



Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 02:08 PM UTC

PDB ID : 5APN / pdb_00005apn
EMDB ID : EMD-3152
Title : Structure of the yeast 60S ribosomal subunit in complex with Arx1, Alb1 and N-terminally tagged Rei1
Authors : Greber, B.J.; Gerhardy, S.; Leitner, A.; Leibundgut, M.; Salem, M.; Boehringer, D.; Leulliot, N.; Aebersold, R.; Panse, V.G.; Ban, V.
Deposited on : 2015-09-17
Resolution : 3.91 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

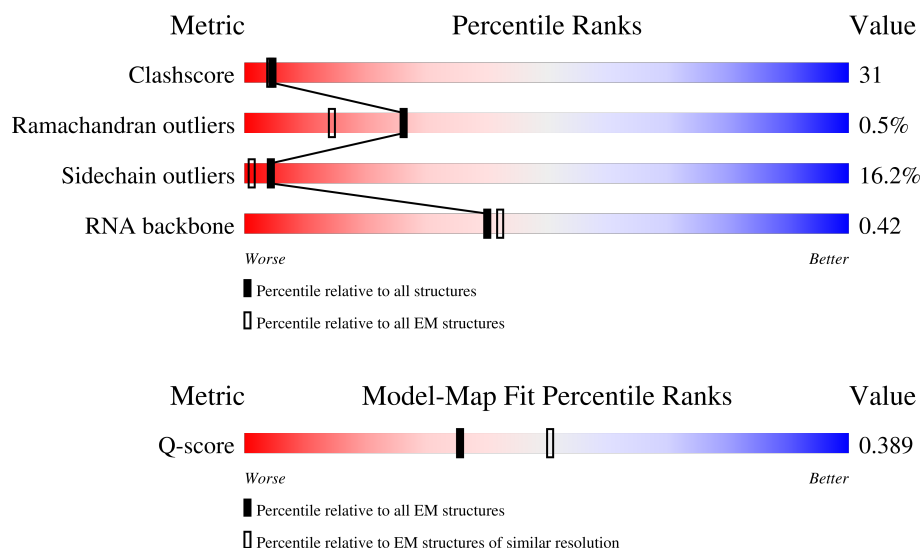
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.91 Å.

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



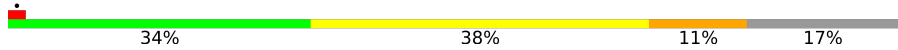
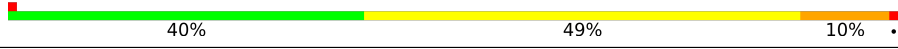
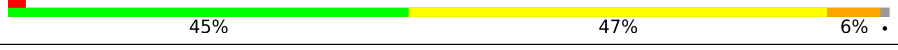
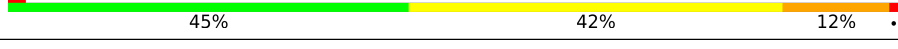
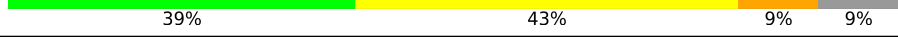
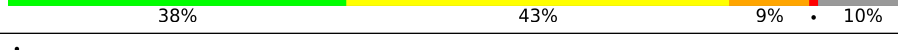
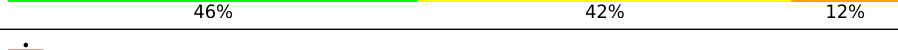
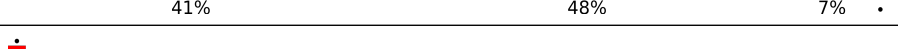
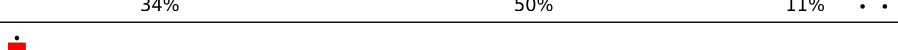
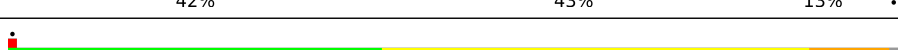
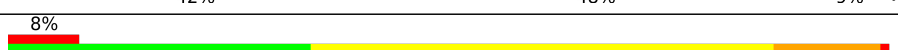
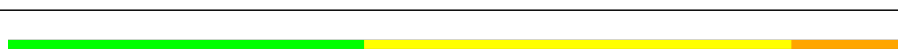
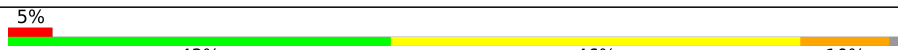
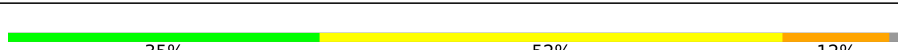
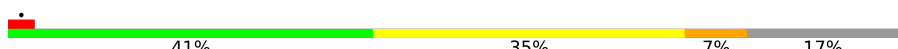
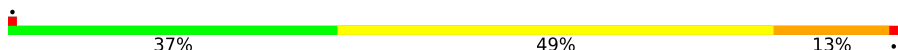
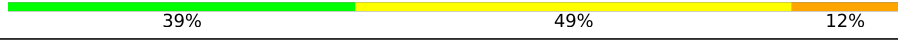
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	8855 (3.40 - 4.40)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. 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 EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	5	3396	
2	7	121	
3	8	158	

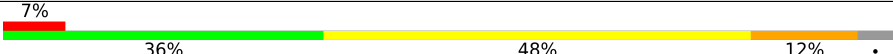
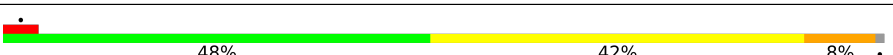
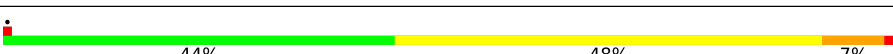
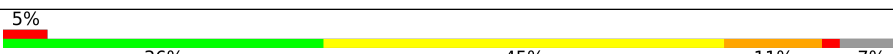
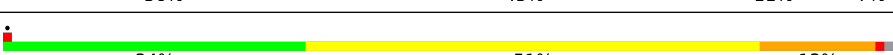
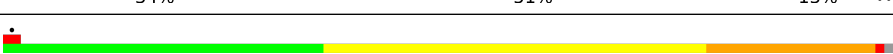
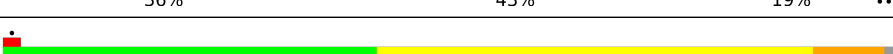
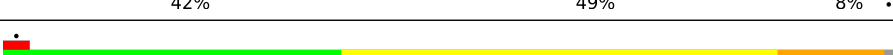
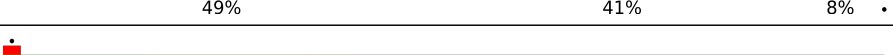
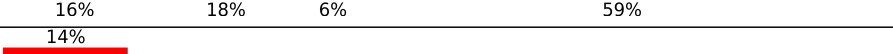
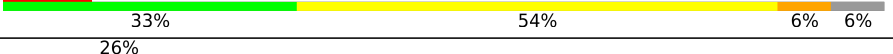
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Mol	Chain	Length	Quality of chain
4	A	254	
5	B	387	
6	C	362	
7	D	297	
8	E	176	
9	F	244	
10	G	256	
11	H	191	
12	I	221	
13	J	174	
14	L	199	
15	M	138	
16	N	204	
17	O	199	
18	P	184	
19	Q	186	
20	R	189	
21	S	172	
22	T	160	
23	U	121	
24	V	137	
25	W	155	
26	X	142	
27	Y	127	
28	Z	136	

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Mol	Chain	Length	Quality of chain
29	a	149	
30	b	59	
31	c	105	
32	d	113	
33	e	130	
34	f	107	
35	g	121	
36	h	120	
37	i	100	
38	j	88	
39	k	78	
40	l	51	
41	m	128	
42	o	106	
43	p	92	
44	q	312	
45	x	616	
46	y	414	
47	z	85	

2 Entry composition

There are 49 unique types of molecules in this entry. The entry contains 129324 atoms, of which 3 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	5	3112	Total	C	N	O	P	0	0
			66537	29736	11996	21694	3111		

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	7	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 3 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	8	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 4 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	A	212	Total	C	N	O	S	0	0
			1630	1021	325	283	1		

- Molecule 5 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	B	386	Total	C	N	O	S	0	0
			3075	1950	584	533	8		

- Molecule 6 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	C	361	Total	C	N	O	S	0	0
			2748	1729	522	494	3		

- Molecule 7 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	D	294	Total	C	N	O	S	0	0
			2359	1489	412	456	2		

- Molecule 8 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	E	175	Total	C	N	O	S	0	0
			1355	877	242	235	1		

- Molecule 9 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	F	223	Total	C	N	O	S	0	0
			1791	1155	325	310	1		

- Molecule 10 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	G	231	Total	C	N	O	S	0	0
			1763	1130	316	314	3		

- Molecule 11 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	H	191	Total	C	N	O	S	0	0
			1518	963	274	277	4		

- Molecule 12 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	I	213	Total	C	N	O	S	0	0
			1722	1094	325	297	6		

- Molecule 13 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	J	169	Total	C	N	O	S	0	0
			1353	847	253	249	4		

- Molecule 14 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	L	194	Total	C	N	O	0	0
			1548	965	316	267		

- Molecule 15 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	M	137	Total	C	N	O	S	0	0
			1059	678	200	179	2		

- Molecule 16 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	N	203	Total	C	N	O	S	0	0
			1720	1077	361	281	1		

- Molecule 17 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	O	197	Total	C	N	O	S	0	0
			1555	1003	289	262	1		

- Molecule 18 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	P	183	Total	C	N	O	0	0
			1442	896	287	259		

- Molecule 19 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Q	185	Total	C	N	O	S	0	0
			1441	908	290	241	2		

- Molecule 20 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	R	156	Total	C	N	O	0	0
			1258	781	265	212		

- Molecule 21 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	S	171	Total	C	N	O	S	0	0
			1437	925	266	243	3		

- Molecule 22 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	T	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 23 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	U	102	Total	C	N	O		0	0
			808	524	132	152			

- Molecule 24 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	V	136	Total	C	N	O	S	0	0
			1003	628	189	179	7		

- Molecule 25 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	W	63	Total	C	N	O	S	0	0
			521	336	102	82	1		

- Molecule 26 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	X	120	Total	C	N	O	S	0	0
			959	617	168	172	2		

- Molecule 27 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Y	126	Total	C	N	O		0	0
			993	625	192	176			

- Molecule 28 is a protein called 60S ribosomal protein L27-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	Z	135	Total	C	N	O	0	0
			1092	710	202	180		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
29	a	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 30 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	b	58	Total	C	N	O	0	0
			462	289	100	73		

- Molecule 31 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	c	100	Total	C	N	O	S	0	0
			767	492	128	146	1		

- Molecule 32 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	d	109	Total	C	N	O	S	0	0
			883	559	167	156	1		

- Molecule 33 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	e	129	Total	C	N	O	S	0	0
			1034	655	207	171	1		

- Molecule 34 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	f	106	Total	C	N	O	S	0	0
			850	540	165	144	1		

- Molecule 35 is a protein called 60S ribosomal protein L34-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	g	112	Total	C	N	O	S	0	0
			880	545	179	152	4		

- Molecule 36 is a protein called 60S ribosomal protein L35-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	h	119	Total	C	N	O	S	0	0
			965	612	185	167	1		

- Molecule 37 is a protein called 60S ribosomal protein L36-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	i	99	Total	C	N	O	S	0	0
			770	481	156	131	2		

- Molecule 38 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	j	87	Total	C	N	O	S	0	0
			681	414	148	114	5		

- Molecule 39 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	k	77	Total	C	N	O	0	0
			608	388	114	106		

- Molecule 40 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	l	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 41 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	m	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 42 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	o	105	Total	C	N	O	S	0	0
			847	534	170	138	5		

- Molecule 43 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	p	91	Total	C	N	O	S	0	0
			694	429	138	121	6		

- Molecule 44 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	q	120	Total	C	N	O	S	0	0
			962	618	169	172	3		

- Molecule 45 is a protein called Probable metalloprotease ARX1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	x	579	Total	C	N	O	S	0	0
			4477	2823	772	867	15		

There are 23 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
x	-22	MET	-	initiating methionine	UNP Q03862
x	-21	GLY	-	expression tag	UNP Q03862
x	-20	SER	-	expression tag	UNP Q03862
x	-19	SER	-	expression tag	UNP Q03862
x	-18	HIS	-	expression tag	UNP Q03862
x	-17	HIS	-	expression tag	UNP Q03862
x	-16	HIS	-	expression tag	UNP Q03862
x	-15	HIS	-	expression tag	UNP Q03862
x	-14	HIS	-	expression tag	UNP Q03862
x	-13	HIS	-	expression tag	UNP Q03862
x	-12	SER	-	expression tag	UNP Q03862
x	-11	SER	-	expression tag	UNP Q03862
x	-10	GLY	-	expression tag	UNP Q03862
x	-9	LEU	-	expression tag	UNP Q03862
x	-8	VAL	-	expression tag	UNP Q03862
x	-7	PRO	-	expression tag	UNP Q03862
x	-6	ARG	-	expression tag	UNP Q03862
x	-5	GLY	-	expression tag	UNP Q03862
x	-4	SER	-	expression tag	UNP Q03862

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Chain	Residue	Modelled	Actual	Comment	Reference
x	-3	HIS	-	expression tag	UNP Q03862
x	-2	MET	-	expression tag	UNP Q03862
x	-1	LEU	-	expression tag	UNP Q03862
x	0	GLU	-	expression tag	UNP Q03862

- Molecule 46 is a protein called Cytoplasmic 60S subunit biogenesis factor REI1.

Mol	Chain	Residues	Atoms						AltConf	Trace
46	y	211	Total	C	H	N	O	S	0	0
			1727	1095	3	307	314	8		

There are 21 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
y	-20	HIS	-	expression tag	UNP P38344
y	-19	HIS	-	expression tag	UNP P38344
y	-18	HIS	-	expression tag	UNP P38344
y	-17	HIS	-	expression tag	UNP P38344
y	-16	HIS	-	expression tag	UNP P38344
y	-15	HIS	-	expression tag	UNP P38344
y	-14	ASP	-	expression tag	UNP P38344
y	-13	TYR	-	expression tag	UNP P38344
y	-12	ASP	-	expression tag	UNP P38344
y	-11	ILE	-	expression tag	UNP P38344
y	-10	PRO	-	expression tag	UNP P38344
y	-9	THR	-	expression tag	UNP P38344
y	-8	THR	-	expression tag	UNP P38344
y	-7	GLU	-	expression tag	UNP P38344
y	-6	ASN	-	expression tag	UNP P38344
y	-5	LEU	-	expression tag	UNP P38344
y	-4	TYR	-	expression tag	UNP P38344
y	-3	PHE	-	expression tag	UNP P38344
y	-2	GLN	-	expression tag	UNP P38344
y	-1	GLY	-	expression tag	UNP P38344
y	0	ALA	-	expression tag	UNP P38344

- Molecule 47 is a protein called ALB1.

Mol	Chain	Residues	Atoms				AltConf	Trace
47	z	85	Total	C	N	O	0	0
			510	340	85	85		

- Molecule 48 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
48	5	259	Total 259	Mg 259	0
48	7	6	Total 6	Mg 6	0
48	8	7	Total 7	Mg 7	0
48	B	1	Total 1	Mg 1	0
48	C	2	Total 2	Mg 2	0
48	N	1	Total 1	Mg 1	0
48	P	1	Total 1	Mg 1	0
48	V	1	Total 1	Mg 1	0
48	a	2	Total 2	Mg 2	0

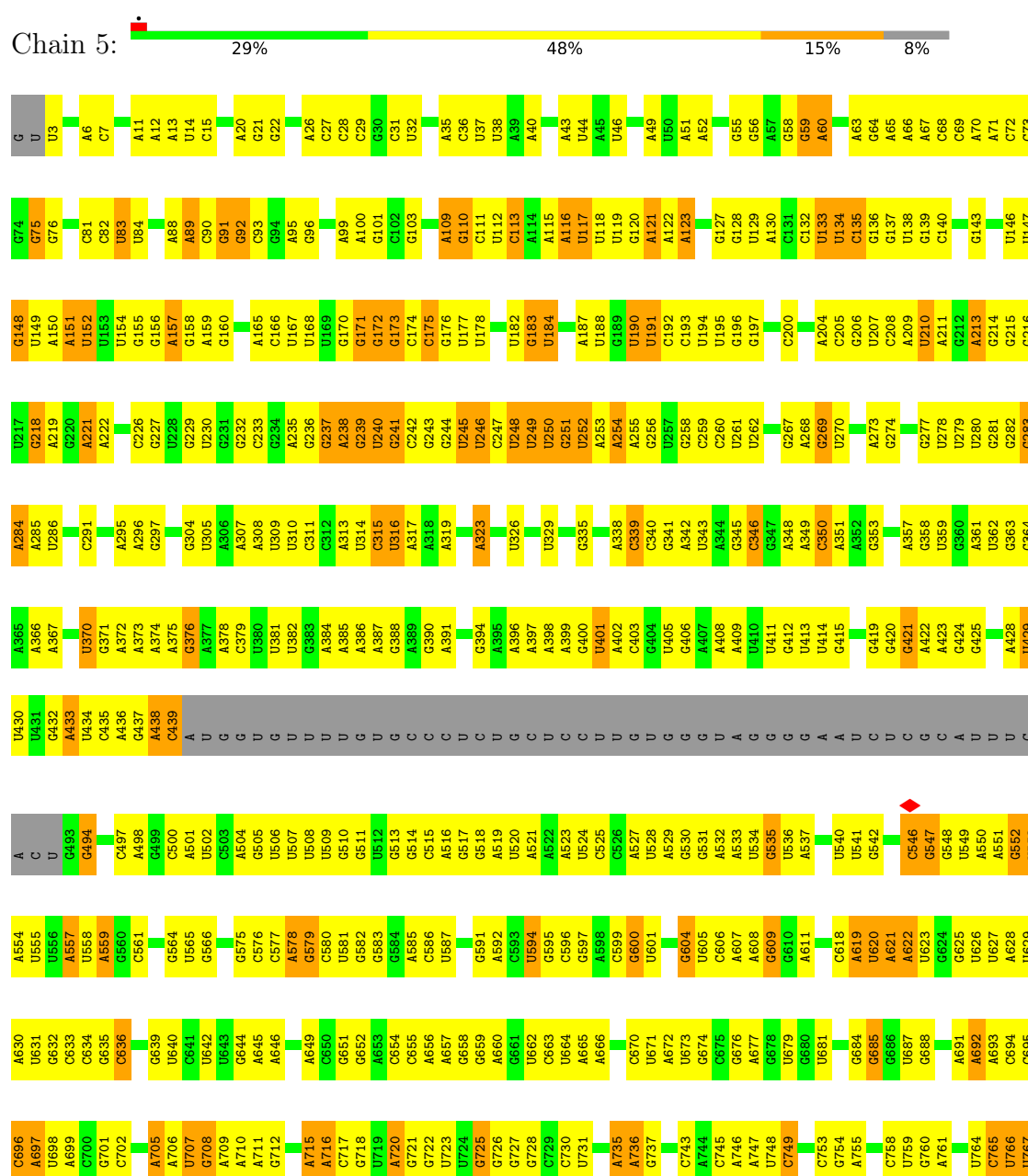
- Molecule 49 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
49	j	1	Total 1	Zn 1	0
49	m	1	Total 1	Zn 1	0
49	o	1	Total 1	Zn 1	0
49	p	1	Total 1	Zn 1	0
49	y	2	Total 2	Zn 2	0

3 Residue-property plots

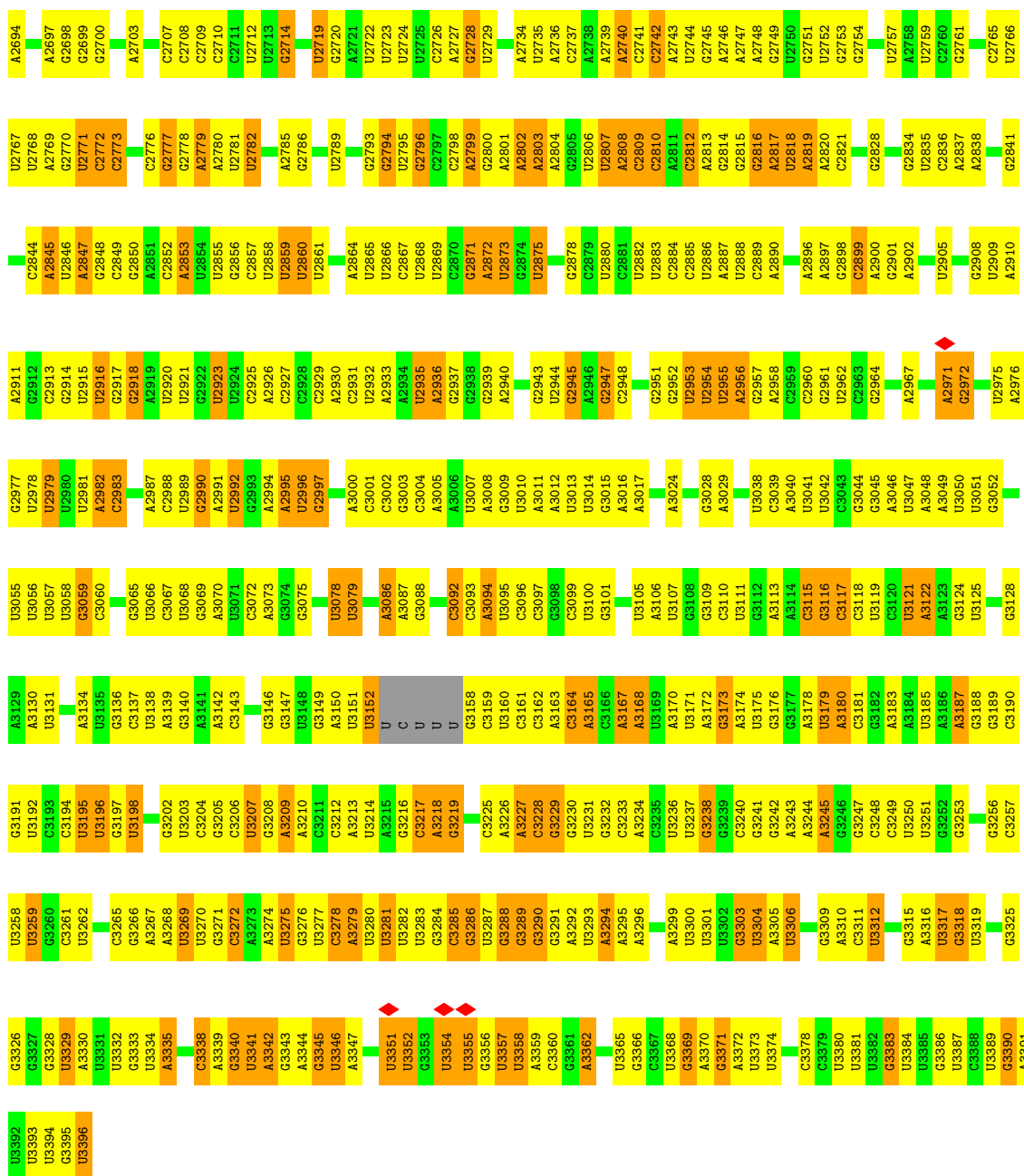
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

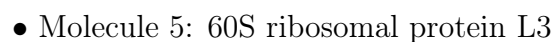
• Molecule 1: 25S rRNA



C1660	A1593	A1524	A1456	G1380	U1309	U1241	G1171	A1103	C	A970	U905	A836	C768
G1661	A1594	G1525	U1457	A1361	G1312	U1242	G1172	G1104	C	G971	A906	A837	G769
G1662	U1595	U1526	U1458	G1362	G1313	G1243		A1105	U	A972	G907	G838	G770
	C1596	G1363	C1459	G1363	C1314	A1244	C1176	U1108	G1035	A973	G908	C839	A771
	C1597	U1532	A1460	U1384	C1314	A1245	G1177	U1109	G1036	G974	G909	C840	U772
G1668	U1598	U1533	A1461	C1365	C1315	A1246	G1178	U1110	C1037	C975	G910	A841	
C1669	G1599	A1534	A1462	A1386	C1316	U1247	A1179	U1111	C1038	U976	C911	G842	
C1670	A1600	A1535	U1367	G1367	A1317	C1248	A1180	U1112	U1039	C977	G912	G843	U776
C1671	G1536	U1368	U1464	U1368	A1318		U1181			G978	G913	G844	U777
			A1465			A1252	C1182	G1115	A1047	U979	A914	G845	
A1676	A1605	A1539	G1466	G1392	G1323	U1253	C1183	G1116	A1048	A980	A915	A846	A780
G1677	U1606	U1540	A1467	C1254	U1325	C1254	A1184	G1117	C1049	U981	G916	A847	G781
G1678	U1607	G1541	A1468	G1395	U1326	C1255		C1118	A1050	A982	A917	A848	
A1679	C1608	G1542	C1469	C1396	A1326	G1256	A1190	C1119	U1051	A983	C918	C849	A784
G1680	C1609	U1543	U1470	C1397	C1327	C1257	U1191	C1120	U1052	U985	A921	U850	G785
U1681	G1610		U1471	U1398	C1328	C1257	C1192	U1121	A1053	U986	G923	G851	G786
A1682			U1472	A1399	U1329	U1258	A1193	U1122	U1054	U987	G924	G852	G787
A1683			G1473	C1400	A1330	G1259	G1194	U1123	A1055	U988	G925	G853	G788
U1684			A1474	G1405	U1331	G1261	A1195	U1125	U1056	U989	A926	G856	A789
C1685			A1475	A1406	A1332	G1262	C1196	G1126	A1057	U990	A927	G857	U790
U1686			G1476	A1407	C1333	U1263		G1127	U1058	G991	C927	G858	A791
U1687			A1477	G1408	U1334	G1264	C1201	U1128	U1059	A992	C928	G859	C792
U1688			C1478		C1335	U1265	A1202	U1129		G993	A929	G860	U793
U1689			U1479	C1411	A1336	U1266	A1203	A1130	A1062	G994	U930	G861	U794
C1690			G1480		C1337		A1204	G1131	G1063	U995			G795
U1691			A1481		C1338		A1205	C1132	A1064	A996	G934	G869	U796
					C1339	U1269	A1206	U1133	A1065	A997	U935	G870	U797
U1692					G1340	A1270	G1207	G1134	U1066	G998	A936	G871	G798
C1693			U1484		U1341	C1271	U1208		U1067	G999	G937	C873	G799
			G1488			G1272	G1209	U1138	C1068	U1000	C938	U874	G800
C1698							U1210	G1139		G1001	U939		A801
							G1211	G1140	G1072	A1002	G940	C877	C802
U1702							A1212	A1143	U1073	A1003	G941	C878	C803
U1703							G1213	U1144	U1074	U1004	U942	U879	C804
								G1145	A1075	G1005	U943	G880	G805
C1710							A1217	C1146	C1076	A1006	C944	C881	A806
C1711							U1218	C1147	U1077	U1007	C945	A882	A807
G1712							C1219	G1148	U1078	U1008	U946	A883	A808
G1713							U1220	G1149	U1079	A1009	G947	A884	
A1714							A1221	A1150	U1080	G1010	C948	U885	U814
A1715							G1222	U1151	U1081	A1011	C949	U886	G815
A1638							A1223	G1152	U1082		G950	G887	A816
C1639							C1224	A1153	G1083	A951	A951	A888	A817
G1640							A1225	U1154	A1084	A952	A952	U889	C818
G1641							G1226	C1086	C1085	G953	U956	C890	U819
G1642							C1227	G1157		C		G822	G822
A1643							G1228	A1158	G1089	G		U891	C823
U1644							C1229	C1159	G1090	G		U892	C824
U1645							G1230	C1160		G		U893	U825
G1646							A1231	G1161	A1093	U		A895	A826
A1647							C1232	U1162	C961	A896		G827	
A1648							G1233	A1163	U1094	U897		U828	
A1649							C1234	G1164	C	U898		U829	
U1650							U1235	A1165	U1096	G964		A830	
G1651							G1236	U1166	G1097	A965		G900	G831
							G1237	U1167	A1098	U866		G901	G832
A1654							C1238	U1168	A	A967		G902	G833
G1655							G1239	U1169	U1000	G968		U903	U834
A1656							A1240	A1170	A			G835	
C1657													
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A1741													

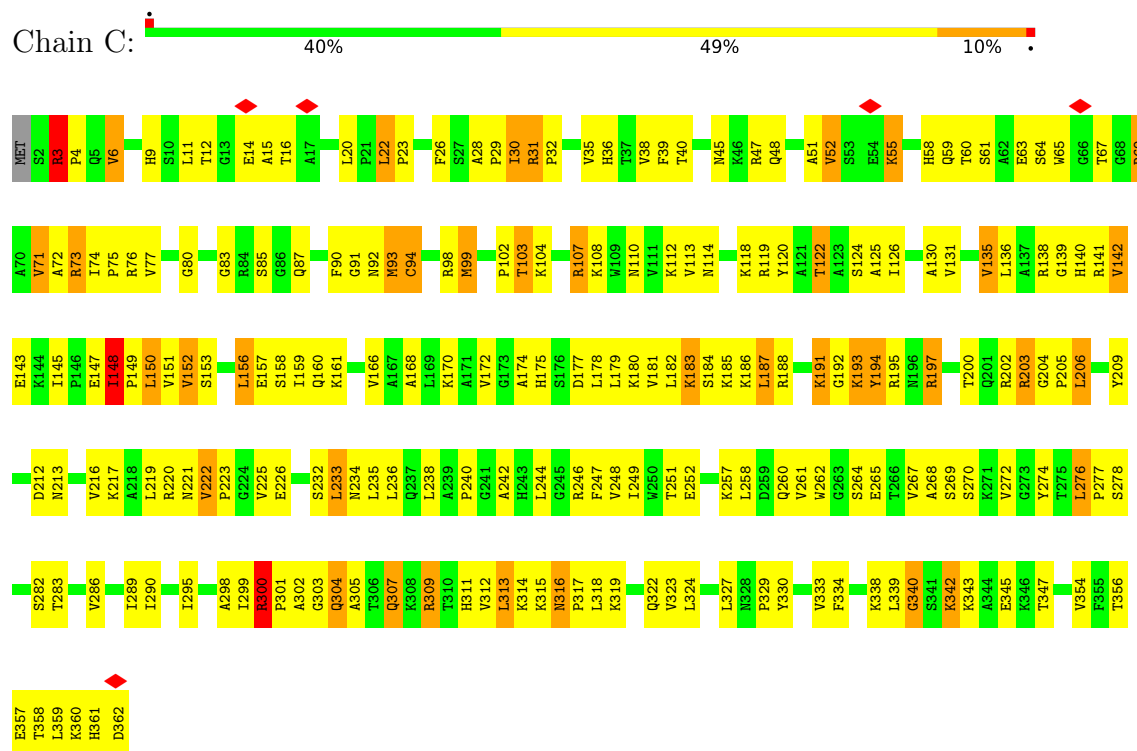
C2625	C2555	C2432	C2393	A2332	G2165	A2023	P5P	Y5P	U1835	A1810	U1742
A2628	C2556	U2433	U2294	A2233	A2166	A2024	P5P	Y5P	A1886	G1811	G1743
A2629	A2557	U2434	A2295	G2234	G2169	A2025	P5P	Y5P	A1887	A1812	
C2630	C2558	G2435	A2296		G2170	A2093	P5P	Y5P	U1888	G1813	U1746
U2631	U2559	U2436	U2297	C2237	G2171	C2094	P5P	Y5P	G1889	A1814	G1747
G2632	C2560	G2437	U2298	G2238	U2175	G2095	P5P	Y5P	U1890	U1815	
U2633	A2561	A2438	A2299	G2239	U2176	A2096	P5P	Y5P	A1891	A1816	A1750
U2634	A2562	U2439		G2240	U2177	U2097	P5P	Y5P	G1892	G1751	
A2635	G2563	G	C2304	U2241	G2178	C2098	P5P	Y5P	U1893	U1817	
A2636		A	G2305	A2242	A2177	U2099	P5P	Y5P	A1894	U1818	
A2637	C2566	G	G2306	G2243	G2178	C2099	P5P	Y5P	U1895	U1819	
A2638	C2567	A	G2307	A2244	A2179	A2100	P5P	Y5P	A1896	U1820	G1754
C2639	A2568	C	C2308	A2245	G2180	U2101	P5P	Y5P	A1897	U1821	C1756
U2640	U2570	A	A2309	G2246	C2181	U2102	P5P	Y5P	G1898		
U2641	C2571	U	U2310	G2247	A2182	U2103	P5P	Y5P	G1899		
A2642	U2572	A	G2311	G2248	A2183	A2107	P5P	Y5P	G1906		
G2645	G2573	G	A2312	G2249	U2184	U2108	P5P	Y5P	G1909		
C2646	U2574	A	A2313	G	U2185	U2109	P5P	Y5P			
	C2575	G	G2314	G2249	U2186	G2110	P5P	Y5P			
U2650	C2582	G	G2315	G	U2190	U2111	P5P	Y5P	G1919	G1838	
U2651	U2583	U	G2316	G	U2191	U2112	P5P	Y5P	U1920	A1839	G1766
A2515	U2513	U	A2317	A	U2192	A2113	P5P	Y5P	G1926	U1840	C1767
		U		C	U2193	C2114	P5P	Y5P	G1927	A1841	U1768
		U		U			P5P	Y5P	G1928	G1770	G1775
		A	A2321	U	C2196	A2117	P5P	Y5P	G1929	A1842	G1771
		G		A	G2197		P5P	Y5P	G1935	C1843	
		A		C	A2198	G2121	P5P	Y5P	G1939	G1844	G1780
		U		U	G2199	G2122	P5P	Y5P	U1944	C1781	U1782
		A		A	U2200	G2123	P5P	Y5P	A1945	U1783	U1785
		U		U	G2201	A2124	P5P	Y5P	A1946	G1784	
		G		U	U2202	A2125	P5P	Y5P	G1947	U1786	
		U		C	U2203	C2128	P5P	Y5P	G1948	G1787	
		C		C	C2204	U2129	P5P	Y5P	U1949	C1788	
		U		U	U2205	G2130	P5P	Y5P	U1950	G1861	G1789
		C		U	G2206	A2131	P5P	Y5P	C1951	U1862	
		U		U	U2207	C2132	P5P	Y5P	Y5P1986	C1792	
		U		U	A2208	U2137	P5P	Y5P	Y5P1987	C1793	
		G		A	U2209	U2141	P5P	Y5P	Y5P1988	G1794	
		C		C	G2210	A2142	P5P	Y5P	Y5P1989	U1795	
		U		U	U2211	A2143	P5P	Y5P	Y5P1990	G1796	
		C		C	G2212	A2144	P5P	Y5P	Y5P1991	A1797	
		U		U	A2213	U2147	P5P	Y5P	Y5P1992	U1873	
		A		A	A2214	A2148	P5P	Y5P	Y5P1993	A1874	
		C		C	G2215	A2149	P5P	Y5P	Y5P1994	G1875	
		U		U	G2216	G2150	P5P	Y5P	Y5P1995	U1876	
		A		A	A2219	C2151	P5P	Y5P	Y5P1995	U1877	
		C		C	A2220	U2153	P5P	Y5P	Y5P1995	G1878	
		U		U	G2221	G2157	P5P	Y5P	Y5P1995	A1879	
		A		A	A2222	A2158	P5P	Y5P	Y5P1995	C1805	
		C		C	A2223	U2159	P5P	Y5P	Y5P1995	A1806	
		U		U	A2224	G2160	P5P	Y5P	Y5P1995	G1807	
		A		A	U2225	A2164	P5P	Y5P	Y5P1995	U1882	
		C		C	U2226		P5P	Y5P	Y5P1995	G1808	
		U		U	U2286		P5P	Y5P	Y5P1995	A1809	
		C		C	G2287		P5P	Y5P	Y5P1995		
		U		U	G2288		P5P	Y5P	Y5P1995		
		A		A	U2289		P5P	Y5P	Y5P1995		
		C		C	C2230		P5P	Y5P	Y5P1995		
		U		U	A2291		P5P	Y5P	Y5P1995		
		A		A	U2292		P5P	Y5P	Y5P1995		



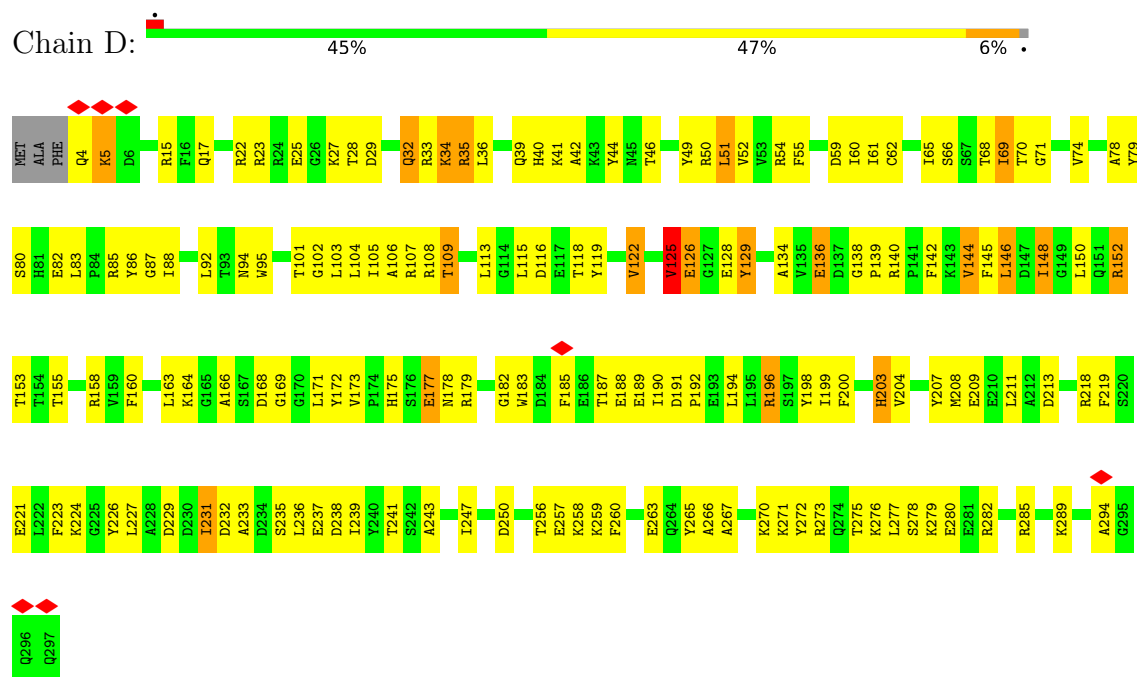




• Molecule 6: 60S ribosomal protein L4-A

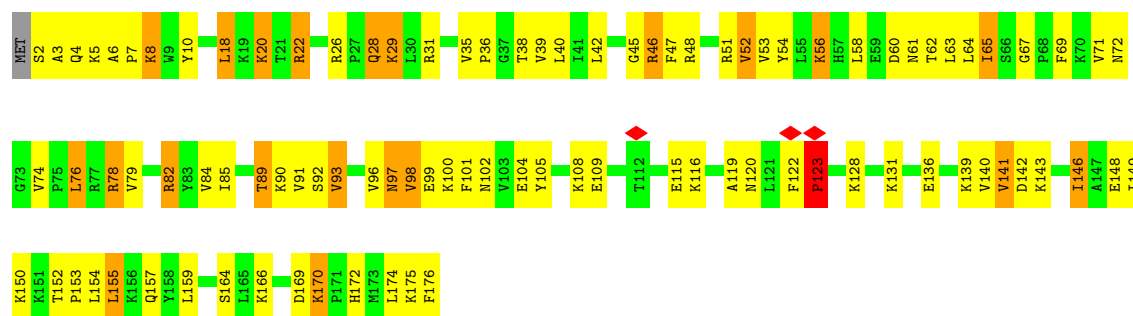


• Molecule 7: 60S ribosomal protein L5



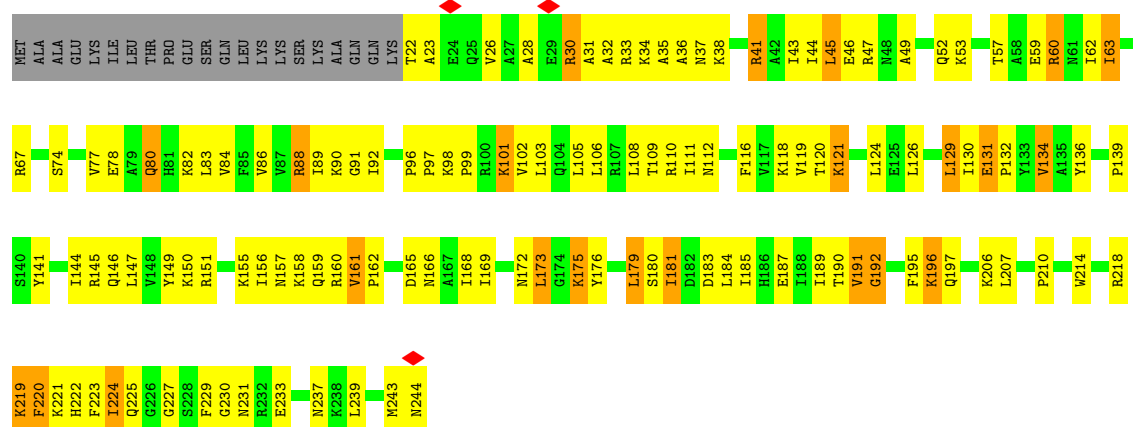
• Molecule 8: 60S ribosomal protein L6-A

Chain E: 



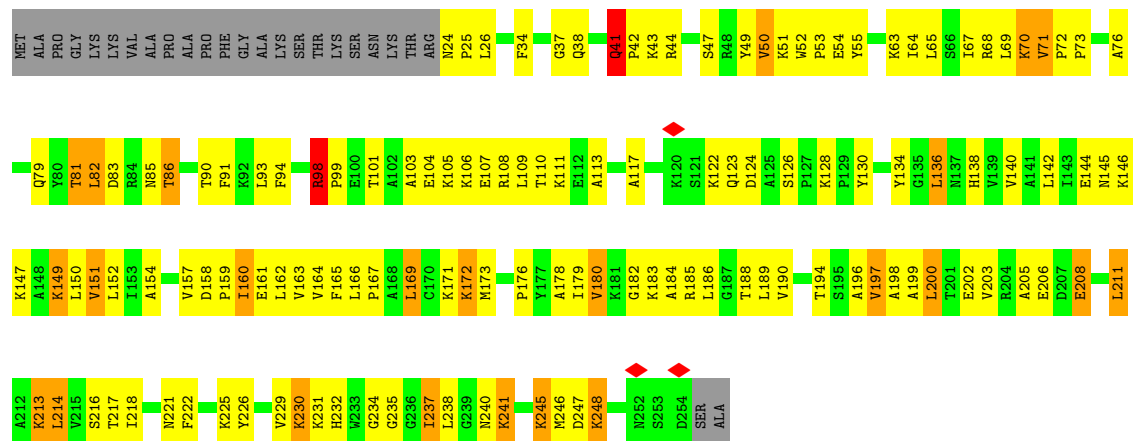
• Molecule 9: 60S ribosomal protein L7-A

Chain F: 



• Molecule 10: 60S ribosomal protein L8-A

Chain G: 

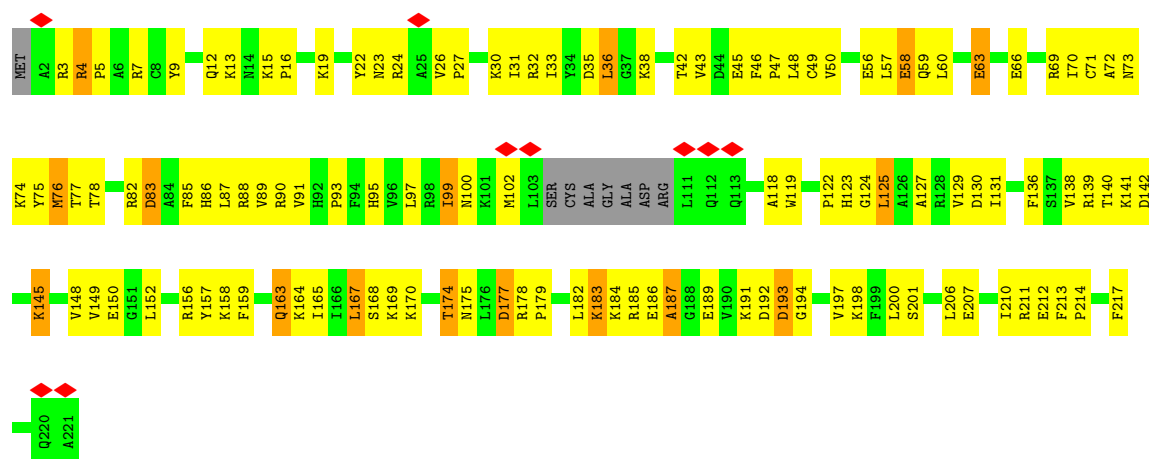


• Molecule 11: 60S ribosomal protein L9-A

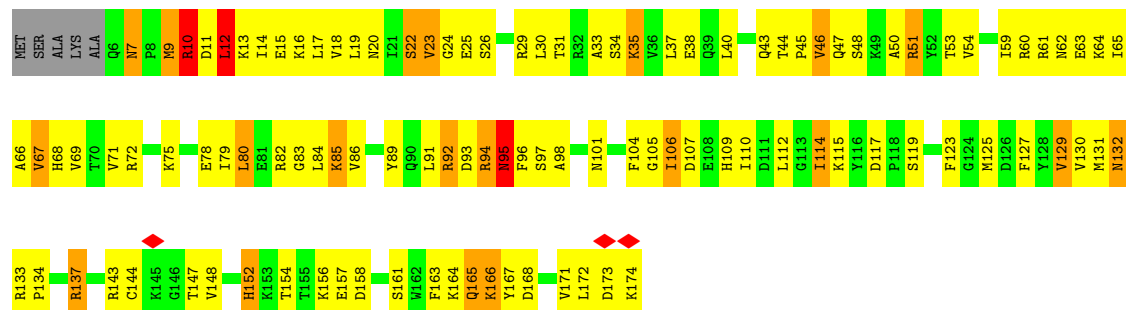
Chain H: 



• Molecule 12: 60S ribosomal protein L10

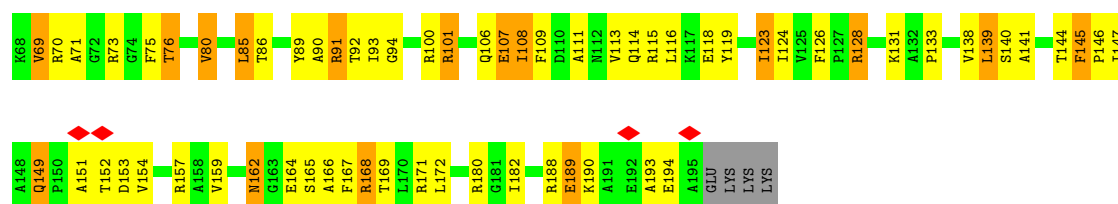


• Molecule 13: 60S ribosomal protein L11-A

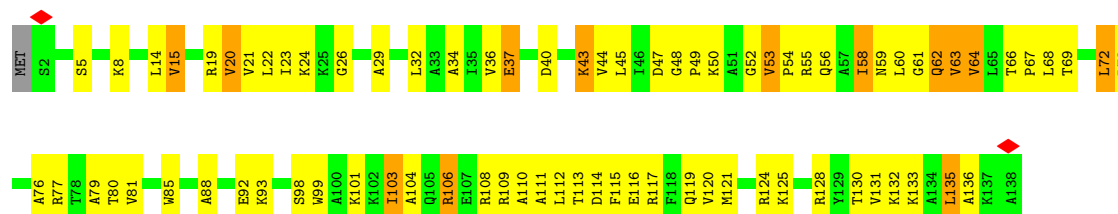


• Molecule 14: 60S ribosomal protein L13-A

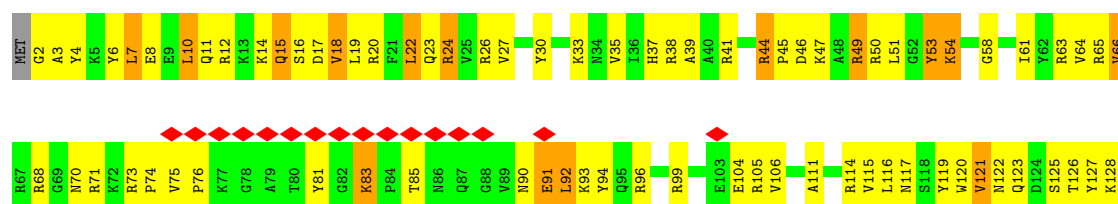




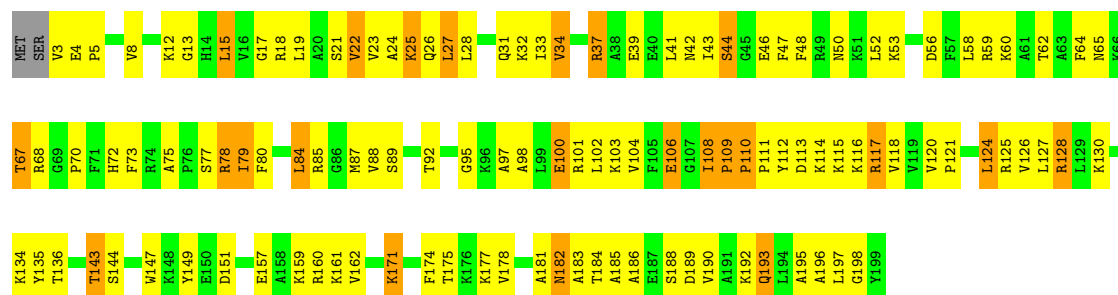
• Molecule 15: 60S ribosomal protein L14-A



• Molecule 16: 60S ribosomal protein L15-A



• Molecule 17: 60S ribosomal protein L16-A

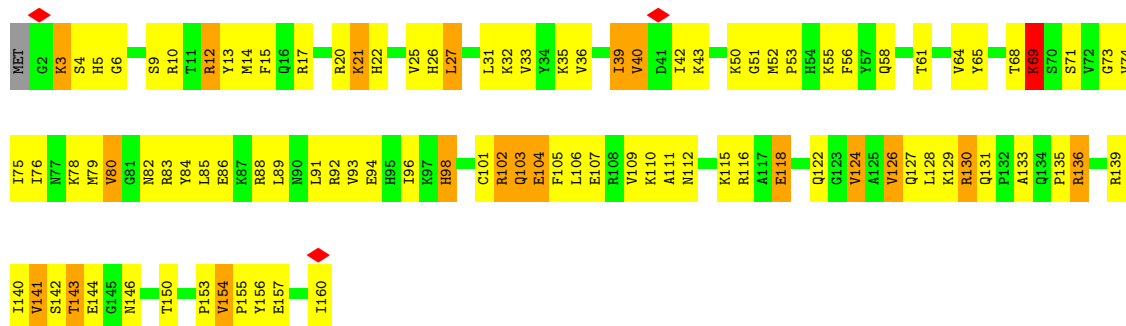


• Molecule 18: 60S ribosomal protein L17-A

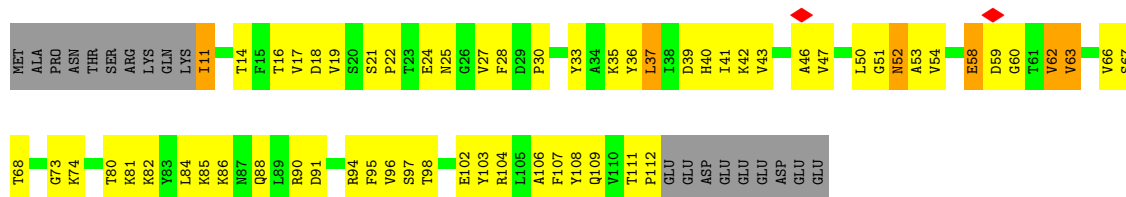




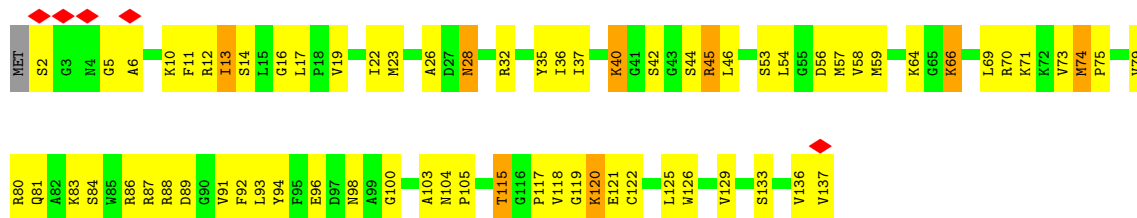
• Molecule 22: 60S ribosomal protein L21-A



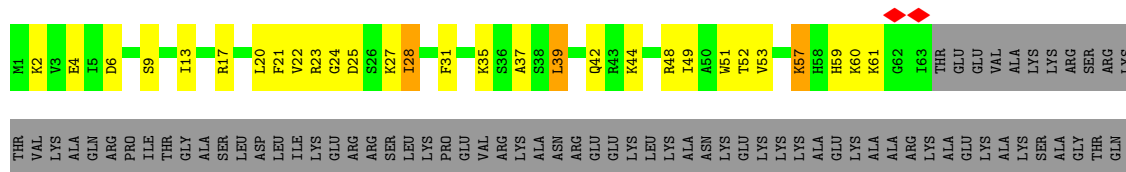
• Molecule 23: 60S ribosomal protein L22-A



• Molecule 24: 60S ribosomal protein L23-A



• Molecule 25: 60S ribosomal protein L24-A



SER
SER
LYS
PHE
SER
LYS
GLN
GLN
ALA
LYS
GLY
ALA
PHE
GLN
LYS
VAL
GLY
ALA
ALA
THR
SER
ARG

- Molecule 26: 60S ribosomal protein L25

Chain X: 

MET
ALA
PRO
SER
ALA
LYS
ALA
THR
ALA
ALA
LYS
LYS
VAL
VAL
LYS
GLY
THR
ASN
GLY
LYS
LYS
A23
L24
R27
T28
T31
F32
R33
L34
P35
K36
T37
L38
K39
L40
A43
P44
K45
K49
A50
V51
P52
H53
Y54
K55
R56
L57
K61
V62
I63
E64
Q65
P66
I67

T68
S69
E70
T71
A72
M73
K74
D78
G79
N80
I81
L82
V83
F84
Y93
K96
K97
A98
V99
K100
E101
L102
Y103
E104
V105
D106
V107
L108
K109
V110
N111
T112
R115
K121
R125
L126
T127
D128
Y129
D130
D131
A132
L133
D134
I135
A136
N137
Y141
I142

- Molecule 27: 60S ribosomal protein L26-A

Chain Y: 

MET
A2
K3
Q4
S5
V8
S9
S10
D11
R12
R13
K14
K17
A18
A22
P23
S24
S25
Q26
R27
R28
L31
S32
A33
P34
L35
S36
K37
E38
L39
R40
A41
G42
Y43
G44
L45
L48
P49
I50
R51
R52
D53
D54
E55
V56
V58
V59
R60
Q66
E67
I70

Y74
R75
L76
K77
F78
A79
V80
Q81
Q82
D83
K84
V85
T86
K89
V90
N91
S94
V95
P96
I97
N98
L99
H100
K103
L104
V105
I106
T107
K108
L109
H110
D112
K113
D114
R115
K116
A117
L118
I119
Q120
R121
K122
K125
L126
E127

- Molecule 28: 60S ribosomal protein L27-A

Chain Z: 

MET
A2
K3
V10
A11
V12
V13
V14
R15
G16
R17
Y18
K21
K22
V23
V24
I25
V26
K27
H28
H29
K34
S35
H36
P37
F38
Q39
H40
A41
L42
I46
E47
R48
Y49
P50
L51
K52
V53
T54
H57
K61
K64
R65
T66
K67
T68
K69
P70
F71
I72
K73
V74
V75

N76
Y77
N78
H79
L80
L81
P82
T83
R84
T85
T86
L87
D88
V89
E90
K93
S94
V95
V96
S97
T98
E99
T100
F101
E102
Q103
P104
S105
Q106
S108
R107
E108
A109
A110
K111
K112
V113
V114
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K52
F118
E119
E120
R121
H122
Q123
A124
G125
K126
N127
Q128
W129
F130
F131
S132
K133
L134
R135
F136

- Molecule 29: 60S ribosomal protein L28

Chain a: 

MET
P2
S3
R4
F5
T6
K7
T8
R9
H11
K10
R12
G13
H14
V15
S16
A17
G18
K19
G20
R21
I22
G23
K24
H25
R26
K27
H28
P29
G30
G31
R32
G33
M34
A35
G36
H40
H41
R42
I43
M44
M45
D46
G51
G57
M58
R59
Y60
F61
H62
K63
Q64
Q65
Q66
A66
H67
F68
W69

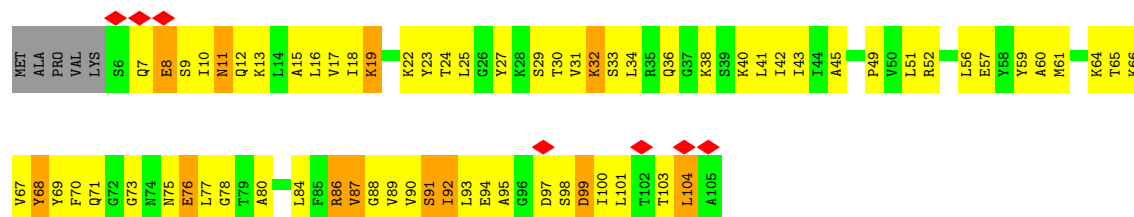
K70
P71
V72
L73
N74
L75
D76
K77
L78
W79
T80
L81
I82
P83
E84
D85
K86
L91
K96
E97
T98
A99
P100
V101
I102
G108
Y109
G110
K111
I112
L113
G114
K115
G116
R117
I118
P119
N120
V121
P122
V123
I124
V125
K126
A127
R128
F129
V130
S131
K132
L133
A134
F135
E136
K137
I138

V144
L147
I148
A149

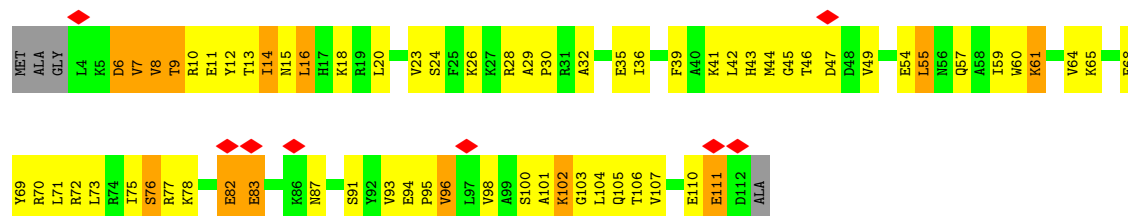
- Molecule 30: 60S ribosomal protein L29



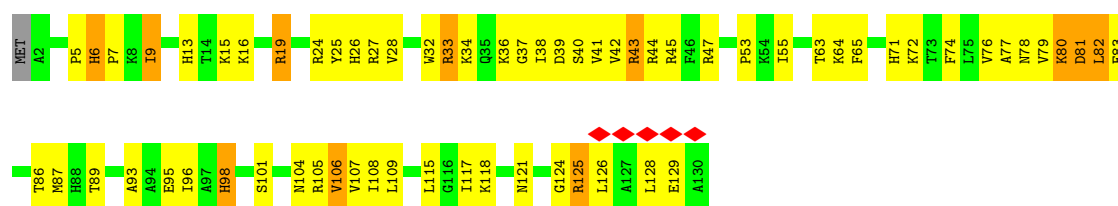
• Molecule 31: 60S ribosomal protein L30



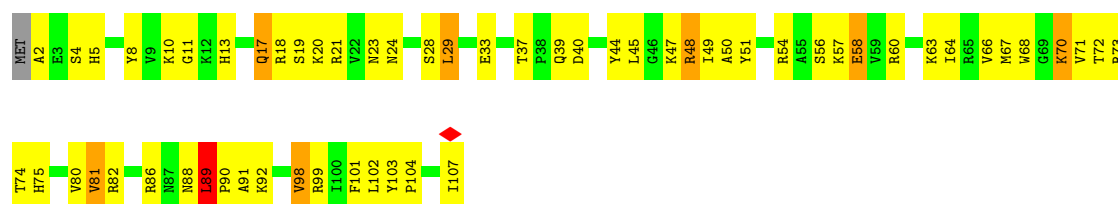
• Molecule 32: 60S ribosomal protein L31-A



• Molecule 33: 60S ribosomal protein L32



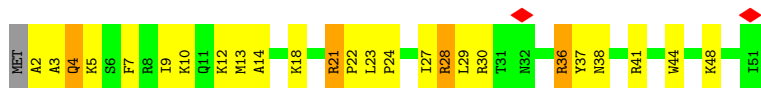
• Molecule 34: 60S ribosomal protein L33-A



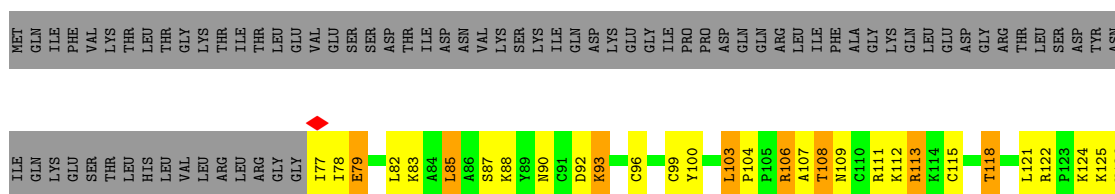
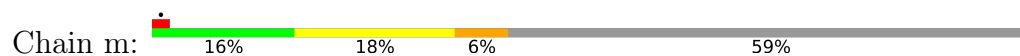
• Molecule 35: 60S ribosomal protein L34-A



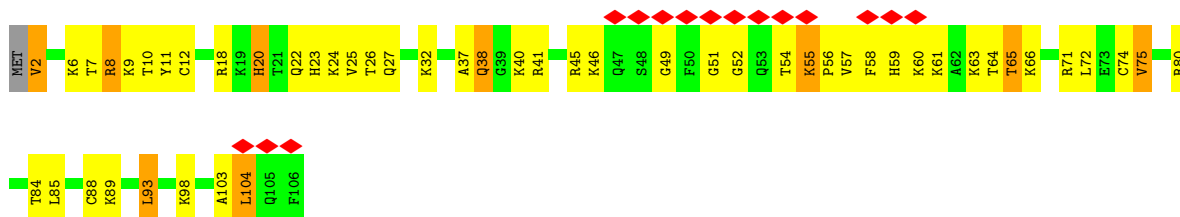
- Molecule 40: 60S ribosomal protein L39



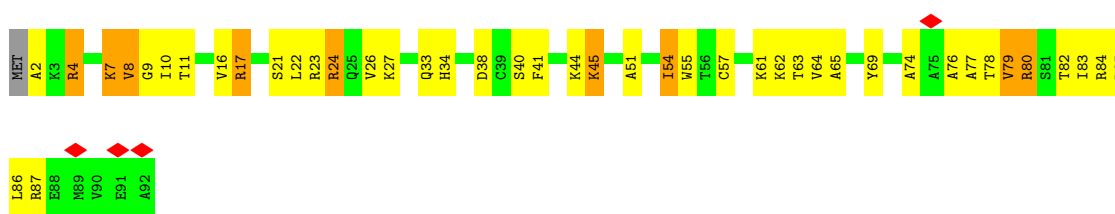
- Molecule 41: Ubiquitin-60S ribosomal protein L40



- Molecule 42: 60S ribosomal protein L42-A

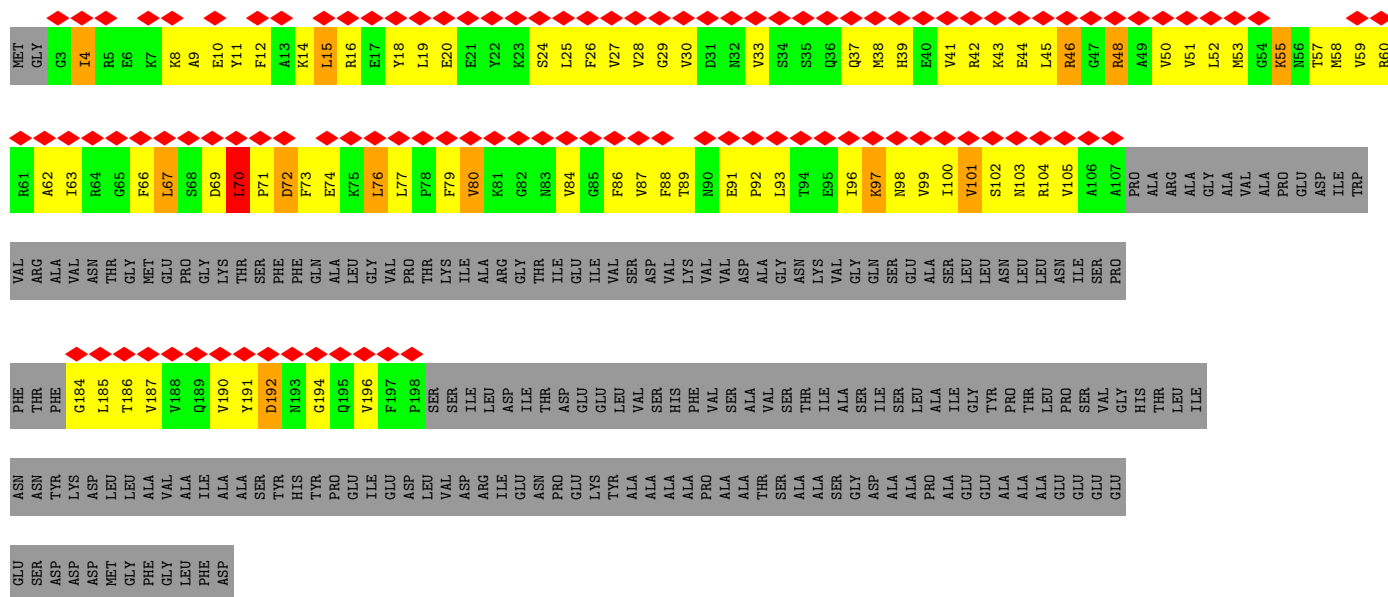


- Molecule 43: 60S ribosomal protein L43-A

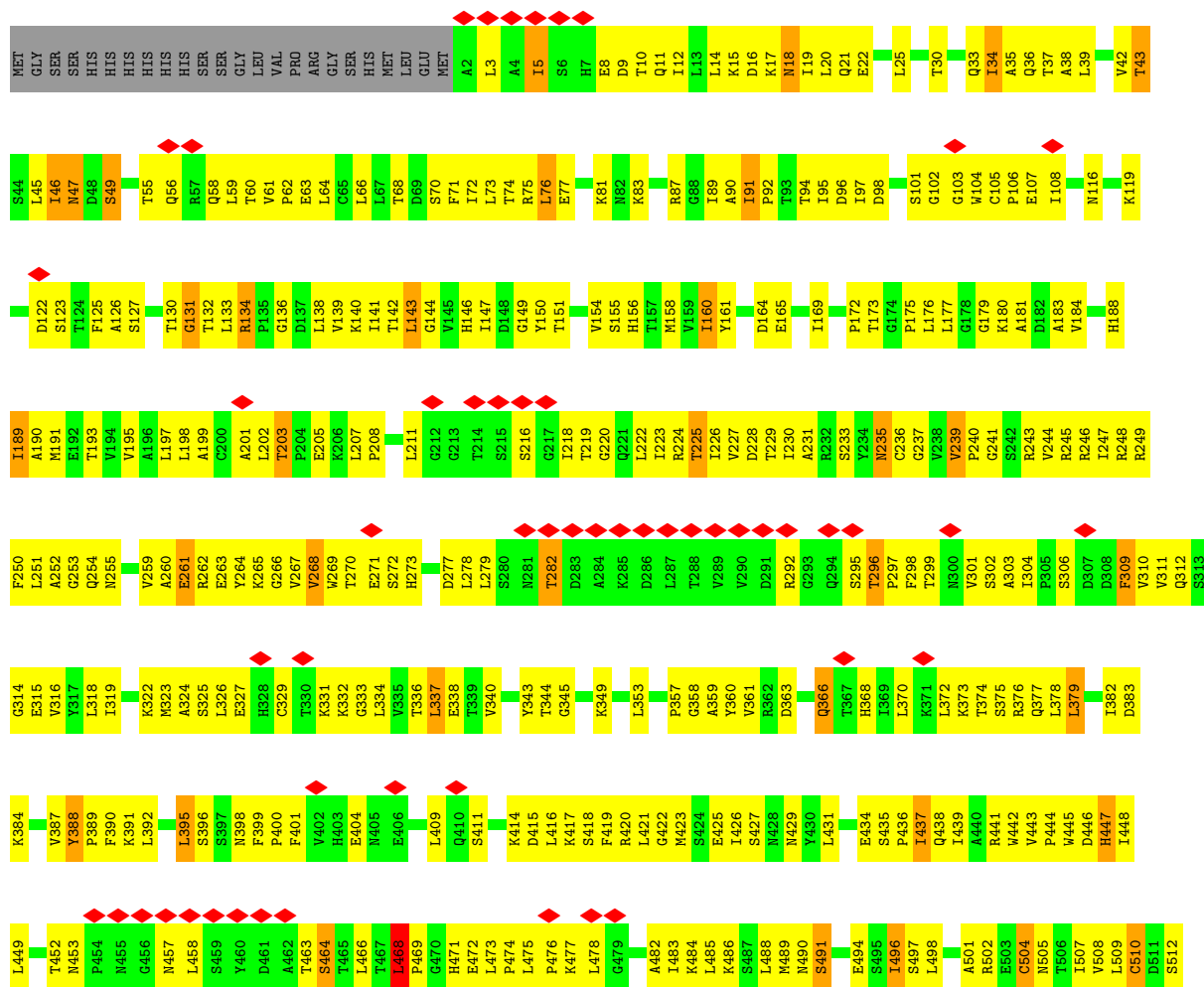


- Molecule 44: 60S acidic ribosomal protein P0

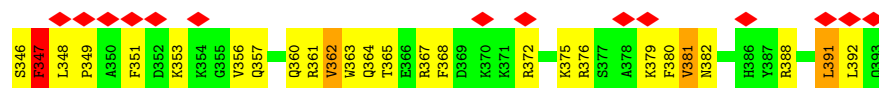
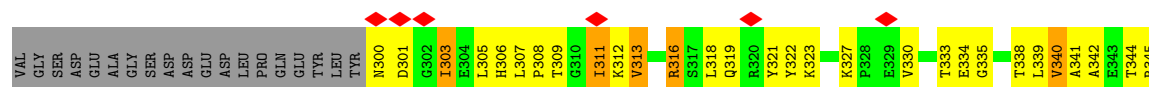
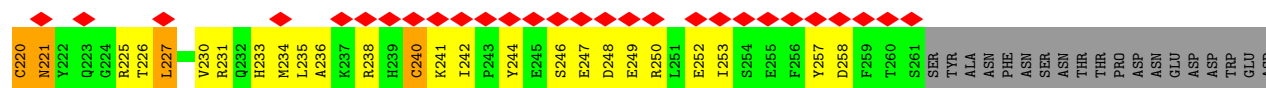
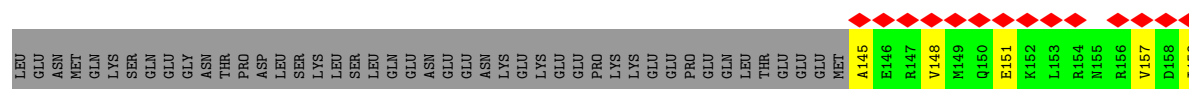
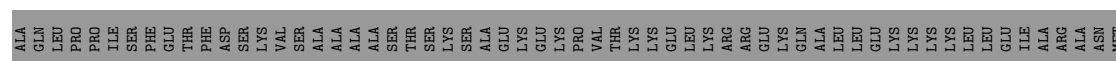
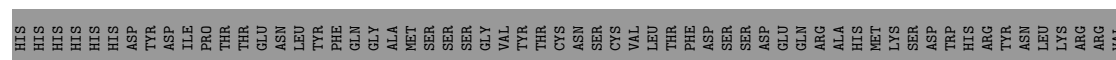




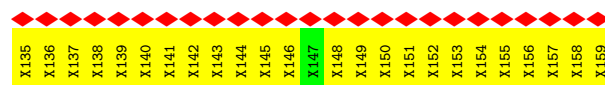
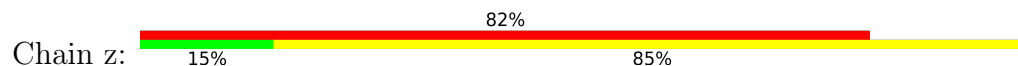
• Molecule 45: Probable metalloprotease ARX1



- Molecule 46: Cytoplasmic 60S subunit biogenesis factor REI1



- Molecule 47: ALB1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	22040	Depositor
Resolution determination method	Not provided	
CTF correction method	PER DETECTOR FRAME	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	20	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	100720	Depositor
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.352	Depositor
Minimum map value	-0.140	Depositor
Average map value	0.007	Depositor
Map value standard deviation	0.028	Depositor
Recommended contour level	0.06	Depositor
Map size ($\text{\AA}$)	300.24, 300.24, 300.24	wwPDB
Map dimensions	216, 216, 216	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.39, 1.39, 1.39	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: P5P, Y5P, MG, ZN

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	5	0.24	0/74039	0.39	1/115426 (0.0%)
2	7	0.18	0/2883	0.29	0/4491
3	8	0.25	0/3746	0.41	0/5832
4	A	0.44	0/1662	0.94	5/2236 (0.2%)
5	B	0.46	0/3146	0.90	8/4228 (0.2%)
6	C	0.49	0/2800	0.98	13/3790 (0.3%)
7	D	0.41	0/2408	0.86	2/3248 (0.1%)
8	E	0.46	0/1377	0.97	6/1851 (0.3%)
9	F	0.46	0/1828	0.92	6/2461 (0.2%)
10	G	0.47	0/1795	0.96	9/2429 (0.4%)
11	H	0.43	0/1539	0.87	3/2073 (0.1%)
12	I	0.44	0/1758	0.92	4/2358 (0.2%)
13	J	0.42	0/1374	0.89	5/1842 (0.3%)
14	L	0.47	0/1573	1.01	7/2113 (0.3%)
15	M	0.44	0/1074	0.90	0/1446
16	N	0.54	0/1757	0.95	5/2354 (0.2%)
17	O	0.48	0/1585	0.96	7/2128 (0.3%)
18	P	0.52	0/1465	0.93	3/1968 (0.2%)
19	Q	0.45	0/1465	0.93	5/1965 (0.3%)
20	R	0.43	0/1275	0.80	0/1702
21	S	0.46	0/1473	0.89	7/1980 (0.4%)
22	T	0.42	0/1300	0.85	1/1743 (0.1%)
23	U	0.42	0/825	0.88	1/1120 (0.1%)
24	V	0.43	0/1018	0.93	3/1369 (0.2%)
25	W	0.41	0/533	0.83	0/707
26	X	0.44	0/974	1.01	2/1314 (0.2%)
27	Y	0.43	0/1004	0.91	4/1341 (0.3%)
28	Z	0.44	0/1118	1.01	4/1497 (0.3%)
29	a	0.50	0/1204	0.95	6/1612 (0.4%)
30	b	0.44	0/473	1.00	3/629 (0.5%)
31	c	0.44	0/775	0.86	0/1040
32	d	0.44	0/897	0.99	2/1205 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	e	0.49	0/1055	0.88	2/1413 (0.1%)
34	f	0.48	0/868	0.95	5/1168 (0.4%)
35	g	0.44	0/890	1.02	7/1189 (0.6%)
36	h	0.46	0/974	1.00	6/1297 (0.5%)
37	i	0.43	0/777	0.85	0/1033
38	j	0.48	0/696	0.91	0/923
39	k	0.43	0/614	0.94	3/822 (0.4%)
40	l	0.50	0/443	0.86	0/588
41	m	0.47	0/423	1.06	4/562 (0.7%)
42	o	0.46	0/860	0.97	4/1136 (0.4%)
43	p	0.44	0/701	0.86	2/934 (0.2%)
44	q	0.84	0/977	0.98	3/1313 (0.2%)
45	x	0.48	0/4557	0.93	10/6189 (0.2%)
46	y	0.57	0/1759	0.90	1/2363 (0.0%)
All	All	0.35	0/137737	0.65	169/202428 (0.1%)

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
6	C	0	2
13	J	0	1
16	N	0	2
28	Z	0	1
32	d	0	2
35	g	0	1
45	x	0	2
46	y	0	1
All	All	0	12

There are no bond length outliers.

All (169) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	O	109	PRO	CA-C-N	10.69	131.39	120.38
17	O	109	PRO	C-N-CA	10.69	131.39	120.38
35	g	11	ASN	CA-C-N	9.88	129.54	119.56
35	g	11	ASN	C-N-CA	9.88	129.54	119.56
26	X	43	ALA	CA-C-N	9.84	129.20	118.97
26	X	43	ALA	C-N-CA	9.84	129.20	118.97

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	h	41	LEU	CA-C-N	9.52	129.22	118.85
36	h	41	LEU	C-N-CA	9.52	129.22	118.85
17	O	110	PRO	N-CA-C	8.56	121.14	110.70
12	I	4	ARG	CA-C-N	8.32	128.84	119.93
12	I	4	ARG	C-N-CA	8.32	128.84	119.93
42	o	51	GLY	N-CA-C	-8.19	101.36	115.61
14	L	145	PHE	CA-C-N	8.15	128.03	120.21
14	L	145	PHE	C-N-CA	8.15	128.03	120.21
6	C	3	ARG	CA-C-N	8.01	129.86	119.84
6	C	3	ARG	C-N-CA	8.01	129.86	119.84
16	N	44	ARG	CA-C-N	7.88	128.31	119.32
16	N	44	ARG	C-N-CA	7.88	128.31	119.32
32	d	87	ASN	CA-C-N	7.76	127.39	119.56
32	d	87	ASN	C-N-CA	7.76	127.39	119.56
44	q	70	LEU	CA-C-N	7.63	127.81	119.87
44	q	70	LEU	C-N-CA	7.63	127.81	119.87
41	m	79	GLU	CA-C-N	7.43	127.30	119.05
41	m	79	GLU	C-N-CA	7.43	127.30	119.05
17	O	110	PRO	CA-C-N	-7.32	112.16	119.56
17	O	110	PRO	C-N-CA	-7.32	112.16	119.56
10	G	126	SER	CA-C-N	7.26	127.26	119.78
10	G	126	SER	C-N-CA	7.26	127.26	119.78
28	Z	27	LYS	CA-C-N	7.21	126.74	119.24
28	Z	27	LYS	C-N-CA	7.21	126.74	119.24
45	x	266	GLY	N-CA-C	7.20	120.66	111.09
36	h	38	ARG	CA-C-N	7.14	127.30	119.87
36	h	38	ARG	C-N-CA	7.14	127.30	119.87
14	L	26	PHE	N-CA-C	-7.10	104.62	113.28
16	N	136	ASP	CA-C-N	7.05	126.68	119.56
16	N	136	ASP	C-N-CA	7.05	126.68	119.56
18	P	142	SER	CA-C-N	6.99	127.02	119.89
18	P	142	SER	C-N-CA	6.99	127.02	119.89
27	Y	100	HIS	CA-C-N	6.96	127.25	119.32
27	Y	100	HIS	C-N-CA	6.96	127.25	119.32
41	m	103	LEU	CA-C-N	6.89	124.69	119.66
41	m	103	LEU	C-N-CA	6.89	124.69	119.66
13	J	117	ASP	CA-C-N	6.87	128.43	119.84
13	J	117	ASP	C-N-CA	6.87	128.43	119.84
45	x	239	VAL	CA-C-N	6.87	126.55	119.82
45	x	239	VAL	C-N-CA	6.87	126.55	119.82
42	o	65	THR	CB-CA-C	-6.85	106.75	116.34
4	A	79	ASN	N-CA-C	6.83	121.32	112.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	L	62	THR	CB-CA-C	-6.83	107.67	115.79
34	f	24	ASN	CA-C-N	6.76	128.29	119.84
34	f	24	ASN	C-N-CA	6.76	128.29	119.84
36	h	118	ILE	N-CA-C	6.57	116.18	106.85
10	G	41	GLN	CA-C-N	6.51	126.48	120.03
10	G	41	GLN	C-N-CA	6.51	126.48	120.03
45	x	179	GLY	N-CA-C	-6.46	107.56	114.67
9	F	192	GLY	CA-C-N	6.43	126.19	119.05
9	F	192	GLY	C-N-CA	6.43	126.19	119.05
4	A	56	ALA	CA-C-N	6.42	126.88	120.52
4	A	56	ALA	C-N-CA	6.42	126.88	120.52
23	U	52	ASN	N-CA-C	-6.41	105.05	112.86
34	f	89	LEU	CA-C-N	6.39	126.01	119.56
34	f	89	LEU	C-N-CA	6.39	126.01	119.56
13	J	173	ASP	CB-CA-C	-6.38	109.20	116.54
43	p	8	VAL	N-CA-C	6.36	116.51	110.53
29	a	32	ARG	N-CA-C	6.31	118.29	110.91
10	G	151	VAL	N-CA-C	6.23	116.57	108.35
35	g	58	ARG	CA-C-N	6.22	126.42	119.32
35	g	58	ARG	C-N-CA	6.22	126.42	119.32
45	x	388	TYR	CA-C-N	6.20	126.15	119.76
45	x	388	TYR	C-N-CA	6.20	126.15	119.76
10	G	98	ARG	CA-C-N	6.18	126.20	119.89
10	G	98	ARG	C-N-CA	6.18	126.20	119.89
10	G	128	LYS	CA-C-N	6.18	125.94	119.76
10	G	128	LYS	C-N-CA	6.18	125.94	119.76
5	B	169	THR	CA-C-N	6.14	125.82	119.56
5	B	169	THR	C-N-CA	6.14	125.82	119.56
6	C	22	LEU	CA-C-N	6.12	126.08	119.78
6	C	22	LEU	C-N-CA	6.12	126.08	119.78
14	L	133	PRO	CA-C-O	-6.10	116.80	121.31
30	b	40	ARG	N-CA-C	-6.09	103.97	111.40
30	b	36	ASP	CA-C-N	6.05	125.77	119.05
30	b	36	ASP	C-N-CA	6.05	125.77	119.05
29	a	121	VAL	N-CA-C	6.02	115.59	108.96
44	q	101	VAL	N-CA-C	6.01	116.07	110.42
9	F	233	GLU	CB-CA-C	-5.94	109.16	117.23
8	E	10	TYR	CA-C-N	-5.93	112.42	119.84
8	E	10	TYR	C-N-CA	-5.93	112.42	119.84
35	g	81	CYS	N-CA-C	5.92	120.20	112.92
27	Y	22	ALA	CA-C-N	5.88	125.85	120.21
27	Y	22	ALA	C-N-CA	5.88	125.85	120.21

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
17	O	75	ALA	CA-C-N	5.87	125.34	119.24
17	O	75	ALA	C-N-CA	5.87	125.34	119.24
36	h	84	LYS	CB-CA-C	-5.86	109.26	117.23
8	E	170	LYS	CA-C-N	5.86	126.27	119.47
8	E	170	LYS	C-N-CA	5.86	126.27	119.47
28	Z	15	ARG	N-CA-C	5.82	117.92	108.26
4	A	14	SER	CB-CA-C	-5.80	109.34	117.23
11	H	126	VAL	CA-C-N	5.79	125.98	119.90
11	H	126	VAL	C-N-CA	5.79	125.98	119.90
1	5	1555	U	C2'-C3'-O3'	5.77	118.15	109.50
13	J	7	ASN	N-CA-C	5.72	117.83	109.30
46	y	220	CYS	N-CA-C	5.72	117.98	111.11
24	V	66	LYS	CA-C-N	5.72	126.11	119.47
24	V	66	LYS	C-N-CA	5.72	126.11	119.47
6	C	340	GLY	N-CA-C	-5.71	105.29	113.86
19	Q	142	GLY	CA-C-N	5.70	126.97	119.84
19	Q	142	GLY	C-N-CA	5.70	126.97	119.84
9	F	220	PHE	N-CA-C	5.68	119.84	113.02
6	C	316	ASN	CA-C-N	5.65	125.33	119.56
6	C	316	ASN	C-N-CA	5.65	125.33	119.56
28	Z	90	GLU	N-CA-C	5.65	117.13	110.97
21	S	152	LEU	CA-C-N	5.63	125.94	119.92
21	S	152	LEU	C-N-CA	5.63	125.94	119.92
24	V	5	GLY	N-CA-C	-5.62	107.34	115.27
45	x	468	LEU	CA-C-N	5.60	125.07	119.24
45	x	468	LEU	C-N-CA	5.60	125.07	119.24
34	f	92	LYS	N-CA-C	-5.58	106.43	113.18
45	x	327	GLU	N-CA-C	-5.58	102.77	110.35
29	a	17	ALA	CB-CA-C	-5.56	110.18	116.63
5	B	39	LYS	CA-C-N	5.54	125.56	119.90
5	B	39	LYS	C-N-CA	5.54	125.56	119.90
43	p	4	ARG	CB-CA-C	-5.51	109.74	117.23
33	e	16	LYS	N-CA-C	5.48	119.23	112.54
6	C	31	ARG	CA-C-N	5.48	125.83	119.47
6	C	31	ARG	C-N-CA	5.48	125.83	119.47
21	S	171	PHE	N-CA-C	5.47	117.69	111.02
5	B	82	PRO	O-C-N	5.44	123.71	121.15
42	o	52	GLY	N-CA-C	-5.44	105.54	113.48
29	a	67	HIS	N-CA-C	-5.43	105.39	112.23
8	E	65	ILE	N-CA-C	5.43	115.87	107.78
14	L	49	ARG	CA-C-N	5.43	126.63	119.84
14	L	49	ARG	C-N-CA	5.43	126.63	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	I	187	ALA	N-CA-C	-5.41	99.27	110.80
5	B	257	PRO	CA-C-N	-5.40	114.78	122.77
5	B	257	PRO	C-N-CA	-5.40	114.78	122.77
19	Q	169	GLY	N-CA-C	-5.39	102.88	110.75
5	B	386	ASP	CB-CA-C	-5.39	109.90	117.23
7	D	250	ASP	CA-C-N	5.39	124.90	119.19
7	D	250	ASP	C-N-CA	5.39	124.90	119.19
11	H	190	ASP	CB-CA-C	-5.39	110.38	116.63
6	C	300	ARG	CA-C-N	5.37	124.82	119.24
6	C	300	ARG	C-N-CA	5.37	124.82	119.24
33	e	124	GLY	N-CA-C	-5.34	104.97	112.13
9	F	161	VAL	CA-C-N	5.34	125.26	119.76
9	F	161	VAL	C-N-CA	5.34	125.26	119.76
39	k	70	PRO	CA-C-N	5.31	124.81	119.19
39	k	70	PRO	C-N-CA	5.31	124.81	119.19
35	g	78	GLY	N-CA-C	-5.29	103.56	112.77
12	I	58	GLU	N-CA-C	5.29	115.22	108.24
16	N	185	ALA	N-CA-C	-5.27	106.53	113.17
29	a	24	LYS	CB-CA-C	-5.27	109.52	115.79
8	E	123	PRO	N-CA-CB	5.26	108.78	103.25
39	k	70	PRO	O-C-N	5.25	123.62	121.15
42	o	65	THR	N-CA-C	5.21	115.70	108.00
19	Q	96	PHE	CA-C-N	5.20	126.34	119.84
19	Q	96	PHE	C-N-CA	5.20	126.34	119.84
22	T	154	VAL	N-CA-C	5.16	113.56	107.84
13	J	152	HIS	CB-CA-C	-5.14	110.66	116.63
6	C	276	LEU	CA-C-N	5.14	125.38	119.83
6	C	276	LEU	C-N-CA	5.14	125.38	119.83
29	a	129	PHE	N-CA-C	5.13	116.91	110.91
21	S	14	LEU	CA-C-N	5.11	125.11	119.89
21	S	14	LEU	C-N-CA	5.11	125.11	119.89
18	P	144	SER	N-CA-C	5.10	117.38	108.76
4	A	212	GLY	N-CA-C	5.05	120.31	111.78
35	g	75	ALA	N-CA-C	-5.04	102.25	110.20
21	S	21	GLU	CA-C-N	5.02	125.48	120.52
21	S	21	GLU	C-N-CA	5.02	125.48	120.52
45	x	131	GLY	N-CA-C	-5.00	108.73	114.69

There are no chirality outliers.

All (12) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	C	148	ILE	Peptide
6	C	197	ARG	Peptide
13	J	9	MET	Peptide
16	N	183	THR	Peptide
16	N	184	LYS	Peptide
28	Z	101	PHE	Peptide
32	d	6	ASP	Peptide
32	d	82	GLU	Peptide
35	g	80	ARG	Peptide
45	x	518	ASP	Peptide
45	x	541	HIS	Peptide
46	y	347	PHE	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	5	66537	0	33464	2452	0
2	7	2579	0	1303	103	0
3	8	3353	0	1695	149	0
4	A	1630	0	1682	154	0
5	B	3075	0	3142	292	0
6	C	2748	0	2859	266	0
7	D	2359	0	2311	166	0
8	E	1355	0	1413	116	0
9	F	1791	0	1869	143	0
10	G	1763	0	1819	160	0
11	H	1518	0	1587	118	0
12	I	1722	0	1755	129	0
13	J	1353	0	1383	141	0
14	L	1548	0	1613	165	0
15	M	1059	0	1154	80	0
16	N	1720	0	1779	179	0
17	O	1555	0	1659	119	0
18	P	1442	0	1485	116	0
19	Q	1441	0	1543	139	0
20	R	1258	0	1342	95	0
21	S	1437	0	1475	110	0
22	T	1276	0	1323	105	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
23	U	808	0	822	70	0
24	V	1003	0	1048	87	0
25	W	521	0	551	24	0
26	X	959	0	1023	78	0
27	Y	993	0	1081	79	0
28	Z	1092	0	1155	93	0
29	a	1173	0	1215	110	0
30	b	462	0	491	38	0
31	c	767	0	816	96	0
32	d	883	0	918	84	0
33	e	1034	0	1101	50	0
34	f	850	0	880	77	0
35	g	880	0	945	75	0
36	h	965	0	1067	97	0
37	i	770	0	846	89	0
38	j	681	0	683	57	0
39	k	608	0	671	53	0
40	l	436	0	475	34	0
41	m	417	0	455	25	0
42	o	847	0	914	77	0
43	p	694	0	734	61	0
44	q	962	0	989	143	0
45	x	4477	0	4559	463	0
46	y	1724	3	1681	150	0
47	z	510	0	517	111	0
48	5	259	0	0	0	0
48	7	6	0	0	0	0
48	8	7	0	0	0	0
48	B	1	0	0	0	0
48	C	2	0	0	0	0
48	N	1	0	0	0	0
48	P	1	0	0	0	0
48	V	1	0	0	0	0
48	a	2	0	0	0	0
49	j	1	0	0	0	0
49	m	1	0	0	0	0
49	o	1	0	0	0	0
49	p	1	0	0	0	0
49	y	2	0	0	0	0
All	All	129321	3	95292	6807	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 31.

All (6807) 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)
36:h:114:ARG:HH11	36:h:114:ARG:HG3	1.08	1.16
17:O:128:ARG:HH11	17:O:128:ARG:HG3	1.11	1.14
10:G:162:LEU:HD23	16:N:7:LEU:HD11	1.30	1.13
30:b:32:LEU:HD13	30:b:35:VAL:HG21	1.15	1.13
14:L:91:ARG:HH11	14:L:91:ARG:HG3	1.15	1.11
1:5:2158:A:H4'	1:5:2159:U:H5''	1.27	1.11
6:C:99:MET:HE3	6:C:102:PRO:HA	1.30	1.09
7:D:277:LEU:HD11	7:D:285:ARG:HH11	1.13	1.09
11:H:87:LYS:HD3	11:H:191:LEU:HD21	1.33	1.09
5:B:221:THR:HG22	5:B:273:HIS:H	1.10	1.08
44:q:51:VAL:HG13	44:q:87:VAL:HG22	1.27	1.08
1:5:1098:A:OP2	22:T:130:ARG:NH1	1.85	1.08
21:S:13:ARG:HH11	21:S:13:ARG:HG3	0.93	1.08
45:x:60:THR:HG22	45:x:62:PRO:HD2	1.31	1.08
45:x:172:PRO:HG2	47:z:67:UNK:HB2	1.35	1.08
32:d:46:THR:HG21	32:d:91:SER:HB2	1.14	1.08
1:5:2227:C:H2'	1:5:2228:A:H5''	1.36	1.07
7:D:152:ARG:HH11	7:D:152:ARG:HG3	0.91	1.07
6:C:148:ILE:HG23	6:C:149:PRO:HD3	1.31	1.07
27:Y:86:THR:HA	27:Y:97:ILE:HD13	1.36	1.07
10:G:98:ARG:HG3	10:G:98:ARG:HH11	1.08	1.06
1:5:247:C:H2'	1:5:248:U:H1'	1.36	1.06
24:V:32:ARG:HB2	24:V:64:LYS:HB3	1.30	1.06
45:x:279:LEU:HD11	47:z:98:UNK:HB1	1.36	1.06
8:E:78:ARG:HG3	8:E:78:ARG:HH11	1.16	1.05
23:U:46:ALA:HB3	46:y:238:ARG:HG3	1.36	1.05
1:5:2112:U:H4'	1:5:2113:A:H5'	1.35	1.05
1:5:2640:A:OP2	22:T:10:ARG:NH1	1.89	1.05
6:C:11:LEU:HD22	6:C:168:ALA:HB1	1.36	1.04
1:5:1764:U:H3'	1:5:1765:U:H2'	1.40	1.04
26:X:105:VAL:HG11	26:X:126:LEU:HD13	1.38	1.04
44:q:91:GLU:HB3	44:q:92:PRO:HD2	1.40	1.03
45:x:202:LEU:HD12	45:x:567:LEU:HD11	1.35	1.03
14:L:71:ALA:HB2	14:L:147:ILE:HD11	1.41	1.02
1:5:1346:G:H1'	6:C:307:GLN:HE22	1.25	1.01
36:h:85:THR:HG22	36:h:88:LEU:HG	1.42	1.01
1:5:1581:C:H41	1:5:2522:G:H4'	1.25	1.01
5:B:58:ARG:HH12	5:B:60:LEU:HA	1.25	1.01
5:B:188:ILE:HD12	5:B:188:ILE:H	1.26	1.01
8:E:3:ALA:HB2	33:e:77:ALA:HB2	1.40	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:35:ALA:HA	9:F:38:LYS:HB2	1.41	1.00
1:5:2277:C:H4'	1:5:2317:A:H4'	1.42	1.00
20:R:74:ARG:HA	20:R:74:ARG:HE	1.22	1.00
45:x:154:VAL:HA	45:x:526:THR:HG21	1.41	0.99
8:E:8:LYS:HA	8:E:8:LYS:NZ	1.76	0.99
27:Y:60:ARG:HH11	27:Y:60:ARG:HG3	1.26	0.99
18:P:7:THR:HB	18:P:9:THR:HG22	1.42	0.99
20:R:81:ARG:HG2	20:R:88:ARG:HH12	1.23	0.99
1:5:717:C:H2'	1:5:718:G:H5'	1.44	0.98
7:D:152:ARG:HG3	7:D:152:ARG:NH1	1.70	0.98
1:5:1385:C:HO2'	8:E:2:SER:N	1.60	0.98
45:x:444:PRO:HG3	45:x:494:GLU:HB3	1.42	0.98
45:x:224:ARG:NH1	45:x:306:SER:OG	1.96	0.98
45:x:331:LYS:HE3	45:x:444:PRO:HB3	1.45	0.98
1:5:2421:U:H2'	1:5:2422:C:H5''	1.46	0.97
10:G:70:LYS:HA	10:G:235:GLY:HA3	1.42	0.97
32:d:71:LEU:HB3	32:d:73:LEU:HD21	1.43	0.97
1:5:2898:G:N7	41:m:125:LYS:NZ	2.12	0.97
1:5:439:C:O2	1:5:494:G:N2	1.98	0.97
14:L:46:ILE:HG22	14:L:49:ARG:HB2	1.45	0.97
5:B:364:LYS:HA	5:B:364:LYS:HE3	1.46	0.97
1:5:837:A:OP2	43:p:4:ARG:NH1	1.96	0.97
1:5:3341:U:O2	46:y:225:ARG:NH1	1.97	0.96
6:C:299:ILE:HG23	19:Q:39:ARG:HB3	1.48	0.96
1:5:619:A:H5'	1:5:620:U:C5	2.01	0.96
13:J:15:GLU:HB3	13:J:130:VAL:HG23	1.46	0.96
12:I:43:VAL:HG21	12:I:197:VAL:HG23	1.46	0.95
1:5:845:G:N2	1:5:848:A:OP2	1.99	0.95
17:O:78:ARG:HH11	17:O:78:ARG:HG3	1.31	0.95
8:E:18:LEU:H	8:E:18:LEU:HD12	1.31	0.95
45:x:39:LEU:HD23	45:x:531:THR:HG23	1.46	0.95
13:J:50:ALA:HB2	13:J:65:ILE:HD11	1.45	0.95
21:S:13:ARG:HD3	21:S:51:VAL:HG13	1.47	0.95
16:N:114:ARG:HB2	16:N:151:ILE:HD11	1.46	0.95
1:5:284:A:H4'	42:o:45:ARG:HH22	1.28	0.95
1:5:2282:U:O4'	1:5:2960:C:O2'	1.83	0.95
39:k:46:ARG:HH21	39:k:51:LEU:HB2	1.28	0.95
28:Z:10:VAL:HG22	28:Z:24:VAL:HG13	1.49	0.95
15:M:48:GLY:HA3	15:M:53:VAL:HG13	1.47	0.94
6:C:93:MET:HE2	6:C:93:MET:H	1.30	0.94
24:V:23:MET:HE3	24:V:100:GLY:HA3	1.47	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:34:THR:HG22	19:Q:49:LEU:HD11	1.47	0.94
1:5:269:G:H5''	16:N:14:LYS:NZ	1.82	0.94
21:S:13:ARG:HG3	21:S:13:ARG:NH1	1.70	0.94
45:x:540:GLN:HB3	47:z:75:UNK:HG1	1.50	0.94
44:q:25:LEU:CD2	44:q:76:LEU:HG	1.97	0.93
15:M:22:LEU:HD12	15:M:23:ILE:H	1.33	0.93
1:5:900:G:H1'	1:5:1589:A:N6	1.84	0.93
6:C:300:ARG:HG2	6:C:300:ARG:HH11	1.33	0.93
37:i:62:ARG:HH11	37:i:94:ILE:HD11	1.30	0.93
45:x:155:SER:HB2	45:x:504:CYS:HB2	1.49	0.93
47:z:67:UNK:HG2	47:z:70:UNK:HB1	1.48	0.93
37:i:61:ILE:HD11	37:i:90:MET:HB3	1.50	0.93
1:5:1580:A:H4'	1:5:1581:C:OP2	1.68	0.93
1:5:2276:G:O6	1:5:2311:G:C2	2.22	0.92
9:F:98:LYS:HB3	9:F:99:PRO:HD3	1.50	0.92
16:N:120:TRP:HZ2	16:N:123:GLN:HG2	1.34	0.92
6:C:112:LYS:NZ	16:N:203:ARG:O	2.02	0.92
1:5:2765:C:H1'	42:o:55:LYS:HG2	1.48	0.92
5:B:56:ILE:HD11	5:B:359:ILE:HG12	1.49	0.92
45:x:332:LYS:HD2	47:z:90:UNK:HG1	1.52	0.92
6:C:148:ILE:HG23	6:C:149:PRO:CD	1.99	0.92
1:5:1567:U:H3'	1:5:1568:U:H5''	1.52	0.92
14:L:46:ILE:CG2	14:L:49:ARG:HB2	2.00	0.92
1:5:253:A:O2'	1:5:254:A:O5'	1.87	0.92
15:M:72:LEU:HD23	15:M:73:PRO:HD2	1.50	0.91
1:5:173:G:H1	1:5:245:U:H3	1.14	0.91
22:T:17:ARG:HG2	22:T:17:ARG:HH11	1.35	0.91
44:q:87:VAL:HG11	44:q:100:ILE:HD11	1.52	0.91
45:x:447:HIS:HE1	45:x:491:SER:HB2	1.32	0.91
45:x:378:LEU:HD13	45:x:419:PHE:HD2	1.36	0.91
13:J:51:ARG:CG	13:J:51:ARG:HH11	1.83	0.91
16:N:140:LYS:HB3	16:N:144:ARG:NH1	1.85	0.91
1:5:1630:U:OP1	28:Z:67:LYS:NZ	2.02	0.91
1:5:1431:G:OP2	29:a:12:ARG:NH1	2.03	0.91
1:5:2276:G:N2	1:5:2316:G:O2'	2.02	0.91
11:H:106:LYS:HA	11:H:106:LYS:HE3	1.52	0.91
31:c:16:LEU:HB2	31:c:98:SER:HB2	1.52	0.91
45:x:447:HIS:CE1	45:x:491:SER:HB2	2.06	0.91
46:y:218:ILE:HG21	46:y:242:ILE:HG22	1.52	0.91
1:5:2511:A:H2'	1:5:2512:C:H5'	1.53	0.91
1:5:247:C:H2'	1:5:248:U:Cl'	2.00	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1575:A:H3'	1:5:1576:G:H5''	1.53	0.91
31:c:100:ILE:HG13	31:c:101:LEU:HD22	1.52	0.91
45:x:474:PRO:HB2	45:x:476:PRO:HD2	1.53	0.91
1:5:58:G:OP1	16:N:157:LYS:NZ	2.04	0.90
1:5:2875:U:H3	1:5:2952:G:H1	1.13	0.90
1:5:2915:U:C5	5:B:7:GLU:HG2	2.04	0.90
6:C:206:LEU:HB2	6:C:246:ARG:HD3	1.52	0.90
1:5:2437:G:H2'	1:5:2438:A:H5''	1.52	0.90
16:N:58:GLY:HA3	16:N:142:ILE:HD11	1.53	0.90
29:a:6:THR:HG22	29:a:9:ARG:HG2	1.51	0.90
1:5:781:G:OP1	19:Q:151:ARG:NH1	2.02	0.90
1:5:814:U:H5'	38:j:45:ARG:HH12	1.36	0.90
20:R:9:ARG:HA	20:R:19:LYS:HE2	1.51	0.90
45:x:239:VAL:HG12	45:x:241:GLY:H	1.36	0.90
1:5:1555:U:O2'	1:5:1556:C:H5'	1.70	0.90
1:5:541:U:H2'	1:5:542:G:H8	1.35	0.90
1:5:1346:G:H1'	6:C:307:GLN:NE2	1.85	0.90
1:5:1133:A:H2'	1:5:1134:G:H5'	1.52	0.90
1:5:2675:C:H42	13:J:22:SER:HB2	1.37	0.90
11:H:75:VAL:HA	11:H:78:MET:HE2	1.53	0.90
21:S:71:LYS:O	21:S:73:LYS:NZ	2.04	0.90
1:5:1064:A:H4'	1:5:1065:A:O5'	1.69	0.90
12:I:156:ARG:HG2	12:I:163:GLN:HG3	1.54	0.90
21:S:13:ARG:HH11	21:S:13:ARG:CG	1.84	0.90
1:5:1129:A:OP1	12:I:13:LYS:NZ	2.04	0.90
45:x:524:ARG:HD3	45:x:527:GLY:HA3	1.53	0.90
1:5:1221:A:H5'	44:q:57:THR:HB	1.52	0.89
6:C:150:LEU:HD13	6:C:249:ILE:HG12	1.54	0.89
8:E:46:ARG:HH11	8:E:46:ARG:CG	1.85	0.89
12:I:4:ARG:HH21	12:I:99:ILE:HG22	1.36	0.89
46:y:191:ILE:HD11	46:y:197:LEU:HD12	1.53	0.89
1:5:1671:C:H5''	20:R:60:LYS:NZ	1.88	0.89
9:F:47:ARG:HH11	9:F:179:LEU:HD21	1.38	0.89
17:O:27:LEU:HD11	17:O:102:LEU:HB2	1.52	0.89
44:q:28:VAL:HG11	44:q:100:ILE:HG21	1.55	0.89
1:5:326:U:OP1	14:L:31:LYS:NZ	2.06	0.89
1:5:2751:G:OP1	22:T:50:LYS:NZ	2.05	0.89
1:5:3317:U:H4'	1:5:3318:G:O5'	1.71	0.89
1:5:316:U:O2'	37:i:30:LYS:NZ	2.06	0.88
1:5:367:A:H4'	46:y:372:ARG:NH1	1.86	0.88
20:R:114:LYS:O	20:R:146:LYS:NZ	2.06	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:g:74:ARG:HH12	35:g:82:ALA:HB2	1.37	0.88
1:5:3287:U:H2'	1:5:3288:G:H5'	1.55	0.88
1:5:2979:U:H4'	46:y:391:LEU:HD11	1.53	0.88
11:H:87:LYS:NZ	11:H:191:LEU:HD11	1.88	0.88
10:G:98:ARG:HH11	10:G:98:ARG:CG	1.87	0.88
15:M:88:ALA:O	15:M:93:LYS:NZ	2.07	0.88
1:5:1049:C:H2'	1:5:1050:U:H6	1.38	0.88
16:N:114:ARG:HH11	16:N:114:ARG:HG3	1.39	0.88
1:5:2248:C:O2'	1:5:2249:G:OP2	1.89	0.88
1:5:2745:G:N2	1:5:2748:A:OP2	2.05	0.88
11:H:166:ARG:HD2	11:H:168:ARG:HH12	1.35	0.88
4:A:83:HIS:HB3	43:p:64:VAL:HG22	1.56	0.88
24:V:59:MET:HE1	24:V:75:PRO:HG3	1.55	0.88
14:L:21:ARG:HH11	14:L:21:ARG:HG3	1.39	0.88
8:E:152:THR:HG21	8:E:155:LEU:HD12	1.52	0.87
1:5:2684:C:OP1	13:J:16:LYS:NZ	2.06	0.87
45:x:181:ALA:HB1	45:x:537:ILE:HG23	1.54	0.87
27:Y:109:LEU:HD22	27:Y:115:ARG:NH1	1.90	0.87
40:l:23:LEU:HD22	40:l:24:PRO:HD2	1.53	0.87
1:5:2270:A:H2'	1:5:2271:A:C8	2.09	0.87
20:R:115:ILE:HG22	20:R:146:LYS:NZ	1.89	0.87
36:h:114:ARG:HG3	36:h:114:ARG:NH1	1.83	0.87
45:x:220:GLY:HA2	45:x:309:PHE:CE2	2.10	0.87
1:5:1654:A:H2'	1:5:1655:G:H5'	1.55	0.87
20:R:81:ARG:CG	20:R:88:ARG:HH12	1.88	0.87
1:5:3207:U:H3'	1:5:3209:A:H2	1.38	0.87
18:P:41:LEU:HD21	18:P:95:LEU:HD22	1.56	0.87
44:q:25:LEU:HD21	44:q:76:LEU:HG	1.53	0.87
45:x:464:SER:HB2	45:x:469:PRO:HB3	1.56	0.87
1:5:1819:U:O2'	1:5:1820:U:OP1	1.91	0.86
1:5:2307:G:H4'	1:5:2308:C:OP2	1.73	0.86
1:5:2392:C:O2'	5:B:266:ARG:NH2	2.09	0.86
1:5:1493:G:O6	40:l:2:ALA:N	2.07	0.86
9:F:131:GLU:HB3	9:F:132:PRO:HD3	1.57	0.86
1:5:3289:G:H2'	1:5:3290:G:H8	1.39	0.86
8:E:46:ARG:HH11	8:E:46:ARG:HG3	1.40	0.86
11:H:84:LYS:HA	11:H:188:THR:HB	1.55	0.86
45:x:208:PRO:HB2	45:x:211:LEU:HD12	1.56	0.86
44:q:43:LYS:HA	44:q:46:ARG:HG2	1.57	0.86
45:x:543:LEU:HD11	47:z:74:UNK:HG1	1.58	0.86
7:D:277:LEU:HD11	7:D:285:ARG:NH1	1.89	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:55:ARG:NH2	15:M:76:ALA:O	2.08	0.86
19:Q:62:VAL:HG21	19:Q:83:VAL:HG21	1.56	0.86
27:Y:60:ARG:HH11	27:Y:60:ARG:CG	1.88	0.86
31:c:86:ARG:NH1	43:p:44:LYS:HG2	1.90	0.86
31:c:34:LEU:HD23	31:c:59:TYR:HB3	1.56	0.85
10:G:24:ASN:HB2	10:G:25:PRO:HD3	1.58	0.85
26:X:137:ASN:HD21	45:x:417:LYS:HD3	1.40	0.85
1:5:44:U:H5''	16:N:85:THR:CG2	2.06	0.85
1:5:953:G:N2	1:5:1115:G:OP1	2.08	0.85
1:5:3291:G:H2'	1:5:3292:A:C8	2.12	0.85
4:A:135:ILE:HD12	4:A:149:ARG:HG2	1.58	0.85
1:5:717:C:C2'	1:5:718:G:H5'	2.05	0.85
1:5:939:U:H2'	1:5:940:G:H8	1.40	0.85
15:M:55:ARG:HD3	21:S:70:THR:HB	1.58	0.85
34:f:56:SER:O	34:f:63:LYS:NZ	2.10	0.85
47:z:74:UNK:HB2	47:z:76:UNK:HG3	1.59	0.85
1:5:3291:G:H2'	1:5:3292:A:H8	1.39	0.85
13:J:94:ARG:O	13:J:96:PHE:N	2.09	0.85
38:j:53:ALA:HA	38:j:56:ARG:HH11	1.39	0.85
4:A:204:MET:HB3	4:A:208:ASP:HB2	1.59	0.85
21:S:8:GLN:HG3	21:S:26:ARG:HE	1.41	0.85
1:5:268:A:H5''	16:N:47:LYS:NZ	1.90	0.84
1:5:1639:C:OP2	35:g:74:ARG:NH2	2.09	0.84
14:L:91:ARG:HG3	14:L:91:ARG:NH1	1.91	0.84
1:5:1133:A:C2'	1:5:1134:G:H5'	2.06	0.84
5:B:183:LEU:O	5:B:191:LYS:NZ	2.09	0.84
29:a:59:ARG:NH2	42:o:38:GLN:OE1	2.11	0.84
1:5:269:G:H5''	16:N:14:LYS:HZ1	1.40	0.84
1:5:1784:G:H5''	35:g:19:LYS:HD2	1.59	0.84
1:5:2572:C:O2'	1:5:2573:G:OP2	1.93	0.84
1:5:3110:C:H2'	1:5:3111:U:C6	2.11	0.84
32:d:44:MET:HB3	32:d:77:ARG:HD3	1.59	0.84
4:A:178:PRO:HD2	43:p:26:VAL:HG22	1.59	0.84
5:B:148:LEU:HD21	5:B:196:ARG:HD3	1.58	0.84
1:5:1240:A:H2	1:5:1248:C:H41	1.26	0.84
41:m:106:ARG:NH1	41:m:106:ARG:HB2	1.92	0.84
1:5:2144:A:H1'	1:5:2281:A:H61	1.41	0.84
1:5:2536:A:H2'	1:5:2537:U:O4'	1.78	0.84
1:5:591:G:C2	8:E:18:LEU:HB3	2.12	0.84
9:F:103:LEU:HG	9:F:130:ILE:HD11	1.60	0.84
32:d:46:THR:HG21	32:d:91:SER:CB	2.06	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:y:211:ILE:HD11	46:y:231:ARG:HG3	1.58	0.84
13:J:92:ARG:HH11	13:J:92:ARG:CG	1.89	0.84
42:o:38:GLN:HA	42:o:38:GLN:HE21	1.41	0.84
1:5:2434:U:H4'	1:5:2435:G:O5'	1.76	0.84
2:7:44:C:OP2	13:J:137:ARG:NH2	2.10	0.84
44:q:24:SER:CB	44:q:93:LEU:HD21	2.08	0.84
1:5:1201:C:H42	1:5:2857:C:H5''	1.42	0.84
1:5:1495:U:H2'	1:5:1842:A:C2	2.13	0.84
1:5:1671:C:H5''	20:R:60:LYS:HZ3	1.43	0.84
13:J:92:ARG:HH11	13:J:92:ARG:HG2	1.42	0.84
16:N:73:ARG:HB2	16:N:92:LEU:HD23	1.60	0.84
35:g:82:ALA:O	35:g:85:VAL:N	2.11	0.83
29:a:91:LEU:HD12	29:a:121:VAL:HG21	1.60	0.83
1:5:1238:C:O2'	1:5:1239:C:OP1	1.95	0.83
24:V:45:ARG:CG	24:V:45:ARG:HH11	1.91	0.83
30:b:58:LYS:HA	30:b:58:LYS:NZ	1.94	0.83
31:c:43:ILE:HD11	31:c:92:ILE:HD11	1.59	0.83
4:A:83:HIS:CB	43:p:64:VAL:HG22	2.08	0.83
12:I:149:VAL:HG13	12:I:165:ILE:HG21	1.58	0.83
23:U:25:ASN:HB3	46:y:307:LEU:HD23	1.59	0.83
31:c:29:SER:HA	31:c:32:LYS:HD3	1.58	0.83
35:g:44:CYS:SG	35:g:81:CYS:HB3	2.18	0.83
1:5:2144:A:H1'	1:5:2281:A:N6	1.93	0.83
26:X:131:ASP:HB3	26:X:134:ASP:HB2	1.59	0.83
29:a:133:LEU:HD21	29:a:137:LYS:HE3	1.60	0.83
45:x:202:LEU:HD21	45:x:509:LEU:HB3	1.61	0.83
6:C:74:ILE:HD12	6:C:75:PRO:HD2	1.59	0.83
27:Y:81:GLN:HG2	27:Y:96:PRO:HB2	1.59	0.83
1:5:249:U:H3'	1:5:249:U:OP2	1.78	0.83
1:5:273:A:H2'	1:5:274:G:C8	2.13	0.83
1:5:1761:C:H1'	1:5:1765:U:H5	1.42	0.83
17:O:128:ARG:HG3	17:O:128:ARG:NH1	1.88	0.83
5:B:221:THR:HG22	5:B:273:HIS:N	1.94	0.82
34:f:48:ARG:HD3	34:f:104:PRO:HD3	1.60	0.82
1:5:1208:U:H6	1:5:3115:C:H42	1.23	0.82
5:B:232:ARG:NH1	5:B:269:GLN:O	2.11	0.82
12:I:36:LEU:HD11	12:I:69:ARG:HG2	1.61	0.82
18:P:30:ARG:HA	18:P:119:VAL:HG11	1.61	0.82
28:Z:3:LYS:HZ2	31:c:36:GLN:HA	1.42	0.82
1:5:2227:C:C2'	1:5:2228:A:H5''	2.09	0.82
1:5:3272:C:OP2	8:E:78:ARG:NH1	2.11	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:111:PHE:HD1	11:H:127:PRO:HA	1.44	0.82
19:Q:122:ILE:CG2	19:Q:126:GLN:HB2	2.08	0.82
1:5:63:A:OP1	16:N:172:ARG:NH2	2.12	0.82
18:P:64:ASN:O	18:P:67:ILE:HG12	1.79	0.82
28:Z:14:VAL:HG22	35:g:86:LYS:HG2	1.59	0.82
1:5:3195:U:H1'	1:5:3196:U:OP1	1.79	0.82
6:C:136:LEU:HD23	6:C:142:VAL:HG23	1.60	0.82
42:o:25:VAL:HG22	42:o:72:LEU:HD23	1.62	0.82
45:x:295:SER:HB2	45:x:466:LEU:HD23	1.62	0.82
1:5:268:A:H5''	16:N:47:LYS:HZ3	1.42	0.82
1:5:1348:U:OP2	19:Q:38:ARG:NH2	2.13	0.82
1:5:2809:C:H1'	1:5:2810:C:C5	2.14	0.82
5:B:211:GLN:NE2	5:B:284:ARG:HA	1.94	0.82
14:L:159:VAL:HG13	29:a:144:VAL:HG13	1.61	0.82
8:E:8:LYS:HA	8:E:8:LYS:HZ2	1.45	0.82
44:q:51:VAL:HG13	44:q:87:VAL:CG2	2.10	0.82
1:5:860:G:OP2	4:A:181:LYS:NZ	2.12	0.82
1:5:1588:A:C2	40:l:4:GLN:HG2	2.15	0.82
1:5:2674:A:H5''	13:J:105:GLY:HA3	1.59	0.82
19:Q:100:THR:HG22	19:Q:120:GLU:HB3	1.62	0.82
31:c:49:PRO:HG2	31:c:52:ARG:HB3	1.61	0.82
36:h:21:LEU:HG	36:h:54:VAL:HG11	1.61	0.82
45:x:81:LYS:HA	45:x:87:ARG:NH1	1.94	0.82
44:q:25:LEU:HD23	44:q:191:TYR:HB3	1.61	0.82
1:5:2107:A:O2'	1:5:3344:A:O2'	1.97	0.81
1:5:2582:C:O2'	1:5:2583:C:H5'	1.80	0.81
1:5:1290:A:H2'	1:5:1291:A:C8	2.15	0.81
1:5:1614:C:H2'	1:5:1615:C:H6	1.45	0.81
1:5:1874:A:H5''	20:R:18:GLY:HA3	1.62	0.81
5:B:58:ARG:NH2	5:B:60:LEU:HD12	1.95	0.81
7:D:152:ARG:HH11	7:D:152:ARG:CG	1.84	0.81
1:5:2776:C:H5''	1:5:2777:G:H5'	1.60	0.81
1:5:3227:A:O2'	15:M:133:LYS:NZ	2.12	0.81
10:G:94:PHE:HB3	10:G:189:LEU:HD21	1.61	0.81
10:G:98:ARG:HG3	10:G:98:ARG:NH1	1.79	0.81
14:L:188:ARG:NH1	14:L:189:GLU:OE2	2.13	0.81
33:e:78:ASN:HA	33:e:108:ILE:HD11	1.63	0.81
10:G:217:THR:O	10:G:221:ASN:ND2	2.14	0.81
27:Y:3:LYS:HD2	27:Y:8:VAL:HG23	1.63	0.81
7:D:52:VAL:HG13	7:D:54:ARG:NH1	1.96	0.81
19:Q:63:SER:HG	19:Q:65:SER:HG	1.29	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:35:LEU:CD2	27:Y:106:ILE:HD12	2.11	0.81
45:x:331:LYS:HE3	45:x:444:PRO:CB	2.11	0.81
1:5:2793:G:H21	42:o:57:VAL:HG22	1.44	0.81
16:N:121:VAL:HG11	16:N:131:GLU:HG3	1.63	0.81
28:Z:109:GLU:HA	28:Z:112:LYS:HD2	1.61	0.81
1:5:2896:A:OP1	41:m:124:LYS:NZ	2.14	0.81
1:5:3150:A:H5'	5:B:129:ALA:O	1.80	0.81
4:A:70:ARG:HD2	4:A:72:ARG:HE	1.46	0.81
8:E:146:ILE:HG23	8:E:150:LYS:HE3	1.63	0.81
27:Y:5:SER:HB3	27:Y:8:VAL:HG22	1.62	0.81
45:x:18:ASN:HD21	45:x:248:ARG:HA	1.46	0.81
1:5:873:C:H5''	1:5:874:U:H4'	1.63	0.81
1:5:1364:C:OP1	9:F:110:ARG:NH2	2.14	0.81
1:5:3216:G:OP2	34:f:2:ALA:HB2	1.81	0.81
4:A:2:GLY:HA2	4:A:207:VAL:HG12	1.63	0.81
10:G:41:GLN:HE21	10:G:44:ARG:HH22	1.29	0.81
13:J:85:LYS:NZ	13:J:85:LYS:HB3	1.95	0.81
44:q:48:ARG:HB2	44:q:96:ILE:HD11	1.62	0.81
12:I:87:LEU:HD13	12:I:138:VAL:HG22	1.63	0.81
1:5:118:U:O2	1:5:121:A:H5'	1.81	0.80
4:A:112:ILE:HD11	43:p:79:VAL:CG1	2.11	0.80
16:N:73:ARG:HG2	16:N:74:PRO:HD2	1.61	0.80
45:x:158:MET:HE3	47:z:65:UNK:CG	2.09	0.80
27:Y:35:LEU:HD22	27:Y:106:ILE:HD12	1.61	0.80
31:c:92:ILE:HG21	31:c:100:ILE:HD11	1.62	0.80
37:i:61:ILE:CD1	37:i:90:MET:HB3	2.11	0.80
1:5:2537:U:O2	1:5:2543:U:N3	2.14	0.80
6:C:342:LYS:HG3	6:C:342:LYS:O	1.81	0.80
22:T:79:MET:HB2	22:T:84:TYR:CE2	2.16	0.80
45:x:136:GLY:O	45:x:180:LYS:NZ	2.15	0.80
1:5:537:A:N6	1:5:554:A:O2'	2.14	0.80
22:T:122:GLN:HB2	22:T:124:VAL:CG2	2.10	0.80
1:5:2537:U:O2'	1:5:2538:U:O4'	1.98	0.80
45:x:298:PHE:HB3	45:x:301:VAL:HG22	1.62	0.80
1:5:1575:A:H2'	1:5:1576:G:C8	2.15	0.80
1:5:3163:A:O2'	1:5:3164:C:H5'	1.80	0.80
5:B:296:THR:HG22	5:B:298:PHE:H	1.45	0.80
17:O:24:ALA:O	17:O:28:LEU:HD12	1.82	0.80
45:x:340:VAL:HG11	45:x:353:LEU:HD23	1.63	0.80
1:5:619:A:H5'	1:5:620:U:C6	2.17	0.80
2:7:7:G:OP1	7:D:33:ARG:NH1	2.14	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:106:TRP:HB2	5:B:133:TYR:CE2	2.17	0.80
35:g:5:VAL:HG22	35:g:6:THR:H	1.47	0.80
19:Q:170:ARG:NH1	29:a:58:MET:O	2.14	0.80
1:5:44:U:H5''	16:N:85:THR:HG21	1.64	0.80
5:B:41:VAL:HA	5:B:185:GLY:HA3	1.63	0.80
15:M:19:ARG:HA	15:M:69:THR:HG22	1.62	0.80
28:Z:14:VAL:CG2	35:g:86:LYS:HG2	2.11	0.80
45:x:264:TYR:CE2	45:x:304:ILE:HG23	2.17	0.80
1:5:2341:A:OP2	5:B:247:ARG:NH2	2.15	0.79
27:Y:57:LEU:HD23	27:Y:67:GLU:HG2	1.65	0.79
30:b:28:LYS:HG2	30:b:29:TYR:CD1	2.17	0.79
37:i:26:ILE:H	37:i:26:ILE:HD12	1.47	0.79
1:5:1397:C:C2'	1:5:1398:U:H5'	2.11	0.79
4:A:126:LEU:HD13	4:A:150:LEU:CD2	2.12	0.79
27:Y:3:LYS:NZ	27:Y:5:SER:O	2.14	0.79
32:d:60:TRP:HZ3	32:d:64:VAL:HG12	1.44	0.79
37:i:62:ARG:NH1	37:i:94:ILE:HD11	1.97	0.79
45:x:199:ALA:HB1	45:x:567:LEU:HD22	1.64	0.79
1:5:1048:A:H2'	12:I:22:TYR:CZ	2.17	0.79
1:5:2137:U:OP2	1:5:2142:A:N6	2.15	0.79
12:I:76:MET:CE	12:I:148:VAL:HA	2.13	0.79
14:L:50:PRO:HG3	36:h:118:ILE:HD11	1.62	0.79
1:5:3206:C:H2'	15:M:99:TRP:CZ2	2.18	0.79
5:B:115:LYS:HE2	5:B:129:ALA:HB3	1.63	0.79
6:C:30:ILE:HG22	6:C:32:PRO:HD3	1.63	0.79
12:I:26:VAL:HB	12:I:27:PRO:HD2	1.65	0.79
1:5:1763:U:C6	45:x:379:LEU:HD21	2.18	0.79
7:D:5:LYS:HA	7:D:5:LYS:HE3	1.65	0.79
9:F:169:ILE:HD13	9:F:184:LEU:HD12	1.64	0.79
11:H:25:VAL:HG11	11:H:78:MET:HE1	1.63	0.79
29:a:6:THR:HG23	29:a:8:THR:H	1.46	0.79
44:q:19:LEU:HD12	44:q:66:PHE:HD2	1.44	0.79
1:5:13:A:H4'	26:X:39:LYS:HG3	1.65	0.79
4:A:126:LEU:HD13	4:A:150:LEU:HD21	1.65	0.79
16:N:172:ARG:HB3	16:N:174:ILE:HD13	1.64	0.79
35:g:47:CYS:HB3	35:g:84:CYS:SG	2.23	0.79
36:h:76:GLN:O	36:h:81:ARG:NH1	2.16	0.79
1:5:501:A:H2'	1:5:502:U:C6	2.18	0.79
1:5:3195:U:O2'	1:5:3196:U:H5'	1.83	0.79
5:B:14:LEU:HA	5:B:17:LEU:HD22	1.65	0.79
15:M:22:LEU:HD12	15:M:23:ILE:N	1.97	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:a:100:PRO:HG2	29:a:123:VAL:HG13	1.65	0.79
1:5:109:A:H4'	1:5:110:G:OP1	1.82	0.79
1:5:1284:C:O2'	1:5:1285:G:OP1	2.00	0.79
44:q:18:TYR:CZ	44:q:50:VAL:HG11	2.18	0.79
44:q:87:VAL:HG21	44:q:100:ILE:HD13	1.65	0.79
1:5:3279:A:O2'	1:5:3280:U:H5'	1.82	0.79
3:8:80:A:C2'	3:8:81:U:H5'	2.13	0.79
16:N:197:LEU:HG	16:N:199:LEU:HD21	1.65	0.79
46:y:191:ILE:HG23	46:y:194:GLN:HG2	1.64	0.79
1:5:900:G:H1'	1:5:1589:A:H62	1.48	0.78
1:5:3068:U:OP2	20:R:62:ARG:NH2	2.15	0.78
13:J:92:ARG:NH2	13:J:94:ARG:HD2	1.97	0.78
1:5:88:A:OP2	19:Q:171:LYS:NZ	2.13	0.78
1:5:1236:G:N2	1:5:1244:A:OP1	2.15	0.78
1:5:3115:C:O2	1:5:3117:C:N4	2.16	0.78
6:C:299:ILE:CG2	19:Q:39:ARG:HD2	2.14	0.78
13:J:94:ARG:HG2	13:J:94:ARG:HH11	1.45	0.78
1:5:1176:C:H2'	1:5:1177:G:H21	1.49	0.78
1:5:3358:U:H2'	1:5:3359:A:H8	1.45	0.78
8:E:56:LYS:HB3	8:E:98:VAL:HG11	1.66	0.78
12:I:36:LEU:HD12	12:I:87:LEU:HD23	1.65	0.78
19:Q:18:ALA:HA	19:Q:53:PHE:CE1	2.18	0.78
3:8:156:U:O2'	3:8:157:U:OP1	2.00	0.78
7:D:277:LEU:CD1	7:D:285:ARG:HH11	1.92	0.78
1:5:1323:G:C2'	1:5:1324:U:H5'	2.13	0.78
6:C:204:GLY:O	6:C:246:ARG:NH1	2.17	0.78
1:5:720:A:C2	1:5:784:A:H5'	2.19	0.78
1:5:1539:A:H2'	1:5:1540:U:H5'	1.66	0.78
17:O:128:ARG:HH11	17:O:128:ARG:CG	1.95	0.78
1:5:2276:G:O6	1:5:2311:G:N2	2.17	0.78
1:5:2312:A:O2'	1:5:2315:G:H1'	1.84	0.78
21:S:23:LYS:HA	22:T:146:ASN:HD21	1.48	0.78
14:L:21:ARG:HG3	14:L:21:ARG:NH1	1.97	0.78
27:Y:37:LYS:HE2	27:Y:37:LYS:H	1.49	0.78
32:d:29:ALA:HB3	32:d:30:PRO:HD3	1.64	0.78
1:5:2707:C:H2'	1:5:2708:C:C6	2.19	0.78
8:E:89:THR:HG21	15:M:115:PHE:HB2	1.64	0.78
1:5:1682:U:O2	23:U:82:LYS:NZ	2.16	0.77
5:B:117:ARG:HH21	5:B:177:HIS:HA	1.49	0.77
6:C:31:ARG:HG3	6:C:120:TYR:CE1	2.18	0.77
7:D:182:GLY:CA	7:D:194:LEU:HD23	2.12	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:199:ALA:CB	45:x:567:LEU:HD22	2.13	0.77
1:5:1386:A:H5''	6:C:141:ARG:HH21	1.49	0.77
1:5:1662:G:N2	1:5:1722:U:O4	2.16	0.77
1:5:3261:C:O2'	1:5:3262:U:H5'	1.83	0.77
23:U:81:LYS:HG2	23:U:90:ARG:NH1	1.99	0.77
24:V:136:VAL:HG12	24:V:137:VAL:HG23	1.64	0.77
34:f:13:HIS:ND1	34:f:89:LEU:HD12	1.99	0.77
1:5:1430:U:H2'	29:a:9:ARG:HH22	1.47	0.77
5:B:205:VAL:HG21	5:B:322:ILE:HD11	1.64	0.77
35:g:80:ARG:HG3	35:g:88:ARG:NH2	1.99	0.77
1:5:1386:A:H5''	6:C:141:ARG:NH2	1.99	0.77
1:5:2112:U:C4'	1:5:2113:A:H5'	2.14	0.77
2:7:86:U:O2'	9:F:218:ARG:NH1	2.17	0.77
16:N:68:ARG:HD3	16:N:128:LYS:HG3	1.67	0.77
1:5:501:A:H2'	1:5:502:U:H6	1.48	0.77
1:5:1134:G:O2'	1:5:2642:A:N3	2.18	0.77
1:5:1290:A:H2'	1:5:1291:A:H8	1.48	0.77
1:5:2537:U:O2'	1:5:2538:U:O5'	2.03	0.77
13:J:16:LYS:HD3	13:J:72:ARG:NH2	1.99	0.77
46:y:246:SER:HB2	46:y:249:GLU:HG2	1.65	0.77
1:5:541:U:H2'	1:5:542:G:C8	2.19	0.77
1:5:1084:A:H2'	1:5:1085:A:C8	2.19	0.77
9:F:33:ARG:HA	9:F:36:ALA:HB3	1.67	0.77
44:q:19:LEU:HD22	44:q:73:PHE:CE1	2.20	0.77
17:O:12:LYS:O	21:S:167:ARG:NH2	2.18	0.77
17:O:27:LEU:O	17:O:101:ARG:NH1	2.17	0.77
1:5:1226:G:H2'	1:5:1227:C:C6	2.18	0.77
1:5:2150:G:C2'	1:5:2151:C:H5'	2.15	0.77
3:8:70:G:H5''	27:Y:28:ARG:NH2	1.99	0.77
29:a:45:MET:HA	29:a:45:MET:HE2	1.66	0.77
46:y:159:ILE:HG21	46:y:165:LEU:CD2	2.15	0.77
47:z:102:UNK:O	47:z:104:UNK:N	2.18	0.77
1:5:75:G:H5'	14:L:58:VAL:CG1	2.15	0.77
1:5:655:C:H2'	1:5:656:A:C8	2.21	0.77
6:C:300:ARG:HH11	6:C:300:ARG:CG	1.98	0.77
7:D:126:GLU:HB2	7:D:196:ARG:HB2	1.66	0.77
20:R:101:VAL:HG12	20:R:102:LEU:HD23	1.64	0.77
24:V:26:ALA:O	24:V:115:THR:HG22	1.83	0.77
1:5:90:C:C2'	1:5:91:G:H5'	2.15	0.76
6:C:217:LYS:HG3	6:C:220:ARG:NH2	1.99	0.76
7:D:51:LEU:HB2	7:D:144:VAL:CG1	2.14	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:284:A:H4'	42:o:45:ARG:NH2	2.00	0.76
1:5:2421:U:C2'	1:5:2422:C:H5''	2.14	0.76
1:5:769:G:O2'	1:5:770:G:H5'	1.84	0.76
1:5:3106:A:H2'	1:5:3107:U:H5'	1.67	0.76
5:B:58:ARG:NH1	5:B:60:LEU:HA	2.00	0.76
10:G:150:LEU:HD22	10:G:151:VAL:H	1.49	0.76
46:y:333:THR:HG22	46:y:335:GLY:H	1.50	0.76
1:5:2981:U:OP2	5:B:244:ARG:NH2	2.14	0.76
5:B:227:GLU:HG3	5:B:270:ARG:HB3	1.65	0.76
44:q:51:VAL:CG1	44:q:87:VAL:HG22	2.13	0.76
45:x:268:VAL:HG21	45:x:304:ILE:HG21	1.67	0.76
45:x:312:GLN:O	45:x:509:LEU:HD12	1.86	0.76
1:5:2712:U:O2'	1:5:2743:A:O2'	2.03	0.76
1:5:2778:G:H2'	1:5:2779:A:H5'	1.67	0.76
2:7:88:G:C2'	2:7:89:G:H5'	2.14	0.76
2:7:110:G:O2'	2:7:111:U:H5'	1.85	0.76
9:F:132:PRO:HA	9:F:229:PHE:CD1	2.20	0.76
10:G:140:VAL:HG21	16:N:3:ALA:HB2	1.67	0.76
11:H:57:VAL:HG23	11:H:68:LEU:HG	1.68	0.76
1:5:90:C:H2'	1:5:91:G:H5'	1.67	0.76
1:5:1125:U:OP1	12:I:15:LYS:NZ	2.16	0.76
1:5:3271:G:O6	8:E:128:LYS:NZ	2.19	0.76
24:V:45:ARG:HH11	24:V:45:ARG:HG2	1.51	0.76
40:l:36:ARG:HA	40:l:36:ARG:HH11	1.49	0.76
1:5:2198:A:C8	1:5:2270:A:H1'	2.19	0.76
12:I:26:VAL:HG12	12:I:122:PRO:HG2	1.67	0.76
15:M:24:LYS:NZ	15:M:61:GLY:O	2.19	0.76
19:Q:64:VAL:HG23	19:Q:67:ILE:HD12	1.68	0.76
24:V:10:LYS:NZ	24:V:56:ASP:OD1	2.18	0.76
29:a:128:ARG:HB2	29:a:129:PHE:CD2	2.21	0.76
1:5:2568:C:O2'	1:5:2569:A:O5'	2.04	0.76
16:N:153:ASP:CG	16:N:154:PRO:HD2	2.10	0.76
18:P:131:ARG:NH1	18:P:137:ASN:OD1	2.19	0.76
19:Q:94:PHE:CZ	29:a:119:PRO:HD3	2.20	0.76
45:x:155:SER:CB	45:x:504:CYS:HB2	2.15	0.76
1:5:2511:A:C2'	1:5:2512:C:H5'	2.16	0.76
2:7:48:U:C2'	2:7:49:G:H5'	2.16	0.76
44:q:24:SER:HB2	44:q:89:THR:O	1.85	0.76
1:5:173:G:N2	1:5:245:U:O2	2.14	0.76
1:5:1245:A:N7	1:5:1271:A:O2'	2.18	0.76
1:5:1621:A:H2'	1:5:1622:U:C6	2.21	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2736:A:OP1	22:T:92:ARG:NH1	2.19	0.76
10:G:67:ILE:O	10:G:235:GLY:HA2	1.85	0.76
28:Z:10:VAL:HG13	28:Z:23:VAL:O	1.86	0.76
31:c:30:THR:HG22	31:c:91:SER:HB2	1.66	0.76
44:q:87:VAL:HG21	44:q:100:ILE:CD1	2.16	0.76
1:5:2796:G:H3'	42:o:60:LYS:NZ	2.01	0.75
1:5:3067:C:OP2	20:R:62:ARG:NH1	2.20	0.75
7:D:259:LYS:H	7:D:259:LYS:HD3	1.51	0.75
40:l:23:LEU:HD22	40:l:24:PRO:CD	2.16	0.75
1:5:1427:U:OP2	29:a:4:ARG:NH2	2.19	0.75
1:5:2304:C:H2'	1:5:2305:G:H5'	1.67	0.75
26:X:34:LEU:HD12	26:X:35:PRO:HD2	1.65	0.75
26:X:137:ASN:HB3	26:X:142:ILE:HD12	1.68	0.75
1:5:1654:A:C2'	1:5:1655:G:H5'	2.17	0.75
5:B:56:ILE:HD12	5:B:359:ILE:HA	1.68	0.75
27:Y:57:LEU:HD23	27:Y:67:GLU:CG	2.16	0.75
45:x:191:MET:HE1	45:x:319:ILE:HG22	1.69	0.75
46:y:197:LEU:HD22	46:y:257:TYR:HA	1.68	0.75
1:5:915:A:C2'	1:5:916:G:H5'	2.15	0.75
1:5:1388:U:O4	6:C:186:LYS:NZ	2.20	0.75
1:5:2150:G:H2'	1:5:2151:C:H5'	1.67	0.75
13:J:92:ARG:HH11	13:J:92:ARG:HB3	1.52	0.75
20:R:115:ILE:HG22	20:R:146:LYS:HZ1	1.52	0.75
21:S:131:LYS:O	21:S:134:ASP:HB2	1.87	0.75
45:x:279:LEU:HD11	47:z:98:UNK:CB	2.16	0.75
1:5:2112:U:H4'	1:5:2113:A:C5'	2.16	0.75
24:V:79:VAL:HB	24:V:118:VAL:HG13	1.67	0.75
37:i:43:LEU:HD13	37:i:47:ILE:HD11	1.68	0.75
37:i:58:ILE:HG22	37:i:90:MET:HG3	1.68	0.75
1:5:248:U:H3'	1:5:249:U:H5'	1.69	0.75
1:5:307:A:H2'	1:5:308:A:C8	2.20	0.75
1:5:1392:G:H1'	1:5:1417:G:N2	2.02	0.75
1:5:1863:G:N1	1:5:1866:C:OP2	2.19	0.75
6:C:31:ARG:HG3	6:C:120:TYR:HE1	1.49	0.75
20:R:74:ARG:HA	20:R:74:ARG:NE	2.00	0.75
45:x:97:ILE:HG22	45:x:98:ASP:H	1.51	0.75
45:x:172:PRO:HG2	47:z:67:UNK:CB	2.15	0.75
45:x:411:SER:HA	45:x:414:LYS:HE2	1.68	0.75
46:y:157:VAL:HG21	46:y:227:LEU:HD22	1.66	0.75
1:5:1177:G:H5'	34:f:18:ARG:NH1	2.02	0.75
1:5:2609:A:H2'	1:5:2610:G:H5''	1.66	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3269:U:H1'	8:E:128:LYS:HD2	1.68	0.75
8:E:139:LYS:O	8:E:143:LYS:HG3	1.86	0.75
44:q:24:SER:HB3	44:q:93:LEU:HD21	1.68	0.75
45:x:267:VAL:HG22	45:x:309:PHE:CE2	2.22	0.75
45:x:535:SER:HA	47:z:70:UNK:HB2	1.68	0.75
3:8:80:A:H2'	3:8:81:U:H5'	1.69	0.75
9:F:47:ARG:HH11	9:F:179:LEU:CD2	2.00	0.75
22:T:39:ILE:HG13	22:T:102:ARG:HD2	1.69	0.75
1:5:3354:U:H4'	1:5:3355:U:H5''	1.68	0.75
5:B:115:LYS:CE	5:B:129:ALA:HB3	2.16	0.75
3:8:157:U:O2'	3:8:158:U:H5'	1.86	0.74
4:A:204:MET:HB3	4:A:208:ASP:CB	2.16	0.74
5:B:44:THR:HA	5:B:340:LYS:HD3	1.68	0.74
8:E:152:THR:CG2	8:E:155:LEU:HD12	2.16	0.74
13:J:50:ALA:HB2	13:J:65:ILE:CD1	2.15	0.74
1:5:594:U:H5''	1:5:609:G:O6	1.87	0.74
1:5:1323:G:H2'	1:5:1324:U:H5'	1.69	0.74
1:5:1284:C:O2'	1:5:1285:G:H5'	1.86	0.74
1:5:3383:G:H2'	1:5:3384:U:H6	1.53	0.74
1:5:3393:U:H2'	1:5:3394:U:C6	2.22	0.74
17:O:58:LEU:HA	17:O:72:HIS:CE1	2.22	0.74
30:b:5:LYS:NZ	30:b:8:THR:HB	2.02	0.74
44:q:76:LEU:HD23	44:q:191:TYR:HB2	1.67	0.74
44:q:79:PHE:CZ	44:q:196:VAL:HG11	2.21	0.74
1:5:924:G:H3'	1:5:925:A:H5'	1.69	0.74
1:5:2309:A:N3	1:5:2961:G:O2'	2.17	0.74
13:J:98:ALA:HA	13:J:156:LYS:HB2	1.69	0.74
3:8:63:G:O3'	36:h:49:LYS:NZ	2.19	0.74
4:A:79:ASN:ND2	4:A:166:ILE:O	2.21	0.74
13:J:82:ARG:HD2	13:J:112:LEU:HB2	1.68	0.74
14:L:85:LEU:HD23	14:L:85:LEU:H	1.53	0.74
1:5:103:G:OP1	14:L:70:ARG:NH2	2.21	0.74
1:5:640:U:OP1	29:a:21:ARG:NH2	2.21	0.74
2:7:68:C:H5''	22:T:20:ARG:HH12	1.51	0.74
2:7:91:G:H2'	2:7:92:A:H8	1.51	0.74
4:A:3:ARG:HG2	4:A:4:VAL:H	1.51	0.74
4:A:3:ARG:HG2	4:A:4:VAL:N	2.03	0.74
1:5:367:A:H4'	46:y:372:ARG:HH12	1.50	0.74
1:5:514:G:N2	6:C:340:GLY:O	2.19	0.74
1:5:784:A:H2'	19:Q:69:ARG:HH21	1.52	0.74
1:5:1110:U:H2'	1:5:1111:U:C6	2.22	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2945:G:O2'	1:5:2948:C:OP2	2.06	0.74
8:E:56:LYS:NZ	8:E:101:PHE:O	2.20	0.74
44:q:19:LEU:HD12	44:q:66:PHE:CD2	2.22	0.74
46:y:218:ILE:CG2	46:y:242:ILE:HG22	2.18	0.74
1:5:1786:G:H2'	1:5:1787:A:C8	2.23	0.74
10:G:50:VAL:HG22	10:G:52:TRP:NE1	2.02	0.74
11:H:106:LYS:HE3	11:H:106:LYS:CA	2.17	0.74
19:Q:23:ASN:ND2	19:Q:26:LEU:HB2	2.02	0.74
23:U:80:THR:HG21	23:U:95:PHE:CD1	2.22	0.74
26:X:100:LYS:NZ	26:X:106:ASP:HA	2.02	0.74
1:5:385:A:H2'	1:5:386:A:C8	2.23	0.74
4:A:36:GLU:OE1	4:A:163:ARG:NH1	2.19	0.74
1:5:2366:C:H5'	5:B:259:HIS:CE1	2.23	0.74
1:5:3344:A:H5''	1:5:3345:G:OP2	1.88	0.74
7:D:29:ASP:HB2	7:D:150:LEU:HD21	1.70	0.74
22:T:17:ARG:HG2	22:T:17:ARG:NH1	2.03	0.74
29:a:24:LYS:HD2	29:a:26:ARG:HH21	1.53	0.74
45:x:188:HIS:CE1	45:x:534:PRO:HG3	2.22	0.74
1:5:46:U:O4	16:N:83:LYS:NZ	2.18	0.73
6:C:329:PRO:O	6:C:330:TYR:HB3	1.88	0.73
14:L:76:THR:HG22	14:L:101:ARG:NH1	2.03	0.73
27:Y:36:SER:HB2	27:Y:37:LYS:HE2	1.67	0.73
1:5:3369:G:OP2	25:W:61:LYS:HD2	1.88	0.73
9:F:112:ASN:O	9:F:207:LEU:HB2	1.89	0.73
44:q:59:VAL:HG12	44:q:80:VAL:HG11	1.70	0.73
1:5:1359:C:H2'	1:5:1360:C:H6	1.53	0.73
1:5:1679:A:OP1	23:U:94:ARG:NH1	2.22	0.73
4:A:48:ILE:HD11	43:p:54:ILE:HB	1.70	0.73
45:x:161:TYR:OH	45:x:536:TRP:O	2.06	0.73
46:y:207:MET:SD	46:y:242:ILE:HG21	2.28	0.73
1:5:195:U:H2'	1:5:196:G:O4'	1.88	0.73
1:5:240:U:O2'	1:5:241:G:O5'	2.05	0.73
1:5:1818:U:H2'	1:5:1819:U:C6	2.23	0.73
1:5:2765:C:O2'	42:o:55:LYS:NZ	2.22	0.73
14:L:126:PHE:HD2	36:h:115:LYS:HE3	1.53	0.73
1:5:996:A:C2	1:5:997:A:H1'	2.24	0.73
1:5:2436:U:H4'	10:G:70:LYS:HD2	1.68	0.73
8:E:51:ARG:NH1	15:M:114:ASP:OD2	2.22	0.73
10:G:130:TYR:CD1	10:G:202:GLU:HB3	2.23	0.73
10:G:130:TYR:HD1	10:G:202:GLU:HB3	1.53	0.73
15:M:14:LEU:H	15:M:19:ARG:NH1	1.86	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:b:39:PHE:O	30:b:43:HIS:HB2	1.87	0.73
1:5:1223:A:OP2	1:5:1285:G:N2	2.22	0.73
45:x:464:SER:CB	45:x:469:PRO:HG3	2.19	0.73
46:y:305:LEU:HD12	46:y:306:HIS:H	1.52	0.73
1:5:405:U:O2'	1:5:1395:G:N2	2.22	0.73
1:5:1891:A:C2'	1:5:1892:G:H5'	2.18	0.73
31:c:17:VAL:HG22	31:c:98:SER:HB3	1.69	0.73
45:x:262:ARG:HB3	46:y:344:THR:CG2	2.19	0.73
1:5:1896:A:H61	1:5:2339:C:H42	1.37	0.73
14:L:128:ARG:NH1	36:h:112:PRO:HD3	2.03	0.73
15:M:128:ARG:HG2	15:M:132:LYS:HD2	1.70	0.73
45:x:18:ASN:ND2	45:x:248:ARG:HA	2.03	0.73
1:5:497:C:O2'	34:f:86:ARG:NH2	2.22	0.73
1:5:2734:A:O2'	1:5:2735:U:H5'	1.89	0.73
1:5:3110:C:H2'	1:5:3111:U:H6	1.51	0.73
13:J:92:ARG:HB3	13:J:92:ARG:NH1	2.03	0.73
36:h:43:LYS:HB3	45:x:345:GLY:HA2	1.71	0.73
1:5:1715:A:N7	31:c:84:LEU:HD22	2.04	0.73
1:5:2520:A:H2'	1:5:2521:U:C6	2.24	0.73
1:5:2608:G:H2'	1:5:2609:A:C8	2.24	0.73
6:C:74:ILE:CD1	6:C:75:PRO:HD2	2.18	0.73
44:q:38:MET:HE1	44:q:51:VAL:HG11	1.69	0.73
46:y:166:PHE:O	46:y:235:LEU:HD21	1.89	0.73
1:5:1556:C:H6	1:5:1556:C:H5''	1.54	0.72
1:5:1926:C:H2'	43:p:7:LYS:NZ	2.04	0.72
32:d:82:GLU:HG3	32:d:83:GLU:HB2	1.71	0.72
37:i:56:ARG:O	37:i:60:LEU:HD22	1.89	0.72
1:5:1204:A:C2'	1:5:1205:A:H5'	2.19	0.72
1:5:1772:U:H5''	1:5:1773:C:H5'	1.71	0.72
4:A:174:ARG:HG2	4:A:174:ARG:HH11	1.54	0.72
30:b:5:LYS:HZ2	30:b:8:THR:HB	1.54	0.72
46:y:246:SER:HB2	46:y:249:GLU:CG	2.17	0.72
1:5:3151:U:H5'	1:5:3152:U:OP1	1.90	0.72
20:R:62:ARG:HB3	20:R:62:ARG:HH11	1.54	0.72
37:i:74:LYS:HZ3	37:i:80:PHE:HB2	1.54	0.72
1:5:685:G:P	14:L:35:ARG:HH12	2.11	0.72
1:5:748:U:O2'	1:5:749:C:H5'	1.88	0.72
1:5:1221:A:C5'	44:q:57:THR:HB	2.19	0.72
1:5:2836:C:H4'	12:I:157:TYR:CD1	2.24	0.72
6:C:145:ILE:O	6:C:147:GLU:N	2.21	0.72
11:H:177:ASP:OD1	11:H:177:ASP:N	2.21	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:c:41:LEU:HG	31:c:66:LYS:CB	2.19	0.72
31:c:86:ARG:CZ	43:p:44:LYS:HG2	2.19	0.72
45:x:245:ARG:CZ	45:x:253:GLY:HA2	2.20	0.72
1:5:2204:C:H4'	1:5:2205:U:OP1	1.87	0.72
1:5:2636:A:H5''	1:5:2637:A:H5''	1.72	0.72
7:D:78:ALA:HB3	7:D:105:ILE:HG23	1.71	0.72
45:x:158:MET:HE3	47:z:65:UNK:HG1	1.69	0.72
45:x:231:ALA:HA	45:x:323:MET:HE1	1.72	0.72
1:5:273:A:H2'	1:5:274:G:H8	1.51	0.72
1:5:798:G:O2'	14:L:14:PHE:O	2.08	0.72
1:5:1115:G:H5''	1:5:1116:G:C5'	2.20	0.72
5:B:26:ARG:HG2	5:B:26:ARG:HH11	1.54	0.72
13:J:92:ARG:HH11	13:J:92:ARG:CB	2.01	0.72
14:L:21:ARG:O	16:N:196:THR:HG22	1.89	0.72
24:V:45:ARG:HG2	24:V:45:ARG:NH1	2.02	0.72
32:d:70:ARG:HE	32:d:102:LYS:HE2	1.54	0.72
45:x:464:SER:HB2	45:x:469:PRO:CB	2.18	0.72
1:5:2397:A:C2	1:5:2873:U:H5''	2.25	0.72
1:5:3278:C:H3'	1:5:3279:A:H5'	1.72	0.72
12:I:174:THR:HG23	12:I:175:ASN:H	1.55	0.72
17:O:183:ALA:HA	17:O:186:ALA:HB2	1.72	0.72
36:h:78:LYS:HA	36:h:81:ARG:HD2	1.71	0.72
39:k:19:ASP:C	39:k:21:LYS:HE2	2.13	0.72
43:p:40:SER:HB2	43:p:41:PHE:CE2	2.25	0.72
1:5:100:A:O2'	1:5:101:G:H5'	1.90	0.72
7:D:183:TRP:HB2	7:D:190:ILE:HD13	1.70	0.72
8:E:8:LYS:HA	8:E:8:LYS:HZ3	1.54	0.72
23:U:14:THR:HG23	23:U:66:VAL:HG22	1.70	0.72
32:d:12:TYR:HD2	32:d:75:ILE:HD12	1.55	0.72
1:5:1761:C:H1'	1:5:1765:U:C5	2.25	0.72
1:5:2530:G:H2'	1:5:2531:C:H5''	1.71	0.72
46:y:191:ILE:HD11	46:y:197:LEU:CD1	2.19	0.72
1:5:2631:U:H2'	1:5:2632:G:H8	1.54	0.72
2:7:71:G:H2'	2:7:72:A:C8	2.25	0.72
6:C:71:VAL:HG22	6:C:72:ALA:H	1.55	0.72
11:H:103:ILE:HD11	11:H:134:ILE:HD12	1.71	0.72
30:b:32:LEU:HB3	30:b:40:ARG:NH1	2.05	0.72
1:5:117:U:H3	10:G:147:LYS:NZ	1.88	0.71
1:5:706:A:H2'	1:5:707:U:O4'	1.88	0.71
5:B:26:ARG:HG2	5:B:26:ARG:NH1	2.05	0.71
5:B:300:ARG:HA	5:B:300:ARG:HH11	1.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:78:ARG:HG3	8:E:78:ARG:NH1	1.95	0.71
9:F:103:LEU:CG	9:F:130:ILE:HD11	2.20	0.71
40:l:36:ARG:HA	40:l:36:ARG:NH1	2.05	0.71
1:5:1360:C:C2'	1:5:1361:U:H5'	2.19	0.71
1:5:1580:A:H61	26:X:33:ARG:HD3	1.54	0.71
1:5:2312:A:HO2'	1:5:2315:G:H1'	1.56	0.71
2:7:36:C:H5''	7:D:155:THR:HG23	1.72	0.71
45:x:512:SER:HB3	45:x:520:PRO:HD3	1.71	0.71
5:B:29:VAL:HG21	5:B:337:THR:HG21	1.72	0.71
10:G:150:LEU:HD13	10:G:151:VAL:N	2.05	0.71
20:R:62:ARG:HH11	20:R:62:ARG:CB	2.03	0.71
1:5:1534:A:H62	1:5:1586:G:H2'	1.53	0.71
1:5:2532:U:H2'	1:5:2533:G:C8	2.25	0.71
43:p:74:ALA:O	43:p:78:THR:HG23	1.90	0.71
45:x:33:GLN:HG3	45:x:572:THR:CG2	2.20	0.71
45:x:39:LEU:HD23	45:x:531:THR:CG2	2.20	0.71
45:x:522:LEU:HB2	45:x:567:LEU:CD2	2.20	0.71
1:5:992:A:H5''	22:T:43:LYS:HD2	1.71	0.71
1:5:2101:C:O2'	1:5:2102:U:OP1	2.08	0.71
3:8:155:A:H5'	10:G:185:ARG:HD2	1.71	0.71
28:Z:3:LYS:NZ	31:c:36:GLN:HA	2.05	0.71
45:x:387:VAL:HG11	46:y:339:LEU:HD22	1.72	0.71
1:5:692:A:OP1	16:N:201:ARG:NH2	2.24	0.71
1:5:2277:C:C4'	1:5:2317:A:H4'	2.19	0.71
5:B:284:ARG:HB3	5:B:323:MET:HB3	1.73	0.71
21:S:33:ASN:OD1	21:S:36:ILE:N	2.19	0.71
39:k:46:ARG:NH2	39:k:51:LEU:HB2	2.03	0.71
1:5:1355:A:H1'	1:5:1356:U:OP2	1.90	0.71
10:G:154:ALA:HB1	10:G:183:LYS:HB3	1.73	0.71
13:J:51:ARG:HH11	13:J:51:ARG:HG3	1.55	0.71
28:Z:68:ILE:O	28:Z:115:LYS:HE2	1.91	0.71
29:a:36:GLY:HA3	29:a:40:HIS:CE1	2.25	0.71
1:5:2509:U:H2'	1:5:2510:U:H5'	1.72	0.71
3:8:105:A:H4'	3:8:106:C:OP1	1.90	0.71
14:L:47:ALA:HB1	14:L:48:PRO:HD2	1.71	0.71
33:e:86:THR:HG23	33:e:115:LEU:HD22	1.73	0.71
34:f:45:LEU:HD22	34:f:71:VAL:HG12	1.71	0.71
45:x:130:THR:HG22	45:x:132:THR:H	1.56	0.71
45:x:543:LEU:HB2	47:z:76:UNK:HG1	1.73	0.71
45:x:558:THR:HA	45:x:561:LYS:HG3	1.71	0.71
46:y:199:ASP:O	46:y:202:GLY:N	2.22	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2611:U:O2'	1:5:2803:A:N1	2.24	0.71
1:5:3358:U:H2'	1:5:3359:A:C8	2.26	0.71
5:B:305:ILE:HG23	5:B:317:ILE:HD12	1.72	0.71
35:g:8:ARG:HH21	35:g:31:ARG:HH11	1.39	0.71
42:o:55:LYS:HB3	42:o:56:PRO:HD2	1.71	0.71
9:F:132:PRO:HA	9:F:229:PHE:CE1	2.26	0.71
28:Z:48:ARG:NH1	28:Z:48:ARG:HB2	2.06	0.71
34:f:101:PHE:HB3	34:f:103:TYR:CE1	2.26	0.71
46:y:198:VAL:HG22	46:y:258:ASP:HB2	1.72	0.71
1:5:397:A:P	47:z:136:UNK:HG1	2.31	0.70
1:5:1036:A:H2'	1:5:1037:C:O4'	1.90	0.70
1:5:1659:U:H2'	1:5:1660:C:C6	2.25	0.70
1:5:2573:G:H2'	1:5:2574:G:O4'	1.90	0.70
2:7:42:A:H1'	13:J:72:ARG:NH1	2.06	0.70
5:B:146:ARG:NE	5:B:146:ARG:HA	2.05	0.70
7:D:125:VAL:HG12	7:D:126:GLU:H	1.55	0.70
11:H:4:ILE:HD11	21:S:150:PHE:HB3	1.73	0.70
13:J:171:VAL:O	13:J:172:LEU:HD23	1.91	0.70
18:P:46:LYS:O	18:P:50:GLN:HG3	1.90	0.70
1:5:138:U:H2'	1:5:139:G:H8	1.56	0.70
1:5:597:G:OP1	9:F:37:ASN:HB3	1.91	0.70
1:5:1942:U:OP2	20:R:74:ARG:NH1	2.23	0.70
1:5:3042:U:OP2	1:5:3092:C:N4	2.24	0.70
1:5:3285:C:H2'	1:5:3286:G:H5''	1.73	0.70
2:7:71:G:H2'	2:7:72:A:H8	1.54	0.70
3:8:73:U:H2'	3:8:74:U:H5'	1.71	0.70
8:E:97:ASN:O	8:E:99:GLU:HG3	1.91	0.70
1:5:1784:G:C5'	35:g:19:LYS:HD2	2.21	0.70
1:5:2291:A:H2'	1:5:2292:U:C6	2.25	0.70
1:5:2936:A:H2'	1:5:2937:G:H8	1.56	0.70
12:I:36:LEU:HD11	12:I:69:ARG:CG	2.20	0.70
24:V:120:LYS:HB2	24:V:120:LYS:NZ	2.06	0.70
31:c:22:LYS:HB2	31:c:94:GLU:HB2	1.73	0.70
1:5:2532:U:H2'	1:5:2533:G:H8	1.55	0.70
14:L:91:ARG:HH11	14:L:91:ARG:CG	1.99	0.70
17:O:78:ARG:HH11	17:O:78:ARG:CG	2.02	0.70
20:R:119:LEU:HD23	20:R:146:LYS:HE3	1.73	0.70
44:q:79:PHE:HZ	44:q:196:VAL:HG11	1.56	0.70
1:5:939:U:H2'	1:5:940:G:C8	2.26	0.70
1:5:3359:A:H5'	46:y:236:ALA:CB	2.22	0.70
6:C:28:ALA:HB1	6:C:29:PRO:HD2	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:51:ARG:HH11	13:J:51:ARG:HG2	1.53	0.70
35:g:107:GLU:HA	35:g:110:GLU:HB2	1.73	0.70
46:y:159:ILE:HG21	46:y:165:LEU:HD23	1.73	0.70
47:z:67:UNK:CG	47:z:70:UNK:HB1	2.20	0.70
1:5:1252:A:H2'	1:5:1253:U:H5'	1.73	0.70
5:B:58:ARG:HH22	5:B:60:LEU:HD12	1.52	0.70
14:L:23:LYS:HE3	14:L:25:HIS:CE1	2.27	0.70
22:T:53:PRO:HB3	22:T:91:LEU:HD11	1.72	0.70
1:5:536:U:C2'	1:5:537:A:H5'	2.21	0.70
1:5:1560:G:H2'	1:5:1561:G:O4'	1.92	0.70
2:7:96:U:H2'	2:7:97:A:H8	1.57	0.70
5:B:14:LEU:HD22	5:B:17:LEU:HD21	1.74	0.70
6:C:45:ASN:HA	6:C:110:ASN:HD22	1.57	0.70
18:P:141:SER:C	18:P:143:PRO:HD3	2.16	0.70
23:U:111:THR:HB	46:y:312:LYS:HB2	1.71	0.70
29:a:147:LEU:HD12	37:i:7:ILE:HD11	1.74	0.70
31:c:13:LYS:HE3	31:c:104:LEU:HD11	1.71	0.70
32:d:46:THR:CG2	32:d:91:SER:HB2	2.07	0.70
42:o:25:VAL:HG22	42:o:72:LEU:CD2	2.22	0.70
45:x:387:VAL:CG1	46:y:339:LEU:HD22	2.22	0.70
1:5:621:A:H5'	1:5:622:A:C8	2.27	0.70
1:5:1052:U:C2'	1:5:1053:A:H5'	2.22	0.70
9:F:31:ALA:HA	9:F:34:LYS:HB2	1.74	0.70
44:q:15:LEU:HD21	44:q:86:PHE:CD2	2.26	0.70
1:5:208:C:C2'	1:5:209:A:H5'	2.22	0.70
1:5:1127:G:N2	1:5:1130:A:OP2	2.21	0.70
4:A:44:ILE:CD1	4:A:62:VAL:HG13	2.21	0.70
10:G:24:ASN:O	10:G:26:LEU:N	2.24	0.70
13:J:133:ARG:HB2	13:J:152:HIS:NE2	2.06	0.70
27:Y:86:THR:HA	27:Y:97:ILE:CD1	2.19	0.70
44:q:45:LEU:CD2	44:q:96:ILE:HG23	2.21	0.70
1:5:2276:G:H21	1:5:2316:G:HO2'	1.40	0.70
1:5:2604:U:O2'	1:5:2605:G:OP1	2.09	0.70
4:A:177:LYS:HD2	43:p:69:TYR:CE1	2.27	0.70
5:B:169:THR:HG22	5:B:171:LEU:HG	1.72	0.70
8:E:149:ILE:HD13	8:E:159:LEU:CD1	2.22	0.70
21:S:77:VAL:HG13	21:S:126:VAL:HG22	1.72	0.70
1:5:297:G:O2'	37:i:33:ALA:HB2	1.91	0.69
1:5:1645:U:H2'	1:5:1646:G:H5'	1.72	0.69
1:5:3275:U:H5''	34:f:68:TRP:HZ2	1.57	0.69
3:8:36:G:OP2	36:h:85:THR:OG1	2.10	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:66:THR:HB	15:M:67:PRO:HD2	1.74	0.69
18:P:69:ARG:HG2	18:P:79:THR:CG2	2.22	0.69
18:P:69:ARG:HG2	18:P:79:THR:HG23	1.74	0.69
23:U:111:THR:HG23	23:U:112:PRO:HD2	1.73	0.69
28:Z:114:VAL:HA	28:Z:117:ALA:HB3	1.71	0.69
45:x:154:VAL:HA	45:x:526:THR:CG2	2.18	0.69
45:x:543:LEU:CD1	47:z:74:UNK:HG1	2.22	0.69
1:5:981:U:H1'	1:5:982:C:OP1	1.92	0.69
1:5:1213:G:H4'	21:S:90:MET:HG3	1.74	0.69
1:5:2817:A:H4'	1:5:2818:U:OP2	1.92	0.69
3:8:84:C:C2	27:Y:112:ASP:HA	2.27	0.69
4:A:127:ALA:O	4:A:169:ILE:HD12	1.92	0.69
13:J:15:GLU:HB2	13:J:132:ASN:ND2	2.07	0.69
24:V:70:ARG:NH1	24:V:71:LYS:HG3	2.07	0.69
44:q:4:ILE:H	44:q:4:ILE:HD13	1.56	0.69
45:x:39:LEU:CD2	45:x:531:THR:HG23	2.20	0.69
45:x:199:ALA:O	45:x:567:LEU:HD13	1.91	0.69
45:x:524:ARG:CD	45:x:527:GLY:HA3	2.21	0.69
1:5:1635:G:N2	1:5:1638:A:OP2	2.22	0.69
1:5:2567:C:H2'	1:5:2568:C:H5'	1.73	0.69
2:7:88:G:H2'	2:7:89:G:H5'	1.72	0.69
4:A:205:ASN:HB3	4:A:206:PRO:CD	2.23	0.69
13:J:12:LEU:HD13	13:J:13:LYS:H	1.57	0.69
17:O:65:ASN:HD21	17:O:67:THR:HG22	1.57	0.69
18:P:59:PRO:HG3	18:P:76:PHE:CD1	2.28	0.69
44:q:27:VAL:CG2	44:q:76:LEU:HD11	2.22	0.69
1:5:2526:C:H2'	1:5:2527:G:C8	2.28	0.69
1:5:3055:U:H1'	1:5:3057:U:OP2	1.92	0.69
6:C:262:TRP:O	6:C:276:LEU:HD11	1.92	0.69
7:D:39:GLN:OE1	7:D:40:HIS:N	2.25	0.69
22:T:84:TYR:HB2	30:b:24:PRO:HD3	1.75	0.69
46:y:191:ILE:CD1	46:y:200:LYS:HG3	2.21	0.69
1:5:679:U:O2'	1:5:788:C:O2	2.10	0.69
1:5:3163:A:H2'	1:5:3164:C:C6	2.27	0.69
3:8:81:U:O2'	3:8:82:U:OP2	2.11	0.69
6:C:286:VAL:O	6:C:290:ILE:HG12	1.92	0.69
7:D:29:ASP:HB2	7:D:150:LEU:CD2	2.23	0.69
9:F:30:ARG:O	9:F:34:LYS:HG2	1.92	0.69
24:V:120:LYS:HB2	24:V:120:LYS:HZ2	1.57	0.69
39:k:65:LEU:HD23	39:k:68:SER:HB2	1.74	0.69
1:5:248:U:C3'	1:5:249:U:H5'	2.23	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:536:U:O2'	1:5:537:A:H5'	1.93	0.69
1:5:2232:A:O2'	1:5:2429:G:H5'	1.91	0.69
9:F:31:ALA:HA	9:F:34:LYS:CG	2.21	0.69
16:N:120:TRP:CZ2	16:N:123:GLN:HG2	2.23	0.69
34:f:73:ARG:HD3	34:f:82:ARG:HD2	1.74	0.69
45:x:544:ASN:O	45:x:550:VAL:HG11	1.91	0.69
1:5:116:A:OP2	16:N:2:GLY:HA3	1.92	0.69
1:5:1148:G:O2'	1:5:1149:G:H5'	1.91	0.69
1:5:2728:G:O6	22:T:78:LYS:HE3	1.93	0.69
1:5:2802:A:O5'	42:o:59:HIS:NE2	2.23	0.69
12:I:193:ASP:OD1	12:I:198:LYS:HE3	1.93	0.69
14:L:58:VAL:HG12	14:L:60:ALA:H	1.56	0.69
17:O:65:ASN:ND2	17:O:67:THR:HG22	2.08	0.69
24:V:45:ARG:HD2	24:V:46:LEU:H	1.58	0.69
37:i:43:LEU:CD1	37:i:47:ILE:HD11	2.22	0.69
45:x:298:PHE:HB3	45:x:301:VAL:CG2	2.22	0.69
47:z:87:UNK:HB2	47:z:90:UNK:HG3	1.72	0.69
1:5:715:A:N7	29:a:115:LYS:HE2	2.08	0.69
1:5:1348:U:H3'	1:5:1348:U:C6	2.28	0.69
1:5:1651:U:C5'	4:A:71:LEU:HD22	2.23	0.69
1:5:1687:U:H5''	1:5:1688:U:H5'	1.72	0.69
1:5:2994:A:C2'	1:5:2995:A:H5'	2.22	0.69
12:I:74:LYS:O	12:I:78:THR:HG23	1.92	0.69
15:M:37:GLU:HG2	21:S:72:VAL:HG21	1.74	0.69
32:d:60:TRP:CZ3	32:d:64:VAL:HG12	2.26	0.69
32:d:102:LYS:HA	32:d:102:LYS:HE3	1.74	0.69
34:f:48:ARG:CD	34:f:104:PRO:HD3	2.23	0.69
44:q:45:LEU:HD21	44:q:96:ILE:HG23	1.75	0.69
45:x:378:LEU:HD21	45:x:423:MET:HE2	1.74	0.69
45:x:464:SER:HB2	45:x:469:PRO:CG	2.23	0.69
1:5:148:G:OP2	16:N:4:TYR:OH	2.11	0.69
1:5:371:G:N1	1:5:374:A:OP2	2.26	0.69
1:5:1498:A:H2'	1:5:1499:C:C6	2.28	0.69
1:5:2809:C:H1'	1:5:2810:C:H5	1.58	0.69
4:A:205:ASN:HB2	4:A:208:ASP:OD1	1.92	0.69
13:J:30:LEU:HD21	13:J:65:ILE:O	1.93	0.69
33:e:86:THR:HG23	33:e:115:LEU:CD2	2.22	0.69
1:5:250:U:OP1	1:5:250:U:H4'	1.92	0.69
1:5:656:A:H2'	1:5:657:A:C8	2.27	0.69
1:5:696:C:OP1	6:C:272:VAL:HG23	1.93	0.69
4:A:192:LYS:HE2	4:A:193:ARG:HH22	1.58	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:359:ALA:HB3	45:x:435:SER:HB2	1.75	0.69
1:5:655:C:H2'	1:5:656:A:H8	1.55	0.68
3:8:59:A:O3'	26:X:61:LYS:NZ	2.26	0.68
3:8:88:A:H3'	3:8:89:A:C8	2.29	0.68
20:R:63:THR:O	20:R:67:ALA:N	2.26	0.68
1:5:1329:U:O2'	1:5:1330:A:OP1	2.11	0.68
1:5:1949:G:OP2	20:R:135:LYS:NZ	2.25	0.68
3:8:78:G:N2	3:8:79:A:H1'	2.07	0.68
7:D:122:VAL:HG21	7:D:168:ASP:CG	2.18	0.68
7:D:270:LYS:HG2	7:D:273:ARG:HH21	1.58	0.68
12:I:76:MET:HE3	12:I:148:VAL:HA	1.74	0.68
21:S:10:ILE:HG22	21:S:59:VAL:HB	1.74	0.68
1:5:787:G:H2'	1:5:788:C:H6	1.58	0.68
1:5:882:A:H2'	1:5:883:A:H5''	1.75	0.68
1:5:915:A:H2'	1:5:916:G:H5'	1.75	0.68
1:5:1397:C:O2'	1:5:1398:U:H5'	1.93	0.68
5:B:39:LYS:HB2	5:B:40:PRO:HD2	1.76	0.68
11:H:77:ASN:HA	11:H:80:THR:HG22	1.74	0.68
29:a:128:ARG:HB2	29:a:129:PHE:HD2	1.57	0.68
43:p:45:LYS:HB2	43:p:45:LYS:HZ2	1.58	0.68
44:q:69:ASP:O	44:q:70:LEU:HG	1.93	0.68
45:x:218:ILE:HG21	45:x:223:ILE:HD11	1.74	0.68
2:7:36:C:O2'	2:7:37:G:H5'	1.94	0.68
4:A:79:ASN:HB3	4:A:82:VAL:CG1	2.23	0.68
10:G:113:ALA:O	10:G:117:ALA:HB3	1.94	0.68
11:H:69:ARG:HH11	11:H:72:LYS:HD3	1.57	0.68
33:e:129:GLU:HB3	47:z:149:UNK:HB2	1.76	0.68
1:5:248:U:H2'	1:5:249:U:C5'	2.23	0.68
1:5:2641:U:OP2	22:T:10:ARG:NH2	2.22	0.68
1:5:3170:A:O2'	1:5:3171:U:H5'	1.93	0.68
6:C:83:GLY:O	6:C:87:GLN:NE2	2.27	0.68
6:C:206:LEU:HD23	6:C:226:GLU:O	1.94	0.68
9:F:80:GLN:HG3	22:T:136:ARG:CB	2.24	0.68
26:X:131:ASP:O	26:X:135:ILE:HG22	1.93	0.68
31:c:34:LEU:CD2	31:c:59:TYR:HB3	2.23	0.68
37:i:44:VAL:HA	37:i:47:ILE:HD12	1.75	0.68
1:5:745:C:OP1	19:Q:145:ASN:HB2	1.93	0.68
1:5:1037:C:H2'	1:5:1038:C:C6	2.28	0.68
1:5:1176:C:H2'	1:5:1177:G:N2	2.08	0.68
1:5:2569:A:H4'	1:5:2570:U:H5'	1.76	0.68
1:5:3242:G:O6	5:B:150:ARG:NH1	2.25	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:226:TYR:HA	7:D:231:ILE:HD12	1.74	0.68
9:F:37:ASN:O	9:F:41:ARG:HB2	1.94	0.68
13:J:40:LEU:HD13	13:J:114:ILE:HD11	1.74	0.68
19:Q:44:PHE:CE1	19:Q:139:ILE:HD11	2.28	0.68
31:c:24:THR:HG22	31:c:91:SER:HB3	1.75	0.68
32:d:44:MET:HE1	32:d:75:ILE:CG2	2.24	0.68
34:f:13:HIS:CE1	34:f:89:LEU:HD12	2.28	0.68
45:x:20:LEU:HD12	45:x:314:GLY:HA2	1.74	0.68
1:5:2593:A:H4'	1:5:2594:C:O5'	1.94	0.68
1:5:2872:A:O2'	1:5:2873:U:OP1	2.10	0.68
4:A:116:VAL:HG11	4:A:134:VAL:HG11	1.73	0.68
6:C:11:LEU:HD13	6:C:168:ALA:HB2	1.74	0.68
36:h:18:ALA:O	36:h:22:VAL:HG23	1.94	0.68
45:x:211:LEU:CD2	45:x:549:ILE:HA	2.24	0.68
5:B:148:LEU:HD21	5:B:196:ARG:CD	2.24	0.68
7:D:129:TYR:CZ	7:D:177:GLU:HG3	2.29	0.68
21:S:131:LYS:HB2	21:S:134:ASP:OD2	1.94	0.68
28:Z:48:ARG:HB2	28:Z:48:ARG:HH11	1.59	0.68
28:Z:84:ARG:HB3	31:c:61:MET:HE1	1.75	0.68
40:l:14:ALA:O	40:l:18:LYS:HG3	1.94	0.68
45:x:104:TRP:CD1	45:x:106:PRO:HD3	2.28	0.68
1:5:173:G:H2'	1:5:174:C:O4'	1.93	0.68
1:5:516:A:O3'	9:F:60:ARG:NH2	2.24	0.68
1:5:1555:U:O2	1:5:1555:U:H2'	1.94	0.68
1:5:2271:A:C2'	1:5:2272:G:H5'	2.24	0.68
1:5:2422:C:H2'	1:5:2423:U:O4'	1.94	0.68
1:5:2936:A:H2'	1:5:2937:G:C8	2.28	0.68
24:V:117:PRO:HD3	25:W:25:ASP:O	1.94	0.68
26:X:105:VAL:HG13	26:X:130:TYR:CD2	2.29	0.68
27:Y:97:ILE:HG22	27:Y:99:LEU:HG	1.75	0.68
1:5:2233:A:H4'	1:5:2428:U:H4'	1.75	0.68
1:5:2430:A:H2'	1:5:2431:C:C6	2.29	0.68
1:5:2939:G:OP2	5:B:3:HIS:HB3	1.94	0.68
5:B:56:ILE:HD11	5:B:359:ILE:CG1	2.24	0.68
11:H:166:ARG:HB3	11:H:168:ARG:NH1	2.09	0.68
20:R:69:SER:O	20:R:74:ARG:HB2	1.93	0.68
21:S:96:ASP:OD1	21:S:97:VAL:N	2.24	0.68
27:Y:39:LEU:HD12	27:Y:43:TYR:HE2	1.59	0.68
30:b:58:LYS:HA	30:b:58:LYS:HZ2	1.56	0.68
1:5:1097:G:C8	22:T:128:LEU:HD13	2.29	0.67
1:5:1891:A:H2'	1:5:1892:G:H5'	1.74	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2193:U:H1'	1:5:2275:A:H1'	1.76	0.67
1:5:2213:A:H2'	1:5:2214:A:H8	1.59	0.67
1:5:2686:A:H2'	1:5:2687:G:O4'	1.94	0.67
1:5:3149:G:O2'	5:B:129:ALA:O	2.12	0.67
10:G:178:ALA:HB2	10:G:218:ILE:HG21	1.76	0.67
23:U:46:ALA:HB3	46:y:238:ARG:CG	2.19	0.67
29:a:133:LEU:CD2	29:a:137:LYS:HE3	2.24	0.67
34:f:19:SER:OG	34:f:20:LYS:N	2.25	0.67
1:5:992:A:O2'	1:5:993:G:H5'	1.93	0.67
1:5:2871:G:H3'	1:5:2872:A:H5''	1.76	0.67
5:B:13:HIS:CE1	5:B:15:GLY:HA3	2.29	0.67
7:D:51:LEU:HB2	7:D:144:VAL:HG13	1.77	0.67
11:H:88:TYR:CE2	11:H:184:LYS:HE2	2.29	0.67
16:N:61:ILE:CD1	16:N:133:ILE:HG12	2.25	0.67
36:h:68:GLN:NE2	36:h:68:GLN:HA	2.08	0.67
37:i:74:LYS:HG3	37:i:80:PHE:HA	1.76	0.67
45:x:141:ILE:HG22	45:x:143:LEU:HD21	1.75	0.67
1:5:2853:A:OP1	12:I:30:LYS:NZ	2.25	0.67
2:7:97:A:H4'	9:F:224:ILE:HG21	1.76	0.67
4:A:112:ILE:HD11	43:p:79:VAL:HG11	1.75	0.67
19:Q:32:LEU:HD13	19:Q:32:LEU:C	2.20	0.67
33:e:9:ILE:HG23	33:e:63:THR:HB	1.76	0.67
44:q:87:VAL:HG11	44:q:100:ILE:CD1	2.24	0.67
1:5:210:U:OP2	6:C:161:LYS:HD3	1.95	0.67
1:5:1381:A:H2'	1:5:1382:G:C8	2.29	0.67
6:C:170:LYS:HG2	6:C:175:HIS:HB2	1.74	0.67
13:J:93:ASP:HB2	13:J:172:LEU:O	1.93	0.67
29:a:111:LYS:HG3	29:a:129:PHE:O	1.94	0.67
31:c:41:LEU:HD23	31:c:42:ILE:H	1.58	0.67
45:x:292:ARG:CZ	45:x:458:LEU:HD12	2.23	0.67
1:5:1762:C:O2'	46:y:327:LYS:NZ	2.20	0.67
1:5:2436:U:H2'	1:5:2437:G:H5'	1.75	0.67
1:5:2828:G:O2'	12:I:4:ARG:NH1	2.27	0.67
1:5:3386:G:H2'	1:5:3387:U:C6	2.30	0.67
6:C:120:TYR:CE2	6:C:277:PRO:HB3	2.29	0.67
11:H:87:LYS:HZ2	11:H:191:LEU:HD11	1.58	0.67
19:Q:46:LYS:O	19:Q:50:LYS:HG2	1.95	0.67
24:V:13:ILE:CD1	24:V:53:SER:HB2	2.24	0.67
45:x:156:HIS:HD2	45:x:158:MET:HG3	1.58	0.67
45:x:297:PRO:HG2	46:y:346:SER:HB2	1.76	0.67
1:5:1522:U:OP2	26:X:121:LYS:NZ	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1568:U:O2'	1:5:1569:U:O5'	2.10	0.67
1:5:2897:A:H2'	1:5:2899:C:H5''	1.77	0.67
7:D:61:ILE:HG23	7:D:79:TYR:CE1	2.29	0.67
9:F:181:ILE:O	9:F:184:LEU:HB2	1.94	0.67
11:H:163:GLN:O	11:H:166:ARG:NH1	2.27	0.67
24:V:13:ILE:HD13	24:V:53:SER:HB2	1.76	0.67
40:l:5:LYS:HD3	40:l:13:MET:HE1	1.76	0.67
45:x:392:LEU:HD21	45:x:423:MET:HE3	1.76	0.67
1:5:2656:A:H5'	42:o:98:LYS:HD2	1.76	0.67
1:5:2836:C:O2'	1:5:2837:A:H5'	1.94	0.67
1:5:3228:C:H4'	1:5:3229:G:O5'	1.95	0.67
1:5:3279:A:C2'	1:5:3280:U:H5'	2.25	0.67
5:B:283:TYR:HB3	5:B:356:LEU:HD21	1.76	0.67
32:d:12:TYR:CD2	32:d:75:ILE:HD12	2.30	0.67
32:d:102:LYS:HE3	32:d:102:LYS:CA	2.25	0.67
36:h:118:ILE:O	36:h:119:LYS:HD2	1.95	0.67
37:i:70:ARG:HD3	37:i:84:LYS:HG2	1.76	0.67
45:x:225:THR:O	45:x:229:THR:OG1	2.11	0.67
1:5:1146:C:H4'	1:5:1331:U:C5	2.30	0.67
16:N:6:TYR:CE2	37:i:40:VAL:HG22	2.29	0.67
39:k:16:ARG:C	39:k:18:ALA:H	2.02	0.67
45:x:464:SER:HB2	45:x:469:PRO:HG3	1.76	0.67
45:x:560:ALA:HB1	45:x:569:LEU:HD11	1.76	0.67
46:y:379:LYS:HB3	46:y:380:PHE:CD1	2.30	0.67
1:5:1258:U:H4'	44:q:39:HIS:CE1	2.30	0.67
1:5:3163:A:N6	1:5:3288:G:O6	2.28	0.67
3:8:73:U:C2'	3:8:74:U:H5'	2.25	0.67
6:C:35:VAL:HG11	6:C:244:LEU:HD21	1.77	0.67
7:D:182:GLY:HA2	7:D:194:LEU:HD23	1.75	0.67
11:H:117:PHE:CZ	11:H:165:CYS:HB2	2.30	0.67
12:I:4:ARG:NH2	12:I:99:ILE:HG22	2.09	0.67
14:L:23:LYS:HE3	14:L:25:HIS:ND1	2.09	0.67
41:m:92:ASP:O	41:m:93:LYS:HG2	1.95	0.67
1:5:59:G:H2'	3:8:33:A:O2'	1.95	0.67
1:5:633:C:H1'	34:f:23:ASN:ND2	2.10	0.67
1:5:1037:C:H2'	1:5:1038:C:H6	1.58	0.67
1:5:1795:U:H4'	1:5:1796:G:O5'	1.95	0.67
1:5:2996:U:H2'	1:5:2996:U:O2	1.95	0.67
2:7:48:U:H2'	2:7:49:G:H5'	1.77	0.67
5:B:256:HIS:HA	5:B:257:PRO:C	2.19	0.67
10:G:34:PHE:CE1	10:G:42:PRO:HG3	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:51:ARG:CG	13:J:51:ARG:NH1	2.52	0.67
14:L:28:GLN:HB3	16:N:201:ARG:HH11	1.59	0.67
28:Z:15:ARG:NH2	35:g:83:ASN:OD1	2.28	0.67
45:x:76:LEU:HD13	45:x:87:ARG:HB2	1.76	0.67
45:x:220:GLY:HA2	45:x:309:PHE:CD2	2.30	0.67
45:x:270:THR:HG22	45:x:271:GLU:N	2.09	0.67
1:5:974:G:H5'	19:Q:16:ARG:HG3	1.77	0.66
1:5:1051:U:H2'	1:5:1052:U:H5'	1.78	0.66
1:5:1245:A:H3'	1:5:1246:G:H5''	1.76	0.66
1:5:1260:A:O2'	1:5:1261:G:O4'	2.10	0.66
1:5:2222:A:H2'	1:5:2223:A:C8	2.30	0.66
1:5:2584:G:H5'	1:5:2585:G:OP2	1.95	0.66
4:A:79:ASN:HB3	4:A:82:VAL:HG13	1.77	0.66
31:c:25:LEU:O	31:c:29:SER:OG	2.13	0.66
1:5:927:C:H2'	1:5:928:C:H6	1.59	0.66
1:5:1204:A:H2'	1:5:1205:A:H5'	1.76	0.66
1:5:1767:C:O2'	1:5:1768:U:H5'	1.94	0.66
1:5:2852:C:N3	12:I:158:LYS:NZ	2.43	0.66
1:5:3214:U:C4	15:M:121:MET:HG3	2.30	0.66
5:B:188:ILE:H	5:B:188:ILE:CD1	2.03	0.66
6:C:361:HIS:O	21:S:28:ARG:NH2	2.29	0.66
20:R:62:ARG:NH1	20:R:62:ARG:CB	2.58	0.66
31:c:45:ALA:HB2	31:c:77:LEU:HD23	1.76	0.66
39:k:8:ILE:HD12	39:k:8:ILE:H	1.60	0.66
1:5:799:G:OP1	29:a:32:ARG:NH1	2.29	0.66
1:5:943:U:H3'	29:a:13:GLY:HA2	1.78	0.66
1:5:1473:G:O2'	1:5:1474:A:H5'	1.95	0.66
23:U:111:THR:CG2	23:U:112:PRO:HD2	2.25	0.66
25:W:53:VAL:HG13	25:W:57:LYS:HE2	1.77	0.66
33:e:64:LYS:HE2	33:e:65:PHE:CE2	2.30	0.66
36:h:119:LYS:HA	36:h:119:LYS:CE	2.22	0.66
38:j:17:THR:HG22	38:j:18:LEU:H	1.60	0.66
46:y:218:ILE:HG13	46:y:234:MET:HE2	1.78	0.66
1:5:1614:C:H2'	1:5:1615:C:C6	2.31	0.66
1:5:1888:U:OP1	5:B:247:ARG:HD3	1.96	0.66
1:5:2158:A:H4'	1:5:2159:U:C5'	2.15	0.66
1:5:2676:A:H4'	1:5:2677:G:O5'	1.96	0.66
3:8:157:U:H2'	3:8:158:U:C6	2.30	0.66
16:N:51:LEU:HD13	16:N:117:ASN:HB3	1.78	0.66
18:P:105:LYS:HB3	18:P:107:LEU:HD13	1.78	0.66
27:Y:86:THR:HB	27:Y:95:VAL:O	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:146:HIS:HA	45:x:150:TYR:O	1.95	0.66
46:y:211:ILE:HD11	46:y:231:ARG:CG	2.24	0.66
1:5:914:A:C2	4:A:204:MET:HG2	2.30	0.66
1:5:1728:G:H4'	1:5:1729:A:H5''	1.77	0.66
1:5:2908:G:O2'	1:5:2909:U:H5'	1.95	0.66
5:B:305:ILE:CG2	5:B:317:ILE:HD12	2.25	0.66
6:C:193:LYS:HB2	6:C:193:LYS:NZ	2.08	0.66
26:X:53:HIS:CE1	26:X:56:ARG:HD3	2.30	0.66
28:Z:83:THR:HG23	28:Z:85:TYR:H	1.60	0.66
32:d:94:GLU:HB2	32:d:95:PRO:HD2	1.77	0.66
45:x:416:LEU:O	45:x:420:ARG:HG2	1.96	0.66
1:5:413:U:H5''	18:P:34:GLN:NE2	2.11	0.66
1:5:1329:U:OP1	34:f:17:GLN:NE2	2.28	0.66
1:5:1772:U:C5'	1:5:1773:C:H5'	2.26	0.66
1:5:1949:G:H2'	1:5:1950:U:C6	2.30	0.66
1:5:2555:G:H5'	1:5:2556:C:OP2	1.95	0.66
1:5:2925:C:H2'	1:5:2926:A:H5'	1.77	0.66
14:L:28:GLN:OE1	16:N:201:ARG:NH1	2.29	0.66
16:N:175:ASN:HB2	16:N:180:PHE:CE1	2.30	0.66
18:P:29:THR:HA	18:P:32:THR:CG2	2.24	0.66
18:P:129:THR:HG22	18:P:137:ASN:O	1.95	0.66
24:V:11:PHE:HB2	24:V:88:ARG:NH1	2.10	0.66
1:5:1221:A:C1'	44:q:58:MET:HG2	2.26	0.66
1:5:1221:A:H1'	44:q:58:MET:HG2	1.76	0.66
1:5:3121:U:H4'	1:5:3122:A:OP1	1.96	0.66
5:B:284:ARG:HB3	5:B:323:MET:HE2	1.78	0.66
5:B:347:SER:O	5:B:348:ARG:HB3	1.95	0.66
6:C:202:ARG:HA	6:C:202:ARG:NE	2.11	0.66
12:I:50:VAL:HG22	12:I:167:LEU:HD13	1.76	0.66
23:U:37:LEU:O	23:U:41:ILE:HG13	1.96	0.66
45:x:60:THR:H	45:x:63:GLU:HB2	1.60	0.66
1:5:132:C:H2'	1:5:133:U:H5''	1.76	0.66
1:5:284:A:OP2	42:o:41:ARG:HD2	1.96	0.66
1:5:2234:G:O2'	1:5:2603:G:O2'	1.85	0.66
1:5:2436:U:C2'	1:5:2437:G:H5'	2.25	0.66
1:5:2917:G:N2	1:5:2918:G:H1'	2.10	0.66
1:5:2994:A:H2'	1:5:2995:A:H5'	1.78	0.66
4:A:178:PRO:HD2	43:p:26:VAL:CG2	2.25	0.66
5:B:14:LEU:HA	5:B:17:LEU:CD2	2.26	0.66
6:C:295:ILE:O	6:C:299:ILE:HG12	1.94	0.66
14:L:54:LEU:HD22	14:L:55:ARG:N	2.11	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:168:ARG:NH1	14:L:172:LEU:HD21	2.10	0.66
15:M:58:ILE:HG12	15:M:59:ASN:N	2.10	0.66
20:R:62:ARG:NH1	20:R:62:ARG:HB2	2.11	0.66
22:T:94:GLU:OE1	22:T:94:GLU:N	2.25	0.66
44:q:38:MET:O	44:q:42:ARG:HG2	1.95	0.66
44:q:55:LYS:HB2	44:q:55:LYS:NZ	2.10	0.66
1:5:183:G:H2'	1:5:184:U:H6	1.60	0.66
1:5:1190:A:H4'	41:m:113:ARG:HH22	1.60	0.66
1:5:1392:G:H1'	1:5:1417:G:H22	1.59	0.66
1:5:1466:G:H22	1:5:1510:G:H5''	1.61	0.66
1:5:1681:U:OP2	46:y:316:ARG:NH2	2.29	0.66
13:J:85:LYS:HB3	13:J:85:LYS:HZ3	1.61	0.66
20:R:96:ILE:HG22	20:R:100:ARG:NH1	2.10	0.66
28:Z:97:SER:HB3	28:Z:99:GLU:OE2	1.95	0.66
1:5:1661:G:N2	1:5:1789:G:H1'	2.11	0.66
1:5:1882:G:C2'	1:5:1883:A:H5'	2.26	0.66
1:5:2418:G:O2'	1:5:2419:A:O5'	2.12	0.66
1:5:2436:U:H3	1:5:2511:A:H62	1.44	0.66
1:5:2768:U:H2'	1:5:2769:A:C8	2.30	0.66
7:D:238:ASP:HA	7:D:241:THR:HB	1.78	0.66
10:G:221:ASN:HA	10:G:225:LYS:HE3	1.78	0.66
22:T:80:VAL:HG13	22:T:85:LEU:HG	1.77	0.66
27:Y:59:VAL:HG22	27:Y:103:LYS:O	1.96	0.66
33:e:76:VAL:HG13	33:e:81:ASP:HB2	1.77	0.66
1:5:656:A:H2'	1:5:657:A:H8	1.59	0.65
1:5:1148:G:C2'	1:5:1149:G:H5'	2.26	0.65
1:5:1616:U:O2	1:5:1829:G:N2	2.29	0.65
13:J:9:MET:HG2	13:J:10:ARG:H	1.60	0.65
17:O:84:LEU:HD23	17:O:84:LEU:C	2.19	0.65
22:T:14:MET:HE1	22:T:55:LYS:HA	1.77	0.65
23:U:11:ILE:N	23:U:11:ILE:HD12	2.11	0.65
42:o:65:THR:HG22	42:o:89:LYS:HD2	1.78	0.65
1:5:881:C:H1'	1:5:1850:A:C8	2.30	0.65
1:5:999:G:H2'	1:5:1000:C:C6	2.31	0.65
1:5:2971:A:H5''	1:5:2972:G:C5'	2.25	0.65
5:B:362:ALA:HB2	5:B:371:GLN:NE2	2.12	0.65
8:E:46:ARG:HG3	8:E:46:ARG:NH1	2.11	0.65
11:H:37:ASN:OD1	11:H:39:LYS:HB2	1.95	0.65
16:N:53:TYR:HB2	16:N:133:ILE:HD13	1.78	0.65
31:c:41:LEU:HD23	31:c:42:ILE:N	2.11	0.65
1:5:1054:A:H2'	1:5:1054:A:N3	2.11	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:46:GLU:O	9:F:49:ALA:HB3	1.96	0.65
10:G:71:VAL:HG23	10:G:72:PRO:O	1.96	0.65
19:Q:36:LEU:O	19:Q:40:THR:OG1	2.14	0.65
37:i:9:ILE:HG12	37:i:10:GLY:H	1.62	0.65
45:x:247:ILE:HG23	45:x:252:ALA:HA	1.78	0.65
1:5:800:G:O6	6:C:104:LYS:NZ	2.26	0.65
1:5:824:C:H2'	1:5:825:U:H6	1.60	0.65
1:5:1763:U:C5	45:x:379:LEU:HD21	2.30	0.65
1:5:1838:G:H5''	1:5:1839:A:OP1	1.96	0.65
1:5:2550:U:C6	10:G:37:GLY:HA3	2.31	0.65
1:5:2815:G:H3'	1:5:2816:G:H5''	1.78	0.65
1:5:3139:A:OP2	5:B:30:LYS:NZ	2.24	0.65
1:5:3219:G:N7	34:f:2:ALA:HB1	2.12	0.65
9:F:89:ILE:HB	9:F:219:LYS:HE3	1.78	0.65
17:O:18:ARG:O	17:O:22:VAL:HG13	1.96	0.65
24:V:45:ARG:HD2	24:V:46:LEU:N	2.12	0.65
44:q:76:LEU:HD22	44:q:79:PHE:CD2	2.31	0.65
1:5:335:G:OP1	27:Y:9:SER:HB2	1.96	0.65
1:5:792:G:H5''	29:a:2:PRO:HD3	1.78	0.65
1:5:2190:U:H2'	1:5:2191:U:C6	2.32	0.65
4:A:129:ALA:HB3	4:A:132:ASN:HD22	1.61	0.65
13:J:82:ARG:HB3	13:J:112:LEU:HD12	1.77	0.65
14:L:166:ALA:HB1	29:a:147:LEU:HD21	1.78	0.65
19:Q:51:ALA:HA	19:Q:54:LEU:HD12	1.78	0.65
31:c:40:LYS:N	31:c:40:LYS:HD2	2.11	0.65
33:e:24:ARG:NH1	33:e:25:TYR:OH	2.29	0.65
45:x:268:VAL:CG2	45:x:304:ILE:HG21	2.26	0.65
45:x:296:THR:O	45:x:299:THR:OG1	2.12	0.65
45:x:522:LEU:HB2	45:x:567:LEU:HD21	1.78	0.65
1:5:1361:U:H2'	1:5:1362:G:C8	2.32	0.65
1:5:1887:A:H2'	1:5:1888:U:H5'	1.78	0.65
7:D:118:THR:HG21	7:D:139:PRO:HD2	1.79	0.65
9:F:161:VAL:HG13	9:F:162:PRO:HD2	1.77	0.65
13:J:9:MET:HG2	13:J:10:ARG:N	2.12	0.65
31:c:86:ARG:NH2	43:p:44:LYS:HA	2.11	0.65
32:d:44:MET:HE1	32:d:75:ILE:HG22	1.78	0.65
44:q:19:LEU:CD1	44:q:66:PHE:HD2	2.08	0.65
1:5:31:C:H4'	16:N:96:ARG:HD3	1.79	0.65
1:5:238:A:O2'	1:5:239:G:OP1	2.15	0.65
1:5:1072:G:H2'	1:5:1073:U:C6	2.32	0.65
5:B:169:THR:CG2	5:B:171:LEU:HG	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:328:ILE:HD11	5:B:336:VAL:HG11	1.78	0.65
9:F:80:GLN:HG3	22:T:136:ARG:HB2	1.79	0.65
14:L:93:ILE:HG22	14:L:94:GLY:H	1.61	0.65
27:Y:3:LYS:HD3	27:Y:10:SER:OG	1.97	0.65
29:a:77:LYS:O	29:a:79:TRP:N	2.29	0.65
36:h:68:GLN:HA	36:h:68:GLN:HE21	1.62	0.65
1:5:2179:C:O2	4:A:175:VAL:HG22	1.97	0.65
1:5:2437:G:H2'	1:5:2438:A:C5'	2.26	0.65
1:5:3310:A:OP1	18:P:74:LYS:NZ	2.24	0.65
5:B:78:VAL:HG22	5:B:323:MET:HG3	1.78	0.65
6:C:203:ARG:HG3	6:C:246:ARG:HH22	1.60	0.65
16:N:16:SER:HB2	37:i:48:ALA:HB1	1.79	0.65
16:N:114:ARG:HG3	16:N:114:ARG:NH1	2.08	0.65
20:R:106:LEU:HD21	20:R:123:LEU:CB	2.26	0.65
21:S:33:ASN:HD21	21:S:36:ILE:HG13	1.62	0.65
26:X:100:LYS:HZ2	26:X:106:ASP:HA	1.61	0.65
45:x:316:VAL:HG22	45:x:508:VAL:HG13	1.78	0.65
1:5:75:G:H5'	14:L:58:VAL:HG11	1.78	0.65
1:5:1313:G:H2'	1:5:1314:C:H6	1.62	0.65
1:5:1429:G:N2	6:C:99:MET:HB2	2.11	0.65
1:5:1949:G:H2'	1:5:1950:U:H6	1.60	0.65
3:8:32:C:O2'	3:8:33:A:H5'	1.97	0.65
5:B:13:HIS:HE1	5:B:15:GLY:HA3	1.61	0.65
10:G:106:LYS:O	10:G:110:THR:HG23	1.96	0.65
16:N:70:ASN:ND2	16:N:93:LYS:HZ3	1.95	0.65
45:x:61:VAL:N	45:x:62:PRO:HD2	2.12	0.65
47:z:120:UNK:HA	47:z:123:UNK:HG3	1.79	0.65
1:5:1261:G:H4'	1:5:1278:A:N1	2.11	0.65
5:B:84:VAL:HG11	5:B:162:VAL:HB	1.78	0.65
16:N:143:ARG:NE	36:h:96:GLU:OE1	2.29	0.65
19:Q:16:ARG:HH21	19:Q:20:LYS:CB	2.10	0.65
1:5:591:G:N2	8:E:18:LEU:HB3	2.11	0.64
1:5:1456:A:N7	32:d:26:LYS:HE3	2.12	0.64
9:F:47:ARG:NH1	9:F:179:LEU:HD11	2.11	0.64
12:I:124:GLY:C	12:I:125:LEU:HD23	2.22	0.64
19:Q:18:ALA:HB1	19:Q:19:PRO:HD2	1.79	0.64
21:S:8:GLN:HG3	21:S:26:ARG:NE	2.12	0.64
37:i:60:LEU:HD13	37:i:60:LEU:N	2.12	0.64
45:x:176:LEU:HD23	45:x:181:ALA:HB2	1.77	0.64
1:5:1064:A:H4'	1:5:1065:A:C5'	2.28	0.64
1:5:1183:C:H2'	1:5:1184:A:H5'	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:8:109:A:H2'	3:8:110:C:H5'	1.79	0.64
7:D:106:ALA:HA	7:D:171:LEU:CD1	2.27	0.64
18:P:131:ARG:HG3	18:P:137:ASN:OD1	1.97	0.64
24:V:121:GLU:N	24:V:121:GLU:OE1	2.29	0.64
29:a:24:LYS:HD2	29:a:26:ARG:NH2	2.12	0.64
31:c:25:LEU:HD22	31:c:90:VAL:HG22	1.77	0.64
1:5:88:A:H4'	29:a:63:LYS:HD2	1.80	0.64
1:5:120:G:N2	10:G:123:GLN:O	2.30	0.64
1:5:1097:G:H8	22:T:128:LEU:HD13	1.62	0.64
1:5:1993:Y5P:H4A	1:5:1994:Y5P:H4	1.79	0.64
1:5:2270:A:H2'	1:5:2271:A:H8	1.59	0.64
1:5:2344:U:H1'	1:5:3079:U:O4	1.96	0.64
1:5:2975:U:H2'	1:5:2976:A:C8	2.32	0.64
1:5:3113:A:H4'	11:H:69:ARG:HD2	1.77	0.64
5:B:168:LYS:HB3	5:B:319:ASN:OD1	1.97	0.64
5:B:205:VAL:HG21	5:B:322:ILE:CD1	2.27	0.64
8:E:47:PHE:CD1	8:E:74:VAL:HG22	2.32	0.64
9:F:157:ASN:O	9:F:158:LYS:HB3	1.98	0.64
14:L:106:GLN:NE2	37:i:20:MET:SD	2.71	0.64
22:T:40:VAL:HG21	22:T:96:ILE:HD12	1.78	0.64
1:5:129:U:H2'	1:5:130:A:C8	2.32	0.64
1:5:251:G:H1'	1:5:253:A:C5	2.32	0.64
1:5:2995:A:HO2'	1:5:2996:U:C5'	2.10	0.64
1:5:3289:G:H2'	1:5:3290:G:C8	2.27	0.64
4:A:204:MET:HE2	4:A:208:ASP:O	1.97	0.64
5:B:306:THR:CG2	5:B:310:GLY:HA2	2.28	0.64
16:N:58:GLY:HA3	16:N:142:ILE:CD1	2.26	0.64
28:Z:72:ILE:HD11	28:Z:111:LYS:HE3	1.79	0.64
36:h:85:THR:HG22	36:h:88:LEU:CG	2.23	0.64
37:i:58:ILE:HG22	37:i:90:MET:CG	2.27	0.64
1:5:110:G:H5'	14:L:91:ARG:HE	1.62	0.64
1:5:1063:G:O2'	1:5:1097:G:N2	2.30	0.64
1:5:1411:C:OP1	33:e:98:HIS:HB3	1.96	0.64
1:5:2703:A:OP2	7:D:23:ARG:NH2	2.30	0.64
10:G:172:LYS:HZ1	10:G:172:LYS:HA	1.61	0.64
12:I:90:ARG:HB3	12:I:90:ARG:NH1	2.13	0.64
13:J:19:LEU:HB2	13:J:69:VAL:HG12	1.79	0.64
19:Q:88:THR:HG22	19:Q:107:THR:HG21	1.79	0.64
44:q:18:TYR:HB3	44:q:88:PHE:CD1	2.33	0.64
45:x:139:VAL:HG21	45:x:160:ILE:HD11	1.79	0.64
46:y:300:ASN:N	46:y:305:LEU:HD13	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1621:A:H2'	1:5:1622:U:H6	1.61	0.64
1:5:1816:A:O2'	1:5:1817:G:OP1	2.15	0.64
1:5:2723:U:H2'	1:5:2724:U:H6	1.61	0.64
1:5:2971:A:H5''	1:5:2972:G:O5'	1.97	0.64
4:A:30:ARG:HB2	4:A:36:GLU:OE2	1.97	0.64
5:B:37:ARG:NH2	5:B:188:ILE:HD11	2.13	0.64
7:D:88:ILE:HD12	7:D:239:ILE:HG22	1.80	0.64
16:N:73:ARG:HD2	16:N:75:VAL:HG13	1.79	0.64
26:X:129:ASP:HB2	26:X:130:TYR:CD1	2.33	0.64
32:d:41:LYS:O	32:d:45:GLY:HA2	1.97	0.64
1:5:1524:A:H5'	26:X:111:ASN:ND2	2.12	0.64
1:5:1723:A:H5''	1:5:1724:U:OP2	1.98	0.64
1:5:1939:G:OP1	20:R:77:GLY:HA3	1.97	0.64
1:5:2609:A:C2'	1:5:2610:G:H5''	2.27	0.64
1:5:3198:U:O4	11:H:26:LYS:HB2	1.98	0.64
2:7:91:G:H2'	2:7:92:A:C8	2.32	0.64
4:A:56:ALA:HB2	4:A:171:GLY:HA3	1.78	0.64
5:B:307:PRO:HD3	5:B:311:PHE:CE2	2.33	0.64
14:L:52:ASP:C	14:L:53:LEU:HD23	2.23	0.64
45:x:270:THR:HG22	45:x:271:GLU:H	1.62	0.64
1:5:1315:U:OP1	17:O:18:ARG:NH1	2.31	0.64
1:5:2727:A:C2	29:a:43:ILE:HG23	2.32	0.64
1:5:2796:G:H4'	1:5:2798:C:C6	2.33	0.64
1:5:2808:A:O2'	1:5:2809:C:O5'	2.16	0.64
5:B:48:GLY:O	5:B:335:ILE:HD12	1.97	0.64
5:B:84:VAL:HG22	5:B:164:THR:HA	1.79	0.64
7:D:65:ILE:HG22	7:D:66:SER:O	1.98	0.64
14:L:71:ALA:HB2	14:L:147:ILE:CD1	2.24	0.64
21:S:106:LEU:HD13	21:S:106:LEU:C	2.23	0.64
23:U:39:ASP:HB3	46:y:241:LYS:HD3	1.80	0.64
23:U:90:ARG:HH21	46:y:316:ARG:HH12	1.45	0.64
29:a:82:ILE:HG23	29:a:83:PRO:HD2	1.80	0.64
32:d:13:THR:HG22	32:d:72:ARG:HD3	1.79	0.64
37:i:63:ASN:O	37:i:65:GLY:N	2.30	0.64
43:p:55:TRP:O	43:p:63:THR:HG23	1.98	0.64
45:x:73:LEU:HD21	45:x:89:ILE:HD11	1.78	0.64
1:5:1206:G:N2	1:5:1298:C:O2	2.30	0.64
1:5:2392:C:HO2'	5:B:266:ARG:HH22	1.45	0.64
5:B:29:VAL:CG2	5:B:337:THR:HG21	2.28	0.64
15:M:50:LYS:HD3	15:M:85:TRP:CD1	2.33	0.64
15:M:120:VAL:O	15:M:124:ARG:HG3	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:6:TYR:O	16:N:10:LEU:HB2	1.97	0.64
27:Y:41:ALA:O	27:Y:125:LYS:NZ	2.29	0.64
34:f:37:THR:HB	34:f:39:GLN:OE1	1.98	0.64
36:h:85:THR:CG2	36:h:88:LEU:HG	2.23	0.64
45:x:12:ILE:O	45:x:16:ASP:HB2	1.97	0.64
45:x:154:VAL:HG22	45:x:526:THR:HG23	1.80	0.64
1:5:112:U:O2'	1:5:113:C:OP2	2.16	0.64
1:5:364:G:OP1	6:C:60:THR:HG23	1.98	0.64
1:5:1146:C:H4'	1:5:1331:U:C4	2.32	0.64
1:5:2796:G:H3'	42:o:60:LYS:HZ3	1.61	0.64
1:5:2883:U:O2'	1:5:2884:C:H5'	1.97	0.64
15:M:34:ALA:HB2	15:M:85:TRP:HZ3	1.62	0.64
20:R:68:GLN:O	20:R:71:ARG:HG2	1.98	0.64
32:d:55:LEU:O	32:d:59:ILE:HG13	1.98	0.64
47:z:136:UNK:O	47:z:139:UNK:HG3	1.98	0.64
1:5:11:A:H1'	1:5:1558:A:N6	2.13	0.63
1:5:213:A:C2'	1:5:214:G:H5'	2.29	0.63
1:5:1226:G:H2'	1:5:1227:C:H6	1.63	0.63
1:5:2186:U:O2'	1:5:2313:A:N3	2.30	0.63
6:C:181:VAL:HG11	6:C:223:PRO:O	1.97	0.63
10:G:71:VAL:CG2	10:G:76:ALA:HB2	2.28	0.63
11:H:87:LYS:HZ3	11:H:191:LEU:HD11	1.61	0.63
28:Z:27:LYS:HE3	28:Z:29:HIS:CD2	2.34	0.63
35:g:5:VAL:HG22	35:g:6:THR:N	2.12	0.63
45:x:60:THR:CG2	45:x:131:GLY:HA3	2.28	0.63
45:x:244:VAL:HB	45:x:267:VAL:HG23	1.80	0.63
1:5:824:C:H2'	1:5:825:U:C6	2.32	0.63
1:5:992:A:C2'	1:5:993:G:H5'	2.28	0.63
1:5:1397:C:H2'	1:5:1398:U:H5'	1.80	0.63
1:5:1781:C:H2'	1:5:1782:U:C6	2.33	0.63
5:B:14:LEU:HD13	5:B:262:TRP:CH2	2.32	0.63
5:B:92:TYR:CE2	5:B:101:SER:HB3	2.33	0.63
26:X:67:ILE:CD1	26:X:121:LYS:HG3	2.28	0.63
26:X:142:ILE:HG12	45:x:421:LEU:HD13	1.79	0.63
36:h:43:LYS:HB2	45:x:345:GLY:O	1.98	0.63
44:q:19:LEU:HD22	44:q:73:PHE:CZ	2.32	0.63
44:q:44:GLU:CD	44:q:99:VAL:HG13	2.23	0.63
45:x:558:THR:O	45:x:561:LYS:HB2	1.98	0.63
47:z:149:UNK:O	47:z:152:UNK:HG3	1.97	0.63
1:5:1466:G:N2	1:5:1510:G:H5''	2.12	0.63
1:5:2631:U:H2'	1:5:2632:G:C8	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2848:G:OP1	41:m:100:TYR:OH	2.16	0.63
1:5:3359:A:C4'	46:y:236:ALA:HB1	2.28	0.63
5:B:307:PRO:HA	5:B:361:THR:O	1.99	0.63
14:L:42:ARG:HH21	14:L:51:LEU:HD23	1.63	0.63
14:L:76:THR:O	14:L:80:VAL:HG23	1.99	0.63
18:P:31:GLU:HG2	18:P:60:PHE:CD2	2.33	0.63
20:R:4:LEU:HD22	20:R:7:GLN:HG3	1.79	0.63
26:X:142:ILE:HD13	45:x:420:ARG:CB	2.28	0.63
31:c:99:ASP:OD2	31:c:99:ASP:N	2.32	0.63
44:q:33:VAL:HG13	44:q:37:GLN:HB3	1.80	0.63
44:q:89:THR:HB	44:q:96:ILE:HG21	1.80	0.63
1:5:814:U:C5'	38:j:45:ARG:HH12	2.11	0.63
1:5:2573:G:OP1	28:Z:61:LYS:HE3	1.98	0.63
1:5:3243:A:OP1	17:O:159:LYS:NZ	2.31	0.63
3:8:80:A:O2'	3:8:81:U:OP1	2.16	0.63
4:A:44:ILE:HD13	4:A:62:VAL:HG13	1.80	0.63
6:C:147:GLU:HG2	6:C:148:ILE:O	1.99	0.63
8:E:52:VAL:HG22	8:E:67:GLY:HA2	1.79	0.63
8:E:56:LYS:HB3	8:E:98:VAL:CG1	2.28	0.63
10:G:161:GLU:O	10:G:164:VAL:HG22	1.99	0.63
12:I:90:ARG:HB3	12:I:90:ARG:HH11	1.63	0.63
14:L:115:ARG:NH2	14:L:145:PHE:O	2.30	0.63
16:N:186:GLY:O	16:N:190:THR:HG22	1.98	0.63
18:P:69:ARG:HB3	18:P:79:THR:HG23	1.80	0.63
28:Z:72:ILE:HD13	28:Z:72:ILE:N	2.13	0.63
45:x:337:LEU:HD12	45:x:439:ILE:O	1.99	0.63
1:5:27:C:H2'	1:5:28:C:H5'	1.81	0.63
1:5:149:U:OP2	16:N:49:ARG:NH1	2.32	0.63
1:5:251:G:O2'	1:5:252:U:O4'	2.16	0.63
1:5:1863:G:O3'	20:R:82:LYS:HB2	1.98	0.63
3:8:104:A:H3'	3:8:105:A:H5''	1.81	0.63
10:G:34:PHE:CZ	10:G:42:PRO:HB3	2.34	0.63
12:I:72:ALA:O	12:I:76:MET:HG3	1.99	0.63
25:W:6:ASP:CA	25:W:13:ILE:HD11	2.28	0.63
35:g:56:THR:C	35:g:57:LEU:HD23	2.22	0.63
36:h:21:LEU:HD12	36:h:58:ILE:HD11	1.81	0.63
1:5:618:C:H2'	1:5:619:A:O4'	1.99	0.63
1:5:924:G:C3'	1:5:925:A:H5'	2.28	0.63
1:5:1807:G:OP1	28:Z:133:LYS:HE3	1.99	0.63
1:5:2510:U:O2'	1:5:2511:A:H5''	1.99	0.63
6:C:55:LYS:HG2	6:C:59:GLN:CG	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:154:PRO:O	16:N:157:LYS:HG3	1.98	0.63
21:S:33:ASN:ND2	21:S:36:ILE:HG13	2.13	0.63
45:x:45:LEU:HD22	45:x:59:LEU:HD11	1.79	0.63
1:5:13:A:H4'	26:X:39:LYS:CG	2.28	0.63
1:5:725:G:H2'	1:5:726:G:H5'	1.80	0.63
1:5:1193:A:H3'	1:5:1194:G:C8	2.34	0.63
1:5:1649:U:H2'	1:5:1650:G:H8	1.64	0.63
1:5:2283:G:N1	1:5:2307:G:H5'	2.13	0.63
1:5:3305:A:C2'	1:5:3306:U:H5'	2.28	0.63
1:5:3359:A:H5'	46:y:236:ALA:HB1	1.80	0.63
5:B:14:LEU:CA	5:B:17:LEU:HD22	2.28	0.63
6:C:55:LYS:HG2	6:C:59:GLN:HG2	1.81	0.63
6:C:103:THR:HG22	6:C:107:ARG:NH2	2.13	0.63
26:X:142:ILE:HD13	45:x:420:ARG:HB3	1.79	0.63
41:m:111:ARG:HG3	41:m:112:LYS:HD2	1.81	0.63
45:x:203:THR:HB	45:x:205:GLU:HG2	1.80	0.63
45:x:540:GLN:HA	47:z:75:UNK:HB1	1.80	0.63
1:5:362:U:O2'	1:5:363:G:H5'	1.98	0.63
1:5:3059:G:H2'	1:5:3060:C:C6	2.33	0.63
1:5:3092:C:O2'	1:5:3094:A:OP2	2.14	0.63
3:8:135:G:H5''	26:X:49:LYS:HE3	1.80	0.63
4:A:70:ARG:HG3	4:A:71:LEU:N	2.14	0.63
8:E:128:LYS:HB2	18:P:181:ARG:NH2	2.14	0.63
9:F:168:ILE:O	9:F:172:ASN:ND2	2.32	0.63
11:H:157:ASN:HA	11:H:160:ASP:OD2	1.98	0.63
19:Q:122:ILE:HG23	19:Q:126:GLN:HB2	1.80	0.63
21:S:44:PHE:CD1	22:T:153:PRO:HG3	2.33	0.63
1:5:1882:G:H2'	1:5:1883:A:H5'	1.79	0.63
1:5:2555:G:H1'	35:g:91:ARG:HG2	1.80	0.63
1:5:2785:A:O2'	1:5:2786:G:H5'	1.98	0.63
2:7:36:C:H4'	7:D:155:THR:HG23	1.81	0.63
2:7:71:G:O2'	2:7:72:A:H5'	1.98	0.63
6:C:192:GLY:HA3	6:C:197:ARG:NH1	2.14	0.63
7:D:194:LEU:HD11	7:D:198:TYR:HE2	1.64	0.63
13:J:20:ASN:OD1	13:J:68:HIS:HB3	1.99	0.63
15:M:54:PRO:HG2	15:M:56:GLN:NE2	2.14	0.63
18:P:28:ASN:O	18:P:32:THR:HG22	1.99	0.63
20:R:69:SER:HB2	20:R:74:ARG:HG2	1.80	0.63
22:T:80:VAL:HG11	22:T:85:LEU:HD12	1.81	0.63
29:a:77:LYS:C	29:a:79:TRP:H	2.07	0.63
31:c:78:GLY:HA2	31:c:87:VAL:HG12	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:332:LYS:HD2	47:z:90:UNK:CG	2.29	0.63
1:5:839:C:H4'	1:5:1724:U:O2'	1.98	0.62
1:5:1887:A:C2'	1:5:1888:U:H5'	2.28	0.62
1:5:3316:A:H5''	1:5:3318:G:H21	1.63	0.62
4:A:183:GLY:O	4:A:186:PHE:HB3	1.98	0.62
8:E:38:THR:OG1	8:E:90:LYS:HE2	1.99	0.62
14:L:54:LEU:C	14:L:54:LEU:HD13	2.24	0.62
16:N:18:VAL:HG22	16:N:19:LEU:CD1	2.29	0.62
43:p:77:ALA:HA	43:p:80:ARG:HH21	1.64	0.62
45:x:244:VAL:HB	45:x:267:VAL:CG2	2.29	0.62
1:5:833:G:OP1	20:R:86:GLU:HB3	1.98	0.62
1:5:914:A:C8	4:A:199:THR:HG21	2.34	0.62
1:5:1168:U:O2'	1:5:1169:A:H5'	1.98	0.62
1:5:1392:G:O2'	1:5:1417:G:N2	2.31	0.62
1:5:2707:C:H2'	1:5:2708:C:H6	1.64	0.62
1:5:2772:C:H1'	1:5:2773:C:OP2	1.99	0.62
3:8:97:A:O2'	3:8:98:U:H5'	1.99	0.62
5:B:47:LEU:HD21	5:B:179:ALA:HB3	1.80	0.62
11:H:36:LYS:HE2	11:H:78:MET:SD	2.39	0.62
11:H:67:ALA:O	11:H:70:THR:HG23	1.99	0.62
11:H:86:TYR:CZ	11:H:151:VAL:HG13	2.34	0.62
13:J:164:LYS:HE3	13:J:171:VAL:HB	1.80	0.62
14:L:165:SER:HB3	14:L:168:ARG:HB3	1.81	0.62
32:d:10:ARG:HD2	32:d:12:TYR:OH	1.98	0.62
44:q:14:LYS:HG3	44:q:52:LEU:HD21	1.79	0.62
45:x:91:ILE:HD13	45:x:389:PRO:HG2	1.81	0.62
47:z:134:UNK:O	47:z:138:UNK:HB1	1.98	0.62
1:5:251:G:H3'	1:5:251:G:P	2.39	0.62
1:5:715:A:H4'	1:5:716:A:OP1	1.99	0.62
1:5:2954:U:H4'	1:5:2955:U:OP1	1.99	0.62
1:5:3041:U:H2'	1:5:3042:U:C6	2.33	0.62
1:5:3380:U:O2'	1:5:3381:U:H5'	1.98	0.62
8:E:170:LYS:HB3	8:E:172:HIS:CE1	2.34	0.62
11:H:111:PHE:CD1	11:H:127:PRO:HA	2.30	0.62
19:Q:81:VAL:HG13	19:Q:101:VAL:HG13	1.80	0.62
22:T:80:VAL:CG1	22:T:85:LEU:HG	2.29	0.62
25:W:6:ASP:HA	25:W:13:ILE:HD11	1.81	0.62
27:Y:57:LEU:HB3	27:Y:105:VAL:HG13	1.81	0.62
38:j:75:LYS:HD2	38:j:76:ASN:OD1	1.99	0.62
45:x:249:ARG:HG2	45:x:250:PHE:CD1	2.35	0.62
1:5:236:G:H5''	1:5:237:G:OP2	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:7:112:G:H2'	2:7:113:C:C6	2.33	0.62
5:B:153:LYS:NZ	5:B:154:TYR:OH	2.32	0.62
14:L:54:LEU:HD22	14:L:55:ARG:H	1.64	0.62
16:N:41:ARG:HB3	16:N:41:ARG:CZ	2.29	0.62
19:Q:147:ARG:O	19:Q:150:VAL:HG22	1.99	0.62
19:Q:153:PHE:O	19:Q:161:LYS:HG2	1.99	0.62
20:R:24:LEU:HD23	20:R:50:ILE:HG12	1.82	0.62
27:Y:37:LYS:H	27:Y:37:LYS:CE	2.11	0.62
29:a:83:PRO:HG2	29:a:86:LYS:NZ	2.14	0.62
1:5:2781:U:H2'	1:5:2782:U:C6	2.33	0.62
1:5:2871:G:H3'	1:5:2872:A:C5'	2.29	0.62
1:5:3086:A:H2'	1:5:3086:A:N3	2.13	0.62
2:7:36:C:C5'	7:D:155:THR:HG23	2.29	0.62
6:C:203:ARG:HH11	6:C:246:ARG:NH2	1.97	0.62
8:E:92:SER:HB3	8:E:148:GLU:OE2	1.99	0.62
9:F:121:LYS:HB2	22:T:133:ALA:HB3	1.81	0.62
10:G:24:ASN:CB	10:G:25:PRO:HD3	2.28	0.62
14:L:119:TYR:O	14:L:123:ILE:HG23	1.99	0.62
16:N:73:ARG:HG2	16:N:74:PRO:CD	2.30	0.62
17:O:188:SER:O	17:O:192:LYS:HG2	1.98	0.62
17:O:189:ASP:O	17:O:193:GLN:NE2	2.29	0.62
20:R:81:ARG:HG2	20:R:88:ARG:NH1	2.06	0.62
22:T:51:GLY:HA3	22:T:92:ARG:HG3	1.79	0.62
25:W:53:VAL:CG1	25:W:57:LYS:HE2	2.29	0.62
26:X:133:LEU:HD11	45:x:418:SER:HA	1.80	0.62
1:5:1825:G:OP1	39:k:48:SER:HB3	1.99	0.62
1:5:2275:A:H2'	1:5:2276:G:O4'	1.99	0.62
1:5:2663:G:H2'	1:5:2664:C:O4'	1.99	0.62
1:5:3008:A:O2'	1:5:3009:G:H5'	1.99	0.62
5:B:211:GLN:HE22	5:B:284:ARG:HA	1.64	0.62
6:C:143:GLU:HA	6:C:143:GLU:OE1	1.98	0.62
6:C:192:GLY:HA3	6:C:197:ARG:HH12	1.63	0.62
30:b:38:LYS:O	30:b:39:PHE:HB3	1.99	0.62
1:5:507:U:OP2	9:F:150:LYS:NZ	2.33	0.62
1:5:578:A:H2'	6:C:334:PHE:HD2	1.65	0.62
1:5:941:G:O2'	1:5:942:U:H5'	2.00	0.62
1:5:3001:C:O2'	1:5:3002:C:H5'	2.00	0.62
3:8:10:A:H2'	3:8:11:C:C6	2.34	0.62
5:B:204:ALA:O	5:B:207:SER:OG	2.16	0.62
6:C:148:ILE:CG2	6:C:149:PRO:HD3	2.20	0.62
11:H:163:GLN:HB3	11:H:166:ARG:HH11	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:47:ALA:O	14:L:49:ARG:N	2.32	0.62
34:f:54:ARG:HG2	34:f:64:ILE:HD13	1.82	0.62
34:f:73:ARG:CG	34:f:82:ARG:HD2	2.29	0.62
44:q:76:LEU:HD22	44:q:79:PHE:HD2	1.65	0.62
47:z:143:UNK:HA	47:z:146:UNK:HG3	1.80	0.62
1:5:2213:A:H2'	1:5:2214:A:C8	2.34	0.62
1:5:3287:U:C2'	1:5:3288:G:H5'	2.29	0.62
6:C:11:LEU:HD11	6:C:156:LEU:HD23	1.82	0.62
15:M:24:LYS:HD2	15:M:64:VAL:HG12	1.81	0.62
42:o:26:THR:O	42:o:71:ARG:N	2.28	0.62
44:q:38:MET:HE1	44:q:51:VAL:CG1	2.29	0.62
45:x:262:ARG:O	45:x:263:GLU:HG2	1.99	0.62
4:A:90:ALA:CB	4:A:101:VAL:HG13	2.29	0.62
14:L:126:PHE:CD2	36:h:115:LYS:HG2	2.35	0.62
24:V:86:ARG:HB2	24:V:92:PHE:CE1	2.35	0.62
29:a:73:LEU:HB2	29:a:109:TYR:CD2	2.35	0.62
32:d:70:ARG:HB3	32:d:101:ALA:HB3	1.81	0.62
1:5:1138:U:O2'	1:5:1139:G:H5'	1.99	0.62
1:5:2995:A:H4'	1:5:2996:U:OP1	2.00	0.62
4:A:112:ILE:HD11	43:p:79:VAL:HG13	1.81	0.62
5:B:286:GLY:HA3	5:B:321:PHE:CE2	2.35	0.62
5:B:382:THR:OG1	5:B:387:LEU:HD12	2.00	0.62
7:D:106:ALA:HA	7:D:171:LEU:HD11	1.82	0.62
8:E:157:GLN:N	8:E:157:GLN:OE1	2.33	0.62
9:F:62:ILE:HD13	9:F:78:GLU:OE2	2.00	0.62
10:G:150:LEU:O	10:G:199:ALA:HB1	2.00	0.62
14:L:114:GLN:O	14:L:118:GLU:HB3	1.98	0.62
15:M:40:ASP:OD1	15:M:43:LYS:HB2	2.00	0.62
20:R:119:LEU:HD23	20:R:146:LYS:CE	2.30	0.62
26:X:106:ASP:O	26:X:127:THR:HG23	2.00	0.62
29:a:82:ILE:HD11	29:a:102:ILE:HG12	1.80	0.62
33:e:26:HIS:ND1	33:e:26:HIS:O	2.32	0.62
45:x:42:VAL:HG13	45:x:64:LEU:HD21	1.81	0.62
45:x:318:LEU:HD11	45:x:504:CYS:SG	2.40	0.62
45:x:378:LEU:HD13	45:x:419:PHE:CD2	2.26	0.62
1:5:69:C:OP1	16:N:178:HIS:ND1	2.31	0.61
1:5:158:G:H2'	1:5:159:A:H8	1.65	0.61
1:5:1784:G:O3'	35:g:19:LYS:NZ	2.29	0.61
1:5:1798:A:H2'	1:5:1799:A:C8	2.35	0.61
1:5:2541:U:H4'	1:5:2542:U:OP1	2.00	0.61
1:5:2548:C:H5''	1:5:2549:G:OP1	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3236:U:O2'	1:5:3237:U:H5'	1.99	0.61
3:8:155:A:H2'	3:8:156:U:H5''	1.82	0.61
9:F:101:LYS:O	9:F:105:LEU:HG	2.00	0.61
13:J:15:GLU:HB3	13:J:130:VAL:CG2	2.26	0.61
18:P:32:THR:HG21	18:P:87:SER:HB3	1.82	0.61
26:X:105:VAL:CG1	26:X:126:LEU:HD13	2.24	0.61
1:5:121:A:N3	10:G:108:ARG:NH1	2.48	0.61
1:5:238:A:H2'	1:5:239:G:O4'	1.99	0.61
1:5:1159:A:O2'	1:5:1160:C:H5'	2.00	0.61
1:5:1581:C:N4	1:5:2522:G:H4'	2.08	0.61
11:H:12:VAL:CG1	11:H:16:VAL:HG23	2.29	0.61
14:L:42:ARG:NH2	14:L:51:LEU:HD23	2.14	0.61
15:M:128:ARG:CD	15:M:132:LYS:HD2	2.30	0.61
17:O:58:LEU:HA	17:O:72:HIS:ND1	2.16	0.61
23:U:98:THR:CG2	23:U:104:ARG:HE	2.13	0.61
28:Z:88:ASP:OD2	28:Z:121:ARG:NH2	2.32	0.61
39:k:12:LEU:O	39:k:15:THR:OG1	2.10	0.61
45:x:133:LEU:HD13	45:x:160:ILE:HD11	1.82	0.61
45:x:261:GLU:HA	46:y:342:ALA:O	2.00	0.61
1:5:304:G:H2'	1:5:304:G:N3	2.15	0.61
1:5:595:G:H1	1:5:609:G:H5''	1.65	0.61
1:5:959:C:H5'	1:5:960:U:OP1	2.00	0.61
1:5:1081:U:HO2'	1:5:1082:U:C5'	2.13	0.61
1:5:2389:C:H42	1:5:2990:G:H1	1.46	0.61
1:5:2806:U:C2'	1:5:2807:U:H5'	2.29	0.61
6:C:11:LEU:CD2	6:C:168:ALA:HB1	2.22	0.61
1:5:307:A:H2'	1:5:308:A:H8	1.64	0.61
1:5:1307:G:C5'	17:O:60:LYS:HE2	2.31	0.61
1:5:1512:U:O3'	20:R:5:ARG:NH2	2.32	0.61
1:5:1795:U:H5''	1:5:1796:G:H5'	1.83	0.61
1:5:1860:G:O2'	1:5:1861:G:H5'	1.99	0.61
1:5:1926:C:H2'	43:p:7:LYS:HZ1	1.63	0.61
1:5:2309:A:O4'	1:5:2962:U:H5'	2.00	0.61
1:5:3008:A:C2'	1:5:3009:G:H5'	2.31	0.61
1:5:3106:A:C2'	1:5:3107:U:H5'	2.30	0.61
6:C:9:HIS:CE1	6:C:15:ALA:HB2	2.36	0.61
6:C:22:LEU:HD21	6:C:26:PHE:HB2	1.82	0.61
9:F:165:ASP:OD2	9:F:166:ASN:N	2.34	0.61
10:G:154:ALA:CB	10:G:183:LYS:HB3	2.29	0.61
13:J:51:ARG:HG3	13:J:51:ARG:NH1	2.15	0.61
13:J:80:LEU:O	13:J:84:LEU:HG	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:m:106:ARG:HB2	41:m:106:ARG:CZ	2.30	0.61
46:y:362:VAL:HG12	46:y:363:TRP:N	2.15	0.61
1:5:27:C:C2'	1:5:28:C:H5'	2.31	0.61
1:5:502:U:O2'	8:E:26:ARG:NH1	2.31	0.61
1:5:1003:A:N1	1:5:1049:C:O2'	2.31	0.61
1:5:1632:A:H2'	1:5:1633:C:O4'	2.00	0.61
1:5:1671:C:H42	1:5:1776:G:H1	1.48	0.61
1:5:2612:U:H2'	1:5:2613:U:O4'	2.00	0.61
1:5:2960:C:H2'	1:5:2961:G:H8	1.65	0.61
1:5:3351:U:H5'	1:5:3352:U:OP2	2.00	0.61
8:E:136:GLU:O	8:E:140:VAL:HG23	2.00	0.61
9:F:221:LYS:O	9:F:227:GLY:HA3	2.00	0.61
13:J:25:GLU:HG3	13:J:63:GLU:OE1	1.99	0.61
28:Z:10:VAL:O	28:Z:83:THR:HG22	2.00	0.61
30:b:32:LEU:HB3	30:b:40:ARG:HH12	1.63	0.61
37:i:34:SER:OG	37:i:37:THR:HG23	2.01	0.61
47:z:98:UNK:O	47:z:101:UNK:HG3	1.99	0.61
1:5:183:G:H2'	1:5:184:U:C6	2.35	0.61
1:5:709:A:H1'	29:a:57:GLY:HA2	1.83	0.61
1:5:2283:G:H1'	1:5:2285:C:N4	2.16	0.61
1:5:2530:G:C2'	1:5:2531:C:H5''	2.30	0.61
3:8:125:U:O2'	3:8:126:A:H5'	2.00	0.61
5:B:205:VAL:CG2	5:B:322:ILE:HD11	2.31	0.61
7:D:40:HIS:ND1	22:T:69:LYS:HG3	2.15	0.61
7:D:267:ALA:O	7:D:271:LYS:HE2	2.01	0.61
9:F:35:ALA:HA	9:F:38:LYS:CB	2.24	0.61
14:L:153:ASP:OD2	14:L:154:VAL:N	2.32	0.61
16:N:184:LYS:O	16:N:184:LYS:HG2	1.99	0.61
19:Q:72:LYS:HB3	19:Q:72:LYS:NZ	2.16	0.61
28:Z:46:ILE:HD11	28:Z:49:TYR:CZ	2.35	0.61
29:a:2:PRO:HG2	29:a:5:PHE:CD2	2.35	0.61
35:g:74:ARG:NH1	35:g:82:ALA:HB2	2.14	0.61
37:i:61:ILE:HG22	37:i:62:ARG:N	2.15	0.61
45:x:60:THR:HG23	45:x:131:GLY:HA3	1.81	0.61
1:5:2961:G:H2'	1:5:2962:U:C6	2.36	0.61
2:7:119:U:O2'	2:7:120:C:H5'	1.99	0.61
8:E:56:LYS:HD2	8:E:98:VAL:HG12	1.83	0.61
10:G:70:LYS:HA	10:G:235:GLY:CA	2.26	0.61
10:G:70:LYS:CA	10:G:235:GLY:HA3	2.23	0.61
11:H:69:ARG:NH1	11:H:72:LYS:HD3	2.15	0.61
39:k:27:ILE:HD13	39:k:41:THR:HB	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:268:VAL:HG11	45:x:468:LEU:HD11	1.83	0.61
1:5:76:G:O2'	14:L:100:ARG:NH1	2.31	0.61
1:5:695:C:O2'	1:5:696:C:H5'	2.01	0.61
1:5:3242:G:H5''	1:5:3245:A:H8	1.65	0.61
5:B:84:VAL:CG1	5:B:162:VAL:HB	2.31	0.61
5:B:311:PHE:HE2	5:B:317:ILE:HD11	1.66	0.61
6:C:150:LEU:HD13	6:C:249:ILE:CG1	2.27	0.61
16:N:16:SER:CB	37:i:48:ALA:HB1	2.31	0.61
19:Q:62:VAL:HG21	19:Q:83:VAL:CG2	2.29	0.61
24:V:32:ARG:HB2	24:V:64:LYS:CB	2.20	0.61
27:Y:36:SER:OG	27:Y:39:LEU:HD23	2.00	0.61
28:Z:13:VAL:HG22	28:Z:80:LEU:CD2	2.30	0.61
45:x:546:GLN:HA	45:x:551:GLN:NE2	2.16	0.61
1:5:1221:A:N1	44:q:12:PHE:HB3	2.16	0.61
1:5:1671:C:C5'	20:R:60:LYS:NZ	2.62	0.61
8:E:20:LYS:HA	8:E:20:LYS:HE3	1.83	0.61
20:R:98:ARG:HD3	20:R:133:LYS:O	2.00	0.61
23:U:80:THR:O	23:U:84:LEU:HG	2.01	0.61
29:a:71:PRO:HB2	29:a:109:TYR:HA	1.83	0.61
44:q:45:LEU:CD2	44:q:96:ILE:HD12	2.31	0.61
47:z:153:UNK:O	47:z:156:UNK:HG3	2.01	0.61
1:5:620:U:O2'	18:P:167:ARG:NE	2.34	0.61
1:5:684:G:H2'	1:5:685:G:H8	1.66	0.61
1:5:1258:U:H4'	44:q:39:HIS:HE1	1.65	0.61
1:5:1575:A:O2'	1:5:1576:G:O4'	2.11	0.61
1:5:1613:A:OP1	39:k:2:ALA:N	2.34	0.61
1:5:3272:C:H5'	8:E:78:ARG:HB2	1.83	0.61
1:5:3343:G:H21	1:5:3362:A:H2	1.47	0.61
3:8:30:C:O2'	3:8:31:G:H5'	2.01	0.61
16:N:70:ASN:HD21	16:N:93:LYS:NZ	1.99	0.61
28:Z:129:TRP:O	28:Z:132:SER:N	2.29	0.61
32:d:14:ILE:CD1	32:d:16:LEU:HD13	2.31	0.61
1:5:394:G:N1	1:5:397:A:OP2	2.34	0.60
1:5:632:G:H2'	1:5:633:C:C6	2.35	0.60
1:5:1096:U:H4'	1:5:1097:G:O5'	2.01	0.60
1:5:1235:U:H4'	1:5:1236:G:C5'	2.31	0.60
1:5:2193:U:H1'	1:5:2275:A:O2'	2.00	0.60
1:5:2610:G:O2'	1:5:2611:U:H5'	2.01	0.60
2:7:73:C:O2	21:S:13:ARG:NH2	2.34	0.60
4:A:38:HIS:O	4:A:93:LYS:HG2	2.00	0.60
10:G:101:THR:HG23	10:G:104:GLU:OE2	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:165:GLN:HG3	13:J:166:LYS:N	2.16	0.60
24:V:136:VAL:CG1	24:V:137:VAL:HG23	2.31	0.60
29:a:45:MET:HA	29:a:45:MET:CE	2.31	0.60
44:q:100:ILE:HG23	44:q:185:LEU:CD1	2.30	0.60
45:x:246:ARG:HB3	45:x:265:LYS:HB3	1.82	0.60
1:5:497:C:O3'	34:f:86:ARG:NH2	2.34	0.60
1:5:1052:U:H2'	1:5:1053:A:H5'	1.83	0.60
1:5:1257:C:H2'	1:5:1258:U:O4'	2.02	0.60
1:5:1307:G:H5''	17:O:60:LYS:HE2	1.83	0.60
1:5:1633:C:OP2	28:Z:69:LYS:NZ	2.33	0.60
1:5:2898:G:H5''	1:5:2899:C:C5'	2.31	0.60
1:5:3136:G:H4'	5:B:342:LEU:HD12	1.82	0.60
1:5:3329:U:P	5:B:376:LYS:HZ2	2.24	0.60
2:7:27:A:H2'	2:7:28:C:C6	2.37	0.60
12:I:7:ARG:HB3	12:I:7:ARG:HH11	1.66	0.60
17:O:77:SER:N	17:O:106:GLU:OE1	2.30	0.60
19:Q:81:VAL:CG1	19:Q:101:VAL:HG13	2.31	0.60
19:Q:155:MET:HE2	19:Q:163:PRO:HB3	1.82	0.60
32:d:71:LEU:HB3	32:d:73:LEU:CD2	2.25	0.60
1:5:123:A:H61	1:5:149:U:H3	1.48	0.60
1:5:2536:A:C2'	1:5:2537:U:O4'	2.48	0.60
1:5:2925:C:C2'	1:5:2926:A:H5'	2.30	0.60
7:D:219:PHE:CE1	7:D:227:LEU:HD11	2.36	0.60
9:F:185:ILE:O	9:F:189:ILE:HG22	2.01	0.60
16:N:148:TYR:O	16:N:151:ILE:HG22	2.01	0.60
36:h:54:VAL:O	36:h:58:ILE:HG13	2.00	0.60
44:q:37:GLN:HE22	44:q:184:GLY:HA2	1.65	0.60
46:y:301:ASP:HB2	46:y:303:ILE:HD12	1.83	0.60
1:5:1238:C:C3'	1:5:1239:C:H5''	2.31	0.60
5:B:233:TRP:CD1	5:B:265:ALA:HB1	2.36	0.60
5:B:284:ARG:CB	5:B:323:MET:HE2	2.31	0.60
13:J:38:GLU:HG3	13:J:43:GLN:O	2.01	0.60
14:L:28:GLN:HB3	16:N:201:ARG:NH1	2.16	0.60
19:Q:60:PRO:HG3	19:Q:144:ARG:HB3	1.82	0.60
33:e:106:VAL:N	33:e:126:LEU:HD11	2.17	0.60
34:f:54:ARG:HG2	34:f:64:ILE:CD1	2.32	0.60
45:x:496:ILE:HG12	45:x:497:SER:N	2.15	0.60
1:5:537:A:H1'	1:5:557:A:O2'	2.01	0.60
1:5:1235:U:C4'	1:5:1236:G:H5'	2.31	0.60
1:5:1684:U:OP1	23:U:86:LYS:NZ	2.29	0.60
4:A:70:ARG:HD2	4:A:72:ARG:NE	2.14	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:332:ARG:O	5:B:333:LYS:HB2	2.00	0.60
11:H:86:TYR:CE2	11:H:151:VAL:HG13	2.35	0.60
16:N:172:ARG:HG2	16:N:174:ILE:HD11	1.83	0.60
16:N:182:ASN:O	16:N:183:THR:HG22	2.02	0.60
22:T:14:MET:HE1	22:T:55:LYS:CA	2.31	0.60
24:V:13:ILE:HD11	24:V:81:GLN:NE2	2.15	0.60
45:x:197:LEU:HD23	45:x:556:LEU:CD2	2.31	0.60
45:x:208:PRO:HD3	45:x:556:LEU:HD13	1.83	0.60
1:5:1055:A:N3	2:7:81:U:O2'	2.34	0.60
1:5:2102:U:H2'	1:5:2103:U:C6	2.37	0.60
1:5:2141:U:H5''	1:5:2142:A:OP2	2.01	0.60
5:B:227:GLU:HG3	5:B:270:ARG:CB	2.31	0.60
9:F:120:THR:O	9:F:124:LEU:HB2	2.00	0.60
10:G:70:LYS:HB3	10:G:234:GLY:O	2.01	0.60
14:L:50:PRO:HG3	36:h:118:ILE:CD1	2.29	0.60
17:O:27:LEU:CD1	17:O:102:LEU:HB2	2.31	0.60
17:O:56:ASP:O	17:O:60:LYS:HE3	2.01	0.60
22:T:135:PRO:O	22:T:136:ARG:HB2	2.01	0.60
37:i:62:ARG:NH1	37:i:94:ILE:CD1	2.64	0.60
44:q:43:LYS:HA	44:q:46:ARG:CG	2.29	0.60
1:5:2586:G:O2'	10:G:241:LYS:HE2	2.00	0.60
1:5:2653:C:OP1	42:o:89:LYS:HB2	2.02	0.60
1:5:3299:A:H4'	18:P:55:GLN:NE2	2.16	0.60
4:A:104:LEU:O	4:A:107:VAL:HG22	2.01	0.60
4:A:112:ILE:HG22	4:A:135:ILE:HG23	1.83	0.60
5:B:287:LYS:NZ	5:B:287:LYS:HB3	2.16	0.60
7:D:188:GLU:C	7:D:189:GLU:HG3	2.27	0.60
9:F:31:ALA:HA	9:F:34:LYS:CB	2.32	0.60
13:J:62:ASN:HB2	42:o:103:ALA:HA	1.84	0.60
17:O:48:PHE:HE1	17:O:52:LEU:HD11	1.66	0.60
32:d:39:PHE:O	32:d:42:LEU:HB3	2.01	0.60
39:k:14:LEU:HD23	39:k:17:ARG:HD3	1.83	0.60
44:q:15:LEU:HD21	44:q:86:PHE:HD2	1.65	0.60
45:x:392:LEU:CD2	45:x:423:MET:HE3	2.30	0.60
1:5:2523:A:H4'	1:5:2524:A:OP2	2.02	0.60
8:E:89:THR:HG21	15:M:115:PHE:CB	2.31	0.60
10:G:107:GLU:O	10:G:110:THR:OG1	2.14	0.60
14:L:64:LYS:HE3	29:a:69:TRP:CD1	2.37	0.60
24:V:87:ARG:HD2	24:V:93:LEU:CD2	2.31	0.60
31:c:38:LYS:O	31:c:93:LEU:HD23	2.02	0.60
31:c:41:LEU:HG	31:c:66:LYS:HB3	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:297:PRO:HG2	46:y:346:SER:CB	2.31	0.60
46:y:195:LYS:HB3	46:y:196:TYR:CD1	2.37	0.60
1:5:408:A:N3	1:5:655:C:O2'	2.32	0.60
1:5:644:G:H2'	1:5:2372:A:H62	1.66	0.60
1:5:1235:U:H4'	1:5:1236:G:H5'	1.83	0.60
1:5:1355:A:H4'	1:5:1356:U:O5'	2.02	0.60
1:5:1441:G:OP1	46:y:375:LYS:HE2	2.02	0.60
10:G:162:LEU:CD2	16:N:7:LEU:HD21	2.32	0.60
23:U:19:VAL:HG21	23:U:30:PRO:HG3	1.82	0.60
32:d:8:VAL:HG12	32:d:9:THR:H	1.67	0.60
33:e:64:LYS:O	33:e:65:PHE:HB2	2.02	0.60
35:g:24:LYS:HD3	35:g:30:LEU:HD21	1.83	0.60
36:h:19:SER:HA	36:h:22:VAL:HG23	1.83	0.60
1:5:622:A:H1'	34:f:60:ARG:HH21	1.66	0.60
1:5:1556:C:H5''	1:5:1556:C:C6	2.37	0.60
1:5:3202:G:H2'	1:5:3203:U:C6	2.37	0.60
1:5:3261:C:C2'	1:5:3262:U:H5'	2.32	0.60
3:8:15:G:C6	3:8:16:G:N1	2.70	0.60
9:F:47:ARG:NH1	9:F:179:LEU:HD21	2.14	0.60
10:G:72:PRO:HG2	16:N:18:VAL:HA	1.84	0.60
12:I:89:VAL:HG22	12:I:136:PHE:CE1	2.36	0.60
31:c:40:LYS:HD3	31:c:93:LEU:O	2.01	0.60
44:q:25:LEU:HD13	44:q:88:PHE:CE2	2.36	0.60
46:y:196:TYR:HB3	46:y:258:ASP:O	2.02	0.60
1:5:121:A:C4	10:G:108:ARG:NH1	2.70	0.59
1:5:1079:A:H4'	7:D:140:ARG:O	2.02	0.59
1:5:1109:U:H2'	1:5:1110:U:C6	2.37	0.59
1:5:1225:A:C2'	1:5:1226:G:H5'	2.32	0.59
1:5:1669:C:C2'	1:5:1670:C:H5'	2.32	0.59
1:5:2987:A:O2'	5:B:259:HIS:HB3	2.02	0.59
1:5:3334:U:H4'	1:5:3335:A:H5'	1.84	0.59
2:7:25:G:H2'	2:7:26:C:H6	1.67	0.59
2:7:76:A:H1'	21:S:50:LYS:NZ	2.16	0.59
4:A:44:ILE:O	4:A:61:VAL:HG23	2.02	0.59
4:A:112:ILE:CG2	4:A:135:ILE:HG23	2.32	0.59
6:C:178:LEU:O	6:C:182:LEU:HD23	2.02	0.59
10:G:53:PRO:HB2	10:G:55:TYR:CD2	2.36	0.59
10:G:149:LYS:HD2	10:G:149:LYS:N	2.17	0.59
14:L:42:ARG:O	14:L:46:ILE:HG12	2.02	0.59
22:T:101:CYS:SG	22:T:102:ARG:N	2.75	0.59
45:x:208:PRO:CB	45:x:211:LEU:HD12	2.31	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1222:G:H2'	1:5:1222:G:OP2	2.01	0.59
1:5:2228:A:H2'	1:5:2229:A:C8	2.37	0.59
1:5:2961:G:H2'	1:5:2962:U:H6	1.67	0.59
9:F:31:ALA:O	9:F:34:LYS:HB2	2.01	0.59
9:F:207:LEU:HB3	9:F:243:MET:HE2	1.83	0.59
16:N:15:GLN:HG2	37:i:52:PRO:HD2	1.84	0.59
35:g:24:LYS:HD3	35:g:30:LEU:CD2	2.32	0.59
44:q:55:LYS:HB2	44:q:55:LYS:HZ2	1.67	0.59
45:x:181:ALA:CB	45:x:537:ILE:HG23	2.30	0.59
1:5:996:A:H2'	1:5:997:A:O4'	2.02	0.59
1:5:1423:C:C2'	1:5:1424:C:H5'	2.33	0.59
1:5:1543:G:OP1	16:N:35:VAL:HG23	2.02	0.59
1:5:1991:Y5P:H2'	1:5:1992:Y5P:H6	1.84	0.59
1:5:2722:U:OP1	30:b:33:LYS:NZ	2.35	0.59
1:5:3207:U:H3'	1:5:3209:A:C2	2.29	0.59
9:F:84:VAL:HG13	9:F:119:VAL:CG2	2.32	0.59
14:L:35:ARG:O	14:L:39:ARG:HG3	2.02	0.59
14:L:70:ARG:HG2	14:L:71:ALA:H	1.68	0.59
16:N:18:VAL:HG22	16:N:19:LEU:N	2.16	0.59
44:q:190:VAL:HG12	44:q:192:ASP:OD1	2.02	0.59
1:5:44:U:H5''	16:N:85:THR:HG23	1.85	0.59
1:5:504:A:H4'	6:C:315:LYS:HZ3	1.67	0.59
1:5:1128:U:OP1	12:I:4:ARG:NH2	2.35	0.59
1:5:1889:G:H2'	1:5:1889:G:N3	2.17	0.59
1:5:3159:C:H2'	1:5:3160:U:H6	1.67	0.59
1:5:3328:G:C2'	1:5:3329:U:H5'	2.33	0.59
6:C:264:SER:OG	6:C:267:VAL:HG12	2.03	0.59
9:F:98:LYS:HB3	9:F:99:PRO:CD	2.27	0.59
11:H:10:ILE:O	11:H:52:LEU:HD23	2.03	0.59
19:Q:18:ALA:HA	19:Q:53:PHE:CZ	2.36	0.59
20:R:106:LEU:HD21	20:R:123:LEU:HB2	1.84	0.59
29:a:42:ARG:O	29:a:46:ASP:N	2.33	0.59
31:c:73:GLY:H	31:c:76:GLU:CD	2.11	0.59
36:h:13:SER:O	36:h:17:LEU:HG	2.02	0.59
45:x:5:ILE:HG13	46:y:340:VAL:HG11	1.83	0.59
45:x:33:GLN:HG3	45:x:572:THR:HG22	1.84	0.59
1:5:1383:G:H1	1:5:1423:C:H42	1.51	0.59
1:5:1729:A:OP1	31:c:88:GLY:N	2.34	0.59
1:5:2297:U:H2'	1:5:2299:A:N7	2.17	0.59
1:5:2747:A:H5'	7:D:175:HIS:HA	1.84	0.59
1:5:3159:C:H2'	1:5:3160:U:C6	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3386:G:OP1	32:d:10:ARG:NH2	2.28	0.59
10:G:144:GLU:HA	10:G:173:MET:HE3	1.83	0.59
17:O:157:GLU:O	17:O:161:LYS:HG3	2.03	0.59
33:e:78:ASN:HA	33:e:108:ILE:CD1	2.32	0.59
35:g:31:ARG:HG3	35:g:32:ALA:N	2.17	0.59
1:5:12:A:H2'	1:5:13:A:C8	2.37	0.59
1:5:396:A:O3'	47:z:136:UNK:HG1	2.02	0.59
1:5:627:U:H2'	1:5:628:A:C8	2.37	0.59
1:5:1563:C:H2'	1:5:1564:U:C6	2.38	0.59
1:5:1818:U:O2'	1:5:1819:U:O4'	2.20	0.59
1:5:2675:C:H42	13:J:22:SER:CB	2.13	0.59
1:5:3209:A:C6	15:M:106:ARG:NH1	2.71	0.59
5:B:313:HIS:O	5:B:333:LYS:HE3	2.01	0.59
6:C:192:GLY:CA	6:C:197:ARG:HH12	2.16	0.59
7:D:208:MET:HB2	7:D:233:ALA:HB2	1.84	0.59
24:V:11:PHE:CD1	24:V:88:ARG:HD2	2.38	0.59
41:m:106:ARG:HB2	41:m:106:ARG:HH11	1.67	0.59
1:5:708:G:H5'	1:5:709:A:OP2	2.03	0.59
1:5:2714:G:HO2'	1:5:2751:G:HO2'	1.49	0.59
1:5:2939:G:O2'	1:5:2940:A:H5'	2.03	0.59
1:5:3013:U:H2'	1:5:3014:U:H6	1.68	0.59
10:G:245:LYS:O	10:G:245:LYS:HG2	2.02	0.59
15:M:128:ARG:CG	15:M:132:LYS:HD2	2.32	0.59
16:N:73:ARG:CG	16:N:74:PRO:HD2	2.32	0.59
18:P:39:TRP:O	18:P:113:TYR:HB2	2.02	0.59
22:T:122:GLN:OE1	22:T:124:VAL:HG21	2.02	0.59
32:d:76:SER:HB2	32:d:78:LYS:HE3	1.83	0.59
37:i:53:TYR:CE2	37:i:54:GLU:HG3	2.38	0.59
44:q:48:ARG:HB2	44:q:96:ILE:CD1	2.32	0.59
44:q:67:LEU:HD21	44:q:74:GLU:HB2	1.84	0.59
45:x:218:ILE:O	45:x:310:VAL:HG13	2.02	0.59
46:y:174:LYS:HE2	46:y:178:GLU:OE2	2.03	0.59
46:y:174:LYS:HG2	46:y:178:GLU:OE1	2.03	0.59
46:y:218:ILE:HG13	46:y:234:MET:CE	2.33	0.59
1:5:884:A:OP1	38:j:5:THR:OG1	2.20	0.59
1:5:1427:U:H2'	1:5:1428:A:C8	2.37	0.59
1:5:1585:C:O2'	1:5:1586:G:H5'	2.02	0.59
1:5:2536:A:H2	1:5:2544:U:N3	2.01	0.59
1:5:2939:G:C2'	1:5:2940:A:H5'	2.33	0.59
1:5:2952:G:H2'	1:5:2953:U:O4'	2.01	0.59
1:5:3228:C:H1'	1:5:3229:G:OP2	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:208:MET:CB	7:D:233:ALA:HB2	2.33	0.59
8:E:64:LEU:O	8:E:65:ILE:HD13	2.02	0.59
12:I:89:VAL:HG22	12:I:136:PHE:HE1	1.68	0.59
16:N:120:TRP:NE1	16:N:123:GLN:OE1	2.35	0.59
16:N:185:ALA:HB3	16:N:190:THR:HB	1.84	0.59
30:b:31:SER:OG	30:b:33:LYS:HD2	2.03	0.59
40:l:10:LYS:HA	40:l:13:MET:HE3	1.85	0.59
40:l:22:PRO:HD3	40:l:41:ARG:HH22	1.67	0.59
44:q:39:HIS:O	44:q:43:LYS:HE3	2.02	0.59
1:5:237:G:H2'	1:5:238:A:H5'	1.85	0.59
1:5:1833:G:O2'	40:l:4:GLN:HA	2.03	0.59
1:5:1946:A:O2'	1:5:1947:G:H5'	2.03	0.59
1:5:3092:C:H2'	24:V:12:ARG:NH2	2.18	0.59
5:B:57:VAL:HG22	5:B:73:VAL:HB	1.84	0.59
6:C:110:ASN:HB2	16:N:201:ARG:O	2.03	0.59
6:C:222:VAL:HG23	6:C:223:PRO:HD2	1.84	0.59
12:I:193:ASP:CG	12:I:198:LYS:HE3	2.27	0.59
19:Q:44:PHE:HE1	19:Q:139:ILE:HD11	1.68	0.59
23:U:17:VAL:HG22	23:U:103:TYR:HB2	1.84	0.59
23:U:94:ARG:CZ	23:U:96:VAL:HG22	2.33	0.59
35:g:97:GLU:O	35:g:101:VAL:HG23	2.03	0.59
42:o:65:THR:CG2	42:o:89:LYS:HD2	2.32	0.59
44:q:18:TYR:CD2	44:q:52:LEU:HG	2.38	0.59
1:5:242:C:H2'	1:5:243:G:H8	1.68	0.59
1:5:1798:A:H2'	1:5:1799:A:H8	1.68	0.59
1:5:1805:C:H4'	35:g:76:TYR:HA	1.84	0.59
1:5:2276:G:O6	1:5:2311:G:N3	2.35	0.59
1:5:2556:C:O2'	1:5:2557:A:H5'	2.03	0.59
14:L:50:PRO:HA	14:L:138:VAL:O	2.03	0.59
17:O:22:VAL:HG21	17:O:120:VAL:HG11	1.84	0.59
39:k:32:ASN:ND2	39:k:34:ALA:HB3	2.18	0.59
1:5:400:G:H4'	1:5:401:U:O5'	2.03	0.58
1:5:546:C:H4'	1:5:547:G:O5'	2.02	0.58
1:5:1083:G:H2'	1:5:1084:A:H8	1.68	0.58
1:5:2681:U:O2'	1:5:2682:C:H5'	2.03	0.58
3:8:109:A:C2'	3:8:110:C:H5'	2.33	0.58
5:B:82:PRO:HB3	5:B:319:ASN:HB3	1.85	0.58
8:E:60:ASP:O	8:E:61:ASN:HB2	2.02	0.58
12:I:178:ARG:N	12:I:179:PRO:HD2	2.18	0.58
14:L:46:ILE:O	14:L:49:ARG:HG3	2.03	0.58
19:Q:109:GLY:O	19:Q:112:ALA:HB3	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:118:GLU:O	22:T:122:GLN:HG3	2.03	0.58
24:V:23:MET:HB2	24:V:98:ASN:O	2.03	0.58
24:V:45:ARG:CG	24:V:45:ARG:NH1	2.56	0.58
26:X:141:TYR:O	26:X:142:ILE:HB	2.02	0.58
27:Y:45:ILE:HD11	27:Y:122:LYS:HB2	1.85	0.58
29:a:6:THR:HG23	29:a:8:THR:N	2.17	0.58
33:e:7:PRO:HG2	33:e:63:THR:HG22	1.84	0.58
1:5:167:U:O2'	1:5:168:U:H5'	2.02	0.58
1:5:1238:C:H2'	1:5:1239:C:H5''	1.84	0.58
1:5:1416:C:OP2	47:z:137:UNK:HG1	2.04	0.58
1:5:2291:A:H2'	1:5:2292:U:H6	1.66	0.58
1:5:2709:C:H2'	1:5:2710:C:H6	1.69	0.58
15:M:128:ARG:HD3	15:M:132:LYS:HD2	1.86	0.58
16:N:18:VAL:HG22	16:N:19:LEU:HD12	1.84	0.58
19:Q:122:ILE:HG22	19:Q:126:GLN:HB2	1.85	0.58
32:d:13:THR:HG23	32:d:72:ARG:NH2	2.17	0.58
36:h:55:LEU:HD23	36:h:58:ILE:HD12	1.85	0.58
38:j:53:ALA:HA	38:j:56:ARG:HD2	1.83	0.58
39:k:20:VAL:HG11	39:k:45:VAL:HG13	1.85	0.58
45:x:387:VAL:HG21	46:y:335:GLY:O	2.03	0.58
45:x:510:CYS:HB3	45:x:514:VAL:CG1	2.32	0.58
1:5:138:U:H2'	1:5:139:G:C8	2.37	0.58
1:5:2297:U:O2'	1:5:2920:U:H4'	2.03	0.58
1:5:3060:C:H4'	1:5:3371:G:H22	1.67	0.58
1:5:3202:G:H2'	1:5:3203:U:H6	1.68	0.58
6:C:30:ILE:C	6:C:32:PRO:HD3	2.29	0.58
6:C:203:ARG:HG3	6:C:246:ARG:NH2	2.18	0.58
10:G:205:ALA:HA	10:G:208:GLU:OE2	2.03	0.58
11:H:124:ARG:HB3	11:H:164:ILE:CG1	2.33	0.58
18:P:95:LEU:CD2	18:P:148:LEU:HD21	2.34	0.58
21:S:8:GLN:CG	21:S:26:ARG:HE	2.13	0.58
28:Z:83:THR:HG23	28:Z:85:TYR:N	2.18	0.58
32:d:70:ARG:HB3	32:d:101:ALA:CB	2.33	0.58
45:x:66:LEU:HD11	45:x:401:PHE:CE2	2.38	0.58
1:5:75:G:OP1	14:L:58:VAL:HG13	2.03	0.58
1:5:1265:U:O2	1:5:1277:C:H1'	2.03	0.58
1:5:1785:U:H2'	1:5:1786:G:H8	1.67	0.58
1:5:2656:A:C5'	42:o:98:LYS:HD2	2.33	0.58
3:8:95:G:OP1	38:j:76:ASN:ND2	2.28	0.58
5:B:227:GLU:OE1	5:B:231:HIS:HB3	2.03	0.58
6:C:209:TYR:HA	6:C:251:THR:OG1	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I:187:ALA:CB	12:I:189:GLU:HG3	2.33	0.58
12:I:206:LEU:O	12:I:210:ILE:HG23	2.04	0.58
13:J:26:SER:CB	13:J:29:ARG:HD2	2.33	0.58
15:M:55:ARG:HD3	21:S:70:THR:CB	2.32	0.58
16:N:61:ILE:HD11	16:N:133:ILE:HG12	1.84	0.58
17:O:27:LEU:HD21	17:O:33:ILE:HG12	1.85	0.58
25:W:42:GLN:HB3	25:W:44:LYS:HE2	1.86	0.58
27:Y:3:LYS:HD2	27:Y:8:VAL:CG2	2.34	0.58
31:c:43:ILE:CD1	31:c:92:ILE:HD11	2.32	0.58
34:f:71:VAL:HG13	34:f:81:VAL:CG1	2.33	0.58
43:p:45:LYS:HB2	43:p:45:LYS:NZ	2.17	0.58
44:q:25:LEU:HD23	44:q:191:TYR:CB	2.32	0.58
45:x:297:PRO:CG	46:y:346:SER:HB2	2.33	0.58
1:5:242:C:H2'	1:5:243:G:C8	2.39	0.58
1:5:1330:A:N1	1:5:1332:A:H1'	2.19	0.58
1:5:1747:G:O3'	39:k:53:THR:HG21	2.03	0.58
1:5:2821:C:N4	1:5:2869:U:H3	2.01	0.58
5:B:48:GLY:O	5:B:336:VAL:N	2.26	0.58
12:I:7:ARG:HB3	12:I:7:ARG:NH1	2.17	0.58
12:I:168:SER:HB2	22:T:160:ILE:C	2.29	0.58
13:J:53:THR:HG23	13:J:60:ARG:HA	1.84	0.58
15:M:116:GLU:O	15:M:120:VAL:HG23	2.02	0.58
18:P:15:ALA:HB3	18:P:150:VAL:HG23	1.84	0.58
26:X:79:GLY:O	26:X:81:ILE:HD12	2.04	0.58
39:k:32:ASN:HD21	39:k:34:ALA:HB3	1.67	0.58
45:x:34:ILE:HD13	45:x:76:LEU:HD23	1.84	0.58
45:x:331:LYS:HD2	45:x:446:ASP:OD2	2.02	0.58
1:5:505:G:H2'	1:5:506:U:H6	1.68	0.58
1:5:524:U:OP1	15:M:77:ARG:NH2	2.35	0.58
1:5:1083:G:H2'	1:5:1084:A:C8	2.38	0.58
1:5:1605:A:O2'	1:5:1607:U:OP2	2.19	0.58
1:5:2093:A:H3'	1:5:2093:A:N3	2.19	0.58
6:C:6:VAL:HG12	6:C:147:GLU:OE2	2.03	0.58
6:C:246:ARG:HG2	6:C:247:PHE:N	2.19	0.58
7:D:29:ASP:CG	7:D:32:GLN:HB3	2.29	0.58
7:D:278:SER:HB2	7:D:280:GLU:OE1	2.03	0.58
11:H:75:VAL:HA	11:H:78:MET:CE	2.30	0.58
14:L:51:LEU:HD23	14:L:51:LEU:O	2.04	0.58
18:P:179:GLN:O	18:P:184:ALA:HB2	2.02	0.58
22:T:9:SER:OG	22:T:10:ARG:HG3	2.03	0.58
32:d:44:MET:O	32:d:46:THR:HG22	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:h:34:GLN:HE22	45:x:344:THR:H	1.50	0.58
1:5:550:A:H2'	1:5:551:A:C8	2.39	0.58
1:5:1183:C:C2'	1:5:1184:A:H5'	2.33	0.58
1:5:1359:C:H2'	1:5:1360:C:C6	2.38	0.58
1:5:1443:G:OP1	18:P:124:LYS:NZ	2.36	0.58
1:5:2793:G:N2	42:o:57:VAL:HG22	2.16	0.58
1:5:2890:A:H61	1:5:2913:C:H42	1.52	0.58
5:B:111:SER:O	5:B:115:LYS:HG3	2.02	0.58
5:B:311:PHE:CE2	5:B:317:ILE:HD11	2.38	0.58
6:C:300:ARG:CG	6:C:300:ARG:NH1	2.63	0.58
12:I:85:PHE:HA	12:I:140:THR:HG22	1.86	0.58
15:M:24:LYS:CD	15:M:64:VAL:HG12	2.33	0.58
24:V:16:GLY:O	24:V:17:LEU:HD23	2.03	0.58
45:x:211:LEU:HD21	45:x:549:ILE:HA	1.84	0.58
1:5:362:U:C2'	1:5:363:G:H5'	2.33	0.58
1:5:386:A:OP1	46:y:353:LYS:NZ	2.36	0.58
1:5:1329:U:O2'	1:5:1330:A:H5''	2.02	0.58
1:5:1359:C:O2'	1:5:1360:C:H5'	2.03	0.58
1:5:2190:U:H5'	43:p:21:SER:OG	2.03	0.58
1:5:2198:A:C2	1:5:2199:G:C8	2.91	0.58
1:5:2271:A:O2'	1:5:2272:G:H5'	2.03	0.58
1:5:2279:A:H2	1:5:2305:G:N7	2.01	0.58
1:5:3013:U:H2'	1:5:3014:U:C6	2.39	0.58
5:B:37:ARG:CA	5:B:186:GLY:HA3	2.33	0.58
5:B:45:SER:OG	5:B:181:ILE:HD13	2.04	0.58
10:G:34:PHE:CE2	10:G:42:PRO:HD3	2.39	0.58
19:Q:34:THR:CG2	19:Q:49:LEU:HD11	2.29	0.58
33:e:79:VAL:HG22	33:e:108:ILE:HG12	1.85	0.58
45:x:260:ALA:HB2	46:y:345:ARG:HB3	1.85	0.58
1:5:248:U:H2'	1:5:249:U:H5'	1.85	0.58
1:5:722:G:H2'	1:5:723:U:C6	2.39	0.58
1:5:769:G:C2'	1:5:770:G:H5'	2.32	0.58
1:5:1678:G:H2'	1:5:1679:A:C8	2.39	0.58
1:5:2402:A:H5''	6:C:67:THR:OG1	2.04	0.58
1:5:2697:A:N6	1:5:2698:G:O6	2.37	0.58
1:5:2909:U:H2'	1:5:2910:A:O4'	2.02	0.58
6:C:122:THR:O	6:C:126:ILE:HG13	2.04	0.58
13:J:47:GLN:OE1	13:J:64:LYS:HD3	2.03	0.58
20:R:115:ILE:HA	20:R:146:LYS:HZ1	1.69	0.58
23:U:54:VAL:HG22	23:U:67:SER:OG	2.03	0.58
40:l:22:PRO:HG3	40:l:41:ARG:HH12	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:y:197:LEU:HD21	46:y:257:TYR:CD2	2.38	0.58
1:5:238:A:HO2'	1:5:239:G:P	2.27	0.58
1:5:269:G:H5''	16:N:14:LYS:HZ3	1.68	0.58
1:5:2917:G:C2	1:5:2918:G:H1'	2.39	0.58
4:A:68:LYS:HD3	4:A:70:ARG:HH21	1.68	0.58
5:B:217:ALA:CB	5:B:328:ILE:HG13	2.34	0.58
8:E:56:LYS:HD3	8:E:64:LEU:HD12	1.85	0.58
34:f:73:ARG:CD	34:f:82:ARG:HD2	2.34	0.58
36:h:43:LYS:CB	45:x:345:GLY:HA2	2.34	0.58
45:x:71:PHE:O	45:x:74:THR:HB	2.03	0.58
45:x:127:SER:OG	45:x:134:ARG:HG3	2.04	0.58
1:5:31:C:H2'	1:5:32:U:H6	1.68	0.57
1:5:605:U:O2'	1:5:606:C:H5'	2.04	0.57
1:5:916:G:H4'	1:5:917:A:O5'	2.04	0.57
1:5:2885:C:O2'	1:5:2886:U:H5'	2.04	0.57
1:5:3092:C:H2'	24:V:12:ARG:HH22	1.68	0.57
5:B:214:MET:CE	5:B:279:ASN:HA	2.34	0.57
34:f:49:ILE:HD11	34:f:71:VAL:HG22	1.86	0.57
43:p:40:SER:HB2	43:p:41:PHE:CZ	2.38	0.57
46:y:301:ASP:CB	46:y:303:ILE:HD12	2.33	0.57
1:5:1703:U:H1'	1:5:1743:G:N2	2.19	0.57
1:5:1847:A:O2'	1:5:1848:G:H5''	2.05	0.57
1:5:2101:C:HO2'	1:5:2102:U:P	2.27	0.57
1:5:2363:A:H2'	1:5:2364:G:C8	2.39	0.57
1:5:2400:G:H5'	1:5:2401:A:OP2	2.05	0.57
1:5:2655:U:H4'	1:5:2656:A:O5'	2.03	0.57
1:5:3383:G:H2'	1:5:3384:U:C6	2.37	0.57
4:A:205:ASN:HB3	4:A:206:PRO:HD2	1.85	0.57
5:B:214:MET:HE3	5:B:279:ASN:HA	1.84	0.57
6:C:71:VAL:HG22	6:C:72:ALA:N	2.18	0.57
9:F:33:ARG:HA	9:F:36:ALA:CB	2.33	0.57
18:P:4:TYR:HE1	18:P:16:SER:HB2	1.68	0.57
28:Z:46:ILE:HG22	28:Z:68:ILE:HG21	1.85	0.57
39:k:8:ILE:HD12	39:k:8:ILE:N	2.18	0.57
39:k:27:ILE:HG13	39:k:39:ARG:NH2	2.19	0.57
1:5:190:U:O2'	1:5:191:U:OP2	2.19	0.57
1:5:515:C:O3'	6:C:343:LYS:HA	2.05	0.57
1:5:1576:G:H2'	1:5:1577:G:O4'	2.03	0.57
1:5:1629:U:O4	28:Z:111:LYS:HD2	2.04	0.57
1:5:2282:U:O2	1:5:2961:G:H5'	2.03	0.57
1:5:2339:C:H3'	5:B:236:LYS:HZ3	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3304:U:O3'	5:B:334:ARG:NH2	2.37	0.57
2:7:33:U:O2'	2:7:34:C:H5'	2.04	0.57
6:C:142:VAL:HG12	6:C:145:ILE:CD1	2.34	0.57
12:I:48:LEU:HD22	12:I:49:CYS:H	1.69	0.57
14:L:6:ASN:C	14:L:7:LEU:HG	2.27	0.57
31:c:27:TYR:O	31:c:31:VAL:HG23	2.05	0.57
35:g:57:LEU:HB2	35:g:61:GLN:HB2	1.85	0.57
45:x:181:ALA:HB1	45:x:537:ILE:CG2	2.29	0.57
45:x:555:GLN:O	45:x:559:LEU:HG	2.04	0.57
47:z:151:UNK:HA	47:z:154:UNK:HG3	1.86	0.57
1:5:70:A:H2	1:5:72:C:N4	2.01	0.57
1:5:135:C:O2	36:h:93:THR:HB	2.04	0.57
1:5:873:C:H4'	1:5:874:U:OP2	2.03	0.57
1:5:928:C:H2'	1:5:929:A:C8	2.39	0.57
1:5:1160:C:C5	1:5:1366:A:H1'	2.39	0.57
1:5:1222:G:H3'	1:5:1222:G:P	2.45	0.57
1:5:2152:A:O2'	1:5:2153:U:H5'	2.05	0.57
1:5:2778:G:C2'	1:5:2779:A:H5'	2.32	0.57
3:8:138:A:O2'	3:8:139:U:H5'	2.04	0.57
5:B:152:LYS:HE3	5:B:192:VAL:CG2	2.35	0.57
10:G:44:ARG:O	26:X:28:THR:HG22	2.04	0.57
14:L:21:ARG:HH11	14:L:21:ARG:CG	2.13	0.57
14:L:50:PRO:CG	36:h:118:ILE:HD11	2.34	0.57
19:Q:81:VAL:CG1	19:Q:101:VAL:HA	2.35	0.57
24:V:125:LEU:HB3	24:V:126:TRP:CD1	2.40	0.57
34:f:10:LYS:O	34:f:33:GLU:HG3	2.04	0.57
45:x:336:THR:HG22	45:x:337:LEU:N	2.19	0.57
1:5:248:U:H2'	1:5:248:U:O2	2.04	0.57
1:5:248:U:C2'	1:5:249:U:H5'	2.34	0.57
1:5:1152:G:N2	1:5:1200:A:H61	2.03	0.57
1:5:1649:U:H2'	1:5:1650:G:C8	2.39	0.57
1:5:2585:G:H2'	1:5:2585:G:N3	2.18	0.57
2:7:95:A:O2'	2:7:96:U:H5'	2.05	0.57
5:B:14:LEU:CD2	5:B:17:LEU:HD21	2.35	0.57
5:B:26:ARG:HH11	5:B:26:ARG:CG	2.18	0.57
5:B:148:LEU:CD2	5:B:196:ARG:HD3	2.32	0.57
8:E:52:VAL:HG22	8:E:67:GLY:CA	2.34	0.57
9:F:28:ALA:O	9:F:32:ALA:HB2	2.05	0.57
12:I:168:SER:HB2	22:T:160:ILE:O	2.05	0.57
28:Z:46:ILE:HD12	28:Z:46:ILE:O	2.03	0.57
37:i:51:SER:HB2	37:i:52:PRO:HD2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:q:45:LEU:HD11	44:q:100:ILE:HG13	1.86	0.57
45:x:92:PRO:O	45:x:94:THR:HG23	2.04	0.57
45:x:444:PRO:CG	45:x:494:GLU:HB3	2.27	0.57
46:y:157:VAL:HG21	46:y:227:LEU:CD2	2.33	0.57
1:5:95:A:H5''	29:a:34:MET:HB2	1.85	0.57
1:5:497:C:C3'	34:f:86:ARG:HH22	2.17	0.57
1:5:531:G:H1	1:5:561:C:H42	1.52	0.57
1:5:599:C:H2'	1:5:600:G:O4'	2.04	0.57
1:5:787:G:H2'	1:5:788:C:C6	2.40	0.57
1:5:823:C:O2'	1:5:1535:A:O2'	2.16	0.57
1:5:823:C:H5'	4:A:19:HIS:CE1	2.39	0.57
1:5:1324:U:H5''	21:S:2:ALA:HA	1.86	0.57
1:5:1336:U:H2'	1:5:1337:A:H8	1.68	0.57
1:5:2667:A:O2'	1:5:2691:A:OP1	2.21	0.57
1:5:2714:G:N3	1:5:2714:G:H5''	2.20	0.57
1:5:2991:A:OP2	5:B:20:LYS:HE2	2.05	0.57
3:8:88:A:H3'	3:8:89:A:H8	1.69	0.57
6:C:30:ILE:CG2	6:C:32:PRO:HD3	2.34	0.57
7:D:166:ALA:O	7:D:171:LEU:HB2	2.05	0.57
12:I:87:LEU:CD1	12:I:138:VAL:HG22	2.32	0.57
19:Q:126:GLN:O	19:Q:130:ARG:HG3	2.04	0.57
23:U:104:ARG:NH1	23:U:106:ALA:HB2	2.18	0.57
28:Z:11:ALA:O	28:Z:23:VAL:HG22	2.04	0.57
28:Z:64:LYS:O	28:Z:67:LYS:HG2	2.05	0.57
45:x:224:ARG:HH22	45:x:273:HIS:CD2	2.23	0.57
1:5:370:U:C2'	1:5:371:G:H5'	2.35	0.57
1:5:579:G:O2'	1:5:580:C:H5'	2.04	0.57
1:5:1193:A:H3'	1:5:1194:G:H8	1.70	0.57
1:5:1447:G:OP1	18:P:65:SER:OG	2.15	0.57
1:5:2654:C:OP2	42:o:2:VAL:HG12	2.04	0.57
1:5:2838:A:N6	1:5:2850:G:O2'	2.36	0.57
3:8:79:A:O2'	3:8:80:A:OP1	2.17	0.57
10:G:103:ALA:O	10:G:107:GLU:HG3	2.05	0.57
14:L:46:ILE:O	14:L:47:ALA:HB3	2.05	0.57
19:Q:81:VAL:HG12	19:Q:100:THR:O	2.05	0.57
20:R:3:ASN:HD21	20:R:5:ARG:HH21	1.51	0.57
44:q:60:ARG:HA	44:q:77:LEU:CD2	2.34	0.57
45:x:101:SER:OG	45:x:337:LEU:HD11	2.05	0.57
45:x:262:ARG:C	45:x:263:GLU:HG2	2.30	0.57
45:x:560:ALA:HA	45:x:565:PHE:CD2	2.40	0.57
1:5:208:C:O2'	1:5:209:A:H5'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:253:A:O2'	1:5:254:A:H8	1.88	0.57
1:5:796:U:H2'	1:5:797:U:H6	1.69	0.57
1:5:1364:C:H4'	19:Q:5:HIS:HE1	1.69	0.57
1:5:2793:G:H5''	42:o:66:LYS:HG3	1.87	0.57
4:A:64:ARG:HH22	10:G:38:GLN:HA	1.69	0.57
4:A:114:SER:OG	4:A:169:ILE:HG13	2.05	0.57
4:A:137:ILE:HG23	4:A:147:ARG:O	2.04	0.57
5:B:220:VAL:HG13	5:B:273:HIS:O	2.04	0.57
10:G:211:LEU:O	10:G:211:LEU:HD22	2.04	0.57
12:I:86:HIS:ND1	12:I:139:ARG:NH1	2.53	0.57
13:J:94:ARG:HG2	13:J:94:ARG:NH1	2.18	0.57
15:M:36:VAL:HG11	15:M:55:ARG:NH2	2.20	0.57
28:Z:14:VAL:HG12	28:Z:79:HIS:HA	1.86	0.57
29:a:82:ILE:CD1	29:a:102:ILE:HG12	2.35	0.57
39:k:8:ILE:HG22	39:k:12:LEU:CD2	2.35	0.57
41:m:104:PRO:HB2	41:m:107:ALA:HB2	1.86	0.57
45:x:515:SER:HB3	45:x:521:GLU:OE2	2.04	0.57
1:5:504:A:H4'	6:C:315:LYS:NZ	2.20	0.57
1:5:698:U:H2'	1:5:699:A:O4'	2.04	0.57
1:5:1234:G:OP2	1:5:1235:U:H3'	2.04	0.57
1:5:2609:A:C3'	1:5:2610:G:H5''	2.35	0.57
1:5:3180:A:C6	17:O:114:LYS:HD3	2.40	0.57
6:C:74:ILE:HD12	6:C:75:PRO:CD	2.31	0.57
9:F:179:LEU:HD13	9:F:179:LEU:N	2.20	0.57
14:L:64:LYS:HG3	29:a:69:TRP:CG	2.40	0.57
19:Q:64:VAL:O	19:Q:67:ILE:HG13	2.05	0.57
45:x:11:GLN:HG2	45:x:15:LYS:NZ	2.20	0.57
45:x:193:THR:O	45:x:197:LEU:HG	2.04	0.57
1:5:232:G:O2'	1:5:233:C:H5'	2.04	0.57
1:5:283:G:O6	1:5:304:G:H1'	2.05	0.57
1:5:357:A:C2'	1:5:358:G:H5'	2.34	0.57
1:5:674:G:OP2	19:Q:105:ARG:NH1	2.37	0.57
1:5:899:U:O2'	1:5:900:G:H5'	2.03	0.57
1:5:1578:C:H2'	1:5:1579:C:O4'	2.05	0.57
1:5:2339:C:H3'	5:B:236:LYS:NZ	2.19	0.57
1:5:2768:U:H2'	1:5:2769:A:H8	1.70	0.57
1:5:3369:G:H5'	1:5:3370:A:OP1	2.05	0.57
4:A:83:HIS:HB2	43:p:64:VAL:HG22	1.84	0.57
6:C:11:LEU:HD13	6:C:168:ALA:CB	2.34	0.57
6:C:30:ILE:HA	6:C:124:SER:OG	2.04	0.57
6:C:64:SER:HA	6:C:75:PRO:HA	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:119:ARG:HA	6:C:122:THR:CG2	2.35	0.57
7:D:62:CYS:HB3	7:D:105:ILE:HD13	1.87	0.57
9:F:130:ILE:O	9:F:134:VAL:HG13	2.05	0.57
12:I:76:MET:HE1	12:I:148:VAL:HA	1.87	0.57
12:I:100:ASN:HD22	12:I:102:MET:HE2	1.70	0.57
18:P:87:SER:O	18:P:91:VAL:HG23	2.05	0.57
23:U:104:ARG:HH11	23:U:106:ALA:HB2	1.69	0.57
24:V:75:PRO:HB2	24:V:103:ALA:O	2.05	0.57
39:k:5:ILE:HD11	39:k:10:GLN:OE1	2.05	0.57
43:p:38:ASP:OD1	43:p:45:LYS:HB2	2.05	0.57
44:q:67:LEU:HD11	44:q:74:GLU:HB2	1.86	0.57
45:x:219:THR:HG22	45:x:220:GLY:N	2.20	0.57
1:5:173:G:H2'	1:5:174:C:C6	2.41	0.56
1:5:1449:A:H4'	1:5:2983:C:C6	2.40	0.56
1:5:2404:A:N3	1:5:2404:A:H2'	2.20	0.56
1:5:2636:A:H5''	1:5:2637:A:C5'	2.34	0.56
1:5:2748:A:C2	7:D:35:ARG:HB2	2.40	0.56
1:5:3195:U:C1'	1:5:3196:U:OP1	2.51	0.56
1:5:3371:G:H2'	1:5:3372:A:C8	2.40	0.56
4:A:5:ILE:HG21	4:A:210:PRO:HD3	1.87	0.56
7:D:229:ASP:HB3	7:D:231:ILE:CG1	2.35	0.56
9:F:103:LEU:HG	9:F:130:ILE:CD1	2.32	0.56
12:I:156:ARG:HG2	12:I:163:GLN:CG	2.32	0.56
19:Q:170:ARG:HD2	19:Q:170:ARG:C	2.30	0.56
24:V:84:SER:HB3	24:V:94:TYR:HB3	1.87	0.56
35:g:95:ILE:O	35:g:99:LYS:HG3	2.05	0.56
38:j:21:ARG:HB2	38:j:39:TYR:HD2	1.70	0.56
39:k:65:LEU:HA	39:k:68:SER:OG	2.04	0.56
40:l:38:ASN:ND2	40:l:41:ARG:HB2	2.19	0.56
1:5:1128:U:H2'	1:5:1129:A:O4'	2.05	0.56
1:5:3197:G:H2'	1:5:3198:U:H5''	1.88	0.56
7:D:200:PHE:HB3	7:D:237:GLU:HG3	1.86	0.56
9:F:111:ILE:O	9:F:112:ASN:HB2	2.06	0.56
9:F:131:GLU:CB	9:F:132:PRO:HD3	2.32	0.56
12:I:145:LYS:NZ	12:I:167:LEU:HG	2.20	0.56
14:L:151:ALA:O	14:L:152:THR:OG1	2.17	0.56
14:L:190:LYS:O	14:L:193:ALA:HB3	2.05	0.56
21:S:142:GLN:O	21:S:145:THR:HG23	2.05	0.56
43:p:21:SER:HA	43:p:24:ARG:NH2	2.19	0.56
45:x:230:ILE:O	45:x:233:SER:HB2	2.06	0.56
1:5:1477:A:OP1	1:5:3075:G:O2'	2.22	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1661:G:H2'	1:5:1662:G:C8	2.40	0.56
1:5:1729:A:H4'	1:5:1730:G:OP2	2.04	0.56
1:5:1754:G:H2'	1:5:1755:C:H6	1.70	0.56
1:5:2232:A:H1'	1:5:2429:G:C4'	2.36	0.56
1:5:2673:A:O2'	13:J:104:PHE:O	2.21	0.56
1:5:3180:A:OP1	17:O:171:LYS:NZ	2.38	0.56
1:5:3303:G:O2'	1:5:3305:A:N6	2.33	0.56
4:A:27:ALA:HB3	4:A:128:ARG:HH12	1.70	0.56
4:A:44:ILE:HD12	4:A:62:VAL:HG13	1.86	0.56
4:A:113:VAL:HG12	4:A:166:ILE:HD13	1.87	0.56
4:A:147:ARG:HA	4:A:157:VAL:HA	1.86	0.56
6:C:55:LYS:HB2	6:C:55:LYS:NZ	2.19	0.56
6:C:65:TRP:CE3	6:C:69:ARG:NH1	2.73	0.56
6:C:130:ALA:HA	6:C:149:PRO:HG3	1.87	0.56
6:C:184:SER:HB2	6:C:202:ARG:HG2	1.87	0.56
6:C:187:LEU:CD1	6:C:193:LYS:HE3	2.35	0.56
6:C:330:TYR:HB2	9:F:45:LEU:HD22	1.88	0.56
11:H:25:VAL:HG11	11:H:78:MET:CE	2.32	0.56
16:N:73:ARG:HB2	16:N:92:LEU:CD2	2.32	0.56
17:O:183:ALA:O	17:O:186:ALA:HB3	2.05	0.56
18:P:168:LEU:HD13	18:P:176:ILE:HD11	1.87	0.56
21:S:148:LEU:HD22	21:S:149:LYS:N	2.21	0.56
23:U:109:GLN:O	46:y:313:VAL:HA	2.05	0.56
24:V:28:ASN:OD1	24:V:28:ASN:N	2.26	0.56
36:h:101:THR:HG23	36:h:104:GLN:H	1.70	0.56
37:i:74:LYS:NZ	37:i:80:PHE:HB2	2.20	0.56
44:q:26:PHE:CZ	44:q:97:LYS:HB3	2.40	0.56
45:x:60:THR:HG22	45:x:61:VAL:H	1.70	0.56
1:5:75:G:H5'	14:L:58:VAL:HG13	1.85	0.56
1:5:723:U:O2'	30:b:29:TYR:OH	2.23	0.56
1:5:758:C:OP1	42:o:18:ARG:NH2	2.39	0.56
1:5:1275:C:H2'	1:5:1276:U:H5'	1.87	0.56
1:5:1883:A:H2'	1:5:1884:A:O4'	2.05	0.56
1:5:2997:G:H1'	1:5:3396:U:H5'	1.87	0.56
1:5:3278:C:C3'	1:5:3279:A:H5'	2.34	0.56
3:8:126:A:OP2	3:8:126:A:H2'	2.04	0.56
4:A:143:GLU:HG3	4:A:143:GLU:O	2.06	0.56
15:M:44:VAL:CG1	15:M:60:LEU:HD21	2.36	0.56
16:N:140:LYS:HD2	16:N:144:ARG:CZ	2.35	0.56
19:Q:170:ARG:HE	19:Q:171:LYS:HG2	1.70	0.56
20:R:119:LEU:O	20:R:123:LEU:HG	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:28:PHE:HZ	23:U:33:TYR:CD1	2.23	0.56
26:X:44:PRO:O	26:X:45:LYS:HG2	2.06	0.56
27:Y:60:ARG:CG	27:Y:60:ARG:NH1	2.56	0.56
27:Y:118:LEU:HD13	27:Y:121:ARG:NH1	2.20	0.56
34:f:75:HIS:HB3	34:f:80:VAL:HB	1.88	0.56
1:5:824:C:H5'	4:A:21:ARG:HD3	1.88	0.56
1:5:850:U:H2'	1:5:851:C:H6	1.70	0.56
1:5:1447:G:O2'	1:5:2355:G:O6	2.21	0.56
1:5:2617:U:H3'	30:b:3:LYS:HD3	1.88	0.56
1:5:3009:G:C2'	1:5:3010:U:H5'	2.36	0.56
1:5:3187:A:OP1	11:H:22:SER:HA	2.05	0.56
5:B:139:GLN:OE1	5:B:142:ALA:HB3	2.06	0.56
6:C:22:LEU:HD21	6:C:26:PHE:CG	2.40	0.56
9:F:96:PRO:O	9:F:99:PRO:HD2	2.05	0.56
12:I:48:LEU:HD22	12:I:49:CYS:N	2.21	0.56
21:S:40:ARG:O	21:S:43:TYR:HB3	2.05	0.56
23:U:98:THR:HG22	23:U:104:ARG:HE	1.70	0.56
27:Y:35:LEU:HD23	27:Y:106:ILE:HD12	1.88	0.56
45:x:164:ASP:HB2	45:x:173:THR:HB	1.87	0.56
45:x:208:PRO:HG3	45:x:556:LEU:HB2	1.87	0.56
45:x:524:ARG:HG2	45:x:527:GLY:HA3	1.86	0.56
1:5:405:U:H2'	1:5:406:G:H5'	1.88	0.56
1:5:1299:U:H2'	1:5:1300:G:H5'	1.88	0.56
1:5:3137:C:H2'	1:5:3138:U:H6	1.68	0.56
1:5:3371:G:H2'	1:5:3372:A:H8	1.71	0.56
8:E:56:LYS:CB	8:E:98:VAL:HG11	2.35	0.56
10:G:213:LYS:O	10:G:216:SER:OG	2.23	0.56
10:G:237:ILE:O	10:G:237:ILE:HG22	2.05	0.56
13:J:97:SER:HB3	13:J:101:ASN:HB2	1.88	0.56
17:O:183:ALA:HA	17:O:186:ALA:CB	2.35	0.56
18:P:20:SER:N	18:P:22:LEU:HD21	2.20	0.56
22:T:122:GLN:HB2	22:T:124:VAL:HG22	1.85	0.56
24:V:70:ARG:CZ	24:V:70:ARG:HB3	2.35	0.56
29:a:125:VAL:HG21	29:a:138:ILE:CD1	2.35	0.56
31:c:41:LEU:HG	31:c:66:LYS:HB2	1.87	0.56
35:g:46:ASP:OD2	35:g:88:ARG:NH2	2.38	0.56
47:z:106:UNK:O	47:z:107:UNK:HB2	2.04	0.56
1:5:687:U:O2'	1:5:688:G:H5'	2.05	0.56
1:5:887:G:H2'	1:5:888:A:C8	2.41	0.56
1:5:991:G:C6	1:5:992:A:C6	2.94	0.56
1:5:1103:A:H3'	1:5:1104:G:H5'	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1555:U:O2'	1:5:1556:C:OP1	2.22	0.56
1:5:2344:U:H2'	1:5:2345:A:H8	1.70	0.56
1:5:2567:C:C2'	1:5:2568:C:H5'	2.36	0.56
7:D:41:LYS:HZ3	22:T:93:VAL:HG11	1.70	0.56
7:D:119:TYR:OH	7:D:134:ALA:HA	2.04	0.56
9:F:31:ALA:C	9:F:34:LYS:HB2	2.31	0.56
11:H:46:THR:HG22	11:H:47:LYS:N	2.20	0.56
12:I:145:LYS:HZ2	12:I:167:LEU:HD11	1.71	0.56
13:J:9:MET:O	13:J:11:ASP:N	2.39	0.56
22:T:27:LEU:O	22:T:31:LEU:HG	2.06	0.56
29:a:79:TRP:CH2	29:a:91:LEU:HD13	2.40	0.56
1:5:172:G:H2'	1:5:172:G:N3	2.20	0.56
1:5:1246:G:N2	1:5:1264:G:O2'	2.38	0.56
1:5:2931:C:O2'	1:5:2932:U:H5'	2.05	0.56
1:5:3000:A:H2'	1:5:3001:C:H6	1.71	0.56
1:5:3359:A:C5'	46:y:236:ALA:HB1	2.36	0.56
4:A:149:ARG:NH1	4:A:149:ARG:HB2	2.21	0.56
6:C:276:LEU:N	6:C:276:LEU:HD12	2.21	0.56
6:C:290:ILE:HG23	19:Q:35:PHE:CE2	2.41	0.56
8:E:39:VAL:O	8:E:40:LEU:HD23	2.05	0.56
9:F:63:ILE:O	9:F:67:ARG:HG3	2.05	0.56
16:N:38:ARG:HG3	16:N:39:ALA:N	2.21	0.56
18:P:25:SER:HB3	18:P:28:ASN:HB2	1.88	0.56
18:P:126:ARG:NH2	18:P:138:LYS:HB3	2.20	0.56
21:S:31:ALA:HB1	21:S:36:ILE:CG2	2.36	0.56
24:V:13:ILE:HG12	24:V:14:SER:N	2.21	0.56
31:c:84:LEU:HD12	31:c:84:LEU:N	2.21	0.56
31:c:99:ASP:HB2	31:c:103:THR:CG2	2.35	0.56
35:g:25:THR:HB	35:g:26:PRO:HD2	1.87	0.56
44:q:25:LEU:HD11	44:q:86:PHE:CD1	2.41	0.56
45:x:21:GLN:HG2	45:x:22:GLU:H	1.71	0.56
45:x:96:ASP:O	45:x:139:VAL:HG13	2.06	0.56
1:5:1201:C:N4	1:5:2857:C:H5''	2.19	0.56
1:5:1815:U:O2'	1:5:1816:A:OP2	2.21	0.56
1:5:2407:C:H1'	1:5:2818:U:O2	2.05	0.56
1:5:2538:U:H2'	1:5:2539:C:H5''	1.88	0.56
1:5:3087:A:H2'	1:5:3088:G:O4'	2.05	0.56
1:5:3325:G:H1'	1:5:3383:G:N2	2.21	0.56
2:7:48:U:O2'	2:7:49:G:H5'	2.06	0.56
3:8:59:A:N1	3:8:100:U:H1'	2.21	0.56
3:8:145:U:H2'	3:8:146:U:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:142:VAL:O	6:C:145:ILE:HG12	2.05	0.56
10:G:122:LYS:C	10:G:124:ASP:H	2.14	0.56
11:H:122:LYS:HG2	11:H:123:ILE:N	2.20	0.56
16:N:151:ILE:O	16:N:151:ILE:HG12	2.04	0.56
17:O:39:GLU:OE1	17:O:39:GLU:N	2.32	0.56
18:P:116:HIS:HB3	18:P:149:VAL:HB	1.88	0.56
19:Q:98:LYS:HG2	19:Q:99:THR:N	2.19	0.56
19:Q:123:THR:OG1	19:Q:125:ASP:OD2	2.21	0.56
21:S:29:ILE:HG22	21:S:30:PHE:N	2.21	0.56
28:Z:26:VAL:HG12	28:Z:89:VAL:HG23	1.88	0.56
36:h:19:SER:HA	36:h:22:VAL:CG2	2.36	0.56
36:h:70:TYR:CD1	36:h:77:PRO:HD3	2.41	0.56
37:i:44:VAL:HA	37:i:47:ILE:CD1	2.35	0.56
45:x:172:PRO:HD2	47:z:69:UNK:HG3	1.88	0.56
1:5:630:A:H2'	1:5:631:U:C6	2.40	0.56
1:5:685:G:P	14:L:35:ARG:NH1	2.79	0.56
1:5:884:A:N6	46:y:388:ARG:HD3	2.20	0.56
1:5:948:C:O2'	1:5:949:C:H5'	2.06	0.56
1:5:972:A:H2'	1:5:973:A:H8	1.71	0.56
1:5:1539:A:C2'	1:5:1540:U:H5'	2.35	0.56
1:5:2292:U:H2'	1:5:2293:C:C6	2.41	0.56
1:5:2373:A:H2'	1:5:2373:A:OP2	2.06	0.56
1:5:2526:C:H2'	1:5:2527:G:H8	1.68	0.56
1:5:2685:C:O2'	1:5:2686:A:H5'	2.06	0.56
7:D:88:ILE:CD1	7:D:239:ILE:HG22	2.36	0.56
15:M:47:ASP:C	15:M:49:PRO:HD3	2.30	0.56
21:S:166:LYS:HG3	21:S:167:ARG:N	2.20	0.56
25:W:25:ASP:OD2	25:W:25:ASP:N	2.36	0.56
26:X:67:ILE:HD13	26:X:115:ARG:HH21	1.71	0.56
29:a:102:ILE:HD12	29:a:123:VAL:HG11	1.88	0.56
31:c:15:ALA:O	31:c:18:ILE:HG22	2.05	0.56
31:c:76:GLU:CD	31:c:76:GLU:H	2.13	0.56
33:e:101:SER:O	33:e:105:ARG:HG3	2.06	0.56
45:x:142:THR:C	45:x:143:LEU:HD23	2.31	0.56
1:5:974:G:H2'	1:5:975:C:H6	1.72	0.55
1:5:1208:U:H6	1:5:3115:C:N4	2.00	0.55
1:5:1562:C:H2'	1:5:1563:C:C6	2.41	0.55
1:5:2591:A:H2'	1:5:2592:G:O4'	2.05	0.55
4:A:125:ALA:O	4:A:128:ARG:HD2	2.06	0.55
5:B:57:VAL:HG13	5:B:72:VAL:O	2.06	0.55
8:E:6:ALA:HA	33:e:74:PHE:CE1	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:219:LYS:HB2	9:F:220:PHE:CD1	2.41	0.55
19:Q:81:VAL:HG13	19:Q:101:VAL:HA	1.87	0.55
30:b:58:LYS:HA	30:b:58:LYS:HZ3	1.71	0.55
44:q:76:LEU:HD12	44:q:86:PHE:HE1	1.71	0.55
47:z:65:UNK:HG2	47:z:66:UNK:N	2.21	0.55
47:z:138:UNK:HA	47:z:141:UNK:HG3	1.87	0.55
1:5:1494:U:OP1	40:l:44:TRP:HB3	2.05	0.55
1:5:2277:C:H2'	1:5:2278:C:C6	2.41	0.55
1:5:2807:U:O2'	1:5:2808:A:H2'	2.05	0.55
1:5:2880:U:O2	5:B:250:ALA:HB3	2.06	0.55
2:7:25:G:H2'	2:7:26:C:C6	2.41	0.55
2:7:101:G:C2'	2:7:102:A:H5''	2.37	0.55
5:B:238:LEU:HB3	5:B:239:PRO:HD2	1.89	0.55
7:D:68:THR:HB	7:D:71:GLY:O	2.06	0.55
8:E:152:THR:HG23	8:E:155:LEU:HB2	1.87	0.55
11:H:93:VAL:O	11:H:177:ASP:HA	2.06	0.55
11:H:103:ILE:CD1	11:H:134:ILE:HD12	2.36	0.55
20:R:106:LEU:HD21	20:R:123:LEU:HB3	1.87	0.55
44:q:19:LEU:HD23	44:q:88:PHE:CZ	2.42	0.55
45:x:241:GLY:HA3	45:x:322:LYS:NZ	2.20	0.55
45:x:370:LEU:HD22	45:x:425:GLU:CG	2.37	0.55
1:5:213:A:H2'	1:5:214:G:H5'	1.87	0.55
1:5:1259:A:OP2	44:q:42:ARG:NH2	2.40	0.55
1:5:3325:G:H5''	32:d:103:GLY:HA2	1.88	0.55
6:C:180:LYS:O	6:C:184:SER:HB3	2.05	0.55
9:F:160:ARG:NH2	9:F:206:LYS:HD2	2.21	0.55
10:G:64:ILE:O	10:G:68:ARG:HG2	2.07	0.55
11:H:89:LYS:HG2	11:H:145:VAL:HG22	1.89	0.55
19:Q:16:ARG:HH21	19:Q:20:LYS:HB3	1.70	0.55
19:Q:125:ASP:OD2	19:Q:126:GLN:HG3	2.06	0.55
31:c:51:LEU:HD11	35:g:91:ARG:HA	1.88	0.55
42:o:65:THR:OG1	42:o:66:LYS:N	2.35	0.55
1:5:1204:A:H2'	1:5:1205:A:O4'	2.07	0.55
1:5:3116:G:H5'	1:5:3117:C:C5	2.42	0.55
1:5:3341:U:N3	46:y:225:ARG:HD2	2.21	0.55
1:5:3359:A:H4'	46:y:236:ALA:HB1	1.88	0.55
9:F:80:GLN:HG3	22:T:136:ARG:HB3	1.88	0.55
10:G:221:ASN:O	10:G:225:LYS:HE3	2.07	0.55
13:J:40:LEU:HD13	13:J:114:ILE:CD1	2.37	0.55
13:J:82:ARG:CB	13:J:112:LEU:HD12	2.35	0.55
34:f:89:LEU:HD22	34:f:90:PRO:HD3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:j:68:LYS:HD3	38:j:69:HIS:CE1	2.42	0.55
39:k:16:ARG:O	39:k:18:ALA:N	2.39	0.55
39:k:46:ARG:HA	39:k:51:LEU:HD13	1.88	0.55
45:x:542:GLU:OE1	47:z:74:UNK:HB1	2.07	0.55
46:y:173:PHE:CD1	46:y:179:ASN:HB3	2.42	0.55
1:5:381:U:H2'	1:5:382:U:C6	2.42	0.55
1:5:546:C:O2	1:5:546:C:H2'	2.04	0.55
1:5:665:A:C2'	1:5:666:A:H5'	2.36	0.55
1:5:1463:U:H2'	1:5:1464:G:O4'	2.07	0.55
1:5:1651:U:H5'	4:A:71:LEU:HD22	1.89	0.55
1:5:1668:G:C2'	1:5:1669:C:H5'	2.37	0.55
1:5:1669:C:O2'	1:5:1670:C:H5'	2.06	0.55
1:5:2017:P5P:H2'	1:5:2018:P5P:H8	1.89	0.55
1:5:2424:A:N6	1:5:2605:G:O2'	2.38	0.55
1:5:2785:A:H4'	42:o:41:ARG:NH2	2.22	0.55
1:5:2806:U:O2'	1:5:2807:U:H5'	2.07	0.55
1:5:2878:G:H5''	5:B:5:LYS:HE3	1.88	0.55
6:C:191:LYS:HG3	6:C:194:TYR:OH	2.07	0.55
11:H:166:ARG:HD2	11:H:168:ARG:NH1	2.14	0.55
19:Q:90:ASP:OD2	19:Q:92:ARG:HB2	2.06	0.55
20:R:89:LEU:C	20:R:89:LEU:HD12	2.30	0.55
45:x:130:THR:HG21	45:x:132:THR:HB	1.88	0.55
45:x:340:VAL:HG13	45:x:353:LEU:O	2.05	0.55
46:y:381:VAL:HG12	46:y:382:ASN:OD1	2.06	0.55
1:5:31:C:OP2	16:N:188:ARG:NH2	2.39	0.55
1:5:208:C:H2'	1:5:209:A:H5'	1.87	0.55
1:5:1048:A:H2'	12:I:22:TYR:CE1	2.41	0.55
1:5:1245:A:C3'	1:5:1246:G:H5''	2.36	0.55
1:5:1557:A:H5''	10:G:54:GLU:OE1	2.06	0.55
1:5:2093:A:N6	20:R:114:LYS:HD3	2.21	0.55
1:5:2769:A:C2'	1:5:2770:G:H5'	2.37	0.55
2:7:121:U:H5''	7:D:265:TYR:HE2	1.71	0.55
4:A:200:ARG:HB3	4:A:202:VAL:HG12	1.89	0.55
5:B:70:ARG:HB3	5:B:70:ARG:HH11	1.71	0.55
6:C:317:PRO:O	6:C:324:LEU:HB2	2.07	0.55
7:D:129:TYR:CE2	7:D:177:GLU:HG3	2.41	0.55
7:D:236:LEU:O	7:D:239:ILE:HB	2.07	0.55
10:G:151:VAL:HG22	10:G:199:ALA:HB2	1.88	0.55
18:P:41:LEU:CD2	18:P:95:LEU:HD22	2.33	0.55
31:c:7:GLN:HG3	31:c:9:SER:H	1.71	0.55
31:c:101:LEU:HD22	31:c:101:LEU:H	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:g:81:CYS:O	35:g:82:ALA:HB3	2.07	0.55
37:i:75:LYS:O	37:i:75:LYS:HD3	2.07	0.55
42:o:38:GLN:HA	42:o:38:GLN:NE2	2.18	0.55
45:x:146:HIS:HD2	45:x:149:GLY:H	1.55	0.55
1:5:1897:G:C1'	24:V:83:LYS:HB2	2.37	0.55
1:5:2363:A:C6	1:5:2364:G:C6	2.95	0.55
1:5:2847:A:H2'	1:5:2848:G:O4'	2.06	0.55
1:5:3250:U:H2'	1:5:3251:U:C6	2.42	0.55
1:5:3259:U:H5''	1:5:3261:C:H5	1.72	0.55
3:8:113:U:H5''	40:l:7:PHE:HB3	1.89	0.55
7:D:61:ILE:HD12	7:D:79:TYR:CD1	2.42	0.55
7:D:257:GLU:CD	7:D:257:GLU:H	2.15	0.55
11:H:47:LYS:NZ	15:M:5:SER:O	2.35	0.55
21:S:9:VAL:O	21:S:26:ARG:HA	2.07	0.55
38:j:26:SER:HB2	38:j:34:CYS:SG	2.46	0.55
39:k:27:ILE:CD1	39:k:41:THR:HB	2.35	0.55
45:x:250:PHE:CD2	46:y:335:GLY:HA2	2.41	0.55
45:x:411:SER:HA	45:x:414:LYS:CE	2.36	0.55
47:z:92:UNK:HA	47:z:95:UNK:HG3	1.87	0.55
1:5:991:G:H2'	1:5:992:A:C8	2.42	0.55
1:5:1687:U:P	23:U:42:LYS:NZ	2.80	0.55
1:5:2853:A:H5'	12:I:63:GLU:HB2	1.89	0.55
1:5:3137:C:H2'	1:5:3138:U:C6	2.42	0.55
1:5:3283:U:H2'	1:5:3284:G:C8	2.42	0.55
15:M:77:ARG:O	15:M:81:VAL:HG23	2.07	0.55
19:Q:83:VAL:O	19:Q:103:ALA:HA	2.07	0.55
23:U:36:TYR:OH	23:U:82:LYS:HG2	2.07	0.55
32:d:44:MET:C	32:d:46:THR:H	2.13	0.55
38:j:50:GLY:O	38:j:53:ALA:N	2.39	0.55
45:x:73:LEU:HD11	45:x:399:PHE:CD2	2.42	0.55
45:x:73:LEU:CD2	45:x:89:ILE:HD11	2.37	0.55
46:y:157:VAL:O	46:y:157:VAL:HG22	2.07	0.55
1:5:173:G:H2'	1:5:174:C:H6	1.72	0.55
1:5:261:U:H2'	1:5:262:U:C6	2.41	0.55
1:5:384:A:H2'	1:5:385:A:O4'	2.06	0.55
1:5:765:C:H4'	1:5:766:U:OP2	2.05	0.55
1:5:972:A:H2'	1:5:973:A:C8	2.41	0.55
1:5:1003:A:O4'	7:D:15:ARG:NE	2.40	0.55
1:5:1049:C:H2'	1:5:1050:U:C6	2.30	0.55
1:5:2332:A:H2'	1:5:2333:C:O4'	2.07	0.55
1:5:2556:C:H5'	28:Z:136:PHE:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2914:G:O2'	1:5:2933:A:N6	2.40	0.55
1:5:3340:G:H4'	1:5:3341:U:OP1	2.07	0.55
3:8:43:A:H4'	38:j:22:CYS:O	2.06	0.55
3:8:82:U:H2'	3:8:85:G:OP1	2.07	0.55
4:A:177:LYS:NZ	43:p:33:GLN:OE1	2.38	0.55
10:G:161:GLU:N	10:G:161:GLU:OE2	2.38	0.55
12:I:145:LYS:NZ	12:I:167:LEU:CD1	2.70	0.55
13:J:19:LEU:O	13:J:68:HIS:HA	2.07	0.55
16:N:127:TYR:HB2	16:N:129:TYR:HE2	1.72	0.55
19:Q:82:VAL:HB	19:Q:139:ILE:HG12	1.88	0.55
24:V:37:ILE:HG12	24:V:59:MET:O	2.07	0.55
39:k:5:ILE:CG2	39:k:54:LEU:HB2	2.37	0.55
40:l:5:LYS:NZ	40:l:13:MET:HE1	2.22	0.55
44:q:93:LEU:HD13	44:q:192:ASP:OD1	2.07	0.55
45:x:270:THR:OG1	45:x:468:LEU:HD13	2.06	0.55
45:x:482:ALA:O	45:x:486:LYS:HG3	2.07	0.55
1:5:552:G:H2'	1:5:553:U:C6	2.41	0.55
1:5:747:A:H4'	30:b:27:TYR:CD2	2.42	0.55
1:5:768:C:O2'	1:5:769:G:H5'	2.07	0.55
1:5:873:C:H5''	1:5:874:U:C4'	2.35	0.55
3:8:78:G:H2'	3:8:78:G:N3	2.22	0.55
9:F:35:ALA:CA	9:F:38:LYS:HB2	2.28	0.55
9:F:88:ARG:HD2	9:F:111:ILE:HA	1.88	0.55
10:G:190:VAL:O	10:G:190:VAL:HG12	2.05	0.55
11:H:87:LYS:CD	11:H:191:LEU:HD21	2.23	0.55
14:L:57:VAL:HG23	14:L:115:ARG:HD2	1.88	0.55
20:R:13:SER:OG	20:R:38:ARG:NH1	2.34	0.55
26:X:96:LYS:HG3	26:X:107:VAL:HG11	1.89	0.55
28:Z:46:ILE:HD12	28:Z:46:ILE:C	2.32	0.55
29:a:133:LEU:CD2	29:a:137:LYS:HG3	2.37	0.55
31:c:43:ILE:O	31:c:89:VAL:HG23	2.07	0.55
32:d:72:ARG:O	32:d:96:VAL:HG13	2.07	0.55
38:j:58:THR:O	38:j:61:THR:HG23	2.07	0.55
1:5:435:C:N4	1:5:621:A:N7	2.55	0.54
1:5:513:G:O2'	1:5:514:G:H5'	2.06	0.54
1:5:514:G:H21	6:C:340:GLY:C	2.14	0.54
1:5:1392:G:C2'	1:5:1417:G:H22	2.20	0.54
1:5:3209:A:OP2	21:S:161:LYS:HD2	2.07	0.54
1:5:3289:G:H4'	1:5:3290:G:OP1	2.07	0.54
1:5:3341:U:H5''	1:5:3342:A:OP2	2.07	0.54
1:5:3386:G:H2'	1:5:3387:U:H6	1.70	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:8:85:G:H22	27:Y:113:LYS:HD2	1.70	0.54
6:C:110:ASN:OD1	16:N:201:ARG:HG2	2.06	0.54
16:N:146:ALA:C	16:N:148:TYR:H	2.15	0.54
17:O:78:ARG:HG3	17:O:78:ARG:NH1	2.12	0.54
19:Q:89:ASP:HB2	19:Q:110:ALA:N	2.22	0.54
21:S:41:TYR:CE2	21:S:45:LEU:HD23	2.42	0.54
24:V:13:ILE:HD11	24:V:81:GLN:HE22	1.72	0.54
27:Y:39:LEU:HD21	27:Y:107:THR:O	2.08	0.54
36:h:114:ARG:NH1	36:h:114:ARG:CG	2.59	0.54
1:5:1607:U:H5'	1:5:1607:U:H6	1.72	0.54
1:5:2098:C:O2'	1:5:2099:A:H5'	2.08	0.54
6:C:157:GLU:O	6:C:213:ASN:HB2	2.07	0.54
7:D:155:THR:N	7:D:179:ARG:HH11	2.06	0.54
8:E:28:GLN:HG2	8:E:29:LYS:N	2.21	0.54
10:G:101:THR:HG23	10:G:104:GLU:CD	2.32	0.54
11:H:40:HIS:H	11:H:40:HIS:CD2	2.26	0.54
12:I:75:TYR:CE1	12:I:150:GLU:HG3	2.43	0.54
12:I:177:ASP:OD2	12:I:177:ASP:N	2.39	0.54
12:I:187:ALA:HB3	12:I:189:GLU:HG3	1.89	0.54
17:O:128:ARG:NH1	17:O:128:ARG:CG	2.58	0.54
18:P:4:TYR:CE1	18:P:16:SER:HB2	2.42	0.54
41:m:99:CYS:O	41:m:100:TYR:HB2	2.06	0.54
44:q:18:TYR:CE2	44:q:52:LEU:HB2	2.42	0.54
44:q:28:VAL:CG1	44:q:100:ILE:HG21	2.34	0.54
44:q:45:LEU:HD11	44:q:100:ILE:CG1	2.38	0.54
45:x:96:ASP:OD2	45:x:102:GLY:HA2	2.07	0.54
45:x:373:LYS:O	45:x:377:GLN:HG2	2.07	0.54
1:5:69:C:H2'	1:5:70:A:O4'	2.07	0.54
1:5:793:C:C4	1:5:794:U:C4	2.95	0.54
1:5:1517:G:OP1	40:l:41:ARG:NH1	2.41	0.54
1:5:2796:G:H3'	42:o:60:LYS:HZ1	1.72	0.54
1:5:3028:G:H2'	1:5:3029:A:C8	2.42	0.54
1:5:3217:C:N4	18:P:182:ILE:HG23	2.21	0.54
1:5:3329:U:H5''	5:B:308:MET:HE3	1.88	0.54
3:8:59:A:O2'	26:X:61:LYS:NZ	2.39	0.54
3:8:66:A:H2'	3:8:67:U:C6	2.41	0.54
3:8:80:A:OP1	36:h:2:ALA:HB2	2.07	0.54
5:B:364:LYS:HA	5:B:364:LYS:CE	2.29	0.54
6:C:301:PRO:O	6:C:302:ALA:HB2	2.08	0.54
7:D:266:ALA:O	7:D:270:LYS:HG3	2.08	0.54
9:F:23:ALA:O	9:F:26:VAL:HG22	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:70:ASN:ND2	16:N:93:LYS:NZ	2.54	0.54
36:h:21:LEU:CG	36:h:54:VAL:HG11	2.35	0.54
37:i:62:ARG:O	37:i:63:ASN:ND2	2.30	0.54
38:j:39:TYR:CE1	38:j:40:PRO:HB3	2.42	0.54
45:x:246:ARG:HD3	45:x:265:LYS:HG2	1.88	0.54
45:x:448:ILE:HG23	45:x:488:LEU:CD1	2.37	0.54
1:5:308:A:O2'	1:5:309:U:H5'	2.06	0.54
1:5:900:G:H2'	1:5:901:G:O4'	2.07	0.54
1:5:1939:G:H1'	1:5:2114:C:O2	2.08	0.54
1:5:2526:C:H1'	1:5:2588:U:H5''	1.89	0.54
2:7:64:A:H5'	2:7:65:G:H5''	1.89	0.54
4:A:80:GLU:HG3	4:A:80:GLU:O	2.06	0.54
5:B:54:THR:O	5:B:76:VAL:HG13	2.08	0.54
7:D:103:LEU:O	7:D:106:ALA:HB3	2.08	0.54
8:E:6:ALA:HA	33:e:74:PHE:HE1	1.73	0.54
12:I:100:ASN:ND2	12:I:102:MET:HE2	2.22	0.54
14:L:126:PHE:CD2	36:h:115:LYS:HE3	2.37	0.54
14:L:167:PHE:CE1	29:a:132:LYS:HG2	2.42	0.54
18:P:141:SER:O	18:P:143:PRO:HD3	2.07	0.54
35:g:55:SER:OG	35:g:69:HIS:HB3	2.07	0.54
45:x:39:LEU:HD12	45:x:39:LEU:O	2.08	0.54
1:5:137:G:H2'	1:5:138:U:H6	1.73	0.54
1:5:929:A:O2'	38:j:49:TRP:O	2.25	0.54
1:5:936:A:OP1	29:a:28:HIS:HD2	1.90	0.54
1:5:1371:G:H2'	1:5:1372:C:C6	2.43	0.54
1:5:1392:G:C1'	1:5:1417:G:H22	2.20	0.54
1:5:1411:C:P	33:e:98:HIS:HB3	2.47	0.54
1:5:1713:G:N2	1:5:1730:G:H1'	2.22	0.54
1:5:2211:U:H5	1:5:2234:G:H1	1.56	0.54
1:5:2536:A:C2	1:5:2544:U:N3	2.76	0.54
1:5:2723:U:H2'	1:5:2724:U:C6	2.41	0.54
1:5:3065:G:H2'	1:5:3066:U:O4'	2.06	0.54
4:A:87:PHE:O	4:A:88:ILE:HD13	2.06	0.54
8:E:174:LEU:HD22	15:M:117:ARG:CZ	2.38	0.54
9:F:74:SER:HB3	22:T:141:VAL:O	2.07	0.54
12:I:4:ARG:HB2	12:I:5:PRO:HD2	1.90	0.54
12:I:191:LYS:HB2	12:I:213:PHE:HE2	1.72	0.54
14:L:152:THR:O	14:L:153:ASP:HB2	2.08	0.54
16:N:191:TRP:O	16:N:195:ASN:ND2	2.25	0.54
20:R:42:ARG:HG3	20:R:42:ARG:HH11	1.72	0.54
21:S:138:GLN:O	21:S:138:GLN:HG2	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:33:TYR:O	23:U:37:LEU:HD22	2.07	0.54
27:Y:39:LEU:HD21	27:Y:107:THR:C	2.33	0.54
42:o:41:ARG:O	42:o:45:ARG:HG3	2.07	0.54
43:p:84:ARG:HG3	43:p:87:ARG:NH2	2.22	0.54
44:q:45:LEU:HG	44:q:99:VAL:HG12	1.88	0.54
45:x:278:LEU:HG	47:z:94:UNK:CB	2.37	0.54
1:5:1222:G:N7	44:q:57:THR:HG21	2.23	0.54
1:5:1340:G:H1'	1:5:1365:G:H22	1.71	0.54
1:5:1348:U:O2'	1:5:1350:A:OP2	2.20	0.54
1:5:2141:U:H1'	1:5:2956:A:N6	2.23	0.54
1:5:2633:U:O2'	1:5:2634:U:H5'	2.07	0.54
1:5:2660:G:O3'	1:5:2749:G:N2	2.41	0.54
1:5:2709:C:H2'	1:5:2710:C:C6	2.43	0.54
1:5:3257:C:O2'	1:5:3258:U:H5'	2.08	0.54
1:5:3380:U:C2'	1:5:3381:U:H5'	2.37	0.54
2:7:28:C:H2'	2:7:29:C:H5'	1.89	0.54
4:A:102:LEU:HD12	4:A:102:LEU:N	2.23	0.54
5:B:261:MET:HB2	5:B:264:VAL:HG12	1.88	0.54
7:D:128:GLU:OE2	7:D:192:PRO:HA	2.07	0.54
8:E:4:GLN:HG2	8:E:5:LYS:H	1.73	0.54
10:G:154:ALA:HB3	10:G:157:VAL:HG23	1.90	0.54
11:H:7:GLU:OE2	11:H:54:LYS:HB3	2.08	0.54
16:N:66:VAL:HG23	16:N:128:LYS:HB2	1.90	0.54
21:S:4:PHE:HE1	21:S:104:GLU:HA	1.73	0.54
23:U:85:LYS:HB2	23:U:90:ARG:HG3	1.89	0.54
24:V:26:ALA:C	24:V:115:THR:HG22	2.32	0.54
32:d:14:ILE:HD13	32:d:16:LEU:HD13	1.89	0.54
33:e:125:ARG:HA	33:e:128:LEU:HD12	1.90	0.54
36:h:86:ARG:O	36:h:90:ARG:HG2	2.07	0.54
41:m:92:ASP:C	41:m:93:LYS:HG2	2.33	0.54
45:x:35:ALA:HB1	45:x:154:VAL:HG23	1.90	0.54
1:5:68:C:O3'	16:N:177:GLY:HA2	2.08	0.54
1:5:639:G:H4'	1:5:1434:G:C6	2.43	0.54
1:5:1671:C:C5'	20:R:60:LYS:HZ3	2.18	0.54
1:5:2129:U:H2'	1:5:2130:G:C8	2.43	0.54
2:7:47:C:OP2	7:D:158:ARG:HD2	2.07	0.54
4:A:135:ILE:HD12	4:A:149:ARG:CG	2.35	0.54
5:B:210:GLU:HG2	5:B:213:GLU:OE2	2.08	0.54
10:G:179:ILE:HB	10:G:222:PHE:CE1	2.41	0.54
11:H:7:GLU:HB2	11:H:55:VAL:O	2.08	0.54
14:L:53:LEU:HD23	14:L:53:LEU:N	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:105:LYS:HB3	18:P:107:LEU:CD1	2.36	0.54
21:S:48:LEU:N	21:S:48:LEU:HD23	2.23	0.54
26:X:135:ILE:C	26:X:135:ILE:HD13	2.33	0.54
32:d:68:GLU:HG3	32:d:69:TYR:N	2.23	0.54
45:x:33:GLN:HG2	45:x:573:GLN:O	2.08	0.54
45:x:60:THR:HG22	45:x:62:PRO:CD	2.21	0.54
45:x:449:LEU:HD23	45:x:477:LYS:HE2	1.89	0.54
45:x:475:LEU:N	45:x:476:PRO:HD2	2.22	0.54
1:5:387:A:C2'	1:5:388:G:H5'	2.38	0.54
1:5:523:A:O2'	21:S:69:PRO:HD2	2.08	0.54
1:5:1127:G:H5'	12:I:118:ALA:O	2.08	0.54
1:5:1317:A:H4'	1:5:1318:A:OP1	2.06	0.54
1:5:1363:A:OP1	9:F:160:ARG:HD3	2.08	0.54
1:5:2686:A:C2	1:5:2687:G:H1'	2.43	0.54
3:8:47:C:O2'	3:8:61:A:H2'	2.08	0.54
5:B:214:MET:HE1	5:B:279:ASN:CA	2.38	0.54
5:B:238:LEU:HB3	5:B:242:THR:HG21	1.89	0.54
11:H:163:GLN:OE1	11:H:166:ARG:NH1	2.40	0.54
12:I:56:GLU:HB2	12:I:58:GLU:OE1	2.08	0.54
13:J:61:ARG:HE	13:J:62:ASN:HD21	1.55	0.54
17:O:78:ARG:N	17:O:78:ARG:HD2	2.20	0.54
18:P:177:ALA:O	18:P:181:ARG:HG3	2.07	0.54
23:U:17:VAL:HA	23:U:103:TYR:O	2.06	0.54
23:U:21:SER:HB2	23:U:22:PRO:HD3	1.89	0.54
42:o:58:PHE:CD2	42:o:61:LYS:HD3	2.43	0.54
45:x:43:THR:O	45:x:47:ASN:ND2	2.41	0.54
45:x:158:MET:HE3	47:z:65:UNK:CB	2.38	0.54
45:x:312:GLN:HB2	45:x:315:GLU:HG3	1.88	0.54
47:z:91:UNK:O	47:z:94:UNK:HG3	2.07	0.54
47:z:118:UNK:O	47:z:121:UNK:HG3	2.08	0.54
1:5:632:G:H2'	1:5:633:C:H6	1.73	0.54
1:5:759:U:C2'	1:5:760:G:H5'	2.38	0.54
1:5:1348:U:C6	1:5:1348:U:C3'	2.90	0.54
1:5:1556:C:H2'	1:5:2169:G:N1	2.23	0.54
1:5:1662:G:H2'	1:5:1663:C:H6	1.73	0.54
1:5:3162:C:C2	1:5:3163:A:N7	2.76	0.54
6:C:324:LEU:HD12	6:C:324:LEU:O	2.08	0.54
14:L:128:ARG:NH1	36:h:112:PRO:CD	2.70	0.54
15:M:98:SER:O	15:M:101:LYS:HB2	2.07	0.54
31:c:45:ALA:HB2	31:c:77:LEU:CD2	2.37	0.54
34:f:71:VAL:HG13	34:f:81:VAL:HG13	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:55:THR:O	45:x:56:GLN:HB2	2.07	0.54
45:x:75:ARG:NH1	45:x:575:MET:HE1	2.23	0.54
46:y:145:ALA:O	46:y:148:VAL:HG12	2.08	0.54
1:5:137:G:H2'	1:5:138:U:C6	2.43	0.54
1:5:194:U:O2'	1:5:195:U:H5'	2.07	0.54
1:5:1631:C:OP2	28:Z:48:ARG:NH2	2.40	0.54
1:5:1671:C:H5''	20:R:60:LYS:HZ1	1.68	0.54
1:5:1891:A:H2'	1:5:1892:G:C5'	2.37	0.54
1:5:3121:U:H1'	1:5:3122:A:H5''	1.88	0.54
1:5:3240:C:C2'	1:5:3241:G:H5'	2.38	0.54
2:7:92:A:H5''	2:7:93:C:OP2	2.08	0.54
4:A:2:GLY:HA2	4:A:207:VAL:CG1	2.36	0.54
6:C:187:LEU:HD22	6:C:188:ARG:H	1.73	0.54
9:F:31:ALA:CA	9:F:34:LYS:HB2	2.37	0.54
10:G:94:PHE:CB	10:G:189:LEU:HD21	2.36	0.54
10:G:238:LEU:HD12	10:G:238:LEU:N	2.23	0.54
13:J:92:ARG:NH1	13:J:92:ARG:CB	2.66	0.54
13:J:164:LYS:HZ1	13:J:171:VAL:HG12	1.73	0.54
15:M:47:ASP:OD1	15:M:55:ARG:HB2	2.07	0.54
17:O:27:LEU:CD2	17:O:33:ILE:HG12	2.38	0.54
19:Q:176:ARG:O	29:a:51:GLY:HA2	2.08	0.54
26:X:62:VAL:HG12	26:X:63:ILE:N	2.23	0.54
27:Y:37:LYS:H	27:Y:37:LYS:CD	2.21	0.54
31:c:57:GLU:OE1	31:c:69:TYR:OH	2.24	0.54
35:g:20:ILE:HG23	35:g:21:LYS:N	2.23	0.54
45:x:202:LEU:CD1	45:x:567:LEU:HD11	2.25	0.54
45:x:357:PRO:HG2	45:x:434:GLU:OE1	2.08	0.54
45:x:524:ARG:HD3	45:x:527:GLY:CA	2.31	0.54
1:5:197:G:O2'	1:5:218:G:N2	2.41	0.53
1:5:531:G:H2'	1:5:532:A:C8	2.43	0.53
1:5:1076:C:H4'	30:b:38:LYS:HD2	1.90	0.53
1:5:1491:A:O2'	1:5:1492:G:H5'	2.07	0.53
1:5:2271:A:H2'	1:5:2272:G:H5'	1.90	0.53
1:5:2309:A:C6	1:5:2962:U:H1'	2.44	0.53
1:5:2523:A:OP1	26:X:31:THR:OG1	2.19	0.53
1:5:3309:G:H2'	1:5:3310:A:H5'	1.90	0.53
4:A:201:GLY:HA2	4:A:204:MET:SD	2.48	0.53
7:D:177:GLU:N	7:D:177:GLU:OE2	2.40	0.53
9:F:88:ARG:HG3	9:F:88:ARG:O	2.07	0.53
11:H:86:TYR:CE1	11:H:151:VAL:HG13	2.43	0.53
19:Q:19:PRO:HD3	19:Q:53:PHE:CE1	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:14:MET:HE1	22:T:55:LYS:HB2	1.91	0.53
26:X:51:VAL:HG12	26:X:52:PRO:O	2.08	0.53
36:h:41:LEU:O	36:h:44:ILE:HG22	2.08	0.53
36:h:67:ARG:NH1	36:h:80:LEU:HD22	2.22	0.53
43:p:54:ILE:HD13	43:p:54:ILE:C	2.33	0.53
45:x:36:GLN:HE21	45:x:526:THR:H	1.56	0.53
45:x:140:LYS:H	45:x:140:LYS:HD2	1.73	0.53
45:x:445:TRP:O	45:x:449:LEU:HG	2.07	0.53
1:5:423:A:H2'	1:5:424:G:O4'	2.08	0.53
1:5:1582:C:H4'	1:5:1583:A:OP1	2.09	0.53
1:5:1897:G:H1'	24:V:83:LYS:HB2	1.90	0.53
1:5:2525:G:H4'	10:G:49:TYR:OH	2.08	0.53
1:5:2550:U:H2'	4:A:40:TYR:OH	2.08	0.53
3:8:81:U:HO2'	3:8:82:U:P	2.30	0.53
6:C:80:GLY:HA2	6:C:85:SER:CB	2.37	0.53
26:X:79:GLY:C	26:X:81:ILE:HD12	2.34	0.53
33:e:82:LEU:CD2	33:e:117:ILE:HD12	2.38	0.53
44:q:26:PHE:CE1	44:q:190:VAL:HG22	2.43	0.53
45:x:183:ALA:HB2	45:x:325:SER:HB3	1.90	0.53
46:y:231:ARG:O	46:y:235:LEU:HG	2.07	0.53
46:y:247:GLU:HA	46:y:250:ARG:NH1	2.23	0.53
1:5:172:G:H1	1:5:246:U:H3	1.55	0.53
1:5:743:C:O2	19:Q:141:ARG:HD3	2.09	0.53
1:5:2609:A:H3'	1:5:2610:G:H5''	1.91	0.53
1:5:3359:A:H2'	1:5:3360:C:C6	2.44	0.53
9:F:175:LYS:HG2	9:F:176:TYR:CD2	2.43	0.53
23:U:22:PRO:HA	23:U:107:PHE:HZ	1.72	0.53
28:Z:36:HIS:N	28:Z:37:PRO:HD3	2.23	0.53
29:a:21:ARG:O	29:a:24:LYS:HG2	2.08	0.53
36:h:4:VAL:HG22	36:h:50:SER:OG	2.09	0.53
45:x:241:GLY:HA3	45:x:322:LYS:HZ2	1.71	0.53
1:5:83:U:H2'	1:5:84:U:O4'	2.08	0.53
1:5:313:A:H2'	1:5:314:U:H6	1.74	0.53
1:5:506:U:H2'	1:5:507:U:H5'	1.91	0.53
1:5:880:G:N3	1:5:882:A:N6	2.56	0.53
1:5:1177:G:H5'	34:f:18:ARG:HH12	1.72	0.53
1:5:1225:A:O2'	1:5:1226:G:H5'	2.07	0.53
1:5:1558:A:OP2	10:G:54:GLU:HG3	2.08	0.53
1:5:1686:U:O2	1:5:1688:U:H1'	2.09	0.53
1:5:3180:A:N6	17:O:114:LYS:HD3	2.22	0.53
1:5:3214:U:OP2	15:M:128:ARG:NH2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3249:C:O2'	1:5:3250:U:H5'	2.09	0.53
2:7:4:U:H2'	2:7:5:G:C8	2.43	0.53
4:A:128:ARG:HA	4:A:169:ILE:CD1	2.38	0.53
6:C:269:SER:O	6:C:270:SER:OG	2.26	0.53
9:F:191:VAL:HG12	9:F:192:GLY:N	2.24	0.53
19:Q:24:VAL:O	19:Q:28:LEU:HG	2.09	0.53
21:S:42:TRP:O	21:S:46:GLN:HG3	2.08	0.53
26:X:69:SER:OG	26:X:71:THR:HG23	2.09	0.53
45:x:36:GLN:HE21	45:x:526:THR:N	2.05	0.53
46:y:345:ARG:CD	46:y:347:PHE:HE2	2.20	0.53
47:z:74:UNK:O	47:z:77:UNK:HG3	2.09	0.53
1:5:353:G:O2'	1:5:364:G:O6	2.22	0.53
1:5:822:G:H2'	1:5:823:C:O4'	2.08	0.53
1:5:1011:A:H5'	12:I:194:GLY:HA3	1.89	0.53
1:5:1360:C:H2'	1:5:1361:U:H5'	1.90	0.53
1:5:1639:C:O2'	1:5:1640:G:H5'	2.08	0.53
1:5:2355:G:H5'	18:P:139:TYR:CE1	2.43	0.53
7:D:126:GLU:HB2	7:D:196:ARG:CB	2.35	0.53
9:F:84:VAL:HG13	9:F:119:VAL:HG21	1.90	0.53
9:F:136:TYR:CZ	9:F:231:ASN:HB2	2.43	0.53
10:G:172:LYS:HA	10:G:172:LYS:NZ	2.24	0.53
12:I:9:TYR:O	12:I:59:GLN:NE2	2.40	0.53
14:L:80:VAL:HG12	14:L:85:LEU:O	2.08	0.53
18:P:54:HIS:HA	18:P:83:TRP:CD1	2.44	0.53
24:V:104:ASN:HB2	24:V:105:PRO:HD2	1.91	0.53
31:c:15:ALA:O	31:c:19:LYS:HE3	2.07	0.53
32:d:76:SER:CB	32:d:78:LYS:HE3	2.39	0.53
45:x:11:GLN:HG2	45:x:15:LYS:HZ2	1.74	0.53
45:x:262:ARG:HB3	46:y:344:THR:HG21	1.88	0.53
45:x:524:ARG:CG	45:x:527:GLY:HA3	2.37	0.53
47:z:150:UNK:HA	47:z:153:UNK:HG3	1.90	0.53
1:5:249:U:O2'	1:5:250:U:O4'	2.16	0.53
1:5:506:U:C2'	1:5:507:U:H5'	2.39	0.53
1:5:536:U:H2'	1:5:537:A:H5'	1.91	0.53
1:5:964:G:N2	29:a:40:HIS:O	2.39	0.53
1:5:1179:A:HO2'	1:5:1327:C:HO2'	1.45	0.53
1:5:2304:C:C2'	1:5:2305:G:H5'	2.38	0.53
1:5:2328:U:H2'	1:5:2329:C:H6	1.73	0.53
1:5:2597:U:H2'	1:5:2598:G:C8	2.43	0.53
1:5:2642:A:P	22:T:3:LYS:NZ	2.82	0.53
3:8:49:G:H2'	3:8:50:C:C6	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:8:104:A:H5'	3:8:105:A:H8	1.74	0.53
6:C:26:PHE:HD2	6:C:130:ALA:HB2	1.73	0.53
6:C:179:LEU:HD13	6:C:183:LYS:HG3	1.90	0.53
6:C:338:LYS:HD3	6:C:338:LYS:N	2.23	0.53
9:F:222:HIS:O	9:F:225:GLN:N	2.39	0.53
12:I:42:THR:CG2	12:I:45:GLU:HG3	2.39	0.53
13:J:16:LYS:HB3	13:J:72:ARG:NE	2.23	0.53
24:V:79:VAL:HG12	24:V:122:CYS:SG	2.47	0.53
26:X:63:ILE:HD11	26:X:84:PHE:CD1	2.44	0.53
28:Z:16:GLY:O	28:Z:18:TYR:N	2.33	0.53
40:l:21:ARG:HD3	40:l:22:PRO:O	2.08	0.53
43:p:11:THR:HG21	43:p:23:ARG:O	2.08	0.53
44:q:76:LEU:CD2	44:q:191:TYR:HB2	2.35	0.53
45:x:60:THR:HG22	45:x:61:VAL:N	2.23	0.53
45:x:579:SER:O	45:x:580:VAL:HG23	2.08	0.53
1:5:388:G:H4'	18:P:18:ARG:O	2.08	0.53
1:5:642:U:OP2	29:a:22:ILE:HG12	2.08	0.53
1:5:1015:U:O4	1:5:1035:G:O6	2.27	0.53
1:5:1238:C:C2'	1:5:1239:C:H5''	2.39	0.53
1:5:2022:P5P:OP1	45:x:83:LYS:HE3	2.09	0.53
1:5:2114:C:H3'	1:5:2114:C:H6	1.73	0.53
1:5:2166:A:H5'	16:N:76:PRO:O	2.08	0.53
1:5:2781:U:H2'	1:5:2782:U:H6	1.74	0.53
1:5:2931:C:H2'	1:5:2932:U:O4'	2.08	0.53
1:5:3198:U:C4	11:H:26:LYS:HE3	2.44	0.53
5:B:37:ARG:CB	5:B:186:GLY:HA3	2.38	0.53
5:B:217:ALA:HB1	5:B:328:ILE:HG13	1.90	0.53
6:C:156:LEU:O	6:C:156:LEU:HD22	2.09	0.53
6:C:203:ARG:NH1	6:C:246:ARG:HH21	2.06	0.53
8:E:164:SER:OG	8:E:166:LYS:HE2	2.09	0.53
12:I:26:VAL:HG12	12:I:122:PRO:CG	2.37	0.53
19:Q:155:MET:CE	19:Q:163:PRO:HB3	2.38	0.53
26:X:133:LEU:O	26:X:133:LEU:HD22	2.09	0.53
29:a:6:THR:CG2	29:a:8:THR:HG23	2.39	0.53
31:c:13:LYS:O	31:c:98:SER:OG	2.16	0.53
1:5:123:A:OP1	10:G:105:LYS:NZ	2.26	0.53
1:5:313:A:H2'	1:5:314:U:C6	2.44	0.53
1:5:525:C:H5''	15:M:79:ALA:HB2	1.91	0.53
1:5:725:G:C2'	1:5:726:G:H5'	2.39	0.53
1:5:758:C:H5'	42:o:18:ARG:HH22	1.73	0.53
1:5:1108:U:H2'	1:5:1109:U:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1458:U:H2'	1:5:1459:C:C6	2.44	0.53
1:5:2178:A:H4'	1:5:2179:C:H5''	1.89	0.53
1:5:2233:A:C4'	1:5:2428:U:H4'	2.37	0.53
1:5:2995:A:O2'	1:5:2996:U:O5'	2.23	0.53
2:7:119:U:OP1	7:D:256:THR:HG23	2.09	0.53
3:8:156:U:HO2'	3:8:157:U:P	2.30	0.53
5:B:59:ASP:HB2	5:B:357:LYS:HD2	1.90	0.53
5:B:63:PRO:HA	5:B:68:HIS:CD2	2.44	0.53
7:D:25:GLU:O	13:J:144:CYS:HA	2.08	0.53
8:E:92:SER:O	8:E:148:GLU:HG2	2.09	0.53
14:L:162:ASN:OD1	14:L:162:ASN:N	2.36	0.53
16:N:33:LYS:HD3	16:N:37:HIS:CE1	2.43	0.53
16:N:46:ASP:OD1	16:N:50:ARG:NH2	2.41	0.53
17:O:125:ARG:HD2	17:O:135:TYR:CD2	2.43	0.53
19:Q:16:ARG:HH21	19:Q:20:LYS:HB2	1.73	0.53
19:Q:158:HIS:H	19:Q:186:VAL:HG11	1.73	0.53
23:U:22:PRO:HA	23:U:107:PHE:CZ	2.43	0.53
23:U:84:LEU:O	23:U:88:GLN:N	2.41	0.53
29:a:15:VAL:O	29:a:16:SER:OG	2.18	0.53
31:c:86:ARG:NH1	43:p:44:LYS:CG	2.68	0.53
34:f:51:TYR:HB3	34:f:67:MET:HB2	1.89	0.53
34:f:75:HIS:CE1	34:f:82:ARG:HE	2.26	0.53
36:h:14:LYS:NZ	36:h:62:GLN:NE2	2.57	0.53
44:q:15:LEU:O	44:q:19:LEU:HG	2.09	0.53
45:x:375:SER:HB3	45:x:422:GLY:HA2	1.91	0.53
1:5:715:A:H8	1:5:715:A:H3'	1.73	0.53
1:5:1144:U:C5	1:5:1366:A:C2	2.96	0.53
1:5:1645:U:C2'	1:5:1646:G:H5'	2.39	0.53
1:5:1668:G:O2'	1:5:1669:C:H5'	2.09	0.53
1:5:2642:A:OP2	22:T:3:LYS:NZ	2.39	0.53
1:5:2802:A:H4'	42:o:59:HIS:HE2	1.73	0.53
1:5:3016:A:H2'	1:5:3017:A:H8	1.74	0.53
3:8:157:U:H2'	3:8:158:U:H6	1.72	0.53
6:C:126:ILE:HD11	6:C:233:LEU:HD12	1.91	0.53
6:C:193:LYS:HB2	6:C:193:LYS:HZ1	1.73	0.53
11:H:129:ARG:HG3	11:H:157:ASN:OD1	2.08	0.53
13:J:164:LYS:NZ	13:J:171:VAL:HG12	2.23	0.53
27:Y:76:LEU:O	27:Y:77:LYS:HB2	2.08	0.53
29:a:65:GLN:O	29:a:66:ALA:HB3	2.08	0.53
31:c:10:ILE:HG23	31:c:11:ASN:N	2.24	0.53
31:c:33:SER:HB2	31:c:93:LEU:HD21	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:p:83:ILE:O	43:p:87:ARG:HB2	2.09	0.53
45:x:146:HIS:C	45:x:147:ILE:HD12	2.34	0.53
47:z:93:UNK:HA	47:z:96:UNK:HG3	1.90	0.53
1:5:291:C:O4'	1:5:2599:U:H4'	2.09	0.53
1:5:796:U:H2'	1:5:797:U:C6	2.44	0.53
1:5:1275:C:C2'	1:5:1276:U:H5'	2.38	0.53
1:5:2148:U:O2'	4:A:182:ALA:HB2	2.09	0.53
1:5:2819:A:OP1	1:5:2866:U:O2'	2.20	0.53
2:7:27:A:H2'	2:7:28:C:H6	1.73	0.53
3:8:49:G:H1	3:8:76:C:H42	1.57	0.53
5:B:39:LYS:HB2	5:B:40:PRO:CD	2.39	0.53
5:B:68:HIS:ND1	5:B:69:LYS:HG3	2.22	0.53
6:C:178:LEU:HD21	6:C:225:VAL:CG2	2.39	0.53
7:D:219:PHE:CE1	7:D:227:LEU:HD21	2.45	0.53
11:H:51:GLN:N	11:H:51:GLN:OE1	2.42	0.53
12:I:191:LYS:O	12:I:197:VAL:HG13	2.08	0.53
19:Q:96:PHE:CD2	19:Q:97:PRO:HD2	2.44	0.53
19:Q:140:LEU:O	19:Q:141:ARG:HG3	2.09	0.53
31:c:99:ASP:HB2	31:c:103:THR:HG21	1.91	0.53
45:x:399:PHE:O	45:x:401:PHE:HD2	1.92	0.53
45:x:556:LEU:HA	45:x:559:LEU:HB2	1.91	0.53
47:z:87:UNK:HB2	47:z:90:UNK:CG	2.36	0.53
1:5:414:U:O2'	1:5:415:G:H5'	2.08	0.52
1:5:595:G:OP1	9:F:30:ARG:NH1	2.42	0.52
1:5:722:G:H2'	1:5:723:U:H6	1.72	0.52
1:5:1369:A:O3'	29:a:20:GLY:HA2	2.08	0.52
1:5:1786:G:H2'	1:5:1787:A:H8	1.69	0.52
1:5:3058:U:O4	32:d:65:LYS:HD3	2.09	0.52
4:A:42:ARG:HG3	4:A:89:TYR:CE1	2.44	0.52
5:B:37:ARG:HB3	5:B:186:GLY:HA3	1.91	0.52
16:N:39:ALA:HB3	16:N:61:ILE:HG22	1.90	0.52
16:N:49:ARG:HH21	16:N:49:ARG:CG	2.22	0.52
17:O:32:LYS:HG2	17:O:101:ARG:HB3	1.90	0.52
17:O:58:LEU:HD12	17:O:72:HIS:ND1	2.24	0.52
26:X:67:ILE:HD12	26:X:121:LYS:HG3	1.90	0.52
27:Y:118:LEU:CD1	27:Y:121:ARG:NH1	2.72	0.52
29:a:31:GLY:O	29:a:35:ALA:HB3	2.09	0.52
30:b:32:LEU:O	30:b:35:VAL:HG23	2.09	0.52
30:b:35:VAL:HG12	30:b:36:ASP:N	2.24	0.52
34:f:51:TYR:O	34:f:66:VAL:HA	2.09	0.52
35:g:80:ARG:HG3	35:g:88:ARG:HH22	1.71	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:y:170:ASN:OD1	46:y:231:ARG:NH1	2.42	0.52
1:5:3:U:H3	3:8:156:U:H3	1.55	0.52
1:5:73:C:N3	14:L:59:ARG:NH1	2.56	0.52
1:5:917:A:C5	1:5:918:C:C4	2.97	0.52
1:5:942:U:C4	29:a:16:SER:HA	2.43	0.52
1:5:1265:U:C2	1:5:1277:C:H1'	2.43	0.52
1:5:1716:U:O2'	1:5:1717:U:H4'	2.09	0.52
1:5:2223:A:OP1	37:i:67:LYS:NZ	2.41	0.52
1:5:2609:A:H3'	1:5:2610:G:C5'	2.40	0.52
1:5:2662:G:H2'	1:5:2663:G:H8	1.74	0.52
1:5:3086:A:H4'	5:B:366:GLY:HA2	1.91	0.52
5:B:44:THR:O	5:B:340:LYS:HG2	2.09	0.52
6:C:233:LEU:HD11	6:C:238:LEU:HD11	1.92	0.52
8:E:78:ARG:HH11	8:E:78:ARG:CG	2.01	0.52
13:J:92:ARG:HG2	13:J:92:ARG:NH1	2.15	0.52
16:N:121:VAL:HG23	16:N:122:ASN:HB2	1.91	0.52
22:T:12:ARG:HD2	22:T:13:TYR:CE2	2.43	0.52
24:V:54:LEU:HD21	24:V:119:GLY:HA3	1.91	0.52
24:V:87:ARG:HD2	24:V:93:LEU:HD21	1.90	0.52
26:X:103:TYR:O	26:X:105:VAL:HG23	2.09	0.52
29:a:125:VAL:HG21	29:a:138:ILE:HD13	1.91	0.52
36:h:28:LEU:O	36:h:28:LEU:HD23	2.09	0.52
45:x:75:ARG:NH1	45:x:575:MET:CE	2.72	0.52
45:x:271:GLU:OE2	45:x:336:THR:HG23	2.09	0.52
47:z:148:UNK:O	47:z:151:UNK:HG3	2.09	0.52
1:5:746:A:OP1	19:Q:145:ASN:ND2	2.42	0.52
1:5:1182:A:H2'	1:5:1183:C:H6	1.74	0.52
1:5:1358:C:O5'	1:5:1358:C:H6	1.91	0.52
1:5:1651:U:H5''	4:A:71:LEU:HD22	1.91	0.52
1:5:1692:U:O5'	1:5:1692:U:H6	1.92	0.52
1:5:2372:A:H5''	1:5:2373:A:H5'	1.92	0.52
1:5:3058:U:H3	32:d:65:LYS:HD3	1.74	0.52
2:7:74:C:H2'	2:7:75:G:C8	2.44	0.52
4:A:68:LYS:CD	4:A:70:ARG:HH21	2.22	0.52
9:F:126:LEU:HA	9:F:129:LEU:HD12	1.92	0.52
10:G:47:SER:O	10:G:50:VAL:HG13	2.08	0.52
15:M:58:ILE:HG12	15:M:59:ASN:H	1.75	0.52
17:O:102:LEU:HD12	17:O:103:LYS:H	1.73	0.52
20:R:13:SER:CB	20:R:38:ARG:HH12	2.22	0.52
23:U:53:ALA:O	23:U:67:SER:HA	2.08	0.52
37:i:57:LEU:HD21	37:i:73:ALA:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:i:88:GLU:HA	37:i:88:GLU:OE2	2.09	0.52
45:x:334:LEU:HD22	45:x:473:LEU:HD21	1.90	0.52
1:5:339:C:H3'	6:C:195:ARG:HH12	1.73	0.52
1:5:632:G:OP1	17:O:92:THR:HB	2.09	0.52
1:5:748:U:C2'	1:5:749:C:H5'	2.39	0.52
1:5:826:G:OP1	1:5:1590:G:O2'	2.24	0.52
1:5:904:A:H2'	1:5:905:U:C6	2.44	0.52
1:5:1765:U:H4'	1:5:1766:G:O5'	2.08	0.52
1:5:1840:U:H4'	1:5:1841:A:H5'	1.92	0.52
1:5:2352:A:H5''	18:P:83:TRP:O	2.09	0.52
1:5:2530:G:C3'	1:5:2531:C:H5''	2.39	0.52
1:5:2785:A:C2'	1:5:2786:G:H5'	2.39	0.52
6:C:178:LEU:O	6:C:181:VAL:HB	2.09	0.52
9:F:90:LYS:HG3	9:F:91:GLY:N	2.24	0.52
9:F:144:ILE:CG2	9:F:185:ILE:HG23	2.39	0.52
9:F:179:LEU:HD22	9:F:183:ASP:OD2	2.09	0.52
13:J:85:LYS:HB3	13:J:85:LYS:HZ2	1.72	0.52
16:N:73:ARG:CD	16:N:75:VAL:HG13	2.39	0.52
21:S:135:VAL:O	21:S:141:LYS:HD2	2.09	0.52
24:V:2:SER:O	24:V:40:LYS:HB3	2.09	0.52
27:Y:18:ALA:O	27:Y:22:ALA:HB2	2.08	0.52
43:p:38:ASP:CG	43:p:45:LYS:HZ2	2.17	0.52
45:x:262:ARG:HD3	46:y:341:ALA:O	2.09	0.52
1:5:213:A:H2'	1:5:214:G:O4'	2.09	0.52
1:5:284:A:C8	42:o:41:ARG:NH1	2.78	0.52
1:5:621:A:H5'	1:5:622:A:N7	2.24	0.52
1:5:1360:C:O2'	1:5:1361:U:H5'	2.09	0.52
1:5:1815:U:O2'	1:5:1816:A:P	2.66	0.52
1:5:2433:U:H1'	16:N:125:SER:HB3	1.92	0.52
1:5:2952:G:C2'	1:5:2953:U:H5'	2.40	0.52
3:8:3:A:H4'	18:P:61:ARG:HE	1.73	0.52
5:B:304:THR:OG1	5:B:305:ILE:N	2.40	0.52
7:D:41:LYS:NZ	22:T:93:VAL:HG11	2.25	0.52
7:D:208:MET:HB2	7:D:233:ALA:CB	2.40	0.52
8:E:96:VAL:HG12	8:E:98:VAL:HG23	1.90	0.52
16:N:17:ASP:HA	16:N:20:ARG:HG3	1.90	0.52
17:O:31:GLN:HG3	17:O:33:ILE:HD11	1.91	0.52
18:P:53:ASP:O	18:P:54:HIS:HB2	2.08	0.52
27:Y:57:LEU:HB3	27:Y:105:VAL:CG1	2.40	0.52
28:Z:13:VAL:HG22	28:Z:80:LEU:HD23	1.91	0.52
31:c:86:ARG:H	31:c:86:ARG:HD2	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:d:46:THR:O	32:d:47:ASP:HB3	2.09	0.52
37:i:62:ARG:NH1	37:i:94:ILE:CG1	2.72	0.52
38:j:16:HIS:HD2	38:j:28:HIS:HA	1.74	0.52
44:q:101:VAL:HG23	44:q:187:VAL:HG23	1.91	0.52
45:x:8:GLU:O	45:x:12:ILE:HG13	2.09	0.52
45:x:282:THR:OG1	47:z:95:UNK:HB2	2.10	0.52
1:5:662:U:H2'	1:5:663:C:C6	2.44	0.52
1:5:784:A:C2'	19:Q:69:ARG:HH21	2.20	0.52
1:5:1580:A:H61	26:X:33:ARG:CD	2.20	0.52
1:5:1639:C:N4	35:g:73:SER:HB2	2.25	0.52
1:5:2203:U:O2'	1:5:2204:C:H5'	2.10	0.52
1:5:2429:G:H2'	1:5:2430:A:H8	1.75	0.52
1:5:2748:A:H8	1:5:2748:A:O5'	1.92	0.52
1:5:3266:G:O2'	1:5:3267:A:H5'	2.10	0.52
4:A:126:LEU:HD13	4:A:150:LEU:HD22	1.90	0.52
5:B:67:PHE:CZ	24:V:88:ARG:HB2	2.45	0.52
5:B:84:VAL:HG13	5:B:163:HIS:O	2.09	0.52
5:B:290:ASP:OD1	5:B:292:ALA:HB3	2.10	0.52
5:B:324:VAL:CG1	5:B:325:LYS:N	2.73	0.52
9:F:47:ARG:NH1	9:F:179:LEU:CD1	2.73	0.52
13:J:132:ASN:HA	13:J:154:THR:HG21	1.91	0.52
14:L:91:ARG:NH1	14:L:91:ARG:CG	2.62	0.52
21:S:5:LYS:HB3	21:S:63:GLN:HE21	1.74	0.52
31:c:18:ILE:CG2	31:c:19:LYS:N	2.73	0.52
31:c:95:ALA:HB2	31:c:101:LEU:CD2	2.40	0.52
32:d:70:ARG:HE	32:d:102:LYS:CE	2.21	0.52
32:d:100:SER:OG	32:d:102:LYS:HB2	2.09	0.52
35:g:8:ARG:HH21	35:g:31:ARG:NH1	2.03	0.52
35:g:74:ARG:HH12	35:g:82:ALA:CB	2.15	0.52
45:x:156:HIS:CD2	45:x:158:MET:HG3	2.42	0.52
45:x:453:ASN:HD22	45:x:484:LYS:HD3	1.73	0.52
47:z:141:UNK:O	47:z:144:UNK:HG3	2.10	0.52
47:z:155:UNK:HA	47:z:158:UNK:HG3	1.92	0.52
47:z:156:UNK:HA	47:z:159:UNK:HG3	1.92	0.52
1:5:281:G:O6	16:N:181:ASN:ND2	2.37	0.52
1:5:358:G:N2	1:5:361:A:OP2	2.43	0.52
1:5:411:U:H2'	1:5:412:G:H8	1.74	0.52
1:5:1132:C:O2'	1:5:1133:A:H5'	2.10	0.52
1:5:1210:U:H3	1:5:1295:G:H1	1.57	0.52
1:5:1269:U:H1'	1:5:1272:C:H5	1.75	0.52
1:5:1927:G:OP1	43:p:7:LYS:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2538:U:H3'	1:5:2539:C:H5''	1.92	0.52
1:5:2669:G:O2'	1:5:2670:G:H5'	2.10	0.52
1:5:2931:C:HO2'	24:V:42:SER:HG	1.49	0.52
1:5:3044:G:O2'	1:5:3045:G:H5'	2.10	0.52
1:5:3393:U:H2'	1:5:3394:U:H6	1.69	0.52
3:8:140:G:O2'	3:8:141:C:H5'	2.10	0.52
5:B:123:TYR:CD2	5:B:124:LYS:N	2.78	0.52
6:C:22:LEU:CD2	6:C:26:PHE:HB2	2.40	0.52
6:C:39:PHE:CE1	6:C:236:LEU:HD23	2.45	0.52
21:S:10:ILE:HB	21:S:60:SER:HB3	1.91	0.52
22:T:42:ILE:HD11	22:T:74:VAL:HG11	1.91	0.52
22:T:65:TYR:CD2	22:T:75:ILE:HG13	2.45	0.52
22:T:106:LEU:O	22:T:110:LYS:HG3	2.10	0.52
28:Z:46:ILE:HG22	28:Z:68:ILE:CG2	2.40	0.52
34:f:28:SER:C	34:f:29:LEU:HD23	2.35	0.52
39:k:58:ASP:HB3	39:k:61:LYS:HG2	1.92	0.52
42:o:40:LYS:HG3	42:o:40:LYS:O	2.08	0.52
45:x:553:ILE:O	45:x:557:ALA:N	2.43	0.52
1:5:924:G:O2'	1:5:2810:C:O4'	2.27	0.52
1:5:1658:G:H2'	1:5:1659:U:C6	2.44	0.52
5:B:261:MET:O	5:B:264:VAL:HG13	2.10	0.52
10:G:83:ASP:OD2	10:G:85:ASN:HB2	2.10	0.52
10:G:172:LYS:HA	10:G:172:LYS:CE	2.40	0.52
11:H:9:GLN:O	11:H:72:LYS:NZ	2.43	0.52
17:O:78:ARG:CG	17:O:78:ARG:NH1	2.67	0.52
19:Q:68:ALA:HB2	19:Q:96:PHE:CD2	2.45	0.52
21:S:5:LYS:HB3	21:S:63:GLN:NE2	2.25	0.52
23:U:35:LYS:HD2	23:U:35:LYS:O	2.10	0.52
23:U:98:THR:HG23	23:U:104:ARG:HB3	1.91	0.52
44:q:25:LEU:HD13	44:q:88:PHE:CZ	2.44	0.52
44:q:51:VAL:HG22	44:q:87:VAL:HG13	1.91	0.52
45:x:36:GLN:NE2	45:x:528:GLY:H	2.08	0.52
45:x:368:HIS:N	45:x:431:LEU:HD21	2.25	0.52
1:5:291:C:OP1	16:N:68:ARG:HD2	2.09	0.52
1:5:374:A:HO2'	1:5:376:G:H8	1.57	0.52
1:5:379:C:H42	1:5:390:G:H1	1.58	0.52
1:5:787:G:OP1	19:Q:148:GLU:HB2	2.09	0.52
1:5:1192:C:H41	1:5:1302:A:P	2.33	0.52
1:5:1381:A:H2'	1:5:1382:G:H8	1.75	0.52
1:5:1423:C:H2'	1:5:1424:C:H5'	1.92	0.52
1:5:2747:A:H2'	1:5:2748:A:C8	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2956:A:N6	1:5:2977:G:H1'	2.25	0.52
2:7:11:A:N1	2:7:67:G:O2'	2.35	0.52
3:8:41:A:O2'	38:j:59:THR:HG22	2.10	0.52
5:B:92:TYR:CE1	5:B:159:ARG:NH1	2.78	0.52
6:C:138:ARG:HE	6:C:240:PRO:HD2	1.73	0.52
6:C:156:LEU:CD2	6:C:159:ILE:HD12	2.40	0.52
8:E:4:GLN:HG2	8:E:5:LYS:N	2.25	0.52
10:G:149:LYS:HB2	10:G:200:LEU:O	2.09	0.52
11:H:86:TYR:CD2	11:H:151:VAL:HG13	2.44	0.52
11:H:163:GLN:CB	11:H:166:ARG:HH11	2.23	0.52
12:I:145:LYS:NZ	12:I:167:LEU:HD11	2.24	0.52
14:L:59:ARG:HH21	14:L:69:VAL:HG23	1.74	0.52
16:N:11:GLN:HG2	16:N:44:ARG:NH2	2.25	0.52
30:b:11:ASN:O	30:b:15:LYS:HG3	2.10	0.52
36:h:26:LYS:O	36:h:29:ALA:HB3	2.09	0.52
39:k:30:LYS:HD2	39:k:40:GLN:HE22	1.74	0.52
45:x:21:GLN:HG2	45:x:22:GLU:N	2.25	0.52
45:x:116:ASN:O	45:x:119:LYS:HB2	2.10	0.52
46:y:226:THR:HG22	46:y:227:LEU:N	2.24	0.52
47:z:102:UNK:O	47:z:104:UNK:HG3	2.10	0.52
47:z:121:UNK:HA	47:z:124:UNK:HG3	1.92	0.52
1:5:151:A:P	16:N:147:ARG:HH22	2.32	0.52
1:5:964:G:H2'	1:5:965:A:C8	2.44	0.52
1:5:1170:A:OP1	9:F:218:ARG:HA	2.09	0.52
1:5:1636:U:H4'	28:Z:74:VAL:O	2.09	0.52
1:5:2357:A:H2'	1:5:2358:A:C8	2.44	0.52
1:5:3305:A:O2'	1:5:3306:U:H5'	2.10	0.52
5:B:56:ILE:HD13	5:B:359:ILE:HG23	1.91	0.52
5:B:211:GLN:HG2	5:B:285:VAL:HG23	1.92	0.52
5:B:345:ASN:ND2	5:B:350:ALA:HB2	2.25	0.52
6:C:257:LYS:O	6:C:261:VAL:HG23	2.10	0.52
9:F:31:ALA:HA	9:F:34:LYS:HG2	1.92	0.52
10:G:50:VAL:HG22	10:G:52:TRP:CE2	2.44	0.52
11:H:103:ILE:HD11	11:H:134:ILE:HG21	1.92	0.52
22:T:52:MET:HG3	22:T:53:PRO:HD2	1.90	0.52
24:V:120:LYS:NZ	24:V:120:LYS:CB	2.72	0.52
30:b:43:HIS:O	30:b:47:LEU:HG	2.10	0.52
34:f:103:TYR:HA	34:f:104:PRO:C	2.35	0.52
38:j:56:ARG:O	38:j:61:THR:HG21	2.09	0.52
46:y:160:PRO:HG2	46:y:163:GLN:CB	2.40	0.52
46:y:160:PRO:HG2	46:y:163:GLN:HB3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:z:89:UNK:O	47:z:92:UNK:HG3	2.10	0.52
1:5:658:G:H2'	1:5:659:G:H5'	1.91	0.51
1:5:1159:A:H3'	1:5:1159:A:N3	2.26	0.51
1:5:1164:G:H2'	1:5:1165:A:C8	2.45	0.51
1:5:1314:C:H5'	17:O:17:GLY:HA3	1.92	0.51
1:5:1682:U:H1'	1:5:1685:C:H41	1.74	0.51
1:5:2278:C:H1'	1:5:2280:A:C2	2.45	0.51
1:5:2382:G:O2'	17:O:70:PRO:HG3	2.10	0.51
1:5:2511:A:C3'	1:5:2512:C:H5'	2.40	0.51
1:5:3150:A:H2'	1:5:3151:U:O4'	2.09	0.51
1:5:3383:G:H21	32:d:105:GLN:NE2	2.08	0.51
2:7:23:A:H2'	2:7:24:A:C8	2.45	0.51
7:D:22:ARG:HD3	7:D:28:THR:OG1	2.10	0.51
7:D:29:ASP:OD1	7:D:32:GLN:HB3	2.10	0.51
11:H:86:TYR:CE2	11:H:151:VAL:HG22	2.44	0.51
11:H:117:PHE:CE1	11:H:165:CYS:HB2	2.46	0.51
18:P:69:ARG:CG	18:P:79:THR:HG23	2.39	0.51
22:T:105:PHE:O	22:T:109:VAL:HG23	2.10	0.51
27:Y:57:LEU:HD22	27:Y:58:VAL:H	1.75	0.51
31:c:29:SER:O	31:c:32:LYS:HB2	2.09	0.51
31:c:100:ILE:HA	31:c:103:THR:OG1	2.10	0.51
32:d:13:THR:HG23	32:d:72:ARG:HH21	1.74	0.51
32:d:57:GLN:O	32:d:61:LYS:HB2	2.09	0.51
36:h:69:LEU:HD12	36:h:70:TYR:CD2	2.45	0.51
45:x:61:VAL:HG23	45:x:131:GLY:O	2.10	0.51
47:z:117:UNK:O	47:z:120:UNK:HG3	2.10	0.51
1:5:715:A:H3'	1:5:715:A:C8	2.45	0.51
1:5:1373:A:OP2	29:a:7:LYS:NZ	2.43	0.51
1:5:1689:U:H5''	20:R:61:SER:HB3	1.91	0.51
1:5:1816:A:O2'	1:5:1817:G:P	2.69	0.51
1:5:1942:U:H1'	1:5:3344:A:C2	2.46	0.51
1:5:2423:U:H1'	1:5:2608:G:N2	2.24	0.51
1:5:3015:G:H2'	1:5:3016:A:H8	1.75	0.51
1:5:3338:C:O2'	1:5:3339:A:H5'	2.10	0.51
4:A:7:ASN:HA	4:A:10:LYS:HG3	1.93	0.51
4:A:66:PRO:HB2	4:A:67:TYR:CE2	2.46	0.51
11:H:76:ASP:O	11:H:80:THR:HG22	2.10	0.51
11:H:124:ARG:HB3	11:H:164:ILE:HG13	1.92	0.51
15:M:26:GLY:O	15:M:29:ALA:HB2	2.10	0.51
28:Z:42:LEU:N	28:Z:42:LEU:HD12	2.25	0.51
45:x:158:MET:HE3	47:z:65:UNK:HB1	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:263:GLU:H	45:x:301:VAL:HG21	1.76	0.51
45:x:486:LYS:O	45:x:490:ASN:ND2	2.43	0.51
1:5:283:G:H2'	29:a:61:PHE:HZ	1.76	0.51
1:5:387:A:H2'	1:5:388:G:H5'	1.91	0.51
1:5:1781:C:H2'	1:5:1782:U:H6	1.75	0.51
1:5:2358:A:H3'	1:5:2359:C:H6	1.76	0.51
1:5:2675:C:N4	13:J:22:SER:HB2	2.17	0.51
1:5:2860:U:H2'	1:5:2861:U:H5'	1.91	0.51
1:5:2988:C:H2'	1:5:2989:U:H6	1.75	0.51
2:7:44:C:H2'	2:7:45:A:H5'	1.91	0.51
4:A:48:ILE:C	4:A:48:ILE:HD12	2.35	0.51
5:B:218:ILE:N	5:B:218:ILE:HD12	2.26	0.51
6:C:22:LEU:HD21	6:C:26:PHE:CB	2.41	0.51
15:M:108:ARG:O	15:M:111:ALA:HB3	2.09	0.51
16:N:140:LYS:CB	16:N:144:ARG:NH1	2.68	0.51
17:O:182:ASN:O	17:O:186:ALA:N	2.43	0.51
31:c:68:TYR:HE2	31:c:70:PHE:HA	1.75	0.51
32:d:61:LYS:HB3	32:d:61:LYS:NZ	2.25	0.51
35:g:3:GLN:OE1	35:g:29:ILE:HG12	2.10	0.51
37:i:4:LYS:HD2	37:i:12:ASN:O	2.10	0.51
42:o:55:LYS:N	42:o:55:LYS:HD2	2.26	0.51
44:q:100:ILE:HG23	44:q:185:LEU:HD12	1.91	0.51
1:5:177:U:H3	1:5:241:G:H1	1.59	0.51
1:5:513:G:C2'	1:5:514:G:H5'	2.39	0.51
1:5:621:A:H1'	1:5:622:A:OP2	2.11	0.51
1:5:633:C:O2'	34:f:21:ARG:O	2.24	0.51
1:5:1352:A:OP1	1:5:1352:A:H3'	2.10	0.51
1:5:1354:G:C6	1:5:1358:C:H5'	2.44	0.51
1:5:1575:A:C3'	1:5:1576:G:H5''	2.34	0.51
1:5:2940:A:N7	5:B:2:SER:HA	2.26	0.51
1:5:3292:A:O2'	1:5:3293:U:H5'	2.11	0.51
2:7:36:C:H5''	7:D:155:THR:CG2	2.41	0.51
5:B:56:ILE:CD1	5:B:359:ILE:HG23	2.40	0.51
6:C:158:SER:HA	6:C:213:ASN:CB	2.41	0.51
7:D:152:ARG:NH1	7:D:152:ARG:CG	2.53	0.51
7:D:187:THR:HG22	7:D:189:GLU:CD	2.36	0.51
9:F:144:ILE:HG22	9:F:185:ILE:HG23	1.93	0.51
10:G:53:PRO:HB2	10:G:55:TYR:CE2	2.45	0.51
13:J:63:GLU:HG2	13:J:64:LYS:N	2.24	0.51
14:L:69:VAL:N	14:L:149:GLN:OE1	2.33	0.51
14:L:75:PHE:CE1	14:L:116:LEU:HD21	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:O:121:PRO:HA	17:O:124:LEU:CD2	2.40	0.51
21:S:79:VAL:HG13	21:S:122:HIS:O	2.09	0.51
35:g:58:ARG:HH11	35:g:58:ARG:CG	2.24	0.51
37:i:33:ALA:O	37:i:34:SER:HB3	2.09	0.51
45:x:468:LEU:HB2	45:x:469:PRO:HD3	1.91	0.51
1:5:716:A:O2'	29:a:117:ARG:NH2	2.35	0.51
1:5:735:A:O2'	1:5:736:A:OP1	2.28	0.51
1:5:946:U:O2	1:5:1374:G:N2	2.43	0.51
1:5:1240:A:H2'	1:5:1241:U:H5'	1.91	0.51
1:5:2176:U:C2'	1:5:2177:G:H5'	2.40	0.51
1:5:2388:U:O2'	18:P:80:LYS:HE2	2.11	0.51
1:5:2560:C:N4	1:5:2575:G:OP2	2.43	0.51
1:5:2583:C:O2'	1:5:2584:G:OP1	2.24	0.51
1:5:2656:A:OP1	42:o:98:LYS:HG2	2.11	0.51
1:5:2883:U:C2'	1:5:2884:C:H5'	2.41	0.51
1:5:2898:G:H5''	1:5:2899:C:O5'	2.10	0.51
1:5:3004:C:H2'	1:5:3005:A:H5'	1.92	0.51
3:8:97:A:C2'	3:8:98:U:H5'	2.40	0.51
5:B:27:ALA:HB1	5:B:218:ILE:HG22	1.93	0.51
6:C:234:ASN:OD1	6:C:235:LEU:N	2.43	0.51
7:D:82:GLU:O	7:D:85:ARG:HB3	2.10	0.51
16:N:15:GLN:HB3	37:i:51:SER:HB2	1.93	0.51
23:U:21:SER:HB2	23:U:22:PRO:CD	2.40	0.51
30:b:37:PRO:O	30:b:40:ARG:HB2	2.10	0.51
31:c:86:ARG:HH12	43:p:44:LYS:CD	2.24	0.51
38:j:53:ALA:CA	38:j:56:ARG:HH11	2.16	0.51
1:5:550:A:H2'	1:5:551:A:H8	1.74	0.51
1:5:585:A:H2'	1:5:586:C:H6	1.75	0.51
1:5:727:G:H2'	1:5:728:G:O4'	2.11	0.51
1:5:2964:G:N2	1:5:2967:A:OP2	2.34	0.51
1:5:2988:C:H2'	1:5:2989:U:C6	2.46	0.51
5:B:17:LEU:N	5:B:17:LEU:HD13	2.25	0.51
7:D:194:LEU:HD11	7:D:198:TYR:CE2	2.46	0.51
10:G:26:LEU:HD21	28:Z:123:GLN:OE1	2.10	0.51
10:G:172:LYS:HZ1	10:G:172:LYS:CA	2.23	0.51
11:H:12:VAL:HG13	11:H:16:VAL:HG23	1.91	0.51
12:I:31:ILE:O	12:I:32:ARG:HD3	2.11	0.51
16:N:39:ALA:HB3	16:N:61:ILE:CG2	2.41	0.51
21:S:101:ALA:O	21:S:105:THR:HG23	2.11	0.51
23:U:94:ARG:HB3	23:U:108:TYR:CZ	2.46	0.51
24:V:96:GLU:OE1	25:W:24:GLY:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:b:5:LYS:NZ	30:b:8:THR:CB	2.72	0.51
34:f:75:HIS:CE1	34:f:82:ARG:HH21	2.29	0.51
36:h:22:VAL:O	36:h:26:LYS:HG3	2.10	0.51
1:5:238:A:O2'	1:5:239:G:P	2.68	0.51
1:5:760:G:HO2'	1:5:761:A:P	2.33	0.51
1:5:771:A:C2'	1:5:772:U:H5'	2.40	0.51
1:5:858:A:O2'	1:5:859:G:H5'	2.10	0.51
1:5:915:A:C5	1:5:917:A:H1'	2.45	0.51
1:5:1078:U:H1'	1:5:1082:U:O2	2.11	0.51
1:5:1240:A:N6	1:5:1241:U:O4	2.44	0.51
1:5:1361:U:H2'	1:5:1362:G:H8	1.75	0.51
1:5:1819:U:HO2'	1:5:1820:U:P	2.29	0.51
1:5:2724:U:OP2	1:5:2726:C:N4	2.43	0.51
1:5:2770:G:O2'	1:5:2771:U:H5'	2.11	0.51
1:5:2898:G:H5''	1:5:2899:C:H5'	1.92	0.51
1:5:2989:U:H2'	1:5:2990:G:C8	2.46	0.51
5:B:5:LYS:HG2	5:B:6:TYR:CE1	2.45	0.51
13:J:11:ASP:O	13:J:12:LEU:HB2	2.11	0.51
18:P:122:ALA:HB3	18:P:143:PRO:HB2	1.92	0.51
24:V:40:LYS:HB2	24:V:57:MET:HG2	1.93	0.51
27:Y:120:GLN:HE21	27:Y:120:GLN:CA	2.24	0.51
30:b:52:LYS:O	30:b:52:LYS:HG3	2.11	0.51
37:i:63:ASN:C	37:i:65:GLY:H	2.18	0.51
44:q:89:THR:HG23	44:q:93:LEU:HD23	1.91	0.51
45:x:340:VAL:HG11	45:x:353:LEU:CD2	2.38	0.51
1:5:70:A:C2	1:5:72:C:N4	2.79	0.51
1:5:109:A:O2'	1:5:323:A:N6	2.44	0.51
1:5:849:C:H2'	1:5:850:U:C6	2.45	0.51
1:5:1742:U:H2'	1:5:1743:G:O4'	2.10	0.51
1:5:2221:G:N2	1:5:2224:A:OP2	2.33	0.51
1:5:2435:G:H1'	16:N:24:ARG:HH22	1.76	0.51
4:A:46:LYS:HD3	4:A:62:VAL:HG11	1.92	0.51
6:C:136:LEU:CD2	6:C:142:VAL:HG23	2.34	0.51
6:C:235:LEU:HD12	6:C:235:LEU:O	2.11	0.51
7:D:153:THR:HG23	7:D:160:PHE:CZ	2.46	0.51
10:G:86:THR:O	10:G:90:THR:HG23	2.10	0.51
28:Z:27:LYS:HE3	28:Z:29:HIS:HD2	1.76	0.51
45:x:16:ASP:O	45:x:19:ILE:HB	2.11	0.51
45:x:90:ALA:HB3	45:x:144:GLY:C	2.36	0.51
45:x:108:ILE:HD13	45:x:409:LEU:CD1	2.41	0.51
45:x:225:THR:CG2	45:x:549:ILE:HD13	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:449:LEU:HD22	45:x:477:LYS:HZ1	1.76	0.51
46:y:166:PHE:CE1	46:y:183:MET:HE3	2.45	0.51
47:z:83:UNK:HG2	47:z:83:UNK:O	2.11	0.51
1:5:296:A:OP1	37:i:86:LYS:NZ	2.43	0.51
1:5:701:G:H2'	1:5:702:C:C6	2.46	0.51
1:5:1307:G:H1'	1:5:1308:A:OP2	2.10	0.51
1:5:1314:C:O2	1:5:1314:C:H2'	2.10	0.51
1:5:2312:A:H4'	1:5:2312:A:OP1	2.10	0.51
1:5:2818:U:H5'	1:5:2818:U:H6	1.76	0.51
1:5:3041:U:H2'	1:5:3042:U:H6	1.76	0.51
1:5:3049:A:N3	5:B:55:THR:OG1	2.44	0.51
1:5:3179:U:O2'	17:O:116:LYS:HD2	2.10	0.51
5:B:37:ARG:HH21	5:B:188:ILE:HD11	1.74	0.51
5:B:128:LYS:O	5:B:131:THR:HG23	2.11	0.51
7:D:126:GLU:CB	7:D:196:ARG:HB2	2.37	0.51
13:J:12:LEU:CD1	13:J:13:LYS:H	2.22	0.51
13:J:94:ARG:C	13:J:96:PHE:H	2.17	0.51
22:T:78:LYS:HG3	22:T:79:MET:N	2.24	0.51
23:U:39:ASP:O	23:U:47:VAL:HB	2.11	0.51
36:h:34:GLN:NE2	45:x:344:THR:H	2.09	0.51
45:x:231:ALA:CA	45:x:323:MET:HE1	2.40	0.51
45:x:270:THR:CG2	45:x:271:GLU:H	2.24	0.51
1:5:608:A:H5''	1:5:609:G:OP2	2.11	0.51
1:5:747:A:H4'	30:b:27:TYR:CE2	2.46	0.51
1:5:941:G:C2'	1:5:942:U:H5'	2.41	0.51
1:5:1220:U:H4'	1:5:1221:A:H5''	1.93	0.51
1:5:1725:C:H2'	1:5:1726:C:H6	1.76	0.51
1:5:1767:C:C2'	1:5:1768:U:H5'	2.41	0.51
1:5:1926:C:H2'	43:p:7:LYS:HZ2	1.76	0.51
1:5:2409:G:H4'	1:5:2410:U:OP2	2.11	0.51
1:5:2424:A:H5''	16:N:90:ASN:HD21	1.75	0.51
1:5:2553:U:O4	35:g:98:GLN:HG3	2.10	0.51
1:5:2584:G:H2'	10:G:240:ASN:ND2	2.26	0.51
1:5:2611:U:H2'	1:5:2612:U:C6	2.45	0.51
1:5:2872:A:N3	1:5:2872:A:H5'	2.26	0.51
2:7:44:C:C2'	2:7:45:A:H5'	2.41	0.51
2:7:49:G:H4'	2:7:50:U:O5'	2.11	0.51
3:8:77:A:H2'	3:8:78:G:O4'	2.11	0.51
4:A:174:ARG:HG2	4:A:174:ARG:NH1	2.22	0.51
9:F:80:GLN:OE1	22:T:136:ARG:NE	2.44	0.51
9:F:98:LYS:O	9:F:102:VAL:HG23	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:118:LYS:HB2	9:F:195:PHE:CE1	2.46	0.51
10:G:154:ALA:HB3	10:G:157:VAL:CG2	2.41	0.51
11:H:3:TYR:HA	21:S:142:GLN:OE1	2.10	0.51
12:I:73:ASN:O	12:I:77:THR:OG1	2.14	0.51
12:I:85:PHE:HB2	12:I:140:THR:CG2	2.40	0.51
12:I:212:GLU:C	12:I:214:PRO:HD3	2.36	0.51
13:J:143:ARG:HH11	13:J:143:ARG:HG3	1.76	0.51
15:M:24:LYS:HD2	15:M:64:VAL:CG1	2.41	0.51
19:Q:16:ARG:NH2	19:Q:20:LYS:HB3	2.25	0.51
22:T:80:VAL:HG11	22:T:85:LEU:CD1	2.41	0.51
28:Z:14:VAL:HG12	28:Z:79:HIS:C	2.36	0.51
29:a:78:LEU:HD13	29:a:78:LEU:O	2.11	0.51
33:e:79:VAL:CG2	33:e:108:ILE:HG12	2.40	0.51
36:h:57:VAL:HG12	36:h:58:ILE:N	2.26	0.51
40:l:28:ARG:NH1	40:l:36:ARG:O	2.44	0.51
44:q:45:LEU:HD22	44:q:96:ILE:HG23	1.92	0.51
45:x:30:THR:O	45:x:34:ILE:HB	2.11	0.51
1:5:622:A:C1'	34:f:60:ARG:HH21	2.24	0.50
1:5:2426:U:H3	1:5:2603:G:H1	1.59	0.50
1:5:3279:A:H2'	1:5:3280:U:H5'	1.92	0.50
2:7:42:A:H1'	13:J:72:ARG:HH12	1.75	0.50
5:B:189:SER:O	5:B:192:VAL:HG13	2.10	0.50
7:D:61:ILE:HG23	7:D:79:TYR:HE1	1.76	0.50
10:G:162:LEU:HD21	16:N:7:LEU:HD21	1.93	0.50
11:H:124:ARG:HB3	11:H:164:ILE:HG12	1.92	0.50
12:I:207:GLU:O	12:I:210:ILE:HG12	2.11	0.50
16:N:155:VAL:O	16:N:162:ARG:NH2	2.36	0.50
17:O:178:VAL:O	17:O:182:ASN:HB3	2.11	0.50
28:Z:128:GLN:O	28:Z:129:TRP:C	2.54	0.50
38:j:24:ARG:CB	38:j:24:ARG:HH11	2.24	0.50
44:q:51:VAL:HA	44:q:87:VAL:HA	1.93	0.50
44:q:89:THR:HG23	44:q:93:LEU:CD2	2.41	0.50
45:x:198:LEU:HD12	45:x:507:ILE:HD12	1.93	0.50
45:x:223:ILE:HD12	45:x:309:PHE:CZ	2.46	0.50
45:x:270:THR:CG2	45:x:271:GLU:N	2.74	0.50
45:x:464:SER:HB3	45:x:469:PRO:HG3	1.93	0.50
47:z:122:UNK:O	47:z:125:UNK:HG3	2.10	0.50
1:5:1219:C:O3'	1:5:1222:G:H5''	2.10	0.50
1:5:1225:A:C4	1:5:1226:G:C8	2.99	0.50
1:5:1284:C:O2'	1:5:1285:G:P	2.69	0.50
1:5:2545:C:C2'	1:5:2546:C:H5'	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2604:U:HO2'	1:5:2605:G:P	2.33	0.50
1:5:2902:A:H8	1:5:2902:A:O5'	1.94	0.50
1:5:3232:G:C6	1:5:3256:G:C6	3.00	0.50
1:5:3328:G:H2'	1:5:3329:U:O4'	2.11	0.50
5:B:205:VAL:HG23	5:B:206:ASP:N	2.25	0.50
6:C:91:GLY:HA3	6:C:93:MET:CE	2.42	0.50
6:C:181:VAL:HG11	6:C:223:PRO:C	2.36	0.50
7:D:40:HIS:CD2	7:D:42:ALA:HB3	2.45	0.50
7:D:102:GLY:O	7:D:106:ALA:HB2	2.12	0.50
7:D:203:HIS:CE1	7:D:204:VAL:HG23	2.46	0.50
7:D:229:ASP:HB3	7:D:231:ILE:HD11	1.93	0.50
10:G:101:THR:OG1	10:G:104:GLU:HG3	2.12	0.50
12:I:145:LYS:HZ3	12:I:167:LEU:CD1	2.24	0.50
13:J:82:ARG:HB3	13:J:112:LEU:CD1	2.42	0.50
27:Y:109:LEU:HD22	27:Y:115:ARG:HH12	1.73	0.50
28:Z:134:LEU:O	28:Z:134:LEU:HD13	2.11	0.50
31:c:13:LYS:HZ2	31:c:103:THR:HG21	1.75	0.50
39:k:46:ARG:HA	39:k:51:LEU:CD1	2.41	0.50
42:o:26:THR:OG1	42:o:71:ARG:HB3	2.11	0.50
43:p:54:ILE:HG12	43:p:55:TRP:N	2.26	0.50
45:x:17:LYS:HG3	45:x:249:ARG:HH11	1.75	0.50
1:5:172:G:N2	1:5:246:U:O2	2.40	0.50
1:5:411:U:H2'	1:5:412:G:C8	2.46	0.50
1:5:620:U:H4'	1:5:621:A:C5'	2.42	0.50
1:5:986:U:H1'	9:F:126:LEU:HD21	1.93	0.50
1:5:1479:U:C3'	1:5:1480:G:H5'	2.41	0.50
1:5:2347:U:H3'	1:5:2348:A:C8	2.46	0.50
1:5:2582:C:C2'	1:5:2583:C:H5'	2.40	0.50
1:5:2857:C:C2'	1:5:2858:U:H5'	2.41	0.50
1:5:2915:U:C6	5:B:7:GLU:HG2	2.46	0.50
1:5:3204:C:O2'	1:5:3205:G:H5'	2.11	0.50
1:5:3292:A:H4'	5:B:132:LYS:HZ3	1.77	0.50
9:F:158:LYS:HD3	9:F:158:LYS:C	2.36	0.50
13:J:94:ARG:NH1	13:J:94:ARG:CG	2.74	0.50
13:J:166:LYS:C	13:J:168:ASP:H	2.18	0.50
21:S:155:ARG:HH21	21:S:155:ARG:HB3	1.76	0.50
26:X:105:VAL:HG11	26:X:126:LEU:CD1	2.27	0.50
27:Y:36:SER:HB3	27:Y:105:VAL:HG21	1.92	0.50
28:Z:87:LEU:HD13	28:Z:127:ASN:OD1	2.11	0.50
46:y:211:ILE:O	46:y:211:ILE:HG12	2.12	0.50
46:y:379:LYS:HD3	46:y:380:PHE:HE1	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:873:C:H3'	1:5:874:U:H4'	1.94	0.50
1:5:1169:A:N6	1:5:1170:A:N1	2.60	0.50
1:5:1567:U:C3'	1:5:1568:U:H5''	2.34	0.50
1:5:1583:A:H5'	1:5:1584:U:OP2	2.11	0.50
1:5:2353:G:H2'	1:5:2354:C:H6	1.75	0.50
1:5:3007:U:OP1	17:O:73:PHE:HA	2.11	0.50
5:B:37:ARG:HA	5:B:186:GLY:HA3	1.93	0.50
6:C:125:ALA:HB1	6:C:238:LEU:HB3	1.92	0.50
8:E:40:LEU:O	8:E:51:ARG:HA	2.10	0.50
9:F:179:LEU:HD22	9:F:179:LEU:H	1.76	0.50
13:J:83:GLY:O	13:J:86:VAL:HB	2.12	0.50
14:L:159:VAL:CG1	29:a:144:VAL:HG13	2.37	0.50
20:R:45:VAL:HG12	20:R:46:LYS:N	2.26	0.50
22:T:116:ARG:HG3	22:T:126:VAL:HG11	1.94	0.50
28:Z:51:LEU:HD23	28:Z:52:LYS:HE3	1.94	0.50
39:k:70:PRO:HB2	39:k:72:THR:HG22	1.92	0.50
40:l:5:LYS:HD3	40:l:13:MET:CE	2.40	0.50
45:x:358:GLY:O	45:x:391:LYS:HB3	2.11	0.50
45:x:382:ILE:HD13	45:x:390:PHE:HZ	1.76	0.50
1:5:519:A:H2'	1:5:519:A:N3	2.25	0.50
1:5:784:A:C6	19:Q:93:ILE:HG23	2.46	0.50
1:5:886:C:O2'	1:5:887:G:H5'	2.12	0.50
1:5:1299:U:C2'	1:5:1300:G:H5'	2.42	0.50
1:5:1574:C:O2'	1:5:1575:A:OP1	2.22	0.50
1:5:1604:G:H3'	1:5:1604:G:N3	2.27	0.50
1:5:1809:A:H2'	1:5:1810:A:O4'	2.11	0.50
1:5:2899:C:N3	11:H:173:ARG:NH1	2.58	0.50
6:C:361:HIS:CG	6:C:362:ASP:H	2.29	0.50
7:D:136:GLU:C	7:D:138:GLY:H	2.20	0.50
8:E:65:ILE:O	8:E:76:LEU:HA	2.11	0.50
11:H:25:VAL:HG23	11:H:38:LEU:HD12	1.93	0.50
12:I:170:LYS:HA	12:I:177:ASP:HA	1.93	0.50
21:S:9:VAL:HG11	21:S:41:TYR:CG	2.47	0.50
24:V:26:ALA:HA	24:V:115:THR:CG2	2.42	0.50
24:V:70:ARG:CZ	24:V:71:LYS:HG3	2.41	0.50
24:V:87:ARG:HB2	24:V:89:ASP:OD1	2.11	0.50
27:Y:60:ARG:HG3	27:Y:60:ARG:NH1	2.07	0.50
33:e:38:ILE:HG13	33:e:39:ASP:N	2.25	0.50
36:h:59:ASN:O	36:h:63:ARG:HG2	2.11	0.50
39:k:30:LYS:HD2	39:k:40:GLN:NE2	2.26	0.50
43:p:51:ALA:HB3	43:p:54:ILE:CG2	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:188:HIS:NE2	45:x:534:PRO:HG3	2.25	0.50
45:x:448:ILE:HG23	45:x:488:LEU:HD13	1.94	0.50
46:y:157:VAL:CG2	46:y:227:LEU:HD13	2.41	0.50
1:5:29:C:OP1	16:N:189:LYS:HB2	2.11	0.50
1:5:768:C:H2'	1:5:769:G:C8	2.46	0.50
1:5:928:C:H2'	1:5:929:A:H8	1.76	0.50
1:5:934:G:N3	1:5:934:G:H2'	2.26	0.50
1:5:946:U:OP2	33:e:34:LYS:HE2	2.11	0.50
1:5:947:G:H5''	33:e:55:ILE:HB	1.94	0.50
1:5:2398:A:H2'	1:5:2398:A:N3	2.27	0.50
1:5:2417:U:O5'	1:5:2417:U:H6	1.93	0.50
1:5:2656:A:H4'	42:o:98:LYS:HD2	1.92	0.50
1:5:2849:C:C2'	1:5:2850:G:H5'	2.42	0.50
3:8:97:A:OP1	36:h:63:ARG:NH2	2.43	0.50
3:8:98:U:H2'	3:8:99:C:O4'	2.11	0.50
5:B:165:GLN:OE1	5:B:167:ARG:NH2	2.44	0.50
5:B:274:SER:C	5:B:275:ARG:HD3	2.37	0.50
12:I:191:LYS:HB2	12:I:213:PHE:CE2	2.46	0.50
14:L:166:ALA:O	14:L:169:THR:HB	2.12	0.50
26:X:81:ILE:HG13	26:X:125:ARG:HA	1.92	0.50
44:q:91:GLU:HB3	44:q:92:PRO:CD	2.25	0.50
45:x:103:GLY:O	45:x:437:ILE:HD12	2.12	0.50
45:x:237:GLY:N	45:x:324:ALA:O	2.44	0.50
1:5:90:C:C3'	1:5:91:G:H5'	2.42	0.50
1:5:132:C:C2'	1:5:133:U:H5''	2.42	0.50
1:5:151:A:O2'	1:5:152:U:OP1	2.30	0.50
1:5:497:C:C2'	34:f:86:ARG:HH22	2.24	0.50
1:5:818:C:O2'	38:j:7:SER:HB2	2.11	0.50
1:5:2660:G:N3	1:5:2744:U:O2'	2.44	0.50
1:5:2821:C:H41	1:5:2869:U:H3	1.58	0.50
1:5:2931:C:C2'	1:5:2932:U:H5'	2.41	0.50
1:5:2997:G:H1'	1:5:3396:U:C5'	2.42	0.50
1:5:3299:A:C2'	1:5:3300:U:H5'	2.41	0.50
2:7:76:A:H1'	21:S:50:LYS:HZ1	1.77	0.50
5:B:214:MET:HE1	5:B:279:ASN:C	2.36	0.50
7:D:25:GLU:HG3	7:D:27:LYS:HG3	1.94	0.50
8:E:46:ARG:HH11	8:E:46:ARG:HG2	1.74	0.50
9:F:151:ARG:NH1	9:F:244:ASN:O	2.44	0.50
11:H:49:ASN:OD1	11:H:52:LEU:N	2.45	0.50
11:H:92:TYR:HB2	11:H:142:ASP:HB3	1.92	0.50
21:S:48:LEU:O	21:S:49:HIS:ND1	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:124:LEU:HD11	22:T:155:PRO:HA	1.94	0.50
35:g:56:THR:O	35:g:57:LEU:HD23	2.11	0.50
36:h:56:THR:O	36:h:60:GLU:HG3	2.11	0.50
45:x:172:PRO:HD2	47:z:69:UNK:CG	2.42	0.50
45:x:442:TRP:HB2	45:x:498:LEU:HD11	1.94	0.50
1:5:283:G:H2'	29:a:61:PHE:CZ	2.47	0.50
1:5:338:A:OP1	6:C:47:ARG:HA	2.11	0.50
1:5:898:U:H2'	1:5:899:U:C6	2.46	0.50
1:5:1062:A:H4'	22:T:105:PHE:CE2	2.47	0.50
1:5:1277:C:O2	1:5:1277:C:H2'	2.11	0.50
1:5:1423:C:H1'	8:E:5:LYS:NZ	2.27	0.50
1:5:2094:C:H2'	1:5:2094:C:O2	2.11	0.50
1:5:2276:G:N2	1:5:2316:G:HO2'	2.00	0.50
4:A:116:VAL:HA	4:A:163:ARG:O	2.12	0.50
10:G:157:VAL:HB	10:G:163:VAL:HG21	1.92	0.50
11:H:88:TYR:HE2	11:H:184:LYS:HE2	1.75	0.50
11:H:167:VAL:HG12	11:H:167:VAL:O	2.11	0.50
12:I:156:ARG:HD2	12:I:163:GLN:HG2	1.92	0.50
18:P:95:LEU:HD23	18:P:148:LEU:HD21	1.94	0.50
18:P:126:ARG:HD2	18:P:140:GLU:OE2	2.12	0.50
26:X:71:THR:O	26:X:74:LYS:HB2	2.11	0.50
45:x:382:ILE:HG12	45:x:390:PHE:CZ	2.47	0.50
45:x:475:LEU:N	45:x:475:LEU:HD23	2.26	0.50
1:5:117:U:H3	10:G:147:LYS:HZ3	1.47	0.50
1:5:515:C:H5'	6:C:343:LYS:HG2	1.93	0.50
1:5:642:U:P	29:a:22:ILE:HG12	2.52	0.50
1:5:1395:G:H2'	1:5:1396:C:H6	1.76	0.50
1:5:1517:G:OP1	40:l:22:PRO:HG3	2.11	0.50
1:5:1987:Y5P:H2'	1:5:1988:Y5P:H6	1.94	0.50
1:5:2175:U:C5	4:A:20:THR:HB	2.47	0.50
1:5:2228:A:H2'	1:5:2229:A:H8	1.76	0.50
1:5:2699:G:C2'	1:5:2700:G:H5'	2.42	0.50
1:5:2699:G:O2'	1:5:2700:G:H5'	2.12	0.50
1:5:2815:G:C3'	1:5:2816:G:H5''	2.42	0.50
5:B:160:VAL:HG13	5:B:183:LEU:CD1	2.41	0.50
5:B:255:TRP:O	5:B:258:ALA:HB2	2.11	0.50
5:B:262:TRP:HB3	17:O:64:PHE:O	2.10	0.50
6:C:217:LYS:HG3	6:C:220:ARG:HH22	1.76	0.50
7:D:101:THR:O	7:D:104:LEU:HB3	2.12	0.50
7:D:153:THR:HG23	7:D:160:PHE:HZ	1.76	0.50
8:E:175:LYS:NZ	15:M:110:ALA:O	2.23	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:93:ASP:HA	13:J:171:VAL:CG2	2.42	0.50
14:L:109:PHE:O	14:L:113:VAL:HG23	2.11	0.50
15:M:14:LEU:HD22	21:S:150:PHE:C	2.37	0.50
16:N:53:TYR:C	16:N:53:TYR:CD2	2.90	0.50
31:c:86:ARG:HH12	43:p:44:LYS:HG2	1.74	0.50
32:d:55:LEU:HD12	32:d:93:VAL:HG12	1.93	0.50
33:e:106:VAL:CA	33:e:126:LEU:HD11	2.42	0.50
38:j:24:ARG:HB3	38:j:24:ARG:NH1	2.27	0.50
45:x:91:ILE:HG13	45:x:254:GLN:NE2	2.27	0.50
46:y:372:ARG:O	46:y:376:ARG:HG2	2.12	0.50
1:5:888:A:H2'	1:5:889:U:H6	1.77	0.49
1:5:967:A:H2'	1:5:968:G:H5'	1.94	0.49
1:5:1295:G:OP1	21:S:84:ARG:HG3	2.12	0.49
1:5:1897:G:C2'	1:5:1898:G:H5'	2.42	0.49
4:A:180:LEU:O	4:A:180:LEU:HD13	2.11	0.49
5:B:251:CYS:SG	5:B:253:GLY:N	2.85	0.49
5:B:265:ALA:C	5:B:266:ARG:HG2	2.36	0.49
11:H:103:ILE:HD11	11:H:134:ILE:CB	2.41	0.49
12:I:42:THR:HG23	12:I:45:GLU:HG3	1.93	0.49
13:J:71:VAL:CG1	13:J:75:LYS:HE3	2.42	0.49
14:L:58:VAL:CG1	14:L:60:ALA:H	2.24	0.49
15:M:45:LEU:HD12	15:M:56:GLN:O	2.12	0.49
15:M:135:LEU:O	15:M:136:ALA:HB3	2.11	0.49
16:N:136:ASP:OD1	16:N:139:HIS:HB2	2.12	0.49
19:Q:167:SER:HB2	19:Q:172:PHE:CE2	2.47	0.49
27:Y:37:LYS:HE2	27:Y:37:LYS:N	2.25	0.49
27:Y:57:LEU:O	27:Y:105:VAL:HG12	2.12	0.49
39:k:73:LEU:HD12	39:k:74:LYS:N	2.26	0.49
41:m:108:THR:HB	41:m:109:ASN:OD1	2.12	0.49
44:q:72:ASP:HB2	44:q:194:GLY:HA2	1.94	0.49
44:q:89:THR:CB	44:q:96:ILE:HG21	2.42	0.49
45:x:184:VAL:HG22	45:x:501:ALA:HB2	1.94	0.49
45:x:510:CYS:HB3	45:x:514:VAL:HG11	1.93	0.49
1:5:73:C:O2'	14:L:59:ARG:HG2	2.12	0.49
1:5:671:U:H2'	1:5:672:A:H8	1.77	0.49
1:5:1534:A:N6	1:5:1586:G:H2'	2.25	0.49
1:5:3045:G:H2'	1:5:3046:A:O4'	2.12	0.49
3:8:67:U:H5''	38:j:85:LYS:HB2	1.94	0.49
4:A:84:THR:O	43:p:62:LYS:HE3	2.12	0.49
5:B:300:ARG:HA	5:B:300:ARG:NH1	2.27	0.49
12:I:47:PRO:HB2	12:I:178:ARG:NH2	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I:47:PRO:HB2	12:I:178:ARG:CZ	2.42	0.49
14:L:50:PRO:O	14:L:139:LEU:HA	2.12	0.49
25:W:31:PHE:CD2	25:W:37:ALA:HA	2.47	0.49
25:W:35:LYS:HE2	25:W:51:TRP:CZ2	2.47	0.49
26:X:100:LYS:HZ1	26:X:106:ASP:HA	1.75	0.49
34:f:48:ARG:HG2	34:f:103:TYR:O	2.11	0.49
43:p:64:VAL:HG12	43:p:65:ALA:O	2.12	0.49
45:x:222:LEU:O	45:x:226:ILE:HG13	2.12	0.49
45:x:449:LEU:HA	45:x:477:LYS:HZ1	1.77	0.49
1:5:308:A:C2'	1:5:309:U:H5'	2.42	0.49
1:5:341:G:N7	6:C:195:ARG:NH2	2.60	0.49
1:5:944:C:O2'	1:5:945:C:H5'	2.12	0.49
1:5:1660:C:O2'	1:5:1661:G:H5'	2.12	0.49
1:5:2100:A:H2'	1:5:2101:C:C1'	2.42	0.49
1:5:2294:U:O2'	1:5:2296:A:N7	2.34	0.49
1:5:2421:U:C3'	1:5:2422:C:H5''	2.42	0.49
1:5:2628:A:H1'	1:5:2798:C:C2	2.47	0.49
1:5:2793:G:H5''	42:o:66:LYS:CG	2.41	0.49
1:5:2882:U:H2'	1:5:2883:U:C6	2.47	0.49
1:5:3178:A:O5'	17:O:5:PRO:HG3	2.11	0.49
1:5:3237:U:H2'	1:5:3238:G:O4'	2.12	0.49
1:5:3243:A:N6	17:O:157:GLU:OE2	2.45	0.49
3:8:21:C:N4	3:8:22:U:O4	2.45	0.49
3:8:43:A:H2'	3:8:44:A:H8	1.77	0.49
3:8:79:A:OP2	45:x:349:LYS:HE3	2.12	0.49
5:B:56:ILE:CD1	5:B:359:ILE:HA	2.40	0.49
6:C:139:GLY:O	6:C:141:ARG:NH1	2.44	0.49
6:C:260:GLN:O	6:C:270:SER:OG	2.27	0.49
8:E:52:VAL:HG13	8:E:53:VAL:N	2.27	0.49
9:F:189:ILE:HG23	9:F:190:THR:N	2.28	0.49
14:L:85:LEU:H	14:L:85:LEU:CD2	2.24	0.49
16:N:137:PRO:HG2	16:N:138:GLN:NE2	2.28	0.49
18:P:20:SER:O	18:P:22:LEU:HD23	2.12	0.49
20:R:99:LEU:HD22	20:R:103:ARG:CZ	2.42	0.49
20:R:105:LEU:C	20:R:105:LEU:HD13	2.37	0.49
28:Z:70:PRO:HG3	28:Z:115:LYS:HB2	1.94	0.49
36:h:21:LEU:HG	36:h:54:VAL:CG1	2.38	0.49
37:i:9:ILE:HG12	37:i:10:GLY:N	2.25	0.49
44:q:67:LEU:HD13	44:q:71:PRO:HA	1.93	0.49
45:x:191:MET:SD	45:x:505:ASN:ND2	2.85	0.49
45:x:223:ILE:O	45:x:227:VAL:HG23	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:262:ARG:HB3	46:y:344:THR:HG23	1.93	0.49
45:x:540:GLN:HB3	47:z:75:UNK:CG	2.34	0.49
1:5:505:G:H2'	1:5:506:U:C6	2.46	0.49
1:5:753:C:H2'	1:5:754:G:H8	1.77	0.49
1:5:860:G:O2'	1:5:895:A:H4'	2.12	0.49
1:5:1276:U:H2'	1:5:1277:C:O4'	2.11	0.49
1:5:1364:C:O2'	1:5:1365:G:H5'	2.12	0.49
1:5:1782:U:H2'	1:5:1783:U:O4'	2.11	0.49
1:5:2795:U:OP2	42:o:63:LYS:HB2	2.12	0.49
1:5:3016:A:H2'	1:5:3017:A:C8	2.47	0.49
1:5:3117:C:H2'	1:5:3118:C:O4'	2.11	0.49
1:5:3152:U:C5	1:5:3395:G:C6	3.00	0.49
3:8:24:G:OP2	27:Y:13:ARG:HD3	2.12	0.49
4:A:44:ILE:HD12	4:A:44:ILE:H	1.78	0.49
5:B:223:GLY:HA2	5:B:271:GLY:HA3	1.93	0.49
7:D:34:LYS:HE2	7:D:34:LYS:O	2.12	0.49
7:D:163:LEU:O	7:D:166:ALA:HB3	2.12	0.49
10:G:52:TRP:HH2	26:X:27:ARG:HH12	1.59	0.49
10:G:162:LEU:HD23	16:N:7:LEU:CD1	2.21	0.49
19:Q:122:ILE:HG23	19:Q:126:GLN:OE1	2.12	0.49
37:i:70:ARG:HD3	37:i:84:LYS:CG	2.42	0.49
45:x:263:GLU:H	45:x:301:VAL:CG2	2.26	0.49
45:x:543:LEU:HD12	47:z:76:UNK:CG	2.43	0.49
1:5:255:A:H2'	1:5:256:G:H8	1.78	0.49
1:5:378:A:N3	1:5:378:A:H2'	2.27	0.49
1:5:408:A:O2'	1:5:409:A:H5'	2.12	0.49
1:5:413:U:H5''	18:P:34:GLN:HE22	1.76	0.49
1:5:536:U:H2'	1:5:537:A:C5'	2.42	0.49
1:5:575:G:O2'	1:5:576:C:H5'	2.12	0.49
1:5:639:G:H4'	1:5:1434:G:O6	2.11	0.49
1:5:2176:U:O2'	1:5:2177:G:H5'	2.13	0.49
1:5:2428:U:H2'	1:5:2429:G:H8	1.78	0.49
1:5:2761:G:N7	42:o:63:LYS:NZ	2.56	0.49
1:5:3004:C:C2'	1:5:3005:A:H5'	2.42	0.49
1:5:3357:U:O2'	1:5:3358:U:P	2.70	0.49
5:B:238:LEU:HB3	5:B:239:PRO:CD	2.43	0.49
6:C:63:GLU:O	6:C:76:ARG:N	2.45	0.49
6:C:150:LEU:HD13	6:C:249:ILE:CD1	2.43	0.49
9:F:103:LEU:CD2	9:F:130:ILE:HD11	2.43	0.49
12:I:99:ILE:HG13	12:I:123:HIS:HB2	1.94	0.49
12:I:210:ILE:HG13	12:I:211:ARG:N	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:133:ARG:HB2	13:J:152:HIS:CE1	2.48	0.49
16:N:172:ARG:HG2	16:N:174:ILE:CD1	2.41	0.49
19:Q:127:LEU:O	19:Q:127:LEU:HD13	2.12	0.49
31:c:101:LEU:HD22	31:c:101:LEU:N	2.28	0.49
45:x:142:THR:O	45:x:143:LEU:HD23	2.13	0.49
45:x:197:LEU:HD11	45:x:226:ILE:CD1	2.43	0.49
45:x:245:ARG:NH1	45:x:253:GLY:HA2	2.27	0.49
45:x:449:LEU:HD22	45:x:477:LYS:NZ	2.27	0.49
1:5:1076:C:O2	1:5:1076:C:H2'	2.13	0.49
1:5:1203:A:N3	1:5:2855:U:O2'	2.44	0.49
1:5:1575:A:H2'	1:5:1576:G:H8	1.73	0.49
1:5:2249:G:H8	1:5:2272:G:HO2'	1.59	0.49
1:5:2438:A:C2'	1:5:2439:A:OP1	2.61	0.49
1:5:2509:U:H2'	1:5:2510:U:C5'	2.41	0.49
1:5:2674:A:O2'	1:5:2675:C:H5'	2.13	0.49
1:5:2921:U:H2'	1:5:2923:U:OP2	2.12	0.49
1:5:3059:G:H2'	1:5:3060:C:H6	1.74	0.49
2:7:4:U:H2'	2:7:5:G:H8	1.78	0.49
2:7:26:C:H2'	2:7:27:A:O4'	2.13	0.49
2:7:37:G:N2	2:7:41:G:N3	2.60	0.49
3:8:85:G:H3'	3:8:85:G:N3	2.27	0.49
4:A:116:VAL:HG13	4:A:126:LEU:HB2	1.94	0.49
5:B:14:LEU:HD22	5:B:17:LEU:CD2	2.42	0.49
5:B:47:LEU:HD21	5:B:179:ALA:CB	2.41	0.49
5:B:221:THR:O	5:B:272:TYR:HA	2.13	0.49
7:D:107:ARG:NH1	7:D:116:ASP:OD1	2.44	0.49
9:F:191:VAL:HG12	9:F:192:GLY:H	1.77	0.49
11:H:71:VAL:O	11:H:75:VAL:HG23	2.13	0.49
11:H:103:ILE:HD11	11:H:134:ILE:CD1	2.39	0.49
13:J:25:GLU:HG3	13:J:63:GLU:CD	2.38	0.49
13:J:96:PHE:HB2	13:J:156:LYS:HE3	1.94	0.49
14:L:123:ILE:HG12	14:L:124:ILE:N	2.17	0.49
18:P:26:PHE:HA	18:P:144:SER:OG	2.12	0.49
19:Q:93:ILE:H	19:Q:93:ILE:HD12	1.76	0.49
19:Q:94:PHE:CE1	29:a:119:PRO:HD3	2.46	0.49
23:U:85:LYS:N	23:U:90:ARG:HG2	2.28	0.49
31:c:38:LYS:C	31:c:93:LEU:HD23	2.37	0.49
40:l:28:ARG:HH12	40:l:36:ARG:HH11	1.60	0.49
43:p:33:GLN:HG3	43:p:34:HIS:ND1	2.28	0.49
47:z:116:UNK:O	47:z:119:UNK:HG3	2.12	0.49
1:5:385:A:H2'	1:5:386:A:H8	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:421:G:H3'	1:5:421:G:N3	2.27	0.49
1:5:977:C:O2'	1:5:978:G:H5'	2.12	0.49
1:5:1433:A:N3	33:e:27:ARG:NH1	2.61	0.49
1:5:1566:A:H2'	1:5:1567:U:O4'	2.12	0.49
1:5:2616:C:C2'	1:5:2617:U:H5'	2.42	0.49
1:5:3067:C:H3'	20:R:62:ARG:NH2	2.27	0.49
2:7:35:C:C2'	2:7:36:C:H5'	2.42	0.49
3:8:11:C:H2'	3:8:12:A:H8	1.77	0.49
7:D:122:VAL:HG21	7:D:168:ASP:OD1	2.12	0.49
9:F:139:PRO:HA	9:F:237:ASN:OD1	2.13	0.49
11:H:109:ALA:HB1	11:H:111:PHE:CZ	2.47	0.49
12:I:38:LYS:HB2	12:I:83:ASP:OD1	2.12	0.49
13:J:45:PRO:HB2	13:J:67:VAL:CG2	2.43	0.49
23:U:14:THR:CG2	23:U:66:VAL:HG22	2.38	0.49
34:f:44:TYR:HA	34:f:47:LYS:HG3	1.95	0.49
45:x:73:LEU:HD11	45:x:399:PHE:CE2	2.47	0.49
45:x:519:ARG:NH2	45:x:568:LEU:HD21	2.27	0.49
1:5:209:A:OP1	6:C:161:LYS:NZ	2.34	0.49
1:5:582:G:O2'	1:5:583:G:H5'	2.12	0.49
1:5:630:A:H2'	1:5:631:U:H6	1.75	0.49
1:5:658:G:H1	1:5:1437:C:H42	1.60	0.49
1:5:974:G:H2'	1:5:975:C:C6	2.48	0.49
1:5:1713:G:H22	1:5:1730:G:H1'	1.78	0.49
1:5:2196:C:HO2'	1:5:2270:A:HO2'	1.60	0.49
2:7:91:G:C4	2:7:92:A:C8	3.00	0.49
4:A:33:ASP:O	4:A:37:ARG:HB2	2.13	0.49
4:A:41:ILE:O	4:A:89:TYR:HA	2.12	0.49
5:B:202:THR:HG23	5:B:203:VAL:N	2.27	0.49
6:C:219:LEU:HD22	6:C:222:VAL:HG11	1.93	0.49
7:D:267:ALA:HA	7:D:270:LYS:HD2	1.95	0.49
11:H:171:ASP:OD1	11:H:173:ARG:N	2.46	0.49
13:J:26:SER:OG	13:J:29:ARG:HD2	2.13	0.49
19:Q:64:VAL:HA	19:Q:67:ILE:CD1	2.42	0.49
28:Z:54:THR:HG22	28:Z:57:HIS:CG	2.47	0.49
32:d:82:GLU:HG3	32:d:83:GLU:CB	2.42	0.49
35:g:51:LEU:HD11	35:g:79:SER:O	2.13	0.49
37:i:74:LYS:HG3	37:i:80:PHE:CA	2.42	0.49
45:x:158:MET:CE	47:z:65:UNK:HG1	2.40	0.49
1:5:123:A:N6	1:5:149:U:H3	2.11	0.49
1:5:210:U:O2'	1:5:229:G:O2'	2.23	0.49
1:5:436:A:O5'	1:5:436:A:H8	1.96	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:498:A:P	34:f:86:ARG:HH12	2.36	0.49
1:5:1240:A:N1	1:5:1244:A:O2'	2.42	0.49
1:5:1473:G:C2'	1:5:1474:A:H5'	2.43	0.49
1:5:2557:A:H4'	1:5:2558:U:OP2	2.11	0.49
1:5:2798:C:H5''	1:5:2799:A:OP1	2.12	0.49
1:5:3003:G:O2'	5:B:92:TYR:OH	2.27	0.49
1:5:3334:U:H4'	1:5:3335:A:C5'	2.42	0.49
10:G:158:ASP:OD1	10:G:159:PRO:HA	2.13	0.49
12:I:48:LEU:HB2	12:I:142:ASP:OD1	2.12	0.49
13:J:26:SER:HB2	13:J:29:ARG:HD2	1.94	0.49
14:L:50:PRO:HB3	36:h:118:ILE:CD1	2.43	0.49
14:L:67:ARG:C	14:L:67:ARG:HD3	2.38	0.49
16:N:140:LYS:HB3	16:N:144:ARG:HH12	1.76	0.49
19:Q:185:LYS:HG3	19:Q:186:VAL:HG23	1.94	0.49
21:S:9:VAL:HG11	21:S:41:TYR:HB2	1.95	0.49
21:S:26:ARG:O	22:T:150:THR:HA	2.12	0.49
21:S:47:LYS:C	21:S:48:LEU:HD23	2.38	0.49
28:Z:11:ALA:HB2	28:Z:82:PRO:HA	1.95	0.49
29:a:134:ALA:O	29:a:138:ILE:HG13	2.13	0.49
32:d:12:TYR:HD2	32:d:75:ILE:CD1	2.26	0.49
35:g:82:ALA:O	35:g:84:CYS:N	2.46	0.49
37:i:51:SER:HB2	37:i:52:PRO:CD	2.43	0.49
43:p:84:ARG:HG3	43:p:87:ARG:HH22	1.78	0.49
44:q:25:LEU:HD21	44:q:76:LEU:CG	2.34	0.49
45:x:537:ILE:O	47:z:73:UNK:HG3	2.13	0.49
1:5:621:A:H2'	1:5:621:A:N3	2.28	0.49
1:5:759:U:H2'	1:5:760:G:H5'	1.94	0.49
1:5:856:G:C6	1:5:857:G:N1	2.81	0.49
1:5:1072:G:H2'	1:5:1073:U:H6	1.74	0.49
1:5:1316:C:C2	17:O:130:LYS:HD3	2.47	0.49
1:5:1354:G:O6	1:5:1358:C:H5'	2.12	0.49
1:5:1540:U:O2'	1:5:1541:G:H5'	2.12	0.49
1:5:1580:A:H5''	1:5:2522:G:N2	2.27	0.49
1:5:2196:C:H2'	1:5:2242:A:H61	1.78	0.49
1:5:2971:A:H4'	1:5:2972:G:OP2	2.13	0.49
2:7:19:C:H2'	2:7:20:A:C8	2.47	0.49
2:7:35:C:H2'	2:7:36:C:H5'	1.94	0.49
3:8:89:A:C2	3:8:91:C:C2	3.01	0.49
5:B:107:ALA:HA	5:B:199:PHE:CD2	2.48	0.49
6:C:99:MET:HE3	6:C:102:PRO:CA	2.21	0.49
6:C:156:LEU:HD23	6:C:159:ILE:HD12	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:205:PRO:HD2	6:C:225:VAL:HG22	1.94	0.49
10:G:43:LYS:HD2	26:X:28:THR:HB	1.95	0.49
11:H:152:GLU:O	11:H:156:GLN:HB2	2.13	0.49
14:L:168:ARG:O	14:L:172:LEU:HG	2.13	0.49
18:P:31:GLU:CG	18:P:60:PHE:HA	2.43	0.49
19:Q:90:ASP:HB3	19:Q:93:ILE:HD11	1.95	0.49
32:d:8:VAL:HG12	32:d:9:THR:N	2.27	0.49
39:k:70:PRO:HB2	39:k:72:THR:CG2	2.43	0.49
41:m:124:LYS:O	41:m:126:LYS:NZ	2.46	0.49
44:q:63:ILE:O	44:q:63:ILE:HG22	2.12	0.49
45:x:33:GLN:HG3	45:x:572:THR:HG21	1.93	0.49
45:x:73:LEU:HD21	45:x:89:ILE:CD1	2.43	0.49
46:y:379:LYS:HD3	46:y:380:PHE:CE1	2.48	0.49
1:5:409:A:H61	3:8:15:G:H1'	1.78	0.48
1:5:540:U:H2'	1:5:541:U:O4'	2.13	0.48
1:5:585:A:H2'	1:5:586:C:C6	2.48	0.48
1:5:908:G:H3'	16:N:81:TYR:OH	2.13	0.48
1:5:949:C:H2'	1:5:950:G:C8	2.48	0.48
1:5:1229:G:H2'	1:5:1230:G:C8	2.48	0.48
1:5:1326:A:H2'	1:5:1327:C:O4'	2.12	0.48
1:5:1461:A:O2'	1:5:1462:A:H5'	2.12	0.48
1:5:2248:C:C2'	1:5:2249:G:OP2	2.60	0.48
1:5:2338:C:H2'	1:5:2339:C:C5	2.48	0.48
1:5:2354:C:N4	1:5:2355:G:C6	2.80	0.48
1:5:2642:A:O5'	22:T:3:LYS:NZ	2.43	0.48
1:5:2662:G:H2'	1:5:2663:G:C8	2.48	0.48
1:5:3249:C:C2'	1:5:3250:U:H5'	2.43	0.48
2:7:94:C:H2'	2:7:95:A:C8	2.48	0.48
9:F:219:LYS:HB2	9:F:220:PHE:CE1	2.48	0.48
12:I:212:GLU:O	12:I:214:PRO:HD3	2.13	0.48
13:J:17:LEU:HD12	13:J:18:VAL:H	1.78	0.48
16:N:142:ILE:N	16:N:142:ILE:HD12	2.27	0.48
28:Z:13:VAL:HG22	28:Z:80:LEU:HD21	1.94	0.48
34:f:45:LEU:HD23	34:f:45:LEU:N	2.28	0.48
42:o:24:LYS:HG2	42:o:25:VAL:N	2.28	0.48
45:x:336:THR:HG22	45:x:337:LEU:H	1.78	0.48
45:x:398:ASN:O	45:x:401:PHE:HB3	2.13	0.48
1:5:754:G:H2'	1:5:755:A:H8	1.78	0.48
1:5:1754:G:H2'	1:5:1755:C:C6	2.47	0.48
1:5:2943:G:H2'	1:5:2944:U:O4'	2.13	0.48
1:5:2981:U:O2'	1:5:2982:A:H5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3163:A:C2'	1:5:3164:C:H5'	2.43	0.48
4:A:14:SER:OG	4:A:15:ILE:N	2.40	0.48
5:B:14:LEU:O	5:B:17:LEU:HD22	2.13	0.48
5:B:56:ILE:HG12	5:B:356:LEU:HD22	1.94	0.48
6:C:299:ILE:HG22	19:Q:39:ARG:HD2	1.91	0.48
6:C:322:GLN:NE2	6:C:322:GLN:HA	2.27	0.48
10:G:98:ARG:CD	10:G:99:PRO:HD2	2.43	0.48
10:G:186:LEU:O	10:G:190:VAL:HG23	2.13	0.48
10:G:218:ILE:HA	10:G:221:ASN:HD22	1.77	0.48
14:L:86:THR:O	14:L:90:ALA:HB2	2.12	0.48
17:O:193:GLN:O	17:O:196:ALA:HB3	2.12	0.48
20:R:9:ARG:CA	20:R:19:LYS:HE2	2.35	0.48
22:T:56:PHE:CZ	22:T:78:LYS:HD3	2.47	0.48
26:X:108:LEU:HD13	26:X:125:ARG:HD3	1.94	0.48
32:d:70:ARG:HB2	32:d:102:LYS:NZ	2.27	0.48
44:q:63:ILE:HG21	44:q:73:PHE:O	2.12	0.48
45:x:169:ILE:HG22	45:x:169:ILE:O	2.12	0.48
46:y:187:HIS:HB2	46:y:240:CYS:SG	2.53	0.48
1:5:147:U:C4	10:G:157:VAL:HG13	2.48	0.48
1:5:609:G:O2'	6:C:312:VAL:HG22	2.12	0.48
1:5:924:G:H1	1:5:2808:A:N6	2.11	0.48
1:5:1037:C:C2	1:5:1038:C:C5	3.02	0.48
1:5:1152:G:H22	1:5:1200:A:H61	1.61	0.48
1:5:1229:G:H2'	1:5:1230:G:H8	1.78	0.48
1:5:1678:G:H2'	1:5:1679:A:H8	1.77	0.48
1:5:1940:G:N2	1:5:3362:A:H8	2.12	0.48
1:5:2308:C:H2'	1:5:2309:A:C8	2.48	0.48
1:5:2802:A:H4'	42:o:59:HIS:NE2	2.28	0.48
1:5:3109:G:H21	11:H:156:GLN:HE22	1.61	0.48
1:5:3162:C:O2	1:5:3163:A:C8	2.66	0.48
5:B:340:LYS:NZ	5:B:340:LYS:HB3	2.27	0.48
6:C:60:THR:HG22	6:C:61:SER:N	2.28	0.48
6:C:131:VAL:O	6:C:135:VAL:HG23	2.13	0.48
7:D:78:ALA:CB	7:D:105:ILE:HG23	2.40	0.48
11:H:46:THR:CG2	11:H:47:LYS:N	2.76	0.48
18:P:7:THR:HB	18:P:9:THR:CG2	2.30	0.48
18:P:31:GLU:HG2	18:P:60:PHE:HA	1.96	0.48
19:Q:98:LYS:HE3	19:Q:118:GLY:O	2.13	0.48
21:S:155:ARG:HH21	21:S:155:ARG:CB	2.25	0.48
24:V:84:SER:HB2	24:V:93:LEU:O	2.13	0.48
32:d:23:VAL:HG12	32:d:24:SER:N	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:d:70:ARG:HB2	32:d:102:LYS:HZ1	1.79	0.48
45:x:378:LEU:HD23	45:x:426:ILE:HD12	1.95	0.48
1:5:326:U:P	14:L:31:LYS:HZ3	2.29	0.48
1:5:951:A:C4	1:5:1369:A:C2	3.01	0.48
1:5:1328:C:H2'	1:5:1329:U:C6	2.48	0.48
1:5:1687:U:OP1	23:U:42:LYS:NZ	2.39	0.48
1:5:1724:U:H4'	1:5:1725:C:O5'	2.13	0.48
1:5:1804:A:O2'	35:g:78:GLY:HA3	2.12	0.48
1:5:1877:U:H5''	1:5:1878:G:O4'	2.14	0.48
1:5:2393:G:H4'	5:B:252:ILE:HD13	1.95	0.48
1:5:2667:A:H2'	1:5:2668:U:O4'	2.13	0.48
1:5:3136:G:H4'	5:B:342:LEU:CD1	2.43	0.48
10:G:72:PRO:CG	16:N:18:VAL:HA	2.42	0.48
11:H:83:THR:OG1	11:H:84:LYS:N	2.45	0.48
13:J:45:PRO:HB2	13:J:67:VAL:HG23	1.95	0.48
14:L:58:VAL:N	14:L:70:ARG:O	2.43	0.48
18:P:40:GLU:HA	18:P:113:TYR:HB2	1.95	0.48
21:S:13:ARG:HD3	21:S:51:VAL:CG1	2.32	0.48
26:X:129:ASP:HB2	26:X:130:TYR:HD1	1.76	0.48
27:Y:33:ALA:HB1	27:Y:34:PRO:HD2	1.96	0.48
32:d:54:GLU:H	32:d:54:GLU:CD	2.21	0.48
40:l:5:LYS:CD	40:l:13:MET:HE1	2.41	0.48
40:l:28:ARG:NH1	40:l:36:ARG:HH11	2.12	0.48
45:x:387:VAL:O	45:x:387:VAL:HG12	2.12	0.48
45:x:542:GLU:O	47:z:76:UNK:HB1	2.13	0.48
1:5:540:U:H2'	1:5:541:U:C6	2.49	0.48
1:5:924:G:OP1	1:5:924:G:H2'	2.13	0.48
1:5:1151:U:C5	1:5:1152:G:C6	3.02	0.48
1:5:1159:A:OP1	19:Q:2:GLY:N	2.45	0.48
1:5:1468:A:O2'	1:5:1469:C:H5'	2.12	0.48
1:5:1589:A:C4	35:g:13:TYR:CD2	3.02	0.48
1:5:1710:C:H2'	1:5:1711:C:H6	1.79	0.48
1:5:2509:U:C2'	1:5:2510:U:H5'	2.42	0.48
1:5:2772:C:H4'	1:5:2773:C:O5'	2.14	0.48
2:7:42:A:C5	2:7:43:U:C5	3.02	0.48
2:7:48:U:OP2	7:D:94:ASN:HB3	2.13	0.48
2:7:107:C:H2'	2:7:108:A:H8	1.79	0.48
3:8:4:C:H5''	18:P:61:ARG:O	2.12	0.48
4:A:156:LYS:HG2	4:A:157:VAL:N	2.27	0.48
5:B:227:GLU:HG3	5:B:270:ARG:HD3	1.96	0.48
5:B:240:ARG:O	5:B:240:ARG:HG2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:287:LYS:HA	5:B:320:ASP:OD1	2.13	0.48
8:E:115:GLU:O	8:E:119:ALA:HB3	2.14	0.48
10:G:98:ARG:HD3	10:G:99:PRO:HD2	1.94	0.48
11:H:77:ASN:HA	11:H:80:THR:CG2	2.40	0.48
13:J:109:HIS:CD2	13:J:123:PHE:H	2.32	0.48
18:P:41:LEU:HD13	18:P:45:GLN:HG3	1.95	0.48
18:P:108:ASP:HB3	18:P:111:LYS:HG3	1.95	0.48
23:U:58:GLU:HB2	23:U:62:VAL:O	2.14	0.48
28:Z:23:VAL:HG12	28:Z:71:PHE:HZ	1.78	0.48
30:b:28:LYS:HG2	30:b:29:TYR:CE1	2.49	0.48
38:j:24:ARG:HH11	38:j:24:ARG:HB2	1.78	0.48
39:k:56:ILE:N	39:k:56:ILE:HD12	2.28	0.48
41:m:83:LYS:O	41:m:87:SER:OG	2.18	0.48
42:o:6:LYS:HZ1	42:o:93:LEU:HD12	1.78	0.48
45:x:9:ASP:HA	45:x:12:ILE:HB	1.95	0.48
46:y:216:ILE:HG22	46:y:217:CYS:O	2.14	0.48
47:z:90:UNK:O	47:z:93:UNK:HG3	2.14	0.48
1:5:764:U:O2'	1:5:765:C:H2'	2.13	0.48
1:5:836:A:H1'	1:5:858:A:C2	2.49	0.48
1:5:1038:C:O2'	1:5:1039:U:H5'	2.14	0.48
1:5:1438:U:O5'	1:5:1438:U:H6	1.96	0.48
1:5:2397:A:N1	1:5:2873:U:H5''	2.27	0.48
1:5:2939:G:H2'	1:5:2940:A:H5'	1.95	0.48
3:8:60:U:OP1	26:X:54:TYR:OH	2.31	0.48
4:A:147:ARG:CZ	4:A:147:ARG:HB2	2.44	0.48
5:B:296:THR:HG22	5:B:297:SER:N	2.27	0.48
12:I:191:LYS:HG2	12:I:192:ASP:N	2.29	0.48
13:J:16:LYS:HD3	13:J:72:ARG:CZ	2.43	0.48
17:O:79:ILE:HG22	17:O:80:PHE:N	2.28	0.48
18:P:22:LEU:CD1	18:P:146:ILE:HD12	2.44	0.48
20:R:148:ASP:HA	20:R:151:ARG:HB2	1.94	0.48
23:U:90:ARG:HH21	46:y:316:ARG:NH1	2.10	0.48
29:a:7:LYS:O	29:a:11:HIS:ND1	2.46	0.48
29:a:82:ILE:HG23	29:a:83:PRO:CD	2.44	0.48
31:c:24:THR:HG22	31:c:91:SER:CB	2.40	0.48
33:e:40:SER:O	33:e:44:ARG:HG3	2.12	0.48
36:h:10:ARG:NH1	36:h:60:GLU:OE2	2.47	0.48
36:h:84:LYS:HB3	36:h:88:LEU:HB2	1.96	0.48
37:i:34:SER:OG	37:i:37:THR:N	2.41	0.48
37:i:75:LYS:HG3	37:i:76:ARG:N	2.27	0.48
39:k:65:LEU:C	39:k:68:SER:H	2.21	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:z:96:UNK:O	47:z:99:UNK:HG3	2.13	0.48
47:z:104:UNK:O	47:z:104:UNK:HG2	2.14	0.48
1:5:76:G:O6	14:L:101:ARG:HA	2.13	0.48
1:5:433:A:N3	1:5:433:A:H2'	2.29	0.48
1:5:517:G:O2'	1:5:518:G:H5'	2.14	0.48
1:5:1223:A:C8	1:5:1286:A:N1	2.81	0.48
1:5:1317:A:H2'	1:5:1317:A:N3	2.29	0.48
1:5:1792:C:H5''	1:5:1793:C:OP1	2.13	0.48
1:5:1861:G:O2'	1:5:3066:U:OP1	2.28	0.48
1:5:2225:U:H2'	1:5:2226:U:H6	1.77	0.48
1:5:2282:U:C4'	1:5:2960:C:HO2'	2.18	0.48
1:5:2350:C:H5''	18:P:68:GLY:HA3	1.96	0.48
1:5:2415:C:O2'	1:5:2967:A:O2'	2.24	0.48
1:5:2572:C:O2'	1:5:2573:G:P	2.72	0.48
1:5:3241:G:H2'	1:5:3245:A:C8	2.49	0.48
4:A:117:GLU:OE1	4:A:163:ARG:NH2	2.43	0.48
5:B:252:ILE:HG21	5:B:260:VAL:HG22	1.96	0.48
6:C:179:LEU:HD13	6:C:179:LEU:O	2.13	0.48
6:C:185:LYS:HA	6:C:200:THR:O	2.14	0.48
7:D:59:ASP:OD2	7:D:80:SER:OG	2.28	0.48
8:E:64:LEU:HD22	8:E:76:LEU:CD2	2.44	0.48
11:H:163:GLN:HB3	11:H:166:ARG:NH1	2.28	0.48
14:L:76:THR:HG22	14:L:101:ARG:HH12	1.78	0.48
16:N:115:VAL:HG22	16:N:134:LEU:HD21	1.96	0.48
16:N:145:ASP:O	16:N:149:ASN:HB3	2.13	0.48
23:U:80:THR:HG21	23:U:95:PHE:HD1	1.76	0.48
27:Y:89:LYS:HE3	27:Y:91:ASN:HD21	1.79	0.48
33:e:82:LEU:HD21	33:e:117:ILE:HD12	1.96	0.48
45:x:33:GLN:CG	45:x:572:THR:HG22	2.43	0.48
45:x:81:LYS:HG3	45:x:87:ARG:HH22	1.79	0.48
45:x:560:ALA:HB1	45:x:569:LEU:CD1	2.44	0.48
46:y:349:PRO:HB3	46:y:351:PHE:HE2	1.78	0.48
46:y:365:THR:O	46:y:368:PHE:HB3	2.14	0.48
47:z:134:UNK:O	47:z:135:UNK:HG3	2.14	0.48
1:5:149:U:P	16:N:49:ARG:NH1	2.86	0.48
1:5:174:C:H2'	1:5:175:C:H5''	1.96	0.48
1:5:1133:A:H1'	1:5:2618:G:O6	2.13	0.48
1:5:2243:A:N3	1:5:2313:A:H2'	2.28	0.48
1:5:2286:U:C4'	1:5:2287:C:H3'	2.44	0.48
1:5:2286:U:H4'	1:5:2287:C:H3'	1.96	0.48
1:5:2841:G:H22	1:5:2846:U:H5''	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3038:U:H2'	1:5:3039:C:O4'	2.13	0.48
1:5:3191:G:H2'	1:5:3192:U:C6	2.48	0.48
3:8:79:A:H3'	3:8:80:A:C8	2.48	0.48
4:A:66:PRO:HB2	4:A:67:TYR:CD2	2.49	0.48
4:A:177:LYS:HD2	43:p:69:TYR:HE1	1.74	0.48
5:B:87:VAL:HG13	5:B:163:HIS:HD2	1.77	0.48
6:C:36:HIS:O	6:C:40:THR:HG23	2.13	0.48
6:C:138:ARG:HH21	6:C:240:PRO:HB2	1.78	0.48
7:D:209:GLU:O	7:D:213:ASP:HB2	2.14	0.48
8:E:176:PHE:O	15:M:113:THR:HG23	2.13	0.48
13:J:38:GLU:HA	13:J:43:GLN:O	2.14	0.48
13:J:53:THR:OG1	13:J:61:ARG:N	2.36	0.48
13:J:133:ARG:NH1	13:J:154:THR:HG22	2.28	0.48
20:R:115:ILE:HG22	20:R:146:LYS:CE	2.43	0.48
31:c:86:ARG:HH12	43:p:44:LYS:CG	2.27	0.48
32:d:14:ILE:HD11	32:d:16:LEU:HD13	1.95	0.48
32:d:49:VAL:HA	32:d:91:SER:HB3	1.94	0.48
32:d:65:LYS:HG2	32:d:65:LYS:O	2.14	0.48
33:e:34:LYS:HB3	33:e:36:LYS:NZ	2.28	0.48
37:i:53:TYR:O	37:i:57:LEU:HB2	2.14	0.48
40:l:36:ARG:CB	40:l:37:TYR:HD2	2.26	0.48
45:x:245:ARG:HG3	45:x:246:ARG:N	2.28	0.48
45:x:318:LEU:HD12	45:x:505:ASN:O	2.13	0.48
45:x:357:PRO:HA	45:x:437:ILE:HD11	1.94	0.48
1:5:938:C:O2	1:5:2813:A:O2'	2.31	0.48
1:5:943:U:C2	1:5:1432:C:C5	3.01	0.48
1:5:1100:U:OP1	9:F:196:LYS:HG3	2.14	0.48
1:5:1445:U:H5''	1:5:1446:A:OP2	2.14	0.48
1:5:1555:U:O2	1:5:1555:U:C2'	2.61	0.48
1:5:2225:U:H2'	1:5:2226:U:C6	2.49	0.48
1:5:2947:G:C2	5:B:250:ALA:HB1	2.49	0.48
1:5:2960:C:H2'	1:5:2961:G:C8	2.47	0.48
1:5:3124:G:C2'	1:5:3125:U:H5'	2.44	0.48
2:7:112:G:H2'	2:7:113:C:H6	1.78	0.48
3:8:6:U:O2'	3:8:7:U:H5'	2.14	0.48
5:B:152:LYS:HE3	5:B:192:VAL:HG22	1.96	0.48
5:B:185:GLY:O	5:B:191:LYS:HE2	2.14	0.48
5:B:274:SER:O	5:B:275:ARG:HD3	2.14	0.48
5:B:316:GLU:H	5:B:316:GLU:HG2	1.26	0.48
6:C:187:LEU:HD13	6:C:193:LYS:HE3	1.95	0.48
7:D:235:SER:O	7:D:239:ILE:HG12	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:71:VAL:HG12	8:E:72:ASN:N	2.28	0.48
12:I:35:ASP:O	12:I:36:LEU:HD23	2.14	0.48
12:I:177:ASP:C	12:I:179:PRO:HD2	2.37	0.48
13:J:34:SER:O	13:J:38:GLU:HB2	2.14	0.48
14:L:47:ALA:C	14:L:49:ARG:H	2.19	0.48
14:L:70:ARG:HD2	14:L:71:ALA:O	2.14	0.48
15:M:37:GLU:HB3	15:M:45:LEU:HD23	1.96	0.48
16:N:197:LEU:HG	16:N:199:LEU:CD2	2.41	0.48
19:Q:165:ILE:HD12	19:Q:167:SER:H	1.79	0.48
22:T:126:VAL:HG23	22:T:127:GLN:H	1.78	0.48
38:j:65:ARG:H	38:j:65:ARG:HG3	1.41	0.48
45:x:372:LEU:HD13	45:x:425:GLU:OE1	2.13	0.48
46:y:220:CYS:O	46:y:221:ASN:HB3	2.13	0.48
47:z:141:UNK:O	47:z:145:UNK:HG3	2.13	0.48
1:5:386:A:C5	1:5:387:A:H1'	2.48	0.48
1:5:438:A:OP2	33:e:118:LYS:NZ	2.40	0.48
1:5:1050:U:O2	1:5:1050:U:H2'	2.13	0.48
1:5:1148:G:H2'	1:5:1149:G:H5'	1.94	0.48
1:5:1469:C:N4	1:5:1509:A:H1'	2.29	0.48
1:5:1799:A:H2'	1:5:1800:A:C8	2.49	0.48
1:5:1882:G:O2'	1:5:1883:A:H5'	2.14	0.48
1:5:2328:U:H2'	1:5:2329:C:C6	2.49	0.48
1:5:2347:U:H3'	1:5:2348:A:H8	1.79	0.48
1:5:3058:U:C4	32:d:65:LYS:HD3	2.48	0.48
1:5:3059:G:OP2	32:d:69:TYR:OH	2.32	0.48
1:5:3240:C:O2'	1:5:3241:G:H5'	2.13	0.48
1:5:3268:A:H5''	8:E:46:ARG:HH21	1.78	0.48
1:5:3292:A:H4'	5:B:132:LYS:NZ	2.29	0.48
1:5:3386:G:H5''	32:d:10:ARG:NH2	2.28	0.48
5:B:11:HIS:H	5:B:11:HIS:CD2	2.30	0.48
5:B:56:ILE:HD12	5:B:56:ILE:HA	1.75	0.48
7:D:80:SER:O	7:D:92:LEU:HD13	2.13	0.48
8:E:102:ASN:OD1	8:E:104:GLU:HB3	2.13	0.48
11:H:9:GLN:NE2	11:H:54:LYS:HE2	2.29	0.48
13:J:37:LEU:HD12	13:J:67:VAL:HG22	1.96	0.48
20:R:34:GLN:OE1	20:R:34:GLN:HA	2.14	0.48
26:X:45:LYS:HE2	26:X:45:LYS:HB3	1.44	0.48
28:Z:72:ILE:HD13	28:Z:72:ILE:H	1.77	0.48
34:f:49:ILE:HD11	34:f:71:VAL:CG2	2.43	0.48
34:f:80:VAL:HG12	34:f:81:VAL:H	1.79	0.48
36:h:28:LEU:HB2	36:h:47:VAL:HG21	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:o:58:PHE:CE2	42:o:61:LYS:NZ	2.70	0.48
44:q:42:ARG:HB3	44:q:46:ARG:HH21	1.79	0.48
45:x:61:VAL:HG13	45:x:95:ILE:HB	1.95	0.48
45:x:122:ASP:OD1	45:x:123:SER:N	2.36	0.48
1:5:20:A:P	36:h:90:ARG:HH12	2.37	0.47
1:5:247:C:H2'	1:5:248:U:O4'	2.13	0.47
1:5:533:A:H4'	1:5:534:U:OP1	2.13	0.47
1:5:1190:A:C8	1:5:1193:A:H1'	2.49	0.47
1:5:1238:C:H3'	1:5:1239:C:H5''	1.95	0.47
1:5:1282:G:C5	1:5:1283:C:C5	3.02	0.47
1:5:1340:G:H2'	1:5:1341:U:C6	2.48	0.47
1:5:1532:C:H2'	1:5:1533:U:C6	2.49	0.47
1:5:1645:U:H2'	1:5:1646:G:C5'	2.43	0.47
1:5:1829:G:H5'	26:X:93:TYR:OH	2.14	0.47
1:5:2093:A:O2'	1:5:2094:C:O4'	2.29	0.47
1:5:2124:G:O2'	1:5:2125:A:H5'	2.14	0.47
1:5:3115:C:H4'	1:5:3116:G:OP1	2.10	0.47
1:5:3390:G:H21	1:5:3391:A:H1'	1.78	0.47
2:7:3:U:H2'	2:7:4:U:H6	1.78	0.47
5:B:117:ARG:HA	5:B:175:LYS:HD3	1.96	0.47
6:C:311:HIS:CD2	9:F:162:PRO:HG3	2.49	0.47
11:H:69:ARG:HH12	11:H:72:LYS:HE2	1.79	0.47
12:I:174:THR:HG23	12:I:175:ASN:N	2.24	0.47
13:J:7:ASN:OD1	13:J:7:ASN:N	2.47	0.47
14:L:59:ARG:HE	14:L:69:VAL:HG23	1.79	0.47
16:N:64:VAL:HG22	16:N:65:ARG:N	2.28	0.47
18:P:52:LEU:HD12	18:P:52:LEU:HA	1.65	0.47
26:X:40:LEU:H	26:X:40:LEU:HD22	1.78	0.47
31:c:29:SER:HA	31:c:32:LYS:CD	2.37	0.47
37:i:9:ILE:CG1	37:i:10:GLY:N	2.77	0.47
39:k:16:ARG:C	39:k:18:ALA:N	2.71	0.47
39:k:54:LEU:HD12	39:k:55:VAL:H	1.79	0.47
45:x:46:ILE:HG22	45:x:47:ASN:OD1	2.13	0.47
45:x:122:ASP:CG	45:x:123:SER:H	2.22	0.47
45:x:249:ARG:O	46:y:338:THR:HG21	2.14	0.47
1:5:204:A:O2'	1:5:205:C:H5'	2.13	0.47
1:5:218:G:O4'	1:5:372:A:H1'	2.14	0.47
1:5:326:U:P	14:L:31:LYS:NZ	2.87	0.47
1:5:357:A:H2'	1:5:358:G:H5'	1.96	0.47
1:5:735:A:HO2'	1:5:736:A:P	2.36	0.47
1:5:1819:U:H2'	1:5:1820:U:H5'	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1946:A:H2'	1:5:1947:G:O4'	2.14	0.47
1:5:2379:U:H2'	1:5:2380:U:C6	2.48	0.47
1:5:2858:U:O2'	1:5:2859:U:H5'	2.14	0.47
1:5:3162:C:N3	1:5:3163:A:N7	2.62	0.47
1:5:3269:U:H3'	1:5:3269:U:OP2	2.14	0.47
2:7:43:U:C2	2:7:44:C:C6	3.02	0.47
3:8:46:G:N2	3:8:58:G:C4	2.82	0.47
5:B:92:TYR:HB2	5:B:157:VAL:HG23	1.95	0.47
5:B:281:LYS:NZ	5:B:350:ALA:O	2.47	0.47
6:C:150:LEU:CD1	6:C:249:ILE:HG12	2.33	0.47
6:C:282:SER:OG	19:Q:125:ASP:OD1	2.21	0.47
7:D:218:ARG:HH21	7:D:221:GLU:CB	2.27	0.47
14:L:8:PRO:HB2	19:Q:166:LEU:HD22	1.97	0.47
14:L:10:LEU:HD23	19:Q:166:LEU:CD2	2.44	0.47
16:N:167:THR:HG23	16:N:168:GLY:N	2.28	0.47
18:P:131:ARG:HG3	18:P:131:ARG:HH11	1.79	0.47
19:Q:68:ALA:O	19:Q:72:LYS:HG3	2.13	0.47
37:i:15:LYS:HG3	37:i:16:LYS:N	2.29	0.47
39:k:8:ILE:HA	39:k:11:PHE:HB3	1.97	0.47
41:m:96:CYS:HA	41:m:121:LEU:HD23	1.96	0.47
45:x:337:LEU:HD12	45:x:337:LEU:HA	1.74	0.47
46:y:253:ILE:CG2	46:y:257:TYR:HE1	2.27	0.47
46:y:333:THR:HG22	46:y:334:GLU:N	2.30	0.47
1:5:542:G:H2'	1:5:542:G:N3	2.29	0.47
1:5:558:U:H4'	1:5:559:A:OP2	2.14	0.47
1:5:651:G:C2'	1:5:652:G:H5'	2.45	0.47
1:5:1171:G:H2'	1:5:1172:G:O4'	2.14	0.47
1:5:1182:A:H2'	1:5:1183:C:C6	2.49	0.47
1:5:1239:C:H2'	1:5:1240:A:O4'	2.14	0.47
1:5:1503:A:C4	1:5:1504:A:C8	3.03	0.47
1:5:1562:C:H2'	1:5:1562:C:O2	2.15	0.47
1:5:1678:G:H5'	1:5:1756:C:H4'	1.97	0.47
1:5:1919:G:O2'	1:5:1920:U:H5'	2.14	0.47
1:5:2199:G:H2'	1:5:2200:U:C6	2.50	0.47
1:5:2802:A:C5'	42:o:59:HIS:HE2	2.25	0.47
1:5:3015:G:O2'	1:5:3016:A:H5'	2.13	0.47
1:5:3191:G:H2'	1:5:3192:U:H6	1.78	0.47
1:5:3357:U:HO2'	1:5:3358:U:P	2.37	0.47
1:5:3390:G:N2	1:5:3391:A:H1'	2.30	0.47
2:7:91:G:C2'	2:7:92:A:H8	2.22	0.47
3:8:19:C:H2'	3:8:20:U:O4'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:8:38:U:N3	36:h:89:ARG:NH1	2.62	0.47
4:A:116:VAL:CG1	4:A:134:VAL:HG11	2.42	0.47
5:B:82:PRO:HB3	5:B:319:ASN:CB	2.43	0.47
8:E:109:GLU:OE2	8:E:131:LYS:HE3	2.15	0.47
11:H:62:ARG:HH11	11:H:62:ARG:HG3	1.79	0.47
14:L:108:ILE:O	14:L:111:ALA:HB3	2.13	0.47
14:L:138:VAL:HG12	14:L:140:SER:H	1.79	0.47
20:R:110:ARG:HD3	20:R:120:TYR:CD1	2.50	0.47
29:a:60:TYR:CD1	29:a:63:LYS:HB2	2.50	0.47
32:d:102:LYS:HA	32:d:102:LYS:CE	2.44	0.47
35:g:52:GLN:HG2	35:g:53:GLY:N	2.29	0.47
37:i:62:ARG:NH1	37:i:94:ILE:HG12	2.29	0.47
38:j:5:THR:N	38:j:6:PRO:HD2	2.28	0.47
39:k:46:ARG:HG3	39:k:47:GLY:O	2.14	0.47
41:m:78:ILE:O	41:m:78:ILE:HG23	2.15	0.47
42:o:64:THR:HG22	42:o:65:THR:N	2.30	0.47
43:p:51:ALA:HB3	43:p:54:ILE:HG23	1.96	0.47
44:q:28:VAL:HG22	44:q:87:VAL:HG23	1.96	0.47
45:x:558:THR:HA	45:x:561:LYS:CG	2.43	0.47
46:y:363:TRP:O	46:y:367:ARG:HG3	2.14	0.47
47:z:123:UNK:O	47:z:126:UNK:HG3	2.14	0.47
1:5:67:A:C5	1:5:317:A:HI'	2.50	0.47
1:5:188:U:O2'	1:5:207:U:O2	2.32	0.47
1:5:634:C:O2'	33:e:47:ARG:HD2	2.13	0.47
1:5:967:A:C2'	1:5:968:G:H5'	2.44	0.47
1:5:1074:U:O3'	1:5:1075:A:H8	1.97	0.47
1:5:1078:U:H2'	1:5:1080:A:OP2	2.15	0.47
1:5:1263:A:H2'	1:5:1263:A:N3	2.29	0.47
1:5:2795:U:H4'	42:o:60:LYS:CB	2.45	0.47
2:7:9:C:OP1	22:T:26:HIS:HB2	2.14	0.47
2:7:37:G:C2	2:7:41:G:C2	3.03	0.47
4:A:19:HIS:O	4:A:23:ARG:NH1	2.47	0.47
6:C:119:ARG:O	6:C:122:THR:HG23	2.15	0.47
6:C:361:HIS:CG	6:C:362:ASP:N	2.83	0.47
9:F:83:LEU:HD11	9:F:116:PHE:CD1	2.49	0.47
10:G:111:LYS:HB2	10:G:111:LYS:HE3	1.50	0.47
14:L:14:PHE:CD1	14:L:14:PHE:N	2.82	0.47
14:L:70:ARG:HG2	14:L:71:ALA:N	2.29	0.47
16:N:143:ARG:HH21	36:h:92:LEU:HA	1.79	0.47
16:N:183:THR:HG23	16:N:183:THR:O	2.15	0.47
18:P:29:THR:O	18:P:32:THR:HG23	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:74:ASN:OD1	21:S:95:ARG:NH1	2.48	0.47
21:S:94:ILE:CD1	21:S:106:LEU:HB2	2.45	0.47
24:V:10:LYS:HB3	24:V:10:LYS:HE2	1.70	0.47
28:Z:34:LYS:HA	28:Z:34:LYS:HD2	1.72	0.47
36:h:73:LYS:N	36:h:73:LYS:HD2	2.28	0.47
1:5:176:G:H2'	1:5:177:U:O4'	2.14	0.47
1:5:215:G:H2'	1:5:216:G:O4'	2.13	0.47
1:5:269:G:OP2	16:N:44:ARG:NH1	2.44	0.47
1:5:364:G:OP2	38:j:52:LYS:NZ	2.38	0.47
1:5:662:U:OP1	29:a:8:THR:HG21	2.13	0.47
1:5:1479:U:H2'	1:5:1480:G:H5'	1.95	0.47
1:5:1540:U:C2'	1:5:1541:G:H5'	2.44	0.47
1:5:2147:A:H2'	1:5:2148:U:O4'	2.15	0.47
1:5:2531:C:O2	1:5:2531:C:O4'	2.30	0.47
1:5:2572:C:O2	1:5:2572:C:C2'	2.62	0.47
1:5:3101:G:C2	1:5:3134:A:C2	3.03	0.47
3:8:80:A:O2'	3:8:81:U:H5'	2.13	0.47
3:8:83:C:N4	27:Y:113:LYS:NZ	2.63	0.47
5:B:37:ARG:HA	5:B:186:GLY:CA	2.45	0.47
6:C:219:LEU:HD13	6:C:225:VAL:HG11	1.95	0.47
10:G:81:THR:HG23	10:G:82:LEU:H	1.79	0.47
10:G:237:ILE:N	10:G:237:ILE:HD12	2.29	0.47
11:H:67:ALA:HA	11:H:70:THR:CG2	2.44	0.47
12:I:43:VAL:HG21	12:I:197:VAL:CG2	2.31	0.47
14:L:89:TYR:O	14:L:92:THR:OG1	2.31	0.47
17:O:120:VAL:O	17:O:124:LEU:HD22	2.13	0.47
17:O:181:ALA:O	17:O:184:THR:HG22	2.14	0.47
22:T:79:MET:HB2	22:T:84:TYR:CD2	2.49	0.47
23:U:81:LYS:HG2	23:U:90:ARG:HH12	1.74	0.47
31:c:57:GLU:O	31:c:60:ALA:HB3	2.13	0.47
38:j:29:VAL:O	38:j:32:LYS:NZ	2.38	0.47
45:x:155:SER:HB2	45:x:504:CYS:CB	2.33	0.47
47:z:137:UNK:O	47:z:140:UNK:HG3	2.13	0.47
1:5:694:C:H4'	6:C:232:SER:O	2.15	0.47
1:5:776:U:H5	1:5:2719:U:O2	1.98	0.47
1:5:1266:G:C2	1:5:1276:U:H1'	2.49	0.47
1:5:1677:G:H21	1:5:1755:C:HO2'	1.59	0.47
1:5:1950:U:H2'	1:5:1951:C:H6	1.78	0.47
1:5:2214:A:O4'	1:5:2601:A:O2'	2.31	0.47
1:5:2554:A:H4'	1:5:2555:G:OP1	2.14	0.47
1:5:2586:G:C8	10:G:241:LYS:HE3	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3051:U:H1'	24:V:92:PHE:CE2	2.49	0.47
1:5:3067:C:O2'	1:5:3068:U:H5'	2.14	0.47
1:5:3094:A:H2'	1:5:3095:U:H6	1.79	0.47
3:8:44:A:C2'	3:8:45:C:H5'	2.45	0.47
3:8:111:A:C5	38:j:29:VAL:HG11	2.49	0.47
5:B:146:ARG:HA	5:B:146:ARG:CZ	2.44	0.47
6:C:22:LEU:HD23	6:C:23:PRO:N	2.29	0.47
6:C:93:MET:HE3	6:C:94:CYS:SG	2.54	0.47
10:G:161:GLU:CD	16:N:26:ARG:HH22	2.22	0.47
10:G:163:VAL:HG12	10:G:163:VAL:O	2.15	0.47
14:L:25:HIS:HA	14:L:27:ASP:OD2	2.14	0.47
14:L:59:ARG:NH2	14:L:69:VAL:HG23	2.30	0.47
18:P:30:ARG:HD3	18:P:30:ARG:C	2.39	0.47
18:P:69:ARG:CB	18:P:79:THR:HG23	2.44	0.47
21:S:13:ARG:CD	21:S:51:VAL:HG13	2.32	0.47
21:S:14:LEU:HD21	22:T:136:ARG:NH2	2.29	0.47
28:Z:65:ARG:HB3	28:Z:65:ARG:HH11	1.80	0.47
28:Z:76:ASN:OD1	28:Z:78:ASN:HB2	2.15	0.47
29:a:118:ILE:HB	29:a:119:PRO:HD2	1.97	0.47
32:d:55:LEU:CD1	32:d:93:VAL:HG12	2.45	0.47
36:h:94:LYS:O	36:h:98:SER:HB2	2.14	0.47
42:o:24:LYS:HE2	42:o:26:THR:CG2	2.44	0.47
44:q:67:LEU:HD21	44:q:74:GLU:CB	2.44	0.47
45:x:543:LEU:CB	47:z:76:UNK:HG1	2.42	0.47
47:z:72:UNK:HG2	47:z:72:UNK:O	2.15	0.47
1:5:235:A:H2'	1:5:236:G:C8	2.50	0.47
1:5:248:U:H2'	1:5:249:U:H5''	1.97	0.47
1:5:658:G:C2'	1:5:659:G:H5'	2.45	0.47
1:5:983:A:O3'	9:F:101:LYS:NZ	2.48	0.47
1:5:1103:A:N3	1:5:1104:G:H5'	2.28	0.47
1:5:1223:A:P	1:5:1285:G:H22	2.37	0.47
1:5:1284:C:H3'	1:5:1285:G:C8	2.50	0.47
1:5:1307:G:O2'	1:5:1308:A:OP2	2.22	0.47
1:5:1313:G:O2'	1:5:1314:C:H5'	2.15	0.47
1:5:1472:U:O2'	1:5:1473:G:H5'	2.15	0.47
1:5:1513:G:P	20:R:5:ARG:HH22	2.37	0.47
1:5:1689:U:H2'	1:5:1690:C:H6	1.78	0.47
1:5:1882:G:H2'	1:5:1883:A:C5'	2.45	0.47
1:5:2370:G:C2'	1:5:2371:G:H5'	2.44	0.47
1:5:2429:G:H2'	1:5:2430:A:C8	2.49	0.47
1:5:2538:U:H4'	1:5:2541:U:H3	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2640:A:P	22:T:10:ARG:NH1	2.85	0.47
1:5:2816:G:N7	1:5:2869:U:H2'	2.29	0.47
1:5:3047:U:O2'	1:5:3048:A:H5'	2.14	0.47
1:5:3198:U:C4	11:H:26:LYS:HB2	2.49	0.47
1:5:3227:A:H2'	1:5:3228:C:C5'	2.45	0.47
1:5:3227:A:H2'	1:5:3228:C:H5'	1.96	0.47
1:5:3248:C:H2'	1:5:3249:C:C6	2.50	0.47
1:5:3359:A:H2'	1:5:3360:C:H6	1.78	0.47
2:7:28:C:C2'	2:7:29:C:H5'	2.44	0.47
3:8:35:C:H6	3:8:35:C:O5'	1.98	0.47
3:8:44:A:O2'	3:8:45:C:H5'	2.14	0.47
3:8:66:A:H2'	3:8:67:U:H6	1.79	0.47
5:B:37:ARG:HH11	5:B:37:ARG:CG	2.27	0.47
6:C:257:LYS:O	6:C:257:LYS:HG2	2.14	0.47
6:C:269:SER:HB2	6:C:274:TYR:O	2.14	0.47
6:C:342:LYS:O	6:C:342:LYS:CG	2.60	0.47
7:D:17:GLN:HE22	22:T:22:HIS:H	1.63	0.47
7:D:163:LEU:HD13	7:D:173:VAL:HG11	1.96	0.47
8:E:141:VAL:HG12	8:E:142:ASP:N	2.29	0.47
10:G:160:ILE:HG21	16:N:22:LEU:HD11	1.96	0.47
10:G:171:LYS:HD2	10:G:171:LYS:HA	1.62	0.47
10:G:231:LYS:HB2	10:G:231:LYS:HE3	1.53	0.47
11:H:122:LYS:O	11:H:123:ILE:HD13	2.15	0.47
13:J:61:ARG:O	13:J:62:ASN:HB2	2.14	0.47
14:L:154:VAL:CG2	14:L:157:ARG:HG2	2.44	0.47
17:O:85:ARG:HG2	17:O:85:ARG:O	2.14	0.47
17:O:124:LEU:HB2	17:O:127:LEU:HD12	1.96	0.47
17:O:190:VAL:HA	17:O:193:GLN:NE2	2.30	0.47
18:P:15:ALA:HB3	18:P:150:VAL:CG2	2.45	0.47
18:P:61:ARG:NH1	18:P:78:VAL:HG21	2.29	0.47
18:P:129:THR:HB	18:P:139:TYR:CD2	2.50	0.47
18:P:172:GLN:O	18:P:176:ILE:HG13	2.15	0.47
21:S:57:GLU:HB3	22:T:136:ARG:HH22	1.79	0.47
21:S:78:TRP:CH2	21:S:91:TYR:HE2	2.33	0.47
22:T:6:GLY:H	22:T:9:SER:HB2	1.79	0.47
22:T:21:LYS:NZ	22:T:21:LYS:HB2	2.28	0.47
23:U:24:GLU:HG3	23:U:25:ASN:OD1	2.14	0.47
33:e:71:HIS:HB3	33:e:93:ALA:HB2	1.97	0.47
39:k:11:PHE:O	39:k:15:THR:HG23	2.14	0.47
42:o:22:GLN:O	42:o:75:VAL:HG22	2.15	0.47
44:q:16:ARG:HB2	44:q:66:PHE:CZ	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:q:45:LEU:HG	44:q:99:VAL:CG1	2.45	0.47
46:y:253:ILE:HG22	46:y:257:TYR:HE1	1.79	0.47
47:z:120:UNK:HA	47:z:123:UNK:CG	2.44	0.47
1:5:436:A:H2'	1:5:437:G:O4'	2.15	0.47
1:5:853:G:N7	43:p:2:ALA:HB2	2.30	0.47
1:5:1111:U:H2'	1:5:1112:A:H8	1.80	0.47
1:5:1395:G:H2'	1:5:1396:C:C6	2.49	0.47
1:5:1503:A:H2'	1:5:1504:A:H8	1.80	0.47
1:5:1558:A:H5'	10:G:53:PRO:HA	1.97	0.47
1:5:1819:U:O2'	1:5:1820:U:P	2.72	0.47
1:5:2101:C:O2'	1:5:2102:U:P	2.71	0.47
1:5:2836:C:H5	1:5:2852:C:N4	2.12	0.47
1:5:2864:A:C2'	1:5:2865:U:H5'	2.45	0.47
3:8:143:U:H2'	3:8:144:G:O4'	2.14	0.47
5:B:29:VAL:CG1	5:B:339:ARG:HD3	2.45	0.47
5:B:169:THR:HG22	5:B:171:LEU:H	1.78	0.47
5:B:261:MET:SD	17:O:64:PHE:HA	2.55	0.47
10:G:91:PHE:HE2	10:G:185:ARG:HB3	1.79	0.47
10:G:169:LEU:O	10:G:172:LYS:HB3	2.15	0.47
14:L:21:ARG:HB3	16:N:196:THR:HA	1.96	0.47
17:O:102:LEU:HD12	17:O:103:LYS:N	2.30	0.47
21:S:57:GLU:HB3	22:T:136:ARG:NH2	2.30	0.47
29:a:128:ARG:HB3	37:i:8:ALA:HB2	1.97	0.47
37:i:33:ALA:HB1	37:i:37:THR:OG1	2.15	0.47
39:k:5:ILE:HD12	39:k:5:ILE:HA	1.82	0.47
46:y:372:ARG:O	46:y:372:ARG:HG2	2.13	0.47
1:5:250:U:H2'	1:5:251:G:H5'	1.97	0.47
1:5:406:G:H1'	3:8:16:G:N2	2.30	0.47
1:5:578:A:H2'	6:C:334:PHE:CD2	2.46	0.47
1:5:621:A:H4'	1:5:622:A:O5'	2.15	0.47
1:5:927:C:H2'	1:5:928:C:C6	2.45	0.47
1:5:1232:C:C5	1:5:1261:G:H2'	2.49	0.47
1:5:1241:U:C4'	1:5:1242:G:OP1	2.63	0.47
1:5:1524:A:O2'	1:5:1526:U:OP2	2.32	0.47
1:5:1567:U:H2'	1:5:1570:U:H5	1.80	0.47
1:5:1764:U:O4'	1:5:1764:U:OP1	2.33	0.47
1:5:2759:U:H3'	1:5:2759:U:H6	1.80	0.47
1:5:3009:G:O2'	1:5:3010:U:H5'	2.15	0.47
1:5:3122:A:O2'	11:H:63:LYS:HD2	2.15	0.47
3:8:111:A:N7	38:j:29:VAL:HG11	2.30	0.47
6:C:39:PHE:CD2	6:C:242:ALA:HB2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:154:LEU:HA	8:E:157:GLN:OE1	2.14	0.47
9:F:224:ILE:HD11	21:S:39:SER:HB2	1.96	0.47
11:H:25:VAL:CG2	11:H:38:LEU:HD12	2.45	0.47
12:I:85:PHE:CB	12:I:140:THR:HG22	2.44	0.47
13:J:10:ARG:O	13:J:10:ARG:HD3	2.14	0.47
13:J:71:VAL:HG13	13:J:75:LYS:HE3	1.96	0.47
13:J:79:ILE:HG23	13:J:112:LEU:HD11	1.96	0.47
14:L:27:ASP:HB2	14:L:31:LYS:HG3	1.97	0.47
14:L:188:ARG:HG2	14:L:188:ARG:O	2.14	0.47
15:M:37:GLU:OE1	21:S:72:VAL:HB	2.15	0.47
15:M:68:LEU:O	15:M:69:THR:HG23	2.15	0.47
17:O:77:SER:OG	17:O:78:ARG:HD2	2.15	0.47
18:P:108:ASP:CG	18:P:111:LYS:HG3	2.40	0.47
22:T:40:VAL:HB	22:T:96:ILE:HG23	1.97	0.47
24:V:87:ARG:HD2	24:V:93:LEU:HD22	1.97	0.47
31:c:10:ILE:HG12	31:c:68:TYR:CZ	2.49	0.47
32:d:105:GLN:O	32:d:107:VAL:HG23	2.14	0.47
33:e:101:SER:OG	33:e:104:ASN:ND2	2.46	0.47
35:g:8:ARG:NH2	35:g:31:ARG:HH11	2.10	0.47
39:k:8:ILE:HG22	39:k:12:LEU:HD22	1.97	0.47
42:o:71:ARG:HH21	42:o:80:ARG:NH1	2.12	0.47
45:x:449:LEU:CD2	45:x:477:LYS:HZ1	2.28	0.47
1:5:251:G:H1'	1:5:253:A:C6	2.50	0.47
1:5:401:U:C5	46:y:361:ARG:NH2	2.83	0.47
1:5:696:C:O2'	1:5:697:A:O5'	2.29	0.47
1:5:850:U:H4'	1:5:851:C:OP1	2.14	0.47
1:5:1064:A:H5''	1:5:1066:G:O4'	2.15	0.47
1:5:1081:U:O2'	1:5:1082:U:O5'	2.29	0.47
1:5:1456:A:N1	32:d:64:VAL:CG1	2.78	0.47
1:5:1475:A:O2'	1:5:1476:G:H5'	2.15	0.47
1:5:1873:U:OP1	20:R:56:THR:HG22	2.15	0.47
1:5:3225:C:C2	1:5:3226:A:C8	3.03	0.47
4:A:82:VAL:HA	4:A:86:GLN:OE1	2.14	0.47
6:C:193:LYS:NZ	6:C:193:LYS:CB	2.77	0.47
8:E:166:LYS:N	8:E:169:ASP:OD2	2.45	0.47
10:G:152:LEU:HB3	10:G:180:VAL:HG11	1.96	0.47
12:I:36:LEU:CD1	12:I:69:ARG:HG2	2.39	0.47
13:J:14:ILE:HD12	13:J:14:ILE:N	2.29	0.47
14:L:52:ASP:OD1	14:L:52:ASP:N	2.48	0.47
14:L:154:VAL:HG23	14:L:157:ARG:HG2	1.96	0.47
19:Q:106:PHE:HB2	19:Q:111:ARG:NH2	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:103:VAL:O	21:S:106:LEU:HB3	2.15	0.47
30:b:5:LYS:NZ	30:b:8:THR:CG2	2.78	0.47
31:c:17:VAL:HG11	31:c:92:ILE:HG23	1.96	0.47
36:h:81:ARG:HH11	36:h:81:ARG:CG	2.28	0.47
38:j:24:ARG:CB	38:j:24:ARG:NH1	2.78	0.47
39:k:4:GLU:HG2	39:k:5:ILE:N	2.29	0.47
45:x:543:LEU:CG	47:z:76:UNK:HG1	2.44	0.47
47:z:65:UNK:CG	47:z:66:UNK:N	2.78	0.47
1:5:216:G:H2'	1:5:216:G:N3	2.30	0.46
1:5:345:G:H2'	3:8:25:G:O2'	2.14	0.46
1:5:665:A:O2'	1:5:666:A:H5'	2.15	0.46
1:5:798:G:OP1	29:a:32:ARG:HA	2.15	0.46
1:5:1348:U:OP1	19:Q:39:ARG:NH2	2.44	0.46
1:5:1692:U:C2'	1:5:1693:C:H5'	2.44	0.46
1:5:1990:Y5P:O2'	45:x:575:MET:HE3	2.14	0.46
1:5:2513:U:H3	1:5:2593:A:H62	1.61	0.46
1:5:2666:C:N3	1:5:2689:A:H8	2.13	0.46
1:5:3116:G:H5'	1:5:3117:C:H5	1.80	0.46
4:A:49:VAL:HG22	4:A:50:HIS:O	2.15	0.46
6:C:187:LEU:HD23	6:C:187:LEU:HA	1.74	0.46
6:C:238:LEU:HA	6:C:238:LEU:HD23	1.72	0.46
8:E:42:LEU:HD23	8:E:84:VAL:HG13	1.97	0.46
9:F:43:ILE:O	9:F:47:ARG:HG3	2.13	0.46
20:R:116:ASP:OD2	20:R:118:HIS:HB2	2.16	0.46
21:S:23:LYS:HA	22:T:146:ASN:ND2	2.23	0.46
22:T:86:GLU:OE2	22:T:88:ARG:NH1	2.48	0.46
22:T:111:ALA:O	22:T:115:LYS:HG3	2.16	0.46
25:W:53:VAL:O	25:W:57:LYS:HD2	2.14	0.46
32:d:20:LEU:O	32:d:23:VAL:HG23	2.14	0.46
42:o:64:THR:HG22	42:o:65:THR:H	1.79	0.46
44:q:76:LEU:HD12	44:q:86:PHE:CE1	2.49	0.46
45:x:190:ALA:O	45:x:193:THR:HB	2.14	0.46
45:x:411:SER:O	45:x:414:LYS:HE2	2.15	0.46
46:y:191:ILE:HD12	46:y:200:LYS:HG3	1.94	0.46
46:y:353:LYS:HD2	46:y:357:GLN:HE21	1.80	0.46
1:5:315:C:OP2	37:i:28:TYR:OH	2.31	0.46
1:5:685:G:OP1	14:L:39:ARG:NH2	2.48	0.46
1:5:1006:A:O2'	1:5:1007:U:H5'	2.15	0.46
1:5:1089:G:O2'	1:5:1090:G:H5'	2.15	0.46
1:5:1164:G:H2'	1:5:1165:A:H8	1.80	0.46
1:5:1844:C:O2	38:j:9:GLY:HA2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2196:C:O4'	1:5:2271:A:H1'	2.14	0.46
1:5:2616:C:H2'	1:5:2617:U:H5'	1.97	0.46
1:5:2739:A:H2'	1:5:2740:A:O4'	2.15	0.46
1:5:3357:U:O2'	1:5:3358:U:OP1	2.29	0.46
4:A:137:ILE:HG23	4:A:147:ARG:HG3	1.97	0.46
5:B:228:GLY:O	5:B:232:ARG:HB2	2.15	0.46
6:C:300:ARG:HB3	6:C:300:ARG:CZ	2.45	0.46
7:D:83:LEU:O	7:D:86:TYR:N	2.48	0.46
7:D:229:ASP:HB3	7:D:231:ILE:HG13	1.97	0.46
9:F:47:ARG:HH12	9:F:179:LEU:HD11	1.77	0.46
11:H:84:LYS:HA	11:H:188:THR:CB	2.38	0.46
12:I:46:PHE:HB3	12:I:140:THR:N	2.30	0.46
13:J:132:ASN:HA	13:J:154:THR:CG2	2.45	0.46
14:L:37:ASN:O	14:L:41:THR:HG23	2.14	0.46
17:O:21:SER:HA	17:O:87:MET:SD	2.55	0.46
18:P:30:ARG:HA	18:P:119:VAL:CG1	2.39	0.46
19:Q:135:GLN:CD	19:Q:135:GLN:H	2.22	0.46
20:R:14:VAL:HG12	20:R:15:VAL:N	2.30	0.46
23:U:91:ASP:HA	46:y:316:ARG:HB3	1.97	0.46
33:e:34:LYS:HB3	33:e:36:LYS:HZ1	1.80	0.46
34:f:50:ALA:HB3	34:f:101:PHE:HE2	1.80	0.46
39:k:73:LEU:HD12	39:k:74:LYS:H	1.80	0.46
45:x:45:LEU:HD22	45:x:59:LEU:CD1	2.45	0.46
45:x:150:TYR:CE2	45:x:249:ARG:HB2	2.50	0.46
47:z:95:UNK:HA	47:z:98:UNK:HG3	1.97	0.46
1:5:370:U:H2'	1:5:371:G:H5'	1.96	0.46
1:5:528:U:H2'	1:5:529:A:H8	1.80	0.46
1:5:646:A:C2	1:5:2375:G:C2	3.04	0.46
1:5:850:U:O2'	1:5:851:C:P	2.74	0.46
1:5:1147:G:N2	1:5:1148:G:H1'	2.30	0.46
1:5:1406:A:O2'	1:5:1407:A:H5'	2.15	0.46
1:5:1722:U:OP2	20:R:103:ARG:NH1	2.47	0.46
1:5:1746:U:O2'	1:5:1747:G:H5'	2.15	0.46
1:5:1780:G:H2'	1:5:1781:C:H6	1.80	0.46
1:5:3161:C:H2'	1:5:3162:C:C6	2.51	0.46
3:8:37:A:H5''	3:8:39:G:O4'	2.15	0.46
6:C:203:ARG:HH11	6:C:203:ARG:CG	2.29	0.46
6:C:276:LEU:HD12	6:C:276:LEU:H	1.81	0.46
7:D:183:TRP:HB2	7:D:190:ILE:CD1	2.43	0.46
8:E:154:LEU:N	8:E:154:LEU:HD23	2.31	0.46
10:G:247:ASP:C	10:G:248:LYS:HZ1	2.23	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:I:66:GLU:O	12:I:70:ILE:HG13	2.16	0.46
15:M:58:ILE:HD11	15:M:62:GLN:HG3	1.97	0.46
16:N:33:LYS:HD3	16:N:37:HIS:NE2	2.30	0.46
16:N:70:ASN:HD21	16:N:93:LYS:HZ3	1.59	0.46
16:N:119:TYR:N	16:N:119:TYR:CD1	2.84	0.46
17:O:31:GLN:HG3	17:O:33:ILE:CD1	2.46	0.46
21:S:81:TYR:CE1	21:S:88:HIS:HB2	2.51	0.46
30:b:39:PHE:HA	30:b:42:ASN:HB3	1.96	0.46
36:h:63:ARG:O	36:h:66:VAL:HG23	2.15	0.46
38:j:21:ARG:NH2	38:j:39:TYR:HA	2.31	0.46
39:k:44:LYS:HG2	39:k:53:THR:HB	1.97	0.46
45:x:216:SER:HB3	45:x:219:THR:OG1	2.16	0.46
1:5:728:G:H5''	19:Q:43:PRO:HB2	1.96	0.46
1:5:887:G:C6	1:5:888:A:C6	3.04	0.46
1:5:1057:A:OP1	9:F:98:LYS:HE2	2.16	0.46
1:5:1111:U:H5''	14:L:5:LYS:CE	2.44	0.46
1:5:1773:C:H2'	1:5:1774:C:C6	2.51	0.46
1:5:2369:G:C6	1:5:2370:G:C6	3.04	0.46
1:5:2573:G:H2'	1:5:2574:G:H5''	1.98	0.46
1:5:3107:U:OP2	41:m:112:LYS:NZ	2.47	0.46
1:5:3161:C:H2'	1:5:3162:C:H6	1.81	0.46
1:5:3167:A:O2'	1:5:3168:A:OP1	2.31	0.46
3:8:117:C:H2'	3:8:118:C:C6	2.51	0.46
4:A:42:ARG:HD2	4:A:87:PHE:CD2	2.50	0.46
4:A:46:LYS:HD3	4:A:62:VAL:CG1	2.45	0.46
5:B:79:VAL:CG1	5:B:322:ILE:HB	2.45	0.46
5:B:114:VAL:HG13	5:B:163:HIS:CG	2.50	0.46
6:C:174:ALA:O	6:C:177:ASP:HB3	2.16	0.46
9:F:136:TYR:CE2	9:F:231:ASN:HB2	2.51	0.46
10:G:24:ASN:CB	10:G:25:PRO:CD	2.90	0.46
10:G:185:ARG:O	10:G:188:THR:OG1	2.27	0.46
11:H:101:VAL:HG22	11:H:114:VAL:HG22	1.97	0.46
13:J:80:LEU:HD22	13:J:84:LEU:HG	1.96	0.46
13:J:95:ASN:HB3	13:J:96:PHE:CD2	2.51	0.46
13:J:110:ILE:HG22	13:J:114:ILE:O	2.16	0.46
16:N:114:ARG:CB	16:N:151:ILE:HD11	2.33	0.46
19:Q:72:LYS:HB3	19:Q:72:LYS:HZ2	1.80	0.46
19:Q:185:LYS:CG	19:Q:186:VAL:HG23	2.45	0.46
23:U:39:ASP:HB2	23:U:40:HIS:HD2	1.80	0.46
25:W:48:ARG:C	25:W:49:ILE:HD13	2.40	0.46
25:W:49:ILE:HD13	25:W:49:ILE:N	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:X:137:ASN:HD21	45:x:417:LYS:CD	2.21	0.46
29:a:82:ILE:HD11	29:a:102:ILE:CG1	2.45	0.46
30:b:5:LYS:HZ2	30:b:8:THR:CB	2.26	0.46
32:d:71:LEU:CB	32:d:73:LEU:HD21	2.30	0.46
34:f:57:LYS:HG2	34:f:58:GLU:H	1.79	0.46
42:o:58:PHE:HD2	42:o:61:LYS:HD3	1.80	0.46
45:x:411:SER:CA	45:x:414:LYS:HE2	2.39	0.46
1:5:374:A:O2'	1:5:376:G:H8	1.99	0.46
1:5:676:G:OP2	19:Q:107:THR:HA	2.16	0.46
1:5:1161:G:C8	1:5:1365:G:C5	3.04	0.46
1:5:1470:U:O2'	1:5:1512:U:H4'	2.16	0.46
1:5:1685:C:H2'	1:5:1686:U:H6	1.80	0.46
1:5:1693:C:O2'	1:5:1772:U:O2'	2.11	0.46
1:5:1710:C:H2'	1:5:1711:C:C6	2.50	0.46
1:5:1891:A:O2'	1:5:1892:G:H5'	2.14	0.46
1:5:2206:G:OP2	1:5:2206:G:H8	1.98	0.46
1:5:2538:U:H2'	1:5:2539:C:C5'	2.45	0.46
1:5:2770:G:C2'	1:5:2771:U:H5'	2.46	0.46
1:5:2816:G:C8	1:5:2869:U:H3'	2.50	0.46
1:5:2828:G:C1'	12:I:4:ARG:HH11	2.29	0.46
1:5:2857:C:O2'	1:5:2858:U:H5'	2.15	0.46
1:5:3371:G:H2'	1:5:3372:A:O4'	2.16	0.46
3:8:134:G:OP1	26:X:56:ARG:HG2	2.16	0.46
6:C:92:ASN:HA	6:C:98:ARG:O	2.16	0.46
7:D:106:ALA:HB1	7:D:169:GLY:HA3	1.98	0.46
7:D:125:VAL:HG12	7:D:199:ILE:HD13	1.97	0.46
12:I:156:ARG:CD	12:I:163:GLN:HG2	2.46	0.46
12:I:197:VAL:HG12	12:I:198:LYS:N	2.30	0.46
15:M:34:ALA:HB2	15:M:85:TRP:CZ3	2.48	0.46
15:M:125:LYS:CD	15:M:128:ARG:HH22	2.28	0.46
17:O:113:ASP:OD2	17:O:114:LYS:N	2.48	0.46
17:O:184:THR:HG23	17:O:185:ALA:N	2.31	0.46
19:Q:176:ARG:HE	19:Q:184:PHE:HE1	1.64	0.46
28:Z:14:VAL:CG1	28:Z:79:HIS:HA	2.46	0.46
31:c:92:ILE:HG13	31:c:100:ILE:CD1	2.45	0.46
34:f:67:MET:HE1	34:f:88:ASN:H	1.80	0.46
36:h:100:VAL:HG23	36:h:104:GLN:HB3	1.96	0.46
45:x:543:LEU:O	45:x:545:PRO:HD3	2.15	0.46
1:5:833:G:N2	1:5:834:U:H1'	2.31	0.46
1:5:929:A:H2'	1:5:930:U:H6	1.80	0.46
1:5:949:C:H2'	1:5:950:G:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1079:A:C2	7:D:113:LEU:HG	2.51	0.46
1:5:1103:A:H3'	1:5:1103:A:N3	2.30	0.46
1:5:1427:U:H2'	1:5:1428:A:H8	1.79	0.46
1:5:1520:G:O2'	1:5:1521:G:H5'	2.15	0.46
1:5:1662:G:H2'	1:5:1663:C:C6	2.49	0.46
1:5:2537:U:C2'	1:5:2538:U:O4'	2.63	0.46
1:5:2844:C:H5''	1:5:2845:A:OP2	2.16	0.46
1:5:3058:U:N3	32:d:65:LYS:HD3	2.30	0.46
3:8:28:C:H2'	3:8:29:U:H6	1.81	0.46
3:8:44:A:H2'	3:8:45:C:H6	1.80	0.46
3:8:81:U:OP1	3:8:87:G:H4'	2.15	0.46
6:C:14:GLU:O	6:C:14:GLU:HG3	2.16	0.46
6:C:206:LEU:HB3	6:C:248:VAL:HG22	1.98	0.46
16:N:16:SER:O	16:N:20:ARG:HG2	2.16	0.46
18:P:136:ILE:HB	46:y:381:VAL:HG11	1.98	0.46
20:R:105:LEU:HD12	20:R:138:LEU:HD13	1.98	0.46
21:S:71:LYS:O	21:S:97:VAL:HG23	2.16	0.46
28:Z:16:GLY:C	28:Z:18:TYR:H	2.21	0.46
31:c:75:ASN:O	31:c:78:GLY:N	2.49	0.46
36:h:105:ARG:O	36:h:109:ILE:HG13	2.15	0.46
44:q:33:VAL:HA	44:q:37:GLN:OE1	2.16	0.46
45:x:36:GLN:OE1	45:x:528:GLY:HA3	2.16	0.46
45:x:235:ASN:HD21	45:x:326:LEU:HB2	1.79	0.46
45:x:340:VAL:HG21	45:x:353:LEU:HD23	1.96	0.46
45:x:477:LYS:HA	45:x:477:LYS:HD2	1.51	0.46
1:5:99:A:H5'	16:N:194:GLN:OE1	2.16	0.46
1:5:159:A:O2'	1:5:160:G:H5'	2.15	0.46
1:5:378:A:C2	1:5:379:C:H1'	2.51	0.46
1:5:850:U:H2'	1:5:851:C:C6	2.51	0.46
1:5:1081:U:O2'	1:5:1082:U:P	2.73	0.46
1:5:1191:U:H4'	1:5:1192:C:O5'	2.16	0.46
1:5:1221:A:O4'	44:q:58:MET:HG2	2.15	0.46
1:5:1330:A:C2	1:5:1332:A:H1'	2.51	0.46
1:5:1715:A:C6	31:c:84:LEU:HB2	2.51	0.46
1:5:2856:G:H2'	1:5:2857:C:H6	1.81	0.46
1:5:2947:G:OP2	1:5:2947:G:H4'	2.15	0.46
1:5:3183:A:OP2	17:O:37:ARG:NH2	2.41	0.46
2:7:3:U:H2'	2:7:4:U:C6	2.50	0.46
2:7:119:U:H3'	7:D:258:LYS:NZ	2.30	0.46
3:8:81:U:O3'	3:8:82:U:C4'	2.63	0.46
5:B:44:THR:CA	5:B:340:LYS:HD3	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:197:GLN:H	9:F:197:GLN:CD	2.24	0.46
9:F:223:PHE:HA	9:F:227:GLY:O	2.16	0.46
13:J:48:SER:N	13:J:66:ALA:O	2.42	0.46
14:L:2:ALA:HB2	29:a:30:GLY:HA3	1.96	0.46
16:N:116:LEU:HD12	16:N:116:LEU:HA	1.77	0.46
25:W:20:LEU:HD21	25:W:28:ILE:HD13	1.97	0.46
29:a:77:LYS:C	29:a:79:TRP:N	2.73	0.46
1:5:267:G:H1'	16:N:50:ARG:HD2	1.98	0.46
1:5:285:A:N3	42:o:45:ARG:NH2	2.64	0.46
1:5:376:G:C4	1:5:401:U:C5	3.03	0.46
1:5:506:U:OP1	6:C:316:ASN:HB2	2.15	0.46
1:5:1130:A:H5''	1:5:1131:G:P	2.56	0.46
1:5:1331:U:H4'	1:5:1332:A:OP2	2.15	0.46
1:5:1439:U:H5'	6:C:87:GLN:HG2	1.96	0.46
1:5:1472:U:H2'	1:5:1473:G:H8	1.81	0.46
1:5:1631:C:H5''	1:5:1632:A:H5''	1.96	0.46
1:5:1875:G:H2'	1:5:1876:U:O4'	2.15	0.46
1:5:1940:G:H21	1:5:3362:A:H8	1.62	0.46
1:5:2096:A:H2'	1:5:2097:U:C6	2.51	0.46
1:5:2185:G:O2'	1:5:2314:U:OP2	2.33	0.46
1:5:2308:C:H2'	1:5:2309:A:N7	2.31	0.46
1:5:2540:A:O2'	1:5:2541:U:H2'	2.15	0.46
1:5:3164:C:O2'	1:5:3165:A:H8	1.99	0.46
2:7:98:C:O5'	2:7:98:C:H6	1.99	0.46
4:A:56:ALA:HB1	4:A:57:PRO:HD2	1.98	0.46
4:A:180:LEU:HD22	4:A:180:LEU:HA	1.70	0.46
8:E:45:GLY:O	8:E:48:ARG:HD3	2.16	0.46
10:G:197:VAL:O	10:G:198:ALA:HB2	2.15	0.46
17:O:188:SER:H	17:O:192:LYS:HZ2	1.64	0.46
20:R:39:ASN:O	20:R:42:ARG:HB2	2.14	0.46
26:X:100:LYS:HG3	26:X:105:VAL:O	2.16	0.46
37:i:98:ARG:HA	37:i:98:ARG:NE	2.30	0.46
45:x:35:ALA:O	45:x:38:ALA:HB3	2.16	0.46
46:y:348:LEU:N	46:y:349:PRO:HD3	2.31	0.46
1:5:982:C:O2'	1:5:983:A:OP1	2.32	0.46
1:5:1126:G:H5''	12:I:119:TRP:HZ3	1.81	0.46
1:5:1166:G:N2	1:5:1334:U:C2	2.84	0.46
1:5:1334:U:H5''	9:F:206:LYS:HB3	1.97	0.46
1:5:1349:G:H3'	1:5:1349:G:C8	2.51	0.46
3:8:59:A:H2'	3:8:59:A:N3	2.30	0.46
4:A:104:LEU:CD2	4:A:158:ILE:HD11	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:208:VAL:HG12	5:B:209:PHE:CD1	2.51	0.46
5:B:210:GLU:HG3	5:B:213:GLU:HB2	1.97	0.46
5:B:283:TYR:HB2	5:B:323:MET:HE3	1.97	0.46
6:C:30:ILE:O	6:C:32:PRO:HD3	2.15	0.46
9:F:222:HIS:CE1	9:F:230:GLY:HA3	2.51	0.46
10:G:150:LEU:HD23	10:G:176:PRO:HB2	1.98	0.46
13:J:85:LYS:HA	13:J:89:TYR:CE2	2.50	0.46
18:P:46:LYS:HE3	18:P:46:LYS:HB2	1.51	0.46
19:Q:88:THR:HG22	19:Q:107:THR:CG2	2.45	0.46
25:W:9:SER:O	25:W:53:VAL:HG23	2.16	0.46
34:f:57:LYS:HG2	34:f:58:GLU:N	2.31	0.46
38:j:85:LYS:C	38:j:87:SER:H	2.24	0.46
45:x:140:LYS:HG2	45:x:502:ARG:HB3	1.98	0.46
45:x:252:ALA:HB3	45:x:255:ASN:ND2	2.31	0.46
47:z:95:UNK:O	47:z:98:UNK:HG3	2.16	0.46
1:5:190:U:C4	27:Y:60:ARG:NH1	2.84	0.46
1:5:586:C:C2'	1:5:587:U:H5'	2.46	0.46
1:5:626:U:H2'	1:5:627:U:O4'	2.15	0.46
1:5:627:U:H2'	1:5:628:A:H8	1.79	0.46
1:5:816:A:H1'	1:5:819:U:O4	2.16	0.46
1:5:817:A:O2'	38:j:11:ARG:HG2	2.15	0.46
1:5:860:G:P	4:A:181:LYS:NZ	2.89	0.46
1:5:1035:G:H2'	1:5:1036:A:C8	2.51	0.46
1:5:1223:A:C5	1:5:1224:C:C5	3.04	0.46
1:5:1838:G:H5''	1:5:1839:A:P	2.56	0.46
1:5:2393:G:OP2	5:B:248:LYS:NZ	2.48	0.46
1:5:2512:C:O2'	1:5:2513:U:H5'	2.15	0.46
1:5:3163:A:H2'	1:5:3164:C:H6	1.78	0.46
2:7:22:A:H2'	2:7:22:A:N3	2.30	0.46
4:A:79:ASN:O	4:A:80:GLU:HB3	2.16	0.46
5:B:287:LYS:HB3	5:B:287:LYS:HZ2	1.81	0.46
6:C:158:SER:HA	6:C:213:ASN:HB3	1.98	0.46
6:C:309:ARG:H	6:C:309:ARG:HG3	1.52	0.46
7:D:259:LYS:H	7:D:259:LYS:CD	2.23	0.46
11:H:101:VAL:CG2	11:H:114:VAL:HG22	2.46	0.46
11:H:145:VAL:C	11:H:146:LEU:HD12	2.41	0.46
16:N:172:ARG:O	16:N:174:ILE:HD12	2.15	0.46
17:O:4:GLU:HG2	17:O:5:PRO:HD3	1.97	0.46
19:Q:44:PHE:O	19:Q:47:VAL:HB	2.16	0.46
21:S:171:PHE:CG	21:S:172:TYR:N	2.84	0.46
28:Z:123:GLN:O	28:Z:124:ALA:HB3	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:c:19:LYS:H	31:c:19:LYS:HG2	1.44	0.46
36:h:21:LEU:HD12	36:h:58:ILE:CD1	2.45	0.46
37:i:53:TYR:CE1	37:i:77:LEU:HD21	2.51	0.46
45:x:175:PRO:HG2	45:x:177:LEU:HD21	1.98	0.46
45:x:278:LEU:O	47:z:94:UNK:HG1	2.16	0.46
46:y:248:ASP:O	46:y:252:GLU:HG3	2.16	0.46
1:5:269:G:OP1	16:N:47:LYS:HE2	2.16	0.45
1:5:434:U:H2'	1:5:435:C:C6	2.52	0.45
1:5:663:C:H2'	1:5:664:U:H6	1.81	0.45
1:5:793:C:OP1	29:a:2:PRO:HD2	2.15	0.45
1:5:1100:U:OP2	9:F:196:LYS:NZ	2.48	0.45
1:5:1496:C:C2	1:5:1521:G:N2	2.84	0.45
1:5:1677:G:N7	23:U:74:LYS:HE3	2.31	0.45
1:5:1772:U:C3'	1:5:1773:C:H5'	2.45	0.45
1:5:2151:C:O2'	1:5:2152:A:H5'	2.17	0.45
1:5:2734:A:H2'	1:5:2735:U:H6	1.81	0.45
2:7:28:C:H2'	2:7:29:C:C5'	2.46	0.45
3:8:145:U:H2'	3:8:146:U:O4'	2.16	0.45
7:D:61:ILE:HD12	7:D:79:TYR:HD1	1.81	0.45
11:H:112:ILE:CD1	11:H:161:LEU:HG	2.47	0.45
13:J:12:LEU:CD1	13:J:131:MET:HE3	2.45	0.45
13:J:104:PHE:CE1	13:J:127:PHE:HB2	2.50	0.45
13:J:106:ILE:HD13	13:J:125:MET:O	2.15	0.45
15:M:44:VAL:HG13	15:M:60:LEU:HD21	1.98	0.45
18:P:10:ASN:ND2	18:P:13:LYS:HG3	2.31	0.45
19:Q:170:ARG:HD2	19:Q:171:LYS:N	2.31	0.45
20:R:102:LEU:HD22	20:R:138:LEU:HD12	1.98	0.45
21:S:13:ARG:O	21:S:22:PRO:HG3	2.15	0.45
28:Z:26:VAL:HG23	28:Z:27:LYS:H	1.81	0.45
31:c:52:ARG:O	31:c:56:LEU:HD12	2.15	0.45
31:c:86:ARG:NH1	43:p:44:LYS:HE2	2.30	0.45
45:x:81:LYS:HA	45:x:87:ARG:HH12	1.76	0.45
45:x:404:GLU:HG3	45:x:404:GLU:O	2.15	0.45
1:5:586:C:O2'	1:5:587:U:H5'	2.16	0.45
1:5:654:C:OP1	33:e:27:ARG:NH2	2.50	0.45
1:5:1473:G:H2'	1:5:1474:A:O4'	2.15	0.45
1:5:1893:A:O2'	1:5:1894:U:H5'	2.16	0.45
1:5:2538:U:C3'	1:5:2539:C:H5''	2.45	0.45
1:5:2557:A:C5'	28:Z:135:ARG:HH22	2.28	0.45
1:5:2605:G:H2'	1:5:2607:G:O6	2.16	0.45
1:5:3187:A:C2	21:S:171:PHE:HB3	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3218:A:H5''	1:5:3219:G:C4	2.50	0.45
3:8:63:G:OP2	3:8:90:U:H4'	2.16	0.45
3:8:68:G:O2'	3:8:69:U:H5'	2.16	0.45
3:8:113:U:H5''	40:l:7:PHE:CB	2.46	0.45
6:C:122:THR:CG2	6:C:262:TRP:HH2	2.29	0.45
9:F:141:TYR:OH	9:F:145:ARG:HD2	2.16	0.45
11:H:86:TYR:CD1	11:H:151:VAL:HG13	2.52	0.45
13:J:12:LEU:HD12	13:J:131:MET:HE3	1.98	0.45
14:L:180:ARG:HD3	37:i:11:LEU:HD11	1.97	0.45
17:O:147:TRP:NE1	17:O:149:TYR:HB2	2.31	0.45
19:Q:64:VAL:CG2	19:Q:67:ILE:HD12	2.40	0.45
23:U:25:ASN:O	46:y:308:PRO:HG2	2.16	0.45
24:V:22:ILE:HG12	24:V:35:TYR:HD1	1.80	0.45
26:X:99:VAL:HG12	26:X:100:LYS:N	2.31	0.45
27:Y:54:ASP:O	27:Y:70:ILE:HD13	2.15	0.45
28:Z:14:VAL:HG21	35:g:86:LYS:HG2	1.91	0.45
33:e:32:TRP:CZ2	33:e:53:PRO:HD2	2.51	0.45
34:f:8:TYR:CE1	34:f:99:ARG:HD3	2.51	0.45
36:h:85:THR:CG2	36:h:88:LEU:H	2.29	0.45
37:i:66:GLU:O	37:i:66:GLU:HG2	2.16	0.45
42:o:10:THR:HA	42:o:20:HIS:NE2	2.31	0.45
44:q:26:PHE:CE2	44:q:89:THR:HG21	2.51	0.45
44:q:63:ILE:HG23	44:q:73:PHE:HB3	1.97	0.45
45:x:12:ILE:HA	45:x:16:ASP:OD2	2.16	0.45
45:x:126:ALA:O	45:x:130:THR:OG1	2.33	0.45
45:x:130:THR:CG2	45:x:132:THR:HB	2.46	0.45
45:x:329:CYS:HB3	45:x:442:TRP:CH2	2.51	0.45
45:x:526:THR:O	45:x:526:THR:HG22	2.15	0.45
1:5:59:G:H4'	1:5:60:A:H4'	1.98	0.45
1:5:71:A:C2	1:5:2778:G:H1'	2.51	0.45
1:5:73:C:C4	37:i:15:LYS:HE3	2.51	0.45
1:5:100:A:C6	1:5:101:G:C6	3.04	0.45
1:5:150:A:H2'	1:5:151:A:H5'	1.99	0.45
1:5:173:G:C2'	1:5:174:C:O4'	2.63	0.45
1:5:379:C:N4	1:5:390:G:H1	2.14	0.45
1:5:565:U:O2'	1:5:566:G:H5'	2.16	0.45
1:5:644:G:H2'	1:5:2372:A:N6	2.29	0.45
1:5:839:C:O2'	1:5:840:C:H5'	2.16	0.45
1:5:903:U:OP2	38:j:30:GLN:HG2	2.16	0.45
1:5:1002:A:N1	1:5:1050:U:O2'	2.46	0.45
1:5:1329:U:C2'	1:5:1330:A:H5''	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1764:U:H4'	1:5:1765:U:OP2	2.16	0.45
1:5:3279:A:H2'	1:5:3280:U:C5'	2.46	0.45
3:8:95:G:OP2	38:j:72:ARG:NH1	2.49	0.45
4:A:49:VAL:HG22	4:A:50:HIS:N	2.31	0.45
5:B:128:LYS:C	5:B:131:THR:HG23	2.41	0.45
6:C:142:VAL:HG12	6:C:145:ILE:HD13	1.99	0.45
8:E:166:LYS:N	8:E:166:LYS:HD3	2.31	0.45
8:E:172:HIS:CD2	34:f:40:ASP:HB3	2.51	0.45
9:F:103:LEU:HA	9:F:130:ILE:HD11	1.99	0.45
11:H:103:ILE:HD11	11:H:134:ILE:HB	1.98	0.45
12:I:200:LEU:HG	12:I:201:SER:N	2.30	0.45
14:L:180:ARG:NH1	14:L:180:ARG:HB3	2.32	0.45
15:M:55:ARG:HG2	21:S:70:THR:HG22	1.97	0.45
16:N:126:THR:HB	16:N:127:TYR:CD2	2.51	0.45
17:O:27:LEU:HD21	17:O:33:ILE:CG1	2.46	0.45
17:O:128:ARG:HD2	17:O:128:ARG:HA	1.59	0.45
18:P:170:SER:CB	18:P:173:ARG:HH21	2.29	0.45
20:R:17:VAL:HG22	20:R:18:GLY:H	1.82	0.45
26:X:65:GLN:HA	26:X:66:PRO:HD3	1.84	0.45
28:Z:75:VAL:HG22	28:Z:76:ASN:O	2.16	0.45
32:d:14:ILE:HG12	32:d:15:ASN:N	2.31	0.45
32:d:42:LEU:HG	32:d:43:HIS:CE1	2.51	0.45
44:q:38:MET:HE2	44:q:53:MET:SD	2.56	0.45
44:q:91:GLU:CB	44:q:92:PRO:HD2	2.27	0.45
45:x:73:LEU:O	45:x:77:GLU:HG2	2.15	0.45
45:x:218:ILE:HA	45:x:222:LEU:HD12	1.98	0.45
45:x:486:LYS:HA	45:x:489:MET:HE2	1.98	0.45
46:y:190:TYR:O	46:y:192:PRO:HD3	2.15	0.45
46:y:242:ILE:O	46:y:242:ILE:HG13	2.16	0.45
1:5:249:U:H1'	1:5:250:U:O4'	2.16	0.45
1:5:373:A:C6	1:5:375:A:C6	3.04	0.45
1:5:787:G:C4	1:5:788:C:C5	3.04	0.45
1:5:1195:A:C2	1:5:1309:U:N3	2.85	0.45
1:5:1261:G:H4'	1:5:1278:A:C2	2.51	0.45
1:5:1307:G:H5'	17:O:60:LYS:HE2	1.99	0.45
1:5:1682:U:C1'	1:5:1685:C:H41	2.29	0.45
1:5:1728:G:H5''	1:5:1730:G:O4'	2.16	0.45
1:5:1799:A:H2'	1:5:1800:A:H8	1.81	0.45
1:5:2370:G:H2'	1:5:2371:G:H5'	1.97	0.45
1:5:2812:C:O2'	1:5:2813:A:H5'	2.16	0.45
1:5:2828:G:N3	1:5:2828:G:H2'	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3315:G:H2'	5:B:123:TYR:CD1	2.52	0.45
3:8:120:C:H2'	3:8:121:U:O4'	2.17	0.45
4:A:24:GLN:HG2	4:A:51:ASP:OD1	2.17	0.45
6:C:55:LYS:CG	6:C:59:GLN:HG2	2.44	0.45
6:C:65:TRP:CZ3	6:C:69:ARG:NH1	2.84	0.45
6:C:166:VAL:O	6:C:166:VAL:HG12	2.15	0.45
7:D:62:CYS:HB3	7:D:105:ILE:CD1	2.46	0.45
8:E:52:VAL:CG1	8:E:65:ILE:HG23	2.47	0.45
8:E:100:LYS:HE2	8:E:105:TYR:HE1	1.82	0.45
9:F:187:GLU:HA	9:F:187:GLU:OE2	2.16	0.45
15:M:48:GLY:N	15:M:49:PRO:HD3	2.31	0.45
17:O:124:LEU:CB	17:O:127:LEU:HD12	2.47	0.45
20:R:106:LEU:HD13	20:R:138:LEU:HD11	1.97	0.45
21:S:136:LYS:H	21:S:136:LYS:HG2	1.60	0.45
22:T:68:THR:HG22	22:T:71:SER:O	2.16	0.45
24:V:70:ARG:HH12	24:V:71:LYS:HG3	1.80	0.45
28:Z:14:VAL:HG22	28:Z:14:VAL:O	2.17	0.45
31:c:23:TYR:HA	31:c:93:LEU:HD12	1.98	0.45
36:h:5:LYS:O	36:h:8:GLU:HB2	2.16	0.45
42:o:104:LEU:HD13	42:o:104:LEU:N	2.30	0.45
44:q:9:ALA:HA	44:q:12:PHE:CE2	2.52	0.45
45:x:10:THR:O	45:x:14:LEU:HG	2.16	0.45
45:x:17:LYS:HB3	45:x:249:ARG:HD2	1.98	0.45
45:x:60:THR:N	45:x:63:GLU:HB2	2.30	0.45
45:x:270:THR:H	45:x:273:HIS:CD2	2.35	0.45
45:x:485:LEU:HD12	45:x:485:LEU:HA	1.79	0.45
45:x:509:LEU:N	45:x:509:LEU:HD23	2.31	0.45
45:x:543:LEU:HD12	47:z:76:UNK:HG1	1.98	0.45
1:5:498:A:P	34:f:86:ARG:NH1	2.90	0.45
1:5:665:A:C2	1:5:798:G:C2	3.05	0.45
1:5:843:A:C2	1:5:844:G:H1'	2.51	0.45
1:5:1600:U:OP1	20:R:42:ARG:NH2	2.47	0.45
1:5:1989:Y5P:H4A	1:5:1990:Y5P:H4	1.99	0.45
1:5:2312:A:O2'	1:5:2315:G:C1'	2.62	0.45
1:5:2428:U:H2'	1:5:2429:G:C8	2.52	0.45
1:5:2885:C:N4	1:5:2886:U:O4	2.50	0.45
2:7:19:C:H2'	2:7:20:A:H8	1.81	0.45
2:7:115:G:H2'	2:7:116:C:C6	2.52	0.45
4:A:192:LYS:HE2	4:A:193:ARG:NH2	2.28	0.45
5:B:117:ARG:NH1	5:B:175:LYS:CD	2.79	0.45
6:C:45:ASN:HA	6:C:110:ASN:ND2	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:C:152:VAL:HG13	6:C:153:SER:N	2.32	0.45
7:D:55:PHE:CE1	7:D:60:ILE:HG12	2.51	0.45
7:D:243:ALA:O	7:D:247:ILE:HG13	2.17	0.45
14:L:27:ASP:O	14:L:31:LYS:HG3	2.16	0.45
20:R:95:TRP:NE1	20:R:99:LEU:HD12	2.32	0.45
21:S:144:LEU:N	21:S:144:LEU:HD23	2.31	0.45
22:T:82:ASN:OD1	22:T:82:ASN:N	2.37	0.45
23:U:109:GLN:HG3	46:y:322:TYR:CE2	2.52	0.45
24:V:45:ARG:HH11	24:V:45:ARG:HG3	1.77	0.45
27:Y:83:ASP:O	27:Y:84:LYS:HB2	2.17	0.45
27:Y:120:GLN:HE21	27:Y:120:GLN:HA	1.81	0.45
28:Z:89:VAL:HG22	28:Z:93:LYS:HG2	1.98	0.45
31:c:10:ILE:HG23	31:c:11:ASN:H	1.80	0.45
35:g:11:ASN:HA	35:g:12:PRO:HD3	1.56	0.45
36:h:21:LEU:HD23	36:h:21:LEU:O	2.17	0.45
36:h:41:LEU:HA	36:h:42:PRO:HD3	1.63	0.45
37:i:34:SER:CB	37:i:37:THR:HG23	2.46	0.45
37:i:45:ARG:NH1	37:i:45:ARG:HG2	2.31	0.45
43:p:7:LYS:O	43:p:27:LYS:NZ	2.47	0.45
44:q:27:VAL:HG22	44:q:76:LEU:HD11	1.98	0.45
45:x:25:LEU:HD11	45:x:514:VAL:HG13	1.99	0.45
45:x:34:ILE:HD13	45:x:76:LEU:CD2	2.46	0.45
45:x:370:LEU:O	45:x:376:ARG:NH2	2.49	0.45
45:x:468:LEU:N	45:x:469:PRO:CD	2.79	0.45
46:y:345:ARG:HD2	46:y:347:PHE:HE2	1.81	0.45
46:y:348:LEU:N	46:y:349:PRO:CD	2.79	0.45
1:5:119:U:H4'	1:5:120:G:H3'	1.98	0.45
1:5:576:C:H2'	1:5:577:C:H6	1.81	0.45
1:5:707:U:OP1	1:5:780:A:O2'	2.28	0.45
1:5:715:A:C8	29:a:115:LYS:HE2	2.52	0.45
1:5:910:G:H5''	1:5:911:C:OP2	2.17	0.45
1:5:1647:A:C2'	1:5:1648:A:H5'	2.46	0.45
1:5:1864:A:H5'	20:R:88:ARG:CD	2.47	0.45
1:5:2121:G:H2'	1:5:2122:G:H4'	1.98	0.45
1:5:2896:A:O3'	41:m:122:ARG:NH2	2.48	0.45
1:5:2900:A:C2'	1:5:2901:G:H5'	2.47	0.45
1:5:3351:U:H3'	1:5:3351:U:O2	2.16	0.45
3:8:97:A:H2'	3:8:98:U:O4'	2.17	0.45
5:B:187:SER:O	5:B:190:GLU:N	2.49	0.45
6:C:51:ALA:HB1	6:C:103:THR:O	2.17	0.45
6:C:330:TYR:OH	9:F:52:GLN:HG2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:62:THR:HB	8:E:79:VAL:O	2.17	0.45
8:E:164:SER:HB2	34:f:4:SER:O	2.17	0.45
9:F:47:ARG:NH1	9:F:179:LEU:CD2	2.76	0.45
9:F:77:VAL:O	9:F:77:VAL:HG13	2.17	0.45
9:F:149:TYR:CD2	9:F:181:ILE:HD11	2.51	0.45
10:G:160:ILE:O	10:G:164:VAL:HG13	2.16	0.45
12:I:60:LEU:HD22	12:I:159:PHE:CD1	2.51	0.45
13:J:133:ARG:HB3	13:J:134:PRO:CD	2.46	0.45
14:L:43:ALA:HB2	14:L:51:LEU:CD1	2.47	0.45
14:L:47:ALA:HB1	14:L:48:PRO:CD	2.42	0.45
14:L:128:ARG:NH1	36:h:112:PRO:CG	2.80	0.45
14:L:165:SER:O	14:L:168:ARG:HB3	2.17	0.45
16:N:15:GLN:CG	37:i:52:PRO:HD2	2.44	0.45
18:P:59:PRO:CG	18:P:76:PHE:CD1	3.00	0.45
21:S:43:TYR:CZ	21:S:47:LYS:HE2	2.52	0.45
35:g:65:VAL:HG22	35:g:66:SER:N	2.31	0.45
35:g:79:SER:HB3	35:g:80:ARG:H	1.55	0.45
36:h:28:LEU:HD23	36:h:32:LYS:HE2	1.99	0.45
45:x:122:ASP:O	45:x:123:SER:HB2	2.15	0.45
45:x:272:SER:HA	45:x:474:PRO:HG3	1.99	0.45
45:x:333:GLY:HA3	45:x:443:VAL:O	2.17	0.45
1:5:249:U:O3'	1:5:250:U:C4'	2.65	0.45
1:5:346:C:C2	1:5:348:A:N7	2.85	0.45
1:5:406:G:N2	3:8:16:G:C4	2.85	0.45
1:5:419:G:H3'	1:5:420:G:OP1	2.17	0.45
1:5:999:G:O2'	1:5:1000:C:H5'	2.17	0.45
1:5:1115:G:H5''	1:5:1116:G:H5''	1.98	0.45
1:5:1296:C:H2'	1:5:1297:C:O4'	2.17	0.45
1:5:1671:C:C5'	20:R:60:LYS:HZ1	2.28	0.45
1:5:1741:A:C6	1:5:1742:U:C2	3.05	0.45
1:5:1945:A:O2'	1:5:1946:A:H5'	2.17	0.45
1:5:2175:U:H4'	1:5:2176:U:OP2	2.16	0.45
1:5:2267:C:O2'	1:5:2268:U:H5'	2.16	0.45
1:5:2653:C:OP2	42:o:88:CYS:HA	2.17	0.45
1:5:2802:A:C4'	42:o:59:HIS:HE2	2.30	0.45
1:5:3164:C:O2'	1:5:3165:A:O5'	2.31	0.45
1:5:3230:G:H2'	1:5:3231:U:C6	2.51	0.45
1:5:3295:A:H2'	1:5:3296:A:C8	2.51	0.45
3:8:83:C:H41	27:Y:113:LYS:HZ2	1.63	0.45
5:B:56:ILE:HG23	5:B:57:VAL:N	2.30	0.45
5:B:328:ILE:CD1	5:B:336:VAL:HG11	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:E:93:VAL:HG13	8:E:93:VAL:O	2.17	0.45
10:G:91:PHE:HA	10:G:94:PHE:HB2	1.99	0.45
10:G:171:LYS:HG2	10:G:226:TYR:CD2	2.52	0.45
12:I:42:THR:HG22	12:I:45:GLU:OE2	2.16	0.45
12:I:85:PHE:CA	12:I:140:THR:HG22	2.47	0.45
15:M:109:ARG:HA	15:M:112:LEU:HG	1.98	0.45
17:O:88:VAL:HG12	17:O:89:SER:N	2.32	0.45
18:P:70:THR:OG1	18:P:71:ALA:N	2.49	0.45
19:Q:43:PRO:O	19:Q:47:VAL:HG23	2.17	0.45
19:Q:170:ARG:HA	19:Q:174:ARG:HD2	1.98	0.45
20:R:115:ILE:CG2	20:R:146:LYS:HZ1	2.24	0.45
21:S:78:TRP:CZ3	21:S:125:LYS:HE3	2.52	0.45
28:Z:40:HIS:HA	28:Z:76:ASN:HA	1.97	0.45
37:i:54:GLU:O	37:i:58:ILE:HG23	2.16	0.45
39:k:54:LEU:HD12	39:k:55:VAL:N	2.31	0.45
42:o:37:ALA:O	42:o:41:ARG:HB2	2.17	0.45
44:q:26:PHE:CD2	44:q:89:THR:HG21	2.52	0.45
1:5:405:U:C2'	1:5:406:G:H5'	2.45	0.45
1:5:1133:A:H2'	1:5:1134:G:C5'	2.36	0.45
1:5:1698:C:O5'	1:5:1698:C:H6	1.98	0.45
1:5:2594:C:H3'	1:5:2595:A:H8	1.82	0.45
1:5:2606:G:H4'	1:5:2607:G:C8	2.52	0.45
2:7:62:U:H4'	7:D:285:ARG:HH12	1.82	0.45
3:8:89:A:H5''	3:8:90:U:P	2.57	0.45
4:A:101:VAL:C	4:A:102:LEU:HD12	2.42	0.45
5:B:19:ARG:HB3	5:B:273:HIS:NE2	2.32	0.45
5:B:149:ALA:HA	5:B:152:LYS:HG3	1.99	0.45
5:B:292:ALA:O	5:B:295:ALA:HB3	2.15	0.45
5:B:318:LYS:HB2	5:B:318:LYS:HE3	1.62	0.45
6:C:185:LYS:O	6:C:186:LYS:HD2	2.17	0.45
10:G:50:VAL:HG22	10:G:52:TRP:CD1	2.51	0.45
11:H:48:VAL:HG21	11:H:54:LYS:HE3	1.98	0.45
12:I:9:TYR:CD2	12:I:97:LEU:HD22	2.51	0.45
16:N:49:ARG:CG	16:N:49:ARG:NH2	2.78	0.45
16:N:136:ASP:HA	16:N:137:PRO:HD2	1.81	0.45
18:P:78:VAL:HG12	18:P:80:LYS:H	1.81	0.45
19:Q:124:LEU:N	19:Q:124:LEU:HD23	2.31	0.45
20:R:108:LYS:HB3	20:R:108:LYS:HE2	1.48	0.45
26:X:98:ALA:O	26:X:102:LEU:HG	2.17	0.45
27:Y:36:SER:HB3	27:Y:105:VAL:CG2	2.47	0.45
44:q:100:ILE:HG23	44:q:185:LEU:HD11	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:201:ALA:CB	45:x:311:VAL:HB	2.47	0.45
45:x:370:LEU:O	45:x:376:ARG:NE	2.50	0.45
45:x:538:HIS:ND1	47:z:73:UNK:HG2	2.32	0.45
1:5:621:A:C5'	1:5:622:A:C8	2.99	0.45
1:5:1052:U:O2'	1:5:1053:A:H5'	2.17	0.45
1:5:1279:C:H2'	1:5:1280:C:C6	2.52	0.45
1:5:1800:A:H2'	1:5:1801:U:O4'	2.17	0.45
1:5:2164:A:C2'	1:5:2165:G:H5'	2.46	0.45
1:5:2282:U:H5'	1:5:2960:C:H1'	1.99	0.45
1:5:2418:G:H1'	1:5:2420:C:OP2	2.16	0.45
1:5:2573:G:C3'	1:5:2574:G:H5''	2.47	0.45
1:5:2609:A:OP2	1:5:2609:A:H8	2.00	0.45
1:5:2748:A:H1'	7:D:36:LEU:HD23	1.99	0.45
1:5:3232:G:O2'	1:5:3233:C:H5'	2.17	0.45
2:7:5:G:H2'	2:7:6:C:O4'	2.17	0.45
2:7:88:G:O2'	2:7:89:G:H5'	2.16	0.45
5:B:328:ILE:CG1	5:B:329:PRO:HD2	2.47	0.45
6:C:112:LYS:HD3	16:N:202:TYR:HB3	1.99	0.45
8:E:108:LYS:HG2	8:E:109:GLU:N	2.31	0.45
13:J:157:GLU:HG3	13:J:158:ASP:N	2.32	0.45
18:P:49:GLU:OE2	18:P:49:GLU:HA	2.16	0.45
27:Y:23:PRO:HD2	27:Y:26:GLN:NE2	2.32	0.45
31:c:34:LEU:HD12	31:c:34:LEU:HA	1.81	0.45
39:k:21:LYS:HD3	39:k:21:LYS:HA	1.61	0.45
42:o:8:ARG:HG3	42:o:9:LYS:N	2.29	0.45
44:q:87:VAL:CG1	44:q:100:ILE:HD11	2.35	0.45
45:x:76:LEU:O	45:x:87:ARG:NH1	2.50	0.45
45:x:107:GLU:OE1	45:x:416:LEU:HD22	2.17	0.45
45:x:240:PRO:HB3	45:x:271:GLU:HG3	1.97	0.45
47:z:88:UNK:HA	47:z:91:UNK:HG3	1.97	0.45
1:5:55:G:H2'	1:5:56:G:H5'	1.99	0.45
1:5:211:A:OP1	6:C:220:ARG:HD2	2.17	0.45
1:5:249:U:H1'	1:5:250:U:C1'	2.47	0.45
1:5:600:G:H5'	1:5:601:U:OP2	2.17	0.45
1:5:684:G:OP2	14:L:28:GLN:NE2	2.49	0.45
1:5:1146:C:H2'	1:5:1147:G:H8	1.82	0.45
1:5:2151:C:H2'	1:5:2152:A:O4'	2.17	0.45
1:5:2309:A:H1'	1:5:2961:G:O2'	2.17	0.45
1:5:2395:G:H5''	5:B:255:TRP:NE1	2.32	0.45
1:5:2424:A:H5''	16:N:90:ASN:ND2	2.32	0.45
1:5:2723:U:C2	1:5:2724:U:C5	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3217:C:H42	18:P:182:ILE:HG23	1.82	0.45
1:5:3283:U:H2'	1:5:3284:G:H8	1.81	0.45
3:8:140:G:H2'	3:8:141:C:O4'	2.17	0.45
7:D:40:HIS:CD2	7:D:42:ALA:H	2.35	0.45
7:D:55:PHE:CD1	7:D:60:ILE:HG12	2.52	0.45
7:D:55:PHE:CD1	7:D:158:ARG:NH1	2.85	0.45
7:D:207:TYR:CD1	7:D:223:PHE:HZ	2.35	0.45
8:E:52:VAL:HG11	8:E:65:ILE:CG2	2.47	0.45
11:H:34:LEU:HD11	11:H:149:ASN:O	2.17	0.45
14:L:50:PRO:O	14:L:51:LEU:CB	2.65	0.45
14:L:159:VAL:HG13	29:a:144:VAL:CG1	2.40	0.45
15:M:115:PHE:O	15:M:119:GLN:HG3	2.17	0.45
18:P:108:ASP:OD1	18:P:111:LYS:HG3	2.16	0.45
20:R:17:VAL:HG22	20:R:18:GLY:N	2.32	0.45
22:T:104:GLU:C	22:T:104:GLU:CD	2.84	0.45
23:U:111:THR:O	46:y:311:ILE:HA	2.17	0.45
26:X:133:LEU:O	26:X:136:ALA:HB3	2.17	0.45
27:Y:118:LEU:O	27:Y:121:ARG:N	2.50	0.45
28:Z:103:GLN:OE1	28:Z:103:GLN:HA	2.16	0.45
31:c:8:GLU:HB3	31:c:13:LYS:HE2	1.99	0.45
35:g:58:ARG:NH1	35:g:58:ARG:HG3	2.31	0.45
36:h:13:SER:OG	36:h:16:GLN:HG3	2.16	0.45
38:j:19:CYS:SG	38:j:21:ARG:N	2.83	0.45
45:x:203:THR:HB	45:x:205:GLU:CG	2.46	0.45
45:x:545:PRO:O	45:x:546:GLN:HB2	2.17	0.45
1:5:192:C:H2'	1:5:193:C:H6	1.82	0.44
1:5:673:U:O2'	1:5:674:G:H5'	2.17	0.44
1:5:715:A:C8	1:5:715:A:C3'	3.01	0.44
1:5:1111:U:H5''	14:L:5:LYS:HE3	1.99	0.44
1:5:1255:C:H2'	1:5:1256:G:H8	1.81	0.44
1:5:2110:G:O2'	1:5:2111:G:H5''	2.17	0.44
1:5:2353:G:H2'	1:5:2354:C:C6	2.52	0.44
1:5:3167:A:HO2'	1:5:3168:A:P	2.39	0.44
1:5:3212:C:H2'	1:5:3213:A:O4'	2.16	0.44
5:B:348:ARG:HA	5:B:351:LEU:HB2	1.99	0.44
7:D:285:ARG:O	7:D:289:LYS:HB2	2.17	0.44
8:E:146:ILE:CG2	8:E:150:LYS:HE3	2.43	0.44
9:F:169:ILE:CD1	9:F:181:ILE:HA	2.47	0.44
10:G:41:GLN:NE2	10:G:44:ARG:HH22	2.06	0.44
11:H:112:ILE:HD12	11:H:161:LEU:HG	1.99	0.44
13:J:92:ARG:CZ	13:J:94:ARG:HD2	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:153:ASP:OD2	14:L:157:ARG:HD3	2.17	0.44
15:M:20:VAL:CG1	15:M:68:LEU:HB2	2.47	0.44
15:M:48:GLY:O	15:M:52:GLY:N	2.49	0.44
16:N:179:LYS:HB2	16:N:180:PHE:CD2	2.53	0.44
17:O:8:VAL:O	17:O:118:VAL:HG22	2.17	0.44
17:O:13:GLY:HA2	17:O:42:ASN:OD1	2.16	0.44
19:Q:170:ARG:HE	19:Q:171:LYS:CG	2.29	0.44
19:Q:177:GLY:HA2	19:Q:184:PHE:CE2	2.52	0.44
26:X:131:ASP:OD2	26:X:133:LEU:HB3	2.17	0.44
31:c:100:ILE:HG13	31:c:101:LEU:N	2.32	0.44
32:d:15:ASN:ND2	32:d:18:LYS:HB3	2.32	0.44
35:g:73:SER:O	35:g:74:ARG:HB2	2.16	0.44
37:i:45:ARG:O	37:i:45:ARG:HD3	2.17	0.44
39:k:5:ILE:HG22	39:k:54:LEU:HB2	1.99	0.44
40:l:21:ARG:HA	40:l:41:ARG:NH2	2.32	0.44
45:x:236:CYS:HB2	45:x:323:MET:HE2	1.99	0.44
45:x:370:LEU:HD22	45:x:425:GLU:HG3	1.99	0.44
45:x:463:THR:O	45:x:463:THR:HG22	2.16	0.44
46:y:227:LEU:O	46:y:231:ARG:HD2	2.18	0.44
47:z:138:UNK:O	47:z:142:UNK:N	2.50	0.44
1:5:860:G:H3'	1:5:860:G:N3	2.32	0.44
1:5:1078:U:H4'	7:D:46:THR:HG21	2.00	0.44
1:5:1520:G:H2'	1:5:1521:G:O4'	2.17	0.44
1:5:1554:U:O2'	1:5:1555:U:H5''	2.17	0.44
1:5:2213:A:H1'	1:5:2602:G:O4'	2.17	0.44
1:5:2243:A:O4'	1:5:2313:A:H3'	2.17	0.44
1:5:2992:U:H1'	18:P:69:ARG:NH2	2.32	0.44
1:5:3332:U:C5	1:5:3333:G:C6	3.05	0.44
2:7:36:C:C4'	7:D:155:THR:HG23	2.46	0.44
3:8:8:C:H2'	3:8:9:A:C8	2.53	0.44
3:8:21:C:OP1	6:C:193:LYS:HD2	2.17	0.44
4:A:49:VAL:CG2	4:A:50:HIS:N	2.80	0.44
5:B:111:SER:O	5:B:114:VAL:HG23	2.17	0.44
5:B:306:THR:HA	5:B:307:PRO:HD3	1.86	0.44
6:C:22:LEU:HD23	6:C:23:PRO:HD2	1.99	0.44
7:D:60:ILE:N	7:D:80:SER:OG	2.47	0.44
7:D:106:ALA:HA	7:D:171:LEU:HD12	2.00	0.44
7:D:142:PHE:O	7:D:172:TYR:HB3	2.16	0.44
8:E:40:LEU:HB3	8:E:84:VAL:CG1	2.46	0.44
10:G:196:ALA:C	10:G:197:VAL:HG22	2.42	0.44
12:I:182:LEU:CD2	12:I:185:ARG:NH1	2.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:20:VAL:HG11	15:M:68:LEU:HB2	1.99	0.44
16:N:18:VAL:HG22	16:N:19:LEU:HD13	1.97	0.44
19:Q:176:ARG:C	29:a:51:GLY:HA2	2.43	0.44
20:R:119:LEU:O	20:R:119:LEU:HD12	2.18	0.44
22:T:143:THR:O	22:T:143:THR:HG23	2.16	0.44
29:a:127:ALA:O	29:a:147:LEU:HA	2.17	0.44
31:c:61:MET:O	31:c:64:LYS:HG3	2.18	0.44
33:e:80:LYS:O	33:e:80:LYS:HG2	2.16	0.44
34:f:103:TYR:HB2	34:f:104:PRO:HA	1.99	0.44
35:g:102:LYS:HE3	35:g:102:LYS:HB2	1.84	0.44
43:p:85:ARG:NH2	43:p:86:LEU:HG	2.32	0.44
47:z:78:UNK:O	47:z:78:UNK:HG2	2.16	0.44
1:5:92:G:H8	1:5:92:G:H3'	1.81	0.44
1:5:210:U:HO2'	1:5:229:G:HO2'	1.51	0.44
1:5:397:A:OP1	47:z:136:UNK:HG1	2.17	0.44
1:5:549:U:H2'	1:5:550:A:C8	2.53	0.44
1:5:877:C:O2'	1:5:880:G:H1'	2.18	0.44
1:5:902:G:O2'	1:5:903:U:H5'	2.16	0.44
1:5:1192:C:N4	1:5:1301:A:O3'	2.51	0.44
1:5:1949:G:C4	1:5:1950:U:C5	3.05	0.44
1:5:2181:C:OP1	4:A:192:LYS:NZ	2.35	0.44
1:5:2183:A:OP1	4:A:7:ASN:HB2	2.16	0.44
1:5:2586:G:C8	10:G:241:LYS:CE	3.00	0.44
1:5:2929:C:O2'	1:5:2930:A:H5'	2.17	0.44
1:5:2991:A:H5''	5:B:21:ARG:NH2	2.32	0.44
1:5:3299:A:H2'	1:5:3300:U:H5'	1.99	0.44
3:8:84:C:O2	27:Y:112:ASP:HA	2.17	0.44
5:B:169:THR:HG23	5:B:170:PRO:HD2	1.99	0.44
5:B:182:GLN:C	5:B:183:LEU:HD12	2.42	0.44
6:C:58:HIS:CD2	6:C:90:PHE:HD1	2.35	0.44
7:D:280:GLU:CD	7:D:280:GLU:H	2.26	0.44
8:E:56:LYS:CD	8:E:98:VAL:HG12	2.46	0.44
10:G:230:LYS:HE3	10:G:230:LYS:HB2	1.46	0.44
12:I:87:LEU:HD12	12:I:88:ARG:H	1.81	0.44
13:J:12:LEU:C	13:J:13:LYS:HG2	2.43	0.44
14:L:32:LYS:HA	14:L:35:ARG:NH2	2.33	0.44
16:N:132:VAL:O	16:N:134:LEU:HD12	2.16	0.44
18:P:22:LEU:HD13	18:P:90:PHE:HD2	1.82	0.44
19:Q:87:VAL:HG12	19:Q:88:THR:N	2.32	0.44
21:S:53:LYS:HB2	21:S:53:LYS:HE3	1.56	0.44
21:S:91:TYR:O	21:S:137:ARG:NH1	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:18:ASP:OD1	23:U:62:VAL:HG23	2.17	0.44
23:U:25:ASN:ND2	46:y:311:ILE:HG13	2.33	0.44
27:Y:35:LEU:HD11	27:Y:45:ILE:HG22	1.99	0.44
27:Y:70:ILE:HG13	27:Y:80:VAL:CG1	2.47	0.44
28:Z:51:LEU:HD23	28:Z:51:LEU:HA	1.87	0.44
28:Z:72:ILE:HD12	28:Z:111:LYS:HG2	1.98	0.44
28:Z:104:PRO:O	28:Z:107:ARG:HB2	2.17	0.44
29:a:11:HIS:O	29:a:14:HIS:HB2	2.18	0.44
37:i:45:ARG:CG	37:i:45:ARG:HH11	2.29	0.44
38:j:16:HIS:HA	38:j:27:PHE:O	2.17	0.44
41:m:82:LEU:O	41:m:85:LEU:HB3	2.18	0.44
41:m:93:LYS:HB3	41:m:103:LEU:O	2.17	0.44
43:p:61:LYS:HD3	43:p:61:LYS:HA	1.71	0.44
44:q:30:VAL:O	44:q:30:VAL:HG12	2.17	0.44
44:q:33:VAL:HG21	44:q:185:LEU:HB3	2.00	0.44
45:x:138:LEU:HD11	45:x:180:LYS:HG2	2.00	0.44
45:x:248:ARG:HB2	45:x:251:LEU:HB3	2.00	0.44
45:x:401:PHE:CE1	45:x:404:GLU:HB3	2.52	0.44
45:x:508:VAL:HG21	45:x:525:LEU:HD11	1.99	0.44
46:y:148:VAL:HA	46:y:151:GLU:CG	2.47	0.44
46:y:318:LEU:HD22	46:y:321:TYR:CD1	2.52	0.44
1:5:361:A:O3'	38:j:45:ARG:NH2	2.50	0.44
1:5:621:A:C4'	1:5:622:A:H8	2.31	0.44
1:5:1571:A:H4'	1:5:1572:U:OP2	2.16	0.44
1:5:1989:Y5P:H2'	1:5:1990:Y5P:H6	1.99	0.44
1:5:2943:G:C8	5:B:2:SER:N	2.86	0.44
1:5:3275:U:H5''	34:f:68:TRP:CZ2	2.45	0.44
4:A:58:LEU:HD13	4:A:75:ILE:HG21	1.99	0.44
4:A:117:GLU:HG2	4:A:124:GLY:H	1.82	0.44
5:B:3:HIS:CG	5:B:3:HIS:O	2.69	0.44
5:B:162:VAL:O	5:B:178:LEU:HD12	2.17	0.44
6:C:141:ARG:HH12	6:C:180:LYS:HD2	1.81	0.44
9:F:151:ARG:HH11	9:F:151:ARG:HG3	1.83	0.44
11:H:4:ILE:HD11	21:S:150:PHE:CB	2.45	0.44
12:I:156:ARG:HD3	12:I:163:GLN:O	2.17	0.44
17:O:47:PHE:HD2	17:O:136:THR:HG23	1.83	0.44
17:O:84:LEU:C	17:O:84:LEU:CD2	2.89	0.44
17:O:174:PHE:O	17:O:177:LYS:HB2	2.17	0.44
18:P:153:LYS:HE3	18:P:155:GLU:HB2	2.00	0.44
23:U:96:VAL:HG12	23:U:97:SER:N	2.32	0.44
27:Y:11:ASP:OD2	27:Y:13:ARG:N	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:a:77:LYS:HB3	29:a:80:THR:OG1	2.17	0.44
33:e:5:PRO:O	33:e:6:HIS:CG	2.70	0.44
37:i:51:SER:O	37:i:55:ARG:HG3	2.18	0.44
45:x:60:THR:O	45:x:63:GLU:HB2	2.18	0.44
45:x:278:LEU:HD22	45:x:445:TRP:CE2	2.52	0.44
47:z:94:UNK:O	47:z:97:UNK:HG3	2.18	0.44
47:z:149:UNK:O	47:z:153:UNK:HG3	2.18	0.44
47:z:154:UNK:HA	47:z:157:UNK:HG3	1.99	0.44
1:5:88:A:H2'	1:5:89:A:O4'	2.17	0.44
1:5:158:G:H2'	1:5:159:A:C8	2.49	0.44
1:5:437:G:H8	1:5:437:G:O5'	2.00	0.44
1:5:1009:A:H2'	1:5:1010:G:O4'	2.17	0.44
1:5:1222:G:H1'	1:5:1223:A:OP2	2.17	0.44
1:5:1334:U:H2'	1:5:1335:C:C6	2.53	0.44
1:5:1501:U:O5'	1:5:1501:U:H6	2.00	0.44
1:5:1765:U:O2	1:5:1765:U:O4'	2.35	0.44
1:5:1897:G:H2'	1:5:1898:G:H5'	2.00	0.44
1:5:2538:U:C2'	1:5:2539:C:H5''	2.47	0.44
1:5:3257:C:H2'	1:5:3258:U:O4'	2.17	0.44
5:B:149:ALA:O	5:B:152:LYS:HB2	2.17	0.44
6:C:298:ALA:O	19:Q:40:THR:HG22	2.18	0.44
8:E:146:ILE:HG23	8:E:150:LYS:CE	2.43	0.44
9:F:74:SER:OG	22:T:142:SER:HA	2.17	0.44
10:G:162:LEU:HD21	16:N:45:PRO:HG2	2.00	0.44
11:H:164:ILE:HD12	11:H:164:ILE:HA	1.89	0.44
13:J:61:ARG:HG2	13:J:62:ASN:CG	2.43	0.44
16:N:49:ARG:NH2	16:N:49:ARG:HG3	2.32	0.44
18:P:128:ARG:HH21	18:P:136:ILE:CD1	2.31	0.44
21:S:27:MET:HE1	22:T:153:PRO:HD3	1.99	0.44
28:Z:136:PHE:HB2	35:g:92:ALA:HB2	2.00	0.44
32:d:42:LEU:HG	32:d:43:HIS:ND1	2.31	0.44
38:j:47:TYR:HB3	38:j:49:TRP:NE1	2.32	0.44
42:o:12:CYS:O	42:o:18:ARG:HA	2.18	0.44
42:o:46:LYS:HE3	42:o:49:GLY:HA3	2.00	0.44
44:q:16:ARG:O	44:q:20:GLU:HG3	2.18	0.44
44:q:18:TYR:CE2	44:q:52:LEU:HG	2.52	0.44
45:x:10:THR:HG23	45:x:14:LEU:HD11	1.99	0.44
1:5:609:G:H3'	1:5:609:G:N3	2.33	0.44
1:5:767:U:HO2'	1:5:768:C:H6	1.58	0.44
1:5:1190:A:C5	1:5:1193:A:H1'	2.53	0.44
1:5:1349:G:O5'	6:C:290:ILE:HG21	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:7:68:C:H5''	22:T:20:ARG:NH1	2.27	0.44
3:8:43:A:H2'	3:8:44:A:C8	2.52	0.44
3:8:155:A:C2'	3:8:156:U:H5''	2.47	0.44
4:A:80:GLU:HG2	43:p:76:ALA:HB1	2.00	0.44
4:A:149:ARG:HB2	4:A:149:ARG:CZ	2.47	0.44
6:C:187:LEU:HD22	6:C:188:ARG:N	2.32	0.44
7:D:52:VAL:HG12	7:D:54:ARG:HG2	2.00	0.44
10:G:182:GLY:O	10:G:185:ARG:N	2.49	0.44
12:I:36:LEU:CD1	12:I:69:ARG:HD3	2.48	0.44
13:J:35:LYS:HB2	13:J:35:LYS:HE3	1.64	0.44
15:M:103:ILE:HG22	15:M:104:ALA:N	2.31	0.44
19:Q:131:ALA:HB1	19:Q:134:GLY:HA2	2.00	0.44
20:R:92:GLN:O	20:R:95:TRP:HB3	2.17	0.44
26:X:129:ASP:HB2	26:X:130:TYR:CE1	2.53	0.44
26:X:142:ILE:HD13	45:x:420:ARG:HB2	1.99	0.44
31:c:22:LYS:HE2	31:c:22:LYS:HB3	1.38	0.44
44:q:55:LYS:NZ	44:q:55:LYS:CB	2.81	0.44
45:x:81:LYS:HA	45:x:87:ARG:CZ	2.47	0.44
45:x:197:LEU:CD1	45:x:226:ILE:HD12	2.48	0.44
45:x:395:LEU:O	45:x:396:SER:HB2	2.18	0.44
47:z:120:UNK:CA	47:z:123:UNK:HG3	2.47	0.44
47:z:139:UNK:HA	47:z:142:UNK:HG3	1.99	0.44
47:z:151:UNK:O	47:z:154:UNK:HG3	2.17	0.44
1:5:100:A:C2'	1:5:101:G:H5'	2.48	0.44
1:5:208:C:H2'	1:5:209:A:C5'	2.48	0.44
1:5:549:U:H2'	1:5:550:A:H8	1.82	0.44
1:5:1051:U:C2'	1:5:1052:U:H5'	2.46	0.44
1:5:1058:U:O2'	1:5:1059:G:H5'	2.17	0.44
1:5:1183:C:H2'	1:5:1184:A:C5'	2.45	0.44
1:5:1815:U:HO2'	1:5:1816:A:P	2.34	0.44
1:5:3096:C:O3'	5:B:325:LYS:NZ	2.41	0.44
1:5:3311:C:C2'	1:5:3312:U:H5'	2.48	0.44
4:A:196:TRP:CE3	4:A:197:PRO:HG3	2.53	0.44
5:B:50:LYS:HD3	5:B:328:ILE:CG2	2.48	0.44
6:C:118:LYS:O	6:C:122:THR:HG22	2.18	0.44
6:C:179:LEU:HD13	6:C:179:LEU:C	2.43	0.44
7:D:183:TRP:CZ3	7:D:185:PHE:HA	2.52	0.44
13:J:48:SER:O	13:J:64:LYS:HA	2.17	0.44
13:J:143:ARG:HG3	13:J:143:ARG:NH1	2.32	0.44
15:M:128:ARG:O	15:M:132:LYS:HG3	2.17	0.44
16:N:54:LYS:HA	16:N:54:LYS:HD2	1.73	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:49:LEU:HD23	19:Q:49:LEU:HA	1.79	0.44
27:Y:39:LEU:HD12	27:Y:43:TYR:CE2	2.47	0.44
29:a:58:MET:HE3	29:a:58:MET:HB2	1.83	0.44
37:i:26:ILE:H	37:i:26:ILE:CD1	2.22	0.44
45:x:3:LEU:HD22	46:y:330:VAL:HG23	2.00	0.44
45:x:36:GLN:HE22	45:x:528:GLY:H	1.64	0.44
45:x:278:LEU:HG	47:z:94:UNK:HB2	2.00	0.44
1:5:92:G:H3'	1:5:92:G:C8	2.52	0.44
1:5:248:U:C2'	1:5:249:U:C5'	2.93	0.44
1:5:390:G:H2'	1:5:391:A:O4'	2.17	0.44
1:5:408:A:H2'	1:5:409:A:O4'	2.18	0.44
1:5:655:C:P	33:e:27:ARG:HB3	2.58	0.44
1:5:860:G:N7	4:A:181:LYS:HB2	2.32	0.44
1:5:1081:U:H4'	1:5:1082:U:O5'	2.17	0.44
1:5:1458:U:H2'	1:5:1459:C:H6	1.82	0.44
1:5:1671:C:N4	1:5:1776:G:H1	2.14	0.44
1:5:1929:G:H4'	1:5:2321:A:H5''	2.00	0.44
1:5:2759:U:H3'	1:5:2759:U:C6	2.53	0.44
1:5:2769:A:H2'	1:5:2770:G:H5'	2.00	0.44
1:5:2926:A:C2'	1:5:2927:C:H5'	2.47	0.44
1:5:2995:A:H5''	3:8:1:A:C2	2.53	0.44
4:A:114:SER:HB2	4:A:169:ILE:HD12	1.99	0.44
6:C:170:LYS:HG2	6:C:175:HIS:CB	2.44	0.44
6:C:177:ASP:O	6:C:180:LYS:HB3	2.18	0.44
6:C:187:LEU:HD11	6:C:193:LYS:HE3	2.00	0.44
6:C:192:GLY:CA	6:C:197:ARG:NH1	2.79	0.44
7:D:179:ARG:HA	7:D:179:ARG:HD3	1.71	0.44
9:F:47:ARG:HH12	9:F:179:LEU:CD1	2.30	0.44
10:G:172:LYS:HA	10:G:172:LYS:HE3	1.99	0.44
10:G:200:LEU:H	10:G:200:LEU:HD12	1.83	0.44
12:I:93:PRO:HA	12:I:127:ALA:HB2	2.00	0.44
13:J:16:LYS:H	13:J:130:VAL:HG22	1.83	0.44
13:J:147:THR:HG22	13:J:148:VAL:O	2.18	0.44
13:J:166:LYS:O	13:J:167:TYR:HB2	2.17	0.44
17:O:113:ASP:OD2	17:O:114:LYS:HG3	2.17	0.44
18:P:94:LEU:HD12	18:P:94:LEU:HA	1.84	0.44
23:U:52:ASN:OD1	46:y:185:ARG:HG2	2.18	0.44
36:h:55:LEU:HD23	36:h:55:LEU:HA	1.56	0.44
43:p:45:LYS:NZ	43:p:45:LYS:CB	2.81	0.44
44:q:98:ASN:O	44:q:102:SER:OG	2.29	0.44
45:x:181:ALA:HB1	45:x:537:ILE:HG12	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:z:152:UNK:O	47:z:155:UNK:HG3	2.17	0.44
1:5:297:G:H2'	1:5:297:G:N3	2.32	0.44
1:5:349:A:H4'	1:5:350:C:OP2	2.17	0.44
1:5:645:A:C6	1:5:2372:A:C2	3.06	0.44
1:5:1281:G:C2	1:5:1282:G:C8	3.06	0.44
1:5:1491:A:C2	1:5:1492:G:C4	3.06	0.44
1:5:1548:C:H3'	1:5:1549:U:O4'	2.18	0.44
1:5:1580:A:N1	26:X:33:ARG:NE	2.65	0.44
1:5:1851:G:O5'	1:5:1851:G:H8	2.00	0.44
1:5:1950:U:O2'	1:5:1951:C:H5'	2.18	0.44
1:5:2631:U:OP1	1:5:2757:U:O2'	2.30	0.44
1:5:2640:A:P	22:T:10:ARG:HH12	2.41	0.44
1:5:3158:G:OP2	1:5:3158:G:H4'	2.18	0.44
3:8:103:G:H4'	38:j:21:ARG:HG3	2.00	0.44
6:C:103:THR:HG22	6:C:107:ARG:HH22	1.82	0.44
6:C:206:LEU:HD23	6:C:206:LEU:HA	1.82	0.44
7:D:177:GLU:OE1	7:D:183:TRP:NE1	2.50	0.44
8:E:128:LYS:HB2	18:P:181:ARG:HH22	1.82	0.44
8:E:175:LYS:O	8:E:176:PHE:HB2	2.18	0.44
9:F:83:LEU:HD11	9:F:116:PHE:HD1	1.83	0.44
15:M:21:VAL:HB	15:M:63:VAL:HG13	1.99	0.44
18:P:107:LEU:N	18:P:107:LEU:HD12	2.33	0.44
19:Q:172:PHE:O	19:Q:174:ARG:HG3	2.18	0.44
24:V:104:ASN:HB2	24:V:105:PRO:CD	2.47	0.44
24:V:120:LYS:H	24:V:137:VAL:CG2	2.30	0.44
26:X:106:ASP:C	26:X:127:THR:HG23	2.43	0.44
27:Y:94:SER:O	27:Y:95:VAL:HG23	2.18	0.44
28:Z:18:TYR:O	28:Z:21:LYS:HD2	2.18	0.44
34:f:71:VAL:HG13	34:f:81:VAL:HG11	2.00	0.44
40:l:9:ILE:HG22	40:l:13:MET:HE2	2.00	0.44
43:p:8:VAL:HG23	43:p:9:GLY:N	2.33	0.44
45:x:197:LEU:HD11	45:x:226:ILE:HD13	1.99	0.44
45:x:235:ASN:HB3	45:x:541:HIS:NE2	2.33	0.44
46:y:307:LEU:HB2	46:y:311:ILE:HB	1.99	0.44
46:y:353:LYS:HD2	46:y:357:GLN:NE2	2.33	0.44
47:z:84:UNK:HG2	47:z:84:UNK:O	2.18	0.44
47:z:93:UNK:O	47:z:96:UNK:HG3	2.18	0.44
1:5:139:G:H2'	1:5:140:C:H6	1.83	0.43
1:5:249:U:O2'	1:5:250:U:H5''	2.17	0.43
1:5:860:G:C5	4:A:181:LYS:HB2	2.53	0.43
1:5:869:G:C2'	1:5:870:G:H5'	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:910:G:H3'	1:5:911:C:C6	2.53	0.43
1:5:968:G:H2'	1:5:969:C:C6	2.53	0.43
1:5:999:G:C6	1:5:1000:C:N4	2.86	0.43
1:5:1225:A:C6	1:5:1226:G:C5	3.05	0.43
1:5:2366:C:C2	1:5:2382:G:N2	2.86	0.43
1:5:2545:C:H2'	1:5:2546:C:H5'	2.00	0.43
1:5:2766:U:H2'	1:5:2767:U:O4'	2.18	0.43
1:5:2888:U:C6	1:5:2911:A:N6	2.86	0.43
1:5:3259:U:H5''	1:5:3261:C:C5	2.53	0.43
1:5:3268:A:H5''	8:E:46:ARG:NH2	2.33	0.43
1:5:3328:G:O2'	1:5:3329:U:H5'	2.18	0.43
2:7:1:G:H4'	7:D:273:ARG:CZ	2.48	0.43
2:7:101:G:H2'	2:7:102:A:H5''	2.00	0.43
9:F:102:VAL:HA	9:F:105:LEU:HB2	2.00	0.43
15:M:54:PRO:HG2	15:M:56:GLN:HE22	1.82	0.43
16:N:160:GLU:OE1	16:N:160:GLU:N	2.36	0.43
17:O:121:PRO:HA	17:O:124:LEU:HD22	1.99	0.43
19:Q:134:GLY:O	19:Q:137:THR:OG1	2.23	0.43
20:R:85:ARG:HG3	20:R:85:ARG:HH11	1.83	0.43
20:R:105:LEU:HD12	20:R:106:LEU:CD1	2.48	0.43
21:S:31:ALA:HB1	21:S:36:ILE:HG21	1.99	0.43
29:a:99:ALA:HB1	29:a:100:PRO:HD2	2.00	0.43
31:c:100:ILE:CG1	31:c:101:LEU:HD22	2.34	0.43
32:d:32:ALA:O	32:d:36:ILE:HG13	2.18	0.43
44:q:25:LEU:HB3	44:q:191:TYR:HB3	2.00	0.43
45:x:155:SER:HB2	45:x:504:CYS:N	2.32	0.43
45:x:382:ILE:HG12	45:x:395:LEU:HD11	2.00	0.43
45:x:519:ARG:NH2	45:x:565:PHE:O	2.51	0.43
47:z:93:UNK:C	47:z:96:UNK:HG3	2.48	0.43
1:5:213:A:H2'	1:5:214:G:C5'	2.48	0.43
1:5:370:U:O2'	1:5:371:G:H5'	2.18	0.43
1:5:515:C:H5'	6:C:343:LYS:HE3	2.00	0.43
1:5:674:G:C2	1:5:789:A:C2	3.06	0.43
1:5:767:U:C2	1:5:768:C:C5	3.06	0.43
1:5:1427:U:O2'	1:5:1428:A:H5'	2.18	0.43
1:5:1736:G:N2	1:5:1737:U:C2	2.87	0.43
1:5:1785:U:H2'	1:5:1786:G:C8	2.51	0.43
1:5:2023:P5P:H2'	1:5:2024:P5P:H8	1.99	0.43
1:5:2328:U:H2'	1:5:2329:C:O4'	2.17	0.43
1:5:3038:U:H4'	5:B:65:SER:HA	2.00	0.43
5:B:27:ALA:CB	5:B:218:ILE:HG22	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:B:214:MET:CE	5:B:279:ASN:CA	2.96	0.43
5:B:264:VAL:HG23	5:B:265:ALA:N	2.33	0.43
9:F:161:VAL:CG1	9:F:162:PRO:HD2	2.44	0.43
9:F:166:ASN:OD1	9:F:181:ILE:HG22	2.18	0.43
15:M:125:LYS:HD2	15:M:128:ARG:HH22	1.83	0.43
16:N:122:ASN:O	16:N:129:TYR:HB2	2.18	0.43
17:O:15:LEU:HD22	17:O:15:LEU:HA	1.79	0.43
21:S:66:GLU:HG2	21:S:69:PRO:HA	1.99	0.43
38:j:39:TYR:CD1	38:j:40:PRO:HB3	2.53	0.43
39:k:20:VAL:HG11	39:k:45:VAL:CG1	2.48	0.43
40:l:23:LEU:HD13	40:l:23:LEU:C	2.42	0.43
41:m:103:LEU:HB3	41:m:104:PRO:HD2	2.00	0.43
45:x:10:THR:HG23	45:x:14:LEU:CD1	2.48	0.43
45:x:42:VAL:HG11	45:x:141:ILE:HD13	2.00	0.43
45:x:197:LEU:O	45:x:218:ILE:HD11	2.17	0.43
46:y:319:GLN:O	46:y:323:LYS:HG3	2.18	0.43
1:5:429:U:O2'	1:5:430:U:H5'	2.18	0.43
1:5:981:U:H1'	1:5:982:C:P	2.59	0.43
1:5:1315:U:H5'	1:5:1317:A:O4'	2.18	0.43
1:5:1332:A:H2'	1:5:1332:A:N3	2.33	0.43
1:5:1479:U:C2'	1:5:1480:G:H5'	2.49	0.43
1:5:1495:U:H5''	1:5:1496:C:H5	1.83	0.43
1:5:1678:G:C4'	1:5:1756:C:H4'	2.48	0.43
1:5:1689:U:H2'	1:5:1690:C:C6	2.54	0.43
1:5:2584:G:C2'	10:G:240:ASN:ND2	2.82	0.43
1:5:2624:G:O2'	1:5:2625:C:H5'	2.18	0.43
1:5:2819:A:O2'	1:5:2820:A:H5'	2.18	0.43
1:5:3333:G:N2	1:5:3369:G:H1'	2.33	0.43
1:5:3346:U:H2'	1:5:3347:A:C8	2.54	0.43
2:7:97:A:H2'	2:7:98:C:C6	2.53	0.43
3:8:102:U:C4	3:8:103:G:C6	3.06	0.43
4:A:54:ARG:HG2	4:A:55:GLY:O	2.18	0.43
4:A:190:ARG:NH1	4:A:190:ARG:HB3	2.34	0.43
7:D:23:ARG:HD2	7:D:23:ARG:O	2.17	0.43
7:D:276:LYS:H	7:D:276:LYS:HG2	1.67	0.43
10:G:72:PRO:HA	10:G:73:PRO:HD3	1.91	0.43
10:G:189:LEU:HD12	10:G:189:LEU:O	2.19	0.43
11:H:28:VAL:HG22	11:H:33:THR:HB	2.00	0.43
12:I:76:MET:HE2	12:I:76:MET:HB3	1.84	0.43
12:I:145:LYS:NZ	12:I:167:LEU:CG	2.81	0.43
12:I:183:LYS:HB3	12:I:183:LYS:HE3	1.37	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:J:26:SER:HB2	13:J:29:ARG:CD	2.49	0.43
18:P:40:GLU:HA	18:P:113:TYR:CB	2.48	0.43
19:Q:93:ILE:HD12	19:Q:93:ILE:N	2.33	0.43
26:X:137:ASN:ND2	45:x:417:LYS:HB3	2.33	0.43
27:Y:97:ILE:CG2	27:Y:99:LEU:HG	2.46	0.43
30:b:25:LYS:HB3	30:b:27:TYR:CE1	2.52	0.43
31:c:40:LYS:O	31:c:65:THR:HG23	2.18	0.43
35:g:89:ILE:HG22	35:g:90:ILE:N	2.32	0.43
36:h:20:GLN:O	36:h:24:LEU:HD12	2.19	0.43
37:i:62:ARG:HH11	37:i:94:ILE:CD1	2.12	0.43
38:j:32:LYS:O	38:j:40:PRO:HD3	2.18	0.43
45:x:104:TRP:CD1	45:x:106:PRO:CD	2.99	0.43
45:x:226:ILE:HG23	45:x:553:ILE:HD11	1.98	0.43
45:x:422:GLY:O	45:x:426:ILE:HG13	2.17	0.43
45:x:496:ILE:HG12	45:x:497:SER:H	1.83	0.43
45:x:551:GLN:O	45:x:555:GLN:HG3	2.18	0.43
46:y:215:ASN:C	46:y:230:VAL:HG21	2.42	0.43
46:y:348:LEU:HD23	46:y:348:LEU:HA	1.81	0.43
1:5:13:A:C4'	26:X:39:LYS:HG3	2.43	0.43
1:5:210:U:C2	1:5:230:U:H4'	2.53	0.43
1:5:730:C:H2'	1:5:731:U:H6	1.83	0.43
1:5:1715:A:H4'	1:5:1716:U:H3'	1.99	0.43
1:5:1784:G:H2'	1:5:1785:U:O4'	2.18	0.43
1:5:1864:A:OP1	20:R:88:ARG:HD3	2.18	0.43
1:5:2714:G:OP1	42:o:20:HIS:NE2	2.51	0.43
1:5:2785:A:H4'	42:o:41:ARG:HH22	1.83	0.43
1:5:3305:A:H2'	1:5:3306:U:O4'	2.18	0.43
3:8:38:U:H5	36:h:82:ALA:O	2.01	0.43
4:A:44:ILE:HD12	4:A:44:ILE:N	2.33	0.43
8:E:146:ILE:CG2	8:E:150:LYS:NZ	2.80	0.43
8:E:152:THR:HA	8:E:153:PRO:HD3	1.89	0.43
11:H:109:ALA:CB	11:H:111:PHE:CZ	3.01	0.43
13:J:17:LEU:HD13	13:J:129:VAL:HG12	2.00	0.43
15:M:23:ILE:HG12	15:M:63:VAL:HG22	1.99	0.43
16:N:64:VAL:CG2	16:N:65:ARG:N	2.82	0.43
19:Q:26:LEU:O	19:Q:29:LEU:HB2	2.18	0.43
19:Q:178:ARG:HA	19:Q:178:ARG:HD2	1.46	0.43
23:U:107:PHE:CD2	46:y:313:VAL:HG11	2.53	0.43
30:b:32:LEU:HD22	30:b:32:LEU:HA	1.71	0.43
33:e:81:ASP:N	33:e:81:ASP:OD1	2.51	0.43
37:i:43:LEU:O	37:i:47:ILE:HG13	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:q:42:ARG:O	44:q:46:ARG:HG2	2.18	0.43
44:q:44:GLU:OE2	44:q:103:ASN:HB3	2.19	0.43
44:q:58:MET:O	44:q:62:ALA:HB2	2.17	0.43
45:x:297:PRO:HB2	46:y:344:THR:O	2.19	0.43
45:x:302:SER:O	45:x:466:LEU:HD13	2.18	0.43
1:5:73:C:O2	14:L:59:ARG:HD3	2.18	0.43
1:5:226:C:C2	1:5:227:G:H1'	2.53	0.43
1:5:432:G:C4	1:5:433:A:C8	3.06	0.43
1:5:843:A:N3	1:5:844:G:H1'	2.33	0.43
1:5:1097:G:H2'	1:5:1097:G:N3	2.32	0.43
1:5:1111:U:O2'	1:5:1112:A:H5'	2.18	0.43
1:5:1195:A:HO2'	1:5:1196:C:H5	1.67	0.43
1:5:1408:G:OP1	33:e:33:ARG:NH2	2.49	0.43
1:5:2660:G:H2'	1:5:2661:G:C8	2.53	0.43
1:5:2836:C:H4'	12:I:157:TYR:CE1	2.53	0.43
1:5:2997:G:O4'	1:5:3396:U:H5''	2.18	0.43
1:5:3106:A:H2'	1:5:3107:U:C5'	2.40	0.43
2:7:22:A:H1'	7:D:272:TYR:CZ	2.53	0.43
3:8:103:G:OP2	3:8:105:A:O2'	2.36	0.43
4:A:79:ASN:HB3	4:A:82:VAL:HG11	1.99	0.43
5:B:168:LYS:O	5:B:319:ASN:ND2	2.51	0.43
5:B:347:SER:C	5:B:349:LYS:H	2.26	0.43
6:C:222:VAL:HA	6:C:223:PRO:HD3	1.82	0.43
6:C:309:ARG:CZ	6:C:312:VAL:HG11	2.47	0.43
8:E:122:PHE:CG	8:E:123:PRO:N	2.87	0.43
8:E:149:ILE:HD13	8:E:159:LEU:HD11	1.95	0.43
10:G:138:HIS:O	10:G:142:LEU:HG	2.18	0.43
12:I:125:LEU:HD23	12:I:125:LEU:N	2.33	0.43
14:L:54:LEU:HD13	14:L:75:PHE:HE1	1.84	0.43
21:S:34:GLU:O	21:S:38:LYS:HG3	2.17	0.43
21:S:87:THR:HG23	22:T:156:TYR:CZ	2.54	0.43
24:V:45:ARG:CD	24:V:46:LEU:N	2.80	0.43
37:i:53:TYR:OH	37:i:86:LYS:HE3	2.19	0.43
40:l:28:ARG:NH1	40:l:36:ARG:NH1	2.67	0.43
44:q:8:LYS:HG2	44:q:58:MET:HE3	2.00	0.43
44:q:45:LEU:HD22	44:q:96:ILE:HD12	1.99	0.43
45:x:49:SER:OG	45:x:58:GLN:HA	2.18	0.43
45:x:359:ALA:HB3	45:x:435:SER:CB	2.47	0.43
46:y:177:GLU:O	46:y:181:GLU:HG3	2.18	0.43
1:5:425:G:N2	1:5:635:G:H1'	2.34	0.43
1:5:705:A:H4'	1:5:706:A:OP1	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1392:G:N3	1:5:1417:G:C2	2.87	0.43
1:5:1615:C:O2'	1:5:1616:U:H5'	2.19	0.43
1:5:2401:A:N1	46:y:392:LEU:HD11	2.34	0.43
1:5:2553:U:C4	35:g:95:ILE:HG12	2.54	0.43
1:5:2557:A:H5'	28:Z:135:ARG:HH22	1.84	0.43
1:5:2660:G:H2'	1:5:2661:G:H8	1.84	0.43
2:7:42:A:C1'	13:J:72:ARG:NH1	2.80	0.43
2:7:96:U:H2'	2:7:97:A:C8	2.45	0.43
3:8:155:A:H2'	3:8:156:U:O4'	2.18	0.43
3:8:155:A:C5'	10:G:185:ARG:HD2	2.43	0.43
4:A:178:PRO:HB2	4:A:180:LEU:HD23	2.01	0.43
5:B:13:HIS:CE1	5:B:15:GLY:CA	2.99	0.43
5:B:188:ILE:HA	5:B:191:LYS:HD2	1.99	0.43
5:B:235:THR:HG22	5:B:236:LYS:N	2.33	0.43
6:C:20:LEU:HD11	6:C:252:GLU:HG3	2.00	0.43
6:C:60:THR:CG2	6:C:61:SER:N	2.81	0.43
8:E:35:VAL:O	8:E:54:TYR:HD1	2.02	0.43
8:E:116:LYS:O	8:E:120:ASN:HB3	2.17	0.43
9:F:169:ILE:HD13	9:F:184:LEU:CD1	2.42	0.43
13:J:106:ILE:HD11	13:J:125:MET:CG	2.49	0.43
13:J:164:LYS:HE2	13:J:171:VAL:H	1.82	0.43
14:L:46:ILE:HD13	14:L:46:ILE:HA	1.73	0.43
14:L:159:VAL:HG23	29:a:96:LYS:O	2.19	0.43
15:M:15:VAL:HG11	21:S:152:LEU:HD11	2.01	0.43
17:O:135:TYR:CD1	17:O:135:TYR:C	2.96	0.43
19:Q:165:ILE:HD13	19:Q:165:ILE:HA	1.71	0.43
21:S:23:LYS:CA	22:T:146:ASN:HD21	2.25	0.43
24:V:74:MET:HE2	24:V:74:MET:HB3	1.84	0.43
27:Y:25:SER:OG	27:Y:26:GLN:N	2.52	0.43
27:Y:76:LEU:O	27:Y:77:LYS:CB	2.66	0.43
28:Z:124:ALA:O	28:Z:126:LYS:N	2.52	0.43
32:d:6:ASP:O	32:d:8:VAL:HG22	2.18	0.43
35:g:107:GLU:HG2	35:g:110:GLU:OE1	2.19	0.43
36:h:36:LEU:HD12	36:h:36:LEU:HA	1.42	0.43
38:j:28:HIS:CD2	38:j:31:LYS:HE2	2.54	0.43
46:y:309:THR:O	46:y:309:THR:HG22	2.18	0.43
47:z:132:UNK:HG2	47:z:132:UNK:O	2.19	0.43
1:5:240:U:O2'	1:5:241:G:C5'	2.67	0.43
1:5:346:C:OP1	6:C:52:VAL:HG22	2.18	0.43
1:5:1597:C:H2'	1:5:1598:G:C8	2.53	0.43
1:5:2309:A:C8	1:5:2962:U:H4'	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2338:C:P	5:B:236:LYS:HZ1	2.41	0.43
1:5:2951:G:C2'	1:5:2952:G:H5'	2.48	0.43
3:8:14:C:OP1	18:P:123:PRO:HD3	2.18	0.43
4:A:34:TYR:HA	4:A:37:ARG:NH1	2.34	0.43
6:C:55:LYS:NZ	6:C:55:LYS:CB	2.77	0.43
6:C:122:THR:HG21	6:C:262:TRP:HH2	1.82	0.43
6:C:191:LYS:HB2	6:C:191:LYS:NZ	2.33	0.43
8:E:62:THR:O	8:E:63:LEU:HD23	2.18	0.43
10:G:221:ASN:HA	10:G:225:LYS:CE	2.47	0.43
11:H:103:ILE:HD11	11:H:134:ILE:CG2	2.48	0.43
12:I:139:ARG:O	12:I:140:THR:HG23	2.19	0.43
14:L:55:ARG:HB3	14:L:56:PRO:HD2	2.00	0.43
15:M:20:VAL:HG13	15:M:68:LEU:O	2.18	0.43
16:N:175:ASN:HB2	16:N:180:PHE:CD1	2.54	0.43
17:O:95:GLY:O	17:O:98:ALA:HB3	2.18	0.43
19:Q:81:VAL:CG1	19:Q:101:VAL:HG22	2.48	0.43
23:U:33:TYR:CE2	23:U:37:LEU:HD21	2.53	0.43
28:Z:90:GLU:O	28:Z:93:LYS:HB2	2.19	0.43
28:Z:114:VAL:HA	28:Z:117:ALA:CB	2.44	0.43
29:a:19:LYS:HB3	29:a:25:HIS:HB2	2.00	0.43
45:x:104:TRP:NE1	45:x:106:PRO:HG2	2.34	0.43
45:x:472:GLU:OE2	45:x:482:ALA:HB2	2.19	0.43
45:x:550:VAL:CG1	45:x:554:PHE:HE1	2.32	0.43
1:5:498:A:O5'	34:f:86:ARG:NH1	2.39	0.43
1:5:721:G:C2'	1:5:722:G:H5'	2.48	0.43
1:5:1005:G:C6	1:5:1006:A:N7	2.87	0.43
1:5:1119:C:C2	1:5:1140:G:N2	2.86	0.43
1:5:1348:U:H3'	1:5:1348:U:H6	1.80	0.43
1:5:1856:C:H2'	1:5:1857:C:C6	2.53	0.43
1:5:1890:U:H2'	1:5:1891:A:H8	1.83	0.43
1:5:1897:G:O4'	24:V:83:LYS:HB2	2.18	0.43
1:5:2096:A:H2'	1:5:2097:U:O4'	2.18	0.43
1:5:2376:G:C6	1:5:2377:G:C6	3.07	0.43
1:5:2396:G:OP1	1:5:2397:A:H4'	2.18	0.43
1:5:2988:C:OP1	17:O:68:ARG:NH1	2.52	0.43
2:7:39:C:H2'	2:7:39:C:O2	2.19	0.43
3:8:41:A:H2'	3:8:42:G:H5'	1.99	0.43
6:C:108:LYS:HE2	6:C:108:LYS:HB3	1.49	0.43
6:C:119:ARG:HA	6:C:122:THR:HG22	2.00	0.43
6:C:220:ARG:HG3	6:C:221:ASN:N	2.34	0.43
6:C:299:ILE:CG2	19:Q:39:ARG:HB3	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:83:LEU:O	7:D:87:GLY:N	2.52	0.43
9:F:210:PRO:HG3	9:F:214:TRP:CD2	2.53	0.43
10:G:145:ASN:O	10:G:146:LYS:HB2	2.18	0.43
10:G:240:ASN:OD1	10:G:241:LYS:N	2.51	0.43
13:J:171:VAL:HG22	13:J:172:LEU:H	1.84	0.43
14:L:108:ILE:HD13	14:L:108:ILE:HA	1.88	0.43
16:N:174:ILE:HD12	16:N:174:ILE:N	2.33	0.43
18:P:117:ILE:O	18:P:117:ILE:HG23	2.17	0.43
24:V:23:MET:CE	24:V:100:GLY:HA3	2.33	0.43
24:V:32:ARG:HA	24:V:32:ARG:HD3	1.89	0.43
28:Z:115:LYS:NZ	28:Z:119:GLU:OE2	2.52	0.43
45:x:61:VAL:N	45:x:62:PRO:CD	2.80	0.43
45:x:338:GLU:HG3	45:x:489:MET:HE1	2.01	0.43
45:x:536:TRP:CD1	47:z:71:UNK:HG3	2.53	0.43
1:5:127:G:H2'	1:5:128:G:H8	1.83	0.43
1:5:177:U:C2	1:5:178:U:C6	3.07	0.43
1:5:255:A:H2'	1:5:256:G:C8	2.54	0.43
1:5:536:U:C2'	1:5:537:A:C5'	2.95	0.43
1:5:844:G:C3'	1:5:845:G:H5'	2.49	0.43
1:5:869:G:H1'	1:5:891:G:N2	2.34	0.43
1:5:1048:A:O2'	1:5:2632:G:O2'	2.17	0.43
1:5:1312:C:N4	1:5:1313:G:C2	2.87	0.43
1:5:1312:C:N4	1:5:1313:G:N3	2.67	0.43
1:5:1580:A:N1	26:X:33:ARG:CZ	2.81	0.43
1:5:1651:U:H5''	4:A:71:LEU:CD2	2.48	0.43
1:5:2417:U:O2'	1:5:2418:G:H5'	2.19	0.43
1:5:3051:U:C2	1:5:3052:G:C8	3.07	0.43
1:5:3243:A:O2'	17:O:110:PRO:HG2	2.19	0.43
12:I:85:PHE:CB	12:I:140:THR:CG2	2.96	0.43
13:J:80:LEU:O	13:J:80:LEU:HD22	2.18	0.43
16:N:30:TYR:CD1	16:N:63:ARG:HD3	2.53	0.43
16:N:182:ASN:O	16:N:183:THR:CG2	2.67	0.43
18:P:167:ARG:CB	34:f:60:ARG:HH11	2.32	0.43
21:S:166:LYS:CG	21:S:167:ARG:N	2.80	0.43
23:U:14:THR:HG23	23:U:66:VAL:CG2	2.46	0.43
24:V:53:SER:HA	24:V:81:GLN:OE1	2.19	0.43
24:V:118:VAL:O	24:V:136:VAL:HG13	2.19	0.43
25:W:49:ILE:HB	25:W:52:THR:HG23	2.01	0.43
28:Z:38:PHE:CE2	28:Z:76:ASN:HB2	2.54	0.43
28:Z:109:GLU:O	28:Z:113:VAL:HG23	2.19	0.43
37:i:59:ASP:CB	37:i:60:LEU:HD13	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:i:84:LYS:NZ	37:i:84:LYS:HB2	2.34	0.43
38:j:21:ARG:HB2	38:j:39:TYR:CD2	2.52	0.43
41:m:115:CYS:SG	41:m:118:THR:HG22	2.59	0.43
45:x:453:ASN:HB2	45:x:484:LYS:NZ	2.33	0.43
1:5:147:U:O2	10:G:159:PRO:HD2	2.19	0.43
1:5:267:G:C6	1:5:319:A:N7	2.87	0.43
1:5:506:U:H2'	1:5:507:U:C5'	2.49	0.43
1:5:1305:U:C5	5:B:256:HIS:HB3	2.53	0.43
1:5:1857:C:N4	1:5:1858:A:N6	2.66	0.43
1:5:2794:G:C5'	42:o:57:VAL:O	2.67	0.43
1:5:3092:C:O3'	1:5:3093:C:H3'	2.18	0.43
1:5:3205:G:H2'	1:5:3206:C:C4	2.54	0.43
2:7:1:G:C2	2:7:2:G:C8	3.07	0.43
2:7:121:U:OP1	7:D:259:LYS:HE2	2.18	0.43
3:8:5:U:H2'	3:8:6:U:C6	2.54	0.43
5:B:11:HIS:CD2	5:B:11:HIS:N	2.87	0.43
5:B:12:GLY:HA3	5:B:233:TRP:CE3	2.53	0.43
5:B:284:ARG:NH1	5:B:356:LEU:HD12	2.34	0.43
6:C:113:VAL:CG1	6:C:118:LYS:HG3	2.49	0.43
6:C:318:LEU:HD11	9:F:146:GLN:HA	2.01	0.43
11:H:86:TYR:CG	11:H:151:VAL:HG13	2.54	0.43
14:L:128:ARG:HH11	36:h:112:PRO:HG3	1.83	0.43
16:N:71:ARG:HD3	16:N:94:TYR:HB2	2.01	0.43
22:T:14:MET:HE1	22:T:55:LYS:CB	2.49	0.43
24:V:104:ASN:CB	24:V:105:PRO:CD	2.96	0.43
26:X:63:ILE:HD13	26:X:63:ILE:C	2.43	0.43
28:Z:129:TRP:HB3	28:Z:130:PHE:H	1.53	0.43
31:c:12:GLN:OE1	31:c:12:GLN:HA	2.19	0.43
32:d:20:LEU:HD13	32:d:28:ARG:HG2	2.01	0.43
34:f:5:HIS:ND1	34:f:5:HIS:N	2.67	0.43
35:g:25:THR:HB	35:g:26:PRO:CD	2.49	0.43
36:h:34:GLN:NE2	45:x:343:TYR:HA	2.34	0.43
36:h:102:GLU:HA	36:h:105:ARG:HB3	2.00	0.43
38:j:47:TYR:HB3	38:j:49:TRP:CD1	2.53	0.43
45:x:360:TYR:O	45:x:389:PRO:HA	2.18	0.43
1:5:591:G:N3	8:E:18:LEU:HB3	2.32	0.42
1:5:760:G:N2	1:5:770:G:H1'	2.34	0.42
1:5:975:C:OP2	19:Q:15:HIS:HA	2.19	0.42
1:5:982:C:H2'	1:5:983:A:C8	2.54	0.42
1:5:1204:A:H2'	1:5:1205:A:C5'	2.48	0.42
1:5:1618:G:H4'	3:8:129:C:H1'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2364:G:H22	1:5:2396:G:H1'	1.84	0.42
1:5:2860:U:C2'	1:5:2861:U:H5'	2.48	0.42
1:5:3208:G:O2'	21:S:161:LYS:NZ	2.42	0.42
1:5:3243:A:N1	17:O:108:ILE:N	2.67	0.42
1:5:3371:G:O2'	1:5:3372:A:H5'	2.18	0.42
2:7:47:C:OP1	7:D:95:TRP:N	2.51	0.42
3:8:97:A:C2	3:8:98:U:C2	3.07	0.42
4:A:48:ILE:HA	4:A:59:ALA:HA	2.01	0.42
4:A:67:TYR:CD2	4:A:67:TYR:N	2.87	0.42
4:A:117:GLU:HG2	4:A:124:GLY:N	2.34	0.42
5:B:21:ARG:HG2	5:B:269:GLN:HE21	1.84	0.42
6:C:11:LEU:CD1	6:C:159:ILE:HD11	2.49	0.42
7:D:51:LEU:HB2	7:D:144:VAL:HG11	1.96	0.42
9:F:173:LEU:HA	9:F:173:LEU:HD12	1.67	0.42
13:J:16:LYS:HB3	13:J:72:ARG:CD	2.48	0.42
13:J:23:VAL:HG12	13:J:24:GLY:H	1.82	0.42
16:N:180:PHE:CD2	16:N:180:PHE:N	2.87	0.42
17:O:50:ASN:HD22	17:O:53:LYS:HD2	1.83	0.42
21:S:109:ASP:O	21:S:113:ARG:HG3	2.19	0.42
29:a:18:GLY:C	29:a:19:LYS:HD3	2.44	0.42
29:a:75:LEU:HA	29:a:75:LEU:HD23	1.74	0.42
29:a:132:LYS:O	29:a:136:GLU:HG3	2.19	0.42
35:g:43:LYS:HA	35:g:50:ALA:HA	2.00	0.42
37:i:60:LEU:N	37:i:60:LEU:CD1	2.79	0.42
37:i:84:LYS:O	37:i:88:GLU:HB2	2.19	0.42
39:k:43:PHE:CD2	39:k:56:ILE:HD13	2.53	0.42
43:p:11:THR:CG2	43:p:27:LYS:HB2	2.49	0.42
44:q:29:GLY:HA2	44:q:84:VAL:HG12	2.01	0.42
44:q:80:VAL:HA	44:q:84:VAL:HG21	2.00	0.42
45:x:219:THR:CG2	45:x:220:GLY:N	2.82	0.42
46:y:165:LEU:O	46:y:231:ARG:NH1	2.52	0.42
1:5:139:G:H2'	1:5:140:C:C6	2.54	0.42
1:5:508:U:H2'	1:5:509:U:C6	2.54	0.42
1:5:644:G:H2'	1:5:2372:A:N7	2.34	0.42
1:5:1109:U:H2'	1:5:1110:U:H6	1.83	0.42
1:5:1138:U:HO2'	1:5:1139:G:H5'	1.84	0.42
1:5:1313:G:H2'	1:5:1314:C:C6	2.49	0.42
1:5:1546:A:O4'	16:N:94:TYR:CZ	2.71	0.42
1:5:1819:U:C2'	1:5:1820:U:H5'	2.49	0.42
1:5:2867:C:O2'	1:5:2868:U:H5'	2.18	0.42
1:5:3099:C:O2'	1:5:3100:U:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3109:G:H1'	11:H:163:GLN:NE2	2.34	0.42
1:5:3140:G:N7	5:B:28:ARG:NH2	2.67	0.42
4:A:65:ASP:HB3	4:A:68:LYS:O	2.19	0.42
5:B:14:LEU:C	5:B:17:LEU:HD22	2.43	0.42
5:B:294:GLY:O	5:B:359:ILE:HD12	2.19	0.42
5:B:360:ASP:OD2	5:B:364:LYS:NZ	2.52	0.42
6:C:195:ARG:HD2	6:C:197:ARG:HH22	1.83	0.42
7:D:294:ALA:HB1	12:I:217:PHE:O	2.18	0.42
8:E:102:ASN:O	8:E:105:TYR:HB3	2.18	0.42
17:O:32:LYS:O	17:O:33:ILE:HD13	2.19	0.42
17:O:195:ALA:C	17:O:198:GLY:H	2.27	0.42
18:P:41:LEU:HD11	18:P:45:GLN:NE2	2.34	0.42
22:T:112:ASN:HA	22:T:128:LEU:CD2	2.49	0.42
24:V:66:LYS:HB2	24:V:66:LYS:HE3	1.74	0.42
24:V:84:SER:CB	24:V:94:TYR:HB3	2.49	0.42
25:W:60:LYS:HD3	25:W:60:LYS:HA	1.75	0.42
27:Y:3:LYS:HB2	27:Y:8:VAL:CG2	2.49	0.42
27:Y:117:ALA:O	27:Y:120:GLN:HB2	2.19	0.42
34:f:80:VAL:HG12	34:f:81:VAL:N	2.34	0.42
34:f:90:PRO:O	34:f:91:ALA:HB3	2.19	0.42
36:h:37:SER:HB2	45:x:343:TYR:CE2	2.53	0.42
42:o:6:LYS:NZ	42:o:93:LEU:CD1	2.82	0.42
42:o:32:LYS:HG2	42:o:32:LYS:O	2.19	0.42
44:q:185:LEU:H	44:q:185:LEU:HD23	1.84	0.42
45:x:292:ARG:HH12	45:x:458:LEU:HB2	1.83	0.42
46:y:379:LYS:HB3	46:y:380:PHE:HD1	1.84	0.42
1:5:115:A:N6	1:5:154:U:N3	2.68	0.42
1:5:117:U:N3	10:G:147:LYS:NZ	2.58	0.42
1:5:134:U:H4'	1:5:135:C:OP1	2.19	0.42
1:5:692:A:C2'	1:5:693:A:H5'	2.49	0.42
1:5:766:U:H4'	1:5:767:U:O5'	2.19	0.42
1:5:1879:A:H2'	1:5:1879:A:N3	2.34	0.42
1:5:2131:A:H2'	1:5:2132:C:O4'	2.19	0.42
1:5:2372:A:H3'	1:5:2373:A:C5'	2.49	0.42
1:5:2422:C:O2'	1:5:2423:U:P	2.77	0.42
1:5:2433:U:H3'	1:5:2434:U:O2	2.19	0.42
1:5:2437:G:C2'	1:5:2438:A:H5''	2.37	0.42
1:5:2554:A:H3'	35:g:91:ARG:CZ	2.49	0.42
3:8:34:U:C5	38:j:74:PHE:CE2	3.07	0.42
3:8:78:G:H21	3:8:79:A:H1'	1.82	0.42
5:B:117:ARG:NH1	5:B:175:LYS:HD2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:D:49:TYR:O	7:D:144:VAL:HA	2.19	0.42
9:F:189:ILE:C	9:F:191:VAL:H	2.28	0.42
14:L:57:VAL:HG12	14:L:58:VAL:N	2.34	0.42
14:L:89:TYR:CE1	14:L:93:ILE:HD11	2.55	0.42
21:S:22:PRO:O	22:T:146:ASN:ND2	2.52	0.42
21:S:171:PHE:CD1	21:S:172:TYR:N	2.86	0.42
29:a:83:PRO:HG2	29:a:86:LYS:HZ2	1.82	0.42
32:d:29:ALA:N	32:d:30:PRO:CD	2.82	0.42
35:g:74:ARG:NH1	35:g:82:ALA:HA	2.35	0.42
39:k:19:ASP:O	39:k:21:LYS:HE2	2.19	0.42
44:q:25:LEU:HD23	44:q:76:LEU:HG	1.89	0.42
47:z:115:UNK:O	47:z:118:UNK:HG3	2.19	0.42
1:5:728:G:H4'	19:Q:47:VAL:HG21	2.01	0.42
1:5:848:A:O5'	1:5:848:A:H8	2.03	0.42
1:5:861:C:C4'	43:p:17:ARG:HH21	2.32	0.42
1:5:988:U:C2'	1:5:989:A:H5'	2.50	0.42
1:5:1277:C:O2	1:5:1277:C:C2'	2.66	0.42
1:5:1364:C:C2'	1:5:1365:G:H5'	2.49	0.42
1:5:1456:A:N1	32:d:64:VAL:HG13	2.35	0.42
1:5:1481:A:C2	35:g:4:ARG:NE	2.87	0.42
1:5:1491:A:H5'	38:j:12:HIS:O	2.19	0.42
1:5:1568:U:H4'	1:5:1569:U:OP1	2.20	0.42
1:5:1941:C:H42	1:5:2107:A:H61	1.68	0.42
1:5:2177:G:OP2	4:A:128:ARG:HD3	2.19	0.42
1:5:2347:U:H2'	1:5:2348:A:O4'	2.19	0.42
1:5:2523:A:C8	10:G:51:LYS:HB2	2.54	0.42
1:5:3289:G:O2'	1:5:3290:G:P	2.78	0.42
1:5:3371:G:C4	1:5:3372:A:C8	3.07	0.42
4:A:58:LEU:HD13	4:A:75:ILE:CG2	2.49	0.42
5:B:235:THR:CG2	5:B:236:LYS:N	2.81	0.42
6:C:233:LEU:CD1	6:C:238:LEU:HD11	2.49	0.42
8:E:78:ARG:NH1	8:E:78:ARG:CG	2.65	0.42
9:F:53:LYS:O	9:F:57:THR:HG23	2.18	0.42
10:G:162:LEU:HA	16:N:7:LEU:HD11	2.00	0.42
11:H:90:MET:HA	11:H:180:TYR:O	2.19	0.42
12:I:45:GLU:O	12:I:141:LYS:HE3	2.19	0.42
13:J:33:ALA:HB2	13:J:123:PHE:CE1	2.54	0.42
16:N:16:SER:HB3	37:i:48:ALA:HB1	2.02	0.42
17:O:124:LEU:O	17:O:128:ARG:HB2	2.19	0.42
19:Q:29:LEU:HA	19:Q:29:LEU:HD23	1.66	0.42
19:Q:32:LEU:C	19:Q:32:LEU:CD1	2.89	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:80:LYS:HD3	20:R:80:LYS:HA	1.79	0.42
21:S:134:ASP:O	21:S:136:LYS:HE3	2.19	0.42
22:T:61:THR:O	22:T:76:ILE:HD13	2.20	0.42
26:X:27:ARG:HG3	26:X:27:ARG:NH1	2.34	0.42
33:e:19:ARG:HD2	33:e:28:VAL:CG1	2.49	0.42
34:f:67:MET:HB3	34:f:67:MET:HE2	1.80	0.42
37:i:34:SER:HG	37:i:37:THR:H	1.66	0.42
38:j:72:ARG:O	38:j:75:LYS:HB3	2.19	0.42
39:k:8:ILE:O	39:k:12:LEU:HD22	2.19	0.42
39:k:66:ILE:HA	39:k:69:LEU:HD11	2.02	0.42
45:x:125:PHE:O	45:x:127:SER:N	2.52	0.42
45:x:202:LEU:HD12	45:x:567:LEU:CD1	2.26	0.42
45:x:441:ARG:HD3	45:x:441:ARG:HA	1.87	0.42
1:5:63:A:O2'	1:5:64:G:H5'	2.20	0.42
1:5:200:C:C6	1:5:221:A:N7	2.88	0.42
1:5:310:U:H2'	1:5:311:C:O4'	2.19	0.42
1:5:394:G:N2	1:5:397:A:C8	2.87	0.42
1:5:620:U:O2'	18:P:167:ARG:CZ	2.67	0.42
1:5:841:A:H2'	1:5:842:G:C8	2.55	0.42
1:5:1006:A:H2'	1:5:1007:U:C6	2.54	0.42
1:5:1008:U:H6	1:5:1008:U:O5'	2.03	0.42
1:5:1118:C:H2'	1:5:1119:C:H6	1.85	0.42
1:5:1676:A:P	23:U:73:GLY:H	2.40	0.42
1:5:1720:U:OP2	20:R:110:ARG:NH1	2.50	0.42
1:5:2215:A:C4	1:5:2216:G:C8	3.07	0.42
1:5:2309:A:C4	1:5:2962:U:O4'	2.72	0.42
1:5:3004:C:N4	1:5:3005:A:N1	2.67	0.42
1:5:3259:U:H4'	1:5:3261:C:OP2	2.20	0.42
5:B:160:VAL:HG13	5:B:183:LEU:HD13	2.01	0.42
5:B:199:PHE:C	5:B:201:LYS:H	2.27	0.42
5:B:205:VAL:CB	5:B:322:ILE:HD11	2.49	0.42
6:C:30:ILE:HG22	6:C:30:ILE:O	2.19	0.42
6:C:158:SER:HA	6:C:213:ASN:HB2	2.02	0.42
6:C:311:HIS:CE1	6:C:314:LYS:HA	2.54	0.42
7:D:188:GLU:O	7:D:189:GLU:HG3	2.19	0.42
8:E:52:VAL:HG11	8:E:65:ILE:HG21	2.02	0.42
8:E:98:VAL:HG12	8:E:98:VAL:O	2.19	0.42
9:F:26:VAL:O	9:F:30:ARG:HB2	2.19	0.42
13:J:61:ARG:NE	13:J:62:ASN:HD21	2.17	0.42
14:L:25:HIS:CG	16:N:200:TRP:CZ3	3.08	0.42
14:L:58:VAL:CG1	14:L:59:ARG:N	2.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:20:ARG:O	16:N:24:ARG:HB2	2.18	0.42
16:N:125:SER:OG	16:N:126:THR:N	2.52	0.42
29:a:83:PRO:HG2	29:a:86:LYS:HD2	2.02	0.42
31:c:18:ILE:HG23	31:c:19:LYS:N	2.34	0.42
32:d:102:LYS:HE3	32:d:102:LYS:N	2.34	0.42
34:f:89:LEU:HD22	34:f:89:LEU:HA	1.68	0.42
35:g:5:VAL:CG2	35:g:6:THR:H	2.24	0.42
37:i:75:LYS:HD3	37:i:75:LYS:C	2.45	0.42
45:x:207:LEU:HD23	45:x:207:LEU:C	2.44	0.42
45:x:252:ALA:HB3	45:x:255:ASN:CG	2.44	0.42
45:x:536:TRP:CD2	47:z:69:UNK:HB2	2.55	0.42
46:y:213:LEU:HD23	46:y:213:LEU:HA	1.70	0.42
46:y:235:LEU:N	46:y:235:LEU:HD23	2.33	0.42
46:y:316:ARG:O	46:y:316:ARG:HG3	2.18	0.42
1:5:55:G:C2'	1:5:56:G:H5'	2.50	0.42
1:5:278:U:H2'	1:5:279:U:O4'	2.19	0.42
1:5:505:G:O2'	1:5:506:U:H5'	2.20	0.42
1:5:585:A:H4'	34:f:72:THR:HG22	2.01	0.42
1:5:709:A:C1'	29:a:57:GLY:HA2	2.46	0.42
1:5:843:A:C2	1:5:851:C:C2	3.08	0.42
1:5:1330:A:OP1	34:f:19:SER:HB2	2.19	0.42
1:5:1347:U:OP1	6:C:303:GLY:N	2.52	0.42
1:5:1805:C:H2'	1:5:1806:A:C8	2.55	0.42
1:5:1807:G:C6	1:5:1808:G:N1	2.88	0.42
1:5:2556:C:C2'	1:5:2557:A:H5'	2.49	0.42
1:5:2650:U:O2'	1:5:2651:G:H5'	2.19	0.42
1:5:2780:A:H4'	14:L:180:ARG:HH22	1.84	0.42
1:5:3185:U:O2	21:S:169:SER:HA	2.19	0.42
1:5:3279:A:C2'	1:5:3280:U:C5'	2.95	0.42
1:5:3346:U:H2'	1:5:3347:A:H8	1.85	0.42
3:8:10:A:C5	3:8:11:C:C4	3.08	0.42
3:8:23:U:O5'	3:8:23:U:H6	2.02	0.42
4:A:119:LYS:HE3	4:A:119:LYS:HB2	1.82	0.42
5:B:217:ALA:HB1	5:B:328:ILE:CG1	2.50	0.42
6:C:93:MET:H	6:C:93:MET:CE	2.16	0.42
6:C:330:TYR:HB2	9:F:45:LEU:CD2	2.48	0.42
6:C:354:VAL:O	6:C:358:THR:HG22	2.19	0.42
7:D:82:GLU:OE1	7:D:108:ARG:NH2	2.48	0.42
7:D:229:ASP:HB3	7:D:231:ILE:CD1	2.50	0.42
8:E:39:VAL:C	8:E:40:LEU:HD23	2.45	0.42
8:E:58:LEU:N	8:E:58:LEU:HD23	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:102:VAL:O	9:F:105:LEU:N	2.52	0.42
10:G:214:LEU:HD12	10:G:214:LEU:HA	1.78	0.42
16:N:91:GLU:O	16:N:93:LYS:HE2	2.19	0.42
16:N:115:VAL:HG22	16:N:134:LEU:CD2	2.48	0.42
17:O:22:VAL:O	17:O:26:GLN:HG2	2.19	0.42
17:O:125:ARG:O	17:O:125:ARG:HG2	2.17	0.42
20:R:89:LEU:HA	20:R:90:PRO:HD2	1.91	0.42
24:V:2:SER:HB2	24:V:56:ASP:HA	2.01	0.42
24:V:17:LEU:HD13	24:V:36:ILE:CD1	2.50	0.42
24:V:86:ARG:HB2	24:V:92:PHE:CZ	2.54	0.42
27:Y:109:LEU:HD23	27:Y:109:LEU:HA	1.82	0.42
33:e:72:LYS:O	33:e:93:ALA:N	2.52	0.42
36:h:67:ARG:HG3	36:h:80:LEU:HD13	2.02	0.42
44:q:28:VAL:HG11	44:q:100:ILE:HD13	2.02	0.42
45:x:415:ASP:O	45:x:419:PHE:HD1	2.02	0.42
46:y:226:THR:HG22	46:y:227:LEU:H	1.85	0.42
1:5:51:A:H2'	1:5:52:A:H8	1.84	0.42
1:5:183:G:C2'	1:5:184:U:O5'	2.67	0.42
1:5:366:A:H2'	1:5:367:A:O4'	2.19	0.42
1:5:634:C:C2'	1:5:635:G:H5'	2.50	0.42
1:5:716:A:C2	29:a:117:ARG:NH1	2.88	0.42
1:5:1149:G:H3'	1:5:1150:A:C5'	2.50	0.42
1:5:2220:A:H2'	1:5:2221:G:O4'	2.19	0.42
1:5:3007:U:O2'	1:5:3008:A:H5'	2.19	0.42
1:5:3373:U:O2'	1:5:3374:U:H5'	2.20	0.42
2:7:106:U:H2'	2:7:107:C:C6	2.54	0.42
3:8:104:A:H3'	3:8:105:A:C5'	2.48	0.42
5:B:33:PRO:HA	5:B:342:LEU:CD2	2.50	0.42
7:D:68:THR:HG22	7:D:69:ILE:N	2.35	0.42
7:D:259:LYS:HG2	7:D:260:PHE:CD2	2.54	0.42
8:E:6:ALA:HA	8:E:7:PRO:HD3	1.80	0.42
9:F:96:PRO:HA	9:F:97:PRO:HD3	1.90	0.42
12:I:77:THR:HG22	12:I:82:ARG:HA	2.02	0.42
16:N:198:SER:C	16:N:199:LEU:HD23	2.45	0.42
22:T:82:ASN:O	30:b:21:ILE:HA	2.20	0.42
30:b:17:HIS:CE1	30:b:21:ILE:HD11	2.54	0.42
35:g:85:VAL:HA	35:g:88:ARG:HB3	2.02	0.42
36:h:55:LEU:HA	36:h:58:ILE:HD12	2.02	0.42
42:o:46:LYS:O	42:o:46:LYS:HG2	2.19	0.42
44:q:24:SER:HB2	44:q:93:LEU:HD21	1.96	0.42
44:q:28:VAL:HA	44:q:186:THR:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:q:89:THR:CG2	44:q:93:LEU:HD23	2.49	0.42
44:q:101:VAL:CG2	44:q:187:VAL:HG23	2.49	0.42
45:x:46:ILE:HG21	45:x:158:MET:CE	2.50	0.42
45:x:66:LEU:HD11	45:x:401:PHE:HE2	1.82	0.42
45:x:536:TRP:CE2	47:z:69:UNK:HB2	2.54	0.42
47:z:120:UNK:C	47:z:123:UNK:HG3	2.49	0.42
1:5:350:C:C5	1:5:367:A:C6	3.08	0.42
1:5:1079:A:H2'	1:5:1080:A:O4'	2.19	0.42
1:5:1178:G:H5'	34:f:18:ARG:HD3	2.01	0.42
1:5:1236:G:H3'	1:5:1237:G:C5'	2.50	0.42
1:5:1570:U:O2'	1:5:1571:A:O4'	2.25	0.42
1:5:2243:A:C4	1:5:2313:A:H2'	2.55	0.42
1:5:2633:U:C2'	1:5:2634:U:H5'	2.50	0.42
1:5:2901:G:O2'	1:5:3024:A:N1	2.52	0.42
1:5:3190:C:H2'	1:5:3191:G:H8	1.85	0.42
2:7:108:A:H2'	2:7:109:G:H8	1.85	0.42
3:8:81:U:O3'	3:8:82:U:H4'	2.19	0.42
5:B:102:LEU:HD23	5:B:102:LEU:H	1.85	0.42
5:B:199:PHE:C	5:B:200:GLU:HG3	2.45	0.42
5:B:232:ARG:HG2	5:B:233:TRP:NE1	2.35	0.42
7:D:208:MET:HB3	7:D:233:ALA:HB2	2.01	0.42
10:G:238:LEU:HD12	10:G:238:LEU:H	1.84	0.42
16:N:172:ARG:CB	16:N:174:ILE:HD13	2.43	0.42
17:O:33:ILE:HG22	17:O:34:VAL:N	2.35	0.42
17:O:188:SER:N	17:O:192:LYS:NZ	2.67	0.42
19:Q:55:SER:O	19:Q:58:ASN:N	2.44	0.42
22:T:27:LEU:HD22	22:T:27:LEU:HA	1.89	0.42
23:U:58:GLU:HG2	23:U:60:GLY:H	1.85	0.42
26:X:82:LEU:HD12	26:X:126:LEU:HD11	2.01	0.42
30:b:9:ALA:O	30:b:12:GLN:HB2	2.20	0.42
32:d:76:SER:OG	32:d:78:LYS:HE3	2.19	0.42
35:g:57:LEU:HG	35:g:62:TYR:CE1	2.55	0.42
36:h:4:VAL:CG2	36:h:50:SER:HA	2.49	0.42
37:i:5:THR:OG1	37:i:13:LYS:HA	2.20	0.42
43:p:54:ILE:C	43:p:54:ILE:CD1	2.93	0.42
44:q:18:TYR:HE2	44:q:52:LEU:HB2	1.83	0.42
45:x:442:TRP:HB3	45:x:496:ILE:HG23	2.02	0.42
45:x:468:LEU:N	45:x:469:PRO:HD2	2.35	0.42
46:y:253:ILE:O	46:y:257:TYR:HD1	2.03	0.42
46:y:353:LYS:HA	46:y:353:LYS:HD3	1.86	0.42
1:5:20:A:H1'	16:N:111:ALA:HB3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:51:A:C4	1:5:52:A:C8	3.08	0.42
1:5:151:A:HO2'	1:5:152:U:P	2.42	0.42
1:5:510:G:C2'	1:5:511:G:H5'	2.49	0.42
1:5:656:A:N6	1:5:1440:G:O6	2.53	0.42
1:5:802:C:O2'	1:5:803:C:H5'	2.19	0.42
1:5:1284:C:HO2'	1:5:1285:G:P	2.31	0.42
1:5:1830:G:N2	3:8:115:C:OP1	2.53	0.42
1:5:2370:G:H2'	1:5:2371:G:C5'	2.50	0.42
1:5:2561:A:O2'	1:5:2562:A:H8	2.02	0.42
1:5:2808:A:H1'	1:5:2809:C:H5'	2.01	0.42
4:A:77:ILE:HD11	4:A:128:ARG:CZ	2.50	0.42
5:B:296:THR:HG22	5:B:298:PHE:N	2.25	0.42
5:B:335:ILE:O	5:B:335:ILE:HG23	2.20	0.42
6:C:222:VAL:HG23	6:C:223:PRO:CD	2.48	0.42
6:C:300:ARG:NH1	6:C:300:ARG:HB3	2.35	0.42
8:E:69:PHE:HA	8:E:74:VAL:O	2.20	0.42
9:F:105:LEU:HD23	9:F:105:LEU:HA	1.69	0.42
11:H:106:LYS:HE3	11:H:107:ASP:N	2.35	0.42
12:I:19:LYS:HA	12:I:23:ASN:HD22	1.85	0.42
12:I:86:HIS:HB3	12:I:139:ARG:HG3	2.01	0.42
13:J:53:THR:HG23	13:J:59:ILE:O	2.20	0.42
13:J:91:LEU:HD12	13:J:163:PHE:CZ	2.55	0.42
14:L:107:GLU:OE1	37:i:17:VAL:HG22	2.19	0.42
16:N:99:ARG:HH21	16:N:166:ALA:HB3	1.84	0.42
18:P:51:VAL:HG22	18:P:57:ALA:HA	2.02	0.42
18:P:61:ARG:HH11	18:P:61:ARG:CG	2.32	0.42
18:P:94:LEU:HD23	18:P:146:ILE:HG22	2.01	0.42
19:Q:57:ILE:HG22	19:Q:58:ASN:N	2.35	0.42
20:R:9:ARG:HA	20:R:19:LYS:CE	2.34	0.42
22:T:14:MET:HE3	22:T:15:PHE:CE2	2.55	0.42
22:T:103:GLN:O	22:T:107:GLU:HG3	2.19	0.42
24:V:11:PHE:CG	24:V:88:ARG:HD2	2.53	0.42
24:V:17:LEU:HD23	24:V:17:LEU:HA	1.84	0.42
25:W:21:PHE:CD1	25:W:22:VAL:N	2.88	0.42
27:Y:32:SER:HB2	27:Y:48:LEU:O	2.19	0.42
27:Y:51:ARG:HG2	27:Y:115:ARG:NH2	2.35	0.42
28:Z:14:VAL:HG12	28:Z:79:HIS:CA	2.49	0.42
31:c:34:LEU:HD23	31:c:59:TYR:CB	2.40	0.42
33:e:43:ARG:O	33:e:43:ARG:HG2	2.20	0.42
34:f:75:HIS:HE1	34:f:82:ARG:HH21	1.67	0.42
37:i:34:SER:O	37:i:38:LYS:HE2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:o:38:GLN:HE21	42:o:38:GLN:CA	2.23	0.42
44:q:79:PHE:CE2	44:q:196:VAL:HG11	2.53	0.42
45:x:426:ILE:HG23	45:x:431:LEU:HB2	2.02	0.42
45:x:468:LEU:H	45:x:468:LEU:HG	1.50	0.42
46:y:157:VAL:HG21	46:y:227:LEU:HD13	2.01	0.42
1:5:38:U:H4'	29:a:32:ARG:HD2	2.02	0.42
1:5:121:A:C2	10:G:108:ARG:NH1	2.88	0.42
1:5:1008:U:H2'	1:5:1009:A:H8	1.85	0.42
1:5:1064:A:H3'	1:5:1064:A:OP2	2.20	0.42
1:5:1246:G:N2	1:5:1264:G:HO2'	2.18	0.42
1:5:1928:G:H2'	1:5:1929:G:O4'	2.19	0.42
1:5:2164:A:H2'	1:5:2165:G:H5'	2.02	0.42
1:5:2200:U:C2	1:5:2201:G:C8	3.07	0.42
1:5:2401:A:C6	46:y:392:LEU:HD11	2.55	0.42
1:5:2590:A:C2'	1:5:2591:A:H5'	2.49	0.42
1:5:2675:C:N4	13:J:22:SER:CB	2.79	0.42
1:5:3004:C:O2'	5:B:99:LEU:O	2.34	0.42
1:5:3188:G:C2	1:5:3189:G:C8	3.08	0.42
1:5:3197:G:H2'	1:5:3198:U:H3'	2.01	0.42
1:5:3257:C:H2'	1:5:3258:U:C6	2.55	0.42
2:7:3:U:O2'	2:7:4:U:H5'	2.19	0.42
6:C:202:ARG:HA	6:C:202:ARG:HE	1.81	0.42
7:D:148:ILE:HD12	7:D:148:ILE:HA	1.88	0.42
8:E:46:ARG:CG	8:E:46:ARG:NH1	2.56	0.42
9:F:169:ILE:HD12	9:F:181:ILE:HA	2.02	0.42
12:I:97:LEU:O	12:I:122:PRO:HA	2.19	0.42
12:I:187:ALA:HB1	12:I:189:GLU:HG3	2.00	0.42
14:L:140:SER:O	14:L:141:ALA:HB3	2.20	0.42
17:O:111:PRO:HG2	17:O:112:TYR:CD2	2.54	0.42
18:P:159:LYS:O	18:P:159:LYS:HG3	2.19	0.42
19:Q:68:ALA:HB2	19:Q:96:PHE:HD2	1.84	0.42
22:T:64:VAL:HG13	22:T:73:GLY:O	2.20	0.42
25:W:23:ARG:HG2	25:W:24:GLY:H	1.84	0.42
28:Z:49:TYR:HB3	28:Z:50:PRO:HD2	2.01	0.42
28:Z:84:ARG:NE	35:g:97:GLU:OE1	2.49	0.42
34:f:70:LYS:HE2	34:f:70:LYS:HB3	1.86	0.42
40:l:2:ALA:O	40:l:3:ALA:HB3	2.20	0.42
43:p:22:LEU:N	43:p:22:LEU:HD23	2.33	0.42
45:x:189:ILE:HG22	45:x:190:ALA:N	2.33	0.42
45:x:436:PRO:HB2	45:x:438:GLN:NE2	2.35	0.42
1:5:36:C:H2'	1:5:37:U:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:137:G:C4	1:5:138:U:C5	3.08	0.41
1:5:595:G:H2'	1:5:596:C:C6	2.55	0.41
1:5:795:G:O2'	1:5:796:U:H5'	2.20	0.41
1:5:814:U:H5'	38:j:45:ARG:NH1	2.18	0.41
1:5:904:A:H2	4:A:15:ILE:HD11	1.85	0.41
1:5:1067:U:H2'	1:5:1068:C:C6	2.55	0.41
1:5:1498:A:C2	1:5:1519:G:C2	3.08	0.41
1:5:1773:C:H2'	1:5:1774:C:H6	1.85	0.41
1:5:1844:C:H6	1:5:1844:C:O5'	2.04	0.41
1:5:1898:G:O2'	1:5:1899:G:H5'	2.20	0.41
1:5:2375:G:N2	1:5:2377:G:C8	2.84	0.41
1:5:2519:A:O2'	1:5:2520:A:H5'	2.21	0.41
1:5:2541:U:O2	1:5:2543:U:H5	2.02	0.41
1:5:2630:C:C5	22:T:4:SER:HB2	2.54	0.41
1:5:2645:G:C6	1:5:2646:C:C4	3.08	0.41
1:5:2689:A:H2'	1:5:2689:A:N3	2.34	0.41
1:5:2836:C:H5	1:5:2852:C:H42	1.67	0.41
1:5:3173:G:OP2	17:O:101:ARG:HD3	2.20	0.41
1:5:3365:U:H2'	1:5:3366:G:H8	1.85	0.41
5:B:287:LYS:NZ	5:B:287:LYS:CB	2.83	0.41
11:H:13:PRO:O	11:H:16:VAL:HG22	2.19	0.41
13:J:133:ARG:HH12	13:J:154:THR:HA	1.85	0.41
15:M:15:VAL:HG13	21:S:150:PHE:O	2.19	0.41
16:N:190:THR:HG23	16:N:191:TRP:N	2.35	0.41
18:P:22:LEU:HD12	18:P:146:ILE:HD12	2.02	0.41
19:Q:2:GLY:C	19:Q:3:ILE:HD13	2.45	0.41
20:R:133:LYS:NZ	20:R:133:LYS:HB3	2.35	0.41
22:T:144:GLU:C	22:T:146:ASN:H	2.27	0.41
24:V:26:ALA:O	24:V:115:THR:N	2.44	0.41
29:a:112:ILE:HD13	29:a:112:ILE:HA	1.85	0.41
34:f:73:ARG:HD3	34:f:82:ARG:HH11	1.85	0.41
42:o:23:HIS:NE2	42:o:74:CYS:HB2	2.34	0.41
1:5:640:U:OP2	33:e:37:GLY:HA2	2.21	0.41
1:5:768:C:H2'	1:5:769:G:H8	1.85	0.41
1:5:859:G:C6	1:5:861:C:C4	3.09	0.41
1:5:947:G:H2'	1:5:948:C:C6	2.55	0.41
1:5:1467:A:H4'	1:5:1468:A:OP1	2.19	0.41
1:5:1503:A:C2	46:y:363:TRP:CG	3.08	0.41
1:5:1626:U:H3	1:5:1817:G:H1	1.68	0.41
1:5:1631:C:H5''	1:5:1632:A:C5'	2.50	0.41
1:5:2177:G:OP2	4:A:128:ARG:NH1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2247:G:N2	1:5:2271:A:C2	2.84	0.41
1:5:2407:C:H2'	1:5:2408:U:C6	2.56	0.41
1:5:2513:U:C4'	1:5:2514:U:OP1	2.68	0.41
1:5:2727:A:OP2	1:5:2728:G:N2	2.46	0.41
1:5:2770:G:N2	1:5:2789:U:C2	2.88	0.41
1:5:3294:A:H2'	1:5:3295:A:O4'	2.20	0.41
3:8:66:A:C4	3:8:67:U:C5	3.08	0.41
3:8:89:A:H5''	3:8:90:U:OP2	2.19	0.41
4:A:196:TRP:CZ3	4:A:197:PRO:HG3	2.55	0.41
5:B:139:GLN:HE22	5:B:143:GLY:HA3	1.85	0.41
5:B:306:THR:HG23	5:B:310:GLY:HA2	2.00	0.41
7:D:270:LYS:CG	7:D:273:ARG:HH21	2.30	0.41
11:H:12:VAL:HG12	11:H:16:VAL:HG23	2.01	0.41
13:J:46:VAL:O	13:J:67:VAL:HA	2.20	0.41
13:J:91:LEU:O	13:J:172:LEU:HG	2.20	0.41
14:L:59:ARG:NE	14:L:69:VAL:HG23	2.35	0.41
14:L:107:GLU:CD	14:L:107:GLU:H	2.25	0.41
17:O:43:ILE:HG22	17:O:44:SER:N	2.35	0.41
18:P:182:ILE:O	18:P:182:ILE:HG22	2.20	0.41
19:Q:124:LEU:O	19:Q:127:LEU:HB3	2.20	0.41
22:T:32:LYS:NZ	22:T:98:HIS:H	2.19	0.41
23:U:90:ARG:NH2	46:y:316:ARG:NH1	2.68	0.41
24:V:80:ARG:O	24:V:98:ASN:HA	2.20	0.41
28:Z:100:THR:HA	28:Z:106:GLN:HE21	1.84	0.41
28:Z:136:PHE:CE2	35:g:76:TYR:HE2	2.38	0.41
30:b:5:LYS:CE	30:b:8:THR:HG21	2.50	0.41
33:e:41:VAL:HG23	33:e:42:VAL:N	2.35	0.41
39:k:65:LEU:HD23	39:k:65:LEU:O	2.20	0.41
44:q:45:LEU:HD11	44:q:100:ILE:HD11	2.01	0.41
45:x:104:TRP:NE1	45:x:106:PRO:CG	2.82	0.41
47:z:97:UNK:O	47:z:100:UNK:HG3	2.21	0.41
1:5:177:U:C4	1:5:178:U:C4	3.08	0.41
1:5:259:C:C2	1:5:260:C:C5	3.08	0.41
1:5:628:A:H2'	1:5:629:U:O4'	2.20	0.41
1:5:964:G:C2	1:5:965:A:C4	3.08	0.41
1:5:970:A:C2	1:5:971:G:C4	3.09	0.41
1:5:1121:U:C4	1:5:1122:U:C4	3.08	0.41
1:5:1240:A:C2'	1:5:1241:U:H5'	2.50	0.41
1:5:1475:A:C2'	1:5:1476:G:H5'	2.50	0.41
1:5:1614:C:O2'	1:5:1615:C:H5'	2.20	0.41
1:5:1718:G:OP1	20:R:118:HIS:ND1	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:2097:U:H2'	1:5:2098:C:C6	2.54	0.41
1:5:2176:U:H2'	1:5:2177:G:H5'	2.01	0.41
1:5:2276:G:C6	1:5:2311:G:N2	2.86	0.41
1:5:3119:U:O5'	1:5:3119:U:H6	2.02	0.41
2:7:98:C:H5'	9:F:224:ILE:HD12	2.01	0.41
3:8:5:U:H2'	3:8:6:U:H6	1.84	0.41
3:8:19:C:O2'	3:8:20:U:H5'	2.20	0.41
3:8:80:A:P	36:h:2:ALA:HB2	2.60	0.41
4:A:32:LEU:HD23	4:A:33:ASP:N	2.35	0.41
4:A:118:GLU:OE2	4:A:126:LEU:HD21	2.20	0.41
5:B:286:GLY:HA3	5:B:321:PHE:CD2	2.55	0.41
6:C:140:HIS:HB2	6:C:142:VAL:HG22	2.01	0.41
6:C:179:LEU:CD1	6:C:183:LYS:HG3	2.49	0.41
11:H:92:TYR:CD1	11:H:142:ASP:HB3	2.55	0.41
12:I:16:PRO:HA	12:I:95:HIS:ND1	2.35	0.41
12:I:99:ILE:HD12	12:I:99:ILE:O	2.21	0.41
16:N:154:PRO:CA	16:N:157:LYS:HE3	2.50	0.41
19:Q:101:VAL:HG21	19:Q:114:ILE:HD13	2.01	0.41
20:R:64:ARG:HA	20:R:67:ALA:HB3	2.02	0.41
20:R:153:LYS:HB2	20:R:153:LYS:NZ	2.35	0.41
23:U:81:LYS:HB2	23:U:81:LYS:HE3	1.88	0.41
31:c:77:LEU:O	31:c:80:ALA:HB3	2.20	0.41
33:e:13:HIS:CE1	33:e:15:LYS:HB2	2.55	0.41
45:x:68:THR:O	45:x:72:ILE:HG13	2.20	0.41
45:x:193:THR:CG2	45:x:226:ILE:HG21	2.50	0.41
45:x:522:LEU:HD23	45:x:569:LEU:HD22	2.02	0.41
45:x:535:SER:O	45:x:537:ILE:HG13	2.20	0.41
1:5:81:C:H2'	1:5:82:C:C6	2.56	0.41
1:5:92:G:H5'	1:5:93:C:H5''	2.02	0.41
1:5:117:U:H3	10:G:147:LYS:HZ1	1.66	0.41
1:5:232:G:C2'	1:5:233:C:H5'	2.51	0.41
1:5:501:A:O2'	1:5:502:U:H5'	2.21	0.41
1:5:607:A:H4'	1:5:608:A:OP2	2.20	0.41
1:5:636:C:O2	1:5:646:A:H1'	2.20	0.41
1:5:803:C:O2'	1:5:804:C:H5'	2.19	0.41
1:5:805:G:O2'	6:C:73:ARG:HD2	2.20	0.41
1:5:1084:A:H4'	7:D:44:TYR:CE1	2.55	0.41
1:5:2157:G:C5	4:A:150:LEU:HD13	2.55	0.41
1:5:2283:G:C2	1:5:2307:G:H5'	2.55	0.41
1:5:2369:G:N2	1:5:2379:U:C2	2.89	0.41
1:5:2584:G:C5'	1:5:2585:G:OP2	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:3139:A:C2'	1:5:3140:G:H5'	2.50	0.41
2:7:95:A:C2'	2:7:96:U:H5'	2.50	0.41
4:A:90:ALA:HB1	4:A:101:VAL:HG13	2.00	0.41
5:B:208:VAL:HG12	5:B:209:PHE:N	2.33	0.41
5:B:324:VAL:HG12	5:B:325:LYS:N	2.35	0.41
6:C:138:ARG:HH21	6:C:240:PRO:HG2	1.85	0.41
6:C:313:LEU:HD23	6:C:314:LYS:N	2.35	0.41
7:D:122:VAL:CG2	7:D:168:ASP:HA	2.50	0.41
7:D:146:LEU:HD23	7:D:146:LEU:HA	1.66	0.41
9:F:34:LYS:HD3	9:F:34:LYS:HA	1.57	0.41
17:O:193:GLN:O	17:O:197:LEU:HD12	2.20	0.41
20:R:136:ARG:O	20:R:140:GLU:HG3	2.20	0.41
26:X:109:LYS:NZ	26:X:109:LYS:HB2	2.35	0.41
28:Z:11:ALA:CB	28:Z:82:PRO:HA	2.50	0.41
31:c:13:LYS:NZ	31:c:103:THR:HG21	2.36	0.41
31:c:51:LEU:HD23	35:g:87:GLU:HG3	2.02	0.41
45:x:133:LEU:HB3	45:x:160:ILE:HD13	2.02	0.41
45:x:147:ILE:HD12	45:x:147:ILE:N	2.35	0.41
1:5:155:G:O4'	1:5:157:A:H1'	2.21	0.41
1:5:279:U:O2'	1:5:280:U:H5'	2.20	0.41
1:5:340:C:N4	1:5:341:G:O6	2.53	0.41
1:5:625:G:C2	1:5:626:U:C2	3.09	0.41
1:5:633:C:H1'	34:f:23:ASN:HD22	1.80	0.41
1:5:670:C:OP1	19:Q:147:ARG:NH2	2.54	0.41
1:5:906:A:OP1	1:5:906:A:H3'	2.20	0.41
1:5:1259:A:O2'	1:5:1260:A:H5'	2.20	0.41
1:5:1495:U:H1'	40:l:44:TRP:CZ2	2.56	0.41
1:5:1556:C:H2'	1:5:2169:G:H1	1.84	0.41
1:5:2528:G:H2'	1:5:2529:A:O4'	2.19	0.41
1:5:2661:G:O2'	1:5:2662:G:H5'	2.20	0.41
2:7:92:A:N3	2:7:92:A:H2'	2.34	0.41
2:7:97:A:H4'	9:F:224:ILE:CG2	2.47	0.41
3:8:83:C:H41	27:Y:113:LYS:NZ	2.18	0.41
6:C:178:LEU:HD21	6:C:225:VAL:HG21	2.02	0.41
6:C:212:ASP:OD1	6:C:216:VAL:HG23	2.21	0.41
11:H:69:ARG:NH1	11:H:72:LYS:CD	2.82	0.41
14:L:50:PRO:HB3	36:h:118:ILE:HD12	2.03	0.41
16:N:33:LYS:HB2	16:N:37:HIS:CE1	2.56	0.41
18:P:94:LEU:HD23	18:P:146:ILE:CG2	2.50	0.41
19:Q:62:VAL:CG2	19:Q:83:VAL:HG11	2.50	0.41
19:Q:96:PHE:HA	19:Q:97:PRO:HD2	1.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:W:23:ARG:HB3	25:W:27:LYS:HB3	2.01	0.41
26:X:133:LEU:HD22	26:X:133:LEU:C	2.46	0.41
29:a:112:ILE:C	29:a:113:LEU:HD23	2.46	0.41
36:h:19:SER:O	36:h:22:VAL:HB	2.20	0.41
37:i:45:ARG:NH1	37:i:45:ARG:CG	2.84	0.41
41:m:77:ILE:O	41:m:78:ILE:HG22	2.20	0.41
44:q:41:VAL:O	44:q:41:VAL:HG12	2.20	0.41
45:x:263:GLU:N	45:x:301:VAL:HB	2.35	0.41
46:y:195:LYS:HB3	46:y:196:TYR:CE1	2.55	0.41
46:y:356:VAL:O	46:y:360:GLN:HB2	2.19	0.41
1:5:283:G:H3'	1:5:283:G:N3	2.35	0.41
1:5:284:A:O4'	42:o:41:ARG:HD3	2.21	0.41
1:5:692:A:O2'	1:5:693:A:H5'	2.20	0.41
1:5:1192:C:N4	1:5:1302:A:P	2.93	0.41
1:5:1784:G:C4'	35:g:19:LYS:HD2	2.51	0.41
1:5:1841:A:O2'	1:5:1842:A:H5''	2.19	0.41
1:5:2248:C:O2'	1:5:2272:G:H1'	2.21	0.41
1:5:3015:G:H2'	1:5:3016:A:C8	2.54	0.41
1:5:3040:A:OP1	24:V:12:ARG:HB3	2.19	0.41
1:5:3124:G:H2'	1:5:3125:U:O4'	2.20	0.41
1:5:3242:G:H5''	1:5:3245:A:C8	2.50	0.41
1:5:3285:C:C2'	1:5:3286:G:H5''	2.46	0.41
3:8:44:A:H2'	3:8:45:C:C6	2.56	0.41
3:8:46:G:N2	3:8:58:G:C5	2.89	0.41
5:B:109:HIS:O	5:B:110:LEU:HD12	2.20	0.41
5:B:296:THR:HG22	5:B:298:PHE:HD2	1.86	0.41
6:C:22:LEU:HD23	6:C:23:PRO:CD	2.51	0.41
6:C:130:ALA:CB	6:C:149:PRO:HG3	2.51	0.41
6:C:191:LYS:C	6:C:193:LYS:H	2.28	0.41
7:D:105:ILE:O	7:D:109:THR:OG1	2.37	0.41
7:D:279:LYS:HG2	7:D:280:GLU:OE2	2.21	0.41
10:G:93:LEU:HD22	10:G:214:LEU:HD23	2.02	0.41
10:G:134:TYR:CG	10:G:190:VAL:HG11	2.56	0.41
10:G:182:GLY:C	10:G:184:ALA:N	2.74	0.41
12:I:57:LEU:HD23	12:I:130:ASP:OD1	2.21	0.41
15:M:59:ASN:OD1	15:M:60:LEU:N	2.54	0.41
16:N:23:GLN:HG2	16:N:122:ASN:OD1	2.21	0.41
24:V:125:LEU:HA	24:V:125:LEU:HD12	1.75	0.41
27:Y:23:PRO:O	27:Y:27:ARG:HG3	2.21	0.41
34:f:11:GLY:O	34:f:98:VAL:N	2.44	0.41
35:g:74:ARG:NH1	35:g:82:ALA:CB	2.80	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:h:23:ASP:HA	36:h:26:LYS:HG3	2.03	0.41
42:o:66:LYS:HB2	42:o:66:LYS:HE3	1.75	0.41
43:p:10:ILE:HG22	43:p:27:LYS:HG3	2.01	0.41
45:x:133:LEU:HD13	45:x:160:ILE:CD1	2.50	0.41
45:x:331:LYS:CE	45:x:444:PRO:CB	2.93	0.41
46:y:187:HIS:CB	46:y:240:CYS:SG	3.09	0.41
47:z:150:UNK:HA	47:z:153:UNK:CG	2.50	0.41
1:5:11:A:H1'	1:5:1558:A:C6	2.54	0.41
1:5:171:G:H5'	1:5:172:G:OP2	2.21	0.41
1:5:183:G:O2'	1:5:184:U:P	2.79	0.41
1:5:342:A:N1	1:5:349:A:O2'	2.47	0.41
1:5:527:A:H2'	1:5:528:U:O4'	2.21	0.41
1:5:620:U:H4'	1:5:621:A:O5'	2.21	0.41
1:5:884:A:OP2	38:j:4:GLY:HA3	2.19	0.41
1:5:1139:G:C2	1:5:1140:G:C4	3.09	0.41
1:5:1572:U:O2	1:5:1573:G:N7	2.54	0.41
1:5:2128:C:C5	1:5:2129:U:C4	3.09	0.41
1:5:2391:G:N2	1:5:2989:U:C2	2.89	0.41
1:5:2407:C:H1'	1:5:2818:U:C2	2.56	0.41
1:5:2531:C:H2'	1:5:2532:U:H5'	2.01	0.41
1:5:2952:G:O2'	1:5:2953:U:H5'	2.21	0.41
1:5:3111:U:OP1	11:H:184:LYS:NZ	2.54	0.41
1:5:3147:G:H4'	5:B:102:LEU:O	2.19	0.41
1:5:3341:U:H4'	1:5:3342:A:OP1	2.17	0.41
3:8:155:A:H5''	10:G:185:ARG:NH1	2.35	0.41
4:A:60:LYS:HG2	4:A:75:ILE:HG12	2.02	0.41
5:B:87:VAL:CG1	5:B:163:HIS:HD2	2.34	0.41
5:B:271:GLY:H	5:B:273:HIS:CE1	2.39	0.41
5:B:281:LYS:HE2	5:B:281:LYS:HB2	1.94	0.41
6:C:141:ARG:NH1	6:C:180:LYS:HD2	2.35	0.41
9:F:184:LEU:HD23	9:F:184:LEU:HA	1.84	0.41
9:F:222:HIS:ND1	9:F:223:PHE:N	2.69	0.41
14:L:144:THR:C	14:L:146:PRO:HD3	2.46	0.41
16:N:15:GLN:HA	16:N:20:ARG:HD3	2.03	0.41
16:N:183:THR:O	16:N:184:LYS:HB3	2.19	0.41
17:O:113:ASP:O	17:O:117:ARG:NH1	2.45	0.41
24:V:129:VAL:O	24:V:133:SER:OG	2.36	0.41
25:W:39:LEU:HD12	25:W:39:LEU:HA	1.66	0.41
29:a:123:VAL:HG12	29:a:124:ILE:N	2.35	0.41
31:c:92:ILE:HD13	31:c:92:ILE:N	2.36	0.41
35:g:80:ARG:HA	35:g:80:ARG:HD3	1.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:h:92:LEU:N	36:h:92:LEU:HD23	2.36	0.41
37:i:21:THR:O	37:i:21:THR:HG23	2.20	0.41
38:j:8:PHE:O	38:j:11:ARG:HD3	2.20	0.41
45:x:5:ILE:HG13	46:y:340:VAL:CG1	2.50	0.41
45:x:20:LEU:HD23	45:x:20:LEU:HA	1.76	0.41
45:x:208:PRO:CG	45:x:556:LEU:HB2	2.51	0.41
47:z:151:UNK:HA	47:z:154:UNK:CG	2.49	0.41
1:5:428:A:H2'	1:5:429:U:C6	2.56	0.41
1:5:656:A:C6	1:5:1440:G:C6	3.09	0.41
1:5:767:U:H1'	1:5:768:C:C6	2.56	0.41
1:5:895:A:C2	1:5:897:U:C2	3.08	0.41
1:5:1580:A:H2'	1:5:1580:A:N3	2.36	0.41
1:5:1661:G:C2	1:5:1789:G:N3	2.89	0.41
1:5:2219:A:O2'	1:5:2220:A:H5'	2.21	0.41
1:5:2554:A:H3'	35:g:91:ARG:NH1	2.36	0.41
1:5:3178:A:P	17:O:5:PRO:HG3	2.60	0.41
1:5:3209:A:H2'	1:5:3209:A:N3	2.36	0.41
1:5:3216:G:O6	1:5:3259:U:H2'	2.21	0.41
1:5:3316:A:OP2	5:B:123:TYR:HB2	2.20	0.41
3:8:11:C:H2'	3:8:12:A:C8	2.55	0.41
3:8:59:A:C2	3:8:100:U:H1'	2.56	0.41
4:A:90:ALA:HB2	4:A:101:VAL:HG13	2.02	0.41
5:B:13:HIS:ND1	5:B:16:PHE:HD1	2.19	0.41
6:C:300:ARG:HG2	6:C:300:ARG:NH1	2.14	0.41
6:C:300:ARG:NH1	6:C:300:ARG:CB	2.84	0.41
8:E:141:VAL:HG12	8:E:142:ASP:OD1	2.20	0.41
9:F:147:LEU:HD23	9:F:147:LEU:HA	1.73	0.41
10:G:164:VAL:HG23	10:G:165:PHE:N	2.36	0.41
14:L:67:ARG:HH22	29:a:108:GLY:CA	2.32	0.41
17:O:143:THR:HG22	17:O:144:SER:N	2.36	0.41
18:P:182:ILE:O	18:P:182:ILE:CG2	2.69	0.41
20:R:115:ILE:CA	20:R:146:LYS:HZ1	2.32	0.41
21:S:104:GLU:O	21:S:108:GLN:HG2	2.20	0.41
21:S:166:LYS:HG3	21:S:167:ARG:H	1.83	0.41
24:V:79:VAL:CB	24:V:118:VAL:HG13	2.43	0.41
26:X:73:MET:HA	26:X:73:MET:HE3	2.03	0.41
28:Z:48:ARG:NH1	28:Z:48:ARG:CB	2.81	0.41
32:d:11:GLU:O	32:d:106:THR:HA	2.21	0.41
32:d:68:GLU:HG3	32:d:69:TYR:H	1.86	0.41
34:f:73:ARG:HD3	34:f:82:ARG:NH1	2.36	0.41
36:h:119:LYS:CE	36:h:119:LYS:CA	2.98	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:m:103:LEU:HB3	41:m:104:PRO:CD	2.50	0.41
44:q:25:LEU:HB3	44:q:191:TYR:HD2	1.86	0.41
45:x:70:SER:OG	45:x:400:PRO:O	2.39	0.41
45:x:191:MET:HE1	45:x:319:ILE:CG2	2.44	0.41
46:y:166:PHE:HE1	46:y:183:MET:CE	2.33	0.41
1:5:69:C:O2'	1:5:101:G:O2'	2.20	0.41
1:5:626:U:C4	1:5:627:U:C4	3.08	0.41
1:5:828:A:H2'	1:5:829:U:C6	2.56	0.41
1:5:832:G:N2	1:5:833:G:H1'	2.36	0.41
1:5:902:G:C5	1:5:903:U:C5	3.09	0.41
1:5:912:G:C6	1:5:914:A:N1	2.88	0.41
1:5:929:A:H2'	1:5:930:U:C6	2.56	0.41
1:5:986:U:H2'	1:5:987:U:H6	1.86	0.41
1:5:1165:A:O2'	1:5:1166:G:H5'	2.20	0.41
1:5:1296:C:O2'	1:5:1297:C:H5'	2.21	0.41
1:5:1488:G:O2'	35:g:10:ARG:O	2.38	0.41
1:5:1687:U:P	23:U:42:LYS:HZ1	2.41	0.41
1:5:1811:G:C6	1:5:1812:G:C6	3.09	0.41
1:5:2107:A:H2'	1:5:2108:C:C6	2.55	0.41
1:5:2114:C:H3'	1:5:2114:C:C6	2.56	0.41
1:5:2295:A:C2	24:V:37:ILE:HD12	2.56	0.41
1:5:2340:U:OP2	5:B:236:LYS:HD3	2.21	0.41
1:5:2536:A:C2	1:5:2544:U:C4	3.09	0.41
1:5:2584:G:O3'	1:5:2585:G:H4'	2.21	0.41
1:5:2610:G:OP1	1:5:2610:G:H4'	2.21	0.41
1:5:2720:G:OP2	19:Q:180:ARG:NH2	2.54	0.41
1:5:2741:C:H2'	1:5:2742:C:O4'	2.21	0.41
1:5:2746:A:H5'	7:D:178:ASN:HD21	1.85	0.41
1:5:3067:C:H3'	20:R:62:ARG:HH21	1.86	0.41
1:5:3280:U:O2'	1:5:3281:U:P	2.79	0.41
1:5:3325:G:O2'	1:5:3326:G:H5'	2.21	0.41
1:5:3369:G:N2	5:B:380:MET:O	2.54	0.41
2:7:60:G:H2'	2:7:61:G:H8	1.86	0.41
3:8:68:G:C2	3:8:92:A:C2	3.09	0.41
3:8:78:G:H5''	3:8:79:A:OP2	2.21	0.41
3:8:103:G:C6	3:8:105:A:C6	3.09	0.41
3:8:131:A:H2'	3:8:132:G:H8	1.85	0.41
4:A:128:ARG:HA	4:A:169:ILE:HD13	2.03	0.41
6:C:267:VAL:HG22	6:C:268:ALA:O	2.21	0.41
6:C:357:GLU:O	6:C:361:HIS:HB2	2.21	0.41
7:D:5:LYS:HA	7:D:5:LYS:CE	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:F:106:LEU:HA	9:F:106:LEU:HD23	1.82	0.41
10:G:34:PHE:HZ	10:G:42:PRO:HB3	1.84	0.41
10:G:158:ASP:HA	10:G:159:PRO:C	2.45	0.41
10:G:247:ASP:C	10:G:248:LYS:NZ	2.78	0.41
11:H:48:VAL:CG2	11:H:54:LYS:HE3	2.51	0.41
14:L:49:ARG:HA	14:L:50:PRO:HD2	1.83	0.41
14:L:190:LYS:HB3	14:L:190:LYS:HE3	1.68	0.41
16:N:114:ARG:NH1	16:N:114:ARG:CG	2.76	0.41
17:O:84:LEU:HD23	17:O:84:LEU:O	2.21	0.41
17:O:102:LEU:C	17:O:103:LYS:HG3	2.45	0.41
18:P:23:ARG:O	18:P:24:VAL:HG13	2.21	0.41
18:P:167:ARG:HB2	34:f:60:ARG:HH11	1.85	0.41
19:Q:81:VAL:HG11	19:Q:101:VAL:HG22	2.03	0.41
19:Q:115:VAL:HG12	19:Q:116:LYS:N	2.36	0.41
21:S:9:VAL:HG11	21:S:41:TYR:CB	2.51	0.41
21:S:71:LYS:HG3	21:S:72:VAL:N	2.36	0.41
21:S:103:VAL:HG12	21:S:104:GLU:N	2.36	0.41
23:U:62:VAL:HG13	23:U:63:VAL:N	2.35	0.41
27:Y:79:ALA:HA	27:Y:99:LEU:O	2.20	0.41
29:a:119:PRO:C	29:a:121:VAL:H	2.28	0.41
30:b:36:ASP:HA	30:b:37:PRO:HD3	1.93	0.41
31:c:40:LYS:C	31:c:65:THR:HG23	2.46	0.41
31:c:99:ASP:HB2	31:c:103:THR:HG23	2.01	0.41
33:e:95:GLU:HG3	33:e:121:ASN:OD1	2.21	0.41
35:g:23:VAL:CG1	35:g:24:LYS:N	2.81	0.41
35:g:82:ALA:O	35:g:85:VAL:HG22	2.20	0.41
37:i:9:ILE:HD13	37:i:10:GLY:N	2.36	0.41
37:i:34:SER:O	37:i:38:LYS:HB2	2.21	0.41
38:j:18:LEU:HD11	40:l:12:LYS:HD2	2.03	0.41
39:k:14:LEU:HD21	39:k:17:ARG:CZ	2.51	0.41
40:l:23:LEU:HA	40:l:24:PRO:HD3	1.94	0.41
42:o:10:THR:HG23	42:o:11:TYR:N	2.36	0.41
45:x:224:ARG:NH1	45:x:306:SER:CB	2.83	0.41
45:x:228:ASP:OD1	45:x:269:TRP:HZ3	2.03	0.41
46:y:216:ILE:HG22	46:y:217:CYS:N	2.36	0.41
46:y:348:LEU:H	46:y:349:PRO:HD3	1.85	0.41
1:5:110:G:OP2	14:L:73:ARG:NH1	2.49	0.41
1:5:204:A:H2'	1:5:205:C:O4'	2.20	0.41
1:5:992:A:O2'	22:T:58:GLN:HG3	2.20	0.41
1:5:1151:U:H5''	1:5:1152:G:OP2	2.21	0.41
1:5:1297:C:H2'	1:5:1298:C:H6	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1713:G:C2	1:5:1730:G:N3	2.88	0.41
1:5:1799:A:C2	1:5:1800:A:C5	3.09	0.41
1:5:2542:U:HO2'	1:5:2543:U:P	2.44	0.41
1:5:3069:G:C2	1:5:3070:A:C8	3.09	0.41
2:7:22:A:H3'	2:7:23:A:H8	1.86	0.41
2:7:42:A:C2	2:7:43:U:C6	3.09	0.41
2:7:55:A:H1'	13:J:10:ARG:HB3	2.03	0.41
4:A:44:ILE:HD13	4:A:62:VAL:CG1	2.47	0.41
5:B:334:ARG:HE	5:B:334:ARG:HB2	1.74	0.41
6:C:145:ILE:HD12	6:C:147:GLU:O	2.21	0.41
6:C:299:ILE:HG22	6:C:300:ARG:N	2.36	0.41
7:D:263:GLU:HA	7:D:266:ALA:HB3	2.02	0.41
9:F:102:VAL:O	9:F:105:LEU:HB2	2.21	0.41
10:G:184:ALA:HA	10:G:194:THR:HG22	2.03	0.41
11:H:112:ILE:HG13	11:H:126:VAL:O	2.21	0.41
12:I:32:ARG:HD2	12:I:32:ARG:HA	1.91	0.41
12:I:164:LYS:HE2	12:I:164:LYS:HB3	1.84	0.41
13:J:133:ARG:HB3	13:J:134:PRO:HD2	2.03	0.41
14:L:27:ASP:OD2	14:L:27:ASP:N	2.26	0.41
17:O:67:THR:CG2	17:O:68:ARG:N	2.82	0.41
18:P:126:ARG:CZ	18:P:138:LYS:HB3	2.50	0.41
22:T:51:GLY:HA3	22:T:92:ARG:CG	2.48	0.41
22:T:82:ASN:O	30:b:21:ILE:HG23	2.21	0.41
28:Z:61:LYS:O	28:Z:65:ARG:HG2	2.21	0.41
29:a:65:GLN:O	29:a:66:ALA:CB	2.69	0.41
32:d:44:MET:HE1	32:d:75:ILE:HG21	2.02	0.41
37:i:15:LYS:HB2	37:i:15:LYS:HE2	1.88	0.41
44:q:105:VAL:O	44:q:105:VAL:HG13	2.21	0.41
45:x:33:GLN:O	45:x:37:THR:N	2.31	0.41
45:x:278:LEU:HD21	47:z:94:UNK:HB1	2.03	0.41
45:x:423:MET:O	45:x:427:SER:OG	2.34	0.41
45:x:483:ILE:H	45:x:483:ILE:HG13	1.61	0.41
46:y:244:TYR:CE1	46:y:250:ARG:HG2	2.55	0.41
1:5:6:A:C5	1:5:7:C:C5	3.09	0.40
1:5:229:G:H2'	1:5:230:U:H6	1.85	0.40
1:5:258:G:H2'	1:5:259:C:H6	1.86	0.40
1:5:604:G:H2'	1:5:605:U:C6	2.56	0.40
1:5:710:A:O2'	1:5:711:A:H5'	2.21	0.40
1:5:787:G:OP1	19:Q:148:GLU:N	2.45	0.40
1:5:915:A:H8	1:5:2136:C:O2'	2.03	0.40
1:5:971:G:C2'	1:5:972:A:H5'	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1008:U:H2'	1:5:1009:A:C8	2.56	0.40
1:5:1221:A:H2	44:q:11:TYR:HD1	1.69	0.40
1:5:1340:G:N3	1:5:1365:G:C2	2.89	0.40
1:5:1477:A:H2'	1:5:1478:C:H6	1.86	0.40
1:5:1813:A:C3'	1:5:1814:A:H5''	2.51	0.40
1:5:2233:A:H1'	1:5:2428:U:H1'	2.02	0.40
1:5:2355:G:H4'	18:P:139:TYR:CZ	2.56	0.40
1:5:2748:A:H4'	7:D:145:PHE:CD1	2.56	0.40
1:5:2795:U:H4'	42:o:60:LYS:HB3	2.03	0.40
1:5:2806:U:H2'	1:5:2807:U:H5'	2.02	0.40
1:5:2845:A:H3'	1:5:2846:U:C6	2.56	0.40
1:5:3072:C:H2'	1:5:3073:A:O4'	2.21	0.40
1:5:3105:U:OP2	1:5:3128:G:N1	2.43	0.40
3:8:15:G:C6	3:8:16:G:C6	3.09	0.40
4:A:15:ILE:HA	4:A:15:ILE:HD12	1.60	0.40
5:B:4:ARG:HG3	5:B:4:ARG:HH11	1.86	0.40
7:D:34:LYS:HD3	7:D:35:ARG:HE	1.86	0.40
9:F:103:LEU:HD23	9:F:130:ILE:HD11	2.03	0.40
12:I:182:LEU:HA	12:I:182:LEU:HD23	1.73	0.40
12:I:182:LEU:HD21	12:I:185:ARG:HH11	1.86	0.40
14:L:180:ARG:CD	37:i:11:LEU:HD21	2.51	0.40
17:O:46:GLU:HB3	17:O:134:LYS:HD3	2.02	0.40
17:O:124:LEU:HD23	17:O:127:LEU:HD12	2.02	0.40
18:P:67:ILE:HG22	18:P:68:GLY:N	2.36	0.40
18:P:103:GLU:OE1	18:P:109:ALA:HB2	2.21	0.40
19:Q:99:THR:HB	19:Q:100:THR:H	1.46	0.40
21:S:12:ARG:HD3	21:S:24:LEU:CD2	2.51	0.40
21:S:93:GLU:OE1	21:S:135:VAL:HG12	2.21	0.40
22:T:9:SER:C	22:T:10:ARG:HG3	2.47	0.40
22:T:116:ARG:HG3	22:T:126:VAL:CG1	2.51	0.40
23:U:51:GLY:O	23:U:52:ASN:HB2	2.21	0.40
32:d:70:ARG:NH1	32:d:70:ARG:HG3	2.35	0.40
45:x:25:LEU:HD11	45:x:514:VAL:CG1	2.50	0.40
45:x:425:GLU:O	45:x:429:ASN:ND2	2.54	0.40
47:z:119:UNK:O	47:z:122:UNK:HG3	2.21	0.40
1:5:92:G:C8	1:5:92:G:C3'	3.03	0.40
1:5:535:G:C4	1:5:554:A:N6	2.90	0.40
1:5:684:G:O3'	14:L:35:ARG:NH1	2.54	0.40
1:5:772:U:H2'	1:5:773:G:O4'	2.21	0.40
1:5:836:A:H2'	1:5:836:A:N3	2.35	0.40
1:5:975:C:O2'	1:5:976:U:H5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:986:U:H2'	1:5:987:U:C6	2.55	0.40
1:5:1049:C:C2	1:5:1050:U:C5	3.09	0.40
1:5:1079:A:O2'	1:5:1080:A:H5'	2.20	0.40
1:5:1176:C:OP1	17:O:25:LYS:HE3	2.22	0.40
1:5:1397:C:H2'	1:5:1398:U:C5'	2.51	0.40
1:5:1496:C:O5'	1:5:1496:C:H6	2.04	0.40
1:5:1657:C:C5	1:5:1797:A:H5''	2.56	0.40
1:5:1658:G:O2'	1:5:1659:U:H5'	2.21	0.40
1:5:2408:U:O2'	1:5:2409:G:H5'	2.22	0.40
1:5:2512:C:H2'	1:5:2513:U:C6	2.56	0.40
1:5:2562:A:C4	1:5:2563:G:C8	3.09	0.40
1:5:2682:C:O4'	13:J:20:ASN:ND2	2.54	0.40
1:5:2834:G:C5	1:5:2835:U:C5	3.10	0.40
1:5:2836:C:C2'	1:5:2837:A:H5'	2.50	0.40
1:5:2916:U:C4	1:5:2935:U:C2	3.09	0.40
1:5:2918:G:N2	1:5:2929:C:C2	2.89	0.40
1:5:2990:G:C2	1:5:2991:A:C8	3.09	0.40
6:C:3:ARG:HA	6:C:4:PRO:HD3	1.82	0.40
6:C:338:LYS:C	6:C:339:LEU:HG	2.47	0.40
12:I:26:VAL:HB	12:I:27:PRO:CD	2.44	0.40
14:L:180:ARG:HD3	37:i:11:LEU:HD21	2.03	0.40
17:O:108:ILE:O	17:O:108:ILE:HG12	2.21	0.40
20:R:66:HIS:O	20:R:70:LYS:HG2	2.20	0.40
21:S:97:VAL:O	21:S:97:VAL:HG22	2.22	0.40
24:V:6:ALA:HB2	24:V:126:TRP:CH2	2.56	0.40
25:W:2:LYS:HE2	25:W:4:GLU:CD	2.46	0.40
26:X:132:ALA:O	26:X:136:ALA:HB2	2.20	0.40
27:Y:108:LYS:HA	27:Y:108:LYS:HD3	1.59	0.40
28:Z:14:VAL:HG12	28:Z:79:HIS:O	2.21	0.40
29:a:77:LYS:HB2	29:a:78:LEU:H	1.62	0.40
31:c:60:ALA:HB1	31:c:67:VAL:CG2	2.51	0.40
32:d:9:THR:HB	32:d:111:GLU:OE1	2.21	0.40
34:f:102:LEU:HA	34:f:102:LEU:HD23	1.69	0.40
36:h:100:VAL:HG13	36:h:105:ARG:NH2	2.37	0.40
42:o:6:LYS:NZ	42:o:93:LEU:HD12	2.36	0.40
45:x:536:TRP:HA	47:z:71:UNK:H	1.87	0.40
47:z:70:UNK:O	47:z:70:UNK:HG2	2.21	0.40
1:5:213:A:OP1	27:Y:2:ALA:N	2.55	0.40
1:5:296:A:H8	1:5:296:A:O5'	2.03	0.40
1:5:1095:U:O2	22:T:129:LYS:HG2	2.22	0.40
1:5:1306:G:O6	17:O:62:THR:HG23	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:1596:C:H2'	1:5:1597:C:C6	2.56	0.40
1:5:1610:G:P	26:X:125:ARG:NH1	2.95	0.40
1:5:2093:A:H61	20:R:114:LYS:HD3	1.84	0.40
1:5:2356:A:H2'	1:5:2356:A:N3	2.37	0.40
1:5:3113:A:O2'	11:H:69:ARG:HB3	2.21	0.40
1:5:3138:U:H5''	5:B:274:SER:O	2.21	0.40
1:5:3233:C:H2'	1:5:3234:A:C8	2.57	0.40
1:5:3341:U:H3	46:y:225:ARG:HD2	1.86	0.40
2:7:100:C:H2'	2:7:101:G:O4'	2.21	0.40
3:8:49:G:H1	3:8:76:C:N4	2.18	0.40
3:8:84:C:O2	3:8:84:C:O2'	2.37	0.40
4:A:129:ALA:O	4:A:132:ASN:HB2	2.21	0.40
5:B:340:LYS:NZ	5:B:340:LYS:CB	2.85	0.40
6:C:92:ASN:N	6:C:93:MET:HE2	2.36	0.40
6:C:258:LEU:HD12	6:C:258:LEU:HA	1.62	0.40
6:C:304:GLN:O	6:C:305:ALA:HB3	2.21	0.40
7:D:78:ALA:HB1	7:D:104:LEU:HD23	2.04	0.40
7:D:115:LEU:HD23	7:D:115:LEU:HA	1.71	0.40
8:E:35:VAL:HG13	8:E:36:PRO:HD2	2.02	0.40
8:E:35:VAL:CG1	8:E:36:PRO:HD2	2.51	0.40
8:E:100:LYS:HE2	8:E:105:TYR:CE1	2.56	0.40
8:E:152:THR:HG23	8:E:155:LEU:CB	2.52	0.40
10:G:136:LEU:HD23	10:G:136:LEU:HA	1.66	0.40
14:L:4:SER:O	14:L:7:LEU:HD12	2.20	0.40
14:L:15:ARG:HA	14:L:15:ARG:HD3	1.78	0.40
16:N:119:TYR:OH	16:N:131:GLU:OE1	2.31	0.40
18:P:84:PRO:HB2	18:P:87:SER:HB2	2.03	0.40
18:P:88:VAL:O	18:P:92:GLN:HG3	2.22	0.40
19:Q:106:PHE:HB2	19:Q:111:ARG:CZ	2.51	0.40
20:R:12:ALA:HB1	20:R:17:VAL:O	2.20	0.40
21:S:154:HIS:HA	21:S:170:THR:HB	2.04	0.40
31:c:43:ILE:HG22	31:c:70:PHE:HB2	2.03	0.40
36:h:28:LEU:CD2	36:h:32:LYS:HE2	2.52	0.40
36:h:100:VAL:HG23	36:h:104:GLN:CB	2.50	0.40
43:p:8:VAL:HG23	43:p:9:GLY:H	1.85	0.40
44:q:26:PHE:CE2	44:q:93:LEU:HD22	2.56	0.40
44:q:37:GLN:O	44:q:41:VAL:HG23	2.21	0.40
45:x:105:CYS:SG	45:x:391:LYS:HD3	2.62	0.40
45:x:189:ILE:CG2	45:x:230:ILE:HD12	2.51	0.40
45:x:388:TYR:HB3	45:x:389:PRO:HD2	2.02	0.40
1:5:35:A:O2'	1:5:36:C:H5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:5:70:A:N1	1:5:313:A:O2'	2.54	0.40
1:5:110:G:C5'	14:L:91:ARG:HE	2.31	0.40
1:5:315:C:N4	1:5:316:U:O4	2.55	0.40
1:5:359:U:H4'	1:5:817:A:N6	2.36	0.40
1:5:408:A:H2'	1:5:409:A:C8	2.57	0.40
1:5:564:G:O2'	1:5:565:U:H5'	2.21	0.40
1:5:663:C:H6	1:5:663:C:O5'	2.04	0.40
1:5:671:U:OP2	19:Q:57:ILE:HD12	2.22	0.40
1:5:673:U:H2'	1:5:674:G:C8	2.56	0.40
1:5:817:A:N3	38:j:11:ARG:HB3	2.36	0.40
1:5:892:U:H2'	1:5:893:C:C6	2.57	0.40
1:5:1144:U:H5	1:5:1366:A:C2	2.39	0.40
1:5:1161:G:N2	1:5:1162:U:C2	2.89	0.40
1:5:1178:G:O4'	34:f:18:ARG:HG3	2.20	0.40
1:5:1241:U:H4'	1:5:1242:G:OP1	2.21	0.40
1:5:1593:A:H2'	1:5:1594:A:C8	2.56	0.40
1:5:1692:U:O2'	1:5:1693:C:H5'	2.22	0.40
1:5:2093:A:O2'	1:5:2094:C:O5'	2.39	0.40
1:5:2606:G:H4'	1:5:2607:G:N7	2.37	0.40
1:5:2684:C:H2'	1:5:2685:C:H6	1.86	0.40
1:5:2794:G:H5''	42:o:57:VAL:O	2.21	0.40
1:5:3048:A:H2'	1:5:3048:A:N3	2.37	0.40
1:5:3097:C:C6	1:5:3097:C:H3'	2.56	0.40
1:5:3257:C:H2'	1:5:3258:U:H6	1.87	0.40
3:8:153:U:OP1	10:G:63:LYS:HE2	2.21	0.40
6:C:113:VAL:CG1	6:C:114:ASN:N	2.85	0.40
10:G:172:LYS:NZ	10:G:172:LYS:CA	2.83	0.40
11:H:176:LEU:O	11:H:180:TYR:OH	2.34	0.40
12:I:50:VAL:HG12	12:I:152:LEU:HD12	2.03	0.40
14:L:16:LYS:H	14:L:16:LYS:HG2	1.68	0.40
15:M:62:GLN:H	15:M:62:GLN:HG2	1.56	0.40
15:M:119:GLN:HG3	15:M:119:GLN:H	1.72	0.40
16:N:146:ALA:C	16:N:148:TYR:N	2.78	0.40
17:O:97:ALA:HA	17:O:100:GLU:OE2	2.20	0.40
22:T:56:PHE:CD1	22:T:56:PHE:C	2.99	0.40
25:W:59:HIS:O	25:W:60:LYS:HB2	2.21	0.40
27:Y:55:GLU:HB2	27:Y:108:LYS:HB2	2.03	0.40
29:a:78:LEU:O	29:a:102:ILE:HD13	2.22	0.40
36:h:16:GLN:O	36:h:20:GLN:HB2	2.20	0.40
43:p:11:THR:HG21	43:p:27:LYS:HB2	2.02	0.40
45:x:203:THR:C	45:x:205:GLU:H	2.29	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:235:ASN:O	45:x:235:ASN:CG	2.64	0.40
45:x:536:TRP:CE3	47:z:69:UNK:HB2	2.56	0.40
46:y:233:HIS:O	46:y:236:ALA:N	2.41	0.40
1:5:76:G:O2'	14:L:100:ARG:HD2	2.22	0.40
1:5:500:C:H5''	8:E:82:ARG:HG3	2.04	0.40
1:5:609:G:H5'	8:E:22:ARG:HH12	1.86	0.40
1:5:634:C:H5'	34:f:21:ARG:O	2.21	0.40
1:5:736:A:H2'	1:5:737:G:O4'	2.22	0.40
1:5:791:A:H2'	1:5:792:G:H8	1.87	0.40
1:5:982:C:H4'	1:5:983:A:OP1	2.21	0.40
1:5:999:G:H2'	1:5:1000:C:H6	1.83	0.40
1:5:1233:G:O2'	1:5:1234:G:H5'	2.21	0.40
1:5:1338:C:H2'	1:5:1339:C:H6	1.86	0.40
1:5:1383:G:H1	1:5:1423:C:N4	2.16	0.40
1:5:1449:A:C2	1:5:2356:A:C4	3.09	0.40
1:5:1595:U:C2	1:5:1596:C:C5	3.09	0.40
1:5:2290:C:C2	1:5:2291:A:C8	3.09	0.40
1:5:2294:U:O2	1:5:2296:A:H8	2.04	0.40
1:5:2340:U:P	5:B:236:LYS:HD3	2.62	0.40
1:5:2971:A:N3	1:5:2971:A:H3'	2.36	0.40
1:5:2978:U:O2'	1:5:2979:U:H5''	2.21	0.40
1:5:3078:U:H4'	1:5:3079:U:O5'	2.20	0.40
2:7:13:A:OP2	2:7:67:G:N2	2.51	0.40
7:D:191:ASP:HA	7:D:192:PRO:HD2	1.93	0.40
9:F:156:ILE:O	9:F:159:GLN:HB2	2.21	0.40
10:G:68:ARG:NH1	10:G:238:LEU:O	2.54	0.40
10:G:98:ARG:HA	10:G:99:PRO:HD3	1.83	0.40
10:G:166:LEU:N	10:G:167:PRO:CD	2.84	0.40
13:J:112:LEU:O	13:J:112:LEU:HD23	2.22	0.40
14:L:3:ILE:HD12	29:a:41:HIS:CB	2.52	0.40
15:M:114:ASP:O	15:M:117:ARG:HB3	2.22	0.40
16:N:68:ARG:NH2	16:N:123:GLN:HE21	2.19	0.40
16:N:183:THR:O	16:N:184:LYS:CB	2.69	0.40
17:O:19:LEU:O	17:O:23:VAL:HG23	2.20	0.40
17:O:109:PRO:HA	17:O:110:PRO:HD3	1.82	0.40
18:P:67:ILE:HG22	18:P:68:GLY:H	1.87	0.40
29:a:6:THR:HG23	29:a:8:THR:HG23	2.04	0.40
38:j:70:VAL:HA	38:j:73:ARG:HG3	2.03	0.40
45:x:43:THR:HG23	47:z:65:UNK:CG	2.51	0.40
45:x:264:TYR:HB3	45:x:301:VAL:O	2.21	0.40
45:x:299:THR:O	45:x:303:ALA:HB2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:x:366:GLN:H	45:x:366:GLN:HG2	1.66	0.40
45:x:458:LEU:HD13	45:x:471:HIS:CE1	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	A	210/254 (83%)	193 (92%)	17 (8%)	0	100	100
5	B	384/387 (99%)	359 (94%)	25 (6%)	0	100	100
6	C	359/362 (99%)	330 (92%)	27 (8%)	2 (1%)	21	56
7	D	292/297 (98%)	283 (97%)	7 (2%)	2 (1%)	18	53
8	E	173/176 (98%)	160 (92%)	10 (6%)	3 (2%)	7	35
9	F	221/244 (91%)	211 (96%)	9 (4%)	1 (0%)	24	59
10	G	229/256 (90%)	201 (88%)	26 (11%)	2 (1%)	14	47
11	H	189/191 (99%)	178 (94%)	10 (5%)	1 (0%)	24	59
12	I	209/221 (95%)	193 (92%)	16 (8%)	0	100	100
13	J	167/174 (96%)	143 (86%)	19 (11%)	5 (3%)	3	26
14	L	192/199 (96%)	169 (88%)	21 (11%)	2 (1%)	12	44
15	M	135/138 (98%)	131 (97%)	4 (3%)	0	100	100
16	N	201/204 (98%)	189 (94%)	10 (5%)	2 (1%)	12	44
17	O	195/199 (98%)	190 (97%)	5 (3%)	0	100	100
18	P	181/184 (98%)	176 (97%)	5 (3%)	0	100	100
19	Q	183/186 (98%)	173 (94%)	9 (5%)	1 (0%)	24	59
20	R	154/189 (82%)	148 (96%)	6 (4%)	0	100	100
21	S	169/172 (98%)	161 (95%)	8 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	T	157/160 (98%)	153 (98%)	2 (1%)	2 (1%)	9	40
23	U	100/121 (83%)	95 (95%)	5 (5%)	0	100	100
24	V	134/137 (98%)	130 (97%)	4 (3%)	0	100	100
25	W	61/155 (39%)	57 (93%)	4 (7%)	0	100	100
26	X	118/142 (83%)	108 (92%)	10 (8%)	0	100	100
27	Y	124/127 (98%)	118 (95%)	5 (4%)	1 (1%)	16	50
28	Z	133/136 (98%)	114 (86%)	16 (12%)	3 (2%)	5	30
29	a	146/149 (98%)	131 (90%)	14 (10%)	1 (1%)	18	53
30	b	56/59 (95%)	52 (93%)	4 (7%)	0	100	100
31	c	98/105 (93%)	91 (93%)	7 (7%)	0	100	100
32	d	107/113 (95%)	97 (91%)	9 (8%)	1 (1%)	14	47
33	e	127/130 (98%)	119 (94%)	7 (6%)	1 (1%)	16	50
34	f	104/107 (97%)	98 (94%)	6 (6%)	0	100	100
35	g	110/121 (91%)	100 (91%)	8 (7%)	2 (2%)	6	34
36	h	117/120 (98%)	113 (97%)	4 (3%)	0	100	100
37	i	97/100 (97%)	87 (90%)	7 (7%)	3 (3%)	3	25
38	j	85/88 (97%)	78 (92%)	7 (8%)	0	100	100
39	k	75/78 (96%)	68 (91%)	6 (8%)	1 (1%)	9	40
40	l	48/51 (94%)	46 (96%)	2 (4%)	0	100	100
41	m	50/128 (39%)	46 (92%)	4 (8%)	0	100	100
42	o	103/106 (97%)	96 (93%)	7 (7%)	0	100	100
43	p	89/92 (97%)	83 (93%)	6 (7%)	0	100	100
44	q	116/312 (37%)	109 (94%)	7 (6%)	0	100	100
45	x	577/616 (94%)	540 (94%)	37 (6%)	0	100	100
46	y	207/414 (50%)	192 (93%)	15 (7%)	0	100	100
All	All	6982/7900 (88%)	6509 (93%)	437 (6%)	36 (0%)	26	59

All (36) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
8	E	98	VAL
13	J	10	ARG
13	J	95	ASN

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Mol	Chain	Res	Type
16	N	184	LYS
13	J	115	LYS
14	L	18	TRP
28	Z	17	ARG
28	Z	130	PHE
37	i	63	ASN
8	E	123	PRO
27	Y	125	LYS
28	Z	129	TRP
35	g	83	ASN
37	i	34	SER
8	E	97	ASN
9	F	191	VAL
16	N	183	THR
22	T	69	LYS
22	T	136	ARG
29	a	78	LEU
39	k	17	ARG
6	C	71	VAL
6	C	148	ILE
13	J	12	LEU
32	d	7	VAL
35	g	82	ALA
37	i	64	SER
14	L	47	ALA
7	D	125	VAL
10	G	203	VAL
13	J	114	ILE
7	D	122	VAL
10	G	237	ILE
11	H	167	VAL
19	Q	97	PRO
33	e	6	HIS

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	A	166/196 (85%)	132 (80%)	34 (20%)	1	8
5	B	319/323 (99%)	267 (84%)	52 (16%)	2	14
6	C	288/289 (100%)	233 (81%)	55 (19%)	1	10
7	D	243/245 (99%)	214 (88%)	29 (12%)	5	21
8	E	136/153 (89%)	115 (85%)	21 (15%)	2	15
9	F	187/205 (91%)	157 (84%)	30 (16%)	2	14
10	G	177/208 (85%)	145 (82%)	32 (18%)	2	11
11	H	171/171 (100%)	137 (80%)	34 (20%)	1	9
12	I	179/187 (96%)	155 (87%)	24 (13%)	4	18
13	J	147/150 (98%)	120 (82%)	27 (18%)	1	11
14	L	154/159 (97%)	126 (82%)	28 (18%)	2	11
15	M	108/109 (99%)	89 (82%)	19 (18%)	2	12
16	N	175/176 (99%)	145 (83%)	30 (17%)	2	13
17	O	160/162 (99%)	129 (81%)	31 (19%)	1	9
18	P	145/146 (99%)	124 (86%)	21 (14%)	3	16
19	Q	150/151 (99%)	122 (81%)	28 (19%)	1	10
20	R	129/154 (84%)	108 (84%)	21 (16%)	2	14
21	S	155/156 (99%)	124 (80%)	31 (20%)	1	9
22	T	136/137 (99%)	106 (78%)	30 (22%)	1	6
23	U	89/107 (83%)	77 (86%)	12 (14%)	4	18
24	V	104/105 (99%)	91 (88%)	13 (12%)	4	20
25	W	55/129 (43%)	51 (93%)	4 (7%)	13	38
26	X	104/118 (88%)	82 (79%)	22 (21%)	1	7
27	Y	109/110 (99%)	85 (78%)	24 (22%)	1	6
28	Z	115/116 (99%)	96 (84%)	19 (16%)	2	13
29	a	118/119 (99%)	103 (87%)	15 (13%)	4	20
30	b	46/47 (98%)	39 (85%)	7 (15%)	3	15
31	c	84/88 (96%)	70 (83%)	14 (17%)	2	13
32	d	94/97 (97%)	78 (83%)	16 (17%)	2	13
33	e	110/111 (99%)	93 (84%)	17 (16%)	2	15
34	f	90/91 (99%)	80 (89%)	10 (11%)	6	23
35	g	95/103 (92%)	80 (84%)	15 (16%)	2	15

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	h	103/105 (98%)	84 (82%)	19 (18%)	1	11
37	i	80/82 (98%)	55 (69%)	25 (31%)	0	2
38	j	70/71 (99%)	59 (84%)	11 (16%)	2	15
39	k	67/69 (97%)	56 (84%)	11 (16%)	2	13
40	l	45/46 (98%)	37 (82%)	8 (18%)	2	12
41	m	47/116 (40%)	37 (79%)	10 (21%)	1	6
42	o	90/91 (99%)	77 (86%)	13 (14%)	3	17
43	p	71/72 (99%)	61 (86%)	10 (14%)	3	17
44	q	105/254 (41%)	91 (87%)	14 (13%)	4	18
45	x	508/540 (94%)	455 (90%)	53 (10%)	7	25
46	y	182/378 (48%)	165 (91%)	17 (9%)	8	29
All	All	5906/6642 (89%)	4950 (84%)	956 (16%)	4	14

All (956) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	A	5	ILE
4	A	15	ILE
4	A	23	ARG
4	A	44	ILE
4	A	46	LYS
4	A	48	ILE
4	A	49	VAL
4	A	61	VAL
4	A	62	VAL
4	A	64	ARG
4	A	70	ARG
4	A	71	LEU
4	A	73	GLU
4	A	96	LEU
4	A	98	VAL
4	A	101	VAL
4	A	102	LEU
4	A	109	GLU
4	A	112	ILE
4	A	116	VAL
4	A	119	LYS
4	A	134	VAL

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Mol	Chain	Res	Type
4	A	135	ILE
4	A	137	ILE
4	A	142	ASP
4	A	147	ARG
4	A	149	ARG
4	A	155	LYS
4	A	157	VAL
4	A	165	VAL
4	A	180	LEU
4	A	191	LEU
4	A	193	ARG
4	A	199	THR
5	B	3	HIS
5	B	4	ARG
5	B	7	GLU
5	B	10	ARG
5	B	17	LEU
5	B	19	ARG
5	B	25	ILE
5	B	37	ARG
5	B	44	THR
5	B	56	ILE
5	B	70	ARG
5	B	73	VAL
5	B	74	GLU
5	B	76	VAL
5	B	77	THR
5	B	85	VAL
5	B	103	THR
5	B	104	THR
5	B	110	LEU
5	B	112	ASP
5	B	113	GLU
5	B	114	VAL
5	B	123	TYR
5	B	140	ASP
5	B	146	ARG
5	B	148	LEU
5	B	192	VAL
5	B	196	ARG
5	B	202	THR
5	B	206	ASP

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Mol	Chain	Res	Type
5	B	216	ASP
5	B	221	THR
5	B	232	ARG
5	B	238	LEU
5	B	246	LEU
5	B	247	ARG
5	B	248	LYS
5	B	249	VAL
5	B	252	ILE
5	B	264	VAL
5	B	266	ARG
5	B	284	ARG
5	B	287	LYS
5	B	291	GLU
5	B	316	GLU
5	B	317	ILE
5	B	322	ILE
5	B	338	LEU
5	B	340	LYS
5	B	346	THR
5	B	347	SER
5	B	364	LYS
6	C	3	ARG
6	C	6	VAL
6	C	12	THR
6	C	16	THR
6	C	30	ILE
6	C	38	VAL
6	C	48	GLN
6	C	52	VAL
6	C	55	LYS
6	C	69	ARG
6	C	73	ARG
6	C	77	VAL
6	C	93	MET
6	C	94	CYS
6	C	99	MET
6	C	103	THR
6	C	107	ARG
6	C	122	THR
6	C	135	VAL
6	C	142	VAL

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Mol	Chain	Res	Type
6	C	148	ILE
6	C	150	LEU
6	C	151	VAL
6	C	152	VAL
6	C	156	LEU
6	C	160	GLN
6	C	172	VAL
6	C	183	LYS
6	C	187	LEU
6	C	191	LYS
6	C	193	LYS
6	C	194	TYR
6	C	203	ARG
6	C	206	LEU
6	C	222	VAL
6	C	233	LEU
6	C	265	GLU
6	C	278	SER
6	C	283	THR
6	C	289	ILE
6	C	300	ARG
6	C	304	GLN
6	C	307	GLN
6	C	309	ARG
6	C	313	LEU
6	C	319	LYS
6	C	323	VAL
6	C	327	LEU
6	C	333	VAL
6	C	342	LYS
6	C	345	GLU
6	C	347	THR
6	C	356	THR
6	C	359	LEU
6	C	360	LYS
7	D	4	GLN
7	D	5	LYS
7	D	32	GLN
7	D	34	LYS
7	D	35	ARG
7	D	50	ARG
7	D	51	LEU

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Mol	Chain	Res	Type
7	D	69	ILE
7	D	70	THR
7	D	74	VAL
7	D	109	THR
7	D	125	VAL
7	D	126	GLU
7	D	129	TYR
7	D	136	GLU
7	D	144	VAL
7	D	146	LEU
7	D	148	ILE
7	D	152	ARG
7	D	164	LYS
7	D	177	GLU
7	D	196	ARG
7	D	203	HIS
7	D	211	LEU
7	D	224	LYS
7	D	231	ILE
7	D	232	ASP
7	D	275	THR
7	D	282	ARG
8	E	8	LYS
8	E	18	LEU
8	E	20	LYS
8	E	22	ARG
8	E	28	GLN
8	E	29	LYS
8	E	31	ARG
8	E	46	ARG
8	E	52	VAL
8	E	56	LYS
8	E	76	LEU
8	E	78	ARG
8	E	82	ARG
8	E	85	ILE
8	E	89	THR
8	E	91	VAL
8	E	93	VAL
8	E	123	PRO
8	E	141	VAL
8	E	146	ILE

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Mol	Chain	Res	Type
8	E	155	LEU
9	F	22	THR
9	F	30	ARG
9	F	41	ARG
9	F	44	ILE
9	F	45	LEU
9	F	59	GLU
9	F	60	ARG
9	F	63	ILE
9	F	80	GLN
9	F	82	LYS
9	F	86	VAL
9	F	88	ARG
9	F	92	ILE
9	F	101	LYS
9	F	108	LEU
9	F	109	THR
9	F	121	LYS
9	F	129	LEU
9	F	131	GLU
9	F	134	VAL
9	F	155	LYS
9	F	173	LEU
9	F	175	LYS
9	F	179	LEU
9	F	180	SER
9	F	181	ILE
9	F	196	LYS
9	F	219	LYS
9	F	224	ILE
9	F	239	LEU
10	G	41	GLN
10	G	50	VAL
10	G	65	LEU
10	G	69	LEU
10	G	70	LYS
10	G	71	VAL
10	G	79	GLN
10	G	81	THR
10	G	82	LEU
10	G	86	THR
10	G	98	ARG

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Mol	Chain	Res	Type
10	G	109	LEU
10	G	136	LEU
10	G	149	LYS
10	G	160	ILE
10	G	169	LEU
10	G	172	LYS
10	G	180	VAL
10	G	197	VAL
10	G	200	LEU
10	G	206	GLU
10	G	208	GLU
10	G	211	LEU
10	G	213	LYS
10	G	214	LEU
10	G	229	VAL
10	G	230	LYS
10	G	232	HIS
10	G	241	LYS
10	G	245	LYS
10	G	246	MET
10	G	248	LYS
11	H	1	MET
11	H	4	ILE
11	H	5	GLN
11	H	7	GLU
11	H	18	VAL
11	H	33	THR
11	H	41	ILE
11	H	44	THR
11	H	55	VAL
11	H	62	ARG
11	H	68	LEU
11	H	70	THR
11	H	71	VAL
11	H	82	VAL
11	H	100	ASN
11	H	101	VAL
11	H	106	LYS
11	H	112	ILE
11	H	115	ARG
11	H	135	GLU
11	H	147	SER

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Mol	Chain	Res	Type
11	H	151	VAL
11	H	152	GLU
11	H	157	ASN
11	H	160	ASP
11	H	161	LEU
11	H	162	GLN
11	H	165	CYS
11	H	166	ARG
11	H	177	ASP
11	H	179	ILE
11	H	182	SER
11	H	188	THR
11	H	190	ASP
12	I	3	ARG
12	I	12	GLN
12	I	24	ARG
12	I	33	ILE
12	I	36	LEU
12	I	63	GLU
12	I	71	CYS
12	I	76	MET
12	I	83	ASP
12	I	91	VAL
12	I	99	ILE
12	I	125	LEU
12	I	129	VAL
12	I	131	ILE
12	I	145	LYS
12	I	163	GLN
12	I	167	LEU
12	I	169	LYS
12	I	174	THR
12	I	177	ASP
12	I	183	LYS
12	I	184	LYS
12	I	186	GLU
12	I	193	ASP
13	J	10	ARG
13	J	12	LEU
13	J	22	SER
13	J	23	VAL
13	J	31	THR

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Mol	Chain	Res	Type
13	J	35	LYS
13	J	44	THR
13	J	46	VAL
13	J	51	ARG
13	J	54	VAL
13	J	67	VAL
13	J	78	GLU
13	J	80	LEU
13	J	85	LYS
13	J	92	ARG
13	J	94	ARG
13	J	95	ASN
13	J	106	ILE
13	J	107	ASP
13	J	119	SER
13	J	129	VAL
13	J	132	ASN
13	J	137	ARG
13	J	161	SER
13	J	165	GLN
13	J	166	LYS
13	J	174	LYS
14	L	21	ARG
14	L	27	ASP
14	L	46	ILE
14	L	52	ASP
14	L	53	LEU
14	L	59	ARG
14	L	63	VAL
14	L	67	ARG
14	L	69	VAL
14	L	76	THR
14	L	80	VAL
14	L	85	LEU
14	L	91	ARG
14	L	101	ARG
14	L	107	GLU
14	L	108	ILE
14	L	123	ILE
14	L	128	ARG
14	L	131	LYS
14	L	139	LEU

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Mol	Chain	Res	Type
14	L	149	GLN
14	L	162	ASN
14	L	164	GLU
14	L	168	ARG
14	L	171	ARG
14	L	182	ILE
14	L	189	GLU
14	L	194	GLU
15	M	8	LYS
15	M	15	VAL
15	M	20	VAL
15	M	32	LEU
15	M	37	GLU
15	M	43	LYS
15	M	53	VAL
15	M	58	ILE
15	M	62	GLN
15	M	63	VAL
15	M	64	VAL
15	M	72	LEU
15	M	80	THR
15	M	92	GLU
15	M	103	ILE
15	M	106	ARG
15	M	130	THR
15	M	131	VAL
15	M	135	LEU
16	N	7	LEU
16	N	8	GLU
16	N	10	LEU
16	N	12	ARG
16	N	15	GLN
16	N	18	VAL
16	N	22	LEU
16	N	24	ARG
16	N	27	VAL
16	N	49	ARG
16	N	53	TYR
16	N	54	LYS
16	N	66	VAL
16	N	83	LYS
16	N	91	GLU

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Mol	Chain	Res	Type
16	N	92	LEU
16	N	104	GLU
16	N	105	ARG
16	N	106	VAL
16	N	121	VAL
16	N	138	GLN
16	N	151	ILE
16	N	176	LYS
16	N	184	LYS
16	N	188	ARG
16	N	190	THR
16	N	194	GLN
16	N	196	THR
16	N	199	LEU
16	N	201	ARG
17	O	3	VAL
17	O	15	LEU
17	O	22	VAL
17	O	25	LYS
17	O	27	LEU
17	O	34	VAL
17	O	37	ARG
17	O	41	LEU
17	O	44	SER
17	O	59	ARG
17	O	67	THR
17	O	78	ARG
17	O	79	ILE
17	O	84	LEU
17	O	100	GLU
17	O	104	VAL
17	O	106	GLU
17	O	108	ILE
17	O	115	LYS
17	O	117	ARG
17	O	124	LEU
17	O	126	VAL
17	O	128	ARG
17	O	143	THR
17	O	151	ASP
17	O	160	ARG
17	O	162	VAL

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Mol	Chain	Res	Type
17	O	171	LYS
17	O	175	THR
17	O	182	ASN
17	O	193	GLN
18	P	22	LEU
18	P	24	VAL
18	P	32	THR
18	P	41	LEU
18	P	51	VAL
18	P	52	LEU
18	P	55	GLN
18	P	64	ASN
18	P	67	ILE
18	P	69	ARG
18	P	70	THR
18	P	79	THR
18	P	80	LYS
18	P	94	LEU
18	P	103	GLU
18	P	114	VAL
18	P	118	GLN
18	P	119	VAL
18	P	142	SER
18	P	150	VAL
18	P	166	VAL
19	Q	3	ILE
19	Q	24	VAL
19	Q	26	LEU
19	Q	38	ARG
19	Q	41	ASP
19	Q	48	VAL
19	Q	49	LEU
19	Q	57	ILE
19	Q	62	VAL
19	Q	66	ARG
19	Q	67	ILE
19	Q	80	THR
19	Q	83	VAL
19	Q	86	THR
19	Q	93	ILE
19	Q	100	THR
19	Q	113	LYS

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Mol	Chain	Res	Type
19	Q	115	VAL
19	Q	121	CYS
19	Q	127	LEU
19	Q	135	GLN
19	Q	139	ILE
19	Q	159	LYS
19	Q	165	ILE
19	Q	166	LEU
19	Q	167	SER
19	Q	178	ARG
19	Q	180	ARG
20	R	5	ARG
20	R	10	LEU
20	R	14	VAL
20	R	27	ASN
20	R	45	VAL
20	R	47	ASN
20	R	49	THR
20	R	57	VAL
20	R	62	ARG
20	R	63	THR
20	R	74	ARG
20	R	75	HIS
20	R	89	LEU
20	R	98	ARG
20	R	99	LEU
20	R	101	VAL
20	R	114	LYS
20	R	138	LEU
20	R	143	ILE
20	R	153	LYS
20	R	156	ASN
21	S	13	ARG
21	S	17	GLU
21	S	27	MET
21	S	32	SER
21	S	45	LEU
21	S	48	LEU
21	S	51	VAL
21	S	62	ASN
21	S	70	THR
21	S	71	LYS

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Mol	Chain	Res	Type
21	S	73	LYS
21	S	74	ASN
21	S	80	ARG
21	S	87	THR
21	S	98	SER
21	S	100	VAL
21	S	103	VAL
21	S	124	LEU
21	S	130	GLU
21	S	132	THR
21	S	135	VAL
21	S	136	LYS
21	S	137	ARG
21	S	138	GLN
21	S	140	VAL
21	S	144	LEU
21	S	148	LEU
21	S	155	ARG
21	S	162	THR
21	S	171	PHE
21	S	172	TYR
22	T	3	LYS
22	T	5	HIS
22	T	12	ARG
22	T	21	LYS
22	T	25	VAL
22	T	27	LEU
22	T	33	VAL
22	T	35	LYS
22	T	36	VAL
22	T	39	ILE
22	T	40	VAL
22	T	69	LYS
22	T	80	VAL
22	T	83	ARG
22	T	89	LEU
22	T	98	HIS
22	T	102	ARG
22	T	103	GLN
22	T	104	GLU
22	T	118	GLU
22	T	124	VAL

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Mol	Chain	Res	Type
22	T	126	VAL
22	T	130	ARG
22	T	131	GLN
22	T	139	ARG
22	T	140	ILE
22	T	141	VAL
22	T	143	THR
22	T	154	VAL
22	T	157	GLU
23	U	11	ILE
23	U	16	THR
23	U	27	VAL
23	U	37	LEU
23	U	43	VAL
23	U	50	LEU
23	U	58	GLU
23	U	59	ASP
23	U	62	VAL
23	U	63	VAL
23	U	68	THR
23	U	102	GLU
24	V	13	ILE
24	V	19	VAL
24	V	28	ASN
24	V	40	LYS
24	V	44	SER
24	V	45	ARG
24	V	58	VAL
24	V	69	LEU
24	V	73	VAL
24	V	74	MET
24	V	91	VAL
24	V	115	THR
24	V	120	LYS
25	W	17	ARG
25	W	28	ILE
25	W	39	LEU
25	W	57	LYS
26	X	24	LEU
26	X	31	THR
26	X	37	THR
26	X	38	LEU

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Mol	Chain	Res	Type
26	X	39	LYS
26	X	40	LEU
26	X	45	LYS
26	X	49	LYS
26	X	57	LEU
26	X	62	VAL
26	X	63	ILE
26	X	65	GLN
26	X	71	THR
26	X	73	MET
26	X	81	ILE
26	X	99	VAL
26	X	108	LEU
26	X	109	LYS
26	X	112	THR
26	X	125	ARG
26	X	133	LEU
26	X	135	ILE
27	Y	12	ARG
27	Y	13	ARG
27	Y	14	LYS
27	Y	17	LYS
27	Y	31	LEU
27	Y	35	LEU
27	Y	37	LYS
27	Y	45	ILE
27	Y	50	ILE
27	Y	51	ARG
27	Y	52	ARG
27	Y	56	VAL
27	Y	59	VAL
27	Y	60	ARG
27	Y	66	GLN
27	Y	74	TYR
27	Y	76	LEU
27	Y	90	VAL
27	Y	95	VAL
27	Y	97	ILE
27	Y	105	VAL
27	Y	108	LYS
27	Y	111	LEU
27	Y	120	GLN

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Mol	Chain	Res	Type
28	Z	3	LYS
28	Z	17	ARG
28	Z	21	LYS
28	Z	24	VAL
28	Z	26	VAL
28	Z	52	LYS
28	Z	57	HIS
28	Z	65	ARG
28	Z	66	THR
28	Z	72	ILE
28	Z	75	VAL
28	Z	76	ASN
28	Z	81	LEU
28	Z	86	THR
28	Z	95	VAL
28	Z	100	THR
28	Z	102	GLU
28	Z	127	ASN
28	Z	130	PHE
29	a	4	ARG
29	a	6	THR
29	a	8	THR
29	a	44	ASN
29	a	45	MET
29	a	64	GLN
29	a	65	GLN
29	a	85	ASP
29	a	91	LEU
29	a	97	GLU
29	a	118	ILE
29	a	128	ARG
29	a	131	SER
29	a	132	LYS
29	a	133	LEU
30	b	3	LYS
30	b	32	LEU
30	b	33	LYS
30	b	50	THR
30	b	52	LYS
30	b	58	LYS
30	b	59	LYS
31	c	8	GLU

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Mol	Chain	Res	Type
31	c	11	ASN
31	c	19	LYS
31	c	32	LYS
31	c	68	TYR
31	c	71	GLN
31	c	76	GLU
31	c	86	ARG
31	c	87	VAL
31	c	91	SER
31	c	92	ILE
31	c	97	ASP
31	c	99	ASP
31	c	104	LEU
32	d	7	VAL
32	d	8	VAL
32	d	9	THR
32	d	14	ILE
32	d	16	LEU
32	d	35	GLU
32	d	55	LEU
32	d	61	LYS
32	d	76	SER
32	d	83	GLU
32	d	96	VAL
32	d	98	VAL
32	d	102	LYS
32	d	104	LEU
32	d	110	GLU
32	d	111	GLU
33	e	9	ILE
33	e	19	ARG
33	e	33	ARG
33	e	43	ARG
33	e	45	ARG
33	e	80	LYS
33	e	81	ASP
33	e	82	LEU
33	e	83	GLU
33	e	87	MET
33	e	89	THR
33	e	96	ILE
33	e	98	HIS

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Mol	Chain	Res	Type
33	e	106	VAL
33	e	107	VAL
33	e	109	LEU
33	e	125	ARG
34	f	17	GLN
34	f	29	LEU
34	f	48	ARG
34	f	58	GLU
34	f	70	LYS
34	f	74	THR
34	f	81	VAL
34	f	89	LEU
34	f	98	VAL
34	f	107	ILE
35	g	14	ASN
35	g	15	THR
35	g	16	ARG
35	g	20	ILE
35	g	29	ILE
35	g	46	ASP
35	g	47	CYS
35	g	57	LEU
35	g	58	ARG
35	g	71	THR
35	g	79	SER
35	g	81	CYS
35	g	85	VAL
35	g	98	GLN
35	g	104	VAL
36	h	15	GLU
36	h	20	GLN
36	h	23	ASP
36	h	27	GLU
36	h	36	LEU
36	h	41	LEU
36	h	47	VAL
36	h	57	VAL
36	h	62	GLN
36	h	64	GLU
36	h	66	VAL
36	h	68	GLN
36	h	69	LEU

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Mol	Chain	Res	Type
36	h	81	ARG
36	h	89	ARG
36	h	92	LEU
36	h	113	GLN
36	h	114	ARG
36	h	119	LYS
37	i	3	VAL
37	i	9	ILE
37	i	17	VAL
37	i	18	THR
37	i	26	ILE
37	i	36	ARG
37	i	37	THR
37	i	38	LYS
37	i	43	LEU
37	i	45	ARG
37	i	57	LEU
37	i	58	ILE
37	i	60	LEU
37	i	61	ILE
37	i	62	ARG
37	i	63	ASN
37	i	68	ARG
37	i	71	LYS
37	i	74	LYS
37	i	75	LYS
37	i	76	ARG
37	i	81	THR
37	i	88	GLU
37	i	94	ILE
37	i	98	ARG
38	j	12	HIS
38	j	17	THR
38	j	24	ARG
38	j	44	THR
38	j	55	ARG
38	j	65	ARG
38	j	67	LEU
38	j	68	LYS
38	j	70	VAL
38	j	73	ARG
38	j	80	THR

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Mol	Chain	Res	Type
39	k	6	THR
39	k	12	LEU
39	k	14	LEU
39	k	24	THR
39	k	31	LEU
39	k	40	GLN
39	k	41	THR
39	k	46	ARG
39	k	53	THR
39	k	61	LYS
39	k	64	LYS
40	l	4	GLN
40	l	21	ARG
40	l	27	ILE
40	l	28	ARG
40	l	29	LEU
40	l	30	ARG
40	l	36	ARG
40	l	48	LYS
41	m	79	GLU
41	m	85	LEU
41	m	88	LYS
41	m	90	ASN
41	m	93	LYS
41	m	106	ARG
41	m	108	THR
41	m	113	ARG
41	m	118	THR
41	m	127	LEU
42	o	2	VAL
42	o	7	THR
42	o	8	ARG
42	o	20	HIS
42	o	27	GLN
42	o	38	GLN
42	o	54	THR
42	o	55	LYS
42	o	75	VAL
42	o	84	THR
42	o	85	LEU
42	o	93	LEU
42	o	104	LEU

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Mol	Chain	Res	Type
43	p	7	LYS
43	p	16	VAL
43	p	17	ARG
43	p	24	ARG
43	p	45	LYS
43	p	54	ILE
43	p	57	CYS
43	p	79	VAL
43	p	80	ARG
43	p	82	THR
44	q	4	ILE
44	q	10	GLU
44	q	15	LEU
44	q	46	ARG
44	q	48	ARG
44	q	55	LYS
44	q	67	LEU
44	q	70	LEU
44	q	72	ASP
44	q	76	LEU
44	q	80	VAL
44	q	97	LYS
44	q	104	ARG
44	q	192	ASP
45	x	5	ILE
45	x	18	ASN
45	x	34	ILE
45	x	43	THR
45	x	46	ILE
45	x	47	ASN
45	x	49	SER
45	x	76	LEU
45	x	91	ILE
45	x	134	ARG
45	x	143	LEU
45	x	151	THR
45	x	160	ILE
45	x	165	GLU
45	x	189	ILE
45	x	195	VAL
45	x	203	THR
45	x	225	THR

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Mol	Chain	Res	Type
45	x	235	ASN
45	x	243	ARG
45	x	259	VAL
45	x	261	GLU
45	x	268	VAL
45	x	277	ASP
45	x	282	THR
45	x	296	THR
45	x	309	PHE
45	x	337	LEU
45	x	361	VAL
45	x	363	ASP
45	x	366	GLN
45	x	374	THR
45	x	379	LEU
45	x	383	ASP
45	x	384	LYS
45	x	395	LEU
45	x	437	ILE
45	x	447	HIS
45	x	452	THR
45	x	457	ASN
45	x	464	SER
45	x	468	LEU
45	x	478	LEU
45	x	491	SER
45	x	496	ILE
45	x	504	CYS
45	x	510	CYS
45	x	523	LEU
45	x	536	TRP
45	x	540	GLN
45	x	541	HIS
45	x	567	LEU
45	x	580	VAL
46	y	179	ASN
46	y	197	LEU
46	y	198	VAL
46	y	200	LYS
46	y	221	ASN
46	y	227	LEU
46	y	240	CYS

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Mol	Chain	Res	Type
46	y	303	ILE
46	y	311	ILE
46	y	313	VAL
46	y	316	ARG
46	y	340	VAL
46	y	347	PHE
46	y	362	VAL
46	y	364	GLN
46	y	381	VAL
46	y	391	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (121) such sidechains are listed below:

Mol	Chain	Res	Type
4	A	19	HIS
4	A	97	ASN
4	A	132	ASN
4	A	211	HIS
5	B	11	HIS
5	B	109	HIS
5	B	211	GLN
5	B	224	HIS
5	B	243	HIS
5	B	269	GLN
5	B	371	GLN
6	C	5	GLN
6	C	9	HIS
6	C	110	ASN
6	C	114	ASN
6	C	213	ASN
6	C	260	GLN
6	C	307	GLN
6	C	311	HIS
7	D	32	GLN
7	D	40	HIS
7	D	90	HIS
8	E	28	GLN
8	E	167	ASN
9	F	93	ASN
9	F	244	ASN
10	G	41	GLN
10	G	85	ASN

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Mol	Chain	Res	Type
10	G	221	ASN
10	G	240	ASN
11	H	58	HIS
11	H	125	ASN
11	H	156	GLN
12	I	23	ASN
12	I	100	ASN
12	I	144	ASN
13	J	43	GLN
13	J	62	ASN
13	J	90	GLN
13	J	132	ASN
14	L	13	HIS
14	L	102	GLN
15	M	56	GLN
16	N	32	GLN
16	N	57	GLN
16	N	70	ASN
16	N	90	ASN
17	O	29	ASN
17	O	50	ASN
17	O	65	ASN
18	P	34	GLN
18	P	45	GLN
18	P	50	GLN
18	P	64	ASN
18	P	125	GLN
19	Q	5	HIS
19	Q	73	GLN
20	R	7	GLN
20	R	47	ASN
21	S	63	GLN
21	S	68	HIS
21	S	138	GLN
22	T	49	GLN
22	T	54	HIS
22	T	146	ASN
23	U	40	HIS
25	W	58	HIS
25	W	59	HIS
26	X	65	GLN
26	X	137	ASN

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Mol	Chain	Res	Type
27	Y	26	GLN
27	Y	66	GLN
27	Y	100	HIS
27	Y	120	GLN
28	Z	106	GLN
29	a	14	HIS
29	a	28	HIS
29	a	39	HIS
29	a	44	ASN
29	a	62	HIS
29	a	65	GLN
30	b	10	HIS
30	b	17	HIS
30	b	19	ASN
31	c	47	ASN
31	c	75	ASN
33	e	13	HIS
33	e	104	ASN
34	f	77	ASN
35	g	52	GLN
35	g	98	GLN
36	h	62	GLN
36	h	68	GLN
36	h	76	GLN
39	k	40	GLN
42	o	82	GLN
44	q	36	GLN
44	q	37	GLN
44	q	39	HIS
44	q	193	ASN
45	x	18	ASN
45	x	36	GLN
45	x	146	HIS
45	x	156	HIS
45	x	235	ASN
45	x	254	GLN
45	x	273	HIS
45	x	368	HIS
45	x	428	ASN
45	x	429	ASN
45	x	447	HIS
45	x	453	ASN

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Mol	Chain	Res	Type
45	x	471	HIS
45	x	505	ASN
46	y	163	GLN
46	y	172	HIS
46	y	182	HIS
46	y	232	GLN
46	y	239	HIS
46	y	357	GLN
46	y	386	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	5	3102/3396 (91%)	666 (21%)	79 (2%)
2	7	120/121 (99%)	13 (10%)	0
3	8	157/158 (99%)	42 (26%)	6 (3%)
All	All	3379/3675 (91%)	721 (21%)	85 (2%)

All (721) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	5	14	U
1	5	15	C
1	5	21	G
1	5	22	G
1	5	26	A
1	5	40	A
1	5	43	A
1	5	49	A
1	5	59	G
1	5	60	A
1	5	65	A
1	5	66	A
1	5	75	G
1	5	83	U
1	5	89	A
1	5	91	G
1	5	92	G
1	5	96	G
1	5	110	G
1	5	111	C

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Mol	Chain	Res	Type
1	5	113	C
1	5	116	A
1	5	117	U
1	5	121	A
1	5	122	A
1	5	123	A
1	5	133	U
1	5	134	U
1	5	135	C
1	5	136	G
1	5	143	G
1	5	146	U
1	5	148	G
1	5	152	U
1	5	156	G
1	5	157	A
1	5	165	A
1	5	166	C
1	5	170	G
1	5	171	G
1	5	172	G
1	5	173	G
1	5	175	C
1	5	182	U
1	5	183	G
1	5	184	U
1	5	187	A
1	5	190	U
1	5	191	U
1	5	206	G
1	5	210	U
1	5	213	A
1	5	218	G
1	5	219	A
1	5	221	A
1	5	222	A
1	5	237	G
1	5	239	G
1	5	240	U
1	5	241	G
1	5	244	G
1	5	245	U

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Mol	Chain	Res	Type
1	5	246	U
1	5	248	U
1	5	249	U
1	5	250	U
1	5	251	G
1	5	252	U
1	5	254	A
1	5	269	G
1	5	270	U
1	5	277	G
1	5	282	G
1	5	283	G
1	5	284	A
1	5	286	U
1	5	295	A
1	5	305	U
1	5	315	C
1	5	316	U
1	5	323	A
1	5	329	U
1	5	339	C
1	5	343	U
1	5	346	C
1	5	350	C
1	5	351	A
1	5	370	U
1	5	376	G
1	5	398	A
1	5	399	A
1	5	401	U
1	5	402	A
1	5	403	C
1	5	421	G
1	5	422	A
1	5	429	U
1	5	433	A
1	5	438	A
1	5	439	C
1	5	494	G
1	5	520	U
1	5	521	A
1	5	530	G

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Mol	Chain	Res	Type
1	5	535	G
1	5	546	C
1	5	547	G
1	5	548	G
1	5	552	G
1	5	553	U
1	5	555	U
1	5	557	A
1	5	559	A
1	5	578	A
1	5	579	G
1	5	581	U
1	5	592	A
1	5	594	U
1	5	600	G
1	5	604	G
1	5	609	G
1	5	611	A
1	5	619	A
1	5	620	U
1	5	621	A
1	5	622	A
1	5	623	U
1	5	636	C
1	5	649	A
1	5	660	A
1	5	677	A
1	5	681	U
1	5	685	G
1	5	691	A
1	5	692	A
1	5	697	A
1	5	705	A
1	5	707	U
1	5	708	G
1	5	712	G
1	5	715	A
1	5	716	A
1	5	720	A
1	5	725	G
1	5	736	A
1	5	749	C

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Mol	Chain	Res	Type
1	5	766	U
1	5	767	U
1	5	776	U
1	5	777	U
1	5	780	A
1	5	781	G
1	5	784	A
1	5	785	G
1	5	786	A
1	5	806	A
1	5	808	A
1	5	817	A
1	5	830	A
1	5	844	G
1	5	845	G
1	5	846	A
1	5	851	C
1	5	861	C
1	5	869	G
1	5	873	C
1	5	874	U
1	5	879	U
1	5	907	G
1	5	908	G
1	5	914	A
1	5	916	G
1	5	917	A
1	5	921	A
1	5	923	C
1	5	924	G
1	5	925	A
1	5	934	G
1	5	937	G
1	5	944	C
1	5	946	U
1	5	953	G
1	5	956	U
1	5	959	C
1	5	960	U
1	5	962	A
1	5	974	G
1	5	979	U

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Mol	Chain	Res	Type
1	5	982	C
1	5	983	A
1	5	984	G
1	5	986	U
1	5	993	G
1	5	995	U
1	5	1000	C
1	5	1001	G
1	5	1002	A
1	5	1003	A
1	5	1010	G
1	5	1014	U
1	5	1015	U
1	5	1047	A
1	5	1049	C
1	5	1064	A
1	5	1065	A
1	5	1072	G
1	5	1081	U
1	5	1082	U
1	5	1085	A
1	5	1086	C
1	5	1093	A
1	5	1094	U
1	5	1095	U
1	5	1097	G
1	5	1098	A
1	5	1104	G
1	5	1105	A
1	5	1117	G
1	5	1131	G
1	5	1143	A
1	5	1151	U
1	5	1153	A
1	5	1157	G
1	5	1159	A
1	5	1160	C
1	5	1178	G
1	5	1180	A
1	5	1181	U
1	5	1190	A
1	5	1191	U

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Mol	Chain	Res	Type
1	5	1192	C
1	5	1193	A
1	5	1196	C
1	5	1201	C
1	5	1209	G
1	5	1212	A
1	5	1217	A
1	5	1222	G
1	5	1223	A
1	5	1235	U
1	5	1236	G
1	5	1237	G
1	5	1239	C
1	5	1241	U
1	5	1242	G
1	5	1245	A
1	5	1246	G
1	5	1248	C
1	5	1253	U
1	5	1258	U
1	5	1259	A
1	5	1262	G
1	5	1263	A
1	5	1264	G
1	5	1265	U
1	5	1266	G
1	5	1272	C
1	5	1285	G
1	5	1294	A
1	5	1305	U
1	5	1307	G
1	5	1308	A
1	5	1309	U
1	5	1313	G
1	5	1330	A
1	5	1345	G
1	5	1349	G
1	5	1350	A
1	5	1351	U
1	5	1352	A
1	5	1353	U
1	5	1355	A

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Mol	Chain	Res	Type
1	5	1356	U
1	5	1357	G
1	5	1370	G
1	5	1380	G
1	5	1385	C
1	5	1386	A
1	5	1392	G
1	5	1399	A
1	5	1400	G
1	5	1405	U
1	5	1419	A
1	5	1432	C
1	5	1434	G
1	5	1435	A
1	5	1437	C
1	5	1446	A
1	5	1452	A
1	5	1484	U
1	5	1508	C
1	5	1533	U
1	5	1536	G
1	5	1553	U
1	5	1554	U
1	5	1555	U
1	5	1556	C
1	5	1557	A
1	5	1559	A
1	5	1560	G
1	5	1561	G
1	5	1563	C
1	5	1564	U
1	5	1568	U
1	5	1569	U
1	5	1570	U
1	5	1571	A
1	5	1572	U
1	5	1573	G
1	5	1575	A
1	5	1576	G
1	5	1578	C
1	5	1579	C
1	5	1580	A

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Mol	Chain	Res	Type
1	5	1581	C
1	5	1582	C
1	5	1583	A
1	5	1589	A
1	5	1593	A
1	5	1607	U
1	5	1608	C
1	5	1620	U
1	5	1629	U
1	5	1633	C
1	5	1639	C
1	5	1642	A
1	5	1643	A
1	5	1644	C
1	5	1645	U
1	5	1655	G
1	5	1657	C
1	5	1702	U
1	5	1715	A
1	5	1716	U
1	5	1717	U
1	5	1718	G
1	5	1725	C
1	5	1741	A
1	5	1750	A
1	5	1751	G
1	5	1756	C
1	5	1759	C
1	5	1760	A
1	5	1763	U
1	5	1764	U
1	5	1765	U
1	5	1770	G
1	5	1772	U
1	5	1773	C
1	5	1780	G
1	5	1797	A
1	5	1812	G
1	5	1814	A
1	5	1815	U
1	5	1816	A
1	5	1817	G

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Mol	Chain	Res	Type
1	5	1818	U
1	5	1820	U
1	5	1821	U
1	5	1838	G
1	5	1839	A
1	5	1841	A
1	5	1842	A
1	5	1846	C
1	5	1849	C
1	5	1850	A
1	5	1855	U
1	5	1863	G
1	5	1874	A
1	5	1876	U
1	5	1878	G
1	5	1879	A
1	5	1880	U
1	5	1886	A
1	5	1906	G
1	5	1909	A
1	5	1935	G
1	5	1943	C
1	5	2101	C
1	5	2102	U
1	5	2111	G
1	5	2112	U
1	5	2113	A
1	5	2114	C
1	5	2117	A
1	5	2121	G
1	5	2122	G
1	5	2131	A
1	5	2144	A
1	5	2149	A
1	5	2158	A
1	5	2159	U
1	5	2160	G
1	5	2169	G
1	5	2170	U
1	5	2171	G
1	5	2193	U
1	5	2205	U

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Mol	Chain	Res	Type
1	5	2223	A
1	5	2225	U
1	5	2228	A
1	5	2229	A
1	5	2244	A
1	5	2249	G
1	5	2270	A
1	5	2273	G
1	5	2279	A
1	5	2285	C
1	5	2288	G
1	5	2298	U
1	5	2307	G
1	5	2308	C
1	5	2309	A
1	5	2310	U
1	5	2313	A
1	5	2314	U
1	5	2315	G
1	5	2334	U
1	5	2335	G
1	5	2336	U
1	5	2337	C
1	5	2373	A
1	5	2374	C
1	5	2375	G
1	5	2385	G
1	5	2388	U
1	5	2393	G
1	5	2397	A
1	5	2401	A
1	5	2402	A
1	5	2403	G
1	5	2410	U
1	5	2411	U
1	5	2412	G
1	5	2418	G
1	5	2419	A
1	5	2422	C
1	5	2423	U
1	5	2433	U
1	5	2435	G

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Mol	Chain	Res	Type
1	5	2436	U
1	5	2437	G
1	5	2438	A
1	5	2439	A
1	5	2510	U
1	5	2511	A
1	5	2512	C
1	5	2514	U
1	5	2515	A
1	5	2522	G
1	5	2523	A
1	5	2524	A
1	5	2525	G
1	5	2526	C
1	5	2530	G
1	5	2531	C
1	5	2532	U
1	5	2537	U
1	5	2538	U
1	5	2539	C
1	5	2540	A
1	5	2543	U
1	5	2552	C
1	5	2555	G
1	5	2566	C
1	5	2567	C
1	5	2568	C
1	5	2569	A
1	5	2570	U
1	5	2571	U
1	5	2572	C
1	5	2573	G
1	5	2574	G
1	5	2584	G
1	5	2585	G
1	5	2589	G
1	5	2593	A
1	5	2594	C
1	5	2604	U
1	5	2605	G
1	5	2606	G
1	5	2607	G

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Mol	Chain	Res	Type
1	5	2609	A
1	5	2610	G
1	5	2614	G
1	5	2637	A
1	5	2638	C
1	5	2652	U
1	5	2656	A
1	5	2663	G
1	5	2674	A
1	5	2677	G
1	5	2680	A
1	5	2683	U
1	5	2689	A
1	5	2690	G
1	5	2691	A
1	5	2694	A
1	5	2714	G
1	5	2719	U
1	5	2728	G
1	5	2729	U
1	5	2737	C
1	5	2740	A
1	5	2742	C
1	5	2752	U
1	5	2753	G
1	5	2754	G
1	5	2771	U
1	5	2772	C
1	5	2773	C
1	5	2777	G
1	5	2779	A
1	5	2782	U
1	5	2794	G
1	5	2796	G
1	5	2799	A
1	5	2800	G
1	5	2801	A
1	5	2802	A
1	5	2803	A
1	5	2804	A
1	5	2807	U
1	5	2808	A

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Mol	Chain	Res	Type
1	5	2809	C
1	5	2810	C
1	5	2812	C
1	5	2814	G
1	5	2816	G
1	5	2817	A
1	5	2818	U
1	5	2819	A
1	5	2845	A
1	5	2847	A
1	5	2853	A
1	5	2859	U
1	5	2860	U
1	5	2871	G
1	5	2872	A
1	5	2873	U
1	5	2875	U
1	5	2887	A
1	5	2889	C
1	5	2899	C
1	5	2905	U
1	5	2916	U
1	5	2918	G
1	5	2923	U
1	5	2935	U
1	5	2936	A
1	5	2945	G
1	5	2947	G
1	5	2953	U
1	5	2954	U
1	5	2955	U
1	5	2956	A
1	5	2957	G
1	5	2958	A
1	5	2972	G
1	5	2979	U
1	5	2982	A
1	5	2983	C
1	5	2990	G
1	5	2992	U
1	5	2995	A
1	5	2996	U

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Mol	Chain	Res	Type
1	5	2997	G
1	5	3011	A
1	5	3012	A
1	5	3050	U
1	5	3056	U
1	5	3059	G
1	5	3078	U
1	5	3079	U
1	5	3086	A
1	5	3092	C
1	5	3094	A
1	5	3116	G
1	5	3117	C
1	5	3122	A
1	5	3130	A
1	5	3131	U
1	5	3142	A
1	5	3143	C
1	5	3146	G
1	5	3152	U
1	5	3164	C
1	5	3165	A
1	5	3168	A
1	5	3172	A
1	5	3173	G
1	5	3174	A
1	5	3175	U
1	5	3176	G
1	5	3179	U
1	5	3180	A
1	5	3181	C
1	5	3187	A
1	5	3194	C
1	5	3195	U
1	5	3196	U
1	5	3198	U
1	5	3207	U
1	5	3209	A
1	5	3210	A
1	5	3217	C
1	5	3218	A
1	5	3219	G

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Mol	Chain	Res	Type
1	5	3227	A
1	5	3228	C
1	5	3229	G
1	5	3238	G
1	5	3244	A
1	5	3245	A
1	5	3247	G
1	5	3253	G
1	5	3259	U
1	5	3265	C
1	5	3269	U
1	5	3270	U
1	5	3272	C
1	5	3274	A
1	5	3275	U
1	5	3276	G
1	5	3277	U
1	5	3278	C
1	5	3279	A
1	5	3281	U
1	5	3282	U
1	5	3285	C
1	5	3286	G
1	5	3288	G
1	5	3289	G
1	5	3290	G
1	5	3294	A
1	5	3301	U
1	5	3304	U
1	5	3306	U
1	5	3312	U
1	5	3317	U
1	5	3318	G
1	5	3319	U
1	5	3329	U
1	5	3330	A
1	5	3335	A
1	5	3338	C
1	5	3341	U
1	5	3342	A
1	5	3345	G
1	5	3346	U

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Mol	Chain	Res	Type
1	5	3351	U
1	5	3352	U
1	5	3354	U
1	5	3355	U
1	5	3356	G
1	5	3357	U
1	5	3358	U
1	5	3362	A
1	5	3368	U
1	5	3369	G
1	5	3371	G
1	5	3378	C
1	5	3383	G
1	5	3389	U
1	5	3390	G
1	5	3396	U
2	7	19	C
2	7	22	A
2	7	33	U
2	7	54	U
2	7	65	G
2	7	73	C
2	7	74	C
2	7	91	G
2	7	93	C
2	7	102	A
2	7	103	A
2	7	112	G
2	7	121	U
3	8	21	C
3	8	23	U
3	8	25	G
3	8	34	U
3	8	35	C
3	8	39	G
3	8	51	G
3	8	59	A
3	8	60	U
3	8	62	C
3	8	63	G
3	8	76	C
3	8	77	A

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Mol	Chain	Res	Type
3	8	78	G
3	8	79	A
3	8	80	A
3	8	81	U
3	8	82	U
3	8	83	C
3	8	84	C
3	8	85	G
3	8	86	U
3	8	87	G
3	8	88	A
3	8	90	U
3	8	95	G
3	8	102	U
3	8	104	A
3	8	105	A
3	8	106	C
3	8	111	A
3	8	113	U
3	8	118	C
3	8	125	U
3	8	126	A
3	8	127	U
3	8	128	U
3	8	138	A
3	8	152	G
3	8	156	U
3	8	157	U
3	8	158	U

All (85) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	5	109	A
1	5	151	A
1	5	183	G
1	5	238	A
1	5	240	U
1	5	282	G
1	5	438	A
1	5	546	C
1	5	619	A

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Mol	Chain	Res	Type
1	5	620	U
1	5	621	A
1	5	696	C
1	5	715	A
1	5	735	A
1	5	765	C
1	5	850	U
1	5	873	C
1	5	916	G
1	5	981	U
1	5	982	C
1	5	1064	A
1	5	1081	U
1	5	1222	G
1	5	1238	C
1	5	1241	U
1	5	1284	C
1	5	1307	G
1	5	1329	U
1	5	1352	A
1	5	1355	A
1	5	1555	U
1	5	1559	A
1	5	1568	U
1	5	1571	A
1	5	1580	A
1	5	1605	A
1	5	1607	U
1	5	1716	U
1	5	1724	U
1	5	1816	A
1	5	1819	U
1	5	1838	G
1	5	2101	C
1	5	2112	U
1	5	2204	C
1	5	2248	C
1	5	2307	G
1	5	2418	G
1	5	2422	C
1	5	2438	A
1	5	2513	U

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Mol	Chain	Res	Type
1	5	2523	A
1	5	2539	C
1	5	2583	C
1	5	2584	G
1	5	2593	A
1	5	2604	U
1	5	2662	G
1	5	2682	C
1	5	2772	C
1	5	2807	U
1	5	2872	A
1	5	2954	U
1	5	2971	A
1	5	2995	A
1	5	3078	U
1	5	3115	C
1	5	3121	U
1	5	3167	A
1	5	3195	U
1	5	3218	A
1	5	3228	C
1	5	3269	U
1	5	3289	G
1	5	3303	G
1	5	3317	U
1	5	3340	G
1	5	3341	U
1	5	3357	U
3	8	79	A
3	8	80	A
3	8	89	A
3	8	111	A
3	8	126	A
3	8	156	U

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

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

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	Y5P	5	1994	1	14,19,20	4.35	2 (14%)	18,26,29	1.10	1 (5%)
1	P5P	5	2024	1	20,23,24	0.74	1 (5%)	27,33,36	0.73	1 (3%)
1	P5P	5	2020	1	20,23,24	0.73	1 (5%)	27,33,36	0.74	1 (3%)
1	P5P	5	2021	1	20,23,24	0.66	1 (5%)	27,33,36	0.70	1 (3%)
1	Y5P	5	1990	1	14,19,20	4.32	2 (14%)	18,26,29	1.10	1 (5%)
1	P5P	5	2019	1	20,23,24	0.68	1 (5%)	27,33,36	0.74	1 (3%)
1	P5P	5	2016	1	20,23,24	0.74	1 (5%)	27,33,36	0.73	1 (3%)
1	Y5P	5	1986	1	14,19,20	4.35	2 (14%)	18,26,29	1.06	1 (5%)
1	P5P	5	2017	1	20,23,24	0.64	1 (5%)	27,33,36	0.71	1 (3%)
1	P5P	5	2025	1	20,23,24	0.65	1 (5%)	27,33,36	0.70	1 (3%)
1	P5P	5	2018	1	20,23,24	0.71	1 (5%)	27,33,36	0.74	1 (3%)
1	Y5P	5	1987	1	14,19,20	4.17	2 (14%)	18,26,29	1.05	1 (5%)
1	P5P	5	2022	1	20,23,24	0.75	1 (5%)	27,33,36	0.74	1 (3%)
1	Y5P	5	1993	1	14,19,20	4.39	2 (14%)	18,26,29	1.04	1 (5%)
1	Y5P	5	1995	1	14,19,20	4.21	2 (14%)	18,26,29	1.00	1 (5%)
1	Y5P	5	1991	1	14,19,20	4.22	2 (14%)	18,26,29	1.03	1 (5%)
1	P5P	5	2023	1	20,23,24	0.65	1 (5%)	27,33,36	0.75	1 (3%)
1	Y5P	5	1988	1	14,19,20	4.35	2 (14%)	18,26,29	1.06	1 (5%)
1	Y5P	5	1992	1	14,19,20	4.44	2 (14%)	18,26,29	1.08	1 (5%)
1	Y5P	5	1989	1	14,19,20	4.21	2 (14%)	18,26,29	1.01	1 (5%)

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
1	Y5P	5	1994	1	-	1/7/33/34	0/2/2/2
1	P5P	5	2024	1	-	0/7/25/26	0/3/3/3
1	P5P	5	2020	1	-	0/7/25/26	0/3/3/3
1	P5P	5	2021	1	-	0/7/25/26	0/3/3/3
1	Y5P	5	1990	1	-	1/7/33/34	0/2/2/2
1	P5P	5	2019	1	-	0/7/25/26	0/3/3/3
1	P5P	5	2016	1	-	0/7/25/26	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	Y5P	5	1986	1	-	1/7/33/34	0/2/2/2
1	P5P	5	2017	1	-	0/7/25/26	0/3/3/3
1	P5P	5	2025	1	-	0/7/25/26	0/3/3/3
1	P5P	5	2018	1	-	0/7/25/26	0/3/3/3
1	Y5P	5	1987	1	-	1/7/33/34	0/2/2/2
1	P5P	5	2022	1	-	0/7/25/26	0/3/3/3
1	Y5P	5	1993	1	-	1/7/33/34	0/2/2/2
1	Y5P	5	1995	1	-	1/7/33/34	0/2/2/2
1	Y5P	5	1991	1	-	1/7/33/34	0/2/2/2
1	P5P	5	2023	1	-	0/7/25/26	0/3/3/3
1	Y5P	5	1988	1	-	1/7/33/34	0/2/2/2
1	Y5P	5	1992	1	-	1/7/33/34	0/2/2/2
1	Y5P	5	1989	1	-	1/7/33/34	0/2/2/2

All (30) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	1992	Y5P	C2-N3	14.52	1.38	1.27
1	5	1986	Y5P	C2-N3	14.12	1.38	1.27
1	5	1988	Y5P	C2-N3	14.05	1.38	1.27
1	5	1993	Y5P	C2-N3	14.04	1.38	1.27
1	5	1994	Y5P	C2-N3	13.97	1.38	1.27
1	5	1990	Y5P	C2-N3	13.90	1.38	1.27
1	5	1995	Y5P	C2-N3	13.40	1.37	1.27
1	5	1989	Y5P	C2-N3	13.34	1.37	1.27
1	5	1991	Y5P	C2-N3	13.28	1.37	1.27
1	5	1987	Y5P	C2-N3	13.15	1.37	1.27
1	5	1991	Y5P	C4-N3	-8.41	1.38	1.46
1	5	1993	Y5P	C4-N3	-8.40	1.38	1.46
1	5	1987	Y5P	C4-N3	-8.28	1.38	1.46
1	5	1989	Y5P	C4-N3	-8.27	1.38	1.46
1	5	1994	Y5P	C4-N3	-8.24	1.38	1.46
1	5	1995	Y5P	C4-N3	-8.20	1.38	1.46
1	5	1990	Y5P	C4-N3	-8.14	1.38	1.46
1	5	1988	Y5P	C4-N3	-8.08	1.38	1.46
1	5	1986	Y5P	C4-N3	-8.02	1.38	1.46
1	5	1992	Y5P	C4-N3	-7.99	1.38	1.46
1	5	2022	P5P	C1'-N9	-2.64	1.39	1.46
1	5	2024	P5P	C1'-N9	-2.58	1.39	1.46
1	5	2016	P5P	C1'-N9	-2.56	1.39	1.46
1	5	2020	P5P	C1'-N9	-2.56	1.39	1.46
1	5	2018	P5P	C1'-N9	-2.40	1.39	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	5	2019	P5P	C1'-N9	-2.25	1.40	1.46
1	5	2021	P5P	C1'-N9	-2.14	1.40	1.46
1	5	2025	P5P	C1'-N9	-2.11	1.40	1.46
1	5	2017	P5P	C1'-N9	-2.09	1.40	1.46
1	5	2023	P5P	C1'-N9	-2.08	1.40	1.46

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	5	1994	Y5P	N1-C2-N3	-3.99	114.34	125.39
1	5	1986	Y5P	N1-C2-N3	-3.97	114.38	125.39
1	5	1992	Y5P	N1-C2-N3	-3.94	114.47	125.39
1	5	1990	Y5P	N1-C2-N3	-3.92	114.52	125.39
1	5	1988	Y5P	N1-C2-N3	-3.87	114.67	125.39
1	5	1993	Y5P	N1-C2-N3	-3.76	114.97	125.39
1	5	1989	Y5P	N1-C2-N3	-3.73	115.04	125.39
1	5	1995	Y5P	N1-C2-N3	-3.72	115.07	125.39
1	5	1987	Y5P	N1-C2-N3	-3.71	115.09	125.39
1	5	1991	Y5P	N1-C2-N3	-3.63	115.32	125.39
1	5	2018	P5P	C6-N1-C2	2.40	118.63	115.80
1	5	2021	P5P	C6-N1-C2	2.39	118.62	115.80
1	5	2016	P5P	C6-N1-C2	2.38	118.61	115.80
1	5	2023	P5P	C6-N1-C2	2.37	118.60	115.80
1	5	2024	P5P	C6-N1-C2	2.36	118.59	115.80
1	5	2017	P5P	C6-N1-C2	2.35	118.58	115.80
1	5	2019	P5P	C6-N1-C2	2.35	118.57	115.80
1	5	2022	P5P	C6-N1-C2	2.34	118.56	115.80
1	5	2020	P5P	C6-N1-C2	2.34	118.56	115.80
1	5	2025	P5P	C6-N1-C2	2.33	118.55	115.80

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	5	1987	Y5P	O4'-C1'-N1-C2
1	5	1989	Y5P	O4'-C1'-N1-C2
1	5	1990	Y5P	O4'-C1'-N1-C2
1	5	1991	Y5P	O4'-C1'-N1-C2
1	5	1993	Y5P	O4'-C1'-N1-C2
1	5	1995	Y5P	O4'-C1'-N1-C2
1	5	1986	Y5P	O4'-C1'-N1-C2
1	5	1988	Y5P	O4'-C1'-N1-C2

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Mol	Chain	Res	Type	Atoms
1	5	1992	Y5P	O4'-C1'-N1-C2
1	5	1994	Y5P	O4'-C1'-N1-C2

There are no ring outliers.

13 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	5	1994	Y5P	1	0
1	5	2024	P5P	1	0
1	5	1990	Y5P	3	0
1	5	2017	P5P	1	0
1	5	2018	P5P	1	0
1	5	1987	Y5P	1	0
1	5	2022	P5P	1	0
1	5	1993	Y5P	1	0
1	5	1991	Y5P	1	0
1	5	2023	P5P	1	0
1	5	1988	Y5P	1	0
1	5	1992	Y5P	1	0
1	5	1989	Y5P	2	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 286 ligands modelled in this entry, 286 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

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](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	5	2
47	z	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	5	1953:G	O3'	1986:Y5P	P	107.33
1	5	2025:P5P	O3'	2093:A	P	105.65
1	z	107:UNK	C	115:UNK	N	20.22
1	z	127:UNK	C	131:UNK	N	9.70

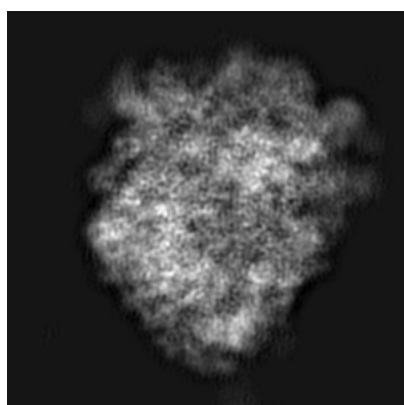
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-3152. These allow visual inspection of the internal detail of the map and identification of artifacts.

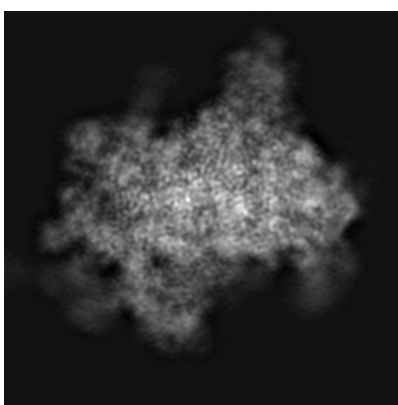
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

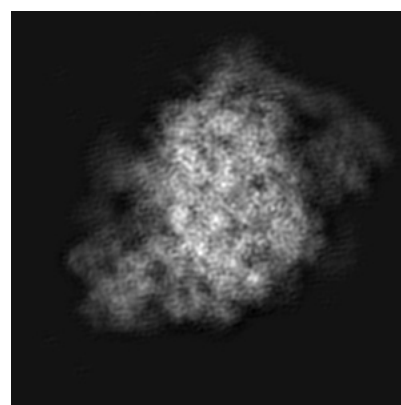
6.1.1 Primary map



X



Y

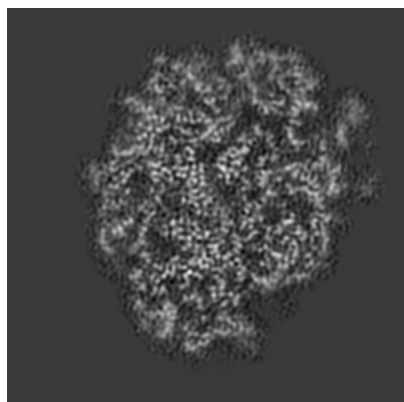


Z

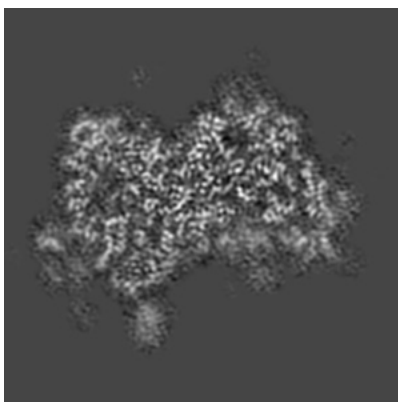
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

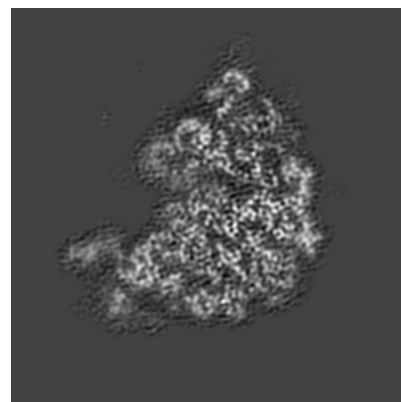
6.2.1 Primary map



X Index: 108



Y Index: 108

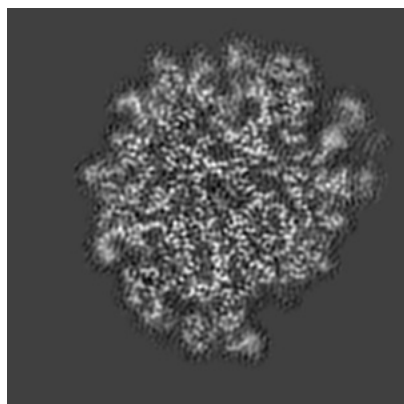


Z Index: 108

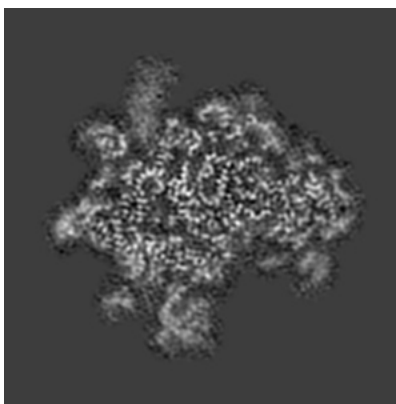
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

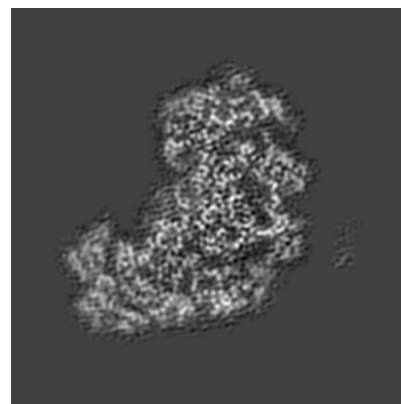
6.3.1 Primary map



X Index: 113



Y Index: 87

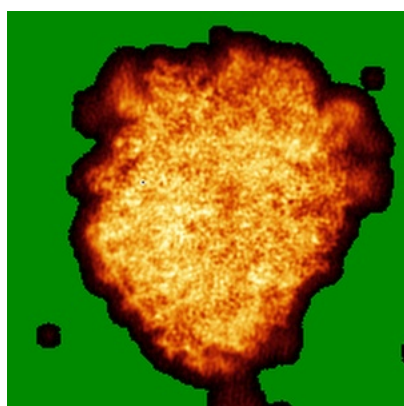


Z Index: 94

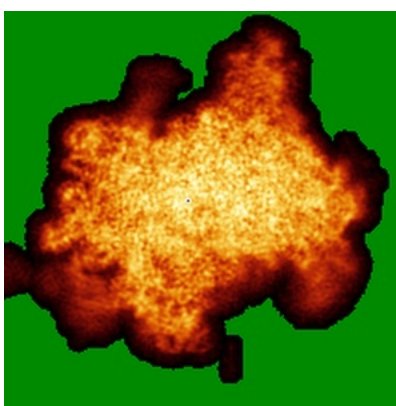
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

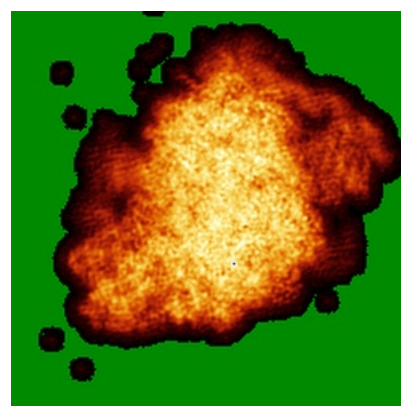
6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.06. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

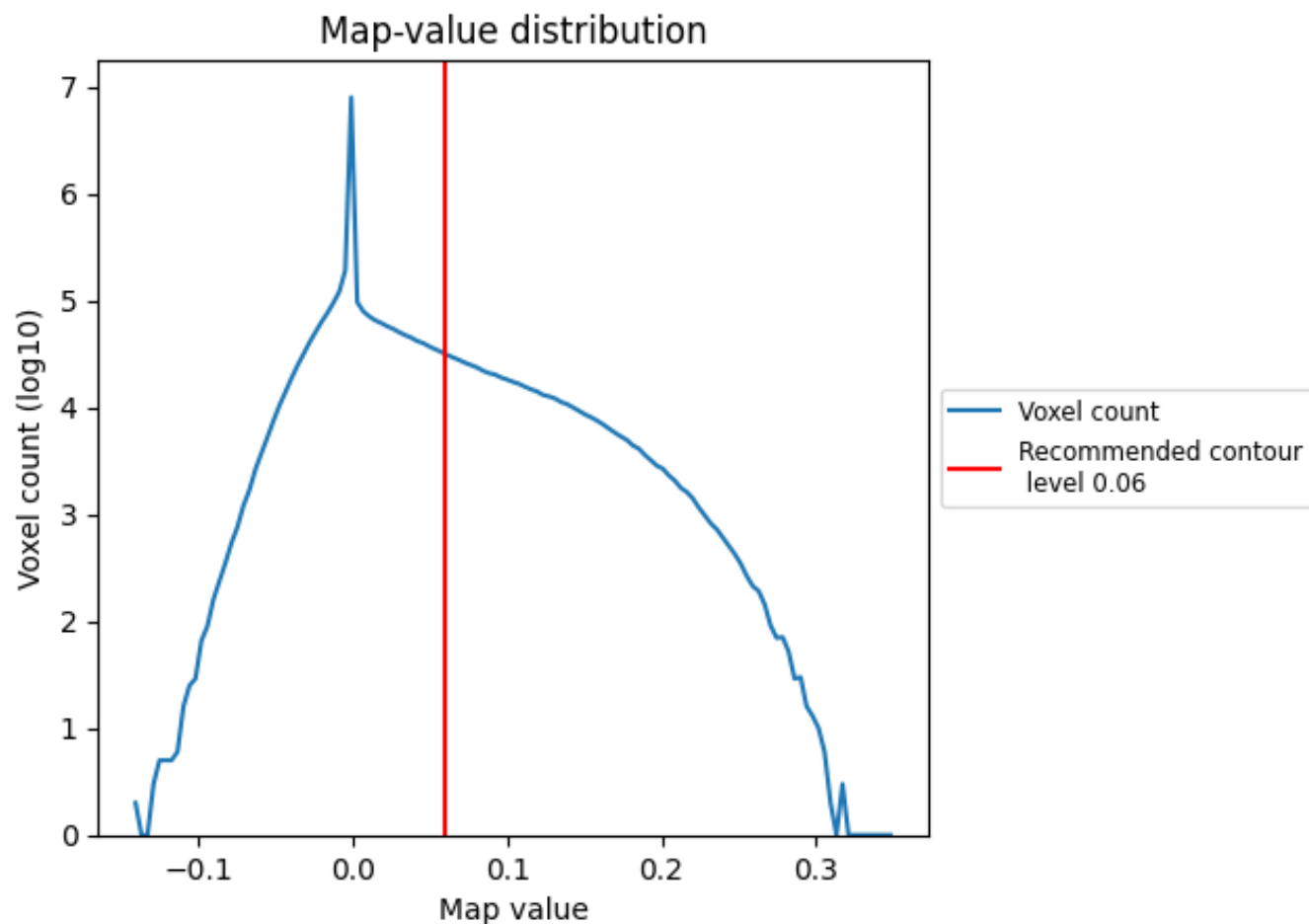
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

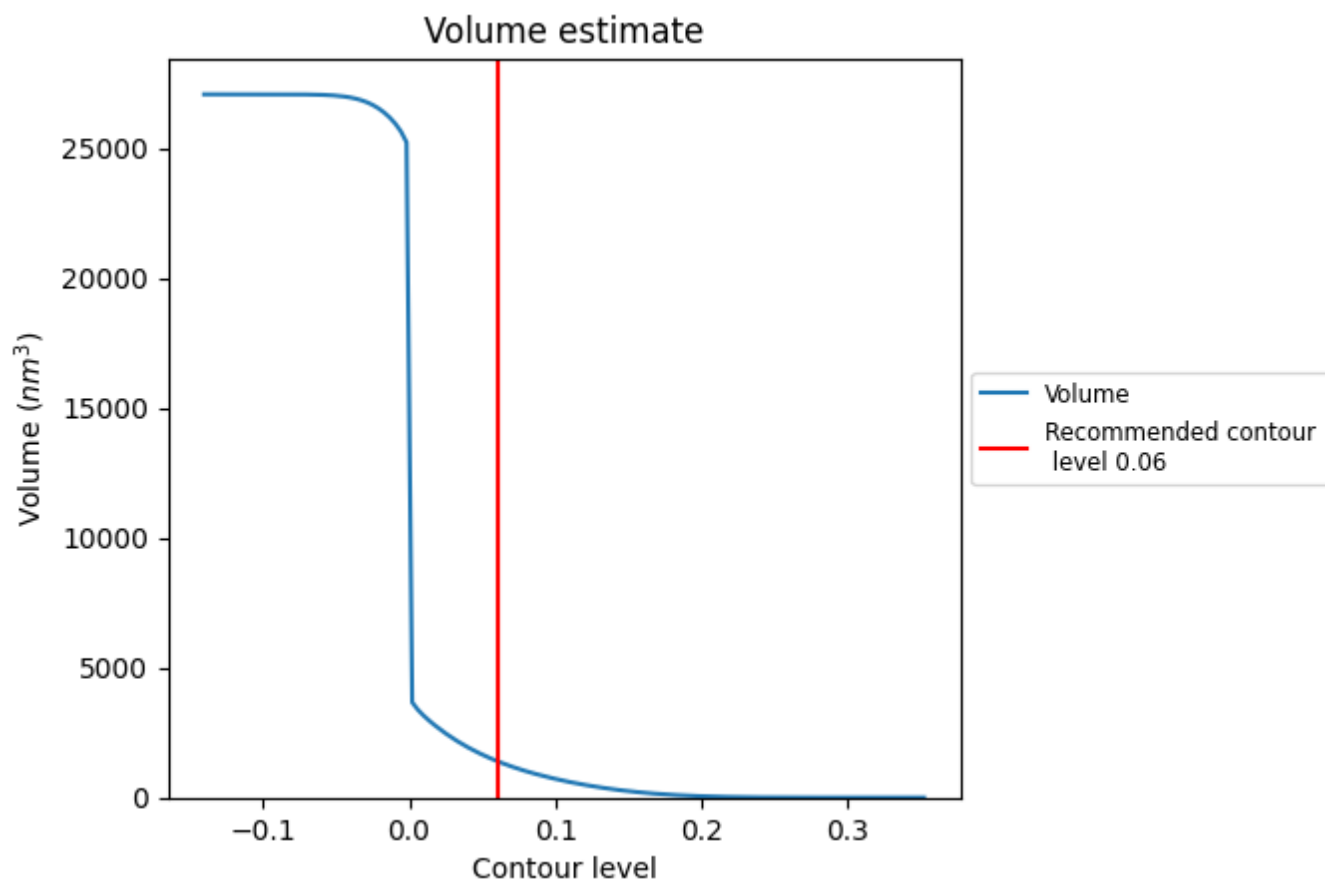
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

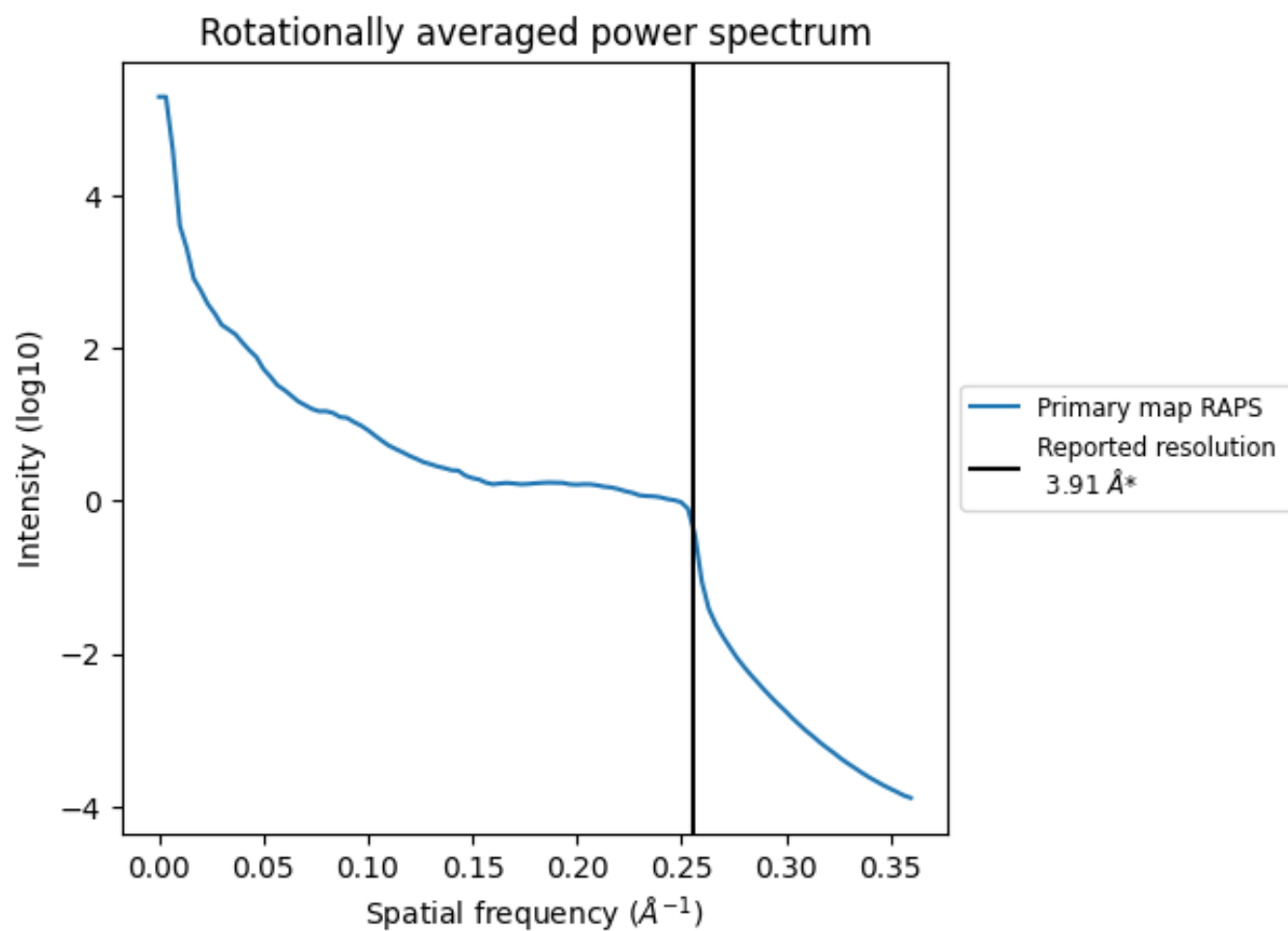
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1406 nm³; this corresponds to an approximate mass of 1270 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.256 $\text{\AA}^{-1}$

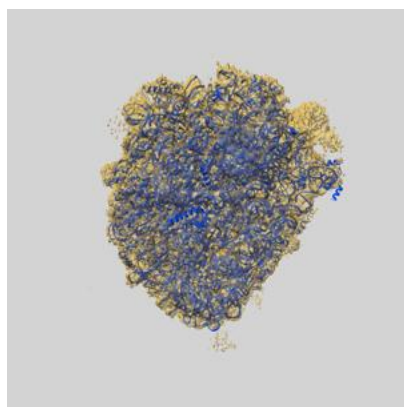
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

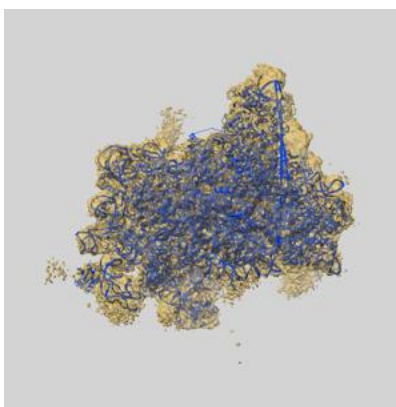
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-3152 and PDB model 5APN. Per-residue inclusion information can be found in section 3 on page 14.

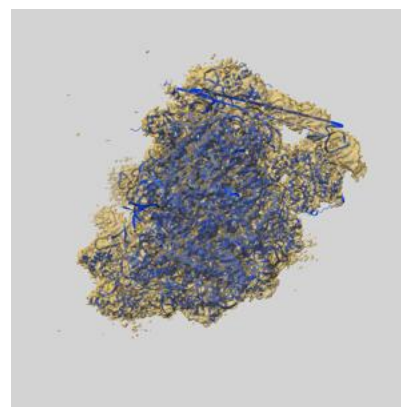
9.1 Map-model overlay [i](#)



X



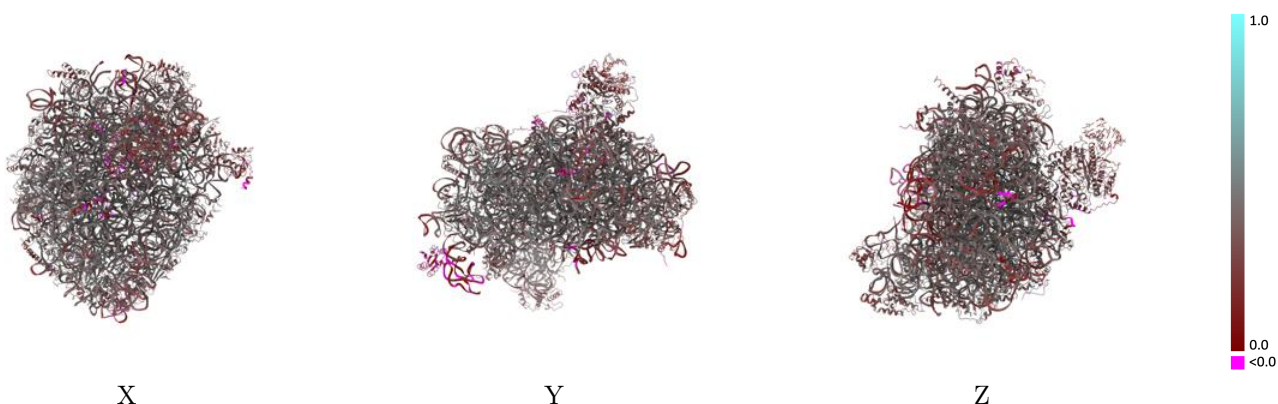
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.06 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)

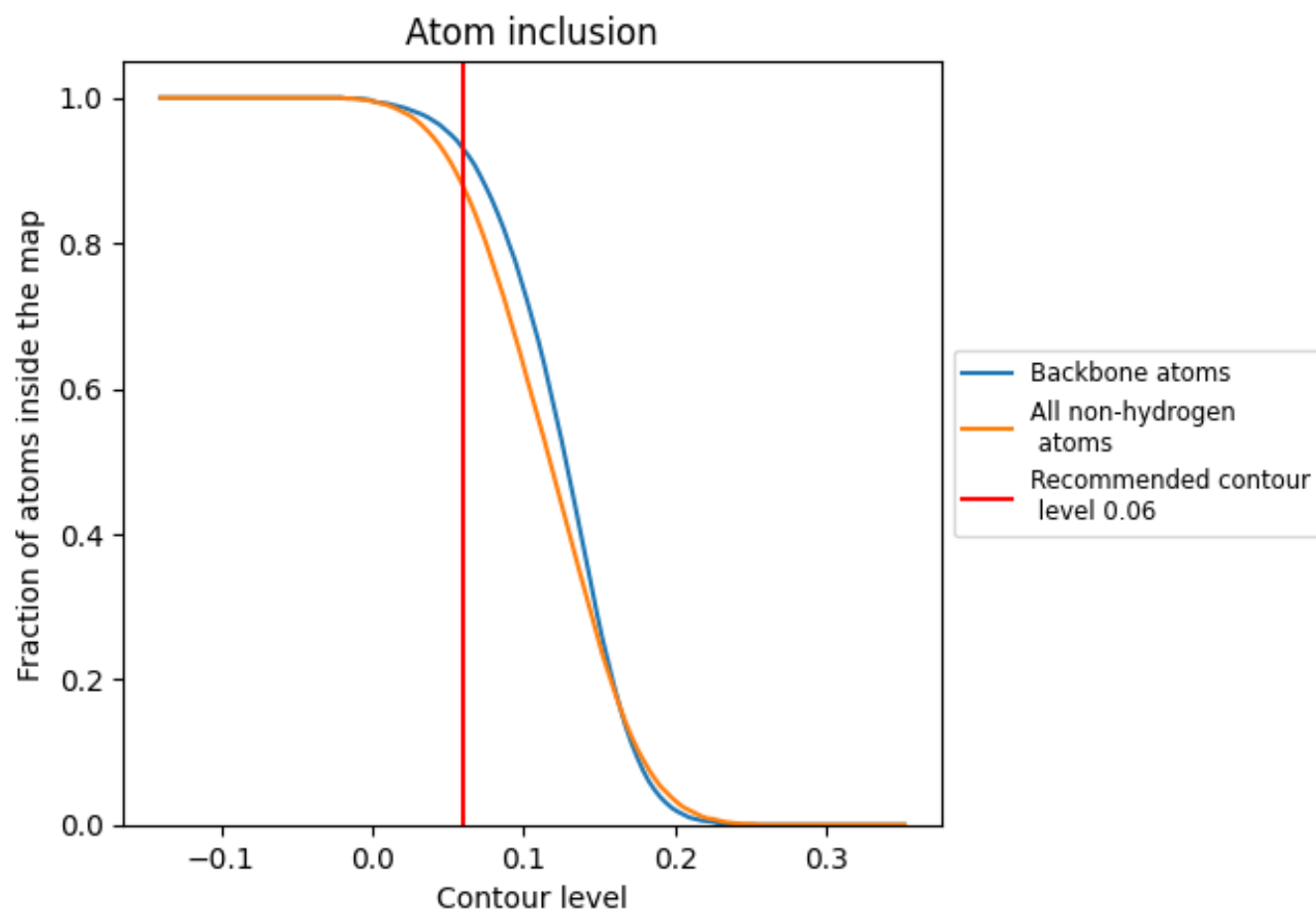


The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)

This section was not generated.

9.4 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 88% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.06) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8780	 0.3890
5	 0.9420	 0.3900
7	 0.9870	 0.3860
8	 0.9580	 0.4110
A	 0.8140	 0.4210
B	 0.8650	 0.4260
C	 0.8610	 0.4350
D	 0.8470	 0.3440
E	 0.8500	 0.3920
F	 0.8400	 0.4230
G	 0.8500	 0.3660
H	 0.8500	 0.4020
I	 0.8290	 0.4030
J	 0.8310	 0.3050
L	 0.8480	 0.4110
M	 0.8670	 0.4080
N	 0.7920	 0.4200
O	 0.8620	 0.4310
P	 0.8190	 0.4360
Q	 0.8510	 0.4350
R	 0.8300	 0.4090
S	 0.8570	 0.4310
T	 0.8350	 0.4310
U	 0.7800	 0.3730
V	 0.8170	 0.4070
W	 0.8300	 0.4050
X	 0.8070	 0.4340
Y	 0.8460	 0.4160
Z	 0.8500	 0.3590
a	 0.8690	 0.4330
b	 0.7810	 0.4000
c	 0.7620	 0.3400
d	 0.7760	 0.4280
e	 0.8150	 0.4370
f	 0.8560	 0.4520



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Chain	Atom inclusion	Q-score
g	 0.7940	 0.4070
h	 0.8330	 0.3990
i	 0.7840	 0.3800
j	 0.8490	 0.4430
k	 0.7900	 0.3690
l	 0.7830	 0.4430
m	 0.8190	 0.3980
o	 0.7230	 0.3430
p	 0.8000	 0.3950
q	 0.1230	 0.0770
x	 0.7050	 0.3040
y	 0.4140	 0.2860
z	 0.1510	 0.0910