



Full wwPDB X-ray Structure Validation Report ⓘ

Nov 7, 2023 – 01:43 AM EST

PDB ID : 1KQS
Title : The Haloarcula marismortui 50S Complexed with a Pretranslocational Intermediate in Protein Synthesis
Authors : Schmeing, T.M.; Seila, A.C.; Hansen, J.L.; Freeborn, B.; Soukup, J.K.; Scaringe, S.A.; Strobel, S.A.; Moore, P.B.; Steitz, T.A.
Deposited on : 2002-01-07
Resolution : 3.10 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 : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

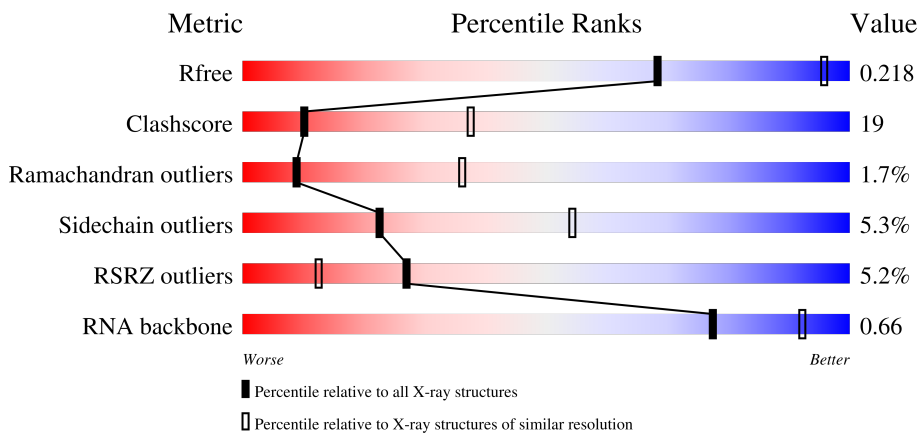
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.10 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1094 (3.10-3.10)
Clashscore	141614	1184 (3.10-3.10)
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)
RSRZ outliers	127900	1067 (3.10-3.10)
RNA backbone	3102	1116 (3.40-2.80)

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	0	2922	 2% 57% 32% 5% • 6%
2	9	122	 5% 52% 38% 9% •
3	3	3	 33% 33% 33%

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Mol	Chain	Length	Quality of chain
4	4	2	100%
5	A	239	2% 57% 37% 5%
6	B	337	53% 42% 6%
7	C	246	54% 41% 5%
8	D	176	18% 23% 48% 7% 20%
9	E	177	% 55% 40%
10	F	119	2% 59% 39%
11	G	348	% 5% 92%
12	H	167	% 34% 53% 7% 7%
13	I	145	63% 29% 6%
14	J	132	63% 36%
15	K	164	7% 49% 38% 12%
16	L	194	10% 42% 53% 5%
17	M	186	10% 44% 52% 5%
18	N	115	69% 30%
19	O	148	% 69% 25%
20	P	95	% 74% 25%
21	Q	154	65% 29%
22	R	84	2% 63% 33%
23	S	119	3% 53% 45%
24	T	66	53% 39% 39% 20%
25	U	70	9% 43% 46% 7%
26	V	154	49% 45% 6%
27	W	91	3% 44% 40% 7% 10%
28	X	240	40% 16% 41%

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Mol	Chain	Length	Quality of chain
29	Y	73	
30	Z	56	
31	1	48	
32	2	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
33	MG	0	8114	-	-	-	X
33	MG	Y	8105	-	-	-	X
35	NA	0	8329	-	-	-	X
35	NA	0	8363	-	-	-	X
35	NA	0	8371	-	-	-	X
35	NA	0	8384	-	-	-	X
35	NA	9	8383	-	-	-	X
35	NA	Q	8386	-	-	-	X
35	NA	R	8312	-	-	-	X
36	CL	2	8504	-	-	-	X
41	CD	2	8404	-	-	-	X

2 Entry composition [i](#)

There are 42 unique types of molecules in this entry. The entry contains 98688 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 RRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	0	2754	59017	26346	10878	19048	2745	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
0	560	C	U	conflict	? 3377779

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

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

- Molecule 3 is a RNA chain called CCA.

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

- Molecule 4 is a RNA chain called CC-Pmn-pcb.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
4	4	2	37	18	6	12	1	0	0	0

- Molecule 5 is a protein called RIBOSOMAL PROTEIN L2.

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

- Molecule 6 is a protein called RIBOSOMAL PROTEIN L3.

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

There are 2 discrepancies between the modelled and reference sequences:

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

- Molecule 7 is a protein called RIBOSOMAL PROTEIN L4.

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

- Molecule 8 is a protein called RIBOSOMAL PROTEIN L5.

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

- Molecule 9 is a protein called RIBOSOMAL PROTEIN L6.

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

- Molecule 10 is a protein called RIBOSOMAL PROTEIN L7AE.

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

- Molecule 11 is a protein called RIBOSOMAL PROTEIN L10.

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

- Molecule 12 is a protein called RIBOSOMAL PROTEIN L10E.

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

- Molecule 13 is a protein called RIBOSOMAL PROTEIN L13.

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

- Molecule 14 is a protein called RIBOSOMAL PROTEIN L14.

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

- Molecule 15 is a protein called RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
15	K	145	1114	668	222	224	0	0	0

- Molecule 16 is a protein called RIBOSOMAL PROTEIN L15E.

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

- Molecule 17 is a protein called RIBOSOMAL PROTEIN L18.

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

- Molecule 18 is a protein called RIBOSOMAL PROTEIN L18E.

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

- Molecule 19 is a protein called RIBOSOMAL PROTEIN L19E.

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

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 20 is a protein called RIBOSOMAL PROTEIN L21E.

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

- Molecule 21 is a protein called RIBOSOMAL PROTEIN L22.

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

- Molecule 22 is a protein called RIBOSOMAL PROTEIN L23.

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

- Molecule 23 is a protein called RIBOSOMAL PROTEIN L24.

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

- Molecule 24 is a protein called RIBOSOMAL PROTEIN L24E.

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

- Molecule 25 is a protein called RIBOSOMAL PROTEIN L29.

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

- Molecule 26 is a protein called RIBOSOMAL PROTEIN L30.

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

- Molecule 27 is a protein called RIBOSOMAL PROTEIN L31E.

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

- Molecule 28 is a protein called RIBOSOMAL PROTEIN L32E.

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

- Molecule 29 is a protein called RIBOSOMAL PROTEIN L37Ae.

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

- Molecule 30 is a protein called RIBOSOMAL PROTEIN L37E.

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

- Molecule 31 is a protein called RIBOSOMAL PROTEIN L39E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
31	1	46	393	238	86	68	1	0	0	0

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 32 is a protein called RIBOSOMAL PROTEIN L44E.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
32	2	92	755	458	153	137	7	0	0	0

- Molecule 33 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	0	110	Total	Mg	0	0
			110	110		
33	9	1	Total	Mg	0	0
			1	1		
33	A	1	Total	Mg	0	0
			1	1		
33	J	1	Total	Mg	0	0
			1	1		
33	S	1	Total	Mg	0	0
			1	1		
33	X	1	Total	Mg	0	0
			1	1		
33	Y	1	Total	Mg	0	0
			1	1		
33	2	1	Total	Mg	0	0
			1	1		

- Molecule 34 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
34	0	2	Total	K	0	0
			2	2		

- Molecule 35 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	0	73	Total	Na	0	0
			73	73		
35	9	2	Total	Na	0	0
			2	2		
35	A	1	Total	Na	0	0
			1	1		

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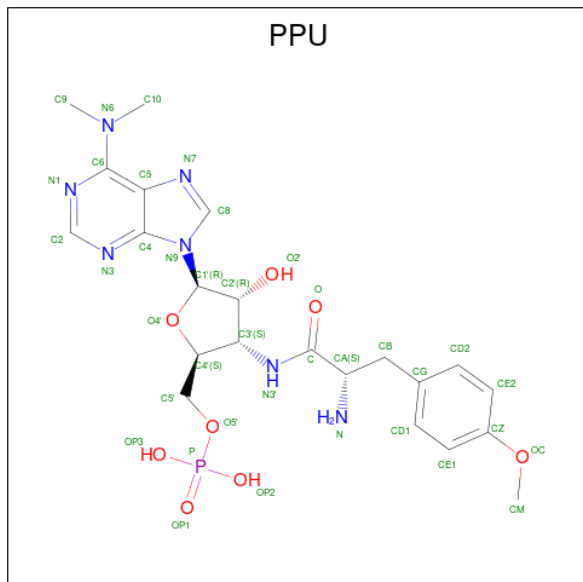
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
35	C	1	Total 1	Na 1	0	0
35	H	1	Total 1	Na 1	0	0
35	I	1	Total 1	Na 1	0	0
35	K	1	Total 1	Na 1	0	0
35	L	1	Total 1	Na 1	0	0
35	P	1	Total 1	Na 1	0	0
35	Q	3	Total 3	Na 3	0	0
35	R	1	Total 1	Na 1	0	0

- Molecule 36 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

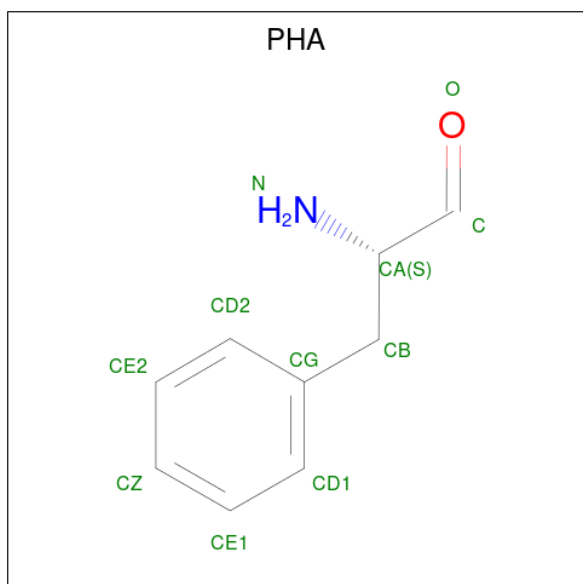
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
36	0	10	Total 10	Cl 10	0	0
36	A	1	Total 1	Cl 1	0	0
36	B	1	Total 1	Cl 1	0	0
36	I	3	Total 3	Cl 3	0	0
36	K	1	Total 1	Cl 1	0	0
36	L	1	Total 1	Cl 1	0	0
36	M	1	Total 1	Cl 1	0	0
36	N	1	Total 1	Cl 1	0	0
36	Q	1	Total 1	Cl 1	0	0
36	X	1	Total 1	Cl 1	0	0
36	2	1	Total 1	Cl 1	0	0

- Molecule 37 is PUROMYCIN-5'-MONOPHOSPHATE (three-letter code: PPU) (formula: $C_{22}H_{30}N_7O_8P$).



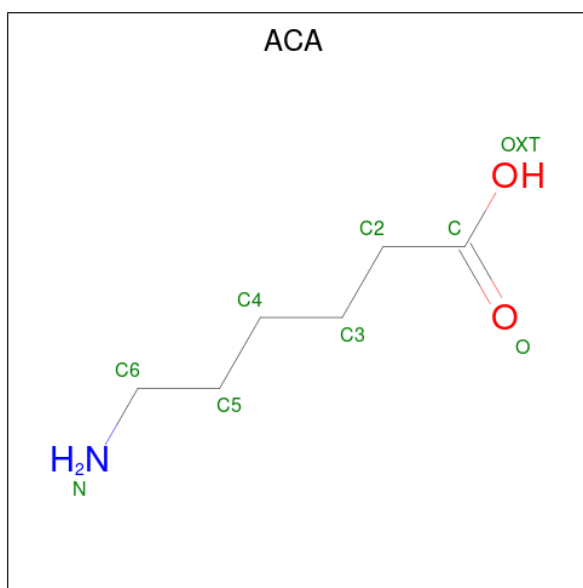
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
37	4	1	37	22	7	7	1	0	0

- Molecule 38 is PHENYLALANINAL (three-letter code: PHA) (formula: $C_9H_{11}NO$).



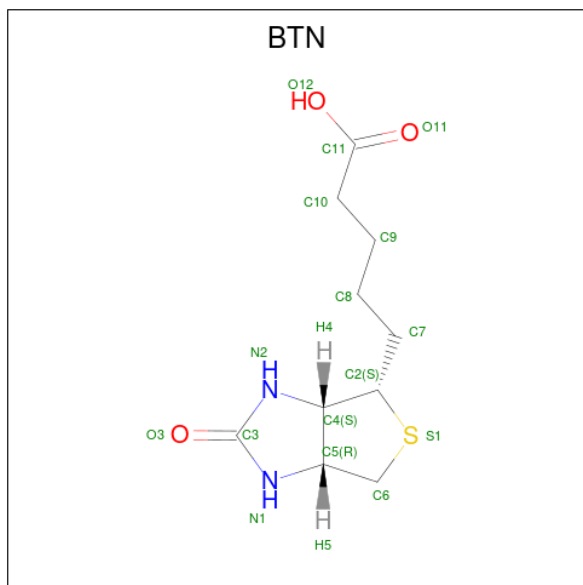
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
38	4	1	11	9	1	1	0	0

- Molecule 39 is 6-AMINOHEXANOIC ACID (three-letter code: ACA) (formula: $C_6H_{13}NO_2$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
39	4	1	8	6	1	1	0	0

- Molecule 40 is BIOTIN (three-letter code: BTN) (formula: $C_{10}H_{16}N_2O_3S$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	S		
40	4	1	15	10	2	2	1	0	0

- Molecule 41 is CADMIUM ION (three-letter code: CD) (formula: Cd).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
41	N	1	Total Cd 1 1	0	0
41	T	1	Total Cd 1 1	0	0
41	Y	1	Total Cd 1 1	0	0
41	Z	1	Total Cd 1 1	0	0
41	2	1	Total Cd 1 1	0	0

- Molecule 42 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
42	0	5873	Total O 5873 5873	0	0
42	9	140	Total O 140 140	0	0
42	3	4	Total O 4 4	0	0
42	4	4	Total O 4 4	0	0
42	A	132	Total O 132 132	0	0
42	B	143	Total O 143 143	0	0
42	C	176	Total O 176 176	0	0
42	D	51	Total O 51 51	0	0
42	E	44	Total O 44 44	0	0
42	F	29	Total O 29 29	0	0
42	G	22	Total O 22 22	0	0
42	H	78	Total O 78 78	0	0
42	I	57	Total O 57 57	0	0
42	J	61	Total O 61 61	0	0
42	K	84	Total O 84 84	0	0

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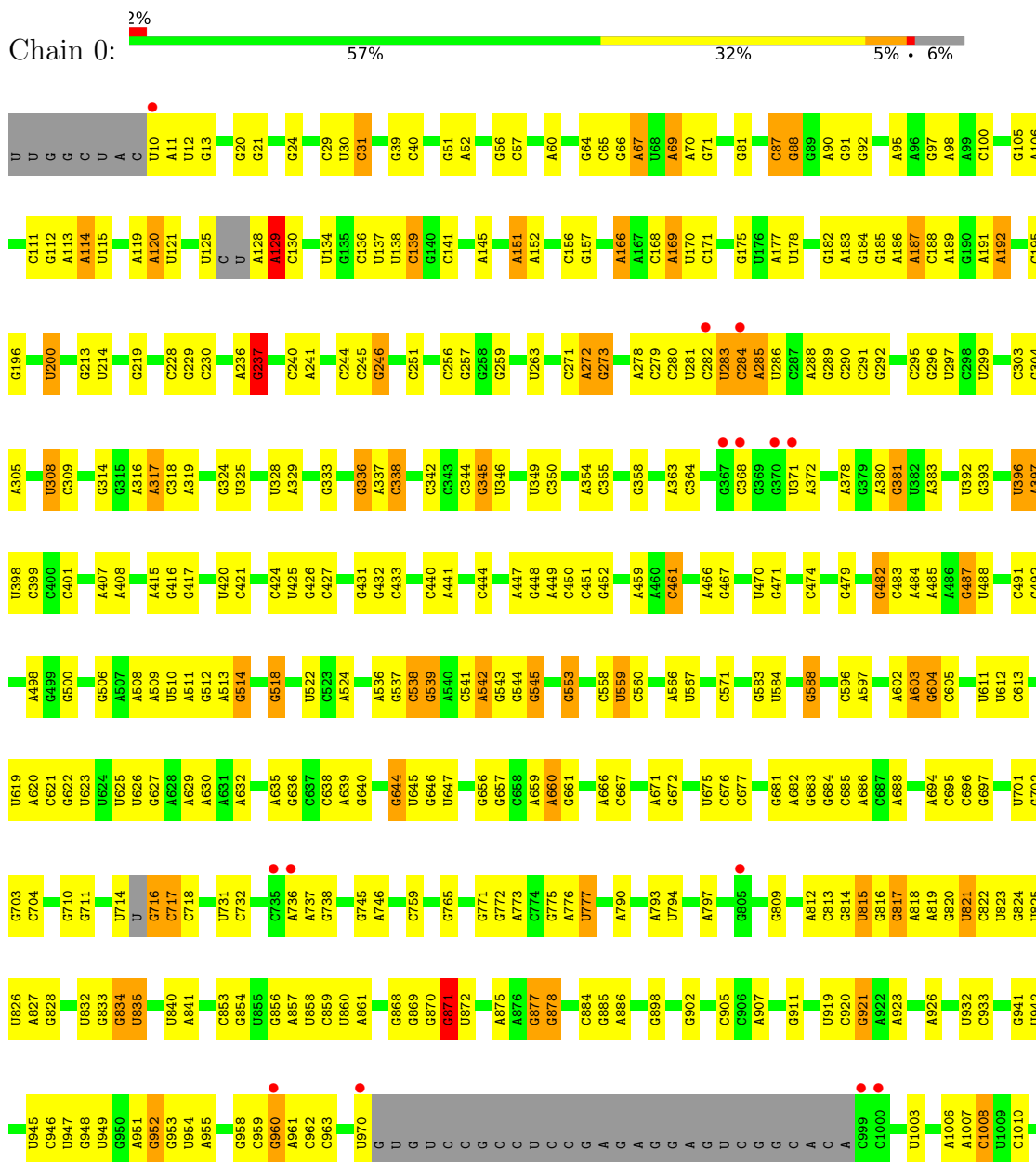
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
42	L	138	Total 138	O 138	0	0
42	M	70	Total 70	O 70	0	0
42	N	42	Total 42	O 42	0	0
42	O	67	Total 67	O 67	0	0
42	P	56	Total 56	O 56	0	0
42	Q	87	Total 87	O 87	0	0
42	R	36	Total 36	O 36	0	0
42	S	37	Total 37	O 37	0	0
42	T	26	Total 26	O 26	0	0
42	U	16	Total 16	O 16	0	0
42	V	66	Total 66	O 66	0	0
42	W	30	Total 30	O 30	0	0
42	X	96	Total 96	O 96	0	0
42	Y	33	Total 33	O 33	0	0
42	Z	55	Total 55	O 55	0	0
42	1	42	Total 42	O 42	0	0
42	2	76	Total 76	O 76	0	0

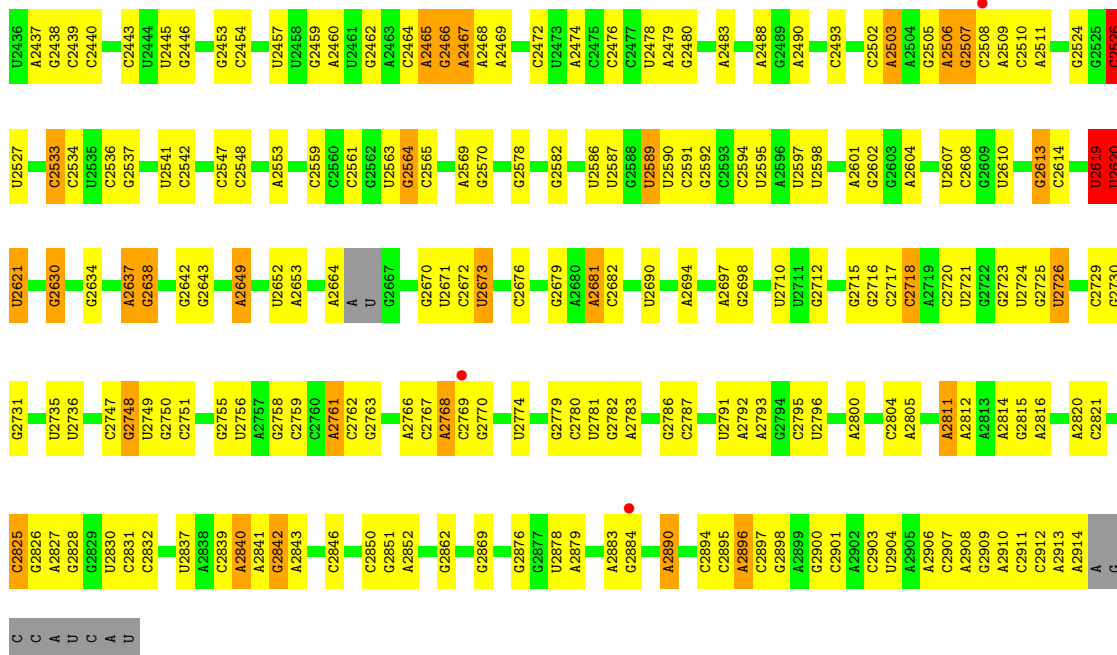
3 Residue-property plots i

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.

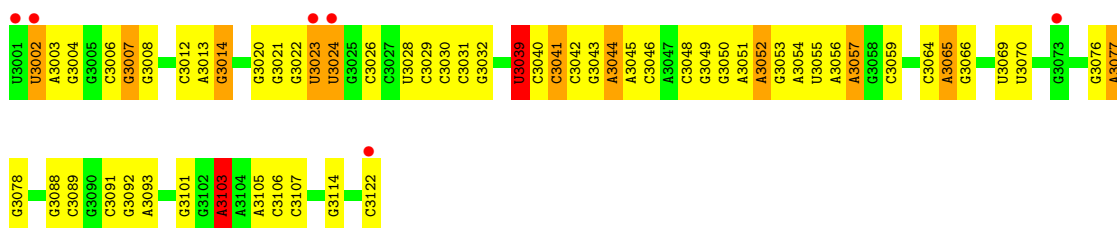
• Molecule 1: 23S RRNA



G	G2349	C	G2249	G	G2418	A1014
A	G2250	C	G2250	G	U2419	C1015
G	G2251	C	G2251	G	G2420	U1016
G	A2345	G	A2345	G	G2421	C1035
C	G2263	C	G2263	G	U2422	G1135
C	G2266	C	G2266	G	G2426	U1029
U	G2257	C	G2257	G	C2427	G1039
A	A2353	C	A2353	G	G2428	G1151
G	A2354	C	A2354	G	A2429	C1044
C	G2265	C	G2265	G	C2430	G1045
C	A2356	C	A2356	G	C2431	G1050
G	G2267	C	G2267	G	C2432	C1051
C	G2268	C	G2268	G	A2433	G1052
C	C2269	C	C2269	G	A2434	U1055
C	G2270	C	G2270	G	U2435	G1057
A	A2361	C	A2361	G	G2281	A1078
C	A2362	C	A2362	G	U2282	A1079
C	G2272	C	G2272	G	G2285	C1080
C	C2273	C	C2273	G	A2291	A1081
A	A2364	C	A2364	G	A2300	A1086
G	G2275	C	G2275	G	A2301	G1087
G	U2276	C	U2276	G	A2302	A1088
C	U2277	C	U2277	G	U2308	U1095
A	A2369	C	A2369	G	C2309	A1097
C	A2372	C	A2372	G	G2310	A1098
C	U2373	C	U2373	G	A2311	G1099
C	G2379	C	G2379	G	C2312	U1109
C	A2380	C	A2380	G	G2313	G1110
C	C2381	C	C2381	G	G2314	A1114
C	A2382	C	A2382	G	G2315	U1115
A	A2401	C	A2401	G	G2316	U1116
C	A2402	C	A2402	G	C2317	A1117
C	C2403	C	C2403	G	U2320	A1118
C	A2408	C	A2408	G	A2321	G1119
C	C2409	C	C2409	G	G2324	U1120
C	G2412	C	G2412	G	C2325	G1121
C	A2414	C	A2414	G	U2326	U1122
C	A2415	C	A2415	G	C2329	A1123
C	G2418	C	G2418	G	U2330	G1208
C	U2419	C	U2419	G	G2338	G1210
C	G2420	C	G2420	G	A	
C	C2421	C	C2421	G	C	
C	U2422	C	U2422	G	A	
C	G2426	C	G2426	G		
C	C2427	C	C2427	G		
C	A2429	C	A2429	G		
C	A2430	C	A2430	G		
C	C2431	C	C2431	G		
C	C2432	C	C2432	G		
C	A2433	C	A2433	G		
C	U2435	C	U2435	G		
C	C1451	C	C1451	C	C1912	G1670
C	G1460	C	G1460	C	C1913	U1677
C	U1461	C	U1461	C	A1778	A1678
C	C1462	C	C1462	C	A1779	G1679
C	U1463	C	U1463	C	G1880	G1680
C	U1464	C	U1464	C	C1681	A1573
C	A1470	C	A1470	C	A1882	A1580
C	A1471	C	A1471	C	G1883	G1588
C	C1472	C	C1472	C	A1684	G1589
C	U1473	C	U1473	C	G1886	G1592
C	A1474	C	A1474	C	C1687	C1593
C	A1477	C	A1477	C	C1692	A1352
C	U1478	C	U1478	C	C1699	G1239
C	A1685	C	A1685	C	C1699	A1242
C	G1886	C	G1886	C	C1700	C1243
C	C1687	C	C1687	C	A1701	C1244
C	A1882	C	A1882	C	U1702	A1246
C	A1684	C	A1684	C	A1710	U1249
C	G1886	C	G1886	C	A1711	C1250
C	C1687	C	C1687	C	A1712	C1251
C	A1882	C	A1882	C	A1717	A1252
C	A1603	C	A1603	C	U1722	C1253
C	G1604	C	G1604	C	G1828	U1266
C	A1605	C	A1605	C	U1723	C1267
C	C1609	C	C1609	C	A1829	A1188
C	G1610	C	G1610	C	G1830	A1189
C	C1613	C	C1613	C	C1830	G1190
C	U1624	C	U1624	C	C1725	A1191
C	A1625	C	A1625	C	G1730	A1192
C	A1626	C	A1626	C	C1731	A1193
C	G1627	C	G1627	C	A1733	G1197
C	C1633	C	C1633	C	C1734	U1198
C	G1634	C	G1634	C	C1735	A1199
C	U1635	C	U1635	C	A1736	A1200
C	A1636	C	A1636	C	U1741	C1201
C	A1637	C	A1637	C	A1742	U1202
C	A1641	C	A1641	C	G1743	A1206
C	A1642	C	A1642	C	G1751	A1207
C	A1653	C	A1653	C	G1752	G1299
C	U1654	C	U1654	C	C1753	U1304
C	G1655	C	G1655	C	A1759	C1305
C	A1656	C	A1656	C	G1760	U1306
C	A1657	C	A1657	C	U1761	A1307
C	A1658	C	A1658	C	C1762	A1308
C	G1660	C	G1660	C	C1763	A1434
C	C1666	C	C1666	C	U1766	G1311
C	A1667	C	A1667	C	A1767	G1203
C	U1668	C	U1668	C	C1768	G1205
C	A1669	C	A1669	C	U1770	U1206
C	G1671	C	G1671	C	U1771	U1207
C	U1771	C	U1771	C		A1207
C	C1772	C	C1772	C		C1208
C	G1773	C	G1773	C		G1210
C	A1778	C	A1778	C		
C	U1779	C	U1779	C		
C	A1783	C	A1783	C		
C	U1784	C	U1784	C		
C	C1788	C	C1788	C		
C	A1804	C	A1804	C		
C	G1805	C	G1805	C		
C	C1806	C	C1806	C		
C	C1810	C	C1810	C		
C	A1815	C	A1815	C		
C	U1817	C	U1817	C		
C	A1818	C	A1818	C		
C	G1819	C	G1819	C		
C	U1820	C	U1820	C		
C	A1835	C	A1835	C		
C	C1836	C	C1836	C		
C	A1840	C	A1840	C		
C	C1856	C	C1856	C		
C	G1868	C	G1868	C		
C	U1874	C	U1874	C		
C	G1878	C	G1878	C		
C	C1880	C	C1880	C		
C	A1881	C	A1881	C		
C	C1882	C	C1882	C		
C	U1883	C	U1883	C		
C	A1884	C	A1884	C		
C	U1885	C	U1885	C		
C	A1886	C	A1886	C		
C	U1887	C	U1887	C		
C	G1902	C	G1902	C		
C	U1903	C	U1903	C		
C	A1904	C	A1904	C		
C	A2010	C	A2010	C		
C	U2011	C	U2011	C		
C	U2012	C	U2012	C		
C	G2013	C	G2013	C		
C	A2015	C	A2015	C		
C	U2016	C	U2016	C		
C	A2019	C	A2019	C		
C	G2033	C	G2033	C		
C	U2034	C	U2034	C		
C	A2039	C	A2039	C		
C	G2044	C	G2044	C		
C	C2046	C	C2046	C		
C	C2047	C	C2047	C		
C	G2050	C	G2050	C		
C	A2054	C	A2054	C		
C	U2064	C	U2064	C		
C	G2068	C	G2068	C		
C	G2072	C	G2072	C		
C	C2073	C	C2073	C		
C	A2074	C	A2074	C		
C	U2078	C	U2078	C		
C	G2079	C	G2079	C		
C	G2080	C	G2080	C		
C	A2081	C	A2081	C		
C	C2084	C	C2084	C		
C	A2085	C	A2085	C		
C	C2088	C	C2088	C		
C	A2089	C	A2089	C		
C	G2091	C	G2091	C		
C	G2092	C	G2092	C		
C	G2093	C	G2093	C		
C	G2094	C	G2094	C		
C	A2095	C	A2095	C		
C	A2096	C	A2096	C		
C	G2110	C	G2110	C		
C	G2111	C	G2111	C		
C	A2100	C	A2100	C		
C	A2101	C	A2101	C		
C	G2102	C	G2102	C		
C	A2103	C	A2103	C		
C	G2110	C	G2110	C		
C	A2112	C	A2112	C		
C	G2113	C	G2113	C		
C	C2114	C	C2114	C		
C	U2115	C	U2115	C		
C	U2116	C	U2116	C		
C	G2237	C	G2237	C		
C	C2241	C	C2241	C		
C	U2242	C	U2242	C		
C	C2247	C	C2247	C		
C	C2248	C	C2248	C		



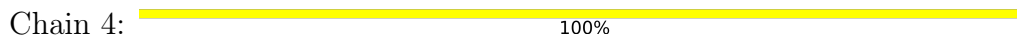
• Molecule 2: 5S RRNA



• Molecule 3: CCA

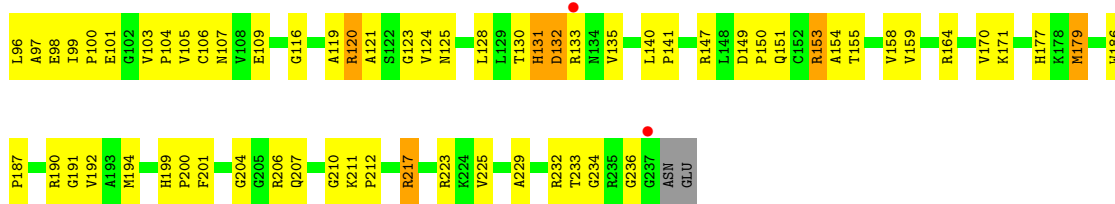


• Molecule 4: CC-Pmn-pcb

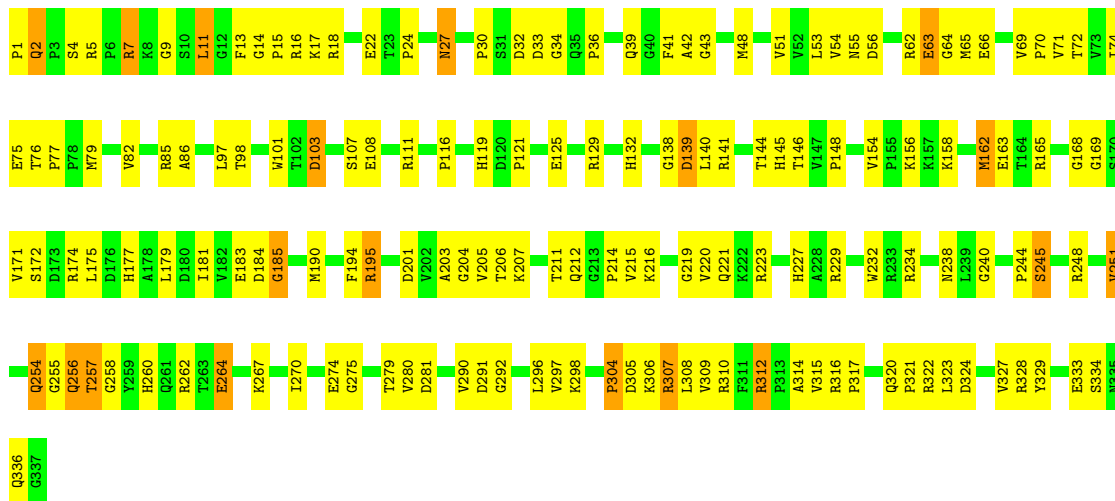


• Molecule 5: RIBOSOMAL PROTEIN L2

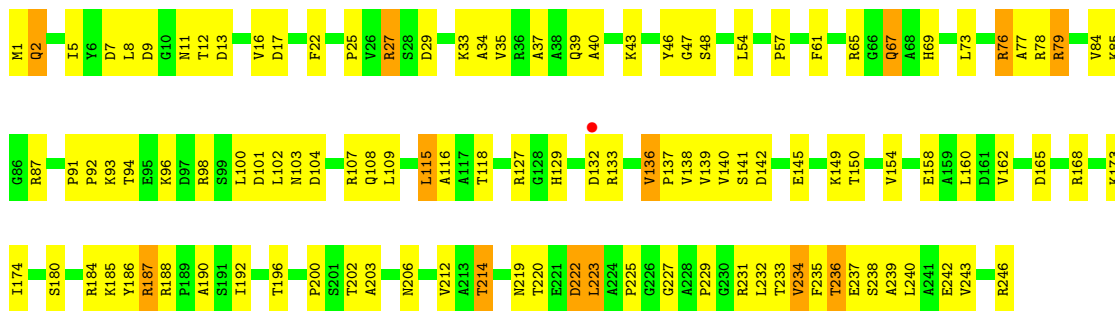




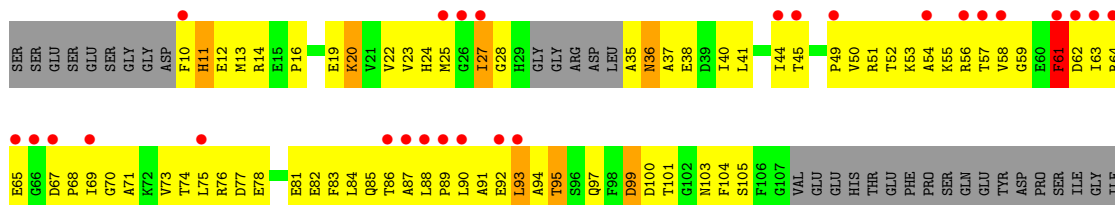
• Molecule 6: RIBOSOMAL PROTEIN L3

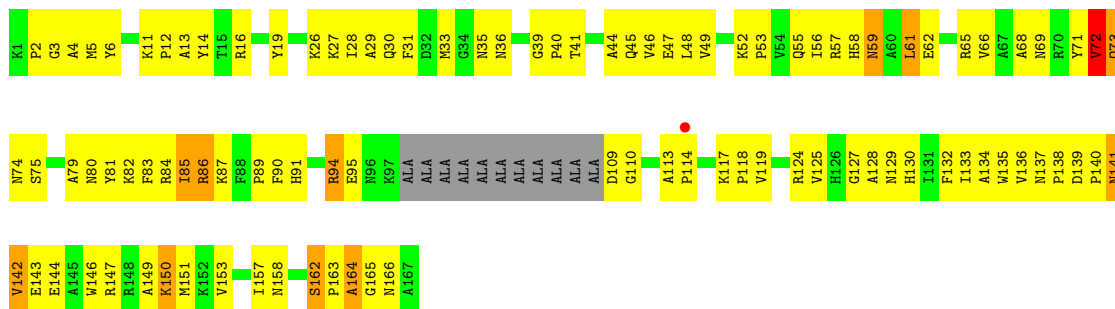


• Molecule 7: RIBOSOMAL PROTEIN L4



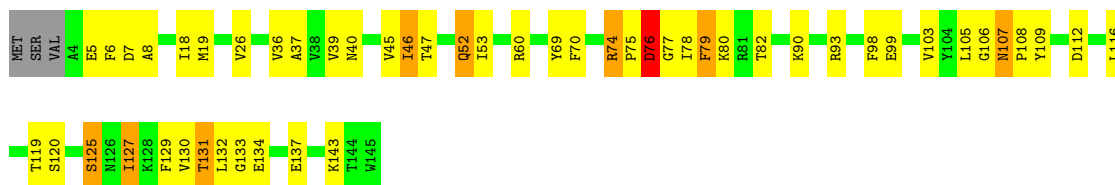
• Molecule 8: RIBOSOMAL PROTEIN L5





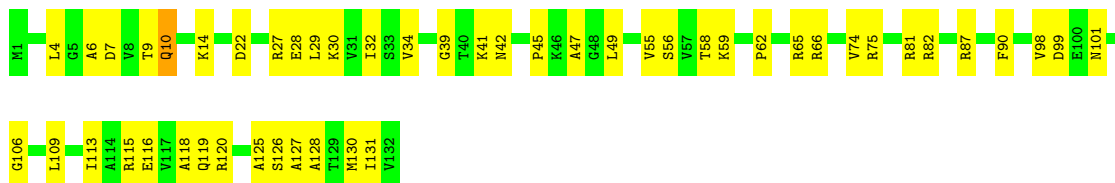
- Molecule 13: RIBOSOMAL PROTEIN L13

Chain I: 63% 29% 6% ..



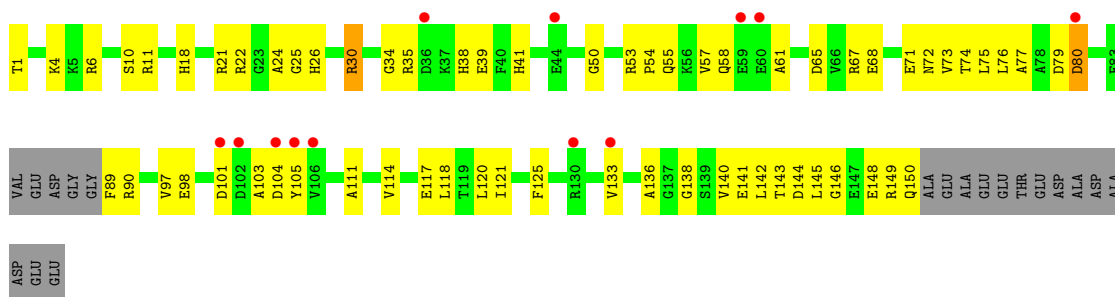
- Molecule 14: RIBOSOMAL PROTEIN L14

Chain J: 63% 36% .



- Molecule 15: RIBOSOMAL PROTEIN L15

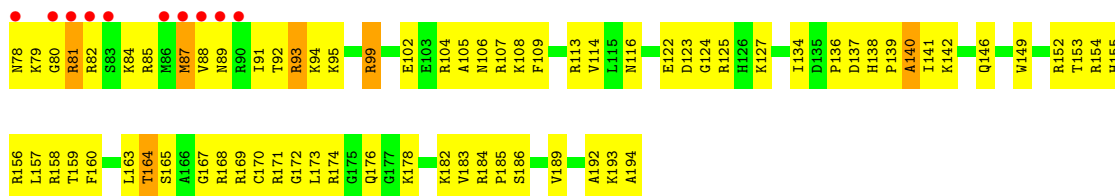
Chain K: 7% 49% 38% . 12%



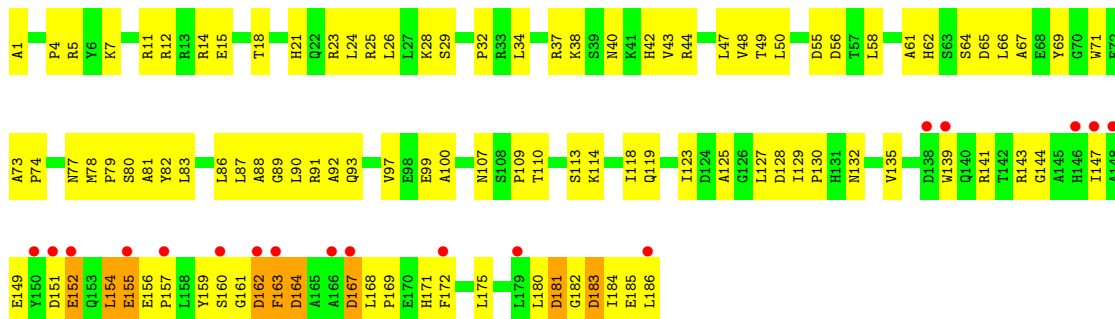
- Molecule 16: RIBOSOMAL PROTEIN L15E

Chain L: 10% 42% 53% 5%

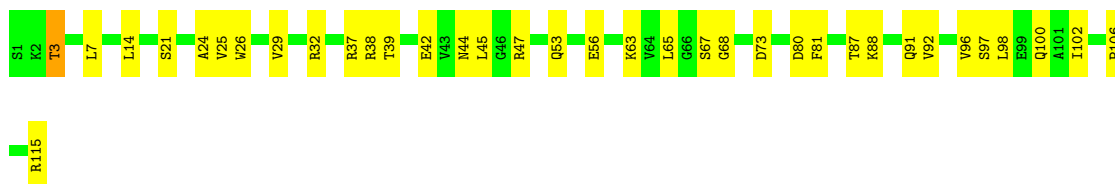




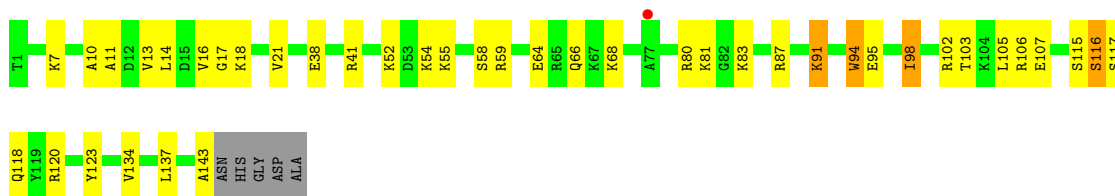
- Molecule 17: RIBOSOMAL PROTEIN L18



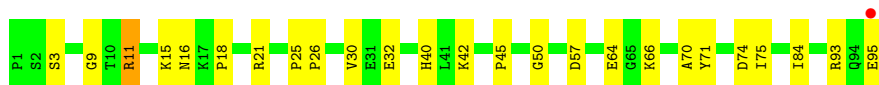
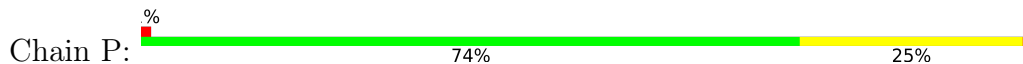
- Molecule 18: RIBOSOMAL PROTEIN L18E



- Molecule 19: RIBOSOMAL PROTEIN L19E

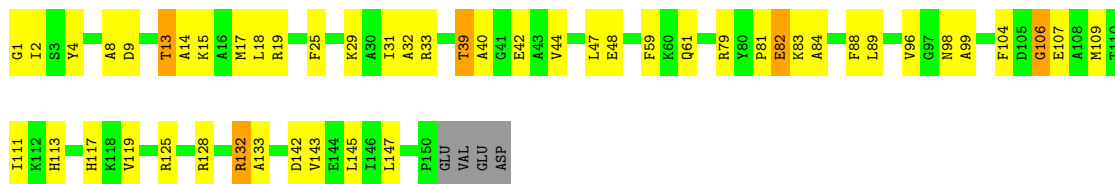


- Molecule 20: RIBOSOMAL PROTEIN L21E



- Molecule 21: RIBOSOMAL PROTEIN L22

Chain Q:  65% 29%



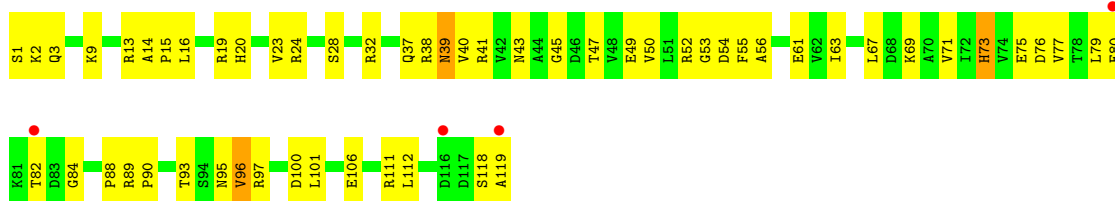
• Molecule 22: RIBOSOMAL PROTEIN L23

Chain R:  2% 63% 33%



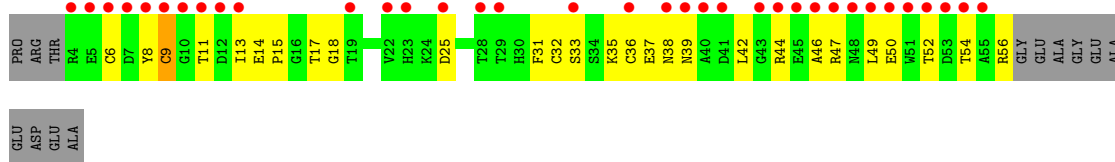
• Molecule 23: RIBOSOMAL PROTEIN L24

Chain S:  3% 53% 45%

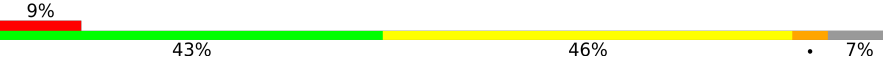


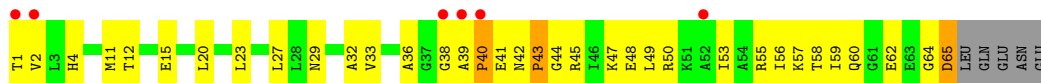
• Molecule 24: RIBOSOMAL PROTEIN L24E

Chain T:  53% 39% 39% 20%



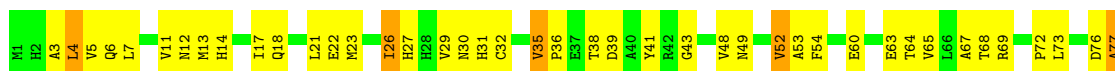
• Molecule 25: RIBOSOMAL PROTEIN L29

Chain U:  9% 43% 46% 7%

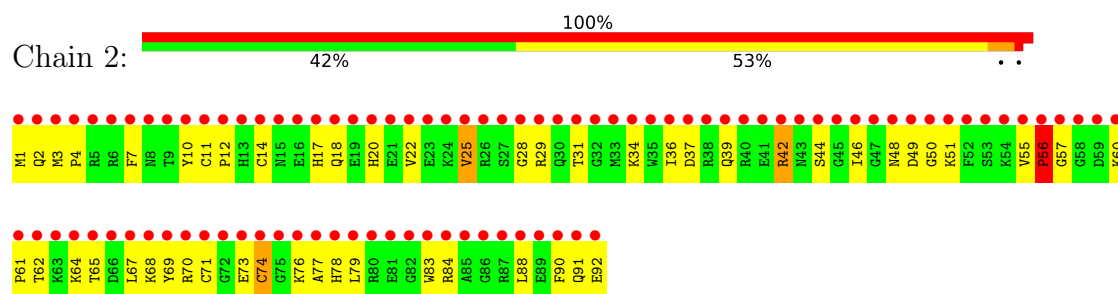


• Molecule 26: RIBOSOMAL PROTEIN L30

Chain V:  49% 45% 6%



● Molecule 32: 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	212.78Å 300.35Å 574.96Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 3.10 44.78 – 3.06	Depositor EDS
% Data completeness (in resolution range)	(Not available) (20.00-3.10) 95.4 (44.78-3.06)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.75 (at 3.06Å)	Xtrriage
Refinement program	CNS	Depositor
R, R_{free}	0.173 , 0.220 0.173 , 0.218	Depositor DCC
R_{free} test set	3329 reflections (0.98%)	wwPDB-VP
Wilson B-factor (Å ²)	44.8	Xtrriage
Anisotropy	0.291	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 65.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	98688	wwPDB-VP
Average B, all atoms (Å ²)	48.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.53% 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 i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: BTN, ACA, NA, MG, CD, PPU, PHA, CL, 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	0	0.41	2/66076 (0.0%)	0.70	27/103052 (0.0%)
2	9	0.39	0/2905	0.75	2/4528 (0.0%)
3	3	0.82	0/65	0.87	0/99
4	4	0.49	0/40	0.62	0/60
5	A	0.34	0/1787	0.66	0/2409
6	B	0.35	0/2689	0.64	0/3652
7	C	0.39	0/1883	0.64	0/2551
8	D	0.32	0/1111	0.59	0/1498
9	E	0.34	0/1382	0.58	0/1880
10	F	0.33	0/896	0.56	0/1219
11	G	0.29	0/241	0.48	0/324
12	H	0.39	0/1246	0.76	2/1686 (0.1%)
13	I	0.38	0/1135	0.62	0/1530
14	J	0.35	0/1003	0.66	0/1351
15	K	0.34	0/1126	0.65	0/1504
16	L	0.41	0/1633	0.71	0/2180
17	M	0.29	0/1473	0.63	0/1999
18	N	0.35	0/873	0.62	0/1181
19	O	0.35	0/1143	0.54	0/1521
20	P	0.36	0/748	0.66	0/1005
21	Q	0.37	0/1172	0.66	0/1578
22	R	0.34	0/648	0.58	0/875
23	S	0.34	0/957	0.64	0/1289
24	T	0.34	0/417	0.56	0/562
25	U	0.30	0/502	0.57	0/675
26	V	0.37	0/1218	0.64	0/1655
27	W	0.35	0/664	0.61	0/895
28	X	0.38	0/1146	0.65	0/1536
29	Y	0.34	0/575	0.66	0/763
30	Z	0.41	0/437	0.64	0/578
31	1	0.32	0/398	0.54	0/527
32	2	0.39	0/771	0.57	0/1024

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
All	All	0.40	2/98360 (0.0%)	0.69	31/147186 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	0	1	37
2	9	0	1
26	V	0	1
All	All	1	39

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	0	2621	U	O5'-C5'	-7.09	1.31	1.42
1	0	2620	U	C2'-O2'	6.66	1.50	1.41

All (31) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	1164	U	OP1-P-O3'	-12.07	78.64	105.20
1	0	1164	U	OP2-P-O3'	-10.75	81.56	105.20
1	0	1165	G	O5'-P-OP2	9.72	122.36	110.70
1	0	1563	G	C2'-C3'-O3'	9.36	130.09	109.50
1	0	2619	U	C5'-C4'-C3'	-9.23	101.24	116.00
1	0	1979	G	C2'-C3'-O3'	8.86	128.98	109.50
1	0	2620	U	O5'-P-OP2	-8.34	98.20	105.70
1	0	1942	A	C5'-C4'-C3'	8.11	128.97	116.00
2	9	3103	A	C5'-C4'-O4'	7.78	118.43	109.10
2	9	3039	U	N1-C1'-C2'	6.68	122.69	114.00
1	0	1504	A	C1'-O4'-C4'	-6.47	104.72	109.90
1	0	871	G	C5'-C4'-O4'	-6.38	101.44	109.10
1	0	1120	U	C5'-C4'-C3'	-6.36	105.82	116.00
1	0	2620	U	C4'-C3'-O3'	-6.12	96.56	109.40
1	0	2313	C	C5'-C4'-O4'	6.09	116.41	109.10
1	0	2620	U	O4'-C4'-C3'	6.00	110.90	106.10
12	H	74	ASN	N-CA-C	-5.87	95.15	111.00
1	0	1819	G	C5'-C4'-C3'	5.79	125.26	116.00
1	0	2726	U	N1-C1'-C2'	5.73	121.45	114.00
1	0	2620	U	C5'-C4'-C3'	-5.72	106.84	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	2619	U	C5'-C4'-O4'	5.49	115.69	109.10
1	0	1504	A	N9-C1'-C2'	5.30	120.89	114.00
12	H	141	ASN	N-CA-C	-5.22	96.91	111.00
1	0	1592	G	N9-C1'-C2'	5.20	120.77	114.00
1	0	129	A	C2'-C3'-O3'	5.19	122.01	113.70
1	0	1829	A	N9-C1'-C2'	-5.14	106.35	112.00
1	0	2313	C	C5'-C4'-C3'	5.13	124.21	116.00
1	0	237	G	N9-C1'-C2'	-5.10	106.39	112.00
1	0	841	A	C1'-O4'-C4'	-5.05	105.86	109.90
1	0	2313	C	C1'-O4'-C4'	-5.04	105.87	109.90
1	0	1819	G	C4'-C3'-C2'	-5.00	97.59	102.60

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	0	1563	G	C3'

All (39) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1039	G	Sidechain
1	0	1078	A	Sidechain
1	0	1342	C	Sidechain
1	0	1524	U	Sidechain
1	0	1614	G	Sidechain
1	0	1653	A	Sidechain
1	0	171	C	Sidechain
1	0	1878	G	Sidechain
1	0	1972	U	Sidechain
1	0	1979	G	Sidechain
1	0	2308	U	Sidechain
1	0	246	G	Sidechain
1	0	2465	A	Sidechain
1	0	2493	C	Sidechain
1	0	2503	A	Sidechain
1	0	2506	A	Sidechain
1	0	2526	C	Sidechain
1	0	2564	G	Sidechain
1	0	2607	U	Sidechain
1	0	2619	U	Sidechain
1	0	2620	U	Sidechain
1	0	2630	G	Sidechain

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Mol	Chain	Res	Type	Group
1	0	2673	U	Sidechain
1	0	2774	U	Sidechain
1	0	2793	A	Sidechain
1	0	2811	A	Sidechain
1	0	2842	G	Sidechain
1	0	333	G	Sidechain
1	0	393	G	Sidechain
1	0	396	U	Sidechain
1	0	471	G	Sidechain
1	0	482	G	Sidechain
1	0	518	G	Sidechain
1	0	619	U	Sidechain
1	0	815	U	Sidechain
1	0	817	G	Sidechain
1	0	952	G	Sidechain
2	9	3039	U	Sidechain
26	V	90	TYR	Sidechain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	59017	0	29805	983	0
2	9	2600	0	1326	68	0
3	3	59	0	35	4	0
4	4	37	0	23	5	0
5	A	1754	0	1763	130	0
6	B	2624	0	2533	167	0
7	C	1858	0	1816	130	0
8	D	1094	0	1085	133	0
9	E	1357	0	1266	78	0
10	F	885	0	854	63	0
11	G	240	0	231	20	0
12	H	1215	0	1215	162	0
13	I	1119	0	1098	64	0
14	J	993	0	1027	58	0
15	K	1114	0	1072	64	0
16	L	1605	0	1676	164	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
17	M	1444	0	1401	139	0
18	N	864	0	873	33	0
19	O	1133	0	1127	43	0
20	P	734	0	729	23	0
21	Q	1149	0	1122	57	0
22	R	641	0	605	26	0
23	S	949	0	923	53	0
24	T	410	0	366	35	0
25	U	499	0	511	34	0
26	V	1195	0	1137	104	0
27	W	654	0	653	51	0
28	X	1130	0	1133	57	0
29	Y	563	0	601	72	0
30	Z	430	0	426	24	0
31	1	393	0	406	18	0
32	2	755	0	731	63	0
33	0	110	0	0	0	0
33	2	1	0	0	0	0
33	9	1	0	0	0	0
33	A	1	0	0	0	0
33	J	1	0	0	0	0
33	S	1	0	0	0	0
33	X	1	0	0	0	0
33	Y	1	0	0	0	0
34	0	2	0	0	0	0
35	0	73	0	0	0	0
35	9	2	0	0	0	0
35	A	1	0	0	0	0
35	C	1	0	0	0	0
35	H	1	0	0	0	0
35	I	1	0	0	0	0
35	K	1	0	0	0	0
35	L	1	0	0	0	0
35	P	1	0	0	0	0
35	Q	3	0	0	0	0
35	R	1	0	0	0	0
36	0	10	0	0	0	0
36	2	1	0	0	0	0
36	A	1	0	0	0	0
36	B	1	0	0	0	0
36	I	3	0	0	1	0
36	K	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	L	1	0	0	1	0
36	M	1	0	0	1	0
36	N	1	0	0	0	0
36	Q	1	0	0	0	0
36	X	1	0	0	0	0
37	4	37	0	26	2	0
38	4	11	0	8	1	0
39	4	8	0	6	0	0
40	4	15	0	15	2	0
41	2	1	0	0	0	0
41	N	1	0	0	0	0
41	T	1	0	0	0	0
41	Y	1	0	0	0	0
41	Z	1	0	0	0	0
42	0	5873	0	0	207	0
42	1	42	0	0	3	0
42	2	76	0	0	7	0
42	3	4	0	0	3	0
42	4	4	0	0	0	0
42	9	140	0	0	11	0
42	A	132	0	0	16	0
42	B	143	0	0	23	0
42	C	176	0	0	35	0
42	D	51	0	0	19	0
42	E	44	0	0	10	0
42	F	29	0	0	12	0
42	G	22	0	0	5	0
42	H	78	0	0	22	0
42	I	57	0	0	4	0
42	J	61	0	0	9	0
42	K	84	0	0	19	0
42	L	138	0	0	22	0
42	M	70	0	0	15	0
42	N	42	0	0	7	0
42	O	67	0	0	6	0
42	P	56	0	0	3	0
42	Q	87	0	0	9	0
42	R	36	0	0	6	0
42	S	37	0	0	9	0
42	T	26	0	0	4	0
42	U	16	0	0	3	0
42	V	66	0	0	11	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	W	30	0	0	5	0
42	X	96	0	0	17	0
42	Y	33	0	0	12	0
42	Z	55	0	0	3	0
All	All	98688	0	59624	2828	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 19.

All (2828) 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)
12:H:86:ARG:NH1	12:H:133:ILE:HG13	1.61	1.16
25:U:12:THR:HG22	25:U:15:GLU:HG3	1.34	1.09
7:C:236:THR:HG22	7:C:239:ALA:H	0.97	1.07
1:O:156:C:H5''	16:L:171:ARG:HD3	1.38	1.05
12:H:45:GLN:HB3	12:H:163:PRO:HD2	1.40	1.04
17:M:47:LEU:HD11	17:M:127:LEU:HD21	1.40	1.02
16:L:87:MET:HG2	32:2:46:ILE:HG21	1.40	1.02
1:O:871:G:H5'	1:O:871:G:H8	1.21	1.02
1:O:871:G:H5'	1:O:871:G:C8	1.95	1.01
1:O:1134:G:H4'	12:H:151:MET:HE1	1.42	1.01
12:H:86:ARG:HH11	12:H:133:ILE:CG1	1.74	1.00
14:J:10:GLN:NE2	14:J:10:GLN:H	1.60	1.00
29:Y:46:LYS:HD3	29:Y:59:HIS:HB2	1.41	1.00
7:C:5:ILE:HD11	7:C:16:VAL:HG23	1.43	0.99
23:S:71:VAL:HG11	23:S:90:PRO:HB3	1.39	0.99
12:H:165:GLY:HA3	42:H:8399:HOH:O	1.61	0.99
1:O:1160:G:H5'	1:O:1161:A:H5'	1.40	0.99
8:D:25:MET:HE2	8:D:41:LEU:HG	1.44	0.98
1:O:870:G:H2'	1:O:871:G:H5''	1.42	0.98
8:D:134:LEU:HD11	8:D:166:ILE:HD11	1.44	0.98
2:9:3056:A:H2'	2:9:3057:A:H5''	1.45	0.98
16:L:52:LEU:HD11	42:L:8618:HOH:O	1.61	0.98
5:A:211:LYS:HB3	5:A:212:PRO:HD2	1.44	0.98
6:B:264:GLU:HG2	6:B:267:LYS:HE2	1.45	0.97
7:C:115:LEU:HD13	7:C:223:LEU:HD21	1.45	0.97
7:C:2:GLN:HB3	42:C:8337:HOH:O	1.62	0.96
27:W:37:LEU:HD13	27:W:85:VAL:HG21	1.47	0.96
1:O:1242:A:H5'	13:I:82:THR:HG23	1.44	0.95
1:O:1751:G:H2'	1:O:1752:G:H5''	1.47	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:856:G:H2'	42:0:4905:HOH:O	1.67	0.95
14:J:10:GLN:H	14:J:10:GLN:HE21	0.99	0.95
1:0:960:G:H4'	42:0:6897:HOH:O	1.66	0.95
7:C:127:ARG:NH2	7:C:225:PRO:HG2	1.81	0.95
28:X:200:THR:HG22	28:X:201:GLU:HG3	1.47	0.94
7:C:236:THR:HG22	7:C:239:ALA:N	1.82	0.94
1:0:2717:C:H2'	1:0:2718:C:H5''	1.49	0.94
2:9:3006:C:H5''	17:M:37:ARG:NH1	1.81	0.94
6:B:238:ASN:HD22	6:B:240:GLY:H	1.09	0.94
31:1:41:HIS:H	31:1:45:ASN:HD22	1.14	0.94
6:B:86:ALA:HA	42:B:8579:HOH:O	1.68	0.94
12:H:27:LYS:H	12:H:58:HIS:HD2	1.13	0.93
32:2:70:ARG:HG2	32:2:77:ALA:HB2	1.51	0.93
12:H:29:ALA:HB3	12:H:65:ARG:HH12	1.33	0.93
1:0:21:G:H5'	21:Q:2:ILE:HA	1.50	0.93
8:D:105:SER:HB2	8:D:131:THR:HG23	1.50	0.93
19:O:115:SER:H	19:O:118:GLN:HE21	1.00	0.93
21:Q:99:ALA:HB1	21:Q:109:MET:HE1	1.50	0.93
1:0:1166:A:H1'	1:0:1192:A:C2	2.03	0.93
1:0:2533:C:H5'	1:0:2533:C:H6	1.34	0.93
17:M:87:LEU:HD12	17:M:186:LEU:HD21	1.49	0.93
26:V:88:THR:HB	42:V:6679:HOH:O	1.69	0.92
42:0:4697:HOH:O	14:J:39:GLY:HA2	1.67	0.92
1:0:1835:U:H5	1:0:1840:A:N7	1.66	0.92
10:F:91:VAL:HG12	10:F:92:GLY:H	1.35	0.92
42:0:3938:HOH:O	16:L:146:GLN:HG2	1.69	0.91
12:H:55:GLN:HE21	12:H:124:ARG:HE	1.16	0.91
16:L:102:GLU:OE1	16:L:164:THR:HG21	1.69	0.91
14:J:81:ARG:HB2	14:J:87:ARG:HH11	1.35	0.90
2:9:3076:G:H3'	2:9:3077:A:H5''	1.54	0.90
1:0:545:G:H5'	1:0:545:G:H8	1.37	0.90
12:H:150:LYS:HB2	12:H:157:ILE:HD12	1.54	0.89
13:I:76:ASP:HA	42:I:5907:HOH:O	1.70	0.89
6:B:162:MET:HE3	6:B:308:LEU:HD21	1.54	0.89
16:L:106:ASN:ND2	36:L:8518:CL:CL	2.42	0.89
12:H:162:SER:HB2	12:H:163:PRO:HD3	1.52	0.89
1:0:962:C:H1'	17:M:5:ARG:NH1	1.88	0.89
12:H:139:ASP:HA	42:H:8370:HOH:O	1.70	0.89
6:B:140:LEU:HA	42:B:8579:HOH:O	1.73	0.89
12:H:86:ARG:HH11	12:H:133:ILE:HG13	0.79	0.88
12:H:26:LYS:HD2	12:H:28:ILE:HD12	1.53	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:V:6:GLN:HB2	26:V:26:ILE:HD12	1.55	0.88
14:J:10:GLN:HE21	14:J:10:GLN:N	1.72	0.88
10:F:96:ALA:HA	42:F:3111:HOH:O	1.74	0.87
26:V:88:THR:HG22	26:V:89:ASP:H	1.38	0.87
2:9:3023:U:H5''	2:9:3024:U:OP2	1.73	0.87
29:Y:40:PRO:HD3	29:Y:47:LEU:HD11	1.54	0.87
16:L:35:PRO:CG	16:L:38:VAL:HG23	2.04	0.87
1:0:381:G:H5''	42:0:3798:HOH:O	1.74	0.87
1:0:1701:A:H5'	42:0:5760:HOH:O	1.75	0.86
8:D:154:LYS:H	8:D:154:LYS:HD2	1.37	0.86
19:O:115:SER:H	19:O:118:GLN:NE2	1.73	0.86
20:P:25:PRO:HB2	42:P:4350:HOH:O	1.75	0.86
1:0:1771:U:H4'	29:Y:20:LEU:HD21	1.57	0.86
8:D:27:ILE:HG22	8:D:28:GLY:H	1.40	0.86
6:B:212:GLN:HB2	6:B:257:THR:HG21	1.56	0.86
1:0:1116:U:O2'	1:0:1118:A:H2	1.59	0.86
1:0:1164:U:C4'	1:0:1165:G:OP1	2.22	0.85
6:B:201:ASP:HB2	6:B:312:ARG:HD2	1.58	0.85
6:B:18:ARG:HG3	6:B:256:GLN:HG3	1.57	0.85
7:C:242:GLU:HG3	42:C:8388:HOH:O	1.74	0.85
15:K:79:ASP:HB3	42:K:8565:HOH:O	1.77	0.85
5:A:192:VAL:HB	42:A:8602:HOH:O	1.76	0.85
14:J:29:LEU:HB3	14:J:55:VAL:HG11	1.58	0.85
13:I:131:THR:HG22	13:I:134:GLU:H	1.41	0.85
16:L:89:ASN:HA	42:L:8556:HOH:O	1.75	0.85
1:0:1603:A:H5'	1:0:1605:G:O4'	1.77	0.85
14:J:14:LYS:HB2	14:J:45:PRO:HG2	1.57	0.85
23:S:9:LYS:HE3	23:S:13:ARG:NH1	1.91	0.85
1:0:506:G:H22	1:0:509:A:H5'	1.40	0.84
1:0:2717:C:C2'	1:0:2718:C:H5''	2.07	0.84
16:L:35:PRO:HG2	16:L:38:VAL:HG23	1.57	0.84
5:A:35:GLY:O	5:A:36:ASP:HB3	1.78	0.84
1:0:870:G:C2'	1:0:871:G:H5''	2.06	0.84
17:M:144:GLY:O	17:M:147:ILE:HG22	1.76	0.84
42:0:4333:HOH:O	16:L:14:ARG:HG2	1.78	0.83
18:N:42:GLU:HB2	42:N:2176:HOH:O	1.77	0.83
1:0:542:A:H5'	1:0:542:A:H8	1.43	0.83
1:0:289:G:H22	1:0:363:A:H2	1.27	0.83
9:E:97:VAL:HG12	42:E:4191:HOH:O	1.77	0.83
1:0:1165:G:H4'	1:0:1174:A:O2'	1.78	0.83
1:0:2506:A:O2'	1:0:2507:G:H8	1.59	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:X:187:VAL:HG23	28:X:192:ASP:HB2	1.60	0.83
42:9:5071:HOH:O	17:M:23:ARG:HD3	1.78	0.83
22:R:51:GLN:HE21	22:R:53:ASN:HD21	1.27	0.83
1:0:2586:U:H3	1:0:2592:G:H22	1.23	0.83
13:I:74:ARG:HB3	13:I:74:ARG:HH11	1.43	0.82
21:Q:9:ASP:O	21:Q:13:THR:HB	1.79	0.82
12:H:26:LYS:HG2	12:H:28:ILE:H	1.44	0.82
12:H:59:ASN:HD22	12:H:59:ASN:N	1.78	0.82
12:H:59:ASN:HD22	12:H:59:ASN:H	1.26	0.82
16:L:164:THR:HG22	16:L:167:GLY:H	1.42	0.82
16:L:164:THR:HG23	16:L:165:SER:N	1.94	0.82
7:C:132:ASP:HB3	42:C:8368:HOH:O	1.78	0.82
17:M:7:LYS:HE3	20:P:21:ARG:O	1.78	0.82
19:O:115:SER:OG	19:O:118:GLN:HG3	1.79	0.82
29:Y:39:CYS:HA	29:Y:47:LEU:HD11	1.61	0.82
1:0:2435:U:OP1	32:2:28:GLY:HA3	1.80	0.81
42:0:5772:HOH:O	8:D:99:ASP:HA	1.80	0.81
42:0:4423:HOH:O	2:9:3103:A:H4'	1.80	0.81
1:0:2716:G:H5''	6:B:206:THR:HG21	1.61	0.81
5:A:223:ARG:HG3	42:A:8609:HOH:O	1.77	0.81
12:H:162:SER:HB2	12:H:163:PRO:CD	2.10	0.81
26:V:137:GLN:HE21	26:V:141:HIS:HE1	1.24	0.81
27:W:78:GLU:HG2	27:W:79:GLU:H	1.46	0.81
1:0:21:G:C5'	21:Q:2:ILE:HA	2.10	0.81
10:F:63:ILE:HB	10:F:64:PRO:HD3	1.61	0.81
12:H:139:ASP:N	12:H:140:PRO:HD3	1.95	0.81
6:B:321:PRO:HA	42:B:8654:HOH:O	1.81	0.81
7:C:104:ASP:HA	7:C:107:ARG:HH12	1.44	0.81
17:M:83:LEU:HD13	17:M:175:LEU:HD23	1.64	0.80
1:0:1165:G:OP1	1:0:1165:G:H3'	1.81	0.80
1:0:2578:G:H5'	1:0:2578:G:H8	1.45	0.80
14:J:81:ARG:HB2	14:J:87:ARG:NH1	1.97	0.80
29:Y:38:LYS:HG2	29:Y:45:LYS:HG2	1.63	0.80
21:Q:8:ALA:HB1	21:Q:13:THR:HG21	1.64	0.80
8:D:20:LYS:HA	8:D:75:LEU:O	1.82	0.80
9:E:37:ASP:OD1	13:I:125:SER:HB3	1.82	0.79
26:V:4:LEU:HD22	26:V:52:VAL:HG21	1.64	0.79
6:B:179:LEU:O	6:B:183:GLU:HG2	1.83	0.79
1:0:1372:A:H3'	42:0:6659:HOH:O	1.81	0.79
42:0:5268:HOH:O	16:L:170:CYS:SG	2.39	0.79
26:V:72:PRO:HG2	26:V:77:ALA:HB3	1.63	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1116:U:H3	1:0:1246:A:H62	1.30	0.79
28:X:187:VAL:HG23	28:X:192:ASP:CB	2.13	0.79
42:0:3217:HOH:O	16:L:157:LEU:HD11	1.83	0.79
10:F:91:VAL:HG12	10:F:92:GLY:N	1.96	0.79
12:H:14:TYR:H	12:H:91:HIS:CE1	2.01	0.79
32:2:25:VAL:HG22	32:2:68:LYS:HG3	1.65	0.79
1:0:506:G:H22	1:0:509:A:C5'	1.94	0.79
42:0:4017:HOH:O	12:H:151:MET:HE2	1.83	0.79
15:K:68:GLU:HA	42:K:8549:HOH:O	1.82	0.79
1:0:2506:A:HO2'	1:0:2507:G:H8	0.81	0.78
1:0:338:C:H5''	42:C:8427:HOH:O	1.82	0.78
1:0:1667:A:H8	1:0:1667:A:H5'	1.47	0.78
10:F:53:ASP:OD1	10:F:80:GLN:HB2	1.83	0.78
12:H:142:VAL:HG13	42:H:8381:HOH:O	1.81	0.78
1:0:1450:C:H4'	1:0:1451:C:OP2	1.83	0.78
7:C:78:ARG:HH11	7:C:78:ARG:HG3	1.48	0.78
42:0:6246:HOH:O	17:M:4:PRO:HD2	1.83	0.78
16:L:169:ARG:HD2	42:L:8591:HOH:O	1.83	0.78
1:0:2748:G:H2'	42:0:7009:HOH:O	1.84	0.77
12:H:4:ALA:HB3	42:H:8365:HOH:O	1.83	0.77
1:0:1118:A:H8	1:0:1118:A:H3'	1.49	0.77
2:9:3056:A:C2'	2:9:3057:A:H5''	2.14	0.77
1:0:1184:C:H1'	42:0:6934:HOH:O	1.83	0.77
1:0:558:C:H5'	42:0:4735:HOH:O	1.84	0.77
2:9:3048:C:H4'	17:M:141:ARG:HH21	1.50	0.77
12:H:41:THR:HA	42:H:8396:HOH:O	1.85	0.77
16:L:172:GLY:O	16:L:183:VAL:HG11	1.85	0.77
1:0:2502:C:H2'	1:0:2503:A:H5'	1.67	0.77
12:H:137:ASN:O	12:H:139:ASP:N	2.18	0.77
26:V:122:ARG:HG2	26:V:122:ARG:HH11	1.48	0.77
27:W:71:ARG:HB3	27:W:88:GLU:OE1	1.84	0.77
7:C:236:THR:HG21	42:C:8380:HOH:O	1.83	0.77
16:L:87:MET:CG	32:2:46:ILE:HG21	2.14	0.77
17:M:113:SER:HB2	42:M:8561:HOH:O	1.84	0.77
1:0:541:C:H2'	1:0:542:A:H5''	1.65	0.77
15:K:133:VAL:HA	42:K:8578:HOH:O	1.83	0.77
16:L:69:LYS:O	16:L:73:ARG:NH2	2.18	0.77
29:Y:39:CYS:SG	29:Y:47:LEU:HD21	2.24	0.77
12:H:55:GLN:NE2	12:H:124:ARG:HE	1.83	0.77
25:U:12:THR:HG22	25:U:15:GLU:CG	2.12	0.77
1:0:2099:G:H1	40:4:79:BTN:H92	1.49	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1701:A:H4'	1:0:1702:U:H5''	1.66	0.76
5:A:69:LEU:HD21	5:A:120:ARG:HB3	1.67	0.76
29:Y:38:LYS:HE2	29:Y:45:LYS:HE2	1.68	0.76
1:0:272:A:H3'	42:0:6997:HOH:O	1.84	0.76
1:0:1684:A:H1'	31:1:43:ARG:HH22	1.50	0.76
1:0:2526:C:O2'	1:0:2527:U:H5'	1.86	0.76
4:4:74:C:H2'	4:4:75:C:H5'	1.66	0.76
9:E:100:ASP:HB2	42:E:2789:HOH:O	1.86	0.76
21:Q:39:THR:HB	21:Q:42:GLU:HG3	1.67	0.76
1:0:1118:A:H3'	1:0:1118:A:C8	2.20	0.76
12:H:47:GLU:HB3	12:H:133:ILE:HD13	1.67	0.76
1:0:1164:U:H3	1:0:1192:A:H2	1.31	0.76
6:B:41:PHE:HB3	6:B:190:MET:HE1	1.68	0.76
12:H:5:MET:HG3	42:H:8365:HOH:O	1.85	0.76
2:9:3006:C:H5''	17:M:37:ARG:HH12	1.48	0.76
1:0:877:G:H5'	1:0:878:G:OP1	1.85	0.76
10:F:2:VAL:HG22	10:F:57:GLU:OE1	1.86	0.76
14:J:74:VAL:HG13	14:J:113:ILE:HG23	1.68	0.76
1:0:2421:G:H3'	1:0:2422:U:H5''	1.67	0.76
17:M:49:THR:HG22	17:M:56:ASP:HB2	1.68	0.76
18:N:14:LEU:HD23	18:N:102:ILE:HD11	1.67	0.75
28:X:220:GLU:HG2	42:X:8551:HOH:O	1.86	0.75
1:0:282:C:H1'	1:0:368:C:N4	2.01	0.75
1:0:1164:U:H4'	1:0:1165:G:OP1	1.86	0.75
1:0:2420:G:O2'	1:0:2421:G:H5'	1.87	0.75
1:0:1160:G:C5'	1:0:1161:A:H5'	2.16	0.75
1:0:2812:A:H2	1:0:2814:A:H62	1.34	0.75
7:C:139:VAL:HG13	42:C:8452:HOH:O	1.84	0.75
5:A:88:ILE:HD13	5:A:100:PRO:HD3	1.69	0.75
29:Y:30:GLU:HA	29:Y:33:HIS:HB3	1.68	0.75
1:0:541:C:C2'	1:0:542:A:H5''	2.17	0.75
1:0:346:U:H4'	42:0:6317:HOH:O	1.87	0.74
1:0:2533:C:H5'	1:0:2533:C:C6	2.22	0.74
13:I:107:ASN:ND2	13:I:109:TYR:H	1.84	0.74
13:I:74:ARG:HH11	13:I:74:ARG:CB	2.00	0.74
13:I:99:GLU:HA	42:I:7377:HOH:O	1.85	0.74
26:V:88:THR:HG23	26:V:110:GLN:NE2	2.02	0.74
1:0:2502:C:C2'	1:0:2503:A:H5'	2.18	0.74
12:H:75:SER:O	12:H:79:ALA:HB2	1.87	0.74
23:S:61:GLU:HG3	42:S:3851:HOH:O	1.86	0.74
27:W:72:VAL:HG22	27:W:85:VAL:HG12	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:553:G:P	28:X:204:ARG:HH22	2.11	0.74
1:0:2094:G:H4'	6:B:245:SER:HB3	1.70	0.74
2:9:3069:U:OP1	17:M:4:PRO:HG3	1.88	0.74
7:C:5:ILE:HD11	7:C:16:VAL:CG2	2.16	0.74
5:A:153:ARG:HB2	5:A:153:ARG:HH11	1.52	0.74
1:0:871:G:H8	1:0:871:G:C5'	1.97	0.74
6:B:162:MET:CE	6:B:308:LEU:HD21	2.18	0.74
6:B:258:GLY:H	6:B:260:HIS:CE1	2.05	0.74
1:0:2421:G:H3'	1:0:2422:U:C5'	2.18	0.74
18:N:32:ARG:O	18:N:32:ARG:HD3	1.86	0.74
1:0:288:A:H61	1:0:364:C:H42	1.34	0.74
17:M:48:VAL:CG1	17:M:55:ASP:HB3	2.17	0.74
26:V:13:MET:HE3	26:V:17:ILE:HG22	1.69	0.74
20:P:64:GLU:HG3	20:P:74:ASP:OD2	1.88	0.73
7:C:140:VAL:HB	42:C:8455:HOH:O	1.88	0.73
12:H:47:GLU:HB3	12:H:133:ILE:CD1	2.18	0.73
18:N:47:ARG:HG3	18:N:47:ARG:HH11	1.52	0.73
19:O:59:ARG:NH2	19:O:66:GLN:HE22	1.85	0.73
42:O:3277:HOH:O	16:L:189:VAL:HG21	1.87	0.73
5:A:121:ALA:O	5:A:124:VAL:HG22	1.88	0.73
19:O:115:SER:N	19:O:118:GLN:HE21	1.82	0.73
23:S:9:LYS:HB2	42:S:7242:HOH:O	1.88	0.73
1:0:560:C:H42	1:0:597:A:H61	1.36	0.73
1:0:1878:G:H1'	42:O:5597:HOH:O	1.88	0.73
9:E:11:VAL:HG12	9:E:12:ASP:N	2.03	0.73
16:L:186:SER:O	16:L:189:VAL:HG12	1.88	0.73
1:0:711:G:H1'	42:O:6565:HOH:O	1.88	0.73
6:B:62:ARG:HA	6:B:65:MET:HE2	1.69	0.73
29:Y:37:HIS:HB2	29:Y:47:LEU:HB2	1.70	0.73
12:H:2:PRO:HB2	42:H:8365:HOH:O	1.89	0.73
22:R:57:THR:HG22	22:R:59:ASP:H	1.53	0.73
1:0:1835:U:C5	1:0:1840:A:N7	2.55	0.73
1:0:1919:A:H4'	42:O:4320:HOH:O	1.87	0.73
8:D:64:ARG:HG2	8:D:67:ASP:HB3	1.71	0.73
21:Q:106:GLY:HA2	21:Q:109:MET:HE3	1.71	0.73
31:1:41:HIS:N	31:1:45:ASN:HD22	1.84	0.72
25:U:1:THR:HG23	25:U:2:VAL:H	1.54	0.72
25:U:39:ALA:N	25:U:40:PRO:HD2	2.04	0.72
1:0:111:C:O2'	30:Z:20:ARG:HG2	1.89	0.72
8:D:88:LEU:HB2	8:D:89:PRO:HD3	1.72	0.72
21:Q:39:THR:HG23	21:Q:107:GLU:O	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:V:22:GLU:HG2	26:V:27:HIS:CD2	2.23	0.72
1:0:1474:C:H6	1:0:1474:C:H5'	1.53	0.72
1:0:1909:A:N1	1:0:2128:G:H1'	2.04	0.72
6:B:190:MET:HE2	6:B:194:PHE:CD1	2.24	0.72
12:H:140:PRO:HB3	42:H:8381:HOH:O	1.90	0.72
28:X:200:THR:HG22	28:X:201:GLU:CG	2.19	0.72
31:1:41:HIS:H	31:1:45:ASN:ND2	1.88	0.72
1:0:450:C:OP1	7:C:184:ARG:NH2	2.19	0.72
42:9:4707:HOH:O	17:M:147:ILE:HD12	1.88	0.72
8:D:19:GLU:O	8:D:20:LYS:HG2	1.89	0.72
16:L:139:PRO:O	16:L:140:ALA:HB3	1.89	0.72
1:0:2004:U:H4'	42:0:4785:HOH:O	1.88	0.72
6:B:71:VAL:HG11	6:B:296:LEU:HB3	1.71	0.72
11:G:12:ILE:HA	42:G:4499:HOH:O	1.88	0.72
1:0:2637:A:H4'	1:0:2638:G:O5'	1.89	0.71
1:0:2780:C:H1'	9:E:143:GLN:HE21	1.55	0.71
42:0:6403:HOH:O	28:X:212:ARG:HD2	1.89	0.71
27:W:76:ARG:HH11	27:W:76:ARG:HG3	1.54	0.71
14:J:22:ASP:HB2	42:J:5264:HOH:O	1.89	0.71
1:0:1666:C:O2'	1:0:1667:A:H5''	1.91	0.71
17:M:61:ALA:HB3	17:M:88:ALA:HB2	1.70	0.71
24:T:9:CYS:SG	24:T:11:THR:HG23	2.31	0.71
1:0:1187:U:H2'	42:0:6368:HOH:O	1.91	0.71
1:0:1191:A:H3'	1:0:1192:A:H5''	1.72	0.71
27:W:25:ARG:HD2	42:W:3861:HOH:O	1.90	0.71
1:0:236:A:H4'	1:0:237:G:H5'	1.73	0.71
2:9:3014:G:H5'	2:9:3014:G:H8	1.54	0.71
5:A:36:ASP:OD2	5:A:85:ASP:HB2	1.90	0.71
1:0:1666:C:H2'	1:0:1667:A:H5'	1.72	0.71
6:B:145:HIS:HD2	6:B:146:THR:O	1.73	0.71
15:K:143:THR:HG22	15:K:144:ASP:N	2.06	0.71
21:Q:99:ALA:HB1	21:Q:109:MET:CE	2.19	0.71
26:V:6:GLN:HB2	26:V:26:ILE:CD1	2.20	0.71
1:0:2466:G:OP1	42:0:3138:HOH:O	2.08	0.71
1:0:1209:C:H4'	42:0:4758:HOH:O	1.90	0.71
42:0:3048:HOH:O	16:L:152:ARG:HG3	1.91	0.71
5:A:33:GLU:O	5:A:34:ASP:HB2	1.90	0.71
1:0:182:G:H5'	42:0:4630:HOH:O	1.90	0.70
1:0:1209:C:H2'	1:0:1210:G:H8	1.55	0.70
9:E:6:GLU:HA	9:E:46:THR:HG22	1.72	0.70
23:S:69:LYS:O	23:S:71:VAL:HG23	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:V:21:LEU:HD22	26:V:26:ILE:CD1	2.21	0.70
1:0:2508:C:H2'	42:0:6228:HOH:O	1.91	0.70
1:0:541:C:H2'	1:0:542:A:C5'	2.20	0.70
7:C:47:GLY:HA2	7:C:92:PRO:HB2	1.72	0.70
25:U:12:THR:CG2	25:U:15:GLU:HG3	2.19	0.70
26:V:21:LEU:HD22	26:V:26:ILE:HD11	1.72	0.70
26:V:122:ARG:HH21	26:V:154:ARG:HD2	1.56	0.70
31:1:35:ARG:HB2	42:1:2691:HOH:O	1.92	0.70
1:0:284:C:H4'	1:0:285:A:O5'	1.89	0.70
1:0:545:G:H5'	1:0:545:G:C8	2.25	0.70
1:0:2604:A:H5'	42:0:5266:HOH:O	1.90	0.70
2:9:3029:C:H2'	2:9:3030:C:H5'	1.73	0.70
16:L:139:PRO:O	16:L:140:ALA:CB	2.40	0.70
7:C:107:ARG:NH1	7:C:107:ARG:HB3	2.07	0.70
1:0:396:U:H1'	42:0:7100:HOH:O	1.89	0.70
1:0:2748:G:H5'	42:0:7009:HOH:O	1.92	0.70
1:0:544:G:H2'	1:0:545:G:H5''	1.73	0.70
1:0:1206:U:H5'	1:0:1206:U:H6	1.56	0.70
9:E:107:PHE:CE2	9:E:108:LEU:HD13	2.26	0.70
19:O:103:THR:HA	19:O:106:ARG:NH1	2.06	0.69
24:T:9:CYS:HA	24:T:52:THR:HG23	1.73	0.69
1:0:2419:U:H5''	1:0:2420:G:H5'	1.72	0.69
12:H:27:LYS:H	12:H:58:HIS:CD2	2.04	0.69
12:H:162:SER:CB	12:H:163:PRO:HD3	2.21	0.69
13:I:75:PRO:HG2	13:I:105:LEU:HD21	1.72	0.69
15:K:67:ARG:O	15:K:71:GLU:HG3	1.91	0.69
1:0:657:G:OP1	7:C:27:ARG:NH2	2.25	0.69
12:H:27:LYS:N	12:H:58:HIS:HD2	1.88	0.69
1:0:281:U:H2'	1:0:282:C:O4'	1.92	0.69
1:0:962:C:H1'	17:M:5:ARG:HH12	1.57	0.69
13:I:45:VAL:HG23	13:I:130:VAL:O	1.92	0.69
27:W:15:ARG:HB3	27:W:15:ARG:HH11	1.57	0.69
8:D:146:LYS:NZ	17:M:107:ASN:HD21	1.90	0.69
17:M:164:ASP:CG	17:M:167:ASP:HA	2.13	0.69
1:0:2291:A:C8	1:0:2309:C:H5'	2.28	0.69
42:0:6348:HOH:O	16:L:178:LYS:HB2	1.92	0.69
42:0:9657:HOH:O	16:L:87:MET:HE3	1.93	0.69
12:H:49:VAL:O	12:H:157:ILE:HG23	1.93	0.69
1:0:559:U:H6	1:0:559:U:H5'	1.57	0.69
1:0:2426:G:H1'	42:0:5568:HOH:O	1.91	0.69
12:H:45:GLN:HE21	12:H:135:TRP:HE1	1.38	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:I:19:MET:CE	13:I:132:LEU:HD11	2.23	0.69
1:O:56:G:H5''	25:U:50:ARG:HH12	1.57	0.69
1:O:1185:U:H2'	1:O:1186:C:C6	2.28	0.69
10:F:99:THR:HA	42:F:3461:HOH:O	1.93	0.69
14:J:82:ARG:NH2	14:J:115:ARG:HG2	2.08	0.69
16:L:122:GLU:OE2	16:L:127:LYS:HE2	1.93	0.69
26:V:88:THR:HG22	26:V:89:ASP:N	2.08	0.69
1:O:2890:A:H1'	24:T:56:ARG:NH2	2.07	0.69
6:B:74:ILE:HD13	6:B:309:VAL:HG21	1.75	0.69
7:C:162:VAL:HG12	7:C:192:ILE:HD11	1.74	0.69
1:O:1625:U:H4'	42:O:4142:HOH:O	1.91	0.68
24:T:13:ILE:HG12	24:T:32:CYS:HB3	1.72	0.68
6:B:238:ASN:ND2	6:B:240:GLY:H	1.88	0.68
14:J:74:VAL:HG11	14:J:113:ILE:HG12	1.74	0.68
16:L:106:ASN:HD22	16:L:114:VAL:HG23	1.57	0.68
25:U:42:ASN:HB3	42:U:7247:HOH:O	1.92	0.68
29:Y:42:CYS:SG	29:Y:44:PHE:HB2	2.33	0.68
1:O:1160:G:H5'	1:O:1161:A:C5'	2.19	0.68
1:O:1741:U:H5'	1:O:1742:A:OP1	1.93	0.68
26:V:68:THR:HG23	26:V:69:ARG:HG2	1.76	0.68
1:O:2768:A:H2'	1:O:2769:C:O4'	1.92	0.68
8:D:55:LYS:HA	42:D:6752:HOH:O	1.94	0.68
14:J:28:GLU:OE2	14:J:58:THR:HG21	1.94	0.68
1:O:214:U:H5'	42:O:5617:HOH:O	1.92	0.68
7:C:236:THR:H	7:C:239:ALA:HB3	1.58	0.68
17:M:159:TYR:HB3	17:M:162:ASP:HB2	1.76	0.68
1:O:2241:C:O2'	1:O:2242:U:H5'	1.93	0.68
26:V:4:LEU:HD22	26:V:52:VAL:CG2	2.24	0.68
1:O:1751:G:C2'	1:O:1752:G:H5''	2.22	0.68
31:I:39:ARG:HG2	42:I:3143:HOH:O	1.93	0.68
1:O:1679:C:H5'	42:O:8828:HOH:O	1.94	0.68
1:O:738:G:H3'	42:O:6518:HOH:O	1.93	0.68
8:D:57:THR:HG23	8:D:63:ILE:HG22	1.76	0.68
2:9:3092:G:H2'	2:9:3093:A:C8	2.29	0.67
1:O:1130:U:H2'	1:O:1131:G:O4'	1.94	0.67
1:O:2346:C:O2'	8:D:52:THR:HG21	1.93	0.67
1:O:1119:G:H2'	13:I:52:GLN:NE2	2.09	0.67
11:G:12:ILE:N	11:G:13:PRO:HD3	2.10	0.67
12:H:130:HIS:CD2	12:H:133:ILE:HD11	2.29	0.67
24:T:46:ALA:HB1	24:T:52:THR:HG21	1.76	0.67
26:V:4:LEU:HD23	26:V:54:PHE:HB3	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:1:MET:HG2	7:C:2:GLN:H	1.58	0.67
28:X:186:ARG:HH11	28:X:186:ARG:HG2	1.57	0.67
13:I:103:VAL:HG12	42:I:5907:HOH:O	1.94	0.67
21:Q:39:THR:HG22	21:Q:42:GLU:H	1.60	0.67
29:Y:49:ARG:HD2	42:Y:8424:HOH:O	1.94	0.67
7:C:12:THR:HB	42:C:8445:HOH:O	1.95	0.67
26:V:122:ARG:NH2	26:V:154:ARG:HD2	2.09	0.67
1:O:56:G:H5''	25:U:50:ARG:NH1	2.08	0.67
1:O:1244:U:OP1	13:I:18:ILE:HD13	1.95	0.67
12:H:46:VAL:HG12	12:H:146:TRP:HZ3	1.60	0.67
16:L:104:ARG:O	16:L:108:LYS:HE2	1.94	0.67
1:O:1328:A:OP1	28:X:169:ARG:HD2	1.95	0.67
11:G:23:ILE:HD13	11:G:67:LEU:HD23	1.77	0.67
1:O:156:C:H5''	16:L:171:ARG:CD	2.22	0.67
1:O:1377:C:H5'	1:O:1377:C:H6	1.61	0.67
16:L:12:TRP:CE2	16:L:20:ILE:HD11	2.30	0.67
21:Q:18:LEU:HD12	21:Q:143:VAL:HG11	1.76	0.67
16:L:37:VAL:HG21	16:L:108:LYS:HG3	1.77	0.66
16:L:173:LEU:HD23	16:L:183:VAL:HG12	1.76	0.66
16:L:34:GLU:HB3	16:L:35:PRO:HD2	1.77	0.66
17:M:164:ASP:OD2	17:M:167:ASP:HA	1.95	0.66
25:U:56:ILE:O	25:U:60:GLN:HG3	1.95	0.66
42:O:4444:HOH:O	12:H:57:ARG:HG3	1.95	0.66
5:A:53:ALA:HB3	42:A:8614:HOH:O	1.95	0.66
7:C:78:ARG:HG3	7:C:78:ARG:NH1	2.10	0.66
19:O:103:THR:O	19:O:107:GLU:HG3	1.94	0.66
1:O:1058:A:H2'	1:O:1060:C:H5''	1.77	0.66
1:O:1080:C:H4'	1:O:1081:A:OP1	1.94	0.66
1:O:1299:G:O6	15:K:6:ARG:HD3	1.96	0.66
6:B:7:ARG:HG2	6:B:7:ARG:HH11	1.61	0.66
12:H:56:ILE:HG22	12:H:61:LEU:HD22	1.76	0.66
13:I:75:PRO:HG2	13:I:105:LEU:CD2	2.25	0.66
17:M:12:ARG:HD3	17:M:18:THR:OG1	1.96	0.66
25:U:4:HIS:HB3	42:U:6622:HOH:O	1.94	0.66
1:O:31:C:H4'	42:S:7242:HOH:O	1.94	0.66
8:D:35:ALA:N	42:D:5576:HOH:O	2.27	0.66
19:O:38:GLU:HA	19:O:41:ARG:NH1	2.11	0.66
26:V:88:THR:HG23	26:V:110:GLN:HE21	1.59	0.66
12:H:118:PRO:HD2	42:H:8339:HOH:O	1.96	0.66
13:I:107:ASN:HD21	13:I:109:TYR:HB2	1.61	0.66
21:Q:18:LEU:HB2	21:Q:143:VAL:CG1	2.26	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1886:A:N3	42:0:4293:HOH:O	2.28	0.66
17:M:119:GLN:O	17:M:123:ILE:HG13	1.95	0.66
17:M:183:ASP:OD2	17:M:186:LEU:HD12	1.96	0.66
1:0:282:C:H1'	1:0:368:C:H42	1.60	0.66
24:T:14:GLU:O	24:T:17:THR:HB	1.96	0.66
1:0:282:C:O2'	1:0:283:U:H5'	1.96	0.65
1:0:603:A:H5''	1:0:604:G:OP1	1.96	0.65
1:0:902:G:N7	15:K:18:HIS:HD2	1.93	0.65
5:A:131:HIS:O	5:A:132:ASP:HB2	1.94	0.65
7:C:214:THR:HG21	42:C:8409:HOH:O	1.95	0.65
11:G:12:ILE:HD12	42:G:692:HOH:O	1.96	0.65
17:M:71:TRP:CE3	17:M:175:LEU:HD22	2.32	0.65
2:9:3006:C:OP1	17:M:37:ARG:NH1	2.29	0.65
12:H:150:LYS:HE2	42:H:8383:HOH:O	1.96	0.65
16:L:74:ARG:HH11	16:L:74:ARG:HG3	1.61	0.65
5:A:76:VAL:HG23	29:Y:63:LYS:HB3	1.79	0.65
13:I:93:ARG:HB3	13:I:93:ARG:HH11	1.62	0.65
23:S:9:LYS:HE3	23:S:13:ARG:HH11	1.60	0.65
1:0:1923:G:H4'	32:2:31:THR:O	1.97	0.65
7:C:236:THR:HA	42:C:8455:HOH:O	1.97	0.65
14:J:62:PRO:HG3	14:J:65:ARG:HH21	1.61	0.65
17:M:86:LEU:HD12	17:M:125:ALA:HB2	1.79	0.65
22:R:57:THR:HG22	22:R:59:ASP:N	2.11	0.65
1:0:1329:A:H2	42:0:4159:HOH:O	1.78	0.65
6:B:62:ARG:HA	6:B:65:MET:CE	2.25	0.65
14:J:27:ARG:HD2	42:J:4747:HOH:O	1.96	0.65
14:J:62:PRO:HG3	14:J:65:ARG:NH2	2.12	0.65
1:0:2637:A:H3'	3:3:74:C:O5'	1.96	0.65
5:A:191:GLY:HA2	5:A:194:MET:CE	2.26	0.65
6:B:238:ASN:HD22	6:B:240:GLY:N	1.89	0.65
14:J:55:VAL:HG12	14:J:56:SER:N	2.12	0.65
8:D:23:VAL:HG23	8:D:23:VAL:O	1.96	0.65
12:H:141:ASN:HA	42:H:8366:HOH:O	1.97	0.65
14:J:115:ARG:HG3	14:J:116:GLU:N	2.12	0.65
1:0:645:U:OP2	15:K:4:LYS:HE2	1.96	0.64
1:0:1172:G:H1'	42:0:4446:HOH:O	1.96	0.64
1:0:1641:A:H2'	1:0:1642:A:H5'	1.79	0.64
8:D:25:MET:HE1	8:D:37:ALA:HB1	1.77	0.64
9:E:166:VAL:HG12	42:E:3134:HOH:O	1.96	0.64
32:2:55:VAL:HG22	42:2:8511:HOH:O	1.97	0.64
1:0:182:G:H4'	16:L:157:LEU:HD13	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2421:G:H4'	42:0:4252:HOH:O	1.97	0.64
8:D:64:ARG:CG	8:D:67:ASP:HB3	2.27	0.64
32:2:65:THR:HG23	32:2:67:LEU:HG	1.79	0.64
1:0:447:A:OP1	23:S:2:LYS:HG2	1.97	0.64
6:B:264:GLU:HG2	6:B:267:LYS:CE	2.23	0.64
8:D:25:MET:CE	8:D:41:LEU:HG	2.23	0.64
19:O:58:SER:HB3	42:O:183:HOH:O	1.96	0.64
29:Y:54:ILE:HD12	42:Y:8415:HOH:O	1.96	0.64
1:0:470:U:O2'	30:Z:16:HIS:HD2	1.79	0.64
1:0:2310:G:OP2	12:H:114:PRO:HD2	1.97	0.64
1:0:2827:A:H2'	1:0:2828:G:O4'	1.96	0.64
42:0:7025:HOH:O	32:2:60:LYS:HG3	1.97	0.64
5:A:191:GLY:HA2	5:A:194:MET:HE3	1.79	0.64
10:F:50:VAL:HG13	10:F:60:VAL:HG11	1.79	0.64
22:R:51:GLN:HE21	22:R:53:ASN:ND2	1.95	0.64
23:S:32:ARG:NH1	23:S:38:ARG:HH12	1.96	0.64
5:A:36:ASP:HA	5:A:83:GLY:HA3	1.80	0.64
5:A:100:PRO:HG2	5:A:103:VAL:HG21	1.79	0.64
8:D:69:ILE:HG22	8:D:69:ILE:O	1.96	0.64
8:D:97:GLN:HG2	8:D:97:GLN:O	1.96	0.64
1:0:1234:U:N3	6:B:244:PRO:HB3	2.13	0.64
6:B:195:ARG:HG2	6:B:323:LEU:HD22	1.80	0.64
11:G:64:ASN:HD22	11:G:64:ASN:N	1.94	0.64
13:I:19:MET:HE3	13:I:132:LEU:HD11	1.79	0.64
17:M:154:LEU:O	17:M:155:GLU:HB3	1.98	0.64
1:0:69:A:H5'	1:0:69:A:C8	2.33	0.64
42:0:4307:HOH:O	13:I:47:THR:HB	1.97	0.64
6:B:221:GLN:HE22	14:J:42:ASN:HD22	1.44	0.64
17:M:37:ARG:NE	42:M:8535:HOH:O	2.29	0.64
1:0:383:A:H4'	42:0:4807:HOH:O	1.96	0.64
12:H:59:ASN:H	12:H:59:ASN:ND2	1.95	0.64
8:D:54:ALA:HB2	8:D:69:ILE:HD12	1.79	0.64
12:H:58:HIS:HA	12:H:61:LEU:HD23	1.80	0.64
26:V:130:HIS:O	26:V:136:GLY:HA3	1.97	0.64
42:0:5006:HOH:O	16:L:58:GLN:HG3	1.97	0.64
12:H:28:ILE:HA	12:H:62:GLU:OE1	1.98	0.64
12:H:55:GLN:HE22	12:H:91:HIS:CD2	2.16	0.64
12:H:163:PRO:HG2	42:H:8338:HOH:O	1.97	0.64
13:I:133:GLY:O	13:I:137:GLU:HG3	1.98	0.64
31:1:22:PRO:HG2	31:1:25:VAL:HG23	1.79	0.64
1:0:125:U:H2'	42:0:3260:HOH:O	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:O:6612:HOH:O	30:Z:1:THR:HB	1.97	0.63
6:B:36:PRO:HA	6:B:168:GLY:CA	2.28	0.63
16:L:84:LYS:HE2	42:L:8579:HOH:O	1.98	0.63
18:N:14:LEU:CD2	18:N:102:ILE:HD11	2.27	0.63
28:X:187:VAL:CG2	28:X:192:ASP:HB2	2.27	0.63
1:O:1119:G:H22	1:O:1246:A:H2	1.45	0.63
1:O:2459:G:OP1	32:2:64:LYS:N	2.18	0.63
6:B:125:GLU:O	6:B:129:ARG:HG3	1.99	0.63
9:E:15:GLN:HG3	9:E:20:ILE:HG12	1.80	0.63
12:H:26:LYS:HD2	12:H:28:ILE:CD1	2.26	0.63
15:K:148:GLU:HA	42:K:8577:HOH:O	1.97	0.63
16:L:87:MET:HG2	32:2:46:ILE:CG2	2.23	0.63
1:O:289:G:N2	1:O:363:A:H2	1.94	0.63
8:D:65:GLU:HG3	42:D:6752:HOH:O	1.99	0.63
12:H:69:ASN:O	12:H:72:VAL:HG12	1.97	0.63
12:H:83:PHE:HZ	12:H:146:TRP:HE1	1.46	0.63
15:K:120:LEU:HD12	15:K:133:VAL:HG21	1.80	0.63
29:Y:30:GLU:HA	29:Y:33:HIS:CB	2.28	0.63
1:O:285:A:H2'	1:O:286:U:O4'	1.98	0.63
9:E:3:VAL:HG22	9:E:49:ILE:HB	1.81	0.63
12:H:136:VAL:HG22	12:H:137:ASN:O	1.97	0.63
15:K:1:THR:HA	42:K:8529:HOH:O	1.99	0.63
27:W:41:PHE:O	27:W:43:VAL:HG23	1.98	0.63
1:O:338:C:H4'	7:C:174:ILE:CD1	2.28	0.63
1:O:2769:C:H2'	1:O:2770:G:O4'	1.99	0.63
6:B:41:PHE:HA	6:B:79:MET:HE2	1.81	0.63
6:B:175:LEU:C	6:B:175:LEU:HD23	2.19	0.63
17:M:61:ALA:CB	17:M:88:ALA:HB2	2.29	0.63
1:O:371:U:H2'	1:O:372:A:H8	1.63	0.63
1:O:1118:A:H62	1:O:1244:U:H3	1.46	0.63
10:F:110:GLU:HG2	42:F:6926:HOH:O	1.98	0.63
12:H:33:MET:HB2	12:H:83:PHE:HB3	1.81	0.63
12:H:53:PRO:HG3	12:H:127:GLY:H	1.64	0.63
1:O:871:G:C8	1:O:871:G:C5'	2.75	0.63
8:D:23:VAL:HG22	8:D:73:VAL:HB	1.81	0.63
8:D:105:SER:CB	8:D:131:THR:HG23	2.27	0.63
26:V:110:GLN:NE2	26:V:110:GLN:HA	2.14	0.63
1:O:2432:C:O2'	1:O:2433:A:H5'	1.98	0.62
5:A:105:VAL:HG11	5:A:154:ALA:HB1	1.81	0.62
16:L:138:HIS:ND1	16:L:139:PRO:O	2.24	0.62
18:N:38:ARG:NH1	42:N:7674:HOH:O	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:272:A:H5'	1:0:273:G:OP2	1.98	0.62
8:D:95:THR:O	8:D:97:GLN:N	2.28	0.62
12:H:84:ARG:NH2	12:H:135:TRP:HH2	1.96	0.62
1:0:2054:A:N3	21:Q:128:ARG:NH2	2.47	0.62
6:B:307:ARG:HH11	6:B:307:ARG:HB2	1.64	0.62
7:C:115:LEU:HD21	7:C:243:VAL:HG13	1.81	0.62
16:L:164:THR:CG2	16:L:165:SER:N	2.62	0.62
30:Z:8:GLN:HE22	30:Z:11:LYS:NZ	1.97	0.62
1:0:2851:G:O2'	1:0:2852:A:H5'	1.98	0.62
21:Q:132:ARG:HG2	21:Q:133:ALA:N	2.14	0.62
26:V:90:TYR:N	26:V:90:TYR:CD1	2.66	0.62
6:B:141:ARG:HG2	6:B:165:ARG:HA	1.82	0.62
22:R:33:SER:O	22:R:37:VAL:HG23	2.00	0.62
42:0:3551:HOH:O	6:B:27:ASN:HB2	1.99	0.62
5:A:194:MET:HE1	5:A:199:HIS:HB2	1.81	0.62
12:H:71:TYR:C	12:H:73:GLN:H	2.03	0.62
17:M:32:PRO:HD2	17:M:99:GLU:O	2.00	0.62
18:N:87:THR:O	18:N:91:GLN:HG3	1.98	0.62
21:Q:18:LEU:HB2	21:Q:143:VAL:HG12	1.81	0.62
1:0:2361:A:H5''	42:0:8523:HOH:O	1.99	0.62
16:L:68:ARG:O	16:L:68:ARG:HD3	1.99	0.62
17:M:151:ASP:O	17:M:154:LEU:HB2	2.00	0.62
28:X:133:HIS:HD2	42:X:8583:HOH:O	1.82	0.62
29:Y:10:ARG:HA	42:Y:8414:HOH:O	1.98	0.62
1:0:69:A:H5'	1:0:69:A:H8	1.65	0.62
6:B:140:LEU:HD23	42:B:8579:HOH:O	1.99	0.62
7:C:115:LEU:O	7:C:118:THR:HB	1.99	0.62
12:H:48:LEU:HG	12:H:157:ILE:HG21	1.82	0.62
5:A:211:LYS:HB3	5:A:212:PRO:CD	2.24	0.62
1:0:544:G:C2'	1:0:545:G:H5''	2.30	0.62
1:0:1116:U:HO2'	1:0:1118:A:H2	0.76	0.62
1:0:1886:A:H4'	42:Y:8405:HOH:O	1.98	0.62
1:0:1972:U:H2'	1:0:1973:A:H5'	1.82	0.62
5:A:94:LEU:HD23	5:A:94:LEU:N	2.15	0.61
9:E:20:ILE:HD11	9:E:40:VAL:HG11	1.81	0.61
1:0:2414:A:H2'	1:0:2415:A:C8	2.34	0.61
5:A:200:PRO:HG2	5:A:225:VAL:HG21	1.82	0.61
16:L:164:THR:HG22	16:L:167:GLY:N	2.13	0.61
27:W:78:GLU:CG	27:W:79:GLU:H	2.11	0.61
28:X:216:ARG:HD3	42:X:8570:HOH:O	2.01	0.61
1:0:188:C:H5''	16:L:163:LEU:HD21	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1170:U:O2'	1:0:1172:G:N7	2.27	0.61
1:0:2276:U:H2'	1:0:2277:U:C6	2.35	0.61
1:0:2505:G:O2'	1:0:2506:A:H5'	2.01	0.61
17:M:73:ALA:N	42:M:8568:HOH:O	2.33	0.61
1:0:1829:A:N6	29:Y:18:TYR:HA	2.15	0.61
2:9:3006:C:C5'	17:M:37:ARG:NH1	2.59	0.61
12:H:44:ALA:HA	12:H:163:PRO:O	2.00	0.61
15:K:136:ALA:HB3	42:K:8578:HOH:O	2.00	0.61
22:R:51:GLN:NE2	22:R:53:ASN:HD21	1.96	0.61
23:S:63:ILE:HD11	23:S:75:GLU:HB2	1.82	0.61
26:V:13:MET:HE1	26:V:18:GLN:HA	1.80	0.61
1:0:558:C:O2'	1:0:559:U:H5''	2.00	0.61
6:B:148:PRO:HD2	42:B:8580:HOH:O	2.00	0.61
10:F:91:VAL:CG1	10:F:92:GLY:H	2.11	0.61
19:O:98:ILE:HD12	19:O:102:ARG:NE	2.16	0.61
26:V:137:GLN:HE21	26:V:141:HIS:CE1	2.13	0.61
29:Y:28:ASP:O	29:Y:31:ILE:HG22	2.01	0.61
32:2:62:THR:HB	42:2:8557:HOH:O	2.00	0.61
1:0:1116:U:O2'	1:0:1118:A:C2	2.42	0.61
1:0:1819:G:H2'	1:0:1820:G:H4'	1.81	0.61
1:0:2427:C:OP2	32:2:84:ARG:HD2	2.00	0.61
1:0:2896:A:H5''	42:0:5575:HOH:O	2.00	0.61
42:C:8360:HOH:O	18:N:3:THR:HG21	1.99	0.61
16:L:74:ARG:O	16:L:88:VAL:HG13	2.00	0.61
17:M:184:ILE:HG22	17:M:185:GLU:HG3	1.82	0.61
26:V:81:ASP:OD1	26:V:92:ASP:HB2	1.99	0.61
29:Y:51:GLY:HA3	42:Y:8415:HOH:O	2.01	0.61
1:0:1559:A:H1'	42:0:5338:HOH:O	2.01	0.61
1:0:2710:U:H1'	42:0:7092:HOH:O	2.00	0.61
6:B:141:ARG:HD2	6:B:163:GLU:OE2	2.01	0.61
7:C:118:THR:O	7:C:136:VAL:HG13	2.00	0.61
12:H:144:GLU:OE1	12:H:144:GLU:HA	2.00	0.61
32:2:10:TYR:HB2	32:2:17:HIS:CE1	2.36	0.61
1:0:1474:C:H5'	1:0:1474:C:C6	2.34	0.61
1:0:1766:U:O2	1:0:1778:A:H5'	2.01	0.61
2:9:3039:U:H1'	2:9:3044:A:H61	1.64	0.61
1:0:1003:U:HO2'	12:H:90:PHE:HE1	1.48	0.61
9:E:79:GLY:HA3	42:E:7046:HOH:O	2.00	0.61
32:2:70:ARG:HB3	42:2:8576:HOH:O	2.00	0.61
7:C:25:PRO:HG2	42:C:8324:HOH:O	1.99	0.60
17:M:91:ARG:HG3	17:M:186:LEU:HD23	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Q:33:ARG:NH1	42:Q:8544:HOH:O	2.33	0.60
1:O:431:G:P	16:L:48:ARG:HH12	2.25	0.60
1:O:775:G:OP1	30:Z:16:HIS:HE1	1.84	0.60
21:Q:44:VAL:O	21:Q:48:GLU:HG3	2.02	0.60
28:X:144:ARG:CZ	42:X:8612:HOH:O	2.48	0.60
1:O:1120:U:H5'	1:O:1121:G:OP2	2.00	0.60
5:A:105:VAL:CG1	5:A:154:ALA:HB1	2.31	0.60
8:D:36:ASN:HA	42:D:7500:HOH:O	2.00	0.60
8:D:41:LEU:HA	8:D:44:ILE:HG22	1.84	0.60
1:O:299:U:H5'	42:O:6806:HOH:O	2.01	0.60
1:O:1114:A:H2'	1:O:1115:U:H6	1.66	0.60
1:O:2437:A:H2'	1:O:2438:G:C8	2.37	0.60
1:O:2587:U:H2'	1:O:2589:U:H5''	1.82	0.60
1:O:2783:A:H3'	42:O:4708:HOH:O	1.99	0.60
2:9:3014:G:H5'	2:9:3014:G:C8	2.36	0.60
16:L:52:LEU:HD21	42:L:8618:HOH:O	2.00	0.60
17:M:80:SER:HB2	42:M:8537:HOH:O	1.99	0.60
26:V:13:MET:CE	26:V:17:ILE:HG22	2.30	0.60
1:O:263:U:O4'	10:F:59:ILE:HD13	2.01	0.60
1:O:1594:C:OP2	19:O:120:ARG:HD2	2.01	0.60
1:O:2676:C:H4'	13:I:70:PHE:CE1	2.35	0.60
7:C:104:ASP:HA	7:C:107:ARG:NH1	2.14	0.60
16:L:104:ARG:O	16:L:108:LYS:HG2	2.01	0.60
21:Q:39:THR:HB	21:Q:42:GLU:CG	2.30	0.60
1:O:20:G:H21	21:Q:117:HIS:HD2	1.49	0.60
1:O:1119:G:N2	1:O:1246:A:C2	2.63	0.60
9:E:5:LEU:HD21	9:E:66:GLN:HG3	1.82	0.60
10:F:107:VAL:O	10:F:111:ILE:HG13	2.01	0.60
12:H:46:VAL:O	12:H:146:TRP:HH2	1.84	0.60
12:H:166:ASN:HD22	12:H:166:ASN:N	1.98	0.60
16:L:61:ILE:HA	42:L:8627:HOH:O	2.01	0.60
22:R:81:ILE:HG23	42:R:8336:HOH:O	2.02	0.60
29:Y:30:GLU:HB3	29:Y:34:LYS:HE3	1.84	0.60
8:D:23:VAL:HG21	8:D:45:THR:HG21	1.84	0.60
9:E:7:ILE:HD11	9:E:11:VAL:C	2.22	0.60
19:O:38:GLU:HA	19:O:41:ARG:HH11	1.67	0.60
1:O:2908:A:H2'	1:O:2909:G:O4'	2.01	0.60
6:B:207:LYS:HG2	6:B:304:PRO:HB3	1.83	0.60
9:E:116:THR:HG22	9:E:151:LEU:HD22	1.82	0.60
19:O:16:VAL:HG12	19:O:17:GLY:N	2.17	0.60
19:O:87:ARG:HG2	42:O:186:HOH:O	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:2690:U:O2'	9:E:111:LYS:HE3	2.02	0.60
6:B:51:VAL:CG2	6:B:327:VAL:HG13	2.31	0.60
13:I:74:ARG:O	13:I:78:ILE:HG12	2.01	0.60
1:O:1741:U:O2'	1:O:2723:G:H4'	2.01	0.60
17:M:169:PRO:O	17:M:172:PHE:HB3	2.02	0.60
30:Z:21:ARG:HD2	30:Z:37:CYS:SG	2.41	0.60
1:O:1197:G:N2	42:O:5710:HOH:O	2.34	0.59
13:I:39:VAL:HG12	13:I:40:ASN:ND2	2.17	0.59
19:O:59:ARG:HH22	19:O:66:GLN:HE22	1.51	0.59
1:O:31:C:H2'	42:O:7158:HOH:O	2.01	0.59
6:B:36:PRO:HA	6:B:168:GLY:HA3	1.84	0.59
12:H:59:ASN:N	12:H:59:ASN:ND2	2.50	0.59
16:L:60:ILE:C	16:L:61:ILE:HD12	2.23	0.59
29:Y:29:VAL:O	29:Y:33:HIS:HB2	2.02	0.59
1:O:2578:G:H5'	1:O:2578:G:C8	2.34	0.59
12:H:127:GLY:O	12:H:128:ALA:HB3	2.03	0.59
17:M:86:LEU:O	17:M:90:LEU:HG	2.02	0.59
29:Y:61:GLY:HA3	42:Y:8422:HOH:O	2.02	0.59
1:O:797:A:C4'	29:Y:10:ARG:N	2.65	0.59
1:O:1130:U:H5'	42:O:7141:HOH:O	2.02	0.59
1:O:1187:U:O2'	1:O:1189:A:H2	1.86	0.59
1:O:2756:U:H3	1:O:2896:A:H2	1.49	0.59
7:C:16:VAL:HG12	7:C:17:ASP:N	2.16	0.59
8:D:99:ASP:HB2	8:D:103:ASN:HB2	1.84	0.59
10:F:58:GLU:OE1	16:L:27:ARG:NH2	2.34	0.59
12:H:35:ASN:ND2	12:H:80:ASN:HA	2.18	0.59
30:Z:25:LYS:O	30:Z:25:LYS:HG2	2.02	0.59
1:O:1667:A:H5'	1:O:1667:A:C8	2.35	0.59
1:O:2718:C:H6	1:O:2718:C:H5'	1.68	0.59
1:O:2755:G:H1'	42:O:4158:HOH:O	2.03	0.59
42:O:6498:HOH:O	5:A:211:LYS:HG2	2.02	0.59
5:A:81:GLN:HB2	5:A:92:ASN:ND2	2.17	0.59
5:A:88:ILE:HD13	5:A:100:PRO:CD	2.31	0.59
7:C:118:THR:HG23	42:C:8305:HOH:O	2.02	0.59
29:Y:47:LEU:HD23	29:Y:57:CYS:HB2	1.85	0.59
42:O:5501:HOH:O	20:P:50:GLY:HA2	2.02	0.59
8:D:25:MET:CE	8:D:37:ALA:HB1	2.32	0.59
14:J:34:VAL:HG22	14:J:47:ALA:HB2	1.85	0.59
14:J:106:GLY:HA3	42:J:5264:HOH:O	2.02	0.59
16:L:38:VAL:C	16:L:63:VAL:HG13	2.23	0.59
16:L:74:ARG:HG3	16:L:74:ARG:NH1	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:L:87:MET:CB	32:2:46:ILE:HG21	2.33	0.59
23:S:101:LEU:HD13	23:S:112:LEU:HD11	1.85	0.59
29:Y:31:ILE:O	29:Y:35:LYS:HG3	2.02	0.59
1:O:189:A:OP1	16:L:171:ARG:NH2	2.36	0.59
1:O:1053:G:OP1	12:H:12:PRO:HG3	2.02	0.59
2:9:3048:C:H4'	17:M:141:ARG:NH2	2.17	0.59
7:C:180:SER:HB2	42:C:8449:HOH:O	2.01	0.59
12:H:75:SER:C	12:H:79:ALA:HB2	2.23	0.59
25:U:64:GLY:O	25:U:65:ASP:HB2	2.03	0.59
26:V:65:VAL:HA	26:V:68:THR:HG22	1.84	0.59
8:D:22:VAL:HG22	8:D:74:THR:HG22	1.84	0.59
8:D:91:ALA:HB1	42:D:5198:HOH:O	2.03	0.59
13:I:107:ASN:HD22	13:I:107:ASN:C	2.06	0.59
22:R:43:GLU:HB3	42:R:8344:HOH:O	2.03	0.59
1:O:88:G:H8	1:O:88:G:H5'	1.68	0.59
8:D:95:THR:C	8:D:97:GLN:H	2.06	0.59
9:E:23:GLU:HG2	9:E:28:SER:CB	2.33	0.59
16:L:65:VAL:HG21	16:L:105:ALA:HB2	1.85	0.59
17:M:48:VAL:HG11	17:M:55:ASP:HB3	1.82	0.59
26:V:21:LEU:HD21	26:V:48:VAL:HG11	1.84	0.59
1:O:2408:A:HO2'	32:2:10:TYR:HD1	1.48	0.59
5:A:88:ILE:O	5:A:88:ILE:HG22	2.02	0.59
15:K:145:LEU:O	15:K:148:GLU:HG3	2.03	0.58
20:P:11:ARG:HD3	42:P:5620:HOH:O	2.03	0.58
21:Q:104:PHE:HB2	21:Q:109:MET:HE1	1.84	0.58
26:V:108:ARG:HE	26:V:114:PRO:HG3	1.66	0.58
32:2:48:ASN:ND2	32:2:50:GLY:H	2.00	0.58
1:O:240:C:H4'	16:L:146:GLN:NE2	2.18	0.58
1:O:2676:C:H4'	13:I:70:PHE:HE1	1.68	0.58
42:O:7149:HOH:O	16:L:154:ARG:HB2	2.03	0.58
12:H:109:ASP:HB2	42:H:8345:HOH:O	2.03	0.58
42:O:9200:HOH:O	6:B:254:GLN:HG3	2.02	0.58
8:D:37:ALA:O	8:D:40:ILE:HG12	2.03	0.58
9:E:101:GLU:HB2	9:E:116:THR:O	2.03	0.58
11:G:12:ILE:N	11:G:13:PRO:CD	2.66	0.58
24:T:13:ILE:HG12	24:T:32:CYS:CB	2.32	0.58
8:D:64:ARG:CD	8:D:67:ASP:HB3	2.33	0.58
10:F:50:VAL:HG21	10:F:63:ILE:HG21	1.85	0.58
14:J:34:VAL:HB	42:J:7169:HOH:O	2.02	0.58
21:Q:111:ILE:HG23	21:Q:145:LEU:HD11	1.85	0.58
23:S:71:VAL:HG11	23:S:90:PRO:CB	2.26	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:2:3:MET:O	32:2:90:PHE:HA	2.03	0.58
1:0:558:C:H2'	1:0:559:U:H5'	1.86	0.58
1:0:2047:C:H5'	42:0:9316:HOH:O	2.04	0.58
42:0:6923:HOH:O	6:B:211:THR:HG21	2.04	0.58
2:9:3013:A:O2'	2:9:3014:G:H5''	2.03	0.58
5:A:109:GLU:HG2	5:A:116:GLY:N	2.18	0.58
7:C:145:GLU:HG3	42:C:8380:HOH:O	2.02	0.58
8:D:54:ALA:CB	8:D:69:ILE:HD12	2.32	0.58
16:L:64:ARG:HD2	42:L:8586:HOH:O	2.03	0.58
16:L:87:MET:CB	32:2:46:ILE:HD13	2.33	0.58
16:L:172:GLY:C	16:L:183:VAL:HG11	2.24	0.58
17:M:141:ARG:N	42:M:8571:HOH:O	2.34	0.58
27:W:43:VAL:HG12	27:W:44:ASP:N	2.18	0.58
1:0:1701:A:H4'	1:0:1702:U:C5'	2.32	0.58
9:E:69:ILE:HA	9:E:72:MET:CE	2.33	0.58
26:V:11:VAL:O	26:V:12:ASN:HB2	2.04	0.58
9:E:132:THR:HB	42:E:2227:HOH:O	2.03	0.58
26:V:90:TYR:CE2	26:V:99:ALA:HB2	2.38	0.58
1:0:1008:C:H5''	12:H:16:ARG:HH12	1.68	0.58
1:0:2547:C:OP2	6:B:5:ARG:NH1	2.36	0.58
6:B:7:ARG:HD3	6:B:9:GLY:O	2.03	0.58
7:C:246:ARG:NE	42:C:8430:HOH:O	2.36	0.58
21:Q:119:VAL:HG21	21:Q:142:ASP:CG	2.24	0.58
25:U:39:ALA:N	25:U:40:PRO:CD	2.66	0.58
26:V:84:VAL:HG12	42:V:6679:HOH:O	2.04	0.58
1:0:1168:C:H2'	1:0:1169:U:O4'	2.03	0.58
1:0:1209:C:H2'	1:0:1210:G:C8	2.38	0.58
11:G:12:ILE:HB	42:G:4714:HOH:O	2.03	0.58
13:I:45:VAL:HG21	13:I:129:PHE:CD1	2.39	0.58
25:U:58:THR:O	25:U:62:GLU:HG3	2.04	0.58
28:X:189:ASN:HD22	28:X:189:ASN:C	2.06	0.58
1:0:821:U:H5''	42:0:9545:HOH:O	2.02	0.58
5:A:164:ARG:NE	42:A:8596:HOH:O	2.36	0.58
6:B:30:PRO:HB2	6:B:39:GLN:NE2	2.19	0.58
6:B:145:HIS:CD2	6:B:146:THR:O	2.56	0.58
6:B:275:GLY:O	6:B:291:ASP:HA	2.04	0.58
8:D:38:GLU:HB3	8:D:49:PRO:HG2	1.86	0.58
12:H:136:VAL:HG23	42:H:8343:HOH:O	2.02	0.58
26:V:21:LEU:HD21	26:V:48:VAL:CG1	2.33	0.58
1:0:1205:U:C2'	1:0:1206:U:H5''	2.33	0.57
1:0:1477:C:O2'	1:0:1478:U:H5'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:3020:G:O2'	2:9:3021:G:H5'	2.04	0.57
8:D:27:ILE:HG22	8:D:28:GLY:N	2.13	0.57
15:K:77:ALA:HB3	42:K:8537:HOH:O	2.02	0.57
25:U:39:ALA:C	25:U:41:GLU:H	2.08	0.57
1:0:371:U:H2'	1:0:372:A:C8	2.39	0.57
42:0:9038:HOH:O	19:O:81:LYS:HG2	2.04	0.57
7:C:76:ARG:HD3	42:C:8372:HOH:O	2.03	0.57
7:C:185:LYS:HD3	7:C:186:TYR:CE1	2.38	0.57
29:Y:11:THR:CG2	29:Y:23:ARG:HB2	2.35	0.57
29:Y:58:GLY:HA3	42:Y:8434:HOH:O	2.05	0.57
1:0:2637:A:H5''	3:3:74:C:H5'	1.86	0.57
1:0:2717:C:H2'	1:0:2718:C:C5'	2.29	0.57
26:V:38:THR:HG22	42:V:3580:HOH:O	2.03	0.57
29:Y:62:TYR:CE2	29:Y:64:ILE:HG23	2.39	0.57
1:0:65:C:O2'	1:0:66:G:H5'	2.03	0.57
1:0:818:A:O2'	29:Y:13:ARG:HD3	2.04	0.57
9:E:23:GLU:HG2	9:E:28:SER:HB3	1.87	0.57
14:J:74:VAL:CG1	14:J:113:ILE:HG12	2.35	0.57
27:W:78:GLU:HG2	27:W:79:GLU:N	2.17	0.57
30:Z:25:LYS:HE2	42:1:7213:HOH:O	2.02	0.57
1:0:121:U:OP2	31:1:10:ARG:NH2	2.36	0.57
1:0:1528:A:H2'	1:0:1529:G:O4'	2.04	0.57
1:0:2781:U:C2'	1:0:2782:G:H5'	2.35	0.57
6:B:63:GLU:HG3	6:B:63:GLU:O	2.04	0.57
12:H:26:LYS:HD3	12:H:89:PRO:HG3	1.86	0.57
15:K:54:PRO:HG2	15:K:57:VAL:CG2	2.34	0.57
1:0:183:A:H5'	16:L:157:LEU:HD12	1.87	0.57
1:0:558:C:H2'	1:0:559:U:C5'	2.35	0.57
1:0:2409:C:H4'	32:2:17:HIS:HB2	1.87	0.57
8:D:50:VAL:O	8:D:71:ALA:HA	2.05	0.57
13:I:39:VAL:HG11	13:I:107:ASN:HB2	1.86	0.57
1:0:157:G:H4'	16:L:95:LYS:HE3	1.85	0.57
1:0:380:A:OP2	16:L:9:ARG:HD2	2.04	0.57
1:0:567:U:H5''	42:V:5817:HOH:O	2.05	0.57
1:0:681:G:N3	1:0:681:G:H5'	2.20	0.57
6:B:168:GLY:N	6:B:174:ARG:HD3	2.20	0.57
8:D:19:GLU:HG3	42:D:6165:HOH:O	2.04	0.57
11:G:63:ARG:N	42:G:2569:HOH:O	2.37	0.57
12:H:157:ILE:HG22	12:H:158:ASN:N	2.19	0.57
1:0:485:A:N3	1:0:487:G:H5''	2.20	0.57
1:0:2365:G:H4'	20:P:45:PRO:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:0:3996:HOH:O	16:L:94:LYS:HE3	2.05	0.57
15:K:138:GLY:HA3	42:K:8559:HOH:O	2.04	0.57
17:M:38:LYS:HD2	17:M:114:LYS:HE3	1.87	0.57
1:0:280:C:H2'	1:0:281:U:O4'	2.05	0.57
1:0:714:U:H3'	42:0:6416:HOH:O	2.04	0.57
1:0:1176:C:H1'	42:0:3420:HOH:O	2.04	0.57
10:F:58:GLU:HA	10:F:61:MET:HE2	1.85	0.57
12:H:47:GLU:CB	12:H:133:ILE:HD13	2.35	0.57
1:0:1834:C:H2'	1:0:1840:A:N6	2.19	0.57
1:0:1942:A:H3'	42:0:6815:HOH:O	2.05	0.57
1:0:2781:U:H2'	1:0:2782:G:H5'	1.86	0.57
1:0:2840:A:OP1	6:B:211:THR:HG23	2.04	0.57
15:K:143:THR:HG22	15:K:144:ASP:H	1.70	0.57
16:L:30:GLU:O	16:L:34:GLU:HG3	2.04	0.57
16:L:113:ARG:NH2	16:L:156:ARG:HG2	2.19	0.57
22:R:37:VAL:O	22:R:41:VAL:HG23	2.05	0.57
29:Y:11:THR:OG1	29:Y:23:ARG:HB2	2.05	0.57
1:0:136:C:H2'	1:0:137:U:O4'	2.05	0.56
1:0:1086:A:C6	26:V:11:VAL:HG11	2.40	0.56
1:0:1634:G:H3'	42:0:3383:HOH:O	2.04	0.56
1:0:1887:U:OP1	29:Y:21:LYS:HE3	2.05	0.56
5:A:94:LEU:HG	5:A:99:ILE:HD11	1.87	0.56
21:Q:106:GLY:HA2	21:Q:109:MET:CE	2.34	0.56
1:0:2320:U:H4'	1:0:2321:A:O4'	2.05	0.56
2:9:3049:G:H5''	42:9:4707:HOH:O	2.04	0.56
6:B:56:ASP:OD1	6:B:322:ARG:HB3	2.04	0.56
7:C:162:VAL:HG13	7:C:232:LEU:HD21	1.87	0.56
16:L:185:PRO:HG2	16:L:189:VAL:HG11	1.87	0.56
17:M:34:LEU:HA	17:M:47:LEU:HD23	1.86	0.56
17:M:89:GLY:O	17:M:92:ALA:HB3	2.05	0.56
26:V:122:ARG:NH2	42:V:4276:HOH:O	2.37	0.56
1:0:281:U:O2'	1:0:282:C:H5'	2.06	0.56
1:0:625:U:H5''	1:0:1044:C:N4	2.20	0.56
1:0:660:A:H4'	1:0:661:G:O5'	2.06	0.56
1:0:1180:U:H2'	1:0:1181:A:O4'	2.05	0.56
1:0:2285:G:H1	3:3:74:C:H42	1.51	0.56
1:0:2459:G:P	32:2:64:LYS:HB2	2.46	0.56
1:0:2878:U:H2'	1:0:2879:A:O4'	2.05	0.56
6:B:85:ARG:NH1	42:B:8632:HOH:O	2.38	0.56
6:B:103:ASP:HB2	42:B:8589:HOH:O	2.04	0.56
8:D:38:GLU:OE2	8:D:51:ARG:CZ	2.54	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:D:44:ILE:HG23	8:D:45:THR:HG23	1.88	0.56
8:D:86:THR:O	8:D:90:LEU:HG	2.05	0.56
9:E:11:VAL:HG12	9:E:12:ASP:H	1.69	0.56
15:K:149:ARG:O	15:K:150:GLN:HB2	2.06	0.56
16:L:37:VAL:HG21	16:L:108:LYS:CG	2.35	0.56
16:L:52:LEU:HD13	16:L:116:ASN:HB3	1.88	0.56
21:Q:18:LEU:HD12	21:Q:143:VAL:CG1	2.35	0.56
23:S:9:LYS:CE	23:S:13:ARG:NH1	2.64	0.56
29:Y:25:ARG:O	29:Y:29:VAL:HG23	2.05	0.56
1:0:960:G:N3	1:0:960:G:H2'	2.21	0.56
1:0:1730:G:H5'	1:0:1731:C:C5	2.41	0.56
1:0:2089:A:O2'	1:0:2090:G:H5'	2.06	0.56
1:0:2679:G:H2'	1:0:2681:A:OP2	2.05	0.56
2:9:3029:C:C2'	2:9:3030:C:H5'	2.35	0.56
7:C:246:ARG:NH2	42:C:8430:HOH:O	2.37	0.56
19:O:105:LEU:HD21	19:O:137:LEU:HD21	1.86	0.56
31:1:18:ASN:HD21	31:1:40:ARG:H	1.53	0.56
1:0:1119:G:H8	13:I:52:GLN:HE22	1.54	0.56
28:X:185:VAL:HG12	42:X:8571:HOH:O	2.04	0.56
1:0:1123:A:C6	1:0:1238:C:H5'	2.41	0.56
2:9:3044:A:O4'	8:D:76:ARG:NE	2.39	0.56
8:D:99:ASP:CB	8:D:103:ASN:H	2.19	0.56
10:F:46:GLU:N	42:F:3461:HOH:O	2.39	0.56
10:F:47:LEU:HB2	10:F:108:LEU:HD11	1.88	0.56
11:G:12:ILE:O	11:G:12:ILE:HG22	2.05	0.56
16:L:55:LYS:HB2	16:L:60:ILE:CD1	2.35	0.56
24:T:9:CYS:CA	24:T:52:THR:HG23	2.35	0.56
25:U:44:GLY:O	25:U:48:GLU:HG2	2.05	0.56
26:V:122:ARG:HH22	26:V:154:ARG:C	2.09	0.56
28:X:235:GLU:H	28:X:235:GLU:CD	2.07	0.56
1:0:1132:A:N6	1:0:1229:C:H2'	2.21	0.56
1:0:1441:G:O2'	1:0:1442:A:H5'	2.06	0.56
1:0:2329:C:O2'	1:0:2330:U:H5'	2.06	0.56
1:0:2469:A:H1'	42:0:9736:HOH:O	2.06	0.56
5:A:199:HIS:CD2	5:A:201:PHE:H	2.24	0.56
7:C:133:ARG:HD2	42:C:8417:HOH:O	2.06	0.56
42:J:408:HOH:O	24:T:37:GLU:HB3	2.04	0.56
17:M:71:TRP:HE3	17:M:175:LEU:HD22	1.69	0.56
17:M:154:LEU:HG	17:M:155:GLU:H	1.71	0.56
1:0:558:C:C2'	1:0:559:U:H5''	2.36	0.56
1:0:659:A:H5''	42:0:6568:HOH:O	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:2781:U:H1'	9:E:139:GLU:OE2	2.06	0.56
2:9:3051:A:H5'	17:M:160:SER:HB3	1.88	0.56
9:E:7:ILE:HD11	9:E:11:VAL:O	2.06	0.56
16:L:149:TRP:O	16:L:152:ARG:HG2	2.04	0.56
23:S:9:LYS:HD2	42:S:7242:HOH:O	2.06	0.56
31:1:48:ASP:O	31:1:49:GLU:HB2	2.06	0.56
1:O:797:A:H4'	29:Y:10:ARG:N	2.21	0.56
1:O:1669:A:H2'	1:O:1670:G:C8	2.41	0.56
2:9:3039:U:H1'	2:9:3044:A:N6	2.21	0.56
5:A:95:PRO:HG2	5:A:98:GLU:HG2	1.88	0.56
8:D:174:VAL:HG13	42:D:6555:HOH:O	2.06	0.56
27:W:74:ALA:CB	27:W:85:VAL:HG22	2.36	0.56
1:O:157:G:H4'	16:L:95:LYS:CE	2.37	0.55
1:O:1118:A:C8	1:O:1118:A:C3'	2.85	0.55
1:O:1687:C:O2	30:Z:9:GLY:HA2	2.06	0.55
1:O:2081:A:H4'	13:I:69:TYR:CE1	2.41	0.55
1:O:2502:C:H4'	12:H:151:MET:HG2	1.88	0.55
9:E:126:ILE:HB	9:E:131:LEU:CD2	2.36	0.55
10:F:91:VAL:CG1	10:F:92:GLY:N	2.67	0.55
10:F:101:ALA:HA	42:F:5413:HOH:O	2.06	0.55
17:M:37:ARG:NH2	42:M:8535:HOH:O	2.38	0.55
21:Q:39:THR:CB	21:Q:42:GLU:HG3	2.36	0.55
26:V:141:HIS:HB2	26:V:146:ILE:HG12	1.87	0.55
27:W:43:VAL:CG1	27:W:47:ALA:HB3	2.36	0.55
28:X:106:THR:HG23	28:X:107:PRO:HD2	1.87	0.55
1:O:138:U:H5''	1:O:139:C:OP2	2.06	0.55
1:O:2563:U:H2'	1:O:2565:C:O5'	2.06	0.55
1:O:2694:A:H4'	9:E:91:PHE:CE1	2.40	0.55
2:9:3054:A:O2'	2:9:3055:U:H5'	2.06	0.55
5:A:153:ARG:HH11	5:A:153:ARG:CB	2.19	0.55
7:C:77:ALA:O	7:C:78:ARG:HG3	2.06	0.55
28:X:163:THR:HG23	42:X:8529:HOH:O	2.06	0.55
1:O:1733:A:H4'	6:B:212:GLN:HA	1.87	0.55
1:O:2694:A:H4'	9:E:91:PHE:HE1	1.70	0.55
1:O:2769:C:O2'	1:O:2770:G:H5'	2.06	0.55
6:B:75:GLU:C	6:B:77:PRO:HD3	2.26	0.55
7:C:142:ASP:OD1	7:C:237:GLU:HB3	2.06	0.55
21:Q:17:MET:HE1	21:Q:19:ARG:NH2	2.22	0.55
1:O:1717:A:H5''	19:O:54:LYS:HB2	1.89	0.55
1:O:2115:U:H2'	1:O:2116:U:C6	2.41	0.55
1:O:2672:C:H1'	42:B:8632:HOH:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:51:VAL:HG23	6:B:329:TYR:O	2.06	0.55
13:I:39:VAL:CG1	13:I:107:ASN:HB2	2.36	0.55
27:W:72:VAL:HG22	27:W:85:VAL:CG1	2.35	0.55
32:2:11:CYS:HB2	32:2:20:HIS:CE1	2.41	0.55
1:O:2359:G:H3'	42:O:5166:HOH:O	2.05	0.55
42:O:4996:HOH:O	6:B:298:LYS:HD3	2.06	0.55
5:A:135:VAL:HG21	5:A:147:ARG:NH1	2.22	0.55
6:B:138:GLY:O	6:B:139:ASP:O	2.24	0.55
7:C:127:ARG:HG2	7:C:127:ARG:HH11	1.72	0.55
9:E:31:ARG:NH1	9:E:68:HIS:CG	2.75	0.55
12:H:85:ILE:HB	12:H:132:PHE:CE2	2.41	0.55
14:J:87:ARG:CZ	42:J:4854:HOH:O	2.54	0.55
16:L:57:LYS:HE2	16:L:140:ALA:O	2.06	0.55
17:M:37:ARG:CZ	42:M:8535:HOH:O	2.54	0.55
19:O:10:ALA:HA	19:O:13:VAL:HG12	1.88	0.55
21:Q:14:ALA:HB3	21:Q:147:LEU:HB2	1.87	0.55
30:Z:28:HIS:HD2	30:Z:30:LYS:H	1.54	0.55
1:O:542:A:H5'	1:O:542:A:C8	2.33	0.55
1:O:2316:G:H8	42:O:5129:HOH:O	1.88	0.55
16:L:71:SER:HB2	16:L:92:THR:HG22	1.88	0.55
17:M:87:LEU:CD1	17:M:186:LEU:HD21	2.31	0.55
23:S:37:GLN:OE1	23:S:118:SER:HA	2.06	0.55
29:Y:39:CYS:HA	29:Y:47:LEU:CD1	2.35	0.55
32:2:69:TYR:HB2	32:2:78:HIS:CE1	2.42	0.55
1:O:184:G:H5''	16:L:153:THR:HG22	1.88	0.55
1:O:1182:C:H1'	1:O:1192:A:H8	1.72	0.55
1:O:1773:G:C8	29:Y:16:PRO:HA	2.41	0.55
1:O:2769:C:C2'	1:O:2770:G:H5'	2.37	0.55
42:O:3173:HOH:O	16:L:79:LYS:HD3	2.06	0.55
5:A:199:HIS:HD2	5:A:201:PHE:H	1.55	0.55
6:B:304:PRO:HD2	6:B:307:ARG:HD2	1.87	0.55
22:R:57:THR:HG22	22:R:58:MET:N	2.20	0.55
27:W:21:PRO:HG2	27:W:24:LYS:HD3	1.87	0.55
1:O:2094:G:C4'	6:B:245:SER:HB3	2.36	0.55
1:O:2638:G:H1'	42:O:7230:HOH:O	2.05	0.55
7:C:93:LYS:O	7:C:98:ARG:NH2	2.40	0.55
7:C:246:ARG:HB3	7:C:246:ARG:NH1	2.22	0.55
10:F:48:VAL:CG2	10:F:74:PHE:HB3	2.37	0.55
16:L:59:GLY:HA3	16:L:141:ILE:HD12	1.89	0.55
17:M:67:ALA:HA	17:M:71:TRP:H	1.71	0.55
18:N:96:VAL:HA	42:N:4258:HOH:O	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:74:C:C2'	4:4:75:C:H5'	2.35	0.55
10:F:21:GLU:O	10:F:24:ARG:HG3	2.05	0.55
16:L:61:ILE:HD12	16:L:61:ILE:N	2.22	0.55
27:W:76:ARG:O	27:W:77:PHE:HB3	2.06	0.55
31:1:22:PRO:HG2	31:1:25:VAL:CG2	2.36	0.55
1:0:1759:A:N3	1:0:1818:C:H2'	2.21	0.55
8:D:10:PHE:CG	8:D:11:HIS:N	2.75	0.55
8:D:44:ILE:HG12	8:D:83:PHE:HE1	1.71	0.55
9:E:137:ASP:O	9:E:141:VAL:HG23	2.07	0.55
17:M:58:LEU:HD12	17:M:58:LEU:N	2.22	0.55
17:M:139:TRP:CE3	17:M:139:TRP:HA	2.41	0.55
21:Q:40:ALA:O	21:Q:44:VAL:HG23	2.07	0.55
27:W:9:VAL:HG13	27:W:88:GLU:OE2	2.07	0.55
28:X:185:VAL:HA	42:X:8565:HOH:O	2.06	0.55
1:0:1500:U:P	19:O:41:ARG:HH22	2.30	0.54
1:0:2594:C:O2'	1:0:2595:U:H5'	2.07	0.54
2:9:3042:C:H2'	42:9:6700:HOH:O	2.07	0.54
6:B:315:VAL:HG23	6:B:316:ARG:HG2	1.89	0.54
9:E:81:GLU:HG2	9:E:134:SER:HB3	1.89	0.54
12:H:150:LYS:CB	12:H:157:ILE:HD12	2.33	0.54
15:K:104:ASP:O	15:K:105:TYR:HB3	2.06	0.54
17:M:11:ARG:HG3	17:M:14:ARG:NH1	2.21	0.54
17:M:90:LEU:HB2	17:M:186:LEU:HD22	1.87	0.54
27:W:37:LEU:CD1	27:W:85:VAL:HG21	2.30	0.54
28:X:126:PRO:HG2	28:X:128:PHE:CE1	2.42	0.54
29:Y:57:CYS:SG	29:Y:59:HIS:HB3	2.47	0.54
1:0:1134:G:C4'	12:H:151:MET:HE1	2.26	0.54
6:B:55:ASN:HB3	6:B:63:GLU:HA	1.89	0.54
6:B:254:GLN:HG2	6:B:255:GLY:N	2.21	0.54
7:C:233:THR:HG22	7:C:234:VAL:N	2.22	0.54
15:K:30:ARG:NH2	42:K:8527:HOH:O	2.40	0.54
1:0:1189:A:H1'	1:0:1209:C:C1'	2.37	0.54
1:0:1525:G:H5'	1:0:1526:A:OP2	2.07	0.54
10:F:48:VAL:HG23	10:F:74:PHE:CB	2.37	0.54
18:N:39:THR:O	18:N:115:ARG:NH2	2.40	0.54
28:X:112:GLU:OE1	28:X:112:GLU:HA	2.08	0.54
1:0:1735:C:O2'	1:0:1736:A:H5'	2.07	0.54
12:H:3:GLY:HA2	12:H:57:ARG:NH1	2.22	0.54
28:X:141:THR:HG23	42:X:8589:HOH:O	2.08	0.54
1:0:1192:A:H3'	1:0:1193:A:H5'	1.90	0.54
1:0:1595:G:O2'	1:0:1596:U:H5'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1699:C:H4'	42:0:5916:HOH:O	2.06	0.54
1:0:2346:C:H6	1:0:2346:C:O5'	1.90	0.54
7:C:104:ASP:O	7:C:108:GLN:HG3	2.07	0.54
13:I:19:MET:HE2	13:I:79:PHE:HA	1.90	0.54
32:2:11:CYS:SG	32:2:71:CYS:HB2	2.48	0.54
1:0:1535:G:H2'	1:0:1536:C:C6	2.43	0.54
1:0:2073:G:OP2	1:0:2490:A:H5'	2.07	0.54
1:0:2316:G:H4'	42:0:5568:HOH:O	2.07	0.54
1:0:2559:C:H4'	42:0:6727:HOH:O	2.07	0.54
1:0:2830:U:H3'	42:0:4704:HOH:O	2.07	0.54
5:A:101:GLU:OE2	5:A:131:HIS:HB2	2.08	0.54
9:E:11:VAL:CG1	9:E:12:ASP:N	2.70	0.54
13:I:130:VAL:HG12	13:I:131:THR:N	2.21	0.54
16:L:87:MET:HB3	32:2:46:ILE:HD13	1.90	0.54
23:S:24:ARG:HH21	23:S:39:ASN:HD22	1.54	0.54
1:0:12:U:H2'	1:0:13:G:H5'	1.89	0.54
1:0:2122:C:H3'	42:0:4767:HOH:O	2.08	0.54
42:0:6473:HOH:O	20:P:9:GLY:HA2	2.07	0.54
6:B:139:ASP:HB2	6:B:165:ARG:HE	1.73	0.54
29:Y:18:TYR:HB3	29:Y:22:ILE:HG21	1.90	0.54
30:Z:1:THR:HA	42:Z:8411:HOH:O	2.07	0.54
1:0:2506:A:O2'	1:0:2507:G:O5'	2.26	0.54
7:C:61:PHE:HB3	42:C:8448:HOH:O	2.07	0.54
7:C:219:ASN:O	7:C:222:ASP:OD1	2.25	0.54
9:E:31:ARG:NH1	42:E:5919:HOH:O	2.40	0.54
9:E:69:ILE:HA	9:E:72:MET:HE2	1.89	0.54
10:F:19:ALA:O	10:F:22:VAL:HG22	2.08	0.54
11:G:64:ASN:O	11:G:68:GLU:HG3	2.08	0.54
13:I:74:ARG:NH1	13:I:76:ASP:HB2	2.23	0.54
15:K:54:PRO:HG2	15:K:57:VAL:HG21	1.88	0.54
16:L:72:SER:OG	16:L:74:ARG:HB2	2.07	0.54
16:L:74:ARG:NH2	42:L:8634:HOH:O	2.41	0.54
23:S:73:HIS:CD2	23:S:88:PRO:HG3	2.43	0.54
26:V:119:HIS:HD2	26:V:120:PRO:O	1.91	0.54
28:X:172:THR:HG22	28:X:173:ALA:N	2.21	0.54
29:Y:47:LEU:CD2	29:Y:57:CYS:HB2	2.37	0.54
1:0:289:G:O2'	1:0:290:C:H5'	2.08	0.54
1:0:328:U:O4'	7:C:202:THR:HG22	2.07	0.54
42:0:8591:HOH:O	6:B:214:PRO:HD2	2.06	0.54
5:A:132:ASP:OD1	5:A:133:ARG:N	2.40	0.54
8:D:51:ARG:HD3	42:D:7636:HOH:O	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:H:139:ASP:N	12:H:140:PRO:CD	2.70	0.54
19:O:80:ARG:HG2	19:O:87:ARG:CZ	2.38	0.54
1:O:1527:A:H1'	1:O:1528:A:C8	2.43	0.54
42:O:4554:HOH:O	6:B:216:LYS:HA	2.08	0.54
6:B:175:LEU:HD23	6:B:175:LEU:O	2.08	0.54
6:B:248:ARG:NH1	42:B:8612:HOH:O	2.40	0.54
9:E:137:ASP:OD1	9:E:139:GLU:HB2	2.08	0.54
26:V:125:HIS:HE1	42:V:3071:HOH:O	1.90	0.54
27:W:15:ARG:HB3	27:W:15:ARG:NH1	2.22	0.54
27:W:25:ARG:NH1	42:W:3861:HOH:O	2.41	0.54
1:O:820:G:OP2	5:A:171:LYS:NZ	2.35	0.53
7:C:214:THR:HG23	42:C:8441:HOH:O	2.07	0.53
8:D:140:ARG:O	8:D:144:ARG:HG2	2.08	0.53
25:U:49:LEU:O	25:U:53:ILE:HG13	2.08	0.53
26:V:6:GLN:CB	26:V:26:ILE:HD12	2.33	0.53
1:O:2779:G:H21	9:E:143:GLN:NE2	2.05	0.53
2:9:3041:C:O4'	8:D:50:VAL:HG23	2.08	0.53
17:M:154:LEU:HG	17:M:155:GLU:N	2.23	0.53
19:O:13:VAL:HG21	19:O:41:ARG:HG2	1.90	0.53
1:O:2312:G:H2'	1:O:2313:C:H5'	1.90	0.53
5:A:109:GLU:HG2	5:A:116:GLY:H	1.72	0.53
8:D:166:ILE:HD12	42:D:6326:HOH:O	2.07	0.53
12:H:3:GLY:HA2	12:H:57:ARG:HH12	1.72	0.53
13:I:26:VAL:HG13	13:I:36:VAL:HG11	1.90	0.53
15:K:114:VAL:HG11	42:K:8578:HOH:O	2.08	0.53
26:V:21:LEU:HB3	26:V:26:ILE:HG12	1.90	0.53
29:Y:53:GLY:HA2	29:Y:67:GLY:O	2.07	0.53
1:O:1829:A:H61	29:Y:18:TYR:HA	1.71	0.53
1:O:2768:A:O2'	1:O:2769:C:H5'	2.09	0.53
7:C:65:ARG:HG3	7:C:67:GLN:HB2	1.90	0.53
8:D:23:VAL:HG21	8:D:45:THR:CG2	2.37	0.53
13:I:107:ASN:HD22	13:I:109:TYR:H	1.56	0.53
22:R:57:THR:CG2	22:R:58:MET:N	2.70	0.53
26:V:4:LEU:O	26:V:32:CYS:HA	2.08	0.53
1:O:120:A:H2'	1:O:120:A:N3	2.24	0.53
1:O:656:G:OP2	18:N:37:ARG:HD2	2.09	0.53
5:A:194:MET:CE	5:A:199:HIS:HB2	2.39	0.53
6:B:32:ASP:HA	42:B:8571:HOH:O	2.08	0.53
6:B:41:PHE:CD1	6:B:79:MET:HE2	2.44	0.53
12:H:53:PRO:HA	12:H:125:VAL:O	2.07	0.53
12:H:166:ASN:N	12:H:166:ASN:ND2	2.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:J:109:LEU:HD13	14:J:113:ILE:HD11	1.89	0.53
15:K:143:THR:CG2	15:K:144:ASP:N	2.70	0.53
1:0:542:A:H2'	1:0:543:G:O4'	2.08	0.53
1:0:821:U:H2'	1:0:822:C:H6	1.72	0.53
1:0:1151:G:OP1	11:G:63:ARG:NH1	2.41	0.53
1:0:1353:C:P	42:0:4154:HOH:O	2.66	0.53
1:0:1422:U:H2'	1:0:1423:C:C6	2.44	0.53
1:0:1930:A:H1'	1:0:2128:G:H5'	1.89	0.53
1:0:2363:G:O3'	20:P:11:ARG:NH1	2.41	0.53
1:0:2502:C:C4'	12:H:151:MET:HG2	2.39	0.53
42:0:3675:HOH:O	28:X:186:ARG:HD2	2.08	0.53
42:0:8630:HOH:O	16:L:82:ARG:HD2	2.09	0.53
5:A:190:ARG:NH2	5:A:207:GLN:OE1	2.41	0.53
6:B:82:VAL:O	6:B:82:VAL:HG12	2.08	0.53
14:J:58:THR:HG22	14:J:59:LYS:HG3	1.91	0.53
17:M:152:GLU:C	17:M:154:LEU:H	2.10	0.53
24:T:9:CYS:HA	24:T:52:THR:CG2	2.39	0.53
26:V:38:THR:HB	42:V:5390:HOH:O	2.08	0.53
32:2:73:GLU:HB3	42:2:8567:HOH:O	2.07	0.53
1:0:119:A:H2'	1:0:120:A:H5''	1.91	0.53
1:0:283:U:H5''	1:0:284:C:P	2.48	0.53
1:0:349:U:O2'	1:0:350:C:H5'	2.09	0.53
1:0:514:G:O5'	1:0:514:G:H8	1.91	0.53
42:3:7215:HOH:O	37:4:76:PPU:HD2	2.09	0.53
8:D:94:ALA:HB3	8:D:174:VAL:HA	1.91	0.53
8:D:135:VAL:HG21	8:D:139:TYR:CD1	2.44	0.53
12:H:62:GLU:HA	42:H:8385:HOH:O	2.07	0.53
14:J:75:ARG:CZ	42:J:4172:HOH:O	2.57	0.53
15:K:21:ARG:N	42:K:8538:HOH:O	2.42	0.53
21:Q:82:GLU:HG3	21:Q:83:LYS:N	2.23	0.53
23:S:47:THR:HB	23:S:100:ASP:HB3	1.91	0.53
25:U:64:GLY:O	25:U:65:ASP:CB	2.56	0.53
1:0:1060:C:H6	1:0:1060:C:H5'	1.74	0.53
1:0:1242:A:OP2	13:I:60:ARG:NH2	2.41	0.53
1:0:671:A:O2'	1:0:672:G:H2'	2.09	0.53
1:0:1189:A:H1'	1:0:1209:C:O4'	2.09	0.53
1:0:2379:G:H4'	1:0:2380:A:H5''	1.90	0.53
7:C:46:TYR:CE2	7:C:98:ARG:NH1	2.77	0.53
14:J:30:LYS:O	14:J:55:VAL:HG13	2.09	0.53
16:L:47:ASP:CG	16:L:48:ARG:N	2.62	0.53
17:M:11:ARG:O	17:M:15:GLU:HG3	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:M:157:PRO:HA	42:M:8526:HOH:O	2.08	0.53
27:W:15:ARG:HH11	27:W:15:ARG:CB	2.21	0.53
1:0:256:C:H2'	1:0:257:G:O4'	2.09	0.53
9:E:80:TRP:O	9:E:134:SER:HA	2.08	0.53
17:M:29:SER:HA	42:M:8558:HOH:O	2.08	0.53
17:M:110:THR:HB	17:M:113:SER:OG	2.09	0.53
19:O:105:LEU:CD2	19:O:137:LEU:HD21	2.39	0.53
1:0:316:A:H5'	23:S:54:ASP:OD2	2.10	0.52
1:0:2019:A:H5'	42:O:4012:HOH:O	2.09	0.52
5:A:199:HIS:HD2	5:A:201:PHE:HB2	1.74	0.52
6:B:333:GLU:HB2	24:T:14:GLU:OE2	2.09	0.52
7:C:35:VAL:HG21	7:C:227:GLY:HA2	1.91	0.52
9:E:10:ASP:HA	42:E:3707:HOH:O	2.09	0.52
12:H:86:ARG:HD3	12:H:130:HIS:HD2	1.73	0.52
16:L:87:MET:HB3	32:2:46:ILE:HG21	1.91	0.52
32:2:11:CYS:HB2	32:2:20:HIS:HE1	1.74	0.52
1:0:338:C:H4'	7:C:174:ILE:HD12	1.91	0.52
1:0:553:G:O4'	1:0:1325:G:H5'	2.08	0.52
1:0:951:A:C2'	1:0:952:G:H5'	2.39	0.52
1:0:1213:C:O2'	1:0:1214:G:H5'	2.09	0.52
1:0:1279:U:H5''	42:O:9091:HOH:O	2.09	0.52
1:0:2301:A:H5''	1:0:2302:A:H5'	1.90	0.52
1:0:2382:A:H5'	42:2:8538:HOH:O	2.09	0.52
6:B:27:ASN:HB3	42:B:8625:HOH:O	2.09	0.52
18:N:47:ARG:HG3	18:N:47:ARG:NH1	2.22	0.52
23:S:1:SER:N	42:S:5837:HOH:O	2.42	0.52
1:0:297:U:H1'	42:O:3425:HOH:O	2.09	0.52
1:0:1044:C:H5''	42:O:8544:HOH:O	2.08	0.52
1:0:1377:C:H5'	1:0:1377:C:C6	2.42	0.52
1:0:2717:C:O2'	1:0:2718:C:H5''	2.09	0.52
5:A:69:LEU:CD2	5:A:120:ARG:HB3	2.39	0.52
9:E:15:GLN:NE2	9:E:40:VAL:O	2.42	0.52
17:M:159:TYR:HE2	17:M:163:PHE:HE2	1.58	0.52
1:0:500:G:H21	21:Q:98:ASN:HD21	1.56	0.52
1:0:661:G:C5	1:0:686:A:C2	2.97	0.52
7:C:57:PRO:HD2	7:C:73:LEU:HD22	1.91	0.52
15:K:143:THR:HG22	15:K:145:LEU:H	1.73	0.52
16:L:87:MET:CG	32:2:46:ILE:HD13	2.40	0.52
1:0:470:U:O2'	30:Z:16:HIS:CD2	2.62	0.52
1:0:1159:G:H21	1:0:1189:A:H8	1.57	0.52
1:0:1874:U:H2'	5:A:120:ARG:HG3	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2445:U:H2'	1:0:2446:G:C8	2.45	0.52
42:0:9445:HOH:O	27:W:23:HIS:HD2	1.92	0.52
14:J:32:ILE:HD11	14:J:56:SER:HB3	1.91	0.52
15:K:57:VAL:O	15:K:57:VAL:HG12	2.10	0.52
27:W:18:ARG:NH1	42:W:4132:HOH:O	2.37	0.52
1:0:820:G:O2'	1:0:856:G:H4'	2.10	0.52
1:0:920:C:H5'	1:0:921:G:C4	2.44	0.52
5:A:8:ARG:HG2	42:A:8556:HOH:O	2.10	0.52
6:B:305:ASP:O	6:B:306:LYS:HB2	2.10	0.52
8:D:86:THR:HG23	42:D:7477:HOH:O	2.09	0.52
10:F:99:THR:HG23	10:F:99:THR:O	2.09	0.52
12:H:157:ILE:CG2	12:H:158:ASN:N	2.73	0.52
1:0:920:C:H5''	1:0:921:G:O5'	2.09	0.52
5:A:179:MET:HG2	5:A:186:TRP:CG	2.45	0.52
8:D:135:VAL:HG22	8:D:136:ARG:H	1.73	0.52
9:E:126:ILE:HB	9:E:131:LEU:HD23	1.91	0.52
14:J:87:ARG:NE	42:J:4854:HOH:O	2.42	0.52
26:V:5:VAL:HG22	26:V:32:CYS:HB2	1.91	0.52
30:Z:10:LYS:HG3	42:Z:8434:HOH:O	2.10	0.52
1:0:1505:U:H6	1:0:1505:U:H5'	1.74	0.52
1:0:2748:G:H1'	42:0:7371:HOH:O	2.10	0.52
1:0:2815:G:N7	13:I:80:LYS:NZ	2.57	0.52
2:9:3023:U:C5'	2:9:3024:U:OP2	2.54	0.52
6:B:280:VAL:HG13	6:B:333:GLU:O	2.10	0.52
7:C:40:ALA:HB3	7:C:100:LEU:HD12	1.92	0.52
8:D:94:ALA:O	8:D:95:THR:O	2.28	0.52
9:E:31:ARG:HH12	9:E:68:HIS:CE1	2.28	0.52
13:I:46:ILE:HG12	13:I:53:ILE:HD13	1.92	0.52
24:T:17:THR:HG22	24:T:18:GLY:N	2.25	0.52
28:X:187:VAL:HG23	28:X:192:ASP:HB3	1.88	0.52
28:X:187:VAL:HB	42:X:8571:HOH:O	2.09	0.52
1:0:970:U:H2'	42:0:5804:HOH:O	2.10	0.52
1:0:2281:C:C2'	1:0:2282:U:H5'	2.39	0.52
1:0:2438:G:H2'	1:0:2439:C:O4'	2.10	0.52
42:0:5686:HOH:O	6:B:2:GLN:HA	2.10	0.52
2:9:3020:G:H3'	42:9:2984:HOH:O	2.10	0.52
8:D:86:THR:C	8:D:89:PRO:HD2	2.30	0.52
10:F:107:VAL:HG23	42:F:6617:HOH:O	2.09	0.52
12:H:14:TYR:N	12:H:91:HIS:CE1	2.75	0.52
24:T:8:TYR:CD2	24:T:36:CYS:HB3	2.44	0.52
26:V:64:THR:O	26:V:68:THR:HG22	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Y:46:LYS:O	29:Y:57:CYS:HA	2.09	0.52
1:0:407:A:H5'	42:0:5500:HOH:O	2.10	0.52
1:0:834:G:H4'	1:0:835:U:OP2	2.10	0.52
1:0:1398:G:H2'	1:0:1399:A:C8	2.45	0.52
1:0:1887:U:OP1	29:Y:21:LYS:HG3	2.10	0.52
1:0:2015:A:H2'	1:0:2016:U:O4'	2.09	0.52
6:B:195:ARG:HD2	6:B:324:ASP:OD1	2.10	0.52
7:C:33:LYS:HE2	42:C:8364:HOH:O	2.10	0.52
10:F:46:GLU:O	10:F:73:PRO:HD2	2.10	0.52
16:L:134:ILE:HG23	16:L:141:ILE:HD13	1.91	0.52
17:M:171:HIS:CE1	42:M:8568:HOH:O	2.62	0.52
26:V:122:ARG:NE	42:V:5817:HOH:O	2.42	0.52
27:W:76:ARG:HG3	27:W:76:ARG:NH1	2.24	0.52
28:X:99:ALA:HB2	28:X:233:TYR:CZ	2.45	0.52
29:Y:19:GLY:O	29:Y:23:ARG:HG2	2.09	0.52
1:0:29:C:O2'	1:0:30:U:H5'	2.11	0.51
1:0:1010:C:H4'	17:M:4:PRO:HB2	1.92	0.51
1:0:1189:A:O2'	1:0:1208:C:H2'	2.10	0.51
1:0:1592:G:O2'	1:0:1593:C:O4'	2.28	0.51
1:0:2524:G:H21	1:0:2526:C:N4	2.08	0.51
16:L:37:VAL:CG1	16:L:63:VAL:HG11	2.40	0.51
21:Q:39:THR:HB	21:Q:42:GLU:CD	2.30	0.51
23:S:71:VAL:CG1	23:S:90:PRO:HB3	2.27	0.51
26:V:106:THR:OG1	26:V:109:GLU:HG3	2.10	0.51
28:X:144:ARG:NE	42:X:8612:HOH:O	2.43	0.51
1:0:449:A:N7	7:C:43:LYS:HG2	2.24	0.51
1:0:1191:A:C3'	1:0:1192:A:H5''	2.41	0.51
1:0:1477:C:H5'	1:0:1868:G:C5'	2.40	0.51
1:0:1942:A:O2'	1:0:1943:C:H5'	2.10	0.51
1:0:2123:A:OP1	16:L:89:ASN:ND2	2.43	0.51
5:A:99:ILE:O	5:A:131:HIS:CE1	2.62	0.51
16:L:155:HIS:CE1	16:L:158:ARG:HE	2.29	0.51
26:V:149:LEU:HG	26:V:153:MET:CE	2.39	0.51
28:X:186:ARG:HG2	28:X:186:ARG:NH1	2.24	0.51
28:X:189:ASN:ND2	28:X:192:ASP:H	2.08	0.51
30:Z:28:HIS:O	30:Z:32:LYS:N	2.40	0.51
1:0:1829:A:H5''	42:0:9576:HOH:O	2.09	0.51
1:0:1884:G:O6	5:A:190:ARG:HD2	2.10	0.51
1:0:2548:C:OP2	6:B:5:ARG:NH2	2.43	0.51
5:A:66:ARG:HH11	5:A:66:ARG:HB2	1.73	0.51
6:B:248:ARG:O	6:B:251:VAL:CG1	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:E:20:ILE:CD1	9:E:40:VAL:HG11	2.39	0.51
17:M:154:LEU:O	17:M:155:GLU:CB	2.59	0.51
26:V:88:THR:HG23	26:V:110:GLN:HB3	1.91	0.51
29:Y:42:CYS:SG	29:Y:43:GLY:N	2.83	0.51
1:O:1667:A:H2'	1:O:1668:U:C6	2.45	0.51
25:U:11:MET:HB3	25:U:15:GLU:HB2	1.91	0.51
26:V:21:LEU:HD13	26:V:26:ILE:HD11	1.92	0.51
32:2:74:CYS:SG	32:2:76:LYS:HB2	2.50	0.51
1:O:2251:G:H2'	1:O:2252:A:C8	2.45	0.51
1:O:2670:G:O2'	1:O:2671:U:H5'	2.10	0.51
2:9:3076:G:C3'	2:9:3077:A:H5''	2.33	0.51
5:A:105:VAL:HG13	5:A:155:THR:O	2.11	0.51
7:C:107:ARG:NE	42:C:8462:HOH:O	2.29	0.51
7:C:200:PRO:HB3	7:C:212:VAL:HG23	1.92	0.51
8:D:11:HIS:O	8:D:12:GLU:HB3	2.10	0.51
12:H:162:SER:CB	12:H:163:PRO:CD	2.83	0.51
21:Q:132:ARG:CZ	42:Q:8585:HOH:O	2.58	0.51
28:X:155:ARG:NH1	42:X:8559:HOH:O	2.44	0.51
1:O:1181:A:H2'	1:O:1182:C:O4'	2.11	0.51
1:O:1753:C:O2	6:B:229:ARG:NH2	2.43	0.51
1:O:2114:C:OP1	5:A:1:GLY:HA2	2.11	0.51
2:9:3003:A:H2'	42:9:2430:HOH:O	2.10	0.51
8:D:25:MET:HE1	8:D:37:ALA:O	2.11	0.51
8:D:64:ARG:O	8:D:67:ASP:OD2	2.28	0.51
12:H:83:PHE:CD1	12:H:134:ALA:HB2	2.46	0.51
15:K:104:ASP:HB3	42:K:8570:HOH:O	2.10	0.51
16:L:155:HIS:ND1	16:L:158:ARG:NE	2.54	0.51
18:N:21:SER:OG	18:N:106:PRO:HB2	2.11	0.51
1:O:710:G:OP1	18:N:24:ALA:HB3	2.10	0.51
1:O:1189:A:H1'	1:O:1209:C:H1'	1.93	0.51
1:O:1299:G:N2	42:0:4159:HOH:O	2.43	0.51
1:O:2111:G:H1'	42:0:8565:HOH:O	2.08	0.51
12:H:13:ALA:HA	12:H:91:HIS:CE1	2.46	0.51
29:Y:26:VAL:O	29:Y:30:GLU:HG3	2.11	0.51
1:O:694:A:H2'	1:O:695:C:H5'	1.92	0.51
1:O:1114:A:H2'	1:O:1115:U:C6	2.46	0.51
1:O:2408:A:H1'	32:2:10:TYR:CD1	2.46	0.51
6:B:204:GLY:HA3	42:B:8650:HOH:O	2.11	0.51
6:B:280:VAL:CG1	6:B:334:SER:HA	2.40	0.51
8:D:57:THR:HG23	8:D:63:ILE:CB	2.41	0.51
11:G:64:ASN:N	11:G:64:ASN:ND2	2.57	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Q:17:MET:CE	21:Q:19:ARG:NH2	2.73	0.51
29:Y:22:ILE:O	29:Y:26:VAL:HG23	2.11	0.51
1:0:1878:G:C1'	42:0:5597:HOH:O	2.54	0.51
1:0:2460:A:OP1	32:2:60:LYS:HB3	2.10	0.51
42:0:9295:HOH:O	14:J:39:GLY:HA3	2.10	0.51
5:A:37:VAL:HG22	42:A:8604:HOH:O	2.10	0.51
6:B:24:PRO:CG	6:B:204:GLY:HA2	2.41	0.51
26:V:122:ARG:HH11	26:V:122:ARG:CG	2.19	0.51
1:0:820:G:C6	5:A:171:LYS:HB2	2.46	0.51
1:0:1015:C:H2'	1:0:1016:U:C6	2.45	0.51
1:0:1174:A:C5	1:0:1201:C:H4'	2.45	0.51
1:0:1393:A:H2'	1:0:1394:C:C6	2.46	0.51
42:0:3499:HOH:O	6:B:48:MET:N	2.44	0.51
5:A:36:ASP:HB2	5:A:85:ASP:H	1.76	0.51
7:C:236:THR:O	7:C:237:GLU:C	2.48	0.51
13:I:80:LYS:HE2	13:I:98:PHE:CZ	2.45	0.51
14:J:28:GLU:HG2	14:J:58:THR:HB	1.93	0.51
15:K:125:PHE:CZ	15:K:140:VAL:HG13	2.46	0.51
17:M:132:ASN:O	17:M:135:VAL:HG12	2.11	0.51
30:Z:12:ASN:HB3	42:Z:8452:HOH:O	2.10	0.51
1:0:559:U:H2'	1:0:560:C:O4'	2.12	0.50
1:0:1351:G:OP1	7:C:96:LYS:NZ	2.36	0.50
1:0:2502:C:H2'	1:0:2503:A:C5'	2.40	0.50
6:B:258:GLY:N	6:B:260:HIS:CE1	2.78	0.50
8:D:170:TYR:O	8:D:171:ASP:HB3	2.10	0.50
16:L:157:LEU:HB3	16:L:160:PHE:HD1	1.76	0.50
1:0:251:C:H1'	16:L:58:GLN:HE22	1.76	0.50
1:0:553:G:P	28:X:204:ARG:NH2	2.82	0.50
1:0:1787:C:OP1	19:O:68:LYS:HE2	2.11	0.50
1:0:2064:U:H4'	1:0:2653:A:OP1	2.11	0.50
1:0:2910:A:H5''	42:0:3616:HOH:O	2.11	0.50
7:C:1:MET:HG2	7:C:2:GLN:N	2.24	0.50
9:E:84:MET:HE1	9:E:148:ILE:HD12	1.93	0.50
9:E:156:ASP:OD2	9:E:157:LYS:NZ	2.35	0.50
17:M:49:THR:CG2	17:M:56:ASP:HB2	2.39	0.50
1:0:638:C:H2'	1:0:639:A:C8	2.46	0.50
1:0:1120:U:H5''	1:0:1120:U:C6	2.46	0.50
1:0:1333:U:H2'	1:0:1334:C:C6	2.46	0.50
1:0:2460:A:OP1	32:2:60:LYS:CB	2.60	0.50
6:B:7:ARG:CD	6:B:9:GLY:O	2.59	0.50
6:B:297:VAL:HB	42:B:8602:HOH:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:320:GLN:HG3	6:B:321:PRO:HD2	1.93	0.50
10:F:50:VAL:CG1	10:F:60:VAL:HG11	2.40	0.50
13:I:19:MET:HE1	13:I:132:LEU:HD11	1.91	0.50
26:V:3:ALA:O	26:V:54:PHE:HA	2.10	0.50
1:O:538:C:OP2	28:X:134:HIS:HE1	1.95	0.50
1:O:771:G:OP2	16:L:79:LYS:HD2	2.11	0.50
42:O:6181:HOH:O	28:X:165:GLU:HB3	2.11	0.50
2:9:3002:U:OP2	2:9:3003:A:H5'	2.11	0.50
5:A:125:ASN:ND2	42:A:8539:HOH:O	2.38	0.50
7:C:237:GLU:HB2	42:C:8436:HOH:O	2.10	0.50
8:D:62:ASP:HA	42:D:4233:HOH:O	2.11	0.50
15:K:97:VAL:HG12	15:K:98:GLU:O	2.11	0.50
19:O:115:SER:C	19:O:117:SER:H	2.14	0.50
22:R:23:LYS:HE2	42:R:8330:HOH:O	2.12	0.50
28:X:117:LEU:HD12	28:X:174:VAL:HG11	1.93	0.50
30:Z:25:LYS:HD2	31:1:49:GLU:H	1.76	0.50
1:O:168:C:O2'	1:O:169:A:H5'	2.12	0.50
1:O:911:G:H5'	1:O:932:U:OP1	2.12	0.50
1:O:2614:C:HO2'	6:B:227:HIS:HD1	1.58	0.50
2:9:3028:U:H5''	17:M:40:ASN:ND2	2.27	0.50
6:B:144:THR:HG22	6:B:145:HIS:N	2.25	0.50
8:D:11:HIS:C	8:D:13:MET:H	2.14	0.50
8:D:135:VAL:HG22	8:D:136:ARG:N	2.27	0.50
10:F:58:GLU:HA	10:F:61:MET:HG3	1.93	0.50
12:H:130:HIS:CG	12:H:133:ILE:HD11	2.45	0.50
12:H:147:ARG:HA	12:H:150:LYS:HZ2	1.76	0.50
14:J:34:VAL:CG2	14:J:47:ALA:HB2	2.42	0.50
19:O:115:SER:O	19:O:117:SER:N	2.45	0.50
26:V:26:ILE:HG13	26:V:26:ILE:O	2.10	0.50
27:W:9:VAL:HG13	27:W:88:GLU:OE1	2.12	0.50
1:O:1434:A:H2'	1:O:1436:C:C5	2.45	0.50
5:A:192:VAL:O	5:A:192:VAL:HG12	2.11	0.50
6:B:185:GLY:HA2	42:B:8631:HOH:O	2.12	0.50
6:B:329:TYR:CE2	24:T:15:PRO:HG2	2.46	0.50
7:C:162:VAL:HG12	7:C:162:VAL:O	2.11	0.50
8:D:57:THR:HG23	8:D:63:ILE:CG2	2.40	0.50
26:V:110:GLN:HE21	26:V:110:GLN:HA	1.75	0.50
1:O:797:A:O4'	29:Y:10:ARG:N	2.44	0.50
1:O:1930:A:H2'	1:O:1931:A:C8	2.46	0.50
1:O:2533:C:H6	1:O:2533:C:C5'	2.17	0.50
1:O:2766:A:O2'	1:O:2767:C:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2842:G:H2'	1:0:2843:A:H5'	1.93	0.50
9:E:172:PRO:HB3	42:E:6931:HOH:O	2.11	0.50
12:H:75:SER:HB3	12:H:79:ALA:HB1	1.93	0.50
1:0:1119:G:H8	13:I:52:GLN:NE2	2.09	0.50
1:0:1902:G:H2'	1:0:1903:U:O4'	2.11	0.50
1:0:2064:U:H5'	1:0:2652:U:H4'	1.94	0.50
8:D:136:ARG:HD2	8:D:155:HIS:O	2.11	0.50
13:I:39:VAL:HG13	13:I:106:GLY:O	2.11	0.50
17:M:24:LEU:O	17:M:28:LYS:HG2	2.12	0.50
17:M:130:PRO:HA	42:M:8541:HOH:O	2.12	0.50
28:X:184:GLU:OE1	28:X:204:ARG:NH1	2.44	0.50
32:2:51:LYS:NZ	42:2:8533:HOH:O	2.42	0.50
1:0:392:U:C5'	16:L:193:LYS:HB3	2.42	0.50
1:0:731:U:H2'	1:0:732:C:C6	2.47	0.50
1:0:797:A:H5'	29:Y:10:ARG:HG2	1.94	0.50
42:0:7049:HOH:O	29:Y:31:ILE:HG13	2.11	0.50
7:C:54:LEU:HD21	7:C:87:ARG:HD2	1.94	0.50
7:C:103:ASN:HB3	42:C:8309:HOH:O	2.10	0.50
13:I:45:VAL:HG22	13:I:46:ILE:N	2.26	0.50
23:S:53:GLY:HA3	42:S:6384:HOH:O	2.11	0.50
1:0:182:G:O3'	16:L:157:LEU:CD1	2.60	0.49
1:0:602:A:O2'	1:0:605:C:H4'	2.12	0.49
1:0:1119:G:H2'	13:I:52:GLN:HE22	1.75	0.49
1:0:1249:U:H2'	1:0:1250:C:C6	2.46	0.49
1:0:1810:C:OP1	24:T:44:ARG:NE	2.32	0.49
1:0:2621:U:H5	42:0:9480:HOH:O	1.95	0.49
42:0:5726:HOH:O	24:T:56:ARG:HB3	2.12	0.49
2:9:3064:C:H2'	2:9:3065:A:H5'	1.94	0.49
5:A:217:ARG:HG2	5:A:229:ALA:HB2	1.94	0.49
8:D:49:PRO:HG3	42:D:5828:HOH:O	2.12	0.49
8:D:154:LYS:H	8:D:154:LYS:CD	2.11	0.49
9:E:20:ILE:CD1	9:E:33:LEU:HD12	2.42	0.49
12:H:14:TYR:HB2	42:H:8352:HOH:O	2.12	0.49
12:H:26:LYS:HD3	12:H:89:PRO:CG	2.42	0.49
12:H:35:ASN:ND2	12:H:79:ALA:O	2.45	0.49
16:L:38:VAL:O	16:L:63:VAL:HG13	2.11	0.49
17:M:64:SER:C	17:M:66:LEU:H	2.16	0.49
1:0:1503:U:H2'	1:0:1504:A:O4'	2.12	0.49
42:0:6874:HOH:O	23:S:2:LYS:HE2	2.13	0.49
42:0:6910:HOH:O	5:A:211:LYS:NZ	2.45	0.49
7:C:107:ARG:HB3	7:C:107:ARG:HH11	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:E:31:ARG:HH12	9:E:68:HIS:CD2	2.30	0.49
17:M:100:ALA:O	17:M:129:ILE:HG23	2.12	0.49
17:M:114:LYS:O	17:M:118:ILE:HG13	2.12	0.49
1:0:1014:A:H2'	1:0:1015:C:H5'	1.93	0.49
1:0:1162:G:H2'	42:0:6056:HOH:O	2.12	0.49
1:0:1205:U:H2'	1:0:1206:U:H5''	1.93	0.49
2:9:3042:C:O2	8:D:76:ARG:NH1	2.45	0.49
2:9:3059:C:H5'	42:9:5233:HOH:O	2.11	0.49
4:4:74:C:H2'	4:4:75:C:C5'	2.41	0.49
9:E:11:VAL:HG13	9:E:23:GLU:O	2.11	0.49
1:0:777:U:O2'	30:Z:11:LYS:HG2	2.11	0.49
1:0:820:G:OP1	29:Y:17:ARG:NH2	2.44	0.49
1:0:932:U:H2'	1:0:933:C:C6	2.47	0.49
1:0:1134:G:H4'	12:H:151:MET:CE	2.27	0.49
1:0:1702:U:H5'	42:0:9921:HOH:O	2.12	0.49
42:0:6018:HOH:O	29:Y:22:ILE:HG13	2.12	0.49
7:C:7:ASP:OD1	7:C:11:ASN:O	2.30	0.49
10:F:101:ALA:HB2	10:F:108:LEU:HD22	1.95	0.49
13:I:93:ARG:HB3	13:I:93:ARG:NH1	2.27	0.49
1:0:1666:C:C2'	1:0:1667:A:C5'	2.91	0.49
1:0:2748:G:C5'	42:0:7009:HOH:O	2.55	0.49
42:0:6159:HOH:O	23:S:38:ARG:NH1	2.45	0.49
42:0:7015:HOH:O	16:L:91:ILE:HG23	2.12	0.49
6:B:132:HIS:CE1	6:B:171:VAL:HG21	2.46	0.49
7:C:150:THR:HA	7:C:203:ALA:O	2.12	0.49
9:E:86:VAL:CG1	9:E:129:GLU:HA	2.42	0.49
16:L:37:VAL:HG13	16:L:63:VAL:HG11	1.95	0.49
21:Q:39:THR:CG2	21:Q:42:GLU:HG3	2.42	0.49
24:T:31:PHE:CG	24:T:37:GLU:HG2	2.48	0.49
1:0:2256:G:H2'	1:0:2257:G:H5'	1.95	0.49
1:0:2266:A:H2'	1:0:2267:G:C8	2.47	0.49
1:0:2432:C:H4'	32:2:36:ILE:HG12	1.94	0.49
2:9:3049:G:O2'	2:9:3050:G:H5'	2.12	0.49
2:9:3088:G:OP1	26:V:130:HIS:NE2	2.42	0.49
10:F:63:ILE:HB	10:F:64:PRO:CD	2.38	0.49
12:H:26:LYS:HG2	12:H:28:ILE:N	2.20	0.49
12:H:45:GLN:HG3	12:H:135:TRP:NE1	2.27	0.49
1:0:21:G:H4'	21:Q:2:ILE:HG22	1.95	0.49
1:0:907:A:H4'	1:0:1328:A:C2	2.48	0.49
5:A:211:LYS:HB2	42:A:8628:HOH:O	2.11	0.49
10:F:22:VAL:HG21	10:F:104:ALA:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:M:184:ILE:HG22	17:M:185:GLU:N	2.27	0.49
1:0:175:G:H2'	16:L:192:ALA:HB3	1.93	0.49
1:0:2361:A:H2'	1:0:2362:A:C8	2.48	0.49
1:0:2637:A:C4'	1:0:2638:G:O5'	2.60	0.49
1:0:2724:U:H2'	1:0:2725:G:O4'	2.12	0.49
1:0:2837:U:H1'	6:B:307:ARG:HH12	1.77	0.49
2:9:3055:U:H4'	2:9:3056:A:C8	2.47	0.49
5:A:9:ARG:HG2	5:A:16:PHE:CD2	2.48	0.49
6:B:55:ASN:HB3	6:B:64:GLY:H	1.77	0.49
12:H:147:ARG:HA	12:H:150:LYS:NZ	2.28	0.49
16:L:114:VAL:HB	16:L:159:THR:HG23	1.94	0.49
17:M:182:GLY:O	17:M:183:ASP:O	2.31	0.49
27:W:75:ALA:O	27:W:83:ALA:HA	2.13	0.49
29:Y:23:ARG:NH1	42:Y:8404:HOH:O	2.46	0.49
1:0:588:G:O6	26:V:154:ARG:NH1	2.46	0.49
1:0:816:G:H5'	1:0:1598:A:H4'	1.94	0.49
1:0:902:G:N7	15:K:18:HIS:CD2	2.78	0.49
1:0:1384:C:H5'	27:W:30:MET:HG2	1.95	0.49
1:0:1886:A:O2'	29:Y:20:LEU:HB2	2.13	0.49
1:0:2911:C:H2'	1:0:2912:C:C6	2.48	0.49
10:F:56:PRO:CG	16:L:44:THR:HA	2.43	0.49
24:T:44:ARG:HB3	42:T:3805:HOH:O	2.11	0.49
1:0:919:U:H5'	1:0:2465:A:O2'	2.12	0.49
5:A:97:ALA:HB2	5:A:150:PRO:HB2	1.95	0.49
6:B:314:ALA:HB3	6:B:317:PRO:HG3	1.95	0.49
12:H:29:ALA:HB3	12:H:65:ARG:NH1	2.15	0.49
16:L:74:ARG:HD3	16:L:91:ILE:HD12	1.94	0.49
1:0:621:C:H5'	28:X:132:ASP:OD2	2.12	0.48
1:0:1783:A:O2'	1:0:1784:U:H5'	2.12	0.48
1:0:2507:G:H2'	1:0:2510:C:H42	1.78	0.48
42:9:4707:HOH:O	17:M:147:ILE:HB	2.12	0.48
6:B:119:HIS:O	6:B:121:PRO:HD3	2.12	0.48
6:B:205:VAL:O	6:B:307:ARG:NE	2.46	0.48
15:K:133:VAL:HB	42:K:8564:HOH:O	2.13	0.48
26:V:139:GLY:O	26:V:141:HIS:HD2	1.95	0.48
1:0:244:C:OP2	10:F:38:LYS:HE3	2.13	0.48
1:0:1183:C:N4	42:0:3874:HOH:O	2.46	0.48
42:0:9954:HOH:O	13:I:46:ILE:HD12	2.13	0.48
12:H:86:ARG:NH1	12:H:130:HIS:CD2	2.81	0.48
15:K:72:ASN:O	15:K:76:LEU:HG	2.13	0.48
15:K:73:VAL:HG23	15:K:74:THR:N	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:W:8:ARG:NH1	42:W:2479:HOH:O	2.38	0.48
1:0:696:C:HO2'	1:0:697:G:H5'	1.77	0.48
1:0:1268:C:O2'	1:0:1269:G:H5'	2.13	0.48
1:0:1654:U:H2'	5:A:47:HIS:CD2	2.49	0.48
1:0:1787:C:H4'	1:0:2883:A:O4'	2.13	0.48
1:0:2672:C:O2'	1:0:2673:U:H5'	2.13	0.48
6:B:24:PRO:HG2	6:B:204:GLY:HA2	1.94	0.48
6:B:36:PRO:HA	6:B:168:GLY:HA2	1.94	0.48
6:B:248:ARG:NH2	42:B:8523:HOH:O	2.46	0.48
8:D:35:ALA:HB1	42:D:3279:HOH:O	2.12	0.48
14:J:29:LEU:HB3	14:J:55:VAL:CG1	2.39	0.48
14:J:99:ASP:OD1	14:J:101:ASN:N	2.45	0.48
14:J:125:ALA:C	14:J:127:ALA:H	2.16	0.48
15:K:55:GLN:HA	15:K:58:GLN:NE2	2.27	0.48
16:L:139:PRO:HA	16:L:142:LYS:HB2	1.94	0.48
16:L:182:LYS:HB2	16:L:194:ALA:HB2	1.95	0.48
18:N:44:ASN:OD1	18:N:65:LEU:HB2	2.12	0.48
27:W:70:ILE:HG23	27:W:70:ILE:O	2.13	0.48
1:0:827:A:H2'	1:0:828:G:O4'	2.13	0.48
1:0:1495:C:H1'	1:0:1573:A:H1'	1.95	0.48
1:0:1878:G:O2'	1:0:1879:U:P	2.71	0.48
1:0:2758:G:H2'	1:0:2759:C:C6	2.49	0.48
1:0:2896:A:OP1	27:W:15:ARG:NH1	2.46	0.48
6:B:1:PRO:O	6:B:2:GLN:HB2	2.14	0.48
6:B:7:ARG:NH1	6:B:11:LEU:HD22	2.28	0.48
8:D:163:VAL:HA	42:D:6326:HOH:O	2.13	0.48
10:F:106:THR:HB	42:F:6617:HOH:O	2.13	0.48
12:H:150:LYS:NZ	42:H:8379:HOH:O	2.44	0.48
19:O:55:LYS:HA	42:O:182:HOH:O	2.13	0.48
23:S:50:VAL:HG12	23:S:56:ALA:HA	1.95	0.48
30:Z:28:HIS:CD2	30:Z:31:LYS:HG3	2.48	0.48
32:2:91:GLN:O	32:2:92:GLU:HB2	2.12	0.48
1:0:128:A:C8	1:0:128:A:H3'	2.47	0.48
1:0:200:U:H2'	42:0:9938:HOH:O	2.12	0.48
1:0:398:U:H2'	1:0:399:C:C6	2.48	0.48
1:0:1166:A:H1'	1:0:1192:A:N1	2.25	0.48
1:0:1342:C:O2'	1:0:1343:C:H5'	2.14	0.48
1:0:1730:G:H5'	1:0:1731:C:C6	2.49	0.48
1:0:2004:U:O2	1:0:2004:U:H2'	2.13	0.48
6:B:62:ARG:HG2	6:B:65:MET:HE3	1.94	0.48
9:E:11:VAL:CG1	9:E:12:ASP:H	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:E:31:ARG:CZ	42:E:5919:HOH:O	2.60	0.48
9:E:32:ARG:O	9:E:33:LEU:HD23	2.12	0.48
12:H:71:TYR:C	12:H:73:GLN:N	2.65	0.48
19:O:143:ALA:HA	42:O:193:HOH:O	2.12	0.48
21:Q:113:HIS:O	21:Q:145:LEU:HD12	2.13	0.48
24:T:6:CYS:HB2	24:T:32:CYS:HB3	1.94	0.48
24:T:52:THR:HG22	24:T:54:THR:N	2.27	0.48
1:O:182:G:O3'	16:L:157:LEU:HD13	2.14	0.48
1:O:506:G:H22	1:O:509:A:H5''	1.75	0.48
1:O:1236:A:H2'	1:O:1237:U:O4'	2.14	0.48
1:O:1778:A:H2'	1:O:1779:A:H5'	1.95	0.48
1:O:2403:C:H5'	42:O:5501:HOH:O	2.14	0.48
5:A:164:ARG:CZ	42:A:8596:HOH:O	2.61	0.48
6:B:41:PHE:CZ	6:B:79:MET:HG3	2.48	0.48
6:B:72:THR:HB	42:B:8602:HOH:O	2.13	0.48
8:D:35:ALA:O	8:D:37:ALA:N	2.46	0.48
17:M:139:TRP:HA	17:M:139:TRP:HE3	1.79	0.48
21:Q:15:LYS:HE3	42:Q:8579:HOH:O	2.12	0.48
21:Q:96:VAL:HG13	21:Q:106:GLY:HA3	1.95	0.48
26:V:29:VAL:O	26:V:30:ASN:HB2	2.13	0.48
1:O:558:C:C2'	1:O:559:U:C5'	2.91	0.48
1:O:820:G:C5	5:A:171:LYS:HB2	2.49	0.48
1:O:1298:U:H2'	1:O:1299:G:C8	2.48	0.48
1:O:1878:G:O2'	1:O:1879:U:C6	2.64	0.48
1:O:1943:C:O4'	5:A:212:PRO:HA	2.13	0.48
1:O:2466:G:H5''	42:O:3138:HOH:O	2.13	0.48
5:A:51:ARG:HB2	42:A:8614:HOH:O	2.12	0.48
7:C:27:ARG:HG3	7:C:29:ASP:OD1	2.13	0.48
11:G:12:ILE:O	11:G:13:PRO:C	2.50	0.48
12:H:45:GLN:NE2	12:H:135:TRP:HE1	2.07	0.48
12:H:132:PHE:O	12:H:133:ILE:HD13	2.14	0.48
12:H:150:LYS:HA	12:H:153:VAL:HG22	1.94	0.48
13:I:36:VAL:HG12	13:I:37:ALA:N	2.29	0.48
17:M:67:ALA:HA	17:M:71:TRP:HB3	1.95	0.48
18:N:96:VAL:HG12	18:N:97:SER:O	2.14	0.48
1:O:128:A:O2'	1:O:129:A:H5'	2.14	0.48
1:O:426:G:H2'	1:O:427:C:O4'	2.14	0.48
1:O:1185:U:H5'	42:O:6934:HOH:O	2.14	0.48
1:O:1805:G:H2'	1:O:1806:G:H8	1.78	0.48
1:O:2413:A:N7	17:M:109:PRO:HB3	2.28	0.48
1:O:2472:C:O2'	1:O:2634:G:H4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2637:A:H2'	1:0:2637:A:N3	2.28	0.48
1:0:2781:U:H2'	1:0:2782:G:C5'	2.43	0.48
1:0:2787:C:H5	42:0:4107:HOH:O	1.95	0.48
42:0:3246:HOH:O	16:L:108:LYS:HD2	2.14	0.48
6:B:17:LYS:O	6:B:260:HIS:HD2	1.96	0.48
8:D:58:VAL:HG12	8:D:59:GLY:N	2.29	0.48
12:H:26:LYS:HD2	12:H:28:ILE:CG1	2.43	0.48
16:L:47:ASP:CG	16:L:48:ARG:H	2.17	0.48
26:V:35:VAL:HG23	26:V:41:TYR:CD2	2.48	0.48
1:0:816:G:C6	1:0:817:G:N1	2.81	0.48
1:0:1299:G:N7	15:K:6:ARG:NH1	2.62	0.48
1:0:1669:A:H2'	1:0:1670:G:H8	1.79	0.48
6:B:27:ASN:HD22	6:B:27:ASN:H	1.60	0.48
7:C:127:ARG:HG2	7:C:127:ARG:NH1	2.27	0.48
9:E:36:PRO:HD3	13:I:127:ILE:HD12	1.96	0.48
14:J:130:MET:SD	24:T:25:ASP:O	2.72	0.48
15:K:143:THR:CG2	15:K:144:ASP:H	2.26	0.48
1:0:541:C:C2'	1:0:542:A:C5'	2.88	0.48
1:0:858:U:H2'	1:0:859:C:H6	1.79	0.48
1:0:1636:G:O2'	1:0:1637:A:H5'	2.13	0.48
1:0:2119:C:O2'	1:0:2120:U:H5'	2.14	0.48
1:0:2276:U:H2'	1:0:2277:U:H6	1.76	0.48
1:0:2379:G:H4'	1:0:2380:A:C5'	2.44	0.48
5:A:99:ILE:O	5:A:131:HIS:HE1	1.96	0.48
6:B:310:ARG:HD2	42:B:8645:HOH:O	2.13	0.48
7:C:235:PHE:HE2	7:C:243:VAL:HG21	1.79	0.48
8:D:23:VAL:O	8:D:23:VAL:CG2	2.62	0.48
12:H:139:ASP:H	12:H:140:PRO:HD3	1.76	0.48
24:T:14:GLU:OE1	24:T:15:PRO:HD2	2.14	0.48
25:U:20:LEU:HD22	25:U:60:GLN:HE22	1.79	0.48
26:V:122:ARG:CZ	42:V:5817:HOH:O	2.62	0.48
1:0:2630:G:O6	5:A:206:ARG:NH2	2.46	0.47
6:B:177:HIS:O	6:B:181:ILE:HG13	2.14	0.47
7:C:118:THR:CG2	7:C:137:PRO:HB3	2.43	0.47
11:G:16:LYS:O	11:G:20:VAL:HG23	2.14	0.47
17:M:62:HIS:HB3	17:M:65:ASP:OD1	2.13	0.47
1:0:1701:A:H5''	1:0:1702:U:H3'	1.95	0.47
1:0:2353:A:O2'	17:M:7:LYS:HB3	2.14	0.47
1:0:2401:A:H5'	42:0:8995:HOH:O	2.14	0.47
1:0:2506:A:C1'	42:0:5531:HOH:O	2.62	0.47
1:0:2837:U:H2'	42:0:6313:HOH:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:162:MET:CE	6:B:310:ARG:HD3	2.44	0.47
7:C:16:VAL:HG12	7:C:17:ASP:H	1.78	0.47
7:C:76:ARG:HD2	42:C:8439:HOH:O	2.14	0.47
15:K:24:ALA:HB2	15:K:30:ARG:HD2	1.96	0.47
21:Q:119:VAL:O	21:Q:119:VAL:HG12	2.14	0.47
26:V:121:PRO:CA	26:V:153:MET:HG2	2.44	0.47
1:0:682:A:H2'	1:0:683:G:O4'	2.14	0.47
5:A:88:ILE:CD1	5:A:100:PRO:HD3	2.42	0.47
6:B:74:ILE:HG13	42:B:8602:HOH:O	2.14	0.47
6:B:307:ARG:HH11	6:B:307:ARG:CB	2.27	0.47
6:B:312:ARG:HD3	6:B:315:VAL:HG13	1.96	0.47
11:G:23:ILE:O	11:G:27:ILE:HG13	2.14	0.47
16:L:61:ILE:HG13	42:L:8627:HOH:O	2.15	0.47
16:L:63:VAL:HG21	16:L:109:PHE:CE1	2.49	0.47
17:M:180:LEU:O	17:M:181:ASP:HB3	2.13	0.47
19:O:91:LYS:O	19:O:95:GLU:HG3	2.13	0.47
28:X:216:ARG:CD	42:X:8570:HOH:O	2.60	0.47
1:0:380:A:H5''	16:L:48:ARG:NH2	2.28	0.47
1:0:1191:A:N1	1:0:1206:U:O4	2.47	0.47
1:0:1609:C:H2'	1:0:1610:G:H8	1.79	0.47
1:0:2256:G:C2'	1:0:2257:G:H5'	2.44	0.47
7:C:107:ARG:HH11	7:C:107:ARG:CB	2.26	0.47
7:C:129:HIS:HD2	7:C:165:ASP:OD2	1.97	0.47
12:H:31:PHE:CD2	12:H:85:ILE:HG23	2.50	0.47
12:H:113:ALA:N	12:H:114:PRO:HD3	2.30	0.47
15:K:73:VAL:HG23	15:K:74:THR:H	1.78	0.47
16:L:48:ARG:NH2	42:L:8564:HOH:O	2.47	0.47
16:L:81:ARG:HG3	16:L:85:ARG:HB2	1.96	0.47
26:V:65:VAL:HG12	26:V:116:LEU:HD13	1.96	0.47
1:0:1206:U:H5'	1:0:1206:U:C6	2.42	0.47
1:0:1497:G:H4'	1:0:1627:G:O2'	2.15	0.47
1:0:2252:A:C5	1:0:2253:G:H1'	2.50	0.47
1:0:2730:G:O2'	1:0:2731:G:H5'	2.15	0.47
5:A:96:LEU:HD22	5:A:128:LEU:HD13	1.96	0.47
42:A:8621:HOH:O	29:Y:75:ALA:HB3	2.14	0.47
7:C:246:ARG:CZ	42:C:8430:HOH:O	2.61	0.47
10:F:100:ASP:HB3	42:F:5691:HOH:O	2.15	0.47
13:I:93:ARG:HH11	13:I:93:ARG:CB	2.26	0.47
17:M:143:ARG:HA	17:M:172:PHE:CD2	2.49	0.47
23:S:52:ARG:HB2	23:S:95:ASN:HB3	1.97	0.47
25:U:29:ASN:O	25:U:33:VAL:HG23	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:V:154:ARG:HE	26:V:154:ARG:HB3	1.57	0.47
28:X:112:GLU:OE1	28:X:115:ARG:NH1	2.48	0.47
1:0:177:A:H2'	1:0:178:U:O4'	2.15	0.47
1:0:281:U:H3'	42:0:6676:HOH:O	2.15	0.47
1:0:541:C:H2'	1:0:542:A:H5'	1.96	0.47
1:0:858:U:H2'	1:0:859:C:C6	2.50	0.47
1:0:1342:C:C2'	1:0:1343:C:H5'	2.45	0.47
1:0:2781:U:O2'	1:0:2782:G:H5'	2.14	0.47
8:D:128:LEU:C	8:D:128:LEU:HD23	2.35	0.47
8:D:158:ASN:HB2	8:D:161:ASP:OD2	2.15	0.47
10:F:117:GLU:C	10:F:119:ARG:H	2.18	0.47
13:I:46:ILE:HA	42:I:1123:HOH:O	2.14	0.47
1:0:24:G:N2	1:0:518:G:H1'	2.29	0.47
1:0:92:G:H4'	25:U:44:GLY:HA3	1.96	0.47
1:0:1398:G:O2'	1:0:1399:A:H5'	2.14	0.47
1:0:2100:A:H5'	42:C:8467:HOH:O	2.13	0.47
1:0:2274:A:H4'	16:L:77:PHE:HE1	1.80	0.47
1:0:2312:G:C2'	1:0:2313:C:H5'	2.45	0.47
1:0:2697:A:H2'	1:0:2698:G:O4'	2.14	0.47
1:0:2715:G:N2	6:B:264:GLU:OE1	2.47	0.47
1:0:2831:C:H2'	1:0:2832:C:H5'	1.97	0.47
2:9:3008:G:O6	17:M:11:ARG:NH1	2.48	0.47
40:4:79:BTN:H82	40:4:79:BTN:N2	2.30	0.47
6:B:211:THR:HA	6:B:255:GLY:O	2.15	0.47
7:C:165:ASP:O	7:C:168:ARG:HB3	2.15	0.47
8:D:94:ALA:HB3	8:D:174:VAL:CA	2.45	0.47
8:D:99:ASP:HB2	8:D:103:ASN:H	1.80	0.47
11:G:71:LEU:C	11:G:73:ASP:H	2.18	0.47
14:J:118:ALA:O	14:J:120:ARG:N	2.48	0.47
15:K:101:ASP:C	15:K:103:ALA:H	2.16	0.47
17:M:71:TRP:N	42:M:8540:HOH:O	2.47	0.47
18:N:39:THR:HB	42:N:3360:HOH:O	2.13	0.47
22:R:10:VAL:HG11	25:U:36:ALA:HA	1.96	0.47
24:T:52:THR:CG2	24:T:54:THR:HB	2.45	0.47
25:U:39:ALA:O	25:U:41:GLU:N	2.47	0.47
26:V:107:LEU:O	26:V:112:LEU:HB2	2.14	0.47
29:Y:59:HIS:HA	42:Y:8436:HOH:O	2.14	0.47
1:0:1158:G:O2'	1:0:1159:G:H5'	2.14	0.47
1:0:1450:C:C4'	1:0:1451:C:OP2	2.59	0.47
1:0:2320:U:H3'	32:2:2:GLN:HB2	1.97	0.47
1:0:2467:A:H3'	42:0:4934:HOH:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:200:PRO:HD3	42:A:8520:HOH:O	2.14	0.47
5:A:217:ARG:HH11	5:A:217:ARG:CG	2.27	0.47
6:B:108:GLU:HB3	6:B:111:ARG:HD2	1.97	0.47
8:D:103:ASN:ND2	8:D:134:LEU:H	2.12	0.47
10:F:27:GLY:HA3	42:F:5413:HOH:O	2.15	0.47
12:H:117:LYS:O	12:H:119:VAL:HG13	2.15	0.47
19:O:64:GLU:HG2	42:O:169:HOH:O	2.15	0.47
1:O:329:A:OP2	7:C:206:ASN:HB2	2.14	0.47
1:O:820:G:H5'	1:O:821:U:H5'	1.96	0.47
1:O:1450:C:O2'	1:O:1494:A:H5'	2.15	0.47
42:O:3250:HOH:O	23:S:9:LYS:CD	2.62	0.47
42:O:5672:HOH:O	16:L:174:ARG:HD3	2.14	0.47
7:C:168:ARG:NH2	7:C:190:ALA:O	2.48	0.47
15:K:90:ARG:NH2	15:K:121:ILE:HD11	2.29	0.47
16:L:39:ARG:HA	16:L:63:VAL:HG22	1.97	0.47
17:M:37:ARG:HA	17:M:37:ARG:HD3	1.81	0.47
23:S:111:ARG:HB3	23:S:119:ALA:HB2	1.97	0.47
26:V:154:ARG:C	42:V:4276:HOH:O	2.53	0.47
1:O:278:A:H2'	1:O:279:C:O4'	2.15	0.47
1:O:2044:G:OP1	27:W:23:HIS:HE1	1.98	0.47
42:O:9484:HOH:O	15:K:22:ARG:HG2	2.15	0.47
2:9:3006:C:C5'	17:M:37:ARG:HH12	2.23	0.47
5:A:210:GLY:HA3	42:A:8594:HOH:O	2.14	0.47
6:B:66:GLU:OE1	6:B:328:ARG:HD2	2.15	0.47
8:D:93:LEU:HG	42:D:3862:HOH:O	2.13	0.47
10:F:34:ASN:O	10:F:38:LYS:HG3	2.15	0.47
10:F:46:GLU:OE1	10:F:100:ASP:HA	2.14	0.47
12:H:56:ILE:HG22	12:H:61:LEU:CD2	2.43	0.47
19:O:143:ALA:HA	42:O:168:HOH:O	2.15	0.47
26:V:38:THR:HG22	26:V:39:ASP:N	2.30	0.47
26:V:151:GLU:O	26:V:154:ARG:HB3	2.14	0.47
27:W:78:GLU:CG	27:W:79:GLU:N	2.76	0.47
30:Z:28:HIS:CE1	30:Z:31:LYS:HE2	2.50	0.47
1:O:474:C:O3'	7:C:73:LEU:HD21	2.16	0.46
1:O:2862:G:H4'	6:B:336:GLN:O	2.16	0.46
42:O:3883:HOH:O	5:A:11:ARG:CZ	2.63	0.46
42:O:9063:HOH:O	6:B:267:LYS:HD3	2.13	0.46
5:A:95:PRO:HA	5:A:153:ARG:HA	1.98	0.46
6:B:16:ARG:NH1	42:B:8613:HOH:O	2.48	0.46
10:F:34:ASN:HA	16:L:4:ALA:HB2	1.97	0.46
14:J:75:ARG:HG2	14:J:90:PHE:CD2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:L:25:TRP:HE3	16:L:26:HIS:HD2	1.63	0.46
16:L:37:VAL:CG2	16:L:108:LYS:HG3	2.44	0.46
17:M:73:ALA:HB1	17:M:74:PRO:CD	2.45	0.46
32:2:44:SER:HA	32:2:49:ASP:OD1	2.16	0.46
1:0:1211:G:O2'	1:0:1212:C:H5'	2.15	0.46
1:0:1878:G:O2'	1:0:1879:U:OP2	2.33	0.46
1:0:1883:U:O2'	1:0:1884:G:H5'	2.14	0.46
1:0:1909:A:H2'	1:0:1910:A:C8	2.50	0.46
1:0:2353:A:H4'	1:0:2354:A:O5'	2.15	0.46
2:9:3041:C:C6	8:D:50:VAL:HG21	2.51	0.46
2:9:3055:U:H4'	2:9:3056:A:H8	1.80	0.46
5:A:93:THR:C	5:A:94:LEU:HD23	2.35	0.46
7:C:162:VAL:CG1	7:C:192:ILE:HD11	2.44	0.46
8:D:92:GLU:O	8:D:93:LEU:O	2.33	0.46
10:F:50:VAL:CG2	10:F:63:ILE:HG21	2.45	0.46
12:H:26:LYS:HD2	12:H:28:ILE:HB	1.97	0.46
16:L:134:ILE:CG2	16:L:141:ILE:HD13	2.46	0.46
17:M:47:LEU:HD13	17:M:97:VAL:HG11	1.96	0.46
21:Q:61:GLN:NE2	42:Q:8541:HOH:O	2.48	0.46
23:S:28:SER:O	23:S:32:ARG:HG3	2.14	0.46
23:S:75:GLU:O	23:S:76:ASP:HB2	2.14	0.46
25:U:27:LEU:HA	25:U:49:LEU:HD13	1.96	0.46
26:V:31:HIS:HB3	42:V:5420:HOH:O	2.14	0.46
30:Z:25:LYS:HD2	31:1:49:GLU:N	2.30	0.46
1:0:622:G:O2'	1:0:623:U:H5'	2.15	0.46
1:0:1304:U:H2'	1:0:1305:C:C6	2.51	0.46
1:0:1666:C:C2'	1:0:1667:A:H5'	2.43	0.46
2:9:3014:G:O2'	17:M:1:ALA:HB2	2.15	0.46
6:B:54:VAL:HB	42:B:8609:HOH:O	2.16	0.46
6:B:125:GLU:OE2	6:B:129:ARG:NH1	2.49	0.46
8:D:140:ARG:HH11	8:D:140:ARG:HG3	1.79	0.46
10:F:99:THR:O	10:F:100:ASP:HB2	2.15	0.46
14:J:14:LYS:CB	14:J:45:PRO:HG2	2.36	0.46
24:T:39:ASN:HD22	24:T:49:LEU:HD11	1.81	0.46
29:Y:30:GLU:HB2	42:Y:8414:HOH:O	2.15	0.46
32:2:18:GLN:OE1	32:2:73:GLU:HB3	2.16	0.46
1:0:461:C:H2'	42:0:3486:HOH:O	2.15	0.46
1:0:716:G:C2'	1:0:717:C:O5'	2.64	0.46
1:0:2883:A:H2'	1:0:2884:G:O4'	2.16	0.46
42:0:6889:HOH:O	5:A:22:ARG:HD2	2.14	0.46
5:A:35:GLY:O	5:A:36:ASP:CB	2.57	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:13:PHE:O	6:B:16:ARG:HD2	2.15	0.46
6:B:101:TRP:HB2	6:B:119:HIS:CD2	2.50	0.46
7:C:118:THR:HG22	7:C:137:PRO:HB3	1.97	0.46
8:D:146:LYS:HZ3	17:M:107:ASN:HD21	1.61	0.46
9:E:93:MET:HE1	9:E:165:GLY:N	2.29	0.46
10:F:37:THR:O	10:F:41:GLU:HG3	2.15	0.46
12:H:47:GLU:HG2	12:H:133:ILE:HD12	1.95	0.46
17:M:43:VAL:HG13	17:M:118:ILE:HD11	1.96	0.46
22:R:29:ASP:OD1	22:R:31:ARG:NH1	2.48	0.46
1:0:57:C:H5''	42:0:6233:HOH:O	2.13	0.46
1:0:745:G:H5''	1:0:746:A:OP1	2.16	0.46
1:0:1940:C:H4'	42:0:6815:HOH:O	2.15	0.46
1:0:2090:G:H2'	1:0:2091:G:C8	2.50	0.46
42:0:4307:HOH:O	13:I:47:THR:CB	2.59	0.46
42:0:6926:HOH:O	7:C:188:ARG:CD	2.63	0.46
2:9:3012:C:H5'	2:9:3070:U:O4'	2.16	0.46
5:A:192:VAL:HG12	5:A:207:GLN:HB3	1.97	0.46
13:I:6:PHE:O	13:I:8:ALA:N	2.48	0.46
14:J:118:ALA:C	14:J:120:ARG:H	2.19	0.46
15:K:125:PHE:CE1	15:K:140:VAL:HG13	2.51	0.46
17:M:163:PHE:HA	42:M:8519:HOH:O	2.15	0.46
22:R:6:LYS:HB2	22:R:27:ALA:O	2.15	0.46
22:R:81:ILE:HG12	42:R:8336:HOH:O	2.15	0.46
24:T:52:THR:HG22	24:T:54:THR:H	1.81	0.46
1:0:308:U:C4	1:0:342:C:H1'	2.50	0.46
1:0:1166:A:H61	1:0:1180:U:H3	1.64	0.46
1:0:2591:C:H2'	1:0:2592:G:O4'	2.16	0.46
6:B:16:ARG:NE	42:B:8551:HOH:O	2.32	0.46
8:D:84:LEU:C	8:D:86:THR:H	2.18	0.46
12:H:62:GLU:O	12:H:66:VAL:HG23	2.16	0.46
16:L:48:ARG:HH11	16:L:52:LEU:HD21	1.81	0.46
16:L:108:LYS:HE3	42:L:8616:HOH:O	2.15	0.46
22:R:53:ASN:ND2	42:R:8321:HOH:O	2.49	0.46
23:S:20:HIS:ND1	23:S:41:ARG:NE	2.60	0.46
26:V:26:ILE:O	26:V:26:ILE:CG1	2.63	0.46
27:W:66:THR:HG23	27:W:67:PRO:HD2	1.96	0.46
31:1:18:ASN:ND2	31:1:40:ARG:H	2.14	0.46
1:0:432:G:O2'	1:0:433:C:H5'	2.16	0.46
1:0:2247:C:H5''	42:0:6813:HOH:O	2.16	0.46
1:0:2356:A:H2'	1:0:2357:G:O4'	2.16	0.46
1:0:2821:C:H4'	6:B:116:PRO:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:223:ARG:HG3	6:B:232:TRP:O	2.15	0.46
8:D:41:LEU:HA	8:D:44:ILE:CG2	2.45	0.46
8:D:95:THR:OG1	8:D:174:VAL:HG22	2.16	0.46
16:L:84:LYS:HD3	42:L:8532:HOH:O	2.15	0.46
17:M:5:ARG:HG3	20:P:18:PRO:CB	2.45	0.46
17:M:154:LEU:CG	17:M:155:GLU:H	2.27	0.46
1:0:952:G:N3	1:0:2302:A:H2'	2.31	0.46
1:0:962:C:C1'	17:M:5:ARG:NH1	2.72	0.46
1:0:1056:U:H2'	1:0:1057:A:O4'	2.16	0.46
1:0:1097:A:H5''	26:V:125:HIS:NE2	2.31	0.46
1:0:1289:C:H3'	42:0:5886:HOH:O	2.15	0.46
1:0:2010:A:H2'	42:0:5433:HOH:O	2.15	0.46
1:0:2121:G:C2'	1:0:2122:C:H5'	2.46	0.46
1:0:2270:G:H4'	5:A:223:ARG:HH12	1.80	0.46
6:B:41:PHE:CE1	6:B:79:MET:HG3	2.50	0.46
14:J:55:VAL:CG1	14:J:56:SER:N	2.78	0.46
23:S:55:PHE:CD2	23:S:77:VAL:HG13	2.50	0.46
26:V:139:GLY:O	26:V:141:HIS:CD2	2.69	0.46
29:Y:39:CYS:O	29:Y:42:CYS:O	2.34	0.46
1:0:21:G:H5''	21:Q:1:GLY:O	2.16	0.46
1:0:447:A:O2'	1:0:448:G:H5'	2.16	0.46
1:0:814:G:H4'	42:0:9626:HOH:O	2.16	0.46
1:0:860:U:H2'	1:0:861:A:C8	2.51	0.46
1:0:1003:U:O2'	12:H:90:PHE:HE1	1.99	0.46
1:0:1120:U:H5''	1:0:1120:U:H6	1.81	0.46
1:0:1391:G:H2'	1:0:1392:A:H5'	1.98	0.46
1:0:2904:U:H4'	27:W:8:ARG:NH1	2.30	0.46
42:0:4422:HOH:O	16:L:82:ARG:HD3	2.16	0.46
3:3:76:A:N6	42:3:7072:HOH:O	2.42	0.46
5:A:105:VAL:HG12	5:A:106:CYS:N	2.31	0.46
5:A:128:LEU:HG	42:A:8583:HOH:O	2.16	0.46
6:B:7:ARG:HG2	6:B:7:ARG:NH1	2.31	0.46
8:D:101:THR:HG22	42:D:7400:HOH:O	2.16	0.46
9:E:20:ILE:HD12	9:E:33:LEU:HD12	1.98	0.46
16:L:69:LYS:HD3	16:L:125:ARG:HA	1.98	0.46
25:U:55:ARG:O	25:U:59:ILE:HG12	2.15	0.46
27:W:25:ARG:HG2	42:W:5356:HOH:O	2.15	0.46
1:0:716:G:H2'	1:0:717:C:O5'	2.16	0.46
1:0:1819:G:H2'	1:0:1820:G:C4'	2.46	0.46
1:0:2459:G:OP2	32:2:64:LYS:HD2	2.16	0.46
5:A:36:ASP:CB	5:A:85:ASP:H	2.28	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:149:ASP:OD1	5:A:151:GLN:HB2	2.15	0.46
5:A:179:MET:HG2	5:A:186:TRP:CB	2.45	0.46
5:A:192:VAL:O	5:A:207:GLN:HG2	2.16	0.46
16:L:87:MET:SD	32:2:46:ILE:HD13	2.55	0.46
23:S:19:ARG:HD3	23:S:67:LEU:O	2.14	0.46
24:T:33:SER:O	24:T:37:GLU:HG3	2.16	0.46
1:0:113:A:OP2	1:0:114:A:H2'	2.16	0.45
1:0:228:C:H2'	1:0:229:G:H5'	1.98	0.45
1:0:512:G:O3'	1:0:513:A:H8	1.99	0.45
1:0:2088:C:H1'	1:0:2841:A:N1	2.31	0.45
1:0:2320:U:OP2	32:2:1:MET:HA	2.16	0.45
1:0:2619:U:H5''	1:0:2620:U:OP2	2.15	0.45
2:9:3002:U:OP2	2:9:3002:U:H4'	2.16	0.45
2:9:3007:G:H4'	17:M:55:ASP:OD2	2.15	0.45
7:C:39:GLN:O	7:C:43:LYS:HD3	2.15	0.45
7:C:160:LEU:O	7:C:162:VAL:HG23	2.16	0.45
9:E:31:ARG:HH12	9:E:68:HIS:CG	2.33	0.45
19:O:94:TRP:CZ2	19:O:98:ILE:HG13	2.51	0.45
19:O:120:ARG:NH2	19:O:123:TYR:CD2	2.84	0.45
31:1:40:ARG:HA	31:1:45:ASN:ND2	2.30	0.45
1:0:407:A:H2'	1:0:408:A:C8	2.52	0.45
1:0:611:U:H2'	1:0:612:U:C6	2.52	0.45
1:0:1173:A:H2'	42:0:3826:HOH:O	2.16	0.45
1:0:2269:C:H2'	1:0:2270:G:O4'	2.17	0.45
8:D:23:VAL:CG2	8:D:73:VAL:HB	2.44	0.45
8:D:67:ASP:O	8:D:69:ILE:HG13	2.16	0.45
8:D:99:ASP:HB3	8:D:103:ASN:H	1.81	0.45
8:D:99:ASP:O	8:D:159:PRO:HG3	2.15	0.45
12:H:72:VAL:HG11	12:H:81:TYR:CZ	2.51	0.45
14:J:81:ARG:HD3	14:J:87:ARG:NH1	2.30	0.45
22:R:42:GLU:HG2	22:R:49:VAL:HG23	1.98	0.45
1:0:170:U:H1'	32:2:50:GLY:HA3	1.98	0.45
1:0:282:C:H2'	1:0:283:U:O4'	2.15	0.45
1:0:703:G:O2'	1:0:704:C:H5'	2.17	0.45
1:0:1066:U:H2'	1:0:1067:A:C8	2.51	0.45
1:0:1164:U:O4'	1:0:1165:G:OP1	2.35	0.45
1:0:1205:U:H2'	1:0:1206:U:C5'	2.47	0.45
1:0:1385:G:O3'	27:W:49:ARG:NH1	2.50	0.45
1:0:2432:C:C1'	42:0:3566:HOH:O	2.64	0.45
1:0:2464:C:H5''	1:0:2465:A:OP1	2.16	0.45
5:A:100:PRO:O	5:A:103:VAL:HG23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:I:6:PHE:HB3	13:I:109:TYR:OH	2.16	0.45
17:M:73:ALA:HB2	17:M:163:PHE:CZ	2.51	0.45
21:Q:125:ARG:HG2	42:Q:8543:HOH:O	2.16	0.45
26:V:149:LEU:HG	26:V:153:MET:HE1	1.97	0.45
27:W:85:VAL:HG12	27:W:86:GLU:N	2.31	0.45
1:O:316:A:N3	1:O:336:G:O2'	2.43	0.45
1:O:1471:A:H2'	1:O:1472:C:C6	2.51	0.45
1:O:2637:A:H5'	1:O:2638:G:C5'	2.46	0.45
8:D:59:GLY:O	8:D:61:PHE:N	2.41	0.45
9:E:145:ALA:HB1	9:E:168:ILE:CD1	2.47	0.45
12:H:81:TYR:CD1	12:H:81:TYR:C	2.89	0.45
14:J:14:LYS:HG3	14:J:32:ILE:O	2.16	0.45
17:M:93:GLN:HG2	42:M:8559:HOH:O	2.15	0.45
32:2:65:THR:HB	32:2:83:TRP:H	1.81	0.45
1:O:100:C:H4'	23:S:16:LEU:HB2	1.99	0.45
1:O:491:C:O2'	1:O:492:C:H5'	2.17	0.45
1:O:2346:C:O3'	8:D:52:THR:HG23	2.16	0.45
42:O:9054:HOH:O	26:V:119:HIS:HE1	1.98	0.45
2:9:3049:G:H2'	2:9:3050:G:O4'	2.17	0.45
17:M:67:ALA:C	17:M:69:TYR:N	2.70	0.45
27:W:12:ILE:HD12	27:W:36:HIS:ND1	2.32	0.45
30:Z:8:GLN:HE22	30:Z:11:LYS:HZ2	1.62	0.45
1:O:283:U:H5	1:O:284:C:N4	2.15	0.45
1:O:952:G:OP1	20:P:42:LYS:HE2	2.16	0.45
6:B:212:GLN:HB2	6:B:257:THR:CG2	2.38	0.45
8:D:95:THR:C	8:D:97:GLN:N	2.69	0.45
9:E:16:ASP:O	9:E:17:HIS:HB2	2.16	0.45
13:I:79:PHE:HB3	13:I:103:VAL:HG11	1.98	0.45
17:M:77:ASN:OD1	17:M:80:SER:HB2	2.17	0.45
17:M:78:MET:HB2	17:M:79:PRO:HD3	1.98	0.45
1:O:319:A:H4'	1:O:338:C:C4	2.52	0.45
1:O:538:C:H5''	1:O:539:G:C8	2.51	0.45
1:O:926:A:O2'	15:K:41:HIS:HD2	1.99	0.45
1:O:1188:A:C5	1:O:1189:A:C2	3.05	0.45
1:O:1768:C:H2'	1:O:1769:C:O4'	2.17	0.45
1:O:2346:C:O3'	8:D:52:THR:CG2	2.65	0.45
1:O:2768:A:H3'	42:O:3898:HOH:O	2.17	0.45
1:O:2896:A:N3	1:O:2896:A:H2'	2.32	0.45
5:A:186:TRP:CG	5:A:187:PRO:HA	2.52	0.45
13:I:77:GLY:O	13:I:78:ILE:C	2.55	0.45
15:K:38:HIS:CD2	15:K:39:GLU:HG3	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:P:75:ILE:CD1	20:P:84:ILE:HD11	2.47	0.45
1:O:1659:A:H2'	1:O:1660:G:O4'	2.17	0.45
5:A:164:ARG:HA	29:Y:69:TYR:CE1	2.52	0.45
6:B:175:LEU:C	6:B:175:LEU:CD2	2.85	0.45
8:D:173:GLU:HG3	8:D:174:VAL:N	2.31	0.45
9:E:24:GLY:HA3	9:E:76:VAL:HB	1.98	0.45
9:E:170:ARG:HE	9:E:170:ARG:HB2	1.56	0.45
12:H:95:GLU:HB3	12:H:119:VAL:HG11	1.98	0.45
13:I:52:GLN:HG3	13:I:53:ILE:N	2.32	0.45
21:Q:4:TYR:N	42:Q:8548:HOH:O	2.50	0.45
26:V:88:THR:CG2	26:V:110:GLN:NE2	2.75	0.45
32:2:7:PHE:HE2	32:2:22:VAL:HG21	1.82	0.45
1:O:451:C:O2'	1:O:452:G:H5'	2.17	0.45
1:O:1523:G:H2'	1:O:1524:U:C6	2.52	0.45
1:O:1829:A:C8	1:O:1885:A:C8	3.05	0.45
1:O:1925:G:OP1	32:2:29:ARG:NH2	2.50	0.45
1:O:2735:U:H2'	1:O:2736:U:C6	2.52	0.45
42:O:4203:HOH:O	17:M:21:HIS:HD2	2.00	0.45
7:C:129:HIS:CE1	7:C:231:ARG:HA	2.52	0.45
9:E:23:GLU:HG2	9:E:28:SER:HB2	1.98	0.45
9:E:69:ILE:HA	9:E:72:MET:HE3	1.99	0.45
10:F:13:GLU:OE2	10:F:78:GLU:HG2	2.17	0.45
17:M:34:LEU:HD13	17:M:47:LEU:HD21	1.98	0.45
26:V:80:ASP:O	26:V:84:VAL:HG23	2.16	0.45
27:W:74:ALA:HB2	27:W:85:VAL:HG13	1.98	0.45
1:O:317:A:H5''	23:S:52:ARG:HD2	1.98	0.45
1:O:1500:U:OP2	19:O:41:ARG:NH2	2.50	0.45
1:O:1910:A:H2	1:O:2129:U:O4'	2.00	0.45
1:O:1994:A:P	14:J:66:ARG:HH22	2.40	0.45
6:B:42:ALA:HB1	6:B:308:LEU:HD11	1.99	0.45
6:B:279:THR:OG1	6:B:290:VAL:HB	2.17	0.45
6:B:307:ARG:HH11	6:B:307:ARG:CG	2.29	0.45
10:F:24:ARG:NH2	42:F:6800:HOH:O	2.51	0.45
20:P:66:LYS:HB2	20:P:70:ALA:O	2.17	0.45
26:V:35:VAL:HA	26:V:36:PRO:HD3	1.78	0.45
27:W:12:ILE:HG23	27:W:36:HIS:CG	2.51	0.45
28:X:112:GLU:CD	28:X:115:ARG:NH1	2.70	0.45
1:O:1165:G:OP1	1:O:1165:G:C3'	2.61	0.44
1:O:1654:U:H2'	5:A:47:HIS:HD2	1.81	0.44
1:O:2468:A:H61	32:2:48:ASN:HD21	1.64	0.44
1:O:2478:U:H2'	1:O:2479:A:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2506:A:H1'	42:0:5531:HOH:O	2.17	0.44
5:A:191:GLY:HA2	5:A:194:MET:HE2	1.96	0.44
7:C:25:PRO:HD2	42:C:8434:HOH:O	2.15	0.44
8:D:55:LYS:O	8:D:56:ARG:HB2	2.17	0.44
8:D:146:LYS:HE2	17:M:107:ASN:ND2	2.32	0.44
20:P:32:GLU:HA	20:P:71:TYR:OH	2.17	0.44
21:Q:132:ARG:NH2	42:Q:8585:HOH:O	2.50	0.44
23:S:38:ARG:HH11	23:S:38:ARG:HG3	1.81	0.44
1:0:776:A:OP1	30:Z:28:HIS:HE1	1.99	0.44
1:0:1029:U:O2'	1:0:1273:C:OP1	2.31	0.44
1:0:1135:G:H5'	42:0:5403:HOH:O	2.17	0.44
1:0:1159:G:H1	1:0:1208:C:H42	1.65	0.44
1:0:1266:U:H4'	28:X:115:ARG:HH21	1.81	0.44
1:0:1557:G:O2'	1:0:1558:C:H5'	2.17	0.44
1:0:1656:A:H2'	1:0:1657:A:O4'	2.17	0.44
1:0:2505:G:H8	42:0:5114:HOH:O	2.00	0.44
1:0:2825:C:H4'	1:0:2826:G:O5'	2.17	0.44
1:0:2900:G:H2'	1:0:2901:C:O4'	2.17	0.44
11:G:67:LEU:O	11:G:71:LEU:HG	2.17	0.44
12:H:165:GLY:C	12:H:166:ASN:HD22	2.20	0.44
15:K:65:ASP:CG	15:K:111:ALA:HB3	2.38	0.44
26:V:122:ARG:HG2	26:V:122:ARG:NH1	2.26	0.44
27:W:9:VAL:HG13	27:W:88:GLU:CD	2.37	0.44
27:W:34:ARG:NH1	27:W:48:VAL:O	2.49	0.44
1:0:541:C:O2'	1:0:542:A:H5''	2.18	0.44
1:0:853:C:H2'	1:0:854:G:O4'	2.17	0.44
1:0:1588:G:C6	1:0:1589:G:N1	2.86	0.44
1:0:1634:G:H2'	1:0:1635:U:C6	2.52	0.44
1:0:2281:C:H2'	1:0:2282:U:H5'	1.99	0.44
1:0:2839:C:H2'	1:0:2840:A:H5''	1.99	0.44
5:A:164:ARG:HB2	29:Y:68:CYS:SG	2.57	0.44
6:B:53:LEU:HD21	6:B:270:ILE:HD12	1.98	0.44
7:C:40:ALA:CB	7:C:100:LEU:HD12	2.47	0.44
14:J:55:VAL:HG12	14:J:56:SER:H	1.82	0.44
26:V:122:ARG:HG2	26:V:152:ALA:O	2.17	0.44
29:Y:11:THR:HG21	29:Y:23:ARG:HB2	1.98	0.44
30:Z:2:GLY:O	30:Z:6:PRO:HG2	2.17	0.44
1:0:170:U:H5'	32:2:48:ASN:HB3	1.98	0.44
1:0:484:A:N1	1:0:506:G:H4'	2.33	0.44
1:0:1252:A:H2'	1:0:1253:C:O4'	2.18	0.44
1:0:1819:G:H5'	42:0:4186:HOH:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1942:A:H5'	5:A:233:THR:HB	1.98	0.44
1:0:2314:G:C2'	1:0:2315:C:H5'	2.47	0.44
1:0:2326:U:H4'	1:0:2412:G:H4'	2.00	0.44
1:0:2419:U:H5''	1:0:2420:G:C5'	2.43	0.44
5:A:94:LEU:HG	5:A:99:ILE:CD1	2.46	0.44
5:A:105:VAL:HG11	5:A:154:ALA:CB	2.46	0.44
9:E:34:TRP:O	13:I:127:ILE:HD11	2.17	0.44
12:H:26:LYS:CD	12:H:28:ILE:HB	2.47	0.44
12:H:84:ARG:CZ	12:H:135:TRP:HH2	2.30	0.44
12:H:84:ARG:CZ	12:H:135:TRP:CH2	3.00	0.44
13:I:19:MET:HE1	13:I:132:LEU:HD21	1.98	0.44
15:K:53:ARG:NH2	15:K:57:VAL:HG12	2.33	0.44
16:L:46:LEU:HG	42:L:8625:HOH:O	2.17	0.44
24:T:9:CYS:O	24:T:52:THR:HG23	2.18	0.44
27:W:30:MET:HE1	27:W:55:ASN:HA	1.98	0.44
27:W:31:ILE:O	27:W:35:GLU:HG3	2.16	0.44
27:W:43:VAL:CG1	27:W:44:ASP:N	2.79	0.44
28:X:107:PRO:HB3	28:X:182:PHE:CE2	2.53	0.44
28:X:109:LEU:HA	42:X:8572:HOH:O	2.18	0.44
32:2:1:MET:HG3	32:2:88:LEU:HD12	1.99	0.44
1:0:424:C:H2'	1:0:425:U:C6	2.53	0.44
1:0:1593:C:H5'	19:O:116:SER:O	2.17	0.44
1:0:2526:C:C2'	1:0:2527:U:H5'	2.47	0.44
1:0:2720:C:O2	14:J:87:ARG:NH2	2.50	0.44
6:B:22:GLU:HA	6:B:205:VAL:HG21	2.00	0.44
10:F:57:GLU:O	10:F:61:MET:HG3	2.18	0.44
13:I:107:ASN:ND2	13:I:107:ASN:C	2.68	0.44
1:0:960:G:N3	1:0:960:G:C2'	2.79	0.44
1:0:1015:C:H2'	1:0:1016:U:H6	1.79	0.44
1:0:1268:C:H2'	1:0:1269:G:H8	1.83	0.44
1:0:1615:A:H4'	42:0:5359:HOH:O	2.17	0.44
1:0:2372:A:H2'	1:0:2373:U:C6	2.53	0.44
5:A:211:LYS:CB	5:A:212:PRO:HD2	2.31	0.44
9:E:116:THR:CG2	9:E:151:LEU:HD22	2.47	0.44
11:G:12:ILE:HG13	42:G:6833:HOH:O	2.18	0.44
15:K:146:GLY:C	15:K:148:GLU:H	2.21	0.44
25:U:1:THR:CG2	25:U:2:VAL:H	2.25	0.44
25:U:55:ARG:NH2	42:U:4428:HOH:O	2.45	0.44
1:0:344:C:H2'	1:0:345:G:O4'	2.17	0.44
1:0:635:A:H2'	1:0:636:G:H5''	1.98	0.44
1:0:1589:G:N2	1:0:1605:G:H1'	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1592:G:H2'	1:0:1593:C:C6	2.53	0.44
1:0:1735:C:H2'	1:0:1736:A:C8	2.51	0.44
1:0:2064:U:H5'	1:0:2652:U:O3'	2.18	0.44
1:0:2326:U:H4'	1:0:2412:G:C4'	2.47	0.44
1:0:2420:G:H4'	42:0:3581:HOH:O	2.18	0.44
1:0:2443:C:H3'	42:0:9967:HOH:O	2.17	0.44
5:A:192:VAL:O	5:A:192:VAL:CG1	2.65	0.44
13:I:90:LYS:HB2	36:I:8502:CL:CL	2.55	0.44
17:M:155:GLU:O	17:M:156:GLU:HG3	2.18	0.44
19:O:16:VAL:CG1	19:O:17:GLY:N	2.81	0.44
19:O:115:SER:C	19:O:117:SER:N	2.70	0.44
22:R:32:ALA:HA	22:R:36:GLU:OE1	2.17	0.44
23:S:49:GLU:OE2	23:S:97:ARG:HD2	2.18	0.44
26:V:4:LEU:HD23	26:V:4:LEU:HA	1.75	0.44
26:V:65:VAL:HA	26:V:68:THR:CG2	2.47	0.44
26:V:122:ARG:CG	26:V:152:ALA:O	2.66	0.44
32:2:60:LYS:HG3	32:2:61:PRO:HD2	2.00	0.44
1:0:450:C:H4'	7:C:46:TYR:CE1	2.53	0.44
1:0:536:A:H3'	42:0:4522:HOH:O	2.17	0.44
1:0:951:A:O2'	1:0:952:G:H5'	2.18	0.44
1:0:1007:A:H2'	12:H:19:TYR:CZ	2.53	0.44
1:0:1329:A:C2	42:0:4159:HOH:O	2.56	0.44
1:0:2256:G:H2'	1:0:2257:G:C5'	2.48	0.44
2:9:3030:C:OP1	8:D:137:PRO:O	2.35	0.44
2:9:3057:A:O2'	8:D:152:PRO:HD2	2.18	0.44
5:A:211:LYS:HD3	42:A:8618:HOH:O	2.17	0.44
7:C:196:THR:HG23	42:C:8406:HOH:O	2.16	0.44
8:D:99:ASP:CB	8:D:103:ASN:HB2	2.47	0.44
12:H:141:ASN:CA	42:H:8366:HOH:O	2.61	0.44
16:L:173:LEU:HA	16:L:183:VAL:HG11	2.00	0.44
19:O:7:LYS:CD	19:O:21:VAL:CG2	2.96	0.44
21:Q:29:LYS:HD3	42:Q:8533:HOH:O	2.18	0.44
24:T:38:ASN:O	24:T:42:LEU:HG	2.18	0.44
24:T:52:THR:HG22	24:T:54:THR:HB	2.00	0.44
28:X:115:ARG:NE	42:X:8557:HOH:O	2.51	0.44
31:1:22:PRO:HB2	31:1:24:TRP:CD1	2.53	0.44
1:0:166:A:N7	15:K:25:GLY:HA2	2.33	0.44
1:0:596:C:H2'	1:0:597:A:C8	2.53	0.44
1:0:1819:G:H2'	1:0:1820:G:C5'	2.48	0.44
2:9:3028:U:H2'	2:9:3029:C:C6	2.53	0.44
5:A:36:ASP:CA	5:A:83:GLY:HA3	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:107:ASN:OD1	5:A:120:ARG:HD2	2.18	0.44
6:B:154:VAL:HG12	6:B:156:LYS:HG2	1.98	0.44
7:C:13:ASP:OD1	7:C:13:ASP:O	2.36	0.44
7:C:34:ALA:HB3	7:C:220:THR:HG21	1.99	0.44
10:F:58:GLU:HG3	10:F:61:MET:HE1	1.99	0.44
16:L:74:ARG:CD	16:L:91:ILE:HD12	2.48	0.44
18:N:25:VAL:HG23	18:N:26:TRP:N	2.33	0.44
19:O:11:ALA:HB2	19:O:18:LYS:HA	2.00	0.44
21:Q:25:PHE:CE2	21:Q:29:LYS:HE2	2.52	0.44
26:V:52:VAL:HG13	26:V:53:ALA:N	2.32	0.44
27:W:9:VAL:HG22	27:W:88:GLU:OE2	2.18	0.44
27:W:43:VAL:HG12	27:W:47:ALA:HB3	1.99	0.44
1:0:111:C:H2'	1:0:112:G:O4'	2.18	0.43
1:0:506:G:N2	1:0:509:A:H5'	2.21	0.43
1:0:711:G:C2	1:0:718:C:C2	3.06	0.43
1:0:737:A:H2'	1:0:738:G:O4'	2.18	0.43
1:0:886:A:OP2	1:0:2113:G:H5'	2.18	0.43
1:0:1596:U:H2'	1:0:1598:A:OP2	2.17	0.43
1:0:1681:G:H5''	1:0:1682:A:H5'	2.00	0.43
1:0:2453:G:H4'	15:K:50:GLY:C	2.39	0.43
42:O:3523:HOH:O	7:C:149:LYS:HE3	2.18	0.43
6:B:215:VAL:O	6:B:219:GLY:HA2	2.17	0.43
6:B:274:GLU:HA	6:B:292:GLY:O	2.18	0.43
8:D:169:THR:O	8:D:170:TYR:HB2	2.18	0.43
10:F:16:ALA:HA	10:F:111:ILE:HD13	1.99	0.43
10:F:28:ALA:HB3	10:F:99:THR:O	2.18	0.43
10:F:28:ALA:CB	10:F:99:THR:HG23	2.48	0.43
10:F:39:SER:HB3	10:F:45:ALA:HB2	1.99	0.43
11:G:20:VAL:O	11:G:24:VAL:HG23	2.18	0.43
12:H:86:ARG:CZ	12:H:130:HIS:CD2	3.01	0.43
16:L:107:ARG:NH1	42:L:8581:HOH:O	2.51	0.43
17:M:47:LEU:HD12	17:M:92:ALA:HB1	2.00	0.43
17:M:58:LEU:N	17:M:58:LEU:CD1	2.80	0.43
17:M:80:SER:CB	42:M:8537:HOH:O	2.61	0.43
20:P:3:SER:HB3	42:P:5998:HOH:O	2.17	0.43
1:0:2314:G:O2'	1:0:2315:C:H5'	2.18	0.43
1:0:2355:G:H5''	1:0:2356:A:OP2	2.19	0.43
1:0:2597:U:H2'	1:0:2598:U:H5'	1.99	0.43
2:9:3078:G:N2	2:9:3103:A:OP2	2.48	0.43
4:4:75:C:H2'	37:4:76:PPU:O4'	2.18	0.43
5:A:51:ARG:NH2	42:A:8551:HOH:O	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:B:139:ASP:CB	6:B:165:ARG:HE	2.31	0.43
12:H:65:ARG:NH1	42:H:8385:HOH:O	2.51	0.43
15:K:34:GLY:HA3	15:K:38:HIS:CE1	2.53	0.43
42:L:8532:HOH:O	32:2:46:ILE:HB	2.18	0.43
28:X:234:VAL:HG12	28:X:235:GLU:N	2.33	0.43
1:O:95:A:H5''	1:O:97:G:O4'	2.18	0.43
1:O:644:G:H5'	1:O:644:G:N3	2.33	0.43
1:O:949:U:O2'	20:P:40:HIS:HE1	2.01	0.43
1:O:1189:A:N3	42:O:7150:HOH:O	2.48	0.43
1:O:1771:U:C4'	29:Y:20:LEU:HD21	2.37	0.43
1:O:2300:A:H4'	1:O:2301:A:O5'	2.18	0.43
42:O:6827:HOH:O	5:A:177:HIS:HE1	2.01	0.43
2:9:3031:C:H2'	2:9:3032:G:O4'	2.19	0.43
5:A:55:VAL:HG11	5:A:67:LEU:HD13	2.00	0.43
5:A:192:VAL:CG1	5:A:207:GLN:HB3	2.49	0.43
10:F:111:ILE:O	10:F:115:VAL:HG23	2.19	0.43
12:H:14:TYR:N	12:H:91:HIS:HE1	2.16	0.43
12:H:31:PHE:HE2	12:H:87:LYS:O	2.01	0.43
14:J:65:ARG:CD	42:J:5358:HOH:O	2.66	0.43
18:N:98:LEU:HD12	18:N:98:LEU:HA	1.85	0.43
24:T:6:CYS:SG	24:T:31:PHE:HA	2.58	0.43
1:O:524:A:H5'	21:Q:29:LYS:HE2	2.00	0.43
1:O:629:A:H2'	1:O:630:A:O4'	2.19	0.43
1:O:695:C:H2'	1:O:696:C:C6	2.53	0.43
1:O:702:G:O2'	1:O:703:G:H5'	2.19	0.43
1:O:790:A:H1'	1:O:1710:A:H2'	1.99	0.43
1:O:1470:A:OP1	16:L:93:ARG:HD2	2.18	0.43
42:O:8727:HOH:O	5:A:11:ARG:HD3	2.18	0.43
8:D:19:GLU:O	8:D:133:ASN:HB3	2.19	0.43
8:D:128:LEU:HB2	42:D:6007:HOH:O	2.18	0.43
12:H:127:GLY:O	12:H:128:ALA:CB	2.65	0.43
17:M:175:LEU:HD12	17:M:175:LEU:HA	1.85	0.43
23:S:38:ARG:NH1	23:S:38:ARG:HG3	2.33	0.43
24:T:17:THR:CG2	24:T:18:GLY:N	2.82	0.43
28:X:197:ASP:C	28:X:197:ASP:OD1	2.56	0.43
1:O:64:G:H2'	1:O:65:C:O4'	2.19	0.43
1:O:288:A:H2'	1:O:289:G:C8	2.54	0.43
1:O:2010:A:C2'	42:O:5433:HOH:O	2.67	0.43
1:O:2092:G:H2'	1:O:2613:G:OP1	2.19	0.43
1:O:2349:G:OP1	8:D:20:LYS:NZ	2.51	0.43
1:O:2445:U:H2'	1:O:2446:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2542:C:H4'	4:4:75:C:O2'	2.19	0.43
1:0:2815:G:OP2	13:I:99:GLU:HG2	2.19	0.43
5:A:30:ARG:HE	5:A:30:ARG:HB3	1.60	0.43
8:D:10:PHE:CD1	8:D:11:HIS:N	2.86	0.43
8:D:35:ALA:C	8:D:37:ALA:N	2.72	0.43
9:E:77:THR:OG1	9:E:78:GLU:N	2.50	0.43
9:E:162:PHE:CD1	9:E:162:PHE:N	2.86	0.43
12:H:46:VAL:O	12:H:146:TRP:CH2	2.68	0.43
14:J:6:ALA:HB3	14:J:116:GLU:HG2	2.00	0.43
15:K:10:SER:O	15:K:11:ARG:HB3	2.19	0.43
16:L:95:LYS:HG2	16:L:99:ARG:HB3	2.00	0.43
16:L:125:ARG:HD3	42:L:8597:HOH:O	2.18	0.43
16:L:155:HIS:CE1	16:L:158:ARG:HH21	2.36	0.43
17:M:73:ALA:HB1	17:M:74:PRO:HD2	1.99	0.43
19:O:13:VAL:HG13	19:O:14:LEU:N	2.33	0.43
23:S:106:GLU:HG3	42:S:4913:HOH:O	2.17	0.43
26:V:5:VAL:O	26:V:52:VAL:HG22	2.18	0.43
28:X:117:LEU:HD12	28:X:174:VAL:CG1	2.49	0.43
32:2:55:VAL:HB	32:2:56:PRO:HD2	2.01	0.43
1:0:244:C:H6	1:0:244:C:O5'	2.00	0.43
1:0:283:U:H5''	1:0:284:C:OP2	2.19	0.43
1:0:401:C:C5'	42:0:5268:HOH:O	2.65	0.43
1:0:440:C:H2'	1:0:441:A:C8	2.53	0.43
1:0:1052:G:H2'	1:0:1052:G:N3	2.33	0.43
1:0:1311:G:C2	1:0:1312:G:C8	3.07	0.43
1:0:1677:U:OP2	31:1:8:LYS:NZ	2.48	0.43
1:0:1761:U:H5'	19:O:81:LYS:O	2.18	0.43
1:0:2271:G:N3	1:0:2271:G:H2'	2.33	0.43
1:0:2432:C:H2'	1:0:2433:A:H8	1.84	0.43
1:0:2569:A:H2'	1:0:2570:G:O5'	2.18	0.43
7:C:142:ASP:OD2	7:C:238:SER:OG	2.33	0.43
9:E:108:LEU:HD11	9:E:164:ASP:HB2	2.01	0.43
15:K:26:HIS:HB2	42:K:8512:HOH:O	2.18	0.43
16:L:125:ARG:NH1	42:L:8597:HOH:O	2.51	0.43
16:L:167:GLY:O	16:L:171:ARG:HG3	2.19	0.43
17:M:5:ARG:HG3	20:P:18:PRO:HB3	1.99	0.43
17:M:161:GLY:O	17:M:162:ASP:C	2.56	0.43
21:Q:83:LYS:HB3	42:Q:8517:HOH:O	2.18	0.43
25:U:27:LEU:CA	25:U:49:LEU:HD13	2.49	0.43
29:Y:38:LYS:HE2	29:Y:45:LYS:CE	2.45	0.43
32:2:39:GLN:HA	32:2:42:ARG:NH2	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:338:C:H4'	7:C:174:ILE:HD11	2.00	0.43
1:0:466:A:H2'	1:0:467:G:O4'	2.17	0.43
1:0:870:G:C3'	1:0:871:G:H5''	2.49	0.43
1:0:1095:U:O2	26:V:120:PRO:HG2	2.18	0.43
1:0:1559:A:C1'	42:0:5338:HOH:O	2.63	0.43
5:A:199:HIS:CD2	5:A:201:PHE:HB2	2.54	0.43
6:B:53:LEU:HD11	6:B:327:VAL:HG22	2.01	0.43
7:C:246:ARG:HB3	7:C:246:ARG:HH11	1.81	0.43
8:D:84:LEU:HA	8:D:87:ALA:HB3	2.01	0.43
9:E:81:GLU:HG2	9:E:134:SER:CB	2.48	0.43
10:F:38:LYS:NZ	16:L:3:SER:HA	2.33	0.43
12:H:36:ASN:ND2	42:H:8382:HOH:O	2.50	0.43
16:L:87:MET:HB2	16:L:91:ILE:HD11	2.00	0.43
16:L:114:VAL:HG21	16:L:159:THR:HG21	2.00	0.43
17:M:127:LEU:HD12	17:M:127:LEU:HA	1.84	0.43
22:R:29:ASP:OD1	22:R:31:ARG:HG3	2.18	0.43
28:X:126:PRO:HG2	28:X:128:PHE:CZ	2.54	0.43
28:X:189:ASN:HA	28:X:217:ILE:HD11	2.00	0.43
32:2:11:CYS:HA	32:2:12:PRO:HD2	1.83	0.43
1:0:1200:A:H4'	42:0:6810:HOH:O	2.19	0.43
1:0:1419:U:H2'	1:0:1685:A:C2	2.54	0.43
1:0:2078:U:O2'	1:0:2079:G:H5'	2.18	0.43
6:B:162:MET:HE3	6:B:308:LEU:CD2	2.36	0.43
7:C:79:ARG:O	7:C:87:ARG:HG2	2.19	0.43
15:K:104:ASP:HB2	42:K:8581:HOH:O	2.19	0.43
16:L:87:MET:H	16:L:87:MET:HG3	1.34	0.43
18:N:63:LYS:HG3	18:N:80:ASP:O	2.19	0.43
25:U:57:LYS:HA	25:U:60:GLN:HE21	1.83	0.43
26:V:60:GLU:O	26:V:63:GLU:HB2	2.19	0.43
28:X:144:ARG:NH2	42:X:8612:HOH:O	2.52	0.43
1:0:291:C:H2'	1:0:292:G:O4'	2.19	0.43
1:0:513:A:N3	42:0:3152:HOH:O	2.37	0.43
1:0:583:G:H2'	1:0:584:U:H6	1.83	0.43
1:0:639:A:H2'	1:0:640:G:C8	2.53	0.43
1:0:677:C:H4'	7:C:246:ARG:NH2	2.34	0.43
1:0:1345:A:H2'	1:0:1346:U:C6	2.54	0.43
1:0:1940:C:H5''	5:A:234:GLY:HA3	2.01	0.43
1:0:2795:C:O2'	1:0:2796:U:H5'	2.18	0.43
1:0:2869:G:H5'	42:0:4971:HOH:O	2.17	0.43
2:9:3091:C:H2'	2:9:3092:G:O4'	2.18	0.43
5:A:153:ARG:HB2	5:A:153:ARG:NH1	2.28	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:109:LEU:HD12	7:C:109:LEU:O	2.18	0.43
8:D:49:PRO:HA	8:D:73:VAL:HG22	2.00	0.43
10:F:47:LEU:HD22	10:F:108:LEU:CD1	2.49	0.43
12:H:151:MET:HA	12:H:151:MET:HE3	2.00	0.43
16:L:82:ARG:NH2	42:L:8624:HOH:O	2.51	0.43
17:M:37:ARG:HD3	36:M:8507:CL:CL	2.56	0.43
17:M:67:ALA:C	17:M:69:TYR:H	2.22	0.43
23:S:24:ARG:HH21	23:S:39:ASN:ND2	2.17	0.43
29:Y:56:MET:HA	29:Y:62:TYR:O	2.19	0.43
1:0:303:C:H2'	1:0:304:G:O4'	2.19	0.43
1:0:1250:C:O2'	1:0:1251:C:H5'	2.19	0.43
1:0:1380:U:H5'	42:0:8728:HOH:O	2.18	0.43
1:0:1743:G:H1'	42:0:4362:HOH:O	2.18	0.43
1:0:2457:U:H1'	32:2:79:LEU:HD13	2.01	0.43
1:0:2547:C:H2'	1:0:2548:C:H6	1.83	0.43
1:0:2769:C:H2'	1:0:2770:G:C5'	2.49	0.43
2:9:3056:A:C3'	2:9:3057:A:H5''	2.49	0.43
6:B:162:MET:HE2	6:B:310:ARG:HD3	1.99	0.43
6:B:248:ARG:O	6:B:251:VAL:HG13	2.19	0.43
7:C:22:PHE:HA	7:C:116:ALA:HA	2.00	0.43
7:C:234:VAL:O	7:C:234:VAL:HG22	2.18	0.43
9:E:20:ILE:HD12	9:E:33:LEU:CD1	2.49	0.43
12:H:163:PRO:O	12:H:164:ALA:HB2	2.19	0.43
16:L:154:ARG:HD3	42:L:8648:HOH:O	2.17	0.43
21:Q:17:MET:HE3	21:Q:19:ARG:CZ	2.49	0.43
23:S:75:GLU:HB3	42:S:4772:HOH:O	2.18	0.43
23:S:96:VAL:HG13	23:S:97:ARG:N	2.34	0.43
25:U:45:ARG:C	25:U:47:LYS:N	2.72	0.43
28:X:144:ARG:NH1	42:X:8577:HOH:O	2.49	0.43
1:0:195:C:H2'	1:0:196:G:H5'	2.01	0.42
1:0:415:A:O2'	1:0:416:G:H5'	2.19	0.42
1:0:646:G:H2'	1:0:647:U:C6	2.54	0.42
1:0:666:A:H2'	1:0:667:C:O4'	2.19	0.42
1:0:1682:A:H5''	42:0:8957:HOH:O	2.19	0.42
1:0:1734:C:OP1	6:B:234:ARG:HD3	2.19	0.42
1:0:2089:A:C2'	1:0:2090:G:H5'	2.49	0.42
1:0:2346:C:O5'	1:0:2346:C:C6	2.72	0.42
1:0:2634:G:OP2	5:A:204:GLY:N	2.35	0.42
42:0:9457:HOH:O	32:2:84:ARG:HB2	2.19	0.42
7:C:127:ARG:HD2	7:C:229:PRO:O	2.19	0.42
16:L:123:ASP:OD1	16:L:124:GLY:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:N:7:LEU:HD22	42:N:5650:HOH:O	2.19	0.42
18:N:80:ASP:OD1	18:N:81:PHE:N	2.52	0.42
26:V:54:PHE:CZ	26:V:140:LYS:HB2	2.53	0.42
1:0:51:G:O2'	1:0:52:A:H5'	2.20	0.42
1:0:420:U:H2'	1:0:421:C:C6	2.54	0.42
1:0:958:G:H2'	1:0:959:C:C6	2.53	0.42
1:0:1388:U:H2'	1:0:1389:G:O4'	2.19	0.42
1:0:1788:U:C2	1:0:1805:G:N2	2.87	0.42
1:0:1878:G:H5''	42:0:9293:HOH:O	2.19	0.42
1:0:2084:C:H2'	1:0:2085:A:C8	2.54	0.42
1:0:2409:C:H4'	32:2:17:HIS:CB	2.48	0.42
1:0:2429:A:H2'	1:0:2430:A:C8	2.54	0.42
42:0:6926:HOH:O	7:C:188:ARG:HD2	2.19	0.42
6:B:4:SER:O	6:B:5:ARG:HB2	2.19	0.42
6:B:71:VAL:CG1	6:B:296:LEU:HB3	2.47	0.42
7:C:233:THR:HG22	7:C:234:VAL:H	1.84	0.42
10:F:28:ALA:HB3	10:F:99:THR:HG23	2.00	0.42
16:L:184:ARG:HG3	16:L:185:PRO:HA	2.01	0.42
24:T:35:LYS:NZ	42:T:6621:HOH:O	2.44	0.42
1:0:1224:G:H2'	1:0:1225:C:C6	2.54	0.42
1:0:1462:C:H2'	1:0:1463:A:C8	2.54	0.42
1:0:2712:G:H5'	42:0:4697:HOH:O	2.19	0.42
1:0:2894:C:O2'	1:0:2895:C:H5'	2.19	0.42
42:9:7568:HOH:O	17:M:107:ASN:HB3	2.19	0.42
42:3:6229:HOH:O	38:4:77:PHA:HA	2.20	0.42
6:B:162:MET:HG3	6:B:310:ARG:HD3	2.01	0.42
7:C:140:VAL:HG12	7:C:141:SER:N	2.34	0.42
9:E:15:GLN:HG2	9:E:19:ASP:O	2.19	0.42
12:H:39:GLY:O	12:H:41:THR:N	2.52	0.42
12:H:47:GLU:CB	12:H:133:ILE:CD1	2.91	0.42
12:H:48:LEU:HD13	12:H:146:TRP:HB3	2.00	0.42
16:L:49:ALA:C	16:L:54:TYR:HB3	2.39	0.42
16:L:65:VAL:CG2	16:L:105:ALA:HB2	2.47	0.42
23:S:23:VAL:C	23:S:93:THR:HG21	2.40	0.42
28:X:178:HIS:CG	28:X:179:PRO:HD2	2.54	0.42
1:0:684:G:H2'	1:0:685:C:C6	2.54	0.42
1:0:736:A:H2'	1:0:737:A:O4'	2.19	0.42
1:0:1463:A:H2'	1:0:1464:U:C6	2.55	0.42
1:0:2320:U:OP2	32:2:2:GLN:N	2.53	0.42
1:0:2649:A:H5'	1:0:2649:A:H8	1.84	0.42
42:0:4097:HOH:O	5:A:6:GLY:HA3	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:179:MET:HA	5:A:179:MET:CE	2.50	0.42
7:C:76:ARG:HG2	7:C:78:ARG:NH1	2.34	0.42
7:C:115:LEU:HD12	7:C:115:LEU:HA	1.88	0.42
8:D:159:PRO:O	8:D:162:ALA:HB3	2.19	0.42
13:I:107:ASN:HD22	13:I:108:PRO:N	2.17	0.42
14:J:74:VAL:HG12	14:J:75:ARG:HG3	2.00	0.42
15:K:105:TYR:C	15:K:105:TYR:CD1	2.93	0.42
18:N:25:VAL:O	18:N:29:VAL:HG23	2.19	0.42
1:O:396:U:HO2'	1:O:397:A:P	2.43	0.42
1:O:947:U:O2'	1:O:948:G:H5'	2.20	0.42
1:O:1316:G:H1'	1:O:1340:G:N2	2.34	0.42
1:O:1562:C:O2	1:O:1562:C:H2'	2.19	0.42
1:O:2503:A:OP1	12:H:147:ARG:NH2	2.41	0.42
5:A:75:GLY:HA2	29:Y:63:LYS:O	2.20	0.42
7:C:184:ARG:HB3	42:C:8369:HOH:O	2.19	0.42
7:C:219:ASN:N	7:C:222:ASP:OD1	2.53	0.42
9:E:81:GLU:HA	9:E:133:VAL:O	2.19	0.42
10:F:60:VAL:HG13	10:F:63:ILE:HG13	2.02	0.42
16:L:123:ASP:OD1	16:L:123:ASP:C	2.58	0.42
16:L:134:ILE:O	16:L:136:PRO:HD3	2.19	0.42
21:Q:84:ALA:O	21:Q:88:PHE:HD1	2.03	0.42
23:S:41:ARG:HG2	23:S:41:ARG:HH11	1.85	0.42
23:S:79:LEU:HG	23:S:89:ARG:HB2	2.02	0.42
25:U:1:THR:HG23	25:U:2:VAL:N	2.29	0.42
1:O:168:C:O5'	1:O:168:C:H6	2.02	0.42
1:O:1352:A:N1	7:C:48:SER:HB3	2.35	0.42
42:O:8898:HOH:O	16:L:94:LYS:HE2	2.20	0.42
2:9:3004:G:O2'	17:M:44:ARG:NH2	2.52	0.42
5:A:57:ALA:HA	5:A:67:LEU:HD23	2.01	0.42
6:B:203:ALA:HA	6:B:262:ARG:O	2.19	0.42
6:B:215:VAL:HA	6:B:220:VAL:HG22	2.01	0.42
12:H:31:PHE:HA	12:H:85:ILE:CG2	2.50	0.42
12:H:46:VAL:HG12	12:H:146:TRP:CZ3	2.46	0.42
12:H:48:LEU:CG	12:H:157:ILE:HG21	2.48	0.42
30:Z:21:ARG:HD2	30:Z:39:PHE:HB2	2.02	0.42
32:2:3:MET:HG3	32:2:4:PRO:HD2	2.01	0.42
1:O:87:C:H2'	31:1:28:LYS:O	2.19	0.42
1:O:514:G:OP1	1:O:514:G:H2'	2.20	0.42
1:O:583:G:H2'	1:O:584:U:C6	2.54	0.42
1:O:1098:A:H2'	1:O:1099:G:O4'	2.20	0.42
1:O:1882:C:O2'	1:O:2012:U:OP2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2084:C:H2'	1:0:2085:A:H8	1.84	0.42
1:0:2133:U:H4'	1:0:2134:G:H5'	2.02	0.42
1:0:2291:A:N9	1:0:2309:C:H5'	2.34	0.42
1:0:2561:C:OP1	9:E:153:ARG:NH2	2.52	0.42
1:0:2804:C:H2'	1:0:2805:A:O4'	2.20	0.42
42:0:4827:HOH:O	23:S:3:GLN:HG2	2.19	0.42
6:B:76:THR:N	6:B:77:PRO:HD3	2.34	0.42
8:D:41:LEU:CA	8:D:44:ILE:HG22	2.48	0.42
9:E:24:GLY:N	9:E:76:VAL:HB	2.34	0.42
10:F:48:VAL:HG23	10:F:74:PHE:HB3	1.96	0.42
14:J:4:LEU:HD22	14:J:116:GLU:HB3	2.01	0.42
16:L:38:VAL:O	16:L:38:VAL:HG12	2.17	0.42
17:M:43:VAL:HG11	17:M:81:ALA:HA	2.02	0.42
17:M:50:LEU:HD12	17:M:50:LEU:HA	1.85	0.42
17:M:152:GLU:HA	17:M:152:GLU:OE1	2.20	0.42
17:M:167:ASP:O	17:M:168:LEU:HD23	2.20	0.42
18:N:26:TRP:CE3	18:N:26:TRP:HA	2.55	0.42
18:N:47:ARG:NH1	42:N:4564:HOH:O	2.52	0.42
21:Q:39:THR:O	21:Q:40:ALA:C	2.57	0.42
21:Q:111:ILE:HG23	21:Q:145:LEU:CD1	2.49	0.42
1:0:482:G:H4'	1:0:508:A:N1	2.35	0.42
1:0:812:A:H2'	1:0:813:C:C6	2.55	0.42
1:0:1014:A:H5''	2:9:3101:G:O2'	2.20	0.42
1:0:1461:U:H2'	1:0:1462:C:C6	2.55	0.42
1:0:2050:G:OP1	21:Q:79:ARG:HB3	2.19	0.42
1:0:2815:G:H4'	1:0:2816:A:OP2	2.19	0.42
1:0:2906:A:H5'	1:0:2907:C:O4'	2.19	0.42
42:0:3250:HOH:O	23:S:9:LYS:HD2	2.19	0.42
5:A:103:VAL:HA	5:A:104:PRO:HD3	1.86	0.42
6:B:280:VAL:CG1	6:B:281:ASP:N	2.82	0.42
7:C:141:SER:HB3	42:C:8424:HOH:O	2.20	0.42
7:C:142:ASP:OD1	7:C:236:THR:HG23	2.20	0.42
14:J:128:ALA:HB3	14:J:131:ILE:HD11	2.02	0.42
16:L:80:GLY:O	16:L:81:ARG:HD3	2.19	0.42
16:L:164:THR:HB	42:L:8520:HOH:O	2.18	0.42
20:P:93:ARG:HG3	20:P:93:ARG:NH1	2.35	0.42
21:Q:31:ILE:O	21:Q:32:ALA:C	2.57	0.42
28:X:148:GLY:O	28:X:154:ARG:HD3	2.20	0.42
29:Y:13:ARG:NH1	42:Y:8418:HOH:O	2.51	0.42
1:0:694:A:C2'	1:0:695:C:H5'	2.50	0.42
1:0:814:G:N2	1:0:815:U:H1'	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:920:C:H5'	1:0:921:G:N3	2.35	0.42
1:0:945:U:O2'	26:V:43:GLY:HA3	2.20	0.42
1:0:1496:G:H5'	1:0:1572:A:H1'	2.02	0.42
1:0:1702:U:H5''	42:0:6687:HOH:O	2.20	0.42
1:0:2453:G:H2'	1:0:2454:C:C6	2.55	0.42
1:0:2846:C:OP1	6:B:158:LYS:HD3	2.20	0.42
6:B:221:GLN:HE22	14:J:42:ASN:ND2	2.14	0.42
7:C:173:LYS:HB3	7:C:187:ARG:HG3	2.00	0.42
12:H:110:GLY:N	42:H:8397:HOH:O	2.52	0.42
15:K:142:LEU:HG	15:K:146:GLY:HA3	2.02	0.42
1:0:259:G:H21	16:L:58:GLN:NE2	2.17	0.42
1:0:314:G:N2	1:0:316:A:H3'	2.34	0.42
1:0:812:A:H1'	42:0:3447:HOH:O	2.20	0.42
1:0:1003:U:O2	12:H:90:PHE:CZ	2.73	0.42
1:0:1603:A:H5''	1:0:1605:G:H5'	2.01	0.42
1:0:1828:G:H2'	1:0:1829:A:H5'	2.00	0.42
1:0:2440:C:H5''	42:0:3309:HOH:O	2.19	0.42
1:0:2533:C:O2'	1:0:2534:C:H5'	2.20	0.42
42:0:9844:HOH:O	20:P:16:ASN:HB2	2.19	0.42
6:B:16:ARG:NH2	42:B:8551:HOH:O	2.40	0.42
6:B:43:GLY:O	6:B:308:LEU:HD12	2.19	0.42
6:B:162:MET:HG3	6:B:310:ARG:NH1	2.35	0.42
6:B:320:GLN:HG3	6:B:321:PRO:CD	2.49	0.42
9:E:11:VAL:HG11	9:E:22:VAL:HG13	2.01	0.42
12:H:6:TYR:HE2	12:H:94:ARG:O	2.03	0.42
12:H:71:TYR:O	12:H:73:GLN:N	2.53	0.42
12:H:83:PHE:HE1	12:H:146:TRP:CZ2	2.38	0.42
14:J:118:ALA:HA	14:J:125:ALA:HB2	2.02	0.42
17:M:38:LYS:HE3	17:M:38:LYS:HB2	1.82	0.42
20:P:93:ARG:HG3	20:P:93:ARG:HH11	1.85	0.42
28:X:189:ASN:HD22	28:X:192:ASP:H	1.68	0.42
29:Y:38:LYS:HA	29:Y:45:LYS:HA	2.02	0.42
32:2:34:LYS:HB2	32:2:37:ASP:OD2	2.20	0.42
1:0:324:G:O2'	1:0:325:U:H5'	2.20	0.41
1:0:772:G:H2'	1:0:773:A:O4'	2.20	0.41
1:0:1333:U:H2'	1:0:1334:C:H6	1.85	0.41
1:0:1730:G:H4'	1:0:1731:C:O5'	2.20	0.41
1:0:2271:G:P	42:0:8936:HOH:O	2.77	0.41
1:0:2761:A:C4	1:0:2763:G:C8	3.08	0.41
1:0:2780:C:H2'	1:0:2781:U:C6	2.55	0.41
1:0:2820:A:H2'	1:0:2821:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:9:3092:G:H22	12:H:52:LYS:NZ	2.18	0.41
6:B:171:VAL:HG23	6:B:172:SER:N	2.34	0.41
7:C:162:VAL:O	7:C:162:VAL:CG1	2.68	0.41
7:C:200:PRO:HB3	7:C:212:VAL:CG2	2.50	0.41
9:E:126:ILE:HB	9:E:131:LEU:HD21	2.02	0.41
10:F:22:VAL:CG2	10:F:104:ALA:HB2	2.50	0.41
12:H:113:ALA:N	12:H:114:PRO:CD	2.83	0.41
14:J:9:THR:O	14:J:10:GLN:C	2.59	0.41
15:K:89:PHE:N	42:K:8576:HOH:O	2.53	0.41
16:L:78:ASN:O	16:L:79:LYS:HG2	2.20	0.41
1:0:240:C:C5'	16:L:146:GLN:NE2	2.83	0.41
1:0:354:A:H2'	1:0:355:C:C6	2.55	0.41
1:0:488:U:O2'	23:S:82:THR:HG21	2.20	0.41
1:0:522:U:O2'	1:0:1366:C:H5'	2.19	0.41
1:0:675:U:H2'	1:0:676:C:H5'	2.01	0.41
1:0:926:A:O2'	15:K:41:HIS:CD2	2.73	0.41
1:0:2004:U:H1'	42:0:9687:HOH:O	2.20	0.41
5:A:36:ASP:O	5:A:37:VAL:C	2.58	0.41
10:F:21:GLU:O	10:F:24:ARG:CG	2.67	0.41
15:K:73:VAL:HG11	15:K:118:LEU:HD21	2.02	0.41
16:L:77:PHE:HD1	16:L:79:LYS:O	2.03	0.41
18:N:53:GLN:HG2	18:N:56:GLU:OE1	2.20	0.41
23:S:80:GLU:OE2	23:S:84:GLY:HA2	2.20	0.41
27:W:27:ASP:OD2	27:W:27:ASP:N	2.52	0.41
32:2:84:ARG:HB3	42:2:8557:HOH:O	2.20	0.41
1:0:134:U:C2	1:0:145:A:C2	3.09	0.41
1:0:290:C:O2'	1:0:291:C:H5'	2.19	0.41
1:0:710:G:P	18:N:24:ALA:HB3	2.61	0.41
1:0:1137:G:H1'	42:0:3367:HOH:O	2.19	0.41
1:0:1616:A:H5''	1:0:1617:C:OP1	2.20	0.41
1:0:2004:U:H2'	1:0:2005:G:OP1	2.20	0.41
1:0:2488:A:H2	42:0:6747:HOH:O	2.03	0.41
2:9:3064:C:C2'	2:9:3065:A:H5'	2.50	0.41
6:B:248:ARG:O	6:B:251:VAL:HG12	2.20	0.41
7:C:37:ALA:HB2	42:C:8387:HOH:O	2.20	0.41
7:C:187:ARG:NH2	42:C:8370:HOH:O	2.42	0.41
8:D:81:GLU:O	8:D:85:GLN:HG3	2.20	0.41
20:P:16:ASN:HD22	20:P:16:ASN:HA	1.64	0.41
23:S:55:PHE:HB2	42:S:6384:HOH:O	2.19	0.41
26:V:125:HIS:CD2	26:V:127:GLY:H	2.38	0.41
28:X:122:ARG:NH2	42:X:8536:HOH:O	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:81:G:N3	1:0:98:A:C2	2.88	0.41
1:0:192:A:C4'	16:L:176:GLN:HE22	2.34	0.41
1:0:229:G:O2'	1:0:230:C:H5'	2.20	0.41
1:0:461:C:N3	1:0:479:G:H5'	2.36	0.41
1:0:945:U:H2'	1:0:946:C:C6	2.56	0.41
1:0:1545:C:H2'	1:0:1546:G:O4'	2.20	0.41
1:0:1609:C:H2'	1:0:1610:G:C8	2.56	0.41
1:0:2237:G:H1'	42:0:4324:HOH:O	2.19	0.41
1:0:2435:U:P	32:2:28:GLY:HA3	2.60	0.41
2:9:3026:C:P	42:9:3472:HOH:O	2.77	0.41
5:A:170:VAL:HG22	29:Y:22:ILE:HG23	2.01	0.41
7:C:7:ASP:C	7:C:9:ASP:H	2.24	0.41
8:D:53:LYS:HA	8:D:67:ASP:O	2.21	0.41
14:J:10:GLN:NE2	14:J:10:GLN:N	2.43	0.41
15:K:75:LEU:N	15:K:75:LEU:HD23	2.35	0.41
16:L:99:ARG:HD2	16:L:167:GLY:HA2	2.02	0.41
16:L:137:ASP:HA	16:L:142:LYS:HE3	2.03	0.41
17:M:69:TYR:HE2	17:M:183:ASP:OD2	2.03	0.41
26:V:149:LEU:HG	26:V:153:MET:HE2	2.03	0.41
1:0:213:G:O2'	1:0:214:U:OP2	2.39	0.41
1:0:305:A:C5	1:0:329:A:C2	3.09	0.41
1:0:401:C:H5'	42:0:5268:HOH:O	2.20	0.41
1:0:459:A:H4'	42:0:8954:HOH:O	2.19	0.41
1:0:1192:A:O2'	1:0:1193:A:OP1	2.29	0.41
1:0:1287:A:O4'	26:V:117:ARG:HD3	2.20	0.41
1:0:1524:U:O2'	1:0:1525:G:P	2.78	0.41
1:0:1634:G:H2'	1:0:1635:U:H6	1.85	0.41
1:0:2324:G:H4'	1:0:2418:G:O2'	2.20	0.41
1:0:2729:C:O2'	1:0:2730:G:H5'	2.21	0.41
1:0:2911:C:H2'	1:0:2912:C:H6	1.84	0.41
42:0:5719:HOH:O	5:A:22:ARG:HG2	2.19	0.41
2:9:3107:C:H5	42:9:3167:HOH:O	2.03	0.41
5:A:69:LEU:C	5:A:69:LEU:HD12	2.40	0.41
5:A:123:GLY:HA2	5:A:159:VAL:O	2.21	0.41
5:A:125:ASN:CB	5:A:158:VAL:HG12	2.50	0.41
8:D:35:ALA:HB2	42:D:5858:HOH:O	2.21	0.41
8:D:76:ARG:O	8:D:77:ASP:HB2	2.21	0.41
8:D:104:PHE:CE2	8:D:132:VAL:HB	2.55	0.41
17:M:42:HIS:CG	17:M:62:HIS:HE1	2.37	0.41
18:N:73:ASP:HA	18:N:92:VAL:O	2.20	0.41
22:R:29:ASP:OD2	22:R:31:ARG:NH1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:T:47:ARG:HG3	42:T:4381:HOH:O	2.19	0.41
26:V:121:PRO:HA	26:V:153:MET:HG2	2.02	0.41
29:Y:33:HIS:HE1	29:Y:49:ARG:NE	2.19	0.41
1:0:151:A:H2'	1:0:152:A:O4'	2.21	0.41
1:0:245:C:H2'	1:0:246:G:H5'	2.02	0.41
1:0:508:A:H2'	1:0:509:A:H5''	2.01	0.41
1:0:765:G:O3'	7:C:69:HIS:HB3	2.20	0.41
1:0:1657:A:H2'	1:0:1658:A:C8	2.55	0.41
1:0:2112:A:H2'	1:0:2113:G:C8	2.56	0.41
1:0:2642:G:H2'	1:0:2643:G:O4'	2.19	0.41
1:0:2721:U:H4'	14:J:87:ARG:HG3	2.03	0.41
1:0:2812:A:N7	42:0:6984:HOH:O	2.37	0.41
2:9:3045:A:H2'	2:9:3046:C:H6	1.86	0.41
5:A:232:ARG:NH2	5:A:236:GLY:O	2.48	0.41
10:F:33:THR:HG21	10:F:59:ILE:O	2.21	0.41
12:H:68:ALA:HB2	12:H:149:ALA:HB2	2.03	0.41
12:H:149:ALA:C	12:H:151:MET:H	2.23	0.41
13:I:131:THR:HG22	13:I:134:GLU:N	2.21	0.41
16:L:42:ARG:HA	16:L:43:PRO:HD3	1.86	0.41
17:M:82:TYR:CD2	17:M:82:TYR:C	2.94	0.41
19:O:134:VAL:O	19:O:137:LEU:HB3	2.20	0.41
26:V:21:LEU:HD22	26:V:26:ILE:HD13	2.01	0.41
26:V:122:ARG:CG	26:V:122:ARG:NH1	2.80	0.41
1:0:319:A:H4'	1:0:338:C:C5	2.55	0.41
1:0:483:C:C4	1:0:484:A:C6	3.09	0.41
1:0:571:C:O5'	1:0:571:C:H6	2.03	0.41
1:0:711:G:N2	1:0:718:C:C2	2.88	0.41
1:0:823:U:H2'	1:0:824:G:O4'	2.20	0.41
1:0:1159:G:P	42:0:3774:HOH:O	2.78	0.41
1:0:1485:A:H4'	42:0:9780:HOH:O	2.20	0.41
1:0:1568:G:O2'	1:0:1569:U:H5'	2.20	0.41
1:0:1603:A:H5'	1:0:1605:G:C4'	2.50	0.41
2:9:3003:A:H2	2:9:3021:G:N3	2.18	0.41
8:D:93:LEU:HB3	8:D:97:GLN:OE1	2.20	0.41
12:H:143:GLU:N	42:H:8381:HOH:O	2.53	0.41
12:H:157:ILE:CG2	12:H:158:ASN:H	2.34	0.41
15:K:72:ASN:HB2	42:K:8586:HOH:O	2.20	0.41
16:L:169:ARG:NH1	42:L:8574:HOH:O	2.54	0.41
17:M:67:ALA:HA	17:M:71:TRP:CB	2.51	0.41
17:M:71:TRP:CE3	17:M:175:LEU:CD2	3.03	0.41
18:N:45:LEU:HD12	18:N:88:LYS:HD2	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:P:26:PRO:O	20:P:30:VAL:HG23	2.21	0.41
21:Q:59:PHE:HZ	21:Q:81:PRO:HG3	1.84	0.41
26:V:21:LEU:HB3	26:V:26:ILE:CG1	2.51	0.41
27:W:14:LEU:HD12	27:W:67:PRO:O	2.20	0.41
1:0:1055:G:OP2	12:H:94:ARG:NH1	2.54	0.41
1:0:1119:G:N2	1:0:1246:A:H2	2.14	0.41
1:0:1224:G:H2'	1:0:1225:C:H6	1.84	0.41
1:0:1483:C:O2'	1:0:1484:G:H5'	2.21	0.41
1:0:1498:G:O2'	1:0:1499:U:H5'	2.20	0.41
1:0:1969:A:N7	1:0:1970:G:C6	2.89	0.41
1:0:2011:A:P	42:0:5433:HOH:O	2.78	0.41
1:0:2045:G:H2'	1:0:2046:G:O4'	2.21	0.41
1:0:2729:C:H2'	1:0:2730:G:H8	1.86	0.41
1:0:2842:G:H2'	1:0:2843:A:C5'	2.51	0.41
42:0:3336:HOH:O	12:H:11:LYS:HE2	2.20	0.41
7:C:1:MET:HG2	7:C:2:GLN:NE2	2.36	0.41
8:D:52:THR:HB	8:D:70:GLY:O	2.21	0.41
9:E:21:THR:HG23	9:E:30:THR:OG1	2.21	0.41
15:K:89:PHE:N	15:K:89:PHE:CD1	2.88	0.41
17:M:79:PRO:O	17:M:83:LEU:HG	2.21	0.41
17:M:154:LEU:HD11	17:M:157:PRO:HA	2.03	0.41
17:M:162:ASP:HB3	17:M:163:PHE:H	1.63	0.41
18:N:26:TRP:HA	18:N:26:TRP:HE3	1.85	0.41
22:R:8:PRO:HD2	25:U:32:ALA:HA	2.03	0.41
22:R:11:THR:H	22:R:14:ALA:HB3	1.84	0.41
22:R:80:ARG:HG2	42:R:8336:HOH:O	2.20	0.41
1:0:240:C:O2	1:0:240:C:H2'	2.21	0.41
1:0:241:A:C2	1:0:378:A:H4'	2.56	0.41
1:0:396:U:C3'	42:0:3823:HOH:O	2.68	0.41
1:0:488:U:H2'	42:0:3493:HOH:O	2.21	0.41
1:0:963:C:O5'	1:0:963:C:H6	2.04	0.41
1:0:1025:C:H5'	26:V:23:MET:O	2.21	0.41
1:0:1086:A:N6	26:V:11:VAL:HG11	2.36	0.41
1:0:1312:G:OP1	28:X:213:LYS:NZ	2.48	0.41
1:0:1613:C:H2'	1:0:1614:G:O4'	2.20	0.41
1:0:1730:G:C5'	1:0:1731:C:H6	2.33	0.41
1:0:1829:A:H2'	1:0:1830:C:H5'	2.03	0.41
1:0:1972:U:C2'	1:0:1973:A:H5'	2.49	0.41
1:0:2039:A:OP2	6:B:234:ARG:NH2	2.54	0.41
1:0:2265:U:H2'	1:0:2266:A:C8	2.56	0.41
1:0:2415:A:C2	17:M:25:ARG:HB3	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2842:G:C2'	1:0:2843:A:H5'	2.50	0.41
2:9:3052:A:H2'	2:9:3053:G:O4'	2.21	0.41
2:9:3056:A:H1'	8:D:14:ARG:HG2	2.03	0.41
2:9:3088:G:N2	2:9:3089:C:C2	2.89	0.41
6:B:69:VAL:HA	6:B:70:PRO:HD3	1.88	0.41
6:B:305:ASP:O	6:B:306:LYS:CB	2.68	0.41
8:D:27:ILE:HD11	8:D:37:ALA:CB	2.51	0.41
8:D:173:GLU:O	8:D:174:VAL:C	2.58	0.41
9:E:7:ILE:HA	9:E:8:PRO:HD3	1.94	0.41
12:H:136:VAL:HG22	12:H:137:ASN:N	2.36	0.41
13:I:116:LEU:HB2	13:I:119:THR:HG21	2.02	0.41
15:K:1:THR:N	42:K:8583:HOH:O	2.54	0.41
16:L:55:LYS:O	16:L:60:ILE:HD12	2.21	0.41
23:S:23:VAL:HG23	23:S:41:ARG:HG3	2.02	0.41
24:T:50:GLU:CD	42:T:7349:HOH:O	2.58	0.41
25:U:38:GLY:C	25:U:40:PRO:HD2	2.41	0.41
26:V:76:ASP:O	26:V:77:ALA:C	2.59	0.41
26:V:119:HIS:CD2	26:V:120:PRO:O	2.73	0.41
29:Y:41:VAL:HG12	29:Y:42:CYS:N	2.35	0.41
29:Y:46:LYS:HE2	42:Y:8434:HOH:O	2.20	0.41
29:Y:77:LYS:HA	29:Y:80:MET:CE	2.51	0.41
1:0:295:C:H2'	1:0:296:G:O4'	2.21	0.41
1:0:424:C:H2'	1:0:425:U:H6	1.85	0.41
1:0:794:U:H3	1:0:819:A:H61	1.68	0.41
1:0:1079:A:N1	1:0:2068:G:O2'	2.48	0.41
1:0:2362:A:H2'	1:0:2363:G:C8	2.56	0.41
1:0:2831:C:H2'	1:0:2832:C:C5'	2.51	0.41
5:A:94:LEU:N	5:A:94:LEU:CD2	2.84	0.41
8:D:58:VAL:CG1	8:D:59:GLY:N	2.83	0.41
8:D:59:GLY:C	8:D:61:PHE:H	2.19	0.41
9:E:22:VAL:O	9:E:28:SER:HA	2.21	0.41
12:H:83:PHE:HD1	12:H:134:ALA:HB2	1.84	0.41
16:L:63:VAL:HG21	16:L:109:PHE:CZ	2.56	0.41
17:M:34:LEU:HD22	17:M:129:ILE:CD1	2.51	0.41
17:M:154:LEU:CG	17:M:155:GLU:N	2.83	0.41
22:R:25:GLN:HG2	22:R:65:VAL:HG22	2.03	0.41
23:S:40:VAL:HA	23:S:119:ALA:O	2.21	0.41
27:W:76:ARG:NH1	27:W:76:ARG:CG	2.84	0.41
29:Y:13:ARG:NH1	29:Y:14:PHE:CE2	2.88	0.41
1:0:941:G:C5	1:0:942:U:C4	3.09	0.40
1:0:1815:A:H4'	1:0:2751:C:O4'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2610:U:H4'	42:0:8982:HOH:O	2.20	0.40
1:0:2912:C:H2'	1:0:2913:A:O4'	2.21	0.40
42:0:5726:HOH:O	24:T:56:ARG:HD3	2.20	0.40
2:9:3040:C:N4	8:D:51:ARG:HB2	2.36	0.40
2:9:3105:A:H2'	2:9:3106:C:O4'	2.21	0.40
5:A:81:GLN:CB	5:A:92:ASN:ND2	2.83	0.40
7:C:138:VAL:O	7:C:234:VAL:HA	2.21	0.40
7:C:192:ILE:CG2	7:C:234:VAL:HG12	2.51	0.40
8:D:170:TYR:N	8:D:170:TYR:CD1	2.89	0.40
9:E:98:GLU:N	42:E:4191:HOH:O	2.53	0.40
10:F:32:GLY:N	42:F:3111:HOH:O	2.53	0.40
10:F:100:ASP:O	10:F:101:ALA:O	2.39	0.40
17:M:149:GLU:O	17:M:152:GLU:HB2	2.21	0.40
18:N:96:VAL:CG1	18:N:100:GLN:HB2	2.51	0.40
21:Q:18:LEU:HB2	21:Q:143:VAL:HG13	2.03	0.40
21:Q:47:LEU:HB2	21:Q:89:LEU:HD21	2.02	0.40
25:U:23:LEU:HD22	25:U:49:LEU:HD23	2.03	0.40
26:V:6:GLN:HA	26:V:52:VAL:HG23	2.02	0.40
1:0:67:A:H5''	1:0:69:A:C8	2.57	0.40
1:0:90:A:H2'	1:0:91:G:O4'	2.21	0.40
1:0:566:A:H2'	1:0:567:U:O4'	2.21	0.40
1:0:612:U:H2'	1:0:613:C:C6	2.57	0.40
1:0:626:U:C4	1:0:627:G:C6	3.08	0.40
1:0:1003:U:H4'	12:H:86:ARG:O	2.21	0.40
1:0:1268:C:H2'	1:0:1269:G:C8	2.56	0.40
1:0:1477:C:H5'	1:0:1868:G:H5'	2.03	0.40
1:0:2474:A:N7	1:0:2621:U:H4'	2.37	0.40
12:H:129:ASN:N	12:H:129:ASN:HD22	2.18	0.40
16:L:168:ARG:NH1	42:L:8604:HOH:O	2.54	0.40
23:S:14:ALA:HA	23:S:15:PRO:HD3	1.94	0.40
29:Y:22:ILE:HG22	29:Y:23:ARG:N	2.36	0.40
1:0:544:G:H2'	1:0:545:G:C5'	2.46	0.40
1:0:745:G:O6	18:N:68:GLY:HA3	2.22	0.40
1:0:954:U:O2'	1:0:955:A:H5'	2.21	0.40
1:0:1164:U:N3	1:0:1192:A:H2	2.09	0.40
1:0:1307:A:H2'	1:0:1308:A:C8	2.56	0.40
1:0:1515:A:H2'	1:0:1516:C:C6	2.56	0.40
1:0:1711:A:O2'	1:0:1712:A:H5'	2.20	0.40
1:0:1762:C:O2'	1:0:1763:C:H5'	2.21	0.40
1:0:1815:A:H2'	1:0:1816:C:O4'	2.22	0.40
1:0:1992:U:H2'	1:0:1994:A:OP2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:2266:A:H2'	1:0:2267:G:H8	1.85	0.40
5:A:130:THR:HG22	5:A:131:HIS:O	2.21	0.40
6:B:258:GLY:HA2	42:B:8555:HOH:O	2.20	0.40
7:C:84:VAL:O	7:C:85:LYS:HB2	2.21	0.40
12:H:26:LYS:CG	12:H:28:ILE:H	2.23	0.40
15:K:61:ALA:HA	42:K:8570:HOH:O	2.21	0.40
15:K:121:ILE:HG12	15:K:141:GLU:HB2	2.02	0.40
17:M:91:ARG:HG3	17:M:186:LEU:CD2	2.49	0.40
17:M:163:PHE:O	17:M:164:ASP:O	2.38	0.40
28:X:99:ALA:HB2	28:X:233:TYR:CE2	2.56	0.40
1:0:39:G:N2	1:0:444:C:C2	2.90	0.40
1:0:40:C:H6	1:0:40:C:O5'	2.05	0.40
1:0:825:U:H5''	1:0:826:U:OP1	2.21	0.40
1:0:1050:G:C6	1:0:1051:C:C4	3.10	0.40
1:0:1624:A:H5'	1:0:1626:A:O4'	2.22	0.40
1:0:1641:A:C2'	1:0:1642:A:H5'	2.49	0.40
1:0:1730:G:C5'	1:0:1731:C:C6	3.04	0.40
1:0:1881:A:OP1	5:A:199:HIS:HE1	2.05	0.40
1:0:2582:G:O3'	14:J:41:LYS:HA	2.21	0.40
1:0:2589:U:H2'	1:0:2590:U:C6	2.57	0.40
1:0:2851:G:C2'	1:0:2852:A:H5'	2.52	0.40
1:0:2897:C:H2'	1:0:2898:G:H8	1.85	0.40
5:A:29:HIS:CE1	5:A:107:ASN:ND2	2.89	0.40
8:D:68:PRO:HG3	42:D:1982:HOH:O	2.21	0.40
16:L:59:GLY:HA3	16:L:141:ILE:CD1	2.50	0.40
20:P:30:VAL:O	20:P:30:VAL:HG12	2.21	0.40
26:V:67:ALA:HB2	26:V:93:ILE:HD13	2.04	0.40
27:W:30:MET:CE	27:W:58:ALA:HB3	2.51	0.40
1:0:105:G:O2'	1:0:106:A:H5'	2.21	0.40
1:0:128:A:C8	1:0:128:A:C3'	3.03	0.40
1:0:187:A:H3'	1:0:188:C:H6	1.86	0.40
1:0:793:A:H5''	19:O:83:LYS:HG2	2.04	0.40
1:0:832:U:H2'	1:0:833:G:C8	2.57	0.40
1:0:1516:C:H2'	1:0:1517:U:C6	2.57	0.40
1:0:1804:A:H2'	1:0:1805:G:C8	2.55	0.40
1:0:2364:A:H5''	20:P:15:LYS:HD3	2.03	0.40
5:A:39:ALA:HB3	5:A:61:GLU:OE2	2.22	0.40
5:A:66:ARG:HH11	5:A:66:ARG:CB	2.35	0.40
5:A:140:LEU:HB3	5:A:141:PRO:HD2	2.04	0.40
6:B:14:GLY:HA2	6:B:15:PRO:C	2.41	0.40
7:C:102:LEU:HD12	42:C:8316:HOH:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:154:VAL:O	7:C:158:GLU:HG3	2.21	0.40
8:D:57:THR:HA	8:D:63:ILE:HA	2.03	0.40
8:D:77:ASP:HB3	8:D:78:GLU:H	1.60	0.40
10:F:78:GLU:HG3	42:F:5966:HOH:O	2.20	0.40
11:G:71:LEU:C	11:G:73:ASP:N	2.75	0.40
12:H:48:LEU:CD1	12:H:157:ILE:HG21	2.50	0.40
18:N:32:ARG:HB2	42:N:4656:HOH:O	2.20	0.40
22:R:73:ASP:OD1	22:R:75:GLN:HB2	2.22	0.40
23:S:43:ASN:C	23:S:45:GLY:H	2.24	0.40
26:V:7:LEU:HD23	26:V:7:LEU:HA	1.91	0.40
26:V:14:HIS:HB2	26:V:17:ILE:HG13	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	
5	A	235/239 (98%)	199 (85%)	32 (14%)	4 (2%)	9	36
6	B	335/337 (99%)	299 (89%)	29 (9%)	7 (2%)	7	30
7	C	244/246 (99%)	220 (90%)	22 (9%)	2 (1%)	19	54
8	D	134/176 (76%)	94 (70%)	26 (19%)	14 (10%)	0	3
9	E	170/177 (96%)	159 (94%)	11 (6%)	0	100	100
10	F	117/119 (98%)	104 (89%)	11 (9%)	2 (2%)	9	36
11	G	25/348 (7%)	24 (96%)	1 (4%)	0	100	100
12	H	152/167 (91%)	132 (87%)	15 (10%)	5 (3%)	4	21
13	I	140/145 (97%)	127 (91%)	9 (6%)	4 (3%)	4	24
14	J	130/132 (98%)	121 (93%)	7 (5%)	2 (2%)	10	39
15	K	141/164 (86%)	124 (88%)	16 (11%)	1 (1%)	22	57

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
16	L	192/194 (99%)	174 (91%)	17 (9%)	1 (0%)	29	64
17	M	184/186 (99%)	166 (90%)	11 (6%)	7 (4%)	3	19
18	N	113/115 (98%)	108 (96%)	5 (4%)	0	100	100
19	O	141/148 (95%)	138 (98%)	2 (1%)	1 (1%)	22	57
20	P	93/95 (98%)	86 (92%)	7 (8%)	0	100	100
21	Q	148/154 (96%)	136 (92%)	11 (7%)	1 (1%)	22	57
22	R	79/84 (94%)	74 (94%)	5 (6%)	0	100	100
23	S	117/119 (98%)	110 (94%)	7 (6%)	0	100	100
24	T	51/66 (77%)	48 (94%)	3 (6%)	0	100	100
25	U	63/70 (90%)	57 (90%)	4 (6%)	2 (3%)	4	22
26	V	152/154 (99%)	143 (94%)	7 (5%)	2 (1%)	12	42
27	W	80/91 (88%)	71 (89%)	6 (8%)	3 (4%)	3	19
28	X	140/240 (58%)	140 (100%)	0	0	100	100
29	Y	71/73 (97%)	63 (89%)	7 (10%)	1 (1%)	11	40
30	Z	54/56 (96%)	51 (94%)	3 (6%)	0	100	100
31	1	42/48 (88%)	41 (98%)	1 (2%)	0	100	100
32	2	90/92 (98%)	84 (93%)	3 (3%)	3 (3%)	4	21
All	All	3633/4235 (86%)	3293 (91%)	278 (8%)	62 (2%)	9	36

All (62) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	B	139	ASP
8	D	93	LEU
8	D	95	THR
8	D	173	GLU
10	F	101	ALA
12	H	162	SER
15	K	80	ASP
17	M	154	LEU
17	M	164	ASP
17	M	183	ASP
5	A	34	ASP
5	A	132	ASP
6	B	34	GLY
6	B	107	SER

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Mol	Chain	Res	Type
6	B	169	GLY
7	C	8	LEU
8	D	20	LYS
8	D	36	ASN
8	D	137	PRO
12	H	138	PRO
12	H	164	ALA
13	I	5	GLU
14	J	119	GLN
17	M	162	ASP
32	2	57	GLY
5	A	119	ALA
6	B	184	ASP
8	D	11	HIS
8	D	171	ASP
13	I	7	ASP
16	L	140	ALA
17	M	167	ASP
17	M	181	ASP
19	O	116	SER
25	U	43	PRO
26	V	49	ASN
26	V	77	ALA
27	W	77	PHE
27	W	87	ALA
32	2	56	PRO
6	B	185	GLY
8	D	147	ALA
10	F	64	PRO
13	I	76	ASP
13	I	143	LYS
14	J	126	SER
17	M	155	GLU
29	Y	81	LYS
6	B	2	GLN
8	D	16	PRO
8	D	82	GLU
7	C	79	ARG
8	D	61	PHE
8	D	170	TYR
12	H	40	PRO
12	H	72	VAL

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Mol	Chain	Res	Type
5	A	37	VAL
21	Q	106	GLY
25	U	40	PRO
27	W	52	PRO
32	2	25	VAL
8	D	27	ILE

5.3.2 Protein sidechains [i](#)

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	
5	A	179/181 (99%)	166 (93%)	13 (7%)	14	43
6	B	282/282 (100%)	263 (93%)	19 (7%)	16	46
7	C	193/193 (100%)	177 (92%)	16 (8%)	11	38
8	D	117/147 (80%)	108 (92%)	9 (8%)	13	41
9	E	152/155 (98%)	146 (96%)	6 (4%)	32	65
10	F	92/92 (100%)	92 (100%)	0	100	100
11	G	27/283 (10%)	27 (100%)	0	100	100
12	H	122/122 (100%)	111 (91%)	11 (9%)	9	34
13	I	118/121 (98%)	107 (91%)	11 (9%)	9	32
14	J	106/106 (100%)	102 (96%)	4 (4%)	33	66
15	K	112/126 (89%)	108 (96%)	4 (4%)	35	67
16	L	166/166 (100%)	157 (95%)	9 (5%)	22	53
17	M	149/149 (100%)	145 (97%)	4 (3%)	44	74
18	N	93/93 (100%)	91 (98%)	2 (2%)	52	78
19	O	113/116 (97%)	109 (96%)	4 (4%)	36	68
20	P	79/79 (100%)	76 (96%)	3 (4%)	33	66
21	Q	117/121 (97%)	113 (97%)	4 (3%)	37	69
22	R	71/73 (97%)	71 (100%)	0	100	100
23	S	105/105 (100%)	102 (97%)	3 (3%)	42	72

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
24	T	44/52 (85%)	43 (98%)	1 (2%)	50 77
25	U	51/56 (91%)	49 (96%)	2 (4%)	32 65
26	V	130/130 (100%)	121 (93%)	9 (7%)	15 45
27	W	66/73 (90%)	61 (92%)	5 (8%)	13 41
28	X	120/195 (62%)	112 (93%)	8 (7%)	16 46
29	Y	56/56 (100%)	49 (88%)	7 (12%)	4 18
30	Z	46/46 (100%)	46 (100%)	0	100 100
31	1	42/44 (96%)	41 (98%)	1 (2%)	49 76
32	2	79/79 (100%)	75 (95%)	4 (5%)	24 56
All	All	3027/3441 (88%)	2868 (95%)	159 (5%)	22 54

All (159) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	A	3	ARG
5	A	33	GLU
5	A	36	ASP
5	A	55	VAL
5	A	68	ILE
5	A	69	LEU
5	A	78	ASP
5	A	94	LEU
5	A	120	ARG
5	A	131	HIS
5	A	153	ARG
5	A	179	MET
5	A	217	ARG
6	B	7	ARG
6	B	11	LEU
6	B	27	ASN
6	B	33	ASP
6	B	63	GLU
6	B	97	LEU
6	B	98	THR
6	B	103	ASP
6	B	162	MET
6	B	195	ARG
6	B	245	SER
6	B	251	VAL

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Mol	Chain	Res	Type
6	B	254	GLN
6	B	256	GLN
6	B	257	THR
6	B	264	GLU
6	B	304	PRO
6	B	307	ARG
6	B	312	ARG
7	C	2	GLN
7	C	27	ARG
7	C	67	GLN
7	C	76	ARG
7	C	91	PRO
7	C	94	THR
7	C	101	ASP
7	C	115	LEU
7	C	136	VAL
7	C	187	ARG
7	C	214	THR
7	C	222	ASP
7	C	223	LEU
7	C	234	VAL
7	C	236	THR
7	C	240	LEU
8	D	24	HIS
8	D	61	PHE
8	D	99	ASP
8	D	100	ASP
8	D	131	THR
8	D	133	ASN
8	D	136	ARG
8	D	137	PRO
8	D	149	ARG
9	E	7	ILE
9	E	12	ASP
9	E	15	GLN
9	E	54	ASP
9	E	102	VAL
9	E	164	ASP
12	H	30	GLN
12	H	59	ASN
12	H	61	LEU
12	H	72	VAL

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Mol	Chain	Res	Type
12	H	73	GLN
12	H	82	LYS
12	H	85	ILE
12	H	86	ARG
12	H	94	ARG
12	H	142	VAL
12	H	150	LYS
13	I	46	ILE
13	I	52	GLN
13	I	74	ARG
13	I	76	ASP
13	I	79	PHE
13	I	107	ASN
13	I	112	ASP
13	I	120	SER
13	I	125	SER
13	I	127	ILE
13	I	131	THR
14	J	7	ASP
14	J	10	GLN
14	J	49	LEU
14	J	98	VAL
15	K	30	ARG
15	K	35	ARG
15	K	80	ASP
15	K	117	GLU
16	L	38	VAL
16	L	46	LEU
16	L	48	ARG
16	L	68	ARG
16	L	81	ARG
16	L	87	MET
16	L	93	ARG
16	L	99	ARG
16	L	164	THR
17	M	26	LEU
17	M	128	ASP
17	M	152	GLU
17	M	163	PHE
18	N	3	THR
18	N	67	SER
19	O	52	LYS

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Mol	Chain	Res	Type
19	O	91	LYS
19	O	94	TRP
19	O	98	ILE
20	P	11	ARG
20	P	57	ASP
20	P	95	GLU
21	Q	13	THR
21	Q	39	THR
21	Q	82	GLU
21	Q	132	ARG
23	S	39	ASN
23	S	73	HIS
23	S	96	VAL
24	T	9	CYS
25	U	43	PRO
25	U	65	ASP
26	V	4	LEU
26	V	26	ILE
26	V	35	VAL
26	V	52	VAL
26	V	73	LEU
26	V	122	ARG
26	V	142	ASP
26	V	146	ILE
26	V	154	ARG
27	W	15	ARG
27	W	27	ASP
27	W	44	ASP
27	W	52	PRO
27	W	72	VAL
28	X	154	ARG
28	X	163	THR
28	X	172	THR
28	X	186	ARG
28	X	189	ASN
28	X	200	THR
28	X	203	VAL
28	X	235	GLU
29	Y	11	THR
29	Y	32	LYS
29	Y	42	CYS
29	Y	49	ARG

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Mol	Chain	Res	Type
29	Y	60	CYS
29	Y	64	ILE
29	Y	68	CYS
31	1	18	ASN
32	2	14	CYS
32	2	42	ARG
32	2	56	PRO
32	2	74	CYS

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

Mol	Chain	Res	Type
5	A	47	HIS
5	A	92	ASN
5	A	127	GLN
5	A	199	HIS
6	B	27	ASN
6	B	145	HIS
6	B	221	GLN
6	B	238	ASN
6	B	256	GLN
6	B	260	HIS
6	B	332	ASN
7	C	2	GLN
7	C	39	GLN
7	C	129	HIS
8	D	47	GLN
8	D	85	GLN
8	D	103	ASN
9	E	90	HIS
9	E	106	ASN
9	E	119	HIS
9	E	143	GLN
11	G	17	GLN
11	G	64	ASN
12	H	35	ASN
12	H	36	ASN
12	H	55	GLN
12	H	58	HIS
12	H	59	ASN
12	H	69	ASN
12	H	74	ASN

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Mol	Chain	Res	Type
12	H	91	HIS
12	H	129	ASN
12	H	130	HIS
12	H	166	ASN
13	I	52	GLN
13	I	107	ASN
13	I	126	ASN
14	J	10	GLN
15	K	18	HIS
15	K	41	HIS
15	K	42	ASN
15	K	55	GLN
15	K	58	GLN
15	K	116	HIS
16	L	26	HIS
16	L	58	GLN
16	L	78	ASN
16	L	176	GLN
17	M	107	ASN
17	M	140	GLN
17	M	153	GLN
19	O	50	GLN
19	O	66	GLN
19	O	73	HIS
19	O	118	GLN
20	P	16	ASN
20	P	40	HIS
21	Q	61	GLN
21	Q	94	ASN
21	Q	98	ASN
21	Q	113	HIS
21	Q	117	HIS
22	R	53	ASN
23	S	39	ASN
23	S	43	ASN
23	S	73	HIS
24	T	39	ASN
24	T	48	ASN
25	U	60	GLN
26	V	27	HIS
26	V	28	HIS
26	V	59	GLN

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Mol	Chain	Res	Type
26	V	87	HIS
26	V	110	GLN
26	V	119	HIS
26	V	125	HIS
26	V	141	HIS
27	W	23	HIS
28	X	133	HIS
28	X	134	HIS
28	X	149	GLN
28	X	189	ASN
29	Y	33	HIS
29	Y	70	GLN
30	Z	8	GLN
30	Z	16	HIS
30	Z	28	HIS
31	1	16	ASN
31	1	18	ASN
31	1	37	HIS
31	1	41	HIS
31	1	45	ASN
32	2	15	ASN
32	2	30	GLN
32	2	48	ASN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2747/2922 (94%)	244 (8%)	34 (1%)
2	9	121/122 (99%)	14 (11%)	4 (3%)
3	3	2/3 (66%)	1 (50%)	0
4	4	1/2 (50%)	0	0
All	All	2871/3049 (94%)	259 (9%)	38 (1%)

All (259) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	11	A
1	0	31	C
1	0	60	A
1	0	67	A
1	0	69	A

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Mol	Chain	Res	Type
1	0	70	A
1	0	71	G
1	0	87	C
1	0	88	G
1	0	114	A
1	0	115	U
1	0	120	A
1	0	130	C
1	0	139	C
1	0	141	C
1	0	151	A
1	0	166	A
1	0	169	A
1	0	185	G
1	0	186	A
1	0	187	A
1	0	191	A
1	0	192	A
1	0	200	U
1	0	219	G
1	0	237	G
1	0	271	C
1	0	272	A
1	0	273	G
1	0	283	U
1	0	284	C
1	0	285	A
1	0	308	U
1	0	309	C
1	0	317	A
1	0	318	C
1	0	336	G
1	0	337	A
1	0	345	G
1	0	358	G
1	0	381	G
1	0	397	A
1	0	417	G
1	0	461	C
1	0	487	G
1	0	498	A
1	0	510	U

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Mol	Chain	Res	Type
1	0	511	A
1	0	514	G
1	0	537	G
1	0	538	C
1	0	539	G
1	0	542	A
1	0	545	G
1	0	553	G
1	0	559	U
1	0	588	G
1	0	604	G
1	0	620	A
1	0	632	A
1	0	644	G
1	0	660	A
1	0	688	A
1	0	701	U
1	0	717	C
1	0	759	C
1	0	777	U
1	0	809	G
1	0	821	U
1	0	835	U
1	0	840	U
1	0	868	G
1	0	869	G
1	0	871	G
1	0	872	U
1	0	875	A
1	0	877	G
1	0	878	G
1	0	884	C
1	0	885	G
1	0	898	G
1	0	905	C
1	0	921	G
1	0	923	A
1	0	953	G
1	0	960	G
1	0	961	A
1	0	1006	A
1	0	1008	C

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Mol	Chain	Res	Type
1	0	1029	U
1	0	1045	G
1	0	1059	G
1	0	1060	C
1	0	1072	G
1	0	1081	A
1	0	1087	G
1	0	1088	A
1	0	1109	U
1	0	1110	G
1	0	1119	G
1	0	1130	U
1	0	1137	G
1	0	1151	G
1	0	1162	G
1	0	1164	U
1	0	1165	G
1	0	1166	A
1	0	1171	A
1	0	1174	A
1	0	1175	G
1	0	1177	A
1	0	1185	U
1	0	1192	A
1	0	1193	A
1	0	1206	U
1	0	1216	G
1	0	1237	U
1	0	1238	C
1	0	1239	G
1	0	1279	U
1	0	1289	C
1	0	1331	A
1	0	1342	C
1	0	1353	C
1	0	1360	C
1	0	1377	C
1	0	1378	G
1	0	1407	A
1	0	1451	C
1	0	1460	G
1	0	1474	C

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Mol	Chain	Res	Type
1	0	1485	A
1	0	1505	U
1	0	1506	U
1	0	1524	U
1	0	1525	G
1	0	1526	A
1	0	1564	C
1	0	1580	A
1	0	1592	G
1	0	1625	U
1	0	1626	A
1	0	1633	C
1	0	1634	G
1	0	1656	A
1	0	1667	A
1	0	1682	A
1	0	1684	A
1	0	1685	A
1	0	1692	C
1	0	1701	A
1	0	1710	A
1	0	1722	U
1	0	1723	G
1	0	1725	C
1	0	1731	C
1	0	1752	G
1	0	1778	A
1	0	1798	C
1	0	1820	G
1	0	1829	A
1	0	1856	C
1	0	1879	U
1	0	1904	A
1	0	1919	A
1	0	1942	A
1	0	1971	G
1	0	1973	A
1	0	1974	G
1	0	1978	A
1	0	1979	G
1	0	1980	U
1	0	1996	U

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Mol	Chain	Res	Type
1	0	2008	U
1	0	2011	A
1	0	2012	U
1	0	2013	G
1	0	2033	G
1	0	2034	U
1	0	2064	U
1	0	2072	G
1	0	2073	G
1	0	2074	A
1	0	2096	A
1	0	2101	A
1	0	2102	G
1	0	2103	A
1	0	2110	G
1	0	2258	A
1	0	2271	G
1	0	2272	G
1	0	2317	C
1	0	2321	A
1	0	2354	A
1	0	2361	A
1	0	2369	A
1	0	2379	G
1	0	2422	U
1	0	2462	G
1	0	2466	G
1	0	2467	A
1	0	2476	C
1	0	2480	G
1	0	2483	A
1	0	2507	G
1	0	2509	A
1	0	2511	A
1	0	2533	C
1	0	2537	G
1	0	2541	U
1	0	2553	A
1	0	2564	G
1	0	2589	U
1	0	2601	A
1	0	2602	G

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Mol	Chain	Res	Type
1	0	2608	C
1	0	2613	G
1	0	2619	U
1	0	2620	U
1	0	2637	A
1	0	2638	G
1	0	2649	A
1	0	2664	A
1	0	2681	A
1	0	2682	C
1	0	2726	U
1	0	2747	C
1	0	2748	G
1	0	2749	U
1	0	2750	G
1	0	2762	C
1	0	2768	A
1	0	2786	G
1	0	2792	A
1	0	2800	A
1	0	2811	A
1	0	2825	C
1	0	2840	A
1	0	2850	C
1	0	2876	G
1	0	2890	A
1	0	2896	A
1	0	2903	C
1	0	2914	A
2	9	3002	U
2	9	3007	G
2	9	3014	G
2	9	3022	G
2	9	3024	U
2	9	3041	C
2	9	3043	G
2	9	3044	A
2	9	3052	A
2	9	3057	A
2	9	3066	G
2	9	3077	A
2	9	3114	G

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Mol	Chain	Res	Type
2	9	3122	C
3	3	76	A

All (38) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	10	U
1	0	69	A
1	0	129	A
1	0	284	C
1	0	338	C
1	0	603	A
1	0	716	G
1	0	834	G
1	0	857	A
1	0	871	G
1	0	877	G
1	0	1080	C
1	0	1164	U
1	0	1237	U
1	0	1246	A
1	0	1352	A
1	0	1377	C
1	0	1450	C
1	0	1474	C
1	0	1563	G
1	0	1692	C
1	0	1856	C
1	0	1979	G
1	0	2011	A
1	0	2313	C
1	0	2466	G
1	0	2467	A
1	0	2526	C
1	0	2536	C
1	0	2637	A
1	0	2649	A
1	0	2718	C
1	0	2761	A
1	0	2791	U
2	9	3002	U
2	9	3023	U

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Mol	Chain	Res	Type
2	9	3065	A
2	9	3103	A

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 236 ligands modelled in this entry, 232 are monoatomic - leaving 4 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
37	PPU	4	76	4,38	32,40,41	2.50	3 (9%)	33,57,60	0.88	1 (3%)
38	PHA	4	77	37,39	10,11,11	1.01	0	10,13,13	0.56	0
40	BTN	4	79	39	16,16,17	1.83	4 (25%)	21,21,23	1.73	5 (23%)
39	ACA	4	78	38,40	7,7,8	2.02	1 (14%)	6,6,8	1.15	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
37	PPU	4	76	4,38	-	1/21/43/44	0/4/4/4
38	PHA	4	77	37,39	-	0/5/6/6	0/1/1/1
40	BTN	4	79	39	-	3/5/27/28	0/2/2/2
39	ACA	4	78	38,40	-	2/4/5/6	-

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	4	76	PPU	C-N3'	12.24	1.61	1.34
37	4	76	PPU	OC-CM	-5.27	1.26	1.42
39	4	78	ACA	C3-C2	-5.05	1.32	1.52
40	4	79	BTN	C8-C7	-4.33	1.33	1.52
40	4	79	BTN	C9-C10	-3.86	1.36	1.52
40	4	79	BTN	C3-N1	-2.88	1.30	1.35
37	4	76	PPU	C3'-N3'	-2.55	1.41	1.45
40	4	79	BTN	O3-C3	2.40	1.28	1.23

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	4	79	BTN	C2-C4-N2	4.91	117.52	113.13
40	4	79	BTN	C6-C5-N1	2.64	116.39	113.03
37	4	76	PPU	C-CA-N	2.36	118.52	109.40
40	4	79	BTN	C6-C5-C4	-2.28	106.68	108.66
40	4	79	BTN	C2-C4-C5	2.19	111.48	108.94
40	4	79	BTN	O3-C3-N2	-2.01	123.05	125.94

There are no chirality outliers.

All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
39	4	78	ACA	C4-C5-C6-N
40	4	79	BTN	C7-C8-C9-C10
39	4	78	ACA	C3-C4-C5-C6
40	4	79	BTN	C4-C2-C7-C8
37	4	76	PPU	N-CA-CB-CG
40	4	79	BTN	S1-C2-C7-C8

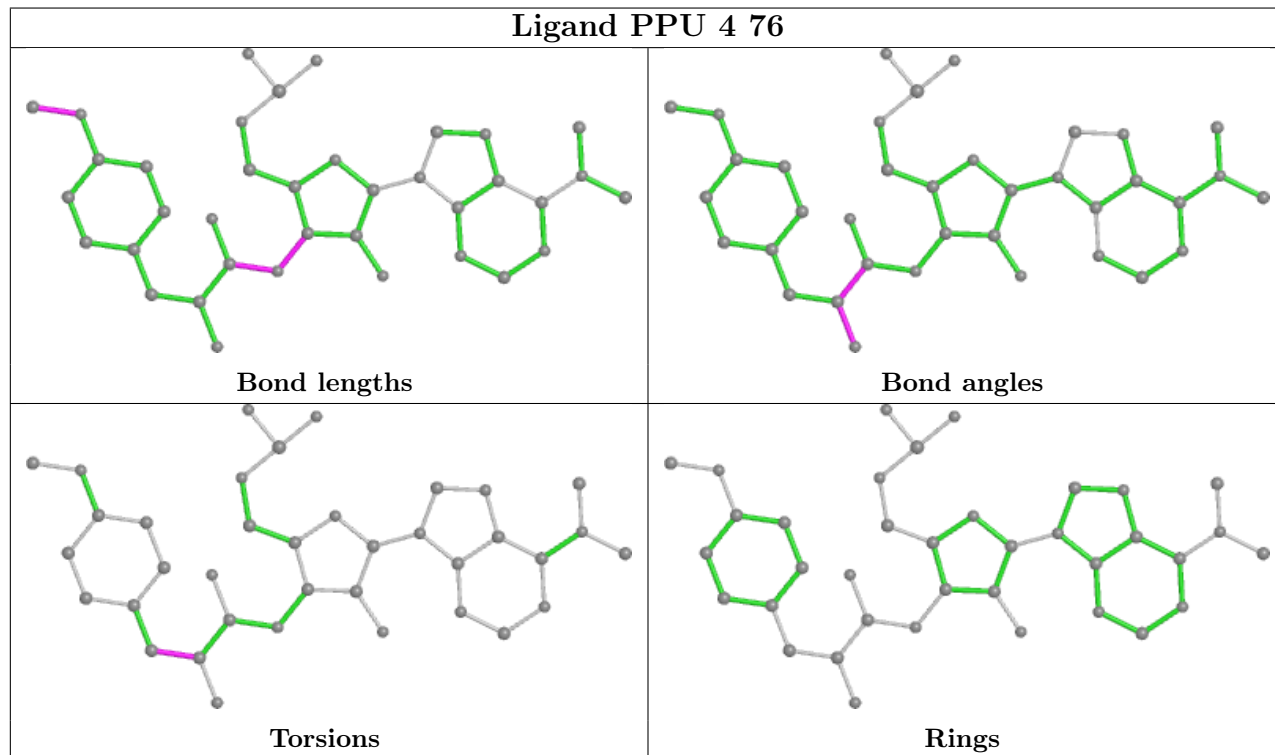
There are no ring outliers.

3 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
37	4	76	PPU	2	0
38	4	77	PHA	1	0
40	4	79	BTN	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In

addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



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 [i](#)

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

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	0	2754/2922 (94%)	-0.20	47 (1%) 70 49	11, 39, 86, 141	0
2	9	122/122 (100%)	0.25	6 (4%) 29 14	28, 60, 91, 145	0
3	3	3/3 (100%)	1.39	0 100 100	44, 44, 46, 52	3 (100%)
4	4	2/2 (100%)	0.06	0 100 100	48, 48, 48, 56	0
5	A	237/239 (99%)	-0.20	5 (2%) 63 43	21, 53, 94, 113	0
6	B	337/337 (100%)	-0.35	0 100 100	19, 45, 71, 81	0
7	C	246/246 (100%)	-0.41	1 (0%) 92 84	12, 37, 63, 71	0
8	D	140/176 (79%)	1.12	31 (22%) 0 0	55, 94, 120, 127	0
9	E	172/177 (97%)	0.16	2 (1%) 79 61	32, 56, 81, 87	0
10	F	119/119 (100%)	0.10	2 (1%) 70 49	41, 66, 94, 104	0
11	G	29/348 (8%)	1.50	4 (13%) 2 1	60, 79, 84, 89	0
12	H	156/167 (93%)	-0.05	1 (0%) 89 78	30, 48, 74, 81	0
13	I	142/145 (97%)	-0.43	0 100 100	26, 38, 60, 77	0
14	J	132/132 (100%)	-0.34	0 100 100	24, 44, 72, 76	0
15	K	145/164 (88%)	0.30	12 (8%) 11 4	16, 68, 97, 109	0
16	L	194/194 (100%)	0.02	19 (9%) 7 2	23, 39, 118, 128	0
17	M	186/186 (100%)	0.38	18 (9%) 7 2	36, 65, 109, 120	0
18	N	115/115 (100%)	-0.23	0 100 100	31, 47, 65, 69	0
19	O	143/148 (96%)	-0.08	1 (0%) 87 75	27, 47, 67, 77	0
20	P	95/95 (100%)	-0.29	1 (1%) 80 64	27, 40, 57, 79	0
21	Q	150/154 (97%)	-0.54	0 100 100	22, 35, 54, 65	0
22	R	81/84 (96%)	-0.04	2 (2%) 57 34	35, 53, 73, 80	0
23	S	119/119 (100%)	0.07	4 (3%) 45 24	33, 47, 75, 91	0
24	T	53/66 (80%)	2.97	35 (66%) 0 0	101, 113, 122, 132	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	U	65/70 (92%)	0.66	6 (9%) 9 3	45, 69, 106, 112	0
26	V	154/154 (100%)	-0.43	0 100 100	25, 38, 56, 69	0
27	W	82/91 (90%)	0.14	3 (3%) 41 21	32, 49, 69, 89	0
28	X	142/240 (59%)	-0.30	1 (0%) 87 75	17, 36, 58, 77	0
29	Y	73/73 (100%)	3.95	49 (67%) 0 0	89, 118, 129, 133	0
30	Z	56/56 (100%)	-0.75	0 100 100	14, 26, 32, 39	0
31	1	46/48 (95%)	-0.04	0 100 100	23, 52, 84, 96	0
32	2	92/92 (100%)	7.24	92 (100%) 0 0	122, 136, 142, 146	0
All	All	6582/7284 (90%)	0.05	342 (5%) 27 12	11, 45, 105, 146	3 (0%)

All (342) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
32	2	37	ASP	17.0
32	2	78	HIS	16.8
32	2	82	GLY	16.6
32	2	11	CYS	14.1
29	Y	11	THR	13.3
32	2	65	THR	12.1
32	2	9	THR	12.0
32	2	83	TRP	11.8
32	2	59	ASP	11.7
32	2	20	HIS	11.4
32	2	67	LEU	11.2
32	2	15	ASN	10.9
32	2	14	CYS	10.8
32	2	16	GLU	10.5
32	2	18	GLN	10.1
32	2	66	ASP	10.1
32	2	33	MET	10.0
32	2	62	THR	9.9
32	2	71	CYS	9.9
32	2	34	LYS	9.8
29	Y	30	GLU	9.8
32	2	77	ALA	9.7
32	2	10	TYR	9.7
32	2	39	GLN	9.4
32	2	17	HIS	9.1
32	2	68	LYS	9.1

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Mol	Chain	Res	Type	RSRZ
29	Y	34	LYS	9.0
29	Y	26	VAL	9.0
32	2	8	ASN	9.0
32	2	27	SER	8.9
32	2	22	VAL	8.8
32	2	31	THR	8.7
32	2	35	TRP	8.7
29	Y	44	PHE	8.6
32	2	23	GLU	8.5
29	Y	12	GLY	8.5
29	Y	39	CYS	8.4
32	2	12	PRO	8.4
32	2	32	GLY	8.2
32	2	80	ARG	8.1
32	2	74	CYS	8.0
32	2	76	LYS	7.8
16	L	70	GLY	7.8
32	2	69	TYR	7.8
32	2	38	ARG	7.7
32	2	13	HIS	7.7
32	2	1	MET	7.7
32	2	21	GLU	7.7
32	2	81	GLU	7.7
32	2	75	GLY	7.7
2	9	3001	U	7.5
32	2	3	MET	7.5
32	2	36	ILE	7.3
32	2	84	ARG	7.3
32	2	72	GLY	7.2
32	2	19	GLU	7.0
29	Y	45	LYS	7.0
32	2	60	LYS	6.9
32	2	6	ARG	6.9
32	2	41	GLU	6.8
1	0	735	C	6.8
29	Y	29	VAL	6.7
29	Y	42	CYS	6.7
25	U	1	THR	6.6
32	2	4	PRO	6.6
29	Y	43	GLY	6.6
32	2	70	ARG	6.5
29	Y	20	LEU	6.5

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Mol	Chain	Res	Type	RSRZ
32	2	91	GLN	6.4
29	Y	33	HIS	6.4
29	Y	22	ILE	6.4
29	Y	31	ILE	6.4
32	2	56	PRO	6.4
29	Y	57	CYS	6.3
32	2	61	PRO	6.2
29	Y	35	LYS	6.2
29	Y	41	VAL	6.1
29	Y	19	GLY	6.1
32	2	2	GLN	6.0
32	2	79	LEU	6.0
24	T	54	THR	6.0
24	T	55	ALA	6.0
29	Y	28	ASP	5.9
29	Y	40	PRO	5.9
29	Y	32	LYS	5.9
24	T	51	TRP	5.9
16	L	89	ASN	5.7
24	T	52	THR	5.7
24	T	39	ASN	5.6
24	T	9	CYS	5.6
16	L	71	SER	5.6
32	2	26	ARG	5.6
29	Y	24	VAL	5.5
16	L	80	GLY	5.5
32	2	53	SER	5.5
29	Y	25	ARG	5.4
32	2	5	ARG	5.4
32	2	47	GLY	5.4
1	0	1198	U	5.4
24	T	48	ASN	5.3
32	2	58	GLY	5.3
32	2	25	VAL	5.3
29	Y	14	PHE	5.2
32	2	85	ALA	5.2
32	2	30	GLN	5.2
25	U	40	PRO	5.1
8	D	57	THR	5.1
32	2	52	PHE	5.0
29	Y	27	ALA	4.9
24	T	36	CYS	4.9

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Mol	Chain	Res	Type	RSRZ
29	Y	23	ARG	4.9
32	2	28	GLY	4.9
29	Y	37	HIS	4.8
24	T	47	ARG	4.8
24	T	11	THR	4.8
2	9	3023	U	4.8
24	T	53	ASP	4.8
16	L	81	ARG	4.7
32	2	63	LYS	4.7
8	D	63	ILE	4.7
8	D	171	ASP	4.7
29	Y	16	PRO	4.6
32	2	42	ARG	4.6
32	2	73	GLU	4.6
25	U	39	ALA	4.6
24	T	43	GLY	4.5
32	2	86	GLY	4.5
32	2	40	ARG	4.5
32	2	48	ASN	4.5
29	Y	38	LYS	4.5
24	T	25	ASP	4.4
29	Y	21	LYS	4.4
32	2	43	ASN	4.4
17	M	138	ASP	4.4
32	2	88	LEU	4.3
32	2	57	GLY	4.3
16	L	78	ASN	4.3
29	Y	15	GLY	4.2
24	T	6	CYS	4.2
32	2	44	SER	4.1
29	Y	10	ARG	4.1
24	T	40	ALA	4.1
11	G	23	ILE	4.1
24	T	50	GLU	4.1
5	A	237	GLY	4.1
15	K	60	GLU	4.0
24	T	4	ARG	4.0
2	9	3002	U	4.0
29	Y	47	LEU	4.0
16	L	75	THR	4.0
29	Y	13	ARG	4.0
16	L	83	SER	3.9

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Mol	Chain	Res	Type	RSRZ
27	W	80	GLU	3.9
24	T	10	GLY	3.9
1	0	1175	G	3.8
32	2	29	ARG	3.8
8	D	62	ASP	3.8
22	R	81	ILE	3.8
1	0	1173	A	3.8
29	Y	53	GLY	3.8
8	D	66	GLY	3.7
8	D	92	GLU	3.7
8	D	69	ILE	3.7
32	2	24	LYS	3.7
24	T	29	THR	3.7
32	2	51	LYS	3.7
1	0	1199	A	3.7
1	0	1171	A	3.6
16	L	72	SER	3.6
29	Y	58	GLY	3.6
1	0	1172	G	3.5
29	Y	79	VAL	3.5
8	D	56	ARG	3.5
1	0	282	C	3.5
29	Y	18	TYR	3.5
11	G	27	ILE	3.4
8	D	26	GLY	3.4
32	2	87	ARG	3.4
16	L	74	ARG	3.4
29	Y	55	TRP	3.4
32	2	49	ASP	3.4
29	Y	59	HIS	3.4
32	2	7	PHE	3.3
24	T	41	ASP	3.3
17	M	186	LEU	3.3
16	L	77	PHE	3.3
15	K	80	ASP	3.3
29	Y	80	MET	3.3
2	9	3024	U	3.3
1	0	1177	A	3.3
29	Y	61	GLY	3.3
29	Y	56	MET	3.2
32	2	50	GLY	3.2
1	0	960	G	3.2

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Mol	Chain	Res	Type	RSRZ
10	F	106	THR	3.2
8	D	67	ASP	3.2
24	T	46	ALA	3.2
8	D	172	VAL	3.2
32	2	46	ILE	3.2
24	T	49	LEU	3.2
11	G	26	MET	3.1
15	K	104	ASP	3.1
8	D	10	PHE	3.1
32	2	90	PHE	3.1
24	T	12	ASP	3.1
2	9	3122	C	3.1
27	W	88	GLU	3.1
1	0	1951	G	3.0
8	D	27	ILE	3.0
32	2	92	GLU	3.0
24	T	7	ASP	2.9
24	T	28	THR	2.9
8	D	61	PHE	2.9
32	2	64	LYS	2.9
8	D	25	MET	2.9
8	D	44	ILE	2.9
17	M	160	SER	2.9
23	S	82	THR	2.9
1	0	10	U	2.9
24	T	33	SER	2.8
1	0	1913	C	2.8
16	L	90	ARG	2.8
29	Y	46	LYS	2.8
11	G	24	VAL	2.8
5	A	85	ASP	2.8
24	T	8	TYR	2.8
23	S	116	ASP	2.8
10	F	119	ARG	2.8
16	L	82	ARG	2.8
8	D	88	LEU	2.8
8	D	65	GLU	2.8
16	L	87	MET	2.8
1	0	1200	A	2.8
1	0	2237	G	2.8
8	D	58	VAL	2.8
17	M	147	ILE	2.8

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Mol	Chain	Res	Type	RSRZ
1	0	371	U	2.8
16	L	73	ARG	2.7
1	0	970	U	2.7
8	D	54	ALA	2.7
1	0	736	A	2.7
23	S	119	ALA	2.7
24	T	22	VAL	2.7
25	U	38	GLY	2.7
1	0	370	G	2.7
24	T	23	HIS	2.7
9	E	100	ASP	2.7
32	2	45	GLY	2.6
15	K	36	ASP	2.6
17	M	162	ASP	2.6
29	Y	36	LYS	2.6
1	0	1190	G	2.6
1	0	1525	G	2.6
24	T	5	GLU	2.6
17	M	179	LEU	2.6
1	0	1204	C	2.5
17	M	167	ASP	2.5
1	0	1168	C	2.5
29	Y	62	TYR	2.5
32	2	89	GLU	2.5
24	T	19	THR	2.5
32	2	54	LYS	2.5
1	0	2884	G	2.5
1	0	1192	A	2.5
8	D	64	ARG	2.5
16	L	76	ARG	2.5
24	T	45	GLU	2.5
17	M	166	ALA	2.5
5	A	36	ASP	2.5
8	D	49	PRO	2.4
8	D	90	LEU	2.4
17	M	139	TRP	2.4
1	0	1925	G	2.4
8	D	170	TYR	2.4
24	T	13	ILE	2.4
32	2	55	VAL	2.4
15	K	105	TYR	2.4
20	P	95	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
1	0	2508	C	2.4
17	M	152	GLU	2.3
29	Y	60	CYS	2.3
15	K	44	GLU	2.3
1	0	1167	G	2.3
1	0	1202	A	2.3
17	M	157	PRO	2.3
17	M	172	PHE	2.3
1	0	1165	G	2.3
1	0	1163	G	2.3
1	0	1197	G	2.3
1	0	1605	G	2.3
1	0	368	C	2.3
15	K	101	ASP	2.3
8	D	87	ALA	2.3
19	O	77	ALA	2.3
5	A	37	VAL	2.2
28	X	235	GLU	2.2
22	R	77	VAL	2.2
1	0	1203	G	2.2
5	A	133	ARG	2.2
17	M	155	GLU	2.2
1	0	805	G	2.2
15	K	102	ASP	2.2
8	D	166	ILE	2.2
1	0	999	C	2.2
9	E	118	ILE	2.2
8	D	45	THR	2.2
25	U	2	VAL	2.2
8	D	93	LEU	2.2
1	0	367	G	2.2
1	0	2249	G	2.2
24	T	44	ARG	2.2
1	0	1193	A	2.2
12	H	114	PRO	2.2
1	0	284	C	2.1
17	M	151	ASP	2.1
17	M	146	HIS	2.1
15	K	106	VAL	2.1
15	K	133	VAL	2.1
1	0	1000	C	2.1
1	0	1169	U	2.1

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Mol	Chain	Res	Type	RSRZ
7	C	132	ASP	2.1
15	K	130	ARG	2.1
8	D	86	THR	2.1
29	Y	17	ARG	2.1
15	K	59	GLU	2.1
23	S	80	GLU	2.1
17	M	163	PHE	2.0
24	T	38	ASN	2.0
16	L	68	ARG	2.0
1	0	2769	C	2.0
16	L	88	VAL	2.0
17	M	150	TYR	2.0
8	D	75	LEU	2.0
17	M	148	ALA	2.0
25	U	52	ALA	2.0
2	9	3073	G	2.0
27	W	82	GLU	2.0
1	0	1912	A	2.0
8	D	89	PRO	2.0
1	0	1604	G	2.0
1	0	1948	G	2.0
16	L	86	MET	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 monosaccharides 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(Å ²)	Q<0.9
35	NA	0	8329	1/1	0.23	0.56	62,62,62,62	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	8384	1/1	0.34	1.15	87,87,87,87	0
35	NA	Q	8386	1/1	0.42	0.79	62,62,62,62	0
35	NA	R	8312	1/1	0.54	0.64	84,84,84,84	0
33	MG	Y	8105	1/1	0.55	0.63	67,67,67,67	0
35	NA	0	8363	1/1	0.65	0.75	40,40,40,40	0
35	NA	0	8385	1/1	0.65	0.39	52,52,52,52	0
35	NA	9	8383	1/1	0.71	0.67	57,57,57,57	0
35	NA	0	8372	1/1	0.74	0.38	73,73,73,73	0
36	CL	2	8504	1/1	0.74	0.43	104,104,104,104	0
35	NA	0	8371	1/1	0.76	0.46	47,47,47,47	0
41	CD	2	8404	1/1	0.76	0.87	200,200,200,200	0
33	MG	0	8114	1/1	0.78	0.73	161,161,161,161	0
35	NA	0	8382	1/1	0.79	0.30	57,57,57,57	0
35	NA	9	8351	1/1	0.81	0.75	112,112,112,112	0
41	CD	T	8401	1/1	0.81	0.77	200,200,200,200	0
35	NA	0	8354	1/1	0.81	0.38	29,29,29,29	0
34	K	0	8202	1/1	0.83	0.46	69,69,69,69	0
35	NA	0	8377	1/1	0.83	0.28	59,59,59,59	0
35	NA	0	8326	1/1	0.83	0.26	38,38,38,38	0
33	MG	2	8078	1/1	0.83	0.42	73,73,73,73	0
33	MG	0	8076	1/1	0.84	0.18	70,70,70,70	0
35	NA	0	8332	1/1	0.84	0.39	57,57,57,57	0
35	NA	0	8352	1/1	0.84	0.26	28,28,28,28	0
36	CL	0	8522	1/1	0.85	0.37	76,76,76,76	0
36	CL	K	8510	1/1	0.85	0.23	70,70,70,70	0
35	NA	0	8373	1/1	0.85	0.23	51,51,51,51	0
33	MG	0	8102	1/1	0.85	1.14	135,135,135,135	0
35	NA	0	8365	1/1	0.85	0.30	42,42,42,42	0
33	MG	0	8024	1/1	0.86	0.69	109,109,109,109	0
35	NA	H	8322	1/1	0.86	0.25	48,48,48,48	0
41	CD	Y	8403	1/1	0.86	0.52	200,200,200,200	0
35	NA	0	8340	1/1	0.86	0.26	48,48,48,48	0
33	MG	0	8049	1/1	0.87	0.29	73,73,73,73	0
35	NA	Q	8337	1/1	0.88	0.18	41,41,41,41	0
35	NA	0	8324	1/1	0.88	0.18	39,39,39,39	0
40	BTN	4	79	15/16	0.88	0.32	91,104,104,105	0
35	NA	0	8369	1/1	0.89	0.36	67,67,67,67	0
35	NA	0	8328	1/1	0.89	0.49	41,41,41,41	0
35	NA	0	8331	1/1	0.89	0.34	69,69,69,69	0
35	NA	0	8310	1/1	0.90	0.31	16,16,16,16	0
33	MG	0	8051	1/1	0.90	0.17	70,70,70,70	0
35	NA	0	8364	1/1	0.90	0.26	47,47,47,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
36	CL	A	8509	1/1	0.90	0.25	76,76,76,76	0
35	NA	0	8306	1/1	0.90	0.67	21,21,21,21	0
35	NA	0	8374	1/1	0.91	0.52	49,49,49,49	0
33	MG	0	8111	1/1	0.91	0.10	49,49,49,49	0
35	NA	0	8311	1/1	0.91	0.14	38,38,38,38	0
38	PHA	4	77	11/11	0.91	0.27	64,67,71,71	0
35	NA	0	8358	1/1	0.91	0.30	98,98,98,98	0
35	NA	0	8333	1/1	0.91	0.12	25,25,25,25	0
36	CL	0	8515	1/1	0.91	0.69	72,72,72,72	0
33	MG	0	8116	1/1	0.91	0.10	64,64,64,64	0
35	NA	0	8307	1/1	0.92	0.23	40,40,40,40	0
35	NA	0	8308	1/1	0.92	0.22	44,44,44,44	0
33	MG	0	8046	1/1	0.92	0.09	40,40,40,40	0
35	NA	I	8346	1/1	0.92	0.09	20,20,20,20	0
35	NA	0	8366	1/1	0.92	0.17	20,20,20,20	0
35	NA	0	8368	1/1	0.92	0.13	41,41,41,41	0
41	CD	N	8405	1/1	0.92	0.06	111,111,111,111	0
33	MG	0	8103	1/1	0.92	0.20	34,34,34,34	0
33	MG	0	8101	1/1	0.92	0.12	40,40,40,40	0
36	CL	0	8517	1/1	0.92	0.23	57,57,57,57	0
33	MG	9	8095	1/1	0.93	0.14	72,72,72,72	0
36	CL	M	8507	1/1	0.93	0.15	54,54,54,54	0
35	NA	0	8355	1/1	0.93	0.60	60,60,60,60	0
35	NA	0	8336	1/1	0.93	0.08	30,30,30,30	0
36	CL	0	8503	1/1	0.93	0.18	49,49,49,49	0
33	MG	0	8055	1/1	0.93	0.11	82,82,82,82	0
35	NA	0	8379	1/1	0.93	0.23	25,25,25,25	0
33	MG	0	8053	1/1	0.93	0.20	38,38,38,38	0
35	NA	P	8348	1/1	0.93	0.13	45,45,45,45	0
35	NA	0	8314	1/1	0.94	0.16	33,33,33,33	0
33	MG	0	8104	1/1	0.94	0.16	41,41,41,41	0
33	MG	0	8092	1/1	0.94	0.34	71,71,71,71	0
35	NA	0	8357	1/1	0.94	0.11	53,53,53,53	0
35	NA	0	8301	1/1	0.94	0.11	28,28,28,28	0
35	NA	0	8303	1/1	0.94	0.17	33,33,33,33	0
33	MG	0	8099	1/1	0.94	0.18	37,37,37,37	0
33	MG	0	8115	1/1	0.94	0.11	58,58,58,58	0
33	MG	0	8066	1/1	0.94	0.14	60,60,60,60	0
33	MG	0	8082	1/1	0.94	0.13	43,43,43,43	0
35	NA	0	8339	1/1	0.94	0.13	8,8,8,8	0
33	MG	0	8087	1/1	0.94	0.10	36,36,36,36	0
35	NA	0	8341	1/1	0.94	0.14	40,40,40,40	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
35	NA	0	8350	1/1	0.94	0.41	26,26,26,26	0
35	NA	0	8378	1/1	0.95	0.18	31,31,31,31	0
36	CL	0	8505	1/1	0.95	0.34	57,57,57,57	0
36	CL	0	8513	1/1	0.95	0.11	52,52,52,52	0
35	NA	0	8362	1/1	0.95	0.27	63,63,63,63	0
35	NA	0	8381	1/1	0.95	0.23	71,71,71,71	0
33	MG	S	8073	1/1	0.95	0.20	36,36,36,36	0
33	MG	0	8088	1/1	0.95	0.09	23,23,23,23	0
36	CL	I	8502	1/1	0.95	0.10	56,56,56,56	0
36	CL	I	8521	1/1	0.95	0.13	39,39,39,39	0
33	MG	0	8106	1/1	0.95	0.09	64,64,64,64	0
33	MG	0	8067	1/1	0.95	0.15	31,31,31,31	0
36	CL	X	8520	1/1	0.95	0.13	35,35,35,35	0
33	MG	0	8041	1/1	0.95	0.29	50,50,50,50	0
35	NA	0	8302	1/1	0.95	0.12	18,18,18,18	0
39	ACA	4	78	8/9	0.95	0.24	67,73,85,88	0
33	MG	0	8059	1/1	0.95	0.13	59,59,59,59	0
33	MG	0	8086	1/1	0.95	0.10	41,41,41,41	0
35	NA	0	8356	1/1	0.95	0.64	59,59,59,59	0
33	MG	0	8050	1/1	0.95	0.22	78,78,78,78	0
33	MG	A	8065	1/1	0.95	0.09	44,44,44,44	0
35	NA	0	8309	1/1	0.96	0.11	24,24,24,24	0
36	CL	0	8511	1/1	0.96	0.22	63,63,63,63	0
34	K	0	8201	1/1	0.96	0.65	80,80,80,80	0
35	NA	0	8360	1/1	0.96	0.65	39,39,39,39	0
36	CL	0	8516	1/1	0.96	0.18	44,44,44,44	0
33	MG	0	8043	1/1	0.96	0.07	34,34,34,34	0
33	MG	0	8058	1/1	0.96	0.06	28,28,28,28	0
35	NA	0	8319	1/1	0.96	0.09	50,50,50,50	0
36	CL	B	8519	1/1	0.96	0.24	51,51,51,51	0
33	MG	0	8100	1/1	0.96	0.10	65,65,65,65	0
35	NA	0	8342	1/1	0.96	0.22	19,19,19,19	0
35	NA	0	8367	1/1	0.96	0.19	36,36,36,36	0
36	CL	L	8518	1/1	0.96	0.12	36,36,36,36	0
35	NA	C	8304	1/1	0.96	0.15	25,25,25,25	0
36	CL	N	8508	1/1	0.96	0.31	82,82,82,82	0
35	NA	0	8349	1/1	0.96	0.14	37,37,37,37	0
35	NA	0	8325	1/1	0.96	0.37	29,29,29,29	0
37	PPU	4	76	37/38	0.96	0.21	48,55,62,63	0
35	NA	K	8380	1/1	0.96	0.17	69,69,69,69	0
35	NA	L	8347	1/1	0.96	0.10	7,7,7,7	0
35	NA	0	8370	1/1	0.96	0.28	48,48,48,48	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
33	MG	0	8074	1/1	0.96	0.05	27,27,27,27	0
33	MG	0	8112	1/1	0.96	0.11	34,34,34,34	0
33	MG	0	8113	1/1	0.96	0.20	36,36,36,36	0
33	MG	0	8025	1/1	0.96	0.08	17,17,17,17	0
35	NA	0	8327	1/1	0.97	0.13	16,16,16,16	0
33	MG	0	8090	1/1	0.97	0.11	65,65,65,65	0
33	MG	0	8036	1/1	0.97	0.10	32,32,32,32	0
33	MG	0	8071	1/1	0.97	0.08	66,66,66,66	0
35	NA	0	8361	1/1	0.97	0.45	40,40,40,40	0
33	MG	0	8072	1/1	0.97	0.10	43,43,43,43	0
33	MG	0	8052	1/1	0.97	0.13	36,36,36,36	0
35	NA	0	8334	1/1	0.97	0.12	29,29,29,29	0
35	NA	A	8345	1/1	0.97	0.11	40,40,40,40	0
33	MG	0	8075	1/1	0.97	0.06	50,50,50,50	0
33	MG	0	8016	1/1	0.97	0.09	25,25,25,25	0
33	MG	0	8008	1/1	0.97	0.06	42,42,42,42	0
35	NA	0	8316	1/1	0.97	0.19	28,28,28,28	0
35	NA	0	8317	1/1	0.97	0.10	23,23,23,23	0
35	NA	0	8344	1/1	0.97	0.06	9,9,9,9	0
33	MG	0	8085	1/1	0.97	0.29	103,103,103,103	0
35	NA	0	8321	1/1	0.97	0.33	58,58,58,58	0
33	MG	0	8010	1/1	0.97	0.05	20,20,20,20	0
33	MG	0	8027	1/1	0.97	0.05	37,37,37,37	0
35	NA	0	8375	1/1	0.97	0.20	40,40,40,40	0
35	NA	0	8376	1/1	0.97	0.23	50,50,50,50	0
33	MG	0	8028	1/1	0.97	0.06	23,23,23,23	0
33	MG	0	8108	1/1	0.98	0.06	61,61,61,61	0
35	NA	0	8330	1/1	0.98	0.19	21,21,21,21	0
33	MG	0	8110	1/1	0.98	0.10	22,22,22,22	0
33	MG	0	8064	1/1	0.98	0.28	17,17,17,17	0
33	MG	0	8040	1/1	0.98	0.09	107,107,107,107	0
33	MG	0	8015	1/1	0.98	0.07	29,29,29,29	0
35	NA	0	8335	1/1	0.98	0.14	47,47,47,47	0
33	MG	0	8068	1/1	0.98	0.07	58,58,58,58	0
33	MG	0	8070	1/1	0.98	0.43	71,71,71,71	0
33	MG	0	8042	1/1	0.98	0.14	40,40,40,40	0
33	MG	0	8006	1/1	0.98	0.09	28,28,28,28	0
33	MG	0	8044	1/1	0.98	0.15	35,35,35,35	0
35	NA	0	8343	1/1	0.98	0.07	17,17,17,17	0
33	MG	J	8069	1/1	0.98	0.08	47,47,47,47	0
33	MG	0	8045	1/1	0.98	0.10	44,44,44,44	0
33	MG	0	8018	1/1	0.98	0.04	32,32,32,32	0

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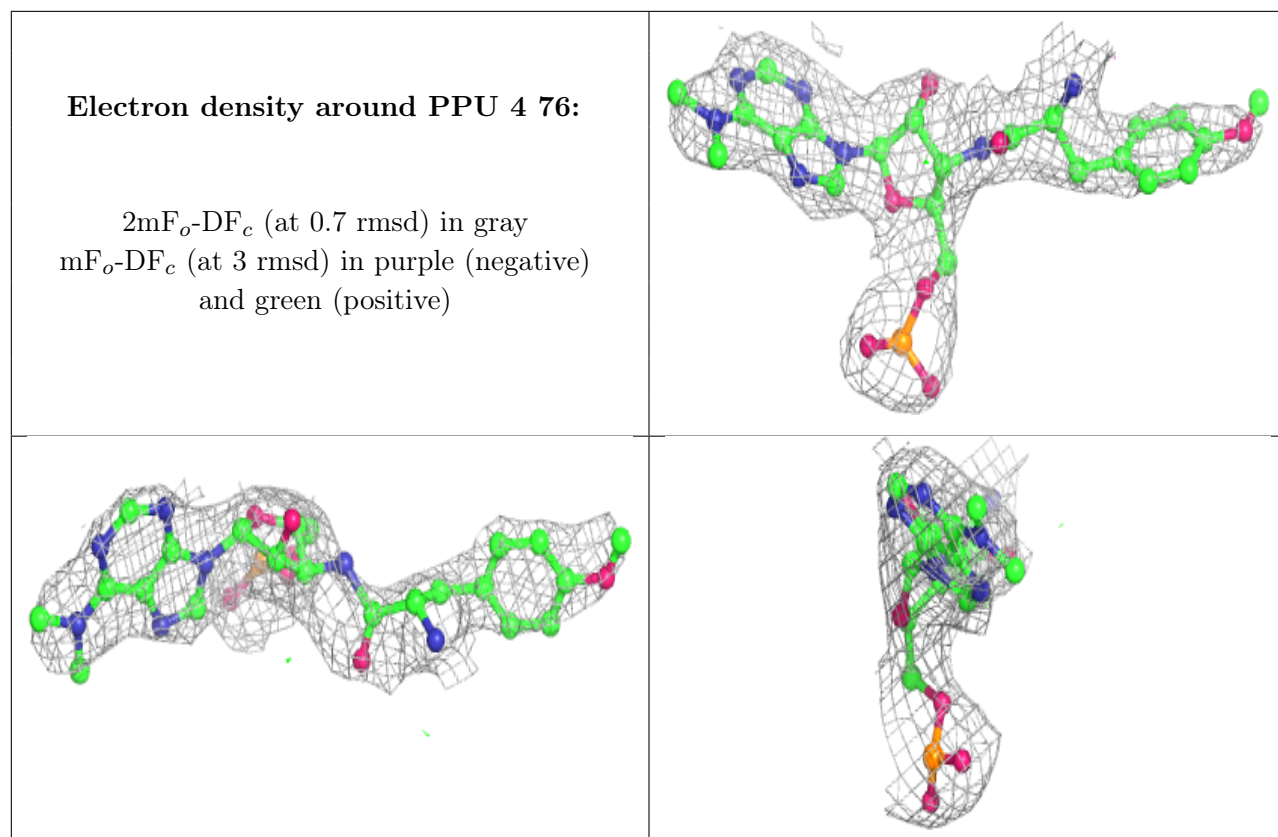
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
33	MG	0	8081	1/1	0.98	0.07	36,36,36,36	0
35	NA	0	8353	1/1	0.98	0.07	34,34,34,34	0
33	MG	0	8047	1/1	0.98	0.10	48,48,48,48	0
33	MG	0	8084	1/1	0.98	0.07	38,38,38,38	0
33	MG	0	8048	1/1	0.98	0.08	34,34,34,34	0
36	CL	0	8514	1/1	0.98	0.11	44,44,44,44	0
33	MG	0	8021	1/1	0.98	0.09	26,26,26,26	0
33	MG	0	8022	1/1	0.98	0.05	30,30,30,30	0
35	NA	0	8359	1/1	0.98	0.18	42,42,42,42	0
33	MG	0	8003	1/1	0.98	0.08	22,22,22,22	0
33	MG	0	8089	1/1	0.98	0.12	50,50,50,50	0
33	MG	0	8004	1/1	0.98	0.06	30,30,30,30	0
36	CL	I	8501	1/1	0.98	0.13	60,60,60,60	0
33	MG	0	8091	1/1	0.98	0.06	40,40,40,40	0
33	MG	0	8011	1/1	0.98	0.20	1,1,1,1	0
33	MG	0	8094	1/1	0.98	0.06	54,54,54,54	0
33	MG	0	8096	1/1	0.98	0.05	33,33,33,33	0
35	NA	0	8315	1/1	0.98	0.15	32,32,32,32	0
33	MG	0	8097	1/1	0.98	0.14	30,30,30,30	0
33	MG	0	8098	1/1	0.98	0.29	24,24,24,24	0
33	MG	0	8013	1/1	0.98	0.08	25,25,25,25	0
35	NA	0	8320	1/1	0.98	0.07	15,15,15,15	0
33	MG	0	8056	1/1	0.98	0.06	35,35,35,35	0
35	NA	0	8323	1/1	0.98	0.25	34,34,34,34	0
33	MG	0	8057	1/1	0.98	0.11	30,30,30,30	0
33	MG	0	8035	1/1	0.98	0.05	39,39,39,39	0
33	MG	0	8014	1/1	0.98	0.07	22,22,22,22	0
33	MG	0	8060	1/1	0.98	0.07	32,32,32,32	0
33	MG	0	8062	1/1	0.98	0.04	37,37,37,37	0
33	MG	0	8054	1/1	0.99	0.05	28,28,28,28	0
33	MG	0	8083	1/1	0.99	0.05	38,38,38,38	0
33	MG	0	8012	1/1	0.99	0.08	26,26,26,26	0
33	MG	0	8037	1/1	0.99	0.05	34,34,34,34	0
33	MG	0	8038	1/1	0.99	0.04	23,23,23,23	0
33	MG	0	8117	1/1	0.99	0.09	19,19,19,19	0
33	MG	0	8039	1/1	0.99	0.06	31,31,31,31	0
36	CL	0	8512	1/1	0.99	0.10	34,34,34,34	0
33	MG	0	8007	1/1	0.99	0.05	18,18,18,18	0
33	MG	0	8023	1/1	0.99	0.07	28,28,28,28	0
33	MG	0	8061	1/1	0.99	0.07	28,28,28,28	0
33	MG	X	8109	1/1	0.99	0.20	35,35,35,35	0
33	MG	0	8002	1/1	0.99	0.05	33,33,33,33	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
33	MG	0	8063	1/1	0.99	0.06	68,68,68,68	0
33	MG	0	8093	1/1	0.99	0.07	43,43,43,43	0
33	MG	0	8009	1/1	0.99	0.04	18,18,18,18	0
33	MG	0	8026	1/1	0.99	0.08	25,25,25,25	0
33	MG	0	8005	1/1	0.99	0.05	26,26,26,26	0
33	MG	0	8017	1/1	0.99	0.03	15,15,15,15	0
35	NA	0	8305	1/1	0.99	0.10	19,19,19,19	0
33	MG	0	8029	1/1	0.99	0.05	23,23,23,23	0
33	MG	0	8030	1/1	0.99	0.11	29,29,29,29	0
33	MG	0	8031	1/1	0.99	0.03	18,18,18,18	0
36	CL	Q	8506	1/1	0.99	0.11	43,43,43,43	0
33	MG	0	8032	1/1	0.99	0.06	29,29,29,29	0
33	MG	0	8033	1/1	0.99	0.10	18,18,18,18	0
33	MG	0	8034	1/1	0.99	0.03	22,22,22,22	0
35	NA	0	8313	1/1	0.99	0.17	59,59,59,59	0
33	MG	0	8077	1/1	0.99	0.06	21,21,21,21	0
33	MG	0	8107	1/1	0.99	0.03	24,24,24,24	0
33	MG	0	8079	1/1	0.99	0.05	27,27,27,27	0
33	MG	0	8080	1/1	0.99	0.06	42,42,42,42	0
35	NA	0	8318	1/1	0.99	0.08	22,22,22,22	0
33	MG	0	8001	1/1	0.99	0.07	21,21,21,21	0
35	NA	Q	8338	1/1	1.00	0.06	57,57,57,57	0
33	MG	0	8019	1/1	1.00	0.03	13,13,13,13	0
41	CD	Z	8402	1/1	1.00	0.06	49,49,49,49	0
33	MG	0	8020	1/1	1.00	0.07	16,16,16,16	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.



6.5 Other polymers [i](#)

There are no such residues in this entry.