



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 14, 2018 – 03:09 pm GMT

PDB ID : 2QA4
Title : A more complete structure of the the L7/L12 stalk of the Haloarcula marismortui 50S large ribosomal subunit
Authors : Steitz, T.A.; Kavran, J.M.
Deposited on : 2007-06-14
Resolution : 3.00 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

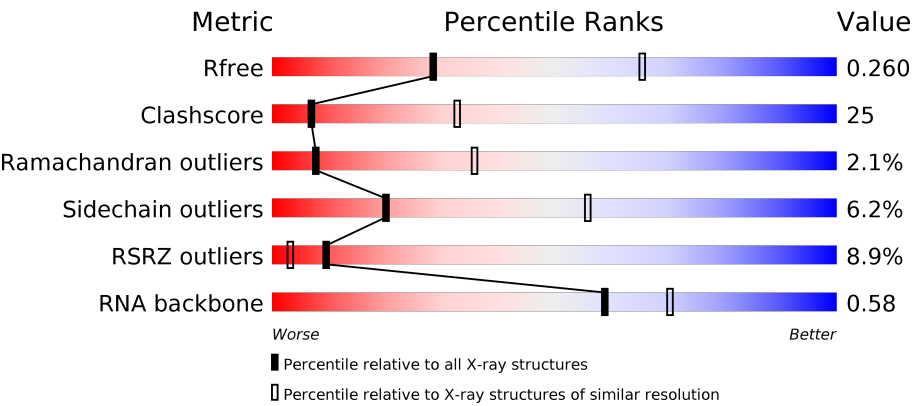
MolProbity : 4.02b-467
Mogul : 1.7.3 (157068), CSD as539be (2018)
Xtriage (Phenix) : 1.13
EDS : trunk31020
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)
Refmac : 5.8.0158
CCP4 : 7.0 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk31020

1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R _{free}	111664	1851 (3.00-3.00)
Clashscore	122126	2167 (3.00-3.00)
Ramachandran outliers	120053	2101 (3.00-3.00)
Sidechain outliers	120020	2104 (3.00-3.00)
RSRZ outliers	108989	1751 (3.00-3.00)
RNA backbone	2636	1017 (3.30-2.70)

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

Mol	Chain	Length	Quality of chain
1	0	2922	<div><div>28%57%9%6%</div><div></div></div>
2	9	122	<div><div>17%69%13%</div><div></div></div>
3	A	240	<div><div>10%61%34%</div><div></div></div>
4	B	338	<div><div>4%59%36%</div><div></div></div>

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Mol	Chain	Length	Quality of chain
5	C	246	
6	D	177	
7	E	178	
8	F	120	
9	G	348	
10	H	171	
11	I	162	
12	J	145	
13	K	132	
14	L	165	
15	M	196	
16	N	187	
17	O	116	
18	P	149	
19	Q	96	
20	R	155	
21	S	85	
22	T	120	
23	U	67	
24	V	71	
25	W	154	
26	X	92	
27	Y	241	
28	Z	92	
29	1	57	

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Mol	Chain	Length	Quality of chain
30	2	50	
31	3	92	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
32	MG	0	2971	-	-	-	X
32	MG	0	2973	-	-	-	X
32	MG	0	2980	-	-	-	X
32	MG	0	2984	-	-	-	X
32	MG	0	2998	-	-	-	X
32	MG	0	3006	-	-	-	X
32	MG	0	3025	-	-	-	X
32	MG	0	3026	-	-	-	X
32	MG	0	3028	-	-	-	X
32	MG	0	3029	-	-	-	X
32	MG	3	93	-	-	-	X
32	MG	A	240	-	-	-	X
32	MG	B	338	-	-	-	X
32	MG	K	133	-	-	-	X
32	MG	Y	241	-	-	-	X
33	K	0	3031	-	-	-	X
33	K	M	196	-	-	-	X
34	NA	0	3033	-	-	-	X
34	NA	0	3034	-	-	-	X
34	NA	0	3039	-	-	-	X
34	NA	0	3044	-	-	-	X
34	NA	0	3050	-	-	-	X
34	NA	0	3052	-	-	-	X
34	NA	0	3057	-	-	-	X
34	NA	0	3059	-	-	-	X
34	NA	0	3075	-	-	-	X
34	NA	0	3077	-	-	-	X
34	NA	0	3082	-	-	-	X
34	NA	0	3084	-	-	-	X
34	NA	0	3094	-	-	-	X
34	NA	0	3098	-	-	-	X
34	NA	0	3099	-	-	-	X
34	NA	0	3100	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
34	NA	O	3103	-	-	-	X
34	NA	S	85	-	-	-	X
35	CL	O	3106	-	-	-	X
35	CL	O	3109	-	-	-	X
35	CL	O	3112	-	-	-	X
35	CL	3	95	-	-	X	X
35	CL	J	147	-	-	X	-
35	CL	J	149	-	-	X	-
35	CL	O	117	-	-	-	X
35	CL	Q	97	-	-	-	X
36	CD	O	116	-	-	-	X

2 Entry composition

There are 36 unique types of molecules in this entry. The entry contains 92248 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	0	2753	Total	C	N	O	P	0	0	0
			58979	26332	10869	19036	2742			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	560	C	U	CONFLICT	GB 3377779

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	9	122	Total	C	N	O	P	0	0	0
			2600	1160	472	847	121			

- Molecule 3 is a protein called 50S ribosomal protein L2P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A	237	Total	C	N	O	S	0	0	0
			1753	1072	352	324	5			

- Molecule 4 is a protein called 50S ribosomal protein L3P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	B	337	Total	C	N	O	S	0	0	0
			2625	1616	493	511	5			

- Molecule 5 is a protein called 50S ribosomal protein L4P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	C	246	Total	C	N	O	S	0	0	0
			1859	1131	344	383	1			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	73	LEU	GLN	CONFLICT	UNP P12735

- Molecule 6 is a protein called 50S ribosomal protein L5P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	D	140	Total	C	N	O	S	0	0	0
			1094	685	195	210	4			

- Molecule 7 is a protein called 50S ribosomal protein L6P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	E	172	Total	C	N	O	S	0	0	0
			1357	840	224	289	4			

- Molecule 8 is a protein called 50S ribosomal protein L7Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	F	119	Total	C	N	O	S	0	0	0
			890	551	141	197	1			

- Molecule 9 is a protein called ACIDIC RIBOSOMAL PROTEIN P0 HOMO.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	G	125	Total	C	N	O	S	0	0	0
			959	592	162	203	2			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	248	ASP	ALA	CONFLICT	UNP P15825

- Molecule 10 is a protein called 50S ribosomal protein L10e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	H	160	Total	C	N	O	S	0	0	0
			1266	785	237	238	6			

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	164	ASP	-	INSERTION	UNP P60617
H	165	SER	LYS	CONFLICT	UNP P60617
H	166	SER	VAL	CONFLICT	UNP P60617
H	167	PRO	GLU	CONFLICT	UNP P60617
H	168	ALA	ARG	CONFLICT	UNP P60617
H	?	-	GLU	DELETION	UNP P60617
H	?	-	GLU	DELETION	UNP P60617
H	?	-	LEU	DELETION	UNP P60617
H	?	-	LEU	DELETION	UNP P60617
H	170	ASN	ILE	CONFLICT	UNP P60617

- Molecule 11 is a protein called 50S ribosomal protein L11P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	I	118	Total	C	N	O	S	0	0	0
			876	548	135	192	1			

- Molecule 12 is a protein called 50S ribosomal protein L13P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	J	142	Total	C	N	O	S	0	0	0
			1120	696	199	222	3			

- Molecule 13 is a protein called 50S ribosomal protein L14P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	K	132	Total	C	N	O	S	0	0	0
			992	609	187	192	4			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	44	LEU	HIS	CONFLICT	UNP P22450

- Molecule 14 is a protein called 50S ribosomal protein L15P.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	L	145	Total	C	N	O	0	0	0
			1118	670	222	226			

- Molecule 15 is a protein called 50S ribosomal protein L15e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	M	194	Total	C	N	O	S	0	0	0
			1559	943	332	283	1			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	13	GLU	LYS	CONFLICT	UNP P60618
M	194	ALA	GLY	CONFLICT	UNP P60618

- Molecule 16 is a protein called 50S ribosomal protein L18P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	N	186	Total	C	N	O	S	0	0	0
			1445	895	262	286	2			

- Molecule 17 is a protein called 50S ribosomal protein L18e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	O	115	Total	C	N	O	0	0	0
			865	529	161	175			

- Molecule 18 is a protein called 50S ribosomal protein L19e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	P	143	Total	C	N	O	0	0	0
			1136	683	229	224			

- Molecule 19 is a protein called 50S ribosomal protein L21e.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
19	Q	95	Total	C	N	O	0	0	0
			735	450	141	144			

- Molecule 20 is a protein called 50S ribosomal protein L22P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	R	150	Total	C	N	O	S	0	0	0
			1149	713	209	223	4			

- Molecule 21 is a protein called 50S ribosomal protein L23P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	S	81	Total	C	N	O	S	0	0	0
			641	389	111	138	3			

- Molecule 22 is a protein called 50S ribosomal protein L24P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	T	119	Total	C	N	O		0	0	0
			950	568	180	202				

- Molecule 23 is a protein called 50S ribosomal protein L24e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	U	53	Total	C	N	O	S	0	0	0
			410	244	75	86	5			

- Molecule 24 is a protein called 50S ribosomal protein L29P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	V	65	Total	C	N	O	S	0	0	0
			499	304	94	100	1			

- Molecule 25 is a protein called 50S ribosomal protein L30P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	W	154	Total	C	N	O	S	0	0	0
			1196	737	209	244	6			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L31E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	X	82	Total	C	N	O	S	0	0	0
			654	402	129	122	1			

- Molecule 27 is a protein called 50S ribosomal protein L32e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	Y	142	Total	C	N	O		0	0	0
			1130	686	228	216				

- Molecule 28 is a protein called 50S ribosomal protein L37Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	Z	73	Total	C	N	O	S	0	0	0
			578	346	116	111	5			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Z	10	ARG	SER	CONFLICT	UNP P60619

- Molecule 29 is a protein called 50S ribosomal protein L37e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	1	56	Total	C	N	O	S	0	0	0
			431	258	86	83	4			

- Molecule 30 is a protein called 50S ribosomal protein L39e.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	2	46	Total	C	N	O	S	0	0	0
			396	239	89	67	1			

- Molecule 31 is a protein called 50S ribosomal protein L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	3	92	Total	C	N	O	S	0	0	0
			755	458	153	137	7			

- Molecule 32 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	0	108	Total	Mg	0	0
			108	108		
32	Y	1	Total	Mg	0	0
			1	1		
32	K	1	Total	Mg	0	0
			1	1		
32	B	1	Total	Mg	0	0
			1	1		
32	A	2	Total	Mg	0	0
			2	2		
32	T	1	Total	Mg	0	0
			1	1		
32	9	1	Total	Mg	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	3	1	Total	Mg	0	0
			1	1		

- Molecule 33 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	0	1	Total	K	0	0
			1	1		
33	M	1	Total	K	0	0
			1	1		

- Molecule 34 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	0	73	Total	Na	0	0
			73	73		
34	J	1	Total	Na	0	0
			1	1		
34	Q	1	Total	Na	0	0
			1	1		
34	H	1	Total	Na	0	0
			1	1		
34	C	1	Total	Na	0	0
			1	1		
34	A	1	Total	Na	0	0
			1	1		
34	R	2	Total	Na	0	0
			2	2		
34	9	3	Total	Na	0	0
			3	3		
34	L	1	Total	Na	0	0
			1	1		
34	S	1	Total	Na	0	0
			1	1		
34	M	1	Total	Na	0	0
			1	1		

- Molecule 35 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	0	8	Total	Cl	0	0
			8	8		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	J	3	Total 3	Cl 3	0	0
35	Q	1	Total 1	Cl 1	0	0
35	K	1	Total 1	Cl 1	0	0
35	B	1	Total 1	Cl 1	0	0
35	A	1	Total 1	Cl 1	0	0
35	N	1	Total 1	Cl 1	0	0
35	O	1	Total 1	Cl 1	0	0
35	R	1	Total 1	Cl 1	0	0
35	Y	1	Total 1	Cl 1	0	0
35	L	1	Total 1	Cl 1	0	0
35	3	1	Total 1	Cl 1	0	0
35	M	1	Total 1	Cl 1	0	0

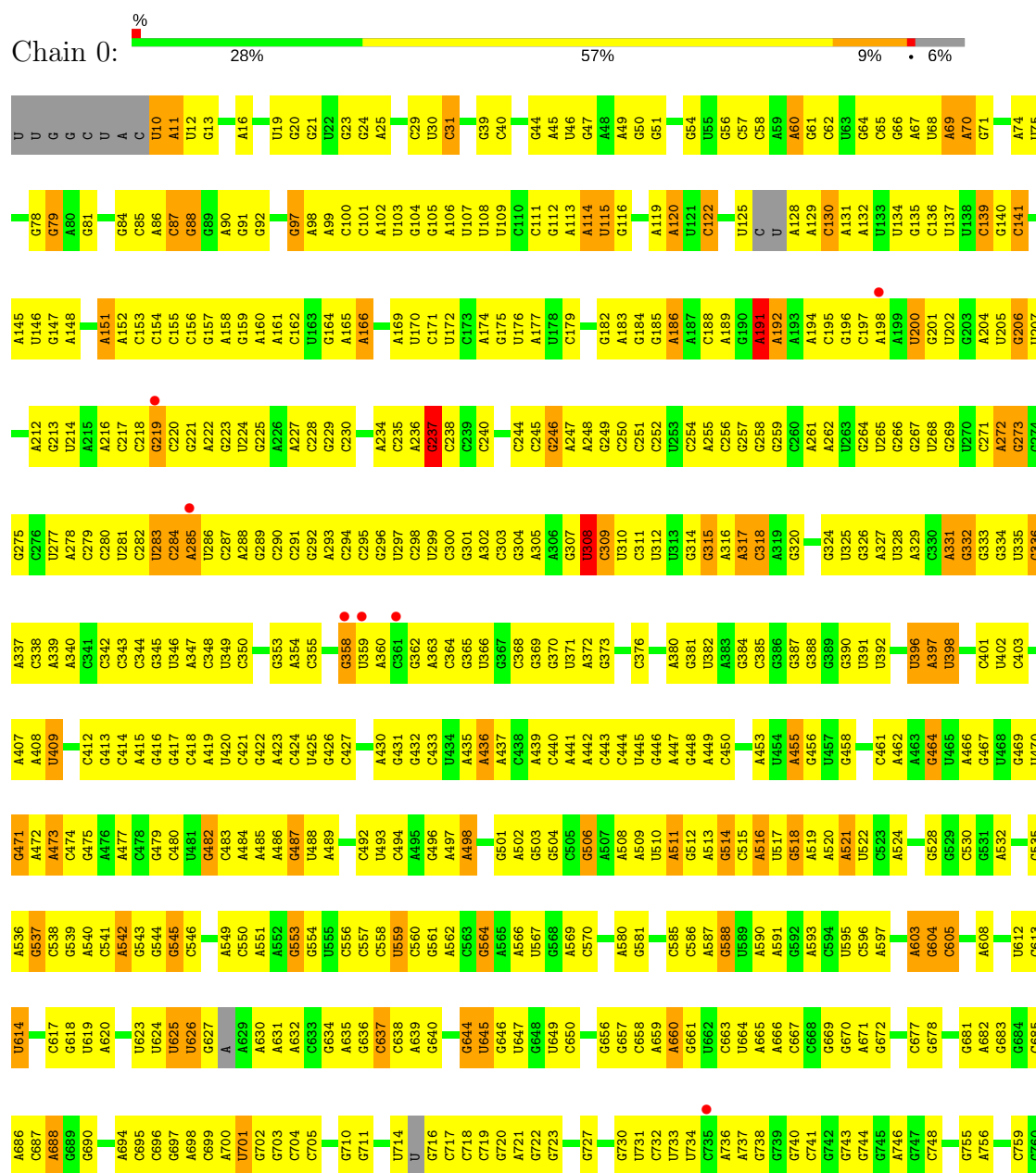
- Molecule 36 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
36	O	1	Total 1	Cd 1	0	0
36	Z	1	Total 1	Cd 1	0	0
36	1	1	Total 1	Cd 1	0	0
36	3	1	Total 1	Cd 1	0	0
36	U	1	Total 1	Cd 1	0	0

3 Residue-property plots

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

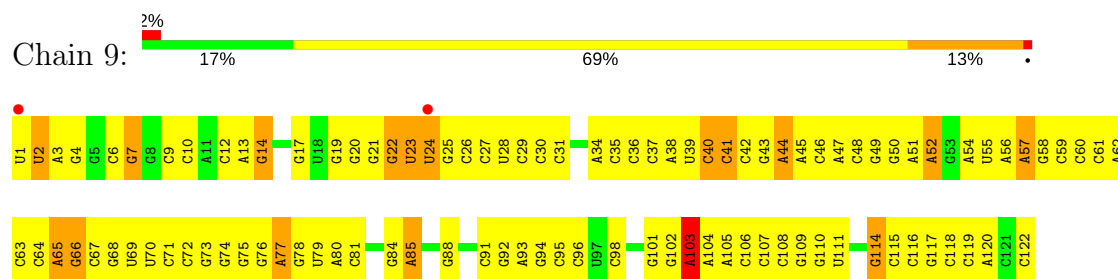
• Molecule 1: 23S RIBOSOMAL RNA



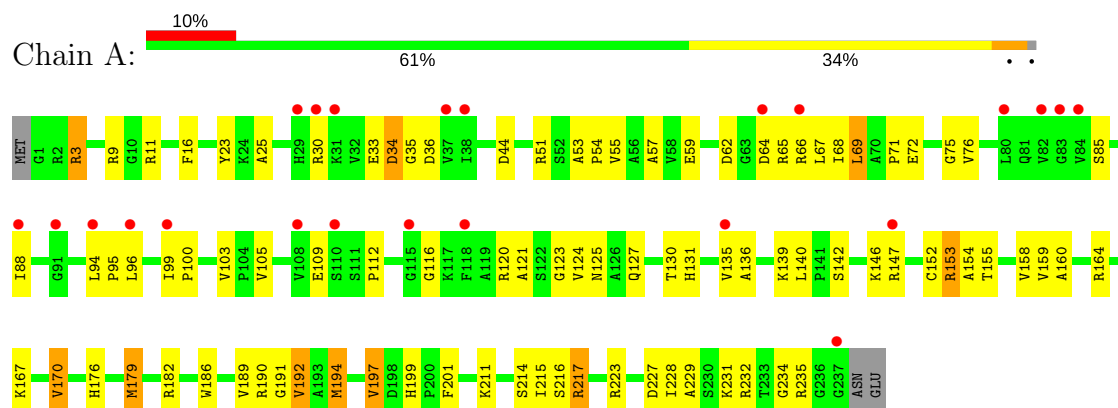
C1816	A1754	U1677	G1543	U1473	C1400	A1328	C1257	A1193	G1121	A908	U840	A761
U1817	A1755	G1608	U1544	C1475	G1401	A1329	G1258	A1194	C1126	C909	A841	C764
G1818	G1756	C1609	C1546	G1476	G1402	A1330	A1259	G1195	G1052	C910	C842	C765
G1819	U1757	G1610	U1548	A1477	A1406	A1331	A1260	C1096	G1059	C911	A843	G766
G1820	A1682	G1611	C1549	U1478	U1407	C1332	A1261	G1197	C1060	C912	A844	A767
A1821	G1683	A1612	C1550	A1479	A1408	C1334	C1262	U1198	C1061	C913	U845	G767
A1822	G1684		C1551		G1409	C1335	C1263	U1199	G1063	C914	A846	G772
G1823	U1761	A1685	C1552	A1482	G1410	A1336	U1264	A1199	A1132	C915	C847	A773
C1824	C1762	C1686	C1553	C1483	A1411	C1337	G1265	C1200	U1064	C920	C848	A774
U1825	C1763	C1687	C1554	G1484	U1412	U1338	U1266	C1201	G1065	C921	C849	A775
G1826	G1764	G1618	G1555	A1485	U1416	C1342	C1267	G1203	U1066	C922	A776	G776
G1827	G1765		G1556	A1486	G1417	C1343	C1268	C1204	C1069	C923	C853	U777
U1828	U1766	G1622	C1557	A1487	G1418	G1344	G1269	U1205	A1070	C924	G854	C778
A1829	A1767	C1623	C1558	U1488	U1419	A1345	U1270	U1206	G1071	C925	U855	U779
C1830	G1768	A1624	U1559		U1419	U1346		A1207	G1072	C926	G856	A780
U1831	G1769	G1625	U1560	A1493	U1419	U1347	C1273	C1208	G1075	U927	A857	C781
G1832	U1770	U1626	C1561	U1494	U1422	U1347		C1209	G1076	C928	U858	
U1833	G1771	A1626	C1562	C1495	C1423	A1348	A1278	C1210	G1077	U929	C859	G786
C1834	U1696	G1627	G1563	G1496	C1424	G1349	U1279	G1211	C1078	C930	U860	G787
U1835	G1773	C1699	C1564	G1497	A1424	U1349	A1280	C1212	A1079	C936	A861	
A1836	G1774	U1700	C1565	G1498	C1425	G1351	G1283	C1213	C1146	C937	U866	A790
G1837	A1775	A1631	C1566	U1499	G1426	G1352	G1284	G1214	C1080	C938	A867	A791
U1838	A1776	G1632	U1567	U1500	U1429	A1352	U1285	A1215	A1081	C939	G868	G792
A1839	G1777	C1633	C1568	A1501	G1430	C1353	U1286	G1216	C1000	U940	U794	A793
U1840	A1778	G1634	C1569	C1502	A1434	U1358	C1289	U1217	C1001	C941	G869	G795
C1841	A1779	U1635	U1570	U1503	A1435	C1360	G1290	U1218	C1083	C942	U870	A796
		A1637	A1571	A1504	U1436		U1219	U1219	C1084	U943	G871	A797
U1842	G1780		C1572	U1505	C1437	G1363	C1292	C1228	A1086	C944	U872	
G1843	G1781	C1640	C1573	U1506	G1438	U1364	U1293	G1225	C1087	C945	G873	G800
A1844	U1783	A1641	C1574	C1507	G1439	G1365	A1294	C1226	A1088	U946	A874	
U1845	G1784	C1575	C1576	C1508	U1440	C1366	G1295	G1226	C1089	C946	A875	A806
U1846	G1785	G1712	C1577	C1509	G1441	C1366	A1296	C1227	C1090	U949	G877	A807
A1847	C1786	G1713		G1510	U1442		C1228	G1160	U1091	C950	G878	A808
U1848	U1787	U1709	A1580	U1511	G1443	G1370	C1229	G1162	A1013	A951		A809
G1849	G1791	G1646	C1581	G1512	G1444	A1375	U1298	G1163	C1014	C952	A882	
C1850	C1792	U1723	C1582	C1513	G1445	G1376	C1299	U1169	C1015	C953	U883	A812
U1851	G1793	G1724	C1583	C1514	G1446	C1377	G1300	C1171	U1016	C954	C884	C813
C1855	G1794	C1725	C1584		U1446	C1378	C1301	G1165	A1097	C955	G885	G814
U1856	A1795		C1585	U1517	U1447	G1378	G1302	G1167	C1098	C956	U815	U815
A1857	G1796	G1730	G1586	A1518	A1448	A1379	C1305	G1235	G1099	A957	A886	G816
G1858	U1797	C1731	C1587	U1519	G1449	U1380	U1306	A1236	C1100	C1022	G817	G817
U1859	C1798	A1732	C1588	G1520	C1450	C1381	U1307	U1237	U1011	C1023	C890	U880
G1860	G1799	A1733	C1589	C1521	C1451	G1382	A1307	C1238	C1024	C959	C891	A818
C1862	G1800	C1734	C1590	A1522	G1452	C1383	A1308	G1239	C1103	C1025	C892	C819
G1863	G1801	G1660	G1592	G1523	G1453	C1384	U1309	C1240	C1026	C961	C893	G820
C1864	U1802		C1593	U1524	U1454	G1385	U1310	G1241	A1107	G1027	A894	U821
A1865	C1803		C1594	G1525	C1455	G1386	C1311	A1242	G1108	U1028	C895	C822
U1866	G1804	U1740	G1595	A1526	C1456	G1387	G1312	C1243	U1029	C1028	C896	U823
G1867	G1805	U1741	C1596	A1527	U1457	C1388	A1313	C1244	G1110	G1030	A897	G824
U1868	G1806	A1742	A1667	A1528	A1458	G1389	U1314	C1245	U1111	C1031	G898	U825
	U1807		G1598	G1529	A1459	G1390	G1315	A1246	G1113	A1032	C899	U826
U1871	A1746	A1669	U1599	G1529	G1460	A1392	G1316	A1247	G1182	C1033	U900	
C1872	U1747	C1670	G1590	G1535	U1461	A1393	A1317	A1248	C1184	A1114	G901	U832
G1873	U1748	C1536	C1601	C1537	C1462	C1394	U1249	U1185	U1115	U1041	G902	G833
U1874	A1811	G1672	C1537	C1395	A1463	C1395	C1322	U1186	U1116	U1042	U903	G834
A1875	G1812	U1673	A1603	C1538	U1464	C1396	G1323	U1187	A1117	U1043	U904	U835
G1876	U1813	G1750	G1614	U1539	C1397	G1324	C1251	A1188	A1118	C1043	C905	
U1877	C1814	C1675	G1605	C1398	A1471	A1399	G1327	A1189	A1119	C1044	G906	C838
A1878	C1752	C1676	C1598	C1472	C1473	A1400	C1327	C1190	U1120	C1045	U907	C839



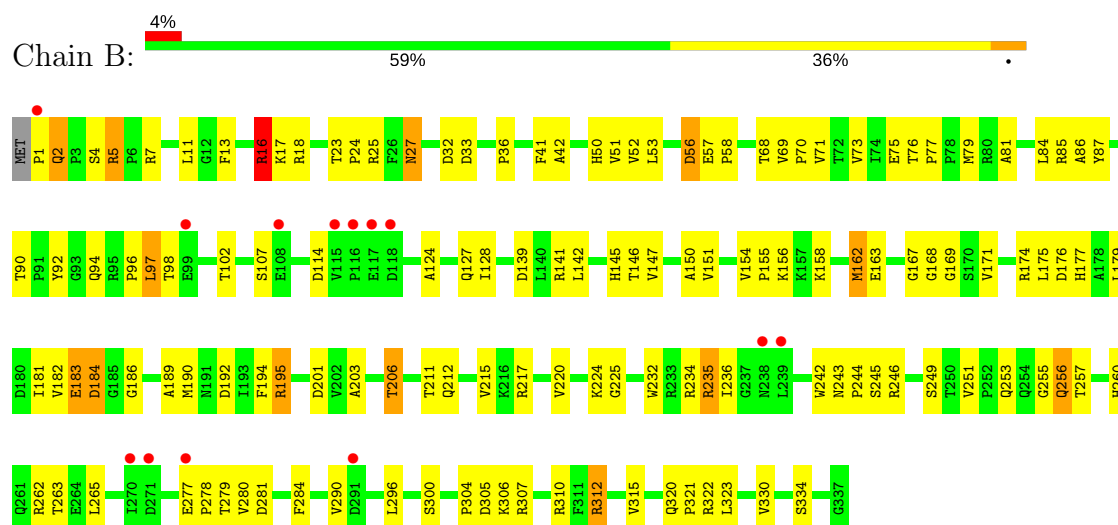
- Molecule 2: 5S RIBOSOMAL RNA



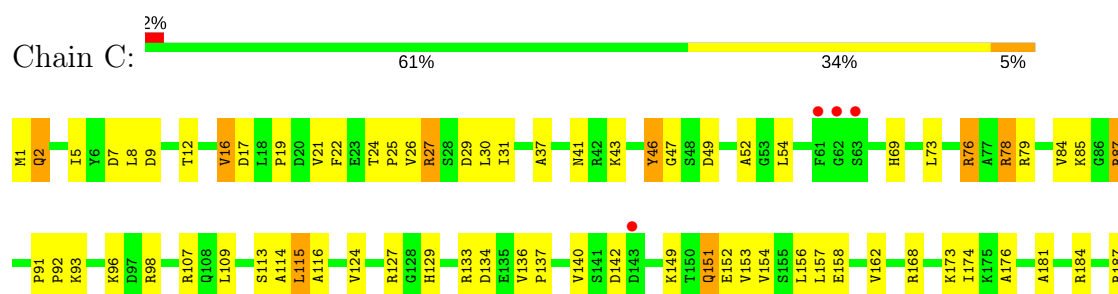
- Molecule 3: 50S ribosomal protein L2P



- Molecule 4: 50S ribosomal protein L3P

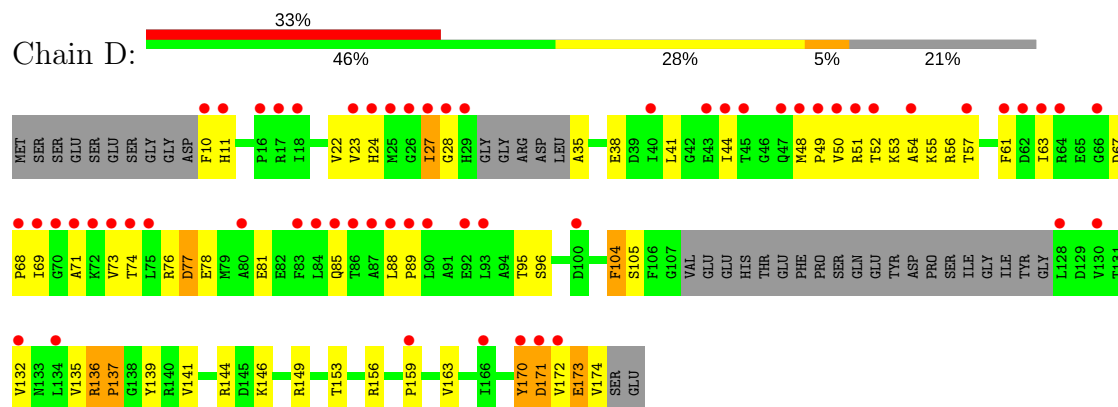


- Molecule 5: 50S ribosomal protein L4P

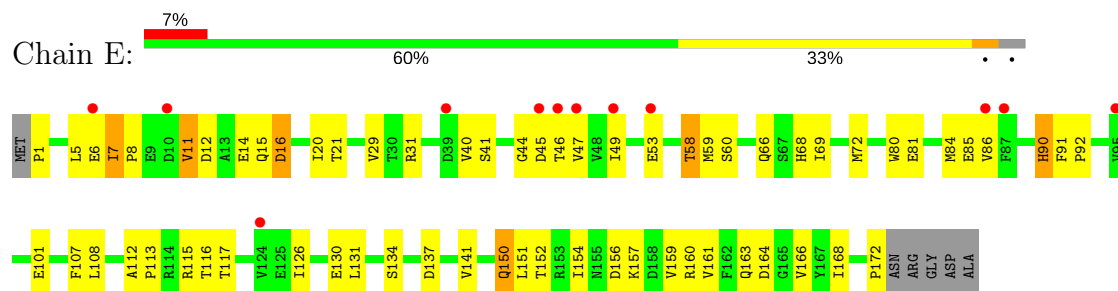




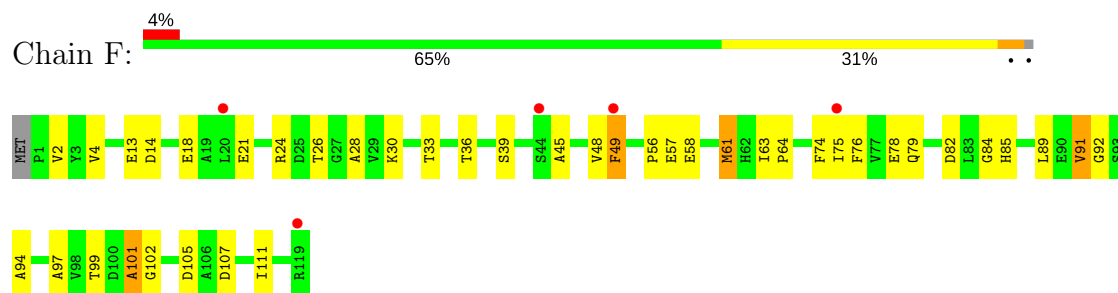
- Molecule 6: 50S ribosomal protein L5P



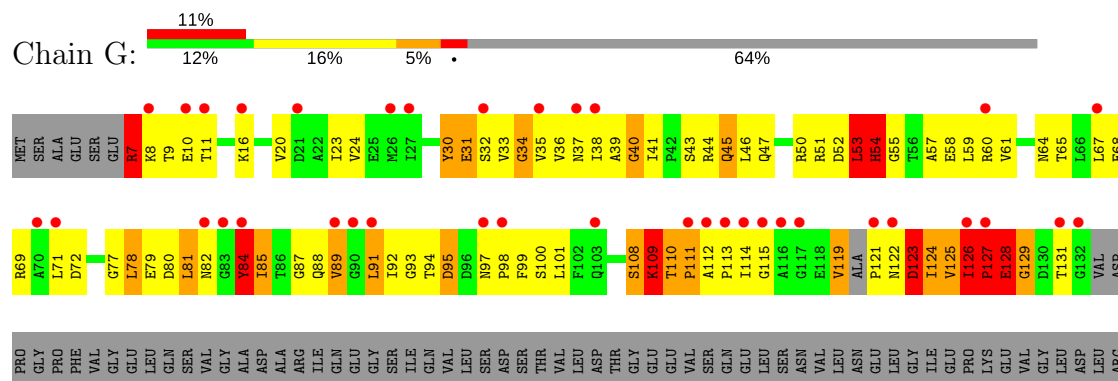
- Molecule 7: 50S ribosomal protein L6P



- Molecule 8: 50S ribosomal protein L7Ae

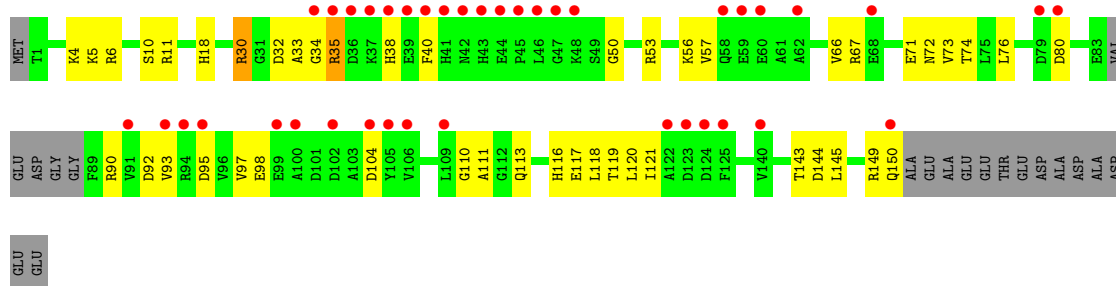


- Molecule 9: ACIDIC RIBOSOMAL PROTEIN P0 HOMO

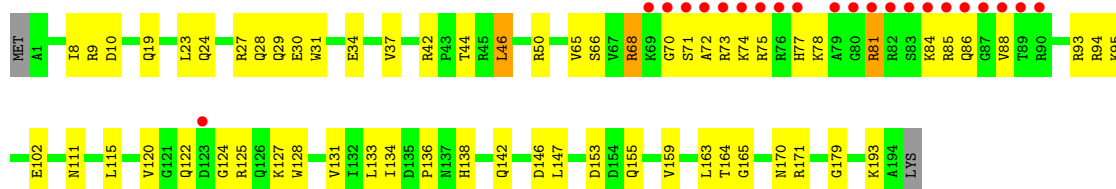




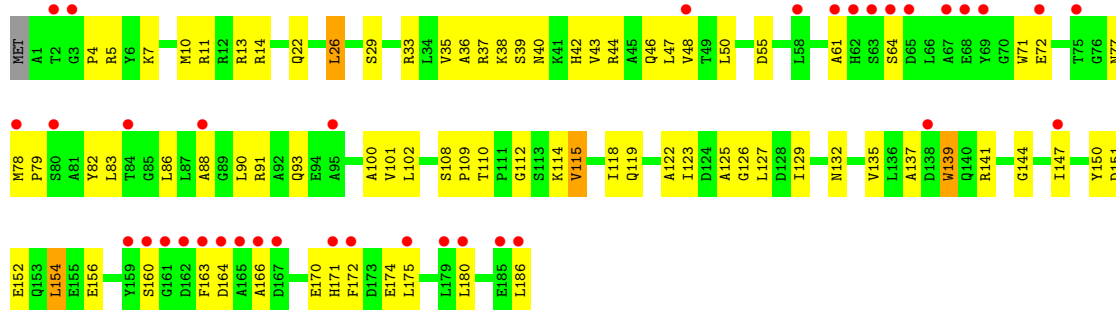
• Molecule 14: 50S ribosomal protein L15P



• Molecule 15: 50S ribosomal protein L15e



• Molecule 16: 50S ribosomal protein L18P

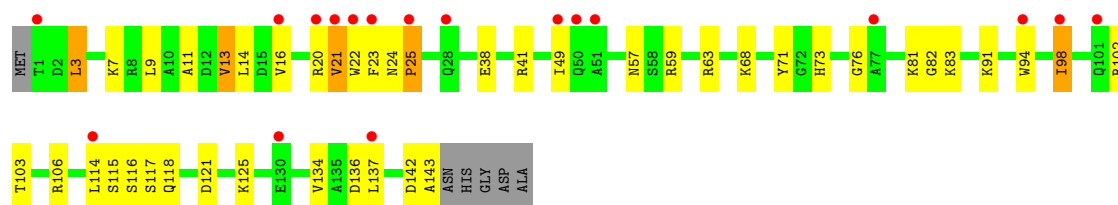


• Molecule 17: 50S ribosomal protein L18e

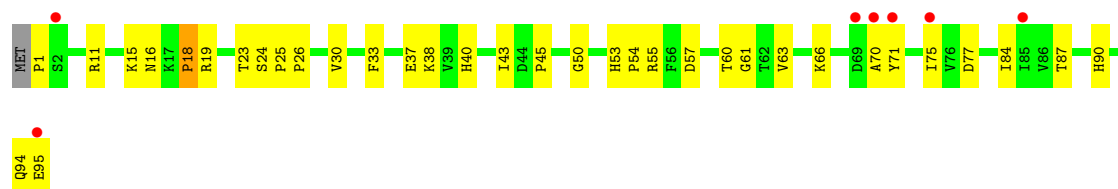


• Molecule 18: 50S ribosomal protein L19e

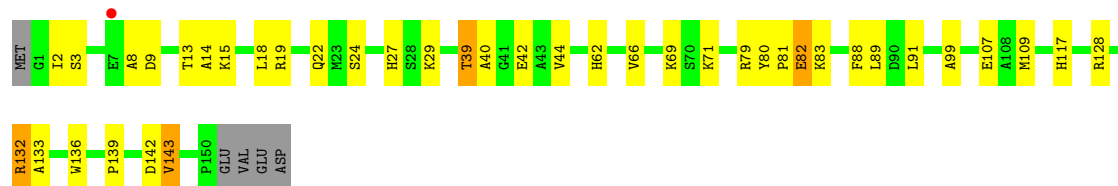




• Molecule 19: 50S ribosomal protein L21e



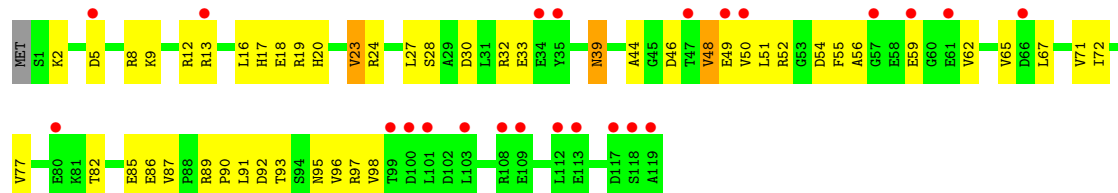
• Molecule 20: 50S ribosomal protein L22P



• Molecule 21: 50S ribosomal protein L23P



• Molecule 22: 50S ribosomal protein L24P

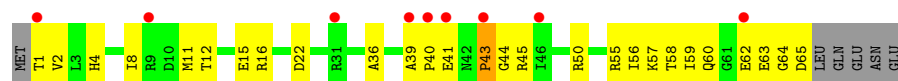


• Molecule 23: 50S ribosomal protein L24e

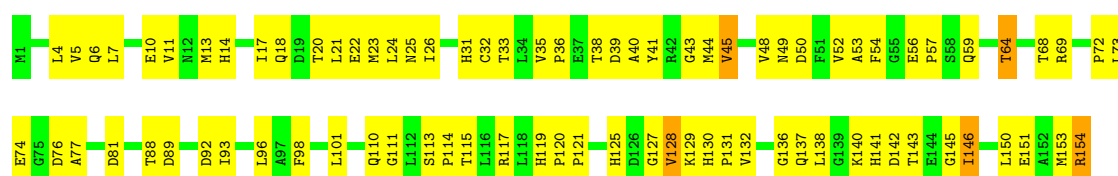




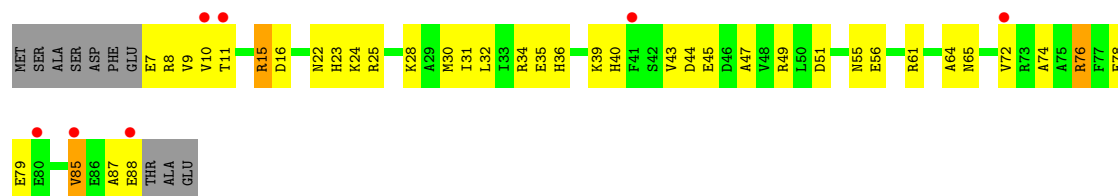
• Molecule 24: 50S ribosomal protein L29P



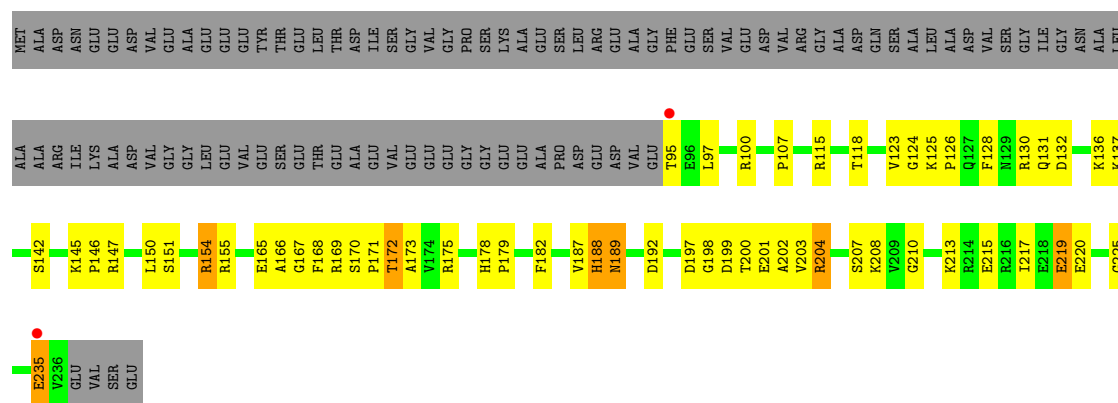
• Molecule 25: 50S ribosomal protein L30P



• Molecule 26: 50S RIBOSOMAL PROTEIN L31E

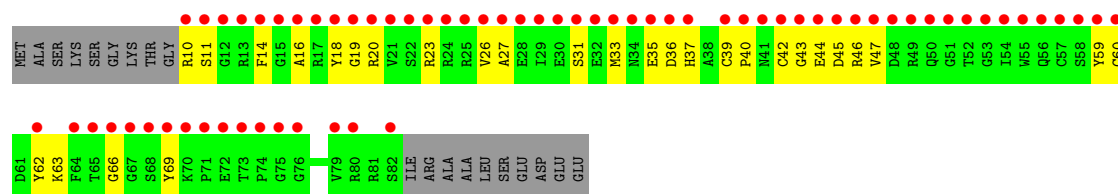


• Molecule 27: 50S ribosomal protein L32e



• Molecule 28: 50S ribosomal protein L37Ae





- Molecule 29: 50S ribosomal protein L37e

Chain 1: 54% 37% 7%



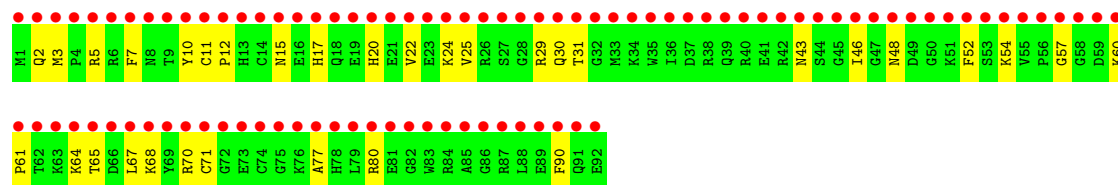
- Molecule 30: 50S ribosomal protein L39e

Chain 2: 26% 64% 28% 8%



- Molecule 31: 50S ribosomal protein L44E

Chain 3: 100% 64% 36%



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	214.49Å 302.43Å 578.06Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.00 49.83 – 3.01	Depositor EDS
% Data completeness (in resolution range)	98.2 (50.00-3.00) 96.9 (49.83-3.01)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.65 (at 3.01Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.241 , 0.288 0.259 , 0.260	Depositor DCC
R_{free} test set	18014 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å ²)	69.6	Xtriage
Anisotropy	0.307	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.27 , 61.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	92248	wwPDB-VP
Average B, all atoms (Å ²)	71.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.71% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG, OMG, CL, NA, K, CD, OMU, UR3, PSU

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	0	0.56	0/65932	0.75	36/102817 (0.0%)
2	9	0.42	0/2905	0.72	1/4528 (0.0%)
3	A	0.39	0/1786	0.69	0/2408
4	B	0.46	0/2690	0.76	0/3652
5	C	0.47	0/1884	0.76	1/2551 (0.0%)
6	D	0.36	0/1111	0.60	0/1498
7	E	0.45	0/1382	0.68	0/1880
8	F	0.34	0/901	0.58	0/1224
9	G	1.36	5/971 (0.5%)	1.67	22/1317 (1.7%)
10	H	0.41	0/1287	0.70	0/1725
11	I	4.03	6/890 (0.7%)	2.13	7/1216 (0.6%)
12	J	0.50	0/1136	0.70	0/1530
13	K	0.46	0/1001	0.77	0/1347
14	L	0.39	0/1130	0.68	0/1509
15	M	0.42	0/1583	0.68	0/2119
16	N	0.34	0/1474	0.66	0/1999
17	O	0.45	0/874	0.70	0/1181
18	P	0.42	0/1147	0.60	0/1528
19	Q	0.38	0/749	0.68	0/1005
20	R	0.50	0/1172	0.75	0/1578
21	S	0.42	0/648	0.64	0/875
22	T	0.42	0/958	0.71	0/1289
23	U	0.35	0/417	0.61	0/562
24	V	0.39	0/502	0.61	0/675
25	W	0.47	0/1219	0.77	0/1655
26	X	0.51	0/664	0.72	0/895
27	Y	0.48	0/1146	0.74	0/1536
28	Z	0.36	0/589	0.55	0/787
29	1	0.50	0/438	0.71	0/578
30	2	0.40	0/401	0.60	0/529
31	3	0.35	0/771	0.57	0/1024
All	All	0.66	11/99758 (0.0%)	0.77	67/149017 (0.0%)

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
1	0	6	93
2	9	0	1
9	G	0	8
11	I	2	4
All	All	8	106

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	I	24	LEU	CA-CB	82.97	3.44	1.53
11	I	24	LEU	CG-CD2	57.61	3.65	1.51
11	I	24	LEU	CG-CD1	50.48	3.38	1.51
11	I	24	LEU	CB-CG	34.68	2.53	1.52
9	G	54	HIS	CB-CG	28.65	2.01	1.50
9	G	54	HIS	C-N	-18.83	0.99	1.33
11	I	24	LEU	C-O	16.73	1.55	1.23
9	G	53	LEU	C-N	12.78	1.63	1.34
9	G	84	TYR	CD2-CE2	5.84	1.48	1.39
11	I	29	VAL	CB-CG2	-5.54	1.41	1.52
9	G	7	ARG	C-N	-5.02	1.22	1.34

All (67) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	I	24	LEU	CB-CA-C	-36.47	40.91	110.20
11	I	24	LEU	CD1-CG-CD2	-30.12	20.15	110.50
11	I	24	LEU	CB-CG-CD1	-29.18	61.40	111.00
11	I	24	LEU	CB-CG-CD2	-25.73	67.26	111.00
11	I	24	LEU	CA-CB-CG	-25.40	56.88	115.30
9	G	54	HIS	C-N-CA	20.83	166.04	122.30
11	I	24	LEU	N-CA-CB	19.84	150.08	110.40
9	G	54	HIS	O-C-N	-19.30	90.39	123.20
9	G	53	LEU	CA-C-N	-16.93	79.96	117.20
9	G	54	HIS	CA-C-N	16.92	150.04	116.20
9	G	110	THR	N-CA-C	13.23	146.73	111.00
1	0	1167	G	O4'-C4'-C3'	-11.40	92.59	104.00
9	G	53	LEU	O-C-N	10.72	139.85	122.70
1	0	1193	A	C5'-C4'-O4'	8.18	118.91	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	G	111	PRO	N-CA-C	8.01	132.93	112.10
9	G	31	GLU	N-CA-CB	7.94	124.89	110.60
9	G	110	THR	CB-CA-C	-7.77	90.61	111.60
1	0	1504	A	C1'-O4'-C4'	-7.69	103.75	109.90
1	0	1193	A	N9-C1'-C2'	7.61	123.90	114.00
1	0	1167	G	C1'-O4'-C4'	-7.58	103.84	109.90
9	G	30	TYR	CB-CA-C	7.55	125.50	110.40
1	0	1167	G	N9-C1'-C2'	7.32	123.52	114.00
9	G	52	ASP	N-CA-C	-7.21	91.53	111.00
9	G	82	ASN	CB-CA-C	-7.18	96.05	110.40
9	G	84	TYR	N-CA-C	7.03	129.98	111.00
1	0	1504	A	N9-C1'-C2'	6.90	122.97	114.00
9	G	39	ALA	CB-CA-C	-6.83	99.85	110.10
1	0	1979	G	C2'-C3'-O3'	6.72	124.45	113.70
2	9	103	A	C5'-C4'-O4'	6.71	117.15	109.10
1	0	1193	A	C2'-C3'-O3'	6.46	124.03	113.70
1	0	1193	A	C5'-C4'-C3'	6.43	126.29	116.00
9	G	123	ASP	CB-CA-C	-6.43	97.54	110.40
9	G	89	VAL	CB-CA-C	6.34	123.44	111.40
1	0	1878	G	N9-C1'-C2'	-6.16	105.23	112.00
1	0	2810	G	N9-C1'-C2'	-6.15	105.24	112.00
1	0	1829	A	N9-C1'-C2'	-6.13	105.25	112.00
9	G	109	LYS	N-CA-C	6.04	127.31	111.00
11	I	15	ASN	N-CA-C	5.93	127.02	111.00
1	0	1161	A	N9-C1'-C2'	5.93	121.71	114.00
1	0	464	G	N9-C1'-C2'	5.92	121.69	114.00
1	0	2313	C	C4'-C3'-C2'	-5.76	96.84	102.60
9	G	54	HIS	CA-CB-CG	-5.72	103.88	113.60
1	0	1942	A	C5'-C4'-C3'	5.68	125.08	116.00
9	G	84	TYR	CB-CG-CD2	5.66	124.39	121.00
1	0	1174	A	O4'-C1'-N9	5.64	112.72	108.20
9	G	123	ASP	N-CA-C	5.55	125.98	111.00
1	0	2313	C	C5'-C4'-C3'	5.53	124.85	116.00
1	0	148	A	N9-C1'-C2'	-5.51	105.94	112.00
1	0	237	G	N9-C1'-C2'	-5.50	105.95	112.00
1	0	2313	C	C1'-O4'-C4'	-5.42	105.56	109.90
5	C	73	LEU	CA-CB-CG	-5.41	102.86	115.30
1	0	332	G	N9-C1'-C2'	-5.39	106.07	112.00
1	0	1167	G	O4'-C1'-N9	-5.37	103.90	108.20
1	0	2718	C	C5'-C4'-O4'	-5.35	102.69	109.10
1	0	2664	A	N9-C1'-C2'	5.33	120.93	114.00
1	0	1167	G	C5'-C4'-O4'	5.32	115.49	109.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2313	C	O4'-C4'-C3'	-5.25	98.75	104.00
1	0	1302	G	O4'-C4'-C3'	-5.24	98.76	104.00
1	0	871	G	C5'-C4'-O4'	-5.23	102.82	109.10
9	G	124	ILE	CB-CA-C	5.19	121.98	111.60
1	0	1174	A	C1'-O4'-C4'	-5.17	105.76	109.90
1	0	2760	C	N1-C1'-C2'	5.13	120.67	114.00
1	0	1942	A	C1'-O4'-C4'	-5.13	105.80	109.90
1	0	1165	G	C1'-O4'-C4'	-5.12	105.81	109.90
1	0	841	A	C1'-O4'-C4'	-5.08	105.84	109.90
1	0	1189	A	C1'-O4'-C4'	-5.03	105.88	109.90
9	G	84	TYR	CB-CG-CD1	-5.01	118.00	121.00

All (8) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	0	1161	A	C1'
1	0	1167	G	C3',C1'
1	0	1193	A	C4',C3',C1'
11	I	24	LEU	CA
11	I	30	ASP	CA

All (106) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1027	G	Sidechain
1	0	1072	G	Sidechain
1	0	1115	U	Sidechain
1	0	116	G	Sidechain
1	0	1167	G	Sidechain
1	0	1169	U	Sidechain
1	0	1193	A	Sidechain
1	0	1198	U	Sidechain
1	0	1234	U	Sidechain
1	0	1237	U	Sidechain
1	0	1261	A	Sidechain
1	0	1264	U	Sidechain
1	0	1316	G	Sidechain
1	0	1323	G	Sidechain
1	0	1328	A	Sidechain
1	0	1350	U	Sidechain
1	0	1364	G	Sidechain
1	0	1385	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	1458	A	Sidechain
1	0	1478	U	Sidechain
1	0	1561	U	Sidechain
1	0	1684	A	Sidechain
1	0	1711	A	Sidechain
1	0	1733	A	Sidechain
1	0	1761	U	Sidechain
1	0	1829	A	Sidechain
1	0	1835	U	Sidechain
1	0	1845	A	Sidechain
1	0	1878	G	Sidechain
1	0	191	A	Sidechain
1	0	1978	A	Sidechain
1	0	2034	U	Sidechain
1	0	2035	C	Sidechain
1	0	2042	U	Sidechain
1	0	2051	G	Sidechain
1	0	206	G	Sidechain
1	0	2068	G	Sidechain
1	0	2071	C	Sidechain
1	0	2076	U	Sidechain
1	0	2085	A	Sidechain
1	0	2123	A	Sidechain
1	0	2136	G	Sidechain
1	0	2284	G	Sidechain
1	0	2306	U	Sidechain
1	0	246	G	Sidechain
1	0	2480	G	Sidechain
1	0	2492	U	Sidechain
1	0	2501	G	Sidechain
1	0	2503	A	Sidechain
1	0	2506	A	Sidechain
1	0	2523	U	Sidechain
1	0	2526	C	Sidechain
1	0	2551	C	Sidechain
1	0	2610	U	Sidechain
1	0	2664	A	Sidechain
1	0	2671	U	Sidechain
1	0	2736	U	Sidechain
1	0	2749	U	Sidechain
1	0	2793	A	Sidechain
1	0	2840	A	Sidechain

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Mol	Chain	Res	Type	Group
1	0	2842	G	Sidechain
1	0	2853	U	Sidechain
1	0	308	U	Sidechain
1	0	315	G	Sidechain
1	0	331	A	Sidechain
1	0	436	A	Sidechain
1	0	455	A	Sidechain
1	0	471	G	Sidechain
1	0	475	G	Sidechain
1	0	482	G	Sidechain
1	0	49	A	Sidechain
1	0	502	A	Sidechain
1	0	506	G	Sidechain
1	0	518	G	Sidechain
1	0	521	A	Sidechain
1	0	537	G	Sidechain
1	0	564	G	Sidechain
1	0	614	U	Sidechain
1	0	619	U	Sidechain
1	0	625	U	Sidechain
1	0	626	U	Sidechain
1	0	637	C	Sidechain
1	0	761	A	Sidechain
1	0	781	C	Sidechain
1	0	79	G	Sidechain
1	0	818	A	Sidechain
1	0	832	U	Sidechain
1	0	857	A	Sidechain
1	0	866	U	Sidechain
1	0	874	A	Sidechain
1	0	903	U	Sidechain
1	0	942	U	Sidechain
1	0	952	G	Sidechain
2	9	85	A	Sidechain
9	G	123	ASP	Peptide
9	G	126	ILE	Peptide
9	G	127	PRO	Peptide
9	G	128	GLU	Peptide
9	G	53	LEU	Mainchain
9	G	54	HIS	Sidechain,Peptide
9	G	84	TYR	Sidechain
11	I	28	PRO	Peptide

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Mol	Chain	Res	Type	Group
11	I	30	ASP	Peptide
11	I	31	VAL	Peptide
11	I	32	GLN	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	0	58979	0	29793	2515	0
2	9	2600	0	1326	157	0
3	A	1753	0	1766	73	0
4	B	2625	0	2533	110	0
5	C	1859	0	1816	84	0
6	D	1094	0	1085	50	0
7	E	1357	0	1266	46	0
8	F	890	0	843	31	0
9	G	959	0	928	154	0
10	H	1266	0	1268	49	0
11	I	876	0	835	60	0
12	J	1120	0	1098	49	0
13	K	992	0	1031	44	0
14	L	1118	0	1076	34	0
15	M	1559	0	1567	63	0
16	N	1445	0	1401	73	0
17	O	865	0	873	28	0
18	P	1136	0	1123	39	0
19	Q	735	0	728	27	0
20	R	1149	0	1122	44	0
21	S	641	0	605	13	0
22	T	950	0	924	50	0
23	U	410	0	367	15	0
24	V	499	0	511	21	0
25	W	1196	0	1137	72	0
26	X	654	0	653	42	0
27	Y	1130	0	1133	51	0
28	Z	578	0	543	36	0
29	1	431	0	427	24	0
30	2	396	0	413	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
31	3	755	0	732	34	0
32	0	108	0	0	0	0
32	3	1	0	0	0	0
32	9	1	0	0	0	0
32	A	2	0	0	0	0
32	B	1	0	0	0	0
32	K	1	0	0	0	0
32	T	1	0	0	0	0
32	Y	1	0	0	0	0
33	0	1	0	0	0	0
33	M	1	0	0	0	0
34	0	73	0	0	0	0
34	9	3	0	0	0	0
34	A	1	0	0	0	0
34	C	1	0	0	0	0
34	H	1	0	0	0	0
34	J	1	0	0	0	0
34	L	1	0	0	0	0
34	M	1	0	0	0	0
34	Q	1	0	0	0	0
34	R	2	0	0	0	0
34	S	1	0	0	0	0
35	0	8	0	0	1	0
35	3	1	0	0	5	0
35	A	1	0	0	0	0
35	B	1	0	0	0	0
35	J	3	0	0	4	0
35	K	1	0	0	0	0
35	L	1	0	0	0	0
35	M	1	0	0	1	0
35	N	1	0	0	0	0
35	O	1	0	0	1	0
35	Q	1	0	0	1	0
35	R	1	0	0	0	0
35	Y	1	0	0	0	0
36	1	1	0	0	1	0
36	3	1	0	0	0	0
36	O	1	0	0	0	0
36	U	1	0	0	0	0
36	Z	1	0	0	0	0
All	All	92248	0	60923	3719	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 25.

All (3719) 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)
9:G:54:HIS:CB	9:G:54:HIS:CG	2.01	1.43
9:G:108:SER:O	9:G:109:LYS:HE3	1.32	1.30
1:0:1167:G:H5'	1:0:1168:C:OP2	1.34	1.28
9:G:33:VAL:C	9:G:123:ASP:OD2	1.72	1.27
9:G:35:VAL:HG21	9:G:122:ASN:OD1	1.37	1.25
9:G:32:SER:OG	9:G:124:ILE:CD1	1.83	1.24
1:0:1205:U:H2'	1:0:1206:U:H5''	1.25	1.18
9:G:32:SER:OG	9:G:124:ILE:HD11	1.01	1.18
1:0:1170:U:H2'	1:0:1171:A:H5''	1.19	1.17
1:0:1170:U:C2'	1:0:1171:A:H5''	1.77	1.14
1:0:1242:A:H5'	12:J:82:THR:HG23	1.26	1.14
9:G:35:VAL:CG2	9:G:122:ASN:OD1	1.93	1.14
25:W:21:LEU:HD22	25:W:26:ILE:HD11	1.30	1.14
1:0:2502:C:H2'	1:0:2503:A:H5'	1.14	1.12
1:0:2502:C:C2'	1:0:2503:A:H5'	1.80	1.12
1:0:1196:C:H2'	1:0:1197:G:H5''	1.33	1.09
2:9:56:A:H2'	2:9:57:A:H5''	1.20	1.09
9:G:85:ILE:HG13	9:G:89:VAL:HG21	1.35	1.08
1:0:1150:A:H4'	9:G:65:THR:HG21	1.33	1.07
1:0:871:G:H5'	1:0:871:G:H8	1.12	1.06
1:0:1309:U:O2'	1:0:1310:U:H5'	1.57	1.04
9:G:23:ILE:HD11	9:G:67:LEU:HD23	1.38	1.04
1:0:545:G:H8	1:0:545:G:H5'	1.16	1.03
1:0:1118:A:H3'	1:0:1118:A:C8	1.93	1.03
1:0:56:G:H5''	24:V:50:ARG:HH12	1.14	1.03
1:0:1527:A:H1'	1:0:1528:A:C8	1.94	1.03
1:0:1194:A:O2'	1:0:1195:G:H5'	1.58	1.03
1:0:870:G:H2'	1:0:871:G:H5''	1.40	1.03
1:0:1204:C:H5''	1:0:1204:C:C6	1.94	1.02
9:G:125:VAL:O	9:G:127:PRO:HD2	1.60	1.02
9:G:32:SER:HB2	9:G:124:ILE:CG1	1.90	1.01
1:0:1162:G:C1'	11:I:113:LEU:HD11	1.89	1.01
13:K:10:GLN:NE2	13:K:10:GLN:H	1.57	1.01
1:0:1834:C:H2'	1:0:1840:A:N6	1.75	1.00
1:0:1118:A:H3'	1:0:1118:A:H8	1.22	1.00
11:I:41:GLN:HE22	11:I:66:VAL:HG21	1.24	1.00
1:0:1162:G:H1'	11:I:113:LEU:HD11	1.02	1.00
1:0:1377:C:H6	1:0:1377:C:H5'	1.24	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1161:A:H5''	9:G:44:ARG:HA	1.44	0.99
1:0:1771:U:H5'	28:Z:20:ARG:HH21	1.23	0.99
1:0:236:A:H4'	1:0:237:G:H5'	1.44	0.99
2:9:76:G:H3'	2:9:77:A:H5''	1.44	0.99
1:0:877:G:H5'	1:0:878:G:OP1	1.62	0.99
9:G:34:GLY:N	9:G:123:ASP:OD2	1.96	0.98
2:9:28:U:H5''	16:N:40:ASN:ND2	1.78	0.98
24:V:2:VAL:HG21	24:V:45:ARG:HH21	1.24	0.98
1:0:871:G:C8	1:0:871:G:H5'	1.99	0.98
1:0:1667:A:H8	1:0:1667:A:H5'	1.27	0.98
10:H:46:GLN:HB3	10:H:167:PRO:HD2	1.46	0.98
9:G:35:VAL:HG22	9:G:122:ASN:HA	1.47	0.97
5:C:47:GLY:HA2	5:C:92:PRO:HB2	1.46	0.96
7:E:20:ILE:HD11	7:E:40:VAL:HG11	1.42	0.96
1:0:1162:G:H1'	11:I:113:LEU:CD1	1.93	0.96
2:9:56:A:C2'	2:9:57:A:H5''	1.95	0.96
10:H:166:SER:HB2	10:H:167:PRO:HD3	1.47	0.96
1:0:69:A:H5'	1:0:69:A:H8	1.29	0.96
1:0:2769:C:O2'	1:0:2770:G:H5'	1.67	0.95
1:0:2064:U:H2'	1:0:2065:C:H6	1.30	0.95
1:0:2812:A:H2	1:0:2814:A:H62	1.12	0.95
1:0:1835:U:H5	1:0:1840:A:N7	1.63	0.95
27:Y:187:VAL:HG23	27:Y:192:ASP:HB2	1.49	0.94
28:Z:46:ARG:HD2	28:Z:59:TYR:HB2	1.49	0.94
1:0:1170:U:H2'	1:0:1171:A:C5'	1.97	0.94
9:G:33:VAL:CA	9:G:123:ASP:OD2	2.14	0.94
2:9:14:G:C8	2:9:14:G:H5'	2.02	0.94
1:0:156:C:H5''	15:M:171:ARG:HD3	1.45	0.94
1:0:1593:C:H5'	18:P:116:SER:O	1.66	0.94
1:0:1163:G:OP2	1:0:1164:U:H3'	1.67	0.94
1:0:2524:G:H21	1:0:2526:C:H41	0.95	0.94
16:N:91:ARG:HG2	16:N:186:LEU:HB3	1.50	0.93
1:0:1625:U:H6	1:0:1625:U:H3'	1.33	0.93
1:0:2419:U:H5''	1:0:2420:G:H5'	1.49	0.93
1:0:1204:C:H5''	1:0:1204:C:H6	1.30	0.93
9:G:32:SER:HB2	9:G:124:ILE:HG13	1.50	0.93
1:0:1783:A:O2'	1:0:1784:U:H5'	1.67	0.93
1:0:1206:U:C2'	1:0:1207:A:H5'	1.99	0.93
1:0:1751:G:H2'	1:0:1752:G:H5''	1.49	0.93
1:0:1185:U:O2'	1:0:1186:C:H5'	1.70	0.92
1:0:1119:G:H2'	12:J:52:GLN:HE22	1.33	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:159:VAL:HG12	35:M:198:CL:CL	2.06	0.91
9:G:32:SER:CB	9:G:124:ILE:CG1	2.47	0.91
1:0:282:C:O2'	1:0:283:U:H5'	1.71	0.91
4:B:51:VAL:HG23	4:B:330:VAL:HG22	1.52	0.91
1:0:69:A:H5'	1:0:69:A:C8	2.05	0.90
4:B:27:ASN:H	4:B:27:ASN:HD22	1.13	0.90
9:G:99:PHE:CD2	9:G:131:THR:HG23	2.06	0.90
1:0:1211:G:H5''	9:G:64:ASN:HD21	1.34	0.90
11:I:20:LEU:HD23	11:I:31:VAL:HG11	1.54	0.90
1:0:31:C:H1'	22:T:13:ARG:NH2	1.87	0.90
1:0:1909:A:H2'	1:0:1910:A:C8	2.06	0.89
1:0:545:G:C8	1:0:545:G:H5'	2.07	0.89
11:I:41:GLN:NE2	11:I:66:VAL:HG21	1.87	0.89
9:G:32:SER:HG	9:G:124:ILE:HD11	1.17	0.89
11:I:29:VAL:HG23	11:I:29:VAL:O	1.68	0.89
9:G:9:THR:HG22	9:G:11:THR:O	1.71	0.89
1:0:1496:G:H5'	1:0:1572:A:H1'	1.55	0.88
11:I:52:VAL:HG12	11:I:66:VAL:HA	1.54	0.88
1:0:1167:G:C1'	1:0:1168:C:H5'	2.03	0.88
1:0:365:G:H2'	1:0:366:U:H6	1.35	0.88
5:C:107:ARG:HH11	5:C:107:ARG:HB3	1.39	0.87
1:0:1120:U:H6	1:0:1120:U:H5'	1.39	0.87
1:0:289:G:H22	1:0:363:A:H2	1.23	0.87
1:0:2533:C:H5'	1:0:2533:C:H6	1.39	0.87
26:X:78:GLU:HG2	26:X:79:GLU:H	1.37	0.87
1:0:1242:A:H5'	12:J:82:THR:CG2	2.03	0.86
1:0:1915:U:O2'	1:0:1916:C:H5'	1.75	0.86
1:0:1510:G:H2'	1:0:1511:U:H6	1.41	0.86
5:C:78:ARG:HH11	5:C:78:ARG:HG3	1.37	0.86
1:0:1167:G:C5'	1:0:1168:C:OP2	2.22	0.86
1:0:1771:U:H1'	28:Z:23:ARG:NH2	1.90	0.86
1:0:595:U:O2'	1:0:596:C:H5'	1.76	0.86
1:0:694:A:H2'	1:0:695:C:H5'	1.57	0.85
1:0:2716:G:H5''	4:B:206:THR:HG21	1.59	0.85
1:0:870:G:C2'	1:0:871:G:H5''	2.06	0.85
1:0:559:U:H6	1:0:559:U:H5'	1.42	0.85
2:9:14:G:H5'	2:9:14:G:H8	1.36	0.85
1:0:702:G:O2'	1:0:703:G:H5'	1.76	0.85
9:G:122:ASN:HB2	9:G:126:ILE:O	1.77	0.85
1:0:1904:A:C2	1:0:1905:U:H1'	2.11	0.85
1:0:821:U:H2'	1:0:822:C:H6	1.41	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:485:A:N3	1:0:487:G:H5''	1.92	0.84
1:0:2850:C:H6	1:0:2850:C:H5'	1.42	0.84
1:0:558:C:H2'	1:0:559:U:H5'	1.56	0.84
1:0:56:G:H5''	24:V:50:ARG:NH1	1.93	0.84
1:0:2506:A:HO2'	1:0:2507:G:H8	1.21	0.84
18:P:115:SER:H	18:P:118:GLN:HE21	1.22	0.84
1:0:20:G:H21	20:R:117:HIS:HD2	1.23	0.84
1:0:2661:U:H3	1:0:2812:A:H62	1.24	0.84
17:O:44:ASN:HB2	35:O:117:CL:CL	2.14	0.84
1:0:1213:C:O2'	1:0:1214:G:H5'	1.76	0.83
1:0:2393:C:H5'	19:Q:77:ASP:OD2	1.77	0.83
1:0:1377:C:H5'	1:0:1377:C:C6	2.13	0.83
1:0:1118:A:H62	1:0:1244:U:H3	1.24	0.83
1:0:2502:C:H2'	1:0:2503:A:C5'	2.03	0.83
1:0:755:G:O2'	1:0:756:A:H5'	1.78	0.83
15:M:164:THR:HG22	15:M:165:GLY:H	1.43	0.83
1:0:2524:G:N2	1:0:2526:C:H41	1.77	0.83
13:K:10:GLN:HE21	13:K:10:GLN:H	1.21	0.83
26:X:43:VAL:HG12	26:X:44:ASP:H	1.44	0.83
1:0:1206:U:H5'	1:0:1206:U:H6	1.44	0.83
1:0:1114:A:H2'	1:0:1115:U:H6	1.41	0.82
1:0:1205:U:C2'	1:0:1206:U:H5''	2.07	0.82
1:0:541:C:H2'	1:0:542:A:C5'	2.08	0.82
5:C:127:ARG:NH2	5:C:225:PRO:HG2	1.94	0.82
1:0:2731:G:H2'	1:0:2732:U:H6	1.42	0.82
1:0:1119:G:H22	1:0:1246:A:H2	1.27	0.82
1:0:1196:C:C2'	1:0:1197:G:H5''	2.08	0.82
1:0:2355:G:H5''	1:0:2356:A:OP2	1.80	0.82
1:0:236:A:C4'	1:0:237:G:H5'	2.08	0.82
1:0:1206:U:H2'	1:0:1207:A:H5'	1.60	0.82
1:0:2908:A:H2'	1:0:2909:G:O4'	1.78	0.82
1:0:541:C:H2'	1:0:542:A:H5'	1.61	0.82
1:0:1197:G:O2'	1:0:1198:U:H5'	1.80	0.82
1:0:1330:A:H5''	1:0:1331:A:OP2	1.79	0.82
1:0:2073:G:OP2	1:0:2490:A:H5'	1.80	0.82
1:0:2578:G:H5'	1:0:2578:G:H8	1.42	0.82
1:0:283:U:H5	1:0:284:C:H42	1.28	0.82
1:0:1923:G:H4'	31:3:31:THR:O	1.80	0.82
1:0:1603:A:H5'	1:0:1605:G:O4'	1.78	0.81
13:K:49:LEU:HD23	13:K:73:VAL:HG12	1.61	0.81
1:0:447:A:OP1	22:T:2:LYS:HG2	1.81	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1163:G:H4'	11:I:112:LEU:CD1	2.11	0.81
1:0:228:C:H2'	1:0:229:G:H5'	1.62	0.81
1:0:338:C:H4'	5:C:174:ILE:CD1	2.10	0.81
1:0:1116:U:HO2'	1:0:1118:A:H2	1.27	0.81
25:W:38:THR:HG22	25:W:39:ASP:H	1.45	0.81
1:0:1741:U:H5'	1:0:1742:A:OP1	1.81	0.81
9:G:97:ASN:ND2	9:G:99:PHE:HB2	1.96	0.80
1:0:1835:U:C5	1:0:1840:A:N7	2.50	0.80
12:J:75:PRO:HG2	12:J:105:LEU:HD21	1.63	0.80
1:0:2769:C:C2'	1:0:2770:G:H5'	2.10	0.80
26:X:28:LYS:HA	26:X:31:ILE:HD12	1.63	0.80
1:0:1987:C:H2'	1:0:1988:C:C6	2.16	0.80
1:0:2851:G:C2'	1:0:2852:A:H5'	2.12	0.80
1:0:2578:G:C8	1:0:2578:G:H5'	2.16	0.80
1:0:1266:U:H4'	27:Y:115:ARG:NH2	1.96	0.80
1:0:1878:G:HO2'	1:0:1879:U:H6	1.21	0.80
9:G:35:VAL:HG22	9:G:122:ASN:OD1	1.82	0.80
1:0:2256:G:C2'	1:0:2257:G:H5'	2.12	0.80
1:0:2256:G:H2'	1:0:2257:G:H5'	1.64	0.80
1:0:1474:C:H6	1:0:1474:C:H5'	1.48	0.79
1:0:2064:U:H2'	1:0:2065:C:C6	2.18	0.79
1:0:390:G:H2'	1:0:391:U:H6	1.47	0.79
2:9:9:C:H2'	2:9:10:C:H5'	1.65	0.79
9:G:108:SER:O	9:G:109:LYS:CE	2.24	0.79
1:0:694:A:C2'	1:0:695:C:H5'	2.13	0.79
1:0:821:U:H2'	1:0:822:C:C6	2.18	0.79
1:0:1552:G:H2'	1:0:1553:C:H6	1.48	0.79
9:G:124:ILE:HG22	9:G:125:VAL:HG23	1.65	0.79
9:G:32:SER:HB2	9:G:124:ILE:HG12	1.64	0.79
9:G:32:SER:OG	9:G:124:ILE:CG1	2.30	0.79
1:0:2365:G:H4'	19:Q:45:PRO:O	1.81	0.79
1:0:1987:C:H2'	1:0:1988:C:H6	1.47	0.79
1:0:558:C:O2'	1:0:559:U:H5''	1.82	0.79
1:0:1422:U:H2'	1:0:1423:C:H6	1.47	0.79
1:0:2420:G:O2'	1:0:2421:G:H5'	1.82	0.79
2:9:38:A:H2'	2:9:39:U:C6	2.18	0.79
1:0:1163:G:H4'	11:I:112:LEU:HD11	1.65	0.79
11:I:29:VAL:CG2	11:I:29:VAL:O	2.30	0.78
1:0:524:A:H5''	20:R:29:LYS:HE2	1.63	0.78
1:0:1989:G:H2'	1:0:1990:C:H6	1.48	0.78
31:3:25:VAL:HG22	31:3:68:LYS:HG3	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1204:C:H5'	1:0:1205:U:OP2	1.83	0.78
1:0:2897:C:O2'	1:0:2898:G:H5'	1.83	0.78
10:H:69:ALA:HB2	10:H:153:ALA:HB2	1.65	0.78
1:0:2851:G:O2'	1:0:2852:A:H5'	1.84	0.78
1:0:1450:C:H4'	1:0:1451:C:OP2	1.80	0.78
1:0:1674:C:H2'	1:0:1675:C:H6	1.47	0.78
1:0:2756:U:H3	1:0:2896:A:H2	1.32	0.78
15:M:74:LYS:O	15:M:88:VAL:HG13	1.84	0.78
1:0:1783:A:C2'	1:0:1784:U:H5'	2.14	0.78
1:0:236:A:H8	1:0:236:A:OP1	1.67	0.78
1:0:408:A:C2'	1:0:409:U:H5'	2.14	0.78
9:G:37:ASN:HD21	9:G:92:ILE:HG23	1.49	0.78
1:0:136:C:H2'	1:0:137:U:O4'	1.84	0.78
1:0:1089:G:H2'	1:0:1090:A:H8	1.48	0.78
1:0:1246:A:H8	1:0:1246:A:H5'	1.48	0.78
1:0:1878:G:O2'	1:0:1879:U:H6	1.65	0.78
1:0:2039:A:H2'	1:0:2040:C:H6	1.48	0.77
1:0:524:A:C5'	20:R:29:LYS:HE2	2.14	0.77
4:B:27:ASN:H	4:B:27:ASN:ND2	1.82	0.77
9:G:84:TYR:HB3	9:G:121:PRO:HG3	1.66	0.77
23:U:9:CYS:SG	23:U:11:THR:HG23	2.24	0.77
1:0:157:G:H4'	15:M:95:LYS:HE3	1.64	0.77
1:0:1667:A:H5'	1:0:1667:A:C8	2.17	0.77
9:G:121:PRO:CA	9:G:127:PRO:HB3	2.14	0.77
16:N:72:GLU:H	16:N:171:HIS:HE1	1.33	0.77
1:0:816:G:C6	1:0:817:G:N1	2.52	0.77
1:0:31:C:H1'	22:T:13:ARG:HH22	1.46	0.77
1:0:1170:U:C3'	1:0:1171:A:H5''	2.15	0.77
1:0:2312:G:H2'	1:0:2313:C:H5'	1.67	0.77
1:0:2766:A:O2'	1:0:2767:C:H5'	1.84	0.77
1:0:2505:G:O2'	1:0:2506:A:H5'	1.84	0.77
1:0:1708:C:O2'	1:0:1709:G:H5'	1.85	0.77
2:9:29:C:H2'	2:9:30:C:H5'	1.67	0.77
1:0:152:A:C2	1:0:153:C:C2	2.73	0.77
1:0:1625:U:C6	1:0:1625:U:H3'	2.17	0.77
1:0:282:C:H1'	1:0:368:C:N4	2.00	0.77
31:3:70:ARG:HG2	31:3:77:ALA:HB2	1.67	0.77
7:E:154:ILE:HD11	7:E:157:LYS:HB2	1.67	0.77
9:G:121:PRO:CB	9:G:127:PRO:CB	2.63	0.77
1:0:2524:G:H21	1:0:2526:C:N4	1.79	0.76
1:0:188:C:H5''	15:M:163:LEU:HD21	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:54:LEU:HD21	5:C:87:ARG:HD2	1.67	0.76
1:0:705:C:H42	1:0:723:G:H1	1.33	0.76
4:B:27:ASN:N	4:B:27:ASN:HD22	1.83	0.76
26:X:76:ARG:HH11	26:X:76:ARG:HG3	1.48	0.76
1:0:2859:C:H6	1:0:2859:C:H5''	1.51	0.76
1:0:638:C:O2'	1:0:639:A:H5'	1.85	0.76
1:0:1787:C:O2'	1:0:1788:U:H5'	1.84	0.76
1:0:2421:G:H3'	1:0:2422:U:H5''	1.65	0.76
1:0:2318:C:C4	1:0:2319:C:H5	2.03	0.76
1:0:2717:C:O2'	1:0:2718:C:H5''	1.85	0.76
1:0:280:C:H2'	1:0:281:U:O4'	1.84	0.76
1:0:283:U:H5	1:0:284:C:N4	1.84	0.76
1:0:1704:G:H1'	18:P:57:ASN:HD22	1.51	0.76
29:1:21:ARG:HD2	29:1:37:CYS:SG	2.26	0.76
4:B:162:MET:SD	4:B:310:ARG:HD3	2.26	0.76
1:0:1400:C:H2'	1:0:1401:G:H5'	1.67	0.75
1:0:2039:A:H2'	1:0:2040:C:C6	2.20	0.75
1:0:1309:U:C2'	1:0:1310:U:H5'	2.17	0.75
1:0:2421:G:H3'	1:0:2422:U:C5'	2.16	0.75
1:0:542:A:H5'	1:0:542:A:H8	1.50	0.75
1:0:646:G:H2'	1:0:647:U:C6	2.22	0.75
9:G:60:ARG:NH2	9:G:91:LEU:HD13	2.00	0.75
8:F:56:PRO:HG2	15:M:44:THR:HA	1.68	0.75
1:0:1119:G:H2'	12:J:52:GLN:NE2	2.02	0.75
1:0:1332:C:O2'	1:0:1333:U:H5'	1.86	0.75
1:0:685:C:O2'	1:0:686:A:H5'	1.86	0.75
1:0:824:G:C8	1:0:854:G:O6	2.40	0.75
1:0:88:G:H5'	1:0:88:G:H8	1.49	0.75
5:C:115:LEU:HD13	5:C:223:LEU:HD21	1.69	0.75
1:0:1393:A:H2'	1:0:1394:C:C6	2.22	0.75
1:0:1328:A:OP1	27:Y:169:ARG:HD2	1.87	0.74
1:0:1422:U:H2'	1:0:1423:C:C6	2.20	0.74
1:0:1114:A:H2'	1:0:1115:U:C6	2.22	0.74
1:0:1186:C:O2'	1:0:1187:U:H5'	1.88	0.74
1:0:1972:U:H2'	1:0:1973:A:H5'	1.69	0.74
2:9:13:A:O2'	2:9:14:G:H5''	1.86	0.74
10:H:9:ILE:HD12	10:H:54:THR:HG22	1.67	0.74
1:0:329:A:OP2	5:C:206:ASN:HB2	1.86	0.74
5:C:236:THR:HG22	5:C:239:ALA:H	1.52	0.74
1:0:1345:A:H2'	1:0:1346:U:H6	1.53	0.74
4:B:36:PRO:HA	4:B:168:GLY:HA3	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2521:A:OP2	10:H:3:ALA:HB3	1.86	0.74
20:R:8:ALA:HB1	20:R:13:THR:HG21	1.69	0.74
1:0:1552:G:H2'	1:0:1553:C:C6	2.22	0.74
1:0:1080:C:H4'	1:0:1081:A:OP1	1.85	0.74
1:0:185:G:H4'	1:0:186:A:H4'	1.70	0.74
1:0:2035:C:O2'	1:0:2036:C:H5'	1.88	0.74
6:D:141:VAL:HG13	6:D:144:ARG:HH21	1.53	0.74
1:0:1450:C:O2'	1:0:1494:A:H5'	1.88	0.73
6:D:49:PRO:HA	6:D:73:VAL:HG22	1.68	0.73
8:F:84:GLY:HA3	8:F:92:GLY:HA2	1.70	0.73
1:0:1150:A:C2	9:G:20:VAL:HG21	2.23	0.73
2:9:26:C:O2'	2:9:27:C:H5'	1.87	0.73
4:B:217:ARG:HG3	4:B:257:THR:HG22	1.68	0.73
1:0:1150:A:H4'	9:G:65:THR:CG2	2.13	0.73
1:0:1416:G:H2'	1:0:1417:G:H5'	1.70	0.73
1:0:134:U:C2	1:0:145:A:C2	2.77	0.73
1:0:2244:A:H5''	15:M:29:GLN:OE1	1.89	0.73
9:G:121:PRO:HB3	9:G:127:PRO:HB2	1.71	0.73
9:G:60:ARG:CZ	9:G:91:LEU:HD13	2.18	0.73
1:0:703:G:O2'	1:0:704:C:H5'	1.89	0.73
9:G:33:VAL:CG1	9:G:94:THR:H	2.00	0.73
1:0:2241:C:H2'	1:0:2242:U:H6	1.52	0.73
1:0:2676:C:H4'	12:J:70:PHE:CE1	2.24	0.73
1:0:365:G:H2'	1:0:366:U:C6	2.22	0.73
22:T:71:VAL:HG11	22:T:90:PRO:HB3	1.71	0.73
1:0:160:A:C4	1:0:177:A:C2	2.77	0.72
1:0:1862:C:O2'	1:0:1863:G:H5'	1.88	0.72
2:9:70:U:H2'	2:9:71:C:O4'	1.87	0.72
9:G:10:GLU:HG2	9:G:11:THR:H	1.52	0.72
12:J:52:GLN:HG3	12:J:53:ILE:N	2.04	0.72
1:0:2296:C:H4'	1:0:2362:A:C2	2.24	0.72
1:0:671:A:O2'	1:0:672:G:H2'	1.89	0.72
9:G:112:ALA:HB3	9:G:113:PRO:HD3	1.71	0.72
1:0:1634:G:H2'	1:0:1635:U:H6	1.53	0.72
1:0:1771:U:H5'	28:Z:20:ARG:NH2	2.02	0.72
1:0:1802:G:N2	1:0:1803:C:C2	2.57	0.72
1:0:184:G:O2'	1:0:185:G:H5'	1.89	0.72
1:0:1439:C:H5''	30:2:41:HIS:HE1	1.55	0.72
9:G:32:SER:CB	9:G:124:ILE:HG12	2.17	0.72
1:0:746:A:C6	17:O:65:LEU:HD13	2.23	0.72
27:Y:200:THR:HG22	27:Y:201:GLU:HG3	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1601:G:H2'	1:0:1602:C:H6	1.53	0.72
1:0:2346:C:H4'	6:D:52:THR:CG2	2.18	0.72
9:G:34:GLY:HA2	9:G:92:ILE:O	1.89	0.72
1:0:2586:U:H3	1:0:2592:G:H22	1.36	0.72
1:0:316:A:H5'	22:T:54:ASP:OD2	1.89	0.72
1:0:371:U:H2'	1:0:372:A:H8	1.52	0.72
7:E:116:THR:HG22	7:E:151:LEU:HD22	1.71	0.72
1:0:1771:U:H1'	28:Z:23:ARG:HH22	1.53	0.72
1:0:1601:G:H2'	1:0:1602:C:C6	2.24	0.72
1:0:2834:G:H5''	26:X:39:LYS:HZ1	1.53	0.72
2:9:36:C:C5	2:9:37:C:C5	2.77	0.72
10:H:23:ILE:HA	10:H:120:ILE:HG21	1.70	0.72
22:T:24:ARG:HH21	22:T:39:ASN:HD22	1.35	0.72
30:2:40:ARG:HD2	30:2:47:THR:HG22	1.71	0.72
9:G:125:VAL:O	9:G:127:PRO:CD	2.37	0.72
1:0:1883:U:C2'	1:0:1884:G:H5'	2.19	0.71
1:0:2296:C:H4'	1:0:2362:A:H2	1.55	0.71
1:0:2345:A:H3'	1:0:2346:C:C5	2.25	0.71
1:0:702:G:HO2'	1:0:703:G:H5'	1.55	0.71
1:0:1116:U:O2'	1:0:1118:A:H2	1.74	0.71
1:0:1194:A:H5'	1:0:1194:A:H8	1.54	0.71
1:0:1246:A:C8	1:0:1246:A:H5'	2.25	0.71
1:0:2256:G:H2'	1:0:2257:G:C5'	2.19	0.71
1:0:2781:U:O2'	1:0:2782:G:H5'	1.90	0.71
25:W:7:LEU:HD12	25:W:53:ALA:HB2	1.71	0.71
1:0:154:C:O2'	1:0:155:C:H5'	1.89	0.71
9:G:81:LEU:HA	9:G:85:ILE:HG22	1.71	0.71
1:0:1815:A:H8	1:0:1815:A:O5'	1.73	0.71
1:0:290:C:O2'	1:0:291:C:H5'	1.90	0.71
1:0:2731:G:H2'	1:0:2732:U:C6	2.24	0.71
1:0:287:C:H2'	1:0:288:A:H8	1.55	0.71
1:0:677:C:C2	1:0:678:G:C8	2.78	0.71
2:9:51:A:H5'	16:N:160:SER:HB3	1.72	0.71
25:W:146:ILE:O	25:W:150:LEU:HG	1.90	0.71
1:0:2013:G:C2	1:0:2014:G:N7	2.59	0.71
1:0:541:C:O2'	1:0:542:A:H5''	1.90	0.71
2:9:92:G:H2'	2:9:93:A:C8	2.26	0.71
1:0:1400:C:C2'	1:0:1401:G:H5'	2.21	0.71
5:C:129:HIS:CE1	5:C:231:ARG:HA	2.26	0.71
26:X:43:VAL:HG12	26:X:44:ASP:N	2.06	0.71
1:0:2781:U:C2'	1:0:2782:G:H5'	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1548:U:O2'	1:0:1549:C:H5'	1.91	0.71
1:0:871:G:C5'	1:0:871:G:H8	1.96	0.71
4:B:168:GLY:H	4:B:174:ARG:HD3	1.56	0.71
1:0:1636:G:O2'	1:0:1637:A:H5'	1.91	0.70
1:0:1822:A:O2'	1:0:1823:G:H5'	1.89	0.70
1:0:1829:A:C8	1:0:1885:A:C8	2.79	0.70
1:0:2050:G:OP1	20:R:79:ARG:HB3	1.91	0.70
1:0:2715:G:H5'	4:B:13:PHE:CE1	2.25	0.70
15:M:68:ARG:HD3	15:M:68:ARG:O	1.90	0.70
16:N:93:GLN:HE21	16:N:127:LEU:HD12	1.56	0.70
1:0:1477:C:H5'	1:0:1868:G:H5''	1.73	0.70
1:0:120:A:N3	1:0:120:A:H2'	2.05	0.70
1:0:2588:OMG:HM23	1:0:2617:G:C2	2.27	0.70
1:0:2908:A:H8	1:0:2908:A:O5'	1.74	0.70
18:P:9:LEU:O	18:P:13:VAL:HG12	1.92	0.70
1:0:1537:C:O2'	1:0:1538:C:H5'	1.91	0.70
1:0:2533:C:C6	1:0:2533:C:H5'	2.26	0.70
1:0:453:A:C4	1:0:479:G:N7	2.59	0.70
1:0:2526:C:C2'	1:0:2527:U:H5'	2.21	0.70
2:9:28:U:H2'	2:9:29:C:C6	2.27	0.70
9:G:64:ASN:HD22	9:G:89:VAL:HG12	1.55	0.70
1:0:1589:G:N2	1:0:1605:G:H1'	2.05	0.70
1:0:2318:C:C4	1:0:2319:C:C5	2.79	0.70
1:0:1213:C:C2'	1:0:1214:G:H5'	2.22	0.70
1:0:1375:A:C2'	1:0:1376:G:H5'	2.21	0.70
1:0:1819:G:O2'	1:0:1820:G:H5'	1.92	0.70
1:0:462:A:N6	1:0:477:A:C2	2.60	0.70
1:0:661:G:C5	1:0:686:A:C2	2.79	0.70
2:9:49:G:O2'	2:9:50:G:H5'	1.92	0.70
1:0:1768:C:C5	1:0:1769:C:C5	2.80	0.70
1:0:2781:U:H2'	1:0:2782:G:H5'	1.73	0.70
9:G:38:ILE:HG13	9:G:88:GLN:O	1.91	0.70
1:0:1118:A:C3'	1:0:1118:A:C8	2.62	0.70
1:0:1301:C:O2'	1:0:1331:A:H4'	1.92	0.70
1:0:2506:A:O2'	1:0:2507:G:H8	1.73	0.70
1:0:2099:G:N2	1:0:2646:G:C5	2.60	0.70
1:0:2804:C:H2'	1:0:2805:A:O4'	1.92	0.70
2:9:50:G:C6	2:9:51:A:C6	2.80	0.70
1:0:1197:G:C2'	1:0:1198:U:H5'	2.21	0.70
1:0:2354:A:C2	1:0:2367:A:C8	2.78	0.70
1:0:541:C:C2'	1:0:542:A:H5''	2.21	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:12:LEU:HB2	13:K:47:ALA:HB3	1.74	0.70
20:R:18:LEU:HB2	20:R:143:VAL:HG13	1.74	0.70
1:0:1197:G:H5'	1:0:1197:G:H8	1.56	0.69
1:0:2781:U:H2'	1:0:2782:G:C5'	2.22	0.69
1:0:423:A:C2	1:0:424:C:C2	2.80	0.69
1:0:656:G:OP2	17:O:37:ARG:HD2	1.91	0.69
1:0:445:U:O2'	1:0:446:G:H5'	1.93	0.69
1:0:694:A:H2'	1:0:695:C:C5'	2.21	0.69
1:0:1204:C:C6	1:0:1204:C:C5'	2.74	0.69
1:0:1334:C:H2'	1:0:1335:C:H6	1.57	0.69
1:0:449:A:C8	5:C:43:LYS:HG2	2.27	0.69
5:C:78:ARG:NH1	5:C:78:ARG:HG3	2.00	0.69
17:O:18:ALA:HB2	17:O:26:TRP:HB2	1.74	0.69
1:0:1644:C:C4	1:0:1645:U:C5	2.80	0.69
1:0:324:G:C6	1:0:325:U:C5	2.81	0.69
9:G:10:GLU:HG2	9:G:11:THR:N	2.07	0.69
12:J:107:ASN:HD21	12:J:109:TYR:HB2	1.57	0.69
16:N:72:GLU:H	16:N:171:HIS:CE1	2.11	0.69
1:0:2890:A:H1'	23:U:56:ARG:NH2	2.07	0.69
1:0:2834:G:H5''	26:X:39:LYS:NZ	2.06	0.69
1:0:1165:G:O2'	1:0:1174:A:H4'	1.92	0.69
1:0:1194:A:C2'	1:0:1195:G:H5'	2.23	0.69
1:0:1207:A:O3'	1:0:1208:C:P	2.51	0.69
1:0:1751:G:C2'	1:0:1752:G:H5''	2.22	0.69
1:0:342:C:H2'	1:0:343:C:H6	1.56	0.69
1:0:1439:C:H5''	30:2:41:HIS:CE1	2.28	0.69
1:0:328:U:O2	5:C:202:THR:HG21	1.92	0.69
13:K:62:PRO:HG3	13:K:65:ARG:NH2	2.06	0.69
1:0:1116:U:H3	1:0:1246:A:N6	1.91	0.69
1:0:2013:G:N2	1:0:2014:G:C5	2.61	0.69
1:0:2594:C:O2'	1:0:2595:U:H5'	1.92	0.69
9:G:64:ASN:HB3	9:G:89:VAL:CG1	2.23	0.69
3:A:199:HIS:HD2	3:A:201:PHE:H	1.41	0.69
1:0:2318:C:C5	1:0:2319:C:H5	2.11	0.69
3:A:199:HIS:CD2	3:A:201:PHE:H	2.11	0.69
2:9:28:U:H5''	16:N:40:ASN:HD22	1.57	0.69
1:0:1119:G:N2	1:0:1246:A:H2	1.90	0.69
1:0:1345:A:H2'	1:0:1346:U:C6	2.27	0.69
1:0:156:C:H5''	15:M:171:ARG:CD	2.21	0.69
1:0:1864:C:H2'	1:0:1865:A:O4'	1.93	0.69
1:0:60:A:O2'	1:0:61:G:H5'	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1641:A:H2'	1:0:1642:A:H5'	1.75	0.68
1:0:2256:G:O2'	1:0:2257:G:H5'	1.93	0.68
1:0:635:A:H2'	1:0:636:G:H5''	1.75	0.68
1:0:857:A:H4'	3:A:176:HIS:CD2	2.28	0.68
2:9:19:G:O2'	2:9:20:G:H5'	1.93	0.68
1:0:1176:C:H5''	1:0:1176:C:H6	1.58	0.68
1:0:1159:G:H1	1:0:1208:C:H42	1.41	0.68
1:0:1625:U:C6	1:0:1625:U:C3'	2.76	0.68
9:G:60:ARG:HH21	9:G:91:LEU:HD22	1.58	0.68
16:N:5:ARG:HG3	19:Q:18:PRO:HB3	1.74	0.68
1:0:1127:C:H2'	1:0:1128:U:H5'	1.75	0.68
1:0:2784:A:H1'	7:E:60:SER:OG	1.92	0.68
13:K:29:LEU:HB3	13:K:55:VAL:HG11	1.75	0.68
24:V:12:THR:HG22	24:V:15:GLU:HG3	1.74	0.68
1:0:1798:C:O2	1:0:1798:C:H2'	1.93	0.68
1:0:2028:U:H2'	1:0:2029:C:H6	1.59	0.68
1:0:212:A:O4'	1:0:214:U:C6	2.46	0.68
1:0:407:A:H2'	1:0:408:A:C8	2.29	0.68
1:0:1204:C:H6	1:0:1204:C:C5'	2.04	0.68
1:0:2060:A:C2	1:0:2061:C:C2	2.82	0.68
15:M:164:THR:HG22	15:M:165:GLY:N	2.07	0.68
1:0:1224:G:H2'	1:0:1225:C:H6	1.59	0.68
9:G:68:GLU:HG3	9:G:81:LEU:HD22	1.74	0.68
1:0:100:C:H2'	1:0:101:C:H6	1.58	0.68
1:0:2654:C:O2'	1:0:2655:U:H5'	1.93	0.68
4:B:190:MET:HE2	4:B:194:PHE:CD1	2.28	0.68
7:E:81:GLU:O	7:E:172:PRO:HD3	1.94	0.68
1:0:1634:G:C4	1:0:1635:U:C5	2.81	0.68
1:0:1992:U:O2	1:0:1994:A:H8	1.77	0.68
1:0:2346:C:O5'	1:0:2346:C:H6	1.76	0.68
1:0:1733:A:H4'	4:B:212:GLN:HA	1.74	0.67
1:0:558:C:H2'	1:0:559:U:C5'	2.24	0.67
16:N:36:ALA:HB1	16:N:115:VAL:HG12	1.75	0.67
1:0:1674:C:H2'	1:0:1675:C:C6	2.28	0.67
1:0:1706:G:C6	1:0:1707:G:C6	2.82	0.67
11:I:14:ALA:HB1	11:I:35:VAL:HG22	1.76	0.67
1:0:1579:C:H1'	1:0:1580:A:C8	2.30	0.67
1:0:2281:C:C2'	1:0:2282:U:H5'	2.23	0.67
1:0:2864:U:H3'	1:0:2865:G:C8	2.30	0.67
1:0:737:A:H2'	1:0:738:G:O4'	1.94	0.67
1:0:816:G:C5	1:0:817:G:C6	2.83	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:937:C:O2'	1:0:938:G:H5'	1.94	0.67
1:0:1446:U:H2'	21:S:55:GLN:NE2	2.10	0.67
1:0:1120:U:H5'	1:0:1120:U:C6	2.28	0.67
1:0:1616:A:H5''	1:0:1617:C:OP1	1.93	0.67
1:0:1904:A:C2	1:0:1905:U:C1'	2.78	0.67
3:A:35:GLY:O	3:A:36:ASP:HB3	1.93	0.67
9:G:121:PRO:HA	9:G:127:PRO:HB3	1.75	0.67
22:T:17:HIS:NE2	22:T:18:GLU:HG3	2.10	0.67
1:0:1762:C:H2'	1:0:1763:C:C6	2.30	0.67
1:0:955:A:H2'	1:0:956:G:O4'	1.95	0.67
2:9:117:G:H2'	2:9:118:C:H6	1.60	0.67
1:0:1625:U:H6	1:0:1625:U:C3'	2.07	0.67
1:0:896:C:C2'	1:0:897:A:H5'	2.25	0.67
7:E:14:GLU:HG2	7:E:15:GLN:N	2.09	0.67
1:0:157:G:H4'	15:M:95:LYS:CE	2.25	0.67
1:0:1928:C:O2'	1:0:1929:G:H5'	1.95	0.67
1:0:2727:A:H2'	1:0:2728:C:H5'	1.76	0.67
18:P:94:TRP:CZ2	18:P:98:ILE:HG13	2.30	0.67
22:T:65:VAL:HG22	22:T:72:ILE:HG22	1.75	0.67
1:0:1015:C:H2'	1:0:1016:U:H6	1.61	0.67
1:0:1909:A:H2'	1:0:1910:A:H8	1.60	0.67
1:0:2263:G:H4'	15:M:70:GLY:HA2	1.77	0.67
27:Y:97:LEU:HD23	27:Y:235:GLU:HG3	1.76	0.67
1:0:47:G:N3	1:0:114:A:C2	2.63	0.66
1:0:1561:U:O2	1:0:1561:U:H2'	1.94	0.66
1:0:1758:U:O5'	1:0:1758:U:H6	1.78	0.66
1:0:541:C:C2'	1:0:542:A:C5'	2.73	0.66
6:D:51:ARG:HD2	6:D:68:PRO:HB3	1.75	0.66
25:W:40:ALA:O	25:W:44:MET:HG3	1.95	0.66
1:0:1025:C:H2'	1:0:1026:C:C6	2.30	0.66
1:0:1139:U:H2'	1:0:1140:C:H6	1.58	0.66
2:9:117:G:H2'	2:9:118:C:C6	2.28	0.66
10:H:56:GLN:HE21	10:H:126:ARG:HE	1.41	0.66
20:R:99:ALA:HB1	20:R:109:MET:HE1	1.75	0.66
25:W:6:GLN:HB2	25:W:26:ILE:HD12	1.77	0.66
1:0:134:U:O2	1:0:145:A:C2	2.47	0.66
1:0:2312:G:C2'	1:0:2313:C:H5'	2.25	0.66
27:Y:97:LEU:CD2	27:Y:235:GLU:HG3	2.26	0.66
1:0:1161:A:H1'	9:G:43:SER:OG	1.95	0.66
9:G:54:HIS:CG	9:G:54:HIS:H	2.14	0.66
1:0:31:C:C2	22:T:12:ARG:NH1	2.63	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1624:A:H4'	1:0:1626:A:H5''	1.76	0.66
1:0:1380:U:O4	1:0:2043:U:H4'	1.95	0.66
1:0:2873:C:C2	1:0:2874:G:C8	2.84	0.66
1:0:492:C:C2	1:0:501:G:N2	2.63	0.66
4:B:177:HIS:O	4:B:181:ILE:HG13	1.94	0.66
9:G:16:LYS:O	9:G:20:VAL:HG23	1.95	0.66
25:W:68:THR:HG23	25:W:69:ARG:HG2	1.75	0.66
1:0:1945:G:C5	1:0:1946:C:C5	2.84	0.66
1:0:2036:C:H4'	13:K:44:LEU:HG	1.78	0.66
1:0:66:G:H2'	1:0:108:U:O2'	1.95	0.66
16:N:22:GLN:O	16:N:26:LEU:HD22	1.95	0.66
1:0:1185:U:H2'	1:0:1186:C:H6	1.60	0.66
1:0:1206:U:C5'	1:0:1206:U:H6	2.08	0.66
1:0:1216:G:N7	9:G:7:ARG:NH1	2.42	0.66
1:0:944:G:H21	25:W:44:MET:CE	2.09	0.66
1:0:1989:G:H2'	1:0:1990:C:C6	2.31	0.66
1:0:2264:A:C2	1:0:2265:U:C2	2.83	0.66
1:0:275:G:N2	1:0:376:C:C2	2.64	0.66
9:G:85:ILE:CG1	9:G:89:VAL:HG21	2.21	0.66
11:I:38:ILE:O	11:I:42:THR:HG22	1.95	0.66
1:0:1767:A:O2'	1:0:1768:C:H5'	1.96	0.66
1:0:289:G:N2	1:0:363:A:H2	1.92	0.66
1:0:626:U:O4	1:0:627:G:C6	2.49	0.66
7:E:85:GLU:HG2	7:E:130:GLU:HG2	1.77	0.66
9:G:54:HIS:CA	9:G:54:HIS:CG	2.77	0.66
1:0:1041:U:H2'	1:0:1042:U:H5'	1.78	0.66
1:0:191:A:H2'	1:0:237:G:O6	1.96	0.66
1:0:2587:OMU:H2'	1:0:2589:U:H5''	1.78	0.66
1:0:2588:OMG:HM23	1:0:2617:G:N3	2.11	0.66
1:0:816:G:C6	1:0:817:G:C6	2.84	0.66
2:9:31:C:C2	2:9:50:G:N2	2.64	0.66
1:0:2676:C:H4'	12:J:70:PHE:HE1	1.61	0.66
1:0:1139:U:H2'	1:0:1140:C:C6	2.30	0.65
1:0:925:C:H5''	1:0:925:C:H6	1.61	0.65
3:A:72:GLU:HG3	28:Z:66:GLY:HA2	1.76	0.65
6:D:172:VAL:HG12	6:D:173:GLU:H	1.61	0.65
9:G:23:ILE:CD1	9:G:67:LEU:HD23	2.19	0.65
26:X:30:MET:HE1	26:X:55:ASN:HA	1.77	0.65
1:0:1687:C:O2	29:1:9:GLY:HA2	1.97	0.65
1:0:1375:A:O2'	1:0:1376:G:H5'	1.97	0.65
1:0:251:C:O2'	1:0:252:C:H5'	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:302:A:O2'	1:0:303:C:H5'	1.96	0.65
15:M:81:ARG:HG3	15:M:85:ARG:HB2	1.79	0.65
25:W:5:VAL:HG11	25:W:153:MET:HE3	1.78	0.65
25:W:88:THR:HG23	25:W:110:GLN:NE2	2.10	0.65
1:0:1279:U:H2'	1:0:1279:U:O2	1.96	0.65
1:0:1336:U:C2	1:0:1337:A:C8	2.85	0.65
1:0:1784:U:C6	1:0:1813:U:OP2	2.49	0.65
1:0:2615:U:C5	1:0:2616:G:C6	2.85	0.65
1:0:1527:A:H1'	1:0:1528:A:H8	1.53	0.65
1:0:1557:G:H2'	1:0:1558:C:H6	1.61	0.65
1:0:312:U:C2	1:0:320:G:N2	2.65	0.65
1:0:324:G:C5	1:0:325:U:C5	2.85	0.65
1:0:797:A:H61	1:0:816:G:H1'	1.62	0.65
5:C:193:LEU:O	5:C:233:THR:HG23	1.97	0.65
1:0:1778:A:H2'	1:0:1779:A:H5'	1.79	0.65
1:0:2106:C:H2'	1:0:2107:U:C6	2.31	0.65
1:0:2374:A:H2'	1:0:2375:G:C8	2.32	0.65
1:0:2408:A:H1'	31:3:10:TYR:CD1	2.31	0.65
1:0:2472:C:O2'	1:0:2634:G:H4'	1.97	0.65
31:3:65:THR:HG23	31:3:67:LEU:HG	1.79	0.65
26:X:7:GLU:HG3	26:X:74:ALA:O	1.96	0.65
1:0:1855:G:H4'	1:0:1856:C:O5'	1.96	0.65
1:0:1895:A:C8	1:0:1968:A:H1'	2.32	0.65
1:0:2526:C:O2'	1:0:2527:U:H5'	1.97	0.65
1:0:255:A:O2'	1:0:256:C:H5'	1.97	0.65
1:0:1389:G:H1'	1:0:1435:U:O2	1.97	0.65
1:0:1477:C:H5'	1:0:1868:G:C5'	2.27	0.65
1:0:1792:C:H2'	1:0:1793:C:H6	1.62	0.65
1:0:2812:A:H2	1:0:2814:A:N6	1.88	0.65
6:D:41:LEU:HA	6:D:44:ILE:HG22	1.79	0.65
1:0:2694:A:H4'	7:E:91:PHE:HE1	1.62	0.65
13:K:98:VAL:CG1	13:K:102:GLU:HA	2.26	0.65
1:0:1170:U:C3'	1:0:1171:A:C5'	2.74	0.65
1:0:1494:A:C4	1:0:1495:C:C5	2.85	0.65
1:0:1589:G:H22	1:0:1605:G:H1'	1.60	0.65
1:0:2505:G:C2'	1:0:2506:A:H5'	2.27	0.65
1:0:2345:A:H3'	1:0:2346:C:H5	1.61	0.64
1:0:2769:C:H2'	1:0:2770:G:C5'	2.26	0.64
2:9:2:U:OP2	2:9:2:U:H4'	1.96	0.64
4:B:41:PHE:HB3	4:B:190:MET:HE1	1.79	0.64
18:P:7:LYS:HD3	18:P:21:VAL:CG2	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1815:A:C8	1:0:1815:A:O5'	2.51	0.64
1:0:2032:U:O2'	1:0:2033:G:H5''	1.96	0.64
2:9:78:G:N2	2:9:103:A:OP2	2.30	0.64
15:M:70:GLY:HA3	15:M:73:ARG:HH12	1.61	0.64
1:0:1773:G:C8	28:Z:16:ALA:HA	2.32	0.64
1:0:558:C:C2'	1:0:559:U:C5'	2.75	0.64
1:0:877:G:C5'	1:0:878:G:OP1	2.40	0.64
2:9:114:G:O6	16:N:11:ARG:HD3	1.98	0.64
9:G:81:LEU:HA	9:G:85:ILE:CG2	2.26	0.64
1:0:1167:G:C8	1:0:1167:G:H4'	2.32	0.64
1:0:1416:G:C2'	1:0:1417:G:H5'	2.26	0.64
1:0:161:A:H2'	1:0:162:C:C6	2.32	0.64
1:0:2271:G:H5'	3:A:223:ARG:NH2	2.12	0.64
11:I:56:TYR:HD2	11:I:56:TYR:H	1.42	0.64
1:0:1704:G:H1'	18:P:57:ASN:ND2	2.12	0.64
1:0:1803:C:N4	1:0:1804:A:N6	2.46	0.64
1:0:256:C:H2'	1:0:257:G:O4'	1.98	0.64
1:0:1165:G:H4'	1:0:1174:A:O2'	1.97	0.64
1:0:1477:C:O2'	1:0:1478:U:H5'	1.98	0.64
1:0:2253:G:O2'	1:0:2254:G:H5'	1.97	0.64
7:E:11:VAL:HG12	7:E:12:ASP:H	1.62	0.64
14:L:143:THR:HG22	14:L:144:ASP:N	2.13	0.64
1:0:1400:C:H4'	26:X:56:GLU:HG2	1.80	0.64
1:0:1266:U:H4'	27:Y:115:ARG:HH21	1.61	0.64
1:0:807:A:H2'	1:0:808:A:C8	2.33	0.64
1:0:824:G:O6	1:0:854:G:C8	2.50	0.64
29:1:22:CYS:SG	36:1:57:CD:CD	2.07	0.64
27:Y:151:SER:O	27:Y:155:ARG:HG3	1.98	0.64
6:D:50:VAL:O	6:D:71:ALA:HA	1.98	0.64
3:A:167:LYS:HE3	28:Z:26:VAL:HG13	1.79	0.64
1:0:1206:U:O2'	1:0:1207:A:H5'	1.98	0.64
1:0:1119:G:N2	1:0:1246:A:C2	2.64	0.64
9:G:23:ILE:HD11	9:G:67:LEU:HA	1.79	0.64
1:0:1883:U:H2'	1:0:1884:G:H5'	1.79	0.64
31:3:24:LYS:HE2	35:3:95:CL:CL	2.35	0.64
9:G:37:ASN:ND2	9:G:92:ILE:HG23	2.12	0.64
13:K:10:GLN:N	13:K:10:GLN:HE21	1.95	0.64
21:S:33:SER:O	21:S:37:VAL:HG23	1.97	0.64
1:0:1197:G:H2'	1:0:1198:U:C5'	2.28	0.63
1:0:1206:U:C6	1:0:1206:U:H5'	2.30	0.63
1:0:387:G:O2'	1:0:388:G:H5'	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:35:VAL:HB	9:G:92:ILE:HD11	1.81	0.63
23:U:52:THR:HG22	23:U:54:THR:H	1.64	0.63
1:0:130:C:O2'	1:0:131:A:N7	2.31	0.63
1:0:1768:C:C6	1:0:1769:C:C6	2.86	0.63
1:0:236:A:H4'	1:0:237:G:OP1	1.99	0.63
1:0:440:C:H2'	1:0:441:A:C8	2.33	0.63
1:0:794:U:H2'	1:0:795:G:H5'	1.80	0.63
4:B:36:PRO:HA	4:B:168:GLY:CA	2.28	0.63
24:V:1:THR:HG23	24:V:2:VAL:H	1.63	0.63
24:V:39:ALA:N	24:V:40:PRO:HD2	2.14	0.63
1:0:1097:A:H5''	25:W:125:HIS:CE1	2.34	0.63
1:0:1537:C:H2'	1:0:1538:C:H6	1.63	0.63
1:0:292:G:H1'	1:0:360:A:H61	1.63	0.63
3:A:53:ALA:HB1	3:A:54:PRO:HD2	1.80	0.63
9:G:35:VAL:H	9:G:92:ILE:HG13	1.63	0.63
11:I:53:THR:O	11:I:64:ILE:HB	1.98	0.63
14:L:143:THR:HG22	14:L:145:LEU:H	1.64	0.63
1:0:1194:A:H5'	1:0:1194:A:C8	2.33	0.63
6:D:141:VAL:HA	6:D:144:ARG:HE	1.63	0.63
1:0:1167:G:H1'	1:0:1168:C:H5'	1.79	0.63
1:0:484:A:N6	1:0:508:A:N6	2.46	0.63
31:3:60:LYS:HG3	31:3:61:PRO:HD2	1.81	0.63
10:H:40:ALA:HB1	10:H:137:TYR:CE2	2.34	0.63
1:0:200:U:O2'	1:0:201:G:H5'	1.98	0.63
1:0:2036:C:C4'	13:K:44:LEU:HG	2.29	0.63
1:0:608:A:O5'	1:0:608:A:H8	1.82	0.63
2:9:64:C:C2'	2:9:65:A:H5'	2.28	0.63
11:I:14:ALA:CB	11:I:35:VAL:HG13	2.28	0.63
1:0:1762:C:N3	1:0:1783:A:C2	2.66	0.63
1:0:646:G:H2'	1:0:647:U:H6	1.62	0.63
1:0:685:C:O2	1:0:748:C:H4'	1.99	0.63
4:B:212:GLN:HB2	4:B:257:THR:HG21	1.81	0.63
12:J:74:ARG:HB3	12:J:74:ARG:HH11	1.64	0.63
2:9:35:C:H2'	16:N:141:ARG:NH1	2.14	0.63
27:Y:151:SER:HB3	27:Y:154:ARG:HB3	1.81	0.63
1:0:1164:U:H4'	1:0:1165:G:OP1	1.97	0.63
1:0:1216:G:C4	9:G:7:ARG:NH2	2.67	0.63
1:0:1224:G:C5	1:0:1225:C:C5	2.87	0.63
1:0:2758:G:H2'	1:0:2759:C:C6	2.34	0.63
17:O:10:LEU:HD13	17:O:99:GLU:HG3	1.79	0.63
26:X:76:ARG:NH1	26:X:76:ARG:HG3	2.10	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1021:G:H2'	1:0:1022:A:H8	1.63	0.62
1:0:391:U:O2'	1:0:392:U:H5'	1.99	0.62
1:0:824:G:C5	1:0:854:G:C5	2.88	0.62
3:A:179:MET:HG2	3:A:186:TRP:HB2	1.80	0.62
1:0:450:C:OP1	5:C:184:ARG:NH2	2.32	0.62
1:0:920:C:H4'	1:0:921:G:N2	2.14	0.62
5:C:193:LEU:HB3	5:C:233:THR:OG1	1.99	0.62
15:M:70:GLY:HA3	15:M:73:ARG:NH1	2.15	0.62
1:0:119:A:H2'	1:0:120:A:C5'	2.30	0.62
1:0:1788:U:C2	1:0:1805:G:N2	2.67	0.62
1:0:1418:U:H4'	1:0:1419:U:O5'	1.98	0.62
1:0:1441:G:O2'	1:0:1442:A:H5'	1.98	0.62
1:0:2249:G:C2	1:0:2253:G:C6	2.87	0.62
1:0:569:A:H5''	1:0:587:A:N1	2.15	0.62
1:0:816:G:H5'	1:0:1598:A:H4'	1.80	0.62
1:0:920:C:H4'	1:0:921:G:C2	2.35	0.62
3:A:135:VAL:HG22	3:A:136:ALA:N	2.14	0.62
4:B:304:PRO:HD2	4:B:307:ARG:HE	1.65	0.62
13:K:30:LYS:O	13:K:55:VAL:HG13	1.99	0.62
1:0:1090:A:C6	1:0:1091:U:C4	2.87	0.62
1:0:1712:A:H2'	1:0:1713:G:O4'	1.99	0.62
2:9:64:C:O2'	2:9:65:A:H5'	1.99	0.62
18:P:16:VAL:CG1	18:P:20:ARG:HB2	2.29	0.62
1:0:2264:A:OP1	15:M:71:SER:HB3	2.00	0.62
1:0:227:A:H8	1:0:227:A:O5'	1.83	0.62
1:0:2717:C:C2'	1:0:2718:C:H5''	2.30	0.62
1:0:514:G:H2'	1:0:514:G:OP1	1.98	0.62
4:B:56:ASP:HB3	4:B:322:ARG:HE	1.64	0.62
1:0:1194:A:C2	1:0:1195:G:C5	2.87	0.62
1:0:2029:C:C2	1:0:2030:A:C8	2.88	0.62
1:0:2437:A:H2'	1:0:2438:G:C8	2.35	0.62
2:9:49:G:C2'	2:9:50:G:H5'	2.29	0.62
7:E:84:MET:HG2	7:E:168:ILE:HA	1.81	0.62
1:0:1747:A:C8	13:K:44:LEU:HD13	2.35	0.62
1:0:1194:A:C2'	1:0:1195:G:C5'	2.78	0.62
1:0:1145:G:H1	1:0:1218:U:H3	1.45	0.62
1:0:569:A:O2'	1:0:570:C:H5'	2.00	0.62
26:X:72:VAL:HG22	26:X:85:VAL:HG12	1.79	0.62
1:0:1903:U:O2'	1:0:1904:A:N7	2.32	0.62
2:9:24:U:H3'	2:9:25:G:H5'	1.82	0.62
17:O:44:ASN:OD1	17:O:65:LEU:HB2	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2850:C:C6	1:0:2850:C:H5'	2.31	0.62
1:0:2880:A:H2'	1:0:2881:C:O4'	1.99	0.62
25:W:81:ASP:OD1	25:W:92:ASP:HB2	1.99	0.62
1:0:1165:G:H1'	1:0:1174:A:H1'	1.81	0.61
1:0:1579:C:H1'	1:0:1580:A:H8	1.64	0.61
1:0:2507:G:H2'	1:0:2510:C:H42	1.64	0.61
1:0:1783:A:HO2'	1:0:1784:U:H5'	1.63	0.61
1:0:553:G:O2'	27:Y:179:PRO:HG3	2.00	0.61
1:0:734:U:H2'	1:0:736:A:OP2	2.00	0.61
1:0:962:C:H2'	1:0:963:C:H5'	1.82	0.61
25:W:18:GLN:O	25:W:22:GLU:HG3	2.01	0.61
1:0:1476:A:O5'	1:0:1476:A:H8	1.82	0.61
1:0:2029:C:H2'	1:0:2030:A:H8	1.65	0.61
1:0:353:G:H2'	1:0:354:A:C8	2.35	0.61
9:G:77:GLY:O	9:G:80:ASP:HB3	2.00	0.61
1:0:44:G:N2	1:0:147:G:H21	1.98	0.61
1:0:613:C:H2'	1:0:614:U:H6	1.66	0.61
3:A:112:PRO:HD3	3:A:152:CYS:SG	2.41	0.61
1:0:1166:A:OP1	1:0:1174:A:H5'	2.01	0.61
1:0:1328:A:N7	1:0:1329:A:C5	2.69	0.61
1:0:1711:A:O2'	1:0:1712:A:H5'	2.01	0.61
1:0:1946:C:O2	1:0:1946:C:H2'	2.00	0.61
1:0:2281:C:H2'	1:0:2282:U:H5'	1.80	0.61
1:0:2504:A:H4'	10:H:71:ARG:NH1	2.16	0.61
1:0:2668:G:N2	1:0:2669:U:C2	2.69	0.61
1:0:338:C:H4'	5:C:174:ILE:HD11	1.82	0.61
3:A:33:GLU:H	3:A:33:GLU:CD	2.04	0.61
1:0:1150:A:H2	9:G:20:VAL:HG21	1.64	0.61
9:G:32:SER:CB	9:G:124:ILE:HG13	2.19	0.61
1:0:1335:C:C2	1:0:1336:U:C5	2.88	0.61
1:0:1595:G:O2'	1:0:1596:U:H5'	2.01	0.61
1:0:2859:C:C6	1:0:2859:C:H5''	2.34	0.61
1:0:544:G:H2'	1:0:545:G:H5''	1.83	0.61
29:1:22:CYS:HB3	29:1:37:CYS:HB3	1.83	0.61
4:B:215:VAL:HA	4:B:220:VAL:HG22	1.81	0.61
6:D:57:THR:HG23	6:D:63:ILE:HG22	1.82	0.61
18:P:103:THR:HA	18:P:106:ARG:NH1	2.16	0.61
24:V:56:ILE:O	24:V:60:GLN:HG3	2.00	0.61
1:0:2320:U:H4'	1:0:2321:A:O4'	2.01	0.61
1:0:661:G:C6	1:0:686:A:C2	2.89	0.61
1:0:21:G:C5'	20:R:2:ILE:HA	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1116:U:N3	1:0:1246:A:N6	2.48	0.61
1:0:179:C:O5'	1:0:179:C:H6	1.84	0.61
1:0:1477:C:C5'	1:0:1868:G:H5''	2.31	0.61
1:0:1928:C:C2'	1:0:1929:G:H5'	2.31	0.61
1:0:462:A:N6	1:0:477:A:H2	1.99	0.61
1:0:152:A:H1'	1:0:440:C:O2'	2.00	0.61
1:0:2089:A:O2'	1:0:2090:G:H5'	2.01	0.61
29:1:28:HIS:CD2	29:1:31:LYS:HG3	2.36	0.61
2:9:38:A:H2'	2:9:39:U:H6	1.61	0.61
12:J:25:GLN:O	12:J:28:GLU:HB3	2.01	0.61
3:A:170:VAL:HG11	28:Z:14:PHE:CE1	2.36	0.61
1:0:1120:U:H2'	1:0:1121:G:H5'	1.81	0.61
1:0:1510:G:H2'	1:0:1511:U:C6	2.30	0.61
1:0:1857:A:N6	1:0:2247:C:H1'	2.15	0.61
1:0:731:U:O2'	1:0:732:C:H5'	2.00	0.61
4:B:304:PRO:HD2	4:B:307:ARG:NE	2.16	0.61
9:G:97:ASN:HD22	9:G:99:PHE:HB2	1.66	0.61
10:H:166:SER:CB	10:H:167:PRO:HD3	2.27	0.61
13:K:27:ARG:HD2	13:K:60:GLY:HA2	1.82	0.61
25:W:56:GLU:O	25:W:143:THR:HG23	2.01	0.61
1:0:1883:U:O2'	1:0:1884:G:H5'	2.01	0.60
1:0:2241:C:C2	1:0:2242:U:C5	2.89	0.60
2:9:108:C:O2'	2:9:109:G:H5'	2.01	0.60
4:B:167:GLY:HA2	4:B:174:ARG:HD3	1.82	0.60
24:V:58:THR:O	24:V:62:GLU:HG3	2.01	0.60
27:Y:187:VAL:HG23	27:Y:192:ASP:CB	2.28	0.60
1:0:1921:A:O2'	1:0:1922:A:H5'	2.01	0.60
1:0:2332:A:H5''	1:0:2333:G:OP2	2.01	0.60
1:0:2827:A:H2'	1:0:2828:G:O4'	2.01	0.60
1:0:585:C:H2'	1:0:586:C:C6	2.35	0.60
1:0:661:G:C4	1:0:686:A:C2	2.88	0.60
6:D:54:ALA:HB2	6:D:69:ILE:HD12	1.83	0.60
9:G:54:HIS:N	9:G:54:HIS:CG	2.70	0.60
1:0:1150:A:C6	9:G:69:ARG:NH2	2.69	0.60
20:R:39:THR:HG23	20:R:107:GLU:O	2.01	0.60
1:0:1225:C:N3	1:0:1226:G:C8	2.70	0.60
1:0:228:C:H2'	1:0:229:G:C5'	2.30	0.60
1:0:2729:C:H1'	1:0:2864:U:O2'	2.01	0.60
9:G:33:VAL:HG21	9:G:94:THR:O	2.02	0.60
1:0:1089:G:H2'	1:0:1090:A:C8	2.34	0.60
1:0:1197:G:H2'	1:0:1198:U:H5'	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1211:G:H4'	9:G:88:GLN:H	1.64	0.60
1:0:1626:A:H2'	1:0:1627:G:H5'	1.82	0.60
1:0:694:A:H2'	1:0:695:C:O4'	2.01	0.60
1:0:960:G:N3	1:0:960:G:H2'	2.16	0.60
1:0:100:C:H4'	22:T:16:LEU:HB2	1.82	0.60
31:3:10:TYR:HB2	31:3:17:HIS:CE1	2.36	0.60
23:U:44:ARG:HD3	23:U:49:LEU:HD21	1.83	0.60
24:V:39:ALA:H	24:V:40:PRO:HD2	1.67	0.60
1:0:1497:G:H2'	1:0:1498:G:H8	1.67	0.60
1:0:656:G:H3'	17:O:37:ARG:HH12	1.66	0.60
4:B:201:ASP:HB2	4:B:312:ARG:HD2	1.84	0.60
1:0:1195:G:C2	1:0:1205:U:C2	2.90	0.60
1:0:282:C:H1'	1:0:368:C:H41	1.66	0.60
17:O:44:ASN:HB3	17:O:67:SER:O	2.02	0.60
1:0:472:A:H5'	29:1:35:SER:OG	2.01	0.60
1:0:305:A:C5	1:0:329:A:C2	2.90	0.60
1:0:45:A:N6	1:0:147:G:C4	2.70	0.60
5:C:16:VAL:HG12	5:C:17:ASP:H	1.67	0.60
10:H:55:VAL:HG21	10:H:159:PRO:HD3	1.84	0.60
15:M:75:ARG:HH12	15:M:78:LYS:HE3	1.66	0.60
1:0:1327:G:N2	1:0:1331:A:C4	2.70	0.60
1:0:2251:G:H2'	1:0:2252:A:C8	2.37	0.60
1:0:2291:A:C8	1:0:2309:C:H5'	2.37	0.60
1:0:2461:U:C2	1:0:2466:G:H1'	2.36	0.60
1:0:896:C:H2'	1:0:897:A:H5'	1.84	0.60
19:Q:26:PRO:O	19:Q:30:VAL:HG23	2.02	0.60
1:0:1120:U:H6	1:0:1120:U:C5'	2.13	0.59
1:0:1773:G:H8	28:Z:16:ALA:HA	1.66	0.59
1:0:1915:U:C2'	1:0:1916:C:H5'	2.31	0.59
1:0:2769:C:HO2'	1:0:2770:G:H5'	1.67	0.59
1:0:387:G:C2'	1:0:388:G:H5'	2.32	0.59
22:T:85:GLU:HG2	22:T:86:GLU:H	1.67	0.59
1:0:1040:A:C2	1:0:1041:U:C2	2.89	0.59
1:0:1324:G:C6	1:0:1334:C:N3	2.70	0.59
1:0:1680:C:H2'	1:0:1681:G:O4'	2.03	0.59
1:0:2106:C:H2'	1:0:2107:U:H6	1.67	0.59
1:0:396:U:H2'	1:0:397:A:N7	2.16	0.59
1:0:541:C:H2'	1:0:542:A:H5''	1.78	0.59
1:0:625:U:O2	1:0:627:G:C8	2.55	0.59
1:0:776:A:H1'	1:0:779:U:O4	2.02	0.59
3:A:68:ILE:HG12	3:A:69:LEU:N	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1829:A:N6	28:Z:18:TYR:HA	2.16	0.59
1:0:1285:U:H4'	25:W:74:GLU:OE1	2.02	0.59
1:0:1909:A:N1	1:0:2128:G:H1'	2.16	0.59
1:0:235:C:O2'	1:0:236:A:H2'	2.03	0.59
1:0:661:G:C6	1:0:686:A:N1	2.70	0.59
1:0:1194:A:HO2'	1:0:1195:G:H5'	1.65	0.59
1:0:1375:A:H2'	1:0:1376:G:H5'	1.84	0.59
1:0:1501:A:N6	1:0:1502:A:N6	2.49	0.59
1:0:1634:G:C5	1:0:1635:U:C5	2.90	0.59
1:0:222:A:H2'	1:0:223:G:O4'	2.01	0.59
17:O:32:ARG:HD3	17:O:32:ARG:O	2.02	0.59
28:Z:42:CYS:SG	28:Z:43:GLY:N	2.75	0.59
1:0:1400:C:H2'	1:0:1401:G:C5'	2.30	0.59
1:0:1666:C:H2'	1:0:1667:A:C8	2.37	0.59
1:0:1774:G:O2'	1:0:1775:A:H5'	2.02	0.59
1:0:2374:A:H2'	1:0:2375:G:O4'	2.02	0.59
1:0:289:G:O2'	1:0:290:C:H5'	2.02	0.59
9:G:108:SER:C	9:G:109:LYS:HE3	2.20	0.59
16:N:61:ALA:HB3	16:N:88:ALA:HB2	1.85	0.59
23:U:13:ILE:HG12	23:U:32:CYS:HB3	1.83	0.59
1:0:1886:A:O2'	28:Z:20:ARG:HB2	2.01	0.59
1:0:1116:U:H3	1:0:1246:A:H62	1.50	0.59
1:0:1759:A:N3	1:0:1818:C:H2'	2.18	0.59
1:0:2864:U:H3'	1:0:2865:G:H8	1.67	0.59
2:9:48:C:H4'	16:N:141:ARG:HH21	1.68	0.59
18:P:121:ASP:O	18:P:125:LYS:HG3	2.03	0.59
25:W:72:PRO:HG2	25:W:77:ALA:HB3	1.85	0.59
1:0:105:G:O2'	1:0:106:A:H5'	2.03	0.59
1:0:1947:G:H2'	1:0:1948:G:H8	1.66	0.59
1:0:2450:C:H6	1:0:2450:C:O5'	1.85	0.59
1:0:57:C:O2'	1:0:58:C:H5'	2.02	0.59
3:A:125:ASN:HB3	3:A:158:VAL:HG12	1.84	0.59
4:B:51:VAL:HG13	4:B:53:LEU:HD13	1.83	0.59
8:F:4:VAL:HA	8:F:76:PHE:CZ	2.38	0.59
18:P:115:SER:H	18:P:118:GLN:NE2	1.97	0.59
1:0:317:A:H5'	22:T:52:ARG:HD2	1.85	0.59
1:0:1015:C:H2'	1:0:1016:U:C6	2.37	0.59
1:0:1194:A:C2	1:0:1195:G:C4	2.90	0.59
1:0:1886:A:HO2'	28:Z:20:ARG:HB2	1.67	0.59
1:0:595:U:C2'	1:0:596:C:H5'	2.32	0.59
3:A:105:VAL:HG13	3:A:155:THR:O	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:189:ALA:O	4:B:192:ASP:HB2	2.02	0.59
16:N:86:LEU:O	16:N:90:LEU:HG	2.03	0.59
1:0:1307:A:H2'	1:0:1308:A:C8	2.38	0.59
1:0:1964:U:O2	1:0:1964:U:H2'	2.03	0.59
1:0:2055:A:H4'	20:R:132:ARG:NH2	2.18	0.59
1:0:2103:A:H2'	1:0:2104:C:H5'	1.85	0.59
11:I:31:VAL:O	11:I:32:GLN:HB2	2.02	0.59
1:0:1216:G:C5	9:G:7:ARG:NH1	2.71	0.59
1:0:1234:U:N3	4:B:244:PRO:HB3	2.18	0.59
1:0:1309:U:C2'	1:0:1310:U:C5'	2.81	0.59
1:0:1309:U:H2'	1:0:1310:U:C5'	2.33	0.59
1:0:1449:G:N3	1:0:1449:G:H2'	2.17	0.59
1:0:1557:G:O2'	1:0:1558:C:H5'	2.02	0.59
1:0:1664:A:OP1	1:0:1664:A:H8	1.86	0.59
1:0:1776:A:C8	1:0:1778:A:O4'	2.56	0.59
1:0:2028:U:H2'	1:0:2029:C:C6	2.36	0.59
1:0:234:A:H2'	1:0:235:C:O5'	2.02	0.59
1:0:2354:A:H5'	1:0:2355:G:C5	2.38	0.59
1:0:316:A:N3	1:0:336:G:O2'	2.35	0.59
1:0:390:G:O2'	1:0:391:U:H5'	2.02	0.59
12:J:24:SER:HA	12:J:86:MET:SD	2.42	0.59
14:L:72:ASN:O	14:L:76:LEU:HG	2.02	0.59
16:N:86:LEU:HD12	16:N:125:ALA:HB2	1.83	0.59
28:Z:19:GLY:O	28:Z:23:ARG:HG2	2.03	0.59
1:0:1345:A:C4	1:0:1346:U:C5	2.91	0.58
1:0:2461:U:O2	1:0:2466:G:H1'	2.03	0.58
1:0:2563:U:H2'	1:0:2565:C:O5'	2.03	0.58
1:0:1564:C:H1'	1:0:2738:G:N2	2.18	0.58
1:0:2769:C:H2'	1:0:2770:G:H5'	1.84	0.58
1:0:2777:G:O2'	1:0:2778:A:H5'	2.03	0.58
3:A:192:VAL:HG23	3:A:201:PHE:HB3	1.84	0.58
9:G:121:PRO:HB2	9:G:127:PRO:HG3	1.85	0.58
11:I:49:GLU:O	11:I:51:PRO:HD3	2.03	0.58
1:0:1187:U:O2'	1:0:1189:A:H2	1.86	0.58
1:0:2544:G:C5	1:0:2545:U:C5	2.91	0.58
1:0:482:G:N2	1:0:485:A:C8	2.71	0.58
1:0:705:C:N4	1:0:723:G:H1	1.99	0.58
1:0:961:A:C6	1:0:1010:C:C5	2.92	0.58
5:C:1:MET:HG2	5:C:2:GLN:H	1.68	0.58
10:H:166:SER:HB2	10:H:167:PRO:CD	2.28	0.58
15:M:75:ARG:HH22	15:M:78:LYS:CE	2.17	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:35:VAL:HG12	16:N:37:ARG:HG2	1.85	0.58
27:Y:213:LYS:O	27:Y:217:ILE:HG13	2.03	0.58
1:0:484:A:H61	1:0:508:A:H62	1.51	0.58
3:A:51:ARG:NH2	3:A:53:ALA:HB3	2.18	0.58
15:M:71:SER:H	15:M:73:ARG:HH12	1.51	0.58
1:0:1804:A:H2'	1:0:1805:G:C8	2.38	0.58
1:0:2729:C:H2'	1:0:2730:G:H8	1.67	0.58
1:0:287:C:H2'	1:0:288:A:C8	2.37	0.58
1:0:308:U:H5'	1:0:309:C:OP1	2.03	0.58
2:9:30:C:O2	2:9:51:A:H2	1.86	0.58
18:P:38:GLU:OE2	18:P:41:ARG:HD2	2.04	0.58
1:0:1327:G:N1	1:0:1331:A:C6	2.72	0.58
1:0:2011:A:H4'	1:0:2012:U:O5'	2.03	0.58
1:0:2099:G:N2	1:0:2646:G:C6	2.71	0.58
4:B:71:VAL:HG11	4:B:296:LEU:HB3	1.84	0.58
12:J:52:GLN:HG3	12:J:53:ILE:H	1.68	0.58
13:K:64:MET:HA	13:K:67:GLN:HE21	1.68	0.58
16:N:42:HIS:CE1	16:N:64:SER:HB3	2.39	0.58
18:P:134:VAL:O	18:P:137:LEU:HB3	2.03	0.58
20:R:8:ALA:HB3	20:R:15:LYS:HE2	1.85	0.58
1:0:1312:G:C4	1:0:1313:A:C8	2.91	0.58
1:0:1943:C:C5	1:0:1944:G:C8	2.92	0.58
1:0:2082:G:H1'	12:J:67:ASN:OD1	2.03	0.58
1:0:2769:C:C2'	1:0:2770:G:C5'	2.80	0.58
1:0:2825:C:H4'	1:0:2826:G:O4'	2.03	0.58
2:9:28:U:H5''	16:N:40:ASN:HD21	1.65	0.58
2:9:58:G:C8	2:9:59:C:C5	2.92	0.58
9:G:33:VAL:HA	9:G:123:ASP:OD2	2.04	0.58
2:9:49:G:O3'	16:N:147:ILE:HD11	2.03	0.58
1:0:1098:A:OP1	25:W:128:VAL:HG22	2.03	0.58
1:0:1118:A:C8	1:0:1119:G:H5''	2.39	0.58
1:0:1381:A:N6	1:0:1402:G:H4'	2.17	0.58
1:0:1882:C:O2'	1:0:2012:U:OP2	2.21	0.58
1:0:282:C:O2'	1:0:283:U:C5'	2.48	0.58
1:0:645:U:O2	1:0:761:A:H2	1.87	0.58
1:0:814:G:H2'	1:0:815:U:O4'	2.03	0.58
2:9:55:U:H4'	2:9:56:A:C8	2.39	0.58
16:N:132:ASN:O	16:N:135:VAL:HG12	2.03	0.58
1:0:1523:G:C2	1:0:1524:U:C4	2.92	0.58
1:0:2055:A:O5'	1:0:2055:A:H8	1.86	0.58
8:F:21:GLU:O	8:F:24:ARG:HG2	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:2:VAL:HG22	8:F:57:GLU:OE1	2.03	0.58
12:J:107:ASN:ND2	12:J:109:TYR:H	2.01	0.58
16:N:144:GLY:O	16:N:147:ILE:HG22	2.03	0.58
1:0:1544:U:C2	1:0:1545:C:C6	2.91	0.58
1:0:1762:C:H2'	1:0:1763:C:H6	1.67	0.58
2:9:39:U:H3	2:9:42:C:H5''	1.68	0.58
1:0:2337:G:H5''	6:D:96:SER:O	2.04	0.58
1:0:1118:A:H2'	1:0:1120:U:H5''	1.86	0.58
1:0:1850:U:O4'	1:0:1941:A:C2	2.56	0.58
9:G:121:PRO:CB	9:G:127:PRO:HB2	2.31	0.58
9:G:121:PRO:CB	9:G:127:PRO:HB3	2.33	0.58
9:G:23:ILE:HG12	9:G:60:ARG:HH11	1.68	0.58
15:M:66:SER:HB3	15:M:128:TRP:NE1	2.19	0.58
20:R:82:GLU:HG3	20:R:83:LYS:H	1.69	0.58
21:S:73:ASP:O	21:S:77:VAL:HG23	2.04	0.58
1:0:1378:G:N1	1:0:2747:C:H2'	2.18	0.57
1:0:1556:G:O2'	1:0:1557:G:H5'	2.04	0.57
1:0:1895:A:C8	1:0:1968:A:C1'	2.87	0.57
1:0:2856:A:C2	1:0:2903:C:O2	2.57	0.57
1:0:896:C:O2'	1:0:897:A:H5'	2.04	0.57
1:0:2459:G:P	31:3:64:LYS:HB2	2.43	0.57
9:G:64:ASN:ND2	9:G:89:VAL:HG12	2.19	0.57
11:I:83:THR:HG22	11:I:84:GLY:N	2.18	0.57
22:T:48:VAL:HG22	22:T:98:VAL:HA	1.86	0.57
1:0:1626:A:H2'	1:0:1627:G:C5'	2.34	0.57
1:0:1834:C:H2'	1:0:1840:A:H62	1.64	0.57
1:0:2717:C:H2'	1:0:2718:C:C5'	2.33	0.57
1:0:314:G:N2	1:0:316:A:H3'	2.18	0.57
2:9:26:C:C2'	2:9:27:C:H5'	2.34	0.57
7:E:7:ILE:HD11	7:E:11:VAL:O	2.04	0.57
25:W:88:THR:HG23	25:W:110:GLN:HE21	1.69	0.57
1:0:1167:G:C8	1:0:1167:G:C4'	2.87	0.57
1:0:1972:U:H2'	1:0:1973:A:C5'	2.35	0.57
1:0:2769:C:H2'	1:0:2770:G:O4'	2.05	0.57
1:0:506:G:H22	1:0:509:A:C5'	2.17	0.57
3:A:9:ARG:HG2	3:A:16:PHE:CD2	2.39	0.57
1:0:1246:A:C5	1:0:1248:A:C5	2.92	0.57
1:0:1930:A:H2'	1:0:1931:A:C8	2.39	0.57
1:0:2049:C:P	20:R:69:LYS:HZ1	2.27	0.57
1:0:2703:A:H2'	1:0:2704:C:H6	1.69	0.57
1:0:408:A:H2'	1:0:409:U:H5'	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:702:G:N2	1:0:727:G:H1'	2.19	0.57
9:G:40:GLY:C	9:G:41:ILE:HG13	2.24	0.57
10:H:58:ARG:HH11	10:H:58:ARG:HG3	1.68	0.57
1:0:1163:G:H4'	11:I:112:LEU:HD12	1.86	0.57
1:0:1194:A:H2	1:0:1195:G:C4	2.22	0.57
1:0:1194:A:H2'	1:0:1195:G:C5'	2.33	0.57
1:0:681:G:N3	1:0:681:G:H5'	2.19	0.57
15:M:81:ARG:CG	15:M:85:ARG:HB2	2.34	0.57
22:T:24:ARG:HH21	22:T:39:ASN:ND2	2.02	0.57
22:T:49:GLU:OE2	22:T:97:ARG:HD2	2.04	0.57
1:0:1768:C:C6	1:0:1769:C:C5	2.93	0.57
1:0:2241:C:H2'	1:0:2242:U:C6	2.35	0.57
1:0:2879:A:O2'	1:0:2880:A:H5'	2.05	0.57
1:0:453:A:C4	1:0:479:G:C8	2.91	0.57
1:0:718:C:H2'	1:0:718:C:O2	2.05	0.57
4:B:168:GLY:N	4:B:174:ARG:HD3	2.18	0.57
1:0:2346:C:H4'	6:D:52:THR:HG22	1.86	0.57
1:0:1342:C:C2'	1:0:1343:C:H5'	2.34	0.57
1:0:1535:G:H2'	1:0:1536:C:C6	2.40	0.57
1:0:1783:A:H2'	1:0:1784:U:H5'	1.87	0.57
1:0:2120:U:H2'	1:0:2121:G:O4'	2.04	0.57
1:0:228:C:C2'	1:0:229:G:H5'	2.34	0.57
1:0:236:A:H4'	1:0:237:G:C5'	2.29	0.57
1:0:2599:A:C2	1:0:2684:A:H4'	2.39	0.57
1:0:401:C:H2'	1:0:402:U:H6	1.70	0.57
1:0:422:G:C6	1:0:2446:G:C6	2.93	0.57
2:9:84:G:O2'	2:9:85:A:H5'	2.04	0.57
1:0:2846:C:H4'	4:B:156:LYS:HB3	1.86	0.57
6:D:172:VAL:HG12	6:D:173:GLU:N	2.19	0.57
20:R:18:LEU:HB2	20:R:143:VAL:CG1	2.34	0.57
1:0:1059:G:H5''	1:0:1127:C:H5'	1.87	0.57
1:0:1543:G:H2'	1:0:1544:U:C5	2.40	0.57
1:0:1666:C:H2'	1:0:1667:A:H5'	1.86	0.57
1:0:1738:C:O2'	1:0:1739:G:H5'	2.04	0.57
1:0:815:U:C4	1:0:816:G:C6	2.92	0.57
2:9:41:C:H4'	6:D:48:MET:HB3	1.87	0.57
5:C:162:VAL:HG12	5:C:162:VAL:O	2.05	0.57
1:0:1162:G:C2	1:0:1163:G:C8	2.93	0.57
1:0:1554:U:O2'	1:0:1631:A:H1'	2.03	0.57
1:0:161:A:H2'	1:0:162:C:H6	1.67	0.57
1:0:1978:A:C4	1:0:1980:U:C5	2.93	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:324:G:C2	1:0:325:U:C6	2.93	0.57
30:2:40:ARG:CD	30:2:47:THR:HG22	2.35	0.57
12:J:135:ILE:O	12:J:139:LEU:HG	2.04	0.57
1:0:1269:G:H2'	1:0:1270:U:H6	1.69	0.57
1:0:1788:U:H2'	1:0:1789:G:C8	2.40	0.57
1:0:2656:G:O2'	1:0:2657:G:H5'	2.05	0.57
1:0:2791:U:H1'	1:0:2792:A:H5''	1.86	0.57
1:0:558:C:C2'	1:0:559:U:H5''	2.35	0.57
1:0:968:G:O2'	1:0:969:G:H5'	2.05	0.57
1:0:1398:G:H4'	18:P:25:PRO:HG3	1.87	0.57
1:0:1537:C:N3	1:0:1649:G:C2	2.73	0.56
1:0:1989:G:C4	1:0:1990:C:C5	2.93	0.56
1:0:2327:A:C2	1:0:2374:A:C2	2.93	0.56
1:0:449:A:N7	5:C:43:LYS:HG2	2.19	0.56
2:9:29:C:C2'	2:9:30:C:H5'	2.34	0.56
3:A:123:GLY:HA2	3:A:159:VAL:O	2.05	0.56
1:0:657:G:OP1	5:C:27:ARG:NH2	2.35	0.56
1:0:1279:U:H5''	1:0:1280:A:OP2	2.05	0.56
1:0:1821:A:O2'	1:0:1822:A:H5'	2.05	0.56
1:0:1937:U:O2'	1:0:1938:G:H5'	2.05	0.56
2:9:4:G:H21	16:N:44:ARG:NH1	2.03	0.56
2:9:55:U:H4'	2:9:56:A:H8	1.69	0.56
1:0:1107:A:H1'	1:0:1257:C:H1'	1.86	0.56
1:0:1496:G:O2'	1:0:1497:G:H5'	2.05	0.56
1:0:20:G:H21	20:R:117:HIS:CD2	2.13	0.56
1:0:2634:G:O2'	1:0:2635:A:H5'	2.04	0.56
1:0:31:C:OP2	22:T:8:ARG:HD2	2.05	0.56
1:0:497:A:H2'	1:0:498:A:C5'	2.35	0.56
1:0:1363:G:O2'	1:0:1364:G:H5'	2.05	0.56
1:0:2064:U:H4'	1:0:2653:A:OP1	2.04	0.56
1:0:2900:G:O2'	1:0:2901:C:H5'	2.04	0.56
1:0:380:A:OP2	15:M:9:ARG:HD2	2.06	0.56
1:0:46:U:H4'	1:0:47:G:OP2	2.05	0.56
2:9:63:C:O2'	2:9:64:C:H5'	2.05	0.56
2:9:78:G:N2	2:9:102:G:H2'	2.20	0.56
7:E:11:VAL:HG12	7:E:12:ASP:N	2.20	0.56
9:G:33:VAL:HB	9:G:94:THR:O	2.05	0.56
12:J:22:VAL:O	12:J:26:VAL:HG23	2.05	0.56
13:K:101:ASN:O	13:K:102:GLU:HB2	2.05	0.56
1:0:1335:C:OP2	27:Y:207:SER:HB3	2.05	0.56
1:0:1439:C:O5'	1:0:1439:C:H6	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1996:U:C5	1:0:2587:OMU:H1'	2.41	0.56
1:0:736:A:H2'	1:0:737:A:O4'	2.05	0.56
1:0:921:G:H4'	1:0:924:G:C6	2.41	0.56
7:E:81:GLU:HG2	7:E:134:SER:HB3	1.87	0.56
1:0:1342:C:O2'	1:0:1343:C:H5'	2.05	0.56
1:0:1346:U:H2'	1:0:1347:U:H6	1.70	0.56
1:0:2382:A:H1'	31:3:10:TYR:CE2	2.41	0.56
1:0:2533:C:C5'	1:0:2533:C:H6	2.14	0.56
1:0:2851:G:H2'	1:0:2852:A:H5'	1.84	0.56
1:0:1787:C:O2	1:0:2875:A:H2	1.89	0.56
1:0:664:U:O4	1:0:681:G:H5''	2.04	0.56
2:9:3:A:N6	2:9:22:G:H1'	2.20	0.56
4:B:195:ARG:HG2	4:B:323:LEU:HD22	1.87	0.56
26:X:28:LYS:HE3	26:X:32:LEU:HD21	1.88	0.56
1:0:1384:C:H5'	26:X:30:MET:HG2	1.87	0.56
1:0:1568:G:C6	1:0:1569:U:C4	2.94	0.56
1:0:29:C:O2'	1:0:30:U:H5'	2.06	0.56
1:0:371:U:C2	1:0:372:A:N7	2.74	0.56
1:0:39:G:H2'	1:0:40:C:O4'	2.06	0.56
1:0:535:G:H4'	1:0:536:A:OP1	2.05	0.56
30:2:36:ASN:H	30:2:39:ARG:NH2	2.03	0.56
2:9:22:G:N7	2:9:55:U:C6	2.74	0.56
4:B:179:LEU:O	4:B:183:GLU:HG2	2.06	0.56
1:0:2694:A:H4'	7:E:91:PHE:CE1	2.39	0.56
9:G:32:SER:O	9:G:123:ASP:HB2	2.06	0.56
9:G:60:ARG:HH22	9:G:71:LEU:HD21	1.71	0.56
10:H:45:VAL:HA	10:H:167:PRO:O	2.05	0.56
22:T:12:ARG:HH12	22:T:13:ARG:HH21	1.52	0.56
1:0:1829:A:H61	28:Z:18:TYR:H	1.54	0.56
13:K:65:ARG:O	13:K:66:ARG:HB2	2.06	0.56
1:0:1311:G:C2	1:0:1312:G:C8	2.93	0.56
1:0:1520:G:C6	1:0:1521:C:N4	2.73	0.56
1:0:247:A:C2	1:0:265:U:C2	2.93	0.56
1:0:390:G:H2'	1:0:391:U:C6	2.35	0.56
1:0:64:G:H2'	1:0:65:C:O4'	2.05	0.56
1:0:797:A:N6	1:0:816:G:H1'	2.20	0.56
1:0:81:G:N3	1:0:98:A:C2	2.73	0.56
9:G:23:ILE:CD1	9:G:67:LEU:HA	2.34	0.56
15:M:71:SER:N	15:M:73:ARG:NH1	2.54	0.56
19:Q:33:PHE:HB2	19:Q:71:TYR:CE2	2.41	0.56
1:0:1079:A:N1	1:0:2068:G:O2'	2.33	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1444:G:N3	1:0:1502:A:H2	2.03	0.56
1:0:2812:A:C2	1:0:2814:A:N6	2.69	0.56
1:0:522:U:O2'	1:0:1366:C:H5'	2.06	0.56
2:9:76:G:C3'	2:9:77:A:H5''	2.28	0.56
4:B:167:GLY:HA2	4:B:174:ARG:CD	2.36	0.56
12:J:116:LEU:HB2	12:J:119:THR:HG21	1.86	0.56
19:Q:43:ILE:HA	19:Q:90:HIS:ND1	2.20	0.56
1:0:524:A:H5'	20:R:29:LYS:HE2	1.87	0.56
20:R:40:ALA:O	20:R:44:VAL:HG23	2.05	0.56
1:0:1041:U:C2'	1:0:1042:U:H5'	2.36	0.56
1:0:1071:G:H4'	27:Y:154:ARG:NH2	2.21	0.56
1:0:1153:C:N3	1:0:2786:G:O6	2.39	0.56
1:0:299:U:H2'	1:0:300:C:H6	1.70	0.56
1:0:431:G:O2'	1:0:432:G:H5'	2.05	0.56
1:0:617:C:O2'	1:0:618:G:H5'	2.06	0.56
1:0:806:A:H2'	1:0:807:A:O4'	2.06	0.56
1:0:90:A:H2'	1:0:91:G:O4'	2.05	0.56
7:E:101:GLU:HB2	7:E:116:THR:O	2.06	0.56
7:E:107:PHE:CE2	7:E:108:LEU:HD13	2.40	0.56
17:O:87:THR:O	17:O:91:GLN:HG3	2.06	0.56
1:0:1170:U:C2	1:0:1172:G:OP2	2.59	0.55
1:0:1482:A:O2'	1:0:1483:C:H5'	2.06	0.55
1:0:1543:G:N1	1:0:1641:A:OP2	2.36	0.55
1:0:2237:G:O2'	1:0:2238:A:C8	2.56	0.55
1:0:283:U:C5	1:0:284:C:N4	2.71	0.55
1:0:310:U:O5'	1:0:310:U:H6	1.88	0.55
1:0:530:C:H4'	1:0:612:U:H4'	1.88	0.55
1:0:697:G:H4'	1:0:730:G:O3'	2.07	0.55
3:A:121:ALA:O	3:A:124:VAL:HG22	2.05	0.55
1:0:2607:U:C4	4:B:242:TRP:CZ2	2.94	0.55
4:B:50:HIS:HD2	4:B:68:THR:HG21	1.71	0.55
13:K:23:ASN:HD21	13:K:107:THR:CB	2.18	0.55
28:Z:37:HIS:HB2	28:Z:47:VAL:HB	1.88	0.55
1:0:1581:A:C6	1:0:1582:C:N3	2.74	0.55
1:0:1597:A:H2'	1:0:1598:A:H5'	1.88	0.55
1:0:1767:A:OP2	1:0:1776:A:N6	2.34	0.55
1:0:196:G:H1'	1:0:198:A:N7	2.21	0.55
1:0:2325:C:H4'	1:0:2417:C:O2	2.06	0.55
1:0:443:C:H2'	1:0:444:C:C6	2.41	0.55
1:0:897:A:H2'	1:0:899:C:C5	2.41	0.55
1:0:913:A:N3	1:0:1042:U:O2'	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:61:C:H2'	2:9:62:A:H8	1.70	0.55
8:F:85:HIS:HA	8:F:89:LEU:O	2.07	0.55
1:0:1501:A:C6	1:0:1502:A:C6	2.94	0.55
1:0:2061:C:H2'	1:0:2062:A:H5'	1.87	0.55
1:0:2819:C:H2'	1:0:2820:A:C8	2.41	0.55
1:0:447:A:O2'	1:0:448:G:H5'	2.06	0.55
2:9:9:C:C6	2:9:10:C:C5	2.94	0.55
21:S:57:THR:HG22	21:S:58:MET:N	2.22	0.55
1:0:1706:G:C5	1:0:1707:G:C6	2.94	0.55
1:0:2834:G:C4	1:0:2847:G:N2	2.75	0.55
1:0:838:C:H2'	1:0:839:C:H5'	1.89	0.55
2:9:64:C:H2'	2:9:65:A:H5'	1.87	0.55
9:G:36:VAL:O	9:G:119:VAL:O	2.25	0.55
16:N:139:TRP:CE3	16:N:139:TRP:HA	2.42	0.55
1:0:1343:C:H1'	27:Y:208:LYS:HZ3	1.71	0.55
1:0:47:G:H1'	1:0:114:A:N1	2.22	0.55
1:0:1118:A:N6	1:0:1244:U:H3	1.97	0.55
1:0:1667:A:O2'	1:0:1668:U:H5'	2.07	0.55
1:0:408:A:O2'	1:0:409:U:H5'	2.07	0.55
29:1:21:ARG:HD2	29:1:39:PHE:HB2	1.88	0.55
12:J:12:VAL:HG11	12:J:116:LEU:HD11	1.87	0.55
20:R:66:VAL:HG22	20:R:79:ARG:CZ	2.37	0.55
28:Z:31:SER:O	28:Z:35:GLU:HG3	2.05	0.55
1:0:107:U:H2'	1:0:108:U:H5'	1.88	0.55
1:0:113:A:OP2	1:0:114:A:H2'	2.07	0.55
1:0:1194:A:H2'	1:0:1195:G:O4'	2.06	0.55
1:0:1474:C:C6	1:0:1474:C:H5'	2.37	0.55
1:0:1597:A:C2'	1:0:1598:A:H5'	2.36	0.55
1:0:1878:G:O2'	1:0:1879:U:P	2.64	0.55
1:0:2377:U:H2'	1:0:2378:U:H6	1.72	0.55
1:0:368:C:H2'	1:0:369:G:H5'	1.88	0.55
1:0:772:G:H2'	1:0:773:A:O4'	2.06	0.55
4:B:73:VAL:HG21	4:B:284:PHE:CZ	2.41	0.55
9:G:67:LEU:HD22	9:G:91:LEU:HD12	1.88	0.55
13:K:74:VAL:HG22	13:K:113:ILE:HG23	1.88	0.55
1:0:2721:U:H4'	13:K:87:ARG:HG3	1.89	0.55
26:X:10:VAL:HG12	26:X:11:THR:H	1.72	0.55
1:0:1174:A:C5	1:0:1201:C:H4'	2.42	0.55
1:0:1266:U:O2'	1:0:1267:C:H5'	2.07	0.55
1:0:1444:G:O2'	1:0:1445:G:H5'	2.07	0.55
1:0:1819:G:H2'	1:0:1820:G:H4'	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2128:G:H2'	1:0:2129:U:H6	1.70	0.55
1:0:353:G:C6	1:0:354:A:C6	2.95	0.55
1:0:292:G:H1'	1:0:360:A:N6	2.22	0.55
1:0:2382:A:O2'	31:3:12:PRO:HB3	2.07	0.55
2:9:9:C:C6	2:9:10:C:C6	2.95	0.55
3:A:130:THR:HG22	3:A:131:HIS:N	2.21	0.55
12:J:42:GLU:O	12:J:131:THR:HG23	2.06	0.55
13:K:23:ASN:HD21	13:K:107:THR:HB	1.72	0.55
21:S:10:VAL:HG11	24:V:36:ALA:HA	1.89	0.55
25:W:5:VAL:HG11	25:W:153:MET:CE	2.36	0.55
1:0:1071:G:H4'	27:Y:154:ARG:HH22	1.72	0.55
1:0:1102:C:O2'	1:0:1103:C:H5'	2.06	0.55
1:0:1666:C:H2'	1:0:1667:A:H8	1.71	0.55
1:0:1819:G:H2'	1:0:1820:G:C5'	2.37	0.55
1:0:1844:C:C2'	1:0:1845:A:H5'	2.36	0.55
1:0:1904:A:H2'	1:0:1905:U:O4'	2.06	0.55
1:0:2013:G:C2	1:0:2014:G:C5	2.94	0.55
1:0:2029:C:H2'	1:0:2030:A:O4'	2.07	0.55
1:0:2722:G:O2'	1:0:2723:G:H5'	2.07	0.55
1:0:566:A:H2'	1:0:567:U:O4'	2.07	0.55
3:A:135:VAL:HG22	3:A:136:ALA:H	1.70	0.55
6:D:135:VAL:HG21	6:D:139:TYR:CD1	2.41	0.55
7:E:1:PRO:HG2	7:E:59:MET:CE	2.37	0.55
1:0:2055:A:H4'	20:R:132:ARG:HH22	1.71	0.55
27:Y:126:PRO:HG2	27:Y:128:PHE:CE1	2.41	0.55
1:0:1159:G:H1	1:0:1208:C:N4	2.04	0.55
1:0:1346:U:C2	1:0:1347:U:C5	2.94	0.55
1:0:1512:G:O2'	1:0:1513:C:H5'	2.06	0.55
1:0:1900:A:C2	1:0:1938:G:C2	2.95	0.55
1:0:2668:G:H2'	1:0:2669:U:C6	2.41	0.55
1:0:740:G:C6	1:0:741:C:C4	2.95	0.55
1:0:808:A:H8	1:0:808:A:O5'	1.89	0.55
9:G:59:LEU:HD12	9:G:91:LEU:O	2.07	0.55
9:G:85:ILE:HG23	9:G:85:ILE:O	2.07	0.55
13:K:118:ALA:HA	13:K:125:ALA:HB2	1.89	0.55
20:R:19:ARG:HA	20:R:142:ASP:OD1	2.06	0.55
27:Y:198:GLY:HA3	27:Y:225:GLY:O	2.06	0.55
1:0:1015:C:O5'	1:0:1015:C:H6	1.89	0.55
1:0:1167:G:H8	1:0:1167:G:H4'	1.72	0.55
1:0:12:U:H2'	1:0:13:G:H5'	1.89	0.55
1:0:1947:G:H2'	1:0:1948:G:C8	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:214:U:O2	1:0:214:U:H2'	2.07	0.55
3:A:140:LEU:HD11	3:A:146:LYS:HB2	1.89	0.55
16:N:38:LYS:HD2	16:N:114:LYS:HE3	1.88	0.55
1:0:1790:C:H5	18:P:71:TYR:CE2	2.25	0.55
22:T:28:SER:O	22:T:32:ARG:HG3	2.07	0.55
1:0:1135:G:C5	1:0:1136:U:C5	2.95	0.54
1:0:1297:U:C4	1:0:1298:U:C5	2.94	0.54
1:0:1509:C:C4	1:0:1510:G:N7	2.75	0.54
1:0:213:G:N2	1:0:225:G:H2'	2.21	0.54
2:9:106:C:H2'	2:9:107:C:C6	2.42	0.54
5:C:107:ARG:NH1	5:C:107:ARG:HB3	2.14	0.54
13:K:14:LYS:HB3	13:K:45:PRO:HG2	1.88	0.54
14:L:92:ASP:HA	14:L:121:ILE:HB	1.89	0.54
1:0:1385:G:O3'	26:X:49:ARG:NH1	2.41	0.54
1:0:961:A:C5	1:0:1010:C:C6	2.95	0.54
1:0:1207:A:HO3'	1:0:1208:C:P	2.30	0.54
1:0:2321:A:N3	1:0:2321:A:H2'	2.22	0.54
1:0:2388:C:O2'	1:0:2389:U:H5'	2.06	0.54
1:0:544:G:C2'	1:0:545:G:H5''	2.37	0.54
31:3:5:ARG:NH2	31:3:90:PHE:HB2	2.22	0.54
26:X:22:ASN:HA	26:X:25:ARG:HG3	1.89	0.54
26:X:78:GLU:HG2	26:X:79:GLU:N	2.13	0.54
26:X:7:GLU:HG2	26:X:8:ARG:N	2.23	0.54
1:0:1102:C:H1'	1:0:1109:U:C4	2.42	0.54
1:0:1524:U:H4'	1:0:1524:U:OP1	2.07	0.54
1:0:1808:C:O2'	1:0:1809:G:H5'	2.07	0.54
1:0:2086:C:H2'	1:0:2087:C:H6	1.70	0.54
1:0:2796:U:C4	1:0:2797:C:C5	2.95	0.54
1:0:949:U:O2'	19:Q:40:HIS:HE1	1.90	0.54
1:0:1874:U:H2'	3:A:120:ARG:HG3	1.87	0.54
1:0:1621:G:O2'	1:0:1622:G:H5'	2.08	0.54
1:0:2363:G:O2'	19:Q:11:ARG:HG3	2.07	0.54
1:0:2415:A:N3	16:N:26:LEU:HD13	2.22	0.54
1:0:2493:C:O2	1:0:2493:C:H2'	2.07	0.54
1:0:2566:A:C2	1:0:2696:G:O4'	2.61	0.54
1:0:925:C:C5'	1:0:925:C:H6	2.21	0.54
8:F:91:VAL:HG12	8:F:92:GLY:H	1.72	0.54
11:I:82:GLU:CD	11:I:83:THR:H	2.11	0.54
1:0:553:G:P	27:Y:204:ARG:HH22	2.30	0.54
1:0:1010:C:H4'	16:N:4:PRO:HB2	1.89	0.54
1:0:1052:G:H2'	1:0:1052:G:N3	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1634:G:H2'	1:0:1635:U:C6	2.39	0.54
1:0:1683:G:N2	1:0:1723:G:H2'	2.23	0.54
1:0:1787:C:O4'	1:0:2883:A:H1'	2.08	0.54
1:0:945:U:H4'	25:W:43:GLY:O	2.08	0.54
15:M:71:SER:N	15:M:73:ARG:HH12	2.06	0.54
1:0:308:U:H2'	22:T:52:ARG:HH22	1.73	0.54
1:0:1521:C:H2'	1:0:1522:A:H8	1.73	0.54
1:0:1706:G:H5'	1:0:2735:U:OP1	2.07	0.54
1:0:453:A:C2	1:0:479:G:C8	2.95	0.54
1:0:64:G:H2'	1:0:65:C:H6	1.72	0.54
1:0:711:G:N2	1:0:718:C:H1'	2.22	0.54
2:9:20:G:O2'	2:9:21:G:H5'	2.07	0.54
1:0:678:G:OP2	5:C:107:ARG:NH2	2.39	0.54
1:0:894:A:C2	5:C:87:ARG:NH2	2.76	0.54
9:G:51:ARG:O	9:G:53:LEU:N	2.40	0.54
23:U:39:ASN:ND2	23:U:44:ARG:HH11	2.06	0.54
1:0:1343:C:H1'	27:Y:208:LYS:NZ	2.22	0.54
1:0:1579:C:N4	1:0:1618:G:N1	2.56	0.54
1:0:1810:C:H2'	1:0:1810:C:O2	2.08	0.54
1:0:2032:U:H2'	1:0:2033:G:C5'	2.38	0.54
1:0:2337:G:C2	1:0:2348:C:C2	2.95	0.54
2:9:109:G:C6	2:9:110:G:N7	2.76	0.54
6:D:95:THR:OG1	6:D:174:VAL:HG22	2.08	0.54
12:J:126:ASN:HA	35:J:147:CL:CL	2.44	0.54
19:Q:60:THR:HG21	19:Q:94:GLN:HE21	1.72	0.54
1:0:595:U:H5''	27:Y:118:THR:HG21	1.88	0.54
1:0:1422:U:O2'	1:0:1423:C:H5'	2.07	0.54
1:0:1741:U:O2'	1:0:2723:G:H4'	2.08	0.54
1:0:1945:G:C4	1:0:1946:C:C6	2.95	0.54
1:0:206:G:C6	1:0:437:A:C2	2.96	0.54
1:0:2265:U:H2'	1:0:2266:A:H8	1.73	0.54
1:0:2478:U:H2'	1:0:2479:A:C8	2.43	0.54
1:0:2668:G:H2'	1:0:2669:U:H6	1.72	0.54
1:0:290:C:H2'	1:0:291:C:O4'	2.07	0.54
1:0:492:C:O5'	1:0:492:C:H6	1.90	0.54
1:0:450:C:H4'	5:C:46:TYR:HE1	1.73	0.54
9:G:30:TYR:OH	9:G:58:GLU:HB3	2.08	0.54
10:H:46:GLN:HG3	10:H:137:TYR:CD2	2.42	0.54
18:P:115:SER:OG	18:P:118:GLN:HG3	2.08	0.54
25:W:64:THR:O	25:W:68:THR:HG22	2.07	0.54
1:0:1008:C:H2'	1:0:1009:U:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1246:A:O2'	1:0:1247:A:H3'	2.08	0.54
1:0:1916:C:N3	1:0:1924:A:C6	2.76	0.54
1:0:2271:G:H5'	3:A:223:ARG:HH22	1.73	0.54
29:1:37:CYS:SG	29:1:39:PHE:HB2	2.48	0.54
10:H:151:ARG:HA	10:H:154:TYR:CE2	2.43	0.54
26:X:10:VAL:HG12	26:X:11:THR:N	2.22	0.54
1:0:66:G:C2'	1:0:108:U:O2'	2.56	0.54
1:0:1209:C:O2	1:0:1210:G:C8	2.61	0.54
1:0:1249:U:H2'	1:0:1250:C:C6	2.43	0.54
1:0:1666:C:O2'	1:0:1667:A:H5''	2.07	0.54
1:0:1783:A:C2'	1:0:1784:U:C5'	2.86	0.54
1:0:1973:A:H61	1:0:2009:G:H1'	1.71	0.54
1:0:2120:U:O5'	1:0:2120:U:H6	1.90	0.54
1:0:262:A:H5''	1:0:264:G:O4'	2.06	0.54
1:0:432:G:N2	1:0:433:C:C2	2.76	0.54
1:0:925:C:C6	1:0:925:C:H5''	2.43	0.54
1:0:2566:A:H4'	7:E:161:VAL:HG21	1.90	0.54
1:0:164:G:O3'	14:L:30:ARG:HB2	2.08	0.54
1:0:175:G:O6	15:M:94:ARG:NH2	2.40	0.54
1:0:1167:G:C2'	1:0:1168:C:H5'	2.37	0.53
1:0:1709:G:C5	1:0:1711:A:N7	2.76	0.53
1:0:1821:A:N6	1:0:2029:C:H42	2.06	0.53
1:0:2325:C:O2'	1:0:2411:C:H1'	2.08	0.53
1:0:1044:C:C6	1:0:2483:A:C2	2.95	0.53
1:0:2541:U:O2	1:0:2619:UR3:H3U2	2.08	0.53
1:0:2635:A:O2'	1:0:2636:C:H5'	2.08	0.53
1:0:2829:G:N2	1:0:2830:U:C2	2.75	0.53
1:0:559:U:O2'	1:0:560:C:H5'	2.08	0.53
1:0:595:U:H6	1:0:595:U:H3'	1.72	0.53
1:0:846:A:O2'	1:0:847:C:H5'	2.08	0.53
1:0:2346:C:O3'	6:D:52:THR:HG23	2.07	0.53
17:O:10:LEU:HD12	17:O:10:LEU:O	2.08	0.53
1:0:1761:U:H4'	18:P:82:GLY:O	2.07	0.53
1:0:1520:G:N2	1:0:1666:C:O2	2.41	0.53
1:0:1556:G:C2	1:0:1557:G:C8	2.97	0.53
1:0:1902:G:N2	1:0:1936:C:C2	2.76	0.53
1:0:2128:G:C5	1:0:2129:U:C5	2.96	0.53
1:0:2434:A:OP1	31:3:30:GLN:HG2	2.07	0.53
1:0:349:U:O2'	1:0:350:C:H5'	2.08	0.53
1:0:588:G:O6	25:W:154:ARG:NH1	2.42	0.53
3:A:191:GLY:HA2	3:A:194:MET:HG3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:28:ALA:HB3	8:F:99:THR:O	2.08	0.53
8:F:63:ILE:HB	8:F:64:PRO:HD3	1.90	0.53
9:G:37:ASN:HD21	9:G:92:ILE:CG2	2.21	0.53
1:0:1147:C:C4	1:0:1148:C:C5	2.96	0.53
1:0:1510:G:C5	1:0:1511:U:C5	2.96	0.53
1:0:2831:C:H2'	1:0:2832:C:H5'	1.89	0.53
1:0:302:A:H2'	1:0:303:C:O4'	2.08	0.53
1:0:561:G:H2'	1:0:562:A:H8	1.72	0.53
1:0:838:C:C2'	1:0:839:C:H5'	2.38	0.53
1:0:1611:G:H2'	1:0:1612:A:H8	1.73	0.53
1:0:1819:G:H2'	1:0:1820:G:O5'	2.08	0.53
1:0:1896:G:C6	1:0:1897:U:C4	2.96	0.53
1:0:1950:G:H2'	1:0:1951:G:C8	2.44	0.53
1:0:2081:A:H2'	1:0:2082:G:O4'	2.07	0.53
1:0:2134:G:C6	1:0:2258:A:C8	2.97	0.53
1:0:234:A:C2'	1:0:235:C:O5'	2.56	0.53
1:0:2443:C:H5'	14:L:57:VAL:HG21	1.88	0.53
1:0:250:C:O2'	1:0:251:C:H5'	2.08	0.53
1:0:666:A:C6	1:0:667:C:O2	2.61	0.53
1:0:682:A:H2'	1:0:683:G:O4'	2.08	0.53
4:B:73:VAL:HG21	4:B:284:PHE:HZ	1.74	0.53
5:C:27:ARG:HG2	5:C:30:LEU:HD12	1.90	0.53
1:0:1308:A:O2'	1:0:1309:U:H5'	2.07	0.53
1:0:1855:G:N7	3:A:142:SER:OG	2.38	0.53
1:0:1476:A:O2'	1:0:1868:G:H5'	2.09	0.53
1:0:224:U:H2'	1:0:225:G:C5'	2.38	0.53
1:0:2337:G:C2	1:0:2348:C:O2	2.61	0.53
1:0:2828:G:H8	1:0:2828:G:O5'	1.90	0.53
1:0:690:G:H1'	1:0:731:U:H1'	1.89	0.53
1:0:952:G:N3	1:0:2302:A:H2'	2.24	0.53
2:9:72:C:O2'	2:9:73:G:H5'	2.08	0.53
4:B:1:PRO:O	4:B:2:GLN:HB2	2.07	0.53
6:D:104:PHE:CE2	6:D:132:VAL:HB	2.44	0.53
7:E:6:GLU:HA	7:E:46:THR:HG22	1.90	0.53
10:H:46:GLN:HB3	10:H:167:PRO:CD	2.29	0.53
1:0:721:A:H4'	17:O:51:TYR:CD1	2.43	0.53
1:0:335:U:H4'	22:T:92:ASP:OD2	2.08	0.53
27:Y:130:ARG:HB2	27:Y:142:SER:O	2.08	0.53
1:0:1023:C:H2'	1:0:1024:G:O4'	2.08	0.53
1:0:1166:A:OP1	1:0:1174:A:C5'	2.56	0.53
1:0:1496:G:H2'	1:0:1497:G:O4'	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:174:A:O4'	1:0:176:U:C6	2.62	0.53
1:0:2582:G:C2	1:0:2583:A:C8	2.96	0.53
1:0:2637:A:H3'	1:0:2637:A:OP1	2.09	0.53
1:0:2768:A:O2'	1:0:2769:C:H5'	2.08	0.53
1:0:2658:G:H4'	1:0:2842:G:C8	2.44	0.53
1:0:286:U:C4	1:0:287:C:N4	2.77	0.53
1:0:710:G:O2'	1:0:711:G:H5'	2.07	0.53
1:0:834:G:H5''	1:0:835:U:O5'	2.08	0.53
2:9:29:C:H2'	2:9:30:C:C5'	2.38	0.53
6:D:76:ARG:O	6:D:77:ASP:HB2	2.09	0.53
8:F:79:GLN:HB2	8:F:82:ASP:HB2	1.91	0.53
25:W:35:VAL:HG23	25:W:41:TYR:CD2	2.43	0.53
27:Y:145:LYS:O	27:Y:147:ARG:HG2	2.09	0.53
27:Y:188:HIS:CD2	27:Y:188:HIS:N	2.76	0.53
1:0:1790:C:O2'	1:0:1791:U:H5'	2.08	0.53
1:0:1231:A:N3	1:0:2553:A:H5''	2.24	0.53
1:0:564:G:N2	1:0:593:A:OP2	2.41	0.53
1:0:870:G:OP2	3:A:3:ARG:NH1	2.42	0.53
2:9:50:G:C6	2:9:51:A:N6	2.77	0.53
9:G:36:VAL:HG13	9:G:89:VAL:CG2	2.39	0.53
9:G:30:TYR:OH	9:G:58:GLU:CB	2.57	0.53
10:H:46:GLN:HG3	10:H:137:TYR:CE2	2.43	0.53
14:L:143:THR:CG2	14:L:144:ASP:N	2.72	0.53
16:N:139:TRP:HA	16:N:139:TRP:HE3	1.74	0.53
1:0:1063:G:O5'	1:0:2307:A:H1'	2.09	0.53
1:0:1085:C:H2'	1:0:1086:A:H5'	1.91	0.53
1:0:1231:A:N1	1:0:2498:C:O2'	2.41	0.53
1:0:206:G:C8	1:0:206:G:H5''	2.44	0.53
9:G:20:VAL:O	9:G:23:ILE:HG22	2.09	0.53
12:J:127:ILE:N	35:J:147:CL:CL	2.66	0.53
1:0:1079:A:H4'	1:0:2078:U:H5'	1.91	0.53
1:0:1234:U:O2'	1:0:1235:G:H5'	2.08	0.53
1:0:1400:C:O2'	1:0:1401:G:H5'	2.08	0.53
1:0:1461:U:H2'	1:0:1462:C:C6	2.44	0.53
1:0:1666:C:C2'	1:0:1667:A:H5'	2.39	0.53
1:0:2312:G:H2'	1:0:2313:C:C5'	2.36	0.53
1:0:2761:A:C4	1:0:2763:G:C8	2.95	0.53
1:0:2897:C:O2'	1:0:2898:G:C5'	2.56	0.53
2:9:35:C:H2'	16:N:141:ARG:HH12	1.73	0.53
6:D:53:LYS:HA	6:D:67:ASP:O	2.09	0.53
8:F:26:THR:HB	8:F:102:GLY:HA3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:2521:A:OP1	10:H:158:THR:HG23	2.08	0.53
11:I:7:VAL:HG12	11:I:8:LEU:N	2.24	0.53
15:M:134:ILE:O	15:M:136:PRO:HD3	2.09	0.53
15:M:84:LYS:HA	31:3:46:ILE:O	2.09	0.53
22:T:48:VAL:CG2	22:T:98:VAL:HA	2.38	0.53
24:V:4:HIS:O	24:V:8:ILE:HG13	2.09	0.53
25:W:4:LEU:HD23	25:W:54:PHE:HB3	1.91	0.53
1:O:1116:U:C2'	1:O:1118:A:H2	2.22	0.53
1:O:1188:A:N6	1:O:1189:A:N6	2.57	0.53
1:O:1291:A:O2'	1:O:1292:G:H5'	2.09	0.53
1:O:1722:U:C2	1:O:1724:U:C5	2.97	0.53
1:O:1806:G:H1'	1:O:2875:A:N3	2.24	0.53
1:O:2432:C:H2'	1:O:2433:A:H8	1.74	0.53
1:O:2444:U:C2	1:O:2445:U:C6	2.97	0.53
5:C:107:ARG:CB	5:C:107:ARG:HH11	2.15	0.53
16:N:79:PRO:HB3	16:N:172:PHE:CD1	2.44	0.53
28:Z:27:ALA:O	28:Z:31:SER:HB2	2.09	0.53
1:O:1176:C:C4	1:O:1197:G:O6	2.62	0.52
1:O:1308:A:H2'	1:O:1309:U:C6	2.44	0.52
1:O:1309:U:C4	1:O:1310:U:C5	2.96	0.52
1:O:1335:C:N3	1:O:1336:U:C5	2.78	0.52
1:O:1765:G:N2	1:O:1766:U:C2	2.76	0.52
1:O:2346:C:O5'	1:O:2346:C:C6	2.59	0.52
1:O:2356:A:H2'	1:O:2357:G:O4'	2.09	0.52
1:O:2614:C:C2'	1:O:2615:U:H5'	2.39	0.52
1:O:559:U:H2'	1:O:560:C:O4'	2.09	0.52
1:O:699:C:H2'	1:O:744:G:N3	2.24	0.52
1:O:78:G:N1	1:O:79:G:C2	2.76	0.52
29:1:36:SER:O	29:1:46:ARG:HD3	2.09	0.52
5:C:129:HIS:HE1	5:C:231:ARG:HA	1.71	0.52
10:H:54:THR:HG23	10:H:128:GLN:HA	1.92	0.52
22:T:71:VAL:HG13	22:T:91:LEU:H	1.73	0.52
1:O:1186:C:H2'	1:O:1187:U:O4'	2.08	0.52
1:O:1425:G:C6	1:O:1426:C:N4	2.77	0.52
1:O:261:A:OP1	15:M:42:ARG:NH2	2.39	0.52
1:O:853:C:H2'	1:O:854:G:O4'	2.09	0.52
1:O:944:G:H21	25:W:44:MET:HE2	1.75	0.52
4:B:51:VAL:HG13	4:B:53:LEU:CD1	2.40	0.52
9:G:33:VAL:CG2	9:G:94:THR:O	2.56	0.52
16:N:83:LEU:HD13	16:N:175:LEU:HD23	1.91	0.52
22:T:71:VAL:HG13	22:T:91:LEU:O	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:X:72:VAL:HG22	26:X:85:VAL:CG1	2.39	0.52
27:Y:189:ASN:HD22	27:Y:189:ASN:C	2.12	0.52
1:0:1012:A:H8	1:0:1012:A:O5'	1.92	0.52
1:0:1161:A:H5''	9:G:44:ARG:CA	2.27	0.52
1:0:1196:C:C3'	1:0:1197:G:C5'	2.88	0.52
1:0:131:A:C2	1:0:132:A:C4	2.98	0.52
1:0:1568:G:O2'	1:0:1569:U:H5'	2.09	0.52
1:0:631:A:N3	1:0:2096:A:C8	2.78	0.52
1:0:2504:A:H2'	1:0:2505:G:O4'	2.10	0.52
1:0:315:G:N2	1:0:483:C:C6	2.77	0.52
1:0:74:A:H2'	1:0:75:U:C6	2.44	0.52
1:0:2672:C:OP2	4:B:25:ARG:NH1	2.42	0.52
27:Y:146:PRO:HB2	27:Y:154:ARG:HB2	1.91	0.52
1:0:1044:C:C5	1:0:2483:A:C2	2.98	0.52
1:0:1592:G:O2'	1:0:1593:C:O5'	2.28	0.52
1:0:1788:U:H2'	1:0:1789:G:H8	1.74	0.52
1:0:2901:C:H6	1:0:2901:C:O5'	1.91	0.52
6:D:10:PHE:CG	6:D:11:HIS:N	2.77	0.52
7:E:49:ILE:HD11	7:E:69:ILE:HD12	1.91	0.52
9:G:124:ILE:O	9:G:126:ILE:N	2.42	0.52
9:G:78:LEU:O	9:G:81:LEU:HG	2.10	0.52
21:S:37:VAL:O	21:S:41:VAL:HG23	2.08	0.52
1:0:1165:G:O2'	1:0:1174:A:C4'	2.58	0.52
1:0:1412:U:O4	1:0:1681:G:H2'	2.10	0.52
1:0:1862:C:C2'	1:0:1863:G:H5'	2.38	0.52
1:0:1904:A:C4	1:0:1905:U:C6	2.98	0.52
1:0:2251:G:C6	1:0:2252:A:C6	2.97	0.52
1:0:2621:PSU:H2'	1:0:2622:A:O4'	2.09	0.52
1:0:473:A:C2	1:0:474:C:N1	2.78	0.52
3:A:69:LEU:O	3:A:71:PRO:HD3	2.09	0.52
1:0:1134:G:C2'	1:0:1135:G:H5'	2.39	0.52
1:0:1624:A:H5'	1:0:1626:A:O4'	2.09	0.52
1:0:183:A:C2	1:0:184:G:C4	2.97	0.52
1:0:1904:A:C2	1:0:1905:U:N1	2.78	0.52
1:0:2068:G:C5	1:0:2069:U:C5	2.98	0.52
1:0:2895:C:O2'	1:0:2896:A:H5''	2.10	0.52
1:0:623:U:H2'	1:0:624:U:C6	2.45	0.52
3:A:214:SER:HA	3:A:227:ASP:HB2	1.91	0.52
1:0:1156:C:O2'	1:0:1157:C:H5'	2.10	0.52
1:0:115:U:O4'	1:0:131:A:C8	2.62	0.52
1:0:1406:A:H4'	1:0:1407:A:C5'	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1418:U:OP2	30:2:40:ARG:NH2	2.41	0.52
1:0:1503:U:H2'	1:0:1504:A:O4'	2.09	0.52
1:0:1942:A:O2'	1:0:1943:C:H5'	2.09	0.52
1:0:2271:G:N3	1:0:2271:G:H2'	2.24	0.52
1:0:2873:C:N3	1:0:2874:G:C5	2.78	0.52
2:9:30:C:H6	2:9:30:C:O5'	1.93	0.52
3:A:96:LEU:HG	3:A:152:CYS:O	2.09	0.52
5:C:21:VAL:HG23	5:C:22:PHE:CD1	2.45	0.52
9:G:38:ILE:HA	9:G:88:GLN:O	2.09	0.52
15:M:46:LEU:O	15:M:50:ARG:HG3	2.08	0.52
1:0:31:C:C1'	22:T:13:ARG:HH22	2.21	0.52
1:0:1314:U:C2	1:0:1316:G:N2	2.78	0.52
1:0:1377:C:C5'	1:0:1377:C:H6	2.09	0.52
1:0:1423:C:O2'	1:0:1424:A:H5'	2.09	0.52
1:0:1676:G:C2'	1:0:1677:U:H5'	2.40	0.52
1:0:2438:G:H2'	1:0:2439:C:O4'	2.09	0.52
1:0:2595:U:H2'	1:0:2596:A:C8	2.44	0.52
1:0:2793:A:H2'	1:0:2794:G:H5'	1.90	0.52
1:0:291:C:H1'	1:0:362:G:N2	2.25	0.52
1:0:820:G:H5'	1:0:821:U:H5'	1.90	0.52
1:0:871:G:C8	1:0:871:G:C5'	2.79	0.52
4:B:145:HIS:HD2	4:B:146:THR:O	1.93	0.52
5:C:151:GLN:HA	5:C:151:GLN:HE21	1.75	0.52
8:F:30:LYS:HB2	8:F:97:ALA:HB3	1.91	0.52
11:I:14:ALA:HB1	11:I:35:VAL:HG13	1.91	0.52
13:K:55:VAL:HG12	13:K:56:SER:N	2.25	0.52
2:9:34:A:N3	16:N:150:TYR:HB2	2.25	0.52
1:0:2053:G:H4'	20:R:136:TRP:CE2	2.44	0.52
27:Y:100:ARG:NH1	27:Y:215:GLU:HA	2.25	0.52
1:0:1586:G:O2'	1:0:1587:U:H5'	2.09	0.52
1:0:1594:C:O2'	1:0:1595:G:H5'	2.10	0.52
1:0:1575:C:C2	1:0:1622:G:N2	2.78	0.52
1:0:2338:G:N2	1:0:2347:C:C2	2.78	0.52
1:0:2908:A:H2'	1:0:2909:G:C4'	2.40	0.52
1:0:730:G:H2'	1:0:731:U:H6	1.75	0.52
1:0:2381:C:H4'	31:3:80:ARG:NH1	2.24	0.52
2:9:41:C:H4'	6:D:48:MET:CB	2.39	0.52
2:9:12:C:H5'	2:9:70:U:O4'	2.10	0.52
4:B:175:LEU:O	4:B:179:LEU:HG	2.09	0.52
8:F:58:GLU:HA	8:F:61:MET:HE2	1.92	0.52
14:L:149:ARG:O	14:L:150:GLN:HB2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:392:U:H5''	15:M:193:LYS:HB3	1.90	0.52
22:T:52:ARG:HB2	22:T:95:ASN:HB3	1.92	0.52
25:W:52:VAL:HG22	25:W:53:ALA:H	1.75	0.52
1:0:1024:G:C6	1:0:1025:C:C4	2.98	0.52
1:0:1115:U:H2'	1:0:1116:U:H6	1.74	0.52
1:0:1166:A:N3	1:0:1166:A:H2'	2.24	0.52
1:0:1269:G:H2'	1:0:1270:U:C6	2.45	0.52
1:0:1334:C:H2'	1:0:1335:C:C6	2.43	0.52
1:0:2090:G:N2	4:B:253:GLN:OE1	2.43	0.52
9:G:35:VAL:O	9:G:92:ILE:HG12	2.10	0.52
1:0:698:A:C5'	14:L:110:GLY:O	2.58	0.52
1:0:1008:C:C2	1:0:1009:U:C5	2.99	0.51
1:0:1520:G:C6	1:0:1521:C:C4	2.98	0.51
1:0:154:C:H2'	1:0:155:C:H6	1.75	0.51
1:0:1774:G:H2'	1:0:1775:A:O5'	2.10	0.51
1:0:2032:U:C2'	1:0:2033:G:H5''	2.39	0.51
1:0:2707:C:H2'	1:0:2707:C:O2	2.11	0.51
1:0:2779:G:N7	1:0:2790:C:C2	2.78	0.51
1:0:2848:G:O4'	1:0:2906:A:C2	2.63	0.51
1:0:540:A:H2'	1:0:541:C:C6	2.45	0.51
1:0:87:C:H2'	30:2:28:LYS:O	2.10	0.51
15:M:77:HIS:CE1	15:M:86:GLN:HG2	2.44	0.51
17:O:32:ARG:HH21	17:O:35:LYS:HD2	1.74	0.51
18:P:114:LEU:HA	18:P:118:GLN:NE2	2.25	0.51
21:S:35:GLY:O	21:S:38:ALA:HB3	2.10	0.51
22:T:71:VAL:CG1	22:T:91:LEU:H	2.23	0.51
26:X:15:ARG:HB3	26:X:15:ARG:HH11	1.75	0.51
1:0:201:G:C2	1:0:202:U:C6	2.98	0.51
1:0:2237:G:O2'	1:0:2238:A:N7	2.42	0.51
1:0:915:C:H2'	1:0:915:C:O2	2.10	0.51
3:A:94:LEU:HG	3:A:99:ILE:HD11	1.91	0.51
4:B:147:VAL:HG12	4:B:150:ALA:H	1.75	0.51
14:L:67:ARG:O	14:L:71:GLU:HG3	2.11	0.51
19:Q:37:GLU:O	19:Q:63:VAL:HG23	2.08	0.51
23:U:38:ASN:O	23:U:42:LEU:HG	2.10	0.51
1:0:111:C:H2'	1:0:112:G:O4'	2.10	0.51
1:0:1681:G:H4'	1:0:1682:A:N3	2.24	0.51
1:0:1840:A:H4'	1:0:1841:C:O5'	2.09	0.51
1:0:1856:C:N4	1:0:1877:G:H21	2.08	0.51
1:0:1969:A:O2'	1:0:1970:G:H5'	2.10	0.51
1:0:2637:A:OP1	1:0:2637:A:H2'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:545:G:H8	1:0:545:G:C5'	2.07	0.51
31:3:24:LYS:CD	35:3:95:CL:CL	2.95	0.51
2:9:44:A:C4	2:9:45:A:C8	2.99	0.51
9:G:121:PRO:HB2	9:G:127:PRO:CG	2.40	0.51
9:G:33:VAL:CB	9:G:94:THR:O	2.58	0.51
16:N:119:GLN:O	16:N:123:ILE:HG13	2.10	0.51
1:0:1129:C:H5''	1:0:1130:U:OP2	2.10	0.51
1:0:1308:A:H2'	1:0:1309:U:H6	1.76	0.51
1:0:160:A:C6	1:0:161:A:C6	2.99	0.51
1:0:1766:U:O4'	1:0:1779:A:N6	2.44	0.51
1:0:922:A:N7	1:0:2281:C:H5'	2.25	0.51
1:0:324:G:O2'	1:0:325:U:H5'	2.10	0.51
1:0:426:G:C2	1:0:427:C:C2	2.99	0.51
1:0:69:A:C5'	1:0:69:A:H8	2.11	0.51
3:A:215:ILE:HD12	3:A:216:SER:H	1.76	0.51
4:B:84:LEU:HD23	4:B:142:LEU:HD23	1.92	0.51
2:9:41:C:O2	6:D:73:VAL:HA	2.09	0.51
10:H:120:ILE:HD12	10:H:120:ILE:N	2.26	0.51
18:P:7:LYS:HG2	18:P:23:PHE:CE2	2.45	0.51
22:T:49:GLU:HB3	22:T:59:GLU:HG2	1.92	0.51
3:A:170:VAL:HG21	28:Z:26:VAL:HG21	1.91	0.51
1:0:625:U:H5''	1:0:1044:C:N4	2.24	0.51
1:0:1170:U:C2'	1:0:1171:A:C5'	2.64	0.51
1:0:1666:C:O2'	1:0:1667:A:C5'	2.59	0.51
1:0:1904:A:C2	1:0:1905:U:C2	2.98	0.51
1:0:347:A:O2'	1:0:348:C:H5'	2.10	0.51
1:0:372:A:C2	1:0:373:G:C4	2.99	0.51
1:0:960:G:N3	1:0:960:G:C2'	2.73	0.51
12:J:6:PHE:CD1	12:J:102:ARG:NH1	2.79	0.51
16:N:48:VAL:CG1	16:N:55:ASP:HB3	2.41	0.51
20:R:39:THR:HB	20:R:42:GLU:OE1	2.10	0.51
20:R:82:GLU:HG3	20:R:83:LYS:N	2.25	0.51
1:0:1197:G:C2'	1:0:1198:U:C5'	2.88	0.51
1:0:1607:A:H2'	1:0:1608:G:H5'	1.91	0.51
1:0:1889:C:O2'	1:0:1890:U:H5'	2.10	0.51
1:0:2265:U:H2'	1:0:2266:A:C8	2.46	0.51
1:0:2415:A:O2'	16:N:29:SER:HB3	2.11	0.51
1:0:249:G:O2'	1:0:250:C:H5'	2.11	0.51
1:0:2656:G:C2'	1:0:2657:G:H5'	2.40	0.51
1:0:2758:G:C5	1:0:2759:C:C4	2.98	0.51
1:0:364:C:H2'	1:0:365:G:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:593:A:O5'	1:0:593:A:H8	1.94	0.51
1:0:669:G:C4	1:0:670:G:C8	2.98	0.51
1:0:685:C:H1'	1:0:748:C:H5''	1.92	0.51
1:0:935:G:O2'	1:0:936:C:H5'	2.11	0.51
3:A:211:LYS:NZ	3:A:223:ARG:HH21	2.08	0.51
1:0:1872:C:C5	3:A:23:TYR:HB2	2.45	0.51
5:C:46:TYR:CE2	5:C:98:ARG:NH1	2.79	0.51
11:I:109:HIS:N	11:I:110:PRO:HD2	2.26	0.51
1:0:1014:A:H5''	2:9:101:G:O2'	2.11	0.51
1:0:634:G:O2'	1:0:1358:A:OP1	2.29	0.51
1:0:2296:C:H2'	1:0:2297:U:C6	2.46	0.51
1:0:2387:U:H2'	1:0:2388:C:C6	2.45	0.51
1:0:2870:C:H2'	1:0:2871:G:H8	1.75	0.51
1:0:328:U:P	5:C:149:LYS:HZ2	2.34	0.51
1:0:401:C:H2'	1:0:402:U:C6	2.46	0.51
1:0:153:C:O2	1:0:439:A:H2	1.94	0.51
1:0:694:A:H2'	1:0:695:C:C4'	2.41	0.51
1:0:816:G:H8	1:0:816:G:O5'	1.93	0.51
1:0:958:G:O2'	1:0:959:C:H5'	2.11	0.51
2:9:31:C:C2	2:9:50:G:C2	2.99	0.51
12:J:38:VAL:HB	12:J:103:VAL:HG22	1.92	0.51
12:J:107:ASN:HD22	12:J:109:TYR:H	1.57	0.51
19:Q:53:HIS:N	35:Q:97:CL:CL	2.77	0.51
1:0:1167:G:O4'	1:0:1168:C:H5'	2.11	0.51
1:0:1398:G:H2'	1:0:1399:A:C8	2.46	0.51
1:0:1504:A:O2'	1:0:1506:U:OP2	2.28	0.51
1:0:1453:G:N2	1:0:1675:C:C2	2.78	0.51
1:0:1925:G:H5'	31:3:29:ARG:HH12	1.75	0.51
1:0:694:A:C8	1:0:695:C:C6	2.99	0.51
3:A:170:VAL:HG11	28:Z:14:PHE:CZ	2.45	0.51
1:0:1021:G:H2'	1:0:1022:A:C8	2.45	0.51
1:0:1305:C:O3'	5:C:184:ARG:NH1	2.44	0.51
1:0:1552:G:C4	1:0:1553:C:C5	2.98	0.51
1:0:1593:C:O2'	1:0:1594:C:H5'	2.11	0.51
1:0:1774:G:H2'	1:0:1775:A:C5'	2.40	0.51
1:0:1783:A:H2'	1:0:1784:U:C5'	2.41	0.51
1:0:2432:C:O5'	1:0:2432:C:H6	1.93	0.51
1:0:2763:G:C5	1:0:2764:C:C5	2.99	0.51
1:0:365:G:C5	1:0:366:U:C5	2.99	0.51
1:0:450:C:C4'	5:C:46:TYR:CE1	2.93	0.51
1:0:558:C:C2'	1:0:559:U:H5'	2.32	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:657:G:H2'	1:0:658:C:H6	1.76	0.51
2:9:84:G:H1	2:9:98:C:H42	1.58	0.51
7:E:21:THR:HA	7:E:29:VAL:O	2.11	0.51
12:J:53:ILE:O	12:J:57:TYR:HD1	1.93	0.51
1:0:1406:A:H4'	1:0:1407:A:H5''	1.92	0.51
1:0:1659:A:H2'	1:0:1660:G:O4'	2.10	0.51
1:0:1794:G:N2	1:0:1797:A:OP2	2.43	0.51
1:0:1882:C:H2'	1:0:1883:U:H6	1.76	0.51
1:0:192:A:N6	1:0:194:A:C2	2.79	0.51
1:0:2600:A:H2'	1:0:2601:A:O4'	2.11	0.51
1:0:444:C:H2'	1:0:445:U:C6	2.46	0.51
1:0:1163:G:C4'	11:I:112:LEU:HD11	2.40	0.51
25:W:57:PRO:HG2	25:W:101:LEU:HD21	1.92	0.51
25:W:132:VAL:HA	25:W:136:GLY:O	2.11	0.51
1:0:1544:U:H2'	1:0:1545:C:H6	1.75	0.50
1:0:1603:A:H5'	1:0:1605:G:C4'	2.40	0.50
1:0:1896:G:C5	1:0:1897:U:C5	2.99	0.50
1:0:2026:C:O2'	1:0:2027:U:H5'	2.12	0.50
1:0:2085:A:O2'	1:0:2086:C:H5'	2.11	0.50
1:0:2605:G:O2'	1:0:2606:G:H5'	2.11	0.50
1:0:2628:U:N3	1:0:2629:C:C5	2.78	0.50
1:0:2661:U:H3	1:0:2812:A:N6	2.02	0.50
1:0:342:C:H2'	1:0:343:C:C6	2.43	0.50
1:0:542:A:H2'	1:0:543:G:O4'	2.11	0.50
1:0:556:C:H2'	1:0:557:C:H6	1.76	0.50
1:0:559:U:C6	1:0:559:U:H5'	2.34	0.50
1:0:832:U:H2'	1:0:833:G:C8	2.46	0.50
1:0:61:G:C6	1:0:86:A:N6	2.79	0.50
1:0:961:A:C2	1:0:962:C:C5	2.99	0.50
1:0:962:C:N4	1:0:963:C:N3	2.58	0.50
7:E:137:ASP:O	7:E:141:VAL:HG23	2.12	0.50
9:G:23:ILE:HG12	9:G:60:ARG:NH1	2.25	0.50
1:0:1158:G:C6	1:0:1159:G:N7	2.79	0.50
1:0:1029:U:O2'	1:0:1273:C:OP1	2.25	0.50
1:0:1335:C:O2	1:0:1336:U:C6	2.65	0.50
1:0:157:G:C6	1:0:158:A:C5	2.99	0.50
1:0:171:C:C2'	1:0:172:U:H5'	2.41	0.50
1:0:1785:G:OP1	18:P:76:GLY:HA3	2.10	0.50
1:0:1829:A:N6	28:Z:18:TYR:H	2.08	0.50
1:0:2116:U:C4	1:0:2271:G:C6	2.99	0.50
1:0:2262:C:H2'	1:0:2263:G:H8	1.74	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2330:U:O4	1:0:2368:A:H5''	2.11	0.50
1:0:2887:G:H2'	1:0:2888:U:O4'	2.11	0.50
1:0:206:G:N1	1:0:437:A:C2	2.79	0.50
1:0:695:C:H2'	1:0:696:C:H6	1.76	0.50
13:K:130:MET:SD	23:U:26:GLY:HA3	2.52	0.50
24:V:64:GLY:O	24:V:65:ASP:HB2	2.11	0.50
25:W:24:LEU:HD21	25:W:44:MET:SD	2.51	0.50
1:0:146:U:C5	1:0:147:G:C6	3.00	0.50
1:0:247:A:C8	1:0:262:A:N6	2.79	0.50
1:0:2783:A:H2'	1:0:2784:A:C8	2.47	0.50
1:0:10:U:C2	1:0:532:A:N7	2.79	0.50
1:0:1311:G:O6	5:C:173:LYS:HE3	2.11	0.50
7:E:152:THR:HG21	7:E:166:VAL:H	1.77	0.50
9:G:51:ARG:O	9:G:53:LEU:HG	2.11	0.50
1:0:2364:A:H5''	19:Q:15:LYS:HD3	1.93	0.50
1:0:1182:C:H5''	1:0:1183:C:H5'	1.93	0.50
1:0:1631:A:C6	1:0:1632:A:N1	2.80	0.50
1:0:1658:A:H2'	1:0:1659:A:C8	2.45	0.50
1:0:1514:C:H42	1:0:1672:G:H1	1.59	0.50
1:0:1815:A:H2'	1:0:1816:C:O4'	2.11	0.50
1:0:1871:U:O4'	1:0:1873:G:C8	2.64	0.50
1:0:2067:A:H2'	1:0:2068:G:O4'	2.10	0.50
1:0:2628:U:C4	1:0:2629:C:C5	2.98	0.50
1:0:2672:C:H2'	1:0:2673:U:H6	1.76	0.50
1:0:2910:A:C5	1:0:2911:C:C5	2.98	0.50
1:0:560:C:H42	1:0:597:A:H61	1.59	0.50
1:0:746:A:C5	17:O:65:LEU:HD13	2.45	0.50
1:0:21:G:H5''	20:R:2:ILE:HA	1.91	0.50
21:S:57:THR:C	21:S:59:ASP:H	2.15	0.50
27:Y:178:HIS:CG	27:Y:179:PRO:HD2	2.47	0.50
1:0:1119:G:C6	1:0:1243:C:C4	2.99	0.50
1:0:119:A:C2	1:0:122:C:C2	2.99	0.50
1:0:1528:A:H2'	1:0:1529:G:O4'	2.11	0.50
1:0:1683:G:H21	1:0:1723:G:H2'	1.76	0.50
1:0:2400:G:H2'	1:0:2401:A:C8	2.46	0.50
1:0:470:U:C5	1:0:471:G:C6	2.99	0.50
1:0:794:U:C2'	1:0:795:G:H5'	2.40	0.50
1:0:1836:A:H1'	29:1:1:THR:O	2.11	0.50
2:9:44:A:C5	2:9:45:A:N7	2.80	0.50
9:G:110:THR:OG1	9:G:114:ILE:HA	2.11	0.50
1:0:102:A:H2'	1:0:103:U:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1099:G:OP1	25:W:129:LYS:HE3	2.11	0.50
1:0:1174:A:H2'	1:0:1175:G:OP1	2.12	0.50
1:0:2357:G:C6	1:0:2358:U:C4	2.99	0.50
1:0:2526:C:H2'	1:0:2527:U:H5'	1.91	0.50
1:0:2628:U:C4	1:0:2629:C:H5	2.30	0.50
1:0:2727:A:C2'	1:0:2728:C:H5'	2.42	0.50
1:0:2823:G:C2	1:0:2824:C:C5	2.99	0.50
1:0:766:A:O2'	1:0:767:A:H5''	2.12	0.50
2:9:104:A:O2'	2:9:105:A:H5'	2.12	0.50
1:0:450:C:H4'	5:C:46:TYR:CE1	2.46	0.50
6:D:170:TYR:O	6:D:171:ASP:HB3	2.11	0.50
1:0:1161:A:H3'	9:G:44:ARG:HB2	1.93	0.50
12:J:16:ASP:O	12:J:121:LEU:HB3	2.11	0.50
1:0:1209:C:O2'	1:0:1210:G:H5'	2.12	0.50
1:0:1564:C:H1'	1:0:2738:G:C2	2.47	0.50
1:0:1563:G:O2'	1:0:1564:C:OP2	2.22	0.50
1:0:861:A:H4'	1:0:1697:G:O4'	2.11	0.50
1:0:1789:G:O6	18:P:73:HIS:HE1	1.95	0.50
1:0:2029:C:H2'	1:0:2030:A:C8	2.45	0.50
1:0:2055:A:O2'	1:0:2056:C:H5'	2.10	0.50
1:0:222:A:C4	1:0:223:G:H1'	2.46	0.50
1:0:2277:U:C4	1:0:2278:U:C4	2.99	0.50
1:0:2591:C:H2'	1:0:2592:G:O4'	2.12	0.50
1:0:473:A:C2	1:0:474:C:C2	2.99	0.50
1:0:545:G:C8	1:0:545:G:C5'	2.90	0.50
1:0:688:A:C2	1:0:697:G:N3	2.80	0.50
1:0:398:U:O2'	15:M:179:GLY:HA2	2.11	0.50
15:M:75:ARG:HH22	15:M:78:LYS:NZ	2.09	0.50
1:0:1771:U:C4'	28:Z:20:ARG:HE	2.25	0.50
1:0:1130:U:H2'	1:0:1131:G:O4'	2.12	0.50
1:0:1380:U:C5	1:0:2748:G:C4	3.00	0.50
1:0:1898:G:H2'	1:0:1899:C:C6	2.46	0.50
1:0:1946:C:N3	1:0:1971:G:C2	2.80	0.50
1:0:1974:G:C6	1:0:1975:C:C2	3.00	0.50
1:0:2294:C:H2'	1:0:2294:C:O2	2.11	0.50
1:0:2099:G:C2	1:0:2646:G:C6	3.00	0.50
1:0:249:G:O2'	1:0:266:G:H5'	2.12	0.50
1:0:2763:G:C6	1:0:2764:C:C4	2.99	0.50
1:0:354:A:C6	1:0:355:C:N4	2.80	0.50
1:0:511:A:H2'	1:0:512:G:H5'	1.93	0.50
1:0:545:G:H2'	1:0:546:C:O4'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:812:A:H2'	1:0:813:C:O4'	2.12	0.50
31:3:11:CYS:HB2	31:3:20:HIS:CE1	2.47	0.50
2:9:95:C:O2'	2:9:96:C:H5'	2.12	0.50
5:C:27:ARG:HG3	5:C:29:ASP:OD1	2.12	0.50
8:F:36:THR:HG23	8:F:97:ALA:HB2	1.94	0.50
11:I:31:VAL:HG13	11:I:35:VAL:HG23	1.93	0.50
20:R:66:VAL:HA	20:R:79:ARG:HH21	1.77	0.50
1:0:1169:U:C5	1:0:1170:U:C4	3.00	0.50
1:0:44:G:N2	1:0:147:G:N2	2.59	0.50
1:0:1517:U:O2'	1:0:1518:A:H5'	2.12	0.50
1:0:1631:A:C2	1:0:1632:A:C2	3.00	0.50
1:0:1846:U:H2'	1:0:1847:A:C4	2.47	0.50
1:0:1944:G:C2	1:0:1945:G:C8	3.00	0.50
1:0:2032:U:H2'	1:0:2033:G:H5''	1.94	0.50
1:0:2330:U:C2	1:0:2371:G:N2	2.80	0.50
1:0:2717:C:H2'	1:0:2718:C:H5'	1.93	0.50
1:0:2859:C:H6	1:0:2859:C:C5'	2.22	0.50
2:9:4:G:O2'	16:N:44:ARG:NH2	2.44	0.50
1:0:2715:G:O2'	4:B:262:ARG:HD2	2.12	0.50
9:G:99:PHE:CE2	9:G:131:THR:HG23	2.47	0.50
9:G:47:GLN:HA	9:G:50:ARG:HB2	1.94	0.50
9:G:71:LEU:HD12	9:G:81:LEU:HD23	1.93	0.50
10:H:15:THR:HG22	10:H:93:GLN:HA	1.94	0.50
11:I:7:VAL:HG12	11:I:8:LEU:H	1.77	0.50
12:J:68:GLY:HA2	35:J:149:CL:CL	2.49	0.50
15:M:133:LEU:O	15:M:134:ILE:HD13	2.11	0.50
3:A:76:VAL:HG23	28:Z:63:LYS:HB3	1.93	0.50
1:0:51:G:C2	1:0:111:C:C2	3.00	0.49
1:0:1336:U:N3	1:0:1337:A:N7	2.60	0.49
1:0:1510:G:C4	1:0:1511:U:C6	3.00	0.49
1:0:1623:C:OP2	1:0:1624:A:O2'	2.29	0.49
1:0:1667:A:C2	1:0:1668:U:C2	3.00	0.49
1:0:2717:C:C2'	1:0:2718:C:C5'	2.89	0.49
1:0:297:U:H2'	1:0:298:C:H6	1.77	0.49
1:0:396:U:O2'	1:0:397:A:P	2.69	0.49
1:0:420:U:H2'	1:0:421:C:C6	2.47	0.49
1:0:638:C:O2'	1:0:639:A:C5'	2.57	0.49
1:0:937:C:C2'	1:0:938:G:H5'	2.42	0.49
31:3:22:VAL:CG1	31:3:67:LEU:HD13	2.42	0.49
2:9:27:C:H2'	2:9:28:U:O4'	2.12	0.49
4:B:176:ASP:HA	4:B:179:LEU:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:16:ARG:HG3	4:B:260:HIS:CE1	2.47	0.49
5:C:236:THR:HG22	5:C:239:ALA:N	2.26	0.49
8:F:58:GLU:CD	15:M:27:ARG:HH22	2.15	0.49
16:N:72:GLU:N	16:N:171:HIS:HE1	2.04	0.49
25:W:117:ARG:CB	25:W:117:ARG:HH11	2.24	0.49
1:0:1195:G:N2	1:0:1205:U:C2	2.79	0.49
1:0:1149:U:C5	1:0:1215:A:N7	2.80	0.49
1:0:1335:C:C2	1:0:1336:U:C6	3.00	0.49
1:0:139:C:H4'	1:0:140:G:C2	2.47	0.49
1:0:1705:C:H2'	1:0:1706:G:H5'	1.95	0.49
1:0:1832:G:N2	1:0:1845:A:H1'	2.27	0.49
1:0:1999:C:H2'	1:0:2000:G:H8	1.77	0.49
1:0:2249:G:N2	1:0:2253:G:C5	2.81	0.49
1:0:2740:G:H2'	1:0:2741:A:H8	1.77	0.49
1:0:69:A:C5'	1:0:69:A:C8	2.87	0.49
3:A:59:GLU:HG3	3:A:65:ARG:HD3	1.94	0.49
1:0:2054:A:N3	20:R:128:ARG:NH2	2.61	0.49
23:U:23:HIS:HD2	23:U:27:ALA:O	1.95	0.49
26:X:76:ARG:HH11	26:X:76:ARG:CG	2.22	0.49
27:Y:197:ASP:OD1	27:Y:199:ASP:HB2	2.12	0.49
28:Z:60:CYS:SG	28:Z:60:CYS:O	2.70	0.49
1:0:1013:A:H2'	1:0:1013:A:N3	2.26	0.49
1:0:1168:C:H4'	11:I:85:SER:O	2.12	0.49
1:0:1836:A:H3'	1:0:1837:G:H2'	1.94	0.49
1:0:2086:C:H2'	1:0:2087:C:C6	2.48	0.49
1:0:216:A:N6	1:0:225:G:C2	2.80	0.49
1:0:2398:A:H2'	1:0:2399:G:O4'	2.12	0.49
1:0:2751:C:C4	1:0:2752:C:C5	3.00	0.49
1:0:339:A:C4	1:0:342:C:N4	2.81	0.49
1:0:369:G:C2	1:0:370:G:C8	3.00	0.49
1:0:497:A:H2'	1:0:498:A:H5'	1.93	0.49
1:0:532:A:H2	1:0:2660:G:N3	2.10	0.49
1:0:819:A:C4	1:0:821:U:C5	3.00	0.49
1:0:941:G:C6	1:0:942:U:C4	3.00	0.49
5:C:49:ASP:HB3	5:C:52:ALA:HB2	1.94	0.49
8:F:49:PHE:N	8:F:49:PHE:CD1	2.80	0.49
9:G:128:GLU:O	9:G:128:GLU:HG2	2.12	0.49
9:G:31:GLU:O	9:G:33:VAL:HG23	2.12	0.49
1:0:1312:G:O2'	1:0:1313:A:H5'	2.12	0.49
1:0:160:A:C5	1:0:177:A:C2	3.01	0.49
1:0:2583:A:C2	1:0:2584:G:C4	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:453:A:C5	1:0:479:G:N7	2.80	0.49
1:0:54:G:N2	1:0:66:G:C4	2.81	0.49
1:0:824:G:C5	1:0:854:G:C6	3.01	0.49
3:A:217:ARG:HG2	3:A:229:ALA:HB2	1.94	0.49
7:E:160:ARG:HA	7:E:163:GLN:HE21	1.76	0.49
10:H:113:MET:O	10:H:116:ALA:HB2	2.13	0.49
13:K:57:VAL:HG23	13:K:67:GLN:O	2.13	0.49
15:M:131:VAL:HG12	15:M:133:LEU:HD12	1.95	0.49
1:0:1032:A:C4	1:0:1033:C:C6	3.01	0.49
1:0:1328:A:C8	27:Y:169:ARG:HD3	2.48	0.49
1:0:1329:A:N1	35:0:3107:CL:CL	2.82	0.49
1:0:1337:A:C5	1:0:1338:U:C5	3.00	0.49
1:0:1607:A:H2'	1:0:1608:G:C5'	2.43	0.49
1:0:1916:C:H2'	1:0:1917:G:O4'	2.12	0.49
1:0:2338:G:H1'	6:D:105:SER:OG	2.13	0.49
1:0:88:G:C8	1:0:88:G:H5'	2.39	0.49
2:9:3:A:OP2	2:9:25:G:N2	2.45	0.49
2:9:44:A:H1'	6:D:76:ARG:CZ	2.43	0.49
2:9:51:A:C2	2:9:52:A:N6	2.81	0.49
4:B:81:ALA:O	4:B:186:GLY:HA3	2.12	0.49
6:D:22:VAL:HG22	6:D:74:THR:HG22	1.94	0.49
12:J:74:ARG:O	12:J:78:ILE:HG12	2.12	0.49
20:R:39:THR:HG22	20:R:42:GLU:HG3	1.93	0.49
25:W:142:ASP:HB3	25:W:145:GLY:H	1.76	0.49
27:Y:100:ARG:HH12	27:Y:215:GLU:HA	1.78	0.49
1:0:1025:C:H2'	1:0:1026:C:H6	1.73	0.49
1:0:1040:A:N1	1:0:1041:U:C2	2.80	0.49
1:0:1208:C:C6	1:0:1208:C:H5''	2.46	0.49
1:0:639:A:C2	1:0:1363:G:C2	3.00	0.49
1:0:1747:A:H5''	1:0:2585:G:OP1	2.13	0.49
1:0:1822:A:C2'	1:0:1823:G:H5'	2.42	0.49
1:0:1829:A:H61	28:Z:18:TYR:N	2.10	0.49
1:0:2091:G:H2'	1:0:2092:G:O5'	2.12	0.49
1:0:212:A:C8	1:0:214:U:C2	3.00	0.49
1:0:2399:G:H4'	1:0:2428:G:OP1	2.13	0.49
1:0:2505:G:H2'	1:0:2506:A:H5'	1.94	0.49
1:0:2580:G:C6	1:0:2581:U:N3	2.80	0.49
1:0:2831:C:C2'	1:0:2832:C:H5'	2.42	0.49
1:0:820:G:O2'	1:0:856:G:H4'	2.12	0.49
3:A:76:VAL:CG2	28:Z:63:LYS:HB3	2.43	0.49
22:T:51:LEU:HD11	22:T:97:ARG:HB2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1337:A:C6	1:0:1338:U:C4	3.01	0.49
1:0:1407:A:O2'	1:0:1408:U:H3'	2.12	0.49
1:0:1507:C:H2'	1:0:1508:C:H6	1.77	0.49
1:0:2039:A:C4	1:0:2040:C:C5	3.00	0.49
1:0:254:C:O2	1:0:254:C:H2'	2.11	0.49
1:0:31:C:OP1	1:0:31:C:C6	2.66	0.49
1:0:517:U:H2'	1:0:518:G:H5'	1.95	0.49
1:0:716:G:C6	1:0:717:C:C4	3.01	0.49
29:1:26:SER:O	29:1:34:CYS:HA	2.13	0.49
7:E:151:LEU:HG	7:E:151:LEU:O	2.13	0.49
9:G:99:PHE:C	9:G:101:LEU:H	2.16	0.49
15:M:164:THR:CG2	15:M:165:GLY:H	2.20	0.49
16:N:101:VAL:HG12	16:N:102:LEU:H	1.78	0.49
19:Q:66:LYS:HB2	19:Q:70:ALA:O	2.13	0.49
1:0:1204:C:C6	1:0:1204:C:C4'	2.96	0.49
1:0:1626:A:C2'	1:0:1627:G:H5'	2.43	0.49
1:0:1706:G:H1'	1:0:1712:A:H61	1.78	0.49
1:0:1709:G:C6	1:0:1711:A:C5	3.01	0.49
1:0:1804:A:H2'	1:0:1805:G:H8	1.75	0.49
1:0:1883:U:H2'	1:0:1884:G:C5'	2.41	0.49
1:0:1907:U:O2	1:0:1933:G:C2	2.65	0.49
1:0:1990:C:O2	1:0:1990:C:H2'	2.11	0.49
1:0:201:G:C2	1:0:202:U:C5	3.01	0.49
1:0:221:G:H2'	1:0:222:A:C8	2.47	0.49
1:0:2530:C:O2'	1:0:2531:U:H5'	2.13	0.49
1:0:371:U:C2	1:0:372:A:C8	3.00	0.49
1:0:696:C:O2'	1:0:697:G:H5'	2.13	0.49
1:0:906:C:OP2	27:Y:147:ARG:NH2	2.45	0.49
2:9:110:G:C6	2:9:111:U:C5	3.01	0.49
4:B:280:VAL:CG1	4:B:334:SER:HA	2.43	0.49
13:K:98:VAL:HG13	13:K:102:GLU:HA	1.93	0.49
13:K:53:ILE:HG13	13:K:55:VAL:HG23	1.94	0.49
1:0:107:U:C2'	1:0:108:U:H5'	2.43	0.49
1:0:1207:A:O3'	1:0:1208:C:OP1	2.31	0.49
1:0:2326:U:H4'	1:0:2412:G:C4'	2.42	0.49
1:0:23:G:H1'	1:0:520:A:N6	2.27	0.49
1:0:2444:U:N3	1:0:2445:U:C5	2.80	0.49
1:0:2669:U:H1'	4:B:114:ASP:OD2	2.11	0.49
1:0:1705:C:O2	1:0:2735:U:H5''	2.13	0.49
1:0:2868:C:H2'	1:0:2869:G:O4'	2.13	0.49
1:0:665:A:C6	1:0:666:A:C6	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:962:C:H2'	1:0:963:C:C5'	2.41	0.49
2:9:91:C:H2'	2:9:92:G:O4'	2.13	0.49
1:0:857:A:C4'	3:A:176:HIS:CD2	2.94	0.49
5:C:84:VAL:O	5:C:85:LYS:HB2	2.13	0.49
7:E:126:ILE:HB	7:E:131:LEU:HD23	1.94	0.49
11:I:125:VAL:HA	11:I:128:CYS:SG	2.52	0.49
24:V:55:ARG:O	24:V:59:ILE:HG12	2.13	0.49
27:Y:219:GLU:HG3	27:Y:220:GLU:N	2.28	0.49
1:0:1174:A:C2'	1:0:1175:G:OP1	2.60	0.49
1:0:1495:C:H1'	1:0:1573:A:H1'	1.95	0.49
1:0:1607:A:C2'	1:0:1608:G:H5'	2.43	0.49
1:0:1794:G:N2	1:0:1799:G:C6	2.81	0.49
1:0:1844:C:H2'	1:0:1845:A:H5'	1.95	0.49
1:0:1889:C:O2	1:0:2010:A:H2	1.96	0.49
1:0:2253:G:C2	1:0:2254:G:C8	3.01	0.49
1:0:2551:C:N3	1:0:2604:A:C2	2.81	0.49
1:0:2663:U:C4	1:0:2664:A:N6	2.80	0.49
1:0:2808:U:O2'	1:0:2809:G:H5'	2.13	0.49
1:0:281:U:H2'	1:0:282:C:O4'	2.13	0.49
1:0:740:G:C2	1:0:741:C:C2	3.01	0.49
4:B:243:ASN:HA	4:B:244:PRO:C	2.34	0.49
9:G:121:PRO:HB2	9:G:127:PRO:CB	2.41	0.49
16:N:82:TYR:C	16:N:82:TYR:CD2	2.86	0.49
22:T:55:PHE:CG	22:T:77:VAL:HG13	2.48	0.49
1:0:1314:U:C2	1:0:1316:G:C2	3.01	0.48
1:0:1544:U:C2	1:0:1545:C:C5	3.01	0.48
1:0:2001:G:C2'	1:0:2002:C:H5'	2.42	0.48
1:0:2910:A:H2'	1:0:2911:C:H6	1.78	0.48
1:0:307:G:O2'	1:0:308:U:H4'	2.12	0.48
1:0:1308:A:O4'	5:C:226:GLY:HA3	2.13	0.48
1:0:1889:C:C2'	1:0:1890:U:H5'	2.43	0.48
1:0:2273:C:O2'	1:0:2274:A:H5'	2.13	0.48
1:0:2478:U:H2'	1:0:2479:A:H8	1.78	0.48
1:0:2781:U:C2'	1:0:2782:G:C5'	2.86	0.48
1:0:332:G:O2'	1:0:333:G:H5'	2.13	0.48
1:0:347:A:C2'	1:0:348:C:H5'	2.42	0.48
1:0:275:G:C2	1:0:376:C:C2	3.01	0.48
1:0:425:U:C2	1:0:426:G:C8	3.01	0.48
1:0:2468:A:N7	31:3:54:LYS:HE2	2.28	0.48
4:B:277:GLU:N	4:B:278:PRO:HD2	2.27	0.48
6:D:69:ILE:HG22	6:D:69:ILE:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:61:MET:HB3	15:M:19:GLN:OE1	2.12	0.48
26:X:43:VAL:CG1	26:X:44:ASP:H	2.22	0.48
1:0:1477:C:H4'	1:0:1868:G:OP1	2.14	0.48
1:0:1982:C:C2	1:0:1983:C:C6	3.01	0.48
1:0:2248:C:C2	1:0:2254:G:C2	3.01	0.48
1:0:2836:G:C4	1:0:2845:G:N2	2.80	0.48
1:0:372:A:O2'	1:0:373:G:H5'	2.13	0.48
1:0:64:G:H2'	1:0:65:C:C6	2.48	0.48
1:0:870:G:C3'	1:0:871:G:H5''	2.43	0.48
30:2:23:ALA:O	30:2:26:MET:HB2	2.13	0.48
1:0:1884:G:O6	3:A:190:ARG:HD2	2.13	0.48
4:B:203:ALA:HA	4:B:263:THR:HA	1.94	0.48
10:H:9:ILE:O	10:H:9:ILE:HG22	2.14	0.48
11:I:5:ILE:N	11:I:5:ILE:HD12	2.27	0.48
22:T:23:VAL:C	22:T:93:THR:HG21	2.33	0.48
27:Y:107:PRO:HD3	27:Y:182:PHE:CE1	2.48	0.48
1:0:1454:U:C6	1:0:1455:C:C5	3.01	0.48
1:0:1552:G:C6	1:0:1553:C:N4	2.81	0.48
1:0:1565:C:O2'	1:0:1566:C:H5'	2.14	0.48
1:0:1595:G:O2'	1:0:1596:U:C5'	2.61	0.48
1:0:1789:G:H2'	1:0:1790:C:O5'	2.14	0.48
1:0:185:G:C4'	1:0:186:A:H4'	2.41	0.48
1:0:2106:C:H6	1:0:2106:C:O5'	1.96	0.48
1:0:2588:OMG:H3'	1:0:2589:U:H5''	1.95	0.48
1:0:268:U:C4	1:0:269:G:C6	3.01	0.48
1:0:2825:C:C4'	1:0:2826:G:O4'	2.61	0.48
1:0:2827:A:C8	1:0:2828:G:C8	3.01	0.48
1:0:2863:G:C6	1:0:2894:C:N3	2.81	0.48
2:9:74:G:N2	2:9:108:C:C2	2.82	0.48
3:A:65:ARG:O	3:A:66:ARG:HG3	2.13	0.48
10:H:9:ILE:HG23	10:H:126:ARG:NE	2.27	0.48
11:I:16:PRO:HB2	11:I:19:PRO:CD	2.42	0.48
12:J:45:VAL:HG21	12:J:129:PHE:CD1	2.48	0.48
25:W:125:HIS:HD2	25:W:127:GLY:H	1.61	0.48
1:0:99:A:C8	1:0:100:C:C5	3.02	0.48
1:0:1215:A:O3'	1:0:1216:G:H4'	2.14	0.48
1:0:1289:C:O2'	1:0:1290:G:H5'	2.13	0.48
1:0:1322:G:C6	1:0:1323:G:C5	3.01	0.48
1:0:1543:G:H2'	1:0:1544:U:C6	2.49	0.48
1:0:1554:U:O2	1:0:1631:A:H2	1.95	0.48
1:0:1795:G:H2'	1:0:1796:A:O4'	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1806:G:C6	1:0:1807:U:C4	3.01	0.48
1:0:2045:G:C2	1:0:2046:G:H1'	2.48	0.48
1:0:2894:C:H2'	1:0:2895:C:C6	2.48	0.48
1:0:24:G:N2	1:0:518:G:H1'	2.29	0.48
1:0:660:A:H4'	1:0:661:G:O5'	2.13	0.48
1:0:907:A:H2'	1:0:908:A:H8	1.78	0.48
2:9:14:G:C8	2:9:14:G:C5'	2.87	0.48
2:9:58:G:H3'	2:9:59:C:C6	2.49	0.48
4:B:36:PRO:CA	4:B:168:GLY:HA3	2.39	0.48
6:D:144:ARG:HD2	6:D:146:LYS:O	2.12	0.48
8:F:58:GLU:HB3	15:M:8:ILE:HG23	1.96	0.48
17:O:26:TRP:CE3	17:O:26:TRP:HA	2.48	0.48
25:W:117:ARG:HH11	25:W:117:ARG:HB2	1.78	0.48
1:0:111:C:O2'	1:0:112:G:H5'	2.13	0.48
1:0:1157:C:H3'	1:0:1157:C:C6	2.49	0.48
1:0:1165:G:N3	1:0:1174:A:N3	2.61	0.48
1:0:1238:C:C6	1:0:1240:G:OP2	2.66	0.48
1:0:1392:A:C6	1:0:1395:C:N3	2.82	0.48
1:0:1601:G:C5	1:0:1602:C:C5	3.02	0.48
1:0:1825:U:O2'	1:0:1826:C:H5'	2.13	0.48
1:0:2615:U:H5	1:0:2616:G:C6	2.31	0.48
1:0:2676:C:O2	1:0:2676:C:H2'	2.14	0.48
1:0:2870:C:H2'	1:0:2871:G:C8	2.48	0.48
2:9:42:C:H2'	2:9:42:C:O2	2.14	0.48
11:I:16:PRO:HB2	11:I:19:PRO:HD2	1.95	0.48
13:K:101:ASN:HD22	13:K:101:ASN:H	1.60	0.48
15:M:28:GLN:HA	15:M:31:TRP:HB2	1.96	0.48
26:X:23:HIS:CE1	26:X:24:LYS:HG3	2.49	0.48
1:0:1077:G:N2	1:0:1083:C:N4	2.62	0.48
1:0:2243:C:HO2'	1:0:2244:A:H8	1.62	0.48
1:0:2335:C:O2	1:0:2350:G:C2	2.66	0.48
1:0:255:A:H2'	1:0:256:C:C6	2.49	0.48
1:0:2852:A:O4'	1:0:2902:A:N6	2.46	0.48
1:0:2890:A:H1'	23:U:56:ARG:HH21	1.78	0.48
1:0:303:C:O2'	1:0:304:G:H5'	2.14	0.48
1:0:369:G:O2'	1:0:370:G:H5'	2.14	0.48
2:9:108:C:C6	2:9:108:C:H3'	2.49	0.48
4:B:18:ARG:HG2	4:B:256:GLN:OE1	2.13	0.48
4:B:320:GLN:NE2	4:B:321:PRO:HD2	2.28	0.48
4:B:52:VAL:O	4:B:53:LEU:HD12	2.13	0.48
5:C:2:GLN:HA	5:C:17:ASP:HA	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:48:VAL:HG23	8:F:74:PHE:HB3	1.96	0.48
1:0:2815:G:H5'	12:J:102:ARG:HH21	1.77	0.48
19:Q:43:ILE:HG23	19:Q:90:HIS:CE1	2.49	0.48
28:Z:11:SER:HB3	28:Z:23:ARG:HB2	1.95	0.48
1:0:1134:G:O2'	1:0:1135:G:H5'	2.13	0.48
1:0:1168:C:H4'	11:I:86:GLY:HA2	1.95	0.48
1:0:151:A:H2'	1:0:152:A:O4'	2.13	0.48
1:0:1768:C:C5	1:0:1769:C:C6	3.01	0.48
1:0:1899:C:O2'	1:0:1900:A:H5'	2.13	0.48
1:0:1983:C:N3	1:0:1984:U:C4	2.82	0.48
1:0:2371:G:H8	1:0:2371:G:O5'	1.97	0.48
2:9:54:A:O2'	2:9:55:U:H5'	2.14	0.48
2:9:6:C:H5''	16:N:37:ARG:NH1	2.29	0.48
1:0:2547:C:H5'	4:B:236:ILE:HG22	1.96	0.48
7:E:31:ARG:HH12	7:E:68:HIS:CE1	2.32	0.48
16:N:154:LEU:C	16:N:156:GLU:H	2.16	0.48
17:O:73:ASP:HA	17:O:92:VAL:O	2.14	0.48
19:Q:40:HIS:NE2	19:Q:94:GLN:HG3	2.29	0.48
25:W:117:ARG:HB2	25:W:117:ARG:NH1	2.27	0.48
1:0:1400:C:C6	1:0:1400:C:H3'	2.48	0.48
1:0:1572:A:C2	1:0:1573:A:C4	3.02	0.48
1:0:1598:A:P	18:P:102:ARG:HH22	2.36	0.48
1:0:1852:A:H2'	1:0:1853:C:C6	2.49	0.48
1:0:2245:C:O5'	1:0:2245:C:H6	1.96	0.48
1:0:2735:U:H2'	1:0:2736:U:C6	2.49	0.48
1:0:2780:C:H2'	1:0:2781:U:C6	2.48	0.48
1:0:290:C:H2'	1:0:291:C:H6	1.78	0.48
1:0:293:A:O2'	1:0:294:C:H5'	2.13	0.48
1:0:365:G:C4	1:0:366:U:C5	3.02	0.48
1:0:820:G:N3	1:0:820:G:H3'	2.29	0.48
2:9:115:C:O5'	2:9:115:C:H6	1.97	0.48
2:9:13:A:N3	16:N:14:ARG:NH2	2.61	0.48
9:G:33:VAL:HG12	9:G:93:GLY:HA2	1.96	0.48
9:G:35:VAL:HG22	9:G:122:ASN:CA	2.31	0.48
11:I:100:GLN:O	11:I:104:ILE:HG13	2.13	0.48
16:N:71:TRP:HE3	16:N:175:LEU:HD22	1.78	0.48
1:0:1010:C:OP1	19:Q:18:PRO:HG2	2.14	0.48
1:0:10:U:O4	1:0:532:A:OP2	2.31	0.48
1:0:1119:G:C5	1:0:1243:C:C4	3.02	0.48
1:0:932:U:H1'	1:0:1296:A:H1'	1.95	0.48
1:0:1819:G:C2'	1:0:1820:G:O5'	2.62	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1992:U:H2'	1:0:1994:A:OP2	2.13	0.48
1:0:2061:C:C2'	1:0:2062:A:H5'	2.44	0.48
1:0:218:C:C5	1:0:220:C:C4	3.02	0.48
1:0:219:G:O5'	1:0:220:C:H5''	2.14	0.48
1:0:2515:C:H2'	1:0:2516:G:O4'	2.14	0.48
1:0:2096:A:H2'	1:0:2539:U:O4'	2.14	0.48
1:0:318:C:H5'	1:0:339:A:C4	2.49	0.48
1:0:696:C:C2'	1:0:697:G:H5'	2.44	0.48
5:C:26:VAL:HA	5:C:113:SER:OG	2.14	0.48
5:C:136:VAL:HG22	5:C:137:PRO:HA	1.96	0.48
10:H:85:MET:HA	10:H:136:ALA:HA	1.96	0.48
10:H:150:PHE:O	10:H:154:TYR:CD2	2.67	0.48
21:S:52:VAL:HG22	21:S:66:VAL:HG22	1.96	0.48
24:V:39:ALA:N	24:V:40:PRO:CD	2.77	0.48
1:0:1127:C:C2'	1:0:1128:U:H5'	2.42	0.47
1:0:1190:G:H5'	1:0:1208:C:O2'	2.14	0.47
1:0:1928:C:H2'	1:0:1929:G:C5'	2.44	0.47
1:0:1992:U:O2	1:0:1994:A:C8	2.62	0.47
1:0:2098:C:O2'	1:0:2099:G:H5'	2.14	0.47
1:0:2117:U:OP2	1:0:2271:G:N2	2.45	0.47
1:0:2321:A:H2	1:0:2378:U:O4	1.96	0.47
1:0:2616:G:C4	1:0:2645:U:O4	2.66	0.47
1:0:2717:C:H2'	1:0:2718:C:H5''	1.94	0.47
1:0:2803:C:H6	1:0:2803:C:O5'	1.97	0.47
1:0:359:U:H2'	1:0:360:A:C8	2.49	0.47
1:0:590:A:H2'	1:0:591:A:O4'	2.14	0.47
1:0:688:A:O2'	1:0:697:G:N2	2.47	0.47
1:0:719:C:N4	1:0:720:G:C4	2.82	0.47
1:0:85:C:H3'	1:0:86:A:H2'	1.96	0.47
1:0:338:C:C4'	5:C:174:ILE:CD1	2.88	0.47
7:E:116:THR:CG2	7:E:151:LEU:HD22	2.42	0.47
9:G:33:VAL:HG12	9:G:94:THR:H	1.77	0.47
11:I:64:ILE:HG12	11:I:65:GLU:O	2.13	0.47
1:0:1188:A:H5'	9:G:61:VAL:O	2.14	0.47
1:0:1352:A:H4'	1:0:1353:C:OP1	2.15	0.47
1:0:136:C:O5'	1:0:136:C:H6	1.96	0.47
1:0:1665:G:H2'	1:0:1666:C:H6	1.79	0.47
1:0:1706:G:C6	1:0:1707:G:N1	2.82	0.47
1:0:1829:A:H61	28:Z:18:TYR:HA	1.77	0.47
1:0:1894:C:C5	1:0:1940:C:C4	3.02	0.47
1:0:2032:U:O2'	1:0:2033:G:C5'	2.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2105:C:H2'	1:0:2106:C:C6	2.49	0.47
1:0:2321:A:C2	1:0:2323:G:C6	3.02	0.47
1:0:2381:C:H2'	1:0:2382:A:H8	1.79	0.47
1:0:492:C:O2'	1:0:493:U:H5'	2.15	0.47
1:0:714:U:O4'	1:0:716:G:C2	2.67	0.47
1:0:777:U:O2'	1:0:778:C:H5'	2.14	0.47
2:9:69:U:OP1	16:N:4:PRO:HG3	2.14	0.47
9:G:57:ALA:HA	9:G:94:THR:HG22	1.95	0.47
14:L:90:ARG:HA	14:L:119:THR:HB	1.97	0.47
16:N:36:ALA:HB2	16:N:102:LEU:HD11	1.95	0.47
20:R:89:LEU:HA	20:R:89:LEU:HD23	1.69	0.47
1:0:100:C:H5'	22:T:16:LEU:HD12	1.96	0.47
1:0:1076:G:C2	1:0:1084:C:C2	3.02	0.47
1:0:1561:U:O4	1:0:2739:A:N1	2.47	0.47
1:0:1594:C:O2'	1:0:1607:A:H4'	2.14	0.47
1:0:1644:C:N3	1:0:1645:U:C5	2.82	0.47
1:0:1917:G:C2	1:0:1923:G:C6	3.02	0.47
1:0:1976:G:O2'	1:0:1977:U:H5'	2.14	0.47
1:0:343:C:O2	1:0:344:C:C6	2.67	0.47
7:E:159:VAL:O	7:E:163:GLN:HG2	2.14	0.47
22:T:16:LEU:HD22	22:T:67:LEU:HD12	1.97	0.47
27:Y:182:PHE:CG	27:Y:202:ALA:HB2	2.49	0.47
28:Z:44:GLU:HG3	28:Z:46:ARG:HG3	1.96	0.47
1:0:1126:C:O2'	1:0:1128:U:H6	1.97	0.47
1:0:1449:G:H2'	1:0:1493:A:C2	2.49	0.47
1:0:1473:U:C5	29:1:44:LYS:HD2	2.50	0.47
1:0:1992:U:C2	1:0:1994:A:OP2	2.68	0.47
1:0:2311:A:H5''	10:H:117:PHE:CD2	2.48	0.47
1:0:2335:C:C2	1:0:2350:G:N2	2.82	0.47
1:0:2377:U:O2'	1:0:2378:U:H5'	2.15	0.47
5:C:114:ALA:HB3	5:C:223:LEU:HD23	1.96	0.47
15:M:71:SER:H	15:M:73:ARG:NH1	2.10	0.47
25:W:132:VAL:HG21	25:W:140:LYS:O	2.14	0.47
27:Y:131:GLN:O	27:Y:132:ASP:HB2	2.15	0.47
28:Z:36:ASP:HB3	28:Z:45:ASP:HB3	1.95	0.47
1:0:1032:A:C5	1:0:1033:C:C5	3.03	0.47
1:0:1185:U:H2'	1:0:1186:C:C6	2.46	0.47
1:0:1278:A:H4'	1:0:1279:U:C4	2.50	0.47
1:0:164:G:C6	1:0:165:A:C4	3.03	0.47
1:0:1746:A:O4'	1:0:1747:A:C2	2.68	0.47
1:0:224:U:H2'	1:0:225:G:H5'	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2353:A:H4'	1:0:2354:A:O5'	2.15	0.47
1:0:2359:G:C6	1:0:2360:C:N4	2.83	0.47
1:0:2412:G:N2	1:0:2415:A:OP2	2.41	0.47
1:0:2791:U:C1'	1:0:2792:A:H5''	2.44	0.47
1:0:285:A:C2	1:0:286:U:H1'	2.50	0.47
1:0:431:G:C2	1:0:432:G:C8	3.02	0.47
31:3:20:HIS:CE1	31:3:71:CYS:SG	3.08	0.47
5:C:79:ARG:O	5:C:87:ARG:HG2	2.14	0.47
26:X:9:VAL:HG13	26:X:88:GLU:OE2	2.14	0.47
27:Y:166:ALA:O	27:Y:168:PHE:N	2.48	0.47
1:0:943:A:N6	1:0:1024:G:H22	2.12	0.47
1:0:1196:C:C3'	1:0:1197:G:H5''	2.44	0.47
1:0:1199:A:N6	1:0:1200:A:N1	2.63	0.47
1:0:901:G:HO2'	1:0:1358:A:HO2'	1.63	0.47
1:0:1434:A:H2'	1:0:1436:C:C5	2.49	0.47
1:0:1563:G:O5'	1:0:1563:G:H8	1.97	0.47
1:0:1761:U:O2'	1:0:1762:C:H5'	2.15	0.47
1:0:2032:U:C2'	1:0:2033:G:C5'	2.93	0.47
1:0:2128:G:C4	1:0:2129:U:C6	3.03	0.47
1:0:228:C:C5	1:0:229:G:C8	3.03	0.47
1:0:2434:A:H2'	1:0:2435:U:O4'	2.15	0.47
1:0:2509:A:H2'	1:0:2510:C:O4'	2.15	0.47
1:0:247:A:C5	1:0:262:A:C6	3.03	0.47
1:0:246:G:C2	1:0:264:G:C2	3.03	0.47
1:0:324:G:C4	1:0:325:U:C6	3.03	0.47
1:0:566:A:C2'	1:0:567:U:H5'	2.45	0.47
1:0:800:G:H1	1:0:813:C:H42	1.62	0.47
1:0:945:U:H2'	1:0:946:C:C6	2.50	0.47
29:1:18:LYS:HA	29:1:24:GLU:O	2.15	0.47
31:3:24:LYS:CE	35:3:95:CL:CL	2.98	0.47
4:B:79:MET:HG2	4:B:146:THR:HG22	1.95	0.47
5:C:133:ARG:HG2	5:C:134:ASP:H	1.79	0.47
5:C:5:ILE:HD11	5:C:16:VAL:CG2	2.45	0.47
10:H:24:PRO:HD3	10:H:120:ILE:HG22	1.97	0.47
18:P:142:ASP:O	18:P:143:ALA:HB3	2.15	0.47
1:0:1517:U:C2	1:0:1670:G:N2	2.83	0.47
1:0:1588:G:C5	1:0:1589:G:C6	3.03	0.47
1:0:1755:A:H2'	1:0:1756:G:O4'	2.15	0.47
1:0:2332:A:C5'	1:0:2333:G:OP2	2.62	0.47
1:0:2357:G:O6	1:0:2366:C:N4	2.47	0.47
1:0:2606:G:O6	1:0:2609:G:C5	2.68	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:484:A:N6	1:0:508:A:H62	2.09	0.47
1:0:677:C:O2'	1:0:678:G:H5'	2.14	0.47
1:0:885:G:C6	1:0:2475:C:O4'	2.68	0.47
2:9:47:A:C2	2:9:48:C:C2	3.01	0.47
3:A:57:ALA:HA	3:A:67:LEU:HD23	1.97	0.47
4:B:87:TYR:CE2	4:B:96:PRO:HG3	2.50	0.47
1:0:1309:U:OP2	5:C:189:PRO:HA	2.14	0.47
9:G:121:PRO:HB3	9:G:127:PRO:CB	2.35	0.47
15:M:24:GLN:NE2	15:M:27:ARG:HH11	2.13	0.47
18:P:24:ASN:HA	18:P:25:PRO:HD3	1.72	0.47
1:0:1292:G:O5'	1:0:1292:G:H8	1.97	0.47
1:0:1395:C:H2'	1:0:1396:C:H6	1.80	0.47
1:0:1544:U:N3	1:0:1545:C:C5	2.83	0.47
1:0:1552:G:O2'	1:0:1553:C:H5'	2.14	0.47
1:0:1742:A:C2	1:0:2762:C:C6	3.03	0.47
1:0:2114:C:O2'	1:0:2115:U:H5'	2.14	0.47
1:0:2125:G:H2'	1:0:2126:C:H6	1.80	0.47
1:0:2605:G:C2'	1:0:2606:G:H5'	2.45	0.47
1:0:246:G:N2	1:0:264:G:N3	2.63	0.47
1:0:371:U:N3	1:0:372:A:N7	2.62	0.47
1:0:462:A:N6	1:0:477:A:N1	2.63	0.47
1:0:944:G:H21	25:W:44:MET:HE1	1.79	0.47
1:0:969:G:N2	1:0:1000:C:C2	2.82	0.47
5:C:76:ARG:NH1	5:C:76:ARG:HG3	2.28	0.47
10:H:1:LYS:HD3	10:H:5:MET:SD	2.55	0.47
14:L:35:ARG:O	14:L:40:PHE:HA	2.15	0.47
16:N:151:ASP:OD1	16:N:166:ALA:HA	2.15	0.47
1:0:1041:U:H2'	1:0:1042:U:C5'	2.43	0.47
1:0:1342:C:H2'	1:0:1343:C:H5'	1.97	0.47
1:0:1568:G:C6	1:0:1569:U:N3	2.83	0.47
1:0:1589:G:H22	1:0:1605:G:C1'	2.27	0.47
1:0:1819:G:C2'	1:0:1820:G:C5'	2.93	0.47
1:0:1928:C:H2'	1:0:1929:G:H5'	1.97	0.47
1:0:2694:A:C6	1:0:2702:A:C8	3.02	0.47
1:0:2734:G:C2	1:0:2746:A:C2	3.03	0.47
1:0:2776:A:H2'	1:0:2777:G:H5'	1.96	0.47
1:0:2673:U:C2	1:0:2817:G:N2	2.83	0.47
1:0:506:G:H22	1:0:509:A:H5'	1.79	0.47
1:0:69:A:H2'	1:0:70:A:OP2	2.14	0.47
29:1:28:HIS:HD2	29:1:31:LYS:HG3	1.78	0.47
1:0:60:A:H5'	30:2:19:SER:OG	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:26:C:HO2'	2:9:27:C:H5'	1.79	0.47
9:G:84:TYR:CB	9:G:121:PRO:HG3	2.42	0.47
10:H:88:ARG:HG3	10:H:132:GLN:O	2.15	0.47
11:I:92:PHE:HE2	11:I:129:THR:HG23	1.80	0.47
26:X:43:VAL:CG1	26:X:44:ASP:N	2.77	0.47
1:0:1070:A:O5'	1:0:1070:A:H8	1.98	0.47
1:0:1463:A:H2'	1:0:1464:U:C6	2.50	0.47
1:0:1497:G:H2'	1:0:1498:G:C8	2.48	0.47
1:0:158:A:O2'	1:0:159:G:H5'	2.14	0.47
1:0:1711:A:C2'	1:0:1712:A:H5'	2.45	0.47
1:0:2508:C:H2'	1:0:2508:C:O2	2.15	0.47
1:0:2739:A:N6	1:0:2740:G:C6	2.83	0.47
1:0:844:A:C2	1:0:882:A:C4	3.03	0.47
2:9:41:C:C5	2:9:42:C:C5	3.03	0.47
5:C:162:VAL:HG13	5:C:232:LEU:HD21	1.96	0.47
5:C:140:VAL:O	5:C:237:GLU:N	2.46	0.47
1:0:1134:G:H2'	1:0:1135:G:H5'	1.96	0.47
1:0:1392:A:H4'	1:0:1393:A:OP1	2.15	0.47
1:0:1477:C:C2'	1:0:1478:U:H5'	2.44	0.47
1:0:1753:C:H6	1:0:1753:C:O5'	1.98	0.47
1:0:2546:U:H2'	1:0:2547:C:C6	2.50	0.47
1:0:2686:C:O2'	1:0:2687:G:H5'	2.15	0.47
1:0:290:C:C2	1:0:291:C:C6	3.03	0.47
1:0:677:C:N3	1:0:678:G:N7	2.63	0.47
1:0:69:A:C2'	1:0:70:A:OP2	2.63	0.47
1:0:797:A:H4'	28:Z:10:ARG:N	2.30	0.47
3:A:95:PRO:HA	3:A:153:ARG:HA	1.97	0.47
5:C:84:VAL:HG12	5:C:85:LYS:HG2	1.96	0.47
11:I:10:PRO:O	11:I:11:GLY:O	2.33	0.47
11:I:31:VAL:HA	11:I:33:ALA:H	1.79	0.47
22:T:20:HIS:O	22:T:23:VAL:HG23	2.15	0.47
24:V:1:THR:HG23	24:V:2:VAL:N	2.30	0.47
1:0:130:C:C5	1:0:141:C:C6	3.03	0.46
1:0:1610:G:O2'	1:0:1611:G:H5'	2.15	0.46
1:0:1785:G:H2'	1:0:1786:C:H6	1.78	0.46
1:0:1798:C:OP2	1:0:1799:G:H5''	2.14	0.46
1:0:1852:A:H2'	1:0:1853:C:H6	1.79	0.46
1:0:201:G:N2	1:0:202:U:C2	2.83	0.46
1:0:2554:U:C6	1:0:2577:A:N6	2.82	0.46
1:0:308:U:H5''	22:T:97:ARG:NH2	2.29	0.46
1:0:485:A:O2'	1:0:487:G:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:488:U:O2'	1:0:503:G:N2	2.46	0.46
1:0:953:G:H1'	1:0:954:U:H5	1.80	0.46
2:9:14:G:H8	2:9:14:G:C5'	2.18	0.46
2:9:44:A:C5	2:9:45:A:C8	3.02	0.46
2:9:50:G:N1	2:9:51:A:N1	2.63	0.46
1:0:2657:G:OP1	4:B:17:LYS:HB2	2.16	0.46
4:B:232:TRP:HD1	4:B:235:ARG:HD2	1.79	0.46
4:B:312:ARG:HD3	4:B:315:VAL:HG13	1.96	0.46
4:B:42:ALA:HB3	4:B:79:MET:SD	2.55	0.46
16:N:36:ALA:CB	16:N:115:VAL:HG12	2.42	0.46
23:U:23:HIS:HB2	23:U:25:ASP:OD2	2.15	0.46
1:0:1158:G:C4	1:0:1159:G:C8	3.03	0.46
1:0:1186:C:N4	1:0:1187:U:C4	2.84	0.46
1:0:912:A:C4	1:0:1294:A:C2	3.03	0.46
1:0:1583:U:H2'	1:0:1584:C:O4'	2.16	0.46
1:0:1973:A:C8	1:0:1973:A:H3'	2.50	0.46
1:0:1883:U:H5''	1:0:2013:G:OP2	2.14	0.46
1:0:2354:A:H5'	1:0:2355:G:N7	2.30	0.46
1:0:2357:G:C2'	1:0:2358:U:H5'	2.45	0.46
1:0:2544:G:C4	1:0:2545:U:C6	3.03	0.46
1:0:2672:C:H2'	1:0:2673:U:C6	2.50	0.46
1:0:2903:C:O5'	1:0:2903:C:H6	1.97	0.46
1:0:308:U:C5'	22:T:97:ARG:NH2	2.79	0.46
1:0:484:A:C6	1:0:486:A:C6	3.03	0.46
1:0:694:A:H3'	1:0:695:C:H6	1.79	0.46
1:0:920:C:C4'	1:0:921:G:C2	2.98	0.46
2:9:115:C:H42	16:N:11:ARG:HH11	1.62	0.46
1:0:871:G:H4'	3:A:11:ARG:NH1	2.29	0.46
4:B:263:THR:O	4:B:263:THR:HG22	2.16	0.46
9:G:35:VAL:H	9:G:92:ILE:CG1	2.27	0.46
1:0:698:A:H5'	14:L:110:GLY:O	2.15	0.46
1:0:1065:G:H2'	1:0:1066:U:O4'	2.15	0.46
1:0:119:A:H2'	1:0:120:A:H5''	1.98	0.46
1:0:1312:G:C5	1:0:1313:A:N7	2.83	0.46
1:0:1733:A:C6	1:0:1734:C:C2	3.03	0.46
1:0:1831:U:H2'	1:0:1832:G:O4'	2.14	0.46
1:0:229:G:C6	1:0:230:C:C4	3.04	0.46
1:0:2371:G:O5'	1:0:2371:G:C8	2.68	0.46
1:0:245:C:H2'	1:0:246:G:H5'	1.97	0.46
1:0:2853:U:C5	1:0:2906:A:N6	2.83	0.46
1:0:560:C:C2	1:0:561:G:C8	3.02	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:841:A:C8	1:0:843:A:C8	3.02	0.46
7:E:14:GLU:HG2	7:E:15:GLN:H	1.80	0.46
1:0:2299:G:O6	19:Q:1:PRO:HA	2.16	0.46
21:S:5:ILE:HD12	21:S:44:GLN:HG3	1.97	0.46
25:W:121:PRO:HD3	25:W:153:MET:SD	2.55	0.46
1:0:1242:A:OP2	12:J:60:ARG:NH2	2.48	0.46
1:0:1500:U:P	18:P:41:ARG:HH22	2.38	0.46
1:0:155:C:C2	1:0:182:G:N2	2.84	0.46
1:0:1933:G:O2'	1:0:1934:A:H5'	2.15	0.46
1:0:206:G:H8	1:0:206:G:H5''	1.79	0.46
1:0:2385:G:H2'	1:0:2386:U:C6	2.51	0.46
1:0:382:U:O2'	1:0:430:A:H1'	2.16	0.46
1:0:777:U:O2'	29:1:11:LYS:HG2	2.15	0.46
2:9:34:A:H2'	2:9:35:C:O4'	2.16	0.46
2:9:65:A:C2'	2:9:66:G:OP2	2.63	0.46
5:C:235:PHE:HE2	5:C:243:VAL:HG21	1.80	0.46
11:I:64:ILE:HG12	11:I:65:GLU:N	2.30	0.46
14:L:10:SER:O	14:L:11:ARG:HB3	2.16	0.46
15:M:37:VAL:HG22	15:M:65:VAL:HG22	1.97	0.46
20:R:14:ALA:CB	20:R:99:ALA:HB2	2.46	0.46
27:Y:170:SER:OG	27:Y:175:ARG:HG3	2.15	0.46
1:0:1085:C:C5	1:0:1086:A:N7	2.84	0.46
1:0:1462:C:O5'	1:0:1462:C:H6	1.99	0.46
1:0:1497:G:O2'	1:0:1498:G:H5'	2.15	0.46
1:0:1571:G:C2	1:0:1624:A:C2	3.02	0.46
1:0:1518:A:C2	1:0:1669:A:C2	3.03	0.46
1:0:1866:A:H8	1:0:1866:A:O5'	1.99	0.46
1:0:2011:A:O4'	1:0:2013:G:C8	2.67	0.46
1:0:2072:G:C6	1:0:2533:C:H1'	2.51	0.46
1:0:2687:G:O2'	1:0:2688:U:H5'	2.16	0.46
1:0:2740:G:C4	1:0:2741:A:C8	3.03	0.46
1:0:331:A:N6	1:0:332:G:C2	2.83	0.46
1:0:450:C:O4'	5:C:46:TYR:CE1	2.68	0.46
1:0:595:U:H2'	1:0:596:C:O4'	2.15	0.46
1:0:661:G:C4	1:0:686:A:H2	2.31	0.46
1:0:663:C:H2'	1:0:664:U:O4'	2.16	0.46
1:0:764:C:H2'	1:0:765:G:O4'	2.15	0.46
1:0:814:G:N2	1:0:815:U:H1'	2.31	0.46
1:0:936:C:O2'	1:0:937:C:H5'	2.16	0.46
1:0:951:A:C2'	1:0:952:G:H5'	2.45	0.46
1:0:951:A:H2'	1:0:952:G:H5'	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:3:3:MET:O	31:3:90:PHE:HA	2.13	0.46
7:E:90:HIS:O	7:E:92:PRO:HD3	2.14	0.46
10:H:65:SER:HB2	10:H:153:ALA:O	2.16	0.46
25:W:93:ILE:O	25:W:96:LEU:HB3	2.15	0.46
26:X:43:VAL:CG1	26:X:47:ALA:HB3	2.46	0.46
1:0:2038:A:O2'	1:0:2039:A:H5'	2.15	0.46
1:0:2416:G:H2'	1:0:2417:C:C6	2.51	0.46
1:0:2797:C:N4	1:0:2798:G:C6	2.83	0.46
1:0:2855:G:C2	1:0:2856:A:C4	3.03	0.46
1:0:2885:A:H2'	1:0:2886:C:H6	1.80	0.46
1:0:2892:G:C6	1:0:2893:C:N3	2.83	0.46
1:0:414:C:O2'	1:0:415:A:H5'	2.15	0.46
1:0:50:G:C6	1:0:51:G:N7	2.83	0.46
1:0:581:G:H4'	1:0:1254:C:O2'	2.16	0.46
1:0:636:G:H5'	1:0:2059:U:OP2	2.15	0.46
1:0:686:A:C5	1:0:687:C:C5	3.04	0.46
1:0:2717:C:H1'	4:B:300:SER:HB3	1.96	0.46
8:F:107:ASP:O	8:F:111:ILE:HG13	2.16	0.46
13:K:76:GLN:HA	13:K:93:ASN:HA	1.97	0.46
1:0:2132:C:H1'	15:M:124:GLY:HA3	1.98	0.46
26:X:7:GLU:CG	26:X:8:ARG:N	2.79	0.46
1:0:1228:C:O2'	1:0:1229:C:H5'	2.16	0.46
1:0:1603:A:C5'	1:0:1605:G:H5'	2.46	0.46
1:0:195:C:H2'	1:0:196:G:H5'	1.97	0.46
1:0:2025:G:O2'	1:0:2026:C:H5'	2.16	0.46
1:0:2072:G:O2'	1:0:2489:G:N2	2.47	0.46
1:0:212:A:H4'	1:0:213:G:OP1	2.15	0.46
1:0:2296:C:H2'	1:0:2297:U:H6	1.81	0.46
1:0:2582:G:O2'	1:0:2583:A:H5'	2.16	0.46
1:0:272:A:C5'	1:0:273:G:OP2	2.64	0.46
1:0:2795:C:O2'	1:0:2796:U:H5'	2.15	0.46
1:0:353:G:H2'	1:0:354:A:H8	1.78	0.46
5:C:24:THR:HG23	5:C:25:PRO:HD2	1.97	0.46
7:E:101:GLU:HB3	7:E:117:THR:HA	1.98	0.46
16:N:38:LYS:HA	16:N:43:VAL:HA	1.97	0.46
20:R:88:PHE:O	20:R:91:LEU:HB3	2.15	0.46
1:0:1116:U:H2'	1:0:1118:A:C2	2.51	0.46
1:0:1510:G:C4	1:0:1511:U:C5	3.04	0.46
1:0:1969:A:C2'	1:0:1970:G:H5'	2.46	0.46
1:0:2248:C:O2'	1:0:2249:G:H5'	2.16	0.46
1:0:2127:U:O2	1:0:2266:A:C2	2.68	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2582:G:C6	1:0:2583:A:N7	2.84	0.46
1:0:635:A:OP1	1:0:1359:U:O2'	2.27	0.46
1:0:892:G:H5''	29:1:54:ALA:HB2	1.97	0.46
1:0:892:G:C6	1:0:893:C:C4	3.03	0.46
2:9:80:A:H2'	2:9:81:C:O4'	2.15	0.46
5:C:93:LYS:O	5:C:98:ARG:NH2	2.47	0.46
9:G:97:ASN:C	9:G:99:PHE:H	2.18	0.46
11:I:115:TYR:O	11:I:115:TYR:HD2	1.98	0.46
12:J:26:VAL:HG13	12:J:36:VAL:HG11	1.98	0.46
13:K:76:GLN:NE2	13:K:78:LYS:HB3	2.31	0.46
15:M:30:GLU:O	15:M:34:GLU:HG3	2.16	0.46
15:M:72:ALA:C	15:M:74:LYS:H	2.19	0.46
22:T:50:VAL:HG12	22:T:56:ALA:HA	1.98	0.46
25:W:73:LEU:HD13	25:W:111:GLY:C	2.36	0.46
26:X:15:ARG:HH11	26:X:15:ARG:CG	2.29	0.46
1:0:1007:A:C5	10:H:19:TYR:CD1	3.03	0.46
1:0:1069:C:N4	1:0:1070:A:C6	2.84	0.46
1:0:1583:U:O2'	1:0:1584:C:H5'	2.15	0.46
1:0:1654:U:O4'	1:0:1655:G:C2	2.69	0.46
1:0:1755:A:O2'	1:0:1756:G:H5'	2.15	0.46
1:0:1758:U:C4	1:0:1759:A:C6	3.04	0.46
1:0:1809:G:O6	1:0:1812:G:C6	2.69	0.46
1:0:2036:C:O3'	13:K:43:ARG:HA	2.16	0.46
1:0:2073:G:C6	1:0:2607:U:C2	3.04	0.46
1:0:2541:U:H2'	1:0:2542:C:C6	2.51	0.46
1:0:2735:U:C2	1:0:2736:U:C5	3.04	0.46
1:0:2824:C:H5''	1:0:2825:C:H5'	1.97	0.46
1:0:2856:A:OP1	26:X:15:ARG:NH2	2.49	0.46
1:0:2894:C:O2'	1:0:2895:C:H5'	2.15	0.46
1:0:305:A:C6	1:0:329:A:N3	2.84	0.46
1:0:359:U:H2'	1:0:360:A:H8	1.81	0.46
1:0:469:G:C6	1:0:473:A:N6	2.84	0.46
1:0:869:G:OP2	1:0:869:G:C8	2.68	0.46
29:1:37:CYS:SG	29:1:39:PHE:CB	3.04	0.46
2:9:74:G:C6	2:9:75:G:N7	2.84	0.46
4:B:211:THR:HA	4:B:255:GLY:O	2.16	0.46
5:C:235:PHE:CE2	5:C:243:VAL:HG21	2.50	0.46
10:H:4:SER:HA	10:H:7:ARG:NE	2.31	0.46
17:O:53:GLN:O	17:O:56:GLU:HB3	2.15	0.46
20:R:9:ASP:O	20:R:13:THR:HB	2.16	0.46
1:0:344:C:OP1	22:T:24:ARG:HD3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:W:20:THR:HA	25:W:23:MET:HE3	1.98	0.46
1:0:1586:G:H2'	1:0:1587:U:H6	1.80	0.46
1:0:1766:U:H2'	1:0:1767:A:OP2	2.16	0.46
1:0:1844:C:H2'	1:0:1845:A:C5'	2.46	0.46
1:0:1876:C:O3'	3:A:164:ARG:NH2	2.48	0.46
1:0:1972:U:C2'	1:0:1973:A:C5'	2.94	0.46
1:0:2613:G:H2'	1:0:2614:C:C6	2.51	0.46
1:0:2715:G:H5'	4:B:13:PHE:CD1	2.51	0.46
8:F:33:THR:OG1	8:F:94:ALA:HB3	2.16	0.46
10:H:150:PHE:O	10:H:154:TYR:HD2	1.99	0.46
12:J:44:ALA:HB3	12:J:132:LEU:HG	1.97	0.46
18:P:11:ALA:HB1	18:P:16:VAL:O	2.15	0.46
16:N:7:LYS:HD3	19:Q:19:ARG:O	2.16	0.46
20:R:99:ALA:CB	20:R:109:MET:HE1	2.44	0.46
22:T:85:GLU:CG	22:T:86:GLU:H	2.28	0.46
25:W:7:LEU:HA	25:W:7:LEU:HD23	1.62	0.46
1:0:1216:G:N9	9:G:7:ARG:NH2	2.48	0.45
1:0:1388:U:C4	1:0:1389:G:C5	3.04	0.45
1:0:1406:A:N6	1:0:1701:A:O5'	2.50	0.45
1:0:1785:G:H2'	1:0:1786:C:C6	2.51	0.45
1:0:1973:A:C2	1:0:2010:A:C4	3.03	0.45
1:0:2044:G:OP1	26:X:23:HIS:HE1	1.99	0.45
1:0:2106:C:O2'	1:0:2107:U:H5'	2.16	0.45
1:0:283:U:C5	1:0:284:C:N3	2.84	0.45
1:0:2839:C:O2'	1:0:2841:A:OP2	2.34	0.45
1:0:2872:U:H2'	1:0:2873:C:H6	1.80	0.45
1:0:2894:C:H2'	1:0:2895:C:H6	1.81	0.45
1:0:649:U:O2'	1:0:650:C:H5'	2.15	0.45
1:0:840:U:C5	1:0:2648:U:C5	3.04	0.45
1:0:860:U:H2'	1:0:861:A:C8	2.51	0.45
2:9:1:U:O3'	2:9:3:A:H5'	2.16	0.45
3:A:179:MET:HG2	3:A:186:TRP:CB	2.46	0.45
5:C:156:LEU:HD12	5:C:156:LEU:O	2.17	0.45
19:Q:50:GLY:HA3	19:Q:87:THR:OG1	2.15	0.45
1:0:1448:A:C6	1:0:1451:C:C2	3.04	0.45
1:0:1617:C:C4	1:0:1643:C:H4'	2.51	0.45
1:0:1676:G:O2'	1:0:1677:U:H5'	2.15	0.45
1:0:1799:G:C4	1:0:1800:G:C8	3.04	0.45
1:0:536:A:C2	1:0:2075:G:N3	2.84	0.45
1:0:2237:G:N2	1:0:2238:A:N3	2.65	0.45
1:0:223:G:N2	1:0:224:U:C2	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2266:A:H2'	1:0:2267:G:C8	2.51	0.45
1:0:2289:G:C2	1:0:2309:C:N4	2.84	0.45
1:0:2502:C:C3'	1:0:2503:A:H5'	2.44	0.45
1:0:2524:G:O2'	1:0:2525:G:H5'	2.17	0.45
1:0:2686:C:H2'	1:0:2687:G:O4'	2.16	0.45
1:0:396:U:H2'	1:0:397:A:C8	2.51	0.45
1:0:492:C:N3	1:0:501:G:C2	2.85	0.45
6:D:23:VAL:HG23	6:D:23:VAL:O	2.15	0.45
10:H:46:GLN:HE21	10:H:137:TYR:HE2	1.63	0.45
1:0:100:C:C4'	22:T:16:LEU:HB2	2.47	0.45
22:T:85:GLU:HG2	22:T:86:GLU:N	2.31	0.45
26:X:61:ARG:O	26:X:65:ASN:HB2	2.16	0.45
27:Y:123:VAL:HG12	27:Y:124:GLY:O	2.16	0.45
1:0:1160:G:H2'	1:0:1160:G:N3	2.32	0.45
1:0:1550:A:C2	1:0:1636:G:C2	3.04	0.45
1:0:1768:C:H2'	1:0:1769:C:O4'	2.15	0.45
1:0:2548:C:H2'	1:0:2549:C:C6	2.52	0.45
1:0:255:A:H2'	1:0:256:C:O4'	2.17	0.45
1:0:284:C:H4'	1:0:285:A:O5'	2.16	0.45
1:0:289:G:N1	1:0:363:A:C2	2.81	0.45
1:0:580:A:C2	1:0:1254:C:O4'	2.69	0.45
1:0:824:G:C6	1:0:854:G:C5	3.04	0.45
1:0:896:C:O5'	1:0:896:C:H6	1.98	0.45
1:0:941:G:C5	1:0:942:U:C4	3.04	0.45
1:0:2717:C:H1'	4:B:300:SER:CB	2.46	0.45
7:E:150:GLN:HB3	7:E:150:GLN:HE21	1.52	0.45
15:M:122:GLN:OE1	15:M:127:LYS:HE2	2.16	0.45
20:R:24:SER:HB3	20:R:27:HIS:ND1	2.31	0.45
28:Z:39:CYS:HA	28:Z:40:PRO:HD3	1.78	0.45
1:0:1008:C:H2'	1:0:1009:U:H6	1.80	0.45
1:0:1509:C:N4	1:0:1510:G:O6	2.49	0.45
1:0:2350:G:H2'	1:0:2351:C:C6	2.51	0.45
1:0:2374:A:H2'	1:0:2375:G:H8	1.80	0.45
1:0:2578:G:C5'	1:0:2578:G:H8	2.22	0.45
1:0:293:A:H2'	1:0:294:C:C6	2.52	0.45
2:9:109:G:C4	2:9:110:G:C8	3.05	0.45
2:9:37:C:H4'	16:N:110:THR:HG23	1.99	0.45
17:O:39:THR:O	17:O:115:ARG:NH2	2.50	0.45
18:P:115:SER:N	18:P:118:GLN:HE21	2.00	0.45
24:V:57:LYS:HA	24:V:60:GLN:HE21	1.80	0.45
26:X:34:ARG:NH1	26:X:45:GLU:O	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1483:C:H2'	1:0:1484:G:O4'	2.16	0.45
1:0:1631:A:C6	1:0:1632:A:C2	3.05	0.45
1:0:1811:A:H2'	1:0:1812:G:H5'	1.98	0.45
1:0:1966:U:H3'	1:0:1966:U:H6	1.82	0.45
1:0:2028:U:C2	1:0:2029:C:C5	3.04	0.45
1:0:216:A:H2'	1:0:217:C:H6	1.81	0.45
1:0:2504:A:C2	1:0:2517:A:C4	3.04	0.45
1:0:421:C:H6	1:0:421:C:O5'	1.98	0.45
2:9:22:G:C8	2:9:55:U:C5	3.04	0.45
2:9:65:A:O2'	2:9:66:G:OP2	2.30	0.45
1:0:30:U:OP2	5:C:181:ALA:HB2	2.16	0.45
8:F:61:MET:SD	15:M:23:LEU:HD11	2.57	0.45
11:I:53:THR:HG22	11:I:54:VAL:N	2.31	0.45
22:T:30:ASP:O	22:T:33:GLU:HB3	2.17	0.45
1:0:1159:G:C4	1:0:1160:G:C8	3.04	0.45
1:0:1392:A:C5	1:0:1395:C:C4	3.04	0.45
1:0:1450:C:O2'	1:0:1494:A:C5'	2.61	0.45
1:0:1527:A:C4	1:0:1528:A:N7	2.85	0.45
1:0:1900:A:C2	1:0:1938:G:N3	2.84	0.45
1:0:2335:C:O2	1:0:2350:G:N2	2.50	0.45
1:0:2409:C:H4'	31:3:17:HIS:HB2	1.99	0.45
1:0:2533:C:O2'	1:0:2534:C:H5'	2.15	0.45
1:0:2838:A:H1'	1:0:2844:C:O2	2.17	0.45
1:0:297:U:H2'	1:0:298:C:C6	2.51	0.45
1:0:346:U:O5'	1:0:346:U:H6	2.00	0.45
1:0:390:G:HO2'	1:0:391:U:H5'	1.81	0.45
29:1:19:CYS:N	29:1:24:GLU:O	2.41	0.45
2:9:67:C:H2'	2:9:68:G:H8	1.82	0.45
3:A:100:PRO:HG2	3:A:103:VAL:HG21	1.98	0.45
4:B:76:THR:N	4:B:77:PRO:HD3	2.31	0.45
4:B:86:ALA:O	4:B:97:LEU:HB2	2.17	0.45
6:D:57:THR:HG23	6:D:63:ILE:HA	1.98	0.45
7:E:126:ILE:HB	7:E:131:LEU:CD2	2.47	0.45
13:K:14:LYS:CB	13:K:45:PRO:HG2	2.46	0.45
17:O:26:TRP:HA	17:O:26:TRP:HE3	1.80	0.45
1:0:1023:C:C2	1:0:1024:G:C8	3.05	0.45
1:0:1294:A:H2'	1:0:1295:G:O4'	2.17	0.45
1:0:1438:G:HO2'	1:0:1684:A:H2	1.64	0.45
1:0:1561:U:O2	1:0:1561:U:C2'	2.64	0.45
1:0:1522:A:C2	1:0:1665:G:C6	3.04	0.45
1:0:1861:C:O2'	1:0:1862:C:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1890:U:H4'	1:0:2010:A:C6	2.52	0.45
1:0:2011:A:C4	1:0:2013:G:N7	2.85	0.45
1:0:1823:G:C2	1:0:2027:U:C2	3.05	0.45
1:0:2419:U:H5''	1:0:2420:G:C5'	2.34	0.45
1:0:2681:A:N6	1:0:2714:U:H4'	2.32	0.45
1:0:2834:G:N1	1:0:2835:C:C2	2.85	0.45
1:0:368:C:C2'	1:0:369:G:H5'	2.46	0.45
1:0:542:A:H5'	1:0:542:A:C8	2.39	0.45
1:0:796:A:C2	1:0:818:A:H1'	2.52	0.45
2:9:38:A:C2	2:9:39:U:C4	3.05	0.45
5:C:21:VAL:HG23	5:C:22:PHE:HD1	1.82	0.45
8:F:84:GLY:HA3	8:F:92:GLY:CA	2.45	0.45
10:H:137:TYR:N	10:H:137:TYR:CD1	2.85	0.45
11:I:18:PRO:HD2	11:I:19:PRO:HD3	1.97	0.45
12:J:24:SER:CA	12:J:86:MET:SD	3.05	0.45
13:K:20:CYS:SG	13:K:26:ALA:HB3	2.57	0.45
1:0:645:U:OP2	14:L:4:LYS:HE2	2.17	0.45
22:T:55:PHE:CE1	22:T:89:ARG:HG2	2.52	0.45
24:V:11:MET:HB3	24:V:15:GLU:HB2	1.98	0.45
1:0:1512:G:C6	1:0:1513:C:C4	3.05	0.45
1:0:1665:G:N3	1:0:1666:C:C6	2.85	0.45
1:0:1730:G:H2'	1:0:1730:G:N3	2.32	0.45
1:0:1880:C:C2	1:0:1881:A:C8	3.05	0.45
1:0:223:G:H2'	1:0:223:G:N3	2.31	0.45
1:0:2887:G:C5	1:0:2888:U:C4	3.05	0.45
1:0:421:C:H4'	1:0:1919:A:C6	2.52	0.45
1:0:60:A:N6	30:2:25:VAL:HG21	2.32	0.45
31:3:43:ASN:HB2	31:3:52:PHE:CE1	2.51	0.45
6:D:104:PHE:N	6:D:104:PHE:CD2	2.84	0.45
10:H:143:ALA:HA	10:H:146:VAL:HG12	1.98	0.45
15:M:102:GLU:OE2	15:M:164:THR:HG21	2.16	0.45
2:9:50:G:P	16:N:147:ILE:HD11	2.57	0.45
1:0:2616:G:C6	1:0:2645:U:N3	2.84	0.45
1:0:2712:G:O2'	1:0:2713:G:H5'	2.17	0.45
1:0:2731:G:C5	1:0:2732:U:C5	3.04	0.45
1:0:295:C:H2'	1:0:296:G:O4'	2.17	0.45
1:0:561:G:N3	1:0:562:A:C8	2.84	0.45
1:0:883:U:C2'	1:0:883:U:O2	2.64	0.45
2:9:92:G:H2'	2:9:93:A:H8	1.79	0.45
3:A:51:ARG:CZ	3:A:53:ALA:HB3	2.47	0.45
5:C:7:ASP:C	5:C:9:ASP:H	2.20	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:20:VAL:O	9:G:24:VAL:HG23	2.17	0.45
13:K:32:ILE:HD11	13:K:56:SER:HB2	1.98	0.45
14:L:97:VAL:HG12	14:L:98:GLU:O	2.16	0.45
16:N:112:GLY:HA2	16:N:137:ALA:HB2	1.98	0.45
1:0:100:C:H6	1:0:100:C:O5'	1.99	0.45
1:0:2000:G:C2	1:0:2001:G:C4	3.05	0.45
1:0:20:G:H4'	20:R:3:SER:O	2.17	0.45
1:0:2102:G:N2	1:0:2104:C:C2	2.85	0.45
1:0:2379:G:H4'	1:0:2380:A:C5'	2.47	0.45
1:0:2381:C:H2'	1:0:2382:A:C8	2.52	0.45
1:0:2642:G:C6	1:0:2643:G:C6	3.05	0.45
1:0:2869:G:C5	1:0:2870:C:C4	3.05	0.45
1:0:512:G:O3'	1:0:513:A:H8	2.00	0.45
1:0:536:A:H2	1:0:2075:G:N3	2.15	0.45
1:0:967:U:O2	1:0:1002:G:H1'	2.16	0.45
2:9:65:A:O2'	2:9:66:G:P	2.75	0.45
4:B:162:MET:HG3	4:B:310:ARG:NE	2.31	0.45
4:B:27:ASN:ND2	4:B:27:ASN:N	2.51	0.45
1:0:1343:C:C5	5:C:176:ALA:HB2	2.52	0.45
9:G:127:PRO:C	9:G:129:GLY:N	2.70	0.45
11:I:117:LEU:O	11:I:120:ALA:HB3	2.17	0.45
11:I:120:ALA:O	11:I:124:VAL:HG23	2.17	0.45
16:N:50:LEU:HA	16:N:50:LEU:HD12	1.64	0.45
17:O:14:LEU:HG	17:O:102:ILE:HD11	1.98	0.45
17:O:44:ASN:OD1	17:O:67:SER:HB2	2.17	0.45
18:P:22:TRP:CH2	18:P:24:ASN:HA	2.52	0.45
25:W:14:HIS:HB2	25:W:17:ILE:HG13	1.99	0.45
26:X:24:LYS:HB3	26:X:24:LYS:HE2	1.61	0.45
1:0:1075:G:C2'	1:0:1076:G:H5'	2.47	0.44
1:0:1085:C:C2'	1:0:1086:A:H5'	2.47	0.44
1:0:1100:G:O2'	1:0:1107:A:N1	2.39	0.44
1:0:1598:A:H2'	1:0:1599:U:O4'	2.16	0.44
1:0:1635:U:H2'	1:0:1636:G:H8	1.81	0.44
1:0:1667:A:C2	1:0:1668:U:N3	2.85	0.44
1:0:305:A:N1	1:0:329:A:O2'	2.43	0.44
1:0:340:A:O5'	1:0:340:A:C8	2.70	0.44
1:0:595:U:H3'	1:0:595:U:C6	2.52	0.44
1:0:61:G:C2	1:0:62:C:C2	3.04	0.44
1:0:961:A:C5	1:0:1010:C:C5	3.05	0.44
3:A:135:VAL:CG2	3:A:136:ALA:N	2.80	0.44
3:A:94:LEU:N	3:A:94:LEU:HD23	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1126:C:O5'	1:0:1126:C:H6	2.00	0.44
1:0:1194:A:C2'	1:0:1195:G:O5'	2.66	0.44
1:0:1400:C:C6	1:0:1400:C:C3'	3.00	0.44
1:0:1523:G:N1	1:0:1524:U:O4	2.51	0.44
1:0:1845:A:OP1	3:A:189:VAL:HA	2.16	0.44
1:0:1897:U:O2'	1:0:1898:G:H5'	2.17	0.44
1:0:2066:C:C2'	1:0:2067:A:O5'	2.66	0.44
1:0:2321:A:C2	1:0:2323:G:C5	3.05	0.44
1:0:927:U:O2'	1:0:2395:A:N3	2.42	0.44
1:0:2500:C:C2	1:0:2521:A:C2	3.06	0.44
1:0:249:G:HO2'	1:0:266:G:H5'	1.83	0.44
1:0:2855:G:O2'	1:0:2856:A:H5'	2.17	0.44
1:0:372:A:H2'	1:0:373:G:H8	1.82	0.44
30:2:22:PRO:HG2	30:2:25:VAL:HG23	1.98	0.44
11:I:76:LYS:HD2	11:I:82:GLU:O	2.16	0.44
18:P:22:TRP:CZ2	18:P:24:ASN:HA	2.51	0.44
19:Q:75:ILE:HG12	19:Q:84:ILE:CD1	2.47	0.44
23:U:9:CYS:HA	23:U:52:THR:HG23	1.98	0.44
1:0:1398:G:O2'	1:0:1399:A:H5'	2.18	0.44
1:0:1787:C:OP1	18:P:68:LYS:HE3	2.17	0.44
1:0:1947:G:N2	1:0:1966:U:O2	2.50	0.44
1:0:2050:G:H5''	20:R:80:TYR:O	2.16	0.44
1:0:2289:G:N2	1:0:2309:C:N4	2.65	0.44
1:0:416:G:C6	1:0:2444:U:O4	2.69	0.44
1:0:249:G:H1'	1:0:265:U:O2	2.17	0.44
1:0:2563:U:O2'	1:0:2564:G:H3'	2.17	0.44
1:0:2594:C:C2'	1:0:2595:U:H5'	2.46	0.44
1:0:2881:C:O5'	1:0:2881:C:H6	2.01	0.44
1:0:2909:G:H2'	1:0:2910:A:C8	2.53	0.44
1:0:2909:G:H2'	1:0:2910:A:H8	1.81	0.44
2:9:61:C:H2'	2:9:62:A:C8	2.52	0.44
3:A:109:GLU:HB2	3:A:152:CYS:HB3	1.99	0.44
6:D:141:VAL:HG13	6:D:144:ARG:NH2	2.26	0.44
9:G:69:ARG:HA	9:G:72:ASP:OD2	2.17	0.44
10:H:23:ILE:HA	10:H:120:ILE:CG2	2.45	0.44
22:T:9:LYS:HE3	22:T:13:ARG:NH1	2.32	0.44
1:0:1075:G:H2'	1:0:1076:G:H5'	1.99	0.44
1:0:1157:C:H2'	1:0:1158:G:H8	1.81	0.44
1:0:1149:U:C5	1:0:1215:A:C5	3.05	0.44
1:0:1327:G:C6	1:0:1331:A:C6	3.06	0.44
1:0:139:C:C4'	1:0:140:G:C2	3.01	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1429:U:H2'	1:0:1430:G:H5'	2.00	0.44
1:0:2091:G:C2'	1:0:2092:G:O5'	2.66	0.44
1:0:2319:C:H2'	1:0:2320:U:H5'	1.98	0.44
1:0:2667:G:C2	1:0:2668:G:C8	3.05	0.44
1:0:2698:G:H2'	1:0:2699:A:O4'	2.18	0.44
1:0:2758:G:H2'	1:0:2759:C:H6	1.82	0.44
1:0:2887:G:H2'	1:0:2888:U:C6	2.52	0.44
1:0:384:G:O2'	1:0:385:C:H5'	2.17	0.44
1:0:550:C:O2'	1:0:551:A:H5'	2.17	0.44
1:0:659:A:N3	1:0:746:A:C2	2.85	0.44
1:0:812:A:C6	1:0:813:C:C4	3.05	0.44
1:0:911:G:H5'	1:0:932:U:OP1	2.17	0.44
31:3:24:LYS:HD3	35:3:95:CL:CL	2.53	0.44
1:0:1216:G:C1'	9:G:7:ARG:HH22	2.29	0.44
1:0:2453:G:O3'	14:L:50:GLY:HA2	2.17	0.44
18:P:94:TRP:CH2	18:P:98:ILE:HG13	2.53	0.44
1:0:1227:C:O2'	1:0:1228:C:H5'	2.18	0.44
1:0:1293:U:H2'	1:0:1293:U:O2	2.18	0.44
1:0:1449:G:H5''	1:0:1450:C:OP2	2.18	0.44
1:0:1636:G:C2'	1:0:1637:A:H5'	2.47	0.44
1:0:1904:A:N1	1:0:1905:U:C2	2.86	0.44
1:0:2061:C:H2'	1:0:2062:A:C5'	2.48	0.44
1:0:2247:C:O2	1:0:2255:A:C2	2.71	0.44
1:0:2326:U:H4'	1:0:2412:G:H4'	2.00	0.44
1:0:2700:G:H2'	1:0:2701:G:O5'	2.18	0.44
1:0:2716:G:H21	4:B:300:SER:CB	2.30	0.44
1:0:2836:G:C4	1:0:2845:G:C2	3.06	0.44
1:0:387:G:H2'	1:0:388:G:H5'	1.99	0.44
1:0:466:A:H2'	1:0:467:G:O4'	2.18	0.44
1:0:702:G:C2'	1:0:703:G:H5'	2.46	0.44
12:J:36:VAL:HG12	12:J:37:ALA:N	2.32	0.44
17:O:5:PRO:O	17:O:9:SER:HB2	2.17	0.44
25:W:113:SER:HA	25:W:114:PRO:HD3	1.82	0.44
1:0:1024:G:C5	1:0:1025:C:C4	3.05	0.44
1:0:1175:G:O2'	1:0:1193:A:H5''	2.18	0.44
1:0:1194:A:H2'	1:0:1195:G:O5'	2.17	0.44
1:0:1205:U:H2'	1:0:1205:U:O2	2.16	0.44
1:0:2587:OMU:H2'	1:0:2589:U:C5'	2.45	0.44
1:0:2590:U:H2'	1:0:2591:C:H5'	1.98	0.44
1:0:458:G:C2	1:0:464:G:C4	3.05	0.44
1:0:473:A:C2	1:0:474:C:C6	3.06	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:506:G:H22	1:0:509:A:H5''	1.82	0.44
1:0:509:A:O4'	1:0:511:A:C8	2.71	0.44
1:0:740:G:C6	1:0:741:C:N3	2.86	0.44
1:0:1418:U:P	30:2:40:ARG:HH22	2.41	0.44
5:C:69:HIS:CD2	5:C:69:HIS:N	2.82	0.44
12:J:131:THR:HB	12:J:134:GLU:HG3	2.00	0.44
25:W:21:LEU:HD21	25:W:48:VAL:CG1	2.48	0.44
1:0:637:C:H5''	27:Y:136:LYS:NZ	2.32	0.44
1:0:1090:A:C2	1:0:1091:U:C2	3.06	0.44
1:0:1328:A:N6	1:0:1329:A:C2	2.85	0.44
1:0:1448:A:C2	1:0:1451:C:C5	3.06	0.44
1:0:1644:C:C2	1:0:1645:U:C6	3.06	0.44
1:0:1657:A:H2'	1:0:1658:A:C8	2.53	0.44
1:0:1865:A:H2'	1:0:1866:A:C8	2.53	0.44
1:0:224:U:C2'	1:0:225:G:H5'	2.48	0.44
1:0:2350:G:O2'	1:0:2351:C:H5'	2.17	0.44
1:0:294:C:H6	1:0:294:C:O5'	2.00	0.44
1:0:635:A:C2'	1:0:636:G:H5''	2.46	0.44
2:9:59:C:H2'	2:9:60:C:C6	2.52	0.44
1:0:877:G:C6	3:A:197:VAL:HG11	2.53	0.44
3:A:68:ILE:HG12	3:A:69:LEU:H	1.83	0.44
4:B:50:HIS:HD2	4:B:68:THR:CG2	2.30	0.44
12:J:107:ASN:HD22	12:J:107:ASN:C	2.21	0.44
12:J:135:ILE:O	12:J:138:THR:HB	2.18	0.44
18:P:14:LEU:HD11	18:P:49:ILE:HG22	2.00	0.44
19:Q:38:LYS:HA	19:Q:61:GLY:O	2.17	0.44
26:X:25:ARG:HD3	26:X:64:ALA:O	2.18	0.44
1:0:1309:U:HO2'	1:0:1310:U:H5'	1.77	0.44
1:0:1601:G:C4	1:0:1602:C:C5	3.06	0.44
1:0:1776:A:O4'	1:0:1778:A:H4'	2.17	0.44
1:0:1904:A:N3	1:0:1905:U:C1'	2.81	0.44
1:0:1904:A:H2	1:0:1905:U:H1'	1.72	0.44
1:0:1936:C:O2'	1:0:1937:U:H5'	2.18	0.44
1:0:1989:G:C6	1:0:2000:G:C6	3.06	0.44
1:0:2045:G:H2'	1:0:2046:G:O4'	2.17	0.44
1:0:2521:A:P	10:H:3:ALA:HB3	2.58	0.44
1:0:311:C:O5'	1:0:311:C:H6	2.01	0.44
1:0:369:G:C4	1:0:370:G:C8	3.06	0.44
1:0:553:G:H2'	1:0:554:G:H5'	1.99	0.44
1:0:669:G:H2'	1:0:670:G:O4'	2.18	0.44
1:0:823:U:H2'	1:0:824:G:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:135:VAL:CG2	3:A:136:ALA:H	2.30	0.44
4:B:7:ARG:HB2	4:B:7:ARG:CZ	2.48	0.44
12:J:116:LEU:HB2	12:J:119:THR:CG2	2.47	0.44
25:W:120:PRO:HA	25:W:121:PRO:HD2	1.82	0.44
1:O:1094:G:H21	25:W:119:HIS:CE1	2.34	0.44
1:O:1157:C:C6	1:O:1157:C:C3'	3.01	0.44
1:O:1283:G:O2'	1:O:1284:G:H5'	2.17	0.44
1:O:161:A:C2	1:O:162:C:C4	3.06	0.44
1:O:1788:U:O2'	1:O:1789:G:H5'	2.18	0.44
1:O:1796:A:O2'	1:O:1797:A:H5'	2.17	0.44
1:O:1785:G:H1'	1:O:1812:G:N3	2.33	0.44
1:O:2135:A:O4'	1:O:2243:C:N4	2.51	0.44
1:O:2325:C:C5'	1:O:2417:C:O2	2.66	0.44
1:O:2518:C:H2'	1:O:2519:C:O4'	2.18	0.44
1:O:2611:G:H5'	1:O:2613:G:N7	2.33	0.44
1:O:2680:A:N3	1:O:2682:C:O2'	2.41	0.44
1:O:281:U:O2	1:O:369:G:C2	2.71	0.44
1:O:1486:A:C4	30:2:2:LYS:HG3	2.53	0.44
2:9:56:A:C3'	2:9:57:A:H5''	2.46	0.44
9:G:99:PHE:O	9:G:101:LEU:N	2.51	0.44
16:N:122:ALA:O	16:N:125:ALA:HB3	2.18	0.44
25:W:128:VAL:HA	25:W:138:LEU:HD21	2.00	0.44
1:O:1206:U:H2'	1:O:1207:A:C5'	2.40	0.43
1:O:1395:C:H2'	1:O:1396:C:C6	2.53	0.43
1:O:1429:U:C2'	1:O:1430:G:H5'	2.48	0.43
1:O:1552:G:C6	1:O:1553:C:C4	3.06	0.43
1:O:1585:C:C2	1:O:1611:G:C2	3.06	0.43
1:O:1754:A:O5'	1:O:1754:A:H8	2.01	0.43
1:O:2410:G:C2	1:O:2418:G:C2	3.06	0.43
1:O:2580:G:N3	1:O:2600:A:H2	2.15	0.43
1:O:151:A:C2	1:O:442:A:C8	3.07	0.43
1:O:482:G:C2	1:O:485:A:C8	3.06	0.43
1:O:695:C:C2	1:O:696:C:C6	3.06	0.43
1:O:791:A:H4'	1:O:1709:G:H4'	2.00	0.43
2:9:108:C:C3'	2:9:108:C:C6	3.01	0.43
2:9:67:C:O2'	2:9:68:G:H5'	2.18	0.43
4:B:151:VAL:HG12	4:B:154:VAL:H	1.83	0.43
5:C:37:ALA:O	5:C:41:ASN:ND2	2.51	0.43
7:E:53:GLU:O	7:E:58:THR:HG21	2.17	0.43
10:H:31:HIS:HD2	10:H:87:LEU:O	2.01	0.43
22:T:71:VAL:HG13	22:T:91:LEU:N	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:W:21:LEU:HD21	25:W:48:VAL:HG11	2.00	0.43
1:0:1313:A:H5''	27:Y:210:GLY:H	1.83	0.43
28:Z:46:ARG:NH1	28:Z:59:TYR:HD1	2.16	0.43
1:0:1118:A:H8	1:0:1119:G:H5''	1.83	0.43
1:0:1410:G:N2	1:0:1699:C:O2	2.50	0.43
1:0:1450:C:C2'	1:0:1494:A:H5'	2.48	0.43
1:0:1977:U:H3'	1:0:1978:A:H5'	2.00	0.43
1:0:2079:G:C6	1:0:2080:G:C5	3.06	0.43
1:0:2379:G:H4'	1:0:2380:A:H5''	2.01	0.43
1:0:2873:C:N4	1:0:2874:G:C6	2.86	0.43
1:0:412:C:C2'	1:0:413:G:H5'	2.48	0.43
1:0:432:G:O2'	1:0:433:C:H5'	2.18	0.43
1:0:516:A:H2'	1:0:517:U:O4'	2.18	0.43
1:0:843:A:H2'	1:0:844:A:H5''	2.00	0.43
1:0:849:C:O2'	1:0:850:U:H5'	2.18	0.43
1:0:962:C:C2'	1:0:963:C:H5'	2.46	0.43
2:9:44:A:H2'	2:9:45:A:O4'	2.18	0.43
8:F:13:GLU:OE2	8:F:78:GLU:HG2	2.18	0.43
9:G:32:SER:O	9:G:124:ILE:HG13	2.18	0.43
9:G:33:VAL:HG11	9:G:94:THR:OG1	2.18	0.43
16:N:71:TRP:CE3	16:N:175:LEU:HD22	2.53	0.43
1:0:489:A:C8	22:T:82:THR:HG22	2.53	0.43
25:W:151:GLU:O	25:W:154:ARG:HB3	2.19	0.43
1:0:1925:G:C2	1:0:1926:G:C8	3.06	0.43
1:0:1969:A:N7	1:0:1970:G:C6	2.86	0.43
1:0:2408:A:H1'	31:3:10:TYR:CE1	2.53	0.43
1:0:2578:G:C5'	1:0:2578:G:C8	2.97	0.43
1:0:287:C:H6	1:0:287:C:O5'	2.02	0.43
1:0:825:U:H5''	1:0:826:U:OP1	2.18	0.43
2:9:110:G:C5	2:9:111:U:C5	3.06	0.43
2:9:115:C:H2'	2:9:116:C:H6	1.84	0.43
2:9:23:U:OP2	2:9:23:U:H4'	2.18	0.43
2:9:76:G:O5'	2:9:76:G:H8	2.01	0.43
4:B:16:ARG:HB3	4:B:217:ARG:NH2	2.34	0.43
19:Q:53:HIS:C	19:Q:55:ARG:H	2.21	0.43
26:X:36:HIS:CE1	26:X:40:HIS:CD2	3.06	0.43
1:0:1513:C:O2'	1:0:1514:C:H5'	2.18	0.43
1:0:1894:C:C2	1:0:1939:U:C4	3.06	0.43
1:0:1850:U:C1'	1:0:1941:A:C2	3.01	0.43
1:0:2362:A:C6	1:0:2363:G:C6	3.06	0.43
1:0:237:G:C5	1:0:238:C:C6	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2616:G:C5	1:0:2645:U:O4	2.71	0.43
1:0:1787:C:H4'	1:0:2883:A:O4'	2.19	0.43
1:0:326:G:C6	1:0:327:A:C5	3.06	0.43
1:0:432:G:C2	1:0:433:C:C6	3.06	0.43
1:0:503:G:H2'	1:0:504:G:H8	1.84	0.43
1:0:64:G:C4	1:0:65:C:C6	3.06	0.43
1:0:943:A:H3'	1:0:943:A:C8	2.53	0.43
2:9:93:A:C5	2:9:94:G:H1'	2.53	0.43
3:A:109:GLU:HG2	3:A:116:GLY:H	1.84	0.43
8:F:14:ASP:O	8:F:18:GLU:HG3	2.17	0.43
11:I:6:GLU:HB3	11:I:53:THR:HG23	2.00	0.43
1:0:145:A:O2'	15:M:111:ASN:HB2	2.18	0.43
15:M:138:HIS:O	15:M:142:GLN:HG3	2.18	0.43
16:N:33:ARG:O	16:N:47:LEU:HA	2.18	0.43
1:0:1285:U:H4'	25:W:74:GLU:HB3	2.00	0.43
1:0:11:A:C5'	1:0:12:U:OP2	2.66	0.43
1:0:1206:U:C6	1:0:1206:U:C4'	3.01	0.43
1:0:1634:G:C6	1:0:1635:U:C4	3.07	0.43
1:0:2020:C:H6	1:0:2020:C:O5'	2.01	0.43
1:0:2099:G:N2	1:0:2646:G:C4	2.87	0.43
1:0:2277:U:O2'	1:0:2278:U:H5'	2.19	0.43
1:0:2541:U:H2'	1:0:2542:C:H6	1.82	0.43
1:0:258:G:N1	1:0:259:G:C5	2.87	0.43
1:0:2838:A:O2'	1:0:2839:C:H5'	2.18	0.43
1:0:301:G:O2'	1:0:302:A:H5'	2.18	0.43
1:0:695:C:H2'	1:0:696:C:C6	2.51	0.43
1:0:2320:U:H2'	31:3:2:GLN:O	2.17	0.43
2:9:9:C:C5	2:9:10:C:C5	3.07	0.43
4:B:305:ASP:O	4:B:306:LYS:HB2	2.19	0.43
4:B:58:PRO:HD3	4:B:322:ARG:HD2	2.00	0.43
1:0:1310:U:P	5:C:168:ARG:HH11	2.42	0.43
15:M:66:SER:HB3	15:M:128:TRP:CD1	2.54	0.43
26:X:31:ILE:O	26:X:35:GLU:HG3	2.19	0.43
1:0:1051:C:H2'	1:0:1052:G:O4'	2.18	0.43
1:0:10:U:C4	1:0:532:A:C8	3.06	0.43
1:0:1149:U:H5	1:0:1215:A:C5	2.36	0.43
1:0:1269:G:O2'	1:0:1270:U:H5'	2.18	0.43
1:0:115:U:C1'	1:0:131:A:C8	3.01	0.43
1:0:1630:A:N6	1:0:1631:A:C6	2.86	0.43
1:0:1859:A:O5'	1:0:1859:A:H8	2.01	0.43
1:0:1945:G:C4	1:0:1946:C:C5	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1945:G:H2'	1:0:1946:C:H6	1.83	0.43
1:0:201:G:N3	1:0:201:G:H2'	2.34	0.43
1:0:2093:G:N3	4:B:246:ARG:HA	2.33	0.43
1:0:2269:C:H2'	1:0:2270:G:O4'	2.18	0.43
1:0:282:C:C2'	1:0:283:U:H5'	2.48	0.43
1:0:2892:G:H2'	1:0:2893:C:O4'	2.18	0.43
1:0:440:C:C4	1:0:441:A:N6	2.87	0.43
1:0:667:C:H6	1:0:667:C:H3'	1.83	0.43
1:0:88:G:N7	30:2:28:LYS:HD2	2.34	0.43
2:9:36:C:C6	2:9:37:C:C5	3.06	0.43
2:9:7:G:H4'	16:N:55:ASP:OD2	2.19	0.43
1:0:700:A:N6	14:L:113:GLN:O	2.50	0.43
14:L:53:ARG:NH2	14:L:57:VAL:HG12	2.33	0.43
21:S:53:ASN:HB2	21:S:65:VAL:HB	2.00	0.43
1:0:1088:A:O5'	1:0:1088:A:H2'	2.18	0.43
1:0:1448:A:C6	1:0:1506:U:C5	3.07	0.43
1:0:1611:G:O2'	1:0:1612:A:H5'	2.18	0.43
1:0:1985:U:C5	1:0:1996:U:C2	3.06	0.43
1:0:19:U:H2'	1:0:20:G:O5'	2.18	0.43
1:0:2118:A:C2	1:0:2277:U:C2	3.07	0.43
1:0:419:A:C4	1:0:2449:G:N2	2.86	0.43
1:0:2092:G:H2'	1:0:2613:G:OP1	2.18	0.43
1:0:2633:A:H2'	1:0:2634:G:H5'	2.01	0.43
1:0:2729:C:H2'	1:0:2730:G:C8	2.51	0.43
1:0:2782:G:O6	1:0:2790:C:H5''	2.19	0.43
1:0:2873:C:N3	1:0:2874:G:N7	2.66	0.43
1:0:2886:C:O2'	1:0:2887:G:H5'	2.18	0.43
31:3:24:LYS:HG2	35:3:95:CL:CL	2.56	0.43
1:0:2094:G:C4'	4:B:245:SER:HB3	2.49	0.43
5:C:228:ALA:HA	5:C:229:PRO:HD3	1.81	0.43
7:E:15:GLN:HG2	7:E:16:ASP:N	2.33	0.43
7:E:5:LEU:HD21	7:E:66:GLN:HG3	1.99	0.43
1:0:2601:A:N1	13:K:38:SER:HB2	2.34	0.43
1:0:1761:U:H5'	18:P:81:LYS:O	2.19	0.43
19:Q:40:HIS:HD2	19:Q:60:THR:CG2	2.30	0.43
20:R:22:GLN:HA	20:R:139:PRO:O	2.19	0.43
1:0:1150:A:H2	9:G:20:VAL:CG2	2.30	0.43
1:0:1168:C:OP1	11:I:84:GLY:HA3	2.18	0.43
1:0:1324:G:C2	1:0:1334:C:O2	2.71	0.43
1:0:1764:C:H2'	1:0:1765:G:H5'	2.01	0.43
1:0:1976:G:O2'	1:0:1977:U:C5'	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2597:U:H2'	1:0:2598:U:H5'	2.01	0.43
1:0:2715:G:OP1	4:B:16:ARG:NH2	2.51	0.43
1:0:2759:C:H2'	1:0:2760:C:O5'	2.19	0.43
1:0:282:C:O2'	1:0:283:U:C4'	2.67	0.43
1:0:561:G:C2	1:0:562:A:C8	3.06	0.43
1:0:716:G:C2	1:0:717:C:C2	3.07	0.43
1:0:962:C:C4	1:0:963:C:N3	2.86	0.43
2:9:57:A:N3	2:9:57:A:H5'	2.33	0.43
4:B:85:ARG:HD3	4:B:87:TYR:CZ	2.54	0.43
6:D:55:LYS:O	6:D:56:ARG:HB2	2.19	0.43
7:E:5:LEU:HD12	7:E:69:ILE:HG21	2.01	0.43
9:G:9:THR:CG2	9:G:11:THR:O	2.56	0.43
11:I:8:LEU:O	11:I:8:LEU:HD12	2.18	0.43
1:0:392:U:C5'	15:M:193:LYS:HB3	2.49	0.43
16:N:13:ARG:NH1	16:N:13:ARG:O	2.52	0.43
1:0:746:A:N6	17:O:65:LEU:HD13	2.33	0.43
27:Y:154:ARG:O	27:Y:154:ARG:HG2	2.19	0.43
28:Z:33:MET:HE2	28:Z:69:TYR:HD2	1.83	0.43
1:0:1095:U:H2'	1:0:1096:U:O4'	2.19	0.43
1:0:1197:G:C8	1:0:1197:G:H5'	2.44	0.43
1:0:152:A:O2'	1:0:153:C:H5'	2.18	0.43
1:0:1947:G:H8	1:0:1947:G:H5''	1.84	0.43
1:0:206:G:H5'	1:0:207:U:OP2	2.19	0.43
1:0:2497:A:H2'	1:0:2498:C:O4'	2.18	0.43
1:0:2612:A:H5''	1:0:2613:G:O5'	2.19	0.43
1:0:2634:G:H2'	1:0:2635:A:H8	1.84	0.43
1:0:2667:G:N3	1:0:2827:A:H2	2.17	0.43
1:0:2673:U:H4'	4:B:94:GLN:O	2.19	0.43
1:0:595:U:C3'	1:0:595:U:C6	3.02	0.43
1:0:646:G:H5''	5:C:96:LYS:HD2	1.99	0.43
1:0:824:G:C8	1:0:854:G:C6	3.06	0.43
2:9:74:G:C5	2:9:75:G:N7	2.87	0.43
3:A:125:ASN:CB	3:A:158:VAL:HG12	2.47	0.43
10:H:28:ILE:HA	10:H:63:GLU:OE1	2.18	0.43
22:T:27:LEU:HB2	22:T:32:ARG:HG2	2.01	0.43
22:T:44:ALA:O	22:T:62:VAL:O	2.36	0.43
27:Y:125:LYS:HB2	27:Y:126:PRO:HD2	2.01	0.43
1:0:125:U:N3	1:0:128:A:C2	2.87	0.43
1:0:1589:G:C2	1:0:1605:G:N3	2.87	0.43
1:0:1676:G:C6	1:0:1677:U:N3	2.87	0.43
1:0:1764:C:C2'	1:0:1765:G:H5'	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1774:G:C2'	1:0:1775:A:H5'	2.49	0.43
1:0:2000:G:O2'	1:0:2001:G:H5'	2.18	0.43
1:0:2070:G:H2'	1:0:2072:G:OP1	2.18	0.43
1:0:2112:A:C2	1:0:2113:G:C5	3.07	0.43
1:0:213:G:O2'	1:0:214:U:OP2	2.36	0.43
1:0:2291:A:N9	1:0:2309:C:H5'	2.33	0.43
1:0:2544:G:C6	1:0:2545:U:C4	3.07	0.43
1:0:2676:C:N4	1:0:2810:G:N2	2.66	0.43
1:0:333:G:O2'	1:0:334:G:H5'	2.19	0.43
1:0:293:A:P	1:0:358:G:H22	2.40	0.43
1:0:514:G:O5'	1:0:514:G:H8	2.01	0.43
1:0:699:C:C2	1:0:743:G:N2	2.87	0.43
1:0:961:A:H2	1:0:962:C:C4	2.36	0.43
4:B:190:MET:CE	4:B:194:PHE:CD1	2.98	0.43
4:B:75:GLU:C	4:B:77:PRO:HD3	2.39	0.43
7:E:47:VAL:HG11	7:E:69:ILE:HD13	1.99	0.43
13:K:72:VAL:HG11	13:K:121:PHE:CD1	2.54	0.43
15:M:153:ASP:C	15:M:155:GLN:H	2.21	0.43
18:P:3:LEU:N	18:P:3:LEU:HD23	2.33	0.43
25:W:32:CYS:SG	25:W:33:THR:N	2.92	0.43
26:X:51:ASP:HB2	26:X:85:VAL:O	2.19	0.43
1:0:940:G:C5	1:0:1027:G:C2	3.07	0.42
1:0:1139:U:C2	1:0:1140:C:C5	3.07	0.42
1:0:1332:C:C2'	1:0:1333:U:H5'	2.48	0.42
1:0:1307:A:C2	1:0:1348:A:C2	3.07	0.42
1:0:1370:G:O5'	20:R:62:HIS:HB3	2.17	0.42
1:0:1556:G:C6	1:0:1557:G:N7	2.87	0.42
1:0:1565:C:O4'	1:0:2738:G:H1'	2.19	0.42
1:0:1886:A:H2'	1:0:1887:U:H5'	2.01	0.42
1:0:189:A:OP1	15:M:171:ARG:NH2	2.52	0.42
1:0:1935:C:H2'	1:0:1936:C:C6	2.53	0.42
1:0:2020:C:O2'	1:0:2021:C:H5'	2.19	0.42
1:0:2029:C:O2'	1:0:2030:A:H5'	2.19	0.42
1:0:2473:U:O3'	1:0:2474:A:H3'	2.19	0.42
1:0:331:A:C6	1:0:332:G:C4	3.06	0.42
1:0:402:U:H2'	1:0:403:C:C6	2.54	0.42
1:0:416:G:N2	1:0:425:U:C2	2.87	0.42
1:0:50:G:C6	1:0:51:G:C5	3.07	0.42
1:0:718:C:C2'	1:0:718:C:O2	2.66	0.42
1:0:730:G:H2'	1:0:731:U:C6	2.53	0.42
1:0:890:C:O2'	1:0:891:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:968:G:C2	1:0:1001:U:O2	2.72	0.42
2:9:24:U:H6	2:9:24:U:H3'	1.83	0.42
3:A:54:PRO:CG	3:A:160:ALA:HB3	2.49	0.42
1:0:2715:G:C5'	4:B:13:PHE:CE1	3.00	0.42
4:B:90:THR:C	4:B:92:TYR:H	2.23	0.42
5:C:22:PHE:HA	5:C:116:ALA:HA	2.01	0.42
6:D:136:ARG:NH1	6:D:156:ARG:O	2.52	0.42
7:E:7:ILE:HA	7:E:8:PRO:HD3	1.89	0.42
12:J:75:PRO:CG	12:J:105:LEU:HD21	2.40	0.42
1:0:903:U:O4	14:L:18:HIS:HB2	2.19	0.42
14:L:34:GLY:HA3	14:L:38:HIS:CE1	2.54	0.42
16:N:72:GLU:HB3	16:N:163:PHE:CE1	2.54	0.42
25:W:88:THR:HG22	25:W:89:ASP:N	2.34	0.42
1:0:1021:G:C4	1:0:1022:A:C8	3.06	0.42
1:0:1032:A:C5	1:0:1033:C:C6	3.07	0.42
1:0:1196:C:H3'	1:0:1197:G:C5'	2.47	0.42
1:0:1299:G:N7	14:L:6:ARG:NH1	2.67	0.42
1:0:1447:U:OP1	1:0:1506:U:N3	2.47	0.42
1:0:1597:A:H2'	1:0:1598:A:C5'	2.47	0.42
1:0:1749:U:O2	1:0:1751:G:H8	2.02	0.42
1:0:1820:G:C6	1:0:2030:A:C2	3.06	0.42
1:0:1973:A:C8	1:0:1973:A:C3'	3.03	0.42
1:0:2094:G:H4'	4:B:245:SER:HB3	2.00	0.42
1:0:2406:U:C2	1:0:2407:G:C8	3.07	0.42
1:0:2617:G:H2'	1:0:2617:G:N3	2.33	0.42
1:0:2864:U:H5'	1:0:2865:G:OP2	2.19	0.42
1:0:721:A:H1'	17:O:114:ILE:HD13	2.01	0.42
1:0:924:G:N2	1:0:925:C:H1'	2.33	0.42
2:9:19:G:C2'	2:9:20:G:H5'	2.48	0.42
4:B:141:ARG:HD2	4:B:163:GLU:OE2	2.20	0.42
4:B:217:ARG:NH1	4:B:255:GLY:HA3	2.35	0.42
5:C:202:THR:O	5:C:205:ARG:HG2	2.19	0.42
2:9:40:C:C5	6:D:50:VAL:HG13	2.54	0.42
7:E:7:ILE:HG23	7:E:45:ASP:O	2.18	0.42
11:I:13:GLU:O	11:I:14:ALA:HB2	2.19	0.42
13:K:101:ASN:ND2	13:K:101:ASN:H	2.16	0.42
17:O:73:ASP:OD1	17:O:93:GLY:HA2	2.19	0.42
24:V:16:ARG:NH2	24:V:63:GLU:HG3	2.33	0.42
1:0:1170:U:H3'	1:0:1171:A:C5'	2.49	0.42
1:0:1186:C:N3	1:0:1187:U:C2	2.88	0.42
1:0:1236:A:H2'	1:0:1237:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1631:A:N1	1:0:1632:A:C2	2.87	0.42
1:0:1805:G:H2'	1:0:1806:G:H8	1.85	0.42
1:0:1947:G:C8	1:0:1947:G:H3'	2.54	0.42
1:0:2256:G:C2'	1:0:2257:G:C5'	2.84	0.42
1:0:2361:A:C8	1:0:2425:A:N6	2.88	0.42
1:0:2672:C:O2'	4:B:87:TYR:HE2	2.03	0.42
1:0:2751:C:C5	1:0:2752:C:H5	2.37	0.42
1:0:2820:A:C6	1:0:2821:C:C4	3.07	0.42
1:0:283:U:C5	1:0:284:C:C4	3.07	0.42
1:0:2871:G:C6	1:0:2887:G:N1	2.87	0.42
1:0:677:C:H4'	5:C:246:ARG:NH2	2.34	0.42
1:0:921:G:H4'	1:0:924:G:N1	2.34	0.42
4:B:124:ALA:O	4:B:128:ILE:HG13	2.18	0.42
1:0:2846:C:OP1	4:B:158:LYS:HD3	2.19	0.42
5:C:76:ARG:CG	5:C:76:ARG:HH11	2.32	0.42
9:G:85:ILE:H	9:G:85:ILE:HG22	1.59	0.42
11:I:83:THR:HG22	11:I:84:GLY:H	1.83	0.42
26:X:43:VAL:HG22	26:X:76:ARG:HH12	1.83	0.42
1:0:521:A:H5''	27:Y:137:LYS:CD	2.49	0.42
1:0:1007:A:H2'	10:H:19:TYR:CZ	2.55	0.42
1:0:1119:G:C6	1:0:1244:U:C5	3.07	0.42
1:0:1216:G:C8	9:G:7:ARG:NH2	2.83	0.42
1:0:1268:C:H2'	1:0:1268:C:O2	2.19	0.42
1:0:1324:G:N1	1:0:1334:C:C2	2.88	0.42
1:0:2445:U:O2	1:0:2446:G:C8	2.73	0.42
1:0:2551:C:O2'	1:0:2552:C:H5'	2.19	0.42
1:0:2834:G:C5	1:0:2847:G:N2	2.87	0.42
1:0:2906:A:H5'	1:0:2907:C:O4'	2.19	0.42
1:0:304:G:H1'	1:0:347:A:N6	2.34	0.42
1:0:807:A:H2'	1:0:808:A:H8	1.83	0.42
1:0:824:G:N7	1:0:854:G:C6	2.87	0.42
3:A:105:VAL:CG1	3:A:154:ALA:HB1	2.49	0.42
1:0:1853:C:H5'	3:A:228:ILE:O	2.19	0.42
5:C:192:ILE:HG23	5:C:232:LEU:O	2.19	0.42
15:M:71:SER:O	15:M:73:ARG:HD2	2.19	0.42
1:0:1593:C:OP1	18:P:117:SER:HB3	2.18	0.42
1:0:1386:G:OP1	26:X:49:ARG:NH1	2.52	0.42
1:0:1555:G:O2'	1:0:1556:G:H5'	2.20	0.42
1:0:1586:G:H2'	1:0:1587:U:C6	2.55	0.42
1:0:790:A:H1'	1:0:1710:A:H2'	2.02	0.42
1:0:2252:A:O5'	1:0:2252:A:H8	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:569:A:C2'	1:0:570:C:H5'	2.50	0.42
1:0:92:G:H4'	24:V:44:GLY:HA3	2.01	0.42
1:0:910:C:O2'	1:0:932:U:H5''	2.20	0.42
30:2:22:PRO:HG2	30:2:25:VAL:CG2	2.49	0.42
2:9:58:G:N7	2:9:59:C:C4	2.87	0.42
4:B:69:VAL:HA	4:B:70:PRO:HD3	1.89	0.42
6:D:159:PRO:O	6:D:163:VAL:HG23	2.20	0.42
11:I:79:ALA:CA	11:I:96:LEU:HD21	2.50	0.42
13:K:101:ASN:O	13:K:102:GLU:CB	2.68	0.42
18:P:22:TRP:CZ2	18:P:25:PRO:HD3	2.55	0.42
18:P:59:ARG:O	18:P:63:ARG:HG3	2.20	0.42
20:R:79:ARG:O	20:R:81:PRO:HD3	2.19	0.42
1:0:1097:A:H5''	25:W:125:HIS:NE2	2.34	0.42
1:0:1135:G:C2	1:0:1228:C:C2	3.08	0.42
1:0:2264:A:OP1	15:M:71:SER:CB	2.66	0.42
1:0:2500:C:O2'	1:0:2501:G:H5'	2.20	0.42
1:0:2713:G:C2'	1:0:2714:U:H5'	2.50	0.42
1:0:2824:C:OP1	1:0:2826:G:H4'	2.19	0.42
1:0:824:G:C6	1:0:854:G:N7	2.87	0.42
1:0:936:C:C2'	1:0:937:C:H5'	2.50	0.42
29:1:5:THR:N	29:1:6:PRO:HD2	2.34	0.42
4:B:23:THR:HA	4:B:24:PRO:HD3	1.90	0.42
5:C:127:ARG:HH22	5:C:225:PRO:HG2	1.81	0.42
8:F:101:ALA:HB3	8:F:105:ASP:OD1	2.19	0.42
8:F:99:THR:HG23	8:F:99:THR:O	2.20	0.42
1:0:2036:C:O4'	13:K:44:LEU:HG	2.20	0.42
16:N:61:ALA:CB	16:N:88:ALA:HB2	2.49	0.42
17:O:45:LEU:HD12	17:O:88:LYS:HD2	2.02	0.42
25:W:13:MET:HE3	25:W:17:ILE:CG2	2.50	0.42
1:0:1016:U:O2'	1:0:1017:U:H5'	2.19	0.42
1:0:1075:G:C2	1:0:1085:C:C2	3.07	0.42
1:0:1163:G:OP2	1:0:1164:U:C3'	2.54	0.42
1:0:1195:G:H2'	1:0:1196:C:O5'	2.19	0.42
1:0:170:U:H2'	1:0:171:C:H5'	2.01	0.42
1:0:1734:C:OP1	4:B:234:ARG:NH1	2.50	0.42
1:0:2088:C:H2'	1:0:2089:A:H8	1.84	0.42
1:0:2679:G:N2	1:0:2807:U:C2	2.88	0.42
1:0:2912:C:O2'	1:0:2913:A:H5'	2.19	0.42
1:0:347:A:H2'	1:0:348:C:H5'	2.02	0.42
1:0:445:U:H2'	1:0:446:G:H8	1.83	0.42
1:0:484:A:H61	1:0:508:A:N6	2.10	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:786:G:H2'	1:0:787:G:O4'	2.20	0.42
1:0:924:G:C2	1:0:925:C:H1'	2.55	0.42
2:9:49:G:H2'	2:9:50:G:O4'	2.19	0.42
4:B:57:GLU:HA	4:B:58:PRO:HD2	1.85	0.42
2:9:40:C:H5	6:D:50:VAL:HG13	1.85	0.42
7:E:69:ILE:O	7:E:72:MET:HB2	2.19	0.42
9:G:53:LEU:HG	9:G:53:LEU:H	1.58	0.42
12:J:6:PHE:HB3	12:J:109:TYR:OH	2.20	0.42
13:K:55:VAL:CG1	13:K:56:SER:N	2.82	0.42
14:L:93:VAL:C	14:L:95:ASP:H	2.23	0.42
16:N:10:MET:O	16:N:14:ARG:HG3	2.20	0.42
16:N:48:VAL:HG13	16:N:55:ASP:HB3	2.02	0.42
20:R:39:THR:CG2	20:R:42:GLU:HG3	2.50	0.42
1:0:101:C:O2	1:0:102:A:C8	2.72	0.42
1:0:1580:A:H5''	1:0:1581:A:OP2	2.20	0.42
1:0:171:C:H2'	1:0:172:U:H5'	2.01	0.42
1:0:1760:G:N3	1:0:1760:G:H2'	2.35	0.42
1:0:2103:A:H2'	1:0:2104:C:C5'	2.48	0.42
1:0:2335:C:H6	1:0:2335:C:O5'	2.03	0.42
1:0:2405:C:H2'	1:0:2406:U:C6	2.55	0.42
1:0:2661:U:C2	1:0:2812:A:N6	2.87	0.42
1:0:354:A:C6	1:0:355:C:C4	3.08	0.42
1:0:453:A:C5	1:0:479:G:C5	3.07	0.42
1:0:907:A:H2'	1:0:908:A:C8	2.54	0.42
1:0:914:A:O5'	1:0:915:C:C6	2.72	0.42
2:9:17:G:C2	2:9:64:C:C4	3.08	0.42
3:A:127:GLN:HB3	3:A:139:LYS:HB3	2.02	0.42
5:C:127:ARG:HD2	5:C:230:GLY:C	2.40	0.42
5:C:127:ARG:HG2	5:C:127:ARG:O	2.20	0.42
7:E:1:PRO:HG2	7:E:59:MET:HE1	2.02	0.42
15:M:95:LYS:HA	15:M:170:ASN:HD21	1.84	0.42
15:M:27:ARG:O	15:M:30:GLU:N	2.53	0.42
16:N:93:GLN:NE2	16:N:127:LEU:HD12	2.30	0.42
16:N:77:ASN:OD1	16:N:79:PRO:HD2	2.20	0.42
1:0:2055:A:C4'	20:R:132:ARG:HH22	2.32	0.42
1:0:1188:A:N7	1:0:1189:A:C2	2.88	0.42
1:0:1188:A:C8	1:0:1189:A:C2	3.07	0.42
1:0:1199:A:N6	1:0:1200:A:C6	2.88	0.42
1:0:1268:C:O2'	1:0:1269:G:H5'	2.19	0.42
1:0:1540:G:C6	1:0:1646:G:C5	3.08	0.42
1:0:197:C:P	14:L:56:LYS:HD2	2.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2121:G:C5	1:0:2122:C:C5	3.08	0.42
1:0:2634:G:H2'	1:0:2635:A:C8	2.55	0.42
1:0:604:G:H4'	1:0:605:C:O5'	2.19	0.42
1:0:644:G:N3	1:0:644:G:H5'	2.35	0.42
1:0:669:G:H2'	1:0:670:G:H8	1.85	0.42
1:0:832:U:H2'	1:0:833:G:H8	1.83	0.42
1:0:877:G:O6	1:0:2113:G:O2'	2.38	0.42
2:9:44:A:O4'	6:D:76:ARG:NE	2.52	0.42
1:0:1853:C:OP1	3:A:231:LYS:HG3	2.20	0.42
4:B:102:THR:HG23	4:B:182:VAL:HG12	2.01	0.42
9:G:64:ASN:HB3	9:G:89:VAL:HG11	1.99	0.42
9:G:79:GLU:HG3	9:G:79:GLU:H	1.62	0.42
10:H:88:ARG:H	10:H:88:ARG:HG2	1.40	0.42
14:L:66:VAL:HG22	14:L:111:ALA:H	1.83	0.42
1:0:166:A:C2	14:L:38:HIS:CE1	3.08	0.42
14:L:57:VAL:O	14:L:57:VAL:HG12	2.20	0.42
16:N:78:MET:HB2	16:N:79:PRO:HD3	2.02	0.42
24:V:39:ALA:H	24:V:40:PRO:CD	2.32	0.42
25:W:110:GLN:HA	25:W:110:GLN:NE2	2.35	0.42
25:W:141:HIS:HB2	25:W:146:ILE:HG12	2.02	0.42
1:0:1024:G:C6	1:0:1025:C:N3	2.88	0.42
1:0:68:U:C4	1:0:107:U:H4'	2.54	0.42
1:0:1134:G:H2'	1:0:1135:G:C5'	2.50	0.42
1:0:1211:G:O2'	1:0:1212:C:H5'	2.20	0.42
1:0:1317:A:H1'	1:0:1342:C:O2	2.20	0.42
1:0:1543:G:H2'	1:0:1544:U:H5	1.85	0.42
1:0:1774:G:C2'	1:0:1775:A:O5'	2.68	0.42
1:0:1895:A:C4	1:0:1896:G:C8	3.07	0.42
1:0:2253:G:N3	1:0:2254:G:C8	2.88	0.42
1:0:2290:U:C2	1:0:2292:C:C5	3.08	0.42
1:0:2758:G:O2'	1:0:2759:C:H5'	2.20	0.42
1:0:2863:G:H2'	1:0:2864:U:O4'	2.20	0.42
1:0:2885:A:C4	1:0:2886:C:C5	3.08	0.42
1:0:667:C:C6	1:0:667:C:H3'	2.55	0.42
2:9:45:A:C6	2:9:46:C:C4	3.08	0.42
4:B:154:VAL:HA	4:B:155:PRO:HD3	1.84	0.42
5:C:124:VAL:HA	5:C:230:GLY:O	2.19	0.42
6:D:44:ILE:O	6:D:44:ILE:HG12	2.20	0.42
7:E:80:TRP:O	7:E:134:SER:HA	2.20	0.42
25:W:146:ILE:HD13	25:W:146:ILE:HA	1.89	0.42
25:W:4:LEU:HD22	25:W:52:VAL:HG21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y:182:PHE:HD2	27:Y:200:THR:O	2.03	0.42
1:0:1246:A:C8	1:0:1246:A:C5'	3.00	0.41
1:0:1383:U:H2'	1:0:1384:C:C6	2.55	0.41
1:0:218:C:H5	1:0:220:C:C4	2.38	0.41
1:0:2297:U:H4'	19:Q:11:ARG:HH21	1.84	0.41
1:0:2615:U:C5	1:0:2616:G:C5	3.08	0.41
1:0:2747:C:C4	1:0:2748:G:C2	3.08	0.41
1:0:2803:C:O2'	12:J:140:GLY:HA2	2.19	0.41
1:0:961:A:C2	1:0:962:C:C4	3.08	0.41
1:0:170:U:H5'	31:3:48:ASN:O	2.19	0.41
2:9:28:U:OP1	16:N:39:SER:HA	2.20	0.41
2:9:34:A:H8	2:9:34:A:O5'	2.03	0.41
4:B:217:ARG:CZ	4:B:255:GLY:HA3	2.50	0.41
5:C:154:VAL:O	5:C:158:GLU:HG3	2.20	0.41
9:G:124:ILE:O	9:G:125:VAL:C	2.58	0.41
10:H:49:LEU:HD13	10:H:150:PHE:HB3	2.01	0.41
1:0:1163:G:C4'	11:I:112:LEU:CD1	2.92	0.41
11:I:68:VAL:HA	11:I:69:PRO:HD3	1.85	0.41
16:N:108:SER:HA	16:N:109:PRO:HD3	1.64	0.41
21:S:20:PHE:CD2	21:S:20:PHE:N	2.88	0.41
24:V:39:ALA:C	24:V:41:GLU:H	2.24	0.41
1:0:1088:A:C2'	1:0:1088:A:O5'	2.68	0.41
1:0:109:U:O2	1:0:109:U:H2'	2.19	0.41
1:0:1592:G:C6	1:0:1593:C:N4	2.88	0.41
1:0:1580:A:C4	1:0:1615:A:C6	3.07	0.41
1:0:1665:G:C2	1:0:1666:C:C6	3.09	0.41
1:0:1711:A:C2	1:0:1712:A:C8	3.08	0.41
1:0:1851:G:O2'	1:0:1852:A:H5'	2.21	0.41
1:0:1896:G:C5	1:0:1897:U:C4	3.07	0.41
1:0:1966:U:C6	1:0:1966:U:H3'	2.54	0.41
1:0:2327:A:N3	1:0:2374:A:C2	2.88	0.41
1:0:2382:A:H1'	31:3:10:TYR:CD2	2.55	0.41
1:0:2781:U:H2'	1:0:2782:G:O5'	2.19	0.41
1:0:2783:A:O2'	1:0:2784:A:H5'	2.20	0.41
1:0:2831:C:H2'	1:0:2832:C:C5'	2.50	0.41
1:0:455:A:C2'	1:0:456:G:H5'	2.50	0.41
1:0:608:A:O5'	1:0:608:A:C8	2.69	0.41
1:0:61:G:N1	1:0:86:A:N6	2.68	0.41
1:0:666:A:H2'	1:0:667:C:H5'	2.02	0.41
1:0:963:C:H2'	1:0:964:G:C8	2.55	0.41
1:0:890:C:O2'	29:1:50:TRP:O	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:280:VAL:CG1	4:B:281:ASP:N	2.82	0.41
7:E:68:HIS:O	7:E:72:MET:HG3	2.20	0.41
8:F:39:SER:HB3	8:F:45:ALA:HB2	2.02	0.41
14:L:143:THR:CG2	14:L:144:ASP:H	2.32	0.41
23:U:14:GLU:O	23:U:17:THR:HB	2.21	0.41
25:W:137:GLN:HE21	25:W:141:HIS:HE1	1.67	0.41
1:0:1085:C:H2'	1:0:1086:A:C5'	2.49	0.41
1:0:1268:C:C2'	1:0:1268:C:O2	2.68	0.41
1:0:1327:G:O3'	27:Y:169:ARG:NH1	2.53	0.41
1:0:1443:G:C6	1:0:1444:G:C5	3.08	0.41
1:0:1550:A:N1	1:0:1636:G:C6	2.88	0.41
1:0:157:G:C5	1:0:158:A:N7	2.88	0.41
1:0:1671:U:O5'	1:0:1671:U:H6	2.04	0.41
1:0:1683:G:N1	1:0:1723:G:C8	2.88	0.41
1:0:1695:G:C6	1:0:1696:U:C4	3.08	0.41
1:0:1476:A:HO2'	1:0:1868:G:H5'	1.84	0.41
1:0:1964:U:C2	1:0:1965:C:C5	3.08	0.41
1:0:1974:G:C6	1:0:1975:C:N3	2.89	0.41
1:0:2276:U:O2'	1:0:2277:U:H5'	2.20	0.41
1:0:2727:A:C8	1:0:2728:C:C6	3.07	0.41
1:0:2725:G:N1	1:0:2756:U:OP2	2.43	0.41
1:0:2775:A:C6	1:0:2799:A:C8	3.08	0.41
1:0:2829:G:O2'	1:0:2830:U:H5'	2.20	0.41
1:0:603:A:H4'	1:0:604:G:O5'	2.20	0.41
1:0:660:A:N6	1:0:746:A:O4'	2.53	0.41
1:0:669:G:C6	1:0:670:G:C5	3.08	0.41
1:0:710:G:H2'	1:0:711:G:O4'	2.20	0.41
31:3:7:PHE:HE2	31:3:22:VAL:CG2	2.32	0.41
3:A:54:PRO:HG3	3:A:160:ALA:HB3	2.02	0.41
1:0:450:C:C4'	5:C:46:TYR:HE1	2.33	0.41
9:G:38:ILE:HG13	9:G:88:GLN:HB3	2.02	0.41
14:L:73:VAL:HG21	14:L:116:HIS:CD2	2.55	0.41
20:R:132:ARG:HG2	20:R:133:ALA:N	2.35	0.41
1:0:1673:U:H5''	21:S:34:LYS:HD2	2.02	0.41
23:U:46:ALA:HB1	23:U:52:THR:HG21	2.02	0.41
1:0:1118:A:C8	1:0:1119:G:C5'	3.03	0.41
1:0:1346:U:C2	1:0:1347:U:C6	3.09	0.41
1:0:1447:U:O5'	1:0:1447:U:H6	2.04	0.41
1:0:1471:A:H2'	1:0:1472:C:C6	2.55	0.41
1:0:1496:G:O5'	1:0:1496:G:H8	2.04	0.41
1:0:1523:G:H2'	1:0:1524:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1603:A:H5'	1:0:1605:G:H5'	2.01	0.41
1:0:1946:C:O2	1:0:1946:C:C2'	2.64	0.41
1:0:204:A:C2'	1:0:205:U:H5'	2.51	0.41
1:0:2700:G:C5	1:0:2701:G:C5	3.09	0.41
1:0:2717:C:N3	1:0:2718:C:C5	2.89	0.41
1:0:2735:U:H2'	1:0:2736:U:H6	1.85	0.41
1:0:1815:A:H4'	1:0:2751:C:O4'	2.20	0.41
1:0:2759:C:C2'	1:0:2760:C:O5'	2.69	0.41
1:0:441:A:H8	1:0:441:A:O5'	2.03	0.41
1:0:25:A:C2	1:0:519:A:C8	3.08	0.41
1:0:793:A:H2'	1:0:794:U:H6	1.85	0.41
1:0:84:G:C2	1:0:85:C:C2	3.09	0.41
2:9:108:C:H6	2:9:108:C:H3'	1.85	0.41
4:B:256:GLN:HA	4:B:256:GLN:HE21	1.85	0.41
4:B:279:THR:OG1	4:B:290:VAL:HB	2.20	0.41
6:D:88:LEU:HB2	6:D:89:PRO:HD3	2.01	0.41
12:J:105:LEU:HD13	12:J:145:TRP:HB3	2.02	0.41
12:J:45:VAL:HG22	12:J:46:ILE:N	2.35	0.41
12:J:92:GLN:O	12:J:92:GLN:HG2	2.19	0.41
15:M:131:VAL:HG12	15:M:133:LEU:CD1	2.51	0.41
15:M:146:ASP:O	15:M:147:LEU:HD23	2.19	0.41
16:N:43:VAL:HG13	16:N:118:ILE:HD11	2.02	0.41
19:Q:24:SER:HB3	19:Q:25:PRO:HD2	2.00	0.41
1:0:1112:G:C2	1:0:1252:A:C2	3.08	0.41
1:0:1548:U:H6	1:0:1548:U:H3'	1.85	0.41
1:0:1607:A:C5	1:0:1608:G:C8	3.08	0.41
1:0:1667:A:C5'	1:0:1667:A:C8	2.98	0.41
1:0:1760:G:C2	1:0:1761:U:C2	3.08	0.41
1:0:874:A:H2'	1:0:1833:U:O2'	2.20	0.41
1:0:1850:U:H1'	1:0:1941:A:C2	2.55	0.41
1:0:1989:G:N1	1:0:2000:G:C6	2.89	0.41
1:0:2060:A:H2'	1:0:2061:C:C6	2.54	0.41
1:0:2090:G:H2'	1:0:2091:G:C8	2.55	0.41
1:0:23:G:C6	1:0:24:G:N1	2.88	0.41
1:0:2587:OMU:O2	1:0:2589:U:H5'	2.20	0.41
1:0:2719:A:C5	1:0:2720:C:C6	3.09	0.41
1:0:2805:A:C8	1:0:2806:C:C5	3.08	0.41
1:0:335:U:C2'	1:0:336:G:OP1	2.68	0.41
1:0:16:A:C2	1:0:528:G:C2	3.09	0.41
1:0:638:C:C2'	1:0:639:A:O5'	2.69	0.41
2:9:39:U:O2	2:9:44:A:N6	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:149:LYS:HB2	5:C:152:GLU:HG3	2.01	0.41
6:D:135:VAL:HG22	6:D:136:ARG:N	2.35	0.41
9:G:31:GLU:HB2	9:G:95:ASP:HA	2.02	0.41
9:G:97:ASN:HD21	9:G:99:PHE:HB2	1.83	0.41
11:I:53:THR:HG22	11:I:54:VAL:H	1.85	0.41
12:J:65:ASN:O	35:J:149:CL:CL	2.76	0.41
16:N:100:ALA:O	16:N:129:ILE:HG12	2.20	0.41
16:N:35:VAL:HB	16:N:46:GLN:HB2	2.03	0.41
25:W:31:HIS:ND1	25:W:115:THR:HG21	2.35	0.41
26:X:32:LEU:N	26:X:32:LEU:HD23	2.36	0.41
1:0:1196:C:H3'	1:0:1197:G:H5'	2.03	0.41
1:0:1225:C:H2'	1:0:1225:C:O2	2.20	0.41
1:0:1430:G:C4	1:0:1434:A:N6	2.89	0.41
1:0:1552:G:C5	1:0:1553:C:C5	3.08	0.41
1:0:2361:A:H2'	1:0:2362:A:C8	2.55	0.41
1:0:2506:A:O2'	1:0:2507:G:P	2.78	0.41
1:0:2587:OMU:C2	1:0:2589:U:H5'	2.51	0.41
1:0:2662:G:C6	1:0:2663:U:C4	3.09	0.41
1:0:286:U:C4	1:0:287:C:C4	3.09	0.41
1:0:332:G:O5'	1:0:332:G:H8	2.02	0.41
1:0:390:G:C4	1:0:391:U:C6	3.09	0.41
1:0:730:G:C5	1:0:731:U:C5	3.08	0.41
2:9:119:C:H2'	2:9:120:A:O4'	2.20	0.41
2:9:98:C:H1'	25:W:131:PRO:HG3	2.03	0.41
6:D:81:GLU:O	6:D:85:GLN:N	2.53	0.41
9:G:64:ASN:HB3	9:G:89:VAL:HG13	2.02	0.41
9:G:33:VAL:HG11	9:G:94:THR:H	1.80	0.41
11:I:89:GLN:HG2	11:I:129:THR:HG22	2.01	0.41
13:K:4:LEU:HG	13:K:120:ARG:CZ	2.50	0.41
14:L:5:LYS:HA	14:L:5:LYS:HD2	1.86	0.41
1:0:1262:C:H1'	25:W:120:PRO:HG3	2.02	0.41
25:W:4:LEU:CD2	25:W:54:PHE:HB3	2.51	0.41
3:A:75:GLY:HA3	28:Z:62:TYR:CZ	2.56	0.41
1:0:968:G:N2	1:0:1001:U:H1'	2.36	0.41
1:0:1197:G:H2'	1:0:1198:U:O5'	2.21	0.41
1:0:1144:A:C2	1:0:1220:U:C2	3.09	0.41
1:0:1500:U:OP2	18:P:41:ARG:NH2	2.48	0.41
1:0:1544:U:OP2	1:0:1640:C:N4	2.51	0.41
1:0:1821:A:H61	1:0:2029:C:N4	2.18	0.41
1:0:1826:C:O2'	1:0:1827:G:H5'	2.20	0.41
1:0:1133:A:H2	1:0:2500:C:O2	2.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:444:C:H2'	1:0:445:U:H6	1.86	0.41
1:0:560:C:H2'	1:0:561:G:H8	1.86	0.41
2:9:78:G:O2'	2:9:79:U:OP2	2.39	0.41
6:D:172:VAL:CG1	6:D:173:GLU:H	2.32	0.41
6:D:48:MET:HA	6:D:49:PRO:HD3	1.72	0.41
9:G:46:LEU:O	9:G:50:ARG:N	2.53	0.41
13:K:63:GLU:O	13:K:67:GLN:NE2	2.53	0.41
14:L:73:VAL:HG23	14:L:74:THR:N	2.35	0.41
1:0:1262:C:O2	25:W:120:PRO:HG2	2.20	0.41
1:0:1082:A:H2'	1:0:1083:C:OP1	2.20	0.41
1:0:1116:U:C2'	1:0:1118:A:C2	3.02	0.41
1:0:1152:A:C4	1:0:1215:A:C2	3.08	0.41
1:0:1189:A:C8	1:0:1190:G:N7	2.89	0.41
1:0:1418:U:OP1	30:2:42:TRP:HB3	2.21	0.41
1:0:1688:G:H1	1:0:1692:C:C2'	2.34	0.41
1:0:1994:A:H2'	1:0:1995:G:H5'	2.02	0.41
1:0:1973:A:N6	1:0:2009:G:H1'	2.35	0.41
1:0:201:G:N1	1:0:202:U:C4	2.89	0.41
1:0:2135:A:C2	1:0:2241:C:C2	3.08	0.41
1:0:2405:C:H2'	1:0:2406:U:H6	1.85	0.41
1:0:240:C:H2'	1:0:240:C:O2	2.19	0.41
1:0:277:U:H6	1:0:277:U:H3'	1.86	0.41
1:0:2677:A:C2	1:0:2809:G:C4	3.09	0.41
1:0:700:A:H5''	1:0:701:U:O5'	2.21	0.41
1:0:79:G:N2	1:0:97:G:H1'	2.36	0.41
2:9:10:C:C4'	2:9:13:A:H61	2.34	0.41
2:9:36:C:C5	2:9:37:C:C4	3.09	0.41
2:9:84:G:H2'	2:9:85:A:H8	1.85	0.41
3:A:135:VAL:HG21	3:A:147:ARG:CZ	2.51	0.41
4:B:224:LYS:HA	4:B:224:LYS:HD3	1.86	0.41
10:H:89:LYS:HA	10:H:89:LYS:HD3	1.88	0.41
14:L:118:LEU:HD13	14:L:120:LEU:HD21	2.02	0.41
17:O:31:GLU:O	17:O:35:LYS:HG3	2.21	0.41
22:T:12:ARG:O	22:T:19:ARG:NH2	2.48	0.41
22:T:23:VAL:O	22:T:93:THR:HG21	2.20	0.41
25:W:38:THR:HG22	25:W:39:ASP:N	2.24	0.41
27:Y:171:PRO:O	27:Y:172:THR:C	2.58	0.41
1:0:1168:C:P	11:I:84:GLY:HA3	2.61	0.41
1:0:1266:U:H4'	27:Y:115:ARG:HH22	1.82	0.41
1:0:1463:A:H61	1:0:1479:A:N6	2.19	0.41
1:0:1544:U:O2	1:0:1545:C:C6	2.74	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1805:G:O2'	1:0:1806:G:H5'	2.20	0.41
1:0:1829:A:C2'	1:0:1830:C:H5'	2.51	0.41
1:0:204:A:H2'	1:0:205:U:H5'	2.02	0.41
1:0:2345:A:H3'	1:0:2346:C:C6	2.55	0.41
1:0:2385:G:H2'	1:0:2386:U:H6	1.86	0.41
1:0:2421:G:HO2'	1:0:2422:U:P	2.44	0.41
1:0:2523:U:H2'	1:0:2524:G:C8	2.55	0.41
1:0:2547:C:C2	1:0:2548:C:C5	3.09	0.41
1:0:2880:A:H2'	1:0:2881:C:H5'	2.03	0.41
1:0:326:G:C5	1:0:340:A:C2	3.09	0.41
1:0:418:C:H2'	1:0:419:A:H8	1.86	0.41
1:0:626:U:C4	1:0:627:G:C6	3.09	0.41
1:0:856:G:HO2'	1:0:857:A:H3'	1.86	0.41
8:F:4:VAL:HA	8:F:76:PHE:CE1	2.56	0.41
8:F:48:VAL:O	8:F:75:ILE:HG22	2.20	0.41
10:H:70:ASN:HB2	10:H:85:MET:HE1	2.03	0.41
12:J:36:VAL:CG1	12:J:37:ALA:N	2.84	0.41
17:O:89:ILE:O	17:O:91:GLN:N	2.53	0.41
19:Q:75:ILE:CD1	19:Q:84:ILE:HD11	2.51	0.41
1:0:1081:A:C6	1:0:1082:A:N1	2.89	0.41
1:0:1135:G:C6	1:0:1136:U:C4	3.09	0.41
1:0:1327:G:C2	1:0:1331:A:C4	3.09	0.41
1:0:1335:C:H2'	1:0:1336:U:H6	1.86	0.41
1:0:1494:A:N3	1:0:1495:C:C5	2.88	0.41
1:0:1537:C:HO2'	1:0:1538:C:H5'	1.82	0.41
1:0:160:A:N6	1:0:161:A:C6	2.88	0.41
1:0:1766:U:O2	1:0:1778:A:H5'	2.20	0.41
1:0:1902:G:H2'	1:0:1903:U:O4'	2.21	0.41
1:0:2321:A:C2	1:0:2378:U:C4	3.09	0.41
1:0:2434:A:H8	1:0:2434:A:O5'	2.03	0.41
1:0:2629:C:O2'	1:0:2630:G:H5'	2.21	0.41
1:0:2679:G:H2'	1:0:2680:A:H3'	2.02	0.41
1:0:267:G:H2'	1:0:268:U:O4'	2.21	0.41
1:0:435:A:C2'	1:0:436:A:H5'	2.51	0.41
1:0:545:G:H2'	1:0:546:C:H6	1.85	0.41
1:0:638:C:H2'	1:0:639:A:C8	2.56	0.41
1:0:701:U:O2	1:0:744:G:C2	2.74	0.41
1:0:74:A:C2	1:0:104:G:C2	3.09	0.41
1:0:778:C:C2	1:0:779:U:C6	3.08	0.41
1:0:869:G:H1'	1:0:886:A:C2	2.55	0.41
1:0:924:G:H2'	1:0:925:C:O5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:67:ASP:HA	6:D:68:PRO:HD3	1.86	0.41
13:K:49:LEU:HG	13:K:76:GLN:HG2	2.03	0.41
16:N:170:GLU:O	16:N:174:GLU:HG3	2.21	0.41
1:0:1550:A:C2	1:0:1636:G:C4	3.09	0.41
1:0:165:A:H5''	14:L:33:ALA:HB2	2.02	0.41
1:0:1872:C:O2	3:A:25:ALA:HA	2.21	0.41
1:0:2088:C:O2'	1:0:2089:A:H5'	2.21	0.41
1:0:2381:C:H4'	31:3:80:ARG:HH12	1.86	0.41
1:0:2440:C:H2'	1:0:2441:U:O4'	2.21	0.41
1:0:2450:C:H2'	1:0:2451:G:O5'	2.21	0.41
1:0:2594:C:C6	1:0:2594:C:H3'	2.55	0.41
1:0:2694:A:H3'	1:0:2695:C:H6	1.86	0.41
1:0:2682:C:C2	1:0:2713:G:N2	2.89	0.41
1:0:2751:C:C6	1:0:2751:C:H3'	2.56	0.41
1:0:2040:C:H4'	1:0:2759:C:O2	2.21	0.41
1:0:420:U:O4'	1:0:1920:C:C4	2.73	0.41
1:0:39:G:N2	1:0:444:C:C2	2.89	0.41
1:0:453:A:N3	1:0:479:G:C8	2.90	0.41
1:0:494:C:O2	1:0:496:G:C8	2.73	0.41
1:0:512:G:H4'	1:0:515:C:O2	2.21	0.41
1:0:566:A:H2'	1:0:567:U:H5'	2.03	0.41
2:9:37:C:O2'	2:9:38:A:H5'	2.21	0.41
2:9:9:C:C5	2:9:10:C:C6	3.09	0.41
3:A:51:ARG:C	3:A:53:ALA:H	2.25	0.41
3:A:88:ILE:HG22	3:A:88:ILE:O	2.21	0.41
5:C:157:LEU:HA	5:C:157:LEU:HD23	1.92	0.41
9:G:36:VAL:HG13	9:G:89:VAL:HG23	2.02	0.41
9:G:8:LYS:H	9:G:8:LYS:HG2	1.68	0.41
11:I:115:TYR:O	11:I:115:TYR:CD2	2.74	0.41
11:I:49:GLU:N	11:I:49:GLU:CD	2.75	0.41
1:0:1229:C:O5'	1:0:1229:C:H6	2.04	0.40
1:0:1263:C:H5''	25:W:117:ARG:NH1	2.37	0.40
1:0:1264:U:H2'	1:0:1265:G:H8	1.86	0.40
1:0:906:C:O4'	1:0:1330:A:H1'	2.22	0.40
1:0:134:U:H2'	1:0:135:G:C8	2.56	0.40
1:0:1377:C:C5'	1:0:1377:C:C6	2.94	0.40
1:0:1709:G:C5	1:0:1711:A:C5	3.08	0.40
1:0:1787:C:O2	1:0:2875:A:C2	2.72	0.40
1:0:196:G:O2'	14:L:56:LYS:NZ	2.43	0.40
1:0:2048:C:O3'	20:R:69:LYS:NZ	2.54	0.40
1:0:2300:A:H4'	1:0:2301:A:O5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2594:C:C6	1:0:2594:C:C3'	3.04	0.40
1:0:2607:U:H3'	1:0:2609:G:H5''	2.04	0.40
1:0:2706:A:C5	1:0:2707:C:C5	3.09	0.40
1:0:2713:G:O2'	1:0:2714:U:H5'	2.21	0.40
1:0:2723:G:C2	1:0:2760:C:O2	2.74	0.40
1:0:282:C:HO2'	1:0:368:C:N4	2.19	0.40
1:0:2851:G:H2'	1:0:2902:A:H61	1.85	0.40
1:0:2869:G:C6	1:0:2870:C:C4	3.09	0.40
1:0:2898:G:O2'	1:0:2899:A:H5'	2.21	0.40
1:0:324:G:N3	1:0:325:U:C6	2.90	0.40
1:0:293:A:C5	1:0:360:A:C2	3.10	0.40
1:0:418:C:O2'	1:0:419:A:H5'	2.21	0.40
1:0:479:G:C2	1:0:480:C:C5	3.09	0.40
1:0:561:G:O2'	1:0:562:A:H5'	2.21	0.40
1:0:722:G:H22	1:0:938:G:P	2.44	0.40
1:0:78:G:C2	1:0:79:G:C2	3.09	0.40
2:9:13:A:C3'	2:9:14:G:C5'	3.00	0.40
2:9:45:A:C5	2:9:46:C:C4	3.09	0.40
2:9:58:G:H3'	2:9:59:C:C5	2.56	0.40
5:C:27:ARG:O	5:C:31:ILE:HG13	2.21	0.40
6:D:27:ILE:HG22	6:D:28:GLY:H	1.86	0.40
9:G:122:ASN:N	9:G:127:PRO:HB3	2.36	0.40
20:R:14:ALA:HB2	20:R:99:ALA:HB2	2.02	0.40
25:W:35:VAL:HA	25:W:36:PRO:HD3	1.78	0.40
25:W:59:GLN:HE22	25:W:98:PHE:N	2.19	0.40
1:0:1103:C:C2	1:0:1241:G:N2	2.89	0.40
1:0:1603:A:H4'	1:0:1605:G:C8	2.55	0.40
1:0:1915:U:C2'	1:0:1916:C:C5'	2.99	0.40
1:0:2614:C:H2'	1:0:2615:U:H5'	2.03	0.40
1:0:2615:U:O2'	1:0:2616:G:H5'	2.21	0.40
1:0:2725:G:H1'	1:0:2757:A:N6	2.36	0.40
1:0:2763:G:C6	1:0:2764:C:N4	2.89	0.40
2:9:108:C:H2'	2:9:109:G:O4'	2.21	0.40
2:9:115:C:C2	2:9:116:C:C5	3.09	0.40
4:B:307:ARG:HH11	4:B:307:ARG:HG3	1.87	0.40
4:B:4:SER:O	4:B:5:ARG:HB2	2.20	0.40
6:D:77:ASP:HB3	6:D:78:GLU:H	1.56	0.40
9:G:110:THR:HG1	9:G:114:ILE:HA	1.86	0.40
9:G:8:LYS:HB2	9:G:9:THR:H	1.60	0.40
8:F:56:PRO:CG	15:M:44:THR:HA	2.46	0.40
16:N:48:VAL:HG11	16:N:55:ASP:HB3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:39:THR:HG22	20:R:42:GLU:H	1.86	0.40
25:W:45:VAL:O	25:W:49:ASN:N	2.54	0.40
1:0:1328:A:P	27:Y:169:ARG:HH11	2.44	0.40
1:0:1169:U:H2'	1:0:1170:U:C5'	2.52	0.40
1:0:1207:A:H3'	1:0:1208:C:OP2	2.22	0.40
1:0:1311:G:C2	1:0:1312:G:N7	2.89	0.40
1:0:1517:U:H6	1:0:1517:U:O5'	2.03	0.40
1:0:1657:A:C6	1:0:1658:A:C6	3.10	0.40
1:0:244:C:O5'	1:0:244:C:H6	2.03	0.40
1:0:2575:C:C4	1:0:2576:A:C5	3.09	0.40
1:0:2613:G:H2'	1:0:2614:C:H6	1.86	0.40
1:0:2689:A:H2'	1:0:2690:U:H5'	2.03	0.40
1:0:387:G:H2'	1:0:388:G:C5'	2.52	0.40
1:0:396:U:O2'	1:0:397:A:OP1	2.38	0.40
1:0:614:U:H2'	1:0:614:U:O2	2.22	0.40
1:0:775:G:OP1	29:1:16:HIS:HE1	2.04	0.40
1:0:793:A:H5''	18:P:83:LYS:HG2	2.04	0.40
1:0:856:G:O2'	1:0:857:A:H3'	2.21	0.40
29:1:22:CYS:HB3	29:1:37:CYS:CB	2.49	0.40
1:0:170:U:C5'	31:3:48:ASN:O	2.69	0.40
2:9:88:G:OP1	25:W:130:HIS:NE2	2.52	0.40
3:A:182:ARG:HG2	3:A:182:ARG:HH11	1.86	0.40
4:B:256:GLN:NE2	4:B:257:THR:H	2.19	0.40
6:D:35:ALA:O	6:D:38:GLU:HB2	2.21	0.40
7:E:112:ALA:HA	7:E:113:PRO:HD3	1.84	0.40
9:G:41:ILE:CG2	9:G:45:GLN:HB3	2.51	0.40
10:H:63:GLU:O	10:H:67:LEU:HB2	2.21	0.40
11:I:41:GLN:CD	11:I:66:VAL:HG21	2.40	0.40
11:I:96:LEU:HA	11:I:96:LEU:HD23	1.91	0.40
1:0:2596:A:O2'	13:K:32:ILE:HG22	2.20	0.40
25:W:101:LEU:HD23	25:W:101:LEU:HA	1.77	0.40
27:Y:150:LEU:O	27:Y:151:SER:C	2.59	0.40
1:0:1209:C:C2	1:0:1210:G:C8	3.10	0.40
1:0:1252:A:H2'	1:0:1253:C:O4'	2.22	0.40
1:0:1375:A:H2'	1:0:1376:G:C5'	2.49	0.40
1:0:1688:G:H4'	29:1:8:GLN:HG3	2.03	0.40
1:0:1889:C:H2'	1:0:1890:U:H5'	2.03	0.40
1:0:2005:G:OP2	1:0:2006:C:H5''	2.22	0.40
1:0:2348:C:C5'	6:D:22:VAL:HG21	2.51	0.40
1:0:248:A:H3'	1:0:249:G:H5'	2.04	0.40
1:0:2502:C:O3'	10:H:151:ARG:NH2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2508:C:C2'	1:0:2508:C:O2	2.68	0.40
1:0:2547:C:H2'	1:0:2548:C:C6	2.57	0.40
1:0:2733:U:C2	1:0:2750:G:N2	2.90	0.40
1:0:2750:G:O2'	1:0:2751:C:H5'	2.22	0.40
1:0:278:A:H2'	1:0:279:C:O4'	2.22	0.40
1:0:435:A:O2'	1:0:436:A:H5'	2.22	0.40
1:0:493:U:C2'	1:0:494:C:H5'	2.51	0.40
1:0:733:U:H2'	1:0:734:U:O4'	2.22	0.40
1:0:814:G:C2	1:0:815:U:H1'	2.57	0.40
2:9:10:C:H4'	2:9:13:A:N6	2.36	0.40
2:9:39:U:C2'	2:9:40:C:OP1	2.70	0.40
4:B:97:LEU:HD22	4:B:127:GLN:NE2	2.36	0.40
22:T:17:HIS:CD2	22:T:18:GLU:HG3	2.56	0.40
1:0:2865:G:O2'	23:U:51:TRP:HD1	2.04	0.40
1:0:1197:G:C2	1:0:1203:G:O6	2.75	0.40
1:0:1213:C:H2'	1:0:1214:G:H5'	1.99	0.40
1:0:1707:G:N3	1:0:1709:G:C8	2.89	0.40
1:0:1836:A:C2	29:1:3:ALA:HA	2.57	0.40
1:0:2329:C:O2'	1:0:2330:U:H5'	2.21	0.40
1:0:2569:A:O5'	1:0:2569:A:H8	2.05	0.40
1:0:2700:G:C6	1:0:2701:G:C4	3.10	0.40
1:0:2876:G:O6	1:0:2882:G:C2	2.75	0.40
1:0:318:C:H5'	1:0:339:A:C2	2.57	0.40
1:0:639:A:H2'	1:0:640:G:C8	2.57	0.40
1:0:876:A:N3	1:0:876:A:H2'	2.36	0.40
1:0:876:A:N3	1:0:876:A:C2'	2.84	0.40
1:0:2548:C:OP2	4:B:5:ARG:NH2	2.54	0.40
9:G:71:LEU:HB2	9:G:81:LEU:CD2	2.52	0.40
9:G:71:LEU:HB2	9:G:81:LEU:HD23	2.03	0.40
12:J:31:LEU:HD23	12:J:31:LEU:HA	1.93	0.40
19:Q:53:HIS:O	19:Q:55:ARG:N	2.54	0.40
1:0:1343:C:C2'	27:Y:208:LYS:HZ1	2.35	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

of similar resolution.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	A	235/240 (98%)	206 (88%)	24 (10%)	5 (2%)	8	36
4	B	335/338 (99%)	287 (86%)	38 (11%)	10 (3%)	5	26
5	C	244/246 (99%)	209 (86%)	28 (12%)	7 (3%)	5	26
6	D	134/177 (76%)	95 (71%)	34 (25%)	5 (4%)	4	21
7	E	170/178 (96%)	156 (92%)	12 (7%)	2 (1%)	14	51
8	F	117/120 (98%)	101 (86%)	13 (11%)	3 (3%)	6	30
9	G	121/348 (35%)	79 (65%)	29 (24%)	13 (11%)	0	2
10	H	156/171 (91%)	141 (90%)	11 (7%)	4 (3%)	6	30
11	I	112/162 (69%)	76 (68%)	28 (25%)	8 (7%)	1	6
12	J	140/145 (97%)	129 (92%)	9 (6%)	2 (1%)	12	47
13	K	130/132 (98%)	117 (90%)	11 (8%)	2 (2%)	11	45
14	L	141/165 (86%)	127 (90%)	13 (9%)	1 (1%)	24	64
15	M	192/196 (98%)	161 (84%)	31 (16%)	0	100	100
16	N	184/187 (98%)	162 (88%)	19 (10%)	3 (2%)	11	43
17	O	113/116 (97%)	103 (91%)	9 (8%)	1 (1%)	19	59
18	P	141/149 (95%)	129 (92%)	11 (8%)	1 (1%)	24	64
19	Q	93/96 (97%)	85 (91%)	5 (5%)	3 (3%)	4	24
20	R	148/155 (96%)	129 (87%)	18 (12%)	1 (1%)	24	64
21	S	79/85 (93%)	65 (82%)	14 (18%)	0	100	100
22	T	117/120 (98%)	105 (90%)	11 (9%)	1 (1%)	19	59
23	U	51/67 (76%)	48 (94%)	3 (6%)	0	100	100
24	V	63/71 (89%)	57 (90%)	5 (8%)	1 (2%)	11	43
25	W	152/154 (99%)	134 (88%)	17 (11%)	1 (1%)	24	64
26	X	80/92 (87%)	66 (82%)	13 (16%)	1 (1%)	13	49
27	Y	140/241 (58%)	130 (93%)	7 (5%)	3 (2%)	8	36
28	Z	71/92 (77%)	64 (90%)	7 (10%)	0	100	100
29	1	54/57 (95%)	45 (83%)	8 (15%)	1 (2%)	9	39
30	2	42/50 (84%)	41 (98%)	1 (2%)	0	100	100
31	3	90/92 (98%)	82 (91%)	7 (8%)	1 (1%)	16	53

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	3845/4442 (87%)	3329 (87%)	436 (11%)	80 (2%)	8	36

All (80) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	B	16	ARG
6	D	27	ILE
8	F	91	VAL
9	G	127	PRO
11	I	11	GLY
11	I	82	GLU
14	L	80	ASP
16	N	154	LEU
3	A	34	ASP
3	A	62	ASP
4	B	139	ASP
4	B	169	GLY
4	B	184	ASP
6	D	77	ASP
7	E	44	GLY
7	E	90	HIS
8	F	61	MET
8	F	101	ALA
9	G	87	GLY
9	G	125	VAL
9	G	129	GLY
10	H	140	VAL
11	I	90	GLU
12	J	5	GLU
13	K	102	GLU
17	O	90	ASP
19	Q	23	THR
22	T	46	ASP
24	V	43	PRO
26	X	87	ALA
27	Y	173	ALA
31	3	57	GLY
4	B	107	SER
4	B	206	THR
5	C	8	LEU
5	C	201	SER
5	C	215	ALA

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Mol	Chain	Res	Type
5	C	232	LEU
6	D	171	ASP
6	D	173	GLU
9	G	40	GLY
9	G	100	SER
9	G	128	GLU
10	H	166	SER
12	J	65	ASN
20	R	71	LYS
25	W	25	ASN
29	1	11	LYS
3	A	232	ARG
9	G	115	GLY
10	H	44	PRO
10	H	168	ALA
11	I	117	LEU
19	Q	54	PRO
27	Y	167	GLY
27	Y	172	THR
3	A	234	GLY
4	B	2	GLN
4	B	225	GLY
5	C	206	ASN
9	G	34	GLY
16	N	164	ASP
18	P	25	PRO
4	B	183	GLU
5	C	142	ASP
9	G	98	PRO
9	G	126	ILE
11	I	30	ASP
11	I	69	PRO
11	I	98	VAL
13	K	62	PRO
3	A	170	VAL
6	D	137	PRO
9	G	111	PRO
9	G	55	GLY
11	I	50	VAL
19	Q	18	PRO
4	B	5	ARG
5	C	19	PRO

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Mol	Chain	Res	Type
16	N	126	GLY

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	A	179/182 (98%)	164 (92%)	15 (8%)	12	41
4	B	282/283 (100%)	264 (94%)	18 (6%)	19	55
5	C	193/193 (100%)	174 (90%)	19 (10%)	9	33
6	D	117/148 (79%)	109 (93%)	8 (7%)	17	52
7	E	152/156 (97%)	142 (93%)	10 (7%)	18	53
8	F	93/94 (99%)	92 (99%)	1 (1%)	76	92
9	G	106/283 (38%)	95 (90%)	11 (10%)	8	29
10	H	132/138 (96%)	124 (94%)	8 (6%)	20	57
11	I	99/130 (76%)	84 (85%)	15 (15%)	3	15
12	J	118/121 (98%)	107 (91%)	11 (9%)	10	36
13	K	106/106 (100%)	98 (92%)	8 (8%)	15	47
14	L	113/127 (89%)	108 (96%)	5 (4%)	31	69
15	M	158/160 (99%)	150 (95%)	8 (5%)	26	64
16	N	149/150 (99%)	144 (97%)	5 (3%)	40	76
17	O	93/94 (99%)	89 (96%)	4 (4%)	32	70
18	P	113/117 (97%)	107 (95%)	6 (5%)	25	62
19	Q	79/80 (99%)	76 (96%)	3 (4%)	36	73
20	R	117/122 (96%)	113 (97%)	4 (3%)	40	76
21	S	71/74 (96%)	66 (93%)	5 (7%)	16	50
22	T	105/106 (99%)	99 (94%)	6 (6%)	23	60
23	U	44/53 (83%)	44 (100%)	0	100	100
24	V	51/57 (90%)	49 (96%)	2 (4%)	35	73
25	W	130/130 (100%)	121 (93%)	9 (7%)	17	51

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
26	X	66/74 (89%)	62 (94%)	4 (6%)	20	57
27	Y	120/196 (61%)	111 (92%)	9 (8%)	15	47
28	Z	60/74 (81%)	60 (100%)	0	100	100
29	1	46/47 (98%)	43 (94%)	3 (6%)	19	54
30	2	42/46 (91%)	41 (98%)	1 (2%)	52	83
31	3	79/79 (100%)	78 (99%)	1 (1%)	71	91
All	All	3213/3620 (89%)	3014 (94%)	199 (6%)	20	56

All (199) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	3	ARG
3	A	30	ARG
3	A	34	ASP
3	A	44	ASP
3	A	55	VAL
3	A	64	ASP
3	A	69	LEU
3	A	85	SER
3	A	153	ARG
3	A	179	MET
3	A	192	VAL
3	A	194	MET
3	A	197	VAL
3	A	217	ARG
3	A	235	ARG
4	B	11	LEU
4	B	16	ARG
4	B	27	ASN
4	B	32	ASP
4	B	33	ASP
4	B	56	ASP
4	B	97	LEU
4	B	98	THR
4	B	162	MET
4	B	171	VAL
4	B	184	ASP
4	B	195	ARG
4	B	235	ARG
4	B	249	SER

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Mol	Chain	Res	Type
4	B	251	VAL
4	B	256	GLN
4	B	265	LEU
4	B	312	ARG
5	C	2	GLN
5	C	12	THR
5	C	16	VAL
5	C	27	ARG
5	C	46	TYR
5	C	76	ARG
5	C	78	ARG
5	C	87	ARG
5	C	91	PRO
5	C	109	LEU
5	C	115	LEU
5	C	151	GLN
5	C	153	VAL
5	C	187	ARG
5	C	202	THR
5	C	222	ASP
5	C	234	VAL
5	C	236	THR
5	C	240	LEU
6	D	24	HIS
6	D	61	PHE
6	D	104	PHE
6	D	136	ARG
6	D	137	PRO
6	D	149	ARG
6	D	153	THR
6	D	170	TYR
7	E	7	ILE
7	E	11	VAL
7	E	16	ASP
7	E	41	SER
7	E	58	THR
7	E	86	VAL
7	E	115	ARG
7	E	150	GLN
7	E	156	ASP
7	E	164	ASP
8	F	49	PHE

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Mol	Chain	Res	Type
9	G	7	ARG
9	G	45	GLN
9	G	53	LEU
9	G	78	LEU
9	G	81	LEU
9	G	85	ILE
9	G	91	LEU
9	G	95	ASP
9	G	108	SER
9	G	109	LYS
9	G	119	VAL
10	H	1	LYS
10	H	8	ASP
10	H	62	LEU
10	H	84	LYS
10	H	88	ARG
10	H	123	THR
10	H	142	ASP
10	H	151	ARG
11	I	9	VAL
11	I	13	GLU
11	I	15	ASN
11	I	20	LEU
11	I	24	LEU
11	I	31	VAL
11	I	41	GLN
11	I	56	TYR
11	I	64	ILE
11	I	82	GLU
11	I	85	SER
11	I	90	GLU
11	I	111	ASP
11	I	113	LEU
11	I	115	TYR
12	J	39	VAL
12	J	46	ILE
12	J	47	THR
12	J	52	GLN
12	J	74	ARG
12	J	76	ASP
12	J	79	PHE
12	J	92	GLN

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Mol	Chain	Res	Type
12	J	107	ASN
12	J	120	SER
12	J	131	THR
13	K	10	GLN
13	K	19	THR
13	K	58	THR
13	K	69	LEU
13	K	74	VAL
13	K	80	ILE
13	K	101	ASN
13	K	108	GLU
14	L	30	ARG
14	L	32	ASP
14	L	35	ARG
14	L	104	ASP
14	L	117	GLU
15	M	10	ASP
15	M	46	LEU
15	M	68	ARG
15	M	81	ARG
15	M	93	ARG
15	M	115	LEU
15	M	120	VAL
15	M	125	ARG
16	N	26	LEU
16	N	115	VAL
16	N	139	TRP
16	N	152	GLU
16	N	180	LEU
17	O	38	ARG
17	O	43	VAL
17	O	67	SER
17	O	111	VAL
18	P	3	LEU
18	P	13	VAL
18	P	21	VAL
18	P	91	LYS
18	P	98	ILE
18	P	136	ASP
19	Q	16	ASN
19	Q	57	ASP
19	Q	95	GLU

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Mol	Chain	Res	Type
20	R	39	THR
20	R	82	GLU
20	R	132	ARG
20	R	143	VAL
21	S	10	VAL
21	S	20	PHE
21	S	28	VAL
21	S	30	ASP
21	S	59	ASP
22	T	5	ASP
22	T	23	VAL
22	T	39	ASN
22	T	48	VAL
22	T	87	VAL
22	T	96	VAL
24	V	22	ASP
24	V	43	PRO
25	W	10	GLU
25	W	11	VAL
25	W	45	VAL
25	W	50	ASP
25	W	64	THR
25	W	76	ASP
25	W	128	VAL
25	W	146	ILE
25	W	154	ARG
26	X	15	ARG
26	X	16	ASP
26	X	76	ARG
26	X	85	VAL
27	Y	95	THR
27	Y	154	ARG
27	Y	165	GLU
27	Y	188	HIS
27	Y	189	ASN
27	Y	203	VAL
27	Y	204	ARG
27	Y	219	GLU
27	Y	235	GLU
29	1	18	LYS
29	1	36	SER
29	1	37	CYS

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Mol	Chain	Res	Type
30	2	18	ASN
31	3	15	ASN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (75) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	47	HIS
3	A	125	ASN
3	A	176	HIS
3	A	199	HIS
4	B	27	ASN
4	B	145	HIS
4	B	191	ASN
4	B	230	GLN
4	B	238	ASN
4	B	260	HIS
4	B	320	GLN
5	C	129	HIS
5	C	151	GLN
5	C	178	GLN
6	D	103	ASN
6	D	133	ASN
7	E	143	GLN
7	E	150	GLN
7	E	163	GLN
9	G	37	ASN
9	G	64	ASN
9	G	97	ASN
10	H	31	HIS
10	H	56	GLN
10	H	70	ASN
11	I	41	GLN
12	J	40	ASN
12	J	52	GLN
12	J	107	ASN
13	K	10	GLN
13	K	67	GLN
13	K	101	ASN
14	L	42	ASN
15	M	24	GLN
15	M	58	GLN
15	M	77	HIS

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Mol	Chain	Res	Type
15	M	143	ASN
15	M	170	ASN
16	N	40	ASN
16	N	53	ASN
16	N	93	GLN
16	N	107	ASN
17	O	53	GLN
18	P	57	ASN
18	P	66	GLN
18	P	73	HIS
18	P	118	GLN
19	Q	16	ASN
19	Q	40	HIS
19	Q	94	GLN
20	R	98	ASN
20	R	113	HIS
20	R	117	HIS
21	S	21	GLN
21	S	44	GLN
21	S	51	GLN
21	S	55	GLN
22	T	39	ASN
23	U	39	ASN
24	V	60	GLN
25	W	6	GLN
25	W	59	GLN
25	W	110	GLN
25	W	119	HIS
25	W	125	HIS
25	W	141	HIS
26	X	23	HIS
27	Y	149	GLN
27	Y	188	HIS
27	Y	189	ASN
28	Z	37	HIS
29	1	16	HIS
30	2	18	ASN
30	2	41	HIS
31	3	48	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2741/2922 (93%)	291 (10%)	35 (1%)
2	9	121/122 (99%)	16 (13%)	4 (3%)
All	All	2862/3044 (94%)	307 (10%)	39 (1%)

All (307) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	11	A
1	0	31	C
1	0	60	A
1	0	67	A
1	0	69	A
1	0	70	A
1	0	71	G
1	0	87	C
1	0	88	G
1	0	97	G
1	0	114	A
1	0	115	U
1	0	120	A
1	0	122	C
1	0	130	C
1	0	139	C
1	0	141	C
1	0	151	A
1	0	166	A
1	0	169	A
1	0	186	A
1	0	191	A
1	0	192	A
1	0	200	U
1	0	219	G
1	0	237	G
1	0	271	C
1	0	272	A
1	0	273	G
1	0	283	U
1	0	284	C
1	0	285	A
1	0	308	U
1	0	309	C
1	0	317	A
1	0	318	C

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Mol	Chain	Res	Type
1	0	336	G
1	0	337	A
1	0	345	G
1	0	358	G
1	0	381	G
1	0	397	A
1	0	398	U
1	0	409	U
1	0	417	G
1	0	461	C
1	0	473	A
1	0	487	G
1	0	498	A
1	0	510	U
1	0	511	A
1	0	514	G
1	0	516	A
1	0	537	G
1	0	538	C
1	0	539	G
1	0	542	A
1	0	545	G
1	0	549	A
1	0	553	G
1	0	559	U
1	0	588	G
1	0	603	A
1	0	604	G
1	0	605	C
1	0	620	A
1	0	630	A
1	0	632	A
1	0	644	G
1	0	645	U
1	0	660	A
1	0	688	A
1	0	701	U
1	0	759	C
1	0	777	U
1	0	809	G
1	0	821	U
1	0	835	U

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Mol	Chain	Res	Type
1	0	840	U
1	0	846	A
1	0	857	A
1	0	858	U
1	0	868	G
1	0	869	G
1	0	871	G
1	0	872	U
1	0	875	A
1	0	877	G
1	0	878	G
1	0	884	C
1	0	905	C
1	0	921	G
1	0	923	A
1	0	953	G
1	0	960	G
1	0	961	A
1	0	1006	A
1	0	1008	C
1	0	1029	U
1	0	1030	U
1	0	1045	G
1	0	1052	G
1	0	1059	G
1	0	1060	C
1	0	1072	G
1	0	1081	A
1	0	1087	G
1	0	1088	A
1	0	1109	U
1	0	1110	G
1	0	1119	G
1	0	1120	U
1	0	1130	U
1	0	1137	G
1	0	1151	G
1	0	1162	G
1	0	1164	U
1	0	1165	G
1	0	1166	A
1	0	1167	G

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Mol	Chain	Res	Type
1	0	1168	C
1	0	1170	U
1	0	1171	A
1	0	1174	A
1	0	1175	G
1	0	1193	A
1	0	1194	A
1	0	1195	G
1	0	1197	G
1	0	1205	U
1	0	1206	U
1	0	1207	A
1	0	1216	G
1	0	1237	U
1	0	1238	C
1	0	1239	G
1	0	1247	A
1	0	1259	A
1	0	1260	G
1	0	1279	U
1	0	1289	C
1	0	1300	G
1	0	1331	A
1	0	1342	C
1	0	1353	C
1	0	1360	C
1	0	1377	C
1	0	1378	G
1	0	1407	A
1	0	1451	C
1	0	1457	U
1	0	1460	G
1	0	1474	C
1	0	1485	A
1	0	1488	U
1	0	1505	U
1	0	1506	U
1	0	1507	C
1	0	1524	U
1	0	1525	G
1	0	1562	C
1	0	1564	C

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Mol	Chain	Res	Type
1	0	1580	A
1	0	1592	G
1	0	1605	G
1	0	1617	C
1	0	1625	U
1	0	1626	A
1	0	1633	C
1	0	1634	G
1	0	1656	A
1	0	1667	A
1	0	1684	A
1	0	1685	A
1	0	1692	C
1	0	1693	A
1	0	1701	A
1	0	1703	G
1	0	1722	U
1	0	1723	G
1	0	1725	C
1	0	1730	G
1	0	1731	C
1	0	1732	A
1	0	1752	G
1	0	1778	A
1	0	1798	C
1	0	1819	G
1	0	1820	G
1	0	1829	A
1	0	1830	C
1	0	1838	U
1	0	1856	C
1	0	1875	A
1	0	1879	U
1	0	1885	A
1	0	1919	A
1	0	1942	A
1	0	1968	A
1	0	1973	A
1	0	1974	G
1	0	1978	A
1	0	1979	G
1	0	1980	U

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Mol	Chain	Res	Type
1	0	1996	U
1	0	2004	U
1	0	2005	G
1	0	2006	C
1	0	2008	U
1	0	2011	A
1	0	2012	U
1	0	2013	G
1	0	2033	G
1	0	2034	U
1	0	2064	U
1	0	2072	G
1	0	2073	G
1	0	2074	A
1	0	2096	A
1	0	2097	G
1	0	2101	A
1	0	2102	G
1	0	2110	G
1	0	2238	A
1	0	2243	C
1	0	2258	A
1	0	2271	G
1	0	2272	G
1	0	2317	C
1	0	2321	A
1	0	2329	C
1	0	2332	A
1	0	2346	C
1	0	2354	A
1	0	2361	A
1	0	2369	A
1	0	2422	U
1	0	2461	U
1	0	2462	G
1	0	2465	A
1	0	2467	A
1	0	2469	A
1	0	2476	C
1	0	2482	G
1	0	2483	A
1	0	2507	G

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Mol	Chain	Res	Type
1	0	2509	A
1	0	2511	A
1	0	2513	A
1	0	2533	C
1	0	2537	G
1	0	2541	U
1	0	2553	A
1	0	2564	G
1	0	2589	U
1	0	2601	A
1	0	2602	G
1	0	2607	U
1	0	2608	C
1	0	2613	G
1	0	2638	G
1	0	2649	A
1	0	2664	A
1	0	2676	C
1	0	2681	A
1	0	2682	C
1	0	2718	C
1	0	2719	A
1	0	2726	U
1	0	2747	C
1	0	2748	G
1	0	2749	U
1	0	2750	G
1	0	2762	C
1	0	2768	A
1	0	2786	G
1	0	2792	A
1	0	2800	A
1	0	2811	A
1	0	2812	A
1	0	2825	C
1	0	2836	G
1	0	2840	A
1	0	2850	C
1	0	2852	A
1	0	2853	U
1	0	2876	G
1	0	2890	A

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Mol	Chain	Res	Type
1	0	2896	A
1	0	2903	C
1	0	2914	A
2	9	2	U
2	9	7	G
2	9	14	G
2	9	22	G
2	9	23	U
2	9	24	U
2	9	40	C
2	9	41	C
2	9	43	G
2	9	44	A
2	9	52	A
2	9	57	A
2	9	66	G
2	9	77	A
2	9	114	G
2	9	122	C

All (39) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	10	U
1	0	129	A
1	0	396	U
1	0	603	A
1	0	604	G
1	0	644	G
1	0	857	A
1	0	871	G
1	0	877	G
1	0	898	G
1	0	1080	C
1	0	1161	A
1	0	1165	G
1	0	1167	G
1	0	1193	A
1	0	1237	U
1	0	1246	A
1	0	1352	A
1	0	1377	C

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Mol	Chain	Res	Type
1	0	1450	C
1	0	1504	A
1	0	1506	U
1	0	1710	A
1	0	1856	C
1	0	1979	G
1	0	2011	A
1	0	2096	A
1	0	2313	C
1	0	2467	A
1	0	2536	C
1	0	2718	C
1	0	2761	A
1	0	2791	U
1	0	2850	C
1	0	2852	A
2	9	14	G
2	9	43	G
2	9	65	A
2	9	103	A

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

4 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	OMU	0	2587	1	14,22,23	0.96	1 (7%)	18,31,34	3.65	2 (11%)
1	OMG	0	2588	1	19,26,27	1.08	2 (10%)	22,38,41	2.46	4 (18%)
1	UR3	0	2619	1	13,22,23	0.90	1 (7%)	15,32,35	0.74	0
1	PSU	0	2621	1	16,21,22	1.70	3 (18%)	20,30,33	5.46	5 (25%)

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	OMU	0	2587	1	-	0/5/27/28	0/2/2/2
1	OMG	0	2588	1	-	0/5/27/28	0/3/3/3
1	UR3	0	2619	1	-	0/3/25/26	0/2/2/2
1	PSU	0	2621	1	-	0/7/25/26	0/2/2/2

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	2621	PSU	C5-C1'	-5.05	1.47	1.52
1	0	2619	UR3	C6-C5	-2.52	1.32	1.38
1	0	2588	OMG	C8-N7	-2.16	1.30	1.34
1	0	2587	OMU	C4-N3	2.46	1.37	1.33
1	0	2621	PSU	C4-N3	2.77	1.38	1.33
1	0	2621	PSU	C2-N1	2.82	1.43	1.38
1	0	2588	OMG	C6-N1	3.45	1.39	1.33

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2621	PSU	N1-C2-N3	-17.48	114.36	128.41
1	0	2588	OMG	C5-C6-N1	-8.27	111.71	123.47
1	0	2621	PSU	C5-C4-N3	-8.15	114.86	125.36
1	0	2587	OMU	C5-C4-N3	-3.80	114.35	123.17
1	0	2588	OMG	C2-N3-C4	-2.85	111.83	115.16
1	0	2621	PSU	O2'-C2'-C1'	-2.77	105.35	111.94
1	0	2588	OMG	N3-C2-N1	-2.29	124.06	127.41
1	0	2621	PSU	C6-N1-C2	2.86	119.93	115.36
1	0	2588	OMG	C6-N1-C2	6.12	124.87	116.06
1	0	2621	PSU	C4-N3-C2	14.17	127.20	115.14
1	0	2587	OMU	C4-N3-C2	14.86	126.92	114.14

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

4 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	0	2587	OMU	5	0
1	0	2588	OMG	3	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	0	2619	UR3	1	0
1	0	2621	PSU	1	0

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 231 ligands modelled in this entry, 231 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
9	G	2
1	0	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	0	1207:A	O3'	1208:C	P	2.51
1	G	53:LEU	C	54:HIS	N	1.63
1	G	54:HIS	C	55:GLY	N	0.99

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	0	2749/2922 (94%)	-0.18	16 (0%) 89 71	17, 56, 120, 184	0
2	9	122/122 (100%)	-0.01	2 (1%) 72 44	41, 89, 136, 181	0
3	A	237/240 (98%)	0.56	23 (9%) 8 2	34, 90, 133, 148	0
4	B	337/338 (99%)	0.15	13 (3%) 39 16	25, 60, 100, 112	0
5	C	246/246 (100%)	0.16	6 (2%) 59 30	29, 58, 91, 106	0
6	D	140/177 (79%)	1.95	58 (41%) 0 0	89, 146, 170, 178	0
7	E	172/178 (96%)	0.48	12 (6%) 16 5	46, 73, 100, 109	0
8	F	119/120 (99%)	0.37	5 (4%) 36 14	74, 110, 150, 166	0
9	G	125/348 (35%)	1.41	37 (29%) 0 0	100, 133, 165, 168	0
10	H	160/171 (93%)	0.34	6 (3%) 40 16	51, 76, 109, 120	0
11	I	118/162 (72%)	2.78	63 (53%) 0 0	20, 181, 199, 200	0
12	J	142/145 (97%)	-0.05	0 100 100	31, 54, 83, 99	0
13	K	132/132 (100%)	0.19	3 (2%) 60 31	33, 61, 98, 103	0
14	L	145/165 (87%)	1.49	39 (26%) 0 0	49, 111, 158, 162	0
15	M	194/196 (98%)	0.77	22 (11%) 5 1	2, 62, 161, 180	0
16	N	186/187 (99%)	1.18	37 (19%) 1 0	62, 106, 176, 189	0
17	O	115/116 (99%)	0.10	0 100 100	48, 70, 88, 91	0
18	P	143/149 (95%)	0.79	18 (12%) 3 1	44, 68, 103, 109	0
19	Q	95/96 (98%)	0.67	7 (7%) 14 4	52, 74, 87, 100	0
20	R	150/155 (96%)	0.04	1 (0%) 87 68	30, 48, 74, 81	0
21	S	81/85 (95%)	0.40	2 (2%) 57 29	56, 87, 108, 123	0
22	T	119/120 (99%)	0.99	23 (19%) 1 0	51, 74, 106, 139	0
23	U	53/67 (79%)	1.90	22 (41%) 0 0	96, 108, 126, 133	0
24	V	65/71 (91%)	0.84	9 (13%) 3 1	66, 105, 145, 148	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	W	154/154 (100%)	-0.02	0 100 100	38, 55, 81, 95	0
26	X	82/92 (89%)	0.57	7 (8%) 11 3	43, 63, 84, 95	0
27	Y	142/241 (58%)	0.26	2 (1%) 75 49	23, 51, 87, 106	0
28	Z	73/92 (79%)	6.73	67 (91%) 0 0	164, 174, 200, 200	0
29	1	56/57 (98%)	0.06	0 100 100	28, 43, 56, 65	0
30	2	46/50 (92%)	1.29	13 (28%) 0 0	48, 87, 150, 152	0
31	3	92/92 (100%)	11.33	92 (100%) 0 0	184, 198, 200, 200	0
All	All	6790/7486 (90%)	0.51	605 (8%) 9 3	2, 67, 162, 200	0

All (605) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
31	3	9	THR	24.4
31	3	33	MET	23.0
31	3	69	TYR	22.4
31	3	78	HIS	20.9
31	3	25	VAL	20.2
31	3	59	ASP	20.2
31	3	74	CYS	19.8
31	3	23	GLU	19.0
28	Z	32	GLU	18.7
31	3	31	THR	18.1
31	3	75	GLY	18.1
31	3	58	GLY	17.0
31	3	32	GLY	16.1
31	3	34	LYS	15.9
31	3	68	LYS	15.9
31	3	76	LYS	15.9
31	3	71	CYS	15.7
31	3	24	LYS	15.6
31	3	22	VAL	15.6
31	3	20	HIS	15.4
31	3	77	ALA	15.3
31	3	10	TYR	15.1
31	3	21	GLU	14.8
31	3	15	ASN	14.7
31	3	3	MET	14.6
31	3	67	LEU	14.5
31	3	27	SER	14.4
31	3	86	GLY	14.3

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Mol	Chain	Res	Type	RSRZ
28	Z	33	MET	14.2
31	3	82	GLY	14.1
31	3	39	GLN	13.9
28	Z	27	ALA	13.9
31	3	48	ASN	13.9
28	Z	34	ASN	13.5
28	Z	19	GLY	13.4
31	3	43	ASN	13.2
31	3	37	ASP	13.1
31	3	11	CYS	13.1
31	3	18	GLN	13.0
31	3	47	GLY	12.7
31	3	85	ALA	12.3
31	3	14	CYS	12.0
31	3	35	TRP	12.0
28	Z	26	VAL	11.9
28	Z	45	ASP	11.9
31	3	53	SER	11.8
11	I	50	VAL	11.8
31	3	1	MET	11.7
28	Z	53	GLY	11.6
31	3	13	HIS	11.6
31	3	41	GLU	11.5
28	Z	30	GLU	11.4
15	M	87	GLY	11.3
28	Z	55	TRP	11.2
28	Z	25	ARG	11.1
28	Z	68	SER	11.0
31	3	6	ARG	10.9
28	Z	35	GLU	10.9
31	3	44	SER	10.8
31	3	70	ARG	10.7
31	3	62	THR	10.7
31	3	88	LEU	10.7
11	I	9	VAL	10.7
31	3	8	ASN	10.2
31	3	4	PRO	10.2
31	3	36	ILE	10.1
11	I	8	LEU	10.1
28	Z	31	SER	10.0
31	3	38	ARG	10.0
31	3	12	PRO	10.0

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Mol	Chain	Res	Type	RSRZ
28	Z	11	SER	9.9
31	3	73	GLU	9.9
15	M	70	GLY	9.9
28	Z	44	GLU	9.8
28	Z	20	ARG	9.8
31	3	83	TRP	9.7
14	L	44	GLU	9.7
31	3	45	GLY	9.6
31	3	40	ARG	9.6
31	3	26	ARG	9.5
28	Z	15	GLY	9.5
31	3	52	PHE	9.4
31	3	65	THR	9.3
31	3	49	ASP	9.2
31	3	66	ASP	9.1
15	M	77	HIS	9.0
31	3	55	VAL	9.0
28	Z	24	ARG	9.0
31	3	30	GLN	9.0
31	3	91	GLN	8.6
24	V	1	THR	8.6
28	Z	21	VAL	8.6
11	I	6	GLU	8.5
11	I	24	LEU	8.5
31	3	42	ARG	8.3
6	D	25	MET	8.3
31	3	72	GLY	8.2
28	Z	28	GLU	8.2
31	3	84	ARG	8.2
31	3	56	PRO	8.1
28	Z	69	TYR	8.1
28	Z	37	HIS	8.0
11	I	12	GLY	8.0
31	3	60	LYS	8.0
28	Z	22	SER	8.0
11	I	7	VAL	7.8
11	I	40	ASP	7.8
31	3	17	HIS	7.7
6	D	69	ILE	7.7
28	Z	14	PHE	7.5
28	Z	29	ILE	7.4
31	3	2	GLN	7.4

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Mol	Chain	Res	Type	RSRZ
31	3	19	GLU	7.3
28	Z	23	ARG	7.3
28	Z	59	TYR	7.3
14	L	43	HIS	7.3
28	Z	36	ASP	7.2
15	M	80	GLY	7.2
31	3	80	ARG	7.1
14	L	42	ASN	7.0
31	3	7	PHE	6.8
31	3	57	GLY	6.8
11	I	20	LEU	6.8
28	Z	56	GLN	6.6
28	Z	64	PHE	6.5
23	U	54	THR	6.5
11	I	39	ASN	6.5
11	I	5	ILE	6.5
16	N	160	SER	6.5
11	I	42	THR	6.5
31	3	16	GLU	6.4
9	G	60	ARG	6.4
31	3	81	GLU	6.4
31	3	46	ILE	6.3
6	D	63	ILE	6.3
11	I	43	ALA	6.3
28	Z	16	ALA	6.3
11	I	41	GLN	6.2
31	3	51	LYS	6.2
16	N	166	ALA	6.1
11	I	49	GLU	6.1
28	Z	18	TYR	6.0
6	D	26	GLY	6.0
24	V	40	PRO	6.0
15	M	88	VAL	5.9
15	M	71	SER	5.8
28	Z	50	GLN	5.8
31	3	54	LYS	5.8
28	Z	54	ILE	5.8
9	G	35	VAL	5.8
15	M	79	ALA	5.8
28	Z	49	ARG	5.8
23	U	52	THR	5.8
11	I	37	GLU	5.7

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Mol	Chain	Res	Type	RSRZ
28	Z	58	SER	5.7
14	L	41	HIS	5.7
6	D	24	HIS	5.7
28	Z	10	ARG	5.7
11	I	10	PRO	5.7
31	3	63	LYS	5.7
14	L	99	GLU	5.6
28	Z	67	GLY	5.6
28	Z	82	SER	5.6
28	Z	65	THR	5.6
6	D	70	GLY	5.6
31	3	92	GLU	5.6
6	D	27	ILE	5.5
11	I	11	GLY	5.5
31	3	89	GLU	5.5
31	3	87	ARG	5.5
6	D	88	LEU	5.5
16	N	186	LEU	5.5
6	D	10	PHE	5.5
28	Z	52	THR	5.5
22	T	119	ALA	5.5
28	Z	39	CYS	5.5
15	M	86	GLN	5.4
14	L	60	GLU	5.4
31	3	5	ARG	5.4
16	N	68	GLU	5.4
28	Z	40	PRO	5.4
30	2	48	ASP	5.4
28	Z	12	GLY	5.3
28	Z	71	PRO	5.3
30	2	39	ARG	5.3
14	L	36	ASP	5.3
28	Z	79	VAL	5.3
31	3	79	LEU	5.3
16	N	179	LEU	5.3
28	Z	66	GLY	5.2
14	L	79	ASP	5.2
15	M	81	ARG	5.2
14	L	59	GLU	5.1
28	Z	43	GLY	5.1
23	U	55	ALA	5.0
6	D	84	LEU	5.0

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Mol	Chain	Res	Type	RSRZ
3	A	31	LYS	5.0
28	Z	46	ARG	4.9
15	M	83	SER	4.9
11	I	51	PRO	4.9
28	Z	48	ASP	4.9
14	L	39	GLU	4.9
9	G	117	GLY	4.8
6	D	18	ILE	4.8
15	M	89	THR	4.8
9	G	122	ASN	4.7
28	Z	17	ARG	4.7
30	2	36	ASN	4.7
28	Z	57	CYS	4.7
6	D	85	GLN	4.7
28	Z	72	GLU	4.7
14	L	34	GLY	4.6
24	V	39	ALA	4.6
6	D	52	THR	4.6
15	M	82	ARG	4.6
16	N	161	GLY	4.6
28	Z	41	ASN	4.6
14	L	35	ARG	4.6
11	I	38	ILE	4.6
8	F	119	ARG	4.5
31	3	61	PRO	4.5
6	D	83	PHE	4.5
6	D	171	ASP	4.5
30	2	38	LYS	4.5
11	I	85	SER	4.5
14	L	123	ASP	4.5
11	I	58	ASP	4.5
9	G	116	ALA	4.5
16	N	167	ASP	4.4
14	L	38	HIS	4.4
3	A	83	GLY	4.4
16	N	163	PHE	4.4
31	3	90	PHE	4.4
6	D	134	LEU	4.4
28	Z	62	TYR	4.4
2	9	1	U	4.3
23	U	4	ARG	4.3
28	Z	47	VAL	4.3

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Mol	Chain	Res	Type	RSRZ
15	M	73	ARG	4.3
14	L	102	ASP	4.3
6	D	61	PHE	4.3
15	M	90	ARG	4.3
11	I	86	GLY	4.2
15	M	74	LYS	4.2
6	D	57	THR	4.2
16	N	69	TYR	4.2
14	L	104	ASP	4.2
6	D	44	ILE	4.2
16	N	162	ASP	4.2
16	N	185	GLU	4.1
30	2	35	ARG	4.1
9	G	115	GLY	4.1
28	Z	74	PRO	4.1
24	V	41	GLU	4.1
3	A	82	VAL	4.1
6	D	75	LEU	4.1
6	D	16	PRO	4.1
31	3	50	GLY	4.1
6	D	47	GLN	4.0
3	A	30	ARG	4.0
30	2	42	TRP	4.0
28	Z	13	ARG	4.0
11	I	36	GLN	4.0
9	G	112	ALA	4.0
6	D	45	THR	4.0
11	I	60	GLY	3.9
11	I	67	GLY	3.9
14	L	45	PRO	3.9
16	N	62	HIS	3.9
9	G	111	PRO	3.9
11	I	64	ILE	3.8
6	D	51	ARG	3.8
11	I	80	GLY	3.8
23	U	51	TRP	3.8
11	I	93	VAL	3.8
3	A	38	ILE	3.8
6	D	23	VAL	3.8
14	L	100	ALA	3.8
6	D	68	PRO	3.8
18	P	1	THR	3.8

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Mol	Chain	Res	Type	RSRZ
28	Z	42	CYS	3.8
23	U	50	GLU	3.7
16	N	88	ALA	3.7
16	N	75	THR	3.7
9	G	82	ASN	3.7
14	L	40	PHE	3.7
11	I	75	ILE	3.7
15	M	72	ALA	3.7
14	L	105	TYR	3.6
11	I	54	VAL	3.6
7	E	45	ASP	3.6
11	I	23	GLU	3.6
11	I	71	THR	3.6
14	L	37	LYS	3.6
11	I	53	THR	3.6
6	D	87	ALA	3.5
6	D	62	ASP	3.5
28	Z	70	LYS	3.5
28	Z	73	THR	3.5
18	P	49	ILE	3.5
31	3	28	GLY	3.5
18	P	25	PRO	3.4
23	U	13	ILE	3.4
28	Z	75	GLY	3.4
10	H	171	ALA	3.4
11	I	33	ALA	3.4
5	C	63	SER	3.4
5	C	143	ASP	3.4
11	I	96	LEU	3.4
1	0	735	C	3.4
14	L	80	ASP	3.4
22	T	109	GLU	3.4
9	G	131	THR	3.4
6	D	11	HIS	3.4
9	G	10	GLU	3.4
16	N	172	PHE	3.4
14	L	46	LEU	3.4
18	P	77	ALA	3.4
11	I	72	ALA	3.3
9	G	126	ILE	3.3
1	0	359	U	3.3
6	D	130	VAL	3.3

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Mol	Chain	Res	Type	RSRZ
23	U	53	ASP	3.3
27	Y	235	GLU	3.3
6	D	86	THR	3.3
26	X	88	GLU	3.3
11	I	35	VAL	3.3
11	I	18	PRO	3.3
23	U	29	THR	3.3
11	I	52	VAL	3.3
30	2	49	GLU	3.3
6	D	28	GLY	3.2
6	D	71	ALA	3.2
11	I	66	VAL	3.2
19	Q	95	GLU	3.2
6	D	17	ARG	3.2
30	2	37	HIS	3.2
23	U	31	PHE	3.2
15	M	75	ARG	3.2
21	S	81	ILE	3.2
19	Q	70	ALA	3.2
26	X	10	VAL	3.2
16	N	65	ASP	3.2
9	G	127	PRO	3.1
5	C	62	GLY	3.1
6	D	170	TYR	3.1
11	I	13	GLU	3.1
14	L	106	VAL	3.1
22	T	13	ARG	3.1
24	V	62	GLU	3.1
9	G	37	ASN	3.1
3	A	118	PHE	3.1
3	A	37	VAL	3.1
16	N	165	ALA	3.1
3	A	135	VAL	3.1
14	L	95	ASP	3.1
6	D	92	GLU	3.1
6	D	64	ARG	3.1
14	L	122	ALA	3.1
1	0	1172	G	3.0
27	Y	95	THR	3.0
4	B	270	ILE	3.0
5	C	61	PHE	3.0
30	2	45	ASN	3.0

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Mol	Chain	Res	Type	RSRZ
30	2	41	HIS	3.0
22	T	101	LEU	3.0
18	P	28	GLN	3.0
24	V	43	PRO	3.0
6	D	72	LYS	3.0
9	G	21	ASP	2.9
10	H	123	THR	2.9
26	X	72	VAL	2.9
6	D	100	ASP	2.9
9	G	132	GLY	2.9
6	D	74	THR	2.9
11	I	129	THR	2.9
7	E	6	GLU	2.9
23	U	11	THR	2.9
23	U	47	ARG	2.9
28	Z	80	ARG	2.9
23	U	9	CYS	2.8
1	0	358	G	2.8
7	E	46	THR	2.8
9	G	11	THR	2.8
14	L	47	GLY	2.8
3	A	110	SER	2.8
3	A	88	ILE	2.8
22	T	5	ASP	2.8
23	U	19	THR	2.8
9	G	67	LEU	2.8
6	D	54	ALA	2.8
18	P	114	LEU	2.8
18	P	21	VAL	2.8
3	A	66	ARG	2.8
16	N	3	GLY	2.8
18	P	51	ALA	2.8
6	D	128	LEU	2.8
3	A	64	ASP	2.8
19	Q	71	TYR	2.8
3	A	99	ILE	2.7
9	G	114	ILE	2.7
11	I	77	ASP	2.8
22	T	35	TYR	2.7
22	T	57	GLY	2.7
11	I	57	ASP	2.7
19	Q	2	SER	2.7

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Mol	Chain	Res	Type	RSRZ
22	T	50	VAL	2.7
1	O	1198	U	2.7
7	E	95	VAL	2.7
9	G	70	ALA	2.7
6	D	166	ILE	2.7
9	G	91	LEU	2.7
14	L	150	GLN	2.7
16	N	95	ALA	2.7
3	A	29	HIS	2.7
6	D	40	ILE	2.7
11	I	114	SER	2.7
11	I	59	ASP	2.7
22	T	100	ASP	2.7
3	A	94	LEU	2.7
16	N	72	GLU	2.7
16	N	147	ILE	2.7
4	B	291	ASP	2.6
1	O	1913	C	2.6
11	I	69	PRO	2.6
26	X	85	VAL	2.6
11	I	17	GLY	2.6
14	L	93	VAL	2.6
7	E	87	PHE	2.6
16	N	80	SER	2.6
23	U	8	TYR	2.6
6	D	50	VAL	2.6
9	G	98	PRO	2.6
15	M	85	ARG	2.6
16	N	175	LEU	2.6
22	T	80	GLU	2.6
22	T	66	ASP	2.6
9	G	90	GLY	2.6
22	T	59	GLU	2.6
23	U	5	GLU	2.6
9	G	26	MET	2.6
14	L	58	GLN	2.6
6	D	172	VAL	2.6
16	N	84	THR	2.6
21	S	26	PHE	2.6
9	G	8	LYS	2.6
26	X	80	GLU	2.6
22	T	99	THR	2.5

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Mol	Chain	Res	Type	RSRZ
24	V	46	ILE	2.5
4	B	108	GLU	2.5
11	I	101	VAL	2.5
23	U	10	GLY	2.5
4	B	271	ASP	2.5
11	I	92	PHE	2.5
19	Q	75	ILE	2.5
16	N	61	ALA	2.5
30	2	43	ARG	2.5
8	F	49	PHE	2.5
9	G	113	PRO	2.5
19	Q	69	ASP	2.5
13	K	67	GLN	2.5
15	M	76	ARG	2.5
23	U	46	ALA	2.5
18	P	98	ILE	2.5
22	T	34	GLU	2.5
2	9	24	U	2.5
30	2	44	ARG	2.5
9	G	103	GLN	2.5
26	X	41	PHE	2.5
16	N	159	TYR	2.5
1	0	1199	A	2.4
22	T	118	SER	2.4
6	D	80	ALA	2.4
24	V	9	ARG	2.4
11	I	22	PRO	2.4
9	G	16	LYS	2.4
11	I	109	HIS	2.4
18	P	137	LEU	2.4
23	U	39	ASN	2.4
7	E	49	ILE	2.4
14	L	124	ASP	2.4
9	G	121	PRO	2.4
4	B	277	GLU	2.4
14	L	94	ARG	2.4
16	N	67	ALA	2.4
16	N	78	MET	2.4
8	F	20	LEU	2.4
22	T	103	LEU	2.4
1	0	219	G	2.4
3	A	80	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
22	T	112	LEU	2.4
1	0	2637	A	2.3
24	V	31	ARG	2.3
23	U	22	VAL	2.3
9	G	32	SER	2.3
4	B	238	ASN	2.3
14	L	48	LYS	2.3
1	0	960	G	2.3
15	M	84	LYS	2.3
28	Z	51	GLY	2.3
1	0	970	U	2.3
3	A	147	ARG	2.3
3	A	96	LEU	2.3
9	G	71	LEU	2.3
15	M	69	LYS	2.3
1	0	1000	C	2.3
28	Z	76	GLY	2.3
1	0	1202	A	2.3
6	D	66	GLY	2.3
4	B	117	GLU	2.3
7	E	10	ASP	2.3
11	I	15	ASN	2.3
11	I	113	LEU	2.3
11	I	107	GLN	2.3
16	N	48	VAL	2.3
22	T	61	GLU	2.3
1	0	361	C	2.3
7	E	39	ASP	2.3
1	0	198	A	2.3
6	D	159	PRO	2.2
14	L	140	VAL	2.2
18	P	20	ARG	2.2
3	A	108	VAL	2.2
11	I	70	PRO	2.2
6	D	43	GLU	2.2
10	H	142	ASP	2.2
4	B	1	PRO	2.2
16	N	2	THR	2.2
5	C	228	ALA	2.2
16	N	64	SER	2.2
9	G	84	TYR	2.2
31	3	29	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
7	E	53	GLU	2.2
18	P	101	GLN	2.2
6	D	29	HIS	2.2
3	A	115	GLY	2.2
22	T	113	GLU	2.2
9	G	83	GLY	2.2
6	D	49	PRO	2.2
11	I	100	GLN	2.2
16	N	138	ASP	2.2
11	I	94	ALA	2.2
11	I	103	GLN	2.2
9	G	97	ASN	2.2
22	T	47	THR	2.2
14	L	109	LEU	2.1
6	D	93	LEU	2.1
16	N	171	HIS	2.1
18	P	94	TRP	2.1
3	A	84	VAL	2.1
5	C	218	VAL	2.1
16	N	63	SER	2.1
11	I	104	ILE	2.1
3	A	91	GLY	2.1
23	U	49	LEU	2.1
13	K	71	ALA	2.1
18	P	22	TRP	2.1
1	0	285	A	2.1
10	H	122	GLY	2.1
11	I	29	VAL	2.1
28	Z	60	CYS	2.1
22	T	108	ARG	2.1
31	3	64	LYS	2.1
6	D	89	PRO	2.1
4	B	118	ASP	2.1
6	D	132	VAL	2.1
8	F	75	ILE	2.1
9	G	27	ILE	2.1
6	D	90	LEU	2.1
18	P	23	PHE	2.1
8	F	44	SER	2.1
14	L	91	VAL	2.1
16	N	164	ASP	2.1
19	Q	85	ILE	2.1

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Mol	Chain	Res	Type	RSRZ
7	E	47	VAL	2.1
7	E	124	VAL	2.1
10	H	143	ALA	2.1
14	L	62	ALA	2.1
4	B	239	LEU	2.1
22	T	117	ASP	2.1
18	P	130	GLU	2.1
16	N	58	LEU	2.1
6	D	48	MET	2.1
23	U	20	MET	2.1
14	L	68	GLU	2.0
4	B	115	VAL	2.0
4	B	99	GLU	2.0
14	L	125	PHE	2.0
30	2	20	ARG	2.0
20	R	7	GLU	2.0
10	H	94	VAL	2.0
9	G	38	ILE	2.0
4	B	116	PRO	2.0
22	T	49	GLU	2.0
16	N	180	LEU	2.0
11	I	62	PHE	2.0
26	X	11	THR	2.0
18	P	50	GLN	2.0
7	E	86	VAL	2.0
9	G	89	VAL	2.0
13	K	52	LYS	2.0
15	M	123	ASP	2.0
18	P	16	VAL	2.0
3	A	237	GLY	2.0
6	D	73	VAL	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
1	OMU	0	2587	21/22	0.94	0.18	33,36,42,43	0
1	OMG	0	2588	24/25	0.95	0.18	38,42,48,49	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
1	UR3	0	2619	21/22	0.96	0.18	34,42,44,47	0
1	PSU	0	2621	20/21	0.97	0.15	35,37,44,44	0

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
34	NA	0	3103	1/1	-0.15	0.88	198,198,198,198	0
34	NA	0	3050	1/1	-0.11	1.21	137,137,137,137	0
32	MG	0	3027	1/1	-0.00	0.96	110,110,110,110	0
32	MG	0	2946	1/1	0.09	0.34	200,200,200,200	0
32	MG	0	2971	1/1	0.18	0.41	200,200,200,200	0
34	NA	0	3100	1/1	0.30	1.21	56,56,56,56	0
35	CL	O	117	1/1	0.38	1.01	127,127,127,127	0
32	MG	0	3025	1/1	0.41	0.47	57,57,57,57	0
34	NA	0	3093	1/1	0.45	0.39	116,116,116,116	0
32	MG	0	2998	1/1	0.45	0.50	73,73,73,73	0
34	NA	0	3057	1/1	0.45	0.80	124,124,124,124	0
32	MG	0	3029	1/1	0.47	0.99	69,69,69,69	0
32	MG	3	93	1/1	0.49	0.51	69,69,69,69	0
34	NA	0	3054	1/1	0.50	0.34	63,63,63,63	0
35	CL	0	3109	1/1	0.53	0.61	135,135,135,135	0
34	NA	0	3047	1/1	0.55	0.36	53,53,53,53	0
35	CL	0	3106	1/1	0.56	1.27	120,120,120,120	0
34	NA	0	3082	1/1	0.56	0.48	43,43,43,43	0
36	CD	O	116	1/1	0.59	0.47	200,200,200,200	0
35	CL	0	3112	1/1	0.59	0.56	96,96,96,96	0
34	NA	S	85	1/1	0.59	0.67	64,64,64,64	0
34	NA	0	3052	1/1	0.60	0.52	72,72,72,72	0
35	CL	3	95	1/1	0.61	0.65	124,124,124,124	0
32	MG	0	2988	1/1	0.61	0.34	52,52,52,52	0
34	NA	0	3065	1/1	0.64	0.19	27,27,27,27	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
32	MG	0	3028	1/1	0.64	0.97	66,66,66,66	0
34	NA	0	3068	1/1	0.65	0.25	68,68,68,68	0
32	MG	Y	241	1/1	0.66	0.47	68,68,68,68	0
34	NA	0	3098	1/1	0.67	0.52	62,62,62,62	0
34	NA	0	3094	1/1	0.67	0.43	116,116,116,116	0
34	NA	0	3075	1/1	0.67	0.46	41,41,41,41	0
34	NA	0	3046	1/1	0.67	0.28	26,26,26,26	0
32	MG	B	338	1/1	0.68	0.59	43,43,43,43	0
32	MG	0	2964	1/1	0.69	0.34	50,50,50,50	0
34	NA	0	3038	1/1	0.69	0.32	67,67,67,67	0
34	NA	0	3059	1/1	0.69	0.42	53,53,53,53	0
32	MG	0	2980	1/1	0.71	0.47	48,48,48,48	0
35	CL	0	3111	1/1	0.72	0.25	54,54,54,54	0
32	MG	A	240	1/1	0.72	0.48	56,56,56,56	0
33	K	M	196	1/1	0.73	0.42	127,127,127,127	0
34	NA	0	3044	1/1	0.73	0.85	46,46,46,46	0
34	NA	C	247	1/1	0.73	0.34	41,41,41,41	0
34	NA	A	242	1/1	0.74	0.28	55,55,55,55	0
34	NA	0	3077	1/1	0.74	0.55	119,119,119,119	0
34	NA	0	3092	1/1	0.74	0.25	45,45,45,45	0
32	MG	0	2987	1/1	0.75	0.16	35,35,35,35	0
32	MG	0	2984	1/1	0.75	0.51	59,59,59,59	0
34	NA	9	125	1/1	0.75	0.35	78,78,78,78	0
32	MG	0	2973	1/1	0.75	0.42	51,51,51,51	0
34	NA	R	156	1/1	0.76	0.33	53,53,53,53	0
34	NA	0	3034	1/1	0.76	0.77	91,91,91,91	0
34	NA	0	3099	1/1	0.76	0.90	56,56,56,56	0
34	NA	0	3064	1/1	0.77	0.30	60,60,60,60	0
32	MG	0	2969	1/1	0.77	0.40	38,38,38,38	0
32	MG	0	3007	1/1	0.78	0.29	54,54,54,54	0
34	NA	0	3058	1/1	0.78	0.26	61,61,61,61	0
32	MG	0	2985	1/1	0.78	0.29	34,34,34,34	0
32	MG	0	3006	1/1	0.78	0.42	49,49,49,49	0
34	NA	0	3039	1/1	0.79	0.63	29,29,29,29	0
34	NA	0	3033	1/1	0.79	0.45	60,60,60,60	0
33	K	0	3031	1/1	0.79	0.47	153,153,153,153	0
35	CL	Q	97	1/1	0.79	0.57	93,93,93,93	0
32	MG	0	3026	1/1	0.79	1.06	79,79,79,79	0
34	NA	9	124	1/1	0.79	0.16	34,34,34,34	0
32	MG	0	2974	1/1	0.79	0.19	51,51,51,51	0
34	NA	0	3084	1/1	0.79	0.43	62,62,62,62	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
34	NA	0	3051	1/1	0.80	0.33	49,49,49,49	0
34	NA	J	146	1/1	0.80	0.24	41,41,41,41	0
32	MG	0	3014	1/1	0.80	0.32	87,87,87,87	0
32	MG	0	3013	1/1	0.80	0.38	41,41,41,41	0
32	MG	A	241	1/1	0.80	0.38	142,142,142,142	0
34	NA	0	3056	1/1	0.80	0.33	42,42,42,42	0
32	MG	K	133	1/1	0.80	0.45	35,35,35,35	0
34	NA	0	3060	1/1	0.80	0.15	101,101,101,101	0
35	CL	0	3108	1/1	0.81	0.36	72,72,72,72	0
32	MG	0	2989	1/1	0.81	0.67	56,56,56,56	0
32	MG	0	2944	1/1	0.81	0.18	25,25,25,25	0
32	MG	0	3011	1/1	0.81	0.86	71,71,71,71	0
34	NA	9	126	1/1	0.81	0.85	91,91,91,91	0
35	CL	R	157	1/1	0.81	0.24	55,55,55,55	0
32	MG	0	3030	1/1	0.82	0.18	46,46,46,46	0
34	NA	0	3061	1/1	0.82	0.12	39,39,39,39	0
34	NA	0	3043	1/1	0.82	0.38	115,115,115,115	0
32	MG	0	3018	1/1	0.82	0.35	78,78,78,78	0
35	CL	L	166	1/1	0.82	0.27	68,68,68,68	0
32	MG	0	3024	1/1	0.83	0.35	1,1,1,1	0
34	NA	0	3063	1/1	0.83	0.19	162,162,162,162	0
36	CD	Z	93	1/1	0.83	0.35	200,200,200,200	0
34	NA	0	3101	1/1	0.83	0.17	43,43,43,43	0
35	CL	A	243	1/1	0.83	0.40	90,90,90,90	0
32	MG	0	2962	1/1	0.84	0.48	60,60,60,60	0
34	NA	Q	96	1/1	0.84	0.24	64,64,64,64	0
34	NA	0	3067	1/1	0.85	0.30	47,47,47,47	0
32	MG	0	3004	1/1	0.85	0.53	27,27,27,27	0
32	MG	0	2949	1/1	0.85	0.35	45,45,45,45	0
32	MG	0	2993	1/1	0.85	0.44	78,78,78,78	0
35	CL	M	198	1/1	0.86	0.36	77,77,77,77	0
34	NA	0	3041	1/1	0.86	0.36	70,70,70,70	0
32	MG	0	3010	1/1	0.86	0.17	56,56,56,56	0
32	MG	0	2938	1/1	0.86	0.47	42,42,42,42	0
32	MG	0	2947	1/1	0.86	0.27	15,15,15,15	0
32	MG	0	3017	1/1	0.87	0.34	166,166,166,166	0
34	NA	0	3032	1/1	0.87	0.45	30,30,30,30	0
34	NA	0	3035	1/1	0.87	0.17	17,17,17,17	0
32	MG	0	2968	1/1	0.87	0.10	60,60,60,60	0
32	MG	0	3023	1/1	0.87	0.34	29,29,29,29	0
32	MG	0	2956	1/1	0.87	0.18	24,24,24,24	0
32	MG	0	3019	1/1	0.87	0.40	41,41,41,41	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
32	MG	0	2929	1/1	0.88	0.19	14,14,14,14	0
32	MG	0	3022	1/1	0.88	0.38	44,44,44,44	0
35	CL	N	187	1/1	0.88	0.29	64,64,64,64	0
32	MG	0	2981	1/1	0.88	0.50	44,44,44,44	0
32	MG	0	2950	1/1	0.88	0.23	17,17,17,17	0
34	NA	0	3088	1/1	0.88	0.26	33,33,33,33	0
34	NA	0	3089	1/1	0.88	0.14	51,51,51,51	0
35	CL	J	149	1/1	0.88	0.15	45,45,45,45	0
32	MG	0	2986	1/1	0.88	0.35	53,53,53,53	0
32	MG	0	2943	1/1	0.88	0.37	23,23,23,23	0
32	MG	0	2935	1/1	0.89	0.38	28,28,28,28	0
32	MG	0	3009	1/1	0.89	0.28	40,40,40,40	0
32	MG	0	3015	1/1	0.89	0.49	53,53,53,53	0
32	MG	0	2963	1/1	0.89	0.15	72,72,72,72	0
32	MG	0	2951	1/1	0.89	0.38	11,11,11,11	0
32	MG	0	2979	1/1	0.89	0.23	20,20,20,20	0
32	MG	0	2975	1/1	0.90	0.16	45,45,45,45	0
34	NA	0	3102	1/1	0.90	0.31	47,47,47,47	0
34	NA	0	3078	1/1	0.90	0.16	78,78,78,78	0
34	NA	0	3080	1/1	0.90	0.41	57,57,57,57	0
36	CD	3	94	1/1	0.90	1.15	200,200,200,200	0
32	MG	0	2936	1/1	0.90	0.13	17,17,17,17	0
32	MG	0	3020	1/1	0.90	0.18	84,84,84,84	0
34	NA	0	3072	1/1	0.90	0.24	65,65,65,65	0
34	NA	0	3073	1/1	0.90	0.27	25,25,25,25	0
32	MG	0	2999	1/1	0.90	0.19	25,25,25,25	0
35	CL	0	3105	1/1	0.91	0.17	59,59,59,59	0
34	NA	H	172	1/1	0.91	0.16	43,43,43,43	0
34	NA	0	3055	1/1	0.91	0.14	36,36,36,36	0
32	MG	0	2945	1/1	0.91	0.32	27,27,27,27	0
35	CL	0	3110	1/1	0.91	0.55	56,56,56,56	0
35	CL	K	134	1/1	0.91	0.34	55,55,55,55	0
32	MG	0	2992	1/1	0.91	0.26	52,52,52,52	0
32	MG	9	123	1/1	0.91	0.17	37,37,37,37	0
34	NA	0	3081	1/1	0.91	0.18	49,49,49,49	0
34	NA	0	3090	1/1	0.91	0.29	81,81,81,81	0
32	MG	0	1	1/1	0.91	0.20	26,26,26,26	0
34	NA	0	3069	1/1	0.91	0.28	58,58,58,58	0
32	MG	0	2960	1/1	0.91	0.29	11,11,11,11	0
32	MG	0	3016	1/1	0.91	0.20	43,43,43,43	0
32	MG	0	2959	1/1	0.92	0.18	39,39,39,39	0
32	MG	0	2924	1/1	0.92	0.23	35,35,35,35	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
32	MG	0	3005	1/1	0.92	0.16	47,47,47,47	0
35	CL	B	339	1/1	0.92	0.46	61,61,61,61	0
32	MG	0	3001	1/1	0.92	0.15	38,38,38,38	0
35	CL	J	148	1/1	0.92	0.07	49,49,49,49	0
34	NA	0	3071	1/1	0.92	0.13	27,27,27,27	0
34	NA	0	3074	1/1	0.92	0.47	66,66,66,66	0
34	NA	M	197	1/1	0.92	0.16	28,28,28,28	0
34	NA	0	3040	1/1	0.92	0.18	29,29,29,29	0
32	MG	0	2970	1/1	0.92	0.19	32,32,32,32	0
34	NA	0	3066	1/1	0.92	0.11	9,9,9,9	0
34	NA	0	3085	1/1	0.92	0.41	15,15,15,15	0
32	MG	0	2930	1/1	0.92	0.12	55,55,55,55	0
34	NA	0	3095	1/1	0.92	0.49	126,126,126,126	0
34	NA	R	155	1/1	0.93	0.21	31,31,31,31	0
34	NA	0	3083	1/1	0.93	0.17	27,27,27,27	0
35	CL	J	147	1/1	0.93	0.16	69,69,69,69	0
32	MG	0	2978	1/1	0.93	0.17	46,46,46,46	0
34	NA	0	3104	1/1	0.93	0.59	34,34,34,34	0
32	MG	0	2991	1/1	0.93	0.16	20,20,20,20	0
34	NA	0	3042	1/1	0.93	0.38	32,32,32,32	0
32	MG	0	3003	1/1	0.93	0.18	26,26,26,26	0
34	NA	0	3091	1/1	0.93	0.25	31,31,31,31	0
34	NA	0	3076	1/1	0.93	0.22	51,51,51,51	0
34	NA	0	3086	1/1	0.93	0.40	26,26,26,26	0
32	MG	0	2966	1/1	0.93	0.13	46,46,46,46	0
32	MG	0	2937	1/1	0.93	0.24	14,14,14,14	0
35	CL	Y	242	1/1	0.93	0.26	27,27,27,27	0
32	MG	0	2990	1/1	0.93	0.15	31,31,31,31	0
34	NA	0	3070	1/1	0.94	0.10	27,27,27,27	0
32	MG	0	2928	1/1	0.94	0.14	32,32,32,32	0
32	MG	0	3000	1/1	0.94	0.20	7,7,7,7	0
34	NA	0	3045	1/1	0.94	0.22	33,33,33,33	0
32	MG	0	3008	1/1	0.94	0.30	52,52,52,52	0
32	MG	0	2957	1/1	0.94	0.14	37,37,37,37	0
32	MG	0	2997	1/1	0.94	0.27	59,59,59,59	0
32	MG	0	3012	1/1	0.94	0.27	39,39,39,39	0
32	MG	0	2942	1/1	0.94	0.41	16,16,16,16	0
32	MG	0	2977	1/1	0.94	0.52	43,43,43,43	0
34	NA	0	3048	1/1	0.94	0.21	46,46,46,46	0
32	MG	0	2954	1/1	0.94	0.18	29,29,29,29	0
32	MG	0	2967	1/1	0.94	0.30	50,50,50,50	0
32	MG	0	2952	1/1	0.95	0.23	4,4,4,4	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
34	NA	0	3079	1/1	0.95	0.12	53,53,53,53	0
34	NA	0	3096	1/1	0.95	0.21	47,47,47,47	0
34	NA	0	3087	1/1	0.95	0.08	22,22,22,22	0
34	NA	0	3097	1/1	0.95	0.17	50,50,50,50	0
32	MG	0	2995	1/1	0.95	0.16	13,13,13,13	0
32	MG	0	2983	1/1	0.95	0.29	43,43,43,43	0
32	MG	0	2931	1/1	0.95	0.11	27,27,27,27	0
32	MG	0	2939	1/1	0.95	0.31	20,20,20,20	0
32	MG	0	2982	1/1	0.95	0.25	14,14,14,14	0
32	MG	0	2941	1/1	0.96	0.16	15,15,15,15	0
34	NA	L	165	1/1	0.96	0.07	42,42,42,42	0
36	CD	U	67	1/1	0.96	0.10	134,134,134,134	0
34	NA	0	3037	1/1	0.96	0.34	61,61,61,61	0
32	MG	0	2932	1/1	0.96	0.14	10,10,10,10	0
35	CL	0	3107	1/1	0.96	0.15	55,55,55,55	0
34	NA	0	3062	1/1	0.96	0.07	38,38,38,38	0
32	MG	0	2994	1/1	0.96	0.20	14,14,14,14	0
32	MG	0	2925	1/1	0.96	0.19	5,5,5,5	0
32	MG	0	3021	1/1	0.96	0.23	20,20,20,20	0
32	MG	0	2976	1/1	0.96	0.18	19,19,19,19	0
32	MG	0	2933	1/1	0.96	0.32	1,1,1,1	0
34	NA	0	3049	1/1	0.97	0.27	28,28,28,28	0
32	MG	0	2958	1/1	0.97	0.43	33,33,33,33	0
32	MG	T	120	1/1	0.97	0.25	38,38,38,38	0
34	NA	0	3053	1/1	0.97	0.07	19,19,19,19	0
32	MG	0	2955	1/1	0.97	0.30	11,11,11,11	0
32	MG	0	2953	1/1	0.97	0.11	8,8,8,8	0
34	NA	0	3036	1/1	0.97	0.36	49,49,49,49	0
32	MG	0	2972	1/1	0.97	0.20	109,109,109,109	0
32	MG	0	2940	1/1	0.97	0.33	24,24,24,24	0
32	MG	0	2965	1/1	0.98	0.22	47,47,47,47	0
32	MG	0	2926	1/1	0.98	0.15	17,17,17,17	0
32	MG	0	3002	1/1	0.98	0.06	20,20,20,20	0
32	MG	0	2961	1/1	0.98	0.19	41,41,41,41	0
32	MG	0	2996	1/1	0.98	0.24	21,21,21,21	0
32	MG	0	2934	1/1	0.98	0.34	22,22,22,22	0
32	MG	0	2927	1/1	0.99	0.19	18,18,18,18	0
36	CD	1	57	1/1	0.99	0.06	76,76,76,76	0
32	MG	0	2948	1/1	0.99	0.27	18,18,18,18	0

6.5 Other polymers [i](#)

There are no such residues in this entry.