



Full wwPDB/EMDatabank EM Map/Model Validation Report ⓘ

Jan 17, 2017 – 09:38 PM EST

PDB ID : 5T2C
EMDB ID: : EMD-8345
Title : CryoEM structure of the human ribosome at 3.6 Angstrom resolution
Authors : Zhang, X.; Lai, M.; Zhou, Z.H.
Deposited on : 2016-08-23
Resolution : 3.60 Å(reported)

This is a Full wwPDB/EMDatabank EM Map/Model Validation Report
for a publicly released PDB/EMDB entry.

We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

MolProbity : 4.02b-467
Mogul : unknown
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : rb-20028442

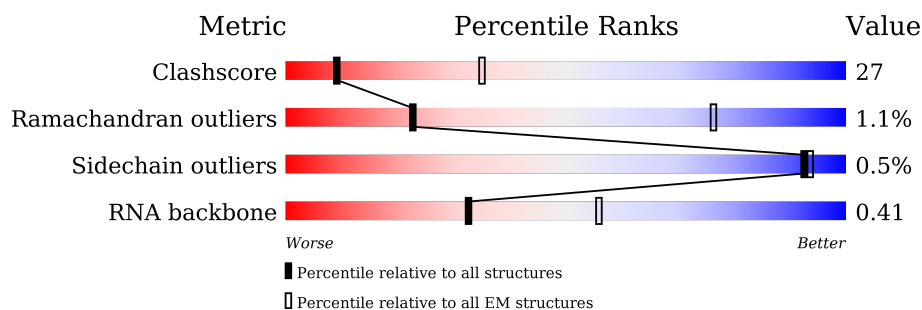
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.60 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.















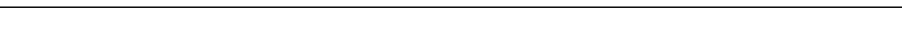

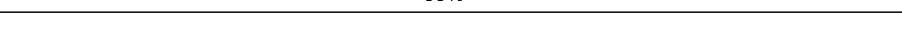
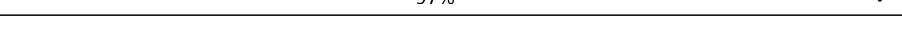
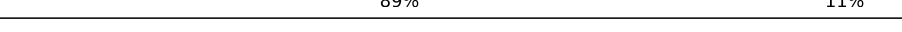
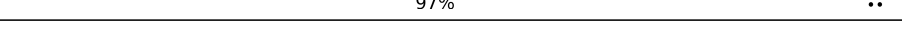
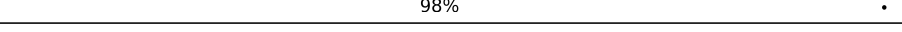

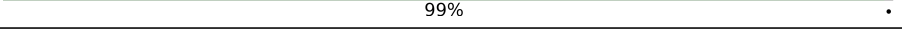



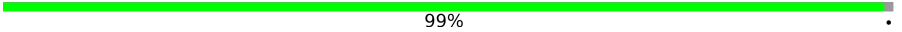
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	114402	924
Ramachandran outliers	111179	726
Sidechain outliers	111093	686
RNA backbone	3027	244

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the 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 $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	B	121	71% 25% . .
2	C	157	67% 23% 10% .
3	D	257	70% 26% .
4	E	403	74% 26%
5	F	427	64% 22% 14%
6	G	297	71% 27% .
7	I	203	79% 20% .
8	J	160	78% 18% .

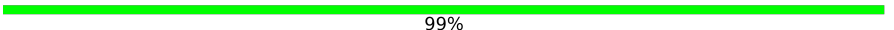

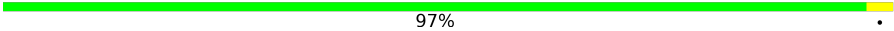


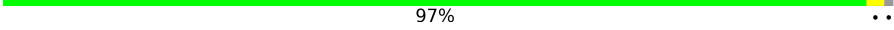

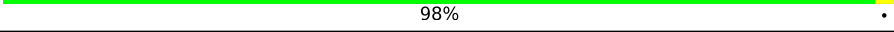

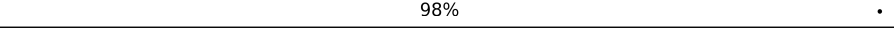
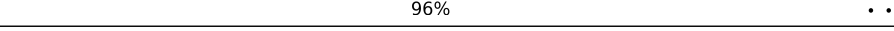
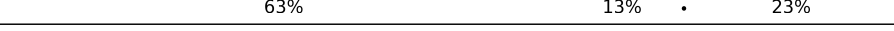







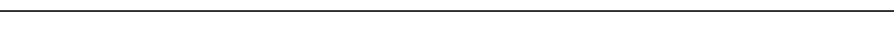

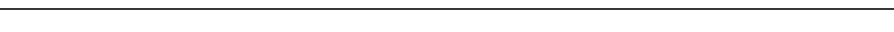
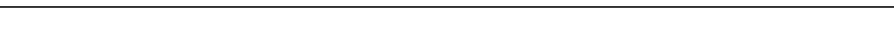


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Mol	Chain	Length	Quality of chain
9	L	196	
10	N	160	
11	O	128	
12	P	140	
13	Q	157	
14	S	145	
15	T	136	
16	U	148	
17	V	159	
18	X	125	
19	Y	135	
20	Z	110	
21	a	117	
22	b	123	
23	c	105	
24	d	97	
25	e	70	
26	f	51	
27	g	128	
28	j	92	
29	k	137	
30	m	248	
31	n	266	
32	o	192	
33	s	215	




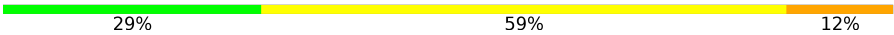


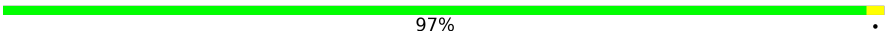
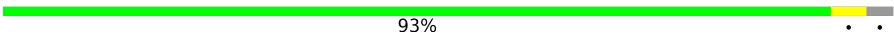
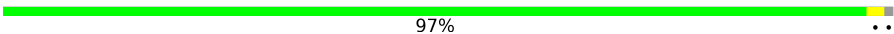

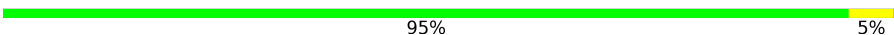
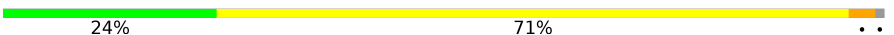





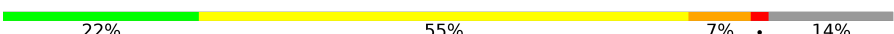





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Mol	Chain	Length	Quality of chain
34	t	204	 99%
35	h	25	 92%
36	r	211	 97%
37	A	5070	 41% 25% 8% 26%
38	H	288	 53% 26% 16% 5%
39	i	106	 97%
40	K	188	 71% 28% 1%
41	l	217	 98%
42	M	176	 73% 24% 3%
43	p	214	 98%
44	q	178	 96%
45	R	156	 63% 13% 23% 1%
46	W	115	 60% 25% 15%
47	AA	1869	 32% 46% 11% 7% 4%
48	AC	83	 36% 60% 4%
49	AD	143	 41% 55% 4%
50	AE	115	 34% 54% 12%
51	AF	69	 30% 59% 9%
52	AH	156	 22% 21% 54% 3%
53	AJ	293	 20% 54% 24% 2%
54	AK	249	 27% 67% 5% 1%
55	AL	194	 32% 63% 5%
56	AN	151	 35% 62% 3%
57	AP	130	 32% 63% 5%
58	AQ	133	 23% 73% 4%

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Mol	Chain	Length	Quality of chain
59	AR	125	
60	AT	59	
61	AV	84	
62	An	75	
63	Ap	264	
64	Aq	243	
65	Ar	263	
66	At	194	
67	Au	208	
68	Av	165	
69	Ay	146	
70	A0	152	
71	Ao	295	
72	As	204	
73	Aw	158	
74	Ax	145	
75	Az	135	
76	AB	119	
77	AG	56	
78	AI	317	
79	AM	132	
80	AO	151	
81	AU	145	

2 Entry composition

There are 81 unique types of molecules in this entry. The entry contains 217989 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	120	Total	C	N	O	P	0	0
			2558	1141	456	842	119		

- Molecule 2 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	156	Total	C	N	O	P	0	0
			3314	1480	585	1094	155		

- Molecule 3 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	248	Total	C	N	O	S	0	0
			1898	1189	389	314	6		

- Molecule 4 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	E	402	Total	C	N	O	S	0	0
			3238	2060	608	556	14		

- Molecule 5 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	F	367	Total	C	N	O	S	0	0
			2919	1835	582	488	14		

- Molecule 6 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	293	Total	C	N	O	S	0	0
			2382	1507	434	427	14		

- Molecule 7 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	I	201	Total	C	N	O	S	0	0
			1650	1063	321	261	5		

- Molecule 8 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	J	153	Total	C	N	O	S	0	0
			1242	776	241	216	9		

- Molecule 9 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	L	187	Total	C	N	O	S	0	0
			1566	971	336	250	9		

- Molecule 10 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	N	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 11 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	O	101	Total	C	N	O	S	0	0
			825	529	144	150	2		

- Molecule 12 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	P	131	Total	C	N	O	S	0	0
			979	618	184	172	5		

- Molecule 13 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	Q	64	Total	C	N	O	S	0	0
			534	340	104	87	3		

- Molecule 14 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	S	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 15 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	T	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 16 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	U	147	Total	C	N	O	S	0	0
			1162	736	237	186	3		

- Molecule 17 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	V	75	Total	C	N	O	S	0	0
			610	378	130	99	3		

- Molecule 18 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	X	107	Total	C	N	O	S	0	0
			888	560	171	155	2		

- Molecule 19 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Y	128	Total	C	N	O	S	0	0
			1053	667	216	165	5		

- Molecule 20 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Z	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 21 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	a	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 22 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	b	122	Total	C	N	O	S	0	0
			1015	641	205	168	1		

- Molecule 23 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	c	102	Total	C	N	O	S	0	0
			832	521	177	129	5		

- Molecule 24 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	d	86	Total	C	N	O	S	0	0
			705	434	155	111	5		

- Molecule 25 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	e	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

- Molecule 26 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	f	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 27 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	g	52	Total	C	N	O	S	0	0
			429	266	90	67	6		

- Molecule 28 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	j	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 29 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	k	125	Total	C	N	O	S	0	0
			1002	622	207	168	5		

- Molecule 30 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	m	225	Total	C	N	O	S	0	0
			1870	1202	358	301	9		

- Molecule 31 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	n	241	Total	C	N	O	S	0	0
			1927	1228	371	324	4		

- Molecule 32 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	o	190	Total	C	N	O	S	0	0
			1518	956	284	272	6		

- Molecule 33 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	s	139	Total	C	N	O	S	0	0
			1138	730	218	183	7		

- Molecule 34 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	t	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 35 is a protein called 60S Ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	h	24	Total	C	N	O	S	0	0
			230	139	62	26	3		

- Molecule 36 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	r	210	Total	C	N	O	S	0	0
			1701	1064	352	281	4		

- Molecule 37 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	A	3776	Total	C	N	O	P	0	0
			80184	35672	14597	26140	3775		

- Molecule 38 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	H	242	Total	C	N	O	S	0	0
			1958	1257	372	325	4		

- Molecule 39 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	i	105	Total	C	N	O	S	0	0
			862	542	175	139	6		

- Molecule 40 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	K	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 41 is a protein called 60S ribosomal protein L10a.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	l	217	Total	C	N	O	S	0	0
			1741	1113	312	307	9		

- Molecule 42 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	M	175	Total	C	N	O	S	0	0
			1453	925	283	235	10		

- Molecule 43 is a protein called 60S ribosomal protein L10-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	p	213	Total	C	N	O	S	0	0
			1711	1082	329	285	15		

- Molecule 44 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	q	176	Total	C	N	O	S	0	0
			1410	888	263	253	6		

- Molecule 45 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	R	120	Total	C	N	O	S	0	0
			985	630	185	169	1		

- Molecule 46 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	W	98	Total	C	N	O	S	0	0
			764	485	135	138	6		

- Molecule 47 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	AA	1742	Total	C	N	O	P	0	0
			36900	16458	6595	12106	1741		

- Molecule 48 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	AC	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

- Molecule 49 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	AD	141	Total	C	N	O	S	0	0
			1098	693	219	183	3		

- Molecule 50 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	AE	101	Total	C	N	O	S	0	0
			814	507	170	132	5		

- Molecule 51 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	AF	63	Total	C	N	O	S	0	0
			498	302	101	93	2		

- Molecule 52 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	AH	71	Total	C	N	O	S	0	0
			581	367	109	98	7		

- Molecule 53 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	AJ	222	Total	C	N	O	S	0	0
			1725	1115	298	302	10		

- Molecule 54 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	AK	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 55 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	AL	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 56 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	AN	149	Total	C	N	O	S	0	0
			1202	770	228	203	1		

- Molecule 57 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	AP	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 58 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	AQ	131	Total	C	N	O	S	0	0
			1065	673	209	178	5		

- Molecule 59 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	AR	75	Total	C	N	O	S	0	0
			598	382	111	104	1		

- Molecule 60 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	AT	58	Total	C	N	O	S	0	0
			459	284	100	74	1		

- Molecule 61 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	AV	83	Total	C	N	O	S	0	0
			651	408	121	115	7		

- Molecule 62 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	An	75	Total	C	N	O	P	0	0
			1604	717	298	515	74		

- Molecule 63 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	Ap	214	Total	C	N	O	S	0	0
			1738	1103	310	311	14		

- Molecule 64 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	Aq	227	Total	C	N	O	S	0	0
			1765	1125	317	315	8		

- Molecule 65 is a protein called 40S ribosomal protein S4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	Ar	262	Total	C	N	O	S	0	0
			2076	1324	386	358	8		

- Molecule 66 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	At	189	Total	C	N	O	S	0	0
			1521	969	280	271	1		

- Molecule 67 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	Au	206	Total	C	N	O	S	0	0
			1686	1058	332	291	5		

- Molecule 68 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Av	98	Total	C	N	O	S	0	0
			827	539	148	134	6		

- Molecule 69 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Ay	146	Total	C	N	O	S	0	0
			1158	736	218	200	4		

- Molecule 70 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	A0	150	Total	C	N	O	S	0	0
			1235	776	250	208	1		

- Molecule 71 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Ao	222	Total	C	N	O	S	0	0
			1747	1109	306	324	8		

- Molecule 72 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	As	191	Total	C	N	O	S	0	0
			1509	943	286	273	7		

- Molecule 73 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Aw	153	Total	C	N	O	S	0	0
			1247	793	234	214	6		

- Molecule 74 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Ax	97	Total	C	N	O	S	0	0
			804	505	155	138	6		

- Molecule 75 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Az	132	Total	C	N	O	S	0	0
			1072	673	199	195	5		

- Molecule 76 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	AB	102	Total	C	N	O	S	0	0
			807	507	153	143	4		

- Molecule 77 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	AG	53	Total	C	N	O	S	0	0
			445	278	90	72	5		

- Molecule 78 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	AI	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 79 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	AM	122	Total	C	N	O	S	0	0
			952	596	169	179	8		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AM	52	GLN	LEU	conflict	UNP P25398
AM	69	LEU	CYS	conflict	UNP P25398
AM	99	ASN	LYS	conflict	UNP P25398

- Molecule 80 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	AO	140	Total	C	N	O	S	0	0
			1049	642	204	197	6		

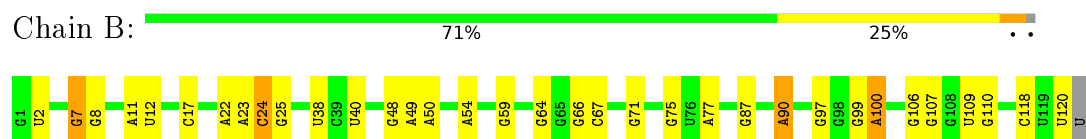
- Molecule 81 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	AU	143	Total	C	N	O	S	0	0
			1112	697	214	198	3		

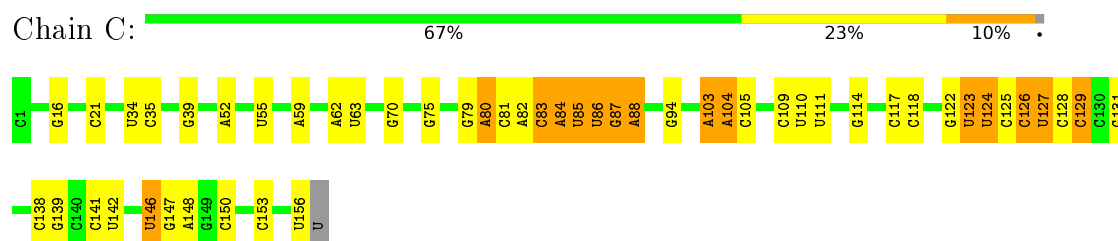
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

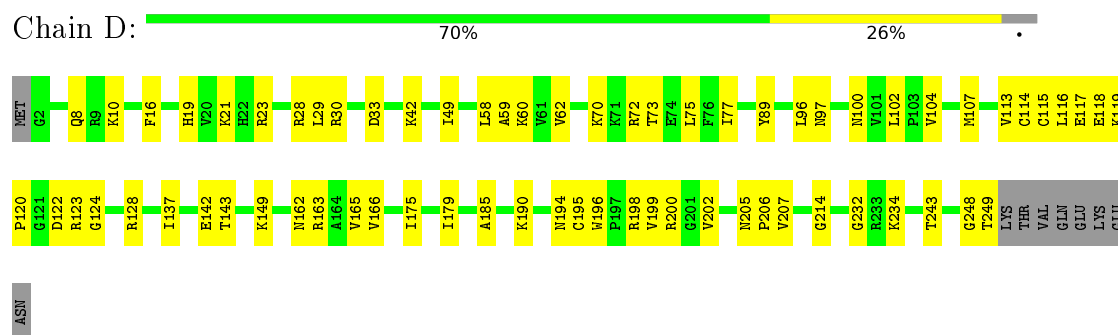
- Molecule 1: 5S rRNA



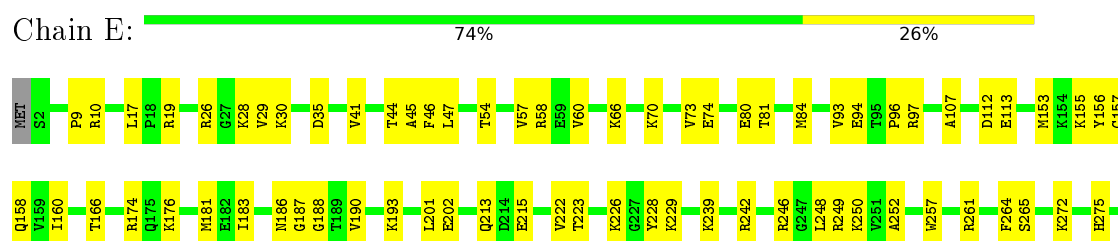
- Molecule 2: 5.8S rRNA



- Molecule 3: 60S ribosomal protein L8



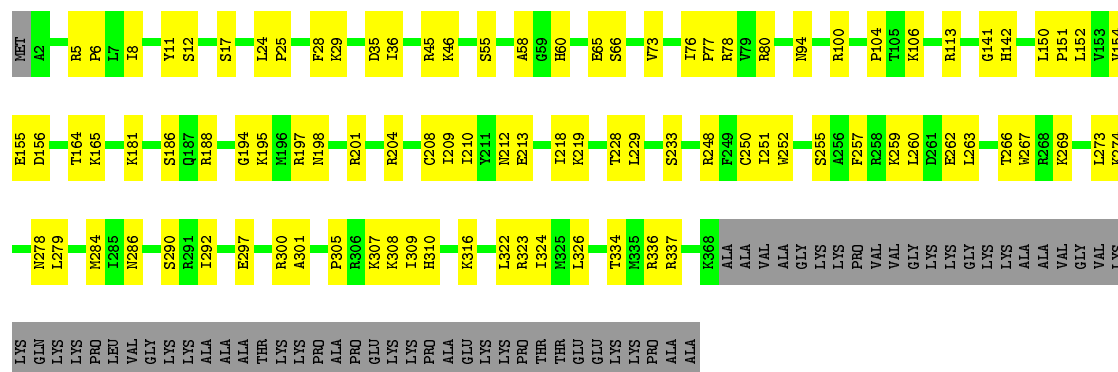
- Molecule 4: 60S ribosomal protein L3



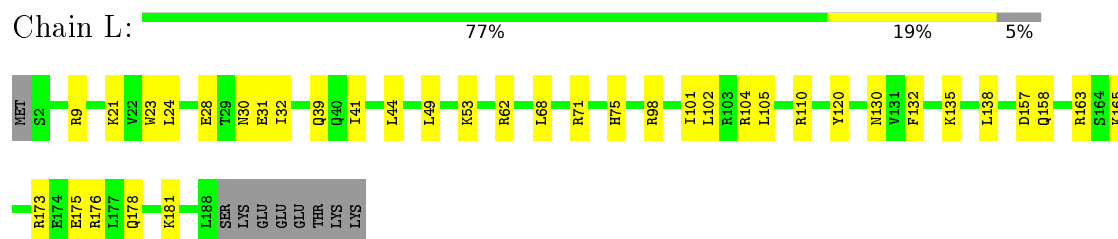


• Molecule 5: 60S ribosomal protein L4

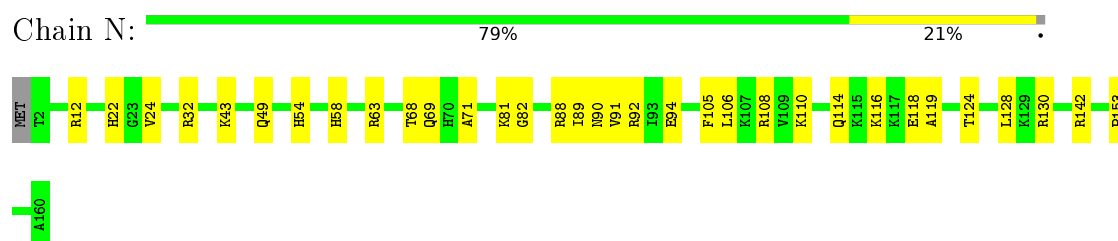
Chain F: 64% 22% 14%



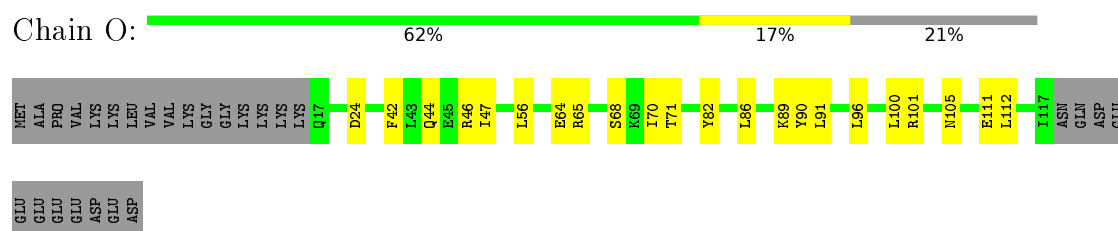
- Molecule 9: 60S ribosomal protein L19



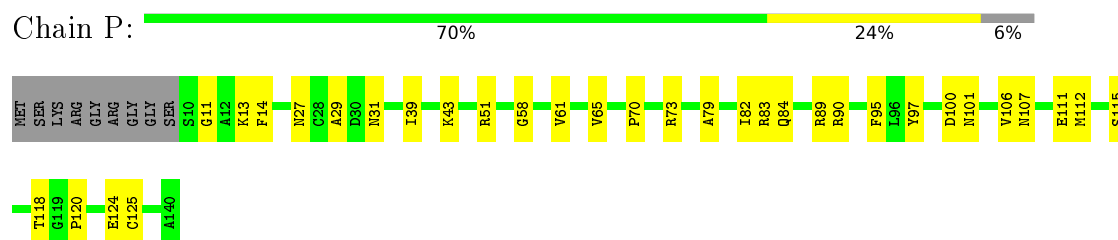
- Molecule 10: 60S ribosomal protein L21



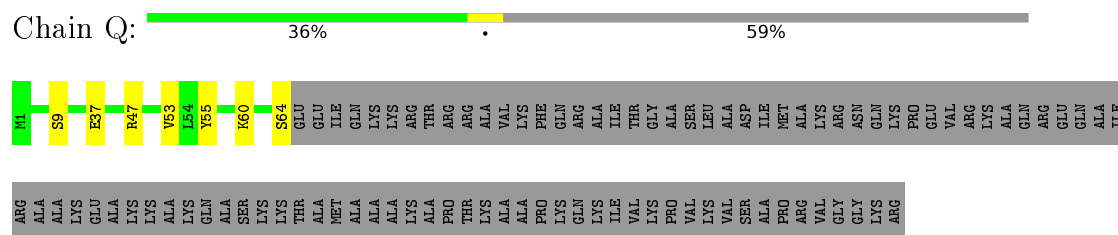
- Molecule 11: 60S ribosomal protein L22



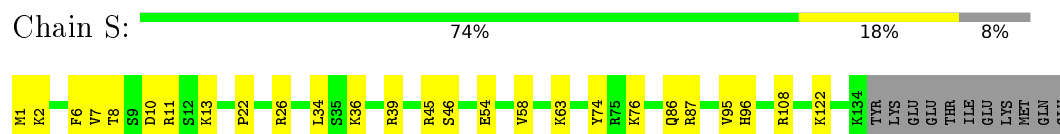
- Molecule 12: 60S ribosomal protein L23



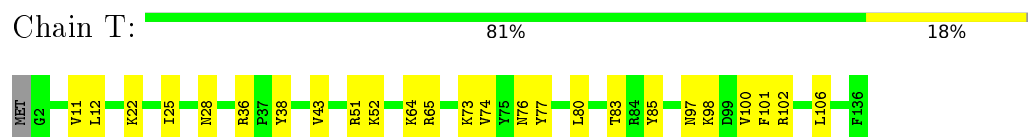
- Molecule 13: 60S ribosomal protein L24



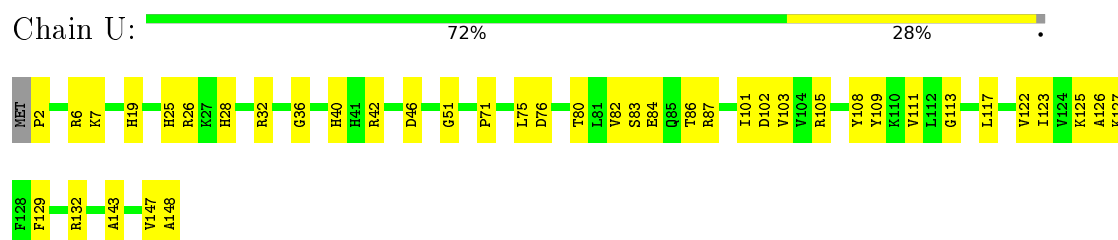
- Molecule 14: 60S ribosomal protein L26



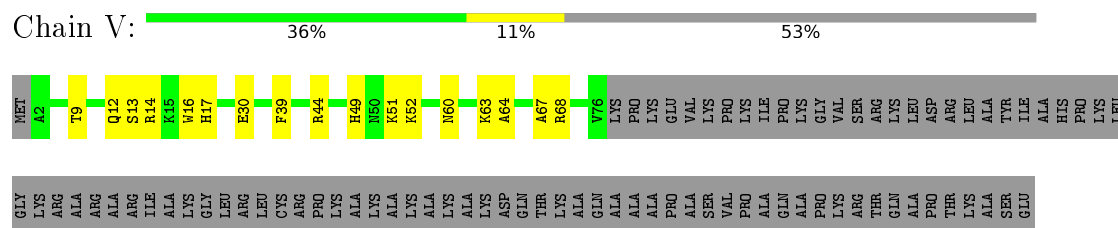
- Molecule 15: 60S ribosomal protein L27



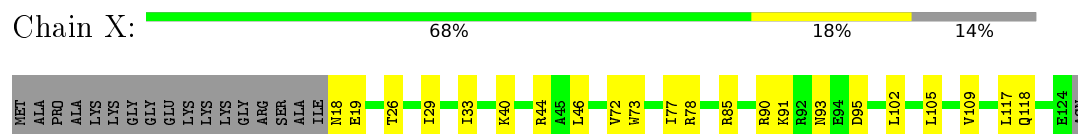
- Molecule 16: 60S ribosomal protein L27a



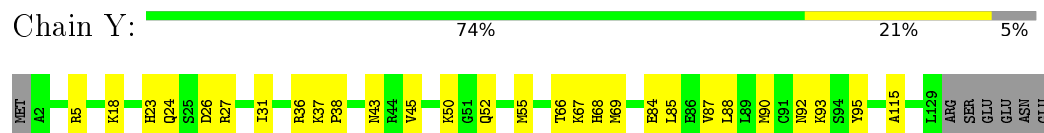
- Molecule 17: 60S ribosomal protein L29



- Molecule 18: 60S ribosomal protein L31

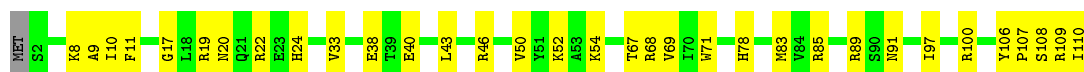


- Molecule 19: 60S ribosomal protein L32



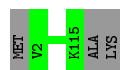
- Molecule 20: 60S ribosomal protein L35a





- Molecule 21: 60S ribosomal protein L34

Chain a: 97%



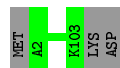
- Molecule 22: 60S ribosomal protein L35

Chain b: 99%



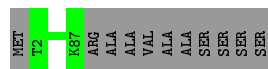
- Molecule 23: 60S ribosomal protein L36

Chain c: 97%



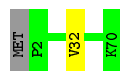
- Molecule 24: 60S ribosomal protein L37

Chain d: 89%



- Molecule 25: 60S ribosomal protein L38

Chain e: 97%



- Molecule 26: 60S ribosomal protein L39

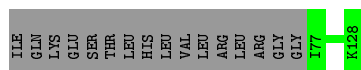
Chain f: 98%



- Molecule 27: Ubiquitin-60S ribosomal protein L40

Chain g: 41%





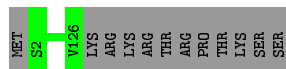
- Molecule 28: 60S ribosomal protein L37a

Chain j: 



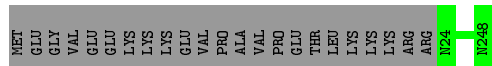
- Molecule 29: 60S ribosomal protein L28

Chain k:  91% 9%



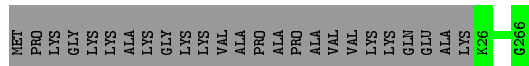
- Molecule 30: 60S ribosomal protein L7

Chain m:  91% 9%



- Molecule 31: 60S ribosomal protein L7a

Chain n:  91% 9%



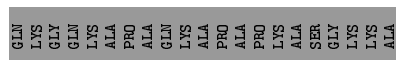
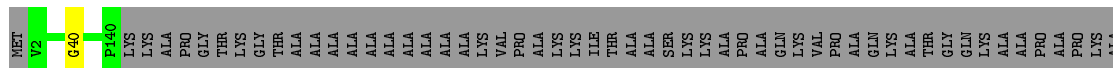
- Molecule 32: 60S ribosomal protein L9

Chain o:



- Molecule 33: 60S ribosomal protein L14

Chain s: 64% 35%



- Molecule 34: 60S ribosomal protein L15

Chain t:  99%



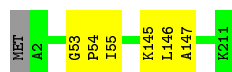
- Molecule 35: 60S Ribosomal protein L41

Chain h: 92%



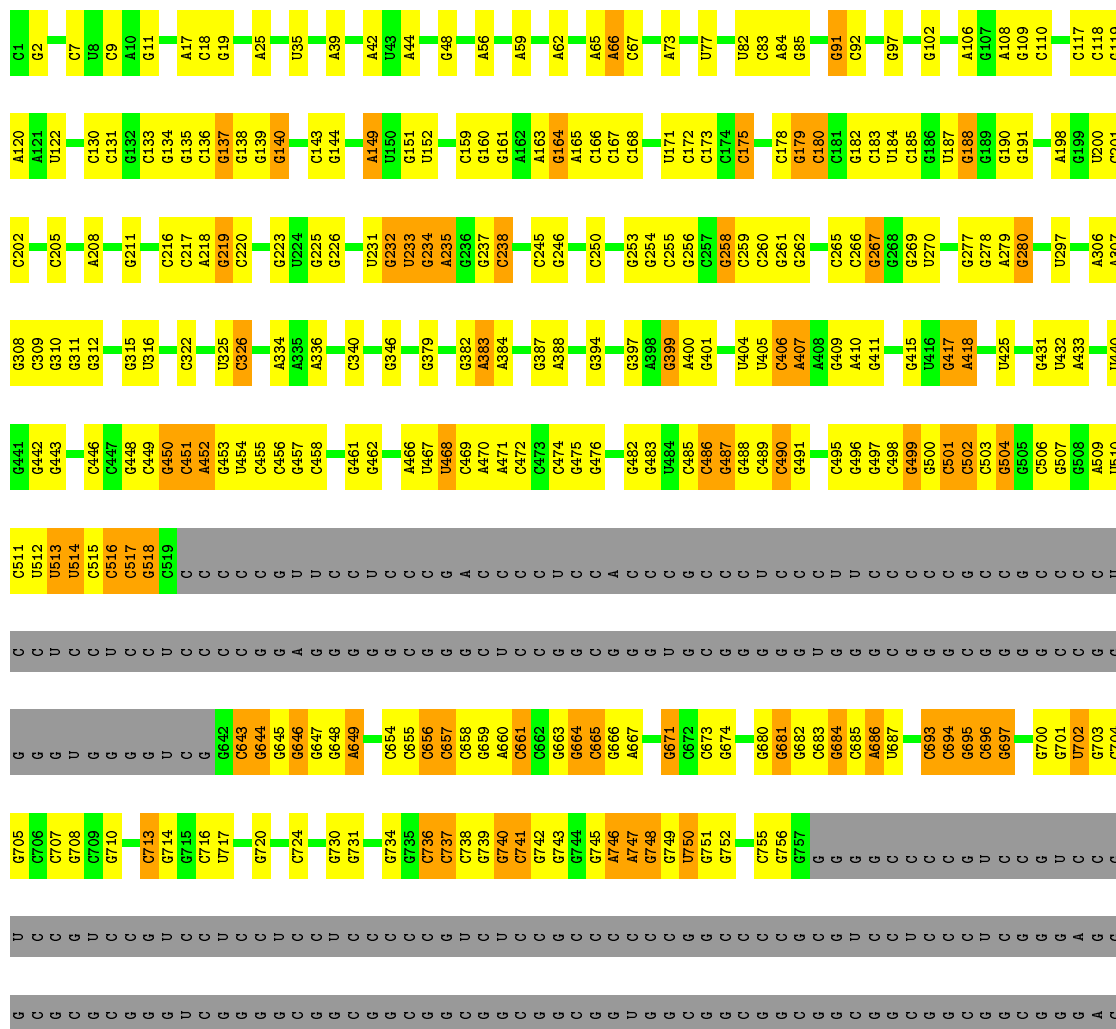
- Molecule 36: 60S ribosomal protein L13

Chain r: 97%



- Molecule 37: 28S rRNA

Chain A: 41% 25% 8% 26%





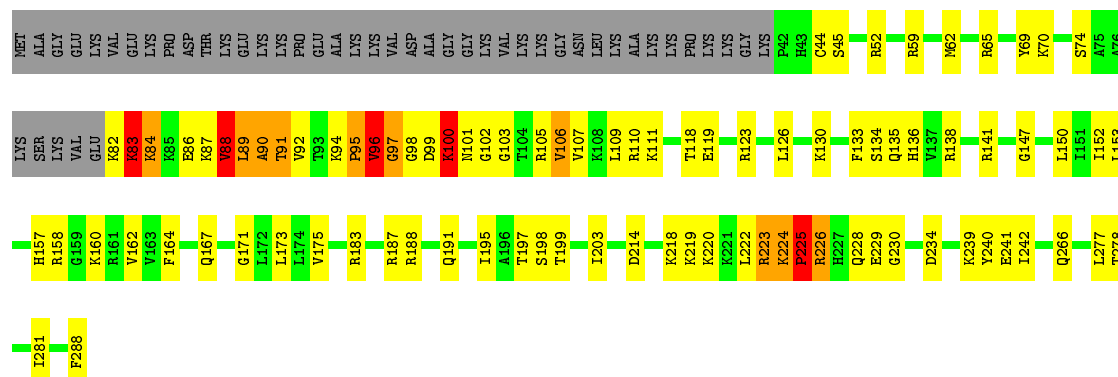




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C	A4672	A4672	G4545	A4672	G4545	G4449	U4305	G4200	C4110	C3977	G3898	U3774	A3596
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	A4740	A4740	G4600	A4740	G4600	U4481	C4350	G4249	G4136	C4052	G3943	A3724	U3639
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			U4660		U4660	U4506	U4426			G3889	G3890	A3766	C3683
			U4661		U4661	U4507	U4427			G3890	G3891	U3767	G3689
			U4662		U4662	U4508	U4428			G3891	G3892	U3770	A3692
			U4663		U4663	U4509	U4429			G3892	G3893		
			U4664		U4664	U4510	U4430			G3893	G3894		
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			U4670		U4670	U4516	U4436			G3899	G3900		
			U4671		U4671	U4517	U4437			G3900	G3901		
			U4672		U4672	U4518	U4438			G3901	G3902		
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			U4679		U4679	U4525	U4445			G3908	G3909		
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			U4681		U4681	U4527	U4447			G3910	G3911		
			U4682		U4682	U4528	U4448			G3911	G3912		
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			U4685		U4685	U4531	U4451			G3914	G3915		
			U4686		U4686	U4532	U4452			G3915	G3916		
			U4687		U4687	U4533	U4453			G3916	G3917		
			U4688		U4688	U4534	U4454			G3917	G3918		
			U4689		U4689	U4535	U4455			G3918	G3919		
			U4690		U4690	U4536	U4456			G3919	G3920		
			U4691		U4691	U4537	U4457			G3920	G3921		
			U4692		U4692	U4538	U4458			G3921	G3922		
			U4693		U4693	U4539	U4459			G3922	G3923		
			U4694		U4694	U4540	U4460			G3923	G3924		
			U4695		U4695	U4541	U4461			G3924	G3925		
			U4696		U4696	U4542	U4462			G3925	G3926		
			U4697		U4697	U4543	U4463			G3926	G3927		
			U4698		U4698	U4544	U4464			G3927	G3928		
			U4699		U4699	U4545	U4465			G3928	G3929		
			U4700		U4700	U4546	U4466			G3929	G3930		
			U4701		U4701	U4547	U4467			G3930	G3931		
			U4702		U4702	U4548	U4468			G3931	G3932		
			U4703		U4703	U4549	U4469			G3932	G3933		
			U4704		U4704	U4550	U4470			G3933	G3934		
			U4705		U4705	U4551	U4471			G3934	G3935		
			U4706		U4706	U4552	U4472			G3935	G3936		
			U4707		U4707	U4553	U4473			G3936	G3937		
			U4708		U4708	U4554	U4474			G3937	G3938		
			U4709		U4709	U4555	U4475			G3938	G3939		
			U4710		U4710	U4556	U4476			G3939	G3940		
			U4711		U4711	U4557	U4477			G3940	G3941		
			U4712		U4712	U4558	U4478			G3941	G3942		
			U4713		U4713	U4559	U4479			G3942	G3943		
			U4714		U4714	U4560	U4480			G3943	G3944		
			U4715		U4715	U4561	U4481			G3944	G3945		
			U4716		U4716	U4562	U4482			G3945	G3946		
			U4717		U4717	U4563	U4483			G3946	G3947		
			U4718		U4718	U4564	U4484			G3947	G3948		
			U4719		U4719	U4565	U4485			G3948	G3949		
			U4720		U4720	U4566	U4486			G3949	G3950		
			U4721		U4721	U4567	U4487			G3950	G3951		
			U4722		U4722	U4568	U4488			G3951	G3952		
			U4723		U4723	U4569	U4489			G3952	G3953		
			U4724		U4724	U4570	U4490			G3953	G3954		
			U4725		U4725	U4571	U4491			G3954	G3955		
			U4726		U4726	U4572	U4492			G3955	G3956		
			U4727		U4727	U4573	U4493			G3956	G3957		
			U4728		U4728	U4574	U4494			G3957	G3958		
			U4729		U4729	U4575	U4495			G3958	G3959		
			U4730		U4730	U4576	U4496			G3959	G3960		

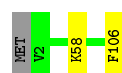
- Molecule 38: 60S ribosomal protein L6

Chain H:  53% 26% . . 16%



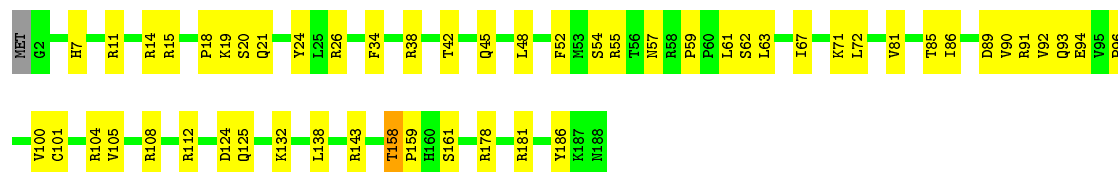
- Molecule 39: 60S ribosomal protein L36a

Chain i:  97%



- Molecule 40: 60S ribosomal protein L18

Chain K:  71% 28% .



- Molecule 41: 60S ribosomal protein L10a

Chain 1:  98%



- Molecule 42: 60S ribosomal protein L18a

Chain M: 73% 24% ..



- Molecule 43: 60S ribosomal protein L10-like

Chain p:  98%



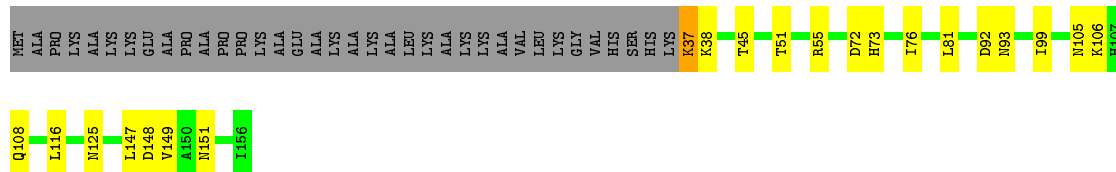
- Molecule 44: 60S ribosomal protein L11

Chain q:  96%



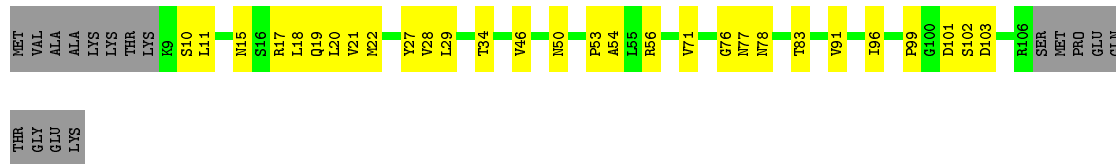
- Molecule 45: 60S ribosomal protein L23a

Chain R:  63% 13% 23%



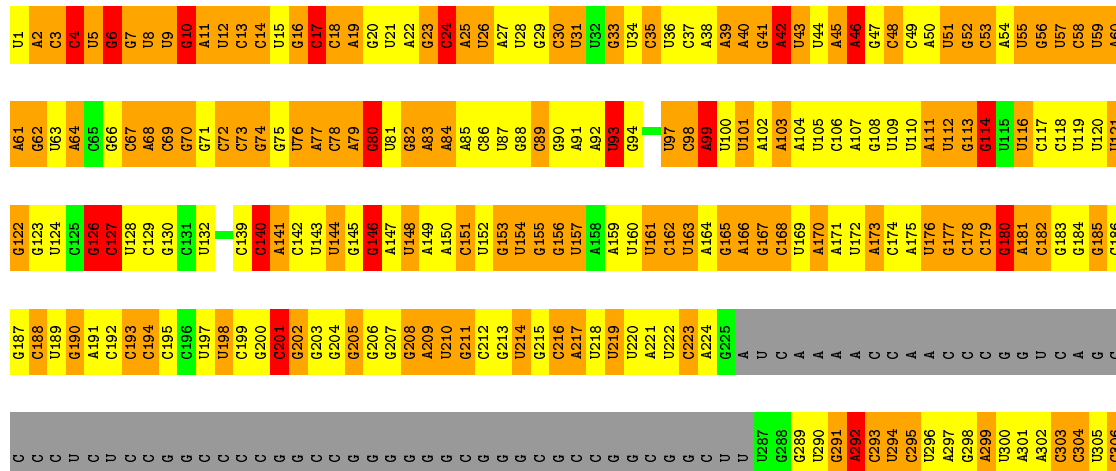
- Molecule 46: 60S ribosomal protein L30

Chain W:  60% 25% 15%

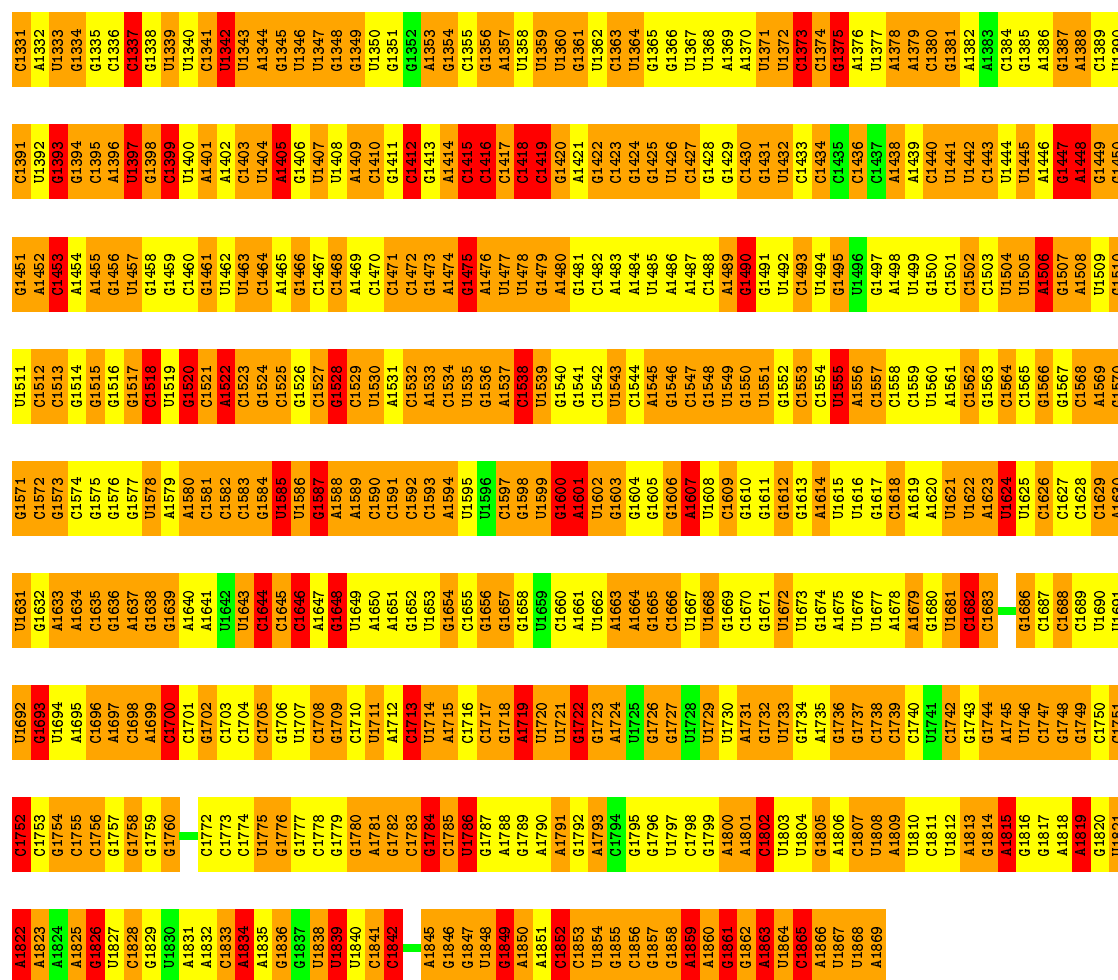


- Molecule 47: 18S rRNA

Chain AA:  32% 46% 11% 7%

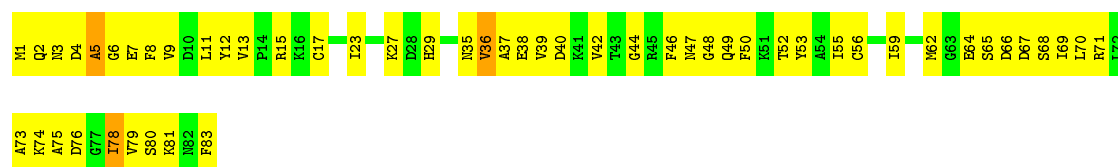




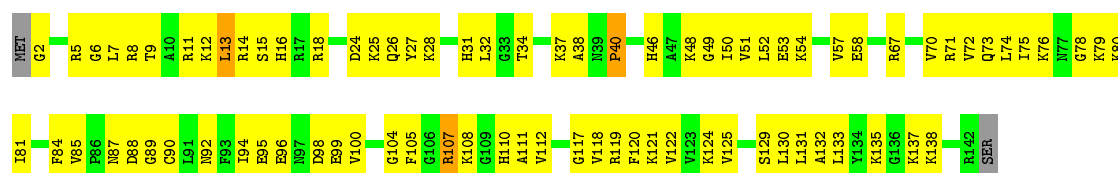
• Molecule 48: 40S ribosomal protein S21

Chain AC: 36% 60%

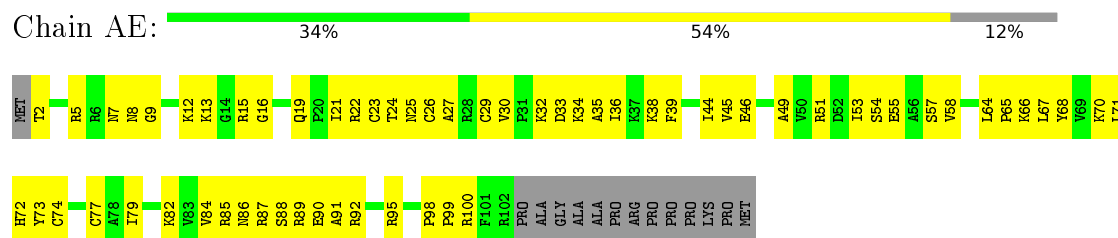


• Molecule 49: 40S ribosomal protein S23

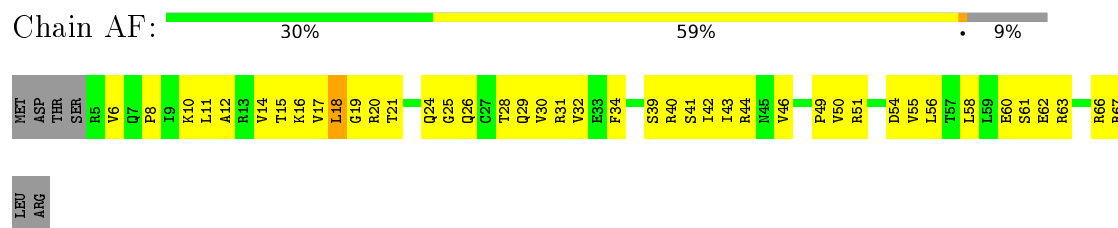
Chain AD: 41% 55%



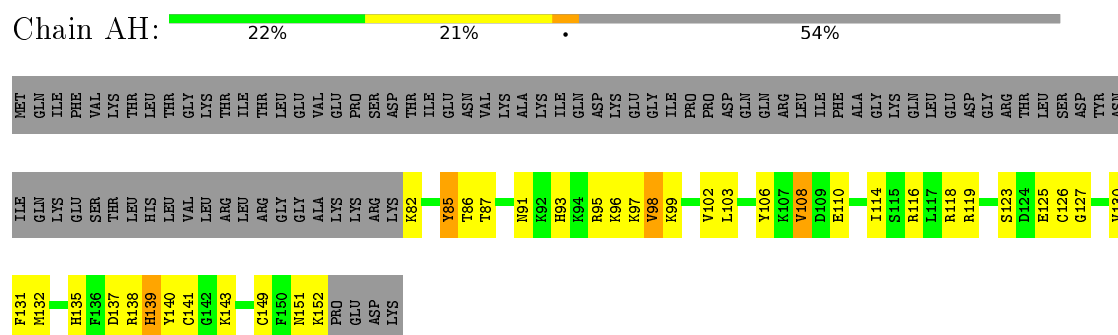
• Molecule 50: 40S ribosomal protein S26



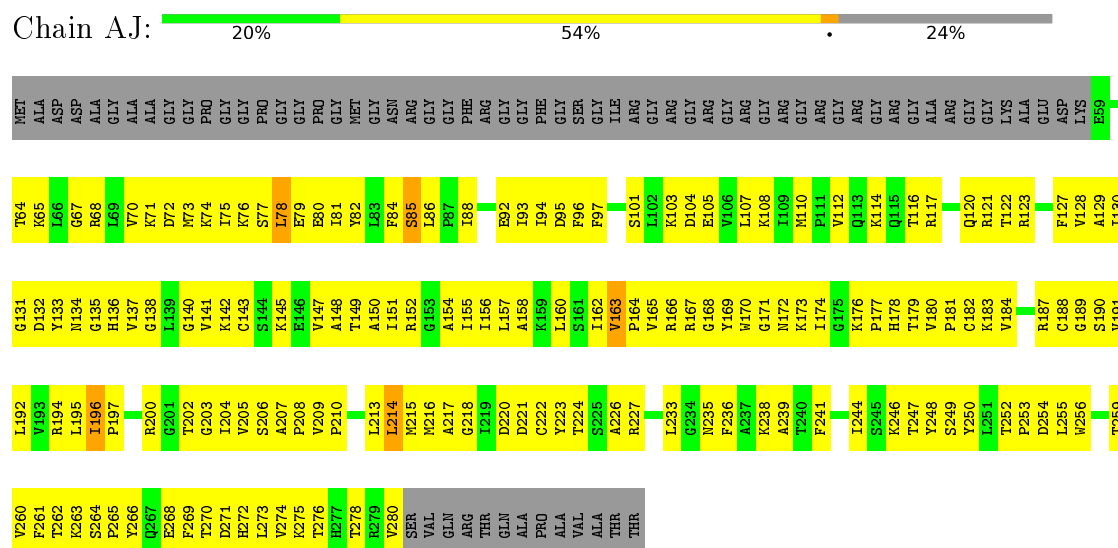
- Molecule 51: 40S ribosomal protein S28



- Molecule 52: Ubiquitin-40S ribosomal protein S27a

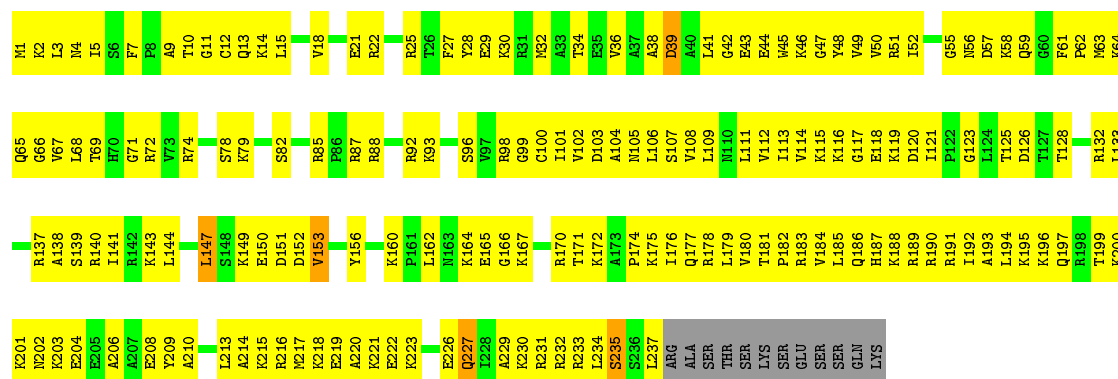


- Molecule 53: 40S ribosomal protein S2



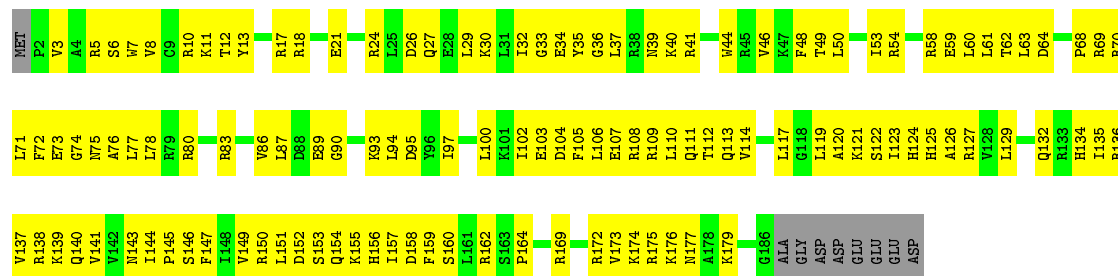
- Molecule 54: 40S ribosomal protein S6

Chain AK:  27% 67% 5%




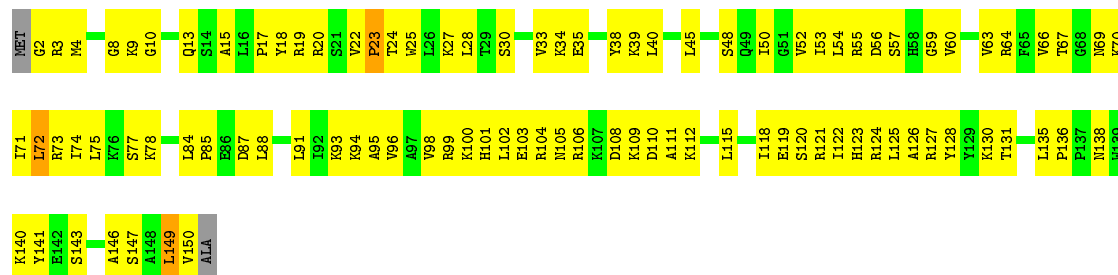
• Molecule 55: 40S ribosomal protein S9

Chain AL:  32% 63% 5%



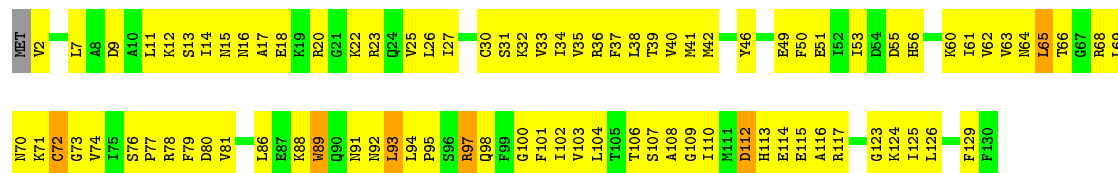
• Molecule 56: 40S ribosomal protein S13

Chain AN:  35% 62% 2%



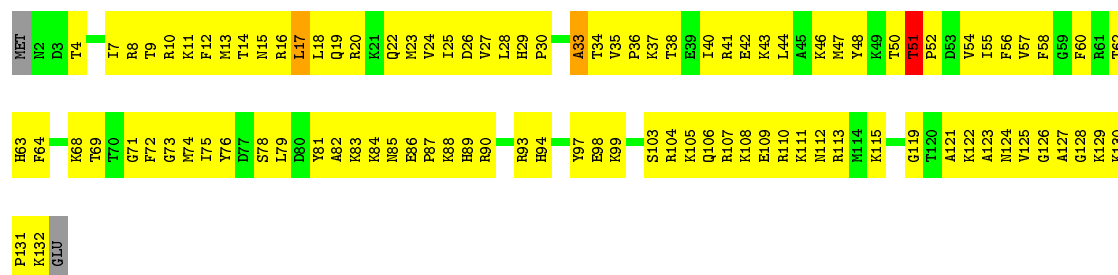
• Molecule 57: 40S ribosomal protein S15a

Chain AP:  32% 63% 5%




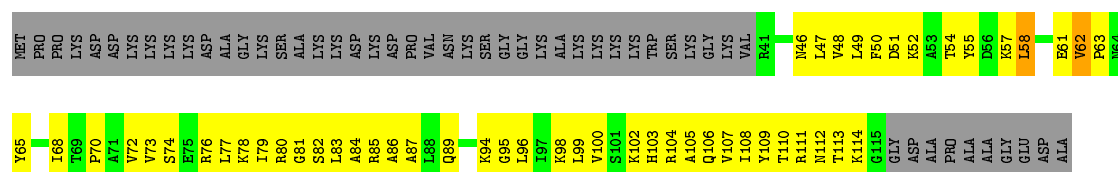
• Molecule 58: 40S ribosomal protein S24

Chain AQ:  23% 73% ...



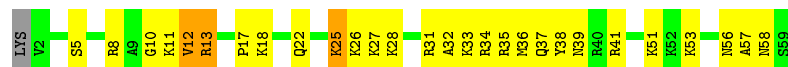
- Molecule 59: 40S ribosomal protein S25

Chain AR: 



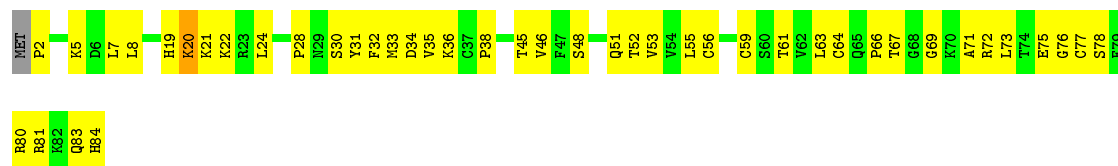
- Molecule 60: 40S ribosomal protein S30

Chain AT:  51% 42% 5%



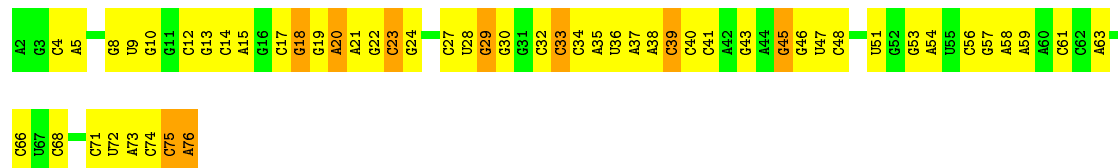
- Molecule 61: 40S ribosomal protein S27

Chain AV: 




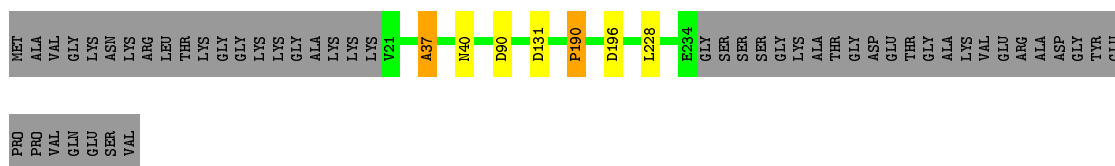
- Molecule 62: tRNA

Chain An:  29% 59% 12%



- Molecule 63: 40S ribosomal protein S3a

Chain Ap:  78% .. 19%



- Molecule 64: 40S ribosomal protein S3

Chain Aq: 89% 7%



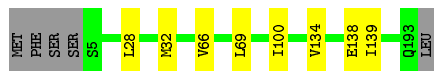
- Molecule 65: 40S ribosomal protein S4, X isoform

Chain Ar: 97%



- Molecule 66: 40S ribosomal protein S7

Chain At: 93%



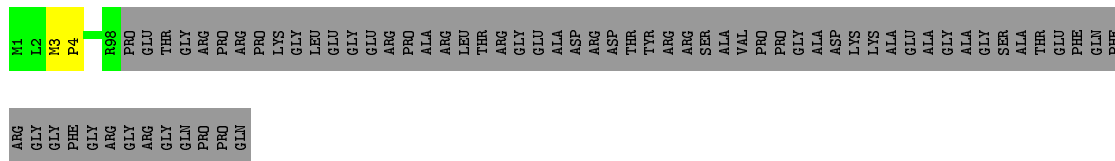
- Molecule 67: 40S ribosomal protein S8

Chain Au: 97%



- Molecule 68: 40S ribosomal protein S10

Chain Av: 58% 41%



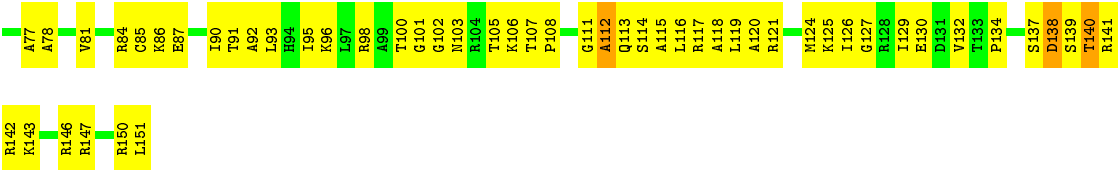
- Molecule 69: 40S ribosomal protein S16

Chain Ay: 95% 5%



- Molecule 70: 40S ribosomal protein S18

- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MET | ALA | PRO | ARG | LYS | GLY | LYS | GLU | LYS | LYS | LYS | GLU | E12 | Q13 | V14 | I15 | S16 | L17 | L18 | P19 | E23 | G24 | V27 | C31 | H32 | I33 | F34 | D39 | T40 | F41 | V42 | H43 | V44 | L47 | K50 | E51 | C54 | R55 | V56 | T57 | M60 | A64 | D65 | R66 | D67 | E68 | S69 | S70 | P71 | Y72 | A73 | L74 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|



● Molecule 81: 40S ribosomal protein S19



4 Experimental information

Property	Value	Source
Reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	Depositor
Number of particles used	175708	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	Not provided	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	Not provided	Depositor
Minimum defocus (nm)	Not provided	Depositor
Maximum defocus (nm)	Not provided	Depositor
Magnification	Not provided	Depositor
Image detector	Not provided	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	$\# Z > 2$	RMSZ	$\# Z > 2$
1	B	0.22	0/2858	0.68	0/4455
10	N	0.26	0/1326	0.44	0/1770
11	O	0.27	0/839	0.46	0/1126
12	P	0.27	0/993	0.47	0/1332
13	Q	0.26	0/547	0.44	0/728
14	S	0.25	0/1132	0.46	0/1504
15	T	0.27	0/1130	0.47	0/1507
16	U	0.28	0/1191	0.51	0/1591
17	V	0.24	0/620	0.41	0/819
18	X	0.25	0/903	0.44	0/1216
19	Y	0.26	0/1071	0.46	0/1429
2	C	0.23	0/3701	0.71	3/5766 (0.1%)
20	Z	0.27	0/895	0.50	0/1198
21	a	0.25	0/916	0.46	0/1220
22	b	0.24	0/1023	0.43	0/1351
23	c	0.25	0/843	0.44	0/1115
24	d	0.25	0/720	0.48	0/952
25	e	0.26	0/575	0.51	0/761
26	f	0.24	0/454	0.41	0/599
27	g	0.23	0/435	0.44	0/575
28	j	0.29	0/718	0.45	0/953
29	k	0.26	0/1017	0.49	0/1364
3	D	0.28	0/1936	0.50	0/2596
30	m	0.26	0/1905	0.42	0/2539
31	n	0.25	0/1960	0.45	0/2637
32	o	0.25	0/1537	0.49	0/2066
33	s	0.28	0/1161	0.45	0/1554
34	t	0.26	0/1746	0.48	1/2338 (0.0%)
35	h	0.21	0/231	0.36	0/294
36	r	0.29	0/1732	0.51	2/2315 (0.1%)
37	A	0.24	0/89645	0.73	17/139764 (0.0%)
38	H	0.34	0/1996	0.86	9/2673 (0.3%)
39	i	0.26	0/876	0.47	0/1156
4	E	0.26	0/3306	0.49	0/4424

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >2	RMSZ	# Z >2
40	K	0.27	0/1537	0.70	1/2052 (0.0%)
41	l	0.29	0/1769	0.52	1/2371 (0.0%)
42	M	0.32	0/1493	0.50	0/2003
43	p	0.26	0/1751	0.48	0/2340
44	q	0.25	0/1432	0.46	0/1912
45	R	0.25	0/1002	0.44	0/1345
46	W	0.26	0/774	0.46	0/1038
47	AA	1.45	406/41243 (1.0%)	1.53	695/64257 (1.1%)
48	AC	0.64	0/643	0.79	0/860
49	AD	0.83	0/1116	0.85	1/1490 (0.1%)
5	F	0.25	0/2973	0.47	0/3992
50	AE	0.75	0/828	0.78	0/1109
51	AF	0.50	0/500	0.83	1/669 (0.1%)
52	AH	0.51	0/593	0.80	1/786 (0.1%)
53	AJ	0.75	0/1762	0.83	3/2381 (0.1%)
54	AK	0.48	0/1946	0.75	1/2590 (0.0%)
55	AL	0.61	0/1550	0.77	0/2069
56	AN	0.67	0/1226	0.79	2/1649 (0.1%)
57	AP	0.74	0/1051	0.93	4/1406 (0.3%)
58	AQ	0.59	1/1083 (0.1%)	0.79	1/1438 (0.1%)
59	AR	0.42	0/604	0.80	1/810 (0.1%)
6	G	0.26	0/2428	0.45	0/3252
60	AT	0.54	0/465	0.73	0/612
61	AV	0.58	0/665	0.75	1/891 (0.1%)
62	An	1.24	10/1795 (0.6%)	1.64	46/2798 (1.6%)
63	Ap	0.66	0/1765	0.78	1/2362 (0.0%)
64	Aq	0.54	2/1793 (0.1%)	0.77	2/2414 (0.1%)
65	Ar	0.60	0/2118	0.72	0/2849
66	At	0.53	0/1544	0.79	3/2068 (0.1%)
67	Au	0.69	0/1715	0.76	1/2287 (0.0%)
68	Av	0.45	0/851	0.79	0/1147
69	Ay	0.49	0/1177	0.74	0/1575
7	I	0.26	0/1682	0.45	0/2250
70	A0	0.50	0/1253	0.84	1/1676 (0.1%)
71	Ao	0.68	0/1784	0.76	1/2424 (0.0%)
72	As	0.48	0/1531	0.76	1/2059 (0.0%)
73	Aw	0.79	1/1268 (0.1%)	0.83	1/1696 (0.1%)
74	Ax	0.44	0/815	0.78	1/1087 (0.1%)
75	Az	0.55	0/1086	0.84	0/1457
76	AB	0.47	0/817	0.84	2/1097 (0.2%)
77	AG	0.52	0/455	0.68	0/603
78	AI	0.46	0/2493	0.75	3/3394 (0.1%)
79	AM	0.41	0/962	0.80	1/1290 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >2	RMSZ	# Z >2
8	J	0.26	0/1268	0.45	0/1701
80	AO	0.61	0/1062	0.83	0/1425
81	AU	0.52	0/1131	0.82	2/1515 (0.1%)
9	L	0.24	0/1582	0.45	0/2091
All	All	0.69	420/234319 (0.2%)	0.92	811/344274 (0.2%)

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
11	O	0	1
33	s	0	1
38	H	0	1
39	i	0	1
40	K	0	1
48	AC	0	1
49	AD	0	3
5	F	0	1
52	AH	0	2
53	AJ	0	1
54	AK	0	5
55	AL	0	1
56	AN	0	1
59	AR	0	1
60	AT	0	3
61	AV	0	1
63	Ap	0	3
64	Aq	0	3
65	Ar	0	2
66	At	0	3
67	Au	0	1
68	Av	0	1
69	Ay	0	5
70	A0	0	4
71	Ao	0	4
72	As	0	6
75	Az	0	4
76	AB	0	4
78	AI	0	5
79	AM	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
80	AO	0	2
81	AU	0	4
All	All	0	78

All (420) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	1031	A	N9-C4	-10.37	1.31	1.37
47	AA	1170	A	N9-C4	-9.35	1.32	1.37
47	AA	1815	A	N9-C4	-9.17	1.32	1.37
47	AA	1815	A	N3-C4	-8.95	1.29	1.34
47	AA	1173	A	N9-C4	-8.77	1.32	1.37
47	AA	1357	A	N9-C4	-8.60	1.32	1.37
47	AA	1828	C	N1-C6	-8.48	1.32	1.37
47	AA	1861	G	N1-C2	-8.36	1.31	1.37
47	AA	997	A	N7-C5	-8.32	1.34	1.39
47	AA	1189	A	N9-C4	-8.21	1.32	1.37
47	AA	1815	A	C5-C4	-8.01	1.33	1.38
47	AA	1717	C	N1-C6	-7.97	1.32	1.37
47	AA	1813	A	N9-C4	-7.95	1.33	1.37
47	AA	1130	G	N9-C4	-7.88	1.31	1.38
47	AA	1173	A	C5-C4	-7.86	1.33	1.38
47	AA	1861	G	C6-N1	-7.82	1.34	1.39
47	AA	1144	A	N9-C4	-7.80	1.33	1.37
47	AA	1173	A	C5-C6	-7.70	1.34	1.41
47	AA	1144	A	N3-C4	-7.67	1.30	1.34
47	AA	1353	A	N9-C4	-7.62	1.33	1.37
47	AA	1719	A	C6-N1	-7.62	1.30	1.35
47	AA	1863	A	N3-C4	-7.60	1.30	1.34
47	AA	1173	A	N7-C5	-7.59	1.34	1.39
47	AA	1863	A	N9-C4	-7.57	1.33	1.37
47	AA	1089	G	N3-C4	-7.49	1.30	1.35
47	AA	1024	A	N9-C4	-7.47	1.33	1.37
47	AA	1076	G	N9-C4	-7.37	1.32	1.38
47	AA	1846	G	N3-C4	-7.34	1.30	1.35
47	AA	1726	G	N9-C4	-7.32	1.32	1.38
47	AA	1814	G	C5-C4	-7.28	1.33	1.38
47	AA	1031	A	N3-C4	-7.28	1.30	1.34
47	AA	16	G	N3-C4	-7.26	1.30	1.35
47	AA	670	A	N9-C4	-7.25	1.33	1.37
47	AA	1719	A	N3-C4	-7.22	1.30	1.34
47	AA	1719	A	C5-C4	-7.18	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	996	A	C5-C6	-7.17	1.34	1.41
47	AA	659	G	C6-N1	-7.14	1.34	1.39
47	AA	1834	A	N7-C5	-7.13	1.34	1.39
47	AA	997	A	N3-C4	-7.12	1.30	1.34
47	AA	1846	G	C5-C4	-7.12	1.33	1.38
47	AA	653	A	N9-C4	-7.11	1.33	1.37
47	AA	1199	A	N9-C4	-7.07	1.33	1.37
47	AA	668	A	C5-C4	-7.05	1.33	1.38
47	AA	1173	A	N3-C4	-7.03	1.30	1.34
47	AA	1189	A	N3-C4	-7.03	1.30	1.34
47	AA	99	A	N9-C4	-6.97	1.33	1.37
47	AA	1170	A	N3-C4	-6.95	1.30	1.34
47	AA	1171	G	C5-C4	-6.94	1.33	1.38
47	AA	398	A	N9-C4	-6.94	1.33	1.37
47	AA	665	G	C5-C4	-6.94	1.33	1.38
47	AA	1087	A	N9-C4	-6.93	1.33	1.37
47	AA	1819	A	N9-C4	-6.92	1.33	1.37
47	AA	1815	A	C6-N1	-6.89	1.30	1.35
47	AA	1855	G	C5-C4	-6.89	1.33	1.38
47	AA	389	A	N9-C4	-6.86	1.33	1.37
47	AA	1189	A	C5-C4	-6.84	1.33	1.38
47	AA	1144	A	N7-C5	-6.83	1.35	1.39
47	AA	1813	A	N3-C4	-6.83	1.30	1.34
62	An	5	A	N9-C4	-6.82	1.33	1.37
47	AA	1198	G	N9-C4	-6.81	1.32	1.38
47	AA	669	A	N3-C4	-6.80	1.30	1.34
47	AA	1145	A	N9-C4	-6.80	1.33	1.37
47	AA	1082	A	N7-C5	-6.80	1.35	1.39
47	AA	1196	A	N9-C4	-6.79	1.33	1.37
47	AA	460	A	N9-C4	-6.78	1.33	1.37
47	AA	1198	G	N3-C4	-6.78	1.30	1.35
47	AA	1172	U	C2-N3	-6.76	1.33	1.37
47	AA	11	A	N9-C4	-6.72	1.33	1.37
47	AA	1028	A	N9-C4	-6.71	1.33	1.37
47	AA	16	G	C5-C4	-6.70	1.33	1.38
47	AA	995	G	N9-C4	-6.63	1.32	1.38
47	AA	1184	G	C6-N1	-6.62	1.34	1.39
47	AA	7	G	N9-C4	-6.61	1.32	1.38
47	AA	1187	G	N7-C5	-6.60	1.35	1.39
47	AA	1096	G	N9-C4	-6.58	1.32	1.38
47	AA	1034	A	N9-C4	-6.56	1.33	1.37
47	AA	1791	A	N9-C4	-6.56	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	1176	G	N3-C4	-6.55	1.30	1.35
47	AA	1722	G	C5-C4	-6.55	1.33	1.38
47	AA	1169	G	C5-C4	-6.53	1.33	1.38
47	AA	1717	C	N1-C2	-6.52	1.33	1.40
47	AA	1169	G	N3-C4	-6.52	1.30	1.35
47	AA	16	G	N9-C4	-6.50	1.32	1.38
47	AA	990	A	N9-C4	-6.50	1.33	1.37
47	AA	1199	A	N3-C4	-6.49	1.30	1.34
47	AA	1184	G	C5-C4	-6.47	1.33	1.38
47	AA	1200	A	N9-C4	-6.46	1.33	1.37
47	AA	1175	G	N3-C4	-6.44	1.30	1.35
47	AA	996	A	N7-C5	-6.43	1.35	1.39
47	AA	1814	G	N1-C2	-6.40	1.32	1.37
47	AA	1028	A	N7-C5	-6.40	1.35	1.39
47	AA	1029	G	N3-C4	-6.40	1.30	1.35
47	AA	1055	A	N9-C4	-6.39	1.34	1.37
47	AA	1187	G	C5-C4	-6.38	1.33	1.38
47	AA	1029	G	C5-C4	-6.38	1.33	1.38
47	AA	996	A	N9-C4	-6.38	1.34	1.37
47	AA	1854	U	C2-N3	-6.37	1.33	1.37
47	AA	668	A	C5-C6	-6.37	1.35	1.41
47	AA	664	A	N3-C4	-6.34	1.31	1.34
47	AA	1182	A	N9-C4	-6.33	1.34	1.37
47	AA	1066	U	N1-C2	-6.32	1.32	1.38
47	AA	1856	C	N1-C6	-6.30	1.33	1.37
47	AA	1847	G	N3-C4	-6.29	1.31	1.35
47	AA	659	G	N7-C5	-6.28	1.35	1.39
47	AA	1144	A	C6-N1	-6.28	1.31	1.35
47	AA	1103	C	N1-C6	-6.28	1.33	1.37
47	AA	1034	A	C5-C4	-6.25	1.34	1.38
47	AA	1165	G	N7-C5	-6.24	1.35	1.39
47	AA	1085	C	N1-C6	-6.24	1.33	1.37
62	An	75	C	N1-C6	-6.24	1.33	1.37
47	AA	673	G	N9-C8	-6.23	1.33	1.37
58	AQ	51	THR	C-N	-6.22	1.22	1.34
47	AA	668	A	N7-C5	-6.22	1.35	1.39
47	AA	42	A	C5-C6	-6.21	1.35	1.41
47	AA	1065	G	N3-C4	-6.21	1.31	1.35
47	AA	1175	G	C6-N1	-6.20	1.35	1.39
47	AA	1089	G	N9-C4	-6.20	1.32	1.38
47	AA	1834	A	N3-C4	-6.20	1.31	1.34
47	AA	11	A	N3-C4	-6.19	1.31	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	1185	C	N1-C6	-6.18	1.33	1.37
47	AA	1846	G	C6-N1	-6.18	1.35	1.39
62	An	72	U	N1-C2	-6.17	1.33	1.38
47	AA	473	A	N9-C4	-6.13	1.34	1.37
47	AA	1150	A	N9-C4	-6.13	1.34	1.37
47	AA	964	A	N9-C4	-6.13	1.34	1.37
47	AA	1037	G	N3-C4	-6.12	1.31	1.35
47	AA	1158	G	C5-C4	-6.11	1.34	1.38
47	AA	669	A	N7-C5	-6.10	1.35	1.39
47	AA	668	A	N3-C4	-6.10	1.31	1.34
47	AA	1190	A	N3-C4	-6.09	1.31	1.34
47	AA	1175	G	C5-C4	-6.08	1.34	1.38
47	AA	619	A	N9-C4	-6.07	1.34	1.37
47	AA	1031	A	N7-C5	-6.07	1.35	1.39
47	AA	1723	G	C5-C4	-6.07	1.34	1.38
47	AA	1693	G	N9-C4	-6.06	1.33	1.38
47	AA	1164	G	C5-C4	-6.06	1.34	1.38
47	AA	1036	A	N3-C4	-6.05	1.31	1.34
47	AA	618	C	N1-C6	-6.05	1.33	1.37
47	AA	1814	G	N9-C8	-6.05	1.33	1.37
47	AA	672	A	N9-C4	-6.04	1.34	1.37
47	AA	1190	A	N9-C4	-6.03	1.34	1.37
47	AA	1179	G	C5-C4	-6.03	1.34	1.38
47	AA	1196	A	C5-C4	-6.03	1.34	1.38
47	AA	1033	G	C6-N1	-6.01	1.35	1.39
47	AA	1175	G	N9-C4	-6.01	1.33	1.38
47	AA	670	A	C5-C4	-6.01	1.34	1.38
47	AA	982	G	N3-C4	-6.01	1.31	1.35
47	AA	670	A	N7-C5	-6.01	1.35	1.39
47	AA	682	U	C2-N3	-6.01	1.33	1.37
47	AA	42	A	N9-C4	-5.99	1.34	1.37
47	AA	669	A	N9-C4	-5.99	1.34	1.37
47	AA	601	G	C6-N1	-5.98	1.35	1.39
47	AA	662	G	C5-C4	-5.98	1.34	1.38
47	AA	1080	A	N9-C4	-5.98	1.34	1.37
47	AA	987	A	N9-C4	-5.97	1.34	1.37
47	AA	677	G	C5-C4	-5.97	1.34	1.38
47	AA	1813	A	C5-C4	-5.95	1.34	1.38
47	AA	1190	A	C5-C4	-5.94	1.34	1.38
47	AA	1194	A	N3-C4	-5.94	1.31	1.34
47	AA	1049	A	C5-C6	-5.94	1.35	1.41
47	AA	1096	G	N3-C4	-5.94	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	14	C	N1-C2	-5.94	1.34	1.40
47	AA	361	U	C2-N3	-5.93	1.33	1.37
47	AA	1081	U	C2-N3	-5.92	1.33	1.37
64	Aq	190	LEU	C-N	-5.91	1.23	1.34
47	AA	1182	A	N7-C5	-5.91	1.35	1.39
47	AA	1164	G	C6-N1	-5.89	1.35	1.39
47	AA	670	A	N3-C4	-5.89	1.31	1.34
47	AA	1167	G	C6-N1	-5.89	1.35	1.39
47	AA	389	A	N3-C4	-5.89	1.31	1.34
47	AA	1169	G	C6-N1	-5.88	1.35	1.39
47	AA	649	U	C2-N3	-5.87	1.33	1.37
47	AA	668	A	N9-C8	-5.86	1.33	1.37
47	AA	1187	G	C5-C6	-5.86	1.36	1.42
47	AA	1062	A	N9-C4	-5.85	1.34	1.37
62	An	71	C	N1-C6	-5.85	1.33	1.37
47	AA	1096	G	C5-C4	-5.84	1.34	1.38
47	AA	13	C	N1-C6	-5.83	1.33	1.37
47	AA	14	C	N3-C4	-5.83	1.29	1.33
47	AA	1083	A	N9-C4	-5.83	1.34	1.37
47	AA	1354	G	C5-C4	-5.83	1.34	1.38
47	AA	1724	A	N9-C4	-5.81	1.34	1.37
47	AA	1719	A	C5-C6	-5.81	1.35	1.41
47	AA	1693	G	N3-C4	-5.80	1.31	1.35
47	AA	1164	G	N1-C2	-5.80	1.33	1.37
47	AA	1719	A	N7-C5	-5.80	1.35	1.39
47	AA	664	A	C5-C6	-5.80	1.35	1.41
47	AA	1198	G	N7-C5	-5.79	1.35	1.39
47	AA	605	A	N9-C4	-5.79	1.34	1.37
47	AA	1823	A	N9-C4	-5.78	1.34	1.37
47	AA	1186	U	C2-N3	-5.77	1.33	1.37
47	AA	1855	G	N9-C8	-5.76	1.33	1.37
47	AA	1353	A	N3-C4	-5.75	1.31	1.34
47	AA	659	G	C5-C4	-5.75	1.34	1.38
47	AA	1198	G	C2-N3	-5.75	1.28	1.32
47	AA	1055	A	C5-C4	-5.75	1.34	1.38
47	AA	363	A	N9-C4	-5.74	1.34	1.37
47	AA	1172	U	N1-C2	-5.74	1.33	1.38
47	AA	657	U	N1-C2	-5.74	1.33	1.38
47	AA	410	G	N3-C4	-5.73	1.31	1.35
47	AA	1801	A	N9-C4	-5.73	1.34	1.37
47	AA	1142	G	C5-C4	-5.72	1.34	1.38
47	AA	1846	G	N7-C5	-5.72	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	664	A	N7-C5	-5.71	1.35	1.39
47	AA	1169	G	N7-C5	-5.71	1.35	1.39
47	AA	667	U	N1-C2	-5.70	1.33	1.38
47	AA	880	G	N3-C4	-5.70	1.31	1.35
64	Aq	218	LEU	C-N	5.70	1.45	1.34
47	AA	397	G	N9-C4	-5.69	1.33	1.38
47	AA	1182	A	C5-C4	-5.69	1.34	1.38
47	AA	476	A	C6-N1	-5.68	1.31	1.35
47	AA	512	A	N9-C4	-5.68	1.34	1.37
47	AA	672	A	N7-C5	-5.68	1.35	1.39
47	AA	1814	G	C6-N1	-5.68	1.35	1.39
47	AA	1147	C	N1-C6	-5.67	1.33	1.37
47	AA	1846	G	N9-C4	-5.67	1.33	1.38
47	AA	14	C	N1-C6	-5.67	1.33	1.37
47	AA	964	A	N3-C4	-5.66	1.31	1.34
47	AA	1713	C	N1-C6	-5.66	1.33	1.37
47	AA	653	A	N3-C4	-5.66	1.31	1.34
47	AA	1175	G	N1-C2	-5.66	1.33	1.37
47	AA	659	G	N3-C4	-5.66	1.31	1.35
47	AA	1840	U	C2-N3	-5.65	1.33	1.37
47	AA	1809	A	C5-C4	-5.65	1.34	1.38
47	AA	1854	U	N1-C2	-5.65	1.33	1.38
47	AA	1171	G	N9-C8	-5.65	1.33	1.37
47	AA	1165	G	N3-C4	-5.65	1.31	1.35
47	AA	11	A	C5-C4	-5.65	1.34	1.38
47	AA	432	G	C5-C4	-5.64	1.34	1.38
47	AA	880	G	C2-N3	-5.64	1.28	1.32
47	AA	1853	C	N1-C6	-5.64	1.33	1.37
47	AA	1065	G	N9-C4	-5.64	1.33	1.38
47	AA	1845	A	N9-C4	-5.63	1.34	1.37
47	AA	1847	G	C5-C4	-5.61	1.34	1.38
47	AA	919	A	N7-C5	-5.61	1.35	1.39
47	AA	1803	U	C2-N3	-5.61	1.33	1.37
47	AA	1722	G	N3-C4	-5.61	1.31	1.35
47	AA	997	A	N9-C4	-5.61	1.34	1.37
47	AA	173	A	C5-C6	-5.60	1.36	1.41
47	AA	420	G	N9-C4	-5.59	1.33	1.38
47	AA	1169	G	N9-C4	-5.59	1.33	1.38
47	AA	1198	G	N9-C8	-5.59	1.33	1.37
47	AA	1852	C	N1-C6	-5.59	1.33	1.37
47	AA	1149	A	N7-C5	-5.59	1.35	1.39
47	AA	362	C	N1-C6	-5.59	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	1828	C	N1-C2	-5.58	1.34	1.40
47	AA	1029	G	C6-N1	-5.58	1.35	1.39
47	AA	1144	A	C5-C4	-5.58	1.34	1.38
47	AA	379	C	N1-C6	-5.57	1.33	1.37
47	AA	662	G	N9-C8	-5.56	1.33	1.37
47	AA	1201	U	C2-N3	-5.55	1.33	1.37
47	AA	410	G	C6-N1	-5.55	1.35	1.39
62	An	4	C	N1-C6	-5.55	1.33	1.37
47	AA	19	A	N9-C4	-5.54	1.34	1.37
47	AA	1033	G	N7-C5	-5.54	1.35	1.39
47	AA	1700	C	N1-C6	-5.53	1.33	1.37
47	AA	1144	A	C5-C6	-5.53	1.36	1.41
47	AA	1863	A	C6-N1	-5.53	1.31	1.35
47	AA	1071	G	N7-C5	-5.53	1.35	1.39
47	AA	1087	A	N3-C4	-5.53	1.31	1.34
47	AA	1176	G	N9-C4	-5.52	1.33	1.38
47	AA	1863	A	C5-C6	-5.52	1.36	1.41
47	AA	1142	G	C6-N1	-5.51	1.35	1.39
47	AA	98	C	N1-C6	-5.50	1.33	1.37
47	AA	1379	A	N7-C5	-5.50	1.35	1.39
47	AA	665	G	N9-C4	-5.49	1.33	1.38
47	AA	997	A	C5-C6	-5.49	1.36	1.41
47	AA	404	G	C5-C4	-5.49	1.34	1.38
47	AA	1847	G	N9-C4	-5.49	1.33	1.38
47	AA	1198	G	C5-C4	-5.48	1.34	1.38
47	AA	997	A	C6-N1	-5.48	1.31	1.35
47	AA	1165	G	C5-C4	-5.47	1.34	1.38
47	AA	669	A	C6-N1	-5.46	1.31	1.35
47	AA	1166	G	C5-C4	-5.45	1.34	1.38
47	AA	1184	G	N3-C4	-5.45	1.31	1.35
47	AA	1150	A	N3-C4	-5.45	1.31	1.34
47	AA	349	A	N9-C4	-5.44	1.34	1.37
47	AA	1026	C	C2-N3	-5.44	1.31	1.35
47	AA	1834	A	C6-N1	-5.43	1.31	1.35
47	AA	1050	A	N3-C4	-5.42	1.31	1.34
47	AA	1173	A	N9-C8	-5.42	1.33	1.37
47	AA	428	U	N1-C2	-5.42	1.33	1.38
47	AA	1033	G	C5-C6	-5.42	1.36	1.42
47	AA	1731	A	C5-C4	-5.41	1.34	1.38
47	AA	7	G	C5-C4	-5.41	1.34	1.38
47	AA	1355	C	N1-C6	-5.41	1.33	1.37
47	AA	1726	G	N3-C4	-5.40	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	16	G	C2-N3	-5.40	1.28	1.32
47	AA	1083	A	C5-C4	-5.39	1.34	1.38
47	AA	1199	A	C5-C4	-5.39	1.34	1.38
47	AA	1139	C	N1-C6	-5.39	1.33	1.37
47	AA	1036	A	C5-C4	-5.39	1.34	1.38
62	An	15	A	N9-C4	-5.39	1.34	1.37
47	AA	659	G	C5-C6	-5.38	1.36	1.42
47	AA	1143	A	N7-C5	-5.38	1.36	1.39
47	AA	1141	G	C6-N1	-5.38	1.35	1.39
47	AA	1141	G	C5-C4	-5.37	1.34	1.38
47	AA	1176	G	C2-N3	-5.37	1.28	1.32
47	AA	1173	A	C6-N1	-5.37	1.31	1.35
47	AA	469	A	N9-C4	-5.36	1.34	1.37
47	AA	1855	G	N9-C4	-5.35	1.33	1.38
47	AA	1815	A	N7-C5	-5.35	1.36	1.39
47	AA	670	A	C6-N1	-5.34	1.31	1.35
47	AA	1855	G	C5-C6	-5.34	1.37	1.42
47	AA	1065	G	C6-N1	-5.33	1.35	1.39
47	AA	995	G	C5-C4	-5.33	1.34	1.38
47	AA	679	A	C5-C4	-5.33	1.35	1.38
47	AA	1140	G	N3-C4	-5.33	1.31	1.35
47	AA	1727	G	C5-C4	-5.33	1.34	1.38
47	AA	1845	A	N3-C4	-5.31	1.31	1.34
47	AA	16	G	C6-N1	-5.31	1.35	1.39
62	An	75	C	N1-C2	-5.31	1.34	1.40
47	AA	1356	G	C6-N1	-5.30	1.35	1.39
47	AA	1361	G	C5-C4	-5.29	1.34	1.38
47	AA	610	G	N9-C4	-5.29	1.33	1.38
47	AA	990	A	N3-C4	-5.29	1.31	1.34
47	AA	669	A	C5-C6	-5.29	1.36	1.41
47	AA	683	G	N9-C4	-5.29	1.33	1.38
47	AA	945	U	C2-N3	-5.29	1.34	1.37
47	AA	1855	G	N1-C2	-5.28	1.33	1.37
47	AA	1379	A	N9-C4	-5.28	1.34	1.37
47	AA	1062	A	C5-C4	-5.28	1.35	1.38
73	Aw	95	TYR	CD2-CE2	-5.28	1.31	1.39
47	AA	1709	G	N9-C4	-5.27	1.33	1.38
47	AA	1195	A	N3-C4	-5.27	1.31	1.34
47	AA	1031	A	C5-C4	-5.27	1.35	1.38
47	AA	1822	A	N9-C4	-5.26	1.34	1.37
47	AA	388	U	C2-N3	-5.26	1.34	1.37
47	AA	402	C	C2-N3	-5.26	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	434	G	N9-C4	-5.25	1.33	1.38
62	An	75	C	C2-N3	-5.25	1.31	1.35
47	AA	1846	G	N1-C2	-5.25	1.33	1.37
47	AA	1143	A	N3-C4	-5.25	1.31	1.34
47	AA	1836	G	C5-C4	-5.25	1.34	1.38
47	AA	14	C	C2-N3	-5.24	1.31	1.35
62	An	73	A	N9-C4	-5.24	1.34	1.37
47	AA	1165	G	C5-C6	-5.24	1.37	1.42
47	AA	1182	A	N3-C4	-5.24	1.31	1.34
47	AA	982	G	N9-C4	-5.23	1.33	1.38
47	AA	1198	G	C6-N1	-5.23	1.35	1.39
47	AA	1813	A	C5-C6	-5.23	1.36	1.41
47	AA	1722	G	N9-C4	-5.23	1.33	1.38
47	AA	1176	G	C6-N1	-5.23	1.35	1.39
47	AA	1828	C	N3-C4	-5.22	1.30	1.33
47	AA	1183	A	C5-C6	-5.22	1.36	1.41
47	AA	450	C	N1-C6	-5.21	1.34	1.37
47	AA	1014	G	N1-C2	-5.21	1.33	1.37
47	AA	1814	G	N3-C4	-5.21	1.31	1.35
47	AA	1188	A	N9-C4	-5.21	1.34	1.37
47	AA	679	A	N9-C4	-5.21	1.34	1.37
47	AA	405	G	C5-C4	-5.20	1.34	1.38
47	AA	1709	G	N3-C4	-5.20	1.31	1.35
47	AA	46	A	N9-C4	-5.20	1.34	1.37
47	AA	1205	C	N3-C4	-5.20	1.30	1.33
47	AA	1209	A	N9-C4	-5.20	1.34	1.37
47	AA	1040	G	N7-C5	-5.20	1.36	1.39
47	AA	1170	A	C5-C4	-5.20	1.35	1.38
47	AA	1171	G	N9-C4	-5.20	1.33	1.38
47	AA	667	U	C2-N3	-5.19	1.34	1.37
47	AA	1189	A	N7-C5	-5.19	1.36	1.39
47	AA	1096	G	N9-C8	-5.18	1.34	1.37
47	AA	1143	A	C6-N1	-5.18	1.31	1.35
47	AA	1356	G	C5-C4	-5.18	1.34	1.38
47	AA	1856	C	N3-C4	-5.17	1.30	1.33
47	AA	1036	A	N9-C4	-5.17	1.34	1.37
47	AA	1089	G	N7-C5	-5.17	1.36	1.39
47	AA	1096	G	N7-C5	-5.17	1.36	1.39
47	AA	919	A	N9-C4	-5.17	1.34	1.37
47	AA	677	G	N7-C5	-5.16	1.36	1.39
47	AA	929	G	N3-C4	-5.16	1.31	1.35
47	AA	679	A	N9-C8	-5.16	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	42	A	N7-C5	-5.16	1.36	1.39
47	AA	1089	G	N9-C8	-5.15	1.34	1.37
47	AA	671	A	N9-C4	-5.15	1.34	1.37
47	AA	664	A	C6-N1	-5.15	1.31	1.35
47	AA	1853	C	N3-C4	-5.14	1.30	1.33
47	AA	97	U	N1-C2	-5.13	1.33	1.38
47	AA	677	G	C5-C6	-5.13	1.37	1.42
47	AA	1014	G	C6-N1	-5.13	1.35	1.39
47	AA	1145	A	N3-C4	-5.13	1.31	1.34
47	AA	1185	C	N1-C2	-5.12	1.35	1.40
47	AA	1135	C	N1-C6	-5.12	1.34	1.37
47	AA	1708	C	N1-C6	-5.12	1.34	1.37
47	AA	665	G	C5-C6	-5.12	1.37	1.42
47	AA	673	G	N7-C5	-5.11	1.36	1.39
47	AA	23	G	N9-C4	-5.11	1.33	1.38
47	AA	7	G	C8-N7	-5.11	1.27	1.30
47	AA	12	U	N1-C2	-5.11	1.33	1.38
47	AA	1204	A	N7-C5	-5.10	1.36	1.39
47	AA	1815	A	N9-C8	-5.10	1.33	1.37
47	AA	659	G	C8-N7	-5.10	1.27	1.30
47	AA	1200	A	N3-C4	-5.10	1.31	1.34
47	AA	1187	G	C6-N1	-5.09	1.35	1.39
47	AA	1724	A	N7-C5	-5.08	1.36	1.39
47	AA	402	C	N3-C4	-5.08	1.30	1.33
47	AA	389	A	C5-C4	-5.07	1.35	1.38
47	AA	1129	G	C6-N1	-5.07	1.35	1.39
47	AA	1063	C	N1-C6	-5.07	1.34	1.37
47	AA	1077	A	N9-C4	-5.07	1.34	1.37
47	AA	1855	G	C8-N7	-5.06	1.27	1.30
47	AA	520	A	N9-C4	-5.05	1.34	1.37
47	AA	1811	C	N1-C6	-5.05	1.34	1.37
47	AA	1199	A	N7-C5	-5.05	1.36	1.39
47	AA	1813	A	N7-C5	-5.05	1.36	1.39
47	AA	1026	C	N3-C4	-5.04	1.30	1.33
47	AA	1194	A	C5-C4	-5.04	1.35	1.38
47	AA	1208	A	N9-C4	-5.04	1.34	1.37
47	AA	1716	C	N1-C6	-5.04	1.34	1.37
47	AA	1858	G	N9-C8	-5.03	1.34	1.37
47	AA	1149	A	N9-C4	-5.02	1.34	1.37
47	AA	609	U	N1-C2	-5.02	1.34	1.38
47	AA	1175	G	C2-N3	-5.02	1.28	1.32
47	AA	146	G	C5-C6	-5.01	1.37	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	AA	1354	G	N9-C4	-5.01	1.33	1.38
47	AA	1697	A	N3-C4	-5.01	1.31	1.34
47	AA	1718	G	C5-C4	-5.01	1.34	1.38
47	AA	1357	A	N3-C4	-5.00	1.31	1.34
62	An	75	C	N3-C4	-5.00	1.30	1.33
47	AA	957	A	N7-C5	-5.00	1.36	1.39
47	AA	1193	U	C2-N3	-5.00	1.34	1.37

All (811) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	K	158	THR	C-N-CD	-21.62	73.03	120.60
38	H	96	VAL	N-CA-C	-18.95	59.84	111.00
38	H	89	LEU	N-CA-C	-15.05	70.37	111.00
47	AA	1130	G	N3-C4-C5	12.10	134.65	128.60
47	AA	1861	G	N3-C4-C5	-11.49	122.85	128.60
38	H	83	LYS	N-CA-C	-11.16	80.86	111.00
47	AA	1130	G	N3-C4-N9	-11.05	119.37	126.00
47	AA	1861	G	N3-C4-N9	10.85	132.51	126.00
62	An	39	C	N1-C2-O2	10.63	125.28	118.90
47	AA	1075	C	C6-N1-C2	10.60	124.54	120.30
47	AA	1717	C	N1-C2-O2	-10.53	112.58	118.90
62	An	39	C	N3-C2-O2	-10.30	114.69	121.90
47	AA	880	G	N3-C2-N2	-10.26	112.72	119.90
47	AA	997	A	N7-C8-N9	10.11	118.86	113.80
47	AA	1091	C	N3-C4-C5	9.88	125.85	121.90
47	AA	1861	G	C4-N9-C1'	9.84	139.29	126.50
38	H	88	VAL	N-CA-C	-9.80	84.54	111.00
47	AA	1682	C	C6-N1-C2	9.55	124.12	120.30
47	AA	201	C	C6-N1-C2	-9.50	116.50	120.30
47	AA	1085	C	C6-N1-C2	9.50	124.10	120.30
47	AA	1518	C	N1-C2-O2	9.38	124.53	118.90
47	AA	1863	A	C2-N3-C4	-9.29	105.95	110.60
47	AA	736	C	N1-C2-O2	9.16	124.39	118.90
47	AA	997	A	C8-N9-C4	-9.03	102.19	105.80
47	AA	146	G	C4-C5-N7	8.98	114.39	110.80
47	AA	1024	A	C8-N9-C4	8.90	109.36	105.80
64	Aq	203	PRO	C-N-CA	8.87	143.88	121.70
47	AA	1861	G	N1-C2-N2	-8.84	108.24	116.20
47	AA	1130	G	C4-N9-C1'	-8.83	115.02	126.50
47	AA	405	G	C8-N9-C4	8.77	109.91	106.40
47	AA	400	C	C6-N1-C2	8.75	123.80	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
62	An	23	C	C2-N1-C1'	8.71	128.38	118.80
47	AA	682	U	O5'-P-OP1	-8.66	97.91	105.70
47	AA	1855	G	N9-C4-C5	-8.65	101.94	105.40
47	AA	1022	U	N1-C2-O2	8.62	128.83	122.80
47	AA	1157	G	C4-N9-C1'	8.59	137.67	126.50
47	AA	1518	C	C2-N1-C1'	8.58	128.24	118.80
47	AA	1518	C	N3-C2-O2	-8.52	115.94	121.90
47	AA	1855	G	C4-C5-N7	8.48	114.19	110.80
38	H	97	GLY	N-CA-C	-8.48	91.90	113.10
47	AA	1834	A	N1-C2-N3	8.46	133.53	129.30
47	AA	1453	C	C5-C6-N1	8.45	125.22	121.00
62	An	76	A	N1-C6-N6	-8.43	113.55	118.60
47	AA	1453	C	C2-N1-C1'	8.42	128.06	118.80
47	AA	1453	C	C6-N1-C2	-8.34	116.97	120.30
47	AA	1861	G	C8-N9-C1'	-8.30	116.20	127.00
47	AA	880	G	N9-C4-C5	8.21	108.68	105.40
47	AA	45	A	N1-C6-N6	-8.21	113.68	118.60
47	AA	1153	C	C6-N1-C2	8.17	123.57	120.30
47	AA	1834	A	C4-C5-C6	8.16	121.08	117.00
47	AA	1833	C	C4-C5-C6	8.12	121.46	117.40
47	AA	997	A	C5-N7-C8	-7.98	99.91	103.90
47	AA	173	A	N1-C6-N6	7.94	123.37	118.60
47	AA	1646	C	C6-N1-C2	7.93	123.47	120.30
47	AA	1022	U	N3-C2-O2	-7.90	116.67	122.20
47	AA	42	A	N1-C6-N6	7.88	123.33	118.60
47	AA	624	C	C6-N1-C2	-7.87	117.15	120.30
47	AA	1337	C	C6-N1-C2	7.84	123.44	120.30
47	AA	738	C	C2-N1-C1'	7.83	127.41	118.80
47	AA	992	A	O5'-P-OP1	-7.82	98.66	105.70
47	AA	1834	A	C6-C5-N7	-7.78	126.85	132.30
47	AA	1157	G	C8-N9-C1'	-7.77	116.90	127.00
47	AA	1201	U	C5-C6-N1	-7.75	118.82	122.70
47	AA	1354	G	C8-N9-C4	7.74	109.50	106.40
47	AA	1121	G	C8-N9-C4	7.73	109.49	106.40
47	AA	1518	C	C6-N1-C2	-7.71	117.22	120.30
47	AA	1732	G	C8-N9-C4	7.69	109.48	106.40
37	A	931	C	C2-N1-C1'	7.68	127.24	118.80
47	AA	434	G	N3-C4-C5	7.66	132.43	128.60
47	AA	1085	C	C5-C6-N1	-7.66	117.17	121.00
47	AA	678	U	C5-C6-N1	7.64	126.52	122.70
47	AA	1863	A	C5-N7-C8	-7.60	100.10	103.90
47	AA	1855	G	C8-N9-C4	7.55	109.42	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	AJ	78	LEU	CA-CB-CG	-7.55	97.94	115.30
47	AA	878	G	C5-C6-N1	7.51	115.26	111.50
47	AA	639	C	C6-N1-C2	7.50	123.30	120.30
47	AA	1031	A	C2-N3-C4	-7.45	106.88	110.60
47	AA	997	A	C6-C5-N7	-7.44	127.09	132.30
47	AA	397	G	C8-N9-C4	7.44	109.37	106.40
47	AA	1138	C	C2-N1-C1'	7.42	126.96	118.80
62	An	23	C	C5-C6-N1	7.40	124.70	121.00
47	AA	1130	G	C2-N3-C4	-7.40	108.20	111.90
47	AA	1157	G	C6-C5-N7	-7.39	125.97	130.40
47	AA	18	C	N3-C4-C5	7.36	124.84	121.90
47	AA	126	G	N3-C2-N2	-7.33	114.77	119.90
47	AA	1803	U	C5-C6-N1	-7.32	119.04	122.70
47	AA	14	C	N1-C2-O2	-7.31	114.51	118.90
47	AA	930	C	C2-N1-C1'	7.31	126.84	118.80
47	AA	460	A	C8-N9-C4	7.29	108.72	105.80
47	AA	428	U	C2-N1-C1'	-7.29	108.96	117.70
47	AA	1104	G	C8-N9-C4	7.28	109.31	106.40
47	AA	847	A	N1-C6-N6	7.26	122.96	118.60
47	AA	126	G	N3-C4-N9	-7.25	121.65	126.00
47	AA	880	G	N1-C2-N2	7.25	122.72	116.20
47	AA	585	C	N1-C2-O2	7.24	123.24	118.90
47	AA	1158	G	N9-C4-C5	-7.23	102.51	105.40
47	AA	1176	G	C2-N3-C4	-7.22	108.29	111.90
62	An	33	C	N1-C2-O2	-7.20	114.58	118.90
62	An	23	C	C6-N1-C1'	-7.19	112.17	120.80
47	AA	1157	G	N3-C4-N9	7.17	130.30	126.00
47	AA	1726	G	C2-N3-C4	-7.17	108.31	111.90
47	AA	1861	G	C6-N1-C2	-7.16	120.80	125.10
37	A	931	C	N1-C2-O2	7.16	123.19	118.90
47	AA	1842	C	N3-C4-C5	7.14	124.76	121.90
76	AB	88	LEU	CA-CB-CG	7.14	131.72	115.30
47	AA	806	U	C5-C6-N1	7.14	126.27	122.70
47	AA	1130	G	C8-N9-C1'	7.13	136.27	127.00
47	AA	477	G	C8-N9-C4	7.10	109.24	106.40
47	AA	958	G	C6-C5-N7	-7.10	126.14	130.40
47	AA	1031	A	N3-C4-N9	-7.09	121.72	127.40
47	AA	1138	C	N1-C2-O2	7.09	123.16	118.90
47	AA	1271	C	C6-N1-C2	-7.07	117.47	120.30
47	AA	1198	G	C2-N3-C4	-7.06	108.37	111.90
47	AA	1049	A	N9-C4-C5	-7.05	102.98	105.80
47	AA	1689	C	C6-N1-C2	7.05	123.12	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	1288	U	C2-N1-C1'	7.04	126.15	117.70
47	AA	1861	G	N1-C6-O6	-7.04	115.68	119.90
47	AA	13	C	N1-C2-O2	-7.03	114.68	118.90
47	AA	1607	A	C5-N7-C8	-7.02	100.39	103.90
47	AA	462	C	C5-C6-N1	7.00	124.50	121.00
37	A	4083	U	C2-N1-C1'	7.00	126.10	117.70
47	AA	1120	U	C2-N1-C1'	6.99	126.09	117.70
47	AA	1506	A	N1-C2-N3	6.98	132.79	129.30
47	AA	565	G	C4-N9-C1'	6.97	135.57	126.50
57	AP	93	LEU	CA-CB-CG	-6.97	99.27	115.30
62	An	71	C	C6-N1-C2	6.95	123.08	120.30
37	A	4083	U	N1-C2-O2	6.95	127.67	122.80
47	AA	1808	U	C5-C6-N1	-6.93	119.23	122.70
47	AA	1047	C	C5-C4-N4	-6.93	115.35	120.20
47	AA	1836	G	C8-N9-C4	6.92	109.17	106.40
47	AA	1024	A	C2-N3-C4	-6.92	107.14	110.60
47	AA	615	C	N1-C2-O2	6.90	123.04	118.90
47	AA	1855	G	N3-C2-N2	6.88	124.72	119.90
47	AA	878	G	N3-C4-N9	6.88	130.13	126.00
47	AA	1682	C	C5-C6-N1	-6.87	117.57	121.00
62	An	33	C	C2-N1-C1'	-6.85	111.26	118.80
67	Au	103	LEU	CA-CB-CG	6.84	131.03	115.30
47	AA	930	C	C6-N1-C1'	-6.83	112.60	120.80
62	An	18	G	C5-C6-O6	-6.83	124.50	128.60
47	AA	1148	A	O4'-C1'-N9	6.82	113.65	108.20
47	AA	1726	G	N3-C4-C5	6.82	132.01	128.60
47	AA	512	A	C8-N9-C4	6.80	108.52	105.80
47	AA	1607	A	C5-C6-N6	-6.80	118.26	123.70
47	AA	1834	A	C2-N3-C4	-6.80	107.20	110.60
47	AA	1784	G	N9-C4-C5	-6.79	102.68	105.40
47	AA	496	C	C2-N1-C1'	-6.79	111.34	118.80
47	AA	1076	G	N3-C4-C5	6.78	131.99	128.60
2	C	111	U	C2-N1-C1'	6.78	125.84	117.70
47	AA	7	G	C4-C5-N7	6.78	113.51	110.80
47	AA	1173	A	N9-C4-C5	-6.77	103.09	105.80
47	AA	847	A	C4-C5-N7	6.76	114.08	110.70
47	AA	1014	G	N3-C4-C5	-6.75	125.22	128.60
47	AA	1607	A	C4-C5-N7	6.75	114.07	110.70
47	AA	1158	G	C8-N9-C4	6.74	109.10	106.40
47	AA	1091	C	C6-N1-C2	6.74	123.00	120.30
47	AA	736	C	N3-C2-O2	-6.74	117.19	121.90
47	AA	1747	C	C5-C6-N1	6.73	124.36	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	341	C	N1-C2-O2	6.72	122.93	118.90
47	AA	1688	C	C6-N1-C2	6.72	122.99	120.30
47	AA	428	U	C5-C6-N1	-6.72	119.34	122.70
47	AA	1039	C	C6-N1-C2	6.72	122.99	120.30
47	AA	292	A	C8-N9-C4	6.71	108.49	105.80
47	AA	173	A	C4-C5-N7	6.71	114.06	110.70
47	AA	178	C	N3-C2-O2	-6.70	117.21	121.90
78	AI	109	LEU	CA-CB-CG	6.70	130.71	115.30
47	AA	146	G	N9-C4-C5	-6.70	102.72	105.40
47	AA	1022	U	C2-N1-C1'	6.68	125.72	117.70
47	AA	1032	C	C6-N1-C2	-6.68	117.63	120.30
37	A	4083	U	N3-C2-O2	-6.67	117.53	122.20
47	AA	1160	U	O5'-P-OP1	-6.67	99.70	105.70
47	AA	1682	C	N3-C4-C5	6.66	124.57	121.90
47	AA	1208	A	C8-N9-C4	6.66	108.46	105.80
47	AA	996	A	C6-C5-N7	-6.65	127.65	132.30
47	AA	1147	C	C6-N1-C2	6.64	122.96	120.30
47	AA	412	G	C6-C5-N7	-6.63	126.42	130.40
47	AA	659	G	C6-C5-N7	-6.63	126.42	130.40
47	AA	565	G	C6-C5-N7	-6.63	126.42	130.40
47	AA	997	A	C2-N3-C4	-6.63	107.28	110.60
47	AA	489	A	O4'-C1'-N9	-6.62	102.90	108.20
47	AA	982	G	C2-N3-C4	-6.62	108.59	111.90
47	AA	93	U	C5-C6-N1	6.61	126.01	122.70
37	A	3771	C	C2-N1-C1'	6.61	126.07	118.80
47	AA	1049	A	N1-C6-N6	6.61	122.56	118.60
47	AA	477	G	N9-C4-C5	-6.61	102.76	105.40
47	AA	1173	A	C2-N3-C4	-6.60	107.30	110.60
47	AA	1275	G	N3-C4-C5	6.60	131.90	128.60
47	AA	1156	U	C5-C6-N1	-6.59	119.40	122.70
47	AA	1158	G	C4-C5-N7	6.59	113.44	110.80
47	AA	1717	C	C2-N3-C4	-6.59	116.60	119.90
47	AA	679	A	C8-N9-C4	6.59	108.44	105.80
70	A0	129	LEU	CB-CG-CD1	-6.59	99.80	111.00
47	AA	1380	C	C5-C6-N1	-6.58	117.71	121.00
47	AA	1157	G	N1-C2-N2	-6.57	110.29	116.20
47	AA	1074	C	N3-C4-C5	6.57	124.53	121.90
47	AA	997	A	N1-C2-N3	6.56	132.58	129.30
62	An	40	C	C2-N1-C1'	6.56	126.02	118.80
47	AA	1173	A	C6-C5-N7	-6.55	127.71	132.30
47	AA	1201	U	C2-N3-C4	-6.54	123.07	127.00
47	AA	1120	U	C6-N1-C1'	-6.54	112.04	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
66	At	134	VAL	C-N-CA	-6.54	105.34	121.70
47	AA	16	G	N3-C4-N9	-6.54	122.08	126.00
47	AA	1360	U	C5-C6-N1	-6.54	119.43	122.70
47	AA	1592	C	C5-C6-N1	6.53	124.27	121.00
47	AA	561	A	C8-N9-C4	6.53	108.41	105.80
47	AA	1826	G	C8-N9-C1'	-6.53	118.52	127.00
47	AA	652	U	C6-N1-C2	-6.52	117.09	121.00
47	AA	1427	C	C5-C6-N1	6.52	124.26	121.00
47	AA	686	U	C2-N1-C1'	6.51	125.51	117.70
47	AA	1026	C	C2-N1-C1'	-6.51	111.64	118.80
47	AA	1380	C	C2-N3-C4	-6.51	116.64	119.90
47	AA	4	C	C2-N1-C1'	6.50	125.95	118.80
47	AA	993	G	C8-N9-C4	6.48	108.99	106.40
47	AA	1089	G	C2-N3-C4	-6.48	108.66	111.90
47	AA	1648	G	N9-C4-C5	6.48	107.99	105.40
47	AA	1089	G	N1-C2-N3	6.46	127.78	123.90
47	AA	1847	G	C2-N3-C4	-6.46	108.67	111.90
47	AA	428	U	N1-C2-O2	-6.46	118.28	122.80
47	AA	1826	G	C4-N9-C1'	6.46	134.90	126.50
47	AA	1522	A	N7-C8-N9	6.45	117.03	113.80
47	AA	1049	A	C4-C5-N7	6.45	113.92	110.70
47	AA	405	G	N9-C4-C5	-6.45	102.82	105.40
47	AA	997	A	C4-C5-C6	6.45	120.22	117.00
47	AA	1784	G	C4-C5-N7	6.43	113.37	110.80
47	AA	1709	G	C2-N3-C4	-6.43	108.69	111.90
47	AA	619	A	C4-C5-N7	6.42	113.91	110.70
62	An	40	C	N1-C2-O2	6.42	122.75	118.90
47	AA	1096	G	N3-C2-N2	-6.42	115.41	119.90
47	AA	201	C	C2-N1-C1'	6.41	125.84	118.80
62	An	18	G	N1-C6-O6	6.41	123.74	119.90
47	AA	1597	C	C6-N1-C2	6.40	122.86	120.30
47	AA	379	C	O5'-P-OP1	-6.40	99.94	105.70
47	AA	1859	A	N1-C6-N6	-6.40	114.76	118.60
47	AA	1442	U	N3-C2-O2	-6.39	117.73	122.20
47	AA	847	A	N9-C4-C5	-6.38	103.25	105.80
47	AA	1140	G	N9-C4-C5	-6.38	102.85	105.40
47	AA	988	C	C6-N1-C2	6.38	122.85	120.30
47	AA	1393	G	C4-N9-C1'	-6.38	118.21	126.50
47	AA	1029	G	N1-C2-N3	6.37	127.72	123.90
47	AA	1399	C	C2-N1-C1'	6.37	125.81	118.80
47	AA	1096	G	N3-C4-N9	-6.37	122.18	126.00
47	AA	1048	G	C6-C5-N7	-6.36	126.58	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	1529	C	C6-N1-C2	-6.34	117.76	120.30
47	AA	1173	A	C4-C5-N7	6.34	113.87	110.70
47	AA	1077	A	C8-N9-C4	6.33	108.33	105.80
47	AA	601	G	N1-C2-N2	-6.32	110.51	116.20
2	C	111	U	N1-C2-O2	6.32	127.22	122.80
47	AA	1031	A	N3-C4-C5	6.32	131.22	126.80
47	AA	434	G	C2-N3-C4	-6.31	108.74	111.90
47	AA	930	C	N1-C2-O2	6.31	122.69	118.90
47	AA	1288	U	N3-C2-O2	-6.31	117.78	122.20
47	AA	1140	G	C2-N3-C4	-6.31	108.75	111.90
47	AA	1475	G	N3-C4-N9	-6.31	122.22	126.00
47	AA	1138	C	C6-N1-C1'	-6.29	113.25	120.80
37	A	4871	C	C2-N1-C1'	6.29	125.71	118.80
47	AA	662	G	C8-N9-C4	6.28	108.91	106.40
47	AA	341	C	C6-N1-C1'	-6.28	113.27	120.80
47	AA	1007	C	N3-C4-C5	6.28	124.41	121.90
47	AA	42	A	C4-C5-N7	6.27	113.84	110.70
47	AA	429	C	O5'-P-OP2	-6.27	100.06	105.70
47	AA	1085	C	C2-N3-C4	-6.27	116.77	119.90
47	AA	1861	G	N1-C2-N3	6.26	127.66	123.90
47	AA	451	G	C4-C5-N7	6.26	113.30	110.80
51	AF	18	LEU	CA-CB-CG	-6.26	100.91	115.30
47	AA	565	G	C8-N9-C1'	-6.25	118.87	127.00
47	AA	1275	G	C8-N9-C4	6.25	108.90	106.40
47	AA	201	C	N3-C2-O2	-6.24	117.53	121.90
47	AA	565	G	N3-C4-N9	6.24	129.75	126.00
47	AA	1436	C	N3-C2-O2	-6.24	117.53	121.90
38	H	95	PRO	C-N-CA	-6.24	106.11	121.70
62	An	45	G	C4-N9-C1'	6.24	134.61	126.50
47	AA	1185	C	C6-N1-C2	6.23	122.79	120.30
47	AA	1399	C	C6-N1-C1'	-6.23	113.32	120.80
47	AA	407	G	C2-N3-C4	6.23	115.02	111.90
47	AA	1085	C	N3-C4-C5	6.23	124.39	121.90
47	AA	14	C	C2-N1-C1'	-6.22	111.95	118.80
47	AA	356	C	C2-N1-C1'	6.22	125.65	118.80
47	AA	17	C	N1-C2-O2	-6.21	115.17	118.90
47	AA	1176	G	N1-C2-N3	6.21	127.63	123.90
47	AA	659	G	C4-N9-C1'	6.21	134.57	126.50
47	AA	418	A	N9-C4-C5	-6.21	103.32	105.80
47	AA	1547	C	C6-N1-C2	6.21	122.78	120.30
47	AA	736	C	C2-N1-C1'	6.20	125.62	118.80
62	An	19	G	O4'-C1'-N9	6.20	113.16	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	1747	C	C6-N1-C2	-6.19	117.82	120.30
47	AA	420	G	C4-N9-C1'	-6.19	118.45	126.50
47	AA	1861	G	C6-C5-N7	-6.19	126.69	130.40
47	AA	1489	A	C8-N9-C4	6.19	108.27	105.80
37	A	4476	C	C2-N1-C1'	6.18	125.60	118.80
47	AA	619	A	N9-C4-C5	-6.18	103.33	105.80
47	AA	6	G	N1-C6-O6	-6.18	116.19	119.90
47	AA	1852	C	N3-C4-C5	6.18	124.37	121.90
47	AA	1173	A	C8-N9-C4	6.17	108.27	105.80
47	AA	404	G	C4-C5-N7	6.17	113.27	110.80
47	AA	1253	A	C8-N9-C4	6.16	108.27	105.80
62	An	75	C	N3-C4-C5	6.16	124.36	121.90
47	AA	1135	C	N3-C2-O2	-6.15	117.60	121.90
47	AA	1732	G	N9-C4-C5	-6.15	102.94	105.40
47	AA	1162	C	C6-N1-C2	-6.14	117.84	120.30
47	AA	1330	G	N3-C4-N9	6.13	129.68	126.00
47	AA	829	C	C6-N1-C2	6.13	122.75	120.30
47	AA	1334	G	C4-N9-C1'	-6.12	118.54	126.50
62	An	63	A	C8-N9-C4	6.12	108.25	105.80
47	AA	820	U	O4'-C1'-N1	6.11	113.09	108.20
47	AA	7	G	N9-C4-C5	-6.10	102.96	105.40
62	An	75	C	C6-N1-C2	6.10	122.74	120.30
47	AA	659	G	C8-N9-C1'	-6.09	119.09	127.00
47	AA	474	G	C2-N3-C4	-6.09	108.86	111.90
47	AA	880	G	N3-C4-N9	-6.08	122.35	126.00
47	AA	1693	G	N3-C4-N9	-6.08	122.35	126.00
47	AA	380	G	C8-N9-C4	6.08	108.83	106.40
47	AA	1354	G	N9-C4-C5	-6.08	102.97	105.40
62	An	28	U	C2-N1-C1'	6.08	125.00	117.70
47	AA	371	A	O5'-P-OP2	-6.08	100.23	105.70
47	AA	1847	G	N3-C4-N9	-6.08	122.35	126.00
47	AA	434	G	N1-C6-O6	6.07	123.54	119.90
47	AA	42	A	C6-C5-N7	-6.07	128.06	132.30
47	AA	173	A	C5-C6-N6	-6.07	118.85	123.70
47	AA	114	G	O4'-C1'-N9	6.05	113.04	108.20
47	AA	418	A	C8-N9-C4	6.05	108.22	105.80
47	AA	1648	G	N3-C4-N9	-6.05	122.37	126.00
2	C	111	U	N3-C2-O2	-6.04	117.97	122.20
78	AI	109	LEU	CB-CG-CD2	-6.03	100.75	111.00
47	AA	1803	U	C6-N1-C2	6.02	124.61	121.00
47	AA	1397	U	O5'-P-OP2	-6.02	100.28	105.70
47	AA	1609	C	C2-N3-C4	6.02	122.91	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	1064	C	N3-C4-C5	6.01	124.31	121.90
47	AA	1120	U	N1-C2-O2	6.01	127.01	122.80
36	r	147	ALA	N-CA-C	-6.00	94.79	111.00
47	AA	1399	C	N1-C2-O2	6.00	122.50	118.90
47	AA	341	C	C2-N1-C1'	6.00	125.40	118.80
47	AA	355	G	C8-N9-C4	6.00	108.80	106.40
47	AA	1624	U	C2-N1-C1'	6.00	124.90	117.70
47	AA	1682	C	N3-C4-N4	-6.00	113.80	118.00
47	AA	1436	C	N1-C2-O2	6.00	122.50	118.90
47	AA	1861	G	N3-C2-N2	6.00	124.10	119.90
47	AA	1416	C	N1-C2-O2	6.00	122.50	118.90
47	AA	1696	C	N3-C2-O2	-5.99	117.70	121.90
47	AA	127	C	N1-C2-O2	5.99	122.50	118.90
47	AA	1158	G	C5-C6-N1	5.99	114.50	111.50
47	AA	931	C	C6-N1-C2	5.99	122.69	120.30
47	AA	804	U	C5-C6-N1	5.98	125.69	122.70
59	AR	58	LEU	CA-CB-CG	5.97	129.04	115.30
64	Aq	96	LEU	CA-CB-CG	5.97	129.04	115.30
47	AA	402	C	C2-N1-C1'	5.97	125.37	118.80
47	AA	651	U	C5-C6-N1	5.97	125.68	122.70
47	AA	1866	A	N7-C8-N9	5.97	116.78	113.80
47	AA	303	C	N3-C2-O2	-5.97	117.72	121.90
47	AA	484	A	C8-N9-C4	5.97	108.19	105.80
47	AA	42	A	N9-C4-C5	-5.96	103.42	105.80
47	AA	662	G	N7-C8-N9	-5.95	110.12	113.10
47	AA	482	G	N3-C4-N9	-5.95	122.43	126.00
47	AA	1076	G	C8-N9-C4	5.95	108.78	106.40
47	AA	1157	G	N1-C2-N3	5.95	127.47	123.90
47	AA	1448	A	C8-N9-C4	5.94	108.18	105.80
47	AA	1578	U	N1-C2-O2	5.94	126.96	122.80
47	AA	324	C	C2-N1-C1'	5.94	125.33	118.80
47	AA	1436	C	C2-N1-C1'	5.93	125.33	118.80
38	H	90	ALA	C-N-CA	-5.93	106.87	121.70
47	AA	753	C	C6-N1-C2	5.93	122.67	120.30
47	AA	4	C	C6-N1-C2	-5.93	117.93	120.30
47	AA	1054	G	C6-N1-C2	-5.93	121.54	125.10
56	AN	72	LEU	CA-CB-CG	-5.93	101.67	115.30
47	AA	1259	A	O4'-C1'-N9	5.92	112.94	108.20
47	AA	996	A	C4-C5-N7	5.92	113.66	110.70
38	H	223	ARG	N-CA-C	5.92	126.98	111.00
47	AA	18	C	C6-N1-C2	5.92	122.67	120.30
47	AA	1136	U	C6-N1-C2	5.92	124.55	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	1726	G	N3-C4-N9	-5.90	122.46	126.00
53	AJ	214	LEU	CA-CB-CG	-5.90	101.73	115.30
47	AA	1250	A	N7-C8-N9	5.89	116.74	113.80
62	An	76	A	C5-C6-N1	5.89	120.64	117.70
62	An	4	C	C6-N1-C2	5.88	122.65	120.30
47	AA	542	U	C2-N1-C1'	5.87	124.75	117.70
47	AA	14	C	C2-N3-C4	-5.87	116.97	119.90
62	An	45	G	C6-C5-N7	-5.86	126.88	130.40
62	An	15	A	N1-C6-N6	-5.86	115.08	118.60
47	AA	679	A	N9-C4-C5	-5.86	103.46	105.80
47	AA	179	C	C6-N1-C2	5.85	122.64	120.30
47	AA	460	A	N3-C4-C5	5.85	130.89	126.80
47	AA	687	C	N3-C2-O2	-5.85	117.81	121.90
37	A	4476	C	N1-C2-O2	5.85	122.41	118.90
47	AA	1096	G	N3-C4-C5	5.85	131.52	128.60
47	AA	665	G	C4-C5-N7	5.84	113.14	110.80
47	AA	1140	G	C4-C5-N7	5.84	113.14	110.80
47	AA	984	C	C6-N1-C2	-5.83	117.97	120.30
47	AA	1863	A	C4-C5-N7	5.83	113.61	110.70
47	AA	1049	A	C5-C6-N6	-5.83	119.04	123.70
62	An	76	A	C6-C5-N7	5.83	136.38	132.30
47	AA	437	G	C2-N3-C4	-5.82	108.99	111.90
47	AA	460	A	N9-C4-C5	-5.82	103.47	105.80
47	AA	1096	G	C2-N3-C4	-5.82	108.99	111.90
47	AA	738	C	N1-C2-O2	5.82	122.39	118.90
47	AA	1140	G	C8-N9-C4	5.82	108.73	106.40
47	AA	657	U	C6-N1-C2	5.82	124.49	121.00
62	An	45	G	C8-N9-C1'	-5.82	119.44	127.00
47	AA	14	C	C6-N1-C1'	5.82	127.78	120.80
47	AA	1861	G	C5-C6-N1	5.81	114.41	111.50
37	A	3771	C	N1-C2-O2	5.80	122.38	118.90
47	AA	1648	G	C4-C5-N7	-5.80	108.48	110.80
62	An	53	G	O4'-C1'-N9	-5.79	103.56	108.20
47	AA	1193	U	C2-N3-C4	-5.79	123.53	127.00
47	AA	1622	U	C5-C6-N1	-5.79	119.81	122.70
47	AA	1865	C	N1-C2-O2	5.79	122.38	118.90
38	H	225	PRO	CA-N-CD	-5.79	103.40	111.50
62	An	28	U	N1-C2-O2	5.79	126.85	122.80
47	AA	1190	A	C8-N9-C4	5.78	108.11	105.80
47	AA	1211	G	C8-N9-C4	5.78	108.71	106.40
47	AA	1442	U	C2-N1-C1'	5.78	124.63	117.70
47	AA	595	U	N1-C2-O2	-5.77	118.76	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	450	C	C6-N1-C2	5.77	122.61	120.30
47	AA	1190	A	N7-C8-N9	-5.76	110.92	113.80
47	AA	1855	G	C5-C6-N1	5.76	114.38	111.50
47	AA	1205	C	C6-N1-C2	-5.75	118.00	120.30
47	AA	173	A	N9-C4-C5	-5.75	103.50	105.80
47	AA	1834	A	N7-C8-N9	5.74	116.67	113.80
47	AA	173	A	C6-C5-N7	-5.74	128.28	132.30
47	AA	1648	G	N3-C2-N2	-5.74	115.88	119.90
47	AA	683	G	C8-N9-C4	5.74	108.70	106.40
47	AA	619	A	N1-C6-N6	5.74	122.04	118.60
62	An	43	G	N9-C4-C5	-5.73	103.11	105.40
47	AA	1130	G	C8-N9-C4	5.73	108.69	106.40
47	AA	40	A	O5'-P-OP1	-5.73	100.54	105.70
47	AA	402	C	N3-C4-C5	5.73	124.19	121.90
47	AA	1144	A	C2-N3-C4	-5.72	107.74	110.60
47	AA	1022	U	O4'-C1'-N1	5.72	112.78	108.20
47	AA	1032	C	N3-C2-O2	-5.72	117.90	121.90
47	AA	1737	G	C6-C5-N7	-5.71	126.97	130.40
47	AA	1334	G	N3-C4-C5	5.71	131.46	128.60
47	AA	46	A	C8-N9-C4	5.70	108.08	105.80
47	AA	537	C	C6-N1-C2	-5.70	118.02	120.30
74	Ax	49	LEU	CA-CB-CG	5.70	128.42	115.30
47	AA	359	U	N1-C2-O2	5.70	126.79	122.80
47	AA	1607	A	N1-C6-N6	5.70	122.02	118.60
47	AA	359	U	N3-C2-O2	-5.69	118.21	122.20
47	AA	1158	G	O5'-P-OP2	-5.69	100.58	105.70
81	AU	131	LEU	CA-CB-CG	5.69	128.39	115.30
47	AA	746	C	C6-N1-C2	-5.69	118.02	120.30
47	AA	1700	C	C6-N1-C2	5.68	122.57	120.30
47	AA	619	A	C5-N7-C8	-5.68	101.06	103.90
47	AA	1461	G	N3-C4-C5	5.68	131.44	128.60
47	AA	897	U	C2-N1-C1'	5.67	124.51	117.70
47	AA	1731	A	C8-N9-C4	5.67	108.07	105.80
53	AJ	85	SER	C-N-CA	-5.67	107.53	121.70
47	AA	810	A	C5-N7-C8	-5.66	101.07	103.90
71	Ao	122	LEU	CA-CB-CG	5.66	128.31	115.30
47	AA	16	G	C2-N3-C4	-5.66	109.07	111.90
47	AA	1090	C	C2-N1-C1'	-5.66	112.58	118.80
47	AA	1538	C	N3-C4-C5	5.66	124.16	121.90
66	At	28	LEU	CA-CB-CG	5.65	128.30	115.30
47	AA	1866	A	C8-N9-C4	-5.64	103.54	105.80
47	AA	820	U	C2-N1-C1'	-5.64	110.93	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	A	4871	C	C6-N1-C1'	-5.63	114.04	120.80
47	AA	1316	C	C5-C4-N4	-5.63	116.26	120.20
47	AA	821	G	N3-C4-C5	5.63	131.42	128.60
47	AA	1393	G	C8-N9-C1'	5.63	134.32	127.00
62	An	4	C	C5-C6-N1	-5.63	118.19	121.00
47	AA	601	G	C6-C5-N7	-5.63	127.02	130.40
47	AA	1075	C	N3-C4-C5	5.63	124.15	121.90
47	AA	668	A	C8-N9-C4	5.62	108.05	105.80
47	AA	114	G	N3-C4-N9	-5.62	122.63	126.00
47	AA	677	G	C4-C5-N7	5.62	113.05	110.80
47	AA	1261	C	C6-N1-C2	-5.62	118.05	120.30
47	AA	419	G	N1-C6-O6	5.61	123.27	119.90
47	AA	738	C	C6-N1-C1'	-5.61	114.06	120.80
47	AA	37	C	C2-N1-C1'	5.61	124.97	118.80
72	As	46	ALA	N-CA-C	5.61	126.15	111.00
47	AA	1069	U	N1-C2-O2	5.61	126.73	122.80
47	AA	1157	G	N3-C4-C5	-5.61	125.80	128.60
66	At	69	LEU	CA-CB-CG	5.61	128.19	115.30
47	AA	450	C	C5-C6-N1	-5.60	118.20	121.00
47	AA	1140	G	C6-C5-N7	-5.60	127.04	130.40
76	AB	39	LEU	CA-CB-CG	-5.60	102.42	115.30
47	AA	1447	G	C5-C6-O6	-5.60	125.24	128.60
37	A	931	C	C6-N1-C1'	-5.59	114.09	120.80
47	AA	996	A	N1-C6-N6	5.59	121.95	118.60
47	AA	146	G	C6-C5-N7	-5.59	127.05	130.40
47	AA	1049	A	C6-C5-N7	-5.59	128.39	132.30
47	AA	847	A	C6-C5-N7	-5.58	128.39	132.30
63	Ap	228	LEU	CA-CB-CG	5.58	128.14	115.30
47	AA	1520	G	C4-C5-N7	5.58	113.03	110.80
47	AA	1857	G	N1-C2-N3	5.57	127.25	123.90
47	AA	932	G	N9-C4-C5	-5.57	103.17	105.40
47	AA	610	G	C8-N9-C4	5.57	108.63	106.40
47	AA	1010	G	C4-C5-N7	5.57	113.03	110.80
47	AA	615	C	C2-N1-C1'	5.56	124.92	118.80
47	AA	1624	U	N3-C2-O2	-5.56	118.31	122.20
47	AA	680	G	C6-C5-N7	-5.55	127.07	130.40
47	AA	1024	A	N7-C8-N9	-5.55	111.03	113.80
47	AA	1348	G	N3-C4-C5	5.55	131.38	128.60
47	AA	1029	G	C6-N1-C2	-5.54	121.77	125.10
47	AA	356	C	N1-C2-O2	5.54	122.22	118.90
47	AA	146	G	C5-N7-C8	-5.54	101.53	104.30
47	AA	1600	G	C4-N9-C1'	5.54	133.70	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	1375	G	C8-N9-C4	5.53	108.61	106.40
47	AA	356	C	C6-N1-C2	-5.53	118.09	120.30
47	AA	361	U	N3-C4-O4	-5.52	115.53	119.40
47	AA	1737	G	C4-N9-C1'	5.52	133.68	126.50
47	AA	930	C	N3-C2-O2	-5.52	118.04	121.90
47	AA	1187	G	C5-C6-O6	-5.52	125.29	128.60
47	AA	1719	A	C6-N1-C2	-5.52	115.29	118.60
47	AA	361	U	C5-C4-O4	5.52	129.21	125.90
47	AA	622	C	C6-N1-C2	5.51	122.50	120.30
47	AA	734	C	C2-N1-C1'	5.51	124.86	118.80
47	AA	1013	U	C6-N1-C2	-5.51	117.69	121.00
47	AA	958	G	N1-C6-O6	5.51	123.21	119.90
47	AA	1033	G	C6-C5-N7	-5.51	127.09	130.40
47	AA	996	A	C5-N7-C8	-5.50	101.15	103.90
62	An	33	C	C6-N1-C1'	5.50	127.40	120.80
47	AA	847	A	C5-C6-N6	-5.50	119.30	123.70
47	AA	606	G	C4-C5-N7	5.49	112.99	110.80
47	AA	880	G	C8-N9-C4	-5.49	104.21	106.40
47	AA	948	C	C2-N1-C1'	5.49	124.83	118.80
81	AU	67	ARG	NE-CZ-NH2	5.49	123.04	120.30
47	AA	23	G	N3-C4-N9	-5.48	122.71	126.00
47	AA	882	U	C5-C6-N1	5.48	125.44	122.70
47	AA	1211	G	C2-N3-C4	-5.48	109.16	111.90
47	AA	377	G	C8-N9-C4	-5.48	104.21	106.40
47	AA	16	G	N3-C4-C5	5.48	131.34	128.60
47	AA	1005	G	C4-C5-N7	5.48	112.99	110.80
47	AA	1198	G	N3-C4-C5	5.48	131.34	128.60
47	AA	407	G	O4'-C1'-N9	-5.48	103.82	108.20
47	AA	14	C	N1-C2-N3	5.47	123.03	119.20
47	AA	1054	G	N3-C4-C5	-5.47	125.86	128.60
47	AA	1090	C	C5-C6-N1	-5.47	118.26	121.00
47	AA	1010	G	N9-C4-C5	-5.47	103.21	105.40
47	AA	653	A	N1-C6-N6	-5.46	115.32	118.60
47	AA	1807	C	N3-C4-C5	5.46	124.08	121.90
47	AA	1644	C	C2-N1-C1'	5.46	124.81	118.80
47	AA	1342	U	N1-C2-O2	5.46	126.62	122.80
47	AA	647	U	N3-C2-O2	-5.45	118.38	122.20
47	AA	1054	G	C5-C6-N1	5.45	114.22	111.50
47	AA	850	C	O4'-C1'-N1	5.45	112.56	108.20
47	AA	1600	G	O4'-C1'-N9	5.45	112.56	108.20
47	AA	400	C	C5-C6-N1	-5.45	118.28	121.00
47	AA	665	G	C8-N9-C4	5.45	108.58	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	420	G	C8-N9-C4	5.44	108.58	106.40
47	AA	1075	C	C5-C6-N1	-5.44	118.28	121.00
37	A	931	C	N3-C2-O2	-5.44	118.09	121.90
47	AA	1192	U	C5-C6-N1	-5.44	119.98	122.70
47	AA	1026	C	N3-C4-N4	-5.43	114.20	118.00
47	AA	1033	G	C4-C5-N7	5.43	112.97	110.80
47	AA	223	C	N1-C2-O2	5.43	122.16	118.90
47	AA	303	C	N1-C2-O2	5.43	122.16	118.90
47	AA	1528	G	C4-N9-C1'	5.42	133.55	126.50
47	AA	495	U	C6-N1-C2	5.42	124.25	121.00
47	AA	412	G	N3-C4-N9	5.42	129.25	126.00
47	AA	809	A	C2-N3-C4	-5.42	107.89	110.60
47	AA	1060	A	C6-C5-N7	-5.42	128.51	132.30
47	AA	1839	U	C5-C4-O4	5.42	129.15	125.90
57	AP	89	TRP	CA-CB-CG	-5.42	103.40	113.70
47	AA	370	G	C5-C6-N1	5.42	114.21	111.50
62	An	53	G	N9-C4-C5	-5.42	103.23	105.40
47	AA	1475	G	N3-C2-N2	-5.42	116.11	119.90
47	AA	649	U	C5-C6-N1	-5.41	119.99	122.70
47	AA	1601	A	C8-N9-C4	5.41	107.97	105.80
47	AA	658	U	O4'-C1'-N1	-5.41	103.87	108.20
47	AA	1091	C	C6-N1-C1'	-5.41	114.31	120.80
47	AA	1171	G	P-O3'-C3'	5.41	126.19	119.70
47	AA	984	C	C2-N1-C1'	5.41	124.75	118.80
47	AA	1826	G	N3-C4-N9	5.41	129.25	126.00
47	AA	1866	A	C6-C5-N7	-5.41	128.51	132.30
47	AA	622	C	O5'-P-OP1	-5.41	100.83	105.70
47	AA	1490	G	C8-N9-C4	-5.41	104.24	106.40
47	AA	1186	U	N3-C4-O4	-5.41	115.62	119.40
57	AP	97	ARG	NE-CZ-NH1	-5.41	117.60	120.30
47	AA	878	G	C4-C5-N7	5.40	112.96	110.80
78	AI	54	ILE	C-N-CD	5.40	139.75	128.40
47	AA	738	C	N3-C2-O2	-5.40	118.12	121.90
47	AA	1164	G	N1-C6-O6	-5.40	116.66	119.90
47	AA	1415	C	N1-C2-O2	5.40	122.14	118.90
47	AA	1164	G	C6-N1-C2	-5.39	121.86	125.10
62	An	23	C	C5-C4-N4	-5.39	116.42	120.20
47	AA	1693	G	N3-C4-C5	5.39	131.30	128.60
47	AA	424	C	C6-N1-C2	5.39	122.46	120.30
47	AA	932	G	C8-N9-C4	5.39	108.56	106.40
47	AA	958	G	C4-N9-C1'	5.39	133.51	126.50
34	t	166	SER	C-N-CA	5.38	135.16	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	958	G	C5-C6-O6	-5.38	125.37	128.60
47	AA	958	G	N3-C4-N9	5.38	129.23	126.00
47	AA	370	G	C6-N1-C2	-5.38	121.87	125.10
62	An	66	C	C6-N1-C2	5.38	122.45	120.30
47	AA	1037	G	N1-C2-N3	5.38	127.12	123.90
47	AA	1393	G	C6-C5-N7	5.37	133.62	130.40
47	AA	12	U	C2-N1-C1'	-5.37	111.25	117.70
54	AK	147	LEU	CA-CB-CG	5.37	127.65	115.30
47	AA	440	G	N9-C4-C5	-5.37	103.25	105.40
62	An	13	G	N3-C2-N2	-5.37	116.14	119.90
47	AA	1009	A	C8-N9-C4	5.37	107.95	105.80
47	AA	1090	C	C2-N3-C4	-5.37	117.22	119.90
57	AP	65	LEU	CB-CG-CD2	-5.36	101.88	111.00
47	AA	998	A	O4'-C1'-N9	-5.36	103.91	108.20
47	AA	1447	G	C6-C5-N7	-5.36	127.18	130.40
47	AA	1644	C	N1-C2-O2	5.36	122.11	118.90
47	AA	1187	G	C4-C5-N7	5.35	112.94	110.80
47	AA	672	A	C5-N7-C8	-5.35	101.22	103.90
47	AA	949	G	N3-C4-C5	5.35	131.28	128.60
47	AA	1522	A	C5-N7-C8	-5.35	101.22	103.90
47	AA	1028	A	N1-C6-N6	5.35	121.81	118.60
47	AA	1803	U	C2-N1-C1'	-5.35	111.28	117.70
47	AA	1271	C	C5-C6-N1	5.34	123.67	121.00
47	AA	1288	U	N1-C2-O2	5.34	126.54	122.80
47	AA	389	A	C8-N9-C4	5.34	107.94	105.80
47	AA	1130	G	N3-C2-N2	-5.34	116.16	119.90
47	AA	387	C	N1-C2-O2	5.34	122.10	118.90
47	AA	672	A	C2-N3-C4	-5.34	107.93	110.60
47	AA	385	G	O4'-C1'-N9	-5.33	103.93	108.20
47	AA	1784	G	C5-C6-O6	-5.33	125.40	128.60
62	An	29	G	N3-C4-N9	-5.33	122.80	126.00
47	AA	114	G	C8-N9-C1'	5.33	133.93	127.00
47	AA	1010	G	N3-C4-N9	5.33	129.20	126.00
47	AA	361	U	O4'-C1'-N1	-5.32	103.94	108.20
47	AA	809	A	C4-C5-N7	5.32	113.36	110.70
47	AA	1125	C	C6-N1-C2	5.32	122.43	120.30
47	AA	907	G	N9-C4-C5	-5.32	103.27	105.40
47	AA	1147	C	C5-C6-N1	-5.32	118.34	121.00
47	AA	1395	C	C6-N1-C2	-5.32	118.17	120.30
47	AA	1014	G	C5-C6-N1	5.32	114.16	111.50
47	AA	1729	U	C6-N1-C2	5.32	124.19	121.00
47	AA	1800	A	C8-N9-C4	5.32	107.93	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	1855	G	C5-C6-O6	-5.31	125.41	128.60
47	AA	565	G	C4-C5-N7	5.31	112.92	110.80
47	AA	1051	G	C2-N3-C4	-5.30	109.25	111.90
47	AA	1014	G	C6-N1-C2	-5.30	121.92	125.10
47	AA	1208	A	N9-C4-C5	-5.30	103.68	105.80
47	AA	361	U	C5-C6-N1	-5.30	120.05	122.70
47	AA	686	U	C6-N1-C1'	-5.30	113.78	121.20
47	AA	1373	C	O5'-P-OP2	-5.30	100.93	105.70
47	AA	1518	C	C6-N1-C1'	-5.30	114.44	120.80
37	A	3715	U	C2-N1-C1'	5.29	124.05	117.70
47	AA	1002	U	C2-N1-C1'	5.29	124.05	117.70
47	AA	7	G	C8-N9-C4	5.29	108.51	106.40
62	An	39	C	C2-N1-C1'	5.29	124.61	118.80
47	AA	1857	G	C4-C5-C6	5.28	121.97	118.80
47	AA	42	A	C2-N3-C4	-5.28	107.96	110.60
47	AA	1164	G	C5-C6-N1	5.28	114.14	111.50
47	AA	1834	A	C4-N9-C1'	5.28	135.81	126.30
62	An	45	G	N1-C2-N3	5.28	127.07	123.90
47	AA	127	C	C2-N1-C1'	5.28	124.60	118.80
62	An	20	A	N1-C6-N6	-5.27	115.44	118.60
62	An	71	C	N3-C4-C5	5.27	124.01	121.90
47	AA	1170	A	N3-C4-N9	-5.27	123.19	127.40
47	AA	1349	G	C6-N1-C2	-5.27	121.94	125.10
37	A	4749	C	C2-N1-C1'	5.27	124.59	118.80
47	AA	127	C	C6-N1-C1'	-5.26	114.48	120.80
47	AA	627	U	C5-C6-N1	-5.26	120.07	122.70
47	AA	1419	C	C2-N1-C1'	-5.26	113.01	118.80
47	AA	1405	A	O5'-P-OP1	-5.26	100.96	105.70
47	AA	1288	U	O4'-C1'-N1	5.26	112.41	108.20
47	AA	996	A	C2-N3-C4	-5.26	107.97	110.60
47	AA	1784	G	N3-C4-N9	5.25	129.15	126.00
47	AA	1808	U	C2-N1-C1'	-5.25	111.39	117.70
47	AA	1842	C	C6-N1-C2	5.25	122.40	120.30
36	r	53	GLY	C-N-CD	5.25	139.43	128.40
47	AA	579	C	C2-N1-C1'	-5.25	113.02	118.80
47	AA	993	G	C4-N9-C1'	-5.25	119.67	126.50
47	AA	80	G	N7-C8-N9	5.25	115.72	113.10
47	AA	1426	U	C2-N1-C1'	5.25	124.00	117.70
47	AA	1538	C	C6-N1-C2	5.24	122.40	120.30
47	AA	696	G	N3-C4-C5	5.24	131.22	128.60
47	AA	402	C	C4-C5-C6	-5.24	114.78	117.40
47	AA	596	U	O5'-P-OP1	-5.24	100.99	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	1288	U	C6-N1-C2	-5.23	117.86	121.00
47	AA	126	G	N3-C4-C5	5.23	131.21	128.60
47	AA	1607	A	N7-C8-N9	5.23	116.41	113.80
47	AA	664	A	C6-C5-N7	-5.23	128.64	132.30
47	AA	994	C	N3-C4-C5	5.22	123.99	121.90
62	An	72	U	C2-N1-C1'	-5.22	111.43	117.70
47	AA	30	C	N3-C4-C5	5.22	123.99	121.90
47	AA	10	G	N1-C6-O6	-5.21	116.77	119.90
47	AA	1866	A	C4-C5-C6	5.21	119.61	117.00
47	AA	1863	A	N7-C8-N9	5.21	116.41	113.80
47	AA	496	C	C6-N1-C1'	5.21	127.05	120.80
47	AA	923	G	N3-C4-N9	5.21	129.12	126.00
47	AA	1564	C	C2-N1-C1'	5.21	124.53	118.80
47	AA	739	C	N1-C2-O2	-5.21	115.78	118.90
47	AA	1836	G	N9-C4-C5	-5.21	103.32	105.40
47	AA	1775	U	N1-C2-O2	5.21	126.44	122.80
47	AA	1854	U	C5-C6-N1	-5.21	120.10	122.70
47	AA	1040	G	C6-C5-N7	-5.20	127.28	130.40
47	AA	1130	G	C5-C6-N1	-5.20	108.90	111.50
47	AA	1518	C	C5-C6-N1	5.20	123.60	121.00
47	AA	1811	C	N3-C4-C5	5.20	123.98	121.90
47	AA	878	G	N9-C4-C5	-5.20	103.32	105.40
47	AA	1004	U	C4-C5-C6	-5.20	116.58	119.70
49	AD	13	LEU	CA-CB-CG	-5.20	103.34	115.30
47	AA	810	A	O4'-C1'-N9	-5.20	104.04	108.20
79	AM	99	ASN	C-N-CD	5.20	139.31	128.40
62	An	29	G	C4-N9-C1'	-5.19	119.75	126.50
47	AA	1053	C	C2-N1-C1'	-5.19	113.09	118.80
47	AA	1717	C	N1-C2-N3	5.19	122.83	119.20
47	AA	584	G	C8-N9-C4	5.19	108.48	106.40
47	AA	880	G	C4-C5-N7	-5.19	108.72	110.80
47	AA	480	G	C8-N9-C4	5.19	108.47	106.40
47	AA	477	G	C2-N3-C4	-5.18	109.31	111.90
47	AA	680	G	N9-C4-C5	-5.18	103.33	105.40
47	AA	902	G	N3-C2-N2	-5.18	116.27	119.90
47	AA	1011	A	C8-N9-C4	-5.18	103.73	105.80
47	AA	1007	C	C6-N1-C2	5.18	122.37	120.30
47	AA	201	C	N3-C4-C5	-5.17	119.83	121.90
47	AA	1823	A	N9-C4-C5	-5.17	103.73	105.80
47	AA	1692	U	C5-C6-N1	-5.17	120.11	122.70
47	AA	30	C	C2-N3-C4	-5.17	117.31	119.90
47	AA	1524	G	C6-C5-N7	-5.16	127.30	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	1585	U	C6-N1-C2	5.16	124.09	121.00
47	AA	853	C	O4'-C1'-N1	5.16	112.32	108.20
47	AA	1014	G	N3-C4-N9	5.16	129.09	126.00
47	AA	1436	C	C6-N1-C2	-5.15	118.24	120.30
47	AA	194	C	C6-N1-C2	-5.15	118.24	120.30
47	AA	671	A	O4'-C1'-N9	-5.15	104.08	108.20
47	AA	519	A	C8-N9-C4	5.14	107.86	105.80
47	AA	850	C	C2-N1-C1'	-5.14	113.14	118.80
47	AA	1849	G	C6-C5-N7	-5.14	127.31	130.40
47	AA	1187	G	C6-C5-N7	-5.14	127.31	130.40
47	AA	1337	C	N3-C4-C5	5.14	123.96	121.90
47	AA	1752	C	N3-C2-O2	-5.14	118.30	121.90
47	AA	12	U	C5-C6-N1	-5.14	120.13	122.70
47	AA	1415	C	C2-N1-C1'	5.14	124.45	118.80
62	An	18	G	O4'-C1'-N9	5.14	112.31	108.20
47	AA	6	G	C5-C6-N1	5.13	114.07	111.50
47	AA	1475	G	N3-C4-C5	5.13	131.17	128.60
47	AA	680	G	C4-C5-N7	5.13	112.85	110.80
47	AA	1555	U	C5-C6-N1	5.13	125.27	122.70
47	AA	1334	G	C8-N9-C1'	5.13	133.67	127.00
47	AA	1786	U	N1-C2-O2	-5.13	119.21	122.80
47	AA	600	G	C5-C6-O6	-5.12	125.53	128.60
47	AA	399	C	N3-C4-C5	5.12	123.95	121.90
47	AA	39	A	O4'-C1'-N9	5.12	112.30	108.20
47	AA	1490	G	N7-C8-N9	5.12	115.66	113.10
47	AA	1150	A	C8-N9-C4	5.12	107.85	105.80
47	AA	1657	G	N1-C6-O6	5.12	122.97	119.90
47	AA	1802	C	N3-C4-C5	5.12	123.95	121.90
47	AA	923	G	N3-C4-C5	-5.11	126.05	128.60
47	AA	1138	C	N3-C2-O2	-5.11	118.33	121.90
47	AA	1211	G	N3-C4-C5	5.10	131.15	128.60
47	AA	1047	C	C6-N1-C2	-5.10	118.26	120.30
47	AA	1049	A	C8-N9-C4	5.10	107.84	105.80
47	AA	1038	U	C6-N1-C2	5.10	124.06	121.00
47	AA	1528	G	C8-N9-C1'	-5.10	120.38	127.00
47	AA	7	G	C5-N7-C8	-5.09	101.75	104.30
56	AN	149	LEU	CA-CB-CG	5.09	127.01	115.30
47	AA	1418	C	C6-N1-C2	-5.09	118.26	120.30
62	An	28	U	C6-N1-C1'	-5.09	114.08	121.20
47	AA	361	U	C2-N1-C1'	-5.09	111.60	117.70
47	AA	1791	A	C8-N9-C4	5.09	107.83	105.80
47	AA	1801	A	C8-N9-C4	5.09	107.83	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	1841	C	C6-N1-C2	5.09	122.33	120.30
62	An	61	C	C6-N1-C2	-5.08	118.27	120.30
47	AA	180	G	N3-C4-C5	5.08	131.14	128.60
47	AA	1227	G	N3-C4-C5	-5.08	126.06	128.60
47	AA	1205	C	N1-C2-N3	5.08	122.76	119.20
47	AA	1062	A	C8-N9-C4	5.08	107.83	105.80
73	Aw	42	LEU	CA-CB-CG	5.08	126.98	115.30
41	l	42	ASP	C-N-CD	5.08	139.06	128.40
47	AA	1099	G	C6-C5-N7	-5.08	127.35	130.40
47	AA	304	C	C5-C6-N1	5.07	123.54	121.00
47	AA	897	U	C5-C6-N1	5.07	125.24	122.70
47	AA	997	A	N1-C6-N6	5.07	121.64	118.60
47	AA	639	C	N3-C4-C5	5.07	123.93	121.90
47	AA	1158	G	N3-C4-N9	5.07	129.04	126.00
47	AA	661	U	N1-C2-O2	5.07	126.35	122.80
47	AA	907	G	N3-C4-N9	5.07	129.04	126.00
47	AA	1193	U	C5-C6-N1	-5.07	120.17	122.70
47	AA	622	C	N3-C4-C5	5.07	123.93	121.90
47	AA	948	C	C6-N1-C1'	-5.07	114.72	120.80
47	AA	1587	G	N3-C4-C5	-5.07	126.07	128.60
47	AA	1094	C	C6-N1-C2	5.06	122.33	120.30
47	AA	1863	A	N1-C2-N3	5.06	131.83	129.30
58	AQ	17	LEU	CA-CB-CG	-5.06	103.66	115.30
37	A	3771	C	N3-C2-O2	-5.06	118.36	121.90
47	AA	1146	C	C2-N3-C4	-5.06	117.37	119.90
62	An	40	C	N3-C2-O2	-5.06	118.36	121.90
47	AA	657	U	C5-C6-N1	-5.05	120.17	122.70
47	AA	24	C	N1-C2-O2	-5.05	115.87	118.90
52	AH	85	TYR	CA-CB-CG	-5.05	103.81	113.40
47	AA	1132	C	C6-N1-C2	-5.05	118.28	120.30
47	AA	324	C	C6-N1-C1'	-5.04	114.75	120.80
47	AA	1047	C	N3-C4-N4	5.04	121.53	118.00
47	AA	420	G	N3-C4-C5	5.04	131.12	128.60
47	AA	1415	C	N3-C2-O2	-5.04	118.37	121.90
47	AA	496	C	N1-C2-O2	-5.04	115.88	118.90
47	AA	685	A	N1-C6-N6	5.04	121.62	118.60
47	AA	1461	G	C8-N9-C4	5.04	108.41	106.40
37	A	4749	C	N1-C2-O2	5.03	121.92	118.90
47	AA	735	C	N1-C2-O2	5.03	121.92	118.90
47	AA	1585	U	C5-C6-N1	-5.03	120.18	122.70
47	AA	1853	C	C2-N1-C1'	5.03	124.34	118.80
47	AA	1185	C	N1-C2-O2	-5.03	115.88	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	AA	460	A	C4-C5-N7	5.03	113.21	110.70
61	AV	7	LEU	CA-CB-CG	-5.03	103.73	115.30
47	AA	1026	C	C5-C6-N1	-5.03	118.49	121.00
62	An	27	C	C2-N1-C1'	-5.02	113.27	118.80
47	AA	140	C	C6-N1-C2	5.02	122.31	120.30
47	AA	1082	A	C4-C5-C6	5.02	119.51	117.00
47	AA	1572	C	N3-C2-O2	-5.02	118.38	121.90
47	AA	1626	C	N3-C4-C5	5.02	123.91	121.90
47	AA	927	C	N3-C2-O2	-5.02	118.39	121.90
47	AA	509	G	N9-C4-C5	-5.02	103.39	105.40
47	AA	1412	C	N1-C2-O2	5.02	121.91	118.90
47	AA	1823	A	C4-C5-N7	5.02	113.21	110.70
47	AA	1732	G	C4-C5-N7	5.02	112.81	110.80
47	AA	654	A	C8-N9-C4	5.01	107.81	105.80
47	AA	847	A	C5-N7-C8	-5.01	101.39	103.90
47	AA	1600	G	C8-N9-C1'	-5.01	120.48	127.00
47	AA	381	C	C4-C5-C6	-5.01	114.89	117.40
47	AA	657	U	N3-C2-O2	5.01	125.71	122.20
47	AA	1295	A	C8-N9-C4	-5.01	103.80	105.80
47	AA	1847	G	N3-C4-C5	5.01	131.10	128.60
47	AA	984	C	N3-C2-O2	-5.00	118.40	121.90
47	AA	1447	G	N1-C6-O6	5.00	122.90	119.90
47	AA	657	U	N1-C2-O2	-5.00	119.30	122.80
47	AA	1201	U	C6-N1-C2	5.00	124.00	121.00

There are no chirality outliers.

All (78) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
70	A0	110	ASP	Peptide
70	A0	144	ARG	Peptide
70	A0	34	LYS	Peptide
70	A0	72	GLN	Peptide
76	AB	107	GLU	Peptide
76	AB	110	VAL	Peptide
76	AB	60	THR	Peptide
76	AB	96	GLU	Peptide
48	AC	5	ALA	Peptide
49	AD	107	ARG	Peptide
49	AD	40	PRO	Peptide
49	AD	54	LYS	Peptide
52	AH	139	HIS	Peptide

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Mol	Chain	Res	Type	Group
52	AH	87	THR	Peptide
78	AI	101	PHE	Peptide
78	AI	140	TYR	Peptide
78	AI	152	SER	Peptide
78	AI	245	ARG	Peptide
78	AI	262	GLU	Peptide
53	AJ	226	ALA	Peptide
54	AK	103	ASP	Peptide
54	AK	15	LEU	Peptide
54	AK	221	LYS	Peptide
54	AK	227	GLN	Peptide
54	AK	39	ASP	Peptide
55	AL	3	VAL	Peptide
79	AM	28	HIS	Peptide
79	AM	40	LYS	Peptide
56	AN	23	PRO	Peptide
80	AO	138	ASP	Peptide
80	AO	47	LEU	Peptide
59	AR	62	VAL	Peptide
60	AT	12	VAL	Peptide
60	AT	13	ARG	Peptide
60	AT	25	LYS	Peptide
81	AU	117	GLN	Peptide
81	AU	40	ALA	Peptide
81	AU	63	HIS	Peptide
81	AU	83	GLN	Peptide
61	AV	81	ARG	Peptide
71	Ao	164	ASN	Peptide
71	Ao	195	TRP	Peptide
71	Ao	43	SER	Peptide
71	Ao	77	ILE	Peptide
63	Ap	131	ASP	Peptide
63	Ap	190	PRO	Peptide
63	Ap	37	ALA	Peptide
64	Aq	164	VAL	Peptide
64	Aq	193	ASP	Peptide
64	Aq	96	LEU	Peptide
65	Ar	144	ALA	Peptide
65	Ar	194	VAL	Peptide
72	As	118	ASN	Peptide
72	As	133	THR	Peptide
72	As	137	GLN	Peptide

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Mol	Chain	Res	Type	Group
72	As	163	PHE	Peptide
72	As	28	VAL	Peptide
72	As	40	ALA	Peptide
66	At	138	GLU	Peptide
66	At	32	MET	Peptide
66	At	66	VAL	Peptide
67	Au	127	ALA	Peptide
68	Av	3	MET	Peptide
69	Ay	110	ASP	Peptide
69	Ay	118	THR	Peptide
69	Ay	37	ARG	Peptide
69	Ay	38	PRO	Peptide
69	Ay	43	GLU	Peptide
75	Az	107	LYS	Peptide
75	Az	27	ASP	Peptide
75	Az	6	THR	Peptide
75	Az	85	VAL	Peptide
5	F	290	SER	Peptide
38	H	88	VAL	Mainchain
40	K	7	HIS	Peptide
11	O	65	ARG	Peptide
39	i	58	LYS	Peptide
33	s	40	GLY	Peptide

5.2 Too-close contacts ⓘ

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	B	2558	0	1296	17	0
2	C	3314	0	1683	26	0
3	D	1898	0	1993	59	0
4	E	3238	0	3376	79	0
5	F	2919	0	3092	77	0
6	G	2382	0	2410	59	0
7	I	1650	0	1794	43	0
8	J	1242	0	1269	22	0
9	L	1566	0	1727	46	0
10	N	1298	0	1366	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
11	O	825	0	850	13	0
12	P	979	0	1039	25	0
13	Q	534	0	546	5	0
14	S	1115	0	1205	23	0
15	T	1107	0	1182	16	0
16	U	1162	0	1213	28	0
17	V	610	0	650	13	0
18	X	888	0	930	14	0
19	Y	1053	0	1147	19	0
20	Z	876	0	912	29	0
21	a	906	0	1002	0	0
22	b	1015	0	1148	0	0
23	c	832	0	917	0	0
24	d	705	0	741	0	0
25	e	569	0	637	0	0
26	f	444	0	483	0	0
27	g	429	0	469	0	0
28	j	708	0	760	0	0
29	k	1002	0	1068	0	0
30	m	1870	0	1996	0	0
31	n	1927	0	2074	0	0
32	o	1518	0	1601	0	0
33	s	1138	0	1204	0	0
34	t	1701	0	1749	0	0
35	h	230	0	275	0	0
36	r	1701	0	1818	0	0
37	A	80184	0	40389	914	0
38	H	1958	0	2125	138	0
39	i	862	0	933	0	0
40	K	1513	0	1628	43	0
41	l	1741	0	1854	0	0
42	M	1453	0	1490	55	0
43	p	1711	0	1749	0	0
44	q	1410	0	1440	0	0
45	R	985	0	1066	34	0
46	W	764	0	804	23	0
47	AA	36900	0	18591	3377	0
48	AC	636	0	637	57	0
49	AD	1098	0	1167	106	0
50	AE	814	0	867	84	0
51	AF	498	0	525	51	0
52	AH	581	0	597	63	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
53	AJ	1725	0	1813	212	0
54	AK	1923	0	2089	210	0
55	AL	1525	0	1640	166	0
56	AN	1202	0	1289	121	0
57	AP	1034	0	1080	126	0
58	AQ	1065	0	1142	132	0
59	AR	598	0	656	74	0
60	AT	459	0	503	38	0
61	AV	651	0	672	47	0
62	An	1604	0	813	0	0
63	Ap	1738	0	1808	0	0
64	Aq	1765	0	1864	0	0
65	Ar	2076	0	2177	0	0
66	At	1521	0	1616	0	0
67	Au	1686	0	1772	0	0
68	Av	827	0	854	0	0
69	Ay	1158	0	1232	0	0
70	A0	1235	0	1307	171	0
71	Ao	1747	0	1751	0	0
72	As	1509	0	1563	0	0
73	Aw	1247	0	1323	0	0
74	Ax	804	0	841	0	0
75	Az	1072	0	1129	0	0
76	AB	807	0	874	158	0
77	AG	445	0	442	42	0
78	AI	2436	0	2392	289	0
79	AM	952	0	983	65	0
80	AO	1049	0	1073	118	0
81	AU	1112	0	1146	203	0
All	All	217989	0	161328	6816	0

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 27.

All (6816) 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)
76:AB:49:LYS:HG2	76:AB:92:HIS:CE1	1.36	1.55
38:H:84:LYS:HB3	38:H:89:LEU:CD2	1.32	1.53
38:H:84:LYS:CB	38:H:89:LEU:HD23	1.01	1.48
76:AB:49:LYS:HE3	76:AB:51:LYS:NZ	1.29	1.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:22:ILE:HD12	42:M:166:ARG:NH1	1.15	1.43
80:AO:14:VAL:HG21	80:AO:17:LEU:C	1.31	1.42
38:H:84:LYS:CB	38:H:89:LEU:CD2	1.87	1.41
46:W:83:THR:CG2	56:AN:147:SER:OG	1.68	1.38
76:AB:43:ALA:O	76:AB:47:ASN:N	1.63	1.31
37:A:4154:G:OP1	45:R:37:LYS:HB2	1.28	1.31
46:W:83:THR:HG21	56:AN:147:SER:OG	1.17	1.31
47:AA:1702:G:C2	47:AA:1703:C:O2	1.82	1.30
9:L:163:ARG:CZ	47:AA:871:U:H3	1.43	1.30
7:I:22:ILE:CD1	42:M:166:ARG:HH12	1.48	1.27
37:A:1564:A:OP1	56:AN:140:LYS:NZ	1.68	1.27
42:M:161:ARG:O	42:M:165:PRO:HD3	1.34	1.26
47:AA:1702:G:C2	47:AA:1703:C:C2	2.24	1.26
80:AO:12:GLU:HA	80:AO:86:LYS:O	1.10	1.24
38:H:98:GLY:HA2	38:H:102:GLY:O	1.31	1.24
80:AO:12:GLU:OE1	80:AO:86:LYS:O	1.56	1.23
9:L:176:ARG:NH2	47:AA:909:G:O3'	1.69	1.22
76:AB:49:LYS:CG	76:AB:92:HIS:CE1	2.22	1.22
37:A:2:G:OP1	45:R:38:LYS:HG2	1.40	1.22
9:L:176:ARG:HH22	47:AA:909:G:C3'	1.32	1.21
37:A:3710:G:OP2	37:A:3712:A:N6	1.74	1.20
76:AB:49:LYS:HD3	76:AB:51:LYS:CG	1.72	1.19
37:A:1564:A:P	56:AN:140:LYS:NZ	2.14	1.18
38:H:98:GLY:CA	38:H:102:GLY:O	1.90	1.18
81:AU:38:LYS:HB2	81:AU:43:LYS:O	1.03	1.18
76:AB:44:LYS:O	76:AB:47:ASN:OD1	1.61	1.17
47:AA:1702:G:N1	47:AA:1703:C:O2	1.77	1.17
7:I:22:ILE:CD1	42:M:166:ARG:NH1	2.07	1.16
76:AB:49:LYS:CD	76:AB:51:LYS:HG3	1.76	1.16
76:AB:43:ALA:C	76:AB:47:ASN:HB3	1.66	1.15
37:A:3760:A:N6	47:AA:1826:G:O3'	1.80	1.14
37:A:4154:G:OP1	45:R:37:LYS:CB	1.95	1.13
37:A:2:G:OP1	45:R:38:LYS:CG	1.96	1.13
78:AI:12:LYS:O	78:AI:54:ILE:HD13	1.47	1.13
38:H:84:LYS:O	38:H:89:LEU:HB2	1.46	1.12
76:AB:50:VAL:HG22	76:AB:89:ILE:HG21	1.31	1.09
79:AM:97:GLU:O	79:AM:99:ASN:ND2	1.85	1.09
78:AI:43:TRP:CD1	78:AI:54:ILE:O	2.05	1.09
81:AU:38:LYS:CB	81:AU:43:LYS:O	1.99	1.09
80:AO:12:GLU:CA	80:AO:86:LYS:O	2.01	1.08
38:H:86:GLU:O	38:H:87:LYS:C	1.84	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:AO:14:VAL:CG2	80:AO:17:LEU:C	2.21	1.08
81:AU:3:GLY:O	81:AU:4:VAL:HG12	1.53	1.08
42:M:161:ARG:O	42:M:165:PRO:CD	2.01	1.07
37:A:1564:A:P	56:AN:140:LYS:HZ3	1.73	1.07
76:AB:49:LYS:HD3	76:AB:51:LYS:HG3	1.09	1.07
80:AO:14:VAL:HG21	80:AO:17:LEU:O	1.55	1.06
76:AB:43:ALA:O	76:AB:47:ASN:CB	2.04	1.04
70:A0:39:ARG:HH12	81:AU:45:LEU:N	1.53	1.04
7:I:22:ILE:HG23	42:M:166:ARG:NH1	1.71	1.04
37:A:1564:A:OP1	56:AN:140:LYS:CE	2.05	1.03
76:AB:43:ALA:O	76:AB:47:ASN:CA	2.05	1.03
80:AO:14:VAL:HG22	80:AO:17:LEU:H	1.24	1.03
38:H:84:LYS:O	38:H:89:LEU:CB	2.06	1.03
59:AR:49:LEU:HB3	59:AR:83:LEU:HD12	1.38	1.03
38:H:90:ALA:HB1	38:H:107:VAL:HG21	1.37	1.03
38:H:90:ALA:O	38:H:107:VAL:HB	1.59	1.02
47:AA:639:C:H2'	47:AA:640:A:H8	1.24	1.02
37:A:684:G:OP1	38:H:100:LYS:HE2	1.57	1.01
47:AA:819:G:H1	47:AA:829:C:H42	1.06	1.01
57:AP:9:ASP:HA	57:AP:12:LYS:HB3	1.43	1.01
47:AA:316:G:N1	47:AA:334:C:N3	2.09	1.01
80:AO:12:GLU:OE2	80:AO:91:THR:HG22	1.60	1.00
56:AN:3:ARG:NH2	56:AN:10:GLY:O	1.92	1.00
38:H:84:LYS:HB2	38:H:89:LEU:CD2	1.70	1.00
9:L:163:ARG:CZ	47:AA:871:U:N3	2.23	1.00
47:AA:1702:G:N2	47:AA:1703:C:O2	1.95	1.00
47:AA:1606:G:HO2'	47:AA:1607:A:H8	1.00	1.00
76:AB:49:LYS:CE	76:AB:51:LYS:NZ	2.24	0.99
37:A:1564:A:P	56:AN:140:LYS:HZ1	1.84	0.98
47:AA:105:U:HO2'	47:AA:432:G:HO2'	1.02	0.98
78:AI:30:MET:SD	78:AI:56:GLN:HG2	2.04	0.98
76:AB:50:VAL:O	76:AB:51:LYS:O	1.81	0.98
37:A:3711:A:O4'	47:AA:970:G:O4'	1.82	0.97
47:AA:1195:A:H2'	47:AA:1196:A:H8	1.26	0.97
81:AU:99:VAL:O	81:AU:103:VAL:N	1.96	0.97
47:AA:1607:A:N7	47:AA:1632:G:N2	2.11	0.97
47:AA:1715:A:C6	47:AA:1819:A:C2	2.53	0.97
47:AA:77:A:O2'	54:AK:174:PRO:O	1.82	0.97
9:L:176:ARG:NH2	47:AA:909:G:C3'	1.99	0.97
54:AK:186:GLN:HA	54:AK:189:ARG:HH21	1.30	0.97
47:AA:1113:A:H3'	47:AA:1114:U:H5'	1.46	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:A0:39:ARG:HH12	81:AU:45:LEU:H	1.14	0.96
37:A:2:G:P	45:R:38:LYS:HG2	2.05	0.96
47:AA:1607:A:N6	47:AA:1632:G:N3	2.14	0.96
38:H:90:ALA:O	38:H:91:THR:HB	1.63	0.95
47:AA:1562:C:H4'	81:AU:119:GLY:HA3	1.46	0.95
47:AA:1702:G:N2	47:AA:1703:C:H1'	1.82	0.95
47:AA:1861:G:OP1	50:AE:8:ASN:ND2	1.99	0.95
76:AB:50:VAL:HG22	76:AB:89:ILE:CG2	1.96	0.95
51:AF:18:LEU:HB3	51:AF:67:ARG:HH21	1.32	0.95
47:AA:1291:A:H2'	52:AH:140:TYR:HB2	1.48	0.95
47:AA:70:G:N2	47:AA:79:A:N7	2.14	0.95
70:A0:39:ARG:NH1	81:AU:45:LEU:N	2.13	0.95
47:AA:1211:G:N1	47:AA:1688:C:N3	2.15	0.95
61:AV:34:ASP:HB3	61:AV:80:ARG:HB2	1.49	0.95
37:A:2:G:OP1	45:R:38:LYS:CD	2.15	0.95
47:AA:1841:C:N3	47:AA:1858:G:N1	2.15	0.95
3:D:249:THR:O	47:AA:1044:G:N7	2.00	0.95
37:A:3711:A:C5'	47:AA:970:G:O4'	2.06	0.94
47:AA:1492:U:O2'	76:AB:70:CYS:SG	2.24	0.94
47:AA:1735:A:N7	47:AA:1799:G:N2	2.16	0.94
47:AA:141:A:N7	47:AA:177:G:N2	2.16	0.94
81:AU:56:ARG:HG2	81:AU:103:VAL:HG11	1.50	0.94
51:AF:14:VAL:HG12	51:AF:32:VAL:HG12	1.50	0.93
81:AU:6:VAL:HG13	81:AU:7:LYS:HG3	1.50	0.93
37:A:3956:G:O2'	37:A:3957:U:OP2	1.86	0.93
47:AA:641:A:OP1	55:AL:40:LYS:NZ	2.00	0.93
47:AA:202:G:H2'	47:AA:203:G:H8	1.34	0.93
47:AA:1114:U:H3	47:AA:1119:A:H61	1.04	0.93
47:AA:1702:G:N1	47:AA:1703:C:C2	2.33	0.93
78:AI:54:ILE:HG23	78:AI:55:PRO:HD3	1.50	0.93
47:AA:1401:A:N6	47:AA:1441:U:O2'	2.02	0.93
47:AA:884:C:N3	47:AA:902:G:N1	2.16	0.92
58:AQ:121:ALA:O	58:AQ:125:VAL:N	2.02	0.92
48:AC:36:VAL:HA	80:AO:64:ALA:HA	94.79	0.92
37:A:3766:A:C1'	47:AA:1849:G:H2'	1.98	0.92
46:W:19:GLN:NE2	56:AN:150:VAL:O	2.02	0.92
37:A:686:A:H2'	38:H:96:VAL:HG23	1.51	0.92
47:AA:926:A:H61	47:AA:1015:U:H3	1.10	0.92
47:AA:1024:A:OP2	56:AN:124:ARG:NH2	2.03	0.92
47:AA:837:A:N7	58:AQ:9:THR:OG1	2.03	0.92
47:AA:108:G:O2'	47:AA:853:C:N4	2.01	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:AE:22:ARG:NH2	50:AE:27:ALA:O	2.03	0.91
37:A:1564:A:OP1	56:AN:140:LYS:HE2	1.69	0.91
76:AB:49:LYS:HE3	76:AB:51:LYS:HZ1	1.14	0.91
78:AI:45:LEU:HG	78:AI:52:TYR:CD2	2.06	0.91
54:AK:216:ARG:HA	54:AK:219:GLU:HG2	1.52	0.91
55:AL:77:LEU:HA	55:AL:80:ARG:HE	1.33	0.91
47:AA:1312:G:N2	47:AA:1314:U:O4	2.02	0.91
47:AA:1345:G:N1	47:AA:1384:C:N3	2.18	0.91
47:AA:1212:G:H1	47:AA:1687:C:H42	1.11	0.91
37:A:3711:A:C2	47:AA:970:G:H2'	2.05	0.91
38:H:84:LYS:HB3	38:H:89:LEU:HD22	1.50	0.91
38:H:84:LYS:HB2	38:H:89:LEU:HD23	0.92	0.91
47:AA:535:G:N2	47:AA:536:A:N7	2.18	0.91
47:AA:1737:G:N2	47:AA:1798:C:O2	2.03	0.91
47:AA:3:C:O2'	55:AL:18:ARG:NH2	2.04	0.91
47:AA:1713:C:H5''	47:AA:1714:U:OP2	1.69	0.91
47:AA:1091:C:N3	47:AA:1158:G:N1	2.19	0.90
47:AA:1734:G:N2	47:AA:1800:A:N7	2.18	0.90
76:AB:17:ILE:HA	76:AB:94:PRO:HA	1.52	0.90
47:AA:1570:G:O6	81:AU:97:LYS:NZ	2.04	0.90
38:H:82:LYS:HG3	38:H:83:LYS:O	1.71	0.90
47:AA:1167:G:N1	47:AA:1193:U:O2	2.04	0.90
47:AA:587:A:OP2	55:AL:172:ARG:NH2	2.05	0.90
52:AH:108:VAL:HG23	52:AH:110:GLU:H	1.36	0.90
81:AU:102:ARG:O	81:AU:106:ALA:N	2.02	0.90
47:AA:1622:U:N3	70:A0:152:LYS:O	2.04	0.90
47:AA:745:C:N3	47:AA:795:A:N6	2.18	0.90
53:AJ:202:THR:OG1	53:AJ:221:ASP:OD2	1.89	0.90
47:AA:832:G:N1	47:AA:842:C:N3	2.19	0.90
47:AA:1302:G:P	77:AG:5:GLN:OE1	2.28	0.90
47:AA:529:A:N6	47:AA:554:A:N1	2.19	0.90
47:AA:618:C:N3	47:AA:623:G:N1	2.19	0.90
37:A:2:G:OP1	45:R:38:LYS:HD3	1.70	0.90
76:AB:49:LYS:HD2	76:AB:51:LYS:HE2	1.50	0.89
47:AA:1010:G:OP1	56:AN:94:LYS:NZ	2.05	0.89
47:AA:483:C:H5''	49:AD:48:LYS:HE2	1.55	0.89
9:L:163:ARG:NE	47:AA:871:U:H3	1.70	0.89
49:AD:87:ASN:ND2	49:AD:90:CYS:SG	2.45	0.89
53:AJ:178:HIS:HB2	53:AJ:220:ASP:HB3	1.54	0.89
47:AA:619:A:HO2'	47:AA:621:C:H41	1.19	0.89
47:AA:144:U:O2	47:AA:177:G:N2	2.05	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AI:104:HIS:HE2	78:AI:124:SER:HB3	1.37	0.89
78:AI:236:ILE:HG23	78:AI:251:ALA:H	1.33	0.89
81:AU:19:ALA:O	81:AU:23:LYS:N	2.05	0.89
47:AA:1041:G:O6	47:AA:1074:C:N4	2.06	0.89
47:AA:1734:G:N3	47:AA:1800:A:N6	2.20	0.89
47:AA:934:G:OP2	47:AA:993:G:N2	2.06	0.89
47:AA:939:U:H3	47:AA:1003:U:H3	1.20	0.89
53:AJ:196:ILE:HG23	53:AJ:223:TYR:HB2	1.52	0.89
42:M:162:GLN:C	42:M:165:PRO:HD2	1.93	0.89
47:AA:1307:U:H5''	52:AH:102:VAL:HG13	1.55	0.89
47:AA:535:G:N7	47:AA:545:A:N6	2.21	0.89
47:AA:946:U:O4	47:AA:980:A:N6	2.06	0.89
46:W:83:THR:HG21	56:AN:147:SER:HG	1.02	0.89
47:AA:597:G:O6	47:AA:639:C:N4	2.06	0.88
47:AA:1340:U:H3'	47:AA:1341:C:H2'	1.54	0.88
78:AI:54:ILE:HG13	78:AI:55:PRO:HD3	1.54	0.88
81:AU:35:ASP:OD1	81:AU:46:ALA:HB1	1.73	0.88
37:A:686:A:C2'	38:H:96:VAL:HG23	2.03	0.88
58:AQ:125:VAL:O	58:AQ:129:LYS:N	2.06	0.88
47:AA:1749:G:N1	47:AA:1784:G:O6	2.04	0.88
78:AI:45:LEU:HA	78:AI:52:TYR:HB3	1.55	0.88
47:AA:1841:C:O2	47:AA:1858:G:N2	2.05	0.88
76:AB:56:MET:HB2	76:AB:86:LYS:HB2	1.55	0.88
37:A:4739:C:H2'	37:A:4740:G:H5'	1.55	0.88
47:AA:1609:C:H42	47:AA:1630:A:H61	1.20	0.88
47:AA:87:U:H3	47:AA:500:A:H61	1.22	0.88
9:L:176:ARG:HH22	47:AA:909:G:H3'	1.35	0.88
70:A0:63:GLU:OE2	70:A0:66:ARG:NH1	2.07	0.88
47:AA:127:C:H42	47:AA:181:A:H2'	1.38	0.88
47:AA:524:U:O2'	60:AT:28:LYS:NZ	2.06	0.88
58:AQ:119:GLY:O	58:AQ:124:ASN:ND2	2.07	0.88
76:AB:43:ALA:C	76:AB:47:ASN:CB	2.42	0.88
61:AV:34:ASP:OD2	61:AV:80:ARG:NH1	2.07	0.88
47:AA:112:U:H3	47:AA:349:A:H61	1.21	0.87
47:AA:1412:C:O2'	47:AA:1413:G:N7	2.05	0.87
47:AA:1283:C:N3	47:AA:1313:A:N6	2.22	0.87
47:AA:1747:C:N3	47:AA:1787:G:N1	2.22	0.87
38:H:223:ARG:NH1	38:H:234:ASP:OD1	2.07	0.87
47:AA:1860:A:N7	50:AE:34:LYS:NZ	2.21	0.87
47:AA:1226:G:N1	47:AA:1639:G:OP2	2.06	0.87
47:AA:1706:G:O6	47:AA:1828:C:N4	2.07	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AL:136:ARG:NH1	55:AL:138:ARG:O	2.06	0.87
47:AA:1441:U:O2	47:AA:1443:C:N4	2.07	0.87
47:AA:982:G:H21	47:AA:1045:U:H1'	1.40	0.87
47:AA:1461:G:N2	47:AA:1465:A:OP2	2.07	0.87
76:AB:49:LYS:HE3	76:AB:51:LYS:HZ3	1.09	0.87
47:AA:1613:G:O6	47:AA:1626:C:N4	2.06	0.87
76:AB:49:LYS:CD	76:AB:51:LYS:CG	2.43	0.87
78:AI:54:ILE:HG13	78:AI:55:PRO:CD	2.04	0.87
53:AJ:64:THR:HG23	53:AJ:67:GLY:H	1.38	0.87
46:W:10:SER:HB2	47:AA:1007:C:OP1	1.75	0.87
76:AB:43:ALA:HB1	76:AB:47:ASN:HB3	1.57	0.86
47:AA:1268:C:H42	47:AA:1514:G:H1	1.20	0.86
47:AA:642:U:OP2	60:AT:34:ARG:NH2	2.09	0.86
37:A:4896:G:H21	37:A:4926:C:H42	1.23	0.86
47:AA:145:G:OP2	54:AK:139:SER:OG	1.93	0.86
78:AI:258:ILE:HB	78:AI:268:ASP:HB2	1.57	0.86
47:AA:1155:U:OP2	53:AJ:194:ARG:NH2	2.07	0.86
56:AN:130:LYS:NZ	56:AN:136:PRO:O	2.08	0.86
57:AP:26:LEU:HD11	57:AP:60:LYS:HB3	1.53	0.86
37:A:3767:C:O2'	37:A:3768:U:P	2.33	0.86
76:AB:43:ALA:CB	76:AB:47:ASN:HB3	2.05	0.86
4:E:290:GLY:HA2	4:E:302:ASN:HD21	1.39	0.86
47:AA:1349:G:N1	47:AA:1380:C:N3	2.23	0.86
47:AA:817:G:H1'	47:AA:847:A:H61	1.40	0.86
47:AA:1229:G:N2	47:AA:1530:U:O2	2.06	0.86
48:AC:74:LYS:O	48:AC:81:LYS:NZ	2.08	0.86
58:AQ:103:SER:O	58:AQ:107:ARG:N	2.07	0.86
47:AA:1534:C:H41	47:AA:1600:G:H1	1.22	0.86
54:AK:57:ASP:HB3	54:AK:61:PHE:HB2	1.58	0.86
47:AA:528:A:N6	47:AA:557:U:O2	2.09	0.86
51:AF:12:ALA:HB3	51:AF:56:LEU:HB2	1.58	0.86
70:A0:121:ARG:HH22	70:A0:125:HIS:HE1	1.22	0.85
47:AA:97:U:O2	47:AA:434:G:N2	2.09	0.85
78:AI:44:LYS:HG3	78:AI:56:GLN:HA	1.58	0.85
47:AA:1221:G:H2'	47:AA:1222:G:H8	1.40	0.85
47:AA:1204:A:N6	47:AA:1693:G:O6	2.07	0.85
47:AA:1488:C:O2'	47:AA:1490:G:OP2	1.94	0.85
47:AA:598:G:N1	47:AA:638:C:N3	2.22	0.85
47:AA:1286:G:O2'	47:AA:1287:A:N7	2.09	0.85
47:AA:1348:G:H2'	47:AA:1349:G:H8	1.41	0.85
55:AL:69:ARG:HA	55:AL:72:PHE:HB3	1.58	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:694:G:H2'	47:AA:695:C:H4'	1.57	0.85
54:AK:52:ILE:HG22	54:AK:111:LEU:HD13	1.55	0.85
47:AA:1702:G:O6	47:AA:1833:C:N4	2.08	0.85
47:AA:1588:A:N6	47:AA:1671:G:O2'	2.10	0.85
47:AA:1285:G:N2	52:AH:103:LEU:O	2.10	0.85
47:AA:916:A:N7	56:AN:69:ASN:ND2	2.25	0.85
80:AO:14:VAL:CG2	80:AO:17:LEU:O	2.19	0.85
47:AA:399:C:N4	47:AA:680:G:OP1	2.09	0.85
78:AI:32:LEU:HD13	78:AI:69:VAL:HG13	1.58	0.85
47:AA:1660:C:O2	77:AG:32:ARG:NH2	2.10	0.84
47:AA:1815:A:H3'	47:AA:1816:G:C8	2.12	0.84
47:AA:1054:G:O6	47:AA:1064:C:N4	2.09	0.84
47:AA:1342:U:H3	47:AA:1483:A:H61	1.21	0.84
53:AJ:271:ASP:OD1	53:AJ:272:HIS:N	2.10	0.84
55:AL:122:SER:O	55:AL:126:ALA:N	2.09	0.84
47:AA:127:C:N4	47:AA:180:G:O2'	2.10	0.84
47:AA:1540:G:N1	47:AA:1593:C:N3	2.25	0.84
78:AI:54:ILE:HG23	78:AI:55:PRO:CD	2.07	0.84
81:AU:38:LYS:HE2	81:AU:44:GLU:HA	1.58	0.84
47:AA:1781:A:O2'	47:AA:1782:G:N7	2.10	0.84
78:AI:17:TRP:HB3	78:AI:303:THR:HA	1.58	0.84
76:AB:49:LYS:CG	76:AB:92:HIS:HE1	1.73	0.84
47:AA:881:G:N1	47:AA:906:U:O2	2.10	0.84
51:AF:18:LEU:HD22	51:AF:66:ARG:HH12	1.41	0.84
47:AA:1747:C:N4	47:AA:1787:G:O6	2.10	0.84
47:AA:185:G:N2	47:AA:213:G:O6	2.11	0.84
7:I:22:ILE:HG23	42:M:166:ARG:HH11	1.42	0.84
47:AA:1272:C:N4	47:AA:1273:C:O2	2.11	0.84
47:AA:146:G:OP2	54:AK:143:LYS:NZ	2.11	0.84
47:AA:1243:U:O4	47:AA:1257:G:N2	2.10	0.84
47:AA:198:U:O2'	47:AA:202:G:N2	2.10	0.84
37:A:2252:G:OP2	38:H:87:LYS:O	1.96	0.83
47:AA:1627:C:OP1	81:AU:85:ASN:ND2	2.11	0.83
47:AA:364:A:O2'	47:AA:401:A:N1	2.10	0.83
47:AA:538:U:H1'	47:AA:544:G:H1	1.42	0.83
47:AA:560:A:H5'	55:AL:174:LYS:HB2	1.59	0.83
76:AB:44:LYS:C	76:AB:47:ASN:OD1	2.16	0.83
47:AA:1155:U:O3'	57:AP:71:LYS:NZ	2.11	0.83
47:AA:410:G:N1	47:AA:430:C:N3	2.26	0.83
55:AL:77:LEU:HB3	55:AL:80:ARG:HH21	1.42	0.83
47:AA:506:G:OP1	58:AQ:108:LYS:NZ	2.10	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1414:A:N6	47:AA:1417:C:OP1	2.12	0.83
47:AA:1654:G:H1	47:AA:1670:C:N4	1.76	0.83
47:AA:1411:G:N2	47:AA:1434:C:O2	2.10	0.83
47:AA:694:G:N1	47:AA:739:C:OP2	2.11	0.83
47:AA:1111:U:O4	47:AA:1122:A:N6	2.10	0.83
47:AA:1271:C:N4	47:AA:1512:C:N3	2.26	0.83
47:AA:21:U:O4	47:AA:22:A:N6	2.12	0.83
47:AA:876:C:H2'	47:AA:878:G:H5'	1.61	0.83
47:AA:1392:U:H2'	47:AA:1393:G:C8	2.14	0.83
70:A0:38:ARG:HE	81:AU:45:LEU:CD1	1.92	0.82
47:AA:194:C:N3	47:AA:205:G:N1	2.27	0.82
47:AA:996:A:O2'	47:AA:997:A:O5'	1.96	0.82
49:AD:124:LYS:HA	49:AD:129:SER:HA	1.61	0.82
58:AQ:82:ALA:O	58:AQ:86:GLU:N	2.11	0.82
3:D:248:GLY:O	47:AA:1044:G:C5	2.31	0.82
38:H:224:LYS:HE2	38:H:224:LYS:HA	1.60	0.82
47:AA:1605:G:O2'	47:AA:1633:A:N6	2.12	0.82
47:AA:1815:A:H3'	47:AA:1816:G:H8	1.42	0.82
47:AA:639:C:H2'	47:AA:640:A:C8	2.14	0.82
78:AI:11:LEU:HB2	78:AI:307:VAL:HB	1.61	0.82
47:AA:1280:G:H1'	47:AA:1318:G:H22	1.42	0.82
47:AA:152:U:H3	47:AA:166:A:H61	1.26	0.82
47:AA:999:G:O6	50:AE:16:GLY:N	2.10	0.82
78:AI:239:LEU:HD11	78:AI:248:LEU:HD11	1.60	0.82
58:AQ:104:ARG:HB2	58:AQ:108:LYS:HE2	1.59	0.82
38:H:224:LYS:HA	38:H:224:LYS:CE	2.09	0.82
9:L:176:ARG:HH21	47:AA:910:G:P	2.01	0.82
78:AI:82:SER:OG	78:AI:84:ASP:OD1	1.97	0.82
46:W:83:THR:HG23	56:AN:147:SER:OG	1.79	0.82
37:A:686:A:H2'	38:H:96:VAL:CG2	2.09	0.82
47:AA:1421:A:N1	47:AA:1427:C:O2'	2.12	0.82
53:AJ:250:TYR:OH	57:AP:70:ASN:OD1	1.96	0.82
47:AA:1422:G:N2	47:AA:1426:U:O4	2.12	0.82
37:A:683:C:H4'	38:H:101:ASN:HB2	1.61	0.82
47:AA:821:G:H22	55:AL:150:ARG:HB2	1.44	0.82
47:AA:1107:G:N1	47:AA:1125:C:N3	2.26	0.82
53:AJ:72:ASP:OD2	53:AJ:272:HIS:ND1	2.13	0.82
38:H:84:LYS:CA	38:H:89:LEU:HD23	2.07	0.82
47:AA:337:C:H2'	47:AA:338:G:H4'	1.62	0.81
47:AA:439:A:N6	47:AA:454:U:O4	2.13	0.81
58:AQ:109:GLU:HA	58:AQ:112:ASN:HB3	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1453:C:H42	47:AA:1475:G:H22	1.27	0.81
47:AA:958:G:H1'	47:AA:959:G:H5'	1.61	0.81
80:AO:12:GLU:OE2	80:AO:91:THR:CG2	2.28	0.81
47:AA:1107:G:N2	47:AA:1125:C:O2	2.13	0.81
57:AP:32:LYS:O	57:AP:36:ARG:N	2.11	0.81
37:A:1242:G:H1	37:A:1269:G:H21	1.28	0.81
47:AA:1228:A:N6	47:AA:1530:U:O4	2.11	0.81
47:AA:529:A:C2	47:AA:557:U:H1'	2.16	0.81
78:AI:44:LYS:N	78:AI:56:GLN:HB2	1.94	0.81
47:AA:50:A:N1	47:AA:488:U:N3	2.28	0.81
47:AA:827:A:H2'	47:AA:828:G:H8	1.46	0.81
76:AB:44:LYS:CA	76:AB:47:ASN:OD1	2.28	0.81
54:AK:49:VAL:HG23	54:AK:114:VAL:HG23	1.60	0.81
47:AA:1622:U:H3'	47:AA:1623:A:O4'	1.81	0.81
47:AA:171:A:OP1	54:AK:178:ARG:NH2	2.12	0.81
47:AA:187:G:N2	47:AA:212:C:O2	2.13	0.81
50:AE:44:ILE:O	80:AO:113:GLN:NE2	2.13	0.81
78:AI:65:PHE:HB2	78:AI:83:TRP:HB2	1.61	0.81
48:AC:15:ARG:HA	53:AJ:259:THR:HG21	1.61	0.81
47:AA:1233:G:O6	47:AA:1525:C:N4	2.13	0.81
42:M:166:ARG:HG3	42:M:167:PHE:CE2	2.16	0.81
47:AA:819:G:N2	47:AA:829:C:N3	2.28	0.81
47:AA:884:C:O2	47:AA:902:G:N2	2.10	0.81
59:AR:47:LEU:O	59:AR:80:ARG:N	2.14	0.81
3:D:30:ARG:O	3:D:163:ARG:NH2	2.13	0.81
47:AA:1038:U:O2	47:AA:1180:C:N4	2.14	0.81
47:AA:1413:G:N2	47:AA:1414:A:O3'	2.13	0.81
47:AA:1392:U:O2	47:AA:1478:U:N3	2.13	0.81
47:AA:23:G:N7	47:AA:24:C:N4	2.29	0.81
47:AA:885:U:O2	47:AA:901:G:N2	2.13	0.81
47:AA:1808:U:H2'	47:AA:1809:A:H8	1.46	0.81
47:AA:609:U:H2'	47:AA:610:G:C8	2.16	0.81
58:AQ:122:LYS:O	58:AQ:126:GLY:N	2.14	0.81
70:A0:44:VAL:HG11	70:A0:67:VAL:HG23	1.63	0.81
47:AA:1091:C:N4	47:AA:1158:G:O6	2.14	0.81
76:AB:26:SER:HB2	76:AB:32:LEU:HD13	1.61	0.81
47:AA:1507:G:H21	52:AH:91:ASN:HB2	1.45	0.81
47:AA:1398:G:C2	47:AA:1399:C:H1'	2.15	0.80
76:AB:44:LYS:HA	76:AB:47:ASN:OD1	1.79	0.80
47:AA:1231:C:OP2	70:A0:139:THR:OG1	1.97	0.80
47:AA:1708:C:N4	47:AA:1826:G:O6	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:AF:6:VAL:HG22	51:AF:8:PRO:HD3	1.62	0.80
78:AI:87:LEU:HB3	78:AI:101:PHE:HB2	1.63	0.80
47:AA:1068:G:N2	47:AA:1069:U:O4	2.14	0.80
47:AA:410:G:N2	47:AA:430:C:O2	2.13	0.80
77:AG:39:CYS:O	77:AG:43:PHE:N	2.14	0.80
78:AI:54:ILE:CG2	78:AI:55:PRO:HD3	2.11	0.80
78:AI:44:LYS:HG2	78:AI:56:GLN:OE1	1.82	0.80
37:A:3711:A:C4'	47:AA:970:G:O4'	2.28	0.80
47:AA:885:U:H2'	47:AA:886:A:H8	1.44	0.80
78:AI:31:ILE:HG23	78:AI:43:TRP:HB2	1.62	0.80
53:AJ:72:ASP:OD2	53:AJ:74:LYS:NZ	2.13	0.80
58:AQ:8:ARG:O	58:AQ:26:ASP:N	2.14	0.80
47:AA:673:G:O6	47:AA:1032:C:N4	2.13	0.80
47:AA:1550:G:H3'	47:AA:1579:A:H61	1.46	0.80
47:AA:102:A:N6	47:AA:406:U:O2	2.14	0.80
58:AQ:127:ALA:HA	58:AQ:130:LYS:HD3	1.64	0.80
47:AA:184:G:H3'	47:AA:185:G:H8	1.45	0.80
47:AA:491:C:N4	47:AA:509:G:O6	2.11	0.80
47:AA:36:U:O4	47:AA:519:A:N6	2.15	0.80
49:AD:135:LYS:HB2	49:AD:137:LYS:HG2	1.64	0.80
3:D:248:GLY:O	47:AA:1044:G:C6	2.34	0.80
47:AA:748:C:O2'	47:AA:793:G:N2	2.14	0.80
52:AH:118:ARG:HG2	52:AH:119:ARG:H	1.46	0.80
4:E:375:GLY:HA3	37:A:5002:U:H4'	1.63	0.80
47:AA:1420:G:N2	47:AA:1427:C:O2	2.14	0.80
47:AA:1473:G:O2'	47:AA:1474:A:N3	2.14	0.80
53:AJ:222:CYS:SG	53:AJ:223:TYR:N	2.55	0.80
54:AK:121:ILE:O	54:AK:125:THR:OG1	1.97	0.80
47:AA:482:G:H4'	49:AD:76:LYS:HZ3	1.47	0.80
47:AA:1125:C:H2'	47:AA:1126:G:H8	1.46	0.80
54:AK:226:GLU:O	54:AK:230:LYS:N	2.14	0.80
47:AA:596:U:O4	47:AA:640:A:N6	2.16	0.79
47:AA:991:G:N7	50:AE:7:ASN:ND2	2.30	0.79
53:AJ:221:ASP:OD1	53:AJ:222:CYS:N	2.14	0.79
54:AK:231:ARG:HA	54:AK:234:LEU:HB2	1.65	0.79
80:AO:14:VAL:HG21	80:AO:17:LEU:CA	2.10	0.79
47:AA:1227:G:N2	47:AA:1228:A:O4'	2.15	0.79
47:AA:1414:A:H61	47:AA:1429:G:H1	1.28	0.79
47:AA:1832:A:C5	47:AA:1833:C:H5	1.99	0.79
47:AA:39:A:H62	47:AA:515:G:H1'	1.47	0.79
47:AA:745:C:N4	47:AA:795:A:N1	2.29	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:S:2:LYS:HD2	14:S:7:VAL:HG23	1.62	0.79
47:AA:1563:G:O6	47:AA:1572:C:N4	2.13	0.79
47:AA:828:G:H21	47:AA:830:A:H1'	1.48	0.79
47:AA:957:A:O2'	47:AA:958:G:O5'	1.99	0.79
78:AI:83:TRP:HA	78:AI:107:ASP:OD1	1.81	0.79
47:AA:193:C:N3	47:AA:206:G:N1	2.28	0.79
80:AO:14:VAL:HG22	80:AO:17:LEU:N	1.96	0.79
81:AU:102:ARG:HA	81:AU:105:GLN:HB2	1.64	0.79
37:A:2845:A:H61	37:A:3843:C:H42	1.29	0.79
47:AA:815:U:H3	47:AA:849:A:H61	1.30	0.79
47:AA:945:U:H2'	47:AA:946:U:H6	1.45	0.79
80:AO:12:GLU:CD	80:AO:91:THR:HG22	2.03	0.79
47:AA:923:G:N2	47:AA:1019:C:O2	2.13	0.79
47:AA:474:G:N2	47:AA:507:G:O2'	2.16	0.79
47:AA:937:C:N4	47:AA:1005:G:O6	2.16	0.79
53:AJ:150:ALA:O	53:AJ:154:ALA:N	2.14	0.79
54:AK:64:LYS:HG3	54:AK:65:GLN:H	1.46	0.79
58:AQ:9:THR:HG22	58:AQ:25:ILE:HA	1.63	0.79
47:AA:1403:C:N4	47:AA:1406:G:O6	2.16	0.79
47:AA:1452:A:N1	47:AA:1474:A:O2'	2.16	0.79
47:AA:146:G:O6	47:AA:173:A:N6	2.15	0.79
81:AU:54:TYR:O	81:AU:58:ALA:N	2.15	0.79
47:AA:291:G:N2	47:AA:293:C:OP2	2.14	0.79
38:H:100:LYS:HE3	38:H:100:LYS:C	2.02	0.79
47:AA:1280:G:N7	79:AM:101:ARG:NH2	2.31	0.79
47:AA:1259:A:N6	47:AA:1519:U:O5'	2.16	0.79
47:AA:382:C:N4	47:AA:383:G:O6	2.16	0.79
47:AA:598:G:N2	47:AA:638:C:O2	2.15	0.79
47:AA:954:U:O2	80:AO:55:ARG:NH2	2.16	0.79
54:AK:200:LYS:O	54:AK:204:GLU:N	2.15	0.79
6:G:104:LEU:HB2	6:G:247:ILE:HD11	1.63	0.79
47:AA:1514:G:H2'	47:AA:1515:G:C8	2.17	0.79
47:AA:188:C:N4	47:AA:211:G:O6	2.12	0.79
80:AO:14:VAL:CG2	80:AO:17:LEU:CA	2.61	0.79
57:AP:39:THR:O	57:AP:42:MET:N	2.15	0.79
6:G:261:VAL:HG12	6:G:263:LYS:H	1.48	0.79
47:AA:1610:G:N2	70:A0:85:ASN:O	2.16	0.78
47:AA:1097:G:N1	47:AA:1135:C:N3	2.29	0.78
37:A:957:G:N2	37:A:959:G:O6	2.16	0.78
47:AA:195:C:O2	47:AA:204:G:N1	2.11	0.78
47:AA:1:U:O2'	47:AA:3:C:N4	2.16	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1345:G:O6	47:AA:1384:C:N4	2.12	0.78
81:AU:38:LYS:NZ	81:AU:44:GLU:HB2	1.98	0.78
81:AU:56:ARG:HE	81:AU:103:VAL:HG21	1.48	0.78
37:A:4765:G:H22	37:A:4869:U:H3	1.28	0.78
53:AJ:270:THR:HA	53:AJ:273:LEU:HB2	1.64	0.78
47:AA:1199:A:OP1	50:AE:2:THR:OG1	2.00	0.78
78:AI:68:ASP:O	78:AI:81:GLY:N	2.15	0.78
37:A:686:A:O2'	38:H:96:VAL:HG23	1.83	0.78
47:AA:193:C:O2	47:AA:206:G:N2	2.15	0.78
47:AA:531:A:N6	47:AA:552:G:O6	2.16	0.78
79:AM:52:GLN:HE22	79:AM:66:GLU:HB3	1.47	0.78
7:I:125:LYS:HG3	7:I:129:LEU:HD12	1.65	0.78
47:AA:934:G:O6	47:AA:1008:A:N6	2.15	0.78
47:AA:1324:G:N2	47:AA:1509:U:O2'	2.17	0.78
47:AA:1521:C:H41	70:A0:137:LYS:HE3	1.47	0.78
47:AA:206:G:H2'	47:AA:207:G:C8	2.19	0.78
78:AI:220:ASP:HB3	78:AI:223:GLU:HB2	1.65	0.78
79:AM:121:LYS:HE3	79:AM:125:GLU:HG3	1.65	0.78
80:AO:12:GLU:HA	80:AO:86:LYS:C	2.02	0.78
47:AA:1333:U:H3	47:AA:1498:A:H61	1.32	0.78
47:AA:1754:G:O6	47:AA:1777:G:N2	2.16	0.78
47:AA:1751:C:N4	47:AA:1780:G:O6	2.17	0.78
47:AA:530:U:O2	47:AA:555:A:N6	2.15	0.78
47:AA:429:C:O2	47:AA:811:A:N6	2.16	0.78
47:AA:873:G:H1	47:AA:912:C:H42	1.30	0.78
78:AI:42:MET:HG3	78:AI:56:GLN:HB3	1.66	0.78
57:AP:112:ASP:OD2	57:AP:115:GLU:N	2.16	0.78
47:AA:1479:G:N2	77:AG:56:ASP:OD2	2.17	0.78
47:AA:71:G:H3'	47:AA:72:C:H5''	1.65	0.78
47:AA:942:G:H1	47:AA:984:C:H42	1.32	0.78
47:AA:562:U:H4'	55:AL:132:GLN:HB2	1.65	0.78
47:AA:1089:G:N2	47:AA:1161:U:O2	2.17	0.78
47:AA:1097:G:O6	47:AA:1135:C:N4	2.16	0.78
47:AA:610:G:C2	47:AA:611:G:H1'	2.19	0.78
47:AA:830:A:OP2	47:AA:846:G:N2	2.16	0.78
37:A:3767:C:O2'	37:A:3768:U:O5'	2.02	0.77
47:AA:182:C:H2'	47:AA:184:G:H5'	1.66	0.77
47:AA:606:G:H8	60:AT:58:ASN:HD21	1.28	0.77
38:H:86:GLU:O	38:H:88:VAL:N	2.16	0.77
47:AA:1096:G:N1	47:AA:1136:U:O2	2.17	0.77
47:AA:1459:G:N2	47:AA:1468:C:N3	2.33	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:619:A:HO2'	47:AA:621:C:N4	1.82	0.77
58:AQ:29:HIS:O	58:AQ:29:HIS:ND1	2.17	0.77
58:AQ:88:LYS:HG3	58:AQ:99:LYS:HD3	1.67	0.77
38:H:90:ALA:O	38:H:107:VAL:CB	2.31	0.77
47:AA:154:U:H1'	54:AK:13:GLN:HG3	1.66	0.77
57:AP:14:ILE:O	57:AP:18:GLU:N	2.13	0.77
47:AA:1523:C:N4	70:A0:137:LYS:O	2.14	0.77
47:AA:837:A:H2'	47:AA:838:G:H4'	1.66	0.77
47:AA:878:G:O6	47:AA:908:A:N6	2.16	0.77
47:AA:878:G:H1'	47:AA:910:G:N2	1.99	0.77
78:AI:34:ALA:HB2	78:AI:69:VAL:HG12	1.66	0.77
4:E:47:LEU:HB2	4:E:181:MET:HE1	1.66	0.77
9:L:176:ARG:NH1	47:AA:909:G:OP1	1.92	0.77
37:A:4739:C:O2	37:A:4961:G:N2	2.18	0.77
47:AA:1559:C:N4	47:AA:1576:G:O6	2.17	0.77
47:AA:186:C:O2	47:AA:213:G:N1	2.15	0.77
47:AA:194:C:O2	47:AA:205:G:N2	2.16	0.77
47:AA:694:G:O6	47:AA:738:C:O2'	2.01	0.77
78:AI:201:SER:OG	78:AI:206:LEU:O	2.02	0.77
53:AJ:179:THR:OG1	53:AJ:180:VAL:N	2.17	0.77
47:AA:1202:U:O4	47:AA:1697:A:N6	2.12	0.77
47:AA:1269:G:N2	47:AA:1298:G:O6	2.17	0.77
47:AA:1610:G:O6	47:AA:1629:C:N4	2.16	0.77
47:AA:1729:U:N3	47:AA:1805:G:O6	2.16	0.77
47:AA:1842:C:N4	47:AA:1857:G:O6	2.17	0.77
55:AL:106:LEU:O	55:AL:112:THR:OG1	2.03	0.77
47:AA:832:G:N7	58:AQ:11:LYS:NZ	2.32	0.77
81:AU:3:GLY:O	81:AU:4:VAL:CG1	2.29	0.77
59:AR:49:LEU:HD21	70:A0:58:GLU:HG2	1.66	0.77
81:AU:22:LEU:HD23	81:AU:54:TYR:HD1	1.48	0.77
9:L:176:ARG:NH2	47:AA:910:G:P	2.58	0.77
37:A:1069:G:OP2	38:H:65:ARG:NH2	2.17	0.77
37:A:3758:U:H1'	37:A:3767:C:H42	1.49	0.77
37:A:4739:C:C4	37:A:4740:G:N7	2.53	0.77
47:AA:1296:U:O2	47:AA:1303:C:N4	2.18	0.77
47:AA:1733:U:O4	47:AA:1801:A:N6	2.17	0.77
47:AA:358:C:H42	47:AA:404:G:H1	1.32	0.77
76:AB:43:ALA:O	76:AB:47:ASN:HB3	1.77	0.77
47:AA:1243:U:H1'	47:AA:1265:A:H1'	1.67	0.76
47:AA:1616:U:H3	47:AA:1620:A:H2	1.29	0.76
47:AA:492:C:N4	47:AA:507:G:OP2	2.15	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:951:C:O2	47:AA:975:G:N2	2.18	0.76
76:AB:43:ALA:CA	76:AB:47:ASN:HB3	2.14	0.76
47:AA:47:G:O6	47:AA:479:C:N4	2.17	0.76
47:AA:536:A:N6	47:AA:548:C:O2	2.19	0.76
49:AD:107:ARG:HD3	49:AD:112:VAL:HG21	1.65	0.76
51:AF:39:SER:OG	51:AF:40:ARG:NH2	2.18	0.76
47:AA:178:C:OP2	47:AA:313:A:N6	2.19	0.76
47:AA:24:C:O2'	47:AA:25:A:O5'	2.03	0.76
51:AF:8:PRO:O	51:AF:10:LYS:NZ	2.16	0.76
57:AP:76:SER:HB2	57:AP:77:PRO:HD3	1.66	0.76
16:U:75:LEU:HD13	16:U:113:GLY:HA2	1.66	0.76
47:AA:145:G:N7	54:AK:178:ARG:NH1	2.32	0.76
79:AM:64:LEU:HA	79:AM:67:ALA:HB2	1.67	0.76
47:AA:1232:U:H3	47:AA:1526:G:H1	1.32	0.76
47:AA:1239:U:O2'	47:AA:1241:A:N7	2.17	0.76
47:AA:1349:G:N2	47:AA:1380:C:O2	2.15	0.76
47:AA:1722:G:O6	47:AA:1812:U:N3	2.18	0.76
56:AN:13:GLN:O	61:AV:20:LYS:NZ	2.18	0.76
4:E:57:VAL:HG22	4:E:73:VAL:HG12	1.67	0.76
47:AA:1610:G:OP1	70:A0:121:ARG:NH2	2.17	0.76
37:A:4541:G:N2	37:A:4544:A:OP2	2.17	0.76
37:A:684:G:OP1	38:H:100:LYS:CE	2.10	0.76
78:AI:12:LYS:O	78:AI:54:ILE:CD1	2.30	0.76
80:AO:14:VAL:HG23	80:AO:17:LEU:HB3	1.67	0.76
47:AA:1751:C:H2'	47:AA:1782:G:H1	1.51	0.76
47:AA:1702:G:O6	47:AA:1836:G:N2	2.18	0.76
47:AA:822:U:O2	47:AA:826:A:N6	2.17	0.76
47:AA:1702:G:C6	47:AA:1703:C:N3	2.54	0.76
76:AB:81:GLN:NE2	76:AB:82:MET:O	2.15	0.76
53:AJ:131:GLY:HA2	53:AJ:137:VAL:HA	1.66	0.76
47:AA:1096:G:O5'	57:AP:20:ARG:NH2	2.19	0.76
47:AA:1713:C:C5'	47:AA:1714:U:OP2	2.33	0.76
47:AA:1513:C:OP1	77:AG:12:ARG:NH2	2.19	0.76
78:AI:258:ILE:O	78:AI:268:ASP:N	2.13	0.76
78:AI:62:HIS:HD2	78:AI:88:ARG:NE	1.83	0.76
59:AR:111:ARG:HH12	59:AR:114:LYS:HG2	1.51	0.76
81:AU:105:GLN:O	81:AU:109:GLY:N	2.19	0.76
81:AU:82:ARG:HG3	81:AU:90:SER:HB2	1.68	0.76
53:AJ:184:VAL:HG13	53:AJ:195:LEU:HD12	1.67	0.76
54:AK:39:ASP:HA	54:AK:45:TRP:HB2	1.67	0.76
81:AU:24:LYS:HG2	81:AU:25:SER:H	1.51	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1141:G:O6	47:AA:1146:C:N4	2.16	0.75
47:AA:1195:A:H2'	47:AA:1196:A:C8	2.18	0.75
37:A:911:U:H2'	37:A:912:G:H8	1.50	0.75
37:A:736:C:H42	37:A:927:G:H22	1.34	0.75
47:AA:949:G:O6	47:AA:977:C:N4	2.19	0.75
53:AJ:183:LYS:NZ	57:AP:91:ASN:O	2.15	0.75
70:A0:74:PRO:HA	70:A0:79:ILE:HD12	1.68	0.75
37:A:2250:C:N4	37:A:2252:G:N3	2.34	0.75
37:A:3753:G:N2	37:A:3771:C:O2'	2.19	0.75
78:AI:245:ARG:HG2	78:AI:246:TYR:HB2	1.67	0.75
55:AL:105:PHE:O	55:AL:109:ARG:N	2.20	0.75
47:AA:1064:C:OP1	80:AO:150:ARG:NH2	2.18	0.75
81:AU:38:LYS:HB2	81:AU:43:LYS:C	2.05	0.75
18:X:46:LEU:HD11	18:X:72:VAL:HG21	1.68	0.75
37:A:502:C:N4	37:A:649:A:OP2	2.19	0.75
47:AA:62:G:N2	47:AA:86:C:O2	2.14	0.75
57:AP:106:THR:HG22	57:AP:123:GLY:HA3	1.68	0.75
47:AA:1226:G:O2'	47:AA:1639:G:O6	2.04	0.75
47:AA:1702:G:H21	47:AA:1703:C:H1'	1.51	0.75
76:AB:49:LYS:HE3	76:AB:51:LYS:CE	2.15	0.75
81:AU:39:LEU:HG	81:AU:96:SER:HB2	1.69	0.75
47:AA:317:C:H2'	47:AA:318:A:C8	2.21	0.75
76:AB:65:THR:O	76:AB:78:ASP:N	2.18	0.75
47:AA:1338:G:H4'	76:AB:74:SER:H	1.51	0.75
51:AF:49:PRO:HB2	51:AF:51:ARG:HH12	1.50	0.75
81:AU:104:LEU:HD13	81:AU:121:ARG:HG3	1.67	0.75
37:A:663:G:H21	37:A:665:C:H41	1.35	0.75
47:AA:1616:U:H2'	47:AA:1617:G:C8	2.21	0.75
47:AA:455:A:O2'	47:AA:1735:A:N3	2.17	0.75
80:AO:74:ALA:HB1	80:AO:115:ALA:HB2	1.69	0.75
47:AA:1192:U:OP2	49:AD:119:ARG:NH2	2.20	0.75
47:AA:1615:U:O2	47:AA:1625:U:N3	2.15	0.75
47:AA:618:C:N4	47:AA:623:G:O6	2.16	0.75
76:AB:43:ALA:HB1	76:AB:47:ASN:CB	2.17	0.75
49:AD:24:ASP:OD2	49:AD:27:TYR:N	2.20	0.75
38:H:84:LYS:HB3	38:H:89:LEU:HD23	0.91	0.75
47:AA:1711:U:O4	47:AA:1712:A:N6	2.20	0.74
47:AA:1818:A:H2'	47:AA:1819:A:H5''	1.69	0.74
47:AA:190:G:O2'	47:AA:209:A:N6	2.20	0.74
47:AA:291:G:O2'	47:AA:292:A:OP2	2.01	0.74
78:AI:56:GLN:O	78:AI:57:ARG:HB3	1.85	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1294:G:N3	52:AH:138:ARG:HB3	2.01	0.74
47:AA:1455:A:N7	47:AA:1475:G:N2	2.34	0.74
47:AA:941:C:N3	47:AA:985:G:N2	2.33	0.74
53:AJ:170:TRP:H	53:AJ:178:HIS:CE1	2.05	0.74
53:AJ:271:ASP:O	53:AJ:276:THR:OG1	2.05	0.74
55:AL:64:ASP:OD2	57:AP:117:ARG:NH2	2.19	0.74
56:AN:102:LEU:O	56:AN:106:ARG:NH1	2.21	0.74
47:AA:1349:G:O6	47:AA:1380:C:N4	2.18	0.74
76:AB:53:PRO:HA	76:AB:89:ILE:HG13	1.68	0.74
78:AI:220:ASP:HB2	78:AI:225:LYS:H	1.53	0.74
47:AA:1044:G:N1	47:AA:1070:A:OP1	2.15	0.74
47:AA:1345:G:N2	47:AA:1384:C:O2	2.14	0.74
47:AA:1414:A:N6	47:AA:1429:G:H1	1.86	0.74
47:AA:1540:G:N2	47:AA:1593:C:O2	2.19	0.74
47:AA:411:G:O6	47:AA:429:C:N4	2.19	0.74
47:AA:594:A:H4'	47:AA:595:U:H5'	1.70	0.74
47:AA:1219:C:H2'	51:AF:26:GLN:HE22	1.51	0.74
4:E:248:LEU:HD12	4:E:249:ARG:HG3	1.69	0.74
14:S:36:LYS:HG2	14:S:39:ARG:HD3	1.69	0.74
47:AA:1756:C:N4	47:AA:1777:G:N3	2.35	0.74
47:AA:399:C:H4'	49:AD:11:ARG:HH12	1.52	0.74
78:AI:43:TRP:HD1	78:AI:54:ILE:O	1.65	0.74
37:A:4154:G:OP1	45:R:37:LYS:CG	2.34	0.74
47:AA:490:C:O2	47:AA:510:G:N2	2.18	0.74
47:AA:51:U:H3	47:AA:476:A:H61	1.36	0.74
47:AA:84:A:H4'	58:AQ:124:ASN:ND2	2.02	0.74
78:AI:45:LEU:HG	78:AI:52:TYR:HD2	1.53	0.74
38:H:84:LYS:CB	38:H:89:LEU:HD21	2.14	0.74
50:AE:51:ARG:NH1	50:AE:55:GLU:OE2	2.20	0.74
54:AK:185:LEU:HA	54:AK:188:LYS:HB2	1.70	0.74
47:AA:1478:U:H2'	47:AA:1479:G:C8	2.23	0.74
47:AA:181:A:N1	54:AK:196:LYS:NZ	2.34	0.74
16:U:102:ASP:HB3	16:U:105:ARG:HD3	1.68	0.74
47:AA:1550:G:N2	47:AA:1559:C:O2	2.20	0.74
47:AA:1587:G:N3	81:AU:67:ARG:NH2	2.35	0.74
47:AA:1591:C:H3'	47:AA:1592:C:H6	1.52	0.74
47:AA:1680:G:H4'	51:AF:20:ARG:HD3	1.69	0.74
53:AJ:75:ILE:HD11	53:AJ:265:PRO:HB3	1.70	0.74
54:AK:220:ALA:HA	54:AK:223:LYS:HZ1	1.52	0.74
47:AA:107:A:C2	47:AA:355:G:C2	2.76	0.74
47:AA:940:U:N3	47:AA:1002:U:O2	2.17	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:561:A:O3'	55:AL:164:PRO:HG3	1.88	0.73
37:A:3711:A:H2	47:AA:970:G:H2'	1.48	0.73
47:AA:1250:A:N7	47:AA:1339:U:O2'	2.21	0.73
47:AA:360:A:N6	47:AA:363:A:N7	2.36	0.73
47:AA:587:A:N3	47:AA:589:G:N2	2.37	0.73
76:AB:49:LYS:CE	76:AB:51:LYS:HZ1	1.92	0.73
53:AJ:253:PRO:HA	53:AJ:256:TRP:CE2	2.23	0.73
54:AK:71:GLY:O	54:AK:99:GLY:N	2.20	0.73
47:AA:1426:U:H3'	47:AA:1427:C:C6	2.22	0.73
47:AA:525:A:H2'	47:AA:526:A:C8	2.23	0.73
47:AA:544:G:C5	47:AA:545:A:H1'	2.23	0.73
47:AA:330:G:N7	54:AK:189:ARG:NH1	2.36	0.73
37:A:3760:A:H61	47:AA:1826:G:C3'	2.01	0.73
47:AA:1421:A:N6	47:AA:1424:G:N7	2.36	0.73
47:AA:338:G:N7	47:AA:339:A:N6	2.35	0.73
47:AA:1301:A:O3'	77:AG:5:GLN:OE1	2.05	0.73
53:AJ:178:HIS:CB	53:AJ:220:ASP:HB3	2.18	0.73
47:AA:1047:C:O2	47:AA:1071:G:N2	2.19	0.73
47:AA:1062:A:H2'	47:AA:1063:C:C6	2.23	0.73
47:AA:1252:C:O2'	47:AA:1253:A:OP1	2.05	0.73
47:AA:1226:G:H1'	47:AA:1640:A:H61	1.53	0.73
76:AB:50:VAL:O	76:AB:89:ILE:CG2	2.36	0.73
78:AI:65:PHE:O	78:AI:83:TRP:N	2.17	0.73
55:AL:63:LEU:HD23	55:AL:70:ARG:HB2	1.69	0.73
56:AN:122:ILE:O	56:AN:126:ALA:N	2.18	0.73
81:AU:101:ARG:O	81:AU:105:GLN:N	2.16	0.73
47:AA:673:G:N1	47:AA:1032:C:N3	2.35	0.73
47:AA:379:C:OP1	81:AU:56:ARG:NH1	177.96	0.73
47:AA:695:C:H5'	47:AA:696:G:C4	2.23	0.73
53:AJ:183:LYS:HE2	53:AJ:196:ILE:HD13	1.70	0.73
47:AA:53:C:O2'	47:AA:507:G:N7	2.22	0.73
58:AQ:9:THR:OG1	58:AQ:48:TYR:OH	2.04	0.73
37:A:1218:G:H2'	37:A:1219:G:H4'	1.71	0.73
37:A:4620:U:OP2	37:A:4670:C:N4	2.20	0.73
47:AA:1453:C:N4	47:AA:1475:G:H22	1.85	0.73
47:AA:1534:C:H4'	47:AA:1535:U:H5''	1.71	0.73
76:AB:49:LYS:HG2	76:AB:92:HIS:HE1	0.93	0.73
49:AD:11:ARG:HG3	49:AD:12:LYS:N	2.03	0.73
47:AA:1506:A:H1'	47:AA:1507:G:H5''	1.70	0.73
47:AA:184:G:H3'	47:AA:185:G:C8	2.23	0.73
47:AA:412:G:N7	47:AA:425:G:N2	2.37	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:693:A:H62	47:AA:734:C:H42	1.37	0.73
47:AA:6:G:H2'	47:AA:7:G:C8	2.24	0.73
76:AB:49:LYS:HD2	76:AB:92:HIS:ND1	2.04	0.73
16:U:7:LYS:NZ	37:A:2285:A:OP2	2.22	0.73
37:A:4939:C:H4'	38:H:187:ARG:HG3	1.68	0.73
78:AI:43:TRP:C	78:AI:56:GLN:HB2	2.08	0.73
47:AA:1599:U:OP1	59:AR:46:ASN:ND2	2.22	0.73
47:AA:678:U:OP2	47:AA:1026:C:N4	2.21	0.72
59:AR:54:THR:O	59:AR:58:LEU:N	2.22	0.72
59:AR:79:ILE:HG23	59:AR:81:GLY:H	1.54	0.72
61:AV:80:ARG:O	61:AV:84:HIS:N	7.79	0.72
42:M:101:THR:HG23	42:M:104:GLY:H	1.54	0.72
76:AB:66:ARG:H	77:AG:40:ARG:NH2	1.87	0.72
47:AA:495:U:O2'	47:AA:496:C:O4'	2.06	0.72
47:AA:969:U:O2	47:AA:971:G:N2	2.23	0.72
56:AN:118:ILE:O	56:AN:121:ARG:N	2.21	0.72
47:AA:1079:C:O2'	47:AA:1182:A:N1	2.22	0.72
47:AA:1621:U:H3'	47:AA:1623:A:H1'	1.71	0.72
47:AA:1211:G:N2	47:AA:1688:C:O2	2.14	0.72
78:AI:237:ASN:ND2	78:AI:287:THR:O	2.22	0.72
56:AN:54:LEU:HB3	56:AN:60:VAL:HG12	1.72	0.72
3:D:58:LEU:HD13	3:D:75:LEU:HD21	1.71	0.72
47:AA:410:G:O6	47:AA:430:C:N4	2.23	0.72
47:AA:618:C:O2	47:AA:623:G:N2	2.21	0.72
78:AI:237:ASN:ND2	78:AI:287:THR:OG1	2.22	0.72
47:AA:1032:C:OP1	56:AN:112:LYS:NZ	2.22	0.72
47:AA:1120:U:OP1	61:AV:72:ARG:NH2	2.22	0.72
37:A:5023:C:N3	37:A:5025:C:O2'	2.23	0.72
47:AA:1365:G:O6	47:AA:1374:C:N4	2.22	0.72
47:AA:1656:G:H1	47:AA:1668:U:H3	1.37	0.72
47:AA:627:U:O2'	47:AA:628:A:OP2	2.07	0.72
76:AB:49:LYS:HD3	76:AB:51:LYS:HG2	1.69	0.72
47:AA:332:G:N7	54:AK:190:ARG:NH2	2.34	0.72
15:T:64:LYS:NZ	37:A:2759:G:O6	2.23	0.72
47:AA:521:A:H3'	47:AA:522:A:H8	1.52	0.72
47:AA:885:U:H2'	47:AA:886:A:C8	2.25	0.72
54:AK:219:GLU:O	54:AK:222:GLU:N	2.23	0.72
47:AA:1493:C:O2'	47:AA:1499:U:O4	2.08	0.72
47:AA:1862:G:O2'	47:AA:1864:U:OP2	2.06	0.72
47:AA:366:U:N3	47:AA:394:G:O6	2.20	0.72
78:AI:120:ILE:HB	78:AI:132:TRP:O	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:AO:14:VAL:HG11	80:AO:17:LEU:O	1.89	0.72
80:AO:43:HIS:HA	80:AO:55:ARG:HA	1.72	0.72
47:AA:1097:G:N2	47:AA:1135:C:O2	2.21	0.72
47:AA:879:C:O2'	47:AA:907:G:N2	2.20	0.72
9:L:165:LYS:NZ	47:AA:907:G:OP2	2.23	0.72
47:AA:1035:A:O2'	47:AA:1856:C:O2	2.05	0.71
47:AA:19:A:HO2'	47:AA:620:G:H8	1.32	0.71
47:AA:331:C:O2'	47:AA:332:G:O4'	2.07	0.71
47:AA:750:C:H41	47:AA:794:A:H1'	1.54	0.71
50:AE:25:ASN:OD1	50:AE:26:CYS:N	2.23	0.71
53:AJ:105:GLU:HB3	53:AJ:129:ALA:O	1.89	0.71
37:A:988:C:H42	37:A:1065:G:H1	1.37	0.71
47:AA:14:C:O2	47:AA:1198:G:N1	2.23	0.71
47:AA:493:A:H1'	47:AA:574:A:H5'	1.72	0.71
47:AA:956:G:H2'	47:AA:957:A:H8	1.53	0.71
49:AD:87:ASN:CG	49:AD:88:ASP:H	1.92	0.71
78:AI:42:MET:CG	78:AI:56:GLN:HB3	2.20	0.71
78:AI:79:LEU:HD11	78:AI:120:ILE:HD13	1.72	0.71
80:AO:14:VAL:CG2	80:AO:17:LEU:HB3	2.20	0.71
47:AA:435:A:C8	47:AA:450:C:H5'	2.26	0.71
47:AA:64:A:N6	47:AA:83:A:OP2	2.23	0.71
47:AA:827:A:H2'	47:AA:828:G:C8	2.25	0.71
47:AA:1660:C:OP2	77:AG:32:ARG:NH1	2.23	0.71
52:AH:118:ARG:HB3	52:AH:131:PHE:HB2	1.72	0.71
81:AU:2:PRO:O	81:AU:139:ALA:CB	2.38	0.71
37:A:3629:A:H1'	47:AA:1721:U:H5	1.56	0.71
47:AA:190:G:N2	47:AA:209:A:OP2	2.22	0.71
48:AC:4:ASP:HB3	53:AJ:174:ILE:HA	1.71	0.71
56:AN:28:LEU:HD23	56:AN:33:VAL:HG12	1.72	0.71
20:Z:50:VAL:HG12	20:Z:69:VAL:HG12	1.72	0.71
47:AA:1540:G:H5'	81:AU:47:PRO:HB3	1.72	0.71
47:AA:1854:U:H2'	47:AA:1855:G:H8	1.55	0.71
47:AA:852:G:C2	47:AA:853:C:H1'	2.25	0.71
49:AD:100:VAL:HB	49:AD:122:VAL:HG21	1.73	0.71
47:AA:197:U:H3'	47:AA:198:U:H4'	1.71	0.71
47:AA:860:G:N7	47:AA:861:A:N6	2.38	0.71
78:AI:5:MET:SD	78:AI:270:LEU:HD12	2.29	0.71
37:A:1244:G:H22	37:A:1264:C:H42	1.37	0.71
47:AA:1208:A:H4'	47:AA:1208:A:OP2	1.85	0.71
47:AA:1476:A:H2'	47:AA:1477:U:H4'	1.72	0.71
76:AB:44:LYS:HA	76:AB:47:ASN:CG	2.10	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AI:296:GLN:HB2	78:AI:312:VAL:HB	1.71	0.71
53:AJ:127:PHE:HD1	53:AJ:141:VAL:HG22	1.54	0.71
79:AM:42:LEU:HA	79:AM:112:LYS:HD3	1.70	0.71
57:AP:36:ARG:HH21	57:AP:109:GLY:HA2	1.55	0.71
81:AU:134:ILE:O	81:AU:137:GLN:HG3	1.89	0.71
47:AA:1102:G:H2'	47:AA:1103:C:C6	2.26	0.71
48:AC:40:ASP:O	48:AC:44:GLY:N	2.22	0.71
58:AQ:29:HIS:NE2	58:AQ:34:THR:HA	2.06	0.71
70:A0:31:THR:HA	70:A0:36:VAL:HG13	1.72	0.71
47:AA:1330:G:H4'	47:AA:1330:G:OP1	1.90	0.71
47:AA:126:G:H22	47:AA:180:G:H1'	1.56	0.71
47:AA:188:C:N4	47:AA:210:U:O4	2.24	0.71
50:AE:51:ARG:O	50:AE:54:SER:OG	2.06	0.71
81:AU:23:LYS:HD3	81:AU:54:TYR:CD2	2.26	0.71
37:A:4939:C:H5'	38:H:187:ARG:HD2	1.73	0.71
18:X:85:ARG:HH22	18:X:117:LEU:HB3	1.56	0.71
37:A:2562:G:N2	37:A:2565:A:OP2	2.23	0.71
47:AA:1302:G:O4'	47:AA:1305:C:N4	2.24	0.71
80:AO:96:LYS:NZ	80:AO:130:GLU:OE1	2.21	0.71
70:A0:24:ARG:O	70:A0:56:ALA:N	2.22	0.70
37:A:486:C:O2	37:A:671:G:N2	2.22	0.70
47:AA:1314:U:H2'	47:AA:1315:U:H4'	1.72	0.70
47:AA:407:G:N2	47:AA:407:G:OP1	2.24	0.70
47:AA:4:C:N4	47:AA:655:A:OP1	2.21	0.70
76:AB:18:HIS:HB2	76:AB:117:ALA:HB1	1.72	0.70
49:AD:50:ILE:HD11	49:AD:73:GLN:HE22	1.56	0.70
61:AV:83:GLN:O	61:AV:84:HIS:ND1	2.24	0.70
37:A:1442:C:O2	37:A:2103:G:N2	2.24	0.70
81:AU:13:GLU:N	81:AU:13:GLU:OE1	2.24	0.70
10:N:63:ARG:NH2	17:V:30:GLU:OE1	2.24	0.70
47:AA:1178:U:H2'	47:AA:1179:G:H8	1.56	0.70
47:AA:1328:G:N2	47:AA:1502:C:N3	2.39	0.70
47:AA:363:A:O2'	47:AA:398:A:N6	2.20	0.70
55:AL:111:GLN:HB3	55:AL:145:PRO:HB3	1.74	0.70
1:B:49:A:H5"	6:G:224:SER:HB2	1.74	0.70
47:AA:1332:A:N7	47:AA:1493:C:N4	2.39	0.70
47:AA:1560:U:O2	47:AA:1575:G:N2	2.24	0.70
47:AA:558:G:O2'	47:AA:559:G:O4'	2.09	0.70
47:AA:868:G:O2'	47:AA:869:A:OP1	2.09	0.70
59:AR:51:ASP:OD1	59:AR:52:LYS:N	2.23	0.70
2:C:122:G:H22	2:C:128:C:H42	1.39	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:M:34:ALA:HB1	42:M:39:VAL:HG23	1.72	0.70
47:AA:1323:U:H2'	47:AA:1324:G:H8	1.56	0.70
47:AA:290:U:O2'	47:AA:292:A:N7	2.24	0.70
53:AJ:148:ALA:HA	53:AJ:151:ILE:HD12	1.73	0.70
37:A:966:A:N6	37:A:2253:A:OP2	2.24	0.70
50:AE:19:GLN:HG2	50:AE:32:LYS:HZ3	1.57	0.70
78:AI:60:ARG:HG2	78:AI:61:GLY:H	1.56	0.70
47:AA:1634:A:O2'	70:A0:141:ARG:NE	2.24	0.70
47:AA:1745:A:O2'	54:AK:68:LEU:HD11	1.91	0.70
81:AU:4:VAL:HG22	81:AU:5:THR:H	1.55	0.70
61:AV:31:TYR:O	61:AV:48:SER:OG	2.10	0.70
37:A:993:G:H1	37:A:1051:G:H5'	1.57	0.70
37:A:4767:C:O2'	37:A:4874:A:N6	2.25	0.70
47:AA:1280:G:H22	47:AA:1317:C:H41	1.37	0.70
47:AA:363:A:N6	47:AA:400:C:H1'	2.06	0.70
47:AA:864:A:O5'	57:AP:78:ARG:NH1	2.19	0.70
78:AI:21:ILE:O	78:AI:290:ALA:HB2	1.90	0.70
47:AA:928:G:O2'	61:AV:67:THR:O	2.07	0.70
47:AA:1156:U:H2'	47:AA:1157:G:H21	1.57	0.70
47:AA:1526:G:H2'	47:AA:1527:C:C6	2.27	0.70
54:AK:105:ASN:OD1	54:AK:106:LEU:N	2.25	0.70
47:AA:163:U:O5'	54:AK:85:ARG:NH1	2.25	0.70
46:W:28:VAL:HG13	46:W:34:THR:HG22	1.72	0.70
47:AA:1323:U:H2'	47:AA:1324:G:C8	2.27	0.70
52:AH:116:ARG:HD3	52:AH:131:PHE:HZ	1.57	0.70
78:AI:191:HIS:HE1	78:AI:211:GLY:HA3	1.56	0.70
40:K:85:THR:HG22	40:K:104:ARG:HB3	1.73	0.70
37:A:1094:G:H1	37:A:1202:C:H42	1.39	0.69
47:AA:1266:C:OP1	52:AH:82:LYS:NZ	2.15	0.69
47:AA:190:G:H2'	47:AA:208:G:H22	1.56	0.69
55:AL:172:ARG:O	55:AL:176:LYS:N	2.25	0.69
55:AL:35:TYR:HD1	55:AL:112:THR:HG21	1.56	0.69
37:A:216:C:OP1	37:A:219:G:O2'	2.10	0.69
47:AA:1785:C:O2'	47:AA:1786:U:OP2	2.10	0.69
47:AA:1715:A:C6	47:AA:1819:A:N1	2.59	0.69
47:AA:750:C:N4	47:AA:794:A:O2'	2.25	0.69
47:AA:964:A:O2'	47:AA:965:U:O5'	2.09	0.69
47:AA:1446:A:O4'	76:AB:55:ARG:NH1	2.25	0.69
49:AD:28:LYS:O	49:AD:32:LEU:N	2.24	0.69
47:AA:925:G:N2	56:AN:48:SER:OG	2.25	0.69
7:I:22:ILE:HD12	42:M:166:ARG:HH12	0.87	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:2003:G:N2	37:A:2016:C:N3	2.39	0.69
47:AA:1671:G:H2'	47:AA:1672:U:C6	2.26	0.69
47:AA:419:G:N2	47:AA:661:U:H3	1.90	0.69
78:AI:109:LEU:HB3	78:AI:123:GLY:HA3	1.73	0.69
47:AA:1594:A:C8	59:AR:104:ARG:HD2	2.27	0.69
14:S:8:THR:HG22	14:S:10:ASP:H	1.56	0.69
47:AA:1692:U:OP1	50:AE:89:ARG:N	2.25	0.69
47:AA:1755:C:O2	47:AA:1777:G:N2	2.25	0.69
47:AA:1757:G:N2	47:AA:1775:U:O2	2.23	0.69
54:AK:215:LYS:O	54:AK:219:GLU:N	2.22	0.69
47:AA:29:G:OP1	49:AD:124:LYS:NZ	2.24	0.69
78:AI:36:ARG:HG3	78:AI:65:PHE:HB3	1.75	0.69
47:AA:153:G:O2'	54:AK:13:GLN:NE2	2.26	0.69
81:AU:64:LEU:HD21	81:AU:104:LEU:HD21	1.73	0.69
81:AU:91:HIS:ND1	81:AU:93:SER:OG	2.22	0.69
38:H:99:ASP:CG	38:H:100:LYS:H	1.93	0.69
47:AA:1808:U:H2'	47:AA:1809:A:C8	2.27	0.69
54:AK:21:GLU:OE2	54:AK:22:ARG:NH1	2.25	0.69
56:AN:34:LYS:HG2	56:AN:74:ILE:HD11	1.75	0.69
37:A:168:C:O2	37:A:267:G:N2	2.19	0.69
37:A:180:C:N3	37:A:256:G:N1	2.40	0.69
37:A:3663:A:N6	37:A:4168:G:O2'	2.26	0.69
47:AA:1256:G:C5	77:AG:40:ARG:HD2	2.27	0.69
47:AA:1451:G:O2'	47:AA:1474:A:N6	2.25	0.69
47:AA:149:A:N6	47:AA:170:A:N7	2.40	0.69
47:AA:524:U:H3	47:AA:594:A:H62	1.39	0.69
47:AA:556:U:O2'	47:AA:558:G:OP2	2.10	0.69
10:N:68:THR:HG22	10:N:69:GLN:H	1.58	0.69
47:AA:209:A:C4	47:AA:210:U:H1'	2.27	0.69
47:AA:611:G:N2	47:AA:612:U:H1'	2.07	0.69
47:AA:836:G:N7	47:AA:837:A:O2'	2.26	0.69
78:AI:193:GLY:HA3	78:AI:212:LYS:HB3	1.74	0.69
47:AA:380:G:OP2	81:AU:56:ARG:NH2	175.41	0.69
70:A0:6:PRO:HG3	70:A0:59:LEU:HA	1.74	0.69
3:D:119:LYS:NZ	37:A:3663:A:OP1	2.26	0.69
47:AA:126:G:H21	47:AA:127:C:H5	1.36	0.69
47:AA:1507:G:N2	52:AH:91:ASN:O	2.26	0.69
47:AA:1658:G:O6	47:AA:1666:C:N4	2.26	0.69
47:AA:996:A:HO2'	47:AA:997:A:H8	1.39	0.69
54:AK:74:ARG:HA	54:AK:96:SER:HA	1.75	0.69
58:AQ:13:MET:HB3	58:AQ:22:GLN:HB2	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:158:GLN:HA	4:E:190:VAL:HG11	1.74	0.69
47:AA:1280:G:N3	47:AA:1318:G:N1	2.41	0.69
47:AA:1643:U:O2'	47:AA:1644:C:OP2	2.10	0.69
47:AA:1758:G:O2'	47:AA:1774:C:N4	2.26	0.69
47:AA:187:G:N1	47:AA:212:C:N3	2.38	0.69
50:AE:38:LYS:HB3	50:AE:71:LEU:HB2	1.73	0.69
5:F:186:SER:OG	5:F:188:ARG:NH1	2.26	0.69
5:F:208:CYS:HB2	5:F:248:ARG:HE	1.57	0.69
37:A:2:G:H5''	45:R:38:LYS:HE2	1.72	0.69
37:A:717:U:H3	37:A:951:G:H1	1.40	0.69
78:AI:232:GLY:HA3	78:AI:252:THR:HB	1.75	0.69
2:C:85:U:H2'	2:C:86:U:H4'	1.74	0.69
37:A:4731:G:N2	37:A:4731:G:OP1	2.23	0.68
47:AA:1060:A:N3	47:AA:1062:A:N6	2.41	0.68
47:AA:1142:G:N2	47:AA:1145:A:OP2	2.26	0.68
47:AA:385:G:N3	47:AA:385:G:H2'	2.06	0.68
79:AM:96:ARG:HG3	79:AM:97:GLU:H	1.56	0.68
58:AQ:20:ARG:NH1	58:AQ:22:GLN:OE1	2.21	0.68
59:AR:70:PRO:O	59:AR:74:SER:N	2.25	0.68
47:AA:1521:C:N4	70:A0:137:LYS:HE3	2.08	0.68
76:AB:50:VAL:O	76:AB:51:LYS:C	2.30	0.68
79:AM:41:ALA:O	79:AM:112:LYS:NZ	2.16	0.68
56:AN:125:LEU:O	56:AN:128:TYR:N	2.20	0.68
80:AO:39:ASP:N	80:AO:69:SER:HB3	2.08	0.68
70:A0:12:ILE:O	70:A0:22:GLY:N	2.26	0.68
47:AA:1215:C:OP2	47:AA:1217:A:N6	2.26	0.68
47:AA:1559:C:N3	47:AA:1576:G:N1	2.34	0.68
47:AA:1622:U:O2'	47:AA:1623:A:OP1	2.11	0.68
47:AA:358:C:N3	47:AA:404:G:N2	2.34	0.68
47:AA:1513:C:H5'	77:AG:8:TRP:HB3	1.76	0.68
47:AA:1082:A:N7	47:AA:1084:A:C4	2.62	0.68
47:AA:1648:G:N2	47:AA:1674:G:H2'	2.08	0.68
47:AA:1756:C:H42	47:AA:1776:G:H22	1.40	0.68
47:AA:694:G:H2'	47:AA:695:C:C4'	2.23	0.68
47:AA:79:A:H2'	47:AA:80:G:C8	2.29	0.68
54:AK:1:MET:N	54:AK:107:SER:O	2.24	0.68
37:A:970:G:N7	37:A:2256:C:N4	2.41	0.68
47:AA:1797:U:O4	47:AA:1798:C:N4	2.25	0.68
47:AA:603:C:O2	47:AA:604:A:N6	2.26	0.68
37:A:1563:A:OP1	47:AA:678:U:O2'	2.10	0.68
47:AA:806:U:H2'	47:AA:807:G:C8	2.29	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:684:G:N7	47:AA:920:A:N6	2.42	0.68
79:AM:124:ILE:HD12	79:AM:128:PHE:HB2	1.75	0.68
37:A:3766:A:C1'	47:AA:1849:G:C2'	2.72	0.68
47:AA:1178:U:H2'	47:AA:1179:G:C8	2.28	0.68
47:AA:221:A:H61	47:AA:300:U:H3	1.40	0.68
47:AA:533:A:H62	47:AA:552:G:H21	1.39	0.68
78:AI:117:ASN:HB3	78:AI:134:THR:HG23	1.74	0.68
54:AK:153:VAL:O	54:AK:156:TYR:N	2.25	0.68
37:A:1594:C:HO2'	37:A:1597:G:HO2'	1.40	0.68
47:AA:1285:G:H4'	79:AM:36:ARG:HB2	1.74	0.68
47:AA:1321:G:O6	47:AA:1322:G:N2	2.27	0.68
47:AA:1522:A:OP2	70:A0:136:THR:OG1	2.11	0.68
47:AA:1591:C:H3'	47:AA:1592:C:C6	2.29	0.68
47:AA:1601:A:H5''	47:AA:1602:U:C6	2.28	0.68
47:AA:1225:U:H3	47:AA:1641:A:H61	1.40	0.68
47:AA:1739:C:N3	47:AA:1795:G:N2	2.40	0.68
47:AA:482:G:N2	47:AA:484:A:H3'	2.08	0.68
47:AA:512:A:H2'	47:AA:513:G:H8	1.59	0.68
76:AB:49:LYS:CE	76:AB:51:LYS:HZ3	1.98	0.68
76:AB:49:LYS:CG	76:AB:92:HIS:ND1	2.56	0.68
58:AQ:78:SER:HB2	58:AQ:81:TYR:HD2	1.59	0.68
38:H:82:LYS:HG3	38:H:83:LYS:H	1.58	0.68
47:AA:1047:C:N4	47:AA:1048:G:C2	2.62	0.68
47:AA:1140:G:O6	47:AA:1147:C:N4	2.20	0.68
47:AA:1148:A:H8	47:AA:1149:A:C6	2.12	0.68
47:AA:692:G:H4'	47:AA:692:G:OP1	1.93	0.68
54:AK:206:ALA:HA	54:AK:209:TYR:CD2	2.29	0.68
55:AL:108:ARG:HD2	55:AL:149:VAL:O	1.93	0.68
47:AA:1285:G:O5'	79:AM:36:ARG:NH1	2.26	0.68
81:AU:15:VAL:HA	81:AU:18:LEU:HB3	1.76	0.68
37:A:2337:C:H4'	40:K:19:LYS:HB2	25.18	0.68
37:A:3767:C:H2'	37:A:3768:U:C6	2.29	0.68
47:AA:1045:U:H2'	47:AA:1046:U:O4'	1.94	0.68
47:AA:1129:G:C6	47:AA:1130:G:C2	2.82	0.68
47:AA:1393:G:H2'	47:AA:1394:G:C8	2.28	0.68
47:AA:1540:G:O6	47:AA:1593:C:N4	2.25	0.68
79:AM:11:VAL:N	79:AM:123:VAL:O	2.27	0.68
56:AN:99:ARG:NH2	56:AN:141:TYR:OH	2.27	0.68
70:A0:82:TRP:CH2	70:A0:83:PHE:HD1	2.12	0.68
47:AA:1354:G:N2	47:AA:1357:A:OP2	2.28	0.68
47:AA:465:A:H4'	47:AA:466:G:O5'	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:838:G:H1'	47:AA:839:C:H5''	1.76	0.68
47:AA:996:A:O2'	47:AA:997:A:H8	1.76	0.68
76:AB:49:LYS:HB2	76:AB:49:LYS:NZ	2.09	0.68
76:AB:66:ARG:HH12	76:AB:75:LYS:HA	1.58	0.68
78:AI:147:HIS:HE1	78:AI:173:LEU:HB2	1.58	0.68
78:AI:45:LEU:CD2	78:AI:52:TYR:CD2	2.77	0.68
78:AI:54:ILE:CG1	78:AI:55:PRO:HD3	2.24	0.68
70:A0:39:ARG:NH1	81:AU:45:LEU:H	1.85	0.68
4:E:74:GLU:OE1	4:E:334:LYS:NZ	2.27	0.68
70:A0:121:ARG:HH22	70:A0:125:HIS:CE1	2.09	0.67
47:AA:1411:G:H3'	47:AA:1412:C:H4'	1.75	0.67
47:AA:945:U:H2'	47:AA:946:U:C6	2.26	0.67
76:AB:38:ASP:O	76:AB:42:GLY:N	2.25	0.67
47:AA:482:G:H5'	49:AD:76:LYS:HG2	1.76	0.67
54:AK:63:MET:HA	54:AK:98:ARG:HB3	1.76	0.67
59:AR:48:VAL:HA	59:AR:80:ARG:HB2	1.75	0.67
5:F:284:MET:O	40:K:24:TYR:OH	2.09	0.67
70:A0:117:ILE:HG13	70:A0:118:ARG:H	1.58	0.67
37:A:3766:A:H1'	47:AA:1849:G:H2'	1.76	0.67
47:AA:491:C:N3	47:AA:509:G:N1	2.30	0.67
51:AF:44:ARG:NH1	51:AF:60:GLU:O	2.28	0.67
78:AI:5:MET:HB2	78:AI:310:TRP:HB3	1.75	0.67
53:AJ:265:PRO:HA	53:AJ:268:GLU:HB3	1.76	0.67
5:F:204:ARG:NH2	37:A:2298:U:OP1	2.27	0.67
47:AA:1103:C:N4	47:AA:1130:G:H22	1.93	0.67
54:AK:206:ALA:HA	54:AK:209:TYR:CE2	2.28	0.67
58:AQ:20:ARG:HH11	58:AQ:75:ILE:H	1.42	0.67
47:AA:1203:G:C6	47:AA:1204:A:C5	2.83	0.67
47:AA:1314:U:C2'	47:AA:1315:U:H4'	2.24	0.67
47:AA:1421:A:O4'	81:AU:4:VAL:HB	1.95	0.67
47:AA:149:A:N6	47:AA:169:U:O2	2.16	0.67
49:AD:118:VAL:HG12	49:AD:120:PHE:H	1.58	0.67
80:AO:14:VAL:HG21	80:AO:18:GLY:N	2.09	0.67
3:D:117:GLU:O	3:D:162:ASN:ND2	2.26	0.67
47:AA:1631:U:OP1	70:A0:35:GLY:N	2.22	0.67
78:AI:56:GLN:O	78:AI:57:ARG:CB	2.42	0.67
53:AJ:206:SER:HB2	53:AJ:224:THR:HB	1.76	0.67
54:AK:231:ARG:O	54:AK:235:SER:N	2.25	0.67
79:AM:58:GLU:O	79:AM:61:TYR:HB3	1.95	0.67
47:AA:919:A:O5'	56:AN:20:ARG:NH2	2.27	0.67
56:AN:52:VAL:HG13	56:AN:55:ARG:HH21	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:AQ:7:ILE:HD12	58:AQ:43:LYS:HB2	1.76	0.67
2:C:117:C:H4'	45:R:55:ARG:HH22	1.59	0.67
70:A0:81:ASP:OD1	70:A0:95:TYR:OH	2.12	0.67
37:A:3758:U:C1'	37:A:3767:C:H42	2.07	0.67
37:A:683:C:H4'	38:H:101:ASN:CB	2.23	0.67
47:AA:1397:U:N3	47:AA:1442:U:O2'	2.28	0.67
47:AA:1654:G:H1	47:AA:1670:C:H42	1.43	0.67
47:AA:1745:A:N6	47:AA:1789:G:HO2'	1.92	0.67
47:AA:1841:C:N4	47:AA:1858:G:O6	2.27	0.67
47:AA:74:G:O2'	47:AA:76:U:O4	2.12	0.67
50:AE:22:ARG:HG2	80:AO:142:ARG:HD3	1.75	0.67
78:AI:17:TRP:CB	78:AI:303:THR:HA	2.23	0.67
78:AI:256:ILE:HG21	78:AI:298:LEU:HD21	1.75	0.67
80:AO:44:VAL:HG21	80:AO:81:VAL:HG11	1.76	0.67
4:E:107:ALA:HB2	4:E:201:LEU:HD21	1.76	0.67
20:Z:91:ASN:O	37:A:440:U:O2'	2.11	0.67
70:A0:118:ARG:NH2	70:A0:152:LYS:HE3	2.10	0.67
47:AA:598:G:O6	47:AA:638:C:N4	2.28	0.67
76:AB:49:LYS:HD2	76:AB:51:LYS:CE	2.24	0.67
49:AD:89:GLY:O	49:AD:92:ASN:ND2	2.28	0.67
37:A:102:G:O2'	37:A:1381:U:O2'	2.11	0.67
48:AC:74:LYS:NZ	48:AC:80:SER:O	2.18	0.67
54:AK:98:ARG:NH2	54:AK:101:ILE:O	2.28	0.67
47:AA:582:C:H1'	58:AQ:33:ALA:HB2	1.77	0.67
81:AU:39:LEU:HB3	81:AU:43:LYS:HG2	1.76	0.67
70:A0:101:ASN:O	70:A0:105:ASN:N	2.20	0.67
47:AA:1211:G:O6	47:AA:1688:C:N4	2.14	0.67
47:AA:1421:A:H62	47:AA:1422:G:N2	1.92	0.67
78:AI:292:SER:HB3	78:AI:297:THR:HB	1.77	0.67
78:AI:43:TRP:HD1	78:AI:55:PRO:HA	1.60	0.67
37:A:3702:A:O2'	37:A:3774:A:OP1	2.12	0.66
47:AA:104:A:N7	47:AA:356:C:N4	2.42	0.66
47:AA:322:C:N3	47:AA:329:G:N1	2.43	0.66
47:AA:64:A:H2	47:AA:83:A:H62	1.41	0.66
55:AL:147:PHE:HE2	55:AL:149:VAL:HG23	1.59	0.66
56:AN:146:ALA:O	56:AN:149:LEU:N	2.28	0.66
59:AR:47:LEU:N	59:AR:78:LYS:O	2.16	0.66
46:W:29:LEU:HD22	46:W:91:VAL:HG21	1.76	0.66
47:AA:1425:G:H2'	47:AA:1426:U:O4'	1.94	0.66
47:AA:1551:U:H2'	47:AA:1578:U:O4	1.94	0.66
47:AA:1579:A:O2'	47:AA:1582:C:N4	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:52:G:C5	47:AA:53:C:N3	2.63	0.66
81:AU:44:GLU:O	81:AU:45:LEU:HB2	1.96	0.66
37:A:4939:C:OP2	38:H:219:LYS:NZ	2.28	0.66
42:M:160:ARG:HG3	42:M:161:ARG:H	1.59	0.66
47:AA:903:A:H61	47:AA:905:C:N4	1.92	0.66
51:AF:21:THR:O	51:AF:29:GLN:NE2	2.28	0.66
80:AO:12:GLU:CA	80:AO:87:GLU:HA	2.25	0.66
57:AP:37:PHE:CE1	57:AP:103:VAL:HG21	2.30	0.66
81:AU:15:VAL:O	81:AU:19:ALA:N	2.26	0.66
81:AU:19:ALA:HA	81:AU:22:LEU:HB3	1.78	0.66
37:A:1433:A:N6	37:A:1451:G:O2'	2.28	0.66
37:A:3766:A:C2	47:AA:1849:G:O3'	2.49	0.66
47:AA:1587:G:O2'	81:AU:67:ARG:NH2	2.21	0.66
47:AA:1648:G:H22	47:AA:1674:G:H2'	1.60	0.66
47:AA:609:U:H2'	47:AA:610:G:H8	1.57	0.66
47:AA:36:U:O2'	47:AA:825:A:N1	2.24	0.66
49:AD:111:ALA:HB1	49:AD:117:GLY:HA2	1.76	0.66
37:A:4935:C:H2'	38:H:183:ARG:HH12	1.61	0.66
42:M:166:ARG:HG3	42:M:167:PHE:CD2	2.30	0.66
47:AA:1151:G:H2'	47:AA:1152:U:C6	2.30	0.66
78:AI:42:MET:O	78:AI:56:GLN:N	2.28	0.66
47:AA:332:G:OP2	54:AK:190:ARG:NH1	2.29	0.66
54:AK:21:GLU:N	54:AK:21:GLU:OE1	2.28	0.66
38:H:90:ALA:CB	38:H:107:VAL:HG21	2.19	0.66
37:A:4670:C:O2'	37:A:4672:A:OP2	2.13	0.66
47:AA:1398:G:N3	78:AI:64:HIS:HE1	1.94	0.66
47:AA:1411:G:N1	47:AA:1413:G:N7	2.43	0.66
47:AA:1738:C:N3	47:AA:1796:G:N2	2.40	0.66
47:AA:799:U:N3	47:AA:866:U:O2	2.29	0.66
76:AB:49:LYS:HD2	76:AB:51:LYS:HG3	1.75	0.66
51:AF:18:LEU:HB3	51:AF:67:ARG:NH2	2.10	0.66
54:AK:233:ARG:HG3	54:AK:237:LEU:HD13	1.77	0.66
81:AU:34:VAL:HG23	81:AU:35:ASP:H	1.59	0.66
3:D:137:ILE:HD11	3:D:149:LYS:HB2	1.76	0.66
70:A0:38:ARG:HE	81:AU:45:LEU:HD11	1.58	0.66
37:A:3956:G:H1'	37:A:3957:U:OP2	1.96	0.66
47:AA:209:A:C5	47:AA:210:U:H1'	2.30	0.66
47:AA:555:A:N7	47:AA:557:U:H6	1.92	0.66
76:AB:34:LYS:O	76:AB:38:ASP:N	2.26	0.66
47:AA:1338:G:H4'	76:AB:74:SER:N	2.10	0.66
53:AJ:137:VAL:O	53:AJ:163:VAL:N	2.23	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:AM:26:LEU:HD12	79:AM:27:ILE:HG23	1.77	0.66
5:F:142:HIS:HE1	5:F:248:ARG:HA	1.61	0.66
16:U:42:ARG:NH1	37:A:4376:A:O2'	2.28	0.66
37:A:2318:G:N2	37:A:2321:G:OP2	2.27	0.66
37:A:686:A:OP1	38:H:96:VAL:HG22	1.96	0.66
47:AA:990:A:O2'	47:AA:992:A:OP1	2.13	0.66
76:AB:81:GLN:N	77:AG:53:ILE:O	2.28	0.66
47:AA:680:G:O2'	49:AD:12:LYS:HE2	1.96	0.66
80:AO:95:ILE:HB	80:AO:129:ILE:HG23	1.78	0.66
47:AA:1420:G:H4'	81:AU:4:VAL:HA	1.77	0.66
2:C:75:G:OP2	14:S:74:TYR:OH	2.13	0.66
70:A0:38:ARG:HE	81:AU:45:LEU:HD12	1.61	0.66
47:AA:1332:A:N1	47:AA:1333:U:H1'	2.11	0.66
47:AA:1703:C:H6	47:AA:1703:C:O5'	1.78	0.66
47:AA:602:G:N2	47:AA:620:G:O6	2.29	0.66
76:AB:33:GLU:OE2	76:AB:87:ARG:NH1	2.25	0.66
80:AO:23:GLU:CD	80:AO:24:GLY:H	2.00	0.66
81:AU:33:TRP:HH2	81:AU:102:ARG:HH11	1.43	0.66
4:E:45:ALA:HB3	4:E:183:ILE:HD12	1.78	0.66
70:A0:69:THR:O	70:A0:77:TYR:OH	2.09	0.66
47:AA:1338:G:N2	47:AA:1488:C:N3	2.41	0.66
47:AA:1384:C:C2	47:AA:1385:G:C8	2.84	0.66
47:AA:187:G:H2'	47:AA:188:C:C6	2.31	0.66
47:AA:404:G:H2'	47:AA:405:G:H8	1.60	0.66
47:AA:691:G:C5	47:AA:692:G:H1'	2.31	0.66
9:L:163:ARG:NH1	47:AA:871:U:H3	1.91	0.66
78:AI:45:LEU:CG	78:AI:52:TYR:CD2	2.77	0.66
4:E:213:GLN:HE22	4:E:286:LYS:HA	1.61	0.66
37:A:3598:C:H2'	37:A:3599:A:H8	1.60	0.65
37:A:452:A:O2'	38:H:228:GLN:NE2	2.29	0.65
47:AA:1065:G:H2'	47:AA:1066:U:C6	2.31	0.65
47:AA:1277:C:H3'	47:AA:1278:A:H8	1.61	0.65
47:AA:1660:C:H1'	47:AA:1663:A:N7	2.11	0.65
47:AA:147:A:N6	47:AA:171:A:OP2	2.28	0.65
47:AA:997:A:H2'	47:AA:998:A:C8	2.32	0.65
5:F:104:PRO:HG2	5:F:106:LYS:HZ1	1.61	0.65
38:H:84:LYS:O	38:H:89:LEU:CD2	2.43	0.65
47:AA:1704:C:O5'	47:AA:1704:C:H6	1.78	0.65
55:AL:108:ARG:NH1	55:AL:154:GLN:OE1	2.30	0.65
37:A:3767:C:O2'	37:A:3768:U:C5'	2.45	0.65
37:A:4889:G:H1	37:A:4930:C:H42	1.44	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:994:G:N2	37:A:995:C:O2'	2.28	0.65
47:AA:140:C:O2	47:AA:141:A:H8	1.79	0.65
47:AA:314:U:O4	47:AA:338:G:N2	2.29	0.65
53:AJ:130:ILE:O	53:AJ:138:GLY:N	2.29	0.65
80:AO:14:VAL:CG1	80:AO:17:LEU:O	2.45	0.65
70:A0:13:LEU:HG	70:A0:14:ARG:H	1.62	0.65
70:A0:62:ASP:O	70:A0:66:ARG:NH1	2.29	0.65
47:AA:1048:G:N2	47:AA:1071:G:O6	2.29	0.65
47:AA:1142:G:P	53:AJ:187:ARG:NH1	2.70	0.65
47:AA:190:G:HO2'	47:AA:209:A:N6	1.93	0.65
78:AI:135:LEU:HD11	78:AI:137:VAL:HG23	1.78	0.65
78:AI:69:VAL:HA	78:AI:80:SER:HA	1.78	0.65
54:AK:44:GLU:HA	54:AK:119:LYS:HD3	1.77	0.65
47:AA:561:A:H5''	55:AL:164:PRO:HB2	1.78	0.65
47:AA:934:G:N2	56:AN:110:ASP:OD1	2.29	0.65
80:AO:74:ALA:HB3	80:AO:114:SER:HG	1.60	0.65
37:A:1972:G:N2	37:A:1973:G:N3	2.37	0.65
47:AA:1137:U:O2'	47:AA:1138:C:OP1	2.14	0.65
47:AA:1314:U:O2	47:AA:1315:U:O2'	2.14	0.65
47:AA:1362:U:OP2	47:AA:1363:C:N4	2.20	0.65
47:AA:1552:G:O2'	47:AA:1556:A:N1	2.27	0.65
47:AA:1667:U:H2'	47:AA:1668:U:H6	1.61	0.65
47:AA:1745:A:N7	47:AA:1790:A:H1'	2.11	0.65
47:AA:409:C:H42	47:AA:431:G:H1	1.41	0.65
76:AB:62:ARG:HG2	76:AB:81:GLN:HA	1.78	0.65
48:AC:65:SER:O	48:AC:68:SER:OG	2.09	0.65
53:AJ:196:ILE:HD12	53:AJ:197:PRO:HD2	1.79	0.65
80:AO:14:VAL:CG2	80:AO:17:LEU:H	2.04	0.65
81:AU:2:PRO:O	81:AU:139:ALA:HB1	1.96	0.65
61:AV:34:ASP:O	61:AV:80:ARG:N	2.30	0.65
37:A:687:U:H4'	38:H:106:VAL:HG21	1.79	0.65
16:U:82:VAL:HG21	16:U:101:ILE:HG12	1.79	0.65
17:V:68:ARG:NH1	37:A:1830:G:O3'	2.29	0.65
46:W:10:SER:O	46:W:11:LEU:HB3	1.97	0.65
70:A0:121:ARG:NH2	70:A0:125:HIS:HE1	1.93	0.65
47:AA:1654:G:N2	47:AA:1670:C:N3	2.44	0.65
47:AA:303:C:H3'	47:AA:304:C:C6	2.30	0.65
47:AA:805:U:C4	47:AA:806:U:C4	2.84	0.65
78:AI:256:ILE:HD13	78:AI:298:LEU:HD21	1.79	0.65
78:AI:47:ARG:HA	78:AI:52:TYR:CD1	2.31	0.65
47:AA:1738:C:OP1	54:AK:92:ARG:NH2	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AL:10:ARG:HG2	55:AL:11:LYS:H	1.59	0.65
47:AA:1131:G:OP1	56:AN:9:LYS:HD3	1.96	0.65
58:AQ:28:LEU:HD13	58:AQ:68:LYS:HG3	1.78	0.65
59:AR:72:VAL:HG12	59:AR:76:ARG:HH12	1.61	0.65
5:F:307:LYS:HE3	37:A:2089:G:H21	1.61	0.65
7:I:22:ILE:CG2	42:M:166:ARG:NH1	2.54	0.65
8:J:122:ALA:HB3	8:J:143:PRO:HB2	1.78	0.65
47:AA:1423:C:H2'	47:AA:1424:G:H4'	1.77	0.65
47:AA:1495:G:O2'	77:AG:26:ASN:ND2	2.28	0.65
47:AA:1609:C:N4	47:AA:1630:A:H61	1.93	0.65
47:AA:1646:C:O2	47:AA:1678:A:N6	2.28	0.65
47:AA:418:A:C4	47:AA:419:G:C8	2.84	0.65
47:AA:589:G:H4'	47:AA:590:A:C8	2.32	0.65
53:AJ:207:ALA:HB1	53:AJ:208:PRO:HD2	1.79	0.65
55:AL:175:ARG:O	55:AL:179:LYS:N	2.28	0.65
59:AR:57:LYS:HA	59:AR:61:GLU:CD	2.16	0.65
38:H:98:GLY:HA3	38:H:103:GLY:HA2	1.79	0.65
8:J:135:ARG:NH2	37:A:1596:U:O2'	2.29	0.65
37:A:1802:A:H5''	37:A:1803:G:H5'	1.79	0.65
37:A:4094:G:N1	37:A:4114:C:O2	2.30	0.65
37:A:977:C:H2'	37:A:978:G:H8	1.61	0.65
47:AA:1342:U:H4'	47:AA:1343:U:H6	1.61	0.65
47:AA:150:A:N7	47:AA:168:C:N4	2.44	0.65
47:AA:1782:G:H8	47:AA:1783:C:H4'	1.62	0.65
47:AA:428:U:H4'	47:AA:429:C:OP2	1.96	0.65
47:AA:30:C:O2	47:AA:596:U:H5''	1.95	0.65
57:AP:37:PHE:HE1	57:AP:103:VAL:HG21	1.61	0.65
38:H:90:ALA:O	38:H:91:THR:CB	2.32	0.65
37:A:4522:G:O2'	37:A:4525:C:OP2	2.12	0.65
47:AA:1233:G:H2'	47:AA:1234:C:O4'	1.95	0.65
47:AA:1310:U:H2'	47:AA:1311:C:O4'	1.97	0.65
47:AA:14:C:O2	47:AA:1198:G:C2	2.50	0.65
47:AA:150:A:H3'	47:AA:151:C:H6	1.62	0.65
47:AA:1522:A:H1'	70:A0:144:ARG:HB3	1.78	0.65
47:AA:1818:A:H8	47:AA:1818:A:O5'	1.80	0.65
70:A0:25:LYS:HE3	70:A0:54:LYS:HA	1.78	0.65
37:A:1367:C:HO2'	37:A:1370:G:HO2'	1.45	0.65
47:AA:1114:U:H3	47:AA:1119:A:N6	1.86	0.65
47:AA:1206:G:N3	47:AA:1693:G:N2	2.45	0.65
47:AA:1384:C:H2'	47:AA:1385:G:H8	1.62	0.65
47:AA:1664:A:O2'	47:AA:1665:G:OP1	2.13	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:902:G:C2	47:AA:903:A:H1'	2.31	0.65
48:AC:49:GLN:OE1	48:AC:49:GLN:N	2.30	0.65
5:F:181:LYS:NZ	37:A:2300:A:N1	2.43	0.64
37:A:3960:A:N7	37:A:4045:G:O2'	2.30	0.64
37:A:4126:C:H5''	37:A:4127:A:H5''	1.80	0.64
37:A:5015:G:H21	37:A:5034:A:H2	1.45	0.64
47:AA:1505:U:O2'	47:AA:1506:A:N7	2.28	0.64
47:AA:327:G:O2'	47:AA:328:U:O4'	2.13	0.64
78:AI:147:HIS:CE1	78:AI:173:LEU:HB2	2.32	0.64
78:AI:44:LYS:CG	78:AI:56:GLN:OE1	2.44	0.64
53:AJ:104:ASP:OD1	53:AJ:105:GLU:N	2.30	0.64
53:AJ:246:LYS:O	53:AJ:249:SER:N	2.14	0.64
80:AO:112:ALA:O	80:AO:116:LEU:N	2.29	0.64
38:H:239:LYS:NZ	38:H:241:GLU:OE2	2.30	0.64
3:D:249:THR:O	47:AA:1044:G:C8	2.49	0.64
47:AA:1092:G:N1	47:AA:1158:G:N7	2.46	0.64
47:AA:880:G:N7	47:AA:907:G:H1'	2.12	0.64
78:AI:105:THR:HG23	78:AI:130:LYS:HZ1	1.63	0.64
78:AI:250:ALA:O	78:AI:257:LYS:N	2.31	0.64
54:AK:7:PHE:CD1	54:AK:113:ILE:HG21	2.31	0.64
55:AL:97:ILE:O	55:AL:100:LEU:HD13	1.98	0.64
79:AM:21:VAL:HG13	79:AM:22:LEU:HG	1.79	0.64
59:AR:70:PRO:HA	59:AR:73:VAL:HB	1.78	0.64
55:AL:26:ASP:OD2	60:AT:41:ARG:NH2	2.31	0.64
37:A:2479:G:N2	37:A:2499:C:O2	2.30	0.64
8:J:86:LYS:HB2	37:A:3857:G:H5''	1.80	0.64
37:A:4322:G:N2	37:A:4325:A:OP2	2.30	0.64
47:AA:1593:C:C6	59:AR:104:ARG:HD3	2.33	0.64
53:AJ:123:ARG:HG2	53:AJ:145:LYS:HG2	1.79	0.64
55:AL:124:HIS:HB3	60:AT:31:ARG:NH1	2.13	0.64
57:AP:23:ARG:HG2	61:AV:2:PRO:HB2	1.79	0.64
1:B:66:G:OP1	6:G:10:LYS:NZ	2.30	0.64
38:H:86:GLU:C	38:H:88:VAL:N	2.50	0.64
7:I:7:LEU:HD22	7:I:31:ARG:HH12	1.61	0.64
5:F:301:ALA:HB1	40:K:132:LYS:HE2	1.78	0.64
37:A:3963:A:N6	37:A:4038:C:O2	2.28	0.64
37:A:4093:G:H3'	37:A:4094:G:H8	1.63	0.64
37:A:4739:C:O2	37:A:4961:G:C2	2.50	0.64
47:AA:1309:C:N4	47:AA:1310:U:O4	2.30	0.64
47:AA:1702:G:C6	47:AA:1703:C:C2	2.85	0.64
47:AA:1727:G:N2	47:AA:1807:C:O2	2.20	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:546:G:N1	47:AA:548:C:N3	2.44	0.64
76:AB:22:ILE:O	76:AB:88:LEU:HB2	1.96	0.64
78:AI:133:ASN:N	78:AI:137:VAL:O	2.18	0.64
53:AJ:183:LYS:HG3	57:AP:95:PRO:O	1.98	0.64
55:AL:77:LEU:CB	55:AL:80:ARG:HH21	2.09	0.64
56:AN:52:VAL:HG13	56:AN:55:ARG:NH2	2.12	0.64
81:AU:50:GLU:HA	81:AU:52:TRP:HD1	1.62	0.64
20:Z:109:ARG:HG3	20:Z:110:ILE:HG12	1.77	0.64
76:AB:17:ILE:HG12	76:AB:94:PRO:HB3	1.79	0.64
47:AA:1693:G:OP1	50:AE:89:ARG:NH1	2.29	0.64
77:AG:22:ARG:NH1	77:AG:37:ASN:HB2	2.12	0.64
53:AJ:147:VAL:HG22	53:AJ:151:ILE:HD11	1.80	0.64
42:M:11:LYS:HE2	42:M:29:ARG:HE	1.62	0.64
70:A0:103:LEU:O	70:A0:107:LEU:N	2.30	0.64
37:A:1440:U:O2'	37:A:1442:C:N4	2.29	0.64
47:AA:1307:U:C6	52:AH:102:VAL:HG11	2.33	0.64
47:AA:45:A:N1	47:AA:480:G:O2'	2.24	0.64
76:AB:28:ASN:O	76:AB:32:LEU:N	2.30	0.64
78:AI:30:MET:SD	78:AI:56:GLN:CG	2.83	0.64
37:A:4739:C:C2'	37:A:4740:G:H5'	2.27	0.64
47:AA:1282:A:N1	47:AA:1287:A:H1'	2.12	0.64
47:AA:1273:C:N4	47:AA:1506:A:O2'	2.30	0.64
47:AA:1752:C:C4	47:AA:1753:C:H1'	2.33	0.64
47:AA:185:G:H2'	47:AA:186:C:C6	2.33	0.64
52:AH:126:CYS:HB3	52:AH:130:VAL:HB	1.79	0.64
78:AI:105:THR:OG1	78:AI:126:ASP:OD2	2.12	0.64
53:AJ:253:PRO:HA	53:AJ:256:TRP:NE1	2.12	0.64
55:AL:36:GLY:O	55:AL:111:GLN:NE2	2.29	0.64
38:H:98:GLY:HA3	38:H:102:GLY:O	1.94	0.64
38:H:83:LYS:O	38:H:83:LYS:HG3	1.96	0.64
37:A:1174:G:N2	37:A:1188:C:N3	2.46	0.64
37:A:4420:U:O4	37:A:4475:G:N2	2.31	0.64
47:AA:1366:G:O2'	47:AA:1465:A:N1	2.27	0.64
47:AA:1582:C:H2'	47:AA:1583:C:O4'	1.98	0.64
47:AA:1613:G:N1	47:AA:1626:C:N3	2.40	0.64
47:AA:1747:C:O5'	47:AA:1747:C:H6	1.80	0.64
47:AA:187:G:N2	47:AA:213:G:H1'	2.12	0.64
47:AA:1693:G:P	50:AE:89:ARG:HH12	2.21	0.64
78:AI:215:GLN:HA	78:AI:231:ASP:HB3	1.79	0.64
53:AJ:122:THR:OG1	53:AJ:123:ARG:N	2.30	0.64
54:AK:194:LEU:HA	54:AK:197:GLN:HB3	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:AP:53:ILE:HD11	57:AP:62:VAL:HG22	1.79	0.64
47:AA:1594:A:O5'	59:AR:104:ARG:HG2	1.98	0.64
37:A:2:G:C5'	45:R:38:LYS:HD3	2.28	0.64
37:A:2480:G:N2	37:A:2498:C:O2	2.30	0.64
4:E:257:TRP:NE1	37:A:4518:A:N7	2.46	0.64
37:A:4730:C:H2'	37:A:4965:U:H2'	1.80	0.64
47:AA:1248:U:H3'	47:AA:1249:C:C5	2.33	0.64
47:AA:1446:A:H1'	47:AA:1447:G:C8	2.33	0.64
49:AD:11:ARG:HG3	49:AD:12:LYS:HG3	1.79	0.64
49:AD:52:LEU:HD23	49:AD:53:GLU:HG2	1.80	0.64
78:AI:38:LYS:O	78:AI:39:THR:OG1	2.15	0.64
53:AJ:154:ALA:O	53:AJ:158:ALA:N	2.28	0.64
55:AL:121:LYS:HG3	55:AL:122:SER:H	1.62	0.64
47:AA:1563:G:O2'	81:AU:115:LYS:NZ	2.27	0.64
9:L:62:ARG:NH2	37:A:4648:A:OP1	2.31	0.64
70:A0:98:VAL:HB	70:A0:103:LEU:HB3	1.79	0.64
37:A:2547:G:N2	37:A:2772:C:O2	2.26	0.64
47:AA:119:U:H2'	47:AA:120:U:O4'	1.98	0.64
47:AA:881:G:H2'	47:AA:882:U:C6	2.33	0.64
47:AA:1160:U:O4	49:AD:2:GLY:N	2.31	0.64
77:AG:7:TYR:O	77:AG:8:TRP:C	2.35	0.64
78:AI:35:SER:O	78:AI:66:VAL:HB	1.98	0.64
53:AJ:103:LYS:HB2	53:AJ:131:GLY:O	1.97	0.64
47:AA:675:U:H3	47:AA:1030:A:H61	1.46	0.63
47:AA:1540:G:OP2	81:AU:43:LYS:NZ	2.24	0.63
47:AA:403:G:H2'	47:AA:404:G:H8	1.63	0.63
76:AB:49:LYS:HG3	76:AB:50:VAL:N	2.12	0.63
79:AM:46:GLN:HG3	79:AM:112:LYS:HG3	1.80	0.63
37:A:1952:G:H4'	42:M:93:MET:HG3	1.80	0.63
70:A0:124:ARG:HH11	70:A0:129:LEU:HD22	1.63	0.63
70:A0:18:THR:O	70:A0:20:ILE:HD12	1.98	0.63
47:AA:1609:C:H42	47:AA:1630:A:N6	1.94	0.63
47:AA:1206:G:H1'	47:AA:1834:A:C8	2.33	0.63
47:AA:18:C:O3'	49:AD:107:ARG:NH1	2.31	0.63
47:AA:403:G:H2'	47:AA:404:G:C8	2.33	0.63
47:AA:657:U:O2'	47:AA:658:U:OP2	2.13	0.63
47:AA:803:C:H2'	47:AA:804:U:H6	1.63	0.63
80:AO:71:PRO:O	80:AO:114:SER:OG	2.16	0.63
37:A:1691:G:H5'	40:K:15:ARG:HG3	1.80	0.63
40:K:54:SER:HB2	40:K:57:ASN:HD22	1.62	0.63
37:A:67:C:N4	37:A:325:U:O3'	2.30	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:6:G:O6	47:AA:18:C:N4	2.31	0.63
47:AA:358:C:N4	47:AA:404:G:H1	1.96	0.63
47:AA:559:G:H3'	55:AL:177:ASN:ND2	2.13	0.63
47:AA:680:G:O2'	47:AA:681:U:H5'	1.98	0.63
47:AA:748:C:OP1	47:AA:796:G:N1	2.26	0.63
47:AA:963:A:H2'	47:AA:964:A:C8	2.33	0.63
38:H:84:LYS:HB3	38:H:89:LEU:HD21	1.65	0.63
45:R:148:ASP:OD1	45:R:149:VAL:N	2.31	0.63
18:X:118:GLN:HE22	37:A:5055:G:H21	1.44	0.63
47:AA:1336:C:H2'	47:AA:1337:C:C6	2.34	0.63
47:AA:1457:U:H2'	47:AA:1458:G:H8	1.64	0.63
47:AA:435:A:H8	47:AA:450:C:H5'	1.63	0.63
47:AA:858:A:C6	47:AA:859:G:N7	2.67	0.63
53:AJ:206:SER:HB2	53:AJ:224:THR:CB	2.28	0.63
57:AP:104:LEU:HB3	57:AP:125:ILE:HG12	1.81	0.63
58:AQ:56:PHE:O	58:AQ:74:MET:N	2.28	0.63
37:A:2083:C:OP2	40:K:14:ARG:NH2	2.29	0.63
47:AA:1656:G:H2'	47:AA:1657:G:C8	2.34	0.63
47:AA:1745:A:H1'	54:AK:66:GLY:HA2	1.79	0.63
47:AA:378:U:N3	47:AA:379:C:N3	2.46	0.63
47:AA:490:C:N3	47:AA:510:G:N1	2.43	0.63
78:AI:250:ALA:N	78:AI:257:LYS:O	2.22	0.63
53:AJ:121:ARG:NH1	53:AJ:145:LYS:HZ1	1.96	0.63
53:AJ:196:ILE:HD12	53:AJ:197:PRO:CD	2.28	0.63
7:I:22:ILE:CG2	42:M:166:ARG:HH11	2.09	0.63
12:P:29:ALA:HB1	12:P:118:THR:HB	1.81	0.63
70:A0:40:TYR:HD1	70:A0:83:PHE:HE2	1.46	0.63
37:A:175:C:O2	37:A:262:G:N2	2.26	0.63
47:AA:1028:A:N7	47:AA:1029:G:C8	2.66	0.63
47:AA:1294:G:H2'	47:AA:1295:A:H8	1.64	0.63
47:AA:1490:G:OP2	47:AA:1490:G:H8	1.81	0.63
47:AA:193:C:N4	47:AA:206:G:O6	2.25	0.63
47:AA:339:A:O2'	47:AA:340:C:H3'	1.99	0.63
47:AA:483:C:N4	47:AA:484:A:N1	2.47	0.63
47:AA:697:G:O6	47:AA:733:C:H2'	1.97	0.63
47:AA:748:C:H4'	47:AA:794:A:H61	1.63	0.63
47:AA:85:A:H2'	47:AA:86:C:H6	1.64	0.63
9:L:163:ARG:NH1	47:AA:871:U:O4	2.32	0.63
78:AI:147:HIS:ND1	78:AI:171:ASP:HB2	2.13	0.63
55:AL:152:ASP:OD1	55:AL:153:SER:N	2.32	0.63
81:AU:39:LEU:HB3	81:AU:43:LYS:CG	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1014:G:N2	61:AV:51:GLN:OE1	2.31	0.63
4:E:44:THR:HG22	4:E:349:LYS:HE3	1.81	0.63
70:A0:120:HIS:CE1	70:A0:124:ARG:HB2	2.33	0.63
47:AA:1114:U:OP2	47:AA:1114:U:H3'	1.99	0.63
47:AA:1144:A:N3	47:AA:1199:A:O2'	2.32	0.63
47:AA:122:G:H2'	47:AA:123:G:H8	1.63	0.63
47:AA:1269:G:N2	47:AA:1514:G:N3	2.45	0.63
47:AA:1372:U:O2'	47:AA:1373:C:OP2	2.15	0.63
47:AA:203:G:H2'	47:AA:204:G:C8	2.33	0.63
47:AA:463:C:H2'	47:AA:465:A:C5	2.34	0.63
47:AA:6:G:H2'	47:AA:7:G:H8	1.63	0.63
47:AA:91:A:O5'	47:AA:91:A:H8	1.82	0.63
49:AD:95:GLU:N	49:AD:98:ASP:OD2	2.26	0.63
52:AH:96:LYS:HE3	52:AH:99:LYS:HD2	1.81	0.63
54:AK:49:VAL:HG22	54:AK:115:LYS:HB2	1.81	0.63
80:AO:54:CYS:HB2	80:AO:81:VAL:HG22	1.80	0.63
38:H:164:PHE:HA	38:H:175:VAL:HG12	1.81	0.63
37:A:708:G:H1	37:A:1289:C:H42	1.46	0.63
47:AA:1342:U:H3	47:AA:1483:A:N6	1.94	0.63
47:AA:1550:G:N1	47:AA:1577:G:O2'	2.31	0.63
47:AA:1644:C:N3	47:AA:1645:C:N4	2.47	0.63
47:AA:815:U:H2'	47:AA:816:A:O4'	1.99	0.63
49:AD:53:GLU:HB2	49:AD:71:ARG:HH11	1.63	0.63
54:AK:98:ARG:HH21	54:AK:106:LEU:HD23	1.63	0.63
38:H:89:LEU:O	38:H:91:THR:N	2.31	0.63
47:AA:1505:U:H4'	47:AA:1508:A:H1'	1.79	0.63
47:AA:935:G:O6	47:AA:1007:C:N4	2.23	0.63
54:AK:170:ARG:HG2	54:AK:171:THR:O	1.99	0.63
54:AK:29:GLU:N	54:AK:29:GLU:OE1	2.32	0.63
58:AQ:113:ARG:HD2	58:AQ:131:PRO:HB3	1.81	0.63
47:AA:611:G:H4'	60:AT:17:PRO:HD2	1.80	0.63
81:AU:56:ARG:NE	81:AU:103:VAL:HG21	2.14	0.63
37:A:1095:A:N6	37:A:1200:G:O6	2.32	0.62
37:A:2361:G:N2	37:A:3860:A:OP2	2.32	0.62
37:A:3759:A:OP2	37:A:3764:U:N3	2.28	0.62
37:A:3956:G:C2'	37:A:3957:U:OP2	2.47	0.62
47:AA:1129:G:H2'	47:AA:1130:G:O4'	1.99	0.62
47:AA:1692:U:O2'	47:AA:1693:G:H5'	1.97	0.62
47:AA:1204:A:O2'	47:AA:1699:A:N3	2.26	0.62
47:AA:71:G:O2'	47:AA:72:C:OP1	2.17	0.62
47:AA:834:C:N4	47:AA:835:C:N3	2.46	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AI:306:LEU:HD23	78:AI:308:ARG:HE	1.63	0.62
37:A:4730:C:OP2	37:A:4965:U:O2'	2.14	0.62
47:AA:1862:G:O6	50:AE:34:LYS:NZ	2.16	0.62
47:AA:752:G:H5'	47:AA:792:C:O2	2.00	0.62
47:AA:924:G:H21	56:AN:87:ASP:CG	2.01	0.62
47:AA:963:A:H2'	47:AA:964:A:H8	1.64	0.62
76:AB:31:SER:HA	76:AB:34:LYS:HE3	1.81	0.62
51:AF:17:VAL:HG22	51:AF:19:GLY:H	1.63	0.62
52:AH:141:CYS:HB3	52:AH:151:ASN:HB3	1.81	0.62
57:AP:65:LEU:O	57:AP:66:THR:HG22	1.98	0.62
37:A:1697:G:H21	37:A:1718:C:H5''	1.62	0.62
20:Z:85:ARG:NH2	37:A:2068:C:OP1	2.32	0.62
47:AA:1171:G:O2'	47:AA:1172:U:OP2	2.16	0.62
47:AA:1273:C:H2'	47:AA:1506:A:N1	2.13	0.62
47:AA:1457:U:H2'	47:AA:1458:G:C8	2.35	0.62
47:AA:1509:U:OP1	52:AH:85:TYR:HD2	1.82	0.62
47:AA:70:G:C6	47:AA:71:G:C6	2.88	0.62
76:AB:108:PRO:HD2	76:AB:110:VAL:HG13	1.81	0.62
59:AR:86:ALA:HA	59:AR:89:GLN:HB2	1.81	0.62
4:E:223:THR:HB	4:E:275:HIS:H	1.63	0.62
47:AA:126:G:N2	47:AA:127:C:H41	1.97	0.62
47:AA:1473:G:OP2	47:AA:1473:G:H8	1.82	0.62
47:AA:933:G:N7	47:AA:993:G:C6	2.68	0.62
47:AA:1491:G:O2'	76:AB:71:GLY:HA3	2.00	0.62
55:AL:173:VAL:O	55:AL:177:ASN:HB3	2.00	0.62
47:AA:1016:U:O4	56:AN:19:ARG:NH1	2.33	0.62
47:AA:1280:G:N2	47:AA:1317:C:H41	1.96	0.62
47:AA:1606:G:O2'	47:AA:1607:A:H8	1.76	0.62
47:AA:917:U:H2'	47:AA:918:U:O4'	1.99	0.62
76:AB:66:ARG:NH1	76:AB:75:LYS:HA	2.14	0.62
48:AC:35:ASN:O	48:AC:50:PHE:HB2	1.99	0.62
55:AL:104:ASP:O	55:AL:107:GLU:HB3	2.00	0.62
70:A0:104:ASP:HA	70:A0:107:LEU:HD12	1.80	0.62
5:F:113:ARG:HH21	37:A:1508:A:H5''	1.65	0.62
47:AA:1547:C:H3'	47:AA:1548:G:H21	1.63	0.62
47:AA:1597:C:O2'	47:AA:1598:G:O5'	2.15	0.62
47:AA:538:U:H1'	47:AA:544:G:N1	2.14	0.62
49:AD:111:ALA:HB2	49:AD:119:ARG:HE	1.64	0.62
79:AM:53:ALA:HB2	79:AM:78:LYS:HA	1.81	0.62
56:AN:25:TRP:O	56:AN:27:LYS:HG3	1.99	0.62
81:AU:104:LEU:HB3	81:AU:121:ARG:NH2	2.14	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:N:49:GLN:NE2	37:A:4332:C:O2'	2.32	0.62
11:O:89:LYS:NZ	37:A:2630:U:O4	2.30	0.62
14:S:45:ARG:NH1	37:A:198:A:OP2	2.29	0.62
37:A:2407:G:N2	37:A:2407:G:OP2	2.32	0.62
47:AA:1092:G:N1	47:AA:1158:G:C5	2.68	0.62
47:AA:1562:C:H4'	81:AU:119:GLY:CA	2.25	0.62
47:AA:1737:G:H1	47:AA:1796:G:H1	1.45	0.62
47:AA:1825:A:O2'	47:AA:1826:G:H4'	1.99	0.62
47:AA:380:G:P	81:AU:56:ARG:HH21	175.14	0.62
47:AA:902:G:N1	47:AA:903:A:H1'	2.14	0.62
47:AA:956:G:H2'	47:AA:957:A:C8	2.33	0.62
76:AB:26:SER:O	76:AB:84:ILE:HG13	1.99	0.62
76:AB:49:LYS:CD	76:AB:92:HIS:ND1	2.63	0.62
78:AI:124:SER:OG	78:AI:126:ASP:OD1	2.16	0.62
78:AI:59:LEU:HG	78:AI:90:TRP:CE3	2.34	0.62
55:AL:105:PHE:HA	55:AL:108:ARG:HB3	1.82	0.62
80:AO:14:VAL:CG2	80:AO:17:LEU:N	2.60	0.62
47:AA:581:U:H2'	58:AQ:33:ALA:HA	1.82	0.62
3:D:70:LYS:HD2	3:D:72:ARG:HE	1.63	0.62
47:AA:1221:G:H2'	47:AA:1222:G:C8	2.30	0.62
47:AA:1410:C:H2'	47:AA:1411:G:H8	1.65	0.62
47:AA:1702:G:N3	47:AA:1703:C:C2	2.65	0.62
47:AA:693:A:N1	47:AA:736:C:N4	2.48	0.62
47:AA:78:C:O2	54:AK:175:LYS:NZ	2.33	0.62
49:AD:26:GLN:OE1	49:AD:26:GLN:N	2.33	0.62
78:AI:178:ASN:HD22	78:AI:185:LYS:HD3	1.64	0.62
18:X:90:ARG:HD3	18:X:102:LEU:HD13	1.81	0.62
70:A0:74:PRO:HG3	70:A0:84:LEU:HD21	1.81	0.62
47:AA:938:A:H61	47:AA:1004:U:H3	1.48	0.62
47:AA:1190:A:H2'	47:AA:1191:C:O4'	2.00	0.62
47:AA:1413:G:C6	47:AA:1434:C:C4	2.88	0.62
47:AA:338:G:H3'	47:AA:339:A:H3'	1.81	0.62
47:AA:590:A:O2'	47:AA:591:U:OP2	2.17	0.62
47:AA:684:G:H2'	47:AA:685:A:O4'	2.00	0.62
56:AN:119:GLU:HG2	56:AN:123:HIS:CE1	2.34	0.62
38:H:89:LEU:C	38:H:91:THR:N	2.53	0.62
37:A:3888:G:O2'	37:A:3889:G:OP1	2.18	0.62
2:C:16:G:N2	37:A:418:A:OP2	2.33	0.62
7:I:61:ARG:NH1	37:A:4587:G:OP1	2.28	0.62
47:AA:936:G:N2	47:AA:1007:C:C2	2.68	0.62
76:AB:49:LYS:CD	76:AB:51:LYS:HE2	2.26	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:AJ:170:TRP:CD2	57:AP:97:ARG:NH1	2.68	0.62
54:AK:111:LEU:HD12	54:AK:112:VAL:H	1.65	0.62
79:AM:50:CYS:SG	79:AM:51:VAL:N	2.73	0.62
46:W:77:ASN:OD1	46:W:78:ASN:N	2.32	0.62
37:A:4904:G:N2	37:A:4917:C:O2	2.29	0.61
37:A:962:C:OP1	37:A:2265:G:N1	2.23	0.61
47:AA:1293:A:H2'	47:AA:1293:A:N3	2.13	0.61
47:AA:1290:G:N2	47:AA:1311:C:O2	2.31	0.61
47:AA:1270:G:N2	47:AA:1513:C:O2	2.33	0.61
47:AA:1589:A:C8	47:AA:1590:C:H5	2.18	0.61
47:AA:686:U:H5'	57:AP:32:LYS:HE3	1.82	0.61
53:AJ:171:GLY:O	57:AP:98:GLN:NE2	2.33	0.61
53:AJ:92:GLU:H	53:AJ:92:GLU:CD	2.02	0.61
47:AA:1344:A:N3	47:AA:1345:G:H1'	2.15	0.61
47:AA:400:C:O2'	47:AA:401:A:O5'	2.18	0.61
47:AA:1315:U:H3	52:AH:99:LYS:NZ	1.98	0.61
79:AM:52:GLN:HE21	79:AM:65:VAL:HG13	1.65	0.61
37:A:990:C:H42	37:A:1051:G:H2'	1.64	0.61
47:AA:1259:A:O2'	47:AA:1264:C:N4	2.34	0.61
47:AA:1516:G:H2'	47:AA:1517:G:O4'	1.99	0.61
47:AA:1866:A:O2'	50:AE:95:ARG:O	2.18	0.61
78:AI:33:SER:N	78:AI:41:ILE:O	2.34	0.61
3:D:190:LYS:NZ	37:A:1540:C:OP2	2.34	0.61
3:D:234:LYS:NZ	37:A:3666:C:OP1	2.32	0.61
1:B:48:G:O2'	6:G:222:GLN:O	2.13	0.61
37:A:1919:G:N2	42:M:163:HIS:O	2.33	0.61
37:A:1970:A:O2'	37:A:2018:C:N3	2.34	0.61
37:A:3760:A:N6	47:AA:1827:U:P	2.72	0.61
3:D:248:GLY:O	47:AA:1044:G:C4	2.52	0.61
47:AA:1264:C:H5''	47:AA:1326:U:C5	2.36	0.61
47:AA:323:C:O2	47:AA:328:U:N3	2.34	0.61
47:AA:640:A:H2'	47:AA:641:A:C8	2.35	0.61
47:AA:680:G:H2'	47:AA:681:U:H6	1.65	0.61
55:AL:123:ILE:O	55:AL:127:ARG:N	2.33	0.61
56:AN:54:LEU:HB3	56:AN:60:VAL:CG1	2.30	0.61
37:A:4769:G:H1	37:A:4865:C:H42	1.48	0.61
47:AA:1361:G:OP2	47:AA:1362:U:O2'	2.13	0.61
47:AA:1781:A:H2'	47:AA:1783:C:O4'	2.00	0.61
47:AA:862:A:C8	57:AP:107:SER:HA	2.35	0.61
49:AD:11:ARG:HG3	49:AD:12:LYS:H	1.63	0.61
78:AI:93:THR:OG1	78:AI:94:THR:N	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:AC:1:MET:HG2	53:AJ:166:ARG:NH1	2.14	0.61
54:AK:215:LYS:NZ	54:AK:219:GLU:OE2	2.34	0.61
57:AP:27:ILE:HG12	57:AP:61:ILE:HB	1.83	0.61
47:AA:1421:A:H5''	81:AU:2:PRO:HB2	1.82	0.61
70:A0:121:ARG:HG3	70:A0:122:GLY:N	2.15	0.61
47:AA:1302:G:H3'	47:AA:1302:G:OP1	2.00	0.61
47:AA:1430:C:O2'	47:AA:1431:G:H8	1.83	0.61
47:AA:143:U:C4	54:AK:180:VAL:HA	2.35	0.61
47:AA:1538:C:H42	47:AA:1595:U:H3	1.48	0.61
47:AA:1258:A:N1	47:AA:1663:A:C4	2.69	0.61
47:AA:220:U:H2'	47:AA:221:A:C8	2.36	0.61
47:AA:553:U:H2'	47:AA:554:A:H5'	1.83	0.61
47:AA:976:G:H21	80:AO:50:LYS:HE3	1.65	0.61
54:AK:64:LYS:HG3	54:AK:65:GLN:N	2.15	0.61
47:AA:1538:C:H2'	81:AU:45:LEU:HD22	1.81	0.61
5:F:278:ASN:OD1	5:F:279:LEU:N	2.34	0.61
6:G:181:PRO:HB2	6:G:198:HIS:CD2	2.36	0.61
38:H:95:PRO:HB2	38:H:97:GLY:HA2	1.82	0.61
37:A:3965:A:N7	37:A:4049:U:O2'	2.30	0.61
20:Z:68:ARG:NH1	37:A:442:G:OP1	2.27	0.61
47:AA:1055:A:C6	47:AA:1056:U:C2	2.89	0.61
47:AA:1302:G:H21	52:AH:98:VAL:HG21	1.66	0.61
47:AA:606:G:H5''	60:AT:56:ASN:HB3	1.82	0.61
47:AA:627:U:H5'	47:AA:628:A:H62	1.65	0.61
47:AA:841:G:HO2'	47:AA:842:C:H6	1.47	0.61
52:AH:116:ARG:HD3	52:AH:131:PHE:CZ	2.35	0.61
54:AK:189:ARG:O	54:AK:193:ALA:N	2.33	0.61
79:AM:52:GLN:NE2	79:AM:66:GLU:HB3	2.16	0.61
80:AO:92:ALA:HB2	80:AO:125:LYS:HB2	1.80	0.61
46:W:10:SER:O	46:W:11:LEU:CB	2.48	0.61
37:A:2601:A:N6	37:A:2744:A:OP2	2.33	0.61
37:A:2549:G:N2	37:A:2770:C:O2	2.27	0.61
37:A:3970:G:N2	37:A:4051:C:N3	2.49	0.61
47:AA:1413:G:H2'	47:AA:1413:G:N3	2.16	0.61
47:AA:1445:U:O4	47:AA:1446:A:N6	2.32	0.61
47:AA:634:A:H4'	60:AT:18:LYS:NZ	2.16	0.61
47:AA:665:G:C2	47:AA:671:A:N7	2.69	0.61
47:AA:648:A:O3'	49:AD:104:GLY:HA3	2.01	0.61
78:AI:230:LEU:HD13	78:AI:259:TRP:CE3	2.36	0.61
55:AL:6:SER:O	55:AL:8:VAL:N	2.33	0.61
16:U:123:ILE:HG12	16:U:143:ALA:HB3	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1091:C:HO2'	57:AP:2:VAL:N	1.99	0.61
47:AA:202:G:H2'	47:AA:203:G:C8	2.25	0.61
47:AA:216:C:N4	47:AA:309:G:H1	1.99	0.61
47:AA:918:U:O4	47:AA:1020:A:O2'	2.18	0.61
51:AF:62:GLU:N	51:AF:62:GLU:OE1	2.33	0.61
47:AA:823:U:O4'	55:AL:140:GLN:NE2	2.34	0.61
81:AU:97:LYS:O	81:AU:100:ALA:N	2.33	0.61
81:AU:38:LYS:HZ1	81:AU:44:GLU:HB2	1.66	0.61
81:AU:23:LYS:HA	81:AU:54:TYR:CD1	2.35	0.61
38:H:86:GLU:O	38:H:87:LYS:O	2.18	0.61
47:AA:1034:A:H2'	47:AA:1035:A:C8	2.36	0.61
47:AA:1070:A:H3'	47:AA:1071:G:H8	1.65	0.61
47:AA:1090:C:H42	47:AA:1159:G:H1	1.49	0.61
47:AA:1446:A:H1'	47:AA:1447:G:N7	2.16	0.61
47:AA:1638:G:O2'	47:AA:1639:G:H5''	2.00	0.61
47:AA:1678:A:N6	47:AA:1679:A:N1	2.49	0.61
47:AA:1715:A:N1	47:AA:1819:A:C2	2.69	0.61
47:AA:185:G:N2	47:AA:214:U:H3	1.98	0.61
47:AA:876:C:N4	47:AA:878:G:H8	1.99	0.61
76:AB:28:ASN:HB3	76:AB:31:SER:OG	2.01	0.61
48:AC:35:ASN:HB3	48:AC:50:PHE:CD1	2.35	0.61
55:AL:36:GLY:HA2	55:AL:124:HIS:CE1	2.36	0.61
79:AM:44:LYS:HG2	79:AM:112:LYS:HZ2	1.64	0.61
81:AU:24:LYS:O	81:AU:25:SER:OG	2.19	0.61
5:F:316:LYS:HG2	37:A:714:G:H5''	1.82	0.61
40:K:59:PRO:HG2	40:K:143:ARG:HA	1.82	0.61
20:Z:33:VAL:HG23	20:Z:38:GLU:HG2	1.83	0.61
9:L:135:LYS:NZ	37:A:2898:G:OP2	2.34	0.60
47:AA:1256:G:N1	47:AA:1658:G:O2'	2.34	0.60
48:AC:7:GLU:HG3	48:AC:9:VAL:HG22	1.83	0.60
78:AI:168:CYS:HB3	78:AI:198:VAL:HB	1.81	0.60
80:AO:13:GLN:O	80:AO:14:VAL:HB	2.00	0.60
81:AU:69:GLY:N	81:AU:121:ARG:O	2.30	0.60
16:U:75:LEU:HB3	16:U:117:LEU:HD11	1.82	0.60
47:AA:1229:G:OP1	70:A0:141:ARG:HG2	2.01	0.60
47:AA:1308:U:H3	52:AH:139:HIS:HD2	1.49	0.60
47:AA:1400:U:O4	47:AA:1401:A:N6	2.34	0.60
47:AA:1337:C:C2	47:AA:1491:G:C2	2.89	0.60
47:AA:80:G:O5'	47:AA:80:G:H8	1.85	0.60
47:AA:62:G:N1	47:AA:86:C:N3	2.36	0.60
47:AA:929:G:H22	47:AA:1104:G:H4'	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:AD:51:VAL:HG13	49:AD:70:VAL:HG21	1.83	0.60
78:AI:2:THR:HG23	78:AI:3:GLU:HG3	1.83	0.60
80:AO:111:GLY:O	80:AO:115:ALA:N	2.23	0.60
37:A:1390:G:N2	37:A:1393:G:OP2	2.35	0.60
37:A:2109:G:H3'	37:A:2110:C:H5''	1.83	0.60
47:AA:1175:G:H2'	47:AA:1176:G:H8	1.66	0.60
47:AA:1620:A:O2'	47:AA:1624:U:OP1	2.17	0.60
37:A:3711:A:H5'	47:AA:970:G:O4'	1.98	0.60
47:AA:984:C:O2	80:AO:139:SER:OG	2.13	0.60
76:AB:20:ILE:HB	76:AB:91:LEU:HB2	1.83	0.60
78:AI:109:LEU:HD21	78:AI:152:SER:C	2.21	0.60
78:AI:196:ASN:N	78:AI:210:GLY:O	2.34	0.60
53:AJ:215:MET:O	53:AJ:218:GLY:N	2.33	0.60
81:AU:66:LEU:HD12	81:AU:67:ARG:HG2	1.83	0.60
5:F:286:ASN:HD22	5:F:292:ILE:HD11	1.66	0.60
46:W:53:PRO:HG2	46:W:56:ARG:HD3	1.82	0.60
19:Y:88:LEU:HD22	19:Y:95:TYR:HE1	1.66	0.60
47:AA:10:G:C2	47:AA:11:A:C5	2.90	0.60
47:AA:1160:U:OP2	49:AD:5:ARG:N	2.34	0.60
47:AA:1241:A:H2	47:AA:1517:G:H1'	1.66	0.60
47:AA:1634:A:H2'	47:AA:1635:C:H5'	1.82	0.60
76:AB:54:VAL:O	76:AB:87:ARG:HA	2.01	0.60
47:AA:399:C:H4'	49:AD:11:ARG:NH1	2.17	0.60
50:AE:89:ARG:HA	50:AE:92:ARG:HH11	1.67	0.60
78:AI:133:ASN:HD21	78:AI:139:LYS:HB2	1.65	0.60
53:AJ:263:LYS:NZ	53:AJ:268:GLU:HA	2.16	0.60
12:P:107:ASN:OD1	12:P:111:GLU:N	2.34	0.60
70:A0:10:GLN:HG2	70:A0:13:LEU:HD13	1.83	0.60
70:A0:89:ASP:C	70:A0:91:LYS:H	2.04	0.60
47:AA:127:C:H1'	47:AA:129:C:H5'	1.82	0.60
47:AA:325:C:H1'	47:AA:326:C:H5	1.66	0.60
47:AA:2:A:H5''	47:AA:418:A:C8	2.36	0.60
47:AA:467:G:OP1	54:AK:72:ARG:NH2	2.34	0.60
78:AI:107:ASP:HB3	78:AI:125:ARG:NE	2.16	0.60
59:AR:49:LEU:HB3	59:AR:83:LEU:CD1	2.23	0.60
81:AU:60:THR:O	81:AU:64:LEU:HG	2.01	0.60
4:E:188:GLY:O	4:E:193:LYS:NZ	2.22	0.60
16:U:132:ARG:NH2	37:A:1468:C:OP1	2.35	0.60
37:A:3767:C:O2'	37:A:3768:U:OP1	2.13	0.60
47:AA:1098:C:H2'	47:AA:1099:G:C8	2.36	0.60
47:AA:1131:G:H2'	47:AA:1132:C:H6	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1306:U:OP2	52:AH:140:TYR:HE2	1.84	0.60
47:AA:437:G:C6	47:AA:438:G:C5	2.90	0.60
47:AA:962:A:O3'	80:AO:66:ARG:NH2	2.32	0.60
76:AB:91:LEU:HD22	76:AB:93:SER:HB3	1.84	0.60
5:F:305:PRO:HD2	37:A:2090:U:H4'	1.84	0.60
6:G:198:HIS:ND1	6:G:203:ASN:OD1	2.28	0.60
9:L:163:ARG:CZ	47:AA:871:U:C4	2.84	0.60
9:L:163:ARG:NH1	47:AA:871:U:N3	2.50	0.60
37:A:1178:G:H22	37:A:1183:C:H1'	1.65	0.60
47:AA:1113:A:H3'	47:AA:1114:U:C5'	2.27	0.60
47:AA:1120:U:N3	47:AA:1121:G:N7	2.49	0.60
47:AA:1173:A:C2	47:AA:1188:A:C4	2.89	0.60
47:AA:1220:A:C8	47:AA:1221:G:C8	2.90	0.60
47:AA:1243:U:H2'	47:AA:1244:U:C6	2.37	0.60
47:AA:1268:C:N3	47:AA:1514:G:N2	2.36	0.60
47:AA:1448:A:O2'	47:AA:1449:G:H5''	2.02	0.60
47:AA:375:U:H2'	47:AA:376:A:C8	2.37	0.60
47:AA:810:A:H3'	47:AA:811:A:H5'	1.84	0.60
76:AB:47:ASN:O	76:AB:48:LEU:HD12	2.01	0.60
47:AA:1391:C:H4'	77:AG:55:LEU:HD22	1.83	0.60
81:AU:122:LYS:NZ	81:AU:123:LEU:O	2.33	0.60
7:I:22:ILE:HD12	42:M:166:ARG:HH11	1.50	0.60
47:AA:1743:G:H1'	47:AA:1792:G:N2	2.15	0.60
47:AA:473:A:O2'	47:AA:474:G:OP2	2.20	0.60
47:AA:735:C:H2'	47:AA:736:C:H5'	1.84	0.60
76:AB:48:LEU:O	76:AB:49:LYS:HB3	2.01	0.60
5:F:55:SER:HB3	5:F:58:ALA:HB2	1.82	0.60
38:H:88:VAL:HG22	38:H:90:ALA:HA	1.83	0.60
46:W:10:SER:CB	47:AA:1007:C:OP1	2.48	0.60
14:S:45:ARG:NH2	37:A:238:C:OP2	2.34	0.60
37:A:995:C:O2'	37:A:1048:G:O6	2.20	0.60
47:AA:1302:G:H5''	47:AA:1303:C:H5	1.65	0.60
47:AA:1751:C:C5	47:AA:1752:C:H1'	2.36	0.60
47:AA:1759:G:H2'	47:AA:1760:G:H5''	1.82	0.60
47:AA:409:C:N4	47:AA:431:G:H1	2.00	0.60
47:AA:85:A:H2'	47:AA:86:C:C6	2.37	0.60
76:AB:62:ARG:NE	76:AB:81:GLN:OE1	2.28	0.60
48:AC:4:ASP:OD1	48:AC:5:ALA:N	2.35	0.60
78:AI:33:SER:O	78:AI:40:ILE:HG23	2.01	0.60
58:AQ:56:PHE:N	58:AQ:74:MET:O	2.32	0.60
4:E:74:GLU:OE2	4:E:285:TYR:OH	2.17	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:94:GLU:OE1	4:E:158:GLN:NE2	2.27	0.60
4:E:66:LYS:HB2	12:P:14:PHE:HE2	1.66	0.60
37:A:1084:C:N3	37:A:1215:C:N4	2.50	0.60
37:A:3974:G:H1	37:A:4037:C:H42	1.48	0.60
37:A:710:G:HO2'	38:H:136:HIS:HD1	1.47	0.60
47:AA:1402:A:N6	47:AA:1441:U:O2'	2.35	0.60
47:AA:1575:G:H2'	47:AA:1576:G:C8	2.37	0.60
47:AA:562:U:H2'	47:AA:563:G:C8	2.37	0.60
47:AA:879:C:C2	47:AA:880:G:N2	2.70	0.60
50:AE:53:ILE:O	50:AE:57:SER:OG	2.16	0.60
78:AI:290:ALA:HB3	78:AI:299:PHE:HB2	1.83	0.60
53:AJ:206:SER:OG	53:AJ:207:ALA:N	2.30	0.60
54:AK:230:LYS:O	54:AK:234:LEU:N	2.33	0.60
58:AQ:82:ALA:HA	58:AQ:85:ASN:HB2	1.84	0.60
38:H:89:LEU:C	38:H:91:THR:H	2.04	0.60
10:N:153:PRO:HG2	42:M:127:MET:HB3	1.83	0.60
17:V:13:SER:O	17:V:17:HIS:ND1	2.33	0.60
18:X:29:ILE:HG23	18:X:33:ILE:HD13	1.84	0.60
70:A0:123:LEU:HB3	70:A0:127:TRP:HZ3	1.67	0.59
47:AA:1113:A:C3'	47:AA:1114:U:H5'	2.28	0.59
47:AA:1534:C:H4'	47:AA:1535:U:C5'	2.33	0.59
47:AA:324:C:O2'	47:AA:325:C:OP2	2.20	0.59
47:AA:452:G:C2	47:AA:453:C:H1'	2.37	0.59
51:AF:42:ILE:HG21	51:AF:44:ARG:HE	1.66	0.59
54:AK:165:GLU:HG3	54:AK:166:GLY:N	2.17	0.59
55:AL:30:LYS:O	55:AL:34:GLU:N	2.34	0.59
47:AA:634:A:H4'	60:AT:18:LYS:HZ3	1.65	0.59
4:E:28:LYS:HG3	4:E:30:LYS:HG3	1.83	0.59
5:F:297:GLU:OE1	5:F:300:ARG:NH2	2.34	0.59
38:H:96:VAL:C	38:H:97:GLY:O	2.37	0.59
37:A:1075:G:H1	37:A:1235:G:H1	1.50	0.59
37:A:2114:G:O2'	37:A:2115:G:N7	2.35	0.59
37:A:4120:U:H1'	46:W:54:ALA:HB1	1.84	0.59
37:A:2809:G:O2'	37:A:4644:G:OP1	2.18	0.59
47:AA:919:A:N7	47:AA:1020:A:C4	2.70	0.59
47:AA:1715:A:H2'	47:AA:1715:A:N3	2.16	0.59
47:AA:190:G:H2'	47:AA:208:G:H1	1.67	0.59
47:AA:9:U:H3	47:AA:11:A:H3'	1.67	0.59
78:AI:73:SER:OG	78:AI:115:SER:O	2.20	0.59
53:AJ:78:LEU:HB3	53:AJ:82:TYR:CE2	2.37	0.59
55:AL:21:GLU:HB2	55:AL:24:ARG:HB3	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:AO:96:LYS:HG2	80:AO:130:GLU:OE1	2.02	0.59
81:AU:19:ALA:O	81:AU:22:LEU:N	2.35	0.59
47:AA:1220:A:N7	47:AA:1221:G:C5	2.69	0.59
47:AA:216:C:H5'	47:AA:217:A:OP2	2.02	0.59
78:AI:210:GLY:HA2	78:AI:216:ALA:HA	1.82	0.59
54:AK:36:VAL:N	54:AK:50:VAL:O	2.31	0.59
54:AK:57:ASP:HA	54:AK:106:LEU:HA	1.85	0.59
60:AT:32:ALA:O	60:AT:35:ARG:N	2.35	0.59
57:AP:60:LYS:NZ	61:AV:24:LEU:O	2.26	0.59
3:D:114:CYS:HB2	3:D:165:VAL:HG13	1.84	0.59
5:F:305:PRO:HA	40:K:38:ARG:HH12	1.67	0.59
37:A:1359:G:H3'	37:A:1360:G:H8	1.68	0.59
37:A:3711:A:O4'	47:AA:970:G:C5'	2.51	0.59
37:A:450:G:H3'	37:A:451:C:H4'	1.84	0.59
47:AA:673:G:N2	47:AA:1032:C:O2	2.27	0.59
47:AA:1102:G:H2'	47:AA:1103:C:H6	1.68	0.59
47:AA:1250:A:OP1	47:AA:1339:U:H4'	2.02	0.59
47:AA:1273:C:O3'	47:AA:1274:G:H3'	2.02	0.59
47:AA:1396:A:O2'	47:AA:1397:U:OP2	2.16	0.59
47:AA:942:G:H2'	47:AA:943:U:C2	2.37	0.59
56:AN:128:TYR:O	56:AN:131:THR:OG1	2.17	0.59
59:AR:77:LEU:HD23	59:AR:78:LYS:H	1.68	0.59
37:A:1291:G:O4'	37:A:4942:C:N4	2.35	0.59
47:AA:1302:G:H22	47:AA:1305:C:H3'	1.67	0.59
47:AA:23:G:C5	47:AA:24:C:N4	2.70	0.59
47:AA:454:U:O4	47:AA:455:A:N6	2.35	0.59
47:AA:573:U:H2'	47:AA:574:A:H2'	1.84	0.59
47:AA:748:C:H4'	47:AA:794:A:N6	2.18	0.59
47:AA:873:G:H1	47:AA:912:C:N4	2.01	0.59
50:AE:5:ARG:HG3	50:AE:7:ASN:O	2.03	0.59
52:AH:106:TYR:OH	52:AH:114:ILE:HG21	2.02	0.59
55:AL:117:LEU:HD22	55:AL:157:ILE:HG13	1.84	0.59
80:AO:12:GLU:HA	80:AO:87:GLU:HA	1.83	0.59
58:AQ:89:HIS:CE1	58:AQ:90:ARG:HG2	2.36	0.59
81:AU:77:LYS:O	81:AU:78:ILE:HB	2.02	0.59
38:H:153:LEU:HD11	38:H:195:ILE:HG13	1.85	0.59
47:AA:1629:C:O2'	70:A0:83:PHE:O	2.21	0.59
47:AA:1044:G:N2	47:AA:1070:A:OP2	2.22	0.59
47:AA:1426:U:H3'	47:AA:1427:C:H6	1.66	0.59
47:AA:1746:U:H2'	47:AA:1747:C:C6	2.38	0.59
47:AA:78:C:H1'	54:AK:175:LYS:NZ	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:AJ:210:PRO:HD3	53:AJ:236:PHE:CZ	2.37	0.59
80:AO:92:ALA:CB	80:AO:125:LYS:HB2	2.32	0.59
47:AA:1158:G:H5''	57:AP:76:SER:CB	2.33	0.59
81:AU:72:VAL:HG21	81:AU:101:ARG:HG3	1.83	0.59
61:AV:35:VAL:HG11	61:AV:63:LEU:HD21	1.85	0.59
38:H:136:HIS:HB2	38:H:138:ARG:HH12	1.67	0.59
42:M:15:ARG:HB3	42:M:27:LEU:HD23	1.84	0.59
47:AA:1407:U:O4	47:AA:1439:A:N6	2.27	0.59
47:AA:1543:U:P	81:AU:11:GLN:HG3	2.42	0.59
54:AK:50:VAL:HG12	54:AK:113:ILE:HA	1.85	0.59
55:AL:44:TRP:N	55:AL:44:TRP:CD1	2.68	0.59
18:X:91:LYS:HD2	18:X:105:LEU:HD13	1.83	0.59
47:AA:1204:A:C6	47:AA:1205:C:C4	2.90	0.59
47:AA:1215:C:H42	47:AA:1220:A:H61	1.51	0.59
47:AA:1251:A:H2'	47:AA:1251:A:N3	2.18	0.59
47:AA:221:A:N6	47:AA:300:U:H3	1.99	0.59
47:AA:444:G:O2'	47:AA:446:G:O6	2.11	0.59
47:AA:750:C:N3	47:AA:752:G:N2	2.47	0.59
76:AB:49:LYS:CD	76:AB:51:LYS:CE	2.80	0.59
47:AA:1307:U:C5	52:AH:102:VAL:HG21	2.38	0.59
78:AI:75:GLY:HA3	78:AI:92:LEU:HB2	1.84	0.59
54:AK:121:ILE:HB	54:AK:125:THR:HG21	1.83	0.59
55:AL:60:LEU:HD22	55:AL:77:LEU:HD21	1.84	0.59
58:AQ:8:ARG:HB2	58:AQ:26:ASP:HB3	1.85	0.59
58:AQ:57:VAL:HG12	58:AQ:73:GLY:HA2	1.84	0.59
70:A0:61:GLU:OE1	70:A0:61:GLU:N	2.27	0.59
37:A:2889:G:H21	37:A:5034:A:H8	1.50	0.59
47:AA:1453:C:H42	47:AA:1475:G:N2	2.00	0.59
47:AA:1587:G:H1	81:AU:70:ALA:HB2	1.67	0.59
47:AA:1752:C:O2	47:AA:1780:G:N1	2.36	0.59
47:AA:1827:U:H2'	47:AA:1828:C:C6	2.38	0.59
47:AA:303:C:OP2	47:AA:304:C:N4	2.33	0.59
50:AE:90:GLU:OE1	50:AE:90:GLU:N	2.27	0.59
54:AK:102:VAL:HA	54:AK:106:LEU:HD21	1.84	0.59
47:AA:1157:G:O3'	57:AP:76:SER:OG	2.21	0.59
58:AQ:13:MET:O	58:AQ:22:GLN:N	2.35	0.59
4:E:57:VAL:HB	4:E:367:PHE:HB3	1.85	0.59
9:L:23:TRP:HB2	9:L:53:LYS:HG3	1.84	0.59
7:I:22:ILE:HD13	42:M:166:ARG:HH12	1.59	0.59
11:O:105:ASN:HB2	11:O:111:GLU:HB2	1.84	0.59
37:A:1242:G:H1	37:A:1269:G:N2	1.99	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1291:A:H5''	47:AA:1302:G:O2'	2.03	0.59
47:AA:1280:G:H1	47:AA:1316:C:H42	1.50	0.59
47:AA:1422:G:C2	47:AA:1424:G:H5''	2.37	0.59
47:AA:1777:G:H2'	47:AA:1778:C:C2	2.38	0.59
47:AA:489:A:C4	47:AA:512:A:C2	2.91	0.59
47:AA:535:G:H1	47:AA:548:C:H42	1.51	0.59
47:AA:997:A:H2'	47:AA:998:A:H8	1.66	0.59
54:AK:39:ASP:O	54:AK:42:GLY:N	2.35	0.59
55:AL:59:GLU:OE1	55:AL:62:THR:OG1	2.20	0.59
59:AR:83:LEU:HA	59:AR:86:ALA:HB3	1.84	0.59
81:AU:18:LEU:O	81:AU:22:LEU:N	2.36	0.59
38:H:99:ASP:O	38:H:100:LYS:O	2.21	0.59
70:A0:105:ASN:HA	70:A0:108:ARG:NH2	2.18	0.58
37:A:1440:U:H1'	37:A:1441:C:H5	1.67	0.58
37:A:3800:A:O2'	37:A:4505:C:O2'	2.21	0.58
47:AA:1071:G:N2	47:AA:1072:U:O2	2.36	0.58
47:AA:1260:A:C5	47:AA:1620:A:C5	2.91	0.58
47:AA:1744:G:O4'	47:AA:1790:A:N6	2.35	0.58
47:AA:181:A:H4'	47:AA:182:C:O5'	2.03	0.58
47:AA:534:G:H1	47:AA:549:C:N4	2.01	0.58
47:AA:878:G:H1	47:AA:879:C:HO2'	1.48	0.58
47:AA:991:G:H4'	47:AA:992:A:OP1	2.02	0.58
49:AD:84:PHE:N	49:AD:118:VAL:HG11	2.18	0.58
78:AI:75:GLY:HA3	78:AI:92:LEU:HD13	1.85	0.58
56:AN:119:GLU:O	56:AN:123:HIS:ND1	2.29	0.58
81:AU:101:ARG:HG2	81:AU:105:GLN:CD	2.23	0.58
81:AU:68:GLY:HA2	81:AU:75:MET:HE1	1.83	0.58
61:AV:5:LYS:HE2	79:AM:27:ILE:HG21	127.15	0.58
16:U:28:HIS:CD2	16:U:32:ARG:HG2	2.38	0.58
37:A:1266:G:N2	37:A:1268:G:O5'	2.36	0.58
47:AA:1148:A:C8	47:AA:1149:A:C6	2.90	0.58
47:AA:14:C:O2	47:AA:1198:G:N2	2.36	0.58
47:AA:193:C:H2'	47:AA:194:C:C6	2.37	0.58
47:AA:493:A:H4'	58:AQ:89:HIS:CD2	2.38	0.58
47:AA:19:A:H5'	49:AD:107:ARG:CZ	2.33	0.58
78:AI:20:GLN:HE21	78:AI:22:ALA:HB2	1.69	0.58
78:AI:297:THR:OG1	78:AI:311:GLN:OE1	2.21	0.58
47:AA:1032:C:H5'	56:AN:109:LYS:NZ	2.18	0.58
56:AN:53:ILE:O	56:AN:57:SER:HB3	2.03	0.58
70:A0:124:ARG:HH22	70:A0:151:LYS:HG2	1.67	0.58
37:A:1985:G:H1	37:A:2013:A:H62	1.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:2711:G:H21	37:A:2711:G:P	2.26	0.58
37:A:3711:A:N3	47:AA:970:G:H5''	2.18	0.58
37:A:4568:A:O2'	37:A:4981:G:N7	2.35	0.58
37:A:490:C:H42	37:A:663:G:H22	1.51	0.58
47:AA:1079:C:H41	47:AA:1080:A:N6	2.01	0.58
47:AA:1168:G:C2	47:AA:1169:G:H1'	2.38	0.58
47:AA:1224:G:N2	47:AA:1225:U:O2	2.36	0.58
47:AA:1414:A:H62	47:AA:1419:C:N4	2.00	0.58
47:AA:1523:C:H41	70:A0:137:LYS:C	2.04	0.58
47:AA:696:G:N2	47:AA:737:G:N7	2.52	0.58
47:AA:890:U:O4	47:AA:896:U:O2'	2.08	0.58
78:AI:100:ARG:NH2	78:AI:102:VAL:HG13	2.19	0.58
78:AI:191:HIS:CE1	78:AI:211:GLY:HA3	2.37	0.58
78:AI:248:LEU:O	78:AI:258:ILE:HA	2.02	0.58
55:AL:127:ARG:NH2	55:AL:145:PRO:HG2	2.18	0.58
55:AL:70:ARG:HG3	55:AL:94:LEU:HD21	1.85	0.58
50:AE:29:CYS:SG	80:AO:146:ARG:HG3	2.43	0.58
57:AP:117:ARG:NH1	57:AP:117:ARG:O	2.34	0.58
59:AR:50:PHE:HA	59:AR:54:THR:HG21	1.86	0.58
47:AA:1419:C:H4'	81:AU:132:ASP:OD2	2.03	0.58
5:F:210:ILE:HD12	5:F:252:TRP:NE1	2.17	0.58
37:A:1237:C:H5''	38:H:59:ARG:HB2	1.85	0.58
37:A:1264:C:H2'	37:A:1265:G:C8	2.38	0.58
47:AA:1288:U:O2'	47:AA:1312:G:N2	2.34	0.58
47:AA:1452:A:N6	47:AA:1474:A:C4	2.71	0.58
47:AA:1745:A:C5	47:AA:1790:A:H1'	2.38	0.58
47:AA:436:G:N1	47:AA:457:C:O2	2.31	0.58
47:AA:835:C:N4	58:AQ:8:ARG:HB3	2.19	0.58
50:AE:49:ALA:HB2	80:AO:117:ARG:HH21	1.67	0.58
78:AI:54:ILE:HD12	78:AI:54:ILE:C	2.23	0.58
5:F:66:SER:HB2	5:F:77:PRO:HA	1.85	0.58
70:A0:48:ALA:HB3	70:A0:50:ILE:HG23	1.84	0.58
37:A:3767:C:H2'	37:A:3768:U:N1	2.19	0.58
12:P:95:PHE:CE2	37:A:4629:U:H1'	2.38	0.58
47:AA:109:U:H5'	47:AA:854:A:N1	2.18	0.58
47:AA:122:G:H2'	47:AA:123:G:C8	2.38	0.58
47:AA:1277:C:H5''	47:AA:1278:A:N7	2.18	0.58
47:AA:1473:G:O2'	47:AA:1474:A:O5'	2.20	0.58
47:AA:59:U:N3	47:AA:62:G:OP1	2.25	0.58
47:AA:79:A:C6	47:AA:80:G:C6	2.92	0.58
76:AB:77:TRP:HZ3	77:AG:40:ARG:HH22	1.51	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1307:U:H6	52:AH:102:VAL:HG11	1.67	0.58
47:AA:1315:U:H3	52:AH:99:LYS:HZ1	1.52	0.58
53:AJ:203:GLY:N	53:AJ:221:ASP:OD2	2.36	0.58
53:AJ:84:PHE:O	53:AJ:85:SER:OG	2.20	0.58
60:AT:27:LYS:HB3	60:AT:33:LYS:NZ	2.19	0.58
37:A:2658:G:N2	37:A:2676:A:OP2	2.24	0.58
37:A:497:G:N2	37:A:657:C:N3	2.52	0.58
47:AA:388:U:C4	47:AA:389:A:N7	2.72	0.58
47:AA:964:A:C2	47:AA:965:U:C2	2.92	0.58
76:AB:22:ILE:HG23	76:AB:113:GLU:O	2.02	0.58
49:AD:104:GLY:O	49:AD:121:LYS:NZ	2.32	0.58
51:AF:24:GLN:C	51:AF:26:GLN:H	2.07	0.58
54:AK:138:ALA:HB2	54:AK:179:LEU:HB3	1.84	0.58
57:AP:22:LYS:O	57:AP:65:LEU:HD21	2.03	0.58
47:AA:1597:C:P	59:AR:82:SER:HB2	2.43	0.58
81:AU:52:TRP:CD2	81:AU:53:PHE:N	2.71	0.58
61:AV:21:LYS:O	61:AV:22:LYS:HB2	2.04	0.58
17:V:63:LYS:O	17:V:67:ALA:N	2.37	0.58
47:AA:1060:A:O2'	47:AA:1062:A:N6	2.36	0.58
47:AA:1210:G:H3'	47:AA:1211:G:H5''	1.86	0.58
47:AA:1563:G:C6	47:AA:1573:G:C2	2.91	0.58
47:AA:406:U:H5''	47:AA:407:G:N2	2.18	0.58
53:AJ:188:CYS:SG	53:AJ:189:GLY:N	2.76	0.58
47:AA:1421:A:P	81:AU:133:ARG:HH22	2.25	0.58
81:AU:17:ALA:HA	81:AU:20:ALA:HB3	1.85	0.58
37:A:499:G:N2	37:A:656:C:O2	2.37	0.58
47:AA:1281:G:N2	47:AA:1316:C:N3	2.52	0.58
47:AA:1426:U:H5''	47:AA:1427:C:C5	2.39	0.58
47:AA:1558:C:H2'	47:AA:1559:C:H6	1.67	0.58
47:AA:852:G:H2'	47:AA:852:G:N3	2.18	0.58
47:AA:938:A:N6	47:AA:1004:U:H3	2.01	0.58
49:AD:34:THR:HA	49:AD:37:LYS:HB3	1.85	0.58
78:AI:140:TYR:OH	78:AI:181:ASN:OD1	2.19	0.58
53:AJ:101:SER:OG	53:AJ:132:ASP:OD1	2.20	0.58
53:AJ:65:LYS:HA	53:AJ:68:ARG:HD3	1.86	0.58
47:AA:561:A:H5''	55:AL:164:PRO:CB	2.33	0.58
80:AO:139:SER:O	80:AO:140:THR:OG1	2.14	0.58
12:P:39:ILE:HG12	12:P:61:VAL:HG11	1.84	0.58
70:A0:39:ARG:NH1	81:AU:38:LYS:HB3	2.19	0.58
37:A:1440:U:O2	37:A:1441:C:N4	2.35	0.58
37:A:388:A:N6	37:A:411:G:O2'	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:4704:C:H2'	37:A:4705:A:C8	2.39	0.58
47:AA:1408:U:HO2'	47:AA:1442:U:H3	1.50	0.58
47:AA:1743:G:O6	47:AA:1744:G:N1	2.37	0.58
47:AA:1797:U:N3	47:AA:1798:C:N3	2.51	0.58
47:AA:482:G:H4'	49:AD:76:LYS:NZ	2.17	0.58
47:AA:630:U:H3	47:AA:631:U:H5	1.51	0.58
76:AB:32:LEU:HD23	76:AB:85:HIS:HB2	1.86	0.58
48:AC:71:ARG:O	48:AC:75:ALA:N	2.33	0.58
49:AD:111:ALA:HB2	49:AD:119:ARG:NE	2.19	0.58
52:AH:132:MET:HB2	52:AH:139:HIS:CE1	2.39	0.58
53:AJ:176:LYS:N	53:AJ:200:ARG:HH12	2.00	0.58
57:AP:50:PHE:HB2	57:AP:63:VAL:HG22	1.86	0.58
59:AR:85:ARG:O	59:AR:89:GLN:N	2.37	0.58
37:A:1361:G:O6	37:A:1376:C:N4	2.37	0.58
37:A:2695:A:H4'	37:A:2696:A:O5'	2.04	0.58
47:AA:1112:U:H2'	47:AA:1113:A:O4'	2.04	0.58
47:AA:1158:G:H5''	57:AP:76:SER:HB3	1.85	0.58
47:AA:13:C:O2	47:AA:1199:A:H2	1.87	0.58
47:AA:1304:U:H4'	52:AH:95:ARG:HB2	1.85	0.58
47:AA:1410:C:H2'	47:AA:1411:G:C8	2.39	0.58
47:AA:1637:A:H4'	47:AA:1638:G:C5	2.39	0.58
47:AA:191:A:H5'	47:AA:192:C:OP2	2.04	0.58
47:AA:437:G:N2	47:AA:457:C:H1'	2.18	0.58
47:AA:912:C:O2'	47:AA:913:A:OP1	2.20	0.58
47:AA:957:A:HO2'	47:AA:958:G:P	2.27	0.58
59:AR:51:ASP:HA	70:A0:8:LYS:HD2	1.86	0.57
37:A:1176:C:O2	37:A:1185:G:N2	2.37	0.57
47:AA:1117:C:H3'	47:AA:1118:C:O2	2.04	0.57
47:AA:1142:G:OP1	53:AJ:187:ARG:NH1	2.37	0.57
47:AA:1273:C:C2	47:AA:1506:A:C4	2.92	0.57
47:AA:1663:A:H2'	47:AA:1664:A:H8	1.69	0.57
47:AA:1832:A:C5	47:AA:1833:C:C5	2.88	0.57
47:AA:194:C:N4	47:AA:205:G:O6	2.27	0.57
47:AA:328:U:H2'	47:AA:329:G:O4'	2.04	0.57
47:AA:92:A:N6	47:AA:446:G:O6	2.37	0.57
47:AA:994:C:H42	47:AA:999:G:H1	1.52	0.57
48:AC:46:PHE:CE2	48:AC:48:GLY:HA2	2.39	0.57
47:AA:1302:G:OP1	77:AG:5:GLN:OE1	2.21	0.57
78:AI:109:LEU:HD11	78:AI:152:SER:HA	1.86	0.57
78:AI:68:ASP:OD1	78:AI:69:VAL:N	2.37	0.57
53:AJ:169:TYR:HB2	53:AJ:173:LYS:HG2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:AJ:256:TRP:CH2	57:AP:68:ARG:HD3	2.39	0.57
56:AN:52:VAL:O	56:AN:55:ARG:N	2.37	0.57
2:C:70:G:O2'	2:C:88:A:N6	2.37	0.57
8:J:22:LEU:HD12	8:J:146:ILE:HD13	1.84	0.57
12:P:95:PHE:HE2	37:A:4629:U:H1'	1.68	0.57
37:A:2:G:H5''	45:R:38:LYS:CE	2.33	0.57
47:AA:1060:A:C4	47:AA:1062:A:C6	2.91	0.57
47:AA:1417:C:N4	47:AA:1419:C:O4'	2.37	0.57
47:AA:1440:C:H2'	47:AA:1441:U:C6	2.39	0.57
47:AA:1854:U:H2'	47:AA:1855:G:C8	2.38	0.57
47:AA:681:U:H2'	47:AA:682:U:C6	2.39	0.57
53:AJ:72:ASP:HB3	53:AJ:74:LYS:HG3	1.86	0.57
56:AN:23:PRO:HB2	56:AN:25:TRP:CH2	2.38	0.57
58:AQ:16:ARG:HA	58:AQ:19:GLN:HA	1.85	0.57
37:A:1502:G:OP1	40:K:62:SER:OG	2.20	0.57
37:A:4190:U:O2'	37:A:4382:G:OP2	2.22	0.57
3:D:214:GLY:N	37:A:4545:G:OP2	2.37	0.57
37:A:4745:G:H22	37:A:4955:A:H2	1.51	0.57
47:AA:107:A:C6	47:AA:108:G:C5	2.93	0.57
47:AA:1597:C:OP1	59:AR:82:SER:HB2	2.04	0.57
47:AA:1866:A:C5	50:AE:87:ARG:NH2	2.72	0.57
47:AA:194:C:C2	47:AA:206:G:C2	2.92	0.57
47:AA:224:A:C2	47:AA:298:G:C2	2.93	0.57
47:AA:360:A:C6	47:AA:363:A:N7	2.72	0.57
47:AA:445:A:C6	47:AA:446:G:C2	2.91	0.57
47:AA:555:A:N7	47:AA:557:U:H5'	2.18	0.57
49:AD:49:GLY:HA3	49:AD:74:LEU:HD23	1.87	0.57
78:AI:147:HIS:CD2	78:AI:169:GLY:HA3	2.39	0.57
54:AK:39:ASP:HA	54:AK:45:TRP:CB	2.33	0.57
47:AA:523:A:OP1	55:AL:127:ARG:NH1	2.37	0.57
81:AU:75:MET:SD	81:AU:121:ARG:HB2	2.45	0.57
81:AU:66:LEU:C	81:AU:68:GLY:H	2.06	0.57
38:H:91:THR:HB	38:H:107:VAL:HB	1.85	0.57
9:L:157:ASP:OD1	9:L:158:GLN:N	2.37	0.57
17:V:60:ASN:O	17:V:64:ALA:N	2.35	0.57
47:AA:1521:C:C4	70:A0:137:LYS:HG2	2.40	0.57
37:A:4154:G:OP1	45:R:37:LYS:HG3	2.03	0.57
37:A:4279:A:H5'	37:A:4281:A:H1'	1.85	0.57
47:AA:1131:G:H2'	47:AA:1132:C:C6	2.39	0.57
47:AA:1171:G:HO2'	47:AA:1187:G:H1	1.52	0.57
47:AA:1721:U:H3'	47:AA:1722:G:H5''	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:525:A:H2'	47:AA:526:A:H8	1.66	0.57
47:AA:615:C:N4	47:AA:625:G:O2'	2.35	0.57
47:AA:399:C:C5	47:AA:680:G:H5''	2.40	0.57
78:AI:286:CYS:HB3	78:AI:302:TYR:CE1	2.40	0.57
79:AM:124:ILE:HB	79:AM:128:PHE:HB2	1.87	0.57
81:AU:60:THR:OG1	81:AU:103:VAL:HG12	2.05	0.57
3:D:104:VAL:HA	3:D:107:MET:HE2	1.86	0.57
38:H:119:GLU:O	40:K:112:ARG:NH2	65.70	0.57
9:L:163:ARG:NH1	47:AA:871:U:C4	2.73	0.57
37:A:1265:G:O3'	37:A:2112:G:N2	2.38	0.57
37:A:4742:G:N2	37:A:4959:U:OP2	2.38	0.57
2:C:148:A:H61	37:A:7:C:H42	1.53	0.57
47:AA:1345:G:H2'	47:AA:1346:U:C6	2.38	0.57
47:AA:190:G:H21	47:AA:209:A:H8	1.52	0.57
47:AA:540:U:H2'	47:AA:542:U:OP1	2.04	0.57
47:AA:614:C:OP2	47:AA:626:G:O2'	2.22	0.57
47:AA:78:C:H1'	54:AK:175:LYS:HZ2	1.69	0.57
47:AA:832:G:O6	47:AA:842:C:N4	2.26	0.57
47:AA:874:G:H2'	47:AA:875:A:C8	2.39	0.57
47:AA:97:U:C4	47:AA:98:C:N4	2.72	0.57
53:AJ:74:LYS:HD3	53:AJ:269:PHE:CD1	2.40	0.57
81:AU:38:LYS:HB3	81:AU:44:GLU:HA	1.85	0.57
38:H:95:PRO:HB2	38:H:97:GLY:CA	2.35	0.57
15:T:97:ASN:OD1	15:T:98:LYS:N	2.37	0.57
37:A:452:A:N7	37:A:1294:A:N6	2.53	0.57
37:A:346:G:O2'	37:A:1367:C:N4	2.37	0.57
47:AA:1301:A:N6	47:AA:1303:C:C2	2.73	0.57
47:AA:1514:G:H2'	47:AA:1515:G:H8	1.68	0.57
47:AA:1613:G:C2	47:AA:1614:A:H1'	2.39	0.57
47:AA:404:G:H2'	47:AA:405:G:C8	2.40	0.57
47:AA:534:G:N3	47:AA:534:G:H2'	2.19	0.57
47:AA:817:G:N2	47:AA:818:A:N7	2.53	0.57
47:AA:917:U:N3	47:AA:918:U:O2	2.38	0.57
50:AE:45:VAL:C	80:AO:113:GLN:HE21	2.08	0.57
51:AF:12:ALA:HA	51:AF:34:PHE:HA	1.86	0.57
78:AI:257:LYS:HG3	78:AI:269:GLU:HA	1.85	0.57
47:AA:1008:A:H1'	56:AN:101:HIS:ND1	2.18	0.57
56:AN:119:GLU:HG2	56:AN:123:HIS:HE1	1.69	0.57
80:AO:147:ARG:HD2	80:AO:150:ARG:HE	1.70	0.57
47:AA:833:C:N4	58:AQ:10:ARG:HD3	2.19	0.57
81:AU:53:PHE:O	81:AU:57:ALA:N	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:M:95:ARG:NH1	42:M:112:ASP:OD2	2.37	0.57
70:A0:27:ALA:HB1	70:A0:42:HIS:CE1	2.39	0.57
37:A:1242:G:OP1	37:A:1243:C:N4	2.38	0.57
37:A:2669:C:O2'	37:A:2670:C:O5'	2.23	0.57
37:A:713:C:H42	37:A:955:G:H1	1.50	0.57
47:AA:1280:G:H5'	79:AM:95:ASP:HB2	1.87	0.57
47:AA:1413:G:O6	47:AA:1434:C:N4	2.38	0.57
47:AA:1461:G:H22	47:AA:1464:C:H5''	1.70	0.57
47:AA:535:G:N2	47:AA:537:C:H1'	2.20	0.57
53:AJ:80:GLU:OE1	53:AJ:80:GLU:N	2.32	0.57
54:AK:5:ILE:HA	54:AK:111:LEU:O	2.05	0.57
55:AL:103:GLU:HA	55:AL:106:LEU:HD13	1.86	0.57
79:AM:60:MET:O	79:AM:64:LEU:N	2.37	0.57
47:AA:919:A:P	56:AN:20:ARG:HH21	2.28	0.57
56:AN:69:ASN:ND2	56:AN:73:ARG:HG2	2.19	0.57
81:AU:30:VAL:HG12	81:AU:53:PHE:CZ	2.40	0.57
42:M:161:ARG:O	42:M:165:PRO:HD2	1.99	0.57
37:A:2:G:P	45:R:38:LYS:CG	2.82	0.57
37:A:4600:G:O2'	37:A:4601:U:O5'	2.22	0.57
47:AA:1649:U:H2'	47:AA:1650:A:C8	2.40	0.57
47:AA:1756:C:N3	47:AA:1777:G:H1'	2.19	0.57
47:AA:360:A:N1	47:AA:363:A:C8	2.73	0.57
47:AA:114:G:N2	47:AA:382:C:O2	2.38	0.57
47:AA:681:U:O2'	47:AA:682:U:O5'	2.21	0.57
47:AA:694:G:C2'	47:AA:695:C:H4'	2.34	0.57
47:AA:698:G:H5'	47:AA:733:C:H42	1.70	0.57
78:AI:75:GLY:O	78:AI:91:ASP:HA	2.05	0.57
3:D:243:THR:O	37:A:3745:U:O2'	2.20	0.57
5:F:65:GLU:OE1	5:F:80:ARG:NH1	2.38	0.57
38:H:62:MET:HA	38:H:65:ARG:HB3	1.86	0.57
8:J:37:LYS:NZ	37:A:425:U:OP1	2.30	0.57
47:AA:1096:G:C5	47:AA:1148:A:H2	2.23	0.57
47:AA:1566:G:O6	81:AU:97:LYS:HD2	2.04	0.57
47:AA:1748:G:H2'	47:AA:1749:G:H8	1.70	0.57
47:AA:1749:G:N2	47:AA:1786:U:O2	2.37	0.57
47:AA:454:U:OP1	54:AK:93:LYS:HD2	2.05	0.57
47:AA:551:U:C4	47:AA:552:G:C2	2.93	0.57
47:AA:979:C:H2'	47:AA:980:A:H5'	1.87	0.57
76:AB:20:ILE:HD13	76:AB:117:ALA:HB2	1.87	0.57
53:AJ:128:VAL:O	53:AJ:140:GLY:N	2.36	0.57
55:AL:64:ASP:CG	57:AP:117:ARG:HE	2.07	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:AQ:27:VAL:HB	58:AQ:69:THR:HG23	1.87	0.57
55:AL:124:HIS:HB3	60:AT:31:ARG:HH12	1.70	0.57
70:A0:123:LEU:HB3	70:A0:127:TRP:CZ3	2.38	0.57
37:A:2438:A:O2'	37:A:2440:U:OP2	2.19	0.57
37:A:2558:C:H2'	37:A:2559:G:C8	2.40	0.57
37:A:3967:G:P	37:A:4049:U:H3	2.28	0.57
47:AA:1235:G:N2	47:AA:1236:G:N3	2.53	0.57
47:AA:1283:C:H3'	79:AM:104:VAL:HG11	1.86	0.57
47:AA:52:G:C6	47:AA:53:C:N3	2.73	0.57
47:AA:941:C:H42	47:AA:985:G:H1	1.51	0.57
76:AB:46:LYS:O	76:AB:46:LYS:HD3	2.04	0.57
78:AI:31:ILE:O	78:AI:43:TRP:N	2.37	0.57
47:AA:163:U:O2'	54:AK:62:PRO:HG3	2.05	0.57
6:G:108:ARG:HA	6:G:251:PRO:HB2	1.87	0.57
47:AA:1589:A:C2	47:AA:1672:U:H1'	2.40	0.56
47:AA:303:C:H3'	47:AA:304:C:C5	2.40	0.56
47:AA:7:G:H1	47:AA:17:C:H42	1.53	0.56
47:AA:798:A:N7	47:AA:800:U:H5''	2.20	0.56
49:AD:13:LEU:O	49:AD:16:HIS:N	2.38	0.56
54:AK:183:ARG:O	54:AK:186:GLN:HB3	2.04	0.56
54:AK:222:GLU:O	54:AK:226:GLU:HG2	2.05	0.56
54:AK:55:GLY:O	54:AK:63:MET:HB2	2.04	0.56
47:AA:916:A:N6	56:AN:73:ARG:HD2	2.20	0.56
6:G:144:CYS:HB2	6:G:173:ILE:HG12	1.87	0.56
9:L:98:ARG:HH22	9:L:130:ASN:HB3	1.70	0.56
10:N:108:ARG:NH2	37:A:1836:G:OP2	2.38	0.56
37:A:3723:A:H61	37:A:3730:U:H3	1.52	0.56
47:AA:1044:G:H1	47:AA:1070:A:P	2.26	0.56
47:AA:1298:G:O2'	47:AA:1299:A:OP2	2.19	0.56
47:AA:1275:G:O2'	47:AA:1321:G:O6	2.15	0.56
47:AA:1702:G:C2	47:AA:1703:C:H1'	2.40	0.56
47:AA:427:U:O2'	47:AA:428:U:O5'	2.21	0.56
47:AA:557:U:H2'	47:AA:558:G:N7	2.20	0.56
47:AA:565:G:C6	47:AA:566:U:C4	2.93	0.56
47:AA:611:G:N3	47:AA:611:G:H2'	2.19	0.56
51:AF:8:PRO:HB2	51:AF:10:LYS:NZ	2.20	0.56
78:AI:100:ARG:HH22	78:AI:102:VAL:HG13	1.70	0.56
53:AJ:170:TRP:H	53:AJ:178:HIS:HE1	1.53	0.56
47:AA:171:A:OP1	54:AK:137:ARG:HD2	2.06	0.56
81:AU:70:ALA:O	81:AU:121:ARG:N	2.37	0.56
7:I:195:VAL:O	7:I:198:THR:OG1	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:2:G:O5'	45:R:38:LYS:HE3	2.05	0.56
37:A:3758:U:O2'	37:A:3765:G:N7	2.38	0.56
47:AA:1087:A:N6	47:AA:1861:G:N7	2.54	0.56
47:AA:1096:G:N2	47:AA:1137:U:C2	2.73	0.56
47:AA:1306:U:OP2	52:AH:135:HIS:NE2	2.23	0.56
47:AA:1717:C:C5	47:AA:1718:G:C5	2.93	0.56
47:AA:467:G:H2'	47:AA:468:A:H8	1.70	0.56
47:AA:544:G:N7	47:AA:545:A:H1'	2.19	0.56
47:AA:59:U:H3	47:AA:62:G:P	2.29	0.56
47:AA:941:C:N4	47:AA:985:G:H1	2.03	0.56
49:AD:52:LEU:HD13	49:AD:80:LYS:HE3	1.87	0.56
78:AI:147:HIS:HB3	78:AI:171:ASP:OD2	2.05	0.56
54:AK:177:GLN:HG2	54:AK:178:ARG:HG3	1.88	0.56
54:AK:200:LYS:HA	54:AK:203:LYS:HB3	1.86	0.56
55:AL:77:LEU:HA	55:AL:80:ARG:NE	2.13	0.56
9:L:175:GLU:HA	9:L:178:GLN:HB2	1.88	0.56
37:A:2005:G:H22	37:A:2015:U:H1'	1.69	0.56
47:AA:1290:G:N1	47:AA:1310:U:O2	2.38	0.56
47:AA:1347:U:H2'	47:AA:1348:G:C8	2.40	0.56
47:AA:1362:U:H3'	47:AA:1363:C:C6	2.41	0.56
47:AA:1827:U:H2'	47:AA:1828:C:H6	1.70	0.56
47:AA:66:G:H2'	47:AA:67:C:H4'	1.88	0.56
76:AB:50:VAL:CG2	76:AB:89:ILE:HG21	2.21	0.56
77:AG:36:LEU:O	77:AG:38:MET:HG2	2.06	0.56
52:AH:108:VAL:HG21	52:AH:114:ILE:HG22	1.88	0.56
47:AA:1290:G:N7	52:AH:143:LYS:HE3	2.21	0.56
53:AJ:166:ARG:HH22	53:AJ:252:THR:HG21	1.69	0.56
54:AK:138:ALA:HA	54:AK:141:ILE:HG22	1.86	0.56
80:AO:103:ASN:HD21	80:AO:142:ARG:HA	1.69	0.56
59:AR:65:TYR:O	59:AR:68:ILE:HD11	2.04	0.56
13:Q:47:ARG:HH12	47:AA:1793:A:H4'	1.70	0.56
70:A0:27:ALA:HB2	70:A0:45:LEU:HD11	1.87	0.56
37:A:4877:G:H22	42:M:161:ARG:HH21	1.52	0.56
47:AA:1033:G:O6	47:AA:1080:A:C8	2.58	0.56
47:AA:10:G:H2'	47:AA:11:A:C8	2.41	0.56
47:AA:122:G:H1	47:AA:342:C:H42	1.54	0.56
47:AA:1248:U:H3'	47:AA:1249:C:C6	2.41	0.56
47:AA:143:U:C5	54:AK:180:VAL:HG22	2.40	0.56
47:AA:155:G:H5'	47:AA:156:G:OP2	2.05	0.56
47:AA:1609:C:N3	47:AA:1630:A:N1	2.53	0.56
47:AA:606:G:H4'	60:AT:57:ALA:HA	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:AB:22:ILE:HG12	76:AB:114:VAL:HA	1.87	0.56
50:AE:74:CYS:O	50:AE:77:CYS:N	2.36	0.56
51:AF:34:PHE:CZ	51:AF:61:SER:HB3	2.40	0.56
78:AI:105:THR:HG23	78:AI:130:LYS:NZ	2.21	0.56
53:AJ:108:LYS:HE2	53:AJ:233:LEU:HD13	1.86	0.56
55:AL:110:LEU:O	55:AL:113:GLN:N	2.38	0.56
56:AN:95:ALA:O	56:AN:98:VAL:N	2.37	0.56
5:F:12:SER:HA	5:F:155:GLU:HG2	1.87	0.56
37:A:1244:G:H5''	37:A:1269:G:C8	2.41	0.56
37:A:1378:C:H3'	37:A:1379:C:H5'	1.88	0.56
20:Z:67:THR:O	37:A:4945:G:N2	2.38	0.56
47:AA:1315:U:H3'	47:AA:1316:C:C6	2.41	0.56
47:AA:1331:C:O2'	47:AA:1332:A:H5''	2.05	0.56
47:AA:198:U:H3'	47:AA:199:C:H5''	1.87	0.56
47:AA:30:C:O3'	49:AD:137:LYS:NZ	2.36	0.56
47:AA:612:U:C4	47:AA:613:G:C6	2.94	0.56
47:AA:752:G:O2'	47:AA:753:C:OP2	2.23	0.56
78:AI:117:ASN:O	78:AI:134:THR:OG1	2.23	0.56
78:AI:147:HIS:CG	78:AI:171:ASP:HB2	2.39	0.56
2:C:79:G:H2'	2:C:80:A:O4'	2.05	0.56
45:R:147:LEU:O	45:R:151:ASN:ND2	2.38	0.56
70:A0:124:ARG:HD2	70:A0:131:VAL:O	2.05	0.56
37:A:1253:G:N2	37:A:1257:A:O4'	2.39	0.56
37:A:3725:G:N2	37:A:3728:A:OP2	2.34	0.56
37:A:3751:G:H21	37:A:3775:A:H8	1.52	0.56
47:AA:1139:C:H2'	47:AA:1140:G:O4'	2.05	0.56
47:AA:1545:A:O2'	47:AA:1546:G:OP2	2.24	0.56
47:AA:1555:U:O3'	47:AA:1556:A:H8	1.88	0.56
47:AA:179:C:H2'	47:AA:180:G:H5'	1.88	0.56
47:AA:405:G:H2'	47:AA:406:U:H6	1.71	0.56
47:AA:901:G:C2	47:AA:902:G:C4	2.93	0.56
47:AA:976:G:H2'	47:AA:977:C:C2	2.41	0.56
78:AI:290:ALA:O	78:AI:299:PHE:N	2.26	0.56
55:AL:27:GLN:O	55:AL:30:LYS:HG2	2.05	0.56
47:AA:1033:G:P	56:AN:109:LYS:HZ1	2.28	0.56
1:B:118:C:OP2	6:G:256:LYS:NZ	2.32	0.56
47:AA:1362:U:H4'	47:AA:1363:C:OP2	2.05	0.56
47:AA:1516:G:C6	47:AA:1517:G:N7	2.74	0.56
47:AA:1206:G:C4	47:AA:1693:G:N2	2.74	0.56
47:AA:1737:G:H8	47:AA:1737:G:P	2.29	0.56
47:AA:1846:G:N2	47:AA:1847:G:N3	2.54	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:360:A:C2	47:AA:362:C:C2	2.93	0.56
52:AH:138:ARG:NH2	52:AH:152:LYS:O	2.34	0.56
53:AJ:148:ALA:O	53:AJ:151:ILE:N	2.39	0.56
57:AP:80:ASP:OD1	57:AP:124:LYS:HG2	2.05	0.56
81:AU:51:ASN:O	81:AU:55:THR:N	2.31	0.56
16:U:71:PRO:HD2	16:U:109:TYR:CD2	2.40	0.56
16:U:127:LYS:NZ	16:U:148:ALA:OXT	2.38	0.56
70:A0:116:LYS:O	70:A0:117:ILE:HG22	2.06	0.56
70:A0:85:ASN:HB2	70:A0:97:GLN:HA	1.88	0.56
37:A:2113:G:N2	37:A:2117:G:N7	2.53	0.56
37:A:3692:A:H62	37:A:3823:G:H21	1.53	0.56
37:A:406:C:O2'	37:A:407:A:OP1	2.21	0.56
37:A:1872:G:O2'	37:A:4219:A:N3	2.36	0.56
47:AA:126:G:H22	47:AA:127:C:H41	1.52	0.56
47:AA:1291:A:H8	47:AA:1302:G:HO2'	1.51	0.56
47:AA:1457:U:OP1	78:AI:282:GLU:N	2.36	0.56
47:AA:1533:A:N3	47:AA:1533:A:H2'	2.20	0.56
47:AA:1602:U:H2'	47:AA:1604:G:C8	2.41	0.56
49:AD:131:LEU:HB3	49:AD:135:LYS:NZ	2.20	0.56
55:AL:144:ILE:HG22	55:AL:146:SER:H	1.70	0.56
79:AM:60:MET:HA	79:AM:63:LYS:HB3	1.88	0.56
53:AJ:256:TRP:HH2	57:AP:46:TYR:CZ	2.24	0.56
59:AR:79:ILE:HG21	59:AR:84:ALA:HB2	1.88	0.56
81:AU:62:ARG:O	81:AU:66:LEU:HG	2.06	0.56
8:J:80:GLN:NE2	37:A:3892:U:O2'	2.39	0.56
8:J:82:ARG:NH2	37:A:2362:U:OP1	2.39	0.56
14:S:54:GLU:HB3	14:S:108:ARG:HB3	1.87	0.56
37:A:2411:C:O2'	37:A:2526:C:O2	2.21	0.56
37:A:260:C:N4	37:A:261:G:O6	2.39	0.56
37:A:2711:G:OP2	37:A:2711:G:N2	2.37	0.56
47:AA:1189:A:C2	47:AA:1190:A:C4	2.94	0.56
47:AA:1599:U:H4'	47:AA:1600:G:C4	2.40	0.56
47:AA:655:A:H5''	47:AA:656:G:H3'	1.88	0.56
47:AA:835:C:H5	58:AQ:8:ARG:HD3	1.71	0.56
47:AA:684:G:C5	47:AA:920:A:N6	2.74	0.56
47:AA:972:A:N7	47:AA:973:C:N4	2.53	0.56
78:AI:12:LYS:HG2	78:AI:13:GLY:H	1.70	0.56
56:AN:77:SER:OG	56:AN:78:LYS:N	2.39	0.56
47:AA:642:U:H5	60:AT:34:ARG:HE	1.52	0.56
4:E:93:VAL:HG23	4:E:158:GLN:HE22	1.71	0.56
19:Y:85:LEU:HD21	19:Y:115:ALA:HB2	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:1879:C:O2'	37:A:1891:A:N3	2.38	0.56
37:A:237:G:O2'	37:A:238:C:OP1	2.21	0.56
37:A:974:C:H2'	37:A:975:C:C6	2.41	0.56
47:AA:1212:G:N1	47:AA:1213:C:C4	2.73	0.56
47:AA:1367:U:H2'	47:AA:1368:U:C6	2.41	0.56
47:AA:1506:A:N7	47:AA:1508:A:C4	2.74	0.56
47:AA:1601:A:H1'	47:AA:1635:C:N4	2.21	0.56
47:AA:325:C:O2	47:AA:326:C:N4	2.36	0.56
47:AA:476:A:O2'	47:AA:488:U:H4'	2.06	0.56
47:AA:560:A:C8	55:AL:173:VAL:HG21	2.41	0.56
54:AK:152:ASP:O	54:AK:153:VAL:HG22	2.05	0.56
47:AA:320:G:N2	54:AK:186:GLN:OE1	2.39	0.56
55:AL:109:ARG:O	55:AL:113:GLN:HG2	2.06	0.56
81:AU:63:HIS:HD2	81:AU:67:ARG:HD3	1.69	0.56
47:AA:1521:C:P	70:A0:129:LEU:HD11	2.46	0.55
37:A:1265:G:O6	37:A:2111:G:N2	2.33	0.55
37:A:4272:G:N2	37:A:4272:G:OP2	2.29	0.55
47:AA:1384:C:H2'	47:AA:1385:G:C8	2.39	0.55
47:AA:1698:C:H3'	47:AA:1699:A:H8	1.70	0.55
47:AA:212:C:H2'	47:AA:213:G:O4'	2.06	0.55
47:AA:71:G:O6	54:AK:170:ARG:HG3	2.05	0.55
79:AM:48:HIS:CD2	79:AM:114:TYR:HA	2.42	0.55
80:AO:140:THR:HG22	80:AO:141:ARG:N	2.21	0.55
58:AQ:4:THR:HB	58:AQ:30:PRO:HD2	1.88	0.55
38:H:84:LYS:O	38:H:89:LEU:HB3	2.01	0.55
37:A:2:G:P	45:R:38:LYS:CD	2.93	0.55
37:A:2611:A:H5'	37:A:2688:G:H4'	1.89	0.55
47:AA:1520:G:O3'	70:A0:149:SER:OG	2.15	0.55
47:AA:1583:C:H5'	47:AA:1584:G:H2'	1.89	0.55
47:AA:532:C:O3'	47:AA:533:A:C8	2.59	0.55
47:AA:650:A:H5'	49:AD:108:LYS:NZ	2.22	0.55
76:AB:18:HIS:CB	76:AB:117:ALA:HB1	2.36	0.55
57:AP:49:GLU:O	57:AP:64:ASN:HB3	2.06	0.55
47:AA:1120:U:H4'	61:AV:72:ARG:HH12	1.72	0.55
3:D:29:LEU:O	3:D:123:ARG:NH1	2.38	0.55
16:U:83:SER:O	16:U:86:THR:OG1	2.19	0.55
37:A:2004:U:N3	37:A:2016:C:O2	2.39	0.55
47:AA:1702:G:C5	47:AA:1703:C:N3	2.74	0.55
47:AA:1735:A:C2	47:AA:1736:G:H1'	2.41	0.55
47:AA:1791:A:H5''	47:AA:1792:G:OP2	2.06	0.55
47:AA:817:G:H1'	47:AA:847:A:N6	2.18	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:976:G:N2	80:AO:50:LYS:HE3	2.20	0.55
47:AA:980:A:H2'	47:AA:981:A:O4'	2.07	0.55
76:AB:49:LYS:O	76:AB:50:VAL:HG12	2.06	0.55
50:AE:90:GLU:CD	50:AE:90:GLU:H	2.08	0.55
50:AE:87:ARG:HD3	50:AE:91:ALA:O	2.06	0.55
54:AK:187:HIS:O	54:AK:190:ARG:N	2.39	0.55
47:AA:925:G:H1'	56:AN:87:ASP:OD1	2.06	0.55
58:AQ:90:ARG:HA	58:AQ:93:ARG:HG2	1.89	0.55
47:AA:1067:C:H3'	47:AA:1068:G:H8	1.71	0.55
47:AA:1407:U:H2'	47:AA:1408:U:C6	2.40	0.55
47:AA:1495:G:N3	77:AG:41:GLN:HB3	2.21	0.55
47:AA:378:U:H2'	47:AA:379:C:C6	2.42	0.55
47:AA:419:G:H5''	57:AP:88:LYS:NZ	2.21	0.55
47:AA:5:U:C2	47:AA:20:G:N2	2.74	0.55
47:AA:817:G:H5'	55:AL:69:ARG:NH1	2.21	0.55
47:AA:1306:U:P	52:AH:135:HIS:HE2	2.29	0.55
78:AI:256:ILE:HD12	78:AI:270:LEU:HD13	1.87	0.55
47:AA:821:G:H1	55:AL:150:ARG:CB	2.20	0.55
55:AL:13:TYR:CD2	55:AL:41:ARG:HD3	2.41	0.55
57:AP:74:VAL:HG23	57:AP:126:LEU:O	2.06	0.55
57:AP:98:GLN:OE1	57:AP:98:GLN:N	2.40	0.55
47:AA:1420:G:OP1	81:AU:133:ARG:HB2	2.07	0.55
37:A:3760:A:H61	47:AA:1827:U:P	2.27	0.55
37:A:4233:A:O2'	37:A:4234:A:H2'	2.07	0.55
47:AA:10:G:H2'	47:AA:11:A:H8	1.70	0.55
47:AA:1546:G:H2'	47:AA:1547:C:O4'	2.07	0.55
47:AA:1680:G:H2'	47:AA:1681:U:C6	2.41	0.55
47:AA:107:A:N3	47:AA:355:G:N2	2.54	0.55
47:AA:799:U:O4'	47:AA:867:G:N2	2.33	0.55
47:AA:878:G:C4	47:AA:909:G:N1	2.74	0.55
76:AB:50:VAL:C	76:AB:51:LYS:O	2.43	0.55
51:AF:8:PRO:HB2	51:AF:10:LYS:HZ2	1.70	0.55
78:AI:256:ILE:HB	78:AI:270:LEU:HD13	1.89	0.55
53:AJ:244:ILE:O	53:AJ:247:THR:HG23	2.05	0.55
58:AQ:26:ASP:OD1	58:AQ:68:LYS:HE3	2.06	0.55
81:AU:102:ARG:O	81:AU:105:GLN:N	2.39	0.55
81:AU:52:TRP:CG	81:AU:53:PHE:N	2.74	0.55
38:H:91:THR:HG22	38:H:92:VAL:H	1.71	0.55
9:L:105:LEU:HD22	9:L:135:LYS:HG3	1.88	0.55
5:F:165:LYS:NZ	37:A:223:G:OP2	2.40	0.55
47:AA:1380:C:H2'	47:AA:1381:G:O4'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1398:G:N3	78:AI:64:HIS:CE1	2.75	0.55
47:AA:454:U:H2'	47:AA:455:A:C8	2.41	0.55
47:AA:613:G:N2	47:AA:629:A:OP2	2.34	0.55
47:AA:627:U:HO2'	47:AA:628:A:P	2.27	0.55
51:AF:11:LEU:HD22	51:AF:55:VAL:HG11	1.88	0.55
55:AL:10:ARG:HG2	55:AL:11:LYS:N	2.21	0.55
57:AP:55:ASP:OD1	57:AP:55:ASP:N	2.39	0.55
81:AU:5:THR:OG1	81:AU:6:VAL:N	2.38	0.55
3:D:28:ARG:HB2	3:D:123:ARG:HD2	1.88	0.55
4:E:41:VAL:HG12	4:E:187:GLY:HA3	1.88	0.55
6:G:9:ASN:H	6:G:12:TYR:HB3	1.71	0.55
38:H:90:ALA:HB3	38:H:107:VAL:HG11	1.88	0.55
37:A:1217:G:H2'	37:A:1218:G:C8	2.42	0.55
37:A:513:U:H5'	37:A:514:U:H4'	1.88	0.55
47:AA:1604:G:O6	47:AA:1605:G:C2	2.60	0.55
47:AA:1686:G:C2	47:AA:1687:C:C2	2.95	0.55
47:AA:1867:U:O4	50:AE:84:VAL:HG12	2.06	0.55
53:AJ:147:VAL:O	53:AJ:151:ILE:HG13	2.07	0.55
54:AK:38:ALA:HB3	54:AK:48:TYR:HB2	1.88	0.55
79:AM:123:VAL:HG23	79:AM:124:ILE:H	1.71	0.55
80:AO:57:THR:O	80:AO:60:MET:HG2	2.07	0.55
58:AQ:43:LYS:HA	58:AQ:46:LYS:CG	2.36	0.55
59:AR:72:VAL:O	59:AR:76:ARG:NH1	2.40	0.55
81:AU:14:PHE:CE1	81:AU:135:ALA:HA	2.42	0.55
38:H:99:ASP:CG	38:H:100:LYS:N	2.59	0.55
42:M:6:THR:HG23	42:M:7:LEU:H	1.70	0.55
42:M:8:ARG:NH1	42:M:35:PRO:O	2.40	0.55
20:Z:9:ALA:O	20:Z:100:ARG:NH1	2.40	0.55
9:L:39:GLN:NE2	37:A:2710:C:OP1	2.37	0.55
37:A:4760:G:N2	37:A:4765:G:O3'	2.39	0.55
47:AA:1361:G:O5'	47:AA:1361:G:H8	1.89	0.55
47:AA:1647:A:C8	47:AA:1649:U:N3	2.74	0.55
47:AA:494:C:C2	47:AA:495:U:H5	2.25	0.55
47:AA:611:G:C6	47:AA:612:U:C4	2.95	0.55
47:AA:795:A:C8	47:AA:796:G:C8	2.95	0.55
47:AA:817:G:H5'	55:AL:69:ARG:HH11	1.72	0.55
47:AA:952:G:C6	47:AA:953:C:N3	2.75	0.55
78:AI:101:PHE:CE2	78:AI:136:GLY:HA3	2.41	0.55
78:AI:174:VAL:HB	78:AI:188:HIS:HB2	1.87	0.55
56:AN:147:SER:O	56:AN:150:VAL:HG12	2.07	0.55
4:E:10:ARG:HE	37:A:4459:U:H5''	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:K:90:VAL:HG12	40:K:108:ARG:HH22	1.72	0.55
37:A:1761:G:H21	37:A:1762:C:H41	1.53	0.55
47:AA:1224:G:C2	47:AA:1225:U:C2	2.94	0.55
47:AA:126:G:H22	47:AA:180:G:C1'	2.19	0.55
47:AA:1513:C:H2'	47:AA:1514:G:C8	2.41	0.55
47:AA:1268:C:N4	47:AA:1514:G:H1	1.96	0.55
47:AA:173:A:H2'	47:AA:174:C:O4'	2.06	0.55
47:AA:972:A:N7	47:AA:973:C:C4	2.75	0.55
48:AC:2:GLN:O	48:AC:8:PHE:HA	2.06	0.55
49:AD:79:LYS:O	49:AD:81:ILE:HD12	2.06	0.55
58:AQ:29:HIS:CE1	58:AQ:34:THR:HA	2.42	0.55
58:AQ:37:LYS:HE3	58:AQ:57:VAL:O	2.07	0.55
81:AU:80:GLY:HA3	81:AU:95:GLY:HA2	1.89	0.55
42:M:45:TRP:HE1	42:M:61:ILE:HD11	1.72	0.55
15:T:11:VAL:HG11	15:T:80:LEU:HB3	1.88	0.55
37:A:1739:G:N3	37:A:1742:A:N6	2.55	0.55
37:A:2252:G:P	38:H:87:LYS:O	2.65	0.55
37:A:4657:U:O2'	37:A:4659:G:OP2	2.23	0.55
37:A:468:U:O4	37:A:687:U:N3	2.33	0.55
37:A:4929:C:H5''	38:H:266:GLN:HE21	1.72	0.55
47:AA:1022:U:H2'	47:AA:1022:U:O2	2.05	0.55
47:AA:1090:C:N4	47:AA:1159:G:H1	2.03	0.55
47:AA:1742:C:C4	47:AA:1743:G:C5	2.94	0.55
47:AA:1782:G:C4	47:AA:1784:G:H1'	2.41	0.55
47:AA:963:A:C4	47:AA:964:A:C8	2.95	0.55
49:AD:131:LEU:O	49:AD:135:LYS:N	2.38	0.55
5:F:29:LYS:HB2	5:F:267:TRP:HH2	1.72	0.55
37:A:1266:G:N2	37:A:2111:G:N3	2.55	0.54
37:A:2770:C:H2'	37:A:2771:G:H8	1.71	0.54
37:A:4135:G:N2	37:A:4149:C:O2	2.40	0.54
47:AA:1175:G:C4	47:AA:1176:G:C8	2.95	0.54
47:AA:1243:U:C2	47:AA:1265:A:C5	2.94	0.54
47:AA:1674:G:H8	47:AA:1674:G:O5'	1.89	0.54
47:AA:179:C:C2	47:AA:313:A:H2	2.25	0.54
47:AA:955:A:N1	47:AA:968:U:O2'	2.28	0.54
53:AJ:164:PRO:C	53:AJ:248:TYR:HE2	2.11	0.54
80:AO:14:VAL:CG2	80:AO:17:LEU:CB	2.85	0.54
6:G:107:ARG:HG3	6:G:251:PRO:HB3	1.87	0.54
6:G:56:THR:OG1	6:G:59:ASP:O	2.19	0.54
9:L:71:ARG:NH2	37:A:3605:C:OP1	2.39	0.54
37:A:3625:G:O2'	37:A:3626:G:OP1	2.19	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:4683:U:OP2	37:A:4706:G:N1	2.28	0.54
37:A:4877:G:OP1	42:M:170:LYS:NZ	2.41	0.54
37:A:976:G:H2'	37:A:977:C:N1	2.22	0.54
47:AA:1097:G:C2'	47:AA:1098:C:H5'	2.37	0.54
47:AA:1145:A:O5'	47:AA:1145:A:H8	1.90	0.54
47:AA:1372:U:OP2	47:AA:1385:G:N1	2.33	0.54
47:AA:335:G:H2'	47:AA:336:A:C8	2.42	0.54
47:AA:571:U:H2'	47:AA:572:U:O4'	2.07	0.54
47:AA:823:U:H5	55:AL:143:ASN:H	1.55	0.54
47:AA:976:G:C2	47:AA:977:C:N3	2.75	0.54
47:AA:1868:U:N3	50:AE:98:PRO:O	2.38	0.54
78:AI:230:LEU:HD13	78:AI:259:TRP:HE3	1.72	0.54
78:AI:37:ASP:O	78:AI:38:LYS:HB2	2.07	0.54
53:AJ:252:THR:HB	53:AJ:253:PRO:HD2	1.89	0.54
47:AA:161:U:HO2'	54:AK:87:ARG:HH21	1.56	0.54
55:AL:113:GLN:HG3	55:AL:149:VAL:HG11	1.90	0.54
79:AM:50:CYS:HB3	79:AM:75:ASN:HB2	1.89	0.54
15:T:100:VAL:HG23	15:T:106:LEU:HG	1.89	0.54
37:A:1093:C:H2'	37:A:1094:G:C8	2.42	0.54
37:A:2106:G:N2	37:A:2125:C:O3'	2.41	0.54
37:A:4731:G:H5'	37:A:4732:G:C2	2.42	0.54
37:A:4740:G:C6	37:A:4741:C:N3	2.75	0.54
47:AA:1408:U:H3'	47:AA:1409:A:C8	2.42	0.54
47:AA:1548:G:H2'	47:AA:1549:U:O4'	2.08	0.54
47:AA:1563:G:P	81:AU:72:VAL:H	2.31	0.54
47:AA:291:G:N2	47:AA:292:A:O2'	2.35	0.54
47:AA:339:A:C8	47:AA:341:C:H5	2.26	0.54
47:AA:97:U:O2	47:AA:434:G:C2	2.61	0.54
47:AA:575:A:C5	47:AA:576:A:C8	2.95	0.54
47:AA:636:C:H2'	47:AA:637:U:O4'	2.07	0.54
47:AA:798:A:N6	47:AA:801:U:O5'	2.40	0.54
53:AJ:79:GLU:OE2	53:AJ:136:HIS:NE2	2.40	0.54
56:AN:69:ASN:OD1	56:AN:70:LYS:N	2.32	0.54
81:AU:39:LEU:H	81:AU:43:LYS:HG3	1.73	0.54
47:AA:380:G:P	81:AU:56:ARG:NH2	174.62	0.54
4:E:292:LEU:HG	4:E:293:ILE:H	1.72	0.54
37:A:5007:A:OP2	37:A:5040:U:N3	2.40	0.54
37:A:930:G:H4'	37:A:931:C:O5'	2.05	0.54
47:AA:1256:G:N7	77:AG:40:ARG:HD2	2.23	0.54
47:AA:1294:G:H2'	47:AA:1295:A:C8	2.41	0.54
47:AA:1330:G:C5	47:AA:1492:U:C5	2.96	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:218:U:C2'	47:AA:219:U:H5'	2.38	0.54
47:AA:312:G:H5'	47:AA:313:A:H5'	1.90	0.54
47:AA:101:U:H3'	47:AA:408:A:H61	1.72	0.54
47:AA:614:C:H5''	47:AA:615:C:C6	2.41	0.54
47:AA:695:C:N4	47:AA:735:C:C4	2.75	0.54
47:AA:1507:G:O6	52:AH:93:HIS:NE2	2.40	0.54
53:AJ:78:LEU:O	53:AJ:81:ILE:N	2.40	0.54
55:AL:93:LYS:HG2	55:AL:94:LEU:N	2.23	0.54
37:A:4094:G:H1	37:A:4114:C:H1'	1.72	0.54
47:AA:1113:A:H2'	47:AA:1113:A:N3	2.23	0.54
47:AA:1153:C:H4'	47:AA:1154:U:OP2	2.06	0.54
47:AA:1375:G:N2	47:AA:1376:A:C4	2.76	0.54
47:AA:1458:G:C6	47:AA:1459:G:C6	2.96	0.54
47:AA:1565:C:OP2	81:AU:101:ARG:NH2	2.37	0.54
47:AA:1578:U:H5'	47:AA:1578:U:O2	2.07	0.54
47:AA:523:A:C6	47:AA:524:U:C2	2.95	0.54
47:AA:923:G:C2	47:AA:924:G:C5	2.96	0.54
47:AA:97:U:H2'	47:AA:98:C:C6	2.42	0.54
76:AB:54:VAL:N	76:AB:88:LEU:O	2.38	0.54
78:AI:206:LEU:HA	78:AI:221:LEU:HB3	1.90	0.54
53:AJ:166:ARG:NH2	53:AJ:181:PRO:HB3	2.23	0.54
54:AK:123:GLY:O	54:AK:125:THR:HG23	2.07	0.54
54:AK:39:ASP:O	54:AK:41:LEU:N	2.40	0.54
80:AO:68:GLU:O	80:AO:69:SER:OG	2.19	0.54
53:AJ:171:GLY:HA2	57:AP:97:ARG:NH1	2.23	0.54
60:AT:5:SER:HB2	60:AT:8:ARG:NH1	2.22	0.54
37:A:1391:A:OP2	40:K:181:ARG:NH1	2.40	0.54
37:A:1076:C:N4	37:A:1233:G:O6	2.41	0.54
47:AA:1413:G:N2	47:AA:1414:A:O2'	2.41	0.54
47:AA:1778:C:H2'	47:AA:1779:G:C4	2.43	0.54
47:AA:417:C:H1'	47:AA:418:A:H5''	1.90	0.54
47:AA:613:G:H2'	47:AA:627:U:C5	2.42	0.54
47:AA:792:C:H2'	47:AA:793:G:O4'	2.07	0.54
47:AA:987:A:H5''	50:AE:70:LYS:HE3	1.90	0.54
60:AT:26:LYS:HD3	60:AT:28:LYS:HE3	1.89	0.54
81:AU:113:VAL:HG21	81:AU:121:ARG:HB3	1.90	0.54
5:F:45:ARG:HH21	37:A:2796:G:H5'	68.64	0.54
42:M:143:LYS:HA	42:M:146:HIS:HD2	1.72	0.54
15:T:51:ARG:HB2	15:T:65:ARG:HG2	1.89	0.54
37:A:2902:G:H3'	37:A:2903:G:H5'	1.90	0.54
5:F:323:ARG:NH1	37:A:974:C:N3	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1206:G:C2	47:AA:1208:A:C8	2.95	0.54
47:AA:1230:C:H5''	70:A0:139:THR:HG23	1.89	0.54
47:AA:1375:G:C2	47:AA:1376:A:C5	2.95	0.54
47:AA:14:C:OP1	53:AJ:190:SER:OG	2.25	0.54
47:AA:1534:C:N4	47:AA:1600:G:H1	1.98	0.54
47:AA:1656:G:C4	47:AA:1657:G:C8	2.96	0.54
47:AA:1691:U:C4	47:AA:1692:U:C5	2.96	0.54
47:AA:363:A:C4	47:AA:398:A:N1	2.76	0.54
47:AA:401:A:C8	47:AA:402:C:C5	2.96	0.54
47:AA:650:A:C5	47:AA:651:U:N3	2.75	0.54
49:AD:48:LYS:O	49:AD:75:ILE:HG22	2.08	0.54
77:AG:12:ARG:O	77:AG:18:SER:OG	2.21	0.54
47:AA:1142:G:P	53:AJ:187:ARG:HH11	2.31	0.54
53:AJ:92:GLU:N	53:AJ:92:GLU:OE1	2.25	0.54
53:AJ:77:SER:HA	53:AJ:97:PHE:CD1	2.42	0.54
56:AN:63:VAL:O	56:AN:67:THR:OG1	2.21	0.54
58:AQ:123:ALA:O	58:AQ:127:ALA:HB3	2.07	0.54
19:Y:66:THR:O	19:Y:69:MET:HG2	2.08	0.54
37:A:1240:G:N7	37:A:1271:G:O2'	2.35	0.54
37:A:1758:G:O6	37:A:1761:G:N2	2.40	0.54
37:A:2:G:C5'	45:R:38:LYS:CE	2.86	0.54
47:AA:1032:C:N4	47:AA:1033:G:C6	2.75	0.54
47:AA:1061:U:O2'	47:AA:1062:A:OP2	2.24	0.54
47:AA:1066:U:OP1	80:AO:143:LYS:NZ	2.18	0.54
47:AA:1242:U:O2'	47:AA:1518:C:H4'	2.08	0.54
47:AA:1275:G:O2'	47:AA:1322:G:N2	2.40	0.54
47:AA:1280:G:N1	47:AA:1281:G:C2	2.76	0.54
47:AA:1334:G:C6	47:AA:1335:G:C4	2.96	0.54
47:AA:1433:C:H5''	47:AA:1434:C:OP1	2.08	0.54
47:AA:1610:G:H2'	47:AA:1611:G:C8	2.43	0.54
47:AA:309:G:H2'	47:AA:310:C:N1	2.22	0.54
47:AA:684:G:H2'	47:AA:685:A:C8	2.42	0.54
47:AA:805:U:H2'	47:AA:806:U:C6	2.43	0.54
47:AA:960:U:O2'	47:AA:962:A:N7	2.32	0.54
78:AI:40:ILE:HD12	78:AI:90:TRP:CE2	2.43	0.54
47:AA:1204:A:OP1	53:AJ:117:ARG:NE	2.36	0.54
53:AJ:166:ARG:NH2	53:AJ:252:THR:HG21	2.23	0.54
55:AL:29:LEU:HD11	60:AT:37:GLN:HG2	1.90	0.54
70:A0:46:ARG:NH2	81:AU:35:ASP:OD2	2.40	0.54
1:B:99:G:N7	42:M:55:LYS:NZ	2.53	0.54
7:I:130:LYS:NZ	37:A:2055:G:N3	2.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:A0:115:LYS:HG3	70:A0:116:LYS:HG3	1.90	0.54
37:A:1241:C:OP2	37:A:1270:A:N6	2.40	0.54
3:D:175:ILE:HD11	37:A:3683:C:O4'	2.08	0.54
37:A:3711:A:O4'	47:AA:970:G:C4'	2.56	0.54
37:A:4232:U:H4'	37:A:4233:A:O4'	2.08	0.54
37:A:495:C:H2'	37:A:496:G:H8	1.72	0.54
47:AA:1324:G:O2'	47:AA:1510:G:O2'	2.12	0.54
47:AA:1514:G:C2	47:AA:1515:G:C5	2.95	0.54
47:AA:1601:A:N6	47:AA:1636:G:OP2	2.41	0.54
47:AA:1680:G:O2'	47:AA:1681:U:O4'	2.12	0.54
47:AA:463:C:O2'	47:AA:465:A:OP1	2.26	0.54
47:AA:419:G:H21	47:AA:661:U:H3	1.54	0.54
47:AA:816:A:C6	47:AA:817:G:C4	2.95	0.54
47:AA:954:U:H5	47:AA:971:G:N2	2.05	0.54
76:AB:39:LEU:HD22	76:AB:102:THR:HG22	1.89	0.54
76:AB:91:LEU:HB3	76:AB:93:SER:H	1.72	0.54
49:AD:95:GLU:H	49:AD:98:ASP:CG	2.10	0.54
78:AI:40:ILE:HD12	78:AI:90:TRP:NE1	2.22	0.54
58:AQ:60:PHE:H	58:AQ:71:GLY:HA2	1.72	0.54
81:AU:18:LEU:HD13	81:AU:131:LEU:HD13	1.90	0.54
1:B:8:G:O6	6:G:21:ARG:NH2	2.40	0.54
38:H:100:LYS:HE3	38:H:100:LYS:CA	2.38	0.54
38:H:96:VAL:HG12	38:H:97:GLY:O	2.08	0.54
19:Y:90:MET:O	38:H:118:THR:OG1	2.19	0.54
70:A0:44:VAL:HG12	70:A0:50:ILE:HD11	1.89	0.54
37:A:1091:C:H2'	37:A:1092:G:C8	2.42	0.54
47:AA:182:C:N3	47:AA:184:G:C8	2.76	0.54
47:AA:338:G:O2'	47:AA:339:A:H5'	2.07	0.54
47:AA:1868:U:C5	50:AE:100:ARG:HD3	2.42	0.54
53:AJ:77:SER:OG	53:AJ:78:LEU:N	2.40	0.54
54:AK:166:GLY:O	54:AK:167:LYS:HD2	2.07	0.54
80:AO:78:ALA:HB1	80:AO:119:LEU:HG	1.88	0.54
53:AJ:170:TRP:C	57:AP:98:GLN:HE22	2.12	0.54
58:AQ:97:TYR:CG	58:AQ:98:GLU:N	2.76	0.54
38:H:94:LYS:HB3	38:H:106:VAL:HG23	1.89	0.54
70:A0:136:THR:HA	70:A0:139:THR:HB	1.90	0.53
37:A:2106:G:N2	37:A:2125:C:O2'	2.41	0.53
37:A:4135:G:H2'	37:A:4136:G:H8	1.73	0.53
37:A:490:C:O2	37:A:664:G:N2	2.41	0.53
47:AA:1369:A:N7	47:AA:1370:A:C6	2.77	0.53
47:AA:1404:U:N3	47:AA:1580:A:OP1	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1609:C:OP1	70:A0:131:VAL:N	2.31	0.53
47:AA:1748:G:H2'	47:AA:1749:G:C8	2.43	0.53
47:AA:378:U:C2	47:AA:379:C:C2	2.96	0.53
47:AA:401:A:H3'	47:AA:402:C:C6	2.43	0.53
78:AI:288:SER:OG	78:AI:301:GLY:N	2.31	0.53
54:AK:3:LEU:HD23	54:AK:18:VAL:HG11	1.88	0.53
57:AP:77:PRO:HG2	57:AP:79:PHE:CE2	2.42	0.53
59:AR:48:VAL:HG11	70:A0:23:ARG:HB3	1.90	0.53
6:G:20:PHE:O	6:G:24:ARG:N	2.34	0.53
37:A:66:A:O2'	37:A:326:C:O2	2.27	0.53
37:A:3783:A:H2	37:A:3790:U:H3	1.55	0.53
37:A:450:G:H1	37:A:1294:A:HO2'	1.56	0.53
37:A:731:G:N3	37:A:939:G:N2	2.54	0.53
37:A:969:C:O2'	38:H:123:ARG:NH2	2.30	0.53
47:AA:1195:A:N3	47:AA:1196:A:C8	2.76	0.53
47:AA:1585:U:H4'	47:AA:1586:U:OP2	2.06	0.53
47:AA:293:C:O2'	47:AA:294:U:O5'	2.22	0.53
47:AA:463:C:H2'	47:AA:465:A:N7	2.24	0.53
47:AA:907:G:N1	47:AA:908:A:C6	2.76	0.53
49:AD:94:ILE:HD12	49:AD:100:VAL:HG11	1.90	0.53
50:AE:49:ALA:HA	80:AO:117:ARG:HD3	1.91	0.53
53:AJ:84:PHE:CE1	53:AJ:264:SER:HB3	2.42	0.53
79:AM:68:LEU:HD12	79:AM:110:VAL:HG21	1.90	0.53
80:AO:78:ALA:HB3	80:AO:118:ALA:HB3	1.90	0.53
15:T:83:THR:HG22	15:T:85:TYR:H	1.71	0.53
9:L:75:HIS:ND1	37:A:2889:G:OP1	2.33	0.53
37:A:755:C:H2'	37:A:756:G:C8	2.43	0.53
47:AA:1109:C:O2'	47:AA:1110:G:O4'	2.18	0.53
47:AA:1149:A:C8	47:AA:1151:G:C8	2.95	0.53
47:AA:1188:A:C6	47:AA:1189:A:C5	2.97	0.53
47:AA:408:A:OP1	47:AA:408:A:H4'	2.07	0.53
47:AA:679:A:C5	47:AA:680:G:C8	2.97	0.53
47:AA:84:A:H4'	58:AQ:124:ASN:HD22	1.73	0.53
47:AA:935:G:N2	56:AN:101:HIS:HE1	2.05	0.53
47:AA:933:G:H3'	47:AA:993:G:N2	2.23	0.53
48:AC:36:VAL:HG12	48:AC:37:ALA:N	2.23	0.53
78:AI:120:ILE:HD12	78:AI:133:ASN:O	2.08	0.53
78:AI:54:ILE:HG13	78:AI:55:PRO:N	2.24	0.53
55:AL:68:PRO:O	55:AL:72:PHE:N	2.28	0.53
57:AP:76:SER:HB2	57:AP:77:PRO:CD	2.38	0.53
53:AJ:169:TYR:O	57:AP:98:GLN:NE2	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:97:ASN:HB3	3:D:100:ASN:ND2	2.23	0.53
5:F:323:ARG:HA	5:F:326:LEU:HD12	1.90	0.53
37:A:1758:G:H1	37:A:1772:C:H42	1.57	0.53
37:A:4741:C:H6	37:A:4741:C:O5'	1.91	0.53
47:AA:1047:C:N4	47:AA:1048:G:N1	2.57	0.53
47:AA:1211:G:C6	47:AA:1212:G:C4	2.97	0.53
47:AA:1277:C:C5	47:AA:1278:A:C4	2.96	0.53
47:AA:1330:G:O2'	47:AA:1331:C:OP2	2.26	0.53
47:AA:1749:G:C2	47:AA:1784:G:O6	2.62	0.53
47:AA:1832:A:N6	47:AA:1833:C:H41	2.07	0.53
47:AA:543:C:H5''	47:AA:544:G:O4'	2.08	0.53
47:AA:822:U:H3'	47:AA:824:C:OP2	2.09	0.53
47:AA:99:A:H5'	47:AA:99:A:H8	1.74	0.53
49:AD:111:ALA:HB1	49:AD:117:GLY:CA	2.39	0.53
77:AG:15:GLY:O	77:AG:18:SER:HB3	2.08	0.53
78:AI:56:GLN:NE2	78:AI:56:GLN:O	2.41	0.53
78:AI:68:ASP:C	78:AI:81:GLY:H	2.10	0.53
53:AJ:170:TRP:O	57:AP:98:GLN:NE2	2.33	0.53
80:AO:12:GLU:N	80:AO:87:GLU:HA	2.24	0.53
58:AQ:106:GLN:O	58:AQ:110:ARG:N	2.31	0.53
59:AR:47:LEU:HD12	70:A0:23:ARG:HH12	1.72	0.53
59:AR:79:ILE:HG21	59:AR:84:ALA:CB	2.38	0.53
81:AU:67:ARG:CZ	81:AU:78:ILE:HD11	2.38	0.53
38:H:147:GLY:HA2	38:H:203:ILE:HD12	1.89	0.53
9:L:41:ILE:HD12	9:L:44:LEU:HD21	1.91	0.53
12:P:13:LYS:NZ	12:P:124:GLU:O	2.42	0.53
47:AA:1135:C:H2'	47:AA:1136:U:C6	2.43	0.53
47:AA:1290:G:H1	47:AA:1310:U:H3	1.56	0.53
47:AA:1438:A:H2'	47:AA:1439:A:O4'	2.09	0.53
47:AA:1455:A:C8	47:AA:1475:G:N2	2.76	0.53
47:AA:1517:G:C2	47:AA:1518:C:H6	2.26	0.53
47:AA:1540:G:OP1	81:AU:47:PRO:HG3	2.08	0.53
47:AA:1607:A:C6	47:AA:1633:A:H1'	2.44	0.53
47:AA:1711:U:H3	47:AA:1822:A:H2	1.55	0.53
47:AA:1838:U:H4'	80:AO:151:LEU:HA	1.90	0.53
47:AA:113:G:C2	47:AA:293:C:C2	2.97	0.53
47:AA:359:U:H3	47:AA:403:G:H1	1.56	0.53
47:AA:613:G:O2'	47:AA:626:G:O3'	2.27	0.53
47:AA:71:G:H3'	47:AA:72:C:C5'	2.38	0.53
77:AG:39:CYS:HB3	77:AG:42:CYS:SG	2.49	0.53
52:AH:132:MET:HB2	52:AH:139:HIS:NE2	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AI:77:PHE:HA	78:AI:89:LEU:HD11	1.91	0.53
54:AK:49:VAL:CG2	54:AK:115:LYS:HB2	2.37	0.53
54:AK:25:ARG:HA	54:AK:28:TYR:CD2	2.43	0.53
47:AA:161:U:O2'	54:AK:87:ARG:NH2	2.37	0.53
55:AL:32:ILE:O	55:AL:36:GLY:N	2.42	0.53
37:A:1866:U:O2'	37:A:1867:A:O5'	2.26	0.53
47:AA:1033:G:N2	47:AA:1081:U:H5	2.07	0.53
47:AA:1148:A:H8	47:AA:1149:A:C5	2.27	0.53
47:AA:1227:G:C2	47:AA:1228:A:H8	2.26	0.53
47:AA:1842:C:N3	47:AA:1857:G:N1	2.42	0.53
47:AA:197:U:C5	47:AA:198:U:H1'	2.43	0.53
47:AA:852:G:N2	47:AA:853:C:H1'	2.23	0.53
47:AA:859:G:C6	47:AA:860:G:C5	2.96	0.53
47:AA:884:C:C2	47:AA:904:A:H2	2.26	0.53
47:AA:91:A:C2	54:AK:88:ARG:HG3	2.44	0.53
76:AB:21:ARG:HB3	76:AB:115:THR:OG1	2.09	0.53
50:AE:30:VAL:CG2	50:AE:35:ALA:HB2	2.39	0.53
53:AJ:204:ILE:HD13	53:AJ:214:LEU:HB3	1.89	0.53
47:AA:821:G:O6	55:AL:147:PHE:HZ	1.92	0.53
57:AP:65:LEU:HD12	57:AP:66:THR:N	2.23	0.53
56:AN:17:PRO:HB3	61:AV:28:PRO:HD3	1.91	0.53
4:E:239:LYS:HD2	4:E:248:LEU:HD13	1.91	0.53
38:H:167:GLN:HE21	38:H:171:GLY:HA2	1.74	0.53
12:P:31:ASN:HD21	12:P:115:SER:H	1.57	0.53
37:A:2459:G:N2	37:A:2462:C:OP2	2.41	0.53
37:A:2596:G:H2'	37:A:2597:G:H8	1.74	0.53
37:A:3667:C:O2	37:A:3675:G:N2	2.30	0.53
37:A:4991:U:H2'	37:A:4992:G:C8	2.44	0.53
37:A:518:G:N2	37:A:643:C:O2	2.42	0.53
47:AA:1097:G:O2'	47:AA:1098:C:H5'	2.08	0.53
47:AA:10:G:N3	47:AA:11:A:C8	2.76	0.53
47:AA:1422:G:N2	47:AA:1424:G:H5''	2.23	0.53
47:AA:8:U:C5	47:AA:16:G:N2	2.77	0.53
47:AA:1704:C:H1'	47:AA:1832:A:N1	2.24	0.53
47:AA:1866:A:N7	50:AE:87:ARG:NH2	2.56	0.53
47:AA:291:G:N3	47:AA:292:A:H2'	2.23	0.53
47:AA:483:C:N4	47:AA:484:A:C6	2.77	0.53
47:AA:692:G:N3	47:AA:693:A:H5'	2.23	0.53
76:AB:107:GLU:HA	76:AB:110:VAL:HG22	1.90	0.53
78:AI:178:ASN:OD1	78:AI:183:LYS:HB3	2.09	0.53
78:AI:18:VAL:HA	78:AI:35:SER:HA	1.88	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AL:140:GLN:HE21	58:AQ:64:PHE:HD2	1.55	0.53
80:AO:84:ARG:HA	80:AO:87:GLU:OE2	2.07	0.53
57:AP:41:MET:HG2	57:AP:129:PHE:CE2	2.43	0.53
58:AQ:62:THR:HA	58:AQ:69:THR:HA	1.90	0.53
56:AN:25:TRP:CD2	61:AV:83:GLN:HB2	2.43	0.53
2:C:123:U:O3'	2:C:126:C:N4	2.38	0.53
19:Y:37:LYS:NZ	19:Y:55:MET:SD	2.80	0.53
37:A:1971:C:N4	37:A:2001:G:O5'	2.41	0.53
37:A:514:U:OP1	37:A:516:C:N4	2.42	0.53
47:AA:1159:G:C2	47:AA:1160:U:C2	2.95	0.53
47:AA:1348:G:H2'	47:AA:1349:G:C8	2.33	0.53
47:AA:1478:U:O5'	47:AA:1478:U:H6	1.92	0.53
47:AA:1699:A:O2'	47:AA:1700:C:OP2	2.22	0.53
47:AA:870:A:C6	47:AA:916:A:C5	2.97	0.53
55:AL:138:ARG:HE	55:AL:156:HIS:CE1	2.27	0.53
56:AN:99:ARG:CZ	56:AN:143:SER:HA	2.39	0.53
47:AA:1590:C:P	81:AU:82:ARG:HH12	2.32	0.53
42:M:50:GLN:HE22	42:M:125:GLN:HE22	1.56	0.53
37:A:2645:G:O6	37:A:2689:C:N4	2.36	0.53
47:AA:1058:A:H2'	47:AA:1059:G:C8	2.44	0.53
47:AA:1080:A:O2'	47:AA:1081:U:OP2	2.26	0.53
47:AA:1461:G:C5	47:AA:1463:U:H1'	2.44	0.53
47:AA:1576:G:C6	47:AA:1577:G:C5	2.97	0.53
47:AA:1588:A:C6	47:AA:1589:A:C2	2.97	0.53
47:AA:177:G:H2'	47:AA:313:A:H62	1.74	0.53
47:AA:403:G:C2	47:AA:404:G:C4	2.96	0.53
47:AA:536:A:H3'	47:AA:537:C:C6	2.44	0.53
47:AA:559:G:HO2'	47:AA:560:A:H8	1.53	0.53
47:AA:601:G:C6	47:AA:602:G:C6	2.97	0.53
47:AA:833:C:H42	58:AQ:10:ARG:HB2	1.74	0.53
47:AA:848:U:H2'	47:AA:849:A:O4'	2.09	0.53
49:AD:40:PRO:HB3	49:AD:79:LYS:HD3	1.91	0.53
50:AE:57:SER:HA	80:AO:127:GLY:H	1.73	0.53
54:AK:39:ASP:HB2	54:AK:46:LYS:HA	1.90	0.53
54:AK:74:ARG:HG2	54:AK:96:SER:HB2	1.91	0.53
80:AO:130:GLU:HG2	80:AO:132:VAL:H	1.73	0.53
81:AU:23:LYS:HG2	81:AU:51:ASN:OD1	2.08	0.53
57:AP:51:GLU:HG3	61:AV:8:LEU:HD21	1.90	0.53
37:A:2099:G:C2	37:A:2100:A:H1'	2.44	0.53
47:AA:1395:C:C2	47:AA:1451:G:N2	2.76	0.53
47:AA:1629:C:H5''	70:A0:39:ARG:HG2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:445:A:H3'	47:AA:446:G:C8	2.44	0.53
47:AA:655:A:H4'	47:AA:656:G:C5'	2.39	0.53
47:AA:944:A:C6	47:AA:945:U:N3	2.77	0.53
49:AD:135:LYS:CB	49:AD:137:LYS:HG2	2.38	0.53
78:AI:152:SER:HB2	78:AI:169:GLY:H	1.73	0.53
78:AI:247:TRP:HB3	78:AI:258:ILE:CG2	2.38	0.53
53:AJ:123:ARG:HB3	53:AJ:143:CYS:SG	2.48	0.53
47:AA:1791:A:H1'	54:AK:66:GLY:O	2.08	0.53
4:E:160:ILE:HD11	4:E:193:LYS:HB3	1.91	0.53
45:R:92:ASP:OD1	45:R:93:ASN:N	2.38	0.53
47:AA:1522:A:H8	70:A0:144:ARG:HD3	1.75	0.52
37:A:482:G:H2'	37:A:483:G:C8	2.44	0.52
37:A:4888:U:O2'	37:A:4931:G:N2	2.41	0.52
47:AA:1068:G:H2'	47:AA:1068:G:N3	2.23	0.52
47:AA:1077:A:C2	47:AA:1078:C:H1'	2.45	0.52
47:AA:1113:A:N6	47:AA:1114:U:N3	2.58	0.52
47:AA:1283:C:H5''	79:AM:102:LYS:HB3	1.91	0.52
47:AA:1336:C:N3	47:AA:1337:C:C4	2.77	0.52
47:AA:1401:A:H2'	47:AA:1402:A:O4'	2.10	0.52
47:AA:1452:A:N6	47:AA:1475:G:N7	2.56	0.52
47:AA:1562:C:H2'	47:AA:1563:G:C8	2.45	0.52
47:AA:1623:A:H62	70:A0:132:ARG:CZ	2.23	0.52
47:AA:1806:A:H2'	47:AA:1807:C:H6	1.75	0.52
47:AA:291:G:H1'	47:AA:292:A:H5''	1.91	0.52
47:AA:528:A:C5	47:AA:529:A:C8	2.97	0.52
47:AA:833:C:H41	58:AQ:10:ARG:NH1	2.06	0.52
47:AA:971:G:O2'	47:AA:972:A:OP2	2.24	0.52
47:AA:972:A:OP2	47:AA:972:A:H8	1.92	0.52
49:AD:40:PRO:HB2	49:AD:81:ILE:HD11	1.91	0.52
53:AJ:263:LYS:NZ	53:AJ:268:GLU:OE1	2.30	0.52
60:AT:36:MET:O	60:AT:39:ASN:N	2.41	0.52
81:AU:38:LYS:HD3	81:AU:43:LYS:C	2.28	0.52
7:I:22:ILE:HD12	42:M:166:ARG:CZ	2.19	0.52
8:J:69:ARG:NH2	37:A:4980:C:N3	2.57	0.52
70:A0:120:HIS:HB2	70:A0:123:LEU:HD12	1.91	0.52
70:A0:120:HIS:HE1	70:A0:124:ARG:HB2	1.74	0.52
70:A0:114:LEU:O	70:A0:123:LEU:HD21	2.09	0.52
37:A:2487:G:N1	37:A:2492:C:O2	2.42	0.52
37:A:4740:G:C5	37:A:4741:C:N3	2.77	0.52
37:A:956:A:H4'	37:A:957:G:OP2	2.09	0.52
47:AA:1231:C:H6	47:AA:1231:C:O5'	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1260:A:C6	47:AA:1619:A:C6	2.98	0.52
47:AA:1700:C:O2'	47:AA:1834:A:N6	2.42	0.52
47:AA:177:G:H2'	47:AA:313:A:N6	2.24	0.52
47:AA:664:A:N6	47:AA:665:G:O6	2.42	0.52
47:AA:683:G:C2	47:AA:1023:A:C5	2.98	0.52
47:AA:683:G:N2	47:AA:1023:A:C5	2.78	0.52
47:AA:684:G:C5	47:AA:920:A:C6	2.97	0.52
47:AA:690:G:N1	47:AA:692:G:C8	2.77	0.52
47:AA:822:U:C2	47:AA:827:A:C2	2.97	0.52
47:AA:889:U:O4	47:AA:898:U:N3	2.42	0.52
49:AD:87:ASN:CG	49:AD:88:ASP:N	2.63	0.52
78:AI:207:CYS:SG	78:AI:208:ALA:N	2.81	0.52
80:AO:95:ILE:O	80:AO:130:GLU:N	2.41	0.52
59:AR:77:LEU:HD23	59:AR:78:LYS:N	2.25	0.52
81:AU:54:TYR:HA	81:AU:57:ALA:HB3	1.92	0.52
61:AV:36:LYS:HB2	61:AV:78:SER:OG	2.09	0.52
4:E:229:LYS:HG3	4:E:272:LYS:HD3	1.91	0.52
12:P:97:TYR:OH	13:Q:37:GLU:OE2	2.28	0.52
37:A:1411:C:H2'	37:A:1412:G:C8	2.44	0.52
37:A:160:G:H2'	37:A:161:G:H8	1.73	0.52
47:AA:1142:G:N2	47:AA:1146:C:N3	2.57	0.52
47:AA:1149:A:C6	47:AA:1151:G:C4	2.98	0.52
47:AA:1158:G:N2	47:AA:1159:G:C4	2.78	0.52
47:AA:1575:G:H2'	47:AA:1576:G:H8	1.73	0.52
47:AA:1203:G:C2	47:AA:1697:A:C5	2.97	0.52
47:AA:1749:G:C2	47:AA:1786:U:O2	2.62	0.52
47:AA:363:A:N1	47:AA:397:G:O2'	2.31	0.52
47:AA:401:A:H3'	47:AA:402:C:H6	1.75	0.52
47:AA:45:A:N6	47:AA:480:G:O2'	2.42	0.52
47:AA:561:A:O2'	55:AL:134:HIS:NE2	2.43	0.52
47:AA:698:G:C8	47:AA:731:G:C8	2.98	0.52
47:AA:846:G:OP1	47:AA:847:A:O2'	2.28	0.52
47:AA:864:A:C5	47:AA:865:A:N7	2.77	0.52
47:AA:944:A:H5''	80:AO:134:PRO:HB2	1.91	0.52
57:AP:14:ILE:HG22	57:AP:25:VAL:HG21	1.92	0.52
2:C:124:U:OP1	37:A:2544:G:N1	2.34	0.52
40:K:71:LYS:O	40:K:72:LEU:HD12	2.10	0.52
47:AA:1081:U:H3'	47:AA:1084:A:N6	2.23	0.52
47:AA:1206:G:N1	47:AA:1208:A:C5	2.78	0.52
37:A:3766:A:H2	47:AA:1849:G:O3'	1.91	0.52
47:AA:207:G:N7	47:AA:208:G:H8	2.06	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:537:C:OP1	47:AA:539:C:N4	2.43	0.52
47:AA:932:G:OP2	47:AA:932:G:H8	1.93	0.52
47:AA:986:G:O4'	80:AO:138:ASP:HB2	2.09	0.52
49:AD:131:LEU:O	49:AD:135:LYS:HG2	2.09	0.52
52:AH:106:TYR:OH	52:AH:114:ILE:HD13	2.09	0.52
78:AI:45:LEU:HD23	78:AI:52:TYR:CD2	2.44	0.52
53:AJ:107:LEU:HB2	53:AJ:127:PHE:HB2	1.91	0.52
55:AL:135:ILE:HA	55:AL:159:PHE:HA	1.92	0.52
55:AL:50:LEU:HD21	55:AL:54:ARG:HH11	1.74	0.52
57:AP:35:VAL:HG12	57:AP:38:LEU:HD22	1.90	0.52
58:AQ:42:GLU:O	58:AQ:46:LYS:HG2	2.08	0.52
59:AR:48:VAL:HB	70:A0:55:ARG:CD	2.40	0.52
59:AR:63:PRO:HA	59:AR:96:LEU:HD23	1.91	0.52
3:D:128:ARG:NH1	37:A:3681:G:OP2	2.42	0.52
37:A:1352:C:N4	40:K:55:ARG:HH11	2.07	0.52
42:M:2:LYS:HD3	42:M:43:ARG:HH11	1.75	0.52
45:R:105:ASN:OD1	45:R:106:LYS:N	2.42	0.52
70:A0:96:SER:O	70:A0:98:VAL:HG23	2.09	0.52
37:A:149:A:H5''	37:A:151:G:H5'	1.92	0.52
37:A:2749:C:H2'	37:A:2750:G:C8	2.44	0.52
47:AA:1302:G:H5''	47:AA:1303:C:C5	2.45	0.52
47:AA:1315:U:H2'	47:AA:1316:C:O4'	2.10	0.52
47:AA:1521:C:C5	70:A0:137:LYS:HG2	2.44	0.52
47:AA:1749:G:H22	47:AA:1784:G:H1	1.57	0.52
47:AA:476:A:C6	47:AA:477:G:C5	2.98	0.52
47:AA:608:C:H3'	47:AA:609:U:C5	2.45	0.52
47:AA:857:U:H2'	47:AA:858:A:O4'	2.10	0.52
47:AA:902:G:H5'	47:AA:903:A:OP2	2.10	0.52
51:AF:17:VAL:HA	51:AF:30:VAL:HG12	1.91	0.52
51:AF:34:PHE:HZ	51:AF:61:SER:HB3	1.75	0.52
78:AI:248:LEU:HB2	78:AI:261:LEU:HD21	1.91	0.52
53:AJ:136:HIS:HA	53:AJ:163:VAL:O	2.10	0.52
54:AK:186:GLN:HA	54:AK:189:ARG:NH2	2.12	0.52
54:AK:203:LYS:HA	54:AK:206:ALA:HB3	1.92	0.52
54:AK:61:PHE:CD2	54:AK:72:ARG:HD3	2.43	0.52
47:AA:164:A:OP1	54:AK:82:SER:HB3	2.10	0.52
47:AA:821:G:N2	55:AL:150:ARG:HB2	2.20	0.52
81:AU:50:GLU:HA	81:AU:52:TRP:CD1	2.44	0.52
7:I:12:ARG:NH2	37:A:4761:G:OP2	2.42	0.52
8:J:19:GLY:O	8:J:23:ARG:NH1	15.63	0.52
47:AA:1603:G:C8	70:A0:24:ARG:NH1	2.77	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1629:C:H5''	70:A0:39:ARG:CG	2.39	0.52
14:S:87:ARG:NH1	37:A:404:U:O3'	2.38	0.52
47:AA:1014:G:P	47:AA:1104:G:H21	2.32	0.52
47:AA:1654:G:N3	47:AA:1671:G:N2	2.58	0.52
47:AA:1826:G:H5'	47:AA:1827:U:OP2	2.09	0.52
47:AA:190:G:H2'	47:AA:208:G:N2	2.25	0.52
47:AA:172:U:N3	47:AA:336:A:O2'	2.42	0.52
47:AA:50:A:N6	47:AA:51:U:O2	2.42	0.52
47:AA:51:U:H5''	47:AA:52:G:OP2	2.09	0.52
47:AA:529:A:C6	47:AA:530:U:C4	2.98	0.52
47:AA:596:U:H2'	47:AA:597:G:O4'	2.10	0.52
47:AA:606:G:C5	47:AA:608:C:C4	2.98	0.52
55:AL:32:ILE:HA	55:AL:37:LEU:HB2	1.91	0.52
57:AP:112:ASP:O	57:AP:116:ALA:N	2.37	0.52
60:AT:10:GLY:O	60:AT:13:ARG:N	2.43	0.52
81:AU:64:LEU:HA	81:AU:68:GLY:HA3	1.92	0.52
47:AA:1587:G:C4	81:AU:67:ARG:NH2	2.77	0.52
47:AA:1563:G:OP1	81:AU:72:VAL:N	2.42	0.52
47:AA:1077:A:N1	47:AA:1078:C:C2	2.77	0.52
47:AA:1082:A:C8	47:AA:1084:A:C5	2.98	0.52
47:AA:1156:U:H2'	47:AA:1157:G:N2	2.23	0.52
47:AA:1390:U:C4	47:AA:1391:C:N4	2.77	0.52
47:AA:1576:G:C5	47:AA:1577:G:C8	2.97	0.52
47:AA:1607:A:H2'	47:AA:1608:U:O4'	2.08	0.52
47:AA:210:U:H2'	47:AA:211:G:C8	2.45	0.52
47:AA:555:A:H8	47:AA:557:U:OP1	1.93	0.52
47:AA:580:U:H3'	47:AA:581:U:H5''	1.92	0.52
76:AB:49:LYS:CD	76:AB:92:HIS:CE1	2.92	0.52
78:AI:91:ASP:HB3	78:AI:93:THR:H	1.75	0.52
54:AK:68:LEU:HD12	54:AK:100:CYS:SG	2.50	0.52
54:AK:214:ALA:HA	54:AK:217:MET:HB2	1.92	0.52
55:AL:35:TYR:CG	55:AL:106:LEU:HB3	2.45	0.52
4:E:66:LYS:HD3	12:P:11:GLY:HA3	1.91	0.52
37:A:85:G:O2'	37:A:97:G:O6	2.25	0.52
47:AA:1076:G:H2'	47:AA:1077:A:O4'	2.10	0.52
47:AA:1129:G:O6	47:AA:1130:G:N1	2.43	0.52
47:AA:1181:A:C2	47:AA:1182:A:C4	2.97	0.52
47:AA:1381:G:C6	47:AA:1382:A:C8	2.98	0.52
47:AA:1409:A:H8	47:AA:1409:A:OP2	1.92	0.52
47:AA:1613:G:C2	47:AA:1627:C:C2	2.98	0.52
47:AA:1816:G:H2'	47:AA:1817:G:H8	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:419:G:H5''	57:AP:88:LYS:HZ1	1.73	0.52
47:AA:494:C:H2'	47:AA:495:U:H6	1.75	0.52
47:AA:656:G:H5''	47:AA:656:G:H8	1.74	0.52
47:AA:681:U:H4'	49:AD:9:THR:CG2	2.39	0.52
78:AI:17:TRP:HE3	78:AI:18:VAL:O	1.92	0.52
78:AI:74:ASP:OD2	78:AI:76:GLN:N	2.37	0.52
78:AI:7:LEU:HD23	78:AI:309:VAL:O	2.09	0.52
59:AR:112:ASN:O	59:AR:113:THR:OG1	2.22	0.52
47:AA:1665:G:C4	81:AU:88:MET:HG2	2.44	0.52
70:A0:112:GLU:HG2	70:A0:113:ARG:H	1.74	0.52
70:A0:148:VAL:HB	70:A0:150:LYS:HG2	1.92	0.52
37:A:2759:G:O2'	37:A:2763:U:O2	2.27	0.52
47:AA:1226:G:H21	47:AA:1639:G:H8	1.56	0.52
47:AA:1443:C:H3'	47:AA:1443:C:OP2	2.10	0.52
47:AA:1524:G:N2	47:AA:1525:C:C2	2.78	0.52
47:AA:1652:G:H2'	47:AA:1653:U:O4'	2.09	0.52
47:AA:1701:C:O2'	47:AA:1702:G:OP1	2.26	0.52
47:AA:193:C:H6	47:AA:193:C:O5'	1.93	0.52
47:AA:444:G:H2'	47:AA:446:G:N7	2.25	0.52
47:AA:560:A:H8	55:AL:173:VAL:HG11	1.74	0.52
47:AA:693:A:H62	47:AA:734:C:N4	2.07	0.52
47:AA:752:G:OP1	47:AA:793:G:H1'	2.09	0.52
47:AA:853:C:C6	47:AA:854:A:C8	2.98	0.52
47:AA:923:G:H2'	47:AA:924:G:H8	1.75	0.52
76:AB:57:PRO:O	76:AB:59:LYS:NZ	2.41	0.52
49:AD:57:VAL:O	49:AD:67:ARG:N	2.32	0.52
78:AI:149:GLU:CD	78:AI:170:TRP:HB2	2.30	0.52
78:AI:260:ASP:HB2	78:AI:265:ILE:O	2.09	0.52
78:AI:87:LEU:N	78:AI:101:PHE:O	2.42	0.52
53:AJ:182:CYS:SG	53:AJ:183:LYS:N	2.83	0.52
53:AJ:260:VAL:HB	53:AJ:262:THR:HG23	1.90	0.52
54:AK:162:LEU:HD23	54:AK:170:ARG:HD3	1.91	0.52
54:AK:214:ALA:O	54:AK:218:LYS:N	2.38	0.52
57:AP:110:ILE:HD13	57:AP:126:LEU:HD23	1.92	0.52
57:AP:50:PHE:HD1	57:AP:51:GLU:O	1.93	0.52
81:AU:124:THR:HG23	81:AU:127:GLY:H	1.75	0.52
37:A:1590:C:H4'	37:A:2857:A:H5'	1.92	0.52
47:AA:1083:A:N3	47:AA:1859:A:O2'	2.38	0.52
47:AA:1184:G:C6	47:AA:1185:C:C4	2.98	0.52
47:AA:1301:A:N6	47:AA:1303:C:N3	2.58	0.52
47:AA:1440:C:H2'	47:AA:1441:U:C5	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1505:U:O2'	47:AA:1508:A:N3	2.43	0.52
47:AA:1273:C:H2'	47:AA:1506:A:C2	2.44	0.52
47:AA:1747:C:C4	47:AA:1748:G:C8	2.97	0.52
47:AA:533:A:N7	47:AA:534:G:C8	2.78	0.52
47:AA:568:C:C4	47:AA:583:C:C2	2.98	0.52
47:AA:582:C:H2'	47:AA:583:C:H5''	1.92	0.52
47:AA:589:G:O3'	47:AA:590:A:H2'	2.10	0.52
47:AA:841:G:H8	58:AQ:12:PHE:H	1.58	0.52
47:AA:996:A:C2'	47:AA:997:A:H8	2.23	0.52
52:AH:96:LYS:O	52:AH:99:LYS:N	2.43	0.52
54:AK:160:LYS:HG3	54:AK:160:LYS:O	2.10	0.52
56:AN:118:ILE:O	56:AN:120:SER:N	2.43	0.52
80:AO:96:LYS:HA	80:AO:130:GLU:HB3	1.91	0.52
57:AP:32:LYS:HG3	57:AP:33:VAL:N	2.25	0.52
57:AP:89:TRP:O	57:AP:92:ASN:N	2.41	0.52
3:D:72:ARG:NH2	37:A:4084:G:O6	2.42	0.52
37:A:684:G:H4'	38:H:100:LYS:CB	2.38	0.52
7:I:173:GLN:HB3	7:I:176:ARG:HH21	1.74	0.52
46:W:15:ASN:HA	46:W:18:LEU:HB3	1.92	0.52
37:A:2483:G:N1	37:A:2484:A:N7	2.59	0.51
37:A:91:G:H5'	37:A:92:C:H5''	1.91	0.51
47:AA:1069:U:C2	47:AA:1070:A:C8	2.98	0.51
47:AA:122:G:OP2	47:AA:122:G:H8	1.93	0.51
47:AA:1280:G:N1	47:AA:1281:G:N3	2.58	0.51
47:AA:1284:A:H1'	47:AA:1285:G:H3'	1.92	0.51
47:AA:1338:G:OP1	76:AB:76:THR:OG1	2.15	0.51
47:AA:1445:U:C4	47:AA:1446:A:N7	2.78	0.51
47:AA:150:A:N6	47:AA:168:C:N3	2.57	0.51
47:AA:1663:A:O2'	47:AA:1664:A:O4'	2.27	0.51
47:AA:1712:A:C6	47:AA:1713:C:C4	2.97	0.51
47:AA:1869:A:H2'	50:AE:39:PHE:CZ	2.46	0.51
47:AA:332:G:H2'	47:AA:333:G:O4'	2.10	0.51
47:AA:938:A:C6	47:AA:1005:G:C6	2.98	0.51
47:AA:996:A:O2'	47:AA:997:A:O4'	2.28	0.51
76:AB:43:ALA:O	76:AB:47:ASN:CG	2.48	0.51
79:AM:33:ARG:HB2	79:AM:109:VAL:HG12	1.91	0.51
80:AO:32:HIS:CD2	80:AO:96:LYS:HD2	2.45	0.51
58:AQ:107:ARG:O	58:AQ:110:ARG:HB3	2.10	0.51
5:F:322:LEU:HB3	37:A:1281:G:C8	2.45	0.51
10:N:92:ARG:NH1	10:N:94:GLU:OE2	2.43	0.51
6:G:279:ARG:NH2	37:A:1177:U:OP1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:Z:19:ARG:NH1	37:A:1886:G:OP2	2.42	0.51
37:A:3784:A:O2'	37:A:3785:A:OP1	2.24	0.51
37:A:4920:C:H2'	37:A:4921:C:O4'	2.10	0.51
47:AA:1125:C:H2'	47:AA:1126:G:C8	2.36	0.51
47:AA:1176:G:C6	47:AA:1177:U:C4	2.98	0.51
47:AA:1222:G:C2	47:AA:1223:A:C8	2.99	0.51
47:AA:1290:G:H22	47:AA:1311:C:H1'	1.75	0.51
47:AA:1422:G:N3	47:AA:1424:G:H8	2.07	0.51
47:AA:1546:G:H1'	47:AA:1670:C:O2'	2.10	0.51
47:AA:150:A:H62	47:AA:168:C:N4	2.07	0.51
47:AA:187:G:C5	47:AA:213:G:C2	2.99	0.51
47:AA:304:C:H3'	47:AA:305:U:H5'	1.91	0.51
47:AA:399:C:H5	47:AA:680:G:H5''	1.75	0.51
48:AC:47:ASN:HD21	48:AC:49:GLN:HE22	1.58	0.51
51:AF:20:ARG:HG2	51:AF:28:THR:HG22	1.92	0.51
54:AK:67:VAL:N	54:AK:100:CYS:SG	2.83	0.51
47:AA:527:C:H5''	55:AL:121:LYS:HD2	1.92	0.51
58:AQ:20:ARG:HD2	58:AQ:76:TYR:CD1	2.44	0.51
81:AU:105:GLN:HG3	81:AU:121:ARG:HH12	1.76	0.51
6:G:200:MET:HE1	6:G:241:LYS:HG3	1.92	0.51
1:B:59:G:H4'	6:G:267:ASN:HD21	1.74	0.51
8:J:83:TRP:O	37:A:3856:A:H5''	2.11	0.51
45:R:105:ASN:HB3	45:R:108:GLN:HG2	1.93	0.51
37:A:1358:G:N2	37:A:1381:U:O4	2.43	0.51
37:A:35:U:O2'	37:A:1525:A:N1	2.44	0.51
37:A:2582:A:HO2'	37:A:2653:C:HO2'	1.53	0.51
6:G:23:ARG:NH1	37:A:4280:A:OP2	2.31	0.51
37:A:746:A:H61	37:A:915:A:H3'	1.74	0.51
47:AA:1034:A:H2'	47:AA:1035:A:H8	1.73	0.51
47:AA:1051:G:O6	47:AA:1067:C:N4	2.43	0.51
47:AA:1284:A:H4'	47:AA:1285:G:H2'	1.93	0.51
47:AA:1329:U:H3	47:AA:1493:C:H3'	1.75	0.51
47:AA:1509:U:O2'	47:AA:1510:G:H5'	2.11	0.51
47:AA:1514:G:C2	47:AA:1515:G:C6	2.98	0.51
47:AA:1532:C:H5''	47:AA:1533:A:OP2	2.10	0.51
47:AA:1744:G:OP2	47:AA:1744:G:H2'	2.09	0.51
47:AA:1804:U:N3	47:AA:1805:G:N7	2.58	0.51
47:AA:360:A:C6	47:AA:363:A:C8	2.98	0.51
47:AA:102:A:C5	47:AA:408:A:C2	2.98	0.51
47:AA:51:U:C2	47:AA:476:A:N1	2.79	0.51
47:AA:876:C:N3	47:AA:878:G:O4'	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:908:A:C6	47:AA:909:G:C5	2.98	0.51
50:AE:36:ILE:HB	50:AE:73:TYR:HB2	1.91	0.51
56:AN:24:THR:HB	56:AN:25:TRP:CE3	2.45	0.51
6:G:21:ARG:HG2	6:G:24:ARG:HH12	1.74	0.51
38:H:98:GLY:C	38:H:102:GLY:O	2.48	0.51
70:A0:66:ARG:O	70:A0:70:ILE:HG12	2.09	0.51
37:A:1261:G:N2	37:A:1262:G:N3	2.59	0.51
37:A:2562:G:O2'	37:A:2565:A:N6	2.42	0.51
37:A:926:G:HO2'	37:A:927:G:P	2.34	0.51
47:AA:1024:A:H2'	47:AA:1025:U:C6	2.45	0.51
47:AA:1149:A:C5	47:AA:1151:G:C8	2.99	0.51
47:AA:1351:G:O2'	47:AA:1378:A:N1	2.36	0.51
47:AA:1501:C:H42	47:AA:1502:C:N4	2.08	0.51
47:AA:153:G:N2	47:AA:154:U:H3	2.08	0.51
47:AA:1552:G:H5''	47:AA:1553:C:H5'	1.91	0.51
47:AA:1563:G:C4	47:AA:1573:G:N2	2.78	0.51
47:AA:1610:G:H2'	47:AA:1611:G:H8	1.74	0.51
47:AA:1618:C:H2'	47:AA:1619:A:C8	2.46	0.51
47:AA:1708:C:N3	47:AA:1826:G:N1	2.45	0.51
47:AA:1834:A:C2	47:AA:1836:G:C4	2.98	0.51
47:AA:192:C:N4	47:AA:207:G:O6	2.43	0.51
47:AA:418:A:C5	47:AA:419:G:N7	2.79	0.51
47:AA:601:G:C5	47:AA:602:G:C6	2.99	0.51
47:AA:935:G:H22	56:AN:101:HIS:HE1	1.57	0.51
47:AA:973:C:N4	47:AA:974:C:N3	2.59	0.51
49:AD:51:VAL:HA	49:AD:72:VAL:HG12	1.91	0.51
78:AI:178:ASN:ND2	78:AI:185:LYS:HD3	2.25	0.51
78:AI:258:ILE:O	78:AI:259:TRP:HD1	1.92	0.51
78:AI:258:ILE:N	78:AI:268:ASP:O	2.20	0.51
55:AL:39:ASN:ND2	55:AL:41:ARG:HB3	2.26	0.51
79:AM:42:LEU:HD21	79:AM:68:LEU:O	2.10	0.51
14:S:34:LEU:HD13	14:S:46:SER:HA	1.92	0.51
70:A0:143:GLY:O	70:A0:144:ARG:HB3	2.11	0.51
37:A:1329:G:OP1	37:A:2350:U:O2'	2.26	0.51
37:A:693:C:O2'	37:A:694:C:OP1	2.22	0.51
47:AA:1249:C:O5'	47:AA:1249:C:H6	1.92	0.51
47:AA:1281:G:C4	47:AA:1282:A:N7	2.79	0.51
47:AA:1291:A:HO2'	52:AH:149:CYS:HG	1.53	0.51
47:AA:1362:U:H3'	47:AA:1363:C:H6	1.75	0.51
47:AA:1466:G:N1	47:AA:1467:C:C4	2.79	0.51
47:AA:1550:G:H3'	47:AA:1579:A:N6	2.22	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1586:U:H3'	47:AA:1587:G:H5'	1.92	0.51
47:AA:1622:U:OP2	47:AA:1623:A:C8	2.64	0.51
47:AA:1742:C:H2'	47:AA:1743:G:O4'	2.11	0.51
47:AA:178:C:O2	47:AA:179:C:H1'	2.09	0.51
47:AA:356:C:O2	47:AA:356:C:H3'	2.11	0.51
47:AA:40:A:H8	47:AA:40:A:O5'	1.94	0.51
47:AA:681:U:O3'	49:AD:8:ARG:HB2	2.11	0.51
47:AA:689:U:C4	47:AA:690:G:H8	2.28	0.51
47:AA:730:C:C5	47:AA:731:G:H1'	2.46	0.51
47:AA:97:U:H1'	47:AA:434:G:H22	1.75	0.51
47:AA:1691:U:H4'	50:AE:88:SER:HB2	1.92	0.51
51:AF:18:LEU:O	51:AF:67:ARG:NH2	2.44	0.51
78:AI:145:GLU:HB2	78:AI:177:TRP:CZ2	2.46	0.51
2:C:127:U:H2'	2:C:128:C:C6	2.46	0.51
7:I:173:GLN:HA	7:I:176:ARG:HE	1.76	0.51
10:N:71:ALA:HA	10:N:92:ARG:HA	1.91	0.51
70:A0:44:VAL:HG13	70:A0:70:ILE:HG13	1.92	0.51
70:A0:88:LYS:O	70:A0:90:VAL:N	2.43	0.51
37:A:3584:C:H2'	37:A:3585:G:C8	2.46	0.51
37:A:5022:U:O2	37:A:5028:G:N2	2.44	0.51
37:A:645:G:N1	37:A:646:G:N7	2.59	0.51
37:A:515:C:H42	37:A:646:G:H22	1.57	0.51
47:AA:1134:G:O2'	47:AA:1135:C:H5'	2.11	0.51
47:AA:1168:G:C6	47:AA:1169:G:C4	2.99	0.51
47:AA:1356:G:H2'	47:AA:1357:A:C8	2.45	0.51
47:AA:1752:C:H2'	47:AA:1780:G:H22	1.75	0.51
47:AA:1756:C:N4	47:AA:1757:G:C6	2.79	0.51
47:AA:560:A:H3'	55:AL:173:VAL:HB	1.92	0.51
47:AA:903:A:C5	47:AA:904:A:C6	2.99	0.51
47:AA:985:G:H5'	80:AO:138:ASP:OD2	2.09	0.51
47:AA:1400:U:P	78:AI:100:ARG:HH12	2.34	0.51
78:AI:109:LEU:HD23	78:AI:123:GLY:HA3	1.92	0.51
78:AI:226:HIS:CD2	78:AI:227:LEU:H	2.28	0.51
53:AJ:114:LYS:O	53:AJ:116:THR:HG23	2.11	0.51
47:AA:171:A:H4'	54:AK:177:GLN:HE22	1.76	0.51
54:AK:71:GLY:O	54:AK:98:ARG:HD2	2.11	0.51
57:AP:31:SER:O	57:AP:35:VAL:HG22	2.10	0.51
58:AQ:40:ILE:HG23	58:AQ:57:VAL:HG21	1.93	0.51
2:C:131:G:OP1	45:R:105:ASN:ND2	2.43	0.51
38:H:98:GLY:CA	38:H:103:GLY:HA2	2.39	0.51
38:H:220:LYS:HE2	38:H:222:LEU:HD22	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:N:43:LYS:O	10:N:58:HIS:ND1	2.43	0.51
14:S:86:GLN:HE22	14:S:96:HIS:CE1	2.27	0.51
70:A0:109:GLU:OE1	70:A0:109:GLU:N	2.43	0.51
37:A:1273:G:H4'	38:H:74:SER:HA	1.92	0.51
37:A:1359:G:H3'	37:A:1360:G:C8	2.46	0.51
37:A:2772:C:H2'	37:A:2773:G:H8	1.76	0.51
3:D:199:VAL:HG12	37:A:3651:A:H5'	1.93	0.51
37:A:4287:G:O2'	37:A:4288:C:O5'	2.26	0.51
4:E:252:ALA:HB3	37:A:4457:U:O2	2.11	0.51
37:A:456:C:O2	37:A:700:G:N2	2.29	0.51
47:AA:1054:G:H2'	47:AA:1055:A:O4'	2.11	0.51
47:AA:1102:G:H1	47:AA:1130:G:H1	1.58	0.51
47:AA:1158:G:N2	47:AA:1159:G:N3	2.58	0.51
47:AA:1168:G:C2	47:AA:1192:U:O2	2.64	0.51
47:AA:1208:A:H2	50:AE:86:ASN:HD22	1.59	0.51
47:AA:1250:A:H8	47:AA:1250:A:O5'	1.94	0.51
47:AA:1651:A:H61	47:AA:1674:G:N2	2.08	0.51
47:AA:10:G:H8	47:AA:1697:A:O2'	1.93	0.51
47:AA:1715:A:N6	47:AA:1819:A:C2	2.74	0.51
47:AA:1717:C:O2	47:AA:1817:G:N2	2.43	0.51
47:AA:368:U:H5'	47:AA:369:C:H2'	1.93	0.51
47:AA:531:A:O5'	47:AA:531:A:H8	1.93	0.51
47:AA:56:G:H1	47:AA:89:C:H42	1.57	0.51
47:AA:595:U:O2'	47:AA:596:U:O5'	2.25	0.51
47:AA:808:A:H2'	47:AA:809:A:O4'	2.11	0.51
50:AE:45:VAL:HG23	50:AE:53:ILE:HD12	1.93	0.51
47:AA:1336:C:H4'	77:AG:44:ARG:HH21	1.76	0.51
54:AK:44:GLU:HG3	54:AK:119:LYS:HE2	1.92	0.51
54:AK:7:PHE:CE2	54:AK:9:ALA:HB3	2.45	0.51
61:AV:52:THR:N	61:AV:66:PRO:HB3	2.25	0.51
2:C:103:A:H3'	2:C:104:A:H5''	1.92	0.51
3:D:207:VAL:HG22	37:A:3919:C:H5'	1.91	0.51
9:L:21:LYS:NZ	37:A:2821:U:OP1	2.40	0.51
37:A:4413:C:H5	37:A:4429:C:H42	1.59	0.51
37:A:3800:A:HO2'	37:A:4505:C:HO2'	1.53	0.51
37:A:4527:G:OP2	37:A:4527:G:N2	2.43	0.51
37:A:4889:G:N2	37:A:4930:C:N3	2.53	0.51
47:AA:1017:U:H5'	56:AN:55:ARG:HD3	1.93	0.51
47:AA:1221:G:H1	47:AA:1645:C:N4	2.09	0.51
47:AA:1744:G:OP2	47:AA:1744:G:H8	1.94	0.51
47:AA:199:C:H2'	47:AA:200:G:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:612:U:O3'	60:AT:11:LYS:NZ	2.44	0.51
47:AA:837:A:H2'	47:AA:837:A:N3	2.26	0.51
47:AA:923:G:H2'	47:AA:924:G:C8	2.46	0.51
47:AA:932:G:O2'	47:AA:934:G:OP2	2.29	0.51
76:AB:55:ARG:HG2	76:AB:87:ARG:NE	2.26	0.51
48:AC:66:ASP:O	48:AC:70:LEU:N	2.41	0.51
78:AI:175:LYS:HG3	78:AI:187:ASN:OD1	2.10	0.51
78:AI:249:CYS:HB2	78:AI:291:TRP:HZ2	1.75	0.51
54:AK:201:LYS:O	54:AK:204:GLU:HB3	2.11	0.51
54:AK:41:LEU:HD12	54:AK:42:GLY:N	2.25	0.51
55:AL:74:GLY:O	55:AL:78:LEU:HD12	2.10	0.51
55:AL:5:ARG:HA	55:AL:7:TRP:CZ3	2.45	0.51
58:AQ:56:PHE:HB2	58:AQ:74:MET:HB3	1.92	0.51
37:A:1508:A:H2'	37:A:1509:C:C6	2.46	0.51
37:A:1669:A:N3	37:A:1852:U:O2'	2.43	0.51
37:A:3762:U:H3'	37:A:3763:A:C8	2.45	0.51
47:AA:1215:C:H4'	47:AA:1217:A:N7	2.26	0.51
47:AA:1269:G:H3'	47:AA:1270:G:C8	2.46	0.51
47:AA:1377:U:HO2'	47:AA:1379:A:P	2.32	0.51
47:AA:1268:C:O2	47:AA:1515:G:C2	2.63	0.51
47:AA:1540:G:H2'	47:AA:1541:G:H8	1.75	0.51
47:AA:1714:U:H2'	47:AA:1715:A:H8	1.74	0.51
47:AA:1852:C:C6	47:AA:1853:C:H5	2.29	0.51
47:AA:321:C:H5	47:AA:322:C:N4	2.09	0.51
47:AA:549:C:N4	47:AA:550:C:N3	2.57	0.51
47:AA:601:G:N2	47:AA:622:C:C2	2.79	0.51
47:AA:678:U:C2	47:AA:679:A:C8	2.98	0.51
76:AB:55:ARG:HA	76:AB:87:ARG:HD3	1.92	0.51
55:AL:123:ILE:HA	55:AL:126:ALA:HB3	1.92	0.51
56:AN:71:ILE:O	56:AN:75:LEU:HD13	2.10	0.51
53:AJ:256:TRP:CZ2	57:AP:68:ARG:HD3	2.46	0.51
58:AQ:57:VAL:HB	58:AQ:60:PHE:HE2	1.76	0.51
59:AR:111:ARG:HG2	59:AR:112:ASN:N	2.26	0.51
81:AU:81:GLY:HA2	81:AU:92:PHE:CD1	2.46	0.51
11:O:42:PHE:HZ	11:O:90:TYR:HB2	1.76	0.51
37:A:4739:C:C5	37:A:4740:G:N7	2.79	0.51
47:AA:1109:C:O2'	47:AA:1110:G:OP2	2.27	0.51
47:AA:1587:G:H3'	81:AU:77:LYS:HE2	1.93	0.51
47:AA:1586:U:C3'	47:AA:1587:G:H5'	2.41	0.51
47:AA:1602:U:O2'	47:AA:1603:G:O5'	2.13	0.51
47:AA:1612:G:H1'	70:A0:87:GLN:OE1	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1226:G:N2	47:AA:1639:G:H8	2.09	0.51
47:AA:1732:G:O6	47:AA:1802:C:N4	2.44	0.51
47:AA:1848:U:H2'	47:AA:1850:A:OP2	2.11	0.51
47:AA:1848:U:HO2'	47:AA:1849:G:P	2.33	0.51
47:AA:360:A:H2	47:AA:362:C:H2'	1.75	0.51
47:AA:452:G:N3	47:AA:453:C:H1'	2.25	0.51
47:AA:614:C:C4	47:AA:626:G:C4	2.99	0.51
47:AA:618:C:H41	49:AD:67:ARG:HH12	1.59	0.51
47:AA:629:A:C6	47:AA:632:C:C2	2.99	0.51
47:AA:1337:C:O2'	76:AB:68:THR:HG22	2.11	0.51
52:AH:85:TYR:O	52:AH:86:THR:HB	2.10	0.51
55:AL:123:ILE:HG23	55:AL:124:HIS:N	2.26	0.51
47:AA:924:G:N2	56:AN:87:ASP:OD1	2.43	0.51
80:AO:14:VAL:HG13	80:AO:14:VAL:O	2.10	0.51
1:B:87:G:N2	1:B:90:A:OP2	2.43	0.51
37:A:1260:G:H2'	37:A:1261:G:H8	1.76	0.50
37:A:958:G:N2	37:A:1284:G:OP2	2.44	0.50
37:A:1354:A:N1	37:A:1385:G:O2'	2.40	0.50
37:A:1398:A:N3	37:A:1419:G:N2	2.60	0.50
37:A:1845:U:H2'	37:A:1846:G:H8	1.75	0.50
3:D:200:ARG:NH1	37:A:3651:A:OP2	2.43	0.50
37:A:4044:U:O2'	37:A:4045:G:N7	2.44	0.50
47:AA:1108:G:N2	47:AA:1125:C:C2	2.79	0.50
47:AA:1295:A:H61	47:AA:1303:C:H41	1.59	0.50
47:AA:1347:U:C4	47:AA:1362:U:C4	2.99	0.50
47:AA:1338:G:C2	47:AA:1490:G:N1	2.79	0.50
47:AA:150:A:H3'	47:AA:151:C:C6	2.46	0.50
47:AA:1558:C:H2'	47:AA:1559:C:C6	2.45	0.50
47:AA:367:U:H5''	47:AA:368:U:OP1	2.11	0.50
47:AA:401:A:H5''	47:AA:402:C:H5	1.76	0.50
47:AA:537:C:H3'	47:AA:538:U:C5	2.47	0.50
48:AC:1:MET:O	48:AC:8:PHE:HB2	2.11	0.50
77:AG:21:CYS:SG	77:AG:25:SER:N	2.84	0.50
78:AI:42:MET:HG3	78:AI:56:GLN:CB	2.37	0.50
56:AN:115:LEU:O	56:AN:118:ILE:N	2.44	0.50
58:AQ:76:TYR:OH	58:AQ:86:GLU:OE1	2.22	0.50
81:AU:38:LYS:CE	81:AU:44:GLU:HA	2.35	0.50
7:I:121:PRO:HD2	42:M:165:PRO:O	2.11	0.50
42:M:93:MET:SD	42:M:95:ARG:NH2	2.72	0.50
20:Z:106:TYR:CG	20:Z:107:PRO:HD3	2.45	0.50
37:A:3692:A:N6	37:A:3823:G:H21	2.09	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:3758:U:H1'	37:A:3767:C:N4	2.22	0.50
47:AA:1114:U:H4'	47:AA:1115:U:H2'	1.93	0.50
47:AA:1212:G:C2	47:AA:1688:C:C4	2.98	0.50
47:AA:1522:A:H5'	47:AA:1523:C:C5	2.46	0.50
47:AA:1203:G:C2	47:AA:1697:A:C6	2.99	0.50
37:A:3629:A:C1'	47:AA:1721:U:H5	2.22	0.50
47:AA:104:A:H62	47:AA:356:C:N4	2.10	0.50
47:AA:71:G:O2'	47:AA:73:C:N4	2.44	0.50
47:AA:870:A:O2'	47:AA:871:U:OP2	2.26	0.50
47:AA:958:G:O2'	47:AA:959:G:P	2.69	0.50
76:AB:49:LYS:CE	76:AB:51:LYS:CE	2.83	0.50
47:AA:1336:C:O2'	76:AB:69:PRO:HD3	2.12	0.50
48:AC:67:ASP:O	48:AC:71:ARG:NH1	2.44	0.50
78:AI:166:VAL:HG12	78:AI:176:VAL:HG22	1.92	0.50
53:AJ:122:THR:O	53:AJ:123:ARG:HG3	2.12	0.50
53:AJ:205:VAL:HG23	53:AJ:224:THR:OG1	2.10	0.50
56:AN:100:LYS:O	56:AN:103:GLU:HB3	2.11	0.50
80:AO:19:PRO:HG3	80:AO:27:VAL:HG21	1.93	0.50
81:AU:72:VAL:HG22	81:AU:101:ARG:HA	1.93	0.50
6:G:128:ASP:O	6:G:164:LYS:NZ	2.36	0.50
38:H:44:CYS:SG	38:H:45:SER:N	2.83	0.50
37:A:3717:A:OP2	37:A:3735:G:N2	2.38	0.50
37:A:4136:G:H1	37:A:4148:C:H42	1.59	0.50
37:A:417:G:H4'	37:A:418:A:O5'	2.09	0.50
47:AA:1265:A:H5'	47:AA:1326:U:O3'	2.12	0.50
47:AA:1303:C:H2'	47:AA:1304:U:C6	2.46	0.50
47:AA:1390:U:O4	47:AA:1391:C:N4	2.44	0.50
47:AA:1419:C:OP2	81:AU:129:ARG:HB2	2.11	0.50
47:AA:1422:G:C8	47:AA:1422:G:H3'	2.46	0.50
47:AA:1462:U:H2'	47:AA:1464:C:C5	2.47	0.50
47:AA:1472:C:H3'	47:AA:1473:G:C8	2.46	0.50
47:AA:1487:A:C6	47:AA:1488:C:C4	2.99	0.50
47:AA:1503:C:H2'	47:AA:1504:U:C6	2.47	0.50
47:AA:330:G:O6	54:AK:189:ARG:NH1	2.44	0.50
47:AA:816:A:P	55:AL:10:ARG:HH22	2.34	0.50
47:AA:88:G:C2	47:AA:500:A:C5	2.99	0.50
47:AA:902:G:H3'	47:AA:903:A:H5"	1.93	0.50
49:AD:57:VAL:HG12	49:AD:58:GLU:H	1.77	0.50
78:AI:45:LEU:CA	78:AI:52:TYR:HB3	2.37	0.50
57:AP:101:PHE:HD2	57:AP:129:PHE:CE1	2.29	0.50
57:AP:35:VAL:HA	57:AP:38:LEU:HB2	1.91	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AR:54:THR:HA	59:AR:57:LYS:CG	2.41	0.50
81:AU:101:ARG:HE	81:AU:105:GLN:HE22	1.60	0.50
81:AU:14:PHE:O	81:AU:18:LEU:N	2.45	0.50
8:J:97:ASN:ND2	37:A:399:G:O2'	2.44	0.50
12:P:89:ARG:HG3	12:P:95:PHE:HE1	1.76	0.50
15:T:101:PHE:O	15:T:102:ARG:HG2	2.11	0.50
37:A:1250:C:O2	37:A:1260:G:N2	2.44	0.50
37:A:1972:G:N3	37:A:1972:G:H2'	2.25	0.50
12:P:43:LYS:HD3	37:A:4508:C:H5''	1.92	0.50
47:AA:1252:C:HO2'	47:AA:1253:A:P	2.32	0.50
47:AA:1400:U:N3	47:AA:1401:A:C6	2.79	0.50
47:AA:407:G:N3	47:AA:407:G:H2'	2.26	0.50
47:AA:58:C:O2'	47:AA:59:U:OP2	2.28	0.50
47:AA:688:U:H4'	47:AA:689:U:O5'	2.11	0.50
52:AH:108:VAL:HG23	52:AH:110:GLU:N	2.17	0.50
54:AK:181:THR:HG23	54:AK:184:VAL:H	1.75	0.50
55:AL:114:VAL:O	55:AL:117:LEU:HB3	2.11	0.50
58:AQ:27:VAL:HG21	58:AQ:60:PHE:HE1	1.77	0.50
58:AQ:43:LYS:HA	58:AQ:46:LYS:HG2	1.93	0.50
58:AQ:57:VAL:HB	58:AQ:60:PHE:CE2	2.47	0.50
4:E:249:ARG:O	4:E:250:LYS:HG3	2.12	0.50
38:H:187:ARG:HG2	38:H:188:ARG:H	1.75	0.50
12:P:100:ASP:OD1	12:P:101:ASN:N	2.44	0.50
14:S:58:VAL:O	14:S:63:LYS:HG3	2.10	0.50
20:Z:71:TRP:HB2	20:Z:89:ARG:HH11	1.76	0.50
37:A:1768:C:H4'	37:A:1769:G:C8	2.47	0.50
37:A:4949:G:N2	37:A:4950:U:H2'	2.26	0.50
47:AA:1052:A:H2'	47:AA:1053:C:O4'	2.11	0.50
47:AA:10:G:C6	47:AA:1202:U:O2	2.65	0.50
47:AA:1439:A:C6	47:AA:1440:C:C2	3.00	0.50
47:AA:1698:C:H3'	47:AA:1699:A:C8	2.46	0.50
47:AA:1702:G:C4	47:AA:1703:C:C2	3.00	0.50
47:AA:208:G:H2'	47:AA:208:G:N3	2.27	0.50
47:AA:212:C:C4	47:AA:213:G:N7	2.80	0.50
47:AA:405:G:C5	47:AA:406:U:C5	3.00	0.50
47:AA:481:C:N4	47:AA:482:G:C5	2.80	0.50
47:AA:512:A:C4	47:AA:513:G:C8	3.00	0.50
47:AA:561:A:O3'	55:AL:134:HIS:HE1	1.93	0.50
47:AA:839:C:H2'	47:AA:841:G:O4'	2.11	0.50
47:AA:561:A:OP2	55:AL:173:VAL:N	2.45	0.50
56:AN:40:LEU:HD22	56:AN:45:LEU:HD12	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1158:G:H5''	57:AP:76:SER:OG	2.12	0.50
60:AT:51:LYS:O	60:AT:51:LYS:HG3	2.12	0.50
1:B:12:U:O3'	1:B:109:U:O2'	2.21	0.50
4:E:295:ASP:OD1	4:E:296:GLY:N	2.40	0.50
19:Y:50:LYS:NZ	20:Z:20:ASN:OD1	2.35	0.50
70:A0:38:ARG:HH21	81:AU:45:LEU:HD11	1.75	0.50
37:A:1080:C:N4	37:A:1220:G:O6	2.45	0.50
5:F:274:LYS:HG2	37:A:1375:C:H5''	1.94	0.50
15:T:51:ARG:NH2	37:A:2755:A:OP2	2.45	0.50
37:A:2:G:H5'	45:R:38:LYS:HD3	1.94	0.50
47:AA:1099:G:C6	47:AA:1100:A:C6	3.00	0.50
47:AA:1139:C:C4	47:AA:1140:G:C4	3.00	0.50
47:AA:1275:G:C5	47:AA:1506:A:C2	3.00	0.50
47:AA:1476:A:H3'	47:AA:1476:A:N3	2.27	0.50
47:AA:154:U:O4	47:AA:164:A:N6	2.36	0.50
47:AA:1650:A:N6	47:AA:1675:A:N7	2.59	0.50
47:AA:166:A:C6	47:AA:167:G:C5	3.00	0.50
47:AA:1832:A:C4	47:AA:1833:C:H5	2.29	0.50
47:AA:1866:A:N6	50:AE:84:VAL:HB	2.27	0.50
47:AA:828:G:N2	47:AA:830:A:H1'	2.22	0.50
47:AA:881:G:C2	47:AA:882:U:C2	2.99	0.50
47:AA:873:G:N2	47:AA:914:U:O2	2.45	0.50
47:AA:963:A:O2'	47:AA:964:A:H5'	2.12	0.50
47:AA:979:C:OP1	47:AA:979:C:H4'	2.12	0.50
48:AC:76:ASP:N	48:AC:76:ASP:OD1	2.42	0.50
78:AI:244:ASN:OD1	78:AI:295:GLY:HA3	2.11	0.50
53:AJ:127:PHE:CD1	53:AJ:141:VAL:HG22	2.41	0.50
53:AJ:270:THR:O	53:AJ:274:VAL:HG12	2.12	0.50
55:AL:155:LYS:NZ	55:AL:156:HIS:CE1	2.80	0.50
56:AN:35:GLU:O	56:AN:39:LYS:N	2.38	0.50
47:AA:984:C:H1'	80:AO:139:SER:HB3	1.93	0.50
80:AO:15:ILE:HG23	80:AO:16:SER:N	2.26	0.50
58:AQ:78:SER:HB2	58:AQ:81:TYR:CD2	2.42	0.50
58:AQ:79:LEU:O	58:AQ:83:LYS:HG3	2.12	0.50
47:AA:606:G:H1'	60:AT:58:ASN:OD1	2.12	0.50
81:AU:72:VAL:CG2	81:AU:101:ARG:HG3	2.42	0.50
61:AV:36:LYS:N	61:AV:78:SER:O	2.30	0.50
6:G:75:VAL:HG13	6:G:76:CYS:H	1.76	0.50
6:G:93:THR:O	6:G:158:LYS:NZ	2.34	0.50
42:M:35:PRO:HD2	42:M:39:VAL:HG21	1.94	0.50
37:A:966:A:H62	37:A:2253:A:P	2.34	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:101:U:H3'	47:AA:408:A:N6	2.27	0.50
47:AA:1171:G:H2'	47:AA:1187:G:O6	2.11	0.50
47:AA:1288:U:H2'	47:AA:1288:U:O2	2.12	0.50
47:AA:1416:C:C2'	47:AA:1419:C:H41	2.25	0.50
47:AA:153:G:N3	47:AA:154:U:N3	2.59	0.50
47:AA:629:A:N6	47:AA:632:C:O2	2.45	0.50
47:AA:23:G:N2	47:AA:652:U:C2	2.80	0.50
48:AC:11:LEU:HD13	53:AJ:136:HIS:CE1	2.47	0.50
76:AB:61:LEU:HD22	77:AG:34:TYR:CE2	2.47	0.50
78:AI:196:ASN:OD1	78:AI:211:GLY:N	2.45	0.50
54:AK:32:MET:HA	54:AK:52:ILE:HG13	1.94	0.50
58:AQ:27:VAL:HB	58:AQ:69:THR:CG2	2.42	0.50
59:AR:99:LEU:HA	59:AR:108:ILE:O	2.11	0.50
81:AU:60:THR:HG22	81:AU:64:LEU:HD11	1.94	0.50
1:B:67:C:OP1	6:G:14:LYS:NZ	2.36	0.50
6:G:30:TYR:HE1	10:N:24:VAL:HB	1.76	0.50
70:A0:102:GLY:O	70:A0:105:ASN:HB3	2.12	0.50
37:A:1514:U:H2'	37:A:1515:A:C8	2.46	0.50
37:A:1997:U:O2	37:A:2000:G:N2	2.45	0.50
37:A:2848:G:O2'	37:A:3838:U:O4	2.24	0.50
37:A:2422:C:HO2'	37:A:3857:G:HO2'	1.43	0.50
37:A:3956:G:C1'	37:A:3957:U:OP2	2.60	0.50
47:AA:1098:C:O2'	47:AA:1099:G:O4'	2.23	0.50
47:AA:1304:U:H5'	52:AH:95:ARG:HB2	1.94	0.50
47:AA:1597:C:HO2'	47:AA:1598:G:P	2.34	0.50
47:AA:803:C:H2'	47:AA:804:U:C6	2.45	0.50
47:AA:816:A:C4	47:AA:817:G:C8	3.00	0.50
47:AA:896:U:O4	47:AA:898:U:N3	2.44	0.50
47:AA:993:G:C6	47:AA:994:C:C4	2.99	0.50
76:AB:43:ALA:O	76:AB:47:ASN:OD1	2.28	0.50
47:AA:1865:C:OP1	50:AE:92:ARG:HG2	2.12	0.50
53:AJ:246:LYS:O	53:AJ:249:SER:OG	2.26	0.50
55:AL:129:LEU:HD22	55:AL:134:HIS:CD2	2.47	0.50
3:D:29:LEU:HD13	3:D:124:GLY:HA3	1.94	0.50
40:K:20:SER:O	40:K:26:ARG:NH2	2.45	0.50
70:A0:45:LEU:HA	70:A0:50:ILE:CG1	2.42	0.50
37:A:1265:G:N2	37:A:2111:G:H1'	2.27	0.50
37:A:1564:A:O5'	56:AN:140:LYS:NZ	2.25	0.50
47:AA:1090:C:N3	47:AA:1159:G:N2	2.55	0.50
47:AA:1113:A:N6	47:AA:1120:U:C2	2.79	0.50
47:AA:1563:G:C5	47:AA:1564:C:C4	3.00	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1693:G:H2'	47:AA:1694:U:H6	1.77	0.50
47:AA:1790:A:C2	47:AA:1791:A:C4	3.00	0.50
47:AA:614:C:H5''	47:AA:615:C:H6	1.76	0.50
47:AA:833:C:O2'	47:AA:834:C:OP1	2.23	0.50
78:AI:44:LYS:H	78:AI:56:GLN:HB2	1.74	0.50
54:AK:34:THR:O	54:AK:51:ARG:HA	2.12	0.50
57:AP:11:LEU:O	57:AP:14:ILE:HG12	2.12	0.50
57:AP:22:LYS:HA	61:AV:2:PRO:HB3	1.94	0.50
3:D:42:LYS:HG2	3:D:89:TYR:CE1	2.47	0.50
6:G:186:GLU:HG2	6:G:187:SER:N	2.26	0.50
9:L:28:GLU:HB2	9:L:49:LEU:HD11	1.94	0.50
16:U:36:GLY:HA3	16:U:40:HIS:CE1	2.46	0.50
37:A:2123:C:O2'	37:A:2124:G:O5'	2.24	0.49
37:A:2905:C:N4	37:A:3590:G:O6	2.42	0.49
37:A:4941:G:H5'	38:H:187:ARG:HG2	1.93	0.49
47:AA:1309:C:O2	52:AH:143:LYS:NZ	2.40	0.49
47:AA:1310:U:OP2	52:AH:126:CYS:HA	2.12	0.49
47:AA:1798:C:C5	47:AA:1799:G:C5	2.99	0.49
47:AA:192:C:N3	47:AA:208:G:C4	2.80	0.49
47:AA:563:G:O6	47:AA:592:C:N4	2.45	0.49
47:AA:60:A:O2'	47:AA:61:A:O5'	2.28	0.49
47:AA:633:C:H5''	47:AA:634:A:OP2	2.11	0.49
47:AA:635:G:C5	47:AA:636:C:C4	3.00	0.49
47:AA:876:C:C2'	47:AA:878:G:H5'	2.37	0.49
49:AD:57:VAL:HG12	49:AD:58:GLU:N	2.27	0.49
77:AG:9:SER:HB3	77:AG:12:ARG:HH12	1.77	0.49
78:AI:42:MET:CB	78:AI:56:GLN:HB3	2.42	0.49
79:AM:19:GLN:HB3	79:AM:84:LYS:NZ	2.27	0.49
80:AO:31:CYS:HB2	80:AO:93:LEU:HD13	1.94	0.49
3:D:21:LYS:NZ	37:A:1541:C:O3'	2.45	0.49
12:P:27:ASN:ND2	12:P:100:ASP:OD2	2.45	0.49
16:U:103:VAL:HB	16:U:108:TYR:HB2	1.93	0.49
37:A:4056:A:H2'	37:A:4057:C:C5	2.47	0.49
3:D:123:ARG:NH2	37:A:4083:U:OP1	2.45	0.49
47:AA:935:G:C2	47:AA:1008:A:C6	3.00	0.49
47:AA:1008:A:C6	47:AA:1009:A:C8	3.00	0.49
47:AA:107:A:C4	47:AA:355:G:N2	2.80	0.49
47:AA:1086:G:HO2'	47:AA:1088:U:H6	1.59	0.49
47:AA:1218:C:H2'	47:AA:1219:C:C2	2.46	0.49
47:AA:1280:G:C2	47:AA:1318:G:C6	3.00	0.49
47:AA:1411:G:C2	47:AA:1413:G:N7	2.80	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1442:U:H2'	47:AA:1442:U:O2	2.13	0.49
47:AA:1445:U:H4'	76:AB:57:PRO:HB3	1.93	0.49
47:AA:1521:C:H5'	70:A0:145:THR:HG23	1.94	0.49
47:AA:1693:G:C8	47:AA:1694:U:H5	2.30	0.49
47:AA:694:G:N7	47:AA:696:G:C2	2.80	0.49
47:AA:872:A:O2'	47:AA:873:G:H8	1.95	0.49
47:AA:878:G:C2	47:AA:909:G:C2	3.00	0.49
48:AC:53:TYR:HA	53:AJ:261:PHE:CZ	2.47	0.49
51:AF:31:ARG:HA	51:AF:42:ILE:O	2.12	0.49
54:AK:7:PHE:HD2	54:AK:10:THR:HG1	1.60	0.49
58:AQ:20:ARG:HH22	58:AQ:22:GLN:CD	2.16	0.49
47:AA:1542:C:H3'	81:AU:62:ARG:NH1	2.27	0.49
38:H:88:VAL:HG22	38:H:90:ALA:CA	2.42	0.49
7:I:30:GLY:HA2	7:I:101:ARG:CZ	2.43	0.49
7:I:89:PRO:HD3	37:A:1914:C:H4'	1.95	0.49
8:J:64:ASN:HB2	8:J:80:GLN:OE1	2.11	0.49
70:A0:70:ILE:HA	70:A0:77:TYR:CE2	2.47	0.49
37:A:1370:G:H4'	37:A:1371:A:H5'	1.94	0.49
37:A:394:G:N2	37:A:397:G:OP2	2.37	0.49
37:A:486:C:H3'	37:A:487:G:H5''	1.93	0.49
37:A:489:C:H42	37:A:664:G:H1	1.58	0.49
47:AA:1046:U:C5	47:AA:1047:C:C4	3.00	0.49
47:AA:1221:G:N3	47:AA:1222:G:C8	2.80	0.49
47:AA:1333:U:H3	47:AA:1498:A:N6	2.04	0.49
47:AA:1344:A:O2'	47:AA:1345:G:OP2	2.21	0.49
47:AA:1349:G:H2'	47:AA:1350:U:C6	2.47	0.49
47:AA:1351:G:C2	47:AA:1379:A:C4	3.00	0.49
47:AA:1415:C:H5'	47:AA:1416:C:H5''	1.93	0.49
47:AA:1561:A:N6	47:AA:1573:G:O6	2.45	0.49
47:AA:1610:G:C4	47:AA:1611:G:C8	3.01	0.49
47:AA:339:A:C8	47:AA:341:C:C5	3.00	0.49
47:AA:5:U:O2'	47:AA:6:G:O5'	2.22	0.49
47:AA:72:C:H4'	47:AA:73:C:OP1	2.12	0.49
47:AA:860:G:C5	47:AA:861:A:C6	3.01	0.49
47:AA:910:G:C6	47:AA:911:C:C5	3.01	0.49
48:AC:65:SER:O	48:AC:69:ILE:HG12	2.13	0.49
78:AI:101:PHE:CZ	78:AI:136:GLY:HA3	2.47	0.49
78:AI:130:LYS:HE2	78:AI:132:TRP:CZ2	2.47	0.49
53:AJ:169:TYR:CG	53:AJ:173:LYS:HA	2.47	0.49
47:AA:77:A:N3	54:AK:176:ILE:HD12	2.27	0.49
54:AK:7:PHE:CE2	54:AK:10:THR:HG23	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AL:108:ARG:O	55:AL:149:VAL:HG12	2.12	0.49
57:AP:88:LYS:O	57:AP:91:ASN:HB2	2.13	0.49
10:N:90:ASN:ND2	37:A:4313:A:H1'	2.28	0.49
37:A:166:C:H2'	37:A:167:C:C6	2.48	0.49
37:A:190:G:H2'	37:A:191:G:C8	2.48	0.49
37:A:3598:C:H2'	37:A:3599:A:C8	2.46	0.49
37:A:4731:G:H8	37:A:4733:C:H5''	1.77	0.49
37:A:686:A:H2'	38:H:96:VAL:HG22	1.93	0.49
37:A:696:C:H5''	37:A:697:G:H5'	1.93	0.49
47:AA:1272:C:N3	47:AA:1510:G:N2	2.59	0.49
47:AA:1821:U:OP2	47:AA:1821:U:H6	1.95	0.49
47:AA:19:A:C2	47:AA:20:G:H1'	2.48	0.49
47:AA:319:C:C4	47:AA:320:G:H1'	2.47	0.49
47:AA:595:U:HO2'	47:AA:596:U:P	2.36	0.49
47:AA:958:G:O2'	47:AA:959:G:O5'	2.30	0.49
50:AE:89:ARG:HA	50:AE:92:ARG:NH1	2.27	0.49
50:AE:89:ARG:HB3	50:AE:90:GLU:OE1	2.12	0.49
77:AG:22:ARG:CZ	77:AG:37:ASN:HB2	2.42	0.49
78:AI:236:ILE:HA	78:AI:251:ALA:O	2.13	0.49
78:AI:241:PHE:CE1	78:AI:261:LEU:HD11	2.47	0.49
53:AJ:266:TYR:HA	53:AJ:273:LEU:HD11	1.95	0.49
54:AK:14:LYS:HD3	54:AK:123:GLY:O	2.11	0.49
56:AN:99:ARG:NH2	56:AN:143:SER:HA	2.26	0.49
38:H:222:LEU:CG	38:H:223:ARG:H	2.25	0.49
10:N:116:LYS:HD3	10:N:128:LEU:HD23	1.95	0.49
37:A:990:C:N4	37:A:1051:G:H2'	2.28	0.49
47:AA:1310:U:C4	47:AA:1311:C:C4	3.01	0.49
47:AA:1563:G:H3'	47:AA:1564:C:C5	2.48	0.49
47:AA:1797:U:C4	47:AA:1798:C:C4	3.01	0.49
47:AA:1816:G:H2'	47:AA:1817:G:C8	2.48	0.49
47:AA:1865:C:H5'	47:AA:1866:A:C8	2.48	0.49
47:AA:193:C:H1'	47:AA:207:G:H22	1.78	0.49
47:AA:217:A:C2	47:AA:309:G:N3	2.81	0.49
47:AA:537:C:H3'	47:AA:538:U:C6	2.48	0.49
47:AA:745:C:H2'	47:AA:796:G:N2	2.28	0.49
76:AB:31:SER:O	76:AB:34:LYS:HG2	2.12	0.49
76:AB:99:LYS:HA	76:AB:102:THR:O	2.13	0.49
48:AC:23:ILE:O	48:AC:23:ILE:HG13	2.12	0.49
78:AI:149:GLU:OE1	78:AI:170:TRP:HB2	2.12	0.49
78:AI:289:LEU:HD22	78:AI:298:LEU:HD11	1.94	0.49
78:AI:42:MET:HE2	78:AI:59:LEU:HD22	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AI:64:HIS:ND1	78:AI:84:ASP:OD2	2.45	0.49
47:AA:641:A:P	55:AL:40:LYS:HZ2	2.28	0.49
55:AL:71:LEU:O	55:AL:75:ASN:N	2.44	0.49
47:AA:1033:G:OP2	56:AN:109:LYS:NZ	2.43	0.49
81:AU:136:GLY:HA2	81:AU:139:ALA:HB3	1.95	0.49
5:F:150:LEU:HB3	5:F:151:PRO:HD3	1.95	0.49
6:G:41:LYS:NZ	10:N:32:ARG:O	2.38	0.49
70:A0:62:ASP:O	70:A0:65:GLU:HB2	2.12	0.49
16:U:25:HIS:CD2	37:A:1338:G:H22	2.29	0.49
37:A:1985:G:N2	37:A:2005:G:N7	2.60	0.49
37:A:3585:G:H3'	37:A:3586:G:H8	1.77	0.49
10:N:54:HIS:CD2	37:A:4301:U:H4'	2.47	0.49
37:A:4991:U:O2'	37:A:4992:G:OP1	2.30	0.49
37:A:911:U:H2'	37:A:912:G:C8	2.40	0.49
47:AA:1346:U:H5	47:AA:1371:U:C4	2.31	0.49
47:AA:1407:U:H2'	47:AA:1408:U:O4'	2.12	0.49
47:AA:1414:A:N1	47:AA:1415:C:H5	2.11	0.49
47:AA:1476:A:C2'	47:AA:1477:U:H4'	2.43	0.49
47:AA:1526:G:C2	47:AA:1527:C:N4	2.81	0.49
47:AA:1602:U:O2'	47:AA:1603:G:H2'	2.12	0.49
47:AA:1742:C:N4	47:AA:1743:G:C6	2.80	0.49
47:AA:1782:G:C8	47:AA:1783:C:H4'	2.45	0.49
47:AA:588:G:H5'	47:AA:591:U:O2	2.12	0.49
47:AA:841:G:C2	47:AA:842:C:C2	3.00	0.49
47:AA:878:G:N3	47:AA:909:G:N2	2.60	0.49
47:AA:942:G:H1	47:AA:984:C:N4	2.06	0.49
76:AB:26:SER:HB3	76:AB:108:PRO:O	2.13	0.49
53:AJ:170:TRP:HD1	53:AJ:197:PRO:HB2	1.78	0.49
79:AM:58:GLU:HG3	79:AM:59:PRO:O	2.12	0.49
56:AN:99:ARG:NH1	56:AN:143:SER:HA	2.26	0.49
58:AQ:84:LYS:HG2	58:AQ:84:LYS:O	2.12	0.49
3:D:205:ASN:HB2	3:D:206:PRO:HD2	1.95	0.49
5:F:150:LEU:O	5:F:152:LEU:N	2.45	0.49
16:U:75:LEU:HD12	16:U:111:VAL:HG12	1.93	0.49
70:A0:40:TYR:HA	70:A0:43:VAL:HB	1.95	0.49
70:A0:58:GLU:OE1	70:A0:58:GLU:N	2.46	0.49
70:A0:43:VAL:HG21	70:A0:83:PHE:CZ	2.48	0.49
37:A:1246:G:N3	37:A:1265:G:N2	2.61	0.49
37:A:1396:G:O2'	37:A:1468:C:O2'	2.31	0.49
37:A:1759:G:H1	37:A:1773:U:H3	1.59	0.49
37:A:2005:G:N2	37:A:2015:U:O2	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1087:A:C5	47:AA:1861:G:C6	3.00	0.49
47:AA:1227:G:N2	47:AA:1228:A:H8	2.10	0.49
47:AA:1287:A:H3'	47:AA:1288:U:H4'	1.95	0.49
47:AA:1342:U:H4'	47:AA:1343:U:C6	2.43	0.49
47:AA:1539:U:H2'	47:AA:1540:G:C8	2.47	0.49
47:AA:1563:G:OP2	81:AU:72:VAL:HG12	2.12	0.49
47:AA:1610:G:C6	47:AA:1611:G:C5	3.01	0.49
47:AA:1611:G:O2'	70:A0:87:GLN:N	2.46	0.49
47:AA:1528:G:O2'	47:AA:1666:C:OP1	2.23	0.49
47:AA:1759:G:H1'	47:AA:1774:C:C5	2.48	0.49
49:AD:24:ASP:CG	49:AD:25:LYS:N	2.66	0.49
49:AD:51:VAL:HG13	49:AD:70:VAL:CG2	2.42	0.49
50:AE:12:LYS:NZ	50:AE:15:ARG:O	2.34	0.49
47:AA:170:A:OP2	54:AK:140:ARG:NH1	2.46	0.49
58:AQ:125:VAL:HG12	58:AQ:129:LYS:HE2	1.94	0.49
47:AA:837:A:N6	58:AQ:9:THR:OG1	2.40	0.49
3:D:113:VAL:HG23	3:D:116:LEU:HD11	1.94	0.49
18:X:18:ASN:OD1	18:X:19:GLU:N	2.46	0.49
37:A:382:G:H2'	37:A:383:A:H2'	1.95	0.49
37:A:4765:G:N2	37:A:4869:U:H3	2.04	0.49
37:A:5011:A:H61	37:A:5037:U:H3	1.60	0.49
37:A:992:C:N4	37:A:1050:C:N3	2.61	0.49
47:AA:1171:G:O2'	47:AA:1172:U:P	2.70	0.49
47:AA:1250:A:C8	47:AA:1250:A:O5'	2.65	0.49
47:AA:1308:U:H3	52:AH:139:HIS:CD2	2.30	0.49
47:AA:1422:G:N3	47:AA:1424:G:C8	2.81	0.49
47:AA:1421:A:C6	47:AA:1424:G:N7	2.81	0.49
47:AA:1476:A:H4'	47:AA:1476:A:OP2	2.13	0.49
47:AA:1269:G:C2	47:AA:1514:G:C2	2.99	0.49
47:AA:1545:A:O2'	47:AA:1546:G:N7	2.36	0.49
47:AA:1627:C:C5'	81:AU:41:LYS:HE3	2.42	0.49
47:AA:1831:A:H8	47:AA:1831:A:O5'	1.95	0.49
47:AA:1706:G:H1'	47:AA:1851:A:H4'	1.95	0.49
47:AA:18:C:O2'	49:AD:107:ARG:NH2	2.46	0.49
47:AA:309:G:C2	47:AA:310:C:N3	2.80	0.49
47:AA:47:G:C6	47:AA:48:C:N4	2.81	0.49
47:AA:53:C:H5''	47:AA:54:A:OP2	2.13	0.49
47:AA:19:A:O3'	47:AA:620:G:H1'	2.13	0.49
47:AA:982:G:H2'	47:AA:983:A:H8	1.78	0.49
50:AE:30:VAL:HG21	50:AE:35:ALA:HB2	1.94	0.49
50:AE:7:ASN:OD1	50:AE:13:LYS:NZ	2.38	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:AJ:135:GLY:HA3	53:AJ:165:VAL:HG22	1.94	0.49
54:AK:57:ASP:HB2	54:AK:98:ARG:HD3	1.95	0.49
54:AK:7:PHE:HD1	54:AK:113:ILE:HG21	1.75	0.49
57:AP:50:PHE:HB3	57:AP:63:VAL:HG13	1.95	0.49
47:AA:1417:C:N3	81:AU:128:GLN:HG3	2.26	0.49
47:AA:1588:A:OP1	81:AU:77:LYS:HE2	2.13	0.49
61:AV:33:MET:N	61:AV:46:VAL:O	2.37	0.49
5:F:267:TRP:CE2	5:F:279:LEU:HD22	2.48	0.49
6:G:244:HIS:HA	6:G:247:ILE:HG22	1.95	0.49
7:I:18:ARG:HD3	37:A:2057:A:H62	1.78	0.49
42:M:110:TYR:CE1	42:M:124:ILE:HG21	2.47	0.49
10:N:12:ARG:HG3	37:A:4276:G:H5'	1.95	0.49
11:O:64:GLU:O	11:O:70:ILE:HA	2.13	0.49
47:AA:111:A:H2'	47:AA:112:U:C6	2.48	0.49
47:AA:1414:A:C2	47:AA:1415:C:H5	2.30	0.49
47:AA:1422:G:H3'	47:AA:1423:C:H5''	1.94	0.49
47:AA:216:C:C2	47:AA:217:A:C8	3.01	0.49
47:AA:458:A:C5	47:AA:459:C:C2	3.00	0.49
47:AA:41:G:C6	47:AA:482:G:N2	2.81	0.49
47:AA:674:C:H2'	47:AA:675:U:C6	2.48	0.49
47:AA:949:G:H2'	47:AA:950:C:O4'	2.13	0.49
77:AG:36:LEU:HG	77:AG:38:MET:CG	2.42	0.49
78:AI:195:LEU:HA	78:AI:211:GLY:HA2	1.94	0.49
78:AI:54:ILE:CB	78:AI:55:PRO:HD3	2.43	0.49
54:AK:138:ALA:CB	54:AK:179:LEU:HB3	2.42	0.49
54:AK:216:ARG:HA	54:AK:219:GLU:CG	2.34	0.49
80:AO:64:ALA:HB3	80:AO:67:ASP:HB2	1.95	0.49
58:AQ:15:ASN:HB2	58:AQ:17:LEU:HB2	1.94	0.49
81:AU:51:ASN:HB3	81:AU:55:THR:HG23	1.95	0.49
2:C:55:U:H3	2:C:62:A:H2	1.59	0.49
4:E:201:LEU:HD23	4:E:202:GLU:HG2	1.95	0.49
4:E:290:GLY:HA2	4:E:302:ASN:ND2	2.19	0.49
5:F:218:ILE:HG13	5:F:219:LYS:HD2	1.94	0.49
5:F:260:LEU:HA	5:F:263:LEU:HB3	1.94	0.49
70:A0:126:PHE:HD2	70:A0:127:TRP:CD2	2.31	0.49
37:A:1198:G:H2'	37:A:1199:G:C8	2.47	0.49
37:A:1764:G:H4'	37:A:1769:G:H1	1.78	0.49
4:E:242:ARG:NH2	37:A:2856:C:O2	2.46	0.49
47:AA:107:A:C6	47:AA:355:G:N1	2.81	0.49
47:AA:1114:U:C4'	47:AA:1115:U:H2'	2.43	0.49
47:AA:1121:G:C5	47:AA:1122:A:C8	3.01	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1243:U:C2	47:AA:1265:A:C4	3.00	0.49
47:AA:149:A:H2'	47:AA:150:A:C8	2.48	0.49
47:AA:1809:A:H2'	47:AA:1810:U:H6	1.77	0.49
47:AA:1815:A:C3'	47:AA:1816:G:H8	2.20	0.49
47:AA:615:C:H42	47:AA:629:A:N6	2.11	0.49
47:AA:656:G:H5''	47:AA:656:G:C8	2.48	0.49
47:AA:835:C:H41	58:AQ:8:ARG:HB3	1.77	0.49
47:AA:996:A:O2'	47:AA:997:A:C8	2.62	0.49
50:AE:23:CYS:SG	50:AE:24:THR:N	2.86	0.49
78:AI:43:TRP:CD1	78:AI:55:PRO:HA	2.46	0.49
54:AK:213:LEU:O	54:AK:216:ARG:N	2.46	0.49
79:AM:51:VAL:HG23	79:AM:77:ILE:O	2.13	0.49
58:AQ:28:LEU:HD13	58:AQ:68:LYS:CG	2.41	0.49
58:AQ:43:LYS:O	58:AQ:47:MET:N	2.27	0.49
55:AL:140:GLN:NE2	58:AQ:64:PHE:O	2.46	0.49
59:AR:99:LEU:HB2	59:AR:107:VAL:O	2.13	0.49
56:AN:15:ALA:HB2	61:AV:20:LYS:HD3	1.95	0.49
4:E:10:ARG:HG3	37:A:4459:U:OP1	2.13	0.49
19:Y:43:ASN:OD1	19:Y:45:VAL:HG22	2.13	0.49
20:Z:17:GLY:N	20:Z:20:ASN:O	2.41	0.49
70:A0:121:ARG:HG3	70:A0:122:GLY:H	1.77	0.48
37:A:2504:C:H2'	37:A:2505:C:H3'	1.95	0.48
37:A:3772:U:H3'	37:A:3773:U:C6	2.48	0.48
37:A:4278:C:O2'	37:A:4281:A:H8	1.95	0.48
37:A:456:C:H2'	37:A:457:G:C8	2.48	0.48
47:AA:1118:C:N4	47:AA:1119:A:N6	2.60	0.48
47:AA:1344:A:O2'	47:AA:1345:G:C8	2.66	0.48
12:P:70:PRO:HG2	47:AA:1724:A:H5''	1.95	0.48
47:AA:1750:C:N3	47:AA:1751:C:H1'	2.28	0.48
47:AA:697:G:N7	47:AA:733:C:C4	2.81	0.48
47:AA:858:A:N6	47:AA:859:G:N7	2.60	0.48
47:AA:958:G:O2'	47:AA:959:G:C8	2.64	0.48
47:AA:997:A:C2	47:AA:998:A:C4	3.01	0.48
76:AB:50:VAL:O	76:AB:50:VAL:HG22	2.13	0.48
51:AF:8:PRO:C	51:AF:10:LYS:HG3	2.34	0.48
53:AJ:103:LYS:HE2	53:AJ:133:TYR:CZ	2.48	0.48
53:AJ:196:ILE:HG23	53:AJ:223:TYR:CB	2.35	0.48
37:A:1182:C:H5'	37:A:1183:C:O4'	2.13	0.48
37:A:1617:G:H1'	37:A:2513:A:N6	2.27	0.48
37:A:279:A:O2'	37:A:280:G:OP2	2.28	0.48
37:A:3671:G:H2'	37:A:3672:G:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:3673:C:O2'	37:A:3674:G:OP1	2.26	0.48
37:A:3711:A:C2	47:AA:970:G:C2'	2.90	0.48
37:A:3809:G:OP2	37:A:3809:G:N2	2.27	0.48
8:J:64:ASN:ND2	37:A:3892:U:O5'	2.41	0.48
4:E:246:ARG:NH1	37:A:4525:C:OP1	2.47	0.48
37:A:456:C:N3	37:A:701:G:N2	2.60	0.48
37:A:4635:A:H2	37:A:4663:G:H21	1.61	0.48
47:AA:1158:G:C2	47:AA:1159:G:C4	3.01	0.48
47:AA:1269:G:C6	47:AA:1270:G:N1	2.80	0.48
47:AA:1277:C:C6	47:AA:1278:A:C8	3.01	0.48
47:AA:1467:C:H2'	47:AA:1468:C:C6	2.48	0.48
47:AA:1698:C:O2'	47:AA:1699:A:OP1	2.27	0.48
47:AA:26:U:O2'	47:AA:27:A:O4'	2.31	0.48
47:AA:347:G:H2'	47:AA:348:A:C8	2.48	0.48
78:AI:290:ALA:O	78:AI:298:LEU:HD12	2.13	0.48
78:AI:45:LEU:HD23	78:AI:52:TYR:CE2	2.48	0.48
54:AK:210:ALA:HA	54:AK:214:ALA:HB3	1.95	0.48
79:AM:42:LEU:HB2	79:AM:46:GLN:OE1	2.12	0.48
59:AR:52:LYS:HD2	59:AR:55:TYR:CE2	2.48	0.48
81:AU:33:TRP:HH2	81:AU:102:ARG:NH1	2.09	0.48
3:D:77:ILE:HG13	3:D:128:ARG:HD2	1.95	0.48
6:G:152:ARG:NH1	6:G:153:THR:O	2.46	0.48
10:N:142:ARG:NH1	37:A:1090:G:OP1	2.46	0.48
37:A:917:A:O4'	37:A:918:G:N2	2.46	0.48
47:AA:1010:G:N2	47:AA:1011:A:C6	2.81	0.48
47:AA:1286:G:C6	47:AA:1312:G:N7	2.81	0.48
47:AA:1515:G:C6	47:AA:1516:G:C8	3.01	0.48
47:AA:153:G:C6	47:AA:166:A:N6	2.81	0.48
47:AA:1605:G:C2	47:AA:1606:G:N2	2.81	0.48
47:AA:314:U:H2'	47:AA:315:C:C6	2.47	0.48
47:AA:529:A:N1	47:AA:557:U:H1'	2.27	0.48
50:AE:7:ASN:O	50:AE:9:GLY:N	2.44	0.48
78:AI:80:SER:HB3	78:AI:90:TRP:CD1	2.49	0.48
53:AJ:103:LYS:HE2	53:AJ:133:TYR:OH	2.14	0.48
4:E:352:LEU:HD22	37:A:4677:U:H1'	1.95	0.48
70:A0:39:ARG:HH12	81:AU:45:LEU:CA	2.25	0.48
70:A0:40:TYR:HD1	70:A0:83:PHE:CE2	2.31	0.48
37:A:2478:C:H2'	37:A:2479:G:C8	2.48	0.48
37:A:3629:A:C1'	47:AA:1721:U:C5	2.96	0.48
37:A:475:G:H2'	37:A:476:G:H8	1.78	0.48
47:AA:1034:A:N6	47:AA:1082:A:C4	2.82	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1107:G:N1	47:AA:1108:G:C4	2.81	0.48
47:AA:661:U:H4'	47:AA:1157:G:O6	2.12	0.48
47:AA:1261:C:H3'	47:AA:1262:C:H6	1.78	0.48
47:AA:1284:A:OP2	79:AM:104:VAL:HG21	2.12	0.48
47:AA:430:C:H2'	47:AA:431:G:O4'	2.12	0.48
47:AA:493:A:N1	47:AA:510:G:O2'	2.44	0.48
47:AA:527:C:H2'	47:AA:528:A:O4'	2.14	0.48
47:AA:694:G:N7	47:AA:696:G:N1	2.61	0.48
76:AB:66:ARG:HG2	76:AB:68:THR:H	1.79	0.48
52:AH:119:ARG:HD3	52:AH:152:LYS:NZ	2.28	0.48
78:AI:220:ASP:HB2	78:AI:225:LYS:N	2.25	0.48
54:AK:210:ALA:O	54:AK:215:LYS:HB2	2.13	0.48
56:AN:135:LEU:HB3	56:AN:136:PRO:HD2	1.95	0.48
58:AQ:29:HIS:O	58:AQ:29:HIS:CG	2.67	0.48
60:AT:35:ARG:O	60:AT:38:TYR:HB3	2.12	0.48
4:E:291:TYR:CE2	4:E:327:THR:HA	2.49	0.48
4:E:84:MET:HG2	4:E:166:THR:HA	1.93	0.48
1:B:7:G:OP1	6:G:33:ARG:NE	2.47	0.48
20:Z:106:TYR:HA	38:H:153:LEU:HD13	1.95	0.48
7:I:128:ARG:O	7:I:129:LEU:HG	2.13	0.48
37:A:2582:A:O2'	37:A:2653:C:O2'	2.29	0.48
7:I:168:TYR:OH	37:A:4767:C:OP1	2.29	0.48
37:A:752:G:H1	37:A:911:U:H3	1.61	0.48
37:A:994:G:N2	37:A:1049:C:N3	2.62	0.48
47:AA:1116:C:O2	47:AA:1117:C:C6	2.66	0.48
47:AA:1278:A:O2'	47:AA:1320:G:N2	2.46	0.48
47:AA:1347:U:O4	47:AA:1362:U:C4	2.66	0.48
47:AA:1422:G:H21	47:AA:1424:G:H8	1.60	0.48
47:AA:1624:U:C4	47:AA:1625:U:C4	3.02	0.48
47:AA:1711:U:H5''	47:AA:1712:A:OP2	2.14	0.48
47:AA:1743:G:C6	47:AA:1744:G:N1	2.81	0.48
47:AA:1753:C:H5'	47:AA:1780:G:N2	2.28	0.48
47:AA:1863:A:H1'	50:AE:79:ILE:HD13	1.96	0.48
47:AA:197:U:H1'	47:AA:203:G:C5	2.48	0.48
47:AA:373:G:N2	47:AA:392:A:C4	2.81	0.48
47:AA:390:C:H2'	47:AA:391:C:O4'	2.14	0.48
47:AA:536:A:H3'	47:AA:537:C:H6	1.77	0.48
47:AA:536:A:H3'	47:AA:537:C:O4'	2.13	0.48
47:AA:839:C:H42	58:AQ:10:ARG:HA	1.79	0.48
47:AA:916:A:C5	56:AN:73:ARG:NH1	2.81	0.48
47:AA:996:A:O2'	47:AA:997:A:P	2.72	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
76:AB:108:PRO:HD2	76:AB:110:VAL:CG1	2.43	0.48
48:AC:39:VAL:HB	48:AC:44:GLY:HA2	1.94	0.48
51:AF:18:LEU:HD22	51:AF:66:ARG:NH1	2.21	0.48
54:AK:137:ARG:HB2	54:AK:140:ARG:HB2	1.96	0.48
57:AP:40:VAL:HG11	57:AP:110:ILE:HG13	1.95	0.48
58:AQ:55:ILE:H	58:AQ:55:ILE:HD12	1.78	0.48
47:AA:835:C:C5	58:AQ:8:ARG:HB3	2.48	0.48
38:H:197:THR:HG22	38:H:199:THR:H	1.78	0.48
8:J:59:PRO:HG3	8:J:76:TRP:CG	2.48	0.48
42:M:161:ARG:CZ	42:M:164:LYS:HD3	2.42	0.48
11:O:46:ARG:O	11:O:47:ILE:HG13	2.13	0.48
37:A:2437:C:O2'	45:R:125:ASN:ND2	2.39	0.48
4:E:97:ARG:NH1	37:A:4911:A:OP1	2.47	0.48
37:A:4948:C:O2'	37:A:4949:G:OP1	2.27	0.48
47:AA:1093:A:C2	47:AA:1094:C:C2	3.01	0.48
47:AA:1407:U:O2'	47:AA:1443:C:O2	2.29	0.48
47:AA:1330:G:O2'	47:AA:1491:G:OP2	2.31	0.48
47:AA:149:A:N6	47:AA:170:A:C5	2.81	0.48
47:AA:1656:G:C2	47:AA:1657:G:C4	3.02	0.48
47:AA:1679:A:OP1	51:AF:49:PRO:HB3	2.14	0.48
47:AA:1717:C:H5	47:AA:1718:G:C5	2.31	0.48
47:AA:221:A:H2'	47:AA:222:U:C6	2.48	0.48
47:AA:30:C:H2'	47:AA:31:U:O4'	2.14	0.48
47:AA:378:U:H6	47:AA:378:U:OP2	1.96	0.48
47:AA:476:A:C4	47:AA:477:G:C8	3.00	0.48
47:AA:499:G:C6	47:AA:501:C:H1'	2.48	0.48
47:AA:896:U:C2'	47:AA:897:U:H5'	2.43	0.48
53:AJ:164:PRO:HB2	53:AJ:248:TYR:CE2	2.49	0.48
53:AJ:256:TRP:CZ3	57:AP:68:ARG:HD3	2.48	0.48
55:AL:59:GLU:HA	55:AL:62:THR:OG1	2.13	0.48
80:AO:65:ASP:O	80:AO:67:ASP:N	2.46	0.48
56:AN:18:TYR:CZ	57:AP:56:HIS:CE1	3.02	0.48
60:AT:38:TYR:HD2	60:AT:39:ASN:OD1	1.95	0.48
5:F:5:ARG:HD2	5:F:24:LEU:O	2.14	0.48
6:G:204:VAL:O	6:G:208:MET:N	2.39	0.48
38:H:136:HIS:HB2	38:H:138:ARG:NH1	2.27	0.48
12:P:84:GLN:HA	12:P:101:ASN:HB3	1.95	0.48
20:Z:54:LYS:HE2	37:A:443:G:H5''	1.96	0.48
70:A0:124:ARG:HD3	70:A0:129:LEU:HD22	1.96	0.48
37:A:2785:C:O2'	37:A:2786:C:OP1	2.31	0.48
37:A:3607:U:H2'	37:A:3608:A:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1129:G:O6	47:AA:1130:G:C2	2.67	0.48
47:AA:1195:A:C4	47:AA:1196:A:C8	3.01	0.48
47:AA:1281:G:C5	47:AA:1282:A:N7	2.81	0.48
47:AA:1348:G:N2	47:AA:1382:A:N3	2.61	0.48
47:AA:1407:U:C4	47:AA:1408:U:C4	3.01	0.48
47:AA:1614:A:C6	47:AA:1626:C:C4	3.02	0.48
47:AA:1620:A:C8	47:AA:1624:U:OP2	2.66	0.48
47:AA:1203:G:N2	47:AA:1697:A:C5	2.81	0.48
47:AA:1700:C:N4	47:AA:1836:G:H1	2.11	0.48
47:AA:27:A:H2	49:AD:46:HIS:HE2	1.61	0.48
47:AA:338:G:C3'	47:AA:339:A:H3'	2.44	0.48
47:AA:33:G:N1	47:AA:523:A:N7	2.62	0.48
47:AA:806:U:H2'	47:AA:807:G:H8	1.77	0.48
47:AA:958:G:O2'	47:AA:959:G:H8	1.97	0.48
76:AB:28:ASN:HD21	76:AB:30:LYS:HB3	1.79	0.48
49:AD:107:ARG:HD3	49:AD:112:VAL:CG2	2.40	0.48
78:AI:17:TRP:HZ3	78:AI:19:THR:HG22	1.79	0.48
78:AI:258:ILE:O	78:AI:267:VAL:HB	2.13	0.48
78:AI:40:ILE:HG13	78:AI:66:VAL:HG21	1.95	0.48
53:AJ:176:LYS:HG2	53:AJ:177:PRO:O	2.13	0.48
54:AK:144:LEU:HB2	54:AK:147:LEU:HA	1.96	0.48
56:AN:95:ALA:O	56:AN:98:VAL:HG12	2.14	0.48
57:AP:102:ILE:HB	57:AP:113:HIS:CD2	2.48	0.48
57:AP:11:LEU:HB3	57:AP:72:CYS:O	2.14	0.48
81:AU:99:VAL:HA	81:AU:102:ARG:HB3	1.96	0.48
2:C:16:G:H22	37:A:417:G:H1'	1.77	0.48
2:C:87:G:H4'	2:C:88:A:O5'	2.11	0.48
4:E:26:ARG:NH2	37:A:4581:G:OP2	2.47	0.48
4:E:294:LYS:HG2	4:E:295:ASP:H	1.77	0.48
9:L:163:ARG:NE	47:AA:871:U:N3	2.51	0.48
37:A:2017:A:H5''	37:A:2018:C:C5	2.48	0.48
37:A:4047:A:H3'	37:A:4048:A:H5''	1.95	0.48
37:A:4242:U:H3	37:A:4281:A:H2	1.60	0.48
37:A:989:U:H2'	37:A:990:C:C5	2.49	0.48
47:AA:1003:U:C4	47:AA:1004:U:C4	3.02	0.48
47:AA:1010:G:C2	47:AA:1011:A:C5	3.01	0.48
47:AA:100:U:C6	47:AA:101:U:C5	3.02	0.48
47:AA:1107:G:N1	47:AA:1108:G:N3	2.62	0.48
47:AA:1225:U:H3	47:AA:1641:A:N6	2.08	0.48
47:AA:1424:G:C8	47:AA:1426:U:O4	2.66	0.48
47:AA:149:A:H2'	47:AA:150:A:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1228:A:H61	47:AA:1530:U:H3	1.62	0.48
47:AA:1644:C:N3	47:AA:1645:C:C4	2.82	0.48
47:AA:1805:G:C5	47:AA:1806:A:N7	2.82	0.48
47:AA:319:C:N4	47:AA:320:G:N3	2.62	0.48
47:AA:319:C:H5'	47:AA:320:G:OP2	2.14	0.48
47:AA:311:C:H4'	47:AA:339:A:H4'	1.96	0.48
47:AA:690:G:H2'	47:AA:691:G:O4'	2.13	0.48
47:AA:961:G:C6	47:AA:962:A:C4	3.01	0.48
47:AA:966:U:H2'	47:AA:967:C:C6	2.49	0.48
49:AD:73:GLN:HA	49:AD:79:LYS:O	2.14	0.48
49:AD:48:LYS:HB3	49:AD:99:GLU:OE2	2.14	0.48
40:K:158:THR:O	40:K:161:SER:OG	2.31	0.48
40:K:63:LEU:O	40:K:67:ILE:HG12	2.14	0.48
16:U:84:GLU:OE2	16:U:87:ARG:NH2	2.47	0.48
70:A0:27:ALA:HB2	70:A0:52:LEU:HD22	1.96	0.48
6:G:43:LYS:HE2	37:A:1817:U:H4'	1.96	0.48
37:A:2486:G:N2	37:A:2494:U:O2	2.39	0.48
37:A:4730:C:H1'	37:A:4731:G:H3'	1.96	0.48
47:AA:1148:A:H4'	47:AA:1149:A:O5'	2.12	0.48
47:AA:1209:A:H4'	50:AE:82:LYS:NZ	2.29	0.48
47:AA:1238:U:C2'	47:AA:1239:U:H5'	2.44	0.48
47:AA:1338:G:O5'	47:AA:1338:G:H8	1.96	0.48
47:AA:1459:G:H1	47:AA:1468:C:H42	1.59	0.48
47:AA:1471:C:N4	47:AA:1475:G:O2'	2.45	0.48
47:AA:1520:G:OP2	47:AA:1521:C:H5	1.97	0.48
47:AA:1672:U:H3'	47:AA:1673:U:C5	2.49	0.48
47:AA:47:G:C2	47:AA:48:C:N3	2.81	0.48
47:AA:505:G:N2	47:AA:506:G:H1'	2.29	0.48
47:AA:648:A:H5'	49:AD:121:LYS:NZ	2.28	0.48
78:AI:200:VAL:HG23	78:AI:202:PRO:HD3	1.96	0.48
78:AI:20:GLN:NE2	78:AI:22:ALA:HB2	2.28	0.48
47:AA:1204:A:OP1	53:AJ:117:ARG:NH1	2.44	0.48
47:AA:656:G:O2'	53:AJ:227:ARG:HD3	2.14	0.48
55:AL:39:ASN:CG	55:AL:41:ARG:HB3	2.34	0.48
55:AL:61:LEU:HD12	55:AL:70:ARG:HH12	1.79	0.48
55:AL:87:LEU:HD12	55:AL:100:LEU:HD11	1.95	0.48
56:AN:111:ALA:O	56:AN:115:LEU:N	2.41	0.48
61:AV:51:GLN:C	61:AV:66:PRO:HB3	2.34	0.48
6:G:107:ARG:HG2	6:G:248:ARG:HA	1.96	0.48
38:H:141:ARG:H	38:H:191:GLN:NE2	2.11	0.48
8:J:50:ASP:OD1	8:J:55:LYS:HB2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:1845:U:H2'	37:A:1846:G:C8	2.48	0.48
37:A:2003:G:H1'	37:A:2004:U:C5	2.48	0.48
37:A:2027:U:H2'	37:A:2028:C:C6	2.49	0.48
37:A:3641:U:OP2	37:A:3646:A:N6	2.47	0.48
47:AA:683:G:C2	47:AA:1023:A:C6	3.02	0.48
47:AA:1215:C:N4	47:AA:1220:A:H61	2.11	0.48
47:AA:1226:G:OP2	47:AA:1226:G:H8	1.97	0.48
47:AA:1538:C:C4	47:AA:1539:U:C2	3.02	0.48
47:AA:360:A:N3	47:AA:362:C:C6	2.81	0.48
47:AA:489:A:C8	47:AA:489:A:H5''	2.49	0.48
47:AA:534:G:H1	47:AA:549:C:H42	1.60	0.48
47:AA:554:A:H1'	47:AA:555:A:C2	2.48	0.48
47:AA:555:A:O5'	47:AA:556:U:H5''	2.13	0.48
47:AA:72:C:H1'	47:AA:73:C:H2'	1.95	0.48
47:AA:805:U:H2'	47:AA:806:U:H6	1.79	0.48
47:AA:871:U:O2'	47:AA:872:A:H5'	2.14	0.48
47:AA:885:U:O2	47:AA:902:G:C2	2.67	0.48
47:AA:944:A:H2'	47:AA:945:U:O4'	2.14	0.48
49:AD:32:LEU:HG	49:AD:34:THR:H	1.79	0.48
53:AJ:142:LYS:HG2	53:AJ:143:CYS:N	2.28	0.48
56:AN:104:ARG:NH2	56:AN:105:ASN:HD21	2.12	0.48
57:AP:13:SER:O	57:AP:16:ASN:HB3	2.14	0.48
59:AR:68:ILE:HD13	59:AR:110:THR:O	2.13	0.48
5:F:266:THR:HG23	5:F:269:LYS:H	1.78	0.48
6:G:65:ALA:HB2	6:G:74:ILE:HD13	1.95	0.48
9:L:105:LEU:HD23	9:L:138:LEU:HD23	1.96	0.48
12:P:70:PRO:HG2	47:AA:1724:A:C5'	2.44	0.48
70:A0:112:GLU:HG2	70:A0:113:ARG:N	2.28	0.47
37:A:139:G:H2'	37:A:140:G:H8	1.78	0.47
37:A:1565:A:C5	37:A:1566:C:H1'	2.50	0.47
37:A:2003:G:H1'	37:A:2004:U:H5	1.79	0.47
37:A:450:G:H22	37:A:1294:A:H1'	1.78	0.47
37:A:962:C:H42	37:A:2255:C:H41	1.61	0.47
37:A:974:C:O2'	37:A:975:C:OP1	2.27	0.47
47:AA:1008:A:C6	47:AA:1009:A:N7	2.82	0.47
47:AA:1016:U:H2'	47:AA:1016:U:O2	2.14	0.47
47:AA:1197:G:N2	47:AA:1198:G:C4	2.82	0.47
47:AA:1284:A:O3'	47:AA:1285:G:H2'	2.14	0.47
47:AA:1393:G:N2	47:AA:1478:U:OP1	2.47	0.47
47:AA:147:A:C5	47:AA:148:U:C4	3.02	0.47
47:AA:1534:C:C2	47:AA:1599:U:C4	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1602:U:HO2'	47:AA:1603:G:P	2.36	0.47
47:AA:1546:G:O2'	47:AA:1670:C:O3'	2.30	0.47
47:AA:1834:A:N3	47:AA:1836:G:C5	2.82	0.47
47:AA:361:U:N3	47:AA:1175:G:C4	2.80	0.47
47:AA:360:A:C2	47:AA:362:C:H2'	2.49	0.47
47:AA:383:G:C6	47:AA:384:U:N3	2.82	0.47
47:AA:453:C:C4	47:AA:454:U:C5	3.01	0.47
47:AA:504:G:H2'	47:AA:505:G:O4'	2.14	0.47
47:AA:581:U:C5	47:AA:582:C:C4	3.02	0.47
47:AA:822:U:N3	47:AA:825:A:N7	2.62	0.47
47:AA:859:G:C5	47:AA:860:G:N7	2.82	0.47
47:AA:928:G:H2'	47:AA:929:G:C8	2.49	0.47
47:AA:932:G:H2'	47:AA:934:G:OP1	2.14	0.47
77:AG:53:ILE:HG13	77:AG:54:LYS:H	1.78	0.47
54:AK:48:TYR:OH	54:AK:120:ASP:HA	2.14	0.47
55:AL:107:GLU:HG2	55:AL:108:ARG:N	2.28	0.47
55:AL:123:ILE:HG23	55:AL:124:HIS:H	1.79	0.47
80:AO:151:LEU:HD12	80:AO:151:LEU:O	2.14	0.47
57:AP:27:ILE:HG13	57:AP:27:ILE:O	2.14	0.47
58:AQ:41:ARG:NH2	58:AQ:55:ILE:O	2.46	0.47
81:AU:72:VAL:HB	81:AU:121:ARG:NE	2.28	0.47
47:AA:1421:A:C5'	81:AU:2:PRO:HB2	2.43	0.47
1:B:24:C:H2'	1:B:25:G:O4'	2.14	0.47
4:E:215:GLU:O	4:E:284:ILE:HG22	2.14	0.47
42:M:164:LYS:N	42:M:165:PRO:CD	2.77	0.47
18:X:77:ILE:HG23	18:X:78:ARG:H	1.78	0.47
37:A:3689:G:O2'	37:A:3818:U:OP2	2.32	0.47
37:A:2503:G:O4'	37:A:4084:G:N2	2.47	0.47
47:AA:1421:A:N7	47:AA:1422:G:C4	2.82	0.47
47:AA:1422:G:H2'	47:AA:1423:C:H6	1.78	0.47
47:AA:1490:G:H2'	47:AA:1491:G:H8	1.79	0.47
47:AA:1540:G:H2'	47:AA:1541:G:C8	2.49	0.47
47:AA:1563:G:N1	47:AA:1573:G:N3	2.62	0.47
47:AA:1601:A:H5''	47:AA:1602:U:C5	2.49	0.47
47:AA:25:A:OP1	47:AA:415:A:H4'	2.14	0.47
47:AA:436:G:C5	47:AA:458:A:N6	2.82	0.47
47:AA:594:A:N3	47:AA:595:U:C2	2.81	0.47
47:AA:794:A:C5	47:AA:795:A:H1'	2.49	0.47
47:AA:110:U:P	47:AA:855:G:H21	2.36	0.47
47:AA:872:A:N1	47:AA:915:G:C5	2.82	0.47
76:AB:54:VAL:O	76:AB:88:LEU:N	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:AD:100:VAL:HG12	49:AD:125:VAL:HG23	1.96	0.47
78:AI:246:TYR:HB3	78:AI:261:LEU:HD12	1.96	0.47
54:AK:48:TYR:CE2	54:AK:117:GLY:HA3	2.49	0.47
79:AM:125:GLU:O	79:AM:129:LYS:HB2	2.14	0.47
79:AM:40:LYS:NZ	79:AM:43:ASP:OD2	2.39	0.47
56:AN:34:LYS:HB3	56:AN:38:TYR:CE2	2.50	0.47
57:AP:93:LEU:HD23	57:AP:102:ILE:HG12	1.95	0.47
3:D:58:LEU:HB3	3:D:75:LEU:HD11	1.95	0.47
38:H:277:LEU:HA	38:H:281:ILE:HD11	1.96	0.47
11:O:100:LEU:HD21	11:O:112:LEU:HD22	1.95	0.47
15:T:73:LYS:HG2	15:T:74:VAL:H	1.80	0.47
20:Z:8:LYS:HB3	20:Z:100:ARG:NH1	2.28	0.47
37:A:1072:C:H4'	37:A:1073:G:OP1	2.14	0.47
37:A:2504:C:H2'	37:A:2505:C:H5''	1.96	0.47
37:A:4093:G:H3'	37:A:4094:G:C8	2.48	0.47
37:A:647:G:H2'	37:A:648:G:O4'	2.15	0.47
47:AA:1096:G:H2'	47:AA:1097:G:C8	2.50	0.47
47:AA:1332:A:C6	47:AA:1333:U:H1'	2.49	0.47
47:AA:1357:A:O5'	47:AA:1357:A:H8	1.97	0.47
47:AA:1491:G:C5	47:AA:1492:U:C4	3.02	0.47
47:AA:1405:A:H1'	47:AA:1580:A:N7	2.28	0.47
47:AA:1748:G:C2	47:AA:1787:G:C4	3.02	0.47
47:AA:559:G:O2'	47:AA:560:A:H8	1.97	0.47
47:AA:62:G:O5'	47:AA:62:G:H8	1.97	0.47
47:AA:652:U:O2	47:AA:653:A:C8	2.68	0.47
47:AA:698:G:C8	47:AA:733:C:C2	3.03	0.47
47:AA:736:C:H2'	47:AA:736:C:O2	2.14	0.47
47:AA:878:G:C2	47:AA:909:G:N2	2.83	0.47
9:L:173:ARG:CD	47:AA:910:G:OP2	2.61	0.47
47:AA:951:C:C4	47:AA:952:G:N7	2.82	0.47
47:AA:963:A:C6	47:AA:964:A:C5	3.02	0.47
48:AC:78:ILE:HG22	48:AC:79:VAL:HG23	1.96	0.47
52:AH:135:HIS:CE1	52:AH:137:ASP:H	2.32	0.47
78:AI:42:MET:HE3	78:AI:92:LEU:HG	1.96	0.47
56:AN:96:VAL:HG21	56:AN:147:SER:HB2	1.95	0.47
53:AJ:170:TRP:CE2	57:AP:97:ARG:NH1	2.82	0.47
5:F:156:ASP:OD1	5:F:255:SER:N	2.47	0.47
6:G:198:HIS:CE1	6:G:203:ASN:HD21	2.31	0.47
47:AA:1609:C:H5''	70:A0:131:VAL:HG23	1.96	0.47
10:N:128:LEU:HD22	37:A:1835:G:H21	1.79	0.47
37:A:2738:C:O2	37:A:2742:G:N2	2.38	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:2811:G:N1	37:A:2814:C:OP2	2.45	0.47
37:A:3950:U:H2'	37:A:3951:G:H8	1.79	0.47
47:AA:1016:U:OP1	61:AV:30:SER:OG	2.25	0.47
47:AA:1065:G:C2	47:AA:1066:U:C4	3.02	0.47
47:AA:1215:C:H5''	47:AA:1218:C:H41	1.78	0.47
47:AA:1265:A:H4'	47:AA:1266:C:OP1	2.12	0.47
47:AA:1512:C:C2	47:AA:1513:C:C5	3.03	0.47
47:AA:1227:G:C6	47:AA:1638:G:C2	3.03	0.47
47:AA:199:C:H3'	47:AA:200:G:H8	1.79	0.47
47:AA:495:U:O2	47:AA:496:C:C2	2.68	0.47
47:AA:541:U:H5''	47:AA:542:U:H5'	1.95	0.47
47:AA:948:C:N4	47:AA:978:G:H1	2.12	0.47
48:AC:7:GLU:HG3	48:AC:9:VAL:CG2	2.43	0.47
51:AF:50:VAL:HG12	51:AF:51:ARG:O	2.14	0.47
78:AI:147:HIS:NE2	78:AI:169:GLY:HA3	2.28	0.47
55:AL:121:LYS:HG3	55:AL:122:SER:N	2.28	0.47
58:AQ:25:ILE:HD11	58:AQ:44:LEU:HD21	1.96	0.47
60:AT:28:LYS:O	60:AT:33:LYS:HG2	2.15	0.47
81:AU:18:LEU:HA	81:AU:21:PHE:HB3	1.96	0.47
38:H:164:PHE:CE1	38:H:173:LEU:HD22	2.49	0.47
10:N:89:ILE:HG22	10:N:91:VAL:HG23	1.97	0.47
11:O:91:LEU:O	11:O:96:LEU:N	2.48	0.47
37:A:160:G:H2'	37:A:161:G:C8	2.50	0.47
37:A:971:U:N3	38:H:126:LEU:HG	2.30	0.47
47:AA:1102:G:H2'	47:AA:1103:C:C5	2.49	0.47
47:AA:1108:G:N2	47:AA:1125:C:C4	2.83	0.47
47:AA:1168:G:N2	47:AA:1192:U:O2	2.47	0.47
47:AA:1264:C:H42	47:AA:1518:C:N4	2.11	0.47
47:AA:1452:A:C6	47:AA:1474:A:C4	3.03	0.47
47:AA:1479:G:H8	47:AA:1479:G:O5'	1.97	0.47
47:AA:1578:U:H5''	47:AA:1579:A:N3	2.29	0.47
47:AA:1656:G:H2'	47:AA:1657:G:H8	1.76	0.47
47:AA:1737:G:O5'	47:AA:1737:G:H8	1.98	0.47
47:AA:1745:A:N6	47:AA:1789:G:O2'	2.42	0.47
47:AA:127:C:O2'	47:AA:184:G:C4	2.64	0.47
47:AA:185:G:N2	47:AA:214:U:C2	2.83	0.47
47:AA:213:G:H2'	47:AA:214:U:H5'	1.96	0.47
47:AA:295:C:C4	47:AA:296:U:C4	3.03	0.47
47:AA:301:A:C6	47:AA:302:A:C5	3.02	0.47
47:AA:816:A:C5	47:AA:817:G:C5	3.03	0.47
47:AA:841:G:H5'	58:AQ:12:PHE:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:AE:64:LEU:N	50:AE:64:LEU:HD12	2.29	0.47
78:AI:207:CYS:HB2	78:AI:221:LEU:HB2	1.96	0.47
78:AI:266:ILE:HD11	78:AI:269:GLU:HG3	1.96	0.47
78:AI:45:LEU:HG	78:AI:52:TYR:CG	2.48	0.47
56:AN:103:GLU:O	56:AN:106:ARG:NH1	2.47	0.47
80:AO:17:LEU:HD23	80:AO:18:GLY:N	2.29	0.47
57:AP:36:ARG:HH21	57:AP:109:GLY:CA	2.23	0.47
81:AU:22:LEU:HD23	81:AU:54:TYR:CD1	2.38	0.47
61:AV:19:HIS:CG	61:AV:20:LYS:H	2.32	0.47
3:D:120:PRO:HA	3:D:162:ASN:HB3	1.96	0.47
3:D:142:GLU:HG2	3:D:143:THR:HG23	1.97	0.47
38:H:91:THR:HG22	38:H:92:VAL:N	2.29	0.47
7:I:77:SER:HB3	7:I:106:ASP:HB2	1.97	0.47
40:K:92:VAL:O	40:K:112:ARG:NH2	2.47	0.47
46:W:50:ASN:ND2	46:W:76:GLY:O	2.35	0.47
37:A:1214:C:H5'	37:A:1215:C:H4'	1.95	0.47
37:A:1699:A:N7	37:A:2118:G:N2	2.63	0.47
47:AA:1122:A:C6	47:AA:1123:C:C6	3.03	0.47
47:AA:1098:C:N4	47:AA:1134:G:H1	2.11	0.47
47:AA:18:C:H5'	47:AA:1194:A:H61	1.79	0.47
47:AA:151:C:C4	47:AA:152:U:C4	3.03	0.47
47:AA:1545:A:C5	47:AA:1588:A:C5	3.02	0.47
47:AA:1614:A:N6	47:AA:1625:U:C4	2.80	0.47
47:AA:1636:G:N2	47:AA:1636:G:OP1	2.48	0.47
47:AA:1639:G:N7	47:AA:1640:A:C6	2.83	0.47
47:AA:173:A:C6	47:AA:174:C:N3	2.83	0.47
47:AA:1818:A:H2'	47:AA:1819:A:C5'	2.41	0.47
47:AA:364:A:O2'	47:AA:401:A:N6	2.47	0.47
47:AA:587:A:O2'	47:AA:588:G:OP2	2.32	0.47
48:AC:36:VAL:HG12	48:AC:37:ALA:H	1.80	0.47
49:AD:15:SER:O	49:AD:18:ARG:HG2	2.14	0.47
47:AA:991:G:C6	50:AE:95:ARG:NE	2.83	0.47
47:AA:67:C:OP2	54:AK:170:ARG:NH1	2.46	0.47
55:AL:35:TYR:CD1	55:AL:112:THR:HG21	2.45	0.47
57:AP:15:ASN:HD21	57:AP:72:CYS:C	2.17	0.47
57:AP:22:LYS:C	57:AP:65:LEU:HD21	2.35	0.47
2:C:128:C:H2'	2:C:129:C:H5'	1.97	0.47
4:E:285:TYR:HD1	4:E:365:LEU:HD21	1.79	0.47
16:U:19:HIS:CD2	16:U:25:HIS:HD2	2.32	0.47
70:A0:124:ARG:HD2	70:A0:133:GLY:H	1.80	0.47
37:A:2709:C:H3'	37:A:2710:C:H4'	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:3663:A:H61	37:A:4168:G:HO2'	1.60	0.47
47:AA:1062:A:C5	47:AA:1063:C:C4	3.03	0.47
47:AA:1284:A:C4'	47:AA:1285:G:H2'	2.45	0.47
47:AA:1372:U:N3	47:AA:1373:C:C4	2.83	0.47
47:AA:1467:C:C2	47:AA:1468:C:C5	3.03	0.47
47:AA:1508:A:H8	47:AA:1508:A:OP2	1.98	0.47
47:AA:1686:G:N2	47:AA:1687:C:C2	2.82	0.47
47:AA:6:G:H22	47:AA:19:A:H1'	1.80	0.47
47:AA:309:G:C4	47:AA:310:C:N3	2.83	0.47
47:AA:405:G:H2'	47:AA:406:U:C6	2.50	0.47
47:AA:835:C:C4	58:AQ:8:ARG:HB3	2.49	0.47
47:AA:843:C:H2'	47:AA:844:U:O4'	2.14	0.47
47:AA:909:G:C6	47:AA:910:G:C5	3.02	0.47
47:AA:98:C:C2	47:AA:433:A:H2	2.32	0.47
78:AI:241:PHE:CZ	78:AI:248:LEU:HD13	2.49	0.47
78:AI:35:SER:OG	78:AI:36:ARG:N	2.47	0.47
54:AK:69:THR:O	54:AK:99:GLY:HA3	2.15	0.47
55:AL:50:LEU:HD13	55:AL:102:ILE:HD13	1.97	0.47
47:AA:1598:G:H3'	59:AR:80:ARG:HD2	1.95	0.47
5:F:263:LEU:HA	5:F:273:LEU:HD22	1.95	0.47
10:N:88:ARG:O	37:A:4299:U:O2'	2.32	0.47
70:A0:77:TYR:HB2	70:A0:79:ILE:HG13	1.95	0.47
37:A:1433:A:C5	37:A:1434:G:H1'	2.50	0.47
37:A:1455:G:O2'	37:A:1456:C:OP1	2.30	0.47
37:A:4499:G:H1'	37:A:4528:G:H21	1.80	0.47
37:A:5022:U:O2	37:A:5023:C:N4	2.43	0.47
47:AA:1089:G:C2	47:AA:1161:U:O2	2.66	0.47
47:AA:1176:G:C5	47:AA:1177:U:C5	3.03	0.47
47:AA:1250:A:P	47:AA:1339:U:H4'	2.55	0.47
47:AA:1406:G:H2'	47:AA:1407:U:O4'	2.15	0.47
47:AA:1538:C:C5	47:AA:1539:U:C2	3.02	0.47
47:AA:1576:G:H2'	47:AA:1577:G:O4'	2.15	0.47
47:AA:1587:G:H1	81:AU:70:ALA:CB	2.28	0.47
47:AA:1656:G:H2'	47:AA:1657:G:O4'	2.15	0.47
47:AA:128:U:OP2	47:AA:184:G:N2	2.47	0.47
47:AA:613:G:C6	47:AA:627:U:H1'	2.50	0.47
47:AA:664:A:N6	47:AA:665:G:C6	2.83	0.47
47:AA:878:G:C6	47:AA:908:A:N6	2.77	0.47
47:AA:975:G:C2	47:AA:976:G:C5	3.03	0.47
47:AA:1401:A:O2'	76:AB:53:PRO:HD2	2.15	0.47
50:AE:82:LYS:HB3	50:AE:85:ARG:NH2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:AF:44:ARG:CZ	51:AF:63:ARG:HB2	2.45	0.47
77:AG:39:CYS:HB3	77:AG:42:CYS:HB2	1.97	0.47
53:AJ:135:GLY:O	53:AJ:165:VAL:HG13	2.15	0.47
55:AL:137:VAL:HG22	55:AL:157:ILE:HG22	1.96	0.47
55:AL:50:LEU:O	55:AL:53:ILE:N	2.47	0.47
79:AM:52:GLN:HG3	79:AM:65:VAL:HG22	1.97	0.47
58:AQ:129:LYS:HG2	58:AQ:132:LYS:NZ	2.29	0.47
47:AA:526:A:H5''	60:AT:35:ARG:NH1	2.29	0.47
81:AU:66:LEU:O	81:AU:68:GLY:N	2.47	0.47
56:AN:52:VAL:HG21	61:AV:51:GLN:NE2	2.29	0.47
2:C:80:A:H2'	2:C:81:C:O4'	2.15	0.47
2:C:83:C:O2	2:C:87:G:N2	2.48	0.47
46:W:20:LEU:HB3	46:W:101:ASP:OD2	2.15	0.47
37:A:1358:G:O2'	37:A:1359:G:N2	2.41	0.47
47:AA:1206:G:O6	47:AA:1692:U:N3	2.48	0.47
47:AA:147:A:C2	47:AA:148:U:C2	3.03	0.47
47:AA:1507:G:O2'	47:AA:1508:A:H5'	2.15	0.47
47:AA:1565:C:C2	47:AA:1571:G:N2	2.82	0.47
47:AA:185:G:N2	47:AA:186:C:N3	2.63	0.47
47:AA:191:A:H1'	47:AA:209:A:C2	2.50	0.47
47:AA:292:A:HO2'	47:AA:293:C:P	2.37	0.47
47:AA:512:A:H8	47:AA:512:A:OP2	1.98	0.47
51:AF:18:LEU:HD22	51:AF:43:ILE:HD11	1.97	0.47
78:AI:168:CYS:SG	78:AI:169:GLY:N	2.87	0.47
78:AI:196:ASN:ND2	78:AI:235:ILE:HG13	2.30	0.47
78:AI:59:LEU:HG	78:AI:90:TRP:CZ3	2.49	0.47
78:AI:75:GLY:CA	78:AI:92:LEU:HD13	2.45	0.47
53:AJ:74:LYS:HB3	53:AJ:269:PHE:CZ	2.50	0.47
57:AP:14:ILE:O	57:AP:17:ALA:N	2.47	0.47
4:E:155:LYS:HD2	4:E:156:TYR:CE2	2.50	0.47
4:E:29:VAL:HG13	4:E:348:ARG:HD3	1.96	0.47
5:F:195:LYS:HE2	37:A:2333:G:H5''	1.96	0.47
6:G:59:ASP:OD1	6:G:60:ILE:N	2.48	0.47
38:H:110:ARG:O	38:H:111:LYS:HD2	2.15	0.47
42:M:147:ASP:CG	42:M:148:SER:H	2.17	0.47
12:P:61:VAL:O	12:P:79:ALA:N	2.48	0.47
70:A0:124:ARG:HG2	70:A0:129:LEU:O	2.14	0.47
37:A:1358:G:O2'	37:A:1359:G:H5''	2.15	0.47
37:A:1979:A:C2	37:A:1983:A:H5''	2.50	0.47
37:A:2005:G:N2	37:A:2015:U:H1'	2.30	0.47
20:Z:78:HIS:CE1	37:A:2067:C:H5''	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:2907:G:H1'	37:A:3589:G:H22	1.80	0.47
47:AA:1121:G:H2'	47:AA:1122:A:O4'	2.14	0.47
47:AA:1260:A:C4	47:AA:1620:A:C8	3.02	0.47
47:AA:1377:U:O2'	47:AA:1379:A:OP1	2.32	0.47
47:AA:1421:A:H3'	47:AA:1422:G:C5'	2.45	0.47
47:AA:1432:U:H2'	47:AA:1433:C:O2	2.14	0.47
47:AA:1402:A:N6	47:AA:1441:U:C2	2.80	0.47
47:AA:1332:A:N6	47:AA:1493:C:C2	2.82	0.47
47:AA:187:G:C2	47:AA:188:C:N3	2.83	0.47
47:AA:437:G:C6	47:AA:438:G:N7	2.83	0.47
47:AA:635:G:H2'	47:AA:636:C:C6	2.49	0.47
47:AA:868:G:HO2'	47:AA:869:A:P	2.33	0.47
47:AA:879:C:C2	47:AA:880:G:C2	3.02	0.47
47:AA:943:U:C5	47:AA:944:A:C5	3.03	0.47
78:AI:86:THR:HG22	78:AI:102:VAL:HG12	1.97	0.47
78:AI:48:ASP:HB2	78:AI:51:ASN:O	2.15	0.47
53:AJ:134:ASN:C	53:AJ:167:ARG:HH22	2.17	0.47
53:AJ:165:VAL:HG11	53:AJ:217:ALA:HB1	1.96	0.47
47:AA:821:G:H1	55:AL:150:ARG:HB2	1.79	0.47
47:AA:837:A:C5	58:AQ:9:THR:OG1	2.67	0.47
4:E:294:LYS:NZ	4:E:295:ASP:OD1	2.31	0.47
6:G:40:ASP:HB3	6:G:43:LYS:HG2	1.96	0.47
7:I:194:GLU:O	7:I:198:THR:HG23	2.15	0.47
7:I:30:GLY:HA2	7:I:101:ARG:NE	2.30	0.47
40:K:124:ASP:OD1	40:K:125:GLN:N	2.48	0.47
14:S:8:THR:HG23	14:S:13:LYS:HD2	1.97	0.47
70:A0:20:ILE:HG12	70:A0:32:ALA:HB3	1.97	0.47
37:A:188:G:N2	37:A:190:G:OP2	2.45	0.47
37:A:2713:C:H2'	37:A:2714:G:O4'	2.15	0.47
37:A:106:A:H1'	37:A:336:A:C8	2.49	0.47
37:A:5004:C:H2'	37:A:5005:G:O4'	2.15	0.47
47:AA:1033:G:N2	47:AA:1081:U:C5	2.82	0.47
47:AA:1306:U:H3'	47:AA:1307:U:C5'	2.45	0.47
47:AA:1311:C:H2'	47:AA:1312:G:C8	2.50	0.47
47:AA:1318:G:C2	47:AA:1319:U:N3	2.83	0.47
47:AA:1337:C:H3'	47:AA:1338:G:C8	2.50	0.47
47:AA:1385:G:C2	47:AA:1386:A:H1'	2.49	0.47
47:AA:1421:A:H3'	47:AA:1422:G:H5''	1.96	0.47
47:AA:1598:G:H3'	59:AR:80:ARG:CD	2.45	0.47
47:AA:1656:G:C6	47:AA:1669:G:C6	3.03	0.47
47:AA:1743:G:C6	47:AA:1744:G:C2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:70:G:OP2	47:AA:70:G:H8	1.98	0.47
47:AA:880:G:C6	47:AA:881:G:C2	3.03	0.47
53:AJ:72:ASP:OD1	53:AJ:280:VAL:HA	2.14	0.47
47:AA:67:C:C5	54:AK:170:ARG:HD2	2.50	0.47
50:AE:46:GLU:N	80:AO:113:GLN:HE21	2.13	0.47
57:AP:102:ILE:HB	57:AP:113:HIS:HD2	1.79	0.47
57:AP:81:VAL:HG11	57:AP:86:LEU:HD13	1.97	0.47
81:AU:18:LEU:O	81:AU:21:PHE:HB3	2.15	0.47
47:AA:1106:C:OP1	61:AV:69:GLY:HA3	2.15	0.47
1:B:23:A:HO2'	1:B:24:C:H6	1.62	0.47
2:C:84:A:OP2	2:C:85:U:H1'	2.15	0.47
38:H:223:ARG:NH2	38:H:234:ASP:OD2	2.48	0.47
7:I:47:PHE:HZ	7:I:144:GLU:HG3	1.80	0.47
9:L:101:ILE:O	9:L:104:ARG:HG2	2.15	0.47
10:N:68:THR:HG22	10:N:69:GLN:N	2.27	0.47
37:A:1248:C:H2'	37:A:1249:C:C6	2.50	0.46
37:A:2005:G:H5''	37:A:2007:G:H1	1.80	0.46
37:A:3974:G:N2	37:A:4051:C:H5''	2.30	0.46
37:A:4233:A:HO2'	37:A:4234:A:H2'	1.79	0.46
5:F:336:ARG:NH2	37:A:948:C:OP1	2.47	0.46
47:AA:1231:C:H5''	47:AA:1232:U:OP2	2.14	0.46
47:AA:1372:U:P	47:AA:1385:G:H1	2.37	0.46
47:AA:1222:G:C6	47:AA:1645:C:N3	2.83	0.46
47:AA:1721:U:C3'	47:AA:1722:G:H5''	2.45	0.46
47:AA:206:G:C2	47:AA:207:G:C5	3.03	0.46
47:AA:211:G:C6	47:AA:212:C:C2	3.03	0.46
47:AA:221:A:C5	47:AA:222:U:C4	3.03	0.46
47:AA:378:U:C2	47:AA:379:C:N3	2.84	0.46
47:AA:801:U:O4	47:AA:802:A:N6	2.48	0.46
47:AA:865:A:H5'	47:AA:866:U:OP2	2.15	0.46
76:AB:21:ARG:O	76:AB:115:THR:OG1	2.23	0.46
76:AB:50:VAL:HG22	76:AB:89:ILE:HG22	1.91	0.46
48:AC:12:TYR:HD1	48:AC:13:VAL:C	2.18	0.46
48:AC:17:CYS:SG	48:AC:55:ILE:HA	2.55	0.46
53:AJ:222:CYS:HG	53:AJ:223:TYR:H	1.59	0.46
55:AL:136:ARG:HA	55:AL:141:VAL:HA	1.97	0.46
55:AL:46:VAL:O	55:AL:49:THR:HB	2.15	0.46
58:AQ:58:PHE:CE1	58:AQ:72:PHE:HD2	2.34	0.46
59:AR:98:LYS:HB2	59:AR:110:THR:OG1	2.15	0.46
61:AV:36:LYS:HE3	61:AV:80:ARG:HG3	1.97	0.46
1:B:75:G:N2	1:B:100:A:OP2	2.37	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:113:VAL:HG12	3:D:166:VAL:HA	1.96	0.46
4:E:371:THR:OG1	4:E:377:GLY:O	2.33	0.46
7:I:9:LEU:O	7:I:36:VAL:HG12	2.15	0.46
9:L:98:ARG:O	9:L:102:LEU:HG	2.15	0.46
37:A:2060:G:N2	42:M:115:ALA:HB2	2.31	0.46
15:T:12:LEU:HD23	15:T:22:LYS:HG2	1.96	0.46
37:A:1404:G:N7	37:A:1408:G:N2	2.63	0.46
37:A:2899:C:H2'	37:A:2900:U:C6	2.50	0.46
37:A:5013:C:N3	37:A:5027:C:O2'	2.46	0.46
37:A:736:C:H42	37:A:927:G:N2	2.08	0.46
47:AA:1082:A:C8	47:AA:1084:A:C8	3.03	0.46
47:AA:1183:A:C2	47:AA:1184:G:C4	3.03	0.46
47:AA:122:G:C6	47:AA:343:A:N1	2.84	0.46
47:AA:1390:U:N3	47:AA:1391:C:C4	2.83	0.46
47:AA:1601:A:H1'	47:AA:1604:G:O6	2.14	0.46
47:AA:192:C:O5'	47:AA:192:C:H6	1.98	0.46
47:AA:23:G:N1	47:AA:652:U:N3	2.63	0.46
47:AA:309:G:N3	47:AA:310:C:C2	2.83	0.46
47:AA:400:C:HO2'	47:AA:401:A:P	2.38	0.46
47:AA:443:U:C4	47:AA:444:G:C5	3.03	0.46
47:AA:574:A:O2'	47:AA:575:A:H8	1.99	0.46
47:AA:585:C:H5'	47:AA:586:G:OP2	2.16	0.46
47:AA:627:U:H5'	47:AA:628:A:N6	2.28	0.46
47:AA:666:U:H2'	47:AA:667:U:H6	1.81	0.46
48:AC:59:ILE:HG23	48:AC:64:GLU:O	2.14	0.46
51:AF:31:ARG:HH11	51:AF:41:SER:HB2	1.81	0.46
78:AI:172:LYS:HD3	78:AI:191:HIS:O	2.15	0.46
53:AJ:105:GLU:HG2	53:AJ:129:ALA:HB3	1.97	0.46
53:AJ:183:LYS:HA	53:AJ:195:LEU:O	2.15	0.46
53:AJ:188:CYS:HB3	53:AJ:239:ALA:HB2	1.97	0.46
53:AJ:274:VAL:HG13	53:AJ:276:THR:HG23	1.97	0.46
56:AN:98:VAL:O	56:AN:101:HIS:N	2.48	0.46
57:AP:94:LEU:HD22	57:AP:100:GLY:HA3	1.97	0.46
58:AQ:125:VAL:O	58:AQ:129:LYS:HG3	2.15	0.46
81:AU:19:ALA:HB2	81:AU:55:THR:HA	1.97	0.46
81:AU:30:VAL:HG12	81:AU:53:PHE:CE1	2.50	0.46
5:F:24:LEU:HD23	5:F:25:PRO:O	2.15	0.46
40:K:21:GLN:HA	40:K:26:ARG:HH22	1.80	0.46
37:A:1271:G:H2'	37:A:1271:G:N3	2.30	0.46
37:A:978:G:H1	37:A:1276:C:H42	1.63	0.46
47:AA:1236:G:N7	47:AA:1237:C:C4	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1348:G:H22	47:AA:1381:G:H1	1.63	0.46
47:AA:1348:G:N2	47:AA:1381:G:H1	2.13	0.46
47:AA:147:A:C4	47:AA:148:U:C5	3.03	0.46
47:AA:149:A:N1	47:AA:170:A:C6	2.83	0.46
47:AA:150:A:O5'	47:AA:151:C:H5	1.99	0.46
47:AA:164:A:C4	47:AA:165:G:N7	2.84	0.46
47:AA:836:G:C8	47:AA:837:A:H4'	2.51	0.46
76:AB:23:THR:O	76:AB:113:GLU:HB2	2.14	0.46
76:AB:49:LYS:CB	76:AB:49:LYS:NZ	2.77	0.46
47:AA:1398:G:C4	78:AI:64:HIS:HE1	2.33	0.46
53:AJ:156:ILE:O	53:AJ:160:LEU:HD13	2.16	0.46
55:AL:111:GLN:OE1	55:AL:127:ARG:HG3	2.15	0.46
55:AL:58:ARG:O	55:AL:62:THR:HG23	2.16	0.46
56:AN:125:LEU:O	56:AN:127:ARG:N	2.48	0.46
47:AA:953:C:O2	80:AO:55:ARG:NH2	2.49	0.46
57:AP:37:PHE:CG	57:AP:37:PHE:O	2.69	0.46
81:AU:2:PRO:HB3	81:AU:133:ARG:NH1	2.29	0.46
61:AV:64:CYS:HB3	61:AV:71:ALA:HB1	1.96	0.46
12:P:90:ARG:HG3	37:A:1783:C:O2'	97.28	0.46
59:AR:83:LEU:HD22	70:A0:54:LYS:HZ1	1.81	0.46
37:A:1244:G:H5''	37:A:1269:G:N7	2.30	0.46
37:A:163:A:H2'	37:A:164:G:O4'	2.16	0.46
37:A:695:G:H5'	37:A:696:C:C5	2.51	0.46
47:AA:1073:U:H6	47:AA:1073:U:O5'	1.99	0.46
47:AA:1033:G:H21	47:AA:1081:U:H5	1.63	0.46
47:AA:1118:C:C4	47:AA:1119:A:C6	3.03	0.46
47:AA:1178:U:H3	47:AA:1183:A:H61	1.64	0.46
47:AA:1245:G:C6	47:AA:1255:G:N1	2.84	0.46
47:AA:1233:G:C4	47:AA:1526:G:N2	2.84	0.46
47:AA:1601:A:N6	47:AA:1636:G:C6	2.84	0.46
47:AA:1654:G:C2	47:AA:1671:G:N1	2.83	0.46
47:AA:1707:U:C4	47:AA:1708:C:C4	3.04	0.46
47:AA:1831:A:H1'	47:AA:1852:C:OP1	2.15	0.46
47:AA:211:G:C2	47:AA:212:C:H1'	2.51	0.46
47:AA:431:G:C6	47:AA:432:G:C5	3.03	0.46
47:AA:615:C:H2'	47:AA:615:C:O2	2.14	0.46
47:AA:677:G:H2'	47:AA:678:U:C5	2.49	0.46
47:AA:678:U:N3	47:AA:679:A:N7	2.63	0.46
47:AA:836:G:H8	47:AA:837:A:H4'	1.81	0.46
49:AD:110:HIS:CG	49:AD:111:ALA:N	2.83	0.46
78:AI:236:ILE:HD13	78:AI:250:ALA:HB1	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AI:270:LEU:HD11	78:AI:310:TRP:CZ2	2.50	0.46
55:AL:73:GLU:O	55:AL:76:ALA:N	2.49	0.46
79:AM:124:ILE:O	79:AM:127:TYR:N	2.33	0.46
81:AU:13:GLU:O	81:AU:17:ALA:N	2.44	0.46
81:AU:23:LYS:HA	81:AU:54:TYR:CG	2.51	0.46
47:AA:1128:C:O2'	61:AV:19:HIS:CD2	2.69	0.46
5:F:73:VAL:HB	5:F:78:ARG:NH1	2.30	0.46
16:U:51:GLY:N	40:K:178:ARG:O	2.47	0.46
47:AA:1603:G:H8	70:A0:24:ARG:NH1	2.14	0.46
37:A:3584:C:H2'	37:A:3585:G:H8	1.81	0.46
37:A:3757:G:C2	37:A:3768:U:C2	3.03	0.46
37:A:4112:C:H2'	37:A:4113:U:O4'	2.15	0.46
37:A:4452:U:OP2	37:A:4522:G:N2	2.35	0.46
4:E:226:LYS:NZ	37:A:4668:U:OP2	2.49	0.46
37:A:4730:C:H4'	37:A:4731:G:OP1	2.13	0.46
37:A:681:G:H3'	37:A:682:G:H8	1.80	0.46
37:A:742:G:H2'	37:A:743:G:H8	1.79	0.46
47:AA:1175:G:H2'	47:AA:1176:G:C8	2.49	0.46
47:AA:1237:C:O5'	47:AA:1237:C:H6	1.98	0.46
47:AA:1505:U:H6	47:AA:1505:U:OP2	1.99	0.46
47:AA:1604:G:N7	47:AA:1605:G:C5	2.83	0.46
47:AA:176:U:H3'	47:AA:177:G:O4'	2.16	0.46
47:AA:18:C:O2'	49:AD:107:ARG:NH1	2.48	0.46
47:AA:454:U:N3	47:AA:455:A:C5	2.83	0.46
47:AA:646:G:C6	47:AA:647:U:C4	3.04	0.46
47:AA:66:G:O5'	47:AA:66:G:H8	1.98	0.46
47:AA:789:G:H3'	47:AA:790:C:H4'	1.98	0.46
47:AA:795:A:N6	47:AA:797:C:C2	2.83	0.46
47:AA:86:C:H2'	47:AA:87:U:O4'	2.15	0.46
47:AA:879:C:C2	47:AA:880:G:N1	2.83	0.46
47:AA:963:A:C5	47:AA:964:A:N7	2.84	0.46
54:AK:7:PHE:CD2	54:AK:10:THR:HG23	2.51	0.46
54:AK:7:PHE:CZ	54:AK:116:LYS:HG2	2.51	0.46
55:AL:121:LYS:HG2	55:AL:125:HIS:ND1	2.31	0.46
79:AM:17:ALA:O	79:AM:123:VAL:HG11	2.15	0.46
56:AN:93:LYS:O	56:AN:95:ALA:N	2.49	0.46
47:AA:686:U:OP1	57:AP:32:LYS:HG2	2.15	0.46
61:AV:34:ASP:HA	61:AV:45:THR:HA	1.98	0.46
3:D:30:ARG:NH2	3:D:33:ASP:OD2	2.49	0.46
3:D:62:VAL:HG13	3:D:73:THR:HG22	1.97	0.46
5:F:104:PRO:HG2	5:F:106:LYS:NZ	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:152:LEU:HD11	5:F:251:ILE:HG23	1.98	0.46
6:G:223:PHE:HB3	6:G:226:TYR:HB2	1.98	0.46
16:U:26:ARG:NH2	37:A:1656:U:OP2	2.49	0.46
37:A:1757:U:H5'	37:A:1758:G:OP1	2.16	0.46
37:A:2502:G:O2'	37:A:2503:G:H5''	2.15	0.46
37:A:4740:G:C6	37:A:4960:G:C6	3.03	0.46
47:AA:1273:C:N3	47:AA:1506:A:C4	2.83	0.46
47:AA:1291:A:H8	47:AA:1302:G:O2'	1.99	0.46
47:AA:130:G:H5'	47:AA:132:U:OP2	2.16	0.46
47:AA:1387:G:H3'	47:AA:1388:A:H8	1.81	0.46
47:AA:1583:C:C5'	47:AA:1584:G:H2'	2.45	0.46
47:AA:1536:G:H22	47:AA:1597:C:N4	2.14	0.46
47:AA:458:A:C6	47:AA:459:C:C2	3.04	0.46
47:AA:475:C:C2	47:AA:476:A:C8	3.04	0.46
47:AA:500:A:H3'	47:AA:501:C:H6	1.80	0.46
47:AA:55:U:O4	47:AA:91:A:O2'	2.19	0.46
47:AA:610:G:N2	47:AA:611:G:H1'	2.28	0.46
47:AA:690:G:C4	47:AA:691:G:H8	2.34	0.46
47:AA:845:G:C6	47:AA:846:G:C2	3.04	0.46
47:AA:929:G:N2	47:AA:1104:G:O3'	2.49	0.46
47:AA:929:G:C6	47:AA:930:C:C5	3.04	0.46
76:AB:55:ARG:HG2	76:AB:87:ARG:CD	2.45	0.46
53:AJ:165:VAL:O	53:AJ:248:TYR:OH	2.22	0.46
52:AH:106:TYR:CE1	79:AM:38:ALA:HB1	2.51	0.46
47:AA:916:A:C8	56:AN:69:ASN:ND2	2.81	0.46
80:AO:39:ASP:HA	80:AO:68:GLU:HG2	1.96	0.46
2:C:126:C:O4'	37:A:2544:G:H1'	2.15	0.46
4:E:302:ASN:HB2	4:E:313:SER:HA	1.97	0.46
8:J:133:HIS:HA	37:A:1600:A:H5'	1.98	0.46
40:K:61:LEU:O	40:K:86:ILE:HA	2.15	0.46
7:I:29:LEU:O	20:Z:10:ILE:HD11	2.16	0.46
37:A:2010:A:N3	37:A:2010:A:H2'	2.31	0.46
37:A:2900:U:H2'	37:A:2901:G:H8	1.80	0.46
37:A:740:G:C2'	37:A:741:C:H5'	2.46	0.46
47:AA:1035:A:H1'	47:AA:1857:G:H1'	1.98	0.46
47:AA:1044:G:H22	47:AA:1070:A:P	2.36	0.46
47:AA:107:A:H2'	47:AA:108:G:O4'	2.16	0.46
47:AA:664:A:C2	47:AA:1164:G:C5	3.03	0.46
47:AA:1233:G:C6	47:AA:1234:C:C4	3.04	0.46
47:AA:1235:G:H2'	47:AA:1236:G:C8	2.51	0.46
47:AA:1245:G:H8	47:AA:1245:G:OP2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1516:G:C5	47:AA:1517:G:C8	3.03	0.46
47:AA:1598:G:O2'	47:AA:1599:U:OP2	2.33	0.46
47:AA:1622:U:HO2'	47:AA:1623:A:P	2.38	0.46
47:AA:1694:U:HO2'	47:AA:1695:A:H2'	1.81	0.46
47:AA:1804:U:N3	47:AA:1805:G:C5	2.84	0.46
47:AA:216:C:N3	47:AA:217:A:C8	2.84	0.46
47:AA:405:G:C6	47:AA:406:U:C4	3.04	0.46
47:AA:40:A:N7	47:AA:486:A:N6	2.63	0.46
47:AA:538:U:C4	47:AA:539:C:H1'	2.51	0.46
47:AA:890:U:O4	47:AA:896:U:H1'	2.16	0.46
47:AA:948:C:H42	47:AA:978:G:H1	1.62	0.46
76:AB:49:LYS:HG3	76:AB:50:VAL:H	1.79	0.46
51:AF:32:VAL:O	51:AF:41:SER:HA	2.16	0.46
78:AI:8:ARG:NH1	78:AI:311:GLN:HB2	2.30	0.46
53:AJ:147:VAL:HG13	53:AJ:148:ALA:N	2.31	0.46
54:AK:58:LYS:HG3	54:AK:59:GLN:OE1	2.15	0.46
54:AK:64:LYS:CG	54:AK:65:GLN:H	2.22	0.46
56:AN:136:PRO:HB2	56:AN:138:ASN:O	2.16	0.46
57:AP:7:LEU:HD23	57:AP:74:VAL:HG21	1.98	0.46
58:AQ:103:SER:O	58:AQ:106:GLN:N	2.45	0.46
58:AQ:16:ARG:C	58:AQ:19:GLN:H	2.19	0.46
81:AU:72:VAL:CG2	81:AU:101:ARG:HA	2.46	0.46
5:F:252:TRP:HE3	5:F:257:PHE:HD1	1.63	0.46
18:X:72:VAL:HG23	18:X:73:TRP:CD1	2.51	0.46
37:A:1172:C:H1'	37:A:1189:G:H22	1.80	0.46
37:A:3710:G:H5''	37:A:3711:A:OP1	2.15	0.46
37:A:4492:U:O2'	37:A:4512:U:O2	2.25	0.46
37:A:501:C:H5''	37:A:504:G:H5''	1.98	0.46
37:A:646:G:H2'	37:A:647:G:O4'	2.15	0.46
47:AA:1030:A:C2	47:AA:1031:A:C8	3.04	0.46
47:AA:1261:C:H3'	47:AA:1262:C:C6	2.51	0.46
47:AA:1269:G:C5	47:AA:1270:G:C6	3.04	0.46
47:AA:1301:A:C6	47:AA:1303:C:C4	3.04	0.46
47:AA:1390:U:C4	47:AA:1391:C:C4	3.04	0.46
47:AA:1397:U:C4	47:AA:1442:U:O2'	2.69	0.46
47:AA:1398:G:O2'	78:AI:88:ARG:NH2	2.44	0.46
47:AA:1433:C:H2'	47:AA:1434:C:C5	2.50	0.46
47:AA:1455:A:C4	47:AA:1456:G:C8	3.03	0.46
47:AA:1477:U:H3'	47:AA:1478:U:C5'	2.46	0.46
47:AA:1520:G:C2	47:AA:1521:C:C5	3.04	0.46
47:AA:1405:A:H1'	47:AA:1580:A:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1714:U:H6	47:AA:1714:U:H5''	1.81	0.46
47:AA:123:G:H1	47:AA:341:C:H42	1.61	0.46
47:AA:458:A:C8	47:AA:459:C:C5	3.04	0.46
47:AA:490:C:C2	47:AA:491:C:C5	3.04	0.46
47:AA:559:G:O2'	47:AA:560:A:O4'	2.34	0.46
47:AA:67:C:C4	54:AK:170:ARG:HD2	2.51	0.46
47:AA:798:A:H62	47:AA:801:U:P	2.39	0.46
47:AA:36:U:H1'	47:AA:825:A:C2	2.51	0.46
47:AA:986:G:OP2	47:AA:988:C:N4	2.49	0.46
76:AB:49:LYS:HZ2	76:AB:49:LYS:HB2	1.81	0.46
51:AF:28:THR:N	51:AF:46:VAL:O	2.46	0.46
52:AH:123:SER:H	52:AH:127:GLY:HA3	1.80	0.46
78:AI:74:ASP:OD2	78:AI:76:GLN:HG2	2.15	0.46
53:AJ:213:LEU:HD21	53:AJ:241:PHE:HA	1.97	0.46
54:AK:118:GLU:OE1	54:AK:118:GLU:N	2.48	0.46
54:AK:220:ALA:HA	54:AK:223:LYS:NZ	2.26	0.46
47:AA:560:A:OP2	55:AL:173:VAL:HG12	2.16	0.46
57:AP:15:ASN:OD1	57:AP:71:LYS:HA	2.16	0.46
59:AR:72:VAL:HG12	59:AR:76:ARG:NH1	2.29	0.46
4:E:44:THR:HG21	4:E:186:ASN:OD1	2.16	0.46
6:G:209:ARG:NH1	6:G:234:ASP:OD2	2.49	0.46
9:L:30:ASN:OD1	9:L:31:GLU:N	2.49	0.46
37:A:2:G:P	45:R:38:LYS:HE3	2.56	0.46
46:W:46:VAL:HB	46:W:71:VAL:HG12	1.96	0.46
37:A:1436:C:HO2'	37:A:2096:G:H8	1.63	0.46
37:A:1554:A:N6	37:A:1573:G:O2'	2.43	0.46
37:A:1818:G:O2'	37:A:1819:G:H5''	2.16	0.46
37:A:1890:G:O2'	37:A:1891:A:H5'	2.16	0.46
37:A:2520:C:H1'	37:A:2640:G:H21	1.81	0.46
37:A:3913:G:H3'	37:A:3914:U:H4'	1.98	0.46
37:A:3973:G:N2	37:A:4050:A:H2'	2.31	0.46
37:A:406:C:HO2'	37:A:407:A:P	2.39	0.46
10:N:69:GLN:HB2	37:A:4314:C:OP1	2.16	0.46
47:AA:1012:A:C6	47:AA:1013:U:O2	2.69	0.46
47:AA:1069:U:O2	47:AA:1070:A:C8	2.69	0.46
47:AA:1243:U:H1'	47:AA:1265:A:C1'	2.41	0.46
47:AA:1375:G:N3	47:AA:1375:G:H2'	2.30	0.46
47:AA:1387:G:H2'	47:AA:1388:A:O4'	2.16	0.46
47:AA:1546:G:C6	47:AA:1547:C:C5	3.04	0.46
47:AA:1760:G:C8	47:AA:1774:C:OP1	2.69	0.46
47:AA:207:G:H3'	47:AA:208:G:H5''	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:172:U:H5'	47:AA:315:C:O2'	2.16	0.46
47:AA:334:C:C4	47:AA:335:G:N7	2.84	0.46
47:AA:363:A:C4	47:AA:398:A:C6	3.03	0.46
47:AA:462:C:O5'	47:AA:462:C:C6	2.69	0.46
47:AA:532:C:O2'	47:AA:533:A:OP2	2.30	0.46
47:AA:677:G:HO2'	47:AA:678:U:H6	1.63	0.46
47:AA:824:C:H2'	47:AA:825:A:O4'	2.15	0.46
9:L:163:ARG:CZ	47:AA:871:U:O4	2.64	0.46
47:AA:874:G:C6	47:AA:875:A:C6	3.04	0.46
47:AA:901:G:C6	47:AA:902:G:C5	3.04	0.46
78:AI:112:ALA:HB1	78:AI:156:PHE:CE2	2.51	0.46
47:AA:1398:G:C4	78:AI:64:HIS:CE1	3.04	0.46
53:AJ:110:MET:O	53:AJ:112:VAL:HG13	2.15	0.46
54:AK:226:GLU:HB3	54:AK:227:GLN:HE21	1.81	0.46
55:AL:78:LEU:HD21	55:AL:97:ILE:HD11	1.97	0.46
60:AT:13:ARG:HG3	60:AT:13:ARG:O	2.16	0.46
4:E:10:ARG:NH1	4:E:265:SER:O	2.44	0.46
38:H:229:GLU:HG2	38:H:230:GLY:H	1.80	0.46
37:A:1476:C:H2'	37:A:1477:C:O4'	2.16	0.46
37:A:2124:G:H4'	37:A:2125:C:OP1	2.16	0.46
37:A:2483:G:N2	37:A:2495:U:O2	2.49	0.46
37:A:514:U:OP2	37:A:647:G:N2	2.48	0.46
47:AA:1117:C:C5	47:AA:1118:C:C6	3.04	0.46
47:AA:1136:U:H2'	47:AA:1137:U:H6	1.81	0.46
47:AA:1166:G:H1'	47:AA:1195:A:N1	2.31	0.46
47:AA:1405:A:C2	47:AA:1406:G:C4	3.04	0.46
47:AA:1560:U:O2'	47:AA:1561:A:O4'	2.27	0.46
47:AA:1667:U:H6	47:AA:1667:U:O5'	1.99	0.46
47:AA:1752:C:C5	47:AA:1753:C:H1'	2.51	0.46
47:AA:185:G:C2	47:AA:186:C:N3	2.84	0.46
47:AA:113:G:N2	47:AA:293:C:C2	2.84	0.46
47:AA:509:G:C4	47:AA:510:G:C8	3.04	0.46
47:AA:533:A:H62	47:AA:552:G:N2	2.09	0.46
47:AA:564:A:C8	47:AA:565:G:C8	3.04	0.46
47:AA:646:G:C6	47:AA:647:U:C5	3.04	0.46
78:AI:133:ASN:O	78:AI:136:GLY:N	2.43	0.46
78:AI:165:ILE:HG13	78:AI:177:TRP:HB2	1.97	0.46
78:AI:33:SER:HB3	78:AI:43:TRP:CZ3	2.51	0.46
53:AJ:200:ARG:O	53:AJ:202:THR:HG23	2.16	0.46
47:AA:157:U:H4'	54:AK:59:GLN:HA	1.98	0.46
55:AL:106:LEU:O	55:AL:109:ARG:HB3	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:AO:32:HIS:NE2	80:AO:96:LYS:HD2	2.30	0.46
57:AP:15:ASN:HD21	57:AP:72:CYS:N	2.14	0.46
47:AA:195:C:H42	81:AU:143:LYS:NZ	248.16	0.46
16:U:6:ARG:HH12	37:A:1340:C:P	2.38	0.46
37:A:139:G:H2'	37:A:140:G:C8	2.50	0.45
37:A:2396:A:N7	37:A:2814:C:O2'	2.47	0.45
37:A:2596:G:H2'	37:A:2597:G:C8	2.51	0.45
37:A:742:G:H2'	37:A:743:G:C8	2.51	0.45
5:F:323:ARG:NE	37:A:975:C:O2	2.49	0.45
47:AA:1086:G:O2'	47:AA:1087:A:H5'	2.16	0.45
47:AA:1166:G:C4	47:AA:1167:G:C8	3.03	0.45
47:AA:1214:A:C6	47:AA:1686:G:C2	3.04	0.45
47:AA:1291:A:C2	52:AH:140:TYR:CD1	3.04	0.45
47:AA:1413:G:C6	47:AA:1434:C:N4	2.84	0.45
47:AA:156:G:C5	47:AA:157:U:H5	2.34	0.45
47:AA:203:G:N2	47:AA:204:G:C4	2.84	0.45
47:AA:191:A:N7	47:AA:209:A:H1'	2.32	0.45
47:AA:293:C:O2'	47:AA:294:U:H3'	2.16	0.45
47:AA:640:A:C2	47:AA:641:A:C5	3.04	0.45
47:AA:663:C:C4	47:AA:664:A:C8	3.04	0.45
47:AA:698:G:H5'	47:AA:733:C:N3	2.31	0.45
47:AA:860:G:C6	47:AA:861:A:C6	3.04	0.45
47:AA:686:U:O2	47:AA:917:U:C2	2.69	0.45
48:AC:27:LYS:O	48:AC:29:HIS:ND1	2.49	0.45
49:AD:105:PHE:CG	49:AD:105:PHE:O	2.69	0.45
53:AJ:209:VAL:HB	53:AJ:236:PHE:HE2	1.81	0.45
54:AK:106:LEU:O	54:AK:106:LEU:HD12	2.16	0.45
54:AK:229:ALA:O	54:AK:232:ARG:HB3	2.16	0.45
55:AL:5:ARG:HD3	55:AL:7:TRP:HE3	1.82	0.45
79:AM:56:CYS:SG	79:AM:57:ASP:N	2.84	0.45
56:AN:35:GLU:O	56:AN:38:TYR:N	2.50	0.45
56:AN:64:ARG:HD3	56:AN:70:LYS:HG2	1.97	0.45
60:AT:25:LYS:HB2	60:AT:27:LYS:NZ	2.31	0.45
81:AU:12:GLN:O	81:AU:16:ARG:HB2	2.15	0.45
5:F:6:PRO:HD2	5:F:24:LEU:HD13	1.98	0.45
40:K:86:ILE:HG13	40:K:105:VAL:HG13	1.98	0.45
14:S:26:ARG:NH2	14:S:76:LYS:HA	2.31	0.45
70:A0:39:ARG:HG3	70:A0:83:PHE:CE1	2.51	0.45
37:A:2100:A:H3'	37:A:2101:C:H6	1.81	0.45
37:A:3629:A:H1'	47:AA:1721:U:C5	2.44	0.45
37:A:82:U:H2'	37:A:83:C:O4'	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1008:A:C5	47:AA:1009:A:C8	3.04	0.45
47:AA:1060:A:H4'	47:AA:1061:U:O5'	2.16	0.45
47:AA:1067:C:C2	47:AA:1068:G:C8	3.04	0.45
47:AA:1211:G:C2	47:AA:1212:G:H1'	2.52	0.45
47:AA:1249:C:C2	47:AA:1250:A:C6	3.04	0.45
47:AA:1255:G:H5''	47:AA:1256:G:H4'	1.98	0.45
47:AA:1280:G:H2'	47:AA:1281:G:O4'	2.16	0.45
47:AA:1330:G:C2	47:AA:1333:U:O4	2.70	0.45
47:AA:1347:U:O2	47:AA:1348:G:C6	2.69	0.45
47:AA:1452:A:P	47:AA:1452:A:H8	2.39	0.45
47:AA:1563:G:OP1	81:AU:121:ARG:HG2	2.17	0.45
47:AA:1649:U:H2'	47:AA:1650:A:H8	1.77	0.45
47:AA:1656:G:C6	47:AA:1657:G:C5	3.04	0.45
47:AA:173:A:C6	47:AA:174:C:C4	3.04	0.45
47:AA:291:G:HO2'	47:AA:292:A:P	2.28	0.45
47:AA:360:A:N1	47:AA:363:A:H8	2.14	0.45
47:AA:377:G:C6	47:AA:378:U:C4	3.04	0.45
47:AA:451:G:O2'	47:AA:452:G:OP2	2.31	0.45
47:AA:494:C:N4	47:AA:509:G:H21	2.14	0.45
47:AA:551:U:C4	47:AA:552:G:N1	2.85	0.45
47:AA:680:G:H2'	47:AA:681:U:C6	2.47	0.45
47:AA:811:A:C6	47:AA:812:A:C5	3.05	0.45
47:AA:64:A:C2	47:AA:82:G:N2	2.84	0.45
47:AA:878:G:H1'	47:AA:910:G:C2	2.50	0.45
47:AA:878:G:O6	47:AA:908:A:C6	2.68	0.45
47:AA:952:G:H1	47:AA:974:C:N4	2.14	0.45
50:AE:33:ASP:OD1	50:AE:34:LYS:N	2.49	0.45
78:AI:252:THR:OG1	78:AI:257:LYS:HE2	2.15	0.45
78:AI:65:PHE:N	78:AI:65:PHE:CD1	2.84	0.45
78:AI:80:SER:OG	78:AI:88:ARG:HB3	2.16	0.45
53:AJ:265:PRO:O	53:AJ:268:GLU:HB3	2.15	0.45
55:AL:46:VAL:HA	55:AL:49:THR:OG1	2.16	0.45
80:AO:44:VAL:CG2	80:AO:81:VAL:HG11	2.45	0.45
81:AU:59:SER:OG	81:AU:79:TYR:OH	2.30	0.45
12:P:106:VAL:HG22	12:P:112:MET:HA	1.98	0.45
15:T:28:ASN:HB2	15:T:77:TYR:OH	2.16	0.45
37:A:1236:C:N3	37:A:1238:A:N6	2.64	0.45
47:AA:103:A:N6	47:AA:356:C:O4'	2.49	0.45
47:AA:107:A:N6	47:AA:108:G:C6	2.85	0.45
47:AA:10:G:C4	47:AA:11:A:N7	2.85	0.45
47:AA:1125:C:C2	47:AA:1126:G:C8	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:116:U:N3	47:AA:117:C:N3	2.64	0.45
47:AA:1310:U:H4'	52:AH:125:GLU:OE2	2.16	0.45
47:AA:1419:C:H1'	47:AA:1420:G:C8	2.51	0.45
47:AA:1427:C:H6	47:AA:1427:C:O5'	1.99	0.45
47:AA:1551:U:C2	47:AA:1577:G:C6	3.04	0.45
47:AA:1620:A:H1'	47:AA:1624:U:P	2.56	0.45
47:AA:1696:C:N4	47:AA:1697:A:H62	2.13	0.45
47:AA:191:A:C8	47:AA:208:G:N2	2.84	0.45
47:AA:320:G:N2	47:AA:321:C:H42	2.14	0.45
47:AA:477:G:C2	47:AA:478:G:C8	3.04	0.45
47:AA:494:C:H2'	47:AA:495:U:C6	2.51	0.45
47:AA:62:G:C2	47:AA:63:U:C2	3.04	0.45
47:AA:650:A:C6	47:AA:651:U:N3	2.85	0.45
47:AA:84:A:O5'	47:AA:84:A:H8	1.99	0.45
47:AA:930:C:H4'	47:AA:930:C:OP1	2.16	0.45
47:AA:93:U:H3'	47:AA:93:U:C6	2.50	0.45
47:AA:945:U:H3	47:AA:981:A:H61	1.63	0.45
47:AA:941:C:C2	47:AA:985:G:N2	2.82	0.45
78:AI:255:SER:HB2	78:AI:270:LEU:HD23	1.98	0.45
53:AJ:137:VAL:O	53:AJ:162:ILE:HA	2.16	0.45
53:AJ:260:VAL:O	53:AJ:261:PHE:HB2	2.17	0.45
53:AJ:271:ASP:CG	53:AJ:272:HIS:H	2.14	0.45
80:AO:100:THR:HG22	80:AO:100:THR:O	2.16	0.45
59:AR:83:LEU:O	59:AR:87:ALA:N	2.49	0.45
81:AU:104:LEU:O	81:AU:108:GLU:N	2.38	0.45
5:F:209:ILE:HD13	5:F:251:ILE:HB	1.97	0.45
5:F:76:ILE:O	5:F:78:ARG:HG3	2.16	0.45
6:G:129:GLU:HG3	6:G:130:TYR:H	1.81	0.45
37:A:4946:U:O2	38:H:158:ARG:HD2	2.16	0.45
37:A:2475:G:N1	45:R:51:THR:O	2.35	0.45
14:S:87:ARG:N	14:S:95:VAL:O	2.47	0.45
37:A:2124:G:HO2'	37:A:2125:C:C5'	2.30	0.45
37:A:3710:G:H5''	47:AA:970:G:H8	1.80	0.45
37:A:4739:C:H2'	37:A:4740:G:C5'	2.36	0.45
37:A:4775:C:N3	37:A:4861:G:N1	2.64	0.45
37:A:980:U:H2'	37:A:981:C:C6	2.51	0.45
47:AA:1091:C:N3	47:AA:1159:G:C2	2.85	0.45
47:AA:1422:G:C2	47:AA:1424:G:C5'	3.00	0.45
47:AA:1484:A:N3	47:AA:1484:A:H2'	2.31	0.45
47:AA:1678:A:C6	47:AA:1679:A:C6	3.04	0.45
47:AA:1713:C:C5'	47:AA:1714:U:P	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1736:G:C2	47:AA:1737:G:C2	3.04	0.45
47:AA:1746:U:H2'	47:AA:1747:C:C5	2.51	0.45
47:AA:1744:G:C4	47:AA:1789:G:N1	2.84	0.45
47:AA:185:G:H22	47:AA:214:U:H3	1.60	0.45
47:AA:217:A:C2	47:AA:218:U:O4'	2.70	0.45
47:AA:377:G:N2	47:AA:388:U:O2	2.49	0.45
47:AA:489:A:C6	47:AA:490:C:C4	3.05	0.45
47:AA:534:G:H3'	47:AA:535:G:H8	1.81	0.45
47:AA:566:U:H3'	47:AA:567:C:C6	2.51	0.45
47:AA:661:U:H4'	47:AA:1157:G:C6	2.52	0.45
47:AA:698:G:C8	47:AA:733:C:N3	2.85	0.45
76:AB:98:VAL:O	76:AB:102:THR:N	2.44	0.45
48:AC:35:ASN:OD1	48:AC:52:THR:HG22	2.17	0.45
51:AF:18:LEU:CD2	51:AF:43:ILE:HD11	2.47	0.45
78:AI:23:THR:HB	78:AI:31:ILE:HD12	1.99	0.45
47:AA:1204:A:P	53:AJ:117:ARG:HH11	2.39	0.45
56:AN:84:LEU:HB2	56:AN:85:PRO:HD2	1.98	0.45
57:AP:13:SER:O	57:AP:17:ALA:N	2.44	0.45
57:AP:26:LEU:CD1	57:AP:60:LYS:HB3	2.37	0.45
58:AQ:38:THR:O	58:AQ:41:ARG:HG2	2.15	0.45
58:AQ:87:PRO:HB3	58:AQ:89:HIS:CD2	2.51	0.45
58:AQ:56:PHE:HE1	58:AQ:94:HIS:HE1	1.63	0.45
81:AU:53:PHE:O	81:AU:56:ARG:HB3	2.16	0.45
37:A:2579:G:N2	37:A:2582:A:OP2	2.36	0.45
37:A:2770:C:H2'	37:A:2771:G:C8	2.50	0.45
37:A:3767:C:O2'	37:A:3768:U:O4'	2.35	0.45
47:AA:936:G:N2	47:AA:1007:C:O2	2.50	0.45
47:AA:106:C:H5''	47:AA:431:G:O2'	2.16	0.45
47:AA:1188:A:C4	47:AA:1189:A:C8	3.05	0.45
47:AA:1249:C:C4	47:AA:1250:A:C2	3.04	0.45
47:AA:1311:C:N4	47:AA:1312:G:O6	2.50	0.45
47:AA:1500:G:H2'	47:AA:1501:C:C6	2.52	0.45
47:AA:1222:G:C2	47:AA:1645:C:C2	3.05	0.45
47:AA:1651:A:H3'	47:AA:1652:G:C8	2.52	0.45
47:AA:1692:U:H4'	50:AE:86:ASN:OD1	2.16	0.45
47:AA:581:U:H5	47:AA:582:C:C4	2.33	0.45
47:AA:681:U:H3	47:AA:1024:A:N6	2.14	0.45
47:AA:690:G:C4	47:AA:691:G:C8	3.04	0.45
47:AA:907:G:C6	47:AA:908:A:C6	3.05	0.45
47:AA:93:U:H2'	47:AA:94:G:O4'	2.16	0.45
48:AC:68:SER:HA	48:AC:71:ARG:NH1	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:AD:81:ILE:HG21	49:AD:120:PHE:CE2	2.52	0.45
51:AF:54:ASP:N	51:AF:54:ASP:OD1	2.47	0.45
78:AI:72:SER:OG	78:AI:114:SER:O	2.33	0.45
53:AJ:147:VAL:HG13	53:AJ:148:ALA:H	1.81	0.45
54:AK:3:LEU:HA	54:AK:109:LEU:O	2.17	0.45
54:AK:27:PHE:CE2	54:AK:41:LEU:HD23	2.52	0.45
55:AL:33:GLY:HA3	60:AT:38:TYR:CD1	2.52	0.45
55:AL:72:PHE:O	55:AL:75:ASN:N	2.49	0.45
46:W:83:THR:HG22	56:AN:147:SER:OG	1.97	0.45
55:AL:30:LYS:HA	60:AT:38:TYR:CD1	2.52	0.45
81:AU:105:GLN:HA	81:AU:108:GLU:HB3	1.97	0.45
61:AV:55:LEU:HD12	61:AV:61:THR:O	2.16	0.45
2:C:122:G:N2	2:C:128:C:H42	2.12	0.45
3:D:59:ALA:O	3:D:75:LEU:HD12	2.16	0.45
5:F:262:GLU:O	5:F:273:LEU:HD13	2.17	0.45
6:G:146:LEU:HD12	6:G:163:LEU:HD13	1.98	0.45
38:H:133:PHE:HA	38:H:136:HIS:CE1	2.51	0.45
40:K:81:VAL:HB	40:K:138:LEU:HD23	1.98	0.45
9:L:28:GLU:O	9:L:31:GLU:N	2.48	0.45
37:A:2073:C:O2'	42:M:157:ARG:NH2	48.00	0.45
70:A0:38:ARG:O	70:A0:42:HIS:HD2	1.99	0.45
70:A0:85:ASN:HD22	70:A0:98:VAL:H	1.65	0.45
5:F:201:ARG:NH2	37:A:235:A:OP1	2.50	0.45
9:L:9:ARG:NH1	37:A:2527:A:OP1	2.26	0.45
4:E:96:PRO:HG2	37:A:4910:G:H21	1.81	0.45
47:AA:1025:U:H5''	47:AA:1090:C:O2'	2.16	0.45
47:AA:10:G:N7	47:AA:1697:A:N3	2.65	0.45
47:AA:1365:G:H2'	47:AA:1366:G:H5'	1.99	0.45
47:AA:1398:G:N1	47:AA:1399:C:H1'	2.32	0.45
47:AA:1623:A:H62	70:A0:132:ARG:NE	2.15	0.45
47:AA:1607:A:N1	47:AA:1633:A:H1'	2.31	0.45
47:AA:1654:G:N2	47:AA:1670:C:C2	2.85	0.45
47:AA:192:C:C4	47:AA:207:G:O6	2.70	0.45
47:AA:360:A:C4	47:AA:362:C:C5	3.04	0.45
47:AA:363:A:N3	47:AA:398:A:C6	2.84	0.45
47:AA:388:U:H2'	47:AA:389:A:H8	1.81	0.45
47:AA:405:G:C4	47:AA:406:U:C5	3.05	0.45
47:AA:418:A:H2'	47:AA:419:G:O4'	2.16	0.45
47:AA:490:C:O2'	47:AA:491:C:H5'	2.17	0.45
47:AA:590:A:P	47:AA:590:A:H2'	2.57	0.45
47:AA:956:G:N3	47:AA:972:A:H2	2.14	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:AE:7:ASN:C	50:AE:9:GLY:H	2.20	0.45
78:AI:124:SER:O	78:AI:151:VAL:HB	2.16	0.45
78:AI:17:TRP:CZ3	78:AI:19:THR:HG22	2.52	0.45
78:AI:205:SER:OG	78:AI:222:ASN:OD1	2.34	0.45
78:AI:260:ASP:N	78:AI:267:VAL:HG23	2.31	0.45
53:AJ:88:ILE:HG23	53:AJ:93:ILE:HD12	1.98	0.45
59:AR:63:PRO:HA	59:AR:96:LEU:CD2	2.47	0.45
81:AU:128:GLN:O	81:AU:132:ASP:N	2.50	0.45
47:AA:1128:C:O2'	61:AV:19:HIS:HD2	1.99	0.45
61:AV:56:CYS:SG	61:AV:59:CYS:HB2	2.57	0.45
3:D:115:CYS:SG	3:D:128:ARG:HD3	2.56	0.45
5:F:228:THR:OG1	5:F:248:ARG:NH2	2.50	0.45
38:H:100:LYS:CE	38:H:100:LYS:HA	2.46	0.45
38:H:225:PRO:O	38:H:225:PRO:HD2	2.17	0.45
37:A:2:G:O5'	45:R:38:LYS:CE	2.63	0.45
37:A:2559:G:H2'	37:A:2560:C:O4'	2.16	0.45
37:A:3965:A:H5''	37:A:4048:A:H2	1.81	0.45
47:AA:1018:U:H2'	47:AA:1019:C:C6	2.52	0.45
47:AA:1062:A:C5	47:AA:1063:C:N4	2.85	0.45
47:AA:1107:G:N1	47:AA:1108:G:C2	2.84	0.45
47:AA:109:U:H2'	47:AA:110:U:H6	1.81	0.45
47:AA:1258:A:N1	47:AA:1663:A:C5	2.85	0.45
47:AA:1299:A:N6	47:AA:1301:A:C4	2.84	0.45
47:AA:1335:G:H2'	47:AA:1336:C:O4'	2.17	0.45
47:AA:1656:G:C6	47:AA:1657:G:C6	3.05	0.45
47:AA:1715:A:N6	47:AA:1819:A:C6	2.84	0.45
47:AA:1779:G:C8	47:AA:1780:G:C8	3.05	0.45
47:AA:364:A:N6	47:AA:397:G:C6	2.84	0.45
47:AA:433:A:C6	47:AA:434:G:C6	3.04	0.45
47:AA:597:G:C5	47:AA:598:G:C8	3.05	0.45
47:AA:19:A:O2'	47:AA:620:G:H8	1.97	0.45
47:AA:808:A:N6	47:AA:809:A:C6	2.85	0.45
47:AA:821:G:H1	55:AL:150:ARG:HB3	1.81	0.45
47:AA:860:G:C5	47:AA:861:A:N6	2.85	0.45
47:AA:896:U:H2'	47:AA:897:U:H5'	1.98	0.45
47:AA:886:A:H2	47:AA:900:C:C5	2.33	0.45
47:AA:872:A:N1	47:AA:915:G:C6	2.85	0.45
47:AA:976:G:N3	47:AA:977:C:N3	2.65	0.45
78:AI:31:ILE:HG23	78:AI:43:TRP:CB	2.39	0.45
53:AJ:246:LYS:O	53:AJ:248:TYR:N	2.49	0.45
53:AJ:265:PRO:CA	53:AJ:268:GLU:HB3	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AL:64:ASP:CG	57:AP:117:ARG:NE	2.70	0.45
81:AU:34:VAL:HG23	81:AU:35:ASP:N	2.29	0.45
81:AU:56:ARG:NH2	81:AU:99:VAL:HG23	2.31	0.45
3:D:62:VAL:HG22	3:D:73:THR:HG22	1.99	0.45
7:I:117:ARG:NH2	37:A:4759:C:OP1	2.49	0.45
45:R:73:HIS:HB3	45:R:116:LEU:HD23	1.99	0.45
14:S:22:PRO:O	14:S:26:ARG:HG3	2.17	0.45
14:S:8:THR:HG22	14:S:10:ASP:N	2.28	0.45
15:T:76:ASN:OD1	15:T:77:TYR:N	2.50	0.45
19:Y:37:LYS:HD2	19:Y:38:PRO:HD2	1.98	0.45
70:A0:50:ILE:HG22	70:A0:63:GLU:OE1	2.17	0.45
70:A0:26:ILE:HD12	70:A0:51:ASP:O	2.16	0.45
70:A0:84:LEU:HD23	70:A0:96:SER:HA	1.97	0.45
7:I:129:LEU:HD23	37:A:2054:U:H3'	1.98	0.45
37:A:2521:G:H2'	37:A:2522:G:H8	1.81	0.45
37:A:3917:A:H2'	37:A:3918:G:H8	1.81	0.45
37:A:956:A:H3'	37:A:957:G:C8	2.51	0.45
47:AA:936:G:C2	47:AA:1007:C:C2	3.05	0.45
47:AA:1023:A:C2	47:AA:1024:A:C8	3.05	0.45
47:AA:1279:C:O2	47:AA:1319:U:N3	2.49	0.45
47:AA:1289:U:C4	47:AA:1290:G:C6	3.05	0.45
47:AA:1394:G:H2'	47:AA:1395:C:C6	2.52	0.45
47:AA:1469:A:H2'	47:AA:1470:C:C6	2.52	0.45
47:AA:1233:G:C6	47:AA:1526:G:N1	2.85	0.45
47:AA:1607:A:H61	47:AA:1632:G:H1'	1.82	0.45
47:AA:1620:A:H4'	47:AA:1621:U:H5	1.80	0.45
47:AA:1744:G:OP2	47:AA:1744:G:C8	2.69	0.45
47:AA:220:U:C2	47:AA:221:A:N7	2.85	0.45
47:AA:608:C:H3'	47:AA:609:U:C6	2.52	0.45
47:AA:28:U:O2	47:AA:647:U:H5	1.99	0.45
47:AA:826:A:N7	47:AA:827:A:H1'	2.32	0.45
47:AA:64:A:H2'	47:AA:82:G:O6	2.16	0.45
47:AA:835:C:O2	47:AA:837:A:H1'	2.17	0.45
47:AA:951:C:N3	47:AA:952:G:N7	2.64	0.45
51:AF:28:THR:O	51:AF:46:VAL:N	2.39	0.45
78:AI:175:LYS:HD3	78:AI:177:TRP:CZ2	2.51	0.45
54:AK:2:LYS:HB2	54:AK:108:VAL:HG22	1.98	0.45
47:AA:560:A:C8	55:AL:173:VAL:HG11	2.51	0.45
79:AM:15:ASN:HB3	79:AM:79:VAL:HG22	1.99	0.45
57:AP:94:LEU:HD21	57:AP:102:ILE:HG13	1.99	0.45
58:AQ:106:GLN:O	58:AQ:109:GLU:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:AU:66:LEU:C	81:AU:68:GLY:N	2.70	0.45
61:AV:35:VAL:HG11	61:AV:63:LEU:CD2	2.46	0.45
4:E:153:MET:O	4:E:157:CYS:HB3	2.17	0.45
4:E:373:LYS:HD2	37:A:4627:U:H4'	1.98	0.45
5:F:284:MET:HG3	40:K:124:ASP:HB3	1.99	0.45
6:G:21:ARG:O	6:G:25:GLU:HG2	2.17	0.45
38:H:95:PRO:CB	38:H:97:GLY:HA2	2.46	0.45
11:O:42:PHE:CZ	11:O:90:TYR:HB2	2.52	0.45
70:A0:105:ASN:HA	70:A0:108:ARG:HH22	1.81	0.45
37:A:1811:G:N2	37:A:1827:C:O2	2.48	0.45
37:A:1999:A:H1'	37:A:2019:C:O2	2.16	0.45
37:A:2258:C:N4	37:A:2262:G:O6	2.50	0.45
47:AA:982:G:N2	47:AA:1045:U:H1'	2.20	0.45
47:AA:10:G:C2	47:AA:11:A:C4	3.05	0.45
47:AA:1139:C:C5	47:AA:1148:A:N7	2.85	0.45
47:AA:1212:G:C2	47:AA:1688:C:N3	2.85	0.45
47:AA:1227:G:O6	47:AA:1638:G:N1	2.49	0.45
47:AA:1337:C:H5'	76:AB:67:LYS:HG2	1.98	0.45
47:AA:1604:G:O6	47:AA:1605:G:N2	2.49	0.45
47:AA:1221:G:N2	47:AA:1645:C:N3	2.63	0.45
47:AA:1734:G:C2'	47:AA:1800:A:H61	2.29	0.45
47:AA:1777:G:C5	47:AA:1778:C:N4	2.85	0.45
47:AA:191:A:H4'	47:AA:191:A:OP1	2.16	0.45
47:AA:207:G:O5'	47:AA:207:G:H8	2.00	0.45
47:AA:461:U:H2'	47:AA:462:C:H6	1.82	0.45
47:AA:558:G:O2'	47:AA:559:G:O5'	2.34	0.45
47:AA:583:C:N4	47:AA:584:G:O6	2.50	0.45
47:AA:565:G:C2	47:AA:586:G:H1'	2.52	0.45
47:AA:629:A:C6	47:AA:632:C:O2	2.70	0.45
47:AA:841:G:N7	58:AQ:11:LYS:N	2.65	0.45
47:AA:841:G:OP2	58:AQ:14:THR:HG23	2.16	0.45
47:AA:872:A:O2'	47:AA:873:G:C8	2.70	0.45
47:AA:878:G:C6	47:AA:908:A:N1	2.85	0.45
76:AB:49:LYS:O	76:AB:51:LYS:N	2.49	0.45
48:AC:66:ASP:N	48:AC:66:ASP:OD1	2.50	0.45
51:AF:31:ARG:HH11	51:AF:41:SER:CB	2.30	0.45
53:AJ:133:TYR:CE1	53:AJ:216:MET:HA	2.51	0.45
53:AJ:78:LEU:HD23	53:AJ:78:LEU:HA	1.59	0.45
54:AK:132:ARG:HG2	54:AK:133:LEU:HD12	1.99	0.45
54:AK:22:ARG:HA	54:AK:25:ARG:HE	1.82	0.45
55:AL:139:LYS:HD2	55:AL:139:LYS:HA	1.71	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:AN:135:LEU:HB3	56:AN:136:PRO:CD	2.47	0.45
80:AO:34:PHE:CD1	80:AO:98:ARG:HD3	2.52	0.45
4:E:35:ASP:HB2	4:E:186:ASN:ND2	2.31	0.45
4:E:397:ILE:O	4:E:401:GLU:N	2.49	0.45
38:H:225:PRO:O	38:H:226:ARG:HB3	2.17	0.45
38:H:82:LYS:HG3	38:H:83:LYS:N	2.28	0.45
18:X:93:ASN:O	18:X:95:ASP:N	2.50	0.45
37:A:1287:G:H5''	37:A:1288:G:H21	1.82	0.45
37:A:3967:G:N2	37:A:4056:A:O2'	2.50	0.45
37:A:4760:G:H2'	37:A:4761:G:C8	2.52	0.45
47:AA:1228:A:H1'	47:AA:1634:A:C2	2.52	0.45
47:AA:1275:G:C4	47:AA:1506:A:C2	3.05	0.45
47:AA:1610:G:C6	47:AA:1630:A:N3	2.86	0.45
47:AA:1732:G:H1	47:AA:1802:C:N4	2.15	0.45
47:AA:347:G:H2'	47:AA:348:A:O4'	2.17	0.45
47:AA:418:A:H8	47:AA:418:A:OP2	2.00	0.45
47:AA:436:G:C6	47:AA:437:G:C5	3.05	0.45
47:AA:594:A:C4	47:AA:643:A:N6	2.85	0.45
47:AA:880:G:N3	47:AA:880:G:H3'	2.31	0.45
48:AC:3:ASN:OD1	48:AC:3:ASN:N	2.45	0.45
48:AC:47:ASN:ND2	48:AC:49:GLN:HE22	2.14	0.45
49:AD:6:GLY:O	49:AD:9:THR:OG1	2.28	0.45
78:AI:162:ASN:O	78:AI:164:ILE:N	2.50	0.45
55:AL:103:GLU:OE1	55:AL:103:GLU:N	2.28	0.45
56:AN:55:ARG:NH1	56:AN:56:ASP:HB3	2.32	0.45
47:AA:963:A:OP1	80:AO:66:ARG:NH2	2.50	0.45
81:AU:127:GLY:O	81:AU:130:ASP:HB3	2.17	0.45
61:AV:75:GLU:HG3	61:AV:76:GLY:N	2.31	0.45
6:G:183:TYR:HD1	6:G:190:PHE:HB2	1.82	0.45
38:H:82:LYS:CG	38:H:83:LYS:H	2.21	0.45
4:E:96:PRO:HG3	7:I:153:THR:HG22	1.98	0.45
17:V:12:GLN:HB3	17:V:16:TRP:CZ3	2.52	0.45
4:E:70:LYS:HG3	37:A:2696:A:H5'	114.74	0.44
37:A:474:C:O2	37:A:680:G:N2	2.41	0.44
20:Z:52:LYS:NZ	37:A:4750:G:H22	2.15	0.44
37:A:475:G:H2'	37:A:476:G:C8	2.52	0.44
47:AA:1071:G:N2	47:AA:1072:U:C2	2.85	0.44
47:AA:1267:C:OP2	52:AH:85:TYR:HE1	2.00	0.44
47:AA:1353:A:H61	47:AA:1358:U:H3	1.66	0.44
47:AA:1348:G:N2	47:AA:1382:A:C4	2.85	0.44
47:AA:1521:C:H5''	70:A0:136:THR:HG21	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:221:A:H2'	47:AA:222:U:H6	1.82	0.44
47:AA:24:C:O2'	47:AA:25:A:H8	2.00	0.44
47:AA:4:C:OP2	47:AA:4:C:H6	2.00	0.44
47:AA:510:G:N2	47:AA:511:U:O2	2.49	0.44
47:AA:39:A:N6	47:AA:515:G:H1'	2.24	0.44
47:AA:614:C:N4	47:AA:626:G:C8	2.85	0.44
47:AA:818:A:H5'	55:AL:76:ALA:HB1	1.99	0.44
78:AI:113:PHE:CD1	78:AI:120:ILE:HG12	2.53	0.44
53:AJ:73:MET:HE1	53:AJ:76:LYS:O	2.15	0.44
54:AK:14:LYS:HE2	54:AK:14:LYS:HB2	1.84	0.44
54:AK:1:MET:O	54:AK:2:LYS:HD2	2.17	0.44
79:AM:35:ILE:HG22	79:AM:64:LEU:HD22	1.99	0.44
37:A:1563:A:O3'	56:AN:140:LYS:NZ	2.48	0.44
80:AO:103:ASN:ND2	80:AO:141:ARG:O	2.50	0.44
80:AO:54:CYS:SG	80:AO:84:ARG:HD3	2.56	0.44
59:AR:96:LEU:N	59:AR:112:ASN:HD22	2.15	0.44
81:AU:127:GLY:C	81:AU:130:ASP:HB3	2.37	0.44
3:D:10:LYS:HG3	3:D:16:PHE:CD1	2.52	0.44
5:F:141:GLY:O	5:F:204:ARG:NH1	2.49	0.44
70:A0:86:ARG:CB	70:A0:95:TYR:HB2	2.47	0.44
37:A:1758:G:H1	37:A:1772:C:N4	2.14	0.44
37:A:1726:U:H3	37:A:1836:G:H1	1.64	0.44
37:A:2001:G:N2	37:A:2003:G:O6	2.51	0.44
37:A:2382:A:N6	37:A:2422:C:O2	2.50	0.44
37:A:2447:U:HO2'	37:A:2510:G:H1	1.65	0.44
37:A:3958:G:H2'	37:A:3959:U:C5	2.51	0.44
37:A:3970:G:H1'	37:A:4052:C:H42	1.82	0.44
37:A:4064:C:N4	37:A:4065:G:N7	2.65	0.44
37:A:4742:G:H1	37:A:4958:C:H2'	1.81	0.44
37:A:984:C:H2'	37:A:985:C:C6	2.51	0.44
37:A:992:C:H2'	37:A:993:G:C8	2.52	0.44
47:AA:1227:G:H21	47:AA:1228:A:H5'	1.81	0.44
47:AA:126:G:N2	47:AA:127:C:N4	2.63	0.44
47:AA:1288:U:C2'	47:AA:1312:G:H1	2.30	0.44
47:AA:1522:A:H3'	47:AA:1523:C:C6	2.52	0.44
47:AA:1562:C:H2'	47:AA:1563:G:H8	1.82	0.44
47:AA:1652:G:H8	47:AA:1652:G:P	2.39	0.44
47:AA:1781:A:O2'	47:AA:1782:G:C5	2.70	0.44
47:AA:191:A:N6	47:AA:209:A:HO2'	2.13	0.44
47:AA:21:U:C4	47:AA:22:A:N6	2.85	0.44
47:AA:364:A:N1	47:AA:397:G:C4	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:439:A:C6	47:AA:455:A:N1	2.84	0.44
47:AA:55:U:C4	47:AA:91:A:O2'	2.66	0.44
47:AA:677:G:O5'	47:AA:677:G:H8	2.00	0.44
47:AA:956:G:C4	47:AA:957:A:N7	2.86	0.44
76:AB:32:LEU:CD2	76:AB:85:HIS:HB2	2.47	0.44
76:AB:39:LEU:O	76:AB:43:ALA:N	2.50	0.44
50:AE:66:LYS:HD2	50:AE:68:TYR:OH	2.17	0.44
78:AI:126:ASP:OD2	78:AI:128:THR:OG1	2.35	0.44
53:AJ:120:GLN:CD	53:AJ:120:GLN:H	2.18	0.44
56:AN:30:SER:O	56:AN:33:VAL:HG22	2.18	0.44
57:AP:30:CYS:HB2	57:AP:61:ILE:HG12	1.99	0.44
47:AA:823:U:C4	58:AQ:64:PHE:CZ	3.06	0.44
81:AU:15:VAL:HA	81:AU:18:LEU:CB	2.45	0.44
81:AU:38:LYS:HZ3	81:AU:44:GLU:HB2	1.77	0.44
15:T:36:ARG:HD2	15:T:38:TYR:OH	2.17	0.44
16:U:46:ASP:OD1	40:K:186:TYR:OH	2.32	0.44
19:Y:38:PRO:HB2	19:Y:43:ASN:ND2	2.32	0.44
20:Z:40:GLU:HA	20:Z:43:LEU:HG	1.99	0.44
37:A:2335:C:H2'	37:A:2336:G:H8	1.81	0.44
37:A:3758:U:C4'	37:A:3767:C:N3	2.81	0.44
37:A:3945:A:H2'	37:A:3946:G:C8	2.53	0.44
37:A:1794:A:H5''	37:A:4214:A:H61	1.81	0.44
47:AA:1082:A:H3'	47:AA:1084:A:C8	2.52	0.44
47:AA:1236:G:C6	47:AA:1237:C:C2	3.06	0.44
47:AA:1788:A:C2	47:AA:1789:G:H1'	2.53	0.44
47:AA:1795:G:N2	47:AA:1796:G:H1'	2.32	0.44
47:AA:1809:A:H2'	47:AA:1810:U:C6	2.51	0.44
47:AA:185:G:N2	47:AA:214:U:N3	2.65	0.44
47:AA:191:A:C4	47:AA:209:A:N3	2.85	0.44
47:AA:291:G:H4'	47:AA:292:A:C5	2.52	0.44
47:AA:29:G:O2'	49:AD:131:LEU:HD22	2.17	0.44
47:AA:528:A:C5	47:AA:529:A:N7	2.85	0.44
47:AA:809:A:C5	47:AA:810:A:C5	3.05	0.44
47:AA:809:A:C4	47:AA:810:A:C8	3.06	0.44
47:AA:816:A:H2'	47:AA:816:A:N3	2.32	0.44
47:AA:84:A:N6	47:AA:85:A:C6	2.85	0.44
47:AA:873:G:H2'	47:AA:874:G:H8	1.81	0.44
47:AA:684:G:C6	47:AA:920:A:N7	2.85	0.44
76:AB:91:LEU:HD22	76:AB:93:SER:CB	2.46	0.44
48:AC:12:TYR:HD2	53:AJ:79:GLU:OE1	1.99	0.44
53:AJ:80:GLU:H	53:AJ:80:GLU:CD	2.13	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:91:A:H2'	54:AK:88:ARG:HH12	1.82	0.44
56:AN:85:PRO:HG2	56:AN:88:LEU:HB3	1.98	0.44
49:AD:7:LEU:HD11	57:AP:77:PRO:HB2	1.99	0.44
3:D:248:GLY:O	47:AA:1044:G:N1	2.50	0.44
5:F:24:LEU:HD21	5:F:28:PHE:HB2	1.98	0.44
46:W:102:SER:OG	46:W:103:ASP:N	2.49	0.44
37:A:165:A:H61	37:A:270:U:H3	1.65	0.44
37:A:2100:A:H3'	37:A:2101:C:C6	2.52	0.44
37:A:2521:G:H2'	37:A:2522:G:C8	2.52	0.44
37:A:3974:G:C5	37:A:3975:C:H1'	2.52	0.44
47:AA:1100:A:C6	47:AA:1101:U:N3	2.85	0.44
47:AA:1281:G:H2'	47:AA:1282:A:H8	1.83	0.44
47:AA:1439:A:H5'	47:AA:1440:C:OP2	2.18	0.44
47:AA:1484:A:H2'	47:AA:1485:U:C6	2.53	0.44
47:AA:1337:C:N3	47:AA:1491:G:C2	2.86	0.44
47:AA:1491:G:C2	47:AA:1492:U:C2	3.05	0.44
47:AA:1751:C:H2'	47:AA:1782:G:N1	2.26	0.44
47:AA:1754:G:C6	47:AA:1779:G:N2	2.85	0.44
47:AA:1744:G:N3	47:AA:1789:G:C2	2.85	0.44
47:AA:1834:A:C2	47:AA:1836:G:C5	3.05	0.44
47:AA:416:U:H2'	47:AA:417:C:H5'	1.98	0.44
47:AA:429:C:H1'	47:AA:812:A:N1	2.33	0.44
47:AA:462:C:O2	47:AA:468:A:C6	2.70	0.44
47:AA:52:G:N2	47:AA:476:A:N3	2.66	0.44
47:AA:613:G:H8	47:AA:613:G:OP2	2.00	0.44
47:AA:69:C:OP2	54:AK:164:LYS:NZ	2.50	0.44
47:AA:815:U:H3	47:AA:849:A:N6	2.07	0.44
49:AD:13:LEU:HA	49:AD:13:LEU:HD23	1.70	0.44
47:AA:1391:C:O2'	77:AG:55:LEU:HB3	2.17	0.44
78:AI:127:LYS:HB2	78:AI:127:LYS:HE2	1.65	0.44
78:AI:256:ILE:H	78:AI:270:LEU:HD22	1.82	0.44
53:AJ:263:LYS:O	53:AJ:264:SER:OG	2.27	0.44
47:AA:821:G:N2	55:AL:150:ARG:HD2	2.33	0.44
55:AL:89:GLU:HG2	55:AL:90:GLY:H	1.82	0.44
56:AN:73:ARG:HD3	56:AN:73:ARG:HA	1.79	0.44
57:AP:36:ARG:HG2	57:AP:110:ILE:HG21	2.00	0.44
38:H:89:LEU:HA	38:H:89:LEU:HD12	1.81	0.44
40:K:34:PHE:CE1	40:K:38:ARG:HG3	2.52	0.44
70:A0:42:HIS:HD1	70:A0:45:LEU:HD12	1.82	0.44
37:A:4135:G:H2'	37:A:4136:G:C8	2.52	0.44
37:A:466:A:H2'	37:A:467:U:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1110:G:H2'	47:AA:1111:U:H6	1.83	0.44
47:AA:1118:C:H2'	47:AA:1119:A:N9	2.32	0.44
47:AA:1133:A:H2'	47:AA:1134:G:O4'	2.17	0.44
47:AA:1092:G:N2	47:AA:1158:G:C8	2.85	0.44
47:AA:123:G:C5	47:AA:124:U:C5	3.05	0.44
47:AA:1241:A:O3'	47:AA:1242:U:H4'	2.17	0.44
47:AA:1292:C:O2	47:AA:1300:U:H4'	2.18	0.44
47:AA:1410:C:N4	47:AA:1411:G:O6	2.51	0.44
47:AA:1452:A:C6	47:AA:1475:G:C8	3.06	0.44
47:AA:1525:C:N4	47:AA:1526:G:C6	2.85	0.44
47:AA:1548:G:H1'	47:AA:1656:G:O2'	2.17	0.44
47:AA:1601:A:H1'	47:AA:1635:C:H42	1.82	0.44
47:AA:166:A:H5'	47:AA:167:G:OP2	2.17	0.44
47:AA:1866:A:C6	50:AE:87:ARG:NH1	2.79	0.44
47:AA:206:G:N1	47:AA:207:G:C6	2.86	0.44
47:AA:305:U:H5''	47:AA:306:C:N1	2.32	0.44
47:AA:322:C:N3	47:AA:329:G:C2	2.86	0.44
47:AA:321:C:C5	47:AA:322:C:N4	2.86	0.44
47:AA:432:G:O6	47:AA:433:A:C6	2.70	0.44
47:AA:443:U:C4	47:AA:444:G:C6	3.06	0.44
47:AA:5:U:O2	47:AA:6:G:C8	2.71	0.44
47:AA:618:C:H41	49:AD:67:ARG:NH1	2.15	0.44
47:AA:682:U:OP2	47:AA:682:U:H6	2.00	0.44
47:AA:685:A:H8	47:AA:685:A:O5'	2.01	0.44
47:AA:877:C:H2'	47:AA:879:C:H5''	1.99	0.44
47:AA:958:G:C2	47:AA:959:G:C6	3.05	0.44
49:AD:52:LEU:O	49:AD:96:GLU:HG3	2.17	0.44
78:AI:113:PHE:HD1	78:AI:120:ILE:HG12	1.82	0.44
78:AI:113:PHE:HE1	78:AI:120:ILE:HD11	1.82	0.44
78:AI:135:LEU:CD1	78:AI:137:VAL:HG23	2.46	0.44
78:AI:297:THR:HA	78:AI:310:TRP:O	2.18	0.44
78:AI:67:SER:O	78:AI:68:ASP:HB2	2.17	0.44
47:AA:14:C:P	53:AJ:190:SER:HG	2.40	0.44
47:AA:170:A:O2'	54:AK:177:GLN:OE1	2.36	0.44
55:AL:113:GLN:HE21	55:AL:154:GLN:HB2	1.83	0.44
47:AA:560:A:H5''	55:AL:173:VAL:HB	2.00	0.44
47:AA:833:C:H41	58:AQ:10:ARG:CZ	2.31	0.44
3:D:117:GLU:HG3	3:D:124:GLY:HA2	2.00	0.44
5:F:164:THR:HG21	37:A:223:G:H2'	1.99	0.44
5:F:308:LYS:HD3	5:F:310:HIS:NE2	2.32	0.44
38:H:134:SER:OG	38:H:135:GLN:OE1	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:113:ASP:OD1	7:I:114:LYS:N	2.51	0.44
40:K:15:ARG:HH22	40:K:19:LYS:HG2	1.82	0.44
13:Q:9:SER:O	13:Q:53:VAL:HG12	2.18	0.44
46:W:22:MET:HG3	46:W:27:TYR:CE2	2.52	0.44
20:Z:19:ARG:O	37:A:1311:G:H5'	2.18	0.44
70:A0:121:ARG:NH1	70:A0:122:GLY:HA2	2.33	0.44
47:AA:1521:C:OP2	70:A0:129:LEU:HD11	2.17	0.44
37:A:1969:G:H3'	37:A:1970:A:H8	1.82	0.44
37:A:2306:G:O2'	37:A:2330:G:O6	2.35	0.44
37:A:4694:G:OP1	37:A:4694:G:N2	2.39	0.44
37:A:673:C:H2'	37:A:674:G:C8	2.53	0.44
47:AA:1118:C:H4'	61:AV:75:GLU:OE1	2.18	0.44
47:AA:1108:G:N2	47:AA:1125:C:N3	2.66	0.44
47:AA:1204:A:N6	47:AA:1693:G:C6	2.85	0.44
47:AA:1233:G:N1	47:AA:1234:C:C2	2.85	0.44
47:AA:1395:C:H3'	47:AA:1395:C:C6	2.53	0.44
47:AA:1520:G:H3'	47:AA:1520:G:N3	2.33	0.44
47:AA:1700:C:H4'	47:AA:1701:C:O5'	2.17	0.44
47:AA:1709:G:O2'	47:AA:1710:C:H5'	2.18	0.44
47:AA:362:C:N3	47:AA:403:G:C6	2.85	0.44
47:AA:41:G:H1	47:AA:481:C:H42	1.65	0.44
47:AA:461:U:C2	47:AA:462:C:C6	3.06	0.44
47:AA:535:G:O2'	47:AA:536:A:H5''	2.18	0.44
47:AA:738:C:H5''	47:AA:739:C:H5	1.82	0.44
47:AA:799:U:O2	47:AA:867:G:H1'	2.17	0.44
48:AC:1:MET:CE	53:AJ:166:ARG:HH12	2.30	0.44
49:AD:24:ASP:CG	49:AD:25:LYS:H	2.21	0.44
50:AE:32:LYS:HB3	50:AE:32:LYS:HE2	1.74	0.44
78:AI:157:SER:OG	78:AI:163:PRO:HA	2.18	0.44
53:AJ:238:LYS:HB2	53:AJ:238:LYS:HE3	1.80	0.44
53:AJ:81:ILE:HA	53:AJ:86:LEU:HD12	1.99	0.44
47:AA:331:C:N4	54:AK:186:GLN:HE22	2.14	0.44
54:AK:202:ASN:O	54:AK:206:ALA:N	2.42	0.44
80:AO:119:LEU:O	80:AO:124:MET:HB2	2.18	0.44
57:AP:101:PHE:HD2	57:AP:129:PHE:CZ	2.36	0.44
81:AU:128:GLN:O	81:AU:131:LEU:N	2.51	0.44
5:F:198:ASN:ND2	14:S:10:ASP:OD1	2.50	0.44
37:A:2000:G:H1'	37:A:2018:C:H1'	1.99	0.44
37:A:2597:G:H2'	37:A:2598:A:H8	1.82	0.44
37:A:4132:C:O2	37:A:4152:G:N2	2.38	0.44
37:A:4213:A:H5''	37:A:4214:A:H5'	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:4916:G:H2'	37:A:4917:C:O4'	2.17	0.44
37:A:736:C:N4	37:A:927:G:H22	2.10	0.44
47:AA:1056:U:C4	47:AA:1057:C:C4	3.05	0.44
47:AA:1093:A:H2'	47:AA:1094:C:O4'	2.18	0.44
47:AA:929:G:N2	47:AA:1104:G:H4'	2.31	0.44
47:AA:1115:U:O2'	47:AA:1116:C:H5	2.01	0.44
47:AA:1277:C:H5''	47:AA:1278:A:C8	2.52	0.44
47:AA:1296:U:C4	47:AA:1297:U:O4	2.71	0.44
47:AA:1424:G:H3'	47:AA:1426:U:C4	2.53	0.44
47:AA:1455:A:C5	47:AA:1475:G:N2	2.86	0.44
47:AA:1524:G:C2	47:AA:1525:C:C2	3.06	0.44
47:AA:1559:C:C2	47:AA:1577:G:C2	3.05	0.44
47:AA:418:A:P	47:AA:418:A:H8	2.40	0.44
47:AA:409:C:N3	47:AA:432:G:C2	2.86	0.44
47:AA:46:A:N6	47:AA:99:A:N7	2.65	0.44
47:AA:528:A:N6	47:AA:529:A:C6	2.86	0.44
47:AA:846:G:H5''	47:AA:847:A:H1'	2.00	0.44
47:AA:87:U:H3	47:AA:500:A:N6	2.02	0.44
47:AA:886:A:O2'	47:AA:887:U:C2	2.70	0.44
47:AA:899:U:H3'	47:AA:900:C:H5''	2.00	0.44
47:AA:995:G:C2	47:AA:999:G:C2	3.06	0.44
49:AD:52:LEU:HD22	49:AD:80:LYS:HE3	2.00	0.44
78:AI:247:TRP:O	78:AI:258:ILE:HG23	2.17	0.44
78:AI:19:THR:O	78:AI:288:SER:HB3	2.17	0.44
78:AI:45:LEU:CG	78:AI:52:TYR:HD2	2.22	0.44
54:AK:126:ASP:O	54:AK:128:THR:HG23	2.18	0.44
54:AK:27:PHE:O	54:AK:30:LYS:HG2	2.18	0.44
52:AH:110:GLU:HB2	79:AM:63:LYS:HE3	1.98	0.44
56:AN:35:GLU:O	56:AN:39:LYS:HG3	2.18	0.44
47:AA:823:U:C2	58:AQ:64:PHE:CD2	3.05	0.44
81:AU:127:GLY:HA2	81:AU:130:ASP:HB3	2.00	0.44
4:E:17:LEU:O	4:E:19:ARG:N	2.51	0.44
4:E:228:TYR:O	37:A:2835:A:O2'	2.35	0.44
42:M:161:ARG:NH2	42:M:164:LYS:HD3	2.33	0.44
19:Y:67:LYS:HG2	19:Y:68:HIS:CD2	2.52	0.44
37:A:3754:G:C6	37:A:3755:G:C6	3.06	0.44
47:AA:922:A:N6	47:AA:1021:U:C4	2.85	0.44
47:AA:102:A:OP2	47:AA:408:A:N6	2.50	0.44
47:AA:1210:G:O6	47:AA:1211:G:C5	2.70	0.44
47:AA:1375:G:C2	47:AA:1376:A:C4	3.06	0.44
47:AA:1459:G:O2'	47:AA:1460:C:H5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1490:G:C5	47:AA:1491:G:N7	2.86	0.44
47:AA:1270:G:N2	47:AA:1513:C:C2	2.84	0.44
47:AA:1536:G:H22	47:AA:1597:C:H42	1.65	0.44
47:AA:1647:A:C8	47:AA:1649:U:C4	3.06	0.44
47:AA:1672:U:H3'	47:AA:1673:U:C6	2.52	0.44
47:AA:1722:G:C5	47:AA:1723:G:C8	3.05	0.44
47:AA:1806:A:H2'	47:AA:1807:C:C6	2.52	0.44
47:AA:305:U:H5''	47:AA:306:C:C6	2.53	0.44
47:AA:347:G:C5	47:AA:348:A:C5	3.06	0.44
47:AA:571:U:H5'	58:AQ:36:PRO:HA	1.99	0.44
47:AA:59:U:H2'	47:AA:61:A:H5''	2.00	0.44
47:AA:620:G:C8	47:AA:621:C:C2	3.06	0.44
47:AA:680:G:C4	47:AA:681:U:C5	3.06	0.44
47:AA:809:A:C6	47:AA:810:A:C5	3.06	0.44
47:AA:877:C:H2'	47:AA:879:C:H6	1.83	0.44
47:AA:941:C:H2'	47:AA:942:G:O4'	2.17	0.44
47:AA:674:C:O2'	47:AA:996:A:N3	2.41	0.44
47:AA:1869:A:H2'	50:AE:39:PHE:CE2	2.53	0.44
78:AI:33:SER:OG	78:AI:41:ILE:HB	2.18	0.44
53:AJ:254:ASP:HB3	53:AJ:255:LEU:HD12	2.00	0.44
53:AJ:94:ILE:C	53:AJ:96:PHE:H	2.21	0.44
47:AA:126:G:C6	54:AK:196:LYS:HE2	2.52	0.44
54:AK:209:TYR:HB3	54:AK:214:ALA:H	1.83	0.44
54:AK:65:GLN:HG2	54:AK:66:GLY:N	2.33	0.44
80:AO:101:GLY:HA2	80:AO:105:THR:O	2.18	0.44
57:AP:112:ASP:CG	57:AP:115:GLU:H	2.17	0.44
58:AQ:40:ILE:O	58:AQ:44:LEU:HD13	2.17	0.44
58:AQ:62:THR:HG22	58:AQ:63:HIS:O	2.17	0.44
81:AU:57:ALA:O	81:AU:60:THR:HB	2.18	0.44
3:D:23:ARG:HH22	37:A:3680:U:H5'	1.82	0.44
6:G:195:HIS:CE1	6:G:199:ILE:HD11	2.53	0.44
11:O:82:TYR:CZ	11:O:86:LEU:HD11	2.52	0.44
14:S:46:SER:O	14:S:122:LYS:HE2	2.17	0.44
14:S:87:ARG:HH12	37:A:405:U:P	2.41	0.44
70:A0:26:ILE:O	70:A0:30:ILE:HG13	2.17	0.44
37:A:1298:C:N4	37:A:1299:G:O6	2.51	0.44
37:A:2109:G:H3'	37:A:2110:C:C5'	2.47	0.44
37:A:2542:G:H2'	37:A:2543:A:H8	1.81	0.44
37:A:2675:G:HO2'	37:A:2676:A:P	2.40	0.44
37:A:3765:G:O6	37:A:3767:C:C4	2.70	0.44
37:A:3888:G:HO2'	37:A:3889:G:P	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:4740:G:C2	37:A:4741:C:O2	2.71	0.44
37:A:644:G:C2	37:A:645:G:H1'	2.53	0.44
37:A:747:A:H62	37:A:916:C:N4	2.16	0.44
47:AA:1108:G:H1	47:AA:1124:C:H42	1.66	0.44
47:AA:1199:A:N6	47:AA:1200:A:C6	2.86	0.44
47:AA:1261:C:H2'	47:AA:1262:C:O4'	2.17	0.44
47:AA:1346:U:C5	47:AA:1371:U:C4	3.06	0.44
47:AA:1358:U:OP1	53:AJ:123:ARG:NH1	2.45	0.44
47:AA:1370:A:C6	47:AA:1372:U:H5'	2.53	0.44
47:AA:1476:A:H3'	47:AA:1477:U:H5''	1.99	0.44
47:AA:1487:A:N3	47:AA:1487:A:H2'	2.32	0.44
47:AA:1515:G:C6	47:AA:1516:G:N7	2.86	0.44
47:AA:1566:G:H22	47:AA:1568:C:H2'	1.83	0.44
47:AA:1587:G:H5''	81:AU:77:LYS:HZ1	1.83	0.44
47:AA:1656:G:C5	47:AA:1669:G:N1	2.85	0.44
47:AA:1792:G:H2'	47:AA:1793:A:C8	2.53	0.44
47:AA:1866:A:H4'	50:AE:95:ARG:HG3	2.00	0.44
47:AA:113:G:N1	47:AA:292:A:C8	2.85	0.44
47:AA:295:C:N3	47:AA:296:U:C4	2.86	0.44
47:AA:314:U:O2	47:AA:336:A:H2	2.00	0.44
47:AA:358:C:C4	47:AA:359:U:C5	3.06	0.44
47:AA:377:G:N2	47:AA:388:U:C2	2.86	0.44
47:AA:405:G:O2'	47:AA:406:U:H5'	2.18	0.44
47:AA:457:C:H4'	47:AA:1802:C:OP1	2.18	0.44
47:AA:467:G:C4	47:AA:468:A:C8	3.06	0.44
47:AA:71:G:HO2'	47:AA:72:C:P	2.38	0.44
47:AA:816:A:N3	47:AA:849:A:C2	2.86	0.44
47:AA:898:U:H2'	47:AA:899:U:C6	2.53	0.44
47:AA:999:G:N2	47:AA:1000:C:O2	2.51	0.44
47:AA:1445:U:O2	76:AB:55:ARG:NH1	2.51	0.44
49:AD:74:LEU:O	49:AD:78:GLY:N	2.46	0.44
50:AE:22:ARG:HG3	50:AE:23:CYS:O	2.18	0.44
52:AH:119:ARG:HD3	52:AH:152:LYS:HZ2	1.82	0.44
53:AJ:188:CYS:SG	53:AJ:235:ASN:HB2	2.58	0.44
54:AK:56:ASN:O	54:AK:106:LEU:HB2	2.17	0.44
47:AA:824:C:O2	55:AL:144:ILE:HG13	2.18	0.44
55:AL:5:ARG:HD3	55:AL:7:TRP:CE3	2.53	0.44
80:AO:120:ALA:HB2	80:AO:126:ILE:HD12	2.00	0.44
57:AP:69:LEU:HD12	57:AP:70:ASN:C	2.38	0.44
61:AV:83:GLN:H	61:AV:83:GLN:HG2	1.54	0.44
6:G:177:THR:HG22	6:G:180:PHE:CE2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:305:PRO:HG3	40:K:38:ARG:NH2	2.32	0.44
47:AA:1238:U:O2'	70:A0:148:VAL:HA	2.18	0.43
37:A:1591:U:OP1	37:A:1592:G:H5'	2.18	0.43
37:A:2539:C:H2'	37:A:2540:C:C6	2.53	0.43
37:A:3977:C:O2'	37:A:4035:G:N7	2.40	0.43
37:A:716:C:H2'	37:A:717:U:C6	2.52	0.43
47:AA:1120:U:N3	47:AA:1121:G:C8	2.85	0.43
47:AA:1149:A:N7	47:AA:1151:G:C8	2.86	0.43
47:AA:1259:A:H62	47:AA:1519:U:P	2.40	0.43
47:AA:1369:A:N7	47:AA:1370:A:C5	2.86	0.43
47:AA:1515:G:H2'	47:AA:1516:G:H5'	1.99	0.43
47:AA:1566:G:H2'	47:AA:1566:G:N3	2.32	0.43
47:AA:1693:G:P	50:AE:89:ARG:NH1	2.89	0.43
47:AA:179:C:C5	47:AA:180:G:C6	3.06	0.43
47:AA:221:A:C6	47:AA:222:U:C4	3.06	0.43
47:AA:42:A:H5'	47:AA:43:U:OP2	2.17	0.43
47:AA:550:C:C4	47:AA:551:U:C4	3.06	0.43
47:AA:56:G:H5''	47:AA:57:U:OP2	2.18	0.43
47:AA:635:G:C2	47:AA:636:C:C2	3.06	0.43
47:AA:66:G:C5	47:AA:68:A:C5	3.06	0.43
76:AB:23:THR:HG23	76:AB:87:ARG:O	2.18	0.43
47:AA:991:G:C8	50:AE:7:ASN:ND2	2.86	0.43
78:AI:208:ALA:HA	78:AI:218:LEU:HA	2.00	0.43
54:AK:171:THR:HG22	54:AK:172:LYS:N	2.33	0.43
54:AK:181:THR:OG1	54:AK:182:PRO:HD2	2.18	0.43
57:AP:113:HIS:O	57:AP:116:ALA:HB3	2.17	0.43
57:AP:11:LEU:HD13	57:AP:73:GLY:O	2.17	0.43
47:AA:1095:U:C1'	57:AP:16:ASN:HD21	2.31	0.43
58:AQ:110:ARG:HH12	58:AQ:132:LYS:HA	1.83	0.43
4:E:340:THR:HG22	4:E:343:ARG:NH1	2.33	0.43
5:F:35:ASP:OD1	5:F:36:ILE:N	2.50	0.43
40:K:45:GLN:HA	40:K:48:LEU:HB3	1.99	0.43
9:L:178:GLN:HA	9:L:181:LYS:NZ	2.33	0.43
12:P:51:ARG:NH2	37:A:4620:U:OP1	2.51	0.43
70:A0:117:ILE:HG23	70:A0:118:ARG:N	2.33	0.43
70:A0:25:LYS:HD2	70:A0:55:ARG:HG2	1.99	0.43
37:A:2519:U:H1'	37:A:2520:C:C6	2.53	0.43
37:A:3714:G:OP2	37:A:3714:G:H8	2.01	0.43
37:A:4378:A:O2'	37:A:4379:A:H2'	2.18	0.43
37:A:471:A:H61	37:A:683:C:H1'	1.84	0.43
47:AA:1066:U:O5'	47:AA:1066:U:H6	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1253:A:OP2	47:AA:1526:G:N2	2.35	0.43
47:AA:1328:G:N2	47:AA:1502:C:C2	2.86	0.43
47:AA:1422:G:N2	47:AA:1424:G:H8	2.15	0.43
47:AA:1453:C:C5	47:AA:1455:A:H1'	2.52	0.43
47:AA:156:G:C6	47:AA:157:U:C5	3.06	0.43
47:AA:1571:G:H2'	47:AA:1572:C:H5'	1.99	0.43
47:AA:15:U:C5	47:AA:16:G:C5	3.06	0.43
47:AA:174:C:C4	47:AA:175:A:N7	2.86	0.43
47:AA:217:A:C2	47:AA:309:G:C2	3.06	0.43
47:AA:388:U:N3	47:AA:389:A:N7	2.66	0.43
47:AA:417:C:H1'	47:AA:418:A:C5'	2.48	0.43
47:AA:453:C:N4	47:AA:454:U:C4	2.86	0.43
47:AA:474:G:C4	47:AA:475:C:C5	3.06	0.43
47:AA:51:U:O2'	47:AA:488:U:O2	2.28	0.43
47:AA:505:G:H2'	47:AA:505:G:N3	2.33	0.43
76:AB:31:SER:OG	76:AB:32:LEU:N	2.51	0.43
47:AA:1691:U:O3'	50:AE:88:SER:HA	2.18	0.43
54:AK:2:LYS:O	54:AK:109:LEU:N	2.48	0.43
54:AK:171:THR:HG22	54:AK:172:LYS:H	1.82	0.43
54:AK:204:GLU:O	54:AK:208:GLU:N	2.51	0.43
54:AK:216:ARG:HD2	54:AK:223:LYS:NZ	2.33	0.43
57:AP:38:LEU:HD23	57:AP:50:PHE:CE1	2.53	0.43
58:AQ:121:ALA:O	58:AQ:125:VAL:HG23	2.18	0.43
47:AA:638:C:O2'	60:AT:56:ASN:HB2	2.17	0.43
4:E:312:LYS:NZ	4:E:368:ILE:O	2.41	0.43
5:F:11:TYR:HA	5:F:17:SER:HA	2.00	0.43
38:H:150:LEU:N	38:H:162:VAL:O	2.39	0.43
7:I:36:VAL:HG21	7:I:108:ILE:HD13	1.99	0.43
20:Z:78:HIS:HB3	20:Z:83:MET:O	2.18	0.43
70:A0:123:LEU:HA	70:A0:123:LEU:HD23	1.79	0.43
37:A:2011:C:H3'	37:A:2012:A:H4'	2.00	0.43
37:A:2102:G:H2'	37:A:2103:G:C8	2.54	0.43
37:A:1267:C:N4	37:A:2122:G:OP2	2.51	0.43
37:A:2589:C:H2'	37:A:2590:G:O4'	2.19	0.43
8:J:139:TYR:CE1	37:A:3859:G:H4'	2.53	0.43
37:A:5057:C:H2'	37:A:5058:A:C8	2.53	0.43
47:AA:1065:G:N2	47:AA:1066:U:C2	2.86	0.43
47:AA:1280:G:H1'	47:AA:1318:G:N2	2.21	0.43
47:AA:1370:A:C2	47:AA:1372:U:H5'	2.52	0.43
47:AA:1657:G:N2	47:AA:1658:G:C4	2.86	0.43
47:AA:122:G:C6	47:AA:343:A:C6	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:373:G:C2	47:AA:374:G:C8	3.06	0.43
47:AA:458:A:C2	47:AA:459:C:H1'	2.53	0.43
47:AA:530:U:O4	47:AA:531:A:N6	2.51	0.43
76:AB:93:SER:OG	76:AB:94:PRO:HD2	2.17	0.43
78:AI:241:PHE:CE1	78:AI:248:LEU:HD13	2.53	0.43
53:AJ:246:LYS:HB3	53:AJ:249:SER:OG	2.19	0.43
54:AK:210:ALA:CA	54:AK:214:ALA:HB3	2.48	0.43
55:AL:112:THR:HG22	55:AL:123:ILE:HD11	1.99	0.43
55:AL:151:LEU:O	55:AL:154:GLN:HG2	2.19	0.43
55:AL:44:TRP:O	55:AL:48:PHE:N	2.30	0.43
47:AA:976:G:N3	80:AO:50:LYS:HE3	2.33	0.43
59:AR:70:PRO:HD3	59:AR:109:TYR:CD2	2.53	0.43
47:AA:616:A:O2'	60:AT:10:GLY:N	2.52	0.43
81:AU:105:GLN:CG	81:AU:121:ARG:HH12	2.31	0.43
3:D:8:GLN:NE2	3:D:232:GLY:HA3	2.34	0.43
4:E:80:GLU:OE1	4:E:323:TYR:OH	2.25	0.43
5:F:233:SER:HB3	5:F:263:LEU:HD11	2.01	0.43
19:Y:18:LYS:HD2	37:A:1302:U:H5''	2.00	0.43
37:A:1098:G:H2'	37:A:1099:C:C6	2.53	0.43
37:A:1177:U:H2'	37:A:1178:G:C8	2.53	0.43
37:A:1399:G:H2'	37:A:1400:G:C8	2.53	0.43
37:A:1448:G:H2'	37:A:1449:C:C6	2.54	0.43
37:A:1320:U:O2'	37:A:1891:A:N1	2.39	0.43
37:A:2720:C:H2'	37:A:2721:G:O4'	2.18	0.43
37:A:3950:U:H2'	37:A:3951:G:C8	2.53	0.43
37:A:4384:U:O2'	37:A:4386:C:OP1	2.37	0.43
37:A:659:G:H2'	37:A:660:A:H8	1.83	0.43
37:A:964:A:C2	37:A:965:G:H2'	2.53	0.43
47:AA:101:U:O5'	47:AA:101:U:H6	2.01	0.43
47:AA:1061:U:O2'	47:AA:1062:A:P	2.76	0.43
47:AA:1212:G:C6	47:AA:1213:C:C4	3.06	0.43
47:AA:1258:A:N7	47:AA:1664:A:N6	2.66	0.43
47:AA:1405:A:C6	47:AA:1406:G:C5	3.07	0.43
47:AA:1415:C:H3'	47:AA:1417:C:OP2	2.18	0.43
47:AA:146:G:C6	47:AA:173:A:N6	2.77	0.43
47:AA:1330:G:C2	47:AA:1492:U:C4	3.07	0.43
47:AA:1202:U:C4	47:AA:1697:A:N1	2.86	0.43
47:AA:1756:C:C4	47:AA:1777:G:N3	2.86	0.43
47:AA:1752:C:C2'	47:AA:1780:G:H1	2.30	0.43
47:AA:186:C:H2'	47:AA:187:G:C8	2.53	0.43
47:AA:363:A:C5	47:AA:398:A:C2	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:48:C:H42	47:AA:479:C:H42	1.65	0.43
47:AA:492:C:C2	47:AA:508:A:N6	2.84	0.43
47:AA:578:C:H5	47:AA:579:C:C5	2.35	0.43
47:AA:976:G:C2	80:AO:50:LYS:HE3	2.54	0.43
47:AA:979:C:C2'	47:AA:980:A:H5'	2.48	0.43
48:AC:69:ILE:O	48:AC:73:ALA:N	2.40	0.43
50:AE:58:VAL:H	80:AO:127:GLY:N	2.17	0.43
50:AE:98:PRO:HA	50:AE:99:PRO:HD3	1.87	0.43
47:AA:1495:G:C4	77:AG:41:GLN:HB3	2.53	0.43
78:AI:297:THR:HG23	78:AI:310:TRP:O	2.18	0.43
53:AJ:165:VAL:HG23	53:AJ:167:ARG:HG3	1.99	0.43
54:AK:68:LEU:N	54:AK:100:CYS:SG	2.65	0.43
55:AL:158:ASP:OD1	55:AL:159:PHE:N	2.47	0.43
79:AM:53:ALA:HB3	79:AM:108:CYS:SG	2.59	0.43
81:AU:129:ARG:HD2	81:AU:133:ARG:HB3	1.99	0.43
4:E:46:PHE:HE2	4:E:81:THR:HB	1.83	0.43
14:S:6:PHE:H	14:S:11:ARG:NH2	22.86	0.43
70:A0:84:LEU:HD22	70:A0:95:TYR:CD1	2.54	0.43
37:A:1279:A:H3'	37:A:1280:C:C6	2.53	0.43
37:A:1920:C:H3'	37:A:1921:C:H5''	2.00	0.43
37:A:2:G:C5'	45:R:38:LYS:CD	2.96	0.43
6:G:12:TYR:OH	37:A:4265:U:OP1	2.34	0.43
37:A:958:G:HO2'	37:A:959:G:P	2.40	0.43
47:AA:1055:A:H2'	47:AA:1055:A:N3	2.33	0.43
47:AA:1151:G:C6	47:AA:1152:U:C4	3.07	0.43
47:AA:1168:G:C5	47:AA:1169:G:C8	3.06	0.43
47:AA:1220:A:N7	47:AA:1221:G:C4	2.87	0.43
47:AA:1302:G:H21	52:AH:98:VAL:CG2	2.31	0.43
47:AA:1250:A:O4'	47:AA:1338:G:O2'	2.37	0.43
47:AA:1411:G:C6	47:AA:1412:C:O2'	2.71	0.43
47:AA:1415:C:H6	47:AA:1432:U:O2	2.02	0.43
47:AA:1490:G:C4	47:AA:1491:G:C8	3.06	0.43
47:AA:1273:C:H42	47:AA:1506:A:H1'	1.83	0.43
47:AA:1233:G:C2	47:AA:1526:G:N3	2.86	0.43
47:AA:1565:C:C2	47:AA:1566:G:C8	3.06	0.43
47:AA:1600:G:C6	47:AA:1602:U:O2	2.72	0.43
47:AA:1621:U:P	47:AA:1623:A:HO2'	2.39	0.43
47:AA:1749:G:C2	47:AA:1750:C:C4	3.07	0.43
47:AA:1845:A:C2	47:AA:1855:G:C2	3.06	0.43
47:AA:188:C:H2'	47:AA:189:U:O4'	2.19	0.43
47:AA:376:A:C6	47:AA:377:G:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:431:G:C2	47:AA:432:G:C4	3.06	0.43
47:AA:455:A:H2'	47:AA:456:C:C6	2.53	0.43
47:AA:482:G:OP1	49:AD:76:LYS:HG2	2.18	0.43
47:AA:512:A:H2'	47:AA:513:G:C8	2.47	0.43
47:AA:69:C:H3'	47:AA:70:G:O4'	2.18	0.43
47:AA:884:C:N3	47:AA:904:A:H2	2.17	0.43
47:AA:963:A:C2	47:AA:964:A:C4	3.06	0.43
76:AB:31:SER:O	76:AB:35:VAL:HG23	2.19	0.43
53:AJ:233:LEU:O	53:AJ:236:PHE:HB3	2.18	0.43
53:AJ:92:GLU:HA	53:AJ:95:ASP:CG	2.38	0.43
55:AL:119:LEU:HD23	55:AL:120:ALA:H	1.83	0.43
56:AN:72:LEU:O	56:AN:75:LEU:HB2	2.18	0.43
80:AO:116:LEU:HD12	80:AO:116:LEU:HA	1.68	0.43
80:AO:137:SER:O	80:AO:138:ASP:HB3	2.18	0.43
80:AO:34:PHE:HB3	80:AO:41:PHE:HB2	1.99	0.43
80:AO:87:GLU:N	80:AO:87:GLU:OE1	2.47	0.43
81:AU:113:VAL:HA	81:AU:122:LYS:O	2.18	0.43
47:AA:1016:U:C4	61:AV:32:PHE:HE2	2.36	0.43
61:AV:38:PRO:HG3	61:AV:77:CYS:SG	2.59	0.43
4:E:285:TYR:CD1	4:E:363:ILE:HD12	2.53	0.43
5:F:316:LYS:HE3	5:F:324:ILE:HD11	2.00	0.43
9:L:98:ARG:NH1	9:L:132:PHE:O	2.51	0.43
6:G:42:ASN:ND2	10:N:69:GLN:OE1	2.45	0.43
59:AR:48:VAL:O	70:A0:55:ARG:NH2	2.51	0.43
70:A0:77:TYR:O	70:A0:78:LYS:HB2	2.18	0.43
17:V:51:LYS:NZ	37:A:1401:C:OP2	2.32	0.43
37:A:1983:A:H62	37:A:1987:C:H6	1.67	0.43
37:A:4221:C:H5''	37:A:4222:G:OP1	2.19	0.43
37:A:4946:U:C2	38:H:158:ARG:HD2	2.53	0.43
47:AA:1082:A:H3'	47:AA:1084:A:N7	2.33	0.43
47:AA:1159:G:H2'	47:AA:1160:U:C6	2.54	0.43
47:AA:1210:G:C6	47:AA:1211:G:C5	3.06	0.43
47:AA:1318:G:C6	47:AA:1319:U:O4	2.72	0.43
47:AA:1317:C:C5	47:AA:1318:G:C8	3.06	0.43
47:AA:1337:C:N3	47:AA:1491:G:C6	2.86	0.43
47:AA:1509:U:H5'	52:AH:85:TYR:CD2	2.54	0.43
47:AA:1552:G:C2	47:AA:1557:C:N4	2.87	0.43
47:AA:1581:C:H3'	47:AA:1582:C:C6	2.53	0.43
47:AA:1203:G:N2	47:AA:1696:C:N3	2.65	0.43
47:AA:20:G:OP1	47:AA:620:G:H1'	2.19	0.43
47:AA:223:C:C2	47:AA:299:A:C2	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:478:G:H2'	47:AA:479:C:C6	2.53	0.43
47:AA:610:G:H2'	47:AA:611:G:O4'	2.18	0.43
47:AA:665:G:C2	47:AA:671:A:C8	3.06	0.43
47:AA:675:U:H3	47:AA:1030:A:N6	2.15	0.43
47:AA:753:C:H1'	47:AA:791:C:O2'	2.17	0.43
47:AA:948:C:N4	47:AA:978:G:N1	2.64	0.43
47:AA:97:U:O4	47:AA:98:C:N4	2.52	0.43
76:AB:35:VAL:O	76:AB:38:ASP:HB3	2.18	0.43
49:AD:90:CYS:O	49:AD:94:ILE:HG22	2.18	0.43
78:AI:201:SER:HA	78:AI:241:PHE:CD2	2.53	0.43
78:AI:45:LEU:HG	78:AI:52:TYR:CB	2.48	0.43
53:AJ:145:LYS:HE3	53:AJ:145:LYS:HB3	1.76	0.43
53:AJ:274:VAL:O	53:AJ:276:THR:OG1	2.31	0.43
79:AM:109:VAL:O	79:AM:111:VAL:HG23	2.18	0.43
79:AM:49:LEU:HD11	79:AM:131:LYS:HD3	2.00	0.43
57:AP:113:HIS:ND1	57:AP:114:GLU:N	2.66	0.43
47:AA:1539:U:OP1	81:AU:43:LYS:HB2	2.18	0.43
3:D:122:ASP:HB3	37:A:4081:G:O2'	2.18	0.43
3:D:207:VAL:HG22	37:A:3919:C:H4'	2.00	0.43
37:A:961:G:C4	38:H:123:ARG:HD2	2.53	0.43
13:Q:55:TYR:N	13:Q:55:TYR:CD2	4.71	0.43
20:Z:78:HIS:HB2	20:Z:85:ARG:HG3	2.00	0.43
59:AR:47:LEU:HA	70:A0:23:ARG:HH22	1.83	0.43
59:AR:51:ASP:CA	70:A0:8:LYS:HD2	2.48	0.43
17:V:14:ARG:HH11	37:A:1877:G:P	2.42	0.43
37:A:182:G:H22	37:A:255:C:H2'	1.83	0.43
37:A:309:C:H5"	37:A:310:G:O4'	2.18	0.43
37:A:3767:C:H6	37:A:3767:C:O5'	2.02	0.43
37:A:4039:G:H2'	37:A:4040:C:C6	2.53	0.43
3:D:248:GLY:O	47:AA:1044:G:C2	2.71	0.43
47:AA:1113:A:C6	47:AA:1120:U:C2	3.06	0.43
47:AA:1168:G:H2'	47:AA:1169:G:O4'	2.18	0.43
47:AA:1184:G:C5	47:AA:1185:C:C5	3.07	0.43
47:AA:1222:G:N3	47:AA:1223:A:C8	2.87	0.43
47:AA:1374:C:H5"	47:AA:1375:G:OP2	2.19	0.43
47:AA:1432:U:H5'	47:AA:1433:C:OP2	2.19	0.43
47:AA:1484:A:C4	47:AA:1485:U:C5	3.06	0.43
47:AA:1556:A:H4'	47:AA:1557:C:OP1	2.19	0.43
47:AA:1632:G:O5'	47:AA:1632:G:H8	2.01	0.43
47:AA:1667:U:H2'	47:AA:1668:U:C6	2.49	0.43
47:AA:1668:U:H5"	76:AB:77:TRP:CD1	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:376:A:H2'	47:AA:377:G:O4'	2.18	0.43
47:AA:556:U:H5	47:AA:588:G:O2'	2.01	0.43
47:AA:663:C:N4	47:AA:664:A:C5	2.86	0.43
47:AA:67:C:N4	54:AK:164:LYS:HE2	2.34	0.43
47:AA:73:C:H4'	47:AA:74:G:OP1	2.19	0.43
49:AD:125:VAL:HG11	49:AD:130:LEU:HD13	2.01	0.43
78:AI:132:TRP:HA	78:AI:138:CYS:HA	2.00	0.43
78:AI:32:LEU:HD22	78:AI:69:VAL:HG22	2.01	0.43
78:AI:54:ILE:CG1	78:AI:55:PRO:N	2.81	0.43
53:AJ:152:ARG:O	53:AJ:155:ILE:N	2.51	0.43
53:AJ:265:PRO:C	53:AJ:268:GLU:HB3	2.39	0.43
81:AU:24:LYS:CG	81:AU:25:SER:H	2.25	0.43
61:AV:52:THR:HG22	61:AV:53:VAL:O	2.18	0.43
3:D:118:GLU:OE2	37:A:3662:A:O2'	2.34	0.43
5:F:60:HIS:CE1	5:F:100:ARG:HD3	2.54	0.43
5:F:94:ASN:HA	5:F:100:ARG:O	2.18	0.43
11:O:44:GLN:HG3	11:O:56:LEU:HG	2.00	0.43
19:Y:26:ASP:OD1	19:Y:27:ARG:N	2.51	0.43
70:A0:50:ILE:O	70:A0:50:ILE:HG13	2.19	0.43
37:A:1962:A:H8	37:A:2024:G:H21	1.67	0.43
37:A:211:G:H4'	37:A:234:G:C8	2.54	0.43
37:A:2829:U:OP1	37:A:2829:U:H4'	2.17	0.43
37:A:4041:C:H3'	37:A:4042:G:C5'	2.49	0.43
37:A:747:A:O2'	37:A:748:G:H5'	2.18	0.43
47:AA:102:A:N7	47:AA:408:A:C6	2.86	0.43
47:AA:1258:A:C5	47:AA:1664:A:C6	3.07	0.43
47:AA:1392:U:H1'	47:AA:1479:G:C2	2.54	0.43
47:AA:1407:U:H2'	47:AA:1408:U:H6	1.83	0.43
47:AA:1464:C:H3'	47:AA:1465:A:C8	2.54	0.43
47:AA:1527:C:C5	47:AA:1528:G:N7	2.87	0.43
47:AA:1730:U:C4	47:AA:1731:A:C5	3.07	0.43
47:AA:50:A:C6	47:AA:51:U:O2	2.72	0.43
47:AA:57:U:OP1	47:AA:504:G:O2'	2.36	0.43
47:AA:588:G:H21	47:AA:589:G:H1	1.65	0.43
47:AA:678:U:H6	47:AA:678:U:O5'	2.01	0.43
47:AA:803:C:O2	57:AP:124:LYS:NZ	2.46	0.43
48:AC:3:ASN:HD22	48:AC:6:GLY:HA2	1.84	0.43
78:AI:107:ASP:O	78:AI:124:SER:HA	2.18	0.43
78:AI:285:GLN:HE21	78:AI:303:THR:HG21	1.84	0.43
54:AK:38:ALA:CB	54:AK:45:TRP:HB3	2.49	0.43
47:AA:155:G:O2'	54:AK:4:ASN:OD1	2.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:AL:134:HIS:O	55:AL:160:SER:N	2.21	0.43
79:AM:59:PRO:C	79:AM:61:TYR:H	2.22	0.43
57:AP:40:VAL:HG11	57:AP:110:ILE:HG23	1.99	0.43
58:AQ:16:ARG:CD	59:AR:94:LYS:HG2	207.87	0.43
59:AR:51:ASP:H	59:AR:54:THR:CG2	2.30	0.43
4:E:321:VAL:HG12	4:E:322:HIS:ND1	2.34	0.43
38:H:84:LYS:HB2	38:H:89:LEU:CG	2.42	0.43
37:A:1358:G:N7	37:A:1378:C:N4	2.66	0.43
37:A:4072:C:H2'	37:A:4073:A:H8	1.84	0.43
10:N:90:ASN:HD22	37:A:4313:A:H1'	1.84	0.43
37:A:3644:U:O2'	37:A:4555:U:H5'	2.18	0.43
37:A:4635:A:O2'	37:A:4637:G:OP1	2.30	0.43
7:I:169:ARG:HD3	37:A:4861:G:OP1	2.19	0.43
47:AA:1233:G:C6	47:AA:1234:C:N3	2.87	0.43
47:AA:1275:G:C8	47:AA:1506:A:H2	2.36	0.43
47:AA:1302:G:H1	47:AA:1305:C:H2'	1.83	0.43
47:AA:1358:U:H2'	47:AA:1359:U:O4'	2.18	0.43
47:AA:1748:G:O6	47:AA:1786:U:C4	2.71	0.43
47:AA:1785:C:HO2'	47:AA:1786:U:P	2.38	0.43
47:AA:1745:A:C8	47:AA:1790:A:H1'	2.54	0.43
47:AA:1797:U:N3	47:AA:1798:C:C4	2.87	0.43
47:AA:1839:U:H1'	47:AA:1863:A:C2	2.54	0.43
47:AA:1846:G:N2	47:AA:1847:G:C2	2.87	0.43
47:AA:221:A:H2'	47:AA:222:U:O4'	2.19	0.43
47:AA:113:G:N2	47:AA:293:C:O4'	2.52	0.43
47:AA:34:U:H5''	47:AA:35:C:OP2	2.18	0.43
47:AA:452:G:H2'	47:AA:453:C:O4'	2.19	0.43
47:AA:532:C:H6	47:AA:532:C:OP1	2.01	0.43
47:AA:619:A:C2	47:AA:623:G:C6	3.06	0.43
47:AA:613:G:C5	47:AA:627:U:C2	3.07	0.43
47:AA:838:G:C8	47:AA:840:C:OP2	2.72	0.43
47:AA:863:U:O2'	57:AP:78:ARG:NH1	2.51	0.43
47:AA:944:A:C6	47:AA:945:U:C4	3.06	0.43
76:AB:17:ILE:HG12	76:AB:94:PRO:CB	2.47	0.43
47:AA:29:G:H5''	49:AD:129:SER:HB2	2.01	0.43
49:AD:133:LEU:HD23	49:AD:138:LYS:O	2.19	0.43
78:AI:214:GLY:HA2	78:AI:235:ILE:HA	2.00	0.43
78:AI:62:HIS:HD2	78:AI:88:ARG:HE	1.61	0.43
53:AJ:67:GLY:O	53:AJ:70:VAL:N	2.51	0.43
54:AK:114:VAL:HG23	54:AK:115:LYS:H	1.84	0.43
54:AK:47:GLY:HA3	54:AK:118:GLU:OE1	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:AK:7:PHE:HB3	54:AK:12:CYS:SG	2.58	0.43
55:AL:58:ARG:HG2	55:AL:62:THR:HG23	2.01	0.43
79:AM:64:LEU:O	79:AM:64:LEU:HD23	2.19	0.43
56:AN:22:VAL:HG12	56:AN:66:VAL:HG22	2.00	0.43
81:AU:30:VAL:HG13	81:AU:54:TYR:OH	2.18	0.43
10:N:114:GLN:O	10:N:118:GLU:HG2	2.19	0.43
20:Z:106:TYR:O	20:Z:108:SER:N	2.51	0.43
37:A:3699:C:OP1	47:AA:1051:G:O2'	2.37	0.43
37:A:3760:A:H61	47:AA:1826:G:C2'	2.30	0.43
37:A:3771:C:H2'	37:A:3772:U:O4'	2.19	0.43
37:A:4136:G:H1	37:A:4148:C:N4	2.17	0.43
37:A:4426:C:H2'	37:A:4427:G:H5'	2.01	0.43
37:A:4741:C:C6	37:A:4741:C:O5'	2.70	0.43
37:A:660:A:N6	37:A:661:C:N3	2.67	0.43
47:AA:1204:A:N6	47:AA:1205:C:N3	2.67	0.43
47:AA:1217:A:C6	47:AA:1218:C:C4	3.06	0.43
47:AA:1509:U:H5'	52:AH:85:TYR:CE2	2.54	0.43
47:AA:1272:C:C4	47:AA:1510:G:N1	2.87	0.43
47:AA:1532:C:C4	47:AA:1637:A:C4	3.07	0.43
47:AA:1647:A:N7	47:AA:1675:A:N1	2.66	0.43
47:AA:1701:C:HO2'	47:AA:1702:G:P	2.42	0.43
47:AA:1700:C:C2	47:AA:1702:G:C5	3.07	0.43
47:AA:1705:C:O4'	47:AA:1831:A:C2	2.72	0.43
47:AA:217:A:C2	47:AA:309:G:C4	3.07	0.43
47:AA:317:C:C4	47:AA:318:A:C6	3.07	0.43
47:AA:531:A:O5'	47:AA:531:A:C8	2.72	0.43
47:AA:628:A:H3'	47:AA:628:A:C8	2.54	0.43
47:AA:698:G:H8	47:AA:733:C:N3	2.17	0.43
47:AA:745:C:H4'	47:AA:746:C:OP2	2.18	0.43
47:AA:79:A:H2'	47:AA:80:G:H8	1.81	0.43
47:AA:824:C:C2	55:AL:144:ILE:HG13	2.54	0.43
53:AJ:203:GLY:H	53:AJ:221:ASP:HB2	1.84	0.43
53:AJ:274:VAL:O	53:AJ:275:LYS:C	2.55	0.43
53:AJ:72:ASP:OD2	53:AJ:272:HIS:CE1	2.72	0.43
54:AK:7:PHE:O	54:AK:11:GLY:N	2.36	0.43
56:AN:50:ILE:O	56:AN:53:ILE:N	2.51	0.43
56:AN:85:PRO:O	56:AN:88:LEU:N	2.52	0.43
47:AA:951:C:O2'	80:AO:50:LYS:HE2	2.19	0.43
58:AQ:10:ARG:HG3	58:AQ:24:VAL:HB	2.00	0.43
59:AR:54:THR:HA	59:AR:57:LYS:HG2	2.01	0.43
81:AU:87:VAL:HG22	81:AU:87:VAL:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:77:A:H62	1:B:99:G:H21	1.66	0.43
6:G:273:LEU:O	6:G:277:LYS:N	2.47	0.43
10:N:12:ARG:HH21	37:A:4275:G:H4'	1.84	0.43
45:R:72:ASP:O	45:R:76:ILE:HG12	2.19	0.43
70:A0:89:ASP:HB3	70:A0:91:LYS:O	2.19	0.42
37:A:2045:G:O2'	37:A:2046:G:H5''	2.19	0.42
37:A:4069:U:H2'	37:A:4070:U:C6	2.54	0.42
37:A:4110:C:N4	37:A:4111:U:O4	2.52	0.42
37:A:4200:G:C2	37:A:4201:G:H1'	2.54	0.42
37:A:4769:G:N2	37:A:4865:C:N3	2.53	0.42
47:AA:1136:U:O2'	47:AA:1137:U:H5'	2.19	0.42
47:AA:1199:A:H5''	47:AA:1200:A:OP2	2.19	0.42
47:AA:1251:A:N1	47:AA:1252:C:C2	2.87	0.42
47:AA:1332:A:N6	47:AA:1333:U:O2	2.52	0.42
47:AA:1411:G:C2	47:AA:1434:C:O2	2.70	0.42
47:AA:1452:A:C6	47:AA:1474:A:C5	3.07	0.42
47:AA:1465:A:H8	47:AA:1465:A:P	2.42	0.42
47:AA:154:U:H5'	47:AA:155:G:OP2	2.19	0.42
47:AA:1610:G:C2	47:AA:1611:G:C4	3.07	0.42
47:AA:1662:U:H5	47:AA:1663:A:C5	2.37	0.42
47:AA:149:A:C6	47:AA:170:A:C6	3.06	0.42
47:AA:1787:G:C6	47:AA:1788:A:C6	3.07	0.42
47:AA:184:G:H2'	47:AA:184:G:N3	2.34	0.42
47:AA:190:G:H2'	47:AA:208:G:N1	2.34	0.42
47:AA:107:A:N3	47:AA:355:G:C2	2.87	0.42
47:AA:377:G:C6	47:AA:378:U:O4	2.72	0.42
47:AA:436:G:N1	47:AA:437:G:C5	2.87	0.42
47:AA:476:A:C5	47:AA:477:G:N7	2.88	0.42
47:AA:832:G:N2	47:AA:833:C:H1'	2.34	0.42
47:AA:867:G:C6	47:AA:868:G:C6	3.07	0.42
47:AA:88:G:C2	47:AA:500:A:C6	3.07	0.42
47:AA:963:A:C6	47:AA:964:A:C6	3.07	0.42
47:AA:980:A:HO2'	47:AA:981:A:P	2.41	0.42
47:AA:992:A:C2	47:AA:993:G:C8	3.06	0.42
76:AB:49:LYS:C	76:AB:51:LYS:N	2.71	0.42
49:AD:11:ARG:O	49:AD:14:ARG:N	2.52	0.42
49:AD:94:ILE:HB	49:AD:125:VAL:HG21	2.01	0.42
47:AA:1869:A:H8	50:AE:39:PHE:CE2	2.37	0.42
78:AI:191:HIS:CD2	78:AI:192:THR:H	2.37	0.42
53:AJ:123:ARG:HG3	53:AJ:145:LYS:HZ2	1.84	0.42
53:AJ:188:CYS:CB	53:AJ:239:ALA:HB2	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:AN:54:LEU:O	56:AN:59:GLY:N	2.52	0.42
58:AQ:50:THR:O	58:AQ:51:THR:OG1	2.31	0.42
60:AT:22:GLN:OE1	60:AT:22:GLN:N	2.52	0.42
4:E:174:ARG:HH21	37:A:4986:G:H1'	1.83	0.42
40:K:18:PRO:HG3	40:K:52:PHE:HD1	1.84	0.42
14:S:6:PHE:HD2	42:M:151:LYS:HD2	147.93	0.42
11:O:64:GLU:HB3	11:O:71:THR:HB	2.01	0.42
47:AA:1232:U:OP2	70:A0:135:HIS:HB2	2.19	0.42
20:Z:22:ARG:NH2	37:A:2070:U:OP1	2.52	0.42
37:A:2669:C:HO2'	37:A:2670:C:C5'	2.31	0.42
37:A:4740:G:C4	37:A:4960:G:C2	3.06	0.42
37:A:62:A:N3	37:A:77:U:O2'	2.49	0.42
47:AA:933:G:N1	47:AA:1000:C:C5	2.87	0.42
47:AA:1113:A:C6	47:AA:1120:U:N3	2.87	0.42
47:AA:1139:C:C4	47:AA:1140:G:C5	3.06	0.42
47:AA:1158:G:H2'	47:AA:1158:G:N3	2.34	0.42
47:AA:1411:G:OP2	47:AA:1412:C:H5''	2.19	0.42
47:AA:1446:A:N3	47:AA:1447:G:N7	2.67	0.42
47:AA:1516:G:C6	47:AA:1517:G:C8	3.07	0.42
47:AA:1228:A:H1'	47:AA:1634:A:H2	1.85	0.42
47:AA:164:A:N6	47:AA:165:G:O6	2.52	0.42
47:AA:1732:G:H1	47:AA:1802:C:H42	1.67	0.42
47:AA:29:G:H1'	47:AA:646:G:N2	2.34	0.42
47:AA:34:U:H3	47:AA:521:A:H61	1.66	0.42
47:AA:373:G:C6	47:AA:374:G:N7	2.87	0.42
47:AA:105:U:O2'	47:AA:432:G:O2'	2.02	0.42
47:AA:525:A:C2	47:AA:526:A:C5	3.07	0.42
47:AA:698:G:N7	47:AA:731:G:H2'	2.33	0.42
47:AA:744:G:H2'	47:AA:744:G:N3	2.34	0.42
47:AA:808:A:C6	47:AA:809:A:C6	3.07	0.42
47:AA:902:G:H3'	47:AA:903:A:C5'	2.49	0.42
76:AB:36:CYS:O	76:AB:39:LEU:N	2.45	0.42
76:AB:51:LYS:HE2	76:AB:92:HIS:HB3	2.00	0.42
48:AC:47:ASN:OD1	48:AC:48:GLY:N	2.51	0.42
49:AD:70:VAL:HG11	49:AD:94:ILE:HD11	2.00	0.42
76:AB:61:LEU:HD22	77:AG:34:TYR:CZ	2.53	0.42
54:AK:226:GLU:HB3	54:AK:227:GLN:NE2	2.34	0.42
55:AL:58:ARG:O	55:AL:61:LEU:N	2.52	0.42
55:AL:60:LEU:HD11	55:AL:69:ARG:O	2.18	0.42
55:AL:89:GLU:HG2	55:AL:90:GLY:N	2.34	0.42
47:AA:936:G:H5'	56:AN:108:ASP:HB3	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:AF:62:GLU:OE2	80:AO:121:ARG:NH1	2.52	0.42
59:AR:68:ILE:O	59:AR:109:TYR:HB2	2.19	0.42
5:F:8:ILE:HD11	5:F:257:PHE:CZ	2.54	0.42
6:G:43:LYS:HB3	6:G:46:THR:OG1	2.19	0.42
7:I:122:ALA:O	7:I:128:ARG:NH2	2.52	0.42
46:W:96:ILE:HG22	46:W:99:PRO:HD3	2.00	0.42
37:A:1265:G:H3'	37:A:1266:G:C8	2.55	0.42
37:A:1450:C:H2'	37:A:1451:G:O4'	2.19	0.42
37:A:3706:C:H2'	37:A:3707:U:O4'	2.20	0.42
37:A:4511:A:H2'	37:A:4512:U:O4'	2.18	0.42
37:A:962:C:H41	37:A:969:C:H41	1.65	0.42
47:AA:1067:C:C4	47:AA:1068:G:C8	3.08	0.42
47:AA:1151:G:C5	47:AA:1152:U:C4	3.07	0.42
47:AA:1236:G:C5	47:AA:1237:C:C2	3.08	0.42
47:AA:1267:C:O2	47:AA:1516:G:C2	2.73	0.42
47:AA:1276:A:N7	47:AA:1277:C:C5	2.87	0.42
47:AA:1283:C:C5'	79:AM:102:LYS:HB3	2.49	0.42
47:AA:1290:G:N2	47:AA:1311:C:H1'	2.34	0.42
47:AA:1334:G:C5	47:AA:1335:G:C5	3.07	0.42
47:AA:1364:U:C4	47:AA:1365:G:N7	2.87	0.42
47:AA:1375:G:N1	47:AA:1376:A:C5	2.87	0.42
47:AA:1390:U:H2'	47:AA:1391:C:C6	2.54	0.42
47:AA:1472:C:C4	47:AA:1475:G:C8	3.07	0.42
47:AA:1337:C:O2	47:AA:1491:G:C2	2.72	0.42
47:AA:1241:A:C2	47:AA:1517:G:H1'	2.52	0.42
47:AA:1631:U:H2'	47:AA:1632:G:N9	2.34	0.42
47:AA:1258:A:C4	47:AA:1664:A:C6	3.07	0.42
47:AA:203:G:C2	47:AA:204:G:C5	3.08	0.42
47:AA:319:C:H41	47:AA:320:G:N2	2.18	0.42
47:AA:391:C:C5	47:AA:392:A:N7	2.88	0.42
47:AA:363:A:C5	47:AA:401:A:N7	2.88	0.42
47:AA:416:U:C2'	47:AA:417:C:H5'	2.49	0.42
47:AA:418:A:C6	47:AA:419:G:C5	3.07	0.42
47:AA:555:A:C8	47:AA:557:U:OP1	2.72	0.42
47:AA:745:C:N4	47:AA:795:A:C6	2.88	0.42
47:AA:834:C:N3	47:AA:835:C:O2	2.53	0.42
51:AF:20:ARG:HE	51:AF:28:THR:HG22	1.84	0.42
78:AI:44:LYS:CG	78:AI:56:GLN:CD	2.86	0.42
54:AK:139:SER:O	54:AK:143:LYS:HE2	2.19	0.42
58:AQ:81:TYR:O	58:AQ:85:ASN:N	2.53	0.42
59:AR:103:HIS:ND1	59:AR:106:GLN:OE1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AR:46:ASN:HB3	59:AR:80:ARG:HA	2.01	0.42
81:AU:21:PHE:HA	81:AU:24:LYS:HE2	2.01	0.42
5:F:259:LYS:O	5:F:263:LEU:N	2.52	0.42
37:A:961:G:N3	38:H:123:ARG:HD2	2.34	0.42
12:P:58:GLY:HA2	12:P:125:CYS:HB3	2.01	0.42
20:Z:38:GLU:OE1	20:Z:38:GLU:N	2.52	0.42
37:A:1293:G:H3'	37:A:1294:A:C2	2.54	0.42
37:A:1477:C:H2'	37:A:1478:C:O4'	2.19	0.42
37:A:1821:G:N2	37:A:1821:G:OP2	2.53	0.42
37:A:2597:G:H2'	37:A:2598:A:C8	2.54	0.42
9:L:101:ILE:HG23	37:A:2898:G:OP1	2.18	0.42
37:A:307:A:H3'	37:A:308:G:N2	2.33	0.42
37:A:4056:A:H2'	37:A:4057:C:C6	2.55	0.42
37:A:673:C:H2'	37:A:674:G:H8	1.83	0.42
37:A:987:C:H2'	37:A:988:C:C5	2.54	0.42
47:AA:1032:C:H5'	56:AN:109:LYS:HZ2	1.83	0.42
47:AA:1049:A:H2'	47:AA:1049:A:N3	2.34	0.42
47:AA:1061:U:HO2'	47:AA:1062:A:P	2.41	0.42
47:AA:1060:A:C4	47:AA:1062:A:N6	2.87	0.42
47:AA:1140:G:N1	47:AA:1141:G:C5	2.87	0.42
47:AA:1173:A:C6	47:AA:1174:U:N3	2.88	0.42
47:AA:1186:U:H5	47:AA:1187:G:C5	2.36	0.42
47:AA:1224:G:N2	47:AA:1225:U:C2	2.87	0.42
47:AA:1289:U:H5''	52:AH:97:LYS:HD3	2.01	0.42
47:AA:1290:G:C8	47:AA:1291:A:H1'	2.54	0.42
47:AA:1364:U:N3	47:AA:1365:G:C8	2.88	0.42
47:AA:1410:C:C4	47:AA:1411:G:C6	3.07	0.42
47:AA:1414:A:C8	47:AA:1416:C:H4'	2.54	0.42
47:AA:1696:C:H2'	47:AA:1697:A:H5'	2.02	0.42
47:AA:1719:A:H5''	47:AA:1720:U:OP2	2.19	0.42
47:AA:429:C:C4	47:AA:430:C:C5	3.07	0.42
47:AA:454:U:H2'	47:AA:455:A:H8	1.82	0.42
47:AA:54:A:C6	47:AA:474:G:C6	3.07	0.42
47:AA:559:G:H3'	55:AL:177:ASN:HD22	1.84	0.42
47:AA:587:A:O4'	47:AA:592:C:C4	2.72	0.42
47:AA:614:C:N4	47:AA:626:G:C5	2.87	0.42
47:AA:697:G:C8	47:AA:697:G:OP2	2.72	0.42
47:AA:802:A:C2	47:AA:803:C:C2	3.08	0.42
47:AA:881:G:H2'	47:AA:882:U:H6	1.83	0.42
47:AA:996:A:C4	47:AA:997:A:C8	3.06	0.42
76:AB:80:PHE:CE2	77:AG:43:PHE:HE2	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:AR:83:LEU:HD22	70:A0:54:LYS:NZ	2.35	0.42
60:AT:34:ARG:O	60:AT:38:TYR:N	2.48	0.42
2:C:146:U:O2	37:A:11:G:N2	2.53	0.42
42:M:161:ARG:NH2	42:M:164:LYS:HG2	2.35	0.42
15:T:25:ILE:HG12	15:T:43:VAL:HG12	2.01	0.42
16:U:2:PRO:HG2	37:A:1509:C:H5''	2.02	0.42
70:A0:8:LYS:HE2	70:A0:8:LYS:HB3	1.82	0.42
37:A:1445:U:H3	37:A:2099:G:H22	1.66	0.42
37:A:258:G:H2'	37:A:259:C:O4'	2.20	0.42
37:A:4101:C:H2'	37:A:4102:C:C5	2.55	0.42
37:A:4242:U:N3	37:A:4281:A:H2	2.17	0.42
37:A:3846:C:H5''	37:A:4667:C:O2'	2.18	0.42
37:A:734:G:H1	37:A:929:A:H62	1.67	0.42
47:AA:1017:U:H2'	47:AA:1018:U:C6	2.55	0.42
47:AA:1073:U:H2'	47:AA:1074:C:C6	2.54	0.42
47:AA:1080:A:HO2'	47:AA:1081:U:P	2.40	0.42
47:AA:1151:G:C2	47:AA:1152:U:C2	3.08	0.42
47:AA:1281:G:H2'	47:AA:1282:A:C8	2.54	0.42
47:AA:1293:A:H4'	47:AA:1294:G:OP1	2.19	0.42
47:AA:1452:A:N6	47:AA:1475:G:C8	2.88	0.42
47:AA:1452:A:C5	47:AA:1474:A:C5	3.07	0.42
47:AA:1522:A:H8	70:A0:144:ARG:CD	2.32	0.42
47:AA:1599:U:H4'	47:AA:1600:G:N3	2.34	0.42
47:AA:1862:G:N7	47:AA:1864:U:O4	2.53	0.42
47:AA:1866:A:C5	50:AE:87:ARG:NH1	2.88	0.42
47:AA:389:A:C2	47:AA:390:C:C2	3.08	0.42
47:AA:426:A:H2'	47:AA:427:U:H5'	2.01	0.42
47:AA:435:A:H3'	47:AA:450:C:H5	1.84	0.42
47:AA:62:G:N1	47:AA:63:U:C2	2.87	0.42
47:AA:730:C:H3'	47:AA:731:G:H4'	2.01	0.42
47:AA:872:A:H8	47:AA:873:G:N9	2.18	0.42
47:AA:878:G:C2	47:AA:879:C:H4'	2.54	0.42
47:AA:878:G:H2'	47:AA:878:G:N3	2.35	0.42
9:L:173:ARG:HD2	47:AA:910:G:OP2	2.20	0.42
47:AA:992:A:H2'	47:AA:992:A:N3	2.35	0.42
76:AB:20:ILE:HD11	76:AB:95:SER:HA	2.00	0.42
48:AC:59:ILE:HA	48:AC:59:ILE:HD13	1.83	0.42
48:AC:66:ASP:OD1	48:AC:67:ASP:N	2.53	0.42
47:AA:987:A:H5''	50:AE:70:LYS:CE	2.49	0.42
78:AI:109:LEU:HG	78:AI:153:CYS:HA	2.02	0.42
78:AI:33:SER:OG	78:AI:41:ILE:O	2.31	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AI:7:LEU:HD21	78:AI:308:ARG:HB3	2.00	0.42
53:AJ:276:THR:C	53:AJ:278:THR:H	2.23	0.42
80:AO:102:GLY:O	80:AO:106:LYS:NZ	2.46	0.42
80:AO:74:ALA:HB3	80:AO:114:SER:OG	2.19	0.42
58:AQ:110:ARG:HH12	58:AQ:132:LYS:N	2.17	0.42
58:AQ:126:GLY:O	58:AQ:129:LYS:HB2	2.20	0.42
4:E:285:TYR:HE2	4:E:334:LYS:HB2	1.84	0.42
38:H:152:ILE:HG22	38:H:160:LYS:O	2.19	0.42
7:I:188:LYS:NZ	37:A:4893:A:H5''	2.35	0.42
40:K:67:ILE:HD12	40:K:96:PRO:HD2	2.02	0.42
37:A:451:C:OP1	38:H:229:GLU:HG3	2.19	0.42
47:AA:1184:G:C5	47:AA:1185:C:C4	3.07	0.42
47:AA:1227:G:N2	47:AA:1228:A:C8	2.86	0.42
47:AA:1449:G:HO2'	47:AA:1450:G:C5'	2.31	0.42
47:AA:150:A:P	47:AA:151:C:H5	2.42	0.42
47:AA:1616:U:N3	47:AA:1620:A:H2	2.07	0.42
47:AA:1658:G:N2	47:AA:1667:U:C2	2.88	0.42
47:AA:1700:C:C2	47:AA:1702:G:N7	2.87	0.42
47:AA:181:A:H61	54:AK:196:LYS:HZ2	1.67	0.42
47:AA:191:A:N6	47:AA:209:A:O2'	2.52	0.42
47:AA:426:A:C2'	47:AA:427:U:H5'	2.49	0.42
47:AA:451:G:O2'	47:AA:452:G:P	2.77	0.42
47:AA:499:G:N1	47:AA:501:C:H1'	2.35	0.42
47:AA:49:C:C2	47:AA:478:G:C6	3.07	0.42
47:AA:525:A:P	60:AT:28:LYS:HB2	2.59	0.42
47:AA:535:G:C2	47:AA:537:C:O2	2.72	0.42
47:AA:556:U:O2'	47:AA:557:U:OP2	2.38	0.42
47:AA:567:C:O2'	47:AA:568:C:H5'	2.18	0.42
47:AA:594:A:C4	47:AA:643:A:C6	3.07	0.42
47:AA:655:A:H4'	47:AA:656:G:H5'	2.02	0.42
47:AA:664:A:C6	47:AA:665:G:C5	3.07	0.42
47:AA:429:C:H2'	47:AA:811:A:H61	1.84	0.42
47:AA:837:A:H2	47:AA:838:G:N3	2.17	0.42
47:AA:85:A:C4	47:AA:86:C:C5	3.07	0.42
47:AA:907:G:H8	47:AA:907:G:H5''	1.84	0.42
47:AA:685:A:H2	47:AA:918:U:O2	2.01	0.42
76:AB:108:PRO:CD	76:AB:110:VAL:HG13	2.48	0.42
49:AD:28:LYS:O	49:AD:31:HIS:N	2.52	0.42
50:AE:44:ILE:HG22	50:AE:65:PRO:O	2.20	0.42
51:AF:32:VAL:HG22	51:AF:42:ILE:HB	2.02	0.42
78:AI:226:HIS:CD2	78:AI:227:LEU:N	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AI:246:TYR:HB3	78:AI:261:LEU:CD1	2.50	0.42
78:AI:39:THR:OG1	78:AI:60:ARG:HG3	2.19	0.42
78:AI:5:MET:HG3	78:AI:310:TRP:CD1	2.55	0.42
53:AJ:94:ILE:HA	53:AJ:94:ILE:HD12	1.85	0.42
54:AK:216:ARG:HD2	54:AK:223:LYS:HZ2	1.84	0.42
58:AQ:110:ARG:HH12	58:AQ:132:LYS:CA	2.32	0.42
58:AQ:15:ASN:HD21	58:AQ:18:LEU:HD12	1.84	0.42
58:AQ:20:ARG:NH1	58:AQ:74:MET:HA	2.34	0.42
58:AQ:55:ILE:HG23	58:AQ:75:ILE:HG12	2.01	0.42
58:AQ:88:LYS:HE3	58:AQ:97:TYR:CE2	2.54	0.42
40:K:81:VAL:HG22	40:K:101:CYS:SG	2.60	0.42
9:L:24:LEU:HG	9:L:32:ILE:HD13	2.01	0.42
37:A:2:G:P	45:R:38:LYS:HD3	2.58	0.42
47:AA:1610:G:H5''	70:A0:121:ARG:NH2	2.34	0.42
37:A:1185:G:H2'	37:A:1186:U:C6	2.54	0.42
37:A:1633:G:H5'	37:A:1634:A:OP1	2.20	0.42
37:A:1866:U:O2'	37:A:1867:A:O4'	2.37	0.42
37:A:1266:G:H1'	37:A:2111:G:H4'	2.00	0.42
37:A:2730:U:H2'	37:A:2731:C:C6	2.55	0.42
37:A:2909:C:O2	37:A:3586:G:N2	2.51	0.42
37:A:3726:A:O2'	37:A:3727:A:O4'	2.38	0.42
47:AA:1120:U:N3	47:AA:1121:G:C5	2.82	0.42
47:AA:1134:G:H2'	47:AA:1135:C:H6	1.84	0.42
47:AA:1217:A:N1	47:AA:1218:C:C4	2.87	0.42
47:AA:1276:A:C8	47:AA:1277:C:C5	3.08	0.42
47:AA:1338:G:C2	47:AA:1490:G:C2	3.08	0.42
47:AA:1560:U:H4'	47:AA:1583:C:O2'	2.19	0.42
47:AA:1551:U:N1	47:AA:1577:G:C6	2.88	0.42
47:AA:161:U:HO2'	47:AA:162:C:P	2.42	0.42
47:AA:1620:A:C4	47:AA:1624:U:O2	2.73	0.42
47:AA:1711:U:C4	47:AA:1712:A:C6	3.08	0.42
47:AA:201:C:H3'	47:AA:202:G:O4'	2.19	0.42
47:AA:218:U:H2'	47:AA:219:U:O4'	2.19	0.42
47:AA:347:G:C6	47:AA:348:A:C6	3.08	0.42
47:AA:418:A:C2'	47:AA:419:G:H5'	2.50	0.42
47:AA:526:A:H5''	60:AT:35:ARG:HH12	1.85	0.42
47:AA:611:G:H21	60:AT:12:VAL:HG11	1.83	0.42
47:AA:731:G:H5''	47:AA:733:C:C5	2.55	0.42
47:AA:828:G:H2'	47:AA:829:C:C6	2.55	0.42
47:AA:837:A:C2'	47:AA:838:G:H4'	2.44	0.42
47:AA:873:G:H2'	47:AA:874:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:962:A:N1	47:AA:1055:A:O2'	2.50	0.42
48:AC:11:LEU:HD13	53:AJ:136:HIS:HE1	1.82	0.42
48:AC:59:ILE:HD13	48:AC:62:MET:SD	2.60	0.42
49:AD:28:LYS:HD2	49:AD:28:LYS:HA	1.80	0.42
47:AA:1306:U:H5''	52:AH:135:HIS:CD2	2.55	0.42
78:AI:236:ILE:CD1	78:AI:250:ALA:HB1	2.49	0.42
53:AJ:168:GLY:O	53:AJ:179:THR:HG22	2.20	0.42
53:AJ:78:LEU:HD23	53:AJ:81:ILE:HD12	2.01	0.42
47:AA:154:U:O2	54:AK:13:GLN:HG3	2.20	0.42
54:AK:191:ARG:O	54:AK:195:LYS:HG3	2.20	0.42
54:AK:44:GLU:HA	54:AK:119:LYS:CD	2.47	0.42
57:AP:40:VAL:HG21	57:AP:110:ILE:HG13	2.02	0.42
56:AN:18:TYR:CD1	57:AP:56:HIS:CD2	3.07	0.42
58:AQ:29:HIS:CD2	58:AQ:35:VAL:HG13	2.55	0.42
38:H:91:THR:HG21	38:H:109:LEU:HB2	2.02	0.42
37:A:1921:C:O3'	42:M:160:ARG:HG2	2.19	0.42
70:A0:88:LYS:C	70:A0:90:VAL:H	2.22	0.42
37:A:1272:C:H5'	37:A:2122:G:H8	1.85	0.42
37:A:2106:G:N2	37:A:2126:G:H2'	2.35	0.42
37:A:2901:G:N7	37:A:2902:G:N2	2.37	0.42
37:A:4260:U:H2'	37:A:4261:C:C6	2.55	0.42
37:A:461:G:H2'	37:A:461:G:N3	2.35	0.42
37:A:663:G:H21	37:A:665:C:N4	2.11	0.42
47:AA:1118:C:C4	47:AA:1119:A:N6	2.87	0.42
47:AA:1137:U:HO2'	47:AA:1138:C:P	2.38	0.42
47:AA:1366:G:C2	47:AA:1374:C:C2	3.08	0.42
47:AA:1399:C:OP1	78:AI:100:ARG:NH1	2.51	0.42
47:AA:1466:G:C2	47:AA:1467:C:C4	3.07	0.42
47:AA:1471:C:C2	47:AA:1472:C:N3	2.88	0.42
47:AA:1545:A:O2'	47:AA:1546:G:C8	2.67	0.42
47:AA:1553:C:N4	47:AA:1557:C:O4'	2.52	0.42
47:AA:1607:A:H61	47:AA:1632:G:C1'	2.33	0.42
47:AA:1698:C:HO2'	47:AA:1699:A:P	2.41	0.42
47:AA:1730:U:H2'	47:AA:1731:A:O4'	2.20	0.42
47:AA:194:C:O5'	47:AA:194:C:H6	2.03	0.42
47:AA:218:U:C4	47:AA:219:U:C4	3.07	0.42
47:AA:333:G:N1	47:AA:334:C:C2	2.88	0.42
47:AA:39:A:C8	47:AA:515:G:N2	2.83	0.42
47:AA:496:C:H2'	47:AA:497:C:C6	2.55	0.42
47:AA:902:G:C6	47:AA:903:A:H8	2.37	0.42
47:AA:913:A:HO2'	47:AA:914:U:P	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1404:U:OP2	76:AB:21:ARG:NH2	2.53	0.42
47:AA:1338:G:H5''	76:AB:74:SER:HB3	2.01	0.42
48:AC:2:GLN:HB3	48:AC:3:ASN:H	1.68	0.42
49:AD:105:PHE:HE2	49:AD:112:VAL:O	2.02	0.42
78:AI:109:LEU:HB3	78:AI:123:GLY:CA	2.45	0.42
78:AI:70:VAL:O	78:AI:78:ALA:HB1	2.20	0.42
55:AL:120:ALA:HB1	55:AL:125:HIS:CE1	2.55	0.42
55:AL:147:PHE:CE2	55:AL:149:VAL:HA	2.55	0.42
79:AM:18:LEU:HD22	79:AM:48:HIS:HE1	1.84	0.42
56:AN:104:ARG:HH21	56:AN:105:ASN:HD21	1.67	0.42
56:AN:4:MET:HE2	56:AN:124:ARG:HD3	2.02	0.42
56:AN:28:LEU:HD23	56:AN:33:VAL:CG1	2.47	0.42
57:AP:102:ILE:H	57:AP:113:HIS:CD2	2.38	0.42
58:AQ:9:THR:HG21	58:AQ:23:MET:SD	2.60	0.42
58:AQ:9:THR:HG22	58:AQ:25:ILE:HG23	2.01	0.42
38:H:222:LEU:HG	38:H:223:ARG:H	1.85	0.42
11:O:24:ASP:HA	11:O:68:SER:O	2.19	0.42
19:Y:92:ASN:OD1	19:Y:93:LYS:N	2.53	0.42
37:A:1273:G:N3	37:A:1273:G:H2'	2.35	0.42
37:A:1983:A:N6	37:A:1987:C:O4'	2.53	0.42
37:A:2505:C:H4'	37:A:2506:G:O5'	2.20	0.42
37:A:3700:C:H2'	37:A:3746:A:H61	1.85	0.42
47:AA:1027:A:C2	47:AA:1028:A:H1'	2.54	0.42
47:AA:1031:A:C5	47:AA:1032:C:C5	3.07	0.42
47:AA:1067:C:C5	47:AA:1068:G:N7	2.88	0.42
47:AA:1173:A:C2	47:AA:1188:A:C5	3.08	0.42
47:AA:1167:G:C6	47:AA:1193:U:O2	2.73	0.42
47:AA:1211:G:H2'	47:AA:1212:G:O4'	2.20	0.42
47:AA:1314:U:O2'	47:AA:1315:U:O3'	2.25	0.42
47:AA:1279:C:C2	47:AA:1319:U:N3	2.87	0.42
47:AA:1652:G:H8	47:AA:1652:G:O5'	2.02	0.42
47:AA:1656:G:C5	47:AA:1669:G:C2	3.07	0.42
47:AA:1682:C:C2	47:AA:1683:C:N4	2.87	0.42
47:AA:1705:C:O4'	47:AA:1831:A:N1	2.53	0.42
47:AA:1852:C:C5	47:AA:1853:C:H5	2.38	0.42
47:AA:341:C:O2	47:AA:341:C:H2'	2.19	0.42
47:AA:378:U:C4	47:AA:379:C:N4	2.88	0.42
47:AA:431:G:C4	47:AA:432:G:C8	3.08	0.42
47:AA:659:G:H2'	47:AA:659:G:N3	2.34	0.42
47:AA:824:C:C5	47:AA:825:A:C5	3.08	0.42
47:AA:944:A:C5	47:AA:945:U:C4	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:969:U:O2	47:AA:971:G:C2	2.73	0.42
53:AJ:255:LEU:O	53:AJ:256:TRP:HD1	2.02	0.42
47:AA:70:G:O6	54:AK:170:ARG:HG3	2.19	0.42
54:AK:3:LEU:HD12	54:AK:3:LEU:O	2.20	0.42
54:AK:27:PHE:HE2	54:AK:41:LEU:HD23	1.84	0.42
79:AM:15:ASN:HB3	79:AM:79:VAL:HG13	2.01	0.42
56:AN:104:ARG:HG3	56:AN:105:ASN:OD1	2.20	0.42
58:AQ:15:ASN:OD1	58:AQ:15:ASN:N	2.53	0.42
81:AU:2:PRO:O	81:AU:139:ALA:HB3	2.16	0.42
38:H:100:LYS:CE	38:H:100:LYS:CA	2.97	0.42
37:A:471:A:H1'	38:H:105:ARG:HD2	2.02	0.42
38:H:90:ALA:O	38:H:107:VAL:CG2	2.67	0.42
17:V:64:ALA:HA	17:V:67:ALA:HB3	2.02	0.42
70:A0:103:LEU:HD12	70:A0:104:ASP:N	2.35	0.42
47:AA:1522:A:C1'	70:A0:144:ARG:HB3	2.47	0.42
37:A:137:G:H2'	37:A:138:G:H8	1.85	0.42
7:I:17:GLY:HA3	37:A:2053:C:H5'	2.01	0.42
47:AA:1099:G:N2	47:AA:1134:G:C2	2.88	0.42
47:AA:1102:G:N1	47:AA:1130:G:N1	2.61	0.42
47:AA:1132:C:N4	47:AA:1133:A:C5	2.88	0.42
47:AA:127:C:N4	47:AA:181:A:N3	2.68	0.42
47:AA:1344:A:H2	47:AA:1484:A:C6	2.38	0.42
47:AA:1621:U:O2'	47:AA:1622:U:H6	2.03	0.42
47:AA:1607:A:H61	47:AA:1632:G:C2'	2.32	0.42
47:AA:1726:G:N2	47:AA:1809:A:C4	2.88	0.42
47:AA:1818:A:H2'	47:AA:1819:A:O4'	2.20	0.42
47:AA:1853:C:O2	47:AA:1854:U:C6	2.72	0.42
47:AA:319:C:H4'	47:AA:319:C:OP1	2.19	0.42
47:AA:413:G:N2	47:AA:425:G:H1'	2.35	0.42
47:AA:619:A:O5'	47:AA:619:A:H8	2.03	0.42
47:AA:798:A:H8	47:AA:800:U:OP1	2.03	0.42
47:AA:858:A:N6	47:AA:859:G:C5	2.88	0.42
47:AA:90:G:OP1	47:AA:445:A:N6	2.53	0.42
47:AA:981:A:C6	47:AA:982:G:C6	3.08	0.42
47:AA:980:A:O2'	47:AA:981:A:OP1	2.31	0.42
47:AA:985:G:O5'	47:AA:985:G:H8	2.02	0.42
47:AA:996:A:C5	47:AA:997:A:N7	2.87	0.42
49:AD:85:VAL:HG12	49:AD:122:VAL:HG11	2.01	0.42
51:AF:15:THR:OG1	51:AF:16:LYS:N	2.53	0.42
77:AG:22:ARG:HH22	77:AG:37:ASN:HD22	1.68	0.42
78:AI:51:ASN:O	78:AI:52:TYR:C	2.59	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:AJ:103:LYS:HE3	53:AJ:103:LYS:HB3	1.79	0.42
53:AJ:123:ARG:HG3	53:AJ:145:LYS:NZ	2.34	0.42
53:AJ:75:ILE:HD11	53:AJ:265:PRO:CB	2.45	0.42
54:AK:184:VAL:O	54:AK:187:HIS:N	2.53	0.42
55:AL:83:ARG:HE	55:AL:150:ARG:NH2	2.18	0.42
55:AL:93:LYS:HD2	55:AL:95:ASP:HB2	2.02	0.42
56:AN:99:ARG:O	56:AN:103:GLU:N	2.46	0.42
80:AO:90:ILE:O	80:AO:90:ILE:HG13	2.20	0.42
57:AP:114:GLU:O	57:AP:117:ARG:HB3	2.20	0.42
81:AU:14:PHE:HZ	81:AU:134:ILE:HG13	1.85	0.42
61:AV:73:LEU:HG	61:AV:77:CYS:HB2	2.02	0.42
5:F:308:LYS:HB3	5:F:310:HIS:CE1	2.54	0.42
5:F:46:LYS:HD2	5:F:113:ARG:HD3	2.02	0.42
6:G:186:GLU:HG2	6:G:187:SER:H	1.85	0.42
38:H:198:SER:N	38:H:288:PHE:O	2.53	0.42
38:H:278:THR:H	38:H:281:ILE:HD11	1.85	0.42
9:L:68:LEU:HD23	9:L:68:LEU:HA	2.13	0.42
18:X:26:THR:HG23	37:A:4996:C:H4'	2.01	0.42
19:Y:84:GLU:O	19:Y:87:VAL:HG22	2.20	0.42
70:A0:40:TYR:CB	70:A0:97:GLN:HE22	2.33	0.41
70:A0:74:PRO:CG	70:A0:84:LEU:HD21	2.48	0.41
37:A:1281:G:OP2	38:H:52:ARG:NH2	2.47	0.41
37:A:1406:G:P	37:A:1407:C:H5''	2.60	0.41
37:A:1486:C:H2'	37:A:1487:G:H8	1.85	0.41
37:A:1927:U:OP1	37:A:1949:U:O2'	2.29	0.41
37:A:165:A:N6	37:A:269:G:O6	2.53	0.41
37:A:750:U:H3'	37:A:751:G:H8	1.85	0.41
37:A:755:C:H2'	37:A:756:G:H8	1.82	0.41
37:A:988:C:H2'	37:A:989:U:H4'	2.02	0.41
47:AA:1030:A:H2'	47:AA:1030:A:N3	2.35	0.41
47:AA:1048:G:H8	47:AA:1048:G:O5'	2.03	0.41
47:AA:1082:A:N7	47:AA:1084:A:C5	2.88	0.41
47:AA:1103:C:O2	47:AA:1104:G:C8	2.73	0.41
47:AA:1110:G:N2	47:AA:1124:C:H1'	2.35	0.41
47:AA:666:U:N3	47:AA:1150:A:C5	2.88	0.41
47:AA:1159:G:C5	47:AA:1160:U:C4	3.07	0.41
47:AA:122:G:H1	47:AA:342:C:N4	2.15	0.41
47:AA:1240:A:C8	47:AA:1241:A:C5	3.08	0.41
47:AA:1353:A:N6	47:AA:1354:G:C6	2.88	0.41
47:AA:1398:G:H2'	47:AA:1399:C:H4'	2.01	0.41
47:AA:1410:C:N4	47:AA:1411:G:C6	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1556:A:OP2	77:AG:13:LYS:HG2	2.20	0.41
47:AA:1568:C:H1'	47:AA:1569:A:C8	2.55	0.41
47:AA:1604:G:N7	47:AA:1605:G:C6	2.88	0.41
47:AA:370:G:N2	47:AA:372:U:C5	2.88	0.41
47:AA:41:G:C8	47:AA:485:A:C8	3.08	0.41
47:AA:565:G:C6	47:AA:585:C:N3	2.88	0.41
47:AA:579:C:H2'	47:AA:580:U:O4'	2.20	0.41
47:AA:609:U:O2	47:AA:634:A:C2	2.73	0.41
47:AA:71:G:OP2	47:AA:71:G:H8	2.03	0.41
47:AA:802:A:H2'	47:AA:802:A:N3	2.35	0.41
47:AA:839:C:C2	47:AA:841:G:C5	3.08	0.41
47:AA:952:G:C5	47:AA:953:C:C4	3.08	0.41
76:AB:23:THR:OG1	76:AB:88:LEU:HB3	2.20	0.41
48:AC:5:ALA:HB3	48:AC:7:GLU:HB3	2.02	0.41
50:AE:21:ILE:N	50:AE:30:VAL:O	2.49	0.41
78:AI:131:LEU:O	78:AI:138:CYS:HA	2.20	0.41
78:AI:296:GLN:O	78:AI:312:VAL:HG23	2.20	0.41
78:AI:59:LEU:HG	78:AI:90:TRP:HE3	1.80	0.41
53:AJ:169:TYR:CB	53:AJ:173:LYS:HA	2.50	0.41
53:AJ:172:ASN:OD1	53:AJ:173:LYS:N	2.53	0.41
53:AJ:209:VAL:N	53:AJ:210:PRO:HD2	2.35	0.41
53:AJ:78:LEU:HG	53:AJ:97:PHE:CD2	2.55	0.41
55:AL:132:GLN:HE21	55:AL:134:HIS:HE2	1.68	0.41
55:AL:162:ARG:HE	55:AL:169:ARG:HG2	1.84	0.41
79:AM:124:ILE:HG21	79:AM:128:PHE:CD2	2.55	0.41
57:AP:106:THR:OG1	57:AP:108:ALA:N	2.24	0.41
57:AP:39:THR:HG22	57:AP:42:MET:HE1	2.01	0.41
59:AR:102:LYS:HE2	59:AR:102:LYS:HB2	1.80	0.41
59:AR:51:ASP:CG	59:AR:52:LYS:H	2.20	0.41
81:AU:70:ALA:O	81:AU:75:MET:HE3	2.20	0.41
38:H:69:TYR:O	38:H:70:LYS:HB3	2.19	0.41
45:R:81:LEU:HD21	45:R:99:ILE:HD11	2.02	0.41
19:Y:23:HIS:CD2	19:Y:24:GLN:HG3	2.54	0.41
59:AR:50:PHE:CE1	70:A0:4:VAL:HG22	2.55	0.41
37:A:1199:G:H2'	37:A:1200:G:O4'	2.19	0.41
37:A:1240:G:O6	37:A:1270:A:H2'	2.20	0.41
37:A:1757:U:O2'	37:A:1775:A:N1	2.52	0.41
19:Y:31:ILE:HD11	37:A:2347:A:C4	2.55	0.41
37:A:3868:G:H22	37:A:3900:G:H1'	1.84	0.41
37:A:474:C:H2'	37:A:475:G:C8	2.55	0.41
47:AA:1032:C:C4	47:AA:1033:G:C5	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1152:U:H5''	47:AA:1153:C:H5'	2.02	0.41
47:AA:11:A:O2'	47:AA:12:U:H5'	2.21	0.41
47:AA:1325:G:O2'	47:AA:1327:G:O5'	2.38	0.41
47:AA:1447:G:C6	47:AA:1448:A:C5	3.09	0.41
47:AA:1537:A:H8	47:AA:1537:A:O5'	2.02	0.41
47:AA:1538:C:N4	47:AA:1595:U:C4	2.88	0.41
47:AA:1611:G:H5''	47:AA:1612:G:OP2	2.20	0.41
47:AA:1625:U:O2'	47:AA:1626:C:H5'	2.20	0.41
47:AA:1647:A:O2'	47:AA:1648:G:P	2.79	0.41
47:AA:1647:A:O2'	47:AA:1648:G:OP2	2.29	0.41
47:AA:1213:C:H5	47:AA:1682:C:C5	2.37	0.41
47:AA:218:U:C2	47:AA:219:U:C6	3.08	0.41
47:AA:364:A:H2'	47:AA:365:C:C6	2.55	0.41
47:AA:443:U:O4	47:AA:444:G:C6	2.72	0.41
47:AA:443:U:H2'	47:AA:444:G:O4'	2.20	0.41
47:AA:640:A:N1	47:AA:641:A:C6	2.88	0.41
47:AA:516:A:N7	47:AA:644:G:N7	2.68	0.41
47:AA:750:C:C4	47:AA:752:G:N2	2.88	0.41
47:AA:792:C:N4	47:AA:793:G:C6	2.88	0.41
47:AA:919:A:N7	47:AA:1020:A:C5	2.87	0.41
76:AB:50:VAL:O	76:AB:89:ILE:HG23	2.17	0.41
78:AI:255:SER:CB	78:AI:271:LYS:HA	2.49	0.41
47:AA:126:G:N7	54:AK:195:LYS:HB3	2.35	0.41
56:AN:72:LEU:HA	56:AN:72:LEU:HD12	1.71	0.41
58:AQ:111:LYS:NZ	58:AQ:115:LYS:HE2	2.35	0.41
81:AU:38:LYS:HE2	81:AU:44:GLU:CA	2.38	0.41
81:AU:99:VAL:O	81:AU:100:ALA:C	2.59	0.41
16:U:80:THR:HG21	40:K:90:VAL:HB	2.01	0.41
18:X:26:THR:HB	18:X:85:ARG:HH21	1.85	0.41
19:Y:5:ARG:NH2	37:A:702:U:O2'	2.53	0.41
37:A:1217:G:H2'	37:A:1218:G:C5	2.54	0.41
37:A:966:A:H61	37:A:2254:G:P	2.43	0.41
37:A:2544:G:C6	37:A:2545:U:C2	3.08	0.41
37:A:3946:G:O6	37:A:3947:A:N6	2.53	0.41
37:A:4111:U:H2'	37:A:4112:C:C6	2.55	0.41
37:A:457:G:H2'	37:A:458:C:C6	2.55	0.41
47:AA:1093:A:H1'	57:AP:9:ASP:HB2	2.03	0.41
47:AA:1138:C:H5'	47:AA:1139:C:OP2	2.20	0.41
47:AA:123:G:C4	47:AA:124:U:C5	3.08	0.41
47:AA:1250:A:O2'	47:AA:1251:A:O5'	2.36	0.41
47:AA:1285:G:O4'	79:AM:36:ARG:HD2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1287:A:O2'	47:AA:1315:U:C2	2.72	0.41
47:AA:1344:A:H2'	47:AA:1370:A:O2'	2.20	0.41
47:AA:1233:G:C5	47:AA:1526:G:C2	3.08	0.41
47:AA:1785:C:O2'	47:AA:1786:U:P	2.77	0.41
47:AA:1865:C:OP1	50:AE:87:ARG:HD2	2.21	0.41
47:AA:187:G:C2	47:AA:188:C:C2	3.09	0.41
47:AA:187:G:C2	47:AA:213:G:N3	2.88	0.41
47:AA:22:A:O2'	47:AA:23:G:H5'	2.21	0.41
47:AA:380:G:H8	47:AA:380:G:OP2	2.03	0.41
47:AA:414:A:C2	47:AA:424:C:C2	3.08	0.41
47:AA:492:C:OP2	58:AQ:104:ARG:HB3	2.18	0.41
47:AA:584:G:C6	47:AA:585:C:C2	3.08	0.41
47:AA:650:A:N7	47:AA:651:U:C4	2.88	0.41
47:AA:70:G:OP2	54:AK:164:LYS:HE3	2.20	0.41
49:AD:49:GLY:N	49:AD:99:GLU:OE2	2.53	0.41
77:AG:16:GLN:O	77:AG:19:ARG:N	2.47	0.41
52:AH:108:VAL:HG21	52:AH:114:ILE:CG2	2.48	0.41
52:AH:131:PHE:HD1	52:AH:132:MET:O	2.03	0.41
78:AI:12:LYS:HG2	78:AI:13:GLY:N	2.36	0.41
47:AA:3:C:HO2'	55:AL:18:ARG:NH2	2.15	0.41
55:AL:87:LEU:HD13	55:AL:97:ILE:HA	2.01	0.41
56:AN:2:GLY:N	56:AN:8:GLY:O	2.54	0.41
57:AP:102:ILE:H	57:AP:113:HIS:HD2	1.68	0.41
58:AQ:11:LYS:O	58:AQ:23:MET:HA	2.20	0.41
3:D:179:ILE:HD12	3:D:185:ALA:HB2	2.03	0.41
4:E:222:VAL:HB	4:E:343:ARG:HD3	2.01	0.41
6:G:268:ARG:HH12	37:A:1175:A:H5'	1.85	0.41
38:H:240:TYR:CE2	38:H:242:ILE:HG13	2.55	0.41
37:A:2034:G:OP1	42:M:87:ARG:HG2	2.20	0.41
11:O:100:LEU:HD23	11:O:101:ARG:N	2.36	0.41
70:A0:12:ILE:HG22	70:A0:13:LEU:N	2.35	0.41
37:A:178:C:H2'	37:A:179:G:C8	2.55	0.41
17:V:39:PHE:HZ	37:A:1825:A:H4'	1.85	0.41
37:A:2268:A:OP2	40:K:11:ARG:NE	23.64	0.41
14:S:1:MET:N	37:A:226:G:OP2	2.52	0.41
37:A:208:A:C6	37:A:233:U:H5	2.38	0.41
37:A:2545:U:H3'	37:A:2546:G:H4'	2.01	0.41
37:A:2551:A:H4'	37:A:2587:A:N6	2.35	0.41
37:A:311:G:H2'	37:A:312:G:C8	2.55	0.41
37:A:3974:G:H2'	37:A:3975:C:H4'	2.01	0.41
37:A:517:C:H3'	37:A:518:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1003:U:H2'	47:AA:1004:U:C6	2.55	0.41
47:AA:1140:G:C6	47:AA:1141:G:C5	3.09	0.41
47:AA:120:U:H3'	47:AA:121:U:C6	2.56	0.41
47:AA:1283:C:O2'	47:AA:1287:A:OP1	2.38	0.41
47:AA:1330:G:HO2'	47:AA:1331:C:P	2.43	0.41
47:AA:1334:G:H2'	47:AA:1335:G:O4'	2.19	0.41
47:AA:1406:G:H22	47:AA:1441:U:H3	1.69	0.41
47:AA:1481:G:H3'	47:AA:1482:C:C6	2.56	0.41
47:AA:1543:U:OP2	81:AU:62:ARG:NH2	2.54	0.41
47:AA:1574:C:C4	47:AA:1575:G:N7	2.89	0.41
47:AA:1598:G:H5'	59:AR:80:ARG:HD2	2.01	0.41
47:AA:1212:G:N2	47:AA:1688:C:C4	2.88	0.41
47:AA:1700:C:O4'	47:AA:1702:G:C8	2.73	0.41
47:AA:1791:A:C8	47:AA:1792:G:C8	3.08	0.41
47:AA:187:G:C2	47:AA:212:C:O2	2.72	0.41
47:AA:295:C:N4	47:AA:296:U:O4	2.54	0.41
47:AA:371:A:O2'	47:AA:394:G:N2	2.53	0.41
47:AA:464:A:O2'	47:AA:465:A:OP2	2.37	0.41
47:AA:54:A:C5	47:AA:474:G:C6	3.08	0.41
47:AA:47:G:N1	47:AA:48:C:N3	2.69	0.41
47:AA:50:A:N1	47:AA:488:U:C4	2.87	0.41
47:AA:549:C:N4	47:AA:550:C:C4	2.88	0.41
47:AA:907:G:C6	47:AA:908:A:C5	3.08	0.41
76:AB:107:GLU:OE2	76:AB:109:GLY:HA2	2.20	0.41
76:AB:32:LEU:O	76:AB:33:GLU:C	2.59	0.41
78:AI:109:LEU:CD1	78:AI:152:SER:HA	2.48	0.41
78:AI:65:PHE:HB2	78:AI:83:TRP:CB	2.43	0.41
55:AL:122:SER:HB2	55:AL:125:HIS:H	1.85	0.41
55:AL:132:GLN:HG2	55:AL:134:HIS:NE2	2.35	0.41
47:AA:1282:A:H5''	79:AM:102:LYS:HA	2.02	0.41
80:AO:107:THR:HG22	80:AO:108:PRO:O	2.20	0.41
80:AO:42:VAL:HB	80:AO:55:ARG:O	2.20	0.41
59:AR:62:VAL:HG12	59:AR:96:LEU:HD22	2.03	0.41
59:AR:99:LEU:HD12	59:AR:100:VAL:N	2.35	0.41
4:E:348:ARG:HH12	4:E:351:LEU:HD23	1.86	0.41
4:E:54:THR:HG22	4:E:373:LYS:HE2	2.02	0.41
8:J:105:LYS:HD2	8:J:107:LEU:HD11	2.01	0.41
15:T:73:LYS:HG2	15:T:74:VAL:N	2.35	0.41
16:U:122:VAL:O	16:U:143:ALA:N	2.48	0.41
16:U:125:LYS:HB3	16:U:147:VAL:HG21	2.02	0.41
70:A0:101:ASN:HB2	70:A0:104:ASP:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:A0:62:ASP:HA	70:A0:65:GLU:HG3	2.02	0.41
20:Z:24:HIS:NE2	37:A:1902:G:OP1	2.53	0.41
37:A:254:G:C2	37:A:255:C:H1'	2.56	0.41
37:A:3733:A:H2'	37:A:3734:U:O4'	2.21	0.41
37:A:3759:A:C5	37:A:3763:A:H2	2.38	0.41
4:E:174:ARG:NH1	37:A:4974:C:H4'	2.34	0.41
37:A:918:G:N3	37:A:918:G:H2'	2.35	0.41
37:A:734:G:N1	37:A:931:C:OP1	2.53	0.41
37:A:966:A:H2'	37:A:966:A:N3	2.35	0.41
47:AA:1092:G:C2	47:AA:1158:G:C5	3.07	0.41
47:AA:1109:C:O2'	47:AA:1110:G:C8	2.73	0.41
47:AA:1111:U:H2'	47:AA:1112:U:C6	2.56	0.41
47:AA:1114:U:N3	47:AA:1118:C:N4	2.69	0.41
47:AA:1115:U:HO2'	47:AA:1116:C:H5	1.66	0.41
47:AA:1160:U:H5''	47:AA:1161:U:OP1	2.20	0.41
47:AA:118:C:C2	47:AA:445:A:C2	3.08	0.41
47:AA:1220:A:N1	47:AA:1646:C:C4	2.88	0.41
47:AA:1282:A:C2	47:AA:1287:A:H1'	2.56	0.41
47:AA:1307:U:N3	47:AA:1309:C:N4	2.69	0.41
47:AA:1332:A:C2	47:AA:1333:U:H1'	2.55	0.41
47:AA:1417:C:C2	81:AU:128:GLN:HG3	2.55	0.41
47:AA:1433:C:H2'	47:AA:1434:C:H5	1.85	0.41
47:AA:1563:G:H3'	47:AA:1564:C:C6	2.56	0.41
47:AA:1634:A:O2'	70:A0:141:ARG:CZ	2.69	0.41
47:AA:1652:G:C5	47:AA:1653:U:C4	3.09	0.41
47:AA:363:A:H61	47:AA:400:C:H1'	1.82	0.41
47:AA:508:A:H5'	47:AA:509:G:OP2	2.20	0.41
47:AA:794:A:C4	47:AA:795:A:H1'	2.56	0.41
47:AA:825:A:C6	47:AA:826:A:C6	3.09	0.41
47:AA:64:A:N1	47:AA:83:A:N7	2.68	0.41
47:AA:915:G:OP2	47:AA:915:G:N2	2.43	0.41
48:AC:56:CYS:HB3	48:AC:59:ILE:HB	2.01	0.41
78:AI:129:ILE:O	78:AI:142:VAL:HG22	2.21	0.41
53:AJ:71:LYS:HD2	53:AJ:71:LYS:HA	1.77	0.41
54:AK:137:ARG:O	54:AK:140:ARG:HB3	2.20	0.41
54:AK:192:ILE:HA	54:AK:195:LYS:HB2	2.02	0.41
47:AA:3:C:H41	55:AL:17:ARG:HE	1.68	0.41
57:AP:42:MET:SD	57:AP:49:GLU:HA	2.60	0.41
58:AQ:105:LYS:HE3	58:AQ:105:LYS:HB3	1.76	0.41
81:AU:14:PHE:HE1	81:AU:135:ALA:HA	1.85	0.41
4:E:113:GLU:HG2	4:E:176:LYS:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:9:PRO:HG3	37:A:4491:G:H5''	2.01	0.41
5:F:218:ILE:HA	5:F:229:LEU:HD13	2.02	0.41
5:F:334:THR:HA	5:F:337:ARG:HG2	2.02	0.41
6:G:4:VAL:O	37:A:1778:C:H4'	2.20	0.41
38:H:98:GLY:O	38:H:102:GLY:O	2.39	0.41
40:K:93:GLN:HG2	40:K:94:GLU:CD	2.41	0.41
37:A:4085:A:OP1	45:R:45:THR:HG22	2.20	0.41
18:X:85:ARG:HG3	18:X:109:VAL:HB	2.03	0.41
47:AA:1521:C:OP1	70:A0:129:LEU:HD11	2.20	0.41
70:A0:73:ASN:O	70:A0:77:TYR:CD2	2.73	0.41
37:A:1187:G:N7	37:A:1188:C:N4	2.67	0.41
37:A:1665:C:H2'	37:A:1666:C:C6	2.55	0.41
37:A:3711:A:O4'	47:AA:970:G:H5''	2.19	0.41
47:AA:1058:A:C5	47:AA:1059:G:C5	3.09	0.41
47:AA:1212:G:N2	47:AA:1213:C:C2	2.88	0.41
47:AA:1235:G:C6	47:AA:1524:G:C5	3.08	0.41
47:AA:1345:G:C8	47:AA:1371:U:C6	3.09	0.41
47:AA:1267:C:C2	47:AA:1516:G:N2	2.88	0.41
47:AA:1576:G:C2'	47:AA:1577:G:H5'	2.51	0.41
47:AA:1228:A:O2'	47:AA:1634:A:N3	2.41	0.41
47:AA:1652:G:H2'	47:AA:1653:U:C6	2.55	0.41
47:AA:1656:G:C4	47:AA:1669:G:C2	3.08	0.41
47:AA:1545:A:C2	47:AA:1671:G:H1'	2.55	0.41
47:AA:1800:A:H5''	47:AA:1801:A:OP2	2.20	0.41
47:AA:320:G:N2	47:AA:321:C:N3	2.69	0.41
47:AA:675:U:O5'	47:AA:675:U:H6	2.02	0.41
47:AA:804:U:C2	47:AA:805:U:C5	3.09	0.41
47:AA:858:A:C6	47:AA:859:G:C5	3.09	0.41
47:AA:859:G:C4	47:AA:860:G:C8	3.08	0.41
47:AA:878:G:O6	47:AA:879:C:H1'	2.20	0.41
48:AC:74:LYS:HE3	48:AC:74:LYS:HB2	1.75	0.41
49:AD:94:ILE:HA	49:AD:98:ASP:OD2	2.21	0.41
77:AG:39:CYS:O	77:AG:42:CYS:N	2.54	0.41
77:AG:53:ILE:HA	77:AG:53:ILE:HD12	1.84	0.41
78:AI:40:ILE:HD13	78:AI:69:VAL:HB	2.03	0.41
53:AJ:123:ARG:CG	53:AJ:145:LYS:HG2	2.47	0.41
53:AJ:148:ALA:O	53:AJ:149:THR:C	2.59	0.41
54:AK:72:ARG:HA	54:AK:98:ARG:HA	2.03	0.41
58:AQ:54:VAL:HG12	58:AQ:79:LEU:HG	2.01	0.41
1:B:38:U:HO2'	1:B:40:U:H5	1.65	0.41
6:G:197:LYS:HG3	6:G:202:GLN:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:75:VAL:HG13	6:G:76:CYS:N	2.35	0.41
6:G:77:ALA:O	6:G:108:ARG:NH2	2.54	0.41
42:M:6:THR:HG23	42:M:7:LEU:N	2.34	0.41
37:A:3727:A:H2'	37:A:3728:A:C8	2.56	0.41
37:A:912:G:N2	37:A:913:U:C2	2.88	0.41
47:AA:1062:A:C8	47:AA:1063:C:C5	3.08	0.41
47:AA:1118:C:H2'	47:AA:1119:A:C1'	2.50	0.41
47:AA:1123:C:N3	47:AA:1124:C:C4	2.89	0.41
47:AA:1401:A:N6	47:AA:1402:A:C6	2.89	0.41
47:AA:1417:C:H2'	47:AA:1419:C:OP1	2.20	0.41
47:AA:1476:A:H3'	47:AA:1477:U:C5'	2.51	0.41
47:AA:1541:G:N1	47:AA:1593:C:C4	2.89	0.41
47:AA:1582:C:O2	47:AA:1583:C:C2	2.74	0.41
47:AA:1692:U:O2	47:AA:1693:G:C5	2.74	0.41
47:AA:1722:G:H2'	47:AA:1723:G:O4'	2.20	0.41
47:AA:1778:C:C4	47:AA:1779:G:C6	3.09	0.41
47:AA:328:U:N3	47:AA:329:G:N3	2.69	0.41
47:AA:431:G:H2'	47:AA:432:G:O4'	2.21	0.41
47:AA:510:G:C2	47:AA:511:U:C2	3.08	0.41
47:AA:535:G:C2	47:AA:549:C:N3	2.88	0.41
47:AA:528:A:N6	47:AA:558:G:C6	2.89	0.41
47:AA:656:G:P	47:AA:662:G:H1	2.43	0.41
47:AA:673:G:H2'	47:AA:674:C:O4'	2.21	0.41
47:AA:881:G:H8	47:AA:881:G:O5'	2.04	0.41
47:AA:952:G:O2'	80:AO:51:GLU:HA	2.20	0.41
47:AA:982:G:H2'	47:AA:983:A:O4'	2.21	0.41
47:AA:994:C:N4	47:AA:999:G:H1	2.18	0.41
76:AB:51:LYS:CE	76:AB:92:HIS:HB3	2.51	0.41
78:AI:60:ARG:HG2	78:AI:61:GLY:N	2.31	0.41
78:AI:74:ASP:CG	78:AI:75:GLY:N	2.74	0.41
53:AJ:134:ASN:OD1	53:AJ:167:ARG:NH1	2.53	0.41
53:AJ:214:LEU:HD23	53:AJ:214:LEU:HA	1.52	0.41
53:AJ:72:ASP:CB	53:AJ:74:LYS:HG3	2.51	0.41
47:AA:143:U:C5	54:AK:180:VAL:HA	2.56	0.41
54:AK:199:THR:O	54:AK:203:LYS:HB2	2.21	0.41
54:AK:48:TYR:CD2	54:AK:117:GLY:HA3	2.56	0.41
54:AK:55:GLY:H	54:AK:63:MET:CB	2.33	0.41
55:AL:140:GLN:HG2	55:AL:141:VAL:O	2.20	0.41
55:AL:78:LEU:HD23	55:AL:78:LEU:HA	1.77	0.41
55:AL:93:LYS:HG2	55:AL:95:ASP:H	1.85	0.41
47:AA:1064:C:P	80:AO:150:ARG:HH22	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:AP:114:GLU:O	57:AP:117:ARG:N	2.53	0.41
2:C:141:C:H2'	2:C:142:U:C6	2.56	0.41
3:D:196:TRP:O	3:D:198:ARG:N	2.53	0.41
4:E:58:ARG:NH1	4:E:60:VAL:HG22	2.36	0.41
8:J:29:THR:HG22	8:J:119:VAL:HG11	2.01	0.41
9:L:110:ARG:HD3	9:L:120:TYR:CG	2.55	0.41
10:N:105:PHE:CE1	37:A:1802:A:H4'	2.55	0.41
10:N:106:LEU:O	10:N:110:LYS:HG2	2.21	0.41
6:G:17:GLN:NE2	10:N:22:HIS:O	2.41	0.41
17:V:49:HIS:HB3	17:V:52:LYS:HD3	2.03	0.41
70:A0:39:ARG:HH11	81:AU:44:GLU:HA	1.86	0.41
37:A:1175:A:N6	37:A:1183:C:H41	2.19	0.41
37:A:1986:U:O2	37:A:2007:G:N2	2.54	0.41
3:D:8:GLN:O	37:A:3668:C:H5'	2.20	0.41
37:A:4074:C:N4	37:A:4075:U:O4	2.53	0.41
37:A:472:C:H42	37:A:682:G:H1	1.68	0.41
37:A:737:C:H2'	37:A:738:C:C6	2.56	0.41
37:A:724:C:H42	37:A:942:G:H1	1.67	0.41
47:AA:1003:U:H2'	47:AA:1004:U:O4'	2.20	0.41
47:AA:1067:C:H3'	47:AA:1068:G:C8	2.54	0.41
47:AA:1384:C:N3	47:AA:1385:G:C5	2.88	0.41
47:AA:1425:G:H3'	47:AA:1426:U:C6	2.56	0.41
47:AA:1452:A:C5	47:AA:1474:A:N7	2.88	0.41
47:AA:1581:C:H3'	47:AA:1582:C:C5	2.55	0.41
47:AA:1606:G:O5'	47:AA:1606:G:H8	2.04	0.41
47:AA:1726:G:C6	47:AA:1727:G:C5	3.08	0.41
47:AA:1083:A:N6	47:AA:1841:C:O2'	2.43	0.41
47:AA:319:C:O2	47:AA:332:G:N2	2.54	0.41
47:AA:418:A:C5	47:AA:419:G:C8	3.08	0.41
47:AA:439:A:C6	47:AA:455:A:C6	3.08	0.41
47:AA:528:A:C6	47:AA:529:A:C5	3.08	0.41
47:AA:608:C:C4	47:AA:609:U:O4	2.74	0.41
47:AA:738:C:H3'	47:AA:739:C:C6	2.56	0.41
47:AA:846:G:H5''	47:AA:847:A:C1'	2.50	0.41
47:AA:957:A:C2	47:AA:958:G:N7	2.89	0.41
49:AD:11:ARG:HB2	49:AD:14:ARG:HH21	1.86	0.41
49:AD:52:LEU:CD2	49:AD:53:GLU:HG2	2.49	0.41
78:AI:215:GLN:HB3	78:AI:229:THR:CG2	2.51	0.41
54:AK:151:ASP:O	54:AK:153:VAL:HG13	2.21	0.41
47:AA:562:U:H5	55:AL:172:ARG:HD3	1.86	0.41
4:E:291:TYR:O	4:E:298:LEU:HB2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:194:GLY:HA2	5:F:197:ARG:CG	2.50	0.41
5:F:307:LYS:HE3	37:A:2089:G:N2	2.32	0.41
8:J:4:TYR:HA	8:J:147:GLU:OE2	2.21	0.41
14:S:6:PHE:CD1	42:M:153:PRO:HB3	140.92	0.41
42:M:162:GLN:CA	42:M:165:PRO:HD2	2.49	0.41
13:Q:60:LYS:HB3	13:Q:64:SER:HB2	2.03	0.41
46:W:17:ARG:O	46:W:21:VAL:HG23	2.21	0.41
19:Y:36:ARG:NH2	37:A:1661:C:O2'	2.53	0.41
37:A:1271:G:N1	37:A:2122:G:O5'	2.38	0.41
37:A:3763:A:C4	37:A:3764:U:H1'	2.56	0.41
47:AA:1108:G:H1	47:AA:1124:C:N4	2.19	0.41
47:AA:1116:C:O5'	47:AA:1116:C:H6	2.02	0.41
47:AA:1217:A:C2	47:AA:1218:C:C2	3.09	0.41
47:AA:1243:U:N3	47:AA:1244:U:C4	2.89	0.41
47:AA:1251:A:OP2	76:AB:72:GLU:HB2	2.21	0.41
47:AA:1369:A:C8	47:AA:1370:A:C5	3.09	0.41
47:AA:1605:G:C6	47:AA:1606:G:N1	2.89	0.41
47:AA:1621:U:O5'	47:AA:1623:A:O2'	2.24	0.41
47:AA:1601:A:N6	47:AA:1636:G:C5	2.88	0.41
47:AA:305:U:H5''	47:AA:306:C:O4'	2.21	0.41
47:AA:373:G:C2	47:AA:392:A:C4	3.09	0.41
47:AA:404:G:C2	47:AA:405:G:C5	3.09	0.41
47:AA:45:A:C6	47:AA:480:G:O2'	2.72	0.41
47:AA:462:C:H3'	47:AA:463:C:C6	2.56	0.41
47:AA:487:U:H2'	47:AA:487:U:H6	1.75	0.41
47:AA:51:U:C4	47:AA:52:G:O6	2.74	0.41
47:AA:533:A:C8	47:AA:534:G:H8	2.38	0.41
47:AA:525:A:N7	47:AA:587:A:N1	2.69	0.41
47:AA:609:U:O2	47:AA:610:G:C8	2.74	0.41
47:AA:872:A:O2'	47:AA:873:G:OP2	2.33	0.41
47:AA:879:C:N3	47:AA:880:G:N2	2.63	0.41
47:AA:901:G:H2'	47:AA:902:G:O4'	2.20	0.41
76:AB:49:LYS:HB2	76:AB:49:LYS:HZ3	1.85	0.41
49:AD:34:THR:O	49:AD:38:ALA:N	2.47	0.41
50:AE:22:ARG:HA	50:AE:22:ARG:HD3	1.84	0.41
51:AF:24:GLN:C	51:AF:26:GLN:N	2.75	0.41
78:AI:44:LYS:O	78:AI:45:LEU:HD12	2.21	0.41
55:AL:49:THR:O	55:AL:53:ILE:HG12	2.20	0.41
79:AM:76:LEU:HD11	79:AM:78:LYS:HB2	2.03	0.41
56:AN:140:LYS:HA	56:AN:140:LYS:HD2	1.90	0.41
80:AO:85:CYS:HB2	80:AO:90:ILE:HD11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:AQ:128:GLY:C	58:AQ:131:PRO:HD2	2.41	0.41
59:AR:48:VAL:HG23	59:AR:49:LEU:HG	2.03	0.41
47:AA:1542:C:H4'	81:AU:11:GLN:HB2	2.03	0.41
5:F:250:CYS:HB3	5:F:252:TRP:HE1	1.85	0.41
5:F:45:ARG:NH2	37:A:2296:G:O4'	2.53	0.41
40:K:42:THR:HA	40:K:45:GLN:HE22	1.85	0.41
15:T:52:LYS:O	15:T:65:ARG:NE	2.43	0.41
17:V:9:THR:HG23	17:V:12:GLN:HB2	2.03	0.41
20:Z:46:ARG:HD3	20:Z:106:TYR:OH	2.21	0.41
37:A:1069:G:H2'	37:A:1070:G:O4'	2.20	0.41
10:N:130:ARG:NH1	37:A:1802:A:N3	2.69	0.41
3:D:202:VAL:HG13	37:A:3689:G:OP1	2.21	0.41
37:A:4146:G:H2'	37:A:4147:G:C8	2.56	0.41
47:AA:100:U:H3'	47:AA:101:U:H5	1.86	0.41
47:AA:1245:G:C6	47:AA:1246:A:C6	3.08	0.41
47:AA:1267:C:N3	47:AA:1516:G:C2	2.89	0.41
47:AA:1280:G:C2	47:AA:1281:G:N3	2.89	0.41
47:AA:1420:G:O3'	81:AU:133:ARG:NH2	2.54	0.41
47:AA:1480:A:H2'	47:AA:1481:G:O4'	2.21	0.41
47:AA:1268:C:O2	47:AA:1515:G:N1	2.54	0.41
47:AA:1550:G:C2	47:AA:1577:G:N3	2.86	0.41
47:AA:307:G:C8	47:AA:308:G:C8	3.09	0.41
47:AA:335:G:C6	47:AA:336:A:C6	3.08	0.41
47:AA:819:G:O2'	47:AA:820:U:H5'	2.21	0.41
47:AA:877:C:H2'	47:AA:879:C:C6	2.56	0.41
47:AA:896:U:H2'	47:AA:897:U:H3'	2.03	0.41
47:AA:910:G:C2	47:AA:911:C:C2	3.09	0.41
49:AD:84:PHE:H	49:AD:118:VAL:HG11	1.83	0.41
50:AE:38:LYS:O	50:AE:70:LYS:HB2	2.20	0.41
52:AH:139:HIS:HB3	52:AH:141:CYS:HB2	2.03	0.41
53:AJ:138:GLY:HA2	53:AJ:241:PHE:HE1	1.86	0.41
54:AK:7:PHE:HA	54:AK:113:ILE:HB	2.03	0.41
79:AM:51:VAL:HG23	79:AM:77:ILE:HB	2.02	0.41
60:AT:53:LYS:HD2	60:AT:53:LYS:HA	1.77	0.41
47:AA:1542:C:O3'	81:AU:11:GLN:HG3	2.20	0.41
81:AU:53:PHE:HD2	81:AU:54:TYR:CG	2.39	0.41
4:E:112:ASP:O	4:E:113:GLU:HB3	2.21	0.41
6:G:288:LEU:O	6:G:291:GLN:HG2	2.21	0.41
16:U:76:ASP:OD1	40:K:91:ARG:HG3	2.21	0.41
17:V:44:ARG:NH1	37:A:1493:G:OP1	2.54	0.41
37:A:1886:G:H1	37:A:1893:C:H42	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:1974:U:H4'	37:A:1975:G:C5'	2.50	0.41
37:A:2059:C:O2'	42:M:118:ARG:NH2	2.54	0.41
8:J:4:TYR:OH	37:A:400:A:OP1	2.33	0.41
37:A:490:C:H2'	37:A:491:G:C8	2.55	0.41
47:AA:1003:U:N3	47:AA:1004:U:C4	2.88	0.41
47:AA:1030:A:C6	47:AA:1031:A:N7	2.89	0.41
47:AA:1303:C:N3	47:AA:1304:U:C4	2.89	0.41
47:AA:1316:C:H2'	47:AA:1317:C:O4'	2.21	0.41
47:AA:1330:G:C6	47:AA:1492:U:C4	3.09	0.41
47:AA:1411:G:N1	47:AA:1434:C:N3	2.58	0.41
47:AA:147:A:C4	47:AA:148:U:C4	3.09	0.41
47:AA:1501:C:N3	47:AA:1502:C:C4	2.89	0.41
47:AA:1524:G:C6	47:AA:1525:C:C4	3.08	0.41
47:AA:1568:C:OP2	47:AA:1568:C:H2'	2.21	0.41
47:AA:1610:G:C6	47:AA:1611:G:C6	3.09	0.41
47:AA:1203:G:N2	47:AA:1697:A:C4	2.90	0.41
47:AA:182:C:C2	47:AA:184:G:C8	3.09	0.41
47:AA:19:A:O2'	47:AA:620:G:H2'	2.21	0.41
47:AA:206:G:H2'	47:AA:207:G:H8	1.79	0.41
47:AA:550:C:N4	47:AA:551:U:O4	2.54	0.41
76:AB:47:ASN:O	76:AB:48:LEU:HB2	2.21	0.41
51:AF:34:PHE:CE1	51:AF:58:LEU:HD22	2.56	0.41
47:AA:1302:G:N2	52:AH:98:VAL:HG21	2.32	0.41
78:AI:203:ASP:HB2	78:AI:246:TYR:CE1	2.56	0.41
53:AJ:180:VAL:HG23	53:AJ:197:PRO:HD3	2.03	0.41
53:AJ:256:TRP:CE2	57:AP:68:ARG:HD3	2.56	0.41
54:AK:219:GLU:C	54:AK:222:GLU:H	2.19	0.41
56:AN:115:LEU:HD23	56:AN:115:LEU:C	2.41	0.41
56:AN:91:LEU:HD21	56:AN:121:ARG:HB3	2.03	0.41
80:AO:43:HIS:HA	80:AO:54:CYS:O	2.21	0.41
57:AP:31:SER:O	57:AP:34:ILE:HG12	2.21	0.41
58:AQ:12:PHE:HA	58:AQ:22:GLN:O	2.21	0.41
81:AU:64:LEU:HD13	81:AU:113:VAL:HB	2.03	0.41
5:F:305:PRO:HG3	40:K:38:ARG:HH22	1.86	0.41
40:K:86:ILE:HD13	40:K:100:VAL:HG21	2.03	0.41
9:L:102:LEU:HD13	9:L:138:LEU:HD22	2.03	0.41
12:P:83:ARG:HD3	12:P:120:PRO:HG2	2.02	0.41
12:P:82:ILE:HG22	12:P:83:ARG:HG3	2.03	0.41
70:A0:41:ALA:O	70:A0:44:VAL:HB	2.21	0.40
37:A:1400:G:N2	37:A:1418:C:O2	2.54	0.40
37:A:1577:G:H5'	37:A:1578:U:H5''	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:223:G:H4'	37:A:225:G:N7	2.36	0.40
37:A:2413:U:H2'	37:A:2414:G:C8	2.57	0.40
37:A:254:G:N1	37:A:255:C:O2	2.54	0.40
37:A:3956:G:H1'	37:A:3957:U:H5'	2.02	0.40
37:A:4050:A:OP1	37:A:4050:A:H8	2.03	0.40
37:A:4174:U:H2'	37:A:4175:G:H8	1.86	0.40
37:A:4551:U:H2'	37:A:4552:U:C6	2.56	0.40
47:AA:1008:A:N3	47:AA:1008:A:H2'	2.35	0.40
47:AA:930:C:C4	47:AA:1012:A:N1	2.88	0.40
47:AA:1078:C:C4	47:AA:1079:C:N3	2.88	0.40
47:AA:1112:U:H2'	47:AA:1113:A:C1'	2.51	0.40
47:AA:1126:G:N3	47:AA:1126:G:H2'	2.35	0.40
47:AA:1218:C:H5''	47:AA:1219:C:OP1	2.20	0.40
47:AA:1308:U:H2'	47:AA:1309:C:O4'	2.20	0.40
47:AA:1370:A:N1	47:AA:1372:U:H5'	2.35	0.40
47:AA:1418:C:H4'	47:AA:1419:C:H2'	2.03	0.40
47:AA:1421:A:N7	47:AA:1422:G:N3	2.70	0.40
47:AA:1447:G:OP1	76:AB:85:HIS:NE2	2.54	0.40
47:AA:1634:A:C5	47:AA:1635:C:C6	3.09	0.40
47:AA:1722:G:C2	47:AA:1813:A:C5	3.08	0.40
47:AA:1754:G:C5	47:AA:1779:G:N2	2.89	0.40
47:AA:1780:G:H2'	47:AA:1781:A:O4'	2.21	0.40
47:AA:1700:C:H42	47:AA:1836:G:H1	1.69	0.40
47:AA:1848:U:O2'	47:AA:1849:G:P	2.80	0.40
47:AA:197:U:H1'	47:AA:203:G:C4	2.56	0.40
47:AA:49:C:C2	47:AA:478:G:N1	2.89	0.40
47:AA:4:C:H5'	47:AA:5:U:P	2.61	0.40
47:AA:528:A:N7	47:AA:529:A:N7	2.69	0.40
47:AA:583:C:N3	47:AA:584:G:C5	2.89	0.40
47:AA:58:C:O2	47:AA:59:U:N3	2.54	0.40
47:AA:647:U:H2'	47:AA:648:A:O4'	2.21	0.40
47:AA:66:G:C6	47:AA:83:A:C8	3.08	0.40
47:AA:954:U:H5	47:AA:971:G:H21	1.68	0.40
76:AB:44:LYS:O	76:AB:45:GLU:C	2.59	0.40
48:AC:2:GLN:HB2	53:AJ:173:LYS:CE	2.51	0.40
50:AE:36:ILE:O	50:AE:72:HIS:HA	2.20	0.40
51:AF:15:THR:OG1	51:AF:16:LYS:HG2	2.21	0.40
47:AA:1681:U:O4'	51:AF:25:GLY:HA3	2.21	0.40
51:AF:29:GLN:OE1	51:AF:29:GLN:N	2.54	0.40
47:AA:1336:C:H4'	77:AG:44:ARG:NH2	2.35	0.40
77:AG:53:ILE:HG13	77:AG:54:LYS:N	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:AI:39:THR:HG23	78:AI:60:ARG:HG3	2.02	0.40
78:AI:36:ARG:CG	78:AI:65:PHE:HB3	2.48	0.40
54:AK:28:TYR:CE1	54:AK:104:ALA:HB2	2.57	0.40
55:AL:12:THR:HG22	55:AL:12:THR:O	2.21	0.40
47:AA:818:A:H5'	55:AL:76:ALA:CB	2.51	0.40
1:B:11:A:N1	1:B:66:G:O2'	2.39	0.40
2:C:122:G:C5	2:C:123:U:H1'	2.56	0.40
4:E:17:LEU:HD21	4:E:264:PHE:HD1	1.85	0.40
5:F:212:ASN:CG	5:F:213:GLU:H	2.25	0.40
6:G:84:PRO:HB3	6:G:89:LYS:HD3	2.03	0.40
20:Z:11:PHE:CD2	20:Z:97:ILE:HA	2.56	0.40
70:A0:115:LYS:CG	70:A0:116:LYS:HG3	2.51	0.40
3:D:19:HIS:HD2	37:A:1540:C:H4'	1.86	0.40
37:A:2862:G:N3	37:A:3624:A:H2'	2.36	0.40
37:A:4169:G:H4'	37:A:4171:C:C2	2.57	0.40
37:A:4763:U:C5	42:M:155:PRO:HB2	2.56	0.40
47:AA:1220:A:N6	47:AA:1221:G:C2	2.89	0.40
47:AA:122:G:C2	47:AA:123:G:C4	3.09	0.40
47:AA:1246:A:O2'	76:AB:72:GLU:OE2	2.39	0.40
47:AA:1308:U:H5	47:AA:1309:C:C2	2.39	0.40
47:AA:1490:G:P	47:AA:1490:G:H8	2.44	0.40
47:AA:1598:G:N3	47:AA:1599:U:C5	2.90	0.40
47:AA:1671:G:C5	47:AA:1672:U:C4	3.10	0.40
47:AA:1692:U:O2	47:AA:1693:G:C4	2.75	0.40
47:AA:1813:A:H2'	47:AA:1814:G:O4'	2.22	0.40
47:AA:20:G:H2'	47:AA:21:U:H5'	2.02	0.40
47:AA:23:G:H22	47:AA:652:U:H1'	1.86	0.40
47:AA:302:A:H2'	47:AA:303:C:H6	1.87	0.40
47:AA:490:C:H2'	47:AA:491:C:C6	2.56	0.40
47:AA:531:A:P	47:AA:531:A:H8	2.43	0.40
47:AA:595:U:O2'	47:AA:596:U:H6	2.04	0.40
47:AA:606:G:C6	47:AA:608:C:N4	2.89	0.40
47:AA:629:A:C5	47:AA:632:C:N3	2.89	0.40
47:AA:835:C:C2	47:AA:837:A:H1'	2.56	0.40
47:AA:883:U:N3	47:AA:904:A:N6	2.69	0.40
47:AA:968:U:O2'	47:AA:969:U:H5''	2.20	0.40
48:AC:38:GLU:HG3	48:AC:39:VAL:N	2.36	0.40
47:AA:1866:A:H61	50:AE:84:VAL:HB	1.86	0.40
78:AI:131:LEU:HD23	78:AI:132:TRP:N	2.36	0.40
78:AI:178:ASN:ND2	78:AI:185:LYS:HB2	2.36	0.40
53:AJ:137:VAL:HG11	53:AJ:217:ALA:HB2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:AJ:121:ARG:HH11	53:AJ:145:LYS:HZ1	1.65	0.40
53:AJ:156:ILE:HG13	53:AJ:157:LEU:N	2.37	0.40
79:AM:91:LEU:HD12	79:AM:92:CYS:N	2.36	0.40
50:AE:46:GLU:HB2	80:AO:113:GLN:NE2	2.36	0.40
80:AO:73:ALA:O	80:AO:77:ALA:N	2.46	0.40
57:AP:35:VAL:HA	57:AP:38:LEU:CB	2.50	0.40
59:AR:94:LYS:HD2	59:AR:95:GLY:H	1.87	0.40
58:AQ:16:ARG:HD2	59:AR:94:LYS:O	203.31	0.40
81:AU:101:ARG:HE	81:AU:105:GLN:NE2	2.19	0.40
81:AU:65:TYR:HA	81:AU:123:LEU:HD13	2.02	0.40
61:AV:19:HIS:CG	61:AV:20:LYS:N	2.88	0.40
5:F:11:TYR:O	5:F:154:VAL:HA	2.21	0.40
37:A:1391:A:H5'	40:K:181:ARG:HH11	1.86	0.40
47:AA:1521:C:OP1	70:A0:145:THR:HG21	2.21	0.40
70:A0:23:ARG:O	70:A0:55:ARG:HD3	2.22	0.40
59:AR:50:PHE:CE1	70:A0:4:VAL:HG13	2.57	0.40
37:A:1250:C:H3'	37:A:1251:C:H6	1.86	0.40
37:A:1285:U:O4'	38:H:130:LYS:HE2	2.21	0.40
37:A:1970:A:H2'	37:A:2016:C:OP2	2.21	0.40
37:A:235:A:N6	37:A:238:C:N3	2.70	0.40
37:A:4500:U:H2'	37:A:4501:U:C6	2.56	0.40
37:A:4913:G:O2'	37:A:4914:C:O5'	2.38	0.40
37:A:738:C:N4	37:A:739:G:O6	2.54	0.40
47:AA:1046:U:O2'	80:AO:140:THR:HG23	2.21	0.40
47:AA:1124:C:N4	47:AA:1125:C:H41	2.19	0.40
47:AA:1195:A:C4	47:AA:1196:A:N7	2.88	0.40
47:AA:1197:G:C2	47:AA:1198:G:C8	3.09	0.40
47:AA:127:C:C1'	47:AA:129:C:H5'	2.50	0.40
47:AA:1334:G:C5	47:AA:1335:G:C8	3.10	0.40
47:AA:1337:C:H4'	76:AB:67:LYS:O	2.22	0.40
47:AA:1422:G:C2	47:AA:1424:G:H8	2.40	0.40
47:AA:146:G:N1	47:AA:147:A:C6	2.89	0.40
47:AA:1511:U:C4	47:AA:1512:C:N4	2.89	0.40
47:AA:1631:U:H2'	47:AA:1632:G:C8	2.56	0.40
47:AA:1645:C:H5''	47:AA:1646:C:OP2	2.21	0.40
47:AA:1718:G:O6	47:AA:1814:G:C5	2.74	0.40
47:AA:1778:C:C2	47:AA:1779:G:C2	3.09	0.40
47:AA:1813:A:C2	47:AA:1814:G:C4	3.09	0.40
47:AA:452:G:N1	47:AA:453:C:C2	2.90	0.40
47:AA:45:A:N6	47:AA:481:C:O4'	2.54	0.40
47:AA:562:U:OP1	55:AL:164:PRO:HD3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:594:A:N3	47:AA:595:U:N3	2.69	0.40
47:AA:85:A:C6	47:AA:86:C:C4	3.09	0.40
47:AA:878:G:C6	47:AA:879:C:H1'	2.56	0.40
47:AA:885:U:O2	47:AA:901:G:C2	2.73	0.40
47:AA:98:C:C2	47:AA:433:A:C2	3.10	0.40
50:AE:24:THR:HG21	50:AE:72:HIS:H	1.86	0.40
51:AF:12:ALA:O	51:AF:55:VAL:HA	2.22	0.40
52:AH:114:ILE:O	52:AH:114:ILE:HG13	2.21	0.40
53:AJ:274:VAL:O	53:AJ:276:THR:N	2.54	0.40
54:AK:78:SER:OG	54:AK:79:LYS:N	2.54	0.40
79:AM:21:VAL:HA	79:AM:117:GLU:OE2	2.21	0.40
80:AO:140:THR:CG2	80:AO:141:ARG:N	2.84	0.40
81:AU:104:LEU:HD22	81:AU:113:VAL:HG21	2.03	0.40
81:AU:18:LEU:HD12	81:AU:21:PHE:CD2	2.56	0.40
47:AA:1665:G:N2	81:AU:87:VAL:HG13	2.35	0.40
3:D:194:ASN:O	3:D:195:CYS:SG	2.78	0.40
38:H:164:PHE:HE1	38:H:173:LEU:HD22	1.85	0.40
38:H:157:HIS:HD2	38:H:187:ARG:NH1	2.19	0.40
7:I:107:GLY:HA3	37:A:4910:G:H22	1.85	0.40
7:I:42:ASN:HD21	7:I:135:PHE:HB2	1.86	0.40
40:K:89:ASP:OD2	40:K:91:ARG:HB3	2.21	0.40
10:N:119:ALA:HB1	10:N:124:THR:O	2.21	0.40
12:P:65:VAL:HG13	12:P:73:ARG:HA	2.04	0.40
70:A0:124:ARG:CD	70:A0:133:GLY:H	2.35	0.40
70:A0:65:GLU:O	70:A0:68:ILE:HG13	2.21	0.40
37:A:1267:C:H1'	37:A:1268:G:N7	2.36	0.40
37:A:3896:C:O2'	37:A:3897:G:O4'	2.39	0.40
37:A:3960:A:H5''	37:A:3961:G:C8	2.56	0.40
47:AA:1045:U:C4	47:AA:1046:U:C2	3.10	0.40
47:AA:1082:A:C8	47:AA:1084:A:N7	2.90	0.40
47:AA:1190:A:N7	47:AA:1191:C:N3	2.69	0.40
47:AA:1267:C:OP2	52:AH:85:TYR:CE1	2.74	0.40
47:AA:12:U:H3	47:AA:1200:A:H2	1.62	0.40
47:AA:1391:C:C5	47:AA:1392:U:C5	3.09	0.40
47:AA:1452:A:C6	47:AA:1474:A:C8	3.09	0.40
47:AA:1469:A:C5	47:AA:1470:C:C4	3.09	0.40
47:AA:1491:G:H2'	47:AA:1492:U:C6	2.56	0.40
47:AA:1520:G:C2	47:AA:1521:C:C4	3.08	0.40
47:AA:1525:C:N4	47:AA:1526:G:O6	2.55	0.40
47:AA:1612:G:H1'	70:A0:87:GLN:CD	2.42	0.40
47:AA:1697:A:H4'	47:AA:1699:A:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:AA:1839:U:H1'	47:AA:1863:A:H2	1.86	0.40
47:AA:305:U:H6	47:AA:305:U:H2'	1.72	0.40
47:AA:351:G:H2'	47:AA:352:U:H5'	2.02	0.40
47:AA:419:G:H5''	57:AP:88:LYS:CE	2.51	0.40
47:AA:447:A:C6	47:AA:449:A:C5	3.09	0.40
47:AA:535:G:C2	47:AA:549:C:C2	3.09	0.40
47:AA:555:A:C8	47:AA:557:U:H5'	2.57	0.40
47:AA:563:G:N1	47:AA:564:A:C6	2.90	0.40
47:AA:837:A:N6	58:AQ:48:TYR:OH	2.55	0.40
47:AA:885:U:O2	47:AA:901:G:N1	2.54	0.40
76:AB:52:GLY:O	76:AB:89:ILE:HA	2.21	0.40
48:AC:74:LYS:HD3	48:AC:83:PHE:CZ	2.56	0.40
49:AD:132:ALA:O	49:AD:135:LYS:N	2.55	0.40
50:AE:67:LEU:HD12	50:AE:67:LEU:O	2.20	0.40
51:AF:17:VAL:HG22	51:AF:19:GLY:N	2.33	0.40
78:AI:129:ILE:HG13	78:AI:151:VAL:HG21	2.02	0.40
78:AI:62:HIS:CE1	78:AI:64:HIS:H	2.39	0.40
53:AJ:178:HIS:NE2	53:AJ:200:ARG:HG2	2.35	0.40
53:AJ:81:ILE:HG23	53:AJ:86:LEU:HD12	2.02	0.40
54:AK:43:GLU:HG2	54:AK:119:LYS:HZ3	1.85	0.40
79:AM:40:LYS:HE3	79:AM:43:ASP:OD1	2.22	0.40
56:AN:56:ASP:N	56:AN:56:ASP:OD1	2.55	0.40
57:AP:11:LEU:CD1	57:AP:74:VAL:HB	2.51	0.40
53:AJ:171:GLY:CA	57:AP:97:ARG:NH1	2.84	0.40
58:AQ:88:LYS:HE3	58:AQ:97:TYR:CD2	2.57	0.40
59:AR:103:HIS:O	59:AR:105:ALA:N	2.55	0.40
81:AU:56:ARG:CD	81:AU:103:VAL:HG21	2.50	0.40
61:AV:59:CYS:HB2	61:AV:61:THR:HG22	2.03	0.40
2:C:138:C:H2'	2:C:139:G:C8	2.56	0.40
3:D:49:ILE:HD13	3:D:60:LYS:NZ	2.36	0.40
6:G:286:SER:O	6:G:289:ARG:HG2	2.21	0.40
4:E:261:ARG:NH2	7:I:64:THR:OG1	2.54	0.40
16:U:126:ALA:HB3	16:U:129:PHE:CZ	2.57	0.40
18:X:40:LYS:HD3	18:X:44:ARG:HH21	1.86	0.40
59:AR:48:VAL:HG22	70:A0:23:ARG:NH1	2.37	0.40
37:A:1486:C:H2'	37:A:1487:G:C8	2.57	0.40
37:A:231:U:H5''	37:A:232:G:OP2	2.21	0.40
37:A:3696:C:H2'	37:A:3697:U:O4'	2.22	0.40
8:J:140:MET:HB2	37:A:3860:A:OP1	2.22	0.40
37:A:490:C:H42	37:A:663:G:N2	2.17	0.40
37:A:498:C:H1'	37:A:499:G:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:499:G:N3	37:A:499:G:H2'	2.36	0.40
47:AA:935:G:N2	47:AA:1008:A:C4	2.90	0.40
47:AA:681:U:H3	47:AA:1024:A:H61	1.69	0.40
47:AA:1029:G:N2	47:AA:1030:A:H1'	2.37	0.40
47:AA:111:A:H2'	47:AA:112:U:H6	1.87	0.40
47:AA:1133:A:C4	47:AA:1134:G:C8	3.10	0.40
47:AA:1249:C:N3	47:AA:1250:A:N1	2.69	0.40
47:AA:1268:C:H2'	47:AA:1269:G:O4'	2.21	0.40
47:AA:1304:U:C5	47:AA:1305:C:C5	3.10	0.40
47:AA:1338:G:H2'	47:AA:1339:U:C2	2.56	0.40
47:AA:1449:G:O2'	47:AA:1450:G:O5'	2.35	0.40
47:AA:1506:A:H4'	47:AA:1507:G:OP1	2.21	0.40
47:AA:1534:C:H2'	47:AA:1599:U:H3	1.87	0.40
47:AA:161:U:C5	54:AK:87:ARG:HD2	2.57	0.40
47:AA:1731:A:N6	47:AA:1732:G:C6	2.90	0.40
47:AA:1739:C:H2'	47:AA:1740:C:O4'	2.21	0.40
47:AA:1743:G:H2'	47:AA:1744:G:H5'	2.02	0.40
47:AA:173:A:C5	47:AA:174:C:C4	3.10	0.40
47:AA:193:C:C2	47:AA:194:C:C5	3.09	0.40
47:AA:347:G:C6	47:AA:348:A:C5	3.09	0.40
47:AA:364:A:C6	47:AA:397:G:C6	3.09	0.40
47:AA:371:A:C6	47:AA:372:U:O4	2.75	0.40
47:AA:393:U:H6	47:AA:393:U:H2'	1.70	0.40
47:AA:535:G:H1	47:AA:548:C:N4	2.17	0.40
47:AA:555:A:H2'	47:AA:557:U:OP1	2.21	0.40
47:AA:601:G:H2'	47:AA:602:G:C8	2.57	0.40
47:AA:872:A:C8	47:AA:873:G:C8	3.09	0.40
47:AA:875:A:C2	47:AA:876:C:N3	2.90	0.40
47:AA:966:U:O5'	47:AA:966:U:H6	2.03	0.40
47:AA:975:G:H2'	47:AA:976:G:C8	2.57	0.40
48:AC:1:MET:HE2	53:AJ:254:ASP:HB2	2.04	0.40
48:AC:2:GLN:HB2	53:AJ:173:LYS:HE2	2.04	0.40
53:AJ:191:VAL:HG12	53:AJ:192:LEU:N	2.36	0.40
53:AJ:86:LEU:HA	53:AJ:86:LEU:HD23	1.89	0.40
54:AK:149:LYS:O	54:AK:150:GLU:HB3	2.22	0.40
54:AK:65:GLN:HG2	54:AK:66:GLY:H	1.86	0.40
54:AK:61:PHE:CE2	54:AK:72:ARG:HD3	2.57	0.40
47:AA:1016:U:H5'	56:AN:15:ALA:O	2.21	0.40
57:AP:61:ILE:HG23	57:AP:61:ILE:HD12	1.72	0.40
59:AR:98:LYS:O	59:AR:110:THR:OG1	2.34	0.40
3:D:96:LEU:HA	3:D:102:LEU:HD11	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:A:961:G:H5"	38:H:123:ARG:HD3	2.04	0.40
38:H:214:ASP:O	38:H:218:LYS:HE3	2.20	0.40
38:H:84:LYS:C	38:H:89:LEU:HD23	2.42	0.40
42:M:69:GLU:HG3	42:M:71:SER:H	1.86	0.40
10:N:81:LYS:HB3	10:N:82:GLY:H	1.67	0.40
19:Y:45:VAL:HG12	19:Y:52:GLN:HB3	2.04	0.40

There are no symmetry-related clashes.

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 PDB entries followed by that with respect to all EM entries.

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	
3	D	246/257 (96%)	227 (92%)	19 (8%)	0	100	100
4	E	400/403 (99%)	378 (94%)	22 (6%)	0	100	100
5	F	365/427 (86%)	331 (91%)	33 (9%)	1 (0%)	46	83
6	G	291/297 (98%)	270 (93%)	20 (7%)	1 (0%)	46	83
7	I	199/203 (98%)	195 (98%)	4 (2%)	0	100	100
8	J	151/160 (94%)	145 (96%)	5 (3%)	1 (1%)	26	72
9	L	185/196 (94%)	177 (96%)	8 (4%)	0	100	100
10	N	157/160 (98%)	149 (95%)	8 (5%)	0	100	100
11	O	99/128 (77%)	94 (95%)	5 (5%)	0	100	100
12	P	129/140 (92%)	122 (95%)	7 (5%)	0	100	100
13	Q	62/157 (40%)	58 (94%)	4 (6%)	0	100	100
14	S	132/145 (91%)	121 (92%)	11 (8%)	0	100	100
15	T	133/136 (98%)	128 (96%)	5 (4%)	0	100	100
16	U	145/148 (98%)	134 (92%)	11 (8%)	0	100	100
17	V	73/159 (46%)	65 (89%)	8 (11%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
18	X	105/125 (84%)	99 (94%)	6 (6%)	0	100	100
19	Y	126/135 (93%)	123 (98%)	3 (2%)	0	100	100
20	Z	107/110 (97%)	100 (94%)	7 (6%)	0	100	100
21	a	112/117 (96%)	109 (97%)	3 (3%)	0	100	100
22	b	120/123 (98%)	118 (98%)	2 (2%)	0	100	100
23	c	100/105 (95%)	96 (96%)	4 (4%)	0	100	100
24	d	84/97 (87%)	79 (94%)	5 (6%)	0	100	100
25	e	67/70 (96%)	62 (92%)	4 (6%)	1 (2%)	13	57
26	f	48/51 (94%)	42 (88%)	6 (12%)	0	100	100
27	g	50/128 (39%)	45 (90%)	5 (10%)	0	100	100
28	j	89/92 (97%)	81 (91%)	8 (9%)	0	100	100
29	k	123/137 (90%)	110 (89%)	13 (11%)	0	100	100
30	m	223/248 (90%)	212 (95%)	11 (5%)	0	100	100
31	n	239/266 (90%)	228 (95%)	11 (5%)	0	100	100
32	o	188/192 (98%)	172 (92%)	16 (8%)	0	100	100
33	s	137/215 (64%)	124 (90%)	13 (10%)	0	100	100
34	t	201/204 (98%)	191 (95%)	10 (5%)	0	100	100
35	h	22/25 (88%)	19 (86%)	2 (9%)	1 (4%)	3	31
36	r	208/211 (99%)	189 (91%)	17 (8%)	2 (1%)	19	66
38	H	238/288 (83%)	203 (85%)	30 (13%)	5 (2%)	9	52
39	i	103/106 (97%)	99 (96%)	4 (4%)	0	100	100
40	K	185/188 (98%)	177 (96%)	7 (4%)	1 (0%)	34	77
41	l	215/217 (99%)	188 (87%)	25 (12%)	2 (1%)	21	67
42	M	173/176 (98%)	158 (91%)	13 (8%)	2 (1%)	16	62
43	p	211/214 (99%)	196 (93%)	14 (7%)	1 (0%)	34	77
44	q	172/178 (97%)	163 (95%)	6 (4%)	3 (2%)	11	55
45	R	118/156 (76%)	112 (95%)	6 (5%)	0	100	100
46	W	96/115 (84%)	90 (94%)	6 (6%)	0	100	100
48	AC	81/83 (98%)	70 (86%)	8 (10%)	3 (4%)	4	38
49	AD	139/143 (97%)	117 (84%)	22 (16%)	0	100	100
50	AE	99/115 (86%)	93 (94%)	6 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
51	AF	61/69 (88%)	55 (90%)	6 (10%)	0	100	100
52	AH	69/156 (44%)	54 (78%)	13 (19%)	2 (3%)	6	44
53	AJ	220/293 (75%)	195 (89%)	25 (11%)	0	100	100
54	AK	235/249 (94%)	206 (88%)	27 (12%)	2 (1%)	21	67
55	AL	183/194 (94%)	161 (88%)	21 (12%)	1 (0%)	34	77
56	AN	147/151 (97%)	125 (85%)	22 (15%)	0	100	100
57	AP	127/130 (98%)	112 (88%)	15 (12%)	0	100	100
58	AQ	129/133 (97%)	118 (92%)	8 (6%)	3 (2%)	8	50
59	AR	73/125 (58%)	61 (84%)	12 (16%)	0	100	100
60	AT	56/59 (95%)	51 (91%)	5 (9%)	0	100	100
61	AV	81/84 (96%)	73 (90%)	7 (9%)	1 (1%)	16	62
63	Ap	212/264 (80%)	184 (87%)	25 (12%)	3 (1%)	14	59
64	Aq	225/243 (93%)	195 (87%)	26 (12%)	4 (2%)	11	54
65	Ar	260/263 (99%)	226 (87%)	31 (12%)	3 (1%)	16	62
66	At	187/194 (96%)	155 (83%)	30 (16%)	2 (1%)	17	64
67	Au	204/208 (98%)	179 (88%)	22 (11%)	3 (2%)	13	57
68	Av	96/165 (58%)	77 (80%)	18 (19%)	1 (1%)	19	66
69	Ay	144/146 (99%)	123 (85%)	18 (12%)	3 (2%)	9	52
70	A0	148/152 (97%)	121 (82%)	21 (14%)	6 (4%)	3	34
71	Ao	220/295 (75%)	190 (86%)	28 (13%)	2 (1%)	21	67
72	As	189/204 (93%)	158 (84%)	23 (12%)	8 (4%)	3	33
73	Aw	151/158 (96%)	130 (86%)	18 (12%)	3 (2%)	9	53
74	Ax	95/145 (66%)	60 (63%)	21 (22%)	14 (15%)	0	5
75	Az	130/135 (96%)	93 (72%)	26 (20%)	11 (8%)	1	14
76	AB	100/119 (84%)	82 (82%)	14 (14%)	4 (4%)	4	35
77	AG	51/56 (91%)	43 (84%)	6 (12%)	2 (4%)	4	36
78	AI	311/317 (98%)	261 (84%)	44 (14%)	6 (2%)	10	53
79	AM	120/132 (91%)	91 (76%)	26 (22%)	3 (2%)	7	48
80	AO	138/151 (91%)	112 (81%)	21 (15%)	5 (4%)	4	39
81	AU	141/145 (97%)	116 (82%)	18 (13%)	7 (5%)	3	29
All	All	11449/12881 (89%)	10266 (90%)	1060 (9%)	123 (1%)	23	64

All (123) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
38	H	100	LYS
38	H	225	PRO
40	K	159	PRO
44	q	55	TYR
44	q	59	SER
54	AK	153	VAL
70	A0	90	VAL
72	As	43	GLU
72	As	45	TYR
72	As	46	ALA
72	As	47	LYS
74	Ax	73	PRO
74	Ax	78	THR
74	Ax	98	ASN
74	Ax	100	LYS
74	Ax	102	PHE
75	Az	67	ARG
75	Az	97	GLU
75	Az	119	VAL
75	Az	127	ASN
76	AB	49	LYS
76	AB	51	LYS
78	AI	54	ILE
78	AI	57	ARG
80	AO	13	GLN
80	AO	14	VAL
81	AU	78	ILE
41	l	67	VAL
70	A0	117	ILE
72	As	42	LYS
73	Aw	28	THR
73	Aw	29	GLY
74	Ax	77	LYS
74	Ax	79	HIS
74	Ax	80	LEU
75	Az	98	VAL
75	Az	130	THR
81	AU	4	VAL
6	G	4	VAL
35	h	4	LYS
36	r	55	ILE
38	H	91	THR

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Mol	Chain	Res	Type
38	H	226	ARG
48	AC	36	VAL
69	Ay	100	VAL
70	A0	12	ILE
74	Ax	74	GLU
74	Ax	76	VAL
74	Ax	97	TYR
77	AG	7	TYR
77	AG	8	TRP
78	AI	53	GLY
80	AO	140	THR
43	p	21	ARG
48	AC	78	ILE
61	AV	20	LYS
63	Ap	40	ASN
64	Aq	61	GLU
66	At	139	ILE
67	Au	97	VAL
68	Av	4	PRO
70	A0	16	LEU
70	A0	71	MET
72	As	17	ILE
74	Ax	37	TYR
74	Ax	58	LYS
75	Az	108	LEU
75	Az	121	GLN
81	AU	5	THR
81	AU	45	LEU
81	AU	130	ASP
81	AU	137	GLN
42	M	146	HIS
58	AQ	33	ALA
63	Ap	37	ALA
63	Ap	190	PRO
67	Au	140	LYS
67	Au	177	SER
72	As	127	ARG
78	AI	284	PRO
79	AM	100	PRO
80	AO	112	ALA
81	AU	67	ARG
41	l	202	ARG

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Mol	Chain	Res	Type
54	AK	235	SER
55	AL	86	VAL
58	AQ	52	PRO
64	Aq	26	THR
70	A0	17	ASN
73	Aw	30	LYS
74	Ax	96	VAL
79	AM	123	VAL
8	J	24	VAL
42	M	124	ILE
52	AH	108	VAL
64	Aq	99	ILE
75	Az	9	VAL
75	Az	69	ILE
76	AB	17	ILE
76	AB	50	VAL
48	AC	42	VAL
65	Ar	80	ILE
65	Ar	131	VAL
71	Ao	171	VAL
71	Ao	194	PRO
78	AI	28	PRO
52	AH	98	VAL
69	Ay	42	ILE
69	Ay	93	VAL
79	AM	103	VAL
80	AO	56	VAL
36	r	54	PRO
38	H	106	VAL
44	q	174	ILE
65	Ar	76	VAL
66	At	100	ILE
75	Az	50	ILE
5	F	309	ILE
25	e	32	VAL
58	AQ	51	THR
64	Aq	66	ILE
78	AI	163	PRO
72	As	15	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 PDB entries followed by that with respect to all EM entries.

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	
3	D	190/199 (96%)	190 (100%)	0	100	100
4	E	348/349 (100%)	348 (100%)	0	100	100
5	F	305/348 (88%)	305 (100%)	0	100	100
6	G	246/250 (98%)	246 (100%)	0	100	100
7	I	173/174 (99%)	173 (100%)	0	100	100
8	J	134/141 (95%)	134 (100%)	0	100	100
9	L	166/175 (95%)	166 (100%)	0	100	100
10	N	139/140 (99%)	139 (100%)	0	100	100
11	O	91/115 (79%)	91 (100%)	0	100	100
12	P	101/107 (94%)	101 (100%)	0	100	100
13	Q	56/126 (44%)	56 (100%)	0	100	100
14	S	124/135 (92%)	124 (100%)	0	100	100
15	T	117/118 (99%)	117 (100%)	0	100	100
16	U	120/121 (99%)	120 (100%)	0	100	100
17	V	63/126 (50%)	63 (100%)	0	100	100
18	X	98/110 (89%)	98 (100%)	0	100	100
19	Y	114/121 (94%)	114 (100%)	0	100	100
20	Z	88/89 (99%)	88 (100%)	0	100	100
21	a	98/100 (98%)	98 (100%)	0	100	100
22	b	109/110 (99%)	109 (100%)	0	100	100
23	c	86/89 (97%)	86 (100%)	0	100	100
24	d	73/80 (91%)	73 (100%)	0	100	100
25	e	64/65 (98%)	64 (100%)	0	100	100
26	f	47/48 (98%)	47 (100%)	0	100	100
27	g	48/116 (41%)	48 (100%)	0	100	100
28	j	74/75 (99%)	74 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
29	k	109/121 (90%)	109 (100%)	0	100	100
30	m	194/215 (90%)	194 (100%)	0	100	100
31	n	203/223 (91%)	203 (100%)	0	100	100
32	o	169/171 (99%)	169 (100%)	0	100	100
33	s	118/161 (73%)	118 (100%)	0	100	100
34	t	171/172 (99%)	171 (100%)	0	100	100
35	h	23/24 (96%)	23 (100%)	0	100	100
36	r	176/177 (99%)	174 (99%)	2 (1%)	80	92
38	H	215/252 (85%)	209 (97%)	6 (3%)	51	82
39	i	93/94 (99%)	92 (99%)	1 (1%)	80	92
40	K	164/165 (99%)	164 (100%)	0	100	100
41	l	195/196 (100%)	194 (100%)	1 (0%)	92	97
42	M	156/157 (99%)	154 (99%)	2 (1%)	76	91
43	p	180/181 (99%)	178 (99%)	2 (1%)	80	92
44	q	148/149 (99%)	144 (97%)	4 (3%)	52	83
45	R	108/133 (81%)	107 (99%)	1 (1%)	84	94
46	W	83/97 (86%)	83 (100%)	0	100	100
48	AC	67/67 (100%)	67 (100%)	0	100	100
49	AD	113/115 (98%)	113 (100%)	0	100	100
50	AE	88/98 (90%)	88 (100%)	0	100	100
51	AF	56/62 (90%)	56 (100%)	0	100	100
52	AH	64/140 (46%)	64 (100%)	0	100	100
53	AJ	188/225 (84%)	186 (99%)	2 (1%)	80	92
54	AK	207/218 (95%)	207 (100%)	0	100	100
55	AL	161/168 (96%)	161 (100%)	0	100	100
56	AN	130/131 (99%)	130 (100%)	0	100	100
57	AP	112/113 (99%)	110 (98%)	2 (2%)	66	89
58	AQ	113/115 (98%)	113 (100%)	0	100	100
59	AR	66/103 (64%)	66 (100%)	0	100	100
60	AT	47/48 (98%)	47 (100%)	0	100	100
61	AV	75/76 (99%)	75 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
63	Ap	195/231 (84%)	193 (99%)	2 (1%)	82	93
64	Aq	190/202 (94%)	190 (100%)	0	100	100
65	Ar	224/225 (100%)	223 (100%)	1 (0%)	93	98
66	At	169/174 (97%)	169 (100%)	0	100	100
67	Au	178/180 (99%)	178 (100%)	0	100	100
68	Av	89/136 (65%)	89 (100%)	0	100	100
69	Ay	121/121 (100%)	120 (99%)	1 (1%)	86	95
70	A0	130/132 (98%)	130 (100%)	0	100	100
71	Ao	184/243 (76%)	184 (100%)	0	100	100
72	As	161/170 (95%)	159 (99%)	2 (1%)	78	92
73	Aw	137/142 (96%)	136 (99%)	1 (1%)	88	96
74	Ax	87/130 (67%)	84 (97%)	3 (3%)	44	80
75	Az	120/122 (98%)	115 (96%)	5 (4%)	36	75
76	AB	93/107 (87%)	89 (96%)	4 (4%)	35	75
77	AG	47/49 (96%)	46 (98%)	1 (2%)	61	87
78	AI	272/275 (99%)	270 (99%)	2 (1%)	88	96
79	AM	104/108 (96%)	103 (99%)	1 (1%)	82	93
80	AO	110/119 (92%)	110 (100%)	0	100	100
81	AU	113/115 (98%)	112 (99%)	1 (1%)	84	94
All	All	9988/10975 (91%)	9941 (100%)	47 (0%)	92	97

All (47) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
36	r	145	LYS
36	r	146	LEU
38	H	83	LYS
38	H	84	LYS
38	H	88	VAL
38	H	96	VAL
38	H	100	LYS
38	H	224	LYS
39	i	106	PHE
41	l	66	CYS
42	M	164	LYS

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Mol	Chain	Res	Type
42	M	166	ARG
43	p	105	CYS
43	p	110	ARG
44	q	55	TYR
44	q	56	THR
44	q	58	ARG
44	q	154	LYS
45	R	37	LYS
53	AJ	163	VAL
53	AJ	196	ILE
57	AP	72	CYS
57	AP	112	ASP
63	Ap	90	ASP
63	Ap	196	ASP
65	Ar	98	ASN
69	Ay	100	VAL
72	As	44	LYS
72	As	45	TYR
73	Aw	28	THR
74	Ax	80	LEU
74	Ax	82	ASP
74	Ax	97	TYR
75	Az	67	ARG
75	Az	69	ILE
75	Az	120	THR
75	Az	126	MET
75	Az	130	THR
76	AB	46	LYS
76	AB	48	LEU
76	AB	49	LYS
76	AB	88	LEU
77	AG	4	GLN
78	AI	54	ILE
78	AI	107	ASP
79	AM	99	ASN
81	AU	45	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (95) such sidechains are listed below:

Mol	Chain	Res	Type
3	D	86	GLN
4	E	302	ASN

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Mol	Chain	Res	Type
5	F	142	HIS
5	F	276	ASN
5	F	286	ASN
8	J	75	GLN
8	J	80	GLN
8	J	97	ASN
9	L	58	HIS
10	N	98	HIS
13	Q	59	HIS
14	S	96	HIS
16	U	19	HIS
16	U	25	HIS
16	U	28	HIS
17	V	49	HIS
18	X	118	GLN
19	Y	23	HIS
28	j	33	GLN
29	k	6	GLN
30	m	63	GLN
30	m	110	GLN
30	m	116	GLN
30	m	119	ASN
32	o	188	GLN
34	t	37	HIS
34	t	201	HIS
36	r	15	HIS
38	H	128	HIS
38	H	167	GLN
38	H	191	GLN
38	H	228	GLN
39	i	19	GLN
39	i	45	GLN
39	i	51	GLN
40	K	57	ASN
41	l	35	GLN
41	l	119	GLN
41	l	143	ASN
41	l	200	ASN
42	M	50	GLN
42	M	117	HIS
42	M	146	HIS
43	p	51	HIS

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Mol	Chain	Res	Type
44	q	155	HIS
45	R	93	ASN
49	AD	87	ASN
49	AD	92	ASN
50	AE	19	GLN
51	AF	26	GLN
52	AH	139	HIS
54	AK	13	GLN
54	AK	225	GLN
55	AL	75	ASN
55	AL	113	GLN
55	AL	140	GLN
55	AL	156	HIS
56	AN	105	ASN
57	AP	113	HIS
61	AV	19	HIS
63	Ap	92	GLN
63	Ap	101	HIS
63	Ap	186	ASN
63	Ap	208	HIS
65	Ar	214	ASN
66	At	44	ASN
68	Av	39	ASN
68	Av	42	ASN
68	Av	44	HIS
68	Av	66	HIS
70	A0	87	GLN
70	A0	125	HIS
71	Ao	193	HIS
72	As	51	HIS
72	As	179	ASN
73	Aw	13	GLN
75	Az	48	ASN
76	AB	28	ASN
77	AG	37	ASN
78	AI	14	HIS
78	AI	20	GLN
78	AI	62	HIS
78	AI	64	HIS
78	AI	76	GLN
78	AI	147	HIS
78	AI	187	ASN

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Mol	Chain	Res	Type
78	AI	191	HIS
78	AI	237	ASN
78	AI	285	GLN
79	AM	52	GLN
80	AO	26	ASN
80	AO	113	GLN
81	AU	63	HIS
81	AU	105	GLN
81	AU	128	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	B	119/121 (98%)	16 (13%)	0
2	C	155/157 (98%)	34 (21%)	1 (0%)
37	A	3707/5070 (73%)	1071 (28%)	50 (1%)
47	AA	1716/1869 (91%)	906 (52%)	48 (2%)
62	An	74/75 (98%)	37 (50%)	0
All	All	5771/7292 (79%)	2064 (35%)	99 (1%)

All (2064) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	B	2	U
1	B	7	G
1	B	17	C
1	B	22	A
1	B	24	C
1	B	50	A
1	B	54	A
1	B	64	G
1	B	71	G
1	B	90	A
1	B	97	G
1	B	100	A
1	B	106	G
1	B	107	G
1	B	110	G
1	B	120	U
2	C	21	C
2	C	34	U

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Mol	Chain	Res	Type
2	C	35	C
2	C	39	G
2	C	52	A
2	C	59	A
2	C	63	U
2	C	80	A
2	C	82	A
2	C	83	C
2	C	84	A
2	C	85	U
2	C	86	U
2	C	87	G
2	C	88	A
2	C	94	G
2	C	103	A
2	C	104	A
2	C	105	C
2	C	109	C
2	C	110	U
2	C	114	G
2	C	118	C
2	C	123	U
2	C	124	U
2	C	125	C
2	C	126	C
2	C	127	U
2	C	129	C
2	C	146	U
2	C	147	G
2	C	150	C
2	C	153	C
2	C	156	U
37	A	9	C
37	A	17	A
37	A	18	C
37	A	19	G
37	A	25	A
37	A	39	A
37	A	42	A
37	A	44	A
37	A	48	G
37	A	56	A

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Mol	Chain	Res	Type
37	A	59	A
37	A	65	A
37	A	66	A
37	A	73	A
37	A	84	A
37	A	91	G
37	A	108	A
37	A	109	G
37	A	110	C
37	A	117	C
37	A	118	C
37	A	119	G
37	A	120	A
37	A	122	U
37	A	130	C
37	A	131	C
37	A	133	C
37	A	134	G
37	A	135	G
37	A	136	C
37	A	137	G
37	A	140	G
37	A	143	C
37	A	144	G
37	A	149	A
37	A	152	U
37	A	159	C
37	A	164	G
37	A	171	U
37	A	172	C
37	A	173	C
37	A	175	C
37	A	179	G
37	A	180	C
37	A	183	C
37	A	184	U
37	A	185	C
37	A	187	U
37	A	188	G
37	A	200	U
37	A	201	C
37	A	202	C

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Mol	Chain	Res	Type
37	A	205	C
37	A	217	C
37	A	218	A
37	A	219	G
37	A	220	C
37	A	232	G
37	A	233	U
37	A	234	G
37	A	235	A
37	A	238	C
37	A	245	C
37	A	246	G
37	A	250	C
37	A	253	G
37	A	258	G
37	A	265	C
37	A	266	C
37	A	267	G
37	A	277	G
37	A	278	G
37	A	280	G
37	A	297	U
37	A	306	A
37	A	315	G
37	A	316	U
37	A	322	C
37	A	326	C
37	A	334	A
37	A	340	C
37	A	379	G
37	A	383	A
37	A	384	A
37	A	387	G
37	A	399	G
37	A	401	G
37	A	407	A
37	A	409	G
37	A	410	A
37	A	415	G
37	A	417	G
37	A	418	A
37	A	431	G

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Mol	Chain	Res	Type
37	A	432	U
37	A	433	A
37	A	446	C
37	A	448	G
37	A	449	C
37	A	450	G
37	A	451	C
37	A	452	A
37	A	453	G
37	A	454	U
37	A	455	C
37	A	462	G
37	A	468	U
37	A	469	C
37	A	470	A
37	A	485	C
37	A	486	C
37	A	487	G
37	A	488	G
37	A	490	C
37	A	499	G
37	A	500	G
37	A	501	C
37	A	502	C
37	A	503	C
37	A	504	G
37	A	506	C
37	A	507	G
37	A	509	A
37	A	510	U
37	A	511	C
37	A	512	U
37	A	513	U
37	A	514	U
37	A	516	C
37	A	517	C
37	A	518	G
37	A	643	C
37	A	644	G
37	A	646	G
37	A	649	A
37	A	654	C

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Mol	Chain	Res	Type
37	A	655	C
37	A	656	C
37	A	657	C
37	A	658	C
37	A	661	C
37	A	664	G
37	A	665	C
37	A	666	G
37	A	667	A
37	A	671	G
37	A	681	G
37	A	684	G
37	A	685	C
37	A	686	A
37	A	694	C
37	A	695	G
37	A	696	C
37	A	697	G
37	A	702	U
37	A	703	G
37	A	704	C
37	A	705	G
37	A	707	C
37	A	713	C
37	A	720	G
37	A	730	G
37	A	736	C
37	A	737	C
37	A	740	G
37	A	741	C
37	A	745	G
37	A	746	A
37	A	747	A
37	A	748	G
37	A	749	G
37	A	750	U
37	A	907	C
37	A	910	G
37	A	911	U
37	A	915	A
37	A	916	C
37	A	917	A

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Mol	Chain	Res	Type
37	A	918	G
37	A	919	C
37	A	920	C
37	A	926	G
37	A	927	G
37	A	928	C
37	A	929	A
37	A	930	G
37	A	931	C
37	A	932	A
37	A	933	G
37	A	934	C
37	A	938	C
37	A	939	G
37	A	940	C
37	A	941	C
37	A	942	G
37	A	944	A
37	A	945	U
37	A	946	C
37	A	950	G
37	A	957	G
37	A	958	G
37	A	959	G
37	A	960	A
37	A	961	G
37	A	962	C
37	A	963	G
37	A	964	A
37	A	965	G
37	A	966	A
37	A	967	C
37	A	968	C
37	A	969	C
37	A	975	C
37	A	976	G
37	A	978	G
37	A	979	C
37	A	981	C
37	A	982	U
37	A	986	C
37	A	989	U

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Mol	Chain	Res	Type
37	A	992	C
37	A	994	G
37	A	995	C
37	A	1048	G
37	A	1051	G
37	A	1066	G
37	A	1068	G
37	A	1070	G
37	A	1072	C
37	A	1073	G
37	A	1078	A
37	A	1079	C
37	A	1080	C
37	A	1081	C
37	A	1082	C
37	A	1095	A
37	A	1096	C
37	A	1097	C
37	A	1170	G
37	A	1172	C
37	A	1173	G
37	A	1175	A
37	A	1179	U
37	A	1180	C
37	A	1181	C
37	A	1182	C
37	A	1183	C
37	A	1184	A
37	A	1191	C
37	A	1193	C
37	A	1194	G
37	A	1200	G
37	A	1202	C
37	A	1203	G
37	A	1205	G
37	A	1209	U
37	A	1210	C
37	A	1211	G
37	A	1214	C
37	A	1215	C
37	A	1216	C
37	A	1217	G

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Mol	Chain	Res	Type
37	A	1219	G
37	A	1221	G
37	A	1222	A
37	A	1233	G
37	A	1237	C
37	A	1238	A
37	A	1239	C
37	A	1243	C
37	A	1244	G
37	A	1245	C
37	A	1252	C
37	A	1254	A
37	A	1256	G
37	A	1257	A
37	A	1264	C
37	A	1267	C
37	A	1268	G
37	A	1269	G
37	A	1270	A
37	A	1271	G
37	A	1272	C
37	A	1273	G
37	A	1274	A
37	A	1275	G
37	A	1276	C
37	A	1277	G
37	A	1279	A
37	A	1280	C
37	A	1281	G
37	A	1282	G
37	A	1285	U
37	A	1288	G
37	A	1289	C
37	A	1290	G
37	A	1293	G
37	A	1295	C
37	A	1296	G
37	A	1301	C
37	A	1322	A
37	A	1324	A
37	A	1326	A
37	A	1330	A

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Mol	Chain	Res	Type
37	A	1339	U
37	A	1352	C
37	A	1354	A
37	A	1358	G
37	A	1359	G
37	A	1365	C
37	A	1366	G
37	A	1367	C
37	A	1368	A
37	A	1369	C
37	A	1370	G
37	A	1372	A
37	A	1376	C
37	A	1377	G
37	A	1378	C
37	A	1379	C
37	A	1381	U
37	A	1387	A
37	A	1394	G
37	A	1404	G
37	A	1405	C
37	A	1407	C
37	A	1409	C
37	A	1410	U
37	A	1411	C
37	A	1412	G
37	A	1413	C
37	A	1415	G
37	A	1416	G
37	A	1417	C
37	A	1420	A
37	A	1421	G
37	A	1425	G
37	A	1434	G
37	A	1440	U
37	A	1446	C
37	A	1456	C
37	A	1457	G
37	A	1474	C
37	A	1476	C
37	A	1480	C
37	A	1481	C

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Mol	Chain	Res	Type
37	A	1482	G
37	A	1483	C
37	A	1484	G
37	A	1489	G
37	A	1497	A
37	A	1498	G
37	A	1501	C
37	A	1502	G
37	A	1503	A
37	A	1518	A
37	A	1523	A
37	A	1530	G
37	A	1534	A
37	A	1540	C
37	A	1547	A
37	A	1552	G
37	A	1566	C
37	A	1578	U
37	A	1586	G
37	A	1591	U
37	A	1597	G
37	A	1605	G
37	A	1612	G
37	A	1613	A
37	A	1614	C
37	A	1624	G
37	A	1625	G
37	A	1626	G
37	A	1631	A
37	A	1633	G
37	A	1634	A
37	A	1638	A
37	A	1641	G
37	A	1642	A
37	A	1650	A
37	A	1654	G
37	A	1661	C
37	A	1676	C
37	A	1677	U
37	A	1691	G
37	A	1696	C
37	A	1697	G

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Mol	Chain	Res	Type
37	A	1698	C
37	A	1699	A
37	A	1719	A
37	A	1721	G
37	A	1724	G
37	A	1729	A
37	A	1735	U
37	A	1741	G
37	A	1742	A
37	A	1750	G
37	A	1751	A
37	A	1754	U
37	A	1755	C
37	A	1756	U
37	A	1757	U
37	A	1758	G
37	A	1759	G
37	A	1760	G
37	A	1761	G
37	A	1762	C
37	A	1763	C
37	A	1764	G
37	A	1765	A
37	A	1766	A
37	A	1767	A
37	A	1768	C
37	A	1769	G
37	A	1770	A
37	A	1775	A
37	A	1777	C
37	A	1778	C
37	A	1781	U
37	A	1787	A
37	A	1788	A
37	A	1804	A
37	A	1806	G
37	A	1807	C
37	A	1815	G
37	A	1820	C
37	A	1822	U
37	A	1823	G
37	A	1832	C

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Mol	Chain	Res	Type
37	A	1834	U
37	A	1835	G
37	A	1836	G
37	A	1842	G
37	A	1855	G
37	A	1856	C
37	A	1860	U
37	A	1867	A
37	A	1869	G
37	A	1881	C
37	A	1886	G
37	A	1889	U
37	A	1890	G
37	A	1897	A
37	A	1910	G
37	A	1918	U
37	A	1919	G
37	A	1920	C
37	A	1921	C
37	A	1922	G
37	A	1925	G
37	A	1930	U
37	A	1932	A
37	A	1936	C
37	A	1948	G
37	A	1959	U
37	A	1960	A
37	A	1961	G
37	A	1967	A
37	A	1968	G
37	A	1969	G
37	A	1970	A
37	A	1971	C
37	A	1973	G
37	A	1974	U
37	A	1975	G
37	A	1976	G
37	A	1977	C
37	A	1979	A
37	A	1981	G
37	A	1982	G
37	A	1983	A

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Mol	Chain	Res	Type
37	A	1984	A
37	A	1985	G
37	A	1987	C
37	A	1989	G
37	A	1990	A
37	A	1991	A
37	A	1993	C
37	A	1994	C
37	A	1995	G
37	A	1996	C
37	A	1997	U
37	A	1998	A
37	A	1999	A
37	A	2000	G
37	A	2001	G
37	A	2002	A
37	A	2003	G
37	A	2005	G
37	A	2006	U
37	A	2009	A
37	A	2010	A
37	A	2011	C
37	A	2012	A
37	A	2013	A
37	A	2017	A
37	A	2018	C
37	A	2019	C
37	A	2020	U
37	A	2023	C
37	A	2026	A
37	A	2046	G
37	A	2048	U
37	A	2052	G
37	A	2054	U
37	A	2055	G
37	A	2056	G
37	A	2063	G
37	A	2068	C
37	A	2069	A
37	A	2070	U
37	A	2084	C
37	A	2085	G

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Mol	Chain	Res	Type
37	A	2089	G
37	A	2091	C
37	A	2092	G
37	A	2093	A
37	A	2094	G
37	A	2095	A
37	A	2096	G
37	A	2097	U
37	A	2098	G
37	A	2099	G
37	A	2100	A
37	A	2104	G
37	A	2105	A
37	A	2107	C
37	A	2108	G
37	A	2109	G
37	A	2110	C
37	A	2111	G
37	A	2112	G
37	A	2113	G
37	A	2114	G
37	A	2115	G
37	A	2116	C
37	A	2117	G
37	A	2118	G
37	A	2119	C
37	A	2120	G
37	A	2121	C
37	A	2122	G
37	A	2123	C
37	A	2124	G
37	A	2125	C
37	A	2126	G
37	A	2128	G
37	A	2130	G
37	A	2244	C
37	A	2247	C
37	A	2250	C
37	A	2251	G
37	A	2252	G
37	A	2253	A
37	A	2254	G

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Mol	Chain	Res	Type
37	A	2255	C
37	A	2256	C
37	A	2257	C
37	A	2259	G
37	A	2260	C
37	A	2261	G
37	A	2262	G
37	A	2263	A
37	A	2265	G
37	A	2268	A
37	A	2270	G
37	A	2278	G
37	A	2289	C
37	A	2300	A
37	A	2301	G
37	A	2313	A
37	A	2316	G
37	A	2327	G
37	A	2333	G
37	A	2348	G
37	A	2351	C
37	A	2360	A
37	A	2361	G
37	A	2362	U
37	A	2364	G
37	A	2379	A
37	A	2382	A
37	A	2390	G
37	A	2391	G
37	A	2397	G
37	A	2412	A
37	A	2417	A
37	A	2422	C
37	A	2425	U
37	A	2426	U
37	A	2437	C
37	A	2448	G
37	A	2450	G
37	A	2463	G
37	A	2465	C
37	A	2468	U
37	A	2471	G

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Mol	Chain	Res	Type
37	A	2474	G
37	A	2475	G
37	A	2483	G
37	A	2486	G
37	A	2488	C
37	A	2489	C
37	A	2490	U
37	A	2491	C
37	A	2494	U
37	A	2496	G
37	A	2501	C
37	A	2504	C
37	A	2505	C
37	A	2506	G
37	A	2513	A
37	A	2514	G
37	A	2529	A
37	A	2537	A
37	A	2544	G
37	A	2546	G
37	A	2547	G
37	A	2553	A
37	A	2554	U
37	A	2555	G
37	A	2556	G
37	A	2557	G
37	A	2561	C
37	A	2566	G
37	A	2569	G
37	A	2570	U
37	A	2573	A
37	A	2583	C
37	A	2587	A
37	A	2588	C
37	A	2601	A
37	A	2618	G
37	A	2620	G
37	A	2627	C
37	A	2638	G
37	A	2640	G
37	A	2643	G
37	A	2645	G

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Mol	Chain	Res	Type
37	A	2648	G
37	A	2653	C
37	A	2658	G
37	A	2662	G
37	A	2667	C
37	A	2670	C
37	A	2675	G
37	A	2676	A
37	A	2686	G
37	A	2687	U
37	A	2689	C
37	A	2694	G
37	A	2696	A
37	A	2701	U
37	A	2706	G
37	A	2707	U
37	A	2708	U
37	A	2710	C
37	A	2712	G
37	A	2714	G
37	A	2717	G
37	A	2719	C
37	A	2721	G
37	A	2723	U
37	A	2725	A
37	A	2726	G
37	A	2739	C
37	A	2740	U
37	A	2743	A
37	A	2753	G
37	A	2754	G
37	A	2756	G
37	A	2761	U
37	A	2762	G
37	A	2763	U
37	A	2768	C
37	A	2769	U
37	A	2770	C
37	A	2776	G
37	A	2786	C
37	A	2787	A
37	A	2788	U

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Mol	Chain	Res	Type
37	A	2790	U
37	A	2794	C
37	A	2797	C
37	A	2803	U
37	A	2814	C
37	A	2819	U
37	A	2826	U
37	A	2827	G
37	A	2829	U
37	A	2842	G
37	A	2855	G
37	A	2856	C
37	A	2859	G
37	A	2860	C
37	A	2864	A
37	A	2870	A
37	A	2874	U
37	A	2875	C
37	A	2876	G
37	A	2877	G
37	A	2878	G
37	A	2884	G
37	A	2885	A
37	A	2894	A
37	A	2902	G
37	A	2903	G
37	A	2904	U
37	A	2905	C
37	A	2906	G
37	A	2907	G
37	A	2909	C
37	A	3588	C
37	A	3589	G
37	A	3593	C
37	A	3595	U
37	A	3596	A
37	A	3597	G
37	A	3605	C
37	A	3626	G
37	A	3635	A
37	A	3637	U
37	A	3639	U

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Mol	Chain	Res	Type
37	A	3642	A
37	A	3643	A
37	A	3644	U
37	A	3646	A
37	A	3648	A
37	A	3661	G
37	A	3662	A
37	A	3669	G
37	A	3671	G
37	A	3672	G
37	A	3673	C
37	A	3674	G
37	A	3692	A
37	A	3696	C
37	A	3705	G
37	A	3709	U
37	A	3710	G
37	A	3711	A
37	A	3712	A
37	A	3713	U
37	A	3714	G
37	A	3723	A
37	A	3727	A
37	A	3750	G
37	A	3753	G
37	A	3756	A
37	A	3757	G
37	A	3758	U
37	A	3759	A
37	A	3761	C
37	A	3764	U
37	A	3765	G
37	A	3766	A
37	A	3767	C
37	A	3768	U
37	A	3769	C
37	A	3770	U
37	A	3771	C
37	A	3772	U
37	A	3773	U
37	A	3775	A
37	A	3776	G

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Mol	Chain	Res	Type
37	A	3777	G
37	A	3780	G
37	A	3785	A
37	A	3786	U
37	A	3789	C
37	A	3811	G
37	A	3812	C
37	A	3814	U
37	A	3817	A
37	A	3818	U
37	A	3819	G
37	A	3838	U
37	A	3840	U
37	A	3867	A
37	A	3877	A
37	A	3878	C
37	A	3879	G
37	A	3881	G
37	A	3889	G
37	A	3890	A
37	A	3892	U
37	A	3897	G
37	A	3898	G
37	A	3901	A
37	A	3905	A
37	A	3906	A
37	A	3907	G
37	A	3908	A
37	A	3915	U
37	A	3919	C
37	A	3922	G
37	A	3928	A
37	A	3938	G
37	A	3939	G
37	A	3941	G
37	A	3942	A
37	A	3943	A
37	A	3947	A
37	A	3948	C
37	A	3949	A
37	A	3954	A
37	A	3956	G

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Mol	Chain	Res	Type
37	A	3957	U
37	A	3958	G
37	A	3959	U
37	A	3961	G
37	A	3962	A
37	A	3963	A
37	A	3965	A
37	A	3966	A
37	A	3968	U
37	A	3969	G
37	A	3972	A
37	A	3973	G
37	A	3975	C
37	A	3977	C
37	A	4034	G
37	A	4036	G
37	A	4037	C
37	A	4039	G
37	A	4042	G
37	A	4043	G
37	A	4044	U
37	A	4045	G
37	A	4046	A
37	A	4047	A
37	A	4048	A
37	A	4049	U
37	A	4050	A
37	A	4051	C
37	A	4052	C
37	A	4053	A
37	A	4054	C
37	A	4055	U
37	A	4056	A
37	A	4058	U
37	A	4059	C
37	A	4064	C
37	A	4065	G
37	A	4067	U
37	A	4076	G
37	A	4084	G
37	A	4088	C
37	A	4093	G

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Mol	Chain	Res	Type
37	A	4101	C
37	A	4103	C
37	A	4104	G
37	A	4107	G
37	A	4110	C
37	A	4115	G
37	A	4116	C
37	A	4117	U
37	A	4119	C
37	A	4120	U
37	A	4121	G
37	A	4122	G
37	A	4127	A
37	A	4131	G
37	A	4138	C
37	A	4139	G
37	A	4140	C
37	A	4141	G
37	A	4142	C
37	A	4143	G
37	A	4144	C
37	A	4151	G
37	A	4154	G
37	A	4158	C
37	A	4162	C
37	A	4163	U
37	A	4170	A
37	A	4183	G
37	A	4184	G
37	A	4191	G
37	A	4222	G
37	A	4225	G
37	A	4226	G
37	A	4229	U
37	A	4234	A
37	A	4249	G
37	A	4251	A
37	A	4254	G
37	A	4268	A
37	A	4273	A
37	A	4280	A
37	A	4281	A

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Mol	Chain	Res	Type
37	A	4288	C
37	A	4291	G
37	A	4296	U
37	A	4297	G
37	A	4302	U
37	A	4305	G
37	A	4306	U
37	A	4314	C
37	A	4318	C
37	A	4329	G
37	A	4330	G
37	A	4337	C
37	A	4339	A
37	A	4349	C
37	A	4350	C
37	A	4352	U
37	A	4355	G
37	A	4376	A
37	A	4377	G
37	A	4378	A
37	A	4380	A
37	A	4382	G
37	A	4385	A
37	A	4387	C
37	A	4394	A
37	A	4396	A
37	A	4398	C
37	A	4419	U
37	A	4420	U
37	A	4422	A
37	A	4427	G
37	A	4444	C
37	A	4448	G
37	A	4449	A
37	A	4453	C
37	A	4464	A
37	A	4465	U
37	A	4466	C
37	A	4471	U
37	A	4474	A
37	A	4475	G
37	A	4476	C

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Mol	Chain	Res	Type
37	A	4477	A
37	A	4481	U
37	A	4488	A
37	A	4489	G
37	A	4493	U
37	A	4500	U
37	A	4510	A
37	A	4512	U
37	A	4513	A
37	A	4524	G
37	A	4528	G
37	A	4531	U
37	A	4543	G
37	A	4545	G
37	A	4548	A
37	A	4549	G
37	A	4560	C
37	A	4567	G
37	A	4573	G
37	A	4575	G
37	A	4583	C
37	A	4589	A
37	A	4590	A
37	A	4600	G
37	A	4601	U
37	A	4617	G
37	A	4635	A
37	A	4636	U
37	A	4637	G
37	A	4643	G
37	A	4656	A
37	A	4657	U
37	A	4670	C
37	A	4672	A
37	A	4678	G
37	A	4695	C
37	A	4708	A
37	A	4709	U
37	A	4712	C
37	A	4730	C
37	A	4731	G
37	A	4732	G

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Mol	Chain	Res	Type
37	A	4733	C
37	A	4734	A
37	A	4739	C
37	A	4740	G
37	A	4741	C
37	A	4743	G
37	A	4744	A
37	A	4749	C
37	A	4750	G
37	A	4753	U
37	A	4756	C
37	A	4758	U
37	A	4760	G
37	A	4763	U
37	A	4764	A
37	A	4770	U
37	A	4771	C
37	A	4772	C
37	A	4775	C
37	A	4860	G
37	A	4861	G
37	A	4862	G
37	A	4863	G
37	A	4865	C
37	A	4868	G
37	A	4869	U
37	A	4871	C
37	A	4872	G
37	A	4873	G
37	A	4875	G
37	A	4876	U
37	A	4877	G
37	A	4878	C
37	A	4883	C
37	A	4884	G
37	A	4887	C
37	A	4888	U
37	A	4889	G
37	A	4890	G
37	A	4894	A
37	A	4900	C
37	A	4901	G

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Mol	Chain	Res	Type
37	A	4902	C
37	A	4910	G
37	A	4912	G
37	A	4913	G
37	A	4914	C
37	A	4918	C
37	A	4919	G
37	A	4923	C
37	A	4926	C
37	A	4927	G
37	A	4930	C
37	A	4933	C
37	A	4936	G
37	A	4938	A
37	A	4939	C
37	A	4941	G
37	A	4944	C
37	A	4946	U
37	A	4949	G
37	A	4951	G
37	A	4952	G
37	A	4956	A
37	A	4959	U
37	A	4963	G
37	A	4964	C
37	A	4967	A
37	A	4976	U
37	A	4979	A
37	A	4980	C
37	A	4985	U
37	A	4988	U
37	A	4989	U
37	A	4990	C
37	A	4991	U
37	A	4992	G
37	A	5006	U
37	A	5007	A
37	A	5014	A
37	A	5017	G
37	A	5022	U
37	A	5023	C
37	A	5024	C

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Mol	Chain	Res	Type
37	A	5026	U
37	A	5027	C
37	A	5028	G
37	A	5031	G
37	A	5034	A
37	A	5041	G
37	A	5050	C
37	A	5054	C
37	A	5055	G
37	A	5061	A
37	A	5068	G
47	AA	2	A
47	AA	3	C
47	AA	4	C
47	AA	5	U
47	AA	6	G
47	AA	8	U
47	AA	9	U
47	AA	10	G
47	AA	17	C
47	AA	25	A
47	AA	26	U
47	AA	31	U
47	AA	33	G
47	AA	35	C
47	AA	38	A
47	AA	41	G
47	AA	42	A
47	AA	43	U
47	AA	44	U
47	AA	46	A
47	AA	48	C
47	AA	51	U
47	AA	52	G
47	AA	53	C
47	AA	55	U
47	AA	56	G
47	AA	57	U
47	AA	58	C
47	AA	59	U
47	AA	60	A
47	AA	61	A

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Mol	Chain	Res	Type
47	AA	62	G
47	AA	64	A
47	AA	67	C
47	AA	68	A
47	AA	69	C
47	AA	70	G
47	AA	72	C
47	AA	73	C
47	AA	74	G
47	AA	75	G
47	AA	76	U
47	AA	77	A
47	AA	78	C
47	AA	79	A
47	AA	80	G
47	AA	81	U
47	AA	82	G
47	AA	83	A
47	AA	84	A
47	AA	89	C
47	AA	93	U
47	AA	99	A
47	AA	101	U
47	AA	103	A
47	AA	111	A
47	AA	112	U
47	AA	113	G
47	AA	114	G
47	AA	116	U
47	AA	121	U
47	AA	122	G
47	AA	126	G
47	AA	127	C
47	AA	139	C
47	AA	140	C
47	AA	141	A
47	AA	142	C
47	AA	144	U
47	AA	146	G
47	AA	148	U
47	AA	151	C
47	AA	153	G

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Mol	Chain	Res	Type
47	AA	154	U
47	AA	155	G
47	AA	156	G
47	AA	157	U
47	AA	159	A
47	AA	160	U
47	AA	161	U
47	AA	162	C
47	AA	163	U
47	AA	165	G
47	AA	166	A
47	AA	167	G
47	AA	168	C
47	AA	170	A
47	AA	176	U
47	AA	177	G
47	AA	180	G
47	AA	181	A
47	AA	182	C
47	AA	183	G
47	AA	185	G
47	AA	188	C
47	AA	190	G
47	AA	193	C
47	AA	198	U
47	AA	201	C
47	AA	202	G
47	AA	205	G
47	AA	208	G
47	AA	209	A
47	AA	210	U
47	AA	211	G
47	AA	214	U
47	AA	215	G
47	AA	216	C
47	AA	217	A
47	AA	219	U
47	AA	289	G
47	AA	291	G
47	AA	292	A
47	AA	293	C
47	AA	294	U

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Mol	Chain	Res	Type
47	AA	295	C
47	AA	297	A
47	AA	299	A
47	AA	306	C
47	AA	308	G
47	AA	309	G
47	AA	312	G
47	AA	313	A
47	AA	314	U
47	AA	319	C
47	AA	320	G
47	AA	321	C
47	AA	322	C
47	AA	323	C
47	AA	324	C
47	AA	325	C
47	AA	328	U
47	AA	329	G
47	AA	330	G
47	AA	332	G
47	AA	333	G
47	AA	334	C
47	AA	338	G
47	AA	339	A
47	AA	340	C
47	AA	341	C
47	AA	342	C
47	AA	343	A
47	AA	345	U
47	AA	346	C
47	AA	352	U
47	AA	360	A
47	AA	361	U
47	AA	362	C
47	AA	364	A
47	AA	368	U
47	AA	369	C
47	AA	370	G
47	AA	373	G
47	AA	376	A
47	AA	378	U
47	AA	380	G

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Mol	Chain	Res	Type
47	AA	382	C
47	AA	383	G
47	AA	384	U
47	AA	385	G
47	AA	386	C
47	AA	388	U
47	AA	391	C
47	AA	395	G
47	AA	401	A
47	AA	402	C
47	AA	407	G
47	AA	408	A
47	AA	409	C
47	AA	410	G
47	AA	411	G
47	AA	413	G
47	AA	417	C
47	AA	418	A
47	AA	421	G
47	AA	425	G
47	AA	426	A
47	AA	428	U
47	AA	429	C
47	AA	432	G
47	AA	434	G
47	AA	435	A
47	AA	436	G
47	AA	437	G
47	AA	438	G
47	AA	440	G
47	AA	441	C
47	AA	448	A
47	AA	449	A
47	AA	450	C
47	AA	452	G
47	AA	453	C
47	AA	454	U
47	AA	456	C
47	AA	458	A
47	AA	463	C
47	AA	464	A
47	AA	465	A

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Mol	Chain	Res	Type
47	AA	466	G
47	AA	469	A
47	AA	472	C
47	AA	473	A
47	AA	474	G
47	AA	476	A
47	AA	479	C
47	AA	480	G
47	AA	482	G
47	AA	484	A
47	AA	485	A
47	AA	486	A
47	AA	487	U
47	AA	488	U
47	AA	489	A
47	AA	492	C
47	AA	493	A
47	AA	496	C
47	AA	502	C
47	AA	503	C
47	AA	504	G
47	AA	505	G
47	AA	506	G
47	AA	508	A
47	AA	512	A
47	AA	516	A
47	AA	517	C
47	AA	518	G
47	AA	521	A
47	AA	523	A
47	AA	528	A
47	AA	529	A
47	AA	530	U
47	AA	532	C
47	AA	534	G
47	AA	535	G
47	AA	536	A
47	AA	537	C
47	AA	538	U
47	AA	539	C
47	AA	540	U
47	AA	544	G

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Mol	Chain	Res	Type
47	AA	545	A
47	AA	546	G
47	AA	547	G
47	AA	550	C
47	AA	552	G
47	AA	553	U
47	AA	556	U
47	AA	557	U
47	AA	559	G
47	AA	560	A
47	AA	563	G
47	AA	565	G
47	AA	566	U
47	AA	570	C
47	AA	573	U
47	AA	575	A
47	AA	577	U
47	AA	580	U
47	AA	581	U
47	AA	583	C
47	AA	584	G
47	AA	585	C
47	AA	587	A
47	AA	588	G
47	AA	589	G
47	AA	590	A
47	AA	591	U
47	AA	592	C
47	AA	593	C
47	AA	594	A
47	AA	595	U
47	AA	596	U
47	AA	599	A
47	AA	600	G
47	AA	603	C
47	AA	604	A
47	AA	605	A
47	AA	608	C
47	AA	609	U
47	AA	612	U
47	AA	614	C
47	AA	620	G

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Mol	Chain	Res	Type
47	AA	621	C
47	AA	623	G
47	AA	626	G
47	AA	627	U
47	AA	628	A
47	AA	629	A
47	AA	633	C
47	AA	634	A
47	AA	643	A
47	AA	644	G
47	AA	646	G
47	AA	647	U
47	AA	649	U
47	AA	650	A
47	AA	651	U
47	AA	655	A
47	AA	656	G
47	AA	658	U
47	AA	659	G
47	AA	660	C
47	AA	668	A
47	AA	669	A
47	AA	671	A
47	AA	672	A
47	AA	680	G
47	AA	682	U
47	AA	683	G
47	AA	684	G
47	AA	686	U
47	AA	687	C
47	AA	688	U
47	AA	689	U
47	AA	690	G
47	AA	691	G
47	AA	692	G
47	AA	693	A
47	AA	694	G
47	AA	695	C
47	AA	696	G
47	AA	697	G
47	AA	698	G
47	AA	731	G

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Mol	Chain	Res	Type
47	AA	732	U
47	AA	733	C
47	AA	734	C
47	AA	735	C
47	AA	736	C
47	AA	737	G
47	AA	738	C
47	AA	739	C
47	AA	746	C
47	AA	747	U
47	AA	748	C
47	AA	749	U
47	AA	750	C
47	AA	751	G
47	AA	752	G
47	AA	753	C
47	AA	787	G
47	AA	788	G
47	AA	789	G
47	AA	790	C
47	AA	791	C
47	AA	795	A
47	AA	796	G
47	AA	799	U
47	AA	801	U
47	AA	810	A
47	AA	811	A
47	AA	812	A
47	AA	813	A
47	AA	816	A
47	AA	817	G
47	AA	818	A
47	AA	821	G
47	AA	822	U
47	AA	824	C
47	AA	827	A
47	AA	828	G
47	AA	830	A
47	AA	831	G
47	AA	833	C
47	AA	834	C
47	AA	835	C

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Mol	Chain	Res	Type
47	AA	837	A
47	AA	838	G
47	AA	839	C
47	AA	840	C
47	AA	841	G
47	AA	842	C
47	AA	843	C
47	AA	845	G
47	AA	847	A
47	AA	848	U
47	AA	849	A
47	AA	851	C
47	AA	853	C
47	AA	854	A
47	AA	858	A
47	AA	862	A
47	AA	863	U
47	AA	865	A
47	AA	869	A
47	AA	870	A
47	AA	871	U
47	AA	872	A
47	AA	873	G
47	AA	874	G
47	AA	875	A
47	AA	876	C
47	AA	877	C
47	AA	878	G
47	AA	879	C
47	AA	880	G
47	AA	883	U
47	AA	884	C
47	AA	887	U
47	AA	888	U
47	AA	889	U
47	AA	890	U
47	AA	891	G
47	AA	892	U
47	AA	893	U
47	AA	894	G
47	AA	896	U
47	AA	897	U

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Mol	Chain	Res	Type
47	AA	898	U
47	AA	899	U
47	AA	900	C
47	AA	901	G
47	AA	902	G
47	AA	903	A
47	AA	904	A
47	AA	905	C
47	AA	908	A
47	AA	909	G
47	AA	911	C
47	AA	912	C
47	AA	913	A
47	AA	914	U
47	AA	919	A
47	AA	920	A
47	AA	922	A
47	AA	925	G
47	AA	930	C
47	AA	932	G
47	AA	933	G
47	AA	934	G
47	AA	943	U
47	AA	948	C
47	AA	954	U
47	AA	956	G
47	AA	958	G
47	AA	959	G
47	AA	961	G
47	AA	963	A
47	AA	965	U
47	AA	970	G
47	AA	971	G
47	AA	972	A
47	AA	973	C
47	AA	975	G
47	AA	977	C
47	AA	979	C
47	AA	980	A
47	AA	981	A
47	AA	983	A
47	AA	984	C

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Mol	Chain	Res	Type
47	AA	985	G
47	AA	988	C
47	AA	989	C
47	AA	990	A
47	AA	992	A
47	AA	996	A
47	AA	997	A
47	AA	998	A
47	AA	999	G
47	AA	1006	C
47	AA	1007	C
47	AA	1018	U
47	AA	1019	C
47	AA	1021	U
47	AA	1022	U
47	AA	1023	A
47	AA	1025	U
47	AA	1027	A
47	AA	1028	A
47	AA	1034	A
47	AA	1035	A
47	AA	1038	U
47	AA	1040	G
47	AA	1041	G
47	AA	1045	U
47	AA	1046	U
47	AA	1047	C
47	AA	1051	G
47	AA	1058	A
47	AA	1061	U
47	AA	1062	A
47	AA	1064	C
47	AA	1067	C
47	AA	1068	G
47	AA	1069	U
47	AA	1072	U
47	AA	1073	U
47	AA	1076	G
47	AA	1078	C
47	AA	1079	C
47	AA	1080	A
47	AA	1081	U

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Mol	Chain	Res	Type
47	AA	1082	A
47	AA	1084	A
47	AA	1085	C
47	AA	1087	A
47	AA	1088	U
47	AA	1089	G
47	AA	1090	C
47	AA	1091	C
47	AA	1096	G
47	AA	1097	G
47	AA	1098	C
47	AA	1101	U
47	AA	1109	C
47	AA	1110	G
47	AA	1114	U
47	AA	1115	U
47	AA	1116	C
47	AA	1118	C
47	AA	1119	A
47	AA	1120	U
47	AA	1126	G
47	AA	1131	G
47	AA	1132	C
47	AA	1135	C
47	AA	1138	C
47	AA	1139	C
47	AA	1144	A
47	AA	1145	A
47	AA	1149	A
47	AA	1150	A
47	AA	1153	C
47	AA	1154	U
47	AA	1155	U
47	AA	1156	U
47	AA	1157	G
47	AA	1160	U
47	AA	1161	U
47	AA	1166	G
47	AA	1167	G
47	AA	1168	G
47	AA	1169	G
47	AA	1170	A

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Mol	Chain	Res	Type
47	AA	1171	G
47	AA	1172	U
47	AA	1179	G
47	AA	1180	C
47	AA	1181	A
47	AA	1195	A
47	AA	1199	A
47	AA	1200	A
47	AA	1204	A
47	AA	1206	G
47	AA	1207	G
47	AA	1208	A
47	AA	1211	G
47	AA	1212	G
47	AA	1215	C
47	AA	1216	C
47	AA	1217	A
47	AA	1219	C
47	AA	1221	G
47	AA	1223	A
47	AA	1224	G
47	AA	1225	U
47	AA	1226	G
47	AA	1230	C
47	AA	1232	U
47	AA	1236	G
47	AA	1237	C
47	AA	1238	U
47	AA	1239	U
47	AA	1240	A
47	AA	1241	A
47	AA	1242	U
47	AA	1243	U
47	AA	1245	G
47	AA	1246	A
47	AA	1248	U
47	AA	1251	A
47	AA	1252	C
47	AA	1253	A
47	AA	1254	C
47	AA	1255	G
47	AA	1256	G

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Mol	Chain	Res	Type
47	AA	1257	G
47	AA	1258	A
47	AA	1259	A
47	AA	1260	A
47	AA	1264	C
47	AA	1265	A
47	AA	1266	C
47	AA	1268	C
47	AA	1270	G
47	AA	1271	C
47	AA	1272	C
47	AA	1273	C
47	AA	1274	G
47	AA	1275	G
47	AA	1276	A
47	AA	1277	C
47	AA	1278	A
47	AA	1279	C
47	AA	1280	G
47	AA	1281	G
47	AA	1282	A
47	AA	1283	C
47	AA	1284	A
47	AA	1285	G
47	AA	1287	A
47	AA	1288	U
47	AA	1289	U
47	AA	1290	G
47	AA	1292	C
47	AA	1293	A
47	AA	1294	G
47	AA	1299	A
47	AA	1300	U
47	AA	1301	A
47	AA	1302	G
47	AA	1303	C
47	AA	1305	C
47	AA	1306	U
47	AA	1307	U
47	AA	1308	U
47	AA	1310	U
47	AA	1311	C

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Mol	Chain	Res	Type
47	AA	1312	G
47	AA	1313	A
47	AA	1314	U
47	AA	1315	U
47	AA	1316	C
47	AA	1317	C
47	AA	1318	G
47	AA	1321	G
47	AA	1322	G
47	AA	1330	G
47	AA	1331	C
47	AA	1333	U
47	AA	1337	C
47	AA	1339	U
47	AA	1341	C
47	AA	1342	U
47	AA	1343	U
47	AA	1344	A
47	AA	1345	G
47	AA	1346	U
47	AA	1347	U
47	AA	1359	U
47	AA	1360	U
47	AA	1363	C
47	AA	1364	U
47	AA	1371	U
47	AA	1372	U
47	AA	1373	C
47	AA	1374	C
47	AA	1375	G
47	AA	1378	A
47	AA	1381	G
47	AA	1387	G
47	AA	1388	A
47	AA	1389	C
47	AA	1391	C
47	AA	1393	G
47	AA	1394	G
47	AA	1396	A
47	AA	1397	U
47	AA	1398	G
47	AA	1399	C

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Mol	Chain	Res	Type
47	AA	1401	A
47	AA	1403	C
47	AA	1404	U
47	AA	1405	A
47	AA	1407	U
47	AA	1409	A
47	AA	1410	C
47	AA	1412	C
47	AA	1414	A
47	AA	1415	C
47	AA	1416	C
47	AA	1417	C
47	AA	1418	C
47	AA	1419	C
47	AA	1420	G
47	AA	1422	G
47	AA	1423	C
47	AA	1424	G
47	AA	1425	G
47	AA	1428	G
47	AA	1430	C
47	AA	1431	G
47	AA	1432	U
47	AA	1434	C
47	AA	1436	C
47	AA	1438	A
47	AA	1440	C
47	AA	1441	U
47	AA	1443	C
47	AA	1444	U
47	AA	1445	U
47	AA	1447	G
47	AA	1448	A
47	AA	1449	G
47	AA	1450	G
47	AA	1451	G
47	AA	1452	A
47	AA	1453	C
47	AA	1454	A
47	AA	1455	A
47	AA	1456	G
47	AA	1457	U

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Mol	Chain	Res	Type
47	AA	1463	U
47	AA	1464	C
47	AA	1466	G
47	AA	1468	C
47	AA	1471	C
47	AA	1472	C
47	AA	1473	G
47	AA	1474	A
47	AA	1475	G
47	AA	1476	A
47	AA	1477	U
47	AA	1478	U
47	AA	1479	G
47	AA	1480	A
47	AA	1486	A
47	AA	1489	A
47	AA	1490	G
47	AA	1493	C
47	AA	1494	U
47	AA	1495	G
47	AA	1497	G
47	AA	1502	C
47	AA	1504	U
47	AA	1505	U
47	AA	1506	A
47	AA	1507	G
47	AA	1508	A
47	AA	1510	G
47	AA	1512	C
47	AA	1513	C
47	AA	1515	G
47	AA	1517	G
47	AA	1518	C
47	AA	1520	G
47	AA	1521	C
47	AA	1522	A
47	AA	1523	C
47	AA	1525	C
47	AA	1527	C
47	AA	1528	G
47	AA	1529	C
47	AA	1530	U

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Mol	Chain	Res	Type
47	AA	1531	A
47	AA	1532	C
47	AA	1533	A
47	AA	1534	C
47	AA	1535	U
47	AA	1536	G
47	AA	1537	A
47	AA	1538	C
47	AA	1539	U
47	AA	1543	U
47	AA	1544	C
47	AA	1545	A
47	AA	1546	G
47	AA	1548	G
47	AA	1549	U
47	AA	1550	G
47	AA	1551	U
47	AA	1553	C
47	AA	1554	C
47	AA	1555	U
47	AA	1556	A
47	AA	1557	C
47	AA	1562	C
47	AA	1566	G
47	AA	1567	G
47	AA	1568	C
47	AA	1569	A
47	AA	1570	G
47	AA	1571	G
47	AA	1573	G
47	AA	1580	A
47	AA	1581	C
47	AA	1582	C
47	AA	1583	C
47	AA	1584	G
47	AA	1585	U
47	AA	1586	U
47	AA	1587	G
47	AA	1588	A
47	AA	1589	A
47	AA	1590	C
47	AA	1591	C

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Mol	Chain	Res	Type
47	AA	1593	C
47	AA	1594	A
47	AA	1598	G
47	AA	1599	U
47	AA	1600	G
47	AA	1601	A
47	AA	1602	U
47	AA	1603	G
47	AA	1607	A
47	AA	1612	G
47	AA	1614	A
47	AA	1618	C
47	AA	1621	U
47	AA	1623	A
47	AA	1624	U
47	AA	1628	C
47	AA	1629	C
47	AA	1630	A
47	AA	1631	U
47	AA	1633	A
47	AA	1634	A
47	AA	1635	C
47	AA	1636	G
47	AA	1637	A
47	AA	1638	G
47	AA	1639	G
47	AA	1643	U
47	AA	1644	C
47	AA	1645	C
47	AA	1646	C
47	AA	1648	G
47	AA	1654	G
47	AA	1655	C
47	AA	1656	G
47	AA	1661	A
47	AA	1664	A
47	AA	1665	G
47	AA	1666	C
47	AA	1668	U
47	AA	1672	U
47	AA	1676	U
47	AA	1677	U

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Mol	Chain	Res	Type
47	AA	1679	A
47	AA	1681	U
47	AA	1682	C
47	AA	1683	C
47	AA	1686	G
47	AA	1690	U
47	AA	1693	G
47	AA	1698	C
47	AA	1699	A
47	AA	1700	C
47	AA	1702	G
47	AA	1705	C
47	AA	1711	U
47	AA	1713	C
47	AA	1714	U
47	AA	1715	A
47	AA	1719	A
47	AA	1720	U
47	AA	1721	U
47	AA	1722	G
47	AA	1733	U
47	AA	1736	G
47	AA	1738	C
47	AA	1739	C
47	AA	1742	C
47	AA	1744	G
47	AA	1745	A
47	AA	1746	U
47	AA	1748	G
47	AA	1749	G
47	AA	1751	C
47	AA	1752	C
47	AA	1754	G
47	AA	1755	C
47	AA	1756	C
47	AA	1758	G
47	AA	1760	G
47	AA	1772	C
47	AA	1773	C
47	AA	1776	G
47	AA	1780	G
47	AA	1781	A

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Mol	Chain	Res	Type
47	AA	1782	G
47	AA	1783	C
47	AA	1784	G
47	AA	1785	C
47	AA	1786	U
47	AA	1793	A
47	AA	1802	C
47	AA	1805	G
47	AA	1815	A
47	AA	1819	A
47	AA	1820	G
47	AA	1821	U
47	AA	1822	A
47	AA	1823	A
47	AA	1825	A
47	AA	1826	G
47	AA	1829	G
47	AA	1834	A
47	AA	1835	A
47	AA	1838	U
47	AA	1839	U
47	AA	1842	C
47	AA	1849	G
47	AA	1850	A
47	AA	1852	C
47	AA	1859	A
47	AA	1860	A
47	AA	1861	G
47	AA	1862	G
47	AA	1863	A
47	AA	1864	U
47	AA	1865	C
47	AA	1867	U
47	AA	1868	U
47	AA	1869	A
62	An	8	G
62	An	9	U
62	An	10	G
62	An	12	C
62	An	14	C
62	An	17	C
62	An	18	G

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Mol	Chain	Res	Type
62	An	20	A
62	An	21	A
62	An	22	G
62	An	23	C
62	An	24	G
62	An	29	G
62	An	30	G
62	An	32	C
62	An	33	C
62	An	34	C
62	An	35	A
62	An	36	U
62	An	37	A
62	An	38	A
62	An	39	C
62	An	41	C
62	An	45	G
62	An	46	G
62	An	47	U
62	An	48	C
62	An	51	U
62	An	54	A
62	An	56	C
62	An	57	G
62	An	58	A
62	An	59	A
62	An	68	C
62	An	74	C
62	An	75	C
62	An	76	A

All (99) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	C	87	G
37	A	172	C
37	A	406	C
37	A	417	G
37	A	693	C
37	A	930	G
37	A	931	C
37	A	957	G

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Mol	Chain	Res	Type
37	A	958	G
37	A	974	C
37	A	1072	C
37	A	1238	A
37	A	1329	G
37	A	1410	U
37	A	1455	G
37	A	1633	G
37	A	1821	G
37	A	2019	C
37	A	2055	G
37	A	2068	C
37	A	2096	G
37	A	2116	C
37	A	2119	C
37	A	2120	G
37	A	2124	G
37	A	2269	C
37	A	2587	A
37	A	2639	U
37	A	2675	G
37	A	2695	A
37	A	2785	C
37	A	2828	U
37	A	3625	G
37	A	3673	C
37	A	3767	C
37	A	3784	A
37	A	3810	C
37	A	3888	G
37	A	3956	G
37	A	4419	U
37	A	4600	G
37	A	4730	C
37	A	4731	G
37	A	4860	G
37	A	4889	G
37	A	4909	A
37	A	4913	G
37	A	4948	C
37	A	4991	U
37	A	5005	G

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Mol	Chain	Res	Type
37	A	5027	C
47	AA	24	C
47	AA	291	G
47	AA	324	C
47	AA	385	G
47	AA	400	C
47	AA	417	C
47	AA	428	U
47	AA	451	G
47	AA	465	A
47	AA	473	A
47	AA	558	G
47	AA	589	G
47	AA	604	A
47	AA	656	G
47	AA	681	U
47	AA	688	U
47	AA	734	C
47	AA	745	C
47	AA	833	C
47	AA	868	G
47	AA	912	C
47	AA	913	A
47	AA	971	G
47	AA	980	A
47	AA	991	G
47	AA	1027	A
47	AA	1061	U
47	AA	1137	U
47	AA	1138	C
47	AA	1153	C
47	AA	1171	G
47	AA	1251	A
47	AA	1342	U
47	AA	1396	A
47	AA	1397	U
47	AA	1404	U
47	AA	1506	A
47	AA	1507	G
47	AA	1580	A
47	AA	1585	U
47	AA	1606	G

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Mol	Chain	Res	Type
47	AA	1663	A
47	AA	1664	A
47	AA	1699	A
47	AA	1713	C
47	AA	1785	C
47	AA	1848	U
47	AA	1860	A

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
44	q	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	q	151:ILE	C	152:GLY	N	2.01