



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 07:14 AM GMT

PDB ID : 2ZJP
Title : Thiopeptide antibiotic Nosiheptide bound to the large ribosomal subunit of *Deinococcus radiodurans*
Authors : Harms, J.M.; Wilson, D.N.; Schlutzen, F.; Connell, S.R.; Stachelhaus, T.; Zaborowska, Z.; Spahn, C.M.T.; Fucini, P.
Deposited on : 2008-03-07
Resolution : 3.70 Å(reported)

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

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

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

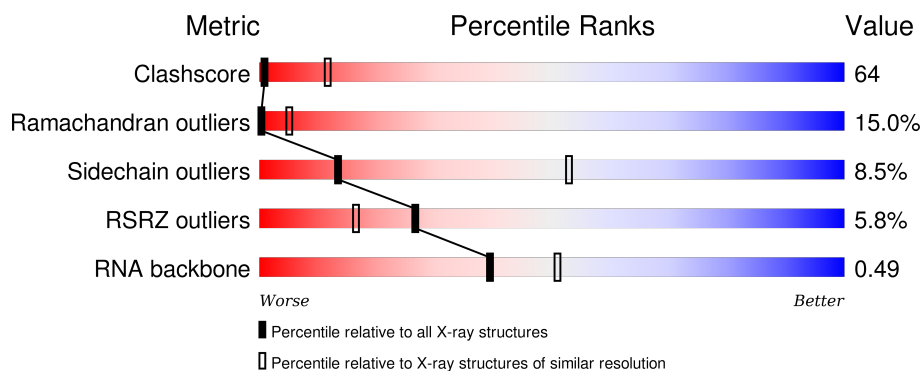
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.70 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	102246	1224 (3.90-3.50)
Ramachandran outliers	100387	1172 (3.90-3.50)
Sidechain outliers	100360	1170 (3.90-3.50)
RSRZ outliers	91569	1108 (3.90-3.50)
RNA backbone	2183	1067 (4.60-2.80)

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

Mol	Chain	Length	Quality of chain
1	1	55	<div> <div>73%</div> <div>95%</div> <div>..</div> </div>
2	2	47	<div> <div>89%</div> <div>96%</div> <div>..</div> </div>
3	3	66	<div> <div>86%</div> <div>92%</div> <div>• 5%</div> </div>
4	4	37	<div> <div>8%</div> <div>30%</div> <div>65%</div> <div>5%</div> </div>
5	5	13	<div> <div>69%</div> <div>23%</div> <div>8%</div> </div>

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Mol	Chain	Length	Quality of chain
6	A	274	
7	B	211	
8	C	205	
9	D	180	
10	E	185	
11	F	144	
12	G	174	
13	H	134	
14	I	156	
15	J	142	
16	K	116	
17	L	114	
18	M	166	
19	N	118	
20	O	100	
21	P	134	
22	Q	95	
23	R	115	
24	S	237	
25	T	91	
26	U	81	
27	V	67	
28	W	55	
29	X	2880	
30	Y	60	

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Mol	Chain	Length	Quality of chain
31	Z	123	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
34	MG	X	2881	-	-	-	X
34	MG	X	2887	-	-	-	X
34	MG	X	2888	-	-	-	X
34	MG	X	2894	-	-	-	X
34	MG	X	2897	-	-	-	X
34	MG	X	2902	-	-	-	X
34	MG	X	2903	-	-	-	X
34	MG	X	2904	-	-	-	X
34	MG	X	2906	-	-	-	X
34	MG	X	2908	-	-	-	X
34	MG	Z	124	-	-	-	X
5	DHA	5	12	-	X	-	-

2 Entry composition

There are 34 unique types of molecules in this entry. The entry contains 84444 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
1	1	53	Total C 53 53	0	0	53

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
2	2	46	Total C 46 46	0	0	46

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
3	3	63	Total C 63 63	0	0	63

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
4	4	37	Total C N O S 297 179 66 47 5	0	0	0

- Molecule 5 is a protein called NOSIHEPTIDE.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
5	5	13	Total C N O S 69 40 12 11 6	0	0	1

- Molecule 6 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
6	A	240	Total C N O S 1826 1137 366 321 2	0	0	0

- Molecule 7 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	B	205	Total	C	N	O	S	0	0	0
			1539	965	295	271	8			

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	C	197	Total	C	N	O	S	0	0	0
			1506	935	287	282	2			

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	D	177	Total	C	N	O	S	0	0	0
			1400	892	247	254	7			

- Molecule 10 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	E	171	Total	C	N	O	S	0	0	0
			1286	812	237	236	1			

- Molecule 11 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	F	144	Total	C	N	O	S	0	0	0
			1044	663	179	197	5			

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	G	142	Total	C	N	O	S	0	0	0
			1114	704	209	198	3			

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	H	134	Total	C	N	O	S	0	0	0
			997	614	198	180	5			

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	I	141	Total	C	N	O	0	0	0
			1067	655	216	196			

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	J	136	Total	C	N	O	S	0	0	0
			1090	696	202	185	7			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	1	MET	-	INITIATING METHIONINE	UNP Q9RXJ5

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	K	113	Total	C	N	O	S	0	0	0
			878	541	178	157	2			

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	L	104	Total	C	N	O	0	0	0
			779	476	161	142			

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	M	108	Total	C	N	O	0	0	0
			871	543	172	156			

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	N	117	Total	C	N	O	S	0	0	0
			978	608	210	159	1			

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
20	O	94	Total	C	N	O	0	0	0
			741	465	139	137			

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	P	127	Total	C	N	O	S	0	0	0
			1014	639	199	174	2			

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	Q	93	Total	C	N	O	S	0	0	0
			726	458	136	130	2			

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	R	110	Total	C	N	O	S	0	0	0
			825	513	160	151	1			

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	S	175	Total	C	N	O	S	0	0	0
			1345	849	236	254	6			

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	T	84	Total	C	N	O	S	0	0	0
			625	393	122	109	1			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	U	72	Total	C	N	O	0	0	0
			552	341	116	95			

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	V	66	Total	C	N	O	S	0	0	0
			533	327	107	96	3			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	W	55	Total	C	N	O	S	0	0	0
			424	264	82	76	2			

- Molecule 29 is a RNA chain called RIBOSOMAL 23S RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	X	2686	Total	C	N	O	P	0	0	0
			57651	25718	10642	18606	2685			

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	Y	58	Total	C	N	O	S	0	0	0
			457	281	94	77	5			

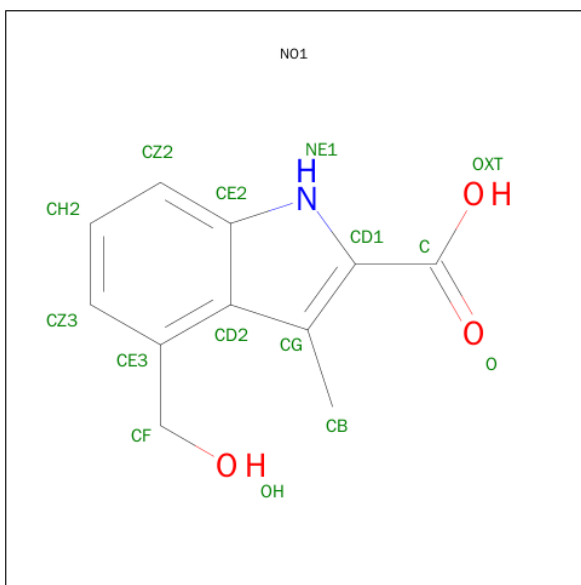
- Molecule 31 is a RNA chain called RIBOSOMAL 5S RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	Z	122	Total	C	N	O	P	0	0	0
			2598	1161	476	840	121			

- Molecule 32 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	Y	1	Total	Zn	0	0
			1	1		
32	4	1	Total	Zn	0	0
			1	1		

- Molecule 33 is 4-(HYDROXYMETHYL)-3-METHYL-1H-INDOLE-2-CARBOXYLIC ACID (three-letter code: NO1) (formula: C₁₁H₁₁NO₃).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
33	5	1	Total	C	N	O	0	0
			13	11	1	1		

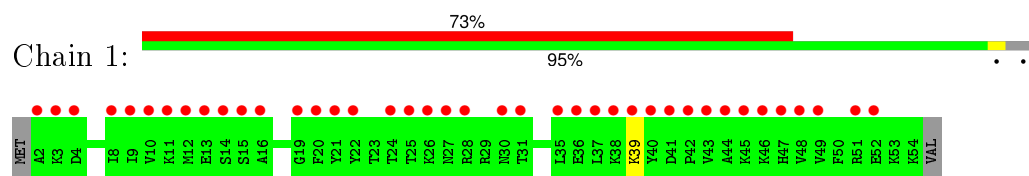
- Molecule 34 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	X	28	Total	Mg	0	0
			28	28		
34	Z	6	Total	Mg	0	0
			6	6		
34	M	1	Total	Mg	0	0
			1	1		

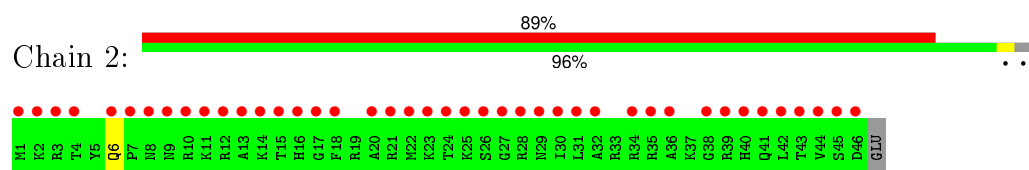
3 Residue-property plots

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 and electron density. 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. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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.

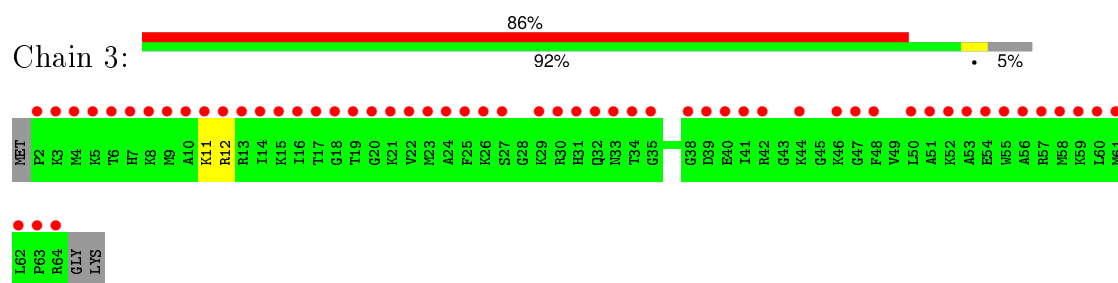
- Molecule 1: 50S RIBOSOMAL PROTEIN L33



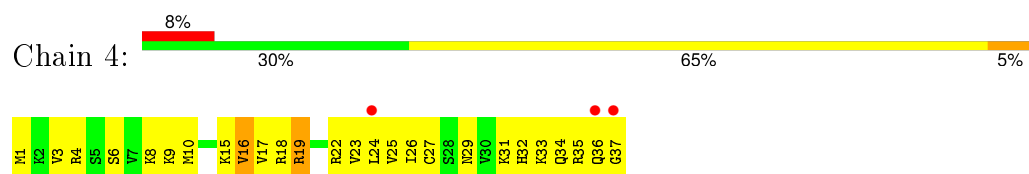
- Molecule 2: 50S RIBOSOMAL PROTEIN L34



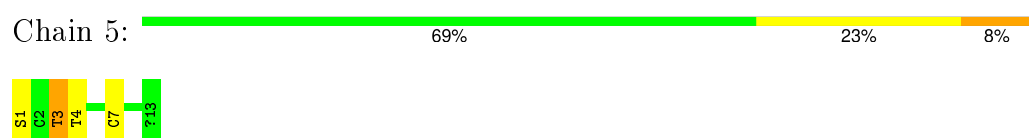
- Molecule 3: 50S RIBOSOMAL PROTEIN L35



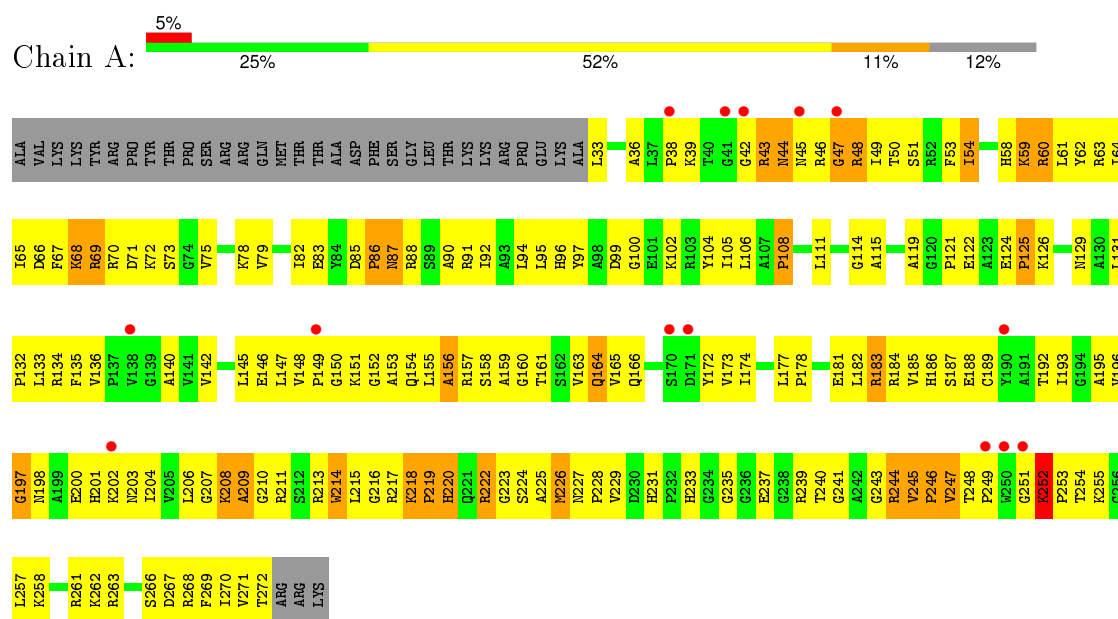
- Molecule 4: 50S RIBOSOMAL PROTEIN L36



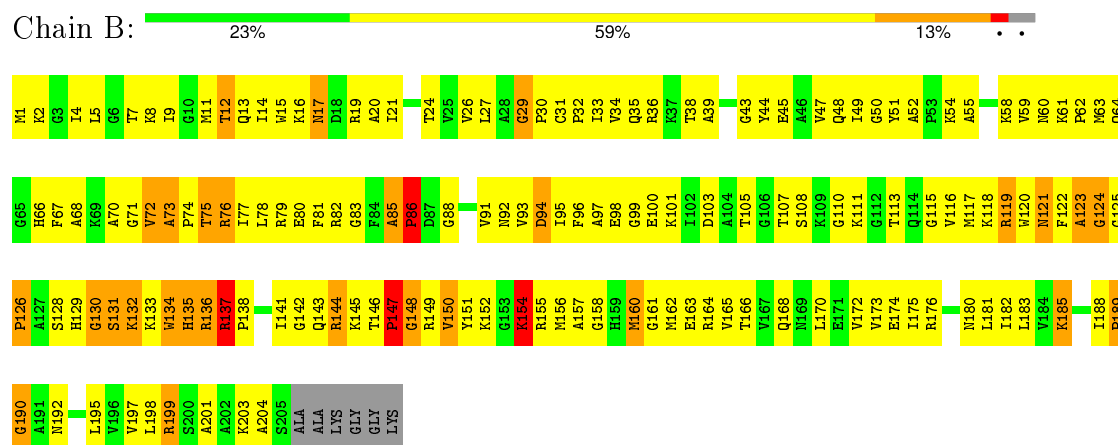
- Molecule 5: NOSIHEPTIDE



- Molecule 6: 50S RIBOSOMAL PROTEIN L2



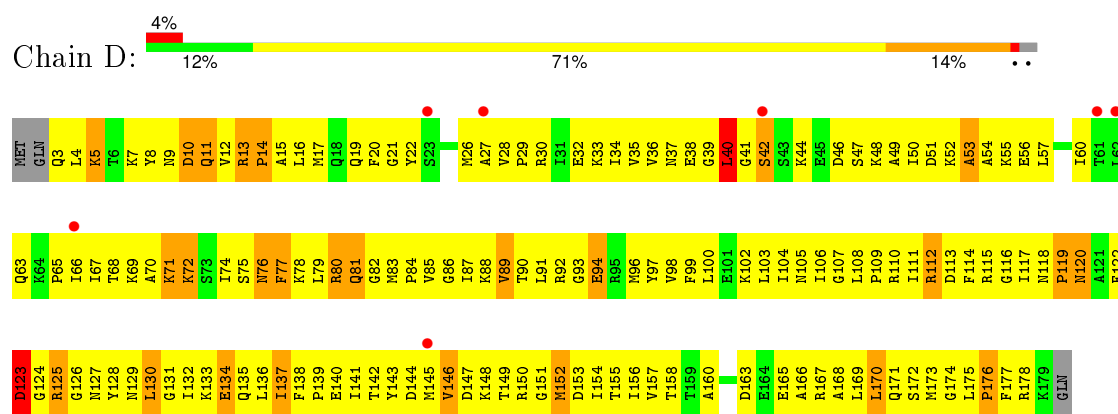
• Molecule 7: 50S RIBOSOMAL PROTEIN L3



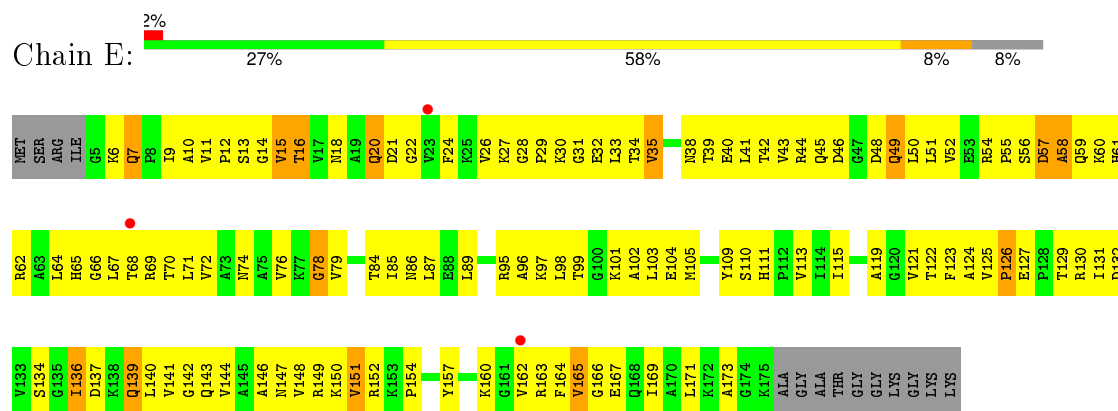
• Molecule 8: 50S RIBOSOMAL PROTEIN L4



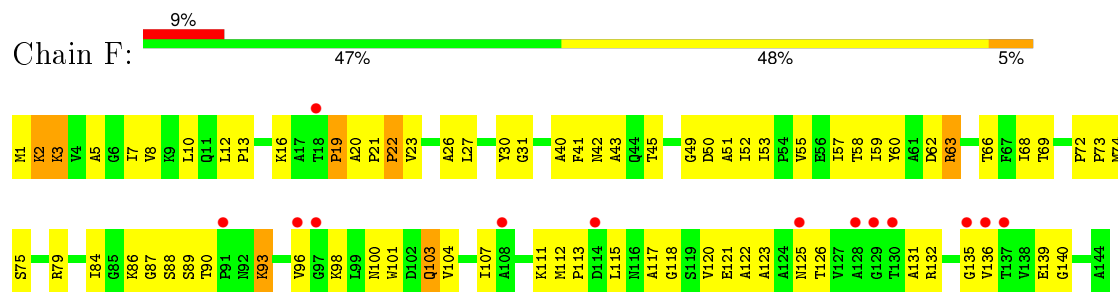
• Molecule 9: 50S RIBOSOMAL PROTEIN L5



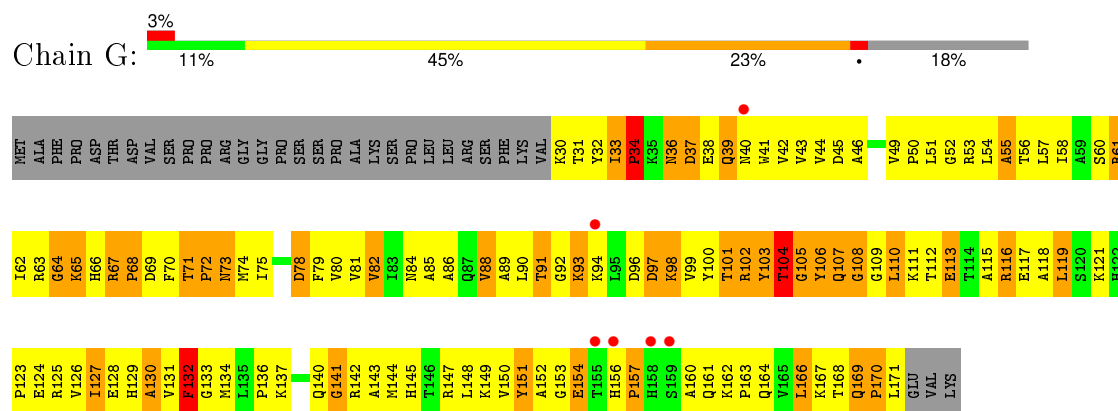
• Molecule 10: 50S RIBOSOMAL PROTEIN L6



• Molecule 11: 50S RIBOSOMAL PROTEIN L11

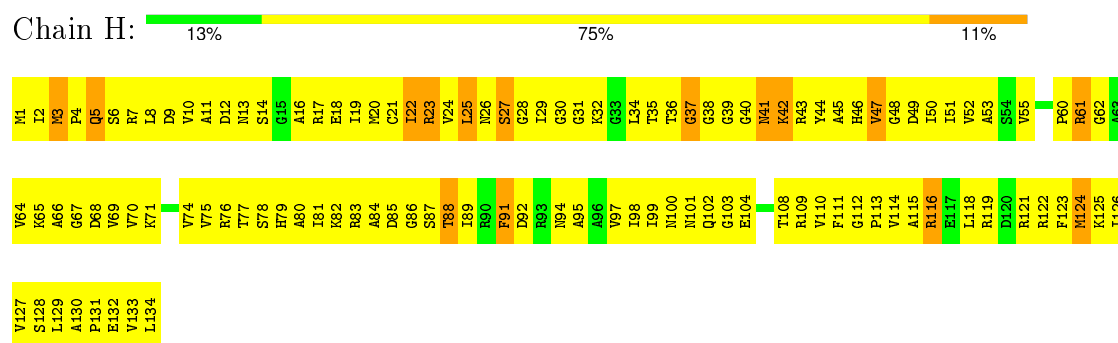


• Molecule 12: 50S RIBOSOMAL PROTEIN L13



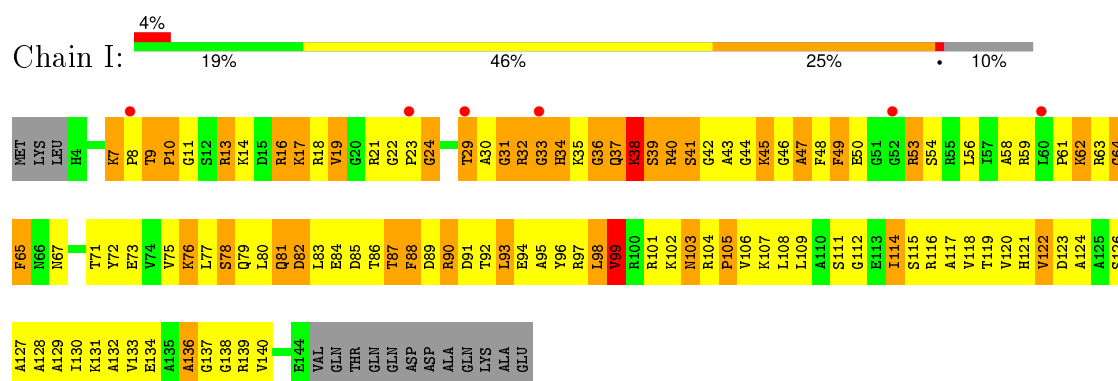
• Molecule 13: 50S RIBOSOMAL PROTEIN L14

Chain H:



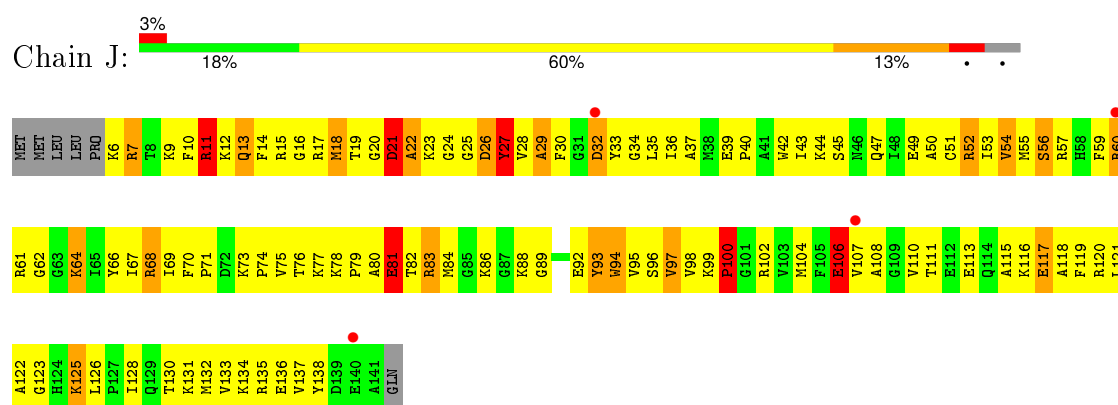
- Molecule 14: 50S RIBOSOMAL PROTEIN L15

Chain I:



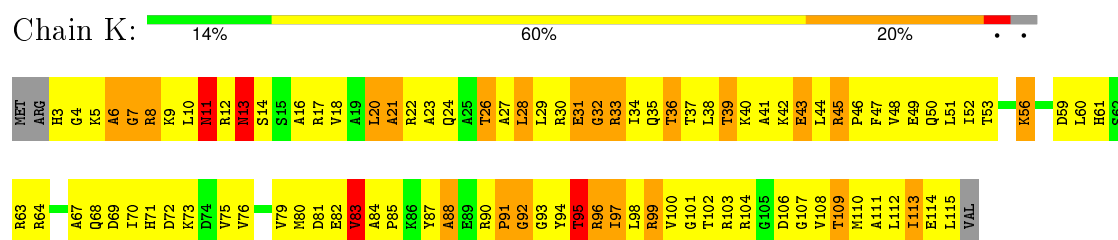
• Molecule 15: 50S RIBOSOMAL PROTEIN L16

Chain J:



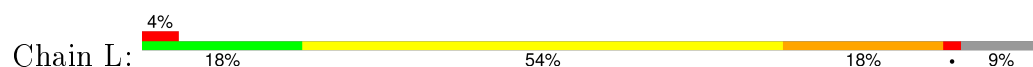
● Molecule 16: 50S RIBOSOMAL PROTEIN L17

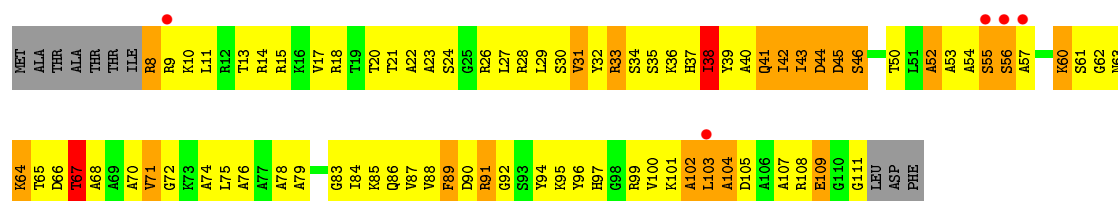
Chain K:



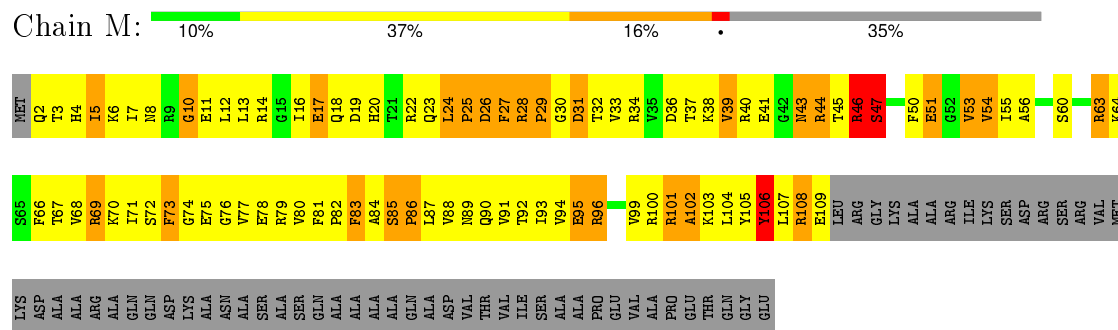
- Molecule 17: 50S RIBOSOMAL PROTEIN L18

Chain L:

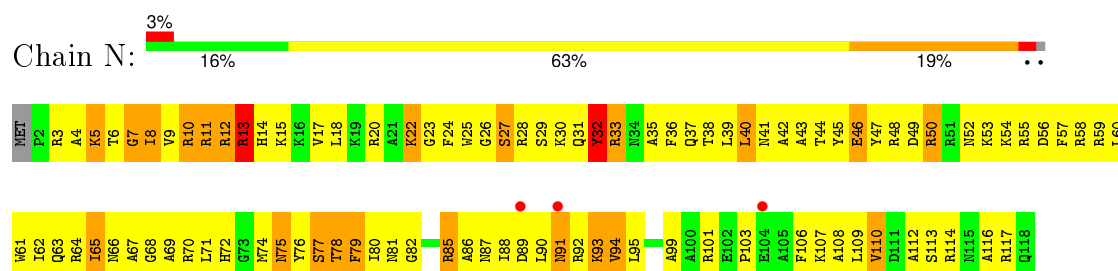




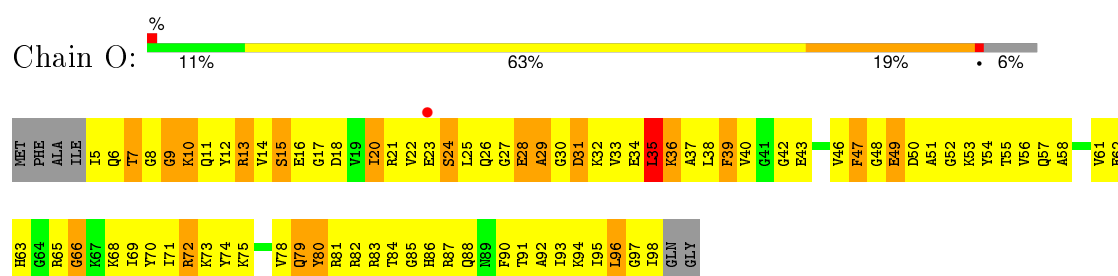
• Molecule 18: 50S RIBOSOMAL PROTEIN L19



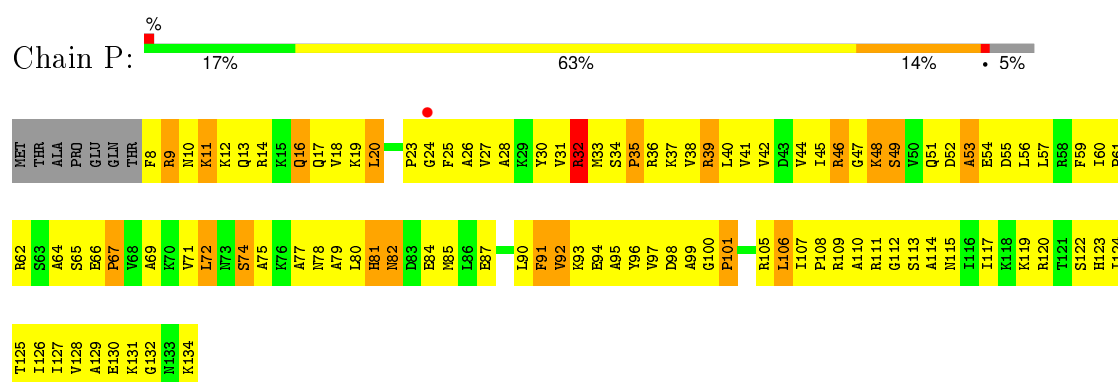
• Molecule 19: 50S RIBOSOMAL PROTEIN L20



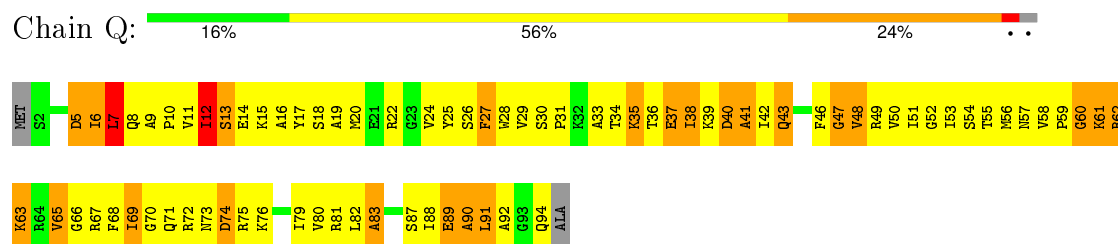
• Molecule 20: 50S RIBOSOMAL PROTEIN L21



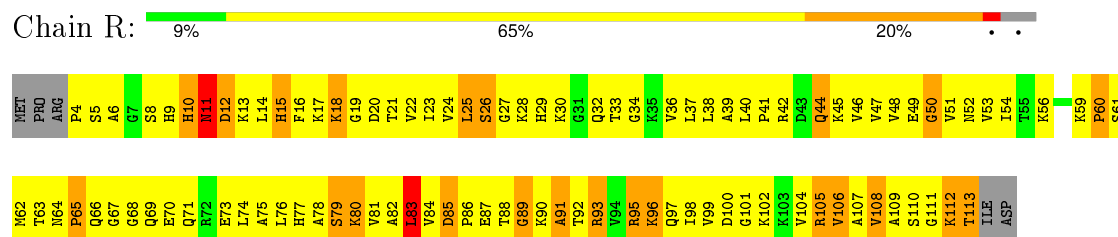
• Molecule 21: 50S RIBOSOMAL PROTEIN L22



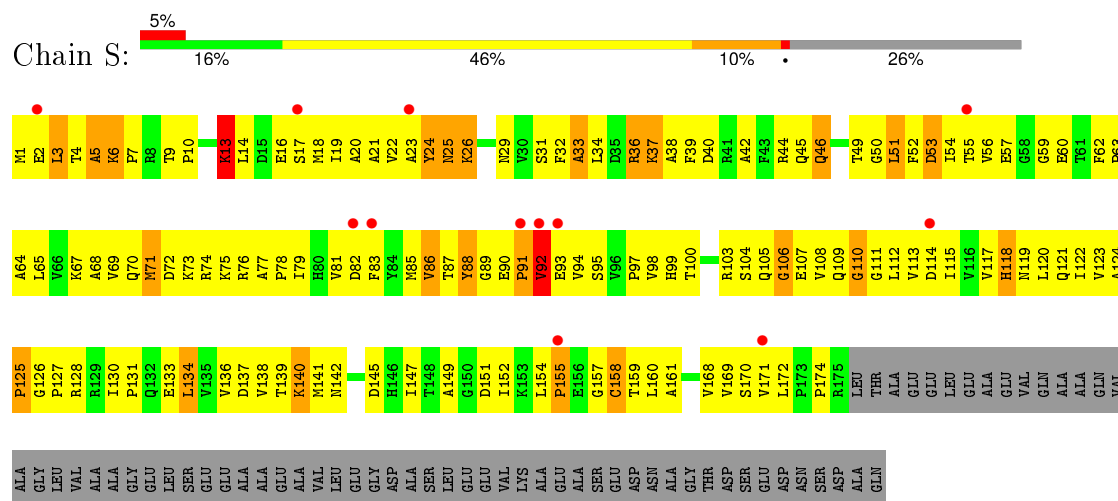
- Molecule 22: 50S RIBOSOMAL PROTEIN L23



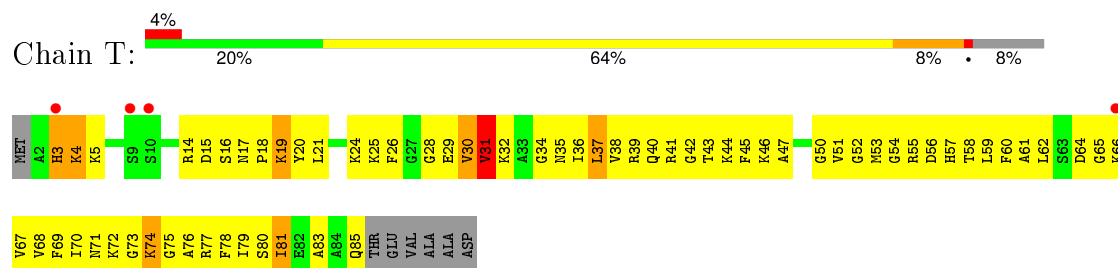
- Molecule 23: 50S RIBOSOMAL PROTEIN L24



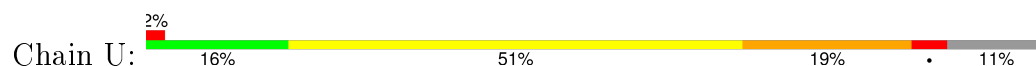
- Molecule 24: 50S RIBOSOMAL PROTEIN L25

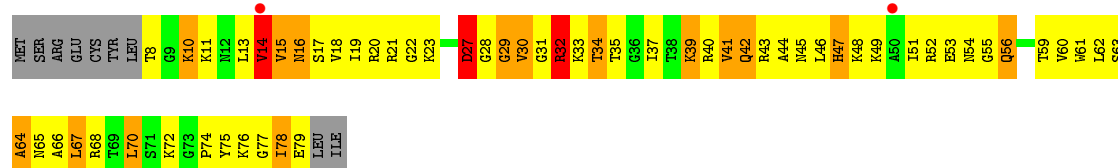


- Molecule 25: 50S RIBOSOMAL PROTEIN L27

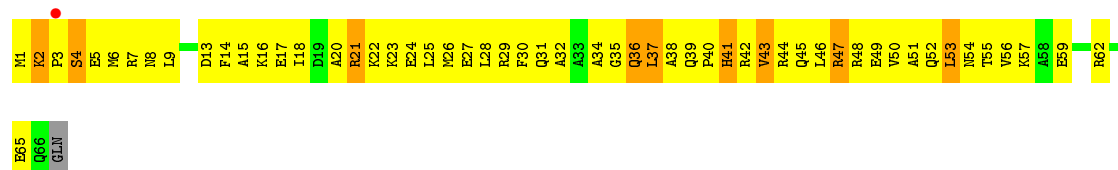


- Molecule 26: 50S RIBOSOMAL PROTEIN L28

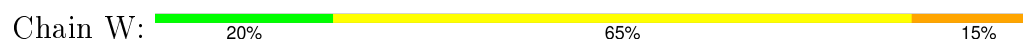




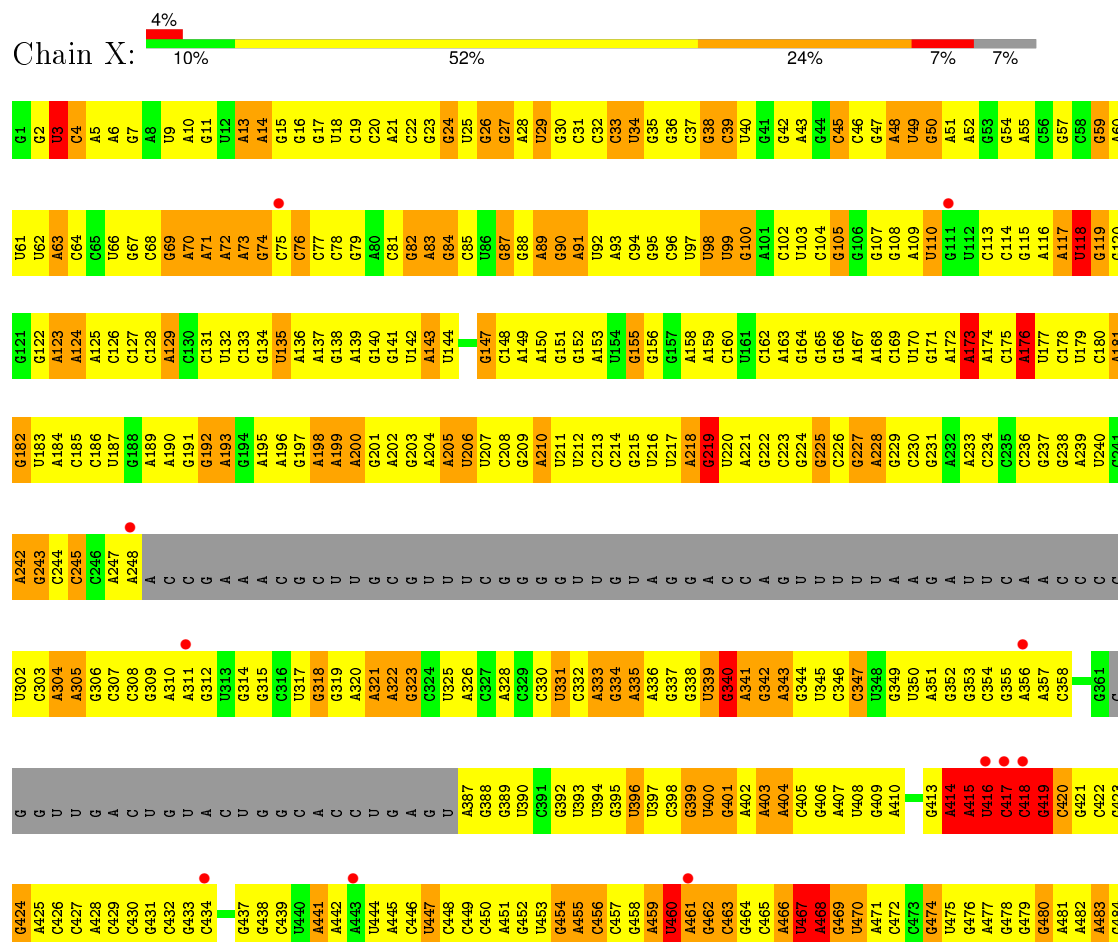
• Molecule 27: 50S RIBOSOMAL PROTEIN L29



• Molecule 28: 50S RIBOSOMAL PROTEIN L30

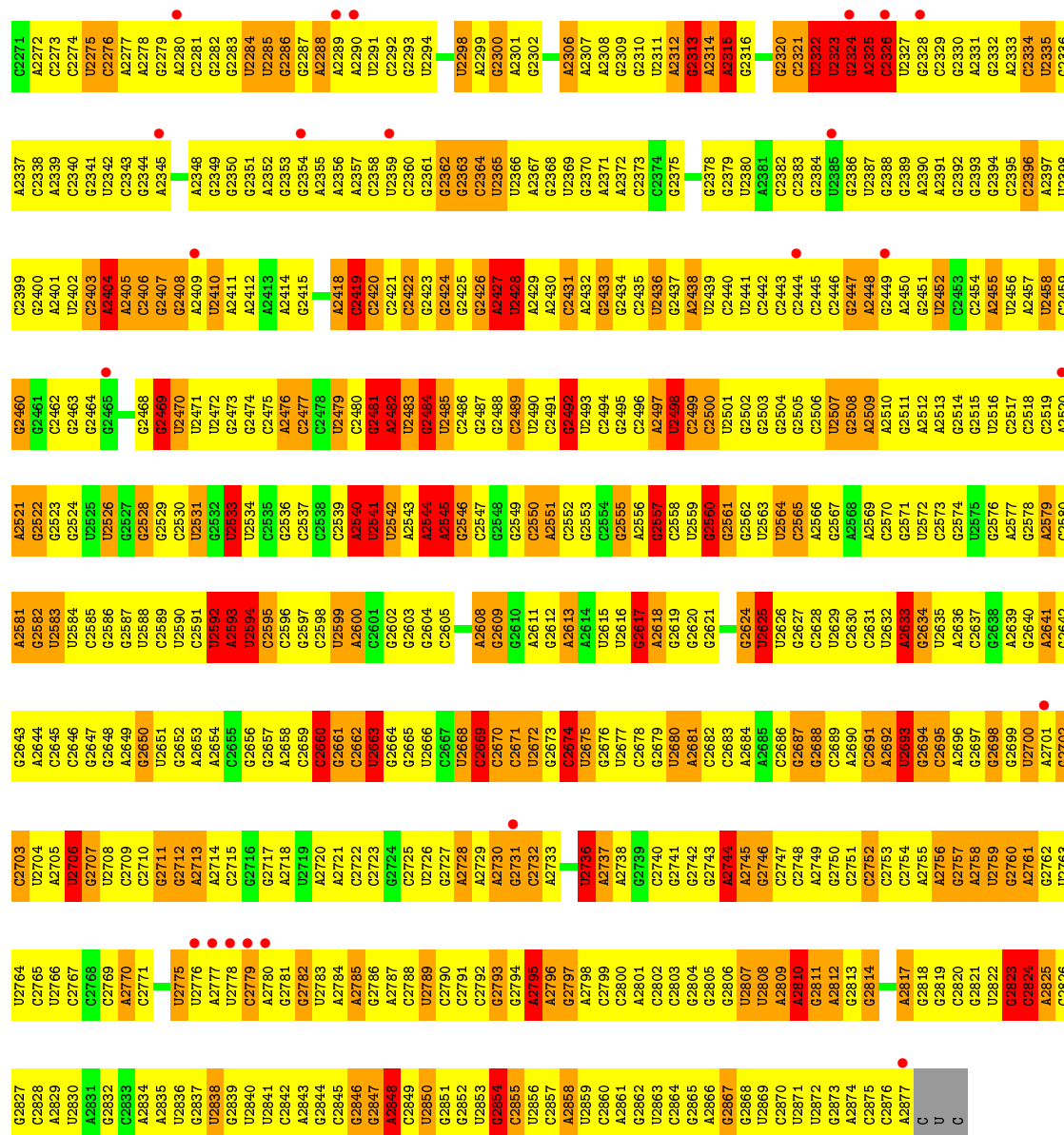


• Molecule 29: RIBOSOMAL 23S RNA



U1339	C1219	G1155	G1094	U1034	U973	A913	C851	A790	A729	U667	A506	A546	G485
C1340	G1220	U1159	A1095	G1035	U974	C914	U852	G791	C730	A668	C507	U547	U486
U1341	C1221	U1160	A1096	U1036	C975	C915	C853	U792	A731	U669	G508	G548	A487
C1342	G1222	U1161	A1097	U1037	C976	U916	G854	U793	G732	U670	U609	G549	G488
C1343	G1223	U1162	G1098	U1038	C977	U917	U857	A794	G733	A671	G610	C550	A489
C1344	A1224	A1163	A1099	U1039	U978	U918	U858	U795	G734	U674	G611	A551	A490
C1345	G1225	C1163	G1100	A1040	A979	U919	C859	U796	G735	U675	G612	C552	A491
C1346	A1226	C1164	U1101	G1041	G980	G920	U859	A797	G736	U676	A613	C553	A492
C1347	G1165	U1102	G1102	U1042	C981	A921	U860	G798	C737	U677	G614	U554	A493
A1288	A1166	A1167	U1103	U1043	C982	A922	G861	C799	G738	U678	U516	U555	C494
A1289	A1168	A1169	A1106	U1044	C983	A923	G862	U800	G739	U679	U517	A556	C495
A1290	G1169	A1170	A1107	G1045	A984	C924	C863	A801	A740	U680	U617	U557	C496
G1291	A1171	U1170	U1108	U1046	C985	U925	C864	A802	G741	U681	A618	G558	C497
A1292	U1171	U1171	U1109	G1047	A986	C926	A865	C803	G742	A681	A619	C559	C498
A1293	C1233	U1172	G1110	U1048	G987	C927	U866	C804	A743	U682	G820	G560	G499
A1294	C1234	U1173	G1111	U1049	G988	A928	U867	G805	C744	U683	G821	U561	G500
U1295	G1235	G1173	C1111	G1050	C989	A929	U868	A806	C745	U684	G822	G562	G501
G1296	G1236	G1174	U1112	U1051	A990	A930	C869	A807	G746	U685	A624	U563	A502
A1297	G1237	U1175	C1113	C1052	A991	G931	C870	C808	A747	U686	A625	U564	G503
G1298	A1238	U1176	U1114	G1053	A992	G932	U871	C809	A748	U687	A626	U565	G504
A1299	U1177	U1177	C1115	U1054	C993	G933	U872	U810	C749	U688	A627	U566	G505
A1300	C1178	C1178	G1116	U1055	A994	G934	U873	G811	C750	U689	A628	G567	A507
U1301	G1241	A1179	U1117	U1056	A995	G935	A874	G812	G751	A690	C629	G568	G508
A1302	A1242	A1180	U1118	A1057	C996	A936	G875	A813	G752	C691	G630	C569	U509
U1303	G1243	C1181	U1119	G1058	C997	G937	A876	G814	U753	C692	G631	G570	U510
U1304	U1244	U1182	G1120	A1059	C998	G938	G877	A815	G754	A693	A632	U571	A511
C1305	G1245	C1183	G1121	C1060	A999	C939	C878	U816	C755	U694	G633	G572	A512
A1306	G1246	G1184	A1122	A1061	G1000	G940	U879	G834	C756	G695	G634	C573	A513
U1307	U1247	C1185	U1123	G1062	A1001	U941	G887	C819	G757	U696	G635	C574	G514
G1308	G1248	G1186	U1124	C1063	C1002	U942	C888	G826	U758	U697	G636	U575	A515
G1309	A1249	A1187	G1125	C1064	C1003	U943	C889	C827	C759	A698	G637	A576	G516
G1310	A1250	A1188	A1126	A1065	A1004	A944	C884	A821	U760	U699	A638	U577	A517
G1311	C1251	G1189	C1127	G1066	U1005	G945	A885	G822	G761	C700	G639	U578	A518
G1312	C1252	C1190	G1128	G1067	C1006	U946	A886	U823	A762	U701	C640	G579	C519
A1314	G1253	G1191	A1129	A1068	A1007	C947	G887	U824	A763	A702	G641	A581	G520
A1315	A1254	A1192	U1130	G1069	G1008	C948	C889	C825	A764	G703	A642	G582	U521
G1316	C1256	G1193	G1131	G1070	C1009	G949	U890	C827	C765	C705	A643	C583	G522
G1317	U1257	U1194	C1132	U1071	U1010	G950	U891	C828	A766	U706	G645	A584	A524
A1318	U1195	C1133	U1133	U1072	A1011	G951	G	C829	G767	U707	C646	U585	A525
C1319	G1196	C1134	G1134	G1073	A1012	A952	G	G830	C768	U708	G647	G586	A526
A1320	U1197	C1135	G1136	C1075	G1013	U953	G	G831	C769	A709	A648	A587	C527
A1321	C1198	A1137	G1137	U1076	U1015	G954	G	A832	G772	U712	G649	G588	G528
G1322	U1262	A1138	A1137	U1077	C1016	A955	G	A833	G773	A713	U650	C589	U529
G1323	G1263	A1139	A1138	A1078	C1017	G957	C	A834	A774	G713	C651	C590	G530
G1324	A1264	A1140	U1140	G1079	C1018	G958	C	U835	U775	G714	C852	G591	G531
U1325	G1265	U1141	U1141	A1080	U1019	C959	U	G836	G776	U715	G653	G592	A532
C1326	G1266	G1142	A1142	G1081	A1020	U960	A	A837	A777	U716	A654	C593	C533
C1327	A1267	A1143	A1143	G1082	A1021	G961	C	U838	G778	G717	A655	G594	U534
C1328	U1268	U1144	U1144	C1083	A1022	C962	C	U839	U779	A718	U656	A595	U535
U1329	G1269	U1145	C1145	A1084	U1023	G963	G	U840	U780	A719	A657	C586	A536
G1330	C1270	G1146	G1146	U1085	G1024	G964	A	G841	G781	A720	G658	U597	C537
G1331	C1271	U1147	U1147	C1086	A1025	G965	C	A842	U782	C721	G659	U598	A538
G1332	U1272	G1148	G1148	C1087	U1026	A966	U	G843	G783	C722	G660	A599	A539
G1333	C1273	U1149	A1149	A1088	C1027	G967	U	G844	U784	C723	G661	G600	G540
A1334	C1274	C1150	C1150	C1089	U1030	G968	A	U845	U785	C724	G662	A601	C541
A1335	A1275	U1151	U1151	G1090	A1031	U969	C	A848	U786	C725	G663	C602	A542
G1336	G1276	U1152	U1152	C1091	C1031	A970	C	G849	U787	G726	C664	G603	G543
G1337	U1277	A1153	U1153	U1092	A1032	A971	A911	U891	G788	U727	U604	A665	U544
G1338	A1278	A1154	U1154	U1093	G1033	C972	A912	C850	G789	G728	U666	G605	C545

C2210	G	G	C2027	G	G1968	G	G1842	U1778	A1715	C1653	G1589	U1526	A1463	G1402
U2211	G	G	C2028	G	G1969	U1843	U1843	C1779	G1716	A1654	U1592	G1527	A1464	U1403
G2212	U	U	G2029	U	G1970	C1844	C1844	A1780	A1717	C1655	U1593	C1528	G1465	A1404
G2213	U	C	U2030	C	G1971	A1845	A1845	C1781	A1717	U1656	C1529	C1529	A1466	A1405
G2214	A	U	A2031	U	G1972	A1846	A1846	G1782	U1723	A1657	U1594	C1530	U1467	A1406
G2215	A	C	G2032	C	G1973	A1847	A1847	G1783	G1723	A1658	U1595	C1531	U1468	G1407
G2216	A	C	C2033	C	C1974	U1848	U1848	G1784	C1724	G1659	A1596	U1469	U1408	A1408
G2217	U	G	A2034	U	U1974	G1849	G1849	A1785	C1725	G1660	A1597	G1470	U1409	●
G2218	A	U	G2035	U	G1975	G1850	G1850	A1786	C1726	C1661	C1598	U1410	U1410	●
U2219	C	A	U2036	A	U1976	A1851	A1851	G1787	C1727	G1662	C1599	C1471	C1411	●
A2220	C	G	A2037	G	C1977	G1852	G1852	U1788	A1728	C1663	U1600	C1472	C1412	●
G2221	A	G	C2038	C	U1978	C1853	C1853	G1789	G1729	G1664	U1601	U1474	U1413	●
U2222	C	A	G2039	U	G1979	G1854	G1854	G1790	G1730	C1665	U1602	U1475	U1414	●
U2223	C	U	A2040	U	A1980	G1855	G1855	C1791	C1731	G1666	A1603	G1476	C1415	●
U2224	C	A	A2041	A	U1981	U1856	U1856	G1792	U1732	A1667	U1604	G1477	A1416	●
U2225	U	G	A2042	U	C1982	G1857	G1857	A1793	U1733	G1668	U1607	U1478	A1417	●
A2226	G	U	G2043	U	G1983	U1858	U1858	A1794	C1734	A1669	U1608	G1480	C1418	●
U2228	G	U	G2044	U	A1984	U1859	U1859	C1795	G1735	G1670	U1609	G1481	A1419	●
U2229	C	U	A2045	C	G1985	A1860	A1860	A1796	C1736	A1671	G1609	U1482	U1421	●
G2230	C	G	C2046	C	G1986	G1861	G1861	C1797	G1737	A1672	A1610	U1483	U1422	●
G2231	A	G	C2047	U	G1987	C1862	C1862	U1800	U1738	C1673	U1611	U1484	A1423	●
G2232	A	G	C2048	U	A1988	U1863	U1863	C1801	G1739	C1674	U1551	G1485	U1424	●
G2233	C	G	C2049	C	C1989	G1864	G1864	A1802	G1740	C1675	C1552	A1486	G1425	●
G2234	C	C	G2050	C	U1990	C1865	C1865	A1803	G1741	U1676	C1614	C1487	U1426	●
G2235	C	U	U2051	U	G1991	G1866	G1866	G1803	U1742	C1677	C1553	G1488	G1427	●
U2236	U	U	G2052	U	G1992	A1867	A1867	U1804	C1743	G1678	G1554	C1489	G1428	●
U2237	G	G	G2053	G	G1993	A1868	A1868	G1805	G1744	U1679	A1555	C1490	A1429	●
U2238	C	C	A2054	C	U1994	A1869	A1869	A1806	C1745	U1680	A1556	U1490	G1430	●
G2239	A	G	G2055	U	G1995	G1933	G1933	A1807	A1746	A1681	C1620	C1491	U1431	●
C2240	A	A	C2056	A	A1996	U1934	U1934	G1808	G1747	A1682	C1621	A1492	G1432	●
U2241	A	A	U2057	A	A1997	A1935	A1935	G1809	U1748	G1683	G1622	A1493	G1433	●
C2242	A	C	U2058	C	A1998	A1936	A1936	A1810	C1749	G1684	C1623	G1494	A1434	●
A2243	U	U	U2059	U	U1999	G1937	G1937	A1811	A1750	A1685	A1624	A1561	G1495	●
A2244	U	U	A2060	U	U2000	U1938	U1938	A1812	G1751	C1686	A1625	U1562	G1496	●
A2245	U	G	C2061	C	G2001	U1939	U1939	A1813	U1752	C1687	A1626	G1563	G1497	●
A2246	C	C	U2062	C	A2002	C1940	C1940	G1814	G1753	U1688	C1627	U1564	A1437	●
A2247	C	C	A2063	C	A2003	G1941	G1941	G1815	G1754	U1689	C1628	A1499	G1438	●
A2248	C	C	U2064	C	U2004	G1942	G1942	G1816	G1755	U1690	G1629	U1500	G1439	●
U2249	U	U	A2065	U	U2005	G1943	G1943	U1817	C1756	G1691	A1630	C1501	G1440	●
G2250	U	U	G2066	U	C2006	A1882	A1882	G1818	C1757	C1692	C1631	A1567	G1502	●
U2251	U	U	U2067	U	G2007	A1883	A1883	A1819	C1758	A1693	C1632	C1570	G1503	●
A2252	U	U	C2068	U	C2008	A1884	A1884	G1820	G1759	A1694	C1633	C1571	G1504	●
A2253	U	G	U2069	G	U2009	G1885	G1885	A1821	C1760	U1695	A1634	C1572	U1505	●
G2254	C	G	G2070	C	G2010	G1886	G1886	G1822	G1761	G1696	G1635	C1573	C1506	●
U2255	U	U	C2071	U	U2011	C1887	C1887	C1822	C1762	C1698	G1636	G1574	A1507	●
G2256	G	G	A2072	G	A2012	G1951	G1951	C1825	G1763	A1699	U1637	A1574	G1508	●
A2257	U	U	C2073	U	A2013	A1952	A1952	U1826	A1764	C1700	U1638	C1575	A1509	●
G2258	C	C	U2074	C	A2014	A1953	A1953	G1827	C1765	C1701	U1639	G1576	A1510	●
G2259	G	G	U2075	G	A1954	G1954	G1954	U1830	U1766	G1704	C1640	G1577	A1511	●
C2260	C	C	G2076	C	A2016	G1955	G1955	G1831	G1767	U1705	C1641	U1578	C1451	●
G2261	U	U	U2077	U	U2017	G1956	G1956	A1831	U1768	U1706	G1644	G1579	U1513	●
G2262	G	G	A2079	G	G2018	C1957	C1957	G1834	U1769	A1707	U1645	C1580	A1452	●
C2263	G	G	U2080	C	C2019	G1958	G1958	A1770	U1770	C1708	U1646	C1581	C1514	●
C2264	A	A	U2081	A	U1959	G1959	G1959	C1835	A1771	A1708	U1647	A1582	U1454	●
A2265	C	C	C2082	C	G2021	A1960	A1960	G1836	C1772	U1709	U1648	G1583	C1455	●
A2266	G	G	G2083	G	A1961	A1961	A1961	A1837	C1773	U1710	C1649	G1584	C1517	●
A2267	C	C	G2084	C	C2022	A1962	A1962	G1838	A1774	C1711	A1649	A1585	C1522	●
G2268	A	A	U2085	U	U2024	G1963	G1963	A1839	A1775	G1712	U1650	A1586	A1523	●
G2269	A	A	U2086	A	A1964	A1964	A1964	A1840	A1776	G1713	U1651	A1587	C1524	●
U2270	C	C	U2087	C	U1965	U1965	U1965	G1841	A1777	A1714	G1652	A1588	A1525	●



- Molecule 30: 50S RIBOSOMAL PROTEIN L32



- Molecule 31: RIBOSOMAL 5S RNA





4 Data and refinement statistics

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	169.90Å 408.90Å 694.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 3.70 29.75 – 3.61	Depositor EDS
% Data completeness (in resolution range)	85.6 (30.00-3.70) 87.2 (29.75-3.61)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.14	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.77 (at 3.65Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.300 , 0.340 0.324 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	DCC
Wilson B-factor (Å ²)	109.2	Xtriage
Anisotropy	0.214	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.19 , 130.9	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.39$, $\langle L^2 \rangle = 0.22$	Xtriage
Outliers	1 of 240234 reflections (0.000%)	Xtriage
F_o, F_c correlation	0.83	EDS
Total number of atoms	84444	wwPDB-VP
Average B, all atoms (Å ²)	114.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.15% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG, DHA, 3GL, BB9, NH2, MH6, DBU, NO1

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
4	4	0.48	0/298	0.63	0/390
5	5	3.86	2/12 (16.7%)	2.59	1/12 (8.3%)
6	A	0.46	0/1862	0.66	0/2510
7	B	0.73	0/1567	0.93	0/2105
8	C	0.54	0/1529	0.75	0/2070
9	D	0.40	0/1419	0.62	0/1903
10	E	0.42	0/1308	0.64	0/1771
11	F	0.42	0/1063	0.57	0/1440
12	G	0.57	0/1138	0.79	1/1539 (0.1%)
13	H	0.81	0/1007	1.03	1/1352 (0.1%)
14	I	0.51	0/1081	0.76	0/1448
15	J	0.60	0/1113	0.82	1/1486 (0.1%)
16	K	0.84	0/886	1.07	0/1188
17	L	0.48	0/785	0.72	0/1048
18	M	0.76	0/884	1.03	1/1186 (0.1%)
19	N	0.60	0/994	0.79	1/1323 (0.1%)
20	O	0.55	0/750	0.79	0/1000
21	P	0.72	0/1027	0.95	1/1373 (0.1%)
22	Q	0.52	0/737	0.70	0/988
23	R	0.47	0/835	0.76	0/1121
24	S	0.46	0/1370	0.66	0/1862
25	T	0.50	0/633	0.72	0/838
26	U	0.46	0/556	0.75	0/741
27	V	0.46	0/537	0.62	0/714
28	W	0.59	0/426	0.83	0/568
29	X	0.84	68/64561 (0.1%)	1.00	396/100708 (0.4%)
30	Y	0.69	0/469	0.95	1/629 (0.2%)
31	Z	0.58	1/2904 (0.0%)	0.76	0/4525
All	All	0.77	71/91751 (0.1%)	0.95	404/137838 (0.3%)

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
5	5	1	0
19	N	0	1
29	X	1	199
30	Y	0	1
31	Z	0	4
All	All	2	205

All (71) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	1	SER	CA-CB	-10.07	1.37	1.52
29	X	2533	U	N1-C2	9.78	1.47	1.38
29	X	2492	G	C5-C6	-9.33	1.33	1.42
29	X	2533	U	C4-C5	8.27	1.50	1.43
29	X	2424	G	C5-C6	-7.50	1.34	1.42
29	X	2189	A	N9-C4	7.31	1.42	1.37
29	X	728	G	C2'-C1'	6.65	1.60	1.53
29	X	1677	C	N3-C4	-6.54	1.29	1.33
29	X	1858	C	N1-C2	-6.25	1.33	1.40
29	X	2594	U	N1-C2	6.23	1.44	1.38
29	X	722	C	N1-C2	-6.22	1.33	1.40
29	X	1862	C	N1-C2	-6.19	1.33	1.40
29	X	1056	U	P-O5'	6.15	1.66	1.59
29	X	2199	C	N1-C2	-6.10	1.34	1.40
29	X	976	C	N1-C2	6.05	1.46	1.40
29	X	731	A	C2'-C1'	6.03	1.59	1.53
29	X	2195	C	N1-C2	-6.03	1.34	1.40
29	X	557	U	C2'-C1'	5.99	1.59	1.53
29	X	2674	C	N1-C2	-5.98	1.34	1.40
29	X	725	C	N1-C2	-5.98	1.34	1.40
29	X	2557	G	C5-C6	-5.97	1.36	1.42
29	X	1688	U	N3-C4	5.96	1.43	1.38
29	X	2190	A	C4'-C3'	5.95	1.59	1.53
29	X	531	G	C5-C6	-5.94	1.36	1.42
29	X	1052	C	N1-C2	-5.93	1.34	1.40
29	X	1459	U	C4-C5	5.91	1.48	1.43
29	X	2662	C	N1-C2	-5.85	1.34	1.40
29	X	2693	U	N3-C4	-5.82	1.33	1.38
29	X	1853	C	N1-C2	-5.79	1.34	1.40
29	X	556	A	N7-C5	-5.75	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	X	582	G	C3'-O3'	5.73	1.50	1.42
29	X	2322	U	C4'-C3'	5.58	1.59	1.53
29	X	2254	C	N1-C2	5.57	1.45	1.40
29	X	1300	A	C5-C6	-5.57	1.36	1.41
29	X	1234	C	N1-C2	5.55	1.45	1.40
29	X	1264	C	C2-O2	-5.54	1.19	1.24
29	X	1634	A	C5-C6	5.54	1.46	1.41
29	X	586	G	C5-C6	-5.53	1.36	1.42
29	X	417	C	C2'-C1'	5.50	1.59	1.53
29	X	1336	G	C5-C6	-5.49	1.36	1.42
29	X	2422	C	N1-C2	5.48	1.45	1.40
29	X	728	G	N9-C4	5.48	1.42	1.38
29	X	2254	C	C2-O2	5.44	1.29	1.24
29	X	728	G	C3'-O3'	5.42	1.49	1.42
29	X	557	U	C1'-N1	5.39	1.56	1.48
29	X	552	C	N1-C2	-5.38	1.34	1.40
29	X	723	C	N1-C2	-5.37	1.34	1.40
29	X	1006	C	N1-C2	5.34	1.45	1.40
29	X	2189	A	C3'-O3'	5.34	1.49	1.42
29	X	2550	C	C2-O2	5.32	1.29	1.24
29	X	2797	G	C5-C6	-5.31	1.37	1.42
29	X	2687	G	N3-C4	-5.30	1.31	1.35
29	X	2736	U	N1-C2	5.29	1.43	1.38
29	X	1006	C	C3'-O3'	5.29	1.49	1.42
29	X	550	C	N1-C2	-5.23	1.34	1.40
29	X	1857	G	O3'-P	-5.23	1.54	1.61
29	X	582	G	O3'-P	5.22	1.67	1.61
29	X	1687	C	C5-C6	-5.21	1.30	1.34
29	X	2695	C	N1-C2	-5.20	1.34	1.40
29	X	2189	A	C2'-C1'	5.17	1.59	1.53
29	X	1141	U	N1-C2	5.16	1.43	1.38
29	X	2321	C	N1-C2	-5.13	1.35	1.40
29	X	2595	C	N1-C2	5.12	1.45	1.40
29	X	2189	A	C8-N7	-5.11	1.27	1.31
29	X	1242	A	C5-C6	5.10	1.45	1.41
29	X	2744	A	C5-C6	-5.08	1.36	1.41
29	X	2545	A	N9-C4	-5.07	1.34	1.37
31	Z	19	C	N1-C2	5.07	1.45	1.40
29	X	1054	C	N1-C2	-5.06	1.35	1.40
5	5	3	THR	C-O	5.02	1.32	1.23
29	X	2545	A	N1-C2	5.02	1.38	1.34

All (404) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1055	A	N9-C1'-C2'	-28.05	77.53	114.00
29	X	557	U	N1-C1'-C2'	19.61	139.50	114.00
29	X	417	C	N1-C1'-C2'	17.87	137.23	114.00
29	X	558	G	C3'-C2'-C1'	-13.92	90.37	101.50
29	X	556	A	N9-C1'-C2'	12.66	130.46	114.00
29	X	728	G	P-O3'-C3'	12.40	134.58	119.70
29	X	731	A	N9-C1'-C2'	12.13	129.76	114.00
29	X	1063	C	C6-N1-C2	11.99	125.10	120.30
29	X	1060	C	C6-N1-C2	11.85	125.04	120.30
29	X	557	U	C6-N1-C2	-11.69	113.98	121.00
29	X	2324	G	N9-C1'-C2'	11.68	129.19	114.00
29	X	1056	U	O4'-C1'-N1	11.61	117.49	108.20
29	X	1052	C	C6-N1-C2	11.50	124.90	120.30
29	X	460	U	N1-C1'-C2'	11.33	128.73	114.00
29	X	556	A	P-O3'-C3'	10.97	132.87	119.70
29	X	554	U	C6-N1-C2	10.92	127.55	121.00
29	X	1854	G	P-O3'-C3'	-10.87	106.66	119.70
29	X	1056	U	O4'-C4'-C3'	-10.80	93.20	104.00
29	X	1865	C	O4'-C4'-C3'	-10.72	93.28	104.00
29	X	1285	A	N9-C1'-C2'	10.64	127.83	114.00
29	X	557	U	C3'-C2'-C1'	10.53	109.92	101.50
29	X	2693	U	N1-C1'-C2'	10.41	127.53	114.00
29	X	1288	A	N9-C1'-C2'	10.38	127.49	114.00
29	X	2323	U	O4'-C1'-N1	10.25	116.40	108.20
29	X	1853	C	P-O3'-C3'	-9.95	107.75	119.70
29	X	2320	G	P-O3'-C3'	-9.94	107.77	119.70
29	X	2189	A	P-O3'-C3'	9.84	131.51	119.70
29	X	1853	C	C6-N1-C2	9.81	124.23	120.30
29	X	1632	A	N9-C1'-C2'	9.78	126.72	114.00
29	X	2195	C	C6-N1-C2	9.71	124.18	120.30
29	X	728	G	C8-N9-C4	-9.70	102.52	106.40
29	X	2323	U	P-O3'-C3'	9.66	131.29	119.70
29	X	2197	U	C3'-C2'-C1'	-9.61	93.81	101.50
29	X	1142	G	N9-C1'-C2'	9.20	125.97	114.00
29	X	1055	A	P-O3'-C3'	9.18	130.72	119.70
29	X	415	A	N9-C1'-C2'	9.12	125.85	114.00
29	X	417	C	C3'-C2'-C1'	9.08	108.76	101.50
29	X	729	A	O4'-C4'-C3'	-8.95	95.05	104.00
29	X	2560	G	N9-C1'-C2'	8.73	125.36	114.00
29	X	1852	G	P-O3'-C3'	-8.72	109.24	119.70
29	X	731	A	N9-C4-C5	8.70	109.28	105.80
29	X	555	U	C3'-C2'-C1'	-8.69	94.55	101.50
29	X	1857	G	P-O3'-C3'	-8.63	109.35	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	728	G	N9-C1'-C2'	8.50	125.05	114.00
13	H	25	LEU	CA-CB-CG	8.49	134.82	115.30
29	X	1064	C	C6-N1-C2	8.43	123.67	120.30
29	X	2189	A	N9-C4-C5	-8.41	102.44	105.80
29	X	557	U	C5-C6-N1	8.35	126.87	122.70
29	X	2795	A	N9-C1'-C2'	8.35	124.86	114.00
29	X	1313	U	N1-C1'-C2'	8.29	124.78	114.00
29	X	2593	A	N9-C1'-C2'	8.16	124.60	114.00
29	X	730	C	P-O3'-C3'	8.12	129.44	119.70
29	X	554	U	N1-C2-N3	-8.11	110.04	114.90
29	X	1264	C	N1-C1'-C2'	8.03	124.44	114.00
29	X	1856	U	P-O3'-C3'	-7.98	110.13	119.70
29	X	804	C	N1-C1'-C2'	7.79	124.13	114.00
29	X	2196	U	P-O3'-C3'	7.77	129.02	119.70
29	X	1870	U	P-O3'-C3'	-7.72	110.43	119.70
29	X	555	U	O4'-C4'-C3'	-7.71	96.29	104.00
29	X	1859	A	P-O3'-C3'	-7.71	110.45	119.70
29	X	2190	A	N9-C1'-C2'	-7.66	103.58	112.00
29	X	418	C	N1-C1'-C2'	7.63	123.92	114.00
29	X	2848	A	N9-C1'-C2'	7.60	123.88	114.00
29	X	554	U	N1-C2-O2	7.54	128.08	122.80
29	X	417	C	P-O3'-C3'	7.52	128.73	119.70
29	X	2428	U	N1-C1'-C2'	7.52	123.78	114.00
29	X	489	A	N9-C1'-C2'	7.49	123.73	114.00
29	X	729	A	C3'-C2'-C1'	-7.47	95.52	101.50
29	X	417	C	O4'-C1'-N1	-7.46	102.23	108.20
29	X	1265	G	N9-C1'-C2'	7.42	123.65	114.00
29	X	557	U	P-O3'-C3'	7.30	128.46	119.70
29	X	1685	A	C5'-C4'-C3'	-7.29	104.33	116.00
29	X	2680	U	N1-C1'-C2'	-7.29	103.99	112.00
29	X	1858	C	C6-N1-C2	7.20	123.18	120.30
29	X	739	G	OP1-P-OP2	-7.17	108.85	119.60
29	X	727	U	C3'-C2'-C1'	7.15	107.22	101.50
29	X	1266	G	N9-C1'-C2'	7.15	123.29	114.00
29	X	582	G	OP2-P-O3'	7.12	120.86	105.20
29	X	555	U	OP1-P-OP2	-7.09	108.97	119.60
29	X	1846	A	P-O3'-C3'	7.08	128.20	119.70
29	X	1850	G	C8-N9-C4	-7.07	103.57	106.40
29	X	2469	G	N9-C1'-C2'	7.07	123.19	114.00
29	X	780	U	C2'-C3'-O3'	7.05	125.02	109.50
29	X	1854	G	OP1-P-OP2	-7.03	109.06	119.60
29	X	420	C	OP1-P-OP2	-7.02	109.07	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2324	G	O4'-C1'-N9	-7.00	102.60	108.20
29	X	2854	G	N9-C1'-C2'	7.00	123.10	114.00
29	X	1861	G	P-O3'-C3'	-7.00	111.30	119.70
29	X	729	A	OP1-P-OP2	-6.97	109.14	119.60
29	X	1979	C	N1-C1'-C2'	6.97	123.06	114.00
29	X	1864	G	OP1-P-OP2	-6.95	109.18	119.60
21	P	72	LEU	CA-CB-CG	-6.93	99.36	115.30
29	X	1947	G	N9-C1'-C2'	6.92	123.00	114.00
29	X	1871	G	OP1-P-OP2	-6.92	109.22	119.60
29	X	2706	U	C2'-C3'-O3'	6.92	124.78	113.70
29	X	1855	G	OP1-P-OP2	-6.91	109.23	119.60
29	X	1068	A	OP1-P-OP2	-6.91	109.24	119.60
29	X	1059	A	OP1-P-OP2	-6.89	109.26	119.60
29	X	1141	U	N1-C1'-C2'	6.89	122.96	114.00
29	X	558	G	O4'-C1'-N9	6.89	113.71	108.20
29	X	2322	U	N1-C1'-C2'	6.88	122.95	114.00
29	X	1044	U	O4'-C4'-C3'	-6.87	97.13	104.00
29	X	1872	A	OP1-P-OP2	-6.81	109.38	119.60
29	X	1867	A	P-O3'-C3'	6.81	127.87	119.70
29	X	2188	A	OP1-P-OP2	-6.79	109.42	119.60
29	X	1618	U	N1-C1'-C2'	6.78	122.82	114.00
29	X	728	G	N7-C8-N9	6.78	116.49	113.10
29	X	2034	A	N9-C1'-C2'	6.78	122.81	114.00
29	X	1869	A	OP1-P-OP2	-6.78	109.43	119.60
29	X	1856	U	OP1-P-OP2	-6.78	109.44	119.60
29	X	1055	A	C8-N9-C4	-6.76	103.09	105.80
29	X	551	A	OP1-P-OP2	-6.76	109.46	119.60
29	X	1745	C	O4'-C1'-N1	6.76	113.61	108.20
29	X	2693	U	O4'-C1'-N1	6.75	113.60	108.20
5	5	1	SER	CB-CA-C	6.75	122.93	110.10
29	X	557	U	N3-C4-O4	6.75	124.12	119.40
29	X	176	A	N9-C1'-C2'	6.73	122.75	114.00
29	X	1052	C	N1-C2-O2	6.72	122.93	118.90
29	X	2322	U	OP1-P-OP2	-6.71	109.53	119.60
29	X	2185	U	OP1-P-OP2	-6.69	109.57	119.60
29	X	2190	A	C3'-C2'-C1'	-6.68	96.15	101.50
29	X	1050	G	OP1-P-OP2	-6.68	109.58	119.60
29	X	724	C	OP1-P-OP2	-6.67	109.59	119.60
29	X	1052	C	OP1-P-OP2	-6.67	109.59	119.60
29	X	1678	G	O4'-C4'-C3'	-6.67	97.33	104.00
29	X	562	G	OP1-P-OP2	-6.66	109.61	119.60
29	X	736	G	OP1-P-OP2	-6.65	109.62	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	557	U	OP1-P-OP2	-6.65	109.62	119.60
29	X	1851	A	OP1-P-OP2	-6.63	109.65	119.60
29	X	735	G	OP1-P-OP2	-6.63	109.66	119.60
29	X	1266	G	O4'-C1'-N9	6.63	113.50	108.20
29	X	1698	C	N1-C1'-C2'	6.62	122.61	114.00
29	X	738	G	OP1-P-OP2	-6.61	109.68	119.60
29	X	1062	G	OP1-P-OP2	-6.61	109.69	119.60
29	X	726	G	OP1-P-OP2	-6.60	109.70	119.60
29	X	553	C	OP1-P-OP2	-6.60	109.70	119.60
29	X	2190	A	OP1-P-OP2	-6.59	109.71	119.60
29	X	1049	C	C6-N1-C2	6.58	122.93	120.30
29	X	1048	U	OP1-P-OP2	-6.58	109.73	119.60
29	X	1060	C	OP1-P-OP2	-6.57	109.74	119.60
29	X	2187	A	OP1-P-OP2	-6.57	109.75	119.60
29	X	1053	G	OP1-P-OP2	-6.57	109.75	119.60
29	X	734	G	OP1-P-OP2	-6.56	109.76	119.60
29	X	550	C	OP1-P-OP2	-6.56	109.77	119.60
29	X	415	A	OP1-P-OP2	-6.55	109.77	119.60
29	X	732	G	OP1-P-OP2	-6.54	109.78	119.60
29	X	1006	C	C2'-C3'-O3'	6.54	124.16	113.70
29	X	1863	U	OP1-P-OP2	-6.53	109.81	119.60
29	X	1047	G	OP1-P-OP2	-6.52	109.82	119.60
29	X	1860	A	OP1-P-OP2	-6.52	109.82	119.60
29	X	1857	G	OP1-P-OP2	-6.52	109.82	119.60
29	X	1042	G	OP1-P-OP2	-6.51	109.83	119.60
29	X	2190	A	O4'-C1'-N9	6.51	113.41	108.20
29	X	1041	G	OP1-P-OP2	-6.50	109.85	119.60
29	X	731	A	C8-N9-C4	-6.49	103.20	105.80
29	X	731	A	OP1-P-OP2	-6.48	109.88	119.60
29	X	554	U	OP1-P-OP2	-6.48	109.88	119.60
29	X	1046	U	OP1-P-OP2	-6.48	109.88	119.60
29	X	1859	A	OP1-P-OP2	-6.48	109.88	119.60
29	X	2197	U	OP1-P-OP2	-6.47	109.89	119.60
29	X	1853	C	OP1-P-OP2	-6.47	109.90	119.60
29	X	1867	A	OP1-P-OP2	-6.47	109.90	119.60
29	X	419	G	OP1-P-OP2	-6.46	109.91	119.60
29	X	721	C	OP1-P-OP2	-6.46	109.91	119.60
29	X	725	C	OP1-P-OP2	-6.45	109.93	119.60
29	X	417	C	OP1-P-OP2	-6.45	109.93	119.60
29	X	740	A	OP1-P-OP2	-6.45	109.93	119.60
29	X	558	G	OP1-P-OP2	-6.45	109.93	119.60
29	X	418	C	OP1-P-OP2	-6.44	109.94	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	1865	C	P-O3'-C3'	-6.43	111.98	119.70
29	X	556	A	OP1-P-OP2	-6.43	109.95	119.60
29	X	1852	G	OP1-P-OP2	-6.43	109.96	119.60
29	X	2323	U	OP1-P-OP2	-6.43	109.96	119.60
29	X	1849	G	N9-C1'-C2'	6.42	122.34	114.00
29	X	1862	C	OP1-P-OP2	-6.41	109.98	119.60
29	X	1057	A	OP1-P-OP2	-6.41	109.98	119.60
29	X	2703	C	N1-C1'-C2'	-6.41	104.95	112.00
29	X	724	C	C6-N1-C2	6.40	122.86	120.30
29	X	1044	U	OP1-P-OP2	-6.39	110.01	119.60
29	X	559	C	OP1-P-OP2	-6.38	110.02	119.60
29	X	741	G	OP1-P-OP2	-6.38	110.02	119.60
29	X	1051	U	OP1-P-OP2	-6.38	110.03	119.60
29	X	558	G	C8-N9-C4	-6.38	103.85	106.40
29	X	2198	U	N1-C1'-C2'	6.38	122.29	114.00
29	X	1848	U	OP1-P-OP2	-6.37	110.04	119.60
29	X	2195	C	OP1-P-OP2	-6.37	110.04	119.60
29	X	2688	G	N9-C1'-C2'	-6.37	104.99	112.00
29	X	2075	U	N1-C1'-C2'	6.37	122.28	114.00
29	X	722	C	OP1-P-OP2	-6.37	110.05	119.60
29	X	717	G	OP1-P-OP2	-6.36	110.05	119.60
29	X	730	C	OP1-P-OP2	-6.36	110.06	119.60
29	X	2481	G	OP1-P-O3'	6.36	119.19	105.20
29	X	720	A	OP1-P-OP2	-6.35	110.08	119.60
29	X	1067	G	OP1-P-OP2	-6.35	110.08	119.60
29	X	2186	G	OP1-P-OP2	-6.34	110.08	119.60
29	X	1855	G	P-O3'-C3'	-6.34	112.09	119.70
29	X	737	C	OP1-P-OP2	-6.34	110.10	119.60
29	X	723	C	OP1-P-OP2	-6.33	110.11	119.60
29	X	1861	G	OP1-P-OP2	-6.32	110.11	119.60
29	X	975	C	O5'-P-OP2	-6.32	100.02	105.70
29	X	2199	C	OP1-P-OP2	-6.32	110.13	119.60
29	X	719	A	OP1-P-OP2	-6.31	110.13	119.60
29	X	1868	A	OP1-P-OP2	-6.31	110.13	119.60
29	X	718	A	OP1-P-OP2	-6.31	110.13	119.60
29	X	1866	G	OP1-P-OP2	-6.31	110.14	119.60
29	X	2325	A	OP1-P-OP2	-6.31	110.14	119.60
29	X	1063	C	OP1-P-OP2	-6.30	110.14	119.60
29	X	1043	A	OP1-P-OP2	-6.30	110.15	119.60
29	X	558	G	C1'-O4'-C4'	-6.29	104.87	109.90
29	X	1847	G	OP1-P-OP2	-6.29	110.17	119.60
29	X	1633	C	N1-C1'-C2'	6.28	122.17	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	552	C	OP1-P-OP2	-6.28	110.18	119.60
29	X	1058	G	OP1-P-OP2	-6.28	110.18	119.60
29	X	2191	A	OP1-P-OP2	-6.27	110.19	119.60
29	X	1055	A	OP1-P-OP2	-6.27	110.20	119.60
29	X	459	A	N9-C1'-C2'	6.27	122.15	114.00
29	X	1850	G	OP1-P-OP2	-6.26	110.22	119.60
29	X	2326	C	OP1-P-OP2	-6.25	110.22	119.60
29	X	2228	U	N1-C1'-C2'	6.25	122.12	114.00
29	X	2324	G	OP1-P-OP2	-6.25	110.23	119.60
29	X	2192	U	OP1-P-OP2	-6.24	110.23	119.60
29	X	1055	A	C4'-C3'-O3'	6.22	125.44	113.00
29	X	1342	U	N1-C1'-C2'	6.21	122.08	114.00
29	X	561	U	OP1-P-OP2	-6.21	110.28	119.60
29	X	1047	G	P-O3'-C3'	-6.21	112.25	119.70
29	X	2854	G	C4'-C3'-O3'	-6.21	96.37	109.40
29	X	1333	G	N9-C1'-C2'	6.20	122.05	114.00
29	X	1045	G	OP1-P-OP2	-6.19	110.31	119.60
29	X	580	A	N9-C1'-C2'	6.19	122.05	114.00
29	X	1054	C	OP1-P-OP2	-6.18	110.33	119.60
29	X	1055	A	C3'-C2'-C1'	-6.18	96.56	101.50
29	X	2321	C	OP1-P-OP2	-6.17	110.34	119.60
29	X	1858	C	OP1-P-OP2	-6.16	110.36	119.60
29	X	1870	U	O4'-C4'-C3'	-6.15	97.85	104.00
29	X	560	G	OP1-P-OP2	-6.14	110.39	119.60
29	X	416	U	OP1-P-OP2	-6.14	110.39	119.60
29	X	1064	C	OP1-P-OP2	-6.13	110.41	119.60
29	X	2617	G	N9-C1'-C2'	6.12	121.96	114.00
29	X	2217	G	N9-C1'-C2'	6.10	121.93	114.00
29	X	727	U	OP1-P-OP2	-6.10	110.45	119.60
29	X	1065	A	OP1-P-OP2	-6.10	110.45	119.60
29	X	2196	U	OP1-P-OP2	-6.10	110.45	119.60
29	X	731	A	C3'-C2'-C1'	6.09	106.38	101.50
29	X	2313	G	N9-C1'-C2'	6.09	121.92	114.00
29	X	414	A	OP1-P-OP2	-6.09	110.47	119.60
29	X	2541	U	N1-C1'-C2'	-6.08	105.31	112.00
29	X	1975	G	OP2-P-O3'	6.07	118.55	105.20
29	X	733	G	OP1-P-OP2	-6.06	110.51	119.60
29	X	2323	U	N1-C1'-C2'	-6.06	105.33	112.00
29	X	557	U	O4'-C1'-N1	-6.06	103.35	108.20
29	X	556	A	C3'-C2'-C1'	6.05	106.34	101.50
29	X	1865	C	OP1-P-OP2	-6.05	110.53	119.60
29	X	1069	G	OP1-P-OP2	-6.03	110.56	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2194	A	OP1-P-OP2	-6.03	110.56	119.60
29	X	1863	U	P-O3'-C3'	-6.02	112.47	119.70
29	X	1049	C	OP1-P-OP2	-6.02	110.57	119.60
29	X	561	U	N1-C1'-C2'	6.00	121.79	114.00
29	X	1061	A	OP1-P-OP2	-5.98	110.63	119.60
29	X	1056	U	OP1-P-OP2	-5.98	110.63	119.60
29	X	467	U	N1-C1'-C2'	5.97	121.76	114.00
29	X	2193	C	OP1-P-OP2	-5.95	110.68	119.60
29	X	2189	A	OP1-P-OP2	-5.94	110.69	119.60
29	X	1866	G	C8-N9-C4	-5.93	104.03	106.40
29	X	340	G	N9-C1'-C2'	5.93	121.71	114.00
29	X	1849	G	OP1-P-OP2	-5.92	110.72	119.60
29	X	1288	A	O4'-C4'-C3'	-5.91	98.09	104.00
29	X	2198	U	P-O5'-C5'	-5.91	111.45	120.90
29	X	728	G	C2'-C3'-O3'	5.90	123.14	113.70
29	X	1066	G	OP1-P-OP2	-5.89	110.77	119.60
29	X	2028	C	OP1-P-O3'	5.88	118.13	105.20
29	X	2528	G	OP1-P-O3'	5.88	118.13	105.20
29	X	2823	G	N9-C1'-C2'	5.87	121.62	114.00
29	X	1870	U	OP1-P-OP2	-5.86	110.81	119.60
29	X	1582	A	N9-C1'-C2'	5.86	121.61	114.00
29	X	1852	G	O4'-C4'-C3'	-5.83	98.17	104.00
29	X	1280	U	N1-C1'-C2'	5.82	121.57	114.00
29	X	1250	A	N9-C1'-C2'	5.82	121.57	114.00
29	X	728	G	OP1-P-OP2	-5.81	110.89	119.60
29	X	550	C	C6-N1-C2	5.79	122.61	120.30
29	X	1869	A	P-O5'-C5'	-5.78	111.65	120.90
29	X	2200	G	OP1-P-OP2	-5.77	110.94	119.60
29	X	2034	A	C4'-C3'-O3'	-5.77	97.28	109.40
29	X	2681	A	N9-C1'-C2'	-5.74	105.69	112.00
29	X	555	U	N1-C1'-C2'	-5.73	105.69	112.00
29	X	730	C	N1-C1'-C2'	5.72	121.44	114.00
29	X	985	G	N9-C1'-C2'	5.72	121.44	114.00
29	X	1854	G	O4'-C4'-C3'	-5.70	98.30	104.00
29	X	2544	A	N9-C1'-C2'	5.70	121.41	114.00
29	X	1624	A	N9-C1'-C2'	5.70	121.40	114.00
29	X	2789	U	OP1-P-O3'	5.69	117.72	105.20
29	X	1398	G	N9-C1'-C2'	5.69	121.39	114.00
29	X	557	U	O4'-C1'-C2'	-5.68	100.12	105.80
29	X	1337	G	N9-C1'-C2'	5.67	121.36	114.00
29	X	873	U	OP1-P-O3'	5.65	117.63	105.20
29	X	747	A	C5'-C4'-C3'	5.65	125.04	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2200	G	P-O5'-C5'	-5.64	111.87	120.90
29	X	1664	G	N9-C1'-C2'	5.63	121.32	114.00
18	M	24	LEU	CA-CB-CG	5.63	128.24	115.30
29	X	557	U	N3-C4-C5	-5.62	111.23	114.60
29	X	1986	G	N9-C1'-C2'	-5.62	105.82	112.00
29	X	1772	C	N1-C1'-C2'	5.60	121.29	114.00
29	X	723	C	C5-C6-N1	5.60	123.80	121.00
29	X	984	A	N9-C1'-C2'	5.60	121.28	114.00
29	X	1441	A	C2'-C3'-O3'	5.60	122.65	113.70
29	X	719	A	P-O3'-C3'	5.59	126.40	119.70
29	X	416	U	O4'-C4'-C3'	-5.57	98.43	104.00
29	X	2189	A	C2'-C3'-O3'	5.57	122.61	113.70
29	X	2188	A	C4'-C3'-C2'	5.56	108.16	102.60
29	X	2824	C	N1-C1'-C2'	5.56	121.22	114.00
29	X	596	C	N1-C1'-C2'	5.55	121.22	114.00
29	X	2663	U	C5'-C4'-C3'	-5.54	107.13	116.00
29	X	777	A	C2'-C3'-O3'	5.52	122.54	113.70
29	X	2404	A	C2'-C3'-O3'	5.52	122.53	113.70
29	X	1139	A	N9-C1'-C2'	5.52	121.17	114.00
29	X	2322	U	C3'-C2'-C1'	5.52	105.91	101.50
29	X	728	G	C4-N9-C1'	5.51	133.66	126.50
29	X	2323	U	C5'-C4'-O4'	-5.51	102.49	109.10
29	X	2706	U	N1-C1'-C2'	5.51	121.16	114.00
29	X	538	A	N9-C1'-C2'	5.50	121.15	114.00
29	X	415	A	P-O3'-C3'	5.50	126.30	119.70
29	X	418	C	C3'-C2'-C1'	5.50	105.90	101.50
29	X	752	G	C2'-C3'-O3'	-5.50	97.41	109.50
29	X	955	G	N9-C1'-C2'	5.49	121.14	114.00
19	N	40	LEU	N-CA-C	-5.48	96.20	111.00
29	X	173	A	N9-C1'-C2'	5.47	121.11	114.00
29	X	1723	U	C2'-C3'-O3'	5.47	122.45	113.70
29	X	1978	U	OP2-P-O3'	5.47	117.23	105.20
29	X	1264	C	O5'-P-OP1	-5.46	100.79	105.70
29	X	731	A	O4'-C4'-C3'	5.46	110.47	106.10
29	X	1052	C	O4'-C1'-N1	-5.43	103.86	108.20
29	X	2669	C	C5'-C4'-O4'	-5.43	102.59	109.10
29	X	3	U	C2'-C3'-O3'	5.42	122.37	113.70
29	X	2198	U	OP1-P-OP2	-5.41	111.49	119.60
29	X	1063	C	C5-C6-N1	-5.40	118.30	121.00
29	X	1052	C	P-O5'-C5'	-5.39	112.28	120.90
29	X	557	U	N1-C2-N3	5.39	118.13	114.90
29	X	721	C	C6-N1-C2	5.39	122.45	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2188	A	N9-C1'-C2'	-5.37	106.09	112.00
29	X	485	G	N9-C1'-C2'	5.36	120.97	114.00
29	X	1266	G	C1'-O4'-C4'	-5.36	105.61	109.90
29	X	2189	A	C4'-C3'-C2'	-5.36	97.24	102.60
29	X	2323	U	N1-C2-N3	5.36	118.11	114.90
29	X	1060	C	C5-C6-N1	-5.34	118.33	121.00
29	X	538	A	C2'-C3'-O3'	5.34	122.24	113.70
29	X	780	U	C5'-C4'-C3'	-5.34	107.46	116.00
29	X	1850	G	O4'-C1'-N9	5.33	112.47	108.20
29	X	1056	U	C5'-C4'-C3'	5.32	124.52	116.00
29	X	1439	G	C2'-C3'-O3'	5.32	122.21	113.70
29	X	2323	U	C4'-C3'-O3'	5.32	123.63	113.00
29	X	2482	A	O4'-C1'-N9	5.31	112.45	108.20
29	X	1862	C	C4'-C3'-C2'	5.30	107.90	102.60
29	X	765	C	C2'-C3'-O3'	5.30	122.18	113.70
29	X	1235	C	N1-C1'-C2'	-5.28	106.19	112.00
29	X	416	U	N1-C1'-C2'	5.28	120.86	114.00
29	X	219	G	N9-C1'-C2'	5.28	120.86	114.00
29	X	551	A	P-O3'-C3'	5.27	126.03	119.70
29	X	2824	C	C2'-C3'-O3'	5.27	122.14	113.70
29	X	1683	G	O4'-C1'-N9	5.27	112.41	108.20
29	X	2498	U	OP1-P-O3'	5.26	116.78	105.20
29	X	878	C	N1-C1'-C2'	5.25	120.83	114.00
29	X	2191	A	O4'-C1'-N9	-5.25	104.00	108.20
29	X	728	G	O3'-P-O5'	5.24	113.96	104.00
29	X	557	U	C1'-O4'-C4'	5.24	114.09	109.90
29	X	558	G	C4'-C3'-O3'	5.24	123.48	113.00
29	X	1182	U	C2'-C3'-O3'	5.24	122.08	113.70
29	X	2322	U	P-O3'-C3'	5.24	125.98	119.70
29	X	2193	C	C6-N1-C2	5.24	122.39	120.30
29	X	956	A	O4'-C1'-N9	5.23	112.38	108.20
29	X	2197	U	C6-N1-C2	-5.22	117.87	121.00
29	X	1646	G	OP1-P-O3'	5.20	116.65	105.20
29	X	2698	G	OP1-P-O3'	5.20	116.64	105.20
29	X	2608	A	N9-C1'-C2'	5.20	120.76	114.00
29	X	2633	A	N9-C1'-C2'	5.19	120.75	114.00
29	X	2326	C	C6-N1-C2	5.19	122.38	120.30
29	X	1869	A	P-O3'-C3'	-5.17	113.49	119.70
29	X	2533	U	O4'-C1'-N1	5.17	112.34	108.20
29	X	820	U	O4'-C1'-N1	5.17	112.34	108.20
29	X	1848	U	P-O5'-C5'	-5.17	112.62	120.90
29	X	2540	A	O4'-C1'-N9	5.17	112.33	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	X	2660	C	O4'-C1'-C2'	5.16	112.24	107.60
29	X	2431	C	O4'-C1'-N1	5.15	112.32	108.20
29	X	723	C	C4-C5-C6	-5.15	114.82	117.40
29	X	1057	A	N9-C4-C5	5.15	107.86	105.80
29	X	1353	A	N9-C1'-C2'	5.13	120.67	114.00
29	X	552	C	C6-N1-C2	5.13	122.35	120.30
29	X	118	U	N1-C1'-C2'	5.12	120.66	114.00
29	X	2693	U	C1'-O4'-C4'	-5.12	105.80	109.90
12	G	119	LEU	CA-CB-CG	-5.11	103.54	115.30
29	X	2191	A	N9-C1'-C2'	5.11	120.65	114.00
29	X	689	A	O4'-C1'-N9	5.09	112.28	108.20
29	X	2315	A	N9-C1'-C2'	5.09	120.62	114.00
29	X	1200	G	N9-C1'-C2'	-5.09	106.40	112.00
29	X	2043	A	C5'-C4'-C3'	5.08	124.12	116.00
29	X	2188	A	P-O3'-C3'	-5.06	113.63	119.70
29	X	2476	A	OP2-P-O3'	5.05	116.32	105.20
29	X	2484	G	N9-C1'-C2'	-5.05	106.44	112.00
29	X	582	G	N9-C1'-C2'	5.04	120.56	114.00
29	X	1054	C	N3-C4-C5	-5.04	119.88	121.90
29	X	1141	U	C5'-C4'-O4'	-5.04	103.05	109.10
30	Y	54	GLY	N-CA-C	-5.04	100.51	113.10
29	X	1862	C	C6-N1-C2	5.03	122.31	120.30
29	X	541	C	OP2-P-O3'	5.01	116.23	105.20
29	X	1429	A	N9-C1'-C2'	5.01	120.51	114.00
15	J	97	VAL	N-CA-C	5.00	124.51	111.00

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
5	5	1	SER	CA
29	X	2592	U	C1'

All (205) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
19	N	32	TYR	Sidechain
29	X	1000	G	Sidechain
29	X	1006	C	Sidechain
29	X	1030	U	Sidechain
29	X	1054	C	Sidechain
29	X	1057	A	Sidechain
29	X	1136	G	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1153	A	Sidechain
29	X	1166	A	Sidechain
29	X	1174	G	Sidechain
29	X	1197	U	Sidechain
29	X	1200	G	Sidechain
29	X	1206	G	Sidechain
29	X	1212	U	Sidechain
29	X	1216	G	Sidechain
29	X	1235	C	Sidechain
29	X	1250	A	Sidechain
29	X	1264	C	Sidechain
29	X	1278	A	Sidechain
29	X	1280	U	Sidechain
29	X	1285	A	Sidechain
29	X	1289	A	Sidechain
29	X	1294	G	Sidechain
29	X	1301	U	Sidechain
29	X	1310	C	Sidechain
29	X	1317	G	Sidechain
29	X	1325	U	Sidechain
29	X	1333	G	Sidechain
29	X	1334	A	Sidechain
29	X	1338	G	Sidechain
29	X	1342	U	Sidechain
29	X	1357	U	Sidechain
29	X	1373	G	Sidechain
29	X	1408	A	Sidechain
29	X	1429	A	Sidechain
29	X	1467	U	Sidechain
29	X	1470	G	Sidechain
29	X	1574	A	Sidechain
29	X	1582	A	Sidechain
29	X	1629	G	Sidechain
29	X	1631	C	Sidechain
29	X	1632	A	Sidechain
29	X	1634	A	Sidechain
29	X	1649	A	Sidechain
29	X	1665	C	Sidechain
29	X	1673	C	Sidechain
29	X	1674	C	Sidechain
29	X	1675	C	Sidechain
29	X	1681	A	Sidechain

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Mol	Chain	Res	Type	Group
29	X	1687	C	Sidechain
29	X	1690	U	Sidechain
29	X	1692	C	Sidechain
29	X	1698	C	Sidechain
29	X	1715	A	Sidechain
29	X	1743	C	Sidechain
29	X	1749	G	Sidechain
29	X	1759	A	Sidechain
29	X	1770	U	Sidechain
29	X	1775	A	Sidechain
29	X	1811	A	Sidechain
29	X	1849	G	Sidechain
29	X	1851	A	Sidechain
29	X	1918	G	Sidechain
29	X	1922	U	Sidechain
29	X	1934	U	Sidechain
29	X	1947	G	Sidechain
29	X	1973	C	Sidechain
29	X	1979	C	Sidechain
29	X	1980	A	Sidechain
29	X	1981	A	Sidechain
29	X	1996	A	Sidechain
29	X	1999	U	Sidechain
29	X	2007	G	Sidechain
29	X	2024	U	Sidechain
29	X	2036	G	Sidechain
29	X	2047	C	Sidechain
29	X	2050	G	Sidechain
29	X	2189	A	Sidechain
29	X	2192	U	Sidechain
29	X	2195	C	Sidechain
29	X	2196	U	Sidechain
29	X	2222	U	Sidechain
29	X	2223	U	Sidechain
29	X	2247	A	Sidechain
29	X	2250	G	Sidechain
29	X	2258	G	Sidechain
29	X	228	A	Sidechain
29	X	2315	A	Sidechain
29	X	2322	U	Sidechain
29	X	2323	U	Sidechain
29	X	2324	G	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2334	C	Sidechain
29	X	2335	U	Sidechain
29	X	2363	G	Sidechain
29	X	2365	U	Sidechain
29	X	24	G	Sidechain
29	X	2418	A	Sidechain
29	X	2419	C	Sidechain
29	X	2427	A	Sidechain
29	X	2428	U	Sidechain
29	X	2433	G	Sidechain
29	X	2436	U	Sidechain
29	X	2447	G	Sidechain
29	X	2460	G	Sidechain
29	X	2469	G	Sidechain
29	X	2479	U	Sidechain
29	X	2489	C	Sidechain
29	X	2492	G	Sidechain
29	X	2500	C	Sidechain
29	X	2507	U	Sidechain
29	X	2526	U	Sidechain
29	X	2531	U	Sidechain
29	X	2540	A	Sidechain
29	X	2541	U	Sidechain
29	X	2542	U	Sidechain
29	X	2544	A	Sidechain
29	X	2555	G	Sidechain
29	X	2579	A	Sidechain
29	X	2583	U	Sidechain
29	X	2592	U	Sidechain
29	X	2599	U	Sidechain
29	X	26	G	Sidechain
29	X	2600	A	Sidechain
29	X	2617	G	Sidechain
29	X	2618	A	Sidechain
29	X	2624	G	Sidechain
29	X	2625	U	Sidechain
29	X	2641	A	Sidechain
29	X	2663	U	Sidechain
29	X	2671	C	Sidechain
29	X	2672	U	Sidechain
29	X	2674	C	Sidechain
29	X	2675	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	2702	G	Sidechain
29	X	2706	U	Sidechain
29	X	2736	U	Sidechain
29	X	2752	C	Sidechain
29	X	2785	A	Sidechain
29	X	2793	G	Sidechain
29	X	2809	A	Sidechain
29	X	2810	A	Sidechain
29	X	2814	G	Sidechain
29	X	2817	A	Sidechain
29	X	2838	U	Sidechain
29	X	2848	A	Sidechain
29	X	2854	G	Sidechain
29	X	2856	U	Sidechain
29	X	321	A	Sidechain
29	X	331	U	Sidechain
29	X	339	U	Sidechain
29	X	347	C	Sidechain
29	X	396	U	Sidechain
29	X	415	A	Sidechain
29	X	462	G	Sidechain
29	X	468	A	Sidechain
29	X	474	G	Sidechain
29	X	489	A	Sidechain
29	X	515	A	Sidechain
29	X	529	U	Sidechain
29	X	557	U	Sidechain
29	X	563	U	Sidechain
29	X	565	A	Sidechain
29	X	576	A	Sidechain
29	X	578	U	Sidechain
29	X	582	G	Sidechain
29	X	587	A	Sidechain
29	X	596	C	Sidechain
29	X	598	U	Sidechain
29	X	618	A	Sidechain
29	X	683	A	Sidechain
29	X	688	A	Sidechain
29	X	689	A	Sidechain
29	X	690	A	Sidechain
29	X	698	A	Sidechain
29	X	716	U	Sidechain

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Mol	Chain	Res	Type	Group
29	X	731	A	Sidechain
29	X	765	C	Sidechain
29	X	767	G	Sidechain
29	X	800	U	Sidechain
29	X	810	U	Sidechain
29	X	814	G	Sidechain
29	X	818	G	Sidechain
29	X	820	U	Sidechain
29	X	823	U	Sidechain
29	X	824	U	Sidechain
29	X	829	C	Sidechain
29	X	837	U	Sidechain
29	X	839	U	Sidechain
29	X	842	A	Sidechain
29	X	843	G	Sidechain
29	X	844	G	Sidechain
29	X	853	C	Sidechain
29	X	873	U	Sidechain
29	X	878	C	Sidechain
29	X	924	C	Sidechain
29	X	939	C	Sidechain
29	X	956	A	Sidechain
29	X	974	U	Sidechain
29	X	978	U	Sidechain
29	X	994	A	Sidechain
30	Y	52	TYR	Sidechain
31	Z	68	A	Sidechain
31	Z	85	G	Sidechain
31	Z	87	C	Sidechain
31	Z	92	G	Sidechain

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	1	53	0	0	2	0
2	2	46	0	0	1	0
3	3	63	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	4	297	0	328	63	0
5	5	69	0	34	3	0
6	A	1826	0	1885	312	0
7	B	1539	0	1600	305	0
8	C	1506	0	1525	334	0
9	D	1400	0	1481	313	0
10	E	1286	0	1336	201	0
11	F	1044	0	1088	101	0
12	G	1114	0	1144	278	0
13	H	997	0	1046	205	0
14	I	1067	0	1103	244	0
15	J	1090	0	1125	258	0
16	K	878	0	930	205	0
17	L	779	0	820	180	0
18	M	871	0	894	218	0
19	N	978	0	1020	200	0
20	O	741	0	756	191	0
21	P	1014	0	1096	200	0
22	Q	726	0	753	142	0
23	R	825	0	881	212	0
24	S	1345	0	1372	221	0
25	T	625	0	655	118	0
26	U	552	0	604	150	0
27	V	533	0	558	88	0
28	W	424	0	470	67	0
29	X	57651	0	29048	4666	0
30	Y	457	0	460	109	0
31	Z	2598	0	1328	176	0
32	4	1	0	0	0	0
32	Y	1	0	0	0	0
33	5	13	0	7	0	0
34	M	1	0	0	0	0
34	X	28	0	0	0	0
34	Z	6	0	0	0	0
All	All	84444	0	55347	8931	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 64.

All (8931) 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)
18:M:108:ARG:O	18:M:109:GLU:HG3	1.25	1.33
29:X:1854:G:O2'	29:X:1855:G:H5'	1.31	1.28
29:X:1386:A:H5''	29:X:2191:A:N6	1.48	1.25
29:X:1053:G:H2'	29:X:1054:C:C6	1.71	1.25
29:X:2196:U:H2'	29:X:2197:U:O4'	1.31	1.23
31:Z:43:G:H5'	31:Z:44:C:H5'	1.21	1.17
18:M:99:VAL:HG22	18:M:100:ARG:H	1.10	1.14
29:X:1118:G:H2'	29:X:1119:U:H5''	1.19	1.14
7:B:116:VAL:N	7:B:136:ARG:HE	1.46	1.13
22:Q:12:ILE:HG12	22:Q:13:SER:H	1.04	1.12
19:N:24:PHE:HB2	19:N:29:SER:HB3	1.32	1.12
29:X:2672:U:H2'	29:X:2673:G:H8	1.00	1.11
22:Q:10:PRO:HA	22:Q:27:PHE:HB3	1.17	1.11
13:H:27:SER:HB3	13:H:50:ILE:H	1.11	1.11
7:B:9:ILE:HD11	7:B:27:LEU:HB2	1.26	1.11
18:M:28:ARG:HB2	18:M:29:PRO:HD3	1.25	1.11
13:H:75:VAL:HG12	13:H:118:LEU:HD21	1.14	1.11
29:X:1052:C:C3'	29:X:1053:G:H5''	1.81	1.10
12:G:55:ALA:HB1	12:G:134:MET:HE1	1.30	1.10
14:I:38:LYS:HG2	29:X:954:U:OP2	1.52	1.10
29:X:2769:C:H2'	29:X:2770:A:C8	1.85	1.10
29:X:1508:G:H5'	29:X:1509:A:H5''	1.17	1.10
30:Y:4:HIS:HB3	30:Y:5:PRO:CD	1.82	1.09
29:X:2672:U:H2'	29:X:2673:G:C8	1.86	1.09
14:I:18:ARG:HB2	14:I:21:ARG:HB2	1.34	1.09
29:X:1711:C:H4'	29:X:1712:G:H5''	1.17	1.09
29:X:729:A:H2'	29:X:730:C:O4'	1.50	1.09
9:D:66:ILE:HD11	31:Z:43:G:H5''	1.31	1.09
11:F:21:PRO:HG2	11:F:22:PRO:HD3	1.35	1.09
21:P:37:LYS:HE2	21:P:64:ALA:HB2	1.27	1.08
16:K:20:LEU:HD11	16:K:24:GLN:HE21	1.17	1.08
15:J:86:LYS:HD2	29:X:2256:G:OP2	1.53	1.08
13:H:47:VAL:HG23	13:H:77:THR:HG23	1.17	1.08
29:X:1052:C:C2'	29:X:1053:G:H5''	1.84	1.08
9:D:150:ARG:HG2	9:D:151:GLY:H	1.17	1.08
29:X:1128:G:H3'	29:X:1129:A:H5''	1.34	1.08
10:E:87:LEU:HB2	10:E:131:ILE:HB	1.27	1.08
24:S:113:VAL:HA	24:S:171:VAL:HA	1.33	1.08
18:M:108:ARG:O	18:M:109:GLU:CG	2.02	1.08
29:X:2194:A:C3'	29:X:2195:C:H5''	1.84	1.08
29:X:2781:G:H2'	29:X:2782:G:H5''	1.30	1.08
28:W:4:LYS:HG3	28:W:52:GLU:HB3	1.29	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:122:PHE:HB3	9:D:129:ASN:HD22	1.15	1.07
29:X:623:G:H3'	29:X:624:A:H5''	1.37	1.07
23:R:90:LYS:HB2	23:R:108:VAL:HG21	1.35	1.07
12:G:116:ARG:HE	12:G:126:VAL:HG13	1.19	1.07
21:P:27:VAL:HG23	21:P:125:THR:HG22	1.37	1.07
29:X:558:G:N3	29:X:558:G:H3'	1.70	1.07
29:X:2581:A:H3'	29:X:2582:G:H5''	1.34	1.06
29:X:104:C:H2'	29:X:105:G:H5''	1.36	1.06
29:X:1118:G:C2'	29:X:1119:U:H5''	1.85	1.06
26:U:32:ARG:O	29:X:2375:G:H4'	1.55	1.06
29:X:2194:A:H3'	29:X:2195:C:H5''	1.33	1.06
29:X:2170:C:H3'	29:X:2171:U:H5''	1.36	1.06
7:B:116:VAL:H	7:B:136:ARG:NE	1.53	1.05
13:H:4:PRO:O	13:H:5:GLN:HB2	1.56	1.05
13:H:2:ILE:HB	13:H:45:ALA:HB3	1.35	1.05
29:X:2195:C:O2'	29:X:2196:U:H5'	1.56	1.05
29:X:758:G:H2'	29:X:759:C:H5''	1.31	1.05
13:H:10:VAL:HG23	13:H:17:ARG:O	1.57	1.05
29:X:128:C:H2'	29:X:129:A:H5''	1.35	1.05
21:P:95:ALA:HB2	21:P:126:ILE:HD13	1.35	1.04
13:H:8:LEU:HD22	13:H:94:ASN:HB3	1.36	1.04
18:M:106:TYR:HE1	18:M:107:LEU:CD2	1.69	1.04
16:K:79:VAL:HA	16:K:83:VAL:CG1	1.86	1.04
20:O:26:GLN:HG2	20:O:27:GLY:H	0.89	1.04
29:X:2196:U:C2'	29:X:2197:U:O4'	2.04	1.04
29:X:1056:U:C2'	29:X:1056:U:O2	2.01	1.04
29:X:2195:C:H2'	29:X:2196:U:C6	1.93	1.04
29:X:822:G:C2'	29:X:823:U:H5'	1.88	1.04
29:X:1181:C:H2'	29:X:1182:U:H5''	1.39	1.04
6:A:39:LYS:H	6:A:61:LEU:HD22	1.22	1.04
7:B:116:VAL:HG22	7:B:136:ARG:NE	1.74	1.03
6:A:43:ARG:HH11	6:A:43:ARG:N	1.53	1.03
25:T:34:GLY:HA3	29:X:2332:G:H1'	1.07	1.03
29:X:1053:G:H2'	29:X:1054:C:H6	1.01	1.03
28:W:5:LEU:HB2	28:W:25:LEU:HD13	1.37	1.03
29:X:2484:G:O2'	29:X:2485:U:H5'	1.58	1.03
23:R:15:HIS:CD2	29:X:347:C:H4'	1.94	1.02
13:H:27:SER:HB3	13:H:50:ILE:N	1.73	1.02
29:X:2040:A:H2'	29:X:2041:A:H8	1.25	1.02
29:X:3:U:H2'	29:X:4:C:C6	1.95	1.02
29:X:517:A:H5''	29:X:518:A:H5'	1.38	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:26:GLN:CG	20:O:27:GLY:H	1.72	1.02
17:L:26:ARG:NH1	29:X:2357:A:H4'	1.73	1.02
29:X:2736:U:O2'	29:X:2737:A:H5''	1.59	1.02
22:Q:51:ILE:HD11	22:Q:83:ALA:HA	1.41	1.02
29:X:717:G:H2'	29:X:739:G:H22	1.21	1.02
9:D:175:LEU:HD12	9:D:176:PRO:HD2	1.37	1.02
13:H:23:ARG:NH1	13:H:25:LEU:HA	1.75	1.02
26:U:51:ILE:HG23	26:U:59:THR:HA	1.37	1.02
14:I:63:ARG:HH11	29:X:2394:G:H3'	1.24	1.01
14:I:85:ASP:HA	14:I:116:ARG:HH12	1.22	1.01
8:C:68:ARG:HH12	29:X:2043:A:H62	1.04	1.01
29:X:537:C:H1'	29:X:538:A:C6	1.94	1.01
6:A:208:LYS:HE3	29:X:1782:A:H1'	1.40	1.01
9:D:13:ARG:HB3	9:D:14:PRO:HD3	1.41	1.01
9:D:27:ALA:HB2	31:Z:59:A:H1'	1.40	1.01
29:X:2323:U:H2'	29:X:2323:U:O2	1.59	1.00
4:4:24:LEU:HG	4:4:35:ARG:HG3	1.42	1.00
29:X:224:G:H4'	29:X:399:G:C6	1.94	1.00
21:P:37:LYS:HB2	29:X:1279:G:N2	1.76	1.00
29:X:591:G:H2'	29:X:592:G:C8	1.96	1.00
12:G:33:ILE:HB	12:G:34:PRO:HD2	1.42	1.00
12:G:33:ILE:HB	12:G:34:PRO:CD	1.91	1.00
29:X:2198:U:H2'	29:X:2199:C:O4'	1.60	1.00
7:B:119:ARG:HG2	7:B:119:ARG:HH11	1.24	1.00
29:X:304:A:H2'	29:X:305:A:H5''	1.43	1.00
16:K:99:ARG:HG2	16:K:99:ARG:HH11	1.24	1.00
29:X:1550:C:H2'	29:X:1553:G:N2	1.76	1.00
15:J:79:PRO:HD2	15:J:88:LYS:HD2	1.43	1.00
27:V:2:LYS:HG3	27:V:3:PRO:HD3	1.44	1.00
17:L:54:ALA:HB3	17:L:75:LEU:HB2	1.44	0.99
18:M:106:TYR:CE1	18:M:107:LEU:CD2	2.45	0.99
18:M:106:TYR:HE1	18:M:107:LEU:HD21	1.24	0.99
10:E:124:ALA:HB3	10:E:132:ASP:HB3	1.45	0.99
6:A:43:ARG:H	6:A:43:ARG:HD2	1.26	0.99
7:B:116:VAL:HG13	7:B:136:ARG:HH21	1.28	0.99
20:O:26:GLN:HG2	20:O:27:GLY:N	1.72	0.99
22:Q:73:ASN:HB2	22:Q:75:ARG:HH12	1.26	0.99
17:L:63:ASN:HB2	17:L:67:THR:HG23	1.43	0.99
29:X:2691:C:H2'	29:X:2692:A:H5''	1.42	0.99
29:X:558:G:C5'	29:X:558:G:N3	2.26	0.99
29:X:1850:G:N2	29:X:1867:A:N7	2.08	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1056:U:H2'	29:X:1056:U:O2	1.19	0.98
29:X:1467:U:H3'	29:X:1468:A:H5'	1.45	0.98
29:X:871:U:O2'	29:X:2247:A:H2'	1.60	0.98
22:Q:11:VAL:HG23	22:Q:27:PHE:HA	1.41	0.98
23:R:105:ARG:HH22	23:R:112:LYS:HA	1.25	0.98
21:P:66:GLU:HB3	21:P:67:PRO:HD3	1.42	0.98
17:L:40:ALA:HB2	17:L:103:LEU:HD11	1.45	0.98
29:X:317:U:H2'	29:X:318:G:H5''	1.45	0.98
16:K:102:THR:HA	16:K:109:THR:HA	1.45	0.98
21:P:27:VAL:CG2	21:P:125:THR:HG22	1.92	0.98
21:P:57:LEU:HD13	21:P:69:ALA:HA	1.45	0.98
29:X:693:A:H2'	29:X:694:G:C8	1.98	0.98
29:X:1854:G:H2'	29:X:1855:G:OP2	1.61	0.98
26:U:17:SER:HB2	26:U:44:ALA:HA	1.41	0.98
6:A:229:VAL:HG22	29:X:2056:C:H5''	1.44	0.97
6:A:108:PRO:HA	6:A:196:VAL:HA	1.45	0.97
17:L:20:THR:HB	17:L:24:SER:OG	1.63	0.97
15:J:99:LYS:CD	15:J:100:PRO:HD2	1.95	0.97
29:X:1850:G:O2'	29:X:1851:A:H8	1.46	0.97
29:X:2819:G:H2'	29:X:2820:C:C6	1.99	0.97
22:Q:12:ILE:HG12	22:Q:13:SER:N	1.80	0.97
16:K:63:ARG:NH1	16:K:80:MET:HG2	1.79	0.97
22:Q:35:LYS:O	22:Q:38:ILE:HG23	1.63	0.97
20:O:10:LYS:HD2	20:O:37:ALA:HB3	1.44	0.97
29:X:1052:C:H2'	29:X:1053:G:H5''	1.44	0.97
29:X:1386:A:H5''	29:X:2191:A:H62	1.29	0.97
8:C:5:ASN:HA	8:C:118:VAL:HG21	1.43	0.97
13:H:23:ARG:NH2	13:H:25:LEU:HD23	1.80	0.97
8:C:194:GLU:O	8:C:195:ILE:HG12	1.65	0.97
9:D:135:GLN:HG3	9:D:151:GLY:HA2	1.43	0.97
29:X:687:G:C2'	29:X:688:A:H5'	1.94	0.96
30:Y:4:HIS:HB3	30:Y:5:PRO:HD3	1.45	0.96
23:R:38:LEU:HB2	23:R:47:VAL:HB	1.46	0.96
8:C:84:PHE:CE1	29:X:596:C:H5'	2.00	0.96
29:X:796:A:H8	29:X:797:A:H4'	1.29	0.96
26:U:31:GLY:HA2	26:U:32:ARG:HH11	1.29	0.96
29:X:2196:U:H2'	29:X:2197:U:C1'	1.94	0.96
14:I:39:SER:O	14:I:40:ARG:HB2	1.61	0.96
26:U:37:ILE:HD11	29:X:400:U:OP2	1.66	0.96
14:I:30:ALA:HB3	14:I:34:HIS:CE1	2.01	0.96
10:E:105:MET:HB2	10:E:113:VAL:HB	1.46	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:531:G:H2'	29:X:532:A:H8	1.29	0.96
29:X:2030:U:H2'	29:X:2031:A:H8	1.30	0.96
29:X:719:A:H2'	29:X:720:A:O4'	1.66	0.96
29:X:1052:C:H3'	29:X:1053:G:H5''	1.45	0.95
10:E:27:LYS:HA	10:E:32:GLU:HA	1.45	0.95
29:X:635:C:H2'	29:X:636:G:H5''	1.45	0.95
24:S:69:VAL:HG22	24:S:81:VAL:HG13	1.49	0.95
29:X:2447:G:H22	29:X:2460:G:H2'	1.30	0.95
15:J:6:LYS:HE3	15:J:7:ARG:HE	1.28	0.95
29:X:2823:G:HO2'	29:X:2824:C:H6	0.99	0.95
12:G:61:ARG:HA	12:G:65:LYS:HB2	1.49	0.95
7:B:183:LEU:HD21	18:M:16:ILE:HG21	1.46	0.95
10:E:43:VAL:HB	10:E:52:VAL:HG13	1.49	0.95
16:K:13:ASN:ND2	16:K:16:ALA:H	1.64	0.95
24:S:104:SER:HA	24:S:139:THR:HA	1.47	0.95
21:P:35:PRO:O	21:P:39:ARG:HD3	1.67	0.94
27:V:55:THR:O	27:V:59:GLU:HG3	1.67	0.94
10:E:58:ALA:H	10:E:62:ARG:HG3	1.31	0.94
14:I:104:ARG:HB3	14:I:105:PRO:HD2	1.48	0.94
29:X:1052:C:H3'	29:X:1053:G:C5'	1.96	0.94
29:X:861:G:H2'	29:X:862:A:H5'	1.49	0.94
7:B:11:MET:O	7:B:12:THR:HB	1.67	0.94
29:X:651:C:H2'	29:X:652:C:H5''	1.49	0.94
29:X:2769:C:H2'	29:X:2770:A:H8	1.19	0.94
10:E:50:LEU:HD23	10:E:51:LEU:H	1.32	0.94
12:G:49:VAL:HG21	12:G:170:PRO:HG2	1.50	0.94
23:R:106:VAL:HG23	23:R:113:THR:HG21	1.47	0.94
7:B:11:MET:HG2	7:B:24:THR:OG1	1.68	0.94
29:X:2796:A:H2'	29:X:2797:G:C8	2.02	0.94
29:X:1107:A:H3'	29:X:1108:U:H5''	1.48	0.94
29:X:590:C:H2'	29:X:591:G:H8	1.33	0.93
16:K:13:ASN:HD21	16:K:16:ALA:H	1.05	0.93
26:U:19:ILE:HG22	26:U:42:GLN:HG3	1.47	0.93
11:F:126:THR:HA	29:X:1091:C:H1'	1.49	0.93
12:G:51:LEU:HD13	12:G:88:VAL:HG21	1.50	0.93
29:X:2212:U:H2'	29:X:2213:G:C8	2.04	0.93
30:Y:14:SER:O	30:Y:18:MET:HG2	1.69	0.93
29:X:314:G:H2'	29:X:315:G:H8	1.34	0.93
29:X:2674:C:HO2'	29:X:2675:U:H6	1.02	0.93
29:X:558:G:C4	29:X:558:G:H3'	2.00	0.93
28:W:8:SER:HB2	29:X:999:A:H5''	1.51	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:3:LYS:H	11:F:3:LYS:HD2	1.33	0.93
8:C:47:THR:HG23	8:C:85:GLY:H	1.31	0.93
26:U:49:LYS:HB2	26:U:61:TRP:HA	1.51	0.93
29:X:1764:A:H2'	29:X:1765:C:H5'	1.49	0.93
20:O:25:LEU:HB2	20:O:32:LYS:HZ3	1.34	0.92
26:U:48:LYS:HG2	26:U:49:LYS:H	1.32	0.92
16:K:28:LEU:O	16:K:28:LEU:HD22	1.68	0.92
17:L:10:LYS:O	17:L:14:ARG:HG3	1.69	0.92
17:L:28:ARG:HH22	31:Z:11:G:P	1.93	0.92
29:X:2040:A:H2'	29:X:2041:A:C8	2.03	0.92
29:X:632:A:H2'	29:X:633:G:H5'	1.52	0.92
29:X:914:C:H2'	29:X:915:C:H6	1.34	0.92
22:Q:65:VAL:HG12	22:Q:66:GLY:H	1.33	0.92
8:C:84:PHE:HE1	29:X:596:C:H5'	1.33	0.92
29:X:1301:U:H5''	29:X:1302:C:OP2	1.69	0.92
29:X:109:A:H2'	29:X:110:U:H5''	1.48	0.92
29:X:2826:C:H2'	29:X:2827:G:H5'	1.52	0.92
16:K:11:ASN:HD21	16:K:17:ARG:NH1	1.68	0.92
29:X:1681:A:H61	29:X:1979:C:H42	1.18	0.92
12:G:88:VAL:HG22	12:G:89:ALA:H	1.31	0.92
29:X:205:A:H2'	29:X:206:U:H5'	1.51	0.92
6:A:183:ARG:HH11	6:A:183:ARG:HA	1.35	0.91
18:M:55:ILE:HG22	18:M:104:LEU:HB2	1.52	0.91
29:X:822:G:H2'	29:X:823:U:H5'	1.49	0.91
29:X:314:G:H2'	29:X:315:G:C8	2.04	0.91
29:X:1053:G:C2'	29:X:1054:C:H6	1.83	0.91
12:G:61:ARG:HB3	12:G:61:ARG:HH21	1.31	0.91
29:X:876:A:H2'	29:X:877:G:C8	2.06	0.91
20:O:38:LEU:HD13	20:O:39:PHE:N	1.85	0.91
22:Q:62:ARG:HH12	22:Q:73:ASN:HD21	1.17	0.91
17:L:8:ARG:HG3	17:L:9:ARG:H	1.33	0.91
29:X:1849:G:N3	29:X:1868:A:N6	2.19	0.91
29:X:793:G:H21	29:X:796:A:H62	1.09	0.91
29:X:719:A:N6	29:X:738:G:O2'	2.02	0.91
17:L:64:LYS:H	17:L:64:LYS:HD3	1.35	0.91
26:U:14:VAL:HG12	29:X:409:G:H5''	1.50	0.91
29:X:1441:A:H1'	29:X:1442:C:C5	2.05	0.91
26:U:78:ILE:HD13	26:U:79:GLU:N	1.84	0.91
29:X:623:G:C3'	29:X:624:A:H5''	2.01	0.91
29:X:663:G:H3'	29:X:664:C:H5''	1.51	0.91
23:R:97:GLN:HB2	23:R:101:GLY:HA2	1.53	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:116:ARG:HH11	13:H:116:ARG:HG3	1.31	0.90
29:X:2691:C:C2'	29:X:2692:A:H5''	2.01	0.90
6:A:95:LEU:HD12	6:A:105:ILE:HD12	1.53	0.90
29:X:2757:G:H5''	29:X:2758:A:H5''	1.53	0.90
6:A:67:PHE:HB3	6:A:153:ALA:H	1.34	0.90
6:A:208:LYS:CE	29:X:1782:A:H1'	2.01	0.90
29:X:1386:A:H5''	29:X:2191:A:C6	2.06	0.90
29:X:1468:A:H5''	29:X:1472:C:N4	1.86	0.90
15:J:12:LYS:O	15:J:13:GLN:HB2	1.72	0.90
29:X:1683:G:O2'	29:X:1684:G:H5'	1.70	0.90
29:X:1982:C:H4'	29:X:2703:C:O2	1.72	0.90
24:S:19:ILE:HG12	24:S:36:ARG:HA	1.54	0.90
8:C:102:LEU:O	8:C:102:LEU:HD23	1.72	0.90
29:X:2189:A:H61	29:X:2195:C:H41	1.20	0.90
16:K:36:THR:HG23	16:K:37:THR:O	1.71	0.90
24:S:19:ILE:HG22	24:S:20:ALA:H	1.37	0.90
31:Z:16:U:H1'	31:Z:109:G:H21	1.36	0.90
9:D:81:GLN:HG2	9:D:82:GLY:H	1.38	0.90
29:X:922:A:H2'	29:X:923:A:C8	2.07	0.90
12:G:149:LYS:NZ	29:X:7:G:H5'	1.86	0.90
9:D:10:ASP:O	9:D:14:PRO:HD2	1.72	0.89
14:I:56:LEU:HD11	29:X:2338:C:O2'	1.71	0.89
29:X:2819:G:H2'	29:X:2820:C:H6	1.34	0.89
29:X:1711:C:H4'	29:X:1712:G:C5'	2.01	0.89
16:K:87:TYR:CD1	16:K:90:ARG:HD2	2.06	0.89
29:X:1193:G:C2'	29:X:1194:U:H5''	2.02	0.89
9:D:38:GLU:HB3	9:D:87:ILE:HB	1.53	0.89
29:X:1281:A:H1'	29:X:2592:U:C4	2.08	0.89
29:X:1978:U:H3'	29:X:1979:C:H5''	1.54	0.89
29:X:2195:C:C6	29:X:2196:U:C5	2.60	0.89
29:X:796:A:C8	29:X:797:A:H4'	2.07	0.89
29:X:2781:G:C2'	29:X:2782:G:H5''	2.01	0.89
29:X:1299:A:H2'	29:X:1301:U:OP2	1.71	0.89
24:S:105:GLN:O	24:S:142:ASN:HA	1.72	0.89
29:X:2775:U:H5'	29:X:2776:U:H5''	1.52	0.89
29:X:2708:U:H2'	29:X:2709:C:C6	2.07	0.89
6:A:222:ARG:CB	6:A:222:ARG:HH21	1.84	0.89
29:X:1859:A:H2'	29:X:1860:A:C8	2.08	0.89
9:D:75:SER:H	9:D:79:LEU:HD22	1.38	0.89
12:G:67:ARG:HE	12:G:70:PHE:HA	1.37	0.89
29:X:1681:A:C2	29:X:2706:U:C2	2.59	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1427:G:H2'	29:X:1428:G:H1'	1.52	0.89
24:S:120:LEU:HD23	24:S:121:GLN:N	1.87	0.89
29:X:1886:G:H2'	29:X:1887:G:H8	1.37	0.89
18:M:38:LYS:HB3	18:M:46:ARG:HB3	1.53	0.89
6:A:252:LYS:HE3	6:A:253:PRO:HD3	1.52	0.89
7:B:144:ARG:HH11	29:X:2551:A:H2'	1.35	0.89
25:T:29:GLU:O	25:T:67:VAL:HG23	1.71	0.89
29:X:2642:G:C2'	29:X:2643:G:H5'	2.02	0.89
20:O:11:GLN:NE2	20:O:38:LEU:HB3	1.87	0.89
7:B:82:ARG:HH21	29:X:2616:U:H5''	1.37	0.89
29:X:1922:U:H1'	29:X:2570:C:O2'	1.73	0.89
12:G:61:ARG:HG2	12:G:65:LYS:HD2	1.55	0.89
6:A:99:ASP:OD1	29:X:1506:C:H2'	1.72	0.89
18:M:28:ARG:HB2	18:M:29:PRO:CD	2.03	0.88
6:A:160:GLY:HA3	29:X:1812:U:C4	2.07	0.88
24:S:1:MET:CE	24:S:52:PHE:HB3	2.03	0.88
4:4:29:ASN:HD21	4:4:31:LYS:HD3	1.35	0.88
29:X:2195:C:H2'	29:X:2196:U:H6	1.31	0.88
29:X:758:G:C2'	29:X:759:C:H5''	2.02	0.88
29:X:729:A:H3'	29:X:729:A:N3	1.86	0.88
6:A:68:LYS:H	6:A:68:LYS:HD3	1.35	0.88
29:X:469:G:N2	29:X:480:G:H2'	1.87	0.88
12:G:107:GLN:C	12:G:109:GLY:H	1.77	0.88
29:X:765:C:C4	29:X:1772:C:H1'	2.09	0.88
29:X:2239:C:H2'	29:X:2240:C:H6	1.39	0.88
29:X:693:A:H2'	29:X:694:G:H8	1.34	0.88
29:X:1193:G:H2'	29:X:1194:U:H5''	1.51	0.88
29:X:666:U:H2'	29:X:667:U:H4'	1.53	0.88
6:A:126:LYS:HB2	6:A:129:ASN:ND2	1.88	0.88
29:X:2736:U:H4'	29:X:2737:A:OP1	1.71	0.88
29:X:38:G:H1	29:X:453:U:H3	1.20	0.88
15:J:131:LYS:HD2	24:S:76:ARG:NH2	1.88	0.88
29:X:104:C:C2'	29:X:105:G:H5''	2.04	0.88
29:X:1885:C:H2'	29:X:1886:G:H5'	1.53	0.88
16:K:32:GLY:HA2	16:K:115:LEU:HD12	1.54	0.88
10:E:126:PRO:HG3	10:E:130:ARG:HD3	1.52	0.88
29:X:1625:A:H1'	29:X:1632:A:O2'	1.74	0.88
29:X:1624:A:O2'	29:X:1625:A:H5'	1.72	0.88
24:S:6:LYS:HB2	24:S:31:SER:O	1.74	0.88
18:M:101:ARG:O	18:M:103:LYS:N	2.07	0.88
13:H:47:VAL:HG11	13:H:115:ALA:CB	2.04	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:42:ILE:HD11	17:L:87:VAL:HG13	1.55	0.88
17:L:54:ALA:O	17:L:71:VAL:HG23	1.74	0.88
10:E:126:PRO:HG2	10:E:127:GLU:H	1.38	0.88
18:M:99:VAL:HG22	18:M:100:ARG:N	1.87	0.88
29:X:427:C:H1'	29:X:1856:U:H1'	1.53	0.88
9:D:122:PHE:HD2	9:D:129:ASN:H	1.22	0.88
29:X:585:U:H4'	29:X:2481:G:N7	1.89	0.88
29:X:958:G:H2'	29:X:959:C:C6	2.09	0.88
23:R:85:ASP:H	23:R:86:PRO:HD3	1.39	0.88
29:X:1674:C:H2'	29:X:1675:C:C6	2.09	0.87
17:L:33:ARG:HG3	17:L:38:ILE:HB	1.56	0.87
22:Q:62:ARG:NH1	22:Q:73:ASN:HD21	1.72	0.87
16:K:96:ARG:HB2	29:X:2857:C:H5'	1.55	0.87
18:M:101:ARG:HH21	18:M:101:ARG:HG2	1.39	0.87
18:M:106:TYR:CE2	29:X:1745:C:H5'	2.09	0.87
8:C:48:ARG:HB2	8:C:51:VAL:HG22	1.56	0.87
28:W:8:SER:HB2	29:X:999:A:C5'	2.05	0.87
29:X:2642:G:H2'	29:X:2643:G:H5'	1.55	0.87
30:Y:51:TYR:CE1	30:Y:55:ARG:HB2	2.09	0.87
29:X:1588:A:H2'	29:X:1589:G:H8	1.39	0.87
7:B:189:PRO:HA	29:X:2659:C:H5'	1.55	0.87
29:X:48:A:H4'	29:X:49:U:O5'	1.74	0.87
9:D:167:ARG:HA	9:D:170:LEU:HD12	1.55	0.87
7:B:34:VAL:HG21	7:B:78:LEU:HD22	1.56	0.87
7:B:116:VAL:HG13	7:B:136:ARG:NH2	1.87	0.87
29:X:1508:G:C5'	29:X:1509:A:H5''	2.04	0.87
22:Q:62:ARG:HH12	22:Q:73:ASN:ND2	1.72	0.87
29:X:731:A:H2'	29:X:732:G:O4'	1.75	0.87
29:X:2604:G:H2'	29:X:2605:C:C6	2.09	0.86
6:A:60:ARG:HD3	6:A:87:ASN:HD21	1.40	0.86
17:L:36:LYS:HE2	17:L:65:THR:HG22	1.57	0.86
29:X:2498:U:H4'	29:X:2499:C:OP1	1.74	0.86
29:X:555:U:H6	29:X:555:U:H3'	1.40	0.86
12:G:42:VAL:HG13	12:G:166:LEU:O	1.74	0.86
17:L:18:ARG:CZ	29:X:2357:A:H61	1.88	0.86
29:X:460:U:O4	29:X:592:G:H1'	1.75	0.86
10:E:103:LEU:HD21	10:E:105:MET:HE3	1.56	0.86
10:E:57:ASP:HB3	10:E:62:ARG:HE	1.39	0.86
29:X:1992:G:H2'	29:X:1993:G:H5'	1.56	0.86
8:C:162:ARG:NH1	29:X:333:A:H5''	1.90	0.86
13:H:29:ILE:HA	13:H:34:LEU:HD23	1.58	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:132:GLU:HB2	18:M:73:PHE:HE1	1.40	0.86
29:X:813:A:H4'	29:X:814:G:O5'	1.73	0.86
29:X:1468:A:O5'	29:X:1468:A:H8	1.59	0.86
24:S:122:ILE:HG22	24:S:160:LEU:HD23	1.56	0.86
11:F:2:LYS:HD3	11:F:2:LYS:N	1.89	0.86
11:F:104:VAL:HA	11:F:107:ILE:HD12	1.57	0.86
29:X:219:G:N2	29:X:231:G:H2'	1.91	0.86
13:H:47:VAL:CG2	13:H:77:THR:HG23	2.05	0.86
6:A:62:TYR:CE1	29:X:1808:C:H3'	2.11	0.86
29:X:648:A:H5'	29:X:649:G:H4'	1.58	0.86
9:D:4:LEU:HD11	9:D:173:MET:HE1	1.58	0.86
16:K:13:ASN:HD22	16:K:14:SER:N	1.71	0.86
6:A:255:LYS:HE2	29:X:1835:C:H5'	1.58	0.86
29:X:627:A:H2'	29:X:628:A:C8	2.10	0.86
12:G:105:GLY:O	12:G:110:LEU:HD12	1.76	0.86
14:I:38:LYS:NZ	29:X:954:U:OP2	2.08	0.86
29:X:929:A:H2	31:Z:81:C:O2	1.57	0.86
8:C:166:TRP:H	8:C:166:TRP:HE3	1.23	0.86
9:D:118:ASN:HD21	9:D:120:ASN:HD22	1.19	0.85
19:N:55:ARG:HD3	29:X:1166:A:H5''	1.58	0.85
20:O:10:LYS:HD2	20:O:37:ALA:CB	2.05	0.85
13:H:23:ARG:HH12	13:H:25:LEU:HA	1.38	0.85
18:M:82:PRO:O	18:M:84:ALA:N	2.09	0.85
29:X:2811:G:H2'	29:X:2812:A:H8	1.40	0.85
18:M:106:TYR:CE1	18:M:107:LEU:HG	2.10	0.85
6:A:247:VAL:HG23	6:A:248:THR:HG23	1.56	0.85
16:K:49:GLU:O	16:K:52:ILE:HG12	1.75	0.85
26:U:27:ASP:HA	26:U:32:ARG:CZ	2.06	0.85
29:X:876:A:H2'	29:X:877:G:H8	1.42	0.85
6:A:70:ARG:HH22	6:A:149:PRO:HA	1.40	0.85
22:Q:61:LYS:HB2	22:Q:72:ARG:HD3	1.57	0.85
23:R:4:PRO:N	29:X:34:U:HO2'	1.74	0.85
7:B:116:VAL:H	7:B:136:ARG:HE	0.90	0.85
16:K:5:LYS:HE3	29:X:2795:A:H4'	1.58	0.85
29:X:1223:G:H4'	29:X:1224:A:H5''	1.58	0.85
8:C:162:ARG:NH2	29:X:333:A:H3'	1.91	0.85
29:X:1539:U:H2'	29:X:1540:C:C6	2.10	0.85
12:G:73:ASN:HD21	29:X:547:U:H1'	1.39	0.85
15:J:99:LYS:HD2	15:J:100:PRO:HD2	1.57	0.85
23:R:14:LEU:HD13	23:R:39:ALA:HB1	1.57	0.85
21:P:71:VAL:HG12	21:P:126:ILE:HG22	1.59	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:43:ILE:HD12	17:L:43:ILE:N	1.91	0.85
17:L:33:ARG:CG	17:L:38:ILE:HB	2.07	0.85
7:B:14:ILE:HG12	18:M:20:HIS:CD2	2.11	0.85
25:T:21:LEU:HD11	25:T:41:ARG:NE	1.90	0.85
29:X:1281:A:H1'	29:X:2592:U:C5	2.11	0.85
29:X:537:C:C5	29:X:2759:U:H3'	2.11	0.85
13:H:75:VAL:CG1	13:H:118:LEU:HD21	2.05	0.85
24:S:127:PRO:O	24:S:128:ARG:HG2	1.76	0.85
9:D:118:ASN:HD21	9:D:120:ASN:ND2	1.73	0.85
29:X:841:G:H2'	29:X:842:A:C8	2.11	0.85
18:M:28:ARG:CB	18:M:29:PRO:HD3	1.95	0.85
29:X:2796:A:H2'	29:X:2797:G:H8	1.38	0.85
29:X:2662:C:H2'	29:X:2663:U:H6	1.41	0.85
19:N:66:ASN:HB3	19:N:76:TYR:HB2	1.59	0.85
29:X:868:U:H2'	29:X:869:C:C6	2.12	0.85
7:B:115:GLY:O	7:B:119:ARG:HB2	1.76	0.85
15:J:77:LYS:O	15:J:79:PRO:HD3	1.77	0.85
20:O:65:ARG:HH11	20:O:65:ARG:HG3	1.42	0.85
29:X:1052:C:C3'	29:X:1053:G:C5'	2.55	0.84
21:P:31:VAL:HG21	21:P:124:ILE:HG13	1.59	0.84
15:J:26:ASP:HB3	15:J:68:ARG:HH22	1.41	0.84
29:X:2404:A:H1'	29:X:2406:C:C4	2.12	0.84
31:Z:80:A:H2'	31:Z:81:C:O4'	1.77	0.84
9:D:166:ALA:O	9:D:170:LEU:HG	1.77	0.84
17:L:68:ALA:HB1	17:L:102:ALA:CB	2.05	0.84
6:A:244:ARG:O	6:A:252:LYS:HE2	1.77	0.84
29:X:88:G:H3'	29:X:89:A:H5"	1.57	0.84
29:X:2030:U:H2'	29:X:2031:A:C8	2.12	0.84
26:U:32:ARG:HG2	26:U:33:LYS:H	1.41	0.84
6:A:99:ASP:HB3	29:X:1507:A:O4'	1.77	0.84
20:O:22:VAL:HG22	29:X:1173:G:H4'	1.57	0.84
29:X:1072:U:H1'	29:X:1081:A:H1'	1.60	0.84
24:S:122:ILE:HA	24:S:161:ALA:H	1.41	0.84
20:O:11:GLN:HA	20:O:38:LEU:O	1.77	0.84
29:X:400:U:O2'	29:X:401:G:H5"	1.76	0.84
10:E:50:LEU:HD23	10:E:51:LEU:N	1.92	0.84
18:M:27:PHE:HB3	18:M:93:ILE:HD12	1.60	0.84
15:J:39:GLU:HG2	31:Z:92:G:H22	1.42	0.84
29:X:162:C:H2'	29:X:163:A:H8	1.43	0.84
24:S:94:VAL:O	24:S:121:GLN:HG3	1.78	0.84
29:X:109:A:C2'	29:X:110:U:H5"	2.08	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:98:LEU:CD2	30:Y:56:GLN:HG2	2.08	0.84
29:X:1118:G:H2'	29:X:1119:U:C5'	2.07	0.83
6:A:39:LYS:H	6:A:61:LEU:CD2	1.89	0.83
29:X:1388:C:H2'	29:X:1389:C:H6	1.41	0.83
29:X:1125:G:H2'	29:X:1126:A:H8	1.42	0.83
21:P:95:ALA:HB2	21:P:126:ILE:CD1	2.08	0.83
21:P:41:VAL:O	21:P:44:VAL:HG22	1.76	0.83
18:M:106:TYR:CE1	18:M:107:LEU:HD21	2.08	0.83
29:X:1053:G:H1	29:X:1124:U:H3	1.26	0.83
29:X:679:C:H2'	29:X:680:U:C6	2.13	0.83
29:X:2075:U:O2'	29:X:2076:G:H5''	1.77	0.83
29:X:38:G:H2'	29:X:39:C:C6	2.13	0.83
10:E:163:ARG:HD3	10:E:167:GLU:HB3	1.59	0.83
21:P:35:PRO:HD3	21:P:122:SER:OG	1.79	0.83
25:T:34:GLY:CA	29:X:2332:G:H1'	2.02	0.83
14:I:78:SER:HB3	14:I:112:GLY:HA3	1.61	0.83
29:X:712:A:H2'	29:X:713:G:O4'	1.77	0.83
10:E:6:LYS:HB3	10:E:69:ARG:HD2	1.59	0.83
29:X:1061:A:C2'	29:X:1062:G:H5'	2.08	0.83
8:C:22:VAL:HG13	8:C:106:MET:HG2	1.59	0.83
15:J:27:TYR:HB3	15:J:137:VAL:HG21	1.61	0.83
29:X:558:G:C8	29:X:559:C:C5	2.66	0.83
29:X:224:G:H4'	29:X:399:G:C5	2.12	0.83
29:X:2811:G:H2'	29:X:2812:A:C8	2.13	0.83
12:G:107:GLN:O	12:G:109:GLY:N	2.12	0.83
29:X:1687:C:O2'	29:X:1977:C:H4'	1.79	0.83
29:X:553:C:H5'	29:X:554:U:OP1	1.77	0.83
6:A:249:PRO:HG3	29:X:2218:G:O4'	1.77	0.83
10:E:96:ALA:HB1	10:E:103:LEU:HD11	1.60	0.83
16:K:64:ARG:NH2	29:X:2684:A:H2	1.76	0.83
29:X:531:G:H2'	29:X:532:A:C8	2.14	0.83
24:S:51:LEU:HA	24:S:64:ALA:O	1.78	0.83
18:M:94:VAL:O	18:M:95:GLU:HB3	1.79	0.83
29:X:1011:A:C2	29:X:1166:A:C2	2.66	0.83
29:X:577:U:H5'	29:X:956:A:H62	1.44	0.83
23:R:85:ASP:H	23:R:86:PRO:CD	1.91	0.83
6:A:39:LYS:N	6:A:61:LEU:HD22	1.93	0.83
29:X:931:G:H4'	31:Z:83:C:H4'	1.61	0.83
17:L:33:ARG:NH1	17:L:103:LEU:HB2	1.92	0.83
17:L:60:LYS:HB2	17:L:63:ASN:O	1.79	0.83
29:X:555:U:C6	29:X:555:U:H3'	2.14	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:22:ARG:HD3	18:M:24:LEU:HD21	1.61	0.83
15:J:99:LYS:O	15:J:102:ARG:HB2	1.79	0.83
17:L:91:ARG:CZ	29:X:2355:A:H61	1.92	0.83
24:S:97:PRO:HA	24:S:119:ASN:HA	1.59	0.83
29:X:1185:C:H2'	29:X:1186:G:H3'	1.61	0.83
15:J:84:MET:HG2	29:X:2229:G:H5'	1.59	0.83
29:X:426:C:H4'	29:X:1863:U:O2'	1.77	0.82
29:X:2604:G:H2'	29:X:2605:C:H6	1.43	0.82
29:X:1128:G:H3'	29:X:1129:A:C5'	2.08	0.82
6:A:258:LYS:NZ	6:A:261:ARG:HH21	1.76	0.82
7:B:136:ARG:HD3	29:X:1673:C:OP1	1.78	0.82
29:X:1018:C:H3'	29:X:1019:U:C5'	2.09	0.82
29:X:1281:A:H1'	29:X:2592:U:O4	1.78	0.82
29:X:930:A:O5'	29:X:930:A:H8	1.60	0.82
8:C:78:VAL:HG13	29:X:460:U:O2'	1.79	0.82
19:N:66:ASN:ND2	19:N:70:ARG:HH12	1.76	0.82
29:X:1468:A:O5'	29:X:1468:A:C8	2.33	0.82
25:T:40:GLN:NE2	25:T:43:THR:HA	1.94	0.82
7:B:181:LEU:HD21	18:M:12:LEU:HD22	1.61	0.82
28:W:40:VAL:HG23	29:X:940:G:O2'	1.79	0.82
7:B:146:THR:HB	7:B:147:PRO:HD2	1.61	0.82
29:X:2010:G:H2'	29:X:2011:U:C6	2.14	0.82
29:X:1128:G:C3'	29:X:1129:A:H5''	2.10	0.82
13:H:85:ASP:OD1	13:H:86:GLY:N	2.12	0.82
29:X:1734:C:H5''	29:X:1735:G:C8	2.15	0.82
15:J:102:ARG:HH11	15:J:102:ARG:HG3	1.44	0.82
29:X:403:A:H5''	29:X:404:A:OP1	1.79	0.82
12:G:100:TYR:HB2	12:G:116:ARG:NH1	1.93	0.82
16:K:87:TYR:HE1	16:K:94:TYR:HD2	1.23	0.82
9:D:13:ARG:NH1	9:D:14:PRO:HG3	1.93	0.82
29:X:1388:C:H2'	29:X:1389:C:C6	2.14	0.82
9:D:92:ARG:HH12	31:Z:46:G:H4'	1.41	0.82
8:C:74:VAL:O	8:C:76:THR:N	2.12	0.82
29:X:558:G:H5''	29:X:558:G:N3	1.93	0.82
13:H:116:ARG:NH1	18:M:38:LYS:HE2	1.95	0.82
29:X:2195:C:C4	29:X:2196:U:C4	2.68	0.82
16:K:87:TYR:CE1	16:K:94:TYR:HD2	1.97	0.82
12:G:142:ARG:HH12	29:X:538:A:H5'	1.41	0.82
23:R:90:LYS:CB	23:R:108:VAL:HG21	2.09	0.82
29:X:2496:C:O2'	29:X:2497:A:H3'	1.80	0.82
29:X:687:G:O2'	29:X:688:A:H5'	1.78	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:79:PRO:CD	15:J:88:LYS:HD2	2.09	0.82
29:X:1817:U:H2'	29:X:1818:G:H8	1.42	0.82
29:X:2451:G:O6	29:X:2455:A:H4'	1.80	0.82
31:Z:53:G:H21	31:Z:54:U:H5	1.28	0.82
29:X:1034:U:H2'	29:X:1035:G:H5'	1.62	0.81
29:X:1288:A:H2'	29:X:1289:A:O4'	1.80	0.81
15:J:86:LYS:HD2	29:X:2256:G:P	2.19	0.81
21:P:66:GLU:HB3	21:P:67:PRO:CD	2.10	0.81
24:S:115:ILE:HA	24:S:169:VAL:HG12	1.62	0.81
9:D:122:PHE:CB	9:D:129:ASN:HD22	1.93	0.81
4:4:6:SER:HB2	29:X:2445:C:H5''	1.62	0.81
11:F:55:VAL:HG22	11:F:69:THR:HA	1.61	0.81
20:O:36:LYS:NZ	20:O:54:TYR:HB3	1.94	0.81
12:G:97:ASP:O	12:G:99:VAL:HG23	1.79	0.81
15:J:15:ARG:HD3	15:J:73:LYS:NZ	1.95	0.81
29:X:2306:A:H2'	29:X:2307:A:C8	2.15	0.81
29:X:648:A:H4'	29:X:649:G:O4'	1.78	0.81
13:H:89:ILE:HG23	18:M:79:ARG:HD3	1.62	0.81
6:A:186:HIS:HD2	6:A:188:GLU:HB2	1.45	0.81
29:X:691:C:H2'	29:X:692:C:H6	1.45	0.81
15:J:42:TRP:HB3	15:J:95:VAL:HG11	1.62	0.81
19:N:61:TRP:HZ3	19:N:94:VAL:N	1.78	0.81
29:X:546:A:H2'	29:X:547:U:H6	1.44	0.81
12:G:66:HIS:O	19:N:67:ALA:HB1	1.79	0.81
29:X:2699:G:O2'	29:X:2700:U:H5'	1.80	0.81
24:S:64:ALA:HA	24:S:85:MET:HA	1.62	0.81
22:Q:61:LYS:H	22:Q:72:ARG:HA	1.44	0.81
20:O:57:GLN:H	20:O:97:GLY:CA	1.93	0.81
29:X:1542:G:N2	29:X:1562:G:H1	1.78	0.81
21:P:80:LEU:HD21	21:P:87:GLU:HB3	1.61	0.81
29:X:1051:U:H2'	29:X:1052:C:C6	2.15	0.81
7:B:120:TRP:CD1	7:B:155:ARG:HB3	2.16	0.81
11:F:21:PRO:CG	11:F:22:PRO:HD3	2.10	0.81
29:X:559:C:H2'	29:X:560:G:O4'	1.80	0.81
24:S:18:MET:HA	24:S:36:ARG:H	1.46	0.81
29:X:2826:C:C2'	29:X:2827:G:H5'	2.10	0.81
9:D:35:VAL:O	9:D:154:ILE:HA	1.80	0.81
12:G:125:ARG:HH12	29:X:2760:G:H22	1.26	0.81
15:J:15:ARG:CD	15:J:73:LYS:HG3	2.10	0.81
29:X:1849:G:H1'	29:X:1868:A:H61	1.46	0.81
26:U:70:LEU:HB3	26:U:79:GLU:OE2	1.80	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1526:U:H2'	29:X:1527:G:O4'	1.81	0.81
12:G:145:HIS:CE1	12:G:148:LEU:HD23	2.16	0.81
7:B:72:VAL:HG12	7:B:73:ALA:N	1.95	0.81
25:T:21:LEU:HD11	25:T:41:ARG:CZ	2.10	0.81
29:X:826:U:H2'	29:X:827:C:C6	2.16	0.81
6:A:85:ASP:OD2	6:A:92:ILE:HD12	1.80	0.81
9:D:150:ARG:HG2	9:D:151:GLY:N	1.96	0.81
8:C:162:ARG:CZ	29:X:333:A:H3'	2.11	0.81
13:H:23:ARG:CZ	13:H:25:LEU:HD23	2.09	0.81
29:X:947:C:H2'	29:X:948:C:C6	2.16	0.81
29:X:1857:G:N2	29:X:1860:A:OP2	2.14	0.81
7:B:154:LYS:HE3	29:X:2598:C:O2'	1.81	0.81
29:X:822:G:O2'	29:X:823:U:H5'	1.80	0.81
15:J:34:GLY:HA2	15:J:106:GLU:HA	1.62	0.81
29:X:752:G:H4'	29:X:753:U:OP1	1.80	0.81
17:L:36:LYS:HB3	17:L:64:LYS:HB2	1.60	0.81
24:S:10:PRO:O	24:S:14:LEU:HG	1.79	0.81
9:D:122:PHE:HB3	9:D:129:ASN:ND2	1.94	0.80
29:X:2581:A:H3'	29:X:2582:G:C5'	2.10	0.80
29:X:717:G:H2'	29:X:739:G:N2	1.96	0.80
29:X:496:C:C2'	29:X:497:C:H5''	2.09	0.80
9:D:74:ILE:HA	9:D:79:LEU:HB3	1.61	0.80
10:E:89:LEU:HD12	10:E:129:THR:HA	1.63	0.80
24:S:141:MET:HA	24:S:145:ASP:OD1	1.80	0.80
29:X:2219:U:O2'	29:X:2220:A:H5'	1.81	0.80
29:X:482:A:H2'	29:X:483:A:O4'	1.80	0.80
14:I:40:ARG:NH2	29:X:577:U:OP1	2.13	0.80
8:C:26:VAL:HA	14:I:18:ARG:HH11	1.46	0.80
29:X:716:U:H2'	29:X:717:G:O4'	1.82	0.80
13:H:116:ARG:HH22	18:M:41:GLU:HG3	1.46	0.80
12:G:44:VAL:HG12	12:G:45:ASP:N	1.94	0.80
6:A:73:SER:HA	6:A:119:ALA:HB3	1.64	0.80
29:X:956:A:C4	29:X:2427:A:C2	2.69	0.80
8:C:74:VAL:HG23	8:C:76:THR:OG1	1.81	0.80
29:X:1333:G:N2	29:X:1344:C:H41	1.80	0.80
30:Y:16:ARG:HD3	30:Y:20:ARG:CZ	2.11	0.80
28:W:4:LYS:CG	28:W:52:GLU:HB3	2.09	0.80
29:X:2245:A:H1'	29:X:2251:U:O4	1.80	0.80
30:Y:25:LEU:N	30:Y:25:LEU:HD12	1.96	0.80
29:X:2286:G:N2	29:X:2290:A:H61	1.78	0.80
19:N:99:ALA:HB2	19:N:106:PHE:CD1	2.17	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:76:ALA:HB2	17:L:107:ALA:HA	1.62	0.80
29:X:689:A:C8	29:X:2422:C:H1'	2.16	0.80
8:C:22:VAL:HA	8:C:106:MET:HG3	1.64	0.80
17:L:64:LYS:N	17:L:64:LYS:HD3	1.97	0.80
31:Z:50:U:H2'	31:Z:51:G:H8	1.47	0.80
24:S:100:THR:HG23	24:S:138:VAL:HG21	1.63	0.80
24:S:117:VAL:HG22	24:S:168:VAL:HA	1.64	0.80
29:X:2642:G:H2'	29:X:2643:G:C5'	2.12	0.80
12:G:30:LYS:N	29:X:1006:C:N4	2.29	0.80
29:X:689:A:H8	29:X:2052:G:H21	1.30	0.80
10:E:89:LEU:HD13	10:E:95:ARG:HA	1.63	0.80
16:K:79:VAL:HA	16:K:83:VAL:HG11	1.63	0.80
15:J:125:LYS:H	15:J:125:LYS:HD2	1.46	0.80
18:M:7:ILE:HD12	18:M:12:LEU:HD11	1.64	0.80
29:X:76:C:H6	29:X:76:C:H5'	1.46	0.80
23:R:98:ILE:HG22	23:R:99:VAL:H	1.45	0.80
29:X:1763:G:H2'	29:X:1764:A:H4'	1.64	0.80
30:Y:25:LEU:HD12	30:Y:25:LEU:H	1.46	0.80
7:B:201:ALA:HB1	7:B:204:ALA:HB2	1.64	0.80
16:K:82:GLU:O	16:K:85:PRO:HD2	1.81	0.80
8:C:68:ARG:HH12	29:X:2043:A:N6	1.80	0.79
29:X:701:U:H5'	29:X:1771:A:H2	1.48	0.79
16:K:36:THR:HG23	16:K:37:THR:N	1.96	0.79
21:P:91:PHE:O	21:P:93:LYS:N	2.15	0.79
14:I:86:THR:C	14:I:88:PHE:H	1.85	0.79
10:E:126:PRO:HG3	10:E:130:ARG:CD	2.12	0.79
29:X:2189:A:H61	29:X:2195:C:N4	1.79	0.79
29:X:128:C:C2'	29:X:129:A:H5''	2.12	0.79
29:X:1094:C:H2'	29:X:1096:A:C5'	2.10	0.79
29:X:2074:U:H3'	29:X:2075:U:H5''	1.63	0.79
7:B:31:CYS:HB2	7:B:49:ILE:HD11	1.62	0.79
18:M:25:PRO:O	18:M:27:PHE:CD2	2.36	0.79
7:B:21:ILE:HG23	7:B:185:LYS:HZ2	1.47	0.79
16:K:5:LYS:HE3	29:X:2795:A:C4'	2.13	0.79
29:X:482:A:O2'	29:X:483:A:H5'	1.82	0.79
23:R:11:ASN:HD22	23:R:11:ASN:C	1.83	0.79
25:T:32:LYS:HB3	25:T:35:ASN:ND2	1.96	0.79
29:X:1416:A:H2'	29:X:1417:C:H6	1.47	0.79
14:I:18:ARG:HB2	14:I:21:ARG:CB	2.12	0.79
21:P:27:VAL:HG13	29:X:504:G:H4'	1.64	0.79
24:S:10:PRO:O	24:S:13:LYS:HG3	1.82	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1750:A:C8	29:X:2675:U:H1'	2.18	0.79
29:X:3:U:H2'	29:X:4:C:H6	1.48	0.79
29:X:635:C:C2'	29:X:636:G:H5''	2.12	0.79
29:X:666:U:H2'	29:X:667:U:C4'	2.13	0.79
7:B:75:THR:HG23	7:B:76:ARG:H	1.45	0.79
12:G:92:GLY:C	12:G:93:LYS:HD2	2.02	0.79
29:X:1225:G:H2'	29:X:1249:G:N2	1.97	0.79
21:P:85:MET:HE2	21:P:130:GLU:HG3	1.64	0.79
26:U:19:ILE:HD11	29:X:394:U:OP1	1.81	0.79
29:X:1057:A:N3	29:X:1057:A:H2'	1.98	0.79
29:X:685:U:O2'	29:X:686:C:H5'	1.83	0.79
15:J:37:ALA:HA	15:J:130:THR:HG22	1.64	0.79
29:X:2170:C:H3'	29:X:2171:U:C5'	2.12	0.79
21:P:85:MET:CE	21:P:130:GLU:HG3	2.13	0.79
17:L:54:ALA:N	17:L:75:LEU:HD13	1.98	0.79
20:O:36:LYS:HD2	20:O:54:TYR:C	2.02	0.79
7:B:62:PRO:HG3	29:X:2767:C:H1'	1.64	0.79
29:X:2807:U:H4'	29:X:2808:U:H5''	1.63	0.79
27:V:14:PHE:O	27:V:18:ILE:HG13	1.83	0.79
9:D:106:ILE:HG23	9:D:110:ARG:HD2	1.64	0.79
14:I:67:ASN:HD21	29:X:2383:C:H4'	1.47	0.79
29:X:1058:G:H2'	29:X:1121:G:H1	1.47	0.79
7:B:123:ALA:O	7:B:124:GLY:O	1.99	0.79
14:I:32:ARG:CZ	20:O:81:ARG:HE	1.95	0.79
15:J:15:ARG:HD2	15:J:73:LYS:HG3	1.63	0.79
29:X:2689:C:O2'	29:X:2690:A:H5'	1.83	0.79
30:Y:19:ARG:O	30:Y:21:SER:N	2.15	0.79
22:Q:12:ILE:CG1	22:Q:13:SER:H	1.80	0.79
8:C:27:LEU:O	8:C:30:VAL:HB	1.83	0.79
8:C:28:HIS:ND1	14:I:17:LYS:HA	1.98	0.79
11:F:19:PRO:HG2	11:F:21:PRO:HG2	1.64	0.79
23:R:105:ARG:NH2	23:R:112:LYS:HA	1.98	0.79
14:I:76:LYS:HG3	14:I:111:SER:HB2	1.65	0.79
29:X:1061:A:H2'	29:X:1062:G:H5'	1.62	0.79
29:X:405:C:H2'	29:X:406:G:H8	1.47	0.79
29:X:143:A:H2'	29:X:144:U:C6	2.18	0.79
29:X:2189:A:H2	29:X:2196:U:H3	1.31	0.78
29:X:2793:G:O2'	29:X:2794:G:H5'	1.83	0.78
29:X:78:C:O2	29:X:357:A:H2	1.66	0.78
22:Q:51:ILE:CD1	22:Q:83:ALA:HA	2.12	0.78
29:X:1069:G:H2'	29:X:1070:G:H5''	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1324:G:H1'	29:X:1326:U:O4	1.82	0.78
28:W:2:LYS:HB3	28:W:54:GLN:CB	2.13	0.78
29:X:1854:G:C2'	29:X:1855:G:OP2	2.27	0.78
15:J:18:MET:HG2	15:J:19:THR:H	1.48	0.78
15:J:69:ILE:CG2	15:J:104:MET:HA	2.13	0.78
14:I:63:ARG:NH1	29:X:2394:G:H3'	1.98	0.78
17:L:40:ALA:HB1	17:L:75:LEU:HD22	1.65	0.78
29:X:215:G:H21	29:X:632:A:H8	1.28	0.78
29:X:1623:C:H4'	29:X:1624:A:O5'	1.82	0.78
8:C:112:GLN:HA	8:C:116:LYS:HB3	1.65	0.78
29:X:2624:G:H4'	29:X:2712:G:O2'	1.83	0.78
29:X:1324:G:H1'	29:X:1326:U:C4	2.17	0.78
29:X:653:G:H2'	29:X:654:A:H5''	1.64	0.78
29:X:1051:U:H2'	29:X:1052:C:H6	1.47	0.78
13:H:115:ALA:HB3	13:H:118:LEU:HD13	1.64	0.78
29:X:648:A:H5''	29:X:649:G:OP1	1.81	0.78
6:A:68:LYS:H	6:A:68:LYS:CD	1.95	0.78
28:W:2:LYS:HB3	28:W:54:GLN:HB3	1.65	0.78
7:B:91:VAL:HB	7:B:93:VAL:HG12	1.66	0.78
10:E:28:GLY:HA3	10:E:79:VAL:HB	1.65	0.78
9:D:65:PRO:HB3	9:D:89:VAL:HG22	1.64	0.78
12:G:128:GLU:HG3	12:G:145:HIS:NE2	1.98	0.78
26:U:32:ARG:HG2	26:U:34:THR:H	1.48	0.78
16:K:79:VAL:HA	16:K:83:VAL:HG13	1.62	0.78
14:I:85:ASP:HA	14:I:116:ARG:NH1	1.98	0.78
29:X:2447:G:O2'	29:X:2448:A:H5'	1.81	0.78
29:X:1071:U:H1'	29:X:1073:G:H5'	1.64	0.78
30:Y:42:SER:O	30:Y:43:HIS:HB2	1.81	0.78
7:B:39:ALA:HA	7:B:44:TYR:N	1.98	0.78
12:G:36:ASN:O	12:G:38:GLU:N	2.15	0.78
29:X:216:U:H2'	29:X:217:U:C6	2.19	0.78
29:X:24:G:H2'	29:X:25:U:O4'	1.84	0.78
29:X:501:G:H2'	29:X:502:A:H8	1.48	0.78
29:X:1094:C:H2'	29:X:1096:A:H5'	1.64	0.78
6:A:252:LYS:HE3	6:A:253:PRO:CD	2.13	0.78
11:F:7:ILE:HG22	11:F:8:VAL:H	1.48	0.78
29:X:925:U:H4'	29:X:926:C:OP1	1.83	0.78
7:B:101:LYS:HA	7:B:170:LEU:O	1.82	0.78
29:X:1736:C:H2'	29:X:1737:G:C8	2.18	0.78
19:N:66:ASN:HD22	19:N:70:ARG:HH12	1.32	0.78
29:X:1992:G:C2'	29:X:1993:G:H5'	2.14	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:137:ALA:HA	8:C:142:LEU:HD12	1.66	0.78
22:Q:62:ARG:O	22:Q:63:LYS:HB3	1.83	0.78
13:H:41:ASN:ND2	29:X:2653:A:O2'	2.16	0.78
29:X:1073:G:H1'	29:X:1099:A:N7	1.98	0.78
29:X:555:U:OP2	29:X:556:A:H2'	1.83	0.78
13:H:85:ASP:OD1	13:H:87:SER:N	2.14	0.78
24:S:71:MET:HA	24:S:78:PRO:HA	1.64	0.78
29:X:2817:A:C2	29:X:2851:G:C2	2.72	0.78
12:G:142:ARG:HH12	29:X:538:A:C5'	1.95	0.78
20:O:20:ILE:HD12	20:O:21:ARG:HG2	1.66	0.78
29:X:558:G:C3'	29:X:558:G:N3	2.46	0.78
29:X:533:C:H1'	29:X:563:U:O2'	1.84	0.78
24:S:36:ARG:HG2	24:S:40:ASP:OD1	1.84	0.78
6:A:222:ARG:HB3	6:A:222:ARG:HH21	1.47	0.78
8:C:66:ASN:HB3	29:X:1268:U:H2'	1.65	0.77
29:X:516:G:O2'	29:X:517:A:H8	1.66	0.77
31:Z:15:A:N6	31:Z:72:C:H5'	1.97	0.77
29:X:2015:G:H4'	29:X:2016:A:OP1	1.84	0.77
29:X:2019:C:O2'	29:X:2020:G:H5'	1.85	0.77
29:X:1350:G:H2'	29:X:1351:G:H8	1.48	0.77
23:R:24:VAL:O	23:R:30:LYS:HA	1.82	0.77
21:P:92:VAL:HG13	21:P:126:ILE:HD11	1.67	0.77
16:K:81:ASP:O	16:K:85:PRO:HG2	1.83	0.77
6:A:60:ARG:HD3	6:A:87:ASN:ND2	1.98	0.77
17:L:10:LYS:HB3	17:L:14:ARG:HE	1.49	0.77
27:V:20:ALA:O	27:V:23:LYS:HB3	1.84	0.77
30:Y:15:LYS:O	30:Y:18:MET:N	2.16	0.77
8:C:104:LEU:N	8:C:104:LEU:HD23	2.00	0.77
16:K:39:THR:O	16:K:42:LYS:N	2.18	0.77
31:Z:34:C:H2'	31:Z:35:C:C6	2.19	0.77
6:A:183:ARG:CA	6:A:183:ARG:HH11	1.97	0.77
29:X:1734:C:C5	29:X:1735:G:H1'	2.19	0.77
10:E:18:ASN:HB3	10:E:20:GLN:HE21	1.47	0.77
8:C:104:LEU:O	8:C:108:ILE:HD13	1.84	0.77
13:H:22:ILE:HG22	13:H:23:ARG:N	1.99	0.77
29:X:2492:G:C2	29:X:2493:U:C2	2.73	0.77
13:H:83:ARG:HD2	13:H:89:ILE:HD11	1.66	0.77
18:M:106:TYR:CE1	18:M:107:LEU:CG	2.67	0.77
29:X:2284:U:H2'	29:X:2285:U:H5''	1.65	0.77
15:J:35:LEU:HD11	15:J:130:THR:HB	1.65	0.77
23:R:22:VAL:HG11	23:R:80:LYS:HE3	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:87:VAL:HG12	17:L:88:VAL:H	1.50	0.77
9:D:46:ASP:O	9:D:50:ILE:HG13	1.84	0.77
14:I:117:ALA:HA	14:I:137:GLY:O	1.84	0.77
29:X:861:G:C2'	29:X:862:A:H5'	2.15	0.77
20:O:10:LYS:HG3	20:O:11:GLN:HG2	1.66	0.77
10:E:96:ALA:HA	10:E:104:GLU:O	1.85	0.77
29:X:741:G:O2'	29:X:743:A:H5''	1.85	0.77
7:B:60:ASN:HB3	7:B:62:PRO:HD2	1.67	0.77
29:X:2824:C:H1'	29:X:2843:A:N3	2.00	0.77
29:X:546:A:H2'	29:X:547:U:C6	2.19	0.77
22:Q:11:VAL:HG23	22:Q:27:PHE:CA	2.15	0.77
29:X:1468:A:H5''	29:X:1472:C:H41	1.48	0.77
29:X:2311:U:H5'	29:X:2315:A:N6	2.00	0.77
29:X:1373:G:C2'	29:X:1374:G:H5'	2.14	0.77
29:X:2189:A:N6	29:X:2195:C:N4	2.33	0.77
16:K:39:THR:HA	16:K:42:LYS:HG3	1.67	0.77
23:R:85:ASP:OD1	23:R:86:PRO:HD3	1.85	0.77
9:D:108:LEU:HD11	9:D:117:ILE:HD11	1.67	0.77
29:X:1505:U:H2'	29:X:1506:C:H5''	1.66	0.77
10:E:29:PRO:HG2	10:E:79:VAL:O	1.84	0.77
12:G:110:LEU:HD22	29:X:2621:G:OP1	1.85	0.77
19:N:88:ILE:HG12	20:O:49:GLU:OE1	1.84	0.77
14:I:86:THR:OG1	14:I:118:VAL:HG12	1.84	0.77
13:H:91:PHE:CD1	13:H:91:PHE:N	2.51	0.77
8:C:45:THR:HG22	8:C:47:THR:H	1.50	0.77
29:X:1949:A:O2'	29:X:2572:U:H5'	1.85	0.77
26:U:27:ASP:HA	26:U:32:ARG:NH2	2.00	0.77
25:T:32:LYS:O	25:T:61:ALA:HB3	1.85	0.77
29:X:2404:A:H1'	29:X:2406:C:C5	2.19	0.77
29:X:841:G:C5	29:X:842:A:N6	2.53	0.76
29:X:1998:A:H1'	30:Y:3:LYS:CG	2.15	0.76
8:C:117:LEU:O	8:C:188:ILE:HG13	1.84	0.76
17:L:55:SER:O	17:L:71:VAL:HB	1.84	0.76
24:S:19:ILE:CG1	24:S:36:ARG:HA	2.15	0.76
29:X:2858:A:H3'	29:X:2859:U:H5'	1.67	0.76
24:S:13:LYS:HB2	24:S:13:LYS:NZ	2.00	0.76
29:X:1053:G:C2'	29:X:1054:C:C6	2.61	0.76
9:D:67:ILE:HG21	9:D:84:PRO:HB3	1.67	0.76
7:B:82:ARG:NH2	29:X:2616:U:H5''	2.00	0.76
11:F:19:PRO:HD2	11:F:22:PRO:HG2	1.67	0.76
31:Z:15:A:C6	31:Z:72:C:H5'	2.19	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2642:G:O2'	29:X:2643:G:H5'	1.85	0.76
9:D:79:LEU:HD21	29:X:2289:A:H2	1.50	0.76
8:C:74:VAL:O	8:C:77:PHE:N	2.18	0.76
17:L:89:PHE:HB2	17:L:91:ARG:HH21	1.49	0.76
9:D:108:LEU:HA	9:D:111:ILE:CD1	2.15	0.76
28:W:1:MET:O	28:W:34:VAL:HG12	1.84	0.76
29:X:2212:U:H2'	29:X:2213:G:H8	1.51	0.76
29:X:1561:A:H2'	29:X:1562:G:O4'	1.84	0.76
29:X:1284:G:C2	29:X:1633:C:H4'	2.21	0.76
18:M:39:VAL:HG12	18:M:45:THR:HG23	1.65	0.76
21:P:37:LYS:HB2	29:X:1279:G:H22	1.48	0.76
22:Q:58:VAL:O	22:Q:74:ASP:HA	1.86	0.76
29:X:1998:A:H1'	30:Y:3:LYS:HG2	1.65	0.76
29:X:1929:U:H2'	29:X:1930:C:C6	2.20	0.76
26:U:31:GLY:HA2	26:U:32:ARG:NH1	1.97	0.76
25:T:43:THR:H	29:X:2310:G:H4'	1.49	0.76
12:G:93:LYS:HB3	12:G:96:ASP:O	1.85	0.76
29:X:1252:C:H2'	29:X:1253:C:H5''	1.68	0.76
29:X:577:U:H5'	29:X:956:A:N6	2.00	0.76
29:X:2581:A:H5'	29:X:2582:G:OP2	1.85	0.76
29:X:2447:G:N2	29:X:2460:G:H2'	2.00	0.76
29:X:2546:G:H2'	29:X:2547:C:C6	2.21	0.76
29:X:2663:U:C2	29:X:2664:G:C8	2.74	0.76
10:E:30:LYS:HG2	10:E:79:VAL:O	1.86	0.76
12:G:107:GLN:HA	12:G:110:LEU:HG	1.68	0.76
29:X:305:A:H2'	29:X:306:G:H5'	1.66	0.76
29:X:98:U:H5'	29:X:99:U:H5''	1.67	0.76
26:U:32:ARG:HG2	26:U:33:LYS:N	2.00	0.76
29:X:914:C:H2'	29:X:915:C:C6	2.20	0.76
18:M:78:GLU:O	18:M:79:ARG:HG2	1.84	0.76
14:I:11:GLY:H	14:I:14:LYS:HB3	1.51	0.76
7:B:119:ARG:HH11	7:B:119:ARG:CG	1.99	0.76
20:O:83:ARG:O	20:O:84:THR:HG23	1.84	0.76
29:X:1144:U:H2'	29:X:1147:G:OP1	1.86	0.76
16:K:63:ARG:CZ	16:K:80:MET:HG2	2.15	0.76
6:A:62:TYR:HE1	29:X:1809:G:OP1	1.69	0.76
29:X:1770:U:C2	29:X:1774:A:N7	2.54	0.76
29:X:2828:C:O2'	29:X:2829:A:H5'	1.86	0.76
9:D:119:PRO:HG2	9:D:120:ASN:H	1.51	0.76
8:C:112:GLN:HA	8:C:116:LYS:HD3	1.67	0.76
8:C:95:LEU:HD23	8:C:96:PRO:HD2	1.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:36:ILE:O	15:J:130:THR:HB	1.85	0.76
29:X:2652:G:O2'	29:X:2653:A:H5'	1.83	0.76
19:N:82:GLY:HA3	19:N:113:SER:OG	1.85	0.76
29:X:2821:G:H2'	29:X:2822:U:C6	2.21	0.76
29:X:2387:U:H2'	29:X:2388:G:C8	2.21	0.76
29:X:1151:U:C5'	29:X:1153:A:H5'	2.15	0.76
21:P:72:LEU:O	21:P:72:LEU:HG	1.85	0.76
29:X:490:A:H1'	29:X:491:A:C8	2.21	0.76
29:X:1597:A:H2'	29:X:1598:C:C6	2.21	0.76
29:X:1134:C:H2'	29:X:1135:C:H6	1.51	0.75
29:X:2594:U:N1	30:Y:7:PRO:HA	2.01	0.75
15:J:69:ILE:HG23	15:J:104:MET:HA	1.67	0.75
29:X:2323:U:C2'	29:X:2323:U:O2	2.30	0.75
29:X:651:C:C2'	29:X:652:C:H5''	2.14	0.75
4:4:29:ASN:ND2	4:4:31:LYS:HD3	2.02	0.75
29:X:1039:A:N6	29:X:1136:G:H2'	2.01	0.75
20:O:11:GLN:HE22	20:O:38:LEU:HB3	1.49	0.75
7:B:98:GLU:HG2	7:B:174:GLU:HA	1.65	0.75
12:G:104:THR:OG1	12:G:110:LEU:HD13	1.87	0.75
26:U:33:LYS:NZ	29:X:2400:G:H21	1.83	0.75
29:X:1467:U:H3'	29:X:1468:A:C5'	2.16	0.75
24:S:91:PRO:O	24:S:92:VAL:HG13	1.85	0.75
14:I:32:ARG:CZ	20:O:81:ARG:NE	2.49	0.75
29:X:2756:A:O2'	29:X:2757:G:OP2	2.05	0.75
25:T:36:ILE:HD11	29:X:2343:C:O2	1.87	0.75
29:X:2275:U:H4'	29:X:2276:C:OP1	1.85	0.75
29:X:978:U:H2'	29:X:979:A:C8	2.22	0.75
14:I:45:LYS:HA	29:X:683:A:H5''	1.67	0.75
29:X:356:A:H2'	29:X:357:A:C8	2.21	0.75
9:D:4:LEU:HD12	9:D:5:LYS:H	1.52	0.75
24:S:19:ILE:CD1	24:S:36:ARG:HA	2.15	0.75
12:G:82:VAL:CG2	12:G:150:VAL:HG22	2.16	0.75
29:X:1113:C:H2'	29:X:1114:A:H8	1.51	0.75
21:P:17:GLN:HG3	21:P:18:VAL:HG23	1.69	0.75
29:X:416:U:O2'	29:X:417:C:H5	1.70	0.75
29:X:321:A:C2	29:X:323:G:H1'	2.20	0.75
25:T:44:LYS:HE3	29:X:871:U:OP1	1.86	0.75
12:G:70:PHE:CB	19:N:64:ARG:HG2	2.16	0.75
29:X:939:C:H5''	29:X:940:G:O5'	1.85	0.75
12:G:162:LYS:N	12:G:163:PRO:CD	2.50	0.75
8:C:147:LYS:HB3	8:C:183:HIS:HB3	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:55:ILE:HG22	18:M:104:LEU:CB	2.16	0.75
19:N:29:SER:O	19:N:30:LYS:HD3	1.87	0.75
6:A:38:PRO:HA	6:A:61:LEU:HD22	1.68	0.75
22:Q:43:GLN:HA	22:Q:48:VAL:O	1.86	0.75
29:X:1851:A:H62	29:X:1866:G:H21	1.35	0.75
29:X:2493:U:H2'	29:X:2494:C:C6	2.21	0.75
24:S:6:LYS:H	24:S:7:PRO:HD3	1.51	0.75
29:X:1427:G:H2'	29:X:1428:G:C1'	2.15	0.75
29:X:2859:U:H2'	29:X:2860:C:H5'	1.69	0.75
29:X:1373:G:H2'	29:X:1374:G:H5'	1.67	0.75
29:X:2563:U:H2'	29:X:2564:U:H5''	1.67	0.75
16:K:100:VAL:HG12	16:K:101:GLY:N	2.02	0.75
10:E:43:VAL:CG2	10:E:52:VAL:HG22	2.16	0.75
29:X:1095:A:C3'	29:X:1096:A:H5''	2.17	0.75
29:X:1501:C:H2'	29:X:1502:G:O4'	1.87	0.75
24:S:91:PRO:HD3	24:S:127:PRO:HD3	1.69	0.75
21:P:40:LEU:HB3	30:Y:25:LEU:HD11	1.67	0.75
22:Q:26:SER:HB3	22:Q:79:ILE:HG23	1.68	0.75
7:B:156:MET:HE1	29:X:2033:C:H1'	1.69	0.75
29:X:2426:G:H4'	29:X:2427:A:O5'	1.86	0.75
29:X:2763:U:O2'	29:X:2764:U:H5'	1.87	0.75
15:J:19:THR:HB	31:Z:93:G:H5'	1.69	0.75
23:R:93:ARG:HH12	23:R:108:VAL:C	1.89	0.75
29:X:1964:A:H5''	29:X:1965:U:OP2	1.87	0.75
9:D:16:LEU:O	9:D:20:PHE:N	2.19	0.75
7:B:174:GLU:HB3	7:B:183:LEU:HD12	1.69	0.75
6:A:44:ASN:HD22	6:A:44:ASN:H	1.34	0.75
7:B:147:PRO:HD3	29:X:1141:U:C4	2.22	0.74
29:X:2171:U:H2'	29:X:2172:U:C6	2.22	0.74
6:A:157:ARG:HG3	29:X:1810:U:H3'	1.69	0.74
24:S:69:VAL:HG13	24:S:81:VAL:HG22	1.68	0.74
29:X:1061:A:O2'	29:X:1062:G:H5'	1.87	0.74
29:X:496:C:H2'	29:X:497:C:H5''	1.67	0.74
7:B:152:LYS:HB2	12:G:106:TYR:HB3	1.68	0.74
10:E:66:GLY:HA3	29:X:2728:A:H4'	1.69	0.74
23:R:18:LYS:HE2	23:R:19:GLY:N	2.01	0.74
29:X:2713:A:O2'	29:X:2714:A:H5'	1.87	0.74
29:X:631:G:H4'	29:X:632:A:H5''	1.67	0.74
29:X:1482:U:H2'	29:X:1483:G:C8	2.22	0.74
29:X:1479:G:H2'	29:X:1480:G:H8	1.53	0.74
9:D:32:GLU:HB3	9:D:157:VAL:HG12	1.67	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:35:ARG:HH11	29:X:2722:C:P	2.10	0.74
29:X:1850:G:N2	29:X:1867:A:C8	2.54	0.74
29:X:2222:U:H2'	29:X:2223:U:C6	2.22	0.74
16:K:40:LYS:NZ	29:X:1290:A:H5''	2.02	0.74
17:L:26:ARG:HH12	29:X:2357:A:H4'	1.51	0.74
27:V:2:LYS:CG	27:V:3:PRO:HD3	2.16	0.74
29:X:860:U:H2'	29:X:860:U:O2	1.86	0.74
9:D:80:ARG:HD3	9:D:83:MET:HB3	1.68	0.74
19:N:74:MET:O	19:N:75:ASN:HB3	1.88	0.74
6:A:263:ARG:HG3	29:X:1791:C:OP1	1.87	0.74
14:I:84:GLU:OE1	14:I:97:ARG:HD2	1.88	0.74
13:H:42:LYS:HA	29:X:2653:A:O3'	1.87	0.74
29:X:1060:C:H2'	29:X:1061:A:H8	1.51	0.74
29:X:1586:A:H2'	29:X:1587:A:C8	2.22	0.74
10:E:11:VAL:HG12	10:E:15:VAL:HG21	1.67	0.74
29:X:1226:A:OP2	29:X:1249:G:N2	2.20	0.74
29:X:1683:G:C2'	29:X:1684:G:H5'	2.17	0.74
29:X:1764:A:C2'	29:X:1765:C:H5'	2.18	0.74
9:D:106:ILE:HG21	9:D:139:PRO:HB3	1.70	0.74
29:X:487:G:H22	29:X:489:A:H3'	1.52	0.74
18:M:32:THR:HG22	18:M:33:VAL:N	2.03	0.74
29:X:1969:G:H2'	29:X:1970:G:H8	1.53	0.74
12:G:88:VAL:HG22	12:G:89:ALA:N	2.02	0.74
14:I:38:LYS:HZ3	29:X:954:U:P	2.10	0.74
14:I:40:ARG:NH2	29:X:577:U:P	2.61	0.74
29:X:2779:C:H2'	29:X:2780:A:C8	2.23	0.74
23:R:9:HIS:CD2	29:X:338:G:H4'	2.23	0.74
26:U:27:ASP:CA	26:U:32:ARG:HD3	2.18	0.74
21:P:71:VAL:HG12	21:P:126:ILE:CG2	2.17	0.74
13:H:41:ASN:H	13:H:41:ASN:ND2	1.85	0.74
6:A:94:LEU:HD11	6:A:102:LYS:HB3	1.69	0.74
29:X:1086:C:H3'	29:X:1087:C:H5''	1.68	0.74
29:X:1656:U:O2'	29:X:1657:A:H5''	1.87	0.74
29:X:389:G:H2'	29:X:390:U:C6	2.22	0.74
29:X:2695:C:H2'	29:X:2696:A:H8	1.52	0.74
19:N:61:TRP:CZ3	19:N:94:VAL:N	2.55	0.74
14:I:85:ASP:CA	14:I:116:ARG:HH12	2.00	0.74
12:G:162:LYS:N	12:G:163:PRO:HD2	2.02	0.74
29:X:1411:C:H2'	29:X:1412:C:H6	1.52	0.74
18:M:104:LEU:HD23	18:M:106:TYR:CZ	2.23	0.74
9:D:153:ASP:C	9:D:154:ILE:HD12	2.07	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:74:ILE:HG12	9:D:80:ARG:C	2.08	0.74
20:O:28:GLU:O	20:O:30:GLY:N	2.20	0.74
29:X:640:C:H4'	29:X:660:G:N3	2.03	0.74
16:K:99:ARG:CG	16:K:99:ARG:HH11	1.98	0.74
4:4:8:LYS:H	4:4:34:GLN:HE22	1.35	0.74
13:H:42:LYS:HA	29:X:2654:A:P	2.28	0.74
21:P:107:ILE:HG21	21:P:117:ILE:HD11	1.70	0.73
29:X:2561:G:H5'	29:X:2561:G:H8	1.53	0.73
29:X:1974:U:O5'	29:X:1974:U:H6	1.69	0.73
9:D:134:GLU:HG2	9:D:136:LEU:H	1.52	0.73
10:E:54:ARG:HH11	10:E:57:ASP:HB3	1.52	0.73
24:S:89:GLY:O	24:S:90:GLU:HG2	1.88	0.73
29:X:978:U:H2'	29:X:979:A:H8	1.52	0.73
6:A:166:GLN:HB2	6:A:174:ILE:HB	1.70	0.73
24:S:168:VAL:HG12	24:S:169:VAL:HG13	1.70	0.73
29:X:2703:C:O2'	29:X:2704:U:H5'	1.88	0.73
6:A:75:VAL:HG11	6:A:97:TYR:HB3	1.69	0.73
29:X:2602:G:O2'	29:X:2603:G:H5'	1.88	0.73
29:X:30:G:H2'	29:X:31:C:C6	2.23	0.73
29:X:824:U:O2	29:X:1263:G:H3'	1.88	0.73
29:X:843:G:H1'	29:X:2427:A:C6	2.23	0.73
6:A:218:LYS:HD2	6:A:219:PRO:O	1.89	0.73
14:I:76:LYS:HB3	14:I:79:GLN:HG2	1.68	0.73
11:F:7:ILE:O	11:F:8:VAL:HG23	1.89	0.73
29:X:1737:G:H2'	29:X:1738:U:H6	1.53	0.73
19:N:59:ARG:O	19:N:63:GLN:HG3	1.88	0.73
15:J:11:ARG:NH2	29:X:920:G:H21	1.86	0.73
10:E:95:ARG:NH2	10:E:97:LYS:HE2	2.03	0.73
29:X:223:C:H2'	29:X:224:G:H5'	1.69	0.73
22:Q:17:TYR:HE1	22:Q:94:GLN:HB2	1.52	0.73
29:X:1072:U:C1'	29:X:1081:A:H1'	2.18	0.73
6:A:252:LYS:H	6:A:253:PRO:HD2	1.53	0.73
6:A:124:GLU:O	6:A:126:LYS:HG3	1.88	0.73
24:S:136:VAL:HG21	24:S:152:ILE:HD13	1.69	0.73
12:G:154:GLU:C	12:G:157:PRO:HD2	2.08	0.73
29:X:2594:U:H5'	29:X:2594:U:C6	2.22	0.73
25:T:74:LYS:O	25:T:76:ALA:N	2.22	0.73
29:X:2405:A:H2'	29:X:2405:A:N3	2.03	0.73
10:E:137:ASP:O	10:E:141:VAL:HG23	1.88	0.73
14:I:72:TYR:HA	14:I:105:PRO:HG2	1.71	0.73
29:X:2266:A:C2	29:X:2268:G:H1'	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2324:G:H4'	29:X:2326:C:H5''	1.70	0.73
12:G:67:ARG:HH21	12:G:70:PHE:C	1.91	0.73
26:U:20:ARG:HD3	26:U:43:ARG:CZ	2.17	0.73
29:X:1429:A:H1'	29:X:1603:A:C6	2.24	0.73
7:B:70:ALA:HB3	7:B:72:VAL:HG23	1.70	0.73
18:M:34:ARG:NH1	18:M:81:PHE:HB3	2.02	0.73
14:I:45:LYS:HE3	14:I:47:ALA:HB3	1.69	0.73
29:X:1622:G:H4'	29:X:1624:A:C2	2.23	0.73
25:T:26:PHE:HE2	29:X:870:C:H1'	1.53	0.73
29:X:638:A:H4'	29:X:639:G:H5'	1.69	0.73
29:X:647:G:O2'	29:X:648:A:H5'	1.88	0.73
17:L:33:ARG:CZ	17:L:103:LEU:HB2	2.18	0.73
29:X:170:U:H2'	29:X:171:G:H8	1.52	0.73
24:S:63:PRO:C	24:S:86:VAL:HG23	2.09	0.73
20:O:93:ILE:HD12	20:O:93:ILE:O	1.88	0.73
8:C:48:ARG:H	8:C:48:ARG:HD2	1.52	0.73
29:X:2561:G:H5'	29:X:2561:G:C8	2.23	0.73
12:G:104:THR:HG22	29:X:2620:G:OP1	1.88	0.73
13:H:8:LEU:HD22	13:H:94:ASN:CB	2.17	0.73
8:C:23:ASN:N	8:C:106:MET:SD	2.58	0.73
29:X:1817:U:H2'	29:X:1818:G:C8	2.22	0.73
29:X:2335:U:H2'	29:X:2336:G:H8	1.53	0.73
29:X:516:G:HO2'	29:X:517:A:H8	1.33	0.73
14:I:87:THR:O	14:I:93:LEU:HD13	1.88	0.73
29:X:2659:C:H2'	29:X:2660:C:H6	1.54	0.73
29:X:554:U:O2	29:X:554:U:H2'	1.87	0.73
29:X:1563:U:H2'	29:X:1564:U:C6	2.24	0.73
29:X:1999:U:H1'	30:Y:6:VAL:CG2	2.18	0.73
8:C:176:ASN:HB2	29:X:626:A:HO2'	1.53	0.73
29:X:1979:C:OP1	29:X:1979:C:H6	1.72	0.73
18:M:44:ARG:HD2	18:M:46:ARG:NH2	2.03	0.73
29:X:1542:G:H22	29:X:1562:G:H1	1.33	0.73
29:X:1736:C:H2'	29:X:1737:G:H8	1.54	0.73
29:X:417:C:O3'	29:X:418:C:H4'	1.87	0.73
29:X:198:A:H5''	29:X:199:A:H5'	1.69	0.73
7:B:154:LYS:HZ1	7:B:156:MET:CE	2.01	0.73
23:R:11:ASN:O	23:R:13:LYS:N	2.22	0.73
9:D:13:ARG:HB3	9:D:14:PRO:CD	2.18	0.73
17:L:57:ALA:HB1	31:Z:119:G:H4'	1.69	0.73
26:U:78:ILE:HD13	26:U:79:GLU:H	1.53	0.73
18:M:46:ARG:HG3	18:M:47:SER:H	1.51	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:82:VAL:HG21	12:G:150:VAL:HG22	1.71	0.73
18:M:24:LEU:HB3	18:M:25:PRO:HD2	1.69	0.73
24:S:13:LYS:HB2	24:S:13:LYS:HZ3	1.53	0.73
14:I:126:SER:O	14:I:129:ALA:HB3	1.89	0.73
29:X:2194:A:C2'	29:X:2195:C:H5''	2.17	0.73
21:P:33:MET:CE	21:P:37:LYS:HZ3	2.02	0.73
29:X:1021:A:N3	29:X:1164:C:H1'	2.04	0.73
29:X:2618:A:H1'	29:X:2758:A:C2	2.24	0.73
10:E:64:LEU:HA	10:E:67:LEU:HD12	1.70	0.73
26:U:45:ASN:OD1	29:X:2210:C:H5''	1.89	0.73
6:A:149:PRO:HG2	29:X:2200:G:O2'	1.87	0.73
29:X:1573:G:O5'	29:X:1574:A:H5''	1.89	0.73
29:X:2197:U:C4	29:X:2198:U:C4	2.77	0.72
29:X:1151:U:H5'	29:X:1153:A:H5'	1.69	0.72
15:J:15:ARG:HD3	15:J:73:LYS:HZ2	1.53	0.72
23:R:39:ALA:O	29:X:84:G:H5'	1.88	0.72
16:K:85:PRO:O	16:K:88:ALA:HB2	1.89	0.72
29:X:1181:C:C2'	29:X:1182:U:H5''	2.18	0.72
29:X:2333:A:N1	29:X:2343:C:N3	2.37	0.72
27:V:1:MET:HG3	27:V:2:LYS:HG2	1.70	0.72
10:E:54:ARG:HH11	10:E:62:ARG:NE	1.87	0.72
13:H:43:ARG:NH2	29:X:1979:C:OP2	2.21	0.72
18:M:63:ARG:HB3	29:X:2662:C:OP1	1.89	0.72
29:X:242:A:H2'	29:X:243:G:O4'	1.90	0.72
12:G:116:ARG:NE	12:G:126:VAL:HG13	2.01	0.72
16:K:64:ARG:NH2	29:X:2684:A:C2	2.56	0.72
29:X:2873:G:H2'	29:X:2874:A:H8	1.54	0.72
29:X:2675:U:O2	29:X:2676:G:C8	2.42	0.72
29:X:2195:C:C5	29:X:2196:U:C5	2.76	0.72
12:G:84:ASN:O	12:G:152:ALA:HA	1.90	0.72
19:N:22:LYS:HG3	19:N:23:GLY:H	1.54	0.72
29:X:1001:A:H1'	29:X:1167:A:H2	1.54	0.72
29:X:1036:G:C4	29:X:1145:C:H1'	2.24	0.72
29:X:2598:C:O2'	29:X:2599:U:H5'	1.90	0.72
16:K:20:LEU:HD11	16:K:24:GLN:NE2	2.00	0.72
6:A:243:GLY:H	6:A:244:ARG:HH11	1.36	0.72
6:A:68:LYS:HB3	6:A:152:GLY:HA2	1.70	0.72
29:X:2065:A:H2'	29:X:2066:G:O4'	1.87	0.72
6:A:58:HIS:O	6:A:59:LYS:HB2	1.87	0.72
29:X:525:A:C8	29:X:526:C:C6	2.77	0.72
29:X:1051:U:H2'	29:X:1052:C:O4'	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1275:A:C2	30:Y:10:LYS:HE2	2.24	0.72
29:X:1999:U:H1'	30:Y:6:VAL:HG21	1.72	0.72
29:X:788:G:H5'	29:X:790:A:H1'	1.71	0.72
17:L:63:ASN:CB	17:L:67:THR:HG23	2.19	0.72
29:X:497:C:H6	29:X:497:C:H5'	1.53	0.72
6:A:173:VAL:CG2	6:A:187:SER:HB3	2.19	0.72
14:I:32:ARG:NH1	20:O:81:ARG:HH21	1.85	0.72
29:X:1953:A:H5'	29:X:1954:A:OP1	1.88	0.72
18:M:99:VAL:CG2	18:M:100:ARG:H	1.95	0.72
19:N:88:ILE:HG23	20:O:49:GLU:HB2	1.71	0.72
29:X:28:A:H1'	29:X:523:A:C2	2.25	0.72
29:X:687:G:H2'	29:X:688:A:H5'	1.70	0.72
13:H:10:VAL:HG23	13:H:17:ARG:C	2.09	0.72
9:D:4:LEU:HD21	9:D:173:MET:HE3	1.70	0.72
26:U:48:LYS:HG2	26:U:49:LYS:N	2.04	0.72
24:S:3:LEU:HD21	24:S:32:PHE:CD2	2.25	0.72
7:B:67:PHE:HE1	7:B:78:LEU:HD21	1.54	0.72
29:X:199:A:N6	29:X:209:G:H1'	2.04	0.72
6:A:133:LEU:HD12	6:A:187:SER:HA	1.71	0.72
6:A:50:THR:HG23	29:X:1796:A:H1'	1.72	0.72
9:D:39:GLY:HA2	9:D:86:GLY:HA2	1.70	0.72
7:B:144:ARG:HG3	29:X:2036:G:OP1	1.90	0.72
29:X:1998:A:C4'	30:Y:3:LYS:HZ3	2.02	0.72
29:X:793:G:H21	29:X:796:A:N6	1.87	0.72
8:C:176:ASN:HB2	29:X:626:A:O2'	1.89	0.72
25:T:43:THR:HG22	25:T:46:LYS:HG2	1.70	0.72
17:L:54:ALA:HB3	17:L:75:LEU:CB	2.20	0.72
29:X:2324:G:C6	29:X:2326:C:N4	2.57	0.72
13:H:116:ARG:HH11	18:M:38:LYS:HE2	1.53	0.72
29:X:1522:C:H2'	29:X:1523:A:C4'	2.20	0.72
29:X:2197:U:O4	29:X:2198:U:O4	2.08	0.72
16:K:6:ALA:HB1	29:X:2848:A:H2	1.54	0.72
16:K:21:ALA:O	16:K:47:PHE:CE2	2.42	0.72
10:E:124:ALA:HB3	10:E:132:ASP:CB	2.19	0.72
29:X:317:U:C2'	29:X:318:G:H5''	2.17	0.72
29:X:1693:A:C2	29:X:1976:U:H5'	2.24	0.72
26:U:29:GLY:C	26:U:31:GLY:H	1.93	0.72
29:X:2396:C:H6	29:X:2396:C:H5'	1.55	0.72
14:I:71:THR:HB	14:I:104:ARG:HD3	1.71	0.72
29:X:1850:G:HO2'	29:X:1851:A:H8	0.73	0.72
15:J:44:LYS:HD3	15:J:47:GLN:OE1	1.90	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:47:GLN:HE21	29:X:2464:G:C5'	2.03	0.72
29:X:1885:C:C2'	29:X:1886:G:H5'	2.20	0.72
12:G:36:ASN:C	12:G:38:GLU:H	1.89	0.72
21:P:8:PHE:O	21:P:9:ARG:HB2	1.89	0.72
9:D:150:ARG:CG	9:D:151:GLY:H	1.99	0.72
20:O:7:THR:HG23	20:O:20:ILE:CD1	2.19	0.72
20:O:71:ILE:HD13	29:X:1003:C:H4'	1.70	0.72
11:F:20:ALA:N	11:F:21:PRO:HD2	2.05	0.72
16:K:39:THR:O	16:K:42:LYS:HB2	1.90	0.72
29:X:2437:G:O2'	29:X:2438:A:N7	2.20	0.72
29:X:967:G:N2	29:X:970:A:H3'	2.05	0.72
4:4:19:ARG:HH11	4:4:19:ARG:HG3	1.53	0.72
24:S:100:THR:OG1	24:S:138:VAL:HG11	1.90	0.72
29:X:865:A:H61	29:X:937:C:H42	1.37	0.72
7:B:19:ARG:NH1	7:B:185:LYS:HZ1	1.88	0.72
29:X:2383:C:H2'	29:X:2384:G:O4'	1.89	0.72
20:O:61:VAL:HG23	20:O:94:LYS:H	1.54	0.72
29:X:1312:G:H5''	29:X:1313:U:OP1	1.90	0.72
29:X:1119:U:H6	29:X:1119:U:H5'	1.54	0.72
15:J:69:ILE:HG21	15:J:104:MET:HG2	1.70	0.72
15:J:39:GLU:HG2	31:Z:92:G:N2	2.05	0.72
17:L:38:ILE:HD12	17:L:39:TYR:H	1.54	0.72
29:X:2625:U:OP2	29:X:2625:U:H6	1.73	0.72
13:H:116:ARG:HH11	13:H:116:ARG:CG	2.03	0.72
24:S:94:VAL:HG12	24:S:95:SER:H	1.55	0.72
9:D:115:ARG:O	9:D:178:ARG:HG2	1.89	0.72
23:R:44:GLN:O	23:R:77:HIS:HA	1.90	0.72
7:B:137:ARG:HH22	29:X:2034:A:P	2.12	0.71
14:I:32:ARG:NH2	20:O:81:ARG:HE	1.87	0.71
12:G:125:ARG:HH12	29:X:2760:G:N2	1.86	0.71
15:J:100:PRO:HB3	24:S:74:ARG:HG2	1.72	0.71
29:X:1093:U:H2'	29:X:1094:C:O4'	1.90	0.71
26:U:53:GLU:HB2	26:U:56:GLN:O	1.90	0.71
29:X:1834:G:H2'	29:X:1835:C:C6	2.24	0.71
29:X:762:A:C6	29:X:1634:A:C2	2.78	0.71
29:X:1355:A:OP2	29:X:1618:U:O4	2.08	0.71
29:X:2677:U:H2'	29:X:2678:C:H6	1.55	0.71
14:I:7:LYS:N	14:I:7:LYS:HD3	2.04	0.71
15:J:21:ASP:HA	15:J:99:LYS:HE2	1.72	0.71
16:K:10:LEU:HD23	16:K:17:ARG:HB2	1.70	0.71
29:X:1070:G:H2'	29:X:1071:U:C5	2.25	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:254:THR:O	29:X:1836:C:H5'	1.89	0.71
24:S:123:VAL:HG23	24:S:161:ALA:HA	1.70	0.71
14:I:11:GLY:H	14:I:14:LYS:CB	2.03	0.71
29:X:417:C:N1	29:X:419:G:C8	2.58	0.71
7:B:105:THR:HG21	7:B:199:ARG:NH2	2.05	0.71
29:X:438:G:H2'	29:X:439:C:H6	1.55	0.71
12:G:90:LEU:HD13	12:G:94:LYS:HE2	1.70	0.71
14:I:45:LYS:CE	14:I:47:ALA:HB3	2.20	0.71
8:C:128:ALA:HB2	8:C:159:ARG:CZ	2.20	0.71
17:L:43:ILE:HD12	17:L:43:ILE:H	1.53	0.71
31:Z:108:G:O2'	31:Z:109:G:H5'	1.90	0.71
4:4:36:GLN:HE22	29:X:1135:C:H1'	1.53	0.71
19:N:7:GLY:O	19:N:9:VAL:N	2.24	0.71
29:X:1670:G:H4'	29:X:1671:A:OP1	1.89	0.71
22:Q:53:ILE:CD1	22:Q:80:VAL:HG12	2.19	0.71
29:X:2546:G:H2'	29:X:2547:C:H6	1.56	0.71
6:A:132:PRO:HB2	6:A:134:ARG:HG2	1.71	0.71
29:X:1347:C:O2'	29:X:1348:C:H5'	1.91	0.71
29:X:427:C:H2'	29:X:428:A:C8	2.25	0.71
29:X:1673:C:H2'	29:X:1674:C:H6	1.54	0.71
23:R:93:ARG:NH1	23:R:108:VAL:O	2.24	0.71
15:J:64:LYS:NZ	15:J:110:VAL:HG13	2.04	0.71
29:X:862:A:H2'	29:X:863:C:C6	2.26	0.71
29:X:1482:U:H2'	29:X:1483:G:H8	1.53	0.71
29:X:1586:A:H2'	29:X:1587:A:H8	1.52	0.71
7:B:15:TRP:NE1	7:B:20:ALA:HB2	2.05	0.71
29:X:1350:G:H2'	29:X:1351:G:C8	2.25	0.71
16:K:106:ASP:OD1	16:K:108:VAL:HB	1.89	0.71
15:J:125:LYS:HZ2	15:J:125:LYS:HB3	1.56	0.71
29:X:1404:C:H5'	29:X:1405:A:OP2	1.90	0.71
18:M:103:LYS:HG3	29:X:2698:G:H4'	1.71	0.71
19:N:61:TRP:CZ3	19:N:93:LYS:HA	2.26	0.71
17:L:33:ARG:HH12	17:L:103:LEU:HB2	1.53	0.71
17:L:39:TYR:HA	17:L:55:SER:HB3	1.71	0.71
24:S:69:VAL:CG2	24:S:81:VAL:HG13	2.21	0.71
29:X:162:C:H2'	29:X:163:A:C8	2.24	0.71
10:E:11:VAL:CG1	10:E:15:VAL:HG21	2.19	0.71
9:D:138:PHE:HB2	9:D:141:ILE:HB	1.71	0.71
29:X:2594:U:C2	30:Y:7:PRO:HA	2.26	0.71
23:R:22:VAL:HG12	23:R:23:ILE:N	2.05	0.71
29:X:343:A:H1'	29:X:346:C:N4	2.05	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1807:A:O2'	29:X:1808:C:H4'	1.91	0.71
26:U:22:GLY:HA3	26:U:39:LYS:HE2	1.73	0.71
24:S:100:THR:HG23	24:S:138:VAL:CG2	2.20	0.71
29:X:1913:G:H5''	29:X:1914:U:OP1	1.91	0.71
7:B:120:TRP:O	7:B:121:ASN:HB2	1.89	0.71
7:B:162:MET:HE1	29:X:2796:A:H5''	1.73	0.71
23:R:14:LEU:CD1	23:R:39:ALA:HB1	2.19	0.71
26:U:32:ARG:N	26:U:32:ARG:HE	1.88	0.71
16:K:83:VAL:HG22	16:K:84:ALA:N	2.06	0.71
6:A:43:ARG:N	6:A:43:ARG:NH1	2.34	0.71
14:I:98:LEU:O	14:I:99:VAL:HG13	1.91	0.71
17:L:37:HIS:HE1	17:L:57:ALA:HB2	1.54	0.71
10:E:7:GLN:O	10:E:9:ILE:HG13	1.90	0.71
29:X:2502:G:O2'	29:X:2503:G:H5'	1.91	0.71
29:X:1779:C:H2'	29:X:1780:A:C8	2.25	0.71
29:X:1411:C:H2'	29:X:1412:C:C6	2.25	0.71
29:X:701:U:O2	29:X:800:U:H4'	1.91	0.71
29:X:829:C:H2'	29:X:830:C:C6	2.26	0.71
29:X:1302:C:H2'	29:X:1303:U:C6	2.25	0.71
12:G:149:LYS:HZ1	29:X:7:G:H5'	1.56	0.71
24:S:120:LEU:HD23	24:S:121:GLN:H	1.53	0.71
29:X:1355:A:N9	29:X:1410:U:H1'	2.05	0.71
10:E:56:SER:HB2	10:E:61:HIS:CD2	2.24	0.71
7:B:26:VAL:HB	7:B:182:ILE:HG23	1.71	0.71
29:X:136:A:H2'	29:X:137:A:O4'	1.91	0.71
27:V:24:GLU:HG2	27:V:28:LEU:HD23	1.73	0.71
18:M:104:LEU:HD22	18:M:107:LEU:HD11	1.72	0.70
12:G:51:LEU:HD11	12:G:127:ILE:HG13	1.73	0.70
29:X:558:G:C4	29:X:558:G:C3'	2.74	0.70
20:O:36:LYS:HZ3	20:O:54:TYR:HB3	1.54	0.70
29:X:416:U:O2'	29:X:417:C:C5	2.43	0.70
29:X:2824:C:H1'	29:X:2843:A:C4	2.26	0.70
29:X:2198:U:C2	29:X:2199:C:C6	2.79	0.70
9:D:75:SER:N	9:D:79:LEU:HD22	2.05	0.70
12:G:51:LEU:CD1	12:G:88:VAL:HG21	2.21	0.70
21:P:31:VAL:HG21	21:P:124:ILE:CD1	2.21	0.70
8:C:26:VAL:HA	14:I:18:ARG:NH1	2.06	0.70
29:X:558:G:N3	29:X:558:G:O5'	2.24	0.70
29:X:173:A:H5'	29:X:174:A:OP2	1.91	0.70
29:X:1443:G:H2'	29:X:1444:C:C6	2.27	0.70
26:U:62:LEU:CD2	26:U:67:LEU:HB2	2.21	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:487:G:N2	29:X:489:A:H3'	2.06	0.70
4:4:10:MET:HE1	4:4:32:HIS:HA	1.73	0.70
29:X:561:U:O4'	29:X:1233:A:C2	2.44	0.70
29:X:1698:C:O2'	29:X:1753:A:H2'	1.91	0.70
18:M:103:LYS:O	18:M:104:LEU:HB2	1.91	0.70
18:M:108:ARG:C	18:M:109:GLU:HG3	2.09	0.70
29:X:1225:G:H1'	29:X:1250:A:N6	2.06	0.70
29:X:814:G:H5''	29:X:815:A:OP2	1.92	0.70
29:X:958:G:H2'	29:X:959:C:H6	1.55	0.70
23:R:25:LEU:CD1	23:R:25:LEU:H	2.04	0.70
29:X:1976:U:C2	29:X:1977:C:C6	2.80	0.70
17:L:28:ARG:O	17:L:42:ILE:HD13	1.90	0.70
29:X:2324:G:O2'	29:X:2361:G:H5'	1.91	0.70
29:X:2663:U:N3	29:X:2664:G:C8	2.59	0.70
31:Z:72:C:O2'	31:Z:73:C:H5'	1.91	0.70
29:X:2791:C:O2'	29:X:2792:C:H5'	1.91	0.70
29:X:2228:U:H1'	29:X:2254:C:N4	2.06	0.70
30:Y:15:LYS:O	30:Y:18:MET:HB2	1.92	0.70
8:C:171:PRO:HD2	29:X:626:A:H2	1.57	0.70
23:R:102:LYS:HE2	29:X:100:G:O6	1.91	0.70
17:L:64:LYS:HG2	17:L:65:THR:HG23	1.73	0.70
29:X:2463:G:N2	29:X:2464:G:H1'	2.05	0.70
29:X:1681:A:N6	29:X:1979:C:H42	1.89	0.70
29:X:165:G:H1'	29:X:1378:A:C6	2.26	0.70
6:A:262:LYS:CE	29:X:2206:C:H1'	2.20	0.70
22:Q:66:GLY:C	22:Q:68:PHE:H	1.92	0.70
29:X:1440:G:H3'	29:X:1441:A:H5''	1.74	0.70
29:X:554:U:O2	29:X:554:U:C2'	2.38	0.70
29:X:438:G:H2'	29:X:439:C:C6	2.26	0.70
11:F:86:LYS:HE3	29:X:1076:U:OP1	1.91	0.70
11:F:89:SER:HA	29:X:1075:C:O2'	1.89	0.70
29:X:1610:A:H2'	29:X:1611:U:C6	2.26	0.70
12:G:105:GLY:O	12:G:106:TYR:C	2.29	0.70
20:O:78:VAL:O	20:O:79:GLN:HB2	1.92	0.70
29:X:1710:U:H5'	29:X:1711:C:C5	2.26	0.70
29:X:732:G:P	29:X:732:G:H8	2.13	0.70
16:K:33:ARG:HB2	16:K:114:GLU:HB3	1.73	0.70
29:X:81:C:H2'	29:X:82:G:O4'	1.92	0.70
29:X:2528:G:C2	29:X:2529:G:N7	2.60	0.70
13:H:23:ARG:HH12	13:H:25:LEU:CA	2.04	0.70
29:X:2787:A:H2'	29:X:2788:C:H6	1.56	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:147:LEU:HD21	6:A:155:LEU:HD11	1.73	0.70
29:X:2687:G:H2'	29:X:2688:G:O4'	1.92	0.70
13:H:100:ASN:HD21	13:H:104:GLU:HB2	1.56	0.70
30:Y:58:LEU:HD12	30:Y:58:LEU:H	1.57	0.70
9:D:104:ILE:HG21	9:D:174:GLY:HA3	1.73	0.70
29:X:2189:A:C6	29:X:2195:C:N4	2.60	0.70
9:D:74:ILE:HG12	9:D:80:ARG:O	1.92	0.70
7:B:137:ARG:NH2	29:X:2034:A:OP1	2.24	0.70
19:N:13:ARG:NE	29:X:1264:C:H5''	2.07	0.70
21:P:31:VAL:HG21	21:P:124:ILE:CG1	2.22	0.70
29:X:1337:G:H1'	29:X:1632:A:N6	2.07	0.70
21:P:109:ARG:HG3	29:X:761:G:OP2	1.92	0.70
25:T:43:THR:CG2	25:T:46:LYS:HG2	2.22	0.70
29:X:2404:A:H4'	29:X:2405:A:C5'	2.22	0.70
9:D:22:TYR:CG	9:D:28:VAL:HG22	2.27	0.70
16:K:99:ARG:HB3	16:K:99:ARG:CZ	2.22	0.70
16:K:99:ARG:HG2	16:K:99:ARG:NH1	2.02	0.70
26:U:52:ARG:HD2	26:U:79:GLU:C	2.11	0.70
8:C:48:ARG:O	8:C:51:VAL:HG22	1.91	0.70
29:X:2559:U:C4	29:X:2560:G:N7	2.60	0.70
29:X:2764:U:H2'	29:X:2765:C:C6	2.27	0.70
29:X:1466:C:H2'	29:X:1467:U:O4'	1.92	0.70
28:W:1:MET:SD	28:W:55:GLU:OXT	2.50	0.70
29:X:1094:C:C2'	29:X:1096:A:H5'	2.20	0.70
29:X:1373:G:H1	29:X:2192:U:H3	1.37	0.70
29:X:1700:C:H2'	29:X:1701:C:C6	2.26	0.70
11:F:20:ALA:H	11:F:21:PRO:HD2	1.57	0.70
10:E:105:MET:CB	10:E:113:VAL:HB	2.21	0.70
29:X:2084:G:H2'	29:X:2085:G:C8	2.27	0.70
16:K:63:ARG:HH12	16:K:80:MET:HG2	1.57	0.70
6:A:157:ARG:CG	29:X:1810:U:H3'	2.21	0.70
17:L:87:VAL:HG12	17:L:88:VAL:N	2.06	0.70
14:I:104:ARG:HB3	14:I:105:PRO:CD	2.22	0.70
31:Z:39:C:H5'	31:Z:40:C:OP2	1.92	0.70
15:J:47:GLN:NE2	29:X:2464:G:H5''	2.06	0.70
29:X:1069:G:C2'	29:X:1070:G:H5''	2.22	0.70
14:I:53:ARG:HD3	14:I:53:ARG:O	1.91	0.70
6:A:73:SER:HA	6:A:119:ALA:CB	2.22	0.70
7:B:61:LYS:N	7:B:62:PRO:CD	2.55	0.70
29:X:1574:A:H2'	29:X:1575:C:H5''	1.73	0.70
29:X:1314:A:H2'	29:X:1315:A:H3'	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:59:LYS:HD2	23:R:62:MET:HG3	1.73	0.70
29:X:834:A:H5''	29:X:835:U:H6	1.56	0.70
23:R:106:VAL:CG2	23:R:113:THR:HG21	2.19	0.70
29:X:1685:A:N6	29:X:1693:A:H61	1.89	0.70
13:H:116:ARG:HH22	18:M:41:GLU:CG	2.04	0.70
6:A:53:PHE:HA	6:A:217:ARG:NH2	2.07	0.70
18:M:95:GLU:HG3	18:M:95:GLU:O	1.92	0.70
29:X:2788:C:O2'	29:X:2789:U:H5'	1.90	0.70
29:X:192:G:H4'	29:X:193:A:O5'	1.91	0.70
18:M:100:ARG:CZ	29:X:2824:C:OP1	2.39	0.70
12:G:110:LEU:N	12:G:110:LEU:HD23	2.05	0.70
21:P:110:ALA:HB2	29:X:761:G:O5'	1.91	0.70
8:C:138:LYS:C	8:C:140:ASN:H	1.95	0.70
10:E:115:ILE:HD13	10:E:148:VAL:HG22	1.71	0.70
29:X:306:G:N2	29:X:355:G:H1'	2.07	0.70
25:T:45:PHE:HA	25:T:77:ARG:HB2	1.74	0.70
18:M:106:TYR:HE1	18:M:107:LEU:CG	2.03	0.69
15:J:22:ALA:HB2	15:J:99:LYS:O	1.90	0.69
10:E:89:LEU:HB2	10:E:129:THR:HA	1.72	0.69
9:D:46:ASP:HB2	9:D:49:ALA:HB3	1.74	0.69
14:I:80:LEU:HD21	14:I:89:ASP:OD1	1.91	0.69
22:Q:73:ASN:HB2	22:Q:75:ARG:NH1	2.05	0.69
23:R:97:GLN:OE1	23:R:101:GLY:HA3	1.92	0.69
9:D:65:PRO:HB2	9:D:87:ILE:CG2	2.22	0.69
20:O:73:LYS:HE3	29:X:1003:C:OP1	1.92	0.69
29:X:1018:C:H3'	29:X:1019:U:H5''	1.74	0.69
15:J:106:GLU:CD	15:J:106:GLU:N	2.46	0.69
29:X:742:G:O2'	29:X:776:G:H4'	1.92	0.69
13:H:23:ARG:CZ	13:H:25:LEU:HA	2.21	0.69
31:Z:31:A:H2'	31:Z:32:C:C6	2.26	0.69
28:W:22:ALA:HA	29:X:942:U:O2'	1.93	0.69
8:C:166:TRP:N	8:C:166:TRP:HE3	1.89	0.69
13:H:26:ASN:HD22	13:H:38:GLY:H	1.38	0.69
29:X:2710:C:O2'	29:X:2711:G:H5'	1.91	0.69
18:M:106:TYR:HD1	18:M:107:LEU:N	1.90	0.69
29:X:541:C:O2'	29:X:542:A:OP2	2.08	0.69
8:C:26:VAL:O	8:C:30:VAL:HG23	1.91	0.69
23:R:93:ARG:HG2	23:R:93:ARG:HH11	1.56	0.69
6:A:68:LYS:HD3	6:A:68:LYS:N	2.06	0.69
16:K:98:LEU:HD21	30:Y:56:GLN:HG2	1.74	0.69
29:X:242:A:O2'	29:X:243:G:H4'	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:55:ALA:CB	12:G:134:MET:HE1	2.16	0.69
21:P:37:LYS:HG3	29:X:1279:G:H1	1.56	0.69
22:Q:7:LEU:HD21	27:V:26:MET:HG3	1.74	0.69
29:X:2:G:H2'	29:X:3:U:C6	2.27	0.69
23:R:47:VAL:O	23:R:47:VAL:HG12	1.91	0.69
29:X:71:A:N6	29:X:110:U:H4'	2.05	0.69
29:X:1778:U:H2'	29:X:1779:C:H6	1.56	0.69
29:X:451:A:H2'	29:X:452:G:C8	2.27	0.69
29:X:33:C:O2'	29:X:34:U:H5''	1.92	0.69
29:X:1539:U:H2'	29:X:1540:C:H6	1.52	0.69
29:X:417:C:C2	29:X:419:G:C5	2.80	0.69
22:Q:19:ALA:O	22:Q:22:ARG:HG2	1.92	0.69
29:X:2847:G:H2'	29:X:2848:A:C8	2.27	0.69
15:J:35:LEU:HD12	15:J:36:ILE:N	2.08	0.69
23:R:78:ALA:C	23:R:80:LYS:H	1.96	0.69
23:R:91:ALA:O	23:R:92:THR:HG23	1.93	0.69
29:X:490:A:O2'	29:X:491:A:H3'	1.93	0.69
29:X:2395:C:H2'	29:X:2396:C:H5'	1.74	0.69
29:X:2811:G:C6	29:X:2812:A:N6	2.60	0.69
29:X:1656:U:C2'	29:X:1657:A:H5''	2.23	0.69
22:Q:22:ARG:NH1	22:Q:24:VAL:HG21	2.06	0.69
8:C:197:GLU:HG2	8:C:198:GLU:HG3	1.74	0.69
13:H:47:VAL:HG23	13:H:77:THR:CG2	2.11	0.69
16:K:87:TYR:HE1	16:K:94:TYR:CD2	2.07	0.69
12:G:58:ILE:O	12:G:62:ILE:HD12	1.92	0.69
29:X:236:C:H2'	29:X:237:G:H8	1.57	0.69
29:X:244:C:H2'	29:X:245:C:H5''	1.74	0.69
7:B:123:ALA:O	7:B:124:GLY:C	2.27	0.69
12:G:30:LYS:N	29:X:1006:C:H42	1.91	0.69
29:X:1223:G:H4'	29:X:1224:A:C5'	2.22	0.69
29:X:840:U:H4'	29:X:841:G:C2	2.26	0.69
29:X:731:A:C2'	29:X:732:G:O4'	2.40	0.69
23:R:40:LEU:HB2	23:R:45:LYS:HB2	1.75	0.69
25:T:36:ILE:HG23	25:T:59:LEU:O	1.93	0.69
29:X:2239:C:H2'	29:X:2240:C:C6	2.27	0.69
29:X:2307:A:H2'	29:X:2308:A:C8	2.28	0.69
29:X:109:A:C3'	29:X:110:U:H5''	2.23	0.69
29:X:451:A:H2'	29:X:452:G:H8	1.58	0.69
18:M:25:PRO:O	18:M:26:ASP:C	2.31	0.69
13:H:91:PHE:H	13:H:91:PHE:HD1	1.41	0.69
21:P:14:ARG:HA	21:P:17:GLN:HE21	1.58	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2194:A:H2'	29:X:2195:C:O4'	1.93	0.69
29:X:2198:U:C4	29:X:2199:C:C5	2.81	0.69
12:G:106:TYR:CZ	12:G:108:GLY:HA2	2.27	0.69
21:P:110:ALA:HB3	29:X:760:U:O3'	1.93	0.69
8:C:175:VAL:O	8:C:176:ASN:HB2	1.92	0.69
10:E:146:ALA:O	10:E:150:LYS:HG3	1.92	0.69
23:R:100:ASP:OD1	23:R:102:LYS:HB3	1.93	0.69
23:R:105:ARG:HH22	23:R:112:LYS:CA	2.03	0.69
14:I:83:LEU:O	14:I:84:GLU:HB2	1.91	0.69
17:L:101:LYS:O	17:L:104:ALA:HB3	1.93	0.69
31:Z:17:A:H1'	31:Z:112:A:C8	2.28	0.69
29:X:1194:U:H5'	29:X:1194:U:H6	1.58	0.69
29:X:1194:U:H2'	29:X:1195:U:C6	2.28	0.69
24:S:94:VAL:HG12	24:S:95:SER:N	2.06	0.69
29:X:1835:C:H2'	29:X:1836:C:C6	2.28	0.69
29:X:230:C:C2'	29:X:231:G:H5'	2.23	0.69
18:M:82:PRO:O	18:M:85:SER:N	2.24	0.69
29:X:1310:C:H2'	29:X:1311:C:H6	1.56	0.69
29:X:857:U:H2'	29:X:858:G:O4'	1.92	0.69
29:X:1655:C:H4'	29:X:2689:C:O2	1.92	0.69
8:C:67:ALA:O	8:C:68:ARG:CB	2.40	0.69
29:X:1623:C:O2'	29:X:1624:A:OP2	2.07	0.69
29:X:2018:G:O2'	29:X:2019:C:OP1	2.11	0.69
29:X:585:U:H4'	29:X:2481:G:C8	2.28	0.69
13:H:47:VAL:HG11	13:H:115:ALA:HB1	1.74	0.69
8:C:162:ARG:HD2	29:X:333:A:H5'	1.75	0.69
29:X:2321:C:O2'	29:X:2353:G:H5''	1.93	0.69
29:X:2513:A:C2	29:X:2514:G:H1'	2.28	0.69
9:D:123:ASP:HB2	9:D:127:ASN:O	1.92	0.69
9:D:60:ILE:HG22	9:D:140:GLU:HB2	1.75	0.69
31:Z:43:G:C5'	31:Z:44:C:H5'	2.13	0.69
29:X:541:C:N3	29:X:572:G:C8	2.61	0.69
25:T:34:GLY:HA3	29:X:2332:G:C1'	2.03	0.69
14:I:90:ARG:O	14:I:121:HIS:HB2	1.93	0.69
9:D:9:ASN:O	9:D:13:ARG:N	2.26	0.69
17:L:101:LYS:HG2	17:L:105:ASP:OD2	1.93	0.69
17:L:37:HIS:HB3	31:Z:30:C:OP1	1.93	0.69
10:E:27:LYS:HG2	10:E:32:GLU:HB3	1.74	0.69
29:X:1193:G:H2'	29:X:1194:U:C5'	2.24	0.69
29:X:1479:G:H2'	29:X:1480:G:C8	2.28	0.69
21:P:111:ARG:O	21:P:113:SER:N	2.22	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2026:C:H2'	29:X:2027:C:H6	1.58	0.68
29:X:2055:G:O2'	29:X:2056:C:H5'	1.92	0.68
8:C:3:GLN:OE1	8:C:116:LYS:HE3	1.92	0.68
13:H:42:LYS:HA	29:X:2654:A:OP1	1.93	0.68
29:X:2787:A:O2'	29:X:2788:C:H5'	1.91	0.68
29:X:947:C:H2'	29:X:948:C:H6	1.57	0.68
29:X:1373:G:O2'	29:X:1374:G:H5'	1.93	0.68
19:N:93:LYS:HD3	20:O:5:ILE:HG22	1.75	0.68
29:X:2603:G:C6	29:X:2604:G:N7	2.62	0.68
8:C:5:ASN:HA	8:C:118:VAL:CG2	2.20	0.68
29:X:1919:A:H2	29:X:1926:U:C4	2.11	0.68
29:X:1937:G:N3	29:X:2530:C:H5'	2.08	0.68
29:X:1812:U:O2	29:X:1812:U:H2'	1.91	0.68
24:S:154:LEU:HD11	24:S:160:LEU:HG	1.73	0.68
24:S:71:MET:CB	24:S:78:PRO:HA	2.23	0.68
29:X:1522:C:H2'	29:X:1523:A:C5'	2.24	0.68
29:X:160:C:O2	29:X:445:A:H2	1.76	0.68
19:N:66:ASN:HB2	19:N:70:ARG:NH1	2.08	0.68
29:X:822:G:H2'	29:X:823:U:C5'	2.23	0.68
29:X:346:C:H2'	29:X:347:C:H6	1.58	0.68
22:Q:90:ALA:C	22:Q:92:ALA:H	1.95	0.68
7:B:14:ILE:HD12	7:B:183:LEU:HD13	1.74	0.68
10:E:163:ARG:HB2	10:E:167:GLU:HG2	1.73	0.68
29:X:2198:U:H2'	29:X:2199:C:C1'	2.23	0.68
17:L:66:ASP:C	17:L:68:ALA:H	1.95	0.68
16:K:99:ARG:CG	16:K:99:ARG:NH1	2.57	0.68
29:X:2492:G:H2'	29:X:2493:U:C6	2.29	0.68
29:X:632:A:H2'	29:X:633:G:C5'	2.23	0.68
29:X:149:A:H2'	29:X:150:A:C8	2.28	0.68
29:X:1856:U:C2'	29:X:1857:G:O5'	2.42	0.68
21:P:37:LYS:HE2	21:P:64:ALA:CB	2.16	0.68
29:X:1011:A:O2'	29:X:1012:A:H5'	1.93	0.68
29:X:2558:C:H2'	29:X:2559:U:H6	1.59	0.68
21:P:109:ARG:HG2	29:X:760:U:O2'	1.93	0.68
29:X:817:A:H2'	29:X:819:C:N4	2.08	0.68
14:I:18:ARG:CG	14:I:21:ARG:HD3	2.24	0.68
23:R:27:GLY:O	23:R:30:LYS:HG2	1.93	0.68
29:X:2311:U:O2	29:X:2311:U:H3'	1.93	0.68
29:X:169:C:H2'	29:X:170:U:H5'	1.74	0.68
11:F:53:ILE:HG12	11:F:72:PRO:HB3	1.73	0.68
29:X:2555:G:H3'	29:X:2555:G:OP1	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:118:ASN:ND2	9:D:120:ASN:HD22	1.92	0.68
19:N:57:PHE:CE2	29:X:1006:C:C2	2.82	0.68
29:X:2048:C:H2'	29:X:2049:C:C6	2.28	0.68
29:X:1710:U:H4'	29:X:1711:C:OP2	1.92	0.68
29:X:1919:A:H2	29:X:1926:U:N3	1.92	0.68
29:X:874:A:H2	31:Z:80:A:C2	2.12	0.68
29:X:739:G:O2'	29:X:740:A:P	2.51	0.68
13:H:132:GLU:HB2	18:M:73:PHE:CE1	2.28	0.68
14:I:67:ASN:HB2	29:X:643:A:H4'	1.75	0.68
29:X:421:G:H2'	29:X:422:C:C6	2.28	0.68
29:X:2197:U:C4	29:X:2198:U:C5	2.81	0.68
9:D:75:SER:CB	9:D:79:LEU:HD22	2.23	0.68
19:N:7:GLY:O	19:N:8:ILE:HG13	1.92	0.68
29:X:1333:G:N2	29:X:1344:C:N4	2.41	0.68
8:C:95:LEU:HD23	8:C:96:PRO:CD	2.23	0.68
23:R:22:VAL:HG11	23:R:80:LYS:CE	2.24	0.68
26:U:27:ASP:N	26:U:32:ARG:HD3	2.07	0.68
27:V:7:ARG:HA	27:V:14:PHE:HZ	1.56	0.68
29:X:2074:U:H3'	29:X:2075:U:C5'	2.22	0.68
29:X:1835:C:H2'	29:X:1836:C:H6	1.57	0.68
29:X:2387:U:H2'	29:X:2388:G:H8	1.54	0.68
29:X:1333:G:OP2	29:X:1333:G:H8	1.77	0.68
29:X:2024:U:O2'	29:X:2025:A:H5'	1.94	0.68
29:X:575:U:H2'	29:X:576:A:O4'	1.93	0.68
11:F:13:PRO:HA	11:F:52:ILE:HA	1.76	0.68
19:N:33:ARG:NE	29:X:1265:G:N3	2.41	0.68
8:C:39:ARG:HE	8:C:91:TYR:HD2	1.40	0.68
29:X:2671:C:O2'	29:X:2672:U:H5'	1.94	0.68
8:C:54:THR:OG1	8:C:73:SER:HB3	1.94	0.68
19:N:75:ASN:HD21	19:N:77:SER:HB3	1.59	0.68
7:B:144:ARG:NH1	29:X:2551:A:H2'	2.09	0.68
29:X:1974:U:H2'	29:X:1975:G:H5'	1.75	0.68
29:X:1791:C:O2'	29:X:1792:C:H5''	1.94	0.68
9:D:108:LEU:CD1	9:D:117:ILE:HD11	2.24	0.68
10:E:68:THR:O	10:E:72:VAL:HG23	1.94	0.68
26:U:19:ILE:HA	26:U:42:GLN:HA	1.75	0.68
11:F:3:LYS:HD2	11:F:3:LYS:N	2.08	0.68
29:X:38:G:H2'	29:X:39:C:H6	1.57	0.68
8:C:163:ASN:ND2	8:C:166:TRP:HB2	2.09	0.68
29:X:653:G:C2'	29:X:654:A:H5''	2.22	0.68
29:X:2861:A:H2'	29:X:2862:G:H8	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:63:A:O2'	31:Z:64:C:H5'	1.94	0.68
18:M:100:ARG:NH1	29:X:2824:C:OP1	2.27	0.68
15:J:40:PRO:HG3	15:J:99:LYS:NZ	2.07	0.68
29:X:1920:A:C6	29:X:1922:U:H5	2.12	0.68
29:X:1790:G:C2	29:X:1811:A:N7	2.61	0.68
29:X:2320:G:H2'	29:X:2321:C:C6	2.29	0.68
29:X:2712:G:H3'	29:X:2713:A:H5'	1.76	0.68
13:H:116:ARG:HH21	18:M:40:ARG:HB2	1.59	0.68
25:T:72:LYS:HD3	31:Z:14:C:H5''	1.75	0.68
26:U:11:LYS:NZ	26:U:75:TYR:HB2	2.09	0.68
7:B:122:PHE:O	7:B:123:ALA:HB2	1.93	0.67
19:N:24:PHE:CB	19:N:29:SER:HB3	2.17	0.67
26:U:32:ARG:HE	26:U:32:ARG:H	1.41	0.67
9:D:13:ARG:CB	9:D:14:PRO:HD3	2.23	0.67
29:X:1851:A:H62	29:X:1866:G:N2	1.91	0.67
29:X:1980:A:C2	29:X:1981:A:C5	2.82	0.67
6:A:243:GLY:C	6:A:244:ARG:HD3	2.14	0.67
29:X:417:C:C2	29:X:419:G:N7	2.62	0.67
31:Z:20:A:H2'	31:Z:21:C:C6	2.29	0.67
18:M:31:ASP:OD2	18:M:31:ASP:N	2.26	0.67
9:D:36:VAL:O	9:D:89:VAL:HG23	1.94	0.67
12:G:40:ASN:HB3	12:G:78:ASP:HB3	1.74	0.67
29:X:1033:G:O2'	29:X:1034:U:H5'	1.93	0.67
7:B:129:HIS:CE1	29:X:1692:C:N3	2.62	0.67
31:Z:36:A:HO2'	31:Z:37:C:H5	1.42	0.67
15:J:50:ALA:O	15:J:54:VAL:HG23	1.93	0.67
29:X:1071:U:H1'	29:X:1073:G:C5'	2.24	0.67
11:F:122:ALA:HB1	29:X:1092:U:H4'	1.75	0.67
24:S:19:ILE:HG22	24:S:20:ALA:N	2.09	0.67
6:A:255:LYS:HE2	29:X:1835:C:C5'	2.23	0.67
29:X:617:U:H3'	29:X:617:U:O2	1.94	0.67
29:X:2284:U:C2'	29:X:2285:U:H5''	2.25	0.67
19:N:61:TRP:HZ3	19:N:93:LYS:HA	1.59	0.67
19:N:66:ASN:HA	19:N:69:ALA:CB	2.24	0.67
21:P:106:LEU:HD23	21:P:107:ILE:N	2.10	0.67
7:B:113:THR:OG1	29:X:2798:A:OP1	2.11	0.67
29:X:17:G:C2	29:X:534:U:O2	2.47	0.67
26:U:33:LYS:HZ2	29:X:2400:G:H21	1.41	0.67
24:S:127:PRO:HA	24:S:130:ILE:HD11	1.75	0.67
11:F:104:VAL:HA	11:F:107:ILE:CD1	2.25	0.67
11:F:10:LEU:HD22	11:F:27:LEU:HD21	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:95:LYS:HB3	17:L:95:LYS:NZ	2.09	0.67
31:Z:123:U:H3'	31:Z:123:U:OP1	1.93	0.67
7:B:154:LYS:HZ1	7:B:156:MET:HE1	1.59	0.67
29:X:580:A:H1'	29:X:582:G:C8	2.28	0.67
9:D:142:THR:O	9:D:146:VAL:HG13	1.94	0.67
15:J:121:LEU:O	15:J:125:LYS:HE2	1.94	0.67
29:X:2217:G:H5''	29:X:2218:G:OP1	1.94	0.67
29:X:404:A:H1'	29:X:424:G:H1'	1.77	0.67
29:X:496:C:H2'	29:X:497:C:C5'	2.24	0.67
27:V:46:LEU:O	27:V:50:VAL:HG23	1.94	0.67
29:X:2677:U:H2'	29:X:2678:C:C6	2.29	0.67
29:X:2824:C:H1'	29:X:2843:A:C2	2.29	0.67
12:G:93:LYS:N	12:G:93:LYS:HD2	2.09	0.67
19:N:11:ARG:HH22	29:X:29:U:H4'	1.59	0.67
17:L:33:ARG:NH2	17:L:103:LEU:HB2	2.10	0.67
26:U:19:ILE:HG22	26:U:41:VAL:O	1.93	0.67
29:X:73:A:H4'	29:X:74:G:O5'	1.94	0.67
24:S:18:MET:HA	24:S:36:ARG:N	2.09	0.67
29:X:691:C:H2'	29:X:692:C:C6	2.30	0.67
4:4:10:MET:CE	4:4:32:HIS:HA	2.24	0.67
7:B:111:LYS:HB2	7:B:160:MET:HG2	1.75	0.67
29:X:2329:C:H2'	29:X:2330:G:O4'	1.94	0.67
18:M:99:VAL:HG21	18:M:104:LEU:HD21	1.75	0.67
29:X:2826:C:H2'	29:X:2827:G:C5'	2.23	0.67
29:X:1117:G:H2'	29:X:1118:G:C8	2.30	0.67
12:G:101:THR:HG23	12:G:103:TYR:CD1	2.29	0.67
19:N:6:THR:O	19:N:9:VAL:HB	1.95	0.67
29:X:571:U:O2'	29:X:581:A:O4'	2.12	0.67
29:X:758:G:H2'	29:X:759:C:C5'	2.19	0.67
29:X:981:C:N4	29:X:982:C:H41	1.92	0.67
8:C:3:GLN:HB2	8:C:116:LYS:HD2	1.76	0.67
21:P:94:GLU:HG2	21:P:127:ILE:HB	1.77	0.67
6:A:157:ARG:HD2	29:X:1810:U:C6	2.30	0.67
29:X:2659:C:H2'	29:X:2660:C:C6	2.29	0.67
14:I:58:ALA:O	14:I:59:ARG:HB2	1.94	0.67
11:F:3:LYS:H	11:F:3:LYS:CD	2.07	0.67
7:B:70:ALA:CB	7:B:72:VAL:HG23	2.25	0.67
29:X:405:C:H2'	29:X:406:G:C8	2.30	0.67
29:X:1454:U:H2'	29:X:1455:C:H6	1.59	0.67
29:X:1956:G:H2'	29:X:1957:C:C6	2.30	0.67
12:G:132:PHE:CZ	12:G:142:ARG:HA	2.30	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1252:C:C2'	29:X:1253:C:H5''	2.25	0.67
8:C:84:PHE:CE1	29:X:596:C:C5'	2.77	0.67
21:P:36:ARG:NH2	30:Y:20:ARG:CZ	2.58	0.67
29:X:1139:A:O2'	29:X:1140:A:O4'	2.11	0.67
30:Y:25:LEU:CD1	30:Y:25:LEU:H	2.08	0.67
29:X:2695:C:H2'	29:X:2696:A:C8	2.30	0.67
9:D:37:ASN:ND2	9:D:87:ILE:O	2.27	0.67
7:B:150:VAL:CG2	7:B:154:LYS:HG2	2.24	0.67
7:B:137:ARG:NH2	29:X:2034:A:P	2.67	0.67
29:X:795:A:H5''	29:X:796:A:OP1	1.94	0.67
22:Q:5:ASP:O	22:Q:7:LEU:HD12	1.95	0.67
29:X:1511:A:H2'	29:X:1512:A:C8	2.30	0.67
16:K:31:GLU:O	16:K:33:ARG:N	2.24	0.67
6:A:200:GLU:HG3	6:A:202:LYS:H	1.60	0.67
6:A:66:ASP:OD1	6:A:69:ARG:HB2	1.95	0.67
9:D:175:LEU:HD23	9:D:177:PHE:HE1	1.60	0.67
24:S:1:MET:HE2	24:S:52:PHE:HB3	1.75	0.67
29:X:2806:G:O4'	29:X:2858:A:C2	2.48	0.67
29:X:2555:G:H3'	29:X:2555:G:N3	2.09	0.67
29:X:774:A:H8	29:X:774:A:O5'	1.77	0.67
21:P:10:ASN:O	21:P:12:LYS:N	2.28	0.67
9:D:36:VAL:HG22	9:D:154:ILE:HG13	1.77	0.67
7:B:146:THR:O	7:B:147:PRO:C	2.33	0.67
21:P:37:LYS:HB2	29:X:1279:G:C2	2.30	0.67
29:X:2015:G:O2'	29:X:2016:A:O5'	2.12	0.67
15:J:77:LYS:HG3	15:J:78:LYS:N	2.10	0.67
23:R:100:ASP:C	23:R:102:LYS:H	1.97	0.67
14:I:13:ARG:HG2	14:I:13:ARG:HH21	1.59	0.67
29:X:1355:A:H1'	29:X:1410:U:H4'	1.77	0.67
13:H:97:VAL:O	13:H:99:ILE:HG23	1.95	0.67
29:X:2366:U:H6	29:X:2366:U:H3'	1.59	0.67
7:B:151:TYR:HB3	12:G:106:TYR:CD2	2.29	0.67
8:C:48:ARG:C	8:C:50:GLN:H	1.97	0.67
19:N:75:ASN:ND2	19:N:77:SER:HB3	2.10	0.67
29:X:469:G:H22	29:X:481:A:P	2.18	0.67
27:V:31:GLN:O	27:V:35:GLY:N	2.27	0.67
8:C:104:LEU:N	8:C:104:LEU:CD2	2.58	0.67
29:X:1923:U:H1'	29:X:1924:C:H5	1.58	0.67
29:X:2334:C:H6	29:X:2334:C:O5'	1.77	0.67
17:L:37:HIS:CE1	17:L:57:ALA:HB2	2.29	0.67
17:L:33:ARG:N	17:L:94:TYR:CE1	2.62	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2205:C:C2'	29:X:2206:C:H5'	2.24	0.67
24:S:6:LYS:H	24:S:7:PRO:CD	2.08	0.67
6:A:142:VAL:HG12	6:A:193:ILE:HA	1.76	0.67
29:X:33:C:O2'	29:X:34:U:OP1	2.13	0.67
18:M:37:THR:O	18:M:87:LEU:HD22	1.94	0.67
7:B:99:GLY:N	7:B:172:VAL:O	2.26	0.67
18:M:106:TYR:CD1	18:M:107:LEU:HG	2.30	0.66
12:G:103:TYR:CD2	12:G:111:LYS:HA	2.30	0.66
29:X:2006:G:O2'	29:X:2007:G:H5'	1.96	0.66
29:X:813:A:C1'	29:X:815:A:H5'	2.25	0.66
29:X:738:G:H8	29:X:738:G:O5'	1.78	0.66
13:H:23:ARG:HD3	29:X:2540:A:O2'	1.94	0.66
9:D:8:TYR:HB2	9:D:173:MET:HE1	1.77	0.66
15:J:44:LYS:HB2	15:J:47:GLN:HG3	1.75	0.66
16:K:13:ASN:HD21	16:K:16:ALA:N	1.87	0.66
30:Y:35:GLN:C	30:Y:37:HIS:H	1.99	0.66
29:X:1542:G:N2	29:X:1562:G:N1	2.39	0.66
29:X:1715:A:O2'	29:X:1716:G:H5''	1.94	0.66
29:X:568:G:H2'	29:X:569:C:O4'	1.95	0.66
12:G:63:ARG:C	12:G:63:ARG:HE	1.98	0.66
20:O:11:GLN:OE1	20:O:38:LEU:HD12	1.94	0.66
27:V:38:ALA:C	27:V:40:PRO:HD3	2.15	0.66
8:C:176:ASN:ND2	8:C:178:TYR:HB3	2.10	0.66
29:X:623:G:H3'	29:X:624:A:C5'	2.22	0.66
29:X:304:A:C2'	29:X:305:A:H5''	2.21	0.66
29:X:1819:U:H2'	29:X:1820:G:O4'	1.95	0.66
9:D:163:ASP:HA	9:D:166:ALA:HB3	1.77	0.66
4:4:18:ARG:HD3	4:4:23:VAL:HG22	1.76	0.66
29:X:1302:C:H2'	29:X:1303:U:H6	1.59	0.66
24:S:64:ALA:N	24:S:86:VAL:HG23	2.10	0.66
29:X:1463:A:H2'	29:X:1464:A:H8	1.60	0.66
29:X:2823:G:O2'	29:X:2824:C:H6	1.75	0.66
29:X:1854:G:HO2'	29:X:1855:G:H5'	1.56	0.66
29:X:682:G:H5''	29:X:683:A:OP2	1.94	0.66
8:C:111:ARG:NH1	8:C:181:LEU:HA	2.10	0.66
8:C:4:ILE:HB	8:C:10:ASN:OD1	1.95	0.66
14:I:18:ARG:HD2	14:I:21:ARG:HG3	1.76	0.66
14:I:73:GLU:OE1	14:I:73:GLU:N	2.28	0.66
29:X:2662:C:H2'	29:X:2663:U:C6	2.28	0.66
29:X:2708:U:H2'	29:X:2709:C:H6	1.61	0.66
22:Q:68:PHE:O	22:Q:69:ILE:HD12	1.93	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:149:LYS:NZ	29:X:7:G:C5'	2.59	0.66
6:A:209:ALA:HB2	29:X:1781:C:O2'	1.95	0.66
29:X:496:C:O2'	29:X:497:C:H5''	1.96	0.66
29:X:1841:G:H2'	29:X:1842:G:H5'	1.76	0.66
7:B:147:PRO:HD3	29:X:1141:U:C5	2.30	0.66
8:C:47:THR:HG23	8:C:85:GLY:N	2.09	0.66
12:G:104:THR:O	12:G:107:GLN:NE2	2.29	0.66
12:G:50:PRO:HA	12:G:89:ALA:HB3	1.76	0.66
29:X:590:C:H2'	29:X:591:G:C8	2.22	0.66
29:X:501:G:H2'	29:X:502:A:C8	2.28	0.66
6:A:258:LYS:NZ	6:A:261:ARG:NH2	2.43	0.66
29:X:2238:G:O2'	29:X:2239:C:H5'	1.96	0.66
29:X:417:C:C5	29:X:419:G:C4	2.84	0.66
29:X:417:C:C6	29:X:419:G:N9	2.64	0.66
29:X:765:C:N3	29:X:1772:C:H1'	2.11	0.66
29:X:760:U:C5	30:Y:3:LYS:HG3	2.31	0.66
16:K:20:LEU:CD1	16:K:24:GLN:HE21	2.01	0.66
29:X:2046:C:H2'	29:X:2047:C:H5'	1.78	0.66
29:X:923:A:H2	29:X:2256:G:N3	1.93	0.66
16:K:90:ARG:O	16:K:92:GLY:N	2.29	0.66
29:X:1071:U:H5''	29:X:1072:U:OP1	1.96	0.66
29:X:2790:C:H2'	29:X:2791:C:C6	2.30	0.66
8:C:147:LYS:HB2	8:C:184:ASP:H	1.60	0.66
29:X:1355:A:C8	29:X:1410:U:H1'	2.29	0.66
29:X:192:G:C1'	29:X:193:A:H4'	2.26	0.66
21:P:77:ALA:C	21:P:78:ASN:HD22	1.98	0.66
6:A:79:VAL:HB	6:A:114:GLY:H	1.60	0.66
11:F:90:THR:HG21	11:F:93:LYS:HD2	1.78	0.66
9:D:152:MET:CE	9:D:154:ILE:HD11	2.25	0.66
9:D:63:GLN:HG2	31:Z:44:C:O2'	1.95	0.66
6:A:223:GLY:HA2	6:A:226:MET:SD	2.35	0.66
13:H:27:SER:CB	13:H:50:ILE:H	1.98	0.66
29:X:1690:U:H2'	29:X:1691:G:H5'	1.77	0.66
22:Q:43:GLN:OE1	22:Q:49:ARG:HA	1.96	0.66
29:X:1138:A:H2'	29:X:1139:A:H5''	1.77	0.66
12:G:162:LYS:NZ	29:X:5:A:H1'	2.11	0.66
18:M:33:VAL:HG22	18:M:51:GLU:HB2	1.78	0.66
27:V:49:GLU:O	27:V:53:LEU:HG	1.95	0.66
10:E:18:ASN:HB3	10:E:20:GLN:NE2	2.10	0.66
23:R:59:LYS:HB3	23:R:62:MET:HB2	1.78	0.66
24:S:103:ARG:HD3	24:S:108:VAL:CG2	2.26	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1419:G:H2'	29:X:1420:A:C8	2.30	0.66
29:X:2691:C:C2'	29:X:2692:A:C5'	2.72	0.66
7:B:154:LYS:O	7:B:156:MET:HG3	1.96	0.66
29:X:2594:U:H2'	29:X:2595:C:H6	1.60	0.66
29:X:802:A:OP1	29:X:802:A:H3'	1.96	0.66
16:K:48:VAL:HG13	16:K:49:GLU:N	2.10	0.66
15:J:99:LYS:CE	15:J:100:PRO:HD2	2.24	0.66
29:X:1775:A:O5'	29:X:1775:A:H8	1.78	0.66
25:T:24:LYS:HE3	29:X:2334:C:O2'	1.95	0.66
29:X:2269:G:H2'	29:X:2270:U:O4'	1.94	0.66
29:X:1850:G:C2'	29:X:1851:A:H8	2.06	0.66
29:X:2497:A:H5''	29:X:2498:U:OP2	1.95	0.66
29:X:1095:A:H2'	29:X:1096:A:H5''	1.78	0.66
29:X:71:A:C6	29:X:110:U:H4'	2.30	0.66
18:M:46:ARG:CG	18:M:47:SER:H	2.07	0.66
6:A:211:ARG:HH11	6:A:211:ARG:HG2	1.59	0.66
29:X:2876:C:H2'	29:X:2877:A:C8	2.31	0.66
29:X:1391:A:O2'	29:X:1392:U:H3'	1.95	0.66
9:D:33:LYS:HD2	9:D:90:THR:HG23	1.78	0.66
29:X:732:G:C8	29:X:732:G:OP2	2.49	0.66
23:R:107:ALA:CB	23:R:111:GLY:HA2	2.26	0.66
29:X:2084:G:H2'	29:X:2085:G:H8	1.60	0.66
15:J:53:ILE:O	15:J:54:VAL:C	2.34	0.66
10:E:6:LYS:HB3	10:E:69:ARG:CD	2.26	0.66
29:X:2700:U:H2'	29:X:2701:A:H8	1.59	0.66
29:X:1774:A:C2	29:X:2566:A:C4	2.84	0.66
3:3:12:ARG:CA	14:I:62:LYS:HD3	2.26	0.66
11:F:75:SER:O	11:F:79:ARG:HG3	1.94	0.66
20:O:9:GLY:O	20:O:10:LYS:HB3	1.94	0.66
21:P:105:ARG:NH1	21:P:119:LYS:NZ	2.44	0.66
29:X:1998:A:H4'	30:Y:3:LYS:NZ	2.11	0.66
29:X:799:C:O2'	29:X:800:U:H5'	1.96	0.66
22:Q:10:PRO:HA	22:Q:27:PHE:CB	2.11	0.66
13:H:64:VAL:C	13:H:65:LYS:HD2	2.17	0.66
16:K:84:ALA:HB3	16:K:85:PRO:HD3	1.78	0.66
16:K:60:LEU:CD1	29:X:1469:U:H2'	2.26	0.66
29:X:1072:U:H1'	29:X:1081:A:C1'	2.25	0.66
24:S:91:PRO:HD3	24:S:127:PRO:CG	2.26	0.66
24:S:91:PRO:HD3	24:S:127:PRO:HG3	1.78	0.66
29:X:1840:A:H2'	29:X:1841:G:O4'	1.96	0.66
7:B:162:MET:CE	29:X:2796:A:H5''	2.25	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2598:C:H2'	29:X:2599:U:C6	2.31	0.66
15:J:35:LEU:HD11	15:J:130:THR:CB	2.25	0.66
24:S:113:VAL:HG13	24:S:171:VAL:HG22	1.76	0.66
29:X:2569:A:O2'	29:X:2570:C:H5'	1.96	0.66
29:X:640:C:C4'	29:X:660:G:H21	2.08	0.66
7:B:14:ILE:HG12	18:M:20:HIS:HD2	1.58	0.66
26:U:62:LEU:HD23	26:U:67:LEU:HB2	1.78	0.66
13:H:88:THR:HB	18:M:80:VAL:HB	1.77	0.66
6:A:244:ARG:HD2	29:X:1885:C:H5'	1.78	0.66
29:X:117:A:H4'	29:X:118:U:O5'	1.96	0.66
29:X:230:C:H2'	29:X:231:G:H5'	1.77	0.66
29:X:653:G:C3'	29:X:654:A:H5''	2.25	0.66
29:X:2691:C:H2'	29:X:2692:A:C5'	2.22	0.65
12:G:98:LYS:HG3	12:G:116:ARG:HD3	1.78	0.65
12:G:72:PRO:O	12:G:73:ASN:C	2.34	0.65
20:O:5:ILE:HD11	20:O:8:GLY:O	1.96	0.65
29:X:482:A:C2'	29:X:483:A:H5'	2.26	0.65
27:V:32:ALA:HB2	27:V:37:LEU:HD12	1.76	0.65
8:C:34:GLN:NE2	8:C:177:VAL:HB	2.12	0.65
15:J:66:TYR:HB2	15:J:106:GLU:CD	2.15	0.65
15:J:128:ILE:O	15:J:128:ILE:HD12	1.97	0.65
16:K:96:ARG:HB2	29:X:2857:C:C5'	2.26	0.65
18:M:22:ARG:HD2	18:M:83:PHE:O	1.96	0.65
20:O:65:ARG:HG2	20:O:87:ARG:HD3	1.78	0.65
7:B:16:LYS:O	7:B:17:ASN:HB2	1.96	0.65
29:X:1724:C:N3	29:X:1747:G:C6	2.63	0.65
29:X:1016:C:C5	29:X:1154:A:H1'	2.32	0.65
13:H:29:ILE:CA	13:H:34:LEU:HD23	2.26	0.65
16:K:83:VAL:HG23	16:K:87:TYR:CE2	2.31	0.65
14:I:72:TYR:HB3	14:I:107:LYS:HB2	1.79	0.65
15:J:6:LYS:HE3	15:J:7:ARG:NE	2.06	0.65
29:X:2210:C:H2'	29:X:2211:U:H6	1.60	0.65
6:A:254:THR:CB	29:X:1835:C:HO2'	2.09	0.65
11:F:87:GLY:HA3	29:X:1075:C:H5''	1.78	0.65
29:X:1463:A:H2'	29:X:1464:A:C8	2.31	0.65
8:C:68:ARG:NH1	29:X:2043:A:H62	1.86	0.65
29:X:457:C:O2'	29:X:458:G:H5'	1.96	0.65
23:R:14:LEU:C	23:R:16:PHE:H	1.99	0.65
29:X:1923:U:H1'	29:X:1924:C:C5	2.31	0.65
26:U:33:LYS:HZ2	29:X:2375:G:H1'	1.61	0.65
21:P:71:VAL:CG1	21:P:126:ILE:HG22	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:101:ARG:HD3	29:X:637:G:O6	1.95	0.65
4:4:1:MET:H1	29:X:2505:G:C2'	2.09	0.65
29:X:2625:U:C6	29:X:2625:U:OP2	2.49	0.65
26:U:20:ARG:HB3	26:U:43:ARG:NH2	2.11	0.65
10:E:126:PRO:HG2	10:E:127:GLU:N	2.10	0.65
18:M:22:ARG:HD3	18:M:24:LEU:CD2	2.25	0.65
29:X:1358:C:H2'	29:X:1359:G:H5'	1.78	0.65
18:M:53:VAL:HG12	18:M:54:VAL:N	2.11	0.65
29:X:2195:C:C6	29:X:2196:U:H5	2.15	0.65
7:B:136:ARG:O	7:B:137:ARG:HB2	1.97	0.65
15:J:77:LYS:HG3	15:J:78:LYS:H	1.60	0.65
29:X:1181:C:H2'	29:X:1182:U:C5'	2.22	0.65
29:X:2302:G:H1	29:X:2311:U:H5	1.45	0.65
29:X:2335:U:H2'	29:X:2336:G:C8	2.31	0.65
17:L:36:LYS:NZ	17:L:99:ARG:HH11	1.95	0.65
29:X:1984:A:H4'	29:X:2668:U:H2'	1.78	0.65
29:X:2585:C:C2'	29:X:2586:G:H5'	2.26	0.65
21:P:62:ARG:HG3	21:P:62:ARG:HH11	1.61	0.65
29:X:1122:A:H2	29:X:1123:G:H1'	1.62	0.65
9:D:131:GLY:HA3	29:X:2283:G:O3'	1.97	0.65
7:B:133:LYS:HG2	7:B:137:ARG:HB3	1.79	0.65
12:G:101:THR:HG23	12:G:103:TYR:CE1	2.32	0.65
12:G:49:VAL:O	12:G:89:ALA:HB3	1.97	0.65
21:P:35:PRO:O	21:P:39:ARG:CD	2.44	0.65
25:T:45:PHE:HZ	25:T:77:ARG:NH2	1.95	0.65
17:L:57:ALA:CB	31:Z:119:G:H4'	2.26	0.65
12:G:61:ARG:CZ	12:G:65:LYS:HD2	2.26	0.65
29:X:2628:C:H2'	29:X:2629:U:C6	2.32	0.65
6:A:262:LYS:HE2	29:X:2206:C:H1'	1.79	0.65
7:B:77:ILE:HD12	18:M:3:THR:HG22	1.78	0.65
12:G:52:GLY:O	12:G:55:ALA:HB3	1.97	0.65
12:G:125:ARG:NH1	29:X:2760:G:H1	1.94	0.65
29:X:884:C:H6	29:X:884:C:O5'	1.78	0.65
15:J:39:GLU:CG	31:Z:92:G:H22	2.10	0.65
29:X:1926:U:O2'	29:X:1927:U:H5''	1.96	0.65
26:U:32:ARG:CG	26:U:33:LYS:H	2.01	0.65
29:X:1467:U:H6	29:X:1467:U:H3'	1.60	0.65
25:T:69:PHE:CE2	29:X:870:C:H5'	2.32	0.65
10:E:43:VAL:HG21	10:E:52:VAL:HG22	1.77	0.65
26:U:54:ASN:ND2	26:U:76:LYS:O	2.29	0.65
29:X:2766:U:O2'	29:X:2767:C:H5'	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:30:LYS:HB2	10:E:79:VAL:HA	1.77	0.65
29:X:1255:A:H2'	29:X:1256:C:C6	2.32	0.65
29:X:197:G:N3	29:X:210:A:H2	1.95	0.65
12:G:73:ASN:O	12:G:140:GLN:OE1	2.15	0.65
29:X:1248:G:H2'	29:X:1249:G:O4'	1.97	0.65
29:X:537:C:H1'	29:X:538:A:N6	2.11	0.65
29:X:831:G:H5'	29:X:852:U:OP1	1.97	0.65
15:J:77:LYS:H	15:J:89:GLY:HA3	1.61	0.65
23:R:10:HIS:O	23:R:11:ASN:HB2	1.95	0.65
25:T:45:PHE:HZ	25:T:77:ARG:HH21	1.43	0.65
29:X:2445:C:C2	29:X:2464:G:N2	2.64	0.65
29:X:172:A:H3'	29:X:173:A:H5'	1.78	0.65
13:H:83:ARG:HE	18:M:40:ARG:NH2	1.95	0.65
24:S:91:PRO:HD3	24:S:127:PRO:CD	2.27	0.65
29:X:1588:A:H2'	29:X:1589:G:C8	2.28	0.65
29:X:1066:G:H2'	29:X:1067:G:C8	2.31	0.65
29:X:619:A:H2'	29:X:620:G:O4'	1.96	0.65
23:R:106:VAL:HG23	23:R:113:THR:CG2	2.24	0.65
29:X:1775:A:H4'	29:X:1776:A:O5'	1.96	0.65
29:X:874:A:C2	31:Z:80:A:H2	2.14	0.65
29:X:1095:A:H3'	29:X:1096:A:H5''	1.77	0.65
6:A:222:ARG:HB2	6:A:222:ARG:NH2	2.11	0.65
8:C:166:TRP:CE3	8:C:166:TRP:N	2.64	0.65
12:G:44:VAL:HG12	12:G:45:ASP:H	1.59	0.65
29:X:2807:U:HO2'	29:X:2808:U:P	2.20	0.65
29:X:859:U:H1'	29:X:860:U:C4	2.31	0.65
20:O:32:LYS:HB2	20:O:58:ALA:O	1.96	0.65
21:P:105:ARG:NH1	29:X:1336:G:OP1	2.28	0.65
29:X:2048:C:H2'	29:X:2049:C:H6	1.60	0.65
6:A:146:GLU:HG2	6:A:153:ALA:HA	1.78	0.65
17:L:11:LEU:HA	17:L:14:ARG:HD2	1.77	0.65
16:K:13:ASN:ND2	16:K:14:SER:N	2.43	0.65
7:B:189:PRO:HA	29:X:2659:C:C5'	2.27	0.65
29:X:1522:C:H2'	29:X:1523:A:H4'	1.76	0.65
6:A:48:ARG:H	6:A:48:ARG:HD2	1.60	0.65
29:X:1050:G:H2'	29:X:1051:U:H5'	1.78	0.65
19:N:62:ILE:O	19:N:66:ASN:OD1	2.14	0.65
21:P:32:ARG:HH21	21:P:33:MET:HA	1.62	0.65
29:X:538:A:O2'	29:X:539:A:OP1	2.15	0.65
29:X:853:C:O5'	29:X:853:C:H6	1.80	0.65
29:X:2029:G:H5'	30:Y:19:ARG:HA	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:107:ALA:HB1	23:R:111:GLY:HA2	1.79	0.65
23:R:14:LEU:O	23:R:16:PHE:N	2.28	0.65
29:X:2082:C:H2'	29:X:2083:G:H5''	1.78	0.65
29:X:871:U:O2'	29:X:2247:A:C2'	2.43	0.65
14:I:118:VAL:O	14:I:138:GLY:HA3	1.97	0.65
31:Z:53:G:N2	31:Z:54:U:H5	1.93	0.65
11:F:7:ILE:HG22	11:F:8:VAL:N	2.11	0.65
29:X:1608:U:H2'	29:X:1609:G:H8	1.61	0.65
6:A:177:LEU:HD12	6:A:181:GLU:HB3	1.79	0.65
29:X:2063:A:H2'	29:X:2064:U:C6	2.32	0.65
8:C:56:ARG:HA	8:C:71:ASP:OD2	1.97	0.64
12:G:169:GLN:HB2	12:G:170:PRO:HD2	1.79	0.64
29:X:539:A:N6	29:X:2025:A:H1'	2.12	0.64
29:X:577:U:H4'	29:X:956:A:N6	2.11	0.64
27:V:37:LEU:HD21	27:V:40:PRO:HA	1.79	0.64
26:U:32:ARG:NE	26:U:32:ARG:H	1.94	0.64
24:S:13:LYS:O	24:S:16:GLU:O	2.15	0.64
22:Q:15:LYS:HA	22:Q:18:SER:OG	1.96	0.64
29:X:507:A:H8	29:X:507:A:O5'	1.80	0.64
18:M:105:TYR:O	18:M:108:ARG:HG3	1.96	0.64
9:D:40:LEU:HA	9:D:150:ARG:NH2	2.13	0.64
19:N:72:HIS:CD2	19:N:110:VAL:HG21	2.32	0.64
20:O:23:GLU:O	20:O:24:SER:HB3	1.97	0.64
29:X:1166:A:H2'	29:X:1167:A:H5''	1.79	0.64
29:X:1672:A:H3'	29:X:1673:C:C5	2.32	0.64
29:X:2007:G:C2	29:X:2023:C:C2	2.85	0.64
29:X:1508:G:H5'	29:X:1509:A:C5'	2.10	0.64
15:J:99:LYS:HE3	15:J:100:PRO:HD2	1.78	0.64
21:P:72:LEU:HD12	21:P:126:ILE:HG12	1.80	0.64
29:X:2445:C:O2'	29:X:2446:C:H5'	1.98	0.64
29:X:1442:C:N4	29:X:1585:A:H3'	2.12	0.64
6:A:150:GLY:C	6:A:152:GLY:H	2.00	0.64
29:X:1373:G:N2	29:X:2193:C:H1'	2.12	0.64
31:Z:64:C:H2'	31:Z:65:A:H8	1.62	0.64
13:H:20:MET:O	13:H:21:CYS:C	2.35	0.64
29:X:1221:C:H2'	29:X:1222:G:H8	1.62	0.64
6:A:226:MET:HE3	29:X:795:A:C2	2.32	0.64
29:X:585:U:O2'	29:X:2481:G:C6	2.50	0.64
8:C:153:ASP:HA	8:C:158:ARG:HH21	1.63	0.64
15:J:102:ARG:NH1	15:J:102:ARG:HG3	2.05	0.64
15:J:119:PHE:HD1	15:J:132:MET:SD	2.20	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:15:ARG:HD2	15:J:74:PRO:HD2	1.79	0.64
23:R:84:VAL:HA	23:R:90:LYS:CD	2.27	0.64
21:P:72:LEU:CD1	21:P:126:ILE:HG12	2.27	0.64
10:E:64:LEU:O	10:E:67:LEU:HB2	1.98	0.64
26:U:46:LEU:HB2	29:X:2209:G:H5''	1.79	0.64
4:4:29:ASN:OD1	4:4:31:LYS:N	2.30	0.64
6:A:126:LYS:HB2	6:A:129:ASN:HD22	1.61	0.64
29:X:150:A:H2'	29:X:151:G:O4'	1.97	0.64
14:I:61:PRO:HB3	29:X:2372:A:H5''	1.78	0.64
29:X:2457:A:H1'	29:X:2507:U:O2'	1.98	0.64
29:X:537:C:H1'	29:X:538:A:N1	2.13	0.64
7:B:9:ILE:HD11	7:B:27:LEU:CB	2.16	0.64
8:C:137:ALA:HB1	8:C:142:LEU:HB2	1.79	0.64
29:X:969:U:O2	31:Z:92:G:H5''	1.96	0.64
29:X:2265:A:H4'	29:X:2266:A:O5'	1.98	0.64
16:K:106:ASP:O	16:K:107:GLY:C	2.35	0.64
24:S:141:MET:SD	24:S:147:ILE:HG12	2.37	0.64
18:M:32:THR:HG22	18:M:33:VAL:H	1.63	0.64
29:X:1740:G:O2'	29:X:1741:G:H5'	1.97	0.64
29:X:1572:C:O2'	29:X:1573:G:H5'	1.97	0.64
29:X:2689:C:HO2'	29:X:2690:A:H5'	1.62	0.64
29:X:1053:G:C4	29:X:1054:C:C5	2.86	0.64
9:D:138:PHE:CZ	9:D:152:MET:SD	2.91	0.64
9:D:33:LYS:H	9:D:157:VAL:HB	1.61	0.64
29:X:1003:C:O2'	29:X:1004:A:H5'	1.97	0.64
29:X:1281:A:C1'	29:X:2592:U:C5	2.80	0.64
23:R:105:ARG:HH12	23:R:113:THR:N	1.94	0.64
29:X:1467:U:C3'	29:X:1468:A:H5'	2.22	0.64
29:X:1301:U:C5'	29:X:1302:C:OP2	2.44	0.64
20:O:85:GLY:H	29:X:1238:A:H5'	1.62	0.64
20:O:56:VAL:HA	20:O:97:GLY:HA3	1.79	0.64
12:G:105:GLY:C	12:G:110:LEU:HD12	2.16	0.64
14:I:45:LYS:HE3	14:I:47:ALA:CB	2.28	0.64
19:N:36:PHE:O	19:N:39:LEU:HB2	1.98	0.64
21:P:106:LEU:C	21:P:106:LEU:HD23	2.18	0.64
29:X:757:U:O2'	29:X:758:G:H5'	1.97	0.64
29:X:1682:A:C2'	29:X:1683:G:H5'	2.28	0.64
29:X:1926:U:H4'	29:X:1927:U:O5'	1.97	0.64
29:X:1686:A:C2	29:X:1977:C:H1'	2.32	0.64
29:X:2237:C:H4'	29:X:2238:G:OP2	1.98	0.64
24:S:100:THR:CG2	24:S:138:VAL:HG21	2.26	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2205:C:O2'	29:X:2206:C:H5'	1.98	0.64
28:W:8:SER:CB	29:X:999:A:H5''	2.25	0.64
26:U:53:GLU:O	26:U:78:ILE:HG22	1.97	0.64
29:X:1749:G:O2'	29:X:1750:A:P	2.55	0.64
7:B:130:GLY:O	7:B:131:SER:OG	2.15	0.64
20:O:25:LEU:HB2	20:O:32:LYS:NZ	2.11	0.64
20:O:47:PHE:O	20:O:51:ALA:HB2	1.98	0.64
14:I:32:ARG:NH2	20:O:79:GLN:HA	2.13	0.64
29:X:1226:A:O2'	29:X:1227:A:H5'	1.98	0.64
29:X:1261:G:O2'	29:X:1262:U:OP1	2.14	0.64
29:X:580:A:H1'	29:X:582:G:H8	1.63	0.64
8:C:22:VAL:HA	8:C:106:MET:CG	2.26	0.64
29:X:2813:G:H2'	29:X:2814:G:O4'	1.98	0.64
10:E:124:ALA:CB	10:E:132:ASP:HB3	2.25	0.64
26:U:17:SER:CB	26:U:44:ALA:HA	2.21	0.64
6:A:245:VAL:HG12	6:A:251:GLY:N	2.12	0.64
18:M:24:LEU:HD13	18:M:91:VAL:HG21	1.78	0.64
29:X:819:C:O3'	29:X:843:G:N2	2.31	0.64
22:Q:7:LEU:HD22	22:Q:7:LEU:C	2.17	0.64
28:W:16:GLN:O	28:W:20:VAL:HG23	1.98	0.64
13:H:3:MET:SD	13:H:44:TYR:HE1	2.21	0.64
24:S:86:VAL:HG12	24:S:87:THR:H	1.61	0.64
29:X:1882:G:H21	29:X:1885:C:H41	1.46	0.64
29:X:1737:G:H2'	29:X:1738:U:C6	2.33	0.64
18:M:37:THR:CG2	18:M:39:VAL:HG13	2.28	0.64
29:X:198:A:H4'	29:X:199:A:OP2	1.97	0.64
29:X:2751:C:H2'	29:X:2752:C:C6	2.32	0.64
12:G:41:TRP:HB3	12:G:164:GLN:O	1.98	0.64
18:M:60:SER:CA	18:M:64:LYS:HB2	2.28	0.64
29:X:2195:C:C5	29:X:2196:U:C4	2.85	0.64
7:B:120:TRP:CG	7:B:155:ARG:HB3	2.33	0.64
7:B:150:VAL:HG21	7:B:154:LYS:HE2	1.78	0.64
29:X:2420:C:O2'	29:X:2421:C:H5'	1.96	0.64
29:X:834:A:H5''	29:X:835:U:C6	2.31	0.64
8:C:112:GLN:CA	8:C:116:LYS:HD3	2.28	0.64
15:J:40:PRO:CG	15:J:99:LYS:NZ	2.60	0.64
29:X:1683:G:H2'	29:X:1684:G:O4'	1.97	0.64
29:X:2726:U:H2'	29:X:2727:G:H5'	1.80	0.64
17:L:31:VAL:HG23	17:L:38:ILE:HD13	1.79	0.64
22:Q:58:VAL:O	22:Q:75:ARG:N	2.30	0.64
6:A:222:ARG:NH2	6:A:222:ARG:CB	2.57	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1778:U:H2'	29:X:1779:C:C6	2.32	0.64
29:X:1324:G:H2'	29:X:1325:U:C6	2.33	0.64
24:S:71:MET:CA	24:S:78:PRO:HA	2.26	0.64
29:X:2563:U:C2'	29:X:2564:U:H5''	2.26	0.64
29:X:890:U:H2'	29:X:891:A:H8	1.62	0.64
29:X:2196:U:O2'	29:X:2197:U:O4'	2.15	0.64
12:G:84:ASN:N	12:G:153:GLY:O	2.27	0.64
20:O:22:VAL:CG2	29:X:1173:G:H4'	2.28	0.64
29:X:1226:A:C2	29:X:1250:A:H1'	2.33	0.64
8:C:67:ALA:O	29:X:1268:U:H5	1.80	0.64
29:X:1341:G:H2'	29:X:1343:C:C5	2.33	0.64
29:X:2046:C:C2'	29:X:2047:C:H5'	2.27	0.64
9:D:143:TYR:HA	9:D:146:VAL:HG22	1.80	0.64
14:I:63:ARG:NH1	29:X:2395:C:OP2	2.31	0.64
29:X:176:A:H3'	29:X:177:U:C5	2.32	0.64
29:X:2211:U:O2'	29:X:2212:U:H5'	1.98	0.64
20:O:35:LEU:CD2	20:O:52:GLY:HA2	2.27	0.64
7:B:21:ILE:HG23	7:B:185:LYS:NZ	2.12	0.64
10:E:44:ARG:HH22	10:E:46:ASP:HB2	1.63	0.64
29:X:2869:U:O5'	29:X:2869:U:H6	1.80	0.64
29:X:1855:G:O2'	29:X:1856:U:H5'	1.99	0.63
9:D:74:ILE:HG23	9:D:79:LEU:O	1.98	0.63
9:D:122:PHE:HA	29:X:2282:G:H4'	1.80	0.63
7:B:116:VAL:HG22	7:B:136:ARG:CZ	2.28	0.63
7:B:141:ILE:HG22	7:B:150:VAL:HB	1.79	0.63
8:C:62:LYS:HD3	8:C:62:LYS:C	2.18	0.63
12:G:84:ASN:C	12:G:86:ALA:H	2.01	0.63
20:O:20:ILE:HD12	20:O:21:ARG:N	2.13	0.63
23:R:105:ARG:NH2	23:R:111:GLY:O	2.31	0.63
24:S:105:GLN:HB2	24:S:139:THR:O	1.98	0.63
29:X:2494:C:O2'	29:X:2495:G:H5'	1.97	0.63
29:X:67:G:H2'	29:X:68:C:C6	2.32	0.63
29:X:2787:A:H2'	29:X:2788:C:C6	2.33	0.63
27:V:24:GLU:HG2	27:V:28:LEU:CD2	2.27	0.63
29:X:396:U:O4	29:X:398:C:C2	2.51	0.63
14:I:123:ASP:O	14:I:123:ASP:OD1	2.16	0.63
29:X:1122:A:C2	29:X:1123:G:H1'	2.33	0.63
29:X:2484:G:HO2'	29:X:2485:U:H6	1.43	0.63
29:X:545:C:O2'	29:X:546:A:H5'	1.98	0.63
13:H:115:ALA:HB3	13:H:118:LEU:CD1	2.26	0.63
8:C:107:ALA:O	8:C:110:SER:HB2	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:28:VAL:H	15:J:137:VAL:HG21	1.63	0.63
10:E:89:LEU:HD12	10:E:129:THR:CA	2.28	0.63
8:C:162:ARG:HD2	29:X:333:A:C5'	2.28	0.63
29:X:1685:A:H61	29:X:1693:A:H61	1.46	0.63
29:X:1807:A:H1'	29:X:1809:G:C8	2.32	0.63
31:Z:50:U:H2'	31:Z:51:G:C8	2.30	0.63
27:V:5:GLU:HA	27:V:8:ASN:HB2	1.80	0.63
16:K:14:SER:HG	29:X:2669:C:H5	1.46	0.63
24:S:19:ILE:HB	24:S:34:LEU:CD1	2.29	0.63
20:O:57:GLN:H	20:O:97:GLY:HA2	1.60	0.63
6:A:83:GLU:OE1	6:A:104:TYR:HE2	1.82	0.63
29:X:437:G:O2'	29:X:438:G:H5'	1.98	0.63
23:R:59:LYS:CD	23:R:62:MET:HG3	2.29	0.63
24:S:46:GLN:HB3	24:S:50:GLY:HA3	1.79	0.63
7:B:150:VAL:HG21	7:B:154:LYS:HG2	1.80	0.63
19:N:39:LEU:HA	19:N:42:ALA:HB3	1.81	0.63
19:N:92:ARG:HH11	19:N:92:ARG:HG3	1.62	0.63
19:N:37:GLN:NE2	29:X:572:G:N3	2.46	0.63
29:X:591:G:H2'	29:X:592:G:H8	1.61	0.63
29:X:597:U:H2'	29:X:598:U:C6	2.33	0.63
30:Y:12:SER:HB2	30:Y:15:LYS:N	2.13	0.63
16:K:21:ALA:O	16:K:47:PHE:HE2	1.81	0.63
29:X:1937:G:N3	29:X:2530:C:C5'	2.61	0.63
17:L:28:ARG:HA	17:L:88:VAL:O	1.99	0.63
14:I:117:ALA:O	14:I:118:VAL:HG13	1.97	0.63
29:X:2267:A:H4'	29:X:2268:G:OP1	1.98	0.63
6:A:222:ARG:HG3	29:X:1780:A:OP1	1.97	0.63
7:B:32:PRO:O	7:B:49:ILE:HA	1.97	0.63
11:F:1:MET:HB2	11:F:2:LYS:HD3	1.78	0.63
10:E:163:ARG:HB2	10:E:167:GLU:CG	2.29	0.63
29:X:1039:A:H61	29:X:1136:G:H2'	1.61	0.63
31:Z:12:C:H2'	31:Z:13:C:O4'	1.98	0.63
29:X:2178:U:O2'	29:X:2179:C:H5'	1.98	0.63
18:M:8:ASN:HA	29:X:2851:G:O5'	1.97	0.63
29:X:817:A:H2'	29:X:819:C:C4	2.33	0.63
29:X:577:U:C5'	29:X:956:A:N6	2.62	0.63
29:X:97:U:H5'	29:X:98:U:OP2	1.98	0.63
17:L:89:PHE:HB2	17:L:91:ARG:NH2	2.13	0.63
29:X:2225:G:C2	29:X:2405:A:H1'	2.33	0.63
27:V:7:ARG:HA	27:V:14:PHE:CZ	2.33	0.63
28:W:37:THR:O	28:W:41:ARG:HG3	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:15:VAL:HG23	26:U:16:ASN:H	1.63	0.63
29:X:2873:G:H2'	29:X:2874:A:C8	2.32	0.63
6:A:243:GLY:N	6:A:244:ARG:HH11	1.96	0.63
11:F:100:ASN:HB3	11:F:103:GLN:HE22	1.64	0.63
29:X:417:C:H4'	29:X:418:C:H5'	1.79	0.63
29:X:524:A:O2'	29:X:525:A:H5'	1.98	0.63
29:X:566:U:O2'	29:X:567:G:H5'	1.99	0.63
29:X:2411:A:H2'	29:X:2412:A:C8	2.33	0.63
29:X:1053:G:N2	29:X:1124:U:O2	2.30	0.63
19:N:89:ASP:OD1	20:O:47:PHE:HB3	1.98	0.63
29:X:542:A:H5'	29:X:543:G:O4'	1.98	0.63
16:K:49:GLU:OE1	16:K:95:THR:HG22	1.98	0.63
9:D:7:LYS:HA	9:D:10:ASP:HB2	1.80	0.63
17:L:105:ASP:O	17:L:109:GLU:HG2	1.98	0.63
22:Q:82:LEU:HD11	22:Q:88:ILE:CG2	2.27	0.63
29:X:2447:G:HO2'	29:X:2448:A:H8	1.41	0.63
29:X:865:A:N6	29:X:937:C:H42	1.97	0.63
10:E:126:PRO:CG	10:E:130:ARG:HD3	2.26	0.63
13:H:85:ASP:CG	13:H:87:SER:H	2.01	0.63
27:V:50:VAL:O	27:V:54:ASN:ND2	2.31	0.63
29:X:2379:G:O2'	29:X:2380:U:H5'	1.98	0.63
19:N:106:PHE:O	19:N:110:VAL:HG23	1.99	0.63
29:X:2023:C:O2'	29:X:2024:U:H5'	1.99	0.63
29:X:998:C:H4'	29:X:1012:A:H4'	1.81	0.63
27:V:35:GLY:O	27:V:36:GLN:HB2	1.98	0.63
15:J:131:LYS:HD2	24:S:76:ARG:CZ	2.28	0.63
29:X:1949:A:H1'	29:X:2572:U:C5'	2.28	0.63
9:D:143:TYR:HA	9:D:146:VAL:CG2	2.28	0.63
7:B:189:PRO:HG3	29:X:2658:A:O2'	1.99	0.63
29:X:2665:G:H2'	29:X:2666:U:C6	2.33	0.63
29:X:631:G:H4'	29:X:632:A:C5'	2.28	0.63
29:X:1416:A:H2'	29:X:1417:C:C6	2.33	0.63
12:G:74:MET:HA	12:G:140:GLN:OE1	1.98	0.63
21:P:109:ARG:NH2	29:X:1996:A:C2	2.66	0.63
23:R:82:ALA:O	23:R:83:LEU:HD12	1.99	0.63
29:X:322:A:O2'	29:X:343:A:H4'	1.97	0.63
25:T:31:VAL:HG22	25:T:67:VAL:HG23	1.80	0.63
29:X:2237:C:H2'	29:X:2406:C:OP2	1.99	0.63
22:Q:29:VAL:HG11	22:Q:38:ILE:HD12	1.80	0.63
13:H:35:THR:HG21	29:X:2629:U:H5'	1.79	0.63
17:L:8:ARG:HH11	17:L:8:ARG:CB	2.12	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1914:U:H5'	29:X:1914:U:H6	1.64	0.63
6:A:149:PRO:CG	29:X:2200:G:O2'	2.46	0.63
29:X:553:C:C5'	29:X:554:U:OP1	2.46	0.63
29:X:1060:C:H2'	29:X:1061:A:C8	2.34	0.63
29:X:2178:U:H2'	29:X:2179:C:H6	1.63	0.63
31:Z:4:C:H6	31:Z:4:C:H5'	1.64	0.63
9:D:70:ALA:O	9:D:82:GLY:HA2	1.99	0.63
19:N:66:ASN:HA	19:N:69:ALA:HB3	1.80	0.63
29:X:1991:C:H2'	29:X:1992:G:H8	1.64	0.63
29:X:695:G:O2'	29:X:696:U:H5'	1.99	0.63
15:J:66:TYR:HB2	15:J:106:GLU:OE1	1.99	0.63
10:E:148:VAL:C	10:E:150:LYS:H	2.02	0.63
29:X:1976:U:H2'	29:X:1977:C:H6	1.63	0.63
20:O:26:GLN:HA	20:O:63:HIS:NE2	2.13	0.63
25:T:55:ARG:NH2	29:X:2343:C:OP1	2.31	0.63
28:W:39:ALA:O	28:W:43:MET:HG2	1.99	0.63
29:X:2210:C:H2'	29:X:2211:U:C6	2.34	0.63
29:X:1757:C:O2	29:X:1970:G:C2	2.51	0.63
13:H:13:ASN:ND2	13:H:109:ARG:HG2	2.13	0.63
13:H:70:VAL:HG22	13:H:71:LYS:N	2.14	0.63
12:G:128:GLU:CG	12:G:145:HIS:NE2	2.62	0.63
29:X:758:G:C3'	29:X:759:C:H5''	2.29	0.63
6:A:261:ARG:NH2	29:X:1790:G:H5''	2.14	0.63
17:L:18:ARG:HH12	29:X:2272:A:P	2.22	0.63
13:H:23:ARG:HH12	13:H:25:LEU:CB	2.12	0.63
6:A:262:LYS:HE2	29:X:2205:C:O2	1.99	0.63
29:X:1787:U:H2'	29:X:1788:C:C6	2.33	0.63
24:S:122:ILE:CG2	24:S:160:LEU:HD23	2.28	0.63
29:X:1621:C:O2'	29:X:1626:A:C8	2.50	0.63
29:X:1065:A:O2'	29:X:1066:G:H5'	1.98	0.63
29:X:417:C:H1'	29:X:419:G:C8	2.34	0.63
10:E:136:ILE:N	10:E:136:ILE:HD12	2.14	0.63
8:C:98:GLN:HE22	29:X:611:C:C4'	2.12	0.63
29:X:502:A:O2'	29:X:503:G:H5'	1.99	0.62
29:X:2721:A:H2'	29:X:2722:C:O4'	1.99	0.62
18:M:7:ILE:HG22	18:M:7:ILE:O	1.99	0.62
29:X:1071:U:H4'	29:X:1072:U:O5'	1.98	0.62
29:X:2205:C:H2'	29:X:2206:C:H5'	1.81	0.62
31:Z:25:G:H2'	31:Z:26:G:C5	2.34	0.62
9:D:110:ARG:HG2	9:D:110:ARG:HH21	1.64	0.62
7:B:95:ILE:HG22	7:B:96:PHE:CD2	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:211:ARG:HG2	6:A:211:ARG:NH1	2.13	0.62
23:R:32:GLN:HE21	23:R:50:GLY:HA2	1.64	0.62
29:X:2748:C:N4	29:X:2749:A:C6	2.66	0.62
29:X:431:G:H2'	29:X:432:C:C6	2.34	0.62
29:X:2691:C:O2'	29:X:2692:A:P	2.57	0.62
29:X:2195:C:C4	29:X:2196:U:O4	2.51	0.62
12:G:111:LYS:O	12:G:111:LYS:HG3	1.99	0.62
29:X:1333:G:H22	29:X:1344:C:N4	1.95	0.62
15:J:116:LYS:HE2	15:J:132:MET:HE2	1.81	0.62
15:J:28:VAL:HG21	15:J:135:ARG:HA	1.79	0.62
31:Z:67:C:O2'	31:Z:68:A:H5'	2.00	0.62
6:A:82:ILE:CG2	6:A:91:ARG:HB3	2.28	0.62
29:X:2836:U:O2'	29:X:2837:G:H5'	1.98	0.62
29:X:1376:C:O2'	29:X:1800:A:H1'	1.99	0.62
29:X:1422:C:H2'	29:X:1423:A:H8	1.65	0.62
28:W:42:GLY:HA3	29:X:864:C:O2'	1.99	0.62
6:A:203:ASN:OD1	6:A:204:ILE:HG13	2.00	0.62
29:X:1281:A:C1'	29:X:2592:U:H5	2.11	0.62
8:C:130:THR:O	8:C:133:PHE:HB3	1.99	0.62
29:X:1917:C:O2'	29:X:1918:G:H5'	2.00	0.62
29:X:1941:C:O2'	29:X:1942:G:H5'	1.99	0.62
29:X:649:G:N1	29:X:660:G:N1	2.47	0.62
10:E:57:ASP:O	10:E:58:ALA:HB2	1.99	0.62
6:A:245:VAL:HA	6:A:251:GLY:HA2	1.81	0.62
18:M:82:PRO:HD2	18:M:85:SER:HB2	1.81	0.62
29:X:2415:G:N3	29:X:2577:A:H2	1.96	0.62
12:G:44:VAL:CG1	12:G:45:ASP:N	2.63	0.62
7:B:60:ASN:CB	7:B:62:PRO:HD2	2.30	0.62
6:A:90:ALA:HA	6:A:198:ASN:ND2	2.14	0.62
18:M:55:ILE:O	18:M:103:LYS:O	2.18	0.62
29:X:1724:C:OP2	29:X:1724:C:H3'	2.00	0.62
9:D:88:LYS:HE3	29:X:2293:G:OP1	1.99	0.62
12:G:103:TYR:O	12:G:107:GLN:NE2	2.31	0.62
12:G:42:VAL:HG12	12:G:43:VAL:N	2.14	0.62
29:X:1278:A:O2'	29:X:1279:G:O5'	2.16	0.62
8:C:129:LYS:O	8:C:130:THR:HB	1.98	0.62
13:H:55:VAL:HG12	13:H:66:ALA:HA	1.82	0.62
29:X:1814:G:O2'	29:X:1815:G:H5'	1.98	0.62
17:L:28:ARG:HG3	17:L:43:ILE:HD13	1.82	0.62
25:T:17:ASN:O	25:T:19:LYS:HG2	1.99	0.62
29:X:2404:A:H4'	29:X:2405:A:H5'	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:30:C:H2'	31:Z:31:A:O4'	1.98	0.62
12:G:67:ARG:HB3	12:G:70:PHE:HA	1.81	0.62
22:Q:29:VAL:HG22	22:Q:76:LYS:O	1.98	0.62
29:X:67:G:H2'	29:X:68:C:H6	1.65	0.62
6:A:53:PHE:HA	6:A:217:ARG:HH21	1.65	0.62
29:X:1324:G:H1'	29:X:1326:U:C5	2.35	0.62
24:S:136:VAL:HG22	24:S:152:ILE:HG23	1.81	0.62
6:A:210:GLY:HA2	6:A:213:ARG:HG2	1.82	0.62
9:D:41:GLY:HA2	9:D:44:LYS:O	1.99	0.62
29:X:787:A:H2	29:X:800:U:HO2'	1.46	0.62
29:X:986:A:H2'	29:X:987:G:H5'	1.80	0.62
29:X:1711:C:H5''	29:X:1712:G:OP1	1.99	0.62
29:X:2438:A:N1	29:X:2439:U:C2	2.68	0.62
29:X:1682:A:H2'	29:X:1683:G:H5'	1.82	0.62
29:X:872:G:HO2'	29:X:873:U:H6	1.47	0.62
29:X:2395:C:H2'	29:X:2396:C:C5'	2.29	0.62
24:S:69:VAL:HG22	24:S:81:VAL:CG1	2.28	0.62
10:E:45:GLN:HA	10:E:50:LEU:HG	1.82	0.62
27:V:56:VAL:HA	27:V:59:GLU:OE1	1.99	0.62
30:Y:52:TYR:O	30:Y:53:ASP:OD2	2.16	0.62
20:O:57:GLN:H	20:O:97:GLY:HA3	1.63	0.62
29:X:780:U:H2'	29:X:781:G:H8	1.63	0.62
29:X:2194:A:H3'	29:X:2195:C:C5'	2.21	0.62
14:I:45:LYS:HG2	14:I:46:GLY:H	1.64	0.62
29:X:1031:C:H2'	29:X:1031:C:O2	1.99	0.62
23:R:25:LEU:O	23:R:79:SER:O	2.18	0.62
29:X:335:A:H2'	29:X:336:A:O4'	2.00	0.62
29:X:1682:A:H2'	29:X:1683:G:C5'	2.28	0.62
17:L:42:ILE:HG22	17:L:52:ALA:H	1.64	0.62
23:R:18:LYS:HA	23:R:36:VAL:CG1	2.30	0.62
29:X:532:A:C2	29:X:533:C:C2	2.87	0.62
13:H:83:ARG:HG2	18:M:40:ARG:HH22	1.62	0.62
8:C:148:VAL:HB	8:C:167:VAL:HA	1.82	0.62
18:M:51:GLU:O	18:M:51:GLU:HG3	1.98	0.62
20:O:65:ARG:HG3	20:O:65:ARG:NH1	2.11	0.62
7:B:103:ASP:OD2	7:B:201:ALA:HA	2.00	0.62
29:X:1448:A:H61	29:X:1574:A:H61	1.47	0.62
12:G:113:GLU:CD	12:G:113:GLU:N	2.52	0.62
19:N:66:ASN:HB3	19:N:76:TYR:H	1.64	0.62
20:O:25:LEU:CB	20:O:32:LYS:HZ3	2.11	0.62
20:O:71:ILE:HB	20:O:84:THR:OG1	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:485:G:C6	29:X:520:C:N4	2.68	0.62
29:X:575:U:H4'	29:X:822:G:OP2	1.99	0.62
8:C:3:GLN:NE2	8:C:4:ILE:HG12	2.14	0.62
29:X:732:G:H8	29:X:732:G:OP2	1.82	0.62
29:X:1987:G:C6	29:X:1988:A:C4	2.88	0.62
24:S:73:LYS:C	24:S:75:LYS:H	2.03	0.62
29:X:104:C:H2'	29:X:105:G:C5'	2.21	0.62
31:Z:114:C:O5'	31:Z:114:C:H6	1.82	0.62
4:4:19:ARG:HA	29:X:2736:U:H5''	1.82	0.62
29:X:1070:G:H2'	29:X:1071:U:C6	2.35	0.62
16:K:32:GLY:HA2	16:K:115:LEU:CD1	2.29	0.62
18:M:24:LEU:HB3	18:M:25:PRO:CD	2.28	0.62
29:X:417:C:C1'	29:X:419:G:C8	2.82	0.62
24:S:136:VAL:HG21	24:S:152:ILE:CD1	2.30	0.62
29:X:1265:G:C2	29:X:1266:G:N2	2.68	0.62
12:G:115:ALA:O	12:G:118:ALA:HB3	2.00	0.62
29:X:2850:U:H6	29:X:2850:U:H5'	1.64	0.62
12:G:88:VAL:HG13	12:G:89:ALA:N	2.14	0.62
14:I:32:ARG:HD2	20:O:81:ARG:HD2	1.80	0.62
29:X:1001:A:H1'	29:X:1167:A:C2	2.35	0.62
29:X:1278:A:N6	29:X:1996:A:H5''	2.14	0.62
29:X:1998:A:H4'	30:Y:3:LYS:HZ3	1.63	0.62
29:X:2798:A:H2'	29:X:2799:C:H6	1.65	0.62
29:X:829:C:O2'	29:X:830:C:O4'	2.10	0.62
29:X:1513:U:H5''	29:X:1514:C:OP2	2.00	0.62
8:C:23:ASN:O	8:C:27:LEU:HD13	2.00	0.62
15:J:69:ILE:HD13	15:J:104:MET:CG	2.30	0.62
8:C:162:ARG:O	8:C:162:ARG:HG2	1.98	0.62
6:A:160:GLY:HA3	29:X:1812:U:O4	2.00	0.62
9:D:111:ILE:HB	9:D:114:PHE:HB2	1.81	0.62
9:D:108:LEU:HA	9:D:111:ILE:HD11	1.81	0.62
29:X:2324:G:H5''	29:X:2326:C:O4'	2.00	0.62
26:U:19:ILE:CG2	26:U:42:GLN:HG3	2.25	0.62
26:U:54:ASN:C	26:U:56:GLN:H	2.01	0.62
29:X:2639:A:H2'	29:X:2640:G:O4'	1.99	0.62
15:J:42:TRP:CB	15:J:95:VAL:HG11	2.29	0.62
29:X:208:C:C2'	29:X:209:G:H5'	2.30	0.62
8:C:12:GLY:O	8:C:14:THR:N	2.32	0.62
29:X:957:G:O2'	29:X:958:G:H5'	2.00	0.62
8:C:171:PRO:O	8:C:173:ALA:N	2.32	0.62
29:X:608:G:O2'	29:X:609:U:H5'	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:85:ASP:N	23:R:86:PRO:CD	2.61	0.62
29:X:321:A:N1	29:X:323:G:H1'	2.14	0.62
29:X:1939:U:C4	29:X:1940:C:C4	2.87	0.62
29:X:2725:C:O5'	29:X:2725:C:H6	1.83	0.62
29:X:400:U:H1'	29:X:401:G:C5	2.35	0.62
15:J:125:LYS:NZ	15:J:125:LYS:N	2.47	0.62
19:N:54:LYS:O	19:N:58:ARG:HG3	2.00	0.62
20:O:5:ILE:HG13	20:O:6:GLN:N	2.14	0.62
15:J:36:ILE:O	15:J:130:THR:CB	2.48	0.62
10:E:89:LEU:HB2	10:E:129:THR:CA	2.29	0.62
29:X:2080:U:H2'	29:X:2081:U:C6	2.34	0.62
16:K:79:VAL:CA	16:K:83:VAL:HG13	2.30	0.62
4:4:15:LYS:HB2	4:4:26:ILE:HG13	1.80	0.62
29:X:175:C:H6	29:X:177:U:O4	1.82	0.62
26:U:70:LEU:HD23	26:U:74:PRO:HA	1.80	0.62
25:T:41:ARG:HH11	25:T:41:ARG:HG3	1.64	0.62
29:X:477:A:C2'	29:X:478:G:H5'	2.30	0.62
29:X:500:G:H8	29:X:500:G:OP1	1.82	0.62
29:X:1058:G:H2'	29:X:1121:G:N1	2.13	0.61
20:O:71:ILE:HG21	29:X:1003:C:H4'	1.80	0.61
29:X:1276:U:H1'	30:Y:10:LYS:HG3	1.82	0.61
29:X:1683:G:H2'	29:X:1684:G:C5'	2.30	0.61
25:T:44:LYS:O	25:T:77:ARG:HG3	2.00	0.61
9:D:12:VAL:HG11	9:D:169:LEU:HD13	1.82	0.61
26:U:49:LYS:CB	26:U:61:TRP:HA	2.29	0.61
29:X:116:A:N3	29:X:155:G:H1'	2.15	0.61
20:O:68:LYS:HB2	20:O:87:ARG:HE	1.65	0.61
7:B:75:THR:HG23	7:B:76:ARG:N	2.15	0.61
29:X:1573:G:H3'	29:X:1574:A:H5''	1.81	0.61
29:X:1474:A:O2'	29:X:1475:U:H5'	1.99	0.61
29:X:670:U:H2'	29:X:671:A:C8	2.34	0.61
29:X:1212:U:H2'	29:X:1213:U:C6	2.34	0.61
21:P:117:ILE:HG21	29:X:1995:G:H4'	1.81	0.61
29:X:2011:U:H2'	29:X:2012:A:C8	2.34	0.61
25:T:71:ASN:HD22	25:T:77:ARG:CD	2.12	0.61
10:E:143:GLN:HG2	29:X:2725:C:H1'	1.81	0.61
17:L:102:ALA:O	17:L:104:ALA:N	2.33	0.61
29:X:2516:U:H2'	29:X:2517:C:C6	2.35	0.61
30:Y:58:LEU:HD12	30:Y:58:LEU:N	2.14	0.61
6:A:210:GLY:O	6:A:213:ARG:N	2.33	0.61
29:X:119:G:H2'	29:X:120:G:H8	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:81:GLN:HG2	9:D:82:GLY:N	2.14	0.61
7:B:119:ARG:HD3	7:B:156:MET:O	1.99	0.61
19:N:7:GLY:C	19:N:9:VAL:H	2.03	0.61
20:O:5:ILE:HG13	20:O:6:GLN:H	1.65	0.61
4:4:4:ARG:HH12	29:X:2456:U:H3	1.47	0.61
8:C:130:THR:O	8:C:134:ILE:HG13	2.00	0.61
16:K:43:GLU:O	16:K:46:PRO:HD2	2.01	0.61
29:X:882:C:C2	29:X:883:A:C8	2.88	0.61
10:E:105:MET:HB2	10:E:113:VAL:O	1.99	0.61
29:X:2082:C:H2'	29:X:2083:G:C5'	2.30	0.61
29:X:1467:U:H6	29:X:1468:A:H5'	1.65	0.61
22:Q:40:ASP:O	22:Q:41:ALA:C	2.38	0.61
16:K:103:ARG:O	16:K:107:GLY:HA2	2.01	0.61
29:X:663:G:C3'	29:X:664:C:H5''	2.27	0.61
13:H:81:ILE:HG22	13:H:89:ILE:O	2.00	0.61
29:X:1827:G:H1'	29:X:1914:U:C2	2.36	0.61
8:C:164:VAL:O	8:C:166:TRP:N	2.34	0.61
29:X:1061:A:H2'	29:X:1062:G:C5'	2.30	0.61
12:G:123:PRO:HA	12:G:126:VAL:HG23	1.82	0.61
12:G:127:ILE:O	12:G:130:ALA:HB3	2.00	0.61
12:G:169:GLN:HB2	12:G:170:PRO:CD	2.30	0.61
29:X:1042:G:H2'	29:X:1043:A:H8	1.64	0.61
4:4:36:GLN:NE2	29:X:1135:C:H1'	2.15	0.61
29:X:31:C:O3'	29:X:1251:G:H5'	2.00	0.61
29:X:2598:C:H2'	29:X:2599:U:H6	1.65	0.61
15:J:79:PRO:HD2	15:J:88:LYS:CD	2.26	0.61
6:A:43:ARG:N	6:A:43:ARG:HD2	2.05	0.61
29:X:221:A:H2'	29:X:222:G:O4'	2.00	0.61
29:X:1296:G:H22	29:X:1299:A:H5''	1.65	0.61
29:X:1088:A:C2	29:X:1099:A:C2	2.88	0.61
17:L:8:ARG:NH1	17:L:8:ARG:HB2	2.15	0.61
24:S:51:LEU:H	24:S:51:LEU:HD23	1.64	0.61
24:S:10:PRO:HG2	24:S:14:LEU:HD11	1.82	0.61
29:X:1365:U:H6	29:X:1365:U:O5'	1.83	0.61
29:X:421:G:H2'	29:X:422:C:H6	1.65	0.61
31:Z:22:U:H2'	31:Z:23:G:C8	2.35	0.61
11:F:112:MET:CG	11:F:113:PRO:HD3	2.30	0.61
29:X:2817:A:O2'	29:X:2818:G:H5'	2.01	0.61
7:B:147:PRO:C	7:B:149:ARG:H	2.04	0.61
14:I:32:ARG:HH21	20:O:81:ARG:HG3	1.64	0.61
19:N:109:LEU:O	19:N:112:ALA:HB3	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1134:C:H2'	29:X:1135:C:C6	2.34	0.61
29:X:1278:A:O2'	29:X:1279:G:P	2.59	0.61
8:C:9:GLN:O	8:C:10:ASN:HB2	2.00	0.61
15:J:22:ALA:N	15:J:99:LYS:HG2	2.16	0.61
15:J:40:PRO:HB3	15:J:99:LYS:HZ2	1.66	0.61
15:J:79:PRO:O	15:J:80:ALA:HB3	2.00	0.61
8:C:162:ARG:CD	29:X:333:A:H5'	2.29	0.61
23:R:25:LEU:HG	23:R:81:VAL:HG23	1.81	0.61
26:U:33:LYS:NZ	29:X:2375:G:H1'	2.15	0.61
25:T:26:PHE:CE2	29:X:870:C:H1'	2.35	0.61
29:X:2226:A:O2'	29:X:2227:C:H5'	2.00	0.61
29:X:2238:G:O4'	29:X:2406:C:H2'	2.00	0.61
29:X:872:G:H22	29:X:929:A:P	2.23	0.61
16:K:106:ASP:O	16:K:108:VAL:HG23	2.01	0.61
15:J:56:SER:O	15:J:59:PHE:N	2.32	0.61
26:U:45:ASN:O	26:U:46:LEU:HD23	2.00	0.61
24:S:1:MET:HE3	24:S:52:PHE:HB3	1.80	0.61
29:X:1599:G:N2	29:X:1600:U:H1'	2.15	0.61
24:S:125:PRO:HG2	24:S:126:GLY:H	1.65	0.61
29:X:1062:G:H4'	29:X:2732:C:O2'	2.01	0.61
29:X:1699:A:H2'	29:X:1700:C:C6	2.35	0.61
29:X:1802:A:H2'	29:X:1803:G:O4'	2.00	0.61
28:W:45:LYS:HE3	28:W:45:LYS:HA	1.83	0.61
18:M:101:ARG:HG2	18:M:101:ARG:NH2	2.11	0.61
29:X:2195:C:C2'	29:X:2196:U:H5'	2.30	0.61
29:X:1174:G:H2'	29:X:1175:A:H8	1.65	0.61
29:X:2779:C:H2'	29:X:2780:A:N9	2.16	0.61
29:X:322:A:OP1	29:X:322:A:H8	1.82	0.61
6:A:258:LYS:HZ2	6:A:261:ARG:NH2	1.99	0.61
29:X:492:G:H1'	29:X:516:G:H21	1.66	0.61
29:X:718:A:H62	29:X:739:G:H1'	1.64	0.61
29:X:659:G:H2'	29:X:660:G:C8	2.36	0.61
17:L:33:ARG:NH2	17:L:103:LEU:HD12	2.16	0.61
24:S:138:VAL:HA	24:S:141:MET:HE2	1.82	0.61
29:X:2522:G:H8	29:X:2522:G:H5'	1.65	0.61
7:B:26:VAL:O	7:B:182:ILE:HG22	2.00	0.61
29:X:445:A:H2'	29:X:446:C:H6	1.65	0.61
29:X:2585:C:H2'	29:X:2586:G:H5'	1.82	0.61
21:P:32:ARG:NH2	21:P:33:MET:HA	2.15	0.61
29:X:1009:C:H6	29:X:1009:C:O5'	1.83	0.61
29:X:1225:G:H2'	29:X:1249:G:H22	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:701:U:H5'	29:X:1771:A:C2	2.33	0.61
14:I:38:LYS:HG2	29:X:954:U:P	2.38	0.61
15:J:26:ASP:OD1	15:J:27:TYR:N	2.33	0.61
15:J:30:PHE:HB3	15:J:66:TYR:CE2	2.36	0.61
17:L:28:ARG:HD2	17:L:90:ASP:CG	2.20	0.61
23:R:37:LEU:HB2	23:R:47:VAL:HG12	1.83	0.61
10:E:54:ARG:HH11	10:E:62:ARG:HE	1.48	0.61
26:U:46:LEU:O	26:U:47:HIS:ND1	2.34	0.61
18:M:67:THR:HA	18:M:79:ARG:O	2.00	0.61
24:S:95:SER:HB3	24:S:119:ASN:HD21	1.66	0.61
7:B:198:LEU:HD12	7:B:198:LEU:N	2.16	0.61
12:G:104:THR:CG2	29:X:2620:G:H5''	2.30	0.61
21:P:34:SER:O	21:P:37:LYS:N	2.33	0.61
29:X:1142:G:O2'	29:X:1143:A:O4'	2.19	0.61
29:X:2020:G:C6	29:X:2021:G:C6	2.89	0.61
29:X:310:A:N3	29:X:330:C:O2'	2.33	0.61
17:L:36:LYS:N	17:L:36:LYS:HD2	2.16	0.61
22:Q:59:PRO:O	22:Q:75:ARG:NH2	2.34	0.61
10:E:9:ILE:HG21	10:E:50:LEU:HB3	1.81	0.61
18:M:33:VAL:HG22	18:M:51:GLU:CB	2.31	0.61
29:X:1448:A:N6	29:X:1574:A:H61	1.99	0.61
10:E:154:PRO:HA	10:E:160:LYS:O	2.00	0.61
7:B:116:VAL:HG22	7:B:136:ARG:CD	2.31	0.61
29:X:1670:G:O2'	29:X:1671:A:O5'	2.14	0.61
29:X:1674:C:H2'	29:X:1675:C:H6	1.64	0.61
29:X:2026:C:C2	29:X:2027:C:C5	2.88	0.61
29:X:697:G:C2	29:X:787:A:C2	2.89	0.61
22:Q:6:ILE:HG22	22:Q:7:LEU:N	2.14	0.61
25:T:38:VAL:HG21	25:T:79:ILE:HD11	1.82	0.61
29:X:719:A:H61	29:X:738:G:C2'	2.14	0.61
9:D:148:LYS:HG3	9:D:149:THR:N	2.16	0.61
14:I:107:LYS:HE3	29:X:647:G:O6	2.01	0.61
29:X:1553:G:H2'	29:X:1554:G:C8	2.35	0.61
29:X:1140:A:N6	29:X:2549:G:H4'	2.16	0.61
29:X:2205:C:H2'	29:X:2206:C:C5'	2.31	0.61
11:F:27:LEU:HD23	11:F:57:ILE:HD12	1.83	0.61
9:D:69:LYS:HE2	9:D:84:PRO:HG3	1.83	0.61
7:B:115:GLY:O	7:B:119:ARG:CB	2.46	0.61
29:X:1171:A:H2'	29:X:1172:U:C6	2.36	0.61
29:X:1995:G:O5'	29:X:1995:G:H8	1.84	0.61
29:X:2604:G:C2	29:X:2605:C:C2	2.89	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:820:U:P	29:X:843:G:H21	2.24	0.61
23:R:93:ARG:HH22	23:R:108:VAL:CG1	2.13	0.61
23:R:92:THR:CB	23:R:95:ARG:HH22	2.13	0.61
29:X:558:G:N3	29:X:558:G:C4'	2.63	0.61
29:X:2083:G:H2'	29:X:2084:G:C8	2.36	0.61
25:T:45:PHE:CZ	25:T:77:ARG:NH2	2.69	0.61
29:X:2241:U:C4	29:X:2258:G:N1	2.69	0.61
22:Q:35:LYS:HD3	22:Q:53:ILE:HG23	1.81	0.61
29:X:555:U:C6	29:X:555:U:C3'	2.84	0.61
29:X:1541:G:H2'	29:X:1542:G:C8	2.35	0.61
21:P:87:GLU:HA	21:P:90:LEU:HG	1.82	0.61
29:X:1317:G:O2'	29:X:1318:A:H5'	2.01	0.61
29:X:1700:C:H2'	29:X:1701:C:H6	1.66	0.61
8:C:190:ALA:C	8:C:192:ALA:H	2.04	0.61
23:R:96:LYS:O	23:R:104:VAL:HG12	2.01	0.61
29:X:1993:G:H2'	29:X:1994:U:O5'	2.01	0.60
29:X:698:A:H5''	29:X:699:G:OP1	2.01	0.60
19:N:3:ARG:HB3	29:X:457:C:H5''	1.84	0.60
16:K:72:ASP:HB3	16:K:75:VAL:CG2	2.31	0.60
28:W:3:ILE:HD11	28:W:44:VAL:CG2	2.32	0.60
29:X:2226:A:H2'	29:X:2227:C:H6	1.66	0.60
10:E:66:GLY:CA	29:X:2728:A:H4'	2.31	0.60
17:L:67:THR:O	17:L:70:ALA:HB3	2.00	0.60
29:X:1681:A:H61	29:X:1979:C:N4	1.95	0.60
29:X:1868:A:H2'	29:X:1869:A:O4'	2.00	0.60
29:X:1426:U:H2'	29:X:1427:G:H5'	1.82	0.60
24:S:51:LEU:CA	24:S:64:ALA:O	2.48	0.60
7:B:34:VAL:CG2	7:B:78:LEU:HD22	2.30	0.60
29:X:1476:G:C6	29:X:1477:C:C4	2.89	0.60
9:D:32:GLU:HB3	9:D:157:VAL:CG1	2.31	0.60
7:B:154:LYS:CE	7:B:156:MET:SD	2.88	0.60
12:G:156:HIS:HB2	12:G:157:PRO:HD3	1.81	0.60
29:X:1337:G:O2'	29:X:1632:A:C6	2.53	0.60
26:U:31:GLY:CA	26:U:32:ARG:HH11	2.09	0.60
29:X:2240:C:H1'	29:X:2367:A:H1'	1.82	0.60
9:D:108:LEU:O	9:D:111:ILE:HG13	2.00	0.60
14:I:86:THR:C	14:I:88:PHE:N	2.54	0.60
29:X:2270:U:O2'	29:X:2353:G:H1'	2.01	0.60
7:B:181:LEU:CD2	18:M:12:LEU:HD22	2.31	0.60
16:K:10:LEU:O	16:K:11:ASN:OD1	2.18	0.60
24:S:87:THR:O	24:S:88:TYR:HB2	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:125:A:H5''	29:X:126:C:O4'	2.01	0.60
29:X:1525:A:H3'	29:X:1526:U:H6	1.66	0.60
29:X:1373:G:H2'	29:X:1374:G:C5'	2.31	0.60
29:X:2564:U:H5'	29:X:2565:C:OP1	2.01	0.60
29:X:1745:C:N3	29:X:2696:A:O2'	2.34	0.60
9:D:135:GLN:HG3	9:D:151:GLY:CA	2.26	0.60
31:Z:42:U:H1'	31:Z:47:A:N6	2.16	0.60
8:C:56:ARG:HD3	8:C:71:ASP:OD2	2.01	0.60
14:I:30:ALA:H	14:I:34:HIS:CD2	2.19	0.60
7:B:195:LEU:HB3	18:M:2:GLN:HG2	1.83	0.60
29:X:1271:C:O2'	29:X:1272:G:H5'	2.01	0.60
29:X:538:A:N3	29:X:538:A:H3'	2.16	0.60
29:X:793:G:N2	29:X:796:A:H62	1.91	0.60
14:I:38:LYS:HA	29:X:953:G:H5''	1.84	0.60
29:X:1922:U:HO2'	29:X:2571:G:C1'	2.14	0.60
26:U:31:GLY:O	26:U:32:ARG:O	2.19	0.60
17:L:42:ILE:HD11	17:L:87:VAL:CG1	2.31	0.60
17:L:13:THR:HB	29:X:2313:G:H1'	1.83	0.60
29:X:2324:G:O2'	29:X:2325:A:OP2	2.19	0.60
22:Q:40:ASP:O	22:Q:42:ILE:N	2.34	0.60
16:K:7:GLY:O	16:K:8:ARG:HG2	2.01	0.60
18:M:63:ARG:NH1	18:M:63:ARG:HB2	2.16	0.60
29:X:657:A:H2'	29:X:658:G:O4'	2.01	0.60
29:X:879:A:N3	29:X:879:A:H2'	2.16	0.60
29:X:1442:C:C5	29:X:1585:A:H5''	2.37	0.60
29:X:1888:C:H2'	29:X:1913:G:N7	2.16	0.60
18:M:82:PRO:HD2	18:M:85:SER:CB	2.32	0.60
29:X:2576:G:H2'	29:X:2577:A:C8	2.36	0.60
29:X:1525:A:H3'	29:X:1526:U:C6	2.36	0.60
29:X:2299:A:N3	29:X:2299:A:H2'	2.16	0.60
29:X:2691:C:O2'	29:X:2692:A:H8	1.83	0.60
22:Q:12:ILE:CG1	22:Q:13:SER:N	2.45	0.60
8:C:127:ASP:HB2	8:C:129:LYS:HG2	1.83	0.60
15:J:119:PHE:CD1	15:J:132:MET:SD	2.94	0.60
15:J:11:ARG:HH21	29:X:920:G:H21	1.49	0.60
15:J:99:LYS:CG	15:J:100:PRO:HD2	2.31	0.60
29:X:2436:U:O2	29:X:2474:G:C2	2.54	0.60
29:X:2784:A:C2	29:X:2866:A:C4	2.90	0.60
21:P:49:SER:O	21:P:52:ASP:N	2.34	0.60
6:A:261:ARG:HH22	29:X:1790:G:H5''	1.66	0.60
25:T:43:THR:N	29:X:2310:G:H4'	2.15	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:56:ASP:OD1	29:X:2343:C:H4'	2.01	0.60
12:G:61:ARG:HH21	12:G:61:ARG:CB	2.10	0.60
29:X:1850:G:O2'	29:X:1851:A:O4'	2.20	0.60
24:S:19:ILE:HB	24:S:34:LEU:HD12	1.82	0.60
29:X:2700:U:H6	29:X:2700:U:H5'	1.66	0.60
14:I:65:PHE:HB3	29:X:642:A:O2'	2.02	0.60
29:X:445:A:H2'	29:X:446:C:C6	2.36	0.60
29:X:1714:A:H1'	29:X:1961:A:OP1	2.01	0.60
6:A:271:VAL:HG12	6:A:272:THR:HG23	1.84	0.60
18:M:55:ILE:HA	18:M:104:LEU:HD12	1.82	0.60
20:O:20:ILE:HD12	20:O:21:ARG:H	1.67	0.60
29:X:1034:U:C2'	29:X:1035:G:H5'	2.29	0.60
15:J:36:ILE:HD12	15:J:133:VAL:HG11	1.82	0.60
15:J:80:ALA:O	15:J:81:GLU:HB3	2.02	0.60
29:X:2171:U:H4'	29:X:2171:U:OP1	2.01	0.60
25:T:52:GLY:N	25:T:62:LEU:HD21	2.17	0.60
4:4:17:VAL:HG12	4:4:18:ARG:N	2.16	0.60
29:X:2522:G:H21	29:X:2625:U:H5''	1.66	0.60
14:I:53:ARG:HG3	14:I:53:ARG:HH21	1.66	0.60
29:X:48:A:O2'	29:X:49:U:OP2	2.19	0.60
29:X:2861:A:H2'	29:X:2862:G:C8	2.37	0.60
29:X:774:A:C8	29:X:774:A:O5'	2.55	0.60
31:Z:6:C:H2'	31:Z:7:C:H6	1.65	0.60
9:D:135:GLN:HA	9:D:138:PHE:CE1	2.37	0.60
7:B:144:ARG:HG2	7:B:145:LYS:H	1.65	0.60
12:G:104:THR:OG1	12:G:110:LEU:CD1	2.48	0.60
29:X:2426:G:H3'	29:X:2479:U:OP2	2.01	0.60
29:X:683:A:O2'	29:X:684:C:O5'	2.20	0.60
8:C:107:ALA:HB1	8:C:180:ILE:HD13	1.83	0.60
15:J:76:THR:HA	15:J:89:GLY:O	2.01	0.60
23:R:16:PHE:HB3	23:R:82:ALA:HB1	1.82	0.60
29:X:322:A:O2'	29:X:343:A:C4'	2.50	0.60
29:X:2237:C:O2'	29:X:2238:G:OP1	2.15	0.60
29:X:486:U:H4'	29:X:519:C:H2'	1.84	0.60
29:X:736:G:H2'	29:X:737:C:O4'	2.01	0.60
9:D:30:ARG:O	9:D:158:THR:HB	2.01	0.60
29:X:939:C:H4'	29:X:940:G:OP2	2.00	0.60
29:X:1095:A:C2'	29:X:1096:A:H5''	2.30	0.60
29:X:1763:G:N2	29:X:1765:C:H5''	2.17	0.60
29:X:1439:G:H2'	29:X:1440:G:C8	2.37	0.60
29:X:48:A:OP1	29:X:50:G:H5'	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:54:U:H2'	31:Z:55:C:O4'	2.02	0.60
29:X:2222:U:H2'	29:X:2223:U:H6	1.64	0.60
29:X:1102:G:O2'	29:X:1103:C:H5'	2.01	0.60
29:X:1026:U:O2'	29:X:1027:C:H5'	2.02	0.60
24:S:106:GLY:HA2	24:S:109:GLN:OE1	2.00	0.60
29:X:2022:C:H2'	29:X:2023:C:H6	1.67	0.60
29:X:2426:G:C2	29:X:2480:C:N4	2.70	0.60
29:X:2764:U:H2'	29:X:2765:C:H6	1.65	0.60
29:X:624:A:N3	29:X:624:A:H5'	2.16	0.60
24:S:112:LEU:HD12	24:S:113:VAL:H	1.66	0.60
29:X:310:A:H2	29:X:331:U:C4'	2.14	0.60
29:X:1939:U:H1'	29:X:2531:U:OP1	2.01	0.60
29:X:1793:A:H2'	29:X:1794:A:C8	2.36	0.60
17:L:42:ILE:CG2	17:L:52:ALA:H	2.15	0.60
29:X:222:G:O2'	29:X:223:C:H5'	2.01	0.60
24:S:100:THR:CG2	24:S:138:VAL:HG11	2.31	0.60
29:X:2630:C:O2'	29:X:2631:C:H5'	2.01	0.60
29:X:1107:A:H3'	29:X:1108:U:C5'	2.29	0.60
6:A:182:LEU:HD12	6:A:269:PHE:HD2	1.67	0.60
24:S:20:ALA:HA	24:S:33:ALA:HA	1.84	0.60
6:A:244:ARG:HD2	29:X:1885:C:C5'	2.32	0.60
14:I:11:GLY:N	14:I:14:LYS:HB3	2.15	0.60
29:X:1753:A:H8	29:X:1753:A:O5'	1.84	0.60
10:E:84:THR:HA	10:E:134:SER:HA	1.83	0.60
29:X:1369:G:N2	29:X:1370:U:H1'	2.17	0.60
29:X:1050:G:H2'	29:X:1051:U:C5'	2.32	0.60
29:X:543:G:C5	29:X:544:U:C4	2.90	0.60
29:X:577:U:C5'	29:X:956:A:H62	2.12	0.60
23:R:100:ASP:C	23:R:102:LYS:N	2.55	0.60
29:X:2169:A:H2'	29:X:2170:C:C6	2.37	0.60
29:X:2309:G:C2'	29:X:2310:G:H5'	2.32	0.60
12:G:70:PHE:HB2	19:N:64:ARG:HG2	1.83	0.60
31:Z:15:A:O2'	31:Z:17:A:H5''	2.01	0.60
6:A:254:THR:HB	29:X:1835:C:O2'	2.01	0.60
4:4:31:LYS:HD2	4:4:31:LYS:H	1.67	0.60
18:M:34:ARG:CZ	18:M:66:PHE:CZ	2.84	0.60
29:X:415:A:C2'	29:X:416:U:H5'	2.31	0.60
29:X:2656:G:C2	29:X:2711:G:C2	2.90	0.60
11:F:79:ARG:HB3	11:F:84:ILE:O	2.02	0.60
29:X:1608:U:H2'	29:X:1609:G:C8	2.37	0.60
29:X:2397:A:H2'	29:X:2398:U:C6	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:70:VAL:HG22	13:H:71:LYS:O	2.02	0.60
17:L:85:LYS:HG2	17:L:86:GLN:HE21	1.67	0.60
29:X:1230:C:O2'	29:X:1231:A:H5'	2.01	0.60
29:X:2194:A:C3'	29:X:2195:C:C5'	2.71	0.60
12:G:104:THR:HB	29:X:2620:G:H5''	1.82	0.60
19:N:81:ASN:O	19:N:85:ARG:HD3	2.02	0.60
29:X:2043:A:H1'	29:X:2481:G:O4'	2.02	0.60
29:X:767:G:O2'	29:X:768:U:H5'	2.02	0.60
7:B:7:THR:N	7:B:27:LEU:O	2.32	0.60
15:J:69:ILE:HG21	15:J:104:MET:HA	1.84	0.60
29:X:357:A:H2'	29:X:358:C:H5'	1.84	0.60
29:X:1775:A:O5'	29:X:1775:A:C8	2.55	0.60
25:T:71:ASN:HB2	25:T:77:ARG:HH11	1.66	0.60
29:X:2358:C:C4	29:X:2359:U:C4	2.89	0.60
29:X:2728:A:H2'	29:X:2729:A:C8	2.37	0.60
29:X:2448:A:N6	29:X:2460:G:H1'	2.17	0.60
15:J:6:LYS:HG2	15:J:7:ARG:HG2	1.84	0.60
24:S:105:GLN:HG3	24:S:139:THR:CG2	2.31	0.60
10:E:54:ARG:HH21	10:E:54:ARG:HG2	1.67	0.60
30:Y:35:GLN:O	30:Y:37:HIS:N	2.34	0.60
29:X:1596:A:H2'	29:X:1597:A:O4'	2.01	0.60
18:M:60:SER:C	18:M:64:LYS:HB2	2.22	0.60
12:G:39:GLN:O	12:G:39:GLN:HG3	2.01	0.60
19:N:93:LYS:O	19:N:94:VAL:HG23	2.01	0.60
20:O:14:VAL:O	20:O:15:SER:CB	2.50	0.60
23:R:25:LEU:CD1	23:R:81:VAL:HG23	2.32	0.60
29:X:1445:A:H2'	29:X:1446:U:O4'	2.02	0.60
9:D:171:GLN:HA	9:D:175:LEU:HB3	1.83	0.60
1:1:39:LYS:CA	29:X:2323:U:H5'	2.31	0.60
29:X:2742:G:O2'	29:X:2743:G:H5'	2.02	0.60
22:Q:35:LYS:HD3	22:Q:53:ILE:CG2	2.32	0.60
29:X:865:A:H61	29:X:937:C:N4	2.00	0.60
29:X:2665:G:C2	29:X:2704:U:O2	2.55	0.60
12:G:149:LYS:HZ3	29:X:7:G:H5'	1.67	0.60
7:B:201:ALA:CB	7:B:204:ALA:HB2	2.31	0.60
29:X:1705:U:O2	29:X:1717:A:H5''	2.02	0.60
29:X:981:C:N4	29:X:982:C:N4	2.49	0.59
8:C:104:LEU:H	8:C:104:LEU:CD2	2.15	0.59
29:X:731:A:C3'	29:X:732:G:O4'	2.49	0.59
29:X:732:G:H8	29:X:732:G:O5'	1.85	0.59
29:X:1974:U:H2'	29:X:1975:G:C5'	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1684:G:N2	29:X:1977:C:N4	2.50	0.59
22:Q:34:THR:O	22:Q:38:ILE:HG22	2.02	0.59
22:Q:48:VAL:HG21	22:Q:82:LEU:HD13	1.84	0.59
4:4:25:VAL:HB	4:4:34:GLN:HB2	1.82	0.59
10:E:71:LEU:HA	10:E:74:ASN:HD22	1.67	0.59
29:X:1107:A:C3'	29:X:1108:U:H5''	2.29	0.59
13:H:116:ARG:NH1	18:M:38:LYS:CE	2.65	0.59
12:G:162:LYS:HZ1	29:X:5:A:H1'	1.65	0.59
6:A:244:ARG:N	6:A:244:ARG:HD3	2.17	0.59
24:S:123:VAL:HG23	24:S:161:ALA:CA	2.32	0.59
11:F:2:LYS:HD3	11:F:2:LYS:H	1.67	0.59
27:V:44:ARG:O	27:V:47:ARG:HB2	2.00	0.59
29:X:2065:A:H3'	29:X:2066:G:H8	1.65	0.59
6:A:173:VAL:HG23	6:A:187:SER:HB3	1.82	0.59
29:X:1570:C:H5'	29:X:1571:G:OP2	2.01	0.59
9:D:57:LEU:HA	9:D:60:ILE:HD11	1.84	0.59
7:B:154:LYS:HE3	7:B:156:MET:SD	2.42	0.59
12:G:116:ARG:HE	12:G:126:VAL:CG1	2.07	0.59
12:G:124:GLU:HG3	12:G:152:ALA:HB2	1.85	0.59
29:X:683:A:H4'	29:X:684:C:H5'	1.85	0.59
29:X:690:A:N1	29:X:815:A:C5	2.70	0.59
13:H:76:ARG:O	13:H:94:ASN:HA	2.02	0.59
15:J:131:LYS:HD2	24:S:76:ARG:HH22	1.64	0.59
15:J:76:THR:HB	15:J:88:LYS:O	2.02	0.59
13:H:1:MET:N	29:X:1682:A:H1'	2.17	0.59
29:X:2578:G:C2	29:X:2579:A:C8	2.90	0.59
6:A:160:GLY:H	6:A:196:VAL:HG23	1.65	0.59
17:L:27:LEU:O	17:L:88:VAL:N	2.36	0.59
29:X:490:A:O2'	29:X:491:A:O5'	2.20	0.59
9:D:29:PRO:HG2	9:D:165:GLU:HB3	1.83	0.59
9:D:16:LEU:O	9:D:20:PHE:HD1	1.85	0.59
17:L:33:ARG:N	17:L:94:TYR:HE1	1.99	0.59
29:X:1556:A:H2'	29:X:1557:G:H8	1.67	0.59
29:X:73:A:H5''	29:X:74:G:O4'	2.03	0.59
29:X:1603:A:H2'	29:X:1604:A:C8	2.38	0.59
29:X:50:G:H1'	29:X:116:A:N6	2.17	0.59
29:X:1486:A:H2'	29:X:1487:C:C6	2.37	0.59
6:A:240:THR:HG21	29:X:2577:A:OP1	2.02	0.59
31:Z:52:G:N2	31:Z:53:G:H1'	2.16	0.59
29:X:1541:G:H2'	29:X:1542:G:H8	1.66	0.59
21:P:10:ASN:O	21:P:11:LYS:C	2.39	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:11:ALA:O	13:H:110:VAL:HG13	2.01	0.59
29:X:133:C:H2'	29:X:134:G:H5'	1.84	0.59
9:D:152:MET:HE3	9:D:154:ILE:HD11	1.83	0.59
12:G:154:GLU:O	12:G:157:PRO:HD2	2.02	0.59
21:P:33:MET:CE	21:P:37:LYS:NZ	2.65	0.59
29:X:1163:C:H2'	29:X:1164:C:H6	1.67	0.59
29:X:2756:A:H4'	29:X:2757:G:O5'	2.02	0.59
15:J:28:VAL:HG23	15:J:137:VAL:CG2	2.32	0.59
29:X:1920:A:C6	29:X:1922:U:C5	2.90	0.59
13:H:55:VAL:HG11	13:H:65:LYS:O	2.02	0.59
21:P:47:GLY:O	21:P:48:LYS:HB3	2.02	0.59
9:D:114:PHE:HZ	9:D:176:PRO:CG	2.14	0.59
9:D:114:PHE:HZ	9:D:176:PRO:HG3	1.67	0.59
29:X:2669:C:N4	29:X:2693:U:O2'	2.35	0.59
29:X:165:G:H1'	29:X:1378:A:N1	2.17	0.59
29:X:633:G:C5	29:X:634:G:N7	2.70	0.59
12:G:150:VAL:C	12:G:151:TYR:HD1	2.06	0.59
7:B:26:VAL:HB	7:B:182:ILE:CG2	2.32	0.59
19:N:4:ALA:O	19:N:5:LYS:O	2.20	0.59
29:X:1854:G:C6	29:X:1864:G:C6	2.90	0.59
9:D:125:ARG:HG3	29:X:2294:U:O2'	2.02	0.59
7:B:154:LYS:NZ	7:B:156:MET:CE	2.66	0.59
27:V:32:ALA:CB	27:V:37:LEU:HD12	2.32	0.59
30:Y:4:HIS:CB	30:Y:5:PRO:HD3	2.27	0.59
8:C:29:GLU:CD	14:I:18:ARG:HH22	2.06	0.59
24:S:73:LYS:O	24:S:75:LYS:N	2.33	0.59
10:E:97:LYS:HD2	10:E:104:GLU:OE1	2.03	0.59
23:R:23:ILE:HD12	23:R:23:ILE:O	2.03	0.59
29:X:1682:A:O2'	29:X:1683:G:H5'	2.01	0.59
9:D:9:ASN:O	9:D:14:PRO:HD2	2.02	0.59
29:X:1068:A:C8	29:X:1097:A:H2'	2.37	0.59
24:S:3:LEU:HD12	24:S:3:LEU:C	2.22	0.59
6:A:54:ILE:HD12	6:A:216:GLY:HA2	1.83	0.59
6:A:172:TYR:CE1	6:A:186:HIS:HB3	2.37	0.59
6:A:186:HIS:CE1	29:X:2201:G:H4'	2.37	0.59
29:X:403:A:H4'	29:X:404:A:O5'	2.02	0.59
29:X:192:G:H1'	29:X:193:A:H4'	1.83	0.59
29:X:2864:C:O2'	29:X:2865:G:H5'	2.01	0.59
7:B:164:ARG:O	29:X:2753:C:H5''	2.03	0.59
29:X:1856:U:O2'	29:X:1857:G:O5'	2.21	0.59
19:N:93:LYS:O	19:N:94:VAL:CB	2.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2560:G:C4	29:X:2589:C:C4	2.90	0.59
29:X:591:G:C2'	29:X:592:G:C8	2.81	0.59
29:X:792:U:O2'	29:X:793:G:H5'	2.02	0.59
29:X:983:G:N1	29:X:984:A:N6	2.51	0.59
8:C:175:VAL:HG23	8:C:176:ASN:N	2.18	0.59
8:C:5:ASN:N	8:C:5:ASN:HD22	1.97	0.59
10:E:147:ASN:HA	10:E:150:LYS:HD2	1.84	0.59
29:X:1693:A:N3	29:X:1976:U:H5'	2.17	0.59
29:X:102:C:O2'	29:X:103:U:H5'	2.02	0.59
21:P:94:GLU:CD	21:P:127:ILE:HD12	2.23	0.59
9:D:108:LEU:HD23	9:D:111:ILE:CD1	2.32	0.59
14:I:117:ALA:HA	14:I:137:GLY:C	2.23	0.59
29:X:497:C:C6	29:X:497:C:H5'	2.35	0.59
27:V:41:HIS:CD2	27:V:42:ARG:N	2.70	0.59
29:X:210:A:H61	29:X:441:A:H62	1.51	0.59
29:X:1474:A:H4'	29:X:1475:U:O5'	2.01	0.59
11:F:131:ALA:HB1	11:F:136:VAL:HG23	1.82	0.59
19:N:89:ASP:O	19:N:90:LEU:HG	2.03	0.59
21:P:100:GLY:C	21:P:101:PRO:O	2.38	0.59
16:K:30:ARG:C	16:K:31:GLU:HG2	2.22	0.59
15:J:15:ARG:HB3	15:J:73:LYS:HZ2	1.68	0.59
29:X:2046:C:O2	29:X:2430:A:C2	2.56	0.59
26:U:33:LYS:HZ2	29:X:2400:G:N2	1.99	0.59
29:X:2309:G:H2'	29:X:2310:G:H5'	1.85	0.59
29:X:640:C:H4'	29:X:660:G:H21	1.68	0.59
9:D:29:PRO:O	9:D:169:LEU:HD22	2.03	0.59
29:X:2322:U:H2'	29:X:2323:U:C6	2.37	0.59
23:R:18:LYS:HA	23:R:36:VAL:HG11	1.84	0.59
16:K:28:LEU:CD2	16:K:28:LEU:O	2.46	0.59
29:X:914:C:O2'	29:X:915:C:H5'	2.03	0.59
6:A:132:PRO:O	6:A:136:VAL:HG23	2.02	0.59
20:O:36:LYS:HE3	20:O:55:THR:C	2.23	0.59
29:X:826:U:H2'	29:X:827:C:H6	1.66	0.59
29:X:1579:G:O2'	29:X:1580:C:H5'	2.02	0.59
10:E:98:LEU:HD12	10:E:99:THR:H	1.67	0.59
29:X:341:A:C8	29:X:341:A:H3'	2.38	0.59
8:C:61:GLN:HA	8:C:61:GLN:HE21	1.66	0.59
29:X:2673:G:C6	29:X:2696:A:N1	2.71	0.59
29:X:2820:C:O2'	29:X:2821:G:H5'	2.02	0.59
7:B:141:ILE:HG13	29:X:2034:A:H4'	1.84	0.59
7:B:147:PRO:O	7:B:149:ARG:N	2.28	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1173:G:H2'	29:X:1174:G:H8	1.67	0.59
29:X:2424:G:O2'	29:X:2425:G:H5'	2.02	0.59
27:V:37:LEU:CD1	29:X:60:A:H4'	2.33	0.59
29:X:1661:C:O2'	29:X:1662:G:H5'	2.03	0.59
24:S:113:VAL:HG22	24:S:171:VAL:HG22	1.84	0.59
29:X:490:A:O2'	29:X:491:A:C5'	2.50	0.59
16:K:10:LEU:HD23	16:K:17:ARG:CB	2.33	0.59
29:X:2522:G:N3	29:X:2745:A:H2'	2.18	0.59
18:M:46:ARG:HG3	18:M:47:SER:N	2.17	0.59
31:Z:16:U:C1'	31:Z:109:G:H21	2.13	0.59
12:G:151:TYR:CE2	12:G:160:ALA:HB3	2.38	0.59
29:X:1715:A:H4'	29:X:1716:G:O5'	2.02	0.59
29:X:1419:G:H2'	29:X:1420:A:H8	1.67	0.59
29:X:2194:A:H2'	29:X:2195:C:H5''	1.85	0.59
19:N:68:GLY:C	19:N:71:LEU:H	2.06	0.59
21:P:32:ARG:C	21:P:32:ARG:NE	2.56	0.59
29:X:1151:U:H5''	29:X:1153:A:H5'	1.83	0.59
29:X:2426:G:C4	29:X:2480:C:C5	2.90	0.59
29:X:2485:U:O2'	29:X:2486:C:H5'	2.03	0.59
29:X:981:C:O5'	29:X:981:C:H6	1.86	0.59
23:R:91:ALA:O	23:R:92:THR:CG2	2.50	0.59
23:R:93:ARG:NH1	23:R:93:ARG:HG2	2.17	0.59
29:X:751:G:C6	29:X:752:G:C2	2.90	0.59
9:D:12:VAL:O	9:D:16:LEU:HG	2.02	0.59
31:Z:58:G:H4'	31:Z:59:A:H5''	1.85	0.59
13:H:40:GLY:HA3	29:X:2545:A:H61	1.67	0.59
29:X:1099:A:H4'	29:X:1100:G:H8	1.68	0.59
26:U:52:ARG:HE	26:U:79:GLU:HB3	1.68	0.59
18:M:73:PHE:O	18:M:75:GLU:N	2.35	0.59
14:I:76:LYS:CG	14:I:111:SER:HB2	2.33	0.59
31:Z:26:G:H5''	31:Z:27:A:OP1	2.02	0.59
14:I:13:ARG:HH11	29:X:1218:C:C4'	2.16	0.59
29:X:2457:A:O4'	29:X:2507:U:H4'	2.03	0.59
29:X:784:U:H2'	29:X:785:U:C6	2.38	0.59
12:G:102:ARG:NH2	12:G:112:THR:HG21	2.17	0.59
24:S:70:GLN:O	24:S:79:ILE:HG22	2.02	0.59
29:X:1053:G:C5	29:X:1054:C:C5	2.90	0.59
9:D:38:GLU:OE1	9:D:152:MET:HB3	2.03	0.59
29:X:1672:A:H3'	29:X:1673:C:C6	2.38	0.59
29:X:2558:C:H2'	29:X:2559:U:C6	2.36	0.59
29:X:2602:G:C2	29:X:2603:G:C8	2.90	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:802:A:H4'	29:X:803:C:OP1	2.00	0.59
30:Y:19:ARG:C	30:Y:21:SER:H	2.05	0.59
29:X:731:A:H3'	29:X:732:G:O4'	2.02	0.59
23:R:84:VAL:HA	23:R:90:LYS:HD3	1.85	0.59
10:E:27:LYS:HG2	10:E:32:GLU:CB	2.32	0.59
13:H:28:GLY:HA3	13:H:35:THR:OG1	2.02	0.59
29:X:2635:U:N3	29:X:2644:A:N7	2.50	0.59
7:B:78:LEU:O	7:B:79:ARG:HD3	2.03	0.59
18:M:32:THR:O	18:M:51:GLU:HB2	2.03	0.59
29:X:1326:U:H2'	29:X:1626:A:C2	2.38	0.59
7:B:161:GLY:O	7:B:163:GLU:HG3	2.03	0.59
29:X:1055:A:C4	29:X:1055:A:H3'	2.38	0.59
29:X:2690:A:C8	29:X:2694:G:O4'	2.56	0.59
29:X:1371:G:H1'	29:X:1387:G:H1	1.66	0.59
29:X:2194:A:H2'	29:X:2195:C:C4'	2.32	0.59
31:Z:43:G:H5'	31:Z:44:C:C5'	2.14	0.59
29:X:588:G:O2'	29:X:2002:A:OP1	2.17	0.59
29:X:1710:U:O4	29:X:1960:A:C8	2.56	0.59
26:U:32:ARG:HG2	26:U:34:THR:N	2.17	0.59
21:P:49:SER:HB3	21:P:52:ASP:OD2	2.03	0.59
6:A:208:LYS:HE2	29:X:1782:A:N3	2.17	0.59
25:T:25:LYS:HB2	25:T:37:LEU:HG	1.84	0.59
29:X:871:U:C2'	29:X:2247:A:H2'	2.32	0.59
17:L:20:THR:CG2	17:L:23:ALA:HB3	2.32	0.59
29:X:409:G:O2'	29:X:410:A:H5'	2.03	0.59
25:T:72:LYS:HD3	31:Z:14:C:C5'	2.33	0.59
7:B:34:VAL:HG12	7:B:72:VAL:HG11	1.83	0.59
21:P:10:ASN:OD1	21:P:13:GLN:HG2	2.03	0.59
29:X:1367:A:C8	29:X:1368:G:C8	2.90	0.59
29:X:839:U:OP1	29:X:2408:G:OP2	2.21	0.59
18:M:106:TYR:CD1	18:M:107:LEU:N	2.70	0.58
18:M:8:ASN:OD1	29:X:2850:U:O2'	2.21	0.58
29:X:1336:G:O2'	29:X:1337:G:H5'	2.03	0.58
29:X:13:A:C2	29:X:535:U:C2	2.90	0.58
29:X:1339:U:C5	29:X:1664:G:O2'	2.56	0.58
29:X:2038:C:H2'	29:X:2483:U:C4'	2.33	0.58
29:X:759:C:H4'	29:X:759:C:OP1	2.02	0.58
22:Q:7:LEU:HD23	27:V:30:PHE:HE2	1.67	0.58
14:I:18:ARG:HD2	14:I:21:ARG:CD	2.32	0.58
29:X:973:U:H3'	29:X:973:U:OP1	2.03	0.58
6:A:208:LYS:HE3	6:A:208:LYS:HA	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:I:63:ARG:O	14:I:64:GLY:O	2.21	0.58
27:V:7:ARG:HD2	27:V:8:ASN:N	2.18	0.58
29:X:2448:A:H2'	29:X:2449:G:O4'	2.03	0.58
29:X:2447:G:O2'	29:X:2448:A:H8	1.84	0.58
28:W:35:SER:HB3	28:W:40:VAL:HG21	1.85	0.58
29:X:1979:C:H2'	29:X:1980:A:O4'	2.02	0.58
29:X:2625:U:P	29:X:2625:U:H6	2.26	0.58
29:X:2703:C:O5'	29:X:2703:C:H6	1.84	0.58
29:X:2703:C:HO2'	29:X:2704:U:H5'	1.68	0.58
6:A:172:TYR:HA	6:A:186:HIS:HA	1.84	0.58
20:O:57:GLN:HE21	20:O:98:ILE:HG13	1.67	0.58
11:F:42:ASN:HA	11:F:45:THR:OG1	2.02	0.58
30:Y:29:ASN:HD22	30:Y:29:ASN:C	2.06	0.58
29:X:2198:U:C2'	29:X:2199:C:O4'	2.44	0.58
19:N:47:TYR:HA	19:N:50:ARG:NH1	2.18	0.58
15:J:15:ARG:HD3	15:J:73:LYS:HG3	1.82	0.58
23:R:29:HIS:CD2	23:R:51:VAL:HG22	2.38	0.58
29:X:1926:U:C6	29:X:1928:G:H5'	2.38	0.58
21:P:75:ALA:O	21:P:128:VAL:HG21	2.04	0.58
21:P:28:ALA:HB2	21:P:71:VAL:HG22	1.85	0.58
9:D:3:GLN:O	9:D:4:LEU:HB3	2.03	0.58
12:G:62:ILE:HG13	12:G:80:VAL:HG21	1.84	0.58
15:J:125:LYS:HB2	29:X:2463:G:O2'	2.02	0.58
24:S:105:GLN:HG3	24:S:139:THR:HG22	1.84	0.58
7:B:61:LYS:HB3	7:B:62:PRO:HD3	1.83	0.58
21:P:14:ARG:HA	21:P:17:GLN:HG2	1.84	0.58
20:O:17:GLY:HA2	20:O:94:LYS:HA	1.85	0.58
29:X:2871:U:H2'	29:X:2872:U:C6	2.39	0.58
12:G:57:LEU:CD2	12:G:170:PRO:HA	2.33	0.58
19:N:31:GLN:NE2	29:X:589:C:H4'	2.17	0.58
19:N:66:ASN:CB	19:N:76:TYR:HB2	2.31	0.58
29:X:1147:G:H2'	29:X:1148:G:H8	1.68	0.58
29:X:768:U:H2'	29:X:769:C:H6	1.68	0.58
8:C:128:ALA:HB2	8:C:159:ARG:NE	2.19	0.58
23:R:22:VAL:HG13	23:R:81:VAL:O	2.03	0.58
16:K:79:VAL:HG13	16:K:80:MET:N	2.17	0.58
29:X:1467:U:C6	29:X:1468:A:H5'	2.37	0.58
29:X:872:G:N2	29:X:929:A:O5'	2.36	0.58
23:R:38:LEU:HB2	23:R:47:VAL:CB	2.28	0.58
29:X:861:G:H1'	29:X:944:A:N3	2.19	0.58
15:J:23:LYS:HD3	29:X:876:A:P	2.43	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:33:LEU:N	6:A:83:GLU:OE2	2.35	0.58
31:Z:18:G:O2'	31:Z:19:C:H5'	2.03	0.58
29:X:341:A:H8	29:X:341:A:H3'	1.68	0.58
11:F:98:LYS:HZ3	11:F:139:GLU:HB2	1.69	0.58
31:Z:95:U:H2'	31:Z:96:C:C6	2.39	0.58
29:X:1187:A:H2'	29:X:1188:A:O4'	2.02	0.58
7:B:33:ILE:HD12	7:B:88:GLY:O	2.03	0.58
29:X:180:C:H6	29:X:180:C:O5'	1.85	0.58
29:X:1583:A:H8	29:X:1583:A:OP2	1.86	0.58
29:X:2190:A:H3'	29:X:2190:A:C8	2.39	0.58
19:N:74:MET:SD	19:N:110:VAL:HG13	2.44	0.58
19:N:12:ARG:O	19:N:13:ARG:C	2.41	0.58
29:X:2484:G:H2'	29:X:2485:U:OP2	2.02	0.58
29:X:2490:U:O2'	29:X:2491:C:H5'	2.04	0.58
29:X:840:U:H2'	29:X:2051:U:C2	2.38	0.58
29:X:1288:A:N6	29:X:1309:G:H5'	2.18	0.58
15:J:17:ARG:O	15:J:18:MET:HB2	2.01	0.58
15:J:34:GLY:O	15:J:133:VAL:HG22	2.04	0.58
16:K:91:PRO:O	16:K:92:GLY:C	2.40	0.58
12:G:61:ARG:HG2	12:G:65:LYS:CD	2.30	0.58
12:G:61:ARG:NE	12:G:65:LYS:HD2	2.17	0.58
29:X:1764:A:H2'	29:X:1765:C:C5'	2.30	0.58
29:X:1621:C:C4'	29:X:1626:A:C6	2.86	0.58
29:X:654:A:N3	29:X:655:A:H5'	2.18	0.58
14:I:129:ALA:O	14:I:133:VAL:HG23	2.04	0.58
29:X:2810:A:C2	29:X:2853:U:C4	2.91	0.58
29:X:152:G:O2'	29:X:153:A:H5'	2.03	0.58
29:X:965:G:N3	29:X:2253:A:C2	2.71	0.58
18:M:107:LEU:O	18:M:109:GLU:N	2.28	0.58
9:D:92:ARG:CA	9:D:96:MET:HB2	2.34	0.58
7:B:145:LYS:NZ	29:X:2015:G:H2'	2.18	0.58
14:I:47:ALA:HA	14:I:49:PHE:CE2	2.38	0.58
19:N:25:TRP:CE3	19:N:26:GLY:N	2.72	0.58
19:N:61:TRP:HZ3	19:N:93:LYS:CA	2.16	0.58
29:X:765:C:O2'	29:X:766:A:OP2	2.17	0.58
29:X:2594:U:C6	30:Y:7:PRO:HA	2.38	0.58
27:V:37:LEU:HD11	29:X:60:A:H4'	1.85	0.58
8:C:151:VAL:O	8:C:152:THR:HB	2.02	0.58
29:X:2044:G:O2'	29:X:2046:C:H5	1.87	0.58
29:X:972:C:H5'	29:X:973:U:OP2	2.03	0.58
29:X:1769:U:O4	29:X:1775:A:H1'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:39:ARG:NH2	29:X:2342:U:O2	2.36	0.58
29:X:2301:A:C4	29:X:2302:G:C8	2.92	0.58
29:X:717:G:H1'	29:X:740:A:N6	2.18	0.58
9:D:8:TYR:O	9:D:12:VAL:HB	2.02	0.58
24:S:122:ILE:C	24:S:161:ALA:HB2	2.23	0.58
29:X:244:C:C3'	29:X:245:C:H5''	2.33	0.58
12:G:115:ALA:O	12:G:118:ALA:N	2.36	0.58
18:M:104:LEU:HB3	18:M:107:LEU:HD12	1.84	0.58
29:X:1673:C:H2'	29:X:1674:C:C6	2.37	0.58
29:X:536:A:N6	29:X:2605:C:H4'	2.18	0.58
30:Y:6:VAL:CG2	30:Y:7:PRO:HD2	2.34	0.58
27:V:32:ALA:HA	27:V:37:LEU:HB2	1.86	0.58
13:H:76:ARG:HB2	13:H:95:ALA:HB3	1.85	0.58
16:K:27:ALA:O	16:K:31:GLU:N	2.36	0.58
15:J:21:ASP:C	15:J:99:LYS:HG2	2.24	0.58
29:X:2259:G:H4'	29:X:2306:A:H5'	1.86	0.58
29:X:2627:G:O2'	29:X:2628:C:H5'	2.04	0.58
26:U:66:ALA:O	26:U:70:LEU:HB2	2.04	0.58
24:S:86:VAL:HG12	24:S:87:THR:N	2.18	0.58
29:X:37:C:H2'	29:X:38:G:H8	1.69	0.58
7:B:72:VAL:HG12	7:B:73:ALA:H	1.66	0.58
29:X:1255:A:C6	29:X:1256:C:N4	2.72	0.58
29:X:1804:U:H2'	29:X:1805:G:H8	1.69	0.58
29:X:1731:C:H2'	29:X:1732:U:H5''	1.85	0.58
29:X:1327:C:H6	29:X:1327:C:O5'	1.87	0.58
25:T:70:ILE:N	25:T:78:PHE:O	2.36	0.58
29:X:1724:C:O2'	29:X:1725:C:H5'	2.03	0.58
12:G:85:ALA:HB1	12:G:127:ILE:HD13	1.84	0.58
19:N:93:LYS:O	19:N:94:VAL:HB	2.04	0.58
29:X:1227:A:H4'	29:X:1252:C:H4'	1.86	0.58
29:X:571:U:O2'	29:X:581:A:C1'	2.52	0.58
8:C:134:ILE:O	8:C:137:ALA:HB3	2.04	0.58
29:X:2438:A:C6	29:X:2439:U:C2	2.92	0.58
23:R:82:ALA:O	23:R:83:LEU:O	2.21	0.58
21:P:94:GLU:OE2	21:P:127:ILE:HD12	2.04	0.58
25:T:42:GLY:HA3	29:X:2310:G:O4'	2.04	0.58
29:X:2308:A:H2'	29:X:2309:G:C8	2.39	0.58
9:D:29:PRO:C	9:D:169:LEU:HD22	2.24	0.58
31:Z:36:A:O2'	31:Z:37:C:H5	1.87	0.58
4:4:18:ARG:CD	4:4:23:VAL:HG22	2.32	0.58
29:X:2661:G:O2'	29:X:2662:C:H5'	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:107:C:H2'	31:Z:108:G:O4'	2.03	0.58
6:A:244:ARG:O	6:A:252:LYS:CE	2.50	0.58
6:A:142:VAL:HG12	6:A:193:ILE:HD13	1.86	0.58
13:H:110:VAL:HG23	13:H:129:LEU:HB2	1.85	0.58
29:X:1213:U:H2'	29:X:1214:C:C6	2.39	0.58
29:X:1722:G:C6	29:X:1723:U:N3	2.72	0.58
29:X:1724:C:H2'	29:X:1725:C:C6	2.39	0.58
29:X:2560:G:C4	29:X:2589:C:N4	2.72	0.58
29:X:538:A:C2	29:X:2025:A:C6	2.92	0.58
13:H:47:VAL:CG1	13:H:115:ALA:CB	2.80	0.58
14:I:18:ARG:HB2	14:I:21:ARG:HD3	1.84	0.58
23:R:90:LYS:CG	23:R:108:VAL:HG21	2.33	0.58
29:X:350:U:O5'	29:X:350:U:H6	1.87	0.58
17:L:18:ARG:NE	29:X:2357:A:H61	2.01	0.58
4:4:18:ARG:HH11	4:4:23:VAL:HG22	1.67	0.58
15:J:64:LYS:HZ3	15:J:110:VAL:HG13	1.68	0.58
29:X:1442:C:O2'	29:X:1443:G:OP1	2.17	0.58
29:X:230:C:O2'	29:X:231:G:H5'	2.04	0.58
29:X:1399:C:H2'	29:X:1400:A:H8	1.67	0.58
23:R:32:GLN:NE2	23:R:50:GLY:HA2	2.19	0.58
29:X:478:G:C6	29:X:479:G:N7	2.72	0.58
9:D:74:ILE:HG23	9:D:80:ARG:HA	1.86	0.58
12:G:42:VAL:CG1	12:G:43:VAL:N	2.67	0.58
19:N:29:SER:O	19:N:30:LYS:CD	2.52	0.58
19:N:79:PHE:CE2	19:N:95:LEU:HD21	2.38	0.58
21:P:31:VAL:HG11	21:P:124:ILE:HD11	1.86	0.58
7:B:145:LYS:HE3	29:X:583:C:O2	2.04	0.58
15:J:39:GLU:HB3	15:J:128:ILE:CG2	2.34	0.58
29:X:968:C:N4	29:X:970:A:C4	2.72	0.58
6:A:257:LEU:HD22	29:X:1795:C:OP1	2.03	0.58
29:X:2241:U:H4'	29:X:2307:A:C2	2.38	0.58
29:X:717:G:N2	29:X:739:G:C4	2.71	0.58
9:D:124:GLY:HA2	9:D:163:ASP:OD2	2.03	0.58
17:L:72:GLY:O	17:L:107:ALA:HB2	2.04	0.58
29:X:2327:U:O4	29:X:2361:G:C2	2.56	0.58
29:X:2669:C:N4	29:X:2693:U:O3'	2.37	0.58
29:X:166:G:N2	29:X:183:U:C5	2.72	0.58
29:X:170:U:H2'	29:X:171:G:C8	2.38	0.58
18:M:27:PHE:HB3	18:M:93:ILE:CD1	2.33	0.58
29:X:2234:G:H2'	29:X:2235:G:O4'	2.04	0.58
29:X:1030:U:H4'	29:X:1132:C:O2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:V:22:LYS:HA	27:V:25:LEU:HB3	1.84	0.58
29:X:1745:C:H2'	29:X:1746:A:C8	2.38	0.58
9:D:57:LEU:HD23	9:D:60:ILE:HD11	1.85	0.58
19:N:39:LEU:HA	19:N:42:ALA:CB	2.34	0.58
20:O:12:TYR:HB2	20:O:39:PHE:HA	1.86	0.58
29:X:1339:U:H5	29:X:1664:G:O2'	1.86	0.58
7:B:156:MET:CE	29:X:2033:C:H1'	2.33	0.58
29:X:471:A:C2	29:X:481:A:C4	2.92	0.58
29:X:760:U:C6	30:Y:3:LYS:HG3	2.39	0.58
29:X:834:A:H5'	29:X:835:U:H5	1.69	0.58
30:Y:6:VAL:HG22	30:Y:7:PRO:HD2	1.86	0.58
8:C:117:LEU:HD23	8:C:118:VAL:N	2.19	0.58
15:J:18:MET:HG2	15:J:19:THR:N	2.19	0.58
15:J:26:ASP:HB3	15:J:68:ARG:NH2	2.16	0.58
29:X:1685:A:H2'	29:X:1691:G:N7	2.18	0.58
29:X:1937:G:H2'	29:X:1939:U:O4	2.03	0.58
29:X:1937:G:N2	29:X:2530:C:OP1	2.37	0.58
21:P:85:MET:HE1	21:P:129:ALA:HA	1.85	0.58
25:T:31:VAL:HG22	25:T:67:VAL:CG2	2.34	0.58
22:Q:35:LYS:C	22:Q:38:ILE:HG23	2.24	0.58
29:X:940:G:OP1	29:X:940:G:H4'	2.04	0.58
29:X:1072:U:H4'	29:X:1073:G:OP2	2.03	0.58
12:G:162:LYS:HZ3	29:X:2873:G:H21	1.51	0.58
29:X:1777:A:O2'	29:X:1778:U:OP1	2.19	0.58
24:S:54:ILE:HG22	24:S:54:ILE:O	2.02	0.58
29:X:666:U:H3'	29:X:667:U:H5''	1.85	0.58
29:X:405:C:C2	29:X:406:G:C8	2.92	0.58
29:X:2687:G:O5'	29:X:2687:G:H8	1.87	0.58
29:X:2366:U:C6	29:X:2366:U:H3'	2.38	0.58
23:R:48:VAL:HG12	23:R:50:GLY:H	1.68	0.58
29:X:21:A:C6	29:X:22:C:C4	2.92	0.58
12:G:79:PHE:CE2	12:G:147:ARG:HG2	2.39	0.58
9:D:65:PRO:HB2	9:D:87:ILE:HG22	1.86	0.57
4:4:4:ARG:O	4:4:36:GLN:HA	2.04	0.57
6:A:226:MET:HE2	6:A:231:HIS:HB2	1.85	0.57
19:N:61:TRP:O	19:N:65:ILE:HG13	2.04	0.57
21:P:105:ARG:NH1	29:X:1337:G:OP2	2.37	0.57
29:X:2800:C:H2'	29:X:2801:A:H5'	1.85	0.57
29:X:766:A:O2'	29:X:767:G:H5'	2.04	0.57
29:X:991:A:H8	29:X:991:A:O5'	1.87	0.57
13:H:47:VAL:O	13:H:47:VAL:HG12	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:558:G:O4'	29:X:558:G:P	2.62	0.57
6:A:42:GLY:C	6:A:43:ARG:HH11	2.07	0.57
29:X:2404:A:P	29:X:2406:C:H5'	2.44	0.57
17:L:76:ALA:HB1	17:L:111:GLY:N	2.19	0.57
4:4:17:VAL:HG12	4:4:18:ARG:H	1.68	0.57
14:I:54:SER:OG	14:I:59:ARG:CZ	2.52	0.57
14:I:58:ALA:C	14:I:59:ARG:HD2	2.25	0.57
26:U:47:HIS:ND1	29:X:410:A:OP1	2.37	0.57
12:G:150:VAL:C	12:G:151:TYR:CD1	2.77	0.57
29:X:1774:A:C2	29:X:2566:A:C5	2.92	0.57
29:X:2222:U:C2	29:X:2223:U:C5	2.92	0.57
29:X:2298:U:H4'	29:X:2299:A:C8	2.38	0.57
29:X:810:U:H3'	29:X:810:U:C6	2.39	0.57
29:X:2470:U:H2'	29:X:2470:U:O2	2.04	0.57
7:B:116:VAL:H	7:B:136:ARG:CD	2.14	0.57
8:C:48:ARG:HB2	8:C:51:VAL:CG2	2.30	0.57
8:C:48:ARG:HD2	8:C:48:ARG:N	2.17	0.57
21:P:99:ALA:HA	21:P:122:SER:HA	1.86	0.57
29:X:760:U:O2	29:X:1997:A:H1'	2.03	0.57
29:X:2031:A:C2'	29:X:2032:G:O5'	2.51	0.57
29:X:2053:G:C2	29:X:2421:C:C2	2.92	0.57
29:X:2603:G:C6	29:X:2604:G:C5	2.93	0.57
29:X:683:A:O2'	29:X:684:C:P	2.63	0.57
29:X:577:U:OP1	29:X:956:A:N6	2.37	0.57
8:C:175:VAL:O	8:C:176:ASN:CB	2.52	0.57
16:K:47:PHE:O	16:K:50:GLN:HB2	2.04	0.57
29:X:1685:A:C6	29:X:1976:U:C5	2.92	0.57
29:X:1976:U:O2'	29:X:1977:C:H5'	2.04	0.57
25:T:31:VAL:HG23	25:T:65:GLY:O	2.05	0.57
28:W:5:LEU:HA	28:W:51:LEU:HD23	1.84	0.57
18:M:11:GLU:O	18:M:12:LEU:C	2.42	0.57
7:B:31:CYS:CB	7:B:49:ILE:HD11	2.32	0.57
8:C:147:LYS:CB	8:C:183:HIS:HB3	2.33	0.57
22:Q:22:ARG:CZ	22:Q:24:VAL:HG21	2.34	0.57
10:E:44:ARG:HH22	10:E:46:ASP:CB	2.17	0.57
29:X:1168:G:H2'	29:X:1169:C:C6	2.39	0.57
9:D:38:GLU:HG2	9:D:57:LEU:HD11	1.86	0.57
19:N:25:TRP:CE3	19:N:26:GLY:HA3	2.38	0.57
29:X:1277:G:O6	29:X:1278:A:N6	2.37	0.57
29:X:2000:U:H4'	30:Y:8:LYS:O	2.04	0.57
29:X:788:G:O2'	29:X:789:G:OP2	2.18	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:40:LYS:HG3	29:X:1668:G:OP1	2.04	0.57
29:X:82:G:N2	29:X:100:G:H2'	2.18	0.57
21:P:93:LYS:HB2	21:P:129:ALA:HB3	1.87	0.57
16:K:60:LEU:O	16:K:63:ARG:N	2.37	0.57
29:X:2633:A:H5''	29:X:2634:G:OP1	2.04	0.57
29:X:554:U:H5''	29:X:556:A:C2	2.39	0.57
7:B:39:ALA:HA	7:B:43:GLY:C	2.24	0.57
18:M:60:SER:HA	18:M:64:LYS:HB2	1.85	0.57
29:X:704:G:H2'	29:X:705:C:H6	1.68	0.57
29:X:848:A:O2'	29:X:849:G:H5'	2.03	0.57
6:A:46:ARG:NE	29:X:1383:C:OP1	2.36	0.57
29:X:2817:A:N1	29:X:2851:G:C6	2.73	0.57
29:X:2197:U:C4	29:X:2198:U:O4	2.57	0.57
7:B:77:ILE:CD1	18:M:3:THR:HG22	2.34	0.57
14:I:32:ARG:HD2	20:O:81:ARG:CD	2.35	0.57
29:X:1666:G:H2'	29:X:1667:A:H8	1.67	0.57
29:X:310:A:H2	29:X:331:U:H4'	1.68	0.57
29:X:2306:A:C5	29:X:2367:A:N1	2.73	0.57
29:X:2333:A:N6	29:X:2343:C:H42	2.02	0.57
9:D:136:LEU:HD21	9:D:149:THR:HG23	1.86	0.57
29:X:2663:U:N3	29:X:2664:G:N7	2.51	0.57
26:U:45:ASN:HA	29:X:2210:C:OP1	2.04	0.57
29:X:227:G:H2'	29:X:228:A:C8	2.38	0.57
6:A:94:LEU:HG	6:A:94:LEU:O	2.04	0.57
10:E:6:LYS:HD3	10:E:69:ARG:HH21	1.67	0.57
29:X:417:C:C6	29:X:419:G:C8	2.93	0.57
29:X:1968:G:H2'	29:X:1969:G:O5'	2.04	0.57
29:X:1348:C:H2'	29:X:1349:A:H8	1.69	0.57
21:P:62:ARG:HG3	21:P:62:ARG:NH1	2.18	0.57
8:C:185:ARG:HG2	8:C:185:ARG:HH21	1.70	0.57
15:J:107:VAL:HG21	15:J:115:ALA:HB1	1.87	0.57
29:X:2441:U:H2'	29:X:2442:C:H6	1.69	0.57
7:B:55:ALA:HB3	7:B:58:LYS:HE3	1.87	0.57
13:H:119:ARG:HH11	13:H:119:ARG:HG3	1.69	0.57
14:I:45:LYS:HD3	14:I:46:GLY:N	2.17	0.57
29:X:957:G:C4	29:X:958:G:C8	2.93	0.57
8:C:130:THR:HA	8:C:160:ALA:HB1	1.87	0.57
29:X:2047:C:O2	29:X:2429:A:C6	2.57	0.57
21:P:52:ASP:O	21:P:55:ASP:N	2.37	0.57
26:U:51:ILE:HD13	26:U:59:THR:HG22	1.86	0.57
26:U:19:ILE:O	29:X:393:U:H4'	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1428:G:H22	29:X:1602:G:C5'	2.17	0.57
7:B:34:VAL:HG12	7:B:72:VAL:HG21	1.85	0.57
6:A:92:ILE:CG2	6:A:104:TYR:HB3	2.35	0.57
27:V:41:HIS:CD2	27:V:42:ARG:H	2.22	0.57
29:X:1355:A:O2'	29:X:1356:G:OP1	2.23	0.57
29:X:422:C:H2'	29:X:423:G:H8	1.70	0.57
31:Z:18:G:C2	31:Z:19:C:C6	2.93	0.57
11:F:112:MET:HG2	11:F:113:PRO:HD3	1.87	0.57
27:V:13:ASP:O	27:V:16:LYS:HB3	2.04	0.57
29:X:1742:G:H2'	29:X:1743:C:H6	1.68	0.57
29:X:2697:G:O2'	29:X:2698:G:H5'	2.05	0.57
29:X:2594:U:H6	29:X:2594:U:H5'	1.65	0.57
8:C:28:HIS:CE1	14:I:21:ARG:NH1	2.73	0.57
21:P:91:PHE:CE1	21:P:131:LYS:HA	2.40	0.57
21:P:57:LEU:HD13	21:P:69:ALA:CA	2.29	0.57
29:X:492:G:H1'	29:X:516:G:N2	2.19	0.57
29:X:517:A:H5''	29:X:518:A:C5'	2.26	0.57
29:X:517:A:C5'	29:X:518:A:H5'	2.26	0.57
9:D:132:ILE:HG22	9:D:133:LYS:N	2.20	0.57
29:X:2708:U:C2'	29:X:2709:C:C6	2.84	0.57
29:X:877:G:H1'	29:X:926:C:N4	2.18	0.57
24:S:19:ILE:HG12	24:S:36:ARG:CA	2.32	0.57
29:X:116:A:C8	29:X:117:A:C8	2.92	0.57
29:X:1758:C:O2'	29:X:1759:A:H5'	2.04	0.57
29:X:204:A:N7	29:X:2386:G:H5'	2.19	0.57
29:X:239:A:H2'	29:X:240:U:O4'	2.04	0.57
13:H:70:VAL:CG2	13:H:71:LYS:N	2.67	0.57
29:X:42:G:H2'	29:X:43:A:C8	2.40	0.57
12:G:131:VAL:C	12:G:133:GLY:N	2.57	0.57
29:X:2849:C:H2'	29:X:2849:C:O2	2.05	0.57
12:G:42:VAL:HG11	12:G:168:THR:OG1	2.05	0.57
29:X:729:A:N3	29:X:730:C:OP2	2.38	0.57
15:J:9:LYS:HG3	29:X:884:C:OP1	2.04	0.57
25:T:32:LYS:CB	25:T:35:ASN:ND2	2.67	0.57
14:I:101:ARG:HD3	29:X:637:G:C6	2.40	0.57
15:J:47:GLN:HE21	29:X:2464:G:H5'	1.70	0.57
24:S:64:ALA:HB2	24:S:85:MET:HE2	1.86	0.57
24:S:90:GLU:N	24:S:127:PRO:HG2	2.20	0.57
24:S:155:PRO:HG2	24:S:158:CYS:SG	2.44	0.57
22:Q:54:SER:HB2	29:X:1354:A:H1'	1.87	0.57
25:T:47:ALA:HB1	25:T:51:VAL:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:428:A:H2'	29:X:429:C:C6	2.40	0.57
9:D:39:GLY:HA2	9:D:86:GLY:CA	2.35	0.57
7:B:151:TYR:HB3	12:G:106:TYR:CE2	2.39	0.57
12:G:101:THR:HG1	12:G:103:TYR:HE1	1.51	0.57
12:G:40:ASN:HB3	12:G:78:ASP:CB	2.35	0.57
13:H:47:VAL:H	13:H:77:THR:HG21	1.69	0.57
29:X:1923:U:O2'	29:X:1924:C:P	2.62	0.57
29:X:2340:C:H2'	29:X:2341:G:H5'	1.87	0.57
31:Z:39:C:N4	31:Z:51:G:O4'	2.38	0.57
29:X:2741:G:O2'	29:X:2742:G:H5'	2.04	0.57
15:J:6:LYS:CE	15:J:7:ARG:HE	2.10	0.57
29:X:1069:G:C3'	29:X:1070:G:H5''	2.35	0.57
22:Q:65:VAL:HG12	22:Q:66:GLY:N	2.14	0.57
29:X:2791:C:H2'	29:X:2792:C:H6	1.70	0.57
22:Q:61:LYS:HD3	29:X:1325:U:OP2	2.05	0.57
11:F:112:MET:N	11:F:113:PRO:CD	2.68	0.57
27:V:22:LYS:HA	27:V:25:LEU:CB	2.35	0.57
14:I:128:ALA:HA	14:I:131:LYS:HB2	1.86	0.57
29:X:1057:A:C2'	29:X:1057:A:N3	2.68	0.57
12:G:104:THR:OG1	12:G:110:LEU:HB3	2.05	0.57
19:N:11:ARG:HH22	29:X:29:U:C4'	2.17	0.57
29:X:1226:A:N1	29:X:1250:A:H1'	2.20	0.57
29:X:1251:G:O2'	29:X:1252:C:H5'	2.05	0.57
29:X:805:G:N7	29:X:2419:C:H1'	2.20	0.57
29:X:2038:C:H2'	29:X:2483:U:H5'	1.87	0.57
29:X:2489:C:C4	29:X:2490:U:C5	2.93	0.57
19:N:28:ARG:HE	29:X:542:A:H8	1.53	0.57
16:K:53:THR:O	16:K:56:LYS:HB3	2.04	0.57
25:T:25:LYS:HB2	25:T:37:LEU:CB	2.34	0.57
17:L:33:ARG:H	17:L:94:TYR:HE1	1.52	0.57
12:G:70:PHE:HB2	19:N:64:ARG:NE	2.19	0.57
29:X:2446:C:H2'	29:X:2447:G:O4'	2.04	0.57
29:X:1978:U:C3'	29:X:1979:C:H5''	2.32	0.57
29:X:2522:G:H2'	29:X:2523:G:C8	2.39	0.57
13:H:116:ARG:HB2	13:H:133:VAL:HG12	1.87	0.57
29:X:1426:U:C2'	29:X:1427:G:H5'	2.34	0.57
18:M:32:THR:HG21	18:M:91:VAL:CG1	2.35	0.57
20:O:34:GLU:HB2	20:O:56:VAL:CG2	2.35	0.57
27:V:45:GLN:NE2	27:V:49:GLU:OE2	2.38	0.57
29:X:1319:C:C2'	29:X:1320:A:H5'	2.35	0.57
29:X:1391:A:H2'	29:X:1393:G:N7	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:178:C:C2'	29:X:179:U:H5'	2.35	0.57
29:X:138:G:O2'	29:X:139:A:H5'	2.04	0.57
7:B:136:ARG:HH11	7:B:136:ARG:HG2	1.69	0.57
7:B:133:LYS:HG3	7:B:137:ARG:HG2	1.86	0.57
29:X:2759:U:H4'	29:X:2760:G:H5''	1.86	0.57
22:Q:12:ILE:N	22:Q:12:ILE:HD13	2.20	0.57
16:K:33:ARG:HB2	16:K:114:GLU:CB	2.35	0.57
25:T:40:GLN:HE21	25:T:43:THR:HA	1.68	0.57
24:S:137:ASP:OD2	24:S:138:VAL:N	2.38	0.57
13:H:116:ARG:NH2	18:M:40:ARG:HB2	2.19	0.57
29:X:2862:G:O2'	29:X:2863:U:H5'	2.05	0.57
29:X:2850:U:C2	29:X:2851:G:C8	2.93	0.56
29:X:1053:G:H2'	29:X:1054:C:O4'	2.04	0.56
8:C:74:VAL:CG2	8:C:76:THR:OG1	2.52	0.56
12:G:90:LEU:N	12:G:90:LEU:HD12	2.20	0.56
29:X:1247:U:C2'	29:X:1248:G:H5'	2.35	0.56
14:I:18:ARG:HG3	14:I:21:ARG:HD3	1.86	0.56
29:X:1286:U:C6	29:X:1986:G:H4'	2.40	0.56
15:J:51:CYS:SG	15:J:126:LEU:HD21	2.45	0.56
16:K:11:ASN:ND2	16:K:17:ARG:NH1	2.47	0.56
29:X:1429:A:H2	29:X:1599:G:H21	1.53	0.56
29:X:433:G:N2	29:X:434:C:H1'	2.20	0.56
29:X:244:C:C2'	29:X:245:C:H5''	2.34	0.56
13:H:70:VAL:HG21	13:H:98:ILE:CG2	2.35	0.56
9:D:57:LEU:HA	9:D:60:ILE:CD1	2.34	0.56
29:X:2021:G:C2	29:X:2022:C:C2	2.94	0.56
13:H:48:GLY:N	13:H:74:VAL:O	2.38	0.56
8:C:104:LEU:O	8:C:107:ALA:HB3	2.04	0.56
8:C:128:ALA:O	8:C:130:THR:N	2.38	0.56
8:C:151:VAL:HG23	8:C:186:LEU:HD11	1.85	0.56
10:E:96:ALA:HB1	10:E:103:LEU:CD1	2.34	0.56
23:R:22:VAL:HG12	23:R:23:ILE:H	1.69	0.56
23:R:86:PRO:HD3	23:R:90:LYS:HD3	1.87	0.56
26:U:28:GLY:HA3	26:U:32:ARG:CA	2.35	0.56
6:A:145:LEU:HD12	6:A:146:GLU:H	1.69	0.56
29:X:2628:C:O2'	29:X:2629:U:H5'	2.05	0.56
8:C:179:ASP:O	8:C:182:ARG:HB3	2.05	0.56
31:Z:75:A:C2	31:Z:76:U:H1'	2.40	0.56
29:X:2676:G:C2	29:X:2690:A:C2	2.94	0.56
29:X:1750:A:N7	29:X:2675:U:H1'	2.20	0.56
29:X:2691:C:HO2'	29:X:2692:A:H8	1.50	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:71:LYS:HB2	29:X:2291:U:OP1	2.04	0.56
7:B:123:ALA:C	7:B:124:GLY:O	2.40	0.56
8:C:86:PRO:HB3	29:X:1261:G:OP1	2.05	0.56
29:X:588:G:C2	29:X:1275:A:C5	2.93	0.56
29:X:788:G:H5'	29:X:790:A:C1'	2.35	0.56
29:X:799:C:C2'	29:X:800:U:H5'	2.35	0.56
29:X:1275:A:N3	30:Y:10:LYS:HE2	2.20	0.56
12:G:55:ALA:C	12:G:134:MET:HE3	2.25	0.56
29:X:1041:G:O2'	29:X:1042:G:H5'	2.06	0.56
29:X:1247:U:O2'	29:X:1248:G:H5'	2.06	0.56
29:X:1253:C:H5'	29:X:1253:C:H6	1.71	0.56
29:X:2426:G:C4	29:X:2480:C:C4	2.93	0.56
30:Y:12:SER:C	30:Y:14:SER:N	2.53	0.56
11:F:13:PRO:HA	11:F:52:ILE:HG12	1.86	0.56
24:S:72:ASP:O	24:S:75:LYS:O	2.23	0.56
10:E:103:LEU:HD23	10:E:115:ILE:HD12	1.86	0.56
23:R:98:ILE:HG22	23:R:99:VAL:N	2.19	0.56
29:X:1919:A:C2	29:X:1926:U:C4	2.93	0.56
6:A:208:LYS:HE3	29:X:1782:A:C1'	2.26	0.56
29:X:1783:G:N1	29:X:1820:G:H1'	2.19	0.56
29:X:1782:A:N6	29:X:1820:G:H2'	2.21	0.56
28:W:25:LEU:O	28:W:26:ARG:HD3	2.05	0.56
29:X:2737:A:N3	29:X:2737:A:H2'	2.21	0.56
14:I:63:ARG:O	14:I:64:GLY:C	2.43	0.56
17:L:33:ARG:HG2	17:L:38:ILE:HB	1.87	0.56
29:X:2325:A:O2'	29:X:2326:C:OP2	2.18	0.56
15:J:55:MET:O	15:J:56:SER:C	2.44	0.56
10:E:52:VAL:HG11	10:E:68:THR:HG21	1.87	0.56
28:W:37:THR:HG21	29:X:940:G:OP1	2.06	0.56
29:X:2702:G:O2'	29:X:2703:C:H5'	2.05	0.56
29:X:1982:C:O2'	29:X:1983:G:H5'	2.06	0.56
29:X:174:A:C4	29:X:175:C:O2	2.58	0.56
26:U:14:VAL:HB	26:U:47:HIS:NE2	2.21	0.56
26:U:70:LEU:HD22	26:U:79:GLU:HG2	1.87	0.56
13:H:116:ARG:HG3	13:H:116:ARG:NH1	2.11	0.56
24:S:63:PRO:HB2	24:S:86:VAL:CG2	2.34	0.56
29:X:1886:G:H2'	29:X:1887:G:C8	2.29	0.56
7:B:31:CYS:HB3	7:B:49:ILE:HG12	1.87	0.56
20:O:36:LYS:HZ2	20:O:54:TYR:HB3	1.68	0.56
11:F:40:ALA:O	11:F:43:ALA:HB3	2.05	0.56
29:X:1039:A:C5	29:X:1136:G:N2	2.73	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1216:G:C6	29:X:1217:U:C4	2.93	0.56
23:R:59:LYS:O	23:R:60:PRO:O	2.24	0.56
31:Z:19:C:H2'	31:Z:20:A:O4'	2.05	0.56
29:X:1804:U:H2'	29:X:1805:G:C8	2.40	0.56
8:C:115:GLY:HA3	8:C:185:ARG:HD2	1.87	0.56
8:C:20:PRO:HG2	8:C:21:GLU:H	1.70	0.56
29:X:2165:A:H2'	29:X:2166:G:H8	1.70	0.56
29:X:706:A:H2'	29:X:707:U:C6	2.40	0.56
29:X:10:A:H2'	29:X:11:G:C8	2.41	0.56
21:P:26:ALA:HB1	21:P:74:SER:HB3	1.88	0.56
29:X:2691:C:O2'	29:X:2692:A:O5'	2.23	0.56
7:B:120:TRP:O	7:B:121:ASN:CB	2.53	0.56
7:B:134:TRP:O	7:B:135:HIS:O	2.23	0.56
29:X:1337:G:O2'	29:X:1632:A:N1	2.38	0.56
15:J:27:TYR:HB3	15:J:137:VAL:CG2	2.34	0.56
29:X:2332:G:C6	29:X:2344:G:N2	2.74	0.56
29:X:2333:A:C2	29:X:2343:C:N3	2.73	0.56
17:L:60:LYS:HG2	17:L:62:GLY:H	1.70	0.56
28:W:18:LYS:O	28:W:21:GLN:HB3	2.06	0.56
26:U:52:ARG:HD2	26:U:79:GLU:HA	1.88	0.56
29:X:553:C:H2'	29:X:557:U:C5	2.41	0.56
6:A:249:PRO:HB3	29:X:2218:G:H5'	1.87	0.56
29:X:201:G:H2'	29:X:202:A:H8	1.69	0.56
12:G:118:ALA:O	12:G:121:LYS:HG3	2.04	0.56
29:X:1846:A:H2'	29:X:1847:G:O4'	2.05	0.56
19:N:114:ARG:C	19:N:116:ALA:H	2.08	0.56
9:D:92:ARG:NH1	31:Z:47:A:C8	2.73	0.56
8:C:47:THR:HA	8:C:82:VAL:HB	1.87	0.56
8:C:58:MET:SD	8:C:69:HIS:HB2	2.45	0.56
29:X:1200:G:H2'	29:X:1201:G:C8	2.40	0.56
27:V:31:GLN:HA	27:V:34:ALA:HB3	1.87	0.56
8:C:31:VAL:O	8:C:34:GLN:HB2	2.05	0.56
15:J:30:PHE:HB3	15:J:66:TYR:CD2	2.40	0.56
29:X:1683:G:C2'	29:X:1684:G:C5'	2.84	0.56
29:X:1470:G:O2'	29:X:1471:G:H5'	2.06	0.56
29:X:2314:A:O2'	29:X:2315:A:H8	1.88	0.56
29:X:715:U:O2'	29:X:716:U:H5'	2.04	0.56
17:L:35:SER:C	17:L:36:LYS:HD2	2.25	0.56
17:L:94:TYR:N	17:L:94:TYR:CD2	2.73	0.56
10:E:51:LEU:HD12	10:E:52:VAL:H	1.69	0.56
29:X:1088:A:H2	29:X:1099:A:C2	2.23	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:73:A:O2'	29:X:74:G:OP2	2.22	0.56
29:X:2228:U:H1'	29:X:2254:C:H41	1.69	0.56
28:W:2:LYS:HB3	28:W:54:GLN:HB2	1.85	0.56
10:E:28:GLY:HA3	10:E:79:VAL:CB	2.35	0.56
22:Q:14:GLU:HG3	22:Q:15:LYS:N	2.19	0.56
29:X:2506:C:O2'	29:X:2507:U:H5'	2.05	0.56
12:G:131:VAL:C	12:G:133:GLY:H	2.06	0.56
29:X:629:C:H2'	29:X:630:G:O4'	2.05	0.56
29:X:2825:A:C2	29:X:2826:C:C2	2.93	0.56
29:X:1856:U:H3	29:X:1861:G:H1	1.54	0.56
29:X:1053:G:C4	29:X:1054:C:C6	2.93	0.56
9:D:155:THR:HG21	29:X:2293:G:H4'	1.88	0.56
20:O:10:LYS:HE3	20:O:11:GLN:HG2	1.87	0.56
29:X:2007:G:H2'	29:X:2008:C:C6	2.41	0.56
29:X:2029:G:C5'	30:Y:19:ARG:HA	2.36	0.56
29:X:2592:U:O2'	29:X:2592:U:C6	2.51	0.56
16:K:3:HIS:CE1	29:X:2796:A:OP2	2.59	0.56
29:X:998:C:H1'	29:X:1012:A:H1'	1.86	0.56
15:J:35:LEU:HD12	15:J:36:ILE:H	1.70	0.56
29:X:1129:A:OP1	29:X:1129:A:H4'	2.05	0.56
23:R:105:ARG:NH1	23:R:113:THR:N	2.53	0.56
6:A:63:ARG:HH11	6:A:63:ARG:HG2	1.71	0.56
17:L:36:LYS:HE3	17:L:36:LYS:HA	1.87	0.56
22:Q:75:ARG:HG3	22:Q:75:ARG:HH11	1.70	0.56
26:U:13:LEU:HG	26:U:14:VAL:N	2.20	0.56
29:X:176:A:H2'	29:X:177:U:C5	2.39	0.56
29:X:207:U:O5'	29:X:207:U:H6	1.89	0.56
24:S:122:ILE:HB	24:S:159:THR:O	2.06	0.56
29:X:1621:C:H4'	29:X:1626:A:C6	2.40	0.56
29:X:140:G:H2'	29:X:141:G:C8	2.41	0.56
29:X:2407:G:H5''	29:X:2408:G:OP1	2.06	0.56
11:F:5:ALA:HB2	11:F:60:TYR:O	2.06	0.56
8:C:48:ARG:CB	8:C:51:VAL:HG22	2.31	0.56
20:O:13:ARG:HE	20:O:95:ILE:HG13	1.71	0.56
19:N:93:LYS:HD3	20:O:5:ILE:CG2	2.36	0.56
29:X:689:A:H8	29:X:2422:C:H1'	1.66	0.56
14:I:18:ARG:CB	14:I:21:ARG:HB2	2.21	0.56
29:X:1288:A:H61	29:X:1309:G:H5'	1.70	0.56
23:R:90:LYS:HD2	23:R:108:VAL:HG21	1.87	0.56
29:X:2081:U:H2'	29:X:2082:C:O4'	2.06	0.56
16:K:87:TYR:CE1	16:K:94:TYR:CD2	2.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:9:ILE:HD12	10:E:51:LEU:N	2.21	0.56
26:U:48:LYS:NZ	26:U:48:LYS:HB2	2.21	0.56
29:X:170:U:O2'	29:X:171:G:H5'	2.06	0.56
13:H:83:ARG:HG2	18:M:40:ARG:NH2	2.20	0.56
24:S:64:ALA:CA	24:S:85:MET:HA	2.34	0.56
29:X:76:C:H5'	29:X:76:C:C6	2.35	0.56
29:X:2807:U:H4'	29:X:2808:U:C5'	2.33	0.56
29:X:1635:G:O2'	29:X:1636:G:H5'	2.06	0.56
14:I:61:PRO:O	14:I:62:LYS:HB2	2.06	0.56
18:M:101:ARG:NH2	29:X:1745:C:OP1	2.34	0.56
8:C:58:MET:HE1	8:C:71:ASP:O	2.06	0.56
21:P:109:ARG:HG3	21:P:110:ALA:H	1.71	0.56
21:P:31:VAL:CG2	21:P:124:ILE:HG13	2.34	0.56
29:X:24:G:C2	29:X:25:U:C2	2.94	0.56
29:X:956:A:H5'	29:X:957:G:OP2	2.06	0.56
27:V:27:GLU:O	27:V:31:GLN:HG3	2.05	0.56
15:J:27:TYR:CZ	15:J:133:VAL:HG11	2.41	0.56
29:X:349:G:H2'	29:X:350:U:C6	2.41	0.56
29:X:2083:G:H1	29:X:2172:U:H3	1.54	0.56
21:P:85:MET:HE3	21:P:130:GLU:HG3	1.88	0.56
25:T:29:GLU:HG2	29:X:935:C:H4'	1.87	0.56
14:I:109:LEU:HD22	29:X:648:A:OP2	2.06	0.56
9:D:11:GLN:O	9:D:15:ALA:HB3	2.05	0.56
29:X:2266:A:N1	29:X:2268:G:H1'	2.20	0.56
13:H:83:ARG:HE	18:M:40:ARG:CZ	2.19	0.56
31:Z:67:C:C2'	31:Z:68:A:H5'	2.36	0.56
30:Y:33:CYS:O	30:Y:37:HIS:HA	2.05	0.56
29:X:48:A:H1'	29:X:50:G:N3	2.21	0.56
18:M:33:VAL:O	18:M:92:THR:HG22	2.06	0.56
29:X:466:A:H4'	29:X:467:U:O5'	2.04	0.56
29:X:2399:C:O5'	29:X:2399:C:H6	1.89	0.56
13:H:7:ARG:HD3	13:H:18:GLU:CD	2.26	0.56
29:X:2190:A:H8	29:X:2191:A:OP2	1.89	0.56
12:G:106:TYR:O	12:G:110:LEU:HG	2.04	0.56
12:G:49:VAL:CG1	12:G:50:PRO:HD2	2.36	0.56
20:O:38:LEU:HD13	20:O:39:PHE:H	1.70	0.56
21:P:109:ARG:NH2	29:X:1996:A:N3	2.53	0.56
29:X:1270:C:H2'	29:X:1271:C:C6	2.41	0.56
29:X:760:U:C4	30:Y:3:LYS:HG3	2.40	0.56
8:C:111:ARG:HH12	8:C:181:LEU:HA	1.71	0.56
15:J:14:PHE:HE2	29:X:2257:A:OP1	1.89	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:62:GLY:O	13:H:65:LYS:NZ	2.37	0.56
9:D:13:ARG:CZ	9:D:14:PRO:HG3	2.35	0.56
29:X:1549:C:H2'	29:X:1550:C:O4'	2.06	0.56
29:X:2523:G:H2'	29:X:2524:G:H8	1.71	0.56
7:B:72:VAL:O	7:B:73:ALA:HB2	2.05	0.56
14:I:76:LYS:HE3	14:I:111:SER:HB3	1.88	0.56
7:B:63:MET:O	7:B:66:HIS:N	2.38	0.56
18:M:37:THR:HG22	18:M:39:VAL:HG13	1.88	0.56
29:X:1064:C:H2'	29:X:1065:A:O4'	2.06	0.56
31:Z:20:A:H2'	31:Z:21:C:H6	1.68	0.56
29:X:477:A:H2'	29:X:478:G:H5'	1.86	0.56
13:H:7:ARG:HD3	13:H:18:GLU:OE1	2.05	0.56
14:I:130:ILE:HA	14:I:140:VAL:HG21	1.87	0.56
29:X:674:U:H2'	29:X:675:C:O4'	2.06	0.56
29:X:2431:C:O2'	29:X:2432:A:H5'	2.06	0.56
8:C:139:GLN:HA	8:C:139:GLN:HE21	1.70	0.56
18:M:106:TYR:CE1	18:M:107:LEU:HD23	2.38	0.56
7:B:119:ARG:CG	7:B:119:ARG:NH1	2.64	0.56
20:O:7:THR:HG23	20:O:20:ILE:HD13	1.86	0.56
29:X:825:C:H1'	29:X:1263:G:C2	2.41	0.56
29:X:2604:G:C6	29:X:2605:C:C4	2.94	0.56
29:X:594:G:H2'	29:X:595:A:N7	2.20	0.56
29:X:829:C:N3	29:X:1206:G:C2	2.73	0.56
27:V:40:PRO:HD2	29:X:94:C:O2'	2.06	0.56
29:X:335:A:N6	29:X:349:G:O2'	2.38	0.56
26:U:23:LYS:HB2	26:U:35:THR:HG23	1.88	0.56
16:K:82:GLU:C	16:K:85:PRO:HD2	2.26	0.56
16:K:85:PRO:O	16:K:88:ALA:N	2.35	0.56
6:A:156:ALA:HA	6:A:161:THR:HG21	1.87	0.56
29:X:750:C:O2'	29:X:751:G:H5'	2.06	0.56
14:I:81:GLN:O	14:I:83:LEU:N	2.39	0.56
9:D:4:LEU:CD1	9:D:5:LYS:H	2.17	0.56
29:X:2322:U:O2'	29:X:2323:U:H1'	2.05	0.56
24:S:154:LEU:HD13	24:S:158:CYS:O	2.06	0.56
23:R:60:PRO:C	23:R:62:MET:H	2.09	0.56
29:X:1732:U:H4'	29:X:1733:U:OP2	2.05	0.56
14:I:22:GLY:HA2	29:X:674:U:H1'	1.87	0.56
23:R:56:LYS:HB3	23:R:69:GLN:HG2	1.88	0.56
9:D:92:ARG:N	9:D:96:MET:HB2	2.21	0.55
29:X:1622:G:H4'	29:X:1624:A:N3	2.21	0.55
29:X:983:G:C6	29:X:984:A:C6	2.94	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:45:ARG:O	16:K:49:GLU:HG3	2.06	0.55
21:P:49:SER:C	21:P:51:GLN:N	2.58	0.55
16:K:79:VAL:O	16:K:83:VAL:HG13	2.06	0.55
14:I:75:VAL:O	14:I:108:LEU:HD12	2.06	0.55
29:X:2722:C:N4	29:X:2743:G:N2	2.54	0.55
22:Q:82:LEU:HD11	22:Q:88:ILE:HG22	1.87	0.55
28:W:36:ASP:CG	28:W:41:ARG:HH12	2.08	0.55
7:B:11:MET:HG2	7:B:24:THR:HG1	1.66	0.55
29:X:1089:C:H1'	29:X:1099:A:H2	1.71	0.55
24:S:3:LEU:HD21	24:S:32:PHE:CG	2.40	0.55
24:S:91:PRO:C	24:S:92:VAL:HG22	2.27	0.55
29:X:39:C:H2'	29:X:40:U:C6	2.41	0.55
7:B:76:ARG:NH1	18:M:4:HIS:HB2	2.21	0.55
11:F:90:THR:CB	11:F:93:LYS:HB2	2.36	0.55
6:A:46:ARG:HD3	6:A:46:ARG:C	2.27	0.55
28:W:48:LYS:O	28:W:50:LEU:N	2.39	0.55
7:B:142:GLY:C	7:B:143:GLN:NE2	2.60	0.55
29:X:1052:C:H3'	29:X:1053:G:H5'	1.86	0.55
19:N:66:ASN:HB3	19:N:76:TYR:CB	2.32	0.55
20:O:69:ILE:HG22	20:O:70:TYR:N	2.21	0.55
29:X:2618:A:C5	29:X:2619:G:H1'	2.40	0.55
29:X:521:U:OP2	29:X:522:G:O6	2.24	0.55
29:X:596:C:O3'	29:X:597:U:H6	1.89	0.55
29:X:820:U:O2'	29:X:821:A:H5'	2.06	0.55
8:C:30:VAL:HG11	8:C:177:VAL:HG21	1.88	0.55
16:K:24:GLN:HE22	16:K:40:LYS:HD3	1.72	0.55
29:X:334:G:O2'	29:X:335:A:OP2	2.22	0.55
29:X:1791:C:H5'	29:X:1792:C:OP1	2.06	0.55
29:X:932:G:H2'	29:X:933:G:H8	1.70	0.55
26:U:51:ILE:HG12	26:U:59:THR:HB	1.88	0.55
9:D:8:TYR:OH	9:D:30:ARG:HB3	2.06	0.55
17:L:36:LYS:NZ	17:L:99:ARG:NH1	2.54	0.55
17:L:60:LYS:O	17:L:61:SER:OG	2.23	0.55
29:X:2075:U:O2	29:X:2075:U:H2'	2.05	0.55
6:A:186:HIS:CD2	6:A:188:GLU:HB2	2.35	0.55
6:A:149:PRO:CB	29:X:2200:G:O2'	2.55	0.55
18:M:39:VAL:CG1	18:M:45:THR:HG23	2.36	0.55
29:X:1598:C:H6	29:X:1598:C:O5'	1.90	0.55
26:U:10:LYS:HG2	26:U:11:LYS:N	2.20	0.55
31:Z:5:C:H2'	31:Z:6:C:O4'	2.07	0.55
8:C:98:GLN:NE2	29:X:611:C:O5'	2.35	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:7:ARG:HA	13:H:19:ILE:O	2.06	0.55
12:G:57:LEU:HD22	12:G:170:PRO:HA	1.88	0.55
19:N:52:ASN:O	19:N:55:ARG:N	2.39	0.55
19:N:68:GLY:HA2	19:N:71:LEU:HB2	1.88	0.55
29:X:2010:G:H2'	29:X:2011:U:H6	1.70	0.55
29:X:2427:A:O2'	29:X:2428:U:OP1	2.18	0.55
29:X:1281:A:N3	29:X:2592:U:O4	2.39	0.55
16:K:39:THR:O	16:K:42:LYS:CB	2.55	0.55
23:R:25:LEU:C	23:R:25:LEU:HD22	2.26	0.55
29:X:1683:G:N7	29:X:1684:G:C5	2.75	0.55
6:A:158:SER:HB3	29:X:1810:U:H5''	1.87	0.55
29:X:638:A:O2'	29:X:639:G:C8	2.57	0.55
29:X:2324:G:C4	29:X:2326:C:C5	2.94	0.55
29:X:2523:G:H2'	29:X:2524:G:C8	2.40	0.55
29:X:68:C:H3'	29:X:69:G:H8	1.71	0.55
23:R:97:GLN:OE1	23:R:101:GLY:CA	2.54	0.55
12:G:162:LYS:NZ	29:X:2873:G:H21	2.04	0.55
29:X:1194:U:H5'	29:X:1194:U:C6	2.41	0.55
27:V:41:HIS:HD2	27:V:42:ARG:H	1.52	0.55
27:V:50:VAL:HA	27:V:53:LEU:HD12	1.88	0.55
29:X:1411:C:O2'	29:X:1412:C:H5'	2.06	0.55
21:P:77:ALA:C	21:P:78:ASN:ND2	2.59	0.55
29:X:2506:C:O5'	29:X:2506:C:H6	1.90	0.55
29:X:2177:U:H2'	29:X:2178:U:C6	2.40	0.55
30:Y:46:CYS:C	30:Y:48:ASN:N	2.58	0.55
15:J:61:ARG:HG2	15:J:61:ARG:HH11	1.70	0.55
9:D:122:PHE:CD2	9:D:129:ASN:HB2	2.42	0.55
9:D:40:LEU:HB3	9:D:150:ARG:NE	2.21	0.55
12:G:89:ALA:C	12:G:90:LEU:HD12	2.26	0.55
29:X:1141:U:O2'	29:X:1142:G:P	2.64	0.55
29:X:1263:G:H4'	29:X:1264:C:OP1	2.06	0.55
29:X:1281:A:OP1	29:X:1989:C:OP1	2.23	0.55
29:X:755:C:H2'	29:X:756:C:C6	2.42	0.55
23:R:84:VAL:HG13	23:R:88:THR:O	2.06	0.55
29:X:930:A:O5'	29:X:930:A:C8	2.50	0.55
29:X:648:A:C5'	29:X:649:G:H4'	2.32	0.55
29:X:1073:G:C1'	29:X:1099:A:N7	2.68	0.55
6:A:182:LEU:O	6:A:183:ARG:HD2	2.06	0.55
10:E:165:VAL:C	10:E:167:GLU:H	2.09	0.55
21:P:80:LEU:O	21:P:84:GLU:N	2.40	0.55
29:X:1452:U:O2'	29:X:1453:A:H5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1197:U:H2'	29:X:1198:C:O4'	2.06	0.55
29:X:564:U:H2'	29:X:565:A:C8	2.42	0.55
7:B:47:VAL:O	7:B:80:GLU:HA	2.05	0.55
7:B:147:PRO:HG3	29:X:1141:U:C6	2.42	0.55
19:N:10:ARG:O	19:N:11:ARG:C	2.45	0.55
19:N:32:TYR:O	19:N:35:ALA:HB3	2.06	0.55
21:P:39:ARG:HD2	21:P:97:VAL:HB	1.89	0.55
15:J:98:VAL:HG13	15:J:102:ARG:HG2	1.88	0.55
23:R:15:HIS:ND1	23:R:16:PHE:HD2	2.05	0.55
25:T:71:ASN:HD22	25:T:77:ARG:HD3	1.71	0.55
29:X:871:U:H2'	29:X:2247:A:N3	2.22	0.55
29:X:2405:A:H4'	29:X:2406:C:OP2	2.07	0.55
29:X:636:G:H5'	29:X:636:G:H8	1.71	0.55
20:O:36:LYS:HE3	20:O:55:THR:O	2.07	0.55
29:X:416:U:O2'	29:X:419:G:H1'	2.06	0.55
6:A:163:VAL:HG22	6:A:178:PRO:HD3	1.89	0.55
29:X:1304:U:O2'	29:X:1305:C:H5'	2.06	0.55
29:X:927:C:O2	31:Z:103:A:H4'	2.06	0.55
12:G:96:ASP:OD1	12:G:97:ASP:N	2.40	0.55
19:N:62:ILE:HA	19:N:65:ILE:HD12	1.88	0.55
29:X:1335:A:O2'	29:X:1336:G:H5'	2.07	0.55
29:X:2560:G:C6	29:X:2589:C:C2	2.95	0.55
14:I:17:LYS:HE2	29:X:1258:G:P	2.46	0.55
29:X:457:C:C2'	29:X:458:G:H5'	2.37	0.55
13:H:10:VAL:CG2	13:H:17:ARG:C	2.75	0.55
15:J:123:GLY:HA2	15:J:126:LEU:HD12	1.88	0.55
24:S:117:VAL:HG23	24:S:117:VAL:O	2.05	0.55
29:X:2708:U:C4	29:X:2709:C:N4	2.74	0.55
29:X:172:A:H3'	29:X:173:A:C5'	2.37	0.55
6:A:182:LEU:HD12	6:A:269:PHE:CD2	2.42	0.55
29:X:2811:G:C4	29:X:2812:A:N7	2.75	0.55
7:B:54:LYS:CB	7:B:75:THR:O	2.55	0.55
29:X:1581:C:O2'	29:X:1582:A:H8	1.89	0.55
29:X:1377:G:N2	29:X:1380:C:OP2	2.33	0.55
6:A:223:GLY:HA2	6:A:226:MET:HG3	1.87	0.55
8:C:48:ARG:C	8:C:50:GLN:N	2.60	0.55
20:O:49:GLU:C	20:O:51:ALA:H	2.09	0.55
29:X:2007:G:N2	29:X:2023:C:N1	2.54	0.55
8:C:97:ARG:O	8:C:101:GLN:HG2	2.07	0.55
14:I:18:ARG:CB	14:I:21:ARG:HD3	2.37	0.55
11:F:19:PRO:HG2	11:F:21:PRO:CG	2.33	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:5:7:BB9:SG	11:F:21:PRO:HB3	2.47	0.55
16:K:43:GLU:OE1	16:K:44:LEU:HA	2.07	0.55
29:X:2528:G:N3	29:X:2529:G:C8	2.75	0.55
21:P:49:SER:HB3	21:P:52:ASP:CG	2.27	0.55
29:X:2343:C:H2'	29:X:2344:G:O4'	2.06	0.55
17:L:91:ARG:NH2	29:X:2355:A:H61	2.04	0.55
14:I:119:THR:HG23	14:I:139:ARG:O	2.07	0.55
31:Z:35:C:H2'	31:Z:36:A:O4'	2.07	0.55
12:G:70:PHE:CE1	19:N:67:ALA:HB3	2.41	0.55
26:U:48:LYS:HE3	29:X:2074:U:H1'	1.88	0.55
8:C:44:SER:OG	29:X:37:C:H1'	2.06	0.55
11:F:103:GLN:O	11:F:107:ILE:HG13	2.07	0.55
29:X:1842:G:H5'	29:X:1842:G:H8	1.71	0.55
29:X:1422:C:H2'	29:X:1423:A:C8	2.42	0.55
29:X:178:C:H2'	29:X:179:U:H5'	1.88	0.55
29:X:645:G:H2'	29:X:646:C:C6	2.42	0.55
29:X:1046:U:H6	29:X:1046:U:H5''	1.71	0.55
29:X:2187:A:H2'	29:X:2188:A:C8	2.42	0.55
29:X:2199:C:H2'	29:X:2199:C:O2	2.05	0.55
8:C:83:ALA:O	8:C:85:GLY:N	2.40	0.55
12:G:106:TYR:CZ	12:G:108:GLY:CA	2.89	0.55
19:N:10:ARG:O	19:N:13:ARG:HB3	2.07	0.55
19:N:76:TYR:HE2	29:X:1164:C:H5'	1.72	0.55
29:X:1170:U:O2'	29:X:1171:A:H5'	2.06	0.55
29:X:2011:U:H2'	29:X:2012:A:O4'	2.07	0.55
29:X:2007:G:N2	29:X:2023:C:C2	2.75	0.55
29:X:2054:A:H2'	29:X:2055:G:H8	1.71	0.55
27:V:31:GLN:O	27:V:34:ALA:HB3	2.06	0.55
15:J:33:TYR:O	15:J:106:GLU:HB2	2.07	0.55
15:J:83:ARG:HH22	29:X:970:A:H62	1.54	0.55
21:P:85:MET:HE2	21:P:130:GLU:CG	2.33	0.55
29:X:874:A:H2'	29:X:875:G:O4'	2.07	0.55
29:X:2327:U:O2'	29:X:2328:G:H5'	2.07	0.55
28:W:37:THR:HB	28:W:38:PRO:HD2	1.88	0.55
29:X:1869:A:H2'	29:X:1870:U:O4'	2.06	0.55
29:X:230:C:H2'	29:X:231:G:C5'	2.37	0.55
29:X:2859:U:H2'	29:X:2860:C:C5'	2.37	0.55
29:X:2807:U:H5'	29:X:2807:U:H6	1.71	0.55
14:I:13:ARG:HE	29:X:1218:C:C1'	2.20	0.55
29:X:2835:A:OP2	29:X:2836:U:C5	2.60	0.55
29:X:119:G:H2'	29:X:120:G:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:5:SER:O	23:R:6:ALA:HB3	2.07	0.55
18:M:104:LEU:HD23	18:M:106:TYR:OH	2.07	0.55
29:X:2198:U:C6	29:X:2198:U:OP2	2.59	0.55
9:D:71:LYS:O	9:D:72:LYS:HB2	2.06	0.55
14:I:40:ARG:CZ	29:X:577:U:P	2.95	0.55
19:N:55:ARG:HG2	29:X:1166:A:OP1	2.07	0.55
8:C:86:PRO:HB3	29:X:1261:G:P	2.47	0.55
29:X:2602:G:N3	29:X:2603:G:C8	2.74	0.55
16:K:45:ARG:HB3	16:K:46:PRO:HD3	1.89	0.55
29:X:305:A:C2'	29:X:306:G:H5'	2.36	0.55
13:H:16:ALA:HB2	13:H:64:VAL:CG1	2.37	0.55
13:H:23:ARG:HH22	13:H:25:LEU:HD23	1.68	0.55
17:L:76:ALA:HB2	17:L:107:ALA:CA	2.33	0.55
24:S:39:PHE:HA	24:S:42:ALA:HB3	1.89	0.55
29:X:2501:U:H5'	29:X:2502:G:OP2	2.06	0.55
11:F:111:LYS:O	11:F:115:LEU:HG	2.07	0.55
29:X:915:C:H2'	29:X:916:U:H6	1.72	0.55
6:A:149:PRO:HG3	6:A:186:HIS:NE2	2.22	0.55
7:B:91:VAL:HG13	7:B:180:ASN:ND2	2.21	0.55
29:X:210:A:N6	29:X:441:A:H62	2.05	0.55
29:X:1498:G:N2	29:X:1523:A:H1'	2.22	0.55
29:X:2810:A:N6	29:X:2854:G:O4'	2.40	0.55
9:D:128:TYR:HD2	9:D:156:ILE:HD12	1.70	0.55
7:B:134:TRP:O	7:B:135:HIS:C	2.44	0.55
12:G:86:ALA:HB2	12:G:152:ALA:HB1	1.88	0.55
19:N:39:LEU:HB3	20:O:72:ARG:HH22	1.72	0.55
29:X:580:A:O2'	29:X:581:A:O5'	2.25	0.55
11:F:12:LEU:HD22	11:F:22:PRO:HB3	1.88	0.55
11:F:19:PRO:HG2	11:F:22:PRO:CD	2.37	0.55
11:F:19:PRO:HG2	11:F:22:PRO:HD3	1.88	0.55
23:R:28:LYS:HG2	23:R:29:HIS:N	2.22	0.55
26:U:28:GLY:O	26:U:30:VAL:N	2.39	0.55
29:X:2241:U:O4'	29:X:2306:A:H2	1.90	0.55
29:X:2264:C:H5'	29:X:2267:A:N6	2.22	0.55
29:X:165:G:H2'	29:X:166:G:H5'	1.89	0.55
29:X:2070:G:H2'	29:X:2071:G:H8	1.71	0.55
6:A:219:PRO:HB2	29:X:1781:C:OP1	2.07	0.55
29:X:1429:A:O2'	29:X:1430:G:H4'	2.06	0.55
14:I:76:LYS:HG3	14:I:111:SER:CB	2.35	0.55
15:J:43:ILE:O	15:J:95:VAL:HA	2.07	0.55
7:B:63:MET:O	7:B:64:GLN:C	2.45	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:93:VAL:C	7:B:95:ILE:H	2.10	0.55
29:X:238:G:O2'	29:X:239:A:H5'	2.07	0.55
12:G:131:VAL:O	12:G:133:GLY:N	2.39	0.55
7:B:80:GLU:OE2	29:X:2615:U:H4'	2.07	0.55
25:T:14:ARG:HG3	25:T:15:ASP:OD2	2.07	0.55
29:X:1118:G:C3'	29:X:1119:U:H5''	2.37	0.54
12:G:119:LEU:HD13	12:G:126:VAL:HG22	1.88	0.54
20:O:78:VAL:O	20:O:79:GLN:CB	2.54	0.54
29:X:1272:G:H2'	29:X:1273:G:H8	1.72	0.54
29:X:677:G:O2'	29:X:678:G:H5'	2.07	0.54
29:X:990:A:H2'	29:X:993:C:H42	1.73	0.54
30:Y:20:ARG:C	30:Y:22:HIS:H	2.08	0.54
29:X:1285:A:HO2'	29:X:1286:U:P	2.30	0.54
29:X:1920:A:C5	29:X:1922:U:C5	2.96	0.54
29:X:2301:A:H2'	29:X:2302:G:H8	1.73	0.54
17:L:72:GLY:HA3	17:L:103:LEU:HA	1.89	0.54
29:X:2235:G:N2	29:X:2254:C:C5	2.74	0.54
29:X:1734:C:H5''	29:X:1735:G:H8	1.70	0.54
14:I:13:ARG:HH11	29:X:1218:C:H5'	1.73	0.54
29:X:1420:A:H2'	29:X:1421:U:C6	2.43	0.54
29:X:1025:A:O2'	29:X:1026:U:H5'	2.07	0.54
29:X:1909:U:H5	29:X:1911:A:N6	2.04	0.54
22:Q:50:VAL:HG13	22:Q:81:ARG:O	2.07	0.54
29:X:604:U:H2'	29:X:605:G:H8	1.73	0.54
18:M:99:VAL:O	18:M:100:ARG:HG2	2.07	0.54
18:M:106:TYR:CD2	29:X:1745:C:H5'	2.41	0.54
9:D:72:LYS:HA	9:D:81:GLN:C	2.28	0.54
9:D:92:ARG:NH1	31:Z:47:A:H8	2.05	0.54
8:C:112:GLN:CB	8:C:116:LYS:HD3	2.37	0.54
25:T:18:PRO:C	25:T:19:LYS:HG2	2.28	0.54
25:T:40:GLN:NE2	25:T:43:THR:CA	2.69	0.54
17:L:102:ALA:C	17:L:104:ALA:N	2.58	0.54
12:G:68:PRO:O	12:G:70:PHE:CE2	2.61	0.54
6:A:268:ARG:O	6:A:269:PHE:HB2	2.08	0.54
29:X:1442:C:C4	29:X:1585:A:H5''	2.41	0.54
29:X:1194:U:C5'	29:X:1194:U:H6	2.19	0.54
29:X:2201:G:O2'	29:X:2202:G:H5'	2.07	0.54
11:F:74:MET:HE1	11:F:107:ILE:HA	1.89	0.54
18:M:82:PRO:C	18:M:84:ALA:N	2.58	0.54
29:X:1416:A:O2'	29:X:1417:C:H5'	2.07	0.54
8:C:147:LYS:HB2	8:C:184:ASP:N	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1234:C:O2	29:X:1242:A:C2	2.61	0.54
18:M:55:ILE:CG2	18:M:104:LEU:HB2	2.33	0.54
29:X:1742:G:H2'	29:X:1743:C:C6	2.42	0.54
9:D:92:ARG:CZ	31:Z:45:C:H2'	2.38	0.54
19:N:79:PHE:HE2	19:N:95:LEU:HD21	1.71	0.54
19:N:93:LYS:O	19:N:93:LYS:HD2	2.07	0.54
29:X:2604:G:C5	29:X:2605:C:C4	2.96	0.54
29:X:677:G:C2	29:X:678:G:C8	2.96	0.54
29:X:800:U:C5	29:X:804:C:N3	2.76	0.54
22:Q:13:SER:HB3	29:X:1351:G:H5''	1.88	0.54
29:X:353:G:H2'	29:X:354:C:O4'	2.07	0.54
29:X:639:G:O5'	29:X:639:G:H8	1.90	0.54
29:X:862:A:H2'	29:X:863:C:H6	1.69	0.54
29:X:944:A:O2'	29:X:945:G:H5'	2.06	0.54
7:B:107:THR:O	7:B:190:GLY:CA	2.56	0.54
13:H:83:ARG:CD	13:H:89:ILE:HD11	2.35	0.54
12:G:151:TYR:HE2	12:G:160:ALA:HB3	1.71	0.54
6:A:244:ARG:HG2	29:X:1884:A:O2'	2.06	0.54
18:M:34:ARG:NH1	18:M:88:VAL:HG21	2.23	0.54
23:R:4:PRO:HA	29:X:34:U:H1'	1.88	0.54
30:Y:46:CYS:C	30:Y:48:ASN:H	2.09	0.54
29:X:2820:C:H2'	29:X:2821:G:H8	1.73	0.54
9:D:125:ARG:HH22	29:X:2281:C:H1'	1.72	0.54
29:X:15:G:C4	29:X:16:G:C8	2.96	0.54
29:X:1998:A:N3	30:Y:3:LYS:HB3	2.22	0.54
29:X:804:C:O2'	29:X:805:G:C5'	2.54	0.54
15:J:113:GLU:HA	15:J:116:LYS:HB2	1.88	0.54
23:R:98:ILE:C	23:R:100:ASP:N	2.60	0.54
29:X:2081:U:H6	29:X:2081:U:O5'	1.90	0.54
21:P:66:GLU:O	21:P:67:PRO:C	2.46	0.54
25:T:44:LYS:HG2	25:T:45:PHE:CE1	2.42	0.54
29:X:2357:A:H2'	29:X:2358:C:H5'	1.90	0.54
17:L:33:ARG:O	17:L:99:ARG:CZ	2.55	0.54
28:W:14:GLY:O	28:W:17:VAL:HG23	2.07	0.54
13:H:35:THR:HG22	29:X:2629:U:OP1	2.07	0.54
29:X:2370:G:H2'	29:X:2403:C:N4	2.22	0.54
18:M:68:VAL:O	18:M:68:VAL:HG23	2.07	0.54
13:H:125:LYS:HA	13:H:128:SER:OG	2.07	0.54
31:Z:104:A:C5	31:Z:105:G:N7	2.76	0.54
19:N:47:TYR:HD1	19:N:50:ARG:HH12	1.56	0.54
29:X:1040:A:C8	29:X:1041:G:C8	2.95	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1224:A:H4'	29:X:1225:G:OP2	2.08	0.54
29:X:2603:G:N1	29:X:2604:G:C5	2.75	0.54
29:X:699:G:C5'	29:X:700:C:OP2	2.56	0.54
19:N:3:ARG:HD3	29:X:458:G:OP1	2.06	0.54
15:J:28:VAL:HB	15:J:137:VAL:HB	1.90	0.54
29:X:322:A:O2'	29:X:323:G:OP2	2.25	0.54
29:X:357:A:H3'	29:X:358:C:O4'	2.08	0.54
29:X:558:G:H8	29:X:559:C:C5	2.23	0.54
29:X:1471:G:O2'	29:X:1472:C:H5'	2.07	0.54
29:X:1811:A:H4'	29:X:1812:U:H5''	1.88	0.54
25:T:40:GLN:HE22	25:T:43:THR:HA	1.69	0.54
29:X:932:G:H2'	29:X:933:G:C8	2.42	0.54
9:D:136:LEU:O	9:D:137:ILE:HG23	2.06	0.54
9:D:49:ALA:O	9:D:52:LYS:N	2.40	0.54
29:X:2396:C:C6	29:X:2396:C:H5'	2.41	0.54
14:I:97:ARG:O	14:I:98:LEU:HB3	2.08	0.54
26:U:45:ASN:ND2	29:X:409:G:H1'	2.23	0.54
26:U:49:LYS:HD3	26:U:61:TRP:CE2	2.42	0.54
29:X:664:C:H3'	29:X:665:A:C2	2.42	0.54
24:S:51:LEU:CB	24:S:64:ALA:O	2.55	0.54
24:S:63:PRO:O	24:S:85:MET:SD	2.65	0.54
29:X:113:C:O2'	29:X:114:C:H5'	2.06	0.54
13:H:112:GLY:H	13:H:131:PRO:HG2	1.72	0.54
25:T:20:TYR:O	25:T:21:LEU:HB2	2.07	0.54
12:G:44:VAL:CG1	12:G:45:ASP:H	2.20	0.54
29:X:1086:C:C3'	29:X:1087:C:H5''	2.36	0.54
6:A:50:THR:HG22	6:A:51:SER:N	2.22	0.54
31:Z:4:C:C2'	31:Z:5:C:H5'	2.38	0.54
21:P:26:ALA:CB	21:P:74:SER:HB3	2.37	0.54
29:X:1640:C:H2'	29:X:1641:C:H6	1.72	0.54
24:S:107:GLU:HA	24:S:111:GLY:O	2.07	0.54
7:B:136:ARG:HG2	7:B:137:ARG:N	2.23	0.54
7:B:141:ILE:CG2	7:B:150:VAL:HB	2.37	0.54
19:N:22:LYS:HB3	19:N:22:LYS:NZ	2.23	0.54
19:N:52:ASN:HA	19:N:55:ARG:HE	1.73	0.54
20:O:13:ARG:HG2	20:O:14:VAL:H	1.72	0.54
21:P:32:ARG:C	21:P:32:ARG:HE	2.10	0.54
29:X:831:G:C2	29:X:1204:G:O6	2.61	0.54
29:X:2043:A:O2'	29:X:2481:G:H5'	2.08	0.54
29:X:2799:C:N3	29:X:2800:C:C2	2.75	0.54
29:X:759:C:H5'	29:X:759:C:C6	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:112:GLN:HA	8:C:116:LYS:CD	2.36	0.54
16:K:27:ALA:C	16:K:29:LEU:H	2.11	0.54
29:X:968:C:C4	29:X:970:A:C5	2.96	0.54
29:X:48:A:H1'	29:X:50:G:C4	2.42	0.54
18:M:91:VAL:HG12	18:M:92:THR:H	1.72	0.54
29:X:2217:G:H5'	29:X:2218:G:N7	2.22	0.54
16:K:100:VAL:CG1	16:K:101:GLY:N	2.68	0.54
13:H:100:ASN:OD1	13:H:102:GLN:N	2.33	0.54
29:X:1266:G:H5'	29:X:1267:A:OP2	2.07	0.54
29:X:1211:G:H2'	29:X:1212:U:H6	1.73	0.54
23:R:53:VAL:HG21	23:R:74:LEU:CD2	2.37	0.54
29:X:2231:G:O2'	29:X:2232:G:H5'	2.08	0.54
9:D:122:PHE:HD2	9:D:129:ASN:N	2.00	0.54
9:D:70:ALA:C	9:D:72:LYS:H	2.10	0.54
29:X:2594:U:C2	29:X:2595:C:C5	2.96	0.54
29:X:537:C:H5	29:X:2759:U:H3'	1.70	0.54
29:X:957:G:N3	29:X:958:G:C8	2.76	0.54
29:X:994:A:O2'	29:X:995:A:OP1	2.24	0.54
13:H:47:VAL:HG11	13:H:115:ALA:HB2	1.85	0.54
11:F:20:ALA:N	11:F:21:PRO:CD	2.69	0.54
29:X:1287:A:N1	29:X:1662:G:H5'	2.23	0.54
15:J:136:GLU:HA	15:J:138:TYR:CE2	2.43	0.54
15:J:28:VAL:HG23	15:J:137:VAL:HG21	1.89	0.54
29:X:318:G:C8	29:X:318:G:H5'	2.42	0.54
29:X:318:G:H8	29:X:318:G:H5'	1.71	0.54
29:X:343:A:H1'	29:X:346:C:H42	1.73	0.54
29:X:503:G:H2'	29:X:504:G:O4'	2.08	0.54
29:X:2528:G:C2	29:X:2529:G:C5	2.95	0.54
25:T:40:GLN:HG2	25:T:57:HIS:O	2.08	0.54
17:L:31:VAL:HA	17:L:38:ILE:CD1	2.38	0.54
22:Q:39:LYS:O	22:Q:42:ILE:CG2	2.56	0.54
10:E:38:ASN:ND2	10:E:64:LEU:CD1	2.71	0.54
14:I:53:ARG:NH2	29:X:228:A:H5'	2.23	0.54
29:X:213:C:H2'	29:X:214:C:H6	1.72	0.54
29:X:925:U:O2'	29:X:926:C:H5'	2.08	0.54
31:Z:77:G:H2'	31:Z:78:A:C8	2.43	0.54
29:X:2859:U:C5	29:X:2860:C:C6	2.96	0.54
10:E:163:ARG:HD3	10:E:167:GLU:CB	2.36	0.54
20:O:61:VAL:HG23	20:O:94:LYS:N	2.21	0.54
29:X:2862:G:C2	29:X:2863:U:C2	2.96	0.54
29:X:1221:C:H2'	29:X:1222:G:C8	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:70:GLN:O	24:S:79:ILE:CG2	2.55	0.54
12:G:106:TYR:CE2	12:G:108:GLY:HA3	2.42	0.54
29:X:2486:C:O2'	29:X:2487:G:H5'	2.08	0.54
29:X:2597:G:C6	29:X:2598:C:C4	2.96	0.54
29:X:590:C:C2	29:X:591:G:N7	2.76	0.54
29:X:1592:U:H2'	29:X:1593:C:H5'	1.90	0.54
8:C:101:GLN:O	8:C:103:GLY:N	2.41	0.54
8:C:112:GLN:O	8:C:116:LYS:HE2	2.08	0.54
15:J:69:ILE:HD13	15:J:104:MET:SD	2.48	0.54
15:J:14:PHE:O	15:J:15:ARG:HG3	2.07	0.54
29:X:2438:A:C6	29:X:2439:U:N3	2.76	0.54
23:R:108:VAL:HG12	23:R:109:ALA:N	2.23	0.54
29:X:332:C:H2'	29:X:351:A:O2'	2.07	0.54
13:H:16:ALA:HB2	13:H:64:VAL:HG11	1.89	0.54
16:K:59:ASP:O	16:K:60:LEU:C	2.46	0.54
16:K:87:TYR:CD1	16:K:90:ARG:CD	2.85	0.54
20:O:27:GLY:C	20:O:28:GLU:HG3	2.27	0.54
20:O:29:ALA:O	20:O:31:ASP:N	2.40	0.54
29:X:648:A:H4'	29:X:649:G:C4'	2.37	0.54
18:M:24:LEU:HD11	18:M:34:ARG:NH2	2.23	0.54
29:X:141:G:O2'	29:X:142:U:H5'	2.08	0.54
22:Q:26:SER:HB3	22:Q:79:ILE:HG12	1.89	0.54
29:X:1451:C:H2'	29:X:1452:U:C6	2.43	0.54
29:X:2656:G:N2	29:X:2711:G:C4	2.75	0.54
29:X:1310:C:H2'	29:X:1311:C:C6	2.41	0.54
31:Z:64:C:H2'	31:Z:65:A:C8	2.41	0.54
31:Z:65:A:O2'	31:Z:66:G:H5'	2.08	0.54
29:X:2690:A:OP1	29:X:2692:A:P	2.66	0.54
9:D:33:LYS:HD2	9:D:90:THR:CG2	2.37	0.54
12:G:113:GLU:H	12:G:113:GLU:CD	2.11	0.54
12:G:128:GLU:OE1	12:G:129:HIS:NE2	2.41	0.54
29:X:13:A:O2'	29:X:15:G:N7	2.40	0.54
21:P:117:ILE:CG2	29:X:1995:G:O3'	2.56	0.54
29:X:534:U:O2'	29:X:535:U:H5'	2.08	0.54
29:X:540:G:N3	29:X:2004:U:O2'	2.40	0.54
29:X:813:A:N9	29:X:815:A:H5'	2.23	0.54
8:C:112:GLN:NE2	8:C:116:LYS:HB2	2.23	0.54
29:X:455:A:H2	29:X:1258:G:N3	2.06	0.54
16:K:72:ASP:O	16:K:75:VAL:HB	2.08	0.54
15:J:128:ILE:HD13	15:J:130:THR:HG23	1.90	0.54
15:J:17:ARG:NH1	29:X:969:U:H5''	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:63:ARG:HG3	16:K:63:ARG:HH11	1.73	0.54
17:L:35:SER:OG	17:L:36:LYS:N	2.41	0.54
29:X:531:G:O2'	29:X:532:A:H5'	2.08	0.54
10:E:72:VAL:O	10:E:76:VAL:HG23	2.08	0.54
29:X:2502:G:C2'	29:X:2503:G:H5'	2.38	0.54
29:X:1681:A:C2	29:X:2706:U:N1	2.75	0.54
29:X:1099:A:H4'	29:X:1100:G:C8	2.42	0.54
26:U:46:LEU:HB2	29:X:2209:G:H4'	1.90	0.54
29:X:876:A:H8	29:X:876:A:O5'	1.91	0.54
22:Q:61:LYS:N	22:Q:72:ARG:HA	2.19	0.54
27:V:48:ARG:O	27:V:52:GLN:HG3	2.08	0.54
29:X:2275:U:C4'	29:X:2276:C:OP1	2.56	0.54
7:B:85:ALA:O	7:B:86:PRO:O	2.26	0.54
29:X:2849:C:O2	29:X:2850:U:C5	2.61	0.54
20:O:88:GLN:NE2	29:X:1004:A:N3	2.56	0.54
29:X:1011:A:H2'	29:X:1012:A:O4'	2.07	0.54
29:X:1278:A:HO2'	29:X:1279:G:P	2.31	0.54
29:X:1993:G:C2'	29:X:1994:U:O5'	2.56	0.54
29:X:2030:U:O2'	29:X:2031:A:H5'	2.08	0.54
29:X:464:G:N2	29:X:465:C:C2	2.76	0.54
8:C:112:GLN:HA	8:C:116:LYS:CB	2.37	0.54
15:J:106:GLU:N	15:J:106:GLU:OE1	2.41	0.54
23:R:105:ARG:HH12	23:R:112:LYS:HA	1.73	0.54
29:X:1465:G:H2'	29:X:1466:C:C6	2.43	0.54
6:A:153:ALA:O	6:A:157:ARG:NH2	2.41	0.54
25:T:29:GLU:OE2	29:X:935:C:H4'	2.07	0.54
14:I:93:LEU:O	14:I:97:ARG:HG3	2.08	0.54
29:X:649:G:N2	29:X:661:C:H1'	2.23	0.54
17:L:33:ARG:CZ	17:L:103:LEU:HD12	2.37	0.54
31:Z:118:G:O2'	31:Z:119:G:H5'	2.07	0.54
16:K:108:VAL:O	16:K:108:VAL:HG12	2.07	0.54
26:U:48:LYS:HG3	29:X:1801:C:N4	2.23	0.54
27:V:52:GLN:C	27:V:54:ASN:H	2.10	0.54
29:X:1656:U:H2'	29:X:1657:A:H5''	1.90	0.54
12:G:137:LYS:O	12:G:137:LYS:HG2	2.07	0.54
29:X:2604:G:C4	29:X:2605:C:C5	2.96	0.53
29:X:2670:C:C6	29:X:2847:G:N1	2.76	0.53
29:X:2762:G:C2	29:X:2763:U:C6	2.96	0.53
29:X:2798:A:C4	29:X:2799:C:C5	2.96	0.53
29:X:699:G:H5'	29:X:700:C:OP2	2.07	0.53
29:X:357:A:N7	29:X:358:C:H1'	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:P:27:VAL:HA	21:P:125:THR:HA	1.90	0.53
29:X:1923:U:H4'	29:X:1924:C:O5'	2.08	0.53
26:U:33:LYS:O	26:U:34:THR:HB	2.08	0.53
6:A:43:ARG:H	6:A:43:ARG:CD	2.12	0.53
29:X:1811:A:H4'	29:X:1812:U:C5'	2.38	0.53
29:X:2226:A:H2'	29:X:2227:C:C6	2.42	0.53
17:L:102:ALA:O	17:L:103:LEU:C	2.46	0.53
22:Q:38:ILE:O	22:Q:42:ILE:HG22	2.08	0.53
26:U:22:GLY:HA3	26:U:39:LYS:CD	2.38	0.53
29:X:1139:A:O2'	29:X:1140:A:O5'	2.25	0.53
26:U:49:LYS:HD3	26:U:61:TRP:CD1	2.42	0.53
29:X:182:G:C2'	29:X:183:U:OP2	2.55	0.53
11:F:2:LYS:N	11:F:2:LYS:CD	2.61	0.53
29:X:2450:A:H2'	29:X:2451:G:H5'	1.90	0.53
29:X:2699:G:O2'	29:X:2700:U:C5'	2.53	0.53
29:X:1737:G:O2'	29:X:1738:U:H5'	2.08	0.53
13:H:78:SER:HA	13:H:91:PHE:O	2.07	0.53
21:P:14:ARG:HA	21:P:17:GLN:NE2	2.23	0.53
29:X:189:A:O2'	29:X:190:A:H5'	2.08	0.53
29:X:888:G:C6	29:X:889:C:C2	2.97	0.53
8:C:155:GLU:O	8:C:157:THR:N	2.41	0.53
29:X:430:C:O5'	29:X:430:C:H6	1.91	0.53
18:M:106:TYR:CD1	18:M:107:LEU:HD23	2.42	0.53
14:I:45:LYS:CG	14:I:46:GLY:N	2.71	0.53
29:X:2485:U:O2'	29:X:2486:C:C5'	2.56	0.53
29:X:2551:A:O5'	29:X:2553:G:H4'	2.09	0.53
8:C:7:ILE:HB	8:C:120:VAL:H	1.72	0.53
8:C:149:LEU:O	8:C:186:LEU:HD12	2.08	0.53
16:K:95:THR:HG22	16:K:95:THR:O	2.08	0.53
16:K:91:PRO:O	16:K:92:GLY:O	2.26	0.53
6:A:257:LEU:HB3	29:X:1794:A:O3'	2.08	0.53
25:T:44:LYS:HG2	25:T:45:PHE:CD1	2.42	0.53
29:X:1446:U:H3	29:X:1577:G:H1	1.55	0.53
26:U:22:GLY:HA3	26:U:39:LYS:CE	2.36	0.53
29:X:1071:U:H4'	29:X:1072:U:C5'	2.38	0.53
18:M:82:PRO:O	18:M:83:PHE:C	2.47	0.53
29:X:2178:U:H2'	29:X:2179:C:C6	2.42	0.53
29:X:133:C:C2'	29:X:134:G:H5'	2.37	0.53
10:E:171:LEU:N	10:E:171:LEU:HD12	2.23	0.53
29:X:1345:G:H4'	29:X:1346:C:OP1	2.07	0.53
8:C:48:ARG:O	8:C:51:VAL:CG2	2.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2037:A:N1	29:X:2595:C:C4	2.76	0.53
15:J:35:LEU:N	15:J:119:PHE:CE1	2.77	0.53
15:J:99:LYS:HD2	15:J:100:PRO:CD	2.34	0.53
29:X:968:C:C4	29:X:970:A:C4	2.97	0.53
29:X:2780:A:O2'	29:X:2781:G:H5'	2.07	0.53
23:R:90:LYS:HD2	23:R:108:VAL:CG2	2.38	0.53
23:R:108:VAL:HG12	23:R:109:ALA:H	1.74	0.53
29:X:310:A:C2	29:X:331:U:H4'	2.43	0.53
29:X:2040:A:C2'	29:X:2041:A:H8	2.11	0.53
29:X:516:G:O2'	29:X:517:A:P	2.67	0.53
14:I:63:ARG:HD2	29:X:2394:G:OP1	2.08	0.53
29:X:2395:C:C2'	29:X:2396:C:C5'	2.86	0.53
29:X:640:C:C4	29:X:641:G:N7	2.77	0.53
29:X:2266:A:O2'	29:X:2267:A:H3'	2.08	0.53
29:X:402:A:C8	29:X:2392:G:H4'	2.43	0.53
29:X:1982:C:OP1	29:X:2703:C:O2'	2.26	0.53
29:X:2337:A:H2'	29:X:2338:C:C6	2.44	0.53
29:X:2646:C:H2'	29:X:2647:G:O4'	2.08	0.53
18:M:82:PRO:HB2	18:M:85:SER:HB2	1.89	0.53
10:E:11:VAL:HG12	10:E:15:VAL:CG2	2.36	0.53
10:E:12:PRO:O	10:E:15:VAL:HG22	2.08	0.53
13:H:26:ASN:HD22	13:H:38:GLY:N	2.05	0.53
31:Z:122:U:O5'	31:Z:122:U:H6	1.92	0.53
29:X:1842:G:O2'	29:X:1843:U:H5'	2.08	0.53
29:X:783:G:H1'	29:X:1392:U:C4	2.43	0.53
29:X:1749:G:C2'	29:X:1750:A:OP1	2.57	0.53
29:X:1386:A:C5'	29:X:2191:A:C6	2.88	0.53
12:G:43:VAL:O	12:G:167:LYS:HA	2.08	0.53
14:I:32:ARG:NH1	20:O:81:ARG:NH2	2.55	0.53
19:N:24:PHE:CD1	29:X:543:G:H5'	2.43	0.53
19:N:31:GLN:HE22	29:X:589:C:H4'	1.73	0.53
29:X:2557:G:H2'	29:X:2558:C:C6	2.43	0.53
29:X:2620:G:H2'	29:X:2621:G:H8	1.73	0.53
29:X:2760:G:C2'	29:X:2761:A:OP1	2.56	0.53
29:X:822:G:C2'	29:X:823:U:C5'	2.76	0.53
29:X:957:G:H2'	29:X:958:G:H8	1.74	0.53
22:Q:7:LEU:O	22:Q:7:LEU:HD13	2.08	0.53
15:J:79:PRO:CG	15:J:88:LYS:HD2	2.39	0.53
23:R:25:LEU:H	23:R:25:LEU:HD13	1.72	0.53
29:X:1782:A:C6	29:X:1821:A:H5'	2.43	0.53
17:L:91:ARG:HG2	17:L:92:GLY:N	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2395:C:C2'	29:X:2396:C:H5''	2.39	0.53
17:L:33:ARG:NH1	17:L:99:ARG:O	2.41	0.53
29:X:2266:A:N6	29:X:2323:U:H3	2.07	0.53
29:X:2352:A:H2'	29:X:2353:G:C8	2.44	0.53
29:X:2517:C:O2'	29:X:2518:C:H5'	2.08	0.53
26:U:46:LEU:HB2	29:X:2209:G:C5'	2.37	0.53
29:X:913:A:O5'	29:X:913:A:H8	1.91	0.53
8:C:144:GLY:HA3	8:C:166:TRP:NE1	2.23	0.53
13:H:100:ASN:O	13:H:102:GLN:N	2.41	0.53
13:H:26:ASN:HB3	13:H:38:GLY:H	1.73	0.53
29:X:889:C:H2'	29:X:890:U:O4'	2.08	0.53
29:X:810:U:C3'	29:X:810:U:C6	2.92	0.53
4:4:9:LYS:H	4:4:9:LYS:HD2	1.74	0.53
10:E:85:ILE:HG22	10:E:86:ASN:N	2.23	0.53
18:M:101:ARG:O	18:M:101:ARG:HG3	2.09	0.53
18:M:106:TYR:CD1	18:M:107:LEU:CD2	2.90	0.53
29:X:2818:G:C6	29:X:2819:G:C5	2.97	0.53
7:B:146:THR:C	7:B:148:GLY:N	2.60	0.53
16:K:3:HIS:ND1	16:K:5:LYS:HD2	2.24	0.53
19:N:37:GLN:HE22	29:X:572:G:H21	1.56	0.53
19:N:37:GLN:HE22	29:X:572:G:N2	2.06	0.53
19:N:66:ASN:HB3	19:N:76:TYR:N	2.23	0.53
29:X:2034:A:H2'	29:X:2593:A:H61	1.73	0.53
29:X:583:C:O2'	29:X:584:A:OP2	2.27	0.53
23:R:9:HIS:ND1	29:X:337:G:O2'	2.42	0.53
29:X:1693:A:O2'	29:X:1694:A:H5'	2.08	0.53
29:X:2536:G:O2'	29:X:2537:C:H5'	2.09	0.53
21:P:79:ALA:O	21:P:85:MET:HB2	2.09	0.53
29:X:719:A:N6	29:X:738:G:C2'	2.69	0.53
14:I:105:PRO:O	14:I:106:VAL:CG2	2.56	0.53
14:I:73:GLU:HG2	14:I:101:ARG:CB	2.38	0.53
12:G:60:SER:O	12:G:64:GLY:N	2.37	0.53
16:K:13:ASN:ND2	16:K:14:SER:H	2.07	0.53
29:X:2204:A:H4'	29:X:2205:C:O5'	2.09	0.53
26:U:52:ARG:HH12	26:U:67:LEU:HD13	1.73	0.53
24:S:4:THR:HG22	24:S:57:GLU:HB2	1.90	0.53
7:B:75:THR:CG2	7:B:76:ARG:H	2.11	0.53
29:X:1522:C:H2'	29:X:1523:A:H5''	1.90	0.53
29:X:780:U:H2'	29:X:781:G:C8	2.42	0.53
20:O:42:GLY:O	20:O:43:GLU:HB2	2.09	0.53
9:D:75:SER:HB2	9:D:79:LEU:HD22	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:128:GLU:HG2	12:G:129:HIS:HD2	1.73	0.53
12:G:132:PHE:HZ	12:G:142:ARG:HA	1.71	0.53
21:P:98:ASP:HB3	29:X:24:G:O2'	2.07	0.53
29:X:812:G:H2'	29:X:813:A:C8	2.44	0.53
8:C:8:GLY:O	8:C:9:GLN:HB3	2.09	0.53
16:K:48:VAL:CG1	16:K:49:GLU:N	2.71	0.53
29:X:1286:U:O3'	29:X:1288:A:OP2	2.27	0.53
15:J:40:PRO:HG3	15:J:99:LYS:CE	2.39	0.53
23:R:98:ILE:C	23:R:100:ASP:H	2.11	0.53
16:K:60:LEU:O	16:K:61:HIS:C	2.47	0.53
25:T:39:ARG:NE	29:X:2334:C:O2'	2.41	0.53
29:X:737:C:H2'	29:X:738:G:C8	2.44	0.53
17:L:38:ILE:HG13	17:L:39:TYR:N	2.23	0.53
17:L:64:LYS:CD	17:L:64:LYS:N	2.71	0.53
31:Z:35:C:O2'	31:Z:36:A:H5'	2.09	0.53
29:X:1552:C:O2'	29:X:1553:G:O5'	2.25	0.53
16:K:11:ASN:HD21	16:K:17:ARG:HH11	1.52	0.53
29:X:1979:C:OP1	29:X:1979:C:C6	2.58	0.53
22:Q:66:GLY:C	22:Q:68:PHE:N	2.61	0.53
13:H:133:VAL:HG12	13:H:133:VAL:O	2.08	0.53
6:A:99:ASP:OD1	29:X:1507:A:H5'	2.09	0.53
29:X:1505:U:H6	29:X:1505:U:H3'	1.72	0.53
29:X:1787:U:H2'	29:X:1788:C:H6	1.73	0.53
18:M:34:ARG:CZ	18:M:66:PHE:CE2	2.91	0.53
29:X:1325:U:H5''	29:X:1326:U:OP1	2.09	0.53
29:X:1487:C:O5'	29:X:1487:C:H6	1.92	0.53
29:X:762:A:C5	29:X:1634:A:C2	2.97	0.53
29:X:525:A:C8	29:X:526:C:C5	2.97	0.53
29:X:1189:G:H2'	29:X:1190:C:O4'	2.09	0.53
30:Y:26:THR:O	30:Y:27:ALA:C	2.47	0.53
23:R:54:ILE:HD13	23:R:71:GLN:HA	1.91	0.53
29:X:976:C:H4'	29:X:2252:A:C1'	2.38	0.53
29:X:2827:G:O2'	29:X:2828:C:H5'	2.07	0.53
8:C:62:LYS:HD3	8:C:63:GLY:N	2.24	0.53
12:G:103:TYR:N	12:G:103:TYR:CD1	2.76	0.53
29:X:1141:U:O2'	29:X:1142:G:OP1	2.26	0.53
7:B:144:ARG:NH1	29:X:2551:A:N3	2.56	0.53
29:X:27:G:H1'	29:X:523:A:N6	2.23	0.53
29:X:982:C:O2'	29:X:983:G:H5'	2.09	0.53
30:Y:4:HIS:CB	30:Y:5:PRO:CD	2.72	0.53
29:X:1289:A:C5	29:X:1308:C:O2	2.61	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:27:TYR:CB	15:J:137:VAL:HG11	2.39	0.53
29:X:303:C:H6	29:X:303:C:O5'	1.92	0.53
29:X:2357:A:C2'	29:X:2358:C:H5'	2.39	0.53
4:4:17:VAL:HG23	4:4:26:ILE:HG12	1.91	0.53
29:X:2213:G:O2'	29:X:2214:G:H5'	2.08	0.53
24:S:21:ALA:O	24:S:22:VAL:HG13	2.09	0.53
24:S:123:VAL:HG23	24:S:161:ALA:CB	2.39	0.53
18:M:94:VAL:O	18:M:95:GLU:CB	2.51	0.53
29:X:2245:A:H1'	29:X:2251:U:C4	2.43	0.53
29:X:1372:A:C5	29:X:1373:G:N7	2.77	0.53
29:X:2834:A:O2'	29:X:2835:A:H5'	2.09	0.53
23:R:49:GLU:HA	23:R:73:GLU:OE2	2.08	0.53
29:X:320:A:H1'	29:X:340:G:O2'	2.09	0.53
7:B:154:LYS:NZ	7:B:156:MET:SD	2.81	0.53
14:I:30:ALA:H	14:I:34:HIS:CG	2.27	0.53
12:G:107:GLN:HB3	29:X:1142:G:H5'	1.91	0.53
29:X:2014:A:O2'	29:X:2015:G:P	2.67	0.53
29:X:789:G:O6	29:X:2055:G:OP1	2.27	0.53
29:X:787:A:H5'	29:X:791:G:O4'	2.08	0.53
14:I:18:ARG:HD2	14:I:21:ARG:CG	2.37	0.53
29:X:1285:A:O2'	29:X:1286:U:OP1	2.27	0.53
15:J:83:ARG:HH22	29:X:970:A:N6	2.06	0.53
29:X:1465:G:O2'	29:X:1466:C:H5'	2.08	0.53
25:T:73:GLY:O	25:T:74:LYS:HB2	2.07	0.53
10:E:45:GLN:HG3	10:E:49:GLN:O	2.08	0.53
29:X:2625:U:O4'	29:X:2625:U:OP2	2.26	0.53
6:A:262:LYS:HE3	29:X:2206:C:H1'	1.91	0.53
26:U:52:ARG:HD2	26:U:79:GLU:CA	2.39	0.53
29:X:122:G:C2'	29:X:123:A:H5''	2.39	0.53
15:J:84:MET:HG2	29:X:2229:G:C5'	2.34	0.53
9:D:110:ARG:HG2	9:D:110:ARG:NH2	2.23	0.53
29:X:201:G:H2'	29:X:202:A:C8	2.43	0.53
25:T:3:HIS:HD2	25:T:5:LYS:HD3	1.74	0.53
13:H:69:VAL:HG12	13:H:69:VAL:O	2.08	0.53
11:F:132:ARG:HH11	11:F:132:ARG:HG2	1.74	0.53
9:D:138:PHE:HB2	9:D:141:ILE:CB	2.37	0.53
29:X:2618:A:H1'	29:X:2758:A:N3	2.24	0.53
29:X:688:A:C8	29:X:815:A:N6	2.77	0.53
29:X:1998:A:C1'	30:Y:3:LYS:HG2	2.36	0.53
15:J:78:LYS:HA	29:X:968:C:OP1	2.09	0.53
10:E:89:LEU:CD1	10:E:129:THR:HA	2.35	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:105:ARG:O	23:R:106:VAL:HG13	2.08	0.53
29:X:2081:U:H2'	29:X:2082:C:H6	1.74	0.53
25:T:31:VAL:HG13	25:T:67:VAL:HG22	1.91	0.53
29:X:637:G:H8	29:X:637:G:O5'	1.90	0.53
29:X:2650:G:C6	29:X:2651:U:C4	2.97	0.53
8:C:44:SER:CB	29:X:37:C:H1'	2.39	0.53
7:B:35:GLN:HB3	7:B:48:GLN:OE1	2.08	0.53
29:X:1324:G:H2'	29:X:1325:U:H6	1.74	0.53
29:X:1324:G:H4'	29:X:1325:U:OP1	2.09	0.53
29:X:1621:C:H5'	29:X:1626:A:N6	2.23	0.53
16:K:100:VAL:HG12	16:K:101:GLY:H	1.73	0.53
29:X:1454:U:H2'	29:X:1455:C:C6	2.41	0.53
20:O:61:VAL:CG2	20:O:94:LYS:H	2.21	0.53
24:S:68:ALA:H	24:S:82:ASP:HB2	1.73	0.53
29:X:1879:G:O2'	29:X:1880:G:H5'	2.08	0.53
21:P:134:LYS:OXT	21:P:134:LYS:HG2	2.07	0.53
29:X:2187:A:C6	29:X:2188:A:C6	2.97	0.53
8:C:62:LYS:HE3	29:X:2042:A:O2'	2.09	0.53
8:C:73:SER:O	8:C:74:VAL:HG12	2.08	0.53
19:N:66:ASN:CB	19:N:76:TYR:H	2.22	0.53
19:N:78:THR:O	19:N:79:PHE:C	2.47	0.53
20:O:20:ILE:HD11	20:O:23:GLU:OE2	2.08	0.53
20:O:25:LEU:HD12	20:O:32:LYS:NZ	2.24	0.53
29:X:1671:A:C6	29:X:1672:A:N7	2.77	0.53
29:X:538:A:H2'	29:X:2025:A:C2	2.44	0.53
29:X:2760:G:H2'	29:X:2761:A:OP1	2.08	0.53
29:X:985:G:O2'	29:X:986:A:C8	2.61	0.53
27:V:36:GLN:HA	27:V:36:GLN:OE1	2.09	0.53
8:C:138:LYS:O	8:C:140:ASN:N	2.42	0.53
29:X:1987:G:H2'	29:X:1988:A:O4'	2.09	0.53
15:J:22:ALA:N	15:J:99:LYS:CG	2.72	0.53
8:C:162:ARG:CZ	29:X:333:A:H5''	2.39	0.53
29:X:2571:G:C5	29:X:2572:U:C4	2.96	0.53
29:X:2355:A:H2'	29:X:2356:A:O4'	2.10	0.53
9:D:108:LEU:HB2	9:D:109:PRO:HD3	1.91	0.53
29:X:2324:G:N2	29:X:2361:G:C8	2.78	0.53
4:4:25:VAL:HG21	4:4:34:GLN:HE21	1.73	0.53
10:E:9:ILE:CG2	10:E:50:LEU:HB3	2.38	0.53
29:X:1504:G:H2'	29:X:1505:U:C2	2.44	0.53
12:G:82:VAL:HG23	12:G:149:LYS:O	2.09	0.53
24:S:55:THR:CG2	24:S:59:GLY:HA2	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:37:C:H2'	29:X:38:G:C8	2.44	0.53
29:X:418:C:OP2	29:X:418:C:O4'	2.27	0.53
29:X:417:C:C4	29:X:419:G:C4	2.97	0.53
31:Z:65:A:H2'	31:Z:66:G:H8	1.74	0.53
29:X:507:A:C6	29:X:508:G:C5	2.97	0.53
29:X:478:G:O2'	29:X:479:G:H5'	2.09	0.53
28:W:49:HIS:CE1	28:W:50:LEU:HG	2.43	0.53
28:W:23:LEU:O	28:W:32:ARG:CZ	2.57	0.53
21:P:46:ARG:HG2	21:P:46:ARG:HH11	1.74	0.53
9:D:69:LYS:HG2	9:D:84:PRO:HG3	1.91	0.52
7:B:131:SER:O	7:B:132:LYS:HG2	2.08	0.52
8:C:67:ALA:O	8:C:68:ARG:HB3	2.08	0.52
12:G:84:ASN:O	12:G:86:ALA:N	2.41	0.52
19:N:42:ALA:O	19:N:43:ALA:C	2.46	0.52
21:P:105:ARG:HD3	29:X:1336:G:OP1	2.09	0.52
29:X:825:C:H1'	29:X:1263:G:N2	2.24	0.52
29:X:1999:U:H1'	30:Y:6:VAL:HG22	1.90	0.52
22:Q:8:GLN:O	22:Q:9:ALA:HB2	2.09	0.52
15:J:15:ARG:HD3	15:J:73:LYS:HZ3	1.73	0.52
28:W:44:VAL:O	28:W:44:VAL:HG12	2.08	0.52
29:X:346:C:H2'	29:X:347:C:C6	2.43	0.52
29:X:78:C:O2'	29:X:79:G:H5'	2.08	0.52
21:P:66:GLU:O	21:P:69:ALA:HB3	2.09	0.52
9:D:117:ILE:HD12	9:D:175:LEU:HD11	1.90	0.52
28:W:18:LYS:O	28:W:21:GLN:N	2.42	0.52
7:B:188:ILE:HG23	7:B:189:PRO:HD2	1.91	0.52
29:X:70:A:OP1	29:X:110:U:H2'	2.09	0.52
29:X:1969:G:N3	29:X:1970:G:C8	2.76	0.52
13:H:97:VAL:HG11	13:H:126:ILE:CD1	2.39	0.52
29:X:2407:G:H4'	29:X:2408:G:C4	2.44	0.52
29:X:1744:G:O6	29:X:1747:G:C6	2.62	0.52
7:B:116:VAL:HG22	7:B:136:ARG:CG	2.40	0.52
8:C:73:SER:C	8:C:74:VAL:CG1	2.78	0.52
12:G:56:THR:N	12:G:134:MET:HE3	2.25	0.52
8:C:63:GLY:N	29:X:2043:A:OP1	2.26	0.52
29:X:469:G:O2'	29:X:470:U:P	2.67	0.52
29:X:28:A:C2	29:X:523:A:C1'	2.92	0.52
29:X:840:U:H4'	29:X:841:G:N2	2.24	0.52
29:X:843:G:H1'	29:X:2427:A:N6	2.22	0.52
29:X:731:A:H2'	29:X:732:G:C4'	2.39	0.52
10:E:89:LEU:N	10:E:129:THR:O	2.41	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:28:LYS:O	23:R:29:HIS:HB2	2.09	0.52
29:X:2170:C:H2'	29:X:2171:U:H4'	1.91	0.52
16:K:90:ARG:HB2	16:K:90:ARG:NH1	2.23	0.52
29:X:1182:U:H2'	29:X:1183:C:O4'	2.09	0.52
25:T:40:GLN:NE2	25:T:44:LYS:H	2.06	0.52
9:D:8:TYR:HD1	9:D:173:MET:SD	2.33	0.52
10:E:64:LEU:HD23	10:E:67:LEU:HD12	1.90	0.52
29:X:1068:A:H3'	29:X:1069:G:C8	2.44	0.52
24:S:130:ILE:HD12	24:S:130:ILE:N	2.25	0.52
29:X:1399:C:H2'	29:X:1400:A:C8	2.45	0.52
20:O:68:LYS:HE3	20:O:85:GLY:CA	2.39	0.52
29:X:712:A:H4'	29:X:1651:U:C4	2.45	0.52
29:X:487:G:H22	29:X:489:A:C3'	2.20	0.52
29:X:772:G:H2'	29:X:773:G:H8	1.74	0.52
29:X:1785:A:H2'	29:X:1786:C:C6	2.44	0.52
29:X:2829:A:C2	29:X:2830:U:C2	2.96	0.52
29:X:427:C:H5''	29:X:1862:C:O2'	2.09	0.52
9:D:152:MET:HE2	9:D:154:ILE:HD11	1.91	0.52
9:D:57:LEU:HA	9:D:60:ILE:HG12	1.91	0.52
9:D:33:LYS:HB2	9:D:91:LEU:O	2.09	0.52
21:P:32:ARG:HH21	21:P:33:MET:CA	2.22	0.52
29:X:1153:A:N3	29:X:1155:G:C5	2.77	0.52
29:X:456:C:O2'	29:X:457:C:H5'	2.10	0.52
15:J:77:LYS:CG	15:J:78:LYS:H	2.20	0.52
10:E:103:LEU:CD2	10:E:105:MET:HE3	2.35	0.52
26:U:29:GLY:C	26:U:31:GLY:N	2.63	0.52
29:X:2082:C:C2'	29:X:2083:G:H5''	2.38	0.52
16:K:85:PRO:O	16:K:88:ALA:CB	2.55	0.52
16:K:90:ARG:HH11	16:K:90:ARG:HB2	1.75	0.52
29:X:486:U:C4'	29:X:519:C:H2'	2.39	0.52
29:X:648:A:H5'	29:X:649:G:C4'	2.36	0.52
17:L:38:ILE:HD11	17:L:40:ALA:H	1.73	0.52
31:Z:58:G:H4'	31:Z:59:A:C5'	2.39	0.52
22:Q:57:ASN:C	22:Q:58:VAL:HG23	2.30	0.52
18:M:14:ARG:O	18:M:17:GLU:HB3	2.08	0.52
11:F:122:ALA:CB	29:X:1092:U:H4'	2.40	0.52
14:I:54:SER:OG	14:I:59:ARG:NH1	2.41	0.52
29:X:172:A:H2	29:X:227:G:H22	1.55	0.52
29:X:451:A:O2'	29:X:452:G:H5'	2.09	0.52
30:Y:35:GLN:C	30:Y:37:HIS:N	2.62	0.52
7:B:70:ALA:O	7:B:71:GLY:C	2.46	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:246:PRO:C	6:A:248:THR:H	2.11	0.52
19:N:82:GLY:HA3	19:N:113:SER:HG	1.73	0.52
6:A:166:GLN:HG3	6:A:174:ILE:HG22	1.90	0.52
30:Y:58:LEU:CD1	30:Y:58:LEU:H	2.21	0.52
29:X:507:A:O2'	29:X:508:G:H5'	2.09	0.52
29:X:1578:U:O2'	29:X:1579:G:H5'	2.10	0.52
30:Y:45:ILE:HG21	30:Y:57:VAL:HG23	1.89	0.52
8:C:54:THR:CB	8:C:73:SER:HB3	2.40	0.52
12:G:110:LEU:HD13	29:X:2621:G:OP1	2.09	0.52
12:G:97:ASP:O	12:G:99:VAL:N	2.43	0.52
14:I:30:ALA:O	14:I:31:GLY:O	2.27	0.52
19:N:20:ARG:HD2	19:N:39:LEU:HD13	1.91	0.52
19:N:36:PHE:CZ	20:O:81:ARG:NH1	2.77	0.52
19:N:68:GLY:O	19:N:71:LEU:N	2.42	0.52
19:N:72:HIS:HD2	19:N:110:VAL:HG21	1.73	0.52
19:N:91:ASN:O	19:N:92:ARG:HB2	2.09	0.52
20:O:50:ASP:HA	20:O:53:LYS:HE3	1.90	0.52
13:H:34:LEU:HD22	13:H:50:ILE:CD1	2.39	0.52
8:C:152:THR:O	8:C:153:ASP:O	2.28	0.52
8:C:33:TRP:CB	8:C:95:LEU:HD12	2.40	0.52
29:X:2046:C:C5	29:X:2047:C:N4	2.78	0.52
15:J:86:LYS:HB2	29:X:2255:G:O3'	2.10	0.52
29:X:309:G:N2	29:X:350:U:C5	2.78	0.52
26:U:32:ARG:HD2	26:U:34:THR:O	2.08	0.52
16:K:60:LEU:HD11	29:X:1469:U:H2'	1.91	0.52
29:X:930:A:H5''	31:Z:100:G:O2'	2.08	0.52
28:W:5:LEU:HB2	28:W:25:LEU:CD1	2.24	0.52
10:E:41:LEU:CD2	10:E:68:THR:OG1	2.58	0.52
16:K:10:LEU:CD2	16:K:17:ARG:HB2	2.40	0.52
14:I:54:SER:O	14:I:59:ARG:NH2	2.43	0.52
29:X:1354:A:O2'	29:X:1355:A:OP1	2.18	0.52
29:X:1313:U:H4'	29:X:1314:A:O5'	2.08	0.52
29:X:2442:C:O2'	29:X:2443:C:H5'	2.09	0.52
31:Z:104:A:C6	31:Z:105:G:C5	2.98	0.52
29:X:1785:A:H2'	29:X:1786:C:H6	1.75	0.52
29:X:427:C:H1'	29:X:1856:U:C1'	2.33	0.52
7:B:116:VAL:CG2	7:B:136:ARG:HG3	2.39	0.52
7:B:119:ARG:NH1	7:B:120:TRP:CZ2	2.78	0.52
12:G:103:TYR:CE2	12:G:111:LYS:CB	2.93	0.52
12:G:53:ARG:NH2	12:G:171:LEU:HB2	2.25	0.52
19:N:95:LEU:HD11	19:N:109:LEU:HD13	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:47:TYR:HB2	20:O:72:ARG:O	2.09	0.52
20:O:69:ILE:CG2	20:O:70:TYR:N	2.72	0.52
20:O:8:GLY:O	20:O:9:GLY:O	2.27	0.52
21:P:35:PRO:CD	21:P:122:SER:OG	2.55	0.52
29:X:1625:A:H1'	29:X:1632:A:H1'	1.91	0.52
29:X:539:A:H4'	29:X:540:G:C8	2.45	0.52
29:X:835:U:O2	29:X:835:U:H2'	2.07	0.52
15:J:26:ASP:HB2	29:X:919:U:OP1	2.10	0.52
23:R:21:THR:O	23:R:83:LEU:HA	2.10	0.52
23:R:51:VAL:HG21	23:R:76:LEU:HD11	1.92	0.52
23:R:82:ALA:C	23:R:83:LEU:HG	2.30	0.52
23:R:85:ASP:H	23:R:90:LYS:HD3	1.75	0.52
29:X:1683:G:O6	29:X:1684:G:C2	2.63	0.52
29:X:1974:U:C6	29:X:1974:U:O5'	2.58	0.52
29:X:1949:A:H1'	29:X:2572:U:H5'	1.90	0.52
29:X:105:G:H5'	29:X:105:G:C8	2.44	0.52
25:T:34:GLY:O	29:X:2332:G:N3	2.41	0.52
10:E:139:GLN:C	10:E:143:GLN:HG3	2.30	0.52
29:X:2395:C:O2'	29:X:2396:C:H5''	2.09	0.52
29:X:2504:G:C2	29:X:2518:C:C2	2.97	0.52
26:U:37:ILE:CD1	29:X:400:U:OP2	2.50	0.52
15:J:64:LYS:HZ1	15:J:110:VAL:HG13	1.72	0.52
18:M:13:LEU:O	18:M:14:ARG:C	2.48	0.52
29:X:1238:A:C2	29:X:1239:A:C2	2.97	0.52
29:X:143:A:H2'	29:X:144:U:H6	1.68	0.52
8:C:147:LYS:HB3	8:C:183:HIS:CB	2.38	0.52
14:I:9:THR:O	14:I:13:ARG:HD2	2.10	0.52
14:I:13:ARG:NE	29:X:1218:C:O4'	2.38	0.52
17:L:95:LYS:HD2	29:X:2273:C:H5'	1.92	0.52
18:M:53:VAL:CG1	18:M:54:VAL:N	2.72	0.52
6:A:48:ARG:N	6:A:48:ARG:HH11	2.08	0.52
29:X:2681:A:C5	29:X:2682:C:C5	2.97	0.52
29:X:1493:A:H2'	29:X:1494:G:O4'	2.09	0.52
29:X:1150:C:H6	29:X:1150:C:O5'	1.93	0.52
12:G:103:TYR:CE2	12:G:111:LYS:HB2	2.45	0.52
12:G:51:LEU:CD1	12:G:127:ILE:HG13	2.39	0.52
12:G:104:THR:CB	29:X:2620:G:H5''	2.40	0.52
29:X:583:C:H1'	29:X:2038:C:C6	2.44	0.52
29:X:841:G:H2'	29:X:842:A:N7	2.23	0.52
8:C:5:ASN:N	8:C:5:ASN:ND2	2.58	0.52
29:X:1712:G:H3'	29:X:1712:G:N3	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:T:25:LYS:HB2	25:T:37:LEU:CG	2.39	0.52
29:X:649:G:N2	29:X:660:G:N2	2.57	0.52
17:L:33:ARG:HH11	17:L:100:VAL:HA	1.74	0.52
22:Q:43:GLN:O	22:Q:47:GLY:N	2.42	0.52
16:K:103:ARG:HG3	29:X:1300:A:OP2	2.09	0.52
23:R:18:LYS:HE2	23:R:19:GLY:H	1.74	0.52
29:X:2074:U:O5'	29:X:2075:U:H5''	2.10	0.52
24:S:1:MET:O	24:S:3:LEU:N	2.38	0.52
29:X:2057:U:H1'	29:X:2577:A:H1'	1.89	0.52
29:X:1374:G:O2'	29:X:1375:C:H5'	2.09	0.52
23:R:60:PRO:O	23:R:62:MET:N	2.40	0.52
29:X:2507:U:HO2'	29:X:2508:G:H8	1.57	0.52
29:X:1026:U:H2'	29:X:1027:C:C6	2.45	0.52
18:M:104:LEU:HB3	18:M:107:LEU:CD1	2.39	0.52
9:D:138:PHE:HZ	9:D:152:MET:SD	2.33	0.52
19:N:27:SER:OG	29:X:2003:A:OP1	2.28	0.52
19:N:88:ILE:O	20:O:48:GLY:HA3	2.10	0.52
19:N:91:ASN:HA	20:O:10:LYS:NZ	2.25	0.52
20:O:24:SER:O	20:O:25:LEU:C	2.48	0.52
29:X:1031:C:H41	29:X:1153:A:N6	2.07	0.52
29:X:1270:C:H2'	29:X:1271:C:H6	1.75	0.52
29:X:689:A:H8	29:X:2052:G:N2	2.04	0.52
19:N:3:ARG:HD2	29:X:461:A:O2'	2.10	0.52
15:J:69:ILE:HD13	15:J:104:MET:HB3	1.92	0.52
29:X:1695:U:O2	29:X:1974:U:O4'	2.28	0.52
29:X:2528:G:C2	29:X:2529:G:C8	2.97	0.52
16:K:90:ARG:O	16:K:90:ARG:HG3	2.08	0.52
17:L:17:VAL:HB	29:X:2313:G:C2	2.45	0.52
22:Q:42:ILE:HG23	22:Q:43:GLN:H	1.74	0.52
29:X:1296:G:H2'	29:X:1298:G:OP2	2.09	0.52
29:X:1302:C:O2'	29:X:1303:U:H5'	2.10	0.52
29:X:2492:G:C5	29:X:2493:U:C4	2.97	0.52
26:U:46:LEU:C	29:X:2209:G:H4'	2.29	0.52
29:X:1827:G:N2	29:X:1913:G:H1'	2.25	0.52
6:A:255:LYS:CE	29:X:1835:C:H5'	2.35	0.52
20:O:35:LEU:O	20:O:36:LYS:HB2	2.09	0.52
14:I:67:ASN:ND2	29:X:2383:C:H4'	2.22	0.52
29:X:2366:U:C3'	29:X:2366:U:C6	2.93	0.52
29:X:780:U:O2'	29:X:781:G:C5'	2.58	0.52
29:X:1459:U:C5	29:X:1475:U:O2	2.62	0.52
29:X:513:A:C2	29:X:515:A:C2	2.98	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:46:ALA:HB2	12:G:54:LEU:HD21	1.90	0.52
29:X:1856:U:H2'	29:X:1857:G:O5'	2.09	0.52
12:G:106:TYR:CE2	12:G:108:GLY:CA	2.92	0.52
19:N:108:ALA:O	19:N:112:ALA:HB2	2.09	0.52
19:N:17:VAL:HG21	19:N:32:TYR:HE1	1.74	0.52
20:O:14:VAL:O	20:O:15:SER:HB2	2.08	0.52
20:O:38:LEU:O	20:O:39:PHE:HB3	2.08	0.52
20:O:39:PHE:HE2	20:O:51:ALA:HB1	1.75	0.52
29:X:2594:U:H6	29:X:2594:U:C5'	2.22	0.52
29:X:834:A:H5'	29:X:835:U:C5	2.45	0.52
8:C:28:HIS:CE1	14:I:21:ARG:HH11	2.28	0.52
16:K:36:THR:HG22	16:K:41:ALA:HB2	1.91	0.52
16:K:37:THR:OG1	16:K:40:LYS:HB2	2.09	0.52
23:R:11:ASN:ND2	23:R:11:ASN:C	2.55	0.52
29:X:1918:G:C6	29:X:1945:C:C5	2.98	0.52
17:L:11:LEU:HD23	17:L:14:ARG:HD2	1.92	0.52
17:L:89:PHE:CD1	17:L:89:PHE:N	2.73	0.52
29:X:739:G:O2'	29:X:740:A:OP2	2.28	0.52
29:X:659:G:H2'	29:X:660:G:H8	1.73	0.52
15:J:44:LYS:HB2	15:J:47:GLN:CG	2.37	0.52
29:X:168:A:C2	29:X:169:C:C4	2.97	0.52
29:X:915:C:H2'	29:X:916:U:C6	2.45	0.52
17:L:8:ARG:NH1	17:L:8:ARG:CB	2.73	0.52
6:A:75:VAL:HG21	6:A:99:ASP:OD2	2.10	0.52
31:Z:16:U:O2'	31:Z:110:U:O2	2.28	0.52
12:G:81:VAL:HA	12:G:149:LYS:O	2.10	0.52
6:A:218:LYS:C	6:A:218:LYS:HD2	2.29	0.52
7:B:1:MET:HG3	7:B:83:GLY:O	2.09	0.52
29:X:1391:A:O2'	29:X:1392:U:P	2.67	0.52
29:X:888:G:H2'	29:X:889:C:O4'	2.10	0.52
29:X:233:A:O2'	29:X:234:C:H5'	2.09	0.52
14:I:35:LYS:O	14:I:36:GLY:O	2.27	0.52
29:X:471:A:H2'	29:X:472:C:O4'	2.10	0.52
8:C:99:VAL:O	8:C:103:GLY:N	2.42	0.52
19:N:3:ARG:HD3	29:X:457:C:O3'	2.10	0.52
23:R:75:ALA:O	23:R:76:LEU:HD23	2.10	0.52
29:X:357:A:OP2	29:X:358:C:C2	2.63	0.52
14:I:63:ARG:NE	29:X:2394:G:H5''	2.25	0.52
14:I:107:LYS:HG3	14:I:108:LEU:N	2.25	0.52
17:L:38:ILE:CD1	17:L:40:ALA:H	2.23	0.52
29:X:400:U:H1'	29:X:401:G:C4	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:45:ASN:HB3	29:X:409:G:O2'	2.10	0.52
24:S:23:ALA:HA	24:S:83:PHE:O	2.10	0.52
24:S:59:GLY:O	24:S:60:GLU:HG3	2.09	0.52
18:M:34:ARG:CZ	18:M:66:PHE:HZ	2.23	0.52
29:X:1621:C:H4'	29:X:1626:A:N6	2.25	0.52
29:X:1734:C:H3'	29:X:1735:G:O4'	2.09	0.52
29:X:1524:C:H3'	29:X:1525:A:O4'	2.10	0.52
29:X:1358:C:C2'	29:X:1359:G:H5'	2.40	0.52
29:X:2379:G:N2	29:X:2380:U:H1'	2.25	0.52
29:X:1755:G:O2'	29:X:1756:C:H5'	2.09	0.52
29:X:195:A:H2	29:X:212:U:H4'	1.74	0.52
18:M:104:LEU:CD2	18:M:106:TYR:OH	2.58	0.52
7:B:145:LYS:HZ1	29:X:2015:G:H2'	1.75	0.52
8:C:68:ARG:O	8:C:69:HIS:ND1	2.43	0.52
20:O:75:LYS:NZ	20:O:75:LYS:HB2	2.25	0.52
14:I:32:ARG:NH2	20:O:79:GLN:CA	2.73	0.52
29:X:1343:C:O2'	29:X:1344:C:H5'	2.10	0.52
29:X:29:U:OP1	29:X:592:G:H4'	2.09	0.52
29:X:689:A:H1'	29:X:2422:C:O4'	2.09	0.52
29:X:796:A:H2'	29:X:797:A:O3'	2.10	0.52
29:X:677:G:O3'	29:X:952:A:OP1	2.27	0.52
15:J:21:ASP:O	15:J:22:ALA:O	2.28	0.52
23:R:112:LYS:O	23:R:113:THR:HG23	2.09	0.52
23:R:16:PHE:HB3	23:R:82:ALA:CB	2.40	0.52
29:X:1927:U:H1'	29:X:1938:U:C4'	2.39	0.52
14:I:108:LEU:HB2	14:I:122:VAL:HG11	1.91	0.52
29:X:2721:A:C2'	29:X:2722:C:H5'	2.39	0.52
19:N:60:LEU:HD11	19:N:64:ARG:NH1	2.25	0.52
27:V:4:SER:HB3	27:V:7:ARG:NH2	2.25	0.52
22:Q:36:THR:O	22:Q:37:GLU:C	2.48	0.52
15:J:52:ARG:HA	15:J:55:MET:HE3	1.91	0.52
15:J:56:SER:O	15:J:57:ARG:C	2.48	0.52
10:E:54:ARG:NE	10:E:62:ARG:HG2	2.25	0.52
29:X:2498:U:C4'	29:X:2499:C:OP1	2.54	0.52
29:X:2370:G:H2'	29:X:2403:C:H41	1.75	0.52
13:H:116:ARG:HH11	18:M:38:LYS:CE	2.20	0.52
18:M:43:ASN:O	18:M:44:ARG:C	2.47	0.52
29:X:1882:G:H21	29:X:1885:C:N4	2.06	0.52
29:X:666:U:C2'	29:X:667:U:H4'	2.34	0.52
29:X:114:C:H4'	29:X:125:A:O4'	2.10	0.52
18:M:32:THR:CG2	18:M:91:VAL:HG12	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:167:GLU:HG3	10:E:169:ILE:HG12	1.92	0.52
20:O:34:GLU:HB2	20:O:56:VAL:HG23	1.91	0.52
29:X:2245:A:O2'	29:X:2246:A:OP2	2.22	0.52
29:X:653:G:C3'	29:X:654:A:C5'	2.88	0.52
29:X:1574:A:O2'	29:X:1575:C:H3'	2.09	0.52
27:V:24:GLU:O	27:V:28:LEU:HD23	2.10	0.52
29:X:2585:C:O2'	29:X:2586:G:H5'	2.09	0.52
31:Z:4:C:O2'	31:Z:5:C:H5'	2.10	0.52
29:X:1188:A:H8	29:X:1188:A:O5'	1.93	0.52
29:X:1305:C:H2'	29:X:1306:U:O4'	2.09	0.52
18:M:5:ILE:N	18:M:5:ILE:HD12	2.25	0.52
7:B:4:ILE:O	7:B:4:ILE:CG2	2.57	0.52
29:X:2284:U:C3'	29:X:2285:U:H5''	2.39	0.51
6:A:226:MET:CE	6:A:231:HIS:HB2	2.39	0.51
19:N:8:ILE:HG22	19:N:11:ARG:NH2	2.24	0.51
20:O:25:LEU:HD12	20:O:32:LYS:HZ3	1.75	0.51
20:O:49:GLU:C	20:O:51:ALA:N	2.63	0.51
29:X:1032:A:H62	29:X:1151:U:H3	1.58	0.51
29:X:1004:A:N1	29:X:1173:G:C6	2.78	0.51
29:X:1273:G:C6	29:X:1274:C:C4	2.98	0.51
16:K:3:HIS:HE1	29:X:2795:A:O3'	1.93	0.51
29:X:1592:U:C2'	29:X:1593:C:H5'	2.40	0.51
8:C:34:GLN:HE22	8:C:178:TYR:H	1.56	0.51
16:K:49:GLU:OE2	29:X:2814:G:O2'	2.26	0.51
29:X:2477:C:H6	29:X:2477:C:H5'	1.75	0.51
29:X:882:C:O2'	29:X:883:A:H5'	2.10	0.51
29:X:342:G:H4'	29:X:343:A:OP1	2.09	0.51
29:X:1685:A:C6	29:X:1976:U:C6	2.98	0.51
29:X:2311:U:C5'	29:X:2315:A:N6	2.71	0.51
15:J:59:PHE:CZ	15:J:110:VAL:HG21	2.45	0.51
29:X:2522:G:H2'	29:X:2523:G:H8	1.75	0.51
29:X:176:A:H2'	29:X:177:U:H5	1.74	0.51
29:X:70:A:H1'	29:X:72:A:N7	2.25	0.51
24:S:3:LEU:HB2	24:S:34:LEU:HB3	1.92	0.51
24:S:3:LEU:HD12	24:S:4:THR:N	2.25	0.51
31:Z:68:A:H4'	31:Z:69:G:N7	2.25	0.51
12:G:161:GLN:C	12:G:163:PRO:HD2	2.29	0.51
8:C:148:VAL:HB	8:C:167:VAL:HG12	1.92	0.51
7:B:38:THR:HG22	7:B:39:ALA:N	2.26	0.51
14:I:10:PRO:HA	14:I:14:LYS:HB2	1.92	0.51
29:X:1328:C:H2'	29:X:1329:U:H6	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2671:C:N3	29:X:2672:U:C5	2.78	0.51
19:N:61:TRP:HZ3	19:N:93:LYS:C	2.14	0.51
29:X:1164:C:H2'	29:X:1165:G:O4'	2.09	0.51
8:C:89:ARG:NH2	29:X:1260:A:OP1	2.42	0.51
29:X:2026:C:H2'	29:X:2027:C:C6	2.43	0.51
29:X:2456:U:H4'	29:X:2458:U:O4	2.10	0.51
8:C:109:ALA:O	8:C:112:GLN:N	2.43	0.51
8:C:3:GLN:CB	8:C:116:LYS:HD2	2.40	0.51
8:C:97:ARG:O	8:C:100:ARG:N	2.44	0.51
14:I:17:LYS:O	14:I:18:ARG:HG3	2.11	0.51
29:X:1932:G:C2	29:X:1941:C:N3	2.78	0.51
29:X:1467:U:H3'	29:X:1467:U:C6	2.44	0.51
6:A:158:SER:OG	29:X:1811:A:C5'	2.58	0.51
17:L:43:ILE:CD1	17:L:43:ILE:N	2.61	0.51
25:T:53:MET:HA	25:T:58:THR:O	2.09	0.51
31:Z:114:C:O5'	31:Z:114:C:C6	2.63	0.51
14:I:120:VAL:HG12	14:I:122:VAL:HG13	1.92	0.51
29:X:635:C:C3'	29:X:636:G:H5''	2.39	0.51
29:X:531:G:N3	29:X:532:A:C8	2.79	0.51
29:X:532:A:C2	29:X:533:C:N3	2.79	0.51
29:X:2708:U:C2'	29:X:2709:C:H6	2.22	0.51
29:X:1095:A:H2'	29:X:1096:A:O4'	2.10	0.51
29:X:1656:U:H4'	29:X:2678:C:H4'	1.93	0.51
6:A:214:TRP:HB3	29:X:1582:A:H1'	1.92	0.51
29:X:2507:U:C6	29:X:2509:A:C8	2.98	0.51
29:X:1873:A:H4'	29:X:2069:U:H4'	1.92	0.51
29:X:66:U:H1'	29:X:87:G:N2	2.25	0.51
30:Y:44:HIS:CD2	30:Y:44:HIS:N	2.78	0.51
29:X:1437:A:H2'	29:X:1438:G:H8	1.75	0.51
29:X:2849:C:O2'	29:X:2850:U:H5''	2.10	0.51
12:G:75:ILE:HG21	12:G:144:MET:HG2	1.91	0.51
29:X:1043:A:O2'	29:X:1045:G:OP2	2.27	0.51
12:G:125:ARG:NH1	29:X:2760:G:H22	2.03	0.51
8:C:138:LYS:C	8:C:140:ASN:N	2.62	0.51
16:K:39:THR:O	16:K:40:LYS:C	2.47	0.51
29:X:1768:U:O2'	29:X:1769:U:H5'	2.11	0.51
29:X:1790:G:N3	29:X:1791:C:H5	2.07	0.51
14:I:88:PHE:O	14:I:93:LEU:HB2	2.10	0.51
29:X:224:G:C4'	29:X:399:G:C6	2.83	0.51
29:X:168:A:C2	29:X:169:C:C2	2.97	0.51
18:M:43:ASN:C	18:M:43:ASN:ND2	2.63	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:53:PHE:O	6:A:54:ILE:O	2.27	0.51
18:M:82:PRO:C	18:M:84:ALA:H	2.12	0.51
29:X:191:G:O2'	29:X:192:G:H5'	2.11	0.51
11:F:90:THR:HB	11:F:93:LYS:HB2	1.92	0.51
23:R:32:GLN:NE2	23:R:50:GLY:CA	2.73	0.51
23:R:56:LYS:HE3	29:X:493:A:H4'	1.92	0.51
25:T:3:HIS:CG	25:T:4:LYS:H	2.28	0.51
9:D:76:ASN:O	9:D:77:PHE:O	2.27	0.51
20:O:7:THR:HG23	20:O:20:ILE:HD11	1.92	0.51
29:X:2484:G:O2'	29:X:2485:U:H6	1.93	0.51
29:X:484:G:C2	29:X:485:G:C5	2.99	0.51
29:X:768:U:C5	29:X:769:C:C5	2.98	0.51
29:X:2004:U:P	30:Y:12:SER:HG	2.33	0.51
30:Y:19:ARG:HB2	30:Y:19:ARG:NH1	2.25	0.51
15:J:100:PRO:CB	24:S:74:ARG:HG2	2.40	0.51
29:X:1918:G:H1'	29:X:1947:G:N2	2.26	0.51
17:L:10:LYS:HD3	17:L:14:ARG:HH21	1.74	0.51
29:X:2240:C:N3	29:X:2241:U:C5	2.78	0.51
21:P:30:TYR:CG	29:X:518:A:N6	2.79	0.51
10:E:43:VAL:HG23	10:E:52:VAL:HG22	1.91	0.51
26:U:48:LYS:HG3	29:X:1801:C:H42	1.75	0.51
6:A:183:ARG:NH1	6:A:266:SER:O	2.43	0.51
24:S:51:LEU:N	24:S:51:LEU:HD23	2.26	0.51
29:X:466:A:O2'	29:X:467:U:OP2	2.22	0.51
29:X:1218:C:O2'	29:X:1219:C:H5'	2.10	0.51
29:X:1347:C:C2'	29:X:1348:C:H5'	2.40	0.51
29:X:45:C:OP2	29:X:192:G:H3'	2.10	0.51
29:X:1102:G:H2'	29:X:1103:C:C6	2.46	0.51
29:X:211:U:O2'	29:X:212:U:H5'	2.09	0.51
31:Z:86:A:H2'	31:Z:87:C:O5'	2.10	0.51
29:X:613:A:O2'	29:X:614:G:OP2	2.28	0.51
12:G:49:VAL:HG13	12:G:50:PRO:HD2	1.92	0.51
19:N:66:ASN:O	19:N:70:ARG:HG3	2.10	0.51
20:O:79:GLN:HA	20:O:79:GLN:OE1	2.10	0.51
8:C:131:LYS:O	8:C:134:ILE:HB	2.10	0.51
8:C:30:VAL:HG11	8:C:177:VAL:HG11	1.92	0.51
15:J:34:GLY:HA2	15:J:106:GLU:CA	2.38	0.51
15:J:79:PRO:HD3	15:J:88:LYS:HZ2	1.76	0.51
29:X:1685:A:C2	29:X:1691:G:H1'	2.45	0.51
20:O:27:GLY:O	20:O:28:GLU:HG3	2.10	0.51
29:X:741:G:H4'	29:X:742:G:OP2	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2225:G:N1	29:X:2405:A:H1'	2.24	0.51
17:L:66:ASP:C	17:L:68:ALA:N	2.64	0.51
29:X:1555:A:H2'	29:X:1556:A:O4'	2.11	0.51
22:Q:58:VAL:N	22:Q:75:ARG:O	2.44	0.51
17:L:63:ASN:HB3	17:L:67:THR:N	2.26	0.51
29:X:23:G:C6	29:X:528:G:C6	2.98	0.51
15:J:44:LYS:HB2	15:J:47:GLN:OE1	2.10	0.51
7:B:98:GLU:HG3	7:B:175:ILE:HG13	1.92	0.51
29:X:2492:G:C4	29:X:2493:U:C5	2.99	0.51
29:X:2628:C:H2'	29:X:2629:U:H6	1.76	0.51
26:U:41:VAL:HG23	26:U:42:GLN:N	2.26	0.51
13:H:88:THR:O	18:M:79:ARG:HD2	2.10	0.51
7:B:68:ALA:C	7:B:70:ALA:H	2.13	0.51
18:M:103:LYS:O	18:M:104:LEU:CB	2.59	0.51
29:X:2827:G:H2'	29:X:2828:C:C6	2.46	0.51
29:X:1125:G:H2'	29:X:1126:A:C8	2.33	0.51
9:D:96:MET:O	9:D:100:LEU:HB2	2.11	0.51
8:C:78:VAL:C	8:C:80:GLY:H	2.14	0.51
8:C:87:LYS:HE3	8:C:88:PRO:HD3	1.92	0.51
12:G:119:LEU:O	12:G:123:PRO:HG3	2.09	0.51
19:N:93:LYS:O	19:N:94:VAL:CG2	2.58	0.51
29:X:593:C:N4	29:X:594:G:C6	2.78	0.51
8:C:103:GLY:O	8:C:106:MET:N	2.44	0.51
26:U:27:ASP:HA	26:U:32:ARG:NE	2.24	0.51
6:A:62:TYR:CE1	29:X:1809:G:OP1	2.57	0.51
29:X:2331:A:H2'	29:X:2332:G:H5'	1.93	0.51
29:X:490:A:H1'	29:X:491:A:N7	2.26	0.51
1:I:39:LYS:CA	29:X:2323:U:C5'	2.89	0.51
22:Q:62:ARG:O	22:Q:70:GLY:HA3	2.11	0.51
29:X:1071:U:OP1	29:X:1071:U:H6	1.93	0.51
26:U:15:VAL:HG12	26:U:46:LEU:CD2	2.41	0.51
29:X:1763:G:H2'	29:X:1764:A:C4'	2.38	0.51
15:J:23:LYS:HD3	29:X:876:A:OP1	2.11	0.51
13:H:116:ARG:CG	13:H:116:ARG:NH1	2.67	0.51
24:S:51:LEU:HB3	24:S:64:ALA:O	2.10	0.51
7:B:31:CYS:HB2	7:B:49:ILE:CD1	2.35	0.51
29:X:219:G:H22	29:X:231:G:H2'	1.71	0.51
29:X:1283:C:H5''	29:X:1284:G:H5'	1.93	0.51
29:X:1774:A:N1	29:X:2566:A:N3	2.59	0.51
29:X:1102:G:H2'	29:X:1103:C:H6	1.75	0.51
30:Y:46:CYS:O	30:Y:48:ASN:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:63:A:C2	29:X:64:C:C6	2.98	0.51
29:X:2849:C:O2	29:X:2850:U:C6	2.64	0.51
21:P:33:MET:SD	21:P:64:ALA:HA	2.50	0.51
21:P:39:ARG:HE	21:P:97:VAL:HB	1.75	0.51
29:X:1174:G:O2'	29:X:1175:A:H5'	2.11	0.51
29:X:537:C:O2'	29:X:538:A:C2	2.62	0.51
29:X:697:G:H2'	29:X:787:A:H61	1.76	0.51
8:C:162:ARG:CZ	29:X:334:G:H21	2.24	0.51
8:C:162:ARG:HH11	29:X:333:A:H5''	1.74	0.51
29:X:1919:A:O4'	29:X:1923:U:C4	2.63	0.51
21:P:52:ASP:OD2	21:P:52:ASP:N	2.42	0.51
6:A:42:GLY:C	6:A:43:ARG:NH1	2.63	0.51
12:G:70:PHE:CD1	19:N:64:ARG:HA	2.46	0.51
22:Q:57:ASN:O	22:Q:58:VAL:HG23	2.11	0.51
10:E:9:ILE:HD12	10:E:50:LEU:C	2.30	0.51
29:X:2661:G:O6	29:X:2708:U:H1'	2.10	0.51
6:A:96:HIS:NE2	6:A:97:TYR:O	2.43	0.51
24:S:97:PRO:O	24:S:134:LEU:HB3	2.11	0.51
14:I:76:LYS:HB3	14:I:79:GLN:CG	2.39	0.51
29:X:208:C:O2'	29:X:209:G:H5'	2.11	0.51
29:X:444:U:O2'	29:X:445:A:H5'	2.10	0.51
6:A:210:GLY:O	6:A:213:ARG:HB2	2.10	0.51
29:X:889:C:H2'	29:X:890:U:C6	2.45	0.51
29:X:669:G:OP2	29:X:669:G:H8	1.94	0.51
29:X:2184:C:H2'	29:X:2185:U:H6	1.75	0.51
29:X:2676:G:C6	29:X:2690:A:N1	2.79	0.51
29:X:428:A:N1	29:X:2388:G:C6	2.78	0.51
29:X:1123:G:H2'	29:X:1124:U:O4'	2.11	0.51
7:B:162:MET:HE1	29:X:2796:A:C5'	2.40	0.51
12:G:156:HIS:N	12:G:157:PRO:CD	2.74	0.51
12:G:63:ARG:HE	12:G:63:ARG:CA	2.24	0.51
19:N:24:PHE:HD2	19:N:28:ARG:O	1.93	0.51
21:P:105:ARG:NH1	21:P:119:LYS:HZ2	2.08	0.51
29:X:1141:U:N3	29:X:2008:C:H5''	2.26	0.51
29:X:2458:U:H5''	29:X:2459:C:OP2	2.11	0.51
6:A:226:MET:HE3	29:X:795:A:H2	1.72	0.51
22:Q:12:ILE:H	22:Q:12:ILE:CD1	2.23	0.51
13:H:24:VAL:HG22	13:H:45:ALA:HB2	1.92	0.51
29:X:732:G:O5'	29:X:732:G:C8	2.64	0.51
16:K:34:ILE:HG13	16:K:113:ILE:HG22	1.92	0.51
16:K:52:ILE:HG13	16:K:53:THR:N	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:9:LYS:O	15:J:10:PHE:HB2	2.11	0.51
15:J:83:ARG:HH11	15:J:83:ARG:HG2	1.75	0.51
31:Z:31:A:C2	31:Z:58:G:C2	2.99	0.51
29:X:2324:G:C5	29:X:2326:C:C5	2.99	0.51
16:K:103:ARG:NH1	16:K:110:MET:CE	2.74	0.51
15:J:125:LYS:HZ3	15:J:125:LYS:N	2.07	0.51
29:X:2074:U:C4	29:X:2075:U:C4	2.99	0.51
29:X:407:A:H2'	29:X:408:U:C6	2.45	0.51
29:X:417:C:N3	29:X:419:G:C5	2.79	0.51
7:B:105:THR:HG21	7:B:199:ARG:HH22	1.76	0.51
17:L:95:LYS:HZ3	17:L:95:LYS:HB3	1.75	0.51
29:X:1842:G:H2'	29:X:1843:U:O4'	2.10	0.51
29:X:783:G:O4'	29:X:1392:U:C5	2.64	0.51
8:C:14:THR:O	8:C:15:ILE:HB	2.11	0.51
29:X:10:A:N1	29:X:2608:A:C2	2.79	0.51
29:X:510:G:N2	29:X:512:A:H3'	2.26	0.51
29:X:512:A:C5	29:X:515:A:N7	2.78	0.51
9:D:97:TYR:HD2	9:D:100:LEU:HD23	1.75	0.51
9:D:32:GLU:N	9:D:157:VAL:O	2.44	0.51
9:D:34:ILE:HD13	9:D:156:ILE:HA	1.92	0.51
12:G:107:GLN:CA	12:G:110:LEU:HG	2.39	0.51
19:N:74:MET:O	19:N:75:ASN:CB	2.56	0.51
20:O:48:GLY:O	20:O:50:ASP:N	2.44	0.51
29:X:1997:A:H2'	29:X:1998:A:C8	2.46	0.51
8:C:135:SER:O	8:C:136:TRP:C	2.49	0.51
8:C:136:TRP:O	8:C:140:ASN:HB2	2.11	0.51
15:J:35:LEU:HB2	15:J:119:PHE:CD1	2.46	0.51
29:X:81:C:H5''	29:X:307:C:H5'	1.93	0.51
29:X:502:A:H2'	29:X:503:G:O4'	2.11	0.51
29:X:105:G:H5'	29:X:105:G:H8	1.74	0.51
25:T:29:GLU:O	25:T:31:VAL:N	2.44	0.51
29:X:2311:U:H5'	29:X:2315:A:H61	1.74	0.51
10:E:140:LEU:O	10:E:144:VAL:HG23	2.10	0.51
17:L:108:ARG:O	17:L:109:GLU:HB3	2.11	0.51
29:X:652:C:N4	29:X:657:A:H61	2.08	0.51
31:Z:111:C:H5'	31:Z:111:C:H6	1.76	0.51
29:X:1430:G:H2'	29:X:1431:U:C6	2.45	0.51
24:S:59:GLY:C	24:S:60:GLU:HG3	2.31	0.51
24:S:94:VAL:CG1	24:S:95:SER:H	2.23	0.51
29:X:126:C:N4	29:X:127:C:N4	2.59	0.51
29:X:1373:G:N2	29:X:1374:G:H1'	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1968:G:C2'	29:X:1969:G:O5'	2.59	0.51
29:X:476:G:H2'	29:X:477:A:C8	2.46	0.51
29:X:1459:U:O2'	29:X:1460:G:P	2.69	0.51
29:X:1177:U:C2	29:X:1198:C:O2	2.64	0.51
29:X:2680:U:H3'	29:X:2681:A:H5''	1.93	0.51
9:D:38:GLU:CB	9:D:87:ILE:HB	2.33	0.51
9:D:96:MET:HE2	9:D:97:TYR:CD2	2.46	0.51
8:C:82:VAL:O	8:C:82:VAL:HG12	2.11	0.51
20:O:83:ARG:HH21	20:O:83:ARG:HG2	1.76	0.51
21:P:38:VAL:HG22	21:P:64:ALA:HB1	1.93	0.51
29:X:2020:G:H2'	29:X:2021:G:C8	2.46	0.51
29:X:971:A:C4'	29:X:2436:U:H4'	2.40	0.51
29:X:1928:G:N2	29:X:1929:U:C2	2.79	0.51
29:X:2262:C:H5''	29:X:2368:G:O2'	2.11	0.51
29:X:640:C:H4'	29:X:660:G:N2	2.26	0.51
17:L:34:SER:HB2	17:L:94:TYR:OH	2.11	0.51
29:X:401:G:H5'	29:X:402:A:OP2	2.11	0.51
11:F:3:LYS:HG2	11:F:3:LYS:O	2.11	0.51
29:X:1503:G:N2	29:X:1504:G:C2	2.78	0.51
11:F:1:MET:N	11:F:31:GLY:HA2	2.26	0.51
29:X:1217:U:O2'	29:X:1218:C:H5'	2.11	0.51
29:X:1402:G:N2	29:X:1412:C:C2	2.79	0.51
29:X:208:C:N4	29:X:209:G:N2	2.59	0.51
29:X:1699:A:C2	29:X:1700:C:C2	2.99	0.51
29:X:1879:G:H2'	29:X:1880:G:O4'	2.11	0.51
17:L:50:THR:HB	31:Z:117:G:O4'	2.11	0.51
29:X:2088:U:H2'	29:X:2089:C:C6	2.46	0.51
8:C:78:VAL:HG13	29:X:460:U:HO2'	1.77	0.50
29:X:577:U:C4'	29:X:956:A:N6	2.74	0.50
8:C:34:GLN:HE21	8:C:177:VAL:HB	1.73	0.50
23:R:14:LEU:C	23:R:16:PHE:N	2.64	0.50
23:R:25:LEU:CD1	23:R:25:LEU:N	2.71	0.50
23:R:78:ALA:C	23:R:80:LYS:N	2.64	0.50
29:X:1920:A:N1	29:X:1922:U:H5	2.09	0.50
29:X:2530:C:H2'	29:X:2531:U:C6	2.47	0.50
29:X:1806:G:C6	29:X:1807:A:N6	2.79	0.50
10:E:139:GLN:O	10:E:142:GLY:N	2.44	0.50
29:X:2726:U:C2'	29:X:2727:G:H5'	2.41	0.50
29:X:717:G:C2'	29:X:739:G:N2	2.68	0.50
9:D:26:MET:HE3	31:Z:33:C:H5'	1.93	0.50
22:Q:58:VAL:HG13	29:X:1353:A:N6	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:27:CYS:SG	4:4:29:ASN:N	2.84	0.50
11:F:27:LEU:CD2	11:F:57:ILE:HD12	2.41	0.50
29:X:1774:A:N1	29:X:2566:A:C4	2.79	0.50
21:P:74:SER:OG	29:X:498:C:O2	2.27	0.50
29:X:320:A:O2'	29:X:340:G:H2'	2.11	0.50
29:X:1830:C:N4	29:X:1881:U:H3'	2.26	0.50
7:B:136:ARG:CD	29:X:1673:C:OP1	2.54	0.50
19:N:23:GLY:O	19:N:24:PHE:C	2.50	0.50
19:N:86:ALA:C	19:N:88:ILE:N	2.62	0.50
20:O:58:ALA:HB2	20:O:95:ILE:HD13	1.92	0.50
7:B:82:ARG:HH22	29:X:2617:G:P	2.34	0.50
29:X:27:G:N2	29:X:522:G:O2'	2.45	0.50
29:X:1998:A:H1'	30:Y:3:LYS:CB	2.41	0.50
13:H:2:ILE:HG12	13:H:45:ALA:O	2.11	0.50
23:R:25:LEU:HD12	23:R:25:LEU:H	1.76	0.50
29:X:1693:A:C2	29:X:1976:U:C5'	2.92	0.50
6:A:158:SER:OG	29:X:1811:A:H5'	2.11	0.50
9:D:148:LYS:HG3	9:D:149:THR:H	1.77	0.50
14:I:89:ASP:OD2	14:I:120:VAL:HA	2.10	0.50
29:X:647:G:O2'	29:X:648:A:C5'	2.59	0.50
17:L:33:ARG:HH22	17:L:103:LEU:HB2	1.75	0.50
29:X:2264:C:N4	29:X:2325:A:C2	2.80	0.50
4:4:18:ARG:HH11	4:4:23:VAL:CG2	2.23	0.50
12:G:61:ARG:CA	12:G:65:LYS:HB2	2.32	0.50
18:M:6:LYS:O	18:M:7:ILE:HG12	2.11	0.50
29:X:2546:G:C4	29:X:2547:C:C5	3.00	0.50
29:X:1887:G:O2'	29:X:1888:C:H5'	2.11	0.50
29:X:2645:C:H2'	29:X:2646:C:H5'	1.93	0.50
30:Y:35:GLN:HG3	30:Y:51:TYR:CD2	2.46	0.50
29:X:1626:A:H5''	29:X:1627:C:OP2	2.12	0.50
9:D:106:ILE:CG2	9:D:139:PRO:HB3	2.38	0.50
29:X:201:G:N7	29:X:433:G:H4'	2.27	0.50
29:X:1474:A:H4'	29:X:1475:U:C5'	2.41	0.50
29:X:2612:G:H2'	29:X:2613:A:O4'	2.11	0.50
14:I:48:PHE:O	14:I:49:PHE:O	2.29	0.50
29:X:1173:G:H2'	29:X:1174:G:C8	2.45	0.50
29:X:2756:A:C6	29:X:2762:G:H1'	2.46	0.50
29:X:2794:G:C5	29:X:2796:A:C6	3.00	0.50
29:X:766:A:H8	29:X:766:A:O5'	1.94	0.50
29:X:956:A:N9	29:X:2427:A:C2	2.79	0.50
29:X:983:G:C6	29:X:984:A:N6	2.79	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:20:LEU:O	16:K:22:ARG:N	2.44	0.50
29:X:1923:U:O2'	29:X:1924:C:OP2	2.28	0.50
29:X:1926:U:O2	29:X:1926:U:H2'	2.11	0.50
6:A:257:LEU:HD13	29:X:1795:C:P	2.51	0.50
22:Q:90:ALA:C	22:Q:92:ALA:N	2.64	0.50
10:E:54:ARG:NH1	10:E:57:ASP:HB3	2.22	0.50
29:X:168:A:O2'	29:X:169:C:H5'	2.11	0.50
28:W:8:SER:HB2	29:X:999:A:H5'	1.88	0.50
7:B:19:ARG:NH1	7:B:185:LYS:NZ	2.57	0.50
14:I:13:ARG:HG2	14:I:13:ARG:NH2	2.26	0.50
29:X:2061:C:O5'	29:X:2061:C:H6	1.95	0.50
29:X:1732:U:O2'	29:X:1733:U:OP1	2.29	0.50
8:C:115:GLY:HA3	8:C:185:ARG:CD	2.41	0.50
29:X:2471:U:N3	29:X:2472:U:C4	2.79	0.50
22:Q:55:THR:O	22:Q:56:MET:HG2	2.12	0.50
14:I:29:THR:HG22	14:I:29:THR:O	2.10	0.50
29:X:2845:C:C2'	29:X:2846:G:H5'	2.40	0.50
9:D:88:LYS:HE2	31:Z:44:C:N4	2.27	0.50
7:B:154:LYS:HD2	7:B:156:MET:CG	2.41	0.50
19:N:36:PHE:HZ	20:O:81:ARG:NH1	2.09	0.50
29:X:1006:C:H4'	29:X:1007:A:OP1	2.09	0.50
29:X:1253:C:C5'	29:X:1253:C:H6	2.25	0.50
29:X:2035:G:O2'	29:X:2036:G:H5'	2.11	0.50
29:X:679:C:H2'	29:X:680:U:H6	1.74	0.50
29:X:789:G:H4'	29:X:790:A:O5'	2.11	0.50
29:X:841:G:C6	29:X:842:A:N6	2.80	0.50
8:C:34:GLN:OE1	8:C:176:ASN:ND2	2.45	0.50
8:C:33:TRP:O	8:C:36:ALA:HB3	2.11	0.50
29:X:1938:U:C5	29:X:2536:G:N2	2.80	0.50
29:X:1811:A:O2'	29:X:1812:U:P	2.69	0.50
29:X:750:C:C2'	29:X:751:G:H5'	2.41	0.50
17:L:87:VAL:CG1	17:L:88:VAL:H	2.21	0.50
29:X:2310:G:N2	29:X:2364:C:C4	2.79	0.50
9:D:51:ASP:O	9:D:55:LYS:HG2	2.11	0.50
4:4:35:ARG:NH1	29:X:2722:C:P	2.83	0.50
29:X:2447:G:N2	29:X:2460:G:C2'	2.73	0.50
24:S:147:ILE:HB	24:S:169:VAL:HG22	1.93	0.50
26:U:41:VAL:HG23	26:U:42:GLN:H	1.76	0.50
29:X:73:A:C5'	29:X:74:G:O4'	2.60	0.50
6:A:68:LYS:HB3	6:A:152:GLY:CA	2.41	0.50
6:A:249:PRO:HD3	29:X:2218:G:C4'	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1734:C:C4	29:X:1735:G:H1'	2.46	0.50
20:O:36:LYS:HE3	20:O:56:VAL:HG13	1.93	0.50
7:B:93:VAL:O	7:B:95:ILE:N	2.44	0.50
29:X:202:A:H2'	29:X:203:G:O4'	2.10	0.50
7:B:105:THR:HB	7:B:166:THR:HG23	1.93	0.50
8:C:94:THR:HG21	29:X:618:A:OP1	2.12	0.50
29:X:704:G:H2'	29:X:705:C:C6	2.47	0.50
29:X:1047:G:C6	29:X:1131:G:C6	3.00	0.50
29:X:2680:U:O5'	29:X:2680:U:H6	1.94	0.50
13:H:60:PRO:O	13:H:61:ARG:HB2	2.12	0.50
29:X:2691:C:O2'	29:X:2692:A:C8	2.62	0.50
9:D:40:LEU:HD12	9:D:85:VAL:O	2.12	0.50
8:C:67:ALA:O	8:C:68:ARG:HB2	2.11	0.50
19:N:20:ARG:HD2	19:N:39:LEU:CD1	2.41	0.50
29:X:987:G:H5'	29:X:1167:A:N6	2.26	0.50
29:X:1339:U:O2'	29:X:1993:G:H1'	2.12	0.50
29:X:988:G:N3	29:X:1012:A:H2	2.10	0.50
8:C:106:MET:HG2	8:C:106:MET:O	2.12	0.50
14:I:18:ARG:HB2	14:I:21:ARG:CG	2.41	0.50
15:J:45:SER:N	15:J:94:TRP:O	2.43	0.50
29:X:2867:G:H8	29:X:2867:G:OP2	1.93	0.50
13:H:10:VAL:CG2	13:H:17:ARG:O	2.47	0.50
29:X:1466:C:O2'	29:X:1467:U:C4'	2.60	0.50
29:X:1468:A:P	29:X:1468:A:H8	2.35	0.50
17:L:91:ARG:NH1	29:X:2355:A:H61	2.10	0.50
29:X:2367:A:H5'	29:X:2368:G:OP2	2.11	0.50
29:X:2729:A:N1	29:X:2730:A:N6	2.60	0.50
9:D:133:LYS:O	9:D:134:GLU:C	2.50	0.50
14:I:120:VAL:C	14:I:121:HIS:HD2	2.15	0.50
9:D:163:ASP:HA	9:D:166:ALA:CB	2.42	0.50
12:G:61:ARG:CG	12:G:65:LYS:HD2	2.35	0.50
29:X:2522:G:N2	29:X:2625:U:H5''	2.26	0.50
24:S:34:LEU:C	24:S:34:LEU:HD12	2.32	0.50
24:S:94:VAL:CG1	24:S:95:SER:N	2.75	0.50
29:X:653:G:H3'	29:X:654:A:C5'	2.40	0.50
14:I:8:PRO:O	14:I:13:ARG:HD2	2.12	0.50
29:X:1657:A:N6	29:X:1658:A:C6	2.79	0.50
13:H:100:ASN:C	13:H:100:ASN:OD1	2.49	0.50
14:I:130:ILE:HG12	14:I:140:VAL:HG11	1.93	0.50
18:M:106:TYR:CD1	18:M:106:TYR:C	2.85	0.50
18:M:107:LEU:C	18:M:109:GLU:H	2.14	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2198:U:N3	29:X:2199:C:C5	2.79	0.50
9:D:66:ILE:HD11	31:Z:43:G:C5'	2.22	0.50
9:D:69:LYS:HG2	9:D:84:PRO:HA	1.94	0.50
29:X:1012:A:N7	29:X:1013:G:C4	2.80	0.50
29:X:15:G:H4'	30:Y:21:SER:HB3	1.92	0.50
29:X:2485:U:O2'	29:X:2486:C:O5'	2.29	0.50
22:Q:12:ILE:N	22:Q:12:ILE:CD1	2.74	0.50
29:X:455:A:C2	29:X:1258:G:N3	2.79	0.50
29:X:733:G:O2'	29:X:734:G:H5'	2.12	0.50
21:P:91:PHE:O	21:P:92:VAL:C	2.50	0.50
9:D:46:ASP:HB2	9:D:49:ALA:CB	2.40	0.50
12:G:70:PHE:HE1	19:N:67:ALA:HB3	1.76	0.50
22:Q:57:ASN:O	22:Q:58:VAL:CG2	2.60	0.50
8:C:195:ILE:O	8:C:196:VAL:HB	2.12	0.50
29:X:2542:U:C6	29:X:2544:A:OP2	2.65	0.50
6:A:218:LYS:NZ	29:X:794:A:H5'	2.26	0.50
30:Y:51:TYR:HE1	30:Y:55:ARG:HD3	1.77	0.50
29:X:33:C:C2'	29:X:34:U:H5''	2.42	0.50
15:J:43:ILE:N	15:J:95:VAL:CG1	2.74	0.50
7:B:59:VAL:HG12	7:B:60:ASN:O	2.11	0.50
29:X:417:C:C6	29:X:419:G:C4	2.99	0.50
29:X:1495:G:H5'	29:X:1574:A:C2	2.47	0.50
24:S:103:ARG:HD3	24:S:108:VAL:HG23	1.93	0.50
29:X:706:A:H2'	29:X:707:U:H6	1.75	0.50
29:X:2432:A:H2'	29:X:2433:G:H8	1.75	0.50
28:W:47:VAL:O	28:W:48:LYS:C	2.50	0.50
29:X:2300:G:H3'	29:X:2300:G:N3	2.26	0.50
9:D:35:VAL:HG12	9:D:36:VAL:N	2.27	0.50
9:D:75:SER:H	9:D:79:LEU:CD2	2.18	0.50
19:N:107:LYS:O	19:N:110:VAL:HB	2.12	0.50
21:P:100:GLY:O	21:P:101:PRO:O	2.30	0.50
29:X:1002:C:H2'	29:X:1003:C:H6	1.77	0.50
29:X:1226:A:C6	29:X:1250:A:H1'	2.47	0.50
29:X:542:A:N6	29:X:2003:A:H1'	2.27	0.50
29:X:689:A:C2'	29:X:690:A:H5'	2.42	0.50
29:X:851:C:C2	29:X:952:A:N1	2.80	0.50
8:C:109:ALA:O	8:C:110:SER:C	2.49	0.50
29:X:302:U:H2'	29:X:303:C:C6	2.47	0.50
29:X:1793:A:O5'	29:X:1793:A:H8	1.94	0.50
29:X:2039:G:H2'	29:X:2039:G:N3	2.26	0.50
13:H:23:ARG:NH2	13:H:25:LEU:CD2	2.65	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:29:LEU:HA	17:L:41:GLN:O	2.12	0.50
22:Q:28:TRP:CE3	22:Q:75:ARG:HB3	2.47	0.50
26:U:55:GLY:O	26:U:56:GLN:HB3	2.12	0.50
29:X:88:G:O5'	29:X:89:A:H5''	2.11	0.50
16:K:98:LEU:HD12	16:K:98:LEU:N	2.27	0.50
14:I:78:SER:HB3	14:I:112:GLY:CA	2.37	0.50
29:X:2348:A:H2'	29:X:2349:G:C8	2.47	0.50
29:X:2350:G:C2	29:X:2351:G:C8	2.99	0.50
29:X:2382:C:O2	29:X:2382:C:H2'	2.11	0.50
29:X:1724:C:C2	29:X:1747:G:C6	3.00	0.50
7:B:131:SER:C	7:B:132:LYS:HG2	2.31	0.50
12:G:93:LYS:HG2	12:G:97:ASP:CB	2.42	0.50
29:X:998:C:O2	29:X:1011:A:H2	1.95	0.50
29:X:1154:A:O2'	29:X:1155:G:OP1	2.22	0.50
18:M:2:GLN:N	29:X:2795:A:C2	2.80	0.50
29:X:475:U:O2'	29:X:699:G:O6	2.30	0.50
10:E:109:TYR:O	10:E:110:SER:C	2.50	0.50
13:H:4:PRO:O	13:H:5:GLN:CB	2.39	0.50
29:X:1683:G:H2'	29:X:1684:G:H5'	1.91	0.50
21:P:85:MET:CE	21:P:130:GLU:H	2.24	0.50
29:X:1963:G:C2	29:X:1965:U:C2	2.99	0.50
29:X:742:G:H1'	29:X:776:G:O3'	2.12	0.50
12:G:69:ASP:C	12:G:70:PHE:HD2	2.15	0.50
8:C:194:GLU:O	8:C:195:ILE:CG1	2.51	0.50
15:J:62:GLY:HA3	15:J:64:LYS:HE3	1.92	0.50
29:X:1681:A:H2	29:X:2706:U:H1'	1.75	0.50
29:X:651:C:H42	29:X:658:G:H1	1.60	0.50
29:X:1091:C:O2'	29:X:1092:U:H5'	2.12	0.50
26:U:15:VAL:O	26:U:16:ASN:C	2.50	0.50
26:U:63:SER:O	26:U:64:ALA:C	2.50	0.50
6:A:172:TYR:HD2	6:A:184:ARG:O	1.94	0.50
6:A:142:VAL:CG1	6:A:193:ILE:HD13	2.42	0.50
18:M:26:ASP:O	18:M:27:PHE:O	2.29	0.50
29:X:2058:U:H2'	29:X:2217:G:N2	2.26	0.50
29:X:1526:U:H3'	29:X:1527:G:C8	2.47	0.50
29:X:75:C:C2'	29:X:76:C:H5''	2.42	0.50
11:F:10:LEU:N	11:F:10:LEU:HD23	2.27	0.50
29:X:446:C:H2'	29:X:447:U:O4'	2.12	0.50
29:X:617:U:O2	29:X:617:U:C3'	2.60	0.50
11:F:121:GLU:O	11:F:125:ASN:ND2	2.44	0.50
29:X:1746:A:C2'	29:X:1747:G:O5'	2.60	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1744:G:N1	29:X:1747:G:OP2	2.34	0.50
29:X:2673:G:C6	29:X:2696:A:C6	3.00	0.50
29:X:2697:G:C2	29:X:2698:G:C4	3.00	0.50
29:X:1053:G:C5	29:X:1054:C:C4	3.00	0.50
6:A:226:MET:HE2	6:A:231:HIS:CB	2.41	0.50
7:B:119:ARG:HD2	7:B:158:GLY:H	1.76	0.50
12:G:127:ILE:HD12	12:G:127:ILE:H	1.77	0.50
29:X:1226:A:H2'	29:X:1227:A:O4'	2.12	0.50
29:X:579:G:H4'	29:X:994:A:C2	2.47	0.50
29:X:731:A:H5''	29:X:731:A:N3	2.26	0.50
15:J:27:TYR:HB3	15:J:137:VAL:HG11	1.94	0.50
15:J:40:PRO:CG	15:J:99:LYS:HZ1	2.25	0.50
10:E:150:LYS:O	10:E:152:ARG:N	2.44	0.50
29:X:347:C:O2	29:X:347:C:H2'	2.12	0.50
29:X:2529:G:C6	29:X:2530:C:C4	3.00	0.50
29:X:2081:U:H2'	29:X:2082:C:C6	2.46	0.50
29:X:2175:A:H2'	29:X:2176:U:H6	1.76	0.50
21:P:47:GLY:O	21:P:48:LYS:CB	2.59	0.50
29:X:749:C:H2'	29:X:750:C:H6	1.76	0.50
29:X:2363:G:H5''	29:X:2365:U:OP1	2.12	0.50
4:4:25:VAL:CB	4:4:34:GLN:HB2	2.41	0.50
15:J:47:GLN:HE21	29:X:2464:G:H5''	1.66	0.50
7:B:11:MET:SD	29:X:2661:G:C8	3.05	0.50
29:X:2519:C:O2'	29:X:2520:A:H5'	2.11	0.50
29:X:2625:U:O4	29:X:2712:G:C6	2.65	0.50
29:X:1603:A:H2'	29:X:1604:A:H8	1.76	0.50
7:B:70:ALA:HB3	7:B:72:VAL:CG2	2.42	0.50
7:B:75:THR:O	7:B:76:ARG:HB2	2.11	0.50
29:X:141:G:H2'	29:X:142:U:C6	2.47	0.50
29:X:1473:U:H1'	29:X:1474:A:C5	2.47	0.50
16:K:51:LEU:HD21	16:K:70:ILE:HG12	1.94	0.50
15:J:92:GLU:HA	15:J:92:GLU:OE1	2.11	0.50
9:D:99:PHE:O	9:D:102:LYS:HB2	2.12	0.50
19:N:45:TYR:O	19:N:46:GLU:C	2.49	0.50
29:X:2468:G:H2'	29:X:2469:G:O4'	2.11	0.50
7:B:155:ARG:HG3	7:B:155:ARG:HH11	1.77	0.49
21:P:105:ARG:NH1	21:P:119:LYS:HZ1	2.09	0.49
29:X:1152:C:C2'	29:X:1153:A:OP1	2.60	0.49
29:X:1623:C:HO2'	29:X:1624:A:P	2.31	0.49
29:X:2794:G:O2'	29:X:2795:A:H5''	2.11	0.49
29:X:469:G:O2'	29:X:470:U:OP2	2.29	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:540:G:HO2'	29:X:542:A:H2	1.57	0.49
29:X:830:C:H2'	29:X:831:G:O4'	2.12	0.49
30:Y:12:SER:HB2	30:Y:15:LYS:H	1.76	0.49
29:X:1513:U:OP2	29:X:1514:C:H5	1.94	0.49
29:X:36:G:N2	29:X:457:C:C2	2.79	0.49
16:K:40:LYS:O	16:K:43:GLU:HB3	2.12	0.49
16:K:72:ASP:O	16:K:75:VAL:N	2.45	0.49
15:J:21:ASP:CA	15:J:99:LYS:HE2	2.41	0.49
10:E:148:VAL:C	10:E:150:LYS:N	2.64	0.49
29:X:333:A:H1'	29:X:351:A:N9	2.27	0.49
29:X:81:C:C4	29:X:82:G:C2	2.99	0.49
29:X:2081:U:H3	29:X:2174:G:H1	1.60	0.49
17:L:87:VAL:CG1	17:L:88:VAL:N	2.74	0.49
9:D:175:LEU:HD12	9:D:176:PRO:CD	2.26	0.49
29:X:2264:C:H42	29:X:2325:A:H2	1.60	0.49
23:R:36:VAL:O	23:R:37:LEU:HD23	2.12	0.49
15:J:52:ARG:HA	15:J:55:MET:CE	2.42	0.49
13:H:28:GLY:O	13:H:35:THR:OG1	2.29	0.49
26:U:41:VAL:CG2	26:U:43:ARG:HH22	2.23	0.49
29:X:74:G:N2	29:X:110:U:O2	2.43	0.49
26:U:52:ARG:CD	26:U:79:GLU:HA	2.42	0.49
18:M:46:ARG:CG	18:M:47:SER:N	2.75	0.49
24:S:23:ALA:HB3	24:S:32:PHE:HE1	1.77	0.49
7:B:72:VAL:CG1	7:B:73:ALA:H	2.24	0.49
29:X:1524:C:H3'	29:X:1525:A:H5''	1.92	0.49
11:F:27:LEU:HD12	11:F:27:LEU:N	2.27	0.49
22:Q:54:SER:OG	22:Q:79:ILE:HB	2.12	0.49
13:H:26:ASN:ND2	13:H:38:GLY:H	2.08	0.49
29:X:2710:C:C2'	29:X:2711:G:H5'	2.42	0.49
29:X:1460:G:H8	29:X:1460:G:OP2	1.95	0.49
26:U:40:ARG:NE	29:X:178:C:OP1	2.45	0.49
7:B:4:ILE:HG23	7:B:4:ILE:O	2.11	0.49
11:F:30:TYR:HB3	11:F:59:ILE:HD13	1.94	0.49
29:X:1653:C:O2'	29:X:1751:A:N3	2.39	0.49
29:X:2671:C:N3	29:X:2672:U:C4	2.81	0.49
8:C:45:THR:HG22	8:C:47:THR:N	2.24	0.49
8:C:84:PHE:HE1	29:X:596:C:C5'	2.15	0.49
19:N:40:LEU:O	19:N:41:ASN:C	2.48	0.49
20:O:10:LYS:HG3	20:O:11:GLN:N	2.27	0.49
12:G:73:ASN:ND2	29:X:547:U:H1'	2.17	0.49
29:X:956:A:H1'	29:X:2427:A:H2	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:27:SER:CB	13:H:50:ILE:HG13	2.41	0.49
8:C:6:VAL:HG23	8:C:118:VAL:HG23	1.94	0.49
10:E:149:ARG:HD3	10:E:164:PHE:HE1	1.77	0.49
23:R:25:LEU:N	23:R:25:LEU:HD13	2.26	0.49
29:X:337:G:O2'	29:X:338:G:H5'	2.12	0.49
21:P:49:SER:O	21:P:51:GLN:N	2.45	0.49
25:T:71:ASN:HD22	25:T:77:ARG:HH11	1.59	0.49
17:L:91:ARG:NH2	29:X:2355:A:N1	2.60	0.49
14:I:73:GLU:HG2	14:I:101:ARG:HB2	1.94	0.49
14:I:80:LEU:O	14:I:83:LEU:O	2.29	0.49
17:L:56:SER:HG	17:L:71:VAL:HB	1.76	0.49
17:L:35:SER:HB2	31:Z:31:A:P	2.52	0.49
22:Q:60:GLY:HA3	22:Q:73:ASN:ND2	2.27	0.49
29:X:1299:A:C2'	29:X:1301:U:OP2	2.54	0.49
24:S:100:THR:OG1	24:S:138:VAL:CG1	2.57	0.49
10:E:163:ARG:HB2	10:E:167:GLU:CB	2.42	0.49
29:X:415:A:C3'	29:X:416:U:H5'	2.43	0.49
14:I:13:ARG:HH11	29:X:1218:C:C5'	2.26	0.49
27:V:13:ASP:HA	27:V:16:LYS:HB3	1.93	0.49
11:F:62:ASP:C	11:F:63:ARG:HD3	2.32	0.49
29:X:2197:U:N3	29:X:2198:U:C5	2.81	0.49
9:D:71:LYS:O	9:D:72:LYS:CB	2.59	0.49
7:B:122:PHE:O	7:B:123:ALA:CB	2.60	0.49
20:O:58:ALA:CB	20:O:95:ILE:HD13	2.41	0.49
29:X:2847:G:C2	29:X:2848:A:N6	2.80	0.49
30:Y:15:LYS:O	30:Y:18:MET:CB	2.60	0.49
13:H:2:ILE:O	13:H:45:ALA:N	2.43	0.49
23:R:24:VAL:HB	23:R:29:HIS:O	2.12	0.49
8:C:162:ARG:O	29:X:334:G:H2'	2.11	0.49
29:X:98:U:H6	29:X:98:U:H3'	1.77	0.49
21:P:30:TYR:CD1	29:X:518:A:N6	2.80	0.49
27:V:2:LYS:HA	27:V:6:MET:CE	2.42	0.49
22:Q:35:LYS:HA	22:Q:38:ILE:CG2	2.43	0.49
29:X:529:U:N3	29:X:530:G:N7	2.61	0.49
29:X:531:G:O2'	29:X:532:A:C5'	2.60	0.49
29:X:2462:C:H2'	29:X:2463:G:O4'	2.11	0.49
18:M:10:GLY:O	18:M:13:LEU:N	2.43	0.49
7:B:11:MET:CG	7:B:24:THR:OG1	2.52	0.49
29:X:172:A:C6	29:X:175:C:C5	3.01	0.49
12:G:162:LYS:HD3	29:X:2873:G:H1'	1.94	0.49
24:S:55:THR:HG23	24:S:59:GLY:HA2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2633:A:N6	29:X:2645:C:OP2	2.43	0.49
6:A:249:PRO:CG	29:X:2218:G:O4'	2.56	0.49
29:X:2057:U:C1'	29:X:2577:A:H1'	2.42	0.49
29:X:199:A:H61	29:X:209:G:H1'	1.77	0.49
29:X:1713:G:C6	29:X:1714:A:C5	3.00	0.49
24:S:110:GLY:O	24:S:174:PRO:HB3	2.12	0.49
29:X:963:G:C6	29:X:977:G:C6	3.00	0.49
28:W:9:VAL:O	28:W:9:VAL:HG12	2.12	0.49
20:O:39:PHE:CE2	20:O:51:ALA:HB1	2.48	0.49
29:X:2002:A:H2'	29:X:2003:A:O5'	2.12	0.49
29:X:2550:C:N4	29:X:2553:G:C8	2.80	0.49
29:X:2616:U:H2'	29:X:2617:G:O4'	2.12	0.49
29:X:767:G:C2'	29:X:768:U:H5'	2.42	0.49
29:X:996:C:OP2	29:X:997:C:OP2	2.30	0.49
29:X:15:G:H4'	30:Y:21:SER:CB	2.42	0.49
30:Y:4:HIS:HB3	30:Y:5:PRO:HD2	1.87	0.49
29:X:2046:C:C4	29:X:2047:C:C4	3.00	0.49
16:K:83:VAL:CG2	16:K:84:ALA:N	2.76	0.49
29:X:1776:A:OP1	29:X:1965:U:H5'	2.13	0.49
31:Z:11:G:O6	31:Z:114:C:N3	2.46	0.49
29:X:2039:G:C6	29:X:2556:A:C4	3.01	0.49
10:E:140:LEU:HA	10:E:143:GLN:HB2	1.94	0.49
9:D:26:MET:HB3	31:Z:59:A:C2	2.48	0.49
9:D:27:ALA:CB	31:Z:59:A:H1'	2.29	0.49
24:S:105:GLN:N	24:S:139:THR:O	2.41	0.49
29:X:2664:G:N1	29:X:2665:G:C5	2.80	0.49
29:X:181:A:H4'	29:X:182:G:OP1	2.12	0.49
29:X:633:G:H2'	29:X:634:G:H8	1.77	0.49
29:X:2775:U:H5'	29:X:2776:U:C5'	2.33	0.49
6:A:70:ARG:NH2	6:A:189:CYS:SG	2.86	0.49
29:X:39:C:H2'	29:X:40:U:H6	1.77	0.49
29:X:155:G:O2'	29:X:156:G:H5'	2.12	0.49
29:X:553:C:C4	29:X:557:U:C2	3.01	0.49
29:X:2699:G:HO2'	29:X:2700:U:H5'	1.76	0.49
18:M:36:ASP:OD1	18:M:36:ASP:C	2.50	0.49
7:B:105:THR:CB	7:B:166:THR:OG1	2.61	0.49
29:X:148:C:H2'	29:X:149:A:O4'	2.12	0.49
6:A:45:ASN:ND2	29:X:1797:C:O2	2.45	0.49
8:C:98:GLN:HE22	29:X:611:C:C5'	2.26	0.49
29:X:1800:A:C6	29:X:1802:A:C6	3.00	0.49
8:C:125:ILE:O	8:C:126:ALA:HB3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1567:A:N6	29:X:1568:A:C6	2.80	0.49
29:X:2843:A:N6	29:X:2844:G:N1	2.60	0.49
29:X:1370:U:H2'	29:X:1371:G:C8	2.47	0.49
6:A:223:GLY:HA2	6:A:226:MET:CG	2.43	0.49
8:C:47:THR:HA	8:C:82:VAL:O	2.12	0.49
29:X:520:C:C4	29:X:521:U:C4	3.00	0.49
29:X:539:A:N6	29:X:2025:A:C1'	2.75	0.49
29:X:828:C:H2'	29:X:829:C:C6	2.48	0.49
29:X:830:C:O2'	29:X:852:U:H5''	2.12	0.49
8:C:172:VAL:O	8:C:174:GLY:N	2.45	0.49
8:C:28:HIS:O	8:C:29:GLU:C	2.51	0.49
15:J:78:LYS:NZ	29:X:2438:A:N3	2.60	0.49
23:R:22:VAL:HG21	23:R:80:LYS:HZ2	1.77	0.49
29:X:1947:G:H4'	29:X:1948:C:OP2	2.12	0.49
29:X:2175:A:H2'	29:X:2176:U:C6	2.48	0.49
29:X:1467:U:C3'	29:X:1467:U:C6	2.95	0.49
25:T:37:LEU:HD12	25:T:37:LEU:N	2.27	0.49
29:X:2333:A:C2	29:X:2343:C:C2	3.00	0.49
9:D:108:LEU:HD13	9:D:176:PRO:HG3	1.94	0.49
9:D:13:ARG:HG2	9:D:17:MET:HE2	1.94	0.49
17:L:38:ILE:CD1	17:L:39:TYR:H	2.23	0.49
12:G:69:ASP:C	12:G:70:PHE:CD2	2.86	0.49
6:A:245:VAL:HG12	6:A:251:GLY:CA	2.42	0.49
7:B:32:PRO:O	7:B:49:ILE:HG13	2.12	0.49
29:X:219:G:O2'	29:X:220:U:C5	2.65	0.49
29:X:1536:G:O2'	29:X:1537:U:H5'	2.13	0.49
29:X:75:C:H2'	29:X:76:C:H5''	1.95	0.49
29:X:1373:G:N2	29:X:1374:G:C1'	2.76	0.49
29:X:1635:G:C2	29:X:1636:G:C8	3.00	0.49
6:A:173:VAL:HG21	6:A:187:SER:HB3	1.91	0.49
29:X:1329:U:C2	29:X:1330:G:C8	3.01	0.49
29:X:613:A:O2'	29:X:614:G:P	2.70	0.49
29:X:836:G:H2'	29:X:837:U:O4'	2.12	0.49
8:C:2:ALA:CB	8:C:13:ARG:HA	2.42	0.49
12:G:90:LEU:HD23	12:G:93:LYS:O	2.13	0.49
14:I:50:GLU:OE1	29:X:678:G:H4'	2.13	0.49
29:X:1226:A:OP2	29:X:1248:G:N1	2.45	0.49
29:X:540:G:O6	29:X:2006:G:OP1	2.30	0.49
29:X:2602:G:C2'	29:X:2603:G:H5'	2.42	0.49
29:X:454:G:C6	29:X:456:C:N4	2.81	0.49
29:X:1710:U:H5'	29:X:1711:C:H5	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:11:ARG:NH2	15:J:15:ARG:HH22	2.09	0.49
15:J:77:LYS:CG	15:J:78:LYS:N	2.75	0.49
24:S:73:LYS:O	24:S:74:ARG:HB2	2.11	0.49
29:X:2437:G:H1'	29:X:2438:A:N7	2.28	0.49
8:C:162:ARG:HD2	29:X:331:U:O2'	2.13	0.49
23:R:90:LYS:HB2	23:R:108:VAL:CG2	2.24	0.49
6:A:60:ARG:HA	29:X:1584:G:H5'	1.94	0.49
29:X:1776:A:OP1	29:X:1965:U:C5'	2.61	0.49
25:T:40:GLN:NE2	25:T:44:LYS:N	2.61	0.49
29:X:2307:A:H2'	29:X:2308:A:H8	1.74	0.49
29:X:2311:U:C4'	29:X:2315:A:N6	2.75	0.49
29:X:931:G:H2'	29:X:932:G:H5'	1.95	0.49
29:X:2324:G:C5	29:X:2326:C:C4	3.01	0.49
29:X:223:C:C2'	29:X:224:G:H5'	2.40	0.49
27:V:4:SER:HB3	27:V:7:ARG:HH21	1.76	0.49
22:Q:33:ALA:O	22:Q:34:THR:C	2.51	0.49
10:E:39:THR:C	10:E:41:LEU:H	2.15	0.49
10:E:52:VAL:O	10:E:65:HIS:NE2	2.45	0.49
29:X:2651:U:O2	29:X:2652:G:C8	2.65	0.49
29:X:2073:A:C5	29:X:2074:U:C4	3.00	0.49
24:S:6:LYS:N	24:S:7:PRO:CD	2.74	0.49
29:X:5:A:N6	29:X:6:A:N6	2.60	0.49
29:X:88:G:C3'	29:X:89:A:H5''	2.35	0.49
29:X:2228:U:H4'	29:X:2229:G:OP2	2.11	0.49
27:V:17:GLU:O	27:V:53:LEU:HD13	2.12	0.49
29:X:75:C:H2'	29:X:76:C:C5'	2.43	0.49
29:X:1065:A:C2'	29:X:1066:G:H5'	2.42	0.49
22:Q:26:SER:CB	22:Q:79:ILE:HG12	2.41	0.49
10:E:98:LEU:HD12	10:E:99:THR:N	2.27	0.49
29:X:2441:U:H2'	29:X:2442:C:C6	2.47	0.49
29:X:2442:C:H2'	29:X:2443:C:C6	2.47	0.49
29:X:42:G:H2'	29:X:43:A:O4'	2.12	0.49
6:A:163:VAL:CG2	6:A:178:PRO:HD3	2.42	0.49
29:X:1644:G:H2'	29:X:1645:U:C6	2.48	0.49
9:D:112:ARG:O	9:D:113:ASP:HB2	2.13	0.49
29:X:2827:G:C5	29:X:2828:C:C4	3.00	0.49
29:X:2189:A:H2	29:X:2196:U:N3	2.06	0.49
7:B:136:ARG:NH1	7:B:136:ARG:HG2	2.26	0.49
19:N:68:GLY:HA2	19:N:71:LEU:CB	2.43	0.49
29:X:1145:C:C6	29:X:1147:G:OP2	2.65	0.49
29:X:1164:C:H3'	29:X:1165:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:67:ALA:N	29:X:1268:U:C5	2.71	0.49
29:X:2488:G:O2'	29:X:2489:C:H5'	2.13	0.49
29:X:28:A:N3	29:X:523:A:C4	2.81	0.49
29:X:322:A:HO2'	29:X:323:G:P	2.35	0.49
6:A:258:LYS:HZ2	6:A:261:ARG:CZ	2.26	0.49
14:I:119:THR:HG23	14:I:139:ARG:HB3	1.94	0.49
9:D:11:GLN:O	9:D:15:ALA:CB	2.60	0.49
31:Z:37:C:H2'	31:Z:38:C:O4'	2.13	0.49
4:4:22:ARG:HG2	4:4:22:ARG:HH11	1.77	0.49
29:X:2505:G:C2	29:X:2517:C:O2	2.65	0.49
29:X:2658:A:O2'	29:X:2659:C:H5'	2.13	0.49
29:X:115:G:C6	29:X:117:A:N6	2.81	0.49
18:M:32:THR:CG2	18:M:33:VAL:N	2.73	0.49
29:X:1237:G:H2'	29:X:1238:A:C8	2.48	0.49
29:X:242:A:H2'	29:X:243:G:C4'	2.42	0.49
9:D:104:ILE:CG2	9:D:174:GLY:HA3	2.42	0.49
11:F:90:THR:CG2	11:F:93:LYS:HD2	2.40	0.49
29:X:1391:A:N7	29:X:1393:G:C6	2.81	0.49
29:X:1391:A:O2'	29:X:1392:U:O5'	2.30	0.49
7:B:197:VAL:C	7:B:198:LEU:HD12	2.33	0.49
29:X:1725:C:C2	29:X:1742:G:C2	3.01	0.49
29:X:2821:G:C6	29:X:2846:G:N1	2.81	0.49
29:X:2195:C:N1	29:X:2196:U:C5	2.81	0.49
29:X:2280:A:H2'	29:X:2281:C:C6	2.48	0.49
7:B:150:VAL:CG2	7:B:151:TYR:N	2.75	0.49
29:X:1031:C:P	29:X:1045:G:H21	2.35	0.49
29:X:1200:G:H2'	29:X:1201:G:H8	1.76	0.49
29:X:2029:G:C6	29:X:2030:U:O4	2.65	0.49
29:X:690:A:O3'	29:X:2054:A:H5'	2.13	0.49
29:X:760:U:C4	29:X:2592:U:O2	2.66	0.49
29:X:690:A:N1	29:X:815:A:C4	2.81	0.49
30:Y:19:ARG:HG2	30:Y:20:ARG:N	2.28	0.49
29:X:1514:C:O4'	29:X:1593:C:H4'	2.13	0.49
8:C:7:ILE:HG21	8:C:121:ASP:O	2.12	0.49
8:C:23:ASN:OD1	8:C:26:VAL:HG23	2.13	0.49
8:C:7:ILE:O	8:C:120:VAL:HB	2.12	0.49
15:J:29:ALA:O	15:J:30:PHE:HB2	2.12	0.49
23:R:25:LEU:CG	23:R:81:VAL:HG23	2.42	0.49
29:X:2579:A:H2'	29:X:2580:C:C6	2.48	0.49
25:T:43:THR:HG22	25:T:46:LYS:CG	2.42	0.49
14:I:90:ARG:HA	14:I:121:HIS:ND1	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:185:C:H2'	29:X:186:C:H6	1.77	0.49
10:E:54:ARG:NH1	10:E:62:ARG:NE	2.58	0.49
29:X:2500:C:H5'	29:X:2544:A:H4'	1.95	0.49
13:H:43:ARG:N	29:X:2654:A:OP1	2.42	0.49
28:W:7:ARG:O	28:W:8:SER:O	2.31	0.49
24:S:37:LYS:O	24:S:40:ASP:HB2	2.13	0.49
20:O:68:LYS:HB2	20:O:87:ARG:HH21	1.77	0.49
20:O:86:HIS:CG	20:O:87:ARG:N	2.79	0.49
10:E:29:PRO:CG	10:E:79:VAL:O	2.59	0.49
29:X:1969:G:C4	29:X:1970:G:C8	3.01	0.49
29:X:2876:C:H2'	29:X:2877:A:C5	2.48	0.49
18:M:60:SER:O	18:M:64:LYS:N	2.46	0.49
29:X:1231:A:H2'	29:X:1232:U:C6	2.48	0.49
21:P:114:ALA:O	21:P:115:ASN:OD1	2.31	0.49
29:X:1115:C:H6	29:X:1115:C:O5'	1.96	0.49
29:X:2511:G:H8	29:X:2511:G:O5'	1.95	0.49
29:X:1386:A:H2'	29:X:1387:G:O4'	2.12	0.49
9:D:57:LEU:HA	9:D:60:ILE:CG1	2.43	0.49
7:B:120:TRP:CD2	7:B:155:ARG:HD2	2.48	0.49
14:I:31:GLY:O	14:I:32:ARG:C	2.50	0.49
19:N:25:TRP:CE3	19:N:26:GLY:CA	2.96	0.49
20:O:11:GLN:CD	20:O:38:LEU:HB3	2.32	0.49
14:I:32:ARG:NH2	20:O:79:GLN:C	2.65	0.49
21:P:106:LEU:C	21:P:106:LEU:CD2	2.80	0.49
29:X:464:G:C2	29:X:465:C:C2	3.01	0.49
30:Y:12:SER:C	30:Y:14:SER:H	2.15	0.49
8:C:107:ALA:CB	8:C:180:ILE:HD13	2.42	0.49
15:J:40:PRO:HG3	15:J:99:LYS:HZ1	1.75	0.49
29:X:1928:G:C2	29:X:1929:U:N3	2.81	0.49
29:X:1940:C:H2'	29:X:1941:C:C6	2.47	0.49
29:X:2579:A:C2	29:X:2580:C:C4	3.01	0.49
29:X:749:C:O2'	29:X:750:C:H5'	2.13	0.49
29:X:490:A:N3	29:X:491:A:C5	2.81	0.49
13:H:23:ARG:HH22	13:H:25:LEU:CG	2.25	0.49
17:L:54:ALA:H	17:L:75:LEU:HD13	1.73	0.49
4:4:3:VAL:HA	4:4:35:ARG:O	2.13	0.49
22:Q:20:MET:SD	22:Q:92:ALA:HA	2.52	0.49
22:Q:58:VAL:HG13	22:Q:59:PRO:HD2	1.94	0.49
16:K:103:ARG:NH1	16:K:110:MET:HE2	2.27	0.49
6:A:53:PHE:HE1	6:A:218:LYS:HE3	1.78	0.49
24:S:149:ALA:C	24:S:151:ASP:H	2.16	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:97:ILE:HA	16:K:112:LEU:O	2.13	0.49
7:B:62:PRO:HA	29:X:2767:C:O4'	2.13	0.49
11:F:57:ILE:HG23	11:F:66:THR:O	2.12	0.49
29:X:1432:G:H2'	29:X:1594:U:O4	2.13	0.49
29:X:1409:U:H5''	29:X:1410:U:OP2	2.12	0.49
29:X:1313:U:O2'	29:X:1314:A:P	2.71	0.49
29:X:1701:C:OP2	29:X:1701:C:H6	1.96	0.49
29:X:2555:G:C3'	29:X:2555:G:N3	2.75	0.49
29:X:2470:U:C2'	29:X:2470:U:O2	2.60	0.49
23:R:54:ILE:HA	23:R:70:GLU:O	2.13	0.49
9:D:94:GLU:O	9:D:98:VAL:HG23	2.13	0.49
12:G:107:GLN:C	12:G:109:GLY:N	2.42	0.49
20:O:20:ILE:HG13	20:O:21:ARG:O	2.12	0.49
29:X:2617:G:O2'	29:X:2618:A:H8	1.96	0.49
8:C:158:ARG:HD3	8:C:169:VAL:HG13	1.95	0.49
8:C:28:HIS:C	8:C:30:VAL:N	2.64	0.49
15:J:116:LYS:HE2	15:J:132:MET:CE	2.41	0.49
23:R:25:LEU:O	23:R:25:LEU:HD13	2.11	0.49
23:R:29:HIS:CG	23:R:51:VAL:HG22	2.48	0.49
29:X:1947:G:O2'	29:X:1950:C:P	2.71	0.49
29:X:1466:C:C2'	29:X:1467:U:O4'	2.60	0.49
29:X:640:C:H4'	29:X:660:G:C2	2.47	0.49
17:L:68:ALA:HB1	17:L:102:ALA:HB3	1.88	0.49
22:Q:62:ARG:O	22:Q:63:LYS:CB	2.59	0.49
28:W:22:ALA:C	28:W:24:GLY:N	2.65	0.49
29:X:2213:G:H2'	29:X:2214:G:H8	1.78	0.49
29:X:633:G:C4	29:X:634:G:C8	3.00	0.49
17:L:8:ARG:CG	17:L:9:ARG:H	2.09	0.49
24:S:62:PHE:HB3	24:S:85:MET:SD	2.52	0.49
11:F:100:ASN:OD1	11:F:101:TRP:N	2.46	0.49
31:Z:53:G:H2'	31:Z:54:U:O5'	2.12	0.49
29:X:1586:A:C6	29:X:1587:A:C6	3.00	0.49
6:A:210:GLY:O	6:A:211:ARG:C	2.51	0.49
29:X:2832:G:H2'	29:X:2834:A:OP2	2.13	0.49
29:X:1570:C:C5'	29:X:1571:G:OP2	2.60	0.49
25:T:70:ILE:O	25:T:78:PHE:N	2.46	0.49
29:X:2432:A:O2'	29:X:2433:G:H5'	2.13	0.49
24:S:67:LYS:NZ	31:Z:106:U:H4'	2.28	0.49
9:D:79:LEU:HD21	29:X:2289:A:C2	2.39	0.48
12:G:141:GLY:O	12:G:142:ARG:C	2.51	0.48
14:I:45:LYS:HG2	14:I:46:GLY:N	2.25	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:5:LYS:NZ	29:X:2795:A:H1'	2.28	0.48
7:B:195:LEU:HB2	18:M:3:THR:HG23	1.95	0.48
20:O:75:LYS:HZ2	20:O:75:LYS:CB	2.26	0.48
29:X:2032:G:N2	29:X:2599:U:C2	2.81	0.48
7:B:152:LYS:NZ	29:X:2598:C:OP1	2.37	0.48
8:C:84:PHE:CD1	29:X:596:C:H5'	2.43	0.48
29:X:1289:A:C6	29:X:1308:C:O2	2.66	0.48
15:J:20:GLY:O	15:J:21:ASP:O	2.30	0.48
29:X:2046:C:C4	29:X:2047:C:N4	2.81	0.48
29:X:322:A:O2'	29:X:323:G:P	2.71	0.48
29:X:1687:C:H1'	29:X:1976:U:O2	2.13	0.48
29:X:1766:U:H2'	29:X:1767:G:O4'	2.12	0.48
29:X:2363:G:H3'	29:X:2365:U:OP1	2.12	0.48
29:X:2725:C:H2'	29:X:2726:U:C6	2.48	0.48
13:H:23:ARG:HH22	13:H:25:LEU:CA	2.26	0.48
14:I:86:THR:O	14:I:88:PHE:N	2.46	0.48
17:L:30:SER:C	17:L:31:VAL:HG12	2.34	0.48
22:Q:25:TYR:OH	22:Q:87:SER:HA	2.12	0.48
15:J:125:LYS:HZ2	15:J:125:LYS:CB	2.23	0.48
29:X:2712:G:H3'	29:X:2713:A:C5'	2.41	0.48
29:X:651:C:C3'	29:X:652:C:H5''	2.43	0.48
6:A:97:TYR:OH	6:A:105:ILE:HD11	2.13	0.48
7:B:49:ILE:HG21	7:B:81:PHE:HE2	1.78	0.48
24:S:157:GLY:O	24:S:158:CYS:C	2.50	0.48
29:X:627:A:H2'	29:X:628:A:H8	1.69	0.48
18:M:94:VAL:O	18:M:94:VAL:HG12	2.13	0.48
6:A:247:VAL:CG2	6:A:248:THR:HG23	2.36	0.48
29:X:1485:U:H2'	29:X:1486:A:C8	2.47	0.48
14:I:77:LEU:HD23	14:I:112:GLY:O	2.13	0.48
29:X:1402:G:H2'	29:X:1403:U:O4'	2.13	0.48
29:X:199:A:H5''	29:X:200:A:OP2	2.13	0.48
29:X:2506:C:C2'	29:X:2507:U:H5'	2.42	0.48
11:F:131:ALA:HB1	11:F:136:VAL:CG2	2.43	0.48
29:X:1872:A:O2'	29:X:1873:A:H5'	2.13	0.48
28:W:32:ARG:HG3	28:W:32:ARG:O	2.12	0.48
29:X:836:G:H2'	29:X:837:U:C6	2.48	0.48
29:X:2636:A:H2'	29:X:2637:C:H5'	1.95	0.48
28:W:12:ARG:HH11	28:W:12:ARG:HG2	1.78	0.48
9:D:122:PHE:CE2	9:D:129:ASN:O	2.66	0.48
7:B:131:SER:O	7:B:132:LYS:CB	2.61	0.48
12:G:104:THR:O	12:G:105:GLY:O	2.31	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:134:MET:HG2	29:X:1017:C:O2	2.13	0.48
14:I:38:LYS:NZ	29:X:954:U:P	2.82	0.48
29:X:1166:A:C2'	29:X:1167:A:H5''	2.42	0.48
29:X:1278:A:C2	29:X:1280:U:N3	2.81	0.48
29:X:1282:A:N6	29:X:1995:G:N2	2.61	0.48
29:X:956:A:C1'	29:X:2427:A:H2	2.26	0.48
29:X:2793:G:N2	29:X:2804:G:C4	2.81	0.48
29:X:678:G:C5	29:X:679:C:C5	3.02	0.48
8:C:158:ARG:O	8:C:160:ALA:N	2.46	0.48
23:R:22:VAL:CG1	23:R:23:ILE:N	2.73	0.48
23:R:92:THR:HB	23:R:95:ARG:HH22	1.77	0.48
6:A:67:PHE:HB3	6:A:153:ALA:N	2.16	0.48
29:X:872:G:O2'	29:X:873:U:H6	1.96	0.48
25:T:29:GLU:OE2	29:X:935:C:H5'	2.13	0.48
10:E:65:HIS:O	10:E:67:LEU:N	2.46	0.48
29:X:1088:A:H2'	29:X:1089:C:O4'	2.13	0.48
14:I:53:ARG:HG2	29:X:227:G:O2'	2.13	0.48
29:X:2228:U:C1'	29:X:2254:C:N4	2.75	0.48
29:X:1541:G:H2'	29:X:1542:G:O4'	2.12	0.48
11:F:58:THR:HB	11:F:66:THR:OG1	2.13	0.48
8:C:197:GLU:HG2	8:C:198:GLU:N	2.27	0.48
29:X:782:U:O2'	29:X:783:G:H5'	2.13	0.48
16:K:68:GLN:O	16:K:71:HIS:CE1	2.66	0.48
29:X:2827:G:C6	29:X:2828:C:N3	2.82	0.48
9:D:123:ASP:C	9:D:125:ARG:N	2.64	0.48
29:X:1119:U:C6	29:X:1119:U:H5'	2.43	0.48
7:B:119:ARG:HE	7:B:158:GLY:HA3	1.78	0.48
8:C:45:THR:HG22	8:C:47:THR:OG1	2.13	0.48
19:N:10:ARG:O	19:N:13:ARG:N	2.46	0.48
21:P:35:PRO:HD2	21:P:120:ARG:HB2	1.95	0.48
29:X:1008:G:H2'	29:X:1009:C:C6	2.48	0.48
29:X:1666:G:H2'	29:X:1667:A:C8	2.46	0.48
29:X:754:G:N1	29:X:755:C:C4	2.81	0.48
29:X:841:G:H4'	29:X:844:G:N1	2.27	0.48
29:X:81:C:C2'	29:X:82:G:O4'	2.60	0.48
29:X:1466:C:O2'	29:X:1467:U:H4'	2.13	0.48
25:T:58:THR:CG2	25:T:59:LEU:N	2.76	0.48
29:X:2354:G:H2'	29:X:2356:A:N7	2.29	0.48
10:E:66:GLY:HA3	29:X:2728:A:O2'	2.13	0.48
9:D:111:ILE:HA	9:D:137:ILE:CG2	2.43	0.48
29:X:2321:C:O2'	29:X:2353:G:OP1	2.24	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:70:PHE:HB3	19:N:64:ARG:HG2	1.93	0.48
29:X:529:U:C2	29:X:530:G:C8	3.00	0.48
15:J:125:LYS:HD2	15:J:125:LYS:N	2.23	0.48
26:U:49:LYS:HB3	26:U:61:TRP:CE3	2.47	0.48
24:S:91:PRO:O	24:S:92:VAL:HG22	2.13	0.48
18:M:25:PRO:O	18:M:26:ASP:O	2.31	0.48
18:M:32:THR:HG21	18:M:91:VAL:HG12	1.95	0.48
29:X:2791:C:O2	29:X:2858:A:O2'	2.31	0.48
6:A:133:LEU:HB2	6:A:173:VAL:HG21	1.95	0.48
29:X:1423:A:O2'	29:X:1424:U:H5'	2.13	0.48
10:E:98:LEU:HD11	10:E:101:LYS:CA	2.42	0.48
29:X:2852:G:O2'	29:X:2853:U:H5'	2.13	0.48
29:X:772:G:H2'	29:X:773:G:C8	2.48	0.48
29:X:612:G:H2'	29:X:668:A:H61	1.77	0.48
13:H:92:ASP:OD2	18:M:69:ARG:NH1	2.45	0.48
15:J:71:PRO:HA	15:J:96:SER:HB2	1.95	0.48
6:A:64:ILE:C	6:A:65:ILE:HG13	2.33	0.48
29:X:2190:A:C3'	29:X:2190:A:C8	2.88	0.48
9:D:79:LEU:HD11	29:X:2289:A:N1	2.28	0.48
9:D:92:ARG:HH12	31:Z:46:G:C4'	2.18	0.48
9:D:129:ASN:ND2	29:X:2282:G:H1'	2.29	0.48
8:C:58:MET:HB2	8:C:70:GLY:O	2.14	0.48
12:G:101:THR:OG1	12:G:103:TYR:HE1	1.95	0.48
12:G:128:GLU:HG2	12:G:129:HIS:CD2	2.48	0.48
14:I:41:SER:HB2	29:X:845:U:P	2.53	0.48
21:P:32:ARG:O	21:P:32:ARG:NE	2.46	0.48
29:X:1226:A:H8	29:X:1226:A:O5'	1.97	0.48
29:X:1631:C:O2	29:X:1631:C:H2'	2.13	0.48
29:X:26:G:N1	29:X:27:G:N2	2.61	0.48
7:B:9:ILE:CD1	7:B:27:LEU:HB2	2.19	0.48
8:C:137:ALA:O	8:C:140:ASN:HB2	2.13	0.48
29:X:2530:C:C4	29:X:2531:U:C4	3.01	0.48
29:X:2247:A:H5'	29:X:2248:A:P	2.53	0.48
14:I:119:THR:HG22	14:I:121:HIS:CD2	2.48	0.48
29:X:2266:A:H62	29:X:2323:U:H3	1.61	0.48
29:X:1298:G:C6	29:X:1342:U:C6	3.01	0.48
24:S:141:MET:HA	24:S:145:ASP:CG	2.34	0.48
29:X:2204:A:H4'	29:X:2205:C:C6	2.47	0.48
29:X:2371:A:OP2	29:X:2401:A:N6	2.41	0.48
29:X:392:G:H4'	29:X:2211:U:H5''	1.96	0.48
29:X:6:A:H2'	29:X:7:G:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:150:GLY:C	6:A:152:GLY:N	2.65	0.48
30:Y:42:SER:O	30:Y:43:HIS:CB	2.57	0.48
29:X:33:C:O2'	29:X:34:U:P	2.72	0.48
6:A:44:ASN:N	6:A:44:ASN:HD22	1.98	0.48
13:H:26:ASN:ND2	13:H:38:GLY:HA3	2.29	0.48
29:X:1265:G:HO2'	29:X:1266:G:P	2.36	0.48
8:C:90:SER:O	8:C:91:TYR:C	2.51	0.48
29:X:1706:A:O2'	29:X:1707:A:H5'	2.14	0.48
29:X:1785:A:O2'	29:X:1786:C:H5'	2.13	0.48
29:X:961:G:C5	29:X:962:C:C4	3.01	0.48
29:X:1678:G:C6	29:X:1679:U:C4	3.01	0.48
7:B:5:LEU:N	7:B:5:LEU:HD12	2.28	0.48
29:X:2823:G:O2'	29:X:2824:C:P	2.71	0.48
29:X:1122:A:O2'	29:X:1123:G:H4'	2.13	0.48
9:D:100:LEU:O	9:D:103:LEU:HB3	2.14	0.48
20:O:12:TYR:O	20:O:13:ARG:HB2	2.12	0.48
29:X:2484:G:C2'	29:X:2485:U:OP2	2.61	0.48
29:X:2594:U:C5'	29:X:2594:U:C6	2.93	0.48
29:X:483:A:H2'	29:X:484:G:H5'	1.95	0.48
22:Q:6:ILE:O	22:Q:7:LEU:O	2.30	0.48
15:J:19:THR:HG21	15:J:40:PRO:HB3	1.95	0.48
15:J:37:ALA:CB	15:J:98:VAL:HG11	2.43	0.48
29:X:82:G:C2	29:X:100:G:H2'	2.49	0.48
29:X:321:A:C2	29:X:323:G:C1'	2.94	0.48
20:O:28:GLU:C	20:O:30:GLY:H	2.17	0.48
17:L:10:LYS:C	17:L:14:ARG:HG3	2.33	0.48
25:T:36:ILE:HA	25:T:60:PHE:HA	1.95	0.48
29:X:2262:C:C2	29:X:2368:G:C2	3.01	0.48
29:X:2728:A:H2'	29:X:2729:A:H8	1.76	0.48
4:4:23:VAL:C	4:4:24:LEU:HD12	2.34	0.48
22:Q:17:TYR:O	22:Q:20:MET:HB3	2.13	0.48
15:J:59:PHE:CE2	15:J:118:ALA:HB2	2.49	0.48
29:X:2629:U:O2'	29:X:2630:C:H5'	2.13	0.48
26:U:46:LEU:C	26:U:47:HIS:CG	2.86	0.48
31:Z:15:A:N1	31:Z:71:G:H2'	2.28	0.48
29:X:218:A:H5'	29:X:220:U:H1'	1.95	0.48
11:F:41:PHE:HE1	11:F:55:VAL:HG21	1.78	0.48
29:X:691:C:O2'	29:X:692:C:H5'	2.13	0.48
7:B:61:LYS:H	7:B:62:PRO:CD	2.26	0.48
29:X:1373:G:O6	29:X:1385:C:N3	2.47	0.48
8:C:147:LYS:HD3	8:C:183:HIS:HA	1.93	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1842:G:C2	29:X:1843:U:C2	3.02	0.48
11:F:90:THR:OG1	11:F:93:LYS:HB2	2.13	0.48
29:X:1578:U:C2	29:X:1579:G:C8	3.01	0.48
29:X:927:C:O2'	31:Z:103:A:H5''	2.14	0.48
8:C:154:ASP:O	8:C:157:THR:OG1	2.31	0.48
29:X:320:A:N3	29:X:340:G:O2'	2.40	0.48
7:B:29:GLY:O	7:B:30:PRO:C	2.51	0.48
14:I:23:PRO:O	14:I:24:GLY:O	2.31	0.48
29:X:344:G:C5	29:X:345:U:C5	3.01	0.48
18:M:100:ARG:O	29:X:2823:G:H3'	2.14	0.48
29:X:1053:G:C2'	29:X:1054:C:O4'	2.62	0.48
12:G:119:LEU:CD1	12:G:126:VAL:HG22	2.44	0.48
29:X:580:A:O2'	29:X:581:A:P	2.71	0.48
29:X:689:A:H2'	29:X:690:A:H5'	1.95	0.48
29:X:989:G:C2	29:X:997:C:C2	3.02	0.48
15:J:128:ILE:C	15:J:128:ILE:HD12	2.34	0.48
10:E:147:ASN:O	10:E:150:LYS:HB2	2.13	0.48
29:X:2239:C:O2'	29:X:2240:C:H5'	2.13	0.48
14:I:73:GLU:O	14:I:75:VAL:HG23	2.13	0.48
22:Q:38:ILE:O	22:Q:39:LYS:C	2.51	0.48
10:E:71:LEU:HA	10:E:74:ASN:ND2	2.28	0.48
10:E:54:ARG:HG2	10:E:54:ARG:NH2	2.27	0.48
29:X:663:G:H2'	29:X:664:C:C4'	2.43	0.48
24:S:64:ALA:HB2	24:S:85:MET:CE	2.44	0.48
7:B:15:TRP:NE1	18:M:86:PRO:HD2	2.28	0.48
21:P:12:LYS:HE3	29:X:319:G:OP1	2.13	0.48
29:X:704:G:O2'	29:X:705:C:H5'	2.14	0.48
29:X:1051:U:C2'	29:X:1052:C:O4'	2.59	0.48
9:D:74:ILE:CA	9:D:79:LEU:HB3	2.35	0.48
9:D:71:LYS:NZ	29:X:2278:A:OP2	2.36	0.48
6:A:231:HIS:CD2	6:A:233:HIS:HB2	2.49	0.48
7:B:162:MET:HE3	29:X:2796:A:H4'	1.94	0.48
29:X:1147:G:H2'	29:X:1148:G:C8	2.47	0.48
29:X:2489:C:C5	29:X:2490:U:C5	3.02	0.48
29:X:2802:C:H2'	29:X:2803:C:H6	1.79	0.48
29:X:590:C:C2	29:X:591:G:C8	3.01	0.48
29:X:701:U:O2	29:X:800:U:C4'	2.60	0.48
29:X:757:U:C2	29:X:767:G:C2	3.02	0.48
29:X:786:U:O2'	29:X:791:G:H4'	2.14	0.48
29:X:816:U:C4	29:X:817:A:N7	2.82	0.48
8:C:135:SER:O	8:C:138:LYS:HB2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:97:ARG:HA	8:C:100:ARG:HG3	1.96	0.48
29:X:330:C:O2'	29:X:331:U:H5'	2.14	0.48
29:X:78:C:O2	29:X:357:A:C2	2.57	0.48
29:X:1917:C:C2'	29:X:1918:G:H5'	2.43	0.48
17:L:18:ARG:CZ	29:X:2357:A:N6	2.68	0.48
25:T:30:VAL:O	25:T:31:VAL:O	2.31	0.48
29:X:2240:C:O2'	29:X:2241:U:H5'	2.13	0.48
25:T:44:LYS:CE	29:X:871:U:OP1	2.60	0.48
4:4:19:ARG:NH1	4:4:19:ARG:HG3	2.22	0.48
17:L:29:LEU:HD13	17:L:75:LEU:HD21	1.96	0.48
4:4:1:MET:CB	29:X:2505:G:H1'	2.44	0.48
26:U:21:ARG:C	26:U:39:LYS:HD2	2.33	0.48
29:X:18:U:O2'	29:X:563:U:OP1	2.30	0.48
27:V:56:VAL:O	27:V:59:GLU:HB2	2.12	0.48
13:H:42:LYS:H	29:X:2654:A:H5'	1.78	0.48
22:Q:66:GLY:O	22:Q:68:PHE:N	2.47	0.48
29:X:876:A:H2'	29:X:877:G:O4'	2.14	0.48
29:X:663:G:H2'	29:X:664:C:H4'	1.95	0.48
29:X:115:G:OP1	29:X:122:G:N1	2.45	0.48
29:X:2790:C:O2'	30:Y:43:HIS:CD2	2.66	0.48
23:R:4:PRO:CA	29:X:34:U:H1'	2.43	0.48
29:X:496:C:C2'	29:X:497:C:C5'	2.85	0.48
29:X:242:A:C2'	29:X:243:G:H4'	2.44	0.48
29:X:1319:C:H2'	29:X:1320:A:H5'	1.94	0.48
29:X:191:G:H2'	29:X:192:G:O4'	2.14	0.48
29:X:745:C:C2'	29:X:746:G:H5'	2.43	0.48
29:X:1379:A:H2'	29:X:1380:C:H6	1.79	0.48
25:T:14:ARG:O	25:T:15:ASP:HB2	2.14	0.48
29:X:1530:U:H2'	29:X:1531:C:O4'	2.14	0.48
18:M:99:VAL:CG2	18:M:100:ARG:N	2.61	0.48
18:M:107:LEU:C	18:M:109:GLU:N	2.67	0.48
29:X:2696:A:H2'	29:X:2697:G:H8	1.78	0.48
6:A:49:ILE:HG22	29:X:792:U:OP1	2.14	0.48
7:B:131:SER:HB3	7:B:132:LYS:H	1.38	0.48
7:B:134:TRP:CE2	29:X:1675:C:OP1	2.67	0.48
19:N:17:VAL:O	19:N:18:LEU:C	2.52	0.48
20:O:83:ARG:O	20:O:84:THR:CG2	2.58	0.48
21:P:101:PRO:HA	29:X:26:G:OP1	2.13	0.48
29:X:2029:G:C6	29:X:2030:U:C4	3.01	0.48
29:X:596:C:N1	29:X:684:C:H1'	2.29	0.48
22:Q:7:LEU:CD2	27:V:30:PHE:HE2	2.26	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:2:ILE:HD12	13:H:8:LEU:HD21	1.96	0.48
8:C:23:ASN:CG	8:C:26:VAL:HG23	2.33	0.48
16:K:20:LEU:O	16:K:21:ALA:C	2.52	0.48
15:J:80:ALA:HB1	15:J:81:GLU:OE1	2.14	0.48
31:Z:91:A:O2'	31:Z:92:G:H5'	2.13	0.48
10:E:103:LEU:CG	10:E:115:ILE:HD12	2.44	0.48
23:R:85:ASP:OD1	23:R:86:PRO:CD	2.60	0.48
29:X:309:G:N1	29:X:350:U:H5	2.12	0.48
29:X:2728:A:N1	29:X:2737:A:N7	2.62	0.48
29:X:638:A:C4	29:X:647:G:N2	2.76	0.48
9:D:12:VAL:C	9:D:16:LEU:HG	2.34	0.48
9:D:13:ARG:HH21	9:D:17:MET:CE	2.27	0.48
29:X:400:U:O2'	29:X:401:G:C5'	2.56	0.48
29:X:2448:A:H61	29:X:2460:G:H1'	1.76	0.48
28:W:15:ASN:O	28:W:16:GLN:C	2.52	0.48
28:W:35:SER:O	28:W:40:VAL:HG11	2.14	0.48
29:X:944:A:C2	29:X:945:G:H1'	2.49	0.48
29:X:1108:U:H2'	29:X:1109:A:O4'	2.13	0.48
29:X:69:G:H1'	29:X:72:A:H1'	1.95	0.48
26:U:52:ARG:NH1	26:U:67:LEU:HD13	2.28	0.48
6:A:243:GLY:N	6:A:244:ARG:NH1	2.61	0.48
8:C:148:VAL:N	8:C:166:TRP:O	2.37	0.48
25:T:20:TYR:HB3	25:T:21:LEU:H	1.52	0.48
20:O:33:VAL:HA	20:O:56:VAL:O	2.14	0.48
29:X:415:A:O2'	29:X:416:U:H5'	2.14	0.48
29:X:159:A:O2'	29:X:160:C:H5'	2.13	0.48
29:X:2061:C:H2'	29:X:2062:U:H6	1.79	0.48
29:X:2837:G:O2'	29:X:2838:U:H5'	2.13	0.48
29:X:478:G:C4	29:X:479:G:C8	3.02	0.48
29:X:2853:U:O5'	29:X:2853:U:H6	1.96	0.48
6:A:46:ARG:HD3	6:A:47:GLY:N	2.28	0.48
29:X:2691:C:O2'	29:X:2692:A:C5'	2.62	0.48
9:D:36:VAL:HA	9:D:153:ASP:O	2.14	0.48
9:D:80:ARG:HG2	9:D:81:GLN:N	2.29	0.48
9:D:92:ARG:NE	31:Z:45:C:H2'	2.28	0.48
7:B:131:SER:HB3	7:B:133:LYS:H	1.78	0.48
20:O:9:GLY:O	20:O:10:LYS:CB	2.62	0.48
29:X:1141:U:C2	29:X:2008:C:H5''	2.48	0.48
29:X:2005:U:H4'	29:X:2006:G:OP1	2.13	0.48
29:X:600:G:C6	29:X:602:C:C4	3.02	0.48
13:H:29:ILE:HG21	13:H:123:PHE:CE1	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1592:U:H2'	29:X:1593:C:C5'	2.44	0.48
11:F:19:PRO:HB2	11:F:21:PRO:HD2	1.95	0.48
23:R:11:ASN:ND2	23:R:12:ASP:OD1	2.46	0.48
29:X:1552:C:H4'	29:X:1553:G:OP1	2.14	0.48
4:4:6:SER:CB	29:X:2445:C:H5''	2.40	0.48
10:E:38:ASN:ND2	10:E:64:LEU:HD11	2.28	0.48
16:K:13:ASN:HD22	16:K:13:ASN:C	2.11	0.48
29:X:2624:G:C4'	29:X:2712:G:O2'	2.60	0.48
29:X:177:U:C4	29:X:225:G:N2	2.82	0.48
29:X:2874:A:H2'	29:X:2875:C:C6	2.48	0.48
18:M:81:PHE:HA	18:M:82:PRO:HD3	1.57	0.48
16:K:97:ILE:C	16:K:98:LEU:HD12	2.35	0.48
21:P:80:LEU:CD2	21:P:87:GLU:HB3	2.37	0.48
7:B:75:THR:OG1	7:B:76:ARG:N	2.44	0.48
9:D:106:ILE:O	9:D:110:ARG:HB2	2.14	0.48
8:C:190:ALA:C	8:C:192:ALA:N	2.67	0.48
29:X:2753:C:N3	29:X:2754:C:C5	2.82	0.48
18:M:2:GLN:N	29:X:2795:A:N1	2.62	0.48
19:N:47:TYR:HA	19:N:50:ARG:HH12	1.78	0.48
21:P:39:ARG:NE	21:P:97:VAL:HB	2.29	0.48
29:X:2594:U:H2'	29:X:2595:C:C6	2.45	0.48
29:X:958:G:H2'	29:X:959:C:C5	2.48	0.48
29:X:1287:A:C2	29:X:1662:G:O4'	2.67	0.48
23:R:91:ALA:C	23:R:92:THR:HG23	2.35	0.48
29:X:1937:G:H21	29:X:2530:C:H5''	1.79	0.48
29:X:2079:A:H61	29:X:2175:A:N6	2.11	0.48
21:P:28:ALA:CB	21:P:71:VAL:HG22	2.44	0.48
16:K:87:TYR:HD1	16:K:90:ARG:HD2	1.75	0.48
29:X:1182:U:H2'	29:X:1183:C:C6	2.49	0.48
25:T:59:LEU:HD12	25:T:79:ILE:HD12	1.96	0.48
29:X:2238:G:C8	29:X:2406:C:C4	3.01	0.48
22:Q:38:ILE:HG12	22:Q:39:LYS:N	2.28	0.48
10:E:38:ASN:OD1	10:E:64:LEU:HD22	2.14	0.48
29:X:2660:C:C2	29:X:2704:U:O4	2.66	0.48
26:U:15:VAL:HA	26:U:45:ASN:O	2.13	0.48
29:X:2205:C:H2'	29:X:2206:C:O4'	2.13	0.48
6:A:136:VAL:HG12	6:A:140:ALA:HB3	1.96	0.48
29:X:116:A:O2'	29:X:155:G:H5'	2.13	0.48
11:F:100:ASN:H	11:F:103:GLN:NE2	2.11	0.48
29:X:1485:U:H6	29:X:1485:U:O5'	1.96	0.48
29:X:1525:A:C5	29:X:1526:U:H1'	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:S:71:MET:HB2	24:S:78:PRO:HA	1.94	0.48
29:X:1629:G:C6	29:X:1635:G:O6	2.67	0.48
29:X:487:G:N2	29:X:489:A:C3'	2.76	0.48
29:X:1086:C:H2'	29:X:1086:C:O2	2.13	0.48
6:A:48:ARG:H	6:A:48:ARG:HH11	1.61	0.48
29:X:134:G:C2'	29:X:135:U:H5''	2.44	0.48
29:X:1435:G:O2'	29:X:1436:G:H5'	2.13	0.48
19:N:53:LYS:HA	19:N:56:ASP:HB2	1.96	0.48
18:M:71:ILE:HG22	18:M:71:ILE:O	2.12	0.48
18:M:106:TYR:HD1	18:M:106:TYR:C	2.17	0.47
29:X:1855:G:C2	29:X:1863:U:O2	2.67	0.47
29:X:1050:G:C2'	29:X:1051:U:C5'	2.92	0.47
9:D:83:MET:HG3	9:D:84:PRO:HD2	1.96	0.47
19:N:66:ASN:HA	19:N:69:ALA:HB2	1.93	0.47
20:O:20:ILE:O	20:O:90:PHE:HB2	2.13	0.47
29:X:1337:G:C6	29:X:1341:G:C6	3.02	0.47
29:X:2032:G:C2'	29:X:2033:C:H5'	2.44	0.47
29:X:755:C:H2'	29:X:756:C:H6	1.78	0.47
29:X:801:A:O2'	29:X:802:A:P	2.72	0.47
29:X:995:A:O2'	29:X:996:C:OP1	2.32	0.47
16:K:27:ALA:C	16:K:29:LEU:N	2.67	0.47
15:J:10:PHE:O	29:X:883:A:H4'	2.13	0.47
29:X:2473:G:H2'	29:X:2474:G:C8	2.49	0.47
29:X:973:U:H4'	29:X:2475:C:O2'	2.14	0.47
29:X:502:A:C2'	29:X:503:G:H5'	2.44	0.47
6:A:38:PRO:CA	6:A:61:LEU:HD22	2.43	0.47
29:X:2238:G:C2'	29:X:2239:C:H5'	2.44	0.47
29:X:2241:U:C2'	29:X:2242:C:O5'	2.63	0.47
17:L:89:PHE:HZ	29:X:2356:A:HO2'	1.62	0.47
29:X:2463:G:H2'	29:X:2464:G:O4'	2.13	0.47
29:X:314:G:H2'	29:X:315:G:O4'	2.12	0.47
27:V:51:ALA:HA	29:X:71:A:H1'	1.94	0.47
29:X:1779:C:H2'	29:X:1780:A:H8	1.74	0.47
24:S:90:GLU:HA	24:S:90:GLU:OE1	2.13	0.47
29:X:2219:U:C2	29:X:2220:A:C8	3.02	0.47
31:Z:25:G:H2'	31:Z:26:G:N7	2.28	0.47
11:F:23:VAL:HG13	11:F:27:LEU:HB2	1.95	0.47
29:X:1355:A:O4'	29:X:1410:U:O2'	2.17	0.47
29:X:1380:C:H2'	29:X:1381:G:H5'	1.95	0.47
29:X:1115:C:O2'	29:X:1116:U:H5'	2.14	0.47
29:X:131:C:O2'	29:X:132:U:H5'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:32:ASP:O	15:J:134:LYS:O	2.32	0.47
29:X:1750:A:N3	29:X:1750:A:H2'	2.29	0.47
9:D:150:ARG:HG3	9:D:150:ARG:HH11	1.79	0.47
9:D:75:SER:O	9:D:79:LEU:HB2	2.14	0.47
7:B:113:THR:HB	29:X:1671:A:N3	2.29	0.47
8:C:54:THR:HG21	8:C:72:ARG:H	1.78	0.47
12:G:84:ASN:C	12:G:86:ALA:N	2.67	0.47
14:I:32:ARG:NH2	20:O:81:ARG:HG3	2.29	0.47
29:X:1276:U:C1'	30:Y:10:LYS:HG3	2.44	0.47
29:X:2010:G:C5	29:X:2011:U:C4	3.02	0.47
29:X:2049:C:H2'	29:X:2050:G:H8	1.80	0.47
27:V:29:ARG:HB3	27:V:29:ARG:CZ	2.44	0.47
29:X:626:A:O4'	29:X:626:A:OP2	2.32	0.47
16:K:44:LEU:HD23	16:K:113:ILE:CD1	2.44	0.47
29:X:1289:A:C2	29:X:1290:A:C5	3.01	0.47
29:X:883:A:C6	29:X:884:C:N3	2.83	0.47
23:R:14:LEU:HD21	23:R:41:PRO:HA	1.95	0.47
23:R:80:LYS:HZ1	23:R:82:ALA:HA	1.79	0.47
29:X:558:G:H2'	29:X:559:C:O4'	2.13	0.47
29:X:1767:G:C2	29:X:1768:U:C6	3.02	0.47
28:W:5:LEU:CB	28:W:25:LEU:HD13	2.28	0.47
29:X:718:A:N6	29:X:739:G:H1'	2.29	0.47
22:Q:31:PRO:HA	22:Q:76:LYS:HB2	1.95	0.47
22:Q:90:ALA:O	22:Q:92:ALA:N	2.46	0.47
29:X:938:G:O2'	29:X:939:C:O5'	2.32	0.47
13:H:40:GLY:HA3	29:X:2545:A:N6	2.28	0.47
29:X:182:G:O2'	29:X:183:U:OP2	2.32	0.47
24:S:51:LEU:HD23	24:S:65:LEU:HD13	1.96	0.47
29:X:1837:G:O2'	29:X:1838:G:H5'	2.13	0.47
20:O:35:LEU:O	20:O:36:LYS:CB	2.61	0.47
27:V:42:ARG:O	27:V:43:VAL:C	2.52	0.47
29:X:1757:C:N3	29:X:1970:G:C6	2.83	0.47
29:X:1495:G:H5'	29:X:1574:A:H2	1.78	0.47
6:A:48:ARG:HD3	29:X:1797:C:H4'	1.96	0.47
9:D:42:SER:C	9:D:44:LYS:H	2.18	0.47
29:X:1583:A:C8	29:X:1583:A:OP2	2.66	0.47
29:X:965:G:O2'	29:X:2253:A:N1	2.34	0.47
29:X:848:A:C6	29:X:849:G:C5	3.03	0.47
29:X:2442:C:H2'	29:X:2443:C:H6	1.79	0.47
21:P:59:PHE:CD1	21:P:59:PHE:N	2.82	0.47
15:J:60:ARG:HG2	15:J:60:ARG:HH11	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:49:ILE:CG2	29:X:792:U:OP1	2.63	0.47
29:X:1045:G:C6	29:X:1133:G:C2	3.02	0.47
29:X:1224:A:O2'	29:X:1225:G:P	2.72	0.47
29:X:2007:G:O2'	29:X:2008:C:H5'	2.13	0.47
29:X:2597:G:O2'	29:X:2598:C:H5'	2.14	0.47
29:X:28:A:C2	29:X:523:A:H1'	2.50	0.47
29:X:787:A:H2	29:X:800:U:O2'	1.98	0.47
8:C:50:GLN:HB2	29:X:814:G:OP1	2.14	0.47
29:X:690:A:C2	29:X:815:A:C2	3.03	0.47
15:J:40:PRO:CB	15:J:99:LYS:HZ2	2.26	0.47
10:E:103:LEU:CD2	10:E:115:ILE:HD12	2.44	0.47
26:U:28:GLY:HA3	26:U:32:ARG:HA	1.95	0.47
16:K:63:ARG:HG3	16:K:63:ARG:NH1	2.29	0.47
20:O:26:GLN:HG3	20:O:63:HIS:CD2	2.50	0.47
6:A:154:GLN:O	29:X:1810:U:C2	2.67	0.47
25:T:24:LYS:N	25:T:37:LEU:O	2.46	0.47
25:T:46:LYS:NZ	25:T:76:ALA:HA	2.29	0.47
25:T:55:ARG:HD2	29:X:2363:G:OP1	2.15	0.47
29:X:930:A:H3'	29:X:930:A:C8	2.49	0.47
29:X:868:U:H3	29:X:934:G:H1	1.61	0.47
9:D:52:LYS:HG3	9:D:147:ASP:HB2	1.96	0.47
9:D:158:THR:C	9:D:160:ALA:H	2.18	0.47
29:X:1301:U:C2	29:X:1340:C:O2	2.67	0.47
29:X:2392:G:H2'	29:X:2393:G:O4'	2.15	0.47
29:X:2519:C:C2'	29:X:2520:A:H5'	2.44	0.47
29:X:1068:A:C3'	29:X:1069:G:H8	2.26	0.47
24:S:95:SER:HB3	24:S:119:ASN:ND2	2.29	0.47
29:X:1882:G:N2	29:X:1885:C:H41	2.11	0.47
29:X:452:G:C2	29:X:453:U:C2	3.02	0.47
29:X:405:C:O2'	29:X:406:G:H5'	2.13	0.47
7:B:1:MET:HG2	7:B:2:LYS:N	2.29	0.47
29:X:1348:C:C2	29:X:1349:A:C8	3.03	0.47
29:X:1348:C:O2'	29:X:1349:A:H5'	2.14	0.47
29:X:192:G:O2'	29:X:193:A:H5''	2.15	0.47
26:U:68:ARG:NH1	29:X:413:G:O6	2.43	0.47
21:P:114:ALA:HB2	29:X:1630:A:N1	2.29	0.47
29:X:344:G:C4	29:X:345:U:C5	3.02	0.47
9:D:154:ILE:HD12	9:D:154:ILE:N	2.29	0.47
9:D:33:LYS:N	9:D:157:VAL:HB	2.28	0.47
7:B:133:LYS:HG2	7:B:137:ARG:CB	2.43	0.47
12:G:56:THR:HG23	29:X:1017:C:O4'	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:11:ARG:O	19:N:14:HIS:HB2	2.14	0.47
29:X:591:G:C6	29:X:1272:G:N1	2.83	0.47
29:X:2557:G:H2'	29:X:2558:C:H6	1.79	0.47
8:C:129:LYS:C	8:C:131:LYS:H	2.18	0.47
29:X:1709:U:O5'	29:X:1709:U:H6	1.96	0.47
15:J:25:GLY:O	15:J:26:ASP:O	2.32	0.47
6:A:108:PRO:HD2	6:A:111:LEU:HD12	1.95	0.47
29:X:2309:G:H2'	29:X:2310:G:C5'	2.44	0.47
29:X:2333:A:N6	29:X:2343:C:N4	2.62	0.47
9:D:14:PRO:O	9:D:15:ALA:C	2.53	0.47
17:L:30:SER:O	17:L:31:VAL:HG12	2.15	0.47
7:B:98:GLU:HG2	7:B:174:GLU:CA	2.40	0.47
13:H:35:THR:HG21	29:X:2629:U:C5'	2.44	0.47
29:X:2542:U:O2	29:X:2545:A:C5	2.67	0.47
14:I:59:ARG:HG3	29:X:2371:A:C8	2.49	0.47
30:Y:40:LYS:HG3	30:Y:41:LEU:N	2.30	0.47
29:X:1451:C:H2'	29:X:1452:U:H6	1.79	0.47
29:X:1312:G:H8	29:X:1312:G:O5'	1.96	0.47
29:X:2440:C:H2'	29:X:2441:U:H6	1.79	0.47
26:U:40:ARG:CD	29:X:178:C:OP1	2.61	0.47
29:X:509:U:H2'	29:X:510:G:H5'	1.96	0.47
29:X:413:G:C2'	29:X:414:A:H5"	2.45	0.47
29:X:807:A:H2'	29:X:808:C:H6	1.78	0.47
6:A:49:ILE:O	6:A:49:ILE:HG23	2.14	0.47
12:G:91:THR:HG21	29:X:1151:U:C6	2.49	0.47
21:P:97:VAL:CG1	21:P:122:SER:HB3	2.45	0.47
29:X:1333:G:OP2	29:X:1333:G:C8	2.61	0.47
29:X:2006:G:C2	29:X:2024:U:O2	2.67	0.47
29:X:759:C:H1'	29:X:761:G:N2	2.29	0.47
29:X:986:A:H2'	29:X:987:G:C5'	2.45	0.47
29:X:919:U:H2'	29:X:920:G:H8	1.79	0.47
29:X:558:G:H8	29:X:559:C:C4	2.32	0.47
29:X:1685:A:H61	29:X:1693:A:N6	2.12	0.47
29:X:1922:U:O2'	29:X:2571:G:C1'	2.63	0.47
25:T:32:LYS:HB3	25:T:35:ASN:HD21	1.78	0.47
25:T:54:GLY:N	25:T:58:THR:O	2.45	0.47
29:X:873:U:O4	29:X:929:A:N7	2.48	0.47
9:D:26:MET:HE1	31:Z:33:C:O4'	2.13	0.47
29:X:2463:G:C2	29:X:2464:G:H1'	2.49	0.47
7:B:14:ILE:CD1	7:B:183:LEU:HD13	2.41	0.47
10:E:65:HIS:C	10:E:67:LEU:N	2.67	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:U:48:LYS:HZ3	26:U:48:LYS:HB2	1.79	0.47
30:Y:33:CYS:SG	30:Y:34:PRO:HD2	2.55	0.47
24:S:122:ILE:HD12	24:S:158:CYS:HB3	1.96	0.47
29:X:1542:G:H2'	29:X:1543:G:C8	2.49	0.47
27:V:43:VAL:HA	27:V:46:LEU:HD12	1.95	0.47
23:R:65:PRO:C	23:R:67:GLY:N	2.68	0.47
29:X:785:U:H6	29:X:785:U:O5'	1.97	0.47
6:A:164:GLN:C	6:A:164:GLN:OE1	2.53	0.47
12:G:142:ARG:HH12	29:X:538:A:H5''	1.76	0.47
19:N:40:LEU:C	19:N:42:ALA:N	2.67	0.47
20:O:11:GLN:CA	20:O:38:LEU:O	2.58	0.47
21:P:39:ARG:HH11	21:P:39:ARG:HG2	1.80	0.47
21:P:100:GLY:HA2	29:X:25:U:H5''	1.96	0.47
22:Q:12:ILE:HD11	29:X:1351:G:OP1	2.15	0.47
13:H:47:VAL:HG22	13:H:74:VAL:HG12	1.97	0.47
8:C:26:VAL:CA	14:I:18:ARG:HH11	2.23	0.47
29:X:454:G:H4'	29:X:455:A:OP1	2.13	0.47
16:K:113:ILE:HG23	16:K:113:ILE:O	2.14	0.47
16:K:38:LEU:HD21	16:K:42:LYS:CE	2.45	0.47
29:X:303:C:C6	29:X:303:C:O5'	2.67	0.47
29:X:352:G:O2'	29:X:353:G:H5'	2.14	0.47
29:X:2240:C:C1'	29:X:2367:A:H1'	2.43	0.47
29:X:2265:A:H4'	29:X:2266:A:C5'	2.45	0.47
29:X:2516:U:H2'	29:X:2517:C:H6	1.78	0.47
22:Q:62:ARG:HG2	22:Q:62:ARG:HH11	1.79	0.47
22:Q:88:ILE:O	22:Q:89:GLU:C	2.52	0.47
23:R:18:LYS:HE2	23:R:18:LYS:N	2.29	0.47
10:E:9:ILE:HB	10:E:50:LEU:O	2.14	0.47
29:X:2208:U:H2'	29:X:2209:G:H8	1.79	0.47
29:X:236:C:H1'	29:X:632:A:O2'	2.13	0.47
17:L:8:ARG:HH11	17:L:8:ARG:HB3	1.79	0.47
6:A:243:GLY:H	6:A:244:ARG:HD3	1.80	0.47
29:X:1838:G:C2	29:X:1878:C:C2	3.03	0.47
7:B:73:ALA:O	7:B:74:PRO:C	2.52	0.47
29:X:2811:G:C6	29:X:2858:A:N6	2.82	0.47
31:Z:25:G:H2'	31:Z:26:G:C8	2.50	0.47
29:X:191:G:H21	29:X:193:A:H1'	1.79	0.47
29:X:2869:U:H2'	29:X:2870:C:O4'	2.14	0.47
29:X:807:A:H2'	29:X:808:C:C6	2.50	0.47
21:P:60:ILE:HA	21:P:61:PRO:HD3	1.52	0.47
29:X:2583:U:C4	29:X:2584:U:C5	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2826:C:O2'	29:X:2827:G:H5'	2.13	0.47
29:X:2697:G:N1	29:X:2698:G:C5	2.82	0.47
29:X:1053:G:C6	29:X:1054:C:C4	3.03	0.47
29:X:2189:A:C2	29:X:2196:U:N3	2.79	0.47
29:X:2293:G:O2'	29:X:2294:U:H5'	2.15	0.47
6:A:223:GLY:C	6:A:225:ALA:H	2.16	0.47
12:G:104:THR:HG21	29:X:2620:G:H5''	1.96	0.47
29:X:1992:G:O2'	29:X:1993:G:H5'	2.13	0.47
29:X:2028:C:O2'	29:X:2029:G:O5'	2.27	0.47
29:X:2594:U:C4	30:Y:6:VAL:O	2.68	0.47
29:X:589:C:N4	29:X:590:C:N4	2.62	0.47
29:X:1999:U:C1'	30:Y:6:VAL:HG21	2.44	0.47
7:B:137:ARG:HG3	7:B:137:ARG:HH21	1.79	0.47
12:G:123:PRO:O	12:G:126:VAL:HG23	2.14	0.47
29:X:984:A:H1'	29:X:1202:U:C5	2.50	0.47
29:X:1272:G:H2'	29:X:1273:G:C8	2.50	0.47
21:P:108:PRO:HG2	29:X:1631:C:H1'	1.95	0.47
29:X:998:C:H4'	29:X:1012:A:C4'	2.45	0.47
30:Y:12:SER:O	30:Y:15:LYS:N	2.41	0.47
30:Y:3:LYS:HD2	30:Y:3:LYS:N	2.30	0.47
8:C:34:GLN:O	8:C:38:ARG:HG3	2.15	0.47
29:X:457:C:H2'	29:X:458:G:O4'	2.14	0.47
29:X:623:G:O2'	29:X:626:A:N6	2.48	0.47
24:S:73:LYS:C	24:S:75:LYS:N	2.68	0.47
16:K:36:THR:CG2	16:K:37:THR:O	2.55	0.47
16:K:48:VAL:O	16:K:49:GLU:C	2.53	0.47
24:S:112:LEU:O	24:S:172:LEU:N	2.48	0.47
23:R:8:SER:O	23:R:9:HIS:C	2.53	0.47
29:X:303:C:H3'	29:X:304:A:H5''	1.96	0.47
29:X:78:C:H2'	29:X:79:G:H8	1.80	0.47
29:X:1947:G:O2'	29:X:1950:C:OP2	2.30	0.47
29:X:103:U:O2'	29:X:104:C:H5'	2.15	0.47
29:X:1468:A:H5''	29:X:1472:C:H42	1.74	0.47
17:L:87:VAL:C	17:L:88:VAL:HG23	2.34	0.47
6:A:108:PRO:HB2	6:A:195:ALA:O	2.14	0.47
29:X:1811:A:H1'	29:X:1813:A:C6	2.49	0.47
29:X:1044:U:C4	29:X:2730:A:N3	2.83	0.47
29:X:736:G:C2	29:X:737:C:H1'	2.50	0.47
14:I:119:THR:HA	14:I:139:ARG:H	1.79	0.47
9:D:12:VAL:HG11	9:D:169:LEU:CD1	2.44	0.47
17:L:100:VAL:HG13	17:L:101:LYS:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:L:33:ARG:HE	17:L:38:ILE:HG21	1.79	0.47
17:L:66:ASP:O	17:L:68:ALA:N	2.47	0.47
29:X:2325:A:C2	29:X:2362:G:C6	3.02	0.47
27:V:7:ARG:HD2	27:V:7:ARG:C	2.34	0.47
22:Q:36:THR:O	22:Q:39:LYS:N	2.48	0.47
29:X:1299:A:O2'	29:X:1300:A:OP1	2.27	0.47
29:X:1302:C:O5'	29:X:1302:C:H6	1.98	0.47
17:L:20:THR:CB	17:L:24:SER:OG	2.48	0.47
4:4:25:VAL:HB	4:4:34:GLN:H	1.79	0.47
15:J:125:LYS:H	15:J:125:LYS:CD	2.21	0.47
13:H:82:LYS:NZ	29:X:2662:C:O2	2.47	0.47
29:X:2702:G:C2'	29:X:2703:C:H5'	2.45	0.47
29:X:1094:C:H2'	29:X:1096:A:H5''	1.95	0.47
11:F:115:LEU:HD13	11:F:123:ALA:HB1	1.96	0.47
29:X:182:G:O2'	29:X:183:U:P	2.72	0.47
26:U:67:LEU:HD12	26:U:67:LEU:O	2.15	0.47
31:Z:71:G:N2	31:Z:72:C:H1'	2.29	0.47
31:Z:68:A:C6	31:Z:110:U:C2	3.03	0.47
8:C:150:LEU:HD13	8:C:167:VAL:HB	1.96	0.47
7:B:16:LYS:HD2	7:B:173:VAL:HG13	1.96	0.47
9:D:106:ILE:CG2	9:D:110:ARG:HD2	2.42	0.47
29:X:1038:U:O2'	29:X:1039:A:H5'	2.14	0.47
17:L:95:LYS:NZ	17:L:95:LYS:CB	2.77	0.47
21:P:10:ASN:O	21:P:10:ASN:CG	2.53	0.47
29:X:1707:A:H2'	29:X:1708:C:O4'	2.14	0.47
24:S:103:ARG:HD3	24:S:108:VAL:HG21	1.97	0.47
7:B:33:ILE:HG21	7:B:36:ARG:NH1	2.30	0.47
29:X:1327:C:N4	29:X:1328:C:N4	2.62	0.47
28:W:47:VAL:HB	28:W:50:LEU:HD12	1.96	0.47
13:H:92:ASP:OD2	18:M:69:ARG:NH2	2.46	0.47
29:X:1023:U:H3'	29:X:1023:U:H6	1.79	0.47
16:K:93:GLY:HA3	29:X:2855:C:O2	2.15	0.47
29:X:2196:U:H2'	29:X:2197:U:C6	2.50	0.47
29:X:2488:G:C2	29:X:2489:C:C2	3.03	0.47
16:K:5:LYS:CE	29:X:2795:A:H4'	2.35	0.47
29:X:797:A:N7	29:X:805:G:C4	2.82	0.47
13:H:114:VAL:O	13:H:115:ALA:C	2.53	0.47
16:K:26:THR:HG23	16:K:75:VAL:HG11	1.97	0.47
29:X:1919:A:C6	29:X:1928:G:C4	3.02	0.47
6:A:66:ASP:O	6:A:67:PHE:HD2	1.95	0.47
31:Z:32:C:H2'	31:Z:33:C:H5'	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:34:C:H2'	31:Z:35:C:H6	1.79	0.47
4:4:15:LYS:O	4:4:17:VAL:HG23	2.15	0.47
29:X:2493:U:H2'	29:X:2494:C:C5	2.50	0.47
29:X:657:A:O2'	29:X:658:G:H5'	2.15	0.47
29:X:165:G:C1'	29:X:1378:A:C6	2.95	0.47
29:X:174:A:N3	29:X:175:C:O2	2.48	0.47
29:X:2073:A:H3'	29:X:2074:U:C6	2.49	0.47
20:O:68:LYS:CB	20:O:87:ARG:HH21	2.28	0.47
27:V:42:ARG:NH1	27:V:45:GLN:NE2	2.62	0.47
29:X:2750:G:C8	29:X:2751:C:H5	2.33	0.47
29:X:1366:A:C6	29:X:1367:A:C6	3.02	0.47
29:X:1729:C:H2'	29:X:1730:G:C8	2.50	0.47
7:B:85:ALA:HB3	7:B:86:PRO:CD	2.45	0.47
18:M:106:TYR:CD1	18:M:107:LEU:CG	2.96	0.47
9:D:122:PHE:HE2	9:D:129:ASN:O	1.98	0.47
29:X:2277:A:H2'	29:X:2278:A:O4'	2.15	0.47
12:G:103:TYR:N	12:G:103:TYR:HD1	2.12	0.47
12:G:40:ASN:HB3	12:G:78:ASP:CG	2.35	0.47
29:X:1246:G:C5	29:X:1247:U:C5	3.03	0.47
29:X:2043:A:H1'	29:X:2481:G:C1'	2.45	0.47
29:X:540:G:O2'	29:X:542:A:H2	1.98	0.47
29:X:681:A:N3	29:X:683:A:N6	2.63	0.47
29:X:820:U:C2	29:X:821:A:C8	3.02	0.47
30:Y:6:VAL:HG22	30:Y:7:PRO:CD	2.45	0.47
13:H:27:SER:OG	13:H:49:ASP:HA	2.15	0.47
8:C:173:ALA:HB1	8:C:193:LEU:HD13	1.96	0.47
16:K:26:THR:O	16:K:29:LEU:N	2.42	0.47
10:E:149:ARG:HA	10:E:162:VAL:HB	1.97	0.47
23:R:105:ARG:HH12	23:R:112:LYS:CA	2.27	0.47
29:X:309:G:C2	29:X:350:U:C5	3.03	0.47
29:X:2174:G:H2'	29:X:2175:A:C8	2.50	0.47
6:A:257:LEU:HD13	29:X:1795:C:OP1	2.15	0.47
29:X:1818:G:H2'	29:X:1819:U:C6	2.50	0.47
25:T:24:LYS:HZ2	29:X:2335:U:P	2.37	0.47
31:Z:100:G:C2	31:Z:101:A:H1'	2.50	0.47
29:X:1935:A:N3	29:X:2539:C:O2'	2.44	0.47
29:X:2504:G:C2	29:X:2518:C:N3	2.83	0.47
12:G:62:ILE:HG13	12:G:80:VAL:CG2	2.45	0.47
29:X:1301:U:C4'	29:X:1302:C:OP2	2.62	0.47
7:B:107:THR:O	7:B:190:GLY:HA3	2.15	0.47
29:X:1138:A:C2'	29:X:1139:A:H5''	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:113:PRO:HB2	13:H:134:LEU:HD12	1.97	0.47
29:X:33:C:O5'	29:X:33:C:H6	1.97	0.47
7:B:60:ASN:O	7:B:64:GLN:HG3	2.15	0.47
29:X:654:A:C2	29:X:655:A:H5'	2.50	0.47
29:X:979:A:O2'	29:X:980:G:H5'	2.15	0.47
29:X:1953:A:N3	29:X:1955:G:N7	2.63	0.47
29:X:574:C:H4'	29:X:1266:G:C6	2.50	0.47
29:X:133:C:H2'	29:X:134:G:C5'	2.43	0.47
13:H:125:LYS:O	13:H:128:SER:HB2	2.15	0.47
29:X:1292:A:H2'	29:X:1293:A:O4'	2.15	0.47
7:B:154:LYS:CE	29:X:2598:C:H1'	2.45	0.47
7:B:119:ARG:HD2	7:B:158:GLY:N	2.30	0.47
8:C:43:ALA:HB1	8:C:86:PRO:HB2	1.97	0.47
12:G:51:LEU:O	12:G:55:ALA:HB2	2.15	0.47
12:G:63:ARG:NE	12:G:63:ARG:O	2.40	0.47
19:N:8:ILE:O	19:N:12:ARG:HG3	2.15	0.47
19:N:17:VAL:O	19:N:20:ARG:N	2.42	0.47
21:P:39:ARG:CD	21:P:97:VAL:HB	2.45	0.47
29:X:1018:C:C3'	29:X:1019:U:C5'	2.90	0.47
29:X:1175:A:C2	29:X:1176:U:C2	3.03	0.47
29:X:2422:C:O2'	29:X:2423:G:H5'	2.14	0.47
29:X:468:A:H61	29:X:481:A:H5''	1.80	0.47
29:X:992:A:H5''	29:X:993:C:OP2	2.15	0.47
29:X:1592:U:O2'	29:X:1593:C:H5'	2.14	0.47
15:J:99:LYS:HG3	15:J:100:PRO:HD2	1.96	0.47
23:R:108:VAL:CG1	23:R:109:ALA:H	2.28	0.47
23:R:110:SER:OG	23:R:111:GLY:N	2.46	0.47
29:X:1927:U:H1'	29:X:1938:U:O4'	2.14	0.47
29:X:1919:A:C5	29:X:1928:G:C5	3.03	0.47
29:X:1930:C:O2'	29:X:1931:G:H5'	2.15	0.47
29:X:1820:G:H4'	29:X:1821:A:OP1	2.14	0.47
29:X:743:A:O2'	29:X:744:C:H5'	2.15	0.47
17:L:15:ARG:NH1	17:L:15:ARG:HG2	2.29	0.47
29:X:929:A:O2'	31:Z:101:A:H4'	2.15	0.47
29:X:490:A:O2'	29:X:492:G:H5''	2.16	0.47
10:E:140:LEU:O	10:E:141:VAL:C	2.52	0.47
9:D:130:LEU:HD22	9:D:132:ILE:CD1	2.45	0.47
14:I:119:THR:HG22	14:I:121:HIS:NE2	2.30	0.47
4:4:3:VAL:HG21	29:X:2518:C:H4'	1.97	0.47
10:E:52:VAL:HG11	10:E:68:THR:CG2	2.45	0.47
29:X:2652:G:C2'	29:X:2653:A:H5'	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:262:LYS:HE2	29:X:2205:C:C2	2.49	0.47
29:X:162:C:O2'	29:X:163:A:H5'	2.14	0.47
29:X:165:G:C2'	29:X:166:G:H5'	2.45	0.47
6:A:96:HIS:HE2	29:X:1517:C:H1'	1.80	0.47
6:A:149:PRO:HA	6:A:189:CYS:SG	2.54	0.47
11:F:1:MET:CB	11:F:2:LYS:HD3	2.44	0.47
18:M:22:ARG:HH11	18:M:24:LEU:HD23	1.80	0.47
29:X:33:C:O2	29:X:466:A:C2	2.68	0.47
29:X:388:G:O2'	29:X:389:G:H5'	2.14	0.47
29:X:1327:C:C4	29:X:1328:C:N4	2.83	0.47
29:X:9:U:H2'	29:X:10:A:H8	1.78	0.47
29:X:668:A:O2'	29:X:669:G:O4'	2.33	0.47
29:X:2821:G:O6	29:X:2846:G:C6	2.68	0.46
29:X:2819:G:N1	29:X:2849:C:C4	2.83	0.46
29:X:1053:G:H4'	29:X:1054:C:OP1	2.14	0.46
7:B:130:GLY:O	7:B:131:SER:CB	2.64	0.46
8:C:41:GLY:HA3	8:C:89:ARG:O	2.15	0.46
12:G:132:PHE:CE1	12:G:142:ARG:HA	2.50	0.46
19:N:43:ALA:HB3	20:O:74:TYR:HB3	1.97	0.46
21:P:36:ARG:NH2	29:X:1279:G:OP2	2.34	0.46
29:X:2015:G:HO2'	29:X:2016:A:P	2.39	0.46
29:X:538:A:N3	29:X:2025:A:C6	2.83	0.46
29:X:580:A:C8	29:X:584:A:N6	2.83	0.46
29:X:758:G:C2	29:X:766:A:C6	3.03	0.46
29:X:831:G:H4'	29:X:851:C:O3'	2.15	0.46
21:P:36:ARG:CZ	30:Y:20:ARG:CZ	2.93	0.46
13:H:47:VAL:H	13:H:77:THR:CG2	2.28	0.46
8:C:101:GLN:C	8:C:103:GLY:N	2.68	0.46
29:X:1709:U:HO2'	29:X:1710:U:H6	1.61	0.46
10:E:124:ALA:O	10:E:132:ASP:HB3	2.15	0.46
21:P:57:LEU:CD1	21:P:69:ALA:HA	2.31	0.46
14:I:82:ASP:H	14:I:114:ILE:HG21	1.80	0.46
29:X:2320:G:H2'	29:X:2321:C:H6	1.75	0.46
29:X:2326:C:H2'	29:X:2327:U:C6	2.50	0.46
12:G:33:ILE:O	12:G:69:ASP:CG	2.54	0.46
29:X:186:C:C2	29:X:187:U:C6	3.03	0.46
29:X:2445:C:C6	29:X:2464:G:N2	2.83	0.46
24:S:133:GLU:O	24:S:134:LEU:HB2	2.15	0.46
6:A:131:LEU:HD21	6:A:193:ILE:HG12	1.97	0.46
30:Y:32:GLU:HG3	30:Y:37:HIS:O	2.15	0.46
14:I:77:LEU:O	14:I:79:GLN:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2415:G:N3	29:X:2577:A:C2	2.81	0.46
27:V:48:ARG:HG3	29:X:75:C:H5''	1.97	0.46
27:V:52:GLN:NE2	29:X:76:C:OP1	2.49	0.46
14:I:14:LYS:O	14:I:14:LYS:HG3	2.15	0.46
29:X:1067:G:H21	29:X:1114:A:H62	1.63	0.46
29:X:136:A:C2	29:X:137:A:H1'	2.49	0.46
29:X:1581:C:O2'	29:X:1582:A:C8	2.68	0.46
8:C:190:ALA:O	8:C:192:ALA:N	2.48	0.46
6:A:270:ILE:HG13	6:A:271:VAL:N	2.30	0.46
28:W:12:ARG:HH11	28:W:12:ARG:CG	2.29	0.46
29:X:1760:G:C2	29:X:1761:G:C8	3.03	0.46
27:V:62:ARG:NH1	27:V:62:ARG:HG2	2.30	0.46
12:G:123:PRO:HA	12:G:126:VAL:CG2	2.44	0.46
20:O:47:PHE:O	20:O:51:ALA:CB	2.63	0.46
29:X:1007:A:C6	29:X:1171:A:C2	3.03	0.46
29:X:1017:C:N3	29:X:1018:C:C5	2.83	0.46
29:X:2048:C:O2'	29:X:2049:C:H5'	2.16	0.46
29:X:541:C:O2'	29:X:542:A:P	2.73	0.46
29:X:543:G:H2'	29:X:544:U:C6	2.50	0.46
8:C:28:HIS:O	8:C:30:VAL:N	2.48	0.46
15:J:11:ARG:HG3	15:J:11:ARG:HH11	1.81	0.46
23:R:102:LYS:HE2	29:X:100:G:C6	2.50	0.46
23:R:95:ARG:HG3	23:R:95:ARG:HH11	1.80	0.46
29:X:559:C:C2	29:X:560:G:H1'	2.50	0.46
29:X:1691:G:H4'	29:X:1692:C:OP1	2.15	0.46
21:P:65:SER:O	21:P:69:ALA:N	2.39	0.46
17:L:32:TYR:O	17:L:32:TYR:CG	2.68	0.46
17:L:38:ILE:CG1	17:L:39:TYR:N	2.77	0.46
29:X:2447:G:H22	29:X:2460:G:C2'	2.15	0.46
10:E:7:GLN:HB3	10:E:51:LEU:HD13	1.98	0.46
14:I:53:ARG:O	14:I:58:ALA:HB2	2.15	0.46
29:X:59:G:C5	29:X:62:U:C4	3.03	0.46
8:C:44:SER:HB2	29:X:37:C:H1'	1.97	0.46
20:O:85:GLY:N	29:X:1238:A:H5'	2.28	0.46
13:H:85:ASP:CG	13:H:86:GLY:N	2.69	0.46
20:O:36:LYS:HD2	20:O:55:THR:N	2.30	0.46
29:X:1450:G:C2	29:X:1573:G:N3	2.83	0.46
20:O:61:VAL:O	20:O:62:GLU:HB2	2.16	0.46
29:X:1319:C:O2'	29:X:1320:A:H5'	2.14	0.46
13:H:37:GLY:C	13:H:39:GLY:H	2.16	0.46
29:X:1569:A:N1	29:X:1571:G:H1'	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:108:SER:HB3	7:B:163:GLU:H	1.81	0.46
29:X:20:C:H2'	29:X:21:A:H8	1.80	0.46
29:X:1121:G:H2'	29:X:1122:A:C8	2.50	0.46
9:D:69:LYS:HG2	9:D:84:PRO:CA	2.45	0.46
12:G:107:GLN:HA	12:G:110:LEU:CG	2.42	0.46
12:G:140:GLN:O	12:G:141:GLY:C	2.51	0.46
29:X:853:C:O2'	29:X:854:G:H5'	2.16	0.46
29:X:959:C:O2'	29:X:960:U:H5'	2.16	0.46
29:X:998:C:C4'	29:X:1012:A:H4'	2.43	0.46
8:C:158:ARG:O	8:C:159:ARG:C	2.53	0.46
16:K:48:VAL:CG1	16:K:49:GLU:H	2.29	0.46
15:J:36:ILE:CG2	15:J:37:ALA:N	2.78	0.46
15:J:39:GLU:HB3	15:J:128:ILE:HG22	1.97	0.46
15:J:24:GLY:HA3	29:X:919:U:O3'	2.15	0.46
29:X:968:C:N4	29:X:970:A:C5	2.83	0.46
23:R:90:LYS:HG3	23:R:90:LYS:O	2.14	0.46
29:X:1948:C:C4	29:X:1949:A:C5	3.03	0.46
6:A:36:ALA:HB2	6:A:63:ARG:NH1	2.31	0.46
29:X:749:C:O5'	29:X:749:C:H6	1.97	0.46
9:D:8:TYR:HB2	9:D:173:MET:CE	2.44	0.46
17:L:37:HIS:CG	17:L:37:HIS:O	2.69	0.46
17:L:37:HIS:CB	31:Z:30:C:OP1	2.61	0.46
29:X:2391:A:H2'	29:X:2392:G:O4'	2.14	0.46
15:J:6:LYS:HE3	15:J:7:ARG:CG	2.46	0.46
29:X:1979:C:H2'	29:X:1979:C:O2	2.15	0.46
17:L:8:ARG:HG3	17:L:9:ARG:N	2.16	0.46
29:X:2642:G:C2'	29:X:2643:G:C5'	2.78	0.46
7:B:67:PHE:CE1	7:B:78:LEU:HD21	2.42	0.46
29:X:1400:A:H5'	29:X:1484:G:H4'	1.97	0.46
15:J:43:ILE:N	15:J:95:VAL:HG13	2.31	0.46
21:P:80:LEU:HD21	21:P:87:GLU:CB	2.38	0.46
29:X:1432:G:H21	29:X:1596:A:H62	1.64	0.46
29:X:1573:G:O6	29:X:1574:A:N6	2.49	0.46
29:X:1316:G:C2	29:X:1317:G:C8	3.04	0.46
14:I:7:LYS:O	14:I:7:LYS:HG2	2.16	0.46
29:X:574:C:C5'	29:X:1266:G:O6	2.64	0.46
29:X:1379:A:H2'	29:X:1380:C:C6	2.50	0.46
29:X:2298:U:O2'	29:X:2299:A:C4	2.68	0.46
29:X:1579:G:C2'	29:X:1580:C:H5'	2.45	0.46
29:X:2850:U:N3	29:X:2851:G:N7	2.62	0.46
9:D:128:TYR:O	9:D:156:ILE:HB	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:G:110:LEU:CD2	12:G:110:LEU:N	2.75	0.46
12:G:154:GLU:N	12:G:157:PRO:HG2	2.31	0.46
19:N:12:ARG:O	19:N:15:LYS:N	2.49	0.46
19:N:86:ALA:O	19:N:87:ASN:C	2.54	0.46
29:X:1153:A:N3	29:X:1155:G:N7	2.62	0.46
29:X:30:G:H4'	29:X:1228:G:H5'	1.97	0.46
10:E:150:LYS:O	10:E:151:VAL:C	2.53	0.46
29:X:2782:G:O6	29:X:2867:G:O6	2.34	0.46
23:R:22:VAL:HG21	23:R:80:LYS:NZ	2.29	0.46
23:R:93:ARG:HB2	29:X:310:A:OP1	2.14	0.46
29:X:333:A:O4'	29:X:351:A:H1'	2.15	0.46
29:X:558:G:H5''	29:X:558:G:C2	2.49	0.46
29:X:2331:A:N7	29:X:2345:A:C6	2.83	0.46
29:X:2335:U:C2	29:X:2341:G:N1	2.83	0.46
14:I:103:ASN:ND2	14:I:104:ARG:HG3	2.31	0.46
9:D:4:LEU:HD11	9:D:173:MET:CE	2.38	0.46
17:L:97:HIS:CD2	31:Z:50:U:O3'	2.68	0.46
29:X:2324:G:C2'	29:X:2325:A:OP2	2.63	0.46
29:X:1551:U:H5'	29:X:1552:C:C6	2.51	0.46
29:X:1980:A:N1	29:X:1981:A:C6	2.83	0.46
29:X:2502:G:O6	29:X:2520:A:C2	2.68	0.46
29:X:2648:G:N2	29:X:2649:A:H1'	2.29	0.46
29:X:2708:U:C3'	29:X:2709:C:H6	2.29	0.46
29:X:2204:A:H4'	29:X:2205:C:H6	1.79	0.46
31:Z:71:G:H2'	31:Z:71:G:N3	2.30	0.46
6:A:249:PRO:HD3	29:X:2218:G:H5'	1.96	0.46
29:X:2611:A:C2	29:X:2767:C:C2	3.04	0.46
29:X:1658:A:C8	29:X:1659:G:C8	3.04	0.46
29:X:2656:G:N2	29:X:2711:G:N3	2.64	0.46
29:X:857:U:H3'	29:X:858:G:H8	1.80	0.46
23:R:32:GLN:HE21	23:R:50:GLY:CA	2.27	0.46
10:E:84:THR:O	10:E:84:THR:HG23	2.16	0.46
29:X:810:U:H2'	29:X:811:G:O4'	2.16	0.46
8:C:53:LYS:HA	8:C:53:LYS:HD3	1.69	0.46
29:X:1754:G:OP1	29:X:1754:G:H4'	2.15	0.46
9:D:135:GLN:HA	9:D:138:PHE:HE1	1.78	0.46
9:D:151:GLY:O	9:D:152:MET:HB3	2.15	0.46
12:G:111:LYS:O	12:G:113:GLU:OE2	2.34	0.46
16:K:5:LYS:O	16:K:6:ALA:O	2.34	0.46
29:X:1228:G:O2'	29:X:1229:C:H5'	2.15	0.46
29:X:2426:G:O2'	29:X:2427:A:OP2	2.27	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:30:G:O2'	29:X:31:C:H5'	2.15	0.46
29:X:575:U:H2'	29:X:576:A:H8	1.81	0.46
14:I:18:ARG:O	14:I:19:VAL:C	2.54	0.46
15:J:79:PRO:O	15:J:80:ALA:CB	2.64	0.46
23:R:16:PHE:HZ	23:R:46:VAL:HG22	1.80	0.46
23:R:85:ASP:C	23:R:87:GLU:H	2.18	0.46
23:R:95:ARG:HG3	23:R:95:ARG:NH1	2.31	0.46
29:X:1821:A:H2'	29:X:1822:C:O5'	2.16	0.46
25:T:35:ASN:O	25:T:60:PHE:HA	2.15	0.46
9:D:134:GLU:OE2	9:D:136:LEU:HB2	2.16	0.46
22:Q:43:GLN:CA	22:Q:48:VAL:O	2.61	0.46
7:B:98:GLU:CG	7:B:174:GLU:HA	2.40	0.46
29:X:633:G:C4	29:X:634:G:N7	2.84	0.46
18:M:67:THR:HG23	18:M:79:ARG:O	2.16	0.46
29:X:452:G:H2'	29:X:453:U:O4'	2.16	0.46
29:X:2859:U:O2	30:Y:52:TYR:CE2	2.68	0.46
29:X:1734:C:C6	29:X:1735:G:H1'	2.50	0.46
29:X:1969:G:H2'	29:X:1970:G:C8	2.42	0.46
29:X:200:A:C2	29:X:421:G:O4'	2.69	0.46
29:X:422:C:H2'	29:X:423:G:C8	2.50	0.46
29:X:441:A:N7	29:X:442:A:C5	2.82	0.46
7:B:15:TRP:CD1	7:B:20:ALA:HB2	2.51	0.46
29:X:192:G:O2'	29:X:193:A:C5'	2.64	0.46
12:G:46:ALA:CB	12:G:54:LEU:HD21	2.45	0.46
10:E:24:PHE:CD1	10:E:24:PHE:N	2.83	0.46
11:F:49:GLY:O	11:F:50:ASP:HB2	2.15	0.46
29:X:2060:A:H1'	29:X:2414:A:O4'	2.16	0.46
29:X:1101:U:O5'	29:X:1101:U:H6	1.97	0.46
29:X:1858:C:H2'	29:X:1859:A:O4'	2.15	0.46
29:X:2194:A:H2'	29:X:2195:C:C5'	2.44	0.46
29:X:2279:G:O2'	29:X:2280:A:H5'	2.15	0.46
7:B:144:ARG:O	7:B:148:GLY:HA2	2.15	0.46
14:I:40:ARG:O	14:I:41:SER:CB	2.64	0.46
19:N:12:ARG:O	19:N:14:HIS:N	2.49	0.46
19:N:14:HIS:CD2	19:N:32:TYR:CE1	3.04	0.46
19:N:91:ASN:ND2	20:O:11:GLN:NE2	2.64	0.46
19:N:91:ASN:HB2	19:N:92:ARG:H	1.49	0.46
29:X:1013:G:N2	29:X:1165:G:H1'	2.31	0.46
29:X:2023:C:C2	29:X:2024:U:C6	3.04	0.46
29:X:759:C:C1'	29:X:761:G:H21	2.29	0.46
29:X:789:G:C6	29:X:806:A:N7	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:987:G:H4'	29:X:1167:A:N7	2.31	0.46
8:C:42:THR:HB	29:X:454:G:H21	1.79	0.46
21:P:27:VAL:CB	21:P:125:THR:HG22	2.45	0.46
26:U:27:ASP:HA	26:U:32:ARG:HD3	1.97	0.46
16:K:76:VAL:O	16:K:80:MET:HB2	2.16	0.46
6:A:43:ARG:HH11	6:A:43:ARG:CA	2.27	0.46
29:X:2311:U:C3'	29:X:2311:U:O2	2.62	0.46
29:X:1044:U:C4	29:X:2730:A:C2	3.03	0.46
27:V:15:ALA:HA	27:V:18:ILE:HD12	1.97	0.46
22:Q:88:ILE:O	22:Q:90:ALA:N	2.49	0.46
16:K:103:ARG:HD2	29:X:1300:A:OP2	2.15	0.46
7:B:181:LEU:HD13	18:M:16:ILE:HD11	1.97	0.46
29:X:2745:A:H3'	29:X:2745:A:N3	2.30	0.46
29:X:67:G:H2'	29:X:68:C:O4'	2.15	0.46
24:S:32:PHE:O	24:S:33:ALA:HB2	2.15	0.46
6:A:217:ARG:O	6:A:218:LYS:C	2.52	0.46
6:A:217:ARG:HG2	6:A:218:LYS:H	1.80	0.46
6:A:188:GLU:OE2	29:X:2201:G:H5''	2.15	0.46
18:M:22:ARG:CD	18:M:83:PHE:O	2.63	0.46
29:X:2811:G:C5	29:X:2858:A:N6	2.83	0.46
29:X:1561:A:C8	29:X:1562:G:C8	3.04	0.46
29:X:2862:G:N2	29:X:2863:U:O2	2.49	0.46
29:X:714:G:C6	29:X:745:C:N4	2.83	0.46
21:P:13:GLN:HA	21:P:16:GLN:OE1	2.15	0.46
6:A:214:TRP:C	6:A:215:LEU:HD12	2.36	0.46
9:D:42:SER:O	9:D:78:LYS:NZ	2.47	0.46
4:4:9:LYS:HD2	4:4:9:LYS:N	2.31	0.46
7:B:5:LEU:N	7:B:5:LEU:CD1	2.78	0.46
25:T:85:GLN:HA	25:T:85:GLN:OE1	2.16	0.46
29:X:1742:G:C4	29:X:1743:C:C5	3.04	0.46
7:B:116:VAL:CG1	7:B:136:ARG:NH2	2.71	0.46
14:I:32:ARG:NH2	20:O:81:ARG:NE	2.60	0.46
16:K:3:HIS:CE1	16:K:5:LYS:HD2	2.50	0.46
19:N:99:ALA:HB2	19:N:106:PHE:CE1	2.51	0.46
20:O:75:LYS:NZ	20:O:75:LYS:CB	2.78	0.46
21:P:34:SER:HA	21:P:35:PRO:HD2	1.62	0.46
29:X:1032:A:O2'	29:X:1134:C:H5''	2.16	0.46
29:X:588:G:N2	29:X:1275:A:C4	2.84	0.46
29:X:801:A:C2'	29:X:802:A:OP2	2.63	0.46
29:X:813:A:C4'	29:X:814:G:O5'	2.54	0.46
29:X:953:G:HI1'	29:X:1203:A:C2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:15:ARG:HA	29:X:922:A:N7	2.31	0.46
15:J:78:LYS:CA	29:X:968:C:OP1	2.63	0.46
29:X:322:A:H2'	29:X:323:G:OP1	2.16	0.46
29:X:1691:G:C4'	29:X:1692:C:OP1	2.64	0.46
29:X:1465:G:H2'	29:X:1466:C:H6	1.79	0.46
14:I:117:ALA:O	14:I:118:VAL:CG1	2.64	0.46
16:K:103:ARG:CG	16:K:104:ARG:N	2.79	0.46
29:X:1298:G:O6	29:X:1342:U:C6	2.68	0.46
10:E:51:LEU:HD12	10:E:52:VAL:N	2.31	0.46
10:E:57:ASP:O	10:E:58:ALA:CB	2.63	0.46
29:X:1137:A:H4'	29:X:1138:A:C5'	2.44	0.46
29:X:167:A:P	29:X:182:G:H22	2.39	0.46
29:X:2070:G:C2	29:X:2212:U:C2	3.04	0.46
12:G:150:VAL:O	12:G:151:TYR:CD1	2.69	0.46
29:X:1827:G:C4	29:X:1914:U:C4	3.03	0.46
20:O:35:LEU:HD22	20:O:36:LYS:O	2.16	0.46
29:X:416:U:H4'	29:X:419:G:O2'	2.16	0.46
7:B:125:GLY:O	7:B:126:PRO:O	2.33	0.46
29:X:2195:C:C5	29:X:2196:U:O4	2.68	0.46
9:D:70:ALA:HB3	9:D:83:MET:H	1.80	0.46
12:G:127:ILE:O	12:G:128:GLU:C	2.54	0.46
12:G:42:VAL:HG22	12:G:166:LEU:HB2	1.96	0.46
19:N:10:ARG:O	19:N:12:ARG:N	2.49	0.46
29:X:2031:A:H2'	29:X:2032:G:O5'	2.16	0.46
29:X:2486:C:C2	29:X:2562:G:C2	3.04	0.46
29:X:28:A:C2	29:X:523:A:N9	2.83	0.46
29:X:761:G:C8	29:X:763:A:C8	3.04	0.46
29:X:820:U:OP1	29:X:843:G:N2	2.49	0.46
13:H:75:VAL:HG23	13:H:76:ARG:HG3	1.97	0.46
8:C:108:ILE:O	8:C:109:ALA:C	2.54	0.46
16:K:49:GLU:OE1	16:K:95:THR:CG2	2.62	0.46
15:J:69:ILE:HD13	15:J:104:MET:CB	2.46	0.46
15:J:82:THR:O	15:J:83:ARG:CB	2.63	0.46
10:E:124:ALA:N	10:E:132:ASP:O	2.48	0.46
29:X:330:C:H2'	29:X:331:U:O4'	2.16	0.46
29:X:357:A:C2'	29:X:358:C:H5'	2.45	0.46
6:A:145:LEU:HD12	6:A:146:GLU:N	2.31	0.46
17:L:87:VAL:C	17:L:88:VAL:CG2	2.84	0.46
29:X:2341:G:O2'	29:X:2342:U:H5'	2.16	0.46
14:I:97:ARG:O	14:I:98:LEU:CB	2.64	0.46
31:Z:36:A:C2	31:Z:51:G:C6	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2721:A:O2'	29:X:2722:C:H5'	2.15	0.46
29:X:1551:U:H5'	29:X:1552:C:C5	2.51	0.46
29:X:1298:G:C6	29:X:1342:U:C5	3.04	0.46
29:X:2494:C:N3	29:X:2549:G:C6	2.83	0.46
29:X:2624:G:C5'	29:X:2712:G:O2'	2.63	0.46
29:X:1081:A:C6	29:X:1108:U:H4'	2.51	0.46
26:U:48:LYS:NZ	26:U:48:LYS:CB	2.78	0.46
29:X:879:A:N6	29:X:926:C:C5	2.83	0.46
24:S:51:LEU:CD2	24:S:51:LEU:H	2.22	0.46
29:X:218:A:HO2'	29:X:219:G:P	2.39	0.46
8:C:144:GLY:CA	8:C:166:TRP:NE1	2.78	0.46
29:X:2806:G:C1'	29:X:2858:A:C2	2.99	0.46
29:X:1621:C:H4'	29:X:1626:A:C5	2.51	0.46
20:O:35:LEU:HD23	20:O:52:GLY:HA2	1.95	0.46
29:X:1629:G:H3'	29:X:1633:C:H42	1.81	0.46
13:H:99:ILE:HD12	13:H:103:GLY:HA2	1.98	0.46
29:X:2062:U:C2	29:X:2063:A:C8	3.04	0.46
13:H:119:ARG:NH1	13:H:119:ARG:HG3	2.31	0.46
11:F:132:ARG:HG2	11:F:132:ARG:NH1	2.29	0.46
8:C:2:ALA:HA	8:C:13:ARG:CA	2.46	0.46
7:B:97:ALA:HB3	7:B:100:GLU:HG3	1.98	0.46
18:M:76:GLY:C	18:M:77:VAL:HG23	2.36	0.46
29:X:1652:G:C4	29:X:1653:C:C5	3.03	0.46
29:X:1724:C:OP2	29:X:1724:C:H6	1.99	0.46
29:X:2675:U:H2'	29:X:2676:G:C8	2.50	0.46
29:X:2818:G:C6	29:X:2819:G:N7	2.84	0.46
29:X:2849:C:H2'	29:X:2850:U:H5'	1.98	0.46
7:B:136:ARG:NH2	7:B:157:ALA:HB2	2.31	0.46
19:N:8:ILE:HG22	19:N:11:ARG:HH21	1.80	0.46
29:X:15:G:C6	29:X:16:G:N7	2.84	0.46
29:X:2006:G:N2	29:X:2024:U:C2	2.84	0.46
29:X:2050:G:N1	29:X:2052:G:C5	2.84	0.46
29:X:520:C:O2'	29:X:1249:G:H5''	2.16	0.46
29:X:983:G:H3'	29:X:984:A:H5''	1.97	0.46
8:C:136:TRP:O	8:C:140:ASN:ND2	2.40	0.46
8:C:136:TRP:O	8:C:137:ALA:C	2.54	0.46
29:X:2045:A:H4'	29:X:2046:C:OP1	2.16	0.46
29:X:2429:A:OP1	29:X:2476:A:C8	2.68	0.46
21:P:25:PHE:CD2	21:P:25:PHE:O	2.68	0.46
29:X:1937:G:N3	29:X:2530:C:H5''	2.29	0.46
26:U:27:ASP:H	26:U:32:ARG:HH21	1.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:63:ARG:NH1	6:A:63:ARG:HG2	2.30	0.46
14:I:90:ARG:NH2	14:I:93:LEU:HD11	2.31	0.46
29:X:649:G:N2	29:X:661:C:C2	2.84	0.46
15:J:50:ALA:O	15:J:54:VAL:CG2	2.64	0.46
10:E:58:ALA:H	10:E:62:ARG:CG	2.15	0.46
28:W:15:ASN:O	28:W:18:LYS:N	2.49	0.46
29:X:2631:C:H2'	29:X:2632:U:O4'	2.15	0.46
26:U:15:VAL:HG12	26:U:46:LEU:HD23	1.98	0.46
24:S:63:PRO:HB2	24:S:86:VAL:HG21	1.98	0.46
18:M:93:ILE:HG22	18:M:95:GLU:H	1.81	0.46
29:X:2807:U:C5'	29:X:2807:U:H6	2.29	0.46
29:X:1596:A:C2	29:X:1597:A:H1'	2.51	0.46
29:X:2563:U:H2'	29:X:2564:U:C5'	2.43	0.46
29:X:573:C:O2'	29:X:574:C:H5'	2.16	0.46
8:C:2:ALA:HA	8:C:13:ARG:HA	1.97	0.46
29:X:2746:G:C2	29:X:2747:C:C6	3.03	0.46
29:X:1414:G:H2'	29:X:1415:C:O4'	2.15	0.46
9:D:123:ASP:C	9:D:125:ARG:H	2.18	0.46
6:A:223:GLY:HA3	6:A:231:HIS:CD2	2.51	0.46
8:C:72:ARG:HG3	8:C:77:PHE:CD2	2.51	0.46
12:G:98:LYS:HA	12:G:98:LYS:HD2	1.70	0.46
29:X:1012:A:H62	29:X:1013:G:N2	2.13	0.46
29:X:1281:A:N6	29:X:1282:A:C2	2.84	0.46
29:X:2018:G:H4'	29:X:2019:C:OP2	2.15	0.46
29:X:2050:G:H5''	29:X:2051:U:OP2	2.16	0.46
29:X:2847:G:N3	29:X:2848:A:N6	2.64	0.46
29:X:581:A:C2	29:X:2016:A:C2	3.03	0.46
29:X:958:G:HO2'	29:X:995:A:H2	1.61	0.46
13:H:47:VAL:CG2	13:H:77:THR:H	2.28	0.46
8:C:112:GLN:NE2	8:C:116:LYS:CB	2.79	0.46
15:J:40:PRO:CG	15:J:99:LYS:HZ2	2.28	0.46
29:X:1684:G:O2'	29:X:1685:A:OP2	2.33	0.46
17:L:42:ILE:HG22	17:L:52:ALA:N	2.30	0.46
17:L:43:ILE:HG22	17:L:44:ASP:H	1.81	0.46
29:X:2725:C:C4	29:X:2726:U:C4	3.04	0.46
13:H:23:ARG:HH12	13:H:25:LEU:HB3	1.81	0.46
14:I:80:LEU:HD11	14:I:89:ASP:OD1	2.16	0.46
29:X:649:G:O2'	29:X:650:U:H5'	2.16	0.46
9:D:16:LEU:HD12	9:D:28:VAL:CG1	2.46	0.46
29:X:944:A:C2'	29:X:945:G:H5'	2.46	0.46
29:X:2665:G:N1	29:X:2704:U:O2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1093:U:H3	29:X:1097:A:H2	1.62	0.46
29:X:172:A:C2	29:X:227:G:N2	2.84	0.46
29:X:1801:C:H1'	29:X:2207:G:O2'	2.15	0.46
29:X:314:G:C2	29:X:326:A:C2	3.05	0.46
29:X:913:A:H2'	29:X:914:C:O5'	2.17	0.46
29:X:1194:U:HO2'	29:X:1195:U:P	2.38	0.46
13:H:131:PRO:O	18:M:73:PHE:CE1	2.69	0.46
24:S:131:PRO:HG2	24:S:155:PRO:HG3	1.97	0.46
18:M:95:GLU:O	18:M:96:ARG:C	2.53	0.46
21:P:80:LEU:O	21:P:84:GLU:HA	2.15	0.46
11:F:8:VAL:CG1	11:F:57:ILE:HB	2.47	0.46
29:X:1706:A:C5	29:X:1717:A:C6	3.04	0.46
29:X:2434:G:N2	29:X:2435:C:C2	2.84	0.46
23:R:52:ASN:OD1	23:R:53:VAL:N	2.49	0.46
7:B:8:LYS:HG2	7:B:192:ASN:HA	1.97	0.46
17:L:79:ALA:O	17:L:83:GLY:N	2.43	0.46
29:X:91:A:H2'	29:X:92:U:C6	2.51	0.46
29:X:1122:A:H2'	29:X:1123:G:O5'	2.16	0.45
9:D:91:LEU:HB3	9:D:96:MET:HA	1.97	0.45
8:C:54:THR:CG2	8:C:71:ASP:HB3	2.45	0.45
19:N:27:SER:C	19:N:29:SER:N	2.70	0.45
19:N:7:GLY:O	19:N:9:VAL:HG23	2.17	0.45
19:N:92:ARG:HH11	19:N:92:ARG:CG	2.29	0.45
21:P:35:PRO:HG3	21:P:99:ALA:HB2	1.99	0.45
29:X:701:U:O2'	29:X:702:A:H5'	2.16	0.45
8:C:38:ARG:NH2	8:C:178:TYR:CE2	2.82	0.45
14:I:18:ARG:HB2	14:I:21:ARG:CD	2.46	0.45
16:K:38:LEU:HG	16:K:39:THR:N	2.28	0.45
29:X:2047:C:O2	29:X:2429:A:N6	2.49	0.45
23:R:105:ARG:NH1	23:R:112:LYS:HA	2.31	0.45
29:X:304:A:N7	29:X:356:A:N6	2.63	0.45
21:P:25:PHE:CE2	21:P:27:VAL:HG12	2.52	0.45
29:X:102:C:H2'	29:X:103:U:O4'	2.15	0.45
21:P:45:ILE:HD11	21:P:57:LEU:HD11	1.98	0.45
6:A:258:LYS:NZ	6:A:261:ARG:HE	2.14	0.45
9:D:134:GLU:HG2	9:D:136:LEU:N	2.26	0.45
9:D:167:ARG:O	9:D:170:LEU:HB2	2.17	0.45
4:4:15:LYS:NZ	29:X:2733:A:O2'	2.26	0.45
12:G:64:GLY:HA3	12:G:67:ARG:HD2	1.98	0.45
22:Q:39:LYS:O	22:Q:42:ILE:HG23	2.16	0.45
26:U:20:ARG:HG3	29:X:393:U:OP1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:117:ALA:HB3	11:F:123:ALA:HB2	1.98	0.45
29:X:227:G:H2'	29:X:228:A:H8	1.81	0.45
6:A:53:PHE:CZ	6:A:220:HIS:HA	2.51	0.45
24:S:64:ALA:HA	24:S:86:VAL:N	2.31	0.45
29:X:1484:G:H2'	29:X:1485:U:C6	2.51	0.45
6:A:228:PRO:O	29:X:2057:U:OP1	2.34	0.45
11:F:55:VAL:CG2	11:F:69:THR:HA	2.40	0.45
29:X:495:C:H2'	29:X:496:C:C6	2.51	0.45
21:P:18:VAL:HG12	21:P:19:LYS:N	2.32	0.45
6:A:50:THR:HG21	29:X:1796:A:N3	2.30	0.45
29:X:1318:A:C2	29:X:1319:C:C2	3.03	0.45
29:X:1705:U:C2	29:X:1715:A:C2	3.04	0.45
29:X:507:A:N6	29:X:508:G:C6	2.85	0.45
29:X:2871:U:H2'	29:X:2872:U:H6	1.80	0.45
29:X:610:G:H2'	29:X:611:C:O4'	2.16	0.45
12:G:102:ARG:O	12:G:112:THR:HB	2.16	0.45
29:X:976:C:O5'	29:X:2252:A:H1'	2.16	0.45
9:D:53:ALA:O	9:D:54:ALA:C	2.54	0.45
8:C:74:VAL:O	8:C:74:VAL:HG23	2.16	0.45
8:C:83:ALA:O	8:C:84:PHE:C	2.54	0.45
12:G:132:PHE:CE1	12:G:145:HIS:HB2	2.51	0.45
21:P:38:VAL:O	21:P:42:VAL:HG23	2.15	0.45
29:X:2036:G:C2	29:X:2596:C:C2	3.05	0.45
19:N:24:PHE:CE1	29:X:543:G:H5'	2.51	0.45
8:C:28:HIS:ND1	14:I:16:ARG:O	2.49	0.45
19:N:3:ARG:HE	29:X:461:A:H4'	1.82	0.45
29:X:732:G:C2	29:X:733:G:C4	3.04	0.45
16:K:34:ILE:HG13	16:K:113:ILE:CG2	2.47	0.45
29:X:2438:A:C5	29:X:2439:U:C5	3.04	0.45
10:E:89:LEU:HD13	10:E:95:ARG:CA	2.38	0.45
29:X:1948:C:C6	29:X:1949:A:C8	3.05	0.45
29:X:2312:A:O2'	29:X:2313:G:P	2.73	0.45
9:D:108:LEU:O	9:D:109:PRO:C	2.53	0.45
29:X:648:A:C5'	29:X:649:G:C4'	2.94	0.45
17:L:97:HIS:NE2	31:Z:39:C:O2	2.49	0.45
4:4:35:ARG:HD2	29:X:2722:C:OP1	2.15	0.45
29:X:223:C:H2'	29:X:224:G:C5'	2.42	0.45
22:Q:62:ARG:NH1	22:Q:73:ASN:ND2	2.44	0.45
28:W:34:VAL:HG22	28:W:40:VAL:HG11	1.97	0.45
29:X:393:U:O2'	29:X:394:U:H5'	2.16	0.45
11:F:122:ALA:CA	29:X:1092:U:H4'	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:175:C:C6	29:X:177:U:O4	2.67	0.45
31:Z:15:A:N1	31:Z:71:G:O2'	2.41	0.45
18:M:72:SER:O	18:M:73:PHE:O	2.34	0.45
29:X:219:G:O2'	29:X:220:U:OP2	2.34	0.45
22:Q:61:LYS:HA	22:Q:71:GLN:O	2.16	0.45
29:X:1324:G:OP2	29:X:1324:G:N2	2.28	0.45
29:X:2451:G:H2'	29:X:2454:C:H42	1.82	0.45
29:X:143:A:C2	29:X:144:U:C2	3.04	0.45
29:X:1365:U:O2'	29:X:1586:A:N3	2.40	0.45
29:X:389:G:H2'	29:X:390:U:C5	2.50	0.45
29:X:441:A:H5'	29:X:442:A:OP2	2.16	0.45
29:X:525:A:H8	29:X:526:C:C5	2.33	0.45
29:X:1701:C:OP2	29:X:1701:C:C6	2.70	0.45
29:X:2507:U:C5	29:X:2509:A:C8	3.04	0.45
29:X:1436:G:H2'	29:X:1437:A:H8	1.82	0.45
29:X:1830:C:H41	29:X:1881:U:H3'	1.81	0.45
29:X:1724:C:C6	29:X:1724:C:OP2	2.70	0.45
7:B:134:TRP:H	7:B:134:TRP:HD1	1.65	0.45
19:N:91:ASN:ND2	20:O:11:GLN:HE22	2.15	0.45
29:X:1011:A:C2	29:X:1166:A:N3	2.84	0.45
29:X:1673:C:N4	29:X:1674:C:H41	2.15	0.45
19:N:37:GLN:NE2	29:X:572:G:H21	2.14	0.45
29:X:689:A:H1'	29:X:2422:C:C1'	2.46	0.45
29:X:815:A:H2'	29:X:816:U:H6	1.81	0.45
8:C:162:ARG:HH22	29:X:310:A:H61	1.65	0.45
23:R:40:LEU:HD12	23:R:45:LYS:HB2	1.97	0.45
23:R:23:ILE:HG12	23:R:84:VAL:HG21	1.97	0.45
29:X:318:G:N1	29:X:321:A:OP2	2.49	0.45
13:H:12:ASP:OD1	13:H:14:SER:CB	2.65	0.45
21:P:94:GLU:O	21:P:126:ILE:HD12	2.15	0.45
16:K:87:TYR:O	16:K:88:ALA:C	2.54	0.45
29:X:648:A:H4'	29:X:649:G:O5'	2.16	0.45
12:G:61:ARG:CZ	12:G:65:LYS:CD	2.94	0.45
19:N:64:ARG:O	19:N:67:ALA:N	2.49	0.45
22:Q:35:LYS:C	22:Q:38:ILE:CG2	2.84	0.45
15:J:62:GLY:HA3	15:J:64:LYS:CE	2.46	0.45
18:M:14:ARG:O	18:M:18:GLN:N	2.45	0.45
10:E:54:ARG:HE	10:E:57:ASP:HA	1.80	0.45
29:X:1081:A:N7	29:X:1107:A:H2'	2.31	0.45
29:X:2071:G:O2'	29:X:2072:C:H5'	2.14	0.45
18:M:78:GLU:O	18:M:79:ARG:CG	2.58	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:23:GLN:O	18:M:24:LEU:HD23	2.16	0.45
18:M:91:VAL:HG12	18:M:92:THR:N	2.31	0.45
14:I:76:LYS:HE3	14:I:111:SER:CB	2.46	0.45
29:X:1385:C:H1'	29:X:2192:U:C6	2.51	0.45
29:X:2563:U:O2'	29:X:2564:U:H5''	2.15	0.45
29:X:2507:U:O3'	29:X:2508:G:H8	1.98	0.45
29:X:1476:G:C6	29:X:1477:C:N3	2.84	0.45
29:X:777:A:O2'	29:X:778:G:OP1	2.30	0.45
29:X:2197:U:N3	29:X:2198:U:C4	2.84	0.45
19:N:78:THR:O	19:N:81:ASN:N	2.49	0.45
20:O:66:GLY:N	20:O:88:GLN:O	2.42	0.45
29:X:1174:G:H2'	29:X:1175:A:C8	2.50	0.45
29:X:2426:G:O2'	29:X:2427:A:H5'	2.16	0.45
29:X:2597:G:O6	29:X:2598:C:N4	2.50	0.45
29:X:2763:U:HO2'	29:X:2764:U:H5'	1.81	0.45
29:X:464:G:H2'	29:X:465:C:C6	2.51	0.45
29:X:597:U:H2'	29:X:598:U:H6	1.81	0.45
19:N:3:ARG:HG2	19:N:3:ARG:HH11	1.81	0.45
29:X:623:G:C3'	29:X:624:A:C5'	2.87	0.45
23:R:84:VAL:HA	23:R:90:LYS:CE	2.47	0.45
29:X:307:C:O2'	29:X:308:C:H5'	2.16	0.45
29:X:501:G:C4	29:X:502:A:C8	3.05	0.45
29:X:1918:G:H21	29:X:1947:G:C1'	2.30	0.45
29:X:2569:A:O2'	29:X:2570:C:C5'	2.64	0.45
21:P:66:GLU:CB	21:P:67:PRO:CD	2.88	0.45
29:X:1815:G:H2'	29:X:1816:G:O4'	2.17	0.45
25:T:42:GLY:HA3	29:X:2310:G:C4'	2.46	0.45
29:X:931:G:C6	29:X:932:G:C5	3.04	0.45
25:T:29:GLU:OE2	29:X:935:C:C4'	2.65	0.45
14:I:86:THR:O	14:I:86:THR:HG22	2.15	0.45
29:X:649:G:H2'	29:X:650:U:O5'	2.15	0.45
12:G:70:PHE:N	12:G:70:PHE:CD2	2.84	0.45
22:Q:43:GLN:HG2	22:Q:48:VAL:O	2.16	0.45
24:S:39:PHE:CE1	24:S:81:VAL:HG11	2.52	0.45
15:J:49:GLU:O	15:J:50:ALA:C	2.54	0.45
10:E:54:ARG:HH11	10:E:62:ARG:CZ	2.30	0.45
29:X:1982:C:H5''	29:X:2703:C:O2'	2.17	0.45
29:X:2496:C:HO2'	29:X:2497:A:P	2.39	0.45
29:X:2665:G:N2	29:X:2704:U:H1'	2.31	0.45
26:U:19:ILE:CD1	29:X:394:U:OP1	2.60	0.45
29:X:163:A:H2'	29:X:164:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:176:A:C2'	29:X:177:U:H5	2.29	0.45
29:X:2070:G:H2'	29:X:2071:G:C8	2.51	0.45
29:X:38:G:O2'	29:X:39:C:P	2.73	0.45
29:X:51:A:H2'	29:X:52:A:C8	2.52	0.45
29:X:219:G:H2'	29:X:231:G:O6	2.17	0.45
29:X:1773:C:H2'	29:X:1774:A:H5'	1.99	0.45
7:B:105:THR:CG2	7:B:199:ARG:HH21	2.29	0.45
29:X:1352:G:O4'	29:X:1406:A:C2	2.69	0.45
11:F:53:ILE:CG1	11:F:72:PRO:HB3	2.43	0.45
29:X:1704:G:O2'	29:X:1705:U:H5'	2.16	0.45
29:X:2586:G:H2'	29:X:2587:G:O4'	2.16	0.45
23:R:34:GLY:HA3	23:R:48:VAL:CG1	2.47	0.45
29:X:1459:U:H4'	29:X:1460:G:OP1	2.17	0.45
29:X:1460:G:C8	29:X:1460:G:OP2	2.69	0.45
30:Y:45:ILE:HD13	30:Y:57:VAL:HG23	1.99	0.45
29:X:1363:C:O2'	29:X:1364:C:H5'	2.16	0.45
19:N:44:THR:O	19:N:48:ARG:HG3	2.15	0.45
29:X:2673:G:H2'	29:X:2674:C:H6	1.81	0.45
9:D:37:ASN:OD1	29:X:2292:C:O4'	2.34	0.45
9:D:92:ARG:NH1	31:Z:46:G:H4'	2.22	0.45
12:G:106:TYR:O	12:G:108:GLY:N	2.45	0.45
19:N:40:LEU:O	19:N:42:ALA:N	2.49	0.45
19:N:66:ASN:HB3	19:N:76:TYR:CA	2.46	0.45
29:X:2020:G:N1	29:X:2021:G:C6	2.84	0.45
29:X:2597:G:N1	29:X:2598:C:N3	2.65	0.45
8:C:101:GLN:O	8:C:104:LEU:HD23	2.17	0.45
15:J:136:GLU:OE2	24:S:44:ARG:HA	2.15	0.45
23:R:105:ARG:CZ	23:R:112:LYS:HA	2.47	0.45
23:R:25:LEU:CD1	23:R:80:LYS:HA	2.46	0.45
23:R:90:LYS:CD	23:R:108:VAL:HG21	2.46	0.45
23:R:93:ARG:HH22	23:R:108:VAL:HG12	1.81	0.45
29:X:2580:C:C2	29:X:2582:G:N7	2.85	0.45
25:T:17:ASN:OD1	29:X:2240:C:OP2	2.33	0.45
9:D:108:LEU:HD13	9:D:176:PRO:CG	2.47	0.45
29:X:1851:A:N6	29:X:1866:G:H21	2.09	0.45
15:J:64:LYS:HD2	15:J:64:LYS:H	1.82	0.45
29:X:171:G:H2'	29:X:172:A:O4'	2.16	0.45
6:A:100:GLY:HA3	29:X:1516:A:C2	2.52	0.45
4:4:27:CYS:SG	4:4:29:ASN:HB3	2.56	0.45
6:A:126:LYS:O	6:A:193:ILE:HB	2.17	0.45
18:M:56:ALA:O	18:M:66:PHE:HA	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:405:C:C4	29:X:406:G:N7	2.85	0.45
10:E:31:GLY:O	10:E:79:VAL:HG12	2.17	0.45
29:X:2065:A:H3'	29:X:2066:G:C8	2.50	0.45
13:H:37:GLY:O	13:H:39:GLY:N	2.43	0.45
29:X:2861:A:O2'	29:X:2862:G:H5'	2.16	0.45
29:X:2061:C:O2'	29:X:2062:U:H5'	2.16	0.45
29:X:1422:C:C2	29:X:1423:A:C8	3.04	0.45
29:X:2682:C:N4	29:X:2683:C:H41	2.15	0.45
29:X:1364:C:C2	29:X:1394:G:C2	3.04	0.45
29:X:1048:U:H2'	29:X:1049:C:O4'	2.17	0.45
8:C:86:PRO:O	8:C:87:LYS:HD2	2.17	0.45
12:G:126:VAL:O	12:G:130:ALA:HB2	2.17	0.45
20:O:11:GLN:HE22	20:O:38:LEU:CB	2.22	0.45
29:X:1042:G:H2'	29:X:1043:A:C8	2.48	0.45
29:X:1228:G:C6	29:X:1229:C:C4	3.05	0.45
29:X:2484:G:O2'	29:X:2485:U:C5'	2.47	0.45
29:X:2798:A:C4	29:X:2799:C:C6	3.04	0.45
29:X:988:G:N3	29:X:1012:A:C2	2.84	0.45
7:B:7:THR:HG1	7:B:51:TYR:HH	1.65	0.45
14:I:18:ARG:NH2	29:X:609:U:H1'	2.30	0.45
29:X:1986:G:H2'	29:X:1987:G:O5'	2.16	0.45
29:X:2476:A:H1'	29:X:2477:C:H5	1.82	0.45
29:X:882:C:H2'	29:X:883:A:H8	1.82	0.45
29:X:2779:C:H2'	29:X:2780:A:C1'	2.46	0.45
29:X:1687:C:O2'	29:X:1977:C:C4'	2.57	0.45
29:X:2358:C:N4	29:X:2359:U:O4	2.50	0.45
29:X:930:A:C3'	29:X:930:A:C8	3.00	0.45
29:X:717:G:C2'	29:X:739:G:H22	2.07	0.45
14:I:89:ASP:O	14:I:90:ARG:HB2	2.17	0.45
17:L:38:ILE:HG12	17:L:103:LEU:HD12	1.98	0.45
29:X:2740:C:O2'	29:X:2741:G:H5'	2.16	0.45
29:X:2371:A:H2	29:X:2403:C:H42	1.65	0.45
29:X:2639:A:H2'	29:X:2640:G:C8	2.51	0.45
29:X:114:C:O2'	29:X:115:G:H5'	2.16	0.45
29:X:1322:G:H1'	29:X:1627:C:O2'	2.15	0.45
29:X:1542:G:N2	29:X:1562:G:H22	2.14	0.45
29:X:826:U:C2	29:X:827:C:C5	3.04	0.45
29:X:2274:C:H2'	29:X:2275:U:H6	1.81	0.45
8:C:147:LYS:NZ	29:X:1218:C:OP1	2.50	0.45
29:X:1969:G:C2	29:X:1970:G:C8	3.05	0.45
20:O:61:VAL:HB	20:O:92:ALA:CB	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:244:C:H2'	29:X:245:C:O4'	2.17	0.45
29:X:1187:A:H2'	29:X:1188:A:C8	2.52	0.45
29:X:2441:U:C2	29:X:2442:C:C5	3.05	0.45
29:X:1845:A:C8	29:X:1872:A:N6	2.84	0.45
31:Z:84:G:C5	31:Z:85:G:N7	2.85	0.45
29:X:2695:C:C2	29:X:2696:A:C8	3.04	0.45
18:M:103:LYS:CG	29:X:2698:G:H4'	2.43	0.45
29:X:1861:G:O2'	29:X:1862:C:H5'	2.16	0.45
29:X:1005:U:O2	29:X:1007:A:N7	2.49	0.45
19:N:93:LYS:HB3	29:X:1007:A:O3'	2.17	0.45
29:X:2595:C:C2	29:X:2596:C:C5	3.05	0.45
29:X:758:G:N2	29:X:766:A:C6	2.85	0.45
29:X:989:G:C5	29:X:990:A:N7	2.85	0.45
13:H:77:THR:C	13:H:79:HIS:N	2.70	0.45
11:F:51:ALA:HB1	11:F:73:PRO:HD2	1.97	0.45
16:K:45:ARG:O	16:K:48:VAL:HG12	2.17	0.45
15:J:10:PHE:CD1	15:J:11:ARG:N	2.84	0.45
24:S:113:VAL:HG22	24:S:171:VAL:HG13	1.99	0.45
29:X:1922:U:C1'	29:X:2570:C:O2'	2.57	0.45
31:Z:79:U:O2'	31:Z:80:A:H5'	2.17	0.45
9:D:8:TYR:CD1	9:D:173:MET:HE2	2.51	0.45
4:4:1:MET:HB2	29:X:2505:G:H1'	1.99	0.45
29:X:2721:A:H2'	29:X:2722:C:C5'	2.47	0.45
29:X:1550:C:H2'	29:X:1553:G:H22	1.76	0.45
17:L:63:ASN:HB3	17:L:67:THR:H	1.81	0.45
18:M:19:ASP:O	18:M:20:HIS:ND1	2.49	0.45
28:W:17:VAL:O	28:W:20:VAL:HB	2.17	0.45
29:X:936:A:O2'	29:X:937:C:H5'	2.16	0.45
29:X:2706:U:HO2'	29:X:2707:G:P	2.39	0.45
29:X:166:G:N2	29:X:183:U:H5	2.12	0.45
29:X:70:A:H4'	29:X:71:A:H3'	1.98	0.45
29:X:1439:G:HO2'	29:X:1440:G:P	2.39	0.45
29:X:1440:G:C6	29:X:1441:A:N6	2.84	0.45
29:X:1780:A:H2'	29:X:1781:C:O4'	2.17	0.45
29:X:1838:G:H2'	29:X:1839:A:O4'	2.16	0.45
10:E:127:GLU:H	10:E:127:GLU:HG2	1.53	0.45
18:M:34:ARG:CZ	18:M:88:VAL:HG11	2.46	0.45
29:X:1373:G:C2'	29:X:1374:G:C5'	2.91	0.45
16:K:100:VAL:CG1	16:K:101:GLY:H	2.29	0.45
29:X:1575:C:H5''	29:X:1576:G:OP2	2.16	0.45
22:Q:14:GLU:CG	22:Q:15:LYS:N	2.79	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Z:5:C:H2'	31:Z:6:C:C6	2.51	0.45
29:X:610:G:O5'	29:X:610:G:H8	2.00	0.45
29:X:478:G:C2	29:X:479:G:C8	3.05	0.45
29:X:1731:C:H2'	29:X:1732:U:C5'	2.47	0.45
29:X:2440:C:H2'	29:X:2441:U:C6	2.52	0.45
29:X:211:U:H2'	29:X:212:U:O4'	2.16	0.45
29:X:614:G:O2'	29:X:615:C:H5'	2.17	0.45
18:M:105:TYR:CE1	18:M:108:ARG:NH2	2.85	0.45
29:X:2817:A:H2'	29:X:2818:G:O4'	2.16	0.45
29:X:1855:G:H4'	29:X:2390:A:H4'	1.98	0.45
7:B:152:LYS:HB2	12:G:106:TYR:CB	2.42	0.45
7:B:155:ARG:NH1	7:B:155:ARG:HG3	2.31	0.45
8:C:73:SER:C	8:C:74:VAL:HG13	2.37	0.45
12:G:88:VAL:CG2	12:G:89:ALA:N	2.71	0.45
29:X:2043:A:O2'	29:X:2481:G:C5'	2.65	0.45
29:X:813:A:H1'	29:X:815:A:H5'	1.96	0.45
29:X:1509:A:C8	29:X:1510:A:C8	3.04	0.45
16:K:45:ARG:HB3	16:K:46:PRO:CD	2.46	0.45
10:E:103:LEU:HB2	10:E:123:PHE:CD2	2.51	0.45
29:X:2784:A:H8	29:X:2784:A:O5'	1.99	0.45
29:X:1919:A:N6	29:X:1946:U:H3	2.15	0.45
26:U:23:LYS:CB	26:U:35:THR:HG23	2.46	0.45
20:O:28:GLU:C	20:O:30:GLY:N	2.69	0.45
29:X:1807:A:O4'	29:X:1809:G:H1'	2.16	0.45
25:T:69:PHE:HD2	29:X:870:C:OP1	2.00	0.45
29:X:717:G:N3	29:X:739:G:C2	2.85	0.45
14:I:90:ARG:HA	14:I:121:HIS:HD1	1.82	0.45
10:E:67:LEU:O	10:E:71:LEU:HG	2.17	0.45
24:S:105:GLN:O	24:S:141:MET:O	2.35	0.45
28:W:22:ALA:O	28:W:24:GLY:N	2.50	0.45
29:X:1068:A:H2'	29:X:1068:A:N3	2.31	0.45
29:X:169:C:C2'	29:X:170:U:H5'	2.45	0.45
29:X:314:G:H1	29:X:325:U:H3	1.65	0.45
29:X:70:A:H1'	29:X:72:A:C5	2.52	0.45
6:A:255:LYS:O	29:X:1788:C:H4'	2.16	0.45
7:B:31:CYS:CB	7:B:49:ILE:CD1	2.95	0.45
29:X:89:A:H4'	29:X:90:G:C1'	2.47	0.45
27:V:47:ARG:O	27:V:50:VAL:N	2.50	0.45
7:B:60:ASN:HB2	7:B:63:MET:H	1.82	0.45
29:X:244:C:H3'	29:X:245:C:H5''	1.99	0.45
11:F:53:ILE:HG12	11:F:72:PRO:CB	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1265:G:O2'	29:X:1266:G:O5'	2.34	0.45
29:X:2398:U:H2'	29:X:2399:C:C6	2.52	0.45
15:J:61:ARG:HG2	15:J:61:ARG:NH1	2.32	0.45
28:W:23:LEU:O	28:W:32:ARG:NH1	2.49	0.45
18:M:102:ALA:O	18:M:103:LYS:HD3	2.16	0.45
29:X:1646:G:C5	29:X:1647:U:C4	3.04	0.45
29:X:2673:G:O2'	29:X:2674:C:H5'	2.16	0.45
8:C:75:PRO:HB3	8:C:83:ALA:HB2	1.97	0.45
16:K:5:LYS:HZ1	29:X:2795:A:H1'	1.82	0.45
19:N:91:ASN:O	19:N:92:ARG:CB	2.64	0.45
20:O:95:ILE:O	20:O:96:LEU:HB2	2.16	0.45
21:P:32:ARG:CZ	21:P:32:ARG:O	2.65	0.45
29:X:1141:U:HO2'	29:X:1142:G:P	2.40	0.45
29:X:2037:A:N1	29:X:2595:C:N4	2.65	0.45
29:X:2800:C:C2'	29:X:2801:A:H5'	2.47	0.45
22:Q:7:LEU:HD23	27:V:30:PHE:CE2	2.51	0.45
15:J:117:GLU:C	15:J:119:PHE:N	2.66	0.45
15:J:11:ARG:HH21	29:X:920:G:N2	2.13	0.45
23:R:105:ARG:HH22	23:R:111:GLY:C	2.20	0.45
23:R:10:HIS:HD2	29:X:347:C:O2'	2.00	0.45
29:X:1692:C:N4	29:X:1976:U:O4'	2.49	0.45
13:H:23:ARG:NH2	13:H:25:LEU:CA	2.80	0.45
12:G:65:LYS:HE3	12:G:66:HIS:NE2	2.31	0.45
26:U:20:ARG:HB3	26:U:43:ARG:HH21	1.81	0.45
13:H:81:ILE:HG23	13:H:81:ILE:O	2.15	0.45
24:S:94:VAL:HG23	24:S:125:PRO:HG3	1.98	0.45
29:X:1325:U:H4'	29:X:1326:U:O5'	2.17	0.45
29:X:1486:A:C6	29:X:1538:A:N1	2.85	0.45
29:X:208:C:H2'	29:X:209:G:H5'	1.98	0.45
29:X:976:C:C4'	29:X:2252:A:H1'	2.47	0.45
29:X:449:C:H2'	29:X:450:C:H6	1.82	0.45
29:X:1122:A:C2'	29:X:1123:G:O5'	2.65	0.45
9:D:138:PHE:HB2	9:D:141:ILE:CG1	2.46	0.45
9:D:57:LEU:O	9:D:60:ILE:HG12	2.17	0.45
8:C:82:VAL:O	8:C:83:ALA:C	2.55	0.45
12:G:130:ALA:O	29:X:1148:G:O2'	2.35	0.45
12:G:153:GLY:C	12:G:157:PRO:HG2	2.37	0.45
19:N:28:ARG:NH1	19:N:38:THR:OG1	2.50	0.45
12:G:50:PRO:HD3	29:X:1152:C:N3	2.32	0.45
29:X:984:A:H1'	29:X:1202:U:C6	2.51	0.45
29:X:1991:C:H6	29:X:1991:C:O5'	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:789:G:N3	29:X:789:G:H2'	2.31	0.45
7:B:51:TYR:CG	7:B:52:ALA:N	2.85	0.45
8:C:108:ILE:O	8:C:111:ARG:N	2.50	0.45
8:C:27:LEU:CD1	8:C:106:MET:SD	3.05	0.45
29:X:731:A:C2'	29:X:732:G:C4'	2.95	0.45
29:X:923:A:C2	29:X:2256:G:N3	2.79	0.45
29:X:353:G:H2'	29:X:354:C:C6	2.52	0.45
21:P:48:LYS:O	21:P:49:SER:C	2.55	0.45
6:A:38:PRO:HA	6:A:61:LEU:HD13	1.99	0.45
29:X:751:G:O2'	29:X:752:G:P	2.75	0.45
9:D:108:LEU:HD23	9:D:111:ILE:HD11	1.99	0.45
9:D:116:GLY:HA2	9:D:176:PRO:HB2	1.99	0.45
9:D:52:LYS:HE3	9:D:148:LYS:HG3	1.98	0.45
14:I:102:LYS:O	14:I:103:ASN:HB3	2.16	0.45
9:D:13:ARG:HG2	9:D:17:MET:CE	2.47	0.45
9:D:9:ASN:O	9:D:14:PRO:CD	2.65	0.45
4:4:1:MET:CE	4:4:35:ARG:NH2	2.80	0.45
26:U:20:ARG:HD3	26:U:43:ARG:NH2	2.31	0.45
26:U:13:LEU:HG	26:U:14:VAL:H	1.82	0.45
26:U:49:LYS:HD3	26:U:61:TRP:NE1	2.32	0.45
29:X:227:G:OP1	29:X:2373:C:H4'	2.17	0.45
29:X:70:A:H5'	29:X:71:A:OP1	2.16	0.45
24:S:23:ALA:O	24:S:24:TYR:HB3	2.16	0.45
6:A:209:ALA:HB2	29:X:1781:C:HO2'	1.82	0.45
6:A:252:LYS:CE	6:A:253:PRO:CD	2.93	0.45
29:X:2859:U:C2'	29:X:2860:C:H5'	2.43	0.45
10:E:6:LYS:HD3	10:E:69:ARG:NH2	2.31	0.45
11:F:41:PHE:C	11:F:43:ALA:H	2.20	0.45
20:O:35:LEU:HD21	20:O:52:GLY:HA2	1.97	0.45
29:X:946:U:H2'	29:X:947:C:C6	2.52	0.45
10:E:15:VAL:O	10:E:16:THR:OG1	2.20	0.45
6:A:239:ARG:HB3	29:X:1954:A:O2'	2.17	0.45
29:X:1953:A:C5'	29:X:1954:A:OP1	2.62	0.45
13:H:100:ASN:OD1	13:H:100:ASN:O	2.34	0.45
29:X:714:G:N1	29:X:745:C:C4	2.85	0.45
29:X:1730:G:O2'	29:X:1731:C:H5'	2.17	0.45
29:X:2433:G:O2'	29:X:2434:G:H5'	2.17	0.45
29:X:1242:A:O2'	29:X:1243:G:H5'	2.17	0.45
14:I:134:GLU:C	14:I:136:ALA:H	2.21	0.45
29:X:2731:G:N3	29:X:2731:G:O4'	2.50	0.45
29:X:1749:G:O4'	29:X:1749:G:N3	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:38:GLU:O	9:D:40:LEU:HG	2.17	0.44
9:D:81:GLN:CG	9:D:82:GLY:H	2.15	0.44
19:N:66:ASN:C	19:N:68:GLY:N	2.70	0.44
8:C:62:LYS:CE	29:X:2042:A:O2'	2.66	0.44
29:X:2419:C:C4	29:X:2420:C:H1'	2.51	0.44
29:X:542:A:H5'	29:X:543:G:C1'	2.46	0.44
29:X:757:U:C2	29:X:767:G:N2	2.85	0.44
29:X:812:G:H2'	29:X:813:A:H8	1.81	0.44
8:C:104:LEU:HA	8:C:107:ALA:HB3	1.99	0.44
8:C:103:GLY:O	8:C:105:ALA:N	2.50	0.44
23:R:28:LYS:HG2	23:R:29:HIS:H	1.82	0.44
29:X:2084:G:O2'	29:X:2085:G:H5'	2.17	0.44
21:P:45:ILE:HG22	21:P:92:VAL:HG11	1.98	0.44
16:K:79:VAL:CA	16:K:83:VAL:CG1	2.76	0.44
17:L:17:VAL:HB	29:X:2313:G:N3	2.32	0.44
25:T:29:GLU:OE2	29:X:935:C:C5'	2.65	0.44
29:X:2336:G:H1'	29:X:2339:A:H62	1.82	0.44
29:X:2394:G:H2'	29:X:2395:C:C6	2.52	0.44
14:I:109:LEU:HD13	29:X:638:A:C6	2.52	0.44
29:X:2324:G:C4'	29:X:2326:C:H5''	2.43	0.44
29:X:1552:C:H1'	29:X:1553:G:N3	2.32	0.44
22:Q:53:ILE:HD12	22:Q:80:VAL:HG12	1.96	0.44
24:S:105:GLN:CB	24:S:139:THR:O	2.64	0.44
29:X:2499:C:C6	29:X:2546:G:H1'	2.52	0.44
29:X:633:G:C6	29:X:634:G:N7	2.85	0.44
26:U:78:ILE:CD1	26:U:79:GLU:N	2.69	0.44
29:X:1502:G:N1	29:X:1503:G:C5	2.85	0.44
29:X:1787:U:O2'	29:X:1788:C:H5'	2.17	0.44
29:X:124:A:H2'	29:X:125:A:C8	2.52	0.44
7:B:31:CYS:HA	7:B:32:PRO:HD3	1.76	0.44
29:X:2787:A:O2'	29:X:2788:C:C5'	2.63	0.44
27:V:42:ARG:HH12	27:V:45:GLN:HE22	1.65	0.44
10:E:30:LYS:HG2	10:E:79:VAL:C	2.37	0.44
29:X:1066:G:H2'	29:X:1067:G:O4'	2.17	0.44
10:E:15:VAL:HG23	10:E:16:THR:N	2.31	0.44
29:X:242:A:N6	29:X:441:A:C8	2.85	0.44
29:X:780:U:H5''	29:X:780:U:H6	1.82	0.44
13:H:52:VAL:O	13:H:53:ALA:HB2	2.17	0.44
14:I:37:GLN:HE21	14:I:37:GLN:HB3	1.51	0.44
29:X:1056:U:O2'	29:X:1058:G:C8	2.70	0.44
9:D:88:LYS:HE2	9:D:90:THR:HG1	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2286:G:H21	29:X:2290:A:H61	1.58	0.44
29:X:2292:C:O2'	29:X:2293:G:H5'	2.17	0.44
9:D:92:ARG:NH1	31:Z:45:C:H2'	2.32	0.44
14:I:34:HIS:O	14:I:35:LYS:HG3	2.16	0.44
20:O:15:SER:OG	20:O:96:LEU:HA	2.17	0.44
29:X:1664:G:O5'	29:X:1665:C:OP1	2.35	0.44
29:X:953:G:C6	29:X:954:U:N3	2.85	0.44
8:C:137:ALA:CB	8:C:142:LEU:HB2	2.47	0.44
8:C:176:ASN:HD21	8:C:178:TYR:HB3	1.81	0.44
29:X:729:A:C2	29:X:730:C:OP2	2.70	0.44
16:K:40:LYS:O	16:K:43:GLU:N	2.50	0.44
15:J:36:ILE:HD12	15:J:133:VAL:CG1	2.47	0.44
28:W:3:ILE:HD11	28:W:44:VAL:HG21	1.98	0.44
29:X:1683:G:HO2'	29:X:1684:G:H5'	1.80	0.44
29:X:1691:G:H5'	29:X:1692:C:OP1	2.17	0.44
29:X:1928:G:C2	29:X:1929:U:C2	3.05	0.44
29:X:1685:A:C5	29:X:1976:U:C4	3.06	0.44
29:X:2529:G:N1	29:X:2530:C:C4	2.85	0.44
29:X:2529:G:C6	29:X:2530:C:N4	2.85	0.44
26:U:27:ASP:CA	26:U:32:ARG:NH2	2.76	0.44
16:K:60:LEU:HG	16:K:64:ARG:HG3	1.99	0.44
29:X:740:A:OP1	29:X:1445:A:O2'	2.33	0.44
17:L:104:ALA:O	17:L:108:ARG:N	2.37	0.44
29:X:2270:U:O2'	29:X:2353:G:N3	2.47	0.44
4:4:1:MET:N	29:X:2505:G:C2'	2.79	0.44
15:J:52:ARG:HD2	15:J:53:ILE:N	2.32	0.44
15:J:64:LYS:HD3	15:J:108:ALA:O	2.17	0.44
7:B:174:GLU:HB3	7:B:183:LEU:CD1	2.45	0.44
13:H:42:LYS:CA	29:X:2653:A:O3'	2.63	0.44
29:X:1601:U:O2'	29:X:1602:G:OP1	2.29	0.44
6:A:150:GLY:O	6:A:151:LYS:HB3	2.18	0.44
29:X:2700:U:H2'	29:X:2701:A:C8	2.47	0.44
29:X:95:G:O2'	29:X:96:C:H5'	2.18	0.44
29:X:1284:G:N2	29:X:1633:C:H1'	2.33	0.44
29:X:1039:A:H61	29:X:1136:G:C2'	2.29	0.44
6:A:133:LEU:CB	6:A:173:VAL:HG21	2.47	0.44
29:X:780:U:H5''	29:X:780:U:C6	2.52	0.44
29:X:1910:A:O5'	29:X:1910:A:H8	2.00	0.44
29:X:1370:U:O2'	29:X:1371:G:H5'	2.17	0.44
9:D:79:LEU:HD11	29:X:2289:A:C2	2.52	0.44
29:X:2290:A:N3	29:X:2290:A:H2'	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:C:47:THR:HB	8:C:48:ARG:HD2	1.98	0.44
20:O:6:GLN:O	20:O:7:THR:CB	2.65	0.44
20:O:79:GLN:O	20:O:80:TYR:O	2.36	0.44
21:P:105:ARG:O	21:P:117:ILE:N	2.46	0.44
29:X:1337:G:C5	29:X:1341:G:O6	2.71	0.44
29:X:1672:A:C2	29:X:1673:C:H1'	2.52	0.44
29:X:2053:G:H2'	29:X:2054:A:C8	2.53	0.44
29:X:539:A:N3	29:X:540:G:O6	2.50	0.44
30:Y:19:ARG:CG	30:Y:20:ARG:N	2.80	0.44
8:C:136:TRP:CD1	8:C:137:ALA:N	2.86	0.44
8:C:28:HIS:CE1	14:I:17:LYS:HA	2.53	0.44
19:N:3:ARG:CG	19:N:3:ARG:HH11	2.31	0.44
5:5:3:THR:HG21	5:5:7:BB9:HN1	1.83	0.44
10:E:103:LEU:HG	10:E:115:ILE:HD12	1.98	0.44
23:R:83:LEU:C	23:R:90:LYS:HE2	2.37	0.44
29:X:1926:U:C2'	29:X:1926:U:O2	2.65	0.44
16:K:87:TYR:HD1	16:K:90:ARG:CD	2.29	0.44
16:K:90:ARG:CD	16:K:94:TYR:HB2	2.46	0.44
6:A:42:GLY:H	6:A:43:ARG:NH1	2.16	0.44
29:X:1790:G:O2'	29:X:1791:C:H5''	2.17	0.44
29:X:2364:C:OP1	29:X:2365:U:OP2	2.35	0.44
9:D:114:PHE:CZ	9:D:176:PRO:HG3	2.51	0.44
22:Q:46:PHE:O	22:Q:47:GLY:C	2.56	0.44
26:U:17:SER:HB2	26:U:44:ALA:CA	2.30	0.44
29:X:562:G:H2'	29:X:563:U:O4'	2.17	0.44
15:J:122:ALA:O	15:J:125:LYS:HD2	2.17	0.44
10:E:76:VAL:C	10:E:78:GLY:N	2.67	0.44
29:X:2661:G:C2'	29:X:2662:C:H5'	2.46	0.44
29:X:1068:A:H3'	29:X:1069:G:H8	1.81	0.44
13:H:116:ARG:HG3	18:M:38:LYS:HE2	1.99	0.44
13:H:83:ARG:NH2	18:M:79:ARG:NH2	2.65	0.44
24:S:19:ILE:HD11	24:S:36:ARG:HA	1.94	0.44
25:T:41:ARG:HH11	25:T:41:ARG:CG	2.26	0.44
29:X:2229:G:O4'	29:X:2229:G:N3	2.50	0.44
29:X:2450:A:N6	29:X:2451:G:C2	2.86	0.44
29:X:1628:C:N3	29:X:1629:G:C8	2.85	0.44
29:X:1112:U:O2'	29:X:1113:C:H5'	2.17	0.44
29:X:1419:G:C2	29:X:1613:G:C2	3.06	0.44
31:Z:4:C:H2'	31:Z:5:C:H5'	1.98	0.44
29:X:1422:C:O2'	29:X:1423:A:H5'	2.17	0.44
6:A:201:HIS:HA	6:A:204:ILE:HD12	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:474:G:N2	29:X:477:A:OP2	2.42	0.44
29:X:1055:A:H8	29:X:1055:A:H2'	1.20	0.44
29:X:2829:A:H2'	29:X:2830:U:C6	2.52	0.44
9:D:37:ASN:HA	9:D:87:ILE:O	2.18	0.44
29:X:1250:A:O2'	29:X:1251:G:O4'	2.35	0.44
29:X:2038:C:H2'	29:X:2483:U:C5'	2.46	0.44
29:X:688:A:C2	29:X:689:A:N7	2.86	0.44
29:X:804:C:HO2'	29:X:805:G:C5'	2.29	0.44
27:V:26:MET:HA	27:V:29:ARG:NH2	2.33	0.44
10:E:149:ARG:HD3	10:E:164:PHE:CE1	2.51	0.44
29:X:2866:A:N6	29:X:2867:G:N1	2.66	0.44
28:W:3:ILE:HD11	28:W:44:VAL:HG22	1.99	0.44
29:X:83:A:N3	29:X:98:U:O2	2.50	0.44
29:X:2570:C:H2'	29:X:2571:G:C8	2.52	0.44
29:X:2359:U:C4	29:X:2360:C:C5	3.05	0.44
29:X:868:U:C4	29:X:869:C:N4	2.85	0.44
29:X:931:G:H2'	29:X:932:G:C5'	2.47	0.44
9:D:46:ASP:C	9:D:48:LYS:H	2.20	0.44
13:H:23:ARG:NE	29:X:2541:U:O2'	2.38	0.44
14:I:108:LEU:O	14:I:109:LEU:HD23	2.18	0.44
9:D:4:LEU:HD21	9:D:173:MET:CE	2.42	0.44
22:Q:75:ARG:NH1	22:Q:75:ARG:HG3	2.31	0.44
4:4:8:LYS:HE3	29:X:2446:C:OP1	2.17	0.44
29:X:2501:U:H3	29:X:2522:G:H1	1.65	0.44
7:B:165:VAL:HG21	29:X:2658:A:H5'	1.99	0.44
29:X:1981:A:O3'	29:X:2704:U:H4'	2.17	0.44
29:X:167:A:H2'	29:X:168:A:C8	2.52	0.44
29:X:665:A:N3	29:X:665:A:H3'	2.33	0.44
24:S:21:ALA:O	24:S:32:PHE:HB2	2.16	0.44
31:Z:112:A:H2'	31:Z:113:G:C8	2.51	0.44
6:A:254:THR:CB	29:X:1835:C:O2'	2.61	0.44
6:A:131:LEU:HG	6:A:136:VAL:HG22	2.00	0.44
7:B:34:VAL:HG23	7:B:48:GLN:OE1	2.17	0.44
18:M:39:VAL:HG12	18:M:45:THR:CG2	2.39	0.44
10:E:11:VAL:HG13	10:E:15:VAL:HG21	1.99	0.44
29:X:1968:G:C4	29:X:1969:G:C8	3.06	0.44
29:X:1448:A:C6	29:X:1576:G:C2	3.05	0.44
29:X:196:A:O2'	29:X:197:G:H5'	2.18	0.44
31:Z:22:U:H2'	31:Z:23:G:H8	1.79	0.44
29:X:2068:C:H2'	29:X:2069:U:O4'	2.16	0.44
23:R:56:LYS:HD3	23:R:69:GLN:HE21	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:B:97:ALA:N	7:B:100:GLU:OE2	2.51	0.44
25:T:68:VAL:O	25:T:80:SER:N	2.37	0.44
25:T:80:SER:C	25:T:81:ILE:HG13	2.38	0.44
9:D:75:SER:HB2	9:D:79:LEU:HD13	1.98	0.44
29:X:2293:G:H2'	29:X:2294:U:C6	2.52	0.44
7:B:116:VAL:HG22	7:B:136:ARG:HG3	1.99	0.44
7:B:137:ARG:O	7:B:138:PRO:C	2.53	0.44
12:G:42:VAL:CG1	12:G:43:VAL:H	2.30	0.44
19:N:79:PHE:CD2	19:N:80:ILE:HD13	2.52	0.44
29:X:2482:A:H4'	29:X:2483:U:OP1	2.17	0.44
21:P:110:ALA:HB2	29:X:761:G:P	2.58	0.44
29:X:829:C:H2'	29:X:830:C:H6	1.80	0.44
29:X:989:G:N2	29:X:997:C:C2	2.85	0.44
10:E:96:ALA:HB2	10:E:105:MET:HE1	1.99	0.44
23:R:93:ARG:HH12	23:R:108:VAL:CA	2.31	0.44
23:R:92:THR:C	23:R:95:ARG:HH22	2.19	0.44
29:X:2536:G:H2'	29:X:2537:C:C6	2.52	0.44
21:P:65:SER:O	21:P:66:GLU:C	2.55	0.44
21:P:66:GLU:O	21:P:69:ALA:N	2.51	0.44
6:A:161:THR:HG21	29:X:1811:A:OP1	2.18	0.44
29:X:931:G:C2'	29:X:932:G:H5'	2.47	0.44
4:4:19:ARG:HG2	29:X:2736:U:O5'	2.17	0.44
14:I:53:ARG:HH21	14:I:53:ARG:CG	2.29	0.44
6:A:129:ASN:O	6:A:192:THR:HG23	2.17	0.44
7:B:67:PHE:CE1	7:B:78:LEU:HD11	2.52	0.44
20:O:68:LYS:HA	20:O:87:ARG:HB3	1.98	0.44
29:X:1759:A:C2	29:X:1968:G:C6	3.06	0.44
29:X:1086:C:H3'	29:X:1087:C:C5'	2.42	0.44
24:S:136:VAL:CG1	24:S:152:ILE:HG12	2.48	0.44
23:R:60:PRO:O	23:R:65:PRO:HG3	2.17	0.44
21:P:13:GLN:O	21:P:16:GLN:HG2	2.18	0.44
22:Q:15:LYS:HA	22:Q:18:SER:HG	1.82	0.44
29:X:1187:A:H3'	29:X:1188:A:C8	2.52	0.44
31:Z:75:A:C6	31:Z:76:U:C2	3.06	0.44
29:X:2165:A:H2'	29:X:2166:G:C8	2.51	0.44
30:Y:46:CYS:HB3	30:Y:49:CYS:SG	2.58	0.44
21:P:56:LEU:HD22	30:Y:27:ALA:HB1	2.00	0.44
24:S:53:ASP:OD2	24:S:53:ASP:N	2.48	0.44
29:X:1745:C:O2'	29:X:1746:A:H5'	2.17	0.44
12:G:55:ALA:O	12:G:56:THR:C	2.55	0.44
12:G:50:PRO:CA	12:G:89:ALA:HB3	2.45	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:18:LEU:HA	19:N:18:LEU:HD12	1.69	0.44
20:O:70:TYR:CE2	20:O:83:ARG:NH1	2.85	0.44
21:P:117:ILE:HG23	29:X:1995:G:O3'	2.18	0.44
29:X:1007:A:C2	29:X:1008:G:C8	3.06	0.44
29:X:2560:G:H1	29:X:2589:C:H2'	1.82	0.44
29:X:2620:G:H2'	29:X:2621:G:C8	2.52	0.44
29:X:536:A:N1	29:X:2605:C:O4'	2.51	0.44
13:H:123:PHE:O	13:H:124:MET:C	2.56	0.44
15:J:36:ILE:HD11	15:J:133:VAL:HG21	2.00	0.44
17:L:15:ARG:HD2	17:L:91:ARG:HH11	1.82	0.44
17:L:17:VAL:HG13	17:L:18:ARG:N	2.32	0.44
9:D:16:LEU:HD22	9:D:20:PHE:CE1	2.53	0.44
17:L:32:TYR:C	17:L:94:TYR:OH	2.56	0.44
17:L:75:LEU:O	17:L:76:ALA:C	2.56	0.44
29:X:1557:G:O2'	29:X:1558:C:H5'	2.18	0.44
29:X:2445:C:N1	29:X:2464:G:N2	2.66	0.44
28:W:14:GLY:O	28:W:17:VAL:CG2	2.65	0.44
29:X:2660:C:C2	29:X:2704:U:C4	3.06	0.44
29:X:1096:A:H2'	29:X:1097:A:O4'	2.16	0.44
26:U:46:LEU:C	26:U:47:HIS:ND1	2.71	0.44
18:M:41:GLU:OE1	18:M:46:ARG:HB2	2.17	0.44
29:X:2641:A:H2'	29:X:2642:G:O4'	2.16	0.44
24:S:149:ALA:HB1	24:S:160:LEU:HD13	1.99	0.44
29:X:219:G:O2'	29:X:220:U:H5	2.01	0.44
29:X:2786:G:O2'	29:X:2787:A:H5'	2.18	0.44
29:X:1482:U:OP2	29:X:1562:G:O2'	2.36	0.44
29:X:2222:U:N3	29:X:2223:U:C4	2.85	0.44
30:Y:58:LEU:O	30:Y:59:ALA:C	2.56	0.44
6:A:206:LEU:O	6:A:207:GLY:C	2.56	0.44
29:X:2062:U:H2'	29:X:2063:A:C8	2.52	0.44
29:X:965:G:H2'	29:X:966:A:O4'	2.18	0.44
29:X:340:G:H8	29:X:340:G:OP2	2.01	0.44
29:X:512:A:C4	29:X:515:A:N7	2.85	0.44
29:X:613:A:C2'	29:X:614:G:OP2	2.65	0.44
29:X:2720:A:C2	29:X:2744:A:C4	3.06	0.44
29:X:1958:G:H2'	29:X:1959:U:C6	2.52	0.44
29:X:1407:G:H4'	29:X:1619:A:H4'	1.98	0.44
29:X:2590:U:O2	29:X:2590:U:H2'	2.18	0.44
9:D:119:PRO:HG2	9:D:120:ASN:N	2.26	0.44
9:D:138:PHE:CE2	9:D:152:MET:SD	3.10	0.44
6:A:223:GLY:O	6:A:226:MET:HG3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:N:66:ASN:C	19:N:68:GLY:H	2.20	0.44
29:X:2426:G:C5	29:X:2480:C:C4	3.05	0.44
29:X:2482:A:O2'	29:X:2484:G:OP2	2.36	0.44
29:X:2483:U:H6	29:X:2483:U:O5'	2.01	0.44
29:X:2794:G:C8	29:X:2796:A:N6	2.85	0.44
16:K:46:PRO:HG2	16:K:47:PHE:H	1.82	0.44
29:X:82:G:H22	29:X:100:G:H2'	1.83	0.44
29:X:1920:A:C2	29:X:1922:U:H5	2.35	0.44
21:P:45:ILE:HD11	21:P:57:LEU:HD21	1.99	0.44
16:K:90:ARG:NE	16:K:94:TYR:HB2	2.32	0.44
6:A:42:GLY:O	29:X:1806:G:OP1	2.35	0.44
25:T:62:LEU:HD12	29:X:2345:A:H4'	2.00	0.44
29:X:2312:A:H1'	29:X:2314:A:N7	2.33	0.44
29:X:718:A:O2'	29:X:719:A:H5'	2.18	0.44
9:D:15:ALA:O	9:D:19:GLN:HB2	2.18	0.44
31:Z:58:G:C4'	31:Z:59:A:H8	2.30	0.44
29:X:2265:A:H1'	29:X:2266:A:N9	2.33	0.44
29:X:2721:A:H2'	29:X:2722:C:H5'	2.00	0.44
29:X:2392:G:O2'	29:X:2393:G:H5'	2.17	0.44
15:J:52:ARG:HB2	15:J:67:ILE:HD11	2.00	0.44
10:E:65:HIS:C	10:E:67:LEU:H	2.21	0.44
29:X:937:C:H2'	29:X:938:G:O4'	2.16	0.44
29:X:1984:A:H2'	29:X:1985:G:O4'	2.18	0.44
29:X:2626:U:O2'	29:X:2627:G:H5'	2.18	0.44
29:X:2210:C:C4	29:X:2211:U:C4	3.06	0.44
6:A:267:ASP:OD1	6:A:268:ARG:N	2.50	0.44
24:S:3:LEU:HD13	24:S:33:ALA:O	2.18	0.44
31:Z:110:U:C3'	31:Z:111:C:H5''	2.47	0.44
29:X:47:G:H2'	29:X:48:A:H2	1.82	0.44
30:Y:41:LEU:O	30:Y:42:SER:C	2.56	0.44
11:F:7:ILE:CG2	11:F:8:VAL:H	2.26	0.44
29:X:1499:A:O2'	29:X:1500:U:H5'	2.18	0.44
11:F:86:LYS:HE3	29:X:1076:U:P	2.58	0.44
29:X:774:A:C8	29:X:774:A:H3'	2.53	0.44
29:X:1459:U:O2'	29:X:1460:G:OP1	2.33	0.44
10:E:98:LEU:HD12	10:E:102:ALA:O	2.18	0.44
22:Q:52:GLY:H	22:Q:81:ARG:HB3	1.82	0.44
13:H:121:ARG:O	13:H:122:ARG:HB2	2.18	0.44
29:X:85:C:H6	29:X:85:C:O5'	2.01	0.44
18:M:101:ARG:C	18:M:103:LYS:H	2.10	0.44
29:X:1856:U:H5''	29:X:2389:G:N3	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:428:A:H1'	29:X:1857:G:H5'	2.00	0.44
9:D:96:MET:O	9:D:100:LEU:CB	2.65	0.44
9:D:92:ARG:NE	31:Z:45:C:O2	2.46	0.44
8:C:74:VAL:O	8:C:75:PRO:C	2.56	0.44
12:G:105:GLY:O	12:G:107:GLN:N	2.50	0.44
14:I:47:ALA:C	14:I:49:PHE:H	2.20	0.44
19:N:7:GLY:C	19:N:9:VAL:N	2.70	0.44
20:O:38:LEU:HD22	20:O:46:VAL:O	2.17	0.44
20:O:75:LYS:HE2	29:X:985:G:OP1	2.18	0.44
21:P:34:SER:O	21:P:35:PRO:C	2.55	0.44
29:X:1149:G:N3	29:X:1154:A:H2	2.15	0.44
29:X:1278:A:H61	29:X:1996:A:H5''	1.80	0.44
29:X:2018:G:HO2'	29:X:2019:C:P	2.39	0.44
29:X:2042:A:C2	29:X:2482:A:C6	3.05	0.44
29:X:2423:G:C6	29:X:2424:G:N7	2.86	0.44
29:X:815:A:H2'	29:X:816:U:C6	2.53	0.44
29:X:815:A:N1	29:X:816:U:C2	2.86	0.44
29:X:815:A:C6	29:X:816:U:N3	2.86	0.44
10:E:131:ILE:HG22	10:E:132:ASP:N	2.33	0.44
13:H:1:MET:H3	29:X:1682:A:H1'	1.82	0.44
29:X:1922:U:O2'	29:X:1923:U:P	2.76	0.44
16:K:73:LYS:HA	16:K:76:VAL:HG12	2.00	0.44
6:A:42:GLY:H	6:A:43:ARG:HH12	1.64	0.44
29:X:2301:A:O2'	29:X:2302:G:H5'	2.17	0.44
9:D:47:SER:HA	9:D:50:ILE:HD12	1.99	0.44
13:H:23:ARG:HH22	13:H:25:LEU:CD2	2.30	0.44
31:Z:30:C:H2'	31:Z:31:A:C8	2.52	0.44
29:X:1979:C:C2'	29:X:1980:A:O4'	2.65	0.44
29:X:876:A:O2'	29:X:877:G:O4'	2.33	0.44
29:X:38:G:HO2'	29:X:39:C:P	2.41	0.44
10:E:126:PRO:HG2	10:E:127:GLU:HG2	1.99	0.44
29:X:54:G:C2	29:X:55:A:C8	3.05	0.44
25:T:41:ARG:HD3	25:T:41:ARG:HA	1.43	0.44
29:X:947:C:C2	29:X:948:C:C5	3.06	0.44
29:X:642:A:H2'	29:X:643:A:O4'	2.17	0.44
7:B:2:LYS:HD3	7:B:95:ILE:HD12	1.99	0.44
29:X:204:A:N6	29:X:2386:G:O4'	2.51	0.44
29:X:1495:G:H2'	29:X:1496:G:H8	1.82	0.44
22:Q:19:ALA:O	22:Q:22:ARG:CG	2.64	0.44
29:X:2555:G:P	29:X:2555:G:N2	2.91	0.44
6:A:211:ARG:NH2	29:X:1582:A:OP1	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:431:G:H2'	29:X:432:C:H6	1.81	0.44
13:H:67:GLY:O	13:H:68:ASP:C	2.55	0.44
24:S:98:VAL:HG23	24:S:118:HIS:O	2.18	0.44
29:X:2452:U:O2	29:X:2452:U:H2'	2.18	0.44
22:Q:91:LEU:N	22:Q:91:LEU:HD22	2.32	0.44
9:D:131:GLY:HA2	9:D:153:ASP:OD2	2.17	0.44
8:C:74:VAL:O	8:C:74:VAL:CG2	2.65	0.44
8:C:79:GLY:O	8:C:80:GLY:O	2.36	0.44
12:G:63:ARG:NH2	12:G:75:ILE:HG22	2.33	0.44
14:I:45:LYS:CD	14:I:46:GLY:N	2.81	0.44
29:X:1153:A:C4	29:X:1155:G:N7	2.86	0.44
29:X:2482:A:O2'	29:X:2484:G:P	2.76	0.44
29:X:30:G:H2'	29:X:31:C:H6	1.79	0.44
29:X:481:A:C6	29:X:482:A:C6	3.06	0.44
29:X:599:A:C2	29:X:681:A:C2	3.05	0.44
29:X:686:C:C2'	29:X:687:G:H5'	2.47	0.44
29:X:805:G:N7	29:X:2419:C:C1'	2.81	0.44
14:I:18:ARG:NH2	29:X:609:U:C1'	2.81	0.44
29:X:2476:A:O2'	29:X:2477:C:C5	2.71	0.44
29:X:969:U:O2'	29:X:970:A:OP2	2.33	0.44
10:E:164:PHE:O	10:E:166:GLY:N	2.51	0.44
20:O:30:GLY:O	20:O:31:ASP:C	2.57	0.44
6:A:60:ARG:O	6:A:61:LEU:HD23	2.18	0.44
6:A:88:ARG:HD3	6:A:106:LEU:CD2	2.48	0.44
21:P:30:TYR:CD1	21:P:123:HIS:HE1	2.36	0.44
29:X:2728:A:C2	29:X:2737:A:C5	3.06	0.44
14:I:117:ALA:HA	14:I:137:GLY:CA	2.47	0.44
9:D:30:ARG:O	9:D:169:LEU:HD21	2.18	0.44
29:X:2325:A:HO2'	29:X:2326:C:P	2.39	0.44
27:V:3:PRO:C	27:V:5:GLU:H	2.21	0.44
22:Q:62:ARG:HG2	22:Q:62:ARG:NH1	2.33	0.44
22:Q:88:ILE:HD12	22:Q:88:ILE:O	2.17	0.44
22:Q:35:LYS:HE3	29:X:1615:C:OP2	2.18	0.44
26:U:13:LEU:CG	26:U:14:VAL:N	2.81	0.44
6:A:183:ARG:HH11	6:A:183:ARG:CB	2.31	0.44
24:S:22:VAL:HG21	31:Z:77:G:H1'	1.99	0.44
29:X:1429:A:H1'	29:X:1603:A:N1	2.33	0.44
24:S:87:THR:HG21	24:S:90:GLU:O	2.18	0.44
29:X:1888:C:H2'	29:X:1913:G:C5	2.53	0.44
29:X:33:C:O2'	29:X:34:U:C5'	2.64	0.44
29:X:1238:A:O5'	29:X:1238:A:H8	2.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:97:ILE:CG2	16:K:112:LEU:O	2.66	0.44
29:X:1453:A:H2'	29:X:1454:U:O4'	2.18	0.44
7:B:168:GLN:O	29:X:2710:C:H4'	2.17	0.44
29:X:1376:C:C2	29:X:1377:G:C8	3.06	0.44
29:X:477:A:H2'	29:X:478:G:C5'	2.47	0.44
29:X:2608:A:HO2'	29:X:2609:G:P	2.40	0.44
29:X:1243:G:H2'	29:X:1244:U:C6	2.53	0.44
30:Y:45:ILE:O	30:Y:47:PRO:HD3	2.17	0.44
29:X:1490:U:H2'	29:X:1491:C:H6	1.82	0.44
29:X:866:U:H6	29:X:866:U:O5'	2.01	0.44
29:X:2289:A:H3'	29:X:2290:A:C8	2.52	0.43
8:C:45:THR:O	8:C:87:LYS:NZ	2.48	0.43
19:N:62:ILE:HG23	19:N:76:TYR:CE1	2.53	0.43
20:O:13:ARG:HD2	20:O:16:GLU:H	1.83	0.43
21:P:39:ARG:HG2	21:P:39:ARG:NH1	2.33	0.43
29:X:1031:C:C2'	29:X:1031:C:O2	2.65	0.43
29:X:1153:A:N3	29:X:1155:G:C8	2.86	0.43
29:X:1271:C:C2	29:X:1272:G:C8	3.06	0.43
29:X:1336:G:C2'	29:X:1337:G:H5'	2.48	0.43
29:X:2560:G:C2'	29:X:2589:C:H41	2.31	0.43
29:X:2560:G:H4'	29:X:2561:G:C8	2.53	0.43
14:I:49:PHE:CE2	29:X:680:U:OP1	2.71	0.43
13:H:77:THR:HB	13:H:79:HIS:HB3	2.00	0.43
30:Y:4:HIS:O	30:Y:5:PRO:C	2.53	0.43
8:C:25:GLY:O	8:C:28:HIS:HB3	2.17	0.43
8:C:7:ILE:HG22	8:C:8:GLY:N	2.32	0.43
29:X:2438:A:N6	29:X:2439:U:N3	2.66	0.43
10:E:109:TYR:CE1	10:E:152:ARG:CZ	3.01	0.43
23:R:39:ALA:O	23:R:41:PRO:HD3	2.18	0.43
21:P:75:ALA:HB1	21:P:128:VAL:HG13	2.00	0.43
16:K:87:TYR:CG	16:K:90:ARG:HD2	2.52	0.43
29:X:2333:A:O2'	29:X:2334:C:H5'	2.18	0.43
9:D:108:LEU:HD23	9:D:111:ILE:HD12	1.99	0.43
9:D:4:LEU:O	9:D:5:LYS:CB	2.65	0.43
29:X:2463:G:H21	29:X:2464:G:H1'	1.79	0.43
18:M:7:ILE:HG23	18:M:12:LEU:HD12	2.00	0.43
29:X:1073:G:N1	29:X:1088:A:C2	2.86	0.43
26:U:64:ALA:O	26:U:66:ALA:N	2.50	0.43
6:A:251:GLY:C	6:A:252:LYS:HG3	2.38	0.43
6:A:126:LYS:CB	6:A:129:ASN:HD22	2.31	0.43
10:E:167:GLU:HG3	10:E:169:ILE:CG1	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2235:G:N2	29:X:2254:C:C4	2.86	0.43
29:X:1496:G:H2'	29:X:1497:C:C6	2.53	0.43
29:X:1496:G:H4'	29:X:1497:C:OP1	2.18	0.43
29:X:1581:C:O2'	29:X:1582:A:O5'	2.26	0.43
21:P:62:ARG:CG	21:P:62:ARG:NH1	2.79	0.43
31:Z:2:C:H6	31:Z:2:C:HO5'	1.66	0.43
29:X:2690:A:N7	29:X:2694:G:C8	2.85	0.43
29:X:2845:C:H2'	29:X:2846:G:H5'	2.00	0.43
9:D:34:ILE:HA	9:D:155:THR:O	2.18	0.43
12:G:96:ASP:O	12:G:98:LYS:N	2.51	0.43
19:N:29:SER:O	19:N:30:LYS:CG	2.66	0.43
29:X:1223:G:H5'	29:X:1225:G:O4'	2.17	0.43
29:X:1223:G:C5'	29:X:1224:A:H5''	2.49	0.43
29:X:1623:C:N4	29:X:1637:U:H2'	2.33	0.43
29:X:2014:A:HO2'	29:X:2015:G:P	2.41	0.43
29:X:27:G:HO2'	29:X:28:A:H8	1.64	0.43
29:X:29:U:H2'	29:X:30:G:C8	2.53	0.43
29:X:469:G:C2'	29:X:470:U:OP2	2.67	0.43
29:X:475:U:C2	29:X:801:A:N6	2.87	0.43
29:X:579:G:C4'	29:X:994:A:C2	3.02	0.43
29:X:1513:U:OP2	29:X:1514:C:OP2	2.35	0.43
16:K:33:ARG:HA	16:K:113:ILE:O	2.18	0.43
15:J:79:PRO:HG2	15:J:88:LYS:HD2	2.00	0.43
29:X:1937:G:H2'	29:X:1939:U:C4	2.53	0.43
29:X:2082:C:C2'	29:X:2083:G:C5'	2.96	0.43
29:X:2736:U:O2'	29:X:2737:A:C5'	2.49	0.43
14:I:85:ASP:O	14:I:86:THR:C	2.57	0.43
29:X:2268:G:C2	29:X:2269:G:C8	3.06	0.43
16:K:10:LEU:C	16:K:11:ASN:CG	2.75	0.43
29:X:1503:G:N1	29:X:1504:G:C6	2.86	0.43
31:Z:15:A:N1	31:Z:71:G:C2'	2.81	0.43
6:A:217:ARG:HG2	6:A:218:LYS:N	2.33	0.43
6:A:219:PRO:HD2	29:X:1781:C:H5''	2.00	0.43
14:I:65:PHE:O	29:X:643:A:H5'	2.18	0.43
24:S:136:VAL:HG11	24:S:152:ILE:HG12	1.99	0.43
29:X:1450:G:O2'	29:X:1451:C:H5'	2.18	0.43
26:U:11:LYS:HZ3	26:U:75:TYR:HB2	1.81	0.43
29:X:238:G:O4'	29:X:619:A:H2	2.01	0.43
29:X:1168:G:H2'	29:X:1169:C:H6	1.78	0.43
23:R:56:LYS:HG2	23:R:56:LYS:H	1.57	0.43
7:B:118:LYS:CG	7:B:118:LYS:O	2.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1084:A:H8	29:X:1084:A:O5'	2.00	0.43
29:X:2819:G:C2'	29:X:2820:C:C6	2.88	0.43
9:D:65:PRO:CB	9:D:89:VAL:HG22	2.42	0.43
16:K:5:LYS:HE3	29:X:2795:A:O4'	2.18	0.43
7:B:195:LEU:H	18:M:2:GLN:HB3	1.82	0.43
21:P:111:ARG:NH1	29:X:759:C:O2'	2.51	0.43
29:X:1277:G:OP2	29:X:1277:G:H8	2.01	0.43
29:X:26:G:C2	29:X:27:G:N2	2.86	0.43
29:X:599:A:H2'	29:X:600:G:C8	2.53	0.43
29:X:814:G:C5'	29:X:815:A:OP2	2.64	0.43
29:X:2438:A:H2'	29:X:2438:A:N3	2.32	0.43
28:W:3:ILE:HG22	28:W:4:LYS:N	2.32	0.43
29:X:1938:U:H5	29:X:2536:G:N2	2.16	0.43
26:U:27:ASP:C	26:U:32:ARG:HD3	2.39	0.43
22:Q:62:ARG:O	22:Q:70:GLY:CA	2.66	0.43
29:X:1300:A:C2	29:X:1301:U:C2	3.07	0.43
26:U:21:ARG:NH2	29:X:400:U:OP2	2.51	0.43
15:J:54:VAL:HG21	15:J:125:LYS:HE3	2.00	0.43
29:X:2522:G:H2'	29:X:2523:G:O4'	2.18	0.43
29:X:2542:U:H2'	29:X:2544:A:OP2	2.18	0.43
29:X:1089:C:H1'	29:X:1099:A:C2	2.51	0.43
17:L:8:ARG:CG	17:L:9:ARG:N	2.79	0.43
18:M:44:ARG:HB3	18:M:44:ARG:HE	1.63	0.43
29:X:1602:G:H5'	29:X:1603:A:OP2	2.19	0.43
29:X:2788:C:O2'	29:X:2789:U:C5'	2.63	0.43
29:X:2811:G:O6	29:X:2812:A:N6	2.52	0.43
23:R:4:PRO:N	29:X:34:U:H1'	2.34	0.43
25:T:20:TYR:O	25:T:21:LEU:CB	2.64	0.43
20:O:85:GLY:HA3	29:X:1237:G:O3'	2.19	0.43
2:2:6:GLN:CA	29:X:1628:C:H4'	2.49	0.43
29:X:1283:C:H5''	29:X:1284:G:C5'	2.48	0.43
29:X:1038:U:H2'	29:X:1039:A:C8	2.53	0.43
29:X:415:A:H2'	29:X:416:U:O4'	2.19	0.43
29:X:196:A:H2'	29:X:197:G:O4'	2.18	0.43
29:X:1314:A:N7	29:X:1316:G:C8	2.86	0.43
29:X:2687:G:O2'	29:X:2688:G:H5'	2.18	0.43
26:U:75:TYR:C	26:U:77:GLY:H	2.20	0.43
29:X:2837:G:H2'	29:X:2838:U:H6	1.83	0.43
29:X:1731:C:C3'	29:X:1732:U:C5'	2.97	0.43
29:X:976:C:H4'	29:X:2252:A:O4'	2.18	0.43
29:X:1078:A:OP1	29:X:1078:A:H3'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1750:A:C2	29:X:1751:A:C5	3.06	0.43
29:X:1051:U:C3'	29:X:1051:U:C6	3.02	0.43
29:X:1051:U:H3'	29:X:1051:U:C6	2.52	0.43
9:D:80:ARG:H	9:D:80:ARG:HD2	1.83	0.43
19:N:75:ASN:OD1	19:N:78:THR:HB	2.19	0.43
29:X:1225:G:H1'	29:X:1250:A:H61	1.80	0.43
29:X:1622:G:C4'	29:X:1624:A:C2	2.99	0.43
29:X:2023:C:H2'	29:X:2024:U:H6	1.83	0.43
29:X:2426:G:N3	29:X:2480:C:N4	2.67	0.43
29:X:544:U:H2'	29:X:545:C:C6	2.53	0.43
29:X:982:C:C2'	29:X:983:G:H5'	2.49	0.43
27:V:37:LEU:HD21	27:V:40:PRO:CA	2.48	0.43
8:C:137:ALA:CA	8:C:142:LEU:HB2	2.47	0.43
14:I:18:ARG:HH22	29:X:609:U:H1'	1.83	0.43
11:F:19:PRO:HD2	11:F:22:PRO:CG	2.45	0.43
15:J:98:VAL:HG21	15:J:104:MET:SD	2.58	0.43
29:X:2473:G:H2'	29:X:2474:G:H8	1.84	0.43
29:X:918:A:H2'	29:X:919:U:H5''	2.00	0.43
8:C:162:ARG:CZ	29:X:333:A:C3'	2.90	0.43
29:X:321:A:H2'	29:X:323:G:N7	2.34	0.43
29:X:351:A:C6	29:X:352:G:C4	3.06	0.43
29:X:1687:C:OP2	29:X:2529:G:OP1	2.36	0.43
29:X:2578:G:N2	29:X:2579:A:H1'	2.33	0.43
9:D:12:VAL:O	9:D:13:ARG:C	2.56	0.43
9:D:12:VAL:HG22	9:D:172:SER:OG	2.18	0.43
4:4:17:VAL:CG1	4:4:18:ARG:H	2.32	0.43
29:X:2515:G:H2'	29:X:2516:U:O4'	2.19	0.43
27:V:14:PHE:CD2	27:V:57:LYS:HB2	2.53	0.43
15:J:62:GLY:CA	15:J:64:LYS:HE3	2.48	0.43
13:H:28:GLY:CA	13:H:35:THR:OG1	2.65	0.43
29:X:2652:G:C2	29:X:2653:A:C8	3.07	0.43
26:U:16:ASN:OD1	29:X:165:G:OP1	2.36	0.43
29:X:2070:G:O2'	29:X:2071:G:H5'	2.18	0.43
24:S:120:LEU:CD2	24:S:121:GLN:N	2.70	0.43
29:X:2640:G:H2'	29:X:2641:A:C8	2.53	0.43
6:A:172:TYR:HH	29:X:2202:G:P	2.41	0.43
29:X:89:A:H4'	29:X:90:G:O4'	2.18	0.43
29:X:417:C:H4'	29:X:418:C:C5'	2.47	0.43
29:X:1759:A:C2	29:X:1968:G:C5	3.07	0.43
29:X:1657:A:N6	29:X:1658:A:N1	2.67	0.43
20:O:91:THR:O	20:O:93:ILE:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1753:A:O5'	29:X:1753:A:C8	2.69	0.43
29:X:447:U:OP2	29:X:447:U:H6	2.01	0.43
29:X:2507:U:O3'	29:X:2508:G:C8	2.71	0.43
6:A:271:VAL:O	6:A:272:THR:OG1	2.31	0.43
8:C:61:GLN:HA	8:C:61:GLN:NE2	2.32	0.43
12:G:102:ARG:HE	12:G:102:ARG:HB2	1.69	0.43
29:X:1731:C:C2'	29:X:1732:U:H5''	2.48	0.43
29:X:1911:A:N7	29:X:1912:G:C5	2.87	0.43
16:K:51:LEU:HD11	16:K:69:ASP:HB2	2.00	0.43
18:M:100:ARG:HD2	29:X:1744:G:OP1	2.19	0.43
9:D:96:MET:HE2	9:D:97:TYR:CE2	2.54	0.43
8:C:87:LYS:HB3	8:C:88:PRO:CD	2.48	0.43
8:C:89:ARG:HH22	29:X:1260:A:P	2.41	0.43
12:G:116:ARG:HH21	12:G:126:VAL:HA	1.84	0.43
20:O:46:VAL:HG12	20:O:51:ALA:HB2	2.00	0.43
14:I:33:GLY:HA2	20:O:79:GLN:HE21	1.83	0.43
29:X:1002:C:C2	29:X:1003:C:C5	3.06	0.43
29:X:1672:A:C6	29:X:1673:C:O2	2.71	0.43
29:X:571:U:C5	29:X:2019:C:O4'	2.71	0.43
29:X:2029:G:H2'	29:X:2030:U:C6	2.54	0.43
29:X:463:C:C2	29:X:465:C:C5	3.06	0.43
14:I:35:LYS:HG2	29:X:823:U:C5	2.53	0.43
29:X:951:G:H2'	29:X:952:A:O4'	2.19	0.43
8:C:112:GLN:HE22	8:C:188:ILE:HD11	1.83	0.43
23:R:105:ARG:HH12	23:R:112:LYS:C	2.21	0.43
29:X:356:A:C2'	29:X:357:A:C8	2.96	0.43
29:X:1922:U:O2'	29:X:1923:U:OP1	2.37	0.43
13:H:10:VAL:HG21	13:H:16:ALA:O	2.18	0.43
13:H:12:ASP:OD1	13:H:14:SER:HB3	2.19	0.43
29:X:1816:G:C6	29:X:1817:U:C4	3.07	0.43
10:E:59:GLN:HG3	29:X:2729:A:O2'	2.18	0.43
31:Z:39:C:C5	31:Z:40:C:C4	3.06	0.43
29:X:2322:U:H2'	29:X:2323:U:N1	2.33	0.43
29:X:186:C:H4'	29:X:694:G:H4'	2.00	0.43
10:E:41:LEU:HD23	10:E:68:THR:OG1	2.18	0.43
16:K:9:LYS:O	16:K:10:LEU:HG	2.18	0.43
24:S:114:ASP:O	24:S:170:SER:N	2.43	0.43
10:E:57:ASP:HB3	10:E:62:ARG:NE	2.21	0.43
29:X:2522:G:C2	29:X:2745:A:H2'	2.53	0.43
29:X:1072:U:O2'	29:X:1073:G:P	2.77	0.43
29:X:1439:G:H8	29:X:1439:G:O5'	2.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1838:G:C2	29:X:1878:C:N3	2.87	0.43
29:X:2634:G:H2'	29:X:2643:G:O6	2.19	0.43
29:X:1323:G:H1'	29:X:1627:C:H5'	1.99	0.43
29:X:617:U:H2'	29:X:618:A:H8	1.83	0.43
29:X:746:G:N7	29:X:774:A:C6	2.86	0.43
29:X:2061:C:H2'	29:X:2062:U:C6	2.53	0.43
29:X:886:A:C6	29:X:887:G:C5	3.06	0.43
29:X:2832:G:N2	29:X:2836:U:C4	2.87	0.43
29:X:1474:A:O2'	29:X:1475:U:OP2	2.33	0.43
29:X:1025:A:H2'	29:X:1026:U:C6	2.53	0.43
29:X:1232:U:O5'	29:X:1232:U:H6	2.02	0.43
30:Y:45:ILE:HD13	30:Y:57:VAL:CG2	2.48	0.43
29:X:1456:C:C2	29:X:1566:G:C2	3.07	0.43
9:D:75:SER:O	9:D:76:ASN:C	2.57	0.43
9:D:68:THR:HG21	29:X:2292:C:H5''	2.00	0.43
8:C:54:THR:HB	8:C:73:SER:OG	2.18	0.43
12:G:85:ALA:HB1	12:G:127:ILE:CD1	2.48	0.43
20:O:15:SER:HB3	20:O:95:ILE:O	2.19	0.43
29:X:1145:C:C4	29:X:1149:G:O6	2.72	0.43
29:X:1337:G:C2	29:X:1341:G:N1	2.87	0.43
29:X:2006:G:N2	29:X:2024:U:O2	2.52	0.43
27:V:36:GLN:O	27:V:38:ALA:N	2.50	0.43
8:C:176:ASN:CB	29:X:626:A:O2'	2.61	0.43
29:X:1660:G:H2'	29:X:1661:C:O4'	2.18	0.43
10:E:124:ALA:O	10:E:132:ASP:N	2.52	0.43
23:R:100:ASP:O	23:R:102:LYS:N	2.51	0.43
23:R:10:HIS:CE1	29:X:338:G:N3	2.86	0.43
6:A:42:GLY:N	6:A:43:ARG:NH1	2.66	0.43
29:X:1818:G:H2'	29:X:1819:U:H6	1.84	0.43
29:X:751:G:HO2'	29:X:752:G:P	2.41	0.43
29:X:752:G:C4'	29:X:753:U:OP1	2.57	0.43
14:I:72:TYR:C	14:I:73:GLU:OE1	2.56	0.43
28:W:39:ALA:HB2	29:X:938:G:H21	1.83	0.43
29:X:174:A:H2'	29:X:175:C:O2	2.19	0.43
10:E:126:PRO:HG3	10:E:130:ARG:NE	2.33	0.43
7:B:19:ARG:O	7:B:19:ARG:HG3	2.18	0.43
29:X:2807:U:C6	29:X:2807:U:H5'	2.52	0.43
29:X:568:G:H2'	29:X:569:C:C6	2.53	0.43
6:A:206:LEU:HD22	6:A:211:ARG:NH1	2.33	0.43
29:X:2457:A:H1'	29:X:2507:U:HO2'	1.84	0.43
13:H:13:ASN:HD22	13:H:109:ARG:CG	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:340:G:O4'	29:X:340:G:P	2.77	0.43
6:A:78:LYS:HA	6:A:115:ALA:O	2.18	0.43
29:X:1370:U:H2'	29:X:1371:G:O4'	2.18	0.43
8:C:58:MET:CE	8:C:71:ASP:O	2.67	0.43
12:G:84:ASN:O	12:G:152:ALA:CA	2.64	0.43
19:N:6:THR:O	19:N:9:VAL:CB	2.66	0.43
21:P:107:ILE:HA	21:P:108:PRO:HD3	1.85	0.43
21:P:38:VAL:HG12	21:P:38:VAL:O	2.18	0.43
29:X:1011:A:C2'	29:X:1012:A:H5'	2.49	0.43
29:X:1004:A:C2	29:X:1173:G:C2	3.06	0.43
29:X:594:G:C6	29:X:1264:C:C2	3.07	0.43
29:X:13:A:H5"	29:X:14:A:OP1	2.19	0.43
29:X:1665:C:O2'	29:X:1666:G:H5'	2.18	0.43
29:X:2020:G:H2'	29:X:2021:G:H8	1.83	0.43
29:X:2759:U:C5'	29:X:2760:G:OP1	2.67	0.43
29:X:2476:A:O2'	29:X:2477:C:OP2	2.37	0.43
23:R:88:THR:O	23:R:89:GLY:C	2.57	0.43
29:X:351:A:N6	29:X:352:G:C2	2.87	0.43
29:X:98:U:C6	29:X:98:U:H3'	2.53	0.43
29:X:1469:U:H3'	29:X:1470:G:C8	2.53	0.43
29:X:1790:G:O2'	29:X:1791:C:P	2.76	0.43
29:X:1789:U:H1'	29:X:1794:A:H1'	1.99	0.43
6:A:88:ARG:NH2	29:X:1809:G:OP1	2.52	0.43
29:X:1815:G:C6	29:X:1816:G:C5	3.07	0.43
29:X:2331:A:C8	29:X:2345:A:N1	2.87	0.43
29:X:2315:A:H2	29:X:2364:C:O2	2.02	0.43
14:I:120:VAL:C	14:I:121:HIS:CD2	2.92	0.43
9:D:3:GLN:O	9:D:4:LEU:CB	2.67	0.43
29:X:223:C:C4	29:X:224:G:N7	2.87	0.43
12:G:67:ARG:HE	12:G:70:PHE:CA	2.18	0.43
29:X:1554:G:H2'	29:X:1555:A:C8	2.54	0.43
22:Q:40:ASP:CG	22:Q:41:ALA:N	2.70	0.43
16:K:108:VAL:O	16:K:109:THR:C	2.57	0.43
7:B:181:LEU:HD21	18:M:12:LEU:CD2	2.39	0.43
29:X:1137:A:H4'	29:X:1138:A:O5'	2.18	0.43
29:X:2714:A:H2'	29:X:2715:C:O4'	2.18	0.43
29:X:168:A:O2'	29:X:169:C:O4'	2.31	0.43
6:A:71:ASP:OD2	6:A:72:LYS:HG2	2.19	0.43
24:S:3:LEU:O	24:S:3:LEU:HG	2.18	0.43
29:X:2635:U:C5	29:X:2643:G:N2	2.86	0.43
30:Y:34:PRO:HB2	30:Y:35:GLN:HE21	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1621:C:C5'	29:X:1626:A:N6	2.82	0.43
14:I:77:LEU:HA	14:I:77:LEU:HD12	1.89	0.43
24:S:10:PRO:HB2	24:S:14:LEU:HD21	1.99	0.43
7:B:105:THR:OG1	7:B:166:THR:OG1	2.24	0.43
29:X:1826:U:O4'	29:X:1952:A:C2	2.72	0.43
29:X:2179:C:H2'	29:X:2180:U:C6	2.54	0.43
29:X:1473:U:C2'	29:X:1474:A:OP2	2.67	0.43
29:X:784:U:H2'	29:X:785:U:C5	2.54	0.43
29:X:810:U:H6	29:X:810:U:H3'	1.80	0.43
29:X:1436:G:H2'	29:X:1437:A:C8	2.54	0.43
29:X:2511:G:N7	29:X:2512:A:N7	2.67	0.43
10:E:22:GLY:O	10:E:24:PHE:CD1	2.72	0.43
29:X:1742:G:O2'	29:X:1743:C:H5'	2.17	0.43
29:X:1858:C:H2'	29:X:1859:A:C8	2.53	0.43
9:D:68:THR:N	9:D:86:GLY:O	2.52	0.43
12:G:71:THR:HA	12:G:72:PRO:HD3	1.73	0.43
20:O:73:LYS:HB2	20:O:82:ARG:HB2	2.00	0.43
21:P:31:VAL:O	21:P:33:MET:N	2.49	0.43
29:X:1004:A:C2'	29:X:1005:U:H5'	2.48	0.43
29:X:1008:G:C6	29:X:1170:U:N3	2.87	0.43
29:X:1202:U:H2'	29:X:1203:A:H8	1.84	0.43
29:X:1281:A:H2'	29:X:1282:A:O4'	2.19	0.43
29:X:1995:G:H3'	29:X:1995:G:C8	2.54	0.43
29:X:2043:A:O2'	29:X:2481:G:O4'	2.31	0.43
29:X:2561:G:O2'	29:X:2562:G:H5'	2.18	0.43
29:X:2798:A:N3	29:X:2799:C:C6	2.86	0.43
8:C:112:GLN:HA	8:C:116:LYS:CG	2.48	0.43
8:C:174:GLY:O	8:C:175:VAL:O	2.36	0.43
8:C:29:GLU:CD	14:I:18:ARG:NH2	2.72	0.43
11:F:13:PRO:HB2	11:F:16:LYS:HB2	2.00	0.43
29:X:1289:A:N7	29:X:1662:G:C2	2.86	0.43
29:X:1987:G:C5	29:X:1988:A:C5	3.06	0.43
15:J:15:ARG:HB3	15:J:16:GLY:H	1.54	0.43
15:J:35:LEU:HD11	15:J:130:THR:OG1	2.19	0.43
29:X:970:A:C6	29:X:971:A:C6	3.06	0.43
29:X:2784:A:N1	29:X:2866:A:C4	2.87	0.43
23:R:10:HIS:O	23:R:11:ASN:CB	2.61	0.43
23:R:17:LYS:HZ3	29:X:83:A:P	2.41	0.43
13:H:1:MET:SD	13:H:1:MET:N	2.80	0.43
26:U:27:ASP:HA	26:U:32:ARG:CD	2.49	0.43
29:X:1821:A:C2'	29:X:1822:C:O5'	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:750:C:H2'	29:X:751:G:H5'	2.01	0.43
25:T:31:VAL:CG1	25:T:37:LEU:HD21	2.49	0.43
14:I:86:THR:HG1	14:I:118:VAL:HG12	1.83	0.43
9:D:10:ASP:O	9:D:12:VAL:N	2.51	0.43
9:D:4:LEU:CG	9:D:5:LYS:N	2.82	0.43
27:V:7:ARG:C	27:V:9:LEU:H	2.21	0.43
29:X:2526:U:C6	29:X:2545:A:C5	3.06	0.43
29:X:57:G:N2	29:X:69:G:C4	2.86	0.43
29:X:1426:U:H2'	29:X:1427:G:C5'	2.49	0.43
6:A:150:GLY:O	6:A:152:GLY:N	2.52	0.43
6:A:126:LYS:HB2	6:A:129:ASN:HD21	1.77	0.43
10:E:126:PRO:HD2	10:E:130:ARG:O	2.19	0.43
14:I:77:LEU:C	14:I:79:GLN:N	2.71	0.43
29:X:1629:G:C3'	29:X:1633:C:H42	2.32	0.43
8:C:168:SER:HB2	8:C:183:HIS:NE2	2.34	0.43
29:X:1450:G:C4	29:X:1573:G:N2	2.87	0.43
29:X:1265:G:C4	29:X:1266:G:C2	3.07	0.43
29:X:2862:G:N2	29:X:2863:U:C2	2.87	0.43
29:X:507:A:O5'	29:X:507:A:C8	2.66	0.43
10:E:44:ARG:NH2	10:E:44:ARG:HG3	2.34	0.43
29:X:1492:A:O2'	29:X:1493:A:C8	2.61	0.43
29:X:413:G:O2'	29:X:414:A:H5''	2.19	0.43
29:X:1644:G:H2'	29:X:1645:U:H6	1.83	0.43
19:N:117:ARG:HH21	19:N:117:ARG:HG3	1.84	0.43
29:X:1749:G:HO2'	29:X:1750:A:P	2.37	0.43
29:X:1371:G:H1'	29:X:1387:G:N1	2.32	0.43
9:D:80:ARG:N	9:D:80:ARG:HD2	2.34	0.43
8:C:48:ARG:HB2	8:C:51:VAL:HG13	2.01	0.43
21:P:38:VAL:HG12	21:P:42:VAL:HG23	2.01	0.43
29:X:1672:A:C6	29:X:1673:C:C2	3.06	0.43
29:X:2803:C:C2	29:X:2804:G:C8	3.07	0.43
29:X:994:A:C8	29:X:994:A:H3'	2.54	0.43
19:N:3:ARG:HD3	29:X:458:G:P	2.59	0.43
11:F:12:LEU:C	11:F:52:ILE:HG23	2.39	0.43
15:J:119:PHE:CD1	15:J:132:MET:HG3	2.53	0.43
15:J:19:THR:HB	31:Z:93:G:C5'	2.45	0.43
29:X:2429:A:C2	29:X:2430:A:C4	3.07	0.43
10:E:96:ALA:O	10:E:125:VAL:HG11	2.18	0.43
29:X:2781:G:C3'	29:X:2782:G:H5''	2.47	0.43
23:R:28:LYS:O	23:R:29:HIS:CB	2.66	0.43
23:R:25:LEU:HD13	23:R:79:SER:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:98:U:O2'	29:X:100:G:N3	2.50	0.43
29:X:308:C:H2'	29:X:309:G:O4'	2.19	0.43
29:X:1814:G:C2'	29:X:1815:G:H5'	2.49	0.43
9:D:132:ILE:HG22	9:D:133:LYS:H	1.82	0.43
9:D:148:LYS:CG	9:D:149:THR:H	2.30	0.43
9:D:175:LEU:CD2	9:D:177:PHE:HE1	2.30	0.43
29:X:1935:A:C6	29:X:1936:A:N1	2.87	0.43
14:I:80:LEU:CD2	14:I:89:ASP:OD1	2.64	0.43
29:X:649:G:C2	29:X:661:C:C2	3.06	0.43
29:X:661:C:C2	29:X:662:G:C8	3.07	0.43
9:D:8:TYR:OH	9:D:30:ARG:HA	2.19	0.43
29:X:530:G:O2'	29:X:531:G:H5'	2.19	0.43
29:X:165:G:H4'	29:X:1378:A:C5	2.53	0.43
29:X:163:A:H2'	29:X:164:G:H8	1.83	0.43
29:X:2210:C:C2	29:X:2211:U:C6	3.07	0.43
22:Q:68:PHE:O	22:Q:69:ILE:O	2.37	0.43
24:S:3:LEU:HB2	24:S:34:LEU:CB	2.49	0.43
24:S:63:PRO:O	24:S:86:VAL:N	2.47	0.43
29:X:2789:U:H2'	29:X:2790:C:C6	2.54	0.43
29:X:2858:A:H3'	29:X:2859:U:C5'	2.43	0.43
10:E:165:VAL:O	10:E:167:GLU:N	2.45	0.43
29:X:204:A:N6	29:X:2386:G:C8	2.87	0.43
6:A:50:THR:CG2	29:X:1796:A:N3	2.82	0.43
29:X:1418:C:H2'	29:X:1419:G:C8	2.54	0.43
29:X:1210:C:H2'	29:X:1211:G:H8	1.83	0.43
4:4:9:LYS:HE3	4:4:16:VAL:HG23	2.01	0.43
29:X:510:G:N1	29:X:513:A:OP2	2.43	0.43
9:D:102:LYS:O	9:D:107:GLY:N	2.46	0.43
8:C:124:ASP:O	8:C:132:ASN:ND2	2.52	0.43
29:X:2674:C:O2'	29:X:2675:U:H5'	2.19	0.43
29:X:2690:A:C8	29:X:2694:G:C1'	3.02	0.43
29:X:2824:C:H4'	29:X:2825:A:H5'	2.00	0.43
9:D:119:PRO:O	9:D:120:ASN:C	2.56	0.43
19:N:70:ARG:HH11	19:N:70:ARG:HG3	1.83	0.43
29:X:1672:A:H3'	29:X:1673:C:H5	1.83	0.43
29:X:2002:A:C2'	29:X:2003:A:O5'	2.64	0.43
29:X:538:A:N7	29:X:2026:C:H4'	2.33	0.43
29:X:468:A:C2	29:X:470:U:O4	2.72	0.43
29:X:484:G:N2	29:X:485:G:C4	2.87	0.43
13:H:46:HIS:O	13:H:47:VAL:C	2.56	0.43
29:X:1510:A:C8	29:X:1511:A:N7	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1668:G:H2'	29:X:1669:A:O4'	2.18	0.43
23:R:40:LEU:HA	23:R:41:PRO:HD2	1.86	0.43
29:X:2571:G:C6	29:X:2572:U:C4	3.07	0.43
21:P:79:ALA:HB2	21:P:128:VAL:HG23	2.01	0.43
29:X:1775:A:O2'	29:X:1776:A:OP2	2.32	0.43
29:X:2309:G:O2'	29:X:2310:G:H5'	2.19	0.43
9:D:49:ALA:O	9:D:50:ILE:C	2.57	0.43
12:G:61:ARG:HG2	12:G:65:LYS:CG	2.49	0.43
22:Q:42:ILE:O	22:Q:43:GLN:C	2.57	0.43
29:X:2657:G:C6	29:X:2658:A:C6	3.06	0.43
29:X:1982:C:H5''	29:X:2703:C:HO2'	1.84	0.43
14:I:59:ARG:HA	29:X:2371:A:H8	1.84	0.43
13:H:116:ARG:CB	13:H:133:VAL:HG12	2.48	0.43
31:Z:14:C:H4'	31:Z:17:A:N6	2.34	0.43
24:S:63:PRO:HB2	24:S:86:VAL:HB	2.00	0.43
29:X:114:C:H2'	29:X:115:G:O4'	2.19	0.43
29:X:1538:A:H2'	29:X:1539:U:O4'	2.19	0.43
29:X:1060:C:N4	29:X:1061:A:N6	2.67	0.43
31:Z:27:A:H61	31:Z:55:C:C5'	2.32	0.43
29:X:1739:G:H2'	29:X:1740:G:C8	2.54	0.43
29:X:1968:G:O2'	29:X:1969:G:H5'	2.18	0.43
29:X:1450:G:C2	29:X:1573:G:C2	3.07	0.43
29:X:1574:A:C2'	29:X:1575:C:H5''	2.47	0.43
7:B:105:THR:HB	7:B:166:THR:OG1	2.19	0.43
31:Z:123:U:H6	31:Z:123:U:P	2.42	0.43
29:X:774:A:C8	29:X:774:A:C3'	3.02	0.43
29:X:1716:G:O2'	29:X:1717:A:P	2.76	0.43
29:X:1418:C:O2'	29:X:1419:G:H5'	2.18	0.43
29:X:2852:G:C2'	29:X:2853:U:H5'	2.49	0.43
30:Y:45:ILE:O	30:Y:47:PRO:N	2.52	0.43
19:N:45:TYR:O	19:N:46:GLU:O	2.37	0.43
29:X:311:A:C5	29:X:345:U:H4'	2.54	0.43
8:C:122:GLY:C	8:C:124:ASP:N	2.73	0.43
29:X:1653:C:H2'	29:X:1654:A:C8	2.54	0.42
29:X:1655:C:H5''	29:X:2689:C:H1'	2.00	0.42
9:D:57:LEU:CA	9:D:60:ILE:HG12	2.49	0.42
12:G:93:LYS:HG2	12:G:97:ASP:HB3	2.02	0.42
19:N:22:LYS:CG	19:N:23:GLY:H	2.26	0.42
19:N:91:ASN:O	19:N:93:LYS:NZ	2.42	0.42
20:O:78:VAL:O	20:O:78:VAL:HG22	2.18	0.42
20:O:80:TYR:CE2	20:O:82:ARG:NE	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:O:70:TYR:CD2	20:O:83:ARG:NH1	2.87	0.42
21:P:34:SER:O	21:P:36:ARG:N	2.52	0.42
12:G:31:THR:HG23	29:X:1006:C:O2	2.19	0.42
29:X:1134:C:O5'	29:X:1134:C:H6	2.02	0.42
29:X:1279:G:O2'	29:X:1995:G:N1	2.52	0.42
7:B:144:ARG:NH1	29:X:2551:A:C4	2.87	0.42
29:X:2798:A:C5	29:X:2799:C:C5	3.07	0.42
29:X:471:A:C2	29:X:481:A:C5	3.07	0.42
29:X:591:G:C2'	29:X:592:G:H8	2.27	0.42
29:X:834:A:C5'	29:X:835:U:C5	3.02	0.42
29:X:957:G:C2	29:X:958:G:C8	3.07	0.42
29:X:984:A:H1'	29:X:1202:U:C4	2.54	0.42
8:C:151:VAL:CG2	8:C:186:LEU:HD11	2.48	0.42
16:K:46:PRO:HG2	16:K:47:PHE:N	2.34	0.42
15:J:27:TYR:CE2	15:J:133:VAL:HG11	2.54	0.42
29:X:2437:G:O2'	29:X:2438:A:C8	2.55	0.42
28:W:4:LYS:HA	28:W:30:ASP:O	2.19	0.42
29:X:1929:U:H2'	29:X:1930:C:H6	1.78	0.42
21:P:23:PRO:O	21:P:24:GLY:C	2.57	0.42
21:P:49:SER:C	21:P:51:GLN:H	2.21	0.42
21:P:52:ASP:O	21:P:53:ALA:C	2.55	0.42
16:K:83:VAL:HG12	16:K:83:VAL:H	1.57	0.42
17:L:28:ARG:NH2	31:Z:11:G:P	2.76	0.42
9:D:146:VAL:HB	9:D:147:ASP:H	1.61	0.42
14:I:101:ARG:HD3	29:X:637:G:N1	2.34	0.42
27:V:15:ALA:HA	27:V:18:ILE:HB	2.01	0.42
16:K:109:THR:O	16:K:110:MET:SD	2.77	0.42
10:E:9:ILE:HD12	10:E:51:LEU:CA	2.49	0.42
16:K:10:LEU:HD22	16:K:13:ASN:O	2.18	0.42
24:S:142:ASN:H	24:S:145:ASP:CG	2.22	0.42
29:X:2649:A:H5'	29:X:2650:G:OP2	2.19	0.42
29:X:1072:U:O4'	29:X:1081:A:H1'	2.18	0.42
29:X:2205:C:C2'	29:X:2206:C:C5'	2.94	0.42
31:Z:110:U:H2'	31:Z:111:C:H5''	2.00	0.42
12:G:162:LYS:NZ	29:X:2873:G:N2	2.66	0.42
29:X:1195:U:H2'	29:X:1196:G:C8	2.54	0.42
7:B:67:PHE:CZ	7:B:78:LEU:HD11	2.54	0.42
29:X:141:G:H2'	29:X:142:U:H6	1.85	0.42
29:X:2555:G:H21	29:X:2555:G:P	2.41	0.42
29:X:574:C:H5'	29:X:1266:G:O6	2.19	0.42
12:G:102:ARG:CZ	12:G:112:THR:HG21	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1022:A:C6	29:X:1024:G:C5	3.07	0.42
29:X:1743:C:O2	29:X:1744:G:C8	2.73	0.42
29:X:1854:G:C2'	29:X:1855:G:H5'	2.40	0.42
29:X:2281:C:N3	29:X:2282:G:N7	2.67	0.42
7:B:131:SER:O	7:B:132:LYS:CG	2.67	0.42
12:G:40:ASN:OD1	12:G:42:VAL:HG23	2.19	0.42
12:G:93:LYS:HG2	12:G:97:ASP:HB2	2.01	0.42
19:N:69:ALA:HB1	19:N:75:ASN:H	1.84	0.42
29:X:1015:U:H5'	29:X:1021:A:N6	2.34	0.42
29:X:2012:A:H3'	29:X:2014:A:OP1	2.20	0.42
29:X:2012:A:H2'	29:X:2014:A:OP1	2.19	0.42
29:X:2015:G:N1	29:X:2551:A:C8	2.86	0.42
29:X:2034:A:C5	29:X:2593:A:C5	3.07	0.42
29:X:24:G:N1	29:X:25:U:C2	2.87	0.42
29:X:537:C:C1'	29:X:538:A:C6	2.84	0.42
29:X:575:U:H2'	29:X:576:A:C8	2.53	0.42
29:X:759:C:H6	29:X:759:C:H3'	1.84	0.42
29:X:795:A:H5'	29:X:796:A:C2	2.54	0.42
29:X:817:A:C2'	29:X:819:C:C4	3.00	0.42
8:C:38:ARG:NH2	8:C:178:TYR:CD2	2.81	0.42
8:C:30:VAL:O	8:C:33:TRP:HB3	2.18	0.42
8:C:95:LEU:HD23	8:C:96:PRO:N	2.34	0.42
29:X:623:G:N2	29:X:624:A:H1'	2.34	0.42
15:J:99:LYS:O	15:J:100:PRO:C	2.58	0.42
29:X:2475:C:N4	29:X:2476:A:C2	2.87	0.42
29:X:1128:G:C3'	29:X:1129:A:C5'	2.85	0.42
10:E:103:LEU:HD21	10:E:131:ILE:HD13	2.01	0.42
23:R:92:THR:HA	23:R:107:ALA:O	2.19	0.42
23:R:93:ARG:HH22	23:R:108:VAL:CA	2.31	0.42
23:R:84:VAL:N	23:R:90:LYS:HE2	2.34	0.42
29:X:1924:C:C4	29:X:1925:C:C4	3.07	0.42
29:X:1918:G:N2	29:X:1947:G:O4'	2.51	0.42
21:P:94:GLU:CG	21:P:127:ILE:HB	2.45	0.42
29:X:1818:G:C2	29:X:1819:U:C2	3.07	0.42
25:T:71:ASN:ND2	25:T:77:ARG:HD3	2.34	0.42
9:D:134:GLU:CD	9:D:136:LEU:HB2	2.40	0.42
14:I:95:ALA:O	14:I:98:LEU:HA	2.19	0.42
31:Z:30:C:O2'	31:Z:31:A:H5'	2.18	0.42
22:Q:20:MET:CE	22:Q:92:ALA:O	2.67	0.42
28:W:34:VAL:HG22	28:W:35:SER:N	2.33	0.42
29:X:1073:G:C6	29:X:1088:A:N1	2.88	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:126:THR:HG23	29:X:1091:C:O2	2.19	0.42
24:S:4:THR:OG1	24:S:5:ALA:N	2.49	0.42
24:S:1:MET:HG3	24:S:52:PHE:HD2	1.83	0.42
24:S:91:PRO:HG2	24:S:92:VAL:H	1.83	0.42
6:A:247:VAL:C	6:A:248:THR:HG23	2.39	0.42
29:X:404:A:H8	29:X:404:A:O5'	2.02	0.42
29:X:1542:G:N2	29:X:1562:G:N2	2.67	0.42
27:V:42:ARG:HD2	27:V:42:ARG:HA	1.77	0.42
29:X:390:U:H6	29:X:390:U:O5'	2.02	0.42
29:X:422:C:O2'	29:X:423:G:H5'	2.19	0.42
29:X:2863:U:O2'	29:X:2864:C:H5'	2.19	0.42
18:M:54:VAL:HG23	18:M:68:VAL:HG12	2.01	0.42
29:X:1644:G:O2'	29:X:1645:U:H5'	2.19	0.42
29:X:2567:G:H8	29:X:2567:G:O5'	2.02	0.42
18:M:105:TYR:O	18:M:107:LEU:N	2.52	0.42
7:B:120:TRP:CE2	7:B:155:ARG:HD2	2.54	0.42
12:G:136:PRO:HD2	12:G:144:MET:HE3	2.01	0.42
14:I:49:PHE:N	14:I:49:PHE:CD2	2.87	0.42
19:N:37:GLN:HA	19:N:40:LEU:HG	1.99	0.42
20:O:38:LEU:HD22	20:O:39:PHE:H	1.84	0.42
29:X:1990:U:H4'	29:X:2799:C:H4'	2.00	0.42
29:X:2487:G:C4	29:X:2488:G:C8	3.08	0.42
29:X:2557:G:C2	29:X:2558:C:C5	3.07	0.42
29:X:539:A:H4'	29:X:540:G:C4	2.54	0.42
29:X:698:A:H1'	29:X:701:U:O4	2.19	0.42
13:H:77:THR:C	13:H:79:HIS:H	2.23	0.42
29:X:1288:A:N6	29:X:1309:G:C5'	2.82	0.42
29:X:1986:G:C2'	29:X:1987:G:O5'	2.67	0.42
15:J:21:ASP:N	15:J:99:LYS:HE2	2.33	0.42
15:J:99:LYS:O	15:J:102:ARG:CB	2.60	0.42
29:X:2438:A:C4	29:X:2439:U:C6	3.07	0.42
23:R:105:ARG:HH12	23:R:113:THR:H	1.67	0.42
29:X:1686:A:O3'	29:X:2528:G:H5'	2.19	0.42
6:A:62:TYR:C	6:A:63:ARG:HG3	2.38	0.42
29:X:1794:A:H2	29:X:1814:G:N3	2.17	0.42
29:X:749:C:H2'	29:X:750:C:C6	2.53	0.42
9:D:28:VAL:O	9:D:30:ARG:HG3	2.19	0.42
29:X:1558:C:O2'	29:X:1559:G:H5'	2.19	0.42
22:Q:46:PHE:N	22:Q:46:PHE:CD1	2.87	0.42
15:J:125:LYS:HZ2	15:J:125:LYS:N	2.17	0.42
16:K:11:ASN:HD22	16:K:12:ARG:HG3	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:183:ARG:HB3	6:A:183:ARG:NH1	2.35	0.42
26:U:52:ARG:O	26:U:53:GLU:HB3	2.19	0.42
29:X:664:C:O3'	29:X:665:A:H3'	2.19	0.42
6:A:72:LYS:HE2	6:A:97:TYR:CD2	2.54	0.42
7:B:78:LEU:O	7:B:79:ARG:CD	2.67	0.42
25:T:41:ARG:NH1	25:T:41:ARG:CG	2.81	0.42
29:X:141:G:H2'	29:X:142:U:O4'	2.19	0.42
29:X:417:C:N3	29:X:419:G:C6	2.87	0.42
29:X:1575:C:H4'	29:X:1576:G:OP1	2.18	0.42
29:X:242:A:C2'	29:X:243:G:C4'	2.98	0.42
6:A:133:LEU:HD13	6:A:173:VAL:HB	2.01	0.42
29:X:2863:U:C4	29:X:2864:C:C5	3.07	0.42
29:X:2378:G:C6	29:X:2397:A:C6	3.07	0.42
29:X:1571:G:OP2	29:X:1571:G:C8	2.73	0.42
29:X:10:A:C2	29:X:2608:A:C2	3.07	0.42
29:X:1241:G:O2'	29:X:1242:A:H5'	2.19	0.42
11:F:63:ARG:HD3	11:F:63:ARG:N	2.34	0.42
29:X:2533:U:C4	29:X:2534:U:C4	3.07	0.42
29:X:1723:U:O2'	29:X:1724:C:P	2.78	0.42
29:X:2671:C:C2	29:X:2672:U:C6	3.07	0.42
29:X:1050:G:C2'	29:X:1051:U:H5''	2.50	0.42
29:X:2196:U:H2'	29:X:2197:U:N1	2.34	0.42
7:B:110:GLY:O	16:K:3:HIS:CD2	2.72	0.42
19:N:27:SER:C	19:N:29:SER:H	2.21	0.42
29:X:1278:A:H1'	29:X:1280:U:C6	2.53	0.42
29:X:677:G:N3	29:X:678:G:C8	2.87	0.42
29:X:994:A:O2'	29:X:995:A:P	2.76	0.42
30:Y:16:ARG:HD3	30:Y:20:ARG:NE	2.33	0.42
22:Q:10:PRO:HD3	27:V:30:PHE:CG	2.53	0.42
29:X:729:A:H2'	29:X:730:C:C4'	2.46	0.42
15:J:33:TYR:O	15:J:106:GLU:CA	2.67	0.42
15:J:28:VAL:O	15:J:29:ALA:HB2	2.19	0.42
15:J:39:GLU:HA	15:J:40:PRO:HD3	1.60	0.42
23:R:25:LEU:CD1	23:R:80:LYS:CA	2.98	0.42
29:X:84:G:N1	29:X:97:U:C2	2.87	0.42
21:P:27:VAL:HG13	21:P:27:VAL:O	2.19	0.42
29:X:1767:G:C6	29:X:1768:U:C5	3.07	0.42
25:T:52:GLY:N	25:T:62:LEU:CD2	2.82	0.42
29:X:2728:A:C6	29:X:2729:A:C6	3.08	0.42
29:X:1299:A:C6	29:X:1302:C:N3	2.88	0.42
10:E:39:THR:C	10:E:41:LEU:N	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1440:G:H3'	29:X:1441:A:C5'	2.46	0.42
24:S:123:VAL:N	24:S:159:THR:O	2.53	0.42
8:C:163:ASN:ND2	8:C:166:TRP:CB	2.80	0.42
18:M:25:PRO:HB3	18:M:93:ILE:HD11	2.01	0.42
20:O:55:THR:OG1	20:O:98:ILE:HD12	2.20	0.42
29:X:76:C:C5'	29:X:76:C:H6	2.24	0.42
29:X:142:U:H5''	29:X:143:A:OP2	2.19	0.42
29:X:1373:G:N2	29:X:1374:G:O4'	2.52	0.42
29:X:441:A:C8	29:X:442:A:N7	2.87	0.42
13:H:109:ARG:HA	13:H:129:LEU:HD13	2.02	0.42
29:X:2748:C:N4	29:X:2749:A:N6	2.68	0.42
29:X:1047:G:H1	29:X:1130:U:H3	1.67	0.42
29:X:605:G:C2	29:X:606:A:C5	3.08	0.42
8:C:154:ASP:HB2	8:C:157:THR:OG1	2.19	0.42
29:X:2696:A:N3	29:X:2697:G:C8	2.88	0.42
29:X:1745:C:N3	29:X:2697:G:H5'	2.34	0.42
7:B:151:TYR:CD1	12:G:106:TYR:CZ	3.08	0.42
29:X:1166:A:C3'	29:X:1167:A:H5''	2.49	0.42
29:X:2002:A:N7	30:Y:9:LYS:HE2	2.34	0.42
29:X:2021:G:C6	29:X:2022:C:C4	3.07	0.42
14:I:41:SER:HB2	29:X:844:G:O3'	2.20	0.42
29:X:853:C:C2	29:X:950:G:N1	2.88	0.42
8:C:137:ALA:C	8:C:142:LEU:HB2	2.39	0.42
29:X:729:A:C4	29:X:729:A:H3'	2.54	0.42
16:K:20:LEU:O	16:K:23:ALA:N	2.52	0.42
15:J:27:TYR:OH	24:S:76:ARG:HG2	2.19	0.42
31:Z:93:G:H2'	31:Z:94:G:O4'	2.19	0.42
31:Z:93:G:N2	31:Z:94:G:H1'	2.34	0.42
23:R:41:PRO:HG2	23:R:42:ARG:H	1.84	0.42
23:R:16:PHE:HZ	23:R:46:VAL:CG2	2.32	0.42
29:X:103:U:H2'	29:X:104:C:C6	2.54	0.42
25:T:66:LYS:HE2	25:T:66:LYS:HB3	1.80	0.42
29:X:930:A:H1'	31:Z:82:U:O2'	2.20	0.42
29:X:516:G:C2'	29:X:517:A:OP2	2.66	0.42
9:D:26:MET:HB3	31:Z:59:A:N1	2.34	0.42
4:4:26:ILE:HG13	4:4:26:ILE:O	2.20	0.42
24:S:141:MET:HB3	24:S:145:ASP:HB2	2.01	0.42
29:X:1139:A:H2	29:X:2496:C:H1'	1.85	0.42
29:X:2495:G:H2'	29:X:2496:C:O4'	2.19	0.42
29:X:2543:A:N7	29:X:2626:U:O2'	2.50	0.42
29:X:2663:U:O2	29:X:2664:G:C8	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:408:U:H2'	29:X:409:G:C8	2.55	0.42
31:Z:108:G:HO2'	31:Z:109:G:H5'	1.83	0.42
6:A:244:ARG:C	6:A:252:LYS:NZ	2.73	0.42
29:X:1885:C:H2'	29:X:1886:G:C5'	2.37	0.42
11:F:101:TRP:HZ3	11:F:140:GLY:HA3	1.83	0.42
29:X:2858:A:C3'	29:X:2859:U:H5'	2.45	0.42
29:X:2564:U:H5'	29:X:2565:C:P	2.60	0.42
6:A:133:LEU:HB2	6:A:187:SER:CB	2.50	0.42
29:X:1347:C:N3	29:X:1348:C:C5	2.87	0.42
9:D:112:ARG:O	9:D:113:ASP:CB	2.68	0.42
29:X:2511:G:C6	29:X:2512:A:C5	3.07	0.42
15:J:70:PHE:HA	15:J:71:PRO:HD3	1.78	0.42
29:X:2573:C:H2'	29:X:2574:G:H8	1.84	0.42
13:H:30:GLY:O	13:H:31:GLY:C	2.57	0.42
7:B:45:GLU:O	7:B:82:ARG:HD3	2.19	0.42
14:I:30:ALA:CB	14:I:34:HIS:CE1	2.88	0.42
19:N:25:TRP:O	19:N:28:ARG:HB2	2.19	0.42
19:N:95:LEU:CD1	19:N:109:LEU:HD13	2.49	0.42
19:N:13:ARG:HE	29:X:1264:C:H5''	1.84	0.42
29:X:2595:C:O2	29:X:2596:C:C6	2.72	0.42
29:X:2618:A:C4	29:X:2619:G:H1'	2.55	0.42
22:Q:6:ILE:O	22:Q:7:LEU:C	2.57	0.42
29:X:93:A:H2'	29:X:94:C:O4'	2.20	0.42
8:C:180:ILE:HG23	8:C:181:LEU:H	1.85	0.42
16:K:29:LEU:HD23	16:K:29:LEU:HA	1.88	0.42
16:K:36:THR:CG2	16:K:41:ALA:HB2	2.49	0.42
29:X:2438:A:C6	29:X:2439:U:C4	3.07	0.42
31:Z:93:G:O2'	31:Z:94:G:H5'	2.20	0.42
29:X:1684:G:C2'	29:X:1685:A:OP2	2.67	0.42
26:U:29:GLY:O	26:U:31:GLY:N	2.53	0.42
20:O:28:GLU:OE1	20:O:28:GLU:N	2.51	0.42
29:X:1183:C:H2'	29:X:1184:G:C8	2.54	0.42
29:X:2225:G:H2'	29:X:2226:A:H8	1.85	0.42
14:I:120:VAL:CG1	14:I:122:VAL:HG13	2.48	0.42
4:4:17:VAL:CG1	4:4:18:ARG:N	2.82	0.42
22:Q:16:ALA:O	22:Q:20:MET:N	2.52	0.42
10:E:7:GLN:OE1	10:E:7:GLN:N	2.53	0.42
29:X:1071:U:H4'	29:X:1072:U:H5''	2.01	0.42
29:X:168:A:O2'	29:X:169:C:C5'	2.67	0.42
22:Q:68:PHE:O	22:Q:69:ILE:C	2.57	0.42
29:X:205:A:C6	29:X:207:U:C2	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2874:A:H2'	29:X:2875:C:H6	1.83	0.42
24:S:92:VAL:HG23	24:S:93:GLU:H	1.85	0.42
29:X:1834:G:H2'	29:X:1835:C:H6	1.83	0.42
24:S:123:VAL:N	24:S:161:ALA:HB2	2.35	0.42
11:F:2:LYS:H	11:F:2:LYS:CD	2.29	0.42
29:X:1063:C:O2'	29:X:1064:C:H5'	2.19	0.42
29:X:193:A:C2	29:X:445:A:C2	3.08	0.42
29:X:1952:A:H1'	29:X:1956:G:O4'	2.20	0.42
29:X:1025:A:H2'	29:X:1026:U:H6	1.85	0.42
29:X:1187:A:H2'	29:X:1188:A:C1'	2.49	0.42
8:C:139:GLN:NE2	8:C:139:GLN:HA	2.34	0.42
4:4:9:LYS:H	4:4:9:LYS:CD	2.32	0.42
29:X:2511:G:C5	29:X:2512:A:C5	3.08	0.42
29:X:1547:U:H2'	29:X:1548:U:C6	2.54	0.42
29:X:1461:C:H2'	29:X:1462:C:C6	2.54	0.42
17:L:45:ASP:CG	17:L:46:SER:H	2.23	0.42
29:X:2824:C:O2'	29:X:2825:A:P	2.77	0.42
7:B:117:MET:HA	7:B:121:ASN:O	2.18	0.42
12:G:125:ARG:NH1	29:X:2760:G:N1	2.63	0.42
19:N:57:PHE:CD2	29:X:1006:C:C2	3.07	0.42
19:N:61:TRP:HZ3	19:N:94:VAL:H	1.41	0.42
20:O:7:THR:OG1	20:O:21:ARG:HG3	2.20	0.42
29:X:584:A:OP2	29:X:2038:C:H5	2.02	0.42
29:X:2603:G:C2	29:X:2604:G:C8	3.08	0.42
29:X:600:G:H3'	29:X:601:A:H5''	2.01	0.42
29:X:755:C:O2'	29:X:756:C:H5'	2.18	0.42
13:H:75:VAL:HG12	13:H:118:LEU:CD2	2.09	0.42
29:X:2046:C:C3'	29:X:2047:C:H5'	2.50	0.42
29:X:353:G:O2'	29:X:354:C:H5'	2.18	0.42
29:X:1918:G:N2	29:X:1947:G:N9	2.68	0.42
21:P:75:ALA:HB1	21:P:128:VAL:HG22	2.01	0.42
6:A:258:LYS:HZ3	6:A:261:ARG:HH21	1.65	0.42
29:X:1783:G:H1	29:X:1820:G:H1'	1.81	0.42
25:T:46:LYS:HZ1	25:T:76:ALA:HA	1.84	0.42
29:X:2261:G:H4'	29:X:2262:C:OP2	2.19	0.42
29:X:934:G:H2'	29:X:935:C:O4'	2.18	0.42
29:X:2040:A:C2'	29:X:2041:A:C8	2.90	0.42
10:E:66:GLY:HA3	29:X:2728:A:C4'	2.42	0.42
9:D:142:THR:HG22	9:D:144:ASP:H	1.85	0.42
12:G:66:HIS:O	12:G:70:PHE:CE1	2.73	0.42
12:G:70:PHE:HB2	19:N:64:ARG:CD	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:108:VAL:HG12	16:K:110:MET:SD	2.60	0.42
29:X:1299:A:C6	29:X:1342:U:C2	3.08	0.42
29:X:2444:C:O2'	29:X:2445:C:H5'	2.19	0.42
10:E:7:GLN:HB3	10:E:51:LEU:CD1	2.49	0.42
24:S:100:THR:HG23	24:S:138:VAL:CG1	2.50	0.42
24:S:114:ASP:O	24:S:169:VAL:HA	2.20	0.42
28:W:14:GLY:O	28:W:17:VAL:HB	2.20	0.42
13:H:43:ARG:CZ	29:X:1979:C:OP2	2.68	0.42
24:S:3:LEU:O	24:S:56:VAL:HA	2.20	0.42
12:G:150:VAL:HG12	12:G:151:TYR:N	2.35	0.42
29:X:1427:G:H21	29:X:1604:A:H62	1.67	0.42
29:X:2811:G:C6	29:X:2812:A:C6	3.07	0.42
29:X:1486:A:C6	29:X:1538:A:C2	3.07	0.42
14:I:78:SER:CB	14:I:112:GLY:HA3	2.39	0.42
8:C:179:ASP:HA	8:C:182:ARG:CB	2.49	0.42
29:X:1355:A:C4	29:X:1410:U:H1'	2.54	0.42
29:X:159:A:H2'	29:X:160:C:C6	2.55	0.42
29:X:396:U:O4	29:X:398:C:H2'	2.20	0.42
29:X:478:G:N1	29:X:479:G:C5	2.88	0.42
29:X:704:G:C2	29:X:785:U:C2	3.08	0.42
29:X:1046:U:O4	29:X:1131:G:O6	2.37	0.42
29:X:2184:C:H2'	29:X:2185:U:C6	2.55	0.42
6:A:159:ALA:HB1	6:A:197:GLY:O	2.20	0.42
9:D:33:LYS:O	9:D:157:VAL:HG23	2.20	0.42
7:B:116:VAL:O	7:B:122:PHE:HB2	2.20	0.42
7:B:144:ARG:O	7:B:145:LYS:C	2.58	0.42
12:G:84:ASN:O	12:G:85:ALA:HB3	2.19	0.42
20:O:10:LYS:HE3	20:O:11:GLN:HE21	1.85	0.42
29:X:2000:U:O2'	30:Y:9:LYS:HA	2.20	0.42
29:X:580:A:C5	29:X:2013:A:C6	3.07	0.42
29:X:2419:C:N4	29:X:2420:C:C2	2.88	0.42
29:X:541:C:C4	29:X:572:G:C8	3.08	0.42
8:C:153:ASP:HA	8:C:158:ARG:NH2	2.33	0.42
16:K:48:VAL:HG13	16:K:49:GLU:H	1.81	0.42
15:J:11:ARG:HG3	15:J:11:ARG:NH1	2.35	0.42
23:R:25:LEU:O	23:R:26:SER:O	2.38	0.42
23:R:27:GLY:H	29:X:321:A:P	2.43	0.42
29:X:349:G:C2	29:X:350:U:C2	3.08	0.42
29:X:559:C:O2	29:X:560:G:H1'	2.19	0.42
20:O:27:GLY:C	20:O:28:GLU:CG	2.88	0.42
6:A:60:ARG:HD3	6:A:87:ASN:CG	2.40	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1815:G:C4	29:X:1816:G:C8	3.07	0.42
17:L:43:ILE:HG22	17:L:44:ASP:N	2.34	0.42
25:T:52:GLY:HA3	25:T:60:PHE:CZ	2.54	0.42
25:T:30:VAL:HA	25:T:66:LYS:HA	2.02	0.42
29:X:2333:A:N1	29:X:2343:C:C4	2.88	0.42
13:H:23:ARG:NH2	13:H:25:LEU:HA	2.34	0.42
14:I:71:THR:O	14:I:104:ARG:HD3	2.20	0.42
4:4:22:ARG:HG2	4:4:22:ARG:NH1	2.34	0.42
29:X:1550:C:H2'	29:X:1553:G:H21	1.71	0.42
28:W:18:LYS:HB2	29:X:863:C:H4'	2.01	0.42
26:U:49:LYS:HB3	26:U:61:TRP:CD2	2.55	0.42
29:X:2210:C:C2	29:X:2211:U:C5	3.08	0.42
29:X:236:C:H2'	29:X:237:G:C8	2.46	0.42
6:A:96:HIS:HE1	6:A:100:GLY:O	2.03	0.42
29:X:1506:C:H2'	29:X:1507:A:H5'	2.01	0.42
6:A:102:LYS:HE3	29:X:1516:A:O2'	2.18	0.42
29:X:1777:A:O2'	29:X:1778:U:P	2.78	0.42
29:X:55:A:C2	29:X:113:C:C2	3.07	0.42
29:X:1621:C:O4'	29:X:1626:A:C6	2.73	0.42
27:V:17:GLU:O	27:V:21:ARG:HD3	2.20	0.42
18:M:87:LEU:HD23	18:M:87:LEU:HA	1.89	0.42
14:I:61:PRO:HB3	29:X:2372:A:C5'	2.46	0.42
29:X:887:G:O2'	29:X:888:G:H5'	2.20	0.42
8:C:98:GLN:HE22	29:X:611:C:H4'	1.82	0.42
10:E:99:THR:HB	10:E:102:ALA:HB3	2.01	0.42
29:X:1567:A:C6	29:X:1568:A:C5	3.08	0.42
29:X:107:G:N2	29:X:108:G:H1'	2.34	0.42
31:Z:8:C:O2'	31:Z:9:G:H5'	2.19	0.42
23:R:66:GLN:O	23:R:66:GLN:HG2	2.19	0.42
9:D:56:GLU:O	9:D:60:ILE:HG23	2.19	0.42
8:C:73:SER:O	8:C:74:VAL:CG1	2.68	0.42
12:G:154:GLU:H	12:G:157:PRO:HD2	1.83	0.42
12:G:168:THR:O	12:G:169:GLN:O	2.38	0.42
19:N:14:HIS:HD2	19:N:32:TYR:CE1	2.37	0.42
7:B:147:PRO:HG3	29:X:1141:U:N1	2.34	0.42
29:X:594:G:C6	29:X:1264:C:N3	2.88	0.42
29:X:1281:A:C6	29:X:1996:A:C8	3.08	0.42
29:X:2036:G:C6	29:X:2037:A:C5	3.07	0.42
29:X:2048:C:H1'	29:X:2428:U:N3	2.35	0.42
29:X:571:U:O2'	29:X:581:A:H1'	2.20	0.42
29:X:589:C:C4	29:X:590:C:N4	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:818:G:H21	29:X:844:G:H1'	1.83	0.42
29:X:1512:A:H2'	29:X:1514:C:C5	2.55	0.42
8:C:103:GLY:O	8:C:104:LEU:C	2.58	0.42
8:C:3:GLN:CG	8:C:116:LYS:HD2	2.50	0.42
15:J:99:LYS:O	15:J:100:PRO:O	2.37	0.42
29:X:970:A:N3	29:X:2436:U:O2'	2.50	0.42
23:R:95:ARG:NH1	23:R:106:VAL:HA	2.35	0.42
29:X:309:G:N1	29:X:350:U:C5	2.88	0.42
23:R:9:HIS:CG	29:X:338:G:H4'	2.52	0.42
29:X:1949:A:H1'	29:X:2572:U:H4'	2.02	0.42
29:X:2039:G:C2	29:X:2040:A:C8	3.07	0.42
4:4:15:LYS:HB2	4:4:26:ILE:CG1	2.49	0.42
10:E:10:ALA:O	10:E:76:VAL:HG11	2.20	0.42
24:S:105:GLN:HG3	24:S:139:THR:HG23	2.00	0.42
29:X:861:G:N1	29:X:943:U:O2	2.52	0.42
13:H:41:ASN:O	13:H:42:LYS:O	2.37	0.42
29:X:1108:U:C2	29:X:1109:A:H1'	2.54	0.42
29:X:409:G:C2'	29:X:410:A:H5'	2.49	0.42
24:S:19:ILE:HB	24:S:34:LEU:HD11	2.00	0.42
29:X:54:G:H2'	29:X:55:A:H8	1.85	0.42
15:J:43:ILE:C	15:J:95:VAL:HG13	2.39	0.42
29:X:416:U:H4'	29:X:419:G:C1'	2.49	0.42
29:X:1573:G:C5'	29:X:1574:A:H5''	2.48	0.42
29:X:1845:A:C2	29:X:1846:A:C4	3.07	0.42
28:W:46:THR:HG22	28:W:47:VAL:HG13	2.02	0.42
31:Z:104:A:C5	31:Z:105:G:C8	3.07	0.42
29:X:1639:U:O2'	29:X:1640:C:H5'	2.20	0.42
29:X:312:G:C6	29:X:328:A:C5	3.07	0.42
29:X:1059:A:N3	29:X:1059:A:H2'	2.35	0.42
9:D:40:LEU:HA	9:D:150:ARG:CZ	2.50	0.42
7:B:146:THR:O	7:B:148:GLY:N	2.52	0.42
7:B:147:PRO:C	7:B:149:ARG:N	2.70	0.42
12:G:141:GLY:O	12:G:144:MET:HB2	2.20	0.42
29:X:1014:G:H2'	29:X:1015:U:H6	1.84	0.42
20:O:80:TYR:CE2	29:X:1201:G:H5''	2.55	0.42
29:X:1272:G:O2'	29:X:1273:G:H5'	2.20	0.42
29:X:2803:C:H2'	29:X:2804:G:H8	1.85	0.42
29:X:575:U:C5	29:X:576:A:N7	2.88	0.42
29:X:685:U:OP1	29:X:814:G:N2	2.53	0.42
29:X:853:C:O2	29:X:950:G:C2	2.73	0.42
27:V:39:GLN:N	27:V:40:PRO:HD3	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:135:ARG:HB3	15:J:136:GLU:H	1.72	0.42
23:R:10:HIS:CD2	29:X:347:C:O2'	2.73	0.42
13:H:6:SER:HA	29:X:1684:G:OP1	2.20	0.42
13:H:10:VAL:HG12	13:H:12:ASP:OD1	2.20	0.42
6:A:157:ARG:HG2	29:X:1810:U:H3'	2.00	0.42
17:L:14:ARG:O	17:L:17:VAL:HG12	2.20	0.42
25:T:44:LYS:HE3	25:T:45:PHE:HE1	1.84	0.42
4:4:35:ARG:HG2	4:4:37:GLY:O	2.20	0.42
29:X:1554:G:H2'	29:X:1555:A:H8	1.83	0.42
27:V:14:PHE:HD2	27:V:57:LYS:HB2	1.83	0.42
22:Q:20:MET:HG3	22:Q:25:TYR:CE1	2.55	0.42
29:X:527:C:O2'	29:X:528:G:H5'	2.20	0.42
10:E:26:VAL:HG12	10:E:27:LYS:N	2.35	0.42
7:B:13:GLN:O	7:B:14:ILE:HG13	2.20	0.42
7:B:165:VAL:HG21	29:X:2658:A:C5'	2.50	0.42
29:X:2664:G:C2	29:X:2665:G:C8	3.08	0.42
29:X:2702:G:H2'	29:X:2703:C:C6	2.55	0.42
26:U:18:VAL:CG2	29:X:393:U:O2'	2.68	0.42
29:X:176:A:C2'	29:X:177:U:C5	3.03	0.42
29:X:71:A:O2'	29:X:72:A:OP1	2.32	0.42
29:X:59:G:H21	29:X:73:A:H2'	1.85	0.42
26:U:52:ARG:HE	26:U:79:GLU:CB	2.32	0.42
29:X:1505:U:C6	29:X:1505:U:H3'	2.54	0.42
24:S:54:ILE:CD1	24:S:64:ALA:HB3	2.50	0.42
22:Q:61:LYS:HD2	22:Q:72:ARG:CZ	2.49	0.42
21:P:40:LEU:HD23	21:P:40:LEU:HA	1.83	0.42
29:X:1597:A:C2	29:X:1598:C:N3	2.88	0.42
29:X:1312:G:C5'	29:X:1313:U:OP1	2.63	0.42
22:Q:19:ALA:C	22:Q:22:ARG:HG2	2.40	0.42
10:E:136:ILE:N	10:E:136:ILE:CD1	2.82	0.42
12:G:115:ALA:O	12:G:118:ALA:CB	2.68	0.42
29:X:1055:A:C8	29:X:1055:A:C3'	2.79	0.42
29:X:2068:C:O2'	29:X:2069:U:H5'	2.20	0.42
13:H:51:ILE:HG13	13:H:51:ILE:O	2.19	0.42
6:A:121:PRO:HB2	6:A:135:PHE:HE1	1.85	0.42
12:G:105:GLY:N	12:G:110:LEU:HD12	2.35	0.41
21:P:107:ILE:O	21:P:107:ILE:HG23	2.18	0.41
29:X:1035:G:H3'	29:X:1036:G:H3'	2.02	0.41
29:X:1251:G:N2	29:X:1252:C:C2	2.88	0.41
29:X:1665:C:C2	29:X:1666:G:C8	3.08	0.41
7:B:134:TRP:NE1	29:X:1675:C:OP1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1282:A:N6	29:X:1995:G:C2	2.88	0.41
29:X:1994:U:H2'	29:X:1995:G:H5'	2.01	0.41
29:X:2804:G:C2	29:X:2805:G:C4	3.07	0.41
29:X:696:U:N3	29:X:697:G:N7	2.68	0.41
29:X:990:A:H2'	29:X:991:A:OP1	2.20	0.41
13:H:27:SER:HB3	13:H:50:ILE:HG13	2.02	0.41
29:X:1668:G:O2'	29:X:1669:A:H5'	2.20	0.41
15:J:19:THR:HB	31:Z:93:G:OP1	2.20	0.41
29:X:2082:C:H2'	29:X:2083:G:H5'	2.01	0.41
17:L:91:ARG:HE	17:L:91:ARG:HB3	1.51	0.41
25:T:31:VAL:HG22	25:T:67:VAL:N	2.35	0.41
29:X:2238:G:C6	29:X:2239:C:C4	3.08	0.41
29:X:871:U:N3	29:X:2247:A:C6	2.88	0.41
29:X:490:A:O2'	29:X:491:A:H5'	2.20	0.41
29:X:739:G:O2'	29:X:740:A:O5'	2.38	0.41
9:D:49:ALA:C	9:D:51:ASP:N	2.73	0.41
29:X:2539:C:C4	29:X:2540:A:N7	2.88	0.41
12:G:60:SER:C	12:G:62:ILE:N	2.72	0.41
22:Q:42:ILE:HG23	22:Q:43:GLN:N	2.34	0.41
29:X:19:C:H5'	29:X:563:U:OP1	2.19	0.41
29:X:652:C:H42	29:X:657:A:N6	2.18	0.41
29:X:1072:U:HO2'	29:X:1073:G:P	2.43	0.41
26:U:47:HIS:CE1	29:X:409:G:O3'	2.73	0.41
29:X:214:C:C2	29:X:215:G:C8	3.08	0.41
29:X:110:U:H5'	29:X:110:U:H6	1.84	0.41
18:M:95:GLU:O	18:M:96:ARG:O	2.38	0.41
25:T:20:TYR:CE1	29:X:2250:G:H5'	2.55	0.41
13:H:84:ALA:C	13:H:86:GLY:N	2.71	0.41
29:X:403:A:OP2	29:X:403:A:H3'	2.20	0.41
29:X:494:A:H3'	29:X:495:C:H6	1.85	0.41
29:X:141:G:C6	29:X:142:U:C4	3.08	0.41
29:X:1738:U:H2'	29:X:1739:G:C8	2.55	0.41
29:X:421:G:N2	29:X:433:G:H1'	2.35	0.41
29:X:2710:C:H2'	29:X:2711:G:O4'	2.20	0.41
29:X:745:C:H2'	29:X:746:G:O4'	2.20	0.41
15:J:107:VAL:HG21	15:J:115:ALA:CB	2.49	0.41
7:B:55:ALA:CB	7:B:58:LYS:HE3	2.49	0.41
17:L:21:THR:HG22	17:L:22:ALA:N	2.34	0.41
31:Z:56:G:O2'	31:Z:57:U:H5'	2.19	0.41
31:Z:98:C:H6	31:Z:98:C:O5'	2.03	0.41
29:X:708:G:C4	29:X:709:A:C8	3.07	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1746:A:H2'	29:X:1747:G:O5'	2.20	0.41
29:X:2824:C:H2'	29:X:2824:C:O2	2.20	0.41
29:X:2844:G:H8	29:X:2844:G:O5'	2.03	0.41
12:G:170:PRO:HB2	12:G:171:LEU:H	1.61	0.41
29:X:1164:C:H3'	29:X:1165:G:H8	1.85	0.41
29:X:1336:G:H2'	29:X:1337:G:H5'	2.03	0.41
29:X:1625:A:C2	29:X:1632:A:C8	3.08	0.41
29:X:2020:G:C2	29:X:2021:G:C4	3.08	0.41
29:X:2426:G:C5	29:X:2480:C:C5	3.08	0.41
29:X:596:C:C6	29:X:684:C:H1'	2.55	0.41
29:X:758:G:C2	29:X:766:A:N1	2.88	0.41
29:X:852:U:H2'	29:X:853:C:C6	2.55	0.41
30:Y:19:ARG:HB2	30:Y:19:ARG:HH11	1.86	0.41
8:C:108:ILE:HD12	8:C:180:ILE:HD12	2.01	0.41
8:C:30:VAL:HG12	8:C:31:VAL:N	2.35	0.41
8:C:33:TRP:HB2	8:C:93:TYR:OH	2.19	0.41
15:J:128:ILE:HD13	15:J:130:THR:CG2	2.49	0.41
15:J:11:ARG:HB3	15:J:12:LYS:H	1.62	0.41
15:J:80:ALA:O	15:J:81:GLU:OE1	2.38	0.41
15:J:79:PRO:CG	15:J:88:LYS:HB3	2.50	0.41
29:X:971:A:H2	29:X:2475:C:C1'	2.33	0.41
10:E:124:ALA:HB3	10:E:132:ASP:CG	2.40	0.41
23:R:45:LYS:HA	23:R:76:LEU:O	2.20	0.41
23:R:84:VAL:CA	23:R:90:LYS:HE2	2.50	0.41
21:P:91:PHE:HD1	21:P:129:ALA:O	2.03	0.41
6:A:86:PRO:C	6:A:88:ARG:H	2.24	0.41
29:X:2241:U:C6	29:X:2258:G:N2	2.88	0.41
29:X:2039:G:C5	29:X:2556:A:C4	3.08	0.41
29:X:2725:C:H2'	29:X:2726:U:H6	1.86	0.41
29:X:2323:U:O2'	29:X:2324:G:H5'	2.20	0.41
29:X:221:A:C2	29:X:397:U:C2	3.09	0.41
15:J:125:LYS:HB2	29:X:2463:G:HO2'	1.85	0.41
18:M:10:GLY:O	18:M:11:GLU:C	2.58	0.41
29:X:865:A:N1	29:X:937:C:N3	2.68	0.41
29:X:939:C:C5'	29:X:940:G:O5'	2.62	0.41
29:X:394:U:H2'	29:X:395:G:C8	2.54	0.41
26:U:15:VAL:HG23	26:U:16:ASN:N	2.34	0.41
29:X:168:A:C2	29:X:169:C:N3	2.88	0.41
13:H:133:VAL:O	13:H:134:LEU:O	2.38	0.41
6:A:148:VAL:HA	6:A:149:PRO:HD3	1.88	0.41
18:M:33:VAL:HG23	18:M:94:VAL:HG21	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1322:G:O2'	29:X:1323:G:H5'	2.21	0.41
29:X:1324:G:HO2'	29:X:1325:U:C5'	2.32	0.41
29:X:1542:G:N2	29:X:1562:G:C2	2.88	0.41
27:V:41:HIS:ND1	29:X:95:G:H4'	2.35	0.41
29:X:2807:U:O2'	29:X:2808:U:C5'	2.68	0.41
29:X:1256:C:H6	29:X:1256:C:O5'	2.03	0.41
29:X:203:G:C2	29:X:204:A:C2	3.08	0.41
29:X:1454:U:C2	29:X:1455:C:C5	3.08	0.41
29:X:1419:G:O2'	29:X:1420:A:H5'	2.20	0.41
18:M:60:SER:HA	18:M:64:LYS:CB	2.50	0.41
29:X:2411:A:H2'	29:X:2412:A:H8	1.82	0.41
29:X:1329:U:H2'	29:X:1330:G:H8	1.86	0.41
29:X:848:A:N6	29:X:849:G:C6	2.88	0.41
25:T:3:HIS:ND1	25:T:3:HIS:N	2.68	0.41
29:X:1394:G:O2'	29:X:1395:A:H5'	2.20	0.41
29:X:1048:U:H6	29:X:1048:U:O5'	2.02	0.41
29:X:2839:G:C2	29:X:2840:U:C2	3.08	0.41
19:N:101:ARG:O	19:N:103:PRO:HD3	2.20	0.41
29:X:1855:G:C2'	29:X:1856:U:H5'	2.50	0.41
9:D:70:ALA:N	9:D:85:VAL:HG22	2.36	0.41
7:B:120:TRP:CE3	7:B:155:ARG:HD2	2.55	0.41
8:C:54:THR:HG21	8:C:71:ASP:HB3	2.02	0.41
29:X:1031:C:O2'	29:X:1032:A:P	2.79	0.41
29:X:1153:A:H1'	29:X:1155:G:C8	2.55	0.41
29:X:1260:A:C6	29:X:1262:U:C2	3.09	0.41
29:X:2007:G:N1	29:X:2023:C:N3	2.68	0.41
29:X:2031:A:N6	29:X:2600:A:C6	2.88	0.41
7:B:162:MET:CE	29:X:2796:A:H4'	2.50	0.41
29:X:2796:A:C2'	29:X:2797:G:H8	2.20	0.41
29:X:481:A:H2'	29:X:481:A:N3	2.35	0.41
29:X:595:A:H2	29:X:822:G:N3	2.18	0.41
29:X:1350:G:C4	29:X:1351:G:C8	3.08	0.41
7:B:51:TYR:O	7:B:52:ALA:C	2.59	0.41
8:C:111:ARG:NH1	8:C:180:ILE:O	2.53	0.41
15:J:17:ARG:HB2	29:X:969:U:C5	2.55	0.41
15:J:80:ALA:O	15:J:81:GLU:CB	2.66	0.41
29:X:2436:U:O2	29:X:2474:G:N2	2.53	0.41
29:X:310:A:C4	29:X:333:A:N6	2.88	0.41
23:R:27:GLY:N	29:X:321:A:OP1	2.54	0.41
29:X:354:C:H2'	29:X:355:G:O4'	2.20	0.41
29:X:1938:U:H3'	29:X:2530:C:O2'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:H:64:VAL:O	13:H:65:LYS:HD2	2.20	0.41
29:X:1789:U:O2'	29:X:1793:A:H1'	2.21	0.41
17:L:15:ARG:HH21	29:X:2272:A:H5'	1.84	0.41
17:L:87:VAL:O	17:L:88:VAL:CG2	2.68	0.41
25:T:71:ASN:ND2	25:T:77:ARG:HH11	2.18	0.41
29:X:2314:A:H2'	29:X:2316:G:N7	2.35	0.41
29:X:2:G:H2'	29:X:3:U:C5	2.55	0.41
14:I:105:PRO:C	14:I:106:VAL:HG23	2.40	0.41
14:I:117:ALA:CB	14:I:137:GLY:HA3	2.50	0.41
17:L:104:ALA:O	17:L:105:ASP:C	2.59	0.41
29:X:1554:G:O2'	29:X:1555:A:H5'	2.20	0.41
22:Q:35:LYS:HB3	29:X:1614:C:H5''	2.02	0.41
15:J:120:ARG:NH2	29:X:2447:G:OP1	2.53	0.41
28:W:22:ALA:HB3	28:W:43:MET:HE3	2.02	0.41
7:B:188:ILE:HA	7:B:189:PRO:HD3	1.68	0.41
29:X:165:G:HO2'	29:X:1378:A:N6	2.19	0.41
13:H:133:VAL:O	13:H:134:LEU:C	2.57	0.41
6:A:188:GLU:OE2	29:X:2201:G:OP1	2.38	0.41
6:A:68:LYS:O	6:A:70:ARG:HG3	2.20	0.41
29:X:46:C:N3	29:X:156:G:C2	2.89	0.41
29:X:48:A:P	29:X:50:G:H5'	2.60	0.41
7:B:32:PRO:O	7:B:50:GLY:N	2.51	0.41
8:C:144:GLY:HA2	8:C:166:TRP:CD1	2.54	0.41
29:X:2791:C:C2	29:X:2806:G:N2	2.88	0.41
29:X:1621:C:O2'	29:X:1626:A:N7	2.49	0.41
29:X:1537:U:H2'	29:X:1538:A:O4'	2.20	0.41
14:I:77:LEU:HB2	14:I:111:SER:H	1.83	0.41
29:X:1482:U:C2'	29:X:1483:G:H8	2.28	0.41
29:X:1728:A:N1	29:X:1739:G:C6	2.88	0.41
29:X:487:G:N2	29:X:489:A:C2'	2.83	0.41
29:X:208:C:N4	29:X:209:G:H21	2.17	0.41
6:A:165:VAL:HG13	6:A:173:VAL:CG1	2.50	0.41
4:4:10:MET:SD	4:4:32:HIS:CD2	3.14	0.41
29:X:1610:A:H2'	29:X:1611:U:H6	1.82	0.41
29:X:2876:C:H2'	29:X:2877:A:C4	2.55	0.41
31:Z:23:G:O2'	31:Z:24:U:H5'	2.20	0.41
29:X:20:C:O2'	29:X:21:A:H5'	2.20	0.41
8:C:20:PRO:O	8:C:21:GLU:HG3	2.19	0.41
25:T:3:HIS:CG	25:T:4:LYS:N	2.88	0.41
29:X:63:A:N3	29:X:63:A:H2'	2.36	0.41
10:E:24:PHE:HB2	10:E:35:VAL:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:E:157:TYR:CE2	29:X:2510:A:H4'	2.55	0.41
14:I:42:GLY:O	14:I:43:ALA:HB2	2.19	0.41
29:X:2674:C:O2'	29:X:2675:U:C5'	2.68	0.41
29:X:1056:U:C2'	29:X:1057:A:OP2	2.69	0.41
8:C:46:ARG:O	8:C:47:THR:C	2.58	0.41
12:G:104:THR:OG1	12:G:105:GLY:N	2.53	0.41
12:G:94:LYS:O	12:G:117:GLU:HB2	2.20	0.41
12:G:153:GLY:CA	12:G:157:PRO:HG2	2.50	0.41
19:N:31:GLN:O	19:N:32:TYR:C	2.57	0.41
14:I:32:ARG:CZ	20:O:79:GLN:HA	2.49	0.41
29:X:2053:G:O2'	29:X:2054:A:H5'	2.20	0.41
4:4:4:ARG:NH1	29:X:2456:U:H3	2.15	0.41
29:X:688:A:C6	29:X:689:A:N6	2.88	0.41
29:X:758:G:H3'	29:X:759:C:H5''	2.02	0.41
29:X:956:A:N9	29:X:2427:A:H2	2.17	0.41
22:Q:8:GLN:O	27:V:29:ARG:NH1	2.52	0.41
13:H:79:HIS:CD2	13:H:80:ALA:N	2.88	0.41
8:C:112:GLN:CD	8:C:116:LYS:HD3	2.41	0.41
15:J:15:ARG:CB	15:J:73:LYS:HZ2	2.33	0.41
15:J:12:LYS:HE3	29:X:923:A:C6	2.56	0.41
23:R:11:ASN:O	23:R:12:ASP:C	2.59	0.41
29:X:304:A:H62	29:X:356:A:N6	2.17	0.41
29:X:501:G:C5	29:X:502:A:N7	2.88	0.41
21:P:91:PHE:CG	21:P:91:PHE:O	2.74	0.41
6:A:88:ARG:NH1	29:X:1810:U:OP2	2.53	0.41
17:L:10:LYS:O	17:L:13:THR:OG1	2.25	0.41
29:X:2333:A:H61	29:X:2343:C:N4	2.18	0.41
29:X:2262:C:C5	29:X:2368:G:C4	3.08	0.41
29:X:2238:G:C8	29:X:2406:C:C5	3.08	0.41
26:U:51:ILE:HA	26:U:59:THR:O	2.21	0.41
17:L:97:HIS:O	17:L:101:LYS:HB2	2.20	0.41
4:4:15:LYS:HZ3	29:X:2733:A:H1'	1.85	0.41
29:X:1557:G:N2	29:X:1558:C:H1'	2.36	0.41
7:B:176:ARG:NH2	18:M:19:ASP:OD2	2.53	0.41
28:W:18:LYS:O	28:W:22:ALA:N	2.45	0.41
14:I:58:ALA:O	14:I:59:ARG:CB	2.65	0.41
26:U:15:VAL:O	26:U:16:ASN:O	2.38	0.41
29:X:168:A:H2'	29:X:169:C:C6	2.55	0.41
29:X:168:A:H2'	29:X:169:C:H6	1.84	0.41
29:X:227:G:C6	29:X:228:A:C6	3.09	0.41
24:S:149:ALA:C	24:S:151:ASP:N	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:100:ASN:HB3	11:F:103:GLN:NE2	2.34	0.41
29:X:1621:C:C4'	29:X:1626:A:N6	2.83	0.41
29:X:467:U:H2'	29:X:467:U:O2	2.20	0.41
27:V:52:GLN:O	27:V:54:ASN:N	2.52	0.41
7:B:16:LYS:HB2	7:B:21:ILE:HD12	2.01	0.41
7:B:54:LYS:HB2	7:B:75:THR:O	2.19	0.41
24:S:77:ALA:HA	24:S:78:PRO:HD3	1.87	0.41
10:E:40:GLU:OE2	10:E:61:HIS:CE1	2.73	0.41
29:X:190:A:H2'	29:X:191:G:C8	2.55	0.41
29:X:148:C:H3'	29:X:149:A:H8	1.84	0.41
29:X:2064:U:O5'	29:X:2064:U:H6	2.04	0.41
29:X:2750:G:C8	29:X:2751:C:C5	3.08	0.41
13:H:13:ASN:ND2	13:H:109:ARG:CG	2.82	0.41
29:X:11:G:O5'	29:X:11:G:H8	2.03	0.41
7:B:142:GLY:C	7:B:143:GLN:HE21	2.21	0.41
31:Z:105:G:O2'	31:Z:106:U:H5'	2.20	0.41
29:X:962:C:H2'	29:X:963:G:H5'	2.02	0.41
29:X:247:A:H2'	29:X:248:A:C8	2.56	0.41
29:X:1159:U:O2'	29:X:1160:C:H5'	2.20	0.41
18:M:55:ILE:HB	18:M:103:LYS:O	2.20	0.41
29:X:2674:C:C2	29:X:2675:U:H5	2.38	0.41
29:X:2697:G:C2'	29:X:2698:G:H5'	2.51	0.41
12:G:100:TYR:HB2	12:G:116:ARG:HH11	1.82	0.41
12:G:56:THR:N	12:G:134:MET:CE	2.83	0.41
29:X:1032:A:N6	29:X:1151:U:C2	2.89	0.41
29:X:1200:G:C6	29:X:1201:G:C4	3.09	0.41
29:X:1278:A:O2'	29:X:1279:G:H4'	2.21	0.41
7:B:148:GLY:O	29:X:2036:G:O4'	2.39	0.41
29:X:695:G:N2	29:X:809:C:C2	2.89	0.41
29:X:990:A:H2'	29:X:993:C:N4	2.35	0.41
29:X:994:A:C3'	29:X:994:A:C8	3.04	0.41
29:X:60:A:C5	29:X:61:U:C5	3.08	0.41
19:N:3:ARG:CD	29:X:457:C:O3'	2.68	0.41
19:N:3:ARG:NH1	19:N:3:ARG:CG	2.82	0.41
29:X:1127:C:C2'	29:X:1128:G:O5'	2.68	0.41
23:R:84:VAL:HA	23:R:90:LYS:HE2	2.01	0.41
20:O:26:GLN:CG	20:O:27:GLY:N	2.46	0.41
29:X:1793:A:OP2	29:X:1806:G:N1	2.53	0.41
29:X:1782:A:N1	29:X:1821:A:H5'	2.36	0.41
6:A:208:LYS:HB3	29:X:742:G:O6	2.21	0.41
29:X:2237:C:O2'	29:X:2238:G:P	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2340:C:C2'	29:X:2341:G:H5'	2.49	0.41
9:D:19:GLN:HB3	9:D:20:PHE:CD1	2.55	0.41
9:D:4:LEU:O	9:D:5:LYS:HB3	2.20	0.41
31:Z:39:C:N4	31:Z:50:U:O2'	2.54	0.41
4:4:22:ARG:HD2	4:4:37:GLY:HA3	2.03	0.41
29:X:2505:G:O5'	29:X:2505:G:H8	2.03	0.41
29:X:1555:A:H2'	29:X:1556:A:C8	2.56	0.41
22:Q:30:SER:HB2	22:Q:33:ALA:HB2	2.01	0.41
15:J:125:LYS:CD	15:J:125:LYS:N	2.83	0.41
24:S:99:HIS:HB3	24:S:100:THR:H	1.66	0.41
10:E:54:ARG:CZ	10:E:57:ASP:OD2	2.68	0.41
29:X:2521:A:N1	29:X:2546:G:C6	2.88	0.41
30:Y:33:CYS:SG	30:Y:34:PRO:CD	3.09	0.41
30:Y:31:THR:O	30:Y:40:LYS:N	2.46	0.41
29:X:2228:U:O2'	29:X:2254:C:N4	2.54	0.41
24:S:10:PRO:HB2	24:S:14:LEU:CD2	2.51	0.41
10:E:18:ASN:C	10:E:20:GLN:H	2.22	0.41
29:X:1255:A:H2'	29:X:1256:C:H6	1.80	0.41
29:X:199:A:N1	29:X:201:G:C2	2.89	0.41
30:Y:58:LEU:CD1	30:Y:58:LEU:N	2.82	0.41
29:X:746:G:N7	29:X:774:A:C5	2.89	0.41
21:P:11:LYS:O	21:P:12:LYS:C	2.59	0.41
6:A:206:LEU:HD22	6:A:211:ARG:HH12	1.85	0.41
29:X:2378:G:H2'	29:X:2379:G:O4'	2.21	0.41
13:H:109:ARG:HG3	13:H:111:PHE:HE1	1.85	0.41
29:X:2717:G:H2'	29:X:2718:A:O4'	2.20	0.41
13:H:127:VAL:O	13:H:130:ALA:HB3	2.20	0.41
14:I:92:THR:O	14:I:94:GLU:N	2.54	0.41
29:X:1742:G:C6	29:X:1743:C:N4	2.88	0.41
9:D:123:ASP:O	9:D:125:ARG:N	2.54	0.41
20:O:58:ALA:HB2	20:O:95:ILE:HA	2.02	0.41
21:P:34:SER:O	21:P:37:LYS:HB3	2.19	0.41
29:X:701:U:C5'	29:X:1771:A:C2	3.01	0.41
29:X:1998:A:H1'	30:Y:3:LYS:HB2	2.01	0.41
29:X:759:C:C3'	29:X:759:C:C6	3.04	0.41
29:X:813:A:H1'	29:X:815:A:OP2	2.20	0.41
29:X:834:A:C5'	29:X:835:U:C6	3.01	0.41
27:V:26:MET:O	27:V:27:GLU:C	2.58	0.41
13:H:9:ASP:N	13:H:9:ASP:OD2	2.52	0.41
8:C:151:VAL:CG1	8:C:173:ALA:HA	2.51	0.41
23:R:105:ARG:HB3	23:R:106:VAL:H	1.58	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:309:G:H1	29:X:350:U:H5	1.69	0.41
29:X:1947:G:H2'	29:X:1950:C:OP1	2.20	0.41
29:X:1975:G:O2'	29:X:1976:U:OP2	2.32	0.41
29:X:1949:A:HO2'	29:X:2572:U:H5'	1.84	0.41
29:X:104:C:C3'	29:X:105:G:H5''	2.49	0.41
21:P:24:GLY:HA3	21:P:128:VAL:HG23	2.02	0.41
21:P:53:ALA:HB1	21:P:72:LEU:HD22	2.02	0.41
6:A:145:LEU:HD11	6:A:185:VAL:HG11	2.03	0.41
6:A:200:GLU:OE2	29:X:1812:U:C2	2.73	0.41
9:D:52:LYS:HE3	9:D:148:LYS:CG	2.50	0.41
14:I:86:THR:N	14:I:116:ARG:NH1	2.68	0.41
29:X:636:G:H2'	29:X:637:G:H5'	2.03	0.41
29:X:2270:U:O5'	29:X:2270:U:H6	2.02	0.41
22:Q:38:ILE:HG23	22:Q:39:LYS:H	1.85	0.41
29:X:1850:G:H2'	29:X:1851:A:H8	1.84	0.41
13:H:41:ASN:ND2	13:H:41:ASN:N	2.55	0.41
29:X:2492:G:N2	29:X:2493:U:C2	2.88	0.41
29:X:2500:C:H4'	29:X:2543:A:O2'	2.21	0.41
14:I:59:ARG:HG3	29:X:2371:A:H8	1.85	0.41
14:I:54:SER:OG	14:I:59:ARG:NH2	2.53	0.41
29:X:1801:C:H1'	29:X:2207:G:HO2'	1.84	0.41
29:X:314:G:C6	29:X:315:G:C6	3.09	0.41
24:S:5:ALA:O	24:S:6:LYS:HB3	2.20	0.41
31:Z:68:A:N6	31:Z:110:U:C2	2.88	0.41
6:A:131:LEU:HD23	6:A:131:LEU:N	2.36	0.41
7:B:72:VAL:CG1	7:B:73:ALA:N	2.63	0.41
18:M:72:SER:O	18:M:73:PHE:C	2.59	0.41
11:F:1:MET:HB2	11:F:2:LYS:CD	2.48	0.41
29:X:2806:G:H1'	29:X:2858:A:N3	2.36	0.41
30:Y:52:TYR:O	30:Y:53:ASP:CB	2.68	0.41
29:X:1496:G:O2'	29:X:1497:C:O5'	2.35	0.41
20:O:61:VAL:HB	20:O:92:ALA:HB3	2.03	0.41
31:Z:4:C:H2'	31:Z:5:C:C5'	2.51	0.41
29:X:2717:G:N2	29:X:2748:C:C2	2.89	0.41
29:X:849:G:C8	29:X:850:C:C5	3.09	0.41
23:R:68:GLY:C	23:R:69:GLN:HG3	2.41	0.41
10:E:33:LEU:HG	10:E:34:THR:H	1.84	0.41
29:X:548:G:C2	29:X:549:G:C8	3.08	0.41
18:M:50:PHE:CE2	18:M:70:LYS:HB3	2.55	0.41
26:U:8:THR:HG23	26:U:8:THR:O	2.21	0.41
18:M:104:LEU:CD2	18:M:106:TYR:CZ	3.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1386:A:C5'	29:X:2191:A:H62	2.15	0.41
29:X:1053:G:C6	29:X:1125:G:C6	3.09	0.41
9:D:70:ALA:C	9:D:72:LYS:N	2.74	0.41
9:D:125:ARG:NH1	29:X:2294:U:O2	2.53	0.41
7:B:136:ARG:CG	7:B:137:ARG:N	2.84	0.41
12:G:56:THR:O	12:G:57:LEU:C	2.57	0.41
19:N:14:HIS:CD2	19:N:32:TYR:CD1	3.08	0.41
29:X:1012:A:N6	29:X:1013:G:N3	2.69	0.41
29:X:1033:G:C2'	29:X:1034:U:OP2	2.69	0.41
29:X:2028:C:C2'	29:X:2029:G:O5'	2.69	0.41
29:X:2485:U:C2'	29:X:2486:C:O5'	2.69	0.41
29:X:756:C:C2'	29:X:757:U:H5'	2.50	0.41
29:X:819:C:O2'	29:X:820:U:H5'	2.21	0.41
29:X:982:C:H2'	29:X:983:G:C5'	2.50	0.41
18:M:29:PRO:O	18:M:30:GLY:O	2.39	0.41
29:X:1289:A:C2	29:X:1290:A:N7	2.88	0.41
10:E:150:LYS:C	10:E:152:ARG:N	2.74	0.41
10:E:95:ARG:HH22	10:E:97:LYS:HE2	1.84	0.41
23:R:17:LYS:NZ	29:X:83:A:N7	2.61	0.41
16:K:63:ARG:NH2	16:K:80:MET:HG2	2.36	0.41
6:A:108:PRO:CA	6:A:196:VAL:HA	2.33	0.41
29:X:2225:G:H2'	29:X:2226:A:C8	2.55	0.41
29:X:931:G:H4'	31:Z:83:C:C4'	2.39	0.41
31:Z:80:A:H3'	31:Z:81:C:H6	1.86	0.41
14:I:86:THR:H	14:I:116:ARG:NH1	2.19	0.41
15:J:6:LYS:HB3	15:J:6:LYS:HE2	1.80	0.41
16:K:10:LEU:C	16:K:11:ASN:OD1	2.58	0.41
16:K:8:ARG:HB3	16:K:9:LYS:H	1.78	0.41
29:X:2492:G:C4	29:X:2493:U:C4	3.09	0.41
7:B:203:LYS:HG2	29:X:2713:A:N1	2.36	0.41
29:X:1090:C:O2'	29:X:1091:C:H5'	2.21	0.41
29:X:2206:C:N4	29:X:2207:G:C6	2.89	0.41
6:A:100:GLY:CA	29:X:1516:A:C2	3.03	0.41
6:A:244:ARG:C	6:A:252:LYS:HZ3	2.24	0.41
29:X:2249:U:H2'	29:X:2250:G:O4'	2.21	0.41
21:P:80:LEU:O	21:P:84:GLU:CA	2.69	0.41
29:X:1727:C:O2'	29:X:1728:A:H5'	2.21	0.41
18:M:36:ASP:HB2	18:M:87:LEU:O	2.20	0.41
29:X:1498:G:H2'	29:X:1499:A:C8	2.56	0.41
29:X:1419:G:H2'	29:X:1420:A:O4'	2.20	0.41
6:A:214:TRP:HA	6:A:214:TRP:CE3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:2410:U:O2	29:X:2412:A:C8	2.73	0.41
15:J:92:GLU:HG3	15:J:93:TYR:CD2	2.56	0.41
29:X:2839:G:C5	29:X:2840:U:C4	3.09	0.41
29:X:1534:A:O2'	29:X:1535:C:H5'	2.20	0.41
29:X:586:G:C6	29:X:587:A:C6	3.08	0.41
31:Z:42:U:H1'	31:Z:47:A:H62	1.85	0.41
21:P:107:ILE:HG21	21:P:117:ILE:CD1	2.46	0.41
29:X:1153:A:HO2'	29:X:1154:A:P	2.43	0.41
29:X:2558:C:O2'	29:X:2559:U:O4'	2.38	0.41
29:X:580:A:C6	29:X:2013:A:N1	2.89	0.41
29:X:996:C:O2'	29:X:997:C:H5'	2.20	0.41
8:C:101:GLN:C	8:C:103:GLY:H	2.23	0.41
8:C:137:ALA:HB1	8:C:142:LEU:CB	2.47	0.41
16:K:38:LEU:HA	16:K:111:ALA:HB3	2.03	0.41
15:J:69:ILE:HG13	15:J:69:ILE:O	2.20	0.41
29:X:322:A:P	29:X:322:A:H8	2.43	0.41
29:X:339:U:O4	29:X:343:A:C8	2.73	0.41
13:H:5:GLN:HG2	29:X:1685:A:H5''	2.03	0.41
29:X:1949:A:O2'	29:X:2572:U:C5'	2.62	0.41
29:X:2528:G:N3	29:X:2529:G:N7	2.69	0.41
29:X:1963:G:O2'	29:X:1964:A:OP1	2.33	0.41
17:L:52:ALA:O	17:L:53:ALA:HB3	2.21	0.41
25:T:50:GLY:O	25:T:62:LEU:HD23	2.20	0.41
29:X:870:C:H2'	29:X:871:U:O4'	2.21	0.41
29:X:516:G:O2'	29:X:517:A:OP2	2.39	0.41
29:X:224:G:HO2'	29:X:399:G:H1	1.69	0.41
16:K:106:ASP:O	16:K:108:VAL:N	2.53	0.41
7:B:174:GLU:CB	7:B:183:LEU:HD12	2.46	0.41
24:S:105:GLN:OE1	24:S:140:LYS:HA	2.20	0.41
29:X:2627:G:C6	29:X:2652:G:C6	3.09	0.41
26:U:19:ILE:CG2	26:U:41:VAL:O	2.66	0.41
6:A:182:LEU:HB2	6:A:268:ARG:HB2	2.01	0.41
31:Z:108:G:C2'	31:Z:109:G:H5'	2.51	0.41
31:Z:68:A:H61	31:Z:110:U:H3'	1.86	0.41
24:S:60:GLU:O	24:S:62:PHE:CD2	2.74	0.41
29:X:1835:C:O5'	29:X:1835:C:H6	2.04	0.41
29:X:2633:A:O4'	29:X:2633:A:OP1	2.38	0.41
29:X:2785:A:C8	29:X:2786:G:C8	3.09	0.41
29:X:2811:G:N1	29:X:2812:A:C6	2.88	0.41
29:X:404:A:C5	29:X:405:C:C4	3.08	0.41
7:B:170:LEU:HA	7:B:170:LEU:HD23	1.70	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1401:G:O2'	29:X:1402:G:H5'	2.21	0.41
29:X:1564:U:O5'	29:X:1564:U:H6	2.04	0.41
13:H:26:ASN:HB3	13:H:37:GLY:HA2	2.03	0.41
29:X:780:U:C5'	29:X:780:U:H6	2.34	0.41
7:B:36:ARG:HG2	7:B:36:ARG:HH11	1.86	0.41
8:C:155:GLU:HB3	8:C:156:ASN:H	1.61	0.41
16:K:68:GLN:HG2	29:X:2686:C:O2'	2.20	0.41
18:M:76:GLY:C	18:M:77:VAL:CG2	2.89	0.41
29:X:2216:G:O5'	29:X:2216:G:H8	2.04	0.41
29:X:2824:C:O2	29:X:2824:C:C2'	2.69	0.41
29:X:2696:A:O2'	29:X:2697:G:H5'	2.20	0.41
9:D:74:ILE:HG12	9:D:80:ARG:CA	2.50	0.41
29:X:2282:G:C2	29:X:2283:G:C4	3.08	0.41
29:X:2289:A:H3'	29:X:2290:A:H8	1.85	0.41
9:D:37:ASN:HD22	9:D:38:GLU:H	1.69	0.41
7:B:120:TRP:NE1	7:B:155:ARG:HB3	2.35	0.41
20:O:14:VAL:HG12	20:O:14:VAL:O	2.21	0.41
20:O:69:ILE:CG2	20:O:70:TYR:H	2.34	0.41
14:I:32:ARG:CZ	20:O:81:ARG:CZ	2.98	0.41
29:X:1251:G:C2	29:X:1252:C:C2	3.09	0.41
29:X:2036:G:O2'	29:X:2037:A:H5'	2.21	0.41
29:X:462:G:O6	29:X:465:C:OP1	2.39	0.41
29:X:696:U:C2	29:X:697:G:C8	3.09	0.41
29:X:787:A:H5'	29:X:791:G:C4'	2.50	0.41
29:X:835:U:O2	29:X:835:U:C2'	2.69	0.41
12:G:90:LEU:N	12:G:90:LEU:CD1	2.83	0.41
19:N:91:ASN:HD22	20:O:11:GLN:NE2	2.16	0.41
20:O:12:TYR:CD2	20:O:40:VAL:HG23	2.56	0.41
29:X:2037:A:C2	29:X:2595:C:C4	3.09	0.41
29:X:13:A:N1	29:X:535:U:C2	2.89	0.41
14:I:45:LYS:CA	29:X:683:A:H5''	2.42	0.41
29:X:688:A:H2'	29:X:689:A:N3	2.35	0.41
29:X:761:G:C8	29:X:763:A:N7	2.89	0.41
21:P:110:ALA:CB	29:X:761:G:P	3.09	0.41
29:X:828:C:H2'	29:X:829:C:H6	1.85	0.41
22:Q:10:PRO:HD3	27:V:30:PHE:CD1	2.55	0.41
27:V:27:GLU:O	27:V:30:PHE:HB2	2.20	0.41
7:B:9:ILE:O	7:B:9:ILE:HG22	2.20	0.41
8:C:188:ILE:HG13	8:C:188:ILE:H	1.55	0.41
8:C:30:VAL:O	8:C:33:TRP:N	2.52	0.41
29:X:623:G:C2	29:X:624:A:C1'	3.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:623:G:C2'	29:X:624:A:H5''	2.50	0.41
29:X:455:A:H1'	29:X:1215:A:O4'	2.21	0.41
29:X:730:C:H4'	29:X:731:A:OP1	2.21	0.41
15:J:19:THR:CB	31:Z:93:G:H5'	2.47	0.41
10:E:109:TYR:O	10:E:111:HIS:N	2.54	0.41
10:E:148:VAL:HG12	10:E:162:VAL:HG21	2.03	0.41
10:E:148:VAL:O	10:E:150:LYS:N	2.54	0.41
29:X:2784:A:C6	29:X:2866:A:C8	3.09	0.41
28:W:44:VAL:CG1	28:W:44:VAL:O	2.68	0.41
23:R:25:LEU:HD22	23:R:26:SER:CB	2.51	0.41
29:X:77:C:C2	29:X:78:C:C5	3.09	0.41
29:X:2170:C:C3'	29:X:2171:U:C5'	2.92	0.41
29:X:749:C:C6	29:X:749:C:H3'	2.56	0.41
25:T:28:GLY:N	25:T:67:VAL:O	2.38	0.41
17:L:15:ARG:NH2	29:X:2272:A:H5'	2.35	0.41
6:A:261:ARG:HG3	6:A:263:ARG:H	1.85	0.41
6:A:86:PRO:O	6:A:88:ARG:N	2.54	0.41
29:X:1816:G:H2'	29:X:1817:U:C6	2.55	0.41
17:L:11:LEU:HA	17:L:14:ARG:CD	2.49	0.41
17:L:26:ARG:HB3	17:L:88:VAL:HG23	2.02	0.41
28:W:26:ARG:HH11	28:W:26:ARG:HG3	1.85	0.41
29:X:517:A:H1'	29:X:519:C:N3	2.35	0.41
13:H:23:ARG:HH22	13:H:25:LEU:CB	2.33	0.41
14:I:114:ILE:O	14:I:115:SER:HB3	2.20	0.41
9:D:7:LYS:HB3	9:D:11:GLN:OE1	2.20	0.41
29:X:2263:C:O2'	29:X:2264:C:H5'	2.21	0.41
29:X:1556:A:H2'	29:X:1557:G:C8	2.53	0.41
24:S:69:VAL:CG1	24:S:81:VAL:HG22	2.43	0.41
4:4:25:VAL:CG2	4:4:34:GLN:HB2	2.51	0.41
28:W:34:VAL:HG22	28:W:35:SER:H	1.86	0.41
29:X:2501:U:O2'	29:X:2626:U:H5''	2.20	0.41
26:U:41:VAL:HG21	26:U:43:ARG:HH22	1.86	0.41
29:X:167:A:C8	29:X:184:A:C6	3.08	0.41
29:X:2204:A:O2'	29:X:2205:C:OP2	2.30	0.41
13:H:134:LEU:HA	13:H:134:LEU:HD23	1.82	0.41
25:T:72:LYS:HD3	31:Z:14:C:O5'	2.21	0.41
6:A:54:ILE:HG23	6:A:54:ILE:O	2.21	0.41
29:X:1603:A:C6	29:X:1604:A:C6	3.09	0.41
24:S:64:ALA:HA	24:S:86:VAL:H	1.85	0.41
6:A:184:ARG:HG2	6:A:184:ARG:HH11	1.84	0.41
29:X:219:G:C2'	29:X:220:U:OP2	2.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:M:34:ARG:NH1	18:M:66:PHE:CE2	2.89	0.41
18:M:34:ARG:HH11	18:M:81:PHE:HB3	1.80	0.41
29:X:1326:U:C2'	29:X:1626:A:C2	3.02	0.41
29:X:32:C:H2'	29:X:33:C:C6	2.56	0.41
29:X:2228:U:C1'	29:X:2254:C:H41	2.30	0.41
11:F:55:VAL:HG13	11:F:68:ILE:C	2.41	0.41
7:B:16:LYS:O	7:B:17:ASN:CB	2.68	0.41
14:I:65:PHE:CE2	29:X:643:A:H4'	2.55	0.41
29:X:140:G:H2'	29:X:141:G:H8	1.85	0.41
7:B:39:ALA:HB2	7:B:44:TYR:HA	2.03	0.41
11:F:7:ILE:CG2	11:F:8:VAL:N	2.82	0.41
24:S:71:MET:HB2	24:S:77:ALA:O	2.21	0.41
29:X:1629:G:H2'	29:X:1633:C:H42	1.85	0.41
29:X:1038:U:H2'	29:X:1039:A:H8	1.85	0.41
29:X:1758:C:C2	29:X:1969:G:C2	3.09	0.41
29:X:1953:A:H1'	29:X:1955:G:C8	2.55	0.41
29:X:147:G:O2'	29:X:149:A:N6	2.48	0.41
26:U:11:LYS:HZ1	26:U:75:TYR:HB2	1.85	0.41
29:X:2876:C:O2	29:X:2877:A:C6	2.74	0.41
31:Z:3:A:H2'	31:Z:4:C:H5'	2.02	0.41
29:X:849:G:C5	29:X:850:C:C5	3.09	0.41
10:E:171:LEU:N	10:E:171:LEU:CD1	2.84	0.41
14:I:94:GLU:HG2	14:I:94:GLU:H	1.48	0.41
29:X:2187:A:N6	29:X:2188:A:N6	2.69	0.41
9:D:118:ASN:O	9:D:128:TYR:OH	2.39	0.41
20:O:38:LEU:HD23	20:O:47:PHE:HA	2.02	0.41
29:X:1004:A:C2	29:X:1173:G:C4	3.09	0.41
29:X:1008:G:N1	29:X:1170:U:C2	2.89	0.41
29:X:15:G:C5	29:X:16:G:N7	2.89	0.41
29:X:1993:G:C5	29:X:1994:U:C5	3.09	0.41
14:I:36:GLY:HA3	29:X:596:C:N4	2.35	0.41
29:X:757:U:C2'	29:X:758:G:H5'	2.51	0.41
8:C:3:GLN:HG2	8:C:116:LYS:HD2	2.03	0.41
8:C:112:GLN:HB3	8:C:116:LYS:HD3	2.01	0.41
23:R:91:ALA:O	23:R:108:VAL:HG22	2.21	0.41
29:X:322:A:O2'	29:X:343:A:H5'	2.21	0.41
29:X:1682:A:C2'	29:X:1683:G:C5'	2.93	0.41
29:X:2375:G:C2	29:X:2400:G:C2	3.09	0.41
29:X:715:U:H2'	29:X:716:U:O4'	2.21	0.41
9:D:12:VAL:HG12	9:D:16:LEU:CD1	2.51	0.41
29:X:532:A:O2'	29:X:533:C:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:F:117:ALA:HA	29:X:1092:U:O2'	2.21	0.41
29:X:214:C:O2'	29:X:215:G:H5'	2.21	0.41
31:Z:73:C:C2	31:Z:109:G:C2	3.09	0.41
6:A:243:GLY:C	6:A:244:ARG:CD	2.87	0.41
6:A:132:PRO:HG3	6:A:134:ARG:HE	1.86	0.41
7:B:49:ILE:O	7:B:78:LEU:HA	2.20	0.41
29:X:2057:U:H5'	29:X:2058:U:OP2	2.21	0.41
29:X:2218:G:O2'	29:X:2219:U:H5'	2.21	0.41
27:V:48:ARG:NE	29:X:75:C:OP1	2.54	0.41
27:V:52:GLN:C	27:V:54:ASN:N	2.73	0.41
7:B:92:ASN:O	7:B:93:VAL:C	2.59	0.41
7:B:93:VAL:C	7:B:95:ILE:N	2.74	0.41
29:X:417:C:C4	29:X:419:G:C5	3.09	0.41
6:A:147:LEU:HD11	6:A:155:LEU:HD21	2.03	0.41
31:Z:122:U:H5''	31:Z:123:U:OP1	2.21	0.41
29:X:1391:A:C8	29:X:1393:G:C6	3.09	0.41
3:3:11:LYS:CA	14:I:62:LYS:HE2	2.51	0.41
8:C:98:GLN:NE2	29:X:611:C:H4'	2.36	0.41
8:C:20:PRO:C	8:C:21:GLU:HG3	2.41	0.41
29:X:2088:U:H2'	29:X:2089:C:H6	1.86	0.41
29:X:312:G:C2	29:X:328:A:C4	3.09	0.41
10:E:121:VAL:HG12	10:E:122:THR:N	2.36	0.41
17:L:84:ILE:HD12	17:L:84:ILE:N	2.35	0.41
29:X:2671:C:C4'	29:X:2821:G:N2	2.84	0.40
29:X:426:C:C4'	29:X:1863:U:O2'	2.61	0.40
9:D:123:ASP:O	9:D:126:GLY:N	2.52	0.40
12:G:134:MET:HB3	29:X:1017:C:H1'	2.02	0.40
20:O:38:LEU:HA	20:O:46:VAL:O	2.20	0.40
29:X:1332:G:C6	29:X:1333:G:N1	2.89	0.40
29:X:1336:G:H2'	29:X:1337:G:C5'	2.51	0.40
29:X:2426:G:H4'	29:X:2427:A:C5'	2.51	0.40
29:X:2756:A:O2'	29:X:2757:G:P	2.78	0.40
29:X:2797:G:C2'	29:X:2798:A:O5'	2.69	0.40
29:X:686:C:O2'	29:X:687:G:H5'	2.21	0.40
29:X:768:U:C6	29:X:769:C:C5	3.09	0.40
13:H:79:HIS:CD2	13:H:80:ALA:O	2.74	0.40
8:C:27:LEU:HD11	8:C:106:MET:SD	2.62	0.40
8:C:173:ALA:O	8:C:175:VAL:N	2.44	0.40
8:C:24:SER:O	8:C:27:LEU:N	2.54	0.40
16:K:24:GLN:NE2	16:K:40:LYS:HD3	2.36	0.40
16:K:40:LYS:HZ2	29:X:1290:A:H5''	1.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:J:74:PRO:HB3	15:J:94:TRP:NE1	2.37	0.40
29:X:968:C:N4	29:X:970:A:C2	2.89	0.40
23:R:95:ARG:CG	23:R:105:ARG:O	2.69	0.40
29:X:1685:A:H4'	29:X:1686:A:O5'	2.20	0.40
29:X:1976:U:N3	29:X:1977:C:C6	2.88	0.40
17:L:87:VAL:O	17:L:88:VAL:HG22	2.21	0.40
25:T:31:VAL:HG23	25:T:65:GLY:C	2.42	0.40
29:X:715:U:C2	29:X:716:U:C6	3.10	0.40
29:X:2539:C:N3	29:X:2540:A:C8	2.89	0.40
9:D:169:LEU:O	9:D:170:LEU:C	2.57	0.40
9:D:16:LEU:O	9:D:20:PHE:CD1	2.71	0.40
22:Q:30:SER:O	22:Q:33:ALA:HB3	2.20	0.40
29:X:1295:U:O4	29:X:1296:G:C6	2.74	0.40
23:R:36:VAL:HG12	23:R:37:LEU:N	2.36	0.40
29:X:1140:A:N6	29:X:2549:G:C4'	2.83	0.40
29:X:651:C:C3'	29:X:652:C:C5'	2.99	0.40
29:X:2072:C:H2'	29:X:2072:C:O2	2.21	0.40
29:X:59:G:N3	29:X:73:A:C2	2.90	0.40
24:S:24:TYR:HB3	24:S:29:ASN:HA	2.04	0.40
29:X:1885:C:N4	29:X:1886:G:C4	2.89	0.40
6:A:124:GLU:HA	6:A:125:PRO:HD3	1.81	0.40
29:X:2790:C:H2'	29:X:2791:C:H6	1.84	0.40
21:P:40:LEU:HD22	30:Y:25:LEU:HD11	2.03	0.40
18:M:39:VAL:HA	18:M:45:THR:HA	2.02	0.40
29:X:417:C:C6	29:X:419:G:C1'	3.04	0.40
6:A:214:TRP:CA	6:A:214:TRP:CE3	3.04	0.40
29:X:2411:A:C6	29:X:2412:A:C6	3.09	0.40
8:C:98:GLN:OE1	29:X:611:C:H4'	2.20	0.40
29:X:1713:G:C6	29:X:1714:A:C4	3.09	0.40
21:P:20:LEU:HA	21:P:20:LEU:HD12	1.78	0.40
29:X:1749:G:O2'	29:X:1750:A:OP1	2.39	0.40
29:X:1124:U:O2'	29:X:1125:G:H5'	2.22	0.40
9:D:93:GLY:N	9:D:96:MET:HB3	2.36	0.40
8:C:48:ARG:CA	8:C:51:VAL:HG22	2.52	0.40
8:C:74:VAL:HG22	8:C:77:PHE:CD1	2.56	0.40
14:I:32:ARG:NE	20:O:81:ARG:NE	2.68	0.40
29:X:1019:U:O2'	29:X:1020:A:H5'	2.21	0.40
29:X:2756:A:O2'	29:X:2761:A:H4'	2.21	0.40
11:F:52:ILE:O	11:F:73:PRO:HD3	2.21	0.40
16:K:27:ALA:O	16:K:29:LEU:N	2.54	0.40
16:K:49:GLU:O	16:K:50:GLN:C	2.59	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:K:72:ASP:HB3	16:K:75:VAL:HG23	2.03	0.40
29:X:883:A:N1	29:X:884:C:C2	2.88	0.40
10:E:89:LEU:HB2	10:E:129:THR:C	2.42	0.40
23:R:83:LEU:O	23:R:84:VAL:HG23	2.21	0.40
29:X:322:A:C2'	29:X:323:G:OP1	2.69	0.40
29:X:310:A:C2	29:X:331:U:C4'	3.00	0.40
7:B:128:SER:OG	29:X:1976:U:H4'	2.22	0.40
16:K:76:VAL:O	16:K:79:VAL:CG1	2.70	0.40
16:K:87:TYR:O	16:K:90:ARG:HG2	2.21	0.40
17:L:11:LEU:HA	17:L:11:LEU:HD23	1.93	0.40
10:E:137:ASP:OD2	10:E:139:GLN:HB2	2.22	0.40
10:E:59:GLN:O	10:E:60:LYS:C	2.60	0.40
29:X:1044:U:N3	29:X:2730:A:C4	2.89	0.40
10:E:70:THR:HG21	29:X:2727:G:H5''	2.03	0.40
14:I:105:PRO:O	14:I:106:VAL:HG23	2.22	0.40
14:I:96:TYR:C	14:I:98:LEU:N	2.75	0.40
9:D:4:LEU:HG	9:D:5:LYS:N	2.36	0.40
4:4:35:ARG:NH2	29:X:2723:C:OP2	2.49	0.40
22:Q:57:ASN:HA	22:Q:76:LYS:HA	2.03	0.40
7:B:189:PRO:O	7:B:190:GLY:O	2.40	0.40
29:X:1137:A:H4'	29:X:1138:A:H5''	2.02	0.40
5:5:4:DBU:HG1	29:X:1107:A:H1'	2.03	0.40
29:X:176:A:C3'	29:X:177:U:C5	3.02	0.40
7:B:32:PRO:HD2	7:B:50:GLY:O	2.20	0.40
29:X:1634:A:O2'	29:X:1635:G:H5'	2.20	0.40
29:X:1064:C:O5'	29:X:1064:C:H6	2.04	0.40
29:X:1218:C:H42	29:X:1255:A:N6	2.19	0.40
29:X:1573:G:OP1	29:X:1574:A:H5'	2.21	0.40
29:X:1405:A:H2'	29:X:1406:A:C8	2.56	0.40
29:X:1074:G:O2'	29:X:1075:C:H5'	2.21	0.40
31:Z:6:C:H2'	31:Z:7:C:C6	2.50	0.40
29:X:1188:A:H8	29:X:1188:A:P	2.43	0.40
29:X:1330:G:C4	29:X:1331:G:C8	3.09	0.40
27:V:22:LYS:HA	27:V:25:LEU:HB2	2.03	0.40
29:X:1567:A:C6	29:X:1568:A:C6	3.10	0.40
29:X:312:G:C6	29:X:328:A:C6	3.10	0.40
29:X:1179:A:H2'	29:X:1180:A:C8	2.56	0.40
29:X:1871:G:H3'	29:X:1871:G:N3	2.36	0.40
29:X:2690:A:OP1	29:X:2692:A:OP2	2.38	0.40
29:X:2195:C:C2'	29:X:2196:U:C6	2.84	0.40
9:D:34:ILE:O	9:D:91:LEU:HB2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:D:92:ARG:CZ	31:Z:47:A:H8	2.34	0.40
12:G:142:ARG:NH1	29:X:538:A:H5'	2.36	0.40
19:N:76:TYR:O	19:N:77:SER:C	2.60	0.40
19:N:108:ALA:HB1	20:O:47:PHE:CE2	2.56	0.40
29:X:1249:G:O2'	29:X:1250:A:O5'	2.38	0.40
29:X:2604:G:C6	29:X:2605:C:N4	2.89	0.40
29:X:2670:C:O4'	29:X:2847:G:C5	2.75	0.40
29:X:469:G:H21	29:X:480:G:H2'	1.80	0.40
29:X:813:A:C4	29:X:815:A:H5'	2.56	0.40
29:X:829:C:C4	29:X:1206:G:N1	2.90	0.40
30:Y:12:SER:C	30:Y:15:LYS:H	2.23	0.40
15:J:28:VAL:HG23	15:J:137:VAL:HG23	2.00	0.40
15:J:36:ILE:HG22	15:J:37:ALA:N	2.35	0.40
15:J:86:LYS:HB3	29:X:2255:G:H5'	2.03	0.40
29:X:2082:C:C3'	29:X:2083:G:C5'	2.99	0.40
16:K:79:VAL:CG1	16:K:80:MET:N	2.83	0.40
9:D:134:GLU:CG	9:D:136:LEU:H	2.26	0.40
29:X:1549:C:H2'	29:X:1550:C:C6	2.56	0.40
27:V:2:LYS:HG3	27:V:3:PRO:CD	2.32	0.40
29:X:528:G:H2'	29:X:529:U:H6	1.85	0.40
13:H:35:THR:HB	13:H:36:THR:H	1.65	0.40
29:X:1978:U:H3'	29:X:1979:C:C5'	2.39	0.40
29:X:168:A:N3	29:X:169:C:C6	2.90	0.40
29:X:2213:G:H2'	29:X:2214:G:C8	2.56	0.40
29:X:1441:A:H4'	29:X:1442:C:O5'	2.21	0.40
29:X:663:G:H3'	29:X:664:C:C5'	2.37	0.40
29:X:1195:U:H2'	29:X:1196:G:H8	1.86	0.40
24:S:94:VAL:HG21	24:S:130:ILE:HG21	2.03	0.40
11:F:1:MET:HB2	11:F:2:LYS:NZ	2.35	0.40
20:O:33:VAL:O	20:O:33:VAL:HG23	2.21	0.40
29:X:1541:G:C4	29:X:1542:G:C8	3.09	0.40
12:G:36:ASN:C	12:G:38:GLU:N	2.59	0.40
8:C:182:ARG:HD3	8:C:183:HIS:CE1	2.57	0.40
11:F:88:SER:O	29:X:1075:C:H4'	2.21	0.40
23:R:65:PRO:C	23:R:67:GLY:H	2.24	0.40
29:X:1705:U:N3	29:X:1715:A:C2	2.89	0.40
29:X:1357:U:O2'	29:X:1358:C:OP1	2.36	0.40
13:H:11:ALA:O	13:H:110:VAL:HA	2.21	0.40
29:X:1380:C:C2'	29:X:1381:G:H5'	2.52	0.40
29:X:474:G:N2	29:X:476:G:H3'	2.36	0.40
29:X:1845:A:O2'	29:X:1846:A:H5'	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:1177:U:H2'	29:X:1178:C:C6	2.56	0.40
23:R:53:VAL:HG21	23:R:74:LEU:HD22	2.02	0.40
12:G:46:ALA:CB	12:G:54:LEU:CD2	2.99	0.40
17:L:74:ALA:O	17:L:78:ALA:HB2	2.21	0.40
8:C:170:LEU:HA	8:C:170:LEU:HD12	1.85	0.40
29:X:2288:A:C5	29:X:2289:A:N7	2.89	0.40
6:A:227:ASN:OD1	29:X:797:A:H5''	2.22	0.40
7:B:154:LYS:O	7:B:154:LYS:CG	2.69	0.40
8:C:46:ARG:HG2	29:X:463:C:P	2.62	0.40
16:K:3:HIS:ND1	16:K:5:LYS:CD	2.83	0.40
29:X:1162:A:H2'	29:X:1163:C:C6	2.56	0.40
29:X:2032:G:C5	29:X:2033:C:C5	3.10	0.40
29:X:2800:C:H5''	29:X:2800:C:H6	1.87	0.40
13:H:9:ASP:O	13:H:95:ALA:HA	2.21	0.40
29:X:2046:C:O2	29:X:2429:A:N1	2.54	0.40
10:E:109:TYR:HE1	10:E:152:ARG:CZ	2.34	0.40
29:X:559:C:H2'	29:X:560:G:C4'	2.52	0.40
29:X:1948:C:C5	29:X:1949:A:C8	3.09	0.40
26:U:34:THR:HG23	26:U:35:THR:N	2.35	0.40
21:P:52:ASP:O	21:P:54:GLU:N	2.55	0.40
21:P:92:VAL:HG13	21:P:126:ILE:CD1	2.45	0.40
21:P:92:VAL:O	21:P:93:LYS:C	2.58	0.40
16:K:64:ARG:O	16:K:67:ALA:HB3	2.22	0.40
29:X:742:G:C2	29:X:1766:U:N1	2.89	0.40
29:X:753:U:O4'	29:X:1964:A:C4	2.75	0.40
29:X:2238:G:H2'	29:X:2239:C:C5'	2.51	0.40
29:X:2331:A:C2'	29:X:2332:G:H5'	2.51	0.40
31:Z:80:A:H3'	31:Z:81:C:C6	2.56	0.40
28:W:26:ARG:NH1	28:W:26:ARG:HG3	2.36	0.40
13:H:23:ARG:NH1	13:H:25:LEU:HD23	2.36	0.40
14:I:122:VAL:HG21	14:I:124:ALA:O	2.21	0.40
14:I:88:PHE:HB3	14:I:93:LEU:HD12	2.03	0.40
29:X:638:A:H4'	29:X:639:G:C5'	2.45	0.40
27:V:4:SER:O	27:V:8:ASN:HB2	2.22	0.40
22:Q:88:ILE:HG13	22:Q:92:ALA:HB2	2.04	0.40
8:C:191:ALA:O	8:C:194:GLU:O	2.40	0.40
15:J:51:CYS:O	15:J:54:VAL:HB	2.21	0.40
10:E:38:ASN:HB2	10:E:41:LEU:HB2	2.04	0.40
24:S:115:ILE:HG23	24:S:169:VAL:HG12	2.03	0.40
29:X:1982:C:OP1	29:X:2704:U:H5'	2.20	0.40
26:U:13:LEU:CG	26:U:14:VAL:H	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:X:167:A:H2'	29:X:168:A:H8	1.87	0.40
29:X:172:A:C6	29:X:175:C:H5	2.40	0.40
29:X:1763:G:O2'	29:X:1764:A:H5'	2.21	0.40
29:X:632:A:C2	29:X:633:G:C4	3.09	0.40
13:H:113:PRO:CB	13:H:134:LEU:HD12	2.52	0.40
6:A:96:HIS:CD2	29:X:1517:C:H4'	2.57	0.40
12:G:151:TYR:HE2	12:G:160:ALA:CB	2.33	0.40
6:A:253:PRO:O	6:A:254:THR:OG1	2.37	0.40
29:X:2790:C:O2'	30:Y:43:HIS:HD2	2.04	0.40
29:X:403:A:H4'	29:X:404:A:C5'	2.51	0.40
29:X:2245:A:O2'	29:X:2246:A:P	2.80	0.40
29:X:1374:G:H4'	29:X:2193:C:O2'	2.21	0.40
29:X:1597:A:H2'	29:X:1598:C:C5	2.55	0.40
29:X:1479:G:O2'	29:X:1480:G:H5'	2.20	0.40
29:X:1970:G:H2'	29:X:1971:C:H6	1.86	0.40
29:X:1412:C:O5'	29:X:1412:C:H6	2.04	0.40
29:X:1358:C:C2'	29:X:1359:G:C5'	3.00	0.40
29:X:2870:C:H2'	29:X:2871:U:H6	1.85	0.40
29:X:119:G:C2	29:X:120:G:C5	3.10	0.40
29:X:2754:C:O2'	29:X:2755:A:H5'	2.21	0.40
29:X:1578:U:H2'	29:X:1579:G:O4'	2.22	0.40
10:E:98:LEU:HD11	10:E:101:LYS:C	2.41	0.40
28:W:23:LEU:HA	28:W:23:LEU:HD23	1.96	0.40
29:X:2511:G:O6	29:X:2512:A:C6	2.74	0.40
6:A:64:ILE:O	6:A:65:ILE:HG13	2.21	0.40
24:S:25:ASN:O	24:S:26:LYS:HB3	2.22	0.40
21:P:81:HIS:CD2	21:P:82:ASN:N	2.89	0.40
29:X:2691:C:H1'	29:X:2692:A:C8	2.56	0.40
29:X:1050:G:C2'	29:X:1051:U:H5'	2.49	0.40
29:X:2285:U:H5'	29:X:2286:G:O4'	2.22	0.40
9:D:79:LEU:CD2	29:X:2289:A:H2	2.25	0.40
12:G:91:THR:HB	12:G:92:GLY:H	1.61	0.40
29:X:1002:C:N4	29:X:1003:C:H41	2.20	0.40
29:X:2042:A:C5	29:X:2482:A:C2	3.09	0.40
29:X:2602:G:OP1	29:X:2801:A:H1'	2.21	0.40
29:X:471:A:H2'	29:X:472:C:H5'	2.02	0.40
29:X:599:A:C6	29:X:681:A:N1	2.90	0.40
27:V:29:ARG:HB3	27:V:29:ARG:NH1	2.37	0.40
8:C:130:THR:HA	8:C:133:PHE:HB3	2.03	0.40
15:J:100:PRO:HB2	24:S:74:ARG:HE	1.86	0.40
24:S:76:ARG:HG3	24:S:76:ARG:HH11	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:R:22:VAL:O	23:R:33:THR:HA	2.21	0.40
29:X:317:U:H2'	29:X:318:G:C5'	2.33	0.40
29:X:2571:G:N2	29:X:2582:G:C5	2.89	0.40
29:X:1813:A:H2'	29:X:1814:G:C8	2.56	0.40
14:I:115:SER:O	14:I:116:ARG:HB2	2.21	0.40
17:L:31:VAL:HA	17:L:38:ILE:HD12	2.03	0.40
29:X:1850:G:C2'	29:X:1851:A:C8	2.95	0.40
13:H:3:MET:CE	29:X:1978:U:O2	2.69	0.40
29:X:2498:U:C4	29:X:2520:A:C5	3.09	0.40
26:U:47:HIS:HB2	26:U:48:LYS:H	1.51	0.40
29:X:205:A:H2'	29:X:206:U:C5'	2.34	0.40
6:A:97:TYR:C	6:A:99:ASP:N	2.75	0.40
29:X:1505:U:O2	29:X:1506:C:C5	2.74	0.40
31:Z:112:A:H2'	31:Z:113:G:O4'	2.22	0.40
29:X:1193:G:C3'	29:X:1194:U:H5''	2.48	0.40
6:A:252:LYS:HB2	6:A:252:LYS:HE3	1.78	0.40
29:X:1836:C:H2'	29:X:1837:G:O4'	2.22	0.40
29:X:122:G:H2'	29:X:123:A:H5''	2.04	0.40
7:B:79:ARG:HA	7:B:79:ARG:HD3	1.87	0.40
18:M:34:ARG:NH2	18:M:66:PHE:HE2	2.20	0.40
29:X:2791:C:HO2'	29:X:2792:C:H5'	1.83	0.40
29:X:1524:C:H3'	29:X:1525:A:C5'	2.51	0.40
29:X:1480:G:H2'	29:X:1481:U:O4'	2.21	0.40
29:X:192:G:HO2'	29:X:193:A:P	2.44	0.40
29:X:783:G:C1'	29:X:1392:U:C4	3.05	0.40
29:X:780:U:O2'	29:X:781:G:H5'	2.21	0.40
29:X:780:U:O2'	29:X:781:G:O5'	2.39	0.40
29:X:341:A:C3'	29:X:341:A:C8	3.00	0.40
29:X:2810:A:N6	29:X:2853:U:H2'	2.36	0.40
8:C:185:ARG:NH2	8:C:185:ARG:HG2	2.34	0.40
16:K:51:LEU:HD21	16:K:70:ILE:CG1	2.52	0.40
19:N:117:ARG:HG3	19:N:117:ARG:NH2	2.36	0.40
29:X:387:A:H2'	29:X:387:A:N3	2.36	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	4	35/37 (95%)	20 (57%)	12 (34%)	3 (9%)	1	16
5	5	2/13 (15%)	1 (50%)	1 (50%)	0	100	100
6	A	238/274 (87%)	166 (70%)	51 (21%)	21 (9%)	1	15
7	B	203/211 (96%)	143 (70%)	33 (16%)	27 (13%)	0	6
8	C	195/205 (95%)	94 (48%)	55 (28%)	46 (24%)	0	1
9	D	175/180 (97%)	99 (57%)	50 (29%)	26 (15%)	0	5
10	E	169/185 (91%)	110 (65%)	40 (24%)	19 (11%)	0	9
11	F	142/144 (99%)	101 (71%)	33 (23%)	8 (6%)	2	28
12	G	140/174 (80%)	76 (54%)	34 (24%)	30 (21%)	0	2
13	H	132/134 (98%)	106 (80%)	18 (14%)	8 (6%)	2	26
14	I	139/156 (89%)	60 (43%)	41 (30%)	38 (27%)	0	0
15	J	134/142 (94%)	76 (57%)	41 (31%)	17 (13%)	0	7
16	K	111/116 (96%)	70 (63%)	23 (21%)	18 (16%)	0	5
17	L	102/114 (90%)	65 (64%)	23 (22%)	14 (14%)	0	6
18	M	106/166 (64%)	64 (60%)	22 (21%)	20 (19%)	0	3
19	N	115/118 (98%)	65 (56%)	30 (26%)	20 (17%)	0	3
20	O	92/100 (92%)	52 (56%)	23 (25%)	17 (18%)	0	3
21	P	125/134 (93%)	84 (67%)	26 (21%)	15 (12%)	0	8
22	Q	91/95 (96%)	45 (50%)	25 (28%)	21 (23%)	0	1
23	R	108/115 (94%)	61 (56%)	28 (26%)	19 (18%)	0	3
24	S	173/237 (73%)	96 (56%)	50 (29%)	27 (16%)	0	5
25	T	82/91 (90%)	56 (68%)	16 (20%)	10 (12%)	0	8
26	U	70/81 (86%)	34 (49%)	19 (27%)	17 (24%)	0	1
27	V	64/67 (96%)	44 (69%)	12 (19%)	8 (12%)	0	8
28	W	53/55 (96%)	36 (68%)	13 (24%)	4 (8%)	1	20

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	Y	56/60 (93%)	35 (62%)	15 (27%)	6 (11%)	0	10
All	All	3052/3404 (90%)	1859 (61%)	734 (24%)	459 (15%)	0	5

All (459) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	A	54	ILE
6	A	59	LYS
7	B	76	ARG
7	B	85	ALA
7	B	86	PRO
7	B	123	ALA
7	B	126	PRO
7	B	131	SER
7	B	132	LYS
7	B	135	HIS
7	B	137	ARG
7	B	147	PRO
7	B	189	PRO
8	C	9	GLN
8	C	10	ASN
8	C	13	ARG
8	C	68	ARG
8	C	75	PRO
8	C	84	PHE
8	C	129	LYS
8	C	138	LYS
8	C	153	ASP
8	C	154	ASP
8	C	155	GLU
8	C	156	ASN
8	C	164	VAL
8	C	165	SER
8	C	166	TRP
8	C	172	VAL
8	C	173	ALA
8	C	175	VAL
8	C	176	ASN
8	C	192	ALA
9	D	10	ASP
9	D	77	PHE
9	D	119	PRO

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Mol	Chain	Res	Type
9	D	120	ASN
10	E	15	VAL
10	E	16	THR
10	E	58	ALA
10	E	126	PRO
12	G	37	ASP
12	G	65	LYS
12	G	88	VAL
12	G	98	LYS
12	G	104	THR
12	G	166	LEU
12	G	170	PRO
13	H	5	GLN
13	H	27	SER
14	I	29	THR
14	I	36	GLY
14	I	38	LYS
14	I	39	SER
14	I	49	PHE
14	I	76	LYS
14	I	99	VAL
14	I	127	ALA
14	I	132	ALA
15	J	21	ASP
15	J	22	ALA
15	J	26	ASP
15	J	27	TYR
15	J	81	GLU
15	J	83	ARG
15	J	97	VAL
15	J	100	PRO
16	K	6	ALA
16	K	11	ASN
16	K	13	ASN
16	K	32	GLY
17	L	31	VAL
17	L	45	ASP
17	L	96	TYR
17	L	109	GLU
18	M	26	ASP
18	M	27	PHE
18	M	29	PRO

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Mol	Chain	Res	Type
18	M	47	SER
18	M	53	VAL
18	M	74	GLY
18	M	83	PHE
18	M	95	GLU
18	M	102	ALA
19	N	5	LYS
19	N	8	ILE
19	N	32	TYR
19	N	75	ASN
19	N	91	ASN
19	N	94	VAL
19	N	110	VAL
20	O	7	THR
20	O	9	GLY
20	O	10	LYS
20	O	13	ARG
20	O	15	SER
20	O	29	ALA
20	O	36	LYS
20	O	49	GLU
20	O	80	TYR
20	O	96	LEU
21	P	11	LYS
21	P	92	VAL
22	Q	7	LEU
22	Q	12	ILE
22	Q	41	ALA
22	Q	61	LYS
22	Q	63	LYS
22	Q	74	ASP
23	R	11	ASN
23	R	12	ASP
23	R	60	PRO
23	R	83	LEU
23	R	91	ALA
23	R	96	LYS
24	S	5	ALA
24	S	6	LYS
24	S	13	LYS
24	S	17	SER
24	S	26	LYS

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Mol	Chain	Res	Type
24	S	33	ALA
24	S	36	ARG
24	S	45	GLN
24	S	88	TYR
24	S	92	VAL
24	S	118	HIS
25	T	3	HIS
25	T	4	LYS
25	T	19	LYS
25	T	31	VAL
25	T	75	GLY
26	U	10	LYS
26	U	14	VAL
26	U	16	ASN
26	U	30	VAL
26	U	32	ARG
26	U	34	THR
26	U	56	GLN
26	U	60	VAL
27	V	2	LYS
27	V	36	GLN
28	W	8	SER
28	W	49	HIS
30	Y	4	HIS
30	Y	20	ARG
30	Y	53	ASP
4	4	16	VAL
6	A	47	GLY
6	A	125	PRO
6	A	156	ALA
7	B	12	THR
7	B	17	ASN
7	B	29	GLY
7	B	72	VAL
7	B	94	ASP
7	B	124	GLY
7	B	130	GLY
7	B	148	GLY
7	B	190	GLY
8	C	11	GLY
8	C	22	VAL
8	C	30	VAL

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Mol	Chain	Res	Type
8	C	67	ALA
8	C	80	GLY
8	C	103	GLY
8	C	139	GLN
8	C	159	ARG
8	C	196	VAL
9	D	5	LYS
9	D	40	LEU
9	D	53	ALA
9	D	123	ASP
9	D	137	ILE
9	D	168	ALA
10	E	13	SER
10	E	14	GLY
10	E	49	GLN
10	E	55	PRO
10	E	78	GLY
10	E	119	ALA
10	E	165	VAL
11	F	19	PRO
11	F	118	GLY
12	G	32	TYR
12	G	33	ILE
12	G	55	ALA
12	G	73	ASN
12	G	78	ASP
12	G	107	GLN
12	G	108	GLY
12	G	141	GLY
13	H	32	LYS
13	H	37	GLY
13	H	42	LYS
13	H	101	ASN
14	I	16	ARG
14	I	24	GLY
14	I	31	GLY
14	I	40	ARG
14	I	44	GLY
14	I	47	ALA
14	I	62	LYS
14	I	64	GLY
14	I	82	ASP

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Mol	Chain	Res	Type
14	I	91	ASP
14	I	98	LEU
14	I	114	ILE
15	J	13	GLN
15	J	29	ALA
15	J	111	THR
16	K	18	VAL
16	K	92	GLY
16	K	95	THR
17	L	33	ARG
17	L	46	SER
17	L	52	ALA
17	L	67	THR
17	L	104	ALA
18	M	17	GLU
18	M	46	ARG
18	M	73	PHE
18	M	96	ARG
19	N	7	GLY
19	N	11	ARG
19	N	46	GLU
19	N	78	THR
19	N	79	PHE
20	O	31	ASP
20	O	79	GLN
21	P	9	ARG
21	P	46	ARG
21	P	81	HIS
21	P	112	GLY
22	Q	40	ASP
22	Q	69	ILE
22	Q	83	ALA
22	Q	89	GLU
23	R	10	HIS
23	R	15	HIS
23	R	26	SER
23	R	61	SER
23	R	63	THR
24	S	37	LYS
24	S	38	ALA
25	T	30	VAL
26	U	15	VAL

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Mol	Chain	Res	Type
26	U	27	ASP
26	U	29	GLY
26	U	41	VAL
26	U	65	ASN
26	U	72	LYS
27	V	37	LEU
27	V	65	GLU
28	W	54	GLN
30	Y	36	CYS
6	A	60	ARG
6	A	86	PRO
6	A	108	PRO
6	A	219	PRO
6	A	237	GLU
6	A	241	GLY
6	A	252	LYS
8	C	14	THR
8	C	15	ILE
8	C	47	THR
8	C	102	LEU
8	C	171	PRO
8	C	190	ALA
8	C	191	ALA
8	C	195	ILE
9	D	11	GLN
9	D	42	SER
9	D	71	LYS
9	D	76	ASN
9	D	94	GLU
10	E	7	GLN
10	E	21	ASP
10	E	173	ALA
11	F	26	ALA
11	F	120	VAL
12	G	36	ASN
12	G	39	GLN
12	G	72	PRO
12	G	97	ASP
12	G	169	GLN
14	I	105	PRO
14	I	136	ALA
15	J	11	ARG

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Mol	Chain	Res	Type
15	J	18	MET
15	J	56	SER
15	J	117	GLU
16	K	4	GLY
16	K	20	LEU
16	K	21	ALA
16	K	91	PRO
17	L	103	LEU
18	M	10	GLY
18	M	44	ARG
18	M	108	ARG
19	N	33	ARG
19	N	65	ILE
19	N	77	SER
20	O	35	LEU
20	O	39	PHE
20	O	66	GLY
21	P	35	PRO
21	P	48	LYS
21	P	49	SER
22	Q	6	ILE
22	Q	91	LEU
23	R	50	GLY
23	R	65	PRO
23	R	89	GLY
23	R	108	VAL
24	S	2	GLU
24	S	46	GLN
24	S	106	GLY
24	S	125	PRO
24	S	134	LEU
24	S	140	LYS
24	S	158	CYS
25	T	16	SER
25	T	74	LYS
25	T	83	ALA
27	V	47	ARG
27	V	53	LEU
6	A	87	ASN
6	A	209	ALA
6	A	220	HIS
6	A	224	SER

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Mol	Chain	Res	Type
6	A	235	GLY
7	B	73	ALA
7	B	134	TRP
7	B	136	ARG
7	B	144	ARG
7	B	154	LYS
7	B	185	LYS
8	C	20	PRO
8	C	44	SER
8	C	83	ALA
8	C	121	ASP
8	C	178	TYR
9	D	81	GLN
9	D	134	GLU
10	E	20	GLN
10	E	42	THR
11	F	93	LYS
11	F	135	GLY
12	G	67	ARG
12	G	106	TYR
12	G	130	ALA
12	G	143	ALA
14	I	19	VAL
14	I	32	ARG
14	I	41	SER
14	I	65	PHE
14	I	87	THR
14	I	93	LEU
16	K	56	LYS
16	K	88	ALA
17	L	55	SER
17	L	56	SER
17	L	102	ALA
18	M	28	ARG
18	M	39	VAL
18	M	106	TYR
19	N	12	ARG
19	N	13	ARG
19	N	27	SER
20	O	24	SER
21	P	82	ASN
22	Q	67	ARG

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Mol	Chain	Res	Type
23	R	20	ASP
23	R	79	SER
24	S	25	ASN
24	S	91	PRO
26	U	47	HIS
27	V	43	VAL
30	Y	21	SER
4	4	19	ARG
4	4	33	LYS
7	B	121	ASN
8	C	31	VAL
9	D	145	MET
9	D	146	VAL
9	D	152	MET
10	E	151	VAL
12	G	34	PRO
12	G	68	PRO
12	G	105	GLY
13	H	61	ARG
14	I	9	THR
14	I	17	LYS
14	I	81	GLN
14	I	90	ARG
15	J	106	GLU
16	K	8	ARG
16	K	26	THR
16	K	45	ARG
19	N	10	ARG
19	N	50	ARG
21	P	20	LEU
21	P	53	ALA
22	Q	13	SER
22	Q	43	GLN
23	R	85	ASP
24	S	24	TYR
24	S	110	GLY
26	U	64	ALA
27	V	4	SER
30	Y	19	ARG
6	A	69	ARG
8	C	126	ALA
8	C	152	THR

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Mol	Chain	Res	Type
9	D	72	LYS
9	D	170	LEU
10	E	136	ILE
10	E	139	GLN
12	G	132	PHE
13	H	124	MET
14	I	78	SER
14	I	88	PHE
16	K	7	GLY
20	O	18	ASP
21	P	32	ARG
21	P	132	GLY
22	Q	35	LYS
22	Q	47	GLY
22	Q	90	ALA
24	S	124	ALA
26	U	39	LYS
28	W	48	LYS
6	A	246	PRO
9	D	13	ARG
23	R	64	ASN
9	D	21	GLY
12	G	64	GLY
12	G	127	ILE
17	L	38	ILE
21	P	101	PRO
22	Q	48	VAL
22	Q	60	GLY
6	A	197	GLY
6	A	247	VAL
9	D	176	PRO
11	F	22	PRO
11	F	96	VAL
14	I	10	PRO
14	I	33	GLY
15	J	54	VAL
24	S	86	VAL
24	S	155	PRO
8	C	177	VAL
16	K	83	VAL
22	Q	65	VAL
25	T	81	ILE

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Mol	Chain	Res	Type
9	D	14	PRO
14	I	122	VAL
18	M	86	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	4	35/35 (100%)	35 (100%)	0	100	100
5	5	2/3 (67%)	2 (100%)	0	100	100
6	A	185/215 (86%)	170 (92%)	15 (8%)	15	54
7	B	155/157 (99%)	145 (94%)	10 (6%)	21	64
8	C	157/163 (96%)	146 (93%)	11 (7%)	19	61
9	D	153/156 (98%)	145 (95%)	8 (5%)	29	70
10	E	136/144 (94%)	133 (98%)	3 (2%)	60	86
11	F	107/107 (100%)	103 (96%)	4 (4%)	41	77
12	G	118/146 (81%)	100 (85%)	18 (15%)	3	25
13	H	103/103 (100%)	94 (91%)	9 (9%)	13	51
14	I	108/121 (89%)	99 (92%)	9 (8%)	14	53
15	J	110/116 (95%)	94 (86%)	16 (14%)	4	27
16	K	90/93 (97%)	74 (82%)	16 (18%)	2	16
17	L	74/82 (90%)	62 (84%)	12 (16%)	3	21
18	M	94/134 (70%)	79 (84%)	15 (16%)	3	22
19	N	96/97 (99%)	91 (95%)	5 (5%)	29	70
20	O	75/79 (95%)	70 (93%)	5 (7%)	20	63
21	P	109/115 (95%)	101 (93%)	8 (7%)	17	59
22	Q	75/76 (99%)	68 (91%)	7 (9%)	11	49
23	R	91/96 (95%)	79 (87%)	12 (13%)	5	31
24	S	149/192 (78%)	141 (95%)	8 (5%)	27	69

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	T	62/67 (92%)	59 (95%)	3 (5%)	31	72
26	U	57/66 (86%)	50 (88%)	7 (12%)	6	34
27	V	54/55 (98%)	52 (96%)	2 (4%)	41	77
28	W	48/48 (100%)	44 (92%)	4 (8%)	14	53
30	Y	51/53 (96%)	46 (90%)	5 (10%)	10	45
All	All	2494/2719 (92%)	2282 (92%)	212 (8%)	13	53

All (212) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
6	A	43	ARG
6	A	44	ASN
6	A	48	ARG
6	A	68	LYS
6	A	122	GLU
6	A	164	GLN
6	A	183	ARG
6	A	208	LYS
6	A	214	TRP
6	A	218	LYS
6	A	222	ARG
6	A	226	MET
6	A	244	ARG
6	A	245	VAL
6	A	252	LYS
7	B	75	THR
7	B	86	PRO
7	B	94	ASP
7	B	119	ARG
7	B	137	ARG
7	B	147	PRO
7	B	150	VAL
7	B	154	LYS
7	B	160	MET
7	B	199	ARG
8	C	13	ARG
8	C	48	ARG
8	C	62	LYS
8	C	71	ASP
8	C	75	PRO

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Mol	Chain	Res	Type
8	C	104	LEU
8	C	124	ASP
8	C	136	TRP
8	C	153	ASP
8	C	154	ASP
8	C	166	TRP
9	D	40	LEU
9	D	80	ARG
9	D	89	VAL
9	D	105	ASN
9	D	112	ARG
9	D	123	ASP
9	D	125	ARG
9	D	130	LEU
10	E	35	VAL
10	E	48	ASP
10	E	57	ASP
11	F	2	LYS
11	F	3	LYS
11	F	63	ARG
11	F	103	GLN
12	G	34	PRO
12	G	37	ASP
12	G	61	ARG
12	G	71	THR
12	G	82	VAL
12	G	91	THR
12	G	93	LYS
12	G	101	THR
12	G	102	ARG
12	G	103	TYR
12	G	104	THR
12	G	110	LEU
12	G	113	GLU
12	G	116	ARG
12	G	132	PHE
12	G	151	TYR
12	G	154	GLU
12	G	157	PRO
13	H	3	MET
13	H	22	ILE
13	H	23	ARG

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Mol	Chain	Res	Type
13	H	41	ASN
13	H	47	VAL
13	H	88	THR
13	H	91	PHE
13	H	108	THR
13	H	116	ARG
14	I	7	LYS
14	I	13	ARG
14	I	34	HIS
14	I	37	GLN
14	I	38	LYS
14	I	45	LYS
14	I	53	ARG
14	I	99	VAL
14	I	103	ASN
15	J	7	ARG
15	J	11	ARG
15	J	21	ASP
15	J	27	TYR
15	J	32	ASP
15	J	52	ARG
15	J	60	ARG
15	J	64	LYS
15	J	68	ARG
15	J	75	VAL
15	J	81	GLU
15	J	93	TYR
15	J	94	TRP
15	J	100	PRO
15	J	106	GLU
15	J	125	LYS
16	K	11	ASN
16	K	13	ASN
16	K	28	LEU
16	K	31	GLU
16	K	33	ARG
16	K	35	GLN
16	K	36	THR
16	K	39	THR
16	K	43	GLU
16	K	83	VAL
16	K	95	THR

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Mol	Chain	Res	Type
16	K	96	ARG
16	K	97	ILE
16	K	99	ARG
16	K	109	THR
16	K	113	ILE
17	L	8	ARG
17	L	38	ILE
17	L	41	GLN
17	L	42	ILE
17	L	43	ILE
17	L	44	ASP
17	L	60	LYS
17	L	64	LYS
17	L	67	THR
17	L	71	VAL
17	L	89	PHE
17	L	91	ARG
18	M	5	ILE
18	M	25	PRO
18	M	31	ASP
18	M	43	ASN
18	M	46	ARG
18	M	47	SER
18	M	51	GLU
18	M	54	VAL
18	M	63	ARG
18	M	69	ARG
18	M	85	SER
18	M	89	ASN
18	M	90	GLN
18	M	101	ARG
18	M	106	TYR
19	N	13	ARG
19	N	22	LYS
19	N	49	ASP
19	N	85	ARG
19	N	93	LYS
20	O	20	ILE
20	O	28	GLU
20	O	35	LEU
20	O	47	PHE
20	O	72	ARG

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Mol	Chain	Res	Type
21	P	16	GLN
21	P	32	ARG
21	P	39	ARG
21	P	67	PRO
21	P	74	SER
21	P	91	PHE
21	P	96	TYR
21	P	106	LEU
22	Q	5	ASP
22	Q	7	LEU
22	Q	12	ILE
22	Q	27	PHE
22	Q	37	GLU
22	Q	38	ILE
22	Q	62	ARG
23	R	11	ASN
23	R	18	LYS
23	R	25	LEU
23	R	44	GLN
23	R	80	LYS
23	R	83	LEU
23	R	93	ARG
23	R	95	ARG
23	R	105	ARG
23	R	106	VAL
23	R	112	LYS
23	R	113	THR
24	S	3	LEU
24	S	9	THR
24	S	13	LYS
24	S	49	THR
24	S	51	LEU
24	S	53	ASP
24	S	71	MET
24	S	92	VAL
25	T	31	VAL
25	T	37	LEU
25	T	64	ASP
26	U	14	VAL
26	U	27	ASP
26	U	32	ARG
26	U	42	GLN

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Mol	Chain	Res	Type
26	U	67	LEU
26	U	70	LEU
26	U	78	ILE
27	V	21	ARG
27	V	41	HIS
28	W	12	ARG
28	W	30	ASP
28	W	32	ARG
28	W	45	LYS
30	Y	3	LYS
30	Y	4	HIS
30	Y	29	ASN
30	Y	32	GLU
30	Y	49	CYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (69) such sidechains are listed below:

Mol	Chain	Res	Type
4	4	34	GLN
4	4	36	GLN
6	A	44	ASN
6	A	129	ASN
6	A	166	GLN
7	B	180	ASN
8	C	9	GLN
8	C	61	GLN
8	C	112	GLN
8	C	132	ASN
8	C	139	GLN
9	D	9	ASN
9	D	120	ASN
9	D	129	ASN
10	E	20	GLN
10	E	45	GLN
10	E	61	HIS
11	F	103	GLN
12	G	73	ASN
12	G	140	GLN
13	H	13	ASN
13	H	26	ASN
13	H	41	ASN
13	H	79	HIS

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Mol	Chain	Res	Type
14	I	34	HIS
14	I	37	GLN
14	I	67	ASN
14	I	79	GLN
14	I	81	GLN
14	I	103	ASN
15	J	13	GLN
16	K	11	ASN
16	K	13	ASN
16	K	24	GLN
17	L	37	HIS
17	L	41	GLN
17	L	49	GLN
17	L	63	ASN
17	L	86	GLN
18	M	43	ASN
18	M	48	GLN
19	N	31	GLN
19	N	72	HIS
20	O	11	GLN
20	O	57	GLN
21	P	17	GLN
21	P	78	ASN
21	P	81	HIS
21	P	115	ASN
21	P	133	ASN
22	Q	73	ASN
23	R	10	HIS
23	R	11	ASN
23	R	29	HIS
23	R	32	GLN
23	R	69	GLN
24	S	70	GLN
24	S	146	HIS
25	T	17	ASN
25	T	57	HIS
25	T	71	ASN
27	V	41	HIS
27	V	45	GLN
28	W	49	HIS
30	Y	23	HIS
30	Y	29	ASN

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Mol	Chain	Res	Type
30	Y	35	GLN
30	Y	43	HIS
30	Y	44	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
29	X	2680/2880 (93%)	653 (24%)	239 (8%)
31	Z	121/123 (98%)	24 (19%)	1 (0%)
All	All	2801/3003 (93%)	677 (24%)	240 (8%)

All (677) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
29	X	4	C
29	X	13	A
29	X	14	A
29	X	27	G
29	X	29	U
29	X	34	U
29	X	35	G
29	X	39	C
29	X	45	C
29	X	49	U
29	X	50	G
29	X	59	G
29	X	63	A
29	X	69	G
29	X	70	A
29	X	71	A
29	X	72	A
29	X	74	G
29	X	76	C
29	X	82	G
29	X	83	A
29	X	84	G
29	X	87	G
29	X	89	A
29	X	90	G
29	X	91	A
29	X	98	U

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Mol	Chain	Res	Type
29	X	99	U
29	X	100	G
29	X	105	G
29	X	110	U
29	X	117	A
29	X	118	U
29	X	119	G
29	X	123	A
29	X	124	A
29	X	129	A
29	X	135	U
29	X	143	A
29	X	147	G
29	X	155	G
29	X	158	A
29	X	173	A
29	X	176	A
29	X	181	A
29	X	182	G
29	X	193	A
29	X	199	A
29	X	200	A
29	X	205	A
29	X	206	U
29	X	210	A
29	X	218	A
29	X	219	G
29	X	225	G
29	X	227	G
29	X	229	G
29	X	242	A
29	X	243	G
29	X	245	C
29	X	304	A
29	X	305	A
29	X	318	G
29	X	322	A
29	X	323	G
29	X	333	A
29	X	334	G
29	X	335	A
29	X	340	G

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Mol	Chain	Res	Type
29	X	341	A
29	X	342	G
29	X	343	A
29	X	399	G
29	X	400	U
29	X	401	G
29	X	403	A
29	X	404	A
29	X	414	A
29	X	416	U
29	X	417	C
29	X	418	C
29	X	419	G
29	X	420	C
29	X	424	G
29	X	425	A
29	X	441	A
29	X	447	U
29	X	448	C
29	X	455	A
29	X	456	C
29	X	459	A
29	X	460	U
29	X	461	A
29	X	463	C
29	X	466	A
29	X	467	U
29	X	468	A
29	X	470	U
29	X	480	G
29	X	483	A
29	X	485	G
29	X	486	U
29	X	491	A
29	X	492	G
29	X	497	C
29	X	514	G
29	X	515	A
29	X	517	A
29	X	519	C
29	X	537	C
29	X	538	A

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Mol	Chain	Res	Type
29	X	539	A
29	X	540	G
29	X	541	C
29	X	542	A
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	558	G
29	X	559	C
29	X	571	U
29	X	572	G
29	X	581	A
29	X	582	G
29	X	583	C
29	X	584	A
29	X	601	A
29	X	613	A
29	X	614	G
29	X	624	A
29	X	625	A
29	X	626	A
29	X	631	G
29	X	632	A
29	X	633	G
29	X	636	G
29	X	639	G
29	X	649	G
29	X	652	C
29	X	654	A
29	X	655	A
29	X	657	A
29	X	664	C
29	X	665	A
29	X	666	U
29	X	667	U
29	X	668	A
29	X	669	G
29	X	670	U
29	X	684	C
29	X	699	G
29	X	700	C

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Mol	Chain	Res	Type
29	X	728	G
29	X	729	A
29	X	730	C
29	X	731	A
29	X	732	G
29	X	740	A
29	X	742	G
29	X	743	A
29	X	748	A
29	X	752	G
29	X	753	U
29	X	759	C
29	X	760	U
29	X	766	A
29	X	776	G
29	X	778	G
29	X	781	G
29	X	789	G
29	X	790	A
29	X	795	A
29	X	796	A
29	X	797	A
29	X	798	G
29	X	802	A
29	X	803	C
29	X	804	C
29	X	805	G
29	X	806	A
29	X	807	A
29	X	813	A
29	X	814	G
29	X	815	A
29	X	818	G
29	X	819	C
29	X	825	C
29	X	832	A
29	X	840	U
29	X	841	G
29	X	843	G
29	X	844	G
29	X	859	U
29	X	862	A

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Mol	Chain	Res	Type
29	X	872	G
29	X	879	A
29	X	914	C
29	X	919	U
29	X	922	A
29	X	926	C
29	X	927	C
29	X	940	G
29	X	944	A
29	X	952	A
29	X	957	G
29	X	968	C
29	X	969	U
29	X	970	A
29	X	971	A
29	X	972	C
29	X	973	U
29	X	984	A
29	X	985	G
29	X	994	A
29	X	995	A
29	X	996	C
29	X	1006	C
29	X	1007	A
29	X	1016	C
29	X	1019	U
29	X	1022	A
29	X	1023	U
29	X	1024	G
29	X	1032	A
29	X	1033	G
29	X	1034	U
29	X	1036	G
29	X	1037	U
29	X	1044	U
29	X	1045	G
29	X	1051	U
29	X	1053	G
29	X	1054	C
29	X	1055	A
29	X	1056	U
29	X	1057	A

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Mol	Chain	Res	Type
29	X	1058	G
29	X	1059	A
29	X	1060	C
29	X	1061	A
29	X	1070	G
29	X	1071	U
29	X	1072	U
29	X	1073	G
29	X	1078	A
29	X	1079	G
29	X	1081	A
29	X	1082	G
29	X	1087	C
29	X	1090	C
29	X	1095	A
29	X	1096	A
29	X	1097	A
29	X	1098	G
29	X	1099	A
29	X	1108	U
29	X	1115	C
29	X	1119	U
29	X	1123	G
29	X	1128	G
29	X	1129	A
29	X	1137	A
29	X	1138	A
29	X	1139	A
29	X	1142	G
29	X	1143	A
29	X	1145	C
29	X	1146	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1155	G
29	X	1166	A
29	X	1167	A
29	X	1168	G
29	X	1182	U
29	X	1183	C
29	X	1185	C

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Mol	Chain	Res	Type
29	X	1187	A
29	X	1189	G
29	X	1192	A
29	X	1194	U
29	X	1195	U
29	X	1220	G
29	X	1224	A
29	X	1225	G
29	X	1226	A
29	X	1233	A
29	X	1234	C
29	X	1249	G
29	X	1250	A
29	X	1251	G
29	X	1253	C
29	X	1262	U
29	X	1264	C
29	X	1265	G
29	X	1266	G
29	X	1269	G
29	X	1278	A
29	X	1279	G
29	X	1284	G
29	X	1285	A
29	X	1288	A
29	X	1300	A
29	X	1302	C
29	X	1313	U
29	X	1314	A
29	X	1316	G
29	X	1319	C
29	X	1325	U
29	X	1326	U
29	X	1333	G
29	X	1334	A
29	X	1338	G
29	X	1339	U
29	X	1342	U
29	X	1343	C
29	X	1346	C
29	X	1354	A
29	X	1355	A

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Mol	Chain	Res	Type
29	X	1356	G
29	X	1358	C
29	X	1359	G
29	X	1378	A
29	X	1391	A
29	X	1392	U
29	X	1398	G
29	X	1410	U
29	X	1411	C
29	X	1428	G
29	X	1429	A
29	X	1432	G
29	X	1433	A
29	X	1434	U
29	X	1440	G
29	X	1441	A
29	X	1442	C
29	X	1443	G
29	X	1460	G
29	X	1465	G
29	X	1467	U
29	X	1468	A
29	X	1469	U
29	X	1470	G
29	X	1474	A
29	X	1475	U
29	X	1482	U
29	X	1489	C
29	X	1490	U
29	X	1497	C
29	X	1498	G
29	X	1506	C
29	X	1513	U
29	X	1514	C
29	X	1523	A
29	X	1524	C
29	X	1525	A
29	X	1528	C
29	X	1551	U
29	X	1552	C
29	X	1553	G
29	X	1554	G

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Mol	Chain	Res	Type
29	X	1562	G
29	X	1563	U
29	X	1570	C
29	X	1571	G
29	X	1574	A
29	X	1575	C
29	X	1576	G
29	X	1583	A
29	X	1585	A
29	X	1601	U
29	X	1602	G
29	X	1608	U
29	X	1624	A
29	X	1625	A
29	X	1626	A
29	X	1627	C
29	X	1632	A
29	X	1633	C
29	X	1635	G
29	X	1648	C
29	X	1652	G
29	X	1657	A
29	X	1664	G
29	X	1665	C
29	X	1671	A
29	X	1685	A
29	X	1686	A
29	X	1688	U
29	X	1691	G
29	X	1692	C
29	X	1699	A
29	X	1701	C
29	X	1710	U
29	X	1711	C
29	X	1712	G
29	X	1713	G
29	X	1715	A
29	X	1716	G
29	X	1717	A
29	X	1724	C
29	X	1732	U
29	X	1733	U

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Mol	Chain	Res	Type
29	X	1734	C
29	X	1747	G
29	X	1749	G
29	X	1750	A
29	X	1754	G
29	X	1755	G
29	X	1764	A
29	X	1771	A
29	X	1772	C
29	X	1776	A
29	X	1778	U
29	X	1790	G
29	X	1791	C
29	X	1792	C
29	X	1793	A
29	X	1801	C
29	X	1802	A
29	X	1807	A
29	X	1808	C
29	X	1812	U
29	X	1821	A
29	X	1822	C
29	X	1825	C
29	X	1831	G
29	X	1842	G
29	X	1851	A
29	X	1852	G
29	X	1854	G
29	X	1855	G
29	X	1856	U
29	X	1857	G
29	X	1859	A
29	X	1861	G
29	X	1865	C
29	X	1867	A
29	X	1868	A
29	X	1872	A
29	X	1910	A
29	X	1912	G
29	X	1914	U
29	X	1919	A
29	X	1922	U

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Mol	Chain	Res	Type
29	X	1923	U
29	X	1924	C
29	X	1925	C
29	X	1926	U
29	X	1927	U
29	X	1928	G
29	X	1938	U
29	X	1939	U
29	X	1946	U
29	X	1947	G
29	X	1948	C
29	X	1949	A
29	X	1950	C
29	X	1953	A
29	X	1954	A
29	X	1955	G
29	X	1964	A
29	X	1965	U
29	X	1976	U
29	X	1979	C
29	X	1980	A
29	X	1993	G
29	X	2003	A
29	X	2004	U
29	X	2005	U
29	X	2006	G
29	X	2014	A
29	X	2015	G
29	X	2016	A
29	X	2019	C
29	X	2026	C
29	X	2032	G
29	X	2034	A
29	X	2035	G
29	X	2038	C
29	X	2039	G
29	X	2044	G
29	X	2045	A
29	X	2046	C
29	X	2047	C
29	X	2051	U
29	X	2052	G

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Mol	Chain	Res	Type
29	X	2075	U
29	X	2076	G
29	X	2083	G
29	X	2089	C
29	X	2171	U
29	X	2181	A
29	X	2190	A
29	X	2191	A
29	X	2192	U
29	X	2195	C
29	X	2196	U
29	X	2197	U
29	X	2198	U
29	X	2199	C
29	X	2200	G
29	X	2205	C
29	X	2217	G
29	X	2218	G
29	X	2229	G
29	X	2238	G
29	X	2245	A
29	X	2246	A
29	X	2247	A
29	X	2254	C
29	X	2259	G
29	X	2262	C
29	X	2265	A
29	X	2266	A
29	X	2267	A
29	X	2268	G
29	X	2276	C
29	X	2284	U
29	X	2285	U
29	X	2286	G
29	X	2287	G
29	X	2288	A
29	X	2298	U
29	X	2300	G
29	X	2306	A
29	X	2313	G
29	X	2314	A
29	X	2315	A

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Mol	Chain	Res	Type
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2325	A
29	X	2326	C
29	X	2362	G
29	X	2364	C
29	X	2369	U
29	X	2396	C
29	X	2402	U
29	X	2403	C
29	X	2405	A
29	X	2406	C
29	X	2407	G
29	X	2408	G
29	X	2409	A
29	X	2410	U
29	X	2418	A
29	X	2419	C
29	X	2420	C
29	X	2427	A
29	X	2428	U
29	X	2438	A
29	X	2448	A
29	X	2452	U
29	X	2455	A
29	X	2458	U
29	X	2469	G
29	X	2470	U
29	X	2477	C
29	X	2481	G
29	X	2483	U
29	X	2484	G
29	X	2485	U
29	X	2492	G
29	X	2497	A
29	X	2498	U
29	X	2499	C
29	X	2508	G
29	X	2509	A
29	X	2521	A
29	X	2522	G

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Mol	Chain	Res	Type
29	X	2533	U
29	X	2545	A
29	X	2546	G
29	X	2552	C
29	X	2557	G
29	X	2560	G
29	X	2561	G
29	X	2564	U
29	X	2565	C
29	X	2581	A
29	X	2582	G
29	X	2588	U
29	X	2591	C
29	X	2592	U
29	X	2593	A
29	X	2594	U
29	X	2609	G
29	X	2613	A
29	X	2625	U
29	X	2633	A
29	X	2634	G
29	X	2650	G
29	X	2660	C
29	X	2661	G
29	X	2668	U
29	X	2669	C
29	X	2670	C
29	X	2679	G
29	X	2691	C
29	X	2692	A
29	X	2693	U
29	X	2694	G
29	X	2700	U
29	X	2705	A
29	X	2707	G
29	X	2711	G
29	X	2712	G
29	X	2713	A
29	X	2728	A
29	X	2730	A
29	X	2731	G
29	X	2732	C

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Mol	Chain	Res	Type
29	X	2736	U
29	X	2737	A
29	X	2738	A
29	X	2744	A
29	X	2745	A
29	X	2746	G
29	X	2757	G
29	X	2758	A
29	X	2759	U
29	X	2760	G
29	X	2761	A
29	X	2770	A
29	X	2771	C
29	X	2775	U
29	X	2777	A
29	X	2778	U
29	X	2779	C
29	X	2782	G
29	X	2783	U
29	X	2795	A
29	X	2796	A
29	X	2807	U
29	X	2808	U
29	X	2809	A
29	X	2811	G
29	X	2812	A
29	X	2824	C
29	X	2825	A
29	X	2841	U
29	X	2842	C
29	X	2846	G
29	X	2847	G
29	X	2850	U
29	X	2854	G
29	X	2855	C
29	X	2858	A
29	X	2867	G
29	X	2868	G
31	Z	4	C
31	Z	11	G
31	Z	14	C
31	Z	15	A

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Mol	Chain	Res	Type
31	Z	17	A
31	Z	18	G
31	Z	27	A
31	Z	28	A
31	Z	37	C
31	Z	43	G
31	Z	44	C
31	Z	46	G
31	Z	47	A
31	Z	54	U
31	Z	59	A
31	Z	68	A
31	Z	69	G
31	Z	87	C
31	Z	102	A
31	Z	110	U
31	Z	111	C
31	Z	112	A
31	Z	115	G
31	Z	123	U

All (240) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
29	X	3	U
29	X	13	A
29	X	33	C
29	X	38	G
29	X	48	A
29	X	71	A
29	X	73	A
29	X	117	A
29	X	173	A
29	X	176	A
29	X	181	A
29	X	192	G
29	X	198	A
29	X	218	A
29	X	226	C
29	X	322	A
29	X	334	G
29	X	340	G

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Mol	Chain	Res	Type
29	X	341	A
29	X	342	G
29	X	399	G
29	X	403	A
29	X	417	C
29	X	424	G
29	X	454	G
29	X	460	U
29	X	466	A
29	X	467	U
29	X	468	A
29	X	469	G
29	X	485	G
29	X	490	A
29	X	516	G
29	X	538	A
29	X	539	A
29	X	553	C
29	X	554	U
29	X	555	U
29	X	556	A
29	X	557	U
29	X	571	U
29	X	580	A
29	X	582	G
29	X	583	C
29	X	613	A
29	X	631	G
29	X	638	A
29	X	648	A
29	X	664	C
29	X	683	A
29	X	698	A
29	X	699	G
29	X	729	A
29	X	730	C
29	X	739	G
29	X	741	G
29	X	751	G
29	X	752	G
29	X	765	C
29	X	775	U

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Mol	Chain	Res	Type
29	X	777	A
29	X	780	U
29	X	788	G
29	X	789	G
29	X	795	A
29	X	801	A
29	X	802	A
29	X	803	C
29	X	804	C
29	X	813	A
29	X	814	G
29	X	824	U
29	X	842	A
29	X	843	G
29	X	925	U
29	X	939	C
29	X	956	A
29	X	969	U
29	X	971	A
29	X	984	A
29	X	985	G
29	X	994	A
29	X	1006	C
29	X	1023	U
29	X	1031	C
29	X	1033	G
29	X	1036	G
29	X	1044	U
29	X	1053	G
29	X	1055	A
29	X	1071	U
29	X	1072	U
29	X	1096	A
29	X	1122	A
29	X	1141	U
29	X	1142	G
29	X	1152	C
29	X	1153	A
29	X	1154	A
29	X	1182	U
29	X	1186	G
29	X	1194	U

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Mol	Chain	Res	Type
29	X	1223	G
29	X	1224	A
29	X	1225	G
29	X	1233	A
29	X	1249	G
29	X	1260	A
29	X	1261	G
29	X	1263	G
29	X	1264	C
29	X	1265	G
29	X	1266	G
29	X	1278	A
29	X	1285	A
29	X	1299	A
29	X	1301	U
29	X	1313	U
29	X	1315	A
29	X	1324	G
29	X	1325	U
29	X	1338	G
29	X	1342	U
29	X	1345	G
29	X	1354	A
29	X	1355	A
29	X	1391	A
29	X	1409	U
29	X	1439	G
29	X	1441	A
29	X	1442	C
29	X	1459	U
29	X	1473	U
29	X	1474	A
29	X	1496	G
29	X	1552	C
29	X	1561	A
29	X	1575	C
29	X	1601	U
29	X	1607	A
29	X	1618	U
29	X	1623	C
29	X	1626	A
29	X	1632	A

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Mol	Chain	Res	Type
29	X	1633	C
29	X	1634	A
29	X	1651	U
29	X	1664	G
29	X	1670	G
29	X	1684	G
29	X	1685	A
29	X	1691	G
29	X	1698	C
29	X	1710	U
29	X	1711	C
29	X	1715	A
29	X	1716	G
29	X	1723	U
29	X	1732	U
29	X	1733	U
29	X	1749	G
29	X	1775	A
29	X	1777	A
29	X	1790	G
29	X	1791	C
29	X	1811	A
29	X	1820	G
29	X	1867	A
29	X	1913	G
29	X	1922	U
29	X	1923	U
29	X	1926	U
29	X	1927	U
29	X	1938	U
29	X	1947	G
29	X	1953	A
29	X	1963	G
29	X	1975	G
29	X	1979	C
29	X	2004	U
29	X	2005	U
29	X	2014	A
29	X	2015	G
29	X	2018	G
29	X	2034	A
29	X	2044	G

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Mol	Chain	Res	Type
29	X	2045	A
29	X	2050	G
29	X	2088	U
29	X	2196	U
29	X	2197	U
29	X	2204	A
29	X	2217	G
29	X	2228	U
29	X	2237	C
29	X	2245	A
29	X	2261	G
29	X	2265	A
29	X	2267	A
29	X	2275	U
29	X	2312	A
29	X	2322	U
29	X	2323	U
29	X	2324	G
29	X	2404	A
29	X	2405	A
29	X	2418	A
29	X	2426	G
29	X	2427	A
29	X	2428	U
29	X	2469	G
29	X	2482	A
29	X	2497	A
29	X	2498	U
29	X	2521	A
29	X	2545	A
29	X	2551	A
29	X	2560	G
29	X	2592	U
29	X	2593	A
29	X	2633	A
29	X	2660	C
29	X	2668	U
29	X	2669	C
29	X	2691	C
29	X	2693	U
29	X	2706	U
29	X	2712	G

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Mol	Chain	Res	Type
29	X	2736	U
29	X	2756	A
29	X	2770	A
29	X	2807	U
29	X	2810	A
29	X	2823	G
29	X	2824	C
29	X	2841	U
29	X	2848	A
29	X	2854	G
29	X	2867	G
31	Z	26	G

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

Of 10 non-standard protein/DNA/RNA residues modelled in this entry, 1 is modelled with single atom - leaving 9 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
5	MH6	5	10	5	3,4,6	2.54	1 (33%)	0,4,7	0.00	-
5	BB9	5	11	5	3,5,6	0.71	0	1,5,7	1.61	0
5	DHA	5	12	5	4,4,5	5.30	2 (50%)	3,4,6	2.27	2 (66%)
5	BB9	5	2	5	3,5,6	6.98	2 (66%)	1,5,7	5.17	1 (100%)
5	DBU	5	4	5	2,4,6	4.51	2 (100%)	0,4,7	0.00	-
5	BB9	5	5	5	3,5,6	4.43	1 (33%)	1,5,7	0.11	0
5	3GL	5	6	33,5	5,8,10	2.43	3 (60%)	7,10,13	1.68	1 (14%)
5	BB9	5	7	5	3,5,6	3.17	2 (66%)	1,5,7	4.08	1 (100%)
5	BB9	5	9	5	0,4,6	0.00	-	0,4,7	0.00	-

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means

no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	MH6	5	10	5	-	0/1/2/6	0/0/0/0
5	BB9	5	11	5	-	0/0/4/6	0/0/0/0
5	DHA	5	12	5	-	0/0/2/4	0/0/0/0
5	BB9	5	2	5	-	0/0/4/6	0/0/0/0
5	DBU	5	4	5	-	0/1/2/6	0/0/0/0
5	BB9	5	5	5	-	0/0/4/6	0/0/0/0
5	3GL	5	6	33,5	-	0/4/8/12	0/0/0/0
5	BB9	5	7	5	-	0/0/4/6	0/0/0/0
5	BB9	5	9	5	-	0/0/2/6	0/0/0/0

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	5	4	DBU	CB-CA	-5.29	1.27	1.33
5	5	6	3GL	CA-N	-3.74	1.39	1.48
5	5	12	DHA	O-C	-3.24	1.14	1.22
5	5	6	3GL	OH-CG	-2.48	1.37	1.42
5	5	6	3GL	CB-CA	2.40	1.57	1.53
5	5	7	BB9	C-CA	2.41	1.48	1.45
5	5	2	BB9	CA-N	2.69	1.42	1.34
5	5	4	DBU	CG-CB	3.57	1.64	1.49
5	5	10	MH6	CA-N	4.00	1.41	1.27
5	5	7	BB9	O-C	4.67	1.33	1.22
5	5	5	BB9	C-CA	7.65	1.56	1.45
5	5	12	DHA	C-CA	9.98	1.60	1.45
5	5	2	BB9	C-CA	11.76	1.62	1.45

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	5	2	BB9	O-C-CA	-5.17	117.79	125.40
5	5	7	BB9	O-C-CA	-4.08	119.39	125.40
5	5	12	DHA	O-C-CA	-3.18	119.22	125.35
5	5	12	DHA	CB-CA-N	2.15	131.03	126.27
5	5	6	3GL	OH-CG-CB	3.76	116.39	108.94

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	5	4	DBU	1	0
5	5	7	BB9	2	0

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 38 ligands modelled in this entry, 37 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
33	NO1	5	14	5	11,14,16	4.36	4 (36%)	13,20,23	3.43	9 (69%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
33	NO1	5	14	5	-	0/0/2/6	0/2/2/2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	5	14	NO1	CF-CE3	-7.63	1.36	1.51
33	5	14	NO1	CZ3-CE3	-3.54	1.29	1.37
33	5	14	NO1	CH2-CZ3	6.29	1.51	1.38
33	5	14	NO1	CE3-CD2	9.26	1.61	1.44

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	5	14	NO1	CF-CE3-CD2	-4.44	114.51	124.25
33	5	14	NO1	CH2-CZ2-CE2	-3.78	114.00	120.06
33	5	14	NO1	CD2-CE2-NE1	-3.15	102.72	108.92
33	5	14	NO1	CZ2-CE2-NE1	-2.96	121.93	130.72
33	5	14	NO1	CZ2-CH2-CZ3	-2.11	117.45	120.96
33	5	14	NO1	CF-CE3-CZ3	2.20	125.90	119.84
33	5	14	NO1	CH2-CZ3-CE3	2.94	126.53	122.05
33	5	14	NO1	CG-CD2-CE2	3.05	115.81	109.34
33	5	14	NO1	CZ2-CE2-CD2	8.29	135.30	121.11

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	1	53/55 (96%)	3.66	40 (75%) 0 1	91, 120, 138, 158	0
2	2	46/47 (97%)	5.48	42 (91%) 0 0	42, 90, 117, 151	0
3	3	63/66 (95%)	4.93	57 (90%) 0 0	52, 106, 135, 145	0
4	4	37/37 (100%)	0.55	3 (8%) 15 9	73, 124, 148, 152	0
5	5	3/13 (23%)	-0.04	0 100 100	84, 84, 84, 84	0
6	A	240/274 (87%)	0.31	14 (5%) 26 16	36, 129, 160, 198	0
7	B	205/211 (97%)	-0.50	0 100 100	13, 85, 130, 161	0
8	C	197/205 (96%)	-0.25	3 (1%) 76 62	24, 110, 147, 170	0
9	D	177/180 (98%)	0.01	7 (3%) 42 28	101, 136, 160, 179	0
10	E	171/185 (92%)	-0.20	3 (1%) 71 57	79, 131, 158, 176	0
11	F	144/144 (100%)	0.63	13 (9%) 12 7	117, 148, 172, 188	0
12	G	142/174 (81%)	0.05	6 (4%) 40 27	30, 112, 143, 169	0
13	H	134/134 (100%)	-0.66	0 100 100	13, 67, 106, 127	0
14	I	141/156 (90%)	0.21	6 (4%) 39 26	13, 128, 156, 181	0
15	J	136/142 (95%)	-0.00	4 (2%) 55 39	25, 112, 155, 202	0
16	K	113/116 (97%)	-0.64	0 100 100	13, 57, 111, 148	0
17	L	104/114 (91%)	0.20	5 (4%) 34 22	73, 125, 149, 167	0
18	M	108/166 (65%)	-0.54	0 100 100	13, 76, 121, 150	0
19	N	117/118 (99%)	-0.28	3 (2%) 59 43	16, 104, 144, 182	0
20	O	94/100 (94%)	-0.13	1 (1%) 82 70	28, 117, 151, 160	0
21	P	127/134 (94%)	-0.58	1 (0%) 87 77	13, 76, 126, 155	0
22	Q	93/95 (97%)	-0.31	0 100 100	35, 114, 152, 159	0
23	R	110/115 (95%)	-0.38	0 100 100	53, 118, 145, 161	0
24	S	175/237 (73%)	0.28	12 (6%) 20 12	78, 136, 159, 184	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	T	84/91 (92%)	0.22	4 (4%) 34 22	75, 117, 145, 181	0
26	U	72/81 (88%)	0.29	2 (2%) 56 41	60, 130, 160, 180	0
27	V	66/67 (98%)	-0.39	1 (1%) 76 62	83, 126, 158, 169	0
28	W	55/55 (100%)	-0.17	0 100 100	35, 105, 140, 169	0
29	X	2686/2880 (93%)	0.29	114 (4%) 40 27	13, 114, 186, 250	0
30	Y	58/60 (96%)	-0.62	0 100 100	13, 70, 119, 132	0
31	Z	122/123 (99%)	0.70	10 (8%) 14 9	38, 143, 188, 205	0
All	All	6073/6575 (92%)	0.21	351 (5%) 26 16	13, 116, 174, 250	0

All (351) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	2	6	GLN	17.1
2	2	8	ASN	13.0
3	3	7	HIS	12.8
3	3	35	GLY	12.7
3	3	33	ASN	12.1
3	3	10	ALA	11.9
3	3	34	THR	11.5
2	2	20	ALA	11.3
3	3	32	GLN	11.1
3	3	8	LYS	10.6
2	2	24	THR	10.2
2	2	26	SER	9.2
1	1	26	LYS	9.0
3	3	62	LEU	8.9
3	3	31	HIS	8.9
1	1	24	THR	8.8
2	2	22	MET	8.8
1	1	44	ALA	8.7
2	2	10	ARG	8.6
29	X	1057	A	8.3
3	3	6	THR	8.2
1	1	40	TYR	7.8
3	3	5	LYS	7.7
3	3	44	LYS	7.6
3	3	41	ILE	7.4
1	1	42	PRO	7.3
2	2	15	THR	7.3
3	3	11	LYS	7.2

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Mol	Chain	Res	Type	RSRZ
2	2	9	ASN	7.1
2	2	36	ALA	7.0
29	X	1085	G	6.9
2	2	38	GLY	6.9
6	A	249	PRO	6.8
3	3	63	PRO	6.7
2	2	7	PRO	6.7
1	1	27	ASN	6.6
29	X	699	G	6.6
2	2	4	THR	6.5
2	2	34	ARG	6.5
2	2	11	LYS	6.4
6	A	250	TRP	6.3
2	2	35	ARG	6.3
3	3	56	ALA	6.1
2	2	23	LYS	6.0
3	3	4	MET	5.9
2	2	13	ALA	5.9
2	2	39	ARG	5.9
1	1	43	VAL	5.7
1	1	38	LYS	5.7
1	1	21	TYR	5.7
29	X	1086	C	5.7
2	2	3	ARG	5.6
11	F	114	ASP	5.6
3	3	46	LYS	5.6
11	F	137	THR	5.6
29	X	514	G	5.6
3	3	64	ARG	5.5
31	Z	4	C	5.4
3	3	39	ASP	5.3
3	3	58	MET	5.2
1	1	14	SER	5.2
1	1	47	HIS	5.2
3	3	51	ALA	5.2
2	2	45	SER	5.1
3	3	14	ILE	5.0
1	1	39	LYS	5.0
2	2	43	THR	5.0
3	3	27	SER	4.9
3	3	61	MET	4.9
1	1	46	LYS	4.9

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Mol	Chain	Res	Type	RSRZ
3	3	26	LYS	4.8
1	1	11	LYS	4.8
2	2	25	LYS	4.8
2	2	40	HIS	4.8
3	3	38	GLY	4.8
2	2	21	ARG	4.7
2	2	42	LEU	4.7
2	2	44	VAL	4.6
1	1	41	ASP	4.6
3	3	30	ARG	4.5
3	3	22	VAL	4.5
29	X	248	A	4.4
1	1	45	LYS	4.4
3	3	53	ALA	4.3
2	2	16	HIS	4.3
9	D	23	SER	4.3
29	X	1072	U	4.3
3	3	42	ARG	4.3
29	X	731	A	4.3
11	F	125	ASN	4.2
1	1	31	THR	4.2
3	3	60	LEU	4.2
1	1	36	GLU	4.2
2	2	41	GLN	4.1
1	1	2	ALA	4.1
24	S	17	SER	4.1
2	2	31	LEU	4.1
1	1	25	THR	4.1
2	2	46	ASP	4.1
29	X	1089	C	4.1
2	2	18	PHE	4.0
29	X	1084	A	4.0
1	1	35	LEU	4.0
1	1	10	VAL	4.0
4	4	37	GLY	3.9
14	I	60	LEU	3.9
1	1	15	SER	3.9
1	1	22	TYR	3.8
3	3	17	THR	3.8
29	X	1091	C	3.8
24	S	91	PRO	3.8
15	J	107	VAL	3.8

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Mol	Chain	Res	Type	RSRZ
29	X	1095	A	3.7
29	X	2731	G	3.7
3	3	47	GLY	3.7
29	X	1069	G	3.7
2	2	27	GLY	3.7
2	2	28	ARG	3.7
1	1	12	MET	3.6
2	2	17	GLY	3.6
11	F	130	THR	3.6
3	3	59	LYS	3.6
12	G	158	HIS	3.6
29	X	2174	G	3.6
1	1	48	VAL	3.6
3	3	12	ARG	3.6
29	X	2326	C	3.6
12	G	155	THR	3.6
29	X	2170	C	3.5
1	1	30	ASN	3.5
3	3	20	GLY	3.5
14	I	52	GLY	3.5
1	1	37	LEU	3.5
29	X	1056	U	3.5
12	G	94	LYS	3.5
29	X	665	A	3.5
3	3	19	THR	3.5
2	2	12	ARG	3.4
6	A	47	GLY	3.4
29	X	434	C	3.4
20	O	23	GLU	3.4
29	X	2409	A	3.4
14	I	29	THR	3.4
3	3	54	GLU	3.4
11	F	128	ALA	3.4
29	X	1524	C	3.4
1	1	28	ARG	3.4
29	X	1081	A	3.4
11	F	18	THR	3.4
29	X	1114	A	3.4
12	G	40	ASN	3.4
1	1	13	GLU	3.3
29	X	928	G	3.3
29	X	1058	G	3.3

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Mol	Chain	Res	Type	RSRZ
6	A	149	PRO	3.3
29	X	1080	A	3.3
24	S	92	VAL	3.3
3	3	18	GLY	3.3
1	1	3	LYS	3.3
3	3	3	LYS	3.3
29	X	1090	C	3.3
31	Z	2	C	3.3
3	3	25	PHE	3.3
1	1	4	ASP	3.2
3	3	2	PRO	3.2
29	X	1017	C	3.2
2	2	30	ILE	3.2
3	3	13	ARG	3.2
11	F	129	GLY	3.2
10	E	68	THR	3.1
31	Z	5	C	3.1
31	Z	42	U	3.1
29	X	926	C	3.1
3	3	52	LYS	3.1
29	X	1913	G	3.1
24	S	93	GLU	3.1
12	G	159	SER	3.1
3	3	29	LYS	3.0
19	N	89	ASP	3.0
2	2	1	MET	3.0
29	X	2778	U	3.0
19	N	91	ASN	3.0
29	X	1120	C	3.0
4	4	36	GLN	3.0
17	L	56	SER	3.0
29	X	2359	U	3.0
11	F	96	VAL	3.0
17	L	57	ALA	3.0
25	T	10	SER	3.0
29	X	2877	A	3.0
1	1	9	ILE	2.9
27	V	3	PRO	2.9
29	X	872	G	2.9
29	X	1525	A	2.9
24	S	23	ALA	2.9
29	X	1060	C	2.9

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Mol	Chain	Res	Type	RSRZ
6	A	170	SER	2.9
1	1	20	PHE	2.9
3	3	50	LEU	2.9
29	X	1514	C	2.9
11	F	135	GLY	2.8
29	X	520	C	2.8
31	Z	123	U	2.8
29	X	2280	A	2.8
6	A	251	GLY	2.8
11	F	97	GLY	2.8
3	3	9	MET	2.8
15	J	32	ASP	2.8
11	F	136	VAL	2.8
31	Z	43	G	2.8
29	X	2777	A	2.8
29	X	1100	G	2.8
31	Z	3	A	2.8
9	D	145	MET	2.7
29	X	1115	C	2.7
3	3	23	MET	2.7
29	X	700	C	2.7
29	X	2779	C	2.7
1	1	16	ALA	2.7
2	2	32	ALA	2.7
29	X	1187	A	2.7
3	3	24	ALA	2.7
3	3	55	TRP	2.7
29	X	1526	U	2.7
3	3	16	ILE	2.7
12	G	156	HIS	2.7
4	4	24	LEU	2.6
3	3	57	ARG	2.6
29	X	1068	A	2.6
25	T	66	LYS	2.6
6	A	41	GLY	2.6
24	S	83	PHE	2.6
29	X	1061	A	2.6
11	F	108	ALA	2.6
24	S	171	VAL	2.6
29	X	417	C	2.6
26	U	14	VAL	2.5
29	X	2776	U	2.5

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Mol	Chain	Res	Type	RSRZ
29	X	1121	G	2.5
29	X	1951	G	2.5
9	D	61	THR	2.5
26	U	50	ALA	2.5
29	X	1107	A	2.5
29	X	75	C	2.5
29	X	1045	G	2.5
11	F	91	PRO	2.5
29	X	2289	A	2.5
8	C	20	PRO	2.5
29	X	1092	U	2.5
10	E	162	VAL	2.5
29	X	2324	G	2.5
25	T	9	SER	2.5
29	X	416	U	2.5
29	X	1592	U	2.4
9	D	27	ALA	2.4
21	P	24	GLY	2.4
29	X	1432	G	2.4
29	X	1023	U	2.4
29	X	2290	A	2.4
29	X	1110	G	2.4
29	X	1087	C	2.4
1	1	19	GLY	2.4
9	D	62	LEU	2.4
29	X	865	A	2.4
29	X	999	A	2.4
29	X	1059	A	2.4
29	X	730	C	2.4
29	X	984	A	2.4
6	A	138	VAL	2.4
6	A	42	GLY	2.4
2	2	2	LYS	2.4
29	X	2328	G	2.3
10	E	23	VAL	2.3
29	X	1513	U	2.3
29	X	1601	U	2.3
8	C	71	ASP	2.3
14	I	8	PRO	2.3
29	X	2385	U	2.3
17	L	103	LEU	2.3
31	Z	8	C	2.3

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Mol	Chain	Res	Type	RSRZ
29	X	461	A	2.3
29	X	1106	A	2.3
29	X	2780	A	2.3
17	L	9	ARG	2.3
29	X	1032	A	2.3
29	X	311	A	2.2
29	X	729	A	2.2
24	S	155	PRO	2.2
29	X	631	G	2.2
29	X	732	G	2.2
29	X	1874	G	2.2
29	X	2449	G	2.2
31	Z	81	C	2.2
1	1	52	GLU	2.2
29	X	2270	U	2.2
6	A	171	ASP	2.2
29	X	418	C	2.2
29	X	2444	C	2.2
2	2	14	LYS	2.2
3	3	40	GLU	2.2
29	X	1094	C	2.2
2	2	29	ASN	2.2
1	1	8	ILE	2.2
15	J	60	ARG	2.2
29	X	1099	A	2.2
29	X	2345	A	2.2
29	X	2701	A	2.2
15	J	140	GLU	2.2
24	S	2	GLU	2.2
6	A	190	TYR	2.1
29	X	111	G	2.1
29	X	1279	G	2.1
17	L	55	SER	2.1
31	Z	61	A	2.1
29	X	1515	U	2.1
29	X	2072	C	2.1
29	X	2087	U	2.1
29	X	1409	U	2.1
29	X	356	A	2.1
3	3	21	LYS	2.1
8	C	58	MET	2.1
3	3	48	PHE	2.1

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Mol	Chain	Res	Type	RSRZ
6	A	38	PRO	2.1
29	X	705	C	2.1
29	X	1020	A	2.1
29	X	1109	A	2.1
9	D	42	SER	2.1
14	I	23	PRO	2.1
29	X	1046	U	2.1
29	X	1062	G	2.1
1	1	51	ARG	2.1
29	X	1864	G	2.1
24	S	82	ASP	2.1
29	X	2035	G	2.1
3	3	15	LYS	2.1
29	X	2089	C	2.1
25	T	3	HIS	2.1
6	A	45	ASN	2.1
29	X	2354	G	2.1
6	A	202	LYS	2.0
29	X	879	A	2.0
9	D	66	ILE	2.0
19	N	104	GLU	2.0
29	X	443	A	2.0
1	1	49	VAL	2.0
14	I	33	GLY	2.0
29	X	2520	A	2.0
24	S	55	THR	2.0
29	X	1037	U	2.0
24	S	114	ASP	2.0
29	X	2465	G	2.0

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

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å ²)	Q<0.9
5	NH2	5	13	1/1	0.95	0.41	-	83,83,83,83	0
5	BB9	5	5	6/7	0.86	0.26	-	83,83,83,83	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
5	BB9	5	7	6/7	0.75	0.43	-	83,83,83,83	0
5	BB9	5	11	6/7	0.91	0.34	-	83,83,83,83	0
5	DBU	5	4	5/7	0.85	0.26	-	83,83,83,83	0
5	DHA	5	12	5/6	0.81	0.49	-	83,83,83,83	0
5	BB9	5	9	5/7	0.84	0.26	-	83,83,83,83	0
5	BB9	5	2	6/7	0.84	0.18	-	83,83,83,83	0
5	3GL	5	6	9/11	0.77	0.37	-	83,83,83,83	0
5	MH6	5	10	5/7	0.86	0.27	-	83,83,83,83	0

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
34	MG	X	2903	1/1	0.74	2.20	53.88	82,82,82,82	0
34	MG	X	2888	1/1	0.89	2.19	39.33	73,73,73,73	0
34	MG	X	2897	1/1	0.95	0.95	32.28	100,100,100,100	0
34	MG	X	2902	1/1	0.81	1.35	26.97	76,76,76,76	0
34	MG	X	2906	1/1	0.93	1.36	26.86	82,82,82,82	0
34	MG	X	2908	1/1	0.70	1.07	25.72	83,83,83,83	0
34	MG	X	2881	1/1	0.82	0.70	20.90	77,77,77,77	0
34	MG	X	2887	1/1	0.98	0.75	9.72	98,98,98,98	0
34	MG	X	2904	1/1	0.97	0.79	7.73	81,81,81,81	0
34	MG	X	2894	1/1	0.98	0.61	5.96	57,57,57,57	0
34	MG	Z	124	1/1	0.92	0.63	4.48	113,113,113,113	0
34	MG	X	2890	1/1	0.97	0.22	-0.40	58,58,58,58	0
32	ZN	Y	61	1/1	0.91	0.08	-1.28	118,118,118,118	0
32	ZN	4	38	1/1	0.90	0.05	-2.02	125,125,125,125	0
33	NO1	5	14	13/15	0.83	0.28	-	83,83,83,83	0
34	MG	M	167	1/1	0.90	1.30	-	68,68,68,68	0
34	MG	X	2893	1/1	0.88	1.14	-	85,85,85,85	0
34	MG	Z	126	1/1	0.84	1.18	-	122,122,122,122	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
34	MG	X	2895	1/1	0.84	0.22	-	81,81,81,81	0
34	MG	X	2907	1/1	0.95	0.38	-	66,66,66,66	0
34	MG	X	2886	1/1	0.94	0.20	-	80,80,80,80	0
34	MG	Z	129	1/1	0.82	0.87	-	101,101,101,101	0
34	MG	X	2900	1/1	0.97	0.12	-	104,104,104,104	0
34	MG	X	2883	1/1	0.75	1.52	-	104,104,104,104	0
34	MG	X	2896	1/1	0.85	1.48	-	86,86,86,86	0
34	MG	X	2882	1/1	0.83	0.35	-	112,112,112,112	0
34	MG	Z	128	1/1	0.81	0.26	-	110,110,110,110	0
34	MG	X	2901	1/1	0.89	0.53	-	100,100,100,100	0
34	MG	X	2905	1/1	0.95	0.57	-	123,123,123,123	0
34	MG	X	2899	1/1	0.97	0.65	-	57,57,57,57	0
34	MG	X	2889	1/1	0.70	0.83	-	131,131,131,131	0
34	MG	Z	125	1/1	0.81	1.00	-	83,83,83,83	0
34	MG	X	2885	1/1	0.83	0.67	-	98,98,98,98	0
34	MG	X	2884	1/1	0.98	0.28	-	98,98,98,98	0
34	MG	Z	127	1/1	0.79	0.92	-	98,98,98,98	0
34	MG	X	2891	1/1	0.75	0.51	-	84,84,84,84	0
34	MG	X	2898	1/1	0.96	0.58	-	57,57,57,57	0
34	MG	X	2892	1/1	0.82	0.57	-	109,109,109,109	0

6.5 Other polymers

There are no such residues in this entry.