



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 7, 2026 – 12:23 AM UTC

PDB ID : 1Q86 / pdb_00001q86
Title : Crystal structure of CCA-Phe-cap-biotin bound simultaneously at half occupancy to both the A-site and P-site of the the 50S ribosomal Subunit.
Authors : Hansen, J.L.; Schmeing, T.M.; Moore, P.B.; Steitz, T.A.
Deposited on : 2003-08-20
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 types of validation reports are described at

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

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

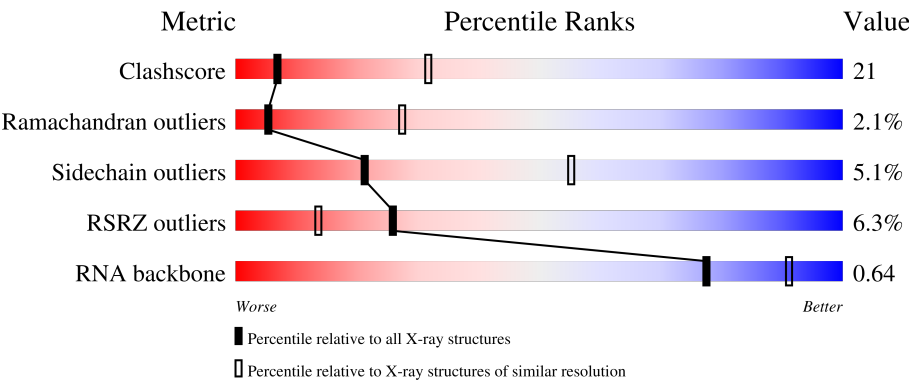
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

1 Overall quality at a glance 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))
Clashscore	190562	2977 (3.00-3.00)
Ramachandran outliers	187476	2877 (3.00-3.00)
Sidechain outliers	187428	2880 (3.00-3.00)
RSRZ outliers	180081	2671 (3.00-3.00)
RNA backbone	3983	1109 (3.20-2.80)

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

Mol	Chain	Length	Quality of chain
1	A	2922	7% 53% 35% 6% 6%
2	B	122	5% 48% 39% 11% .
3	5	3	100% 33% 67%
3	6	3	100% 33% 67%
4	C	239	% 55% 35% 9% .

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Mol	Chain	Length	Quality of chain
5	D	337	
6	E	246	
7	F	176	
8	G	177	
9	H	119	
10	I	348	
11	J	167	
12	K	145	
13	L	132	
14	M	164	
15	N	194	
16	O	186	
17	P	115	
18	Q	148	
19	R	95	
20	S	154	
21	T	84	
22	U	119	
23	V	66	
24	W	70	
25	X	154	
26	Y	91	
27	Z	240	
28	1	73	
29	2	56	

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Mol	Chain	Length	Quality of chain
30	3	48	
31	4	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
34	NA	A	8324	-	-	-	X
34	NA	A	8359	-	-	-	X
34	NA	A	8375	-	-	-	X
36	PHA	6	77	-	-	-	X

2 Entry composition

There are 38 unique types of molecules in this entry. The entry contains 98659 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	A	2754	Total	C	N	O	P	0	0	0
			59017	26346	10878	19048	2745			

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

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

- Molecule 3 is a RNA chain called CCA-phenylalanine-carboxylic-acid-biotin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	5	3	Total	C	N	O	P	0	0	0
			59	28	11	18	2			
3	6	3	Total	C	N	O	P	0	0	0
			59	28	11	18	2			

- Molecule 4 is a protein called 50S ribosomal protein L2P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	C	237	Total	C	N	O	S	0	0	0
			1754	1072	352	325	5			

- Molecule 5 is a protein called 50S ribosomal protein L3P.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	D	337	Total	C	N	O	S	0	0	0
			2624	1616	493	510	5			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	?	-	PRO	deletion	UNP P20279
D	310	ARG	PHE	conflict	UNP P20279

- Molecule 6 is a protein called 50S ribosomal protein L4E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	E	246	Total	C	N	O	S	0	0	0
			1858	1131	344	382	1			

- Molecule 7 is a protein called 50S ribosomal protein L5P.

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

- Molecule 8 is a protein called 50S ribosomal protein L6P.

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

- Molecule 9 is a protein called 50S ribosomal protein L7Ae.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	H	119	Total	C	N	O	S	0	0	0
			885	552	141	191	1			

- Molecule 10 is a protein called Acidic ribosomal protein P0 homolog.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	I	29	Total	C	N	O	S	0	0	0
			240	149	39	51	1			

- Molecule 11 is a protein called L10 Ribosomal Protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	J	156	Total	C	N	O	S	0	0	0
			1215	766	233	212	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	K	142	Total	C	N	O	S	0	0	0
			1119	696	199	221	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	L	132	Total	C	N	O	S	0	0	0
			993	609	189	191	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	M	145	Total	C	N	O	S	0	0	0
			1114	668	222	224				

- Molecule 15 is a protein called L15 Ribosomal Protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	N	194	Total	C	N	O	S	0	0	0
			1605	988	346	266	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	O	186	Total	C	N	O	S	0	0	0
			1444	895	262	285	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	P	115	Total	C	N	O	S	0	0	0
			864	529	161	174				

- Molecule 18 is a protein called 50S ribosomal protein L19E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	Q	143	Total	C	N	O	S	0	0	0
			1133	680	230	223				

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	71	LYS	TYR	conflict	UNP P14119

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
19	R	95	Total	C	N	O	0	0	0
			734	450	141	143			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	S	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	T	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	U	119	Total	C	N	O	0	0	0
			949	568	180	201			

- Molecule 23 is a protein called 50S ribosomal protein L24E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	V	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	W	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	X	154	Total	C	N	O	S	0	0	0
			1195	737	209	243	6			

- Molecule 26 is a protein called 50S ribosomal protein L31e.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	1	73	Total	C	N	O	S	0	0	0
			563	359	111	86	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	2	56	Total	C	N	O	S	0	0	0
			430	258	86	82	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	3	46	Total	C	N	O	S	0	0	0
			393	238	86	68	1			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
3	?	-	ARG	deletion	UNP P22452

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	4	92	Total	C	N	O	S	0	0	0
			755	458	153	137	7			

- Molecule 32 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
32	A	108	Total	Mg	0	0
			108	108		
32	B	1	Total	Mg	0	0
			1	1		
32	6	1	Total	Mg	0	0
			1	1		
32	C	1	Total	Mg	0	0
			1	1		
32	D	2	Total	Mg	0	0
			2	2		
32	L	1	Total	Mg	0	0
			1	1		
32	U	1	Total	Mg	0	0
			1	1		
32	Z	1	Total	Mg	0	0
			1	1		
32	1	1	Total	Mg	0	0
			1	1		
32	4	1	Total	Mg	0	0
			1	1		

- Molecule 33 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	A	2	Total	K	0	0
			2	2		

- Molecule 34 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	A	70	Total	Na	0	0
			70	70		
34	B	2	Total	Na	0	0
			2	2		
34	C	1	Total	Na	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	E	1	Total 1	Na 1	0	0
34	J	2	Total 2	Na 2	0	0
34	K	1	Total 1	Na 1	0	0
34	M	1	Total 1	Na 1	0	0
34	N	2	Total 2	Na 2	0	0
34	R	1	Total 1	Na 1	0	0
34	S	3	Total 3	Na 3	0	0
34	T	1	Total 1	Na 1	0	0
34	U	1	Total 1	Na 1	0	0

- Molecule 35 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

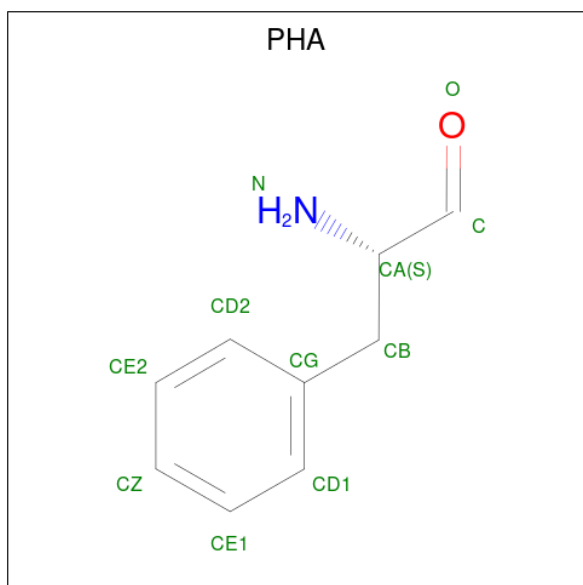
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	A	9	Total 9	Cl 9	0	0
35	C	1	Total 1	Cl 1	0	0
35	D	1	Total 1	Cl 1	0	0
35	K	3	Total 3	Cl 3	0	0
35	L	1	Total 1	Cl 1	0	0
35	M	1	Total 1	Cl 1	0	0
35	N	1	Total 1	Cl 1	0	0
35	O	1	Total 1	Cl 1	0	0
35	P	1	Total 1	Cl 1	0	0
35	S	1	Total 1	Cl 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	Z	1	Total	Cl	0	0
			1	1		
35	4	1	Total	Cl	0	0
			1	1		

- Molecule 36 is PHENYLALANINAL (CCD ID: PHA) (formula: C₉H₁₁NO).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
36	5	1	Total	C	N	O	0	0
			11	9	1	1		
36	6	1	Total	C	O		0	0
			10	9	1			

- Molecule 37 is CADMIUM ION (CCD ID: CD) (formula: Cd).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
37	P	1	Total	Cd	0	0
			1	1		
37	V	1	Total	Cd	0	0
			1	1		
37	1	1	Total	Cd	0	0
			1	1		
37	2	1	Total	Cd	0	0
			1	1		
37	4	1	Total	Cd	0	0
			1	1		

- Molecule 38 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
38	A	5892	Total O 5892 5892	0	0
38	B	139	Total O 139 139	0	0
38	C	116	Total O 116 116	0	0
38	D	149	Total O 149 149	0	0
38	E	173	Total O 173 173	0	0
38	F	52	Total O 52 52	0	0
38	G	43	Total O 43 43	0	0
38	H	27	Total O 27 27	0	0
38	I	21	Total O 21 21	0	0
38	J	77	Total O 77 77	0	0
38	K	54	Total O 54 54	0	0
38	L	62	Total O 62 62	0	0
38	M	82	Total O 82 82	0	0
38	N	139	Total O 139 139	0	0
38	O	70	Total O 70 70	0	0
38	P	43	Total O 43 43	0	0
38	Q	67	Total O 67 67	0	0
38	R	54	Total O 54 54	0	0
38	S	84	Total O 84 84	0	0
38	T	37	Total O 37 37	0	0
38	U	44	Total O 44 44	0	0

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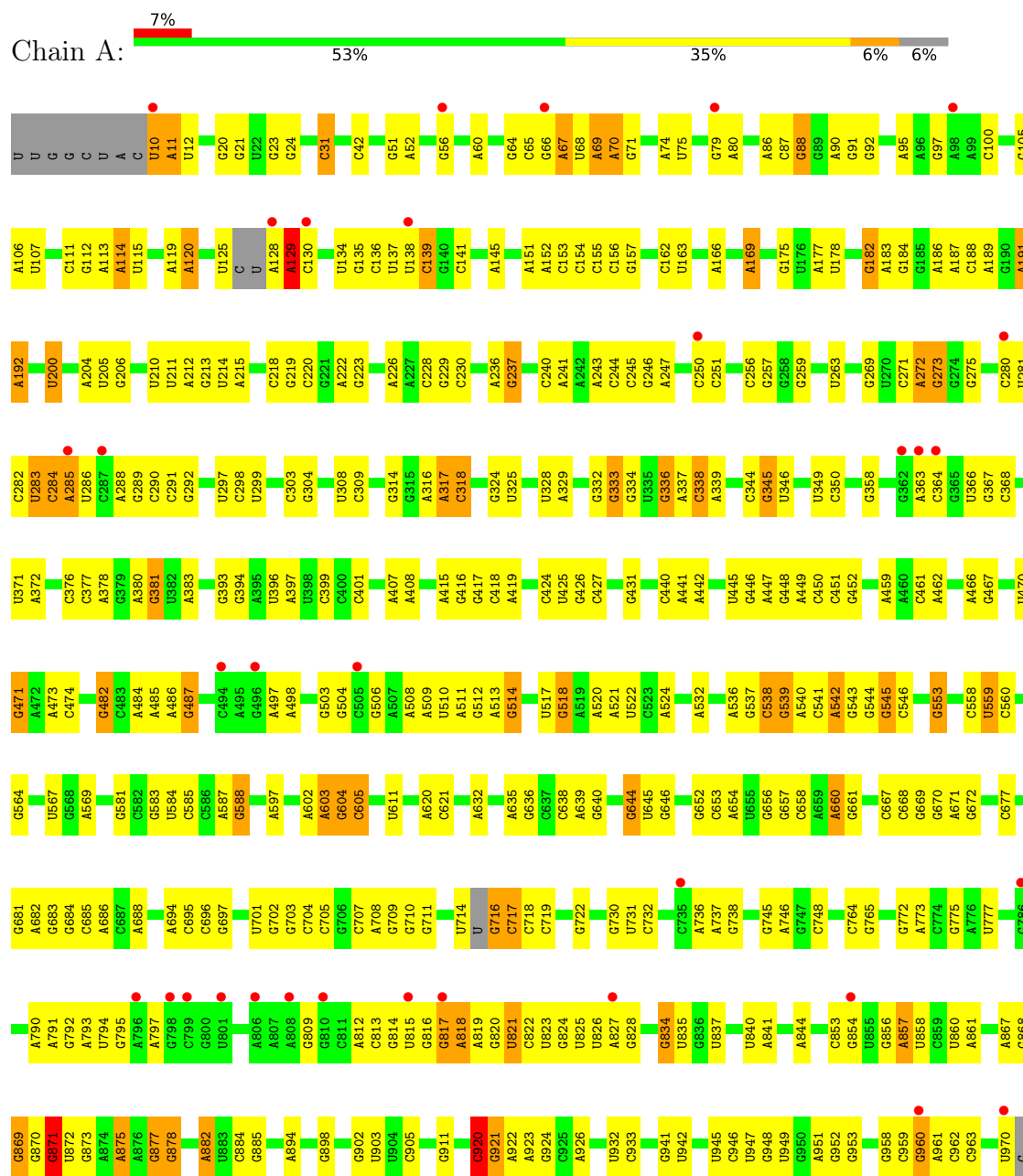
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	V	24	Total 24	O 24	0	0
38	W	14	Total 14	O 14	0	0
38	X	71	Total 71	O 71	0	0
38	Y	31	Total 31	O 31	0	0
38	Z	93	Total 93	O 93	0	0
38	1	37	Total 37	O 37	0	0
38	2	63	Total 63	O 63	0	0
38	3	41	Total 41	O 41	0	0
38	4	70	Total 70	O 70	0	0

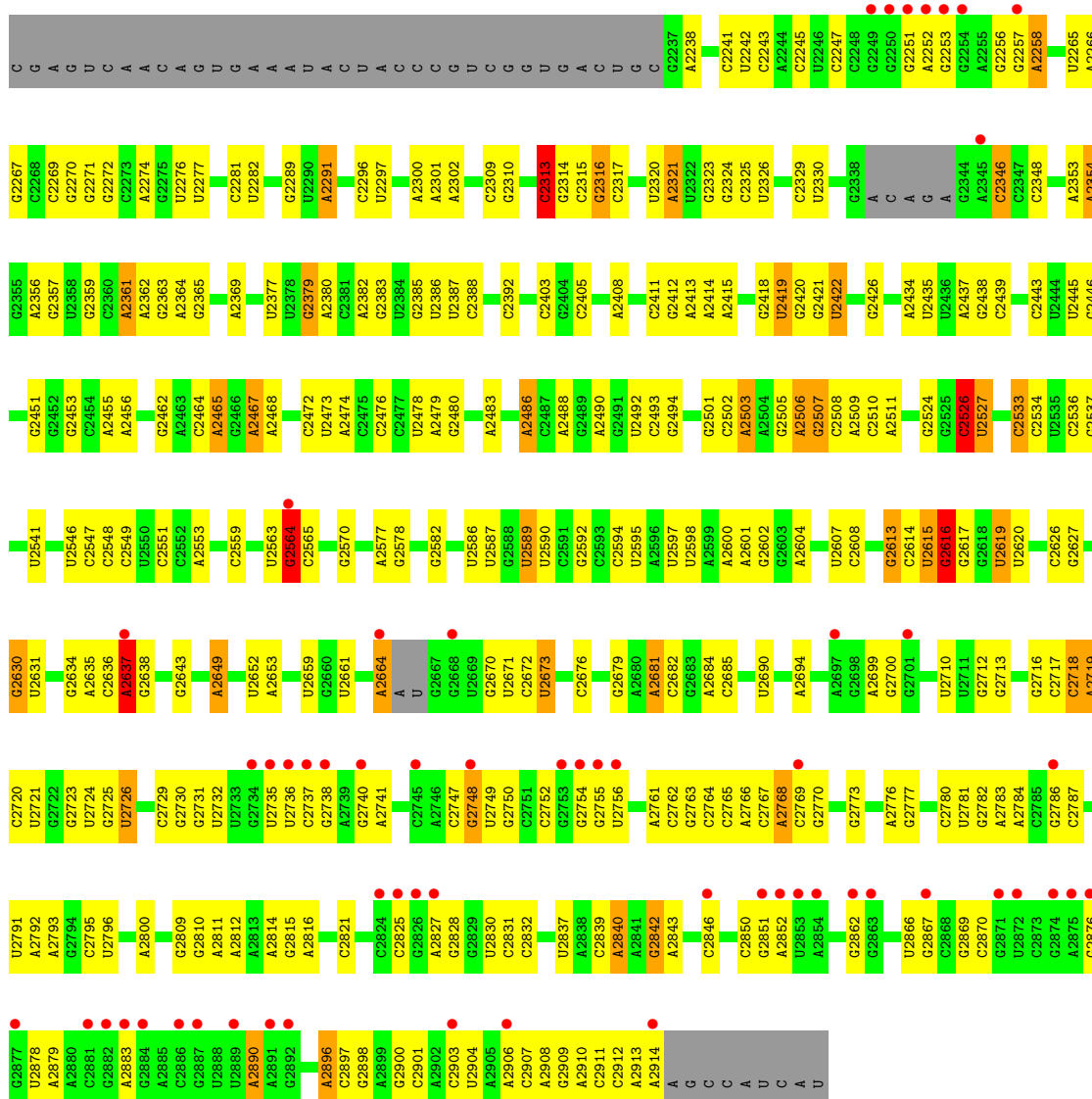
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and 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.

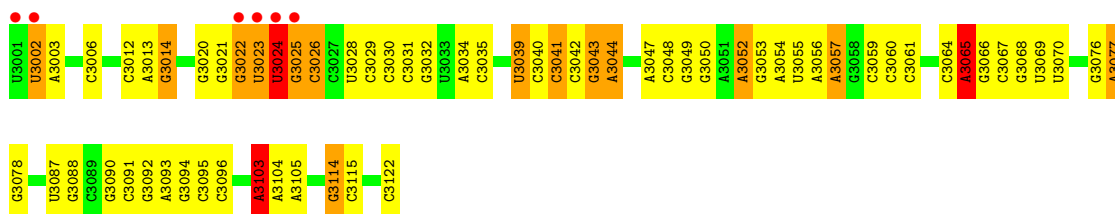
- Molecule 1: 23S ribosomal rna



G	U2032	C1940	U1835	U1761	C1675	U1596	G1510	U1435	G1325	G1226	G1160	A1058	U
G	G2033	C1941	A1840	C1762	C1679	A1598	C1513	C1436	A1328	C1229	A1161	G1059	G
U	C2034	A1942	C1841	C1763	C1680	A1599	C1514	G1438	A1329	G1437	G1162	C1060	U
C	C2035	C1943	C1842	C1764	C1681	A1603	U1517	U1439	C1332	A1231	G1163	U1064	C
C	G2044	G1947	A1845	U1766	G1682	G1604	U1518	U1440	G1333	A1232	G1165	G1065	C
C	G2045	G1948	A1846	C1767	G1683	G1605	U1519	G1441	U1334	A1233	G1166	U1066	C
C	G2046	A1847	A1848	C1768	G1684	A1606	U1520	A1442	C1335	U1234	G1167	A1067	C
A	G2050	G1949	A1849	C1769	A1685	A1607	G1523	G1443	G1336	G1235	G1168	G1068	U
U	U2060	U1850	C1686	U1770	A1686	A1608	G1524	G1444	C1342	U1236	U1169	C1069	C
U	G1851	C1687	C1687	C1772	C1687	G1610	G1525	G1445	C1343	U1237	U1170	G1072	C
U	A2054	A1852	C1687	C1773	C1682	G1611	A1527	A1448	G1344	G1238	A1171	G	G
C	U2064	C1853	C1682	C1774	C1682	G1612	A1528	G1449	G1345	G1239	A1172	A	A
C	A2067	G1854	C1682	C1775	C1682	G1613	A1529	G1450	G1346	A1242	A1173	A1078	G
G	G2068	G1855	C1682	C1776	C1682	G1614	G1530	G1451	C1347	A1243	A1174	A1079	A
A	U2069	A1856	C1682	C1777	C1682	G1615	G1531	G1452	A1372	G1244	A1175	C1080	G
C	G2070	C1857	C1682	C1778	C1682	G1616	G1532	G1453	A1373	G1245	A1176	A1081	A
U	U2071	A1858	C1682	C1779	C1682	G1617	G1533	G1454	C1360	C1246	A1177	G	G
U	C2072	C1859	C1682	C1780	C1682	G1618	G1534	G1455	C1361	A1246	G1178	A1086	U
U	G2073	U1964	C1682	C1781	C1682	G1619	G1535	G1456	C1362	U1249	C1179	A1087	C
A	U2078	C1965	C1682	C1782	C1682	G1620	G1536	G1457	C1363	C1250	A1181	A1088	G
G	G2079	U1966	C1682	C1783	C1682	G1621	G1537	G1458	A1374	C1251	A1182	A1097	G
G	A2080	G1967	C1682	C1784	C1682	G1622	G1538	G1459	C1375	A1252	A1183	A1098	C
G	G2081	C1968	C1682	C1785	C1682	G1623	G1539	G1460	C1376	C1253	C1184	G1099	A
A	U2082	U1969	C1682	C1786	C1682	G1624	G1540	G1461	C1377	G1262	U1185	C	C
C	G2090	U1970	C1682	C1787	C1682	G1625	G1541	G1462	C1378	C1263	U1186	U1109	A
C	G2091	C1971	C1682	C1788	C1682	G1626	G1542	G1463	C1379	C1264	U1187	G1110	C
A	U2093	U1972	C1682	C1789	C1682	G1627	G1543	G1464	C1380	U1265	U1188	U1103	U
A	G2094	C1973	C1682	C1790	C1682	G1628	G1544	G1465	C1381	U1266	A1189	A1114	C
C	A2096	U1974	C1682	C1791	C1682	G1629	G1545	G1466	C1382	C1267	A1190	U1115	C
C	U2097	C1975	C1682	C1792	C1682	G1630	G1546	G1467	C1383	C1268	A1191	U1116	C
C	G2101	U1976	C1682	C1793	C1682	G1631	G1547	G1468	C1384	C1269	A1192	A1117	C
A	G2102	C1977	C1682	C1794	C1682	G1632	G1548	G1469	C1385	C1270	A1193	A1118	C
A	A2103	U1978	C1682	C1795	C1682	G1633	G1549	G1470	C1386	U1271	A1194	G1119	C
C	G2104	C1979	C1682	C1796	C1682	G1634	G1550	G1471	C1387	A1272	G1195	U1120	C
C	U2107	U1980	C1682	C1797	C1682	G1635	G1551	G1472	C1388	C1273	G1196	A1123	C
C	A2108	C1981	C1682	C1798	C1682	G1636	G1552	G1473	C1389	U1274	G1197	A1124	C
C	G2110	U1982	C1682	C1799	C1682	G1637	G1553	G1474	C1390	C1275	G1198	C1015	C
C	G2111	C1983	C1682	C1800	C1682	G1638	G1554	G1475	C1391	A1275	U1199	U1016	C
C	U2115	U1984	C1682	C1801	C1682	G1639	G1555	G1476	C1392	U1276	C1201	A1020	C
C	G2116	C1985	C1682	C1802	C1682	G1640	G1556	G1477	C1393	A1287	G1202	G1130	C
U	U2128	U1986	C1682	C1803	C1682	G1641	G1557	G1478	C1394	U1288	G1203	G1131	C
A	G2133	C1987	C1682	C1804	C1682	G1642	G1558	G1479	C1395	C1289	G1204	A1132	C
C	G2134	U1988	C1682	C1805	C1682	G1643	G1559	G1480	C1396	G1290	G1205	G1133	C
C	A2135	U1989	C1682	C1806	C1682	G1644	G1560	G1481	C1397	U1293	U1206	U1029	C
C	G2136	C1990	C1682	C1807	C1682	G1645	G1561	G1482	C1398	U1294	G1207	G1134	C
C	A	U1991	C1682	C1808	C1682	G1646	G1562	G1483	C1399	U1295	C1208	U1039	C
C	G	C1992	C1682	C1809	C1682	G1647	G1563	G1484	C1400	U1296	G1209	G1135	C
C	U2012	U1993	C1682	C1810	C1682	G1648	G1564	G1485	C1401	U1297	C1210	G1136	C
C	G2013	C1994	C1682	C1811	C1682	G1649	G1565	G1486	C1402	U1298	C1211	G1137	C
C	A2030	U1995	C1682	C1812	C1682	G1650	G1566	G1487	C1403	U1299	G1212	G1138	C
C	G2031	C1996	C1682	C1813	C1682	G1651	G1567	G1488	C1404	U1300	G1213	U1139	C
C	U2032	U1997	C1682	C1814	C1682	G1652	G1568	G1489	C1405	U1301	G1214	C1140	C
C	G2033	C1998	C1682	C1815	C1682	G1653	G1569	G1490	C1406	U1302	G1215	G1151	C
C	A2034	U1999	C1682	C1816	C1682	G1654	G1570	G1491	C1407	U1303	G1216	A1154	C
C	U2035	C1999	C1682	C1817	C1682	G1655	G1571	G1492	C1408	U1304	G1217	G1155	C
C	G2036	U1999	C1682	C1818	C1682	G1656	G1572	G1493	C1409	U1305	G1218	U1056	C
C	U2037	C1999	C1682	C1819	C1682	G1657	G1573	G1494	C1410	U1306	G1219	G1057	C
C	A2038	U1999	C1682	C1820	C1682	G1658	G1574	G1495	C1411	U1307	G1220	U1058	C
C	G2039	C1999	C1682	C1821	C1682	G1659	G1575	G1496	C1412	U1308	G1221	G1059	C
C	U2040	U1999	C1682	C1822	C1682	G1660	G1576	G1497	C1413	U1309	G1222	U1060	C
C	A2041	C1999	C1682	C1823	C1682	G1661	G1577	G1498	C1414	U1310	G1223	G1061	C
C	G2042	U1999	C1682	C1824	C1682	G1662	G1578	G1499	C1415	U1311	G1224	U1062	C
C	U2043	C1999	C1682	C1825	C1682	G1663	G1579	G1500	C1416	U1312	G1225	U1063	C
C	A2044	U1999	C1682	C1826	C1682	G1664	G1580	G1501	C1417	U1313	G1226	U1064	C
C	G2045	C1999	C1682	C1827	C1682	G1665	G1581	G1502	C1418	U1314	G1227	U1065	C
C	U2046	U1999	C1682	C1828	C1682	G1666	G1582	G1503	C1419	U1315	G1228	U1066	C
C	A2047	C1999	C1682	C1829	C1682	G1667	G1583	G1504	C1420	U1316	G1229	U1067	C
C	G2048	U1999	C1682	C1830	C1682	G1668	G1584	G1505	C1421	U1317	G1230	U1068	C
C	U2049	C1999	C1682	C1831	C1682	G1669	G1585	G1506	C1422	U1318	G1231	U1069	C
C	A2050	U1999	C1682	C1832	C1682	G1670	G1586	G1507	C1423	U1319	G1232	U1070	C
C	G2051	C1999	C1682	C1833	C1682	G1671	G1587	G1508	C1424	U1320	G1233	U1071	C
C	U2052	U1999	C1682	C1834	C1682	G1672	G1588	G1509	C1425	U1321	G1234	U1072	C
C	A2053	C1999	C1682	C1835	C1682	G1673	G1589	G1510	C1426	U1322	G1235	U1073	C
C	G2054	U1999	C1682	C1836	C1682	G1674	G1590	G1511	C1427	U1323	G1236	U1074	C
C	U2055	C1999	C1682	C1837	C1682	G1675	G1591	G1512	C1428	U1324	G1237	U1075	C
C	A2056	U1999	C1682	C1838	C1682	G1676	G1592	G1513	C1429	U1325	G1238	U1076	C
C	G2057	C1999	C1682	C1839	C1682	G1677	G1593	G1514	C1430	U1326	G1239	U1077	C
C	U2058	U1999	C1682	C1840	C1682	G1678	G1594	G1515	C1431	U1327	G1240	U1078	C
C	A2059	C1999	C1682	C1841	C1682	G1679	G1595	G1516	C1432	U1328	G1241	U1079	C
C	G2060	U1999	C1682	C1842	C1682	G1680	G1596	G1517	C1433	U1329	G1242	U1080	C
C	U2061	C1999	C1682	C1843	C1682	G1681	G1597	G1518	C1434	U1330	G1243	U1081	C
C	A2062	U1999	C1682	C1844	C1682	G1682	G1598	G1519	C1435	U1331	G1244	U1082	C
C	G2063	C1999	C1682	C1845	C1682	G1683	G1599	G1520	C1436	U1332	G1245	U1083	C
C	U2064	U1999	C1682	C1846	C1682	G1684	G1600	G1521	C1437	U1333	G1246	U1084	C
C	A2065	C1999	C1682	C1847	C1682	G1685	G1601	G1522	C1438	U1334	G1247	U1085	C
C	G2066	U1999	C1682	C1848	C1682	G1686	G1602	G1523	C1439	U1335	G1248	U1086	C
C	U2067	C1999	C1682	C1849	C1682	G1687	G1603	G1524	C1440	U1336	G1249	U1087	C
C	A2068	U1999	C1682	C1850	C1682	G1688	G1604	G1525	C1441	U1337	G1250	U1088	C
C	G2069	C1999	C1682	C1851	C1682	G1689	G1605	G1526	C1442	U1338	G1251	U1089	C
C	U2070	U1999	C1682	C1852	C1682	G1690	G1606	G1527	C1443	U1339	G1252	U1090	C
C	A2071	C1999	C1682	C1853	C1682	G1691	G1607	G1528	C1444	U1340	G1253	U1091	C
C	G2072	U1999	C1682	C1854	C1682	G1692	G1608	G1529	C1445	U1341	G1254	U1092	C
C	U2073	C1999	C1682	C1855	C1682	G1693	G1609	G1530	C1446	U1342	G1255	U1093	C
C	A2074	U1999	C1682	C1856	C1682	G1694	G1610	G1531	C1447	U1343	G1256	U1094	C
C	G2075	C1999	C1682	C1857	C1682	G1695	G1611	G1532	C1448	U1344	G1257	U1095	C
C	U2076	U1999	C1682	C1858	C1682	G1696	G1612	G1533	C1449	U1345	G1258	U1096	C
C	A2077	C1999	C1682	C1859	C1682	G1697	G1613	G1534	C1450	U1346	G1259	U1097	C
C	G2078	U1999	C1682	C1860	C1682	G1698	G1614	G1535	C1451	U1347	G1260	U1098	C
C	U2079	C1999	C1682	C1861	C1682	G1699	G1615	G1536	C1452	U1348	G1		



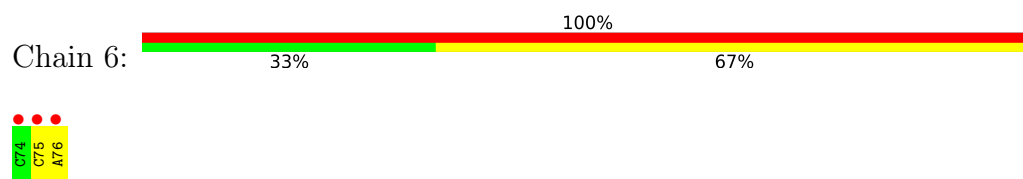
- Molecule 2: 5S ribosomal RNA



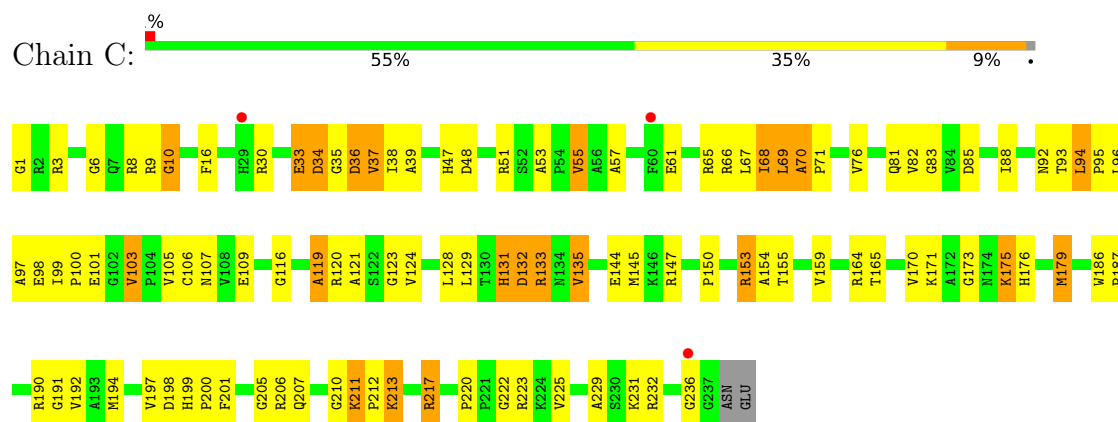
- Molecule 3: CCA-phenylalanine-cariotic-acid-biotin



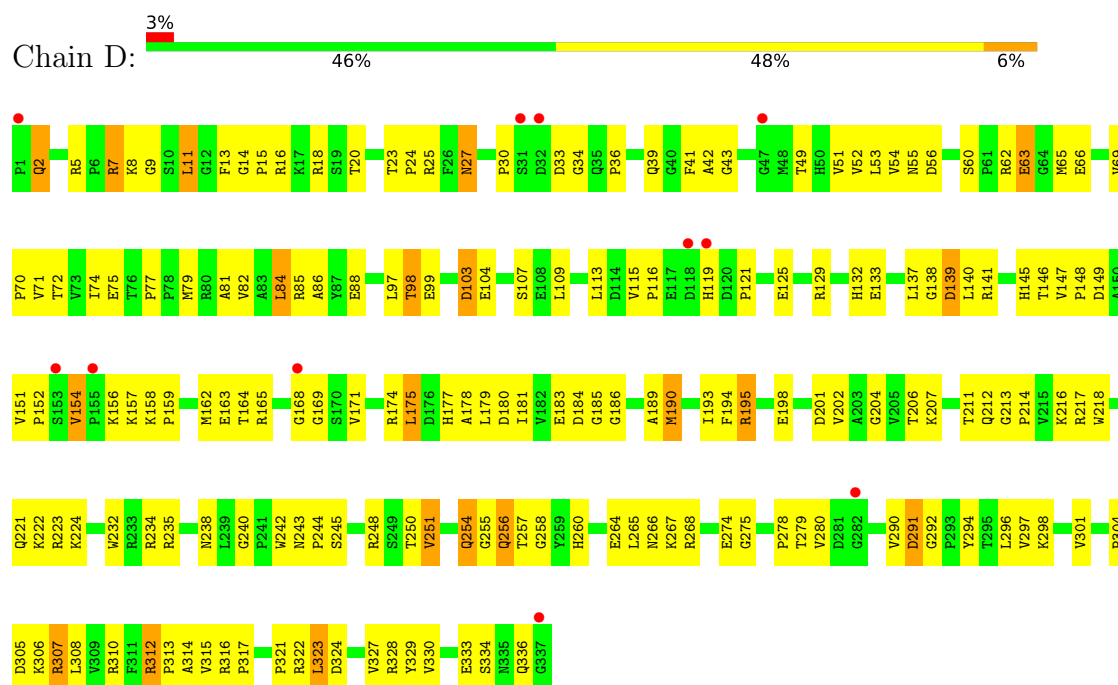
- Molecule 3: CCA-phenylalanine-cariotic-acid-biotin



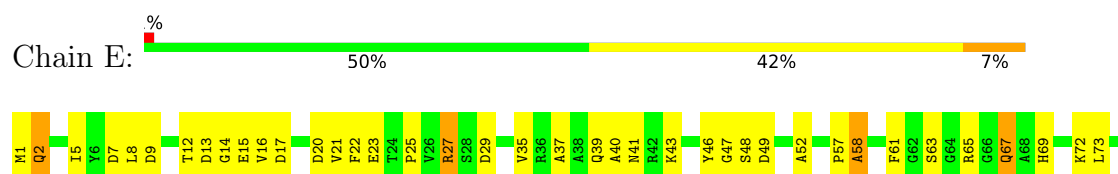
- Molecule 4: 50S ribosomal protein L2P

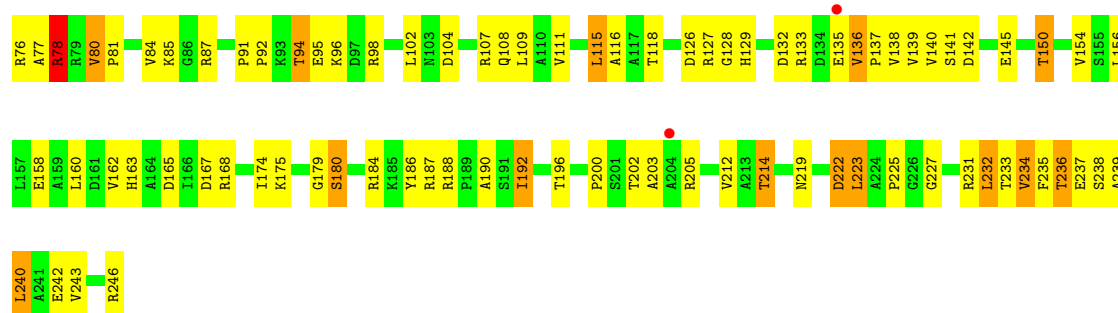


- Molecule 5: 50S ribosomal protein L3P

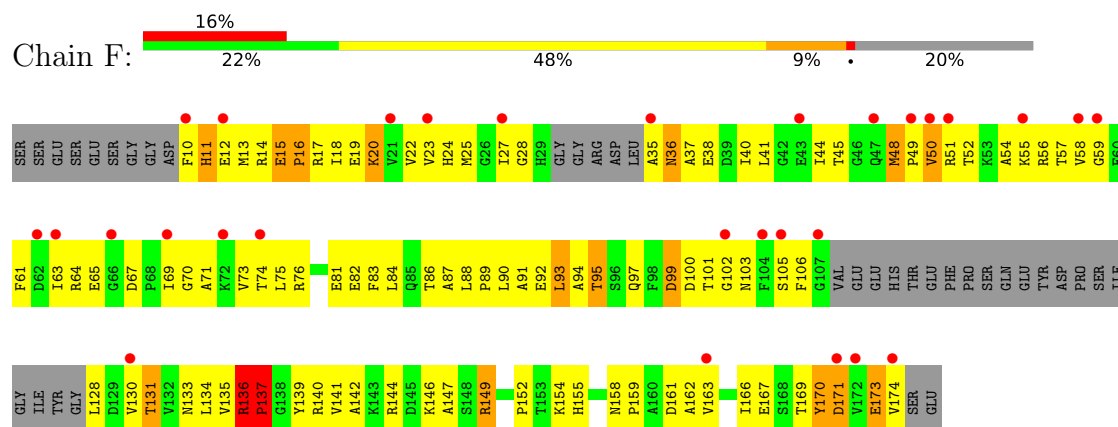


- Molecule 6: 50S ribosomal protein L4E

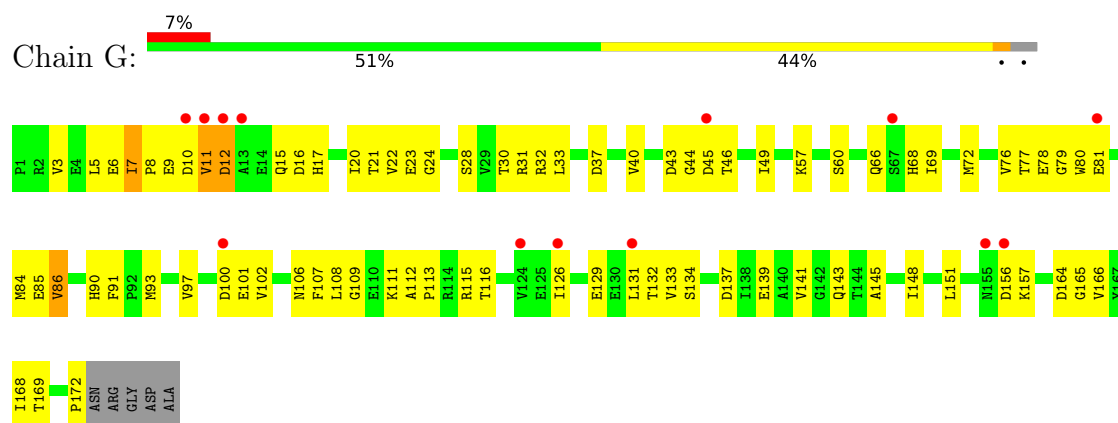




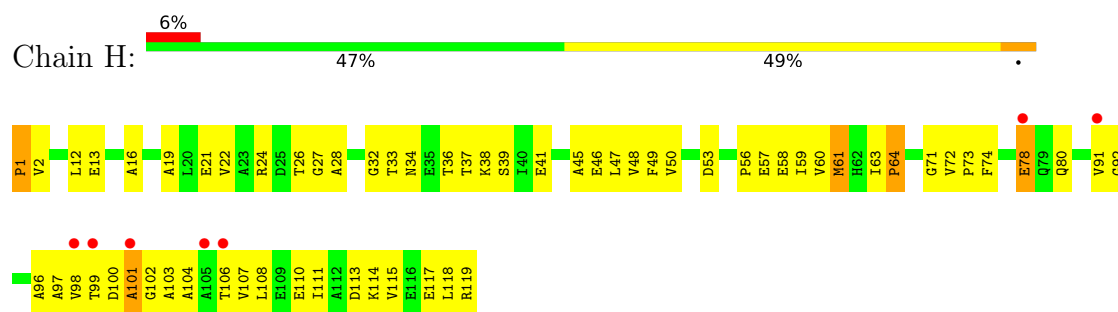
• Molecule 7: 50S ribosomal protein L5P



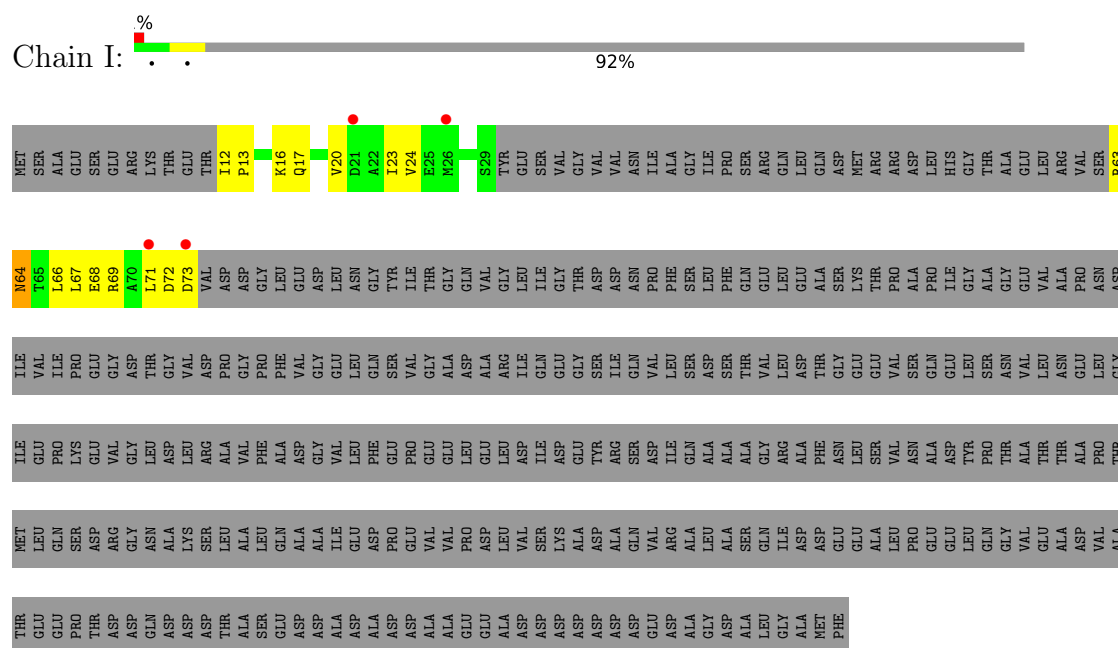
• Molecule 8: 50S ribosomal protein L6P



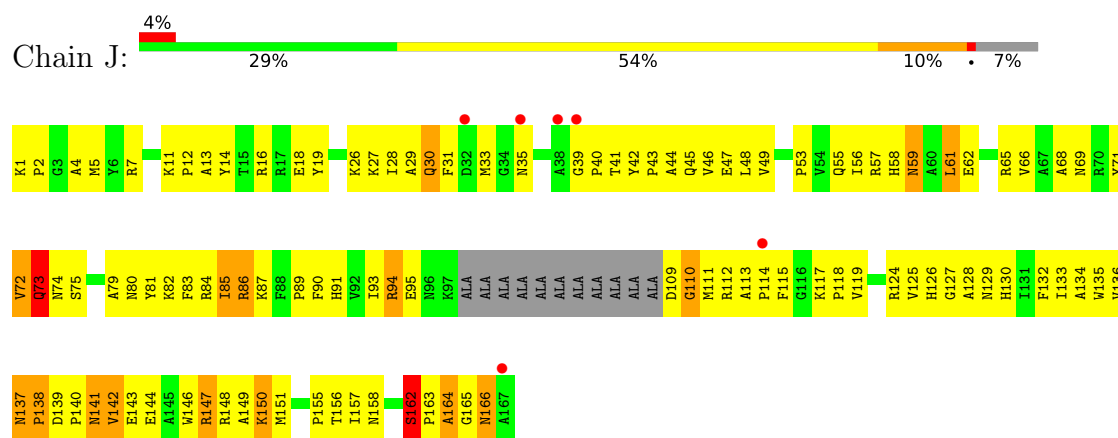
• Molecule 9: 50S ribosomal protein L7Ae



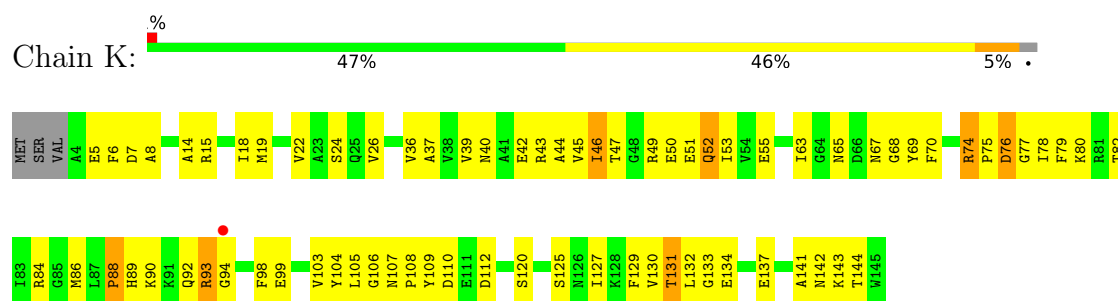
• Molecule 10: Acidic ribosomal protein P0 homolog



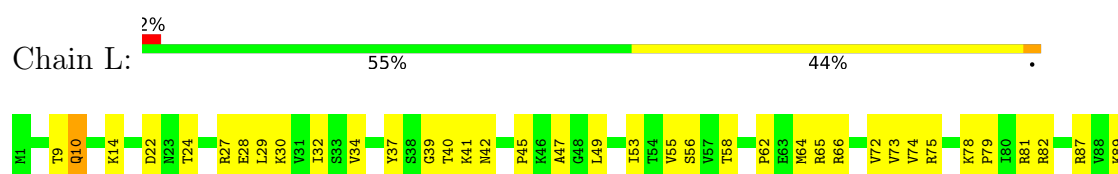
• Molecule 11: L10 Ribosomal Protein



• Molecule 12: 50S ribosomal protein L13P

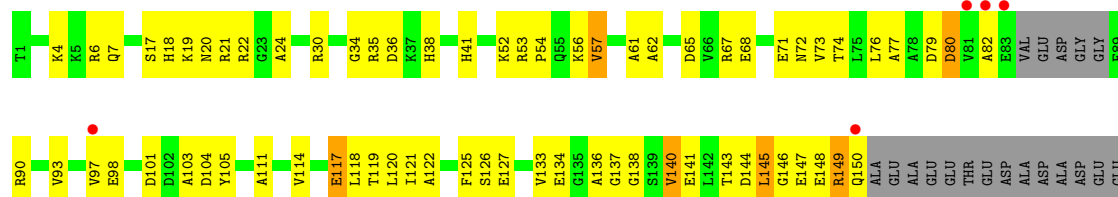


• Molecule 13: 50S ribosomal protein L14P

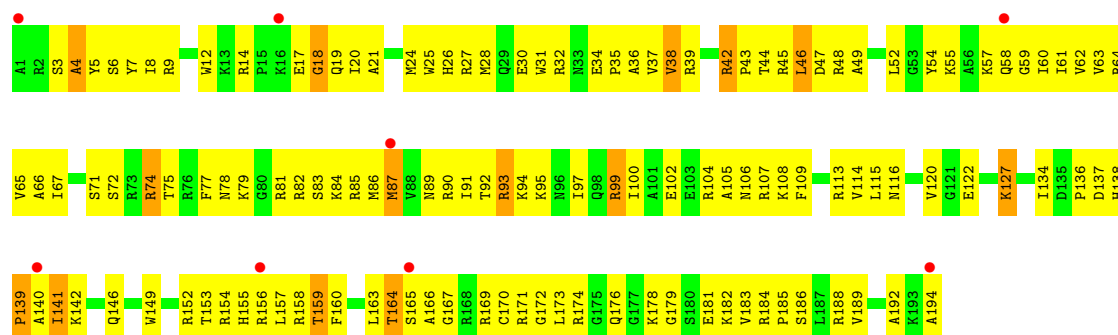




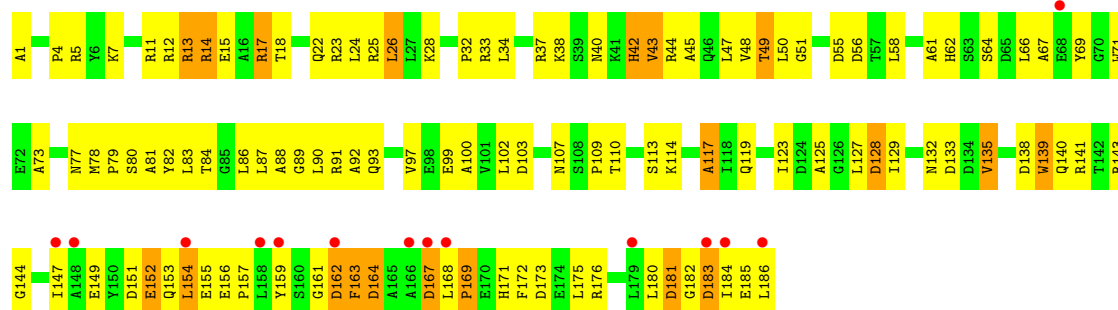
• Molecule 14: 50S ribosomal protein L15P



• Molecule 15: L15 Ribosomal Protein



• Molecule 16: 50S ribosomal protein L18P

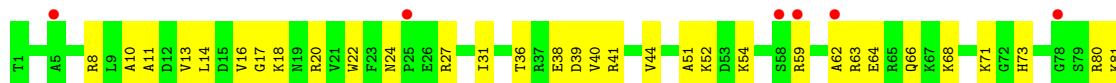


• Molecule 17: 50S ribosomal protein L18e





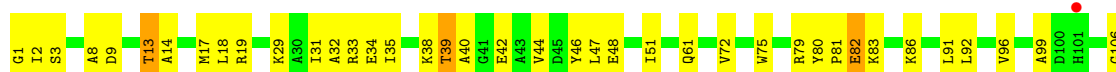
• Molecule 18: 50S ribosomal protein L19E



• Molecule 19: 50S ribosomal protein L21e



• Molecule 20: 50S ribosomal protein L22P

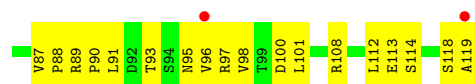


• Molecule 21: 50S ribosomal protein L23P



• Molecule 22: 50S ribosomal protein L24P

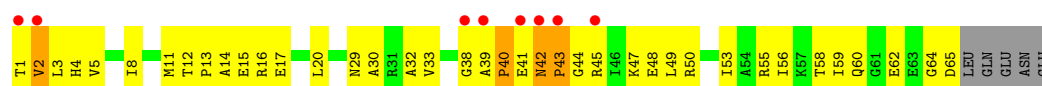




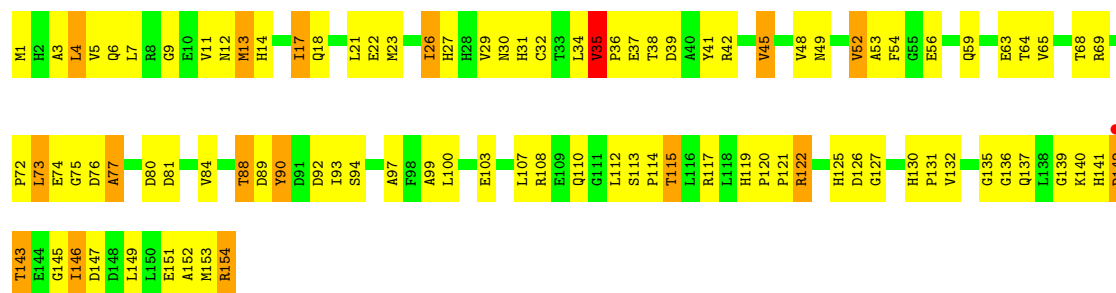
- Molecule 23: 50S ribosomal protein L24E



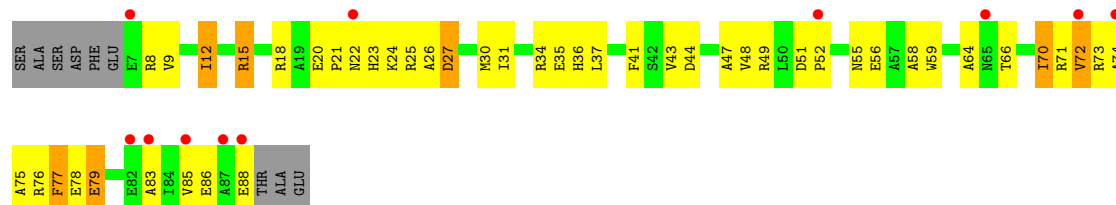
- Molecule 24: 50S ribosomal protein L29P



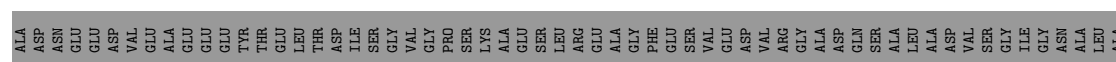
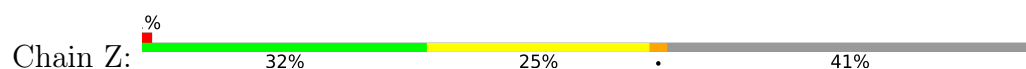
- Molecule 25: 50S ribosomal protein L30P

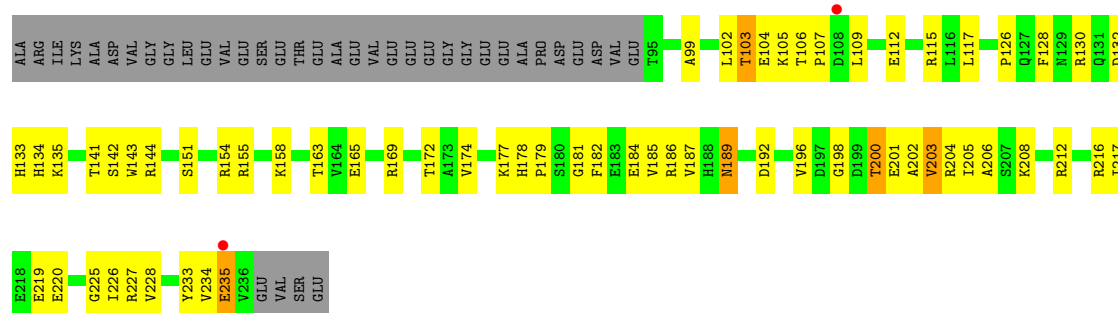


- Molecule 26: 50S ribosomal protein L31e

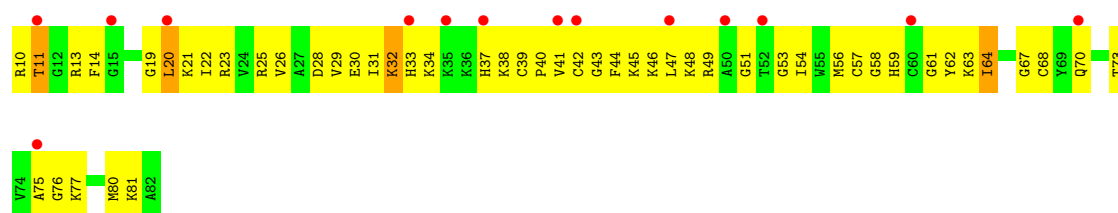


- Molecule 27: 50S ribosomal protein L32E





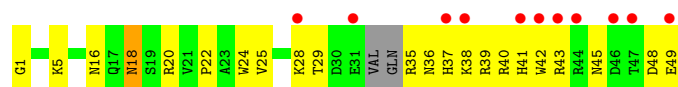
• Molecule 28: L37Ae 50S ribosomal protein



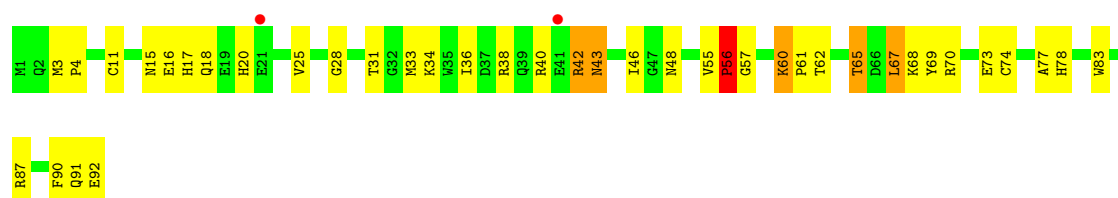
• Molecule 29: 50S ribosomal protein L37e



• Molecule 30: 50S ribosomal protein L39e



• Molecule 31: 50S ribosomal protein L44E



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	213.16Å 301.29Å 575.40Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 3.00 20.00 – 3.00	Depositor EDS
% Data completeness (in resolution range)	95.6 (20.00-3.00) 95.3 (20.00-3.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.01 (at 2.81Å)	Xtriage
Refinement program	CNS 1.0	Depositor
R, R_{free}	0.234 , 0.264 0.233 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å ²)	47.1	Xtriage
Anisotropy	0.292	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 71.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.88	EDS
Total number of atoms	98659	wwPDB-VP
Average B, all atoms (Å ²)	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.50% 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: CL, NA, CD, PHA, MG, K

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	A	0.40	0/66076	0.63	32/103052 (0.0%)
2	B	0.38	0/2905	0.70	6/4528 (0.1%)
3	5	0.65	0/65	1.05	0/99
3	6	1.57	1/65 (1.5%)	1.36	1/99 (1.0%)
4	C	0.43	0/1787	1.02	7/2409 (0.3%)
5	D	0.43	0/2689	1.00	16/3652 (0.4%)
6	E	0.48	0/1883	1.01	9/2551 (0.4%)
7	F	0.38	0/1111	0.96	7/1498 (0.5%)
8	G	0.40	0/1382	0.91	1/1880 (0.1%)
9	H	0.38	0/896	0.91	2/1219 (0.2%)
10	I	0.42	0/241	0.82	0/324
11	J	0.50	0/1246	1.27	13/1686 (0.8%)
12	K	0.46	0/1135	0.94	5/1530 (0.3%)
13	L	0.43	0/1003	1.02	0/1351
14	M	0.38	0/1126	1.00	5/1504 (0.3%)
15	N	0.48	0/1633	1.04	9/2180 (0.4%)
16	O	0.38	0/1473	1.06	12/1999 (0.6%)
17	P	0.45	0/873	0.94	3/1181 (0.3%)
18	Q	0.43	0/1143	0.87	2/1521 (0.1%)
19	R	0.46	0/748	1.06	6/1005 (0.6%)
20	S	0.47	0/1172	0.98	4/1578 (0.3%)
21	T	0.39	0/648	0.92	2/875 (0.2%)
22	U	0.40	0/957	0.98	5/1289 (0.4%)
23	V	0.41	0/417	0.92	1/562 (0.2%)
24	W	0.36	0/502	1.01	3/675 (0.4%)
25	X	0.49	0/1218	1.04	7/1655 (0.4%)
26	Y	0.46	0/664	0.97	2/895 (0.2%)
27	Z	0.45	0/1146	0.97	2/1536 (0.1%)
28	1	0.46	0/575	0.97	1/763 (0.1%)
29	2	0.44	0/437	0.93	2/578 (0.3%)
30	3	0.36	0/398	0.77	0/527
31	4	0.45	0/771	0.95	5/1024 (0.5%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	0.41	1/98385 (0.0%)	0.75	170/147225 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	2	50
2	B	1	3
3	6	0	1
25	X	0	1
All	All	3	55

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	6	75	C	O5'-C5'	7.55	1.53	1.42

All (170) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	J	74	ASN	N-CA-C	-15.05	92.57	114.39
1	A	1563	G	C2'-C3'-O3'	13.82	130.23	109.50
2	B	3024	U	C2'-C3'-O3'	13.45	129.68	109.50
11	J	141	ASN	N-CA-C	-12.69	97.49	113.23
15	N	141	ILE	N-CA-C	-12.19	101.88	112.12
1	A	2637	A	C4'-C3'-O3'	-10.11	94.24	109.40
16	O	135	VAL	N-CA-C	-9.16	104.10	112.90
1	A	2616	G	C2'-C3'-O3'	9.14	123.21	109.50
4	C	222	GLY	N-CA-C	-9.12	103.82	113.58
2	B	3024	U	C4'-C3'-O3'	8.95	122.83	109.40
1	A	1979	G	C2'-C3'-O3'	8.92	122.89	109.50
1	A	1563	G	C4'-C3'-O3'	8.59	122.28	109.40
11	J	156	THR	N-CA-C	-8.55	96.72	110.32
7	F	136	ARG	CA-C-N	8.54	130.52	119.84
7	F	136	ARG	C-N-CA	8.54	130.52	119.84
11	J	147	ARG	N-CA-C	-8.24	102.33	112.38
14	M	57	VAL	N-CA-C	-8.21	104.88	112.43
8	G	11	VAL	N-CA-C	8.14	121.82	109.20
11	J	137	ASN	N-CA-C	-8.01	99.23	110.29
5	D	154	VAL	CA-C-N	7.90	127.45	119.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	D	154	VAL	C-N-CA	7.90	127.45	119.24
19	R	17	LYS	N-CA-C	-7.89	98.73	110.24
1	A	2636	C	C4'-C3'-O3'	-7.82	101.27	113.00
5	D	157	LYS	N-CA-C	-7.54	104.06	113.55
5	D	265	LEU	N-CA-C	7.49	120.42	110.53
7	F	100	ASP	N-CA-C	-7.46	104.18	113.28
6	E	175	LYS	N-CA-C	7.36	119.80	110.24
4	C	213	LYS	N-CA-C	7.34	120.34	111.82
14	M	145	LEU	N-CA-C	-7.25	103.38	111.28
24	W	42	ASN	CA-C-N	7.24	128.88	119.84
24	W	42	ASN	C-N-CA	7.24	128.88	119.84
5	D	323	LEU	N-CA-C	7.22	119.62	110.24
17	P	69	VAL	N-CA-C	7.20	118.97	108.53
1	A	2616	G	C4'-C3'-O3'	7.18	120.17	109.40
25	X	35	VAL	N-CA-C	7.05	116.00	107.61
4	C	103	VAL	N-CA-C	7.05	116.37	108.05
22	U	52	ARG	N-CA-C	7.03	122.53	113.18
4	C	133	ARG	N-CA-C	-7.00	104.89	113.50
1	A	1942	A	C5'-C4'-C3'	7.00	126.50	116.00
15	N	139	PRO	N-CA-C	-6.98	101.35	111.33
2	B	3039	U	N1-C1'-C2'	6.95	122.42	112.00
31	4	60	LYS	N-CA-C	-6.94	100.72	110.29
21	T	57	THR	N-CA-C	6.87	119.60	110.53
6	E	78	ARG	N-CA-C	6.79	117.54	108.38
19	R	47	VAL	CA-C-N	6.78	126.58	119.05
19	R	47	VAL	C-N-CA	6.78	126.58	119.05
16	O	153	GLN	N-CA-C	-6.73	104.05	113.20
22	U	54	ASP	N-CA-C	-6.61	105.18	113.18
11	J	73	GLN	N-CA-C	-6.50	102.46	110.65
15	N	42	ARG	CA-C-N	6.47	126.82	119.83
15	N	42	ARG	C-N-CA	6.47	126.82	119.83
17	P	82	SER	N-CA-C	-6.43	102.50	110.41
25	X	75	GLY	N-CA-C	6.41	120.09	112.33
16	O	169	PRO	N-CA-C	-6.38	106.19	114.03
31	4	55	VAL	CA-C-N	6.35	127.78	119.84
31	4	55	VAL	C-N-CA	6.35	127.78	119.84
19	R	68	GLY	N-CA-C	-6.34	100.23	112.02
15	N	89	ASN	N-CA-C	6.31	119.14	111.82
29	2	21	ARG	N-CA-C	6.30	119.08	111.40
5	D	222	LYS	N-CA-C	-6.25	100.46	110.14
31	4	43	ASN	N-CA-C	6.24	120.15	112.54
12	K	88	PRO	N-CA-C	-6.22	104.08	112.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	J	162	SER	CA-C-N	-6.20	112.09	119.84
11	J	162	SER	C-N-CA	-6.20	112.09	119.84
11	J	1	LYS	CA-C-N	6.19	126.16	120.03
11	J	1	LYS	C-N-CA	6.19	126.16	120.03
1	A	920	C	C2'-C3'-O3'	-6.15	104.47	113.70
2	B	3039	U	C4'-C3'-O3'	-6.13	103.81	113.00
20	S	122	GLN	N-CA-C	-6.10	98.58	108.41
12	K	112	ASP	N-CA-C	-6.10	99.33	109.46
20	S	137	ASN	N-CA-C	6.06	119.43	110.46
25	X	35	VAL	CA-C-N	6.04	126.00	119.78
25	X	35	VAL	C-N-CA	6.04	126.00	119.78
14	M	7	GLN	N-CA-C	6.03	118.82	111.82
4	C	135	VAL	N-CA-C	6.01	117.14	108.48
16	O	168	LEU	N-CA-C	6.00	119.94	108.12
25	X	115	THR	N-CA-C	5.95	118.60	108.90
1	A	834	G	C2'-C3'-O3'	-5.93	104.80	113.70
4	C	198	ASP	N-CA-C	5.93	120.58	113.23
1	A	2291	A	N9-C1'-C2'	5.93	120.89	112.00
11	J	7	ARG	N-CA-C	5.92	120.12	113.01
5	D	175	LEU	N-CA-C	-5.88	104.77	111.07
1	A	1165	G	N9-C1'-C2'	5.84	120.76	112.00
11	J	110	GLY	N-CA-C	-5.83	99.36	113.18
19	R	25	PRO	CA-C-N	5.80	125.42	119.56
19	R	25	PRO	C-N-CA	5.80	125.42	119.56
16	O	51	GLY	CA-C-N	5.79	126.18	119.47
16	O	51	GLY	C-N-CA	5.79	126.18	119.47
1	A	1504	A	N9-C1'-C2'	5.76	120.63	112.00
6	E	192	ILE	N-CA-C	5.76	117.04	109.21
23	V	18	GLY	N-CA-C	5.73	121.28	112.81
1	A	1819	G	C5'-C4'-C3'	5.70	124.56	116.00
6	E	150	THR	N-CA-C	-5.66	105.03	111.14
16	O	14	ARG	N-CA-C	-5.64	105.05	111.14
16	O	102	LEU	N-CA-C	5.63	117.39	108.67
15	N	74	ARG	N-CA-C	5.59	118.59	109.59
7	F	48	MET	N-CA-C	5.57	116.01	109.60
5	D	154	VAL	N-CA-C	5.57	113.06	107.55
12	K	68	GLY	N-CA-C	5.56	119.63	112.18
26	Y	79	GLU	N-CA-C	5.55	119.91	113.20
27	Z	143	TRP	N-CA-C	5.54	118.27	109.96
27	Z	202	ALA	N-CA-C	-5.53	101.11	109.85
16	O	13	ARG	N-CA-C	-5.52	106.67	113.41
16	O	133	ASP	N-CA-C	5.47	120.39	111.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	E	167	ASP	N-CA-C	-5.47	105.48	111.82
18	Q	118	GLN	N-CA-C	-5.46	104.97	111.69
16	O	42	HIS	N-CA-C	5.44	116.91	109.18
1	A	1120	U	C5'-C4'-C3'	-5.44	107.84	116.00
20	S	141	VAL	N-CA-C	5.43	117.15	108.89
6	E	80	VAL	CA-C-N	5.42	125.76	119.47
6	E	80	VAL	C-N-CA	5.42	125.76	119.47
6	E	186	TYR	N-CA-C	5.41	118.10	110.14
15	N	127	LYS	N-CA-C	-5.41	99.01	107.93
1	A	1592	G	N9-C1'-C2'	5.39	120.08	112.00
1	A	129	A	C2'-C3'-O3'	5.36	121.75	113.70
1	A	2291	A	C4'-C3'-O3'	-5.36	104.96	113.00
3	6	75	C	C4'-C3'-O3'	-5.32	105.02	113.00
11	J	155	PRO	N-CA-C	5.31	118.66	111.22
1	A	1450	C	C2'-C3'-O3'	-5.31	105.73	113.70
12	K	110	ASP	N-CA-C	-5.30	105.64	112.68
1	A	2664	A	N9-C1'-C2'	5.29	119.94	112.00
14	M	82	ALA	N-CA-C	5.29	115.01	108.19
4	C	70	ALA	N-CA-C	5.29	117.24	109.42
1	A	1504	A	C4'-C3'-O3'	-5.28	105.08	113.00
15	N	4	ALA	N-CA-C	-5.27	105.53	111.28
31	4	67	LEU	N-CA-C	5.26	118.29	110.14
28	1	32	LYS	N-CA-C	-5.26	105.55	111.28
25	X	17	ILE	N-CA-C	-5.25	105.73	110.82
1	A	871	G	C5'-C4'-O4'	-5.24	101.93	109.80
5	D	213	GLY	CA-C-N	5.24	124.42	118.97
5	D	213	GLY	C-N-CA	5.24	124.42	118.97
5	D	23	THR	CA-C-N	5.24	125.17	119.78
5	D	23	THR	C-N-CA	5.24	125.17	119.78
12	K	67	ASN	N-CA-C	-5.23	105.58	111.28
1	A	2726	U	N1-C1'-C2'	5.23	119.84	112.00
2	B	3103	A	C5'-C4'-O4'	5.22	117.63	109.80
22	U	78	THR	N-CA-C	5.19	117.30	109.41
7	F	15	GLU	CA-C-N	5.18	126.32	119.84
7	F	15	GLU	C-N-CA	5.18	126.32	119.84
29	2	30	LYS	N-CA-C	-5.17	107.10	113.41
14	M	149	ARG	N-CA-C	5.16	115.82	108.54
1	A	2316	G	C5'-C4'-C3'	-5.15	107.48	115.20
20	S	3	SER	N-CA-C	-5.14	101.55	109.52
2	B	3065	A	N9-C1'-C2'	5.14	119.71	112.00
24	W	30	ALA	N-CA-C	-5.14	105.59	111.14
6	E	179	GLY	N-CA-C	-5.13	106.45	113.27

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1504	A	C1'-O4'-C4'	-5.13	104.77	109.90
1	A	922	A	C4'-C3'-O3'	-5.12	105.31	113.00
18	Q	127	GLY	N-CA-C	-5.12	108.72	114.40
5	D	193	ILE	N-CA-C	5.12	116.04	111.90
9	H	72	VAL	N-CA-C	5.12	114.54	108.96
1	A	206	G	C5'-C4'-C3'	-5.11	108.33	116.00
1	A	2526	C	N1-C1'-C2'	5.10	119.66	112.00
5	D	242	TRP	N-CA-C	-5.10	105.62	111.07
25	X	143	THR	N-CA-C	-5.09	105.85	111.71
22	U	3	GLN	CA-C-N	5.08	125.11	119.32
22	U	3	GLN	C-N-CA	5.08	125.11	119.32
1	A	2637	A	O3'-P-O5'	5.08	111.62	104.00
1	A	2313	C	C5'-C4'-C3'	5.07	123.61	116.00
1	A	2673	U	N1-C1'-C2'	5.06	119.59	112.00
17	P	2	LYS	N-CA-C	-5.06	102.79	110.28
5	D	151	VAL	CA-C-N	5.04	124.22	118.97
5	D	151	VAL	C-N-CA	5.04	124.22	118.97
7	F	137	PRO	N-CA-C	5.04	122.86	112.47
21	T	59	ASP	N-CA-C	-5.03	106.56	113.30
1	A	2419	U	N1-C1'-C2'	5.02	119.53	112.00
9	H	118	LEU	N-CA-C	-5.02	106.44	113.37
26	Y	12	ILE	N-CA-C	5.01	112.82	107.76
16	O	117	ALA	N-CA-C	-5.01	105.73	111.14
15	N	8	ILE	N-CA-C	-5.00	105.11	110.36

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	1563	G	C3'
1	A	2616	G	C3'
2	B	3024	U	C3'

All (55) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	6	76	A	Sidechain
1	A	1039	G	Sidechain
1	A	1078	A	Sidechain
1	A	1226	G	Sidechain
1	A	1293	U	Sidechain
1	A	1342	C	Sidechain
1	A	1351	G	Sidechain

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Mol	Chain	Res	Type	Group
1	A	1417	G	Sidechain
1	A	1458	A	Sidechain
1	A	1599	U	Sidechain
1	A	1809	G	Sidechain
1	A	182	G	Sidechain
1	A	1829	A	Sidechain
1	A	1835	U	Sidechain
1	A	1861	C	Sidechain
1	A	1863	G	Sidechain
1	A	1877	G	Sidechain
1	A	1878	G	Sidechain
1	A	1972	U	Sidechain
1	A	2313	C	Sidechain
1	A	2465	A	Sidechain
1	A	2486	A	Sidechain
1	A	2492	U	Sidechain
1	A	2493	C	Sidechain
1	A	2503	A	Sidechain
1	A	2506	A	Sidechain
1	A	2526	C	Sidechain
1	A	2551	C	Sidechain
1	A	2564	G	Sidechain
1	A	2607	U	Sidechain
1	A	2615	U	Sidechain
1	A	2619	U	Sidechain
1	A	2630	G	Sidechain
1	A	2631	U	Sidechain
1	A	2637	A	Sidechain
1	A	2643	G	Sidechain
1	A	2673	U	Sidechain
1	A	2793	A	Sidechain
1	A	2840	A	Sidechain
1	A	2842	G	Sidechain
1	A	333	G	Sidechain
1	A	471	G	Sidechain
1	A	482	G	Sidechain
1	A	518	G	Sidechain
1	A	722	G	Sidechain
1	A	792	G	Sidechain
1	A	815	U	Sidechain
1	A	817	G	Sidechain
1	A	818	A	Sidechain

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Mol	Chain	Res	Type	Group
1	A	867	A	Sidechain
1	A	882	A	Sidechain
2	B	3065	A	Sidechain
2	B	3087	U	Sidechain
2	B	3090	G	Sidechain
25	X	90	TYR	Sidechain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	59017	0	29805	1079	0
2	B	2600	0	1326	85	0
3	5	59	0	34	1	0
3	6	59	0	34	0	0
4	C	1754	0	1763	119	0
5	D	2624	0	2533	191	0
6	E	1858	0	1816	137	0
7	F	1094	0	1085	149	0
8	G	1357	0	1266	81	0
9	H	885	0	854	75	0
10	I	240	0	231	24	0
11	J	1215	0	1215	179	0
12	K	1119	0	1098	77	0
13	L	993	0	1027	77	0
14	M	1114	0	1072	73	0
15	N	1605	0	1676	193	0
16	O	1444	0	1401	133	0
17	P	864	0	873	57	0
18	Q	1133	0	1127	64	0
19	R	734	0	729	27	0
20	S	1149	0	1122	66	0
21	T	641	0	605	32	0
22	U	949	0	923	64	0
23	V	410	0	364	37	0
24	W	499	0	511	37	0
25	X	1195	0	1137	122	0
26	Y	654	0	653	52	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	Z	1130	0	1133	70	0
28	1	563	0	597	66	0
29	2	430	0	426	29	0
30	3	393	0	406	35	0
31	4	755	0	728	39	0
32	1	1	0	0	0	0
32	4	1	0	0	0	0
32	6	1	0	0	0	0
32	A	108	0	0	0	0
32	B	1	0	0	0	0
32	C	1	0	0	0	0
32	D	2	0	0	0	0
32	L	1	0	0	0	0
32	U	1	0	0	0	0
32	Z	1	0	0	0	0
33	A	2	0	0	0	0
34	A	70	0	0	0	0
34	B	2	0	0	0	0
34	C	1	0	0	0	0
34	E	1	0	0	0	0
34	J	2	0	0	0	0
34	K	1	0	0	0	0
34	M	1	0	0	0	0
34	N	2	0	0	0	0
34	R	1	0	0	0	0
34	S	3	0	0	0	0
34	T	1	0	0	0	0
34	U	1	0	0	0	0
35	4	1	0	0	0	0
35	A	9	0	0	0	0
35	C	1	0	0	0	0
35	D	1	0	0	0	0
35	K	3	0	0	1	0
35	L	1	0	0	1	0
35	M	1	0	0	0	0
35	N	1	0	0	1	0
35	O	1	0	0	0	0
35	P	1	0	0	0	0
35	S	1	0	0	0	0
35	Z	1	0	0	0	0
36	5	11	0	10	0	0
36	6	10	0	7	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
37	1	1	0	0	0	0
37	2	1	0	0	0	0
37	4	1	0	0	0	0
37	P	1	0	0	0	0
37	V	1	0	0	0	0
38	1	37	0	0	13	0
38	2	63	0	0	5	0
38	3	41	0	0	5	0
38	4	70	0	0	10	0
38	A	5892	0	0	227	0
38	B	139	0	0	14	0
38	C	116	0	0	13	0
38	D	149	0	0	30	0
38	E	173	0	0	37	0
38	F	52	0	0	23	0
38	G	43	0	0	12	0
38	H	27	0	0	11	0
38	I	21	0	0	6	0
38	J	77	0	0	23	0
38	K	54	0	0	5	0
38	L	62	0	0	12	0
38	M	82	0	0	18	0
38	N	139	0	0	24	0
38	O	70	0	0	17	0
38	P	43	0	0	14	0
38	Q	67	0	0	5	0
38	R	54	0	0	5	0
38	S	84	0	0	6	0
38	T	37	0	0	6	0
38	U	44	0	0	8	0
38	V	24	0	0	5	0
38	W	14	0	0	3	0
38	X	71	0	0	15	0
38	Y	31	0	0	5	0
38	Z	93	0	0	13	0
All	All	98659	0	59587	3187	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 21.

All (3187) 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)
6:E:236:THR:HG22	6:E:239:ALA:H	1.05	1.18
11:J:45:GLN:HB3	11:J:163:PRO:HD2	1.31	1.12
11:J:86:ARG:NH1	11:J:133:ILE:HG13	1.64	1.11
1:A:1119:G:H2'	12:K:52:GLN:HE22	1.10	1.10
20:S:99:ALA:HB1	20:S:109:MET:HE1	1.27	1.10
5:D:62:ARG:HA	5:D:65:MET:HE3	1.26	1.09
1:A:156:C:H5''	15:N:171:ARG:HD3	1.29	1.09
7:F:25:MET:HE2	7:F:41:LEU:HG	1.36	1.08
24:W:12:THR:HG22	24:W:15:GLU:HG3	1.39	1.05
2:B:3023:U:H3'	2:B:3024:U:H5''	1.36	1.04
1:A:1242:A:H5'	12:K:82:THR:HG23	1.38	1.03
1:A:1134:G:H4'	11:J:151:MET:HE1	1.41	1.02
11:J:86:ARG:HH11	11:J:133:ILE:HG13	0.91	1.02
22:U:71:VAL:HG11	22:U:90:PRO:HB3	1.40	1.02
1:A:960:G:H4'	38:A:6921:HOH:O	1.58	1.02
5:D:201:ASP:HB2	5:D:312:ARG:HD2	1.43	1.00
11:J:29:ALA:HB3	11:J:65:ARG:HH12	1.23	1.00
1:A:856:G:H2'	38:A:4918:HOH:O	1.60	1.00
1:A:1119:G:H2'	12:K:52:GLN:NE2	1.77	1.00
12:K:19:MET:HE3	12:K:132:LEU:HD11	1.43	0.99
1:A:2717:C:H2'	1:A:2718:C:H5''	1.45	0.98
13:L:10:GLN:NE2	13:L:10:GLN:H	1.61	0.98
25:X:149:LEU:HG	25:X:153:MET:HE2	1.40	0.98
6:E:127:ARG:NH2	6:E:225:PRO:HG2	1.79	0.98
7:F:134:LEU:HD11	7:F:166:ILE:HD11	1.44	0.97
2:B:3006:C:H5''	16:O:37:ARG:NH1	1.77	0.97
11:J:162:SER:HB2	11:J:163:PRO:HD3	1.44	0.97
20:S:17:MET:HE1	20:S:19:ARG:NH2	1.80	0.97
2:B:3076:G:H3'	2:B:3077:A:H5''	1.46	0.97
15:N:52:LEU:HD11	38:N:8623:HOH:O	1.64	0.96
1:A:1160:G:H5'	1:A:1161:A:H5'	1.45	0.96
5:D:140:LEU:HA	38:D:8583:HOH:O	1.64	0.96
16:O:47:LEU:HD11	16:O:127:LEU:HD21	1.46	0.95
11:J:86:ARG:HH11	11:J:133:ILE:CG1	1.77	0.95
12:K:76:ASP:HA	38:K:5907:HOH:O	1.63	0.95
8:G:20:ILE:HD11	8:G:40:VAL:HG11	1.48	0.95
7:F:105:SER:HB2	7:F:131:THR:HG23	1.48	0.94
25:X:88:THR:HB	38:X:6679:HOH:O	1.66	0.94
22:U:9:LYS:HE3	22:U:13:ARG:NH1	1.82	0.94
7:F:154:LYS:H	7:F:154:LYS:HD2	1.32	0.94
2:B:3056:A:H2'	2:B:3057:A:H5''	1.50	0.93
5:D:238:ASN:HD22	5:D:240:GLY:H	0.97	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:10:GLN:H	13:L:10:GLN:HE21	1.04	0.92
13:L:29:LEU:HB3	13:L:55:VAL:HG11	1.50	0.92
38:A:4711:HOH:O	13:L:39:GLY:HA2	1.68	0.92
11:J:165:GLY:HA3	38:J:8398:HOH:O	1.70	0.92
2:B:3103:A:H4'	38:B:8445:HOH:O	1.69	0.92
15:N:164:THR:HG22	15:N:167:GLY:H	1.33	0.92
26:Y:37:LEU:HD13	26:Y:85:VAL:HG21	1.52	0.91
28:1:10:ARG:HA	38:1:8415:HOH:O	1.68	0.91
1:A:1751:G:H2'	1:A:1752:G:H5''	1.51	0.91
1:A:1667:A:H5'	1:A:1667:A:H8	1.35	0.91
5:D:86:ALA:HA	38:D:8583:HOH:O	1.69	0.91
1:A:541:C:H2'	1:A:542:A:H5''	1.51	0.90
13:L:81:ARG:HB2	13:L:87:ARG:HH11	1.31	0.90
16:O:7:LYS:HE3	19:R:21:ARG:O	1.71	0.90
28:1:58:GLY:HA3	38:1:8438:HOH:O	1.70	0.90
1:A:871:G:H5'	1:A:871:G:H8	1.37	0.90
38:B:8474:HOH:O	16:O:23:ARG:HD3	1.72	0.90
2:B:3023:U:H3'	2:B:3024:U:C5'	2.01	0.89
1:A:871:G:H5'	1:A:871:G:C8	2.07	0.89
14:M:79:ASP:HB3	38:M:8560:HOH:O	1.71	0.89
5:D:162:MET:HE1	5:D:308:LEU:HD21	1.54	0.88
4:C:211:LYS:HB3	4:C:212:PRO:HD2	1.55	0.88
11:J:75:SER:O	11:J:79:ALA:HB2	1.73	0.88
18:Q:115:SER:H	18:Q:118:GLN:NE2	1.71	0.88
15:N:106:ASN:HD22	15:N:114:VAL:HG23	1.36	0.88
7:F:27:ILE:HG22	7:F:28:GLY:H	1.38	0.88
14:M:67:ARG:O	14:M:71:GLU:HG3	1.74	0.88
1:A:1164:U:H4'	1:A:1165:G:OP1	1.73	0.88
4:C:191:GLY:HA2	4:C:194:MET:HE2	1.56	0.88
11:J:59:ASN:H	11:J:59:ASN:HD22	1.14	0.88
28:1:38:LYS:HE2	28:1:45:LYS:HE2	1.56	0.88
1:A:1116:U:HO2'	1:A:1118:A:H2	0.89	0.87
1:A:545:G:H5'	1:A:545:G:H8	1.39	0.87
1:A:1474:C:H6	1:A:1474:C:H5'	1.39	0.87
6:E:236:THR:HG22	6:E:239:ALA:N	1.88	0.87
1:A:1701:A:H5'	38:A:5779:HOH:O	1.74	0.87
5:D:321:PRO:HA	38:D:8659:HOH:O	1.75	0.87
8:G:97:VAL:HG12	38:G:4191:HOH:O	1.73	0.87
1:A:1679:C:H5'	38:A:8839:HOH:O	1.74	0.87
12:K:52:GLN:HG3	12:K:53:ILE:N	1.88	0.87
15:N:35:PRO:HG2	15:N:38:VAL:HG23	1.55	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:223:ARG:HG3	38:C:8597:HOH:O	1.73	0.86
15:N:102:GLU:OE1	15:N:164:THR:HG21	1.73	0.86
11:J:41:THR:HA	38:J:8395:HOH:O	1.73	0.86
13:L:81:ARG:HB2	13:L:87:ARG:NH1	1.89	0.86
15:N:87:MET:HB3	31:4:46:ILE:HD13	1.57	0.86
15:N:106:ASN:ND2	35:N:8518:CL:CL	2.45	0.86
18:Q:115:SER:N	18:Q:118:GLN:HE21	1.71	0.86
1:A:1116:U:H3	1:A:1246:A:H62	1.22	0.86
13:L:10:GLN:HE21	13:L:10:GLN:N	1.73	0.86
30:3:41:HIS:H	30:3:45:ASN:HD22	1.23	0.86
1:A:381:G:H5''	38:A:3825:HOH:O	1.73	0.86
1:A:711:G:H1'	38:A:6586:HOH:O	1.74	0.86
13:L:74:VAL:HG11	13:L:113:ILE:HG12	1.57	0.86
1:A:2586:U:H3	1:A:2592:G:H22	1.24	0.86
1:A:1184:C:H1'	38:A:6959:HOH:O	1.75	0.85
13:L:14:LYS:HB2	13:L:45:PRO:HG2	1.56	0.85
5:D:62:ARG:CA	5:D:65:MET:HE3	2.05	0.85
1:A:2004:U:H4'	38:A:4800:HOH:O	1.76	0.85
11:J:26:LYS:HD2	11:J:28:ILE:HD12	1.59	0.85
1:A:542:A:H5'	1:A:542:A:H8	1.40	0.84
25:X:72:PRO:HG2	25:X:77:ALA:HB3	1.57	0.84
1:A:21:G:H5'	20:S:2:ILE:HA	1.59	0.84
38:A:3295:HOH:O	15:N:189:VAL:HG21	1.77	0.84
6:E:132:ASP:HB3	38:E:8365:HOH:O	1.77	0.84
12:K:52:GLN:HG3	12:K:53:ILE:H	1.43	0.84
25:X:4:LEU:HD22	25:X:52:VAL:HG21	1.60	0.84
11:J:139:ASP:N	11:J:140:PRO:HD3	1.93	0.84
20:S:106:GLY:HA2	20:S:109:MET:HE3	1.57	0.84
7:F:20:LYS:HA	7:F:75:LEU:O	1.78	0.83
12:K:74:ARG:HB3	12:K:74:ARG:HH11	1.43	0.83
4:C:192:VAL:HB	38:C:8590:HOH:O	1.76	0.83
1:A:2717:C:C2'	1:A:2718:C:H5''	2.09	0.83
1:A:2812:A:H2	1:A:2814:A:H62	1.24	0.83
16:O:49:THR:HG22	16:O:56:ASP:HB2	1.59	0.83
23:V:9:CYS:HA	23:V:52:THR:HG23	1.58	0.83
26:Y:78:GLU:HG2	26:Y:79:GLU:H	1.41	0.83
11:J:137:ASN:O	11:J:139:ASP:N	2.11	0.83
7:F:146:LYS:NZ	16:O:107:ASN:HD21	1.77	0.83
1:A:1835:U:H5	1:A:1840:A:N7	1.76	0.83
1:A:282:C:H1'	1:A:368:C:N4	1.94	0.82
1:A:1166:A:H1'	1:A:1192:A:C2	2.14	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2506:A:HO2'	1:A:2507:G:H8	0.86	0.82
1:A:541:C:C2'	1:A:542:A:H5''	2.09	0.82
11:J:4:ALA:HB3	38:J:8366:HOH:O	1.78	0.82
9:H:96:ALA:HA	38:H:3111:HOH:O	1.77	0.82
14:M:133:VAL:HA	38:M:8575:HOH:O	1.79	0.82
16:O:144:GLY:O	16:O:147:ILE:HG22	1.79	0.82
15:N:24:MET:HE3	15:N:28:MET:HE3	1.62	0.82
20:S:8:ALA:HB1	20:S:13:THR:HG21	1.61	0.82
38:A:5791:HOH:O	7:F:99:ASP:HA	1.79	0.82
2:B:3024:U:O2'	2:B:3025:G:H4'	1.79	0.82
11:J:5:MET:HG3	38:J:8366:HOH:O	1.80	0.82
15:N:87:MET:HB2	15:N:91:ILE:HD11	1.61	0.82
11:J:27:LYS:H	11:J:58:HIS:HD2	1.26	0.81
27:Z:187:VAL:HG23	27:Z:192:ASP:HB2	1.60	0.81
1:A:182:G:H4'	15:N:157:LEU:HD13	1.61	0.81
11:J:55:GLN:HE21	11:J:124:ARG:HE	1.24	0.81
15:N:35:PRO:CG	15:N:38:VAL:HG23	2.09	0.81
5:D:62:ARG:HA	5:D:65:MET:CE	2.10	0.81
1:A:962:C:H1'	16:O:5:ARG:NH1	1.96	0.81
4:C:109:GLU:HG2	4:C:116:GLY:H	1.46	0.81
1:A:2506:A:O2'	1:A:2507:G:H8	1.63	0.81
31:4:60:LYS:HG3	31:4:61:PRO:HD2	1.63	0.81
1:A:236:A:H4'	1:A:237:G:H5'	1.62	0.81
1:A:2533:C:H6	1:A:2533:C:H5'	1.45	0.81
1:A:870:G:H2'	1:A:871:G:H5''	1.61	0.80
38:A:6363:HOH:O	15:N:178:LYS:HB2	1.79	0.80
9:H:63:ILE:HB	9:H:64:PRO:HD3	1.64	0.80
9:H:91:VAL:HG12	9:H:92:GLY:N	1.96	0.80
22:U:52:ARG:HB2	22:U:95:ASN:HB3	1.63	0.80
9:H:91:VAL:HG12	9:H:92:GLY:H	1.43	0.80
11:J:162:SER:HB2	11:J:163:PRO:CD	2.10	0.80
38:A:5284:HOH:O	15:N:170:CYS:SG	2.40	0.80
6:E:242:GLU:HG3	38:E:8385:HOH:O	1.81	0.80
28:1:61:GLY:HA3	38:1:8425:HOH:O	1.82	0.80
1:A:1603:A:H5'	1:A:1605:G:O4'	1.81	0.80
11:J:47:GLU:HB3	11:J:133:ILE:HD13	1.64	0.80
11:J:49:VAL:O	11:J:157:ILE:HG23	1.81	0.80
6:E:115:LEU:HD13	6:E:223:LEU:HD21	1.62	0.80
11:J:14:TYR:H	11:J:91:HIS:CE1	2.00	0.80
4:C:69:LEU:HD21	4:C:120:ARG:HB3	1.61	0.80
31:4:25:VAL:HG22	31:4:68:LYS:HG3	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:657:G:OP1	6:E:27:ARG:NH2	2.15	0.79
38:A:4357:HOH:O	15:N:14:ARG:HG2	1.79	0.79
5:D:238:ASN:ND2	5:D:240:GLY:H	1.78	0.79
1:A:111:C:O2'	29:2:20:ARG:HG2	1.82	0.79
4:C:192:VAL:HG12	4:C:207:GLN:HB3	1.65	0.79
11:J:139:ASP:HA	38:J:8372:HOH:O	1.83	0.79
15:N:52:LEU:HD13	15:N:116:ASN:HB3	1.64	0.79
27:Z:220:GLU:HG2	38:Z:8545:HOH:O	1.80	0.79
16:O:83:LEU:HD13	16:O:175:LEU:HD23	1.65	0.79
1:A:1118:A:C8	1:A:1118:A:H3'	2.18	0.79
38:A:3234:HOH:O	15:N:157:LEU:HD11	1.83	0.78
7:F:64:ARG:HG2	7:F:67:ASP:HB3	1.64	0.78
1:A:282:C:H1'	1:A:368:C:H42	1.49	0.78
2:B:3023:U:H6	2:B:3023:U:H5''	1.46	0.78
25:X:5:VAL:HG11	25:X:153:MET:HE1	1.65	0.78
1:A:1625:U:H4'	38:A:4165:HOH:O	1.84	0.78
6:E:5:ILE:HD11	6:E:16:VAL:HG23	1.65	0.78
25:X:13:MET:HE2	25:X:18:GLN:CA	2.14	0.78
2:B:3025:G:H3'	2:B:3026:C:H5'	1.64	0.78
6:E:115:LEU:HD21	6:E:243:VAL:HG13	1.64	0.78
8:G:81:GLU:HG2	8:G:134:SER:HB3	1.64	0.78
10:I:12:ILE:HA	38:I:4499:HOH:O	1.83	0.78
27:Z:186:ARG:HG2	27:Z:186:ARG:HH11	1.48	0.78
2:B:3006:C:H5''	16:O:37:ARG:HH12	1.48	0.78
4:C:194:MET:HE3	4:C:199:HIS:HB2	1.66	0.78
25:X:13:MET:HE2	25:X:18:GLN:HA	1.66	0.78
6:E:1:MET:HG2	6:E:2:GLN:H	1.48	0.78
1:A:1118:A:H3'	1:A:1118:A:H8	1.47	0.77
1:A:1160:G:C5'	1:A:1161:A:H5'	2.13	0.77
2:B:3025:G:H3'	2:B:3026:C:C5'	2.14	0.77
6:E:236:THR:HG21	38:E:8376:HOH:O	1.83	0.77
1:A:182:G:H5'	38:A:4644:HOH:O	1.83	0.77
1:A:871:G:H8	1:A:871:G:C5'	1.98	0.77
5:D:179:LEU:O	5:D:183:GLU:HG2	1.84	0.77
16:O:113:SER:HB2	38:O:8560:HOH:O	1.84	0.77
1:A:2526:C:O2'	1:A:2527:U:H5'	1.85	0.77
5:D:238:ASN:HD22	5:D:240:GLY:N	1.80	0.77
9:H:58:GLU:HA	9:H:61:MET:HE2	1.67	0.77
13:L:74:VAL:CG1	13:L:113:ILE:HG12	2.13	0.76
28:1:40:PRO:HD3	28:1:47:LEU:HD11	1.65	0.76
1:A:1450:C:H4'	1:A:1451:C:OP2	1.86	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:2:PRO:HB2	38:J:8366:HOH:O	1.85	0.76
1:A:1834:C:H2'	1:A:1840:A:N6	1.99	0.76
38:A:3191:HOH:O	15:N:79:LYS:HD3	1.84	0.76
14:M:143:THR:HG21	38:M:8541:HOH:O	1.86	0.76
16:O:87:LEU:HD12	16:O:186:LEU:HD21	1.67	0.76
1:A:2716:G:H5''	5:D:206:THR:HG21	1.67	0.76
1:A:1684:A:H1'	30:3:43:ARG:HH22	1.48	0.76
1:A:2783:A:H3'	38:A:4722:HOH:O	1.86	0.76
15:N:172:GLY:O	15:N:183:VAL:HG11	1.84	0.76
15:N:139:PRO:O	15:N:140:ALA:HB3	1.85	0.76
1:A:877:G:H5'	1:A:878:G:OP1	1.85	0.76
1:A:2908:A:H2'	1:A:2909:G:O4'	1.87	0.76
5:D:41:PHE:CD1	5:D:79:MET:HE2	2.21	0.76
5:D:162:MET:CE	5:D:308:LEU:HD21	2.16	0.75
5:D:168:GLY:N	5:D:174:ARG:HD3	2.01	0.75
14:M:148:GLU:HA	38:M:8574:HOH:O	1.85	0.75
18:Q:115:SER:OG	18:Q:118:GLN:HG3	1.86	0.75
4:C:35:GLY:O	4:C:36:ASP:HB3	1.85	0.75
12:K:93:ARG:HB3	12:K:93:ARG:HH11	1.48	0.75
5:D:190:MET:HE2	5:D:194:PHE:CD1	2.21	0.75
7:F:55:LYS:HA	38:F:6752:HOH:O	1.86	0.75
8:G:166:VAL:HG12	38:G:3134:HOH:O	1.86	0.75
16:O:48:VAL:CG1	16:O:55:ASP:HB3	2.15	0.75
26:Y:72:VAL:HG22	26:Y:85:VAL:HG12	1.68	0.75
1:A:1878:G:H1'	38:A:5614:HOH:O	1.84	0.75
1:A:2676:C:H4'	12:K:70:PHE:CE1	2.21	0.75
38:A:5021:HOH:O	15:N:58:GLN:HG3	1.87	0.75
20:S:18:LEU:HD12	20:S:143:VAL:HG11	1.66	0.75
23:V:14:GLU:O	23:V:17:THR:HB	1.87	0.75
24:W:1:THR:HG23	24:W:2:VAL:H	1.49	0.75
14:M:133:VAL:HB	38:M:8559:HOH:O	1.86	0.75
15:N:164:THR:HG23	15:N:165:SER:N	2.01	0.75
1:A:383:A:H4'	38:A:4821:HOH:O	1.86	0.75
25:X:21:LEU:HD21	25:X:48:VAL:CG1	2.17	0.75
15:N:64:ARG:HD2	38:N:8590:HOH:O	1.87	0.74
24:W:39:ALA:N	24:W:40:PRO:HD2	2.02	0.74
25:X:6:GLN:HB2	25:X:26:ILE:HD12	1.69	0.74
1:A:214:U:H5'	38:A:5633:HOH:O	1.87	0.74
1:A:450:C:OP1	6:E:184:ARG:NH2	2.19	0.74
4:C:199:HIS:HD2	4:C:201:PHE:HB2	1.53	0.74
13:L:22:ASP:HB2	38:L:5264:HOH:O	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:94:LYS:HE3	38:N:8587:HOH:O	1.87	0.74
1:A:1187:U:HO2'	1:A:1189:A:H2	1.34	0.74
1:A:289:G:H22	1:A:363:A:H2	1.35	0.74
5:D:168:GLY:H	5:D:174:ARG:HD3	1.51	0.74
5:D:217:ARG:HG3	5:D:257:THR:HG22	1.69	0.74
25:X:21:LEU:HD21	25:X:48:VAL:HG11	1.67	0.74
1:A:1666:C:O2'	1:A:1667:A:H5''	1.88	0.74
15:N:164:THR:HG22	15:N:167:GLY:N	2.02	0.74
20:S:99:ALA:HB1	20:S:109:MET:CE	2.11	0.74
1:A:1372:A:H3'	38:A:6680:HOH:O	1.88	0.74
1:A:2274:A:N3	15:N:86:MET:HE1	2.02	0.74
5:D:212:GLN:HB2	5:D:257:THR:HG21	1.70	0.74
13:L:62:PRO:HG3	13:L:65:ARG:HH21	1.51	0.74
1:A:21:G:C5'	20:S:2:ILE:HA	2.17	0.74
1:A:338:C:H4'	6:E:174:ILE:CD1	2.18	0.74
1:A:396:U:H1'	38:A:7119:HOH:O	1.86	0.74
11:J:140:PRO:HB3	38:J:8381:HOH:O	1.88	0.74
29:2:1:THR:HB	38:2:8461:HOH:O	1.87	0.74
6:E:162:VAL:HG13	6:E:232:LEU:HD21	1.70	0.73
1:A:1328:A:OP1	27:Z:169:ARG:HD2	1.87	0.73
1:A:1474:C:H5'	1:A:1474:C:C6	2.21	0.73
1:A:2414:A:H2'	1:A:2415:A:C8	2.23	0.73
38:A:4084:HOH:O	15:N:87:MET:HE1	1.87	0.73
6:E:233:THR:HG22	6:E:234:VAL:H	1.53	0.73
17:P:32:ARG:O	17:P:32:ARG:HD3	1.88	0.73
27:Z:185:VAL:HG12	38:Z:8567:HOH:O	1.88	0.73
12:K:107:ASN:ND2	12:K:109:TYR:H	1.85	0.73
11:J:162:SER:CB	11:J:163:PRO:HD3	2.17	0.73
28:1:37:HIS:HB2	28:1:47:LEU:HB2	1.70	0.73
20:S:14:ALA:HB3	20:S:147:LEU:HB2	1.69	0.73
6:E:236:THR:HA	38:E:8454:HOH:O	1.88	0.73
8:G:20:ILE:CD1	8:G:40:VAL:HG11	2.19	0.73
11:J:47:GLU:HB3	11:J:133:ILE:CD1	2.19	0.73
25:X:22:GLU:HG2	25:X:27:HIS:CD2	2.23	0.73
1:A:506:G:H22	1:A:509:A:C5'	2.00	0.73
4:C:37:VAL:HG22	38:C:8592:HOH:O	1.88	0.73
7:F:88:LEU:HB2	7:F:89:PRO:HD3	1.71	0.73
25:X:4:LEU:HD22	25:X:52:VAL:CG2	2.18	0.73
1:A:1116:U:O2'	1:A:1118:A:H2	1.69	0.73
1:A:1191:A:H3'	1:A:1192:A:H5''	1.69	0.73
1:A:1164:U:H3	1:A:1192:A:H2	1.37	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:47:ARG:HH11	17:P:47:ARG:HG3	1.53	0.72
27:Z:216:ARG:HD3	38:Z:8566:HOH:O	1.89	0.72
7:F:135:VAL:HG21	7:F:139:TYR:CD1	2.24	0.72
26:Y:15:ARG:HB3	26:Y:15:ARG:HH11	1.53	0.72
26:Y:30:MET:HE1	26:Y:58:ALA:HB3	1.71	0.72
1:A:272:A:H3'	38:A:7022:HOH:O	1.90	0.72
1:A:2851:G:O2'	1:A:2852:A:H5'	1.89	0.72
2:B:3048:C:H4'	16:O:141:ARG:HH21	1.54	0.72
6:E:2:GLN:HB3	38:E:8335:HOH:O	1.89	0.72
25:X:122:ARG:HG2	25:X:122:ARG:HH11	1.54	0.72
1:A:541:C:H2'	1:A:542:A:C5'	2.18	0.72
1:A:1003:U:HO2'	11:J:90:PHE:HE1	1.36	0.72
23:V:46:ALA:HB1	23:V:52:THR:HG21	1.72	0.72
1:A:56:G:H5''	24:W:50:ARG:HH12	1.55	0.72
16:O:159:TYR:HB3	16:O:162:ASP:HB2	1.72	0.72
19:R:11:ARG:HD3	38:R:5620:HOH:O	1.90	0.72
27:Z:235:GLU:H	27:Z:235:GLU:CD	1.97	0.72
6:E:236:THR:CG2	6:E:239:ALA:H	1.94	0.72
7:F:57:THR:HG23	7:F:63:ILE:HG22	1.72	0.72
22:U:63:ILE:HD11	22:U:75:GLU:HB2	1.70	0.72
1:A:2420:G:O2'	1:A:2421:G:H5'	1.90	0.72
9:H:58:GLU:HG3	9:H:61:MET:HE2	1.72	0.72
1:A:1667:A:H5'	1:A:1667:A:C8	2.23	0.72
4:C:153:ARG:HB2	4:C:153:ARG:HH11	1.55	0.72
5:D:175:LEU:HD23	5:D:175:LEU:C	2.14	0.72
12:K:131:THR:HG22	12:K:134:GLU:H	1.53	0.72
14:M:77:ALA:HB3	38:M:8531:HOH:O	1.90	0.72
1:A:962:C:H1'	16:O:5:ARG:HH12	1.55	0.71
1:A:1641:A:H2'	1:A:1642:A:H5'	1.72	0.71
28:1:46:LYS:HD3	28:1:59:HIS:HB2	1.70	0.71
1:A:284:C:H4'	1:A:285:A:O5'	1.88	0.71
7:F:64:ARG:CG	7:F:67:ASP:HB3	2.21	0.71
16:O:4:PRO:HD2	38:O:8558:HOH:O	1.90	0.71
25:X:4:LEU:HD23	25:X:54:PHE:HB3	1.69	0.71
1:A:2502:C:C2'	1:A:2503:A:H5'	2.20	0.71
1:A:2578:G:H5'	1:A:2578:G:H8	1.54	0.71
6:E:237:GLU:HB2	38:E:8435:HOH:O	1.89	0.71
1:A:1160:G:H5'	1:A:1161:A:C5'	2.20	0.71
1:A:2502:C:H4'	11:J:151:MET:HG2	1.72	0.71
2:B:3056:A:C2'	2:B:3057:A:H5''	2.20	0.71
9:H:99:THR:HA	38:H:3461:HOH:O	1.91	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:W:42:ASN:HB3	38:W:7247:HOH:O	1.90	0.71
1:A:1701:A:H4'	1:A:1702:U:H5''	1.71	0.71
38:A:3063:HOH:O	15:N:152:ARG:HG3	1.89	0.71
5:D:195:ARG:HG2	5:D:323:LEU:HD22	1.71	0.71
12:K:99:GLU:HA	38:K:7377:HOH:O	1.88	0.71
4:C:191:GLY:HA2	4:C:194:MET:CE	2.21	0.71
25:X:88:THR:HG22	25:X:89:ASP:H	1.54	0.71
1:A:2359:G:H3'	38:A:5184:HOH:O	1.89	0.71
16:O:164:ASP:CG	16:O:167:ASP:HA	2.16	0.71
30:3:39:ARG:HG2	38:3:3143:HOH:O	1.89	0.71
1:A:281:U:H3'	38:A:6697:HOH:O	1.90	0.71
1:A:544:G:H2'	1:A:545:G:H5''	1.73	0.70
1:A:603:A:H5''	1:A:604:G:OP1	1.91	0.70
38:A:6516:HOH:O	4:C:211:LYS:HG2	1.90	0.70
11:J:150:LYS:HB2	11:J:157:ILE:HD12	1.73	0.70
11:J:142:VAL:HG13	38:J:8381:HOH:O	1.90	0.70
1:A:1134:G:C4'	11:J:151:MET:HE1	2.18	0.70
1:A:1182:C:H1'	1:A:1192:A:H8	1.57	0.70
7:F:136:ARG:HD2	7:F:155:HIS:O	1.90	0.70
11:J:59:ASN:HD22	11:J:59:ASN:N	1.87	0.70
1:A:31:C:H2'	38:A:7178:HOH:O	1.91	0.70
1:A:2827:A:H2'	1:A:2828:G:O4'	1.90	0.70
1:A:2890:A:H1'	23:V:56:ARG:NH2	2.06	0.70
9:H:53:ASP:OD1	9:H:80:GLN:HB2	1.90	0.70
8:G:84:MET:HE1	8:G:148:ILE:CD1	2.22	0.70
11:J:45:GLN:HE21	11:J:135:TRP:HE1	1.39	0.70
20:S:9:ASP:O	20:S:13:THR:HB	1.91	0.70
7:F:41:LEU:HA	7:F:44:ILE:HG22	1.74	0.70
8:G:107:PHE:CE2	8:G:108:LEU:HD13	2.27	0.70
31:4:70:ARG:HD3	38:4:8538:HOH:O	1.90	0.70
4:C:170:VAL:HG22	28:1:22:ILE:HG23	1.72	0.70
11:J:46:VAL:HG12	11:J:146:TRP:HZ3	1.57	0.70
1:A:1185:U:H2'	1:A:1186:C:C6	2.27	0.70
1:A:1835:U:C5	1:A:1840:A:N7	2.60	0.70
22:U:61:GLU:HG3	38:U:3851:HOH:O	1.91	0.70
10:I:23:ILE:HD13	10:I:67:LEU:HD23	1.74	0.69
1:A:188:C:H5''	15:N:163:LEU:HD21	1.74	0.69
1:A:2031:C:O3'	38:A:4015:HOH:O	2.10	0.69
1:A:2862:G:H4'	5:D:336:GLN:O	1.91	0.69
4:C:131:HIS:O	4:C:132:ASP:HB2	1.91	0.69
38:A:7070:HOH:O	28:1:31:ILE:HG13	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:27:ILE:HG22	7:F:28:GLY:N	2.07	0.69
26:Y:71:ARG:HB3	26:Y:88:GLU:OE1	1.92	0.69
27:Z:189:ASN:HD22	27:Z:189:ASN:C	2.00	0.69
4:C:94:LEU:HG	4:C:99:ILE:HD11	1.73	0.69
15:N:139:PRO:O	15:N:140:ALA:CB	2.40	0.69
11:J:55:GLN:NE2	11:J:124:ARG:HE	1.90	0.69
15:N:87:MET:HB3	31:4:46:ILE:HG21	1.73	0.69
1:A:1165:G:H4'	1:A:1174:A:O2'	1.93	0.69
15:N:87:MET:HE3	38:N:8600:HOH:O	1.92	0.69
1:A:1206:U:H6	1:A:1206:U:H5'	1.56	0.69
1:A:1505:U:H6	1:A:1505:U:H5'	1.56	0.69
4:C:105:VAL:HG11	4:C:154:ALA:HB1	1.74	0.69
22:U:9:LYS:HE3	22:U:13:ARG:HH11	1.58	0.69
1:A:338:C:H5''	38:E:8426:HOH:O	1.93	0.69
1:A:553:G:P	27:Z:204:ARG:HH22	2.16	0.69
2:B:3049:G:H5''	38:B:8465:HOH:O	1.92	0.69
4:C:100:PRO:HG2	4:C:103:VAL:HG21	1.73	0.69
6:E:47:GLY:HA2	6:E:92:PRO:HB2	1.74	0.69
6:E:236:THR:H	6:E:239:ALA:HB3	1.58	0.69
20:S:18:LEU:HB2	20:S:143:VAL:HG12	1.75	0.69
22:U:41:ARG:HG2	22:U:41:ARG:HH11	1.56	0.69
22:U:101:LEU:HD13	22:U:112:LEU:HD11	1.75	0.69
27:Z:99:ALA:HB2	27:Z:233:TYR:CZ	2.28	0.69
1:A:1751:G:C2'	1:A:1752:G:H5''	2.22	0.69
15:N:57:LYS:HE2	15:N:140:ALA:O	1.93	0.69
16:O:71:TRP:CE3	16:O:175:LEU:HD22	2.28	0.69
1:A:545:G:H5'	1:A:545:G:C8	2.26	0.69
1:A:871:G:C8	1:A:871:G:C5'	2.75	0.69
1:A:1118:A:H62	1:A:1244:U:H3	1.39	0.69
5:D:145:HIS:HD2	5:D:146:THR:O	1.76	0.69
2:B:3014:G:H5'	2:B:3014:G:H8	1.56	0.68
4:C:109:GLU:HG2	4:C:116:GLY:N	2.08	0.68
25:X:88:THR:HG23	25:X:110:GLN:HE21	1.57	0.68
1:A:56:G:H5''	24:W:50:ARG:NH1	2.09	0.68
24:W:12:THR:HG22	24:W:15:GLU:CG	2.22	0.68
1:A:2587:U:H2'	1:A:2589:U:H5''	1.74	0.68
1:A:2897:C:H2'	1:A:2898:G:H8	1.58	0.68
12:K:45:VAL:HG23	12:K:130:VAL:O	1.92	0.68
30:3:41:HIS:N	30:3:45:ASN:HD22	1.91	0.68
8:G:7:ILE:HD11	8:G:11:VAL:C	2.18	0.68
12:K:103:VAL:HG12	38:K:5907:HOH:O	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2426:G:H1'	38:A:5585:HOH:O	1.93	0.68
15:N:38:VAL:C	15:N:63:VAL:HG13	2.19	0.68
1:A:2054:A:N3	20:S:128:ARG:NH2	2.41	0.68
20:S:18:LEU:HB2	20:S:143:VAL:CG1	2.24	0.68
5:D:304:PRO:HD2	5:D:307:ARG:HD2	1.76	0.68
1:A:2502:C:H2'	1:A:2503:A:H5'	1.76	0.68
12:K:19:MET:CE	12:K:132:LEU:HD11	2.20	0.68
16:O:48:VAL:HG11	16:O:55:ASP:HB3	1.76	0.68
16:O:183:ASP:OD2	16:O:186:LEU:HD12	1.93	0.68
26:Y:76:ARG:HH11	26:Y:76:ARG:HG3	1.58	0.68
1:A:281:U:H2'	1:A:282:C:O4'	1.94	0.67
11:J:35:ASN:ND2	11:J:80:ASN:HA	2.10	0.67
1:A:681:G:H5'	1:A:681:G:N3	2.10	0.67
1:A:2310:G:OP2	11:J:114:PRO:HD2	1.95	0.67
1:A:2638:G:H1'	38:A:7249:HOH:O	1.93	0.67
11:J:141:ASN:HA	38:J:8368:HOH:O	1.95	0.67
25:X:21:LEU:HD22	25:X:26:ILE:HD11	1.75	0.67
25:X:122:ARG:HH22	25:X:154:ARG:C	2.02	0.67
1:A:183:A:H5'	15:N:157:LEU:HD12	1.77	0.67
5:D:314:ALA:HB3	5:D:317:PRO:HG3	1.76	0.67
7:F:105:SER:CB	7:F:131:THR:HG23	2.22	0.67
10:I:64:ASN:O	10:I:68:GLU:HG3	1.94	0.67
27:Z:107:PRO:HB3	27:Z:182:PHE:CD2	2.29	0.67
1:A:2878:U:H2'	1:A:2879:A:O4'	1.95	0.67
4:C:88:ILE:HD13	4:C:100:PRO:HD3	1.76	0.67
6:E:140:VAL:HB	38:E:8454:HOH:O	1.93	0.67
14:M:136:ALA:HB3	38:M:8575:HOH:O	1.94	0.67
1:A:1080:C:H4'	1:A:1081:A:OP1	1.94	0.67
1:A:1120:U:H6	1:A:1120:U:H5''	1.59	0.67
1:A:2533:C:H5'	1:A:2533:C:C6	2.28	0.67
1:A:2748:G:H5'	38:A:7033:HOH:O	1.95	0.67
5:D:18:ARG:HG3	5:D:256:GLN:HG3	1.76	0.67
18:Q:143:ALA:HA	38:Q:168:HOH:O	1.95	0.67
1:A:694:A:H2'	1:A:695:C:H5'	1.75	0.67
5:D:264:GLU:HG2	5:D:267:LYS:HE2	1.76	0.67
25:X:65:VAL:HA	25:X:68:THR:HG22	1.76	0.67
25:X:137:GLN:HE21	25:X:141:HIS:HE1	1.41	0.67
31:4:70:ARG:HG2	31:4:77:ALA:HB2	1.76	0.67
7:F:86:THR:C	7:F:89:PRO:HD2	2.19	0.67
10:I:12:ILE:N	10:I:13:PRO:HD3	2.09	0.67
11:J:45:GLN:HE21	11:J:135:TRP:NE1	1.92	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:282:C:O2'	1:A:283:U:H5'	1.94	0.67
1:A:2301:A:H5''	1:A:2302:A:H5'	1.76	0.67
1:A:1119:G:N2	1:A:1246:A:C2	2.62	0.67
4:C:33:GLU:O	4:C:34:ASP:HB2	1.94	0.67
16:O:169:PRO:O	16:O:172:PHE:HB3	1.95	0.67
1:A:1596:U:H2'	1:A:1598:A:OP2	1.94	0.66
1:A:1771:U:H4'	28:1:20:LEU:HD21	1.75	0.66
18:Q:59:ARG:NH2	18:Q:66:GLN:HE22	1.92	0.66
21:T:23:LYS:HE2	38:T:8330:HOH:O	1.95	0.66
1:A:2676:C:H4'	12:K:70:PHE:HE1	1.60	0.66
6:E:76:ARG:HD3	38:E:8369:HOH:O	1.95	0.66
38:L:408:HOH:O	23:V:37:GLU:HB3	1.94	0.66
21:T:51:GLN:HE21	21:T:53:ASN:HD21	1.41	0.66
25:X:21:LEU:HD13	25:X:26:ILE:HD11	1.76	0.66
1:A:2256:G:H2'	1:A:2257:G:H5'	1.78	0.66
7:F:65:GLU:HG3	38:F:6752:HOH:O	1.94	0.66
15:N:37:VAL:HG21	15:N:108:LYS:HG3	1.76	0.66
15:N:65:VAL:HG21	15:N:105:ALA:HB2	1.77	0.66
15:N:138:HIS:ND1	15:N:139:PRO:O	2.23	0.66
27:Z:141:THR:HG23	38:Z:8586:HOH:O	1.95	0.66
1:A:558:C:H2'	1:A:559:U:H5'	1.75	0.66
14:M:54:PRO:HG2	14:M:57:VAL:HG21	1.78	0.66
15:N:169:ARG:HD2	38:N:8596:HOH:O	1.94	0.66
17:P:87:THR:O	17:P:91:GLN:HG3	1.96	0.66
1:A:470:U:O2'	29:2:16:HIS:HD2	1.77	0.66
1:A:1741:U:H5'	1:A:1742:A:OP1	1.96	0.66
1:A:2840:A:OP1	5:D:211:THR:HG23	1.94	0.66
4:C:105:VAL:CG1	4:C:154:ALA:HB1	2.25	0.66
6:E:162:VAL:HG12	6:E:192:ILE:HD11	1.78	0.66
11:J:56:ILE:HG22	11:J:61:LEU:HD22	1.77	0.66
1:A:1120:U:H5''	1:A:1120:U:C6	2.31	0.66
5:D:71:VAL:HG11	5:D:296:LEU:HB3	1.75	0.66
9:H:46:GLU:O	9:H:73:PRO:HD2	1.95	0.66
27:Z:151:SER:HB3	27:Z:154:ARG:HB3	1.77	0.66
29:2:25:LYS:HG2	29:2:25:LYS:O	1.94	0.66
1:A:1666:C:H2'	1:A:1667:A:H5'	1.76	0.66
38:A:4461:HOH:O	11:J:57:ARG:HG3	1.93	0.66
7:F:19:GLU:O	7:F:20:LYS:HG2	1.96	0.66
11:J:31:PHE:CD2	11:J:85:ILE:HG23	2.31	0.66
15:N:60:ILE:C	15:N:61:ILE:HD12	2.21	0.66
24:W:4:HIS:HB3	38:W:6622:HOH:O	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:214:THR:HG21	38:E:8408:HOH:O	1.94	0.66
7:F:140:ARG:O	7:F:144:ARG:HG2	1.96	0.66
12:K:39:VAL:HG12	12:K:40:ASN:ND2	2.11	0.66
14:M:68:GLU:HA	38:M:8545:HOH:O	1.95	0.66
14:M:143:THR:HG22	14:M:144:ASP:N	2.11	0.66
18:Q:64:GLU:HG2	38:Q:169:HOH:O	1.95	0.66
28:1:28:ASP:O	28:1:31:ILE:HG22	1.95	0.66
1:A:1130:U:H5'	38:A:7161:HOH:O	1.96	0.65
9:H:50:VAL:HG21	9:H:63:ILE:HG21	1.77	0.65
11:J:44:ALA:HA	11:J:163:PRO:O	1.96	0.65
25:X:90:TYR:CE2	25:X:99:ALA:HB2	2.31	0.65
1:A:1377:C:H6	1:A:1377:C:H5'	1.61	0.65
4:C:95:PRO:HG2	4:C:98:GLU:HG2	1.78	0.65
6:E:142:ASP:OD1	6:E:237:GLU:HB3	1.95	0.65
18:Q:115:SER:O	18:Q:117:SER:N	2.30	0.65
20:S:132:ARG:HG2	20:S:133:ALA:N	2.12	0.65
22:U:32:ARG:NH1	22:U:38:ARG:HH12	1.93	0.65
1:A:656:G:OP2	17:P:37:ARG:HD2	1.96	0.65
1:A:2508:C:H2'	38:A:6243:HOH:O	1.95	0.65
7:F:64:ARG:CD	7:F:67:ASP:HB3	2.25	0.65
11:J:84:ARG:NH2	11:J:135:TRP:HH2	1.95	0.65
15:N:52:LEU:HD21	38:N:8623:HOH:O	1.95	0.65
20:S:33:ARG:NH1	38:S:8544:HOH:O	2.29	0.65
25:X:88:THR:HG23	25:X:110:GLN:HB3	1.78	0.65
28:1:49:ARG:HD2	38:1:8427:HOH:O	1.97	0.65
1:A:1589:G:N2	1:A:1605:G:H1'	2.11	0.65
1:A:1593:C:H5'	18:Q:116:SER:O	1.96	0.65
1:A:1919:A:H4'	38:A:4344:HOH:O	1.96	0.65
16:O:143:ARG:HA	16:O:172:PHE:CD2	2.32	0.65
1:A:42:C:H1'	38:A:4174:HOH:O	1.95	0.65
6:E:5:ILE:HD11	6:E:16:VAL:CG2	2.26	0.65
7:F:146:LYS:HZ1	16:O:107:ASN:HD21	1.45	0.65
11:J:46:VAL:O	11:J:146:TRP:HH2	1.80	0.65
25:X:81:ASP:OD1	25:X:92:ASP:HB2	1.96	0.65
27:Z:187:VAL:HG23	27:Z:192:ASP:CB	2.25	0.65
28:1:25:ARG:O	28:1:29:VAL:HG23	1.97	0.65
1:A:2780:C:H1'	8:G:143:GLN:HE21	1.60	0.65
8:G:11:VAL:HG12	8:G:12:ASP:N	2.11	0.65
21:T:57:THR:HG22	21:T:59:ASP:H	1.61	0.65
1:A:1118:A:H8	1:A:1119:G:H5''	1.61	0.65
1:A:1209:C:H4'	38:A:4773:HOH:O	1.95	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:297:VAL:HB	38:D:8607:HOH:O	1.97	0.65
15:N:174:ARG:HG3	38:N:8521:HOH:O	1.96	0.65
18:Q:103:THR:HA	18:Q:106:ARG:NH1	2.12	0.65
26:Y:43:VAL:HG12	26:Y:44:ASP:N	2.11	0.65
6:E:104:ASP:HA	6:E:107:ARG:HH12	1.61	0.65
7:F:135:VAL:HG22	7:F:136:ARG:H	1.61	0.65
15:N:30:GLU:O	15:N:34:GLU:HG3	1.97	0.65
1:A:1028:U:H1'	38:A:3156:HOH:O	1.96	0.64
38:A:3171:HOH:O	15:N:79:LYS:HD2	1.96	0.64
5:D:55:ASN:HB3	5:D:63:GLU:HA	1.79	0.64
8:G:132:THR:HB	38:G:2227:HOH:O	1.96	0.64
11:J:130:HIS:CD2	11:J:133:ILE:HD11	2.32	0.64
15:N:34:GLU:HB3	15:N:35:PRO:HD2	1.79	0.64
1:A:2768:A:H2'	1:A:2769:C:O4'	1.96	0.64
6:E:139:VAL:HG13	38:E:8451:HOH:O	1.97	0.64
7:F:69:ILE:HG22	7:F:69:ILE:O	1.96	0.64
11:J:33:MET:HB2	11:J:83:PHE:HB3	1.80	0.64
25:X:68:THR:HG23	25:X:69:ARG:HG2	1.77	0.64
5:D:140:LEU:HD23	38:D:8583:HOH:O	1.98	0.64
12:K:133:GLY:O	12:K:137:GLU:HG3	1.97	0.64
17:P:42:GLU:HB2	38:P:2176:HOH:O	1.96	0.64
1:A:2748:G:H2'	38:A:7033:HOH:O	1.97	0.64
4:C:81:GLN:HB2	4:C:92:ASN:ND2	2.11	0.64
6:E:78:ARG:HG3	6:E:78:ARG:HH11	1.61	0.64
17:P:44:ASN:OD1	17:P:65:LEU:HB2	1.96	0.64
27:Z:212:ARG:HD2	38:Z:8598:HOH:O	1.97	0.64
4:C:194:MET:HE3	4:C:199:HIS:CB	2.27	0.64
7:F:54:ALA:CB	7:F:69:ILE:HD12	2.28	0.64
7:F:67:ASP:O	7:F:69:ILE:HG13	1.98	0.64
16:O:164:ASP:OD2	16:O:167:ASP:HA	1.98	0.64
20:S:39:THR:HG23	20:S:107:GLU:O	1.98	0.64
31:4:73:GLU:HB3	38:4:8558:HOH:O	1.96	0.64
1:A:2472:C:O2'	1:A:2634:G:H4'	1.97	0.64
12:K:19:MET:HE2	12:K:79:PHE:HA	1.78	0.64
1:A:1266:U:H4'	27:Z:115:ARG:HH21	1.62	0.64
7:F:99:ASP:HB3	7:F:103:ASN:H	1.62	0.64
8:G:84:MET:HE2	8:G:133:VAL:CG2	2.27	0.64
1:A:272:A:H5'	1:A:273:G:OP2	1.98	0.64
1:A:559:U:H2'	1:A:560:C:O4'	1.98	0.64
1:A:2346:C:O2'	7:F:52:THR:HG21	1.97	0.64
2:B:3023:U:C3'	2:B:3024:U:H5''	2.21	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:36:PRO:HA	5:D:168:GLY:CA	2.28	0.64
7:F:23:VAL:HG23	7:F:23:VAL:O	1.97	0.64
7:F:38:GLU:OE2	7:F:51:ARG:CZ	2.45	0.64
12:K:74:ARG:HH11	12:K:74:ARG:CB	2.11	0.64
16:O:71:TRP:HE3	16:O:175:LEU:HD22	1.63	0.64
17:P:96:VAL:HA	38:P:4258:HOH:O	1.98	0.64
23:V:14:GLU:OE1	23:V:15:PRO:HD2	1.98	0.64
1:A:506:G:H22	1:A:509:A:H5''	1.63	0.63
18:Q:103:THR:HB	38:Q:180:HOH:O	1.98	0.63
1:A:1285:U:H4'	25:X:74:GLU:OE1	1.98	0.63
13:L:49:LEU:HD21	13:L:74:VAL:O	1.99	0.63
17:P:32:ARG:HG2	38:P:2336:HOH:O	1.97	0.63
1:A:506:G:H22	1:A:509:A:H5'	1.62	0.63
1:A:2435:U:H1'	38:A:4921:HOH:O	1.97	0.63
2:B:3092:G:H2'	2:B:3093:A:C8	2.33	0.63
28:1:53:GLY:HA2	28:1:67:GLY:O	1.98	0.63
7:F:36:ASN:HA	38:F:7500:HOH:O	1.98	0.63
11:J:26:LYS:HD2	11:J:28:ILE:HB	1.78	0.63
16:O:86:LEU:HD12	16:O:125:ALA:HB2	1.79	0.63
25:X:21:LEU:HD22	25:X:26:ILE:CD1	2.29	0.63
38:A:3734:HOH:O	30:3:38:LYS:HE3	1.99	0.63
9:H:91:VAL:CG1	9:H:92:GLY:H	2.11	0.63
1:A:2064:U:H4'	1:A:2653:A:OP1	1.98	0.63
5:D:305:ASP:O	5:D:306:LYS:HB2	1.98	0.63
8:G:15:GLN:HG3	8:G:20:ILE:HG12	1.81	0.63
16:O:154:LEU:O	16:O:155:GLU:HB3	1.98	0.63
38:A:8913:HOH:O	15:N:94:LYS:HE2	1.98	0.63
8:G:31:ARG:HH12	8:G:68:HIS:CD2	2.17	0.63
14:M:145:LEU:O	14:M:148:GLU:HG3	1.98	0.63
1:A:157:G:H4'	15:N:95:LYS:HE3	1.80	0.63
1:A:2320:U:H4'	1:A:2321:A:O4'	1.98	0.63
2:B:3023:U:H5''	2:B:3023:U:C6	2.31	0.63
11:J:48:LEU:HG	11:J:157:ILE:HG21	1.79	0.63
15:N:149:TRP:O	15:N:152:ARG:HG2	1.99	0.63
21:T:37:VAL:O	21:T:41:VAL:HG23	1.98	0.63
27:Z:189:ASN:ND2	27:Z:192:ASP:H	1.97	0.63
5:D:275:GLY:O	5:D:291:ASP:HA	1.99	0.63
6:E:20:ASP:O	6:E:23:GLU:HB2	1.99	0.63
11:J:27:LYS:N	11:J:58:HIS:HD2	1.95	0.63
11:J:127:GLY:O	11:J:128:ALA:HB3	1.98	0.63
15:N:157:LEU:HB3	15:N:160:PHE:HD1	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:280:C:H2'	1:A:281:U:O4'	1.99	0.62
1:A:560:C:H42	1:A:597:A:H61	1.45	0.62
21:T:57:THR:HG22	21:T:59:ASP:N	2.13	0.62
1:A:585:C:H5''	38:A:4365:HOH:O	1.97	0.62
1:A:1333:U:H2'	1:A:1334:C:C6	2.35	0.62
1:A:1559:A:H1'	38:A:5357:HOH:O	1.99	0.62
7:F:95:THR:C	7:F:97:GLN:H	2.07	0.62
10:I:63:ARG:N	38:I:2569:HOH:O	2.30	0.62
20:S:40:ALA:O	20:S:44:VAL:HG23	1.99	0.62
38:B:8465:HOH:O	16:O:147:ILE:HD12	1.98	0.62
18:Q:10:ALA:HA	18:Q:13:VAL:HG12	1.81	0.62
2:B:3029:C:H2'	2:B:3030:C:H5'	1.81	0.62
25:X:13:MET:HE2	25:X:18:GLN:N	2.13	0.62
1:A:2265:U:H2'	1:A:2266:A:C8	2.35	0.62
38:A:5703:HOH:O	5:D:2:GLN:HA	1.99	0.62
5:D:66:GLU:OE1	5:D:328:ARG:HD2	1.99	0.62
7:F:51:ARG:HD3	38:F:7636:HOH:O	1.99	0.62
22:U:47:THR:HB	22:U:100:ASP:HB3	1.81	0.62
26:Y:25:ARG:HD2	38:Y:3861:HOH:O	1.99	0.62
4:C:8:ARG:HG2	38:C:8550:HOH:O	2.00	0.62
4:C:53:ALA:HB3	38:C:8602:HOH:O	1.98	0.62
7:F:97:GLN:HG2	7:F:97:GLN:O	1.98	0.62
8:G:77:THR:OG1	8:G:78:GLU:N	2.33	0.62
11:J:28:ILE:HA	11:J:62:GLU:OE1	2.00	0.62
11:J:47:GLU:CB	11:J:133:ILE:HD13	2.29	0.62
16:O:152:GLU:C	16:O:154:LEU:H	2.06	0.62
28:1:29:VAL:O	28:1:33:HIS:HB2	1.99	0.62
1:A:714:U:H3'	38:A:6432:HOH:O	2.00	0.62
4:C:210:GLY:HA3	38:C:8583:HOH:O	1.98	0.62
6:E:12:THR:HB	38:E:8445:HOH:O	1.99	0.62
7:F:37:ALA:O	7:F:40:ILE:HG12	1.99	0.62
8:G:137:ASP:O	8:G:141:VAL:HG23	2.00	0.62
9:H:2:VAL:HG22	9:H:57:GLU:OE1	2.00	0.62
11:J:45:GLN:HG3	11:J:135:TRP:NE1	2.15	0.62
11:J:166:ASN:N	11:J:166:ASN:HD22	1.96	0.62
18:Q:115:SER:C	18:Q:117:SER:H	2.08	0.62
27:Z:200:THR:HG22	27:Z:201:GLU:CG	2.29	0.62
1:A:2346:C:O5'	1:A:2346:C:H6	1.83	0.62
5:D:54:VAL:HB	38:D:8614:HOH:O	1.98	0.62
16:O:163:PHE:HE1	16:O:171:HIS:HD1	1.47	0.62
18:Q:71:LYS:HG3	18:Q:71:LYS:O	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2364:A:H5''	19:R:15:LYS:HD3	1.82	0.62
2:B:3035:C:H5''	38:B:8453:HOH:O	1.99	0.62
11:J:26:LYS:HG2	11:J:28:ILE:H	1.63	0.62
15:N:134:ILE:HG23	15:N:141:ILE:HD13	1.81	0.62
1:A:797:A:C4'	28:1:10:ARG:N	2.63	0.62
2:B:3006:C:C5'	16:O:37:ARG:NH1	2.60	0.62
2:B:3028:U:H2'	2:B:3029:C:C6	2.35	0.62
4:C:190:ARG:NH2	4:C:207:GLN:OE1	2.33	0.62
5:D:221:GLN:HE22	13:L:42:ASN:HD22	1.48	0.62
7:F:35:ALA:N	38:F:5576:HOH:O	2.33	0.62
20:S:39:THR:HG22	20:S:42:GLU:H	1.63	0.62
22:U:50:VAL:HG12	22:U:56:ALA:HA	1.81	0.62
1:A:1187:U:O2'	1:A:1189:A:H2	1.83	0.61
14:M:30:ARG:NH2	38:M:8520:HOH:O	2.32	0.61
17:P:14:LEU:HD23	17:P:102:ILE:HD11	1.80	0.61
25:X:38:THR:HG22	25:X:39:ASP:H	1.65	0.61
28:1:26:VAL:O	28:1:30:GLU:HG3	1.99	0.61
7:F:146:LYS:NZ	16:O:107:ASN:ND2	2.47	0.61
8:G:5:LEU:HD21	8:G:66:GLN:HG3	1.81	0.61
8:G:15:GLN:NE2	8:G:40:VAL:O	2.33	0.61
10:I:64:ASN:HD22	10:I:64:ASN:N	1.97	0.61
11:J:29:ALA:HB3	11:J:65:ARG:NH1	2.07	0.61
23:V:9:CYS:CA	23:V:52:THR:HG23	2.27	0.61
25:X:4:LEU:O	25:X:32:CYS:HA	2.00	0.61
26:Y:78:GLU:HG2	26:Y:79:GLU:N	2.15	0.61
1:A:1654:U:H2'	4:C:47:HIS:HD2	1.65	0.61
5:D:30:PRO:HB2	5:D:39:GLN:NE2	2.14	0.61
38:E:8358:HOH:O	17:P:3:THR:HG21	2.01	0.61
13:L:115:ARG:HG3	13:L:116:GLU:N	2.13	0.61
15:N:104:ARG:O	15:N:108:LYS:HE2	2.00	0.61
16:O:33:ARG:NH1	16:O:103:ASP:OD2	2.32	0.61
20:S:82:GLU:O	20:S:86:LYS:HG3	2.00	0.61
1:A:2256:G:C2'	1:A:2257:G:H5'	2.30	0.61
38:A:4043:HOH:O	11:J:151:MET:HE2	1.99	0.61
24:W:39:ALA:C	24:W:41:GLU:H	2.08	0.61
1:A:559:U:H5'	1:A:559:U:H6	1.65	0.61
1:A:1299:G:O6	14:M:6:ARG:HD3	2.00	0.61
1:A:2241:C:O2'	1:A:2242:U:H5'	2.01	0.61
14:M:148:GLU:HB2	38:M:8589:HOH:O	1.99	0.61
31:4:62:THR:HB	38:4:8548:HOH:O	1.99	0.61
25:X:90:TYR:N	25:X:90:TYR:CD1	2.67	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:4:3:MET:O	31:4:90:PHE:HA	1.99	0.61
6:E:214:THR:HB	38:E:8323:HOH:O	2.01	0.61
17:P:14:LEU:CD2	17:P:102:ILE:HD11	2.30	0.61
29:2:21:ARG:HD2	29:2:39:PHE:HB2	1.81	0.61
8:G:100:ASP:HB2	38:G:2789:HOH:O	2.01	0.61
1:A:820:G:O2'	1:A:856:G:H4'	2.01	0.61
1:A:1058:A:H2'	1:A:1060:C:H5''	1.81	0.61
5:D:98:THR:HG22	5:D:99:GLU:H	1.65	0.61
25:X:88:THR:HG23	25:X:110:GLN:NE2	2.16	0.61
1:A:80:A:H3'	22:U:43:ASN:OD1	2.01	0.60
1:A:1441:G:O2'	1:A:1442:A:H5'	2.00	0.60
4:C:94:LEU:N	4:C:94:LEU:HD23	2.16	0.60
10:I:16:LYS:O	10:I:20:VAL:HG23	2.01	0.60
11:J:83:PHE:HZ	11:J:146:TRP:HE1	1.45	0.60
1:A:338:C:H4'	6:E:174:ILE:HD11	1.83	0.60
1:A:1878:G:C1'	38:A:5614:HOH:O	2.47	0.60
5:D:82:VAL:O	5:D:82:VAL:HG12	2.00	0.60
6:E:233:THR:HG22	6:E:234:VAL:N	2.15	0.60
7:F:25:MET:CE	7:F:37:ALA:HB1	2.31	0.60
13:L:81:ARG:HD3	13:L:87:ARG:NH1	2.16	0.60
1:A:1187:U:H2'	38:A:6385:HOH:O	2.02	0.60
1:A:285:A:H2'	1:A:286:U:O4'	2.01	0.60
6:E:129:HIS:CE1	6:E:231:ARG:HA	2.37	0.60
7:F:54:ALA:HB2	7:F:69:ILE:HD12	1.84	0.60
6:E:27:ARG:HG3	6:E:29:ASP:OD1	2.01	0.60
15:N:74:ARG:HH11	15:N:74:ARG:HG3	1.65	0.60
20:S:18:LEU:HD12	20:S:143:VAL:CG1	2.32	0.60
1:A:88:G:H5'	1:A:88:G:H8	1.66	0.60
1:A:1118:A:C8	1:A:1119:G:H5''	2.37	0.60
1:A:2756:U:H3	1:A:2896:A:H2	1.47	0.60
11:J:55:GLN:HE22	11:J:91:HIS:CD2	2.20	0.60
17:P:79:VAL:HA	38:P:6810:HOH:O	2.02	0.60
1:A:2548:C:OP2	5:D:5:ARG:NH2	2.33	0.60
2:B:3040:C:N4	7:F:51:ARG:HB2	2.16	0.60
5:D:7:ARG:HG2	5:D:7:ARG:HH11	1.67	0.60
5:D:177:HIS:O	5:D:181:ILE:HG13	2.02	0.60
12:K:107:ASN:C	12:K:107:ASN:HD22	2.09	0.60
25:X:151:GLU:O	25:X:154:ARG:HB3	2.02	0.60
1:A:1118:A:C8	1:A:1118:A:C3'	2.82	0.60
1:A:2769:C:H2'	1:A:2770:G:O4'	2.02	0.60
5:D:279:THR:OG1	5:D:290:VAL:HB	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:186:SER:O	15:N:189:VAL:HG12	2.02	0.60
24:W:56:ILE:O	24:W:60:GLN:HG3	2.02	0.60
27:Z:133:HIS:HD2	38:Z:8579:HOH:O	1.85	0.60
1:A:870:G:C2'	1:A:871:G:H5''	2.29	0.60
1:A:1130:U:H2'	1:A:1131:G:O4'	2.02	0.60
2:B:3013:A:O2'	2:B:3014:G:H5''	2.02	0.60
2:B:3024:U:H3'	2:B:3025:G:C5'	2.30	0.60
7:F:86:THR:O	7:F:90:LEU:HG	2.02	0.60
1:A:542:A:H5'	1:A:542:A:C8	2.30	0.59
1:A:1768:C:H2'	1:A:1769:C:O4'	2.02	0.59
5:D:56:ASP:OD1	5:D:322:ARG:HB3	2.00	0.59
9:H:91:VAL:CG1	9:H:92:GLY:N	2.65	0.59
16:O:110:THR:HB	16:O:113:SER:OG	2.02	0.59
1:A:449:A:N7	6:E:43:LYS:HG2	2.18	0.59
1:A:2256:G:H2'	1:A:2257:G:C5'	2.32	0.59
1:A:2719:A:C2	5:D:70:PRO:HG3	2.37	0.59
1:A:2912:C:OP2	38:A:5044:HOH:O	2.17	0.59
4:C:36:ASP:HA	4:C:83:GLY:HA3	1.84	0.59
5:D:103:ASP:HB2	38:D:8594:HOH:O	2.02	0.59
8:G:84:MET:HE1	8:G:148:ILE:HD13	1.84	0.59
15:N:61:ILE:HG13	38:N:8632:HOH:O	2.02	0.59
25:X:13:MET:HE3	25:X:17:ILE:HG22	1.82	0.59
1:A:138:U:H5''	1:A:139:C:OP2	2.03	0.59
1:A:2453:G:H3'	38:A:5413:HOH:O	2.00	0.59
4:C:94:LEU:HG	4:C:99:ILE:CD1	2.32	0.59
8:G:137:ASP:OD1	8:G:139:GLU:HB2	2.02	0.59
13:L:74:VAL:HG13	13:L:113:ILE:HG23	1.85	0.59
14:M:143:THR:HG22	14:M:145:LEU:H	1.66	0.59
16:O:90:LEU:HB2	16:O:186:LEU:HD22	1.84	0.59
23:V:20:MET:HE2	23:V:30:HIS:NE2	2.17	0.59
8:G:20:ILE:HD11	8:G:40:VAL:CG1	2.28	0.59
12:K:26:VAL:HG13	12:K:36:VAL:HG11	1.83	0.59
1:A:1329:A:H2	38:A:4181:HOH:O	1.84	0.59
25:X:80:ASP:O	25:X:84:VAL:HG23	2.01	0.59
27:Z:112:GLU:CD	27:Z:115:ARG:NH1	2.60	0.59
1:A:1234:U:N3	5:D:244:PRO:HB3	2.18	0.59
24:W:64:GLY:O	24:W:65:ASP:HB2	2.01	0.59
30:3:22:PRO:HG2	30:3:25:VAL:HG23	1.85	0.59
1:A:1244:U:OP1	12:K:18:ILE:HD13	2.03	0.59
1:A:1589:G:H22	1:A:1605:G:H1'	1.68	0.59
38:A:5011:HOH:O	5:D:298:LYS:HD3	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:57:ARG:HG3	11:J:57:ARG:HH11	1.68	0.59
23:V:52:THR:CG2	23:V:54:THR:HB	2.33	0.59
1:A:902:G:N7	14:M:18:HIS:HD2	2.01	0.59
1:A:2081:A:H4'	12:K:69:TYR:CE1	2.37	0.59
1:A:2755:G:H1'	38:A:4180:HOH:O	2.02	0.59
1:A:2910:A:H5''	38:A:3639:HOH:O	2.01	0.59
2:B:3054:A:O2'	2:B:3055:U:H5'	2.02	0.59
6:E:118:THR:O	6:E:136:VAL:HG13	2.02	0.59
11:J:59:ASN:H	11:J:59:ASN:ND2	1.91	0.59
11:J:150:LYS:HE2	38:J:8383:HOH:O	2.03	0.59
20:S:106:GLY:HA2	20:S:109:MET:CE	2.32	0.59
31:4:40:ARG:HD2	38:4:8546:HOH:O	2.02	0.59
1:A:1535:G:H2'	1:A:1536:C:C6	2.37	0.59
1:A:1834:C:H2'	1:A:1840:A:H62	1.67	0.59
9:H:47:LEU:HB2	9:H:108:LEU:HD11	1.85	0.59
9:H:61:MET:HB3	15:N:19:GLN:OE1	2.03	0.59
10:I:67:LEU:O	10:I:71:LEU:HG	2.03	0.59
18:Q:38:GLU:HA	18:Q:41:ARG:NH1	2.18	0.59
1:A:677:C:H4'	6:E:246:ARG:NH2	2.18	0.59
1:A:2270:G:H4'	4:C:223:ARG:HH12	1.68	0.59
7:F:44:ILE:HG12	7:F:83:PHE:HE1	1.66	0.59
18:Q:11:ALA:HB2	18:Q:18:LYS:HA	1.85	0.59
21:T:33:SER:O	21:T:37:VAL:HG23	2.02	0.59
1:A:1333:U:H2'	1:A:1334:C:H6	1.68	0.58
1:A:1527:A:H1'	1:A:1528:A:C8	2.38	0.58
1:A:1733:A:H4'	5:D:212:GLN:HA	1.84	0.58
1:A:2604:A:H5'	38:A:5282:HOH:O	2.02	0.58
1:A:2795:C:O2'	1:A:2796:U:H5'	2.03	0.58
7:F:163:VAL:HA	38:F:6326:HOH:O	2.01	0.58
11:J:151:MET:HA	11:J:151:MET:HE3	1.85	0.58
13:L:74:VAL:HG12	13:L:75:ARG:HG3	1.84	0.58
15:N:164:THR:CG2	15:N:165:SER:N	2.66	0.58
15:N:172:GLY:C	15:N:183:VAL:HG11	2.27	0.58
16:O:143:ARG:NH1	16:O:173:ASP:OD2	2.33	0.58
23:V:13:ILE:HG12	23:V:32:CYS:HB3	1.83	0.58
25:X:38:THR:HG22	25:X:39:ASP:N	2.17	0.58
1:A:288:A:H61	1:A:364:C:H42	1.50	0.58
6:E:246:ARG:HB3	6:E:246:ARG:NH1	2.17	0.58
22:U:44:ALA:HA	22:U:62:VAL:HG12	1.84	0.58
26:Y:12:ILE:HD12	26:Y:36:HIS:ND1	2.18	0.58
26:Y:71:ARG:HD3	38:Y:2171:HOH:O	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1634:G:H3'	38:A:3405:HOH:O	2.03	0.58
1:A:2830:U:H3'	38:A:4718:HOH:O	2.03	0.58
38:A:3201:HOH:O	8:G:143:GLN:HG2	2.02	0.58
13:L:62:PRO:HG3	13:L:65:ARG:NH2	2.18	0.58
18:Q:105:LEU:HD21	18:Q:137:LEU:HD21	1.85	0.58
1:A:1008:C:H5''	11:J:16:ARG:HH12	1.67	0.58
5:D:314:ALA:CB	5:D:317:PRO:HG3	2.34	0.58
6:E:133:ARG:HD2	38:E:8415:HOH:O	2.03	0.58
12:K:74:ARG:O	12:K:78:ILE:HG12	2.03	0.58
16:O:24:LEU:HD13	19:R:26:PRO:HB3	1.83	0.58
16:O:151:ASP:O	16:O:154:LEU:HB2	2.03	0.58
21:T:43:GLU:HB3	38:T:8345:HOH:O	2.03	0.58
25:X:130:HIS:O	25:X:136:GLY:HA3	2.03	0.58
1:A:1197:G:N2	38:A:5728:HOH:O	2.36	0.58
1:A:1701:A:H4'	1:A:1702:U:C5'	2.33	0.58
1:A:2501:G:H1'	38:A:4043:HOH:O	2.03	0.58
1:A:2672:C:H1'	38:D:8635:HOH:O	2.04	0.58
18:Q:13:VAL:HG21	18:Q:41:ARG:HG2	1.84	0.58
25:X:39:ASP:HB2	38:X:3580:HOH:O	2.02	0.58
1:A:544:G:C2'	1:A:545:G:H5''	2.32	0.58
4:C:179:MET:HA	4:C:179:MET:HE3	1.85	0.58
5:D:202:VAL:HG11	5:D:301:VAL:HG13	1.86	0.58
8:G:31:ARG:NH1	8:G:68:HIS:CG	2.72	0.58
8:G:79:GLY:HA3	38:G:7046:HOH:O	2.04	0.58
9:H:110:GLU:HG2	38:H:6926:HOH:O	2.04	0.58
16:O:89:GLY:O	16:O:92:ALA:HB3	2.04	0.58
22:U:9:LYS:HB2	38:U:7242:HOH:O	2.04	0.58
25:X:13:MET:HE3	25:X:17:ILE:CG2	2.33	0.58
2:B:3006:C:OP1	16:O:37:ARG:NH1	2.36	0.58
13:L:82:ARG:NH2	13:L:115:ARG:HG2	2.19	0.58
22:U:53:GLY:HA3	38:U:6384:HOH:O	2.04	0.58
23:V:52:THR:HG22	23:V:54:THR:H	1.69	0.58
27:Z:155:ARG:NH1	38:Z:8555:HOH:O	2.36	0.58
27:Z:186:ARG:HG2	27:Z:186:ARG:NH1	2.18	0.58
31:4:42:ARG:HH11	31:4:42:ARG:HG3	1.68	0.58
1:A:21:G:H4'	20:S:2:ILE:HG22	1.86	0.58
1:A:797:A:H4'	28:1:10:ARG:N	2.19	0.58
1:A:1206:U:H5'	1:A:1206:U:C6	2.38	0.58
38:A:3267:HOH:O	22:U:9:LYS:HD2	2.03	0.58
6:E:111:VAL:HB	38:E:8320:HOH:O	2.03	0.58
11:J:26:LYS:HD2	11:J:28:ILE:CD1	2.32	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:139:ASP:H	11:J:140:PRO:HD3	1.69	0.58
28:1:62:TYR:CE2	28:1:64:ILE:HG23	2.39	0.58
1:A:1819:G:H2'	1:A:1820:G:H4'	1.84	0.58
8:G:6:GLU:HA	8:G:46:THR:HG22	1.85	0.58
23:V:6:CYS:C	23:V:8:TYR:H	2.12	0.58
23:V:52:THR:HG22	23:V:54:THR:N	2.19	0.58
26:Y:15:ARG:HH11	26:Y:15:ARG:CB	2.16	0.58
28:1:77:LYS:HA	28:1:80:MET:HE2	1.84	0.58
1:A:1189:A:H1'	1:A:1209:C:C1'	2.34	0.58
38:A:6948:HOH:O	5:D:211:THR:HG21	2.04	0.58
6:E:200:PRO:HB3	6:E:212:VAL:HG23	1.86	0.58
8:G:31:ARG:HH12	8:G:68:HIS:CG	2.21	0.58
20:S:17:MET:HE1	20:S:19:ARG:CZ	2.33	0.58
25:X:125:HIS:HE1	38:X:3071:HOH:O	1.86	0.58
1:A:2524:G:H21	1:A:2526:C:N4	2.02	0.57
1:A:2679:G:H2'	1:A:2681:A:OP2	2.04	0.57
5:D:51:VAL:HG13	5:D:53:LEU:HD13	1.85	0.57
8:G:84:MET:HE1	8:G:148:ILE:HD12	1.85	0.57
10:I:71:LEU:C	10:I:73:ASP:H	2.12	0.57
12:K:19:MET:HE1	12:K:78:ILE:HG22	1.86	0.57
29:2:28:HIS:HD2	29:2:30:LYS:H	1.51	0.57
1:A:1624:A:H5'	1:A:1626:A:O4'	2.04	0.57
1:A:2365:G:H4'	19:R:45:PRO:O	2.04	0.57
2:B:3014:G:H5'	2:B:3014:G:C8	2.39	0.57
4:C:192:VAL:HG12	4:C:192:VAL:O	2.04	0.57
6:E:104:ASP:HA	6:E:107:ARG:NH1	2.19	0.57
11:J:139:ASP:N	11:J:140:PRO:CD	2.66	0.57
16:O:24:LEU:O	16:O:28:LYS:HG2	2.04	0.57
16:O:61:ALA:HB3	16:O:88:ALA:HB2	1.85	0.57
17:P:113:VAL:O	17:P:114:ILE:HD13	2.04	0.57
22:U:71:VAL:HG11	22:U:90:PRO:CB	2.27	0.57
30:3:20:ARG:HB3	38:3:5444:HOH:O	2.03	0.57
1:A:1942:A:O2'	1:A:1943:C:H5'	2.05	0.57
4:C:232:ARG:NH2	4:C:236:GLY:O	2.34	0.57
13:L:34:VAL:HB	38:L:7169:HOH:O	2.04	0.57
24:W:39:ALA:N	24:W:40:PRO:CD	2.67	0.57
1:A:536:A:H3'	38:A:4538:HOH:O	2.04	0.57
1:A:2502:C:C4'	11:J:151:MET:HG2	2.33	0.57
5:D:294:TYR:HE2	38:D:8652:HOH:O	1.87	0.57
9:H:110:GLU:O	9:H:114:LYS:HG3	2.03	0.57
11:J:71:TYR:C	11:J:73:GLN:H	2.12	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:117:LYS:HB2	38:J:8339:HOH:O	2.05	0.57
14:M:114:VAL:HG11	38:M:8575:HOH:O	2.04	0.57
15:N:38:VAL:O	15:N:63:VAL:HG13	2.04	0.57
1:A:1636:G:O2'	1:A:1637:A:H5'	2.03	0.57
4:C:55:VAL:HG22	4:C:68:ILE:O	2.04	0.57
4:C:88:ILE:HG22	4:C:88:ILE:O	2.02	0.57
5:D:141:ARG:HB3	5:D:164:THR:O	2.05	0.57
6:E:72:LYS:HG2	6:E:77:ALA:HA	1.86	0.57
7:F:135:VAL:HG22	7:F:136:ARG:N	2.19	0.57
11:J:26:LYS:CD	11:J:28:ILE:HB	2.35	0.57
11:J:27:LYS:H	11:J:58:HIS:CD2	2.15	0.57
12:K:93:ARG:HB3	12:K:93:ARG:NH1	2.18	0.57
14:M:54:PRO:HG2	14:M:57:VAL:CG2	2.34	0.57
27:Z:130:ARG:HB2	27:Z:142:SER:O	2.04	0.57
29:2:25:LYS:HD2	30:3:48:ASP:HA	1.86	0.57
1:A:328:U:O4'	6:E:202:THR:HG22	2.03	0.57
1:A:1205:U:H2'	1:A:1206:U:H5''	1.86	0.57
6:E:145:GLU:HG3	38:E:8376:HOH:O	2.05	0.57
8:G:12:ASP:HA	38:G:1750:HOH:O	2.03	0.57
10:I:12:ILE:HD12	38:I:692:HOH:O	2.03	0.57
17:P:47:ARG:HG3	17:P:47:ARG:NH1	2.20	0.57
18:Q:27:ARG:O	18:Q:31:ILE:HG13	2.05	0.57
20:S:39:THR:HB	20:S:42:GLU:CD	2.30	0.57
29:2:10:LYS:HG3	38:2:8434:HOH:O	2.05	0.57
31:4:3:MET:HG3	31:4:4:PRO:HD2	1.86	0.57
1:A:952:G:OP1	19:R:42:LYS:HE2	2.03	0.57
2:B:3055:U:H4'	2:B:3056:A:C8	2.39	0.57
5:D:307:ARG:HH11	5:D:307:ARG:HB2	1.69	0.57
7:F:174:VAL:HG13	38:F:6555:HOH:O	2.04	0.57
16:O:34:LEU:HA	16:O:47:LEU:HD23	1.86	0.57
22:U:37:GLN:OE1	22:U:118:SER:HA	2.05	0.57
29:2:21:ARG:HD2	29:2:37:CYS:SG	2.43	0.57
1:A:20:G:H21	20:S:117:HIS:HD2	1.53	0.57
1:A:175:G:H2'	15:N:192:ALA:HB3	1.85	0.57
2:B:3041:C:O4'	7:F:50:VAL:HG23	2.04	0.57
5:D:329:TYR:CE2	23:V:15:PRO:HG2	2.39	0.57
12:K:104:TYR:HA	38:K:2238:HOH:O	2.04	0.57
15:N:63:VAL:HG21	15:N:109:PHE:CE1	2.40	0.57
20:S:119:VAL:HG21	20:S:142:ASP:CG	2.29	0.57
4:C:192:VAL:CG1	4:C:207:GLN:HB3	2.33	0.57
5:D:274:GLU:HA	5:D:292:GLY:O	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:86:VAL:CG1	8:G:129:GLU:HA	2.34	0.57
10:I:12:ILE:HG22	10:I:17:GLN:NE2	2.20	0.57
16:O:12:ARG:HD3	16:O:18:THR:OG1	2.05	0.57
1:A:1097:A:H5''	25:X:125:HIS:NE2	2.20	0.57
1:A:2846:C:OP1	5:D:158:LYS:HD3	2.05	0.57
2:B:3078:G:N2	2:B:3103:A:OP2	2.36	0.57
15:N:55:LYS:HB2	15:N:60:ILE:CD1	2.35	0.57
16:O:47:LEU:HD11	16:O:127:LEU:CD2	2.30	0.57
16:O:80:SER:HB2	38:O:8537:HOH:O	2.03	0.57
1:A:1015:C:H2'	1:A:1016:U:H6	1.70	0.56
1:A:1450:C:O2'	1:A:1494:A:H5'	2.05	0.56
1:A:1778:A:H2'	1:A:1779:A:H5'	1.86	0.56
1:A:2421:G:H3'	1:A:2422:U:H5''	1.87	0.56
1:A:2690:U:O2'	8:G:111:LYS:HE3	2.05	0.56
1:A:2769:C:C2'	1:A:2770:G:H5'	2.35	0.56
2:B:3024:U:H3'	2:B:3025:G:H5'	1.87	0.56
28:1:11:THR:HG23	28:1:23:ARG:HD2	1.87	0.56
28:1:11:THR:OG1	28:1:23:ARG:HB2	2.04	0.56
1:A:169:A:H1'	31:4:48:ASN:ND2	2.20	0.56
1:A:485:A:N3	1:A:487:G:H5''	2.20	0.56
1:A:775:G:OP1	29:2:16:HIS:HE1	1.88	0.56
1:A:1151:G:OP1	10:I:63:ARG:NH1	2.38	0.56
1:A:2266:A:OP2	15:N:90:ARG:NH2	2.38	0.56
5:D:85:ARG:NH1	38:D:8635:HOH:O	2.38	0.56
13:L:9:THR:O	13:L:10:GLN:C	2.47	0.56
26:Y:78:GLU:CG	26:Y:79:GLU:H	2.17	0.56
1:A:31:C:H4'	38:U:7242:HOH:O	2.03	0.56
1:A:346:U:H4'	38:A:6332:HOH:O	2.03	0.56
1:A:1209:C:H2'	1:A:1210:G:H8	1.69	0.56
1:A:2291:A:C8	1:A:2309:C:H5'	2.40	0.56
1:A:2694:A:H4'	8:G:91:PHE:CE1	2.40	0.56
4:C:211:LYS:HB3	4:C:212:PRO:CD	2.33	0.56
8:G:81:GLU:HG2	8:G:134:SER:CB	2.34	0.56
10:I:12:ILE:HB	38:I:4714:HOH:O	2.05	0.56
15:N:74:ARG:HD3	15:N:91:ILE:HD12	1.87	0.56
16:O:132:ASN:O	16:O:135:VAL:HG12	2.05	0.56
20:S:119:VAL:O	20:S:119:VAL:HG12	2.04	0.56
21:T:51:GLN:NE2	21:T:53:ASN:HD21	2.02	0.56
21:T:77:VAL:O	21:T:80:ARG:HG2	2.04	0.56
26:Y:18:ARG:NH1	38:Y:4132:HOH:O	2.35	0.56
1:A:136:C:H2'	1:A:137:U:O4'	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:256:C:H2'	1:A:257:G:O4'	2.05	0.56
1:A:1615:A:H4'	38:A:5377:HOH:O	2.05	0.56
1:A:2780:C:H2'	1:A:2781:U:C6	2.40	0.56
2:B:3088:G:OP1	25:X:130:HIS:NE2	2.38	0.56
4:C:121:ALA:O	4:C:124:VAL:HG22	2.06	0.56
4:C:199:HIS:CD2	4:C:201:PHE:HB2	2.37	0.56
5:D:175:LEU:HD23	5:D:175:LEU:O	2.05	0.56
7:F:10:PHE:CG	7:F:11:HIS:N	2.73	0.56
14:M:65:ASP:CG	14:M:111:ALA:HB3	2.30	0.56
15:N:9:ARG:HG3	38:N:8548:HOH:O	2.03	0.56
15:N:74:ARG:HG3	15:N:74:ARG:NH1	2.21	0.56
20:S:34:GLU:HG2	20:S:46:TYR:OH	2.05	0.56
30:3:48:ASP:O	30:3:49:GLU:HB2	2.05	0.56
1:A:558:C:O2'	1:A:559:U:H5''	2.06	0.56
1:A:2274:A:H1'	15:N:86:MET:SD	2.46	0.56
1:A:2434:A:O3'	31:4:28:GLY:HA3	2.05	0.56
6:E:1:MET:HG2	6:E:2:GLN:N	2.20	0.56
11:J:53:PRO:HA	11:J:125:VAL:O	2.05	0.56
19:R:25:PRO:HB2	38:R:4350:HOH:O	2.05	0.56
21:T:29:ASP:OD1	21:T:31:ARG:NH1	2.39	0.56
25:X:122:ARG:NH2	25:X:154:ARG:HD2	2.20	0.56
1:A:154:C:H2'	1:A:155:C:H6	1.70	0.56
1:A:794:U:H3	1:A:819:A:H61	1.53	0.56
1:A:2281:C:C2'	1:A:2282:U:H5'	2.36	0.56
4:C:36:ASP:OD2	4:C:85:ASP:HB2	2.05	0.56
7:F:99:ASP:HB2	7:F:103:ASN:HB2	1.85	0.56
8:G:37:ASP:OD1	12:K:125:SER:HB3	2.06	0.56
16:O:43:VAL:HG11	16:O:81:ALA:HA	1.87	0.56
22:U:40:VAL:HG23	22:U:119:ALA:C	2.30	0.56
25:X:119:HIS:HD2	25:X:120:PRO:O	1.88	0.56
1:A:184:G:H5''	15:N:153:THR:HG22	1.87	0.56
1:A:394:G:H1	15:N:181:GLU:CD	2.14	0.56
1:A:1134:G:C5'	11:J:151:MET:HE1	2.35	0.56
1:A:2070:G:H5''	38:A:3292:HOH:O	2.06	0.56
2:B:3023:U:C3'	2:B:3024:U:C5'	2.81	0.56
11:J:166:ASN:N	11:J:166:ASN:ND2	2.54	0.56
28:1:30:GLU:HA	28:1:33:HIS:HB3	1.86	0.56
1:A:1205:U:C2'	1:A:1206:U:H5''	2.36	0.56
1:A:2630:G:O6	4:C:206:ARG:NH2	2.39	0.56
7:F:102:GLY:O	7:F:134:LEU:HD12	2.06	0.56
9:H:50:VAL:HG13	9:H:60:VAL:HG11	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:77:ASN:OD1	16:O:80:SER:HB2	2.06	0.56
27:Z:200:THR:HG22	27:Z:201:GLU:HG2	1.88	0.56
29:2:8:GLN:HE22	29:2:11:LYS:NZ	2.03	0.56
1:A:247:A:H2'	38:A:3434:HOH:O	2.05	0.56
1:A:281:U:O2'	1:A:282:C:H5'	2.06	0.56
1:A:1020:A:O3'	38:A:3536:HOH:O	2.18	0.56
4:C:51:ARG:NH1	4:C:120:ARG:O	2.38	0.56
7:F:41:LEU:HA	7:F:44:ILE:CG2	2.35	0.56
8:G:93:MET:HE1	8:G:165:GLY:N	2.20	0.56
16:O:37:ARG:NE	38:O:8534:HOH:O	2.39	0.56
20:S:113:HIS:HE1	20:S:144:GLU:CD	2.14	0.56
26:Y:73:ARG:O	26:Y:85:VAL:HG13	2.06	0.56
1:A:1972:U:H2'	1:A:1973:A:H5'	1.87	0.56
1:A:2768:A:O2'	1:A:2769:C:H5'	2.06	0.56
2:B:3025:G:C3'	2:B:3026:C:H5'	2.33	0.56
4:C:170:VAL:HG22	28:1:22:ILE:CG2	2.36	0.56
15:N:67:ILE:CD1	15:N:104:ARG:HD2	2.36	0.56
15:N:104:ARG:O	15:N:108:LYS:HG2	2.05	0.56
23:V:52:THR:HG22	23:V:54:THR:HB	1.88	0.56
1:A:200:U:H2'	38:A:9953:HOH:O	2.06	0.55
1:A:669:G:O2'	1:A:670:G:H5'	2.05	0.55
1:A:1377:C:H5'	1:A:1377:C:C6	2.41	0.55
6:E:21:VAL:C	6:E:23:GLU:H	2.14	0.55
9:H:46:GLU:OE1	9:H:100:ASP:HA	2.06	0.55
21:T:81:ILE:HG23	38:T:8337:HOH:O	2.06	0.55
25:X:122:ARG:NE	38:X:5817:HOH:O	2.39	0.55
27:Z:185:VAL:HA	38:Z:8561:HOH:O	2.05	0.55
1:A:960:G:H2'	1:A:960:G:N3	2.21	0.55
1:A:2064:U:H5'	1:A:2652:U:O3'	2.07	0.55
1:A:2503:A:OP1	11:J:147:ARG:NH2	2.35	0.55
5:D:60:SER:C	5:D:62:ARG:H	2.15	0.55
7:F:59:GLY:C	7:F:61:PHE:H	2.15	0.55
9:H:57:GLU:O	9:H:61:MET:HG3	2.05	0.55
11:J:144:GLU:OE1	11:J:144:GLU:HA	2.06	0.55
26:Y:75:ALA:O	26:Y:83:ALA:HA	2.06	0.55
1:A:1213:C:O2'	1:A:1214:G:H5'	2.07	0.55
1:A:2505:G:O2'	1:A:2506:A:H5'	2.06	0.55
6:E:78:ARG:HG3	6:E:78:ARG:NH1	2.21	0.55
6:E:104:ASP:O	6:E:108:GLN:HG3	2.05	0.55
11:J:81:TYR:CD1	11:J:81:TYR:C	2.84	0.55
15:N:46:LEU:HG	38:N:8630:HOH:O	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:O:100:ALA:O	16:O:129:ILE:HG23	2.06	0.55
22:U:48:VAL:HG22	22:U:98:VAL:HA	1.87	0.55
24:W:39:ALA:O	24:W:41:GLU:N	2.39	0.55
26:Y:72:VAL:HG22	26:Y:85:VAL:CG1	2.34	0.55
27:Z:106:THR:HG23	27:Z:107:PRO:HD2	1.88	0.55
1:A:1116:U:O2'	1:A:1118:A:C2	2.52	0.55
1:A:1864:C:OP1	15:N:75:THR:HG23	2.07	0.55
38:A:9211:HOH:O	5:D:254:GLN:HG3	2.05	0.55
7:F:99:ASP:CB	7:F:103:ASN:H	2.19	0.55
27:Z:200:THR:HG22	27:Z:201:GLU:HG3	1.89	0.55
38:A:3572:HOH:O	5:D:27:ASN:HB2	2.05	0.55
2:B:3023:U:H6	2:B:3023:U:C5'	2.18	0.55
6:E:107:ARG:NE	38:E:8461:HOH:O	2.17	0.55
15:N:52:LEU:HD13	15:N:116:ASN:CB	2.36	0.55
18:Q:131:PHE:CD1	18:Q:137:LEU:HD13	2.40	0.55
24:W:12:THR:HG23	24:W:14:ALA:H	1.70	0.55
25:X:154:ARG:C	38:X:4276:HOH:O	2.49	0.55
31:4:65:THR:HG23	31:4:67:LEU:HG	1.88	0.55
1:A:263:U:O4'	9:H:59:ILE:HD13	2.06	0.55
1:A:1123:A:C6	1:A:1238:C:H5'	2.41	0.55
1:A:1132:A:N6	1:A:1229:C:H2'	2.22	0.55
1:A:2276:U:H2'	1:A:2277:U:C6	2.41	0.55
1:A:2468:A:H61	31:4:48:ASN:HD21	1.53	0.55
5:D:152:PRO:HD2	38:D:8632:HOH:O	2.06	0.55
5:D:204:GLY:HA3	38:D:8655:HOH:O	2.06	0.55
6:E:115:LEU:O	6:E:118:THR:HB	2.06	0.55
7:F:91:ALA:HB1	38:F:5198:HOH:O	2.06	0.55
16:O:47:LEU:HD13	16:O:97:VAL:HG11	1.87	0.55
24:W:8:ILE:HA	24:W:11:MET:HE3	1.89	0.55
25:X:13:MET:CE	25:X:17:ILE:HG22	2.36	0.55
26:Y:74:ALA:CB	26:Y:85:VAL:HG22	2.37	0.55
31:4:17:HIS:O	31:4:18:GLN:HG3	2.07	0.55
1:A:371:U:H2'	1:A:372:A:H8	1.71	0.55
1:A:431:G:P	15:N:48:ARG:HH12	2.30	0.55
1:A:588:G:O6	25:X:154:ARG:NH1	2.39	0.55
7:F:95:THR:O	7:F:97:GLN:N	2.33	0.55
14:M:72:ASN:HB2	38:M:8584:HOH:O	2.07	0.55
15:N:37:VAL:HG21	15:N:108:LYS:CG	2.36	0.55
22:U:38:ARG:NH1	38:U:6217:HOH:O	2.38	0.55
23:V:9:CYS:HA	23:V:52:THR:CG2	2.34	0.55
26:Y:31:ILE:O	26:Y:35:GLU:HG3	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:3:40:ARG:HG3	30:3:45:ASN:CB	2.37	0.55
30:3:41:HIS:H	30:3:45:ASN:ND2	1.98	0.55
1:A:21:G:H5'	20:S:1:GLY:O	2.07	0.55
38:A:3966:HOH:O	15:N:146:GLN:HG2	2.06	0.55
8:G:126:ILE:HB	8:G:131:LEU:CD2	2.37	0.55
16:O:78:MET:HB2	16:O:79:PRO:HD3	1.89	0.55
22:U:28:SER:O	22:U:32:ARG:HG3	2.07	0.55
26:Y:15:ARG:HB3	26:Y:15:ARG:NH1	2.22	0.55
28:1:57:CYS:SG	28:1:59:HIS:HB3	2.47	0.55
1:A:1189:A:HI'	1:A:1209:C:O4'	2.07	0.55
4:C:101:GLU:OE2	4:C:131:HIS:HB2	2.07	0.55
6:E:246:ARG:NE	38:E:8429:HOH:O	2.39	0.55
7:F:146:LYS:HZ3	16:O:107:ASN:HD21	1.53	0.55
15:N:81:ARG:O	15:N:86:MET:HE2	2.07	0.55
18:Q:80:ARG:HG2	18:Q:87:ARG:CZ	2.37	0.55
19:R:23:THR:HA	38:R:4792:HOH:O	2.07	0.55
19:R:64:GLU:HG3	19:R:74:ASP:OD2	2.06	0.55
26:Y:51:ASP:OD2	26:Y:52:PRO:HD2	2.07	0.55
31:4:74:CYS:N	38:4:8558:HOH:O	2.39	0.55
1:A:814:G:H8	38:A:6700:HOH:O	1.90	0.55
1:A:2769:C:O2'	1:A:2770:G:H5'	2.06	0.55
5:D:72:THR:O	38:D:8607:HOH:O	2.18	0.55
6:E:214:THR:HG23	38:E:8440:HOH:O	2.07	0.55
12:K:107:ASN:HD21	12:K:109:TYR:HB2	1.72	0.55
1:A:1014:A:H2'	1:A:1015:C:H5'	1.90	0.54
1:A:1164:U:C4'	1:A:1165:G:OP1	2.53	0.54
1:A:1189:A:HI'	1:A:1209:C:HI'	1.90	0.54
1:A:1787:C:H4'	1:A:2883:A:O4'	2.07	0.54
1:A:2281:C:H2'	1:A:2282:U:H5'	1.90	0.54
1:A:2577:A:H5'	38:A:7241:HOH:O	2.07	0.54
4:C:217:ARG:HG2	4:C:229:ALA:HB2	1.88	0.54
5:D:36:PRO:HA	5:D:168:GLY:HA3	1.89	0.54
6:E:35:VAL:HG21	6:E:227:GLY:HA2	1.90	0.54
6:E:236:THR:O	6:E:237:GLU:C	2.49	0.54
21:T:6:LYS:HD3	38:T:8324:HOH:O	2.07	0.54
24:W:5:VAL:HG23	38:W:2271:HOH:O	2.07	0.54
26:Y:41:PHE:O	26:Y:43:VAL:HG23	2.07	0.54
27:Z:109:LEU:HA	38:Z:8568:HOH:O	2.07	0.54
1:A:945:U:H2'	1:A:946:C:C6	2.43	0.54
5:D:51:VAL:CG2	5:D:327:VAL:HG13	2.38	0.54
14:M:104:ASP:O	14:M:105:TYR:HB3	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:39:ARG:HA	15:N:63:VAL:HG22	1.89	0.54
18:Q:115:SER:H	18:Q:118:GLN:HE21	0.85	0.54
6:E:107:ARG:NH1	6:E:107:ARG:HB3	2.23	0.54
15:N:12:TRP:CE2	15:N:20:ILE:HD11	2.43	0.54
1:A:2241:C:H2'	1:A:2242:U:C6	2.42	0.54
11:J:68:ALA:HB2	11:J:149:ALA:HB2	1.88	0.54
16:O:86:LEU:O	16:O:90:LEU:HG	2.07	0.54
1:A:67:A:H5''	1:A:69:A:C8	2.43	0.54
1:A:289:G:N2	1:A:363:A:H2	2.02	0.54
1:A:657:G:H2'	1:A:658:C:H6	1.72	0.54
1:A:1242:A:H5'	12:K:82:THR:CG2	2.24	0.54
1:A:1687:C:O2	29:2:9:GLY:HA2	2.06	0.54
1:A:2411:C:H4'	38:A:4443:HOH:O	2.07	0.54
7:F:22:VAL:HG22	7:F:74:THR:HG22	1.90	0.54
14:M:138:GLY:HA3	38:M:8555:HOH:O	2.05	0.54
16:O:11:ARG:HG3	16:O:14:ARG:NH1	2.22	0.54
16:O:141:ARG:N	38:O:8570:HOH:O	2.39	0.54
16:O:171:HIS:CE1	38:O:8567:HOH:O	2.61	0.54
25:X:122:ARG:NH2	38:X:4276:HOH:O	2.40	0.54
31:4:69:TYR:HB2	31:4:78:HIS:CE1	2.42	0.54
1:A:682:A:H2'	1:A:683:G:O4'	2.07	0.54
1:A:1185:U:H5'	38:A:6959:HOH:O	2.07	0.54
1:A:2252:A:C5	1:A:2253:G:H1'	2.42	0.54
1:A:2634:G:O2'	1:A:2635:A:H5'	2.08	0.54
6:E:246:ARG:NH2	38:E:8429:HOH:O	2.40	0.54
15:N:87:MET:CB	31:4:46:ILE:HG21	2.37	0.54
17:P:73:ASP:HA	17:P:92:VAL:O	2.08	0.54
24:W:58:THR:O	24:W:62:GLU:HG3	2.08	0.54
27:Z:107:PRO:HB3	27:Z:182:PHE:CE2	2.42	0.54
1:A:926:A:O2'	14:M:41:HIS:HD2	1.90	0.54
2:B:3041:C:C6	7:F:50:VAL:HG21	2.43	0.54
5:D:119:HIS:O	5:D:121:PRO:HD3	2.08	0.54
7:F:44:ILE:HG23	7:F:45:THR:HG23	1.90	0.54
12:K:75:PRO:HG2	12:K:105:LEU:CD2	2.37	0.54
16:O:91:ARG:HG3	16:O:186:LEU:HD23	1.89	0.54
21:T:33:SER:OG	21:T:36:GLU:HG3	2.08	0.54
23:V:17:THR:HG22	23:V:18:GLY:N	2.22	0.54
1:A:538:C:OP2	27:Z:134:HIS:HE1	1.90	0.54
4:C:153:ARG:HH11	4:C:153:ARG:CB	2.20	0.54
5:D:329:TYR:HE2	23:V:15:PRO:HG2	1.73	0.54
6:E:136:VAL:HA	6:E:137:PRO:C	2.32	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:246:ARG:CZ	38:E:8429:HOH:O	2.55	0.54
14:M:146:GLY:C	14:M:148:GLU:H	2.16	0.54
16:O:64:SER:C	16:O:66:LEU:H	2.16	0.54
25:X:122:ARG:HH21	25:X:154:ARG:HD2	1.72	0.54
31:4:56:PRO:HA	38:4:8547:HOH:O	2.08	0.54
1:A:100:C:H4'	22:U:16:LEU:HB2	1.90	0.54
1:A:447:A:OP1	22:U:2:LYS:HG2	2.08	0.54
1:A:667:C:H2'	1:A:668:C:H6	1.72	0.54
1:A:1086:A:N6	25:X:11:VAL:HG11	2.22	0.54
1:A:1495:C:H1'	1:A:1573:A:H1'	1.90	0.54
1:A:2563:U:H2'	1:A:2565:C:O5'	2.08	0.54
1:A:2638:G:H1'	38:A:4083:HOH:O	2.07	0.54
2:B:3044:A:O4'	7:F:76:ARG:NE	2.41	0.54
22:U:49:GLU:HB3	22:U:59:GLU:HG3	1.89	0.54
27:Z:112:GLU:OE1	27:Z:112:GLU:HA	2.08	0.54
1:A:1182:C:H1'	1:A:1192:A:C8	2.42	0.54
38:A:5780:HOH:O	27:Z:158:LYS:HD3	2.08	0.54
5:D:7:ARG:HD3	5:D:9:GLY:O	2.08	0.54
7:F:35:ALA:C	7:F:37:ALA:H	2.15	0.54
9:H:104:ALA:HA	38:H:6617:HOH:O	2.08	0.54
15:N:84:LYS:HE2	38:N:8580:HOH:O	2.06	0.54
17:P:77:ALA:HB1	17:P:98:LEU:HD12	1.89	0.54
18:Q:105:LEU:CD2	18:Q:137:LEU:HD21	2.38	0.54
1:A:1176:C:H1'	38:A:3441:HOH:O	2.07	0.53
1:A:1181:A:H2'	1:A:1182:C:O4'	2.08	0.53
1:A:1497:G:H4'	1:A:1627:G:O2'	2.08	0.53
38:A:9179:HOH:O	17:P:112:ARG:HD2	2.08	0.53
6:E:1:MET:HG2	6:E:2:GLN:NE2	2.24	0.53
15:N:37:VAL:HG13	15:N:63:VAL:HG11	1.90	0.53
16:O:47:LEU:HD12	16:O:92:ALA:HB1	1.89	0.53
16:O:139:TRP:HA	16:O:139:TRP:CE3	2.43	0.53
24:W:38:GLY:C	24:W:40:PRO:HD2	2.32	0.53
25:X:63:GLU:HG2	25:X:93:ILE:HG22	1.89	0.53
29:2:37:CYS:SG	29:2:39:PHE:HB2	2.48	0.53
1:A:240:C:H4'	15:N:146:GLN:NE2	2.22	0.53
1:A:660:A:H4'	1:A:661:G:O5'	2.09	0.53
1:A:1790:C:H2'	1:A:1791:U:H6	1.72	0.53
1:A:2787:C:H5	38:A:4131:HOH:O	1.90	0.53
4:C:175:LYS:HE2	38:C:8572:HOH:O	2.08	0.53
5:D:36:PRO:HA	5:D:168:GLY:HA2	1.90	0.53
5:D:162:MET:HE2	5:D:310:ARG:HD3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:95:GLU:HG3	38:E:8476:HOH:O	2.08	0.53
6:E:235:PHE:HE2	6:E:243:VAL:HG21	1.72	0.53
11:J:58:HIS:HA	11:J:61:LEU:HD23	1.90	0.53
25:X:6:GLN:HB2	25:X:26:ILE:CD1	2.37	0.53
25:X:84:VAL:HG12	38:X:6679:HOH:O	2.07	0.53
1:A:241:A:C2	1:A:378:A:H4'	2.42	0.53
1:A:1717:A:H5''	18:Q:54:LYS:HB2	1.91	0.53
1:A:1730:G:H5'	1:A:1731:C:C5	2.43	0.53
1:A:2419:U:H5''	1:A:2420:G:H5'	1.90	0.53
1:A:2506:A:O2'	1:A:2507:G:O5'	2.26	0.53
5:D:148:PRO:HD2	38:D:8584:HOH:O	2.08	0.53
6:E:7:ASP:C	6:E:9:ASP:H	2.17	0.53
7:F:41:LEU:CA	7:F:44:ILE:HG22	2.37	0.53
24:W:64:GLY:O	24:W:65:ASP:CB	2.57	0.53
1:A:558:C:H2'	1:A:559:U:C5'	2.39	0.53
1:A:1119:G:H22	1:A:1246:A:H2	1.53	0.53
1:A:1268:C:H2'	1:A:1269:G:H8	1.74	0.53
2:B:3030:C:OP1	7:F:137:PRO:O	2.27	0.53
2:B:3064:C:H2'	2:B:3065:A:H5'	1.91	0.53
7:F:170:TYR:O	7:F:171:ASP:HB3	2.08	0.53
8:G:69:ILE:HA	8:G:72:MET:HE2	1.88	0.53
11:J:75:SER:C	11:J:79:ALA:HB2	2.32	0.53
13:L:82:ARG:HH21	13:L:115:ARG:HG2	1.73	0.53
13:L:125:ALA:C	13:L:127:ALA:H	2.16	0.53
16:O:155:GLU:O	16:O:156:GLU:HG3	2.08	0.53
24:W:49:LEU:O	24:W:53:ILE:HG13	2.08	0.53
1:A:1304:U:H2'	1:A:1305:C:C6	2.44	0.53
1:A:1667:A:H2'	1:A:1668:U:C6	2.43	0.53
5:D:217:ARG:HG3	5:D:257:THR:CG2	2.37	0.53
7:F:94:ALA:O	7:F:95:THR:O	2.27	0.53
11:J:14:TYR:N	11:J:91:HIS:CE1	2.75	0.53
15:N:45:ARG:CZ	15:N:48:ARG:HG3	2.38	0.53
21:T:51:GLN:HE21	21:T:53:ASN:ND2	2.07	0.53
22:U:48:VAL:CG2	22:U:98:VAL:HA	2.38	0.53
22:U:75:GLU:O	22:U:76:ASP:HB2	2.07	0.53
25:X:88:THR:HG22	25:X:89:ASP:N	2.23	0.53
29:2:28:HIS:CD2	29:2:31:LYS:HG3	2.43	0.53
1:A:1711:A:O2'	1:A:1712:A:H5'	2.08	0.53
11:J:150:LYS:HG2	38:J:8383:HOH:O	2.07	0.53
15:N:81:ARG:HG3	15:N:85:ARG:HB2	1.90	0.53
17:P:38:ARG:NH1	38:P:7674:HOH:O	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:1:42:CYS:SG	28:1:44:PHE:HB2	2.48	0.53
1:A:154:C:H2'	1:A:155:C:C6	2.44	0.53
1:A:524:A:H5'	20:S:29:LYS:HE2	1.91	0.53
1:A:1525:G:H5'	1:A:1526:A:OP2	2.08	0.53
1:A:1787:C:OP1	18:Q:68:LYS:HE2	2.09	0.53
2:B:3076:G:C3'	2:B:3077:A:H5''	2.30	0.53
5:D:221:GLN:HE22	13:L:42:ASN:ND2	2.05	0.53
7:F:94:ALA:HB3	7:F:174:VAL:HA	1.91	0.53
9:H:117:GLU:C	9:H:119:ARG:H	2.15	0.53
22:U:73:HIS:CD2	22:U:88:PRO:HG3	2.43	0.53
25:X:38:THR:O	25:X:42:ARG:HB2	2.09	0.53
25:X:110:GLN:NE2	25:X:110:GLN:HA	2.24	0.53
1:A:818:A:O2'	28:1:13:ARG:HD3	2.07	0.53
1:A:1003:U:O2'	11:J:90:PHE:HE1	1.90	0.53
1:A:1766:U:O2	1:A:1778:A:H5'	2.08	0.53
5:D:223:ARG:HG3	5:D:232:TRP:O	2.08	0.53
7:F:154:LYS:H	7:F:154:LYS:CD	2.09	0.53
9:H:50:VAL:CG2	9:H:63:ILE:HG21	2.37	0.53
10:I:64:ASN:N	10:I:64:ASN:ND2	2.55	0.53
11:J:86:ARG:NH1	11:J:130:HIS:CD2	2.77	0.53
12:K:45:VAL:HG22	12:K:46:ILE:N	2.23	0.53
12:K:130:VAL:HG12	12:K:131:THR:N	2.23	0.53
14:M:73:VAL:HG23	14:M:74:THR:N	2.24	0.53
15:N:37:VAL:CG1	15:N:63:VAL:HG11	2.37	0.53
1:A:120:A:H2'	1:A:120:A:N3	2.23	0.53
1:A:259:G:H21	15:N:58:GLN:NE2	2.06	0.53
1:A:684:G:H2'	1:A:685:C:C6	2.44	0.53
1:A:1159:G:H21	1:A:1189:A:H8	1.55	0.53
8:G:49:ILE:HD11	8:G:69:ILE:HD12	1.91	0.53
20:S:39:THR:CG2	20:S:42:GLU:HG3	2.38	0.53
22:U:49:GLU:OE2	22:U:97:ARG:HD2	2.09	0.53
28:1:38:LYS:HG2	28:1:45:LYS:HG2	1.90	0.53
29:2:28:HIS:CD2	29:2:30:LYS:HB2	2.44	0.53
1:A:69:A:C8	1:A:69:A:H5'	2.43	0.53
1:A:1342:C:C2'	1:A:1343:C:H5'	2.39	0.53
2:B:3055:U:H4'	2:B:3056:A:H8	1.73	0.53
5:D:315:VAL:HG23	5:D:316:ARG:HG2	1.91	0.53
17:P:56:GLU:HB2	38:P:6111:HOH:O	2.09	0.53
28:1:46:LYS:O	28:1:57:CYS:HA	2.09	0.53
1:A:970:U:H2'	38:A:5822:HOH:O	2.08	0.52
1:A:1528:A:H2'	1:A:1529:G:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2415:A:C2	16:O:25:ARG:HB3	2.44	0.52
1:A:2439:C:H5'	38:A:4977:HOH:O	2.07	0.52
2:B:3002:U:OP2	2:B:3003:A:H5'	2.08	0.52
4:C:220:PRO:HD2	4:C:223:ARG:HD3	1.90	0.52
6:E:16:VAL:HG12	6:E:17:ASP:N	2.24	0.52
27:Z:117:LEU:HD12	27:Z:174:VAL:CG1	2.39	0.52
27:Z:154:ARG:NH1	27:Z:155:ARG:HG3	2.24	0.52
30:3:35:ARG:HB2	38:3:2691:HOH:O	2.07	0.52
1:A:2721:U:H4'	13:L:87:ARG:HG3	1.91	0.52
1:A:2781:U:H1'	8:G:139:GLU:OE2	2.08	0.52
2:B:3048:C:H4'	16:O:141:ARG:NH2	2.24	0.52
5:D:51:VAL:HG23	5:D:330:VAL:HG22	1.91	0.52
11:J:53:PRO:HG3	11:J:127:GLY:H	1.72	0.52
15:N:47:ASP:CG	15:N:48:ARG:H	2.16	0.52
28:1:11:THR:CG2	28:1:23:ARG:HB2	2.39	0.52
1:A:869:G:OP1	15:N:79:LYS:HE2	2.10	0.52
1:A:1334:C:H2'	1:A:1335:C:H6	1.73	0.52
1:A:1351:G:OP1	6:E:96:LYS:NZ	2.33	0.52
1:A:1789:G:O6	18:Q:73:HIS:HE1	1.93	0.52
1:A:2851:G:C2'	1:A:2852:A:H5'	2.39	0.52
38:B:8465:HOH:O	16:O:147:ILE:HB	2.09	0.52
5:D:27:ASN:HD22	5:D:27:ASN:H	1.57	0.52
11:J:136:VAL:HG22	11:J:137:ASN:O	2.08	0.52
24:W:11:MET:HB3	24:W:15:GLU:HB2	1.91	0.52
24:W:20:LEU:HD22	24:W:60:GLN:HE22	1.74	0.52
1:A:602:A:O2'	1:A:605:C:H4'	2.08	0.52
1:A:894:A:C2	6:E:87:ARG:NH2	2.77	0.52
1:A:1353:C:P	38:A:4177:HOH:O	2.68	0.52
6:E:7:ASP:O	6:E:9:ASP:N	2.43	0.52
7:F:58:VAL:HG12	7:F:59:GLY:N	2.24	0.52
7:F:149:ARG:NH1	38:F:3066:HOH:O	2.29	0.52
8:G:126:ILE:HB	8:G:131:LEU:HD23	1.91	0.52
9:H:36:THR:HG23	9:H:97:ALA:HB2	1.91	0.52
9:H:48:VAL:HG12	9:H:97:ALA:CB	2.39	0.52
13:L:49:LEU:HA	13:L:73:VAL:HG12	1.91	0.52
14:M:72:ASN:O	14:M:76:LEU:HG	2.09	0.52
15:N:173:LEU:HD23	15:N:183:VAL:HG12	1.90	0.52
15:N:185:PRO:HG2	15:N:189:VAL:HG11	1.90	0.52
1:A:380:A:OP2	15:N:9:ARG:HD2	2.10	0.52
1:A:920:C:H5''	1:A:921:G:O5'	2.10	0.52
1:A:1098:A:H2'	1:A:1099:G:O4'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2815:G:OP2	12:K:99:GLU:HG2	2.09	0.52
7:F:11:HIS:O	7:F:12:GLU:HB3	2.09	0.52
8:G:69:ILE:HA	8:G:72:MET:CE	2.40	0.52
11:J:157:ILE:HG22	11:J:158:ASN:N	2.23	0.52
15:N:134:ILE:O	15:N:136:PRO:HD3	2.09	0.52
18:Q:16:VAL:HG12	18:Q:17:GLY:N	2.24	0.52
20:S:39:THR:HB	20:S:42:GLU:HG3	1.91	0.52
21:T:57:THR:CG2	21:T:58:MET:N	2.71	0.52
25:X:5:VAL:HG22	25:X:32:CYS:HB2	1.91	0.52
25:X:137:GLN:HE21	25:X:141:HIS:CE1	2.26	0.52
27:Z:117:LEU:HD12	27:Z:174:VAL:HG11	1.90	0.52
30:3:40:ARG:HA	30:3:45:ASN:ND2	2.24	0.52
31:4:11:CYS:HB2	31:4:20:HIS:CE1	2.43	0.52
1:A:1015:C:H2'	1:A:1016:U:C6	2.45	0.52
1:A:2269:C:C2'	1:A:2270:G:H5'	2.40	0.52
1:A:2324:G:H4'	1:A:2418:G:O2'	2.10	0.52
11:J:45:GLN:HB3	11:J:163:PRO:CD	2.22	0.52
11:J:95:GLU:HB3	11:J:119:VAL:HG11	1.91	0.52
14:M:101:ASP:C	14:M:103:ALA:H	2.16	0.52
22:U:23:VAL:C	22:U:93:THR:HG21	2.34	0.52
26:Y:70:ILE:O	26:Y:70:ILE:HG23	2.09	0.52
1:A:459:A:H4'	38:A:8966:HOH:O	2.10	0.52
1:A:1139:U:H2'	1:A:1140:C:C6	2.45	0.52
1:A:1166:A:H61	1:A:1180:U:H3	1.57	0.52
1:A:1471:A:H2'	1:A:1472:C:C6	2.43	0.52
1:A:2073:G:OP2	1:A:2490:A:H5'	2.09	0.52
38:A:3366:HOH:O	11:J:90:PHE:HD2	1.92	0.52
2:B:3114:G:O6	16:O:11:ARG:HD3	2.10	0.52
7:F:84:LEU:C	7:F:86:THR:H	2.17	0.52
9:H:58:GLU:HG3	9:H:61:MET:CE	2.40	0.52
18:Q:16:VAL:CG1	18:Q:20:ARG:HB2	2.40	0.52
20:S:111:ILE:HG23	20:S:145:LEU:HD11	1.91	0.52
23:V:47:ARG:HG3	38:V:4381:HOH:O	2.10	0.52
27:Z:112:GLU:OE1	27:Z:115:ARG:NH1	2.42	0.52
1:A:795:G:H1'	1:A:817:G:N2	2.24	0.52
1:A:2684:A:H2'	1:A:2685:C:C6	2.44	0.52
6:E:95:GLU:H	6:E:95:GLU:CD	2.18	0.52
15:N:72:SER:HB2	15:N:93:ARG:HG2	1.92	0.52
31:4:16:GLU:HG3	31:4:18:GLN:HE21	1.75	0.52
31:4:38:ARG:O	31:4:42:ARG:HB2	2.10	0.52
1:A:113:A:OP2	1:A:114:A:H2'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2578:G:H5'	1:A:2578:G:C8	2.42	0.52
1:A:2815:G:N7	12:K:80:LYS:NZ	2.58	0.52
2:B:3039:U:H1'	2:B:3044:A:H61	1.73	0.52
5:D:49:THR:HG21	5:D:280:VAL:HG23	1.91	0.52
7:F:35:ALA:O	7:F:37:ALA:N	2.43	0.52
14:M:22:ARG:HG2	38:M:8523:HOH:O	2.10	0.52
15:N:85:ARG:HA	15:N:87:MET:HE2	1.92	0.52
16:O:37:ARG:NH2	38:O:8534:HOH:O	2.43	0.52
16:O:154:LEU:O	16:O:155:GLU:CB	2.58	0.52
16:O:163:PHE:HA	38:O:8519:HOH:O	2.10	0.52
20:S:18:LEU:HG	20:S:91:LEU:HD13	1.91	0.52
22:U:41:ARG:HG2	22:U:41:ARG:NH1	2.24	0.52
22:U:69:LYS:O	22:U:71:VAL:HG23	2.10	0.52
25:X:76:ASP:O	25:X:77:ALA:C	2.53	0.52
1:A:69:A:H5'	1:A:69:A:H8	1.75	0.52
1:A:2780:C:H2'	1:A:2781:U:H6	1.75	0.52
4:C:57:ALA:HA	4:C:67:LEU:HD23	1.92	0.52
5:D:81:ALA:O	5:D:186:GLY:HA3	2.10	0.52
7:F:50:VAL:O	7:F:71:ALA:HA	2.10	0.52
15:N:35:PRO:HD2	15:N:38:VAL:CG2	2.40	0.52
15:N:113:ARG:NH2	15:N:156:ARG:HG2	2.25	0.52
17:P:35:LYS:HD3	38:P:3360:HOH:O	2.09	0.52
27:Z:115:ARG:NE	38:Z:8553:HOH:O	2.42	0.52
1:A:157:G:H4'	15:N:95:LYS:CE	2.40	0.51
1:A:1025:C:H5'	25:X:23:MET:O	2.10	0.51
1:A:1477:C:H5'	1:A:1868:G:C5'	2.40	0.51
1:A:1669:A:H2'	1:A:1670:G:C8	2.45	0.51
1:A:2421:G:H3'	1:A:2422:U:C5'	2.40	0.51
1:A:2564:G:OP2	1:A:2565:C:H5''	2.10	0.51
38:A:7115:HOH:O	15:N:156:ARG:HD3	2.09	0.51
10:I:12:ILE:N	10:I:13:PRO:CD	2.72	0.51
11:J:69:ASN:O	11:J:72:VAL:HG12	2.10	0.51
15:N:87:MET:CB	31:4:46:ILE:HD13	2.35	0.51
25:X:38:THR:HG22	38:X:3580:HOH:O	2.10	0.51
27:Z:187:VAL:CG2	27:Z:192:ASP:HB2	2.36	0.51
1:A:156:C:H5''	15:N:171:ARG:CD	2.20	0.51
9:H:56:PRO:CG	15:N:44:THR:HA	2.39	0.51
16:O:180:LEU:O	16:O:181:ASP:HB3	2.10	0.51
1:A:1060:C:H6	1:A:1060:C:H5'	1.74	0.51
1:A:2906:A:H5'	1:A:2907:C:O4'	2.10	0.51
16:O:161:GLY:O	16:O:162:ASP:C	2.53	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:135:G:OP1	15:N:39:ARG:NH1	2.41	0.51
1:A:1192:A:H3'	1:A:1193:A:H5'	1.92	0.51
1:A:2251:G:H2'	1:A:2252:A:C8	2.45	0.51
1:A:2300:A:H4'	1:A:2301:A:O5'	2.11	0.51
2:B:3020:G:O2'	2:B:3021:G:H5'	2.11	0.51
4:C:173:GLY:O	4:C:176:HIS:HB3	2.11	0.51
4:C:200:PRO:HG2	4:C:225:VAL:HG21	1.91	0.51
5:D:16:ARG:NH1	38:D:8618:HOH:O	2.43	0.51
6:E:84:VAL:O	6:E:85:LYS:HB2	2.10	0.51
7:F:158:ASN:HB2	7:F:161:ASP:OD2	2.11	0.51
11:J:139:ASP:OD2	38:J:8392:HOH:O	2.19	0.51
20:S:44:VAL:O	20:S:48:GLU:HG3	2.11	0.51
21:T:57:THR:HG22	21:T:58:MET:N	2.24	0.51
23:V:34:SER:HA	23:V:37:GLU:OE1	2.10	0.51
25:X:1:MET:HB2	25:X:103:GLU:HG2	1.93	0.51
25:X:41:TYR:O	25:X:45:VAL:HG13	2.10	0.51
28:1:19:GLY:O	28:1:23:ARG:HG2	2.09	0.51
1:A:1500:U:P	18:Q:41:ARG:HH22	2.33	0.51
1:A:2720:C:O2	13:L:87:ARG:NH2	2.43	0.51
38:A:9579:HOH:O	20:S:83:LYS:HB3	2.10	0.51
4:C:36:ASP:O	4:C:38:ILE:N	2.44	0.51
5:D:141:ARG:HD2	5:D:163:GLU:OE2	2.10	0.51
5:D:175:LEU:C	5:D:175:LEU:CD2	2.82	0.51
5:D:207:LYS:HG2	5:D:304:PRO:HB3	1.90	0.51
5:D:248:ARG:O	5:D:251:VAL:HG13	2.09	0.51
7:F:166:ILE:HD12	38:F:6326:HOH:O	2.11	0.51
11:J:163:PRO:HG2	38:J:8338:HOH:O	2.10	0.51
15:N:47:ASP:CG	15:N:48:ARG:N	2.69	0.51
15:N:77:PHE:HD2	38:N:8527:HOH:O	1.92	0.51
22:U:9:LYS:CE	22:U:13:ARG:NH1	2.66	0.51
1:A:229:G:O2'	1:A:230:C:H5'	2.10	0.51
1:A:1029:U:O2'	1:A:1273:C:OP1	2.26	0.51
1:A:2115:U:H2'	1:A:2116:U:C6	2.45	0.51
1:A:2265:U:H2'	1:A:2266:A:H8	1.75	0.51
6:E:235:PHE:CE2	6:E:243:VAL:HG21	2.45	0.51
11:J:47:GLU:HG2	11:J:133:ILE:HD12	1.92	0.51
15:N:20:ILE:O	15:N:24:MET:HG2	2.11	0.51
17:P:10:LEU:HD13	17:P:99:GLU:HG3	1.93	0.51
18:Q:94:TRP:CZ2	18:Q:98:ILE:HG13	2.45	0.51
18:Q:98:ILE:HD12	18:Q:102:ARG:NE	2.26	0.51
25:X:65:VAL:HA	25:X:68:THR:CG2	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:440:C:O2'	1:A:441:A:H5'	2.11	0.51
1:A:653:C:H2'	1:A:654:A:C8	2.45	0.51
1:A:821:U:H2'	1:A:822:C:H6	1.75	0.51
1:A:1973:A:H2'	1:A:1974:G:O5'	2.10	0.51
38:A:3033:HOH:O	21:T:13:LYS:HE2	2.11	0.51
7:F:11:HIS:C	7:F:13:MET:H	2.18	0.51
11:J:31:PHE:HE2	11:J:87:LYS:O	1.92	0.51
13:L:22:ASP:O	13:L:110:LYS:HE3	2.11	0.51
14:M:143:THR:CG2	14:M:144:ASP:N	2.73	0.51
28:1:34:LYS:HE2	38:1:8424:HOH:O	2.09	0.51
28:1:42:CYS:SG	28:1:43:GLY:N	2.84	0.51
1:A:419:A:H1'	1:A:1921:A:C2	2.45	0.51
1:A:542:A:H2'	1:A:543:G:O4'	2.10	0.51
1:A:709:G:O2'	17:P:25:VAL:HG12	2.11	0.51
38:A:9068:HOH:O	25:X:119:HIS:HE1	1.94	0.51
8:G:80:TRP:O	8:G:134:SER:HA	2.10	0.51
11:J:13:ALA:HA	11:J:91:HIS:CE1	2.46	0.51
11:J:86:ARG:HD3	11:J:130:HIS:HD2	1.76	0.51
12:K:22:VAL:O	12:K:26:VAL:HG23	2.10	0.51
13:L:89:LYS:HA	38:L:7064:HOH:O	2.09	0.51
14:M:73:VAL:HG11	14:M:118:LEU:HD21	1.92	0.51
16:O:157:PRO:HA	38:O:8526:HOH:O	2.10	0.51
18:Q:134:VAL:O	18:Q:137:LEU:HB3	2.10	0.51
1:A:1299:G:N7	14:M:6:ARG:NH1	2.59	0.51
1:A:1701:A:H5''	1:A:1702:U:H3'	1.93	0.51
1:A:1825:U:O2'	1:A:1826:C:H5'	2.11	0.51
1:A:1829:A:H2'	1:A:1830:C:H5'	1.93	0.51
1:A:1909:A:H2'	1:A:1910:A:C8	2.46	0.51
1:A:2269:C:H2'	1:A:2270:G:H5'	1.91	0.51
38:A:6195:HOH:O	27:Z:165:GLU:HB3	2.10	0.51
6:E:142:ASP:OD2	6:E:238:SER:OG	2.27	0.51
8:G:24:GLY:HA3	8:G:76:VAL:HB	1.93	0.51
11:J:35:ASN:HD21	11:J:80:ASN:HA	1.75	0.51
15:N:78:ASN:C	15:N:79:LYS:HG2	2.36	0.51
15:N:87:MET:HB2	15:N:91:ILE:CD1	2.36	0.51
16:O:119:GLN:O	16:O:123:ILE:HG13	2.11	0.51
1:A:95:A:H5''	1:A:97:G:O4'	2.11	0.51
1:A:244:C:O5'	1:A:244:C:H6	1.94	0.51
1:A:657:G:H2'	1:A:658:C:C6	2.46	0.51
1:A:2363:G:O2'	19:R:11:ARG:HG3	2.10	0.51
1:A:2710:U:H1'	38:A:7111:HOH:O	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2781:U:C2'	1:A:2782:G:H5'	2.41	0.51
1:A:2821:C:H4'	5:D:116:PRO:HB3	1.93	0.51
2:B:3039:U:H1'	2:B:3044:A:N6	2.26	0.51
5:D:41:PHE:CE1	5:D:79:MET:HG3	2.46	0.51
9:H:99:THR:O	9:H:99:THR:HG23	2.10	0.51
11:J:13:ALA:HA	11:J:91:HIS:HE1	1.75	0.51
25:X:107:LEU:O	25:X:112:LEU:HB2	2.11	0.51
25:X:108:ARG:HE	25:X:114:PRO:HG3	1.76	0.51
1:A:702:G:O2'	1:A:703:G:H5'	2.11	0.50
1:A:1116:U:H3	1:A:1246:A:N6	2.02	0.50
1:A:1342:C:O2'	1:A:1343:C:H5'	2.11	0.50
1:A:1819:G:H5'	38:A:4207:HOH:O	2.11	0.50
1:A:2837:U:H2'	38:A:6328:HOH:O	2.09	0.50
7:F:57:THR:HG23	7:F:63:ILE:CG2	2.40	0.50
11:J:26:LYS:HG2	11:J:28:ILE:N	2.26	0.50
25:X:21:LEU:CD2	25:X:48:VAL:HG11	2.39	0.50
26:Y:26:ALA:HB1	26:Y:59:TRP:CE2	2.46	0.50
27:Z:189:ASN:HA	27:Z:217:ILE:HD11	1.93	0.50
1:A:524:A:C5'	20:S:29:LYS:HE2	2.41	0.50
1:A:816:G:C6	1:A:817:G:N1	2.79	0.50
1:A:1114:A:O2'	1:A:1115:U:H5'	2.11	0.50
1:A:1555:G:O2'	1:A:1556:G:H5'	2.11	0.50
38:A:8873:HOH:O	29:2:1:THR:HA	2.12	0.50
8:G:68:HIS:O	8:G:72:MET:HG3	2.11	0.50
19:R:93:ARG:HH11	19:R:93:ARG:HG3	1.77	0.50
28:1:30:GLU:HA	28:1:33:HIS:CB	2.42	0.50
1:A:567:U:H5''	38:X:5817:HOH:O	2.12	0.50
1:A:2613:G:O2'	1:A:2614:C:H5'	2.12	0.50
7:F:91:ALA:HB2	7:F:106:PHE:CD2	2.47	0.50
9:H:111:ILE:O	9:H:115:VAL:HG23	2.11	0.50
12:K:80:LYS:HE2	12:K:98:PHE:CZ	2.47	0.50
15:N:72:SER:OG	15:N:93:ARG:CZ	2.59	0.50
18:Q:120:ARG:NH2	18:Q:123:TYR:CD2	2.80	0.50
1:A:951:A:C2'	1:A:952:G:H5'	2.41	0.50
1:A:1189:A:O2'	1:A:1208:C:H2'	2.11	0.50
1:A:2445:U:H2'	1:A:2446:G:C8	2.46	0.50
1:A:2478:U:O2'	1:A:2479:A:H5'	2.11	0.50
7:F:94:ALA:HB3	7:F:174:VAL:CA	2.41	0.50
11:J:75:SER:HB3	11:J:79:ALA:CB	2.41	0.50
14:M:53:ARG:NH2	14:M:57:VAL:HG12	2.26	0.50
18:Q:38:GLU:HA	18:Q:41:ARG:HH11	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:Q:115:SER:C	18:Q:117:SER:N	2.70	0.50
19:R:26:PRO:O	19:R:30:VAL:HG23	2.12	0.50
22:U:64:ASN:HA	38:U:5927:HOH:O	2.10	0.50
25:X:21:LEU:HD21	25:X:48:VAL:HG13	1.93	0.50
1:A:134:U:C2	1:A:145:A:C2	3.00	0.50
1:A:513:A:N3	38:A:3169:HOH:O	2.35	0.50
1:A:736:A:H2'	1:A:737:A:O4'	2.11	0.50
1:A:1847:A:OP1	4:C:175:LYS:HG3	2.11	0.50
1:A:2773:G:H5'	38:A:6690:HOH:O	2.11	0.50
38:A:4120:HOH:O	4:C:6:GLY:HA3	2.12	0.50
6:E:150:THR:HA	6:E:203:ALA:O	2.11	0.50
6:E:160:LEU:O	6:E:162:VAL:HG23	2.11	0.50
7:F:64:ARG:HB3	7:F:67:ASP:OD2	2.12	0.50
8:G:106:ASN:ND2	8:G:109:GLY:HA2	2.26	0.50
9:H:49:PHE:HE1	9:H:98:VAL:HG23	1.77	0.50
11:J:139:ASP:HB2	38:J:8347:HOH:O	2.12	0.50
13:L:32:ILE:HD11	13:L:56:SER:HB3	1.93	0.50
13:L:34:VAL:HG22	13:L:47:ALA:HB2	1.93	0.50
16:O:61:ALA:CB	16:O:88:ALA:HB2	2.42	0.50
21:T:80:ARG:NH1	38:T:8347:HOH:O	2.44	0.50
23:V:17:THR:CG2	23:V:18:GLY:N	2.73	0.50
1:A:344:C:H2'	1:A:345:G:O4'	2.11	0.50
1:A:1252:A:H2'	1:A:1253:C:O4'	2.12	0.50
1:A:1468:G:H5''	38:A:6508:HOH:O	2.12	0.50
5:D:41:PHE:HB3	5:D:190:MET:HE1	1.92	0.50
14:M:104:ASP:HB3	38:M:8565:HOH:O	2.11	0.50
15:N:67:ILE:HD11	15:N:104:ARG:HD2	1.92	0.50
20:S:119:VAL:HG11	38:S:8584:HOH:O	2.11	0.50
25:X:26:ILE:HB	38:X:5420:HOH:O	2.11	0.50
28:1:13:ARG:NH1	28:1:14:PHE:CE2	2.79	0.50
1:A:125:U:H2'	38:A:3277:HOH:O	2.11	0.50
1:A:793:A:H5''	18:Q:83:LYS:HG2	1.94	0.50
1:A:1594:C:OP2	18:Q:120:ARG:HD2	2.11	0.50
1:A:2896:A:OP1	26:Y:15:ARG:NH1	2.44	0.50
8:G:81:GLU:HA	8:G:133:VAL:O	2.12	0.50
12:K:52:GLN:CG	12:K:53:ILE:N	2.67	0.50
17:P:25:VAL:O	17:P:29:VAL:HG23	2.12	0.50
25:X:141:HIS:HB2	25:X:146:ILE:HG12	1.94	0.50
28:1:75:ALA:HB3	38:1:8436:HOH:O	2.10	0.50
1:A:283:U:H5''	1:A:284:C:P	2.51	0.50
1:A:497:A:H5''	38:A:3106:HOH:O	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:694:A:C2'	1:A:695:C:H5'	2.41	0.50
1:A:746:A:C6	17:P:65:LEU:HD13	2.47	0.50
1:A:1249:U:H2'	1:A:1250:C:C6	2.46	0.50
1:A:1735:C:O2'	1:A:1736:A:H5'	2.12	0.50
1:A:1743:G:H1'	38:A:4383:HOH:O	2.10	0.50
1:A:2323:G:H5'	38:A:6510:HOH:O	2.11	0.50
2:B:3034:A:H2'	2:B:3035:C:O4'	2.11	0.50
4:C:1:GLY:HA2	4:C:197:VAL:HG23	1.94	0.50
4:C:179:MET:HG2	4:C:186:TRP:CG	2.47	0.50
5:D:248:ARG:O	5:D:251:VAL:CG1	2.60	0.50
7:F:95:THR:C	7:F:97:GLN:N	2.69	0.50
15:N:155:HIS:CE1	15:N:158:ARG:HE	2.29	0.50
16:O:44:ARG:HG3	16:O:45:ALA:N	2.27	0.50
23:V:47:ARG:CG	38:V:4381:HOH:O	2.60	0.50
26:Y:9:VAL:HG22	26:Y:88:GLU:OE2	2.11	0.50
26:Y:43:VAL:CG1	26:Y:44:ASP:N	2.73	0.50
1:A:581:G:H5'	38:A:7172:HOH:O	2.10	0.50
1:A:1483:C:O2'	1:A:1484:G:H5'	2.12	0.50
1:A:1930:A:H2'	1:A:1931:A:C8	2.47	0.50
1:A:2385:G:H2'	1:A:2386:U:C6	2.46	0.50
1:A:2781:U:H2'	1:A:2782:G:H5'	1.93	0.50
38:A:9458:HOH:O	26:Y:23:HIS:HD2	1.94	0.50
4:C:164:ARG:HB2	28:1:68:CYS:SG	2.52	0.50
5:D:275:GLY:C	38:D:8652:HOH:O	2.55	0.50
6:E:196:THR:HG23	38:E:8405:HOH:O	2.12	0.50
8:G:21:THR:HG23	8:G:30:THR:OG1	2.12	0.50
9:H:19:ALA:O	9:H:22:VAL:HG22	2.12	0.50
9:H:21:GLU:O	9:H:24:ARG:HG3	2.11	0.50
11:J:163:PRO:O	11:J:164:ALA:HB2	2.12	0.50
14:M:90:ARG:NH1	14:M:119:THR:HG21	2.27	0.50
15:N:87:MET:HG2	31:4:46:ILE:HG21	1.94	0.50
24:W:44:GLY:O	24:W:48:GLU:HG2	2.12	0.50
1:A:553:G:H5'	38:A:3008:HOH:O	2.12	0.49
1:A:1003:U:O2	11:J:90:PHE:CZ	2.65	0.49
1:A:1086:A:C6	25:X:11:VAL:HG11	2.47	0.49
1:A:1613:C:H2'	1:A:1614:G:O4'	2.12	0.49
1:A:1853:C:OP1	4:C:231:LYS:HG3	2.11	0.49
1:A:2078:U:O2'	1:A:2079:G:H5'	2.11	0.49
1:A:2392:C:H4'	38:A:3775:HOH:O	2.11	0.49
4:C:66:ARG:HB2	4:C:66:ARG:HH11	1.76	0.49
5:D:25:ARG:HA	5:D:310:ARG:HH21	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:254:GLN:HG2	5:D:255:GLY:N	2.26	0.49
6:E:22:PHE:HA	6:E:116:ALA:HA	1.94	0.49
6:E:129:HIS:HE1	6:E:231:ARG:HA	1.77	0.49
6:E:246:ARG:HB3	6:E:246:ARG:HH11	1.75	0.49
7:F:35:ALA:C	7:F:37:ALA:N	2.66	0.49
8:G:116:THR:HG22	8:G:151:LEU:HD22	1.93	0.49
8:G:156:ASP:OD2	8:G:157:LYS:NZ	2.41	0.49
9:H:113:ASP:O	9:H:117:GLU:HG3	2.12	0.49
11:J:26:LYS:CG	11:J:28:ILE:H	2.25	0.49
12:K:75:PRO:HG2	12:K:105:LEU:HD21	1.93	0.49
15:N:164:THR:HB	38:N:8519:HOH:O	2.12	0.49
25:X:6:GLN:HG2	25:X:29:VAL:HA	1.94	0.49
25:X:88:THR:CG2	25:X:110:GLN:NE2	2.75	0.49
1:A:317:A:H5''	22:U:52:ARG:HD2	1.94	0.49
1:A:1010:C:H4'	16:O:4:PRO:HB2	1.92	0.49
1:A:2243:C:H5''	38:A:3261:HOH:O	2.12	0.49
2:B:3067:C:H2'	2:B:3068:G:H8	1.77	0.49
2:B:3091:C:H2'	2:B:3092:G:O4'	2.12	0.49
4:C:186:TRP:CG	4:C:187:PRO:HA	2.48	0.49
12:K:77:GLY:O	12:K:78:ILE:C	2.55	0.49
18:Q:13:VAL:HG11	18:Q:40:VAL:CG1	2.41	0.49
30:3:36:ASN:HB3	30:3:39:ARG:NE	2.28	0.49
38:A:9404:HOH:O	12:K:46:ILE:HA	2.13	0.49
11:J:162:SER:CB	11:J:163:PRO:CD	2.82	0.49
12:K:107:ASN:ND2	12:K:107:ASN:C	2.69	0.49
17:P:32:ARG:HB2	38:P:4656:HOH:O	2.11	0.49
20:S:111:ILE:HG23	20:S:145:LEU:CD1	2.42	0.49
27:Z:99:ALA:HB2	27:Z:233:TYR:CE2	2.47	0.49
1:A:2326:U:H4'	1:A:2412:G:H4'	1.94	0.49
4:C:132:ASP:OD1	4:C:133:ARG:N	2.44	0.49
6:E:25:PRO:HG2	38:E:8321:HOH:O	2.10	0.49
8:G:23:GLU:HG2	8:G:28:SER:HB3	1.94	0.49
9:H:28:ALA:CB	9:H:99:THR:HG23	2.41	0.49
16:O:182:GLY:O	16:O:183:ASP:O	2.31	0.49
1:A:128:A:O2'	1:A:129:A:H5'	2.12	0.49
1:A:212:A:O4'	1:A:214:U:C6	2.66	0.49
1:A:415:A:O2'	1:A:416:G:H5'	2.13	0.49
1:A:638:C:H2'	1:A:639:A:C8	2.48	0.49
1:A:814:G:H4'	38:A:9641:HOH:O	2.12	0.49
1:A:1236:A:O2'	1:A:1237:U:H5'	2.12	0.49
1:A:1756:G:H1'	38:A:5760:HOH:O	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1940:C:H4'	38:A:6838:HOH:O	2.13	0.49
1:A:2072:G:C6	1:A:2533:C:H1'	2.48	0.49
1:A:2676:C:H4'	12:K:70:PHE:CD1	2.47	0.49
6:E:126:ASP:C	6:E:128:GLY:N	2.70	0.49
8:G:7:ILE:HG22	8:G:45:ASP:O	2.12	0.49
13:L:14:LYS:NZ	35:L:8512:CL:CL	2.80	0.49
14:M:149:ARG:O	14:M:150:GLN:HB2	2.12	0.49
19:R:32:GLU:HA	19:R:71:TYR:OH	2.12	0.49
1:A:187:A:H3'	1:A:188:C:H6	1.78	0.49
1:A:512:G:O3'	1:A:513:A:H8	1.95	0.49
1:A:797:A:O4'	28:1:10:ARG:N	2.46	0.49
1:A:1666:C:C2'	1:A:1667:A:C5'	2.91	0.49
1:A:2010:A:H5''	38:A:3678:HOH:O	2.12	0.49
1:A:2064:U:H5'	1:A:2652:U:H4'	1.94	0.49
2:B:3057:A:O2'	7:F:152:PRO:HD2	2.12	0.49
5:D:125:GLU:O	5:D:129:ARG:HG3	2.12	0.49
6:E:219:ASN:O	6:E:222:ASP:OD1	2.31	0.49
9:H:110:GLU:HA	9:H:113:ASP:OD2	2.12	0.49
11:J:112:ARG:O	11:J:113:ALA:C	2.55	0.49
14:M:125:PHE:CZ	14:M:140:VAL:HG13	2.46	0.49
20:S:96:VAL:HG13	20:S:106:GLY:HA3	1.93	0.49
1:A:470:U:O2'	29:2:16:HIS:CD2	2.63	0.49
1:A:958:G:H2'	1:A:959:C:C6	2.47	0.49
1:A:1840:A:H4'	1:A:1841:C:O5'	2.13	0.49
38:A:9964:HOH:O	15:N:36:ALA:HB1	2.13	0.49
4:C:51:ARG:HB2	38:C:8602:HOH:O	2.11	0.49
6:E:237:GLU:N	38:E:8451:HOH:O	2.46	0.49
8:G:31:ARG:NH1	38:G:5919:HOH:O	2.44	0.49
11:J:29:ALA:C	11:J:30:GLN:HG3	2.37	0.49
11:J:109:ASP:HB2	38:J:8346:HOH:O	2.12	0.49
12:K:52:GLN:O	12:K:53:ILE:C	2.56	0.49
22:U:23:VAL:CA	22:U:93:THR:HG21	2.43	0.49
26:Y:43:VAL:CG1	26:Y:47:ALA:HB3	2.42	0.49
1:A:521:A:H2'	1:A:522:U:H5'	1.95	0.49
1:A:703:G:O2'	1:A:704:C:H5'	2.13	0.49
1:A:1135:G:H5'	38:A:5420:HOH:O	2.11	0.49
1:A:2694:A:H4'	8:G:91:PHE:HE1	1.78	0.49
1:A:2730:G:O2'	1:A:2731:G:H5'	2.13	0.49
38:A:5815:HOH:O	7:F:55:LYS:HB2	2.12	0.49
6:E:13:ASP:OD1	6:E:13:ASP:O	2.30	0.49
11:J:85:ILE:HB	11:J:132:PHE:CE2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:39:THR:HB	38:P:3360:HOH:O	2.12	0.49
18:Q:135:ALA:HB1	18:Q:139:ARG:HH12	1.76	0.49
28:1:11:THR:CG2	28:1:23:ARG:HD2	2.43	0.49
29:2:25:LYS:HE2	38:2:8463:HOH:O	2.12	0.49
1:A:128:A:H3'	1:A:128:A:C8	2.47	0.49
1:A:251:C:H1'	15:N:58:GLN:HE22	1.78	0.49
1:A:645:U:OP2	14:M:4:LYS:HE2	2.13	0.49
1:A:818:A:H5''	38:A:6078:HOH:O	2.13	0.49
1:A:1163:G:N2	38:A:5539:HOH:O	2.46	0.49
1:A:1418:U:OP1	30:3:42:TRP:HB3	2.13	0.49
1:A:1470:A:OP1	15:N:93:ARG:HD2	2.13	0.49
1:A:1741:U:O2'	1:A:2723:G:H4'	2.13	0.49
1:A:1896:G:H1'	38:A:3765:HOH:O	2.12	0.49
1:A:2044:G:OP1	26:Y:23:HIS:HE1	1.96	0.49
2:B:3023:U:H2'	38:B:8479:HOH:O	2.10	0.49
26:Y:30:MET:HE3	26:Y:55:ASN:OD1	2.12	0.49
27:Z:187:VAL:HB	38:Z:8567:HOH:O	2.12	0.49
29:2:28:HIS:CE1	29:2:31:LYS:HE2	2.47	0.49
1:A:349:U:O2'	1:A:350:C:H5'	2.13	0.49
1:A:1398:G:H2'	1:A:1399:A:C8	2.48	0.49
7:F:101:THR:HG22	38:F:7400:HOH:O	2.13	0.49
27:Z:184:GLU:OE1	27:Z:204:ARG:NH1	2.46	0.49
1:A:23:G:H1'	1:A:520:A:N6	2.28	0.48
1:A:2661:U:H3	1:A:2812:A:H62	1.59	0.48
16:O:139:TRP:HA	16:O:139:TRP:HE3	1.78	0.48
20:S:61:GLN:CD	38:S:8540:HOH:O	2.55	0.48
22:U:55:PHE:CD2	22:U:77:VAL:HG13	2.48	0.48
23:V:11:THR:HG22	23:V:53:ASP:OD2	2.13	0.48
25:X:1:MET:N	25:X:103:GLU:OE2	2.43	0.48
25:X:14:HIS:HB2	25:X:17:ILE:HG13	1.94	0.48
25:X:65:VAL:CA	25:X:68:THR:HG22	2.42	0.48
28:1:13:ARG:NH1	28:1:14:PHE:CZ	2.81	0.48
1:A:1477:C:O2'	1:A:1478:U:H5'	2.12	0.48
1:A:2619:U:H2'	1:A:2620:U:C6	2.48	0.48
2:B:3064:C:C2'	2:B:3065:A:H5'	2.43	0.48
5:D:75:GLU:C	5:D:77:PRO:HD3	2.38	0.48
8:G:7:ILE:HD11	8:G:11:VAL:O	2.11	0.48
9:H:13:GLU:OE2	9:H:78:GLU:HG2	2.13	0.48
22:U:32:ARG:NH1	22:U:38:ARG:NH1	2.60	0.48
23:V:36:CYS:O	23:V:37:GLU:C	2.57	0.48
26:Y:20:GLU:CD	26:Y:21:PRO:HD2	2.38	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:3:18:ASN:HD21	30:3:40:ARG:H	1.61	0.48
1:A:299:U:H5'	38:A:6828:HOH:O	2.13	0.48
1:A:440:C:H2'	1:A:441:A:C8	2.48	0.48
1:A:517:U:H2'	1:A:518:G:H5'	1.94	0.48
1:A:941:G:O2'	1:A:942:U:H5'	2.12	0.48
1:A:1656:A:H2'	1:A:1657:A:O4'	2.13	0.48
1:A:1772:C:H5'	1:A:1773:G:C5	2.48	0.48
1:A:2314:G:C2'	1:A:2315:C:H5'	2.44	0.48
38:A:9528:HOH:O	29:2:46:ARG:HA	2.13	0.48
8:G:43:ASP:HA	38:G:5864:HOH:O	2.14	0.48
11:J:117:LYS:O	11:J:119:VAL:HG13	2.12	0.48
15:N:107:ARG:NH1	38:N:8582:HOH:O	2.46	0.48
16:O:58:LEU:HD12	16:O:58:LEU:N	2.28	0.48
25:X:21:LEU:HB3	25:X:26:ILE:HG12	1.96	0.48
28:1:56:MET:CE	28:1:63:LYS:HE3	2.44	0.48
1:A:1545:C:H2'	1:A:1546:G:O4'	2.13	0.48
1:A:1762:C:H2'	1:A:1763:C:H6	1.78	0.48
1:A:2488:A:H61	1:A:2534:C:H42	1.61	0.48
1:A:2724:U:H2'	1:A:2725:G:O4'	2.12	0.48
2:B:3025:G:N2	38:B:8506:HOH:O	2.46	0.48
5:D:146:THR:O	5:D:159:PRO:HB3	2.12	0.48
7:F:141:VAL:HG13	7:F:144:ARG:HH21	1.79	0.48
11:J:127:GLY:O	11:J:128:ALA:CB	2.62	0.48
11:J:165:GLY:C	11:J:166:ASN:HD22	2.21	0.48
16:O:67:ALA:C	16:O:69:TYR:N	2.71	0.48
28:1:56:MET:HA	28:1:62:TYR:O	2.13	0.48
31:4:65:THR:HB	31:4:83:TRP:H	1.79	0.48
1:A:86:A:C2	30:3:25:VAL:HG13	2.48	0.48
1:A:1783:A:O2'	1:A:1784:U:H5'	2.13	0.48
1:A:1827:G:H2'	1:A:1828:G:C8	2.47	0.48
1:A:2377:U:O5'	1:A:2377:U:H6	1.96	0.48
1:A:2670:G:O2'	1:A:2671:U:H5'	2.13	0.48
38:A:9404:HOH:O	12:K:18:ILE:HG23	2.13	0.48
2:B:3014:G:O2'	16:O:1:ALA:HB2	2.14	0.48
5:D:16:ARG:NE	38:D:8555:HOH:O	2.36	0.48
5:D:162:MET:O	5:D:162:MET:HG2	2.13	0.48
5:D:255:GLY:O	5:D:257:THR:HG23	2.13	0.48
7:F:23:VAL:HG21	7:F:45:THR:CG2	2.44	0.48
7:F:173:GLU:O	7:F:174:VAL:C	2.55	0.48
16:O:67:ALA:C	16:O:69:TYR:H	2.21	0.48
20:S:31:ILE:O	20:S:32:ALA:C	2.54	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:T:57:THR:C	21:T:59:ASP:H	2.22	0.48
22:U:49:GLU:OE2	22:U:97:ARG:NH1	2.42	0.48
26:Y:9:VAL:HG13	26:Y:88:GLU:OE2	2.12	0.48
1:A:324:G:O2'	1:A:325:U:H5'	2.13	0.48
1:A:539:G:H2'	1:A:540:A:C8	2.48	0.48
1:A:1423:C:O2'	1:A:1424:A:H5'	2.14	0.48
1:A:1473:U:C1'	29:2:42:SER:HB2	2.43	0.48
1:A:1666:C:H2'	1:A:1667:A:C5'	2.43	0.48
1:A:2387:U:H2'	1:A:2388:C:C6	2.48	0.48
1:A:2615:U:H2'	1:A:2616:G:O4'	2.14	0.48
4:C:105:VAL:HG12	4:C:106:CYS:N	2.28	0.48
4:C:199:HIS:CD2	4:C:201:PHE:H	2.32	0.48
8:G:11:VAL:CG1	8:G:12:ASP:N	2.75	0.48
8:G:31:ARG:CZ	38:G:5919:HOH:O	2.61	0.48
9:H:22:VAL:HG21	9:H:104:ALA:HB2	1.96	0.48
14:M:117:GLU:HB3	14:M:137:GLY:O	2.13	0.48
15:N:97:ILE:HA	15:N:100:ILE:HD12	1.95	0.48
17:P:21:SER:OG	17:P:106:PRO:HB2	2.12	0.48
21:T:81:ILE:HG12	38:T:8337:HOH:O	2.13	0.48
22:U:43:ASN:HD22	22:U:108:ARG:CZ	2.27	0.48
26:Y:76:ARG:HG3	26:Y:76:ARG:NH1	2.25	0.48
31:4:91:GLN:O	31:4:92:GLU:HB2	2.13	0.48
1:A:1172:G:H1'	38:A:4463:HOH:O	2.13	0.48
1:A:1352:A:N1	6:E:48:SER:HB3	2.29	0.48
1:A:2547:C:OP2	5:D:5:ARG:NH1	2.46	0.48
4:C:76:VAL:HG23	28:1:63:LYS:HB3	1.94	0.48
7:F:59:GLY:O	7:F:61:PHE:N	2.38	0.48
11:J:157:ILE:CG2	11:J:158:ASN:N	2.77	0.48
13:L:87:ARG:NE	38:L:4854:HOH:O	2.47	0.48
16:O:159:TYR:HE2	16:O:163:PHE:HE2	1.61	0.48
1:A:1127:C:H2'	1:A:1128:U:H5'	1.96	0.48
1:A:1615:A:H5'	38:A:3690:HOH:O	2.12	0.48
4:C:105:VAL:HG11	4:C:154:ALA:CB	2.43	0.48
5:D:24:PRO:CG	5:D:204:GLY:HA2	2.44	0.48
5:D:260:HIS:HA	38:D:8628:HOH:O	2.13	0.48
7:F:19:GLU:HG3	38:F:6165:HOH:O	2.13	0.48
9:H:107:VAL:HG23	38:H:6617:HOH:O	2.14	0.48
10:I:69:ARG:NH1	38:I:3513:HOH:O	2.46	0.48
11:J:65:ARG:NH2	11:J:66:VAL:HG22	2.28	0.48
17:P:47:ARG:HA	17:P:50:ARG:NH1	2.29	0.48
18:Q:121:ASP:OD1	18:Q:125:LYS:HE3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:V:49:LEU:CD1	38:V:3805:HOH:O	2.61	0.48
26:Y:21:PRO:HG2	26:Y:24:LYS:HD3	1.95	0.48
1:A:474:C:O3'	6:E:73:LEU:HD21	2.13	0.48
1:A:1617:C:C4	1:A:1643:C:H4'	2.49	0.48
1:A:2852:A:H5''	38:A:4724:HOH:O	2.14	0.48
2:B:3047:A:C2	2:B:3048:C:C2	3.02	0.48
4:C:107:ASN:OD1	4:C:120:ARG:HD2	2.14	0.48
5:D:279:THR:CG2	5:D:280:VAL:N	2.76	0.48
15:N:12:TRP:HB2	38:N:8607:HOH:O	2.14	0.48
15:N:27:ARG:NH2	15:N:44:THR:HG23	2.29	0.48
25:X:146:ILE:HG22	25:X:147:ASP:N	2.29	0.48
1:A:191:A:H2'	1:A:237:G:O6	2.14	0.48
1:A:820:G:H5'	1:A:821:U:H5'	1.95	0.48
1:A:820:G:C6	4:C:171:LYS:HB2	2.48	0.48
1:A:945:U:H2'	1:A:946:C:H6	1.78	0.48
1:A:1079:A:H4'	1:A:2078:U:H5'	1.96	0.48
1:A:1174:A:C5	1:A:1201:C:H4'	2.48	0.48
1:A:2896:A:H5''	38:A:5592:HOH:O	2.14	0.48
6:E:39:GLN:O	6:E:43:LYS:HD3	2.14	0.48
17:P:26:TRP:N	38:P:3062:HOH:O	2.46	0.48
17:P:107:GLU:O	17:P:108:GLY:C	2.54	0.48
25:X:52:VAL:HG22	25:X:53:ALA:H	1.79	0.48
25:X:122:ARG:HG2	25:X:152:ALA:O	2.13	0.48
28:1:41:VAL:HG12	28:1:42:CYS:N	2.28	0.48
1:A:399:C:H5'	15:N:179:GLY:O	2.15	0.47
1:A:812:A:H2'	1:A:813:C:C6	2.49	0.47
1:A:2904:U:H4'	26:Y:8:ARG:NH1	2.29	0.47
2:B:3024:U:HO2'	2:B:3025:G:H4'	1.79	0.47
5:D:154:VAL:HG12	5:D:156:LYS:HG2	1.96	0.47
9:H:26:THR:HG21	9:H:103:ALA:HB2	1.95	0.47
10:I:12:ILE:HG13	38:I:6833:HOH:O	2.14	0.47
11:J:46:VAL:O	11:J:146:TRP:CH2	2.64	0.47
13:L:55:VAL:HG12	13:L:56:SER:N	2.29	0.47
15:N:66:ALA:O	15:N:67:ILE:HD13	2.14	0.47
26:Y:30:MET:CE	26:Y:58:ALA:HB3	2.43	0.47
1:A:24:G:N2	1:A:518:G:H1'	2.29	0.47
1:A:656:G:H5'	17:P:3:THR:HB	1.95	0.47
1:A:877:G:H3'	38:A:9621:HOH:O	2.13	0.47
1:A:1170:U:O2'	1:A:1172:G:N7	2.33	0.47
6:E:133:ARG:NH2	38:E:8431:HOH:O	2.46	0.47
6:E:138:VAL:O	6:E:234:VAL:HA	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:93:ARG:HH11	12:K:93:ARG:CB	2.21	0.47
13:L:29:LEU:HB3	13:L:55:VAL:CG1	2.33	0.47
17:P:105:ASN:HD21	17:P:109:SER:H	1.62	0.47
22:U:71:VAL:CG1	22:U:90:PRO:HB3	2.29	0.47
31:4:31:THR:HB	31:4:33:MET:HE3	1.96	0.47
1:A:245:C:H2'	1:A:246:G:H5'	1.97	0.47
1:A:765:G:O3'	6:E:69:HIS:HB3	2.14	0.47
1:A:812:A:H2'	1:A:813:C:O4'	2.14	0.47
1:A:1503:U:H2'	1:A:1504:A:O4'	2.15	0.47
1:A:1504:A:H5'	38:A:3918:HOH:O	2.13	0.47
1:A:1568:G:O2'	1:A:1569:U:H5'	2.13	0.47
1:A:1849:G:H1'	1:A:2011:A:N1	2.29	0.47
11:J:111:MET:O	11:J:114:PRO:HD3	2.14	0.47
1:A:661:G:C5	1:A:686:A:C2	3.02	0.47
1:A:903:U:O4	14:M:18:HIS:HB2	2.14	0.47
1:A:932:U:H2'	1:A:933:C:C6	2.49	0.47
1:A:1154:A:H2'	1:A:1155:G:C8	2.50	0.47
1:A:1947:G:N2	1:A:1966:U:C2	2.82	0.47
1:A:1994:A:P	13:L:66:ARG:HH22	2.38	0.47
5:D:16:ARG:NH2	38:D:8555:HOH:O	2.44	0.47
9:H:39:SER:HB3	9:H:45:ALA:HB2	1.95	0.47
11:J:26:LYS:HD3	11:J:89:PRO:HG3	1.96	0.47
11:J:65:ARG:CZ	38:J:8385:HOH:O	2.61	0.47
12:K:39:VAL:HG13	12:K:106:GLY:O	2.14	0.47
15:N:87:MET:H	15:N:87:MET:HG3	1.30	0.47
15:N:154:ARG:HG3	38:N:8620:HOH:O	2.14	0.47
16:O:32:PRO:HD2	16:O:99:GLU:O	2.15	0.47
16:O:138:ASP:O	16:O:140:GLN:N	2.40	0.47
20:S:47:LEU:O	20:S:51:ILE:HG13	2.14	0.47
23:V:20:MET:CG	23:V:28:THR:HG23	2.45	0.47
24:W:1:THR:C	24:W:3:LEU:N	2.71	0.47
28:1:51:GLY:HA3	38:1:8416:HOH:O	2.13	0.47
1:A:1287:A:O4'	25:X:117:ARG:HD3	2.15	0.47
1:A:1439:C:H5''	30:3:41:HIS:CE1	2.50	0.47
1:A:2256:G:O2'	1:A:2257:G:H5'	2.13	0.47
1:A:2748:G:H1'	38:A:7391:HOH:O	2.14	0.47
5:D:149:ASP:HB2	38:D:8584:HOH:O	2.13	0.47
6:E:16:VAL:HG12	6:E:17:ASP:H	1.80	0.47
6:E:61:PHE:HB3	38:E:8448:HOH:O	2.14	0.47
7:F:128:LEU:HB2	38:F:6007:HOH:O	2.14	0.47
8:G:145:ALA:HB1	8:G:168:ILE:CD1	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:48:ARG:NH2	38:N:8564:HOH:O	2.48	0.47
15:N:49:ALA:C	15:N:54:TYR:HB3	2.39	0.47
16:O:67:ALA:HA	16:O:71:TRP:H	1.79	0.47
20:S:35:ILE:O	20:S:38:LYS:HB2	2.14	0.47
25:X:63:GLU:CD	25:X:94:SER:HG	2.22	0.47
25:X:131:PRO:O	25:X:136:GLY:N	2.47	0.47
26:Y:25:ARG:NH1	38:Y:3861:HOH:O	2.47	0.47
1:A:1139:U:H2'	1:A:1140:C:H6	1.80	0.47
1:A:2405:C:H5'	38:A:6086:HOH:O	2.13	0.47
1:A:2464:C:H5''	1:A:2465:A:OP1	2.14	0.47
1:A:2718:C:H6	1:A:2718:C:H5'	1.80	0.47
5:D:43:GLY:O	5:D:308:LEU:HD12	2.14	0.47
5:D:132:HIS:HB2	5:D:137:LEU:HD22	1.96	0.47
5:D:140:LEU:HD13	5:D:175:LEU:HA	1.97	0.47
7:F:142:ALA:HA	7:F:149:ARG:O	2.15	0.47
13:L:109:LEU:HD13	13:L:113:ILE:HD11	1.95	0.47
14:M:53:ARG:HH22	14:M:57:VAL:HG12	1.79	0.47
14:M:134:GLU:HA	14:M:138:GLY:O	2.14	0.47
15:N:32:ARG:NH2	38:N:8604:HOH:O	2.47	0.47
15:N:42:ARG:HA	15:N:43:PRO:HD3	1.79	0.47
16:O:43:VAL:O	16:O:43:VAL:HG12	2.13	0.47
18:Q:22:TRP:CH2	18:Q:24:ASN:HA	2.50	0.47
30:3:24:TRP:NE1	38:3:6863:HOH:O	2.46	0.47
1:A:377:C:H5	38:A:9815:HOH:O	1.98	0.47
1:A:695:C:H2'	1:A:696:C:C6	2.50	0.47
1:A:1505:U:H5'	1:A:1505:U:C6	2.44	0.47
1:A:1909:A:N1	1:A:2128:G:H1'	2.29	0.47
1:A:2270:G:H4'	4:C:223:ARG:NH1	2.29	0.47
38:A:5956:HOH:O	5:D:27:ASN:HB3	2.14	0.47
2:B:3049:G:O2'	2:B:3050:G:H5'	2.14	0.47
2:B:3059:C:H2'	2:B:3060:C:C6	2.50	0.47
4:C:129:LEU:CD1	4:C:145:MET:HE1	2.45	0.47
4:C:135:VAL:HG11	4:C:147:ARG:NH2	2.30	0.47
7:F:25:MET:HE1	7:F:37:ALA:O	2.14	0.47
7:F:41:LEU:O	7:F:44:ILE:HG22	2.15	0.47
8:G:10:ASP:HA	38:G:3707:HOH:O	2.14	0.47
9:H:21:GLU:O	9:H:24:ARG:CG	2.63	0.47
11:J:83:PHE:HE1	11:J:146:TRP:CZ2	2.32	0.47
13:L:28:GLU:HG2	13:L:58:THR:HB	1.96	0.47
13:L:103:ASP:O	13:L:104:PRO:C	2.56	0.47
15:N:55:LYS:O	15:N:60:ILE:HD12	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:166:ALA:HA	15:N:169:ARG:NH1	2.30	0.47
19:R:66:LYS:HB2	19:R:70:ALA:O	2.14	0.47
20:S:29:LYS:HD3	38:S:8531:HOH:O	2.14	0.47
22:U:19:ARG:NH1	22:U:68:ASP:O	2.48	0.47
22:U:89:ARG:C	22:U:89:ARG:HD2	2.39	0.47
25:X:7:LEU:HD12	25:X:53:ALA:HB2	1.97	0.47
25:X:122:ARG:HH11	25:X:122:ARG:CG	2.23	0.47
26:Y:22:ASN:C	26:Y:24:LYS:H	2.23	0.47
30:3:40:ARG:HG3	30:3:45:ASN:HB2	1.97	0.47
31:4:15:ASN:ND2	38:4:8545:HOH:O	2.47	0.47
1:A:949:U:O2'	19:R:40:HIS:HE1	1.98	0.47
1:A:1172:G:H5''	38:A:6752:HOH:O	2.13	0.47
1:A:1393:A:H2'	1:A:1394:C:C6	2.50	0.47
1:A:2506:A:H1'	38:A:3257:HOH:O	2.13	0.47
5:D:279:THR:HG22	5:D:280:VAL:N	2.29	0.47
16:O:37:ARG:CZ	38:O:8534:HOH:O	2.62	0.47
20:S:92:LEU:HD23	20:S:145:LEU:HD21	1.97	0.47
26:Y:85:VAL:HG12	26:Y:86:GLU:N	2.28	0.47
28:1:31:ILE:HG23	28:1:32:LYS:N	2.30	0.47
30:3:22:PRO:HG2	30:3:25:VAL:CG2	2.43	0.47
1:A:522:U:O2'	1:A:1366:C:H5'	2.14	0.47
1:A:825:U:H5''	1:A:826:U:OP1	2.15	0.47
1:A:1180:U:H2'	1:A:1181:A:O4'	2.15	0.47
1:A:1269:G:H2'	1:A:1270:U:C6	2.49	0.47
1:A:1641:A:C2'	1:A:1642:A:H5'	2.43	0.47
1:A:2251:G:H4'	38:A:6900:HOH:O	2.14	0.47
38:A:5744:HOH:O	23:V:56:ARG:HD3	2.14	0.47
38:A:7169:HOH:O	15:N:154:ARG:HB2	2.14	0.47
38:A:9077:HOH:O	5:D:267:LYS:HD3	2.14	0.47
5:D:60:SER:C	5:D:62:ARG:N	2.72	0.47
7:F:19:GLU:O	7:F:133:ASN:HB3	2.14	0.47
7:F:65:GLU:HA	38:F:6752:HOH:O	2.14	0.47
7:F:167:GLU:C	7:F:169:THR:H	2.23	0.47
7:F:167:GLU:OE2	7:F:173:GLU:HG2	2.14	0.47
9:H:28:ALA:HB3	9:H:99:THR:O	2.15	0.47
10:I:12:ILE:HG22	10:I:12:ILE:O	2.14	0.47
13:L:75:ARG:CZ	38:L:4172:HOH:O	2.62	0.47
15:N:38:VAL:O	15:N:38:VAL:HG12	2.14	0.47
16:O:97:VAL:HG12	16:O:127:LEU:HD11	1.97	0.47
16:O:184:ILE:HG22	16:O:185:GLU:HG3	1.97	0.47
17:P:49:GLU:HG2	38:P:5191:HOH:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:R:30:VAL:O	19:R:30:VAL:HG12	2.15	0.47
25:X:29:VAL:O	25:X:30:ASN:HB2	2.14	0.47
26:Y:76:ARG:O	26:Y:77:PHE:HB3	2.15	0.47
1:A:772:G:H2'	1:A:773:A:O4'	2.14	0.47
1:A:1268:C:H2'	1:A:1269:G:C8	2.50	0.47
1:A:1380:U:H5'	38:A:8733:HOH:O	2.14	0.47
1:A:1434:A:H2'	1:A:1436:C:C5	2.49	0.47
1:A:1805:G:H2'	1:A:1806:G:H8	1.79	0.47
4:C:9:ARG:HG2	4:C:16:PHE:CD2	2.49	0.47
5:D:41:PHE:HA	5:D:79:MET:HE2	1.96	0.47
7:F:23:VAL:HG22	7:F:73:VAL:HB	1.97	0.47
8:G:23:GLU:HG2	8:G:28:SER:CB	2.44	0.47
10:I:71:LEU:C	10:I:73:ASP:N	2.72	0.47
11:J:45:GLN:CB	11:J:163:PRO:HD2	2.23	0.47
13:L:113:ILE:HG22	13:L:114:ALA:O	2.14	0.47
14:M:90:ARG:NH2	14:M:121:ILE:HD11	2.30	0.47
27:Z:205:ILE:O	27:Z:206:ALA:C	2.55	0.47
1:A:251:C:H4'	15:N:140:ALA:HB2	1.98	0.46
1:A:316:A:N3	1:A:336:G:O2'	2.48	0.46
1:A:1191:A:C3'	1:A:1192:A:H5''	2.40	0.46
1:A:1427:A:H61	1:A:1440:U:H1'	1.81	0.46
1:A:2101:A:H5''	6:E:63:SER:HB3	1.96	0.46
1:A:2694:A:H5''	8:G:90:HIS:CE1	2.50	0.46
38:A:4570:HOH:O	5:D:216:LYS:HA	2.14	0.46
6:E:154:VAL:O	6:E:158:GLU:HG3	2.14	0.46
8:G:172:PRO:HB3	38:G:6931:HOH:O	2.14	0.46
9:H:47:LEU:HD22	9:H:108:LEU:CD1	2.45	0.46
12:K:74:ARG:NH1	12:K:76:ASP:HB2	2.29	0.46
13:L:101:ASN:HB2	13:L:103:ASP:OD2	2.16	0.46
15:N:59:GLY:HA3	15:N:141:ILE:HD12	1.96	0.46
19:R:93:ARG:HG3	19:R:93:ARG:NH1	2.29	0.46
22:U:71:VAL:HG12	22:U:72:ILE:N	2.29	0.46
1:A:182:G:O3'	15:N:157:LEU:CD1	2.62	0.46
1:A:338:C:H4'	6:E:174:ILE:HD12	1.96	0.46
1:A:474:C:O3'	6:E:73:LEU:CD2	2.63	0.46
1:A:558:C:H5'	38:A:4750:HOH:O	2.14	0.46
1:A:652:G:H8	38:A:9520:HOH:O	1.97	0.46
1:A:1181:A:O2'	1:A:1182:C:H5'	2.16	0.46
1:A:2403:C:H3'	38:A:4701:HOH:O	2.13	0.46
5:D:198:GLU:HB3	38:D:8597:HOH:O	2.14	0.46
5:D:243:ASN:HA	5:D:244:PRO:C	2.39	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:23:VAL:O	7:F:23:VAL:CG2	2.63	0.46
12:K:131:THR:HG22	12:K:133:GLY:N	2.30	0.46
13:L:98:VAL:HG13	13:L:102:GLU:HA	1.98	0.46
16:O:93:GLN:HG2	38:O:8557:HOH:O	2.15	0.46
18:Q:8:ARG:HG3	38:Q:193:HOH:O	2.13	0.46
22:U:43:ASN:C	22:U:45:GLY:H	2.23	0.46
27:Z:196:VAL:CG1	27:Z:226:ILE:HD13	2.45	0.46
28:1:32:LYS:NZ	28:1:70:GLN:NE2	2.63	0.46
29:2:25:LYS:HG3	30:3:49:GLU:H	1.79	0.46
1:A:106:A:H2'	1:A:107:U:O4'	2.16	0.46
1:A:250:C:O2'	1:A:251:C:H5'	2.15	0.46
1:A:333:G:O2'	1:A:334:G:H5'	2.16	0.46
1:A:1154:A:H2'	1:A:1155:G:H8	1.81	0.46
1:A:1523:G:H2'	1:A:1524:U:C6	2.50	0.46
1:A:2507:G:H5'	38:A:3257:HOH:O	2.15	0.46
1:A:2866:U:H4'	1:A:2867:G:H5'	1.97	0.46
2:B:3042:C:H2'	38:B:8500:HOH:O	2.15	0.46
4:C:1:GLY:N	38:C:8604:HOH:O	2.48	0.46
5:D:24:PRO:HG2	5:D:204:GLY:HA2	1.96	0.46
5:D:189:ALA:HB1	38:D:8568:HOH:O	2.14	0.46
7:F:52:THR:HB	7:F:70:GLY:O	2.15	0.46
7:F:169:THR:C	7:F:170:TYR:HD1	2.23	0.46
9:H:37:THR:O	9:H:41:GLU:HG3	2.15	0.46
11:J:75:SER:HB3	11:J:79:ALA:HB1	1.96	0.46
11:J:126:HIS:O	11:J:127:GLY:C	2.59	0.46
1:A:289:G:O2'	1:A:290:C:H5'	2.15	0.46
1:A:558:C:C2'	1:A:559:U:C5'	2.93	0.46
1:A:1236:A:H2'	1:A:1237:U:O4'	2.15	0.46
1:A:1299:G:N2	38:A:4181:HOH:O	2.48	0.46
1:A:1589:G:H4'	38:A:6347:HOH:O	2.14	0.46
2:B:3069:U:OP1	16:O:4:PRO:HG3	2.15	0.46
4:C:39:ALA:HB3	4:C:61:GLU:OE2	2.15	0.46
6:E:180:SER:HB2	38:E:8449:HOH:O	2.15	0.46
7:F:49:PRO:HA	7:F:73:VAL:HG22	1.98	0.46
11:J:59:ASN:N	11:J:59:ASN:ND2	2.54	0.46
15:N:59:GLY:HA3	15:N:141:ILE:CD1	2.45	0.46
27:Z:234:VAL:HG12	27:Z:235:GLU:N	2.31	0.46
1:A:329:A:OP1	6:E:205:ARG:NE	2.45	0.46
1:A:1053:G:OP1	11:J:12:PRO:HG3	2.15	0.46
1:A:1699:C:H4'	38:A:5932:HOH:O	2.14	0.46
1:A:1746:A:O4'	1:A:1747:A:C2	2.68	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1819:G:H2'	1:A:1820:G:C5'	2.46	0.46
38:A:9665:HOH:O	8:G:57:LYS:HE2	2.16	0.46
2:B:3012:C:H5'	2:B:3070:U:O4'	2.15	0.46
7:F:59:GLY:C	7:F:61:PHE:N	2.74	0.46
9:H:56:PRO:HG2	15:N:43:PRO:O	2.16	0.46
11:J:134:ALA:HB3	11:J:142:VAL:HG21	1.96	0.46
14:M:17:SER:C	14:M:19:LYS:H	2.24	0.46
14:M:80:ASP:HB2	14:M:90:ARG:O	2.14	0.46
20:S:8:ALA:CB	20:S:13:THR:HG21	2.41	0.46
1:A:407:A:H5'	38:A:5517:HOH:O	2.15	0.46
1:A:1874:U:OP1	4:C:51:ARG:HD2	2.16	0.46
5:D:195:ARG:HD2	5:D:324:ASP:OD1	2.15	0.46
7:F:54:ALA:HB3	7:F:69:ILE:HD12	1.95	0.46
8:G:31:ARG:HH12	8:G:68:HIS:CE1	2.32	0.46
11:J:39:GLY:O	11:J:41:THR:N	2.49	0.46
16:O:82:TYR:C	16:O:82:TYR:CD2	2.94	0.46
16:O:114:LYS:O	16:O:117:ALA:HB3	2.16	0.46
18:Q:103:THR:O	18:Q:107:GLU:HG3	2.15	0.46
20:S:39:THR:HB	20:S:42:GLU:CG	2.45	0.46
25:X:4:LEU:CD2	25:X:54:PHE:HB3	2.43	0.46
27:Z:126:PRO:HG2	27:Z:128:PHE:CE1	2.50	0.46
1:A:65:C:O2'	1:A:66:G:H5'	2.15	0.46
1:A:484:A:N1	1:A:506:G:H4'	2.31	0.46
1:A:711:G:N2	1:A:718:C:C2	2.83	0.46
1:A:1819:G:H2'	1:A:1820:G:C4'	2.46	0.46
1:A:2549:C:H4'	38:A:7012:HOH:O	2.14	0.46
38:A:3355:HOH:O	11:J:11:LYS:HE2	2.16	0.46
2:B:3020:G:H3'	38:B:8432:HOH:O	2.15	0.46
9:H:48:VAL:HG23	9:H:74:PHE:CB	2.46	0.46
9:H:78:GLU:HG3	38:H:5966:HOH:O	2.16	0.46
11:J:83:PHE:CZ	11:J:146:TRP:NE1	2.81	0.46
12:K:107:ASN:HD22	12:K:109:TYR:H	1.63	0.46
13:L:53:ILE:HG13	13:L:55:VAL:CG2	2.45	0.46
15:N:35:PRO:CD	15:N:38:VAL:HG23	2.46	0.46
1:A:671:A:O2'	1:A:672:G:H2'	2.16	0.46
1:A:816:G:H5'	1:A:1598:A:H4'	1.97	0.46
1:A:2890:A:H1'	23:V:56:ARG:HH21	1.77	0.46
6:E:234:VAL:O	6:E:234:VAL:HG22	2.16	0.46
7:F:23:VAL:HG23	7:F:41:LEU:HD22	1.98	0.46
7:F:92:GLU:O	7:F:93:LEU:O	2.33	0.46
9:H:46:GLU:N	38:H:3461:HOH:O	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:101:ALA:HB2	9:H:108:LEU:CD2	2.46	0.46
11:J:47:GLU:HG2	11:J:133:ILE:CD1	2.46	0.46
11:J:143:GLU:N	38:J:8381:HOH:O	2.47	0.46
12:K:107:ASN:HD22	12:K:108:PRO:N	2.14	0.46
13:L:14:LYS:CB	13:L:45:PRO:HG2	2.37	0.46
16:O:69:TYR:HE2	16:O:183:ASP:OD2	1.99	0.46
16:O:151:ASP:HB3	38:O:8528:HOH:O	2.15	0.46
18:Q:36:THR:O	18:Q:39:ASP:HB2	2.15	0.46
1:A:585:C:H6	38:A:5588:HOH:O	1.97	0.46
1:A:621:C:H5'	27:Z:132:ASP:OD2	2.16	0.46
1:A:681:G:H1'	1:A:683:G:O6	2.16	0.46
1:A:705:C:O2	1:A:705:C:H2'	2.16	0.46
1:A:2559:C:H4'	38:A:6749:HOH:O	2.14	0.46
2:B:3029:C:C2'	2:B:3030:C:H5'	2.46	0.46
6:E:27:ARG:HD2	17:P:5:PRO:HD2	1.97	0.46
11:J:118:PRO:HD2	38:J:8339:HOH:O	2.14	0.46
11:J:137:ASN:O	11:J:138:PRO:C	2.58	0.46
13:L:99:ASP:C	13:L:99:ASP:OD1	2.58	0.46
13:L:109:LEU:CD1	13:L:113:ILE:HD11	2.46	0.46
14:M:73:VAL:HG23	14:M:74:THR:H	1.81	0.46
15:N:99:ARG:HD2	15:N:167:GLY:HA2	1.97	0.46
15:N:114:VAL:HG21	15:N:159:THR:HG21	1.97	0.46
27:Z:106:THR:HG22	27:Z:107:PRO:O	2.16	0.46
27:Z:235:GLU:CD	27:Z:235:GLU:N	2.70	0.46
31:4:11:CYS:HB2	31:4:20:HIS:NE2	2.30	0.46
1:A:240:C:O2	1:A:240:C:H2'	2.15	0.46
1:A:514:G:N2	38:A:3588:HOH:O	2.48	0.46
1:A:719:C:O2'	17:P:112:ARG:NH2	2.48	0.46
1:A:790:A:H2'	1:A:791:A:O4'	2.16	0.46
1:A:1056:U:H2'	1:A:1057:A:O4'	2.16	0.46
1:A:1654:U:H2'	4:C:47:HIS:CD2	2.48	0.46
1:A:2316:G:H4'	38:A:5585:HOH:O	2.15	0.46
1:A:2325:C:H2'	1:A:2326:U:C6	2.51	0.46
1:A:2445:U:H2'	1:A:2446:G:H8	1.80	0.46
6:E:102:LEU:HD12	38:E:8315:HOH:O	2.16	0.46
16:O:154:LEU:HG	16:O:155:GLU:H	1.80	0.46
18:Q:103:THR:O	18:Q:106:ARG:HB3	2.16	0.46
20:S:132:ARG:CZ	38:S:8583:HOH:O	2.64	0.46
25:X:126:ASP:HB3	25:X:135:GLY:O	2.16	0.46
27:Z:144:ARG:CZ	38:Z:8608:HOH:O	2.64	0.46
1:A:297:U:H1'	38:A:3447:HOH:O	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:371:U:H2'	1:A:372:A:C8	2.50	0.45
1:A:1162:G:H2'	38:A:6073:HOH:O	2.15	0.45
1:A:2090:G:H2'	1:A:2091:G:C8	2.51	0.45
1:A:2413:A:N7	16:O:109:PRO:HB3	2.31	0.45
5:D:104:GLU:HG3	38:D:8594:HOH:O	2.15	0.45
6:E:57:PRO:HD2	6:E:73:LEU:HD22	1.98	0.45
7:F:128:LEU:HD23	7:F:128:LEU:C	2.42	0.45
11:J:46:VAL:CG1	11:J:146:TRP:HZ3	2.28	0.45
11:J:49:VAL:C	11:J:157:ILE:HG23	2.39	0.45
15:N:35:PRO:HD2	15:N:38:VAL:HG21	1.98	0.45
25:X:122:ARG:CZ	38:X:5817:HOH:O	2.62	0.45
1:A:707:C:C2	1:A:708:A:C8	3.04	0.45
1:A:737:A:H2'	1:A:738:G:O4'	2.16	0.45
1:A:1167:G:O2'	1:A:1168:C:H5'	2.15	0.45
1:A:1594:C:O2'	1:A:1607:A:H4'	2.16	0.45
1:A:1804:A:H2'	1:A:1805:G:C8	2.50	0.45
1:A:1883:U:O2'	1:A:1884:G:H5'	2.16	0.45
1:A:1890:U:H4'	1:A:2010:A:C6	2.52	0.45
1:A:2473:U:O3'	1:A:2474:A:H3'	2.16	0.45
2:B:3039:U:H3'	2:B:3040:C:H5''	1.98	0.45
2:B:3114:G:H2'	2:B:3115:C:C6	2.52	0.45
5:D:14:GLY:HA2	5:D:15:PRO:C	2.40	0.45
5:D:141:ARG:HG2	5:D:165:ARG:HA	1.99	0.45
5:D:313:PRO:O	5:D:314:ALA:C	2.59	0.45
12:K:36:VAL:HG12	12:K:37:ALA:N	2.31	0.45
14:M:90:ARG:HG3	14:M:119:THR:CG2	2.46	0.45
15:N:65:VAL:CG2	15:N:105:ALA:HB2	2.46	0.45
17:P:14:LEU:HG	17:P:102:ILE:HD11	1.98	0.45
17:P:77:ALA:HA	17:P:96:VAL:O	2.16	0.45
18:Q:131:PHE:CE1	18:Q:137:LEU:HD13	2.51	0.45
26:Y:25:ARG:O	26:Y:26:ALA:C	2.57	0.45
1:A:88:G:N3	30:3:24:TRP:HB2	2.31	0.45
1:A:92:G:H4'	24:W:44:GLY:HA3	1.98	0.45
1:A:1064:U:H2'	1:A:1065:G:C8	2.52	0.45
1:A:1269:G:H2'	1:A:1270:U:H6	1.81	0.45
1:A:1855:G:H8	4:C:144:GLU:OE2	2.00	0.45
1:A:2361:A:H5'	1:A:2361:A:H8	1.82	0.45
5:D:195:ARG:NH1	5:D:324:ASP:OD1	2.43	0.45
15:N:181:GLU:OE1	15:N:181:GLU:N	2.41	0.45
16:O:184:ILE:HG22	16:O:185:GLU:N	2.31	0.45
21:T:25:GLN:HG2	21:T:65:VAL:HG22	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:V:6:CYS:C	23:V:8:TYR:N	2.74	0.45
25:X:54:PHE:CZ	25:X:140:LYS:HB2	2.50	0.45
1:A:215:A:OP1	14:M:52:LYS:NZ	2.49	0.45
1:A:820:G:C5	4:C:171:LYS:HB2	2.52	0.45
1:A:947:U:H2'	1:A:948:G:C8	2.51	0.45
1:A:1151:G:OP1	10:I:16:LYS:NZ	2.47	0.45
1:A:2382:A:O2'	1:A:2383:G:H5'	2.15	0.45
1:A:2507:G:H2'	1:A:2510:C:H42	1.82	0.45
1:A:2731:G:H2'	1:A:2732:U:O4'	2.17	0.45
1:A:2735:U:H2'	1:A:2736:U:C6	2.51	0.45
1:A:2783:A:H2'	1:A:2784:A:C8	2.52	0.45
6:E:21:VAL:C	6:E:23:GLU:N	2.71	0.45
8:G:84:MET:HB2	8:G:131:LEU:HB2	1.98	0.45
11:J:46:VAL:HG12	11:J:146:TRP:CZ3	2.43	0.45
16:O:47:LEU:HD12	16:O:92:ALA:CB	2.47	0.45
22:U:16:LEU:HA	22:U:19:ARG:HG3	1.98	0.45
26:Y:30:MET:CE	26:Y:55:ASN:HA	2.45	0.45
1:A:485:A:O2'	1:A:487:G:H5'	2.16	0.45
1:A:1278:A:H4'	1:A:1279:U:C4	2.52	0.45
1:A:1685:A:H4'	1:A:1686:C:OP2	2.16	0.45
1:A:2831:C:H2'	1:A:2832:C:H5'	1.98	0.45
1:A:2839:C:H2'	1:A:2840:A:H5''	1.98	0.45
5:D:138:GLY:O	5:D:139:ASP:O	2.34	0.45
7:F:64:ARG:O	7:F:67:ASP:OD2	2.34	0.45
13:L:30:LYS:O	13:L:55:VAL:HG13	2.17	0.45
15:N:122:GLU:OE2	15:N:127:LYS:HE2	2.16	0.45
16:O:73:ALA:N	38:O:8567:HOH:O	2.49	0.45
20:S:39:THR:HB	20:S:42:GLU:OE1	2.17	0.45
21:T:6:LYS:O	21:T:7:HIS:HB3	2.16	0.45
25:X:108:ARG:HE	25:X:114:PRO:CG	2.28	0.45
31:4:42:ARG:HH11	31:4:42:ARG:CG	2.29	0.45
1:A:1250:C:O2'	1:A:1251:C:H5'	2.16	0.45
1:A:2911:C:H2'	1:A:2912:C:C6	2.52	0.45
4:C:95:PRO:HA	4:C:153:ARG:HA	1.98	0.45
6:E:236:THR:C	38:E:8451:HOH:O	2.59	0.45
9:H:107:VAL:O	9:H:111:ILE:HG13	2.16	0.45
12:K:6:PHE:O	12:K:8:ALA:N	2.49	0.45
1:A:283:U:H5	1:A:284:C:N4	2.14	0.45
1:A:290:C:O2'	1:A:291:C:H5'	2.16	0.45
1:A:645:U:H2'	1:A:646:G:C8	2.52	0.45
1:A:1634:G:H2'	1:A:1635:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2467:A:H2'	38:A:4948:HOH:O	2.16	0.45
5:D:316:ARG:N	5:D:317:PRO:HD3	2.32	0.45
7:F:27:ILE:CG2	7:F:28:GLY:H	2.20	0.45
8:G:107:PHE:CZ	8:G:108:LEU:HD13	2.51	0.45
11:J:72:VAL:O	11:J:72:VAL:HG13	2.16	0.45
11:J:136:VAL:HG23	38:J:8343:HOH:O	2.17	0.45
13:L:30:LYS:C	13:L:55:VAL:HG13	2.42	0.45
15:N:159:THR:HA	38:N:8519:HOH:O	2.16	0.45
18:Q:10:ALA:HA	18:Q:13:VAL:CG1	2.45	0.45
1:A:64:G:H2'	1:A:65:C:O4'	2.17	0.45
1:A:241:A:N1	1:A:378:A:H4'	2.32	0.45
1:A:1450:C:C4'	1:A:1451:C:OP2	2.59	0.45
1:A:1973:A:C2'	1:A:1974:G:O5'	2.65	0.45
1:A:2900:G:H2'	1:A:2901:C:O4'	2.17	0.45
38:A:3805:HOH:O	27:Z:208:LYS:HD2	2.16	0.45
38:A:9859:HOH:O	19:R:16:ASN:HB2	2.16	0.45
4:C:96:LEU:HD22	4:C:128:LEU:HD13	1.99	0.45
5:D:147:VAL:O	5:D:147:VAL:HG12	2.17	0.45
11:J:26:LYS:HD2	11:J:28:ILE:CG1	2.47	0.45
17:P:25:VAL:HG23	17:P:26:TRP:N	2.31	0.45
19:R:75:ILE:CD1	19:R:84:ILE:HD11	2.47	0.45
21:T:11:THR:H	21:T:14:ALA:HB3	1.80	0.45
27:Z:154:ARG:O	27:Z:154:ARG:HG2	2.16	0.45
28:1:73:THR:O	28:1:76:GLY:N	2.50	0.45
29:2:26:SER:HB3	29:2:35:SER:OG	2.17	0.45
1:A:290:C:H2'	1:A:291:C:O4'	2.17	0.45
1:A:1444:G:O2'	1:A:1445:G:H5'	2.16	0.45
1:A:2326:U:H4'	1:A:2412:G:C4'	2.47	0.45
1:A:2455:A:H2'	1:A:2456:A:O4'	2.17	0.45
1:A:2594:C:O2'	1:A:2595:U:H5'	2.16	0.45
1:A:2754:G:H2'	1:A:2755:G:O4'	2.17	0.45
2:B:3041:C:H4'	7:F:48:MET:HB2	1.99	0.45
4:C:170:VAL:HG13	28:1:22:ILE:HG21	1.99	0.45
5:D:280:VAL:HG13	5:D:334:SER:HA	1.98	0.45
6:E:139:VAL:CG1	38:E:8451:HOH:O	2.62	0.45
8:G:32:ARG:O	8:G:33:LEU:HD23	2.17	0.45
18:Q:141:ILE:C	18:Q:143:ALA:H	2.25	0.45
19:R:25:PRO:HA	19:R:26:PRO:HD3	1.79	0.45
22:U:38:ARG:HH11	22:U:38:ARG:HG3	1.81	0.45
24:W:45:ARG:C	24:W:47:LYS:N	2.73	0.45
28:1:33:HIS:HE1	28:1:49:ARG:NE	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:2:44:LYS:NZ	38:2:8462:HOH:O	2.50	0.45
1:A:162:C:H2'	1:A:163:U:H5'	1.99	0.45
1:A:177:A:H2'	1:A:178:U:O4'	2.17	0.45
1:A:314:G:N2	1:A:316:A:H3'	2.31	0.45
1:A:318:C:H5'	1:A:339:A:C2	2.51	0.45
1:A:447:A:O2'	1:A:448:G:H5'	2.17	0.45
1:A:462:A:C2	30:3:37:HIS:HB3	2.52	0.45
1:A:716:G:C2'	1:A:717:C:O5'	2.65	0.45
1:A:920:C:H5'	1:A:921:G:C4	2.52	0.45
1:A:1681:G:H5''	1:A:1682:A:H5'	1.98	0.45
1:A:1805:G:O2'	1:A:1806:G:H5'	2.17	0.45
1:A:2909:G:O2'	1:A:2910:A:H5'	2.17	0.45
12:K:92:GLN:HB3	38:K:1405:HOH:O	2.16	0.45
15:N:164:THR:CG2	15:N:167:GLY:H	2.18	0.45
16:O:162:ASP:HB3	16:O:163:PHE:H	1.58	0.45
18:Q:13:VAL:HG11	18:Q:40:VAL:HG11	1.98	0.45
18:Q:16:VAL:HG12	18:Q:20:ARG:HB2	1.98	0.45
1:A:218:C:C5	1:A:220:C:C4	3.05	0.44
1:A:538:C:H5''	1:A:539:G:C8	2.52	0.44
1:A:553:G:O4'	1:A:1325:G:H5'	2.17	0.44
1:A:584:U:H3'	38:A:5588:HOH:O	2.16	0.44
1:A:1189:A:H3'	38:A:7170:HOH:O	2.16	0.44
1:A:1803:C:H2'	1:A:1804:A:C8	2.52	0.44
1:A:2716:G:O2'	1:A:2717:C:H5'	2.17	0.44
1:A:2831:C:H2'	1:A:2832:C:C5'	2.47	0.44
5:D:304:PRO:HD2	5:D:307:ARG:NH1	2.32	0.44
11:J:47:GLU:CB	11:J:133:ILE:CD1	2.90	0.44
13:L:22:ASP:OD1	13:L:22:ASP:C	2.60	0.44
17:P:26:TRP:HB2	38:P:3062:HOH:O	2.16	0.44
24:W:1:THR:O	24:W:3:LEU:N	2.49	0.44
27:Z:103:THR:HG22	27:Z:104:GLU:OE2	2.17	0.44
1:A:745:G:O6	17:P:68:GLY:HA3	2.17	0.44
1:A:2329:C:O2'	1:A:2330:U:H5'	2.18	0.44
1:A:2761:A:C4	1:A:2763:G:C8	3.06	0.44
5:D:42:ALA:HB1	5:D:308:LEU:HD11	1.97	0.44
8:G:11:VAL:HG11	8:G:22:VAL:HG13	1.99	0.44
8:G:93:MET:HE1	8:G:165:GLY:H	1.81	0.44
11:J:84:ARG:CZ	11:J:135:TRP:CH2	3.00	0.44
13:L:24:THR:HB	13:L:64:MET:HE2	1.98	0.44
15:N:182:LYS:HB2	15:N:194:ALA:HB2	2.00	0.44
16:O:67:ALA:HA	16:O:71:TRP:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:P:105:ASN:O	17:P:105:ASN:CG	2.59	0.44
1:A:553:G:P	27:Z:204:ARG:NH2	2.89	0.44
1:A:710:G:N2	1:A:719:C:C2	2.85	0.44
1:A:1119:G:N2	1:A:1246:A:H2	2.14	0.44
1:A:1943:C:O4'	4:C:212:PRO:HA	2.16	0.44
38:A:8976:HOH:O	20:S:83:LYS:HD3	2.18	0.44
5:D:268:ARG:NE	38:D:8609:HOH:O	2.50	0.44
5:D:304:PRO:CG	5:D:307:ARG:NH1	2.80	0.44
7:F:25:MET:SD	7:F:40:ILE:HD11	2.57	0.44
8:G:85:GLU:HG3	8:G:169:THR:OG1	2.17	0.44
8:G:108:LEU:HD11	8:G:164:ASP:HB2	1.99	0.44
9:H:26:THR:HB	9:H:102:GLY:C	2.42	0.44
9:H:58:GLU:OE1	15:N:27:ARG:NH2	2.38	0.44
9:H:100:ASP:HB3	38:H:5691:HOH:O	2.17	0.44
18:Q:101:GLN:HG3	38:Q:163:HOH:O	2.18	0.44
20:S:125:ARG:HG2	38:S:8542:HOH:O	2.16	0.44
1:A:396:U:O2'	1:A:418:C:H4'	2.17	0.44
1:A:441:A:H1'	1:A:442:A:N7	2.33	0.44
1:A:517:U:C2'	1:A:518:G:H5'	2.47	0.44
1:A:2502:C:H2'	1:A:2503:A:C5'	2.45	0.44
1:A:2590:U:O2	3:5:74:C:C2	2.71	0.44
4:C:36:ASP:HB2	4:C:85:ASP:H	1.82	0.44
6:E:77:ALA:O	6:E:78:ARG:HG3	2.17	0.44
7:F:55:LYS:O	7:F:56:ARG:HB2	2.18	0.44
9:H:26:THR:HG21	9:H:103:ALA:CB	2.47	0.44
12:K:46:ILE:HD11	12:K:53:ILE:HG23	1.98	0.44
13:L:34:VAL:CG2	13:L:47:ALA:HB2	2.48	0.44
13:L:72:VAL:O	13:L:95:ALA:HA	2.17	0.44
13:L:98:VAL:HG13	13:L:99:ASP:N	2.31	0.44
14:M:57:VAL:HG12	14:M:57:VAL:O	2.17	0.44
21:T:8:PRO:HD2	24:W:32:ALA:HA	1.98	0.44
23:V:49:LEU:HD11	38:V:3805:HOH:O	2.18	0.44
24:W:39:ALA:C	24:W:41:GLU:N	2.76	0.44
1:A:911:G:H5'	1:A:932:U:OP1	2.17	0.44
1:A:1209:C:H2'	1:A:1210:G:C8	2.52	0.44
1:A:1365:C:H4'	38:A:4109:HOH:O	2.17	0.44
1:A:1439:C:H5''	30:3:41:HIS:HE1	1.82	0.44
1:A:1762:C:H2'	1:A:1763:C:C6	2.53	0.44
1:A:2266:A:H2'	1:A:2267:G:C8	2.53	0.44
1:A:2776:A:H2'	1:A:2777:G:O4'	2.17	0.44
1:A:2815:G:H4'	1:A:2816:A:OP2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2909:G:H2'	1:A:2910:A:H8	1.83	0.44
4:C:105:VAL:HG13	4:C:155:THR:O	2.18	0.44
6:E:76:ARG:HD2	38:E:8438:HOH:O	2.17	0.44
9:H:99:THR:O	9:H:100:ASP:HB2	2.17	0.44
16:O:42:HIS:CG	16:O:62:HIS:HE1	2.35	0.44
16:O:154:LEU:HG	16:O:155:GLU:N	2.32	0.44
25:X:149:LEU:CG	25:X:153:MET:HE2	2.29	0.44
27:Z:102:LEU:O	27:Z:227:ARG:HG3	2.17	0.44
1:A:68:U:O2'	1:A:69:A:H5''	2.18	0.44
1:A:1496:G:H5'	1:A:1572:A:H1'	2.00	0.44
1:A:1641:A:H2'	1:A:1642:A:C5'	2.43	0.44
1:A:2107:U:O2'	1:A:2108:A:H5'	2.18	0.44
1:A:2729:C:O2'	1:A:2730:G:H5'	2.18	0.44
2:B:3056:A:H1'	7:F:14:ARG:HG2	1.99	0.44
5:D:49:THR:CG2	5:D:280:VAL:CG2	2.96	0.44
7:F:18:ILE:HD13	7:F:84:LEU:CD1	2.48	0.44
7:F:35:ALA:HB2	38:F:5858:HOH:O	2.18	0.44
7:F:170:TYR:N	7:F:170:TYR:CD1	2.86	0.44
8:G:9:GLU:HA	38:G:5240:HOH:O	2.17	0.44
9:H:60:VAL:HG13	9:H:63:ILE:HG13	2.00	0.44
11:J:84:ARG:CZ	11:J:135:TRP:HH2	2.30	0.44
14:M:34:GLY:C	14:M:36:ASP:H	2.26	0.44
16:O:152:GLU:C	16:O:154:LEU:N	2.74	0.44
24:W:12:THR:O	24:W:13:PRO:C	2.61	0.44
24:W:55:ARG:O	24:W:59:ILE:HG12	2.18	0.44
1:A:119:A:H2'	1:A:120:A:H5''	1.98	0.44
1:A:155:C:OP2	15:N:188:ARG:HD3	2.18	0.44
1:A:611:U:H6	1:A:611:U:O5'	2.01	0.44
1:A:639:A:H2'	1:A:640:G:C8	2.52	0.44
1:A:677:C:P	38:E:8461:HOH:O	2.76	0.44
1:A:1007:A:H2'	11:J:19:TYR:CZ	2.53	0.44
1:A:1453:G:N2	1:A:1675:C:C2	2.85	0.44
1:A:2000:G:O2'	1:A:2001:G:H5'	2.18	0.44
6:E:162:VAL:HG12	6:E:162:VAL:O	2.18	0.44
7:F:23:VAL:HG12	7:F:130:VAL:HG22	1.99	0.44
11:J:35:ASN:ND2	11:J:79:ALA:O	2.51	0.44
11:J:71:TYR:C	11:J:73:GLN:N	2.73	0.44
11:J:139:ASP:CG	11:J:139:ASP:O	2.61	0.44
15:N:25:TRP:HE3	15:N:26:HIS:HD2	1.64	0.44
15:N:37:VAL:CG2	15:N:108:LYS:HG3	2.46	0.44
16:O:22:GLN:HG2	16:O:26:LEU:HD22	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:189:A:OP1	15:N:171:ARG:NH2	2.51	0.44
1:A:240:C:C5'	15:N:146:GLN:NE2	2.81	0.44
1:A:514:G:H8	1:A:514:G:O5'	2.00	0.44
1:A:960:G:N3	1:A:960:G:C2'	2.80	0.44
1:A:1236:A:C2'	1:A:1237:U:H5'	2.48	0.44
1:A:1603:A:H5''	1:A:1605:G:H5'	1.99	0.44
1:A:1635:U:O2'	1:A:1636:G:H5'	2.17	0.44
1:A:2348:C:C5'	7:F:22:VAL:HG21	2.48	0.44
38:A:8593:HOH:O	5:D:214:PRO:HD2	2.17	0.44
4:C:128:LEU:HG	38:C:8569:HOH:O	2.18	0.44
4:C:192:VAL:O	4:C:192:VAL:CG1	2.65	0.44
5:D:84:LEU:HD23	5:D:178:ALA:HB1	1.99	0.44
5:D:275:GLY:C	5:D:291:ASP:HA	2.43	0.44
6:E:154:VAL:HG13	6:E:163:HIS:CE1	2.52	0.44
7:F:57:THR:HG23	7:F:63:ILE:CB	2.48	0.44
9:H:32:GLY:N	38:H:3111:HOH:O	2.50	0.44
15:N:18:GLY:O	15:N:21:ALA:HB3	2.17	0.44
15:N:84:LYS:O	15:N:87:MET:HG2	2.17	0.44
15:N:115:LEU:HD13	15:N:116:ASN:HB2	2.00	0.44
16:O:7:LYS:HE2	38:O:8514:HOH:O	2.17	0.44
17:P:89:ILE:C	17:P:91:GLN:H	2.26	0.44
21:T:6:LYS:HB2	21:T:27:ALA:O	2.17	0.44
25:X:35:VAL:HA	25:X:36:PRO:HD3	1.76	0.44
28:1:54:ILE:HD12	38:1:8416:HOH:O	2.18	0.44
29:2:10:LYS:N	38:2:8434:HOH:O	2.31	0.44
1:A:1811:A:C2	1:A:2752:C:H1'	2.52	0.44
1:A:2385:G:H2'	1:A:2386:U:H6	1.83	0.44
1:A:2626:C:H2'	1:A:2627:G:C8	2.53	0.44
2:B:3031:C:H2'	2:B:3032:G:O4'	2.18	0.44
5:D:248:ARG:NH2	38:D:8527:HOH:O	2.51	0.44
5:D:278:PRO:HD3	5:D:294:TYR:CZ	2.53	0.44
6:E:49:ASP:HB3	6:E:52:ALA:HB2	2.00	0.44
7:F:139:TYR:N	38:F:3723:HOH:O	2.47	0.44
11:J:85:ILE:HG23	11:J:85:ILE:O	2.18	0.44
20:S:79:ARG:C	20:S:81:PRO:HD3	2.42	0.44
25:X:3:ALA:O	25:X:54:PHE:HA	2.18	0.44
28:1:48:LYS:NZ	38:1:8435:HOH:O	2.51	0.44
31:4:69:TYR:CB	31:4:78:HIS:CE1	3.01	0.44
1:A:90:A:H2'	1:A:91:G:O4'	2.17	0.43
1:A:841:A:OP2	20:S:128:ARG:HD2	2.18	0.43
1:A:2050:G:H5''	20:S:80:TYR:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2506:A:C1'	38:A:5548:HOH:O	2.66	0.43
1:A:2684:A:H2'	1:A:2685:C:H6	1.80	0.43
1:A:2812:A:N7	38:A:7009:HOH:O	2.36	0.43
5:D:180:ASP:O	5:D:181:ILE:C	2.61	0.43
10:I:63:ARG:HB2	10:I:66:LEU:HG	1.99	0.43
13:L:28:GLU:OE2	13:L:58:THR:HG21	2.17	0.43
14:M:61:ALA:HA	38:M:8565:HOH:O	2.17	0.43
30:3:18:ASN:ND2	30:3:40:ARG:H	2.15	0.43
1:A:74:A:H2'	1:A:75:U:C6	2.52	0.43
1:A:1192:A:O2'	1:A:1193:A:OP1	2.35	0.43
1:A:1422:U:H2'	1:A:1423:C:C6	2.52	0.43
1:A:1595:G:O2'	1:A:1596:U:H5'	2.18	0.43
2:B:3093:A:H8	2:B:3093:A:O5'	2.02	0.43
5:D:74:ILE:HG13	38:D:8607:HOH:O	2.18	0.43
5:D:132:HIS:CE1	5:D:171:VAL:HG21	2.53	0.43
6:E:57:PRO:O	6:E:58:ALA:C	2.61	0.43
6:E:127:ARG:NH1	6:E:127:ARG:HG2	2.34	0.43
6:E:168:ARG:NH2	6:E:190:ALA:O	2.51	0.43
13:L:75:ARG:HE	13:L:94:ALA:HB3	1.83	0.43
13:L:78:LYS:HA	13:L:79:PRO:HD3	1.87	0.43
14:M:93:VAL:HG12	14:M:97:VAL:HG23	2.01	0.43
15:N:18:GLY:HA3	38:N:8588:HOH:O	2.17	0.43
15:N:62:VAL:C	15:N:63:VAL:HG23	2.43	0.43
24:W:16:ARG:NH1	24:W:65:ASP:O	2.50	0.43
29:2:8:GLN:HE22	29:2:11:LYS:HZ2	1.65	0.43
1:A:407:A:H8	38:A:3961:HOH:O	2.01	0.43
1:A:844:A:C6	1:A:882:A:C5	3.06	0.43
1:A:1168:C:H5	38:A:6989:HOH:O	2.01	0.43
1:A:1653:A:N6	38:A:3770:HOH:O	2.51	0.43
1:A:2045:G:H2'	1:A:2046:G:O4'	2.19	0.43
1:A:2067:A:H2'	1:A:2068:G:O4'	2.18	0.43
1:A:2740:G:H2'	1:A:2741:A:O4'	2.18	0.43
38:A:3614:HOH:O	5:D:158:LYS:HB2	2.18	0.43
38:A:5852:HOH:O	4:C:205:GLY:HA3	2.18	0.43
7:F:10:PHE:CD1	7:F:11:HIS:N	2.86	0.43
7:F:27:ILE:CG2	7:F:28:GLY:N	2.79	0.43
7:F:38:GLU:HB3	7:F:49:PRO:HG2	2.00	0.43
9:H:100:ASP:O	9:H:101:ALA:O	2.37	0.43
9:H:117:GLU:C	9:H:119:ARG:N	2.76	0.43
11:J:57:ARG:HG3	11:J:57:ARG:NH1	2.33	0.43
13:L:118:ALA:HA	13:L:125:ALA:HB2	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:118:ALA:O	13:L:120:ARG:N	2.51	0.43
14:M:121:ILE:HG12	14:M:141:GLU:HB2	1.99	0.43
14:M:122:ALA:HB3	14:M:125:PHE:CZ	2.54	0.43
21:T:49:VAL:HG13	21:T:66:VAL:HG13	2.00	0.43
25:X:38:THR:HG21	38:X:5390:HOH:O	2.18	0.43
28:1:32:LYS:HE2	28:1:32:LYS:HB3	1.83	0.43
1:A:175:G:C2'	15:N:192:ALA:HB3	2.47	0.43
1:A:2769:C:H2'	1:A:2770:G:C5'	2.48	0.43
38:A:3171:HOH:O	15:N:79:LYS:CD	2.59	0.43
4:C:105:VAL:CG1	4:C:106:CYS:N	2.81	0.43
5:D:240:GLY:HA3	38:D:8530:HOH:O	2.19	0.43
5:D:258:GLY:H	5:D:260:HIS:CE1	2.36	0.43
6:E:200:PRO:HB3	6:E:212:VAL:CG2	2.48	0.43
11:J:31:PHE:HD2	11:J:85:ILE:O	2.01	0.43
11:J:45:GLN:NE2	11:J:135:TRP:HE1	2.11	0.43
14:M:77:ALA:C	14:M:79:ASP:H	2.27	0.43
17:P:14:LEU:CG	17:P:102:ILE:HD11	2.48	0.43
20:S:39:THR:HG22	20:S:42:GLU:HG3	2.00	0.43
22:U:73:HIS:CD2	22:U:88:PRO:CG	3.01	0.43
1:A:138:U:OP2	1:A:139:C:H5	2.01	0.43
1:A:790:A:H1'	1:A:1710:A:H2'	2.00	0.43
1:A:875:A:C2	4:C:194:MET:SD	3.12	0.43
1:A:1289:C:O2'	1:A:1290:G:H5'	2.18	0.43
1:A:1973:A:H5'	1:A:1973:A:H8	1.84	0.43
1:A:2353:A:H4'	1:A:2354:A:O5'	2.17	0.43
4:C:48:ASP:HB3	38:C:8602:HOH:O	2.18	0.43
5:D:129:ARG:O	5:D:133:GLU:HG3	2.18	0.43
6:E:65:ARG:HG3	6:E:67:GLN:HB2	2.01	0.43
6:E:107:ARG:NH2	38:E:8461:HOH:O	2.48	0.43
9:H:48:VAL:HG12	9:H:97:ALA:HB2	2.00	0.43
11:J:29:ALA:N	11:J:62:GLU:OE1	2.40	0.43
11:J:129:ASN:HD22	11:J:129:ASN:N	2.17	0.43
15:N:61:ILE:HD12	15:N:61:ILE:N	2.33	0.43
18:Q:17:GLY:O	18:Q:18:LYS:C	2.62	0.43
19:R:3:SER:HB3	38:R:5998:HOH:O	2.17	0.43
1:A:79:G:H22	1:A:97:G:H1'	1.84	0.43
1:A:192:A:C4'	15:N:176:GLN:HE22	2.32	0.43
1:A:407:A:H2'	1:A:408:A:C8	2.54	0.43
1:A:644:G:H1'	38:A:5897:HOH:O	2.17	0.43
1:A:716:G:H2'	1:A:717:C:O5'	2.19	0.43
1:A:738:G:H3'	38:A:6538:HOH:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1044:C:H5''	38:A:8544:HOH:O	2.18	0.43
1:A:1235:G:C1'	12:K:63:ILE:HG23	2.48	0.43
1:A:1500:U:OP2	18:Q:41:ARG:NH2	2.51	0.43
1:A:1506:U:H6	1:A:1506:U:H5'	1.83	0.43
1:A:1513:C:O2'	1:A:1514:C:H5'	2.18	0.43
1:A:2104:C:O2	1:A:2486:A:C2	2.72	0.43
1:A:2766:A:O2'	1:A:2767:C:H5'	2.18	0.43
2:B:3024:U:C3'	2:B:3025:G:H5'	2.48	0.43
2:B:3060:C:O2'	2:B:3061:C:H5'	2.19	0.43
5:D:41:PHE:HA	5:D:79:MET:CE	2.49	0.43
6:E:40:ALA:O	6:E:43:LYS:HB2	2.19	0.43
7:F:23:VAL:HG21	7:F:45:THR:HG21	2.00	0.43
7:F:41:LEU:C	7:F:44:ILE:HG22	2.43	0.43
7:F:99:ASP:CB	7:F:103:ASN:HB2	2.48	0.43
11:J:93:ILE:O	11:J:119:VAL:HG22	2.17	0.43
22:U:40:VAL:HG22	22:U:41:ARG:N	2.33	0.43
25:X:64:THR:O	25:X:68:THR:HG22	2.18	0.43
26:Y:34:ARG:NH1	26:Y:48:VAL:O	2.49	0.43
28:1:30:GLU:O	28:1:33:HIS:HB3	2.18	0.43
28:1:58:GLY:CA	38:1:8438:HOH:O	2.47	0.43
1:A:450:C:H4'	6:E:46:TYR:CE1	2.53	0.43
1:A:860:U:H2'	1:A:861:A:C8	2.53	0.43
1:A:941:G:C5	1:A:942:U:C4	3.07	0.43
1:A:1051:C:H2'	1:A:1052:G:O4'	2.18	0.43
1:A:1597:A:O4'	18:Q:95:GLU:HG2	2.19	0.43
1:A:1654:U:C6	4:C:47:HIS:CD2	3.07	0.43
1:A:2032:U:P	38:A:4015:HOH:O	2.76	0.43
1:A:2451:G:O2'	31:4:38:ARG:NH2	2.52	0.43
38:A:3263:HOH:O	15:N:108:LYS:HD2	2.18	0.43
6:E:76:ARG:HG2	6:E:78:ARG:NH1	2.34	0.43
6:E:133:ARG:NE	6:E:135:GLU:O	2.52	0.43
8:G:145:ALA:HB1	8:G:168:ILE:HD11	1.99	0.43
11:J:114:PRO:O	11:J:115:PHE:C	2.61	0.43
11:J:149:ALA:C	11:J:151:MET:H	2.26	0.43
12:K:6:PHE:HB3	12:K:109:TYR:OH	2.18	0.43
17:P:44:ASN:CG	17:P:67:SER:HB2	2.43	0.43
21:T:23:LYS:HD3	21:T:65:VAL:HG12	2.01	0.43
25:X:11:VAL:O	25:X:12:ASN:HB2	2.18	0.43
25:X:72:PRO:C	25:X:74:GLU:N	2.76	0.43
27:Z:177:LYS:HD3	27:Z:181:GLY:O	2.19	0.43
28:1:32:LYS:HZ2	28:1:70:GLN:NE2	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:2:25:LYS:HD2	30:3:48:ASP:CA	2.49	0.43
1:A:152:A:O2'	1:A:153:C:H5'	2.19	0.43
1:A:290:C:H1'	38:A:5597:HOH:O	2.18	0.43
1:A:1878:G:C4'	38:A:5614:HOH:O	2.66	0.43
2:B:3029:C:H5''	7:F:140:ARG:HB3	2.00	0.43
5:D:88:GLU:O	5:D:88:GLU:HG3	2.18	0.43
6:E:139:VAL:CG2	6:E:240:LEU:HD12	2.49	0.43
7:F:25:MET:HE2	7:F:41:LEU:CG	2.26	0.43
12:K:131:THR:HB	12:K:134:GLU:OE1	2.18	0.43
21:T:17:ASP:HB3	21:T:23:LYS:HB2	2.00	0.43
22:U:24:ARG:HG2	22:U:24:ARG:HH11	1.83	0.43
22:U:40:VAL:HA	22:U:119:ALA:O	2.19	0.43
25:X:113:SER:C	25:X:115:THR:H	2.26	0.43
1:A:764:C:H2'	1:A:765:G:O4'	2.18	0.43
1:A:1862:C:H1'	38:A:6710:HOH:O	2.19	0.43
1:A:2362:A:H2'	1:A:2363:G:C8	2.53	0.43
1:A:2781:U:H2'	1:A:2782:G:C5'	2.49	0.43
7:F:93:LEU:HB3	7:F:97:GLN:OE1	2.19	0.43
7:F:159:PRO:O	7:F:162:ALA:HB3	2.18	0.43
11:J:31:PHE:HA	11:J:85:ILE:CG2	2.49	0.43
12:K:90:LYS:HB2	35:K:8502:CL:CL	2.56	0.43
38:L:6493:HOH:O	23:V:24:LYS:HG3	2.18	0.43
15:N:61:ILE:CG2	15:N:62:VAL:N	2.82	0.43
17:P:29:VAL:O	17:P:33:LEU:HG	2.19	0.43
20:S:39:THR:O	20:S:40:ALA:C	2.60	0.43
28:1:40:PRO:HG2	28:1:64:ILE:HD13	2.00	0.43
1:A:731:U:H2'	1:A:732:C:C6	2.54	0.43
1:A:827:A:H2'	1:A:828:G:O4'	2.18	0.43
1:A:1388:U:H2'	1:A:1389:G:O4'	2.19	0.43
1:A:2598:U:O2	1:A:2600:A:H8	2.01	0.43
1:A:2812:A:C2	1:A:2814:A:N6	2.80	0.43
2:B:3002:U:OP2	2:B:3002:U:H4'	2.18	0.43
38:B:8517:HOH:O	16:O:107:ASN:HB3	2.18	0.43
4:C:9:ARG:O	4:C:10:GLY:C	2.62	0.43
5:D:84:LEU:C	5:D:84:LEU:HD13	2.43	0.43
7:F:84:LEU:HA	7:F:87:ALA:HB3	2.01	0.43
7:F:95:THR:HG21	7:F:174:VAL:HG22	2.00	0.43
8:G:11:VAL:HG12	8:G:12:ASP:H	1.84	0.43
11:J:72:VAL:HG11	11:J:81:TYR:CZ	2.54	0.43
12:K:84:ARG:HB2	12:K:98:PHE:CE1	2.54	0.43
13:L:14:LYS:HD2	13:L:45:PRO:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:31:TRP:HA	15:N:34:GLU:HG3	2.01	0.43
15:N:78:ASN:O	15:N:79:LYS:HG2	2.19	0.43
15:N:137:ASP:C	15:N:142:LYS:HE3	2.44	0.43
16:O:154:LEU:C	16:O:156:GLU:H	2.25	0.43
18:Q:14:LEU:HD13	18:Q:51:ALA:HB2	2.00	0.43
21:T:29:ASP:CG	21:T:31:ARG:NH1	2.77	0.43
21:T:73:ASP:O	21:T:77:VAL:HG23	2.18	0.43
22:U:23:VAL:HA	22:U:93:THR:HG21	2.01	0.43
23:V:52:THR:HG21	23:V:54:THR:HB	2.00	0.43
28:1:22:ILE:O	28:1:26:VAL:HG23	2.18	0.43
28:1:39:CYS:HA	28:1:47:LEU:HD11	2.01	0.43
1:A:1165:G:H1'	1:A:1174:A:H1'	2.01	0.42
1:A:1384:C:H5'	26:Y:30:MET:HG2	2.00	0.42
1:A:1559:A:C1'	38:A:5357:HOH:O	2.62	0.42
1:A:1745:G:H5'	38:A:3836:HOH:O	2.19	0.42
1:A:1761:U:H5'	18:Q:81:LYS:O	2.19	0.42
1:A:2379:G:N7	1:A:2408:A:N1	2.67	0.42
38:A:9304:HOH:O	13:L:39:GLY:HA3	2.19	0.42
4:C:95:PRO:HG2	4:C:98:GLU:CG	2.47	0.42
4:C:119:ALA:C	4:C:120:ARG:HG2	2.43	0.42
4:C:192:VAL:HG13	38:C:8554:HOH:O	2.19	0.42
5:D:63:GLU:O	5:D:63:GLU:HG3	2.19	0.42
5:D:217:ARG:CG	5:D:257:THR:HG22	2.45	0.42
5:D:224:LYS:HD3	5:D:224:LYS:HA	1.79	0.42
6:E:46:TYR:CE2	6:E:98:ARG:NH1	2.87	0.42
6:E:236:THR:O	6:E:239:ALA:N	2.52	0.42
11:J:58:HIS:ND1	11:J:59:ASN:ND2	2.67	0.42
11:J:65:ARG:HD3	38:J:8385:HOH:O	2.18	0.42
12:K:77:GLY:O	12:K:80:LYS:N	2.51	0.42
13:L:74:VAL:HG21	13:L:96:VAL:HG23	2.01	0.42
13:L:106:GLY:HA3	38:L:5264:HOH:O	2.18	0.42
14:M:120:LEU:HD12	14:M:133:VAL:HG21	2.00	0.42
15:N:95:LYS:HG2	15:N:99:ARG:HB3	2.01	0.42
16:O:15:GLU:OE1	16:O:17:ARG:HD2	2.19	0.42
17:P:39:THR:O	17:P:115:ARG:NH2	2.52	0.42
22:U:38:ARG:NH1	22:U:38:ARG:HG3	2.33	0.42
23:V:4:ARG:N	38:V:5334:HOH:O	2.51	0.42
25:X:31:HIS:HB3	38:X:5420:HOH:O	2.19	0.42
25:X:122:ARG:NH1	25:X:152:ALA:O	2.51	0.42
27:Z:105:LYS:HE2	27:Z:198:GLY:O	2.19	0.42
1:A:222:A:H2'	1:A:223:G:O4'	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:228:C:H2'	1:A:229:G:H5'	1.99	0.42
1:A:795:G:N3	1:A:817:G:C2	2.87	0.42
1:A:853:C:H2'	1:A:854:G:O4'	2.19	0.42
1:A:1055:G:OP2	11:J:94:ARG:NH1	2.52	0.42
1:A:1165:G:O2'	1:A:1174:A:H4'	2.19	0.42
1:A:1682:A:O2'	1:A:1683:G:H5''	2.19	0.42
1:A:1878:G:O2'	1:A:1879:U:P	2.77	0.42
1:A:1988:C:O2'	1:A:1989:G:H5'	2.19	0.42
1:A:2004:U:O2	1:A:2004:U:H2'	2.19	0.42
1:A:2437:A:H2'	1:A:2438:G:C8	2.54	0.42
1:A:2597:U:H2'	1:A:2598:U:H5'	2.02	0.42
1:A:2756:U:N3	1:A:2896:A:H2	2.16	0.42
5:D:217:ARG:HD3	5:D:218:TRP:NE1	2.34	0.42
6:E:7:ASP:C	6:E:9:ASP:N	2.78	0.42
6:E:80:VAL:HA	6:E:81:PRO:HD3	1.85	0.42
13:L:37:TYR:HD2	38:L:7169:HOH:O	2.01	0.42
13:L:37:TYR:HE2	13:L:45:PRO:HA	1.84	0.42
14:M:6:ARG:NH2	38:M:8550:HOH:O	2.51	0.42
15:N:17:GLU:O	15:N:21:ALA:HB2	2.19	0.42
22:U:55:PHE:CG	22:U:77:VAL:HG13	2.53	0.42
25:X:139:GLY:O	25:X:141:HIS:CD2	2.72	0.42
27:Z:126:PRO:HG2	27:Z:128:PHE:CZ	2.54	0.42
1:A:210:U:O2'	1:A:211:U:H5'	2.19	0.42
1:A:213:G:O2'	1:A:214:U:OP2	2.37	0.42
1:A:288:A:H2'	1:A:289:G:C8	2.54	0.42
1:A:1820:G:C6	1:A:2030:A:C2	3.07	0.42
1:A:2821:C:H4'	5:D:116:PRO:CB	2.49	0.42
5:D:7:ARG:CD	5:D:9:GLY:O	2.68	0.42
6:E:109:LEU:HD12	6:E:109:LEU:O	2.19	0.42
12:K:14:ALA:HB1	12:K:44:ALA:HB2	2.00	0.42
16:O:37:ARG:HA	16:O:37:ARG:HD3	1.82	0.42
22:U:113:GLU:O	22:U:114:SER:C	2.61	0.42
29:2:36:SER:O	29:2:46:ARG:HD3	2.19	0.42
30:3:36:ASN:HB3	30:3:39:ARG:HE	1.84	0.42
1:A:482:G:H4'	1:A:508:A:N1	2.34	0.42
1:A:1400:C:H4'	26:Y:56:GLU:HG2	2.01	0.42
1:A:1855:G:H4'	1:A:1856:C:O5'	2.19	0.42
1:A:2737:C:H2'	38:A:5635:HOH:O	2.19	0.42
1:A:2897:C:H2'	1:A:2898:G:C8	2.46	0.42
10:I:20:VAL:O	10:I:24:VAL:HG23	2.19	0.42
11:J:56:ILE:HG22	11:J:61:LEU:CD2	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:N:24:MET:HE1	15:N:120:VAL:O	2.19	0.42
15:N:27:ARG:O	15:N:28:MET:C	2.61	0.42
15:N:157:LEU:HD23	38:N:8637:HOH:O	2.18	0.42
15:N:169:ARG:NH2	38:N:8553:HOH:O	2.50	0.42
16:O:149:GLU:O	16:O:152:GLU:HB2	2.20	0.42
17:P:53:GLN:HG2	17:P:56:GLU:OE1	2.20	0.42
18:Q:20:ARG:NH1	18:Q:54:LYS:HD3	2.34	0.42
26:Y:27:ASP:OD2	26:Y:27:ASP:N	2.50	0.42
1:A:297:U:H2'	1:A:298:C:H6	1.85	0.42
1:A:366:U:H2'	1:A:367:G:O4'	2.19	0.42
1:A:545:G:H2'	1:A:546:C:O4'	2.20	0.42
1:A:1315:G:C4	27:Z:212:ARG:HB2	2.54	0.42
1:A:1887:U:OP1	28:1:21:LYS:HE3	2.20	0.42
1:A:2245:C:O5'	1:A:2245:C:H6	2.02	0.42
1:A:2379:G:H4'	1:A:2380:A:H5''	2.01	0.42
38:B:8474:HOH:O	16:O:23:ARG:NH1	2.52	0.42
7:F:63:ILE:C	38:F:5728:HOH:O	2.62	0.42
7:F:86:THR:HG23	38:F:7477:HOH:O	2.19	0.42
9:H:28:ALA:HB3	9:H:99:THR:HG23	2.00	0.42
11:J:42:TYR:HA	11:J:43:PRO:HD3	1.87	0.42
11:J:49:VAL:HG22	11:J:130:HIS:HB3	2.02	0.42
11:J:58:HIS:CE1	11:J:59:ASN:ND2	2.88	0.42
11:J:146:TRP:C	11:J:148:ARG:N	2.76	0.42
12:K:45:VAL:HG21	12:K:129:PHE:CD1	2.54	0.42
14:M:126:SER:O	14:M:127:GLU:C	2.61	0.42
16:O:13:ARG:NH1	16:O:13:ARG:O	2.51	0.42
20:S:72:VAL:HG11	20:S:75:TRP:HB3	2.02	0.42
24:W:13:PRO:O	24:W:17:GLU:HG3	2.20	0.42
25:X:4:LEU:HD23	25:X:4:LEU:HA	1.79	0.42
25:X:142:ASP:HB3	25:X:145:GLY:H	1.84	0.42
31:4:34:LYS:N	31:4:34:LYS:HD2	2.34	0.42
1:A:69:A:H2'	1:A:70:A:OP2	2.19	0.42
1:A:635:A:H2'	1:A:636:G:H5''	2.01	0.42
1:A:1052:G:N3	1:A:1052:G:H2'	2.34	0.42
1:A:1669:A:H2	38:A:3214:HOH:O	2.02	0.42
1:A:2842:G:H2'	1:A:2843:A:H5'	2.00	0.42
5:D:13:PHE:CD1	5:D:13:PHE:N	2.87	0.42
7:F:49:PRO:HG3	38:F:5828:HOH:O	2.18	0.42
7:F:154:LYS:HD3	38:F:1796:HOH:O	2.19	0.42
11:J:31:PHE:HD2	11:J:85:ILE:HG23	1.84	0.42
12:K:88:PRO:O	12:K:94:GLY:HA3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:40:THR:O	13:L:41:LYS:C	2.62	0.42
14:M:35:ARG:C	14:M:35:ARG:HD3	2.44	0.42
15:N:5:TYR:C	15:N:7:TYR:N	2.77	0.42
16:O:80:SER:CB	38:O:8537:HOH:O	2.65	0.42
16:O:176:ARG:O	16:O:180:LEU:HG	2.20	0.42
17:P:26:TRP:HA	17:P:26:TRP:CE3	2.55	0.42
25:X:7:LEU:CD1	25:X:53:ALA:HB2	2.50	0.42
25:X:125:HIS:CD2	25:X:127:GLY:H	2.37	0.42
28:1:20:LEU:O	28:1:21:LYS:C	2.62	0.42
1:A:451:C:O2'	1:A:452:G:H5'	2.19	0.42
1:A:1790:C:H2'	1:A:1791:U:C6	2.54	0.42
1:A:1902:G:H2'	1:A:1903:U:O4'	2.20	0.42
1:A:1942:A:H3'	38:A:6838:HOH:O	2.19	0.42
1:A:2570:G:H5''	38:A:4406:HOH:O	2.19	0.42
9:H:1:PRO:HB2	38:H:5897:HOH:O	2.20	0.42
9:H:108:LEU:O	9:H:111:ILE:N	2.50	0.42
11:J:26:LYS:HD3	11:J:89:PRO:CG	2.50	0.42
13:L:27:ARG:HD2	38:L:4747:HOH:O	2.19	0.42
14:M:24:ALA:HB2	14:M:30:ARG:HD2	2.01	0.42
15:N:49:ALA:HB1	15:N:54:TYR:CB	2.50	0.42
15:N:99:ARG:CD	15:N:167:GLY:HA2	2.50	0.42
24:W:1:THR:C	24:W:3:LEU:H	2.27	0.42
28:1:45:LYS:HG3	38:1:8410:HOH:O	2.18	0.42
31:4:36:ILE:HD12	31:4:36:ILE:HA	1.95	0.42
1:A:51:G:O2'	1:A:52:A:H5'	2.20	0.42
1:A:503:G:H2'	1:A:504:G:H8	1.85	0.42
1:A:521:A:C2'	1:A:522:U:H5'	2.50	0.42
1:A:823:U:H2'	1:A:824:G:O4'	2.19	0.42
1:A:926:A:O2'	14:M:41:HIS:CD2	2.70	0.42
1:A:952:G:N3	1:A:2302:A:H2'	2.35	0.42
1:A:1329:A:C2	38:A:4181:HOH:O	2.56	0.42
1:A:1669:A:H2'	1:A:1670:G:H8	1.85	0.42
1:A:1730:G:C5'	1:A:1731:C:C6	3.02	0.42
1:A:1810:C:OP1	23:V:44:ARG:NE	2.38	0.42
1:A:1972:U:H2'	1:A:1973:A:C5'	2.50	0.42
1:A:2769:C:H2'	1:A:2770:G:H5'	2.02	0.42
38:A:4412:HOH:O	15:N:14:ARG:HB3	2.19	0.42
4:C:65:ARG:C	4:C:66:ARG:HG3	2.43	0.42
4:C:123:GLY:HA2	4:C:159:VAL:O	2.20	0.42
5:D:30:PRO:HG2	5:D:313:PRO:HD2	2.01	0.42
5:D:69:VAL:HA	5:D:70:PRO:HD3	1.91	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:26:THR:HB	9:H:102:GLY:HA3	2.02	0.42
10:I:63:ARG:O	10:I:67:LEU:HG	2.19	0.42
12:K:70:PHE:CD2	12:K:70:PHE:O	2.72	0.42
14:M:34:GLY:HA3	14:M:38:HIS:CE1	2.55	0.42
25:X:31:HIS:C	38:X:5420:HOH:O	2.62	0.42
31:4:87:ARG:NH1	38:4:8524:HOH:O	2.53	0.42
1:A:128:A:H3'	1:A:128:A:H8	1.85	0.42
1:A:283:U:H5''	1:A:284:C:OP2	2.20	0.42
1:A:583:G:H2'	1:A:584:U:H6	1.84	0.42
1:A:921:G:H4'	1:A:924:G:C6	2.55	0.42
1:A:1565:C:O4'	1:A:2738:G:H1'	2.20	0.42
1:A:2297:U:H1'	38:A:4665:HOH:O	2.20	0.42
1:A:2712:G:H5'	38:A:4711:HOH:O	2.20	0.42
4:C:35:GLY:O	4:C:36:ASP:CB	2.60	0.42
4:C:165:THR:O	4:C:165:THR:HG22	2.19	0.42
12:K:42:GLU:O	12:K:131:THR:HG23	2.20	0.42
12:K:142:ASN:O	12:K:144:THR:N	2.53	0.42
13:L:22:ASP:HA	13:L:108:GLU:O	2.20	0.42
14:M:144:ASP:HA	14:M:147:GLU:HG3	2.01	0.42
19:R:32:GLU:O	19:R:93:ARG:NH2	2.53	0.42
19:R:41:LEU:HB3	19:R:52:PHE:CZ	2.55	0.42
20:S:119:VAL:O	20:S:119:VAL:CG1	2.67	0.42
25:X:21:LEU:HB3	25:X:26:ILE:CG1	2.50	0.42
25:X:73:LEU:HD12	25:X:73:LEU:HA	1.73	0.42
25:X:132:VAL:HG21	25:X:141:HIS:CD2	2.55	0.42
1:A:303:C:H2'	1:A:304:G:O4'	2.20	0.42
1:A:424:C:H2'	1:A:425:U:C6	2.55	0.42
1:A:873:G:H2'	1:A:875:A:N7	2.35	0.42
1:A:1755:A:H2'	1:A:1756:G:O4'	2.20	0.42
1:A:2269:C:H2'	1:A:2270:G:C5'	2.50	0.42
1:A:2699:A:H2'	1:A:2700:G:O4'	2.20	0.42
1:A:2846:C:H4'	5:D:156:LYS:HB3	2.01	0.42
38:A:9721:HOH:O	27:Z:135:LYS:HE3	2.20	0.42
2:B:3056:A:C3'	2:B:3057:A:H5''	2.49	0.42
2:B:3093:A:C5	2:B:3094:G:H1'	2.54	0.42
5:D:36:PRO:HG3	5:D:168:GLY:HA3	2.02	0.42
5:D:49:THR:HG21	5:D:280:VAL:CG2	2.50	0.42
5:D:54:VAL:O	5:D:55:ASN:C	2.62	0.42
6:E:37:ALA:O	6:E:41:ASN:ND2	2.53	0.42
7:F:15:GLU:HA	7:F:16:PRO:HD3	1.88	0.42
7:F:144:ARG:NH2	38:F:3839:HOH:O	2.48	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:50:VAL:CG1	9:H:60:VAL:HG11	2.49	0.42
16:O:71:TRP:CE2	16:O:73:ALA:HB3	2.55	0.42
17:P:81:PHE:CD1	17:P:81:PHE:N	2.87	0.42
22:U:9:LYS:HD2	38:U:7242:HOH:O	2.20	0.42
27:Z:178:HIS:CG	27:Z:179:PRO:HD2	2.55	0.42
30:3:16:ASN:C	30:3:18:ASN:N	2.77	0.42
30:3:40:ARG:HG2	30:3:40:ARG:HH11	1.85	0.42
1:A:486:A:H1'	38:A:6265:HOH:O	2.19	0.41
1:A:1066:U:H2'	1:A:1067:A:C8	2.55	0.41
1:A:1230:A:H4'	1:A:1231:A:O5'	2.20	0.41
1:A:1666:C:C2'	1:A:1667:A:H5''	2.49	0.41
1:A:1787:C:O2'	1:A:1788:U:H5'	2.20	0.41
1:A:1926:G:H2'	1:A:1927:A:C8	2.55	0.41
1:A:2032:U:O2'	1:A:2033:G:H5''	2.19	0.41
1:A:2094:G:H4'	5:D:245:SER:HB3	2.03	0.41
1:A:2589:U:H2'	1:A:2590:U:C6	2.55	0.41
38:A:5766:HOH:O	18:Q:63:ARG:NH2	2.53	0.41
5:D:16:ARG:HB3	5:D:217:ARG:NH2	2.35	0.41
9:H:49:PHE:CD1	9:H:49:PHE:N	2.88	0.41
12:K:40:ASN:OD1	12:K:106:GLY:HA2	2.19	0.41
14:M:143:THR:HG22	14:M:144:ASP:H	1.85	0.41
15:N:184:ARG:CG	15:N:185:PRO:HA	2.50	0.41
19:R:46:SER:O	19:R:48:PRO:HD3	2.20	0.41
27:Z:186:ARG:NH1	27:Z:186:ARG:CG	2.80	0.41
31:4:18:GLN:OE1	31:4:73:GLU:HB3	2.19	0.41
1:A:1224:G:H2'	1:A:1225:C:C6	2.54	0.41
1:A:1311:G:C2	1:A:1312:G:C8	3.08	0.41
1:A:1391:G:H2'	1:A:1392:A:H5'	2.02	0.41
1:A:1456:C:H2'	1:A:1457:U:C6	2.55	0.41
1:A:1462:C:H2'	1:A:1463:A:C8	2.55	0.41
1:A:1484:G:H2'	38:A:8620:HOH:O	2.19	0.41
1:A:1679:C:O2'	1:A:1685:A:N1	2.45	0.41
1:A:1811:A:H2'	1:A:1812:G:H5'	2.02	0.41
1:A:1850:U:H2'	1:A:1851:G:H8	1.85	0.41
1:A:1996:U:O2'	1:A:1997:A:H5'	2.19	0.41
1:A:2005:G:H3'	1:A:2005:G:OP2	2.20	0.41
1:A:2111:G:H1'	38:A:8566:HOH:O	2.19	0.41
1:A:2897:C:O2'	1:A:2898:G:H5'	2.21	0.41
2:B:3003:A:N6	2:B:3022:G:H1'	2.35	0.41
2:B:3042:C:H5'	2:B:3043:G:OP2	2.19	0.41
5:D:154:VAL:CG1	5:D:156:LYS:HG2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:188:ARG:NH2	38:E:8322:HOH:O	2.50	0.41
7:F:40:ILE:HG23	38:F:5583:HOH:O	2.20	0.41
8:G:7:ILE:HA	8:G:8:PRO:HD3	1.93	0.41
8:G:101:GLU:OE2	8:G:115:ARG:NH1	2.52	0.41
11:J:26:LYS:HD2	11:J:28:ILE:CB	2.45	0.41
11:J:136:VAL:HG22	11:J:137:ASN:N	2.35	0.41
12:K:49:ARG:O	12:K:50:GLU:C	2.63	0.41
15:N:184:ARG:HG3	15:N:185:PRO:HA	2.02	0.41
16:O:81:ALA:O	16:O:82:TYR:C	2.63	0.41
19:R:16:ASN:HD22	19:R:16:ASN:HA	1.62	0.41
19:R:18:PRO:O	19:R:21:ARG:HB2	2.20	0.41
25:X:59:GLN:NE2	25:X:97:ALA:HB3	2.35	0.41
1:A:11:A:H5'	1:A:12:U:OP2	2.20	0.41
1:A:711:G:C2	1:A:718:C:C2	3.08	0.41
1:A:816:G:C5	1:A:817:G:C6	3.08	0.41
1:A:902:G:N7	14:M:18:HIS:CD2	2.85	0.41
1:A:1332:C:O2'	1:A:1333:U:H5'	2.20	0.41
1:A:2079:G:H2'	1:A:2080:G:O4'	2.20	0.41
1:A:2781:U:O2'	1:A:2782:G:H5'	2.20	0.41
2:B:3059:C:H5'	38:B:8476:HOH:O	2.19	0.41
4:C:100:PRO:HG2	4:C:103:VAL:CG2	2.45	0.41
4:C:211:LYS:HD3	38:C:8607:HOH:O	2.19	0.41
4:C:211:LYS:CB	4:C:212:PRO:CD	2.98	0.41
5:D:162:MET:HE2	5:D:310:ARG:CD	2.49	0.41
5:D:304:PRO:CD	5:D:307:ARG:NH1	2.84	0.41
7:F:25:MET:HE1	7:F:37:ALA:HB1	2.01	0.41
8:G:112:ALA:HA	8:G:113:PRO:HD3	1.84	0.41
9:H:34:ASN:HA	15:N:4:ALA:HB2	2.02	0.41
13:L:87:ARG:CZ	38:L:4854:HOH:O	2.68	0.41
17:P:26:TRP:HA	17:P:26:TRP:HE3	1.85	0.41
22:U:87:VAL:HB	22:U:88:PRO:HD2	2.02	0.41
25:X:34:LEU:CD1	25:X:100:LEU:HD13	2.51	0.41
25:X:137:GLN:HG3	25:X:137:GLN:O	2.20	0.41
1:A:236:A:H4'	1:A:237:G:OP1	2.19	0.41
1:A:1003:U:O2	11:J:90:PHE:HZ	2.02	0.41
1:A:1271:A:H2'	1:A:1272:C:O4'	2.21	0.41
1:A:1470:A:O4'	15:N:93:ARG:HD3	2.21	0.41
1:A:1739:G:O2'	1:A:1740:U:H5'	2.20	0.41
1:A:2252:A:C6	1:A:2253:G:H1'	2.54	0.41
1:A:2659:U:H5''	38:A:3635:HOH:O	2.20	0.41
38:A:3267:HOH:O	22:U:9:LYS:CD	2.66	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:A:7197:HOH:O	6:E:94:THR:HG21	2.21	0.41
2:B:3028:U:H5''	16:O:40:ASN:ND2	2.35	0.41
2:B:3095:C:O2'	2:B:3096:C:H5'	2.21	0.41
4:C:97:ALA:HB2	4:C:150:PRO:HB2	2.02	0.41
5:D:82:VAL:O	5:D:82:VAL:CG1	2.68	0.41
9:H:38:LYS:NZ	15:N:3:SER:HA	2.35	0.41
15:N:61:ILE:HA	38:N:8632:HOH:O	2.20	0.41
15:N:82:ARG:O	15:N:83:SER:C	2.62	0.41
16:O:34:LEU:HD13	16:O:47:LEU:HD21	2.03	0.41
22:U:26:THR:HA	22:U:39:ASN:HB3	2.01	0.41
26:Y:25:ARG:HD3	26:Y:64:ALA:O	2.20	0.41
1:A:111:C:H2'	1:A:112:G:O4'	2.20	0.41
1:A:569:A:H5''	1:A:587:A:N1	2.34	0.41
1:A:1384:C:H2'	1:A:1385:G:O4'	2.20	0.41
1:A:1619:G:H2'	1:A:1620:C:O4'	2.20	0.41
1:A:2032:U:H5'	38:A:4015:HOH:O	2.19	0.41
4:C:30:ARG:HE	4:C:30:ARG:HB3	1.62	0.41
7:F:17:ARG:NH2	38:F:3723:HOH:O	2.54	0.41
10:I:71:LEU:O	10:I:73:ASP:N	2.53	0.41
11:J:65:ARG:HH21	11:J:66:VAL:HG22	1.85	0.41
15:N:138:HIS:C	15:N:139:PRO:O	2.58	0.41
16:O:38:LYS:HE3	16:O:38:LYS:HB2	1.76	0.41
18:Q:41:ARG:O	18:Q:44:VAL:HB	2.19	0.41
18:Q:59:ARG:HH22	18:Q:66:GLN:HE22	1.65	0.41
20:S:113:HIS:O	20:S:145:LEU:HD12	2.21	0.41
24:W:29:ASN:O	24:W:33:VAL:HG23	2.20	0.41
25:X:56:GLU:O	25:X:143:THR:HG23	2.20	0.41
26:Y:9:VAL:HG13	26:Y:88:GLU:CD	2.46	0.41
27:Z:117:LEU:HA	27:Z:174:VAL:HG11	2.02	0.41
30:3:24:TRP:CD1	38:3:6863:HOH:O	2.73	0.41
1:A:275:G:C2	1:A:376:C:N3	2.89	0.41
1:A:1162:G:H2'	1:A:1162:G:N3	2.35	0.41
1:A:1245:C:O5'	1:A:1245:C:H6	2.04	0.41
1:A:1398:G:O2'	1:A:1399:A:H5'	2.21	0.41
1:A:1482:A:O2'	1:A:1483:C:H5'	2.21	0.41
1:A:1562:C:O2	1:A:1562:C:H2'	2.20	0.41
1:A:1593:C:OP1	18:Q:117:SER:HB3	2.21	0.41
1:A:1714:C:O2'	1:A:1715:C:H5'	2.21	0.41
1:A:1857:A:N6	1:A:2247:C:H1'	2.36	0.41
1:A:2506:A:O2'	1:A:2507:G:P	2.78	0.41
1:A:2582:G:O3'	13:L:41:LYS:HA	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:82:VAL:HG13	4:C:93:THR:HB	2.02	0.41
5:D:7:ARG:NH1	5:D:11:LEU:HD22	2.35	0.41
5:D:62:ARG:HG2	5:D:62:ARG:HH11	1.86	0.41
5:D:223:ARG:HG3	5:D:232:TRP:C	2.45	0.41
6:E:140:VAL:HG12	6:E:141:SER:N	2.34	0.41
6:E:165:ASP:O	6:E:168:ARG:HB3	2.20	0.41
11:J:113:ALA:N	11:J:114:PRO:HD3	2.36	0.41
13:L:118:ALA:C	13:L:120:ARG:N	2.79	0.41
15:N:63:VAL:HG21	15:N:109:PHE:CZ	2.55	0.41
17:P:23:GLY:C	38:P:3062:HOH:O	2.63	0.41
17:P:96:VAL:CG1	17:P:100:GLN:HB2	2.51	0.41
18:Q:114:LEU:HD22	18:Q:118:GLN:HB2	2.02	0.41
1:A:137:U:OP1	1:A:259:G:O2'	2.38	0.41
1:A:243:A:H61	1:A:269:G:H1'	1.86	0.41
1:A:506:G:N2	1:A:508:A:H3'	2.35	0.41
1:A:564:G:N2	38:A:3904:HOH:O	2.43	0.41
1:A:669:G:H2'	1:A:670:G:H8	1.86	0.41
1:A:837:U:H4'	38:A:9903:HOH:O	2.20	0.41
1:A:857:A:H4'	4:C:176:HIS:CD2	2.56	0.41
1:A:951:A:O2'	1:A:952:G:H5'	2.21	0.41
1:A:1707:G:N2	1:A:1709:G:H3'	2.36	0.41
1:A:2505:G:H8	38:A:5130:HOH:O	2.03	0.41
1:A:2546:U:H4'	38:D:8587:HOH:O	2.20	0.41
2:B:3104:A:O2'	2:B:3105:A:H5'	2.21	0.41
9:H:27:GLY:HA3	38:H:5413:HOH:O	2.19	0.41
9:H:49:PHE:HE1	9:H:98:VAL:CG2	2.33	0.41
11:J:148:ARG:NE	38:J:8345:HOH:O	2.45	0.41
12:K:39:VAL:CG1	12:K:107:ASN:HB2	2.51	0.41
14:M:17:SER:C	14:M:19:LYS:N	2.77	0.41
14:M:97:VAL:HG12	14:M:98:GLU:O	2.21	0.41
22:U:44:ALA:HA	22:U:62:VAL:CG1	2.50	0.41
22:U:71:VAL:HG13	22:U:91:LEU:O	2.20	0.41
25:X:1:MET:N	25:X:37:GLU:HG3	2.35	0.41
27:Z:144:ARG:NE	38:Z:8608:HOH:O	2.53	0.41
27:Z:189:ASN:ND2	27:Z:192:ASP:N	2.65	0.41
30:3:25:VAL:O	30:3:29:THR:HG23	2.21	0.41
1:A:88:G:C8	30:3:28:LYS:HB2	2.55	0.41
1:A:424:C:H2'	1:A:425:U:H6	1.85	0.41
1:A:946:C:H2'	1:A:947:U:C6	2.55	0.41
1:A:1058:A:H2'	1:A:1060:C:C5'	2.49	0.41
1:A:1151:G:H2'	38:A:4506:HOH:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1436:C:O2'	1:A:1437:A:H5'	2.21	0.41
1:A:1477:C:H5'	1:A:1868:G:H5''	2.03	0.41
1:A:1517:U:C2	1:A:1670:G:N2	2.89	0.41
1:A:1675:C:H3'	38:A:7301:HOH:O	2.19	0.41
1:A:1743:G:O4'	13:L:78:LYS:HD3	2.20	0.41
1:A:1878:G:O2'	1:A:1879:U:C6	2.70	0.41
1:A:2001:G:O2'	1:A:2002:C:H5'	2.21	0.41
1:A:2289:G:H21	1:A:2291:A:H2	1.63	0.41
1:A:2296:C:H5	38:R:5998:HOH:O	2.03	0.41
1:A:2346:C:O3'	7:F:52:THR:HG23	2.20	0.41
1:A:2478:U:H2'	1:A:2479:A:C8	2.56	0.41
1:A:2869:G:H2'	1:A:2870:C:C6	2.55	0.41
5:D:109:LEU:HG	5:D:113:LEU:HD12	2.02	0.41
6:E:14:GLY:O	6:E:15:GLU:HB3	2.21	0.41
8:G:16:ASP:O	8:G:17:HIS:HB2	2.20	0.41
9:H:60:VAL:O	9:H:61:MET:C	2.64	0.41
12:K:130:VAL:CG1	12:K:131:THR:N	2.84	0.41
38:L:7438:HOH:O	23:V:20:MET:HE1	2.21	0.41
16:O:154:LEU:HD11	16:O:157:PRO:HA	2.02	0.41
16:O:181:ASP:HA	38:O:8571:HOH:O	2.20	0.41
18:Q:16:VAL:CG1	18:Q:17:GLY:N	2.83	0.41
24:W:42:ASN:O	24:W:44:GLY:N	2.54	0.41
26:Y:9:VAL:HG13	26:Y:88:GLU:OE1	2.20	0.41
27:Z:105:LYS:NZ	27:Z:225:GLY:O	2.49	0.41
1:A:69:A:C2'	1:A:70:A:OP2	2.69	0.41
1:A:128:A:C8	1:A:128:A:C3'	3.02	0.41
1:A:426:G:H2'	1:A:427:C:O4'	2.21	0.41
1:A:685:C:O2	1:A:748:C:H4'	2.20	0.41
1:A:1200:A:H4'	38:A:6832:HOH:O	2.20	0.41
1:A:1262:C:O2'	25:X:120:PRO:HD3	2.21	0.41
1:A:1477:C:C5'	1:A:1868:G:H5''	2.50	0.41
1:A:1631:A:H2'	1:A:1632:A:C8	2.55	0.41
1:A:1815:A:H2'	1:A:1816:C:O4'	2.21	0.41
1:A:1845:A:O3'	4:C:187:PRO:HB2	2.21	0.41
1:A:1942:A:HO2'	1:A:1943:C:H5'	1.85	0.41
1:A:2069:U:H5'	38:A:4259:HOH:O	2.20	0.41
1:A:2072:G:H3'	1:A:2073:G:C5'	2.51	0.41
1:A:2133:U:H4'	1:A:2134:G:H5'	2.02	0.41
1:A:2809:G:H2'	1:A:2810:G:O4'	2.21	0.41
1:A:2837:U:H1'	5:D:307:ARG:HH12	1.85	0.41
6:E:223:LEU:HD12	6:E:223:LEU:HA	1.82	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:81:GLU:C	7:F:83:PHE:N	2.77	0.41
9:H:16:ALA:HA	9:H:111:ILE:HD13	2.03	0.41
11:J:47:GLU:OE2	11:J:162:SER:OG	2.38	0.41
12:K:51:GLU:O	12:K:55:GLU:HG3	2.21	0.41
13:L:98:VAL:CG1	13:L:102:GLU:HA	2.51	0.41
15:N:114:VAL:HG21	15:N:159:THR:CG2	2.50	0.41
16:O:175:LEU:HA	16:O:175:LEU:HD12	1.86	0.41
17:P:4:ASN:HA	17:P:5:PRO:HD3	1.90	0.41
20:S:114:VAL:HA	20:S:144:GLU:O	2.20	0.41
21:T:32:ALA:HA	21:T:36:GLU:OE1	2.21	0.41
22:U:41:ARG:NH1	22:U:42:VAL:O	2.54	0.41
23:V:14:GLU:HA	23:V:15:PRO:HD2	1.87	0.41
24:W:12:THR:CG2	24:W:15:GLU:HG3	2.28	0.41
25:X:142:ASP:HB2	38:X:2729:HOH:O	2.20	0.41
27:Z:189:ASN:HD22	27:Z:192:ASP:H	1.67	0.41
27:Z:203:VAL:HG12	27:Z:228:VAL:HG22	2.03	0.41
28:1:38:LYS:HG3	38:1:8428:HOH:O	2.21	0.41
1:A:105:G:O2'	1:A:106:A:H5'	2.21	0.41
1:A:154:C:P	15:N:188:ARG:HH12	2.44	0.41
1:A:245:C:C2'	1:A:246:G:H5'	2.51	0.41
1:A:250:C:H2'	1:A:251:C:C6	2.56	0.41
1:A:704:C:H2'	1:A:705:C:H6	1.86	0.41
1:A:1069:C:H4'	1:A:1081:A:O2'	2.20	0.41
1:A:1425:G:O2'	1:A:1426:C:H5'	2.21	0.41
1:A:1771:U:O2'	1:A:1773:G:N7	2.47	0.41
1:A:1783:A:C2'	1:A:1784:U:H5'	2.51	0.41
1:A:1829:A:C2'	1:A:1830:C:H5'	2.50	0.41
1:A:2443:C:O3'	14:M:56:LYS:HE3	2.20	0.41
1:A:2494:G:H4'	11:J:5:MET:SD	2.60	0.41
38:A:6000:HOH:O	30:3:1:GLY:HA3	2.20	0.41
2:B:3052:A:H2'	2:B:3053:G:O4'	2.21	0.41
4:C:36:ASP:CB	4:C:85:ASP:H	2.34	0.41
7:F:57:THR:HA	7:F:63:ILE:HA	2.02	0.41
7:F:173:GLU:HG3	7:F:174:VAL:N	2.36	0.41
13:L:125:ALA:C	13:L:127:ALA:N	2.79	0.41
14:M:105:TYR:CD1	14:M:105:TYR:C	2.99	0.41
16:O:38:LYS:HD2	16:O:114:LYS:HE3	2.03	0.41
19:R:31:GLU:CD	19:R:93:ARG:HH12	2.29	0.41
20:S:32:ALA:O	20:S:33:ARG:C	2.62	0.41
20:S:82:GLU:HG3	20:S:83:LYS:N	2.35	0.41
22:U:45:GLY:C	38:U:3851:HOH:O	2.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:X:72:PRO:HB2	25:X:74:GLU:O	2.21	0.41
28:1:30:GLU:HB3	28:1:34:LYS:HE3	2.03	0.41
29:2:15:THR:O	29:2:29:THR:HG22	2.20	0.41
1:A:204:A:C2'	1:A:205:U:H5'	2.51	0.40
1:A:696:C:H4'	38:A:6771:HOH:O	2.20	0.40
1:A:963:C:O5'	1:A:963:C:H6	2.04	0.40
1:A:1114:A:H2'	1:A:1115:U:C6	2.56	0.40
1:A:1450:C:O2'	1:A:1493:A:H2'	2.20	0.40
1:A:1675:C:H5''	30:3:5:LYS:HD2	2.03	0.40
1:A:1735:C:H2'	1:A:1736:A:C8	2.55	0.40
1:A:1873:G:H3'	38:A:4700:HOH:O	2.21	0.40
1:A:2134:G:C6	1:A:2258:A:C8	3.10	0.40
1:A:2912:C:H2'	1:A:2913:A:O4'	2.21	0.40
4:C:36:ASP:O	4:C:37:VAL:C	2.64	0.40
5:D:235:ARG:HA	38:D:8604:HOH:O	2.20	0.40
7:F:140:ARG:HG3	7:F:140:ARG:HH11	1.85	0.40
8:G:3:VAL:HG22	8:G:49:ILE:HB	2.03	0.40
16:O:50:LEU:HD12	16:O:50:LEU:HA	1.94	0.40
16:O:73:ALA:HB2	16:O:163:PHE:CZ	2.56	0.40
17:P:47:ARG:HA	17:P:50:ARG:HH12	1.85	0.40
23:V:14:GLU:OE1	23:V:15:PRO:CD	2.65	0.40
28:1:11:THR:HG23	28:1:11:THR:O	2.21	0.40
1:A:10:U:O4	1:A:532:A:OP2	2.38	0.40
1:A:291:C:H2'	1:A:292:G:O4'	2.21	0.40
1:A:445:U:H2'	1:A:446:G:H8	1.85	0.40
1:A:466:A:H2'	1:A:467:G:O4'	2.21	0.40
1:A:470:U:H2'	1:A:471:G:O4'	2.21	0.40
1:A:1127:C:C5	1:A:1128:U:C4	3.09	0.40
1:A:1942:A:O3'	4:C:213:LYS:HE2	2.21	0.40
1:A:2004:U:H2'	1:A:2005:G:OP1	2.21	0.40
1:A:2764:C:H2'	1:A:2765:C:H6	1.85	0.40
4:C:66:ARG:HH11	4:C:66:ARG:CB	2.34	0.40
4:C:186:TRP:CD1	4:C:187:PRO:HA	2.56	0.40
5:D:7:ARG:HG2	5:D:7:ARG:NH1	2.35	0.40
5:D:7:ARG:NH2	5:D:250:THR:O	2.54	0.40
5:D:52:VAL:N	5:D:329:TYR:O	2.46	0.40
5:D:62:ARG:CB	5:D:65:MET:HE3	2.52	0.40
6:E:118:THR:CG2	6:E:137:PRO:HB3	2.51	0.40
6:E:141:SER:HA	38:E:8383:HOH:O	2.21	0.40
7:F:64:ARG:NE	7:F:67:ASP:HB3	2.36	0.40
9:H:104:ALA:C	9:H:106:THR:N	2.78	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:15:ARG:NH1	12:K:43:ARG:NH1	2.69	0.40
13:L:74:VAL:HG13	13:L:113:ILE:HG12	2.01	0.40
13:L:118:ALA:C	13:L:120:ARG:H	2.28	0.40
14:M:101:ASP:C	14:M:103:ALA:N	2.79	0.40
15:N:183:VAL:HG12	15:N:184:ARG:N	2.36	0.40
16:O:43:VAL:O	16:O:84:THR:HG21	2.20	0.40
17:P:73:ASP:O	17:P:73:ASP:CG	2.63	0.40
1:A:226:A:H1'	1:A:393:G:C5	2.56	0.40
1:A:332:G:O2'	1:A:333:G:H5'	2.22	0.40
1:A:363:A:O5'	1:A:363:A:H8	2.04	0.40
1:A:401:C:O2'	15:N:92:THR:HB	2.21	0.40
1:A:559:U:H5'	1:A:559:U:C6	2.50	0.40
1:A:644:G:N3	1:A:644:G:H5'	2.36	0.40
1:A:697:G:H4'	1:A:730:G:O3'	2.21	0.40
1:A:1741:U:H3'	38:A:9274:HOH:O	2.20	0.40
1:A:2526:C:C2'	1:A:2527:U:H5'	2.50	0.40
1:A:2712:G:O2'	1:A:2713:G:H5'	2.22	0.40
1:A:2784:A:H1'	8:G:60:SER:OG	2.22	0.40
38:A:4899:HOH:O	4:C:164:ARG:NE	2.53	0.40
4:C:70:ALA:HA	4:C:71:PRO:HD3	1.78	0.40
5:D:266:ASN:OD1	5:D:317:PRO:HA	2.20	0.40
5:D:280:VAL:HG13	5:D:333:GLU:O	2.20	0.40
8:G:132:THR:O	8:G:132:THR:HG23	2.20	0.40
12:K:24:SER:HA	12:K:86:MET:SD	2.61	0.40
14:M:20:ASN:O	14:M:22:ARG:N	2.52	0.40
14:M:62:ALA:HB2	14:M:103:ALA:CB	2.51	0.40
15:N:152:ARG:HB3	38:N:8649:HOH:O	2.21	0.40
16:O:163:PHE:O	16:O:164:ASP:CG	2.64	0.40
20:S:72:VAL:CG1	20:S:75:TRP:HB3	2.51	0.40
22:U:71:VAL:CG1	22:U:72:ILE:N	2.83	0.40
26:Y:71:ARG:CD	38:Y:2171:HOH:O	2.66	0.40
31:4:43:ASN:ND2	38:4:8506:HOH:O	2.50	0.40
1:A:204:A:H2'	1:A:205:U:H5'	2.02	0.40
1:A:1298:U:H2'	1:A:1299:G:C8	2.56	0.40
1:A:1498:G:O2'	1:A:1499:U:H5'	2.21	0.40
1:A:1886:A:H4'	38:1:8405:HOH:O	2.20	0.40
1:A:2241:C:H2'	1:A:2242:U:H6	1.85	0.40
1:A:2361:A:H2'	1:A:2362:A:C8	2.56	0.40
1:A:2443:C:H3'	38:A:9982:HOH:O	2.21	0.40
1:A:2649:A:H5'	1:A:2649:A:H8	1.86	0.40
38:A:9052:HOH:O	18:Q:81:LYS:HG2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:3023:U:H3'	38:B:8479:HOH:O	2.21	0.40
6:E:156:LEU:O	6:E:156:LEU:HD12	2.21	0.40
9:H:33:THR:HG21	9:H:59:ILE:O	2.22	0.40
12:K:39:VAL:HG11	12:K:107:ASN:HB2	2.02	0.40
14:M:148:GLU:HG3	38:M:8553:HOH:O	2.22	0.40
15:N:137:ASP:O	15:N:142:LYS:HE3	2.20	0.40
17:P:88:LYS:HB3	38:P:7061:HOH:O	2.20	0.40
18:Q:59:ARG:O	18:Q:62:ALA:HB3	2.21	0.40
25:X:121:PRO:CA	25:X:153:MET:HG2	2.51	0.40
27:Z:216:ARG:O	27:Z:219:GLU:HG2	2.21	0.40
1:A:473:A:O2'	1:A:474:C:H5'	2.22	0.40
1:A:656:G:H3'	17:P:37:ARG:HH12	1.86	0.40
1:A:1114:A:H2'	1:A:1115:U:H6	1.85	0.40
1:A:1216:G:O2'	1:A:1217:G:H5'	2.22	0.40
1:A:1501:A:H4'	38:A:5090:HOH:O	2.21	0.40
1:A:1656:A:H5'	38:A:3906:HOH:O	2.22	0.40
1:A:2356:A:H2'	1:A:2357:G:O4'	2.21	0.40
1:A:2382:A:H5'	38:4:8533:HOH:O	2.22	0.40
38:A:6557:HOH:O	20:S:33:ARG:HD3	2.20	0.40
38:A:8843:HOH:O	25:X:9:GLY:HA3	2.20	0.40
5:D:5:ARG:HD2	5:D:8:LYS:NZ	2.36	0.40
5:D:11:LEU:HA	38:D:8618:HOH:O	2.22	0.40
5:D:30:PRO:HB2	5:D:39:GLN:HE21	1.83	0.40
5:D:115:VAL:HA	5:D:116:PRO:HD3	1.88	0.40
5:D:183:GLU:HA	5:D:183:GLU:OE1	2.21	0.40
11:J:158:ASN:ND2	38:J:8388:HOH:O	2.54	0.40
16:O:128:ASP:HA	38:O:8562:HOH:O	2.21	0.40
21:T:69:SER:C	21:T:71:ASP:N	2.75	0.40
28:1:31:ILE:CG2	28:1:32:LYS:N	2.84	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	C	235/239 (98%)	202 (86%)	27 (12%)	6 (3%)	4	23
5	D	335/337 (99%)	291 (87%)	36 (11%)	8 (2%)	4	24
6	E	244/246 (99%)	210 (86%)	31 (13%)	3 (1%)	10	40
7	F	134/176 (76%)	95 (71%)	28 (21%)	11 (8%)	0	3
8	G	170/177 (96%)	159 (94%)	10 (6%)	1 (1%)	21	56
9	H	117/119 (98%)	100 (86%)	13 (11%)	4 (3%)	3	17
10	I	25/348 (7%)	23 (92%)	1 (4%)	1 (4%)	2	14
11	J	152/167 (91%)	129 (85%)	18 (12%)	5 (3%)	3	17
12	K	140/145 (97%)	126 (90%)	8 (6%)	6 (4%)	2	12
13	L	130/132 (98%)	115 (88%)	13 (10%)	2 (2%)	8	35
14	M	141/164 (86%)	117 (83%)	22 (16%)	2 (1%)	9	36
15	N	192/194 (99%)	164 (85%)	25 (13%)	3 (2%)	7	34
16	O	184/186 (99%)	160 (87%)	17 (9%)	7 (4%)	2	15
17	P	113/115 (98%)	105 (93%)	8 (7%)	0	100	100
18	Q	141/148 (95%)	132 (94%)	8 (6%)	1 (1%)	18	53
19	R	93/95 (98%)	88 (95%)	4 (4%)	1 (1%)	11	43
20	S	148/154 (96%)	134 (90%)	14 (10%)	0	100	100
21	T	79/84 (94%)	71 (90%)	8 (10%)	0	100	100
22	U	117/119 (98%)	103 (88%)	12 (10%)	2 (2%)	7	32
23	V	51/66 (77%)	44 (86%)	6 (12%)	1 (2%)	6	28
24	W	63/70 (90%)	55 (87%)	5 (8%)	3 (5%)	2	11
25	X	152/154 (99%)	142 (93%)	8 (5%)	2 (1%)	9	38
26	Y	80/91 (88%)	70 (88%)	8 (10%)	2 (2%)	4	23
27	Z	140/240 (58%)	135 (96%)	5 (4%)	0	100	100
28	1	71/73 (97%)	59 (83%)	10 (14%)	2 (3%)	4	21
29	2	54/56 (96%)	51 (94%)	3 (6%)	0	100	100
30	3	42/48 (88%)	42 (100%)	0	0	100	100
31	4	90/92 (98%)	84 (93%)	4 (4%)	2 (2%)	5	26
All	All	3633/4235 (86%)	3206 (88%)	352 (10%)	75 (2%)	5	27

All (75) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	D	139	ASP
5	D	184	ASP
6	E	8	LEU
7	F	93	LEU
7	F	95	THR
7	F	173	GLU
9	H	101	ALA
11	J	138	PRO
11	J	162	SER
16	O	154	LEU
16	O	162	ASP
16	O	183	ASP
18	Q	116	SER
31	4	56	PRO
4	C	34	ASP
4	C	37	VAL
4	C	132	ASP
5	D	34	GLY
5	D	107	SER
5	D	169	GLY
7	F	11	HIS
7	F	20	LYS
7	F	137	PRO
7	F	171	ASP
11	J	164	ALA
12	K	5	GLU
14	M	80	ASP
15	N	18	GLY
16	O	164	ASP
24	W	43	PRO
25	X	77	ALA
28	1	20	LEU
31	4	57	GLY
6	E	58	ALA
7	F	16	PRO
7	F	36	ASN
7	F	147	ALA
10	I	72	ASP
12	K	7	ASP
12	K	143	LYS
13	L	119	GLN
13	L	126	SER
14	M	21	ARG

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Mol	Chain	Res	Type
16	O	181	ASP
19	R	23	THR
6	E	232	LEU
7	F	82	GLU
8	G	44	GLY
9	H	64	PRO
12	K	65	ASN
15	N	6	SER
15	N	71	SER
22	U	53	GLY
23	V	7	ASP
25	X	49	ASN
26	Y	70	ILE
28	1	81	LYS
4	C	10	GLY
4	C	119	ALA
5	D	291	ASP
9	H	61	MET
11	J	40	PRO
12	K	89	HIS
12	K	141	ALA
16	O	139	TRP
22	U	44	ALA
24	W	40	PRO
9	H	71	GLY
16	O	167	ASP
26	Y	77	PHE
11	J	110	GLY
4	C	211	LYS
5	D	2	GLN
5	D	185	GLY
24	W	2	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	C	179/181 (99%)	167 (93%)	12 (7%)	15	46
5	D	282/282 (100%)	264 (94%)	18 (6%)	16	48
6	E	193/193 (100%)	177 (92%)	16 (8%)	10	37
7	F	117/147 (80%)	109 (93%)	8 (7%)	14	45
8	G	152/155 (98%)	148 (97%)	4 (3%)	40	72
9	H	92/92 (100%)	89 (97%)	3 (3%)	33	67
10	I	27/283 (10%)	26 (96%)	1 (4%)	30	64
11	J	122/122 (100%)	109 (89%)	13 (11%)	6	26
12	K	118/121 (98%)	109 (92%)	9 (8%)	12	41
13	L	106/106 (100%)	104 (98%)	2 (2%)	50	76
14	M	112/126 (89%)	110 (98%)	2 (2%)	51	77
15	N	166/166 (100%)	159 (96%)	7 (4%)	26	61
16	O	149/149 (100%)	142 (95%)	7 (5%)	23	58
17	P	93/93 (100%)	91 (98%)	2 (2%)	45	74
18	Q	113/116 (97%)	109 (96%)	4 (4%)	32	65
19	R	79/79 (100%)	75 (95%)	4 (5%)	21	55
20	S	117/121 (97%)	113 (97%)	4 (3%)	32	66
21	T	71/73 (97%)	70 (99%)	1 (1%)	59	80
22	U	105/105 (100%)	100 (95%)	5 (5%)	23	57
23	V	44/52 (85%)	43 (98%)	1 (2%)	44	74
24	W	51/56 (91%)	50 (98%)	1 (2%)	48	76
25	X	130/130 (100%)	118 (91%)	12 (9%)	8	33
26	Y	66/73 (90%)	61 (92%)	5 (8%)	12	41
27	Z	120/195 (62%)	113 (94%)	7 (6%)	18	51
28	1	56/56 (100%)	54 (96%)	2 (4%)	31	65
29	2	46/46 (100%)	46 (100%)	0	100	100
30	3	42/44 (96%)	41 (98%)	1 (2%)	43	73
31	4	79/79 (100%)	76 (96%)	3 (4%)	29	63
All	All	3027/3441 (88%)	2873 (95%)	154 (5%)	21	55

All (154) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	C	3	ARG
4	C	33	GLU
4	C	36	ASP
4	C	55	VAL
4	C	68	ILE
4	C	69	LEU
4	C	94	LEU
4	C	131	HIS
4	C	153	ARG
4	C	175	LYS
4	C	179	MET
4	C	217	ARG
5	D	7	ARG
5	D	11	LEU
5	D	20	THR
5	D	27	ASN
5	D	33	ASP
5	D	63	GLU
5	D	84	LEU
5	D	97	LEU
5	D	98	THR
5	D	103	ASP
5	D	190	MET
5	D	195	ARG
5	D	234	ARG
5	D	251	VAL
5	D	254	GLN
5	D	256	GLN
5	D	307	ARG
5	D	312	ARG
6	E	2	GLN
6	E	27	ARG
6	E	67	GLN
6	E	78	ARG
6	E	91	PRO
6	E	94	THR
6	E	115	LEU
6	E	136	VAL
6	E	180	SER
6	E	187	ARG
6	E	214	THR
6	E	222	ASP
6	E	223	LEU

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Mol	Chain	Res	Type
6	E	234	VAL
6	E	236	THR
6	E	240	LEU
7	F	24	HIS
7	F	50	VAL
7	F	99	ASP
7	F	131	THR
7	F	136	ARG
7	F	137	PRO
7	F	149	ARG
7	F	170	TYR
8	G	7	ILE
8	G	12	ASP
8	G	86	VAL
8	G	102	VAL
9	H	1	PRO
9	H	12	LEU
9	H	78	GLU
10	I	64	ASN
11	J	18	GLU
11	J	30	GLN
11	J	59	ASN
11	J	61	LEU
11	J	72	VAL
11	J	73	GLN
11	J	82	LYS
11	J	85	ILE
11	J	86	ARG
11	J	94	ARG
11	J	142	VAL
11	J	150	LYS
11	J	166	ASN
12	K	46	ILE
12	K	47	THR
12	K	52	GLN
12	K	74	ARG
12	K	76	ASP
12	K	93	ARG
12	K	120	SER
12	K	127	ILE
12	K	131	THR
13	L	10	GLN

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Mol	Chain	Res	Type
13	L	98	VAL
14	M	117	GLU
14	M	140	VAL
15	N	38	VAL
15	N	46	LEU
15	N	87	MET
15	N	93	ARG
15	N	99	ARG
15	N	159	THR
15	N	164	THR
16	O	17	ARG
16	O	26	LEU
16	O	43	VAL
16	O	49	THR
16	O	128	ASP
16	O	152	GLU
16	O	163	PHE
17	P	3	THR
17	P	98	LEU
18	Q	52	LYS
18	Q	91	LYS
18	Q	94	TRP
18	Q	98	ILE
19	R	11	ARG
19	R	16	ASN
19	R	57	ASP
19	R	95	GLU
20	S	13	THR
20	S	39	THR
20	S	82	GLU
20	S	143	VAL
21	T	10	VAL
22	U	23	VAL
22	U	26	THR
22	U	39	ASN
22	U	48	VAL
22	U	96	VAL
23	V	28	THR
24	W	43	PRO
25	X	4	LEU
25	X	13	MET
25	X	26	ILE

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Mol	Chain	Res	Type
25	X	35	VAL
25	X	45	VAL
25	X	52	VAL
25	X	73	LEU
25	X	88	THR
25	X	122	ARG
25	X	142	ASP
25	X	146	ILE
25	X	154	ARG
26	Y	15	ARG
26	Y	27	ASP
26	Y	49	ARG
26	Y	66	THR
26	Y	72	VAL
27	Z	103	THR
27	Z	163	THR
27	Z	172	THR
27	Z	189	ASN
27	Z	200	THR
27	Z	203	VAL
27	Z	235	GLU
28	1	11	THR
28	1	64	ILE
30	3	18	ASN
31	4	42	ARG
31	4	56	PRO
31	4	65	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (113) such sidechains are listed below:

Mol	Chain	Res	Type
4	C	5	GLN
4	C	29	HIS
4	C	47	HIS
4	C	92	ASN
4	C	127	GLN
4	C	174	ASN
4	C	199	HIS
4	C	218	ASN
5	D	27	ASN
5	D	94	GLN
5	D	145	HIS

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Mol	Chain	Res	Type
5	D	221	GLN
5	D	238	ASN
5	D	243	ASN
5	D	260	HIS
5	D	286	ASN
5	D	320	GLN
5	D	332	ASN
6	E	2	GLN
6	E	39	GLN
6	E	67	GLN
6	E	129	HIS
6	E	163	HIS
6	E	178	GLN
7	F	103	ASN
7	F	133	ASN
8	G	106	ASN
8	G	119	HIS
8	G	143	GLN
10	I	17	GLN
10	I	64	ASN
11	J	35	ASN
11	J	45	GLN
11	J	55	GLN
11	J	58	HIS
11	J	59	ASN
11	J	74	ASN
11	J	91	HIS
11	J	129	ASN
11	J	130	HIS
11	J	166	ASN
12	K	29	GLN
12	K	52	GLN
12	K	107	ASN
13	L	10	GLN
13	L	67	GLN
14	M	18	HIS
14	M	41	HIS
14	M	42	ASN
14	M	43	HIS
14	M	55	GLN
14	M	58	GLN
14	M	116	HIS

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Mol	Chain	Res	Type
15	N	26	HIS
15	N	58	GLN
15	N	176	GLN
16	O	22	GLN
16	O	93	GLN
16	O	107	ASN
16	O	153	GLN
17	P	53	GLN
18	Q	28	GLN
18	Q	50	GLN
18	Q	66	GLN
18	Q	73	HIS
18	Q	118	GLN
19	R	16	ASN
19	R	40	HIS
19	R	59	GLN
20	S	22	GLN
20	S	61	GLN
20	S	98	ASN
20	S	102	GLN
20	S	113	HIS
20	S	117	HIS
21	T	51	GLN
21	T	53	ASN
21	T	56	ASN
22	U	11	GLN
22	U	39	ASN
22	U	43	ASN
22	U	73	HIS
23	V	48	ASN
24	W	6	GLN
24	W	60	GLN
25	X	27	HIS
25	X	28	HIS
25	X	87	HIS
25	X	110	GLN
25	X	119	HIS
25	X	125	HIS
25	X	141	HIS
26	Y	23	HIS
27	Z	121	HIS
27	Z	133	HIS

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Mol	Chain	Res	Type
27	Z	134	HIS
27	Z	149	GLN
27	Z	189	ASN
28	1	33	HIS
28	1	37	HIS
28	1	70	GLN
29	2	8	GLN
29	2	16	HIS
29	2	28	HIS
30	3	16	ASN
30	3	18	ASN
30	3	37	HIS
30	3	41	HIS
30	3	45	ASN
31	4	18	GLN
31	4	30	GLN
31	4	48	ASN
31	4	78	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2747/2922 (94%)	248 (9%)	32 (1%)
2	B	121/122 (99%)	16 (13%)	3 (2%)
3	5	2/3 (66%)	1 (50%)	0
3	6	2/3 (66%)	0	0
All	All	2872/3050 (94%)	265 (9%)	35 (1%)

All (265) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	11	A
1	A	31	C
1	A	60	A
1	A	67	A
1	A	69	A
1	A	70	A
1	A	71	G
1	A	87	C
1	A	88	G
1	A	114	A

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Mol	Chain	Res	Type
1	A	115	U
1	A	120	A
1	A	130	C
1	A	139	C
1	A	141	C
1	A	151	A
1	A	166	A
1	A	169	A
1	A	186	A
1	A	191	A
1	A	192	A
1	A	200	U
1	A	219	G
1	A	237	G
1	A	271	C
1	A	272	A
1	A	273	G
1	A	283	U
1	A	284	C
1	A	285	A
1	A	308	U
1	A	309	C
1	A	317	A
1	A	318	C
1	A	336	G
1	A	337	A
1	A	345	G
1	A	358	G
1	A	381	G
1	A	397	A
1	A	417	G
1	A	461	C
1	A	487	G
1	A	498	A
1	A	510	U
1	A	511	A
1	A	514	G
1	A	537	G
1	A	538	C
1	A	539	G
1	A	542	A
1	A	545	G

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Mol	Chain	Res	Type
1	A	553	G
1	A	559	U
1	A	588	G
1	A	604	G
1	A	605	C
1	A	620	A
1	A	632	A
1	A	644	G
1	A	660	A
1	A	688	A
1	A	701	U
1	A	717	C
1	A	777	U
1	A	809	G
1	A	821	U
1	A	835	U
1	A	840	U
1	A	857	A
1	A	858	U
1	A	868	G
1	A	869	G
1	A	871	G
1	A	872	U
1	A	875	A
1	A	877	G
1	A	878	G
1	A	884	C
1	A	885	G
1	A	898	G
1	A	905	C
1	A	920	C
1	A	921	G
1	A	923	A
1	A	953	G
1	A	960	G
1	A	961	A
1	A	1006	A
1	A	1008	C
1	A	1029	U
1	A	1045	G
1	A	1059	G
1	A	1060	C

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Mol	Chain	Res	Type
1	A	1072	G
1	A	1081	A
1	A	1087	G
1	A	1088	A
1	A	1109	U
1	A	1110	G
1	A	1119	G
1	A	1130	U
1	A	1137	G
1	A	1151	G
1	A	1161	A
1	A	1162	G
1	A	1164	U
1	A	1165	G
1	A	1166	A
1	A	1171	A
1	A	1174	A
1	A	1175	G
1	A	1177	A
1	A	1185	U
1	A	1192	A
1	A	1193	A
1	A	1206	U
1	A	1216	G
1	A	1237	U
1	A	1238	C
1	A	1239	G
1	A	1279	U
1	A	1289	C
1	A	1342	C
1	A	1353	C
1	A	1360	C
1	A	1377	C
1	A	1378	G
1	A	1407	A
1	A	1451	C
1	A	1474	C
1	A	1488	U
1	A	1505	U
1	A	1506	U
1	A	1524	U
1	A	1525	G

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Mol	Chain	Res	Type
1	A	1526	A
1	A	1528	A
1	A	1564	C
1	A	1580	A
1	A	1592	G
1	A	1625	U
1	A	1626	A
1	A	1633	C
1	A	1634	G
1	A	1656	A
1	A	1667	A
1	A	1682	A
1	A	1684	A
1	A	1685	A
1	A	1692	C
1	A	1701	A
1	A	1722	U
1	A	1723	G
1	A	1725	C
1	A	1730	G
1	A	1731	C
1	A	1752	G
1	A	1778	A
1	A	1798	C
1	A	1819	G
1	A	1820	G
1	A	1829	A
1	A	1856	C
1	A	1879	U
1	A	1904	A
1	A	1919	A
1	A	1942	A
1	A	1971	G
1	A	1973	A
1	A	1974	G
1	A	1978	A
1	A	1980	U
1	A	1996	U
1	A	2008	U
1	A	2011	A
1	A	2012	U
1	A	2013	G

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Mol	Chain	Res	Type
1	A	2033	G
1	A	2034	U
1	A	2064	U
1	A	2072	G
1	A	2073	G
1	A	2074	A
1	A	2096	A
1	A	2101	A
1	A	2102	G
1	A	2103	A
1	A	2110	G
1	A	2238	A
1	A	2258	A
1	A	2271	G
1	A	2272	G
1	A	2317	C
1	A	2321	A
1	A	2346	C
1	A	2354	A
1	A	2361	A
1	A	2369	A
1	A	2379	G
1	A	2422	U
1	A	2462	G
1	A	2467	A
1	A	2476	C
1	A	2480	G
1	A	2483	A
1	A	2507	G
1	A	2509	A
1	A	2511	A
1	A	2526	C
1	A	2527	U
1	A	2533	C
1	A	2537	G
1	A	2541	U
1	A	2553	A
1	A	2564	G
1	A	2589	U
1	A	2601	A
1	A	2602	G
1	A	2608	C

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Mol	Chain	Res	Type
1	A	2613	G
1	A	2616	G
1	A	2617	G
1	A	2637	A
1	A	2649	A
1	A	2664	A
1	A	2681	A
1	A	2682	C
1	A	2718	C
1	A	2719	A
1	A	2726	U
1	A	2747	C
1	A	2748	G
1	A	2749	U
1	A	2750	G
1	A	2762	C
1	A	2768	A
1	A	2786	G
1	A	2792	A
1	A	2800	A
1	A	2811	A
1	A	2825	C
1	A	2850	C
1	A	2876	G
1	A	2890	A
1	A	2896	A
1	A	2903	C
1	A	2914	A
2	B	3002	U
2	B	3014	G
2	B	3022	G
2	B	3023	U
2	B	3024	U
2	B	3025	G
2	B	3026	C
2	B	3041	C
2	B	3043	G
2	B	3044	A
2	B	3052	A
2	B	3057	A
2	B	3066	G
2	B	3077	A

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Mol	Chain	Res	Type
2	B	3114	G
2	B	3122	C
3	5	75	C

All (35) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	10	U
1	A	129	A
1	A	284	C
1	A	338	C
1	A	603	A
1	A	604	G
1	A	716	G
1	A	834	G
1	A	857	A
1	A	871	G
1	A	877	G
1	A	898	G
1	A	1080	C
1	A	1232	A
1	A	1237	U
1	A	1352	A
1	A	1377	C
1	A	1450	C
1	A	1563	G
1	A	1667	A
1	A	1730	G
1	A	1856	C
1	A	1979	G
1	A	2011	A
1	A	2313	C
1	A	2467	A
1	A	2526	C
1	A	2536	C
1	A	2616	G
1	A	2649	A
1	A	2718	C
1	A	2791	U
2	B	3024	U
2	B	3065	A
2	B	3103	A

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 235 ligands modelled in this entry, 233 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
36	PHA	6	77	3	9,10,11	0.69	0	11,11,13	0.46	0
36	PHA	5	77	3	10,11,11	0.90	0	8,13,13	1.00	0

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
36	PHA	6	77	3	-	2/4/4/6	0/1/1/1
36	PHA	5	77	3	-	3/5/6/6	0/1/1/1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
36	6	77	PHA	O-C-CA-CB
36	5	77	PHA	CA-CB-CG-CD2

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Mol	Chain	Res	Type	Atoms
36	5	77	PHA	CA-CB-CG-CD1
36	6	77	PHA	C-CA-CB-CG
36	5	77	PHA	C-CA-CB-CG

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	2754/2922 (94%)	0.81	218 (7%) 18 10	19, 47, 95, 154	0
2	B	122/122 (100%)	0.51	6 (4%) 35 18	30, 62, 92, 154	0
3	5	3/3 (100%)	4.72	3 (100%) 0 0	14, 14, 16, 17	3 (100%)
3	6	3/3 (100%)	3.65	3 (100%) 0 0	8, 8, 9, 15	3 (100%)
4	C	237/239 (99%)	0.76	3 (1%) 75 53	27, 52, 91, 115	0
5	D	337/337 (100%)	0.80	11 (3%) 49 28	26, 55, 84, 96	0
6	E	246/246 (100%)	0.33	2 (0%) 82 64	19, 47, 71, 80	0
7	F	140/176 (79%)	1.27	29 (20%) 2 2	53, 101, 124, 131	0
8	G	172/177 (97%)	0.73	13 (7%) 20 10	41, 68, 91, 99	0
9	H	119/119 (100%)	0.96	7 (5%) 28 14	53, 77, 104, 111	0
10	I	29/348 (8%)	1.04	4 (13%) 6 4	66, 86, 97, 103	0
11	J	156/167 (93%)	0.41	6 (3%) 44 24	30, 52, 77, 81	0
12	K	142/145 (97%)	0.37	1 (0%) 84 66	34, 47, 71, 90	0
13	L	132/132 (100%)	0.78	2 (1%) 72 49	31, 53, 78, 86	0
14	M	145/164 (88%)	0.55	5 (3%) 48 27	21, 67, 108, 116	0
15	N	194/194 (100%)	0.53	8 (4%) 41 23	30, 47, 68, 80	0
16	O	186/186 (100%)	0.64	14 (7%) 20 10	35, 65, 112, 125	0
17	P	115/115 (100%)	0.42	1 (0%) 81 61	36, 54, 74, 83	0
18	Q	143/148 (96%)	1.14	16 (11%) 10 6	36, 57, 71, 80	0
19	R	95/95 (100%)	0.10	0 100 100	32, 42, 57, 73	0
20	S	150/154 (97%)	0.55	2 (1%) 75 53	29, 43, 64, 75	0
21	T	81/84 (96%)	0.98	5 (6%) 26 14	41, 62, 81, 85	0
22	U	119/119 (100%)	0.73	5 (4%) 40 22	38, 60, 86, 105	0
23	V	53/66 (80%)	1.12	5 (9%) 14 7	42, 53, 71, 80	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
24	W	65/70 (92%)	1.25	8 (12%) 8 5	56, 79, 120, 125	0
25	X	154/154 (100%)	0.04	1 (0%) 85 69	29, 45, 62, 74	0
26	Y	82/91 (90%)	1.12	11 (13%) 7 4	42, 56, 79, 100	0
27	Z	142/240 (59%)	0.28	2 (1%) 73 51	25, 45, 67, 86	0
28	1	73/73 (100%)	1.32	14 (19%) 3 2	43, 61, 76, 81	0
29	2	56/56 (100%)	0.40	0 100 100	24, 33, 39, 41	0
30	3	46/48 (95%)	1.26	11 (23%) 2 1	34, 65, 118, 126	0
31	4	92/92 (100%)	0.48	2 (2%) 62 39	39, 55, 69, 78	0
All	All	6583/7285 (90%)	0.73	418 (6%) 26 13	8, 52, 97, 154	6 (0%)

All (418) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
24	W	1	THR	11.1
5	D	1	PRO	6.4
3	5	74	C	5.6
2	B	3025	G	5.2
1	A	1173	A	5.2
7	F	10	PHE	5.1
1	A	1175	G	5.0
3	6	76	A	4.8
2	B	3001	U	4.8
3	5	75	C	4.6
1	A	1561	U	4.6
8	G	10	ASP	4.2
3	6	74	C	4.1
16	O	162	ASP	4.1
2	B	3024	U	4.1
1	A	1176	C	4.1
1	A	1174	A	4.0
2	B	3023	U	4.0
3	5	76	A	3.9
24	W	43	PRO	3.8
1	A	2876	G	3.8
2	B	3002	U	3.8
1	A	2877	G	3.8
7	F	62	ASP	3.8
1	A	1559	A	3.7
26	Y	88	GLU	3.7

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Mol	Chain	Res	Type	RSRZ
1	A	1184	C	3.7
16	O	166	ALA	3.6
1	A	1166	A	3.6
18	Q	116	SER	3.6
1	A	1626	A	3.5
1	A	2254	G	3.5
30	3	37	HIS	3.4
9	H	99	THR	3.4
1	A	1171	A	3.4
7	F	69	ILE	3.4
1	A	2867	G	3.4
1	A	1161	A	3.3
30	3	42	TRP	3.3
18	Q	25	PRO	3.3
18	Q	58	SER	3.3
1	A	1525	G	3.3
16	O	186	LEU	3.3
12	K	94	GLY	3.3
1	A	138	U	3.2
1	A	1819	G	3.2
30	3	47	THR	3.2
7	F	171	ASP	3.2
14	M	81	VAL	3.2
1	A	10	U	3.1
28	1	47	LEU	3.1
1	A	1172	G	3.1
1	A	2135	A	3.1
1	A	2875	A	3.1
10	I	26	MET	3.1
1	A	1793	C	3.1
1	A	1799	G	3.1
1	A	1805	G	3.1
1	A	2250	G	3.1
1	A	1169	U	3.1
1	A	1160	G	3.1
1	A	1800	G	3.1
1	A	2755	G	3.1
1	A	2874	G	3.1
1	A	1964	U	3.1
15	N	156	ARG	3.1
1	A	1578	C	3.0
1	A	362	G	3.0

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Mol	Chain	Res	Type	RSRZ
1	A	1814	G	3.0
1	A	1181	A	3.0
1	A	1523	G	3.0
1	A	2851	G	3.0
5	D	47	GLY	3.0
7	F	27	ILE	3.0
30	3	43	ARG	3.0
9	H	105	ALA	3.0
15	N	140	ALA	3.0
26	Y	87	ALA	3.0
18	Q	62	ALA	2.9
21	T	74	ALA	2.9
8	G	45	ASP	2.9
18	Q	127	GLY	2.9
1	A	130	C	2.9
1	A	2136	G	2.9
1	A	2637	A	2.9
11	J	114	PRO	2.9
8	G	126	ILE	2.9
1	A	2754	G	2.9
7	F	49	PRO	2.9
18	Q	94	TRP	2.9
9	H	91	VAL	2.9
1	A	2257	G	2.9
1	A	2886	C	2.8
8	G	12	ASP	2.8
8	G	13	ALA	2.8
26	Y	85	VAL	2.8
23	V	18	GLY	2.8
1	A	1547	A	2.8
1	A	2253	G	2.8
11	J	35	ASN	2.8
1	A	1598	A	2.8
1	A	1806	G	2.8
22	U	1	SER	2.8
1	A	2737	C	2.8
11	J	167	ALA	2.8
7	F	63	ILE	2.8
28	1	37	HIS	2.7
28	1	75	ALA	2.7
1	A	2906	A	2.7
1	A	2914	A	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	735	C	2.7
1	A	2769	C	2.7
21	T	81	ILE	2.7
1	A	1529	G	2.7
1	A	2884	G	2.7
8	G	124	VAL	2.7
5	D	155	PRO	2.7
5	D	282	GLY	2.7
30	3	46	ASP	2.7
16	O	159	TYR	2.7
17	P	24	ALA	2.7
1	A	1663	G	2.7
9	H	106	THR	2.7
1	A	1193	A	2.7
1	A	2345	A	2.7
16	O	148	ALA	2.7
7	F	174	VAL	2.7
28	1	42	CYS	2.7
30	3	49	GLU	2.7
1	A	1563	G	2.7
1	A	1198	U	2.7
1	A	1701	A	2.6
21	T	21	GLN	2.6
1	A	66	G	2.6
1	A	960	G	2.6
1	A	2827	A	2.6
23	V	52	THR	2.6
24	W	2	VAL	2.6
1	A	1763	C	2.6
18	Q	110	ASP	2.6
1	A	1542	G	2.6
1	A	1568	G	2.6
22	U	119	ALA	2.6
16	O	168	LEU	2.6
7	F	163	VAL	2.6
7	F	74	THR	2.6
1	A	496	G	2.6
1	A	1190	G	2.6
5	D	119	HIS	2.6
7	F	105	SER	2.6
24	W	42	ASN	2.6
1	A	1579	C	2.6

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Mol	Chain	Res	Type	RSRZ
1	A	1633	C	2.6
7	F	58	VAL	2.6
14	M	82	ALA	2.6
15	N	194	ALA	2.6
16	O	179	LEU	2.5
1	A	1628	G	2.5
1	A	2882	G	2.5
5	D	118	ASP	2.5
1	A	128	A	2.5
1	A	1177	A	2.5
1	A	1527	A	2.5
1	A	1616	A	2.5
28	1	11	THR	2.5
1	A	1507	C	2.5
28	1	15	GLY	2.5
26	Y	74	ALA	2.5
27	Z	235	GLU	2.5
1	A	808	A	2.5
1	A	1191	A	2.5
1	A	2664	A	2.5
1	A	2697	A	2.5
1	A	1167	G	2.5
1	A	1449	G	2.5
1	A	1618	G	2.5
1	A	1634	G	2.5
5	D	31	SER	2.5
9	H	101	ALA	2.5
1	A	2756	U	2.5
30	3	31	GLU	2.5
13	L	112	PRO	2.5
30	3	38	LYS	2.5
1	A	1192	A	2.5
1	A	1815	A	2.5
1	A	56	G	2.5
1	A	2738	G	2.5
15	N	16	LYS	2.5
1	A	1624	A	2.4
15	N	87	MET	2.4
23	V	50	GLU	2.4
26	Y	22	ASN	2.4
1	A	2745	C	2.4
1	A	815	U	2.4

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Mol	Chain	Res	Type	RSRZ
7	F	50	VAL	2.4
18	Q	143	ALA	2.4
20	S	107	GLU	2.4
5	D	168	GLY	2.4
7	F	102	GLY	2.4
1	A	1168	C	2.4
11	J	38	ALA	2.4
1	A	2736	U	2.4
1	A	2887	G	2.4
24	W	45	ARG	2.4
30	3	41	HIS	2.4
1	A	2889	U	2.4
8	G	131	LEU	2.4
1	A	798	G	2.4
1	A	1627	G	2.4
1	A	1794	G	2.4
1	A	2740	G	2.4
7	F	21	VAL	2.4
16	O	158	LEU	2.4
1	A	1392	A	2.4
1	A	1573	A	2.4
1	A	1797	A	2.4
24	W	41	GLU	2.4
1	A	970	U	2.4
7	F	172	VAL	2.4
1	A	505	C	2.3
1	A	2903	C	2.3
4	C	236	GLY	2.3
7	F	59	GLY	2.3
18	Q	124	ASP	2.3
1	A	1785	G	2.3
18	Q	101	GLN	2.3
1	A	363	A	2.3
1	A	1606	A	2.3
22	U	53	GLY	2.3
1	A	1206	U	2.3
1	A	1640	C	2.3
1	A	2035	C	2.3
18	Q	131	PHE	2.3
1	A	1178	G	2.3
1	A	1197	G	2.3
1	A	2871	G	2.3

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Mol	Chain	Res	Type	RSRZ
28	1	41	VAL	2.3
7	F	51	ARG	2.3
1	A	1202	A	2.3
1	A	1615	A	2.3
1	A	2883	A	2.3
1	A	1575	C	2.3
1	A	1790	C	2.3
1	A	1789	G	2.3
7	F	12	GLU	2.3
7	F	23	VAL	2.3
18	Q	98	ILE	2.3
5	D	337	GLY	2.3
7	F	66	GLY	2.3
18	Q	5	ALA	2.3
18	Q	59	ARG	2.3
25	X	142	ASP	2.3
1	A	1410	G	2.2
1	A	1510	G	2.2
1	A	1950	G	2.2
16	O	147	ILE	2.2
1	A	98	A	2.2
1	A	1458	A	2.2
1	A	2852	A	2.2
23	V	51	TRP	2.2
7	F	47	GLN	2.2
7	F	130	VAL	2.2
26	Y	72	VAL	2.2
8	G	81	GLU	2.2
10	I	71	LEU	2.2
24	W	38	GLY	2.2
1	A	810	G	2.2
1	A	817	G	2.2
1	A	1162	G	2.2
1	A	1592	G	2.2
1	A	2701	G	2.2
1	A	2734	G	2.2
1	A	2786	G	2.2
2	B	3022	G	2.2
9	H	98	VAL	2.2
22	U	59	GLU	2.2
1	A	1182	C	2.2
8	G	100	ASP	2.2

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Mol	Chain	Res	Type	RSRZ
11	J	39	GLY	2.2
4	C	29	HIS	2.2
22	U	96	VAL	2.2
8	G	67	SER	2.2
15	N	165	SER	2.2
1	A	1205	U	2.2
1	A	285	A	2.2
1	A	1496	G	2.2
1	A	1576	G	2.2
1	A	1605	G	2.2
1	A	2252	A	2.2
1	A	2748	G	2.2
28	1	20	LEU	2.2
5	D	32	ASP	2.2
1	A	1196	C	2.2
1	A	1397	C	2.2
28	1	52	THR	2.2
14	M	97	VAL	2.2
16	O	184	ILE	2.2
23	V	5	GLU	2.2
1	A	1554	U	2.2
10	I	73	ASP	2.2
1	A	1502	A	2.2
1	A	1607	A	2.2
1	A	1661	A	2.2
1	A	854	G	2.2
1	A	1453	G	2.2
1	A	1970	G	2.2
1	A	2134	G	2.2
1	A	2826	G	2.2
1	A	799	C	2.1
1	A	1644	C	2.1
1	A	2846	C	2.1
28	1	70	GLN	2.1
28	1	35	LYS	2.1
1	A	2854	A	2.1
7	F	72	LYS	2.1
1	A	1165	G	2.1
1	A	1543	G	2.1
1	A	1929	G	2.1
1	A	2249	G	2.1
1	A	2862	G	2.1

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Mol	Chain	Res	Type	RSRZ
31	4	21	GLU	2.1
1	A	364	C	2.1
1	A	1450	C	2.1
1	A	1786	C	2.1
1	A	1798	C	2.1
4	C	60	PHE	2.1
7	F	104	PHE	2.1
8	G	155	ASN	2.1
26	Y	65	ASN	2.1
11	J	32	ASP	2.1
16	O	183	ASP	2.1
28	1	33	HIS	2.1
1	A	1170	U	2.1
7	F	55	LYS	2.1
1	A	1448	A	2.1
1	A	1632	A	2.1
1	A	1641	A	2.1
6	E	135	GLU	2.1
14	M	83	GLU	2.1
1	A	1614	G	2.1
1	A	2251	G	2.1
1	A	2564	G	2.1
1	A	2668	G	2.1
1	A	2753	G	2.1
1	A	2892	G	2.1
1	A	494	C	2.1
1	A	1204	C	2.1
1	A	2881	C	2.1
3	6	75	C	2.1
28	1	60	CYS	2.1
30	3	44	ARG	2.1
1	A	1874	U	2.1
16	O	68	GLU	2.1
5	D	153	SER	2.1
1	A	827	A	2.1
30	3	28	LYS	2.1
27	Z	108	ASP	2.1
1	A	1623	C	2.1
1	A	1762	C	2.1
1	A	2824	C	2.1
1	A	1195	G	2.1
1	A	1203	G	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	1441	G	2.1
1	A	1491	G	2.1
1	A	1610	G	2.1
1	A	1646	G	2.1
1	A	1878	G	2.1
1	A	2863	G	2.1
6	E	204	ALA	2.1
15	N	1	ALA	2.1
24	W	39	ALA	2.1
26	Y	83	ALA	2.1
28	1	50	ALA	2.1
7	F	107	GLY	2.1
15	N	58	GLN	2.1
18	Q	78	GLY	2.1
9	H	78	GLU	2.1
31	4	41	GLU	2.1
1	A	2853	U	2.0
1	A	2872	U	2.0
8	G	11	VAL	2.0
21	T	77	VAL	2.0
16	O	154	LEU	2.0
20	S	101	HIS	2.0
1	A	796	A	2.0
1	A	1492	A	2.0
1	A	1656	A	2.0
7	F	35	ALA	2.0
10	I	21	ASP	2.0
13	L	119	GLN	2.0
14	M	150	GLN	2.0
1	A	1201	C	2.0
1	A	1558	C	2.0
1	A	1584	C	2.0
1	A	1965	C	2.0
1	A	2825	C	2.0
1	A	79	G	2.0
1	A	786	G	2.0
1	A	801	U	2.0
1	A	1185	U	2.0
1	A	2735	U	2.0
8	G	156	ASP	2.0
16	O	167	ASP	2.0
18	Q	93	ASP	2.0

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Mol	Chain	Res	Type	RSRZ
26	Y	52	PRO	2.0
1	A	806	A	2.0
1	A	1637	A	2.0
1	A	2891	A	2.0
7	F	43	GLU	2.0
21	T	43	GLU	2.0
26	Y	7	GLU	2.0
26	Y	82	GLU	2.0
1	A	250	C	2.0
1	A	280	C	2.0
1	A	287	C	2.0
1	A	1574	C	2.0
1	A	1593	C	2.0
1	A	1666	C	2.0

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides 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($\text{\AA}^2$)	Q<0.9
34	NA	A	8329	1/1	0.34	0.17	65,65,65,65	0
34	NA	B	8351	1/1	0.47	0.24	85,85,85,85	0
34	NA	A	8315	1/1	0.49	0.21	29,29,29,29	0
32	MG	A	8041	1/1	0.51	0.17	79,79,79,79	0
34	NA	A	8384	1/1	0.52	0.32	101,101,101,101	0
34	NA	A	8366	1/1	0.52	0.24	51,51,51,51	0
32	MG	6	8118	1/1	0.53	0.29	61,61,61,61	0
34	NA	T	8312	1/1	0.56	0.20	108,108,108,108	0
34	NA	A	8344	1/1	0.59	0.04	17,17,17,17	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
34	NA	S	8386	1/1	0.60	0.22	63,63,63,63	0
36	PHA	5	77	11/11	0.61	0.38	24,25,29,29	11
34	NA	A	8354	1/1	0.63	0.20	31,31,31,31	0
34	NA	A	8340	1/1	0.64	0.18	38,38,38,38	0
34	NA	A	8328	1/1	0.67	0.27	54,54,54,54	0
36	PHA	6	77	10/11	0.67	0.40	35,38,41,41	10
32	MG	A	8044	1/1	0.70	0.13	50,50,50,50	0
34	NA	A	8385	1/1	0.71	0.14	43,43,43,43	0
32	MG	A	8046	1/1	0.71	0.15	45,45,45,45	0
34	NA	A	8359	1/1	0.71	0.43	48,48,48,48	0
32	MG	A	8116	1/1	0.72	0.13	67,67,67,67	0
34	NA	A	8350	1/1	0.72	0.22	36,36,36,36	0
34	NA	A	8310	1/1	0.72	0.14	33,33,33,33	0
34	NA	A	8367	1/1	0.76	0.16	48,48,48,48	0
34	NA	A	8377	1/1	0.76	0.30	76,76,76,76	0
34	NA	A	8361	1/1	0.76	0.18	48,48,48,48	0
34	NA	A	8330	1/1	0.77	0.11	42,42,42,42	0
34	NA	A	8336	1/1	0.77	0.10	41,41,41,41	0
34	NA	A	8324	1/1	0.77	0.46	58,58,58,58	0
32	MG	A	8092	1/1	0.78	0.20	92,92,92,92	0
34	NA	A	8356	1/1	0.78	0.34	44,44,44,44	0
34	NA	A	8307	1/1	0.78	0.17	53,53,53,53	0
34	NA	A	8375	1/1	0.78	0.50	63,63,63,63	0
34	NA	A	8302	1/1	0.79	0.16	39,39,39,39	0
32	MG	A	8111	1/1	0.79	0.14	67,67,67,67	0
34	NA	A	8373	1/1	0.79	0.19	45,45,45,45	0
34	NA	A	8363	1/1	0.79	0.17	46,46,46,46	0
35	CL	A	8514	1/1	0.80	0.17	55,55,55,55	0
32	MG	A	8024	1/1	0.80	0.37	95,95,95,95	0
34	NA	K	8346	1/1	0.80	0.10	33,33,33,33	0
32	MG	A	8089	1/1	0.81	0.15	60,60,60,60	0
32	MG	A	8067	1/1	0.81	0.18	55,55,55,55	0
32	MG	A	8117	1/1	0.82	0.11	26,26,26,26	0
32	MG	A	8049	1/1	0.82	0.10	67,67,67,67	0
34	NA	S	8337	1/1	0.82	0.10	45,45,45,45	0
34	NA	A	8357	1/1	0.82	0.16	53,53,53,53	0
34	NA	A	8316	1/1	0.82	0.18	30,30,30,30	0
34	NA	A	8360	1/1	0.82	0.26	45,45,45,45	0
34	NA	A	8320	1/1	0.82	0.16	24,24,24,24	0
34	NA	A	8353	1/1	0.82	0.07	26,26,26,26	0
35	CL	K	8502	1/1	0.83	0.08	62,62,62,62	0
32	MG	A	8082	1/1	0.83	0.16	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
34	NA	A	8327	1/1	0.83	0.13	34,34,34,34	0
34	NA	A	8370	1/1	0.84	0.20	50,50,50,50	0
34	NA	A	8382	1/1	0.84	0.21	54,54,54,54	0
34	NA	N	8365	1/1	0.84	0.27	46,46,46,46	0
32	MG	Z	8109	1/1	0.84	0.06	28,28,28,28	0
34	NA	A	8368	1/1	0.84	0.30	69,69,69,69	0
34	NA	S	8338	1/1	0.85	0.11	48,48,48,48	0
34	NA	A	8313	1/1	0.85	0.09	44,44,44,44	0
34	NA	A	8371	1/1	0.85	0.51	62,62,62,62	0
35	CL	A	8511	1/1	0.85	0.14	65,65,65,65	0
32	MG	A	8070	1/1	0.85	0.19	36,36,36,36	0
32	MG	A	8045	1/1	0.85	0.12	52,52,52,52	0
35	CL	L	8512	1/1	0.85	0.15	47,47,47,47	0
34	NA	A	8311	1/1	0.85	0.15	52,52,52,52	0
34	NA	A	8369	1/1	0.85	0.28	59,59,59,59	0
34	NA	A	8372	1/1	0.86	0.19	55,55,55,55	0
34	NA	A	8308	1/1	0.86	0.23	49,49,49,49	0
32	MG	A	8050	1/1	0.86	0.11	65,65,65,65	0
32	MG	A	8075	1/1	0.86	0.14	64,64,64,64	0
34	NA	A	8317	1/1	0.86	0.10	63,63,63,63	0
35	CL	A	8513	1/1	0.87	0.12	50,50,50,50	0
32	MG	A	8101	1/1	0.87	0.17	54,54,54,54	0
34	NA	A	8374	1/1	0.87	0.21	60,60,60,60	0
32	MG	A	8076	1/1	0.87	0.12	37,37,37,37	0
35	CL	M	8510	1/1	0.87	0.16	57,57,57,57	0
32	MG	A	8094	1/1	0.87	0.11	67,67,67,67	0
32	MG	A	8100	1/1	0.87	0.16	53,53,53,53	0
34	NA	N	8347	1/1	0.88	0.07	36,36,36,36	0
34	NA	A	8362	1/1	0.88	0.20	70,70,70,70	0
35	CL	A	8522	1/1	0.88	0.28	78,78,78,78	0
32	MG	A	8080	1/1	0.88	0.09	33,33,33,33	0
32	MG	A	8097	1/1	0.88	0.08	27,27,27,27	0
34	NA	A	8301	1/1	0.88	0.05	26,26,26,26	0
35	CL	P	8508	1/1	0.88	0.13	72,72,72,72	0
32	MG	A	8106	1/1	0.88	0.13	45,45,45,45	0
34	NA	A	8303	1/1	0.88	0.18	55,55,55,55	0
37	CD	P	8405	1/1	0.88	0.12	184,184,184,184	0
32	MG	A	8098	1/1	0.89	0.14	28,28,28,28	0
32	MG	A	8035	1/1	0.89	0.10	54,54,54,54	0
32	MG	A	8087	1/1	0.89	0.08	56,56,56,56	0
32	MG	A	8051	1/1	0.89	0.10	87,87,87,87	0
35	CL	C	8509	1/1	0.89	0.11	55,55,55,55	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
35	CL	K	8501	1/1	0.89	0.10	69,69,69,69	0
34	NA	A	8325	1/1	0.89	0.14	49,49,49,49	0
32	MG	A	8053	1/1	0.89	0.07	39,39,39,39	0
32	MG	A	8112	1/1	0.89	0.17	43,43,43,43	0
35	CL	O	8507	1/1	0.89	0.09	63,63,63,63	0
32	MG	A	8115	1/1	0.89	0.07	36,36,36,36	0
32	MG	A	8058	1/1	0.89	0.09	33,33,33,33	0
32	MG	A	8096	1/1	0.89	0.12	46,46,46,46	0
32	MG	A	8064	1/1	0.89	0.09	29,29,29,29	0
37	CD	V	8401	1/1	0.89	0.06	69,69,69,69	0
32	MG	A	8043	1/1	0.90	0.11	38,38,38,38	0
32	MG	A	8016	1/1	0.90	0.08	38,38,38,38	0
32	MG	A	8042	1/1	0.90	0.07	35,35,35,35	0
32	MG	A	8081	1/1	0.90	0.08	51,51,51,51	0
35	CL	N	8518	1/1	0.90	0.12	41,41,41,41	0
34	NA	A	8333	1/1	0.90	0.09	24,24,24,24	0
32	MG	A	8099	1/1	0.90	0.09	32,32,32,32	0
34	NA	A	8321	1/1	0.90	0.18	49,49,49,49	0
35	CL	A	8516	1/1	0.90	0.11	51,51,51,51	0
32	MG	1	8105	1/1	0.90	0.17	30,30,30,30	0
33	K	A	8201	1/1	0.90	0.19	76,76,76,76	0
37	CD	1	8403	1/1	0.90	0.06	60,60,60,60	0
34	NA	A	8323	1/1	0.91	0.11	34,34,34,34	0
34	NA	A	8342	1/1	0.91	0.14	34,34,34,34	0
32	MG	A	8059	1/1	0.91	0.09	65,65,65,65	0
34	NA	A	8364	1/1	0.91	0.20	39,39,39,39	0
32	MG	A	8071	1/1	0.91	0.09	80,80,80,80	0
32	MG	A	8061	1/1	0.91	0.07	25,25,25,25	0
35	CL	S	8506	1/1	0.91	0.15	41,41,41,41	0
35	CL	4	8504	1/1	0.91	0.08	56,56,56,56	0
32	MG	C	8065	1/1	0.91	0.10	40,40,40,40	0
32	MG	U	8073	1/1	0.91	0.07	52,52,52,52	0
34	NA	A	8318	1/1	0.91	0.27	37,37,37,37	0
32	MG	A	8114	1/1	0.91	0.07	51,51,51,51	0
32	MG	A	8090	1/1	0.91	0.23	62,62,62,62	0
32	MG	A	8037	1/1	0.92	0.09	46,46,46,46	0
32	MG	A	8039	1/1	0.92	0.08	52,52,52,52	0
34	NA	A	8379	1/1	0.92	0.12	34,34,34,34	0
32	MG	A	8088	1/1	0.92	0.19	23,23,23,23	0
34	NA	U	8343	1/1	0.92	0.12	23,23,23,23	0
32	MG	A	8040	1/1	0.92	0.08	71,71,71,71	0
32	MG	A	8029	1/1	0.92	0.08	53,53,53,53	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
35	CL	Z	8520	1/1	0.92	0.07	39,39,39,39	0
32	MG	A	8091	1/1	0.92	0.07	53,53,53,53	0
35	CL	A	8515	1/1	0.92	0.26	85,85,85,85	0
34	NA	J	8309	1/1	0.92	0.07	31,31,31,31	0
34	NA	A	8326	1/1	0.92	0.21	54,54,54,54	0
34	NA	A	8305	1/1	0.92	0.11	27,27,27,27	0
34	NA	A	8306	1/1	0.92	0.29	42,42,42,42	0
34	NA	A	8319	1/1	0.93	0.10	33,33,33,33	0
32	MG	A	8054	1/1	0.93	0.08	37,37,37,37	0
34	NA	A	8341	1/1	0.93	0.06	28,28,28,28	0
32	MG	A	8102	1/1	0.93	0.07	53,53,53,53	0
34	NA	B	8383	1/1	0.93	0.21	72,72,72,72	0
34	NA	C	8345	1/1	0.93	0.08	48,48,48,48	0
35	CL	K	8521	1/1	0.93	0.07	51,51,51,51	0
32	MG	A	8103	1/1	0.93	0.13	73,73,73,73	0
32	MG	A	8011	1/1	0.93	0.07	37,37,37,37	0
32	MG	A	8062	1/1	0.93	0.05	61,61,61,61	0
34	NA	A	8376	1/1	0.94	0.11	42,42,42,42	0
32	MG	D	8055	1/1	0.94	0.11	34,34,34,34	0
32	MG	D	8056	1/1	0.94	0.07	44,44,44,44	0
34	NA	A	8381	1/1	0.94	0.11	54,54,54,54	0
32	MG	A	8104	1/1	0.94	0.10	51,51,51,51	0
34	NA	A	8314	1/1	0.94	0.09	21,21,21,21	0
32	MG	A	8068	1/1	0.94	0.07	58,58,58,58	0
34	NA	A	8331	1/1	0.94	0.12	34,34,34,34	0
34	NA	A	8332	1/1	0.94	0.21	35,35,35,35	0
32	MG	A	8084	1/1	0.94	0.09	56,56,56,56	0
34	NA	A	8334	1/1	0.94	0.11	46,46,46,46	0
32	MG	A	8006	1/1	0.94	0.07	34,34,34,34	0
32	MG	A	8052	1/1	0.94	0.07	39,39,39,39	0
32	MG	A	8022	1/1	0.94	0.08	17,17,17,17	0
32	MG	A	8063	1/1	0.94	0.07	54,54,54,54	0
32	MG	A	8013	1/1	0.94	0.08	45,45,45,45	0
32	MG	B	8095	1/1	0.94	0.09	69,69,69,69	0
32	MG	A	8015	1/1	0.94	0.08	38,38,38,38	0
32	MG	A	8093	1/1	0.94	0.07	48,48,48,48	0
35	CL	A	8503	1/1	0.94	0.10	47,47,47,47	0
35	CL	A	8505	1/1	0.94	0.08	60,60,60,60	0
34	NA	A	8355	1/1	0.94	0.17	72,72,72,72	0
34	NA	A	8349	1/1	0.95	0.06	40,40,40,40	0
32	MG	A	8014	1/1	0.95	0.06	21,21,21,21	0
34	NA	A	8352	1/1	0.95	0.20	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
32	MG	A	8113	1/1	0.95	0.06	43,43,43,43	0
35	CL	A	8517	1/1	0.95	0.11	61,61,61,61	0
32	MG	A	8085	1/1	0.95	0.07	61,61,61,61	0
34	NA	A	8378	1/1	0.95	0.16	46,46,46,46	0
35	CL	D	8519	1/1	0.95	0.12	47,47,47,47	0
34	NA	E	8304	1/1	0.95	0.06	39,39,39,39	0
32	MG	A	8110	1/1	0.95	0.08	29,29,29,29	0
32	MG	A	8021	1/1	0.95	0.07	22,22,22,22	0
34	NA	M	8380	1/1	0.95	0.18	61,61,61,61	0
37	CD	2	8402	1/1	0.95	0.05	64,64,64,64	0
32	MG	A	8048	1/1	0.96	0.08	57,57,57,57	0
32	MG	A	8010	1/1	0.96	0.07	26,26,26,26	0
34	NA	R	8348	1/1	0.96	0.04	29,29,29,29	0
34	NA	A	8335	1/1	0.96	0.11	58,58,58,58	0
32	MG	A	8108	1/1	0.96	0.14	72,72,72,72	0
34	NA	A	8339	1/1	0.96	0.08	14,14,14,14	0
32	MG	A	8019	1/1	0.96	0.11	15,15,15,15	0
32	MG	4	8078	1/1	0.96	0.08	63,63,63,63	0
32	MG	A	8023	1/1	0.96	0.06	34,34,34,34	0
34	NA	J	8322	1/1	0.96	0.39	68,68,68,68	0
34	NA	A	8358	1/1	0.96	0.22	113,113,113,113	0
33	K	A	8202	1/1	0.96	0.06	53,53,53,53	0
32	MG	A	8020	1/1	0.97	0.06	27,27,27,27	0
32	MG	A	8032	1/1	0.97	0.05	24,24,24,24	0
32	MG	A	8003	1/1	0.97	0.06	29,29,29,29	0
32	MG	A	8066	1/1	0.97	0.07	72,72,72,72	0
32	MG	A	8001	1/1	0.97	0.05	23,23,23,23	0
32	MG	A	8012	1/1	0.97	0.05	33,33,33,33	0
32	MG	A	8057	1/1	0.97	0.04	34,34,34,34	0
32	MG	A	8047	1/1	0.97	0.10	58,58,58,58	0
32	MG	A	8007	1/1	0.97	0.04	19,19,19,19	0
32	MG	A	8060	1/1	0.97	0.07	49,49,49,49	0
32	MG	A	8077	1/1	0.97	0.04	33,33,33,33	0
32	MG	A	8028	1/1	0.97	0.08	30,30,30,30	0
32	MG	L	8069	1/1	0.98	0.04	56,56,56,56	0
32	MG	A	8038	1/1	0.98	0.04	29,29,29,29	0
32	MG	A	8009	1/1	0.98	0.06	15,15,15,15	0
32	MG	A	8030	1/1	0.98	0.05	23,23,23,23	0
32	MG	A	8031	1/1	0.98	0.06	19,19,19,19	0
32	MG	A	8083	1/1	0.98	0.04	43,43,43,43	0
32	MG	A	8004	1/1	0.98	0.05	28,28,28,28	0
32	MG	A	8033	1/1	0.98	0.06	22,22,22,22	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
32	MG	A	8086	1/1	0.98	0.09	49,49,49,49	0
32	MG	A	8027	1/1	0.98	0.09	35,35,35,35	0
32	MG	A	8008	1/1	0.98	0.05	20,20,20,20	0
37	CD	4	8404	1/1	0.98	0.03	63,63,63,63	0
32	MG	A	8036	1/1	0.99	0.04	27,27,27,27	0
32	MG	A	8005	1/1	0.99	0.02	32,32,32,32	0
32	MG	A	8002	1/1	0.99	0.03	33,33,33,33	0
32	MG	A	8079	1/1	0.99	0.03	27,27,27,27	0
32	MG	A	8025	1/1	0.99	0.03	63,63,63,63	0
32	MG	A	8026	1/1	0.99	0.03	20,20,20,20	0
32	MG	A	8017	1/1	0.99	0.05	24,24,24,24	0
32	MG	A	8107	1/1	0.99	0.04	39,39,39,39	0
32	MG	A	8034	1/1	0.99	0.05	24,24,24,24	0
32	MG	A	8018	1/1	0.99	0.03	44,44,44,44	0
32	MG	A	8072	1/1	0.99	0.07	44,44,44,44	0
32	MG	A	8074	1/1	0.99	0.04	15,15,15,15	0

6.5 Other polymers

There are no such residues in this entry.