:H2'	22:YA:12:U:H5'	1.90	0.52
1:XA:684:A:C6	1:XA:685:G:C6	2.98	0.52
26:RF:150:GLY:HA2	26:RF:172:TRP:CE3	2.44	0.52
14:XN:43:CYS:HA	14:XN:46:GLU:HG3	1.92	0.52
22:YA:519:U:H2'	22:YA:520:G:H8	1.75	0.52
27:YG:88:ILE:HD13	27:YG:88:ILE:O	2.09	0.52
1:XA:1284:C:H3'	1:XA:1285:A:H8	1.75	0.52
49:Y6:13:CYS:O	49:Y6:21:TYR:HA	2.09	0.52
3:XC:189:ALA:HB3	3:XC:196:LEU:HB2	1.91	0.52
22:YA:1820:U:H4'	22:YA:1821:A:OP2	2.10	0.52
22:YA:2291:U:H2'	22:YA:2292:C:C6	2.44	0.52
41:RY:87:LYS:HA	41:RY:92:ASN:HB3	1.91	0.52
29:RI:29:TYR:HD2	29:RI:30:LEU:HD23	1.74	0.52
22:RA:1042:G:H2'	22:RA:1043:C:C6	2.45	0.52
22:RA:1810:A:H2'	22:RA:1811:G:O4'	2.10	0.52
1:XA:464:G:C6	1:XA:466:C:H5'	2.45	0.52
51:Y8:11:LYS:NZ	51:Y8:63:PRO:HG3	2.24	0.52
22:RA:380:U:H2'	22:RA:381:G:H8	1.74	0.52
1:QA:7:G:H5'	1:QA:298:A:O4'	2.10	0.52
22:YA:2527:C:H5''	52:Y9:30:PRO:HB2	1.90	0.52
1:XA:1229:A:O2'	53:XV:30:G:OP1	2.25	0.52
22:RA:180:G:P	50:R7:32:LYS:HE2	2.50	0.52
1:QA:602:A:H2'	1:QA:603:U:C6	2.45	0.52
22:RA:2119:A:N6	22:RA:2170:A:N7	2.56	0.52
32:YP:20:GLY:HA2	32:YP:27:HIS:O	2.10	0.52
26:YF:63:LYS:HE2	26:YF:67:GLN:HB2	1.91	0.52
22:YA:649:G:C6	22:YA:650:C:C4	2.98	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1069:C:O2'	1:XA:1192:C:O2	2.15	0.52
41:RY:84:ARG:O	41:RY:95:LYS:HD3	2.09	0.52
22:RA:1592:C:H2'	22:RA:1593:G:H8	1.74	0.52
22:RA:2493:U:H2'	22:RA:2494:G:O4'	2.10	0.52
1:XA:113:G:H1	1:XA:314:C:N4	2.07	0.52
20:XT:53:LEU:O	20:XT:57:ARG:NH1	2.42	0.52
10:XJ:78:ASN:O	10:XJ:81:THR:OG1	2.25	0.52
1:QA:1150:U:O4	1:QA:1151:A:N6	2.43	0.52
1:QA:192:U:H2'	1:QA:193:C:C6	2.45	0.52
1:QA:301:G:H2'	1:QA:302:G:C8	2.45	0.52
1:XA:476:G:H2'	1:XA:477:G:C8	2.45	0.52
22:RA:551:G:H5'	22:RA:1220:A:H1'	1.91	0.52
23:RB:44:G:H5''	23:RB:45:A:OP1	2.09	0.52
1:QA:382:A:H2'	1:QA:383:A:C8	2.44	0.52
24:RD:206:LEU:HD22	24:RD:211:ARG:HG2	1.92	0.52
38:RV:34:GLU:O	38:RV:36:PRO:HD3	2.10	0.52
1:QA:137:C:O4'	16:QP:63:GLY:HA2	2.09	0.52
22:YA:759:G:H2'	22:YA:760:G:H8	1.74	0.52
26:YF:24:LEU:HD23	26:YF:115:ALA:HA	1.91	0.52
22:RA:608:A:OP1	26:RF:100:THR:OG1	2.28	0.52
29:RI:12:LEU:HG	29:RI:19:VAL:HG21	1.90	0.52
22:YA:2825:C:O5'	22:YA:2825:C:H6	1.92	0.52
7:XG:78:ARG:HG3	7:XG:79:ARG:N	2.25	0.52
1:XA:42:G:H1	1:XA:400:C:H42	1.58	0.52
22:RA:2774:C:H2'	22:RA:2775:A:O4'	2.10	0.52
22:YA:278:A:H2'	22:YA:279:C:C6	2.45	0.52
22:RA:2183:C:H2'	22:RA:2184:G:C8	2.45	0.52
1:XA:1296:C:OP1	13:XM:44:ARG:NH2	2.43	0.52
22:YA:330:A:O2'	22:YA:331:A:H8	1.92	0.52
1:QA:411:A:H62	1:QA:413:G:N2	2.08	0.52
22:RA:883:G:H22	22:RA:892:G:H22	1.57	0.52
1:QA:376:G:H5''	16:QP:5:ARG:HB2	1.92	0.52
22:RA:2867:G:O2'	22:RA:2868:A:H8	1.93	0.52
45:Y2:58:ALA:O	45:Y2:62:THR:HG23	2.10	0.52
1:QA:1126:U:H1'	1:QA:1280:A:N7	2.25	0.52
1:XA:877:C:O2'	8:XH:3:THR:OG1	2.22	0.52
4:XD:13:ARG:HD2	4:XD:38:TYR:O	2.10	0.52
12:XL:77:LEU:HD21	12:XL:107:ALA:HA	1.92	0.52
4:QD:12:CYS:HA	4:QD:19:LEU:HD23	1.92	0.52
46:Y3:40:THR:HB	46:Y3:43:ILE:HG12	1.92	0.52
5:QE:145:LYS:HA	8:QH:107:LEU:HD21	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1178:C:H4'	22:RA:1179:C:OP1	2.10	0.52
39:RW:60:ASN:HD22	39:RW:60:ASN:H	1.56	0.52
1:XA:643:C:H2'	1:XA:644:G:H8	1.73	0.52
2:XB:35:GLU:O	2:XB:36:ARG:HD3	2.10	0.52
22:YA:860:U:H5	22:YA:917:A:C2	2.28	0.52
11:QK:96:ARG:HA	11:QK:99:GLN:HE21	1.75	0.52
28:YH:41:MET:HE1	28:YH:64:LEU:HB3	1.91	0.52
22:RA:631:A:P	51:R8:46:ARG:NH2	2.83	0.52
22:RA:2291:U:H2'	22:RA:2292:C:C6	2.45	0.52
36:YT:88:ILE:HD12	36:YT:90:GLN:N	2.25	0.52
36:RT:111:ARG:C	36:RT:113:LYS:H	2.12	0.52
22:RA:903:C:H2'	22:RA:904:C:C6	2.45	0.52
44:Y1:83:GLU:HG2	44:Y1:84:GLY:N	2.24	0.52
22:YA:270(R):G:H2'	22:YA:270(S):G:C8	2.43	0.52
1:XA:518:C:H2'	1:XA:530:G:N3	2.24	0.52
1:XA:590:C:O2'	1:XA:591:U:H5'	2.09	0.52
22:YA:863:A:H2'	22:YA:864:G:H8	1.75	0.52
22:RA:1341:U:OP2	22:RA:1394:U:O2'	2.24	0.52
1:QA:701:C:H1'	1:QA:703:G:C5	2.45	0.52
22:YA:700:G:H2'	22:YA:701:G:O4'	2.10	0.52
22:RA:2482:G:O6	33:RQ:124:LYS:NZ	2.43	0.52
22:YA:2398:U:H2'	22:YA:2399:G:C8	2.45	0.52
1:QA:892:A:H2'	1:QA:893:C:H6	1.75	0.52
22:RA:1857:G:O2'	22:RA:1885:A:N6	2.42	0.52
1:XA:359:U:H2'	1:XA:360:A:C8	2.45	0.52
5:QE:91:LEU:HD12	5:QE:120:THR:HG22	1.92	0.52
22:YA:503:A:H4'	22:YA:504:U:H5'	1.92	0.52
11:QK:32:ILE:HG13	11:QK:72:ALA:HB2	1.92	0.52
22:RA:172:C:H2'	22:RA:173:G:C8	2.44	0.52
29:RI:38:LEU:H	29:RI:38:LEU:HD12	1.74	0.52
28:YH:88:LEU:H	28:YH:88:LEU:HD22	1.75	0.52
22:YA:540:G:H5'	22:YA:541:C:OP2	2.10	0.52
22:RA:2404:C:O3'	32:RP:77:ARG:NH2	2.42	0.51
34:RR:33:ARG:HD3	34:RR:113:LEU:HG	1.92	0.51
22:YA:1062:G:O5'	22:YA:1062:G:H8	1.93	0.51
22:YA:1056:G:H4'	22:YA:1086:A:H8	1.75	0.51
1:XA:1132:C:H2'	1:XA:1133:G:C8	2.41	0.51
1:QA:1305:G:H22	1:QA:1331:G:H2'	1.75	0.51
22:RA:2287:A:O2'	22:RA:2288:A:H5''	2.09	0.51
4:XD:108:LEU:HB3	4:XD:110:PHE:CE1	2.45	0.51
19:XS:19:VAL:HG11	19:XS:44:MET:HG2	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:111:A:H4'	45:R2:69:ARG:NH2	2.24	0.51
39:YW:40:ASN:O	39:YW:41:LYS:HG2	2.10	0.51
1:QA:1217:C:H2'	1:QA:1218:C:C6	2.45	0.51
1:XA:677:U:H2'	1:XA:678:U:O4'	2.11	0.51
51:Y8:51:ALA:N	51:Y8:53:PRO:HD2	2.25	0.51
3:XC:47:LEU:HD11	3:XC:76:VAL:HB	1.91	0.51
43:Y0:67:VAL:HG22	43:Y0:81:VAL:HG22	1.91	0.51
1:XA:865:A:C2	1:XA:918:A:H4'	2.44	0.51
26:RF:150:GLY:HA2	26:RF:172:TRP:CD2	2.45	0.51
22:RA:2057:A:H2'	22:RA:2058:A:O4'	2.10	0.51
1:QA:222:U:H2'	1:QA:223:U:C6	2.45	0.51
22:RA:2532:G:H2'	22:RA:2533:A:O4'	2.09	0.51
44:R1:2:SER:HB2	44:R1:4:VAL:HG12	1.92	0.51
29:RI:138:ILE:HG12	29:RI:139:GLN:O	2.10	0.51
24:RD:12:SER:HB2	24:RD:208:LYS:HB3	1.92	0.51
1:QA:1453:G:H2'	20:QT:39:LYS:NZ	2.24	0.51
1:QA:32:A:H2'	1:QA:33:A:C8	2.45	0.51
22:YA:892:G:N2	22:YA:893:C:C2	2.78	0.51
1:QA:659:U:N3	1:QA:660:G:N7	2.58	0.51
2:XB:29:ALA:O	2:XB:32:ILE:HG22	2.10	0.51
8:QH:77:GLU:HG2	8:QH:78:GLN:H	1.74	0.51
20:XT:26:ASN:HB2	20:XT:71:THR:HG23	1.92	0.51
49:Y6:7:ILE:HG13	49:Y6:8:LYS:H	1.75	0.51
2:XB:170:GLU:O	2:XB:174:VAL:HG23	2.11	0.51
1:QA:1142:G:H3'	1:QA:1143:G:C8	2.44	0.51
22:YA:1430:C:H2'	22:YA:1431:U:C6	2.46	0.51
22:YA:1446:C:N4	22:YA:1465:G:H1	2.06	0.51
34:YR:83:ILE:HG22	34:YR:87:TYR:HE2	1.76	0.51
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.75	0.51
32:YP:96:THR:HG22	32:YP:126:VAL:HB	1.92	0.51
1:XA:1347:G:H22	1:XA:1374:A:P	2.34	0.51
22:RA:2059:A:H5'	26:RF:71:GLY:HA2	1.93	0.51
40:RX:59:VAL:HG21	40:RX:78:LYS:HE3	1.91	0.51
22:RA:1636:C:H2'	22:RA:1637:A:C8	2.45	0.51
22:YA:380:U:H5'	44:Y1:16:ASN:O	2.10	0.51
1:QA:427:U:OP1	4:QD:13:ARG:NH2	2.42	0.51
37:YU:107:ALA:O	37:YU:110:VAL:HB	2.10	0.51
45:Y2:24:LEU:HD13	45:Y2:60:LEU:HD11	1.92	0.51
22:YA:235:U:H2'	22:YA:236:C:H6	1.75	0.51
22:RA:1083:U:O2'	22:RA:1085:A:H5''	2.10	0.51
1:XA:1117:G:H5''	9:XI:104:ARG:NH1	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1143:G:H2'	1:QA:1144:G:C8	2.45	0.51
42:YZ:144:LEU:HD21	42:YZ:149:SER:HA	1.93	0.51
28:RH:153:LYS:HG2	28:RH:162:ILE:HG13	1.92	0.51
22:YA:26:G:N1	22:YA:27:G:N2	2.58	0.51
38:YV:65:GLY:HA3	38:YV:91:TYR:CZ	2.46	0.51
28:YH:26:VAL:HG13	28:YH:27:LYS:H	1.76	0.51
42:RZ:165:VAL:HG11	42:RZ:169:GLU:HB2	1.92	0.51
22:RA:1101:U:H2'	22:RA:1102:C:C6	2.45	0.51
33:RQ:108:GLY:HA3	42:RZ:116:VAL:HG21	1.92	0.51
1:XA:1493:A:OP1	57:XA:1601:PAR:H51	2.11	0.51
1:QA:984:C:H2'	1:QA:985:C:H6	1.75	0.51
32:RP:10:PRO:O	32:RP:12:ALA:N	2.43	0.51
26:RF:47:GLY:HA3	26:RF:95:ARG:O	2.10	0.51
1:XA:110:C:H2'	1:XA:111:G:O4'	2.10	0.51
23:RB:52:A:N6	35:RS:33:LYS:HG3	2.25	0.51
1:QA:965:A:C2	1:QA:969:A:C2	2.99	0.51
20:XT:89:ARG:HH21	20:XT:104:LEU:HD11	1.76	0.51
1:XA:1511:G:H2'	1:XA:1512:U:O4'	2.10	0.51
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.92	0.51
39:RW:67:ASP:OD2	39:RW:67:ASP:N	2.33	0.51
48:Y5:38:ALA:HB3	48:Y5:40:LYS:HE3	1.92	0.51
41:RY:74:PRO:O	41:RY:80:GLY:HA2	2.11	0.51
38:YV:25:LEU:H	38:YV:92:THR:HG21	1.75	0.51
5:XE:13:ILE:HD11	5:XE:55:VAL:HG22	1.91	0.51
27:YG:77:ILE:HD13	27:YG:82:LEU:HD12	1.93	0.51
42:YZ:181:GLU:HG3	42:YZ:183:LEU:HB2	1.93	0.51
22:YA:858:U:O2	22:YA:2268:A:H2'	2.11	0.51
9:XI:70:LYS:O	9:XI:74:ILE:HG13	2.10	0.51
26:YF:127:GLU:OE1	26:YF:196:LEU:HB2	2.11	0.51
1:QA:1388:C:H2'	1:QA:1389:C:C6	2.46	0.51
2:XB:21:ARG:HB2	2:XB:39:ILE:HA	1.91	0.51
10:QJ:31:GLY:HA3	10:QJ:78:ASN:ND2	2.26	0.51
22:YA:612:G:N2	22:YA:616:A:O2'	2.44	0.51
22:RA:1049:C:H2'	22:RA:1050:A:H5''	1.91	0.51
22:RA:1384:A:N3	22:RA:1405:U:H1'	2.25	0.51
22:RA:297:C:H5''	41:RY:85:VAL:HG21	1.92	0.51
29:RI:37:VAL:HG12	29:RI:38:LEU:HD12	1.92	0.51
9:XI:11:LYS:H	9:XI:104:ARG:HH21	1.57	0.51
22:YA:2370:G:C6	22:YA:2371:G:C6	2.98	0.51
4:QD:61:LYS:HB2	4:QD:203:VAL:HG13	1.93	0.51
30:YN:38:HIS:O	37:YU:67:ALA:HB1	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1607:C:H5''	22:RA:1608:A:H5'	1.92	0.51
6:XF:4:TYR:HD1	6:XF:92:LYS:HA	1.76	0.51
24:YD:148:GLU:HB2	24:YD:151:LYS:HD2	1.92	0.51
7:QG:153:HIS:CE1	11:QK:57:THR:HG23	2.46	0.51
37:YU:47:TYR:HA	37:YU:50:ARG:NH2	2.26	0.51
1:XA:484:G:H4'	1:XA:485:G:O5'	2.11	0.51
13:XM:14:ARG:N	13:XM:44:ARG:HD3	2.21	0.51
22:YA:2150:U:H2'	22:YA:2151:G:C8	2.46	0.51
1:QA:1068:G:N3	1:QA:1191:A:C2	2.76	0.51
22:RA:2273:A:H2'	22:RA:2274:A:C8	2.46	0.51
22:RA:389:G:N1	32:RP:70:GLN:HB3	2.25	0.51
22:RA:1303:G:HO2'	22:RA:1642:G:HO2'	1.58	0.51
22:YA:528:A:H3'	22:YA:528:A:H8	1.75	0.51
46:Y3:43:ILE:O	46:Y3:47:VAL:HG23	2.10	0.51
22:YA:860:U:C5	22:YA:917:A:C2	2.97	0.51
1:QA:859:A:H2'	1:QA:860:A:O4'	2.11	0.51
22:RA:2517:C:C2	22:RA:2542:A:N6	2.78	0.51
40:RX:35:THR:HG23	40:RX:38:GLU:HG2	1.93	0.51
27:YG:16:ARG:O	27:YG:20:ILE:HG12	2.10	0.51
45:Y2:65:ASN:HB3	45:Y2:69:ARG:NH2	2.26	0.51
1:XA:1432:G:H8	1:XA:1432:G:O5'	1.94	0.51
1:QA:824:C:H2'	1:QA:825:G:C8	2.45	0.51
18:QR:32:ARG:HA	18:QR:69:THR:HG21	1.91	0.51
22:RA:2399:G:H2'	22:RA:2400:G:O4'	2.11	0.51
1:QA:1376:U:OP1	7:QG:94:ARG:NH1	2.43	0.51
22:RA:1948:G:N2	22:RA:1958:C:O2	2.41	0.51
28:RH:86:GLU:H	28:RH:86:GLU:CD	2.12	0.51
44:Y1:70:VAL:O	44:Y1:74:VAL:HG23	2.10	0.51
48:Y5:56:LYS:HD3	48:Y5:58:LEU:HD23	1.90	0.51
1:XA:778:G:H1'	11:XK:119:CYS:HB3	1.93	0.51
12:QL:38:THR:HG23	12:QL:57:LYS:HB3	1.93	0.51
21:QU:6:ARG:HE	21:QU:15:ARG:HH21	1.59	0.51
1:XA:1226:C:H4'	1:XA:1227:A:OP1	2.11	0.51
22:RA:388:G:OP1	44:R1:32:LYS:N	2.32	0.51
20:XT:10:LEU:O	20:XT:13:LEU:HG	2.11	0.51
7:XG:155:ARG:O	7:XG:155:ARG:NH2	2.43	0.51
1:XA:1127:G:H4'	1:XA:1148:U:O2	2.11	0.51
22:YA:380:U:H2'	22:YA:381:G:H8	1.76	0.51
29:YI:56:LYS:HE3	29:YI:57:ARG:HG2	1.93	0.51
34:YR:104:ARG:HD3	34:YR:111:LEU:HD21	1.92	0.51
36:YT:109:GLU:O	36:YT:113:LYS:HB2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:20:TYR:HE2	8:QH:75:ARG:HD2	1.76	0.51
22:YA:2078:C:H42	22:YA:2241:A:H61	1.58	0.51
17:XQ:100:LYS:O	17:XQ:101:ARG:NE	2.43	0.51
48:Y5:42:PRO:HB2	48:Y5:43:HIS:ND1	2.25	0.51
1:QA:1086:U:H3	1:QA:1099:G:H22	1.57	0.51
1:QA:105:G:H2'	1:QA:106:C:H6	1.76	0.51
22:RA:1381:G:H1'	22:RA:1571:A:N1	2.26	0.51
22:YA:1550:C:H2'	22:YA:1551:C:H6	1.75	0.51
41:YY:81:LYS:HG2	41:YY:97:ARG:HD3	1.93	0.51
22:RA:723:G:C6	22:RA:724:U:C4	2.98	0.51
37:YU:92:ARG:NH1	38:YV:11:GLN:O	2.44	0.51
22:RA:2712:U:H1'	22:RA:2712(A):A:C8	2.45	0.51
42:RZ:91:LEU:HD12	42:RZ:130:PRO:HG3	1.93	0.51
23:YB:60:C:H2'	23:YB:61:G:C8	2.42	0.51
19:XS:15:LEU:O	19:XS:19:VAL:N	2.36	0.51
1:QA:35:G:H2'	1:QA:36:C:C6	2.46	0.51
22:YA:1537:C:H2'	22:YA:1538:G:O4'	2.11	0.51
1:QA:370:C:H2'	1:QA:371:G:H8	1.75	0.51
22:RA:902:C:H2'	22:RA:903:C:H6	1.76	0.51
22:YA:1469:A:H2'	22:YA:1470:G:C8	2.44	0.51
22:YA:1041:C:H2'	22:YA:1042:G:H8	1.76	0.51
29:RI:60:GLU:HG3	29:RI:61:ARG:HH12	1.75	0.51
1:XA:692:U:O2'	1:XA:694:A:N7	2.29	0.51
22:RA:2630:G:N3	22:RA:2894:G:N2	2.58	0.51
22:RA:1716:U:H2'	22:RA:1717:G:H8	1.75	0.51
6:XF:97:PHE:CD2	18:XR:31:LEU:HD21	2.46	0.51
22:RA:180:G:OP2	50:R7:32:LYS:HE2	2.11	0.51
1:QA:137:C:H42	1:QA:226:G:H1	1.56	0.51
29:RI:11:ASN:O	29:RI:12:LEU:HB2	2.09	0.51
22:RA:1677:A:O5'	22:RA:1677:A:H8	1.93	0.51
22:YA:1843:C:H5'	24:YD:253:GLN:OE1	2.10	0.51
1:XA:234:C:H2'	1:XA:235:C:H6	1.74	0.51
36:RT:28:VAL:HG23	36:RT:88:ILE:HA	1.92	0.51
1:QA:266:G:H5''	1:QA:267:C:C5	2.46	0.51
19:XS:26:GLY:O	19:XS:28:LYS:N	2.43	0.51
33:YQ:2:LEU:H	33:YQ:2:LEU:HD23	1.76	0.51
26:RF:149:ASP:N	26:RF:149:ASP:OD1	2.27	0.51
1:XA:828:A:H2'	1:XA:829:G:O4'	2.10	0.51
1:QA:1368:G:H5'	9:QI:112:LYS:HB3	1.92	0.51
22:RA:1382:G:H4'	22:RA:1573:G:N2	2.25	0.51
1:XA:962:C:H2'	1:XA:963:G:C8	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:640:C:O2	22:YA:649:G:C2	2.64	0.51
23:YB:24:G:H1'	23:YB:26:A:H62	1.75	0.51
1:QA:347:G:O2'	1:QA:348:G:H5''	2.11	0.51
22:RA:140:A:C8	22:RA:1408:C:O2'	2.61	0.51
1:XA:396:G:C2	1:XA:398:C:C4	2.99	0.51
23:RB:65:C:N4	23:RB:108:C:H2'	2.23	0.51
24:YD:35:LYS:NZ	24:YD:104:TYR:HB2	2.26	0.51
25:YE:62:PRO:O	25:YE:64:LYS:N	2.43	0.51
28:YH:6:ARG:NE	28:YH:54:ARG:HH12	2.09	0.51
48:Y5:45:VAL:HG11	48:Y5:57:VAL:HG12	1.93	0.51
35:YS:11:LYS:HB2	35:YS:91:PRO:HB3	1.93	0.51
42:RZ:104:PHE:HB3	42:RZ:141:VAL:HG12	1.93	0.51
39:YW:106:ILE:O	39:YW:106:ILE:HG12	2.07	0.51
26:RF:185:ASP:HA	26:RF:188:ARG:HD3	1.93	0.51
22:YA:347:A:H2'	22:YA:348:G:H8	1.75	0.51
1:QA:991:U:O4	1:QA:1212:U:O2'	2.19	0.51
25:RE:134:ILE:HA	25:RE:137:HIS:CD2	2.46	0.51
19:QS:5:LEU:HG	47:R4:66:SER:HB3	1.93	0.51
23:YB:42:C:O2	27:YG:93:THR:N	2.27	0.51
1:XA:1306:A:N6	1:XA:1331:G:H1'	2.25	0.51
23:YB:56:G:H5'	27:YG:27:ASN:ND2	2.26	0.51
22:YA:2849:U:H4'	22:YA:2868:A:C2	2.46	0.51
22:YA:796:C:H2'	22:YA:797:C:C6	2.46	0.51
37:RU:90:VAL:HG22	38:RV:39:LEU:HB3	1.93	0.51
1:XA:1313:U:OP1	19:XS:5:LEU:HB2	2.11	0.51
33:YQ:66:ILE:O	33:YQ:104:PHE:N	2.39	0.51
22:YA:1753:G:H5'	22:YA:1754:C:OP2	2.09	0.51
16:QP:3:LYS:HG3	16:QP:24:ALA:HB2	1.92	0.51
22:RA:1927:A:H2'	22:RA:1928:A:C8	2.46	0.51
22:YA:2467:C:C2'	22:YA:2468:G:H5'	2.41	0.51
22:YA:141(A):C:H2'	22:YA:142:G:O4'	2.10	0.51
4:XD:78:LEU:HD22	4:XD:96:LEU:HB3	1.93	0.51
22:YA:455:C:N3	22:YA:473:G:H5'	2.26	0.51
1:XA:598:U:H2'	1:XA:599:C:H6	1.75	0.51
1:XA:1402:C:H2'	1:XA:1403:C:O4'	2.11	0.51
22:YA:1028:A:N3	22:YA:2486:G:O2'	2.34	0.51
15:XO:33:THR:HG21	15:XO:85:LEU:HD22	1.93	0.51
1:QA:767:A:O2'	1:QA:1524:C:O2	2.28	0.51
26:RF:20:LEU:HD23	26:RF:125:LEU:HD12	1.93	0.51
20:QT:14:LYS:HA	20:QT:17:ARG:HG3	1.91	0.51
22:RA:37:C:H2'	22:RA:38:A:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1192:C:OP2	3:QC:4:LYS:NZ	2.41	0.51
22:RA:1645:G:H5''	22:RA:1646:C:H5'	1.93	0.51
22:YA:1217:C:OP1	37:YU:15:LYS:HE3	2.11	0.51
51:Y8:23:VAL:CG1	51:Y8:46:ARG:HD3	2.40	0.51
1:QA:1239:A:H62	1:QA:1299:A:N6	2.08	0.51
22:YA:811:U:H2'	32:YP:21:ARG:O	2.11	0.51
23:YB:104:A:H5'	42:YZ:72:ARG:HD3	1.92	0.51
22:RA:607:U:H3	22:RA:621:A:H2	1.57	0.51
22:RA:2505:G:H2'	22:RA:2576:G:O6	2.10	0.51
27:RG:88:ILE:HD13	27:RG:88:ILE:O	2.10	0.51
1:XA:1157:A:H8	1:XA:1158:C:N4	2.09	0.51
22:YA:610:C:H42	22:YA:618:G:H1	1.59	0.51
22:RA:679:C:H2'	22:RA:680:G:H8	1.74	0.51
22:RA:2262:U:OP1	43:R0:19:LYS:NZ	2.39	0.51
22:YA:199:A:C8	22:YA:2433:A:N6	2.80	0.51
22:RA:1637:A:H4'	22:RA:2711:A:O2'	2.11	0.51
22:YA:1655:A:O2'	25:YE:115:GLY:HA2	2.11	0.51
22:RA:811:U:OP2	32:RP:29:LYS:N	2.38	0.51
22:RA:322:A:H5'	22:RA:340:A:H1'	1.93	0.51
1:XA:1030:C:H2'	1:XA:1031:G:O4'	2.10	0.51
22:YA:2577:A:H5''	22:YA:2578:G:H5'	1.93	0.51
1:XA:22:G:H2'	1:XA:23:C:C6	2.45	0.51
22:RA:1262:A:H2	48:R5:10:LYS:HD2	1.76	0.51
6:QF:69:GLU:H	6:QF:69:GLU:CD	2.15	0.51
11:XK:41:THR:HG21	11:XK:71:LYS:HB3	1.93	0.51
35:RS:56:LEU:HD23	35:RS:58:LEU:HD22	1.92	0.51
32:RP:62:LEU:CD2	51:R8:25:MET:HB2	2.37	0.50
22:YA:2469:A:H2	22:YA:2481:G:N2	2.08	0.50
1:XA:1065:U:C5	1:XA:1190:G:H1'	2.46	0.50
22:RA:723:G:H2'	22:RA:724:U:O4'	2.11	0.50
22:YA:287:C:H2'	22:YA:288:C:C6	2.46	0.50
22:YA:1019:U:HO2'	22:YA:1021:A:H2	1.57	0.50
22:RA:1859:A:N6	22:RA:1883:G:HO2'	2.09	0.50
22:YA:2294:C:H2'	22:YA:2295:C:H6	1.76	0.50
22:YA:593:G:H1	22:YA:664:C:H42	1.59	0.50
40:RX:40:LYS:HG3	40:RX:51:VAL:HB	1.92	0.50
48:R5:3:LYS:NZ	48:R5:3:LYS:HA	2.27	0.50
36:RT:118:ARG:HH21	36:RT:121:ILE:HG21	1.76	0.50
22:YA:1114:G:H2'	22:YA:1115:G:C8	2.46	0.50
22:RA:330:A:O2'	22:RA:331:A:H2'	2.11	0.50
22:YA:691:C:H2'	22:YA:692:C:C6	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2584:U:H5''	56:Z8:76:PPU:H92	1.93	0.50
1:XA:129:U:H2'	1:XA:131:C:H5	1.76	0.50
11:QK:33:THR:HG22	11:QK:39:PRO:HA	1.92	0.50
23:RB:48:A:H2'	23:RB:49:C:C6	2.45	0.50
1:QA:189:U:O2'	17:QQ:63:ARG:NH2	2.44	0.50
1:XA:571:U:O4	1:XA:864:A:N6	2.43	0.50
22:YA:279:C:H2'	22:YA:280:C:H6	1.75	0.50
22:YA:1923:U:H2'	22:YA:1924:C:C6	2.45	0.50
22:YA:2219:G:H2'	22:YA:2224:G:H5'	1.91	0.50
1:QA:967:C:H2'	1:QA:968:A:C8	2.45	0.50
22:RA:25:U:H5'	39:RW:79:GLY:HA2	1.92	0.50
22:RA:2477:C:H2'	52:R9:1:MET:HG3	1.92	0.50
28:YH:89:ILE:HG12	28:YH:89:ILE:O	2.10	0.50
6:XF:86:ARG:O	6:XF:87:ARG:HG2	2.11	0.50
36:RT:19:LEU:HD22	36:RT:86:ILE:HG22	1.93	0.50
1:XA:1179:A:H4'	9:XI:103:THR:HA	1.93	0.50
9:QI:8:GLY:HA2	9:QI:79:LEU:HD12	1.92	0.50
35:YS:30:ARG:HG3	35:YS:97:ARG:NH2	2.26	0.50
22:YA:195:A:H5''	22:YA:196:A:O5'	2.10	0.50
22:YA:2469:A:O2'	33:YQ:56:ARG:HG2	2.10	0.50
1:XA:1346:A:C4	7:XG:10:ARG:NH1	2.79	0.50
22:RA:1667:G:OP2	22:RA:1667:G:H8	1.94	0.50
22:YA:869:G:H2'	22:YA:870:A:O4'	2.11	0.50
13:QM:33:ALA:HA	13:QM:59:TYR:HE2	1.76	0.50
22:RA:2419:U:H2'	22:RA:2420:C:C6	2.46	0.50
4:XD:108:LEU:HD21	4:XD:183:GLY:HA3	1.93	0.50
2:XB:80:ILE:HD11	2:XB:208:ILE:HG23	1.93	0.50
22:YA:2757:A:P	52:Y9:20:HIS:H	2.34	0.50
22:YA:2422:A:C5	22:YA:2424:C:N4	2.79	0.50
22:RA:270(I):G:H2'	22:RA:270(J):G:C8	2.44	0.50
22:YA:2633:G:H1'	25:YE:62:PRO:HG2	1.92	0.50
22:RA:860:U:O2'	22:RA:861:A:H5'	2.10	0.50
22:YA:1882:C:H3'	22:YA:1883:G:H8	1.76	0.50
23:YB:80:U:O2'	23:YB:81:G:H5'	2.10	0.50
22:RA:2747:G:H21	22:RA:2757:A:H62	1.57	0.50
1:XA:272:C:H2'	1:XA:273:A:C8	2.47	0.50
3:XC:138:VAL:HG22	3:XC:151:VAL:HG23	1.93	0.50
1:QA:41:G:H2'	1:QA:42:G:C8	2.46	0.50
22:RA:2516:G:C5	22:RA:2517:C:C4	2.99	0.50
22:YA:2821:A:OP2	34:YR:3:HIS:NE2	2.44	0.50
2:XB:9:GLU:HB3	2:XB:48:MET:SD	2.50	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RN:46:VAL:HG13	30:RN:48:MET:HG3	1.93	0.50
1:QA:359:U:H2'	1:QA:360:A:C8	2.45	0.50
22:YA:969:U:H2'	22:YA:970:C:C6	2.46	0.50
22:RA:706:A:H2'	22:RA:707:G:O4'	2.11	0.50
39:YW:57:ASN:O	39:YW:61:ASN:HB2	2.10	0.50
22:YA:1825:A:H2'	22:YA:1826:G:H8	1.76	0.50
22:YA:2498:C:O2'	22:YA:2499:C:H5'	2.11	0.50
22:RA:1278:A:H4'	34:RR:34:ILE:HD12	1.93	0.50
22:RA:2065:C:H1'	22:RA:2449:U:N3	2.26	0.50
22:RA:498:G:N3	41:RY:47:LYS:NZ	2.59	0.50
41:RY:97:ARG:HH21	41:RY:98:VAL:HB	1.77	0.50
32:RP:14:LYS:HD3	32:RP:14:LYS:O	2.12	0.50
51:Y8:58:ILE:HA	51:Y8:61:LEU:HD21	1.92	0.50
19:XS:40:ILE:HG23	19:XS:67:VAL:O	2.11	0.50
1:XA:243:A:C2	1:XA:246:A:C8	3.00	0.50
28:RH:152:ARG:HH21	28:RH:153:LYS:HZ1	1.60	0.50
33:YQ:89:ASN:O	33:YQ:91:GLU:N	2.44	0.50
32:YP:62:LEU:N	32:YP:62:LEU:HD23	2.26	0.50
1:XA:881:G:H2'	1:XA:882:C:O4'	2.11	0.50
1:QA:501:C:OP1	12:QL:117:ARG:NH2	2.37	0.50
22:RA:347:A:H2'	22:RA:348:G:H8	1.76	0.50
33:RQ:17:LEU:HD23	33:RQ:96:VAL:HG23	1.92	0.50
1:XA:160:A:H1'	1:XA:344:A:C5	2.47	0.50
25:RE:6:GLY:HA2	25:RE:51:PHE:CZ	2.46	0.50
1:QA:568:G:N2	1:QA:883:C:C2	2.79	0.50
22:YA:2636:U:H1'	22:YA:2783:G:N2	2.26	0.50
22:YA:2764:A:N6	22:YA:2766:G:C2	2.80	0.50
22:RA:372:G:O2'	22:RA:373:U:P	2.69	0.50
1:XA:749:C:H2'	1:XA:750:G:H8	1.76	0.50
1:QA:1301:U:O2	1:QA:1301:U:H2'	2.09	0.50
1:XA:260:G:H2'	1:XA:261:U:C6	2.45	0.50
22:YA:1658:C:H2'	22:YA:1659:U:H6	1.76	0.50
22:RA:1173:G:H4'	22:RA:1174:A:N7	2.26	0.50
39:RW:60:ASN:HD22	39:RW:60:ASN:N	2.09	0.50
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.43	0.50
22:YA:1292:U:H2'	22:YA:1293:C:C6	2.46	0.50
25:RE:176:ILE:HG23	25:RE:178:GLU:OE2	2.11	0.50
3:XC:54:ARG:HD3	3:XC:56:ASP:OD1	2.10	0.50
22:RA:2070:G:H2'	22:RA:2071:A:C8	2.46	0.50
1:QA:1009:G:H1	1:QA:1020:U:H3	1.60	0.50
22:RA:240:G:O2'	22:RA:257:A:N6	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:114:ARG:O	2:XB:117:GLU:HB2	2.10	0.50
1:QA:276:G:O3'	17:QQ:68:ARG:NH1	2.40	0.50
1:QA:1312:G:OP2	47:R4:67:TYR:HE1	1.93	0.50
22:YA:783:A:C8	22:YA:783:A:H3'	2.46	0.50
40:RX:60:ARG:HH12	50:R7:47:ARG:HH22	1.58	0.50
1:QA:1297:C:H4'	1:QA:1298:C:H5'	1.94	0.50
22:RA:1007:C:H5''	30:RN:35:ARG:NH1	2.26	0.50
22:RA:1991:U:H2'	22:RA:1992:G:H5''	1.93	0.50
1:QA:1366:C:O3'	10:QJ:60:ARG:NH2	2.44	0.50
22:YA:443:A:H1'	22:YA:1201:C:O4'	2.11	0.50
22:RA:33:U:O4	22:RA:446:G:O2'	2.25	0.50
38:YV:52:VAL:HG23	38:YV:55:ALA:H	1.76	0.50
24:RD:62:TYR:CE1	24:RD:64:ILE:HA	2.46	0.50
1:QA:1178:G:C8	1:QA:1180:A:OP2	2.65	0.50
22:RA:860:U:C5	22:RA:917:A:C2	2.98	0.50
22:RA:1188:U:O2'	22:RA:1189:A:H5'	2.11	0.50
1:XA:41:G:H2'	1:XA:42:G:C8	2.47	0.50
1:QA:105:G:H2'	1:QA:106:C:C6	2.46	0.50
22:YA:805:G:N2	22:YA:828:U:H5''	2.26	0.50
9:QI:53:VAL:HB	9:QI:95:LYS:HE3	1.92	0.50
11:QK:17:GLY:N	11:QK:79:SER:O	2.44	0.50
22:YA:2790:A:C2	22:YA:2791:C:H2'	2.46	0.50
47:Y4:10:VAL:HG22	47:Y4:11:PRO:HD2	1.94	0.50
44:R1:62:VAL:HG23	44:R1:63:ALA:O	2.11	0.50
42:RZ:10:ARG:HD3	42:RZ:18:LEU:HD21	1.93	0.50
7:QG:116:ALA:O	7:QG:120:ILE:HG12	2.11	0.50
2:XB:189:ASP:HB3	2:XB:203:GLY:O	2.12	0.50
22:YA:2574:G:H2'	22:YA:2575:C:C6	2.46	0.50
10:QJ:47:PHE:CE1	10:QJ:63:PHE:HB2	2.47	0.50
51:R8:23:VAL:HG11	51:R8:46:ARG:HD3	1.92	0.50
32:YP:58:THR:O	32:YP:61:ARG:CZ	2.59	0.50
27:YG:67:LYS:HZ3	47:Y4:1:MET:HB2	1.77	0.50
19:XS:4:SER:O	19:XS:5:LEU:HD13	2.11	0.50
22:RA:1860:G:H1	22:RA:1882:C:N4	2.09	0.50
22:RA:318:C:H2'	22:RA:319:C:H6	1.77	0.50
1:XA:115:G:O5'	1:XA:115:G:H8	1.94	0.50
50:R7:5:TRP:NE1	50:R7:7:PRO:HG3	2.26	0.50
29:RI:109:ILE:HB	29:RI:130:TYR:CZ	2.47	0.50
1:XA:690:G:H22	11:XK:55:LYS:NZ	2.08	0.50
2:XB:21:ARG:O	2:XB:23:ARG:N	2.44	0.50
1:XA:719:C:O2'	18:XR:50:ILE:O	2.20	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:R5:46:CYS:HB2	48:R5:50:GLY:HA3	1.93	0.50
25:YE:111:ARG:HA	34:YR:1:MET:CG	2.40	0.50
12:QL:69:TYR:CG	12:QL:90:VAL:HG21	2.46	0.50
2:XB:111:ARG:HH21	2:XB:114:ARG:HG2	1.76	0.50
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.93	0.50
33:RQ:89:ASN:O	33:RQ:92:GLY:N	2.42	0.50
1:QA:313:A:H2'	1:QA:314:C:C6	2.46	0.50
43:Y0:50:ASN:C	43:Y0:62:LEU:HD12	2.32	0.50
2:QB:231:GLU:HG3	2:QB:233:SER:H	1.77	0.50
1:XA:1232:U:OP1	9:XI:124:GLN:NE2	2.45	0.50
26:YF:167:ALA:HB1	26:YF:173:VAL:HG11	1.93	0.50
27:YG:79:ASN:HD22	27:YG:79:ASN:N	2.08	0.50
12:QL:54:LYS:H	12:QL:54:LYS:HD2	1.75	0.50
22:YA:1348:G:H2'	22:YA:1349:A:H5''	1.91	0.50
1:XA:1382:C:H2'	1:XA:1383:C:C6	2.46	0.50
1:QA:673:G:H2'	1:QA:674:G:C8	2.46	0.50
13:XM:3:ARG:CG	47:Y4:34:GLU:HB3	2.41	0.50
22:RA:2055:C:H4'	22:RA:2056:G:H5''	1.94	0.50
1:QA:1133:G:H2'	1:QA:1134:G:C8	2.46	0.50
22:RA:2293:C:H5''	35:RS:89:ARG:NH1	2.23	0.50
22:RA:1754:C:N3	22:RA:2716:U:O2'	2.39	0.50
1:QA:1285:A:H4'	1:QA:1286:A:O5'	2.12	0.50
22:YA:2025:C:H2'	22:YA:2026:C:C6	2.44	0.50
22:RA:111:A:C6	22:RA:112:U:C4	3.00	0.50
1:QA:10:A:H2'	1:QA:11:G:C8	2.45	0.50
22:RA:1798:U:C5'	24:RD:259:THR:HG22	2.42	0.50
42:YZ:10:ARG:NH2	42:YZ:37:VAL:O	2.44	0.50
22:RA:935:C:H2'	22:RA:936:C:H6	1.76	0.50
1:QA:42:G:H2'	1:QA:43:C:O4'	2.11	0.50
9:QI:95:LYS:NZ	9:QI:96:LEU:HD13	2.26	0.50
13:QM:40:ASN:ND2	13:QM:43:THR:HG23	2.27	0.50
22:RA:1947:C:H42	22:RA:1959:G:H1	1.58	0.50
22:RA:1024:G:O5'	22:RA:1024:G:H8	1.95	0.50
22:YA:1751:C:H2'	22:YA:1752:C:C6	2.47	0.50
28:YH:84:SER:O	28:YH:85:LYS:HB2	2.11	0.50
40:RX:26:TYR:HB3	40:RX:92:LEU:HD12	1.93	0.50
32:RP:26:GLY:O	32:RP:28:GLY:N	2.45	0.50
22:RA:2815:C:H5'	48:R5:29:THR:HG21	1.93	0.50
42:RZ:1:MET:HG2	42:RZ:2:GLU:H	1.76	0.50
1:XA:537:G:H5''	12:XL:113:ARG:NH1	2.26	0.50
49:Y6:47:THR:HG22	49:Y6:48:VAL:HG12	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YG:5:VAL:HG11	27:YG:100:TRP:HB3	1.93	0.50
31:YO:120:GLU:HG2	31:YO:122:LEU:HG	1.94	0.50
43:Y0:24:LYS:O	43:Y0:25:ARG:HD3	2.12	0.50
1:QA:464:G:C6	1:QA:466:C:H5'	2.47	0.50
13:QM:3:ARG:NH2	27:RG:113:ARG:HH21	2.10	0.50
2:XB:162:ILE:HD11	2:XB:184:VAL:HG22	1.94	0.50
1:QA:789:U:H5	1:QA:791:G:H3'	1.76	0.50
29:RI:5:LEU:HD12	29:RI:17:GLN:HB3	1.92	0.50
22:RA:273:G:H1	22:RA:364:C:N4	2.07	0.50
36:RT:111:ARG:O	36:RT:113:LYS:N	2.42	0.50
1:QA:1080:A:H5''	5:QE:16:THR:HG21	1.92	0.50
19:QS:41:VAL:HA	19:QS:44:MET:HG3	1.93	0.50
22:RA:1899:G:N2	22:RA:1902:C:H41	2.10	0.50
51:Y8:25:MET:O	51:Y8:47:LYS:NZ	2.44	0.50
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.77	0.50
1:QA:179:A:H2'	1:QA:180:U:C6	2.46	0.50
22:YA:1364:G:N7	44:Y1:2:SER:N	2.59	0.50
42:RZ:121:HIS:NE2	42:RZ:169:GLU:HG2	2.26	0.50
32:YP:36:LYS:HB3	32:YP:40:SER:HB3	1.94	0.50
22:YA:1999:C:H2'	22:YA:2000:G:H8	1.76	0.50
38:YV:61:VAL:HA	38:YV:94:LEU:HD23	1.93	0.50
28:RH:132:ARG:HH11	28:RH:132:ARG:HB2	1.76	0.50
26:YF:65:TRP:O	26:YF:67:GLN:N	2.43	0.50
1:XA:234:C:H2'	1:XA:235:C:C6	2.46	0.50
22:YA:1835:G:H5''	22:YA:1836:C:OP2	2.12	0.50
35:RS:67:ARG:O	35:RS:71:ARG:HG3	2.12	0.50
22:YA:226:G:H2'	22:YA:227:A:C8	2.47	0.50
22:YA:239:U:H2'	22:YA:240:G:O4'	2.12	0.50
53:XV:19:G:C4	53:XV:57:A:C2	2.99	0.50
50:Y7:5:TRP:NE1	50:Y7:7:PRO:HG3	2.26	0.50
22:RA:1545:A:H2'	22:RA:1545(A):A:O4'	2.12	0.50
1:QA:348:G:H2'	1:QA:349:A:H8	1.77	0.50
42:RZ:180:VAL:O	42:RZ:181:GLU:HB2	2.12	0.50
22:YA:1012:U:O4	30:YN:25:ARG:HA	2.12	0.50
1:QA:1037:C:H2'	1:QA:1038:C:C6	2.47	0.50
33:YQ:66:ILE:HG13	33:YQ:67:ARG:N	2.27	0.50
28:YH:4:ILE:HG13	28:YH:6:ARG:NE	2.26	0.50
22:RA:1803:A:H4'	24:RD:259:THR:HG23	1.94	0.50
26:YF:108:LYS:O	26:YF:112:MET:HG3	2.12	0.50
1:XA:97:U:H2'	1:XA:99:C:C6	2.47	0.50
36:RT:39:ARG:HG2	36:RT:40:THR:H	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:563:G:H22	22:YA:578:A:H2	1.60	0.50
22:YA:759:G:H2'	22:YA:760:G:C8	2.46	0.50
2:XB:32:ILE:HD11	2:XB:40:HIS:HB3	1.94	0.50
13:QM:40:ASN:HD22	13:QM:43:THR:HG23	1.77	0.50
22:RA:2228:G:C6	22:RA:2229:C:N3	2.80	0.50
22:YA:2776:A:OP1	22:YA:2776:A:H3'	2.12	0.50
22:RA:2570:G:H2'	22:RA:2571:C:O4'	2.12	0.50
11:XK:86:GLY:O	11:XK:91:ARG:HD3	2.11	0.50
1:XA:59:A:N6	1:XA:331:G:H1'	2.26	0.50
23:YB:89(A):A:N7	23:YB:90:C:H1'	2.27	0.50
22:YA:1858:G:O2'	22:YA:1884:A:N6	2.44	0.50
13:QM:92:HIS:HD2	13:QM:110:ARG:HH21	1.58	0.50
30:YN:58:ASP:OD1	30:YN:58:ASP:N	2.45	0.50
22:RA:1818:U:H2'	24:RD:157:ARG:HG3	1.94	0.50
53:XV:17:C:O2	53:XV:17:C:H2'	2.11	0.50
4:QD:33:MET:CE	4:QD:37:PRO:HA	2.41	0.50
29:YI:29:TYR:CD2	29:YI:30:LEU:HD23	2.31	0.50
41:YY:97:ARG:HH21	41:YY:98:VAL:HB	1.76	0.50
37:YU:83:LEU:HG	37:YU:88:ILE:HG13	1.93	0.50
40:YX:60:ARG:HH22	50:Y7:47:ARG:HH12	1.60	0.50
22:RA:1614:A:H62	39:RW:93:ALA:CB	2.21	0.50
1:QA:149:A:H4'	1:QA:1450:U:C4	2.46	0.50
1:QA:410:G:H5''	1:QA:411:A:OP1	2.12	0.50
1:XA:1366:C:H2'	1:XA:1367:C:C6	2.44	0.50
22:RA:1796:U:H2'	22:RA:1797:C:H6	1.75	0.50
22:RA:2784:C:H2'	22:RA:2785:C:H6	1.77	0.50
22:RA:2116:G:H1	22:RA:2162:G:P	2.35	0.50
30:RN:34:LEU:O	30:RN:49:GLY:HA3	2.12	0.50
33:YQ:20:ALA:HB3	42:YZ:79:ARG:CZ	2.42	0.50
1:XA:1179:A:H2'	1:XA:1180:A:O4'	2.12	0.50
26:RF:16:GLY:O	26:RF:18:ARG:N	2.45	0.50
22:YA:2795:G:H3'	22:YA:2797:U:C5'	2.42	0.50
13:XM:49:THR:HB	13:XM:52:GLU:H	1.77	0.50
25:YE:73:GLU:HG3	25:YE:74:PRO:HD2	1.92	0.50
1:XA:431:A:H2'	1:XA:432:A:O4'	2.12	0.50
22:RA:2359:C:H2'	22:RA:2360:A:O4'	2.12	0.50
4:XD:112:VAL:HG12	4:XD:116:GLN:OE1	2.12	0.50
22:YA:2804:C:H2'	22:YA:2805:G:C8	2.47	0.50
10:QJ:22:LYS:HZ2	10:QJ:23:ILE:HA	1.77	0.50
22:RA:611:C:C2	22:RA:618:G:N2	2.79	0.50
22:RA:688:U:H6	22:RA:688:U:O5'	1.95	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:56:U:H2'	1:QA:57:G:C8	2.46	0.50
22:RA:826:U:H2'	22:RA:828:U:O4'	2.12	0.50
1:QA:1288:A:C2	1:QA:1289:A:C4	3.00	0.50
22:YA:1812:A:H2'	22:YA:1813:G:H8	1.77	0.50
1:XA:923:A:H2'	1:XA:924:C:O4'	2.12	0.50
36:RT:34:VAL:HG12	36:RT:36:GLU:HG2	1.94	0.50
15:XO:67:LEU:HB3	15:XO:78:TYR:HE1	1.77	0.50
22:RA:1561:G:H2'	22:RA:1562:A:H8	1.77	0.50
22:YA:479:A:N3	22:YA:481:G:H5''	2.26	0.49
1:XA:1443:G:H5'	1:XA:1446:A:OP2	2.12	0.49
9:QI:118:LYS:O	9:QI:120:ARG:N	2.40	0.49
42:YZ:144:LEU:HD13	42:YZ:145:GLU:H	1.77	0.49
23:RB:28:C:H2'	23:RB:29:A:O4'	2.12	0.49
22:RA:1075:C:C2	22:RA:1076:C:H1'	2.47	0.49
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.47	0.49
22:RA:2247:A:H2'	22:RA:2248:C:H6	1.75	0.49
40:RX:40:LYS:O	40:RX:42:ALA:N	2.45	0.49
42:RZ:45:ASP:O	42:RZ:48:PHE:N	2.44	0.49
22:RA:815:C:H2'	22:RA:816:C:C6	2.44	0.49
3:QC:14:ILE:HG12	3:QC:15:THR:N	2.27	0.49
32:YP:126:VAL:HG13	32:YP:145:PRO:HB2	1.94	0.49
1:QA:1352:C:OP1	21:QU:3:LYS:NZ	2.39	0.49
16:XP:28:ARG:NH1	16:XP:29:ASP:OD1	2.45	0.49
22:RA:1341:U:H2'	22:RA:1397:U:O2	2.12	0.49
22:YA:1093:G:H4'	28:YH:170:ARG:NH2	2.26	0.49
13:XM:20:THR:C	13:XM:22:ILE:H	2.15	0.49
9:QI:46:ALA:HB2	9:QI:74:ILE:HG23	1.94	0.49
1:XA:1304:G:N1	1:XA:1332:A:OP2	2.32	0.49
1:QA:1343:G:H2'	1:QA:1344:C:C6	2.46	0.49
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.11	0.49
1:XA:598:U:H2'	1:XA:599:C:C6	2.47	0.49
23:YB:48:A:P	35:YS:30:ARG:HH22	2.35	0.49
22:YA:2780:G:OP2	30:YN:118:LYS:HE2	2.12	0.49
22:YA:107:C:H2'	22:YA:108:U:H6	1.77	0.49
20:XT:64:ASP:HA	20:XT:67:ALA:HB3	1.93	0.49
22:RA:2668:G:H2'	22:RA:2669:G:H8	1.77	0.49
1:XA:337:C:H2'	1:XA:338:A:C8	2.46	0.49
22:RA:656:G:H2'	22:RA:657:U:O4'	2.12	0.49
1:QA:1455:G:H2'	1:QA:1459:C:H6	1.76	0.49
5:XE:76:ILE:HG13	5:XE:93:PRO:HB3	1.94	0.49
1:XA:264:U:H2'	1:XA:265:G:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:20:C:H2'	22:RA:21:A:H8	1.76	0.49
25:YE:103:ASP:OD1	25:YE:201:THR:HG23	2.12	0.49
22:YA:2641:G:P	30:YN:83:LYS:HE3	2.52	0.49
22:RA:270(S):G:H5'	44:R1:76:ARG:HG2	1.93	0.49
1:QA:1347:G:H22	1:QA:1374:A:P	2.36	0.49
1:QA:1203:C:H2'	1:QA:1204:A:H8	1.76	0.49
1:QA:411:A:N6	1:QA:413:G:H21	2.10	0.49
1:QA:1263:C:H5'	1:QA:1264:C:OP2	2.11	0.49
22:RA:1205:U:C4	26:RF:171:PRO:HA	2.47	0.49
22:RA:873:G:H1	22:RA:904:C:N4	2.10	0.49
3:QC:14:ILE:HG12	3:QC:15:THR:H	1.76	0.49
14:YN:23:ARG:NH1	14:YN:30:ALA:HB2	2.27	0.49
1:XA:1147:C:O2'	9:XI:16:ARG:HD3	2.12	0.49
12:XL:71:PRO:O	12:XL:102:ARG:HD3	2.12	0.49
2:QB:204:ASN:ND2	2:QB:206:ASP:O	2.45	0.49
2:QB:235:SER:OG	2:QB:236:TYR:N	2.46	0.49
22:YA:336:C:O2'	41:YY:35:TYR:OH	2.26	0.49
22:RA:1171:G:N7	22:RA:1174:A:N6	2.60	0.49
22:RA:2416:C:H2'	22:RA:2417:C:C6	2.48	0.49
1:QA:1404:C:H2'	1:QA:1405:G:C8	2.47	0.49
1:QA:784:C:H4'	22:RA:1837:C:OP1	2.12	0.49
22:RA:1598:C:H5'	40:RX:36:LYS:HB2	1.93	0.49
13:QM:65:LYS:NZ	47:R4:52:THR:HG21	2.27	0.49
22:RA:2078:C:H2'	22:RA:2079:U:O4'	2.11	0.49
33:RQ:20:ALA:HB1	33:RQ:99:PRO:HD2	1.94	0.49
6:QF:97:PHE:O	18:QR:31:LEU:HD23	2.12	0.49
22:YA:881:G:H3'	22:YA:882:G:H8	1.76	0.49
1:XA:16:A:N1	1:XA:919:A:H2	2.11	0.49
3:QC:157:ILE:HD11	3:QC:166:GLU:HB2	1.94	0.49
22:YA:2118:U:O2	22:YA:2148:G:O2'	2.22	0.49
22:YA:551:G:H5'	22:YA:1220:A:H1'	1.92	0.49
23:RB:83:G:N2	23:RB:93:C:N3	2.50	0.49
30:YN:7:LYS:HD2	30:YN:7:LYS:N	2.28	0.49
1:XA:1256:A:H4'	1:XA:1258:G:C4	2.47	0.49
1:QA:954:G:H21	1:QA:1227:A:H62	1.60	0.49
29:YI:5:LEU:HD11	29:YI:19:VAL:HG12	1.94	0.49
1:QA:109:A:C6	1:QA:326:G:C6	3.00	0.49
22:RA:184:C:H2'	22:RA:185:U:C6	2.47	0.49
1:XA:67:C:O2'	1:XA:171:A:N3	2.39	0.49
22:RA:1467:C:N3	22:RA:1525:G:N2	2.52	0.49
22:YA:769:G:H5'	22:YA:1379:A:N6	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1093:G:HO2'	22:YA:1099:G:H1	1.59	0.49
6:XF:97:PHE:HB2	18:XR:32:ARG:CZ	2.41	0.49
4:QD:167:GLY:HA3	24:YD:135:PHE:CE2	2.47	0.49
1:QA:1342:C:H2'	1:QA:1343:G:C8	2.47	0.49
28:RH:155:SER:OG	28:RH:156:ALA:N	2.45	0.49
8:QH:9:MET:HG3	8:QH:26:VAL:HG21	1.94	0.49
1:QA:334:C:H2'	1:QA:335:C:C6	2.47	0.49
11:XK:82:VAL:HB	11:XK:108:ILE:HG12	1.94	0.49
33:RQ:11:LYS:HE2	33:RQ:86:GLY:O	2.11	0.49
22:RA:2729:G:H1'	25:RE:187:ALA:HB2	1.93	0.49
22:YA:2629:A:O2'	22:YA:2630:G:H5''	2.11	0.49
22:RA:2828:C:O2'	22:RA:2829:C:H5'	2.12	0.49
13:XM:81:LEU:HD13	13:XM:88:ARG:HD2	1.94	0.49
34:RR:44:LEU:HD22	34:RR:48:VAL:HG23	1.94	0.49
40:YX:53:LYS:HB3	40:YX:82:GLN:HB3	1.93	0.49
22:YA:273:G:N2	22:YA:365:C:C2	2.80	0.49
10:XJ:49:VAL:HG22	14:XN:41:ARG:HB2	1.94	0.49
22:RA:242:G:N2	22:RA:254:G:H2'	2.28	0.49
27:RG:115:ARG:NH2	27:RG:137:GLU:OE1	2.46	0.49
29:YI:72:LEU:HD11	29:YI:107:VAL:HG21	1.94	0.49
37:YU:95:LEU:HD22	38:YV:4:ILE:HD12	1.93	0.49
19:XS:5:LEU:CD1	47:Y4:66:SER:CA	2.90	0.49
22:RA:1077:A:C2	22:RA:1078:U:H4'	2.48	0.49
22:YA:307:G:H21	22:YA:330:A:H62	1.60	0.49
22:YA:522:G:C2	22:YA:523:C:C2	3.00	0.49
3:QC:73:PRO:O	3:QC:76:VAL:HG22	2.12	0.49
23:RB:8:U:O3'	35:RS:25:ARG:NH2	2.39	0.49
35:RS:15:ARG:NH1	35:RS:25:ARG:HH21	2.11	0.49
1:XA:188:U:H2'	1:XA:189:U:H5''	1.94	0.49
22:RA:1798:U:H5'	24:RD:259:THR:HG22	1.95	0.49
22:RA:1534:G:C2'	22:RA:1535:U:H4'	2.41	0.49
29:YI:110:ASP:HB3	29:YI:111:PRO:C	2.32	0.49
25:YE:35:GLN:HG2	25:YE:37:ARG:HE	1.78	0.49
24:RD:175:LEU:HD12	24:RD:185:VAL:HG21	1.93	0.49
42:YZ:136:PHE:CE1	42:YZ:138:GLU:HG3	2.47	0.49
24:YD:121:PRO:HB3	24:YD:135:PHE:CE1	2.47	0.49
22:YA:277:C:H5'	22:YA:278:A:H5'	1.95	0.49
20:XT:89:ARG:NH2	20:XT:104:LEU:HD11	2.27	0.49
26:RF:9:ILE:HD11	26:RF:125:LEU:HG	1.94	0.49
42:RZ:10:ARG:NH2	42:RZ:26:GLY:O	2.45	0.49
27:YG:94:LEU:HD12	27:YG:99:MET:HA	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YB:89:G:C6	23:YB:89(A):A:C6	3.01	0.49
22:RA:2755:C:N3	52:R9:19:ARG:NH1	2.60	0.49
22:YA:2401:U:H2'	22:YA:2402:C:H5''	1.94	0.49
9:XI:40:LEU:C	9:XI:42:ARG:H	2.15	0.49
22:YA:1786:A:C2	22:YA:2606:C:H1'	2.47	0.49
26:YF:31:HIS:HB2	32:YP:9:ASN:OD1	2.12	0.49
1:XA:996:A:O5'	1:XA:996:A:H8	1.95	0.49
22:RA:2021:C:H5	37:RU:25:TRP:CD1	2.30	0.49
29:YI:3:VAL:HG12	29:YI:38:LEU:HA	1.94	0.49
22:YA:483:A:H5''	22:YA:484:C:OP2	2.12	0.49
1:XA:56:U:H2'	1:XA:57:G:C8	2.46	0.49
37:YU:61:TRP:CD2	37:YU:94:ASN:HA	2.47	0.49
1:XA:1258:G:H1	1:XA:1277:C:H42	1.60	0.49
22:YA:1509:C:H3'	22:YA:1510:A:H5''	1.94	0.49
22:YA:1754:C:H5	36:YT:96:ARG:NH2	2.11	0.49
22:YA:2656:U:H3	22:YA:2665:A:H2	1.57	0.49
22:RA:1359:A:H2'	22:RA:1360:A:H5'	1.94	0.49
1:QA:684:A:C6	1:QA:685:G:C5	3.00	0.49
30:YN:17:ASP:O	30:YN:56:ASN:HB2	2.12	0.49
22:YA:2561:A:H2'	22:YA:2562:U:O4'	2.12	0.49
30:YN:34:LEU:HD21	30:YN:120:LEU:HB2	1.94	0.49
22:RA:1678:G:N2	22:RA:1989:G:H22	2.10	0.49
7:QG:20:ASP:HB3	7:QG:23:VAL:HG23	1.94	0.49
50:R7:31:LEU:HD22	50:R7:42:LEU:HD13	1.95	0.49
1:XA:34:C:H1'	12:XL:32:PHE:CE2	2.48	0.49
18:QR:26:LEU:HD22	18:QR:42:ARG:HD2	1.94	0.49
22:YA:1087:G:H2'	22:YA:1089:G:H4'	1.93	0.49
22:RA:286:C:H2'	22:RA:287:C:C6	2.48	0.49
22:YA:185:U:H4'	22:YA:218:A:H4'	1.94	0.49
22:YA:1355:G:O5'	22:YA:1355:G:H8	1.95	0.49
1:XA:1191:A:H5''	3:XC:4:LYS:NZ	2.27	0.49
1:QA:1356:G:H2'	1:QA:1357:A:H8	1.76	0.49
41:RY:47:LYS:HG2	41:RY:60:PHE:HD1	1.76	0.49
1:QA:664:G:P	18:QR:64:ARG:HH21	2.35	0.49
1:XA:374:A:O2'	1:XA:451:A:OP2	2.27	0.49
22:RA:1899:G:N2	22:RA:1902:C:N4	2.58	0.49
19:XS:41:VAL:HB	19:XS:42:PRO:CA	2.42	0.49
24:YD:27:THR:HG21	24:YD:83:GLU:HG2	1.94	0.49
22:YA:2633:G:H5'	22:YA:2811:G:O2'	2.11	0.49
1:QA:1058:G:N2	10:QJ:53:PRO:HG3	2.27	0.49
49:Y6:41:PRO:HD2	49:Y6:46:HIS:N	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:RN:134:ARG:N	30:RN:135:PRO:HD3	2.28	0.49
22:RA:1047:G:H2'	22:RA:1110:G:H1	1.78	0.49
23:YB:95:U:H2'	23:YB:96:G:H8	1.75	0.49
22:RA:177:G:H3'	22:RA:178:G:H8	1.77	0.49
1:QA:587:G:N2	1:QA:754:C:OP2	2.46	0.49
40:YX:57:LEU:HD11	40:YX:78:LYS:HD2	1.94	0.49
22:RA:296:C:H2'	22:RA:297:C:H6	1.77	0.49
22:RA:322:A:OP2	26:RF:169:ASN:HB2	2.13	0.49
22:RA:1161:C:H2'	22:RA:1162:G:C8	2.47	0.49
22:RA:2510:C:H2'	22:RA:2511:U:C6	2.47	0.49
26:RF:178:PRO:HG2	26:RF:179:GLU:OE2	2.13	0.49
22:RA:1401:G:H2'	22:RA:1402:C:C6	2.48	0.49
46:R3:6:VAL:HG13	46:R3:56:VAL:HG13	1.94	0.49
22:YA:147:U:H2'	22:YA:148:C:C6	2.48	0.49
1:XA:528:C:H41	12:XL:49:ASN:CG	2.14	0.49
2:XB:24:TRP:CZ3	2:XB:26:PRO:HA	2.48	0.49
47:Y4:15:ILE:HD13	47:Y4:15:ILE:H	1.77	0.49
22:RA:1469:A:H2'	22:RA:1470:G:O4'	2.13	0.49
33:RQ:69:PHE:CD1	33:RQ:70:PRO:HD2	2.46	0.49
8:QH:95:VAL:HB	8:QH:99:GLU:O	2.13	0.49
32:YP:61:ARG:HD3	51:Y8:13:ARG:HD2	1.94	0.49
32:YP:63:PRO:HD3	51:Y8:13:ARG:HD3	1.95	0.49
37:RU:92:ARG:O	37:RU:92:ARG:HG2	2.13	0.49
13:XM:14:ARG:HG2	13:XM:17:VAL:HG23	1.94	0.49
42:RZ:151:HIS:O	42:RZ:171:ILE:HG12	2.13	0.49
27:RG:60:LEU:O	27:RG:64:THR:HG22	2.11	0.49
1:XA:1060:C:C5	3:XC:2:GLY:HA2	2.48	0.49
24:RD:35:LYS:HZ1	24:RD:65:ILE:HA	1.76	0.49
49:Y6:41:PRO:O	49:Y6:45:LYS:HE3	2.12	0.49
22:RA:593:G:H4'	51:R8:61:LEU:HD13	1.94	0.49
22:RA:1065:U:H3	22:RA:1073:A:H61	1.61	0.49
27:RG:110:ALA:HB1	27:RG:140:ILE:HD12	1.94	0.49
22:RA:121:G:H4'	22:RA:149:A:H5'	1.94	0.49
1:XA:464:G:H1'	1:XA:468:A:N6	2.28	0.49
41:YY:86:ARG:HB2	41:YY:95:LYS:HD2	1.93	0.49
1:XA:143:A:H5''	1:XA:144:G:O5'	2.12	0.49
40:RX:27:THR:HB	40:RX:80:ILE:HB	1.94	0.49
22:RA:1789:A:H2'	22:RA:1790:C:O4'	2.13	0.49
33:RQ:89:ASN:O	33:RQ:91:GLU:N	2.45	0.49
22:RA:1016:G:H2'	22:RA:1017:G:O4'	2.13	0.49
11:XK:59:TYR:CZ	11:XK:63:LEU:HD11	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RF:132:VAL:HG23	26:RF:133:ASN:OD1	2.12	0.49
22:YA:781:A:H2'	22:YA:1777:U:O2'	2.13	0.49
25:YE:179:GLU:HB3	25:YE:181:LEU:HD23	1.94	0.49
22:YA:2345:G:N3	22:YA:2381:C:H2'	2.28	0.49
1:XA:37:U:H2'	1:XA:38:G:O4'	2.12	0.49
25:RE:70:ALA:O	25:RE:72:VAL:N	2.46	0.49
22:YA:2645:G:C3'	22:YA:2646:C:H5'	2.43	0.49
17:QQ:18:THR:HG23	17:QQ:69:LYS:HE3	1.94	0.49
14:QN:15:LYS:HD2	14:QN:16:PHE:CE2	2.47	0.49
3:QC:47:LEU:HD23	3:QC:68:VAL:HG11	1.94	0.49
29:RI:81:VAL:CG2	29:RI:142:VAL:HG12	2.39	0.49
1:QA:975:A:C8	1:QA:1357:A:H2	2.31	0.49
49:R6:15:GLU:CD	49:R6:41:PRO:HB3	2.32	0.49
22:YA:1208:C:C4	22:YA:1209:G:N7	2.81	0.49
27:RG:54:GLU:HA	27:RG:57:ALA:HB3	1.94	0.49
1:QA:1318:A:H4'	19:QS:11:VAL:CG1	2.43	0.49
29:YI:104:GLN:HG2	29:YI:105:HIS:CE1	2.48	0.49
42:RZ:62:PRO:C	42:RZ:64:GLY:H	2.16	0.49
22:YA:1930:G:O2'	22:YA:1931:U:P	2.71	0.49
1:QA:8:A:H4'	1:QA:9:G:OP1	2.11	0.49
1:QA:229:U:H2'	1:QA:230:G:C8	2.48	0.49
22:RA:58:G:C5	22:RA:59:U:C5	3.01	0.49
22:YA:2496:C:P	33:YQ:81:VAL:HG12	2.53	0.49
1:XA:643:C:H2'	1:XA:644:G:C8	2.48	0.49
24:RD:228:PRO:HD3	24:RD:234:GLY:C	2.33	0.49
22:RA:1853:A:N3	22:RA:2233:U:O2'	2.41	0.49
22:YA:855:G:C6	22:YA:856:C:C4	3.01	0.49
12:XL:62:SER:HB2	12:XL:64:TYR:HD1	1.76	0.49
1:XA:818:G:O2'	1:XA:819:A:H5'	2.12	0.49
22:RA:979:G:H3'	22:RA:980:A:C5'	2.41	0.49
22:YA:1312:U:H4'	22:YA:1313:U:O5'	2.13	0.49
22:RA:270(U):C:H2'	22:RA:270(V):G:H8	1.77	0.49
10:XJ:35:SER:OG	10:XJ:73:ASP:HB2	2.13	0.49
1:XA:17:U:H2'	1:XA:18:C:C6	2.48	0.49
24:YD:76:PRO:HG2	24:YD:98:VAL:HG21	1.94	0.49
3:XC:148:GLY:HA3	3:XC:172:ARG:O	2.12	0.49
22:RA:2210:G:H5'	22:RA:2211:G:C6	2.48	0.49
22:RA:606:U:H4'	22:RA:658:C:H4'	1.94	0.49
22:YA:2020:A:O2'	22:YA:2021:C:H2'	2.12	0.49
22:RA:1449:A:HO2'	22:RA:1530:G:N2	2.04	0.49
1:XA:1443:G:H2'	36:YT:122:ASP:OD2	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1277:C:H2'	1:XA:1279:A:H8	1.76	0.49
3:QC:79:ARG:HE	11:XK:99:GLN:NE2	2.11	0.49
19:QS:77:THR:HG22	19:QS:78:ARG:HD3	1.95	0.49
1:QA:1203:C:H2'	1:QA:1204:A:C8	2.48	0.49
22:RA:2540:C:H2'	22:RA:2541:A:O4'	2.13	0.49
24:YD:61:LEU:O	24:YD:63:ARG:NH1	2.45	0.49
42:YZ:48:PHE:CE2	42:YZ:52:SER:HA	2.48	0.49
5:XE:10:MET:SD	5:XE:13:ILE:HD13	2.53	0.49
1:QA:1226:C:H2'	13:QM:103:THR:HB	1.93	0.49
22:YA:602:G:C2	22:YA:656:G:C6	3.01	0.49
22:RA:1091:G:N2	22:RA:1101:U:H1'	2.27	0.49
1:XA:518:C:H2'	1:XA:530:G:C4	2.48	0.49
22:RA:589:C:H2'	22:RA:590:A:H8	1.76	0.49
22:RA:680:G:H2'	22:RA:681:G:C8	2.48	0.49
1:QA:522:C:OP2	12:QL:69:TYR:OH	2.25	0.49
22:YA:1657:C:O2'	25:YE:133:LYS:HD2	2.13	0.49
49:Y6:21:TYR:HE1	49:Y6:53:LYS:HE3	1.77	0.49
29:RI:3:VAL:HG12	29:RI:38:LEU:HA	1.94	0.49
20:QT:79:ARG:O	20:QT:83:ARG:HG3	2.12	0.49
22:YA:1758:G:OP1	22:YA:1760:A:N6	2.46	0.49
53:QV:9:G:N3	53:QV:45:G:H2'	2.28	0.49
2:XB:47:THR:HA	2:XB:202:PRO:HG2	1.95	0.49
22:RA:1212:G:N2	22:RA:1236:G:O2'	2.44	0.49
22:YA:2323:G:H2'	22:YA:2324:C:O4'	2.13	0.49
49:R6:14:THR:O	49:R6:49:HIS:HA	2.12	0.49
12:QL:24:VAL:HG13	12:QL:98:TYR:HE2	1.77	0.49
1:XA:1291:G:OP1	7:XG:37:ASN:ND2	2.46	0.49
22:YA:1693:U:O2'	24:YD:14:ARG:NH2	2.45	0.49
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.78	0.49
28:YH:12:PRO:HG3	28:YH:48:GLY:HA2	1.95	0.49
1:QA:849:C:H2'	1:QA:850:U:O4'	2.13	0.49
2:QB:80:ILE:HG21	2:QB:212:GLN:HA	1.95	0.49
10:QJ:51:ARG:NH2	14:QN:58:LYS:HZ1	2.11	0.49
22:RA:2292:C:OP2	35:RS:17:ARG:NH2	2.46	0.49
33:YQ:104:PHE:CE1	33:YQ:125:LEU:HD11	2.41	0.49
42:YZ:52:SER:C	42:YZ:54:HIS:H	2.16	0.49
26:YF:176:LEU:HD21	26:YF:181:LEU:HA	1.94	0.49
1:QA:1066:C:H5'	1:QA:1067:A:OP2	2.13	0.49
1:QA:1512:U:H2'	1:QA:1513:A:H8	1.78	0.49
1:QA:1025:U:HO2'	1:QA:1026:G:P	2.36	0.49
22:RA:860:U:H5	22:RA:917:A:C2	2.31	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:861:A:C2	22:RA:917:A:C5	3.01	0.49
1:QA:617:G:N2	1:QA:618:C:N3	2.61	0.49
22:YA:1042:G:H1	22:YA:1113:U:H3	1.61	0.49
22:RA:2144:U:O2'	22:RA:2147:G:O6	2.21	0.49
1:QA:751:U:H2'	1:QA:752:G:O4'	2.13	0.49
22:RA:1178:C:H2'	22:RA:1179:C:C5	2.48	0.49
1:XA:1118:C:OP1	9:XI:9:ARG:HD3	2.12	0.49
22:RA:1676:A:N6	22:RA:1677:A:N1	2.61	0.49
1:QA:266:G:H5'	1:QA:268:C:H41	1.77	0.49
1:XA:1179:A:O3'	9:XI:103:THR:HG23	2.13	0.49
27:RG:98:ARG:HB2	27:RG:98:ARG:HE	1.38	0.49
6:XF:19:LEU:HD21	6:XF:59:TYR:CE2	2.47	0.49
24:YD:170:GLY:C	24:YD:172:TYR:H	2.16	0.49
22:RA:1130:U:C2	25:RE:147:PRO:HB3	2.48	0.49
22:YA:1957:C:H2'	22:YA:1958:C:C6	2.48	0.49
4:QD:129:ASN:HA	4:QD:145:GLU:HB2	1.94	0.49
3:XC:79:ARG:HH12	3:XC:82:GLU:HG3	1.77	0.49
22:YA:2639:A:H2'	22:YA:2640:G:O4'	2.13	0.49
21:QU:5:ASP:O	21:QU:11:GLY:HA3	2.13	0.49
22:RA:1292:U:H2'	22:RA:1293:C:C6	2.48	0.49
22:YA:698:C:O2'	22:YA:734:A:N6	2.46	0.49
22:RA:1022:G:H4'	22:RA:1023:U:H5'	1.95	0.48
1:QA:1053:G:O6	1:QA:1199:U:H2'	2.13	0.48
1:QA:1053:G:N7	1:QA:1199:U:H3'	2.27	0.48
41:RY:47:LYS:HG2	41:RY:60:PHE:CD1	2.48	0.48
24:YD:35:LYS:HD3	24:YD:63:ARG:CB	2.43	0.48
22:RA:503:A:C4'	22:RA:504:U:H5'	2.42	0.48
1:QA:325:A:H2'	1:QA:326:G:O4'	2.11	0.48
1:XA:347:G:C4	1:XA:348:G:C8	3.00	0.48
7:QG:155:ARG:NH2	7:QG:155:ARG:O	2.46	0.48
28:YH:98:LEU:HD13	28:YH:125:VAL:HB	1.94	0.48
22:YA:2636:U:OP2	25:YE:79:ARG:NH1	2.46	0.48
22:RA:1137:G:O2'	22:RA:2039:C:H5'	2.13	0.48
22:YA:2687:U:H2'	22:YA:2688:U:O4'	2.12	0.48
1:QA:455:C:H42	1:QA:477:G:H1	1.59	0.48
3:XC:134:ILE:HG23	3:XC:151:VAL:HB	1.94	0.48
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.48	0.48
22:RA:2469:A:H2	22:RA:2481:G:H21	1.61	0.48
36:YT:107:ASP:H	36:YT:110:ILE:HG22	1.78	0.48
49:R6:25:LYS:HE2	49:R6:27:LYS:HD3	1.94	0.48
36:RT:16:ARG:HD3	36:RT:19:LEU:HD11	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1312:G:H5''	47:R4:67:TYR:OH	2.13	0.48
15:QO:16:ALA:HB1	15:QO:21:ASP:HB3	1.94	0.48
22:RA:205:G:O2'	22:RA:206:U:OP2	2.25	0.48
28:RH:4:ILE:HG13	28:RH:6:ARG:NE	2.28	0.48
22:YA:225:A:O2'	22:YA:257:A:H4'	2.13	0.48
5:XE:33:VAL:HG11	5:XE:109:ILE:HA	1.95	0.48
22:YA:1159:U:H2'	22:YA:1160:G:O4'	2.13	0.48
1:XA:444:C:H2'	1:XA:445:G:C8	2.48	0.48
2:QB:96:ARG:H	2:QB:96:ARG:HD2	1.76	0.48
22:YA:270(G):C:H2'	22:YA:270(H):C:C6	2.47	0.48
1:QA:855:G:C6	1:QA:856:C:C4	3.01	0.48
22:RA:2404:C:H2'	22:RA:2405:G:H5'	1.95	0.48
1:XA:485:G:H1'	1:XA:486:U:H5	1.77	0.48
22:RA:2056:G:N2	48:R5:4:HIS:O	2.45	0.48
1:QA:1305:G:O2'	1:QA:1306:A:O4'	2.31	0.48
22:YA:1265:A:H8	22:YA:1265:A:OP1	1.95	0.48
28:RH:41:MET:HG3	28:RH:54:ARG:HA	1.96	0.48
22:RA:456:C:O2'	22:RA:457:A:H5'	2.13	0.48
10:QJ:32:ALA:HB3	10:QJ:76:ASN:HB2	1.95	0.48
12:QL:58:VAL:O	12:QL:65:GLU:HA	2.13	0.48
22:YA:1870:C:H2'	22:YA:1871:A:O4'	2.12	0.48
22:YA:1204:A:H1'	22:YA:1206:G:C5	2.48	0.48
22:YA:1918:A:HO2'	22:YA:1920:C:N4	2.11	0.48
42:YZ:10:ARG:NH2	42:YZ:26:GLY:O	2.45	0.48
1:XA:107:G:OP1	1:XA:325:A:N6	2.46	0.48
22:RA:107:C:H2'	22:RA:108:U:C6	2.48	0.48
1:QA:440:A:H5'	1:QA:442:C:OP2	2.13	0.48
22:RA:977:G:C6	22:RA:987:G:C6	3.01	0.48
31:YO:76:ALA:HB3	36:YT:75:ILE:HD12	1.95	0.48
25:YE:111:ARG:HG2	34:YR:1:MET:SD	2.53	0.48
22:RA:381:G:H2'	22:RA:382:G:H8	1.78	0.48
37:YU:98:LEU:O	37:YU:102:GLU:N	2.37	0.48
1:XA:757:U:H2'	1:XA:758:G:O4'	2.13	0.48
22:YA:860:U:OP2	22:YA:916:G:N1	2.45	0.48
1:QA:1368:G:H5'	9:QI:112:LYS:O	2.13	0.48
26:RF:178:PRO:HB2	26:RF:201:VAL:HG11	1.94	0.48
22:YA:840:C:OP2	22:YA:932:G:N2	2.39	0.48
2:QB:21:ARG:O	2:QB:23:ARG:N	2.46	0.48
22:YA:1494:A:H2'	22:YA:1495:A:C8	2.48	0.48
25:YE:21:VAL:HG23	25:YE:22:PRO:HD3	1.95	0.48
6:XF:35:ALA:HA	6:XF:67:MET:HB3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1060:C:H2'	1:QA:1061:G:H8	1.78	0.48
27:YG:166:ASP:HA	27:YG:169:ALA:HB3	1.95	0.48
22:RA:1366:A:H2'	22:RA:1367:A:O4'	2.12	0.48
10:QJ:24:VAL:HG21	10:QJ:37:PRO:HD3	1.95	0.48
1:XA:619:U:H2'	1:XA:619:U:O2	2.11	0.48
39:YW:51:LEU:HD23	39:YW:105:VAL:HG11	1.94	0.48
22:YA:1011:G:H22	22:YA:1151:G:H1'	1.77	0.48
22:YA:2097:C:H2'	22:YA:2098:U:O4'	2.14	0.48
31:YO:4:PRO:O	31:YO:5:GLN:HB2	2.11	0.48
42:RZ:30:ASN:N	42:RZ:30:ASN:OD1	2.43	0.48
28:YH:55:PRO:HG2	28:YH:61:HIS:CE1	2.48	0.48
22:YA:1823:G:P	24:YD:54:ARG:HH21	2.36	0.48
2:QB:163:PHE:HD2	2:QB:185:ILE:HG13	1.78	0.48
32:RP:59:LEU:HA	32:RP:61:ARG:HE	1.76	0.48
1:XA:1090:U:H2'	1:XA:1091:U:H6	1.78	0.48
22:YA:1728:G:H3'	22:YA:1729:A:C5'	2.43	0.48
22:RA:247:G:N7	22:RA:249:C:C2	2.81	0.48
22:RA:27:G:C2	22:RA:512:G:N3	2.81	0.48
1:XA:564:C:C2	17:XQ:31:LEU:HD11	2.48	0.48
22:YA:2729:G:H2'	22:YA:2730:C:C6	2.48	0.48
1:QA:1224:G:C6	1:QA:1322:C:H1'	2.49	0.48
26:YF:185:ASP:OD1	26:YF:188:ARG:NH1	2.35	0.48
44:R1:53:VAL:HB	44:R1:58:ILE:HD12	1.94	0.48
1:XA:1024:G:N3	1:XA:1024:G:H3'	2.28	0.48
15:XO:70:LEU:HD11	15:XO:77:ARG:HG3	1.96	0.48
40:RX:39:ILE:O	40:RX:43:VAL:HG12	2.13	0.48
1:XA:1399:C:C2	1:XA:1401:G:C5	3.01	0.48
5:XE:152:ARG:NH2	8:XH:107:LEU:O	2.46	0.48
1:QA:474:G:H2'	1:QA:475:G:C8	2.48	0.48
3:XC:130:VAL:HG21	3:XC:157:ILE:HG23	1.94	0.48
1:QA:129(A):G:N3	1:QA:189:U:H5'	2.28	0.48
1:QA:1423:G:H2'	1:QA:1424:C:O4'	2.12	0.48
22:RA:858:U:O2	22:RA:2268:A:H2'	2.14	0.48
7:QG:113:GLU:HG3	7:QG:119:ARG:HG2	1.94	0.48
34:RR:97:VAL:HG22	34:RR:114:VAL:CG2	2.43	0.48
22:YA:396:G:H1'	44:Y1:42:GLN:HB3	1.94	0.48
1:QA:1310:G:N2	1:QA:1327:C:O2	2.40	0.48
26:RF:155:LEU:HD12	26:RF:174:VAL:HG22	1.94	0.48
16:XP:26:ARG:HH21	16:XP:31:LYS:HB3	1.77	0.48
4:QD:88:VAL:HG13	5:QE:97:GLY:HA3	1.95	0.48
22:RA:2545:G:H2'	22:RA:2546:U:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:577:G:O2'	22:RA:1254:A:OP1	2.32	0.48
32:RP:58:THR:O	32:RP:61:ARG:CZ	2.61	0.48
22:YA:259:G:H21	22:YA:621:A:H8	1.60	0.48
1:XA:542:G:OP1	4:XD:10:ARG:NH2	2.46	0.48
22:RA:962:G:H2'	22:RA:963:U:O4'	2.14	0.48
22:YA:745:G:O6	22:YA:746:A:N6	2.46	0.48
22:YA:1796:U:H2'	22:YA:1797:C:C6	2.47	0.48
28:YH:137:ASP:HB3	28:YH:140:LYS:HB3	1.94	0.48
22:YA:2532:G:C6	22:YA:2533:A:C6	3.01	0.48
3:XC:7:PRO:O	3:XC:11:ARG:HG2	2.13	0.48
1:XA:713:G:H2'	1:XA:714:G:C8	2.48	0.48
22:YA:2168:G:N2	22:YA:2170:A:H62	2.11	0.48
23:YB:82:G:C4	23:YB:83:G:C8	3.01	0.48
22:RA:2563:U:N3	22:RA:2566:A:OP2	2.43	0.48
6:XF:36:ARG:CZ	6:XF:38:GLU:HG2	2.44	0.48
1:XA:200:G:H1	1:XA:217:C:H42	1.61	0.48
32:YP:135:LEU:HD13	32:YP:139:LYS:HE2	1.94	0.48
13:QM:23:TYR:HE1	13:QM:70:LEU:HD12	1.77	0.48
5:XE:50:GLU:HG3	5:XE:52:PRO:HD2	1.95	0.48
36:YT:102:ILE:HB	36:YT:110:ILE:HD13	1.95	0.48
22:YA:199:A:C8	22:YA:2433:A:C6	3.01	0.48
48:Y5:41:PRO:O	48:Y5:44:THR:OG1	2.32	0.48
25:YE:20:ALA:HB3	25:YE:21:VAL:HG13	1.95	0.48
22:YA:2127:G:H22	22:YA:2162:G:H1'	1.78	0.48
38:YV:15:GLU:O	38:YV:18:LEU:HB2	2.14	0.48
2:XB:101:MET:HA	2:XB:108:ILE:HG13	1.95	0.48
22:YA:2321:G:N2	22:YA:2322:A:O4'	2.46	0.48
1:XA:1216:G:OP1	14:YN:2:ALA:HA	2.13	0.48
22:RA:1316:U:H2'	22:RA:1317:A:C8	2.48	0.48
22:YA:220:G:O2'	22:YA:233:A:N3	2.44	0.48
20:XT:93:GLU:OE1	20:XT:94:ALA:N	2.46	0.48
4:QD:100:ARG:NH2	4:QD:136:PRO:O	2.47	0.48
22:RA:429:A:C5	22:RA:430:G:C6	3.01	0.48
1:QA:1082:G:H5'	1:QA:1083:U:OP2	2.13	0.48
44:Y1:41:ARG:HG3	44:Y1:41:ARG:HH11	1.79	0.48
22:YA:638:G:H2'	22:YA:639:U:O4'	2.13	0.48
23:RB:7:G:H5'	35:RS:29:PHE:CE1	2.49	0.48
32:YP:82:GLY:HA2	32:YP:113:LYS:O	2.12	0.48
30:RN:4:TYR:O	37:RU:64:ARG:NH1	2.46	0.48
22:RA:508:G:HO2'	22:RA:509:C:P	2.36	0.48
34:RR:2:ARG:HA	34:RR:5:LYS:HE3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YP:14:LYS:O	32:YP:16:ARG:HG2	2.13	0.48
22:RA:1011:G:C2	22:RA:1151:G:C2	3.01	0.48
22:YA:2331:G:H4'	43:Y0:43:THR:N	2.26	0.48
22:YA:1639:U:H4'	22:YA:2699:C:H4'	1.95	0.48
22:YA:1665:A:H2'	22:YA:1666:G:O4'	2.14	0.48
22:RA:592:G:H1	22:RA:665:C:N4	2.10	0.48
1:XA:258:G:H2'	1:XA:259:G:C8	2.46	0.48
22:RA:1319:G:H1	22:RA:1333:C:H42	1.59	0.48
22:RA:2751:G:C2	28:RH:3:ARG:HB3	2.49	0.48
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.79	0.48
53:QV:53:G:O2'	53:QV:54:U:H6	1.96	0.48
5:XE:110:LEU:HD13	5:XE:118:ILE:HG21	1.94	0.48
22:YA:1341:U:OP2	22:YA:1394:U:O2'	2.18	0.48
22:RA:2461:C:H2'	22:RA:2462:U:C6	2.48	0.48
22:YA:890:A:HO2'	22:YA:892:G:H8	1.61	0.48
22:RA:2815:C:H2'	22:RA:2816:C:H6	1.77	0.48
22:YA:816:C:O2'	22:YA:932:G:O6	2.26	0.48
2:XB:204:ASN:ND2	2:XB:206:ASP:H	2.11	0.48
46:R3:4:LEU:O	46:R3:36:VAL:HA	2.13	0.48
11:XK:18:ARG:NH2	11:XK:35:PRO:O	2.45	0.48
22:RA:888:C:H3'	22:RA:889:C:H4'	1.95	0.48
1:QA:256:U:H2'	1:QA:257:G:C8	2.48	0.48
1:QA:258:G:C2	1:QA:259:G:C8	3.02	0.48
22:RA:270(P):C:O3'	29:RI:45:LYS:HE2	2.14	0.48
3:QC:150:LYS:HG3	3:QC:169:ALA:HB2	1.96	0.48
20:QT:12:ALA:O	20:QT:15:ARG:HB2	2.14	0.48
1:QA:642:A:N3	8:QH:113:SER:OG	2.38	0.48
32:YP:5:ASP:O	32:YP:6:LEU:O	2.31	0.48
1:XA:295:C:H2'	1:XA:296:U:C6	2.48	0.48
43:R0:40:GLN:OE1	43:R0:44:ARG:N	2.43	0.48
22:RA:2404:C:H1'	32:RP:67:MET:CE	2.44	0.48
48:R5:55:ARG:HG3	48:R5:57:VAL:N	2.17	0.48
22:YA:2867:G:OP2	36:YT:119:LYS:NZ	2.23	0.48
26:RF:197:ASP:N	26:RF:197:ASP:OD2	2.46	0.48
2:XB:73:THR:OG1	2:XB:170:GLU:OE2	2.23	0.48
43:R0:36:ILE:HG13	43:R0:58:THR:HG23	1.93	0.48
15:QO:26:GLU:H	15:QO:26:GLU:HG2	1.41	0.48
3:QC:79:ARG:NH2	11:XK:99:GLN:HB2	2.29	0.48
41:RY:51:VAL:O	41:RY:56:PRO:HA	2.14	0.48
22:YA:443:A:H5''	22:YA:444:C:OP1	2.14	0.48
41:RY:81:LYS:NZ	41:RY:98:VAL:HG11	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:991:C:O2'	38:RV:85:LYS:NZ	2.47	0.48
19:QS:26:GLY:O	19:QS:28:LYS:N	2.41	0.48
22:YA:662:G:H5'	32:YP:17:LYS:HG2	1.95	0.48
42:YZ:105:VAL:HG22	42:YZ:140:ASP:HB3	1.94	0.48
42:RZ:146:ILE:HG22	42:RZ:174:VAL:HG12	1.95	0.48
22:RA:1259:G:H2'	22:RA:1260:G:H8	1.78	0.48
9:QI:17:VAL:HG11	9:QI:81:ILE:HA	1.95	0.48
32:YP:52:GLU:O	32:YP:55:ARG:HG2	2.14	0.48
22:YA:609(A):G:H2'	22:YA:610:C:H6	1.79	0.48
41:YY:35:TYR:CD1	41:YY:69:ALA:HB3	2.49	0.48
22:RA:180:G:N2	22:RA:214:G:O6	2.46	0.48
9:XI:9:ARG:HB2	9:XI:14:VAL:HA	1.96	0.48
22:RA:825:C:H2'	22:RA:826:U:O4'	2.13	0.48
35:RS:64:GLU:O	35:RS:68:GLN:HG3	2.14	0.48
29:RI:90:GLY:O	29:RI:121:LYS:HE2	2.13	0.48
25:RE:181:LEU:HD21	36:RT:7:ILE:HG23	1.95	0.48
22:YA:2320:A:N3	22:YA:2320:A:H2'	2.28	0.48
1:XA:1233:G:H2'	1:XA:1234:C:C6	2.49	0.48
1:XA:1086:U:H3	1:XA:1099:G:H22	1.61	0.48
16:QP:43:LYS:HA	16:QP:48:TRP:HB3	1.96	0.48
22:YA:1607:C:H4'	22:YA:1608:A:O5'	2.14	0.48
40:YX:63:LYS:O	40:YX:64:LYS:HD2	2.14	0.48
22:RA:627:A:H4'	22:RA:628:G:H5'	1.95	0.48
22:YA:2564:A:OP1	22:YA:2648:C:H4'	2.14	0.48
1:QA:380:G:C2	1:QA:384:G:C6	3.02	0.48
10:QJ:80:LYS:HD3	10:QJ:80:LYS:HA	1.69	0.48
22:YA:77:C:O5'	22:YA:77:C:H6	1.97	0.48
11:QK:48:ILE:HD11	11:QK:64:ALA:HA	1.95	0.48
29:YI:52:ARG:HA	29:YI:55:ALA:HB3	1.95	0.48
22:RA:769:G:H5'	22:RA:1379:A:H61	1.79	0.48
1:QA:559:A:C4'	1:QA:560:U:H3'	2.34	0.48
38:YV:76:LYS:HB2	38:YV:81:TYR:HB3	1.95	0.48
1:QA:1305:G:H5'	21:QU:4:GLY:HA3	1.94	0.48
22:YA:1359:A:H61	22:YA:1372:U:H3	1.60	0.48
22:YA:1183:G:H4'	46:Y3:29:ARG:HH22	1.78	0.48
19:XS:39:THR:HG22	19:XS:40:ILE:H	1.78	0.48
53:XV:2:G:H2'	53:XV:3:C:H6	1.78	0.48
27:RG:81:LYS:O	27:RG:82:LEU:HB2	2.13	0.48
28:RH:154:PRO:HD3	28:RH:162:ILE:H	1.77	0.48
1:XA:1365:G:H2'	1:XA:1366:C:H6	1.79	0.48
1:XA:1366:C:C2	1:XA:1367:C:C5	3.01	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:935:A:H2'	1:QA:936:C:C6	2.49	0.48
8:QH:102:ARG:NH1	8:QH:105:ARG:HH22	2.12	0.48
1:XA:201:C:N4	1:XA:209:U:O2	2.47	0.48
22:YA:963:U:O2'	22:YA:964:C:H5'	2.13	0.48
1:XA:865:A:N3	1:XA:918:A:O2'	2.38	0.48
32:RP:36:LYS:HB3	32:RP:40:SER:HB3	1.95	0.48
22:RA:2021:C:OP1	48:R5:12:SER:OG	2.28	0.48
22:YA:270(O):U:O4	29:YI:52:ARG:HD3	2.14	0.48
42:YZ:62:PRO:O	42:YZ:64:GLY:N	2.47	0.48
22:RA:2109:U:H2'	22:RA:2110:G:C8	2.47	0.48
37:YU:97:ASP:OD1	37:YU:101:ARG:NH1	2.46	0.48
1:XA:1171:G:H2'	1:XA:1172:C:C6	2.48	0.48
53:XV:10:G:N3	53:XV:10:G:H2'	2.28	0.48
24:YD:254:THR:O	24:YD:254:THR:OG1	2.30	0.48
37:YU:60:LEU:O	37:YU:60:LEU:HD22	2.14	0.48
39:YW:67:ASP:OD2	39:YW:67:ASP:N	2.46	0.48
22:YA:1448:G:N3	22:YA:1529:A:H2	2.12	0.48
22:YA:1266:G:O5'	39:YW:15:ARG:NH2	2.46	0.48
22:RA:2030:A:H4'	22:RA:2031:A:C8	2.48	0.48
22:YA:975:G:H1'	22:YA:990:A:C2	2.48	0.48
9:XI:114:TYR:CD2	9:XI:114:TYR:N	2.81	0.48
22:RA:617:G:P	26:RF:40:GLN:HE21	2.28	0.48
4:QD:31:CYS:SG	4:QD:31:CYS:O	2.71	0.48
22:RA:2415:G:H4'	32:RP:67:MET:N	2.28	0.48
1:QA:1053:G:H2'	1:QA:1199:U:C5	2.48	0.48
22:YA:263:C:H2'	22:YA:264:C:O4'	2.14	0.48
1:XA:486:U:H2'	1:XA:487:A:H8	1.77	0.48
37:YU:90:VAL:HG22	38:YV:39:LEU:HB3	1.96	0.48
1:QA:1347:G:C8	9:QI:107:ARG:HB3	2.49	0.48
1:QA:662:G:H2'	1:QA:663:A:C8	2.49	0.48
1:XA:356:A:H2'	1:XA:357:G:C8	2.41	0.48
22:RA:1755:A:N6	22:RA:2694:G:O2'	2.47	0.48
35:YS:74:ALA:HB1	35:YS:107:GLU:HB3	1.96	0.48
1:XA:1323:G:H4'	1:XA:1362(A):C:C2	2.49	0.48
22:YA:521:G:H2'	22:YA:522:G:C8	2.44	0.48
48:Y5:58:LEU:HD22	48:Y5:60:VAL:HB	1.96	0.48
53:QV:17:C:O2	53:QV:17:C:H2'	2.13	0.48
22:YA:2477:C:H2'	52:Y9:1:MET:CG	2.43	0.48
1:XA:623:C:H2'	1:XA:624:C:O4'	2.14	0.48
10:QJ:78:ASN:O	10:QJ:82:ILE:HG12	2.14	0.48
22:RA:1849:G:H2'	22:RA:1850:G:C8	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:R5:46:CYS:O	48:R5:48:GLU:N	2.47	0.48
22:YA:279:C:H2'	22:YA:280:C:C6	2.48	0.48
22:RA:1608:A:H1'	22:RA:1610:A:OP2	2.14	0.48
22:RA:813:U:H2'	22:RA:814:C:C6	2.48	0.48
29:YI:83:ALA:O	29:YI:85:GLU:N	2.47	0.48
16:XP:22:THR:HA	16:XP:33:ILE:HG12	1.96	0.48
5:XE:6:PHE:CE2	5:XE:36:ASP:HB3	2.48	0.48
22:YA:1131:G:N2	22:YA:1132:A:C2	2.82	0.48
22:YA:1045:A:O2'	22:YA:1046:A:OP2	2.22	0.48
22:RA:2279:G:N2	22:RA:2280:G:H1'	2.29	0.48
9:QI:40:LEU:O	9:QI:42:ARG:N	2.46	0.48
22:RA:1190:G:H5'	32:RP:32:THR:HA	1.96	0.48
22:RA:2742:C:OP1	52:R9:35:ARG:HD3	2.13	0.48
1:XA:292:G:N7	1:XA:293:G:H1'	2.29	0.48
1:XA:7:G:H5'	1:XA:298:A:O4'	2.14	0.48
51:R8:51:ALA:N	51:R8:53:PRO:HD2	2.29	0.48
22:RA:2107:C:N4	22:RA:2182:G:H1	2.04	0.48
37:YU:92:ARG:CZ	38:YV:11:GLN:H	2.26	0.48
22:YA:2131:G:H1'	22:YA:2158:A:N6	2.28	0.48
49:R6:18:ARG:HB2	49:R6:44:ARG:HH12	1.77	0.48
22:YA:566:U:OP1	32:YP:29:LYS:NZ	2.39	0.48
28:RH:86:GLU:N	28:RH:86:GLU:OE1	2.43	0.48
27:RG:82:LEU:HD21	27:RG:88:ILE:HG13	1.96	0.48
22:YA:1638:C:O2'	22:YA:2698:U:O2'	2.15	0.48
47:R4:23:GLU:HG3	47:R4:25:TYR:CE2	2.49	0.48
32:YP:98:GLU:HA	32:YP:101:VAL:HB	1.96	0.48
22:RA:405:U:H6	22:RA:405:U:H5'	1.78	0.48
1:XA:777:A:H2'	1:XA:778:G:H8	1.77	0.48
22:YA:1436:G:H2'	22:YA:1437:C:O4'	2.13	0.48
13:XM:68:GLY:HA3	27:YG:116:ASP:CG	2.34	0.48
22:YA:1382:G:C4	22:YA:1383:C:C5	3.02	0.48
22:YA:2112:G:C6	22:YA:2169:A:N6	2.81	0.48
28:YH:6:ARG:HA	28:YH:66:GLY:HA2	1.95	0.48
6:XF:10:LEU:HD22	6:XF:61:LEU:HD11	1.95	0.48
23:YB:78:A:C2	23:YB:99:A:C4	3.02	0.48
1:XA:1118:C:P	9:XI:104:ARG:HH11	2.37	0.48
22:YA:1293:C:H2'	22:YA:1294:U:H6	1.79	0.48
1:XA:1112:C:C2	3:XC:178:LEU:HB2	2.49	0.48
22:RA:2803:C:H2'	22:RA:2804:C:C6	2.48	0.48
5:QE:69:VAL:O	5:QE:71:LEU:N	2.47	0.48
1:QA:743:U:H2'	1:QA:744:C:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RF:102:PRO:HB2	26:RF:105:VAL:HG23	1.95	0.48
1:QA:181:G:O2'	1:QA:182:U:O5'	2.32	0.48
17:QQ:100:LYS:O	17:QQ:101:ARG:NE	2.47	0.48
1:QA:911:U:H2'	1:QA:912:C:C6	2.49	0.48
32:YP:46:LYS:HB3	32:YP:46:LYS:HE3	1.54	0.48
7:QG:57:GLU:N	7:QG:57:GLU:OE1	2.41	0.48
29:YI:40:THR:O	29:YI:44:LEU:HB2	2.13	0.48
22:YA:1733:G:H5'	22:YA:1734:C:OP2	2.14	0.48
22:RA:1614:A:N7	39:RW:93:ALA:HB2	2.28	0.48
24:YD:35:LYS:HZ1	24:YD:104:TYR:HB2	1.79	0.48
24:RD:25:THR:O	24:RD:27:THR:HG22	2.14	0.48
1:XA:254:G:OP1	17:XQ:67:LYS:O	2.32	0.48
29:RI:113:ARG:HG3	29:RI:131:LYS:HD3	1.96	0.48
12:QL:38:THR:O	12:QL:79:GLU:HG3	2.14	0.48
22:YA:1469:A:H2'	22:YA:1470:G:H8	1.76	0.48
22:YA:413:C:H6	22:YA:413:C:O5'	1.97	0.48
22:RA:125:G:H1'	50:R7:13:ALA:CB	2.44	0.48
22:RA:1342:A:O2'	22:RA:1344:G:OP2	2.28	0.48
49:Y6:27:LYS:HB2	49:Y6:27:LYS:NZ	2.28	0.48
22:YA:389:G:H1	32:YP:70:GLN:HB3	1.79	0.48
1:XA:1127:G:H21	1:XA:1147:C:N4	2.12	0.48
22:YA:392:C:H5''	22:YA:409:C:H5''	1.95	0.48
1:QA:1086:U:H6	1:QA:1086:U:O5'	1.97	0.48
22:YA:805:G:H22	22:YA:828:U:H5''	1.79	0.48
22:YA:57:C:H2'	22:YA:58:G:O4'	2.13	0.48
26:RF:183:VAL:O	26:RF:187:VAL:HG23	2.13	0.48
22:YA:1416:G:H2'	22:YA:1417:C:C6	2.49	0.48
1:XA:438:G:H4'	4:XD:123:HIS:CD2	2.48	0.48
22:RA:2633:G:H2'	22:RA:2634:G:O4'	2.14	0.48
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.78	0.48
12:QL:17:LYS:HG2	12:QL:19:ARG:HG2	1.94	0.48
22:RA:229:A:H4'	22:RA:229:A:OP1	2.12	0.48
41:YY:44:ILE:HG13	41:YY:45:VAL:N	2.28	0.48
22:YA:2349:G:OP2	51:Y8:42:ARG:HD3	2.14	0.47
32:RP:61:ARG:CD	51:R8:13:ARG:HD2	2.44	0.47
1:QA:1347:G:HO2'	1:QA:1373:G:H1	1.61	0.47
42:YZ:141:VAL:HG23	42:YZ:144:LEU:HB2	1.96	0.47
42:YZ:145:GLU:OE2	42:YZ:146:ILE:HG23	2.14	0.47
1:QA:663:A:O3'	18:QR:64:ARG:NH2	2.47	0.47
4:QD:57:ARG:NH2	5:QE:107:ARG:HD3	2.24	0.47
30:YN:134:ARG:N	30:YN:135:PRO:HD3	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2108:C:H2'	22:YA:2109:U:C6	2.48	0.47
22:YA:458:G:C8	50:Y7:37:LYS:HG2	2.49	0.47
52:R9:27:CYS:SG	52:R9:32:HIS:HB2	2.54	0.47
14:QN:41:ARG:CZ	14:QN:42:ILE:HD11	2.44	0.47
23:RB:78:A:H2'	23:RB:79:C:O4'	2.14	0.47
22:RA:671:C:H2'	22:RA:672:C:C6	2.49	0.47
1:XA:678:U:C4	1:XA:679:C:N4	2.82	0.47
1:XA:1410:G:H2'	1:XA:1411:C:C6	2.48	0.47
38:YV:44:LYS:O	38:YV:46:VAL:HG12	2.13	0.47
1:XA:1390:U:H2'	1:XA:1391:U:H6	1.78	0.47
22:RA:2646:C:H2'	22:RA:2647:U:O4'	2.14	0.47
45:R2:41:ILE:HD11	45:R2:44:LEU:HD12	1.96	0.47
40:RX:83:VAL:HG11	40:RX:87:GLN:HB2	1.96	0.47
22:YA:336:C:HO2'	41:YY:35:TYR:HH	1.57	0.47
1:QA:602:A:H2'	1:QA:603:U:H6	1.78	0.47
18:XR:66:LEU:O	18:XR:70:ILE:HG13	2.14	0.47
22:YA:2038:G:H2'	22:YA:2039:C:O4'	2.14	0.47
43:Y0:6:GLY:O	53:XV:1:C:O2'	2.27	0.47
35:YS:65:VAL:O	35:YS:69:VAL:HG12	2.14	0.47
22:YA:189:G:H1'	22:YA:207:A:N6	2.29	0.47
1:XA:1043:C:H2'	1:XA:1044:A:H8	1.79	0.47
4:QD:106:TYR:HE1	4:QD:112:VAL:O	1.97	0.47
22:RA:455:C:N3	22:RA:473:G:H5'	2.29	0.47
22:RA:2821:A:H2'	22:RA:2822:G:O4'	2.14	0.47
45:Y2:59:ARG:O	45:Y2:63:VAL:HG23	2.14	0.47
22:RA:1093:G:H1'	22:RA:1099:G:O6	2.14	0.47
13:QM:57:ARG:HH11	13:QM:57:ARG:HB2	1.79	0.47
22:RA:747:U:O2	22:RA:2014:A:H1'	2.14	0.47
48:Y5:46:CYS:O	48:Y5:48:GLU:N	2.38	0.47
1:XA:939:G:C2	1:XA:940:C:C2	3.02	0.47
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.47	0.47
9:XI:126:SER:O	9:XI:128:ARG:N	2.43	0.47
22:YA:2444:G:P	26:YF:68:LYS:HE3	2.53	0.47
22:YA:1797:C:H4'	24:YD:257:LEU:O	2.14	0.47
2:QB:25:ASN:O	2:QB:27:LYS:N	2.47	0.47
42:YZ:182:LYS:CG	42:YZ:183:LEU:HA	2.43	0.47
44:R1:91:LYS:O	44:R1:94:LEU:N	2.36	0.47
1:QA:623:C:H2'	1:QA:624:C:O4'	2.14	0.47
1:XA:556:C:H2'	1:XA:557:G:C8	2.49	0.47
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.79	0.47
42:YZ:10:ARG:HD2	42:YZ:36:LYS:HB3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2721:A:H2'	22:YA:2722:G:O4'	2.14	0.47
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.43	0.47
1:QA:636:U:H2'	1:QA:637:G:H8	1.80	0.47
1:QA:222:U:H2'	1:QA:223:U:H6	1.79	0.47
27:RG:145:THR:O	27:RG:147:ASP:N	2.47	0.47
26:RF:167:ALA:HB1	26:RF:173:VAL:HG11	1.95	0.47
23:YB:62:C:H2'	23:YB:63:G:H8	1.79	0.47
10:XJ:38:ILE:HD11	10:XJ:71:LEU:HD23	1.96	0.47
1:QA:176:C:H2'	1:QA:177:C:H6	1.78	0.47
1:QA:826:C:H2'	1:QA:827:U:O2	2.14	0.47
18:XR:36:ASN:ND2	18:XR:36:ASN:O	2.41	0.47
4:QD:26:CYS:HA	4:QD:31:CYS:HA	1.96	0.47
1:QA:1127:G:H21	1:QA:1147:C:H41	1.62	0.47
1:QA:1238:A:H62	1:QA:1299:A:H61	1.62	0.47
2:QB:211:ILE:O	2:QB:215:LEU:HB2	2.14	0.47
22:YA:467:G:O2'	22:YA:796:C:O2'	2.24	0.47
22:RA:1078:U:O2'	22:RA:1088:A:N1	2.46	0.47
24:YD:71:ASP:HB2	24:YD:103:ARG:NH2	2.27	0.47
22:RA:186:G:C2	22:RA:211:A:C2	3.03	0.47
1:QA:10:A:OP2	5:QE:126:ARG:HD3	2.14	0.47
22:YA:2584:U:C5'	56:Z8:76:PPU:H92	2.45	0.47
43:Y0:23:VAL:HA	43:Y0:38:VAL:HG22	1.96	0.47
22:RA:822:U:H2'	22:RA:823:G:H8	1.78	0.47
2:QB:70:PHE:O	2:QB:93:VAL:N	2.48	0.47
22:RA:2320:A:H8	22:RA:2321:G:N1	2.12	0.47
4:QD:12:CYS:HA	4:QD:19:LEU:CD2	2.44	0.47
22:YA:1825:A:H2'	22:YA:1826:G:C8	2.49	0.47
22:RA:2070:G:H2'	22:RA:2071:A:O4'	2.14	0.47
3:XC:79:ARG:NH1	3:XC:82:GLU:HG3	2.29	0.47
22:YA:1198:U:H2'	22:YA:1199:U:H6	1.78	0.47
43:Y0:22:GLY:N	43:Y0:39:ARG:O	2.37	0.47
1:XA:1360:A:H2'	1:XA:1361:G:O4'	2.15	0.47
22:YA:1668:A:H4'	22:YA:1669:A:O5'	2.15	0.47
4:XD:15:GLU:HG2	4:XD:63:LYS:HB2	1.97	0.47
42:YZ:89:PHE:HE1	42:YZ:96:VAL:HG21	1.79	0.47
22:YA:598:G:H5'	32:YP:11:GLY:HA3	1.95	0.47
5:XE:8:GLU:OE2	5:XE:63:ARG:NH2	2.46	0.47
22:RA:2832:U:H4'	22:RA:2833:G:H5''	1.95	0.47
2:QB:97:TRP:CH2	2:QB:173:ALA:HA	2.49	0.47
1:QA:375:U:OP1	16:QP:69:THR:HG21	2.13	0.47
36:YT:11:GLU:OE1	36:YT:11:GLU:N	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:QT:75:ASN:N	20:QT:75:ASN:OD1	2.40	0.47
32:YP:144:GLU:N	32:YP:144:GLU:OE1	2.40	0.47
30:RN:7:LYS:HD2	30:RN:7:LYS:H	1.80	0.47
44:Y1:91:LYS:HB3	44:Y1:92:LYS:H	1.44	0.47
22:YA:175:G:H2'	22:YA:176:G:H8	1.79	0.47
32:RP:127:ALA:HB3	32:RP:130:PHE:CZ	2.49	0.47
22:RA:2421:G:OP1	49:R6:6:ARG:NH2	2.47	0.47
22:RA:2391:G:O2'	22:RA:2422:A:N7	2.48	0.47
1:XA:1093:A:C2	1:XA:1095:U:H5'	2.50	0.47
22:RA:1283:G:N2	22:RA:1285:G:H3'	2.30	0.47
20:XT:98:PRO:O	20:XT:100:ILE:N	2.46	0.47
44:Y1:53:VAL:HG22	44:Y1:74:VAL:HG13	1.96	0.47
22:YA:624:C:O2	22:YA:657:U:H4'	2.14	0.47
22:RA:2037:G:C6	22:RA:2038:G:C6	3.02	0.47
1:XA:405:U:OP2	4:XD:3:ARG:NH2	2.47	0.47
42:RZ:177:PRO:O	42:RZ:178:GLU:HG2	2.14	0.47
1:XA:1148:U:H2'	1:XA:1149:C:O4'	2.14	0.47
23:YB:31:C:N4	35:YS:32:LEU:HD13	2.29	0.47
22:YA:563:G:C4	22:YA:2018:G:C2	3.03	0.47
12:XL:7:ILE:HA	12:XL:7:ILE:HD13	1.82	0.47
1:QA:1099:G:H2'	1:QA:1100:C:O4'	2.15	0.47
43:Y0:25:ARG:HH11	43:Y0:25:ARG:HG2	1.80	0.47
22:RA:605:C:H1'	22:RA:657:U:O2'	2.14	0.47
22:YA:383:U:O2	22:YA:385:C:N4	2.46	0.47
33:RQ:136:ALA:C	33:RQ:138:ASP:H	2.18	0.47
1:XA:803:G:H2'	1:XA:804:U:O4'	2.15	0.47
1:QA:544:G:OP2	4:QD:66:ARG:NH2	2.47	0.47
37:RU:97:ASP:OD1	37:RU:101:ARG:NH1	2.47	0.47
3:XC:81:GLY:O	3:XC:85:ARG:HB2	2.14	0.47
6:QF:41:GLU:HB2	6:QF:62:TRP:CE3	2.50	0.47
26:YF:36:VAL:HG11	26:YF:183:VAL:HG11	1.95	0.47
6:XF:69:GLU:O	6:XF:72:VAL:HG12	2.14	0.47
1:XA:625:G:H2'	1:XA:626:U:H6	1.79	0.47
7:QG:99:LEU:HD22	7:QG:103:TRP:CZ2	2.49	0.47
12:XL:24:VAL:HG12	12:XL:24:VAL:O	2.14	0.47
22:YA:1914:C:H2'	22:YA:1915:U:O4'	2.14	0.47
42:YZ:111:VAL:HA	42:YZ:115:GLY:HA3	1.95	0.47
1:QA:1292:U:H2'	1:QA:1293:G:C8	2.48	0.47
1:QA:1127:G:H21	1:QA:1147:C:N4	2.12	0.47
3:XC:22:TRP:CD1	3:XC:59:ARG:HD2	2.49	0.47
22:RA:2067:G:H1	22:RA:2443:C:N4	2.12	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RZ:151:HIS:HA	42:RZ:170:THR:HA	1.95	0.47
1:QA:1207:G:H2'	1:QA:1208:C:C6	2.49	0.47
22:RA:754:C:H2'	22:RA:755:C:C6	2.45	0.47
22:RA:2336:A:H61	43:R0:43:THR:HG21	1.80	0.47
1:QA:757:U:H2'	1:QA:758:G:O4'	2.14	0.47
27:RG:3:LEU:HD11	47:R4:25:TYR:CE1	2.48	0.47
2:QB:85:ALA:HB3	2:QB:92:TYR:HD2	1.79	0.47
33:RQ:63:LYS:HG2	33:RQ:65:PHE:CE2	2.50	0.47
20:XT:35:THR:O	20:XT:39:LYS:HG3	2.14	0.47
24:YD:28:GLU:HB2	24:YD:29:PRO:CD	2.45	0.47
22:YA:270:A:C2	22:YA:366:C:H4'	2.49	0.47
1:XA:1347:G:O2'	1:XA:1348:U:P	2.72	0.47
22:YA:528:A:H2	22:YA:2043:C:H5'	1.79	0.47
22:RA:1178:C:H2'	22:RA:1179:C:C6	2.48	0.47
22:RA:430:G:H5''	22:RA:431:U:OP2	2.13	0.47
1:QA:176:C:OP1	20:QT:29:LYS:NZ	2.48	0.47
20:QT:30:LYS:O	20:QT:33:ILE:HB	2.14	0.47
51:Y8:36:LYS:HB3	51:Y8:40:GLU:HG2	1.95	0.47
22:RA:840:C:H2'	22:RA:841:A:C8	2.49	0.47
22:RA:764:A:H5'	24:RD:210:GLY:HA2	1.95	0.47
9:XI:4:TYR:CZ	9:XI:88:TYR:HB2	2.49	0.47
36:RT:64:ARG:HD2	36:RT:73:GLU:OE1	2.14	0.47
1:XA:595:G:H1'	1:XA:596:C:H5	1.78	0.47
22:RA:729:G:H2'	22:RA:1775:U:H1'	1.97	0.47
1:QA:1106:G:H5''	3:QC:172:ARG:HG2	1.97	0.47
22:RA:777:A:H2'	22:RA:778:G:C8	2.50	0.47
22:RA:1509:C:H3'	22:RA:1510:A:H5''	1.97	0.47
1:XA:790:A:OP1	53:XV:38:A:O2'	2.23	0.47
33:YQ:21:THR:HB	33:YQ:22:LYS:H	1.40	0.47
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.50	0.47
1:XA:163:C:H2'	1:XA:164:U:C6	2.50	0.47
22:RA:565:C:H4'	22:RA:1253:A:C6	2.50	0.47
25:RE:73:GLU:HG3	25:RE:74:PRO:HD2	1.95	0.47
22:RA:458:G:O2'	50:R7:39:ARG:HD3	2.15	0.47
15:XO:66:LEU:HA	15:XO:66:LEU:HD12	1.67	0.47
1:XA:280:C:C2	17:XQ:38:ARG:HG3	2.49	0.47
12:XL:27:LEU:O	12:XL:29:GLY:N	2.46	0.47
3:XC:34:LEU:HD23	3:XC:38:ARG:HG3	1.95	0.47
22:RA:901:A:H2'	22:RA:901:A:N3	2.29	0.47
22:RA:1449:A:H5'	22:RA:1449(A):G:OP2	2.15	0.47
1:QA:1298:C:O2'	1:QA:1299:A:OP2	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2849:U:OP2	36:YT:95:ARG:NH1	2.48	0.47
22:RA:1283:G:H22	22:RA:1286:A:H5'	1.80	0.47
43:R0:24:LYS:O	43:R0:25:ARG:HD3	2.14	0.47
9:QI:28:VAL:HG22	9:QI:63:ILE:HB	1.96	0.47
32:YP:50:ARG:HE	51:Y8:7:HIS:HE2	1.63	0.47
22:RA:2293:C:OP1	22:RA:2377:A:N6	2.47	0.47
25:RE:37:ARG:HA	25:RE:37:ARG:NE	2.28	0.47
22:RA:2327:A:N6	22:RA:2387:U:O4	2.47	0.47
22:YA:2712:U:O2'	22:YA:2712(A):A:P	2.71	0.47
22:RA:186:G:H2'	22:RA:187:G:H8	1.80	0.47
17:XQ:67:LYS:O	17:XQ:68:ARG:HB3	2.15	0.47
27:YG:28:VAL:O	27:YG:31:VAL:HG13	2.14	0.47
22:RA:2566:A:H4'	22:RA:2567:G:O5'	2.15	0.47
12:QL:44:THR:HA	12:QL:45:PRO:HD3	1.74	0.47
12:QL:51:ALA:HB3	12:QL:53:ARG:HE	1.80	0.47
22:YA:1833:U:O2'	22:YA:1969:A:N1	2.38	0.47
1:XA:209:U:H1'	1:XA:216:G:C2	2.50	0.47
1:XA:664:G:H22	1:XA:741:G:H1	1.62	0.47
1:XA:729:A:H2'	1:XA:730:G:C8	2.49	0.47
30:YN:30:ILE:HG22	30:YN:34:LEU:HD22	1.96	0.47
22:RA:1297:C:H2'	22:RA:1298:C:C6	2.49	0.47
22:RA:2662:A:H8	22:RA:2662:A:O5'	1.96	0.47
22:RA:2516:G:C2	22:RA:2569:G:N3	2.83	0.47
13:QM:78:ILE:HG23	13:QM:92:HIS:ND1	2.29	0.47
22:RA:2679:A:C2	22:RA:2729:G:C2	3.02	0.47
22:RA:871:U:H4'	33:RQ:69:PHE:CE2	2.49	0.47
22:RA:1782:C:H1'	22:RA:2609:U:H5''	1.96	0.47
22:YA:1656:C:P	25:YE:136:ARG:HE	2.37	0.47
22:RA:1300:U:H4'	22:RA:1301:A:H5''	1.95	0.47
22:YA:2142:C:H2'	22:YA:2143:C:C6	2.49	0.47
41:RY:21:LYS:HG3	41:RY:22:GLY:N	2.30	0.47
26:YF:164:ARG:HG3	26:YF:175:THR:OG1	2.15	0.47
39:RW:63:ASP:OD1	39:RW:63:ASP:N	2.48	0.47
9:XI:114:TYR:HD1	10:XJ:60:ARG:HB2	1.79	0.47
27:YG:113:ARG:HG2	47:Y4:34:GLU:OE2	2.14	0.47
22:RA:2415:G:C5'	32:RP:67:MET:H	2.28	0.47
29:YI:67:ARG:CZ	29:YI:68:LEU:HD13	2.45	0.47
22:RA:709:U:C2	22:RA:723:G:N2	2.83	0.47
29:RI:79:ILE:HG22	29:RI:142:VAL:HG13	1.96	0.47
44:R1:76:ARG:H	44:R1:76:ARG:HD2	1.80	0.47
22:YA:138:G:H2'	22:YA:139:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1347:G:O2'	1:QA:1348:U:P	2.73	0.47
22:RA:2378:A:OP1	35:RS:111:GLU:HG2	2.15	0.47
1:XA:1064:G:OP1	1:XA:1386:G:H4'	2.14	0.47
22:RA:960:A:H61	33:RQ:82:ARG:HH12	1.62	0.47
1:QA:954:G:N2	1:QA:1226:C:O2	2.43	0.47
26:YF:182:ASN:HD21	26:YF:185:ASP:CG	2.14	0.47
22:RA:2418:A:P	51:R8:29:LYS:HE2	2.54	0.47
1:XA:457:C:H2'	1:XA:458:C:C6	2.50	0.47
10:XJ:47:PHE:HB3	14:XN:34:TYR:CE2	2.50	0.47
25:RE:95:ILE:H	25:RE:95:ILE:HD12	1.80	0.47
53:XV:4:G:O2'	53:XV:5:G:O5'	2.27	0.47
28:RH:152:ARG:HG3	28:RH:153:LYS:CD	2.44	0.47
1:XA:411:A:N9	1:XA:413:G:H1'	2.29	0.47
22:RA:1204:A:H1'	22:RA:1206:G:C4	2.49	0.47
22:RA:1728:G:C6	22:RA:1730:U:OP2	2.68	0.47
8:QH:91:ARG:HB2	12:QL:7:ILE:HG13	1.97	0.47
1:XA:1152:A:H2'	1:XA:1153:C:C6	2.48	0.47
1:XA:926:G:C6	1:XA:1505:G:C6	3.02	0.47
22:YA:71:A:H5''	22:YA:72:U:H3'	1.96	0.47
36:RT:123:GLN:O	36:RT:125:ARG:N	2.48	0.47
29:RI:61:ARG:HA	29:RI:61:ARG:NE	2.30	0.47
1:QA:980:C:H5''	1:QA:981:U:H5	1.78	0.47
1:XA:401:C:H2'	1:XA:402:G:C8	2.47	0.47
39:YW:110:LYS:HG3	39:YW:111:HIS:H	1.80	0.47
22:RA:2749:A:H3'	22:RA:2750:A:H2'	1.97	0.47
5:XE:89:ILE:HG12	5:XE:91:LEU:HD13	1.97	0.47
2:XB:93:VAL:HG11	2:XB:97:TRP:CD1	2.50	0.47
23:YB:99:A:C4	23:YB:100:G:C8	3.03	0.47
1:QA:580:U:H5''	15:QO:58:MET:HG2	1.95	0.47
1:QA:189:U:C4	17:QQ:72:ARG:NH2	2.83	0.47
22:RA:1835:G:H1'	22:RA:1931:U:C5	2.50	0.47
6:QF:61:LEU:HB3	6:QF:63:TYR:HE2	1.80	0.47
24:YD:206:LEU:HA	24:YD:206:LEU:HD23	1.51	0.47
1:XA:41:G:H2'	1:XA:42:G:H8	1.80	0.47
22:RA:1382:G:H4'	22:RA:1573:G:C2	2.50	0.47
22:YA:2051:A:H5'	22:YA:2578:G:O4'	2.14	0.47
35:RS:56:LEU:O	35:RS:58:LEU:N	2.48	0.47
27:YG:34:LEU:HD22	27:YG:35:GLU:N	2.30	0.47
11:XK:48:ILE:HG13	11:XK:63:LEU:HB2	1.97	0.47
22:RA:777:A:H2'	22:RA:778:G:H8	1.80	0.47
1:XA:61:G:H2'	1:XA:62:U:O4'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2605:U:H2'	22:RA:2606:C:H6	1.80	0.47
22:RA:2512:C:H5''	22:RA:2513:G:OP2	2.14	0.47
1:QA:604:G:H2'	1:QA:605:U:O4'	2.15	0.47
22:RA:1416:G:C2	22:RA:1417:C:C4	3.02	0.47
1:QA:652:U:O2'	1:QA:653:A:O5'	2.32	0.47
22:YA:401:A:H61	22:YA:422:A:H61	1.62	0.47
22:RA:2351:G:O5'	22:RA:2351:G:H8	1.98	0.47
17:QQ:76:LEU:HD21	17:QQ:79:SER:HB2	1.97	0.47
1:XA:29:G:N2	1:XA:554:C:O2	2.45	0.47
1:XA:31:G:O2'	1:XA:48:C:N4	2.47	0.47
1:XA:1494:G:H4'	22:YA:1913:A:N7	2.30	0.47
22:RA:2697:G:C6	22:RA:2698:U:C4	3.03	0.47
28:YH:122:THR:HG22	28:YH:134:SER:HB2	1.96	0.47
12:QL:27:LEU:O	12:QL:29:GLY:N	2.47	0.47
22:RA:2257:U:O2'	22:RA:2258:C:H5'	2.15	0.47
22:RA:1638:C:H5''	22:RA:2710:C:O2'	2.14	0.47
22:RA:336:C:H2'	22:RA:337:C:C6	2.50	0.47
7:QG:18:TYR:HD2	7:QG:59:LEU:HD22	1.79	0.47
22:RA:2690:C:OP2	34:RR:14:SER:HB3	2.14	0.47
22:YA:1342:A:OP1	40:YX:36:LYS:NZ	2.47	0.47
24:YD:237:GLU:O	24:YD:239:ARG:N	2.47	0.47
27:YG:114:ILE:HD13	27:YG:140:ILE:HG21	1.96	0.47
1:QA:484:G:H4'	1:QA:485:G:O5'	2.15	0.47
22:YA:2850:A:N7	22:YA:2868:A:O2'	2.35	0.47
29:RI:122:GLU:O	29:RI:126:TYR:OH	2.32	0.47
22:RA:685:A:C8	22:RA:774:A:C6	3.03	0.47
1:XA:1142:G:H2'	1:XA:1143:G:O4'	2.15	0.47
1:XA:1080:A:H5''	1:XA:1081:G:OP2	2.14	0.47
1:XA:502:G:OP1	12:XL:118:SER:HB2	2.14	0.47
22:YA:2335:A:O2'	22:YA:2336:A:H8	1.98	0.47
26:YF:9:ILE:HG23	26:YF:20:LEU:O	2.15	0.47
22:YA:2787:C:O2'	22:YA:2810:A:O2'	2.26	0.47
13:XM:77:ASN:HA	47:Y4:71:ARG:NH2	2.29	0.47
53:XV:15:G:H22	53:XV:48:C:H42	1.62	0.47
22:RA:1803:A:C8	22:RA:1804:C:C5	3.02	0.47
29:YI:4:ILE:HG21	29:YI:47:LEU:HD22	1.97	0.47
26:YF:129:PHE:HA	26:YF:142:TRP:NE1	2.29	0.47
22:YA:1999:C:H2'	22:YA:2000:G:C8	2.50	0.47
22:RA:2647:U:H2'	22:RA:2648:C:C6	2.50	0.47
24:RD:211:ARG:HD2	24:RD:214:TRP:CZ3	2.50	0.47
22:RA:2285:C:N4	49:R6:27:LYS:HE2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RD:12:SER:O	24:RD:16:MET:HB2	2.14	0.47
22:YA:1906:G:H1	22:YA:1924:C:H42	1.63	0.47
1:QA:56:U:H2'	1:QA:57:G:H8	1.80	0.47
26:RF:133:ASN:HA	26:RF:162:LEU:HD22	1.96	0.47
22:YA:972:G:C6	22:YA:973:A:C6	3.03	0.47
12:QL:17:LYS:HG3	12:QL:18:VAL:N	2.30	0.47
22:YA:207:A:H2'	22:YA:208:C:O4'	2.15	0.47
25:RE:21:VAL:HB	25:RE:22:PRO:HB3	1.96	0.47
22:YA:1026:U:O2	22:YA:1027:A:H3'	2.15	0.47
46:Y3:23:LEU:HD13	46:Y3:50:VAL:HG11	1.96	0.47
42:RZ:53:ILE:HG22	42:RZ:71:VAL:O	2.15	0.47
2:QB:32:ILE:HD13	2:QB:40:HIS:HB3	1.95	0.47
22:YA:1009:A:OP1	30:YN:37:LYS:NZ	2.45	0.47
22:YA:287:C:H2'	22:YA:288:C:H6	1.80	0.47
22:RA:2712:U:O2'	22:RA:2712(A):A:P	2.73	0.47
28:YH:154:PRO:HD3	28:YH:162:ILE:H	1.79	0.47
41:RY:76:CYS:HB2	41:RY:101:LYS:HG3	1.96	0.47
22:RA:2715:C:H2'	22:RA:2716:U:C6	2.50	0.47
43:R0:72:ARG:CB	43:R0:75:LEU:HB2	2.44	0.47
22:YA:1464:C:HO2'	22:YA:1528:A:H8	1.63	0.47
22:RA:2418:A:H2'	22:RA:2419:U:O4'	2.14	0.47
22:YA:2777:G:H3'	22:YA:2777:G:C8	2.50	0.47
22:RA:307:G:H21	22:RA:330:A:N6	2.12	0.47
28:YH:4:ILE:HB	28:YH:6:ARG:CG	2.43	0.47
22:RA:1422:G:C6	22:RA:1423:G:C5	3.03	0.47
22:RA:1465:G:C4	22:RA:1466:G:C8	3.03	0.47
1:QA:865:A:H5'	1:QA:1078:U:H5	1.80	0.47
22:YA:304:G:H2'	22:YA:305:U:H6	1.79	0.47
1:XA:864:A:H2	1:XA:917:G:N3	2.12	0.47
22:YA:2433:A:H5''	22:YA:2434:A:OP1	2.15	0.47
1:XA:598:U:H4'	8:XH:94:TYR:CD2	2.49	0.47
36:RT:16:ARG:HE	36:RT:19:LEU:HD21	1.80	0.47
42:RZ:1:MET:HB3	42:RZ:3:TYR:CE1	2.50	0.47
22:RA:2755:C:C4	52:R9:19:ARG:NH1	2.83	0.47
22:YA:1045:A:H5''	22:YA:1047:G:H1'	1.96	0.47
22:RA:540:G:C6	22:RA:541:C:C4	3.03	0.47
3:QC:82:GLU:O	3:QC:86:VAL:HG13	2.14	0.47
22:YA:137(A):G:N3	40:YX:41:ASN:ND2	2.61	0.47
24:RD:118:VAL:HG22	24:RD:119:ALA:N	2.29	0.47
28:RH:27:LYS:HA	28:RH:32:GLU:HA	1.96	0.47
2:QB:8:LYS:H	2:QB:8:LYS:HD3	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:QK:16:SER:OG	11:QK:106:LYS:NZ	2.48	0.47
25:YE:116:VAL:HG11	25:YE:138:PRO:HB3	1.97	0.47
22:YA:155:C:H5'	22:YA:161:U:OP2	2.15	0.47
22:RA:1919:A:H2'	22:RA:1919:A:N3	2.29	0.47
1:QA:51:A:C6	1:QA:353:A:C2	3.03	0.47
1:XA:552:U:H4'	12:XL:86:ARG:O	2.15	0.47
22:RA:735:A:H2'	22:RA:736:C:O4'	2.15	0.47
22:YA:436:C:H2'	22:YA:438:G:H8	1.79	0.47
2:XB:18:GLY:H	2:XB:42:ILE:HG22	1.80	0.47
22:RA:580:C:H2'	22:RA:581:C:C6	2.49	0.47
1:QA:1129:C:H5'	1:QA:1130:A:OP1	2.15	0.47
22:YA:819:A:P	22:YA:1187:G:H22	2.38	0.47
26:RF:62:ARG:HB3	26:RF:62:ARG:CZ	2.45	0.47
22:YA:896:A:N3	42:YZ:176:PRO:HB3	2.30	0.47
1:XA:1131:G:H2'	1:XA:1132:C:C6	2.50	0.47
1:QA:1436:U:H2'	1:QA:1437:C:O4'	2.15	0.47
22:YA:1336:A:H2'	22:YA:1337:G:C8	2.50	0.47
29:YI:5:LEU:HD12	29:YI:5:LEU:H	1.80	0.47
32:YP:64:LYS:HB2	51:Y8:25:MET:HG3	1.96	0.47
53:XV:4:G:HO2'	53:XV:5:G:P	2.38	0.47
1:XA:1010:G:H2'	1:XA:1011:G:C8	2.49	0.47
22:RA:1657:C:H2'	22:RA:1658:C:H6	1.75	0.47
22:RA:593:G:O2'	51:R8:61:LEU:HD13	2.15	0.47
28:YH:4:ILE:HG13	28:YH:6:ARG:CZ	2.45	0.47
22:YA:2365:G:H4'	43:Y0:60:PHE:CE2	2.50	0.47
32:YP:96:THR:O	32:YP:99:LEU:HB3	2.15	0.47
22:RA:70:G:C2	22:RA:114:U:C4	3.03	0.47
19:QS:35:SER:O	19:QS:71:LEU:HD12	2.15	0.47
1:XA:1212:U:O2'	1:XA:1213:A:C8	2.68	0.47
1:XA:1053:G:H2'	1:XA:1199:U:C5	2.50	0.47
22:RA:2648:C:H2'	22:RA:2649:U:C6	2.50	0.47
27:YG:11:TYR:HA	27:YG:15:VAL:HB	1.95	0.47
22:YA:409:C:O2'	22:YA:410:G:H5'	2.15	0.47
1:XA:1430:C:H2'	1:XA:1431:C:H6	1.79	0.47
1:QA:464:G:H1'	1:QA:468:A:N6	2.30	0.47
22:YA:2126:A:H4'	22:YA:2127:G:O5'	2.15	0.47
1:XA:998:G:N2	1:XA:1043:C:O2	2.37	0.47
53:XV:38:A:O5'	53:XV:38:A:H8	1.98	0.47
22:YA:49:A:N7	22:YA:120:U:C5	2.83	0.47
22:RA:2156:G:O6	22:RA:2157:G:N2	2.48	0.47
1:QA:933:G:O6	7:QG:3:ARG:NH2	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:144:G:H1	1:QA:178:C:H42	1.62	0.47
19:XS:33:THR:OG1	19:XS:34:TRP:N	2.48	0.47
26:YF:140:LEU:HD12	26:YF:140:LEU:HA	1.77	0.47
38:RV:24:LYS:HG3	38:RV:92:THR:HG23	1.97	0.47
22:YA:1368:G:C2	22:YA:1369:G:C8	3.02	0.47
22:RA:742:G:H2'	22:RA:743:G:H8	1.80	0.47
22:YA:483:A:H3'	22:YA:484:C:H6	1.80	0.46
13:QM:3:ARG:HH12	27:RG:113:ARG:NH2	2.13	0.46
22:RA:1448:G:H1'	22:RA:1528:A:H62	1.80	0.46
22:YA:221:A:H4'	22:YA:222:A:O5'	2.16	0.46
22:RA:517:C:OP1	48:R5:16:ARG:NH2	2.48	0.46
1:QA:1144:G:H22	1:QA:1146:A:H62	1.63	0.46
20:QT:89:ARG:NH2	20:QT:105:SER:O	2.36	0.46
1:QA:793:U:O2	1:QA:1516:G:H4'	2.15	0.46
22:RA:2318:G:H22	35:RS:2:ALA:N	2.12	0.46
5:QE:9:LYS:HB3	5:QE:112:LEU:HD11	1.98	0.46
1:XA:606:G:N2	1:XA:631:G:H8	2.12	0.46
1:QA:410:G:N1	1:QA:429:U:O2	2.48	0.46
51:R8:29:LYS:HD3	51:R8:44:LYS:CB	2.45	0.46
22:RA:185:U:H4'	22:RA:218:A:H4'	1.97	0.46
41:YY:87:LYS:HD3	41:YY:92:ASN:HB3	1.98	0.46
22:YA:1899:G:N2	22:YA:1902:C:N4	2.63	0.46
22:RA:586:A:N1	22:RA:809:G:O2'	2.43	0.46
26:YF:108:LYS:NZ	26:YF:108:LYS:HB3	2.31	0.46
22:RA:74:A:H8	22:RA:74:A:C5'	2.27	0.46
30:YN:114:ARG:O	30:YN:115:ARG:HB3	2.14	0.46
22:YA:2051:A:C6	22:YA:2614:A:C5	3.03	0.46
22:YA:2645:G:H3'	22:YA:2646:C:H5'	1.97	0.46
4:XD:63:LYS:HD2	4:XD:198:VAL:HG22	1.97	0.46
22:RA:2134:A:H1'	22:RA:2159:G:H21	1.80	0.46
22:YA:1289:C:H2'	22:YA:1290:C:H6	1.80	0.46
22:RA:2013:A:H2	39:RW:88:ARG:HH22	1.63	0.46
37:RU:8:VAL:HG23	37:RU:11:ARG:HH21	1.80	0.46
22:YA:2466:C:H5''	52:Y9:6:SER:HB3	1.96	0.46
2:QB:166:ASP:OD1	2:QB:169:LYS:HB2	2.15	0.46
1:XA:993:G:O6	1:XA:1045:C:N4	2.29	0.46
44:R1:89:GLU:HA	44:R1:93:GLU:HB2	1.95	0.46
48:Y5:33:CYS:SG	48:Y5:34:PRO:HD2	2.55	0.46
41:YY:73:ARG:HB3	41:YY:73:ARG:HE	1.47	0.46
22:RA:866:A:H2'	22:RA:866:A:N3	2.29	0.46
22:RA:1142:U:H2'	22:RA:1142:U:O2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:XY:34:C:O5'	55:XY:34:C:H6	1.97	0.46
19:QS:15:LEU:H	19:QS:15:LEU:HD23	1.79	0.46
47:Y4:2:LYS:HA	47:Y4:2:LYS:HD2	1.67	0.46
17:XQ:63:ARG:HG2	17:XQ:64:PRO:HD2	1.97	0.46
22:YA:554:U:O2'	22:YA:556:G:H8	1.98	0.46
22:YA:372:G:O2'	22:YA:373:U:P	2.73	0.46
47:Y4:38:LYS:HD3	47:Y4:42:PHE:HE1	1.80	0.46
22:YA:569:U:H2'	22:YA:570:G:O4'	2.15	0.46
22:RA:1022:G:C6	22:RA:1140:C:C4	3.03	0.46
32:YP:19:VAL:HG13	32:YP:21:ARG:N	2.20	0.46
1:XA:760:G:H2'	1:XA:761:G:H5'	1.97	0.46
1:QA:408:A:H2'	1:QA:409:G:O4'	2.14	0.46
16:QP:3:LYS:O	16:QP:21:VAL:HA	2.15	0.46
28:RH:153:LYS:HB3	28:RH:162:ILE:H	1.80	0.46
1:QA:1512:U:H2'	1:QA:1513:A:C8	2.50	0.46
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.96	0.46
25:RE:186:GLY:O	25:RE:188:VAL:N	2.48	0.46
22:YA:1791:A:H8	22:YA:1791:A:OP2	1.98	0.46
22:YA:2487:G:N2	22:YA:2488:A:C4	2.83	0.46
1:XA:1415:G:C6	1:XA:1486:G:C6	3.03	0.46
1:QA:1126:U:OP2	1:QA:1281:U:H1'	2.16	0.46
22:YA:770:G:N3	22:YA:1354:A:H2	2.12	0.46
32:YP:88:LEU:HB2	32:YP:91:PHE:HE2	1.80	0.46
22:RA:2274:A:N1	22:RA:2276:G:H1'	2.30	0.46
24:RD:70:TRP:CD2	24:RD:150:LYS:HD2	2.49	0.46
3:XC:14:ILE:HG12	3:XC:15:THR:N	2.30	0.46
1:QA:683:G:H2'	1:QA:684:A:C8	2.50	0.46
7:QG:78:ARG:HG3	7:QG:79:ARG:N	2.29	0.46
22:RA:1579:A:H2'	22:RA:1580:A:C8	2.50	0.46
53:QV:54:U:H2'	53:QV:55:U:O4'	2.15	0.46
1:QA:358:U:H2'	1:QA:359:U:O4'	2.14	0.46
1:XA:1397:C:H4'	1:XA:1398:A:OP2	2.15	0.46
35:YS:52:SER:HB2	35:YS:55:ALA:H	1.79	0.46
39:RW:23:LEU:O	39:RW:27:LYS:HD2	2.14	0.46
22:YA:464:U:H2'	22:YA:465:G:O4'	2.14	0.46
23:YB:6:C:C2	23:YB:115:G:N2	2.84	0.46
35:YS:27:SER:HA	35:YS:88:ASP:HB2	1.96	0.46
9:XI:18:PHE:HB2	9:XI:62:TYR:HB3	1.97	0.46
12:QL:11:VAL:HG13	17:QQ:29:HIS:HD2	1.80	0.46
1:QA:572:A:N3	1:QA:917:G:H1'	2.31	0.46
24:RD:61:LEU:HA	24:RD:61:LEU:HD12	1.77	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:QQ:74:LEU:HB3	17:QQ:75:ARG:H	1.63	0.46
22:RA:1741:C:O5'	22:RA:1741:C:H6	1.97	0.46
41:RY:89:PHE:O	41:RY:90:LEU:HD13	2.15	0.46
7:XG:74:GLU:HG2	7:XG:91:VAL:HG22	1.98	0.46
24:RD:43:ARG:HH11	24:RD:44:ASN:CG	2.16	0.46
2:XB:163:PHE:CD2	2:XB:185:ILE:HG13	2.50	0.46
4:XD:30:LYS:C	4:XD:32:ALA:H	2.18	0.46
42:YZ:144:LEU:HD13	42:YZ:145:GLU:N	2.30	0.46
22:RA:1754:C:H5''	36:RT:113:LYS:HE3	1.97	0.46
1:XA:77:C:O2	1:XA:92:G:N2	2.36	0.46
1:XA:703:G:O5'	1:XA:703:G:H8	1.99	0.46
19:XS:41:VAL:HA	19:XS:44:MET:HG3	1.97	0.46
19:XS:41:VAL:HG23	19:XS:67:VAL:HG13	1.98	0.46
42:YZ:182:LYS:HE3	42:YZ:182:LYS:HB2	1.56	0.46
1:QA:1104:G:O5'	2:QB:111:ARG:HD2	2.16	0.46
24:YD:94:LEU:HD22	24:YD:95:LEU:N	2.31	0.46
1:XA:1004:A:H1'	1:XA:1036:G:N1	2.29	0.46
22:YA:2491:U:O2'	22:YA:2570:G:OP1	2.29	0.46
2:XB:201:ILE:HG21	2:XB:214:ILE:HG21	1.95	0.46
22:YA:787:U:H3'	22:YA:791:C:H41	1.80	0.46
22:YA:1441:G:H2'	22:YA:1442:G:C8	2.48	0.46
22:RA:852:G:N2	22:RA:926:A:H1'	2.31	0.46
1:XA:679:C:H2'	1:XA:680:C:C6	2.50	0.46
22:YA:654(A):G:C6	22:YA:654(B):C:N4	2.83	0.46
43:Y0:27:GLU:HA	43:Y0:67:VAL:O	2.15	0.46
22:YA:389:G:N1	32:YP:70:GLN:HB3	2.30	0.46
40:RX:49:VAL:HG13	40:RX:83:VAL:HG13	1.96	0.46
36:RT:20:PRO:HD2	36:RT:86:ILE:HG23	1.97	0.46
25:YE:176:ILE:HB	25:YE:181:LEU:HB2	1.97	0.46
22:YA:629:G:N3	22:YA:639:U:O2'	2.47	0.46
20:QT:33:ILE:HD13	20:QT:62:LEU:HB3	1.97	0.46
22:YA:466:A:N3	22:YA:683:C:H1'	2.29	0.46
12:QL:11:VAL:HG11	17:QQ:36:ILE:HG21	1.97	0.46
25:YE:150:VAL:HG13	25:YE:154:LYS:HG3	1.96	0.46
24:YD:17:THR:CG2	24:YD:205:VAL:H	2.29	0.46
1:XA:1202:G:H1'	14:XN:29:ARG:HD2	1.96	0.46
1:QA:1135:U:H2'	1:QA:1137:C:O2	2.15	0.46
22:RA:1588:C:H2'	22:RA:1589:C:H6	1.79	0.46
31:RO:76:ALA:HB3	36:RT:75:ILE:HB	1.97	0.46
22:RA:751:A:C6	22:RA:789:A:C5	3.03	0.46
32:YP:121:LYS:HB2	32:YP:121:LYS:HE2	1.75	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2062:A:H2'	22:YA:2062:A:N3	2.30	0.46
1:XA:974:A:OP2	14:YN:41:ARG:NH1	2.48	0.46
1:XA:1003:G:N2	1:XA:1005:A:H5'	2.30	0.46
22:YA:1496:A:H8	22:YA:1577:C:O2'	1.90	0.46
1:XA:1065:U:C4	1:XA:1190:G:H1'	2.51	0.46
44:Y1:96:LYS:H	44:Y1:97:LEU:HD12	1.81	0.46
1:XA:1446:A:C6	36:YT:118:ARG:NH1	2.84	0.46
22:YA:979:G:H5''	22:YA:980:A:OP2	2.15	0.46
22:RA:580:C:H2'	22:RA:581:C:H6	1.81	0.46
20:XT:87:LYS:HD2	20:XT:87:LYS:HA	1.74	0.46
22:YA:1465:G:H5'	22:YA:1528:A:H1'	1.98	0.46
42:RZ:59:LEU:HD11	42:RZ:69:THR:HG21	1.96	0.46
22:YA:2777:G:H8	22:YA:2777:G:H3'	1.79	0.46
22:YA:30:G:H2'	22:YA:31:C:O4'	2.15	0.46
22:YA:2817:G:OP1	34:YR:99:LYS:NZ	2.37	0.46
29:RI:118:LYS:HD2	29:RI:118:LYS:HA	1.77	0.46
1:XA:1293:G:H2'	1:XA:1294:G:O4'	2.15	0.46
22:RA:57:C:H2'	22:RA:58:G:O4'	2.15	0.46
1:XA:217:C:O2'	1:XA:466:C:N4	2.48	0.46
26:YF:127:GLU:OE2	26:YF:128:ALA:N	2.47	0.46
40:RX:55:ASN:HB2	40:RX:80:ILE:HG23	1.97	0.46
22:YA:2397:G:H2'	22:YA:2398:U:C6	2.50	0.46
6:QF:10:LEU:N	6:QF:59:TYR:O	2.46	0.46
22:RA:1504:C:H5'	22:RA:1505:C:OP2	2.15	0.46
1:XA:818:G:N2	1:XA:873:A:OP1	2.43	0.46
32:RP:83:VAL:HG12	32:RP:114:ILE:HA	1.98	0.46
9:XI:83:ARG:O	9:XI:86:VAL:HG12	2.15	0.46
22:RA:2410:G:H2'	22:RA:2411:A:O4'	2.15	0.46
53:QV:3:C:O2'	53:QV:4:G:H5'	2.15	0.46
35:RS:48:LEU:HD23	35:RS:82:ILE:HD11	1.96	0.46
7:XG:115:ARG:HB2	7:XG:118:VAL:HG22	1.97	0.46
42:RZ:40:ASP:OD1	42:RZ:42:VAL:HB	2.15	0.46
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.51	0.46
1:QA:1129:C:OP1	9:QI:62:TYR:OH	2.20	0.46
1:XA:579:G:C6	1:XA:580:U:C4	3.04	0.46
32:YP:29:LYS:HD2	32:YP:30:THR:HG23	1.97	0.46
42:RZ:82:ARG:HH11	42:RZ:82:ARG:HG2	1.81	0.46
22:YA:746:A:C6	22:YA:2611:U:H5''	2.50	0.46
1:XA:135:C:H2'	1:XA:136:C:H5'	1.98	0.46
22:YA:2335:A:O2'	22:YA:2336:A:C8	2.69	0.46
24:YD:25:THR:CG2	24:YD:82:ILE:H	2.27	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:377:G:H1	1:QA:386:C:H42	1.62	0.46
22:YA:1534:G:N3	22:YA:1534:G:H2'	2.30	0.46
1:XA:129(A):G:N2	1:XA:191(A):G:C5	2.83	0.46
5:XE:78:HIS:HB3	8:XH:107:LEU:HD12	1.98	0.46
22:RA:1797:C:C4	22:RA:1798:U:C5	3.04	0.46
39:RW:86:LEU:O	39:RW:94:ASP:N	2.44	0.46
22:RA:2146:C:H4'	22:RA:2147:G:N7	2.31	0.46
27:RG:22:ARG:HH22	27:RG:175:LEU:HD21	1.80	0.46
22:RA:519:U:H2'	22:RA:520:G:H8	1.80	0.46
1:XA:284:G:H2'	1:XA:285:G:H8	1.80	0.46
22:RA:935:C:H2'	22:RA:936:C:C6	2.49	0.46
22:YA:1093:G:O2'	22:YA:1099:G:N1	2.45	0.46
22:RA:2321:G:N3	22:RA:2321:G:H2'	2.31	0.46
1:XA:1074:G:H2'	1:XA:1075:C:C6	2.51	0.46
22:YA:1658:C:C2	22:YA:1659:U:C5	3.04	0.46
22:RA:2516:G:N2	22:RA:2569:G:H1'	2.30	0.46
22:RA:1561:G:H2'	22:RA:1562:A:C8	2.51	0.46
22:YA:894:C:H2'	22:YA:895:U:H6	1.81	0.46
22:YA:2683:C:H4'	25:YE:13:ARG:NH2	2.31	0.46
41:YY:94:LYS:HD2	41:YY:101:LYS:HZ3	1.81	0.46
35:RS:78:LEU:HD11	35:RS:107:GLU:O	2.15	0.46
22:RA:807:U:O2'	22:RA:2060:A:N1	2.45	0.46
35:RS:83:LYS:O	35:RS:109:GLY:HA3	2.15	0.46
46:Y3:8:LEU:HD22	46:Y3:31:LEU:HD22	1.96	0.46
23:RB:97:G:H2'	23:RB:98:G:O4'	2.15	0.46
37:YU:75:ASN:HB3	37:YU:78:THR:H	1.81	0.46
22:RA:275:G:H3'	22:RA:276:A:H5''	1.97	0.46
24:YD:118:VAL:HG22	24:YD:119:ALA:N	2.31	0.46
29:YI:32:PRO:C	29:YI:34:GLY:H	2.19	0.46
41:RY:17:SER:OG	41:RY:71:LYS:HD2	2.16	0.46
42:YZ:43:GLU:O	42:YZ:47:VAL:HG23	2.15	0.46
19:QS:63:THR:HG23	19:QS:65:ASN:OD1	2.15	0.46
26:RF:126:VAL:HG11	26:RF:142:TRP:HH2	1.80	0.46
22:YA:264:C:C2'	22:YA:265:A:H5''	2.46	0.46
1:QA:1338:G:H21	53:QV:41:C:H1'	1.80	0.46
1:QA:946:A:H61	1:QA:1234:C:N4	2.14	0.46
43:R0:29:GLN:O	43:R0:67:VAL:HG23	2.16	0.46
1:XA:977:A:H2'	1:XA:978:A:H5''	1.98	0.46
1:XA:975:A:N6	1:XA:1367:C:O4'	2.49	0.46
29:RI:131:LYS:HB3	29:RI:132:PRO:HA	1.97	0.46
22:YA:1899:G:H21	22:YA:1902:C:N4	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YE:36:ARG:NH2	25:YE:88:GLY:HA2	2.29	0.46
22:RA:834:C:H2'	22:RA:835:A:H8	1.80	0.46
22:RA:1389:G:H2'	22:RA:1390:U:H6	1.81	0.46
29:RI:82:ARG:NE	29:RI:146:ALA:O	2.49	0.46
1:QA:1269:A:N1	1:QA:1312:G:O2'	2.38	0.46
27:YG:34:LEU:HD12	27:YG:100:TRP:CH2	2.50	0.46
12:XL:62:SER:O	12:XL:64:TYR:N	2.48	0.46
27:RG:98:ARG:O	27:RG:101:ILE:HG13	2.16	0.46
3:XC:178:LEU:HD13	3:XC:178:LEU:HA	1.84	0.46
32:RP:124:LYS:HA	32:RP:143:GLY:O	2.16	0.46
22:YA:2059:A:H5'	22:YA:2060:A:OP2	2.16	0.46
22:YA:865:C:H4'	22:YA:866:A:OP1	2.16	0.46
49:R6:13:CYS:HB2	49:R6:22:ALA:HB3	1.98	0.46
3:XC:78:GLY:HA3	3:XC:83:ARG:HB3	1.98	0.46
1:XA:1057:G:H2'	1:XA:1058:G:O4'	2.15	0.46
28:RH:170:ARG:HB3	28:RH:171:LEU:H	1.52	0.46
44:Y1:80:LEU:HB2	44:Y1:81:LYS:H	1.61	0.46
10:QJ:84:GLN:HG3	10:QJ:84:GLN:H	1.49	0.46
1:XA:973:G:C4	10:XJ:55:LYS:HE2	2.51	0.46
22:RA:1543:A:O2'	22:RA:1544:C:H3'	2.14	0.46
1:XA:485:G:O2'	1:XA:486:U:P	2.74	0.46
22:YA:2867:G:O2'	22:YA:2868:A:P	2.73	0.46
22:YA:996:A:H4'	37:YU:92:ARG:HE	1.81	0.46
22:RA:2292:C:H2'	22:RA:2293:C:C6	2.51	0.46
22:YA:1190:G:H5'	32:YP:32:THR:HA	1.98	0.46
24:YD:35:LYS:HB3	24:YD:63:ARG:HA	1.98	0.46
24:YD:35:LYS:HE3	24:YD:63:ARG:C	2.36	0.46
1:QA:1285:A:H5'	1:QA:1286:A:N3	2.30	0.46
19:XS:41:VAL:HB	19:XS:42:PRO:HA	1.96	0.46
1:XA:1365:G:H2'	1:XA:1366:C:C6	2.51	0.46
10:XJ:62:HIS:H	10:XJ:62:HIS:CD2	2.33	0.46
39:YW:110:LYS:HG3	39:YW:111:HIS:ND1	2.31	0.46
15:XO:56:LEU:O	15:XO:60:VAL:HG23	2.16	0.46
1:QA:530:G:O2'	55:QY:35:G:H4'	2.15	0.46
23:RB:31:C:H4'	27:RG:29:TRP:CH2	2.50	0.46
22:YA:2078:C:N4	22:YA:2241:A:H61	2.14	0.46
1:XA:1049:U:H4'	1:XA:1050:G:C5'	2.46	0.46
51:R8:50:LEU:C	51:R8:53:PRO:HD2	2.36	0.46
20:QT:29:LYS:O	20:QT:33:ILE:HG12	2.16	0.46
33:YQ:136:ALA:O	33:YQ:138:ASP:N	2.40	0.46
22:YA:909:A:H2'	22:YA:912:C:H5	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1598:C:H2'	22:YA:1599:C:H6	1.81	0.46
1:QA:186:C:H5'	20:QT:78:ALA:HB1	1.97	0.46
7:XG:50:ILE:HG21	7:XG:61:VAL:HG21	1.98	0.46
13:XM:36:LYS:HD3	13:XM:36:LYS:C	2.36	0.46
15:XO:6:GLU:H	15:XO:6:GLU:CD	2.15	0.46
33:RQ:29:PHE:N	33:RQ:105:GLU:OE2	2.40	0.46
22:YA:1268:A:H2'	22:YA:1269:A:O4'	2.16	0.46
51:R8:39:LYS:O	51:R8:43:GLN:HB2	2.15	0.46
1:XA:815:A:H4'	1:XA:817:C:C4	2.50	0.46
53:QV:35:A:H2'	53:QV:36:U:C6	2.51	0.46
4:QD:9:CYS:SG	4:QD:31:CYS:C	2.94	0.46
22:YA:2849:U:H5	36:YT:93:ARG:NH1	2.06	0.46
1:QA:713:G:H2'	1:QA:714:G:C8	2.51	0.46
12:XL:92:ASP:O	12:XL:94:PRO:HD3	2.16	0.46
1:XA:1386:G:H2'	1:XA:1387:G:H8	1.80	0.46
25:RE:63:LEU:HD12	25:RE:64:LYS:N	2.30	0.46
22:RA:2074:U:H2'	22:RA:2075:U:H6	1.75	0.46
28:RH:87:LEU:HA	28:RH:163:TYR:O	2.16	0.46
22:RA:817:C:O2'	22:RA:839:U:H5''	2.16	0.46
22:RA:330:A:H2	22:RA:1210:A:H2'	1.80	0.46
22:YA:1354:A:OP1	24:YD:38:LYS:HE2	2.15	0.46
24:RD:68:LYS:HD2	24:RD:70:TRP:CZ2	2.51	0.46
22:RA:1338:G:N3	22:RA:1393:A:H2	2.13	0.46
22:RA:384:U:H2'	22:RA:385:C:H6	1.81	0.46
1:QA:1320:C:C2	19:QS:72:GLY:HA3	2.50	0.46
2:XB:70:PHE:O	2:XB:93:VAL:N	2.34	0.46
22:YA:2741:A:OP1	52:Y9:22:ARG:NH2	2.47	0.46
1:QA:651:C:N4	1:QA:753:A:OP2	2.41	0.46
23:YB:51:G:H5'	23:YB:52:A:OP2	2.16	0.46
22:RA:864:G:C6	22:RA:865:C:N4	2.84	0.46
22:YA:2586:C:C5	22:YA:2608:G:N2	2.84	0.46
22:RA:548:A:C6	22:RA:549:G:H1'	2.51	0.46
20:XT:26:ASN:O	20:XT:30:LYS:HB2	2.16	0.46
1:QA:1010:G:N2	1:QA:1020:U:H1'	2.31	0.46
12:QL:54:LYS:N	12:QL:54:LYS:HD2	2.31	0.46
1:QA:673:G:H8	1:QA:673:G:O5'	1.98	0.46
22:YA:2605:U:H2'	22:YA:2606:C:C6	2.51	0.46
22:YA:637:A:H4'	22:YA:638:G:O5'	2.15	0.46
2:XB:204:ASN:HD22	2:XB:205:ASP:N	2.13	0.46
22:RA:1639:U:H4'	22:RA:2699:C:H4'	1.98	0.46
25:YE:116:VAL:O	25:YE:117:MET:HB3	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:165:VAL:HG23	2:QB:166:ASP:H	1.81	0.46
1:QA:771:G:H2'	1:QA:772:U:C6	2.51	0.46
22:YA:923:C:O4'	43:Y0:29:GLN:NE2	2.42	0.46
22:YA:2319:G:N7	35:YS:3:ARG:HB3	2.31	0.46
4:QD:103:ASN:OD1	4:QD:114:ARG:NE	2.49	0.46
37:RU:69:CYS:HB3	37:RU:106:PHE:HZ	1.81	0.46
22:RA:224:G:O6	22:RA:419:C:O2'	2.27	0.46
22:YA:2602:A:N6	53:XV:76:A:H2'	2.30	0.46
22:RA:1778:U:H2'	22:RA:1784:A:N6	2.30	0.46
22:YA:216:A:C4	22:YA:432:A:C2	3.03	0.46
4:QD:75:PHE:HE1	4:QD:97:LEU:HD11	1.81	0.46
1:QA:20:U:H2'	1:QA:21:G:O4'	2.16	0.46
22:YA:1972:A:H2'	22:YA:1973:G:C8	2.50	0.46
49:R6:33:LYS:HG3	49:R6:34:LEU:HD13	1.98	0.46
16:XP:1:MET:O	16:XP:3:LYS:HG3	2.16	0.46
28:RH:85:LYS:HD2	28:RH:85:LYS:HA	1.85	0.46
53:XV:52:G:H2'	53:XV:52:G:N3	2.30	0.46
19:QS:32:LYS:HA	19:QS:50:ALA:HB3	1.98	0.46
22:YA:570:G:H2'	22:YA:2030:A:C5	2.51	0.46
1:QA:789:U:H1'	1:QA:792:A:H2	1.81	0.46
28:YH:167:GLU:HA	28:YH:168:PRO:HD3	1.79	0.46
22:RA:2334:G:H4'	22:RA:2335:A:OP2	2.15	0.46
33:RQ:81:VAL:C	33:RQ:82:ARG:HG2	2.37	0.46
1:XA:986:A:H2'	1:XA:987:G:O4'	2.16	0.46
34:YR:78:LYS:O	34:YR:83:ILE:HG12	2.16	0.46
1:XA:975:A:H8	1:XA:975:A:H5'	1.79	0.46
22:YA:2751:G:H8	22:YA:2751:G:O5'	1.98	0.46
34:YR:51:LEU:HD12	34:YR:70:LEU:HG	1.97	0.46
52:R9:8:LYS:O	52:R9:34:GLN:NE2	2.49	0.46
33:RQ:104:PHE:HE1	33:RQ:125:LEU:HD11	1.80	0.46
1:QA:322:C:H41	1:QA:328:C:H6	1.63	0.46
1:QA:883:C:O2'	1:QA:884:U:H5'	2.15	0.46
22:RA:1337:G:H2'	22:RA:1338:G:C8	2.50	0.46
22:RA:48:G:N2	22:RA:177:G:H21	2.13	0.46
9:XI:46:ALA:HA	9:XI:78:LYS:HB2	1.98	0.46
26:YF:129:PHE:O	26:YF:142:TRP:CD1	2.69	0.46
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.97	0.46
2:QB:178:ARG:NH2	8:QH:74:PRO:HG3	2.30	0.46
2:XB:114:ARG:O	2:XB:118:LEU:HG	2.16	0.46
22:YA:840:C:O5'	22:YA:840:C:H6	1.98	0.46
22:RA:2635:C:H5''	25:RE:78:LEU:HA	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:436:C:H2'	22:YA:438:G:C8	2.51	0.46
28:YH:103:LEU:HD23	28:YH:115:VAL:HB	1.97	0.46
1:QA:778:G:O5'	1:QA:778:G:H8	1.98	0.46
22:YA:740:U:H2'	22:YA:741:G:C8	2.51	0.46
2:XB:217:ARG:HB2	2:XB:217:ARG:HE	1.54	0.46
34:RR:37:THR:OG1	34:RR:40:LYS:HG3	2.16	0.46
35:RS:61:ASN:O	35:RS:65:VAL:HG23	2.14	0.46
28:RH:115:VAL:HG11	28:RH:148:ILE:HD11	1.98	0.46
22:RA:2666:C:H3'	22:RA:2667:C:H6	1.81	0.46
1:QA:1468:A:H5'	1:QA:1469:G:OP2	2.15	0.46
25:YE:70:ALA:O	25:YE:72:VAL:N	2.49	0.46
31:RO:31:LYS:HB3	31:RO:32:TYR:CD1	2.51	0.46
1:QA:1158:C:N3	1:QA:1160:G:C8	2.83	0.46
22:RA:363:G:H2'	22:RA:363(A):A:H8	1.80	0.46
22:RA:705:A:H1'	24:RD:9:TYR:CE1	2.50	0.46
9:QI:45:ALA:O	9:QI:48:GLU:HG2	2.15	0.46
22:RA:1578:U:H6	22:RA:1578:U:OP2	1.99	0.46
22:YA:1175:U:H4'	22:YA:1176:G:OP1	2.15	0.46
35:RS:24:LEU:HB2	35:RS:85:VAL:HG12	1.96	0.46
22:YA:254:G:N7	51:Y8:5:LYS:HE2	2.31	0.46
36:RT:26:ASP:HB2	36:RT:90:GLN:O	2.16	0.46
23:YB:24:G:O6	23:YB:56:G:O2'	2.27	0.46
49:R6:44:ARG:O	49:R6:45:LYS:HB2	2.16	0.46
28:YH:86:GLU:O	28:YH:87:LEU:HB2	2.16	0.46
1:QA:1399:C:H4'	1:QA:1400:C:O5'	2.16	0.46
44:R1:73:LEU:HB3	44:R1:90:ILE:HG23	1.97	0.46
22:RA:414:C:H1'	22:RA:1864:U:O2'	2.15	0.46
1:XA:411:A:C8	1:XA:413:G:H1'	2.51	0.46
42:YZ:16:SER:O	42:YZ:20:ARG:HB2	2.15	0.46
1:QA:706:A:H1'	11:QK:29:ILE:HD11	1.98	0.46
23:RB:6:C:O2	23:RB:115:G:N2	2.49	0.46
22:RA:71:A:H4'	22:RA:72:U:H5''	1.97	0.46
22:RA:1392:A:N6	22:RA:1393:A:N6	2.63	0.46
28:RH:103:LEU:HD13	28:RH:131:VAL:HG11	1.97	0.46
32:YP:135:LEU:HA	32:YP:135:LEU:HD23	1.74	0.46
32:RP:101:VAL:HG23	32:RP:107:LYS:H	1.81	0.46
38:YV:19:LYS:HA	38:YV:94:LEU:O	2.15	0.46
29:RI:101:LEU:HB3	29:RI:107:VAL:O	2.16	0.46
22:RA:608:A:H2'	22:RA:609:A:C8	2.51	0.46
22:YA:278:A:H4'	22:YA:279:C:OP1	2.15	0.46
22:YA:395:U:O2'	22:YA:396:G:C8	2.65	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1213:A:C6	1:QA:1215:G:C4	3.03	0.46
2:XB:55:PHE:HD1	2:XB:58:ILE:HG13	1.81	0.46
22:YA:1945:G:C6	22:YA:1946:U:C4	3.03	0.46
38:RV:51:VAL:HG12	38:RV:53:GLU:H	1.80	0.46
22:YA:1329:U:H5''	22:YA:1330:C:H5	1.81	0.46
25:YE:108:SER:HB3	25:YE:165:VAL:HG21	1.98	0.46
22:YA:327:G:N2	22:YA:335:C:O2	2.45	0.46
22:YA:1901:A:H2'	22:YA:1901:A:N3	2.31	0.46
22:YA:36:G:N3	22:YA:450:G:O2'	2.49	0.46
1:XA:291:C:H42	1:XA:309:G:H1	1.64	0.46
28:YH:106:THR:HG22	28:YH:112:PRO:HB3	1.97	0.46
34:RR:33:ARG:HG2	34:RR:34:ILE:N	2.30	0.45
22:YA:2592:G:C6	22:YA:2593:U:N3	2.84	0.45
1:QA:791:G:C2'	1:QA:792:A:H5'	2.45	0.45
22:YA:469:G:N7	50:Y7:37:LYS:NZ	2.63	0.45
22:YA:26:G:H1'	22:YA:515:A:H61	1.80	0.45
1:XA:453:A:C6	1:XA:454:C:C4	3.04	0.45
22:RA:671:C:O2'	22:RA:672:C:H5'	2.16	0.45
22:YA:2135:A:O2'	22:YA:2160:G:H4'	2.16	0.45
22:YA:2255:G:C5	22:YA:2256:G:C8	3.04	0.45
22:YA:1530:G:C6	22:YA:1531:C:C4	3.03	0.45
22:RA:71:A:H5''	22:RA:72:U:H3'	1.98	0.45
22:RA:385:C:HO2'	22:RA:388:G:N2	2.13	0.45
28:RH:120:GLY:HA3	28:RH:140:LYS:NZ	2.32	0.45
26:YF:129:PHE:C	26:YF:131:GLY:H	2.18	0.45
22:RA:1640:C:H5'	22:RA:1641:A:OP2	2.15	0.45
10:QJ:22:LYS:HB3	10:QJ:22:LYS:HE3	1.68	0.45
22:RA:210:C:H4'	22:RA:1367:A:H1'	1.97	0.45
1:QA:1327:C:OP2	21:QU:12:LYS:NZ	2.49	0.45
5:QE:97:GLY:N	5:QE:117:ASP:OD2	2.40	0.45
1:XA:437:U:H2'	1:XA:438:G:O4'	2.16	0.45
22:RA:2512:C:H1'	25:RE:140:SER:O	2.16	0.45
9:XI:18:PHE:HD1	9:XI:62:TYR:HD2	1.62	0.45
22:YA:1742:C:H5'	22:YA:1743:G:OP2	2.16	0.45
24:YD:10:THR:OG1	24:YD:13:ARG:HB2	2.16	0.45
22:YA:2596:U:H2'	22:YA:2597:G:O4'	2.17	0.45
47:R4:10:VAL:HA	47:R4:11:PRO:HD2	1.75	0.45
22:RA:2278:A:H5''	43:R0:12:ASN:HD21	1.81	0.45
22:YA:114:U:H2'	22:YA:115:C:C6	2.51	0.45
5:XE:41:VAL:HG13	5:XE:113:ALA:HB2	1.97	0.45
22:RA:1805:U:O2	24:RD:50:THR:HB	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XF:48:LEU:HG	6:XF:57:GLN:HA	1.98	0.45
1:QA:998(A):C:H2'	1:QA:999:U:C6	2.51	0.45
1:XA:1154:G:C4	1:XA:1155:G:C8	3.04	0.45
22:YA:1230:C:H2'	22:YA:1231:G:C8	2.51	0.45
22:RA:29:U:H2'	22:RA:30:G:C8	2.51	0.45
33:YQ:135:ASP:OD1	33:YQ:135:ASP:N	2.48	0.45
24:YD:137:PRO:O	24:YD:140:THR:HG23	2.16	0.45
22:YA:273(A):G:C2	22:YA:364:C:N3	2.84	0.45
22:RA:2593:U:C4	22:RA:2594:C:N4	2.84	0.45
22:YA:2406:U:N3	32:YP:73:GLY:O	2.33	0.45
9:XI:114:TYR:HD2	9:XI:114:TYR:N	2.14	0.45
41:YY:51:VAL:HG13	41:YY:52:SER:N	2.28	0.45
22:RA:2061:G:H5''	22:RA:2503:A:C2	2.52	0.45
37:YU:68:ALA:O	37:YU:71:GLN:HB2	2.16	0.45
1:QA:1144:G:N2	1:QA:1146:A:H62	2.14	0.45
22:YA:1012:U:O2'	22:YA:1013:C:OP2	2.25	0.45
22:RA:2379:G:O2'	35:RS:17:ARG:NH1	2.49	0.45
43:Y0:51:VAL:CG1	43:Y0:59:LEU:HB3	2.46	0.45
22:YA:1588:C:H2'	22:YA:1589:C:H6	1.82	0.45
1:XA:701:C:O2	1:XA:703:G:N1	2.49	0.45
44:Y1:58:ILE:N	44:Y1:58:ILE:HD12	2.31	0.45
1:QA:299:G:H2'	1:QA:300:A:H8	1.81	0.45
1:XA:114:U:H2'	1:XA:115:G:C8	2.52	0.45
22:RA:1968:G:O2'	22:RA:1969:A:O4'	2.24	0.45
32:RP:88:LEU:HD12	32:RP:95:VAL:HG11	1.98	0.45
22:RA:2867:G:OP2	36:RT:119:LYS:NZ	2.35	0.45
42:RZ:45:ASP:OD2	42:RZ:49:ARG:NH2	2.50	0.45
1:QA:987:G:H1	1:QA:1218:C:H42	1.64	0.45
1:QA:44:G:N2	1:QA:399:G:C4	2.85	0.45
22:YA:224:G:O6	22:YA:419:C:O2'	2.29	0.45
22:YA:2317:C:H2'	22:YA:2318:G:O4'	2.16	0.45
41:YY:84:ARG:HB3	41:YY:95:LYS:HD3	1.97	0.45
1:XA:742:G:OP2	15:XO:35:ARG:NH2	2.47	0.45
1:QA:922:G:N3	1:QA:1398:A:H2	2.14	0.45
8:QH:20:TYR:HA	8:QH:65:TYR:CZ	2.51	0.45
1:QA:652:U:H1'	1:QA:653:A:H2	1.79	0.45
1:QA:54:C:N4	1:QA:353:A:OP2	2.49	0.45
18:XR:73:ALA:HB3	18:XR:79:LEU:HD12	1.98	0.45
32:YP:138:LEU:C	32:YP:140:ALA:H	2.19	0.45
2:XB:140:HIS:HA	2:XB:143:GLU:OE1	2.17	0.45
22:YA:1319:G:C6	22:YA:1320:C:N4	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RS:16:ASN:HA	35:RS:19:LYS:HD3	1.98	0.45
32:RP:6:LEU:HB3	32:RP:7:ARG:H	1.55	0.45
49:Y6:33:LYS:HB2	49:Y6:33:LYS:HE2	1.76	0.45
22:YA:1544:C:O2	22:YA:1544:C:H2'	2.17	0.45
20:XT:75:ASN:OD1	20:XT:75:ASN:N	2.40	0.45
13:QM:84:ILE:HD12	13:QM:84:ILE:HA	1.75	0.45
1:QA:1386:G:C2	1:QA:1387:G:C8	3.04	0.45
22:RA:2857:G:N2	22:RA:2859:G:H3'	2.30	0.45
4:QD:18:LYS:HD3	4:QD:20:TYR:CZ	2.51	0.45
22:RA:2212:A:H1'	22:RA:2215:G:C5	2.51	0.45
1:XA:1305:G:O2'	1:XA:1306:A:O5'	2.34	0.45
1:QA:945:G:C6	1:QA:1337:G:C5	3.04	0.45
1:XA:1264:C:H42	1:XA:1271:G:H1	1.64	0.45
13:XM:58:GLU:O	13:XM:62:ASN:ND2	2.33	0.45
1:XA:1269:A:H2	1:XA:1312:G:N3	2.14	0.45
22:RA:2787:C:H1'	25:RE:62:PRO:HG3	1.98	0.45
1:QA:17:U:H1'	1:QA:1080:A:H1'	1.97	0.45
26:YF:11:VAL:HA	26:YF:125:LEU:O	2.16	0.45
22:RA:184:C:H4'	22:RA:217:G:N3	2.31	0.45
22:YA:2530:A:O2'	22:YA:2532:G:OP2	2.23	0.45
41:YY:87:LYS:HA	41:YY:92:ASN:HB3	1.98	0.45
5:XE:99:GLY:N	5:XE:117:ASP:OD2	2.47	0.45
1:XA:453:A:C5	1:XA:454:C:C4	3.05	0.45
4:QD:121:VAL:O	4:QD:134:ASP:HA	2.16	0.45
22:RA:818:G:N1	22:RA:1188:U:OP2	2.41	0.45
22:RA:1533:C:N4	22:RA:1538:G:H1	2.14	0.45
22:RA:1341:U:P	22:RA:1397:U:H3	2.39	0.45
8:XH:86:ILE:HG13	8:XH:133:LEU:HD22	1.98	0.45
37:YU:66:ASN:O	37:YU:70:ARG:HB2	2.17	0.45
22:RA:537:C:H6	22:RA:537:C:H5''	1.82	0.45
22:RA:1931:U:H2'	22:RA:1932:A:O4'	2.17	0.45
22:RA:1620:G:H2'	22:RA:1621:U:C6	2.51	0.45
1:XA:1284:C:H3'	1:XA:1285:A:C8	2.50	0.45
32:YP:27:HIS:N	32:YP:27:HIS:ND1	2.64	0.45
22:YA:198:C:O2'	22:YA:199:A:H5''	2.15	0.45
13:QM:89:GLY:O	13:QM:92:HIS:HB2	2.15	0.45
1:XA:1171:G:C2	1:XA:1172:C:C2	3.04	0.45
22:YA:372:G:H5'	44:Y1:66:HIS:NE2	2.32	0.45
1:XA:922:G:O2'	1:XA:1398:A:N1	2.43	0.45
42:RZ:19:ARG:HD2	42:RZ:84:GLU:HA	1.98	0.45
22:RA:635:C:O2'	22:RA:639:U:OP1	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:QF:99:ALA:HB1	18:QR:23:LYS:NZ	2.31	0.45
22:YA:1161:C:H4'	38:YV:8:GLY:HA2	1.99	0.45
22:YA:1144:G:H2'	22:YA:1145:C:C6	2.51	0.45
33:RQ:2:LEU:HD23	33:RQ:2:LEU:H	1.81	0.45
19:XS:47:HIS:O	19:XS:62:ILE:HG12	2.17	0.45
22:YA:1726:G:C6	22:YA:1727:U:C4	3.03	0.45
22:RA:531:C:C5	22:RA:2035:G:C2	3.05	0.45
22:YA:735:A:H3'	22:YA:736:C:H6	1.80	0.45
1:XA:963:G:N2	1:XA:972:C:N3	2.53	0.45
41:YY:56:PRO:O	41:YY:58:GLY:N	2.49	0.45
23:RB:61:G:H2'	23:RB:62:C:C6	2.52	0.45
1:QA:1124:G:H5''	1:QA:1145:C:H41	1.82	0.45
3:QC:131:ARG:NH1	5:QE:50:GLU:HG2	2.30	0.45
1:QA:1298:C:H4'	1:QA:1299:A:C5	2.52	0.45
22:RA:2740:A:H2'	22:RA:2741:A:C8	2.52	0.45
27:YG:6:ALA:N	47:Y4:23:GLU:HG2	2.28	0.45
1:QA:1285:A:H5'	1:QA:1286:A:C2	2.51	0.45
1:XA:129(A):G:N2	1:XA:191(A):G:C4	2.84	0.45
53:QV:17:C:H5'	53:QV:61:C:OP1	2.16	0.45
22:YA:229:A:C2	22:YA:418:G:H4'	2.52	0.45
31:RO:48:PRO:O	31:RO:49:ARG:HG2	2.17	0.45
1:QA:685:G:C2	1:QA:686:U:C4	3.04	0.45
22:YA:2801:A:C6	22:YA:2802:G:H1'	2.52	0.45
22:RA:843:G:N2	22:RA:936:C:C2	2.84	0.45
7:XG:45:ASP:O	7:XG:49:ILE:HG12	2.16	0.45
26:RF:31:HIS:HB2	32:RP:9:ASN:OD1	2.16	0.45
6:QF:45:LEU:HD12	6:QF:59:TYR:HD1	1.82	0.45
1:XA:1236:A:O2'	1:XA:1304:G:H4'	2.17	0.45
1:QA:514:C:C2	1:QA:515:G:C8	3.05	0.45
7:QG:20:ASP:OD1	7:QG:21:VAL:N	2.48	0.45
23:YB:62:C:H2'	23:YB:63:G:C8	2.51	0.45
44:Y1:91:LYS:HE3	44:Y1:91:LYS:HA	1.98	0.45
46:Y3:31:LEU:O	46:Y3:32:GLN:HB2	2.17	0.45
34:YR:109:ALA:HA	34:YR:110:PRO:HD2	1.77	0.45
32:YP:124:LYS:HA	32:YP:143:GLY:O	2.15	0.45
22:RA:957:A:H5''	33:RQ:14:ARG:HH22	1.81	0.45
3:QC:23:TYR:CD1	10:QJ:10:GLY:HA2	2.51	0.45
24:RD:76:PRO:HB2	24:RD:116:GLN:OE1	2.17	0.45
7:QG:45:ASP:O	7:QG:49:ILE:HG12	2.16	0.45
6:XF:100:ASN:O	18:XR:28:GLU:HG2	2.17	0.45
22:YA:2812:G:H2'	22:YA:2813:A:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:19:C:OP2	37:RU:30:LYS:NZ	2.45	0.45
22:RA:1335:U:OP2	40:RX:65:ARG:NH2	2.49	0.45
22:RA:585:G:O5'	22:RA:585:G:H8	1.99	0.45
22:YA:232:G:OP2	22:YA:232:G:H8	1.98	0.45
1:QA:1109:C:H2'	1:QA:1110:A:O4'	2.16	0.45
32:RP:77:ARG:HB2	32:RP:78:PRO:HD2	1.99	0.45
23:RB:83:G:H1	23:RB:93:C:N4	2.03	0.45
1:QA:1298:C:C5	7:QG:114:ARG:HD2	2.51	0.45
37:YU:58:ARG:HA	37:YU:61:TRP:CE3	2.52	0.45
1:QA:1338:G:H2'	1:QA:1339:A:C8	2.52	0.45
22:YA:1022:G:C6	22:YA:1140:C:C4	3.05	0.45
22:RA:482:A:H4'	41:RY:47:LYS:HD2	1.99	0.45
22:RA:1079:C:H5'	22:RA:1080:C:OP2	2.16	0.45
22:RA:1754:C:H2'	22:RA:1755:A:C8	2.50	0.45
24:RD:105:ILE:HD12	24:RD:105:ILE:HA	1.63	0.45
49:R6:26:ASN:ND2	49:R6:35:GLU:OE2	2.49	0.45
24:RD:30:GLU:HG3	24:RD:63:ARG:CZ	2.47	0.45
42:RZ:45:ASP:OD1	42:RZ:49:ARG:NE	2.41	0.45
1:XA:479:C:H2'	1:XA:480:U:O4'	2.17	0.45
33:RQ:63:LYS:HD2	42:RZ:175:VAL:HG21	1.98	0.45
27:RG:106:LEU:HA	27:RG:110:ALA:HB3	1.98	0.45
1:XA:945:G:N2	1:XA:1334:G:O2'	2.48	0.45
38:YV:36:PRO:HA	38:YV:56:SER:OG	2.16	0.45
22:RA:270(E):G:C2	22:RA:270(F):U:C2	3.05	0.45
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.51	0.45
22:RA:2679:A:H5'	25:RE:165:VAL:HG21	1.98	0.45
22:YA:184:C:H2'	22:YA:185:U:C6	2.52	0.45
22:RA:1130:U:N3	25:RE:147:PRO:HB3	2.31	0.45
22:RA:428:A:N7	22:RA:429:A:C5	2.84	0.45
22:RA:1416:G:H2'	22:RA:1417:C:C6	2.52	0.45
22:YA:1125:G:C6	22:YA:1126:A:N6	2.84	0.45
24:RD:118:VAL:HG22	24:RD:119:ALA:H	1.82	0.45
42:YZ:5:LEU:HD22	42:YZ:47:VAL:HG21	1.97	0.45
22:RA:1030:G:OP2	33:RQ:128:LYS:HG2	2.17	0.45
22:RA:759:G:H2'	22:RA:760:G:C8	2.51	0.45
19:XS:63:THR:HG23	19:XS:66:MET:HG2	1.99	0.45
27:YG:146:TYR:O	27:YG:149:VAL:HG22	2.16	0.45
32:RP:18:ARG:HD2	32:RP:27:HIS:HD2	1.81	0.45
45:Y2:4:SER:OG	45:Y2:5:GLU:OE1	2.23	0.45
4:QD:15:GLU:HG2	4:QD:63:LYS:HG3	1.97	0.45
24:RD:121:PRO:HB3	24:RD:135:PHE:CE1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:19:GLU:HA	3:QC:54:ARG:HH12	1.82	0.45
1:XA:1447:G:N2	1:XA:1460:A:H1'	2.32	0.45
22:RA:2025:C:H2'	22:RA:2026:C:C6	2.52	0.45
1:QA:1014:A:H4'	19:QS:14:HIS:CD2	2.51	0.45
1:QA:392:G:H2'	1:QA:393:A:H8	1.82	0.45
1:XA:908:A:H2'	1:XA:909:A:C8	2.51	0.45
22:YA:2762:G:C6	22:YA:2763:G:C4	3.05	0.45
22:RA:708:C:N4	22:RA:723:G:H1	2.02	0.45
13:XM:65:LYS:O	13:XM:70:LEU:HD23	2.17	0.45
28:YH:150:ALA:O	28:YH:152:ARG:N	2.49	0.45
1:XA:522:C:H2'	1:XA:523:A:O4'	2.16	0.45
22:RA:2439:A:P	22:RA:2439:A:H3'	2.57	0.45
4:QD:53:ASP:O	4:QD:57:ARG:HD2	2.16	0.45
42:YZ:100:VAL:HA	42:YZ:101:PRO:HD3	1.84	0.45
23:YB:15:A:H1'	23:YB:109:G:N9	2.31	0.45
1:XA:1316:G:N2	1:XA:1318:A:H3'	2.32	0.45
25:RE:111:ARG:HA	34:RR:1:MET:SD	2.57	0.45
28:RH:153:LYS:HG3	28:RH:161:GLY:HA2	1.97	0.45
17:XQ:43:LEU:HD12	17:XQ:68:ARG:HG2	1.97	0.45
3:XC:48:TYR:OH	3:XC:122:GLU:OE2	2.22	0.45
49:Y6:15:GLU:CD	49:Y6:41:PRO:HB3	2.37	0.45
22:YA:2124:G:C6	22:YA:2125:G:C4	3.05	0.45
1:QA:1151:A:H5'	10:QJ:41:PRO:HA	1.99	0.45
22:RA:270(T):G:C5'	44:R1:97:LEU:HD22	2.47	0.45
42:YZ:26:GLY:HA2	42:YZ:85:HIS:CD2	2.52	0.45
22:RA:2882:A:OP1	34:RR:96:ARG:NH1	2.35	0.45
38:YV:19:LYS:HG3	38:YV:95:LEU:HD23	1.98	0.45
34:RR:103:ARG:NH1	39:RW:40:ASN:OD1	2.50	0.45
43:Y0:15:ASP:OD1	43:Y0:16:SER:N	2.46	0.45
1:QA:514:C:H2'	1:QA:515:G:H8	1.81	0.45
22:YA:2078:C:C4	22:YA:2079:U:C4	3.05	0.45
22:YA:783:A:C8	22:YA:783:A:C3'	2.99	0.45
42:RZ:10:ARG:NE	42:RZ:37:VAL:O	2.49	0.45
7:QG:113:GLU:CG	7:QG:119:ARG:HG2	2.47	0.45
1:XA:923:A:N6	1:XA:1392:G:O6	2.50	0.45
41:YY:101:LYS:HG2	41:YY:102:CYS:H	1.81	0.45
7:QG:49:ILE:O	7:QG:53:LYS:HB3	2.16	0.45
22:YA:2212:A:N3	22:YA:2215:G:N1	2.64	0.45
34:RR:78:LYS:HE2	34:RR:83:ILE:HD11	1.98	0.45
1:XA:489:C:H2'	1:XA:490:G:H8	1.81	0.45
45:Y2:21:LEU:O	45:Y2:25:VAL:HG23	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.81	0.45
31:RO:22:ILE:HG12	31:RO:41:ALA:HA	1.98	0.45
1:QA:97:U:H2'	1:QA:99:C:C6	2.52	0.45
36:YT:6:LEU:HA	36:YT:9:LEU:HB2	1.99	0.45
22:RA:2076:U:H5''	22:RA:2077:A:OP1	2.16	0.45
15:XO:32:LEU:HD11	15:XO:62:GLN:HG2	1.99	0.45
1:QA:1358:U:H5''	14:QN:33:VAL:O	2.16	0.45
1:XA:1014:A:H4'	19:XS:14:HIS:CD2	2.51	0.45
22:YA:704:G:H2'	22:YA:726:G:N2	2.31	0.45
22:RA:1792:G:H2'	22:RA:1793:C:H6	1.81	0.45
1:QA:1199:U:H4'	10:QJ:54:PHE:CE2	2.51	0.45
22:YA:2115:G:O6	22:YA:2172:U:H5	2.00	0.45
22:RA:2355:C:O2	43:R0:39:ARG:NH2	2.50	0.45
1:QA:1516:G:H2'	1:QA:1518:A:OP2	2.17	0.45
1:XA:1386:G:H2'	1:XA:1387:G:C8	2.52	0.45
22:RA:404:C:HO2'	22:RA:405:U:P	2.36	0.45
22:YA:2006:C:O2'	22:YA:2823:A:N3	2.49	0.45
22:YA:1127:A:N7	22:YA:2488:A:O2'	2.48	0.45
1:QA:134:A:H61	16:QP:25:ARG:NH1	2.15	0.45
1:XA:376:G:H5''	16:XP:5:ARG:HD2	1.99	0.45
22:YA:2635:C:H5''	25:YE:78:LEU:HA	1.99	0.45
22:RA:49:A:N7	22:RA:120:U:C5	2.84	0.45
22:RA:728:G:C2	22:RA:730:C:C2	3.04	0.45
29:YI:110:ASP:HB2	29:YI:130:TYR:OH	2.16	0.45
22:RA:2686:G:N2	22:RA:2724:C:H1'	2.31	0.45
22:YA:676:A:H2	22:YA:802:A:H61	1.63	0.45
1:XA:1053:G:H5'	1:XA:1054:C:H5'	1.98	0.45
22:YA:1840:G:C6	22:YA:1841:U:C4	3.05	0.45
1:QA:129(A):G:H1'	1:QA:189:U:H5''	1.97	0.45
7:XG:15:ASP:OD2	7:XG:44:TYR:OH	2.35	0.45
22:RA:1485:G:N1	22:RA:1486:A:C5	2.85	0.45
49:R6:34:LEU:HD13	49:R6:34:LEU:H	1.81	0.45
11:QK:91:ARG:NH1	11:QK:110:ASP:OD1	2.48	0.45
1:XA:857:C:H2'	1:XA:858:G:O4'	2.17	0.45
20:QT:26:ASN:HB2	20:QT:71:THR:HG23	1.97	0.45
4:QD:8:VAL:HG13	4:QD:21:LEU:HD12	1.97	0.45
16:XP:17:TYR:CE1	16:XP:41:PRO:HG3	2.52	0.45
22:YA:673:C:OP1	26:YF:54:ARG:NH1	2.46	0.45
27:RG:10:LYS:O	27:RG:14:GLU:HB3	2.17	0.45
29:YI:81:VAL:HG21	29:YI:88:ILE:HD12	1.99	0.45
22:YA:2447:G:N2	22:YA:2450:A:OP2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:272:C:H2'	1:QA:273:A:C8	2.52	0.45
25:YE:67:PHE:O	25:YE:69:LYS:N	2.49	0.45
12:QL:102:ARG:HB3	12:QL:102:ARG:HE	1.39	0.45
34:RR:29:LEU:HD12	34:RR:29:LEU:HA	1.74	0.45
22:RA:2852:G:H2'	22:RA:2853:C:C6	2.51	0.45
24:YD:44:ASN:ND2	24:YD:44:ASN:N	2.64	0.45
22:YA:2580:U:H4'	25:YE:130:GLY:CA	2.34	0.45
34:RR:33:ARG:HH22	48:R5:55:ARG:HG2	1.81	0.45
1:XA:388:G:O2'	1:XA:389:A:P	2.75	0.45
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.52	0.45
2:QB:76:GLN:O	2:QB:208:ILE:HG12	2.17	0.45
1:QA:1347:G:O2'	1:QA:1348:U:OP2	2.34	0.45
1:XA:1129:C:C4'	1:XA:1130:A:H5'	2.45	0.45
35:RS:10:ARG:O	35:RS:14:VAL:HG12	2.17	0.45
4:QD:28:SER:HB3	4:QD:29:PRO:CD	2.42	0.45
29:YI:115:ALA:HB3	29:YI:128:LEU:HD12	1.98	0.45
22:YA:1689:A:N6	22:YA:1698:A:H2	2.11	0.45
22:YA:661:C:H5''	32:YP:15:ARG:NH2	2.31	0.45
1:XA:454:C:N4	1:XA:479:C:N3	2.64	0.45
8:QH:6:ILE:O	8:QH:10:LEU:HG	2.17	0.45
1:QA:617:G:N2	1:QA:623:C:N3	2.61	0.45
10:QJ:40:LEU:HB2	10:QJ:69:ASN:CB	2.47	0.45
1:XA:232:G:H1'	1:XA:262:A:N1	2.31	0.45
42:RZ:110:GLY:HA2	42:RZ:111:VAL:O	2.17	0.45
34:YR:24:GLN:HE21	34:YR:44:LEU:HG	1.81	0.45
22:RA:1935:G:H1'	22:RA:1964:G:N2	2.32	0.45
1:XA:1497:G:C2'	1:XA:1498:U:H5'	2.47	0.45
23:RB:40:U:H1'	23:RB:45:A:N6	2.31	0.45
36:YT:102:ILE:HA	36:YT:105:LEU:CD2	2.47	0.45
22:YA:277:C:H3'	22:YA:278:A:C5'	2.46	0.45
8:QH:104:ARG:O	8:QH:107:LEU:HB2	2.16	0.45
22:RA:1676:A:H2'	22:RA:1677:A:O4'	2.17	0.45
44:Y1:79:GLY:N	44:Y1:80:LEU:HD23	2.32	0.45
22:RA:18:C:H2'	22:RA:19:C:C6	2.52	0.45
19:XS:66:MET:HB2	19:XS:74:PHE:CZ	2.52	0.45
1:QA:273:A:H1'	17:QQ:16:GLN:OE1	2.17	0.45
30:RN:19:GLU:HB2	30:RN:56:ASN:HD22	1.80	0.45
3:XC:153:VAL:HG22	3:XC:198:VAL:HG22	1.98	0.45
2:QB:30:ARG:HH21	2:QB:194:PRO:HG2	1.81	0.45
1:QA:607:A:H2'	1:QA:608:A:O4'	2.16	0.45
25:RE:107:THR:O	25:RE:190:GLY:HA2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1972:A:H2'	22:RA:1973:G:C8	2.51	0.45
4:XD:50:ARG:HG3	4:XD:50:ARG:H	1.63	0.45
8:XH:51:VAL:HG11	8:XH:60:ARG:HG3	1.98	0.45
11:QK:41:THR:HG21	11:QK:71:LYS:HB2	1.99	0.45
41:RY:68:HIS:CE1	41:RY:70:SER:HB3	2.52	0.45
22:YA:270(A):A:N6	22:YA:270(Y):G:H1'	2.32	0.45
39:YW:97:LYS:HE2	39:YW:99:ARG:NH2	2.31	0.45
22:YA:2030:A:H4'	22:YA:2031:A:H8	1.82	0.45
22:YA:674:G:C1'	26:YF:74:ARG:HD3	2.35	0.45
22:YA:994:C:OP1	37:YU:53:ARG:NH2	2.49	0.45
40:YX:60:ARG:HH22	50:Y7:47:ARG:NH1	2.14	0.45
42:RZ:181:GLU:HB3	42:RZ:182:LYS:H	1.47	0.45
20:XT:33:ILE:HG23	20:XT:63:ILE:HG12	1.99	0.45
3:QC:79:ARG:NE	11:XK:99:GLN:CD	2.70	0.45
22:YA:1430:C:H2'	22:YA:1431:U:H6	1.80	0.45
34:RR:42:LYS:HA	34:RR:45:ARG:HD2	1.98	0.45
25:YE:167:VAL:HG21	25:YE:187:ALA:CB	2.47	0.45
43:Y0:43:THR:HG23	43:Y0:43:THR:O	2.17	0.45
22:YA:2331:G:N2	22:YA:2385:C:C4	2.84	0.45
53:XV:4:G:O2'	53:XV:5:G:P	2.75	0.45
43:R0:43:THR:O	43:R0:43:THR:HG23	2.17	0.45
1:QA:500:G:H2'	1:QA:501:C:C6	2.51	0.45
1:QA:974:A:OP2	14:QN:41:ARG:NH1	2.50	0.45
1:XA:406:G:C5'	4:XD:5:ILE:HD13	2.46	0.45
22:RA:2705:A:C6	22:RA:2706:G:C4	3.05	0.45
22:YA:414:C:H2'	22:YA:415:A:C8	2.52	0.45
1:QA:132:C:H2'	1:QA:133:U:O4'	2.17	0.45
22:YA:1204:A:O2'	22:YA:1205:U:O5'	2.35	0.45
26:RF:45:ARG:CG	26:RF:45:ARG:HH11	2.29	0.45
42:YZ:136:PHE:C	42:YZ:137:ILE:HG12	2.38	0.45
22:RA:2564:A:C2	22:RA:2647:U:H4'	2.52	0.45
4:QD:167:GLY:HA2	24:YD:135:PHE:CE2	2.52	0.45
45:R2:41:ILE:HD11	45:R2:44:LEU:HB2	1.99	0.45
1:XA:426:G:P	4:XD:36:ARG:HH11	2.40	0.45
1:XA:947:G:N2	1:XA:1235:U:C2	2.84	0.45
45:Y2:24:LEU:HD23	45:Y2:24:LEU:HA	1.67	0.45
22:RA:1946:U:H2'	22:RA:1947:C:C6	2.52	0.45
1:QA:1455:G:H2'	1:QA:1459:C:C6	2.52	0.45
22:YA:636:G:H4'	22:YA:638:G:H4'	1.97	0.45
1:XA:126:G:H4'	1:XA:634:C:O2	2.16	0.45
2:XB:115:LEU:HD13	2:XB:145:LEU:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2507:C:H2'	22:YA:2508:G:O4'	2.17	0.45
1:QA:1375:A:H4'	7:QG:29:LYS:HE3	1.99	0.45
1:QA:145:G:H2'	1:QA:146:G:O4'	2.17	0.45
26:RF:161:GLU:OE2	26:RF:164:ARG:NH1	2.50	0.45
25:RE:46:ALA:HB2	25:RE:82:ARG:HA	1.98	0.45
47:Y4:16:CYS:HB3	47:Y4:33:VAL:HB	1.98	0.45
1:QA:24:U:H2'	1:QA:25:C:C6	2.52	0.45
44:R1:83:GLU:N	44:R1:83:GLU:OE2	2.49	0.45
4:XD:86:LYS:H	4:XD:86:LYS:HD2	1.82	0.45
1:QA:1379:G:O6	7:QG:2:ALA:HB3	2.17	0.45
22:YA:2758:A:C2	22:YA:2759:G:H1'	2.52	0.45
22:YA:648:G:H4'	22:YA:2351:G:H5''	1.98	0.45
2:QB:163:PHE:HA	2:QB:185:ILE:HG13	1.99	0.45
32:RP:64:LYS:HB2	51:R8:25:MET:HG3	1.98	0.45
22:YA:2853:C:H2'	22:YA:2854:G:C8	2.51	0.45
13:XM:62:ASN:OD1	47:Y4:49:PHE:CD2	2.63	0.45
1:QA:836:G:C6	1:QA:851:G:C6	3.05	0.45
22:RA:2575:C:H2'	22:RA:2578:G:O6	2.17	0.45
47:Y4:22:ILE:HG22	47:Y4:23:GLU:H	1.82	0.45
22:YA:1412:A:H2'	22:YA:1413:G:C8	2.52	0.45
1:XA:652:U:H1'	1:XA:653:A:C2	2.52	0.45
9:XI:111:ARG:HH22	10:XJ:62:HIS:CE1	2.35	0.45
22:RA:1183:G:O3'	46:R3:29:ARG:NH1	2.50	0.45
22:RA:971:C:H2'	22:RA:972:G:O4'	2.17	0.45
1:QA:980:C:H5'	1:QA:981:U:OP2	2.17	0.45
32:YP:126:VAL:HG12	32:YP:147:LEU:HD22	1.99	0.45
27:RG:102:PHE:O	27:RG:106:LEU:N	2.50	0.45
22:RA:1314:C:H42	22:RA:1338:G:H1	1.65	0.45
2:QB:51:LEU:HD22	2:QB:55:PHE:HE2	1.82	0.45
22:YA:2356:C:H2'	22:YA:2357:U:O4'	2.16	0.45
1:XA:664:G:N2	1:XA:741:G:H1	2.15	0.45
22:YA:2352:A:C4	22:YA:2366:A:C2	3.05	0.45
1:QA:280:C:C2	17:QQ:38:ARG:HG3	2.52	0.45
22:RA:270(E):G:N2	22:RA:270(F):U:C2	2.86	0.45
22:RA:2262:U:H2'	22:RA:2263:C:C6	2.52	0.45
22:RA:1788:C:H2'	22:RA:1789:A:O4'	2.17	0.45
22:RA:2383:G:OP2	51:R8:37:SER:HB2	2.17	0.45
22:YA:1751:C:H2'	22:YA:1752:C:H6	1.81	0.45
22:YA:1579:A:H2'	22:YA:1580:A:C8	2.52	0.45
22:YA:1151:G:C2	22:YA:1152:C:C2	3.05	0.45
22:RA:888:C:C3'	22:RA:889:C:H4'	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:372:G:O2'	22:YA:373:U:O5'	2.34	0.45
22:RA:1651:G:N2	22:RA:2007:C:C2	2.85	0.45
22:RA:67:U:H2'	22:RA:68:G:C8	2.52	0.45
22:RA:765:G:H2'	22:RA:766:C:C6	2.52	0.45
22:YA:1101:U:H2'	22:YA:1102:C:C6	2.51	0.45
24:YD:39:LYS:HB2	24:YD:62:TYR:HB2	1.98	0.45
22:YA:493:G:H4'	39:YW:8:ARG:HB2	1.99	0.45
22:YA:2213:U:H1'	44:Y1:52:ARG:CZ	2.47	0.45
22:RA:99:U:H4'	22:RA:101:G:O5'	2.16	0.45
1:XA:35:G:C2	1:XA:550:G:C2	3.05	0.45
1:XA:407:G:H1'	4:XD:119:GLN:HE22	1.81	0.45
1:XA:241:C:C2	1:XA:286:G:C2	3.05	0.45
10:XJ:16:LEU:HD11	10:XJ:70:ARG:HB2	1.99	0.45
22:YA:2545:G:H2'	22:YA:2546:U:O4'	2.17	0.45
22:YA:1003:G:N2	22:YA:1153:C:C2	2.85	0.45
1:QA:1475:G:H2'	1:QA:1476:G:H8	1.82	0.45
19:XS:24:ALA:O	19:XS:25:LYS:HB3	2.16	0.45
28:YH:3:ARG:NE	28:YH:3:ARG:HA	2.32	0.45
1:QA:1012:U:H2'	1:QA:1013:G:C8	2.52	0.45
53:QV:25:C:H2'	53:QV:26:G:O4'	2.17	0.45
22:YA:1344:G:H4'	22:YA:1384:A:C5	2.52	0.45
28:YH:52:VAL:HG21	28:YH:68:THR:HG22	1.99	0.45
33:RQ:111:GLU:C	33:RQ:113:GLN:H	2.19	0.45
8:XH:75:ARG:HA	8:XH:76:PRO:HD2	1.71	0.45
22:YA:904:C:O2'	42:YZ:169:GLU:HG3	2.17	0.44
1:XA:1442:G:C5	1:XA:1446:A:C6	3.05	0.44
1:XA:1342:C:H4'	9:XI:125:TYR:CB	2.39	0.44
22:RA:201:C:H4'	22:RA:386:G:C2	2.53	0.44
4:XD:25:ARG:NH1	4:XD:30:LYS:HG3	2.32	0.44
12:XL:45:PRO:HG3	12:XL:53:ARG:HD3	1.98	0.44
22:YA:1209:G:H21	22:YA:1210:A:N6	2.09	0.44
1:QA:1376:U:P	7:QG:94:ARG:HH12	2.40	0.44
19:QS:10:PHE:HB2	19:QS:39:THR:H	1.82	0.44
1:QA:376:G:H5''	16:QP:5:ARG:HD2	1.99	0.44
22:RA:413:C:H2'	22:RA:414:C:C6	2.53	0.44
1:QA:437:U:C5	1:QA:438:G:C5	3.05	0.44
13:XM:68:GLY:CA	27:YG:116:ASP:OD2	2.63	0.44
8:QH:6:ILE:HB	8:QH:85:ARG:HH11	1.82	0.44
2:XB:12:GLU:C	2:XB:14:GLY:H	2.21	0.44
22:RA:2015:A:C8	22:RA:2016:U:C6	3.05	0.44
22:YA:2461:C:H2'	22:YA:2462:U:H6	1.78	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:892:A:O2'	1:XA:1415:G:H4'	2.17	0.44
28:RH:52:VAL:HG21	28:RH:69:ARG:HA	1.98	0.44
22:RA:1428:C:O2'	22:RA:1569:A:OP2	2.25	0.44
1:QA:457:C:H42	1:QA:475:G:H1	1.65	0.44
1:XA:99:C:H2'	1:XA:101:A:C8	2.52	0.44
23:RB:13:A:C6	23:RB:70:C:H5'	2.52	0.44
1:XA:807:A:H2'	1:XA:808:C:H6	1.81	0.44
22:RA:1174:A:N3	22:RA:1178:C:N4	2.53	0.44
22:YA:2790:A:H2'	22:YA:2791:C:H5''	1.99	0.44
13:QM:92:HIS:CD2	13:QM:110:ARG:HH21	2.35	0.44
22:RA:286:C:H2'	22:RA:287:C:H6	1.80	0.44
1:XA:1106:G:H5''	3:XC:172:ARG:HG2	1.99	0.44
28:YH:12:PRO:O	28:YH:13:LYS:HB2	2.17	0.44
1:XA:164:U:H2'	1:XA:165:C:C6	2.52	0.44
19:QS:66:MET:HB2	19:QS:74:PHE:CZ	2.51	0.44
1:QA:29:G:O2'	1:QA:295:C:H4'	2.17	0.44
22:YA:1622:G:H2'	22:YA:1623:G:H8	1.82	0.44
31:RO:111:PHE:HB3	31:RO:114:ILE:HG13	1.98	0.44
30:RN:116:LEU:HA	30:RN:116:LEU:HD23	1.78	0.44
2:XB:33:TYR:HB2	2:XB:43:ASP:HB2	1.98	0.44
9:QI:126:SER:O	9:QI:128:ARG:N	2.45	0.44
1:QA:1494:G:N7	57:QA:1601:PAR:N32	2.65	0.44
22:YA:479:A:HO2'	22:YA:481:G:H8	1.63	0.44
53:XV:66:C:H2'	53:XV:67:C:H6	1.82	0.44
22:YA:467:G:O5'	22:YA:467:G:H8	1.99	0.44
22:RA:2066:C:C2'	22:RA:2067:G:H5'	2.47	0.44
1:QA:412:A:H1'	1:QA:413:G:OP2	2.17	0.44
45:Y2:41:ILE:HD11	45:Y2:44:LEU:CG	2.47	0.44
22:YA:1288:U:C2	22:YA:1327:C:O2	2.70	0.44
22:RA:1658:C:OP1	25:RE:135:HIS:NE2	2.50	0.44
22:YA:413:C:H2'	22:YA:414:C:C6	2.49	0.44
22:RA:1027:A:N6	22:RA:1126:A:C4	2.85	0.44
22:YA:1202:C:N4	22:YA:1203:G:C6	2.85	0.44
1:QA:1466:C:C5	1:QA:1467:G:C5	3.05	0.44
1:XA:1320:C:H5'	19:XS:70:LYS:CG	2.46	0.44
22:YA:950:G:H2'	22:YA:951:C:C6	2.53	0.44
22:RA:1753:G:N1	22:RA:1756:G:C2	2.85	0.44
22:RA:994:C:O2	38:RV:10:LYS:HE2	2.17	0.44
34:RR:28:LEU:HD12	34:RR:48:VAL:HG11	1.99	0.44
22:RA:742:G:H2'	22:RA:743:G:C8	2.53	0.44
10:QJ:33:GLN:O	10:QJ:75:ILE:HG12	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:138:LYS:HE2	7:XG:142:GLU:OE2	2.17	0.44
22:RA:397:G:H1'	22:RA:2231:C:O2'	2.17	0.44
1:XA:956:U:H2'	1:XA:957:U:O4'	2.18	0.44
22:YA:2328:A:H2'	22:YA:2329:G:C8	2.52	0.44
42:YZ:109:ALA:HB3	42:YZ:143:GLY:HA2	1.98	0.44
11:XK:28:THR:OG1	11:XK:90:GLY:HA3	2.17	0.44
29:YI:95:LYS:O	29:YI:99:GLU:HB2	2.17	0.44
22:YA:1405:U:H2'	22:YA:1406:U:C6	2.52	0.44
40:YX:35:THR:O	40:YX:39:ILE:HG13	2.16	0.44
1:XA:667:G:H4'	15:XO:51:HIS:CE1	2.53	0.44
39:YW:33:ARG:NH2	39:YW:52:GLU:OE1	2.50	0.44
22:YA:1601:G:C5	22:YA:1602:U:C4	3.04	0.44
30:YN:62:VAL:HG12	30:YN:66:LYS:HD2	1.98	0.44
4:QD:158:ILE:HA	4:QD:158:ILE:HD13	1.82	0.44
31:RO:87:ILE:HD12	31:RO:91:LEU:HD12	1.99	0.44
23:YB:22:U:H2'	23:YB:23:G:C8	2.51	0.44
31:YO:86:ILE:HG22	31:YO:94:ARG:HD3	2.00	0.44
22:RA:2391:G:N2	22:RA:2425:A:OP1	2.43	0.44
22:RA:630:G:P	51:R8:46:ARG:HH12	2.40	0.44
22:YA:265:A:O2'	22:YA:266:G:H4'	2.16	0.44
22:YA:517:C:OP1	48:Y5:16:ARG:NH2	2.50	0.44
22:YA:980:A:C4	22:YA:1136:G:O4'	2.70	0.44
1:XA:451:A:H61	1:XA:481:G:H5'	1.82	0.44
1:XA:564:C:C4	1:XA:565:U:C4	3.04	0.44
1:QA:412:A:H4'	1:QA:413:G:O5'	2.17	0.44
22:RA:1408:C:H2'	22:RA:1409:C:C6	2.52	0.44
31:YO:17:ARG:NH2	31:YO:47:ILE:HD13	2.33	0.44
10:XJ:61:GLU:OE1	14:XN:58:LYS:HE2	2.17	0.44
22:RA:2397:G:N2	22:RA:2420:C:H1'	2.32	0.44
32:YP:64:LYS:CB	51:Y8:25:MET:HG3	2.48	0.44
22:RA:2889:C:H3'	22:RA:2891:G:C8	2.46	0.44
33:RQ:12:GLN:HE21	33:RQ:72:LYS:HD3	1.82	0.44
28:RH:109:PHE:CZ	28:RH:152:ARG:HG2	2.53	0.44
22:YA:1382:G:H2'	22:YA:1383:C:C6	2.48	0.44
22:YA:2881:C:H2'	22:YA:2882:A:H8	1.83	0.44
15:QO:39:LEU:HD23	15:QO:39:LEU:HA	1.68	0.44
1:XA:693:G:H2'	1:XA:694:A:C8	2.52	0.44
22:RA:953:A:C2	22:RA:954:G:C8	3.05	0.44
22:RA:1641:A:H2'	22:RA:1642:G:O4'	2.17	0.44
1:XA:530:G:O6	54:XX:6:G:H1'	2.17	0.44
22:RA:1227:A:H5''	22:RA:1228:G:OP2	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2261:C:C5	43:R0:16:SER:HB3	2.52	0.44
22:YA:1923:U:H2'	22:YA:1924:C:H6	1.83	0.44
22:YA:2574:G:H2'	22:YA:2575:C:H6	1.82	0.44
22:YA:1309:G:H4'	50:Y7:7:PRO:HB2	1.99	0.44
6:QF:41:GLU:HB3	6:QF:62:TRP:HB3	2.00	0.44
1:XA:157:G:H1	1:XA:164:U:H3	1.64	0.44
27:YG:114:ILE:HB	27:YG:117:PHE:HB2	1.99	0.44
22:YA:1404:C:H2'	22:YA:1405:U:H5'	1.99	0.44
29:YI:23:PRO:HA	29:YI:26:ALA:HB3	1.99	0.44
22:RA:846:C:O2'	22:RA:847:U:OP2	2.28	0.44
6:QF:23:LYS:O	6:QF:27:GLN:HG2	2.17	0.44
22:YA:2305:A:H5''	27:YG:134:GLY:HA3	2.00	0.44
22:RA:1773:A:H2'	22:RA:1774:C:O4'	2.17	0.44
25:RE:23:VAL:HG12	25:RE:184:VAL:O	2.17	0.44
29:YI:86:THR:HA	29:YI:123:LEU:HB2	1.99	0.44
37:RU:65:ILE:HG12	37:RU:96:ALA:CB	2.47	0.44
22:RA:311:A:C6	22:RA:328:U:C4	3.05	0.44
41:RY:42:VAL:HG12	41:RY:65:ALA:HB3	1.99	0.44
22:RA:2259:G:C2	22:RA:2282:G:N1	2.86	0.44
13:XM:115:LYS:HE3	13:XM:115:LYS:HB2	1.75	0.44
49:R6:32:ASN:OD1	49:R6:32:ASN:N	2.49	0.44
9:XI:25:LYS:HE3	9:XI:25:LYS:HB2	1.72	0.44
1:XA:1299:A:H2'	1:XA:1301:U:C1'	2.34	0.44
24:RD:49:ILE:CD1	24:RD:52:ARG:HA	2.47	0.44
22:RA:2106:G:H2'	22:RA:2107:C:O4'	2.18	0.44
22:RA:511:U:O4	22:RA:512:G:C6	2.71	0.44
1:QA:1141:C:H2'	1:QA:1142:G:C8	2.48	0.44
22:YA:942:G:O2'	22:YA:1189:A:H2'	2.17	0.44
13:XM:65:LYS:HB3	47:Y4:50:VAL:HG21	1.99	0.44
22:RA:302:C:H2'	22:RA:303:U:C6	2.52	0.44
22:YA:1142(A):A:H4'	30:YN:25:ARG:HH22	1.81	0.44
19:XS:5:LEU:CG	47:Y4:66:SER:HB2	2.47	0.44
22:YA:530:G:H5''	22:YA:531:C:OP1	2.17	0.44
27:RG:57:ALA:HB1	27:RG:68:PRO:HG2	1.98	0.44
8:XH:83:ILE:HB	8:XH:137:VAL:HG13	1.99	0.44
22:RA:2494:G:H2'	22:RA:2495:G:H8	1.83	0.44
20:XT:87:LYS:O	20:XT:91:LEU:HG	2.18	0.44
44:Y1:53:VAL:HB	44:Y1:58:ILE:HD13	1.98	0.44
22:YA:469:G:O6	50:Y7:37:LYS:NZ	2.31	0.44
1:QA:108:G:H5''	1:QA:109:A:C5'	2.43	0.44
3:QC:70:VAL:HG21	3:QC:76:VAL:HG11	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1032(A):G:H2'	1:XA:1032(B):G:C8	2.52	0.44
1:QA:853:G:H2'	1:QA:854:G:C8	2.49	0.44
22:RA:1803:A:N6	22:RA:1814:G:O2'	2.45	0.44
24:RD:70:TRP:HZ3	24:RD:146:GLU:OE2	2.01	0.44
1:XA:1226:C:O2'	13:XM:103:THR:O	2.23	0.44
22:RA:120:U:C5	22:RA:149:A:N6	2.85	0.44
29:YI:94:ALA:HB1	29:YI:111:PRO:HB2	1.98	0.44
42:RZ:111:VAL:HG22	42:RZ:112:ARG:N	2.33	0.44
1:QA:530:G:O2'	1:QA:531:U:P	2.75	0.44
43:Y0:12:ASN:HB2	43:Y0:13:GLY:H	1.46	0.44
33:RQ:134:ARG:CZ	42:RZ:122:ARG:HD2	2.48	0.44
37:YU:66:ASN:HB2	37:YU:76:TYR:HB2	1.99	0.44
22:RA:1930:G:HO2'	22:RA:1931:U:P	2.40	0.44
1:QA:922:G:H4'	5:QE:20:GLN:HA	1.99	0.44
7:QG:153:HIS:HE1	11:QK:57:THR:HG23	1.82	0.44
22:YA:1087:G:C5	22:YA:1089:G:H1'	2.52	0.44
22:RA:1161:C:H2'	22:RA:1162:G:H8	1.81	0.44
3:XC:82:GLU:O	3:XC:86:VAL:HG13	2.17	0.44
28:RH:4:ILE:O	28:RH:6:ARG:N	2.51	0.44
12:QL:11:VAL:HG13	17:QQ:29:HIS:CD2	2.52	0.44
22:RA:1735:C:H2'	22:RA:1741:C:C6	2.52	0.44
23:RB:77:U:C5	23:RB:98:G:N2	2.85	0.44
1:QA:401:C:H2'	1:QA:402:G:C8	2.52	0.44
53:QV:19:G:N2	53:QV:56:C:N3	2.66	0.44
21:XU:5:ASP:HB3	21:XU:8:THR:OG1	2.17	0.44
22:RA:2133:G:H1'	22:RA:2158:A:H61	1.81	0.44
1:QA:881:G:H2'	1:QA:882:C:O4'	2.17	0.44
22:YA:2885:C:N3	22:YA:2886:G:H1'	2.32	0.44
22:RA:2527:C:H5"	52:R9:30:PRO:HB2	1.99	0.44
37:YU:104:GLN:OE1	37:YU:105:VAL:HG23	2.17	0.44
36:YT:61:PHE:CE2	36:YT:76:PHE:HB2	2.53	0.44
30:RN:114:ARG:O	30:RN:115:ARG:HB3	2.17	0.44
1:QA:1364:U:O2'	1:QA:1365:G:H5'	2.17	0.44
35:RS:11:LYS:HG3	35:RS:91:PRO:HD3	1.98	0.44
53:XV:14:A:N3	53:XV:14:A:H2'	2.33	0.44
1:XA:647:C:H2'	1:XA:648:A:O4'	2.17	0.44
1:QA:254:G:OP1	17:QQ:67:LYS:O	2.35	0.44
18:XR:52:PRO:HB2	18:XR:54:ARG:HG2	2.00	0.44
1:QA:487:A:H2'	1:QA:488:C:O4'	2.18	0.44
22:RA:921:G:H4'	22:RA:2269:A:C5	2.52	0.44
8:XH:65:TYR:HA	8:XH:79:VAL:HG23	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:583:A:H2'	1:QA:584:G:O4'	2.17	0.44
1:QA:1127:G:H22	1:QA:1145:C:C1'	2.24	0.44
22:RA:1815:A:C6	22:RA:1817:G:C6	3.05	0.44
45:R2:49:LYS:O	45:R2:53:LEU:HB2	2.18	0.44
1:QA:1350:A:H2'	1:QA:1351:U:O4'	2.17	0.44
1:QA:1335:C:P	1:QA:1337:G:H21	2.40	0.44
22:RA:2032:G:N1	22:RA:2572:A:C8	2.86	0.44
30:YN:134:ARG:O	30:YN:136:GLU:N	2.50	0.44
43:Y0:53:MET:HA	43:Y0:58:THR:O	2.17	0.44
1:QA:1022:G:H2'	1:QA:1023:G:C8	2.52	0.44
23:YB:11:C:O5'	23:YB:12:C:H5	2.00	0.44
22:YA:1753:G:H5"	22:YA:1753:G:H8	1.83	0.44
1:QA:1080:A:C5'	5:QE:16:THR:HG21	2.47	0.44
22:RA:1856:G:N2	22:RA:1886:C:N3	2.53	0.44
26:YF:184:TYR:CE2	26:YF:188:ARG:HD2	2.52	0.44
42:YZ:182:LYS:HG3	42:YZ:183:LEU:CD2	2.48	0.44
22:RA:1816:G:C8	24:RD:62:TYR:CZ	3.05	0.44
53:QV:61:C:H2'	53:QV:62:C:H6	1.83	0.44
1:QA:44:G:C6	1:QA:45:U:C2	3.06	0.44
36:YT:42:ILE:HG21	36:YT:84:GLN:NE2	2.32	0.44
1:QA:1219:U:P	14:QN:19:ARG:HH22	2.38	0.44
42:RZ:103:ARG:HD3	42:RZ:136:PHE:CD1	2.52	0.44
22:RA:918:A:C5	22:RA:919:G:H1'	2.52	0.44
23:YB:66:A:H61	23:YB:107:U:H2'	1.82	0.44
42:RZ:104:PHE:HB3	42:RZ:141:VAL:HG11	2.00	0.44
1:XA:1158:C:H4'	2:XB:133:LYS:HZ3	1.82	0.44
7:XG:87:VAL:HG11	7:XG:155:ARG:HA	1.99	0.44
22:YA:270:A:H1'	22:YA:370:G:C2	2.52	0.44
1:XA:1213:A:N7	1:XA:1215:G:C5	2.86	0.44
1:QA:752:G:HO2'	1:QA:753:A:P	2.40	0.44
5:XE:110:LEU:HD13	5:XE:118:ILE:HD13	1.98	0.44
48:R5:46:CYS:HA	48:R5:47:PRO:HD2	1.63	0.44
45:Y2:17:SER:CB	45:Y2:67:LYS:HE3	2.47	0.44
22:RA:2232:U:OP2	44:R1:40:ARG:NH1	2.43	0.44
11:QK:92:GLU:HB3	11:QK:96:ARG:NH1	2.33	0.44
2:QB:228:GLY:O	2:QB:230:VAL:N	2.50	0.44
1:XA:949:A:N7	13:XM:106:ASN:ND2	2.66	0.44
38:YV:15:GLU:HG3	38:YV:16:PRO:HD2	1.99	0.44
22:RA:2821:A:H8	22:RA:2821:A:O5'	2.00	0.44
22:RA:778:G:C6	22:RA:779:U:C4	3.06	0.44
22:RA:564:C:H2'	22:RA:565:C:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YZ:6:LYS:HB2	42:YZ:6:LYS:HE3	1.61	0.44
22:RA:2191:G:C6	22:RA:2192:G:C8	3.05	0.44
22:RA:2593:U:O4	22:RA:2594:C:N4	2.50	0.44
15:XO:32:LEU:O	15:XO:36:ILE:HG13	2.18	0.44
22:YA:2774:C:H2'	22:YA:2775:A:O4'	2.17	0.44
1:XA:491:G:H2'	1:XA:492:G:O4'	2.18	0.44
1:QA:1271:G:H5'	1:QA:1314:C:H5'	1.98	0.44
28:YH:124:GLU:HB3	28:YH:132:ARG:HG3	1.99	0.44
1:XA:302:G:C6	1:XA:303:A:C5	3.06	0.44
1:XA:868:C:H2'	1:XA:869:G:O4'	2.18	0.44
1:XA:775:G:O2'	1:XA:776:G:H5'	2.17	0.44
12:QL:70:ILE:HD13	12:QL:77:LEU:HD12	1.99	0.44
12:QL:109:GLY:HA3	12:QL:121:GLY:O	2.17	0.44
42:YZ:92:SER:OG	42:YZ:93:ASP:N	2.49	0.44
22:YA:1339:G:C2	22:YA:1340:U:C5	3.06	0.44
22:RA:2489:G:C6	22:RA:2490:G:N7	2.86	0.44
38:RV:35:LEU:CD2	38:RV:57:VAL:HG22	2.47	0.44
22:YA:686:G:N2	22:YA:788:A:H61	2.16	0.44
53:XV:16:C:O2'	53:XV:61:C:OP1	2.34	0.44
27:RG:37:VAL:O	27:RG:94:LEU:HG	2.17	0.44
1:QA:1255:G:C6	1:QA:1279:A:C8	3.06	0.44
31:RO:106:LEU:HD23	31:RO:106:LEU:HA	1.81	0.44
22:YA:1071:G:O5'	22:YA:1071:G:H8	2.00	0.44
38:YV:99:ILE:H	38:YV:99:ILE:HD13	1.82	0.44
19:XS:81:ARG:HE	19:XS:81:ARG:HB2	1.36	0.44
4:QD:150:GLU:OE1	4:QD:150:GLU:N	2.51	0.44
15:XO:82:ILE:O	15:XO:86:GLY:N	2.51	0.44
22:YA:270(K):C:O2	22:YA:270(N):G:N2	2.39	0.44
22:YA:482:A:H4'	41:YY:47:LYS:HD2	2.00	0.44
41:YY:51:VAL:O	41:YY:56:PRO:HA	2.18	0.44
1:XA:1095:U:P	1:XA:1108:G:H1	2.41	0.44
22:YA:2592:G:C6	22:YA:2593:U:C2	3.06	0.44
22:YA:1077:A:H3'	22:YA:1078:U:C5'	2.47	0.44
1:XA:1280:A:HO2'	1:XA:1281:U:P	2.35	0.44
47:Y4:48:ARG:CZ	47:Y4:51:ASP:HA	2.47	0.44
12:XL:42:THR:HA	12:XL:53:ARG:O	2.18	0.44
42:RZ:82:ARG:HA	42:RZ:83:PRO:HD3	1.89	0.44
22:RA:2495:G:H5''	33:RQ:81:VAL:HG13	1.98	0.44
1:XA:329:A:C2	1:XA:332:G:C4	3.05	0.44
1:XA:1124:G:C8	1:XA:1145:C:C5	3.05	0.44
24:RD:65:ILE:H	24:RD:65:ILE:HD13	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:160:A:H2'	1:XA:161:A:O4'	2.17	0.44
1:QA:977:A:H1'	1:QA:981:U:H3	1.81	0.44
15:XO:39:LEU:HD13	15:XO:56:LEU:HB2	2.00	0.44
22:RA:2111:C:H5	22:RA:2147:G:H22	1.65	0.44
27:RG:171:ALA:O	27:RG:175:LEU:HG	2.18	0.44
1:XA:271:C:H2'	1:XA:272:C:C6	2.52	0.44
2:QB:71:VAL:HA	2:QB:93:VAL:HB	2.00	0.44
22:RA:590:A:H2'	22:RA:591:C:C6	2.52	0.44
22:YA:2041:U:H2'	22:YA:2042:A:H8	1.83	0.44
42:RZ:54:HIS:CD2	42:RZ:101:PRO:HG3	2.52	0.44
26:YF:63:LYS:HE3	26:YF:65:TRP:O	2.18	0.44
22:RA:2662:A:C5	22:RA:2663:G:H1'	2.53	0.44
49:Y6:7:ILE:HD12	49:Y6:7:ILE:HA	1.85	0.44
22:RA:2679:A:H4'	25:RE:165:VAL:HG11	1.99	0.44
22:YA:1045:A:N3	22:YA:1047:G:N2	2.66	0.44
22:RA:1191:G:OP1	32:RP:32:THR:HB	2.17	0.44
22:RA:2634:G:C6	22:RA:2635:C:C4	3.05	0.44
22:YA:480:A:H1'	41:YY:44:ILE:HG12	1.98	0.44
22:YA:1026:U:H1'	22:YA:1027:A:O5'	2.18	0.44
35:YS:88:ASP:HB3	35:YS:89:ARG:H	1.47	0.44
35:YS:43:GLU:HG3	43:Y0:49:LYS:NZ	2.32	0.44
22:RA:1668:A:H4'	22:RA:1669:A:O5'	2.17	0.44
22:YA:2209:C:O2	22:YA:2216:G:C2	2.70	0.44
22:YA:2216:G:H2'	22:YA:2217:G:H8	1.82	0.44
22:RA:1045:A:O4'	22:RA:1111:A:N6	2.51	0.44
1:XA:1364:U:C6	21:XU:14:TRP:HH2	2.35	0.44
9:XI:95:LYS:HZ3	9:XI:96:LEU:HD13	1.83	0.44
44:R1:49:VAL:HG11	44:R1:70:VAL:HG11	1.98	0.44
15:QO:50:HIS:O	15:QO:53:HIS:HB3	2.17	0.44
4:QD:166:LYS:HG3	4:QD:178:VAL:HG11	1.99	0.44
22:RA:1425:G:H2'	22:RA:1426:G:C8	2.53	0.44
42:RZ:8:TYR:HB2	42:RZ:38:TYR:CE2	2.52	0.44
27:RG:51:ARG:O	27:RG:53:LEU:N	2.48	0.44
49:Y6:34:LEU:H	49:Y6:34:LEU:HD13	1.83	0.44
36:YT:48:ILE:H	36:YT:48:ILE:HD12	1.83	0.44
22:RA:856:C:H1'	43:R0:27:GLU:HB3	1.99	0.44
28:RH:28:GLY:HA3	28:RH:79:VAL:HB	2.00	0.44
47:Y4:35:VAL:C	47:Y4:37:SER:H	2.20	0.44
22:YA:483:A:O2'	41:YY:48:ALA:O	2.36	0.44
1:XA:1095:U:H2'	1:XA:1096:C:C6	2.52	0.44
1:XA:57:G:N2	1:XA:355:C:O2	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1237:C:H5''	1:QA:1238:A:O4'	2.18	0.44
42:RZ:181:GLU:HB3	42:RZ:182:LYS:HD3	2.00	0.44
13:XM:23:TYR:HE1	13:XM:70:LEU:HD12	1.83	0.44
27:YG:98:ARG:O	27:YG:101:ILE:HG13	2.17	0.44
49:R6:40:CYS:HA	49:R6:41:PRO:HD2	1.85	0.44
49:R6:41:PRO:HD2	49:R6:46:HIS:H	1.83	0.44
5:QE:100:VAL:HG22	5:QE:118:ILE:HG22	1.99	0.44
22:RA:1593:G:C2	22:RA:1594:G:C5	3.06	0.44
22:RA:1593:G:H2'	22:RA:1594:G:C8	2.53	0.44
36:RT:107:ASP:O	36:RT:111:ARG:NH1	2.51	0.44
24:YD:61:LEU:HA	24:YD:61:LEU:HD13	1.91	0.44
24:YD:85:ASP:HB2	24:YD:92:ILE:HD13	1.99	0.44
22:YA:1337:G:C4	22:YA:1338:G:C8	3.06	0.44
1:XA:1316:G:O2'	1:XA:1318:A:N7	2.37	0.44
32:YP:62:LEU:HB2	51:Y8:30:ARG:HH11	1.83	0.44
1:QA:35:G:C6	1:QA:36:C:N4	2.86	0.44
29:RI:130:TYR:C	29:RI:131:LYS:HD2	2.38	0.44
24:RD:34:VAL:HG22	24:RD:35:LYS:HG3	2.00	0.44
15:XO:26:GLU:HG2	15:XO:26:GLU:H	1.54	0.44
1:XA:1308:U:H5''	13:XM:98:VAL:HG23	1.99	0.44
1:XA:870:U:H5''	1:XA:871:U:OP1	2.17	0.44
1:QA:1442:G:C5	1:QA:1446:A:C6	3.05	0.44
22:YA:1042:G:C6	22:YA:1043:C:C4	3.06	0.44
22:YA:1382:G:C4	22:YA:1383:C:H5	2.34	0.44
22:YA:692:C:HO2'	22:YA:1354:A:HO2'	1.64	0.44
22:YA:2169:A:C6	22:YA:2170:A:C6	3.06	0.44
22:RA:1803:A:H4'	24:RD:259:THR:CG2	2.47	0.44
51:Y8:49:VAL:HG23	51:Y8:53:PRO:HB3	2.00	0.44
22:RA:1535:U:C2	22:RA:1536:A:N7	2.86	0.44
23:RB:15:A:H1'	23:RB:109:G:C4	2.53	0.44
16:XP:18:ARG:NH1	16:XP:32:TYR:OH	2.50	0.44
38:RV:16:PRO:HB3	38:RV:97:LYS:O	2.17	0.44
40:RX:57:LEU:HD11	40:RX:78:LYS:HD2	1.99	0.44
26:RF:9:ILE:HA	26:RF:10:PRO:HD3	1.89	0.44
10:QJ:47:PHE:HE1	10:QJ:63:PHE:HB2	1.83	0.44
22:RA:2816:C:H2'	22:RA:2817:G:C8	2.52	0.44
1:QA:1061:G:OP1	10:QJ:59:SER:OG	2.34	0.44
23:YB:114:G:H2'	23:YB:115:G:O4'	2.18	0.44
42:YZ:5:LEU:HB3	42:YZ:6:LYS:H	1.52	0.44
22:RA:1777:U:O2'	22:RA:1778:U:H5'	2.18	0.44
27:RG:95:ARG:O	27:RG:99:MET:HG2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RI:69:LYS:HG2	29:RI:70:GLU:N	2.33	0.44
12:XL:39:VAL:HG12	12:XL:41:ARG:HG3	2.00	0.44
1:XA:958:A:N6	1:XA:959:A:N1	2.66	0.44
16:QP:23:ASP:O	16:QP:26:ARG:HB2	2.17	0.44
38:RV:49:THR:HB	38:RV:50:PRO:HD2	1.99	0.44
12:QL:71:PRO:HG3	12:QL:99:HIS:HD2	1.82	0.44
22:YA:1980:G:O2'	22:YA:1982:C:OP2	2.35	0.44
22:YA:987:G:C6	22:YA:988:A:C4	3.06	0.44
22:RA:467:G:OP1	50:R7:33:ARG:NH1	2.51	0.44
26:RF:117:ARG:HH12	32:RP:1:MET:N	2.16	0.44
34:RR:54:LEU:HD23	34:RR:66:VAL:HG23	1.98	0.44
22:RA:1153:C:H2'	22:RA:1154:G:O4'	2.17	0.44
1:XA:724:G:C2	1:XA:725:G:C8	3.05	0.44
1:QA:560:U:H4'	1:QA:561:U:O5'	2.17	0.44
9:QL:16:ARG:O	9:QL:63:ILE:HA	2.17	0.44
1:XA:134:A:H61	16:XP:25:ARG:HH12	1.63	0.44
1:QA:687:A:H4'	1:QA:688:G:O5'	2.17	0.44
22:YA:1210:A:C5'	22:YA:1210:A:C8	3.00	0.44
23:YB:12:C:O2	43:Y0:74:ARG:HD2	2.17	0.44
1:QA:1264:C:O2	1:QA:1272:G:N2	2.51	0.44
15:XO:77:ARG:HA	15:XO:80:ALA:HB3	1.99	0.44
1:QA:179:A:H2'	1:QA:180:U:H6	1.83	0.44
1:QA:44:G:OP2	16:QP:12:LYS:HE2	2.18	0.44
1:XA:954:G:C6	1:XA:955:U:C4	3.06	0.44
24:RD:85:ASP:HA	24:RD:86:PRO:HD2	1.72	0.44
22:RA:2111:C:N3	22:RA:2118:U:O2'	2.50	0.44
3:XC:47:LEU:HA	3:XC:47:LEU:HD12	1.83	0.44
42:RZ:177:PRO:HB2	42:RZ:178:GLU:H	1.62	0.44
42:RZ:101:PRO:HA	42:RZ:123:ASP:HA	1.99	0.44
40:RX:87:GLN:O	40:RX:88:LYS:HG3	2.18	0.44
22:YA:1792:G:OP1	24:YD:206:LEU:HB2	2.18	0.44
22:YA:2734:A:H3'	22:YA:2735:G:H8	1.83	0.44
1:QA:991:U:O2	1:QA:993:G:H8	2.01	0.44
22:YA:2795:G:N2	22:YA:2799:A:OP2	2.50	0.44
22:RA:601:C:O2	22:RA:605:C:H4'	2.18	0.44
22:YA:1449:A:C6	22:YA:1449(A):G:C4	3.06	0.44
52:R9:24:TYR:CE2	52:R9:35:ARG:HG3	2.53	0.44
1:XA:625:G:H2'	1:XA:626:U:C6	2.53	0.44
22:YA:554:U:HO2'	22:YA:556:G:H8	1.58	0.44
22:RA:30:G:O2'	22:RA:1214:A:N3	2.43	0.44
31:RO:22:ILE:HA	31:RO:22:ILE:HD13	1.77	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:XP:39:TYR:CZ	16:XP:41:PRO:HB3	2.53	0.44
27:RG:95:ARG:C	27:RG:99:MET:HG2	2.38	0.44
29:YI:2:LYS:HG2	29:YI:20:ASP:HB3	2.00	0.44
33:RQ:83:MET:HB2	43:R0:7:LEU:HD12	2.00	0.44
26:YF:47:GLY:HA3	26:YF:95:ARG:O	2.18	0.44
32:RP:140:ALA:O	32:RP:141:ALA:HB2	2.17	0.44
22:RA:1582:C:N4	22:RA:1583:A:N7	2.66	0.44
28:RH:123:PHE:O	28:RH:125:VAL:HG23	2.18	0.44
22:YA:1581:G:C6	22:YA:1582:C:C4	3.06	0.44
22:RA:952:G:C6	22:RA:966:G:C6	3.06	0.44
42:RZ:127:LYS:HB3	42:RZ:162:GLU:HB3	2.00	0.44
1:XA:1517:G:N3	22:YA:1919:A:O2'	2.36	0.44
27:YG:10:LYS:HE2	27:YG:175:LEU:O	2.18	0.44
25:YE:105:THR:OG1	25:YE:199:ARG:NH1	2.50	0.44
1:XA:371:G:H2'	1:XA:372:C:O4'	2.18	0.44
22:YA:2557:G:H5''	22:YA:2557:G:H8	1.83	0.44
22:YA:1496:A:H2'	22:YA:1577:C:O2'	2.18	0.44
1:XA:1108:G:H5'	3:XC:176:HIS:ND1	2.33	0.44
34:RR:27:SER:HB3	34:RR:34:ILE:HD11	1.99	0.44
10:QJ:54:PHE:HB3	10:QJ:55:LYS:H	1.69	0.44
48:R5:16:ARG:HD2	48:R5:20:ARG:NH1	2.33	0.44
22:RA:301:G:H1'	22:RA:302:C:C6	2.53	0.44
1:QA:793:U:H3'	1:QA:794:A:H5''	2.00	0.44
41:RY:81:LYS:HB2	41:RY:96:ILE:CG2	2.48	0.44
1:XA:373:A:H2'	1:XA:374:A:H8	1.82	0.44
22:RA:997:G:OP1	37:RU:93:LYS:HB2	2.18	0.44
27:YG:47:LYS:HB2	27:YG:47:LYS:HE3	1.73	0.44
42:RZ:59:LEU:O	42:RZ:60:GLU:HB3	2.17	0.44
44:Y1:70:VAL:O	44:Y1:73:LEU:HB2	2.18	0.44
1:XA:253:U:H2'	1:XA:254:G:C8	2.53	0.44
1:XA:652:U:O2	1:XA:652:U:H2'	2.18	0.44
49:Y6:41:PRO:HD2	49:Y6:46:HIS:H	1.81	0.44
22:YA:76:C:H1'	45:Y2:62:THR:HG21	1.99	0.44
22:RA:244:A:H2'	22:RA:245:G:O4'	2.18	0.44
53:QV:54:U:C5	53:QV:55:U:C4	3.06	0.44
22:YA:2283:C:C2	22:YA:2389:G:C2	3.06	0.44
22:RA:2491:U:H1'	22:RA:2569:G:O3'	2.18	0.44
1:QA:358:U:H2'	1:QA:359:U:C6	2.52	0.44
22:YA:2776:A:C6	22:YA:2778:A:C6	3.06	0.44
1:QA:1119:C:OP1	9:QI:83:ARG:NH1	2.51	0.44
35:RS:19:LYS:O	35:RS:20:ARG:HB3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:392:G:H2'	1:QA:393:A:C8	2.51	0.44
22:RA:1751:C:O2'	22:RA:1752:C:H5'	2.18	0.44
22:RA:1039:G:H1	22:RA:1116:C:H42	1.65	0.44
53:QV:1:C:H2'	53:QV:2:G:H8	1.83	0.44
3:XC:108:ASN:HB3	3:XC:111:LEU:HD12	2.00	0.44
22:YA:2516:G:C6	22:YA:2517:C:C4	3.05	0.44
11:XK:19:ALA:HB2	11:XK:32:ILE:HG22	2.00	0.44
22:YA:830:G:N2	22:YA:2445:G:O2'	2.47	0.44
1:QA:814:A:N7	1:QA:816:A:C4	2.85	0.44
40:YX:70:LEU:H	40:YX:70:LEU:HD23	1.83	0.44
22:RA:2850:A:C2	22:RA:2851:A:C4	3.06	0.44
6:XF:33:TYR:HB2	6:XF:75:LEU:HD12	1.99	0.44
1:QA:927:G:H1	1:QA:1390:U:H3	1.65	0.44
22:RA:1022:G:H22	22:RA:1142(A):A:H2	1.65	0.43
1:QA:963:G:H1	1:QA:972:C:H42	1.64	0.43
29:RI:80:PRO:HA	29:RI:143:SER:O	2.17	0.43
22:YA:1803:A:H4'	24:YD:259:THR:HG23	2.00	0.43
22:YA:896:A:C8	42:YZ:146:ILE:HD12	2.52	0.43
1:QA:976:G:P	14:QN:32:SER:H	2.41	0.43
22:YA:1568:G:H5'	24:YD:59:LYS:O	2.17	0.43
1:XA:1271:G:H2'	1:XA:1272:G:H5''	2.00	0.43
16:XP:45:THR:HG22	16:XP:47:ASP:N	2.26	0.43
26:YF:66:PRO:O	26:YF:68:LYS:N	2.51	0.43
22:YA:1360:A:H2'	22:YA:1361:G:O4'	2.18	0.43
22:YA:363(B):G:H2'	22:YA:363(C):G:C8	2.52	0.43
22:RA:2740:A:N6	22:RA:2764:A:C8	2.86	0.43
1:QA:404:U:H2'	1:QA:405:U:C6	2.44	0.43
1:XA:1220:G:N2	19:XS:54:GLY:O	2.48	0.43
22:RA:2734:A:C8	22:RA:2735:G:C8	3.06	0.43
22:YA:656:G:H2'	22:YA:657:U:C6	2.53	0.43
22:RA:2869:G:H8	22:RA:2869:G:O5'	2.01	0.43
22:YA:1111:A:O2'	22:YA:1112:G:H4'	2.17	0.43
22:RA:1188:U:H4'	38:RV:79:VAL:HG22	1.99	0.43
28:YH:4:ILE:H	28:YH:4:ILE:HG12	1.59	0.43
32:YP:126:VAL:HG12	32:YP:147:LEU:CD2	2.48	0.43
22:RA:918:A:O2'	23:RB:96:G:N2	2.51	0.43
23:YB:106:G:C6	23:YB:107:U:C4	3.06	0.43
25:YE:37:ARG:O	25:YE:45:THR:HA	2.18	0.43
24:RD:145:VAL:HG11	24:RD:175:LEU:HD11	2.00	0.43
1:XA:95:G:H3'	1:XA:96:G:C8	2.51	0.43
22:RA:588:U:H2'	22:RA:589:C:C6	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1162:C:C2	1:XA:1175:G:C2	3.06	0.43
22:YA:389:G:H22	32:YP:72:PRO:CD	2.31	0.43
45:Y2:31:GLU:HB2	45:Y2:53:LEU:HD11	2.00	0.43
22:RA:579:G:O2'	22:RA:2019:A:OP1	2.32	0.43
22:YA:1924:C:H4'	53:XV:13:C:O2'	2.17	0.43
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.83	0.43
22:RA:1025:G:C4	22:RA:1135:C:H1'	2.52	0.43
22:YA:1011:G:C2	22:YA:1151:G:N3	2.85	0.43
12:XL:24:VAL:O	12:XL:26:ALA:N	2.47	0.43
1:XA:554:C:H2'	1:XA:555:C:H6	1.83	0.43
22:YA:1972:A:H2'	22:YA:1973:G:H8	1.82	0.43
22:YA:1319:G:C2	22:YA:1334:G:C5	3.05	0.43
28:YH:67:LEU:O	28:YH:71:LEU:HB2	2.17	0.43
22:RA:2612:C:C5	22:RA:2613:U:H5	2.36	0.43
22:RA:1014:U:H3	22:RA:1148:A:H61	1.66	0.43
49:R6:28:ARG:HG3	49:R6:31:PRO:HD2	2.00	0.43
22:YA:2815:C:H5'	48:Y5:29:THR:HG21	2.00	0.43
22:RA:2788:C:OP1	25:RE:61:ARG:NH1	2.51	0.43
4:QD:155:LEU:O	4:QD:159:ARG:HG2	2.18	0.43
44:Y1:94:LEU:HD23	44:Y1:94:LEU:HA	1.81	0.43
22:RA:396:G:H8	22:RA:396:G:O5'	2.01	0.43
7:XG:36:LYS:HB2	7:XG:36:LYS:HZ2	1.83	0.43
22:YA:1332:G:H8	22:YA:1332:G:H2'	1.54	0.43
22:YA:2387:U:H1'	43:Y0:41:ARG:NH2	2.33	0.43
1:QA:1394:A:H61	1:QA:1500:A:HO2'	1.65	0.43
1:QA:115:G:H4'	1:QA:116:A:O5'	2.17	0.43
22:RA:80:G:O2'	22:RA:294:A:N1	2.47	0.43
22:RA:1310:G:H1	22:RA:1604:C:N4	2.12	0.43
1:XA:1305:G:C5'	21:XU:4:GLY:HA3	2.46	0.43
22:YA:2350:C:H5	51:Y8:42:ARG:NH1	2.17	0.43
32:YP:61:ARG:NH1	51:Y8:56:GLU:OE2	2.49	0.43
22:YA:942:G:O2'	22:YA:1189:A:N3	2.41	0.43
10:QJ:51:ARG:NE	10:QJ:60:ARG:O	2.45	0.43
1:XA:564:C:C4	17:XQ:31:LEU:HD11	2.53	0.43
22:RA:923:C:O5'	22:RA:923:C:H6	2.01	0.43
22:YA:1795:C:H2'	22:YA:1796:U:O4'	2.17	0.43
10:XJ:32:ALA:H	10:XJ:78:ASN:ND2	2.16	0.43
22:YA:414:C:H1'	22:YA:1864:U:H1'	2.01	0.43
1:QA:153:C:H6	1:QA:153:C:O5'	2.01	0.43
1:QA:1388:C:H2'	1:QA:1389:C:H6	1.82	0.43
44:Y1:25:LYS:C	44:Y1:27:GLU:H	2.22	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:310:A:C4	22:YA:312:G:C8	3.05	0.43
32:RP:37:GLY:O	32:RP:40:SER:OG	2.26	0.43
1:XA:414:A:C6	1:XA:431:A:C2	3.06	0.43
25:RE:143:ASN:HD22	25:RE:147:PRO:HD3	1.83	0.43
1:XA:1216:G:H5''	14:YN:5:ALA:HB2	1.99	0.43
1:QA:271:C:H2'	1:QA:272:C:H6	1.83	0.43
41:RY:42:VAL:O	41:RY:65:ALA:N	2.45	0.43
19:XS:64:GLU:O	47:Y4:55:ARG:NH1	2.51	0.43
22:YA:1476:C:H2'	22:YA:1477:A:O4'	2.18	0.43
22:YA:2871:C:H5''	22:YA:2872:G:OP1	2.18	0.43
34:YR:38:VAL:HG22	34:YR:112:ALA:HB2	2.00	0.43
1:QA:74:C:H42	1:QA:96:G:H1	1.66	0.43
22:YA:1853:A:C6	22:YA:1889:A:C5	3.06	0.43
22:YA:2512:C:H2'	22:YA:2513:G:O4'	2.17	0.43
1:QA:518:C:H4'	1:QA:519:C:H5''	2.00	0.43
22:RA:1213:A:N3	22:RA:1238:G:O2'	2.46	0.43
1:XA:517:G:H4'	1:XA:519:C:C6	2.54	0.43
1:QA:1266:G:N2	1:QA:1270:C:N3	2.66	0.43
22:YA:1058:G:O5'	22:YA:1060:U:H5	2.01	0.43
16:XP:4:ILE:HB	16:XP:66:PRO:HB3	2.00	0.43
40:RX:67:GLY:O	40:RX:69:TYR:N	2.43	0.43
36:YT:35:LYS:H	36:YT:35:LYS:HD2	1.83	0.43
5:XE:9:LYS:HE3	5:XE:9:LYS:HB2	1.89	0.43
22:YA:2655:G:O2'	22:YA:2664:G:O6	2.36	0.43
22:YA:65:C:H5'	40:YX:71:GLY:HA3	2.00	0.43
29:YI:46:ALA:C	29:YI:50:ARG:HD3	2.38	0.43
10:XJ:54:PHE:CZ	10:XJ:55:LYS:HE3	2.54	0.43
13:QM:3:ARG:NH1	27:RG:113:ARG:NH2	2.66	0.43
22:YA:467:G:OP2	50:Y7:34:ARG:NH1	2.51	0.43
1:XA:256:U:H2'	1:XA:257:G:O4'	2.18	0.43
27:YG:67:LYS:O	27:YG:67:LYS:HD2	2.17	0.43
13:XM:14:ARG:H	13:XM:44:ARG:CD	2.25	0.43
22:RA:483:A:H1'	41:RY:59:GLY:O	2.19	0.43
1:XA:1312:G:H5''	47:Y4:67:TYR:OH	2.17	0.43
41:RY:97:ARG:HE	41:RY:98:VAL:HB	1.83	0.43
1:XA:374:A:C6	1:XA:375:U:C4	3.06	0.43
1:QA:1223:C:P	19:QS:78:ARG:HH12	2.41	0.43
22:RA:1614:A:N1	39:RW:91:GLY:HA2	2.34	0.43
7:QG:9:VAL:HG13	7:QG:94:ARG:NH2	2.27	0.43
24:YD:92:ILE:HD12	24:YD:104:TYR:CD2	2.54	0.43
22:RA:2364:C:H2'	22:RA:2365:G:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:960:A:H61	33:RQ:82:ARG:NH1	2.16	0.43
1:XA:1318:A:H4'	19:XS:11:VAL:CG1	2.48	0.43
25:RE:119:ARG:HD3	25:RE:160:TYR:HB2	2.00	0.43
2:XB:80:ILE:HG21	2:XB:212:GLN:HA	2.00	0.43
22:YA:2756:U:H5''	52:Y9:19:ARG:HB3	2.00	0.43
42:YZ:179:ASP:OD1	42:YZ:180:VAL:N	2.51	0.43
38:YV:52:VAL:O	38:YV:54:GLY:N	2.51	0.43
1:XA:250:A:H5'	1:XA:252:U:O4'	2.18	0.43
4:XD:100:ARG:NH1	4:XD:137:SER:HB3	2.33	0.43
29:RI:94:ALA:N	29:RI:116:LEU:HD13	2.31	0.43
42:RZ:48:PHE:O	42:RZ:52:SER:HB3	2.18	0.43
4:QD:133:VAL:HG12	4:QD:135:LEU:H	1.83	0.43
1:QA:1446:A:C5	36:RT:118:ARG:NH1	2.87	0.43
29:RI:57:ARG:O	29:RI:61:ARG:HG2	2.18	0.43
52:Y9:1:MET:O	52:Y9:34:GLN:HG2	2.18	0.43
3:XC:72:LYS:HB3	3:XC:75:VAL:HG23	2.00	0.43
22:YA:951:C:C2'	22:YA:952:G:H5'	2.48	0.43
22:YA:528:A:C3'	22:YA:528:A:C8	3.02	0.43
11:QK:19:ALA:HB2	11:QK:32:ILE:HG22	2.00	0.43
36:RT:19:LEU:HA	36:RT:20:PRO:HD3	1.86	0.43
7:QG:113:GLU:HG2	7:QG:113:GLU:H	1.39	0.43
22:YA:2638:G:N1	22:YA:2776:A:OP2	2.27	0.43
12:XL:62:SER:C	12:XL:64:TYR:H	2.21	0.43
22:RA:888:C:C2'	22:RA:889:C:H4'	2.48	0.43
42:YZ:62:PRO:C	42:YZ:64:GLY:H	2.21	0.43
33:RQ:136:ALA:O	33:RQ:138:ASP:N	2.46	0.43
1:XA:1460:A:H2'	1:XA:1461:G:O4'	2.18	0.43
1:QA:927:G:H2'	1:QA:928:G:O4'	2.18	0.43
2:QB:74:LYS:O	2:QB:78:GLN:HG3	2.18	0.43
2:QB:167:PRO:HG3	2:QB:188:ALA:HB2	2.00	0.43
22:RA:2518:A:H4'	22:RA:2519:U:OP1	2.14	0.43
30:RN:33:LEU:HA	30:RN:38:HIS:CE1	2.53	0.43
22:RA:1462:C:H4'	22:RA:2703:C:H5'	2.00	0.43
3:QC:81:GLY:O	3:QC:85:ARG:HB2	2.18	0.43
20:QT:16:HIS:O	20:QT:19:SER:HB3	2.18	0.43
30:YN:112:LEU:HG	30:YN:112:LEU:O	2.17	0.43
22:RA:2766:G:H2'	22:RA:2766:G:N3	2.34	0.43
1:QA:937:A:O5'	1:QA:937:A:H8	2.02	0.43
40:YX:72:LYS:HG2	40:YX:73:ARG:O	2.18	0.43
22:YA:547:A:H2'	22:YA:548:A:C8	2.54	0.43
17:XQ:62:SER:HB3	17:XQ:72:ARG:HE	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YE:188:VAL:O	25:YE:188:VAL:HG13	2.19	0.43
1:QA:713:G:OP1	24:RD:166:GLN:NE2	2.50	0.43
29:RI:4:ILE:HA	29:RI:18:VAL:HA	2.01	0.43
22:YA:819:A:C4	22:YA:1189:A:C2	3.06	0.43
31:YO:88:ASN:ND2	31:YO:92:GLU:HB2	2.22	0.43
13:XM:62:ASN:CG	47:Y4:49:PHE:HD2	2.20	0.43
1:XA:373:A:H2'	1:XA:374:A:C8	2.53	0.43
42:YZ:44:PHE:O	42:YZ:48:PHE:N	2.48	0.43
22:YA:2680:C:H2'	22:YA:2681:C:C5	2.54	0.43
22:RA:2458:G:H4'	22:RA:2459:A:H8	1.82	0.43
35:YS:39:ILE:HD12	35:YS:85:VAL:HG11	2.00	0.43
20:XT:98:PRO:C	20:XT:100:ILE:H	2.21	0.43
22:RA:333:G:H5''	22:RA:334:C:OP2	2.18	0.43
38:YV:55:ALA:HB2	38:YV:101:GLY:HA2	1.99	0.43
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.52	0.43
1:QA:397:A:N3	1:QA:397:A:H3'	2.32	0.43
1:QA:768:A:N3	1:QA:1512:U:O2'	2.50	0.43
22:YA:593:G:H1	22:YA:664:C:N4	2.17	0.43
22:RA:1727:U:H2'	22:RA:1728:G:O4'	2.18	0.43
1:XA:258:G:H1	1:XA:268:C:H42	1.65	0.43
22:YA:228:A:C6	22:YA:230:U:C2	3.07	0.43
22:RA:668:G:H2'	22:RA:670:A:H62	1.83	0.43
22:YA:2881:C:H2'	22:YA:2882:A:C8	2.53	0.43
43:Y0:37:LEU:HG	43:Y0:60:PHE:HA	2.01	0.43
1:XA:1489:G:H2'	1:XA:1490:C:O4'	2.18	0.43
22:YA:2467:C:O2'	22:YA:2468:G:H5'	2.18	0.43
22:YA:323:G:H1'	22:YA:1205:U:O2	2.19	0.43
23:RB:80:U:C2	23:RB:81:G:N2	2.87	0.43
22:YA:2783:G:O5'	22:YA:2783:G:H8	2.02	0.43
1:XA:903:G:H2'	1:XA:904:C:H6	1.83	0.43
22:YA:802:A:H5''	22:YA:803:U:OP2	2.19	0.43
1:QA:985:C:H2'	1:QA:986:A:C8	2.52	0.43
9:XI:118:LYS:O	9:XI:119:ALA:HB3	2.18	0.43
22:YA:1257:C:H4'	26:YF:83:PHE:CE2	2.53	0.43
43:Y0:27:GLU:HB2	43:Y0:69:PHE:CD1	2.53	0.43
1:XA:657:G:C2	1:XA:658:G:C8	3.06	0.43
22:RA:2224:G:OP1	24:RD:268:ARG:HD3	2.18	0.43
22:RA:1265:A:H3'	48:R5:19:ARG:NH1	2.33	0.43
22:YA:199:A:O2'	22:YA:2433:A:N6	2.41	0.43
1:XA:1430:C:H2'	1:XA:1431:C:C6	2.53	0.43
22:YA:1906:G:C2	22:YA:1925:C:O2	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:240:G:H2'	22:RA:241:A:C8	2.53	0.43
22:YA:1812:A:H2'	22:YA:1813:G:C8	2.53	0.43
40:YX:53:LYS:H	40:YX:82:GLN:HB3	1.83	0.43
22:YA:817:C:H4'	22:YA:932:G:C5	2.53	0.43
17:QQ:60:ILE:HB	17:QQ:74:LEU:HD23	2.00	0.43
14:YN:29:ARG:HD3	14:YN:40:CYS:HB2	1.99	0.43
22:YA:2595:G:H5''	22:YA:2596:U:OP2	2.18	0.43
22:RA:634:C:H2'	22:RA:635:C:H6	1.83	0.43
22:RA:1952:A:C2	31:RO:22:ILE:HG23	2.54	0.43
1:QA:402:G:C6	1:QA:403:C:C4	3.06	0.43
1:XA:1480:G:C6	1:XA:1481:U:C2	3.06	0.43
4:XD:153:ARG:NH1	4:XD:181:MET:HB2	2.32	0.43
22:RA:1492:G:H3'	22:RA:1493:C:H5'	1.99	0.43
1:QA:319:G:C2	1:QA:320:C:C2	3.07	0.43
8:QH:13:ILE:O	8:QH:17:THR:HG23	2.19	0.43
12:XL:58:VAL:O	12:XL:65:GLU:HA	2.18	0.43
22:YA:78:A:H2'	22:YA:79:G:C8	2.53	0.43
1:XA:883:C:C2'	1:XA:884:U:H5'	2.48	0.43
12:XL:78:GLN:HB3	12:XL:79:GLU:H	1.68	0.43
12:XL:110:VAL:CG2	12:XL:120:TYR:HB3	2.48	0.43
22:RA:797:C:H2'	22:RA:798:G:C8	2.53	0.43
2:XB:100:GLY:N	2:XB:176:GLU:OE2	2.47	0.43
1:QA:904:C:C4	1:QA:905:U:C4	3.07	0.43
1:QA:890:G:O2'	1:QA:906:G:O6	2.25	0.43
22:YA:1225:C:O2'	38:YV:85:LYS:HA	2.19	0.43
26:YF:33:LEU:HD12	26:YF:33:LEU:HA	1.86	0.43
22:YA:440:G:H2'	22:YA:441:U:O4'	2.18	0.43
25:YE:87:GLU:O	25:YE:89:ASP:N	2.50	0.43
1:QA:26:A:N6	1:QA:558:G:O2'	2.48	0.43
22:YA:825:C:H2'	22:YA:826:U:O4'	2.18	0.43
22:YA:2854:G:C6	22:YA:2864:G:N1	2.86	0.43
22:YA:285:C:H2'	22:YA:286:C:C6	2.53	0.43
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.43	0.43
1:QA:542:G:H5'	4:QD:41:GLY:HA3	2.00	0.43
41:RY:47:LYS:O	41:RY:49:VAL:N	2.51	0.43
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.53	0.43
22:RA:2693:A:H2'	22:RA:2694:G:H8	1.84	0.43
1:QA:296:U:H2'	1:QA:297:G:C8	2.53	0.43
10:QJ:76:ASN:HA	10:QJ:77:PRO:HD2	1.85	0.43
22:YA:2373:G:H1	22:YA:2380:C:H42	1.65	0.43
15:XO:25:THR:HG21	15:XO:70:LEU:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1026:G:N2	1:QA:1028:C:OP1	2.52	0.43
1:QA:166:G:H2'	1:QA:167:G:H8	1.80	0.43
1:XA:825:G:H1'	8:XH:2:LEU:HD21	2.00	0.43
22:RA:1689:A:H2'	22:RA:1690:A:C8	2.54	0.43
22:YA:1652:A:C2'	22:YA:1653:G:H5'	2.49	0.43
34:YR:33:ARG:HH21	48:Y5:55:ARG:HG2	1.82	0.43
22:RA:702:G:C6	22:RA:703:U:C4	3.06	0.43
22:RA:738:G:C6	22:RA:739:G:C2	3.06	0.43
31:YO:64:ARG:HG2	31:YO:79:PHE:CD1	2.53	0.43
22:YA:654:A:O2'	22:YA:654(A):G:OP2	2.34	0.43
36:RT:1:MET:O	36:RT:3:ARG:HG2	2.19	0.43
45:Y2:15:LYS:H	45:Y2:67:LYS:CE	2.32	0.43
1:QA:1004:A:H1'	1:QA:1036:G:N2	2.33	0.43
24:YD:132:PRO:HG3	24:YD:190:TYR:CE1	2.54	0.43
22:YA:1657:C:H4'	25:YE:133:LYS:HB3	2.00	0.43
26:YF:64:ILE:HG23	26:YF:65:TRP:CD1	2.53	0.43
22:RA:1024:G:N1	22:RA:1025:G:C6	2.87	0.43
22:YA:2792:G:C6	22:YA:2805:G:C2	3.06	0.43
22:YA:1495:A:O2'	22:YA:1579:A:H5''	2.18	0.43
22:RA:429:A:C6	22:RA:430:G:N1	2.87	0.43
22:YA:2648:C:H2'	22:YA:2649:U:C6	2.53	0.43
22:YA:1831:G:H1	22:YA:1974:C:H42	1.67	0.43
1:QA:1314:C:P	19:QS:6:LYS:HD2	2.59	0.43
1:QA:895:G:H1	1:QA:904:C:H42	1.66	0.43
22:YA:2653:U:O2'	28:YH:110:SER:HB2	2.18	0.43
22:YA:707:G:H8	22:YA:707:G:O5'	2.01	0.43
32:YP:83:VAL:O	32:YP:114:ILE:HA	2.19	0.43
22:RA:2744:G:H21	28:RH:143:GLN:NE2	2.16	0.43
16:QP:20:VAL:HG21	16:QP:32:TYR:CE1	2.54	0.43
22:RA:1954:G:O2'	22:RA:1955:U:OP2	2.29	0.43
41:RY:46:LYS:HB2	41:RY:61:ILE:HG22	2.00	0.43
22:RA:1323:U:OP1	39:RW:98:LYS:NZ	2.43	0.43
22:RA:2637:U:C4	22:RA:2638:G:C6	3.06	0.43
22:RA:1686:C:C2	22:RA:1703:G:N2	2.86	0.43
46:Y3:51:ALA:HA	46:Y3:54:VAL:HG12	2.00	0.43
47:Y4:43:TYR:CD2	47:Y4:43:TYR:C	2.92	0.43
22:RA:11:G:H2'	22:RA:12:U:H5'	2.00	0.43
22:YA:243:U:O2'	22:YA:244:A:H5'	2.18	0.43
41:YY:67:LEU:HD12	41:YY:67:LEU:HA	1.77	0.43
2:XB:215:LEU:HA	2:XB:215:LEU:HD22	1.73	0.43
10:XJ:44:VAL:HG13	10:XJ:66:ARG:HG2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:812:C:H1'	1:XA:813:U:OP2	2.18	0.43
22:YA:724:U:H2'	22:YA:725:G:O4'	2.18	0.43
23:RB:19:G:H2'	23:RB:20:C:O4'	2.19	0.43
22:YA:2350:C:H2'	22:YA:2351:G:O4'	2.18	0.43
13:QM:3:ARG:HG2	47:R4:34:GLU:CG	2.47	0.43
1:XA:970:C:N4	9:XI:128:ARG:OXT	2.51	0.43
45:Y2:47:ASN:HB2	45:Y2:48:HIS:H	1.50	0.43
50:Y7:47:ARG:HB2	50:Y7:48:LYS:H	1.60	0.43
43:R0:53:MET:HA	43:R0:58:THR:O	2.19	0.43
42:YZ:58:VAL:O	42:YZ:60:GLU:N	2.50	0.43
1:QA:1337:G:H4'	1:QA:1338:G:OP1	2.19	0.43
31:YO:88:ASN:OD1	31:YO:90:GLN:HB2	2.19	0.43
1:XA:1314:C:OP2	19:XS:4:SER:OG	2.37	0.43
22:RA:2693:A:H2'	22:RA:2694:G:C8	2.54	0.43
29:YI:77:LEU:HD12	29:YI:104:GLN:HE22	1.83	0.43
22:YA:2531:A:H2'	22:YA:2532:G:H8	1.83	0.43
22:RA:948:G:N2	22:RA:970:C:O2	2.51	0.43
1:QA:1161:C:H2'	1:QA:1162:C:C6	2.51	0.43
22:YA:2634:G:N2	22:YA:2785:C:C2	2.87	0.43
1:QA:390:C:O3'	16:QP:28:ARG:NH2	2.47	0.43
51:R8:58:ILE:HA	51:R8:61:LEU:HD21	2.01	0.43
1:XA:734:G:C2	1:XA:735:C:C2	3.07	0.43
3:QC:11:ARG:HB3	3:QC:15:THR:HB	2.00	0.43
32:YP:126:VAL:HG22	32:YP:145:PRO:HG2	2.01	0.43
22:YA:1920:C:H6	22:YA:1920:C:O5'	2.01	0.43
22:YA:2764:A:N7	22:YA:2766:G:C6	2.86	0.43
1:XA:914:A:H2'	1:XA:915:A:C8	2.51	0.43
1:XA:271:C:H2'	1:XA:272:C:H6	1.83	0.43
29:RI:115:ALA:C	29:RI:117:GLU:H	2.18	0.43
1:QA:986:A:O2'	19:QS:55:LYS:O	2.37	0.43
2:XB:37:ASN:C	2:XB:39:ILE:H	2.20	0.43
22:YA:2205:C:H6	22:YA:2205:C:O5'	2.02	0.43
1:XA:731:G:OP1	1:XA:766:A:H1'	2.18	0.43
17:QQ:63:ARG:HG2	17:QQ:64:PRO:HD2	2.00	0.43
9:QI:116:LYS:HE2	9:QI:122:ALA:HB2	2.01	0.43
22:RA:2562:U:O2'	31:RO:23:ARG:HD3	2.18	0.43
1:XA:1235:U:H2'	1:XA:1236:A:O4'	2.18	0.43
22:YA:1313:U:H2'	22:YA:1313:U:O2	2.18	0.43
32:YP:113:LYS:HG2	32:YP:115:LEU:HD23	2.01	0.43
22:RA:752:A:C5	22:RA:1781:C:O4'	2.72	0.43
2:QB:8:LYS:HE3	2:QB:11:LEU:HB3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:8:GLY:HA2	9:XI:79:LEU:HD12	2.01	0.43
22:YA:493:G:H2'	22:YA:494:G:O4'	2.18	0.43
22:YA:2094:G:OP1	29:YI:22:LYS:HD2	2.17	0.43
22:RA:493:G:H2'	22:RA:494:G:O4'	2.19	0.43
1:XA:181:G:O2'	1:XA:182:U:O5'	2.36	0.43
39:RW:20:VAL:HG22	39:RW:47:VAL:HG21	2.00	0.43
2:XB:172:ILE:O	2:XB:175:ARG:HB3	2.18	0.43
22:YA:2186:G:H2'	22:YA:2187:G:C8	2.54	0.43
22:RA:1268:A:H2'	22:RA:1269:A:O4'	2.18	0.43
2:QB:217:ARG:HE	2:QB:217:ARG:HB2	1.29	0.43
22:RA:1523:U:H6	22:RA:1523:U:O5'	2.01	0.43
18:QR:37:VAL:HG22	18:QR:78:LEU:HB3	2.01	0.43
22:YA:1827:C:H2'	22:YA:1828:G:O4'	2.18	0.43
41:YY:80:GLY:O	41:YY:81:LYS:HG3	2.18	0.43
13:QM:44:ARG:HB2	13:QM:47:ASP:OD2	2.19	0.43
15:QO:17:ARG:HD3	15:QO:26:GLU:HG3	1.99	0.43
30:RN:58:ASP:HB3	30:RN:95:PRO:HB3	2.00	0.43
22:YA:2133:G:H1'	22:YA:2158:A:N6	2.31	0.43
1:QA:1317:C:C2	19:QS:37:ARG:NH2	2.86	0.43
1:XA:1422:G:H1	1:XA:1478:C:H42	1.65	0.43
1:XA:979:C:OP1	1:XA:1223:C:N4	2.52	0.43
22:YA:1697:G:OP2	22:YA:1698:A:O2'	2.23	0.43
1:QA:376:G:H2'	1:QA:377:G:H8	1.84	0.43
24:RD:35:LYS:HE3	24:RD:64:ILE:C	2.39	0.43
22:RA:1726:G:H2'	22:RA:1727:U:O4'	2.19	0.43
34:YR:70:LEU:HD23	34:YR:70:LEU:HA	1.84	0.43
41:YY:87:LYS:HB2	41:YY:87:LYS:NZ	2.34	0.43
4:QD:135:LEU:HA	4:QD:135:LEU:HD13	1.86	0.43
1:XA:1504:G:OP1	1:XA:1507:A:H4'	2.19	0.43
22:YA:2256:G:C6	22:YA:2257:U:C4	3.07	0.43
34:YR:34:ILE:HD13	34:YR:34:ILE:HA	1.72	0.43
22:YA:748:G:OP2	39:YW:88:ARG:HG3	2.19	0.43
22:YA:1932:A:H2	22:YA:1969:A:C2	2.36	0.43
29:RI:128:LEU:HA	29:RI:128:LEU:HD13	1.57	0.43
25:YE:119:ARG:HG2	25:YE:160:TYR:HB2	2.00	0.43
22:RA:1173:G:H4'	22:RA:1174:A:C5	2.54	0.43
22:YA:2432:A:H2'	22:YA:2433:A:C8	2.54	0.43
1:QA:266:G:H5''	1:QA:267:C:H5	1.81	0.43
26:RF:9:ILE:HG23	26:RF:20:LEU:O	2.18	0.43
22:RA:706:A:C2	22:RA:707:G:H1'	2.53	0.43
22:RA:1025:G:C5	22:RA:1135:C:H1'	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YI:37:VAL:HG12	29:YI:38:LEU:HD12	2.01	0.43
22:RA:2257:U:H2'	22:RA:2258:C:C6	2.53	0.43
22:YA:465:G:C6	22:YA:466:A:N6	2.87	0.43
37:RU:69:CYS:HB3	37:RU:106:PHE:CZ	2.53	0.43
22:YA:704:G:H2'	22:YA:726:G:H22	1.83	0.43
1:QA:1291:G:H4'	9:QI:38:GLN:O	2.18	0.43
32:RP:90:ARG:HB3	32:RP:91:PHE:H	1.68	0.43
22:RA:563:G:H22	22:RA:578:A:H2	1.66	0.43
22:RA:1799:G:H5'	22:RA:1819:A:H61	1.83	0.43
13:XM:4:ILE:HG22	13:XM:5:ALA:N	2.34	0.43
41:RY:55:TYR:CD2	41:RY:55:TYR:N	2.86	0.43
22:RA:1675:C:O5'	22:RA:1675:C:H6	2.01	0.43
25:RE:36:ARG:HH21	25:RE:88:GLY:HA2	1.84	0.43
1:QA:1127:G:N2	1:QA:1145:C:O2'	2.52	0.43
1:QA:1346:A:C4	7:QG:10:ARG:NH1	2.86	0.43
1:QA:1129:C:C4'	1:QA:1130:A:H5'	2.49	0.43
22:RA:508:G:O2'	22:RA:509:C:P	2.77	0.43
22:RA:2066:C:H2'	22:RA:2067:G:H5'	2.01	0.43
19:XS:5:LEU:CG	47:Y4:66:SER:CB	2.96	0.43
1:XA:522:C:H41	12:XL:53:ARG:HH22	1.67	0.43
32:YP:30:THR:O	32:YP:33:ARG:HB2	2.18	0.43
22:YA:1360:A:N6	22:YA:1372:U:C5	2.87	0.43
23:RB:29:A:H2'	23:RB:30:C:C6	2.54	0.43
1:XA:1219:U:H2'	1:XA:1220:G:O4'	2.18	0.43
42:RZ:62:PRO:C	42:RZ:64:GLY:N	2.72	0.43
1:XA:1010:G:N2	1:XA:1020:U:H1'	2.34	0.43
1:QA:1522:U:H2'	1:QA:1523:G:C8	2.53	0.43
22:RA:1203:G:H3'	22:RA:1204:A:H5''	2.01	0.43
22:RA:2867:G:O2'	22:RA:2868:A:O5'	2.30	0.43
32:YP:15:ARG:O	32:YP:17:LYS:HG3	2.19	0.43
22:RA:1188:U:C4'	38:RV:79:VAL:HG22	2.48	0.43
22:RA:1360:A:C6	22:RA:1372:U:C4	3.07	0.43
25:YE:36:ARG:HH21	25:YE:88:GLY:CA	2.32	0.43
11:QK:38:ASN:HA	11:QK:39:PRO:HD3	1.88	0.43
22:YA:950:G:H2'	22:YA:951:C:H6	1.84	0.43
8:QH:105:ARG:HD3	8:QH:105:ARG:HA	1.78	0.43
1:XA:1213:A:C5	1:XA:1215:G:C4	3.06	0.43
49:Y6:28:ARG:HH21	49:Y6:30:THR:HG23	1.84	0.43
1:XA:662:G:H2'	1:XA:663:A:C8	2.53	0.43
1:QA:781:A:C8	1:QA:782:A:C8	3.07	0.43
45:Y2:17:SER:HB3	45:Y2:67:LYS:HE3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1439:C:N4	1:XA:1462:G:H1	2.17	0.43
1:QA:625:G:H2'	1:QA:626:U:C6	2.53	0.43
22:RA:2532:G:H2'	22:RA:2533:A:C8	2.53	0.43
22:YA:382:G:H1	22:YA:392:C:H42	1.67	0.43
33:RQ:20:ALA:HA	33:RQ:98:LYS:HB3	2.00	0.43
32:YP:5:ASP:O	32:YP:6:LEU:C	2.57	0.43
22:YA:1449:A:H5'	22:YA:1449(A):G:OP2	2.19	0.43
22:RA:1510:A:H2'	22:RA:1510:A:N3	2.33	0.43
14:XN:27:CYS:SG	14:XN:29:ARG:HB2	2.58	0.43
2:XB:7:VAL:HG21	2:XB:217:ARG:NH1	2.34	0.43
32:RP:18:ARG:HD2	32:RP:27:HIS:CD2	2.54	0.43
22:RA:2282:G:H5''	22:RA:2283:C:O4'	2.18	0.43
1:QA:486:U:H2'	1:QA:487:A:H8	1.84	0.43
43:R0:7:LEU:N	43:R0:7:LEU:HD23	2.34	0.43
12:XL:59:ARG:NH1	12:XL:65:GLU:OE2	2.51	0.43
22:RA:492:A:H2'	22:RA:493:G:O4'	2.19	0.43
7:XG:140:ASP:HA	7:XG:143:ARG:NH1	2.34	0.43
27:YG:145:THR:O	27:YG:147:ASP:N	2.44	0.43
22:YA:2063:C:C4	22:YA:2064:C:C5	3.07	0.43
17:QQ:45:HIS:NE2	17:QQ:47:PRO:HG3	2.34	0.43
1:XA:627:G:O2'	1:XA:628:G:H5'	2.19	0.43
22:RA:1489:U:O3'	22:RA:1490:A:H8	2.01	0.43
22:YA:2475:C:H3'	22:YA:2476:A:H5''	1.99	0.43
26:RF:23:ASP:OD1	26:RF:23:ASP:N	2.48	0.43
8:QH:25:ASP:OD1	8:QH:25:ASP:N	2.50	0.43
22:YA:1903:G:OP2	24:YD:241:PRO:HB2	2.19	0.43
13:XM:3:ARG:HG2	47:Y4:34:GLU:CB	2.49	0.43
22:RA:242:G:H2'	51:R8:5:LYS:HA	2.01	0.43
1:QA:1239:A:O2'	1:QA:1298:C:N4	2.50	0.43
32:RP:65:ARG:O	32:RP:68:GLN:NE2	2.50	0.43
22:YA:978:G:H2'	22:YA:979:G:O4'	2.19	0.43
22:YA:898:C:H5'	22:YA:899:A:OP2	2.18	0.43
35:RS:88:ASP:CG	35:RS:89:ARG:H	2.21	0.43
1:QA:147:G:N2	1:QA:148:G:C4	2.87	0.43
36:RT:107:ASP:O	36:RT:110:ILE:HG22	2.19	0.43
22:RA:1075:C:H2'	22:RA:1076:C:C4'	2.49	0.43
1:XA:977:A:C8	1:XA:1223:C:N3	2.78	0.43
22:YA:2335:A:O2'	22:YA:2336:A:H2'	2.18	0.43
2:XB:212:GLN:NE2	2:XB:216:SER:HB2	2.34	0.43
32:YP:62:LEU:HB2	51:Y8:30:ARG:NH1	2.34	0.43
22:RA:1203:G:O6	22:RA:1204:A:N6	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2634:G:H1	22:YA:2784:C:H42	1.67	0.43
48:Y5:58:LEU:HD13	48:Y5:60:VAL:HB	2.01	0.43
48:Y5:58:LEU:HB2	48:Y5:60:VAL:H	1.83	0.43
1:QA:444:C:H2'	1:QA:445:G:C8	2.49	0.43
33:RQ:104:PHE:CE1	33:RQ:125:LEU:HD11	2.54	0.43
1:QA:1126:U:H6	1:QA:1126:U:H2'	1.66	0.43
1:XA:131:C:O2'	1:XA:262:A:N3	2.45	0.43
1:XA:953:G:C2	1:XA:954:G:H1'	2.53	0.43
14:YN:6:LEU:HD23	14:YN:23:ARG:HH22	1.83	0.43
22:YA:846:C:C2	22:YA:847:U:H5	2.37	0.43
22:YA:950:G:H1	22:YA:967:C:N4	2.16	0.43
1:XA:741:G:H2'	1:XA:742:G:O4'	2.19	0.43
1:XA:719:C:H1'	18:XR:49:LYS:HB3	2.01	0.43
23:RB:49:C:H2'	23:RB:50:G:C8	2.54	0.43
22:YA:2788:C:OP1	25:YE:61:ARG:NH1	2.51	0.43
22:RA:1858:G:H1'	22:RA:1884:A:H61	1.83	0.43
22:RA:2516:G:C6	22:RA:2569:G:C2	3.07	0.43
1:XA:22:G:C5	1:XA:23:C:C4	3.07	0.43
9:QI:95:LYS:HZ1	9:QI:96:LEU:HD13	1.83	0.43
31:RO:104:ARG:HD3	36:RT:36:GLU:OE2	2.19	0.43
25:RE:179:GLU:HB3	25:RE:181:LEU:HD22	1.99	0.43
42:YZ:108:PRO:HB2	42:YZ:111:VAL:HG23	2.01	0.43
53:QV:4:G:N3	53:QV:5:G:C8	2.87	0.43
32:YP:125:VAL:CG1	32:YP:138:LEU:HD21	2.49	0.43
1:XA:1441:G:N2	1:XA:1461:G:O6	2.51	0.43
1:XA:181:G:HO2'	1:XA:182:U:P	2.42	0.43
15:QO:25:THR:HG21	15:QO:70:LEU:HB2	2.00	0.43
22:YA:1767:C:H2'	22:YA:1768:U:O4'	2.18	0.43
22:YA:671:C:H2'	22:YA:672:C:H6	1.84	0.43
26:RF:34:TRP:CE3	26:RF:35:GLU:HG2	2.54	0.43
1:XA:427:U:C4	1:XA:428:G:C6	3.06	0.43
1:XA:154:C:H42	1:XA:167:G:H1	1.66	0.43
5:XE:69:VAL:O	5:XE:71:LEU:N	2.51	0.43
22:RA:710:G:H2'	22:RA:711:G:H8	1.84	0.43
27:RG:97:ASP:HA	27:RG:100:TRP:HD1	1.84	0.43
5:QE:18:ARG:HE	5:QE:18:ARG:HB3	1.51	0.43
22:RA:1834:U:O5'	22:RA:1834:U:H6	2.02	0.43
20:QT:84:LEU:HA	20:QT:84:LEU:HD23	1.86	0.43
12:QL:85:ILE:HD12	12:QL:85:ILE:HA	1.75	0.43
22:RA:2811:G:H5''	22:RA:2811:G:H8	1.83	0.43
30:RN:61:ARG:HE	30:RN:61:ARG:HA	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:67:C:H2'	1:QA:68:G:C8	2.54	0.43
33:RQ:116:GLU:O	33:RQ:120:ILE:HG12	2.17	0.43
22:YA:630:G:H4'	22:YA:640:C:H4'	2.00	0.43
22:RA:242:G:H3'	51:R8:6:THR:HG23	1.99	0.43
29:RI:88:ILE:H	29:RI:88:ILE:HG12	1.50	0.43
22:RA:27:G:H1'	22:RA:513:A:H62	1.84	0.43
42:YZ:144:LEU:HD11	42:YZ:149:SER:CB	2.49	0.43
47:Y4:6:HIS:HA	47:Y4:7:PRO:HD2	1.82	0.43
22:YA:1084:A:H5'	22:YA:1085:A:OP2	2.18	0.43
1:XA:1312:G:H5''	47:Y4:67:TYR:CE1	2.54	0.43
12:XL:44:THR:HA	12:XL:45:PRO:HD3	1.68	0.43
38:YV:64:HIS:ND1	38:YV:92:THR:HG22	2.34	0.43
1:QA:1200:C:O2'	1:QA:1201:A:OP2	2.34	0.43
19:QS:41:VAL:HG12	19:QS:44:MET:HB2	2.01	0.43
42:RZ:59:LEU:HB2	42:RZ:60:GLU:H	1.52	0.43
1:XA:1220:G:H21	19:XS:54:GLY:CA	2.32	0.43
49:Y6:41:PRO:HG2	49:Y6:45:LYS:N	2.29	0.43
22:YA:729:G:O6	24:YD:209:ALA:N	2.41	0.43
35:YS:83:LYS:HZ1	35:YS:109:GLY:HA2	1.83	0.43
22:YA:2314:C:H2'	22:YA:2315:G:C8	2.53	0.43
1:XA:690:G:C6	1:XA:691:G:C6	3.07	0.43
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.81	0.43
22:RA:176:G:C6	22:RA:177:G:N7	2.87	0.43
1:XA:622:A:C8	1:XA:623:C:C6	3.07	0.43
1:QA:530:G:HO2'	1:QA:531:U:P	2.40	0.43
22:RA:1303:G:H1	22:RA:1625:C:H42	1.67	0.43
23:YB:77:U:H2'	23:YB:78:A:H5'	2.01	0.43
22:RA:372:G:N2	22:RA:400:G:H2'	2.34	0.43
1:XA:1347:G:C8	9:XI:107:ARG:HB3	2.54	0.43
1:QA:754:C:H5'	15:QO:72:ARG:NH2	2.34	0.43
3:XC:149:ALA:HA	3:XC:201:TYR:O	2.18	0.43
8:QH:101:PRO:HG2	8:QH:133:LEU:HD11	2.01	0.43
22:RA:1265:A:C8	22:RA:1267:U:C2	3.07	0.43
49:R6:7:ILE:HG13	49:R6:8:LYS:H	1.84	0.43
9:QI:112:LYS:HD3	9:QI:113:LYS:O	2.18	0.43
1:XA:1087:G:N2	1:XA:1099:G:H1'	2.33	0.43
4:XD:196:LEU:O	4:XD:198:VAL:N	2.51	0.43
22:YA:1289:C:C2	22:YA:1290:C:C5	3.07	0.43
1:QA:1119:C:H2'	1:QA:1120:G:C8	2.53	0.43
46:Y3:7:LYS:HE2	46:Y3:32:GLN:O	2.19	0.43
22:YA:1339:G:H5''	40:YX:16:LYS:HD3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1059:G:H3'	22:YA:1060:U:H5''	2.01	0.43
41:RY:54:LYS:HB3	41:RY:55:TYR:CD2	2.53	0.43
22:YA:2773:C:P	25:YE:166:THR:HG1	2.42	0.43
22:YA:933:A:C5	22:YA:934:G:C8	3.07	0.43
25:YE:14:ILE:HG23	25:YE:15:PHE:N	2.34	0.43
25:YE:4:ILE:HD12	25:YE:28:ALA:HB1	2.01	0.43
1:XA:1240:U:OP2	7:XG:116:ALA:N	2.52	0.43
25:RE:116:VAL:HG11	25:RE:138:PRO:HB3	2.01	0.43
25:RE:117:MET:HB2	25:RE:122:PHE:O	2.18	0.43
22:YA:425:G:N2	22:YA:426:C:C2	2.87	0.43
22:RA:784:A:O4'	24:RD:227:ASN:ND2	2.52	0.43
33:YQ:45:GLN:H	33:YQ:45:GLN:CD	2.22	0.43
42:YZ:133:ILE:H	42:YZ:133:ILE:HD12	1.84	0.43
42:RZ:163:LEU:HG	42:RZ:163:LEU:H	1.50	0.43
18:QR:29:PHE:CD2	18:QR:29:PHE:N	2.87	0.43
18:QR:53:ARG:HH21	18:QR:60:ALA:N	2.17	0.43
30:RN:89:LYS:O	30:RN:93:THR:HG22	2.19	0.43
1:QA:1492:A:C6	1:QA:1493:A:N1	2.86	0.43
12:XL:28:LYS:HB3	12:XL:30:ALA:HB2	2.01	0.43
1:XA:973:G:H3'	1:XA:974:A:C5'	2.48	0.42
34:RR:113:LEU:HD12	34:RR:113:LEU:HA	1.88	0.42
22:RA:1527:G:H2'	22:RA:1543:A:N1	2.32	0.42
22:YA:1429:G:H2'	22:YA:1430:C:H6	1.82	0.42
42:RZ:68:PRO:O	42:RZ:91:LEU:HB2	2.19	0.42
22:RA:2376:A:H2'	22:RA:2377:A:O4'	2.19	0.42
1:XA:522:C:H41	12:XL:53:ARG:NH2	2.16	0.42
1:QA:1306:A:C6	1:QA:1307:U:C2	3.06	0.42
25:RE:48:GLN:OE1	25:RE:64:LYS:NZ	2.52	0.42
42:YZ:166:SER:H	42:YZ:167:PRO:HA	1.84	0.42
18:XR:56:THR:HB	18:XR:58:LEU:HD12	2.01	0.42
22:RA:264:C:C2'	22:RA:265:A:H5''	2.49	0.42
22:RA:1204:A:C2	22:RA:1241:A:C2	3.07	0.42
29:YI:92:VAL:O	29:YI:120:ILE:HG22	2.18	0.42
22:RA:1319:G:H1	22:RA:1333:C:N4	2.16	0.42
22:RA:718:A:H3'	22:RA:719:C:C6	2.54	0.42
5:XE:42:GLY:CA	5:XE:66:MET:HG2	2.48	0.42
23:YB:79:C:H2'	23:YB:80:U:O4'	2.19	0.42
27:YG:31:VAL:HA	27:YG:32:PRO:HD3	1.83	0.42
22:YA:2360:A:H2'	22:YA:2361:A:O4'	2.19	0.42
23:RB:14:U:O3'	23:RB:107:U:O2'	2.33	0.42
22:YA:654(B):C:H42	22:YA:654(T):C:H42	1.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1213:A:N1	1:XA:1215:G:H1'	2.34	0.42
9:QI:17:VAL:HG11	9:QI:81:ILE:HD13	2.00	0.42
1:XA:1149:C:H2'	1:XA:1150:U:C6	2.54	0.42
28:RH:124:GLU:HB3	28:RH:132:ARG:CG	2.48	0.42
25:YE:111:ARG:HD2	25:YE:160:TYR:CE1	2.55	0.42
49:R6:8:LYS:O	49:R6:27:LYS:HA	2.18	0.42
25:YE:201:THR:HG22	25:YE:203:LYS:H	1.83	0.42
2:QB:21:ARG:HG3	2:QB:38:GLY:O	2.19	0.42
6:XF:30:LEU:HB3	6:XF:35:ALA:HB3	2.01	0.42
10:XJ:6:ILE:HG22	10:XJ:98:ILE:HG23	2.01	0.42
1:XA:554:C:H2'	1:XA:555:C:C6	2.53	0.42
1:QA:1394:A:N6	1:QA:1501:C:H5'	2.34	0.42
1:XA:837:G:N2	1:XA:849:C:O2	2.51	0.42
22:RA:394:A:H5''	22:RA:395:U:OP2	2.18	0.42
1:XA:116:A:H2'	1:XA:117:G:O4'	2.19	0.42
4:QD:108:LEU:HD21	4:QD:183:GLY:HA3	2.01	0.42
22:RA:86:C:H2'	22:RA:87:C:H6	1.84	0.42
22:RA:452:G:H2'	22:RA:453:C:H6	1.83	0.42
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.19	0.42
22:YA:773:U:O2	22:YA:778:G:O2'	2.37	0.42
22:RA:360:G:H2'	22:RA:361:G:O4'	2.19	0.42
47:Y4:14:ILE:HG13	47:Y4:31:ILE:HB	1.99	0.42
5:XE:131:ILE:HD13	5:XE:131:ILE:HA	1.84	0.42
14:QN:47:LEU:HD23	14:QN:47:LEU:HA	1.74	0.42
22:RA:2676:C:O2	22:RA:2732:G:N2	2.44	0.42
22:RA:2676:C:H2'	22:RA:2677:G:H8	1.84	0.42
22:RA:370:G:H4'	22:RA:371:A:OP2	2.19	0.42
1:QA:451:A:N7	1:QA:481:G:N1	2.67	0.42
1:XA:1305:G:C8	1:XA:1305:G:OP2	2.72	0.42
42:YZ:33:LEU:HD12	42:YZ:34:ASN:H	1.84	0.42
1:XA:1090:U:H2'	1:XA:1091:U:C6	2.54	0.42
22:RA:2355:C:O5'	22:RA:2355:C:H6	2.02	0.42
1:QA:1128:C:O2'	1:QA:1130:A:H8	2.01	0.42
22:YA:1820:U:O2	24:YD:202:LYS:N	2.51	0.42
1:QA:1355:G:H2'	1:QA:1356:G:O4'	2.19	0.42
30:YN:96:GLU:HG2	30:YN:97:ARG:H	1.84	0.42
1:XA:1352:C:N4	1:XA:1370:G:H1	2.10	0.42
30:YN:134:ARG:H	30:YN:135:PRO:HD3	1.83	0.42
22:YA:776:G:C4'	22:YA:777:A:H5''	2.44	0.42
22:YA:2246:G:H1'	22:YA:2426:A:C2	2.55	0.42
22:YA:1265:A:H3'	48:Y5:19:ARG:HH12	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1794:U:C2	22:YA:1795:C:C5	3.06	0.42
22:YA:1952:A:C6	22:YA:1953:A:N1	2.87	0.42
1:XA:1152:A:H5'	10:XJ:13:HIS:CG	2.55	0.42
49:Y6:15:GLU:HG2	49:Y6:49:HIS:NE2	2.34	0.42
1:XA:825:G:C6	1:XA:826:C:C4	3.07	0.42
26:RF:28:ILE:HG13	26:RF:28:ILE:H	1.68	0.42
22:YA:1686:C:H6	22:YA:1686:C:H5''	1.85	0.42
39:YW:86:LEU:HD22	39:YW:96:ILE:HD12	2.01	0.42
42:RZ:117:LEU:HA	42:RZ:174:VAL:HA	2.01	0.42
42:RZ:104:PHE:HA	42:RZ:139:VAL:HB	2.01	0.42
1:XA:390:C:H2'	1:XA:391:G:C8	2.54	0.42
55:QY:34:C:H2'	55:QY:35:G:C8	2.54	0.42
22:RA:226:G:O2'	22:RA:227:A:O5'	2.34	0.42
22:RA:2557:G:O2'	22:RA:2558:C:H5'	2.19	0.42
1:QA:358:U:H2'	1:QA:359:U:H6	1.84	0.42
25:YE:201:THR:HG22	25:YE:203:LYS:N	2.34	0.42
22:RA:1212:G:O2'	22:RA:1236:G:N2	2.46	0.42
1:XA:1049:U:HO2'	14:XN:2:ALA:N	2.16	0.42
1:QA:374:A:C6	1:QA:375:U:C4	3.06	0.42
1:XA:779:C:O2'	1:XA:780:A:H5'	2.18	0.42
1:XA:780:A:H1'	1:XA:803:G:N2	2.34	0.42
3:XC:85:ARG:HD2	3:XC:85:ARG:HA	1.83	0.42
38:RV:64:HIS:CG	38:RV:92:THR:HG22	2.52	0.42
1:QA:540:G:H2'	1:QA:541:G:C8	2.54	0.42
22:YA:363(F):A:H4'	22:YA:364:C:H5'	2.00	0.42
6:QF:99:ALA:HB1	18:QR:23:LYS:HZ2	1.83	0.42
22:RA:955:C:OP2	33:RQ:14:ARG:HD2	2.20	0.42
22:RA:966:G:H2'	22:RA:967:C:C6	2.54	0.42
22:YA:778:G:C6	22:YA:779:U:C4	3.07	0.42
24:RD:169:GLU:N	24:RD:172:TYR:O	2.52	0.42
8:XH:104:ARG:HD2	8:XH:138:TRP:CD2	2.53	0.42
22:YA:2404:C:O3'	32:YP:77:ARG:NH2	2.50	0.42
1:QA:877:C:H5''	8:QH:88:LYS:HD3	2.00	0.42
22:RA:1502:C:H5'	22:RA:1503:U:OP2	2.18	0.42
22:YA:875:G:N2	22:YA:903:C:C2	2.87	0.42
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.54	0.42
28:YH:159:GLU:O	28:YH:160:LYS:HG2	2.19	0.42
22:YA:1514:U:H2'	22:YA:1515:C:C6	2.54	0.42
20:QT:87:LYS:HD2	20:QT:87:LYS:HA	1.68	0.42
15:QO:48:LYS:HD3	15:QO:48:LYS:HA	1.76	0.42
1:QA:424:G:O5'	1:QA:424:G:H8	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:470:A:C2	22:RA:471:A:C4	3.07	0.42
22:YA:273(F):C:H2'	22:YA:274:G:H5''	2.01	0.42
50:Y7:25:PRO:HA	50:Y7:28:ARG:CZ	2.49	0.42
33:RQ:78:PRO:O	33:RQ:79:LEU:HB3	2.19	0.42
1:QA:1053:G:O3'	1:QA:1054:C:H4'	2.19	0.42
1:XA:375:U:O3'	16:XP:6:LEU:HB2	2.20	0.42
49:R6:45:LYS:HD3	49:R6:45:LYS:HA	1.75	0.42
22:YA:1636:C:H2'	22:YA:1637:A:C8	2.53	0.42
22:RA:1591:G:C6	22:RA:1592:C:C4	3.07	0.42
22:YA:2712:U:H2'	22:YA:2712(A):A:H3'	2.01	0.42
47:Y4:60:GLN:O	47:Y4:63:TYR:HB3	2.20	0.42
22:RA:884:C:H41	22:RA:886:C:H1'	1.84	0.42
44:Y1:58:ILE:HG23	44:Y1:87:PRO:HG3	2.02	0.42
53:XV:2:G:H2'	53:XV:3:C:C6	2.54	0.42
22:RA:2120:G:H2'	22:RA:2121:G:H8	1.81	0.42
49:R6:35:GLU:H	49:R6:35:GLU:HG2	1.72	0.42
35:YS:60:GLY:O	35:YS:61:ASN:HB3	2.18	0.42
1:QA:9:G:C4	1:QA:10:A:C8	3.08	0.42
1:XA:1414:U:H2'	1:XA:1415:G:C8	2.51	0.42
22:YA:2364:C:H2'	22:YA:2365:G:O4'	2.19	0.42
51:Y8:52:LYS:N	51:Y8:53:PRO:HD2	2.33	0.42
30:RN:96:GLU:HB2	30:RN:122:VAL:HG12	2.00	0.42
22:RA:2205:C:O2'	22:RA:2227:A:N1	2.48	0.42
33:YQ:76:LYS:HG3	33:YQ:77:LYS:N	2.35	0.42
1:QA:1424:C:H2'	1:QA:1425:U:O4'	2.19	0.42
1:QA:593:G:N2	1:QA:646:U:O2	2.37	0.42
1:QA:923:A:H2'	1:QA:924:C:O4'	2.20	0.42
7:QG:102:ARG:HG2	7:QG:106:GLN:OE1	2.20	0.42
1:QA:1453:G:H2'	20:QT:39:LYS:HZ3	1.82	0.42
27:YG:16:ARG:N	27:YG:17:PRO:HD2	2.34	0.42
2:QB:69:LEU:O	2:QB:162:ILE:HA	2.18	0.42
22:RA:1947:C:H5''	22:RA:1947:C:H6	1.83	0.42
6:QF:62:TRP:CH2	6:QF:64:GLN:HB2	2.55	0.42
3:QC:148:GLY:HA3	3:QC:172:ARG:O	2.18	0.42
17:QQ:29:HIS:CG	17:QQ:30:PRO:HD2	2.54	0.42
22:YA:1973:G:C6	22:YA:1974:C:C4	3.07	0.42
9:QI:48:GLU:N	9:QI:49:PRO:HD2	2.35	0.42
22:RA:1826:G:C6	22:RA:1827:C:C4	3.08	0.42
22:RA:2854:G:C6	22:RA:2855:C:C4	3.07	0.42
22:RA:2489:G:C2'	22:RA:2490:G:H5'	2.49	0.42
22:RA:1673:U:H5''	22:RA:1674:G:OP2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:1238:G:O2'	22:RA:1239:G:H5'	2.20	0.42
28:YH:126:PRO:HG2	28:YH:128:PRO:HA	2.00	0.42
28:YH:126:PRO:HB2	28:YH:127:GLU:H	1.59	0.42
3:QC:112:SER:O	3:QC:116:VAL:HG23	2.20	0.42
29:YI:133:HIS:HB2	29:YI:134:PRO:CD	2.50	0.42
1:XA:1519:A:N7	1:XA:1520:G:H1'	2.35	0.42
22:RA:2004:G:C6	22:RA:2005:A:C4	3.08	0.42
9:XI:32:ASP:OD1	9:XI:33:PHE:N	2.53	0.42
28:RH:90:LYS:HE2	28:RH:90:LYS:HB3	1.91	0.42
7:XG:38:LEU:HD12	7:XG:38:LEU:O	2.20	0.42
35:RS:12:PHE:HD2	35:RS:12:PHE:HA	1.72	0.42
35:RS:39:ILE:HD11	35:RS:73:LEU:HD11	2.00	0.42
27:YG:103:LEU:HD23	27:YG:103:LEU:HA	1.83	0.42
24:RD:245:PRO:HA	24:RD:246:PRO:HD3	1.95	0.42
1:QA:1015:A:C6	1:QA:1016:A:C6	3.07	0.42
6:XF:95:GLU:HA	6:XF:96:PRO:HD3	1.87	0.42
1:XA:833:U:H2'	1:XA:834:C:C6	2.55	0.42
22:RA:2401:U:H2'	22:RA:2402:C:C6	2.54	0.42
13:XM:7:VAL:O	13:XM:9:ILE:HG23	2.19	0.42
22:YA:2849:U:P	36:YT:95:ARG:HH12	2.42	0.42
29:RI:126:TYR:HE1	29:RI:142:VAL:HG21	1.83	0.42
1:XA:1256:A:H2	1:XA:1277:C:C6	2.37	0.42
22:YA:258:G:C5	22:YA:259:G:N7	2.88	0.42
42:YZ:106:GLY:O	42:YZ:141:VAL:HG13	2.19	0.42
26:YF:45:ARG:HH11	26:YF:45:ARG:CG	2.32	0.42
28:YH:153:LYS:HB3	28:YH:154:PRO:CD	2.49	0.42
36:YT:58:ASN:C	36:YT:58:ASN:HD22	2.23	0.42
1:XA:791:G:C5	1:XA:792:A:C2	3.08	0.42
22:RA:2632:A:C2	22:RA:2787:C:C2	3.07	0.42
22:RA:1409:C:N4	22:RA:1593:G:H1	2.16	0.42
23:YB:15:A:O2'	23:YB:109:G:C8	2.62	0.42
22:RA:273:G:C2	22:RA:273(A):G:C8	3.08	0.42
42:YZ:49:ARG:HG3	42:YZ:49:ARG:H	1.56	0.42
36:YT:80:SER:HA	36:YT:81:PRO:HD3	1.89	0.42
32:YP:39:LYS:HG3	32:YP:45:LEU:CD2	2.45	0.42
47:R4:14:ILE:HG22	47:R4:24:THR:HG22	2.01	0.42
49:R6:11:LEU:HD13	49:R6:11:LEU:HA	1.81	0.42
22:YA:128:C:H4'	50:Y7:49:ARG:NH1	2.31	0.42
14:QN:41:ARG:NH2	14:QN:42:ILE:HD11	2.35	0.42
1:XA:1032(B):G:H2'	1:XA:1033:G:C8	2.54	0.42
29:RI:61:ARG:NH2	29:RI:64:GLU:OE1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:58:G:N2	22:RA:70:G:C4	2.88	0.42
46:Y3:4:LEU:HD22	46:Y3:56:VAL:HG12	2.01	0.42
22:YA:2636:U:H2'	22:YA:2637:U:C6	2.54	0.42
22:RA:49:A:N6	22:RA:177:G:C4	2.87	0.42
22:RA:2630:G:H2'	22:RA:2631:G:H8	1.85	0.42
7:XG:89:MET:CE	7:XG:156:TRP:H	2.32	0.42
37:RU:75:ASN:HB2	37:RU:78:THR:H	1.84	0.42
22:RA:278:A:H61	22:RA:362:U:H3	1.67	0.42
1:XA:1213:A:C6	1:XA:1215:G:C4	3.06	0.42
22:YA:528:A:N1	22:YA:2042:A:H2'	2.34	0.42
22:YA:612:G:H2'	22:YA:613:U:O2	2.19	0.42
28:RH:6:ARG:HG3	28:RH:7:LEU:HG	2.01	0.42
35:RS:29:PHE:HD2	35:RS:92:TYR:HH	1.66	0.42
22:YA:2088:G:C6	22:YA:2089:U:C4	3.07	0.42
2:XB:7:VAL:HG11	2:XB:217:ARG:CZ	2.49	0.42
22:YA:1482:U:H5'	22:YA:1483:G:P	2.60	0.42
1:QA:1494:G:C2	1:QA:1495:U:C6	3.08	0.42
24:RD:72:LYS:NZ	24:RD:99:ASP:OD1	2.43	0.42
22:YA:778:G:C5	22:YA:779:U:C4	3.07	0.42
22:RA:2695:C:H2'	22:RA:2696:U:C6	2.55	0.42
22:YA:2304:G:H22	22:YA:2312:U:H3	1.68	0.42
22:YA:2032:G:OP2	22:YA:2454:G:O2'	2.28	0.42
22:RA:116:C:H2'	22:RA:117:G:O4'	2.19	0.42
1:QA:316:G:OP2	1:QA:351:G:O2'	2.32	0.42
2:XB:113:HIS:O	2:XB:116:GLU:HB2	2.20	0.42
17:QQ:10:VAL:HG13	17:QQ:19:VAL:HB	2.01	0.42
33:YQ:39:PRO:HA	33:YQ:97:VAL:O	2.20	0.42
36:YT:45:PHE:CE1	36:YT:65:LYS:HE3	2.55	0.42
27:RG:159:VAL:HG21	27:RG:173:LEU:HD11	2.00	0.42
22:YA:88:G:C2	22:YA:89:G:C8	3.07	0.42
22:YA:1401:G:H2'	22:YA:1402:C:C6	2.54	0.42
1:QA:261:U:N3	1:QA:264:U:OP2	2.44	0.42
22:YA:1214:A:N6	22:YA:1235:G:O2'	2.47	0.42
22:YA:2543:G:N2	22:YA:2765:A:C8	2.88	0.42
5:QE:79:GLU:HB3	5:QE:92:LYS:HA	2.02	0.42
15:QO:43:LEU:HD23	15:QO:43:LEU:HA	1.74	0.42
22:RA:2168:G:N3	22:RA:2168:G:H2'	2.34	0.42
35:RS:93:LYS:HE3	35:RS:93:LYS:HB2	1.66	0.42
25:YE:57:LYS:HD2	25:YE:57:LYS:HA	1.87	0.42
1:XA:639:G:C2	1:XA:640:A:C5	3.07	0.42
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2683:C:OP1	36:RT:53:ARG:NH2	2.52	0.42
22:RA:2590:A:O2'	22:RA:2591:C:H5'	2.20	0.42
29:YI:61:ARG:O	29:YI:64:GLU:HB3	2.20	0.42
23:RB:82:G:O2'	23:RB:83:G:H5'	2.19	0.42
1:QA:945:G:C6	1:QA:1337:G:C6	3.07	0.42
22:YA:896:A:H61	42:YZ:112:ARG:HD2	1.84	0.42
22:YA:1429:G:N3	22:YA:1568:G:C2	2.88	0.42
22:RA:2066:C:H42	22:RA:2444:G:H1	1.66	0.42
25:RE:9:VAL:HG23	25:RE:26:ILE:HA	2.00	0.42
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.52	0.42
22:RA:1149:G:H2'	22:RA:1150:C:C6	2.55	0.42
1:QA:1080:A:H5''	1:QA:1081:G:OP2	2.19	0.42
24:YD:36:PRO:CB	24:YD:61:LEU:HB3	2.50	0.42
19:QS:10:PHE:CG	19:QS:11:VAL:N	2.88	0.42
1:QA:955:U:H1'	1:QA:1227:A:H61	1.84	0.42
22:RA:1444(A):A:H5'	22:RA:1445:C:H5	1.83	0.42
51:R8:4:MET:SD	51:R8:61:LEU:HD12	2.59	0.42
22:RA:852:G:C6	22:RA:853:G:C6	3.07	0.42
22:YA:341:G:H2'	22:YA:342:G:O4'	2.19	0.42
22:RA:1027:A:C6	22:RA:1126:A:C4	3.08	0.42
22:RA:2630:G:C2	22:RA:2894:G:N2	2.88	0.42
22:RA:2038:G:H2'	22:RA:2039:C:O4'	2.20	0.42
2:XB:68:ILE:HB	2:XB:70:PHE:HE1	1.84	0.42
22:YA:1527:G:O2'	22:YA:1545(A):A:N6	2.51	0.42
42:RZ:153:SER:H	42:RZ:167:PRO:HB2	1.85	0.42
32:YP:1:MET:HB3	32:YP:2:LYS:H	1.61	0.42
30:RN:30:ILE:HG23	30:RN:52:VAL:HG11	2.00	0.42
42:RZ:54:HIS:CE1	42:RZ:101:PRO:HG3	2.54	0.42
22:RA:2050:C:N4	22:RA:2051:A:C6	2.88	0.42
22:YA:2019:A:H4'	37:YU:34:LYS:HD2	2.01	0.42
4:XD:112:VAL:N	4:XD:116:GLN:OE1	2.38	0.42
22:YA:1494:A:H2'	22:YA:1495:A:H8	1.84	0.42
22:YA:372:G:HO2'	22:YA:373:U:H5	1.67	0.42
1:XA:167:G:O2'	1:XA:168:G:H5'	2.20	0.42
22:RA:931:G:O2'	46:R3:24:LYS:HD3	2.20	0.42
6:QF:22:GLU:O	6:QF:26:ILE:HG13	2.19	0.42
13:XM:40:ASN:ND2	13:XM:43:THR:HG23	2.34	0.42
22:RA:123:G:H2'	22:RA:124:G:O4'	2.19	0.42
22:YA:1672:C:N4	22:YA:1673:U:O4	2.53	0.42
2:XB:223:ILE:HA	2:XB:226:ARG:HB3	2.02	0.42
22:RA:879:G:H2'	22:RA:880:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2653:U:O2'	28:RH:110:SER:HB2	2.20	0.42
22:RA:536:A:C2	22:RA:558:G:C2	3.08	0.42
7:QG:70:LYS:HA	7:QG:71:PRO:HD2	1.89	0.42
2:QB:44:LEU:HD12	2:QB:44:LEU:H	1.83	0.42
4:QD:192:GLU:HG3	4:QD:192:GLU:H	1.56	0.42
1:XA:1420:C:H6	1:XA:1420:C:O5'	2.02	0.42
13:XM:121:LYS:HA	13:XM:121:LYS:HD3	1.90	0.42
22:RA:637:A:O5'	32:RP:116:GLY:HA2	2.19	0.42
22:YA:350:U:H2'	22:YA:351:G:O4'	2.20	0.42
1:QA:130:A:H5''	1:QA:190:G:O2'	2.19	0.42
22:RA:1553:A:N7	22:RA:1555:G:C5	2.87	0.42
22:YA:489:G:C5	22:YA:1284:A:C2	3.08	0.42
13:QM:4:ILE:H	13:QM:9:ILE:HG22	1.84	0.42
36:RT:26:ASP:HB3	36:RT:92:GLY:N	2.18	0.42
1:QA:945:G:C2	1:QA:946:A:C8	3.07	0.42
1:QA:687:A:N1	1:QA:704:A:N7	2.67	0.42
1:XA:580:U:H2'	1:XA:581:G:O4'	2.19	0.42
24:YD:35:LYS:HE3	24:YD:64:ILE:N	2.35	0.42
27:YG:64:THR:CG2	27:YG:66:GLN:H	2.28	0.42
1:QA:949:A:C4	1:QA:1233:G:N2	2.86	0.42
18:XR:43:PHE:CE2	18:XR:58:LEU:HD11	2.54	0.42
22:YA:2330:G:H2'	22:YA:2331:G:O4'	2.20	0.42
22:RA:266:G:C2	22:RA:267:C:H1'	2.55	0.42
28:RH:153:LYS:HD2	28:RH:153:LYS:N	2.33	0.42
40:RX:44:GLU:O	40:RX:48:LYS:N	2.52	0.42
22:YA:2532:G:H2'	22:YA:2533:A:C8	2.54	0.42
38:YV:65:GLY:O	38:YV:90:PRO:HA	2.20	0.42
22:YA:1215:G:C4	22:YA:1216:G:C8	3.08	0.42
29:RI:130:TYR:HA	29:RI:130:TYR:HD1	1.67	0.42
1:XA:1152:A:OP1	10:XJ:68:HIS:CD2	2.73	0.42
1:QA:616:G:C2	1:QA:617:G:C8	3.07	0.42
22:YA:229:A:HO2'	22:YA:230:U:P	2.42	0.42
1:QA:1442:G:C6	1:QA:1446:A:N6	2.87	0.42
4:XD:120:LEU:HD23	4:XD:120:LEU:HA	1.89	0.42
35:YS:81:GLY:O	35:YS:83:LYS:N	2.53	0.42
35:YS:83:LYS:NZ	35:YS:109:GLY:HA2	2.33	0.42
53:XV:15:G:N2	53:XV:48:C:H42	2.18	0.42
22:YA:2055:C:O2	22:YA:2572:A:N6	2.53	0.42
22:RA:2273:A:O2'	22:RA:2274:A:H5'	2.18	0.42
23:YB:39:A:C4	23:YB:44:G:N2	2.87	0.42
22:RA:443:A:H1'	22:RA:1201:C:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:474:G:H5''	16:QP:81:ARG:NE	2.34	0.42
51:Y8:60:LEU:C	51:Y8:63:PRO:HD2	2.40	0.42
48:R5:56:LYS:HB3	48:R5:56:LYS:HE3	1.79	0.42
1:XA:730:G:C6	1:XA:731:G:H1'	2.55	0.42
3:QC:59:ARG:HH12	3:QC:97:LYS:HE3	1.84	0.42
1:QA:1099:G:C6	1:QA:1100:C:N3	2.87	0.42
1:XA:127:G:N2	1:XA:234:C:O2	2.52	0.42
15:QO:87:ILE:HG22	15:QO:88:ARG:N	2.35	0.42
2:XB:19:HIS:CE1	2:XB:206:ASP:HB2	2.54	0.42
1:QA:259:G:H2'	1:QA:260:G:O4'	2.20	0.42
22:RA:628:G:HO2'	22:RA:651:G:HO2'	1.61	0.42
22:YA:1198:U:H2'	22:YA:1199:U:C6	2.55	0.42
22:RA:2698:U:H2'	22:RA:2699:C:C6	2.54	0.42
46:Y3:8:LEU:HB3	46:Y3:31:LEU:HA	2.01	0.42
1:XA:815:A:O2'	1:XA:1527:C:H1'	2.20	0.42
22:RA:1971:A:H5'	22:RA:1972:A:H5''	2.00	0.42
27:RG:173:LEU:O	27:RG:178:PHE:HB2	2.20	0.42
22:YA:18:C:O3'	37:YU:23:GLY:HA2	2.19	0.42
20:XT:50:GLU:HG3	20:XT:51:GLU:N	2.33	0.42
1:QA:1503:A:O2'	1:QA:1504:G:H5'	2.20	0.42
9:XI:91:ASP:C	9:XI:93:ARG:H	2.21	0.42
22:YA:2883:A:H3'	22:YA:2884:U:H5'	2.02	0.42
24:RD:96:HIS:NE2	24:RD:102:LYS:HE2	2.34	0.42
26:RF:182:ASN:O	26:RF:186:ILE:HG12	2.20	0.42
22:RA:1410:G:H3'	22:RA:1411:C:H6	1.85	0.42
39:RW:34:ASN:ND2	48:R5:39:MET:HG3	2.34	0.42
24:RD:123:ALA:HA	24:RD:124:PRO:HD2	1.77	0.42
42:RZ:29:TYR:HA	42:RZ:33:LEU:O	2.19	0.42
42:RZ:5:LEU:HB3	42:RZ:6:LYS:H	1.51	0.42
22:RA:693:C:O2'	22:RA:1353:A:N3	2.42	0.42
1:XA:179:A:H2'	1:XA:180:U:C6	2.55	0.42
51:R8:59:LYS:NZ	51:R8:59:LYS:HB2	2.35	0.42
1:XA:60:A:P	1:XA:60:A:H8	2.42	0.42
53:XV:45:G:H8	53:XV:45:G:O5'	2.02	0.42
37:YU:109:LEU:HD23	37:YU:109:LEU:HA	1.89	0.42
45:Y2:8:LYS:HB2	45:Y2:8:LYS:HE3	1.84	0.42
1:QA:1187:G:H2'	1:QA:1187:G:N3	2.35	0.42
5:QE:152:ARG:HG2	8:QH:79:VAL:HG13	2.02	0.42
36:YT:26:ASP:HB2	36:YT:91:ARG:HA	2.00	0.42
22:RA:802:A:C5	22:RA:803:U:C4	3.07	0.42
30:RN:35:ARG:HB2	30:RN:42:TRP:CZ3	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:32:LEU:HD22	3:XC:59:ARG:NH1	2.34	0.42
22:YA:442:G:C6	22:YA:444:C:C4	3.08	0.42
29:RI:7:GLU:HA	29:RI:15:VAL:HG13	2.01	0.42
1:XA:340:U:O2	1:XA:350:G:N2	2.53	0.42
22:YA:606:U:H4'	22:YA:658:C:H4'	2.02	0.42
24:YD:25:THR:HG22	24:YD:82:ILE:H	1.84	0.42
24:YD:25:THR:HG21	24:YD:81:ALA:HA	2.02	0.42
22:RA:754:C:O2'	22:RA:755:C:H5'	2.19	0.42
1:QA:37:U:H3	1:QA:397:A:H61	1.67	0.42
31:YO:21:CYS:O	31:YO:22:ILE:HD13	2.20	0.42
13:XM:77:ASN:HA	47:Y4:71:ARG:HH22	1.85	0.42
22:RA:1816:G:H8	24:RD:62:TYR:CZ	2.38	0.42
24:RD:33:LEU:HB3	24:RD:34:VAL:H	1.64	0.42
22:RA:862:G:H4'	23:RB:79:C:H4'	2.02	0.42
22:RA:719:C:H2'	22:RA:720:C:C6	2.55	0.42
22:YA:341:G:C5	22:YA:342:G:C8	3.08	0.42
22:YA:1871:A:H2'	22:YA:1872:A:C8	2.55	0.42
20:XT:39:LYS:H	20:XT:39:LYS:HG3	1.63	0.42
32:YP:36:LYS:HB3	32:YP:40:SER:CB	2.49	0.42
1:XA:1158:C:H4'	2:XB:133:LYS:HZ1	1.85	0.42
22:YA:1053:C:H5'	22:YA:1054:A:OP2	2.20	0.42
22:YA:300:A:OP1	41:YY:84:ARG:NH2	2.52	0.42
1:XA:663:A:H5'	1:XA:836:G:OP1	2.20	0.42
1:XA:1162:C:H2'	1:XA:1163:C:C6	2.55	0.42
22:YA:611:C:H2'	22:YA:612:G:O4'	2.19	0.42
22:RA:681:G:H2'	22:RA:682:G:O4'	2.19	0.42
7:XG:15:ASP:O	7:XG:19:GLY:HA2	2.20	0.42
42:RZ:13:GLU:HB3	42:RZ:18:LEU:HD11	2.01	0.42
22:RA:840:C:H2'	22:RA:841:A:H8	1.85	0.42
9:XI:4:TYR:CE1	9:XI:88:TYR:HB2	2.55	0.42
22:RA:565:C:H2'	22:RA:566:U:O4'	2.20	0.42
35:RS:78:LEU:HD23	35:RS:78:LEU:HA	1.86	0.42
1:QA:778:G:H2'	1:QA:779:C:O4'	2.19	0.42
22:YA:270(M):U:O2'	22:YA:270(N):G:O5'	2.34	0.42
49:R6:28:ARG:HB3	49:R6:30:THR:H	1.84	0.42
2:QB:60:ASP:O	2:QB:64:ARG:HG2	2.19	0.42
22:RA:1903:G:O2'	22:RA:1904:G:H5'	2.19	0.42
3:QC:56:ASP:O	3:QC:66:VAL:HA	2.19	0.42
22:RA:1122:G:H2'	22:RA:1123:C:H5'	2.01	0.42
28:RH:164:TYR:O	28:RH:166:GLY:N	2.52	0.42
47:Y4:68:ARG:HB2	47:Y4:69:LYS:H	1.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:YB:74:U:H2'	23:YB:75:G:O4'	2.19	0.42
28:RH:16:SER:OG	28:RH:26:VAL:O	2.30	0.42
30:YN:46:VAL:HG13	30:YN:48:MET:HG3	2.02	0.42
49:Y6:14:THR:HG21	49:Y6:19:ARG:HH21	1.85	0.42
37:RU:83:LEU:HD12	37:RU:113:ALA:HB2	2.01	0.42
1:QA:262:A:H2'	1:QA:263:A:C8	2.55	0.42
1:QA:719:C:O2'	18:QR:49:LYS:HB3	2.19	0.42
1:XA:1084:G:C5	1:XA:1085:U:C4	3.07	0.42
30:YN:137:LYS:HD2	30:YN:137:LYS:HA	1.77	0.42
41:RY:50:ARG:H	41:RY:50:ARG:HG2	1.67	0.42
1:QA:64:G:H4'	1:QA:65:U:H5'	2.00	0.42
22:RA:2778:A:H4'	22:RA:2779:U:OP1	2.18	0.42
22:YA:1824:G:H5''	24:YD:52:ARG:NH1	2.35	0.42
22:YA:470:A:H2'	22:YA:471:A:O4'	2.19	0.42
1:XA:1017:G:H2'	1:XA:1018:C:C6	2.54	0.42
22:YA:1353:A:C5	22:YA:1378:A:C5	3.08	0.42
22:YA:1728:G:H5'	22:YA:1729:A:OP2	2.20	0.42
22:YA:1728:G:H8	22:YA:1732:A:H62	1.68	0.42
22:RA:1448:G:H2'	22:RA:1449:A:C8	2.55	0.42
1:XA:448:A:C4	1:XA:487:A:C2	3.07	0.42
1:XA:487:A:H2'	1:XA:488:C:O4'	2.19	0.42
1:QA:347:G:O2'	1:QA:348:G:OP2	2.27	0.42
42:RZ:180:VAL:HG23	42:RZ:181:GLU:H	1.85	0.42
22:RA:2580:U:C5	22:RA:2581:G:C6	3.08	0.42
1:QA:1316:G:N2	1:QA:1319:A:H5''	2.28	0.42
35:YS:106:ARG:HA	35:YS:110:LEU:CD2	2.47	0.42
1:QA:1318:A:C5'	19:QS:11:VAL:HG11	2.50	0.42
22:YA:1627:G:C2	22:YA:1628:G:C8	3.08	0.42
22:RA:318:C:H2'	22:RA:319:C:C6	2.54	0.42
1:XA:988:G:C2	1:XA:1218:C:C2	3.07	0.42
1:QA:575:G:O2'	1:QA:821:G:H5'	2.20	0.42
44:R1:90:ILE:O	44:R1:94:LEU:HB2	2.20	0.42
27:RG:6:ALA:N	47:R4:23:GLU:HG2	2.31	0.42
2:QB:92:TYR:CD1	2:QB:151:GLY:HA3	2.55	0.42
32:RP:100:LEU:HD22	32:RP:100:LEU:HA	1.77	0.42
1:XA:68:G:C2	1:XA:69:G:C4	3.07	0.42
25:RE:188:VAL:HG23	25:RE:189:PRO:HD2	2.01	0.42
22:RA:2883:A:H3'	22:RA:2884:U:H5'	2.01	0.42
23:RB:75:G:N1	23:RB:102:G:N2	2.68	0.42
1:XA:503:C:H2'	1:XA:504:C:C6	2.53	0.42
48:R5:56:LYS:H	48:R5:56:LYS:CD	2.31	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:88:ALA:HB2	2:QB:219:VAL:HG13	2.02	0.42
8:XH:121:ASP:N	8:XH:121:ASP:OD1	2.46	0.42
22:RA:343:C:H5'	22:RA:344:G:OP2	2.19	0.42
1:QA:137:C:N3	1:QA:226:G:N2	2.51	0.42
22:RA:2532:G:N2	22:RA:2663:G:O2'	2.53	0.42
13:QM:40:ASN:HA	13:QM:41:PRO:HD3	1.89	0.42
22:RA:2754:U:H2'	22:RA:2755:C:H5''	2.02	0.42
1:XA:444:C:H2'	1:XA:445:G:H8	1.84	0.42
1:XA:1216:G:H5''	14:XN:5:ALA:CB	2.49	0.42
22:RA:2791:C:H42	22:RA:2803:C:N4	2.17	0.42
25:RE:78:LEU:HG	25:RE:79:ARG:NE	2.35	0.42
4:QD:11:LEU:HD22	4:QD:66:ARG:HD3	2.02	0.42
22:YA:1889:A:C6	22:YA:1890:A:C6	3.08	0.42
22:RA:2636:U:H2'	22:RA:2637:U:H6	1.84	0.42
22:RA:1701:A:H5''	22:RA:1702:G:OP2	2.19	0.42
18:QR:53:ARG:HE	18:QR:59:SER:C	2.22	0.42
29:YI:7:GLU:HA	29:YI:15:VAL:HG12	2.00	0.42
22:YA:2875:C:H4'	36:YT:5:ALA:HB2	2.01	0.42
1:QA:693:G:C6	1:QA:694:A:C5	3.08	0.42
34:RR:63:ARG:HA	34:RR:80:PHE:CZ	2.54	0.42
27:RG:151:ALA:HB3	27:RG:153:ARG:NH1	2.35	0.42
29:RI:86:THR:HA	29:RI:123:LEU:HD12	2.01	0.42
22:YA:753:C:H2'	22:YA:754:C:H6	1.85	0.42
24:YD:89:SER:O	24:YD:198:ASN:ND2	2.52	0.42
1:QA:830:G:C6	1:QA:831:U:N3	2.88	0.42
15:QO:2:PRO:HB2	15:QO:3:ILE:H	1.56	0.42
22:YA:1039:G:H2'	22:YA:1040:C:C6	2.54	0.42
39:RW:75:TYR:CZ	39:RW:104:THR:HG21	2.54	0.42
45:R2:70:GLN:O	45:R2:71:ASN:HB2	2.19	0.42
36:RT:51:ARG:HG3	36:RT:98:LYS:HG3	2.02	0.42
27:RG:116:ASP:N	27:RG:116:ASP:OD1	2.53	0.42
22:YA:2271:G:H8	22:YA:2271:G:O5'	2.03	0.42
28:YH:30:LYS:HE2	28:YH:81:GLU:H	1.85	0.42
22:RA:2406:U:N3	32:RP:73:GLY:O	2.39	0.42
3:QC:36:ASP:HA	3:QC:39:ILE:HD12	2.02	0.42
1:QA:888:G:O2'	1:QA:1488:G:O2'	2.35	0.42
22:YA:1252:G:C2	22:YA:1253:A:C2	3.08	0.42
40:YX:84:ALA:HB1	40:YX:85:PRO:HD2	2.02	0.42
1:XA:1299:A:C2'	1:XA:1301:U:H1'	2.34	0.42
22:YA:648:G:H2'	22:YA:649:G:C8	2.55	0.42
22:RA:242:G:C8	51:R8:5:LYS:HG2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:352:C:H4'	1:XA:354:G:OP1	2.20	0.42
1:XA:951:G:H1'	1:XA:970:C:O2'	2.20	0.42
9:XI:125:TYR:HD2	9:XI:126:SER:H	1.68	0.42
22:YA:2163:C:N4	22:YA:2164:C:H41	2.18	0.42
53:QV:6:G:H1	53:QV:67:C:N4	2.05	0.42
3:XC:91:LEU:O	3:XC:95:THR:OG1	2.19	0.42
35:RS:14:VAL:HG11	35:RS:90:GLY:O	2.19	0.42
1:XA:1369:C:H2'	1:XA:1370:G:C8	2.55	0.42
25:RE:34:VAL:HG23	25:RE:64:LYS:HZ2	1.85	0.42
24:YD:34:VAL:HG22	24:YD:35:LYS:HG3	2.00	0.42
25:YE:167:VAL:HG21	25:YE:187:ALA:HB1	2.01	0.42
22:RA:959:A:C6	22:RA:960:A:N1	2.88	0.42
22:YA:1586:A:H3'	22:YA:1587:A:C8	2.45	0.42
19:XS:78:ARG:HG2	19:XS:78:ARG:H	1.56	0.42
22:RA:1977:A:N6	22:RA:1978:A:C6	2.88	0.42
1:XA:327:A:C6	1:XA:329:A:C5	3.07	0.42
22:RA:64:A:H2'	22:RA:65:C:O4'	2.19	0.42
22:RA:414:C:H2'	22:RA:415:A:C8	2.55	0.42
1:XA:1321:C:H5''	1:XA:1322:C:H5'	2.02	0.42
12:QL:38:THR:HG21	12:QL:65:GLU:OE2	2.19	0.42
1:XA:1524:C:N4	1:XA:1525:G:O6	2.53	0.42
22:RA:2745:C:N4	22:RA:2759:G:H1	2.17	0.42
22:RA:2718:G:C6	22:RA:2719:G:C5	3.08	0.42
29:YI:130:TYR:HD1	29:YI:130:TYR:HA	1.71	0.42
42:RZ:109:ALA:O	42:RZ:112:ARG:HB2	2.19	0.42
42:YZ:37:VAL:HG23	42:YZ:38:TYR:N	2.35	0.42
22:RA:1344:G:C2	22:RA:1404:C:C2	3.08	0.42
22:RA:373:U:O2	22:RA:373:U:H2'	2.19	0.42
22:YA:1832:C:N4	22:YA:1833:U:C4	2.87	0.42
10:QJ:81:THR:C	10:QJ:83:GLU:H	2.23	0.42
1:QA:909:A:H2'	1:QA:910:C:O4'	2.18	0.42
26:RF:184:TYR:O	26:RF:188:ARG:HG3	2.19	0.42
1:QA:32:A:C2	1:QA:33:A:C4	3.07	0.42
48:Y5:31:VAL:HG13	48:Y5:42:PRO:HG3	2.01	0.42
35:YS:30:ARG:NH2	35:YS:92:TYR:CD1	2.87	0.42
22:YA:196:A:O2'	22:YA:805:G:O6	2.16	0.42
1:QA:358:U:H6	1:QA:358:U:O5'	2.03	0.42
22:YA:396:G:O5'	22:YA:396:G:H8	2.03	0.42
11:QK:48:ILE:HG23	11:QK:63:LEU:HD22	2.01	0.42
22:YA:1449:A:N6	22:YA:1449(A):G:C4	2.88	0.42
1:XA:298:A:H2'	1:XA:299:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1668:A:O4'	22:YA:1669:A:C2	2.73	0.42
1:XA:1434:A:H2'	1:XA:1435:G:O4'	2.20	0.42
1:XA:157:G:H2'	1:XA:158:G:C8	2.55	0.42
32:RP:20:GLY:HA2	32:RP:27:HIS:O	2.19	0.42
11:QK:41:THR:HG22	11:QK:42:TRP:N	2.34	0.42
47:Y4:16:CYS:SG	47:Y4:36:CYS:HB3	2.59	0.42
22:RA:1668:A:C8	22:RA:1674:G:C6	3.07	0.42
22:RA:1752:C:H5''	22:RA:2862:G:H5'	2.00	0.42
22:RA:784:A:O2'	22:RA:785:G:H5''	2.20	0.42
51:Y8:44:LYS:N	51:Y8:44:LYS:HD2	2.34	0.42
30:RN:10:GLU:HA	30:RN:11:PRO:HD3	1.65	0.42
29:YI:63:ALA:HA	29:YI:66:GLU:HG2	2.02	0.42
11:XK:109:VAL:HG11	18:XR:84:LYS:HD3	2.02	0.42
46:R3:35:ARG:HB3	46:R3:37:LEU:HD21	2.01	0.42
2:QB:130:ARG:HA	2:QB:131:PRO:HD3	1.81	0.42
22:RA:691:C:O2'	22:RA:692:C:H5'	2.19	0.42
1:QA:1527:C:O2'	1:QA:1528:U:H5'	2.20	0.42
43:Y0:48:GLY:N	43:Y0:79:VAL:O	2.46	0.42
24:YD:221:VAL:HG22	24:YD:226:MET:CE	2.49	0.42
22:YA:136:G:H2'	22:YA:137:C:H6	1.85	0.42
47:R4:55:ARG:O	47:R4:59:PHE:HB3	2.20	0.42
8:QH:59:LEU:O	8:QH:61:VAL:HG23	2.20	0.42
5:XE:79:GLU:H	5:XE:79:GLU:HG3	1.46	0.42
1:XA:282:A:OP2	1:XA:283:C:N4	2.36	0.42
1:QA:842:C:O2'	1:QA:848:C:N4	2.53	0.42
22:YA:2747:G:O6	22:YA:2755:C:H5''	2.19	0.42
35:YS:38:GLN:HG3	35:YS:47:THR:HG21	2.02	0.42
22:YA:1374:G:H2'	22:YA:1375:C:C6	2.55	0.42
13:XM:3:ARG:HG3	13:XM:9:ILE:HG21	2.02	0.42
41:YY:51:VAL:HG23	41:YY:57:GLN:N	2.35	0.42
22:YA:2469:A:C8	22:YA:2482:G:C4	3.08	0.42
24:RD:43:ARG:HB2	24:RD:54:ARG:HB2	2.02	0.42
22:YA:1077:A:H3'	22:YA:1078:U:H5''	2.02	0.42
22:RA:774:A:HO2'	22:RA:775:G:P	2.41	0.42
22:RA:774:A:O2'	22:RA:775:G:H8	2.02	0.42
42:RZ:150:LEU:H	42:RZ:150:LEU:HD22	1.84	0.42
1:XA:606:G:N2	1:XA:631:G:C8	2.88	0.42
1:QA:411:A:C4	1:QA:413:G:H1'	2.53	0.42
32:YP:29:LYS:HD2	32:YP:30:THR:CG2	2.50	0.42
37:RU:58:ARG:NH1	37:RU:93:LYS:HE2	2.35	0.42
2:QB:27:LYS:HD2	2:QB:193:ASP:CB	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2422:A:H4'	22:YA:2423:U:OP1	2.19	0.42
44:R1:85:LEU:HA	44:R1:87:PRO:HD2	2.01	0.42
1:XA:1367:C:OP1	9:XI:115:GLY:N	2.47	0.42
29:RI:102:SER:C	29:RI:104:GLN:H	2.23	0.42
22:YA:1952:A:C6	22:YA:1953:A:C6	3.08	0.42
24:RD:35:LYS:HB3	24:RD:36:PRO:HA	2.01	0.42
10:XJ:3:LYS:HB2	10:XJ:75:ILE:O	2.19	0.42
22:RA:804:A:H2'	22:RA:806:C:C4	2.55	0.42
14:QN:23:ARG:NH1	14:QN:30:ALA:HB2	2.35	0.42
25:YE:144:ARG:HB3	25:YE:145:LYS:H	1.45	0.42
22:YA:2170:A:H2'	22:YA:2171:A:O4'	2.20	0.42
28:RH:105:LEU:HD22	28:RH:113:VAL:HB	2.01	0.42
1:XA:982:U:H5''	14:YN:6:LEU:HD21	2.02	0.42
22:RA:2630:G:H2'	22:RA:2631:G:C8	2.55	0.42
22:RA:227:A:C5	22:RA:2407:G:O4'	2.73	0.42
3:QC:134:ILE:HD11	3:QC:153:VAL:HG21	2.02	0.42
33:YQ:85:LYS:O	33:YQ:86:GLY:C	2.58	0.42
1:XA:658:G:C2	1:XA:749:C:N3	2.88	0.42
22:YA:2396:G:OP1	44:Y1:25:LYS:NZ	2.52	0.42
22:YA:1162:G:H2'	22:YA:1163:G:C8	2.52	0.42
22:RA:2400:G:N2	22:RA:2417:C:C2	2.88	0.42
34:YR:2:ARG:HG2	34:YR:5:LYS:NZ	2.35	0.42
22:RA:1306:C:C2	22:RA:1623:G:C2	3.08	0.42
22:YA:254:G:O6	51:Y8:5:LYS:HG2	2.19	0.42
4:QD:63:LYS:HE3	4:QD:63:LYS:HB2	1.77	0.42
1:QA:401:C:O2'	1:QA:621:A:N3	2.50	0.42
1:QA:1363:A:H1'	1:QA:1365:G:N7	2.35	0.42
28:RH:125:VAL:HA	28:RH:126:PRO:HA	1.90	0.42
22:YA:2556:C:H2'	22:YA:2557:G:O4'	2.20	0.42
51:Y8:26:LYS:HB3	51:Y8:44:LYS:HG3	2.01	0.42
22:RA:188:G:H1	22:RA:208:C:H42	1.67	0.42
7:QG:13:GLN:O	7:QG:24:THR:HG21	2.20	0.42
40:YX:26:TYR:HB3	40:YX:92:LEU:HD12	2.02	0.42
4:QD:165:MET:SD	4:QD:168:ARG:HD2	2.60	0.42
1:QA:807:A:H2'	1:QA:808:C:O4'	2.19	0.42
8:QH:54:ASP:N	8:QH:54:ASP:OD1	2.53	0.42
30:YN:59:LYS:HE3	30:YN:61:ARG:HH22	1.84	0.42
22:RA:725:G:H8	22:RA:725:G:O5'	2.03	0.42
22:RA:69:C:O5'	22:RA:69:C:H6	2.03	0.42
26:RF:46:ARG:HH11	26:RF:46:ARG:HG2	1.84	0.42
22:RA:2209:C:O2	22:RA:2216:G:C2	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:171:GLY:HA2	4:QD:172:PRO:HD3	1.87	0.42
26:RF:93:LYS:HB3	26:RF:94:PRO:HD2	2.01	0.42
47:Y4:37:SER:HB3	47:Y4:42:PHE:HB3	2.00	0.41
51:R8:23:VAL:CG1	51:R8:46:ARG:HD3	2.49	0.41
41:YY:96:ILE:HG13	41:YY:98:VAL:H	1.85	0.41
22:RA:996:A:OP2	37:RU:92:ARG:NH2	2.53	0.41
22:YA:1085:A:O2'	22:YA:1086:A:P	2.78	0.41
29:RI:29:TYR:O	29:RI:32:PRO:HD2	2.19	0.41
22:YA:1587:A:H2'	22:YA:1588:C:C6	2.56	0.41
22:RA:1040:C:H2'	22:RA:1041:C:H6	1.85	0.41
22:RA:1113:U:H2'	22:RA:1114:G:C8	2.54	0.41
29:RI:132:PRO:HB2	29:RI:133:HIS:ND1	2.34	0.41
48:Y5:56:LYS:CD	48:Y5:56:LYS:H	2.30	0.41
22:YA:2146:C:H6	22:YA:2146:C:OP2	2.03	0.41
22:RA:2723:C:OP2	25:RE:109:LYS:NZ	2.52	0.41
14:QN:29:ARG:HG2	14:QN:31:ARG:O	2.20	0.41
22:YA:142:G:H1'	40:YX:37:THR:CG2	2.50	0.41
22:RA:1794:U:H2'	22:RA:1795:C:C6	2.55	0.41
24:RD:101:GLU:OE1	24:RD:103:ARG:NH1	2.53	0.41
1:QA:735:C:H2'	1:QA:736:C:C6	2.55	0.41
1:XA:200:G:H1	1:XA:217:C:N4	2.18	0.41
24:YD:232:PRO:HB3	24:YD:244:ARG:CZ	2.50	0.41
1:XA:1147:C:O2	9:XI:16:ARG:NH1	2.52	0.41
22:RA:1466:G:N2	22:RA:1547:C:C2	2.88	0.41
13:XM:20:THR:O	13:XM:22:ILE:N	2.51	0.41
8:QH:51:VAL:HG21	8:QH:60:ARG:HG2	2.02	0.41
22:YA:2019:A:C4'	37:YU:34:LYS:HD2	2.50	0.41
2:QB:230:VAL:HB	2:QB:231:GLU:H	1.60	0.41
32:YP:82:GLY:HA3	32:YP:115:LEU:HD21	2.01	0.41
22:YA:1480:G:C6	22:YA:1482:U:C4	3.08	0.41
22:RA:2666:C:H5"	22:RA:2667:C:OP2	2.20	0.41
38:YV:72:VAL:HG13	38:YV:85:LYS:HG2	2.01	0.41
22:RA:1702:G:H2'	22:RA:1703:G:O4'	2.19	0.41
1:XA:1469:G:H2'	1:XA:1470:G:H8	1.84	0.41
8:QH:54:ASP:O	8:QH:56:LYS:HG3	2.20	0.41
22:RA:2043:C:C2	22:RA:2044:C:C5	3.08	0.41
29:YI:69:LYS:HE2	29:YI:73:GLU:OE1	2.20	0.41
13:XM:16:ASP:HB3	13:XM:41:PRO:HB3	2.01	0.41
8:QH:38:ILE:HD12	8:QH:118:VAL:HG12	2.02	0.41
31:RO:7:TYR:CE1	31:RO:20:MET:HB2	2.55	0.41
1:QA:151:A:H2'	1:QA:152:A:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2080:G:C5	22:RA:2081:C:C5	3.08	0.41
22:YA:2620:C:H2'	22:YA:2621:A:O4'	2.19	0.41
22:YA:1488:G:N2	22:YA:1502:C:C2	2.87	0.41
1:XA:1523:G:OP1	11:XK:123:LYS:NZ	2.44	0.41
47:Y4:39:CYS:O	47:Y4:40:HIS:HB2	2.20	0.41
4:XD:127:THR:HA	4:XD:132:ARG:HA	2.02	0.41
22:RA:1440:G:H2'	22:RA:1441:G:H8	1.84	0.41
26:RF:78:ILE:HG13	26:RF:78:ILE:H	1.66	0.41
1:XA:938:A:O5'	1:XA:938:A:H8	2.02	0.41
42:YZ:70:LEU:HD23	42:YZ:70:LEU:HA	1.65	0.41
37:YU:30:LYS:HA	37:YU:30:LYS:HD3	1.90	0.41
22:YA:2659:G:O2'	22:YA:2661:G:N7	2.40	0.41
53:QV:23:C:H2'	53:QV:24:U:H6	1.84	0.41
50:R7:47:ARG:HB2	50:R7:48:LYS:H	1.68	0.41
32:RP:63:PRO:HA	51:R8:13:ARG:HB3	2.02	0.41
22:YA:1729:A:N6	22:YA:1731:G:C2	2.88	0.41
22:RA:2838:G:C6	22:RA:2839:G:C5	3.08	0.41
22:YA:74:A:H5'	22:YA:75:G:O4'	2.19	0.41
30:YN:35:ARG:HB2	30:YN:42:TRP:CZ3	2.55	0.41
1:QA:947:G:H2'	1:QA:948:C:O4'	2.20	0.41
30:YN:65:LYS:O	30:YN:69:GLN:HG2	2.19	0.41
22:YA:307:G:O5'	22:YA:307:G:H8	2.02	0.41
22:RA:1248:G:C5	37:RU:3:ARG:HB2	2.55	0.41
22:YA:363(A):A:H2'	22:YA:363(B):G:C8	2.55	0.41
47:Y4:24:THR:OG1	47:Y4:25:TYR:N	2.53	0.41
42:YZ:152:ALA:HA	42:YZ:167:PRO:HB2	2.03	0.41
1:XA:339:C:H2'	1:XA:340:U:C6	2.55	0.41
1:XA:977:A:C8	1:XA:1223:C:C4	3.08	0.41
22:RA:409:C:H2'	22:RA:410:G:H8	1.84	0.41
27:RG:47:LYS:HD3	27:RG:81:LYS:CB	2.49	0.41
22:YA:2531:A:H2'	22:YA:2532:G:C8	2.54	0.41
1:XA:253:U:H2'	1:XA:254:G:H8	1.84	0.41
19:QS:28:LYS:HA	19:QS:47:HIS:HE1	1.86	0.41
22:YA:593:G:C4'	51:Y8:4:MET:HE1	2.50	0.41
22:YA:230:U:H2'	22:YA:231:C:H6	1.86	0.41
11:QK:120:ARG:HA	11:QK:121:PRO:HD3	1.87	0.41
1:QA:44:G:N1	1:QA:45:U:O2	2.53	0.41
1:XA:691:G:H2'	1:XA:692:U:C6	2.55	0.41
1:XA:262:A:C6	1:XA:263:A:C6	3.08	0.41
22:YA:1204:A:C2	22:YA:1241:A:N1	2.84	0.41
22:RA:1392:A:C6	22:RA:1393:A:C6	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:746:A:H2'	1:QA:747:C:C6	2.55	0.41
22:RA:534:U:H2'	22:RA:535:C:C6	2.55	0.41
22:YA:2740:A:H2'	22:YA:2741:A:C8	2.55	0.41
22:RA:551:G:O4'	22:RA:1220:A:N3	2.53	0.41
22:YA:654:A:HO2'	22:YA:654(A):G:P	2.44	0.41
24:YD:245:PRO:HA	24:YD:246:PRO:HD3	1.87	0.41
22:YA:389:G:H22	32:YP:72:PRO:CG	2.33	0.41
22:RA:2320:A:C8	22:RA:2333:A:N6	2.88	0.41
1:QA:187:C:H2'	1:QA:188:U:O4'	2.20	0.41
22:RA:1620:G:H2'	22:RA:1621:U:H6	1.83	0.41
22:YA:2261:C:OP1	43:Y0:17:GLN:HB2	2.19	0.41
22:YA:1657:C:H2'	22:YA:1658:C:H6	1.84	0.41
22:YA:519:U:H2'	22:YA:520:G:C8	2.54	0.41
1:QA:824:C:H2'	1:QA:825:G:H8	1.83	0.41
34:YR:3:HIS:O	34:YR:5:LYS:N	2.53	0.41
9:XI:40:LEU:O	9:XI:42:ARG:N	2.48	0.41
26:RF:177:ALA:HB1	26:RF:178:PRO:HD2	2.02	0.41
22:YA:1956:U:H2'	22:YA:1957:C:H5'	2.01	0.41
22:RA:189:G:H2'	22:RA:205:G:N2	2.35	0.41
1:XA:1171:G:H2'	1:XA:1172:C:H6	1.84	0.41
23:YB:63:G:C6	23:YB:64:C:C4	3.08	0.41
22:YA:422:A:C6	22:YA:423:A:C6	3.08	0.41
22:RA:336:C:H2'	22:RA:337:C:H6	1.83	0.41
22:YA:1483:G:C6	22:YA:1507:A:C8	3.08	0.41
1:QA:270:A:C5	1:QA:271:C:C4	3.08	0.41
29:YI:23:PRO:O	29:YI:27:ARG:HG2	2.20	0.41
22:YA:875:G:H2'	22:YA:876:C:O4'	2.20	0.41
22:RA:460:A:C2	22:RA:470:A:C4	3.08	0.41
26:RF:113:ALA:HB1	26:RF:186:ILE:HG21	2.02	0.41
22:YA:1824:G:OP1	24:YD:52:ARG:HD3	2.21	0.41
8:QH:36:LEU:HD12	8:QH:59:LEU:HD13	2.02	0.41
42:RZ:125:LEU:HD23	42:RZ:164:ALA:O	2.21	0.41
29:YI:6:LEU:HD13	29:YI:36:ALA:HA	2.01	0.41
18:QR:56:THR:HB	18:QR:58:LEU:CD1	2.50	0.41
27:YG:86:MET:HA	27:YG:87:PRO:HD2	1.95	0.41
15:QO:31:LEU:O	15:QO:35:ARG:HG3	2.20	0.41
14:QN:4:LYS:O	14:QN:7:ILE:HG12	2.20	0.41
22:RA:2531:A:H4'	28:RH:157:TYR:CE2	2.55	0.41
18:XR:38:GLU:O	18:XR:42:ARG:NH1	2.53	0.41
46:R3:7:LYS:HA	46:R3:33:GLN:O	2.20	0.41
1:QA:15:G:H2'	1:QA:16:A:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RY:39:VAL:HB	41:RY:40:GLU:H	1.57	0.41
16:XP:60:LEU:HD23	16:XP:60:LEU:HA	1.80	0.41
4:QD:169:LYS:HE2	4:QD:169:LYS:HB3	1.88	0.41
22:YA:1173:G:H5''	22:YA:1174:A:OP1	2.20	0.41
44:Y1:89:GLU:HA	44:Y1:93:GLU:HB2	2.02	0.41
26:RF:129:PHE:O	26:RF:130:ALA:HB3	2.20	0.41
30:YN:7:LYS:H	30:YN:7:LYS:HD2	1.84	0.41
50:Y7:47:ARG:HE	50:Y7:47:ARG:HB2	1.58	0.41
22:RA:581:C:H2'	22:RA:582:G:C8	2.55	0.41
41:RY:88:LYS:HA	41:RY:88:LYS:NZ	2.35	0.41
1:XA:1352:C:OP1	21:XU:3:LYS:NZ	2.47	0.41
1:QA:407:G:H2'	1:QA:408:A:C8	2.56	0.41
22:YA:1337:G:H2'	22:YA:1338:G:O4'	2.20	0.41
20:XT:53:LEU:HD12	20:XT:100:ILE:HG23	2.02	0.41
22:YA:2777:G:OP2	22:YA:2781:A:O2'	2.22	0.41
1:XA:114:U:H1'	1:XA:353:A:H1'	2.01	0.41
22:YA:2657:A:H1'	22:YA:2665:A:N6	2.35	0.41
27:RG:6:ALA:HB3	27:RG:104:GLU:OE2	2.20	0.41
22:RA:65:C:H1'	22:RA:456:C:H42	1.84	0.41
1:XA:1367:C:OP2	9:XI:112:LYS:NZ	2.47	0.41
1:XA:1368:G:H5''	9:XI:112:LYS:HB3	2.01	0.41
22:YA:1216:G:P	37:YU:12:ARG:HH21	2.43	0.41
16:QP:53:VAL:O	16:QP:57:ARG:HG2	2.21	0.41
22:RA:1204:A:H2	22:RA:1241:A:C2	2.38	0.41
1:QA:371:G:H1	1:QA:390:C:H42	1.69	0.41
40:RX:40:LYS:C	40:RX:42:ALA:H	2.23	0.41
53:XV:20:U:H2'	53:XV:21:A:H5'	2.01	0.41
1:QA:230:G:N2	1:QA:231:G:C4	2.88	0.41
22:RA:731:C:H2'	22:RA:732:C:H6	1.84	0.41
9:XI:46:ALA:HB2	9:XI:74:ILE:HG23	2.02	0.41
22:RA:1342:A:C5	22:RA:1397:U:C6	3.08	0.41
32:RP:81:GLN:HG2	32:RP:106:LEU:HD23	2.02	0.41
35:RS:108:GLY:O	35:RS:110:LEU:HG	2.20	0.41
23:RB:44:G:C2	23:RB:48:A:C2	3.08	0.41
2:QB:219:VAL:O	2:QB:223:ILE:HG13	2.19	0.41
22:RA:2266:A:H5'	22:RA:2267:A:N7	2.35	0.41
22:RA:297:C:H5''	41:RY:85:VAL:CG2	2.50	0.41
1:QA:1194:U:H4'	5:QE:22:GLY:O	2.20	0.41
28:RH:10:PRO:HD2	28:RH:50:VAL:O	2.20	0.41
8:QH:20:TYR:CE2	8:QH:75:ARG:HD2	2.54	0.41
26:RF:178:PRO:HB2	26:RF:201:VAL:CG1	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:RH:4:ILE:HB	28:RH:6:ARG:HG2	2.02	0.41
12:QL:27:LEU:HG	12:QL:62:SER:HB3	2.01	0.41
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	2.02	0.41
53:QV:19:G:C4	53:QV:57:A:C2	3.08	0.41
8:XH:104:ARG:HD2	8:XH:138:TRP:CG	2.56	0.41
22:RA:750:A:C4	22:RA:753:C:H1'	2.56	0.41
1:XA:1372:U:H5''	9:XI:71:SER:HB3	2.02	0.41
1:XA:540:G:H2'	1:XA:541:G:O4'	2.18	0.41
22:RA:571:A:C5	22:RA:575:A:C8	3.08	0.41
22:YA:1001:A:H2'	22:YA:1002:G:O4'	2.20	0.41
31:RO:73:ASP:OD2	36:RT:32:TYR:OH	2.28	0.41
1:QA:224:C:H2'	1:QA:225:C:H6	1.85	0.41
22:RA:872:A:C6	22:RA:906:G:C2	3.08	0.41
22:YA:935:C:H2'	22:YA:936:C:C6	2.55	0.41
38:YV:22:VAL:HG12	38:YV:23:GLU:H	1.85	0.41
30:YN:18:ALA:HB3	30:YN:55:VAL:O	2.19	0.41
8:QH:12:ARG:NH1	8:QH:27:PRO:HD2	2.35	0.41
22:RA:2423:U:OP2	49:R6:5:VAL:HG23	2.20	0.41
22:RA:1785:A:N7	22:RA:1787:A:C5	2.88	0.41
27:YG:165:THR:OG1	27:YG:168:GLU:HG3	2.21	0.41
28:YH:19:VAL:HG22	28:YH:24:VAL:HG12	2.02	0.41
33:RQ:40:ALA:O	33:RQ:42:ILE:HD12	2.21	0.41
5:QE:47:LYS:HB2	5:QE:47:LYS:HE2	1.82	0.41
1:XA:1160:G:H2'	1:XA:1160:G:N3	2.35	0.41
25:RE:76:ARG:HD2	25:RE:76:ARG:N	2.35	0.41
26:YF:117:ARG:HD2	26:YF:120:GLU:OE2	2.20	0.41
1:XA:739:C:HO2'	15:XO:42:HIS:CE1	2.38	0.41
16:XP:56:ALA:HB1	16:XP:74:LEU:HD13	2.02	0.41
22:RA:462:C:C4	22:RA:463:G:N7	2.88	0.41
33:RQ:58:PHE:HD1	33:RQ:61:GLY:HA3	1.85	0.41
22:YA:2749:A:C5	22:YA:2750:A:N7	2.88	0.41
33:RQ:68:ILE:HD13	33:RQ:103:MET:HG2	2.02	0.41
29:RI:52:ARG:O	29:RI:56:LYS:HB3	2.19	0.41
13:XM:12:ASN:N	13:XM:45:VAL:HG13	2.35	0.41
22:YA:2207:C:H2'	22:YA:2208:U:O4'	2.20	0.41
33:YQ:54:MET:HB3	33:YQ:64:ILE:HD13	2.01	0.41
1:XA:1301:U:O2'	1:XA:1302:U:OP1	2.31	0.41
13:QM:7:VAL:HB	27:RG:115:ARG:HH11	1.84	0.41
22:RA:1526:G:C6	22:RA:1527:G:C2	3.09	0.41
38:RV:76:LYS:HB2	38:RV:81:TYR:HB3	2.01	0.41
22:YA:811:U:O2'	32:YP:21:ARG:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:125:TYR:HD2	9:XI:126:SER:N	2.18	0.41
22:YA:2115:G:H4'	22:YA:2166:G:H4'	2.01	0.41
22:RA:675:A:N6	22:RA:676:A:N6	2.68	0.41
22:RA:304:G:C2	22:RA:314:A:C2	3.08	0.41
1:XA:134:A:N6	16:XP:25:ARG:NH1	2.61	0.41
22:YA:1022:G:C5	22:YA:1140:C:N4	2.88	0.41
35:YS:107:GLU:N	35:YS:110:LEU:HD11	2.35	0.41
22:YA:1411:C:H5'	22:YA:1412:A:OP2	2.20	0.41
22:YA:1287:A:C5	22:YA:1288:U:C4	3.09	0.41
19:XS:40:ILE:CG1	19:XS:41:VAL:HG13	2.47	0.41
43:Y0:7:LEU:O	53:XV:2:G:H4'	2.20	0.41
22:YA:1166:C:H2'	22:YA:1167:U:C6	2.55	0.41
1:XA:191:G:C4	20:XT:105:SER:HB3	2.54	0.41
33:RQ:17:LEU:HD21	33:RQ:41:TRP:HD1	1.84	0.41
1:XA:895:G:H2'	1:XA:896:C:C6	2.55	0.41
23:YB:80:U:H3	23:YB:96:G:H1	1.69	0.41
23:YB:82:G:N3	23:YB:83:G:C8	2.88	0.41
42:YZ:158:PRO:HA	42:YZ:159:PRO:HD2	1.82	0.41
22:RA:918:A:H1'	23:RB:80:U:O2'	2.20	0.41
22:YA:2720:U:H2'	22:YA:2721:A:H8	1.86	0.41
1:XA:503:C:O2'	1:XA:504:C:H5'	2.20	0.41
22:RA:74:A:H8	22:RA:74:A:O5'	2.04	0.41
1:QA:752:G:H1'	1:QA:754:C:H41	1.84	0.41
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.84	0.41
1:XA:44:G:C2	1:XA:45:U:H1'	2.56	0.41
23:YB:32:C:C2	23:YB:51:G:N2	2.88	0.41
1:QA:943:U:H1'	9:QI:124:GLN:HE22	1.86	0.41
22:YA:2078:C:H42	22:YA:2241:A:N6	2.18	0.41
9:QI:111:ARG:HG2	9:QI:112:LYS:N	2.35	0.41
23:YB:42:C:H5''	27:YG:69:ALA:HB2	2.00	0.41
22:YA:1654:A:OP2	34:YR:2:ARG:HD2	2.20	0.41
27:YG:166:ASP:N	27:YG:166:ASP:OD1	2.54	0.41
11:XK:18:ARG:HA	11:XK:81:ASP:H	1.86	0.41
35:YS:51:ALA:HB1	35:YS:69:VAL:HG23	2.03	0.41
53:QV:4:G:C4	53:QV:5:G:C8	3.09	0.41
22:RA:1651:G:OP2	34:RR:40:LYS:NZ	2.53	0.41
22:RA:2212:A:H1'	22:RA:2215:G:C4	2.56	0.41
22:RA:17:G:C6	22:RA:18:C:N4	2.88	0.41
16:XP:17:TYR:HE1	16:XP:41:PRO:HG3	1.85	0.41
11:XK:88:GLY:C	11:XK:90:GLY:H	2.23	0.41
22:RA:1239:G:H2'	22:RA:1240:U:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:YE:86:PRO:HB2	25:YE:87:GLU:H	1.66	0.41
29:YI:21:VAL:HG22	29:YI:22:LYS:H	1.85	0.41
29:YI:69:LYS:HE2	29:YI:73:GLU:CD	2.41	0.41
22:RA:573:G:O2'	22:RA:574:C:H3'	2.21	0.41
22:YA:1759:A:H4'	22:YA:2715:C:O4'	2.21	0.41
20:QT:64:ASP:CG	20:QT:81:LYS:HZ2	2.23	0.41
22:RA:704:G:H1'	22:RA:726:G:N2	2.35	0.41
29:RI:76:THR:HG21	29:RI:141:LYS:HE3	2.02	0.41
46:Y3:35:ARG:HB3	46:Y3:37:LEU:HD21	2.01	0.41
22:RA:1270:C:H5''	22:RA:1271:G:H5'	2.01	0.41
37:YU:69:CYS:HB3	37:YU:106:PHE:CZ	2.56	0.41
1:QA:1182:G:H4'	1:QA:1183:A:H5''	2.02	0.41
34:RR:22:ARG:HA	34:RR:47:PHE:HE2	1.86	0.41
24:YD:105:ILE:HD12	24:YD:105:ILE:HA	1.55	0.41
44:Y1:76:ARG:H	44:Y1:76:ARG:HD2	1.84	0.41
50:R7:1:MET:SD	50:R7:3:ARG:NH2	2.93	0.41
17:QQ:83:ASP:O	17:QQ:87:LYS:HG2	2.20	0.41
1:XA:1301:U:HO2'	1:XA:1302:U:P	2.41	0.41
22:RA:2422:A:OP2	49:R6:6:ARG:NH1	2.53	0.41
22:YA:483:A:H5'	41:YY:49:VAL:HG22	2.02	0.41
1:QA:1199:U:H4'	10:QJ:54:PHE:CZ	2.55	0.41
22:RA:690:G:H21	24:RD:43:ARG:HH22	1.68	0.41
34:RR:109:ALA:HA	34:RR:110:PRO:HD2	1.95	0.41
22:YA:1854:A:C2	22:YA:2087:G:N3	2.86	0.41
1:QA:1336:C:H1'	1:QA:1337:G:C2	2.56	0.41
53:QV:41:C:C2	53:QV:42:G:C8	3.08	0.41
22:YA:1635:G:C2	22:YA:1636:C:C2	3.09	0.41
1:QA:1077:G:C6	1:QA:1081:G:O6	2.73	0.41
22:RA:1042:G:C6	22:RA:1043:C:N4	2.89	0.41
22:RA:2307:G:C5	22:RA:2311:A:C2	3.09	0.41
22:RA:2120:G:N2	22:RA:2179:C:N3	2.69	0.41
32:YP:101:VAL:C	32:YP:103:ALA:H	2.23	0.41
22:YA:2633:G:C6	22:YA:2634:G:C5	3.08	0.41
26:YF:107:LYS:CD	26:YF:207:GLY:H	2.30	0.41
10:QJ:79:ARG:HA	10:QJ:79:ARG:HD3	1.78	0.41
24:RD:35:LYS:HE3	24:RD:63:ARG:C	2.41	0.41
22:YA:72:U:H3	45:Y2:62:THR:HG22	1.84	0.41
1:XA:991:U:O2'	1:XA:992:U:P	2.78	0.41
22:RA:1026:U:H1'	22:RA:1027:A:H5''	2.03	0.41
1:QA:567:G:C2	1:QA:568:G:H1'	2.55	0.41
8:XH:44:PHE:HE2	8:XH:109:ILE:CG2	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2749:A:H2'	28:RH:59:ARG:HE	1.84	0.41
1:XA:464:G:O6	1:XA:466:C:H5'	2.20	0.41
22:RA:2836:U:H2'	22:RA:2837:G:C8	2.55	0.41
41:YY:84:ARG:O	41:YY:95:LYS:HD3	2.21	0.41
38:YV:38:LEU:O	38:YV:51:VAL:HA	2.20	0.41
12:XL:102:ARG:HE	12:XL:102:ARG:HB3	1.71	0.41
1:QA:280:C:H3'	1:QA:281:G:H5'	2.03	0.41
22:YA:2018:G:C6	22:YA:2019:A:C5	3.08	0.41
2:QB:184:VAL:N	2:QB:198:ASP:OD1	2.44	0.41
22:RA:1484:G:H2'	22:RA:1485:G:H5''	2.02	0.41
25:YE:181:LEU:HA	25:YE:181:LEU:HD13	1.85	0.41
12:XL:62:SER:HB2	12:XL:64:TYR:CD1	2.56	0.41
22:YA:2639:A:C2	22:YA:2640:G:H1'	2.56	0.41
21:QU:2:GLY:O	21:QU:5:ASP:N	2.47	0.41
1:QA:1327:C:H2'	1:QA:1328:C:C6	2.56	0.41
22:YA:1449:A:N6	22:YA:1449(A):G:C2	2.88	0.41
22:YA:868:U:H3	22:YA:909:A:H61	1.67	0.41
22:RA:2850:A:H3'	22:RA:2851:A:H8	1.85	0.41
16:QP:20:VAL:HG21	16:QP:32:TYR:CD1	2.56	0.41
22:YA:2094:G:H4'	29:YI:25:TYR:CZ	2.56	0.41
22:RA:1441:G:H2'	22:RA:1442:G:H8	1.84	0.41
1:XA:588:G:C6	1:XA:589:C:C4	3.08	0.41
43:R0:50:ASN:C	43:R0:62:LEU:HD12	2.41	0.41
12:XL:68:ALA:HB2	12:XL:85:ILE:HD11	2.03	0.41
33:RQ:18:LYS:HB3	33:RQ:19:GLY:H	1.50	0.41
27:RG:27:ASN:HB3	27:RG:30:GLU:HG3	2.01	0.41
22:YA:888:C:C3'	22:YA:889:C:H4'	2.51	0.41
22:RA:2464:C:H2'	22:RA:2465:C:O4'	2.21	0.41
1:QA:564:C:P	12:QL:15:ARG:HH21	2.43	0.41
23:RB:11:C:H3'	23:RB:12:C:C6	2.56	0.41
17:XQ:59:ILE:HB	17:XQ:71:PHE:HB3	2.03	0.41
22:RA:1568:G:H21	24:RD:58:HIS:HE2	1.67	0.41
1:QA:1293:G:H2'	1:QA:1294:G:C8	2.56	0.41
22:RA:1070:A:C8	22:RA:1096:A:H2'	2.55	0.41
23:YB:26:A:H2'	23:YB:27:C:O4'	2.20	0.41
22:RA:1053:C:H2'	22:RA:1054:A:O4'	2.21	0.41
22:RA:1054:A:N6	22:RA:1055:G:C6	2.88	0.41
1:QA:1371:G:O3'	9:QI:69:GLY:HA3	2.20	0.41
47:Y4:48:ARG:NH1	47:Y4:52:THR:H	2.19	0.41
20:QT:89:ARG:HH21	20:QT:104:LEU:HG	1.85	0.41
35:RS:14:VAL:HG21	35:RS:89:ARG:HG2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RY:84:ARG:HD3	41:RY:86:ARG:NH1	2.35	0.41
5:QE:110:LEU:HD13	5:QE:118:ILE:HG12	2.02	0.41
22:YA:2847:U:OP2	36:YT:98:LYS:NZ	2.54	0.41
1:XA:1286:A:H2'	1:XA:1287:A:H4'	2.03	0.41
22:YA:1288:U:O2'	22:YA:1647:G:N2	2.54	0.41
22:RA:890:A:H2'	22:RA:892:G:H8	1.86	0.41
22:YA:1696:G:C6	22:YA:1697:G:C4	3.08	0.41
53:QV:75:C:H2'	53:QV:76:A:O4'	2.20	0.41
22:YA:1050:A:C8	22:YA:2751:G:C4	3.09	0.41
22:YA:1535:U:H5''	22:YA:1537:C:N4	2.36	0.41
40:RX:51:VAL:HG13	40:RX:81:VAL:HG23	2.03	0.41
1:XA:827:U:C5	1:XA:870:U:C4	3.09	0.41
1:XA:452:A:H62	1:XA:480:U:H3	1.67	0.41
22:RA:806:C:OP2	32:RP:41:ARG:NH1	2.32	0.41
22:RA:838:C:H2'	22:RA:839:U:H6	1.86	0.41
26:RF:29:ASN:O	26:RF:112:MET:HE1	2.20	0.41
1:XA:147:G:C2	1:XA:148:G:C4	3.09	0.41
22:RA:2631:G:N3	22:RA:2810:A:H2	2.17	0.41
23:YB:71:C:H2'	23:YB:72:G:H8	1.85	0.41
1:XA:1235:U:O5'	1:XA:1235:U:H6	2.04	0.41
37:YU:98:LEU:HD23	37:YU:99:ALA:N	2.36	0.41
16:XP:8:ARG:C	16:XP:9:PHE:HD2	2.24	0.41
11:QK:99:GLN:HG2	11:QK:105:VAL:HG21	2.03	0.41
1:QA:103:C:P	20:QT:17:ARG:HH21	2.43	0.41
53:XV:19:G:C2	53:XV:57:A:N3	2.89	0.41
22:YA:1804:C:H42	22:YA:1813:G:H1	1.67	0.41
22:RA:2020:A:O2'	22:RA:2021:C:H5'	2.20	0.41
22:YA:815:C:H2'	22:YA:816:C:C6	2.55	0.41
16:XP:23:ASP:O	16:XP:26:ARG:HB2	2.21	0.41
22:RA:2822:G:H8	22:RA:2822:G:O5'	2.02	0.41
42:YZ:107:THR:HA	42:YZ:108:PRO:HD3	1.75	0.41
33:YQ:19:GLY:O	33:YQ:21:THR:OG1	2.23	0.41
35:YS:88:ASP:O	35:YS:89:ARG:HB3	2.21	0.41
1:QA:1135:U:H4'	1:QA:1136:U:C5	2.55	0.41
35:YS:43:GLU:OE2	43:Y0:49:LYS:HE2	2.20	0.41
22:RA:1492:G:H3'	22:RA:1493:C:C5'	2.51	0.41
38:YV:72:VAL:CG1	38:YV:85:LYS:HG2	2.50	0.41
41:RY:54:LYS:HB3	41:RY:55:TYR:CE2	2.55	0.41
22:RA:1490:A:O2'	24:RD:99:ASP:OD2	2.39	0.41
27:RG:124:SER:HB2	27:RG:131:TYR:CE1	2.56	0.41
2:QB:210:SER:O	2:QB:214:ILE:HG12	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:120:ALA:C	2:QB:122:PHE:H	2.23	0.41
1:QA:236:G:H2'	1:QA:237:C:O4'	2.21	0.41
22:YA:2248:C:H3'	22:YA:2249:U:H6	1.85	0.41
1:XA:237:C:H5''	17:XQ:25:ARG:CZ	2.50	0.41
1:XA:1463:C:OP1	36:YT:111:ARG:HD2	2.20	0.41
1:QA:1259:C:N4	1:QA:1260:C:O2	2.54	0.41
22:YA:1805:U:O2	24:YD:50:THR:HB	2.21	0.41
22:RA:422:A:C6	22:RA:423:A:C6	3.09	0.41
5:QE:127:ASN:HA	5:QE:128:PRO:HD3	1.89	0.41
33:YQ:16:ARG:HB3	33:YQ:17:LEU:H	1.76	0.41
13:QM:91:ARG:HB2	13:QM:98:VAL:HG13	2.03	0.41
1:XA:11:G:C6	1:XA:12:U:C4	3.08	0.41
6:XF:46:ARG:HB3	6:XF:60:PHE:CE1	2.55	0.41
41:YY:63:LYS:HD2	41:YY:63:LYS:HA	1.86	0.41
26:RF:33:LEU:HA	26:RF:33:LEU:HD12	1.83	0.41
4:QD:122:ARG:HD3	4:QD:122:ARG:O	2.20	0.41
22:YA:626:U:O4	32:YP:81:GLN:NE2	2.53	0.41
22:RA:2584:U:H2'	22:RA:2585:U:C6	2.55	0.41
22:RA:55:G:H2'	22:RA:56:A:H8	1.85	0.41
22:RA:768:G:H2'	22:RA:769:G:C8	2.54	0.41
22:RA:1278:A:H5''	34:RR:36:THR:HG22	2.03	0.41
53:XV:66:C:H2'	53:XV:67:C:C6	2.56	0.41
1:QA:1238:A:C2	1:QA:1241:G:N3	2.89	0.41
2:QB:208:ILE:HA	2:QB:211:ILE:HD12	2.03	0.41
10:QJ:61:GLU:HG3	14:QN:58:LYS:HZ1	1.85	0.41
22:RA:483:A:H5''	41:RY:49:VAL:HG13	2.02	0.41
1:XA:792:A:H4'	1:XA:793:U:O5'	2.21	0.41
22:YA:1210:A:N3	22:YA:1212:G:N2	2.69	0.41
1:XA:1122:U:O4	1:XA:1123:A:N6	2.53	0.41
14:XN:51:GLY:O	14:XN:53:LEU:N	2.53	0.41
26:YF:125:LEU:HA	26:YF:194:MET:O	2.20	0.41
2:XB:80:ILE:HD11	2:XB:208:ILE:HG12	2.02	0.41
42:YZ:180:VAL:HA	42:YZ:181:GLU:HA	1.84	0.41
22:RA:413:C:H6	22:RA:413:C:O5'	2.03	0.41
37:YU:8:VAL:O	37:YU:12:ARG:HG3	2.20	0.41
22:YA:1535:U:H3	22:YA:1537:C:H1'	1.85	0.41
29:YI:120:ILE:HG12	29:YI:126:TYR:CE1	2.55	0.41
22:YA:2494:G:C4	22:YA:2495:G:C8	3.08	0.41
10:XJ:3:LYS:HD2	10:XJ:77:PRO:HD3	2.01	0.41
22:RA:2760:C:C2'	22:RA:2761:G:H5''	2.50	0.41
22:RA:852:G:C2	22:RA:926:A:N3	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:678:U:O4	1:XA:679:C:N4	2.53	0.41
22:RA:1421:G:C2	22:RA:1422:G:C8	3.09	0.41
42:RZ:116:VAL:HG12	42:RZ:117:LEU:O	2.21	0.41
22:RA:2022:U:HO2'	22:RA:2617:C:H5'	1.84	0.41
22:YA:2695:C:H2'	22:YA:2696:U:H6	1.84	0.41
1:XA:750:G:O2'	15:XO:21:ASP:OD2	2.39	0.41
12:XL:70:ILE:HA	12:XL:71:PRO:HD3	1.81	0.41
1:QA:129(A):G:C2	1:QA:188:U:O2'	2.74	0.41
1:QA:865:A:O5'	1:QA:865:A:H8	2.04	0.41
1:QA:626:U:H2'	1:QA:627:G:O4'	2.21	0.41
1:XA:358:U:H2'	1:XA:359:U:O4'	2.20	0.41
29:RI:37:VAL:HG12	29:RI:38:LEU:H	1.86	0.41
1:QA:1098:C:H2'	1:QA:1099:G:O4'	2.21	0.41
22:RA:2477:C:C6	52:R9:1:MET:HE3	2.56	0.41
22:YA:894:C:H2'	22:YA:895:U:C6	2.55	0.41
11:XK:48:ILE:HD13	11:XK:48:ILE:HA	1.83	0.41
22:YA:478:A:C6	22:YA:480:A:C6	3.09	0.41
51:Y8:37:SER:O	51:Y8:40:GLU:HB3	2.20	0.41
1:XA:1397:C:O4'	54:XX:8:A:N6	2.54	0.41
23:RB:97:G:C4	23:RB:98:G:C8	3.08	0.41
49:R6:13:CYS:O	49:R6:21:TYR:HA	2.20	0.41
1:QA:21:G:H2'	1:QA:22:G:C8	2.56	0.41
22:RA:30:G:C5	22:RA:31:C:C4	3.09	0.41
22:RA:18:C:O2'	22:RA:553:U:OP1	2.28	0.41
26:RF:164:ARG:HG3	26:RF:175:THR:OG1	2.20	0.41
1:XA:957:U:N3	1:XA:960:U:OP2	2.53	0.41
53:XV:16:C:O2	53:XV:60:U:H4'	2.20	0.41
29:YI:2:LYS:HA	29:YI:20:ASP:HA	2.02	0.41
17:XQ:62:SER:CB	17:XQ:72:ARG:HE	2.33	0.41
27:YG:103:LEU:O	27:YG:107:LEU:HG	2.21	0.41
22:RA:558:G:OP1	30:RN:111:PRO:HD2	2.21	0.41
22:RA:2046:G:H2'	22:RA:2047:U:H6	1.84	0.41
18:XR:85:LEU:HD23	18:XR:88:LYS:HD2	2.03	0.41
3:XC:119:ARG:HH21	3:XC:140:ARG:CZ	2.34	0.41
22:YA:301:G:C4	22:YA:302:C:C5	3.09	0.41
22:YA:1955:U:O4	22:YA:2554:U:H5	2.04	0.41
22:RA:2352:A:C4	22:RA:2366:A:C2	3.09	0.41
22:RA:603:A:O4'	22:RA:655:A:N6	2.53	0.41
24:RD:127:VAL:HA	24:RD:193:VAL:HG22	2.02	0.41
1:XA:1250:A:H2'	1:XA:1251:A:C8	2.56	0.41
22:RA:623:G:H2'	22:RA:624:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:RA:2776:A:OP1	22:RA:2776:A:H3'	2.21	0.41
15:QO:32:LEU:HA	15:QO:32:LEU:HD23	1.76	0.41
25:RE:92:THR:HB	25:RE:93:VAL:H	1.54	0.41
30:RN:71:ILE:HG21	30:RN:84:LYS:HB3	2.02	0.41
4:QD:38:TYR:HB2	4:QD:44:GLY:O	2.21	0.41
2:QB:104:ASN:OD1	2:QB:107:THR:OG1	2.30	0.41
1:XA:1104:G:H2'	1:XA:1105:A:O4'	2.20	0.41
10:XJ:54:PHE:CD2	10:XJ:55:LYS:HG3	2.56	0.41
1:XA:1306:A:H61	1:XA:1331:G:H1'	1.84	0.41
22:RA:2105:C:H2'	22:RA:2106:G:C8	2.55	0.41
22:YA:795:C:H2'	22:YA:796:C:C6	2.55	0.41
1:QA:676:A:C2	1:QA:677:U:C4	3.08	0.41
22:YA:1056:G:O2'	22:YA:1086:A:H1'	2.20	0.41
1:QA:789:U:H1'	1:QA:792:A:C2	2.56	0.41
22:RA:1059:G:C5	22:RA:1060:U:H1'	2.56	0.41
1:QA:688:G:H2'	1:QA:689:C:H6	1.85	0.41
29:RI:9:LEU:N	29:RI:9:LEU:HD22	2.36	0.41
1:QA:147:G:H1	1:QA:175:C:N4	2.09	0.41
25:RE:35:GLN:HB3	25:RE:48:GLN:HB2	2.02	0.41
22:YA:2712:U:C1'	22:YA:2712(A):A:C8	3.01	0.41
24:YD:102:LYS:C	24:YD:103:ARG:HG2	2.40	0.41
26:YF:9:ILE:HD11	26:YF:125:LEU:HG	2.03	0.41
22:RA:2602:A:OP1	53:QV:75:C:OP1	2.39	0.41
42:YZ:182:LYS:HG3	42:YZ:183:LEU:HD23	2.03	0.41
44:R1:58:ILE:CD1	44:R1:86:SER:HB2	2.50	0.41
24:RD:111:LEU:HA	24:RD:111:LEU:HD23	1.78	0.41
22:YA:2810:A:H2'	22:YA:2811:G:O4'	2.21	0.41
25:YE:64:LYS:C	25:YE:66:HIS:H	2.24	0.41
22:YA:2111:C:H5	22:YA:2147:G:H22	1.68	0.41
10:XJ:76:ASN:HA	10:XJ:77:PRO:HD2	1.96	0.41
36:RT:91:ARG:HB2	36:RT:121:ILE:HG13	2.03	0.41
22:YA:729:G:C4	22:YA:1775:U:O2	2.74	0.41
33:RQ:66:ILE:HG13	33:RQ:67:ARG:N	2.36	0.41
34:RR:70:LEU:C	34:RR:72:ASP:H	2.21	0.41
24:RD:150:LYS:N	24:RD:150:LYS:HD3	2.36	0.41
1:XA:878:G:OP1	8:XH:88:LYS:HB3	2.20	0.41
22:YA:2232:U:OP1	44:Y1:40:ARG:NH1	2.49	0.41
1:QA:364:A:H2'	1:QA:365:U:O2	2.21	0.41
22:RA:646:A:H2'	22:RA:647:G:O4'	2.21	0.41
19:QS:36:ARG:HA	19:QS:71:LEU:HB2	2.03	0.41
10:QJ:31:GLY:HA3	10:QJ:78:ASN:CG	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:138:VAL:HG13	3:XC:149:ALA:HB3	2.02	0.41
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.56	0.41
26:YF:67:GLN:HG3	26:YF:67:GLN:O	2.20	0.41
19:QS:5:LEU:HD12	19:QS:5:LEU:HA	1.93	0.41
22:YA:828:U:H2'	22:YA:829:A:C8	2.55	0.41
1:XA:924:C:H2'	1:XA:925:G:C8	2.56	0.41
1:XA:7:G:C5	1:XA:298:A:C2	3.08	0.41
24:YD:3:VAL:HG13	24:YD:17:THR:HG23	2.03	0.41
22:RA:2853:C:O2'	22:RA:2854:G:H5'	2.21	0.41
1:XA:667:G:H4'	15:XO:51:HIS:ND1	2.36	0.41
1:XA:665:A:H1'	1:XA:733:A:O4'	2.20	0.41
2:QB:47:THR:HA	2:QB:202:PRO:HG2	2.00	0.41
27:YG:124:SER:HB2	27:YG:131:TYR:CE1	2.56	0.41
1:XA:1055:A:H1'	3:XC:156:ARG:NH1	2.35	0.41
3:QC:122:GLU:HA	3:QC:125:GLU:OE1	2.21	0.41
30:RN:47:ALA:HB2	30:RN:112:LEU:HD11	2.02	0.41
22:YA:29:U:H4'	37:YU:7:GLY:O	2.20	0.41
34:RR:10:LEU:O	34:RR:12:ARG:HG3	2.21	0.41
22:YA:1324:G:C4	22:YA:1328:G:O6	2.73	0.41
1:XA:715:A:H2'	1:XA:716:A:C8	2.54	0.41
1:QA:555:C:H2'	1:QA:556:C:C6	2.55	0.41
22:YA:2844:G:H8	22:YA:2844:G:O5'	2.04	0.41
22:YA:103:A:H8	22:YA:103:A:O5'	2.02	0.41
30:YN:29:LYS:HG2	30:YN:29:LYS:H	1.53	0.41
22:RA:2674:G:H2'	22:RA:2675:A:O4'	2.21	0.41
4:QD:173:TRP:CD1	4:QD:174:LEU:HG	2.55	0.41
5:QE:12:LEU:O	5:QE:13:ILE:HD12	2.21	0.41
22:YA:2768:C:C4	22:YA:2769:C:C5	3.08	0.41
22:RA:617:G:H5'	26:RF:40:GLN:NE2	2.36	0.41
22:RA:1034:G:C6	22:RA:1035:U:C4	3.08	0.41
22:YA:649:G:C5	22:YA:650:C:C5	3.09	0.41
32:RP:62:LEU:N	32:RP:62:LEU:HD13	2.36	0.41
13:QM:3:ARG:CZ	27:RG:113:ARG:HH21	2.34	0.41
1:XA:1109:C:OP2	3:XC:176:HIS:ND1	2.54	0.41
1:XA:1189:C:H5'	1:XA:1190:G:OP2	2.21	0.41
22:RA:1542:G:N7	22:RA:1543:A:C5	2.89	0.41
22:YA:1844:C:H2'	22:YA:1845:G:C8	2.33	0.41
22:YA:221:A:C4	22:YA:266:G:C8	3.09	0.41
1:XA:354:G:C2	1:XA:355:C:C5	3.09	0.41
30:YN:7:LYS:H	30:YN:7:LYS:NZ	2.18	0.41
1:QA:348:G:H2'	1:QA:349:A:C8	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2867:G:O2'	22:YA:2868:A:OP2	2.33	0.41
37:YU:92:ARG:HD2	37:YU:95:LEU:HD12	2.02	0.41
22:RA:1283:G:N2	22:RA:1286:A:OP2	2.49	0.41
1:XA:1343:G:H4'	9:X1:122:ALA:HB3	2.03	0.41
22:YA:581:C:C2	22:YA:582:G:C8	3.08	0.41
22:RA:26:G:N1	22:RA:27:G:N2	2.69	0.41
1:QA:1128:C:H4'	9:QI:16:ARG:HH22	1.85	0.41
30:YN:96:GLU:O	30:YN:100:GLU:HG3	2.20	0.41
22:YA:2666:C:H5''	22:YA:2667:C:OP2	2.21	0.41
1:QA:1049:U:H5'	1:QA:1201:A:OP1	2.21	0.41
22:RA:1248:G:N7	37:RU:3:ARG:HB2	2.36	0.41
22:YA:1754:C:H2'	22:YA:1755:A:O4'	2.21	0.41
24:YD:36:PRO:HB3	24:YD:61:LEU:HB3	2.03	0.41
22:YA:2681:C:C4	22:YA:2724:C:H5	2.38	0.41
42:YZ:165:VAL:HG12	42:YZ:166:SER:N	2.36	0.41
1:QA:949:A:C2	1:QA:1233:G:N3	2.89	0.41
1:XA:1223:C:P	19:XS:78:ARG:HH12	2.43	0.41
25:YE:95:ILE:H	25:YE:95:ILE:CD1	2.31	0.41
22:RA:1649:G:H2'	22:RA:1650:G:O4'	2.21	0.41
1:XA:881:G:P	12:XL:12:ARG:NH2	2.92	0.41
29:RI:102:SER:OG	29:RI:108:THR:HG22	2.21	0.41
24:RD:34:VAL:C	24:RD:35:LYS:HG3	2.40	0.41
1:QA:1178:G:H5''	9:QI:93:ARG:HH21	1.85	0.41
22:RA:2869:G:H2'	22:RA:2870:C:O4'	2.21	0.41
22:RA:667:U:H2'	22:RA:668:G:O4'	2.20	0.41
29:RI:60:GLU:HG3	29:RI:61:ARG:NH1	2.36	0.41
1:XA:1336:C:O2'	1:XA:1337:G:P	2.78	0.41
44:Y1:83:GLU:C	44:Y1:85:LEU:H	2.24	0.41
22:YA:1878:G:H2'	22:YA:1879:C:H6	1.83	0.41
29:YI:79:ILE:HA	29:YI:80:PRO:HD3	1.79	0.41
23:RB:115:G:H2'	23:RB:115:G:N3	2.36	0.41
22:YA:2584:U:H2'	22:YA:2585:U:C6	2.56	0.41
1:QA:682:G:N3	1:QA:709:G:C2	2.88	0.41
43:Y0:37:LEU:O	43:Y0:38:VAL:HG23	2.21	0.41
22:RA:439:G:N2	22:RA:440:G:C4	2.89	0.41
42:RZ:165:VAL:HG12	42:RZ:166:SER:N	2.36	0.41
1:XA:376:G:O3'	16:XP:5:ARG:HD2	2.21	0.41
22:YA:2334:G:C2	35:YS:12:PHE:CE2	3.09	0.41
20:XT:11:SER:HA	20:XT:13:LEU:HD12	2.01	0.41
19:XS:36:ARG:HA	19:XS:71:LEU:HB2	2.02	0.41
22:RA:528:A:C2	22:RA:2042:A:H2'	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YR:44:LEU:HD22	34:YR:48:VAL:HG23	2.02	0.41
22:YA:1053:C:N4	22:YA:1106:G:H1	2.16	0.41
1:XA:1348:U:H3	1:XA:1374:A:H2	1.66	0.41
22:RA:2485:G:C2	22:RA:2486:G:C8	3.09	0.41
1:XA:731:G:H5'	1:XA:766:A:H4'	2.02	0.41
1:QA:189:U:O2	17:QQ:63:ARG:NH2	2.54	0.41
15:QO:4:THR:HB	15:QO:6:GLU:CD	2.41	0.41
37:YU:96:ALA:HA	37:YU:98:LEU:HD23	2.03	0.41
26:YF:64:ILE:HA	26:YF:64:ILE:HD12	1.80	0.41
49:R6:24:GLU:HB3	49:R6:25:LYS:H	1.74	0.41
22:RA:2568:C:H2'	22:RA:2569:G:O4'	2.21	0.41
30:RN:9:VAL:HG21	30:RN:48:MET:HB3	2.02	0.41
2:XB:118:LEU:CB	2:XB:142:LEU:HD12	2.50	0.41
22:RA:2816:C:O3'	34:RR:99:LYS:NZ	2.54	0.41
22:YA:1811:G:H2'	22:YA:1812:A:O4'	2.20	0.41
1:XA:34:C:H1'	12:XL:32:PHE:CZ	2.56	0.41
22:RA:1015:G:N1	22:RA:1016:G:C5	2.89	0.41
1:XA:36:C:C4	1:XA:37:U:C4	3.09	0.41
22:YA:2320:A:C2	22:YA:2333:A:C8	3.09	0.41
42:YZ:62:PRO:C	42:YZ:64:GLY:N	2.74	0.41
3:QC:83:ARG:O	3:QC:86:VAL:HG22	2.21	0.41
22:RA:1589:C:H2'	22:RA:1590:U:C6	2.56	0.41
9:XI:79:LEU:O	9:XI:83:ARG:HG2	2.19	0.41
35:RS:83:LYS:C	35:RS:109:GLY:HA3	2.41	0.41
22:YA:2683:C:H5''	22:YA:2684:U:OP2	2.20	0.41
22:YA:450:G:O6	22:YA:453:C:OP1	2.38	0.41
22:RA:30:G:C6	22:RA:31:C:C4	3.09	0.41
7:QG:45:ASP:O	7:QG:48:LYS:HB3	2.21	0.41
22:YA:2812:G:H2'	22:YA:2813:A:H8	1.86	0.41
22:YA:2743:C:C2	22:YA:2762:G:N2	2.89	0.41
22:YA:2742:C:N4	22:YA:2763:G:N2	2.69	0.41
37:RU:61:TRP:O	37:RU:65:ILE:HG13	2.21	0.41
22:RA:966:G:H2'	22:RA:967:C:H6	1.86	0.41
22:RA:1751:C:H2'	22:RA:1752:C:C6	2.55	0.41
22:YA:1058:G:H2'	22:YA:1058:G:N3	2.36	0.41
22:YA:706:A:H2'	22:YA:707:G:O4'	2.21	0.41
1:XA:812:C:H4'	1:XA:813:U:H5'	2.03	0.41
27:RG:131:TYR:O	27:RG:159:VAL:HG13	2.21	0.41
22:YA:2621:A:C6	22:YA:2622:C:C4	3.09	0.41
22:YA:2309:A:C6	22:YA:2310:A:C2	3.08	0.41
1:QA:1245:A:OP2	21:QU:9:ARG:NH2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:103:GLY:N	12:QL:107:ALA:O	2.49	0.41
5:XE:82:VAL:HB	5:XE:138:ALA:HB2	2.03	0.41
1:QA:785:G:N2	1:QA:798:G:C4	2.89	0.41
13:QM:105:THR:OG1	13:QM:106:ASN:N	2.54	0.41
53:QV:64:G:C2	53:QV:65:C:C2	3.08	0.41
4:XD:52:SER:O	4:XD:55:ALA:HB3	2.21	0.41
22:YA:1120:G:H2'	22:YA:1121:C:C6	2.56	0.41
31:RO:26:LYS:HB2	31:RO:30:ALA:HB2	2.02	0.41
1:QA:340:U:C4	1:QA:341:C:C4	3.08	0.41
30:RN:57:ALA:C	30:RN:60:ILE:HD11	2.40	0.41
30:RN:57:ALA:O	30:RN:60:ILE:HD11	2.21	0.41
28:RH:33:LEU:HD11	28:RH:136:ILE:O	2.20	0.41
24:RD:226:MET:HB3	24:RD:230:ASP:HB2	2.03	0.41
22:YA:2473:U:OP1	22:YA:2529:G:N2	2.53	0.41
20:XT:43:LEU:HA	20:XT:43:LEU:HD23	1.88	0.41
4:XD:186:LEU:HD23	4:XD:186:LEU:HA	1.95	0.41
22:YA:2525:G:N3	22:YA:2525:G:H2'	2.35	0.41
25:YE:41:LYS:HA	25:YE:41:LYS:HE2	2.02	0.41
27:RG:103:LEU:HA	27:RG:103:LEU:HD23	1.89	0.41
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.54	0.41
22:RA:40:C:H2'	22:RA:41:C:O4'	2.21	0.41
1:QA:529:G:O6	12:QL:49:ASN:HA	2.21	0.41
22:YA:2858:C:H2'	22:YA:2859:G:O4'	2.21	0.41
22:YA:1275:A:O2'	22:YA:1645:G:N3	2.54	0.41
2:XB:126:GLU:O	2:XB:129:GLU:HB2	2.20	0.41
1:XA:186:C:H2'	1:XA:186(A):C:C6	2.56	0.41
25:YE:32:PRO:HA	25:YE:90:THR:HA	2.03	0.41
47:R4:39:CYS:HB2	47:R4:41:PRO:HD2	2.02	0.41
6:QF:35:ALA:HA	6:QF:67:MET:HB3	2.02	0.41
24:YD:130:ALA:C	24:YD:131:LEU:HD12	2.42	0.41
11:QK:25:TYR:CZ	11:QK:87:THR:HB	2.55	0.41
3:QC:42:LEU:HA	3:QC:42:LEU:HD12	1.80	0.41
1:XA:820:U:H4'	1:XA:821:G:OP2	2.21	0.41
49:Y6:36:LEU:HD13	49:Y6:50:ARG:CZ	2.51	0.41
30:RN:73:THR:HB	30:RN:82:LEU:HD11	2.02	0.41
1:QA:763:G:C6	1:QA:764:C:C4	3.09	0.41
37:YU:17:ILE:HG23	37:YU:39:LEU:HD12	2.02	0.41
21:QU:10:ARG:HA	21:QU:13:ILE:HB	2.02	0.41
37:YU:92:ARG:NH2	38:YV:11:GLN:H	2.18	0.41
47:Y4:48:ARG:HH12	47:Y4:52:THR:H	1.68	0.41
22:YA:1085:A:O2'	22:YA:1086:A:OP1	2.31	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1022:G:C6	22:YA:1140:C:N3	2.88	0.41
1:XA:791:G:C6	1:XA:792:A:N1	2.88	0.41
22:YA:330:A:H2	22:YA:1210:A:H2'	1.85	0.41
1:QA:1049:U:OP1	14:QN:3:ARG:HD3	2.20	0.41
32:YP:29:LYS:HB3	32:YP:30:THR:H	1.59	0.41
22:YA:2686:G:C2	22:YA:2724:C:O2	2.74	0.41
22:YA:1286:A:H1'	22:YA:1288:U:OP2	2.21	0.41
1:XA:1358:U:H5''	14:YN:34:TYR:HA	2.01	0.41
1:XA:971:G:OP1	1:XA:971:G:H3'	2.20	0.41
28:RH:107:VAL:HB	28:RH:153:LYS:HE3	2.03	0.41
22:RA:1040:C:H2'	22:RA:1041:C:C6	2.55	0.41
32:YP:106:LEU:O	32:YP:107:LYS:HB2	2.20	0.41
22:YA:2493:U:H2'	22:YA:2494:G:O4'	2.21	0.41
8:XH:6:ILE:HB	8:XH:85:ARG:NH1	2.36	0.41
22:RA:805:G:OP2	32:RP:41:ARG:HG2	2.21	0.41
23:RB:75:G:H1	23:RB:102:G:N2	2.18	0.41
1:QA:230:G:N2	1:QA:231:G:N3	2.68	0.41
54:QX:6:G:H1	55:QY:34:C:N4	2.18	0.41
7:XG:89:MET:HE3	7:XG:155:ARG:HB2	2.03	0.41
26:YF:28:ILE:H	26:YF:28:ILE:HG13	1.68	0.41
22:RA:2881:C:C2	22:RA:2882:A:C8	3.09	0.41
1:XA:93:U:H2'	1:XA:95:G:C4'	2.51	0.41
5:XE:51:VAL:HB	5:XE:52:PRO:HD3	2.03	0.41
1:XA:105:G:H2'	1:XA:106:C:C6	2.56	0.41
1:XA:917:G:C2	1:XA:918:A:C4	3.09	0.41
22:YA:381:G:H2'	22:YA:382:G:H8	1.85	0.41
22:RA:1162:G:O4'	38:RV:23:GLU:HG3	2.21	0.41
22:YA:2320:A:C8	22:YA:2333:A:N6	2.89	0.41
9:QI:40:LEU:HD11	9:QI:70:LYS:HG2	2.02	0.41
22:RA:746:A:HO2'	22:RA:747:U:P	2.43	0.41
42:YZ:108:PRO:O	42:YZ:111:VAL:N	2.45	0.41
22:RA:337:C:H2'	22:RA:338:G:O4'	2.21	0.41
1:QA:144:G:H1	1:QA:178:C:N4	2.18	0.41
24:YD:62:TYR:HA	24:YD:87:ASN:OD1	2.21	0.41
25:RE:184:VAL:HB	25:RE:185:LYS:H	1.65	0.41
22:RA:797:C:H2'	22:RA:798:G:O4'	2.21	0.41
1:XA:181:G:O2'	1:XA:182:U:H6	2.04	0.41
43:R0:50:ASN:HB3	43:R0:63:VAL:HG22	2.03	0.41
23:RB:11:C:OP2	23:RB:12:C:N4	2.34	0.41
22:RA:2046:G:H2'	22:RA:2047:U:C6	2.55	0.41
24:YD:145:VAL:HG11	24:YD:175:LEU:HD11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:300:A:C5	1:XA:301:G:H1'	2.56	0.41
1:QA:324:G:N2	1:QA:327:A:C8	2.89	0.41
22:RA:1222:C:C2	22:RA:1229(A):G:C2	3.09	0.41
22:RA:2441:C:O2'	22:RA:2442:C:H5'	2.21	0.41
1:QA:1240:U:H1'	7:QG:42:ILE:HD11	2.03	0.41
8:XH:12:ARG:HD3	8:XH:26:VAL:HB	2.03	0.41
22:RA:2452:C:H2'	22:RA:2453:A:C8	2.56	0.41
40:YX:31:HIS:HB3	40:YX:34:ALA:HB2	2.03	0.41
8:QH:44:PHE:HD1	8:QH:80:ILE:HG12	1.86	0.41
26:YF:198:ALA:HA	26:YF:201:VAL:HG12	2.03	0.41
26:RF:107:LYS:HE3	26:RF:206:ILE:HD12	2.02	0.41
24:RD:257:LEU:HD23	24:RD:257:LEU:HA	1.90	0.41
42:YZ:150:LEU:H	42:YZ:150:LEU:HD13	1.86	0.41
5:XE:68:GLU:HG3	5:XE:68:GLU:O	2.21	0.41
22:YA:2270:G:O5'	22:YA:2270:G:H8	2.03	0.41
7:QG:93:PRO:O	7:QG:96:GLN:HB2	2.21	0.41
22:YA:1169:G:N2	22:YA:1181:C:C2	2.89	0.41
1:XA:1091:U:H2'	1:XA:1093:A:OP2	2.20	0.40
22:YA:258:G:C4	22:YA:259:G:C8	3.10	0.40
22:YA:271:G:C4	22:YA:272:G:N7	2.89	0.40
22:YA:1019:U:H3	22:YA:1142(A):A:H62	1.69	0.40
30:YN:65:LYS:HG2	30:YN:65:LYS:H	1.60	0.40
1:XA:374:A:N3	1:XA:374:A:H2'	2.35	0.40
22:RA:2574:G:H2'	22:RA:2575:C:O4'	2.20	0.40
22:RA:1412:A:C6	22:RA:1591:G:C6	3.09	0.40
27:YG:61:ALA:HA	27:YG:64:THR:HG22	2.02	0.40
1:QA:1224:G:N1	1:QA:1322:C:H1'	2.36	0.40
1:XA:539:A:OP2	12:XL:115:LYS:HE3	2.21	0.40
27:RG:47:LYS:HE3	27:RG:47:LYS:HB2	1.81	0.40
22:YA:26:G:C6	22:YA:27:G:C2	3.08	0.40
1:QA:1263:C:H42	1:QA:1272:G:H1	1.70	0.40
47:R4:23:GLU:HG3	47:R4:25:TYR:HE2	1.85	0.40
29:RI:110:ASP:HB2	29:RI:130:TYR:OH	2.22	0.40
1:QA:1512:U:H3	1:QA:1523:G:H1	1.70	0.40
22:YA:604:G:H2'	22:YA:605:C:C6	2.57	0.40
10:QJ:4:ILE:HA	10:QJ:100:THR:HG22	2.02	0.40
22:YA:2881:C:C2	22:YA:2882:A:C8	3.09	0.40
1:XA:892:A:H2'	1:XA:893:C:C6	2.56	0.40
28:RH:103:LEU:HG	28:RH:105:LEU:HD12	2.02	0.40
12:XL:38:THR:CG2	12:XL:57:LYS:HB3	2.49	0.40
22:YA:1105:U:C2	22:YA:1106:G:C8	3.09	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1833:U:H2'	22:YA:1834:U:C6	2.54	0.40
22:YA:1932:A:C2	22:YA:1969:A:C2	3.09	0.40
22:RA:2481:G:HO2'	22:RA:2482:G:P	2.44	0.40
1:QA:865:A:N3	1:QA:918:A:O2'	2.43	0.40
22:RA:342:G:H2'	22:RA:343:C:O4'	2.20	0.40
22:YA:107:C:H2'	22:YA:108:U:C6	2.54	0.40
22:YA:2323:G:C6	22:YA:2324:C:C4	3.09	0.40
22:YA:1957:C:H2'	22:YA:1958:C:H6	1.85	0.40
31:YO:4:PRO:O	31:YO:5:GLN:CB	2.69	0.40
22:YA:189:G:H1'	22:YA:207:A:H61	1.84	0.40
23:YB:63:G:C2	23:YB:64:C:C2	3.09	0.40
4:XD:64:LEU:HD13	4:XD:198:VAL:HG11	2.02	0.40
31:RO:63:VAL:HB	31:RO:106:LEU:HD11	2.02	0.40
22:RA:1003:G:N2	22:RA:1153:C:C2	2.89	0.40
11:XK:19:ALA:CB	11:XK:32:ILE:HG22	2.51	0.40
22:YA:460:A:C2	22:YA:470:A:C4	3.10	0.40
1:QA:591:U:H2'	1:QA:592:G:H8	1.86	0.40
1:XA:637:G:C6	1:XA:638:G:C5	3.09	0.40
1:XA:493:G:N2	1:XA:494:U:O4	2.54	0.40
47:R4:13:ARG:O	47:R4:30:GLU:HA	2.21	0.40
22:RA:1120:G:H2'	22:RA:1121:C:O4'	2.21	0.40
1:QA:505:G:C5	1:QA:506:G:N7	2.89	0.40
6:XF:25:ILE:HD13	6:XF:28:ARG:NH1	2.36	0.40
1:XA:875:C:O2'	8:XH:14:ARG:NH1	2.54	0.40
27:YG:18:GLU:OE1	27:YG:22:ARG:NH1	2.49	0.40
22:YA:1273:U:C4	22:YA:2003:G:H1'	2.56	0.40
25:RE:55:ASN:HD22	25:RE:58:ARG:HB2	1.86	0.40
7:QG:54:THR:O	7:QG:56:GLN:N	2.52	0.40
22:YA:321:G:H5'	26:YF:136:THR:HG23	2.03	0.40
28:RH:30:LYS:HD2	28:RH:81:GLU:H	1.85	0.40
24:YD:201:HIS:O	24:YD:204:ILE:HG12	2.21	0.40
43:R0:18:ALA:O	43:R0:20:ARG:NH1	2.54	0.40
5:QE:147:ASP:O	5:QE:151:LEU:HG	2.21	0.40
22:YA:845:G:OP2	22:YA:845:G:H8	2.04	0.40
25:YE:49:LEU:HD12	25:YE:49:LEU:HA	1.72	0.40
4:XD:131:ARG:HG2	4:XD:131:ARG:H	1.67	0.40
1:XA:534:U:O5'	1:XA:534:U:H6	2.04	0.40
27:YG:7:LEU:HD12	27:YG:104:GLU:HA	2.03	0.40
4:XD:165:MET:O	4:XD:167:GLY:N	2.54	0.40
22:YA:376:C:H2'	22:YA:377:C:C6	2.56	0.40
22:RA:1020:A:OP1	22:RA:1034:G:N2	2.42	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RP:62:LEU:O	51:R8:13:ARG:HB2	2.22	0.40
24:RD:44:ASN:HB2	24:RD:49:ILE:HA	2.02	0.40
5:QE:50:GLU:HG3	5:QE:52:PRO:HD2	2.04	0.40
1:XA:57:G:H2'	1:XA:58:C:O4'	2.21	0.40
22:YA:2852:G:C6	22:YA:2853:C:C4	3.10	0.40
22:YA:1062:G:H1'	22:YA:1088:A:C6	2.56	0.40
35:RS:62:LYS:HB3	35:RS:97:ARG:CD	2.44	0.40
28:YH:109:PHE:HZ	28:YH:152:ARG:HG2	1.86	0.40
12:XL:90:VAL:O	12:XL:92:ASP:N	2.54	0.40
22:RA:1614:A:H62	39:RW:93:ALA:CA	2.34	0.40
1:QA:148:G:H1	1:QA:174:C:H42	1.68	0.40
23:YB:12:C:O4'	23:YB:15:A:N6	2.53	0.40
22:YA:1359:A:H62	22:YA:1372:U:H3	1.62	0.40
36:RT:109:GLU:O	36:RT:113:LYS:HB2	2.21	0.40
22:RA:1519:G:C6	22:RA:1520:U:C4	3.09	0.40
24:YD:35:LYS:HZ1	24:YD:65:ILE:HA	1.86	0.40
1:XA:75:C:H2'	1:XA:76:G:O4'	2.21	0.40
22:YA:2532:G:O2'	22:YA:2657:A:N1	2.45	0.40
1:XA:344:A:O2'	1:XA:346:G:O6	2.22	0.40
1:XA:735:C:H2'	1:XA:736:C:C6	2.50	0.40
1:QA:509:A:C8	1:QA:509:A:H3'	2.56	0.40
1:QA:250:A:O5'	1:QA:250:A:H8	2.03	0.40
22:YA:1363:C:H2'	22:YA:1364:G:O4'	2.21	0.40
22:RA:2751:G:C5	28:RH:2:SER:HB3	2.56	0.40
22:YA:2477:C:O2	52:Y9:4:ARG:NH1	2.32	0.40
28:YH:125:VAL:HG22	28:YH:131:VAL:HG13	2.02	0.40
22:RA:71:A:H2	40:RX:31:HIS:NE2	2.19	0.40
22:RA:84:A:C2	22:RA:103:A:C5	3.09	0.40
42:RZ:117:LEU:HB2	42:RZ:174:VAL:HG22	2.03	0.40
22:RA:1303:G:H1'	22:RA:1641:A:N1	2.37	0.40
22:YA:676:A:H1'	22:YA:2443:C:H1'	2.03	0.40
22:YA:1932:A:C2	22:YA:1969:A:C4	3.09	0.40
1:XA:380:G:N2	1:XA:383:A:OP2	2.55	0.40
23:RB:14:U:H4'	23:RB:70:C:O2	2.21	0.40
22:RA:977:G:N3	22:RA:1001:A:H2	2.19	0.40
33:YQ:80:GLU:HB2	33:YQ:81:VAL:H	1.69	0.40
26:RF:181:LEU:HD22	26:RF:181:LEU:HA	1.79	0.40
22:YA:389:G:H22	32:YP:72:PRO:HD3	1.86	0.40
42:RZ:100:VAL:HA	42:RZ:101:PRO:HD3	1.84	0.40
1:QA:781:A:C5	1:QA:802:A:C2	3.09	0.40
49:Y6:13:CYS:HB2	49:Y6:22:ALA:HB3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:XV:17:C:N4	53:XV:17(A):U:O4	2.53	0.40
22:YA:1087:G:C4	22:YA:1089:G:H1'	2.57	0.40
22:YA:219:G:H2'	22:YA:220:G:O4'	2.21	0.40
51:R8:49:VAL:HG23	51:R8:53:PRO:HB3	2.04	0.40
10:XJ:6:ILE:O	10:XJ:71:LEU:HD12	2.21	0.40
1:QA:540:G:H2'	1:QA:541:G:O4'	2.20	0.40
30:RN:17:ASP:O	30:RN:19:GLU:N	2.54	0.40
40:RX:67:GLY:C	40:RX:69:TYR:H	2.23	0.40
5:XE:69:VAL:HA	5:XE:70:PRO:HD2	1.76	0.40
37:RU:83:LEU:HG	37:RU:88:ILE:HB	2.03	0.40
36:RT:51:ARG:CG	36:RT:98:LYS:HG3	2.52	0.40
22:RA:188:G:N2	22:RA:208:C:O2	2.54	0.40
33:RQ:58:PHE:CD1	33:RQ:61:GLY:HA3	2.56	0.40
22:YA:2715:C:H2'	22:YA:2716:U:H6	1.86	0.40
1:XA:236:G:H2'	1:XA:237:C:C6	2.56	0.40
22:YA:651:G:H4'	51:Y8:18:ALA:HB3	2.03	0.40
22:RA:2466:C:OP1	52:R9:4:ARG:HB2	2.20	0.40
1:XA:1120:G:C6	1:XA:1121:U:C4	3.10	0.40
3:QC:71:ALA:HB2	3:QC:109:PRO:HB3	2.04	0.40
2:XB:120:ALA:C	2:XB:122:PHE:H	2.24	0.40
1:QA:1428:A:H2'	1:QA:1429:C:O4'	2.21	0.40
22:YA:681:G:H2'	22:YA:682:G:O4'	2.21	0.40
1:QA:1256:A:OP1	3:QC:26:LYS:NZ	2.45	0.40
1:QA:355:C:C4	1:QA:356:A:N7	2.89	0.40
2:XB:166:ASP:HB3	2:XB:169:LYS:HB2	2.02	0.40
43:Y0:11:ARG:HG2	43:Y0:11:ARG:H	1.51	0.40
3:XC:42:LEU:HD12	3:XC:42:LEU:HA	1.87	0.40
1:XA:1137:C:H4'	1:XA:1137:C:OP1	2.21	0.40
1:XA:936:C:H42	1:XA:1379:G:H1	1.69	0.40
22:YA:640:C:H2'	22:YA:641:C:C6	2.56	0.40
22:RA:1527:G:H5''	22:RA:1528:A:OP1	2.21	0.40
23:YB:27:C:H5'	23:YB:28:C:OP2	2.22	0.40
22:YA:2850:A:OP2	22:YA:2866:U:N3	2.54	0.40
22:YA:795:C:O5'	22:YA:795:C:H6	2.04	0.40
25:RE:26:ILE:O	25:RE:26:ILE:HG12	2.18	0.40
22:YA:2133:G:N2	22:YA:2157:G:H2'	2.37	0.40
22:YA:2667:C:H1'	28:YH:109:PHE:HD2	1.86	0.40
1:XA:450:G:N7	1:XA:481:G:C6	2.89	0.40
22:YA:1630(A):C:N3	22:YA:1635:G:N1	2.64	0.40
22:RA:960:A:N7	22:RA:962:G:C4	2.89	0.40
33:RQ:72:LYS:HB3	33:RQ:94:VAL:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2532:G:H1'	22:YA:2663:G:N2	2.37	0.40
1:QA:758:G:H5'	1:QA:880:C:H1'	2.02	0.40
22:RA:654(B):C:H42	22:RA:654(T):C:H42	1.69	0.40
22:YA:2023:G:H4'	22:YA:2617:C:O3'	2.20	0.40
1:XA:129(A):G:C2	1:XA:188:U:O2'	2.74	0.40
37:RU:66:ASN:CG	37:RU:70:ARG:HH21	2.21	0.40
1:XA:452:A:H4'	16:XP:72:ARG:NH2	2.36	0.40
26:RF:29:ASN:HB3	26:RF:32:LEU:HD23	2.04	0.40
22:YA:1685:C:H2'	22:YA:1686:C:H5''	2.03	0.40
1:XA:955:U:H1'	1:XA:1227:A:H61	1.87	0.40
22:YA:864:G:H1'	22:YA:914:C:N4	2.36	0.40
1:XA:1390:U:H2'	1:XA:1391:U:C6	2.56	0.40
1:XA:96:G:H2'	1:XA:97:U:O4'	2.22	0.40
1:QA:439:A:OP2	1:QA:493:G:N1	2.43	0.40
22:YA:2285:C:H5	49:Y6:27:LYS:HE2	1.85	0.40
22:RA:2127:G:H22	22:RA:2162:G:H1'	1.86	0.40
1:QA:281:G:OP2	1:QA:281:G:H8	2.04	0.40
27:YG:99:MET:HG3	27:YG:100:TRP:N	2.36	0.40
2:XB:19:HIS:NE2	2:XB:206:ASP:HB2	2.36	0.40
11:XK:18:ARG:HB3	11:XK:33:THR:OG1	2.21	0.40
22:YA:1448:G:H2'	22:YA:1449:A:C8	2.57	0.40
22:RA:2029:G:H2'	22:RA:2031:A:OP1	2.21	0.40
1:QA:887:G:N2	1:QA:911:U:H1'	2.36	0.40
22:RA:2819:G:C6	22:RA:2821:A:C2	3.08	0.40
42:YZ:89:PHE:CE1	42:YZ:96:VAL:HG21	2.57	0.40
32:RP:114:ILE:HD11	32:RP:130:PHE:CD1	2.57	0.40
22:RA:764:A:C6	22:RA:781:A:C2	3.09	0.40
26:YF:168:ARG:HG3	26:YF:175:THR:HG21	2.02	0.40
22:YA:2466:C:H42	22:YA:2484:G:H1	1.70	0.40
1:QA:185:A:H2'	1:QA:186:C:C6	2.56	0.40
1:QA:1160:G:H2'	1:QA:1160:G:N3	2.36	0.40
1:QA:1279:A:OP2	10:QJ:9:ARG:NH1	2.55	0.40
9:XI:95:LYS:NZ	9:XI:96:LEU:HD13	2.36	0.40
28:RH:98:LEU:HB2	28:RH:125:VAL:HB	2.03	0.40
47:Y4:43:TYR:O	47:Y4:46:GLN:HA	2.20	0.40
25:RE:36:ARG:HB3	25:RE:36:ARG:HH11	1.87	0.40
22:RA:394:A:N1	22:RA:395:U:C2	2.89	0.40
42:RZ:5:LEU:HD21	42:RZ:44:PHE:HA	2.02	0.40
37:YU:17:ILE:HA	37:YU:17:ILE:HD13	1.92	0.40
22:RA:2500:U:H5''	22:RA:2501:C:OP2	2.21	0.40
22:YA:1566:A:O2'	22:YA:1567:A:H5'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:7:G:H2'	22:YA:8:A:O4'	2.20	0.40
46:Y3:12:PRO:O	46:Y3:14:GLY:N	2.55	0.40
22:YA:1024:G:C8	22:YA:1025:G:H2'	2.56	0.40
41:RY:11:ASP:O	41:RY:26:LYS:HG3	2.21	0.40
35:RS:23:ARG:HB2	35:RS:86:ALA:HB2	2.03	0.40
17:XQ:58:GLU:O	17:XQ:74:LEU:N	2.40	0.40
25:RE:197:ILE:HD11	25:RE:199:ARG:CZ	2.50	0.40
1:XA:509:A:H4'	1:XA:510:A:OP1	2.22	0.40
22:YA:1779:U:C6	22:YA:1783:A:N7	2.89	0.40
54:QX:1:A:C6	54:QX:2:U:C4	3.09	0.40
24:RD:209:ALA:O	24:RD:212:SER:HB2	2.22	0.40
22:RA:612:G:O2'	22:RA:616:A:N1	2.43	0.40
6:QF:30:LEU:HD23	6:QF:75:LEU:HD11	2.02	0.40
22:YA:2550:G:C6	22:YA:2551:C:C4	3.09	0.40
31:YO:68:GLU:H	31:YO:68:GLU:CD	2.24	0.40
52:Y9:2:LYS:HA	52:Y9:2:LYS:HD2	1.86	0.40
27:RG:117:PHE:HE1	27:RG:120:LEU:HD23	1.87	0.40
53:QV:29:G:C4	53:QV:30:G:C8	3.09	0.40
22:YA:2674:G:H2'	22:YA:2675:A:C8	2.57	0.40
22:YA:552:G:C6	22:YA:553:U:C4	3.09	0.40
22:RA:2842:G:H2'	22:RA:2843:G:O4'	2.21	0.40
13:XM:3:ARG:HG2	47:Y4:34:GLU:HB3	2.03	0.40
1:XA:1002:G:N3	1:XA:1003:G:C8	2.89	0.40
22:YA:2594:C:O2	22:YA:2594:C:H2'	2.21	0.40
1:XA:1342:C:H2'	1:XA:1343:G:C8	2.57	0.40
13:QM:13:LYS:HG3	13:QM:44:ARG:NH1	2.36	0.40
22:RA:1007:C:H4'	30:RN:108:PRO:HD3	2.03	0.40
42:YZ:112:ARG:HG2	42:YZ:113:ALA:H	1.86	0.40
10:QJ:61:GLU:OE1	14:QN:58:LYS:HE2	2.21	0.40
22:YA:1022:G:H22	22:YA:1142(A):A:H2	1.65	0.40
3:XC:20:SER:HB2	3:XC:40:ARG:NH2	2.29	0.40
22:RA:1077:A:H3'	22:RA:1078:U:C5'	2.51	0.40
1:QA:148:G:H2'	1:QA:149:A:C8	2.55	0.40
22:RA:1011:G:C6	22:RA:1013:C:C4	3.09	0.40
22:YA:1264:G:C3'	22:YA:1265:A:H5''	2.47	0.40
1:XA:977:A:H8	1:XA:1223:C:C2	2.40	0.40
49:Y6:11:LEU:HA	49:Y6:11:LEU:HD13	1.86	0.40
5:XE:31:LEU:HD23	5:XE:45:PHE:HD1	1.78	0.40
22:RA:1114:G:N1	22:RA:1115:G:C6	2.89	0.40
44:R1:87:PRO:O	44:R1:91:LYS:HB2	2.21	0.40
1:XA:403:C:OP2	4:XD:74:GLN:NE2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YV:21:ARG:HD2	38:YV:91:TYR:CE1	2.56	0.40
22:RA:654(A):G:OP2	22:RA:654(A):G:H3'	2.21	0.40
29:RI:93:THR:O	29:RI:97:ILE:HG12	2.21	0.40
22:RA:1937:A:C8	22:RA:1939:U:H2'	2.56	0.40
22:YA:2634:G:H1	22:YA:2784:C:N4	2.18	0.40
1:XA:1004:A:N7	1:XA:1026:G:C8	2.89	0.40
29:YI:91:SER:OG	29:YI:92:VAL:N	2.54	0.40
24:RD:35:LYS:HB3	24:RD:63:ARG:HA	2.04	0.40
22:RA:2867:G:HO2'	22:RA:2868:A:P	2.41	0.40
1:XA:1151:A:O2'	1:XA:1152:A:O5'	2.34	0.40
13:XM:68:GLY:HA3	27:YG:116:ASP:OD1	2.21	0.40
22:YA:2314:C:H2'	22:YA:2315:G:H8	1.87	0.40
22:YA:2467:C:H4'	33:YQ:123:HIS:CG	2.57	0.40
9:XI:75:ASP:HA	9:XI:78:LYS:HB3	2.04	0.40
5:XE:89:ILE:HG12	5:XE:91:LEU:CD1	2.52	0.40
22:YA:768:G:C6	22:YA:769:G:C5	3.08	0.40
22:RA:227:A:O2'	22:RA:228:A:OP2	2.38	0.40
22:RA:1219:G:O2'	22:RA:1220:A:H5''	2.20	0.40
42:RZ:153:SER:N	42:RZ:167:PRO:HB2	2.37	0.40
1:XA:663:A:H61	1:XA:742:G:H1	1.69	0.40
1:QA:872:A:C2	1:QA:874:G:C6	3.10	0.40
1:QA:924:C:N4	1:QA:925:G:O6	2.55	0.40
3:QC:43:LEU:HD22	3:QC:47:LEU:HD22	2.02	0.40
1:XA:619:U:O2	4:XD:135:LEU:HD23	2.21	0.40
35:YS:69:VAL:HA	35:YS:72:ALA:HB3	2.03	0.40
5:XE:34:VAL:HG11	5:XE:63:ARG:HG2	2.03	0.40
24:YD:237:GLU:O	24:YD:238:GLY:C	2.59	0.40
22:YA:2466:C:H5''	52:Y9:6:SER:CB	2.51	0.40
33:RQ:83:MET:H	43:R0:7:LEU:HD12	1.87	0.40
47:Y4:14:ILE:HG23	47:Y4:14:ILE:O	2.21	0.40
35:RS:69:VAL:HG13	35:RS:101:LEU:HD22	2.03	0.40
22:RA:2885:C:N3	22:RA:2886:G:H1'	2.36	0.40
22:RA:2886:G:H2'	22:RA:2887:U:H6	1.87	0.40
24:RD:132:PRO:HG3	24:RD:190:TYR:CE1	2.56	0.40
1:QA:503:C:H2'	1:QA:504:C:H6	1.86	0.40
31:RO:66:LYS:HA	31:RO:79:PHE:O	2.22	0.40
1:QA:321:A:N6	1:QA:329:A:OP2	2.51	0.40
1:XA:872:A:C5	1:XA:874:G:C8	3.10	0.40
16:QP:34:GLU:OE2	16:QP:55:ARG:NH1	2.53	0.40
1:QA:241:C:H42	1:QA:285:G:H1	1.69	0.40
46:Y3:52:HIS:CD2	46:Y3:53:LEU:HG	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:119:A:H3'	1:QA:119:A:OP1	2.21	0.40
3:XC:188:LEU:HD13	3:XC:188:LEU:HA	1.90	0.40
22:RA:1694:C:H2'	22:RA:1694:C:H6	1.65	0.40
44:R1:95:LEU:HA	44:R1:95:LEU:HD23	1.94	0.40
28:YH:46:GLU:OE1	28:YH:51:ARG:NH1	2.54	0.40
22:YA:1072:C:H42	22:YA:1092:C:N4	2.19	0.40
37:YU:19:LYS:O	37:YU:22:LYS:HB2	2.22	0.40
22:RA:2422:A:N7	51:R8:31:HIS:HE1	2.20	0.40
13:QM:4:ILE:H	13:QM:9:ILE:CG2	2.35	0.40
1:XA:1189:C:O2'	3:XC:176:HIS:HD2	2.04	0.40
24:RD:43:ARG:CB	24:RD:54:ARG:HB2	2.52	0.40
22:YA:2849:U:O4	36:YT:23:ARG:NH2	2.54	0.40
22:RA:270(R):G:H1'	44:R1:78:LYS:HZ1	1.86	0.40
1:XA:1126:U:OP2	1:XA:1281:U:H1'	2.21	0.40
22:YA:984:A:H5''	22:YA:985:C:C5	2.38	0.40
30:RN:108:PRO:O	30:RN:113:GLY:HA3	2.21	0.40
22:RA:304:G:H2'	22:RA:305:U:C6	2.56	0.40
23:YB:10:C:H2'	23:YB:11:C:H6	1.87	0.40
1:XA:675:A:H2'	1:XA:676:A:C8	2.51	0.40
4:XD:108:LEU:HB3	4:XD:110:PHE:CD1	2.57	0.40
19:XS:15:LEU:HA	19:XS:18:LYS:HB3	2.04	0.40
5:XE:12:LEU:HB3	5:XE:31:LEU:CB	2.51	0.40
22:YA:2392:A:H2'	22:YA:2393:A:O4'	2.21	0.40
1:XA:651:C:H2'	1:XA:652:U:C6	2.48	0.40
22:YA:1050:A:C6	22:YA:1051:G:C5	3.10	0.40
1:QA:1179:A:H2'	1:QA:1180:A:O4'	2.22	0.40
1:XA:191:G:C5	1:XA:192:U:C4	3.10	0.40
1:QA:437:U:O2'	4:QD:123:HIS:HD2	2.04	0.40
8:QH:83:ILE:HB	8:QH:137:VAL:HG13	2.03	0.40
10:XJ:77:PRO:O	10:XJ:79:ARG:NH1	2.54	0.40
1:XA:1502:A:H2'	1:XA:1504:G:C8	2.57	0.40
42:RZ:166:SER:HB3	42:RZ:168:GLU:N	2.34	0.40
22:RA:702:G:C2	22:RA:731:C:N3	2.90	0.40
22:RA:533:G:C6	22:RA:534:U:N3	2.90	0.40
22:YA:270(Z):U:O2'	22:YA:271(A):C:C6	2.74	0.40
49:Y6:28:ARG:HB3	49:Y6:30:THR:C	2.41	0.40
11:XK:38:ASN:HA	11:XK:39:PRO:HD3	1.75	0.40
22:YA:2399:G:H8	22:YA:2399:G:O5'	2.05	0.40
22:RA:1265:A:OP2	22:RA:2615:U:OP1	2.40	0.40
1:XA:514:C:H2'	1:XA:515:G:H8	1.84	0.40
22:RA:1790:C:H2'	22:RA:1791:A:C4	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:2369:A:C6	22:YA:2370:G:C6	3.10	0.40
48:Y5:41:PRO:HA	48:Y5:42:PRO:HD3	1.95	0.40
1:QA:266:G:H2'	1:QA:266:G:H8	1.81	0.40
1:XA:1179:A:C6	1:XA:1180:A:C2	3.10	0.40
32:RP:25:SER:OG	32:RP:26:GLY:O	2.38	0.40
50:R7:31:LEU:HA	50:R7:31:LEU:HD23	1.86	0.40
22:RA:2233:U:H2'	22:RA:2234:G:C8	2.57	0.40
13:QM:93:ARG:NH1	22:RA:888:C:OP1	2.50	0.40
1:XA:28:G:O2'	1:XA:296:U:H5''	2.21	0.40
23:YB:21:G:N2	23:YB:63:G:C4	2.90	0.40
22:YA:1027:A:C6	22:YA:1126:A:C5	3.09	0.40
22:RA:30:G:C6	22:RA:31:C:N4	2.90	0.40
22:RA:1668:A:N7	22:RA:1674:G:C6	2.89	0.40
1:QA:1290:G:C4	1:QA:1291:G:C8	3.09	0.40
29:YI:46:ALA:O	29:YI:50:ARG:HD3	2.21	0.40
22:YA:244:A:H2'	22:YA:245:G:O4'	2.20	0.40
24:RD:96:HIS:CD2	24:RD:102:LYS:HG2	2.57	0.40
1:XA:1325:C:H2'	1:XA:1326:C:H6	1.87	0.40
30:YN:46:VAL:O	30:YN:47:ALA:HB3	2.21	0.40
22:RA:2639:A:C2	22:RA:2778:A:C8	3.10	0.40
6:QF:21:LEU:O	6:QF:25:ILE:HG12	2.21	0.40
41:YY:89:PHE:C	41:YY:90:LEU:HD13	2.42	0.40
6:QF:33:TYR:CE1	6:QF:78:GLU:HG2	2.57	0.40
22:RA:1630:G:H2'	22:RA:1630(A):C:C6	2.57	0.40
22:YA:2139:C:H2'	22:YA:2140:C:O4'	2.21	0.40
20:QT:86:ARG:O	20:QT:90:GLN:HG3	2.21	0.40
38:YV:3:ALA:HA	38:YV:40:LEU:O	2.21	0.40
28:RH:167:GLU:HA	28:RH:168:PRO:HD3	1.90	0.40
9:XI:5:TYR:HA	9:XI:17:VAL:O	2.21	0.40
23:YB:85:G:C6	23:YB:86:G:N7	2.89	0.40
1:XA:1097:C:O2'	1:XA:1169:A:N3	2.44	0.40
22:RA:2474:C:H5''	22:RA:2475:C:H5	1.86	0.40
26:YF:122:LYS:HD3	26:YF:122:LYS:HA	1.86	0.40
24:RD:26:LYS:HD2	24:RD:26:LYS:H	1.87	0.40
1:QA:899:C:O5'	1:QA:899:C:H6	2.05	0.40
1:QA:292:G:C5	1:QA:293:G:H1'	2.55	0.40
32:YP:68:GLN:HG2	51:Y8:12:LYS:HD3	2.03	0.40
22:YA:270(J):G:H1	22:YA:270(P):C:H42	1.70	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:YA:1593:G:O2'	23:YB:54:G:OP1[1_655]	2.14	0.06

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	QB	235/256 (92%)	174 (74%)	44 (19%)	17 (7%)	1	21
2	XB	235/256 (92%)	178 (76%)	42 (18%)	15 (6%)	2	25
3	QC	203/239 (85%)	163 (80%)	34 (17%)	6 (3%)	5	46
3	XC	203/239 (85%)	171 (84%)	29 (14%)	3 (2%)	13	59
4	QD	206/209 (99%)	176 (85%)	24 (12%)	6 (3%)	6	47
4	XD	206/209 (99%)	177 (86%)	24 (12%)	5 (2%)	7	51
5	QE	149/162 (92%)	136 (91%)	8 (5%)	5 (3%)	5	43
5	XE	149/162 (92%)	133 (89%)	13 (9%)	3 (2%)	9	54
6	QF	99/101 (98%)	95 (96%)	4 (4%)	0	100	100
6	XF	99/101 (98%)	94 (95%)	5 (5%)	0	100	100
7	QG	153/156 (98%)	135 (88%)	16 (10%)	2 (1%)	15	61
7	XG	153/156 (98%)	138 (90%)	13 (8%)	2 (1%)	15	61
8	QH	136/138 (99%)	121 (89%)	14 (10%)	1 (1%)	26	72
8	XH	136/138 (99%)	120 (88%)	12 (9%)	4 (3%)	6	47
9	QI	125/128 (98%)	103 (82%)	17 (14%)	5 (4%)	4	38
9	XI	125/128 (98%)	97 (78%)	24 (19%)	4 (3%)	5	45
10	QJ	97/105 (92%)	75 (77%)	19 (20%)	3 (3%)	5	46
10	XJ	97/105 (92%)	79 (81%)	13 (13%)	5 (5%)	2	30
11	QK	117/129 (91%)	100 (86%)	14 (12%)	3 (3%)	7	48
11	XK	117/129 (91%)	101 (86%)	14 (12%)	2 (2%)	11	57
12	QL	123/132 (93%)	98 (80%)	18 (15%)	7 (6%)	2	27

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	XL	123/132 (93%)	98 (80%)	15 (12%)	10 (8%)	1	17
13	QM	119/126 (94%)	95 (80%)	15 (13%)	9 (8%)	1	19
13	XM	119/126 (94%)	94 (79%)	16 (13%)	9 (8%)	1	19
14	QN	58/61 (95%)	48 (83%)	6 (10%)	4 (7%)	1	23
14	XN	58/61 (95%)	46 (79%)	6 (10%)	6 (10%)	1	12
15	QO	86/89 (97%)	80 (93%)	5 (6%)	1 (1%)	16	63
15	XO	86/89 (97%)	80 (93%)	4 (5%)	2 (2%)	8	52
16	QP	82/88 (93%)	74 (90%)	7 (8%)	1 (1%)	16	63
16	XP	82/88 (93%)	71 (87%)	10 (12%)	1 (1%)	16	63
17	QQ	98/105 (93%)	91 (93%)	5 (5%)	2 (2%)	9	54
17	XQ	98/105 (93%)	88 (90%)	10 (10%)	0	100	100
18	QR	68/88 (77%)	56 (82%)	9 (13%)	3 (4%)	3	34
18	XR	68/88 (77%)	61 (90%)	6 (9%)	1 (2%)	13	59
19	QS	82/93 (88%)	56 (68%)	15 (18%)	11 (13%)	0	6
19	XS	82/93 (88%)	54 (66%)	17 (21%)	11 (13%)	0	6
20	QT	97/106 (92%)	76 (78%)	15 (16%)	6 (6%)	2	26
20	XT	97/106 (92%)	75 (77%)	16 (16%)	6 (6%)	2	26
21	QU	23/27 (85%)	19 (83%)	3 (13%)	1 (4%)	3	35
21	XU	23/27 (85%)	18 (78%)	4 (17%)	1 (4%)	3	35
24	RD	270/276 (98%)	226 (84%)	32 (12%)	12 (4%)	3	34
24	YD	270/276 (98%)	227 (84%)	34 (13%)	9 (3%)	5	44
25	RE	203/206 (98%)	147 (72%)	36 (18%)	20 (10%)	1	13
25	YE	203/206 (98%)	142 (70%)	41 (20%)	20 (10%)	1	13
26	RF	200/210 (95%)	167 (84%)	20 (10%)	13 (6%)	1	25
26	YF	200/210 (95%)	167 (84%)	25 (12%)	8 (4%)	4	38
27	RG	179/182 (98%)	139 (78%)	26 (14%)	14 (8%)	1	19
27	YG	179/182 (98%)	142 (79%)	25 (14%)	12 (7%)	1	24
28	RH	168/180 (93%)	114 (68%)	33 (20%)	21 (12%)	0	8
28	YH	168/180 (93%)	121 (72%)	23 (14%)	24 (14%)	0	6
29	RI	144/148 (97%)	94 (65%)	31 (22%)	19 (13%)	0	6
29	YI	144/148 (97%)	100 (69%)	23 (16%)	21 (15%)	0	5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	RN	136/140 (97%)	104 (76%)	20 (15%)	12 (9%)	1	15
30	YN	136/140 (97%)	106 (78%)	16 (12%)	14 (10%)	1	12
31	RO	120/122 (98%)	109 (91%)	9 (8%)	2 (2%)	11	57
31	YO	120/122 (98%)	108 (90%)	10 (8%)	2 (2%)	11	57
32	RP	148/150 (99%)	107 (72%)	27 (18%)	14 (10%)	1	14
32	YP	148/150 (99%)	108 (73%)	23 (16%)	17 (12%)	0	8
33	RQ	139/141 (99%)	99 (71%)	22 (16%)	18 (13%)	0	7
33	YQ	139/141 (99%)	98 (70%)	22 (16%)	19 (14%)	0	6
34	RR	116/118 (98%)	106 (91%)	5 (4%)	5 (4%)	3	35
34	YR	116/118 (98%)	99 (85%)	11 (10%)	6 (5%)	2	30
35	RS	109/112 (97%)	76 (70%)	22 (20%)	11 (10%)	1	12
35	YS	109/112 (97%)	78 (72%)	18 (16%)	13 (12%)	0	8
36	RT	135/146 (92%)	106 (78%)	17 (13%)	12 (9%)	1	15
36	YT	135/146 (92%)	108 (80%)	17 (13%)	10 (7%)	1	20
37	RU	115/118 (98%)	102 (89%)	9 (8%)	4 (4%)	4	43
37	YU	115/118 (98%)	101 (88%)	10 (9%)	4 (4%)	4	43
38	RV	99/101 (98%)	82 (83%)	11 (11%)	6 (6%)	2	26
38	YV	99/101 (98%)	79 (80%)	12 (12%)	8 (8%)	1	17
39	RW	111/113 (98%)	99 (89%)	8 (7%)	4 (4%)	4	41
39	YW	111/113 (98%)	100 (90%)	9 (8%)	2 (2%)	11	56
40	RX	90/96 (94%)	77 (86%)	11 (12%)	2 (2%)	8	52
40	YX	90/96 (94%)	82 (91%)	6 (7%)	2 (2%)	8	52
41	RY	100/110 (91%)	71 (71%)	13 (13%)	16 (16%)	0	5
41	YY	100/110 (91%)	70 (70%)	18 (18%)	12 (12%)	0	8
42	RZ	181/206 (88%)	118 (65%)	35 (19%)	28 (16%)	0	5
42	YZ	181/206 (88%)	113 (62%)	46 (25%)	22 (12%)	0	8
43	R0	80/85 (94%)	61 (76%)	15 (19%)	4 (5%)	3	31
43	Y0	80/85 (94%)	66 (82%)	13 (16%)	1 (1%)	15	61
44	R1	95/98 (97%)	75 (79%)	11 (12%)	9 (10%)	1	14
44	Y1	95/98 (97%)	72 (76%)	17 (18%)	6 (6%)	2	25
45	R2	67/72 (93%)	53 (79%)	9 (13%)	5 (8%)	1	20

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	Y2	67/72 (93%)	55 (82%)	6 (9%)	6 (9%)	1	15
46	R3	57/60 (95%)	52 (91%)	3 (5%)	2 (4%)	4	43
46	Y3	57/60 (95%)	52 (91%)	4 (7%)	1 (2%)	11	56
47	R4	69/71 (97%)	35 (51%)	18 (26%)	16 (23%)	0	1
47	Y4	69/71 (97%)	35 (51%)	15 (22%)	19 (28%)	0	0
48	R5	57/60 (95%)	44 (77%)	11 (19%)	2 (4%)	4	43
48	Y5	57/60 (95%)	46 (81%)	9 (16%)	2 (4%)	4	43
49	R6	47/54 (87%)	23 (49%)	13 (28%)	11 (23%)	0	1
49	Y6	47/54 (87%)	22 (47%)	17 (36%)	8 (17%)	0	4
50	R7	47/49 (96%)	45 (96%)	1 (2%)	1 (2%)	9	53
50	Y7	47/49 (96%)	43 (92%)	3 (6%)	1 (2%)	9	53
51	R8	62/65 (95%)	51 (82%)	6 (10%)	5 (8%)	1	17
51	Y8	62/65 (95%)	48 (77%)	10 (16%)	4 (6%)	1	25
52	R9	35/37 (95%)	35 (100%)	0	0	100	100
52	Y9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	11470/12128 (95%)	9180 (80%)	1546 (14%)	744 (6%)	1	25

All (744) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	QB	236	TYR
3	QC	12	LEU
3	QC	190	ARG
4	QD	28	SER
13	QM	67	GLU
13	QM	106	ASN
13	QM	118	ALA
14	QN	16	PHE
19	QS	12	ASP
19	QS	45	VAL
20	QT	49	ALA
24	RD	26	LYS
24	RD	122	ASP
24	RD	242	ARG
25	RE	22	PRO
25	RE	53	PRO
25	RE	63	LEU

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Mol	Chain	Res	Type
25	RE	68	ALA
25	RE	71	GLY
25	RE	93	VAL
28	RH	12	PRO
28	RH	86	GLU
28	RH	126	PRO
28	RH	127	GLU
28	RH	154	PRO
28	RH	168	PRO
28	RH	169	VAL
29	RI	15	VAL
29	RI	102	SER
29	RI	115	ALA
29	RI	133	HIS
30	RN	9	VAL
30	RN	22	THR
30	RN	96	GLU
30	RN	131	GLN
31	RO	5	GLN
32	RP	6	LEU
32	RP	10	PRO
32	RP	15	ARG
32	RP	65	ARG
32	RP	95	VAL
32	RP	141	ALA
32	RP	148	LEU
33	RQ	22	LYS
33	RQ	66	ILE
33	RQ	78	PRO
33	RQ	90	VAL
33	RQ	139	GLU
34	RR	3	HIS
34	RR	4	LEU
35	RS	57	LYS
35	RS	88	ASP
35	RS	89	ARG
36	RT	2	ASN
36	RT	3	ARG
36	RT	106	SER
36	RT	112	ARG
36	RT	124	ASP
37	RU	91	ASP

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Mol	Chain	Res	Type
38	RV	48	GLY
38	RV	50	PRO
38	RV	100	ARG
39	RW	111	HIS
41	RY	3	VAL
41	RY	50	ARG
41	RY	57	GLN
41	RY	77	PRO
41	RY	78	ALA
42	RZ	60	GLU
42	RZ	111	VAL
42	RZ	112	ARG
42	RZ	158	PRO
42	RZ	179	ASP
42	RZ	182	LYS
43	R0	57	PHE
45	R2	47	ASN
45	R2	48	HIS
45	R2	70	GLN
45	R2	71	ASN
47	R4	16	CYS
47	R4	18	CYS
47	R4	40	HIS
47	R4	43	TYR
47	R4	49	PHE
47	R4	50	VAL
47	R4	53	GLU
48	R5	4	HIS
48	R5	47	PRO
49	R6	15	GLU
51	R8	34	TRP
51	R8	52	LYS
51	R8	62	LEU
2	XB	230	VAL
2	XB	236	TYR
3	XC	12	LEU
3	XC	79	ARG
4	XD	154	ASN
11	XK	91	ARG
12	XL	48	PRO
12	XL	64	TYR
13	XM	67	GLU

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Mol	Chain	Res	Type
13	XM	106	ASN
13	XM	118	ALA
14	XN	14	PRO
14	XN	16	PHE
14	XN	52	GLN
19	XS	3	ARG
19	XS	12	ASP
20	XT	48	LYS
20	XT	96	GLY
24	YD	26	LYS
24	YD	28	GLU
24	YD	122	ASP
24	YD	123	ALA
25	YE	2	LYS
25	YE	19	ARG
25	YE	22	PRO
25	YE	53	PRO
25	YE	63	LEU
25	YE	71	GLY
26	YF	73	ALA
26	YF	134	GLY
27	YG	96	ARG
28	YH	3	ARG
28	YH	12	PRO
28	YH	13	LYS
28	YH	86	GLU
28	YH	126	PRO
28	YH	127	GLU
28	YH	128	PRO
28	YH	168	PRO
28	YH	169	VAL
29	YI	113	ARG
29	YI	133	HIS
29	YI	145	VAL
30	YN	9	VAL
30	YN	22	THR
30	YN	36	GLY
32	YP	6	LEU
32	YP	10	PRO
32	YP	14	LYS
32	YP	15	ARG
32	YP	25	SER

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Mol	Chain	Res	Type
32	YP	27	HIS
32	YP	95	VAL
32	YP	106	LEU
32	YP	148	LEU
33	YQ	18	LYS
33	YQ	22	LYS
33	YQ	25	ASP
33	YQ	79	LEU
33	YQ	86	GLY
33	YQ	90	VAL
33	YQ	134	ARG
34	YR	3	HIS
35	YS	82	ILE
35	YS	88	ASP
35	YS	107	GLU
36	YT	2	ASN
36	YT	123	GLN
36	YT	124	ASP
37	YU	90	VAL
37	YU	91	ASP
37	YU	93	LYS
38	YV	45	THR
40	YX	68	ARG
41	YY	50	ARG
41	YY	57	GLN
41	YY	77	PRO
41	YY	78	ALA
42	YZ	7	ALA
42	YZ	53	ILE
42	YZ	152	ALA
42	YZ	159	PRO
42	YZ	165	VAL
44	Y1	30	VAL
44	Y1	84	GLY
44	Y1	91	LYS
44	Y1	95	LEU
45	Y2	16	LEU
45	Y2	43	GLN
45	Y2	47	ASN
45	Y2	48	HIS
47	Y4	24	THR
47	Y4	40	HIS

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Mol	Chain	Res	Type
47	Y4	49	PHE
48	Y5	4	HIS
49	Y6	15	GLU
50	Y7	48	LYS
51	Y8	52	LYS
51	Y8	62	LEU
2	QB	15	VAL
2	QB	96	ARG
2	QB	229	VAL
2	QB	230	VAL
2	QB	237	ALA
3	QC	79	ARG
4	QD	51	PRO
4	QD	154	ASN
5	QE	115	VAL
8	QH	129	VAL
9	QI	41	VAL
9	QI	117	HIS
11	QK	101	SER
12	QL	47	LYS
12	QL	91	LYS
13	QM	12	ASN
14	QN	12	ARG
17	QQ	74	LEU
17	QQ	81	ARG
19	QS	3	ARG
19	QS	11	VAL
19	QS	26	GLY
19	QS	31	ILE
19	QS	41	VAL
24	RD	32	SER
25	RE	50	GLY
25	RE	60	ASN
25	RE	66	HIS
25	RE	72	VAL
25	RE	90	THR
25	RE	92	THR
25	RE	187	ALA
26	RF	17	ARG
26	RF	67	GLN
26	RF	73	ALA
26	RF	89	VAL

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Mol	Chain	Res	Type
26	RF	134	GLY
26	RF	198	ALA
27	RG	4	ASP
27	RG	5	VAL
27	RG	14	GLU
27	RG	96	ARG
27	RG	137	GLU
27	RG	146	TYR
28	RH	8	PRO
28	RH	128	PRO
28	RH	137	ASP
28	RH	153	LYS
28	RH	155	SER
29	RI	11	ASN
29	RI	13	GLY
29	RI	116	LEU
29	RI	117	GLU
32	RP	11	GLY
32	RP	90	ARG
32	RP	103	ALA
32	RP	106	LEU
33	RQ	6	ARG
33	RQ	25	ASP
33	RQ	27	VAL
33	RQ	133	ARG
34	RR	107	ASP
35	RS	4	LEU
35	RS	107	GLU
36	RT	37	GLY
37	RU	90	VAL
38	RV	49	THR
38	RV	79	VAL
40	RX	41	ASN
41	RY	45	VAL
41	RY	48	ALA
41	RY	63	LYS
42	RZ	6	LYS
42	RZ	12	GLY
42	RZ	53	ILE
42	RZ	62	PRO
42	RZ	152	ALA
42	RZ	177	PRO

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Mol	Chain	Res	Type
42	RZ	181	GLU
44	R1	30	VAL
44	R1	80	LEU
44	R1	84	GLY
44	R1	91	LYS
44	R1	95	LEU
45	R2	43	GLN
46	R3	26	LEU
47	R4	24	THR
47	R4	30	GLU
47	R4	51	ASP
47	R4	66	SER
49	R6	7	ILE
49	R6	45	LYS
2	XB	15	VAL
4	XD	30	LYS
4	XD	166	LYS
5	XE	115	VAL
7	XG	55	GLY
8	XH	50	ARG
9	XI	41	VAL
9	XI	127	LYS
10	XJ	30	SER
10	XJ	86	MET
12	XL	63	GLY
12	XL	91	LYS
12	XL	115	LYS
13	XM	6	GLY
13	XM	21	TYR
19	XS	41	VAL
19	XS	45	VAL
20	XT	99	LEU
24	YD	238	GLY
24	YD	242	ARG
25	YE	7	VAL
25	YE	204	ALA
26	YF	128	ALA
26	YF	132	VAL
26	YF	181	LEU
27	YG	4	ASP
27	YG	36	LYS
28	YH	27	LYS

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Mol	Chain	Res	Type
28	YH	50	VAL
28	YH	85	LYS
28	YH	152	ARG
28	YH	155	SER
29	YI	11	ASN
29	YI	84	GLY
29	YI	114	LEU
29	YI	122	GLU
30	YN	23	LEU
30	YN	96	GLU
31	YO	5	GLN
32	YP	66	GLY
32	YP	93	GLY
32	YP	141	ALA
33	YQ	6	ARG
33	YQ	60	ARG
33	YQ	137	TYR
34	YR	4	LEU
34	YR	45	ARG
34	YR	107	ASP
35	YS	12	PHE
35	YS	57	LYS
35	YS	109	GLY
36	YT	13	ARG
36	YT	39	ARG
36	YT	106	SER
38	YV	31	ALA
38	YV	48	GLY
38	YV	79	VAL
39	YW	111	HIS
41	YY	58	GLY
41	YY	102	CYS
42	YZ	6	LYS
42	YZ	61	LEU
42	YZ	81	ARG
42	YZ	121	HIS
42	YZ	177	PRO
43	Y0	64	ASP
45	Y2	70	GLN
45	Y2	71	ASN
47	Y4	5	ILE
47	Y4	18	CYS

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Mol	Chain	Res	Type
47	Y4	22	ILE
47	Y4	37	SER
47	Y4	43	TYR
47	Y4	50	VAL
49	Y6	7	ILE
49	Y6	16	CYS
49	Y6	33	LYS
2	QB	26	PRO
2	QB	87	ARG
2	QB	204	ASN
2	QB	207	ALA
3	QC	4	LYS
3	QC	51	GLY
4	QD	155	LEU
5	QE	77	PRO
10	QJ	30	SER
11	QK	103	LEU
11	QK	125	PHE
12	QL	28	LYS
13	QM	13	LYS
13	QM	120	LYS
14	QN	14	PRO
15	QO	23	GLY
19	QS	9	VAL
19	QS	14	HIS
19	QS	28	LYS
20	QT	96	GLY
24	RD	46	GLN
24	RD	239	ARG
25	RE	79	ARG
25	RE	204	ALA
26	RF	133	ASN
27	RG	32	PRO
27	RG	116	ASP
28	RH	5	GLY
28	RH	27	LYS
28	RH	55	PRO
28	RH	87	LEU
28	RH	138	LYS
29	RI	12	LEU
29	RI	65	ALA
29	RI	109	ILE

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Mol	Chain	Res	Type
30	RN	8	GLN
30	RN	23	LEU
30	RN	95	PRO
30	RN	130	HIS
31	RO	97	ARG
32	RP	29	LYS
32	RP	67	MET
33	RQ	11	LYS
33	RQ	19	GLY
33	RQ	137	TYR
34	RR	74	LYS
35	RS	12	PHE
35	RS	61	ASN
36	RT	12	SER
36	RT	97	ALA
37	RU	117	GLN
40	RX	67	GLY
41	RY	58	GLY
42	RZ	13	GLU
42	RZ	30	ASN
42	RZ	63	ASP
42	RZ	92	SER
42	RZ	104	PHE
42	RZ	159	PRO
42	RZ	165	VAL
43	R0	12	ASN
44	R1	76	ARG
46	R3	27	GLY
49	R6	16	CYS
49	R6	33	LYS
49	R6	35	GLU
49	R6	49	HIS
51	R8	31	HIS
51	R8	51	ALA
2	XB	13	ALA
2	XB	22	LYS
2	XB	24	TRP
2	XB	135	GLN
2	XB	207	ALA
4	XD	73	ARG
4	XD	155	LEU
7	XG	7	ALA

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Mol	Chain	Res	Type
8	XH	2	LEU
9	XI	56	LEU
9	XI	95	LYS
10	XJ	59	SER
11	XK	103	LEU
13	XM	4	ILE
13	XM	12	ASN
13	XM	42	ALA
19	XS	27	GLU
19	XS	28	LYS
24	YD	32	SER
25	YE	20	ALA
25	YE	50	GLY
25	YE	79	ARG
25	YE	90	THR
25	YE	92	THR
25	YE	117	MET
25	YE	184	VAL
26	YF	198	ALA
28	YH	8	PRO
28	YH	10	PRO
28	YH	87	LEU
28	YH	137	ASP
28	YH	138	LYS
28	YH	153	LYS
28	YH	154	PRO
29	YI	10	GLU
29	YI	12	LEU
29	YI	15	VAL
29	YI	16	GLY
29	YI	83	ALA
29	YI	86	THR
29	YI	118	LYS
30	YN	7	LYS
30	YN	131	GLN
32	YP	16	ARG
32	YP	29	LYS
32	YP	65	ARG
33	YQ	19	GLY
33	YQ	105	GLU
33	YQ	133	ARG
34	YR	86	ARG

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Mol	Chain	Res	Type
35	YS	4	LEU
35	YS	11	LYS
36	YT	97	ALA
38	YV	49	THR
38	YV	53	GLU
38	YV	100	ARG
41	YY	42	VAL
41	YY	63	LYS
42	YZ	62	PRO
42	YZ	112	ARG
42	YZ	115	GLY
46	Y3	3	ARG
47	Y4	9	LEU
47	Y4	23	GLU
47	Y4	30	GLU
47	Y4	34	GLU
47	Y4	66	SER
48	Y5	47	PRO
49	Y6	19	ARG
49	Y6	49	HIS
51	Y8	30	ARG
51	Y8	34	TRP
2	QB	22	LYS
2	QB	126	GLU
2	QB	209	ARG
4	QD	171	GLY
9	QI	56	LEU
12	QL	27	LEU
12	QL	48	PRO
13	QM	6	GLY
18	QR	20	ALA
18	QR	54	ARG
20	QT	71	THR
21	QU	9	ARG
24	RD	3	VAL
24	RD	123	ALA
24	RD	237	GLU
25	RE	78	LEU
26	RF	66	PRO
26	RF	197	ASP
27	RG	36	LYS
27	RG	86	MET

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Mol	Chain	Res	Type
28	RH	92	ILE
29	RI	10	GLU
29	RI	118	LYS
29	RI	122	GLU
32	RP	21	ARG
33	RQ	21	THR
33	RQ	28	ALA
33	RQ	86	GLY
33	RQ	104	PHE
33	RQ	105	GLU
34	RR	71	GLN
35	RS	109	GLY
36	RT	38	ASN
36	RT	39	ARG
37	RU	98	LEU
39	RW	18	ARG
39	RW	63	ASP
39	RW	68	ARG
41	RY	4	LYS
41	RY	53	PRO
41	RY	99	CYS
42	RZ	81	ARG
42	RZ	83	PRO
42	RZ	108	PRO
42	RZ	151	HIS
43	R0	3	HIS
50	R7	48	LYS
2	XB	19	HIS
2	XB	101	MET
2	XB	155	LEU
5	XE	70	PRO
8	XH	129	VAL
12	XL	19	ARG
12	XL	28	LYS
14	XN	15	LYS
14	XN	32	SER
15	XO	88	ARG
18	XR	20	ALA
19	XS	9	VAL
20	XT	84	LEU
20	XT	98	PRO
21	XU	9	ARG

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Mol	Chain	Res	Type
27	YG	14	GLU
27	YG	82	LEU
27	YG	86	MET
27	YG	116	ASP
28	YH	83	TYR
29	YI	115	ALA
30	YN	11	PRO
30	YN	28	THR
30	YN	47	ALA
33	YQ	104	PHE
33	YQ	140	ALA
35	YS	89	ARG
35	YS	96	GLY
36	YT	17	THR
40	YX	40	LYS
41	YY	51	VAL
41	YY	53	PRO
42	YZ	13	GLU
42	YZ	92	SER
42	YZ	160	GLY
42	YZ	166	SER
47	Y4	16	CYS
47	Y4	25	TYR
47	Y4	54	GLY
47	Y4	60	GLN
49	Y6	35	GLU
2	QB	234	PRO
4	QD	42	GLN
5	QE	70	PRO
5	QE	96	PRO
7	QG	7	ALA
9	QI	121	ARG
12	QL	19	ARG
12	QL	121	GLY
13	QM	4	ILE
18	QR	26	LEU
20	QT	73	HIS
20	QT	97	ALA
24	RD	238	GLY
25	RE	54	GLN
26	RF	8	GLN
27	RG	82	LEU

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Mol	Chain	Res	Type
28	RH	21	PRO
28	RH	83	TYR
29	RI	47	LEU
29	RI	145	VAL
30	RN	18	ALA
30	RN	57	ALA
30	RN	135	PRO
35	RS	97	ARG
35	RS	110	LEU
36	RT	40	THR
41	RY	39	VAL
41	RY	41	GLY
41	RY	62	GLU
42	RZ	116	VAL
44	R1	74	VAL
44	R1	82	LEU
47	R4	5	ILE
47	R4	23	GLU
47	R4	28	LYS
47	R4	68	ARG
49	R6	9	LEU
49	R6	19	ARG
2	XB	121	LEU
3	XC	181	ASN
10	XJ	27	ALA
12	XL	27	LEU
12	XL	65	GLU
13	XM	101	GLN
15	XO	23	GLY
20	XT	97	ALA
24	YD	3	VAL
24	YD	46	GLN
25	YE	68	ALA
25	YE	82	ARG
25	YE	86	PRO
27	YG	5	VAL
27	YG	53	LEU
27	YG	117	PHE
28	YH	151	ILE
29	YI	18	VAL
29	YI	33	ARG
29	YI	80	PRO

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Mol	Chain	Res	Type
29	YI	87	LYS
29	YI	112	LYS
30	YN	95	PRO
30	YN	127	ASP
30	YN	134	ARG
30	YN	135	PRO
32	YP	7	ARG
33	YQ	11	LYS
33	YQ	27	VAL
35	YS	94	TYR
35	YS	110	LEU
36	YT	86	ILE
37	YU	117	GLN
38	YV	50	PRO
41	YY	39	VAL
42	YZ	168	GLU
44	Y1	74	VAL
47	Y4	14	ILE
49	Y6	21	TYR
2	QB	155	LEU
10	QJ	82	ILE
13	QM	10	PRO
14	QN	15	LYS
20	QT	98	PRO
24	RD	125	ILE
25	RE	82	ARG
26	RF	130	ALA
27	RG	52	ILE
27	RG	88	ILE
27	RG	117	PHE
29	RI	9	LEU
35	RS	82	ILE
41	RY	5	MET
42	RZ	61	LEU
44	R1	55	GLY
47	R4	11	PRO
49	R6	21	TYR
49	R6	34	LEU
2	XB	26	PRO
2	XB	126	GLU
2	XB	237	ALA
10	XJ	91	PRO

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Mol	Chain	Res	Type
14	XN	60	SER
19	XS	7	LYS
25	YE	72	VAL
26	YF	58	ALA
29	YI	9	LEU
31	YO	97	ARG
33	YQ	62	GLY
33	YQ	81	VAL
41	YY	3	VAL
42	YZ	96	VAL
44	Y1	55	GLY
2	QB	5	ILE
16	QP	46	PRO
25	RE	21	VAL
25	RE	86	PRO
26	RF	25	PRO
28	RH	166	GLY
29	RI	144	VAL
43	R0	8	GLY
5	XE	74	GLY
12	XL	18	VAL
3	QC	81	GLY
5	QE	74	GLY
19	QS	46	GLY
24	RD	35	LYS
19	XS	26	GLY
19	XS	46	GLY
26	YF	66	PRO
36	YT	37	GLY
42	YZ	137	ILE
7	QG	50	ILE
9	QI	89	ASN
10	QJ	37	PRO
30	RN	134	ARG
33	RQ	81	VAL
36	RT	86	ILE
42	RZ	141	VAL
8	XH	51	VAL
16	XP	46	PRO
19	XS	31	ILE
25	YE	21	VAL
39	YW	14	PRO

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Mol	Chain	Res	Type
42	YZ	147	GLY
26	RF	132	VAL
29	RI	18	VAL
38	RV	54	GLY
42	RZ	94	GLU
27	YG	52	ILE
27	YG	88	ILE
28	YH	7	LEU
32	YP	24	GLY
34	YR	117	VAL
2	QB	227	GLY
35	YS	60	GLY
42	YZ	95	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	QB	205/220 (93%)	172 (84%)	33 (16%)	3	22
2	XB	205/220 (93%)	180 (88%)	25 (12%)	6	34
3	QC	159/188 (85%)	145 (91%)	14 (9%)	12	51
3	XC	159/188 (85%)	146 (92%)	13 (8%)	14	54
4	QD	180/181 (99%)	157 (87%)	23 (13%)	5	32
4	XD	180/181 (99%)	154 (86%)	26 (14%)	4	28
5	QE	116/123 (94%)	104 (90%)	12 (10%)	9	43
5	XE	116/123 (94%)	104 (90%)	12 (10%)	9	43
6	QF	90/90 (100%)	78 (87%)	12 (13%)	5	31
6	XF	90/90 (100%)	82 (91%)	8 (9%)	12	51
7	QG	126/127 (99%)	114 (90%)	12 (10%)	11	47
7	XG	126/127 (99%)	114 (90%)	12 (10%)	11	47
8	QH	119/119 (100%)	109 (92%)	10 (8%)	14	53
8	XH	119/119 (100%)	106 (89%)	13 (11%)	8	41

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	QI	98/99 (99%)	81 (83%)	17 (17%)	2	17
9	XI	98/99 (99%)	80 (82%)	18 (18%)	2	14
10	QJ	89/92 (97%)	77 (86%)	12 (14%)	5	31
10	XJ	89/92 (97%)	74 (83%)	15 (17%)	2	19
11	QK	90/99 (91%)	81 (90%)	9 (10%)	9	44
11	XK	90/99 (91%)	82 (91%)	8 (9%)	12	51
12	QL	104/109 (95%)	87 (84%)	17 (16%)	3	21
12	XL	104/109 (95%)	93 (89%)	11 (11%)	8	42
13	QM	97/101 (96%)	73 (75%)	24 (25%)	1	7
13	XM	97/101 (96%)	78 (80%)	19 (20%)	1	12
14	QN	49/50 (98%)	40 (82%)	9 (18%)	2	14
14	XN	49/50 (98%)	42 (86%)	7 (14%)	4	28
15	QO	79/80 (99%)	72 (91%)	7 (9%)	12	51
15	XO	79/80 (99%)	69 (87%)	10 (13%)	5	32
16	QP	72/74 (97%)	63 (88%)	9 (12%)	6	33
16	XP	72/74 (97%)	63 (88%)	9 (12%)	6	33
17	QQ	95/97 (98%)	87 (92%)	8 (8%)	14	53
17	XQ	95/97 (98%)	89 (94%)	6 (6%)	22	65
18	QR	61/77 (79%)	50 (82%)	11 (18%)	2	16
18	XR	61/77 (79%)	52 (85%)	9 (15%)	4	26
19	QS	73/80 (91%)	59 (81%)	14 (19%)	2	13
19	XS	73/80 (91%)	57 (78%)	16 (22%)	1	9
20	QT	76/82 (93%)	67 (88%)	9 (12%)	6	36
20	XT	76/82 (93%)	66 (87%)	10 (13%)	5	31
21	QU	20/22 (91%)	20 (100%)	0	100	100
21	XU	20/22 (91%)	19 (95%)	1 (5%)	30	71
24	RD	214/218 (98%)	174 (81%)	40 (19%)	2	14
24	YD	214/218 (98%)	181 (85%)	33 (15%)	3	24
25	RE	165/166 (99%)	126 (76%)	39 (24%)	1	7
25	YE	165/166 (99%)	137 (83%)	28 (17%)	2	19
26	RF	161/166 (97%)	132 (82%)	29 (18%)	2	16

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
26	YF	161/166 (97%)	137 (85%)	24 (15%)	4	26
27	RG	155/156 (99%)	134 (86%)	21 (14%)	5	31
27	YG	155/156 (99%)	133 (86%)	22 (14%)	4	29
28	RH	142/148 (96%)	120 (84%)	22 (16%)	3	24
28	YH	142/148 (96%)	117 (82%)	25 (18%)	2	16
29	RI	122/124 (98%)	86 (70%)	36 (30%)	0	4
29	YI	122/124 (98%)	85 (70%)	37 (30%)	0	3
30	RN	117/119 (98%)	97 (83%)	20 (17%)	2	18
30	YN	117/119 (98%)	96 (82%)	21 (18%)	2	16
31	RO	100/100 (100%)	90 (90%)	10 (10%)	9	44
31	YO	100/100 (100%)	88 (88%)	12 (12%)	6	35
32	RP	116/116 (100%)	85 (73%)	31 (27%)	0	5
32	YP	116/116 (100%)	82 (71%)	34 (29%)	0	4
33	RQ	111/111 (100%)	95 (86%)	16 (14%)	4	28
33	YQ	111/111 (100%)	92 (83%)	19 (17%)	2	18
34	RR	101/101 (100%)	83 (82%)	18 (18%)	2	16
34	YR	101/101 (100%)	81 (80%)	20 (20%)	1	12
35	RS	87/88 (99%)	69 (79%)	18 (21%)	1	10
35	YS	87/88 (99%)	68 (78%)	19 (22%)	1	9
36	RT	120/127 (94%)	102 (85%)	18 (15%)	3	26
36	YT	120/127 (94%)	98 (82%)	22 (18%)	2	14
37	RU	93/94 (99%)	78 (84%)	15 (16%)	3	22
37	YU	93/94 (99%)	77 (83%)	16 (17%)	2	18
38	RV	82/82 (100%)	66 (80%)	16 (20%)	2	12
38	YV	82/82 (100%)	67 (82%)	15 (18%)	2	14
39	RW	92/92 (100%)	73 (79%)	19 (21%)	1	10
39	YW	92/92 (100%)	76 (83%)	16 (17%)	2	17
40	RX	74/78 (95%)	64 (86%)	10 (14%)	5	31
40	YX	74/78 (95%)	60 (81%)	14 (19%)	2	13
41	RY	85/91 (93%)	63 (74%)	22 (26%)	0	5
41	YY	85/91 (93%)	64 (75%)	21 (25%)	1	7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
42	RZ	162/179 (90%)	131 (81%)	31 (19%)	2	13
42	YZ	162/179 (90%)	121 (75%)	41 (25%)	1	6
43	R0	65/67 (97%)	56 (86%)	9 (14%)	4	30
43	Y0	65/67 (97%)	53 (82%)	12 (18%)	2	14
44	R1	82/83 (99%)	73 (89%)	9 (11%)	8	40
44	Y1	82/83 (99%)	70 (85%)	12 (15%)	4	27
45	R2	64/67 (96%)	57 (89%)	7 (11%)	8	41
45	Y2	64/67 (96%)	47 (73%)	17 (27%)	0	5
46	R3	51/52 (98%)	45 (88%)	6 (12%)	6	36
46	Y3	51/52 (98%)	43 (84%)	8 (16%)	3	24
47	R4	63/63 (100%)	45 (71%)	18 (29%)	0	4
47	Y4	63/63 (100%)	43 (68%)	20 (32%)	0	3
48	R5	51/52 (98%)	37 (72%)	14 (28%)	0	4
48	Y5	51/52 (98%)	37 (72%)	14 (28%)	0	4
49	R6	48/52 (92%)	35 (73%)	13 (27%)	0	5
49	Y6	48/52 (92%)	38 (79%)	10 (21%)	1	10
50	R7	42/42 (100%)	34 (81%)	8 (19%)	2	13
50	Y7	42/42 (100%)	35 (83%)	7 (17%)	3	19
51	R8	54/55 (98%)	44 (82%)	10 (18%)	2	14
51	Y8	54/55 (98%)	41 (76%)	13 (24%)	1	7
52	R9	34/34 (100%)	32 (94%)	2 (6%)	24	67
52	Y9	34/34 (100%)	32 (94%)	2 (6%)	24	67
All	All	9702/10066 (96%)	8111 (84%)	1591 (16%)	3	20

All (1591) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	5	ILE
2	QB	6	THR
2	QB	7	VAL
2	QB	8	LYS
2	QB	15	VAL
2	QB	23	ARG
2	QB	24	TRP

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Mol	Chain	Res	Type
2	QB	32	ILE
2	QB	33	TYR
2	QB	53	ARG
2	QB	60	ASP
2	QB	67	THR
2	QB	82	ARG
2	QB	87	ARG
2	QB	92	TYR
2	QB	94	ASN
2	QB	101	MET
2	QB	109	SER
2	QB	119	GLU
2	QB	121	LEU
2	QB	150	SER
2	QB	155	LEU
2	QB	158	LEU
2	QB	163	PHE
2	QB	165	VAL
2	QB	168	THR
2	QB	172	ILE
2	QB	175	ARG
2	QB	187	LEU
2	QB	196	LEU
2	QB	204	ASN
2	QB	215	LEU
2	QB	217	ARG
3	QC	3	ASN
3	QC	5	ILE
3	QC	12	LEU
3	QC	16	ARG
3	QC	21	ARG
3	QC	45	LYS
3	QC	52	LEU
3	QC	76	VAL
3	QC	94	LEU
3	QC	127	ARG
3	QC	131	ARG
3	QC	154	SER
3	QC	165	THR
3	QC	206	GLU
4	QD	3	ARG
4	QD	14	ARG

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Mol	Chain	Res	Type
4	QD	22	LYS
4	QD	26	CYS
4	QD	30	LYS
4	QD	33	MET
4	QD	50	ARG
4	QD	58	LEU
4	QD	73	ARG
4	QD	76	ARG
4	QD	86	LYS
4	QD	94	LEU
4	QD	96	LEU
4	QD	122	ARG
4	QD	127	THR
4	QD	131	ARG
4	QD	135	LEU
4	QD	154	ASN
4	QD	175	SER
4	QD	187	ARG
4	QD	190	ASP
4	QD	191	ARG
4	QD	192	GLU
5	QE	10	MET
5	QE	12	LEU
5	QE	31	LEU
5	QE	34	VAL
5	QE	41	VAL
5	QE	51	VAL
5	QE	68	GLU
5	QE	79	GLU
5	QE	81	GLU
5	QE	98	THR
5	QE	101	ILE
5	QE	153	LYS
6	QF	16	GLN
6	QF	21	LEU
6	QF	23	LYS
6	QF	43	LEU
6	QF	45	LEU
6	QF	47	ARG
6	QF	55	ASP
6	QF	69	GLU
6	QF	70	ASP

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Mol	Chain	Res	Type
6	QF	72	VAL
6	QF	75	LEU
6	QF	98	LEU
7	QG	8	GLU
7	QG	54	THR
7	QG	80	VAL
7	QG	92	SER
7	QG	94	ARG
7	QG	104	LEU
7	QG	113	GLU
7	QG	114	ARG
7	QG	135	VAL
7	QG	136	LYS
7	QG	137	LYS
7	QG	155	ARG
8	QH	1	MET
8	QH	24	THR
8	QH	25	ASP
8	QH	26	VAL
8	QH	41	ARG
8	QH	99	GLU
8	QH	109	ILE
8	QH	112	LEU
8	QH	125	ARG
8	QH	129	VAL
9	QI	9	ARG
9	QI	10	ARG
9	QI	11	LYS
9	QI	23	ASN
9	QI	47	LEU
9	QI	56	LEU
9	QI	64	THR
9	QI	65	VAL
9	QI	75	ASP
9	QI	95	LYS
9	QI	104	ARG
9	QI	105	ASP
9	QI	113	LYS
9	QI	114	TYR
9	QI	121	ARG
9	QI	125	TYR
9	QI	128	ARG

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Mol	Chain	Res	Type
10	QJ	22	LYS
10	QJ	47	PHE
10	QJ	54	PHE
10	QJ	57	LYS
10	QJ	58	ASP
10	QJ	62	HIS
10	QJ	73	ASP
10	QJ	74	ILE
10	QJ	80	LYS
10	QJ	84	GLN
10	QJ	92	THR
10	QJ	96	ILE
11	QK	26	ASN
11	QK	29	ILE
11	QK	32	ILE
11	QK	34	ASP
11	QK	63	LEU
11	QK	92	GLU
11	QK	103	LEU
11	QK	109	VAL
11	QK	127	LYS
12	QL	17	LYS
12	QL	18	VAL
12	QL	20	LYS
12	QL	27	LEU
12	QL	33	ARG
12	QL	38	THR
12	QL	42	THR
12	QL	50	SER
12	QL	54	LYS
12	QL	59	ARG
12	QL	60	LEU
12	QL	73	GLU
12	QL	83	VAL
12	QL	85	ILE
12	QL	89	ARG
12	QL	102	ARG
12	QL	113	ARG
13	QM	8	GLU
13	QM	11	ARG
13	QM	13	LYS
13	QM	17	VAL

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Mol	Chain	Res	Type
13	QM	19	LEU
13	QM	45	VAL
13	QM	47	ASP
13	QM	48	LEU
13	QM	56	LEU
13	QM	57	ARG
13	QM	64	TRP
13	QM	66	LEU
13	QM	70	LEU
13	QM	77	ASN
13	QM	84	ILE
13	QM	88	ARG
13	QM	90	LEU
13	QM	98	VAL
13	QM	108	ARG
13	QM	111	LYS
13	QM	114	ARG
13	QM	115	LYS
13	QM	117	VAL
13	QM	122	LYS
14	QN	6	LEU
14	QN	12	ARG
14	QN	13	THR
14	QN	18	VAL
14	QN	33	VAL
14	QN	43	CYS
14	QN	44	LEU
14	QN	46	GLU
14	QN	57	ARG
15	QO	3	ILE
15	QO	4	THR
15	QO	26	GLU
15	QO	31	LEU
15	QO	39	LEU
15	QO	64	ARG
15	QO	84	LYS
16	QP	2	VAL
16	QP	20	VAL
16	QP	26	ARG
16	QP	28	ARG
16	QP	33	ILE
16	QP	53	VAL

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Mol	Chain	Res	Type
16	QP	67	THR
16	QP	69	THR
16	QP	71	ARG
17	QQ	37	LYS
17	QQ	38	ARG
17	QQ	52	LYS
17	QQ	59	ILE
17	QQ	62	SER
17	QQ	68	ARG
17	QQ	74	LEU
17	QQ	101	ARG
18	QR	26	LEU
18	QR	29	PHE
18	QR	31	LEU
18	QR	32	ARG
18	QR	36	ASN
18	QR	46	GLU
18	QR	54	ARG
18	QR	76	LEU
18	QR	82	THR
18	QR	83	GLU
18	QR	86	VAL
19	QS	5	LEU
19	QS	10	PHE
19	QS	12	ASP
19	QS	21	GLU
19	QS	28	LYS
19	QS	29	ARG
19	QS	30	LEU
19	QS	37	ARG
19	QS	43	GLU
19	QS	44	MET
19	QS	63	THR
19	QS	67	VAL
19	QS	77	THR
19	QS	83	HIS
20	QT	17	ARG
20	QT	24	LEU
20	QT	45	GLN
20	QT	72	LEU
20	QT	73	HIS
20	QT	75	ASN

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Mol	Chain	Res	Type
20	QT	80	ARG
20	QT	84	LEU
20	QT	93	GLU
24	RD	5	LYS
24	RD	10	THR
24	RD	17	THR
24	RD	25	THR
24	RD	40	THR
24	RD	43	ARG
24	RD	44	ASN
24	RD	46	GLN
24	RD	49	ILE
24	RD	61	LEU
24	RD	65	ILE
24	RD	69	ARG
24	RD	71	ASP
24	RD	73	VAL
24	RD	83	GLU
24	RD	87	ASN
24	RD	88	ARG
24	RD	95	LEU
24	RD	103	ARG
24	RD	105	ILE
24	RD	106	ILE
24	RD	111	LEU
24	RD	134	ARG
24	RD	150	LYS
24	RD	155	LEU
24	RD	157	ARG
24	RD	173	VAL
24	RD	192	THR
24	RD	211	ARG
24	RD	212	SER
24	RD	221	VAL
24	RD	229	VAL
24	RD	237	GLU
24	RD	242	ARG
24	RD	257	LEU
24	RD	259	THR
24	RD	261	LYS
24	RD	268	ARG
24	RD	271	ILE

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Mol	Chain	Res	Type
24	RD	273	ARG
25	RE	2	LYS
25	RE	4	ILE
25	RE	7	VAL
25	RE	12	THR
25	RE	13	ARG
25	RE	16	ARG
25	RE	26	ILE
25	RE	27	LEU
25	RE	33	VAL
25	RE	34	VAL
25	RE	38	THR
25	RE	41	LYS
25	RE	42	ASP
25	RE	47	VAL
25	RE	49	LEU
25	RE	52	LEU
25	RE	54	GLN
25	RE	63	LEU
25	RE	77	ILE
25	RE	79	ARG
25	RE	80	GLU
25	RE	82	ARG
25	RE	92	THR
25	RE	101	ARG
25	RE	113	PHE
25	RE	116	VAL
25	RE	119	ARG
25	RE	127	ASP
25	RE	144	ARG
25	RE	146	THR
25	RE	167	VAL
25	RE	175	VAL
25	RE	179	GLU
25	RE	181	LEU
25	RE	184	VAL
25	RE	197	ILE
25	RE	200	GLU
25	RE	202	LYS
25	RE	203	LYS
26	RF	9	ILE
26	RF	13	SER

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Mol	Chain	Res	Type
26	RF	24	LEU
26	RF	28	ILE
26	RF	32	LEU
26	RF	33	LEU
26	RF	45	ARG
26	RF	57	VAL
26	RF	65	TRP
26	RF	68	LYS
26	RF	70	THR
26	RF	74	ARG
26	RF	77	ASP
26	RF	78	ILE
26	RF	84	VAL
26	RF	104	LYS
26	RF	107	LYS
26	RF	117	ARG
26	RF	127	GLU
26	RF	149	ASP
26	RF	158	THR
26	RF	161	GLU
26	RF	165	ARG
26	RF	174	VAL
26	RF	176	LEU
26	RF	181	LEU
26	RF	192	LEU
26	RF	194	MET
26	RF	197	ASP
27	RG	7	LEU
27	RG	10	LYS
27	RG	20	ILE
27	RG	26	GLN
27	RG	33	ARG
27	RG	34	LEU
27	RG	43	LEU
27	RG	53	LEU
27	RG	54	GLU
27	RG	67	LYS
27	RG	71	THR
27	RG	88	ILE
27	RG	94	LEU
27	RG	98	ARG
27	RG	116	ASP

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Mol	Chain	Res	Type
27	RG	118	ARG
27	RG	133	LEU
27	RG	147	ASP
27	RG	159	VAL
27	RG	167	GLU
27	RG	174	GLU
28	RH	3	ARG
28	RH	4	ILE
28	RH	7	LEU
28	RH	9	ILE
28	RH	27	LYS
28	RH	42	ARG
28	RH	43	VAL
28	RH	51	ARG
28	RH	59	ARG
28	RH	64	LEU
28	RH	77	LYS
28	RH	81	GLU
28	RH	88	LEU
28	RH	89	ILE
28	RH	105	LEU
28	RH	107	VAL
28	RH	132	ARG
28	RH	139	GLN
28	RH	152	ARG
28	RH	153	LYS
28	RH	158	HIS
28	RH	169	VAL
29	RI	3	VAL
29	RI	6	LEU
29	RI	9	LEU
29	RI	10	GLU
29	RI	15	VAL
29	RI	25	TYR
29	RI	27	ARG
29	RI	33	ARG
29	RI	35	LEU
29	RI	38	LEU
29	RI	40	THR
29	RI	42	SER
29	RI	57	ARG
29	RI	58	LEU

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Mol	Chain	Res	Type
29	RI	68	LEU
29	RI	69	LYS
29	RI	70	GLU
29	RI	72	LEU
29	RI	79	ILE
29	RI	81	VAL
29	RI	85	GLU
29	RI	86	THR
29	RI	88	ILE
29	RI	92	VAL
29	RI	97	ILE
29	RI	102	SER
29	RI	112	LYS
29	RI	113	ARG
29	RI	118	LYS
29	RI	129	THR
29	RI	130	TYR
29	RI	131	LYS
29	RI	133	HIS
29	RI	135	GLU
29	RI	138	ILE
29	RI	142	VAL
30	RN	1	MET
30	RN	2	LYS
30	RN	5	VAL
30	RN	7	LYS
30	RN	12	ARG
30	RN	32	THR
30	RN	34	LEU
30	RN	43	THR
30	RN	48	MET
30	RN	60	ILE
30	RN	61	ARG
30	RN	62	VAL
30	RN	87	LEU
30	RN	90	MET
30	RN	96	GLU
30	RN	98	VAL
30	RN	109	LYS
30	RN	120	LEU
30	RN	127	ASP
30	RN	136	GLU

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Mol	Chain	Res	Type
31	RO	3	GLN
31	RO	9	GLU
31	RO	19	ILE
31	RO	24	VAL
31	RO	31	LYS
31	RO	49	ARG
31	RO	53	LYS
31	RO	69	ILE
31	RO	91	LEU
31	RO	102	VAL
32	RP	5	ASP
32	RP	6	LEU
32	RP	9	ASN
32	RP	14	LYS
32	RP	15	ARG
32	RP	16	ARG
32	RP	19	VAL
32	RP	21	ARG
32	RP	30	THR
32	RP	36	LYS
32	RP	41	ARG
32	RP	45	LEU
32	RP	50	ARG
32	RP	56	SER
32	RP	61	ARG
32	RP	62	LEU
32	RP	64	LYS
32	RP	70	GLN
32	RP	71	VAL
32	RP	75	ILE
32	RP	81	GLN
32	RP	88	LEU
32	RP	91	PHE
32	RP	100	LEU
32	RP	105	LEU
32	RP	107	LYS
32	RP	112	LEU
32	RP	133	SER
32	RP	138	LEU
32	RP	144	GLU
32	RP	146	VAL
33	RQ	17	LEU

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Mol	Chain	Res	Type
33	RQ	26	TYR
33	RQ	27	VAL
33	RQ	35	VAL
33	RQ	45	GLN
33	RQ	54	MET
33	RQ	60	ARG
33	RQ	79	LEU
33	RQ	81	VAL
33	RQ	82	ARG
33	RQ	83	MET
33	RQ	85	LYS
33	RQ	96	VAL
33	RQ	112	GLU
33	RQ	135	ASP
33	RQ	139	GLU
34	RR	1	MET
34	RR	6	SER
34	RR	9	LYS
34	RR	18	LEU
34	RR	29	LEU
34	RR	35	THR
34	RR	44	LEU
34	RR	63	ARG
34	RR	71	GLN
34	RR	75	LEU
34	RR	79	LEU
34	RR	91	GLN
34	RR	95	THR
34	RR	100	LEU
34	RR	104	ARG
34	RR	105	ARG
34	RR	117	VAL
34	RR	118	GLU
35	RS	3	ARG
35	RS	4	LEU
35	RS	12	PHE
35	RS	17	ARG
35	RS	20	ARG
35	RS	27	SER
35	RS	39	ILE
35	RS	44	LYS
35	RS	50	SER

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Mol	Chain	Res	Type
35	RS	54	LEU
35	RS	56	LEU
35	RS	57	LYS
35	RS	58	LEU
35	RS	59	LYS
35	RS	98	VAL
35	RS	101	LEU
35	RS	103	GLU
35	RS	106	ARG
36	RT	18	ASP
36	RT	27	THR
36	RT	30	VAL
36	RT	41	ARG
36	RT	42	ILE
36	RT	50	ILE
36	RT	51	ARG
36	RT	62	THR
36	RT	65	LYS
36	RT	74	ARG
36	RT	88	ILE
36	RT	89	VAL
36	RT	99	LEU
36	RT	105	LEU
36	RT	107	ASP
36	RT	112	ARG
36	RT	125	ARG
36	RT	128	GLU
37	RU	52	ARG
37	RU	55	ARG
37	RU	59	ARG
37	RU	60	LEU
37	RU	64	ARG
37	RU	69	CYS
37	RU	74	LEU
37	RU	90	VAL
37	RU	92	ARG
37	RU	94	ASN
37	RU	98	LEU
37	RU	108	GLU
37	RU	111	GLU
37	RU	114	LYS
37	RU	117	GLN

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Mol	Chain	Res	Type
38	RV	13	ARG
38	RV	19	LYS
38	RV	21	ARG
38	RV	22	VAL
38	RV	24	LYS
38	RV	35	LEU
38	RV	37	VAL
38	RV	45	THR
38	RV	47	VAL
38	RV	57	VAL
38	RV	61	VAL
38	RV	62	LEU
38	RV	64	HIS
38	RV	78	LYS
38	RV	79	VAL
38	RV	99	ILE
39	RW	11	ARG
39	RW	16	LYS
39	RW	18	ARG
39	RW	19	LEU
39	RW	20	VAL
39	RW	23	LEU
39	RW	27	LYS
39	RW	30	GLU
39	RW	40	ASN
39	RW	51	LEU
39	RW	60	ASN
39	RW	63	ASP
39	RW	67	ASP
39	RW	76	VAL
39	RW	82	LEU
39	RW	92	ARG
39	RW	100	THR
39	RW	106	ILE
39	RW	107	LEU
40	RX	12	VAL
40	RX	23	GLU
40	RX	27	THR
40	RX	30	VAL
40	RX	35	THR
40	RX	49	VAL
40	RX	65	ARG

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Mol	Chain	Res	Type
40	RX	70	LEU
40	RX	80	ILE
40	RX	81	VAL
41	RY	2	ARG
41	RY	13	VAL
41	RY	14	LEU
41	RY	27	VAL
41	RY	34	LYS
41	RY	37	VAL
41	RY	38	ILE
41	RY	43	ASN
41	RY	45	VAL
41	RY	55	TYR
41	RY	57	GLN
41	RY	61	ILE
41	RY	67	LEU
41	RY	70	SER
41	RY	75	ILE
41	RY	76	CYS
41	RY	87	LYS
41	RY	90	LEU
41	RY	95	LYS
41	RY	96	ILE
41	RY	97	ARG
41	RY	102	CYS
42	RZ	5	LEU
42	RZ	20	ARG
42	RZ	24	LEU
42	RZ	29	TYR
42	RZ	35	ARG
42	RZ	38	TYR
42	RZ	53	ILE
42	RZ	70	LEU
42	RZ	80	ARG
42	RZ	81	ARG
42	RZ	87	ASP
42	RZ	89	PHE
42	RZ	94	GLU
42	RZ	98	MET
42	RZ	112	ARG
42	RZ	117	LEU
42	RZ	119	GLU

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Mol	Chain	Res	Type
42	RZ	121	HIS
42	RZ	145	GLU
42	RZ	146	ILE
42	RZ	150	LEU
42	RZ	151	HIS
42	RZ	163	LEU
42	RZ	166	SER
42	RZ	168	GLU
42	RZ	169	GLU
42	RZ	171	ILE
42	RZ	180	VAL
42	RZ	181	GLU
42	RZ	182	LYS
42	RZ	183	LEU
43	R0	5	LYS
43	R0	7	LEU
43	R0	10	THR
43	R0	14	ARG
43	R0	17	GLN
43	R0	31	VAL
43	R0	36	ILE
43	R0	66	VAL
43	R0	74	ARG
44	R1	21	ARG
44	R1	41	ARG
44	R1	51	VAL
44	R1	62	VAL
44	R1	78	LYS
44	R1	80	LEU
44	R1	90	ILE
44	R1	91	LYS
44	R1	92	LYS
45	R2	17	SER
45	R2	24	LEU
45	R2	27	GLU
45	R2	32	LEU
45	R2	50	ILE
45	R2	53	LEU
45	R2	62	THR
46	R3	6	VAL
46	R3	8	LEU
46	R3	18	ASP

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Mol	Chain	Res	Type
46	R3	32	GLN
46	R3	40	THR
46	R3	56	VAL
47	R4	13	ARG
47	R4	15	ILE
47	R4	23	GLU
47	R4	33	VAL
47	R4	34	GLU
47	R4	37	SER
47	R4	42	PHE
47	R4	48	ARG
47	R4	49	PHE
47	R4	50	VAL
47	R4	52	THR
47	R4	57	GLU
47	R4	61	ARG
47	R4	62	ARG
47	R4	63	TYR
47	R4	66	SER
47	R4	67	TYR
47	R4	68	ARG
48	R5	4	HIS
48	R5	6	VAL
48	R5	11	THR
48	R5	21	SER
48	R5	23	HIS
48	R5	25	LEU
48	R5	29	THR
48	R5	36	CYS
48	R5	40	LYS
48	R5	51	TYR
48	R5	52	TYR
48	R5	56	LYS
48	R5	58	LEU
48	R5	60	VAL
49	R6	6	ARG
49	R6	8	LYS
49	R6	9	LEU
49	R6	10	LEU
49	R6	11	LEU
49	R6	17	LYS
49	R6	19	ARG

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Mol	Chain	Res	Type
49	R6	23	THR
49	R6	27	LYS
49	R6	30	THR
49	R6	34	LEU
49	R6	37	ARG
49	R6	44	ARG
50	R7	1	MET
50	R7	2	LYS
50	R7	4	THR
50	R7	9	ARG
50	R7	10	ARG
50	R7	14	LYS
50	R7	43	THR
50	R7	46	VAL
51	R8	14	VAL
51	R8	15	LYS
51	R8	34	TRP
51	R8	35	GLN
51	R8	44	LYS
51	R8	47	LYS
51	R8	49	VAL
51	R8	52	LYS
51	R8	64	TYR
51	R8	65	GLU
52	R9	1	MET
52	R9	29	ASN
2	XB	5	ILE
2	XB	7	VAL
2	XB	8	LYS
2	XB	15	VAL
2	XB	23	ARG
2	XB	24	TRP
2	XB	33	TYR
2	XB	36	ARG
2	XB	67	THR
2	XB	71	VAL
2	XB	82	ARG
2	XB	92	TYR
2	XB	113	HIS
2	XB	145	LEU
2	XB	155	LEU
2	XB	163	PHE

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Mol	Chain	Res	Type
2	XB	172	ILE
2	XB	175	ARG
2	XB	178	ARG
2	XB	187	LEU
2	XB	195	ASP
2	XB	196	LEU
2	XB	204	ASN
2	XB	215	LEU
2	XB	235	SER
3	XC	3	ASN
3	XC	5	ILE
3	XC	12	LEU
3	XC	21	ARG
3	XC	45	LYS
3	XC	47	LEU
3	XC	56	ASP
3	XC	94	LEU
3	XC	95	THR
3	XC	131	ARG
3	XC	178	LEU
3	XC	184	TYR
3	XC	192	THR
4	XD	3	ARG
4	XD	9	CYS
4	XD	15	GLU
4	XD	19	LEU
4	XD	30	LYS
4	XD	33	MET
4	XD	50	ARG
4	XD	53	ASP
4	XD	58	LEU
4	XD	73	ARG
4	XD	76	ARG
4	XD	84	LYS
4	XD	86	LYS
4	XD	96	LEU
4	XD	108	LEU
4	XD	122	ARG
4	XD	127	THR
4	XD	131	ARG
4	XD	137	SER
4	XD	150	GLU

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Mol	Chain	Res	Type
4	XD	154	ASN
4	XD	175	SER
4	XD	187	ARG
4	XD	190	ASP
4	XD	193	ASP
4	XD	208	SER
5	XE	6	PHE
5	XE	7	GLU
5	XE	10	MET
5	XE	11	ILE
5	XE	18	ARG
5	XE	31	LEU
5	XE	41	VAL
5	XE	73	ASN
5	XE	79	GLU
5	XE	101	ILE
5	XE	147	ASP
5	XE	153	LYS
6	XF	21	LEU
6	XF	23	LYS
6	XF	36	ARG
6	XF	71	ARG
6	XF	74	ASP
6	XF	91	VAL
6	XF	92	LYS
6	XF	98	LEU
7	XG	5	ARG
7	XG	8	GLU
7	XG	35	LYS
7	XG	54	THR
7	XG	63	LYS
7	XG	78	ARG
7	XG	104	LEU
7	XG	113	GLU
7	XG	114	ARG
7	XG	136	LYS
7	XG	137	LYS
7	XG	155	ARG
8	XH	1	MET
8	XH	12	ARG
8	XH	19	VAL
8	XH	24	THR

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Mol	Chain	Res	Type
8	XH	26	VAL
8	XH	41	ARG
8	XH	54	ASP
8	XH	63	LEU
8	XH	80	ILE
8	XH	85	ARG
8	XH	109	ILE
8	XH	112	LEU
8	XH	137	VAL
9	XI	9	ARG
9	XI	38	GLN
9	XI	44	VAL
9	XI	56	LEU
9	XI	65	VAL
9	XI	95	LYS
9	XI	96	LEU
9	XI	102	LEU
9	XI	104	ARG
9	XI	105	ASP
9	XI	108	VAL
9	XI	111	ARG
9	XI	112	LYS
9	XI	114	TYR
9	XI	121	ARG
9	XI	124	GLN
9	XI	125	TYR
9	XI	128	ARG
10	XJ	3	LYS
10	XJ	17	ASP
10	XJ	22	LYS
10	XJ	45	ARG
10	XJ	47	PHE
10	XJ	49	VAL
10	XJ	54	PHE
10	XJ	57	LYS
10	XJ	62	HIS
10	XJ	70	ARG
10	XJ	74	ILE
10	XJ	80	LYS
10	XJ	84	GLN
10	XJ	96	ILE
10	XJ	98	ILE

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Mol	Chain	Res	Type
11	XK	26	ASN
11	XK	29	ILE
11	XK	31	THR
11	XK	32	ILE
11	XK	36	ASP
11	XK	57	THR
11	XK	114	VAL
11	XK	116	HIS
12	XL	17	LYS
12	XL	18	VAL
12	XL	20	LYS
12	XL	27	LEU
12	XL	33	ARG
12	XL	59	ARG
12	XL	62	SER
12	XL	81	SER
12	XL	89	ARG
12	XL	91	LYS
12	XL	126	LYS
13	XM	3	ARG
13	XM	13	LYS
13	XM	17	VAL
13	XM	19	LEU
13	XM	32	GLU
13	XM	45	VAL
13	XM	48	LEU
13	XM	56	LEU
13	XM	64	TRP
13	XM	66	LEU
13	XM	70	LEU
13	XM	84	ILE
13	XM	88	ARG
13	XM	98	VAL
13	XM	108	ARG
13	XM	114	ARG
13	XM	115	LYS
13	XM	117	VAL
13	XM	122	LYS
14	XN	6	LEU
14	XN	12	ARG
14	XN	32	SER
14	XN	33	VAL

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Mol	Chain	Res	Type
14	XN	40	CYS
14	XN	41	ARG
14	XN	44	LEU
15	XO	3	ILE
15	XO	8	LYS
15	XO	24	SER
15	XO	26	GLU
15	XO	39	LEU
15	XO	62	GLN
15	XO	64	ARG
15	XO	66	LEU
15	XO	82	ILE
15	XO	87	ILE
16	XP	2	VAL
16	XP	11	SER
16	XP	20	VAL
16	XP	28	ARG
16	XP	32	TYR
16	XP	67	THR
16	XP	69	THR
16	XP	72	ARG
16	XP	82	GLN
17	XQ	52	LYS
17	XQ	59	ILE
17	XQ	62	SER
17	XQ	68	ARG
17	XQ	74	LEU
17	XQ	101	ARG
18	XR	26	LEU
18	XR	29	PHE
18	XR	36	ASN
18	XR	41	LYS
18	XR	46	GLU
18	XR	54	ARG
18	XR	76	LEU
18	XR	82	THR
18	XR	86	VAL
19	XS	5	LEU
19	XS	10	PHE
19	XS	11	VAL
19	XS	12	ASP
19	XS	13	ASP

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Mol	Chain	Res	Type
19	XS	21	GLU
19	XS	28	LYS
19	XS	29	ARG
19	XS	30	LEU
19	XS	31	ILE
19	XS	37	ARG
19	XS	44	MET
19	XS	63	THR
19	XS	78	ARG
19	XS	81	ARG
19	XS	83	HIS
20	XT	10	LEU
20	XT	13	LEU
20	XT	24	LEU
20	XT	37	SER
20	XT	41	ILE
20	XT	45	GLN
20	XT	50	GLU
20	XT	73	HIS
20	XT	84	LEU
20	XT	93	GLU
21	XU	6	ARG
24	YD	5	LYS
24	YD	17	THR
24	YD	27	THR
24	YD	28	GLU
24	YD	30	GLU
24	YD	38	LYS
24	YD	43	ARG
24	YD	44	ASN
24	YD	49	ILE
24	YD	65	ILE
24	YD	73	VAL
24	YD	88	ARG
24	YD	94	LEU
24	YD	95	LEU
24	YD	103	ARG
24	YD	105	ILE
24	YD	106	ILE
24	YD	111	LEU
24	YD	112	GLN
24	YD	141	VAL

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Mol	Chain	Res	Type
24	YD	192	THR
24	YD	200	ASP
24	YD	202	LYS
24	YD	212	SER
24	YD	217	ARG
24	YD	218	ARG
24	YD	221	VAL
24	YD	229	VAL
24	YD	237	GLU
24	YD	242	ARG
24	YD	257	LEU
24	YD	259	THR
24	YD	273	ARG
25	YE	4	ILE
25	YE	12	THR
25	YE	13	ARG
25	YE	16	ARG
25	YE	17	ASP
25	YE	26	ILE
25	YE	27	LEU
25	YE	41	LYS
25	YE	42	ASP
25	YE	49	LEU
25	YE	77	ILE
25	YE	79	ARG
25	YE	82	ARG
25	YE	92	THR
25	YE	113	PHE
25	YE	116	VAL
25	YE	117	MET
25	YE	119	ARG
25	YE	127	ASP
25	YE	128	SER
25	YE	144	ARG
25	YE	146	THR
25	YE	154	LYS
25	YE	175	VAL
25	YE	197	ILE
25	YE	200	GLU
25	YE	202	LYS
25	YE	203	LYS
26	YF	9	ILE

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Mol	Chain	Res	Type
26	YF	32	LEU
26	YF	33	LEU
26	YF	38	ARG
26	YF	45	ARG
26	YF	65	TRP
26	YF	70	THR
26	YF	78	ILE
26	YF	105	VAL
26	YF	106	ARG
26	YF	107	LYS
26	YF	117	ARG
26	YF	127	GLU
26	YF	161	GLU
26	YF	164	ARG
26	YF	165	ARG
26	YF	170	LEU
26	YF	174	VAL
26	YF	176	LEU
26	YF	181	LEU
26	YF	183	VAL
26	YF	196	LEU
26	YF	197	ASP
26	YF	206	ILE
27	YG	3	LEU
27	YG	7	LEU
27	YG	22	ARG
27	YG	31	VAL
27	YG	34	LEU
27	YG	43	LEU
27	YG	45	GLU
27	YG	58	GLN
27	YG	63	ILE
27	YG	66	GLN
27	YG	67	LYS
27	YG	80	PHE
27	YG	82	LEU
27	YG	84	LYS
27	YG	88	ILE
27	YG	90	LEU
27	YG	94	LEU
27	YG	116	ASP
27	YG	118	ARG

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Mol	Chain	Res	Type
27	YG	145	THR
27	YG	147	ASP
27	YG	167	GLU
28	YH	3	ARG
28	YH	4	ILE
28	YH	6	ARG
28	YH	9	ILE
28	YH	27	LYS
28	YH	32	GLU
28	YH	37	VAL
28	YH	40	GLU
28	YH	41	MET
28	YH	59	ARG
28	YH	77	LYS
28	YH	88	LEU
28	YH	89	ILE
28	YH	103	LEU
28	YH	105	LEU
28	YH	122	THR
28	YH	129	THR
28	YH	132	ARG
28	YH	136	ILE
28	YH	143	GLN
28	YH	149	ARG
28	YH	152	ARG
28	YH	153	LYS
28	YH	155	SER
28	YH	169	VAL
29	YI	1	MET
29	YI	3	VAL
29	YI	9	LEU
29	YI	10	GLU
29	YI	12	LEU
29	YI	25	TYR
29	YI	31	LEU
29	YI	33	ARG
29	YI	38	LEU
29	YI	40	THR
29	YI	41	GLU
29	YI	42	SER
29	YI	45	LYS
29	YI	56	LYS

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Mol	Chain	Res	Type
29	YI	57	ARG
29	YI	67	ARG
29	YI	70	GLU
29	YI	72	LEU
29	YI	75	LEU
29	YI	77	LEU
29	YI	81	VAL
29	YI	82	ARG
29	YI	85	GLU
29	YI	92	VAL
29	YI	96	ASP
29	YI	99	GLU
29	YI	102	SER
29	YI	113	ARG
29	YI	123	LEU
29	YI	128	LEU
29	YI	130	TYR
29	YI	131	LYS
29	YI	135	GLU
29	YI	138	ILE
29	YI	139	GLN
29	YI	142	VAL
29	YI	144	VAL
30	YN	2	LYS
30	YN	5	VAL
30	YN	7	LYS
30	YN	32	THR
30	YN	34	LEU
30	YN	43	THR
30	YN	48	MET
30	YN	60	ILE
30	YN	61	ARG
30	YN	62	VAL
30	YN	65	LYS
30	YN	67	LEU
30	YN	73	THR
30	YN	90	MET
30	YN	96	GLU
30	YN	99	LEU
30	YN	109	LYS
30	YN	112	LEU
30	YN	116	LEU

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Mol	Chain	Res	Type
30	YN	120	LEU
30	YN	136	GLU
31	YO	9	GLU
31	YO	19	ILE
31	YO	20	MET
31	YO	23	ARG
31	YO	24	VAL
31	YO	28	SER
31	YO	31	LYS
31	YO	47	ILE
31	YO	49	ARG
31	YO	53	LYS
31	YO	66	LYS
31	YO	91	LEU
32	YP	6	LEU
32	YP	7	ARG
32	YP	9	ASN
32	YP	14	LYS
32	YP	16	ARG
32	YP	19	VAL
32	YP	21	ARG
32	YP	27	HIS
32	YP	29	LYS
32	YP	32	THR
32	YP	36	LYS
32	YP	45	LEU
32	YP	49	ARG
32	YP	50	ARG
32	YP	61	ARG
32	YP	64	LYS
32	YP	65	ARG
32	YP	71	VAL
32	YP	75	ILE
32	YP	88	LEU
32	YP	91	PHE
32	YP	94	GLU
32	YP	98	GLU
32	YP	100	LEU
32	YP	101	VAL
32	YP	112	LEU
32	YP	115	LEU
32	YP	117	GLU

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Mol	Chain	Res	Type
32	YP	123	LEU
32	YP	135	LEU
32	YP	144	GLU
32	YP	146	VAL
32	YP	147	LEU
32	YP	149	GLU
33	YQ	5	ARG
33	YQ	10	ARG
33	YQ	25	ASP
33	YQ	45	GLN
33	YQ	55	VAL
33	YQ	59	ARG
33	YQ	71	ASP
33	YQ	75	THR
33	YQ	76	LYS
33	YQ	79	LEU
33	YQ	81	VAL
33	YQ	82	ARG
33	YQ	83	MET
33	YQ	87	LYS
33	YQ	103	MET
33	YQ	112	GLU
33	YQ	132	VAL
33	YQ	135	ASP
33	YQ	139	GLU
34	YR	1	MET
34	YR	18	LEU
34	YR	28	LEU
34	YR	29	LEU
34	YR	34	ILE
34	YR	36	THR
34	YR	40	LYS
34	YR	44	LEU
34	YR	51	LEU
34	YR	54	LEU
34	YR	57	ARG
34	YR	63	ARG
34	YR	65	LEU
34	YR	79	LEU
34	YR	83	ILE
34	YR	95	THR
34	YR	100	LEU

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Mol	Chain	Res	Type
34	YR	102	GLU
34	YR	104	ARG
34	YR	105	ARG
35	YS	10	ARG
35	YS	12	PHE
35	YS	14	VAL
35	YS	15	ARG
35	YS	20	ARG
35	YS	25	ARG
35	YS	27	SER
35	YS	44	LYS
35	YS	54	LEU
35	YS	56	LEU
35	YS	58	LEU
35	YS	69	VAL
35	YS	78	LEU
35	YS	83	LYS
35	YS	85	VAL
35	YS	89	ARG
35	YS	103	GLU
35	YS	106	ARG
35	YS	111	GLU
36	YT	17	THR
36	YT	23	ARG
36	YT	27	THR
36	YT	28	VAL
36	YT	40	THR
36	YT	41	ARG
36	YT	42	ILE
36	YT	51	ARG
36	YT	58	ASN
36	YT	65	LYS
36	YT	66	VAL
36	YT	74	ARG
36	YT	86	ILE
36	YT	87	ASP
36	YT	88	ILE
36	YT	89	VAL
36	YT	110	ILE
36	YT	112	ARG
36	YT	115	ARG
36	YT	125	ARG

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Mol	Chain	Res	Type
36	YT	128	GLU
36	YT	134	GLU
37	YU	5	LYS
37	YU	11	ARG
37	YU	27	LEU
37	YU	51	LYS
37	YU	52	ARG
37	YU	60	LEU
37	YU	64	ARG
37	YU	70	ARG
37	YU	74	LEU
37	YU	88	ILE
37	YU	91	ASP
37	YU	98	LEU
37	YU	104	GLN
37	YU	111	GLU
37	YU	112	ARG
37	YU	114	LYS
38	YV	7	THR
38	YV	10	LYS
38	YV	13	ARG
38	YV	19	LYS
38	YV	35	LEU
38	YV	39	LEU
38	YV	40	LEU
38	YV	45	THR
38	YV	61	VAL
38	YV	66	ARG
38	YV	72	VAL
38	YV	73	SER
38	YV	78	LYS
38	YV	79	VAL
38	YV	99	ILE
39	YW	11	ARG
39	YW	16	LYS
39	YW	23	LEU
39	YW	37	ARG
39	YW	40	ASN
39	YW	51	LEU
39	YW	67	ASP
39	YW	69	LEU
39	YW	76	VAL

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Mol	Chain	Res	Type
39	YW	88	ARG
39	YW	92	ARG
39	YW	95	ILE
39	YW	96	ILE
39	YW	100	THR
39	YW	106	ILE
39	YW	107	LEU
40	YX	6	ASP
40	YX	12	VAL
40	YX	15	GLU
40	YX	27	THR
40	YX	36	LYS
40	YX	43	VAL
40	YX	49	VAL
40	YX	57	LEU
40	YX	59	VAL
40	YX	63	LYS
40	YX	65	ARG
40	YX	66	LEU
40	YX	80	ILE
40	YX	88	LYS
41	YY	14	LEU
41	YY	26	LYS
41	YY	27	VAL
41	YY	28	LYS
41	YY	29	GLU
41	YY	34	LYS
41	YY	38	ILE
41	YY	44	ILE
41	YY	57	GLN
41	YY	61	ILE
41	YY	64	GLU
41	YY	67	LEU
41	YY	71	LYS
41	YY	73	ARG
41	YY	75	ILE
41	YY	86	ARG
41	YY	87	LYS
41	YY	89	PHE
41	YY	90	LEU
41	YY	95	LYS
41	YY	97	ARG

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Mol	Chain	Res	Type
42	YZ	5	LEU
42	YZ	6	LYS
42	YZ	8	TYR
42	YZ	20	ARG
42	YZ	24	LEU
42	YZ	35	ARG
42	YZ	42	VAL
42	YZ	52	SER
42	YZ	53	ILE
42	YZ	59	LEU
42	YZ	66	SER
42	YZ	71	VAL
42	YZ	72	ARG
42	YZ	76	LEU
42	YZ	78	LYS
42	YZ	81	ARG
42	YZ	86	VAL
42	YZ	88	PHE
42	YZ	91	LEU
42	YZ	94	GLU
42	YZ	105	VAL
42	YZ	119	GLU
42	YZ	121	HIS
42	YZ	122	ARG
42	YZ	124	ILE
42	YZ	128	VAL
42	YZ	131	ARG
42	YZ	133	ILE
42	YZ	139	VAL
42	YZ	140	ASP
42	YZ	144	LEU
42	YZ	145	GLU
42	YZ	146	ILE
42	YZ	150	LEU
42	YZ	151	HIS
42	YZ	153	SER
42	YZ	156	LYS
42	YZ	166	SER
42	YZ	168	GLU
42	YZ	178	GLU
42	YZ	182	LYS
43	Y0	9	SER

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Mol	Chain	Res	Type
43	Y0	10	THR
43	Y0	12	ASN
43	Y0	19	LYS
43	Y0	29	GLN
43	Y0	35	ASN
43	Y0	36	ILE
43	Y0	41	ARG
43	Y0	55	ARG
43	Y0	74	ARG
43	Y0	77	ARG
43	Y0	82	ARG
44	Y1	30	VAL
44	Y1	46	LEU
44	Y1	50	ARG
44	Y1	51	VAL
44	Y1	56	GLN
44	Y1	62	VAL
44	Y1	78	LYS
44	Y1	80	LEU
44	Y1	82	LEU
44	Y1	83	GLU
44	Y1	91	LYS
44	Y1	92	LYS
45	Y2	4	SER
45	Y2	7	ARG
45	Y2	9	GLN
45	Y2	16	LEU
45	Y2	23	LYS
45	Y2	24	LEU
45	Y2	27	GLU
45	Y2	32	LEU
45	Y2	34	GLU
45	Y2	41	ILE
45	Y2	47	ASN
45	Y2	50	ILE
45	Y2	51	ARG
45	Y2	52	ASP
45	Y2	53	LEU
45	Y2	64	LEU
45	Y2	65	ASN
46	Y3	6	VAL
46	Y3	8	LEU

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Mol	Chain	Res	Type
46	Y3	23	LEU
46	Y3	30	ARG
46	Y3	31	LEU
46	Y3	36	VAL
46	Y3	37	LEU
46	Y3	56	VAL
47	Y4	6	HIS
47	Y4	10	VAL
47	Y4	15	ILE
47	Y4	16	CYS
47	Y4	22	ILE
47	Y4	27	THR
47	Y4	34	GLU
47	Y4	39	CYS
47	Y4	42	PHE
47	Y4	43	TYR
47	Y4	48	ARG
47	Y4	49	PHE
47	Y4	53	GLU
47	Y4	57	GLU
47	Y4	58	ARG
47	Y4	61	ARG
47	Y4	63	TYR
47	Y4	67	TYR
47	Y4	68	ARG
47	Y4	71	ARG
48	Y5	3	LYS
48	Y5	4	HIS
48	Y5	6	VAL
48	Y5	11	THR
48	Y5	29	THR
48	Y5	36	CYS
48	Y5	37	LYS
48	Y5	40	LYS
48	Y5	48	GLU
48	Y5	49	CYS
48	Y5	51	TYR
48	Y5	52	TYR
48	Y5	56	LYS
48	Y5	58	LEU
49	Y6	6	ARG
49	Y6	8	LYS

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Mol	Chain	Res	Type
49	Y6	11	LEU
49	Y6	19	ARG
49	Y6	23	THR
49	Y6	30	THR
49	Y6	33	LYS
49	Y6	34	LEU
49	Y6	37	ARG
49	Y6	44	ARG
50	Y7	1	MET
50	Y7	4	THR
50	Y7	8	ASN
50	Y7	9	ARG
50	Y7	10	ARG
50	Y7	14	LYS
50	Y7	47	ARG
51	Y8	13	ARG
51	Y8	14	VAL
51	Y8	15	LYS
51	Y8	29	LYS
51	Y8	30	ARG
51	Y8	34	TRP
51	Y8	43	GLN
51	Y8	44	LYS
51	Y8	47	LYS
51	Y8	56	GLU
51	Y8	58	ILE
51	Y8	64	TYR
51	Y8	65	GLU
52	Y9	1	MET
52	Y9	17	ILE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
2	QB	19	HIS
2	QB	204	ASN
2	QB	212	GLN
10	QJ	13	HIS
10	QJ	78	ASN
13	QM	92	HIS
19	QS	47	HIS
25	RE	143	ASN

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Mol	Chain	Res	Type
28	RH	143	GLN
28	RH	147	ASN
29	RI	104	GLN
35	RS	34	HIS
43	R0	12	ASN
52	R9	29	ASN
52	R9	32	HIS
2	XB	19	HIS
2	XB	204	ASN
2	XB	212	GLN
10	XJ	78	ASN
36	YT	58	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1498/1522 (98%)	341 (22%)	49 (3%)
1	XA	1498/1522 (98%)	352 (23%)	40 (2%)
22	RA	2879/2916 (98%)	747 (25%)	65 (2%)
22	YA	2880/2916 (98%)	734 (25%)	57 (1%)
23	RB	119/122 (97%)	29 (24%)	2 (1%)
23	YB	119/122 (97%)	32 (26%)	1 (0%)
53	QV	76/77 (98%)	22 (28%)	1 (1%)
53	XV	76/77 (98%)	24 (31%)	3 (3%)
54	QX	7/25 (28%)	4 (57%)	1 (14%)
54	XX	7/25 (28%)	3 (42%)	1 (14%)
55	QY	7/17 (41%)	3 (42%)	0
55	XY	7/17 (41%)	2 (28%)	0
56	Z6	1/3 (33%)	0	0
56	Z8	1/3 (33%)	0	0
All	All	9175/9364 (97%)	2293 (24%)	220 (2%)

All (2293) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	7	G
1	QA	9	G
1	QA	22	G
1	QA	32	A
1	QA	39	G
1	QA	43	C

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Mol	Chain	Res	Type
1	QA	44	G
1	QA	47	C
1	QA	48	C
1	QA	50	A
1	QA	51	A
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	73	G
1	QA	79	G
1	QA	89	U
1	QA	91	C
1	QA	101	A
1	QA	105	G
1	QA	108	G
1	QA	116	A
1	QA	120	A
1	QA	121	C
1	QA	122	G
1	QA	129(A)	G
1	QA	130	A
1	QA	135	C
1	QA	144	G
1	QA	146	G
1	QA	163	C
1	QA	173	U
1	QA	174	C
1	QA	182	U
1	QA	189	U
1	QA	190	G
1	QA	191(C)	G
1	QA	195	A
1	QA	197	A
1	QA	201	C
1	QA	208	U
1	QA	209	U
1	QA	210	U
1	QA	216	G
1	QA	244	U
1	QA	245	C
1	QA	247	G
1	QA	250	A

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Mol	Chain	Res	Type
1	QA	251	G
1	QA	260	G
1	QA	266	G
1	QA	267	C
1	QA	270	A
1	QA	271	C
1	QA	280	C
1	QA	281	G
1	QA	289	G
1	QA	298	A
1	QA	309	G
1	QA	314	C
1	QA	318	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	351	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	367	U
1	QA	369	C
1	QA	372	C
1	QA	373	A
1	QA	384	G
1	QA	388	G
1	QA	390	C
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A
1	QA	412	A
1	QA	413	G
1	QA	414	A
1	QA	419	C
1	QA	422	C
1	QA	423	G
1	QA	429	U

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Mol	Chain	Res	Type
1	QA	430	A
1	QA	440	A
1	QA	442	C
1	QA	453	A
1	QA	466	C
1	QA	467	G
1	QA	468	A
1	QA	478	A
1	QA	485	G
1	QA	486	U
1	QA	496	A
1	QA	497	U
1	QA	500	G
1	QA	505	G
1	QA	509	A
1	QA	510	A
1	QA	511	C
1	QA	518	C
1	QA	521	G
1	QA	527	G
1	QA	531	U
1	QA	532	A
1	QA	533	A
1	QA	536	C
1	QA	545	C
1	QA	547	A
1	QA	558	G
1	QA	559	A
1	QA	561	U
1	QA	562	C
1	QA	563	A
1	QA	565	U
1	QA	566	G
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	579	G
1	QA	604	G
1	QA	614	A
1	QA	618	C
1	QA	630	G

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Mol	Chain	Res	Type
1	QA	631	G
1	QA	633	G
1	QA	652	U
1	QA	653	A
1	QA	665	A
1	QA	687	A
1	QA	688	G
1	QA	698	G
1	QA	701	C
1	QA	702	A
1	QA	703	G
1	QA	704	A
1	QA	723	U
1	QA	728	A
1	QA	729	A
1	QA	731	G
1	QA	748	C
1	QA	749	C
1	QA	753	A
1	QA	754	C
1	QA	755	G
1	QA	760	G
1	QA	763	G
1	QA	778	G
1	QA	784	C
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	817	C
1	QA	819	A
1	QA	821	G
1	QA	828	A
1	QA	841	U
1	QA	842	C
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	870	U
1	QA	871	U
1	QA	872	A
1	QA	873	A
1	QA	884	U

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Mol	Chain	Res	Type
1	QA	889	A
1	QA	891	U
1	QA	902	G
1	QA	914	A
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	940	C
1	QA	960	U
1	QA	961	U
1	QA	968	A
1	QA	969	A
1	QA	971	G
1	QA	972	C
1	QA	974	A
1	QA	976	G
1	QA	977	A
1	QA	978	A
1	QA	981	U
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	995	C
1	QA	1001	G
1	QA	1004	A
1	QA	1006	C
1	QA	1009	G
1	QA	1010	G
1	QA	1020	U
1	QA	1023	G
1	QA	1024	G
1	QA	1025	U
1	QA	1026	G
1	QA	1028	C
1	QA	1029	G
1	QA	1031	G
1	QA	1032(A)	G
1	QA	1036	G
1	QA	1038	C
1	QA	1040	U
1	QA	1042	G

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Mol	Chain	Res	Type
1	QA	1043	C
1	QA	1046	A
1	QA	1054	C
1	QA	1055	A
1	QA	1057	G
1	QA	1066	C
1	QA	1067	A
1	QA	1070	U
1	QA	1079	G
1	QA	1081	G
1	QA	1086	U
1	QA	1094	G
1	QA	1095	U
1	QA	1096	C
1	QA	1101	A
1	QA	1112	C
1	QA	1121	U
1	QA	1124	G
1	QA	1125	U
1	QA	1126	U
1	QA	1127	G
1	QA	1129	C
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1140	C
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1161	C
1	QA	1163	C
1	QA	1170	A
1	QA	1171	G
1	QA	1177	G
1	QA	1178	G
1	QA	1181	G
1	QA	1182	G
1	QA	1183	A

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Mol	Chain	Res	Type
1	QA	1185	G
1	QA	1186	G
1	QA	1187	G
1	QA	1191	A
1	QA	1193	G
1	QA	1194	U
1	QA	1196	U
1	QA	1197	G
1	QA	1200	C
1	QA	1201	A
1	QA	1202	G
1	QA	1204	A
1	QA	1212	U
1	QA	1213	A
1	QA	1214	C
1	QA	1215	G
1	QA	1225	A
1	QA	1227	A
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1263	C
1	QA	1267	C
1	QA	1268	A
1	QA	1270	C
1	QA	1273	G
1	QA	1280	A
1	QA	1281	U
1	QA	1282	C
1	QA	1286	A
1	QA	1287	A
1	QA	1288	A
1	QA	1297	C
1	QA	1298	C
1	QA	1299	A
1	QA	1300	G
1	QA	1301	U
1	QA	1302	U
1	QA	1303	C

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Mol	Chain	Res	Type
1	QA	1305	G
1	QA	1319	A
1	QA	1320	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1334	G
1	QA	1335	C
1	QA	1336	C
1	QA	1337	G
1	QA	1338	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1353	G
1	QA	1362(A)	C
1	QA	1368	G
1	QA	1370	G
1	QA	1379	G
1	QA	1394	A
1	QA	1397	C
1	QA	1398	A
1	QA	1411	C
1	QA	1419	G
1	QA	1442	G
1	QA	1446	A
1	QA	1447	G
1	QA	1452	C
1	QA	1453	G
1	QA	1454	G
1	QA	1492	A
1	QA	1499	A
1	QA	1503	A
1	QA	1504	G
1	QA	1505	G
1	QA	1506	U
1	QA	1517	G
1	QA	1519	A
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G
22	RA	10	G

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Mol	Chain	Res	Type
22	RA	15	G
22	RA	28	A
22	RA	34	C
22	RA	35	G
22	RA	43	G
22	RA	46	C
22	RA	51	G
22	RA	55	G
22	RA	61	G
22	RA	64	A
22	RA	71	A
22	RA	72	U
22	RA	74	A
22	RA	75	G
22	RA	81	G
22	RA	82	G
22	RA	83	G
22	RA	95	G
22	RA	96	G
22	RA	101	G
22	RA	102	G
22	RA	103	A
22	RA	118	A
22	RA	120	U
22	RA	125	G
22	RA	127	A
22	RA	135	G
22	RA	138	G
22	RA	140	A
22	RA	161	U
22	RA	177	G
22	RA	181	A
22	RA	188	G
22	RA	196	A
22	RA	199	A
22	RA	201	C
22	RA	206	U
22	RA	214	G
22	RA	215	G
22	RA	216	A
22	RA	221	A
22	RA	222	A

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Mol	Chain	Res	Type
22	RA	223	A
22	RA	225	A
22	RA	228	A
22	RA	229	A
22	RA	230	U
22	RA	232	G
22	RA	233	A
22	RA	242	G
22	RA	243	U
22	RA	248	G
22	RA	249	C
22	RA	250	G
22	RA	252	G
22	RA	264	C
22	RA	265	A
22	RA	266	G
22	RA	269	U
22	RA	270(L)	U
22	RA	270(M)	U
22	RA	270(N)	G
22	RA	270(P)	C
22	RA	270(T)	G
22	RA	271(C)	U
22	RA	271	G
22	RA	272	G
22	RA	273(F)	C
22	RA	275	G
22	RA	276	A
22	RA	277	C
22	RA	278	A
22	RA	286	C
22	RA	299	A
22	RA	311	A
22	RA	312	G
22	RA	317	G
22	RA	323	G
22	RA	324	A
22	RA	327	G
22	RA	329	G
22	RA	330	A
22	RA	331	A
22	RA	332	A

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Mol	Chain	Res	Type
22	RA	333	G
22	RA	342	G
22	RA	343	C
22	RA	345	A
22	RA	346	A
22	RA	347	A
22	RA	352	G
22	RA	357	A
22	RA	364	C
22	RA	371	A
22	RA	372	G
22	RA	373	U
22	RA	394	A
22	RA	405	U
22	RA	407	G
22	RA	411	G
22	RA	412	A
22	RA	428	A
22	RA	434	U
22	RA	442	G
22	RA	444	C
22	RA	447	A
22	RA	448	U
22	RA	454	A
22	RA	455	C
22	RA	456	C
22	RA	457	A
22	RA	458	G
22	RA	470	A
22	RA	481	G
22	RA	496	G
22	RA	504	U
22	RA	505	A
22	RA	509	C
22	RA	513	A
22	RA	521	G
22	RA	527	C
22	RA	529	A
22	RA	530	G
22	RA	532	A
22	RA	533	G
22	RA	537	C

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Mol	Chain	Res	Type
22	RA	539	G
22	RA	540	G
22	RA	541	C
22	RA	544	C
22	RA	546	C
22	RA	549	G
22	RA	550	G
22	RA	554	U
22	RA	556	G
22	RA	563	G
22	RA	571	A
22	RA	573	G
22	RA	574	C
22	RA	575	A
22	RA	588	U
22	RA	603	A
22	RA	607	U
22	RA	609(A)	G
22	RA	613	U
22	RA	614	U
22	RA	615	G
22	RA	617	G
22	RA	621	A
22	RA	622	G
22	RA	627	A
22	RA	628	G
22	RA	631	A
22	RA	634	C
22	RA	637	A
22	RA	638	G
22	RA	645	C
22	RA	646	A
22	RA	647	G
22	RA	651	G
22	RA	652	C
22	RA	654	A
22	RA	654(A)	G
22	RA	654(T)	C
22	RA	657	U
22	RA	659	C
22	RA	668	G
22	RA	669	G

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Mol	Chain	Res	Type
22	RA	686	G
22	RA	701	G
22	RA	702	G
22	RA	704	G
22	RA	714	U
22	RA	717	G
22	RA	722	A
22	RA	726	G
22	RA	730	C
22	RA	747	U
22	RA	753	C
22	RA	758	C
22	RA	764	A
22	RA	771	G
22	RA	775	G
22	RA	776	G
22	RA	782	A
22	RA	784	A
22	RA	785	G
22	RA	788	A
22	RA	790	C
22	RA	792	G
22	RA	793	A
22	RA	800	A
22	RA	801	G
22	RA	805	G
22	RA	809	G
22	RA	812	C
22	RA	819	A
22	RA	827	U
22	RA	828	U
22	RA	831	G
22	RA	846	C
22	RA	847	U
22	RA	856	C
22	RA	857	C
22	RA	859	G
22	RA	860	U
22	RA	882	G
22	RA	884	C
22	RA	885	C
22	RA	886	C

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Mol	Chain	Res	Type
22	RA	888	C
22	RA	889	C
22	RA	893	C
22	RA	896	A
22	RA	897	C
22	RA	898	C
22	RA	899	A
22	RA	900	A
22	RA	901	A
22	RA	902	C
22	RA	904	C
22	RA	907	U
22	RA	910	A
22	RA	917	A
22	RA	918	A
22	RA	932	G
22	RA	933	A
22	RA	938	G
22	RA	941	A
22	RA	944	G
22	RA	945	A
22	RA	946	G
22	RA	958	U
22	RA	961	C
22	RA	962	G
22	RA	972	G
22	RA	973	A
22	RA	974	G
22	RA	974(A)	C
22	RA	975	G
22	RA	980	A
22	RA	983	A
22	RA	990	A
22	RA	996	A
22	RA	1003	G
22	RA	1010	A
22	RA	1011	G
22	RA	1012	U
22	RA	1013	C
22	RA	1015	G
22	RA	1019	U
22	RA	1020	A

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Mol	Chain	Res	Type
22	RA	1022	G
22	RA	1023	U
22	RA	1025	G
22	RA	1026	U
22	RA	1027	A
22	RA	1033	U
22	RA	1034	G
22	RA	1037	G
22	RA	1044	G
22	RA	1045	A
22	RA	1046	A
22	RA	1047	G
22	RA	1050	A
22	RA	1051	G
22	RA	1054	A
22	RA	1055	G
22	RA	1057	A
22	RA	1059	G
22	RA	1060	U
22	RA	1061	U
22	RA	1065	U
22	RA	1066	U
22	RA	1067	A
22	RA	1068	G
22	RA	1070	A
22	RA	1071	G
22	RA	1073	A
22	RA	1077	A
22	RA	1078	U
22	RA	1079	C
22	RA	1080	C
22	RA	1082	U
22	RA	1083	U
22	RA	1084	A
22	RA	1085	A
22	RA	1086	A
22	RA	1087	G
22	RA	1088	A
22	RA	1091	G
22	RA	1093	G
22	RA	1095	A
22	RA	1096	A

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Mol	Chain	Res	Type
22	RA	1101	U
22	RA	1104	C
22	RA	1105	U
22	RA	1110	G
22	RA	1111	A
22	RA	1112	G
22	RA	1115	G
22	RA	1122	G
22	RA	1128	A
22	RA	1130	U
22	RA	1131	G
22	RA	1135	C
22	RA	1136	G
22	RA	1139	G
22	RA	1142	U
22	RA	1142(A)	A
22	RA	1155	A
22	RA	1158	C
22	RA	1161	C
22	RA	1169	G
22	RA	1173	G
22	RA	1174	A
22	RA	1175	U
22	RA	1176	G
22	RA	1178	C
22	RA	1179	C
22	RA	1183	G
22	RA	1186	G
22	RA	1191	G
22	RA	1195	G
22	RA	1196	C
22	RA	1204	A
22	RA	1205	U
22	RA	1206	G
22	RA	1210	A
22	RA	1211	U
22	RA	1212	G
22	RA	1219	G
22	RA	1220	A
22	RA	1221	C
22	RA	1225	C
22	RA	1227	A

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Mol	Chain	Res	Type
22	RA	1236	G
22	RA	1238	G
22	RA	1246	A
22	RA	1247	A
22	RA	1248	G
22	RA	1252	G
22	RA	1253	A
22	RA	1256	G
22	RA	1265	A
22	RA	1271	G
22	RA	1272	A
22	RA	1273	U
22	RA	1282	U
22	RA	1287	A
22	RA	1300	U
22	RA	1301	A
22	RA	1302	A
22	RA	1312	U
22	RA	1313	U
22	RA	1314	C
22	RA	1319	G
22	RA	1321	A
22	RA	1329	U
22	RA	1349	A
22	RA	1352	U
22	RA	1365	A
22	RA	1379	A
22	RA	1380	G
22	RA	1384	A
22	RA	1385	G
22	RA	1386	C
22	RA	1390	U
22	RA	1395	A
22	RA	1406	U
22	RA	1407	C
22	RA	1408	C
22	RA	1411	C
22	RA	1416	G
22	RA	1419	A
22	RA	1420	U
22	RA	1421	G
22	RA	1428	C

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Mol	Chain	Res	Type
22	RA	1444(A)	A
22	RA	1445	C
22	RA	1449	A
22	RA	1449(A)	G
22	RA	1451	C
22	RA	1455	G
22	RA	1460	A
22	RA	1461	G
22	RA	1467	C
22	RA	1471	A
22	RA	1474	C
22	RA	1480	G
22	RA	1483	G
22	RA	1485	G
22	RA	1486	A
22	RA	1487	G
22	RA	1493	C
22	RA	1495	A
22	RA	1497	U
22	RA	1502	C
22	RA	1504	C
22	RA	1505	C
22	RA	1506	C
22	RA	1507	A
22	RA	1508	A
22	RA	1510	A
22	RA	1513	C
22	RA	1514	U
22	RA	1515	C
22	RA	1522	G
22	RA	1523	U
22	RA	1534	G
22	RA	1535	U
22	RA	1536	A
22	RA	1537	C
22	RA	1538	G
22	RA	1543	A
22	RA	1544	C
22	RA	1545	A
22	RA	1548	C
22	RA	1558	A
22	RA	1559	G

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Mol	Chain	Res	Type
22	RA	1560	G
22	RA	1569	A
22	RA	1578	U
22	RA	1579	A
22	RA	1580	A
22	RA	1581	G
22	RA	1585	C
22	RA	1586	A
22	RA	1593	G
22	RA	1598	C
22	RA	1608	A
22	RA	1609	A
22	RA	1610	A
22	RA	1616	A
22	RA	1617	C
22	RA	1618	A
22	RA	1630(A)	C
22	RA	1634	A
22	RA	1648	C
22	RA	1651	G
22	RA	1653	G
22	RA	1654	A
22	RA	1655	A
22	RA	1664	A
22	RA	1667	G
22	RA	1673	U
22	RA	1674	G
22	RA	1688	U
22	RA	1695	G
22	RA	1696	G
22	RA	1697	G
22	RA	1701	A
22	RA	1703	G
22	RA	1725	G
22	RA	1728	G
22	RA	1729	A
22	RA	1730	U
22	RA	1731	G
22	RA	1733	G
22	RA	1742	C
22	RA	1746	G
22	RA	1752	C

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Mol	Chain	Res	Type
22	RA	1763	G
22	RA	1764	G
22	RA	1766	U
22	RA	1769	G
22	RA	1773	A
22	RA	1776	G
22	RA	1780	A
22	RA	1782	C
22	RA	1791	A
22	RA	1799	G
22	RA	1800	C
22	RA	1815	A
22	RA	1816	G
22	RA	1820	U
22	RA	1829	A
22	RA	1834	U
22	RA	1835	G
22	RA	1847	A
22	RA	1858	G
22	RA	1864	U
22	RA	1869	G
22	RA	1872	A
22	RA	1878	G
22	RA	1882	C
22	RA	1885	A
22	RA	1886	C
22	RA	1888	G
22	RA	1889	A
22	RA	1905	C
22	RA	1906	G
22	RA	1913	A
22	RA	1914	C
22	RA	1919	A
22	RA	1920	C
22	RA	1927	A
22	RA	1929	G
22	RA	1931	U
22	RA	1934	C
22	RA	1936	A
22	RA	1938	A
22	RA	1940	U
22	RA	1944	U

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Mol	Chain	Res	Type
22	RA	1947	C
22	RA	1955	U
22	RA	1963	U
22	RA	1964	G
22	RA	1967	C
22	RA	1969	A
22	RA	1970	A
22	RA	1971	A
22	RA	1972	A
22	RA	1981	A
22	RA	1982	C
22	RA	1991	U
22	RA	1992	G
22	RA	1993	U
22	RA	1996	C
22	RA	2020	A
22	RA	2023	G
22	RA	2031	A
22	RA	2032	G
22	RA	2033	A
22	RA	2039	C
22	RA	2043	C
22	RA	2049	G
22	RA	2051	A
22	RA	2054	A
22	RA	2055	C
22	RA	2056	G
22	RA	2059	A
22	RA	2060	A
22	RA	2061	G
22	RA	2062	A
22	RA	2063	C
22	RA	2067	G
22	RA	2069	G
22	RA	2080	G
22	RA	2089	U
22	RA	2099	U
22	RA	2101	G
22	RA	2102	U
22	RA	2107	C
22	RA	2111	C
22	RA	2112	G

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Mol	Chain	Res	Type
22	RA	2113	U
22	RA	2114	A
22	RA	2115	G
22	RA	2116	G
22	RA	2117	A
22	RA	2119	A
22	RA	2126	A
22	RA	2127	G
22	RA	2128	C
22	RA	2131	G
22	RA	2132	U
22	RA	2133	G
22	RA	2134	A
22	RA	2135	A
22	RA	2136	C
22	RA	2145	C
22	RA	2147	G
22	RA	2148	G
22	RA	2150	U
22	RA	2160	G
22	RA	2161	C
22	RA	2166	G
22	RA	2167	U
22	RA	2168	G
22	RA	2170	A
22	RA	2173	A
22	RA	2178	C
22	RA	2179	C
22	RA	2189	U
22	RA	2190	G
22	RA	2192	G
22	RA	2198	A
22	RA	2199	A
22	RA	2207	C
22	RA	2208	U
22	RA	2210	G
22	RA	2211	G
22	RA	2212	A
22	RA	2213	U
22	RA	2215	G
22	RA	2225	A
22	RA	2227	A

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Mol	Chain	Res	Type
22	RA	2238	G
22	RA	2239	G
22	RA	2241	A
22	RA	2243	U
22	RA	2246	G
22	RA	2273	A
22	RA	2275	C
22	RA	2283	C
22	RA	2286	A
22	RA	2287	A
22	RA	2288	A
22	RA	2297	C
22	RA	2299	G
22	RA	2300	G
22	RA	2303	G
22	RA	2307	G
22	RA	2308	G
22	RA	2311	A
22	RA	2319	G
22	RA	2320	A
22	RA	2321	G
22	RA	2325	G
22	RA	2334	G
22	RA	2336	A
22	RA	2345	G
22	RA	2346	A
22	RA	2347	C
22	RA	2350	C
22	RA	2352	A
22	RA	2353	G
22	RA	2354	G
22	RA	2358	G
22	RA	2383	G
22	RA	2384	G
22	RA	2385	C
22	RA	2387	U
22	RA	2392	A
22	RA	2398	U
22	RA	2402	C
22	RA	2403	C
22	RA	2405	G
22	RA	2406	U

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Mol	Chain	Res	Type
22	RA	2410	G
22	RA	2422	A
22	RA	2423	U
22	RA	2424	C
22	RA	2425	A
22	RA	2429	G
22	RA	2430	A
22	RA	2431	U
22	RA	2435	A
22	RA	2439	A
22	RA	2440	C
22	RA	2441	C
22	RA	2443	C
22	RA	2445	G
22	RA	2448	A
22	RA	2469	A
22	RA	2470	G
22	RA	2474	C
22	RA	2475	C
22	RA	2482	G
22	RA	2487	G
22	RA	2490	G
22	RA	2494	G
22	RA	2502	G
22	RA	2505	G
22	RA	2513	G
22	RA	2519	U
22	RA	2525	G
22	RA	2529	G
22	RA	2540	C
22	RA	2542	A
22	RA	2543	G
22	RA	2545	G
22	RA	2546	U
22	RA	2554	U
22	RA	2556	C
22	RA	2558	C
22	RA	2564	A
22	RA	2567	G
22	RA	2572	A
22	RA	2573	C
22	RA	2574	G

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Mol	Chain	Res	Type
22	RA	2582	G
22	RA	2585	U
22	RA	2602	A
22	RA	2608	G
22	RA	2609	U
22	RA	2610	C
22	RA	2611	U
22	RA	2612	C
22	RA	2615	U
22	RA	2621	A
22	RA	2623	G
22	RA	2629	A
22	RA	2641	G
22	RA	2655	G
22	RA	2665	A
22	RA	2666	C
22	RA	2667	C
22	RA	2673	G
22	RA	2675	A
22	RA	2679	A
22	RA	2682	U
22	RA	2689	U
22	RA	2690	C
22	RA	2702	U
22	RA	2703	C
22	RA	2707	G
22	RA	2712	U
22	RA	2712(A)	A
22	RA	2713	A
22	RA	2714	G
22	RA	2726	U
22	RA	2733	A
22	RA	2747	G
22	RA	2748	A
22	RA	2750	A
22	RA	2752	C
22	RA	2758	A
22	RA	2761	G
22	RA	2764	A
22	RA	2765	A
22	RA	2767	C
22	RA	2770	G

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Mol	Chain	Res	Type
22	RA	2777	G
22	RA	2778	A
22	RA	2779	U
22	RA	2780	G
22	RA	2790	A
22	RA	2791	C
22	RA	2793	G
22	RA	2797	U
22	RA	2807	G
22	RA	2810	A
22	RA	2811	G
22	RA	2813	A
22	RA	2818	G
22	RA	2820	A
22	RA	2821	A
22	RA	2831	G
22	RA	2833	G
22	RA	2834	G
22	RA	2835	A
22	RA	2836	U
22	RA	2839	G
22	RA	2849	U
22	RA	2867	G
22	RA	2868	A
22	RA	2872	G
22	RA	2876	G
22	RA	2880	C
22	RA	2885	C
22	RA	2886	G
22	RA	2891	G
22	RA	2892	A
22	RA	2894	G
23	RB	2	C
23	RB	9	G
23	RB	13	A
23	RB	15	A
23	RB	16	G
23	RB	21	G
23	RB	22	U
23	RB	24	G
23	RB	25	A
23	RB	26	A

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Mol	Chain	Res	Type
23	RB	27	C
23	RB	29	A
23	RB	31	C
23	RB	32	C
23	RB	33	G
23	RB	40	U
23	RB	41	U
23	RB	42	C
23	RB	43	C
23	RB	44	G
23	RB	45	A
23	RB	56	G
23	RB	67	G
23	RB	73	A
23	RB	81	G
23	RB	89	G
23	RB	91	C
23	RB	109	G
23	RB	115	G
1	XA	6	G
1	XA	9	G
1	XA	10	A
1	XA	12	U
1	XA	19	C
1	XA	32	A
1	XA	34	C
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	50	A
1	XA	51	A
1	XA	59	A
1	XA	61	G
1	XA	64	G
1	XA	65	U
1	XA	66	G
1	XA	78	G
1	XA	79	G
1	XA	81	G
1	XA	89	U
1	XA	90	C
1	XA	91	C

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Mol	Chain	Res	Type
1	XA	92	G
1	XA	95	G
1	XA	108	G
1	XA	115	G
1	XA	116	A
1	XA	121	C
1	XA	129(A)	G
1	XA	130	A
1	XA	138	G
1	XA	144	G
1	XA	147	G
1	XA	163	C
1	XA	168	G
1	XA	172	A
1	XA	173	U
1	XA	174	C
1	XA	182	U
1	XA	189	U
1	XA	190	G
1	XA	191(C)	G
1	XA	191(E)	G
1	XA	195	A
1	XA	197	A
1	XA	199	G
1	XA	201	C
1	XA	209	U
1	XA	216	G
1	XA	218	C
1	XA	220	G
1	XA	222	U
1	XA	226	G
1	XA	240	C
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G
1	XA	253	U
1	XA	266	G
1	XA	267	C
1	XA	270	A
1	XA	271	C
1	XA	280	C

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Mol	Chain	Res	Type
1	XA	281	G
1	XA	289	G
1	XA	298	A
1	XA	299	G
1	XA	306	G
1	XA	314	C
1	XA	318	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	330	C
1	XA	332	G
1	XA	338	A
1	XA	345	C
1	XA	346	G
1	XA	347	G
1	XA	348	G
1	XA	349	A
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	367	U
1	XA	372	C
1	XA	373	A
1	XA	384	G
1	XA	389	A
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	408	A
1	XA	409	G
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	414	A
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	427	U
1	XA	429	U
1	XA	430	A
1	XA	434	U

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Mol	Chain	Res	Type
1	XA	452	A
1	XA	466	C
1	XA	467	G
1	XA	481	G
1	XA	482	A
1	XA	485	G
1	XA	486	U
1	XA	496	A
1	XA	497	U
1	XA	505	G
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	513	C
1	XA	518	C
1	XA	527	G
1	XA	529	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	542	G
1	XA	545	C
1	XA	546	G
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	561	U
1	XA	562	C
1	XA	563	A
1	XA	564	C
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	607	A
1	XA	617	G
1	XA	620	C
1	XA	630	G
1	XA	631	G
1	XA	633	G
1	XA	653	A

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Mol	Chain	Res	Type
1	XA	657	G
1	XA	665	A
1	XA	688	G
1	XA	702	A
1	XA	703	G
1	XA	704	A
1	XA	721	G
1	XA	724	G
1	XA	731	G
1	XA	748	C
1	XA	749	C
1	XA	755	G
1	XA	760	G
1	XA	763	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	796	C
1	XA	799	G
1	XA	813	U
1	XA	816	A
1	XA	817	C
1	XA	818	G
1	XA	819	A
1	XA	821	G
1	XA	828	A
1	XA	838	G
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	853	G
1	XA	859	A
1	XA	864	A
1	XA	870	U
1	XA	871	U
1	XA	872	A
1	XA	873	A
1	XA	902	G
1	XA	914	A
1	XA	927	G

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Mol	Chain	Res	Type
1	XA	934	C
1	XA	935	A
1	XA	936	C
1	XA	939	G
1	XA	950	U
1	XA	960	U
1	XA	961	U
1	XA	966	G
1	XA	967	C
1	XA	968	A
1	XA	969	A
1	XA	971	G
1	XA	972	C
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	983	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	994	A
1	XA	1000	A
1	XA	1001	G
1	XA	1002	G
1	XA	1004	A
1	XA	1006	C
1	XA	1008	C
1	XA	1016	A
1	XA	1021	G
1	XA	1024	G
1	XA	1026	G
1	XA	1028	C
1	XA	1029	G
1	XA	1032(A)	G
1	XA	1032(B)	G
1	XA	1036	G
1	XA	1039	C
1	XA	1040	U
1	XA	1042	G
1	XA	1053	G
1	XA	1054	C

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Mol	Chain	Res	Type
1	XA	1055	A
1	XA	1064	G
1	XA	1066	C
1	XA	1081	G
1	XA	1085	U
1	XA	1089	G
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1103	C
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1130	A
1	XA	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1140	C
1	XA	1146	A
1	XA	1152	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1161	C
1	XA	1162	C
1	XA	1170	A
1	XA	1176	A
1	XA	1177	G
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A
1	XA	1187	G
1	XA	1188	A
1	XA	1189	C
1	XA	1190	G
1	XA	1193	G
1	XA	1195	C
1	XA	1196	U

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Mol	Chain	Res	Type
1	XA	1201	A
1	XA	1211	U
1	XA	1212	U
1	XA	1214	C
1	XA	1220	G
1	XA	1225	A
1	XA	1226	C
1	XA	1238	A
1	XA	1240	U
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1264	C
1	XA	1270	C
1	XA	1272	G
1	XA	1275	A
1	XA	1277	C
1	XA	1278	U
1	XA	1280	A
1	XA	1281	U
1	XA	1282	C
1	XA	1285	A
1	XA	1286	A
1	XA	1287	A
1	XA	1288	A
1	XA	1290	G
1	XA	1298	C
1	XA	1299	A
1	XA	1300	G
1	XA	1301	U
1	XA	1302	U
1	XA	1305	G
1	XA	1306	A
1	XA	1318	A
1	XA	1320	C
1	XA	1321	C
1	XA	1322	C
1	XA	1323	G
1	XA	1329	A
1	XA	1331	G
1	XA	1336	C
1	XA	1337	G

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Mol	Chain	Res	Type
1	XA	1338	G
1	XA	1346	A
1	XA	1347	G
1	XA	1348	U
1	XA	1353	G
1	XA	1359	C
1	XA	1362(A)	C
1	XA	1363	A
1	XA	1378	C
1	XA	1379	G
1	XA	1394	A
1	XA	1397	C
1	XA	1401	G
1	XA	1419	G
1	XA	1442	G
1	XA	1443	G
1	XA	1446	A
1	XA	1452	C
1	XA	1453	G
1	XA	1482	G
1	XA	1483	A
1	XA	1487	G
1	XA	1492	A
1	XA	1497	G
1	XA	1499	A
1	XA	1503	A
1	XA	1504	G
1	XA	1506	U
1	XA	1517	G
1	XA	1518	A
1	XA	1519	A
1	XA	1520	G
1	XA	1528	U
1	XA	1529	G
1	XA	1530	G
22	YA	9	U
22	YA	13	A
22	YA	15	G
22	YA	28	A
22	YA	34	C
22	YA	35	G
22	YA	46	C

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Mol	Chain	Res	Type
22	YA	49	A
22	YA	55	G
22	YA	61	G
22	YA	63	U
22	YA	71	A
22	YA	72	U
22	YA	74	A
22	YA	75	G
22	YA	96	G
22	YA	97	C
22	YA	99	U
22	YA	101	G
22	YA	102	G
22	YA	103	A
22	YA	118	A
22	YA	119	A
22	YA	120	U
22	YA	121	G
22	YA	134	C
22	YA	155	C
22	YA	161	U
22	YA	162	U
22	YA	173	G
22	YA	181	A
22	YA	188	G
22	YA	196	A
22	YA	199	A
22	YA	215	G
22	YA	216	A
22	YA	221	A
22	YA	222	A
22	YA	223	A
22	YA	224	G
22	YA	226	G
22	YA	228	A
22	YA	229	A
22	YA	230	U
22	YA	232	G
22	YA	242	G
22	YA	243	U
22	YA	248	G
22	YA	249	C

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Mol	Chain	Res	Type
22	YA	250	G
22	YA	252	G
22	YA	261	G
22	YA	264	C
22	YA	265	A
22	YA	266	G
22	YA	269	U
22	YA	270(K)	C
22	YA	270(L)	U
22	YA	270(M)	U
22	YA	270(N)	G
22	YA	270(O)	U
22	YA	270(P)	C
22	YA	270(Q)	C
22	YA	270(W)	G
22	YA	270(Y)	G
22	YA	270(Z)	U
22	YA	271(A)	C
22	YA	271(C)	U
22	YA	271	G
22	YA	274	G
22	YA	275	G
22	YA	276	A
22	YA	278	A
22	YA	279	C
22	YA	299	A
22	YA	300	A
22	YA	311	A
22	YA	312	G
22	YA	315	G
22	YA	316	C
22	YA	323	G
22	YA	324	A
22	YA	329	G
22	YA	330	A
22	YA	332	A
22	YA	342	G
22	YA	345	A
22	YA	352	G
22	YA	356	G
22	YA	363	G
22	YA	364	C

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Mol	Chain	Res	Type
22	YA	371	A
22	YA	372	G
22	YA	373	U
22	YA	380	U
22	YA	386	G
22	YA	387	U
22	YA	394	A
22	YA	396	G
22	YA	405	U
22	YA	406	G
22	YA	411	G
22	YA	412	A
22	YA	428	A
22	YA	429	A
22	YA	442	G
22	YA	443	A
22	YA	444	C
22	YA	448	U
22	YA	451	C
22	YA	454	A
22	YA	457	A
22	YA	470	A
22	YA	472	A
22	YA	479	A
22	YA	480	A
22	YA	481	G
22	YA	483	A
22	YA	494	G
22	YA	496	G
22	YA	501	A
22	YA	503	A
22	YA	504	U
22	YA	505	A
22	YA	508	G
22	YA	509	C
22	YA	512	G
22	YA	513	A
22	YA	518	G
22	YA	528	A
22	YA	531	C
22	YA	532	A
22	YA	533	G

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Mol	Chain	Res	Type
22	YA	537	C
22	YA	539	G
22	YA	540	G
22	YA	546	C
22	YA	547	A
22	YA	549	G
22	YA	562	U
22	YA	563	G
22	YA	571	A
22	YA	573	G
22	YA	574	C
22	YA	575	A
22	YA	580	C
22	YA	586	A
22	YA	587	C
22	YA	588	U
22	YA	591	C
22	YA	599	G
22	YA	603	A
22	YA	607	U
22	YA	613	U
22	YA	614	U
22	YA	615	G
22	YA	617	G
22	YA	618	G
22	YA	622	G
22	YA	627	A
22	YA	634	C
22	YA	637	A
22	YA	638	G
22	YA	645	C
22	YA	646	A
22	YA	649	G
22	YA	651	G
22	YA	654	A
22	YA	654(A)	G
22	YA	654(B)	C
22	YA	654(T)	C
22	YA	657	U
22	YA	664	C
22	YA	668	G
22	YA	670	A

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Mol	Chain	Res	Type
22	YA	685	A
22	YA	686	G
22	YA	701	G
22	YA	702	G
22	YA	704	G
22	YA	716	A
22	YA	717	G
22	YA	719	C
22	YA	721	C
22	YA	722	A
22	YA	730	C
22	YA	740	U
22	YA	762	U
22	YA	776	G
22	YA	777	A
22	YA	782	A
22	YA	784	A
22	YA	785	G
22	YA	788	A
22	YA	789	A
22	YA	790	C
22	YA	791	C
22	YA	792	G
22	YA	793	A
22	YA	800	A
22	YA	805	G
22	YA	812	C
22	YA	813	U
22	YA	819	A
22	YA	827	U
22	YA	828	U
22	YA	830	G
22	YA	845	G
22	YA	846	C
22	YA	847	U
22	YA	856	C
22	YA	857	C
22	YA	858	U
22	YA	860	U
22	YA	869	G
22	YA	880	G
22	YA	881	G

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Mol	Chain	Res	Type
22	YA	882	G
22	YA	883	G
22	YA	884	C
22	YA	885	C
22	YA	886	C
22	YA	887	A
22	YA	889	C
22	YA	896	A
22	YA	897	C
22	YA	899	A
22	YA	900	A
22	YA	901	A
22	YA	907	U
22	YA	910	A
22	YA	914	C
22	YA	915	C
22	YA	917	A
22	YA	932	G
22	YA	938	G
22	YA	941	A
22	YA	945	A
22	YA	946	G
22	YA	957	A
22	YA	959	A
22	YA	961	C
22	YA	973	A
22	YA	974	G
22	YA	974(A)	C
22	YA	975	G
22	YA	980	A
22	YA	983	A
22	YA	986	C
22	YA	995	C
22	YA	996	A
22	YA	1003	G
22	YA	1005	C
22	YA	1010	A
22	YA	1011	G
22	YA	1012	U
22	YA	1013	C
22	YA	1016	G
22	YA	1020	A

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Mol	Chain	Res	Type
22	YA	1022	G
22	YA	1023	U
22	YA	1025	G
22	YA	1026	U
22	YA	1027	A
22	YA	1033	U
22	YA	1043	C
22	YA	1045	A
22	YA	1046	A
22	YA	1047	G
22	YA	1050	A
22	YA	1053	C
22	YA	1054	A
22	YA	1057	A
22	YA	1059	G
22	YA	1060	U
22	YA	1061	U
22	YA	1065	U
22	YA	1066	U
22	YA	1067	A
22	YA	1068	G
22	YA	1069	A
22	YA	1070	A
22	YA	1071	G
22	YA	1077	A
22	YA	1078	U
22	YA	1079	C
22	YA	1082	U
22	YA	1083	U
22	YA	1084	A
22	YA	1085	A
22	YA	1086	A
22	YA	1088	A
22	YA	1089	G
22	YA	1090	U
22	YA	1091	G
22	YA	1095	A
22	YA	1096	A
22	YA	1097	U
22	YA	1099	G
22	YA	1103	A
22	YA	1104	C

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Mol	Chain	Res	Type
22	YA	1110	G
22	YA	1111	A
22	YA	1122	G
22	YA	1126	A
22	YA	1128	A
22	YA	1130	U
22	YA	1131	G
22	YA	1135	C
22	YA	1136	G
22	YA	1139	G
22	YA	1142	U
22	YA	1142(A)	A
22	YA	1143	A
22	YA	1155	A
22	YA	1168	G
22	YA	1170	G
22	YA	1173	G
22	YA	1174	A
22	YA	1175	U
22	YA	1176	G
22	YA	1178	C
22	YA	1179	C
22	YA	1194	A
22	YA	1195	G
22	YA	1204	A
22	YA	1205	U
22	YA	1210	A
22	YA	1211	U
22	YA	1218	C
22	YA	1220	A
22	YA	1221	C
22	YA	1228	G
22	YA	1230	C
22	YA	1236	G
22	YA	1237	A
22	YA	1238	G
22	YA	1240	U
22	YA	1241	A
22	YA	1242	A
22	YA	1244	G
22	YA	1250	G
22	YA	1252	G

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Mol	Chain	Res	Type
22	YA	1253	A
22	YA	1255	U
22	YA	1256	G
22	YA	1257	C
22	YA	1265	A
22	YA	1271	G
22	YA	1272	A
22	YA	1273	U
22	YA	1300	U
22	YA	1301	A
22	YA	1306	C
22	YA	1309	G
22	YA	1313	U
22	YA	1319	G
22	YA	1321	A
22	YA	1329	U
22	YA	1349	A
22	YA	1352	U
22	YA	1365	A
22	YA	1368	G
22	YA	1371	G
22	YA	1372	U
22	YA	1379	A
22	YA	1383	C
22	YA	1384	A
22	YA	1385	G
22	YA	1386	C
22	YA	1389	G
22	YA	1391	U
22	YA	1395	A
22	YA	1407	C
22	YA	1411	C
22	YA	1416	G
22	YA	1417	C
22	YA	1419	A
22	YA	1420	U
22	YA	1421	G
22	YA	1428	C
22	YA	1429	G
22	YA	1444(A)	A
22	YA	1445	C
22	YA	1449	A

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Mol	Chain	Res	Type
22	YA	1449(A)	G
22	YA	1455	G
22	YA	1458	C
22	YA	1459	G
22	YA	1460	A
22	YA	1461	G
22	YA	1467	C
22	YA	1471	A
22	YA	1475	G
22	YA	1482	U
22	YA	1483	G
22	YA	1484	G
22	YA	1487	G
22	YA	1489	U
22	YA	1493	C
22	YA	1496	A
22	YA	1497	U
22	YA	1504	C
22	YA	1506	C
22	YA	1507	A
22	YA	1508	A
22	YA	1510	A
22	YA	1511	A
22	YA	1515	C
22	YA	1516	U
22	YA	1522	G
22	YA	1525	G
22	YA	1533	C
22	YA	1534	G
22	YA	1535	U
22	YA	1536	A
22	YA	1537	C
22	YA	1540	G
22	YA	1543	A
22	YA	1544	C
22	YA	1545	A
22	YA	1545(A)	A
22	YA	1549	C
22	YA	1554	A
22	YA	1558	A
22	YA	1559	G
22	YA	1560	G

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Mol	Chain	Res	Type
22	YA	1569	A
22	YA	1578	U
22	YA	1579	A
22	YA	1585	C
22	YA	1586	A
22	YA	1587	A
22	YA	1591	G
22	YA	1592	C
22	YA	1597	A
22	YA	1598	C
22	YA	1608	A
22	YA	1609	A
22	YA	1610	A
22	YA	1617	C
22	YA	1640	C
22	YA	1648	C
22	YA	1654	A
22	YA	1674	G
22	YA	1678	G
22	YA	1682	G
22	YA	1686	C
22	YA	1693	U
22	YA	1694	C
22	YA	1695	G
22	YA	1698	A
22	YA	1699	G
22	YA	1700	A
22	YA	1701	A
22	YA	1725	G
22	YA	1729	A
22	YA	1730	U
22	YA	1731	G
22	YA	1732	A
22	YA	1733	G
22	YA	1742	C
22	YA	1743	G
22	YA	1750	G
22	YA	1753	G
22	YA	1754	C
22	YA	1756	G
22	YA	1762	A
22	YA	1763	G

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Mol	Chain	Res	Type
22	YA	1764	G
22	YA	1773	A
22	YA	1780	A
22	YA	1781	C
22	YA	1787	A
22	YA	1791	A
22	YA	1799	G
22	YA	1800	C
22	YA	1801	G
22	YA	1805	U
22	YA	1816	G
22	YA	1824	G
22	YA	1826	G
22	YA	1829	A
22	YA	1835	G
22	YA	1847	A
22	YA	1848	A
22	YA	1858	G
22	YA	1869	G
22	YA	1871	A
22	YA	1872	A
22	YA	1878	G
22	YA	1882	C
22	YA	1889	A
22	YA	1896	G
22	YA	1899	G
22	YA	1900	A
22	YA	1903	G
22	YA	1906	G
22	YA	1913	A
22	YA	1919	A
22	YA	1929	G
22	YA	1930	G
22	YA	1931	U
22	YA	1935	G
22	YA	1936	A
22	YA	1938	A
22	YA	1939	U
22	YA	1941	C
22	YA	1955	U
22	YA	1956	U
22	YA	1963	U

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Mol	Chain	Res	Type
22	YA	1965	C
22	YA	1967	C
22	YA	1968	G
22	YA	1969	A
22	YA	1970	A
22	YA	1971	A
22	YA	1972	A
22	YA	1976	U
22	YA	1982	C
22	YA	1985	G
22	YA	1987	G
22	YA	1991	U
22	YA	1992	G
22	YA	1993	U
22	YA	1996	C
22	YA	2020	A
22	YA	2023	G
22	YA	2031	A
22	YA	2033	A
22	YA	2043	C
22	YA	2055	C
22	YA	2056	G
22	YA	2059	A
22	YA	2060	A
22	YA	2061	G
22	YA	2062	A
22	YA	2063	C
22	YA	2069	G
22	YA	2072	G
22	YA	2098	U
22	YA	2107	C
22	YA	2108	C
22	YA	2111	C
22	YA	2112	G
22	YA	2113	U
22	YA	2114	A
22	YA	2115	G
22	YA	2116	G
22	YA	2117	A
22	YA	2119	A
22	YA	2120	G
22	YA	2126	A

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Mol	Chain	Res	Type
22	YA	2127	G
22	YA	2128	C
22	YA	2131	G
22	YA	2132	U
22	YA	2133	G
22	YA	2136	C
22	YA	2145	C
22	YA	2147	G
22	YA	2148	G
22	YA	2158	A
22	YA	2159	G
22	YA	2166	G
22	YA	2167	U
22	YA	2168	G
22	YA	2173	A
22	YA	2177	C
22	YA	2183	C
22	YA	2189	U
22	YA	2190	G
22	YA	2192	G
22	YA	2194	G
22	YA	2195	C
22	YA	2198	A
22	YA	2209	C
22	YA	2210	G
22	YA	2211	G
22	YA	2212	A
22	YA	2215	G
22	YA	2225	A
22	YA	2238	G
22	YA	2239	G
22	YA	2242	G
22	YA	2243	U
22	YA	2263	C
22	YA	2267	A
22	YA	2269	A
22	YA	2274	A
22	YA	2275	C
22	YA	2278	A
22	YA	2280	G
22	YA	2283	C
22	YA	2287	A

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Mol	Chain	Res	Type
22	YA	2288	A
22	YA	2299	G
22	YA	2305	A
22	YA	2307	G
22	YA	2308	G
22	YA	2311	A
22	YA	2319	G
22	YA	2320	A
22	YA	2325	G
22	YA	2334	G
22	YA	2336	A
22	YA	2342	C
22	YA	2346	A
22	YA	2347	C
22	YA	2358	G
22	YA	2377	A
22	YA	2379	G
22	YA	2383	G
22	YA	2385	C
22	YA	2392	A
22	YA	2394	C
22	YA	2398	U
22	YA	2402	C
22	YA	2403	C
22	YA	2406	U
22	YA	2410	G
22	YA	2423	U
22	YA	2424	C
22	YA	2425	A
22	YA	2429	G
22	YA	2430	A
22	YA	2431	U
22	YA	2435	A
22	YA	2439	A
22	YA	2440	C
22	YA	2441	C
22	YA	2448	A
22	YA	2453	A
22	YA	2468	G
22	YA	2469	A
22	YA	2475	C
22	YA	2491	U

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Mol	Chain	Res	Type
22	YA	2494	G
22	YA	2497	A
22	YA	2502	G
22	YA	2505	G
22	YA	2518	A
22	YA	2524	G
22	YA	2525	G
22	YA	2529	G
22	YA	2531	A
22	YA	2542	A
22	YA	2543	G
22	YA	2554	U
22	YA	2562	U
22	YA	2566	A
22	YA	2567	G
22	YA	2573	C
22	YA	2574	G
22	YA	2582	G
22	YA	2585	U
22	YA	2595	G
22	YA	2596	U
22	YA	2602	A
22	YA	2609	U
22	YA	2611	U
22	YA	2612	C
22	YA	2615	U
22	YA	2621	A
22	YA	2623	G
22	YA	2626	C
22	YA	2629	A
22	YA	2632	A
22	YA	2640	G
22	YA	2646	C
22	YA	2651	C
22	YA	2654	A
22	YA	2660	A
22	YA	2665	A
22	YA	2666	C
22	YA	2673	G
22	YA	2675	A
22	YA	2679	A
22	YA	2682	U

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Mol	Chain	Res	Type
22	YA	2683	C
22	YA	2689	U
22	YA	2690	C
22	YA	2691	C
22	YA	2702	U
22	YA	2703	C
22	YA	2707	G
22	YA	2712	U
22	YA	2712(A)	A
22	YA	2713	A
22	YA	2714	G
22	YA	2718	G
22	YA	2719	G
22	YA	2720	U
22	YA	2726	U
22	YA	2733	A
22	YA	2734	A
22	YA	2739	U
22	YA	2742	C
22	YA	2749	A
22	YA	2750	A
22	YA	2751	G
22	YA	2752	C
22	YA	2758	A
22	YA	2761	G
22	YA	2765	A
22	YA	2766	G
22	YA	2770	G
22	YA	2771	C
22	YA	2777	G
22	YA	2778	A
22	YA	2779	U
22	YA	2789	C
22	YA	2790	A
22	YA	2791	C
22	YA	2793	G
22	YA	2795	G
22	YA	2797	U
22	YA	2798	C
22	YA	2804	C
22	YA	2807	G
22	YA	2808	U

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Mol	Chain	Res	Type
22	YA	2818	G
22	YA	2820	A
22	YA	2821	A
22	YA	2833	G
22	YA	2834	G
22	YA	2835	A
22	YA	2836	U
22	YA	2867	G
22	YA	2868	A
22	YA	2872	G
22	YA	2880	C
22	YA	2892	A
22	YA	2893	G
23	YB	2	C
23	YB	8	U
23	YB	13	A
23	YB	15	A
23	YB	16	G
23	YB	21	G
23	YB	22	U
23	YB	24	G
23	YB	25	A
23	YB	29	A
23	YB	31	C
23	YB	32	C
23	YB	39	A
23	YB	40	U
23	YB	41	U
23	YB	42	C
23	YB	44	G
23	YB	45	A
23	YB	52	A
23	YB	53	A
23	YB	65	C
23	YB	67	G
23	YB	72	G
23	YB	73	A
23	YB	81	G
23	YB	82	G
23	YB	90	C
23	YB	91	C
23	YB	107	U

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Mol	Chain	Res	Type
23	YB	108	C
23	YB	109	G
23	YB	115	G
53	QV	5	G
53	QV	7	G
53	QV	8	U
53	QV	16	C
53	QV	17(A)	U
53	QV	18	G
53	QV	19	G
53	QV	21	A
53	QV	22	G
53	QV	31	G
53	QV	41	C
53	QV	44	A
53	QV	47	U
53	QV	48	C
53	QV	50	U
53	QV	54	U
53	QV	59	A
53	QV	63	G
53	QV	64	G
53	QV	67	C
53	QV	75	C
53	QV	76	A
54	QX	2	U
54	QX	3	G
54	QX	4	C
54	QX	7	G
55	QY	34	C
55	QY	36	G
55	QY	38	A
53	XV	4	G
53	XV	5	G
53	XV	7	G
53	XV	10	G
53	XV	11	A
53	XV	16	C
53	XV	17(A)	U
53	XV	18	G
53	XV	19	G
53	XV	21	A

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Mol	Chain	Res	Type
53	XV	30	G
53	XV	31	G
53	XV	47	U
53	XV	48	C
53	XV	49	G
53	XV	50	U
53	XV	52	G
53	XV	54	U
53	XV	58	A
53	XV	63	G
53	XV	64	G
53	XV	66	C
53	XV	75	C
53	XV	76	A
54	XX	3	G
54	XX	4	C
54	XX	7	G
55	XY	34	C
55	XY	36	G

All (220) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	31	G
1	QA	64	G
1	QA	115	G
1	QA	119	A
1	QA	181	G
1	QA	243	A
1	QA	244	U
1	QA	250	A
1	QA	266	G
1	QA	328	C
1	QA	353	A
1	QA	389	A
1	QA	410	G
1	QA	412	A
1	QA	421	U
1	QA	429	U
1	QA	452	A
1	QA	484	G
1	QA	485	G

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Mol	Chain	Res	Type
1	QA	509	A
1	QA	530	G
1	QA	560	U
1	QA	687	A
1	QA	701	C
1	QA	703	G
1	QA	752	G
1	QA	753	A
1	QA	792	A
1	QA	913	A
1	QA	934	C
1	QA	991	U
1	QA	992	U
1	QA	1025	U
1	QA	1027	C
1	QA	1065	U
1	QA	1157	A
1	QA	1200	C
1	QA	1280	A
1	QA	1285	A
1	QA	1297	C
1	QA	1336	C
1	QA	1337	G
1	QA	1346	A
1	QA	1347	G
1	QA	1446	A
1	QA	1453	G
1	QA	1498	U
1	QA	1503	A
1	QA	1528	U
22	RA	27	G
22	RA	71	A
22	RA	74	A
22	RA	99	U
22	RA	101	G
22	RA	196	A
22	RA	205	G
22	RA	222	A
22	RA	227	A
22	RA	229	A
22	RA	242	G
22	RA	271(B)	G

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Mol	Chain	Res	Type
22	RA	271(C)	U
22	RA	345	A
22	RA	370	G
22	RA	372	G
22	RA	405	U
22	RA	508	G
22	RA	512	G
22	RA	587	C
22	RA	637	A
22	RA	752	A
22	RA	774	A
22	RA	846	C
22	RA	856	C
22	RA	859	G
22	RA	974(A)	C
22	RA	1012	U
22	RA	1022	G
22	RA	1026	U
22	RA	1045	A
22	RA	1078	U
22	RA	1085	A
22	RA	1130	U
22	RA	1178	C
22	RA	1204	A
22	RA	1210	A
22	RA	1312	U
22	RA	1427	A
22	RA	1558	A
22	RA	1653	G
22	RA	1694	C
22	RA	1799	G
22	RA	1819	A
22	RA	1930	G
22	RA	1980	G
22	RA	1992	G
22	RA	2060	A
22	RA	2126	A
22	RA	2238	G
22	RA	2351	G
22	RA	2405	G
22	RA	2422	A
22	RA	2439	A

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Mol	Chain	Res	Type
22	RA	2481	G
22	RA	2518	A
22	RA	2566	A
22	RA	2581	G
22	RA	2610	C
22	RA	2689	U
22	RA	2712	U
22	RA	2726	U
22	RA	2776	A
22	RA	2832	U
22	RA	2867	G
23	RB	24	G
23	RB	66	A
1	XA	31	G
1	XA	60	A
1	XA	78	G
1	XA	89	U
1	XA	115	G
1	XA	181	G
1	XA	243	A
1	XA	244	U
1	XA	250	A
1	XA	266	G
1	XA	328	C
1	XA	345	C
1	XA	388	G
1	XA	412	A
1	XA	428	G
1	XA	429	U
1	XA	481	G
1	XA	484	G
1	XA	485	G
1	XA	509	A
1	XA	560	U
1	XA	687	A
1	XA	703	G
1	XA	812	C
1	XA	913	A
1	XA	960	U
1	XA	991	U
1	XA	992	U
1	XA	1025	U

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Mol	Chain	Res	Type
1	XA	1027	C
1	XA	1094	G
1	XA	1280	A
1	XA	1285	A
1	XA	1297	C
1	XA	1301	U
1	XA	1305	G
1	XA	1336	C
1	XA	1347	G
1	XA	1498	U
1	XA	1503	A
22	YA	27	G
22	YA	71	A
22	YA	99	U
22	YA	102	G
22	YA	195	A
22	YA	221	A
22	YA	222	A
22	YA	229	A
22	YA	242	G
22	YA	278	A
22	YA	372	G
22	YA	404	C
22	YA	503	A
22	YA	508	G
22	YA	532	A
22	YA	587	C
22	YA	637	A
22	YA	653	A
22	YA	654	A
22	YA	846	C
22	YA	856	C
22	YA	859	G
22	YA	896	A
22	YA	974	G
22	YA	974(A)	C
22	YA	1012	U
22	YA	1022	G
22	YA	1026	U
22	YA	1045	A
22	YA	1078	U
22	YA	1085	A

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Mol	Chain	Res	Type
22	YA	1109	C
22	YA	1130	U
22	YA	1178	C
22	YA	1204	A
22	YA	1210	A
22	YA	1427	A
22	YA	1558	A
22	YA	1653	G
22	YA	1698	A
22	YA	1799	G
22	YA	1899	G
22	YA	1930	G
22	YA	1955	U
22	YA	1992	G
22	YA	2126	A
22	YA	2406	U
22	YA	2422	A
22	YA	2439	A
22	YA	2566	A
22	YA	2610	C
22	YA	2681	C
22	YA	2689	U
22	YA	2712	U
22	YA	2776	A
22	YA	2832	U
22	YA	2867	G
23	YB	66	A
53	QV	53	G
54	QX	6	G
53	XV	19	G
53	XV	53	G
53	XV	60	U
54	XX	3	G

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

2 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected

value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
56	PPU	Z6	76	56,22	30,40,41	1.05	1 (3%)	37,57,60	2.43	14 (37%)
56	PPU	Z8	76	56,22	30,40,41	1.04	2 (6%)	37,57,60	2.12	13 (35%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	PPU	Z6	76	56,22	-	0/21/43/44	0/4/4/4
56	PPU	Z8	76	56,22	-	0/21/43/44	0/4/4/4

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	Z8	76	PPU	C2'-C3'	-2.35	1.49	1.53
56	Z8	76	PPU	C5-C4	2.71	1.46	1.40
56	Z6	76	PPU	C5-C4	3.02	1.47	1.40

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	Z6	76	PPU	C3'-N3'-C	-5.70	114.20	123.18
56	Z6	76	PPU	N3-C2-N1	-5.61	124.60	128.89
56	Z8	76	PPU	N3-C2-N1	-5.02	125.05	128.89
56	Z6	76	PPU	C4'-C3'-N3'	-4.22	104.81	113.61
56	Z8	76	PPU	C2'-C1'-N9	-3.63	108.75	114.29
56	Z6	76	PPU	O4'-C1'-N9	-3.28	101.24	108.10
56	Z8	76	PPU	C2'-C3'-N3'	-3.28	104.75	113.18
56	Z8	76	PPU	C4-C5-N7	-3.21	106.53	109.48
56	Z6	76	PPU	C10-N6-C6	-3.15	109.56	119.48
56	Z8	76	PPU	O2'-C2'-C3'	-2.99	103.55	110.62
56	Z6	76	PPU	C4-C5-N7	-2.88	106.83	109.48
56	Z8	76	PPU	C3'-N3'-C	-2.86	118.67	123.18
56	Z8	76	PPU	C4'-C3'-N3'	-2.67	108.03	113.61
56	Z6	76	PPU	CG-CB-CA	-2.56	108.28	114.31
56	Z8	76	PPU	C10-N6-C6	-2.51	111.56	119.48
56	Z6	76	PPU	C9-N6-C6	-2.43	111.81	119.48
56	Z8	76	PPU	C9-N6-C6	-2.31	112.19	119.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	Z6	76	PPU	O-C-N3'	-2.30	118.42	122.93
56	Z8	76	PPU	C2'-C3'-C4'	2.10	104.88	102.27
56	Z8	76	PPU	O4'-C4'-C3'	2.17	107.03	103.93
56	Z6	76	PPU	CB-CA-C	2.68	113.58	108.33
56	Z6	76	PPU	C2'-C3'-C4'	2.83	105.77	102.27
56	Z6	76	PPU	CM-OC-CZ	3.01	124.55	117.51
56	Z8	76	PPU	N1-C6-N6	4.40	121.83	117.05
56	Z6	76	PPU	N1-C6-N6	4.45	121.89	117.05
56	Z6	76	PPU	C2-N1-C6	4.66	121.34	111.43
56	Z8	76	PPU	C2-N1-C6	4.91	121.88	111.43

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	Z8	76	PPU	4	0

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 706 ligands modelled in this entry, 704 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
57	PAR	QA	1601	-	45,45,45	1.30	7 (15%)	59,67,67	1.41	7 (11%)
57	PAR	XA	1601	-	45,45,45	1.34	6 (13%)	59,67,67	1.35	5 (8%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
57	PAR	QA	1601	-	-	0/18/94/94	0/4/4/4
57	PAR	XA	1601	-	-	0/18/94/94	0/4/4/4

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	QA	1601	PAR	C14-C24	2.01	1.56	1.52
57	QA	1601	PAR	C31-C21	2.03	1.56	1.53
57	XA	1601	PAR	C14-C24	2.12	1.56	1.52
57	QA	1601	PAR	C11-C21	2.29	1.57	1.52
57	QA	1601	PAR	O51-C11	2.34	1.47	1.41
57	XA	1601	PAR	O51-C11	2.61	1.48	1.41
57	XA	1601	PAR	C64-C54	2.66	1.58	1.52
57	XA	1601	PAR	C52-C42	2.75	1.58	1.52
57	XA	1601	PAR	C11-C21	2.78	1.57	1.52
57	QA	1601	PAR	C64-C54	2.78	1.59	1.52
57	XA	1601	PAR	O54-C14	2.84	1.49	1.41
57	QA	1601	PAR	O54-C14	2.85	1.49	1.41
57	QA	1601	PAR	C52-C42	3.06	1.58	1.52

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
57	QA	1601	PAR	O11-C42-C32	-2.98	101.71	108.92
57	QA	1601	PAR	O54-C54-C44	-2.04	105.85	109.68
57	XA	1601	PAR	C11-O51-C51	2.56	118.72	113.75
57	XA	1601	PAR	O54-C54-C64	2.69	111.35	106.10
57	QA	1601	PAR	O54-C54-C64	2.79	111.56	106.10
57	QA	1601	PAR	O11-C42-C52	3.01	115.34	107.49
57	XA	1601	PAR	O52-C13-C23	3.53	115.09	107.75
57	QA	1601	PAR	O33-C14-C24	3.63	114.69	107.96
57	QA	1601	PAR	C14-O54-C54	3.80	121.13	113.75
57	QA	1601	PAR	O52-C13-C23	3.91	115.89	107.75
57	XA	1601	PAR	C14-O54-C54	4.32	122.13	113.75
57	XA	1601	PAR	O33-C14-C24	4.54	116.37	107.96

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
57	QA	1601	PAR	1	0
57	XA	1601	PAR	2	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	QA	1500/1522 (98%)	0.45	74 (4%) 33 20	28, 70, 146, 264	0
1	XA	1500/1522 (98%)	0.57	83 (5%) 29 17	18, 64, 151, 247	0
2	QB	237/256 (92%)	0.16	9 (3%) 44 29	48, 115, 166, 191	0
2	XB	237/256 (92%)	-0.20	1 (0%) 93 88	35, 98, 150, 194	0
3	QC	205/239 (85%)	0.54	10 (4%) 33 20	45, 105, 149, 166	0
3	XC	205/239 (85%)	0.18	2 (0%) 84 72	35, 78, 130, 168	0
4	QD	208/209 (99%)	0.48	10 (4%) 34 21	27, 79, 119, 169	0
4	XD	208/209 (99%)	0.33	4 (1%) 70 53	34, 75, 127, 151	0
5	QE	151/162 (93%)	0.47	7 (4%) 36 23	37, 88, 135, 167	0
5	XE	151/162 (93%)	0.32	3 (1%) 68 52	29, 65, 115, 148	0
6	QF	101/101 (100%)	-0.17	1 (0%) 84 72	21, 76, 112, 185	0
6	XF	101/101 (100%)	0.23	0 100 100	32, 72, 115, 153	0
7	QG	155/156 (99%)	0.59	21 (13%) 4 3	46, 96, 152, 185	0
7	XG	155/156 (99%)	0.33	10 (6%) 22 12	40, 87, 145, 167	0
8	QH	138/138 (100%)	0.31	2 (1%) 78 63	41, 90, 125, 153	0
8	XH	138/138 (100%)	0.30	3 (2%) 65 48	33, 72, 108, 149	0
9	QI	127/128 (99%)	1.39	35 (27%) 1 1	67, 109, 148, 172	0
9	XI	127/128 (99%)	0.67	15 (11%) 6 5	28, 99, 147, 164	0
10	QJ	99/105 (94%)	0.97	16 (16%) 3 2	59, 114, 165, 205	0
10	XJ	99/105 (94%)	0.91	16 (16%) 3 2	41, 103, 147, 171	0
11	QK	119/129 (92%)	0.56	7 (5%) 26 14	35, 79, 130, 177	0
11	XK	119/129 (92%)	0.70	6 (5%) 32 20	24, 71, 125, 182	0
12	QL	125/132 (94%)	1.07	15 (12%) 6 5	30, 70, 120, 182	0
12	XL	125/132 (94%)	0.92	23 (18%) 2 1	15, 58, 120, 182	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	QM	121/126 (96%)	1.20	30 (24%) 1 1	36, 106, 144, 196	0
13	XM	121/126 (96%)	0.55	10 (8%) 14 8	38, 88, 137, 187	0
14	QN	60/61 (98%)	2.06	30 (50%) 0 1	58, 97, 124, 142	0
14	XN	60/61 (98%)	1.10	10 (16%) 2 2	34, 75, 109, 125	0
15	QO	88/89 (98%)	0.03	0 100 100	30, 79, 123, 154	0
15	XO	88/89 (98%)	0.27	2 (2%) 64 46	28, 73, 108, 124	0
16	QP	84/88 (95%)	0.46	1 (1%) 81 67	35, 69, 107, 152	0
16	XP	84/88 (95%)	1.15	19 (22%) 1 1	34, 74, 129, 163	0
17	QQ	100/105 (95%)	1.02	14 (14%) 4 3	24, 83, 122, 140	0
17	XQ	100/105 (95%)	0.99	14 (14%) 4 3	39, 78, 113, 165	0
18	QR	70/88 (79%)	0.08	1 (1%) 78 63	26, 78, 137, 167	0
18	XR	70/88 (79%)	0.33	2 (2%) 55 38	24, 70, 120, 147	0
19	QS	84/93 (90%)	1.70	32 (38%) 0 1	68, 111, 151, 176	0
19	XS	84/93 (90%)	0.62	8 (9%) 10 6	32, 97, 148, 177	0
20	QT	99/106 (93%)	0.92	9 (9%) 11 6	34, 79, 133, 144	0
20	XT	99/106 (93%)	1.63	34 (34%) 0 1	44, 88, 140, 174	0
21	QU	25/27 (92%)	3.28	20 (80%) 0 1	36, 102, 144, 147	0
21	XU	25/27 (92%)	2.32	15 (60%) 0 1	67, 92, 119, 132	0
22	RA	2882/2916 (98%)	0.50	143 (4%) 32 20	14, 51, 198, 261	0
22	YA	2883/2916 (98%)	0.45	106 (3%) 45 29	8, 43, 187, 292	0
23	RB	120/122 (98%)	-0.01	1 (0%) 87 77	53, 81, 118, 144	0
23	YB	120/122 (98%)	0.02	1 (0%) 87 77	36, 67, 98, 136	0
24	RD	272/276 (98%)	0.35	3 (1%) 82 69	9, 50, 100, 155	0
24	YD	272/276 (98%)	0.61	5 (1%) 71 55	2, 42, 86, 187	0
25	RE	205/206 (99%)	0.40	7 (3%) 49 33	17, 61, 126, 193	0
25	YE	205/206 (99%)	0.21	2 (0%) 84 72	3, 56, 124, 170	0
26	RF	202/210 (96%)	-0.01	0 100 100	9, 61, 124, 182	0
26	YF	202/210 (96%)	0.03	1 (0%) 91 85	10, 53, 113, 148	0
27	RG	181/182 (99%)	0.51	9 (4%) 32 20	42, 97, 145, 178	0
27	YG	181/182 (99%)	0.15	4 (2%) 65 48	40, 80, 130, 201	0
28	RH	170/180 (94%)	1.85	67 (39%) 0 1	67, 134, 177, 201	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
28	YH	170/180 (94%)	-0.03	1 (0%) 90 82	24, 76, 126, 177	0
29	RI	146/148 (98%)	0.08	3 (2%) 67 50	24, 87, 130, 181	0
29	YI	146/148 (98%)	-0.01	3 (2%) 67 50	19, 86, 127, 152	0
30	RN	138/140 (98%)	0.46	7 (5%) 32 19	29, 68, 121, 174	0
30	YN	138/140 (98%)	0.13	0 100 100	13, 56, 111, 173	0
31	RO	122/122 (100%)	0.55	3 (2%) 61 43	11, 55, 102, 158	0
31	YO	122/122 (100%)	0.91	12 (9%) 10 6	9, 51, 88, 123	0
32	RP	150/150 (100%)	0.65	11 (7%) 18 10	13, 69, 133, 176	0
32	YP	150/150 (100%)	0.43	5 (3%) 50 34	12, 61, 122, 182	0
33	RQ	141/141 (100%)	1.23	29 (20%) 1 1	29, 71, 124, 164	0
33	YQ	141/141 (100%)	0.45	5 (3%) 48 31	16, 56, 115, 152	0
34	RR	118/118 (100%)	0.45	4 (3%) 49 33	3, 55, 102, 136	0
34	YR	118/118 (100%)	0.78	6 (5%) 32 19	27, 57, 95, 140	0
35	RS	111/112 (99%)	0.68	9 (8%) 15 8	34, 80, 124, 162	0
35	YS	111/112 (99%)	0.19	1 (0%) 85 74	27, 73, 113, 138	0
36	RT	137/146 (93%)	0.55	7 (5%) 32 19	27, 67, 143, 169	0
36	YT	137/146 (93%)	0.55	5 (3%) 46 30	19, 65, 135, 172	0
37	RU	117/118 (99%)	0.24	2 (1%) 73 57	12, 62, 111, 167	0
37	YU	117/118 (99%)	0.38	2 (1%) 73 57	13, 45, 111, 172	0
38	RV	101/101 (100%)	0.05	2 (1%) 68 52	16, 78, 131, 186	0
38	YV	101/101 (100%)	0.36	3 (2%) 54 36	21, 68, 139, 214	0
39	RW	113/113 (100%)	0.31	1 (0%) 85 74	15, 47, 106, 158	0
39	YW	113/113 (100%)	0.29	2 (1%) 71 55	16, 46, 106, 168	0
40	RX	92/96 (95%)	0.36	0 100 100	17, 56, 103, 130	0
40	YX	92/96 (95%)	0.12	0 100 100	9, 42, 86, 138	0
41	RY	102/110 (92%)	0.43	2 (1%) 68 52	28, 86, 142, 176	0
41	YY	102/110 (92%)	0.11	1 (0%) 84 72	30, 73, 138, 185	0
42	RZ	183/206 (88%)	0.44	13 (7%) 19 10	45, 92, 141, 160	0
42	YZ	183/206 (88%)	-0.15	1 (0%) 91 85	21, 82, 136, 178	0
43	R0	82/85 (96%)	0.99	8 (9%) 10 6	9, 51, 88, 102	0
43	Y0	82/85 (96%)	0.37	0 100 100	20, 48, 73, 92	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
44	R1	97/98 (98%)	0.83	6 (6%) 24 13	13, 60, 144, 182	0
44	Y1	97/98 (98%)	1.06	9 (9%) 11 6	7, 53, 136, 172	0
45	R2	69/72 (95%)	-0.03	0 100 100	36, 77, 136, 164	0
45	Y2	69/72 (95%)	-0.03	0 100 100	18, 57, 116, 159	0
46	R3	59/60 (98%)	0.82	2 (3%) 49 33	33, 76, 118, 142	0
46	Y3	59/60 (98%)	0.06	1 (1%) 73 57	19, 57, 109, 169	0
47	R4	71/71 (100%)	0.88	12 (16%) 2 2	61, 142, 196, 236	0
47	Y4	71/71 (100%)	0.16	5 (7%) 19 11	58, 131, 182, 223	0
48	R5	59/60 (98%)	0.44	2 (3%) 49 33	12, 66, 149, 160	0
48	Y5	59/60 (98%)	0.87	8 (13%) 4 3	17, 64, 166, 185	0
49	R6	49/54 (90%)	4.51	44 (89%) 0 0	101, 159, 184, 200	0
49	Y6	49/54 (90%)	3.65	42 (85%) 0 0	95, 152, 182, 209	0
50	R7	49/49 (100%)	0.40	2 (4%) 41 26	11, 41, 95, 153	0
50	Y7	49/49 (100%)	0.43	3 (6%) 25 14	6, 33, 78, 135	0
51	R8	64/65 (98%)	0.84	6 (9%) 11 6	18, 59, 121, 163	0
51	Y8	64/65 (98%)	0.75	5 (7%) 16 9	16, 52, 108, 164	0
52	R9	37/37 (100%)	8.35	37 (100%) 0 0	92, 141, 184, 204	0
52	Y9	37/37 (100%)	5.95	37 (100%) 0 0	102, 132, 168, 182	0
53	QV	77/77 (100%)	-0.07	1 (1%) 79 64	35, 82, 137, 160	0
53	XV	77/77 (100%)	-0.03	1 (1%) 79 64	11, 71, 111, 159	0
54	QX	8/25 (32%)	0.86	0 100 100	44, 56, 107, 137	0
54	XX	8/25 (32%)	1.21	2 (25%) 1 1	37, 46, 104, 148	0
55	QY	8/17 (47%)	1.51	2 (25%) 1 1	62, 74, 124, 144	0
55	XY	8/17 (47%)	0.53	1 (12%) 5 4	54, 71, 109, 122	0
56	Z6	2/3 (66%)	0.83	0 100 100	45, 45, 45, 52	0
56	Z8	2/3 (66%)	1.44	0 100 100	30, 30, 30, 32	0
All	All	20861/21492 (97%)	0.52	1349 (6%) 22 12	2, 66, 150, 292	0

All (1349) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
52	R9	11	CYS	20.0
52	R9	14	CYS	15.8

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Mol	Chain	Res	Type	RSRZ
52	R9	37	GLY	15.3
52	R9	36	GLN	14.0
52	Y9	1	MET	13.9
52	R9	12	ASP	13.1
11	XK	129	SER	12.5
22	YA	2105	C	11.8
49	R6	13	CYS	11.6
49	R6	14	THR	11.5
22	RA	2146	C	11.2
52	Y9	34	GLN	11.2
52	R9	9	ARG	11.1
52	R9	15	LYS	10.9
52	R9	16	VAL	10.3
52	R9	17	ILE	10.1
52	R9	13	LYS	9.9
49	Y6	26	ASN	9.6
22	RA	2145	C	9.2
52	R9	34	GLN	9.2
52	R9	25	VAL	9.2
22	RA	2159	G	9.2
52	R9	30	PRO	8.9
49	Y6	49	HIS	8.5
52	Y9	36	GLN	8.4
52	R9	1	MET	8.4
49	R6	50	ARG	8.4
52	Y9	21	GLY	8.3
22	RA	2121	G	8.3
49	Y6	53	LYS	8.3
52	R9	28	GLU	8.3
49	Y6	42	TRP	8.2
20	XT	9	ASN	8.1
52	Y9	12	ASP	8.0
28	RH	43	VAL	7.8
22	YA	2141	G	7.8
52	R9	10	ILE	7.7
52	R9	24	TYR	7.7
52	R9	26	ILE	7.6
22	RA	2147	G	7.6
52	R9	32	HIS	7.6
22	RA	2148	G	7.5
7	QG	82	GLY	7.5
22	YA	2188	C	7.4

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Mol	Chain	Res	Type	RSRZ
52	R9	22	ARG	7.4
52	R9	2	LYS	7.4
11	QK	129	SER	7.4
52	Y9	32	HIS	7.3
22	RA	2144	U	7.3
52	Y9	24	TYR	7.3
47	R4	71	ARG	7.3
49	R6	49	HIS	7.2
52	Y9	7	VAL	7.2
52	Y9	6	SER	7.1
49	R6	20	ASN	7.1
47	R4	49	PHE	7.1
52	Y9	29	ASN	7.1
47	R4	68	ARG	7.1
49	R6	43	CYS	7.0
7	QG	78	ARG	7.0
11	QK	11	LYS	7.0
22	RA	2112	G	6.9
44	Y1	97	LEU	6.9
13	QM	101	GLN	6.8
47	R4	69	LYS	6.8
22	YA	2108	C	6.8
44	Y1	96	LYS	6.8
9	QI	110	GLU	6.8
22	RA	2160	G	6.8
22	YA	2166	G	6.8
22	RA	2142	C	6.8
52	Y9	9	ARG	6.7
52	R9	33	LYS	6.7
52	Y9	25	VAL	6.7
22	YA	2142	C	6.7
32	RP	150	ALA	6.7
22	RA	2141	G	6.7
49	R6	42	TRP	6.6
49	R6	25	LYS	6.6
22	RA	2139	C	6.5
52	R9	29	ASN	6.5
18	QR	88	LYS	6.5
22	YA	2179	C	6.5
22	RA	2136	C	6.4
52	R9	3	VAL	6.4
22	RA	2179	C	6.4

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Mol	Chain	Res	Type	RSRZ
52	Y9	10	ILE	6.4
13	QM	102	ARG	6.3
52	R9	20	HIS	6.3
49	R6	29	ASN	6.3
28	RH	89	ILE	6.3
10	QJ	64	GLU	6.3
44	R1	98	LEU	6.3
52	R9	23	VAL	6.3
52	R9	27	CYS	6.2
11	XK	12	ARG	6.2
22	YA	2107	C	6.2
7	QG	79	ARG	6.2
22	YA	2146	C	6.2
49	R6	24	GLU	6.2
52	R9	4	ARG	6.2
22	RA	2135	A	6.2
49	Y6	13	CYS	6.1
52	Y9	8	LYS	6.1
48	Y5	2	ALA	6.1
21	XU	15	ARG	6.1
13	QM	122	LYS	6.0
52	Y9	5	ALA	6.0
12	QL	128	ALA	6.0
12	QL	129	ALA	6.0
52	Y9	14	CYS	6.0
52	R9	35	ARG	5.9
38	YV	36	PRO	5.9
24	YD	26	LYS	5.9
21	QU	26	LYS	5.9
52	Y9	26	ILE	5.9
49	R6	12	GLU	5.9
22	YA	2106	G	5.9
22	YA	2116	G	5.9
13	QM	7	VAL	5.9
13	QM	6	GLY	5.8
22	RA	1100	C	5.8
42	RZ	113	ALA	5.8
22	RA	2167	U	5.8
52	R9	19	ARG	5.8
22	RA	2156	G	5.8
44	Y1	98	LEU	5.7
22	RA	2155	G	5.7

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Mol	Chain	Res	Type	RSRZ
22	RA	2166	G	5.7
52	Y9	35	ARG	5.7
47	R4	67	TYR	5.7
52	R9	18	ARG	5.7
52	Y9	28	GLU	5.7
22	RA	2168	G	5.7
52	Y9	4	ARG	5.7
52	R9	7	VAL	5.6
22	RA	1093	G	5.6
22	YA	2121	G	5.6
47	R4	66	SER	5.6
22	YA	2804	C	5.6
22	RA	2143	C	5.6
47	Y4	69	LYS	5.6
49	R6	21	TYR	5.6
52	Y9	33	LYS	5.6
22	RA	1092	C	5.5
49	R6	36	LEU	5.5
49	Y6	37	ARG	5.5
22	YA	2140	C	5.5
22	RA	1103	A	5.5
49	R6	40	CYS	5.5
49	Y6	43	CYS	5.4
11	XK	11	LYS	5.4
28	RH	88	LEU	5.4
37	YU	118	GLY	5.4
22	YA	2113	U	5.4
22	RA	2154	G	5.4
22	YA	2104	G	5.4
49	R6	41	PRO	5.3
49	Y6	18	ARG	5.3
11	QK	128	ALA	5.3
22	YA	2145	C	5.3
22	RA	2158	A	5.3
49	R6	52	VAL	5.3
22	RA	2116	G	5.2
13	QM	103	THR	5.2
52	Y9	27	CYS	5.2
12	XL	19	ARG	5.2
52	R9	5	ALA	5.2
28	RH	24	VAL	5.2
22	RA	2797	U	5.2

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Mol	Chain	Res	Type	RSRZ
52	R9	6	SER	5.2
27	RG	138	GLN	5.2
7	XG	78	ARG	5.1
49	R6	7	ILE	5.1
49	R6	34	LEU	5.1
52	Y9	37	GLY	5.1
22	RA	1095	A	5.1
52	Y9	22	ARG	5.1
10	QJ	46	ARG	5.1
49	Y6	48	VAL	5.1
22	YA	2153	G	5.1
52	Y9	23	VAL	5.1
13	XM	94	ARG	5.1
22	RA	1099	G	5.1
14	QN	31	ARG	5.0
50	Y7	48	LYS	5.0
52	Y9	15	LYS	5.0
28	RH	29	PRO	5.0
22	RA	1082	U	5.0
52	Y9	2	LYS	5.0
20	XT	18	GLN	5.0
20	XT	70	SER	5.0
22	YA	2143	C	5.0
47	R4	70	GLY	5.0
52	Y9	16	VAL	5.0
22	RA	2120	G	4.9
52	Y9	11	CYS	4.9
48	R5	2	ALA	4.9
28	RH	141	VAL	4.9
13	QM	97	PRO	4.9
13	QM	121	LYS	4.9
22	YA	2144	U	4.9
34	YR	69	ASP	4.8
22	RA	2111	C	4.8
22	YA	2109	U	4.8
13	QM	88	ARG	4.8
22	RA	2109	U	4.8
44	R1	96	LYS	4.8
49	R6	6	ARG	4.8
22	RA	1104	C	4.8
22	RA	1083	U	4.8
28	RH	81	GLU	4.8

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Mol	Chain	Res	Type	RSRZ
49	R6	27	LYS	4.8
22	RA	2175	C	4.8
22	RA	2178	C	4.8
22	YA	2180	U	4.8
22	RA	2138	C	4.8
22	RA	1096	A	4.8
49	R6	9	LEU	4.8
14	QN	39	LEU	4.8
1	QA	1286	A	4.7
22	RA	2123	G	4.7
22	RA	2140	C	4.7
10	QJ	45	ARG	4.7
21	QU	16	GLY	4.7
22	RA	2799	A	4.7
32	RP	149	GLU	4.7
42	YZ	113	ALA	4.7
12	QL	127	GLU	4.7
22	YA	887	A	4.6
22	YA	2118	U	4.6
12	XL	129	ALA	4.6
22	YA	2161	C	4.6
12	QL	28	LYS	4.6
38	YV	101	GLY	4.6
49	Y6	12	GLU	4.6
33	RQ	80	GLU	4.6
22	RA	1094	U	4.6
22	YA	2138	C	4.6
16	XP	1	MET	4.6
11	QK	127	LYS	4.5
44	R1	97	LEU	4.6
20	XT	8	ARG	4.5
22	YA	2122	U	4.5
19	QS	71	LEU	4.5
9	QI	127	LYS	4.5
1	QA	1451	A	4.5
22	RA	2115	G	4.5
22	RA	2165	G	4.5
22	RA	2169	A	4.5
21	QU	15	ARG	4.5
20	XT	19	SER	4.5
21	QU	6	ARG	4.5
28	RH	112	PRO	4.5

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Mol	Chain	Res	Type	RSRZ
13	QM	92	HIS	4.5
22	YA	2139	C	4.5
49	R6	26	ASN	4.4
52	R9	21	GLY	4.4
21	XU	26	LYS	4.4
14	QN	34	TYR	4.4
49	Y6	22	ALA	4.4
22	RA	2114	A	4.4
19	QS	85	LYS	4.4
44	Y1	93	GLU	4.4
9	QI	128	ARG	4.4
47	Y4	68	ARG	4.4
22	YA	2120	G	4.4
22	YA	2137	C	4.4
22	RA	2122	U	4.4
7	XG	5	ARG	4.4
25	YE	205	ALA	4.4
49	R6	37	ARG	4.4
22	RA	1057	A	4.4
1	XA	106	C	4.4
32	YP	13	ASN	4.4
49	Y6	47	THR	4.3
20	XT	72	LEU	4.3
22	YA	2110	G	4.3
21	QU	24	ARG	4.3
22	RA	889	C	4.3
7	QG	32	ARG	4.3
22	YA	2103	C	4.3
49	Y6	52	VAL	4.3
12	XL	28	LYS	4.3
22	RA	2110	G	4.3
33	RQ	32	TYR	4.3
49	R6	22	ALA	4.3
20	XT	16	HIS	4.3
52	Y9	17	ILE	4.3
14	QN	35	ARG	4.3
16	XP	35	LYS	4.3
49	R6	8	LYS	4.3
49	Y6	36	LEU	4.3
1	XA	1451	A	4.3
20	QT	26	ASN	4.3
22	RA	2129	C	4.3

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Mol	Chain	Res	Type	RSRZ
49	Y6	29	ASN	4.2
9	QI	124	GLN	4.2
9	QI	36	TYR	4.2
52	Y9	30	PRO	4.2
19	QS	35	SER	4.2
9	QI	111	ARG	4.2
48	Y5	54	GLY	4.2
35	YS	2	ALA	4.2
49	R6	46	HIS	4.2
22	RA	2170	A	4.2
46	R3	60	GLU	4.2
9	QI	10	ARG	4.1
1	XA	63	C	4.1
13	QM	120	LYS	4.1
22	RA	1061	U	4.1
49	Y6	38	LYS	4.1
49	R6	53	LYS	4.1
1	XA	208	U	4.1
14	QN	38	GLY	4.1
21	QU	2	GLY	4.1
52	Y9	13	LYS	4.1
22	RA	1084	A	4.1
10	QJ	65	LEU	4.1
49	Y6	20	ASN	4.1
51	R8	65	GLU	4.1
21	QU	25	LYS	4.1
28	RH	105	LEU	4.1
22	RA	2125	G	4.0
21	QU	17	THR	4.0
28	RH	35	VAL	4.0
10	XJ	59	SER	4.0
49	Y6	14	THR	4.0
1	XA	108	G	4.0
29	RI	12	LEU	4.0
14	XN	2	ALA	4.0
49	R6	11	LEU	4.0
12	XL	21	LYS	4.0
22	RA	2108	C	4.0
22	YA	2189	U	4.0
51	R8	64	TYR	4.0
25	RE	143	ASN	4.0
49	Y6	25	LYS	4.0

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Mol	Chain	Res	Type	RSRZ
28	YH	3	ARG	4.0
19	QS	15	LEU	4.0
16	XP	29	ASP	4.0
9	XI	8	GLY	3.9
22	YA	2162	G	3.9
4	QD	49	ARG	3.9
37	RU	118	GLY	3.9
14	QN	2	ALA	3.9
4	XD	209	ARG	3.9
1	XA	328	C	3.9
22	RA	2157	G	3.9
28	RH	96	ALA	3.9
33	RQ	66	ILE	3.9
21	QU	23	PRO	3.9
32	RP	79	ARG	3.9
42	RZ	114	GLY	3.9
22	YA	2149	G	3.9
22	RA	1098	A	3.9
22	YA	2112	G	3.9
12	XL	128	ALA	3.9
19	QS	36	ARG	3.9
49	R6	32	ASN	3.9
22	RA	1058	G	3.8
36	YT	104	ASN	3.8
9	QI	65	VAL	3.8
31	YO	80	ASP	3.8
50	R7	49	ARG	3.8
7	QG	156	TRP	3.8
50	Y7	49	ARG	3.8
28	RH	84	SER	3.8
11	XK	128	ALA	3.8
12	QL	19	ARG	3.8
52	Y9	20	HIS	3.8
49	R6	39	TYR	3.8
21	QU	10	ARG	3.8
1	XA	111	G	3.8
28	RH	90	LYS	3.8
22	RA	1102	C	3.8
22	RA	2104	G	3.8
49	Y6	51	GLU	3.8
43	R0	2	ALA	3.8
19	QS	53	ASN	3.7

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Mol	Chain	Res	Type	RSRZ
22	RA	2137	C	3.7
33	RQ	112	GLU	3.7
3	QC	193	TYR	3.7
22	RA	1085	A	3.7
53	QV	1	C	3.7
19	QS	2	PRO	3.7
22	RA	1059	G	3.7
19	QS	79	THR	3.7
9	XI	128	ARG	3.7
1	QA	108	G	3.7
14	QN	37	PHE	3.7
12	XL	9	GLN	3.7
12	XL	18	VAL	3.7
54	XX	8	A	3.7
22	RA	2133	G	3.7
49	R6	23	THR	3.7
16	XP	25	ARG	3.7
22	RA	1177	A	3.7
22	RA	2118	U	3.7
19	QS	39	THR	3.7
28	RH	109	PHE	3.7
16	XP	7	ALA	3.7
21	QU	22	ARG	3.7
21	QU	14	TRP	3.7
22	RA	2117	A	3.6
9	XI	126	SER	3.6
22	YA	2187	G	3.6
7	QG	81	GLY	3.6
20	XT	27	LYS	3.6
52	R9	31	LYS	3.6
20	QT	22	ARG	3.6
10	XJ	64	GLU	3.6
20	XT	106	ALA	3.6
27	RG	75	LYS	3.6
33	RQ	63	LYS	3.6
28	RH	104	GLU	3.6
10	XJ	60	ARG	3.6
14	QN	26	ARG	3.6
13	XM	100	GLY	3.6
27	RG	152	LEU	3.6
22	YA	2133	G	3.6
22	YA	2147	G	3.6

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Mol	Chain	Res	Type	RSRZ
22	YA	2167	U	3.6
49	R6	30	THR	3.6
49	Y6	30	THR	3.6
21	QU	5	ASP	3.6
22	RA	1176	G	3.6
28	RH	97	ARG	3.6
31	RO	1	MET	3.6
49	R6	5	VAL	3.6
1	XA	135	C	3.6
1	XA	134	A	3.5
49	R6	51	GLU	3.5
21	QU	13	ILE	3.5
10	XJ	5	ARG	3.5
48	Y5	59	GLU	3.5
1	XA	1531	A	3.5
29	YI	117	GLU	3.5
14	QN	61	TRP	3.5
22	YA	2154	G	3.5
22	YA	2165	G	3.5
28	RH	103	LEU	3.5
21	XU	2	GLY	3.5
49	Y6	16	CYS	3.5
35	RS	2	ALA	3.5
25	RE	205	ALA	3.5
37	YU	117	GLN	3.5
21	QU	18	TYR	3.5
28	RH	159	GLU	3.5
42	RZ	112	ARG	3.5
3	QC	190	ARG	3.5
1	QA	1224	G	3.5
7	XG	153	HIS	3.5
22	RA	1101	U	3.5
1	QA	1531	A	3.5
19	QS	69	HIS	3.5
46	Y3	60	GLU	3.5
1	QA	1354	C	3.5
20	XT	24	LEU	3.5
22	RA	1056	G	3.5
22	RA	1068	G	3.5
11	QK	13	GLN	3.5
1	QA	1251	A	3.4
22	RA	887	A	3.4

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Mol	Chain	Res	Type	RSRZ
20	XT	69	GLY	3.4
22	RA	1053	C	3.4
36	RT	106	SER	3.4
49	Y6	19	ARG	3.4
43	R0	42	GLY	3.4
33	RQ	104	PHE	3.4
27	RG	137	GLU	3.4
48	Y5	60	VAL	3.4
10	QJ	48	THR	3.4
49	R6	31	PRO	3.4
22	RA	2107	C	3.4
7	QG	5	ARG	3.4
9	QI	109	VAL	3.4
1	QA	1348	U	3.4
47	Y4	70	GLY	3.4
9	QI	119	ALA	3.4
7	QG	33	ASP	3.4
22	RA	2128	C	3.4
28	RH	52	VAL	3.4
49	Y6	15	GLU	3.4
49	Y6	39	TYR	3.4
10	XJ	47	PHE	3.4
10	XJ	58	ASP	3.4
33	RQ	91	GLU	3.4
27	RG	182	LYS	3.4
44	Y1	92	LYS	3.3
38	YV	45	THR	3.3
49	R6	47	THR	3.3
49	R6	33	LYS	3.3
10	QJ	47	PHE	3.3
21	XU	14	TRP	3.3
10	QJ	55	LYS	3.3
11	QK	12	ARG	3.3
2	QB	133	LYS	3.3
9	QI	117	HIS	3.3
20	XT	75	ASN	3.3
12	XL	64	TYR	3.3
29	YI	12	LEU	3.3
4	XD	134	ASP	3.3
28	RH	94	TYR	3.3
22	YA	2124	G	3.3
20	XT	21	LYS	3.3

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Mol	Chain	Res	Type	RSRZ
8	XH	3	THR	3.3
22	RA	1026	U	3.3
1	QA	131	C	3.3
47	Y4	67	TYR	3.3
52	Y9	31	LYS	3.3
10	QJ	67	THR	3.3
17	XQ	36	ILE	3.3
16	XP	67	THR	3.2
1	XA	107	G	3.2
9	QI	70	LYS	3.2
28	RH	95	ARG	3.2
10	QJ	62	HIS	3.2
33	RQ	6	ARG	3.2
28	RH	85	LYS	3.2
33	RQ	99	PRO	3.2
14	QN	23	ARG	3.2
22	RA	1060	U	3.2
22	RA	2795	G	3.2
14	QN	41	ARG	3.2
7	XG	79	ARG	3.2
28	RH	106	THR	3.2
20	XT	17	ARG	3.2
1	QA	1226	C	3.2
34	YR	72	ASP	3.2
28	RH	169	VAL	3.2
10	QJ	54	PHE	3.2
43	R0	41	ARG	3.2
5	QE	24	ARG	3.2
10	XJ	57	LYS	3.2
28	RH	152	ARG	3.2
9	XI	106	ALA	3.2
22	YA	2181	G	3.2
34	RR	69	ASP	3.2
9	QI	66	ARG	3.2
28	RH	115	VAL	3.2
1	XA	1529	G	3.2
9	QI	64	THR	3.2
12	QL	95	GLY	3.1
22	RA	2319	G	3.1
22	YA	2125	G	3.1
22	YA	2795	G	3.1
1	QA	1363	A	3.1

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Mol	Chain	Res	Type	RSRZ
1	QA	947	G	3.1
1	XA	105	G	3.1
1	XA	324	G	3.1
22	RA	1066	U	3.1
5	XE	21	ALA	3.1
22	YA	2136	C	3.1
12	XL	20	LYS	3.1
13	XM	97	PRO	3.1
20	QT	9	ASN	3.1
21	XU	16	GLY	3.1
22	YA	2801	A	3.1
22	RA	1089	G	3.1
14	QN	32	SER	3.1
22	RA	2134	A	3.1
22	YA	2155	G	3.1
31	YO	81	ASP	3.1
10	XJ	61	GLU	3.1
7	XG	156	TRP	3.1
49	Y6	23	THR	3.1
22	YA	2175	C	3.1
22	YA	1177	A	3.1
22	YA	2117	A	3.1
13	QM	96	LEU	3.1
49	Y6	35	GLU	3.1
13	XM	102	ARG	3.1
22	RA	2182	G	3.1
52	R9	8	LYS	3.1
22	RA	2176	A	3.1
14	QN	6	LEU	3.1
29	RI	1	MET	3.0
33	RQ	1	MET	3.0
28	RH	145	ALA	3.0
22	RA	2124	G	3.0
22	YA	2123	G	3.0
15	XO	89	GLY	3.0
28	RH	148	ILE	3.0
5	QE	13	ILE	3.0
33	RQ	103	MET	3.0
22	RA	1087	G	3.0
1	QA	1307	U	3.0
9	QI	116	LYS	3.0
47	R4	47	GLN	3.0

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Mol	Chain	Res	Type	RSRZ
47	Y4	71	ARG	3.0
49	Y6	46	HIS	3.0
22	RA	2793	G	3.0
1	XA	110	C	3.0
9	QI	125	TYR	3.0
21	QU	21	TYR	3.0
28	RH	108	GLY	3.0
22	YA	2114	A	3.0
36	YT	106	SER	3.0
9	QI	13	ALA	3.0
22	RA	1125	G	3.0
7	XG	34	GLY	3.0
27	RG	89	GLY	3.0
20	QT	21	LYS	3.0
34	YR	14	SER	3.0
1	QA	1202	G	3.0
20	QT	80	ARG	3.0
1	QA	1257	U	3.0
1	XA	1450	U	3.0
17	QQ	4	LYS	3.0
19	QS	33	THR	3.0
22	RA	1097	U	3.0
49	Y6	50	ARG	3.0
1	QA	975	A	3.0
31	YO	1	MET	3.0
1	QA	1362	C	3.0
1	XA	378	G	2.9
22	YA	2168	G	2.9
33	RQ	12	GLN	2.9
7	QG	4	ARG	2.9
13	QM	91	ARG	2.9
1	QA	948	C	2.9
32	RP	108	LYS	2.9
1	XA	1365	G	2.9
32	RP	13	ASN	2.9
49	Y6	33	LYS	2.9
1	QA	1032	A	2.9
9	XI	105	ASP	2.9
19	QS	80	TYR	2.9
20	XT	55	ILE	2.9
28	RH	25	LYS	2.9
28	RH	98	LEU	2.9

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Mol	Chain	Res	Type	RSRZ
20	XT	73	HIS	2.9
22	RA	2105	C	2.9
28	RH	48	GLY	2.9
1	QA	973	G	2.9
12	XL	8	ASN	2.9
22	YA	888	C	2.9
30	RN	10	GLU	2.9
13	QM	108	ARG	2.9
20	XT	22	ARG	2.9
20	XT	28	ALA	2.9
1	QA	328	C	2.9
14	XN	19	ARG	2.9
48	Y5	55	ARG	2.9
20	XT	26	ASN	2.9
1	XA	975	A	2.9
16	XP	27	LYS	2.9
23	YB	1	U	2.9
20	QT	72	LEU	2.9
13	QM	106	ASN	2.9
20	XT	79	ARG	2.9
31	YO	82	ASN	2.9
33	RQ	5	ARG	2.9
1	QA	1220	G	2.9
22	RA	2127	G	2.9
25	YE	204	ALA	2.9
28	RH	100	GLY	2.8
14	QN	25	VAL	2.8
1	XA	87	A	2.8
32	YP	149	GLU	2.8
33	YQ	80	GLU	2.8
19	QS	67	VAL	2.8
48	R5	54	GLY	2.8
1	XA	103	C	2.8
1	XA	1286	A	2.8
22	YA	2799	A	2.8
2	QB	165	VAL	2.8
2	XB	133	LYS	2.8
13	QM	99	ARG	2.8
19	QS	73	GLU	2.8
4	QD	50	ARG	2.8
22	YA	2805	G	2.8
10	XJ	65	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
19	QS	70	LYS	2.8
1	XA	312	C	2.8
19	QS	12	ASP	2.8
20	XT	80	ARG	2.8
1	QA	1221	G	2.8
1	XA	1361	G	2.8
20	XT	71	THR	2.8
1	QA	1450	U	2.8
1	XA	325	A	2.8
16	XP	4	ILE	2.8
20	XT	14	LYS	2.8
1	XA	102	G	2.8
22	YA	2148	G	2.8
9	QI	9	ARG	2.8
33	RQ	133	ARG	2.8
48	Y5	58	LEU	2.8
33	YQ	91	GLU	2.8
52	Y9	3	VAL	2.8
22	YA	2160	G	2.8
4	QD	24	GLU	2.8
14	QN	29	ARG	2.8
3	QC	194	GLY	2.8
17	QQ	101	ARG	2.8
19	QS	77	THR	2.8
22	YA	2697	G	2.8
13	QM	78	ILE	2.8
1	QA	1249	C	2.8
22	RA	2171	A	2.8
5	QE	125	SER	2.8
16	XP	28	ARG	2.8
36	RT	1	MET	2.8
16	XP	24	ALA	2.8
1	XA	104	G	2.8
1	XA	210	U	2.8
13	XM	96	LEU	2.8
1	QA	1324	A	2.8
9	QI	123	PRO	2.8
22	YA	2798	C	2.8
28	RH	49	VAL	2.7
12	XL	63	GLY	2.7
1	XA	313	A	2.7
20	XT	23	ARG	2.7

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Mol	Chain	Res	Type	RSRZ
22	YA	2185	C	2.7
43	R0	5	LYS	2.7
13	XM	98	VAL	2.7
22	YA	2159	G	2.7
10	XJ	46	ARG	2.7
28	RH	164	TYR	2.7
12	QL	68	ALA	2.7
17	XQ	98	LEU	2.7
28	RH	162	ILE	2.7
49	Y6	40	CYS	2.7
1	QA	1353	G	2.7
39	YW	113	LYS	2.7
42	RZ	155	LEU	2.7
25	RE	54	GLN	2.7
49	Y6	44	ARG	2.7
52	Y9	18	ARG	2.7
28	RH	10	PRO	2.7
8	QH	1	MET	2.7
10	QJ	63	PHE	2.7
42	RZ	169	GLU	2.7
1	QA	1357	A	2.7
19	XS	76	PRO	2.7
14	QN	17	LYS	2.7
1	XA	1257	U	2.7
21	QU	9	ARG	2.7
22	YA	2186	G	2.7
19	QS	83	HIS	2.7
44	Y1	16	ASN	2.7
13	QM	81	LEU	2.7
28	RH	144	VAL	2.7
3	QC	62	ASP	2.7
7	QG	153	HIS	2.7
12	XL	127	GLU	2.7
47	R4	51	ASP	2.7
20	QT	25	ARG	2.7
22	RA	1088	A	2.7
22	YA	1536	A	2.7
28	RH	42	ARG	2.7
22	RA	1055	G	2.7
22	RA	2334	G	2.7
42	RZ	150	LEU	2.7
49	Y6	34	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
9	QI	121	ARG	2.7
1	QA	978	A	2.7
22	YA	2174	C	2.7
12	QL	29	GLY	2.7
17	QQ	22	LEU	2.7
49	Y6	8	LYS	2.7
28	RH	170	ARG	2.7
33	RQ	36	ALA	2.6
49	R6	18	ARG	2.7
49	R6	48	VAL	2.6
20	XT	42	GLN	2.6
22	YA	2129	C	2.6
31	YO	65	THR	2.6
49	Y6	41	PRO	2.6
31	YO	45	GLU	2.6
28	RH	41	MET	2.6
10	QJ	66	ARG	2.6
22	YA	2152	G	2.6
32	YP	16	ARG	2.6
1	XA	136	C	2.6
19	XS	74	PHE	2.6
28	RH	3	ARG	2.6
36	RT	2	ASN	2.6
13	QM	119	GLY	2.6
1	QA	378	G	2.6
19	QS	10	PHE	2.6
22	YA	2131	G	2.6
19	QS	38	SER	2.6
22	RA	2161	C	2.6
14	XN	17	LYS	2.6
5	XE	81	GLU	2.6
24	YD	50	THR	2.6
12	QL	17	LYS	2.6
18	XR	88	LYS	2.6
9	QI	31	GLN	2.6
4	XD	156	GLU	2.6
21	QU	7	ARG	2.6
7	QG	85	TYR	2.6
14	QN	36	PHE	2.6
33	RQ	102	VAL	2.6
22	RA	2318	G	2.6
22	YA	2169	A	2.6

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Mol	Chain	Res	Type	RSRZ
1	QA	995	C	2.6
14	QN	13	THR	2.6
14	QN	19	ARG	2.6
1	QA	1358	U	2.6
1	XA	1436	U	2.6
17	QQ	71	PHE	2.6
17	XQ	45	HIS	2.6
1	XA	311	C	2.6
1	XA	1354	C	2.6
9	QI	115	GLY	2.6
14	QN	7	ILE	2.6
14	QN	33	VAL	2.6
13	QM	80	ARG	2.6
13	QM	104	ARG	2.6
6	QF	101	ALA	2.6
4	QD	169	LYS	2.6
20	XT	64	ASP	2.6
49	Y6	9	LEU	2.6
44	R1	65	SER	2.6
55	QY	40	G	2.6
28	RH	86	GLU	2.6
51	Y8	64	TYR	2.6
1	QA	310	G	2.6
7	QG	80	VAL	2.6
36	YT	51	ARG	2.6
3	XC	26	LYS	2.6
9	XI	127	LYS	2.6
1	XA	1437	C	2.6
14	QN	55	GLY	2.6
12	XL	15	ARG	2.5
1	XA	1202	G	2.5
4	QD	209	ARG	2.5
44	Y1	95	LEU	2.5
1	XA	327	A	2.5
16	XP	31	LYS	2.5
22	YA	529	A	2.5
1	XA	1368	G	2.5
21	XU	11	GLY	2.5
22	RA	1067	A	2.5
22	YA	1762	A	2.5
13	QM	111	LYS	2.5
39	RW	94	ASP	2.5

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Mol	Chain	Res	Type	RSRZ
50	R7	48	LYS	2.5
41	YY	103	GLY	2.5
22	RA	2131	G	2.5
31	YO	66	LYS	2.5
8	XH	1	MET	2.5
19	QS	11	VAL	2.5
27	YG	84	LYS	2.5
28	RH	87	LEU	2.5
12	QL	64	TYR	2.5
14	QN	11	LYS	2.5
16	XP	2	VAL	2.5
22	YA	669	G	2.5
22	YA	2173	A	2.5
32	RP	35	HIS	2.5
17	QQ	60	ILE	2.5
51	Y8	2	PRO	2.5
17	QQ	68	ARG	2.5
3	QC	87	LEU	2.5
32	RP	106	LEU	2.5
22	RA	1086	A	2.5
22	RA	2173	A	2.5
32	RP	81	GLN	2.5
21	XU	3	LYS	2.5
19	XS	38	SER	2.5
35	RS	33	LYS	2.5
49	Y6	17	LYS	2.5
1	QA	1287	A	2.5
5	XE	134	ALA	2.5
13	XM	104	ARG	2.5
7	XG	85	TYR	2.5
16	XP	68	ASP	2.5
17	XQ	16	GLN	2.5
19	QS	32	LYS	2.5
28	RH	111	HIS	2.5
8	QH	86	ILE	2.5
17	XQ	7	THR	2.5
51	R8	21	LYS	2.5
1	QA	31	G	2.5
14	QN	8	GLU	2.5
37	RU	117	GLN	2.5
51	R8	63	PRO	2.5
14	XN	12	ARG	2.5

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Mol	Chain	Res	Type	RSRZ
14	QN	5	ALA	2.5
1	XA	1362(A)	C	2.5
16	XP	20	VAL	2.5
5	QE	10	MET	2.5
22	RA	888	C	2.5
5	QE	94	ALA	2.5
9	QI	126	SER	2.5
28	RH	134	SER	2.5
2	QB	4	GLU	2.4
3	XC	30	ARG	2.4
8	XH	132	GLU	2.4
33	YQ	141	GLN	2.4
1	QA	1369	C	2.4
1	XA	1530	G	2.4
7	XG	33	ASP	2.4
22	RA	2321	G	2.4
53	XV	1	C	2.4
13	XM	122	LYS	2.4
20	XT	58	LYS	2.4
35	RS	64	GLU	2.4
36	YT	109	GLU	2.4
1	QA	322	C	2.4
1	QA	1234	C	2.4
19	QS	74	PHE	2.4
22	YA	2163	C	2.4
22	RA	2180	U	2.4
28	RH	107	VAL	2.4
2	QB	96	ARG	2.4
43	R0	37	LEU	2.4
24	RD	55	GLY	2.4
14	XN	59	ALA	2.4
1	XA	972	C	2.4
22	RA	2755	C	2.4
9	QI	27	THR	2.4
44	Y1	42	GLN	2.4
1	QA	1225	A	2.4
12	XL	91	LYS	2.4
21	XU	22	ARG	2.4
22	RA	2174	C	2.4
22	YA	1836	C	2.4
9	XI	110	GLU	2.4
13	QM	8	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
27	YG	137	GLU	2.4
28	RH	165	ALA	2.4
48	Y5	53	ALA	2.4
4	QD	145	GLU	2.4
22	RA	1033	U	2.4
22	RA	2189	U	2.4
36	RT	115	ARG	2.4
7	QG	16	LEU	2.4
27	RG	2	PRO	2.4
12	XL	61	THR	2.4
1	QA	1365	G	2.4
1	XA	1222	G	2.4
1	XA	1224	G	2.4
22	RA	1030	G	2.4
17	XQ	37	LYS	2.4
20	XT	87	LYS	2.4
26	YF	69	HIS	2.4
16	XP	22	THR	2.4
49	Y6	32	ASN	2.4
32	RP	105	LEU	2.4
1	XA	306	G	2.4
33	RQ	141	GLN	2.4
9	XI	120	ARG	2.4
13	QM	110	ARG	2.4
28	RH	11	VAL	2.4
30	RN	83	LYS	2.4
42	RZ	78	LYS	2.4
52	Y9	19	ARG	2.4
17	QQ	8	GLY	2.4
33	RQ	129	THR	2.4
20	XT	15	ARG	2.4
35	RS	20	ARG	2.4
1	QA	966	G	2.4
1	QA	1233	G	2.4
1	QA	1309	G	2.4
1	XA	64	G	2.4
14	QN	15	LYS	2.4
31	YO	84	ALA	2.4
5	QE	12	LEU	2.4
22	RA	1064	C	2.4
30	RN	84	LYS	2.4
49	Y6	6	ARG	2.4

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Mol	Chain	Res	Type	RSRZ
17	XQ	32	TYR	2.4
3	QC	28	GLN	2.4
9	QI	102	LEU	2.4
1	QA	1285	A	2.4
1	XA	913	A	2.4
17	QQ	40	LYS	2.4
22	RA	1070	A	2.4
22	RA	1536	A	2.4
17	QQ	20	THR	2.4
22	RA	2149	G	2.4
13	QM	84	ILE	2.3
36	RT	46	GLU	2.3
30	RN	50	ASP	2.3
1	QA	963	G	2.3
1	XA	1353	G	2.3
1	XA	1438	G	2.3
17	XQ	17	LYS	2.3
25	RE	149	ARG	2.3
17	XQ	35	VAL	2.3
20	XT	25	ARG	2.3
22	YA	2150	U	2.3
1	QA	994	A	2.3
22	RA	2320	A	2.3
22	RA	2801	A	2.3
10	XJ	48	THR	2.3
1	XA	1367	C	2.3
13	XM	110	ARG	2.3
9	QI	42	ARG	2.3
13	QM	71	ARG	2.3
17	QQ	7	THR	2.3
27	YG	116	ASP	2.3
27	RG	35	GLU	2.3
12	XL	23	LYS	2.3
1	QA	1366	C	2.3
1	XA	1366	C	2.3
24	YD	230	ASP	2.3
33	RQ	105	GLU	2.3
42	RZ	177	PRO	2.3
13	QM	100	GLY	2.3
28	RH	155	SER	2.3
29	YI	79	ILE	2.3
33	RQ	90	VAL	2.3

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Mol	Chain	Res	Type	RSRZ
12	XL	27	LEU	2.3
22	YA	2803	C	2.3
28	RH	30	LYS	2.3
35	RS	5	THR	2.3
48	Y5	3	LYS	2.3
51	R8	53	PRO	2.3
28	RH	51	ARG	2.3
14	XN	61	TRP	2.3
10	XJ	98	ILE	2.3
17	QQ	97	SER	2.3
19	QS	81	ARG	2.3
9	XI	116	LYS	2.3
20	XT	20	LEU	2.3
1	QA	1017	G	2.3
10	XJ	95	GLU	2.3
22	RA	2113	U	2.3
54	XX	7	G	2.3
7	XG	82	GLY	2.3
14	XN	18	VAL	2.3
20	XT	63	ILE	2.3
4	XD	50	ARG	2.3
13	XM	99	ARG	2.3
33	RQ	34	LEU	2.3
36	RT	99	LEU	2.3
20	QT	18	GLN	2.3
49	Y6	31	PRO	2.3
22	RA	2695	C	2.3
3	QC	196	LEU	2.3
10	XJ	62	HIS	2.3
17	QQ	24	GLU	2.3
22	RA	2446	G	2.3
1	XA	815	A	2.3
9	QI	113	LYS	2.3
10	QJ	10	GLY	2.3
9	XI	121	ARG	2.3
1	QA	1223	C	2.3
7	QG	83	ALA	2.3
22	RA	1079	C	2.3
9	QI	44	VAL	2.3
44	R1	2	SER	2.3
7	QG	155	ARG	2.3
14	XN	31	ARG	2.3

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Mol	Chain	Res	Type	RSRZ
1	XA	61	G	2.3
18	XR	31	LEU	2.3
19	XS	71	LEU	2.3
22	RA	1115	G	2.3
22	RA	1054	A	2.3
1	XA	1527	C	2.3
38	RV	45	THR	2.3
28	RH	5	GLY	2.3
28	RH	50	VAL	2.3
34	RR	7	GLY	2.3
1	XA	112	G	2.2
10	QJ	59	SER	2.2
22	RA	1091	G	2.2
34	RR	14	SER	2.2
1	XA	729	A	2.2
22	YA	1755	A	2.2
22	YA	2062	A	2.2
25	RE	151	TYR	2.2
22	RA	2798	C	2.2
2	QB	134	GLU	2.2
19	QS	37	ARG	2.2
1	XA	162	A	2.2
22	YA	1835	G	2.2
22	YA	2709	G	2.2
1	XA	562	C	2.2
7	QG	28	ASN	2.2
28	RH	83	TYR	2.2
49	Y6	7	ILE	2.2
9	QI	11	LYS	2.2
11	QK	99	GLN	2.2
4	QD	118	ARG	2.2
9	QI	37	PHE	2.2
11	XK	120	ARG	2.2
27	YG	80	PHE	2.2
19	QS	52	TYR	2.2
1	XA	230	G	2.2
1	XA	1435	G	2.2
33	RQ	130	LYS	2.2
9	XI	49	PRO	2.2
9	QI	28	VAL	2.2
20	XT	29	LYS	2.2
33	YQ	1	MET	2.2

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Mol	Chain	Res	Type	RSRZ
49	R6	17	LYS	2.2
9	QI	101	PHE	2.2
21	XU	24	ARG	2.2
11	XK	19	ALA	2.2
13	QM	75	ALA	2.2
22	YA	1630	G	2.2
22	RA	1116	C	2.2
5	QE	26	PHE	2.2
12	XL	89	ARG	2.2
24	YD	227	ASN	2.2
20	XT	74	LYS	2.2
22	YA	2506	U	2.2
51	R8	12	LYS	2.2
17	XQ	101	ARG	2.2
22	RA	2119	A	2.2
22	RA	2790	A	2.2
7	QG	84	ASN	2.2
28	RH	114	VAL	2.2
1	QA	1367	C	2.2
1	XA	177	C	2.2
1	XA	555	C	2.2
1	XA	1066	C	2.2
9	QI	30	GLY	2.2
21	XU	18	TYR	2.2
22	YA	2164	C	2.2
31	RO	81	ASP	2.2
19	QS	66	MET	2.2
1	XA	1502	A	2.2
10	XJ	8	LEU	2.2
21	XU	17	THR	2.2
51	Y8	35	GLN	2.2
51	Y8	63	PRO	2.2
25	RE	159	HIS	2.2
33	RQ	100	GLY	2.2
1	XA	379	C	2.2
7	QG	36	LYS	2.2
22	YA	2156	G	2.2
19	QS	50	ALA	2.2
22	YA	2132	U	2.2
20	QT	64	ASP	2.2
22	RA	1129	A	2.2
22	RA	2062	A	2.2

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Mol	Chain	Res	Type	RSRZ
24	RD	26	LYS	2.2
7	QG	2	ALA	2.2
12	XL	33	ARG	2.2
34	RR	8	ARG	2.2
34	YR	21	TYR	2.2
1	QA	1314	C	2.2
42	RZ	121	HIS	2.2
1	XA	260	G	2.2
10	XJ	53	PRO	2.2
17	XQ	2	PRO	2.2
24	RD	34	VAL	2.2
30	RN	9	VAL	2.2
35	RS	8	GLU	2.2
50	Y7	1	MET	2.2
3	QC	192	THR	2.2
13	QM	83	ASP	2.2
22	YA	1082	U	2.2
22	YA	2696	U	2.2
1	QA	1323	G	2.2
12	XL	7	ILE	2.2
21	XU	13	ILE	2.2
1	XA	262	A	2.2
13	QM	5	ALA	2.2
28	RH	82	GLY	2.2
49	R6	45	LYS	2.2
2	QB	240	GLN	2.2
17	QQ	65	ILE	2.1
1	QA	1235	U	2.1
1	QA	1364	U	2.1
12	QL	27	LEU	2.1
22	YA	1076	C	2.1
28	RH	4	ILE	2.1
47	R4	48	ARG	2.1
55	XY	33	U	2.1
1	QA	971	G	2.1
10	QJ	44	VAL	2.1
28	RH	123	PHE	2.1
32	RP	109	GLY	2.1
28	RH	32	GLU	2.1
42	RZ	153	SER	2.1
9	QI	43	ALA	2.1
19	XS	53	ASN	2.1

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Mol	Chain	Res	Type	RSRZ
28	RH	161	GLY	2.1
31	RO	98	VAL	2.1
33	RQ	89	ASN	2.1
22	RA	34	C	2.1
46	R3	26	LEU	2.1
49	R6	44	ARG	2.1
9	XI	124	GLN	2.1
14	QN	49	HIS	2.1
47	R4	6	HIS	2.1
22	YA	2170	A	2.1
51	Y8	65	GLU	2.1
30	RN	69	GLN	2.1
1	XA	322	C	2.1
9	XI	17	VAL	2.1
22	RA	2172	U	2.1
2	QB	186	ALA	2.1
12	QL	67	THR	2.1
12	XL	16	GLU	2.1
14	XN	22	THR	2.1
35	RS	3	ARG	2.1
31	YO	108	GLU	2.1
42	RZ	23	LYS	2.1
1	QA	976	G	2.1
1	XA	60	A	2.1
22	RA	575	A	2.1
22	RA	1252	G	2.1
22	YA	1678	G	2.1
39	YW	92	ARG	2.1
1	QA	323	U	2.1
3	QC	135	LYS	2.1
16	QP	31	LYS	2.1
21	QU	8	THR	2.1
21	QU	20	LYS	2.1
43	R0	4	LYS	2.1
21	XU	23	PRO	2.1
31	YO	122	LEU	2.1
1	QA	974	A	2.1
1	XA	1511	G	2.1
22	YA	229	A	2.1
22	YA	956	G	2.1
22	YA	1758	G	2.1
22	YA	2176	A	2.1

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Mol	Chain	Res	Type	RSRZ
19	XS	56	GLN	2.1
14	QN	60	SER	2.1
1	XA	817	C	2.1
22	YA	2477	C	2.1
22	YA	2794	C	2.1
33	RQ	64	ILE	2.1
7	QG	41	ARG	2.1
21	XU	6	ARG	2.1
32	RP	65	ARG	2.1
28	RH	74	ASN	2.1
41	RY	46	LYS	2.1
1	QA	262	A	2.1
1	QA	1306	A	2.1
1	QA	1332	A	2.1
9	XI	117	HIS	2.1
16	XP	36	ILE	2.1
22	YA	2158	A	2.1
1	QA	230	G	2.1
28	RH	116	GLU	2.1
47	R4	50	VAL	2.1
1	QA	1254	C	2.1
22	YA	2695	C	2.1
32	YP	34	GLY	2.1
4	QD	16	GLY	2.1
19	QS	6	LYS	2.1
22	RA	899	A	2.1
30	RN	72	TYR	2.1
35	RS	37	ALA	2.1
1	XA	351	G	2.1
22	RA	1051	G	2.1
33	RQ	10	ARG	2.1
36	RT	91	ARG	2.1
49	R6	19	ARG	2.1
1	QA	311	C	2.1
1	QA	1321	C	2.1
22	YA	277	C	2.1
14	QN	54	PRO	2.1
7	QG	26	PHE	2.1
17	XQ	38	ARG	2.1
9	XI	102	LEU	2.1
1	QA	112	G	2.1
1	XA	878	G	2.1

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Mol	Chain	Res	Type	RSRZ
12	XL	5	PRO	2.1
24	YD	92	ILE	2.1
1	QA	962	C	2.1
1	XA	320	C	2.1
17	XQ	85	VAL	2.1
22	RA	2177	C	2.1
49	R6	28	ARG	2.1
49	Y6	24	GLU	2.1
35	RS	35	ILE	2.1
55	QY	33	U	2.1
12	QL	47	LYS	2.1
21	XU	10	ARG	2.1
22	RA	567	A	2.1
33	YQ	105	GLU	2.1
28	RH	93	GLY	2.1
1	XA	951	G	2.1
22	YA	1176	G	2.1
22	YA	1296	G	2.1
12	QL	71	PRO	2.1
25	RE	145	LYS	2.1
1	XA	62	U	2.1
14	QN	22	THR	2.0
1	QA	977	A	2.0
1	XA	149	A	2.0
1	XA	915	A	2.0
16	XP	19	ILE	2.0
4	QD	117	ALA	2.0
12	QL	101	VAL	2.0
19	QS	41	VAL	2.0
19	XS	2	PRO	2.0
1	QA	934	C	2.0
1	QA	232	G	2.0
1	QA	1368	G	2.0
9	QI	120	ARG	2.0
22	RA	2162	G	2.0
4	QD	140	VAL	2.0
31	YO	83	ALA	2.0
33	RQ	35	VAL	2.0
10	QJ	53	PRO	2.0
43	R0	71	ASP	2.0
1	QA	1236	A	2.0
33	RQ	37	LEU	2.0

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Mol	Chain	Res	Type	RSRZ
17	XQ	34	LYS	2.0
19	QS	84	GLY	2.0
19	XS	78	ARG	2.0
33	RQ	68	ILE	2.0
38	RV	74	LYS	2.0
44	R1	69	LYS	2.0
34	YR	1	MET	2.0
43	R0	53	MET	2.0
1	QA	377	G	2.0
1	QA	1370	G	2.0
1	XA	310	G	2.0
1	XA	1523	G	2.0
22	YA	2578	G	2.0
44	Y1	41	ARG	2.0
27	RG	80	PHE	2.0
14	XN	30	ALA	2.0
23	RB	89(A)	A	2.0
28	RH	33	LEU	2.0
16	XP	34	GLU	2.0
16	XP	32	TYR	2.0
29	RI	18	VAL	2.0
31	YO	37	ASP	2.0
42	RZ	77	ASP	2.0
22	RA	1090	U	2.0
1	XA	769	G	2.0
1	XA	958	A	2.0
12	XL	96	VAL	2.0
17	QQ	9	VAL	2.0
22	RA	2126	A	2.0
28	RH	131	VAL	2.0
36	YT	100	TYR	2.0
2	QB	149	LEU	2.0
3	QC	64	VAL	2.0
19	QS	40	ILE	2.0
28	RH	168	PRO	2.0
42	RZ	176	PRO	2.0
15	XO	62	GLN	2.0
34	YR	71	GLN	2.0
1	XA	309	G	2.0
1	XA	976	G	2.0
2	QB	118	LEU	2.0
7	XG	152	ALA	2.0

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Mol	Chain	Res	Type	RSRZ
32	YP	150	ALA	2.0
41	RY	5	MET	2.0
22	YA	1637	A	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å ²)	Q<0.9
56	PPU	Z6	76	37/38	0.96	0.40	-	37,37,37,37	0
56	PPU	Z8	76	37/38	0.96	0.40	-	30,30,30,30	0

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å ²)	Q<0.9
58	MG	YA	3197	1/1	0.90	1.19	46.62	42,42,42,42	0
58	MG	YA	3218	1/1	0.84	0.82	40.60	59,59,59,59	0
58	MG	RA	3141	1/1	0.92	0.59	39.29	40,40,40,40	0
58	MG	YA	3142	1/1	0.91	0.61	28.37	31,31,31,31	0
58	MG	RA	3067	1/1	0.77	0.94	22.20	74,74,74,74	0
58	MG	YA	3099	1/1	0.85	0.58	21.74	74,74,74,74	0
58	MG	RA	3227	1/1	0.32	0.47	19.65	60,60,60,60	0
58	MG	YA	3080	1/1	0.83	0.56	16.33	74,74,74,74	0
58	MG	YA	3227	1/1	0.93	0.40	16.32	39,39,39,39	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	YA	3261	1/1	0.96	0.49	15.80	16,16,16,16	0
58	MG	RA	3009	1/1	0.95	0.94	15.45	74,74,74,74	0
58	MG	YA	3204	1/1	0.97	0.59	14.60	42,42,42,42	0
58	MG	RA	3036	1/1	0.93	0.48	14.10	18,18,18,18	0
58	MG	YA	3260	1/1	0.94	0.71	12.96	74,74,74,74	0
58	MG	YA	3154	1/1	0.93	0.44	12.64	11,11,11,11	0
58	MG	YA	3216	1/1	0.87	0.34	10.65	55,55,55,55	0
58	MG	YA	3015	1/1	0.96	0.52	9.86	74,74,74,74	0
58	MG	RA	3007	1/1	0.96	0.42	8.62	8,8,8,8	0
58	MG	YA	3140	1/1	0.92	0.34	8.53	8,8,8,8	0
58	MG	RA	3033	1/1	0.92	0.37	8.43	6,6,6,6	0
58	MG	YA	3205	1/1	0.70	0.37	8.39	62,62,62,62	0
58	MG	RA	3188	1/1	0.87	0.48	8.05	48,48,48,48	0
58	MG	RA	3196	1/1	0.78	0.26	7.38	63,63,63,63	0
58	MG	YP	201	1/1	0.98	1.20	7.10	54,54,54,54	0
58	MG	YA	3049	1/1	0.93	0.39	6.44	74,74,74,74	0
58	MG	YA	3255	1/1	0.92	0.38	6.31	12,12,12,12	0
58	MG	YA	3090	1/1	0.91	0.27	6.02	26,26,26,26	0
58	MG	YA	3207	1/1	0.85	0.34	5.83	55,55,55,55	0
58	MG	YA	3258	1/1	0.95	0.34	5.42	4,4,4,4	0
58	MG	YA	3206	1/1	0.92	0.27	5.40	52,52,52,52	0
58	MG	RA	3144	1/1	0.73	0.33	5.38	32,32,32,32	0
58	MG	RA	3142	1/1	0.93	0.38	5.08	20,20,20,20	0
58	MG	RP	201	1/1	0.98	0.92	4.96	118,118,118,118	0
58	MG	RA	3094	1/1	0.90	0.28	4.53	16,16,16,16	0
58	MG	XA	1620	1/1	0.91	0.33	4.49	15,15,15,15	0
58	MG	XA	1675	1/1	0.92	0.32	4.44	14,14,14,14	0
58	MG	RA	3151	1/1	0.99	0.38	4.42	3,3,3,3	0
58	MG	YA	3047	1/1	0.95	0.31	4.39	3,3,3,3	0
58	MG	RA	3225	1/1	0.74	0.39	4.28	33,33,33,33	0
58	MG	RA	3125	1/1	0.93	0.30	4.27	19,19,19,19	0
58	MG	RA	3183	1/1	0.84	0.29	4.08	11,11,11,11	0
58	MG	RA	3096	1/1	0.98	0.30	4.08	17,17,17,17	0
58	MG	RA	3138	1/1	0.76	0.28	4.07	38,38,38,38	0
58	MG	RA	3102	1/1	0.95	0.33	3.95	21,21,21,21	0
58	MG	YA	3165	1/1	0.83	0.22	3.77	1,1,1,1	0
58	MG	YA	3035	1/1	0.91	0.33	3.75	12,12,12,12	0
58	MG	YA	3170	1/1	0.67	0.33	3.72	33,33,33,33	0
57	PAR	QA	1601	42/42	0.92	0.35	3.64	42,42,42,42	0
58	MG	RA	3235	1/1	0.88	0.47	3.53	74,74,74,74	0
58	MG	RA	3169	1/1	0.96	0.20	3.35	13,13,13,13	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	QA	1634	1/1	0.95	0.42	3.34	23,23,23,23	0
58	MG	RA	3039	1/1	0.96	0.29	3.09	7,7,7,7	0
58	MG	YA	3164	1/1	0.81	0.39	3.04	44,44,44,44	0
58	MG	YA	3180	1/1	0.99	0.24	3.01	19,19,19,19	0
58	MG	YA	3184	1/1	0.87	0.20	2.90	23,23,23,23	0
58	MG	YA	3199	1/1	0.90	0.25	2.89	12,12,12,12	0
58	MG	RA	3175	1/1	0.95	0.27	2.85	14,14,14,14	0
58	MG	Y0	101	1/1	0.80	0.42	2.82	74,74,74,74	0
58	MG	RA	3093	1/1	0.97	0.24	2.76	12,12,12,12	0
58	MG	YA	3010	1/1	0.98	0.28	2.69	15,15,15,15	0
58	MG	XA	1671	1/1	0.94	0.38	2.64	33,33,33,33	0
58	MG	RA	3229	1/1	0.81	0.24	2.50	23,23,23,23	0
58	MG	RA	3164	1/1	0.78	0.30	2.30	45,45,45,45	0
58	MG	YA	3161	1/1	0.90	0.26	2.29	23,23,23,23	0
58	MG	YA	3038	1/1	0.97	0.33	2.28	16,16,16,16	0
57	PAR	XA	1601	42/42	0.93	0.30	2.22	38,38,38,38	0
58	MG	YA	3237	1/1	0.93	0.32	2.04	36,36,36,36	0
58	MG	YA	3003	1/1	0.94	0.42	2.04	74,74,74,74	0
58	MG	RA	3080	1/1	0.99	0.25	2.00	10,10,10,10	0
58	MG	QA	1605	1/1	0.97	0.28	1.97	6,6,6,6	0
58	MG	YA	3252	1/1	0.94	0.36	1.89	1,1,1,1	0
58	MG	RA	3024	1/1	0.97	0.29	1.85	11,11,11,11	0
58	MG	YA	3023	1/1	0.98	0.29	1.83	18,18,18,18	0
58	MG	QA	1675	1/1	0.87	0.26	1.83	32,32,32,32	0
58	MG	RA	3238	1/1	0.90	0.24	1.79	32,32,32,32	0
58	MG	YA	3098	1/1	0.98	0.33	1.77	8,8,8,8	0
58	MG	XA	1651	1/1	0.86	0.28	1.71	33,33,33,33	0
58	MG	RA	3147	1/1	0.94	0.37	1.49	32,32,32,32	0
58	MG	QA	1617	1/1	0.92	0.18	1.48	46,46,46,46	0
58	MG	RA	3031	1/1	0.92	0.36	1.47	9,9,9,9	0
58	MG	YA	3250	1/1	0.84	0.33	1.42	15,15,15,15	0
58	MG	YA	3012	1/1	0.90	0.29	1.41	10,10,10,10	0
58	MG	YA	3244	1/1	0.88	0.25	1.40	0,0,0,0	0
58	MG	RA	3032	1/1	0.96	0.25	1.35	14,14,14,14	0
58	MG	XA	1665	1/1	0.90	0.15	1.35	33,33,33,33	0
58	MG	RA	3158	1/1	0.87	0.22	1.35	15,15,15,15	0
58	MG	RA	3129	1/1	0.92	0.23	1.35	21,21,21,21	0
58	MG	QA	1656	1/1	0.98	0.27	1.34	44,44,44,44	0
58	MG	RA	3092	1/1	0.92	0.32	1.34	0,0,0,0	0
58	MG	RA	3017	1/1	0.90	0.34	1.33	18,18,18,18	0
58	MG	YA	3192	1/1	0.94	0.30	1.31	21,21,21,21	0
58	MG	RA	3029	1/1	0.97	0.23	1.22	2,2,2,2	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	YA	3014	1/1	0.87	0.46	1.22	74,74,74,74	0
58	MG	YA	3108	1/1	0.94	0.30	1.12	7,7,7,7	0
58	MG	XA	1605	1/1	0.96	0.35	1.11	15,15,15,15	0
58	MG	RP	202	1/1	0.98	0.43	1.08	76,76,76,76	0
58	MG	RA	3099	1/1	0.97	0.31	1.05	11,11,11,11	0
58	MG	YD	301	1/1	0.85	0.46	0.98	74,74,74,74	0
58	MG	RA	3163	1/1	0.94	0.26	0.80	34,34,34,34	0
58	MG	YA	3119	1/1	0.94	0.24	0.77	9,9,9,9	0
58	MG	RA	3154	1/1	0.89	0.20	0.74	59,59,59,59	0
58	MG	RD	301	1/1	0.94	0.33	0.72	12,12,12,12	0
58	MG	RA	3130	1/1	0.86	0.20	0.67	15,15,15,15	0
58	MG	QA	1619	1/1	0.95	0.25	0.65	12,12,12,12	0
58	MG	RA	3202	1/1	0.89	0.29	0.65	0,0,0,0	0
58	MG	XA	1653	1/1	0.96	0.37	0.61	42,42,42,42	0
58	MG	RA	3137	1/1	0.96	0.25	0.52	14,14,14,14	0
58	MG	RA	3059	1/1	0.97	0.23	0.47	8,8,8,8	0
58	MG	YA	3026	1/1	0.96	0.26	0.39	5,5,5,5	0
58	MG	RA	3026	1/1	0.96	0.24	0.38	7,7,7,7	0
58	MG	YA	3162	1/1	0.86	0.35	0.37	11,11,11,11	0
58	MG	RA	3134	1/1	0.96	0.26	0.34	17,17,17,17	0
58	MG	RA	3054	1/1	0.95	0.25	0.25	18,18,18,18	0
58	MG	XA	1666	1/1	0.96	0.52	0.22	85,85,85,85	0
58	MG	RA	3043	1/1	0.95	0.27	0.19	10,10,10,10	0
59	ZN	XD	301	1/1	1.00	0.29	0.12	10,10,10,10	0
58	MG	RA	3219	1/1	0.95	0.24	0.09	8,8,8,8	0
58	MG	RA	3041	1/1	0.96	0.26	0.07	9,9,9,9	0
58	MG	RA	3085	1/1	0.97	0.23	0.06	7,7,7,7	0
58	MG	YA	3223	1/1	0.88	0.21	0.05	34,34,34,34	0
58	MG	RA	3161	1/1	0.85	0.23	0.04	10,10,10,10	0
58	MG	QA	1612	1/1	0.92	0.28	0.04	15,15,15,15	0
58	MG	YA	3132	1/1	0.83	0.17	0.01	7,7,7,7	0
58	MG	YA	3072	1/1	0.90	0.21	-0.01	22,22,22,22	0
58	MG	YA	3091	1/1	0.98	0.22	-0.02	29,29,29,29	0
58	MG	RA	3001	1/1	0.92	0.27	-0.02	16,16,16,16	0
58	MG	YA	3182	1/1	0.76	0.24	-0.15	3,3,3,3	0
58	MG	YA	3115	1/1	0.92	0.22	-0.21	17,17,17,17	0
58	MG	YA	3238	1/1	0.99	0.27	-0.26	76,76,76,76	0
58	MG	RA	3243	1/1	0.87	0.26	-0.28	1,1,1,1	0
58	MG	YA	3233	1/1	0.84	0.22	-0.30	34,34,34,34	0
58	MG	RA	3014	1/1	0.89	0.19	-0.32	28,28,28,28	0
58	MG	QA	1664	1/1	0.87	0.16	-0.34	56,56,56,56	0
58	MG	RA	3086	1/1	0.93	0.22	-0.37	22,22,22,22	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	YA	3135	1/1	0.90	0.22	-0.39	6,6,6,6	0
58	MG	YA	3259	1/1	0.84	0.27	-0.39	5,5,5,5	0
58	MG	YA	3089	1/1	0.98	0.26	-0.45	13,13,13,13	0
58	MG	RA	3192	1/1	0.97	0.24	-0.46	17,17,17,17	0
58	MG	RA	3126	1/1	0.80	0.22	-0.47	16,16,16,16	0
58	MG	RA	3064	1/1	0.96	0.24	-0.49	4,4,4,4	0
58	MG	XA	1634	1/1	0.93	0.17	-0.50	7,7,7,7	0
59	ZN	QD	301	1/1	1.00	0.23	-0.58	27,27,27,27	0
58	MG	RA	3073	1/1	0.89	0.21	-0.60	10,10,10,10	0
58	MG	YA	3210	1/1	0.90	0.20	-0.60	17,17,17,17	0
58	MG	YA	3103	1/1	0.94	0.25	-0.61	8,8,8,8	0
58	MG	YA	3027	1/1	0.99	0.22	-0.61	21,21,21,21	0
58	MG	XB	301	1/1	0.88	0.17	-0.61	41,41,41,41	0
58	MG	RA	3146	1/1	0.91	0.16	-0.65	25,25,25,25	0
58	MG	YA	3042	1/1	0.97	0.23	-0.67	15,15,15,15	0
58	MG	RA	3038	1/1	0.96	0.22	-0.69	4,4,4,4	0
58	MG	QA	1610	1/1	0.96	0.22	-0.70	21,21,21,21	0
58	MG	XA	1639	1/1	0.90	0.21	-0.72	45,45,45,45	0
58	MG	YA	3053	1/1	0.94	0.22	-0.72	8,8,8,8	0
58	MG	QA	1603	1/1	0.81	0.23	-0.73	11,11,11,11	0
58	MG	YA	3114	1/1	0.97	0.22	-0.73	6,6,6,6	0
58	MG	QA	1669	1/1	0.95	0.20	-0.76	18,18,18,18	0
58	MG	RA	3197	1/1	0.96	0.18	-0.77	81,81,81,81	0
58	MG	YA	3257	1/1	0.91	0.26	-0.79	14,14,14,14	0
58	MG	YD	302	1/1	0.89	0.21	-0.80	5,5,5,5	0
58	MG	YA	3024	1/1	0.94	0.24	-0.82	10,10,10,10	0
58	MG	RA	3063	1/1	0.92	0.24	-0.85	19,19,19,19	0
58	MG	YA	3100	1/1	0.98	0.23	-0.85	8,8,8,8	0
58	MG	RA	3210	1/1	0.97	0.22	-0.87	8,8,8,8	0
58	MG	RE	302	1/1	0.98	0.22	-0.92	15,15,15,15	0
58	MG	RA	3022	1/1	0.94	0.20	-0.93	24,24,24,24	0
58	MG	RF	301	1/1	0.89	0.22	-1.00	13,13,13,13	0
58	MG	QA	1618	1/1	0.92	0.09	-1.00	17,17,17,17	0
58	MG	XA	1622	1/1	0.95	0.23	-1.01	6,6,6,6	0
58	MG	RA	3068	1/1	0.90	0.25	-1.01	13,13,13,13	0
58	MG	RA	3111	1/1	0.96	0.20	-1.03	12,12,12,12	0
58	MG	YA	3034	1/1	0.96	0.22	-1.05	7,7,7,7	0
58	MG	XA	1638	1/1	0.97	0.15	-1.05	4,4,4,4	0
58	MG	R8	102	1/1	0.97	0.20	-1.07	2,2,2,2	0
58	MG	XA	1619	1/1	0.93	0.24	-1.08	5,5,5,5	0
58	MG	YA	3050	1/1	0.97	0.23	-1.10	5,5,5,5	0
58	MG	YA	3088	1/1	0.97	0.20	-1.13	6,6,6,6	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	RA	3025	1/1	0.96	0.23	-1.18	3,3,3,3	0
58	MG	QA	1615	1/1	0.95	0.21	-1.19	9,9,9,9	0
58	MG	QA	1642	1/1	0.94	0.18	-1.19	38,38,38,38	0
58	MG	XA	1621	1/1	0.89	0.10	-1.26	19,19,19,19	0
58	MG	RA	3107	1/1	0.94	0.17	-1.26	2,2,2,2	0
58	MG	YA	3169	1/1	0.76	0.15	-1.28	16,16,16,16	0
58	MG	YA	3065	1/1	0.95	0.22	-1.28	31,31,31,31	0
58	MG	QA	1641	1/1	0.94	0.14	-1.35	43,43,43,43	0
58	MG	RA	3149	1/1	0.94	0.25	-1.38	4,4,4,4	0
58	MG	QA	1649	1/1	0.95	0.14	-1.39	32,32,32,32	0
58	MG	XA	1630	1/1	0.84	0.16	-1.40	15,15,15,15	0
58	MG	RA	3133	1/1	0.96	0.16	-1.41	7,7,7,7	0
58	MG	YA	3094	1/1	0.96	0.17	-1.49	12,12,12,12	0
58	MG	YA	3078	1/1	0.93	0.17	-1.50	9,9,9,9	0
58	MG	RA	3195	1/1	0.95	0.14	-1.52	7,7,7,7	0
58	MG	RA	3246	1/1	0.97	0.17	-1.54	33,33,33,33	0
58	MG	YX	101	1/1	0.96	0.19	-1.55	47,47,47,47	0
58	MG	QA	1632	1/1	0.89	0.17	-1.56	42,42,42,42	0
59	ZN	QN	101	1/1	0.99	0.07	-1.58	86,86,86,86	0
58	MG	QA	1622	1/1	0.93	0.09	-1.59	12,12,12,12	0
58	MG	YA	3058	1/1	0.93	0.17	-1.59	20,20,20,20	0
58	MG	RA	3232	1/1	0.82	0.11	-1.61	15,15,15,15	0
58	MG	YA	3110	1/1	0.97	0.14	-1.61	4,4,4,4	0
58	MG	YA	3124	1/1	0.94	0.23	-1.63	6,6,6,6	0
58	MG	RA	3211	1/1	0.97	0.20	-1.64	16,16,16,16	0
58	MG	YA	3044	1/1	0.97	0.24	-1.64	2,2,2,2	0
58	MG	YB	203	1/1	0.97	0.14	-1.65	4,4,4,4	0
58	MG	RA	3104	1/1	0.92	0.18	-1.65	11,11,11,11	0
58	MG	QA	1676	1/1	0.93	0.14	-1.66	13,13,13,13	0
58	MG	YA	3056	1/1	0.91	0.22	-1.68	5,5,5,5	0
58	MG	RA	3117	1/1	0.97	0.12	-1.70	11,11,11,11	0
58	MG	RA	3213	1/1	0.96	0.13	-1.71	9,9,9,9	0
58	MG	YA	3007	1/1	0.95	0.16	-1.72	8,8,8,8	0
58	MG	RA	3077	1/1	0.97	0.19	-1.76	6,6,6,6	0
58	MG	RA	3082	1/1	0.98	0.18	-1.77	10,10,10,10	0
58	MG	XA	1627	1/1	0.94	0.17	-1.77	12,12,12,12	0
58	MG	XA	1660	1/1	0.95	0.19	-1.78	22,22,22,22	0
58	MG	RA	3127	1/1	0.94	0.16	-1.79	22,22,22,22	0
58	MG	YA	3153	1/1	0.93	0.11	-1.79	14,14,14,14	0
58	MG	XA	1636	1/1	0.88	0.18	-1.83	8,8,8,8	0
58	MG	XA	1672	1/1	0.87	0.19	-1.88	16,16,16,16	0
58	MG	YA	3068	1/1	0.97	0.19	-1.92	20,20,20,20	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	RA	3215	1/1	0.90	0.09	-1.92	13,13,13,13	0
59	ZN	XN	101	1/1	0.98	0.12	-1.93	70,70,70,70	0
58	MG	RA	3155	1/1	0.91	0.16	-2.00	54,54,54,54	0
58	MG	YP	202	1/1	0.92	0.10	-2.04	1,1,1,1	0
58	MG	QA	1621	1/1	0.74	0.21	-2.05	38,38,38,38	0
58	MG	XA	1656	1/1	0.86	0.20	-2.06	17,17,17,17	0
58	MG	QA	1646	1/1	0.95	0.16	-2.09	28,28,28,28	0
58	MG	YA	3086	1/1	0.97	0.20	-2.11	3,3,3,3	0
58	MG	YA	3136	1/1	0.94	0.17	-2.13	0,0,0,0	0
58	MG	XA	1609	1/1	0.92	0.09	-2.14	51,51,51,51	0
58	MG	QA	1657	1/1	0.96	0.12	-2.14	19,19,19,19	0
58	MG	RA	3166	1/1	0.96	0.23	-2.20	5,5,5,5	0
58	MG	XA	1616	1/1	0.97	0.18	-2.20	5,5,5,5	0
58	MG	QA	1662	1/1	0.95	0.12	-2.21	0,0,0,0	0
58	MG	YA	3241	1/1	0.95	0.17	-2.21	18,18,18,18	0
58	MG	RB	201	1/1	0.95	0.08	-2.23	16,16,16,16	0
58	MG	RA	3019	1/1	0.95	0.11	-2.25	8,8,8,8	0
58	MG	YA	3006	1/1	0.97	0.16	-2.26	26,26,26,26	0
58	MG	YA	3025	1/1	0.97	0.13	-2.28	16,16,16,16	0
58	MG	YA	3113	1/1	0.96	0.22	-2.29	17,17,17,17	0
58	MG	RA	3040	1/1	0.98	0.20	-2.33	13,13,13,13	0
58	MG	YA	3032	1/1	0.94	0.22	-2.41	1,1,1,1	0
58	MG	YA	3073	1/1	0.98	0.10	-2.43	4,4,4,4	0
58	MG	QV	101	1/1	0.98	0.20	-2.44	22,22,22,22	0
58	MG	XA	1629	1/1	0.95	0.23	-2.46	4,4,4,4	0
58	MG	XA	1683	1/1	0.94	0.10	-2.46	10,10,10,10	0
58	MG	RA	3090	1/1	0.95	0.20	-2.57	6,6,6,6	0
58	MG	QA	1616	1/1	0.92	0.14	-2.57	52,52,52,52	0
58	MG	RA	3128	1/1	0.98	0.11	-2.59	9,9,9,9	0
58	MG	XA	1642	1/1	0.90	0.16	-2.67	47,47,47,47	0
58	MG	RA	3189	1/1	0.96	0.12	-2.69	14,14,14,14	0
58	MG	XA	1649	1/1	0.96	0.13	-2.70	17,17,17,17	0
58	MG	RA	3136	1/1	0.90	0.20	-2.74	5,5,5,5	0
58	MG	QM	201	1/1	0.94	0.06	-2.75	51,51,51,51	0
58	MG	RA	3070	1/1	0.96	0.17	-2.79	4,4,4,4	0
58	MG	RA	3069	1/1	0.97	0.17	-2.85	19,19,19,19	0
58	MG	QA	1648	1/1	0.96	0.12	-2.85	43,43,43,43	0
58	MG	QA	1614	1/1	0.98	0.13	-2.86	2,2,2,2	0
58	MG	RA	3179	1/1	0.95	0.14	-2.87	4,4,4,4	0
58	MG	YA	3129	1/1	0.97	0.16	-2.90	20,20,20,20	0
58	MG	YA	3028	1/1	0.91	0.19	-2.93	15,15,15,15	0
58	MG	XA	1661	1/1	0.94	0.09	-2.93	2,2,2,2	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	RA	3112	1/1	0.97	0.18	-2.95	7,7,7,7	0
58	MG	YA	3183	1/1	0.86	0.12	-2.96	19,19,19,19	0
58	MG	YA	3033	1/1	0.97	0.17	-2.98	12,12,12,12	0
58	MG	RA	3027	1/1	0.95	0.21	-3.01	15,15,15,15	0
58	MG	RA	3121	1/1	0.92	0.17	-3.02	36,36,36,36	0
58	MG	YA	3039	1/1	0.97	0.17	-3.03	20,20,20,20	0
58	MG	RA	3060	1/1	0.96	0.20	-3.03	15,15,15,15	0
58	MG	XA	1637	1/1	0.92	0.16	-3.04	14,14,14,14	0
58	MG	YA	3137	1/1	0.91	0.11	-3.04	10,10,10,10	0
58	MG	RA	3174	1/1	0.99	0.06	-3.06	17,17,17,17	0
58	MG	RA	3167	1/1	0.96	0.18	-3.10	1,1,1,1	0
58	MG	RA	3084	1/1	0.96	0.20	-3.11	14,14,14,14	0
58	MG	XA	1611	1/1	0.92	0.15	-3.18	11,11,11,11	0
58	MG	YA	3176	1/1	0.90	0.13	-3.21	45,45,45,45	0
58	MG	YA	3112	1/1	0.91	0.17	-3.25	13,13,13,13	0
58	MG	RA	3061	1/1	0.97	0.16	-3.32	0,0,0,0	0
58	MG	YA	3009	1/1	0.98	0.17	-3.38	15,15,15,15	0
58	MG	RA	3159	1/1	0.87	0.12	-3.42	23,23,23,23	0
58	MG	YA	3125	1/1	0.97	0.14	-3.44	11,11,11,11	0
58	MG	RA	3052	1/1	0.97	0.17	-3.56	1,1,1,1	0
58	MG	YA	3144	1/1	0.77	0.15	-3.62	6,6,6,6	0
58	MG	YA	3167	1/1	0.97	0.12	-3.63	15,15,15,15	0
58	MG	YA	3074	1/1	0.94	0.12	-3.80	1,1,1,1	0
58	MG	XA	1644	1/1	0.99	0.13	-3.81	4,4,4,4	0
58	MG	YA	3070	1/1	0.94	0.20	-3.82	1,1,1,1	0
58	MG	RA	3050	1/1	0.97	0.18	-3.86	9,9,9,9	0
58	MG	XA	1626	1/1	0.94	0.13	-3.90	15,15,15,15	0
58	MG	RA	3057	1/1	0.97	0.14	-3.94	4,4,4,4	0
58	MG	YA	3159	1/1	0.93	0.15	-3.97	12,12,12,12	0
58	MG	YA	3017	1/1	0.98	0.14	-4.08	11,11,11,11	0
58	MG	QA	1607	1/1	0.98	0.15	-4.12	22,22,22,22	0
58	MG	XA	1613	1/1	0.93	0.12	-4.14	8,8,8,8	0
58	MG	XA	1635	1/1	0.82	0.17	-4.15	26,26,26,26	0
58	MG	RA	3135	1/1	0.91	0.13	-4.19	12,12,12,12	0
58	MG	YA	3138	1/1	0.98	0.18	-4.23	6,6,6,6	0
58	MG	QA	1611	1/1	0.98	0.11	-4.31	1,1,1,1	0
58	MG	RA	3120	1/1	0.89	0.18	-4.32	4,4,4,4	0
58	MG	YA	3166	1/1	0.97	0.12	-4.49	11,11,11,11	0
58	MG	YA	3106	1/1	0.94	0.15	-4.64	16,16,16,16	0
58	MG	QA	1623	1/1	0.98	0.13	-4.75	46,46,46,46	0
58	MG	RA	3217	1/1	0.96	0.09	-4.88	8,8,8,8	0
58	MG	QA	1652	1/1	0.96	0.10	-4.89	13,13,13,13	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	YA	3189	1/1	0.96	0.07	-4.93	30,30,30,30	0
58	MG	XA	1659	1/1	0.96	0.12	-5.11	36,36,36,36	0
58	MG	YA	3048	1/1	0.96	0.15	-5.13	4,4,4,4	0
58	MG	RA	3079	1/1	0.96	0.07	-5.24	25,25,25,25	0
58	MG	RA	3045	1/1	0.96	0.15	-5.36	2,2,2,2	0
58	MG	XA	1615	1/1	0.95	0.08	-5.78	19,19,19,19	0
58	MG	XA	1673	1/1	0.95	0.12	-5.93	6,6,6,6	0
58	MG	QA	1638	1/1	0.98	0.10	-6.08	14,14,14,14	0
58	MG	RA	3047	1/1	0.98	0.15	-6.16	19,19,19,19	0
58	MG	XV	101	1/1	0.98	0.12	-6.33	3,3,3,3	0
58	MG	YA	3174	1/1	0.75	0.12	-6.62	10,10,10,10	0
58	MG	YA	3016	1/1	0.94	0.10	-6.92	7,7,7,7	0
58	MG	XA	1623	1/1	0.96	0.05	-7.40	28,28,28,28	0
58	MG	YA	3117	1/1	0.96	0.11	-7.55	28,28,28,28	0
58	MG	QA	1608	1/1	0.98	0.06	-8.26	4,4,4,4	0
58	MG	RA	3190	1/1	0.94	0.07	-8.27	40,40,40,40	0
58	MG	YA	3104	1/1	0.97	0.09	-9.49	0,0,0,0	0
58	MG	YA	3212	1/1	0.96	0.09	-9.86	10,10,10,10	0
58	MG	YA	3107	1/1	0.98	0.17	-10.02	9,9,9,9	0
58	MG	YA	3111	1/1	0.99	0.08	-10.36	26,26,26,26	0
58	MG	QA	1665	1/1	0.94	0.09	-	37,37,37,37	0
58	MG	RA	3245	1/1	0.94	0.36	-	7,7,7,7	0
58	MG	YA	3043	1/1	0.96	0.28	-	5,5,5,5	0
58	MG	RA	3003	1/1	0.92	0.18	-	4,4,4,4	0
58	MG	RA	3097	1/1	0.96	0.21	-	5,5,5,5	0
58	MG	XA	1648	1/1	0.94	0.16	-	19,19,19,19	0
58	MG	RA	3062	1/1	0.93	0.36	-	21,21,21,21	0
58	MG	RA	3072	1/1	0.91	0.29	-	18,18,18,18	0
58	MG	YA	3105	1/1	0.86	0.19	-	19,19,19,19	0
58	MG	XA	1679	1/1	0.77	0.18	-	18,18,18,18	0
58	MG	XM	201	1/1	0.58	0.35	-	98,98,98,98	0
58	MG	YA	3102	1/1	0.88	0.10	-	8,8,8,8	0
58	MG	RA	3074	1/1	0.86	0.20	-	6,6,6,6	0
58	MG	XA	1657	1/1	0.97	0.18	-	19,19,19,19	0
58	MG	RA	3106	1/1	0.93	0.14	-	6,6,6,6	0
58	MG	RA	3098	1/1	0.98	0.12	-	10,10,10,10	0
58	MG	YA	3151	1/1	0.83	0.21	-	3,3,3,3	0
58	MG	RA	3005	1/1	0.86	0.22	-	24,24,24,24	0
58	MG	RA	3145	1/1	0.97	0.17	-	3,3,3,3	0
58	MG	YA	3126	1/1	0.78	0.15	-	0,0,0,0	0
58	MG	RA	3186	1/1	0.94	0.28	-	17,17,17,17	0
58	MG	YA	3030	1/1	0.95	0.61	-	18,18,18,18	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	RA	3110	1/1	0.98	0.13	-	19,19,19,19	0
58	MG	XA	1606	1/1	0.95	0.23	-	3,3,3,3	0
58	MG	XA	1617	1/1	0.90	0.36	-	74,74,74,74	0
58	MG	RA	3122	1/1	0.94	0.15	-	5,5,5,5	0
58	MG	QA	1653	1/1	0.87	0.17	-	0,0,0,0	0
58	MG	YA	3181	1/1	0.87	0.26	-	0,0,0,0	0
58	MG	RA	3204	1/1	0.71	0.24	-	50,50,50,50	0
58	MG	XA	1669	1/1	0.95	0.06	-	55,55,55,55	0
58	MG	RA	3208	1/1	0.91	0.16	-	30,30,30,30	0
58	MG	YA	3158	1/1	0.90	0.36	-	21,21,21,21	0
58	MG	RA	3244	1/1	0.97	0.17	-	0,0,0,0	0
58	MG	RA	3115	1/1	0.94	0.26	-	21,21,21,21	0
58	MG	RA	3184	1/1	0.92	0.35	-	23,23,23,23	0
58	MG	YA	3152	1/1	0.92	0.24	-	27,27,27,27	0
58	MG	YA	3020	1/1	0.94	0.40	-	8,8,8,8	0
58	MG	YA	3229	1/1	0.98	0.15	-	14,14,14,14	0
58	MG	RA	3173	1/1	0.93	0.28	-	35,35,35,35	0
58	MG	YA	3045	1/1	0.96	0.25	-	5,5,5,5	0
58	MG	RA	3220	1/1	0.85	0.15	-	13,13,13,13	0
58	MG	QA	1602	1/1	0.91	0.21	-	6,6,6,6	0
58	MG	YA	3188	1/1	0.92	0.13	-	13,13,13,13	0
58	MG	XA	1658	1/1	0.86	0.14	-	3,3,3,3	0
58	MG	YA	3156	1/1	0.89	0.56	-	29,29,29,29	0
58	MG	YA	3087	1/1	0.98	0.19	-	5,5,5,5	0
58	MG	RA	3200	1/1	0.98	0.12	-	9,9,9,9	0
58	MG	YA	3083	1/1	0.98	0.25	-	5,5,5,5	0
58	MG	YA	3254	1/1	0.79	0.29	-	16,16,16,16	0
58	MG	RA	3247	1/1	0.78	0.29	-	9,9,9,9	0
58	MG	YA	3214	1/1	0.66	0.68	-	50,50,50,50	0
58	MG	QA	1672	1/1	0.86	0.32	-	19,19,19,19	0
58	MG	YA	3209	1/1	0.97	0.14	-	7,7,7,7	0
58	MG	RA	3071	1/1	0.95	0.24	-	11,11,11,11	0
58	MG	QA	1626	1/1	0.92	0.11	-	17,17,17,17	0
58	MG	RA	3091	1/1	0.98	0.28	-	9,9,9,9	0
58	MG	YA	3093	1/1	0.92	0.27	-	10,10,10,10	0
58	MG	YA	3177	1/1	0.96	0.13	-	4,4,4,4	0
58	MG	YA	3008	1/1	0.95	0.24	-	8,8,8,8	0
58	MG	RA	3100	1/1	0.96	0.13	-	0,0,0,0	0
58	MG	RA	3182	1/1	0.73	0.39	-	22,22,22,22	0
58	MG	RA	3116	1/1	0.97	0.11	-	8,8,8,8	0
58	MG	XA	1647	1/1	0.92	0.12	-	22,22,22,22	0
58	MG	YA	3141	1/1	0.93	0.13	-	19,19,19,19	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	RA	3087	1/1	0.99	0.18	-	10,10,10,10	0
58	MG	XA	1667	1/1	0.84	0.21	-	34,34,34,34	0
58	MG	RA	3123	1/1	0.96	0.08	-	10,10,10,10	0
58	MG	YA	3095	1/1	0.97	0.20	-	19,19,19,19	0
58	MG	YA	3249	1/1	0.85	0.33	-	20,20,20,20	0
58	MG	YA	3067	1/1	0.96	0.27	-	17,17,17,17	0
58	MG	RA	3081	1/1	0.96	0.39	-	18,18,18,18	0
58	MG	YA	3163	1/1	0.89	0.29	-	21,21,21,21	0
58	MG	YA	3193	1/1	0.94	0.08	-	14,14,14,14	0
58	MG	YA	3077	1/1	0.96	0.25	-	6,6,6,6	0
58	MG	RA	3132	1/1	0.97	0.20	-	9,9,9,9	0
58	MG	RA	3046	1/1	0.96	0.36	-	24,24,24,24	0
58	MG	XA	1663	1/1	0.88	0.21	-	32,32,32,32	0
58	MG	YA	3148	1/1	0.99	0.12	-	15,15,15,15	0
58	MG	RA	3020	1/1	0.98	0.20	-	4,4,4,4	0
58	MG	YA	3051	1/1	0.92	0.25	-	13,13,13,13	0
58	MG	QA	1658	1/1	0.90	0.16	-	39,39,39,39	0
58	MG	YA	3054	1/1	0.91	0.26	-	14,14,14,14	0
58	MG	YA	3036	1/1	0.91	0.28	-	11,11,11,11	0
58	MG	QA	1637	1/1	0.96	0.09	-	17,17,17,17	0
58	MG	QA	1645	1/1	0.87	0.29	-	4,4,4,4	0
58	MG	QA	1628	1/1	0.94	0.26	-	10,10,10,10	0
58	MG	XA	1643	1/1	0.94	0.34	-	74,74,74,74	0
58	MG	RA	3037	1/1	0.98	0.88	-	74,74,74,74	0
58	MG	XA	1641	1/1	0.93	0.24	-	11,11,11,11	0
58	MG	YA	3243	1/1	0.93	0.21	-	13,13,13,13	0
58	MG	YA	3037	1/1	0.97	0.14	-	16,16,16,16	0
58	MG	XA	1668	1/1	0.98	0.13	-	0,0,0,0	0
58	MG	RA	3051	1/1	0.91	0.31	-	1,1,1,1	0
58	MG	YA	3226	1/1	0.89	0.14	-	11,11,11,11	0
58	MG	RA	3236	1/1	0.97	0.37	-	13,13,13,13	0
58	MG	RA	3176	1/1	0.97	0.06	-	21,21,21,21	0
58	MG	YB	201	1/1	0.89	0.25	-	33,33,33,33	0
58	MG	QA	1640	1/1	0.89	0.27	-	13,13,13,13	0
58	MG	YB	202	1/1	0.88	0.33	-	19,19,19,19	0
58	MG	RA	3089	1/1	0.96	0.16	-	6,6,6,6	0
58	MG	XA	1610	1/1	0.90	0.21	-	6,6,6,6	0
58	MG	YA	3005	1/1	0.96	0.22	-	26,26,26,26	0
58	MG	RA	3218	1/1	0.92	0.12	-	17,17,17,17	0
58	MG	QA	1673	1/1	0.91	0.24	-	9,9,9,9	0
58	MG	YA	3120	1/1	0.86	0.29	-	46,46,46,46	0
58	MG	YA	3222	1/1	0.81	0.19	-	13,13,13,13	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	RA	3105	1/1	0.83	0.15	-	14,14,14,14	0
58	MG	RA	3205	1/1	0.86	0.46	-	17,17,17,17	0
58	MG	YA	3234	1/1	0.85	0.22	-	17,17,17,17	0
58	MG	YA	3001	1/1	0.94	0.20	-	23,23,23,23	0
58	MG	YA	3046	1/1	0.94	0.50	-	74,74,74,74	0
58	MG	QA	1630	1/1	0.95	0.17	-	7,7,7,7	0
58	MG	RA	3049	1/1	0.97	0.23	-	12,12,12,12	0
58	MG	QA	1627	1/1	0.91	0.18	-	30,30,30,30	0
58	MG	RB	202	1/1	0.98	0.13	-	29,29,29,29	0
58	MG	YA	3168	1/1	0.99	0.26	-	3,3,3,3	0
58	MG	RA	3180	1/1	0.92	0.24	-	17,17,17,17	0
58	MG	XA	1640	1/1	0.93	0.26	-	27,27,27,27	0
58	MG	YA	3055	1/1	0.93	0.28	-	6,6,6,6	0
58	MG	RA	3053	1/1	0.97	0.10	-	2,2,2,2	0
58	MG	QA	1613	1/1	0.95	0.36	-	8,8,8,8	0
58	MG	RA	3185	1/1	0.93	0.22	-	16,16,16,16	0
58	MG	XA	1632	1/1	0.83	0.14	-	9,9,9,9	0
58	MG	YA	3264	1/1	0.91	0.35	-	5,5,5,5	0
58	MG	RA	3198	1/1	0.90	0.19	-	26,26,26,26	0
58	MG	YA	3019	1/1	0.95	0.34	-	13,13,13,13	0
58	MG	RA	3224	1/1	0.92	0.83	-	142,142,142,142	0
58	MG	RA	3231	1/1	0.93	0.17	-	16,16,16,16	0
58	MG	R0	101	1/1	0.93	0.09	-	2,2,2,2	0
58	MG	QA	1620	1/1	0.97	0.10	-	3,3,3,3	0
58	MG	RA	3021	1/1	0.98	0.22	-	18,18,18,18	0
58	MG	XA	1614	1/1	0.98	0.10	-	21,21,21,21	0
58	MG	RA	3075	1/1	0.93	0.14	-	9,9,9,9	0
58	MG	YA	3097	1/1	0.97	0.14	-	11,11,11,11	0
58	MG	YA	3031	1/1	0.94	0.18	-	5,5,5,5	0
58	MG	RA	3206	1/1	0.96	0.14	-	5,5,5,5	0
58	MG	RA	3233	1/1	0.79	0.22	-	42,42,42,42	0
58	MG	QA	1674	1/1	0.88	0.18	-	8,8,8,8	0
58	MG	QA	1677	1/1	0.83	0.19	-	47,47,47,47	0
58	MG	QA	1631	1/1	0.98	0.14	-	50,50,50,50	0
58	MG	YA	3133	1/1	0.84	0.25	-	32,32,32,32	0
58	MG	YA	3062	1/1	0.97	0.20	-	4,4,4,4	0
58	MG	YA	3203	1/1	0.78	0.18	-	18,18,18,18	0
58	MG	QA	1624	1/1	0.95	0.12	-	26,26,26,26	0
58	MG	XA	1645	1/1	0.97	0.18	-	5,5,5,5	0
58	MG	YA	3200	1/1	0.88	0.15	-	6,6,6,6	0
58	MG	RA	3095	1/1	0.93	0.25	-	18,18,18,18	0
58	MG	YA	3236	1/1	0.83	0.23	-	18,18,18,18	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	RA	3223	1/1	0.89	0.32	-	54,54,54,54	0
58	MG	RA	3239	1/1	0.98	0.23	-	0,0,0,0	0
58	MG	YA	3040	1/1	0.93	0.17	-	19,19,19,19	0
58	MG	XA	1681	1/1	0.84	0.20	-	31,31,31,31	0
58	MG	QA	1668	1/1	0.90	0.17	-	0,0,0,0	0
58	MG	RA	3140	1/1	0.92	0.32	-	34,34,34,34	0
58	MG	XA	1607	1/1	0.90	0.28	-	7,7,7,7	0
58	MG	RA	3168	1/1	0.96	0.19	-	3,3,3,3	0
58	MG	YA	3143	1/1	0.96	0.09	-	0,0,0,0	0
58	MG	QA	1629	1/1	0.94	0.20	-	11,11,11,11	0
58	MG	YA	3139	1/1	0.92	0.15	-	8,8,8,8	0
58	MG	RA	3241	1/1	0.91	0.13	-	8,8,8,8	0
58	MG	XA	1654	1/1	0.94	0.27	-	54,54,54,54	0
58	MG	RA	3016	1/1	0.99	0.18	-	8,8,8,8	0
58	MG	RA	3216	1/1	0.89	0.28	-	2,2,2,2	0
58	MG	RA	3181	1/1	0.93	0.33	-	21,21,21,21	0
58	MG	YA	3118	1/1	0.86	0.35	-	8,8,8,8	0
58	MG	XA	1646	1/1	0.87	0.14	-	21,21,21,21	0
58	MG	QA	1633	1/1	0.95	0.23	-	15,15,15,15	0
58	MG	YA	3085	1/1	0.97	0.25	-	17,17,17,17	0
58	MG	YA	3130	1/1	0.78	0.25	-	21,21,21,21	0
58	MG	YA	3131	1/1	0.98	0.14	-	16,16,16,16	0
58	MG	XA	1618	1/1	0.95	0.12	-	0,0,0,0	0
58	MG	RA	3118	1/1	0.98	0.24	-	16,16,16,16	0
58	MG	YA	3002	1/1	0.94	0.22	-	0,0,0,0	0
58	MG	XA	1664	1/1	0.92	0.19	-	22,22,22,22	0
58	MG	YA	3246	1/1	0.85	0.22	-	0,0,0,0	0
58	MG	YA	3011	1/1	0.91	0.20	-	9,9,9,9	0
58	MG	YA	3116	1/1	0.80	0.22	-	14,14,14,14	0
58	MG	YA	3219	1/1	0.91	0.42	-	22,22,22,22	0
58	MG	YA	3201	1/1	0.98	0.14	-	57,57,57,57	0
58	MG	YA	3109	1/1	0.97	0.08	-	10,10,10,10	0
58	MG	RA	3194	1/1	0.98	0.25	-	0,0,0,0	0
58	MG	YA	3220	1/1	0.94	0.16	-	1,1,1,1	0
58	MG	YA	3160	1/1	0.92	0.14	-	16,16,16,16	0
58	MG	RA	3160	1/1	0.92	0.19	-	19,19,19,19	0
58	MG	RA	3221	1/1	0.60	0.23	-	30,30,30,30	0
58	MG	YA	3194	1/1	0.90	0.26	-	36,36,36,36	0
58	MG	YA	3221	1/1	0.97	0.08	-	19,19,19,19	0
58	MG	YA	3004	1/1	0.96	0.15	-	11,11,11,11	0
58	MG	YA	3081	1/1	0.90	0.29	-	10,10,10,10	0
58	MG	YA	3075	1/1	0.89	0.15	-	12,12,12,12	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	RA	3042	1/1	0.95	0.23	-	1,1,1,1	0
58	MG	RA	3006	1/1	0.81	0.41	-	10,10,10,10	0
58	MG	RA	3209	1/1	0.73	0.25	-	47,47,47,47	0
58	MG	YA	3122	1/1	0.97	0.15	-	9,9,9,9	0
58	MG	RA	3242	1/1	0.90	0.32	-	13,13,13,13	0
58	MG	YA	3247	1/1	0.88	0.49	-	34,34,34,34	0
58	MG	QA	1644	1/1	0.96	0.11	-	26,26,26,26	0
58	MG	YA	3239	1/1	0.90	0.17	-	41,41,41,41	0
58	MG	RA	3162	1/1	0.92	0.52	-	18,18,18,18	0
58	MG	YA	3013	1/1	0.88	0.32	-	3,3,3,3	0
58	MG	RA	3114	1/1	0.95	0.16	-	10,10,10,10	0
58	MG	YQ	201	1/1	0.88	0.11	-	90,90,90,90	0
58	MG	YA	3101	1/1	0.98	0.32	-	5,5,5,5	0
58	MG	YA	3179	1/1	0.81	0.23	-	26,26,26,26	0
58	MG	XA	1625	1/1	0.97	0.11	-	5,5,5,5	0
58	MG	YA	3187	1/1	0.88	0.29	-	41,41,41,41	0
58	MG	RA	3030	1/1	0.97	0.19	-	8,8,8,8	0
58	MG	RA	3013	1/1	0.77	0.27	-	29,29,29,29	0
58	MG	YA	3190	1/1	0.92	0.15	-	8,8,8,8	0
58	MG	YA	3155	1/1	0.84	0.24	-	45,45,45,45	0
58	MG	QA	1647	1/1	0.92	0.32	-	38,38,38,38	0
58	MG	XA	1674	1/1	0.96	0.17	-	4,4,4,4	0
58	MG	QF	201	1/1	0.91	0.25	-	36,36,36,36	0
58	MG	RA	3139	1/1	0.98	0.19	-	12,12,12,12	0
58	MG	YA	3128	1/1	0.98	0.46	-	6,6,6,6	0
58	MG	RA	3153	1/1	0.96	0.12	-	0,0,0,0	0
58	MG	YA	3232	1/1	0.98	0.24	-	35,35,35,35	0
58	MG	YA	3231	1/1	0.93	0.20	-	34,34,34,34	0
58	MG	RA	3240	1/1	0.95	0.29	-	5,5,5,5	0
58	MG	YA	3079	1/1	0.96	0.19	-	22,22,22,22	0
58	MG	YA	3147	1/1	0.95	0.27	-	9,9,9,9	0
58	MG	QA	1661	1/1	0.98	0.16	-	50,50,50,50	0
58	MG	YA	3240	1/1	0.96	0.15	-	12,12,12,12	0
58	MG	YA	3052	1/1	0.96	0.16	-	12,12,12,12	0
58	MG	YA	3208	1/1	0.87	0.41	-	35,35,35,35	0
58	MG	XA	1662	1/1	0.95	0.14	-	12,12,12,12	0
58	MG	RA	3228	1/1	0.85	0.16	-	13,13,13,13	0
58	MG	RA	3203	1/1	0.84	0.18	-	15,15,15,15	0
58	MG	YA	3171	1/1	0.92	0.22	-	22,22,22,22	0
58	MG	YA	3092	1/1	0.98	0.14	-	28,28,28,28	0
58	MG	YA	3145	1/1	0.87	0.20	-	20,20,20,20	0
58	MG	RA	3234	1/1	0.68	0.33	-	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	YA	3066	1/1	0.98	0.31	-	6,6,6,6	0
58	MG	QA	1655	1/1	0.92	0.21	-	14,14,14,14	0
58	MG	RA	3143	1/1	0.76	0.14	-	5,5,5,5	0
58	MG	RA	3157	1/1	0.67	0.38	-	37,37,37,37	0
58	MG	RA	3214	1/1	0.89	0.26	-	24,24,24,24	0
58	MG	RA	3028	1/1	0.97	0.30	-	17,17,17,17	0
58	MG	YA	3186	1/1	0.95	0.24	-	25,25,25,25	0
58	MG	XA	1678	1/1	0.93	0.23	-	2,2,2,2	0
58	MG	XA	1603	1/1	0.95	0.11	-	1,1,1,1	0
58	MG	YA	3256	1/1	0.89	0.60	-	74,74,74,74	0
58	MG	YA	3235	1/1	0.90	0.21	-	26,26,26,26	0
58	MG	QA	1635	1/1	0.94	0.39	-	76,76,76,76	0
58	MG	RA	3101	1/1	0.91	0.18	-	18,18,18,18	0
58	MG	RA	3008	1/1	0.94	0.46	-	6,6,6,6	0
58	MG	RA	3113	1/1	0.97	0.13	-	1,1,1,1	0
58	MG	XA	1655	1/1	0.91	0.29	-	68,68,68,68	0
58	MG	YA	3071	1/1	0.91	0.21	-	1,1,1,1	0
58	MG	YA	3195	1/1	0.93	0.19	-	5,5,5,5	0
58	MG	XA	1652	1/1	0.97	0.07	-	32,32,32,32	0
58	MG	RA	3035	1/1	0.99	0.11	-	2,2,2,2	0
58	MG	QA	1663	1/1	0.94	0.21	-	19,19,19,19	0
58	MG	RA	3148	1/1	0.89	0.39	-	47,47,47,47	0
58	MG	QA	1660	1/1	0.88	0.10	-	36,36,36,36	0
58	MG	YA	3173	1/1	0.89	0.25	-	15,15,15,15	0
58	MG	RA	3034	1/1	0.96	0.27	-	6,6,6,6	0
58	MG	RA	3226	1/1	0.90	0.32	-	1,1,1,1	0
58	MG	QA	1659	1/1	0.99	0.09	-	42,42,42,42	0
58	MG	XV	102	1/1	0.90	0.18	-	2,2,2,2	0
58	MG	RA	3055	1/1	0.95	0.12	-	10,10,10,10	0
58	MG	RA	3088	1/1	0.90	0.16	-	7,7,7,7	0
58	MG	RA	3199	1/1	0.87	0.78	-	63,63,63,63	0
58	MG	YA	3185	1/1	0.98	0.28	-	22,22,22,22	0
58	MG	YA	3175	1/1	0.97	0.25	-	14,14,14,14	0
58	MG	RA	3178	1/1	0.94	0.13	-	25,25,25,25	0
58	MG	RA	3108	1/1	0.95	0.10	-	6,6,6,6	0
58	MG	RA	3065	1/1	0.98	0.19	-	0,0,0,0	0
58	MG	QA	1643	1/1	0.89	0.23	-	21,21,21,21	0
58	MG	YA	3198	1/1	0.94	0.27	-	18,18,18,18	0
58	MG	RA	3066	1/1	0.97	0.16	-	7,7,7,7	0
58	MG	RA	3004	1/1	0.83	0.43	-	40,40,40,40	0
58	MG	XA	1680	1/1	0.79	0.31	-	45,45,45,45	0
58	MG	RA	3172	1/1	0.88	0.24	-	42,42,42,42	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	QA	1606	1/1	0.95	0.43	-	10,10,10,10	0
58	MG	XA	1602	1/1	0.85	0.23	-	15,15,15,15	0
58	MG	RA	3056	1/1	0.81	0.54	-	74,74,74,74	0
58	MG	YA	3022	1/1	0.96	0.26	-	7,7,7,7	0
58	MG	QA	1670	1/1	0.93	0.34	-	5,5,5,5	0
58	MG	RA	3131	1/1	0.97	0.30	-	7,7,7,7	0
58	MG	YA	3149	1/1	0.95	0.21	-	16,16,16,16	0
58	MG	QA	1639	1/1	0.94	0.22	-	33,33,33,33	0
58	MG	YA	3041	1/1	0.88	0.56	-	74,74,74,74	0
58	MG	QA	1604	1/1	0.76	0.25	-	5,5,5,5	0
58	MG	QA	1651	1/1	0.97	0.11	-	5,5,5,5	0
58	MG	RA	3187	1/1	0.94	0.21	-	42,42,42,42	0
58	MG	YA	3215	1/1	0.94	0.13	-	42,42,42,42	0
58	MG	XA	1608	1/1	0.96	0.17	-	1,1,1,1	0
58	MG	RA	3010	1/1	0.91	0.47	-	14,14,14,14	0
58	MG	YA	3228	1/1	0.81	0.14	-	9,9,9,9	0
58	MG	RA	3119	1/1	0.96	0.16	-	20,20,20,20	0
58	MG	QA	1671	1/1	0.86	0.16	-	6,6,6,6	0
58	MG	YA	3061	1/1	0.98	0.14	-	15,15,15,15	0
58	MG	RA	3230	1/1	0.94	0.20	-	41,41,41,41	0
58	MG	RA	3156	1/1	0.91	0.17	-	9,9,9,9	0
58	MG	QA	1636	1/1	0.94	0.18	-	1,1,1,1	0
58	MG	R8	101	1/1	0.96	0.15	-	6,6,6,6	0
58	MG	XA	1628	1/1	0.86	0.14	-	18,18,18,18	0
58	MG	YA	3242	1/1	0.94	0.14	-	9,9,9,9	0
58	MG	RE	301	1/1	0.92	0.20	-	9,9,9,9	0
58	MG	RA	3109	1/1	0.96	0.20	-	0,0,0,0	0
58	MG	XA	1624	1/1	0.92	0.10	-	22,22,22,22	0
58	MG	YA	3265	1/1	0.95	0.17	-	24,24,24,24	0
58	MG	YA	3211	1/1	0.94	0.50	-	55,55,55,55	0
58	MG	YA	3225	1/1	0.97	0.14	-	12,12,12,12	0
58	MG	YA	3262	1/1	0.89	0.23	-	26,26,26,26	0
58	MG	RA	3193	1/1	0.88	0.23	-	47,47,47,47	0
58	MG	YA	3064	1/1	0.98	0.14	-	4,4,4,4	0
58	MG	RA	3237	1/1	0.91	0.38	-	6,6,6,6	0
58	MG	QA	1666	1/1	0.94	0.12	-	68,68,68,68	0
58	MG	YA	3157	1/1	0.98	0.17	-	0,0,0,0	0
58	MG	R5	101	1/1	0.93	0.32	-	11,11,11,11	0
58	MG	QA	1609	1/1	0.98	0.10	-	32,32,32,32	0
58	MG	YA	3191	1/1	0.87	0.28	-	9,9,9,9	0
58	MG	RA	3222	1/1	0.94	0.11	-	2,2,2,2	0
58	MG	YA	3150	1/1	0.89	0.30	-	16,16,16,16	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	RA	3044	1/1	0.95	0.21	-	8,8,8,8	0
58	MG	RA	3023	1/1	0.97	0.23	-	9,9,9,9	0
58	MG	RA	3170	1/1	0.97	0.09	-	9,9,9,9	0
58	MG	RA	3152	1/1	0.97	0.24	-	14,14,14,14	0
58	MG	RA	3177	1/1	0.86	0.35	-	15,15,15,15	0
58	MG	RA	3058	1/1	0.96	0.11	-	5,5,5,5	0
58	MG	RA	3191	1/1	0.90	0.17	-	46,46,46,46	0
58	MG	YA	3123	1/1	0.97	0.21	-	1,1,1,1	0
58	MG	YA	3245	1/1	0.87	0.18	-	33,33,33,33	0
58	MG	YA	3076	1/1	0.96	0.34	-	10,10,10,10	0
58	MG	YA	3134	1/1	0.94	0.13	-	19,19,19,19	0
58	MG	RA	3083	1/1	0.97	0.22	-	32,32,32,32	0
58	MG	YA	3248	1/1	0.86	0.20	-	8,8,8,8	0
58	MG	XA	1676	1/1	0.89	0.34	-	19,19,19,19	0
58	MG	XA	1677	1/1	0.92	0.16	-	2,2,2,2	0
58	MG	YA	3253	1/1	0.98	0.14	-	22,22,22,22	0
58	MG	XA	1631	1/1	0.94	0.21	-	4,4,4,4	0
58	MG	RA	3207	1/1	0.89	0.21	-	7,7,7,7	0
58	MG	YA	3230	1/1	0.92	0.15	-	42,42,42,42	0
58	MG	RA	3212	1/1	0.57	0.75	-	73,73,73,73	0
58	MG	RA	3048	1/1	0.99	0.16	-	2,2,2,2	0
58	MG	YA	3172	1/1	0.93	0.37	-	40,40,40,40	0
58	MG	YA	3178	1/1	0.94	0.26	-	17,17,17,17	0
58	MG	RA	3015	1/1	0.96	0.27	-	0,0,0,0	0
58	MG	YA	3202	1/1	0.97	0.21	-	38,38,38,38	0
58	MG	RA	3201	1/1	0.83	0.25	-	34,34,34,34	0
58	MG	RA	3018	1/1	0.95	0.26	-	5,5,5,5	0
58	MG	XA	1612	1/1	0.98	0.24	-	10,10,10,10	0
58	MG	YA	3029	1/1	0.95	0.22	-	12,12,12,12	0
58	MG	YA	3146	1/1	0.93	0.23	-	40,40,40,40	0
58	MG	QA	1667	1/1	0.66	0.24	-	35,35,35,35	0
58	MG	RA	3165	1/1	0.95	0.23	-	30,30,30,30	0
58	MG	RA	3171	1/1	0.77	0.29	-	31,31,31,31	0
58	MG	YA	3224	1/1	0.96	0.26	-	18,18,18,18	0
58	MG	YA	3096	1/1	0.92	0.20	-	6,6,6,6	0
58	MG	YA	3213	1/1	0.99	0.12	-	31,31,31,31	0
58	MG	RA	3150	1/1	0.96	0.22	-	27,27,27,27	0
58	MG	RA	3124	1/1	0.89	0.16	-	2,2,2,2	0
58	MG	YA	3084	1/1	0.95	0.15	-	12,12,12,12	0
58	MG	YA	3251	1/1	0.91	0.57	-	10,10,10,10	0
58	MG	RA	3103	1/1	0.97	0.28	-	5,5,5,5	0
58	MG	RA	3011	1/1	0.96	0.22	-	0,0,0,0	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
58	MG	YA	3057	1/1	0.95	0.34	-	11,11,11,11	0
58	MG	QA	1650	1/1	0.98	0.17	-	53,53,53,53	0
58	MG	RA	3078	1/1	0.98	0.21	-	16,16,16,16	0
58	MG	RA	3012	1/1	0.91	0.40	-	31,31,31,31	0
58	MG	XA	1633	1/1	0.94	0.10	-	7,7,7,7	0
58	MG	YA	3196	1/1	0.96	0.11	-	41,41,41,41	0
58	MG	YA	3063	1/1	0.99	0.36	-	12,12,12,12	0
58	MG	YA	3217	1/1	0.87	0.13	-	18,18,18,18	0
58	MG	XA	1650	1/1	0.79	0.21	-	14,14,14,14	0
58	MG	YA	3069	1/1	0.97	0.26	-	12,12,12,12	0
58	MG	YA	3060	1/1	0.93	0.24	-	8,8,8,8	0
58	MG	RA	3076	1/1	0.93	0.15	-	7,7,7,7	0
58	MG	YA	3263	1/1	0.73	0.26	-	40,40,40,40	0
58	MG	QA	1654	1/1	0.97	0.14	-	12,12,12,12	0
58	MG	YA	3121	1/1	0.95	0.11	-	6,6,6,6	0
58	MG	RA	3002	1/1	0.76	0.46	-	30,30,30,30	0
58	MG	YA	3127	1/1	0.89	0.30	-	23,23,23,23	0
58	MG	YA	3082	1/1	0.98	0.13	-	17,17,17,17	0
58	MG	XA	1682	1/1	0.88	0.20	-	35,35,35,35	0
58	MG	XA	1670	1/1	0.91	0.19	-	27,27,27,27	0
58	MG	YA	3059	1/1	0.94	0.14	-	11,11,11,11	0
58	MG	XA	1604	1/1	0.90	0.29	-	9,9,9,9	0
58	MG	Y5	101	1/1	0.98	0.26	-	13,13,13,13	0
58	MG	YA	3021	1/1	0.99	0.26	-	8,8,8,8	0
58	MG	QA	1625	1/1	0.95	0.30	-	29,29,29,29	0
58	MG	YA	3018	1/1	0.79	0.77	-	74,74,74,74	0

6.5 Other polymers [i](#)

There are no such residues in this entry.