Full wwPDB EM Validation Report ⓘ

Mar 24, 2025 – 04:45 PM EDT

PDB ID	:	9NJF
EMDB ID	:	EMD-40923
Title	:	E. coli pre-elongation complex without an A-site tRNA with EQ2-YbiT in Non-hydrolytic 1/PtIM(a) conformation
Authors	:	Singh, S.; Hunt, J.F.
Deposited on	:	2025-02-27
Resolution	:	3.40 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

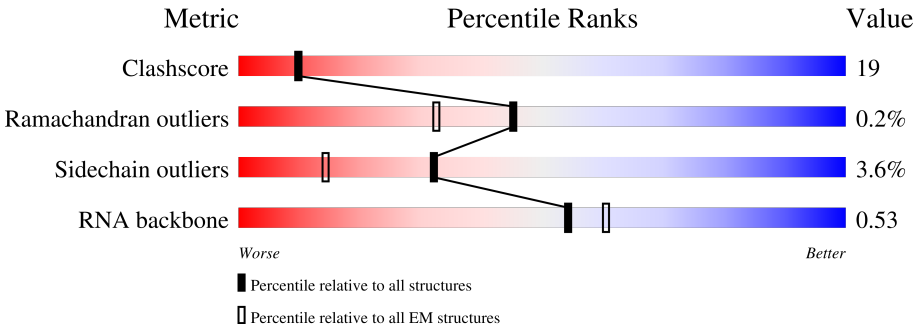
EMDB validation analysis	:	0.0.1.dev117
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.41.4

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.40 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	220	54% 69% 30% ·
2	10	131	89% 41% 53% 5%
3	11	141	86% 33% 59% 7% ·
4	13	142	· 63% 35% ·
5	14	123	9% 63% 35% · ·
6	15	143	6% 64% 35% ·
7	16	136	6% 60% 36% ·

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Mol	Chain	Length	Quality of chain
8	17	120	67% 31%
9	18	116	9% 60% 39%
10	19	114	11% 61% 39%
11	2	271	65% 34%
12	20	117	56% 42%
13	21	103	12% 70% 29%
14	22	110	8% 60% 38%
15	23	93	11% 62% 33%
16	24	102	18% 60% 37%
17	25	94	10% 56% 41%
18	27	75	61% 33% 5%
19	28	77	65% 34%
20	29	63	17% 51% 46%
21	3	209	5% 73% 26%
22	30	58	7% 47% 53%
23	31	66	79% 30% 56% 11%
24	32	56	7% 57% 39%
25	33	50	84% 32% 62%
26	34	46	74% 26%
27	35	64	5% 64% 36%
28	36	38	5% 63% 34%
29	4	201	13% 65% 35%
30	5	177	40% 37% 57% 6%
31	6	176	20% 60% 38%
32	9	149	77% 70% 28%

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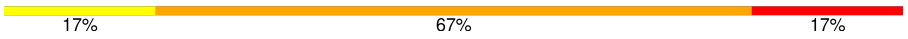
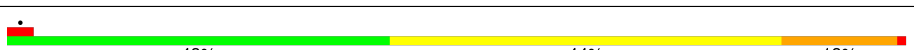
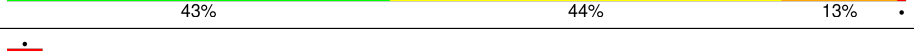
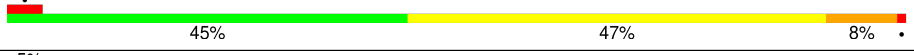
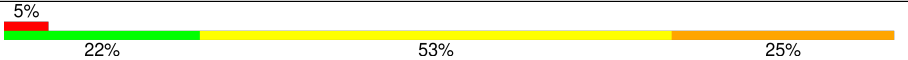
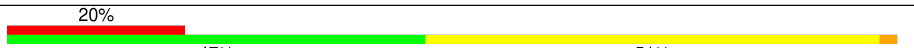
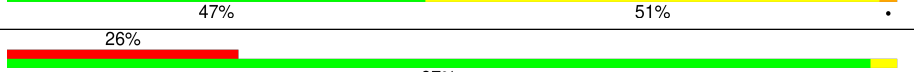
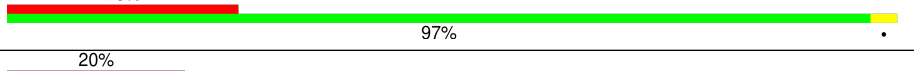
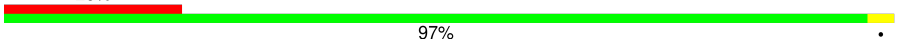
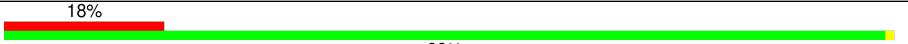
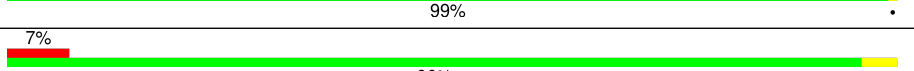
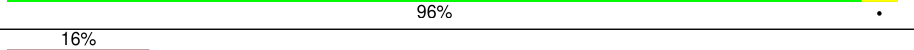
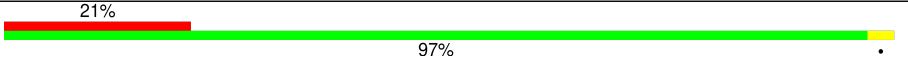
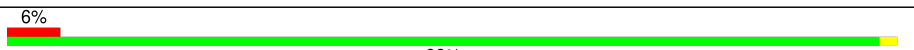
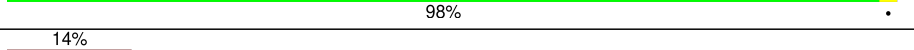
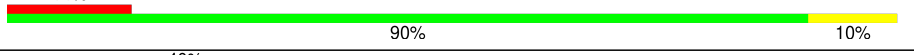
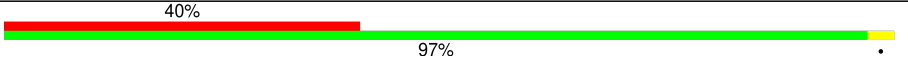
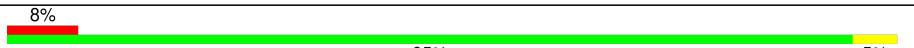
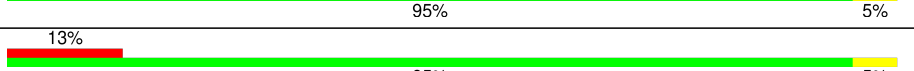
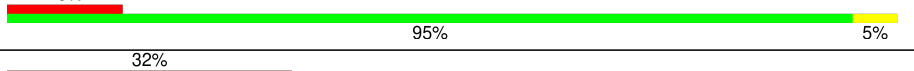
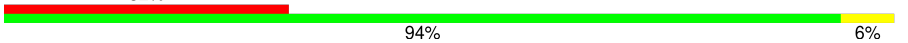
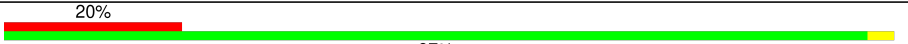
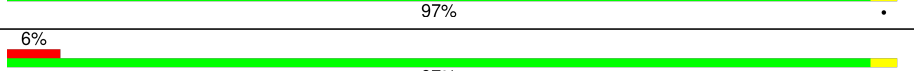
Mol	Chain	Length	Quality of chain
33	M	6	
34	R1	2903	
35	R2	119	
36	R3	1538	
37	T	76	
38	Y	530	
39	sb	218	
40	sc	206	
41	sd	205	
42	se	157	
43	sf	100	
44	sg	151	
45	sh	129	
46	si	127	
47	sj	98	
48	sk	116	
49	sl	123	
50	sm	114	
51	sn	100	
52	so	88	
53	sp	82	
54	sq	80	
55	sr	65	
56	ss	79	
57	st	85	

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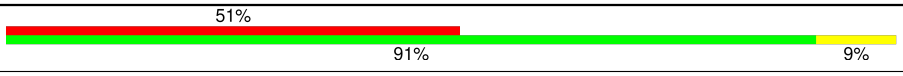
Mol	Chain	Length	Quality of chain
58	su	65	

2 Entry composition

There are 62 unique types of molecules in this entry. The entry contains 151792 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Large ribosomal subunit protein uL1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	1	220	1353	804	270	277	2	0	0

- Molecule 2 is a protein called Large ribosomal subunit protein uL10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	10	131	988	625	175	183	5	0	0

- Molecule 3 is a protein called Large ribosomal subunit protein uL11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	11	141	1032	651	179	196	6	0	0

- Molecule 4 is a protein called Large ribosomal subunit protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	13	142	1129	714	212	199	4	0	0

- Molecule 5 is a protein called Large ribosomal subunit protein uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	14	122	938	587	180	165	6	0	0

- Molecule 6 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	15	143	1045	649	206	189	1	0	0

- Molecule 7 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	16	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		

- Molecule 8 is a protein called Large ribosomal subunit protein bL17.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	17	120	Total	C	N	O	S	0	0
			960	593	196	166	5		

- Molecule 9 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms				AltConf	Trace
9	18	116	Total	C	N	O	0	0
			892	552	178	162		

- Molecule 10 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	19	114	Total	C	N	O	S	0	0
			917	574	179	163	1		

- Molecule 11 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	2	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		

- Molecule 12 is a protein called Large ribosomal subunit protein bL20.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	20	117	Total	C	N	O	0	0
			947	604	192	151		

- Molecule 13 is a protein called Large ribosomal subunit protein bL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	21	103	Total	C	N	O	S	0	0
			816	516	153	145	2		

- Molecule 14 is a protein called Large ribosomal subunit protein uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	22	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

- Molecule 15 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	23	93	Total	C	N	O	S	0	0
			738	466	139	131	2		

- Molecule 16 is a protein called Large ribosomal subunit protein uL24.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	24	102	Total	C	N	O	0	0
			779	492	146	141		

- Molecule 17 is a protein called Large ribosomal subunit protein bL25.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	25	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

- Molecule 18 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	27	75	Total	C	N	O	S	0	0
			575	356	116	102	1		

- Molecule 19 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	28	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 20 is a protein called Large ribosomal subunit protein uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	29	63	Total	C	N	O	S	0	0
			509	313	99	95	2		

- Molecule 21 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	3	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		

- Molecule 22 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	30	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 23 is a protein called Large ribosomal subunit protein bL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	31	66	Total	C	N	O	S	0	0
			522	323	99	94	6		

- Molecule 24 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	32	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 25 is a protein called Large ribosomal subunit protein bL33.

Mol	Chain	Residues	Atoms				AltConf	Trace
25	33	50	Total	C	N	O	0	0
			409	263	75	71		

- Molecule 26 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	34	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 27 is a protein called Large ribosomal subunit protein bL35.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	35	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 28 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	36	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 29 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	4	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		

- Molecule 30 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	5	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 31 is a protein called Large ribosomal subunit protein uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	6	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 32 is a protein called Large ribosomal subunit protein bL9.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	9	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 33 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	M	6	Total	C	N	O	P	0	0
			123	58	24	35	6		

- Molecule 34 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	R1	2903	Total	C	N	O	P	0	0
			62318	27801	11467	20148	2902		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R1	1847	G	A	conflict	GB 2019144442

- Molecule 35 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	R2	119	Total	C	N	O	P	0	0
			2546	1135	466	827	118		

- Molecule 36 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	R3	1538	Total	C	N	O	P	0	0
			32992	14716	6049	10690	1537		

- Molecule 37 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	T	76	Total	C	N	O	P	0	0
			1621	724	295	527	75		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
T	34	A	U	conflict	GB 1845258627

- Molecule 38 is a protein called Probable ATP-binding protein YbiT.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Y	530	Total	C	N	O	S	0	0
			4210	2659	718	814	19		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Y	181	GLN	GLU	conflict	UNP P0A9U3
Y	464	GLN	GLU	conflict	UNP P0A9U3

- Molecule 39 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	sb	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

- Molecule 40 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	sc	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 41 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	sd	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 42 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	se	157	Total	C	N	O	S	0	0
			1156	719	218	213	6		

- Molecule 43 is a protein called 30S ribosomal protein S6, non-modified isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	sf	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 44 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	sg	151	Total	C	N	O	S	0	0
			1181	735	227	215	4		

- Molecule 45 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	sh	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 46 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	si	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 47 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	sj	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 48 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	sk	116	Total	C	N	O	S	0	0
			869	535	173	158	3		

- Molecule 49 is a protein called Small ribosomal subunit protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	sl	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 50 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	sm	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

- Molecule 51 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	sn	100	Total	C	N	O	S	0	0
			805	499	164	139	3		

- Molecule 52 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	so	88	Total	C	N	O	S	0	0
			714	439	144	130	1		

- Molecule 53 is a protein called Small ribosomal subunit protein bS16.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	sp	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 54 is a protein called Small ribosomal subunit protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	sq	80	Total 648	C 411	N 121	O 113	S 3	0	0

- Molecule 55 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	sr	65	Total 535	C 339	N 100	O 95	S 1	0	0

- Molecule 56 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	ss	79	Total 637	C 408	N 120	O 107	S 2	0	0

- Molecule 57 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	st	85	Total 665	C 411	N 137	O 114	S 3	0	0

- Molecule 58 is a protein called Small ribosomal subunit protein bS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	su	65	Total 544	C 335	N 117	O 91	S 1	0	0

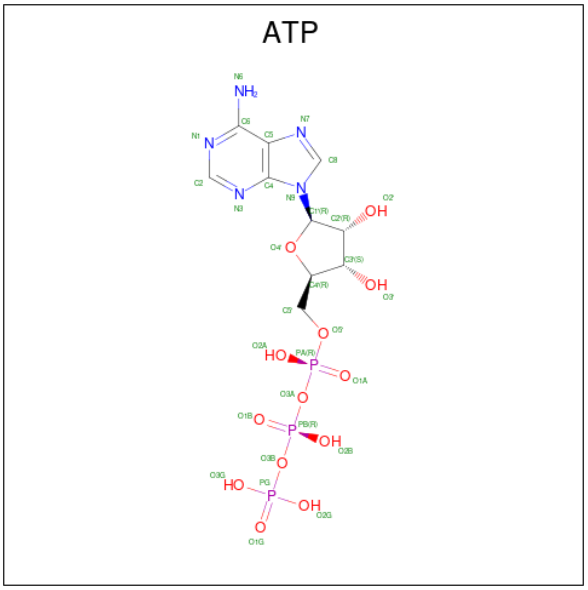
- Molecule 59 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
59	18	1	Total 1	Mg 1	0
59	32	1	Total 1	Mg 1	0
59	33	1	Total 1	Mg 1	0
59	R1	92	Total 92	Mg 92	0
59	R2	2	Total 2	Mg 2	0
59	R3	27	Total 27	Mg 27	0

- Molecule 60 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
60	36	1	Total	Zn	0
			1	1	

- Molecule 61 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



Mol	Chain	Residues	Atoms					AltConf
61	Y	1	Total	C	N	O	P	0
			31	10	5	13	3	
61	Y	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 62 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		AltConf
62	Y	2	Total	Na	0
			2	2	

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 atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Large ribosomal subunit protein uL1

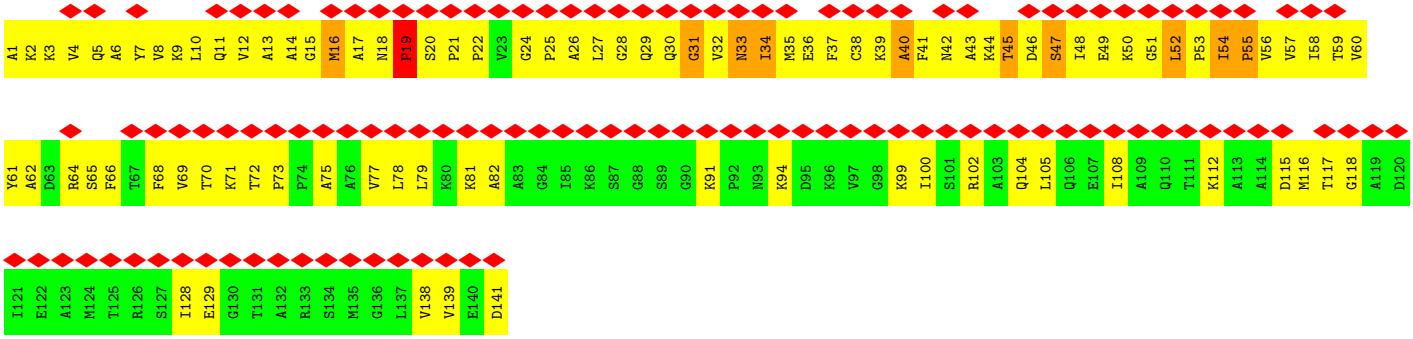
Chain 1:

• Molecule 2: Large ribosomal subunit protein uL10

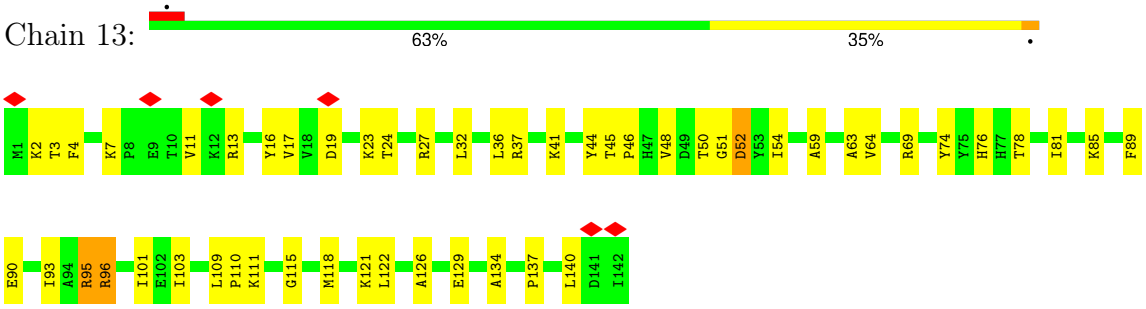
Chain 10:

• Molecule 3: Large ribosomal subunit protein uL11

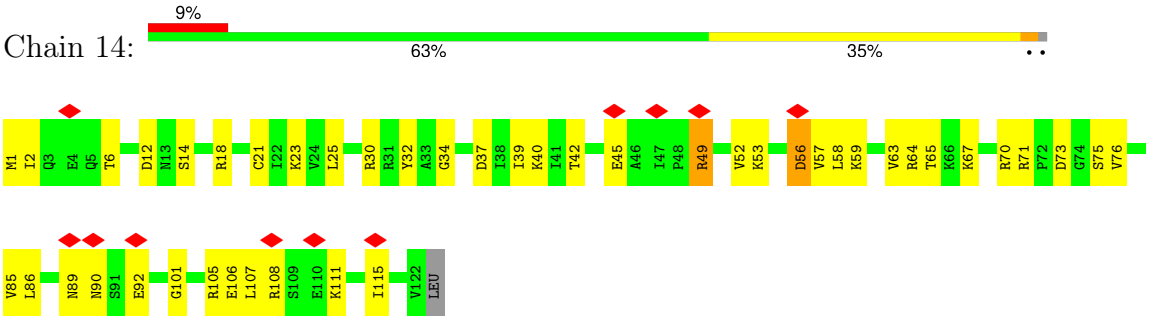
Chain 11:



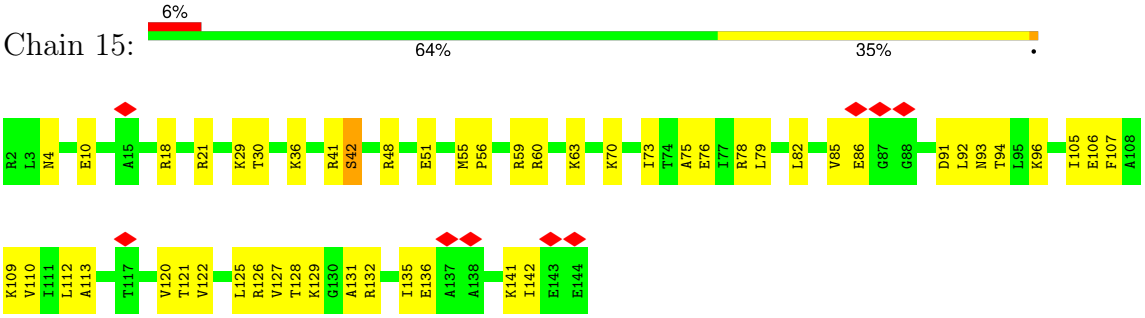
• Molecule 4: Large ribosomal subunit protein uL13



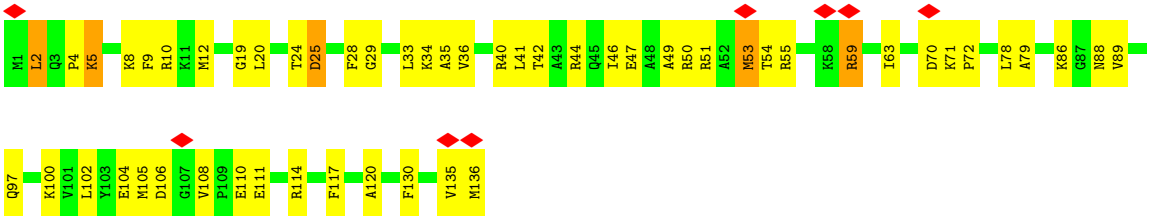
• Molecule 5: Large ribosomal subunit protein uL14



• Molecule 6: 50S ribosomal protein L15

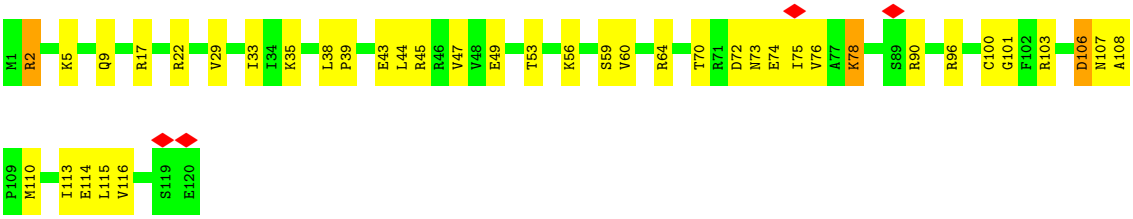


• Molecule 7: 50S ribosomal protein L16



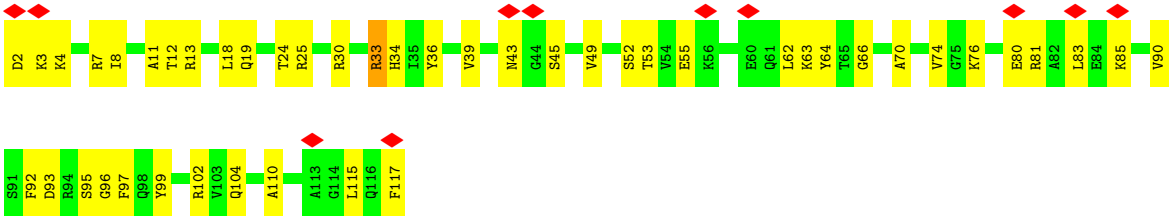
• Molecule 8: Large ribosomal subunit protein bL17

Chain 17:



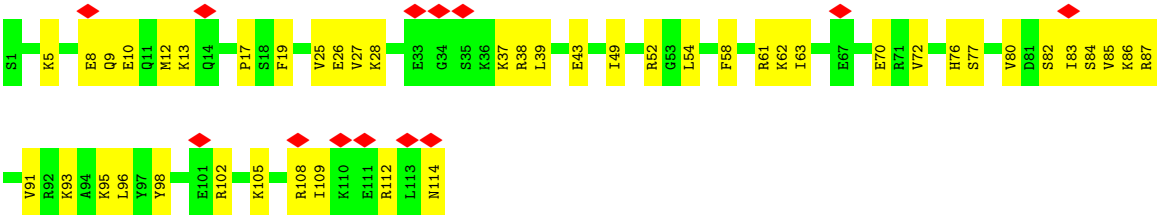
• Molecule 9: Large ribosomal subunit protein uL18

Chain 18:



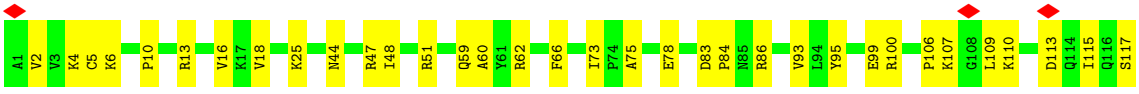
• Molecule 10: 50S ribosomal protein L19

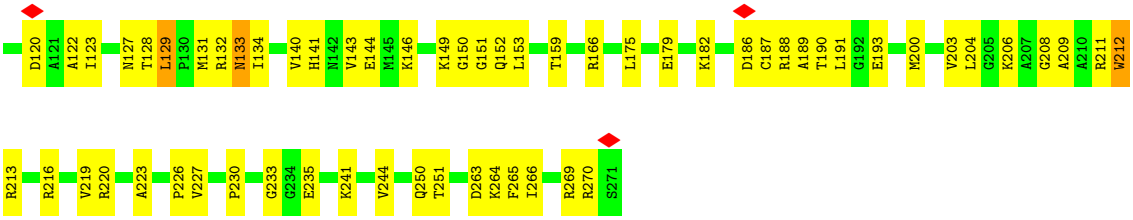
Chain 19:



• Molecule 11: 50S ribosomal protein L2

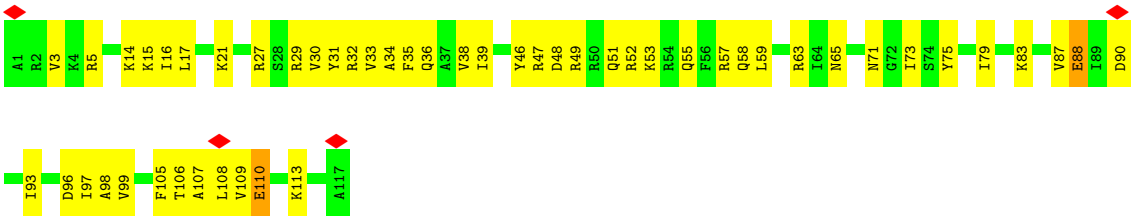
Chain 2:





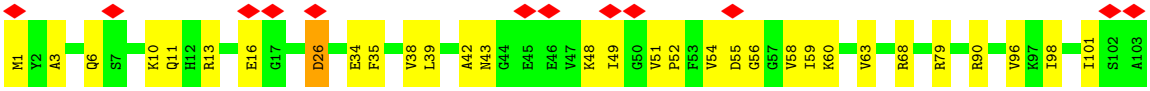
• Molecule 12: Large ribosomal subunit protein bL20

Chain 20:



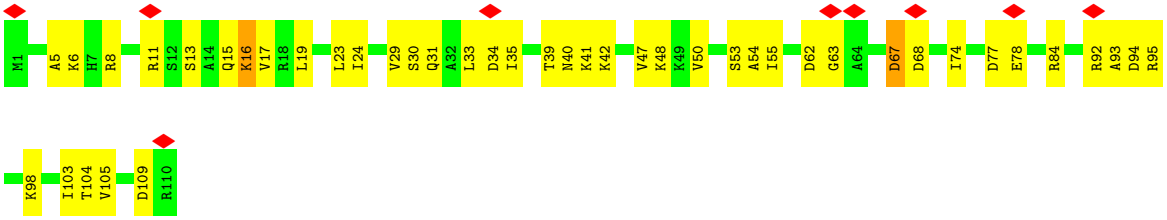
• Molecule 13: Large ribosomal subunit protein bL21

Chain 21:



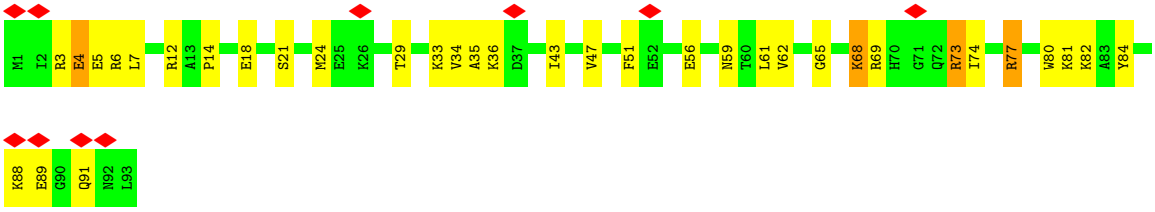
• Molecule 14: Large ribosomal subunit protein uL22

Chain 22:



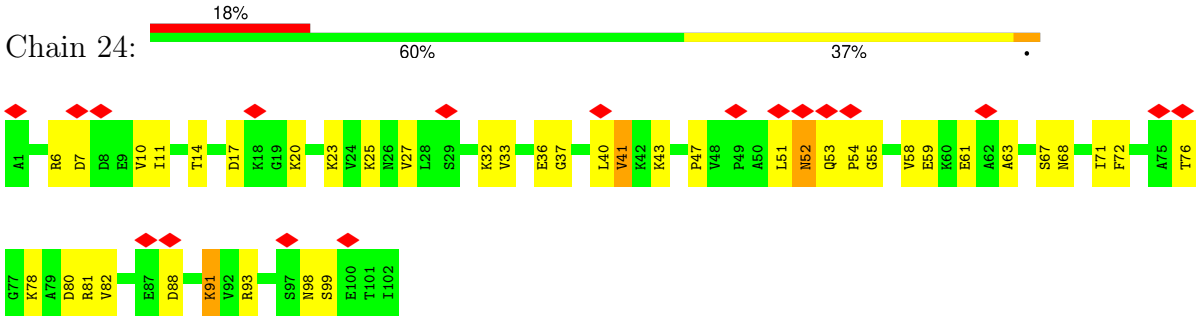
• Molecule 15: Large ribosomal subunit protein uL23

Chain 23:



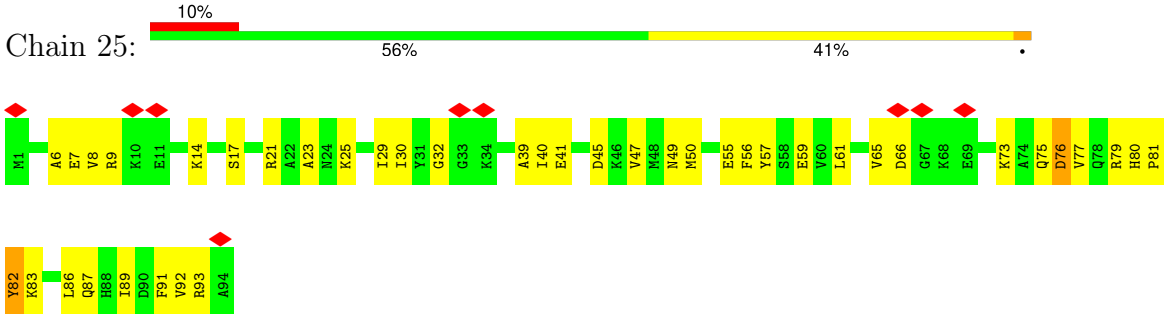
• Molecule 16: Large ribosomal subunit protein uL24

Chain 24:



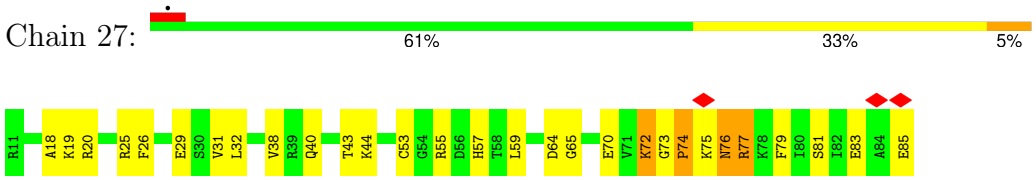
• Molecule 17: Large ribosomal subunit protein bL25

Chain 25:



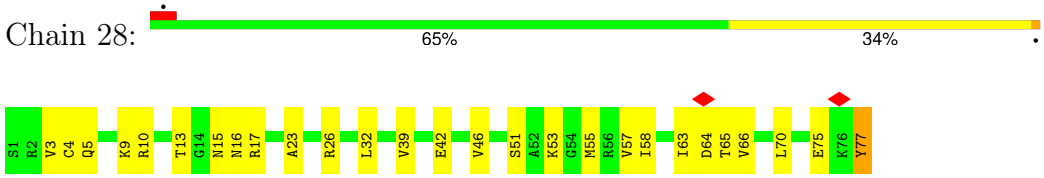
• Molecule 18: 50S ribosomal protein L27

Chain 27:



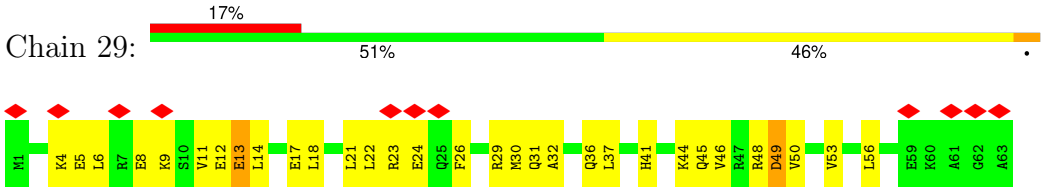
• Molecule 19: 50S ribosomal protein L28

Chain 28:



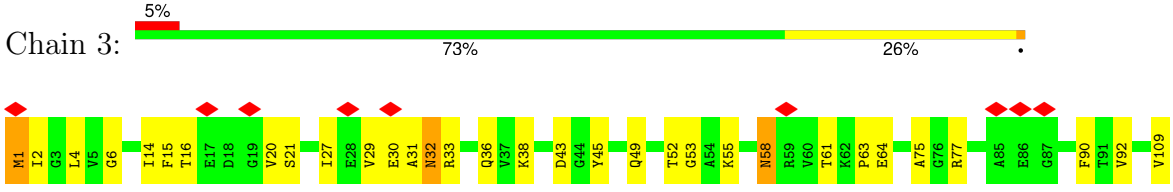
• Molecule 20: Large ribosomal subunit protein uL29

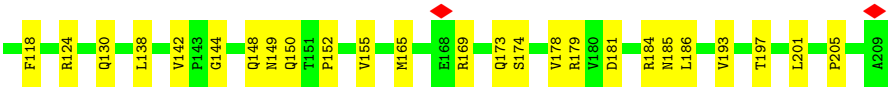
Chain 29:



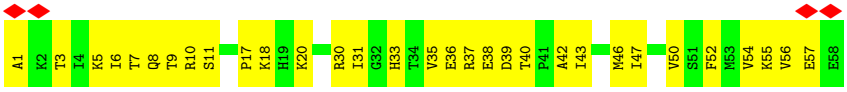
• Molecule 21: 50S ribosomal protein L3

Chain 3:

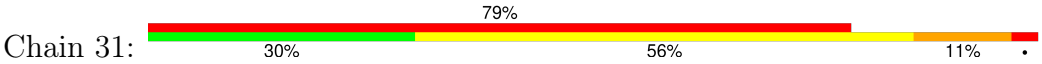


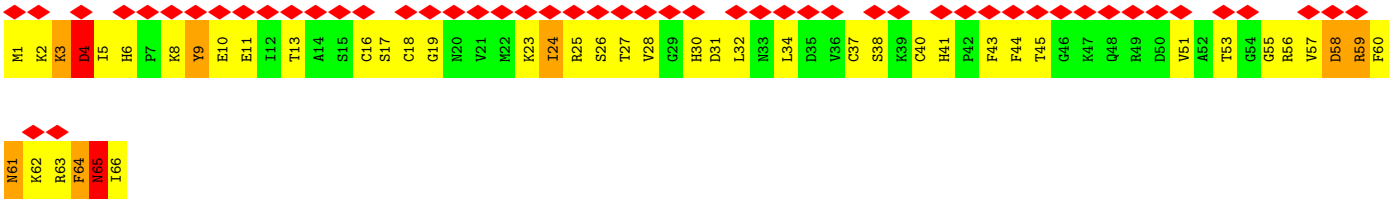


• Molecule 22: 50S ribosomal protein L30

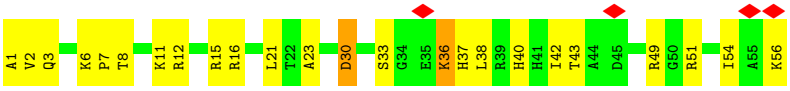


• Molecule 23: Large ribosomal subunit protein bL31

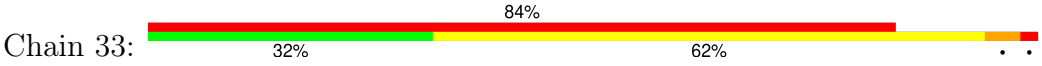


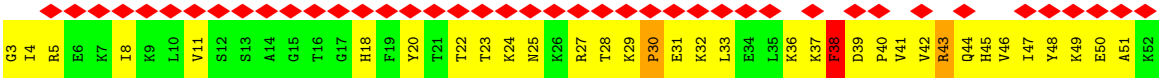


• Molecule 24: 50S ribosomal protein L32

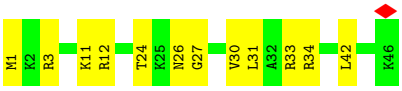


• Molecule 25: Large ribosomal subunit protein bL33

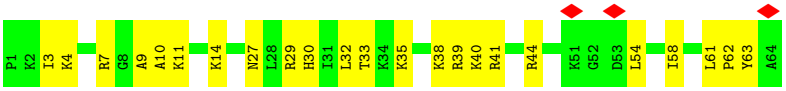




• Molecule 26: 50S ribosomal protein L34

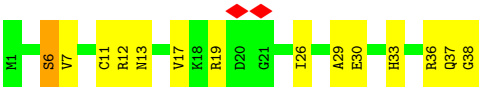


• Molecule 27: Large ribosomal subunit protein bL35



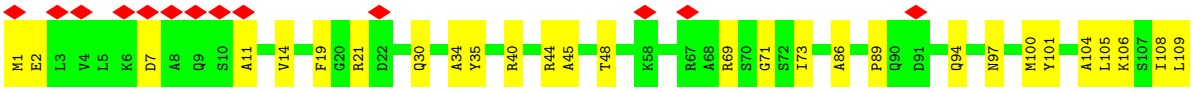
• Molecule 28: 50S ribosomal protein L36

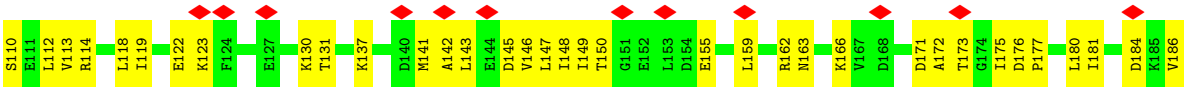
Chain 36:

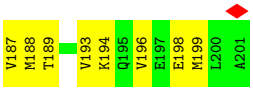


• Molecule 29: Large ribosomal subunit protein uL4

Chain 4:

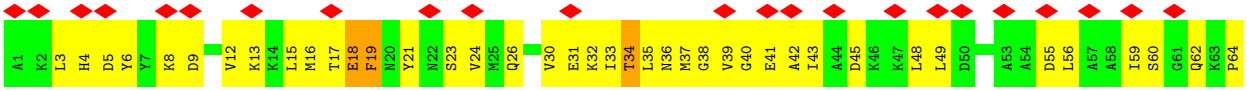


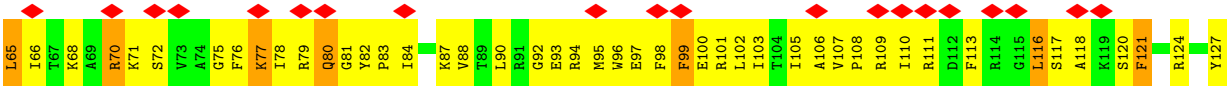


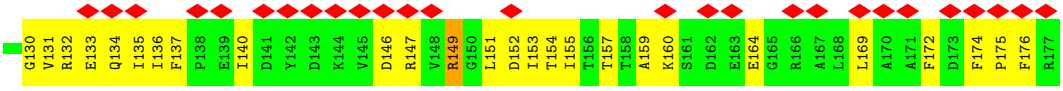


• Molecule 30: 50S ribosomal protein L5

Chain 5:

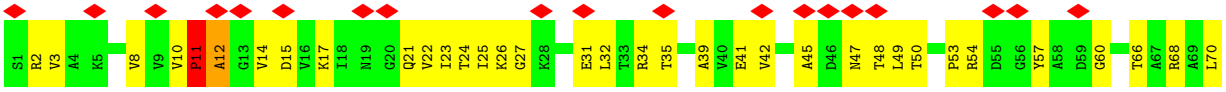


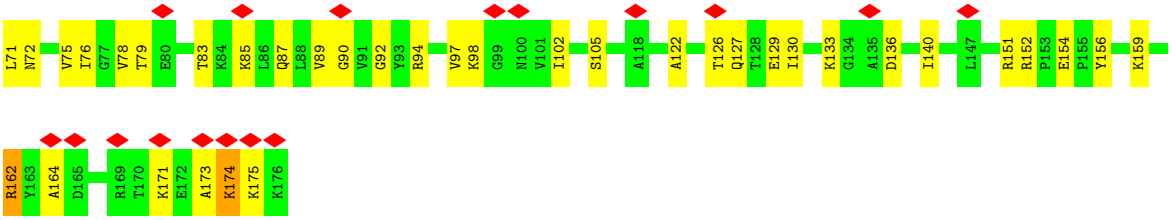




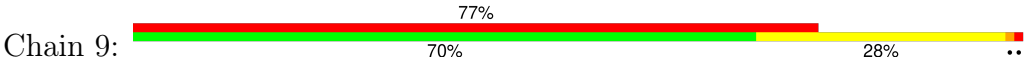
• Molecule 31: Large ribosomal subunit protein uL6

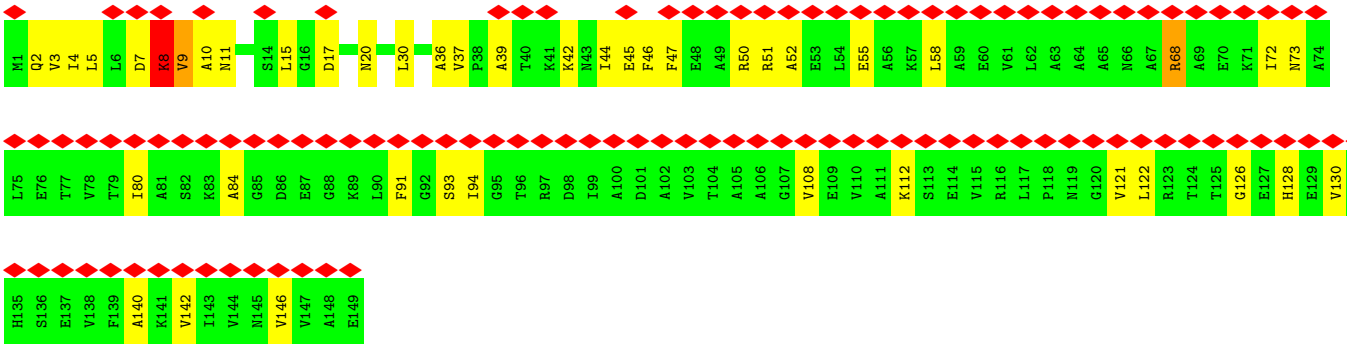
Chain 6:



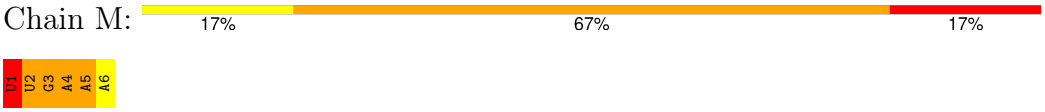


• Molecule 32: Large ribosomal subunit protein bL9

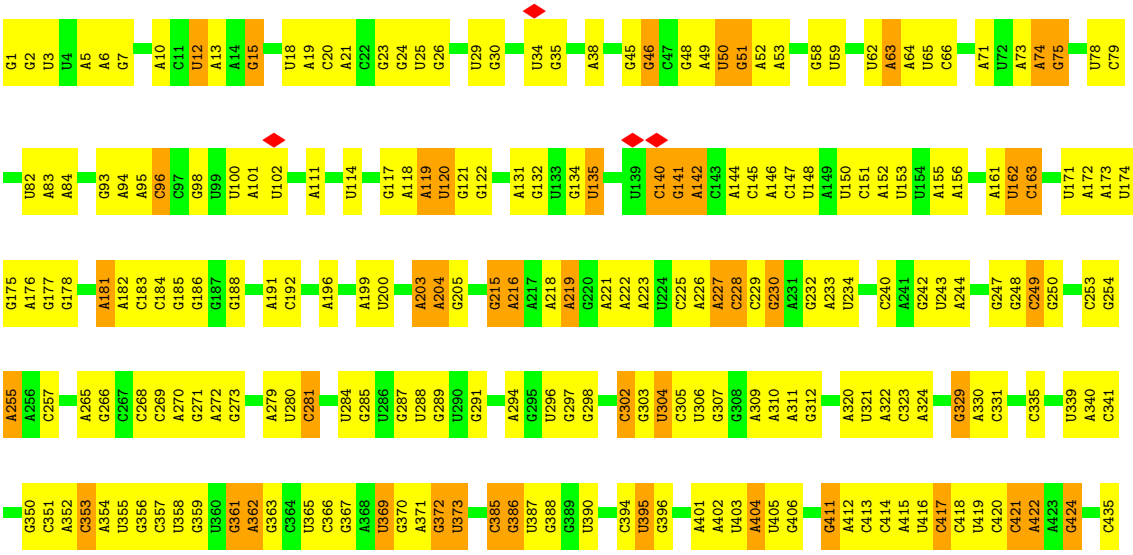


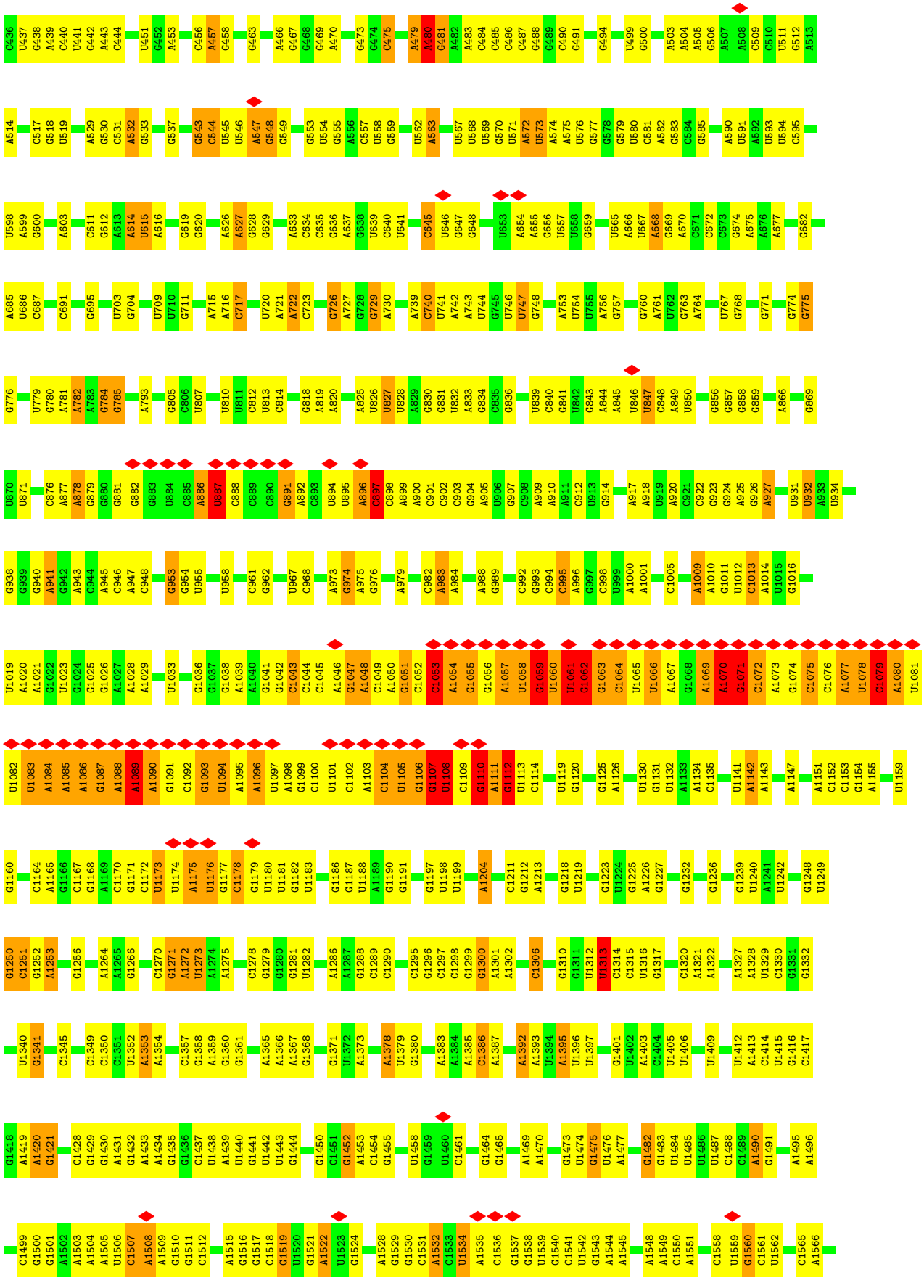


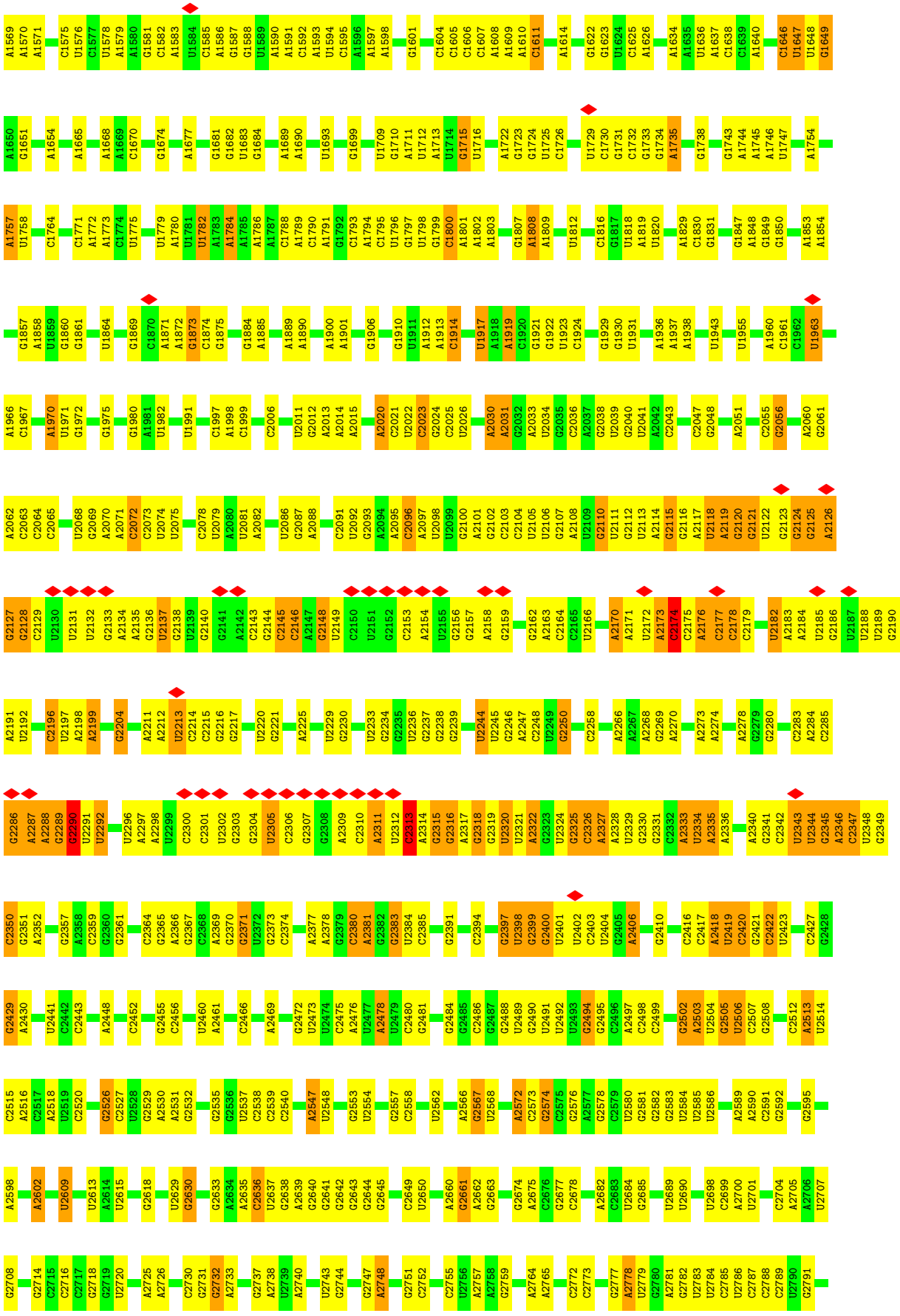
• Molecule 33: mRNA

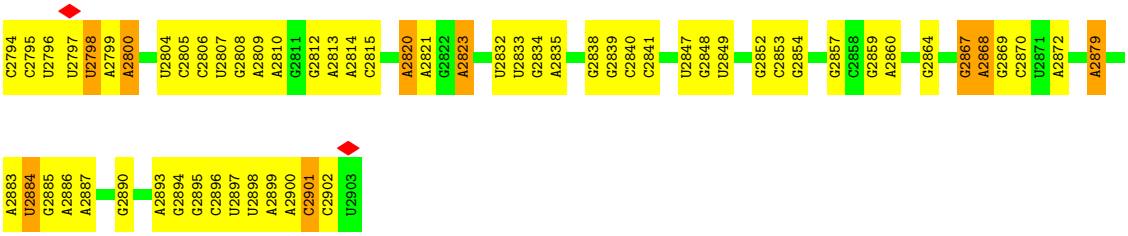


• Molecule 34: 23S ribosomal RNA



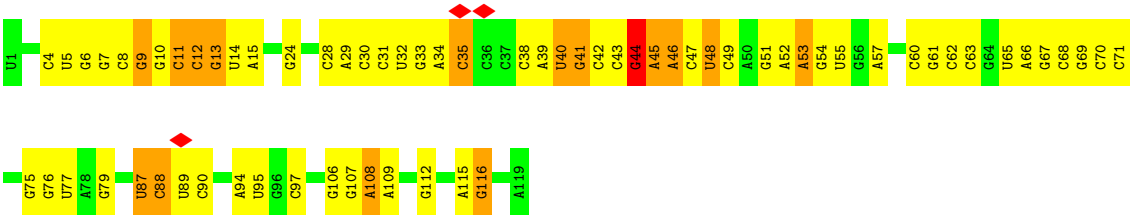






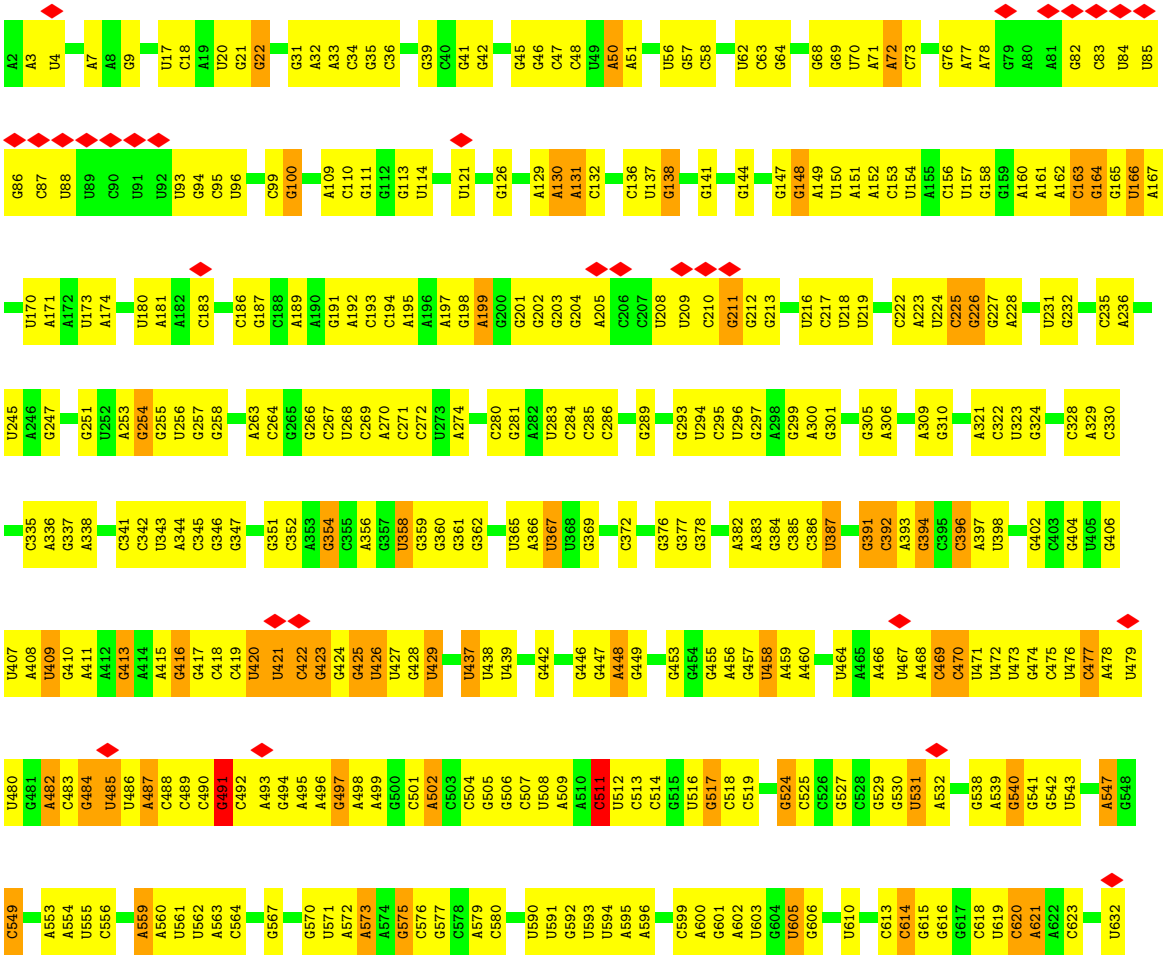
• Molecule 35: 5S ribosomal RNA

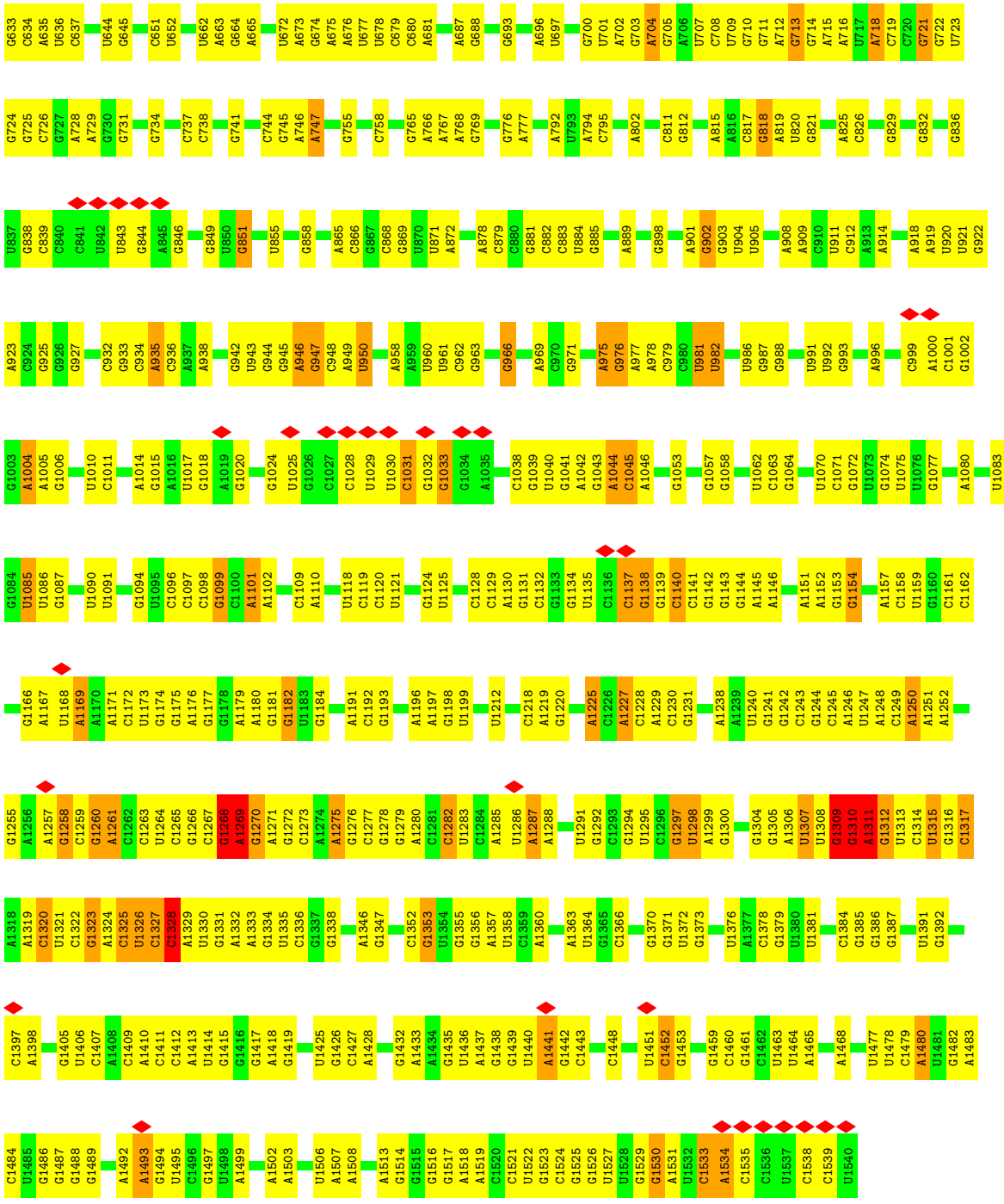
Chain R2:



• Molecule 36: 16S ribosomal RNA

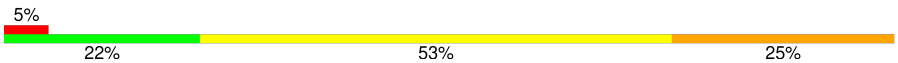
Chain R3:

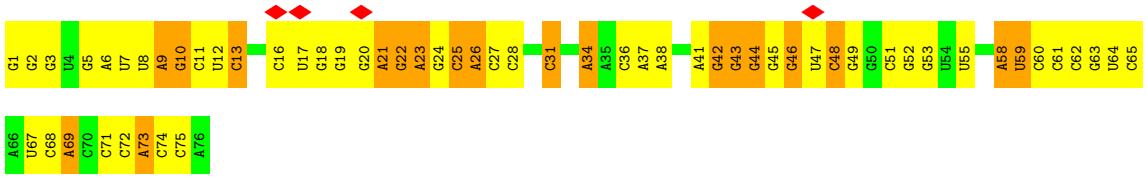




• Molecule 37: tRNA

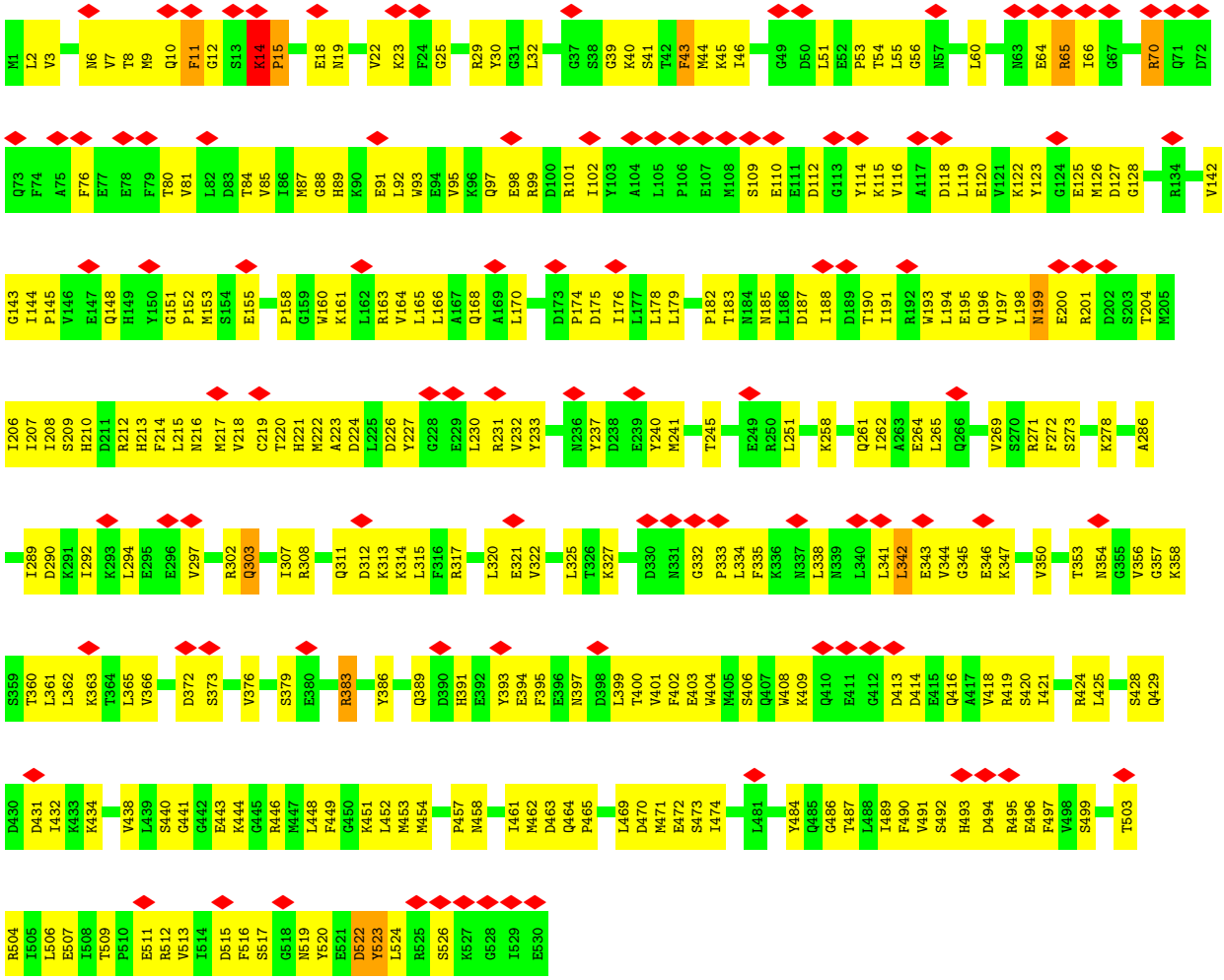
Chain T:





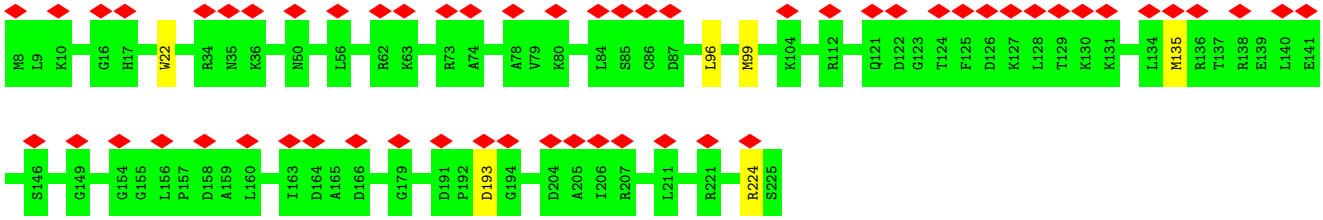
• Molecule 38: Probable ATP-binding protein YbiT

Chain Y:



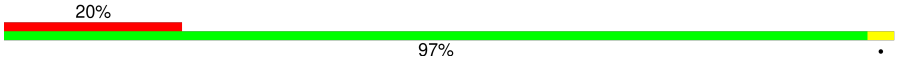
• Molecule 39: Small ribosomal subunit protein uS2

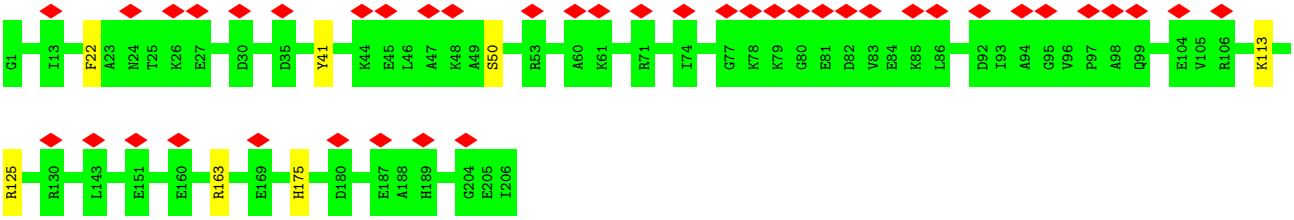
Chain sb:



• Molecule 40: Small ribosomal subunit protein uS3

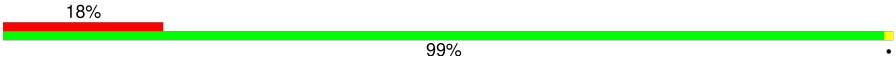
Chain sc:

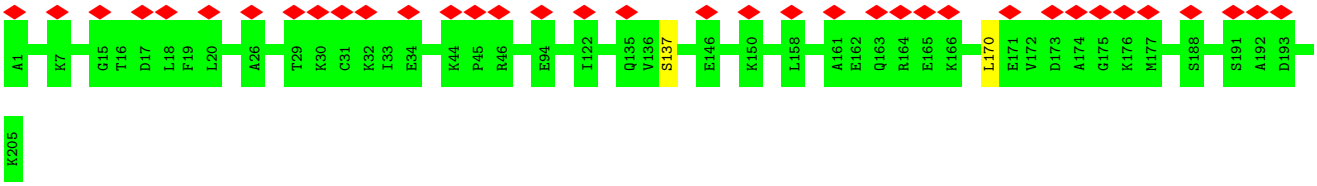




• Molecule 41: 30S ribosomal protein S4

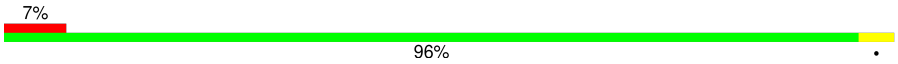
Chain sd:

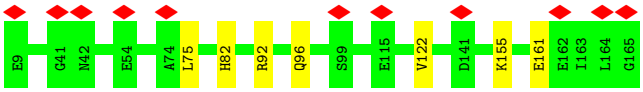




• Molecule 42: Small ribosomal subunit protein uS5

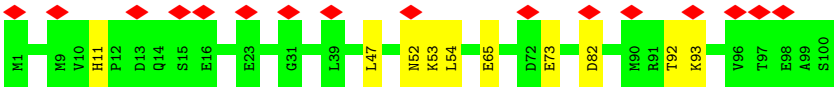
Chain se:





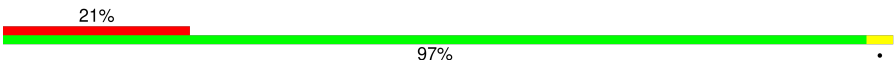
• Molecule 43: 30S ribosomal protein S6, non-modified isoform

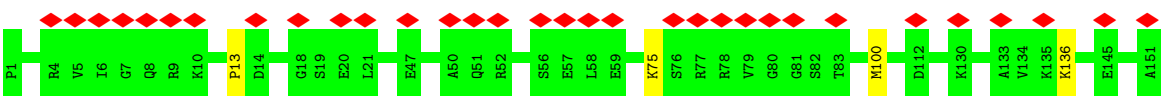
Chain sf:



• Molecule 44: 30S ribosomal protein S7

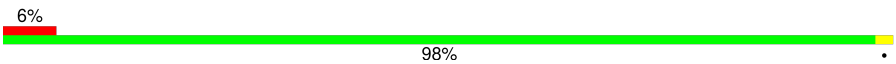
Chain sg:

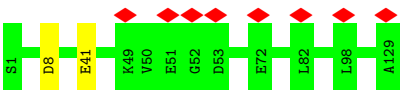




• Molecule 45: 30S ribosomal protein S8

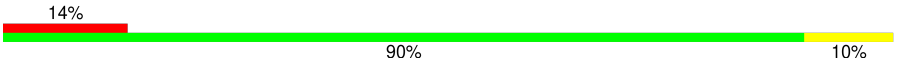
Chain sh:

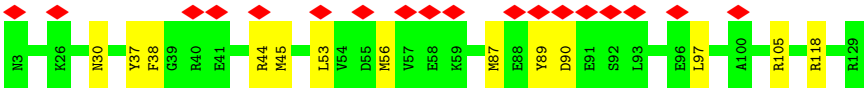




• Molecule 46: Small ribosomal subunit protein uS9

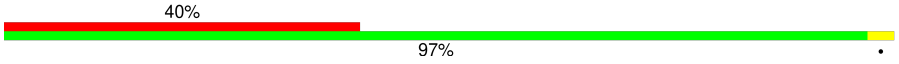
Chain si:

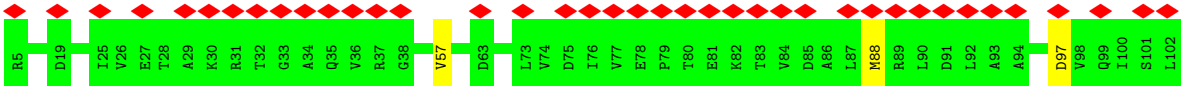




• Molecule 47: 30S ribosomal protein S10

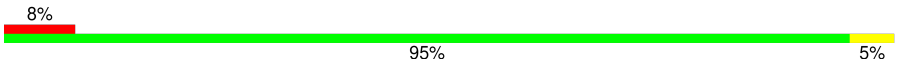
Chain sj:

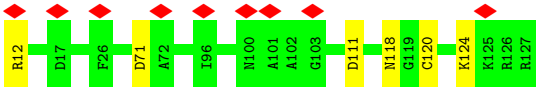




• Molecule 48: Small ribosomal subunit protein uS11

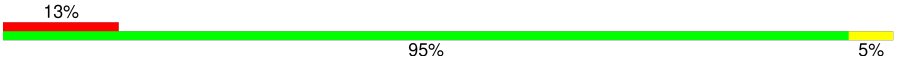
Chain sk:

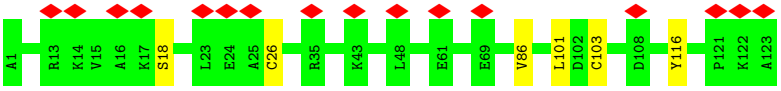




• Molecule 49: Small ribosomal subunit protein uS12

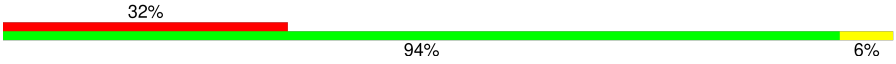
Chain sl:

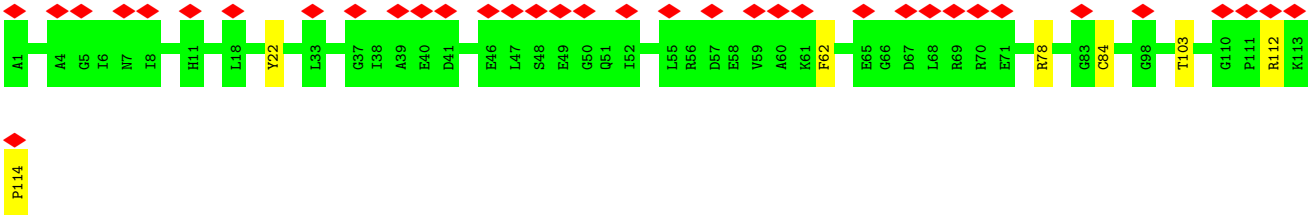




• Molecule 50: 30S ribosomal protein S13

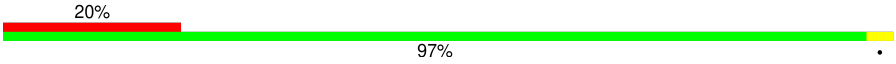
Chain sm:

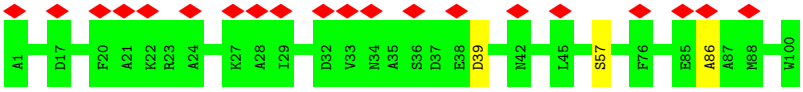




• Molecule 51: Small ribosomal subunit protein uS14

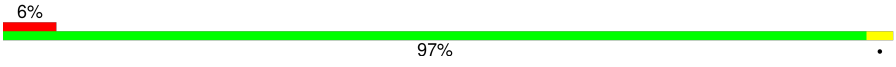
Chain sn:

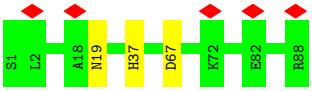




• Molecule 52: Small ribosomal subunit protein uS15

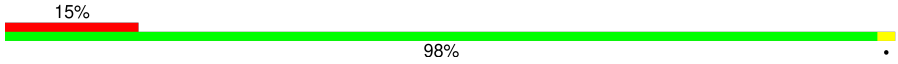
Chain so:

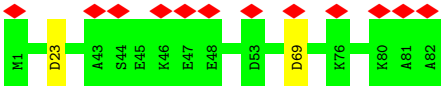




• Molecule 53: Small ribosomal subunit protein bS16

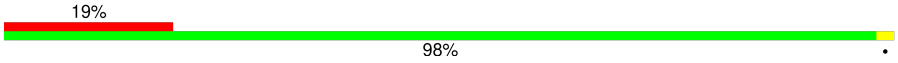
Chain sp:

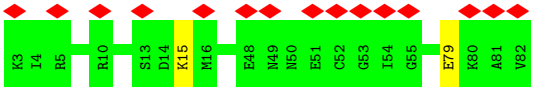




• Molecule 54: Small ribosomal subunit protein uS17

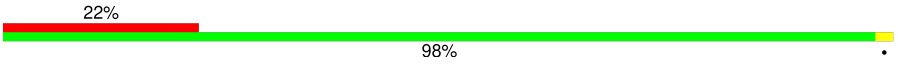
Chain sq:

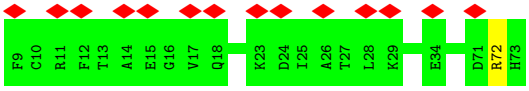




• Molecule 55: 30S ribosomal protein S18

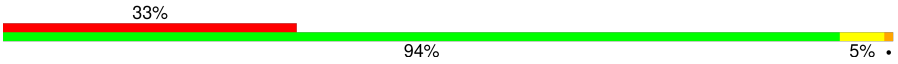
Chain sr:

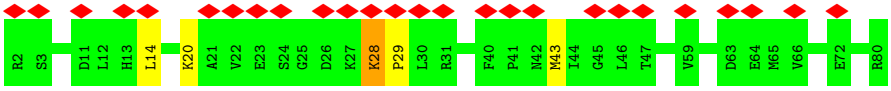




• Molecule 56: 30S ribosomal protein S19

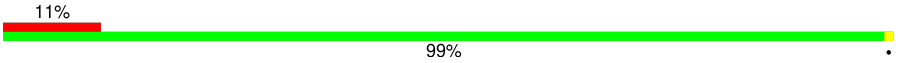
Chain ss:

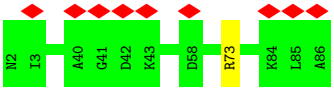




• Molecule 57: 30S ribosomal protein S20

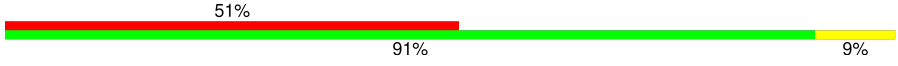
Chain st:

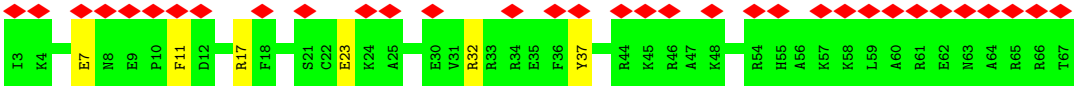




• Molecule 58: Small ribosomal subunit protein bS21

Chain su:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	23587	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	48	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	2.483	Depositor
Minimum map value	-0.984	Depositor
Average map value	0.035	Depositor
Map value standard deviation	0.163	Depositor
Recommended contour level	0.5	Depositor
Map size (Å)	335.04, 335.04, 335.04	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.047, 1.047, 1.047	Depositor

5 Model quality

5.1 Standard geometry

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

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	1	0.27	0/1361	0.53	0/1796
2	10	0.42	1/1001 (0.1%)	0.71	1/1350 (0.1%)
3	11	0.80	6/1046 (0.6%)	1.42	11/1410 (0.8%)
4	13	0.35	0/1152	0.56	1/1551 (0.1%)
5	14	0.31	0/947	0.60	0/1268
6	15	0.33	0/1054	0.59	0/1403
7	16	0.36	0/1093	0.65	0/1460
8	17	0.35	0/973	0.62	0/1301
9	18	0.31	0/901	0.62	0/1206
10	19	0.31	0/929	0.59	0/1242
11	2	0.34	0/2121	0.60	0/2852
12	20	0.40	0/960	0.59	0/1278
13	21	0.35	0/829	0.61	0/1107
14	22	0.30	0/864	0.59	0/1156
15	23	0.32	0/744	0.58	0/994
16	24	0.36	1/787 (0.1%)	0.56	0/1051
17	25	0.32	0/766	0.58	1/1025 (0.1%)
18	27	0.36	0/582	0.59	0/769
19	28	0.31	0/635	0.59	0/848
20	29	0.32	0/510	0.61	0/677
21	3	0.32	0/1586	0.56	0/2134
22	30	0.36	0/453	0.67	0/605
23	31	2.28	9/531 (1.7%)	1.39	9/709 (1.3%)
24	32	0.28	0/450	0.59	0/599
25	33	4.59	6/416 (1.4%)	0.94	2/554 (0.4%)
26	34	0.30	0/380	0.65	0/498
27	35	0.29	0/513	0.58	0/676
28	36	0.35	0/303	0.61	0/397
29	4	0.31	0/1571	0.58	0/2113
30	5	0.40	0/1434	0.69	1/1926 (0.1%)
31	6	0.46	2/1343 (0.1%)	0.76	4/1816 (0.2%)
32	9	0.28	0/1122	0.61	2/1515 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	M	0.39	0/138	1.02	1/211 (0.5%)
34	R1	0.53	14/69797 (0.0%)	1.08	107/108890 (0.1%)
35	R2	2.92	6/2847 (0.2%)	1.13	14/4440 (0.3%)
36	R3	1.37	18/36940 (0.0%)	0.91	55/57624 (0.1%)
37	T	0.40	0/1812	0.89	1/2824 (0.0%)
38	Y	0.34	0/4285	0.58	0/5774
39	sb	0.28	0/1735	0.55	0/2338
40	sc	0.31	0/1651	0.56	0/2225
41	sd	0.30	0/1665	0.58	0/2227
42	se	0.45	1/1169 (0.1%)	0.68	1/1573 (0.1%)
43	sf	0.45	1/835 (0.1%)	0.72	1/1128 (0.1%)
44	sg	0.29	0/1195	0.61	1/1602 (0.1%)
45	sh	0.35	0/989	0.61	0/1326
46	si	0.30	0/1034	0.65	0/1375
47	sj	0.30	0/796	0.61	0/1077
48	sk	0.36	1/885 (0.1%)	0.62	0/1195
49	sl	0.36	0/969	0.65	0/1300
50	sm	0.54	2/892 (0.2%)	1.05	4/1193 (0.3%)
51	sn	0.28	0/817	0.63	0/1088
52	so	0.29	0/722	0.62	1/964 (0.1%)
53	sp	0.29	0/659	0.61	0/884
54	sq	0.32	0/657	0.57	0/881
55	sr	0.30	0/544	0.57	0/731
56	ss	0.88	3/652 (0.5%)	1.04	3/877 (0.3%)
57	st	0.33	0/671	0.58	0/888
58	su	0.29	0/550	0.71	0/728
All	All	0.90	71/164263 (0.0%)	0.93	221/244649 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	10	0	4
3	11	0	5
7	16	0	1
23	31	0	3
25	33	0	1
31	6	0	1
32	9	0	1
38	Y	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
43	sf	0	2
46	si	0	1
49	sl	0	1
51	sn	0	1
58	su	0	2
All	All	0	24

All (71) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	R3	1311	A	N3-C4	82.44	1.84	1.34
35	R2	44	G	C6-N1	76.75	1.93	1.39
36	R3	1268	G	N3-C4	74.05	1.87	1.35
36	R3	1311	A	C6-N1	71.55	1.85	1.35
36	R3	1268	G	C2-N3	71.27	1.89	1.32
35	R2	44	G	N3-C4	70.69	1.84	1.35
35	R2	44	G	N1-C2	68.11	1.92	1.37
35	R2	44	G	C2-N3	66.41	1.85	1.32
36	R3	1268	G	C6-N1	65.72	1.85	1.39
36	R3	1310	G	C6-N1	60.00	1.81	1.39
36	R3	1311	A	C5-C4	59.70	1.80	1.38
36	R3	1268	G	N1-C2	59.25	1.85	1.37
36	R3	1310	G	N3-C4	58.14	1.76	1.35
36	R3	1310	G	C2-N3	56.07	1.77	1.32
36	R3	1311	A	C2-N3	55.94	1.83	1.33
36	R3	1268	G	C5-C4	54.67	1.76	1.38
36	R3	1311	A	N1-C2	51.86	1.81	1.34
36	R3	1310	G	N1-C2	51.35	1.78	1.37
36	R3	1311	A	C5-C6	50.76	1.86	1.41
25	33	38	PHE	CE2-CZ	48.80	2.30	1.37
35	R2	44	G	C5-C4	48.30	1.72	1.38
36	R3	1310	G	C5-C4	44.69	1.69	1.38
36	R3	1268	G	C5-C6	44.35	1.86	1.42
25	33	38	PHE	CE1-CZ	41.55	2.16	1.37
25	33	38	PHE	CD1-CE1	41.23	2.21	1.39
34	R1	2290	G	N9-C4	40.14	1.70	1.38
25	33	38	PHE	CD2-CE2	39.27	2.17	1.39
35	R2	44	G	C5-C6	38.41	1.80	1.42
36	R3	1310	G	C5-C6	37.94	1.80	1.42
23	31	61	ASN	CA-CB	28.98	2.28	1.53
25	33	38	PHE	CG-CD2	26.14	1.77	1.38
25	33	38	PHE	CG-CD1	25.76	1.77	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	R1	2290	G	C1'-N9	25.60	1.87	1.48
23	31	65	ASN	CA-CB	25.26	2.18	1.53
34	R1	2290	G	N9-C8	19.29	1.51	1.37
23	31	3	LYS	CA-C	16.83	1.96	1.52
56	ss	29	PRO	CG-CD	-14.68	1.02	1.50
23	31	58	ASP	C-N	14.32	1.67	1.34
34	R1	1071	G	P-O5'	13.16	1.73	1.59
23	31	51	VAL	CB-CG2	-12.63	1.26	1.52
23	31	59	ARG	N-CA	11.88	1.70	1.46
56	ss	29	PRO	N-CD	11.51	1.64	1.47
3	11	55	PRO	CG-CD	-11.06	1.14	1.50
23	31	65	ASN	CB-CG	10.49	1.75	1.51
23	31	61	ASN	CB-CG	10.34	1.74	1.51
34	R1	2290	G	C5-C4	9.27	1.44	1.38
50	sm	114	PRO	CG-CD	-8.90	1.21	1.50
34	R1	2290	G	N7-C5	-8.69	1.34	1.39
3	11	55	PRO	CB-CG	-8.60	1.06	1.50
50	sm	114	PRO	CB-CG	-8.36	1.08	1.50
31	6	11	PRO	N-CD	8.11	1.59	1.47
34	R1	1059	G	N7-C5	-7.67	1.34	1.39
34	R1	1070	A	O3'-P	7.58	1.70	1.61
43	sf	65	GLU	CG-CD	-7.31	1.41	1.51
34	R1	1059	G	C8-N7	-7.24	1.26	1.30
42	se	155	LYS	CD-CE	-7.20	1.33	1.51
56	ss	28	LYS	C-N	7.03	1.47	1.34
34	R1	1070	A	C3'-O3'	7.01	1.51	1.42
3	11	55	PRO	N-CD	-6.69	1.38	1.47
34	R1	2290	G	N3-C4	6.44	1.40	1.35
31	6	11	PRO	CG-CD	-6.41	1.29	1.50
3	11	19	PRO	N-CD	5.84	1.56	1.47
34	R1	1071	G	C5'-C4'	5.82	1.58	1.51
2	10	5	LEU	CG-CD2	-5.78	1.30	1.51
23	31	64	PHE	CE2-CZ	-5.60	1.26	1.37
16	24	41	VAL	CB-CG2	-5.41	1.41	1.52
34	R1	1059	G	N9-C4	5.30	1.42	1.38
3	11	40	ALA	C-N	5.16	1.46	1.34
34	R1	1071	G	O5'-C5'	5.12	1.52	1.44
48	sk	118	ASN	CG-OD1	-5.09	1.12	1.24
3	11	19	PRO	CG-CD	-5.00	1.34	1.50

All (221) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	R1	2290	G	C8-N9-C4	-168.01	39.20	106.40
34	R1	2290	G	C5-N7-C8	-92.75	57.92	104.30
34	R1	2290	G	N7-C8-N9	56.77	141.49	113.10
34	R1	2290	G	N9-C4-C5	34.00	119.00	105.40
34	R1	2290	G	N3-C4-C5	-33.39	111.91	128.60
36	R3	1310	G	C2-N3-C4	31.16	127.48	111.90
36	R3	1311	A	N1-C2-N3	-27.61	115.50	129.30
34	R1	2290	G	C8-N9-C1'	26.15	160.99	127.00
34	R1	2290	G	C4-N9-C1'	25.45	159.59	126.50
36	R3	1310	G	C4-C5-N7	-24.48	101.01	110.80
34	R1	1071	G	O5'-P-OP1	-24.45	81.36	110.70
35	R2	44	G	C2-N3-C4	23.45	123.62	111.90
36	R3	1311	A	C2-N3-C4	23.11	122.15	110.60
34	R1	2290	G	C2-N3-C4	21.46	122.63	111.90
35	R2	44	G	C4-C5-N7	-21.37	102.25	110.80
36	R3	1310	G	N3-C4-C5	-20.89	118.16	128.60
3	11	55	PRO	CA-CB-CG	-20.61	64.85	104.00
36	R3	1310	G	N1-C2-N3	-20.10	111.84	123.90
50	sm	114	PRO	N-CD-CG	-19.90	73.36	103.20
36	R3	1311	A	N7-C8-N9	19.32	123.46	113.80
3	11	55	PRO	CB-CG-CD	18.83	179.94	106.50
31	6	11	PRO	CA-N-CD	-18.66	85.38	111.50
35	R2	44	G	N1-C2-N3	-18.49	112.81	123.90
36	R3	1268	G	N7-C8-N9	18.24	122.22	113.10
36	R3	1310	G	N3-C4-N9	18.19	136.91	126.00
36	R3	1268	G	C2-N3-C4	17.97	120.88	111.90
36	R3	1268	G	N3-C4-N9	17.96	136.78	126.00
56	ss	29	PRO	CA-N-CD	-17.54	86.94	111.50
36	R3	1268	G	C4-C5-N7	-17.20	103.92	110.80
3	11	19	PRO	CA-N-CD	-17.08	87.58	111.50
23	31	58	ASP	C-N-CA	16.77	163.64	121.70
34	R1	1070	A	O4'-C1'-N9	16.64	121.52	108.20
3	11	55	PRO	N-CD-CG	-16.52	78.42	103.20
34	R1	1059	G	C6-C5-N7	-16.09	120.74	130.40
34	R1	1059	G	N3-C4-N9	15.54	135.32	126.00
35	R2	44	G	N3-C4-C5	-15.48	120.86	128.60
36	R3	1268	G	N1-C2-N3	-15.05	114.87	123.90
36	R3	1268	G	N3-C4-C5	-14.64	121.28	128.60
50	sm	114	PRO	CA-CB-CG	-14.51	76.44	104.00
35	R2	44	G	N7-C8-N9	14.50	120.35	113.10
36	R3	1269	A	C2-N3-C4	14.12	117.66	110.60
35	R2	44	G	N3-C4-N9	14.07	134.44	126.00
36	R3	1311	A	C4-C5-N7	-13.23	104.08	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	R1	2290	G	C4-C5-N7	-13.03	105.59	110.80
36	R3	1311	A	N3-C4-N9	12.83	137.66	127.40
34	R1	1071	G	P-O5'-C5'	12.82	141.41	120.90
3	11	55	PRO	CA-N-CD	-12.80	93.57	111.50
56	ss	29	PRO	N-CD-CG	-12.75	84.08	103.20
36	R3	1310	G	C6-C5-N7	12.71	138.03	130.40
36	R3	1311	A	N9-C4-C5	-12.59	100.77	105.80
36	R3	1310	G	C5-C6-N1	12.30	117.65	111.50
36	R3	1310	G	C5-N7-C8	12.18	110.39	104.30
34	R1	1071	G	O5'-P-OP2	12.16	125.30	110.70
36	R3	1268	G	C5-C6-N1	12.09	117.55	111.50
34	R1	2290	G	C4-C5-C6	11.53	125.72	118.80
34	R1	1070	A	P-O3'-C3'	11.09	133.01	119.70
42	se	155	LYS	CD-CE-NZ	-10.91	86.59	111.70
36	R3	1310	G	N7-C8-N9	10.79	118.49	113.10
34	R1	1059	G	N3-C4-C5	-10.58	123.31	128.60
34	R1	1059	G	C4-N9-C1'	10.51	140.16	126.50
34	R1	2290	G	O4'-C1'-N9	10.45	116.56	108.20
36	R3	1310	G	N1-C2-N2	10.17	125.35	116.20
36	R3	1311	A	C6-N1-C2	10.11	124.67	118.60
34	R1	1059	G	N9-C4-C5	-10.09	101.36	105.40
34	R1	1059	G	C4-C5-C6	10.01	124.81	118.80
35	R2	44	G	C5-C6-N1	9.51	116.25	111.50
50	sm	114	PRO	CB-CG-CD	9.40	143.15	106.50
34	R1	1059	G	C8-N9-C1'	-9.36	114.83	127.00
34	R1	1059	G	N1-C6-O6	9.31	125.49	119.90
34	R1	1107	G	C6-C5-N7	-9.23	124.86	130.40
34	R1	1070	A	O3'-P-O5'	9.16	121.40	104.00
34	R1	1059	G	C4-C5-N7	9.12	114.45	110.80
23	31	3	LYS	O-C-N	-9.02	108.27	122.70
34	R1	1079	C	N1-C2-O2	8.96	124.28	118.90
3	11	19	PRO	N-CD-CG	-8.86	89.91	103.20
34	R1	2177	C	C2-N1-C1'	8.76	128.44	118.80
34	R1	2290	G	N9-C1'-C2'	8.74	125.36	114.00
36	R3	1268	G	N9-C4-C5	-8.66	101.94	105.40
34	R1	2177	C	N1-C2-O2	8.65	124.09	118.90
34	R1	1062	G	N3-C4-N9	8.65	131.19	126.00
35	R2	44	G	N3-C2-N2	8.64	125.95	119.90
34	R1	1070	A	C8-N9-C4	-8.62	102.35	105.80
35	R2	44	G	C4-C5-C6	8.50	123.90	118.80
36	R3	1268	G	N3-C2-N2	8.47	125.83	119.90
23	31	3	LYS	CB-CA-C	8.38	127.16	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	R3	1311	A	N3-C4-C5	-8.37	120.94	126.80
36	R3	1309	G	N3-C4-C5	-8.35	124.43	128.60
34	R1	1061	U	N3-C2-O2	-8.16	116.49	122.20
34	R1	2301	C	N3-C2-O2	-8.16	116.19	121.90
36	R3	1309	G	N3-C4-N9	8.14	130.89	126.00
3	11	54	ILE	C-N-CD	8.12	145.46	128.40
36	R3	1309	G	N1-C6-O6	-8.03	115.08	119.90
34	R1	1062	G	N3-C2-N2	8.01	125.51	119.90
34	R1	1059	G	N3-C2-N2	7.97	125.48	119.90
34	R1	2196	C	C2-N1-C1'	7.91	127.50	118.80
34	R1	1107	G	N3-C4-N9	7.89	130.73	126.00
36	R3	1268	G	C6-C5-N7	7.70	135.02	130.40
34	R1	887	U	N1-C2-O2	7.59	128.11	122.80
56	ss	29	PRO	CA-CB-CG	-7.52	89.71	104.00
36	R3	1269	A	N3-C4-C5	-7.50	121.55	126.80
34	R1	1107	G	C4-C5-N7	7.47	113.79	110.80
25	33	38	PHE	CB-CG-CD2	-7.44	115.59	120.80
34	R1	887	U	C2-N1-C1'	7.41	126.59	117.70
34	R1	1059	G	C5-C6-O6	-7.37	124.18	128.60
34	R1	887	U	N3-C2-O2	-7.20	117.16	122.20
34	R1	1079	C	C5-C6-N1	7.18	124.59	121.00
34	R1	1061	U	C6-N1-C2	-7.15	116.71	121.00
34	R1	1052	C	N1-C2-O2	7.12	123.17	118.90
35	R2	44	G	C5-N7-C8	7.01	107.81	104.30
34	R1	1070	A	OP1-P-O3'	6.98	120.56	105.20
36	R3	1310	G	N1-C6-O6	-6.95	115.73	119.90
34	R1	480	A	C8-N9-C4	6.89	108.56	105.80
31	6	11	PRO	N-CD-CG	-6.88	92.87	103.20
34	R1	1062	G	N9-C4-C5	-6.78	102.69	105.40
33	M	1	U	O4'-C1'-N1	6.75	113.60	108.20
34	R1	1107	G	N9-C4-C5	-6.73	102.71	105.40
34	R1	1071	G	O5'-C5'-C4'	6.67	124.36	111.70
36	R3	1309	G	C5-N7-C8	6.64	107.62	104.30
23	31	65	ASN	CB-CA-C	6.57	123.55	110.40
34	R1	2346	A	N1-C6-N6	6.56	122.53	118.60
36	R3	1311	A	C6-C5-N7	6.52	136.87	132.30
34	R1	2290	G	C6-N1-C2	-6.48	121.21	125.10
34	R1	2196	C	C6-N1-C1'	-6.46	113.05	120.80
36	R3	1309	G	C8-N9-C1'	-6.44	118.62	127.00
36	R3	511	C	C2-N1-C1'	-6.39	111.78	118.80
34	R1	2177	C	C6-N1-C1'	-6.38	113.14	120.80
34	R1	1071	G	C5'-C4'-C3'	6.33	126.13	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	R3	1269	A	C8-N9-C4	-6.27	103.29	105.80
30	5	34	THR	CA-CB-CG2	-6.26	103.63	112.40
36	R3	1269	A	N1-C2-N3	-6.21	126.19	129.30
34	R1	1089	A	O4'-C1'-N9	6.17	113.14	108.20
36	R3	623	C	C2-N1-C1'	6.14	125.55	118.80
34	R1	1070	A	C2'-C3'-O3'	6.13	123.51	113.70
25	33	38	PHE	CD1-CG-CD2	6.13	126.26	118.30
34	R1	12	U	C2-N1-C1'	6.13	125.05	117.70
34	R1	1112	G	N3-C4-N9	-6.12	122.33	126.00
34	R1	1070	A	N9-C1'-C2'	6.12	121.95	114.00
34	R1	1070	A	N9-C4-C5	6.11	108.25	105.80
23	31	61	ASN	CA-CB-CG	6.11	126.84	113.40
3	11	34	ILE	CG1-CB-CG2	-6.09	98.00	111.40
34	R1	1062	G	C8-N9-C1'	-6.09	119.09	127.00
34	R1	897	C	C2-N1-C1'	6.03	125.44	118.80
2	10	5	LEU	CB-CG-CD2	-6.03	100.75	111.00
34	R1	1313	U	C2-N1-C1'	6.03	124.94	117.70
34	R1	62	U	C2-N1-C1'	5.98	124.88	117.70
34	R1	1059	G	N1-C2-N2	-5.98	110.82	116.20
34	R1	1062	G	C4-N9-C1'	5.94	134.22	126.50
34	R1	2177	C	C5-C6-N1	5.94	123.97	121.00
34	R1	1107	G	N7-C8-N9	5.92	116.06	113.10
36	R3	1309	G	C4-N9-C1'	5.92	134.19	126.50
34	R1	1314	C	C2-N1-C1'	5.87	125.25	118.80
34	R1	1917	U	N3-C2-O2	-5.83	118.12	122.20
34	R1	2177	C	N3-C2-O2	-5.82	117.83	121.90
23	31	65	ASN	CA-CB-CG	5.80	126.17	113.40
34	R1	1059	G	N7-C8-N9	5.80	116.00	113.10
34	R1	2301	C	N1-C2-O2	5.78	122.37	118.90
34	R1	1062	G	C6-C5-N7	-5.77	126.94	130.40
34	R1	2096	C	C2-N1-C1'	5.77	125.15	118.80
31	6	11	PRO	CA-CB-CG	-5.74	93.09	104.00
36	R3	1312	G	C6-N1-C2	-5.73	121.66	125.10
35	R2	44	G	O4'-C1'-N9	5.71	112.77	108.20
34	R1	1107	G	C4-N9-C1'	5.70	133.91	126.50
34	R1	1112	G	C4-N9-C1'	-5.66	119.15	126.50
3	11	19	PRO	N-CA-C	5.65	126.80	112.10
43	sf	54	LEU	CA-CB-CG	5.65	128.30	115.30
35	R2	44	G	C6-C5-N7	5.64	133.78	130.40
36	R3	511	C	N1-C2-O2	-5.62	115.53	118.90
34	R1	1112	G	C8-N9-C1'	5.61	134.30	127.00
4	13	96	ARG	NE-CZ-NH1	5.60	123.10	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	R2	44	G	N1-C2-N2	5.60	121.24	116.20
23	31	3	LYS	N-CA-CB	-5.60	100.53	110.60
34	R1	1071	G	O4'-C1'-N9	5.59	112.67	108.20
17	25	82	TYR	C-N-CA	-5.59	107.73	121.70
36	R3	254	G	C8-N9-C4	5.54	108.62	106.40
23	31	61	ASN	N-CA-CB	5.53	120.56	110.60
44	sg	100	MET	CG-SD-CE	-5.51	91.38	100.20
52	so	67	ASP	CB-CG-OD1	5.51	123.26	118.30
36	R3	516	U	N3-C2-O2	-5.50	118.35	122.20
37	T	31	C	C2-N1-C1'	5.50	124.84	118.80
36	R3	1268	G	C5-C6-O6	-5.48	125.31	128.60
34	R1	1062	G	N1-C2-N2	-5.43	111.31	116.20
34	R1	1079	C	C4-C5-C6	-5.42	114.69	117.40
36	R3	1325	C	C2-N3-C4	-5.40	117.20	119.90
36	R3	470	C	C2-N1-C1'	5.39	124.73	118.80
36	R3	1328	C	N3-C4-C5	5.36	124.04	121.90
34	R1	1053	C	C2-N1-C1'	5.36	124.69	118.80
34	R1	2244	U	C5-C4-O4	-5.35	122.69	125.90
34	R1	2316	G	N3-C4-C5	5.32	131.26	128.60
3	11	40	ALA	C-N-CA	5.31	134.98	121.70
32	9	15	LEU	CA-CB-CG	5.31	127.52	115.30
34	R1	2290	G	C5-C6-N1	5.31	114.15	111.50
34	R1	2316	G	N3-C4-N9	-5.31	122.81	126.00
34	R1	1071	G	OP1-P-OP2	-5.29	111.66	119.60
34	R1	2196	C	N1-C2-O2	5.28	122.07	118.90
36	R3	491	G	N3-C4-N9	5.25	129.15	126.00
36	R3	491	G	N3-C4-C5	-5.25	125.97	128.60
34	R1	1071	G	N3-C4-C5	-5.21	125.99	128.60
3	11	31	GLY	N-CA-C	5.21	126.11	113.10
34	R1	1079	C	C5-C4-N4	-5.18	116.57	120.20
34	R1	847	U	C2-N1-C1'	5.17	123.91	117.70
23	31	61	ASN	CB-CA-C	5.16	120.72	110.40
50	sm	114	PRO	CA-N-CD	-5.16	104.28	111.50
36	R3	623	C	C6-N1-C1'	-5.15	114.62	120.80
35	R2	71	C	C2-N1-C1'	5.14	124.46	118.80
36	R3	1269	A	N9-C4-C5	5.13	107.85	105.80
34	R1	114	U	C2-N1-C1'	5.13	123.85	117.70
31	6	10	VAL	C-N-CD	5.13	139.16	128.40
34	R1	1110	G	O4'-C1'-N9	5.11	112.29	108.20
34	R1	2400	G	C2-N3-C4	5.08	114.44	111.90
34	R1	1062	G	C4-C5-N7	5.07	112.83	110.80
34	R1	1070	A	N7-C8-N9	5.07	116.33	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	R3	1309	G	C6-N1-C2	-5.06	122.06	125.10
34	R1	2177	C	C6-N1-C2	-5.06	118.28	120.30
34	R1	1052	C	C2-N1-C1'	5.05	124.36	118.80
34	R1	1963	U	C2-N1-C1'	5.04	123.75	117.70
34	R1	1961	C	N1-C2-O2	5.03	121.92	118.90
32	9	8	LYS	CA-CB-CG	5.02	124.45	113.40
34	R1	2313	C	N1-C2-O2	5.02	121.91	118.90
34	R1	1108	U	C4-C5-C6	5.01	122.71	119.70
34	R1	2902	C	N3-C2-O2	-5.00	118.40	121.90
34	R1	2174	C	N3-C2-O2	-5.00	118.40	121.90

There are no chirality outliers.

All (24) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	10	106	PHE	Peptide
2	10	118	ILE	Peptide
2	10	12	VAL	Peptide
2	10	64	VAL	Peptide
3	11	16	MET	Peptide
3	11	19	PRO	Peptide
3	11	33	ASN	Peptide
3	11	45	THR	Peptide
3	11	47	SER	Peptide
7	16	59	ARG	Peptide
23	31	24	ILE	Peptide
23	31	4	ASP	Peptide
23	31	53	THR	Peptide
25	33	30	PRO	Peptide
31	6	12	ALA	Peptide
32	9	8	LYS	Peptide
38	Y	14	LYS	Peptide
43	sf	92	THR	Peptide
43	sf	93	LYS	Peptide
46	si	56	MET	Peptide
49	sl	86	VAL	Peptide
51	sn	86	ALA	Peptide
58	su	23	GLU	Peptide
58	su	7	GLU	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1	1353	0	1159	66	0
2	10	988	0	1025	159	0
3	11	1032	0	1088	256	0
4	13	1129	0	1162	48	0
5	14	938	0	1012	32	0
6	15	1045	0	1117	47	0
7	16	1074	0	1157	43	0
8	17	960	0	1000	38	0
9	18	892	0	922	42	0
10	19	917	0	965	34	0
11	2	2082	0	2157	78	0
12	20	947	0	1022	64	0
13	21	816	0	839	33	0
14	22	857	0	922	37	0
15	23	738	0	807	36	0
16	24	779	0	834	36	0
17	25	753	0	780	36	0
18	27	575	0	592	25	0
19	28	625	0	655	20	0
20	29	509	0	543	25	0
21	3	1565	0	1616	53	0
22	30	449	0	491	32	0
23	31	522	0	524	272	0
24	32	444	0	461	26	0
25	33	409	0	440	173	0
26	34	377	0	418	12	0
27	35	504	0	574	25	0
28	36	302	0	340	16	0
29	4	1552	0	1619	59	0
30	5	1410	0	1447	160	0
31	6	1323	0	1374	58	0
32	9	1111	0	1148	39	0
33	M	123	0	65	7	0
34	R1	62318	0	31344	1589	0
35	R2	2546	0	1292	126	0
36	R3	32992	0	16608	745	0
37	T	1621	0	825	51	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	Y	4210	0	4172	231	0
39	sb	1704	0	1732	0	0
40	sc	1624	0	1699	0	0
41	sd	1643	0	1710	0	0
42	se	1156	0	1199	0	0
43	sf	817	0	808	0	0
44	sg	1181	0	1240	0	0
45	sh	979	0	1034	0	0
46	si	1022	0	1070	0	0
47	sj	786	0	828	0	0
48	sk	869	0	878	0	0
49	sl	955	0	1019	0	0
50	sm	883	0	944	0	0
51	sn	805	0	847	0	0
52	so	714	0	737	0	0
53	sp	649	0	666	0	0
54	sq	648	0	691	0	0
55	sr	535	0	552	0	0
56	ss	637	0	665	0	0
57	st	665	0	714	0	0
58	su	544	0	579	0	0
59	18	1	0	0	0	0
59	32	1	0	0	0	0
59	33	1	0	0	0	0
59	R1	92	0	0	0	0
59	R2	2	0	0	0	0
59	R3	27	0	0	0	0
60	36	1	0	0	0	0
61	Y	62	0	22	5	0
62	Y	2	0	0	0	0
All	All	151792	0	104150	3875	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 (3875) 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)
25:33:38:PHE:CD2	25:33:38:PHE:CG	1.78	1.69
35:R2:44:G:C5	35:R2:44:G:C6	1.80	1.68
25:33:38:PHE:CG	25:33:38:PHE:CD1	1.77	1.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:1310:G:C5	36:R3:1310:G:C6	1.80	1.61
36:R3:1311:A:C5	36:R3:1311:A:C6	1.86	1.60
36:R3:1268:G:C5	36:R3:1268:G:C6	1.86	1.59
23:31:59:ARG:N	23:31:59:ARG:CA	1.70	1.55
36:R3:1311:A:C5	36:R3:1311:A:C4	1.80	1.54
23:31:61:ASN:CB	23:31:61:ASN:CG	1.74	1.52
23:31:65:ASN:HB2	36:R3:1268:G:C5	1.42	1.51
36:R3:1310:G:C4	36:R3:1310:G:N3	1.76	1.51
23:31:59:ARG:N	36:R3:1310:G:C2	1.77	1.51
23:31:65:ASN:CG	23:31:65:ASN:CB	1.75	1.51
23:31:3:LYS:C	35:R2:44:G:C2	1.82	1.50
36:R3:1310:G:N3	36:R3:1310:G:C2	1.77	1.49
36:R3:1310:G:C2	36:R3:1310:G:N1	1.78	1.49
36:R3:1310:G:C6	36:R3:1310:G:N1	1.81	1.48
23:31:61:ASN:CB	36:R3:1311:A:C4	1.97	1.48
36:R3:1311:A:C2	36:R3:1311:A:N1	1.81	1.47
36:R3:1311:A:C4	36:R3:1311:A:N3	1.84	1.46
23:31:59:ARG:N	36:R3:1310:G:C6	1.83	1.46
23:31:59:ARG:N	36:R3:1310:G:C4	1.83	1.46
36:R3:1268:G:C5	36:R3:1268:G:C4	1.76	1.45
36:R3:1311:A:C2	36:R3:1311:A:N3	1.83	1.45
35:R2:44:G:C4	35:R2:44:G:N3	1.84	1.44
36:R3:1268:G:C2	36:R3:1268:G:N1	1.85	1.44
23:31:61:ASN:HB2	36:R3:1311:A:C5	1.53	1.44
23:31:61:ASN:HB2	36:R3:1311:A:C4	1.53	1.43
36:R3:1268:G:C6	36:R3:1268:G:N1	1.85	1.43
35:R2:44:G:C2	35:R2:44:G:N3	1.85	1.42
36:R3:1311:A:C6	36:R3:1311:A:N1	1.85	1.42
36:R3:1268:G:C4	36:R3:1268:G:N3	1.87	1.41
23:31:3:LYS:HA	35:R2:44:G:C5	1.55	1.40
23:31:59:ARG:N	36:R3:1310:G:N3	1.62	1.40
36:R3:1268:G:C2	36:R3:1268:G:N3	1.89	1.40
23:31:61:ASN:CB	36:R3:1311:A:C5	2.05	1.40
23:31:59:ARG:N	36:R3:1310:G:C5	1.88	1.39
23:31:59:ARG:N	36:R3:1310:G:N1	1.71	1.39
23:31:65:ASN:CA	36:R3:1268:G:C2	2.05	1.38
23:31:65:ASN:CB	36:R3:1268:G:C6	2.07	1.37
35:R2:44:G:C2	35:R2:44:G:N1	1.92	1.37
23:31:65:ASN:CB	36:R3:1268:G:C2	2.07	1.36
35:R2:44:G:C6	35:R2:44:G:N1	1.93	1.36
23:31:61:ASN:HA	36:R3:1311:A:N1	1.37	1.36

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:2290:G:N9	34:R1:2290:G:C1'	1.87	1.36
23:31:65:ASN:CB	36:R3:1268:G:C4	2.08	1.36
23:31:65:ASN:CB	36:R3:1268:G:C5	2.09	1.35
23:31:61:ASN:HB3	36:R3:1311:A:N3	1.41	1.35
23:31:61:ASN:CB	36:R3:1311:A:C2	2.09	1.34
23:31:65:ASN:N	36:R3:1268:G:N3	1.76	1.33
25:33:38:PHE:CE1	25:33:38:PHE:CZ	2.16	1.33
23:31:3:LYS:C	23:31:3:LYS:CA	1.96	1.32
23:31:4:ASP:N	35:R2:44:G:N3	1.75	1.32
23:31:61:ASN:CB	36:R3:1311:A:C6	2.14	1.31
23:31:61:ASN:CB	36:R3:1311:A:N3	1.94	1.30
25:33:38:PHE:CD2	25:33:38:PHE:CE2	2.17	1.30
25:33:38:PHE:CZ	34:R1:2290:G:N9	2.00	1.30
23:31:65:ASN:HB3	36:R3:1268:G:N1	1.45	1.29
25:33:38:PHE:CD1	25:33:38:PHE:CE1	2.21	1.28
25:33:38:PHE:CE2	34:R1:2290:G:N9	2.04	1.26
23:31:65:ASN:CB	36:R3:1268:G:N1	1.98	1.25
23:31:3:LYS:C	35:R2:44:G:C6	2.07	1.25
25:33:38:PHE:CE1	34:R1:2290:G:N9	2.04	1.25
23:31:3:LYS:C	35:R2:44:G:N3	1.88	1.24
23:31:65:ASN:HA	36:R3:1268:G:C2	1.67	1.24
23:31:3:LYS:C	35:R2:44:G:C4	2.13	1.21
23:31:65:ASN:CB	36:R3:1268:G:N3	2.05	1.20
23:31:3:LYS:CA	35:R2:44:G:C2	2.22	1.20
23:31:61:ASN:CA	36:R3:1311:A:C2	2.25	1.20
25:33:38:PHE:CZ	25:33:38:PHE:CE2	2.30	1.20
23:31:3:LYS:CA	35:R2:44:G:C4	2.25	1.19
23:31:4:ASP:N	35:R2:44:G:C4	2.10	1.19
23:31:65:ASN:CB	23:31:65:ASN:CA	2.18	1.18
23:31:61:ASN:CA	36:R3:1311:A:C6	2.27	1.18
23:31:65:ASN:CA	36:R3:1268:G:N3	2.05	1.18
23:31:3:LYS:C	35:R2:44:G:C5	2.17	1.17
25:33:38:PHE:CD2	34:R1:2290:G:N9	2.12	1.17
25:33:38:PHE:CD2	34:R1:2290:G:H1'	1.79	1.17
3:11:43:ALA:H	34:R1:1071:G:P	1.68	1.16
23:31:61:ASN:CA	36:R3:1311:A:N1	2.08	1.15
23:31:61:ASN:CB	36:R3:1311:A:N1	2.10	1.14
23:31:63:ARG:HG2	36:R3:1326:U:H2'	1.27	1.14
23:31:65:ASN:HA	36:R3:1268:G:N1	1.61	1.14
25:33:24:LYS:HD3	25:33:33:LEU:HD11	1.28	1.13
23:31:65:ASN:CA	36:R3:1268:G:C4	2.31	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:11:43:ALA:N	34:R1:1071:G:OP1	1.81	1.12
23:31:58:ASP:C	36:R3:1310:G:C2	2.20	1.12
25:33:38:PHE:CD1	34:R1:2290:G:N9	2.18	1.12
23:31:3:LYS:HA	35:R2:44:G:C6	1.84	1.11
3:11:44:LYS:N	34:R1:1070:A:O2'	1.83	1.11
23:31:61:ASN:CB	23:31:61:ASN:CA	2.28	1.11
23:31:64:PHE:HD2	36:R3:1326:U:H1'	1.06	1.11
23:31:25:ARG:HD3	30:5:3:LEU:HD22	1.29	1.10
4:13:96:ARG:NH2	34:R1:2639:A:H4'	1.63	1.10
23:31:61:ASN:HB3	36:R3:1311:A:C2	1.81	1.10
23:31:3:LYS:CA	35:R2:44:G:C5	2.35	1.10
23:31:65:ASN:HB3	36:R3:1268:G:C6	1.79	1.09
23:31:3:LYS:O	35:R2:44:G:C6	2.04	1.09
23:31:3:LYS:CA	35:R2:44:G:C6	2.35	1.09
4:13:96:ARG:HH21	34:R1:2639:A:H4'	1.15	1.08
23:31:3:LYS:N	35:R2:44:G:N3	2.00	1.08
23:31:3:LYS:CA	35:R2:44:G:N3	2.16	1.08
23:31:65:ASN:CA	36:R3:1268:G:N1	2.16	1.07
36:R3:419:C:C2	36:R3:424:G:N2	2.21	1.07
23:31:61:ASN:CA	36:R3:1311:A:C4	2.38	1.07
23:31:64:PHE:CD2	36:R3:1326:U:H1'	1.88	1.07
23:31:65:ASN:HB2	36:R3:1268:G:C4	1.80	1.06
25:33:38:PHE:CE2	34:R1:2290:G:C4	2.43	1.06
23:31:61:ASN:HA	36:R3:1311:A:C2	1.89	1.06
2:10:117:LEU:HG	2:10:118:ILE:HD12	1.37	1.05
23:31:59:ARG:CA	36:R3:1310:G:C2	2.38	1.05
23:31:58:ASP:C	36:R3:1310:G:N3	2.08	1.05
25:33:38:PHE:CG	34:R1:2290:G:N9	2.24	1.05
25:33:38:PHE:CD1	34:R1:2290:G:C8	2.45	1.05
3:11:40:ALA:H	34:R1:1071:G:C5'	1.71	1.04
23:31:3:LYS:CA	35:R2:44:G:N1	2.20	1.03
23:31:61:ASN:CA	36:R3:1311:A:C5	2.41	1.03
3:11:41:PHE:H	34:R1:1071:G:C5'	1.73	1.02
25:33:38:PHE:CZ	34:R1:2290:G:C4	2.46	1.02
23:31:58:ASP:C	36:R3:1310:G:C4	2.32	1.01
3:11:39:LYS:N	34:R1:1071:G:H3'	1.75	1.00
23:31:56:ARG:HG3	36:R3:1308:U:C4	1.96	1.00
23:31:65:ASN:CA	36:R3:1268:G:C6	2.45	1.00
3:11:11:GLN:HG2	34:R1:1060:U:H2'	1.41	0.99
2:10:18:VAL:HG21	2:10:68:PRO:HD2	1.42	0.97
34:R1:1093:G:H21	34:R1:1098:A:H62	1.01	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:11:44:LYS:N	34:R1:1071:G:OP2	1.97	0.97
23:31:59:ARG:CA	36:R3:1310:G:N3	2.28	0.96
18:27:55:ARG:NH1	34:R1:2384:U:OP2	1.99	0.96
23:31:61:ASN:CG	36:R3:1311:A:C6	2.39	0.96
23:31:65:ASN:CG	36:R3:1268:G:N3	2.19	0.96
23:31:65:ASN:CA	36:R3:1268:G:C5	2.49	0.96
25:33:45:HIS:NE2	34:R1:2289:G:O5'	1.99	0.96
34:R1:1050:A:H62	34:R1:1110:G:H21	1.08	0.95
36:R3:201:G:H1	36:R3:216:U:H3	1.14	0.95
2:10:5:LEU:HD21	34:R1:1111:A:OP1	1.67	0.94
25:33:38:PHE:CE2	34:R1:2290:G:C1'	2.51	0.94
23:31:61:ASN:CA	36:R3:1311:A:N3	2.31	0.94
7:16:136:MET:SD	17:25:79:ARG:NH2	2.40	0.94
23:31:59:ARG:HG3	36:R3:1327:C:H42	1.28	0.94
23:31:65:ASN:HB2	36:R3:1268:G:C6	2.00	0.93
36:R3:418:C:C2	36:R3:425:G:N2	2.37	0.93
36:R3:1242:G:H1	36:R3:1295:U:H3	1.06	0.93
25:33:38:PHE:CD2	34:R1:2290:G:C1'	2.52	0.93
36:R3:419:C:O2	36:R3:424:G:C2	2.22	0.93
23:31:61:ASN:N	36:R3:1311:A:C5	2.37	0.92
3:11:42:ASN:H	34:R1:1071:G:P	1.92	0.92
8:17:2:ARG:HA	8:17:5:LYS:HD3	1.50	0.92
30:5:87:LYS:NZ	34:R1:2313:C:O2'	2.02	0.92
25:33:38:PHE:CE1	34:R1:2290:G:C8	2.56	0.92
23:31:58:ASP:N	36:R3:1310:G:C6	2.38	0.91
18:27:70:GLU:HB3	18:27:72:LYS:NZ	1.85	0.91
23:31:65:ASN:N	36:R3:1268:G:C4	2.38	0.91
25:33:45:HIS:NE2	34:R1:2289:G:P	2.43	0.91
2:10:4:ASN:O	2:10:8:LYS:NZ	2.04	0.91
12:20:93:ILE:HD11	13:21:11:GLN:HG3	1.51	0.90
32:9:50:ARG:HB3	32:9:51:ARG:HH11	1.33	0.90
36:R3:419:C:N3	36:R3:424:G:N1	2.20	0.89
23:31:61:ASN:N	36:R3:1311:A:C6	2.39	0.89
23:31:64:PHE:HD2	36:R3:1326:U:C1'	1.86	0.89
3:11:41:PHE:N	34:R1:1071:G:H5'	1.88	0.88
3:11:24:GLY:HA3	34:R1:1078:U:H2'	1.53	0.88
22:30:17:PRO:HA	22:30:20:LYS:NZ	1.88	0.88
25:33:38:PHE:CG	34:R1:2290:G:C8	2.62	0.88
25:33:39:ASP:OD2	25:33:48:TYR:OH	1.90	0.88
34:R1:2602:A:H62	38:Y:278:LYS:NZ	1.72	0.88
32:9:84:ALA:HA	32:9:91:PHE:H	1.38	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:1306:A:N6	36:R3:1331:G:O2'	2.07	0.88
36:R3:419:C:C2	36:R3:424:G:C2	2.61	0.88
28:36:37:GLN:HE21	34:R1:1125:G:H5'	1.40	0.87
36:R3:458:U:H3	36:R3:474:G:H1	0.91	0.87
36:R3:1356:G:H2'	36:R3:1357:A:H8	1.37	0.87
2:10:121:SER:HA	3:11:7:TYR:HB3	1.57	0.87
36:R3:418:C:N3	36:R3:425:G:N1	2.22	0.87
36:R3:418:C:O2	36:R3:425:G:N2	2.07	0.87
25:33:5:ARG:HD3	34:R1:2417:C:H3'	1.57	0.87
34:R1:2345:G:N7	34:R1:2371:G:N1	2.23	0.86
23:31:59:ARG:HA	36:R3:1310:G:N3	1.90	0.86
2:10:12:VAL:N	34:R1:1108:U:O4'	2.07	0.86
3:11:37:PHE:HA	34:R1:1071:G:H4'	1.57	0.86
32:9:8:LYS:HD3	32:9:9:VAL:H	1.37	0.86
23:31:56:ARG:N	36:R3:1309:G:N7	2.24	0.86
2:10:70:GLU:HG2	2:10:71:CYS:H	1.40	0.86
3:11:41:PHE:N	34:R1:1071:G:P	2.49	0.85
25:33:38:PHE:CZ	34:R1:2290:G:C1'	2.59	0.85
2:10:5:LEU:HD22	34:R1:1110:G:OP2	1.77	0.85
3:11:44:LYS:HD3	34:R1:1098:A:H5'	1.56	0.85
23:31:61:ASN:CG	36:R3:1311:A:N1	2.30	0.85
34:R1:2113:U:OP1	34:R1:2119:A:N6	2.09	0.85
36:R3:673:A:H2'	36:R3:674:G:C8	2.10	0.85
23:31:3:LYS:HA	35:R2:44:G:C4	2.03	0.85
34:R1:1056:G:H22	34:R1:1101:U:H5	1.25	0.84
25:33:43:ARG:HD3	34:R1:2342:C:H42	1.41	0.84
3:11:39:LYS:N	34:R1:1071:G:O5'	2.10	0.84
34:R1:2345:G:H8	34:R1:2371:G:H22	1.23	0.84
3:11:39:LYS:H	34:R1:1071:G:H3'	1.40	0.84
16:24:6:ARG:HH22	34:R1:98:G:H1	1.25	0.84
23:31:3:LYS:O	35:R2:44:G:C2	2.30	0.83
25:33:38:PHE:CE1	34:R1:2290:G:C1'	2.61	0.83
3:11:45:THR:N	34:R1:1070:A:H1'	1.92	0.83
23:31:58:ASP:C	36:R3:1310:G:N1	2.31	0.83
2:10:65:GLU:N	34:R1:1106:G:N3	2.25	0.83
25:33:4:ILE:N	34:R1:2400:G:N3	2.26	0.83
34:R1:1270:C:H5"	34:R1:1271:G:H5'	1.57	0.83
3:11:62:ALA:HB3	34:R1:1055:G:H21	1.44	0.83
23:31:58:ASP:C	36:R3:1310:G:C5	2.52	0.83
25:33:38:PHE:CD1	34:R1:2290:G:C1'	2.62	0.83
36:R3:438:U:O2	36:R3:496:A:N7	2.11	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:2:216:ARG:NH2	34:R1:781:A:OP1	2.11	0.83
23:31:4:ASP:N	35:R2:44:G:C2	2.45	0.83
23:31:61:ASN:C	36:R3:1311:A:N3	2.33	0.82
23:31:58:ASP:O	36:R3:1310:G:N3	2.10	0.82
25:33:28:THR:HG22	34:R1:2419:U:H2'	1.61	0.82
34:R1:355:U:H2'	34:R1:356:G:H8	1.42	0.82
34:R1:848:C:H2'	34:R1:849:A:H8	1.41	0.82
36:R3:419:C:O2	36:R3:424:G:N2	2.12	0.82
6:15:51:GLU:OE1	6:15:56:PRO:HA	1.80	0.82
30:5:32:LYS:NZ	34:R1:2315:G:OP1	2.12	0.82
36:R3:151:A:H62	36:R3:170:U:H3	1.25	0.82
37:T:19:G:H21	38:Y:416:GLN:HG3	1.43	0.82
36:R3:1328:C:N4	36:R3:1329:A:N7	2.27	0.82
23:31:3:LYS:N	35:R2:44:G:C4	2.46	0.82
36:R3:1269:A:N7	36:R3:1270:G:O2'	2.12	0.82
25:33:38:PHE:CG	34:R1:2290:G:C1'	2.62	0.81
36:R3:1245:C:N3	36:R3:1292:G:N1	2.26	0.81
25:33:36:LYS:HA	34:R1:2346:A:C6	2.15	0.81
23:31:65:ASN:CG	36:R3:1268:G:C2	2.54	0.81
25:33:29:LYS:HG3	34:R1:2419:U:O3'	1.81	0.81
30:5:132:ARG:HE	34:R1:2305:U:H5"	1.45	0.81
38:Y:8:THR:HA	38:Y:18:GLU:HA	1.63	0.81
3:11:17:ALA:O	34:R1:1075:C:N4	2.13	0.81
36:R3:141:G:N2	36:R3:222:C:O2	2.13	0.81
37:T:13:C:O2	37:T:22:G:N2	2.13	0.81
25:33:38:PHE:CD1	34:R1:2290:G:O4'	2.34	0.80
3:11:41:PHE:N	34:R1:1071:G:C5'	2.42	0.80
23:31:3:LYS:CB	35:R2:44:G:N1	2.43	0.80
34:R1:200:U:O2	34:R1:386:G:N2	2.14	0.80
7:16:41:LEU:HD23	7:16:46:ILE:HD11	1.63	0.80
37:T:13:C:N3	37:T:22:G:N1	2.29	0.80
3:11:47:SER:H	34:R1:1070:A:H8	1.27	0.80
25:33:22:THR:HG22	25:33:23:THR:H	1.46	0.80
23:31:59:ARG:CA	36:R3:1310:G:C4	2.64	0.79
36:R3:69:G:N2	36:R3:99:C:O2	2.12	0.79
3:11:19:PRO:HB3	34:R1:1088:A:C8	2.18	0.79
3:11:40:ALA:HA	3:11:44:LYS:HB3	1.63	0.79
17:25:29:ILE:HG13	35:R2:75:G:H1'	1.64	0.79
38:Y:402:PHE:HB2	38:Y:432:ILE:HD11	1.61	0.79
3:11:19:PRO:HG3	3:11:37:PHE:HB2	1.63	0.79
34:R1:240:C:O2	34:R1:257:C:N4	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:10:12:VAL:HG13	34:R1:1108:U:O2	1.83	0.79
36:R3:1137:C:O2'	36:R3:1138:G:N2	2.16	0.79
23:31:3:LYS:NZ	35:R2:34:A:N1	2.27	0.79
25:33:45:HIS:NE2	34:R1:2288:A:O3'	2.15	0.79
23:31:61:ASN:HB3	36:R3:1311:A:C4	2.14	0.79
34:R1:2289:G:N2	34:R1:2290:G:N7	2.30	0.78
34:R1:2315:G:H2'	34:R1:2316:G:C8	2.17	0.78
23:31:56:ARG:NH1	36:R3:1330:U:O4	2.15	0.78
23:31:65:ASN:C	36:R3:1268:G:C6	2.56	0.78
34:R1:2898:U:H2'	34:R1:2899:A:H8	1.49	0.78
10:19:13:LYS:HE3	10:19:76:HIS:HA	1.66	0.78
25:33:38:PHE:CE2	34:R1:2290:G:N3	2.51	0.78
25:33:45:HIS:CD2	34:R1:2288:A:H3'	2.18	0.78
3:11:41:PHE:H	34:R1:1071:G:P	2.06	0.78
38:Y:98:GLU:OE2	38:Y:101:ARG:NH2	2.17	0.78
30:5:70:ARG:NH2	34:R1:2313:C:OP2	2.16	0.78
36:R3:1245:C:O2	36:R3:1292:G:N2	2.15	0.78
31:6:15:ASP:HB3	31:6:26:LYS:HB3	1.65	0.78
18:27:70:GLU:HB3	18:27:72:LYS:HZ3	1.48	0.77
23:31:60:PHE:O	23:31:63:ARG:N	2.16	0.77
1:1:180:PHE:HB3	1:1:184:LYS:HE3	1.65	0.77
3:11:1:ALA:N	34:R1:1054:A:N3	2.32	0.77
12:20:88:GLU:OE2	13:21:39:LEU:HD21	1.84	0.77
2:10:8:LYS:HD2	34:R1:1109:C:H3'	1.66	0.77
3:11:38:CYS:HB3	3:11:42:ASN:HB2	1.67	0.77
25:33:48:TYR:CE1	34:R1:2346:A:N6	2.53	0.77
38:Y:30:TYR:HA	38:Y:221:HIS:O	1.84	0.77
3:11:42:ASN:CA	34:R1:1070:A:H3'	2.14	0.77
23:31:65:ASN:C	36:R3:1268:G:C5	2.58	0.77
3:11:51:GLY:N	34:R1:1061:U:O2	2.18	0.77
34:R1:1936:A:H2	34:R1:1943:U:H3	1.31	0.77
8:17:33:ILE:HG22	8:17:114:GLU:HG3	1.67	0.76
13:21:63:VAL:HA	13:21:96:VAL:HG12	1.67	0.76
25:33:23:THR:HG1	34:R1:2418:A:HO2'	1.33	0.76
3:11:42:ASN:N	34:R1:1071:G:P	2.58	0.76
22:30:9:THR:HG21	22:30:55:LYS:CE	2.15	0.76
28:36:30:GLU:OE1	28:36:30:GLU:N	2.18	0.76
32:9:50:ARG:NH1	32:9:50:ARG:O	2.18	0.76
34:R1:820:A:H4'	34:R1:836:G:H22	1.50	0.76
34:R1:1385:A:O2'	34:R1:1396:U:O2	2.03	0.76
34:R1:1531:C:H2'	34:R1:1532:A:H8	1.49	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:11:55:PRO:HG3	3:11:71:LYS:HB2	1.67	0.76
2:10:63:ALA:O	34:R1:1084:A:N6	2.19	0.76
23:31:61:ASN:HA	36:R3:1311:A:C6	2.21	0.76
12:20:58:GLN:HA	12:20:58:GLN:NE2	2.00	0.76
34:R1:1093:G:N2	34:R1:1098:A:H62	1.81	0.76
30:5:34:THR:HG21	30:5:87:LYS:HE2	1.67	0.76
36:R3:1309:G:C4	36:R3:1310:G:N7	2.54	0.76
23:31:58:ASP:C	36:R3:1310:G:C6	2.58	0.76
2:10:117:LEU:HG	2:10:118:ILE:CD1	2.16	0.75
12:20:57:ARG:NH1	34:R1:1154:G:OP2	2.19	0.75
22:30:9:THR:HG21	22:30:55:LYS:HE2	1.68	0.75
30:5:80:GLN:OE1	30:5:81:GLY:N	2.18	0.75
36:R3:1352:C:H42	36:R3:1370:G:H1	1.34	0.75
3:11:34:ILE:HG22	34:R1:1089:A:O5'	1.86	0.75
38:Y:76:PHE:O	38:Y:153:MET:HE3	1.87	0.75
3:11:39:LYS:H	34:R1:1071:G:C3'	1.99	0.75
25:33:36:LYS:HB2	34:R1:2383:G:C2	2.20	0.75
34:R1:2602:A:H62	38:Y:278:LYS:HZ1	1.32	0.75
11:2:83:ASP:OD2	11:2:86:ARG:NH1	2.19	0.75
34:R1:1858:A:N6	34:R1:1884:G:O2'	2.20	0.75
34:R1:2126:A:N6	34:R1:2163:A:O2'	2.19	0.75
36:R3:1218:C:H2'	36:R3:1219:A:H8	1.51	0.75
34:R1:1434:A:H2'	34:R1:1435:G:H8	1.52	0.75
38:Y:53:PRO:HG2	38:Y:56:GLY:HA3	1.67	0.75
4:13:74:TYR:CE1	4:13:103:ILE:HD11	2.21	0.75
5:14:45:GLU:N	5:14:45:GLU:OE1	2.20	0.75
25:33:37:LYS:HB2	34:R1:2346:A:C8	2.22	0.75
22:30:5:LYS:HB2	22:30:57:GLU:HG2	1.68	0.74
36:R3:416:G:N1	36:R3:427:U:O2	2.19	0.74
38:Y:80:THR:HA	38:Y:152:PRO:HA	1.67	0.74
35:R2:33:G:H2'	35:R2:34:A:C8	2.22	0.74
25:33:43:ARG:NE	34:R1:2291:U:O2	2.20	0.74
37:T:23:A:H2'	37:T:24:G:H8	1.52	0.74
9:18:52:SER:N	9:18:55:GLU:OE2	2.21	0.74
36:R3:674:G:H2'	36:R3:675:A:H8	1.52	0.74
3:11:41:PHE:N	34:R1:1070:A:O3'	2.21	0.74
25:33:46:VAL:HA	34:R1:2286:G:H5'	1.68	0.74
12:20:65:ASN:ND2	34:R1:1010:A:OP1	2.20	0.74
34:R1:1432:G:H2'	34:R1:1433:A:C8	2.23	0.74
8:17:22:ARG:HG3	8:17:70:THR:HA	1.69	0.74
23:31:59:ARG:CA	36:R3:1310:G:C6	2.71	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:1178:C:H2'	34:R1:1179:G:H8	1.53	0.74
34:R1:1607:C:N4	34:R1:1622:G:OP2	2.21	0.74
36:R3:1246:A:H61	36:R3:1291:U:H3	1.36	0.74
15:23:73:ARG:NH2	34:R1:65:U:O2'	2.20	0.73
23:31:60:PHE:N	36:R3:1310:G:N1	2.35	0.73
25:33:38:PHE:CD1	34:R1:2290:G:N7	2.56	0.73
38:Y:6:ASN:HA	38:Y:19:ASN:HA	1.69	0.73
9:18:66:GLY:HA2	9:18:102:ARG:HH22	1.52	0.73
25:33:38:PHE:CE2	34:R1:2290:G:H1'	2.22	0.73
34:R1:2101:A:H2'	34:R1:2102:G:H8	1.53	0.73
3:11:28:GLY:HA2	34:R1:1087:G:H4'	1.70	0.73
22:30:6:ILE:HD13	22:30:47:ILE:HD11	1.70	0.73
25:33:28:THR:HG1	34:R1:2397:G:H1	1.32	0.73
23:31:65:ASN:HB3	36:R3:1268:G:C2	2.21	0.73
36:R3:664:G:H22	36:R3:741:G:H1	1.33	0.73
38:Y:99:ARG:HH22	38:Y:120:GLU:HA	1.53	0.73
3:11:73:PRO:O	3:11:112:LYS:NZ	2.21	0.73
23:31:59:ARG:CA	23:31:59:ARG:H	1.96	0.73
23:31:56:ARG:HG3	36:R3:1308:U:N3	2.03	0.73
2:10:12:VAL:HG12	34:R1:1107:G:C2	2.24	0.73
12:20:106:THR:O	12:20:110:GLU:HG2	1.89	0.73
5:14:34:GLY:N	5:14:37:ASP:OD2	2.17	0.72
36:R3:1243:C:O2	36:R3:1294:G:N2	2.17	0.72
36:R3:718:A:H5"	36:R3:719:C:OP2	1.89	0.72
3:11:25:PRO:HD3	34:R1:1078:U:H2'	1.72	0.72
16:24:37:GLY:HA2	16:24:40:LEU:HD21	1.70	0.72
25:33:38:PHE:CZ	34:R1:2290:G:C2'	2.72	0.72
30:5:42:ALA:HB3	30:5:84:ILE:HB	1.71	0.72
35:R2:40:U:N3	35:R2:44:G:OP2	2.21	0.72
30:5:98:PHE:CE1	30:5:102:LEU:HD21	2.25	0.72
34:R1:2134:A:N1	34:R1:2135:A:N6	2.37	0.72
34:R1:2508:G:H1	34:R1:2580:U:H5	1.38	0.72
1:1:60:ARG:CZ	1:1:164:ARG:HB2	2.20	0.72
25:33:27:ARG:NH1	34:R1:2420:C:O2	2.23	0.72
30:5:102:LEU:HA	30:5:106:ALA:HB3	1.70	0.72
29:4:163:ASN:ND2	34:R1:320:A:N3	2.37	0.72
38:Y:197:VAL:HG22	38:Y:201:ARG:HH22	1.54	0.72
38:Y:425:LEU:O	38:Y:446:ARG:NH2	2.23	0.72
3:11:38:CYS:CB	3:11:42:ASN:HB2	2.20	0.72
3:11:43:ALA:N	34:R1:1071:G:P	2.53	0.72
7:16:111:GLU:OE1	7:16:111:GLU:N	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:18:30:ARG:HH12	35:R2:48:U:H5”	1.55	0.71
23:31:59:ARG:CA	36:R3:1310:G:N1	2.52	0.71
14:22:42:LYS:NZ	34:R1:2011:U:OP1	2.23	0.71
23:31:60:PHE:HE1	36:R3:1328:C:C4	2.07	0.71
12:20:58:GLN:NE2	34:R1:1009:A:C4’	2.53	0.71
25:33:45:HIS:CD2	34:R1:2288:A:C3’	2.72	0.71
29:4:141:MET:SD	29:4:143:LEU:HD13	2.31	0.71
34:R1:976:G:HO2’	34:R1:1155:A:HO2’	1.39	0.71
38:Y:29:ARG:HG2	38:Y:220:THR:HG23	1.72	0.71
2:10:31:ARG:NH2	2:10:107:GLU:OE2	2.23	0.71
4:13:129:GLU:OE1	4:13:129:GLU:N	2.23	0.71
22:30:9:THR:HG21	22:30:55:LYS:NZ	2.05	0.71
34:R1:1054:A:H2’	34:R1:1055:G:C4’	2.20	0.71
34:R1:1093:G:H21	34:R1:1098:A:N6	1.84	0.71
3:11:40:ALA:N	34:R1:1071:G:P	2.64	0.71
14:22:41:LYS:HD2	24:32:21:LEU:HD11	1.71	0.71
34:R1:242:G:N2	34:R1:255:A:OP2	2.23	0.71
34:R1:827:U:O2’	34:R1:2068:U:N3	2.22	0.71
3:11:42:ASN:N	34:R1:1070:A:H3’	2.04	0.71
12:20:58:GLN:HE22	34:R1:1009:A:C4’	2.03	0.71
17:25:23:ALA:O	17:25:25:LYS:NZ	2.23	0.71
36:R3:69:G:N1	36:R3:99:C:N3	2.31	0.71
23:31:37:CYS:SG	23:31:38:SER:N	2.63	0.71
34:R1:1910:G:N2	34:R1:1921:G:N3	2.37	0.71
36:R3:1269:A:H8	36:R3:1270:G:H4’	1.55	0.71
25:33:40:PRO:HA	34:R1:2290:G:C6	2.26	0.71
35:R2:65:U:H3’	35:R2:108:A:H61	1.56	0.71
38:Y:153:MET:O	38:Y:161:LYS:NZ	2.24	0.71
25:33:39:ASP:HB3	34:R1:2289:G:C6	2.25	0.71
38:Y:441:GLY:HA2	38:Y:444:LYS:HE3	1.73	0.71
2:10:70:GLU:HG2	2:10:71:CYS:N	2.05	0.71
4:13:81:ILE:H	4:13:81:ILE:HD12	1.56	0.71
25:33:23:THR:OG1	34:R1:2418:A:O2’	2.09	0.71
25:33:36:LYS:HA	34:R1:2346:A:N1	2.05	0.71
25:33:42:VAL:HA	34:R1:2342:C:N4	2.06	0.71
34:R1:1053:C:H2’	34:R1:1054:A:N7	2.06	0.71
34:R1:1315:C:O2’	34:R1:1392:A:N3	2.23	0.71
1:1:219:GLY:O	34:R1:2175:C:O2’	2.08	0.70
7:16:5:LYS:NZ	34:R1:871:U:OP1	2.23	0.70
36:R3:1218:C:H2’	36:R3:1219:A:C8	2.26	0.70
17:25:7:GLU:OE1	17:25:7:GLU:N	2.24	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:2328:A:H2'	34:R1:2329:U:C6	2.27	0.70
2:10:64:VAL:HG21	34:R1:1105:U:O2	1.91	0.70
12:20:52:ARG:NH2	34:R1:994:C:OP1	2.25	0.70
4:13:96:ARG:NH2	34:R1:2639:A:C4'	2.51	0.70
25:33:40:PRO:HG2	34:R1:2344:U:H4'	1.73	0.70
30:5:33:ILE:HD12	30:5:155:ILE:HG13	1.74	0.70
34:R1:1050:A:H61	34:R1:1109:C:H41	1.40	0.70
34:R1:1054:A:H2'	34:R1:1055:G:H4'	1.73	0.70
2:10:14:GLU:N	34:R1:1108:U:OP1	2.21	0.70
2:10:73:LYS:H	2:10:73:LYS:HD2	1.56	0.70
27:35:11:LYS:NZ	34:R1:249:C:O2	2.24	0.70
18:27:73:GLY:O	18:27:76:ASN:N	2.23	0.70
3:11:62:ALA:O	3:11:64:ARG:NH1	2.25	0.70
11:2:107:LYS:HD3	11:2:193:GLU:HB3	1.74	0.70
8:17:73:ASN:HD22	34:R1:1453:A:H8	1.40	0.70
11:2:213:ARG:HH12	34:R1:1566:A:H5'	1.55	0.70
31:6:174:LYS:HD2	31:6:175:LYS:HG2	1.72	0.70
34:R1:962:G:H21	34:R1:2250:G:H1	1.40	0.70
38:Y:313:LYS:HA	38:Y:313:LYS:HE3	1.74	0.70
30:5:90:LEU:HB3	30:5:95:MET:HA	1.72	0.70
31:6:83:THR:OG1	31:6:133:LYS:NZ	2.25	0.70
31:6:66:THR:HG22	34:R1:2748:A:H1'	1.73	0.70
18:27:43:THR:HG21	34:R1:2336:A:H61	1.56	0.69
3:11:14:ALA:HB2	34:R1:1060:U:H4'	1.73	0.69
3:11:17:ALA:HA	3:11:41:PHE:CZ	2.27	0.69
13:21:49:ILE:HD13	13:21:52:PRO:HA	1.74	0.69
30:5:3:LEU:HG	30:5:6:TYR:HD2	1.57	0.69
30:5:94:ARG:NH1	30:5:97:GLU:OE1	2.24	0.69
3:11:40:ALA:N	34:R1:1071:G:C5'	2.52	0.69
9:18:13:ARG:NE	34:R1:2335:A:OP1	2.25	0.69
34:R1:1070:A:C2	34:R1:1096:A:H2'	2.27	0.69
23:31:65:ASN:N	36:R3:1268:G:C2	2.59	0.69
34:R1:2581:G:OP2	34:R1:2581:G:N2	2.23	0.69
19:28:15:ASN:HD22	19:28:23:ALA:HB1	1.54	0.69
25:33:28:THR:HG23	34:R1:2420:C:C5	2.28	0.69
6:15:132:ARG:O	6:15:136:GLU:HG2	1.92	0.69
7:16:24:THR:O	7:16:34:LYS:NZ	2.25	0.69
23:31:1:MET:HB3	35:R2:47:C:H41	1.58	0.69
23:31:61:ASN:OD1	36:R3:1325:C:N4	2.23	0.69
25:33:38:PHE:CD2	34:R1:2290:G:C8	2.80	0.69
34:R1:2418:A:H2'	34:R1:2419:U:O4'	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:13:51:GLY:O	4:13:121:LYS:NZ	2.26	0.69
13:21:59:ILE:HG23	13:21:98:ILE:HD11	1.74	0.69
20:29:6:LEU:HA	20:29:56:LEU:HD21	1.75	0.69
23:31:63:ARG:HB2	36:R3:1327:C:C6	2.28	0.69
34:R1:1683:U:H2'	34:R1:1684:G:H8	1.58	0.69
38:Y:397:ASN:HD21	38:Y:404:TRP:HD1	1.39	0.69
1:1:49:GLY:N	1:1:208:TYR:O	2.19	0.69
1:1:200:LYS:HG2	1:1:201:PRO:HD2	1.75	0.69
30:5:98:PHE:O	30:5:102:LEU:HG	1.92	0.69
36:R3:714:G:H2'	36:R3:715:A:C8	2.28	0.69
2:10:72:LEU:HD22	3:11:5:GLN:H	1.58	0.68
14:22:77:ASP:OD1	34:R1:23:G:N2	2.25	0.68
29:4:148:ILE:HD13	29:4:187:VAL:CG1	2.23	0.68
34:R1:355:U:H2'	34:R1:356:G:C8	2.28	0.68
34:R1:1093:G:O2'	34:R1:1094:U:O4'	2.10	0.68
18:27:70:GLU:CB	18:27:72:LYS:HZ3	2.06	0.68
34:R1:2183:A:H2'	34:R1:2184:A:C8	2.28	0.68
25:33:43:ARG:HG3	34:R1:2291:U:H3	1.58	0.68
32:9:73:ASN:HB2	32:9:108:VAL:HG21	1.76	0.68
34:R1:2809:A:OP2	34:R1:2890:G:N1	2.15	0.68
38:Y:464:GLN:OE1	38:Y:493:HIS:NE2	2.26	0.68
3:11:49:GLU:OE2	34:R1:1061:U:C4	2.46	0.68
27:35:7:ARG:NH1	34:R1:243:U:OP2	2.26	0.68
34:R1:475:C:O2	34:R1:479:A:N6	2.27	0.68
1:1:217:THR:O	34:R1:2174:C:O2'	2.11	0.68
3:11:52:LEU:HD13	3:11:81:LYS:HB2	1.74	0.68
3:11:58:ILE:HB	3:11:66:PHE:HZ	1.59	0.68
14:22:15:GLN:OE1	24:32:16:ARG:NH1	2.27	0.68
22:30:31:ILE:H	22:30:31:ILE:HD12	1.58	0.68
29:4:48:THR:HG22	29:4:86:ALA:HB3	1.74	0.68
34:R1:639:U:H2'	34:R1:640:C:C6	2.28	0.68
38:Y:507:GLU:CD	38:Y:523:TYR:OH	2.31	0.68
2:10:21:GLY:O	2:10:70:GLU:OE1	2.12	0.68
3:11:32:VAL:N	34:R1:1087:G:H5"	2.08	0.68
8:17:74:GLU:OE1	34:R1:1453:A:N6	2.26	0.68
14:22:35:ILE:O	14:22:39:THR:HG23	1.94	0.68
29:4:44:ARG:NH2	34:R1:1248:G:OP1	2.23	0.68
23:31:26:SER:OG	23:31:27:THR:N	2.27	0.68
25:33:45:HIS:CE1	34:R1:2288:A:O2'	2.47	0.68
36:R3:999:C:H2'	36:R3:1000:A:H8	1.58	0.68
38:Y:151:GLY:HA3	38:Y:155:GLU:HG3	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:11:53:PRO:HG2	3:11:77:VAL:HG11	1.76	0.67
10:19:105:LYS:NZ	36:R3:1433:A:OP1	2.27	0.67
32:9:39:ALA:HB1	32:9:44:ILE:HD11	1.74	0.67
34:R1:1531:C:H2'	34:R1:1532:A:C8	2.30	0.67
37:T:8:U:O2'	37:T:21:A:N1	2.26	0.67
38:Y:350:VAL:HG22	38:Y:358:LYS:NZ	2.09	0.67
38:Y:434:LYS:HE3	38:Y:438:VAL:HG23	1.77	0.67
3:11:16:MET:HB2	34:R1:1064:C:H5"	1.76	0.67
23:31:1:MET:O	35:R2:46:A:N6	2.27	0.67
23:31:55:GLY:O	36:R3:1329:A:N6	2.27	0.67
36:R3:376:G:H1	36:R3:387:U:H3	1.41	0.67
38:Y:258:LYS:HA	38:Y:261:GLN:HG2	1.76	0.67
3:11:21:PRO:O	34:R1:1078:U:O2'	2.12	0.67
34:R1:1912:A:HO2'	36:R3:1494:G:HO2'	1.42	0.67
2:10:68:PRO:HA	3:11:1:ALA:HB2	1.74	0.67
7:16:86:LYS:NZ	34:R1:955:U:OP1	2.26	0.67
34:R1:639:U:H2'	34:R1:640:C:H6	1.60	0.67
34:R1:2857:G:N2	34:R1:2860:A:OP2	2.23	0.67
3:11:39:LYS:H	34:R1:1071:G:C5'	2.07	0.67
11:2:270:ARG:NH2	34:R1:1798:U:OP2	2.27	0.67
21:3:64:GLU:OE2	34:R1:2633:G:O2'	2.11	0.67
23:31:56:ARG:HB3	23:31:60:PHE:CE2	2.30	0.67
25:33:47:ILE:HG13	34:R1:2286:G:C8	2.29	0.67
34:R1:141:G:N2	34:R1:141:G:OP2	2.26	0.67
36:R3:76:G:H22	36:R3:93:U:H3	1.42	0.67
23:31:66:ILE:HD12	36:R3:1266:G:N2	2.10	0.67
25:33:48:TYR:CE1	34:R1:2346:A:C6	2.83	0.67
34:R1:1278:C:H2'	34:R1:1279:G:H8	1.60	0.67
34:R1:1434:A:H2'	34:R1:1435:G:C8	2.29	0.67
38:Y:142:VAL:HG11	38:Y:166:LEU:HD11	1.76	0.67
27:35:32:LEU:O	27:35:40:LYS:NZ	2.28	0.67
13:21:48:LYS:HG2	13:21:49:ILE:H	1.59	0.67
34:R1:1597:A:H5"	34:R1:1598:A:H5'	1.77	0.67
2:10:73:LYS:HA	3:11:5:GLN:HB2	1.76	0.67
3:11:39:LYS:O	3:11:39:LYS:HD3	1.95	0.67
29:4:104:ALA:O	29:4:108:ILE:HG12	1.95	0.67
36:R3:1299:A:OP1	38:Y:379:SER:OG	2.13	0.67
3:11:11:GLN:NE2	34:R1:1060:U:H3'	2.10	0.66
6:15:78:ARG:NH2	34:R1:627:A:OP1	2.27	0.66
13:21:35:PHE:HB2	13:21:59:ILE:HB	1.75	0.66
36:R3:1530:G:H2'	36:R3:1531:A:H8	1.58	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:11:31:GLY:N	34:R1:1087:G:O5'	2.25	0.66
3:11:38:CYS:N	34:R1:1071:G:O3'	2.25	0.66
30:5:84:ILE:HG13	34:R1:2312:U:H5'	1.77	0.66
38:Y:3:VAL:HG12	38:Y:23:LYS:HG2	1.76	0.66
7:16:36:VAL:HG12	17:25:82:TYR:HB2	1.75	0.66
34:R1:2595:G:N2	34:R1:2598:A:OP2	2.25	0.66
23:31:60:PHE:HD1	36:R3:1327:C:H41	1.42	0.66
34:R1:1682:G:H2'	34:R1:1683:U:C6	2.30	0.66
11:2:140:VAL:HG11	11:2:189:ALA:HB1	1.76	0.66
30:5:43:ILE:HD11	30:5:78:ILE:HD13	1.77	0.66
34:R1:1019:U:H3	34:R1:1142:A:H62	1.44	0.66
34:R1:2107:G:H2'	34:R1:2108:A:C8	2.31	0.66
38:Y:9:MET:SD	38:Y:46:ILE:HD11	2.36	0.66
32:9:11:ASN:HD22	34:R1:2095:A:H5'	1.59	0.66
34:R1:2737:G:H2'	34:R1:2738:A:C8	2.30	0.66
36:R3:335:C:H2'	36:R3:336:A:H8	1.60	0.66
3:11:2:LYS:HD3	34:R1:1085:A:C5	2.30	0.66
9:18:99:TYR:CE2	9:18:104:GLN:OE1	2.49	0.66
23:31:2:LYS:HG2	35:R2:44:G:H21	1.60	0.66
34:R1:45:G:H5"	34:R1:46:G:H5'	1.77	0.66
34:R1:2327:A:H2'	34:R1:2328:A:C8	2.31	0.66
36:R3:141:G:N1	36:R3:222:C:N3	2.31	0.66
2:10:119:PRO:HG2	2:10:121:SER:H	1.60	0.66
3:11:43:ALA:C	34:R1:1070:A:O2'	2.33	0.66
23:31:64:PHE:CE1	36:R3:1269:A:N3	2.64	0.66
26:34:26:ASN:ND2	34:R1:682:G:H5'	2.10	0.66
29:4:40:ARG:NH2	34:R1:444:C:OP1	2.28	0.66
34:R1:2290:G:N9	34:R1:2290:G:H1'	2.07	0.66
36:R3:367:U:H3	36:R3:393:A:H62	1.43	0.66
22:30:36:GLU:O	22:30:37:ARG:NH1	2.27	0.66
23:31:60:PHE:HE1	36:R3:1328:C:C5	2.13	0.66
36:R3:1071:C:H2'	36:R3:1072:G:H8	1.60	0.66
9:18:93:ASP:OD1	9:18:95:SER:N	2.29	0.65
1:1:46:VAL:HG13	1:1:171:ILE:HG23	1.79	0.65
2:10:65:GLU:HG2	34:R1:1106:G:C2	2.32	0.65
7:16:78:LEU:HD23	7:16:79:ALA:N	2.11	0.65
34:R1:1060:U:O4	34:R1:1088:A:N6	2.29	0.65
38:Y:507:GLU:CD	38:Y:523:TYR:HH	1.98	0.65
11:2:266:ILE:HG21	11:2:269:ARG:HD3	1.78	0.65
23:31:59:ARG:HA	36:R3:1310:G:C2	2.27	0.65
33:M:1:U:O2'	33:M:2:U:OP1	2.13	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:931:U:O2	34:R1:1182:G:N2	2.30	0.65
34:R1:1044:C:HO2'	34:R1:1047:G:HO2'	1.44	0.65
34:R1:2116:G:O6	34:R1:2164:C:N4	2.30	0.65
36:R3:1135:U:H3	36:R3:1137:C:H1'	1.60	0.65
2:10:5:LEU:HD21	34:R1:1111:A:P	2.36	0.65
3:11:30:GLN:HB3	34:R1:1086:A:H5'	1.78	0.65
9:18:99:TYR:CZ	9:18:104:GLN:OE1	2.50	0.65
11:2:269:ARG:NH2	34:R1:1799:G:OP2	2.21	0.65
14:22:5:ALA:HB2	14:22:54:ALA:HB2	1.79	0.65
16:24:14:THR:O	16:24:68:ASN:ND2	2.30	0.65
16:24:41:VAL:HG21	34:R1:480:A:O4'	1.95	0.65
1:1:47:ASN:ND2	34:R1:2177:C:O2'	2.29	0.65
23:31:61:ASN:OD1	36:R3:1311:A:N1	2.29	0.65
30:5:87:LYS:NZ	34:R1:2314:A:O4'	2.29	0.65
34:R1:2345:G:C8	34:R1:2371:G:N2	2.58	0.65
34:R1:2502:G:H5'	34:R1:2503:A:H5"	1.78	0.65
34:R1:2899:A:H2'	34:R1:2900:A:C8	2.31	0.65
36:R3:945:G:H2'	36:R3:946:A:H5"	1.77	0.65
36:R3:1533:C:H4'	36:R3:1534:A:C8	2.32	0.65
36:R3:1533:C:H4'	36:R3:1534:A:H8	1.61	0.65
2:10:11:ILE:HA	34:R1:1107:G:H3'	1.79	0.65
6:15:106:GLU:OE1	6:15:106:GLU:N	2.30	0.65
6:15:110:VAL:HB	6:15:127:VAL:HG12	1.78	0.65
16:24:81:ARG:NH2	34:R1:335:C:OP2	2.30	0.65
25:33:5:ARG:HG2	34:R1:2418:A:C8	2.32	0.65
3:11:40:ALA:H	34:R1:1071:G:C4'	2.09	0.65
21:3:36:GLN:HA	21:3:92:VAL:HG12	1.78	0.65
34:R1:411:G:OP2	34:R1:2406:A:O2'	2.14	0.65
34:R1:1682:G:OP2	34:R1:1699:G:N2	2.30	0.65
35:R2:5:U:OP1	35:R2:61:G:O2'	2.14	0.65
38:Y:66:ILE:HD11	38:Y:178:LEU:HD22	1.78	0.65
9:18:33:ARG:HB3	35:R2:52:A:N6	2.12	0.65
12:20:5:ARG:NH2	34:R1:585:G:N7	2.45	0.65
27:35:38:LYS:NZ	34:R1:2365:G:N7	2.38	0.65
32:9:132:PHE:HB2	32:9:140:ALA:HB3	1.78	0.65
34:R1:1028:A:H2'	34:R1:1029:A:C8	2.31	0.65
38:Y:185:ASN:O	38:Y:354:ASN:ND2	2.30	0.65
7:16:55:ARG:HD2	34:R1:2469:A:H4'	1.78	0.65
23:31:59:ARG:CA	36:R3:1310:G:C5	2.80	0.65
23:31:66:ILE:HD11	36:R3:1270:G:C4	2.31	0.65
34:R1:2297:A:H61	34:R1:2319:G:H1'	1.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:21:49:ILE:HB	13:21:51:VAL:O	1.96	0.64
27:35:44:ARG:NH1	34:R1:2418:A:OP1	2.30	0.64
36:R3:509:A:H8	36:R3:543:U:HO2'	1.45	0.64
3:11:40:ALA:H	34:R1:1071:G:H5'	1.61	0.64
11:2:99:GLU:OE2	34:R1:1491:G:O2'	2.08	0.64
4:13:17:VAL:HG23	4:13:137:PRO:HB2	1.80	0.64
12:20:58:GLN:NE2	12:20:58:GLN:CA	2.59	0.64
25:33:28:THR:HG23	34:R1:2420:C:C4	2.31	0.64
25:33:37:LYS:HG2	34:R1:2383:G:C8	2.31	0.64
37:T:21:A:P	37:T:48:C:H41	2.20	0.64
11:2:227:VAL:HG21	34:R1:784:G:C6	2.33	0.64
21:3:173:GLN:NE2	34:R1:2772:C:H5'	2.12	0.64
34:R1:2804:U:H2'	34:R1:2805:C:C6	2.33	0.64
36:R3:151:A:N7	36:R3:170:U:O4	2.31	0.64
36:R3:517:G:N2	36:R3:530:G:OP1	2.27	0.64
36:R3:1414:U:H2'	36:R3:1415:G:H8	1.61	0.64
23:31:58:ASP:O	36:R3:1310:G:C2	2.49	0.64
34:R1:1779:U:H5"	34:R1:1780:A:H5"	1.78	0.64
36:R3:999:C:H2'	36:R3:1000:A:C8	2.33	0.64
38:Y:70:ARG:NH2	38:Y:168:GLN:HE21	1.95	0.64
38:Y:217:MET:SD	38:Y:217:MET:N	2.69	0.64
2:10:12:VAL:N	34:R1:1108:U:O5'	2.30	0.64
2:10:72:LEU:HD21	34:R1:1085:A:H62	1.62	0.64
3:11:72:THR:HG21	3:11:112:LYS:HA	1.80	0.64
17:25:79:ARG:HG2	17:25:86:LEU:HD22	1.78	0.64
34:R1:2120:G:H2'	34:R1:2121:G:O4'	1.97	0.64
25:33:38:PHE:CZ	34:R1:2290:G:H2'	2.33	0.64
30:5:124:ARG:NH2	34:R1:2316:G:O3'	2.31	0.64
36:R3:1307:U:H2'	36:R3:1308:U:C2	2.33	0.64
25:33:5:ARG:HD3	34:R1:2417:C:C3'	2.26	0.64
30:5:110:ILE:HG22	30:5:136:ILE:HG21	1.79	0.64
34:R1:574:A:N6	34:R1:2034:U:OP1	2.26	0.64
3:11:39:LYS:H	34:R1:1071:G:C4'	2.11	0.64
23:31:62:LYS:H	36:R3:1310:G:H22	1.45	0.64
25:33:38:PHE:CG	34:R1:2290:G:H1'	2.33	0.64
34:R1:2298:A:H61	34:R1:2318:G:H1'	1.63	0.64
37:T:51:C:H2'	37:T:52:G:C8	2.33	0.64
36:R3:235:C:H2'	36:R3:236:A:H8	1.62	0.64
2:10:4:ASN:HB3	34:R1:1110:G:H8	1.63	0.63
3:11:59:THR:HG23	34:R1:1056:G:O2'	1.97	0.63
15:23:4:GLU:HA	15:23:7:LEU:HG	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:30:17:PRO:HA	22:30:20:LYS:HZ1	1.62	0.63
25:33:5:ARG:HG2	34:R1:2418:A:N9	2.13	0.63
34:R1:1482:G:H2'	34:R1:1483:G:H8	1.62	0.63
2:10:97:LYS:HB2	2:10:129:LEU:HD11	1.81	0.63
34:R1:2898:U:H2'	34:R1:2899:A:C8	2.33	0.63
35:R2:38:C:H42	35:R2:44:G:H1	1.46	0.63
34:R1:2326:C:O2'	34:R1:2327:A:OP1	2.15	0.63
36:R3:1269:A:C8	36:R3:1270:G:H4'	2.33	0.63
38:Y:194:LEU:O	38:Y:198:LEU:HB2	1.98	0.63
38:Y:224:ASP:OD1	38:Y:226:ASP:HB2	1.98	0.63
22:30:38:GLU:N	22:30:38:GLU:OE1	2.32	0.63
34:R1:1332:G:N7	34:R1:1609:A:O2'	2.27	0.63
34:R1:1681:G:OP2	34:R1:1757:A:N6	2.28	0.63
34:R1:2123:G:N2	34:R1:2124:G:O6	2.31	0.63
36:R3:137:U:O2	36:R3:226:G:O6	2.16	0.63
2:10:4:ASN:HB3	34:R1:1110:G:C8	2.33	0.63
2:10:8:LYS:HB3	34:R1:1109:C:H5'	1.81	0.63
3:11:66:PHE:CD1	34:R1:1071:G:H1'	2.33	0.63
5:14:42:THR:HG22	5:14:57:VAL:HG22	1.80	0.63
12:20:93:ILE:O	12:20:97:ILE:HG12	1.97	0.63
36:R3:1370:G:H2'	36:R3:1371:G:H8	1.63	0.63
1:1:139:ASN:O	1:1:144:THR:N	2.32	0.63
6:15:51:GLU:N	6:15:51:GLU:OE2	2.32	0.63
7:16:88:ASN:OD1	7:16:89:VAL:N	2.31	0.63
31:6:171:LYS:NZ	34:R1:2530:A:N7	2.46	0.63
34:R1:1509:A:H2'	34:R1:1510:G:C8	2.34	0.63
34:R1:2258:C:O2'	34:R1:2427:C:OP2	2.17	0.63
36:R3:1085:U:H5"	36:R3:1086:U:H5	1.64	0.63
38:Y:334:LEU:HD21	38:Y:360:THR:HG21	1.81	0.63
23:31:65:ASN:OD1	36:R3:1268:G:C2	2.52	0.63
16:24:14:THR:N	16:24:68:ASN:OD1	2.29	0.63
16:24:41:VAL:HG21	34:R1:480:A:C1'	2.28	0.63
26:34:1:MET:HE2	26:34:3:ARG:HH12	1.64	0.63
30:5:41:GLU:HG2	34:R1:2307:G:O6	1.98	0.63
31:6:94:ARG:HG2	31:6:127:GLN:NE2	2.13	0.63
31:6:94:ARG:HG2	31:6:127:GLN:HE21	1.63	0.63
36:R3:1005:A:H3'	36:R3:1006:G:H8	1.64	0.63
23:31:58:ASP:HA	36:R3:1311:A:N7	2.13	0.62
38:Y:394:GLU:OE2	38:Y:451:LYS:NZ	2.29	0.62
38:Y:421:ILE:HG13	38:Y:424:ARG:HH22	1.64	0.62
1:1:164:ARG:NH2	34:R1:2123:G:H5'	2.14	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:10:71:CYS:HA	2:10:73:LYS:HD2	1.80	0.62
23:31:58:ASP:CA	36:R3:1310:G:C6	2.81	0.62
36:R3:1144:G:H21	36:R3:1146:A:H62	1.47	0.62
9:18:63:LYS:HD3	9:18:63:LYS:N	2.14	0.62
34:R1:1980:G:O2'	34:R1:1982:U:OP2	2.17	0.62
36:R3:1287:A:H2'	36:R3:1288:A:C8	2.35	0.62
1:1:6:LYS:HG3	1:1:8:MET:HE2	1.81	0.62
2:10:117:LEU:HD12	2:10:118:ILE:H	1.63	0.62
19:28:55:MET:HE1	34:R1:2091:C:H4'	1.81	0.62
23:31:31:ASP:O	23:31:32:LEU:HD22	1.98	0.62
30:5:59:ILE:HG23	30:5:137:PHE:CE2	2.34	0.62
30:5:65:LEU:HD23	35:R2:42:C:C5	2.35	0.62
34:R1:1053:C:H2'	34:R1:1054:A:C5	2.34	0.62
36:R3:1310:G:C2	36:R3:1311:A:C8	2.88	0.62
38:Y:492:SER:OG	38:Y:494:ASP:OD1	2.17	0.62
38:Y:507:GLU:OE1	38:Y:523:TYR:CE2	2.52	0.62
1:1:69:THR:HG23	1:1:175:ILE:HA	1.81	0.62
23:31:43:PHE:CE2	30:5:110:ILE:HD11	2.34	0.62
34:R1:1386:C:H2'	34:R1:1387:A:C8	2.34	0.62
34:R1:1509:A:H2'	34:R1:1510:G:H8	1.64	0.62
34:R1:1683:U:H2'	34:R1:1684:G:C8	2.34	0.62
34:R1:2121:G:O6	34:R1:2122:U:N3	2.32	0.62
36:R3:938:A:N3	36:R3:1376:U:O2'	2.28	0.62
36:R3:1312:G:H2'	36:R3:1313:U:O4'	1.99	0.62
38:Y:251:LEU:HD12	38:Y:297:VAL:HG21	1.80	0.62
3:11:62:ALA:HB3	34:R1:1055:G:N2	2.12	0.62
34:R1:181:A:H1'	34:R1:435:C:H5'	1.81	0.62
36:R3:419:C:C2	36:R3:424:G:N1	2.67	0.62
36:R3:728:A:H2'	36:R3:729:A:C8	2.34	0.62
23:31:3:LYS:C	23:31:3:LYS:HA	2.11	0.62
25:33:27:ARG:HH21	34:R1:2397:G:H1'	1.63	0.62
36:R3:50:A:O2'	36:R3:360:G:N2	2.33	0.62
38:Y:187:ASP:OD1	38:Y:190:THR:N	2.31	0.62
6:15:92:LEU:O	6:15:96:LYS:HG2	1.98	0.62
31:6:11:PRO:HD2	31:6:12:ALA:O	1.98	0.62
37:T:23:A:H2'	37:T:24:G:C8	2.34	0.62
23:31:2:LYS:C	35:R2:44:G:N3	2.52	0.62
3:11:42:ASN:O	34:R1:1069:A:H2'	2.00	0.62
31:6:75:VAL:O	31:6:79:THR:OG1	2.15	0.62
35:R2:60:C:H2'	35:R2:61:G:H8	1.63	0.62
3:11:39:LYS:HD2	34:R1:1071:G:C6	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:25:80:HIS:HA	17:25:87:GLN:HE22	1.63	0.61
23:31:59:ARG:CB	36:R3:1310:G:C5	2.83	0.61
34:R1:1386:C:H2'	34:R1:1387:A:H8	1.65	0.61
34:R1:1733:G:H2'	34:R1:1734:G:H8	1.64	0.61
36:R3:418:C:C2	36:R3:425:G:C2	2.87	0.61
36:R3:455:G:H2'	36:R3:456:A:H8	1.65	0.61
36:R3:944:G:N1	36:R3:1338:G:OP2	2.29	0.61
36:R3:1306:A:H62	36:R3:1331:G:HO2'	1.44	0.61
1:1:208:TYR:CE1	1:1:209:ILE:HG12	2.35	0.61
2:10:10:ALA:O	34:R1:1107:G:H5"	2.00	0.61
2:10:72:LEU:HB2	3:11:3:LYS:N	2.15	0.61
3:11:38:CYS:SG	34:R1:1072:C:H3'	2.40	0.61
12:20:75:TYR:O	12:20:79:ILE:HG22	2.01	0.61
16:24:25:LYS:HG3	16:24:36:GLU:HG2	1.80	0.61
19:28:55:MET:O	19:28:58:ILE:HG22	2.00	0.61
19:28:64:ASP:OD1	19:28:65:THR:N	2.32	0.61
34:R1:307:G:N1	34:R1:310:A:OP2	2.28	0.61
34:R1:926:G:H2'	34:R1:927:A:C8	2.34	0.61
38:Y:345:GLY:H	38:Y:487:THR:HG22	1.65	0.61
23:31:59:ARG:C	36:R3:1310:G:N1	2.53	0.61
34:R1:2296:U:H3	34:R1:2333:A:H2	1.47	0.61
36:R3:417:G:N2	36:R3:426:U:O2	2.33	0.61
3:11:15:GLY:N	34:R1:1062:G:O3'	2.32	0.61
9:18:2:ASP:OD1	9:18:3:LYS:N	2.33	0.61
9:18:76:LYS:O	9:18:80:GLU:HG2	2.00	0.61
15:23:5:GLU:OE2	15:23:5:GLU:N	2.22	0.61
16:24:53:GLN:OE1	16:24:53:GLN:N	2.33	0.61
30:5:23:SER:N	30:5:26:GLN:OE1	2.23	0.61
31:6:32:LEU:HD11	31:6:136:ASP:HB3	1.82	0.61
34:R1:1009:A:N3	34:R1:1153:C:O2'	2.31	0.61
34:R1:2170:A:O2'	34:R1:2171:A:O4'	2.17	0.61
35:R2:52:A:O2'	35:R2:53:A:N7	2.30	0.61
36:R3:204:G:H2'	36:R3:205:A:C8	2.35	0.61
36:R3:674:G:H2'	36:R3:675:A:C8	2.35	0.61
36:R3:1299:A:OP2	38:Y:317:ARG:NH2	2.29	0.61
2:10:4:ASN:HA	2:10:7:ASP:HB2	1.82	0.61
2:10:15:VAL:HA	2:10:18:VAL:HG22	1.82	0.61
10:19:25:VAL:HG12	10:19:85:VAL:HG22	1.81	0.61
34:R1:500:G:N1	34:R1:503:A:OP2	2.31	0.61
38:Y:357:GLY:N	61:Y:602:ATP:O2B	2.31	0.61
1:1:7:ARG:NH1	34:R1:2129:C:OP1	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:13:2:LYS:HB3	34:R1:995:C:H42	1.65	0.61
5:14:18:ARG:HB2	5:14:45:GLU:OE2	1.99	0.61
6:15:48:ARG:HH11	34:R1:666:A:H4'	1.65	0.61
30:5:34:THR:CG2	30:5:87:LYS:HE2	2.30	0.61
31:6:11:PRO:HD3	31:6:14:VAL:HG12	1.83	0.61
34:R1:932:U:O2'	34:R1:934:U:O4	2.18	0.61
11:2:128:THR:OG1	11:2:190:THR:OG1	2.19	0.61
20:29:49:ASP:N	20:29:49:ASP:OD1	2.33	0.61
23:31:64:PHE:HE1	36:R3:1269:A:N3	1.97	0.61
25:33:39:ASP:O	25:33:41:VAL:N	2.32	0.61
34:R1:451:U:C2	34:R1:453:A:N7	2.68	0.61
34:R1:1779:U:OP2	34:R1:1784:A:N6	2.33	0.61
5:14:73:ASP:OD1	5:14:75:SER:OG	2.15	0.61
32:9:8:LYS:HD3	32:9:9:VAL:N	2.14	0.61
36:R3:419:C:HO2'	36:R3:421:U:H5	1.47	0.61
36:R3:501:C:H2'	36:R3:502:A:H8	1.64	0.61
38:Y:185:ASN:HA	38:Y:493:HIS:HD2	1.66	0.61
4:13:4:PHE:O	12:20:63:ARG:NH2	2.34	0.61
5:14:70:ARG:NH1	34:R1:2684:U:O4'	2.33	0.61
34:R1:1071:G:H2'	34:R1:1071:G:N3	2.16	0.61
36:R3:34:C:H2'	36:R3:35:G:H8	1.66	0.61
36:R3:1005:A:N6	36:R3:1024:G:O2'	2.34	0.61
3:11:25:PRO:HA	3:11:28:GLY:HA3	1.83	0.61
3:11:58:ILE:HB	3:11:66:PHE:CZ	2.35	0.61
10:19:102:ARG:NH2	34:R1:1754:A:O2'	2.33	0.61
23:31:3:LYS:N	35:R2:44:G:C2	2.68	0.61
30:5:12:VAL:HG11	30:5:24:VAL:HG23	1.83	0.61
30:5:36:ASN:ND2	34:R1:2313:C:O2	2.34	0.61
30:5:132:ARG:NE	34:R1:2305:U:H5"	2.15	0.61
34:R1:1912:A:H62	34:R1:1917:U:H5	1.49	0.61
36:R3:235:C:H2'	36:R3:236:A:C8	2.35	0.61
1:1:51:ASP:OD2	1:1:54:LYS:NZ	2.31	0.60
2:10:11:ILE:N	34:R1:1108:U:O5'	2.34	0.60
2:10:11:ILE:H	34:R1:1108:U:C5'	2.13	0.60
7:16:40:ARG:HH12	34:R1:958:U:H5	1.46	0.60
15:23:14:PRO:HD3	20:29:30:MET:HE3	1.82	0.60
23:31:2:LYS:NZ	35:R2:39:A:O2'	2.19	0.60
32:9:7:ASP:OD1	32:9:8:LYS:N	2.33	0.60
34:R1:270:A:N1	34:R1:369:U:O2'	2.34	0.60
34:R1:1869:G:H1'	34:R1:1872:A:H61	1.65	0.60
34:R1:2246:G:H2'	34:R1:2247:A:H8	1.64	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:2638:G:H1'	34:R1:2778:A:H61	1.66	0.60
36:R3:418:C:O2	36:R3:425:G:C2	2.53	0.60
11:2:5:CYS:SG	11:2:6:LYS:N	2.74	0.60
23:31:61:ASN:C	36:R3:1311:A:C2	2.74	0.60
30:5:76:PHE:CD2	34:R1:2311:A:H8	2.18	0.60
34:R1:357:C:H2'	34:R1:358:U:H6	1.66	0.60
34:R1:1087:G:N7	34:R1:1103:A:N6	2.49	0.60
34:R1:2183:A:H2'	34:R1:2184:A:H8	1.64	0.60
38:Y:507:GLU:OE1	38:Y:523:TYR:CZ	2.55	0.60
12:20:96:ASP:HB3	13:21:13:ARG:HH21	1.66	0.60
22:30:57:GLU:OE2	22:30:57:GLU:N	2.33	0.60
32:9:47:PHE:HA	32:9:51:ARG:HD3	1.83	0.60
34:R1:288:U:H2'	34:R1:289:G:C8	2.36	0.60
34:R1:2184:A:H2'	34:R1:2185:U:C6	2.36	0.60
38:Y:43:PHE:HA	38:Y:46:ILE:HD12	1.83	0.60
1:1:44:VAL:HG21	1:1:189:LEU:HD11	1.83	0.60
2:10:73:LYS:HG2	2:10:117:LEU:HB2	1.84	0.60
15:23:18:GLU:OE2	15:23:18:GLU:N	2.25	0.60
23:31:58:ASP:OD1	36:R3:1309:G:H3'	2.00	0.60
24:32:30:ASP:OD2	24:32:33:SER:N	2.29	0.60
30:5:45:ASP:HB2	30:5:48:LEU:HD23	1.82	0.60
30:5:68:LYS:HG3	30:5:83:PRO:HG3	1.83	0.60
36:R3:45:G:H2'	36:R3:46:G:H8	1.66	0.60
15:23:88:LYS:HG3	15:23:89:GLU:OE1	2.02	0.60
16:24:71:ILE:HD11	16:24:82:VAL:HG22	1.83	0.60
23:31:60:PHE:N	36:R3:1310:G:C6	2.69	0.60
33:M:6:A:H4'	36:R3:693:G:C6	2.35	0.60
34:R1:2233:U:H2'	34:R1:2234:G:C8	2.36	0.60
38:Y:125:GLU:O	38:Y:126:MET:HG2	2.00	0.60
3:11:10:LEU:N	34:R1:1058:U:O2	2.35	0.60
3:11:69:VAL:HG12	3:11:70:THR:H	1.67	0.60
29:4:44:ARG:HH22	34:R1:1248:G:P	2.24	0.60
34:R1:140:C:H42	34:R1:1409:U:H1'	1.65	0.60
34:R1:1484:U:H2'	34:R1:1485:U:C6	2.37	0.60
34:R1:1754:A:N1	34:R1:2716:C:O2'	2.33	0.60
34:R1:2292:U:OP1	34:R1:2378:A:N6	2.33	0.60
38:Y:81:VAL:HA	38:Y:84:THR:HG22	1.83	0.60
3:11:44:LYS:HG3	3:11:45:THR:HG23	1.83	0.60
30:5:59:ILE:HG22	30:5:98:PHE:HE2	1.66	0.60
36:R3:231:U:H2'	36:R3:232:G:H8	1.67	0.60
8:17:72:ASP:OD2	8:17:74:GLU:N	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:21:6:GLN:HB3	13:21:11:GLN:HB3	1.84	0.60
21:3:169:ARG:HG2	34:R1:2773:C:H5"	1.84	0.60
23:31:62:LYS:C	36:R3:1268:G:H21	2.05	0.60
30:5:78:ILE:HD11	30:5:82:TYR:HB2	1.84	0.60
34:R1:1112:G:H2'	34:R1:1113:U:H6	1.66	0.60
38:Y:462:MET:HE2	38:Y:465:PRO:HB3	1.83	0.60
8:17:44:LEU:HD23	8:17:113:ILE:HD13	1.83	0.60
11:2:78:GLU:OE2	11:2:100:ARG:NE	2.31	0.60
11:2:129:LEU:HD12	11:2:133:ASN:HB2	1.83	0.60
23:31:61:ASN:CB	23:31:61:ASN:ND2	2.59	0.60
28:36:37:GLN:HE21	34:R1:1125:G:C5'	2.10	0.60
31:6:152:ARG:NH1	34:R1:2743:U:O2'	2.34	0.60
34:R1:1048:A:C5	34:R1:1111:A:H8	2.20	0.60
7:16:53:MET:HE1	7:16:117:PHE:HA	1.82	0.60
21:3:36:GLN:HE22	21:3:38:LYS:HE3	1.67	0.60
23:31:25:ARG:HB2	30:5:3:LEU:HD13	1.83	0.60
34:R1:2416:C:H2'	34:R1:2417:C:C6	2.37	0.60
2:10:13:ALA:N	34:R1:1108:U:OP1	2.35	0.59
8:17:29:VAL:CG2	8:17:75:ILE:HD12	2.31	0.59
15:23:12:ARG:HD3	15:23:35:ALA:HB2	1.84	0.59
24:32:12:ARG:HD2	24:32:16:ARG:HH21	1.66	0.59
31:6:14:VAL:HG23	31:6:27:GLY:HA2	1.83	0.59
34:R1:1060:U:O2'	34:R1:1061:U:OP2	2.17	0.59
37:T:71:C:H4'	38:Y:271:ARG:CZ	2.31	0.59
2:10:11:ILE:O	34:R1:1107:G:C5	2.55	0.59
2:10:65:GLU:O	34:R1:1107:G:C8	2.55	0.59
15:23:82:LYS:NZ	34:R1:1340:U:OP2	2.34	0.59
23:31:13:THR:HG23	23:31:23:LYS:HB2	1.84	0.59
25:33:4:ILE:HB	34:R1:2400:G:C5	2.37	0.59
30:5:35:LEU:HD11	30:5:98:PHE:CZ	2.36	0.59
34:R1:1869:G:H1'	34:R1:1872:A:N6	2.18	0.59
36:R3:191:G:H2'	36:R3:192:A:C8	2.37	0.59
36:R3:715:A:H2'	36:R3:716:A:C8	2.37	0.59
38:Y:311:GLN:HG3	38:Y:458:ASN:HB3	1.84	0.59
38:Y:350:VAL:HG13	38:Y:491:VAL:HB	1.84	0.59
38:Y:493:HIS:O	38:Y:495:ARG:NH1	2.34	0.59
34:R1:720:U:H2'	34:R1:721:A:H8	1.68	0.59
34:R1:767:U:H2'	34:R1:768:G:H8	1.67	0.59
34:R1:1310:G:H1'	34:R1:1611:C:H5"	1.83	0.59
34:R1:2313:C:H2'	34:R1:2314:A:C8	2.37	0.59
36:R3:254:G:H2'	36:R3:255:G:H8	1.65	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:T:26:A:N1	37:T:44:G:O6	2.35	0.59
2:10:5:LEU:CD2	34:R1:1110:G:OP2	2.49	0.59
3:11:16:MET:SD	3:11:50:LYS:HD2	2.42	0.59
3:11:39:LYS:C	34:R1:1071:G:OP2	2.40	0.59
3:11:46:ASP:OD1	3:11:47:SER:N	2.35	0.59
9:18:33:ARG:HB3	35:R2:52:A:H62	1.66	0.59
25:33:3:GLY:N	34:R1:2401:U:O4'	2.35	0.59
32:9:68:ARG:NH1	32:9:72:ILE:HD12	2.17	0.59
3:11:42:ASN:N	34:R1:1071:G:OP1	2.34	0.59
18:27:25:ARG:HB3	18:27:29:GLU:HG3	1.84	0.59
25:33:38:PHE:CD2	34:R1:2290:G:C4	2.90	0.59
30:5:15:LEU:HA	30:5:18:GLU:HG3	1.83	0.59
34:R1:1433:A:H2'	34:R1:1434:A:C8	2.37	0.59
34:R1:1454:C:HO2'	34:R1:1455:G:H8	1.49	0.59
34:R1:1682:G:H2'	34:R1:1683:U:H6	1.66	0.59
36:R3:1175:G:H2'	36:R3:1176:A:H8	1.68	0.59
3:11:22:PRO:HG2	34:R1:1088:A:H61	1.67	0.59
3:11:68:PHE:HZ	34:R1:1098:A:H5"	1.68	0.59
9:18:30:ARG:NH1	35:R2:48:U:H5"	2.16	0.59
11:2:235:GLU:OE1	11:2:235:GLU:N	2.35	0.59
14:22:13:SER:HB3	14:22:16:LYS:HG2	1.84	0.59
15:23:18:GLU:OE1	34:R1:1392:A:N6	2.35	0.59
18:27:70:GLU:CB	18:27:72:LYS:NZ	2.62	0.59
30:5:36:ASN:HB3	30:5:152:ASP:HB3	1.84	0.59
31:6:53:PRO:HB3	31:6:60:GLY:HA3	1.83	0.59
34:R1:1178:C:H2'	34:R1:1179:G:C8	2.36	0.59
36:R3:855:U:OP2	36:R3:871:U:N3	2.30	0.59
23:31:65:ASN:ND2	36:R3:1267:C:N3	2.51	0.59
34:R1:1796:U:H2'	34:R1:1797:G:H8	1.68	0.59
34:R1:2540:C:O2'	34:R1:2740:A:N3	2.30	0.59
2:10:65:GLU:HB2	34:R1:1106:G:H2'	1.84	0.59
25:33:38:PHE:CE2	34:R1:2290:G:C2'	2.86	0.59
30:5:55:ASP:O	30:5:59:ILE:HG12	2.00	0.59
34:R1:145:C:H2'	34:R1:146:A:H8	1.66	0.59
34:R1:548:G:H2'	34:R1:549:G:O4'	2.02	0.59
34:R1:1413:A:H2'	34:R1:1414:C:C6	2.37	0.59
34:R1:1716:U:OP2	34:R1:1743:G:N1	2.28	0.59
36:R3:391:G:O2'	36:R3:392:C:OP1	2.18	0.59
37:T:55:U:N3	37:T:58:A:OP2	2.34	0.59
2:10:31:ARG:HH11	2:10:33:VAL:HB	1.68	0.59
36:R3:294:U:OP1	36:R3:610:U:O2'	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:1120:C:H2'	36:R3:1121:U:C6	2.38	0.59
8:17:60:VAL:O	8:17:64:ARG:HG2	2.03	0.59
11:2:59:GLN:HG2	11:2:84:PRO:HB2	1.85	0.59
11:2:227:VAL:HG22	34:R1:2073:C:H5"	1.82	0.59
25:33:37:LYS:HA	34:R1:2383:G:H1'	1.85	0.59
32:9:46:PHE:HB3	32:9:51:ARG:NH1	2.18	0.59
34:R1:532:A:N7	34:R1:2021:C:O2'	2.27	0.59
36:R3:1041:G:H2'	36:R3:1042:A:C8	2.37	0.59
36:R3:1243:C:H2'	36:R3:1244:G:H8	1.67	0.59
36:R3:1323:G:H2'	36:R3:1324:A:C8	2.38	0.59
6:15:4:ASN:ND2	34:R1:1242:U:O2	2.35	0.58
12:20:58:GLN:CA	12:20:58:GLN:HE21	2.16	0.58
15:23:89:GLU:OE1	15:23:89:GLU:N	2.34	0.58
21:3:1:MET:H3	21:3:205:PRO:HG2	1.67	0.58
29:4:1:MET:HE1	29:4:113:VAL:HG11	1.84	0.58
31:6:97:VAL:HG11	31:6:122:ALA:HB3	1.85	0.58
34:R1:358:U:H2'	34:R1:359:G:C8	2.38	0.58
34:R1:1093:G:N1	34:R1:1099:G:O6	2.36	0.58
36:R3:776:G:N2	36:R3:802:A:OP2	2.36	0.58
3:11:10:LEU:O	3:11:11:GLN:HB3	2.02	0.58
12:20:58:GLN:NE2	34:R1:1009:A:O4'	2.36	0.58
12:20:58:GLN:OE1	34:R1:1009:A:O4'	2.21	0.58
3:11:14:ALA:HA	34:R1:1062:G:H4'	1.84	0.58
6:15:122:VAL:HB	6:15:142:ILE:HG23	1.85	0.58
9:18:18:LEU:HD23	9:18:25:ARG:HB3	1.86	0.58
21:3:30:GLU:HG3	21:3:31:ALA:H	1.67	0.58
32:9:126:GLY:H	32:9:146:VAL:HG22	1.68	0.58
35:R2:38:C:H3'	35:R2:39:A:H8	1.68	0.58
2:10:10:ALA:HA	34:R1:1108:U:OP2	2.04	0.58
2:10:64:VAL:HG22	3:11:2:LYS:HZ1	1.68	0.58
5:14:30:ARG:HE	34:R1:2674:G:H4'	1.68	0.58
12:20:47:ARG:NH1	12:20:48:ASP:OD1	2.37	0.58
25:33:41:VAL:HG12	25:33:42:VAL:HG13	1.84	0.58
27:35:41:ARG:NH2	34:R1:2351:G:O6	2.37	0.58
36:R3:157:U:O2	36:R3:164:G:O6	2.22	0.58
36:R3:1269:A:N1	36:R3:1313:U:H4'	2.18	0.58
6:15:29:LYS:O	6:15:30:THR:OG1	2.19	0.58
25:33:4:ILE:HG22	34:R1:2417:C:N3	2.17	0.58
32:9:50:ARG:HB3	32:9:51:ARG:NH1	2.13	0.58
34:R1:184:C:H2'	34:R1:185:G:H8	1.68	0.58
34:R1:2128:G:N3	34:R1:2173:A:O2'	2.34	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:1309:G:H2'	36:R3:1310:G:C8	2.39	0.58
38:Y:87:MET:HG3	38:Y:168:GLN:OE1	2.03	0.58
3:11:59:THR:HG21	34:R1:1057:A:P	2.43	0.58
34:R1:1:G:H2'	34:R1:2:G:H8	1.68	0.58
36:R3:473:U:H2'	36:R3:474:G:H8	1.68	0.58
36:R3:811:C:O2'	36:R3:901:A:N1	2.35	0.58
3:11:3:LYS:N	3:11:3:LYS:HD3	2.19	0.58
12:20:108:LEU:HA	13:21:48:LYS:HZ1	1.69	0.58
23:31:2:LYS:HZ3	35:R2:46:A:H61	1.50	0.58
27:35:32:LEU:HD23	27:35:32:LEU:H	1.68	0.58
34:R1:1013:C:H2'	34:R1:1014:A:H8	1.69	0.58
34:R1:2134:A:H62	34:R1:2156:G:H21	1.51	0.58
37:T:13:C:N4	37:T:22:G:O6	2.36	0.58
3:11:20:SER:HB2	34:R1:1077:A:N3	2.18	0.58
19:28:66:VAL:O	19:28:70:LEU:HD23	2.03	0.58
34:R1:1548:A:H2'	34:R1:1549:A:C8	2.38	0.58
36:R3:680:C:H2'	36:R3:681:A:H8	1.69	0.58
36:R3:745:G:H2'	36:R3:746:A:H8	1.69	0.58
2:10:44:ALA:O	2:10:49:GLY:N	2.36	0.58
3:11:37:PHE:HA	34:R1:1071:G:H5"	1.86	0.58
3:11:50:LYS:N	34:R1:1061:U:O2	2.36	0.58
6:15:70:LYS:HE3	6:15:107:PHE:HE2	1.67	0.58
11:2:122:ALA:O	11:2:127:ASN:ND2	2.36	0.58
30:5:121:PHE:HE1	30:5:127:TYR:HB2	1.69	0.58
34:R1:1281:G:H2'	34:R1:1282:U:C6	2.39	0.58
34:R1:1469:A:H2'	34:R1:1470:A:H8	1.68	0.58
34:R1:2115:G:H21	34:R1:2117:A:H8	1.52	0.58
36:R3:1038:C:H2'	36:R3:1039:G:H8	1.69	0.58
36:R3:1310:G:N2	36:R3:1311:A:C8	2.72	0.58
2:10:64:VAL:HG13	3:11:2:LYS:HE2	1.86	0.58
17:25:29:ILE:HD13	17:25:39:ALA:HA	1.86	0.58
23:31:43:PHE:HE2	30:5:110:ILE:HD11	1.68	0.58
34:R1:2347:C:H2'	34:R1:2348:U:C6	2.38	0.58
36:R3:151:A:N6	36:R3:170:U:H3	1.99	0.58
36:R3:191:G:H2'	36:R3:192:A:H8	1.67	0.58
36:R3:505:G:H2'	36:R3:506:G:H8	1.69	0.58
36:R3:1277:C:H2'	36:R3:1279:G:H21	1.68	0.58
19:28:58:ILE:HD11	19:28:63:ILE:HD13	1.84	0.57
34:R1:2602:A:N6	38:Y:278:LYS:NZ	2.48	0.57
36:R3:490:C:H2'	36:R3:491:G:H8	1.69	0.57
36:R3:1477:U:H2'	36:R3:1478:U:C6	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:79:THR:H	1:1:97:MET:H	1.52	0.57
10:19:82:SER:HG	10:19:84:SER:HG	1.52	0.57
19:28:75:GLU:N	19:28:75:GLU:OE1	2.37	0.57
34:R1:2246:G:H2'	34:R1:2247:A:C8	2.37	0.57
34:R1:2289:G:N2	34:R1:2290:G:O6	2.33	0.57
36:R3:620:C:O2'	36:R3:621:A:H8	1.88	0.57
36:R3:979:C:H1'	36:R3:1317:C:H41	1.69	0.57
38:Y:315:LEU:O	38:Y:344:VAL:HG11	2.04	0.57
21:3:36:GLN:HE21	21:3:49:GLN:HB2	1.70	0.57
21:3:155:VAL:HG21	34:R1:2618:G:H21	1.69	0.57
34:R1:1413:A:H2'	34:R1:1414:C:H6	1.69	0.57
36:R3:335:C:H2'	36:R3:336:A:C8	2.39	0.57
36:R3:1258:G:H2'	36:R3:1259:C:C6	2.39	0.57
36:R3:1315:U:O2'	36:R3:1360:A:O2'	2.21	0.57
2:10:74:ASP:OD1	34:R1:1084:A:N6	2.37	0.57
10:19:26:GLU:HB3	10:19:43:GLU:OE2	2.04	0.57
25:33:40:PRO:O	34:R1:2343:U:O2'	2.19	0.57
34:R1:191:A:H2'	34:R1:192:C:H6	1.68	0.57
34:R1:1266:G:O2'	34:R1:2012:G:O6	2.19	0.57
36:R3:484:G:H4'	36:R3:485:U:H5'	1.86	0.57
2:10:72:LEU:HD13	3:11:4:VAL:HA	1.85	0.57
3:11:39:LYS:NZ	34:R1:1099:G:N7	2.51	0.57
5:14:1:MET:HG2	5:14:67:LYS:HD2	1.85	0.57
23:31:65:ASN:CB	23:31:65:ASN:ND2	2.59	0.57
29:4:118:LEU:HD11	29:4:188:MET:HG3	1.86	0.57
30:5:99:PHE:O	30:5:103:ILE:HG22	2.04	0.57
34:R1:2064:C:H2'	34:R1:2065:C:C6	2.40	0.57
2:10:12:VAL:H	34:R1:1108:U:C4'	2.17	0.57
3:11:19:PRO:HB3	34:R1:1088:A:N9	2.19	0.57
3:11:28:GLY:CA	34:R1:1087:G:H4'	2.35	0.57
11:2:117:SER:OG	11:2:188:ARG:NH1	2.37	0.57
30:5:36:ASN:ND2	30:5:87:LYS:HZ1	2.02	0.57
36:R3:21:G:H2'	36:R3:22:G:C8	2.40	0.57
25:33:46:VAL:HB	34:R1:2286:G:N3	2.19	0.57
29:4:130:LYS:NZ	34:R1:321:U:OP1	2.38	0.57
34:R1:351:C:H2'	34:R1:352:A:H8	1.70	0.57
34:R1:645:C:N4	34:R1:2350:C:O2'	2.35	0.57
34:R1:924:G:H2'	34:R1:925:A:H8	1.69	0.57
34:R1:2137:U:H2'	34:R1:2138:G:H8	1.69	0.57
34:R1:2182:U:H2'	34:R1:2183:A:C8	2.40	0.57
3:11:52:LEU:HG	3:11:53:PRO:HD2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:13:37:ARG:NH2	4:13:44:TYR:OH	2.33	0.57
11:2:48:ILE:HD11	11:2:51:ARG:HA	1.87	0.57
21:3:174:SER:OG	34:R1:2730:C:O3'	2.23	0.57
31:6:173:ALA:O	31:6:174:LYS:HG3	2.04	0.57
34:R1:5:A:H2'	34:R1:6:A:C8	2.40	0.57
34:R1:182:A:H2'	34:R1:183:C:H6	1.70	0.57
34:R1:1594:U:H2'	34:R1:1595:C:C6	2.40	0.57
34:R1:2233:U:H2'	34:R1:2234:G:H8	1.70	0.57
4:13:78:THR:HB	34:R1:2641:G:H5"	1.86	0.57
34:R1:1540:G:H2'	34:R1:1541:C:C6	2.39	0.57
35:R2:65:U:H3'	35:R2:108:A:N6	2.20	0.57
36:R3:299:G:H2'	36:R3:300:A:C8	2.40	0.57
36:R3:1486:G:H2'	36:R3:1487:G:C8	2.40	0.57
38:Y:14:LYS:HB2	38:Y:15:PRO:HD3	1.87	0.57
1:1:69:THR:O	1:1:177:LYS:NZ	2.37	0.57
6:15:41:ARG:NH2	34:R1:807:U:OP2	2.37	0.57
11:2:143:VAL:O	11:2:152:GLN:N	2.32	0.57
11:2:206:LYS:NZ	34:R1:729:G:OP2	2.28	0.57
25:33:41:VAL:HG13	34:R1:2343:U:C2	2.40	0.57
34:R1:438:G:H2'	34:R1:439:A:C8	2.40	0.57
34:R1:818:G:N1	34:R1:1188:U:OP2	2.20	0.57
36:R3:1391:U:H2'	36:R3:1392:G:C8	2.40	0.57
36:R3:1464:U:H2'	36:R3:1465:A:H8	1.70	0.57
2:10:29:ASP:OD2	2:10:31:ARG:NH2	2.38	0.56
4:13:36:LEU:HD11	4:13:122:LEU:HD13	1.87	0.56
23:31:4:ASP:OD2	35:R2:34:A:H2'	2.04	0.56
31:6:94:ARG:HB2	31:6:105:SER:OG	2.05	0.56
32:9:94:ILE:HG13	32:9:122:LEU:HB2	1.87	0.56
34:R1:272:A:H2'	34:R1:273:G:H8	1.69	0.56
34:R1:1387:A:H5'	34:R1:1469:A:H1'	1.87	0.56
34:R1:2418:A:C5	34:R1:2419:U:C2	2.93	0.56
2:10:63:ALA:HA	2:10:66:GLY:HA3	1.87	0.56
8:17:53:THR:HG21	34:R1:2840:C:H5"	1.87	0.56
9:18:34:HIS:ND1	9:18:53:THR:OG1	2.31	0.56
12:20:36:GLN:OE1	34:R1:1252:G:N1	2.33	0.56
20:29:23:ARG:NE	20:29:23:ARG:HA	2.20	0.56
26:34:11:LYS:NZ	34:R1:771:G:OP2	2.37	0.56
34:R1:64:A:H2'	34:R1:65:U:C6	2.40	0.56
34:R1:1591:A:H2'	34:R1:1592:C:C6	2.40	0.56
34:R1:1847:G:H21	34:R1:1848:A:H62	1.52	0.56
34:R1:2071:A:H2'	34:R1:2072:C:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:2185:U:H2'	34:R1:2186:G:O4'	2.05	0.56
36:R3:1140:C:H2'	36:R3:1141:C:H6	1.70	0.56
37:T:71:C:H2'	37:T:72:C:C6	2.40	0.56
2:10:73:LYS:HE2	2:10:117:LEU:HD13	1.86	0.56
3:11:10:LEU:HB2	34:R1:1058:U:C2	2.40	0.56
9:18:102:ARG:N	35:R2:49:C:OP1	2.38	0.56
12:20:108:LEU:HA	13:21:48:LYS:NZ	2.20	0.56
17:25:21:ARG:NH1	35:R2:77:U:OP1	2.26	0.56
19:28:13:THR:HG21	34:R1:188:G:H5'	1.87	0.56
23:31:28:VAL:HG21	30:5:101:ARG:CZ	2.35	0.56
23:31:61:ASN:O	36:R3:1311:A:C2	2.58	0.56
25:33:31:GLU:HB2	38:Y:55:LEU:HD11	1.87	0.56
25:33:41:VAL:HG22	34:R1:2343:U:H2'	1.86	0.56
25:33:45:HIS:HA	34:R1:2289:G:C8	2.41	0.56
30:5:43:ILE:HD12	34:R1:2311:A:N3	2.20	0.56
30:5:116:LEU:H	30:5:116:LEU:HD12	1.70	0.56
34:R1:171:U:H2'	34:R1:172:A:H8	1.69	0.56
34:R1:2804:U:H2'	34:R1:2805:C:H6	1.68	0.56
37:T:21:A:OP1	37:T:48:C:N4	2.33	0.56
38:Y:93:TRP:O	38:Y:97:GLN:HG2	2.05	0.56
38:Y:158:PRO:HA	38:Y:161:LYS:HE2	1.86	0.56
3:11:102:ARG:HB3	3:11:141:ASP:HA	1.86	0.56
8:17:53:THR:HA	8:17:56:LYS:HG2	1.88	0.56
11:2:93:VAL:HG21	11:2:115:ILE:HD11	1.88	0.56
22:30:8:GLN:HG2	22:30:31:ILE:HA	1.86	0.56
30:5:118:ALA:HB2	30:5:176:PHE:HB3	1.87	0.56
34:R1:1450:G:N2	34:R1:1452:G:O6	2.29	0.56
34:R1:1590:A:H2'	34:R1:1591:A:H8	1.71	0.56
36:R3:198:G:H1	36:R3:219:U:H3	1.52	0.56
36:R3:766:A:OP2	36:R3:812:G:N2	2.38	0.56
23:31:3:LYS:CB	35:R2:44:G:C2	2.88	0.56
23:31:61:ASN:H	36:R3:1310:G:H1	1.53	0.56
23:31:63:ARG:NH1	36:R3:1327:C:OP2	2.38	0.56
24:32:2:VAL:HG13	24:32:3:GLN:N	2.21	0.56
28:36:12:ARG:HH22	34:R1:1091:G:H1'	1.69	0.56
36:R3:620:C:HO2'	36:R3:621:A:H8	1.53	0.56
2:10:26:VAL:HG11	2:10:77:VAL:HG11	1.87	0.56
9:18:70:ALA:O	9:18:74:VAL:HG12	2.05	0.56
10:19:10:GLU:OE2	21:3:184:ARG:NH2	2.38	0.56
15:23:14:PRO:HD3	20:29:30:MET:CE	2.36	0.56
29:4:112:LEU:HD13	29:4:186:VAL:HG21	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:505:G:H2'	36:R3:506:G:C8	2.41	0.56
38:Y:509:THR:HG22	38:Y:511:GLU:HG3	1.88	0.56
3:11:29:GLN:HB3	3:11:30:GLN:HG3	1.87	0.56
11:2:13:ARG:NH2	34:R1:1693:U:O2'	2.38	0.56
11:2:128:THR:HG1	11:2:190:THR:HG1	1.52	0.56
22:30:40:THR:HG22	22:30:42:ALA:H	1.69	0.56
23:31:59:ARG:HB3	36:R3:1310:G:C5	2.41	0.56
24:32:49:ARG:NH1	34:R1:2883:A:OP2	2.38	0.56
34:R1:828:U:H4'	34:R1:831:G:N1	2.21	0.56
34:R1:1432:G:H2'	34:R1:1433:A:H8	1.69	0.56
9:18:7:ARG:HE	9:18:97:PHE:HE1	1.54	0.56
19:28:3:VAL:HG22	19:28:10:ARG:HB2	1.87	0.56
20:29:13:GLU:OE1	20:29:56:LEU:HD23	2.05	0.56
29:4:177:PRO:O	29:4:181:ILE:HG13	2.05	0.56
30:5:110:ILE:HD12	30:5:111:ARG:O	2.06	0.56
34:R1:2101:A:H2'	34:R1:2102:G:C8	2.38	0.56
34:R1:2674:G:H2'	34:R1:2675:A:C8	2.41	0.56
36:R3:257:G:H2'	36:R3:258:G:H8	1.70	0.56
36:R3:1270:G:H2'	36:R3:1271:A:C8	2.41	0.56
38:Y:321:GLU:HB2	38:Y:341:LEU:HD13	1.88	0.56
2:10:66:GLY:O	2:10:68:PRO:HD3	2.06	0.56
3:11:72:THR:HB	3:11:115:ASP:HB2	1.86	0.56
3:11:104:GLN:O	3:11:108:ILE:HG12	2.05	0.56
30:5:40:GLY:HA3	34:R1:2307:G:H1	1.71	0.56
30:5:95:MET:HG2	30:5:96:TRP:HD1	1.71	0.56
33:M:4:A:H1'	33:M:5:A:O4'	2.06	0.56
34:R1:848:C:H2'	34:R1:849:A:C8	2.32	0.56
34:R1:1071:G:H1	34:R1:1100:C:H41	1.52	0.56
34:R1:1412:U:H2'	34:R1:1413:A:C8	2.41	0.56
8:17:103:ARG:HG2	8:17:110:MET:SD	2.46	0.56
25:33:5:ARG:NE	34:R1:2418:A:C8	2.74	0.56
31:6:22:VAL:HG13	31:6:35:THR:HG22	1.88	0.56
34:R1:1405:U:H2'	34:R1:1406:U:C6	2.41	0.56
36:R3:981:U:H5	36:R3:982:U:HO2'	1.53	0.56
38:Y:7:VAL:HG23	38:Y:8:THR:H	1.71	0.56
38:Y:85:VAL:HA	38:Y:168:GLN:HG2	1.88	0.56
3:11:33:ASN:CG	34:R1:1103:A:H62	2.09	0.55
8:17:73:ASN:HA	8:17:76:VAL:HG22	1.88	0.55
34:R1:1853:A:H2'	34:R1:1854:A:C8	2.42	0.55
35:R2:15:A:OP2	35:R2:69:G:N2	2.29	0.55
36:R3:1294:G:H2'	36:R3:1295:U:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:10:8:LYS:HB3	34:R1:1109:C:C5'	2.36	0.55
2:10:12:VAL:CA	34:R1:1107:G:H2'	2.36	0.55
3:11:35:MET:HA	34:R1:1088:A:O2'	2.06	0.55
23:31:25:ARG:CD	30:5:3:LEU:HD22	2.21	0.55
30:5:33:ILE:HG12	30:5:95:MET:CE	2.36	0.55
31:6:83:THR:HG23	31:6:133:LYS:HG2	1.88	0.55
34:R1:279:A:H2'	34:R1:280:U:O4'	2.06	0.55
36:R3:600:A:H2'	36:R3:601:G:H8	1.70	0.55
38:Y:188:ILE:HA	38:Y:191:ILE:HD12	1.88	0.55
38:Y:449:PHE:O	38:Y:453:MET:HG3	2.06	0.55
10:19:38:ARG:NH1	36:R3:346:G:OP1	2.39	0.55
11:2:175:LEU:HD12	11:2:179:GLU:HG2	1.88	0.55
23:31:25:ARG:O	30:5:96:TRP:HB3	2.06	0.55
25:33:44:GLN:O	34:R1:2289:G:C4	2.59	0.55
28:36:30:GLU:OE2	28:36:33:HIS:ND1	2.39	0.55
32:9:4:ILE:HG23	32:9:37:VAL:HG13	1.88	0.55
34:R1:184:C:H2'	34:R1:185:G:C8	2.41	0.55
34:R1:720:U:H2'	34:R1:721:A:C8	2.41	0.55
34:R1:1919:A:N1	36:R3:1495:U:O2'	2.35	0.55
34:R1:2121:G:N2	34:R1:2178:C:H1'	2.21	0.55
36:R3:911:U:H2'	36:R3:912:C:C6	2.40	0.55
2:10:28:ALA:H	2:10:110:ALA:HA	1.72	0.55
11:2:44:ASN:H	34:R1:1812:U:HO2'	1.55	0.55
34:R1:581:C:H2'	34:R1:582:A:H8	1.72	0.55
34:R1:722:A:H2'	34:R1:723:C:C6	2.40	0.55
34:R1:1359:A:OP2	34:R1:1371:G:N1	2.29	0.55
34:R1:2189:U:H2'	34:R1:2190:G:H8	1.71	0.55
34:R1:2649:C:H2'	34:R1:2650:U:H6	1.71	0.55
34:R1:2834:G:H2'	34:R1:2879:A:H61	1.71	0.55
36:R3:20:U:H2'	36:R3:21:G:O4'	2.05	0.55
36:R3:579:A:H5'	36:R3:728:A:H1'	1.89	0.55
38:Y:400:THR:HG22	38:Y:401:VAL:H	1.71	0.55
38:Y:506:LEU:HD12	38:Y:513:VAL:HG12	1.88	0.55
3:11:21:PRO:HG2	34:R1:1062:G:N2	2.21	0.55
4:13:109:LEU:O	4:13:111:LYS:NZ	2.37	0.55
6:15:63:LYS:HD3	34:R1:2394:C:H5"	1.88	0.55
10:19:13:LYS:CE	10:19:76:HIS:HA	2.37	0.55
34:R1:2537:U:H2'	34:R1:2538:C:H6	1.71	0.55
36:R3:45:G:H2'	36:R3:46:G:C8	2.40	0.55
37:T:51:C:H2'	37:T:52:G:H8	1.71	0.55
3:11:44:LYS:HB2	34:R1:1098:A:OP1	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:22:33:LEU:HD12	14:22:48:LYS:HE2	1.89	0.55
23:31:3:LYS:N	23:31:3:LYS:HD2	2.21	0.55
23:31:64:PHE:HD2	36:R3:1326:U:HO2'	1.52	0.55
24:32:2:VAL:HG23	34:R1:2015:A:C6	2.42	0.55
30:5:132:ARG:NH2	34:R1:2304:G:O2'	2.40	0.55
34:R1:1090:A:H2'	34:R1:1091:G:C8	2.42	0.55
34:R1:2537:U:H2'	34:R1:2538:C:C6	2.41	0.55
36:R3:501:C:H2'	36:R3:502:A:C8	2.41	0.55
36:R3:591:U:H2'	36:R3:592:G:H8	1.71	0.55
37:T:18:G:N2	37:T:58:A:O4'	2.40	0.55
2:10:17:GLU:O	2:10:88:HIS:NE2	2.40	0.55
2:10:31:ARG:NH1	2:10:33:VAL:HB	2.22	0.55
3:11:64:ARG:NH1	34:R1:1085:A:O2'	2.36	0.55
23:31:26:SER:HB3	30:5:97:GLU:HA	1.89	0.55
23:31:62:LYS:H	36:R3:1310:G:N2	2.05	0.55
24:32:2:VAL:HG13	24:32:3:GLN:H	1.71	0.55
25:33:38:PHE:CD2	25:33:38:PHE:CB	2.79	0.55
30:5:84:ILE:CG1	34:R1:2312:U:H5'	2.36	0.55
34:R1:1251:C:O2'	34:R1:1253:A:OP2	2.24	0.55
34:R1:1299:G:N1	34:R1:1640:A:OP2	2.29	0.55
34:R1:1796:U:H2'	34:R1:1797:G:C8	2.41	0.55
36:R3:1151:A:HO2'	36:R3:1152:A:H8	1.52	0.55
36:R3:1228:C:H2'	36:R3:1229:A:H8	1.70	0.55
3:11:44:LYS:HG2	3:11:68:PHE:CZ	2.42	0.55
3:11:59:THR:HG21	34:R1:1057:A:O5'	2.07	0.55
4:13:74:TYR:HE1	4:13:103:ILE:HD11	1.68	0.55
5:14:76:VAL:H	10:19:72:VAL:HG22	1.71	0.55
8:17:107:ASN:HD21	14:22:40:ASN:HB2	1.72	0.55
9:18:39:VAL:HG22	9:18:49:VAL:HB	1.88	0.55
12:20:71:ASN:HB3	12:20:109:VAL:HG11	1.87	0.55
17:25:80:HIS:HA	17:25:87:GLN:NE2	2.22	0.55
34:R1:463:G:N2	34:R1:466:A:OP2	2.36	0.55
34:R1:1028:A:H2'	34:R1:1029:A:H8	1.69	0.55
34:R1:2127:G:H2'	34:R1:2128:G:C8	2.42	0.55
36:R3:1077:G:N2	36:R3:1080:A:OP2	2.40	0.55
2:10:64:VAL:HG11	34:R1:1105:U:N3	2.22	0.55
8:17:45:ARG:NH1	34:R1:2838:G:O2'	2.38	0.55
11:2:16:VAL:HB	11:2:203:VAL:HG22	1.88	0.55
11:2:144:GLU:HG2	11:2:187:CYS:HB2	1.88	0.55
12:20:58:GLN:HA	12:20:58:GLN:HE21	1.70	0.55
22:30:37:ARG:HB3	22:30:43:ILE:HD13	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:1469:A:H2'	34:R1:1470:A:C8	2.42	0.55
2:10:5:LEU:HD23	34:R1:1111:A:OP2	2.05	0.55
3:11:7:TYR:CE2	34:R1:1058:U:H5'	2.41	0.55
3:11:40:ALA:N	34:R1:1071:G:O5'	2.39	0.55
6:15:121:THR:OG1	6:15:141:LYS:NZ	2.34	0.55
14:22:98:LYS:NZ	34:R1:2012:G:OP1	2.37	0.55
25:33:28:THR:HG21	34:R1:2419:U:C2	2.42	0.55
29:4:45:ALA:HB2	29:4:89:PRO:HD3	1.89	0.55
36:R3:1167:A:N7	36:R3:1169:A:N6	2.55	0.55
38:Y:64:GLU:N	38:Y:64:GLU:OE1	2.40	0.55
3:11:12:VAL:HG22	3:11:13:ALA:H	1.70	0.54
23:31:25:ARG:O	23:31:25:ARG:CG	2.55	0.54
25:33:40:PRO:HA	34:R1:2290:G:N1	2.23	0.54
31:6:85:LYS:HG2	31:6:164:ALA:HB2	1.89	0.54
34:R1:52:A:H2'	34:R1:53:A:H8	1.72	0.54
34:R1:647:G:N2	34:R1:2350:C:O2'	2.40	0.54
34:R1:903:C:H2'	34:R1:904:G:H8	1.72	0.54
36:R3:1513:A:H2'	36:R3:1514:G:C8	2.42	0.54
38:Y:261:GLN:HA	38:Y:264:GLU:HG2	1.89	0.54
38:Y:350:VAL:HG22	38:Y:358:LYS:HZ1	1.72	0.54
3:11:105:LEU:HD21	3:11:129:GLU:HB2	1.88	0.54
12:20:93:ILE:CD1	13:21:11:GLN:HG3	2.30	0.54
30:5:64:PRO:HB3	30:5:88:VAL:HG22	1.88	0.54
34:R1:5:A:H2'	34:R1:6:A:H8	1.71	0.54
34:R1:1779:U:H5	34:R1:1784:A:N7	2.05	0.54
34:R1:2305:U:H2'	34:R1:2306:C:C6	2.43	0.54
36:R3:455:G:H2'	36:R3:456:A:C8	2.40	0.54
38:Y:322:VAL:HB	38:Y:325:LEU:HD23	1.89	0.54
19:28:53:LYS:O	19:28:57:VAL:HG23	2.06	0.54
25:33:38:PHE:CZ	34:R1:2290:G:N3	2.75	0.54
34:R1:1537:G:O6	34:R1:1538:G:N2	2.41	0.54
34:R1:1570:A:H2'	34:R1:1571:A:C8	2.43	0.54
36:R3:1313:U:H2'	36:R3:1314:C:C6	2.42	0.54
38:Y:176:ILE:HA	38:Y:204:THR:O	2.07	0.54
2:10:123:ILE:HD11	34:R1:1082:U:H5"	1.89	0.54
3:11:31:GLY:O	3:11:64:ARG:HD3	2.08	0.54
11:2:244:VAL:HG12	11:2:250:GLN:HA	1.90	0.54
12:20:96:ASP:HB3	13:21:13:ARG:NH2	2.22	0.54
16:24:11:ILE:HD11	16:24:72:PHE:CD1	2.42	0.54
20:29:24:GLU:HB3	20:29:46:VAL:HG21	1.89	0.54
23:31:16:CYS:SG	23:31:17:SER:N	2.81	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:34:33:ARG:NH1	34:R1:467:G:OP1	2.35	0.54
34:R1:1063:G:H3'	34:R1:1063:G:N3	2.21	0.54
36:R3:417:G:C2	36:R3:426:U:O2	2.60	0.54
1:1:12:ARG:NH1	34:R1:2176:A:OP1	2.41	0.54
2:10:3:LEU:HG	2:10:4:ASN:H	1.73	0.54
2:10:72:LEU:HD21	34:R1:1085:A:N6	2.22	0.54
3:11:42:ASN:HA	34:R1:1070:A:H3'	1.88	0.54
27:35:29:ARG:NH2	34:R1:2394:C:OP1	2.41	0.54
34:R1:141:G:H5"	34:R1:142:A:C8	2.42	0.54
34:R1:2247:A:H2'	34:R1:2248:C:H6	1.72	0.54
36:R3:1040:U:H2'	36:R3:1041:G:C8	2.43	0.54
36:R3:1166:G:N2	36:R3:1169:A:OP2	2.41	0.54
38:Y:145:PRO:HG2	38:Y:148:GLN:HG2	1.88	0.54
38:Y:507:GLU:OE1	38:Y:523:TYR:OH	2.26	0.54
38:Y:515:ASP:OD1	38:Y:516:PHE:N	2.41	0.54
4:13:95:ARG:HH21	34:R1:2640:G:P	2.30	0.54
9:18:43:ASN:HD21	9:18:45:SER:HB2	1.73	0.54
25:33:25:ASN:ND2	34:R1:2419:U:O2	2.33	0.54
30:5:35:LEU:HD12	30:5:151:LEU:HD11	1.89	0.54
34:R1:357:C:H2'	34:R1:358:U:C6	2.42	0.54
34:R1:1050:A:H62	34:R1:1110:G:N2	1.92	0.54
34:R1:1063:G:H1	34:R1:1075:C:H41	1.54	0.54
34:R1:1081:U:H2'	34:R1:1082:U:C6	2.43	0.54
34:R1:1802:A:H2'	34:R1:1803:A:C8	2.43	0.54
34:R1:2216:G:H2'	34:R1:2217:G:H8	1.72	0.54
2:10:3:LEU:O	34:R1:1047:G:N1	2.41	0.54
2:10:76:PHE:HD2	34:R1:1083:U:HO2'	1.54	0.54
6:15:91:ASP:HB2	6:15:94:THR:HG23	1.90	0.54
21:3:61:THR:OG1	21:3:64:GLU:OE1	2.26	0.54
23:31:44:PHE:HB3	30:5:113:PHE:HB3	1.90	0.54
25:33:29:LYS:HZ2	34:R1:2419:U:H4'	1.72	0.54
30:5:99:PHE:CE2	30:5:103:ILE:HG21	2.42	0.54
31:6:26:LYS:HD3	31:6:31:GLU:HB2	1.89	0.54
34:R1:1960:A:HO2'	36:R3:1484:C:HO2'	1.54	0.54
36:R3:407:U:H2'	36:R3:408:A:H8	1.73	0.54
36:R3:1477:U:H2'	36:R3:1478:U:H6	1.72	0.54
38:Y:92:LEU:HD21	38:Y:128:GLY:HA2	1.89	0.54
3:11:47:SER:N	34:R1:1070:A:C8	2.62	0.54
14:22:109:ASP:N	14:22:109:ASP:OD1	2.41	0.54
20:29:6:LEU:HD13	20:29:56:LEU:HD11	1.90	0.54
32:9:3:VAL:HG22	32:9:36:ALA:HB1	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:6:A:H2'	34:R1:7:G:C8	2.43	0.54
34:R1:2118:U:O2	34:R1:2145:C:N4	2.41	0.54
34:R1:2307:G:N2	34:R1:2311:A:H2'	2.22	0.54
36:R3:1010:U:H2'	36:R3:1011:C:C6	2.42	0.54
38:Y:70:ARG:CZ	38:Y:168:GLN:HE21	2.21	0.54
34:R1:1013:C:H2'	34:R1:1014:A:C8	2.43	0.54
36:R3:459:A:H2'	36:R3:460:A:C8	2.43	0.54
36:R3:707:U:H2'	36:R3:708:C:H6	1.73	0.54
25:33:36:LYS:HE3	25:33:47:ILE:HA	1.89	0.54
27:35:44:ARG:NH2	34:R1:2349:G:OP1	2.41	0.54
31:6:102:ILE:HD11	31:6:130:ILE:HD13	1.90	0.54
32:9:8:LYS:CD	32:9:9:VAL:H	2.15	0.54
34:R1:979:A:H2'	34:R1:982:C:H42	1.73	0.54
36:R3:579:A:H2'	36:R3:580:C:C6	2.43	0.54
36:R3:1040:U:H2'	36:R3:1041:G:H8	1.73	0.54
38:Y:163:ARG:O	38:Y:166:LEU:HG	2.08	0.54
38:Y:470:ASP:OD1	38:Y:471:MET:N	2.37	0.54
38:Y:519:ASN:OD1	38:Y:520:TYR:N	2.41	0.54
3:11:4:VAL:HG23	34:R1:1057:A:H4'	1.91	0.53
3:11:32:VAL:HG12	34:R1:1087:G:C5'	2.37	0.53
12:20:49:ARG:O	12:20:53:LYS:NZ	2.40	0.53
13:21:58:VAL:HB	13:21:60:LYS:HE3	1.89	0.53
23:31:62:LYS:O	36:R3:1268:G:N2	2.39	0.53
25:33:45:HIS:CD2	34:R1:2289:G:P	3.00	0.53
25:33:48:TYR:CD1	34:R1:2346:A:N1	2.76	0.53
30:5:35:LEU:HD23	30:5:90:LEU:HD23	1.90	0.53
32:9:8:LYS:HD3	32:9:9:VAL:O	2.07	0.53
34:R1:437:U:H2'	34:R1:438:G:H8	1.73	0.53
34:R1:814:C:H1'	34:R1:1225:G:H21	1.72	0.53
35:R2:34:A:C6	35:R2:44:G:N7	2.76	0.53
36:R3:1142:G:H3'	36:R3:1143:G:H8	1.73	0.53
36:R3:1243:C:H2'	36:R3:1244:G:C8	2.43	0.53
36:R3:1507:A:H2'	36:R3:1508:A:C8	2.43	0.53
37:T:62:C:H2'	37:T:63:G:C8	2.43	0.53
1:1:67:HIS:CD2	1:1:184:LYS:HG2	2.43	0.53
2:10:7:ASP:OD2	34:R1:1047:G:H2'	2.08	0.53
5:14:2:ILE:HD12	5:14:6:THR:HG21	1.90	0.53
9:18:36:TYR:OH	35:R2:28:C:OP1	2.22	0.53
9:18:104:GLN:OE1	9:18:104:GLN:HA	2.06	0.53
10:19:93:LYS:HE2	34:R1:1754:A:C8	2.44	0.53
21:3:1:MET:HG2	21:3:205:PRO:HG2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:31:3:LYS:O	23:31:4:ASP:HB2	2.08	0.53
23:31:56:ARG:NH2	36:R3:1330:U:H3	2.05	0.53
23:31:66:ILE:N	36:R3:1268:G:C5	2.76	0.53
34:R1:438:G:H2'	34:R1:439:A:H8	1.71	0.53
34:R1:675:A:N3	34:R1:2443:C:O2'	2.40	0.53
34:R1:856:G:H2'	34:R1:857:G:C8	2.42	0.53
34:R1:1092:C:N4	34:R1:1093:G:O6	2.41	0.53
34:R1:1275:A:OP2	34:R1:1646:C:N4	2.35	0.53
34:R1:1288:G:OP1	34:R1:1289:C:N4	2.39	0.53
34:R1:2899:A:H2'	34:R1:2900:A:H8	1.72	0.53
36:R3:680:C:H2'	36:R3:681:A:C8	2.44	0.53
36:R3:744:C:H2'	36:R3:745:G:H8	1.72	0.53
36:R3:1305:G:O2'	36:R3:1306:A:H8	1.92	0.53
2:10:43:LYS:NZ	2:10:95:LEU:HA	2.23	0.53
15:23:68:LYS:HD2	15:23:77:ARG:HE	1.74	0.53
25:33:5:ARG:HG3	34:R1:2417:C:N3	2.23	0.53
30:5:79:ARG:HB2	30:5:82:TYR:HE1	1.74	0.53
30:5:103:ILE:HD11	30:5:172:PHE:O	2.09	0.53
34:R1:1089:A:HO2'	34:R1:1090:A:P	2.31	0.53
34:R1:2128:G:H21	34:R1:2173:A:H4'	1.74	0.53
34:R1:2788:C:H2'	34:R1:2789:C:C6	2.43	0.53
36:R3:416:G:H2'	36:R3:417:G:C8	2.43	0.53
36:R3:1074:G:O2'	36:R3:1101:A:N1	2.37	0.53
2:10:11:ILE:HB	34:R1:1108:U:C2	2.43	0.53
2:10:12:VAL:O	2:10:15:VAL:N	2.35	0.53
5:14:92:GLU:OE1	5:14:111:LYS:NZ	2.39	0.53
12:20:15:LYS:NZ	34:R1:1227:G:OP2	2.33	0.53
18:27:83:GLU:N	18:27:83:GLU:OE1	2.41	0.53
23:31:62:LYS:NZ	36:R3:1311:A:O2'	2.28	0.53
34:R1:580:U:H2'	34:R1:581:C:C6	2.44	0.53
34:R1:704:G:H1'	34:R1:727:A:H61	1.73	0.53
34:R1:1433:A:H2'	34:R1:1434:A:H8	1.73	0.53
36:R3:17:U:H2'	36:R3:18:C:C6	2.44	0.53
36:R3:34:C:H2'	36:R3:35:G:C8	2.44	0.53
36:R3:365:U:H5"	36:R3:366:A:OP1	2.09	0.53
36:R3:1384:C:H2'	36:R3:1385:G:H8	1.74	0.53
38:Y:286:ALA:O	38:Y:289:ILE:HG22	2.09	0.53
1:1:44:VAL:HG22	1:1:214:ILE:HG22	1.90	0.53
1:1:164:ARG:HH21	34:R1:2123:G:H5'	1.72	0.53
2:10:72:LEU:HB2	3:11:3:LYS:H	1.72	0.53
3:11:37:PHE:C	34:R1:1071:G:H5"	2.28	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:20:58:GLN:NE2	34:R1:1009:A:H4'	2.23	0.53
15:23:3:ARG:HH21	15:23:7:LEU:HD21	1.74	0.53
23:31:65:ASN:CG	36:R3:1268:G:C4	2.82	0.53
32:9:93:SER:HB3	32:9:121:VAL:HB	1.91	0.53
36:R3:447:G:O2'	36:R3:487:A:N6	2.42	0.53
1:1:8:MET:N	1:1:8:MET:SD	2.81	0.53
2:10:8:LYS:HE2	34:R1:1110:G:O5'	2.08	0.53
7:16:135:VAL:HB	17:25:57:TYR:CE2	2.44	0.53
25:33:5:ARG:HG3	34:R1:2417:C:C2	2.43	0.53
30:5:5:ASP:OD1	30:5:6:TYR:N	2.41	0.53
34:R1:1173:U:O2'	34:R1:1176:U:O2	2.22	0.53
34:R1:2038:G:H2'	34:R1:2039:U:O4'	2.09	0.53
36:R3:254:G:H2'	36:R3:255:G:C8	2.43	0.53
38:Y:353:THR:H	38:Y:356:VAL:HG11	1.73	0.53
2:10:31:ARG:CG	2:10:33:VAL:HG23	2.38	0.53
7:16:63:ILE:HG13	7:16:105:MET:HB2	1.90	0.53
29:4:148:ILE:HD13	29:4:187:VAL:HG13	1.91	0.53
30:5:131:VAL:HG23	30:5:133:GLU:H	1.74	0.53
34:R1:1278:C:H2'	34:R1:1279:G:C8	2.41	0.53
36:R3:746:A:H2'	36:R3:747:A:C8	2.44	0.53
36:R3:1130:A:H3'	36:R3:1131:G:H8	1.73	0.53
36:R3:1329:A:H2'	36:R3:1330:U:H6	1.73	0.53
36:R3:1439:G:H2'	36:R3:1440:U:O4'	2.08	0.53
37:T:21:A:N6	37:T:48:C:O4'	2.41	0.53
11:2:60:ALA:O	11:2:62:ARG:NH1	2.42	0.53
14:22:67:ASP:OD1	14:22:67:ASP:N	2.31	0.53
22:30:1:ALA:N	22:30:39:ASP:O	2.42	0.53
31:6:90:GLY:HA3	31:6:159:LYS:HG3	1.90	0.53
34:R1:974:G:O2'	34:R1:989:G:N2	2.42	0.53
34:R1:2320:U:H4'	34:R1:2321:U:H5	1.74	0.53
34:R1:2340:A:H2'	34:R1:2341:G:C8	2.44	0.53
36:R3:976:G:OP2	36:R3:1358:U:O2'	2.26	0.53
38:Y:269:VAL:O	38:Y:273:SER:HB2	2.09	0.53
38:Y:322:VAL:HG12	38:Y:376:VAL:HG13	1.89	0.53
3:11:75:ALA:HB2	3:11:128:ILE:HG23	1.91	0.53
4:13:134:ALA:O	34:R1:2898:U:O2'	2.22	0.53
23:31:5:ILE:N	35:R2:44:G:OP1	2.29	0.53
29:4:196:VAL:HA	29:4:199:MET:HG2	1.91	0.53
34:R1:1923:U:H2'	34:R1:1924:C:C6	2.44	0.53
36:R3:1014:A:H2'	36:R3:1015:G:C4	2.44	0.53
12:20:49:ARG:NH1	34:R1:993:G:OP1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:21:79:ARG:NH2	34:R1:563:A:OP2	2.40	0.53
20:29:48:ARG:HH12	34:R1:75:G:H4'	1.74	0.53
23:31:61:ASN:C	36:R3:1311:A:C4	2.81	0.53
25:33:32:LYS:NZ	38:Y:10:GLN:HG2	2.24	0.53
34:R1:309:A:N3	34:R1:329:G:O2'	2.42	0.53
34:R1:1089:A:H61	34:R1:1102:C:H42	1.57	0.53
34:R1:1112:G:H2'	34:R1:1113:U:C6	2.43	0.53
34:R1:1682:G:C4	34:R1:1757:A:H1'	2.44	0.53
34:R1:2097:A:H2'	34:R1:2098:U:C6	2.44	0.53
36:R3:1120:C:H2'	36:R3:1121:U:H6	1.71	0.53
1:1:56:ASP:N	1:1:56:ASP:OD1	2.43	0.52
1:1:216:THR:O	34:R1:2175:C:O2'	2.26	0.52
2:10:119:PRO:HB2	2:10:121:SER:HB3	1.91	0.52
4:13:19:ASP:O	4:13:23:LYS:NZ	2.42	0.52
12:20:58:GLN:HE22	34:R1:1009:A:H4'	1.73	0.52
14:22:74:ILE:HD11	14:22:105:VAL:HG22	1.91	0.52
29:4:148:ILE:HD13	29:4:187:VAL:HG11	1.90	0.52
34:R1:2859:G:H2'	34:R1:2860:A:C8	2.44	0.52
36:R3:208:U:HO2'	36:R3:211:G:N2	2.07	0.52
1:1:6:LYS:HG3	1:1:8:MET:CE	2.39	0.52
1:1:189:LEU:O	1:1:193:LEU:HG	2.09	0.52
5:14:105:ARG:O	5:14:108:ARG:HG3	2.09	0.52
8:17:49:GLU:OE1	34:R1:2839:G:H4'	2.09	0.52
17:25:9:ARG:NH2	35:R2:76:G:OP1	2.42	0.52
21:3:181:ASP:HB3	21:3:186:LEU:HB2	1.90	0.52
22:30:20:LYS:NZ	22:30:20:LYS:HB2	2.24	0.52
23:31:63:ARG:HB2	36:R3:1327:C:C5	2.44	0.52
25:33:27:ARG:HB3	34:R1:2397:G:H21	1.75	0.52
29:4:145:ASP:HB3	29:4:184:ASP:HB3	1.91	0.52
30:5:32:LYS:C	30:5:95:MET:HE3	2.29	0.52
34:R1:1050:A:N6	34:R1:1109:C:H41	2.05	0.52
34:R1:1316:U:H2'	34:R1:1317:G:H8	1.74	0.52
34:R1:1438:U:H2'	34:R1:1439:A:H8	1.73	0.52
34:R1:2798:U:H4'	34:R1:2799:A:C4	2.44	0.52
36:R3:393:A:H3'	36:R3:394:G:H5"	1.90	0.52
36:R3:555:U:H2'	36:R3:556:C:C6	2.45	0.52
36:R3:898:G:N2	36:R3:901:A:OP2	2.40	0.52
36:R3:1097:C:H2'	36:R3:1098:C:C6	2.44	0.52
38:Y:428:SER:H	38:Y:431:ASP:HB2	1.73	0.52
2:10:43:LYS:HZ1	2:10:95:LEU:HA	1.73	0.52
11:2:204:LEU:HD22	11:2:213:ARG:HH21	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:31:60:PHE:CE1	36:R3:1328:C:N4	2.77	0.52
24:32:15:ARG:NH2	34:R1:1264:A:OP1	2.34	0.52
25:33:38:PHE:CD1	25:33:38:PHE:CB	2.82	0.52
30:5:42:ALA:HA	30:5:45:ASP:O	2.09	0.52
32:9:42:LYS:O	32:9:45:GLU:HG2	2.08	0.52
34:R1:2145:C:H3'	34:R1:2146:C:H5'	1.90	0.52
36:R3:1282:C:H2'	36:R3:1283:U:C6	2.44	0.52
3:11:54:ILE:HG13	34:R1:1061:U:C5	2.44	0.52
14:22:93:ALA:HB2	34:R1:1614:A:N1	2.24	0.52
25:33:28:THR:OG1	34:R1:2397:G:C2	2.59	0.52
25:33:38:PHE:CZ	34:R1:2290:G:C8	2.89	0.52
34:R1:1:G:H2'	34:R1:2:G:C8	2.44	0.52
34:R1:2351:G:HO2'	34:R1:2352:A:H8	1.58	0.52
34:R1:2420:C:H2'	34:R1:2421:G:H8	1.74	0.52
34:R1:2800:A:C2	34:R1:2895:G:H1'	2.44	0.52
35:R2:28:C:H2'	35:R2:29:A:C8	2.45	0.52
36:R3:499:A:O4'	36:R3:547:A:N6	2.43	0.52
37:T:6:A:H2'	37:T:7:U:C6	2.45	0.52
37:T:19:G:N2	38:Y:416:GLN:HG3	2.20	0.52
38:Y:338:LEU:HD22	38:Y:513:VAL:HG21	1.90	0.52
21:3:149:ASN:HB3	34:R1:2572:A:OP2	2.10	0.52
23:31:3:LYS:CB	35:R2:44:G:C6	2.93	0.52
29:4:162:ARG:NH2	34:R1:340:A:O2'	2.43	0.52
34:R1:1441:G:H2'	34:R1:1442:U:C6	2.45	0.52
34:R1:1561:C:H2'	34:R1:1562:U:C6	2.44	0.52
34:R1:2103:C:H2'	34:R1:2104:C:C6	2.45	0.52
34:R1:2812:G:H2'	34:R1:2813:A:H8	1.75	0.52
35:R2:31:C:H2'	35:R2:32:U:C6	2.45	0.52
36:R3:634:C:H2'	36:R3:635:A:H8	1.75	0.52
3:11:40:ALA:C	34:R1:1071:G:H5'	2.28	0.52
4:13:69:ARG:HA	4:13:89:PHE:HD2	1.75	0.52
5:14:65:THR:HG22	5:14:67:LYS:H	1.74	0.52
10:19:43:GLU:O	10:19:62:LYS:HB2	2.10	0.52
10:19:112:ARG:NH1	10:19:114:ASN:O	2.42	0.52
16:24:80:ASP:OD1	16:24:81:ARG:N	2.43	0.52
17:25:65:VAL:HG12	17:25:66:ASP:OD1	2.10	0.52
18:27:25:ARG:HD2	18:27:31:VAL:HG12	1.91	0.52
23:31:59:ARG:C	36:R3:1310:G:C2	2.82	0.52
28:36:36:ARG:HG2	28:36:37:GLN:H	1.74	0.52
30:5:99:PHE:O	30:5:99:PHE:HD2	1.91	0.52
34:R1:131:A:H2'	34:R1:132:G:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:780:G:C2	34:R1:782:A:C2	2.98	0.52
34:R1:895:U:H4'	34:R1:896:A:H2	1.75	0.52
34:R1:923:G:H2'	34:R1:924:G:H8	1.75	0.52
34:R1:2324:U:H3'	34:R1:2325:G:H5'	1.91	0.52
34:R1:2333:A:O2'	34:R1:2334:U:H5"	2.10	0.52
34:R1:2590:A:H2'	34:R1:2591:C:H6	1.75	0.52
36:R3:396:C:H5'	36:R3:397:A:OP2	2.09	0.52
37:T:1:G:C2	37:T:73:A:C8	2.98	0.52
38:Y:418:VAL:O	38:Y:421:ILE:HG22	2.10	0.52
2:10:75:ALA:HA	34:R1:1084:A:C6	2.45	0.52
7:16:53:MET:HE3	7:16:117:PHE:CD1	2.45	0.52
21:3:142:VAL:HG12	21:3:144:GLY:H	1.74	0.52
21:3:149:ASN:OD1	21:3:150:GLN:N	2.34	0.52
25:33:4:ILE:N	34:R1:2400:G:C4	2.78	0.52
30:5:5:ASP:HA	30:5:8:LYS:HG2	1.92	0.52
32:9:47:PHE:O	32:9:52:ALA:N	2.41	0.52
34:R1:64:A:H2'	34:R1:65:U:H6	1.75	0.52
34:R1:2212:A:H4'	34:R1:2213:U:H5	1.75	0.52
38:Y:469:LEU:HB3	38:Y:473:SER:HB3	1.92	0.52
2:10:23:LEU:HA	2:10:117:LEU:HD23	1.91	0.52
4:13:95:ARG:HH22	4:13:96:ARG:NH2	2.08	0.52
11:2:220:ARG:NH2	34:R1:1788:C:OP1	2.40	0.52
14:22:15:GLN:O	14:22:19:LEU:HD23	2.10	0.52
25:33:44:GLN:HB3	34:R1:2287:A:C8	2.45	0.52
25:33:48:TYR:CZ	34:R1:2346:A:C6	2.98	0.52
34:R1:372:G:H1'	34:R1:373:U:H5	1.74	0.52
34:R1:1353:A:H2'	34:R1:1354:A:C8	2.45	0.52
34:R1:2104:C:H2'	34:R1:2105:U:C6	2.44	0.52
35:R2:115:A:H2'	35:R2:116:G:C8	2.45	0.52
4:13:129:GLU:H	4:13:129:GLU:CD	2.12	0.52
7:16:78:LEU:HD23	7:16:79:ALA:HB2	1.92	0.52
14:22:29:VAL:HG21	14:22:55:ILE:HD11	1.91	0.52
25:33:36:LYS:HE2	34:R1:2285:C:H2'	1.90	0.52
27:35:32:LEU:HD21	34:R1:2419:U:C6	2.45	0.52
34:R1:415:A:H2'	34:R1:416:U:C6	2.45	0.52
34:R1:784:G:H5'	34:R1:785:G:OP1	2.10	0.52
34:R1:1668:A:N3	34:R1:1670:C:N4	2.57	0.52
34:R1:2105:U:H2'	34:R1:2106:U:O4'	2.10	0.52
34:R1:2106:U:H2'	34:R1:2107:G:C8	2.44	0.52
35:R2:38:C:N4	35:R2:44:G:H1	2.07	0.52
36:R3:707:U:H2'	36:R3:708:C:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:1043:G:H2'	36:R3:1044:A:C8	2.45	0.52
38:Y:362:LEU:HD21	38:Y:386:TYR:HE1	1.74	0.52
1:1:193:LEU:O	1:1:197:LYS:HG3	2.10	0.52
3:11:50:LYS:C	34:R1:1061:U:H1'	2.30	0.52
16:24:43:LYS:HB3	16:24:58:VAL:HG13	1.91	0.52
32:9:130:VAL:HG23	32:9:142:VAL:HB	1.91	0.52
34:R1:134:G:H2'	34:R1:135:U:C6	2.45	0.52
34:R1:1053:C:H2'	34:R1:1054:A:C8	2.45	0.52
34:R1:1521:G:H3'	34:R1:1522:A:H5"	1.91	0.52
34:R1:2025:C:H2'	34:R1:2026:U:C6	2.44	0.52
36:R3:256:U:H2'	36:R3:257:G:C8	2.45	0.52
36:R3:1161:C:H2'	36:R3:1162:C:C6	2.45	0.52
36:R3:1427:C:H2'	36:R3:1428:A:C8	2.45	0.52
2:10:70:GLU:CG	2:10:71:CYS:H	2.17	0.51
8:17:9:GLN:HA	8:17:17:ARG:HD3	1.92	0.51
13:21:49:ILE:CG2	13:21:54:VAL:HG22	2.40	0.51
15:23:59:ASN:HB3	34:R1:1341:G:H1'	1.92	0.51
32:9:46:PHE:HB3	32:9:51:ARG:CZ	2.40	0.51
34:R1:1000:A:H2'	34:R1:1001:A:C8	2.45	0.51
34:R1:1028:A:N6	34:R1:1125:G:H2'	2.25	0.51
34:R1:1591:A:H2'	34:R1:1592:C:H6	1.75	0.51
36:R3:201:G:H2'	36:R3:202:G:C8	2.45	0.51
36:R3:1414:U:H2'	36:R3:1415:G:C8	2.45	0.51
2:10:72:LEU:HD22	3:11:5:GLN:N	2.23	0.51
5:14:12:ASP:OD2	5:14:14:SER:OG	2.24	0.51
6:15:56:PRO:HG2	6:15:59:ARG:HB2	1.92	0.51
7:16:42:THR:O	7:16:46:ILE:HD12	2.09	0.51
7:16:47:GLU:OE1	7:16:51:ARG:HG3	2.10	0.51
11:2:106:PRO:HD2	11:2:109:LEU:HD22	1.93	0.51
21:3:52:THR:OG1	21:3:77:ARG:NH1	2.43	0.51
22:30:18:LYS:NZ	34:R1:920:A:OP1	2.43	0.51
25:33:5:ARG:HB2	34:R1:2417:C:H2'	1.92	0.51
25:33:44:GLN:HE22	34:R1:2288:A:H5"	1.75	0.51
25:33:48:TYR:OH	34:R1:2344:U:O2	2.29	0.51
29:4:14:VAL:HG21	29:4:19:PHE:CE2	2.45	0.51
34:R1:49:A:H4'	34:R1:50:U:H5"	1.93	0.51
34:R1:2170:A:H2'	34:R1:2171:A:C8	2.45	0.51
34:R1:2324:U:H3'	34:R1:2325:G:C5'	2.40	0.51
35:R2:60:C:H2'	35:R2:61:G:C8	2.44	0.51
36:R3:1355:G:H2'	36:R3:1356:G:C8	2.44	0.51
3:11:2:LYS:HD3	34:R1:1085:A:C4	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:18:64:TYR:CD2	35:R2:51:G:H5”	2.46	0.51
11:2:75:ALA:HB2	11:2:95:TYR:CD2	2.45	0.51
23:31:60:PHE:HE1	36:R3:1328:C:N4	2.09	0.51
23:31:64:PHE:CD1	36:R3:1269:A:N3	2.78	0.51
29:4:145:ASP:HA	29:4:166:LYS:HB3	1.91	0.51
30:5:40:GLY:HA3	34:R1:2307:G:N1	2.25	0.51
30:5:76:PHE:HB3	34:R1:2311:A:O4’	2.11	0.51
31:6:8:VAL:HG11	31:6:72:ASN:HB2	1.91	0.51
33:M:6:A:H4’	36:R3:693:G:C5	2.45	0.51
34:R1:793:A:OP2	34:R1:2071:A:O2’	2.27	0.51
34:R1:2081:U:H2’	34:R1:2082:A:H8	1.75	0.51
36:R3:113:G:H1’	36:R3:354:G:H5’	1.92	0.51
36:R3:590:U:H2’	36:R3:591:U:C6	2.45	0.51
2:10:11:ILE:CA	34:R1:1107:G:H3’	2.41	0.51
11:2:10:PRO:O	34:R1:729:G:N2	2.44	0.51
11:2:115:ILE:HD12	11:2:115:ILE:O	2.11	0.51
13:21:79:ARG:NH2	34:R1:572:A:H5’	2.26	0.51
21:3:32:ASN:HD22	21:3:32:ASN:N	2.08	0.51
34:R1:2369:A:H2’	34:R1:2370:G:H8	1.75	0.51
36:R3:77:A:H2’	36:R3:78:A:C8	2.45	0.51
36:R3:420:U:H1’	36:R3:424:G:H22	1.76	0.51
36:R3:1153:G:H2’	36:R3:1154:G:O4’	2.10	0.51
36:R3:1161:C:H2’	36:R3:1162:C:H6	1.75	0.51
36:R3:1425:U:H2’	36:R3:1426:G:H8	1.75	0.51
3:11:32:VAL:HG12	34:R1:1087:G:H5”	1.91	0.51
4:13:74:TYR:CD1	4:13:103:ILE:HD11	2.45	0.51
19:28:16:ASN:ND2	19:28:26:ARG:HD2	2.26	0.51
27:35:10:ALA:O	27:35:14:LYS:NZ	2.44	0.51
31:6:2:ARG:NH2	34:R1:1110:G:O2’	2.43	0.51
34:R1:145:C:H2’	34:R1:146:A:C8	2.45	0.51
34:R1:820:A:H4’	34:R1:836:G:N2	2.22	0.51
34:R1:839:U:H2’	34:R1:840:C:C6	2.45	0.51
34:R1:1636:U:H2’	34:R1:1637:A:H8	1.75	0.51
34:R1:2638:G:H1’	34:R1:2778:A:N6	2.26	0.51
35:R2:30:C:H1’	35:R2:57:A:H61	1.76	0.51
36:R3:217:C:H2’	36:R3:218:U:C6	2.45	0.51
36:R3:473:U:H2’	36:R3:474:G:C8	2.46	0.51
37:T:10:G:N2	37:T:26:A:H1’	2.26	0.51
38:Y:343:GLU:HB3	38:Y:346:GLU:HG2	1.93	0.51
38:Y:462:MET:O	38:Y:490:PHE:HA	2.10	0.51
1:1:49:GLY:HA2	1:1:210:LYS:HE2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:19:13:LYS:NZ	10:19:77:SER:O	2.38	0.51
12:20:27:ARG:HA	12:20:33:VAL:HG23	1.92	0.51
12:20:107:ALA:O	12:20:110:GLU:HG3	2.09	0.51
23:31:32:LEU:HB3	23:31:34:LEU:CD2	2.40	0.51
29:4:175:ILE:HD11	29:4:180:LEU:HG	1.92	0.51
30:5:43:ILE:HB	34:R1:2311:A:H2	1.76	0.51
34:R1:242:G:O2'	34:R1:254:G:O6	2.26	0.51
34:R1:353:C:H2'	34:R1:354:A:C8	2.45	0.51
34:R1:1159:U:C2	34:R1:1160:G:C8	2.99	0.51
36:R3:407:U:H2'	36:R3:408:A:C8	2.45	0.51
36:R3:458:U:O4	36:R3:474:G:O6	2.27	0.51
36:R3:1314:C:H2'	36:R3:1315:U:C6	2.45	0.51
2:10:5:LEU:CD2	34:R1:1111:A:P	2.98	0.51
3:11:8:VAL:HG21	34:R1:1081:U:O2	2.11	0.51
18:27:43:THR:HG22	34:R1:2331:G:O2'	2.10	0.51
27:35:35:LYS:HD3	27:35:39:ARG:HH12	1.76	0.51
30:5:146:ASP:OD2	30:5:147:ARG:NE	2.35	0.51
34:R1:298:G:N1	34:R1:339:U:OP2	2.31	0.51
34:R1:716:A:H2'	34:R1:717:C:O4'	2.10	0.51
36:R3:193:C:H2'	36:R3:194:C:C6	2.45	0.51
36:R3:271:C:H2'	36:R3:272:C:C6	2.45	0.51
36:R3:477:C:H2'	36:R3:478:A:C8	2.46	0.51
36:R3:728:A:H2'	36:R3:729:A:H8	1.74	0.51
36:R3:1355:G:H2'	36:R3:1356:G:H8	1.76	0.51
38:Y:416:GLN:O	38:Y:420:SER:OG	2.28	0.51
3:11:32:VAL:HG23	3:11:60:VAL:HG22	1.93	0.51
8:17:74:GLU:HA	8:17:74:GLU:OE2	2.10	0.51
11:2:132:ARG:NE	11:2:186:ASP:OD1	2.41	0.51
21:3:64:GLU:OE1	21:3:64:GLU:N	2.39	0.51
23:31:57:VAL:N	36:R3:1309:G:N7	2.55	0.51
25:33:20:TYR:OH	34:R1:2346:A:OP1	2.28	0.51
34:R1:1746:A:H2'	34:R1:1747:U:C6	2.46	0.51
36:R3:590:U:H2'	36:R3:591:U:H6	1.76	0.51
38:Y:357:GLY:H	61:Y:602:ATP:PB	2.34	0.51
2:10:8:LYS:CD	34:R1:1108:U:H5	2.24	0.51
2:10:69:PHE:O	3:11:3:LYS:NZ	2.30	0.51
3:11:54:ILE:HG22	3:11:55:PRO:HD2	1.93	0.51
7:16:25:ASP:C	7:16:25:ASP:OD2	2.49	0.51
7:16:50:ARG:O	7:16:54:THR:HG23	2.11	0.51
8:17:106:ASP:OD2	34:R1:1649:G:O2'	2.19	0.51
16:24:40:LEU:HB3	16:24:59:GLU:HG3	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:3:27:ILE:HD13	21:3:201:LEU:HD12	1.93	0.51
30:5:136:ILE:HG13	30:5:137:PHE:HD1	1.76	0.51
31:6:66:THR:HG21	34:R1:2757:A:N1	2.25	0.51
34:R1:590:A:H2'	34:R1:591:U:C6	2.46	0.51
34:R1:593:U:H2'	34:R1:594:U:C6	2.45	0.51
34:R1:1049:C:N4	34:R1:1110:G:N3	2.59	0.51
34:R1:1093:G:O2'	34:R1:1094:U:O5'	2.29	0.51
34:R1:1300:G:N3	34:R1:1626:A:N6	2.59	0.51
34:R1:2128:G:H21	34:R1:2173:A:C4'	2.23	0.51
34:R1:2156:G:O6	34:R1:2157:G:N2	2.33	0.51
36:R3:337:G:H2'	36:R3:338:A:H8	1.76	0.51
36:R3:408:A:H2'	36:R3:409:U:C6	2.46	0.51
36:R3:672:U:H2'	36:R3:673:A:C8	2.46	0.51
36:R3:1412:C:H2'	36:R3:1413:A:C8	2.44	0.51
3:11:41:PHE:CA	34:R1:1070:A:O3'	2.59	0.51
16:24:51:LEU:H	16:24:51:LEU:HD12	1.76	0.51
25:33:29:LYS:HA	34:R1:2420:C:O5'	2.11	0.51
31:6:23:ILE:HG21	31:6:71:LEU:HD11	1.93	0.51
32:9:9:VAL:HG12	32:9:11:ASN:H	1.75	0.51
34:R1:20:C:H2'	34:R1:21:A:H8	1.76	0.51
34:R1:49:A:H5'	34:R1:51:G:O4'	2.11	0.51
34:R1:63:A:H2'	34:R1:64:A:C8	2.46	0.51
34:R1:840:C:H2'	34:R1:841:G:H8	1.74	0.51
34:R1:1103:A:H3'	34:R1:1104:C:H5'	1.93	0.51
34:R1:1239:G:H2'	34:R1:1240:U:O4'	2.11	0.51
36:R3:297:G:N2	36:R3:301:G:N7	2.59	0.51
36:R3:676:A:H2'	36:R3:677:U:H6	1.75	0.51
36:R3:765:G:N1	36:R3:812:G:O2'	2.33	0.51
36:R3:1118:U:H2'	36:R3:1119:C:H6	1.75	0.51
36:R3:1328:C:C4	36:R3:1329:A:N7	2.78	0.51
2:10:73:LYS:HA	3:11:5:GLN:HG3	1.93	0.50
23:31:59:ARG:CB	36:R3:1310:G:C4	2.94	0.50
30:5:130:GLY:HA3	30:5:132:ARG:HH12	1.76	0.50
30:5:135:ILE:HA	30:5:140:ILE:HG21	1.93	0.50
34:R1:131:A:H2'	34:R1:132:G:C8	2.46	0.50
34:R1:304:U:H2'	34:R1:305:C:C6	2.46	0.50
34:R1:742:A:H2'	34:R1:743:A:C8	2.47	0.50
34:R1:2176:A:H2'	34:R1:2177:C:C6	2.46	0.50
34:R1:2289:G:N2	34:R1:2290:G:C5	2.78	0.50
34:R1:2383:G:H2'	34:R1:2384:U:C6	2.46	0.50
34:R1:2813:A:H2'	34:R1:2814:A:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:R2:39:A:N3	35:R2:44:G:N2	2.59	0.50
35:R2:39:A:C4	35:R2:44:G:N2	2.79	0.50
36:R3:651:C:H2'	36:R3:652:U:C6	2.45	0.50
36:R3:1157:A:H62	36:R3:1177:G:H22	1.59	0.50
2:10:18:VAL:HG11	2:10:67:THR:HA	1.93	0.50
2:10:64:VAL:C	2:10:66:GLY:H	2.14	0.50
3:11:9:LYS:HA	34:R1:1058:U:H1'	1.93	0.50
13:21:10:LYS:NZ	34:R1:994:C:O2	2.37	0.50
20:29:41:HIS:O	20:29:45:GLN:HB2	2.11	0.50
23:31:55:GLY:C	23:31:56:ARG:HG2	2.30	0.50
23:31:59:ARG:HG3	36:R3:1327:C:N4	2.12	0.50
30:5:55:ASP:OD2	30:5:149:ARG:NH2	2.44	0.50
34:R1:288:U:H2'	34:R1:289:G:H8	1.76	0.50
34:R1:414:C:H2'	34:R1:415:A:C8	2.46	0.50
34:R1:739:A:H1'	34:R1:740:C:H5	1.77	0.50
34:R1:2047:C:H2'	34:R1:2048:G:H8	1.74	0.50
34:R1:2289:G:N2	34:R1:2290:G:C6	2.79	0.50
36:R3:458:U:O2	36:R3:474:G:N2	2.35	0.50
38:Y:88:GLY:N	38:Y:168:GLN:OE1	2.45	0.50
38:Y:312:ASP:HB2	38:Y:383:ARG:HH22	1.75	0.50
38:Y:350:VAL:HA	38:Y:506:LEU:O	2.11	0.50
1:1:164:ARG:NH2	34:R1:2122:U:O2'	2.43	0.50
2:10:78:GLY:H	2:10:79:PRO:HD3	1.76	0.50
3:11:14:ALA:HB1	34:R1:1061:U:O3'	2.12	0.50
3:11:33:ASN:ND2	34:R1:1089:A:N1	2.59	0.50
3:11:46:ASP:O	3:11:49:GLU:N	2.30	0.50
11:2:48:ILE:HG22	34:R1:779:U:OP1	2.11	0.50
18:27:73:GLY:O	18:27:75:LYS:N	2.45	0.50
34:R1:1000:A:OP2	34:R1:1154:G:N1	2.27	0.50
34:R1:1353:A:H2'	34:R1:1354:A:H8	1.76	0.50
34:R1:1395:A:O2'	34:R1:1396:U:H5"	2.11	0.50
34:R1:1847:G:O2'	34:R1:1848:A:H8	1.95	0.50
36:R3:1417:G:O2'	36:R3:1483:A:N6	2.41	0.50
6:15:79:LEU:H	6:15:113:ALA:HB3	1.76	0.50
17:25:14:LYS:NZ	35:R2:79:G:N7	2.59	0.50
23:31:43:PHE:CE2	30:5:110:ILE:CD1	2.94	0.50
25:33:11:VAL:HG11	25:33:51:ALA:HB3	1.91	0.50
25:33:45:HIS:NE2	34:R1:2288:A:C3'	2.74	0.50
34:R1:1198:U:H2'	34:R1:1199:U:C6	2.47	0.50
34:R1:1473:G:H2'	34:R1:1474:U:C6	2.46	0.50
34:R1:2783:U:H2'	34:R1:2784:U:H6	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:1328:C:C4	36:R3:1329:A:C8	2.99	0.50
36:R3:1384:C:H2'	36:R3:1385:G:C8	2.46	0.50
12:20:3:VAL:HG12	34:R1:1199:U:H1'	1.91	0.50
20:29:9:LYS:HB3	20:29:12:GLU:HB3	1.94	0.50
25:33:5:ARG:HH21	34:R1:2418:A:H5"	1.75	0.50
30:5:95:MET:HG2	30:5:96:TRP:CD1	2.46	0.50
34:R1:1093:G:H2'	34:R1:1094:U:C6	2.46	0.50
34:R1:1378:A:O2'	34:R1:1380:G:OP2	2.30	0.50
34:R1:2747:G:O6	34:R1:2755:C:H5"	2.12	0.50
34:R1:2794:C:H2'	34:R1:2795:C:C6	2.46	0.50
38:Y:19:ASN:O	38:Y:19:ASN:ND2	2.43	0.50
8:17:49:GLU:O	8:17:53:THR:HG23	2.12	0.50
11:2:200:MET:HE1	34:R1:1820:U:C2	2.46	0.50
23:31:24:ILE:CG2	30:5:100:GLU:HA	2.41	0.50
28:36:11:CYS:SG	28:36:33:HIS:CE1	3.04	0.50
30:5:30:VAL:HG23	30:5:157:THR:HG22	1.93	0.50
30:5:105:ILE:C	30:5:108:PRO:HD2	2.31	0.50
34:R1:849:A:H2'	34:R1:850:U:C6	2.46	0.50
34:R1:1016:G:O6	34:R1:1147:A:N6	2.44	0.50
34:R1:2346:A:H3'	34:R1:2347:C:C5'	2.41	0.50
38:Y:25:GLY:HA2	38:Y:204:THR:OG1	2.12	0.50
38:Y:216:ASN:OD1	38:Y:237:TYR:HB2	2.11	0.50
2:10:11:ILE:HD12	34:R1:1108:U:C5	2.46	0.50
3:11:39:LYS:HD2	34:R1:1071:G:C5	2.47	0.50
21:3:193:VAL:HG21	21:3:201:LEU:HD11	1.93	0.50
23:31:3:LYS:CD	35:R2:47:C:H42	2.25	0.50
23:31:64:PHE:N	36:R3:1326:U:O2	2.44	0.50
24:32:37:HIS:ND1	24:32:38:LEU:O	2.35	0.50
25:33:36:LYS:HD2	34:R1:2285:C:C2	2.47	0.50
34:R1:370:G:O2'	34:R1:424:G:OP1	2.25	0.50
34:R1:1487:U:H2'	34:R1:1488:C:C6	2.46	0.50
34:R1:1900:A:H1'	34:R1:1970:A:H2'	1.93	0.50
34:R1:2506:U:OP2	34:R1:2576:G:N1	2.28	0.50
36:R3:157:U:H2'	36:R3:158:G:H8	1.77	0.50
36:R3:538:G:H2'	36:R3:539:A:H8	1.77	0.50
36:R3:1463:U:H2'	36:R3:1464:U:C6	2.46	0.50
38:Y:2:LEU:HB3	38:Y:60:LEU:HD13	1.93	0.50
2:10:10:ALA:C	2:10:11:ILE:HG13	2.32	0.50
2:10:65:GLU:OE2	34:R1:1107:G:N1	2.44	0.50
3:11:50:LYS:NZ	34:R1:1070:A:OP1	2.44	0.50
3:11:57:VAL:O	3:11:68:PHE:HA	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:2:149:LYS:NZ	34:R1:2204:G:O5'	2.35	0.50
12:20:30:VAL:HG12	12:20:33:VAL:H	1.77	0.50
15:23:88:LYS:HG3	15:23:89:GLU:H	1.76	0.50
23:31:61:ASN:C	23:31:63:ARG:H	2.16	0.50
24:32:16:ARG:NH1	34:R1:1266:G:O5'	2.44	0.50
26:34:34:ARG:HD3	34:R1:467:G:OP2	2.12	0.50
30:5:117:SER:O	30:5:120:SER:OG	2.30	0.50
34:R1:499:U:H2'	34:R1:500:G:O4'	2.12	0.50
34:R1:1090:A:H2'	34:R1:1091:G:H8	1.76	0.50
34:R1:2297:A:H61	34:R1:2319:G:C1'	2.24	0.50
37:T:10:G:C2	37:T:26:A:H1'	2.47	0.50
37:T:67:U:H2'	37:T:68:C:C6	2.47	0.50
37:T:71:C:H2'	37:T:72:C:H6	1.77	0.50
2:10:8:LYS:O	34:R1:1108:U:H3'	2.12	0.50
3:11:39:LYS:N	34:R1:1071:G:C3'	2.57	0.50
17:25:30:ILE:HD13	17:25:91:PHE:HB3	1.94	0.50
25:33:5:ARG:HG2	34:R1:2418:A:C4	2.46	0.50
30:5:13:LYS:O	30:5:17:THR:HG23	2.11	0.50
34:R1:983:A:N6	34:R1:984:A:N1	2.59	0.50
34:R1:1506:U:H2'	34:R1:1507:C:C6	2.47	0.50
34:R1:2113:U:H2'	34:R1:2114:A:C8	2.47	0.50
36:R3:559:A:H4'	36:R3:560:A:H3'	1.94	0.50
36:R3:1083:U:O2'	36:R3:1102:A:OP2	2.25	0.50
3:11:11:GLN:CD	34:R1:1060:U:H5'	2.33	0.49
3:11:44:LYS:HD3	34:R1:1098:A:C5'	2.34	0.49
10:19:91:VAL:HG21	10:19:96:LEU:HD11	1.94	0.49
20:29:17:GLU:OE1	20:29:18:LEU:HD22	2.12	0.49
23:31:1:MET:N	35:R2:45:A:O5'	2.45	0.49
36:R3:56:U:H2'	36:R3:57:G:C8	2.47	0.49
36:R3:147:G:H2'	36:R3:148:G:C8	2.47	0.49
38:Y:30:TYR:CD1	38:Y:221:HIS:HB2	2.48	0.49
38:Y:160:TRP:O	38:Y:164:VAL:HG22	2.11	0.49
10:19:12:MET:HG2	10:19:76:HIS:CE1	2.47	0.49
21:3:30:GLU:HG3	21:3:31:ALA:N	2.27	0.49
21:3:148:GLN:HB2	21:3:152:PRO:HG2	1.94	0.49
34:R1:947:A:H2'	34:R1:948:C:C6	2.47	0.49
36:R3:57:G:H2'	36:R3:58:C:C6	2.47	0.49
36:R3:1265:C:H2'	36:R3:1266:G:H8	1.76	0.49
38:Y:70:ARG:HH21	38:Y:165:LEU:HD22	1.77	0.49
38:Y:175:ASP:OD2	38:Y:175:ASP:N	2.45	0.49
38:Y:226:ASP:OD1	38:Y:227:TYR:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:2:2:VAL:HG12	11:2:18:VAL:HG12	1.94	0.49
22:30:6:ILE:CD1	22:30:47:ILE:HD11	2.39	0.49
34:R1:20:C:H2'	34:R1:21:A:C8	2.46	0.49
34:R1:881:G:H2'	34:R1:882:G:H8	1.77	0.49
34:R1:1089:A:O2'	34:R1:1090:A:O5'	2.28	0.49
34:R1:2184:A:H2'	34:R1:2185:U:H6	1.76	0.49
34:R1:2366:A:H2'	34:R1:2367:G:O4'	2.13	0.49
34:R1:2508:G:N1	34:R1:2580:U:H5	2.10	0.49
34:R1:2896:C:H2'	34:R1:2897:U:C6	2.47	0.49
36:R3:497:G:H2'	36:R3:498:A:C8	2.48	0.49
36:R3:1071:C:H2'	36:R3:1072:G:C8	2.44	0.49
38:Y:222:MET:CE	38:Y:237:TYR:HA	2.41	0.49
2:10:12:VAL:C	34:R1:1107:G:H2'	2.32	0.49
3:11:25:PRO:HD3	34:R1:1078:U:C2'	2.40	0.49
3:11:42:ASN:HA	34:R1:1070:A:O5'	2.13	0.49
6:15:78:ARG:HH12	34:R1:626:A:H2'	1.77	0.49
11:2:146:LYS:NZ	34:R1:2204:G:OP2	2.41	0.49
12:20:109:VAL:HG22	12:20:113:LYS:HE3	1.94	0.49
14:22:31:GLN:O	14:22:35:ILE:HD12	2.12	0.49
16:24:61:GLU:OE1	16:24:61:GLU:N	2.45	0.49
17:25:77:VAL:HG23	17:25:89:ILE:HG22	1.94	0.49
23:31:55:GLY:HA3	36:R3:1309:G:C8	2.47	0.49
30:5:3:LEU:HD23	30:5:3:LEU:O	2.12	0.49
31:6:39:ALA:HA	31:6:57:TYR:HD2	1.77	0.49
34:R1:181:A:H2'	34:R1:182:A:H8	1.77	0.49
34:R1:247:G:OP2	34:R1:249:C:N4	2.46	0.49
34:R1:414:C:H2'	34:R1:415:A:H8	1.76	0.49
34:R1:756:A:H2'	34:R1:757:G:O4'	2.13	0.49
34:R1:1429:G:H2'	34:R1:1430:G:H8	1.77	0.49
34:R1:2589:A:H2'	34:R1:2590:A:H8	1.76	0.49
35:R2:14:U:OP2	35:R2:70:C:O2'	2.31	0.49
36:R3:676:A:H2'	36:R3:677:U:C6	2.47	0.49
36:R3:865:A:H2'	36:R3:866:C:C6	2.47	0.49
36:R3:1004:A:N7	36:R3:1025:U:H1'	2.28	0.49
38:Y:197:VAL:HA	38:Y:200:GLU:CD	2.32	0.49
38:Y:302:ARG:O	38:Y:303:GLN:HB2	2.12	0.49
4:13:64:VAL:H	4:13:69:ARG:NH2	2.10	0.49
7:16:49:ALA:HB1	7:16:120:ALA:HB1	1.95	0.49
21:3:1:MET:N	21:3:205:PRO:HG2	2.26	0.49
22:30:47:ILE:HG21	22:30:56:VAL:HG11	1.95	0.49
25:33:44:GLN:HB3	34:R1:2287:A:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:34:27:GLY:O	26:34:30:VAL:HG12	2.13	0.49
28:36:29:ALA:HB3	28:36:30:GLU:OE1	2.12	0.49
31:6:89:VAL:HG11	31:6:162:ARG:HE	1.78	0.49
34:R1:1538:G:O2'	34:R1:1539:U:O4'	2.19	0.49
34:R1:1725:U:H2'	34:R1:1726:C:C6	2.48	0.49
34:R1:2638:G:HO2'	34:R1:2639:A:H8	1.59	0.49
36:R3:471:U:H2'	36:R3:472:U:C6	2.48	0.49
36:R3:966:G:N2	37:T:34:A:H5'	2.28	0.49
36:R3:1307:U:H2'	36:R3:1308:U:N1	2.27	0.49
36:R3:1478:U:H2'	36:R3:1479:C:C6	2.48	0.49
6:15:30:THR:HG23	34:R1:810:U:O4	2.12	0.49
6:15:79:LEU:HD22	6:15:112:LEU:HA	1.94	0.49
10:19:87:ARG:NH2	10:19:109:ILE:O	2.46	0.49
20:29:44:LYS:O	20:29:48:ARG:HG2	2.13	0.49
26:34:30:VAL:HG21	34:R1:466:A:H4'	1.95	0.49
29:4:21:ARG:HD3	29:4:106:LYS:HB3	1.93	0.49
34:R1:554:U:H2'	34:R1:555:G:O4'	2.12	0.49
34:R1:1793:C:H2'	34:R1:1794:A:C8	2.47	0.49
34:R1:2557:G:H2'	34:R1:2558:C:C6	2.47	0.49
35:R2:11:C:O2'	35:R2:15:A:N1	2.36	0.49
36:R3:415:A:C6	36:R3:416:G:C6	3.01	0.49
36:R3:1258:G:H2'	36:R3:1259:C:H6	1.78	0.49
2:10:12:VAL:HG22	34:R1:1108:U:C1'	2.42	0.49
3:11:50:LYS:HE3	34:R1:1069:A:OP2	2.13	0.49
16:24:6:ARG:NH2	34:R1:98:G:H22	2.11	0.49
16:24:6:ARG:NH2	34:R1:98:G:H1	2.04	0.49
23:31:56:ARG:HD3	23:31:60:PHE:CZ	2.48	0.49
23:31:66:ILE:HD11	36:R3:1270:G:N9	2.26	0.49
29:4:189:THR:O	29:4:193:VAL:HG23	2.12	0.49
34:R1:6:A:H2'	34:R1:7:G:H8	1.75	0.49
34:R1:1709:U:O2'	34:R1:2859:G:H1'	2.13	0.49
34:R1:2115:G:N2	34:R1:2117:A:H3'	2.28	0.49
34:R1:2698:U:H2'	34:R1:2699:C:C6	2.48	0.49
34:R1:2737:G:H2'	34:R1:2738:A:H8	1.75	0.49
34:R1:2785:C:H2'	34:R1:2786:U:H6	1.78	0.49
36:R3:975:A:N1	36:R3:1366:C:O2'	2.40	0.49
36:R3:1513:A:H2'	36:R3:1514:G:H8	1.78	0.49
37:T:64:U:H2'	37:T:65:C:C6	2.48	0.49
14:22:11:ARG:HH21	34:R1:1322:A:H5'	1.78	0.49
18:27:77:ARG:HB2	18:27:79:PHE:HE1	1.78	0.49
34:R1:191:A:H2'	34:R1:192:C:C6	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:1565:C:O2'	34:R1:1566:A:H2'	2.12	0.49
36:R3:489:C:H2'	36:R3:490:C:C6	2.47	0.49
37:T:5:G:H2'	37:T:6:A:C8	2.48	0.49
38:Y:224:ASP:OD1	38:Y:224:ASP:C	2.50	0.49
3:11:47:SER:N	34:R1:1070:A:H8	2.01	0.49
28:36:6:SER:O	28:36:6:SER:OG	2.30	0.49
28:36:17:VAL:HG21	28:36:26:ILE:HD11	1.94	0.49
31:6:156:TYR:HE2	34:R1:2531:A:H5"	1.77	0.49
32:9:122:LEU:HD22	32:9:128:HIS:HD1	1.77	0.49
34:R1:173:A:H2'	34:R1:174:U:C6	2.47	0.49
34:R1:1053:C:H3'	34:R1:1054:A:C8	2.48	0.49
34:R1:2124:G:H2'	34:R1:2125:G:O4'	2.12	0.49
34:R1:2369:A:H2'	34:R1:2370:G:C8	2.48	0.49
34:R1:2584:U:H2'	34:R1:2585:U:H2'	1.94	0.49
36:R3:126:G:OP1	36:R3:605:U:O2'	2.22	0.49
36:R3:1251:A:H2'	36:R3:1252:A:C8	2.48	0.49
38:Y:320:LEU:HG	38:Y:342:LEU:HD21	1.94	0.49
38:Y:347:LYS:H	38:Y:503:THR:HG1	1.60	0.49
1:1:23:ILE:HG12	1:1:224:VAL:HG13	1.95	0.49
2:10:14:GLU:O	2:10:18:VAL:HG13	2.12	0.49
3:11:6:ALA:HB3	34:R1:1086:A:N6	2.27	0.49
6:15:75:ALA:HB2	6:15:105:ILE:HD12	1.94	0.49
21:3:178:VAL:HG12	21:3:179:ARG:HG3	1.95	0.49
23:31:25:ARG:O	23:31:25:ARG:HG2	2.13	0.49
23:31:60:PHE:CE1	36:R3:1328:C:C4	2.95	0.49
34:R1:296:U:H2'	34:R1:297:G:H8	1.78	0.49
34:R1:1063:G:H1	34:R1:1075:C:N4	2.11	0.49
34:R1:1321:A:C4	34:R1:1322:A:C8	3.01	0.49
34:R1:2364:C:H2'	34:R1:2365:G:O4'	2.13	0.49
34:R1:2649:C:H2'	34:R1:2650:U:C6	2.48	0.49
34:R1:2812:G:H2'	34:R1:2813:A:C8	2.48	0.49
36:R3:469:C:H2'	36:R3:470:C:H6	1.77	0.49
36:R3:613:C:H2'	36:R3:614:C:C6	2.48	0.49
36:R3:818:G:H2'	36:R3:820:U:H5	1.78	0.49
36:R3:920:U:H2'	36:R3:921:U:C6	2.48	0.49
36:R3:1356:G:H2'	36:R3:1357:A:C8	2.30	0.49
38:Y:389:GLN:N	38:Y:463:ASP:OD1	2.46	0.49
1:1:43:ASP:CB	1:1:174:THR:HA	2.43	0.48
1:1:60:ARG:NE	1:1:164:ARG:HB2	2.27	0.48
2:10:10:ALA:HA	34:R1:1108:U:P	2.53	0.48
3:11:19:PRO:HD2	3:11:41:PHE:CD2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:11:60:VAL:HA	3:11:65:SER:O	2.12	0.48
15:23:91:GLN:N	15:23:91:GLN:OE1	2.46	0.48
17:25:76:ASP:OD2	17:25:76:ASP:C	2.50	0.48
20:29:31:GLN:HA	20:29:36:GLN:HE22	1.78	0.48
23:31:11:GLU:HG2	23:31:25:ARG:O	2.12	0.48
30:5:98:PHE:CZ	30:5:102:LEU:HD21	2.48	0.48
32:9:5:LEU:HD12	32:9:17:ASP:O	2.13	0.48
34:R1:742:A:H2'	34:R1:743:A:H8	1.78	0.48
34:R1:886:A:H2	34:R1:887:U:H4'	1.78	0.48
34:R1:2110:G:C8	34:R1:2120:G:H5'	2.48	0.48
34:R1:2128:G:H2'	34:R1:2129:C:C6	2.48	0.48
34:R1:2328:A:H2'	34:R1:2329:U:H6	1.73	0.48
36:R3:922:G:H2'	36:R3:923:A:C8	2.48	0.48
36:R3:1307:U:H2'	36:R3:1308:U:C6	2.48	0.48
36:R3:1311:A:H2'	36:R3:1312:G:C8	2.48	0.48
3:11:40:ALA:N	34:R1:1071:G:OP2	2.46	0.48
3:11:46:ASP:O	3:11:48:ILE:N	2.45	0.48
3:11:54:ILE:HG22	3:11:55:PRO:CD	2.42	0.48
5:14:1:MET:HG3	34:R1:1665:A:H1'	1.95	0.48
20:29:26:PHE:HD1	20:29:29:ARG:HH21	1.62	0.48
21:3:130:GLN:OE1	34:R1:2578:G:N2	2.46	0.48
23:31:43:PHE:CE2	30:5:113:PHE:HB2	2.47	0.48
31:6:3:VAL:HG23	34:R1:2751:G:H4'	1.96	0.48
34:R1:161:A:H3'	34:R1:162:U:H5"	1.95	0.48
34:R1:1071:G:H1	34:R1:1100:C:N4	2.11	0.48
34:R1:1223:G:N2	34:R1:1226:A:OP2	2.41	0.48
34:R1:1419:A:H2'	34:R1:1421:G:C8	2.48	0.48
36:R3:337:G:H2'	36:R3:338:A:C8	2.48	0.48
36:R3:1250:A:H2'	36:R3:1251:A:C8	2.49	0.48
2:10:34:THR:O	2:10:37:LYS:HG2	2.14	0.48
3:11:10:LEU:HG	34:R1:1080:A:N1	2.27	0.48
5:14:58:LEU:HD11	5:14:86:LEU:CD1	2.44	0.48
6:15:78:ARG:HG3	6:15:78:ARG:HH11	1.77	0.48
9:18:92:PHE:HB2	9:18:117:PHE:CE2	2.48	0.48
25:33:32:LYS:HZ1	38:Y:10:GLN:HG2	1.78	0.48
34:R1:1542:U:H2'	34:R1:1543:G:O4'	2.13	0.48
36:R3:408:A:H2'	36:R3:409:U:H6	1.77	0.48
36:R3:563:A:H2'	36:R3:567:G:C8	2.48	0.48
36:R3:579:A:H2'	36:R3:580:C:H6	1.79	0.48
36:R3:1530:G:H2'	36:R3:1531:A:C8	2.45	0.48
3:11:45:THR:H	34:R1:1070:A:H1'	1.75	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:11:61:TYR:CE2	3:11:65:SER:HB2	2.49	0.48
3:11:105:LEU:HD22	3:11:139:VAL:HG11	1.94	0.48
5:14:71:ARG:HH12	5:14:106:GLU:HG3	1.77	0.48
7:16:34:LYS:HD3	17:25:81:PRO:O	2.13	0.48
9:18:66:GLY:HA2	9:18:102:ARG:NH2	2.25	0.48
14:22:6:LYS:NZ	14:22:8:ARG:HH11	2.12	0.48
29:4:147:LEU:HB3	29:4:186:VAL:HG12	1.94	0.48
32:9:80:ILE:HD11	32:9:146:VAL:HG12	1.95	0.48
34:R1:181:A:H2'	34:R1:182:A:C8	2.48	0.48
34:R1:1043:C:H2'	34:R1:1044:C:C6	2.48	0.48
34:R1:1412:U:H2'	34:R1:1413:A:H8	1.76	0.48
34:R1:1490:A:H5'	34:R1:1491:G:OP2	2.13	0.48
34:R1:1857:G:N2	34:R1:1884:G:H2'	2.28	0.48
36:R3:62:U:H2'	36:R3:63:C:C6	2.48	0.48
36:R3:1228:C:H2'	36:R3:1229:A:C8	2.47	0.48
38:Y:183:THR:HG23	38:Y:183:THR:O	2.13	0.48
38:Y:421:ILE:HG13	38:Y:424:ARG:NH2	2.27	0.48
3:11:32:VAL:H	34:R1:1087:G:P	2.37	0.48
3:11:39:LYS:CA	34:R1:1071:G:H3'	2.43	0.48
8:17:100:CYS:SG	8:17:101:GLY:N	2.87	0.48
11:2:182:LYS:HE2	11:2:265:PHE:HA	1.95	0.48
15:23:62:VAL:HG11	34:R1:1601:G:OP1	2.13	0.48
23:31:62:LYS:N	36:R3:1310:G:H22	2.09	0.48
25:33:36:LYS:O	34:R1:2383:G:C5	2.66	0.48
25:33:43:ARG:HG3	34:R1:2291:U:N3	2.28	0.48
34:R1:570:G:H2'	34:R1:2030:A:N7	2.29	0.48
34:R1:813:U:H2'	34:R1:814:C:H6	1.78	0.48
34:R1:924:G:H2'	34:R1:925:A:C8	2.48	0.48
34:R1:1913:A:N6	36:R3:1493:A:O2'	2.38	0.48
34:R1:2215:C:H2'	34:R1:2216:G:H8	1.78	0.48
34:R1:2567:G:H2'	34:R1:2568:U:C6	2.48	0.48
36:R3:72:A:N6	36:R3:94:G:O6	2.46	0.48
36:R3:217:C:H2'	36:R3:218:U:H6	1.78	0.48
36:R3:227:G:H2'	36:R3:228:A:H8	1.78	0.48
36:R3:599:C:H2'	36:R3:600:A:H8	1.78	0.48
36:R3:1157:A:N6	36:R3:1177:G:H1	2.12	0.48
36:R3:1437:A:H2'	36:R3:1438:G:H8	1.77	0.48
16:24:53:GLN:N	16:24:54:PRO:HD3	2.28	0.48
16:24:98:ASN:O	16:24:99:SER:OG	2.29	0.48
23:31:11:GLU:OE1	30:5:3:LEU:HB3	2.14	0.48
23:31:55:GLY:C	36:R3:1309:G:N7	2.67	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:31:63:ARG:CG	36:R3:1326:U:H2'	2.19	0.48
25:33:5:ARG:HD2	34:R1:2417:C:C6	2.48	0.48
26:34:31:LEU:HD22	26:34:42:LEU:HD13	1.94	0.48
34:R1:63:A:H2'	34:R1:64:A:H8	1.77	0.48
34:R1:481:G:H1'	34:R1:506:G:N2	2.28	0.48
34:R1:619:G:OP2	34:R1:620:G:N2	2.45	0.48
34:R1:645:C:H2'	34:R1:647:G:C8	2.49	0.48
34:R1:1522:A:H8	34:R1:1522:A:OP1	1.96	0.48
34:R1:1592:C:H2'	34:R1:1593:A:C8	2.49	0.48
36:R3:1316:G:N1	36:R3:1319:A:OP2	2.47	0.48
38:Y:40:LYS:HG3	38:Y:41:SER:N	2.28	0.48
4:13:115:GLY:HA2	4:13:118:MET:HE2	1.96	0.48
20:29:49:ASP:O	20:29:53:VAL:HG23	2.13	0.48
23:31:18:CYS:HB3	23:31:40:CYS:SG	2.53	0.48
30:5:99:PHE:C	30:5:99:PHE:CD2	2.87	0.48
34:R1:2129:C:N4	34:R1:2159:G:H1	2.11	0.48
34:R1:2313:C:H2'	34:R1:2314:A:H8	1.76	0.48
36:R3:509:A:H8	36:R3:543:U:O2'	1.95	0.48
36:R3:1042:A:H2'	36:R3:1043:G:C8	2.48	0.48
38:Y:110:GLU:O	38:Y:114:TYR:HB2	2.14	0.48
38:Y:224:ASP:OD2	38:Y:240:TYR:OH	2.24	0.48
2:10:58:THR:HB	2:10:81:LEU:HA	1.95	0.48
3:11:26:ALA:HB1	34:R1:1080:A:H8	1.79	0.48
3:11:30:GLN:HB2	34:R1:1087:G:OP1	2.14	0.48
6:15:82:LEU:HD12	6:15:120:VAL:HG21	1.95	0.48
7:16:29:GLY:N	7:16:104:GLU:OE2	2.37	0.48
8:17:78:LYS:NZ	8:17:78:LYS:HB3	2.28	0.48
9:18:12:THR:OG1	34:R1:2334:U:O4'	2.30	0.48
11:2:153:LEU:HD13	11:2:175:LEU:HD21	1.94	0.48
12:20:93:ILE:HG22	12:20:97:ILE:HD11	1.96	0.48
25:33:44:GLN:OE1	25:33:45:HIS:N	2.44	0.48
34:R1:272:A:H2'	34:R1:273:G:C8	2.49	0.48
34:R1:353:C:H2'	34:R1:354:A:H8	1.79	0.48
34:R1:900:A:H2'	34:R1:901:C:O4'	2.12	0.48
34:R1:909:A:H2'	34:R1:912:C:H5	1.79	0.48
34:R1:1830:C:H2'	34:R1:1831:G:H8	1.79	0.48
34:R1:1874:C:H2'	34:R1:1875:G:O4'	2.14	0.48
34:R1:2023:C:H2'	34:R1:2024:G:H8	1.78	0.48
35:R2:30:C:H2'	35:R2:31:C:H5'	1.95	0.48
36:R3:113:G:H2'	36:R3:114:U:C6	2.49	0.48
36:R3:591:U:H2'	36:R3:592:G:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:600:A:H2'	36:R3:601:G:C8	2.48	0.48
38:Y:440:SER:OG	61:Y:601:ATP:O3A	2.32	0.48
38:Y:452:LEU:O	38:Y:457:PRO:HD3	2.14	0.48
38:Y:504:ARG:HB3	38:Y:517:SER:HA	1.96	0.48
2:10:34:THR:HG23	2:10:37:LYS:HE2	1.95	0.48
8:17:90:ARG:HH12	8:17:116:VAL:HG11	1.78	0.48
11:2:216:ARG:NH1	34:R1:691:C:OP1	2.47	0.48
14:22:17:VAL:HG11	14:22:103:ILE:HG12	1.95	0.48
23:31:5:ILE:HG21	35:R2:43:C:OP1	2.14	0.48
27:35:4:LYS:NZ	34:R1:253:C:OP2	2.44	0.48
30:5:76:PHE:CG	34:R1:2311:A:H8	2.32	0.48
34:R1:361:G:OP2	34:R1:361:G:H8	1.96	0.48
34:R1:833:A:H2'	34:R1:834:G:C8	2.49	0.48
34:R1:1198:U:H2'	34:R1:1199:U:H6	1.78	0.48
34:R1:1482:G:C4	34:R1:1508:A:H2	2.32	0.48
34:R1:2086:U:H2'	34:R1:2087:G:C8	2.48	0.48
34:R1:2418:A:N7	34:R1:2419:U:N3	2.62	0.48
36:R3:151:A:C2	36:R3:152:A:H1'	2.49	0.48
36:R3:1324:A:H2'	36:R3:1325:C:O4'	2.14	0.48
9:18:76:LYS:HA	9:18:76:LYS:HD2	1.74	0.48
10:19:19:PHE:CE2	10:19:49:ILE:HD11	2.49	0.48
25:33:43:ARG:N	25:33:43:ARG:HD2	2.29	0.48
31:6:156:TYR:CE2	34:R1:2531:A:H5"	2.49	0.48
34:R1:29:U:H2'	34:R1:30:G:C8	2.49	0.48
34:R1:65:U:H2'	34:R1:66:C:H6	1.77	0.48
34:R1:281:C:N4	34:R1:359:G:H1	2.11	0.48
34:R1:721:A:H2'	34:R1:722:A:C8	2.49	0.48
34:R1:1103:A:H3'	34:R1:1104:C:C5'	2.44	0.48
34:R1:1181:U:H2'	34:R1:1182:G:C8	2.49	0.48
34:R1:1484:U:H2'	34:R1:1485:U:H6	1.76	0.48
34:R1:2488:G:H2'	34:R1:2489:U:C6	2.49	0.48
34:R1:2514:U:H2'	34:R1:2515:C:C6	2.49	0.48
34:R1:2783:U:H2'	34:R1:2784:U:C6	2.49	0.48
34:R1:2884:U:H2'	34:R1:2885:G:C8	2.48	0.48
36:R3:1261:A:H1'	36:R3:1283:U:H5"	1.96	0.48
36:R3:1409:C:H2'	36:R3:1410:A:H8	1.78	0.48
37:T:9:A:H5'	37:T:46:G:H21	1.79	0.48
38:Y:66:ILE:HG13	38:Y:178:LEU:HD13	1.95	0.48
1:1:218:MET:HA	34:R1:2174:C:O2'	2.13	0.47
2:10:77:VAL:O	2:10:84:TYR:OH	2.27	0.47
4:13:41:LYS:NZ	4:13:50:THR:O	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:24:91:LYS:NZ	34:R1:83:A:OP1	2.36	0.47
18:27:70:GLU:HB3	18:27:72:LYS:HZ1	1.73	0.47
25:33:28:THR:OG1	34:R1:2397:G:N1	2.28	0.47
29:4:19:PHE:CE1	29:4:109:LEU:HD23	2.49	0.47
34:R1:78:U:H2'	34:R1:79:C:C6	2.49	0.47
34:R1:579:G:H2'	34:R1:580:U:C6	2.49	0.47
34:R1:1167:C:H2'	34:R1:1168:G:H8	1.78	0.47
34:R1:1499:C:C2	34:R1:1500:G:C8	3.02	0.47
34:R1:1534:U:O2	34:R1:1538:G:N2	2.44	0.47
34:R1:1746:A:H2'	34:R1:1747:U:H6	1.78	0.47
34:R1:2345:G:O6	34:R1:2371:G:O6	2.32	0.47
35:R2:33:G:C6	35:R2:34:A:C6	3.02	0.47
36:R3:225:C:H3'	36:R3:226:G:H5"	1.96	0.47
36:R3:878:A:H2'	36:R3:879:C:C6	2.49	0.47
36:R3:1386:G:H2'	36:R3:1387:G:H8	1.79	0.47
3:11:50:LYS:O	3:11:50:LYS:HD3	2.15	0.47
18:27:18:ALA:O	18:27:20:ARG:NH1	2.46	0.47
29:4:71:GLY:H	34:R1:674:G:H5"	1.78	0.47
33:M:3:G:H22	37:T:36:C:H42	1.62	0.47
34:R1:558:U:H2'	34:R1:559:G:C8	2.48	0.47
34:R1:558:U:H2'	34:R1:559:G:H8	1.78	0.47
34:R1:753:A:H2'	34:R1:754:U:H6	1.79	0.47
34:R1:1373:A:H5'	34:R1:2212:A:H1'	1.96	0.47
36:R3:297:G:N2	36:R3:300:A:OP2	2.47	0.47
36:R3:709:U:C2	36:R3:710:G:C8	3.02	0.47
36:R3:1118:U:H2'	36:R3:1119:C:C6	2.48	0.47
3:11:46:ASP:H	34:R1:1070:A:C1'	2.28	0.47
16:24:10:VAL:HG12	16:24:71:ILE:HA	1.95	0.47
16:24:11:ILE:HD11	16:24:72:PHE:HD1	1.78	0.47
23:31:56:ARG:CD	23:31:60:PHE:CZ	2.97	0.47
25:33:38:PHE:CE1	34:R1:2290:G:C4	2.98	0.47
30:5:42:ALA:N	30:5:48:LEU:HD11	2.29	0.47
30:5:75:GLY:HA3	34:R1:2310:C:N3	2.29	0.47
34:R1:185:G:H2'	34:R1:186:G:H8	1.79	0.47
34:R1:1152:C:H2'	34:R1:1153:C:H6	1.78	0.47
34:R1:2116:G:H22	34:R1:2162:G:P	2.36	0.47
34:R1:2515:C:H2'	34:R1:2516:A:H8	1.79	0.47
36:R3:501:C:O2	36:R3:549:C:O2'	2.30	0.47
36:R3:1130:A:C4	36:R3:1131:G:C8	3.02	0.47
36:R3:1479:C:H2'	36:R3:1480:A:C8	2.49	0.47
38:Y:142:VAL:HG22	38:Y:193:TRP:CZ3	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Y:461:ILE:HA	38:Y:489:ILE:O	2.14	0.47
3:11:10:LEU:HG	34:R1:1080:A:C2	2.49	0.47
3:11:52:LEU:HD22	34:R1:1061:U:O4	2.14	0.47
5:14:56:ASP:OD1	5:14:56:ASP:N	2.48	0.47
8:17:35:LYS:HZ3	8:17:110:MET:HG2	1.79	0.47
11:2:220:ARG:HH21	11:2:223:ALA:HB2	1.80	0.47
23:31:30:HIS:NE2	23:31:32:LEU:HD21	2.30	0.47
23:31:56:ARG:HD2	23:31:60:PHE:CE2	2.49	0.47
25:33:43:ARG:NH1	34:R1:2341:G:H1	2.13	0.47
29:4:35:TYR:OH	29:4:176:ASP:OD2	2.17	0.47
34:R1:26:G:H1'	34:R1:514:A:N6	2.29	0.47
34:R1:302:C:H2'	34:R1:303:G:H8	1.78	0.47
34:R1:458:G:O2'	34:R1:469:G:O6	2.26	0.47
34:R1:628:G:H2'	34:R1:629:G:H8	1.80	0.47
34:R1:967:U:H2'	34:R1:968:C:C6	2.49	0.47
34:R1:1544:A:H2'	34:R1:1545:A:C8	2.48	0.47
34:R1:2674:G:H2'	34:R1:2675:A:H8	1.79	0.47
36:R3:482:A:H2'	36:R3:483:C:O4'	2.14	0.47
38:Y:64:GLU:HG3	38:Y:175:ASP:OD1	2.13	0.47
2:10:14:GLU:HB3	34:R1:1107:G:O2'	2.13	0.47
3:11:19:PRO:HD2	3:11:41:PHE:HD2	1.80	0.47
3:11:37:PHE:CD1	34:R1:1088:A:H8	2.33	0.47
4:13:24:THR:OG1	4:13:27:ARG:HB2	2.14	0.47
13:21:58:VAL:O	13:21:60:LYS:NZ	2.41	0.47
25:33:32:LYS:NZ	25:33:49:LYS:HE3	2.30	0.47
30:5:100:GLU:OE1	30:5:101:ARG:HD3	2.14	0.47
30:5:133:GLU:HG3	30:5:135:ILE:HB	1.97	0.47
34:R1:594:U:H2'	34:R1:595:C:C6	2.49	0.47
34:R1:1080:A:C2	34:R1:1081:U:C2	3.03	0.47
34:R1:1592:C:H2'	34:R1:1593:A:H8	1.80	0.47
34:R1:2134:A:H62	34:R1:2156:G:N2	2.12	0.47
34:R1:2341:G:H2'	34:R1:2342:C:C6	2.50	0.47
36:R3:471:U:H2'	36:R3:472:U:H6	1.79	0.47
38:Y:215:LEU:O	38:Y:219:CYS:HB2	2.14	0.47
2:10:116:GLU:OE1	2:10:116:GLU:N	2.37	0.47
3:11:41:PHE:CG	3:11:41:PHE:O	2.67	0.47
3:11:55:PRO:CG	3:11:71:LYS:HB2	2.42	0.47
3:11:71:LYS:C	3:11:115:ASP:HB3	2.35	0.47
6:15:42:SER:OG	34:R1:672:C:OP2	2.18	0.47
11:2:233:GLY:HA3	34:R1:2598:A:H5"	1.97	0.47
23:31:10:GLU:N	30:5:93:GLU:OE2	2.36	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:31:61:ASN:HB3	36:R3:1312:G:C5	2.50	0.47
23:31:64:PHE:CE1	36:R3:1269:A:O4'	2.67	0.47
25:33:45:HIS:HA	34:R1:2289:G:N7	2.30	0.47
27:35:7:ARG:NH2	34:R1:244:A:OP2	2.36	0.47
31:6:156:TYR:CE2	34:R1:2531:A:H4'	2.50	0.47
34:R1:667:U:H2'	34:R1:668:A:O4'	2.14	0.47
34:R1:1141:U:H4'	34:R1:1142:A:O4'	2.14	0.47
34:R1:1548:A:H2'	34:R1:1549:A:H8	1.80	0.47
34:R1:2315:G:N1	34:R1:2316:G:C6	2.83	0.47
34:R1:2321:U:H3'	34:R1:2322:A:H5"	1.97	0.47
34:R1:2591:C:H2'	34:R1:2592:G:H8	1.80	0.47
35:R2:28:C:H2'	35:R2:29:A:H8	1.79	0.47
36:R3:362:G:N1	36:R3:365:U:OP2	2.48	0.47
36:R3:687:A:N1	36:R3:700:G:O2'	2.42	0.47
2:10:70:GLU:CG	2:10:71:CYS:N	2.76	0.47
3:11:55:PRO:HD3	3:11:72:THR:C	2.35	0.47
4:13:37:ARG:HH11	4:13:110:PRO:HG3	1.80	0.47
6:15:85:VAL:HG12	6:15:86:GLU:HB2	1.96	0.47
10:19:61:ARG:NH1	10:19:70:GLU:OE2	2.48	0.47
11:2:4:LYS:NZ	11:2:13:ARG:O	2.47	0.47
13:21:68:ARG:HB2	13:21:90:ARG:HH21	1.79	0.47
17:25:75:GLN:HB2	17:25:92:VAL:HG23	1.97	0.47
18:27:74:PRO:HD3	35:R2:12:C:H42	1.80	0.47
19:28:39:VAL:HG12	19:28:42:GLU:H	1.79	0.47
20:29:9:LYS:O	20:29:13:GLU:N	2.37	0.47
20:29:46:VAL:O	20:29:50:VAL:HG12	2.13	0.47
21:3:45:TYR:OH	34:R1:2636:C:O2'	2.25	0.47
23:31:11:GLU:HA	23:31:26:SER:CA	2.45	0.47
23:31:28:VAL:HG22	30:5:97:GLU:OE2	2.14	0.47
25:33:4:ILE:HB	34:R1:2400:G:C6	2.49	0.47
25:33:27:ARG:HD2	25:33:27:ARG:C	2.35	0.47
27:35:54:LEU:O	27:35:58:ILE:HG13	2.15	0.47
29:4:118:LEU:HD12	29:4:186:VAL:HG23	1.96	0.47
29:4:150:THR:O	29:4:172:ALA:N	2.48	0.47
30:5:159:ALA:HB1	30:5:164:GLU:HG3	1.96	0.47
34:R1:1070:A:H2	34:R1:1097:U:H4'	1.78	0.47
34:R1:1275:A:N1	34:R1:1295:C:O2'	2.46	0.47
34:R1:1585:C:H2'	34:R1:1586:A:O4'	2.15	0.47
34:R1:2296:U:N3	34:R1:2333:A:H2	2.10	0.47
34:R1:2340:A:H2'	34:R1:2341:G:H8	1.79	0.47
34:R1:2398:U:H2'	34:R1:2399:G:N7	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:35:G:H2'	36:R3:36:C:C6	2.49	0.47
36:R3:321:A:H2'	36:R3:322:C:C6	2.50	0.47
36:R3:518:C:H4'	36:R3:519:C:H5"	1.96	0.47
36:R3:1119:C:H2'	36:R3:1120:C:H6	1.80	0.47
36:R3:1130:A:N6	36:R3:1144:G:H1'	2.30	0.47
36:R3:1316:G:H22	36:R3:1319:A:P	2.37	0.47
38:Y:179:LEU:HD21	38:Y:207:ILE:HG12	1.96	0.47
3:11:34:ILE:HD12	3:11:34:ILE:HG23	1.60	0.47
3:11:35:MET:HB3	34:R1:1089:A:H8	1.78	0.47
3:11:36:GLU:O	34:R1:1071:G:H4'	2.14	0.47
21:3:49:GLN:NE2	34:R1:2635:A:O2'	2.46	0.47
25:33:27:ARG:NH2	34:R1:2397:G:H1'	2.30	0.47
25:33:33:LEU:N	25:33:33:LEU:HD12	2.30	0.47
29:4:14:VAL:HG11	29:4:19:PHE:CD2	2.49	0.47
30:5:92:GLY:O	30:5:95:MET:HB3	2.13	0.47
33:M:5:A:H3'	33:M:6:A:H2'	1.97	0.47
34:R1:93:G:H2'	34:R1:94:A:C8	2.49	0.47
34:R1:171:U:H2'	34:R1:172:A:C8	2.48	0.47
34:R1:351:C:H2'	34:R1:352:A:C8	2.48	0.47
34:R1:740:C:H5'	34:R1:1784:A:H3'	1.96	0.47
34:R1:1440:U:H2'	34:R1:1441:G:C8	2.50	0.47
14:22:47:VAL:HA	14:22:50:VAL:HG12	1.97	0.47
21:3:118:PHE:O	34:R1:1654:A:O2'	2.33	0.47
23:31:65:ASN:ND2	36:R3:1267:C:C4	2.83	0.47
31:6:154:GLU:OE1	31:6:154:GLU:N	2.47	0.47
34:R1:576:U:H2'	34:R1:577:G:C8	2.50	0.47
34:R1:581:C:H2'	34:R1:582:A:C8	2.50	0.47
34:R1:727:A:OP1	34:R1:1431:A:O2'	2.26	0.47
34:R1:825:A:H2'	34:R1:826:U:C6	2.49	0.47
34:R1:1080:A:C6	34:R1:1081:U:C4	3.02	0.47
34:R1:1172:C:H2'	34:R1:1173:U:C5	2.50	0.47
34:R1:1464:G:H2'	34:R1:1465:G:H8	1.80	0.47
34:R1:2144:G:H1'	34:R1:2148:G:C6	2.50	0.47
34:R1:2900:A:H2'	34:R1:2901:C:C6	2.49	0.47
36:R3:269:C:H2'	36:R3:270:A:C8	2.50	0.47
36:R3:978:A:C2	36:R3:1319:A:C4	3.03	0.47
36:R3:987:G:H2'	36:R3:988:G:H8	1.80	0.47
38:Y:261:GLN:O	38:Y:265:LEU:HG	2.15	0.47
38:Y:414:ASP:OD2	38:Y:416:GLN:HB3	2.15	0.47
1:1:197:LYS:HG2	1:1:208:TYR:OH	2.16	0.47
7:16:2:LEU:HA	7:16:2:LEU:HD23	1.75	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:2:250:GLN:NE2	11:2:251:THR:O	2.48	0.47
17:25:8:VAL:HA	17:25:40:ILE:HD12	1.97	0.47
23:31:11:GLU:HA	23:31:26:SER:HA	1.96	0.47
29:4:147:LEU:HG	29:4:149:ILE:HG23	1.97	0.47
31:6:126:THR:OG1	31:6:129:GLU:HG3	2.15	0.47
34:R1:1038:G:H2'	34:R1:1039:A:C8	2.50	0.47
34:R1:2315:G:C6	34:R1:2316:G:O6	2.68	0.47
34:R1:2707:U:H2'	34:R1:2708:G:H8	1.79	0.47
36:R3:109:A:H5'	36:R3:110:C:H5	1.80	0.47
36:R3:673:A:H2'	36:R3:674:G:H8	1.73	0.47
36:R3:1329:A:H2'	36:R3:1330:U:C6	2.47	0.47
36:R3:1405:G:N2	36:R3:1518:A:H8	2.13	0.47
38:Y:406:SER:HB3	38:Y:409:LYS:NZ	2.30	0.47
2:10:12:VAL:H	34:R1:1108:U:C5'	2.27	0.46
3:11:42:ASN:O	34:R1:1069:A:H8	1.97	0.46
4:13:76:HIS:NE2	4:13:85:LYS:HB2	2.30	0.46
7:16:78:LEU:HD23	7:16:79:ALA:CB	2.45	0.46
8:17:90:ARG:HH12	8:17:116:VAL:CG1	2.28	0.46
12:20:34:ALA:O	12:20:38:VAL:HG23	2.14	0.46
21:3:173:GLN:HE21	34:R1:2772:C:H5'	1.80	0.46
23:31:56:ARG:O	23:31:60:PHE:CD2	2.68	0.46
23:31:60:PHE:O	23:31:63:ARG:HB3	2.16	0.46
27:35:33:THR:OG1	34:R1:2420:C:OP1	2.21	0.46
34:R1:569:U:O2'	34:R1:983:A:N1	2.42	0.46
34:R1:1172:C:H2'	34:R1:1173:U:C6	2.50	0.46
34:R1:1295:C:H2'	34:R1:1296:G:H8	1.79	0.46
34:R1:1310:G:N2	34:R1:1313:U:C4	2.83	0.46
34:R1:2590:A:H2'	34:R1:2591:C:C6	2.49	0.46
34:R1:2897:U:H2'	34:R1:2898:U:C6	2.51	0.46
36:R3:208:U:HO2'	36:R3:211:G:H1	1.62	0.46
36:R3:459:A:H2'	36:R3:460:A:H8	1.80	0.46
36:R3:718:A:H2'	36:R3:718:A:N3	2.30	0.46
36:R3:1074:G:H2'	36:R3:1075:U:C6	2.50	0.46
36:R3:1405:G:H21	36:R3:1518:A:H8	1.61	0.46
38:Y:179:LEU:HD23	38:Y:206:ILE:O	2.16	0.46
38:Y:403:GLU:OE1	38:Y:403:GLU:N	2.33	0.46
8:17:39:PRO:HG2	34:R1:1651:G:H4'	1.96	0.46
11:2:120:ASP:HB2	32:9:91:PHE:HE1	1.80	0.46
15:23:56:GLU:N	15:23:56:GLU:OE1	2.48	0.46
21:3:58:ASN:ND2	21:3:58:ASN:O	2.47	0.46
25:33:27:ARG:NH2	34:R1:2397:G:N3	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:33:38:PHE:CE2	34:R1:2290:G:H2'	2.50	0.46
34:R1:843:G:H2'	34:R1:844:A:C8	2.50	0.46
34:R1:1085:A:N1	34:R1:1086:A:H8	2.12	0.46
34:R1:1152:C:H2'	34:R1:1153:C:C6	2.50	0.46
34:R1:2047:C:H2'	34:R1:2048:G:C8	2.50	0.46
34:R1:2333:A:H1'	34:R1:2335:A:H1'	1.97	0.46
34:R1:2421:G:H5"	34:R1:2422:C:OP2	2.16	0.46
34:R1:2848:G:O2'	34:R1:2868:A:N6	2.49	0.46
36:R3:284:C:H2'	36:R3:285:C:C6	2.50	0.46
36:R3:499:A:C6	36:R3:547:A:C8	3.03	0.46
36:R3:1313:U:H2'	36:R3:1314:C:C5	2.50	0.46
37:T:27:C:H2'	37:T:28:C:H6	1.80	0.46
38:Y:102:ILE:HD12	38:Y:116:VAL:HG22	1.96	0.46
38:Y:440:SER:N	38:Y:443:GLU:OE2	2.49	0.46
10:19:49:ILE:HD13	10:19:58:PHE:HB3	1.97	0.46
21:3:38:LYS:HG2	21:3:43:ASP:OD2	2.16	0.46
23:31:23:LYS:HE3	23:31:23:LYS:HB3	1.68	0.46
25:33:27:ARG:NH2	34:R1:2397:G:C4	2.83	0.46
30:5:97:GLU:O	30:5:101:ARG:HG2	2.16	0.46
31:6:136:ASP:OD1	31:6:136:ASP:N	2.48	0.46
34:R1:760:G:H2'	34:R1:761:A:O4'	2.16	0.46
34:R1:813:U:H2'	34:R1:814:C:C6	2.50	0.46
34:R1:878:A:H2'	34:R1:879:G:O4'	2.15	0.46
34:R1:1167:C:H2'	34:R1:1168:G:C8	2.50	0.46
34:R1:1174:U:O2'	34:R1:1176:U:O4'	2.25	0.46
34:R1:2785:C:H2'	34:R1:2786:U:C6	2.49	0.46
36:R3:223:A:H2'	36:R3:224:U:C6	2.51	0.46
36:R3:419:C:O2	36:R3:425:G:N2	2.48	0.46
36:R3:662:U:H2'	36:R3:663:A:C8	2.51	0.46
37:T:25:C:C2	37:T:26:A:C8	3.04	0.46
38:Y:45:LYS:HB3	38:Y:45:LYS:HE2	1.82	0.46
38:Y:65:ARG:HG3	38:Y:174:PRO:HB3	1.97	0.46
38:Y:360:THR:HA	38:Y:363:LYS:HD3	1.97	0.46
38:Y:425:LEU:HD21	38:Y:446:ARG:O	2.15	0.46
1:1:17:ALA:HB3	34:R1:2105:U:H5"	1.96	0.46
2:10:65:GLU:HB3	34:R1:1107:G:N7	2.30	0.46
3:11:42:ASN:C	34:R1:1071:G:OP1	2.50	0.46
14:22:62:ASP:OD2	14:22:63:GLY:N	2.48	0.46
21:3:184:ARG:O	21:3:186:LEU:HD13	2.15	0.46
23:31:3:LYS:HD3	35:R2:47:C:H42	1.80	0.46
28:36:12:ARG:HD2	34:R1:1102:C:H1'	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:4:7:ASP:OD1	29:4:7:ASP:N	2.39	0.46
34:R1:271:G:O2'	34:R1:272:A:H5"	2.16	0.46
34:R1:926:G:H2'	34:R1:927:A:H8	1.77	0.46
34:R1:974:G:H1'	34:R1:975:A:C8	2.50	0.46
34:R1:1054:A:H2'	34:R1:1055:G:O4'	2.14	0.46
34:R1:1173:U:O2	34:R1:1176:U:N3	2.48	0.46
34:R1:1500:G:H2'	34:R1:1501:G:H8	1.80	0.46
34:R1:2143:C:H2'	34:R1:2144:G:C8	2.51	0.46
34:R1:2553:G:N2	34:R1:2583:G:H1'	2.30	0.46
36:R3:416:G:H8	36:R3:416:G:O5'	1.98	0.46
36:R3:636:U:H2'	36:R3:637:C:C6	2.51	0.46
36:R3:1017:U:H2'	36:R3:1018:G:C8	2.50	0.46
36:R3:1219:A:H2'	36:R3:1220:G:C8	2.50	0.46
1:1:42:VAL:HB	1:1:216:THR:HA	1.97	0.46
2:10:5:LEU:HD23	2:10:5:LEU:N	2.23	0.46
2:10:51:TYR:H	2:10:51:TYR:HD1	1.64	0.46
3:11:44:LYS:H	34:R1:1071:G:P	2.36	0.46
3:11:49:GLU:HB2	34:R1:1061:U:C2	2.51	0.46
8:17:100:CYS:HA	24:32:42:ILE:HG12	1.98	0.46
15:23:61:LEU:HD12	15:23:61:LEU:HA	1.65	0.46
17:25:45:ASP:O	17:25:49:ASN:ND2	2.38	0.46
29:4:142:ALA:O	29:4:143:LEU:HD12	2.15	0.46
30:5:65:LEU:HB3	35:R2:42:C:C6	2.51	0.46
34:R1:215:G:O3'	34:R1:216:A:H4'	2.15	0.46
34:R1:831:G:H2'	34:R1:832:U:O4'	2.16	0.46
34:R1:1104:C:H2'	34:R1:1105:U:C6	2.50	0.46
34:R1:1360:G:H22	34:R1:2214:C:H42	1.61	0.46
34:R1:1511:G:H2'	34:R1:1512:C:C6	2.51	0.46
34:R1:1715:G:HO2'	34:R1:1716:U:H6	1.63	0.46
34:R1:2092:U:OP1	34:R1:2199:A:O2'	2.28	0.46
34:R1:2526:G:H5'	34:R1:2527:C:OP2	2.15	0.46
35:R2:13:G:O2'	35:R2:15:A:H2'	2.15	0.46
36:R3:448:A:H3'	36:R3:449:G:H8	1.79	0.46
36:R3:902:G:H2'	36:R3:903:G:H8	1.80	0.46
36:R3:1427:C:H2'	36:R3:1428:A:H8	1.79	0.46
38:Y:265:LEU:HD12	38:Y:289:ILE:HG13	1.97	0.46
2:10:12:VAL:O	2:10:15:VAL:HG12	2.15	0.46
2:10:23:LEU:HD23	2:10:95:LEU:HD23	1.96	0.46
4:13:59:ALA:HB3	4:13:126:ALA:HA	1.98	0.46
12:20:5:ARG:H	12:20:5:ARG:HG2	1.57	0.46
16:24:67:SER:OG	16:24:67:SER:O	2.33	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:31:64:PHE:CZ	36:R3:1269:A:O4'	2.69	0.46
25:33:45:HIS:CD2	34:R1:2289:G:OP2	2.69	0.46
34:R1:95:A:H2'	34:R1:96:C:O4'	2.16	0.46
34:R1:1725:U:H2'	34:R1:1726:C:H6	1.80	0.46
34:R1:2380:C:H5'	34:R1:2381:A:OP2	2.15	0.46
35:R2:115:A:H2'	35:R2:116:G:H8	1.81	0.46
36:R3:437:U:O4	36:R3:495:A:N7	2.49	0.46
38:Y:32:LEU:HD23	38:Y:208:ILE:HD11	1.96	0.46
38:Y:182:PRO:HG2	38:Y:214:PHE:CE2	2.51	0.46
38:Y:440:SER:HB3	38:Y:443:GLU:HG3	1.98	0.46
1:1:47:ASN:ND2	34:R1:2177:C:O3'	2.42	0.46
12:20:35:PHE:O	12:20:39:ILE:HG12	2.15	0.46
12:20:58:GLN:NE2	34:R1:1009:A:H5'	2.31	0.46
21:3:36:GLN:HG3	21:3:49:GLN:HB3	1.97	0.46
29:4:180:LEU:HD23	29:4:186:VAL:HG11	1.98	0.46
34:R1:580:U:H2'	34:R1:581:C:H6	1.81	0.46
34:R1:1085:A:C6	34:R1:1086:A:C8	3.04	0.46
34:R1:1213:A:H62	34:R1:1236:G:H1'	1.80	0.46
34:R1:1528:A:H2'	34:R1:1529:G:O4'	2.16	0.46
34:R1:2345:G:O2'	34:R1:2381:A:H2'	2.14	0.46
37:T:27:C:H2'	37:T:28:C:C6	2.51	0.46
38:Y:39:GLY:HA2	61:Y:601:ATP:PA	2.56	0.46
2:10:65:GLU:HB3	34:R1:1107:G:C5	2.50	0.46
4:13:52:ASP:OD1	4:13:52:ASP:N	2.49	0.46
6:15:55:MET:HG3	6:15:56:PRO:HD2	1.96	0.46
11:2:144:GLU:HB3	11:2:151:GLY:N	2.31	0.46
12:20:51:GLN:O	12:20:55:GLN:HG3	2.16	0.46
19:28:5:GLN:O	19:28:70:LEU:HD11	2.16	0.46
20:29:11:VAL:HA	20:29:14:LEU:HD12	1.98	0.46
22:30:3:THR:HB	22:30:36:GLU:OE2	2.16	0.46
25:33:3:GLY:N	34:R1:2400:G:N3	2.62	0.46
25:33:5:ARG:HD2	34:R1:2417:C:C5	2.51	0.46
30:5:39:VAL:O	34:R1:2306:C:N4	2.46	0.46
32:9:44:ILE:HD12	32:9:44:ILE:H	1.81	0.46
34:R1:18:U:H2'	34:R1:19:A:H8	1.81	0.46
34:R1:415:A:H2'	34:R1:416:U:H6	1.81	0.46
34:R1:1581:G:H2'	34:R1:1582:C:C6	2.50	0.46
34:R1:2030:A:C2	34:R1:2499:C:H5"	2.50	0.46
34:R1:2547:A:H2'	34:R1:2548:U:C6	2.51	0.46
36:R3:257:G:H2'	36:R3:258:G:C8	2.51	0.46
36:R3:721:G:H4'	36:R3:722:G:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:1157:A:C2	36:R3:1181:G:C4	3.03	0.46
36:R3:1266:G:O2'	36:R3:1268:G:O6	2.33	0.46
38:Y:89:HIS:CD2	38:Y:91:GLU:HG3	2.50	0.46
1:1:211:LYS:HZ1	34:R1:2177:C:H5"	1.80	0.46
2:10:8:LYS:HD3	34:R1:1108:U:H5	1.81	0.46
5:14:23:LYS:HD3	5:14:23:LYS:HA	1.71	0.46
5:14:49:ARG:H	5:14:49:ARG:HD3	1.81	0.46
11:2:143:VAL:HB	11:2:153:LEU:HB2	1.98	0.46
16:24:47:PRO:HG3	34:R1:484:C:OP1	2.16	0.46
23:31:28:VAL:HG21	30:5:101:ARG:NH2	2.31	0.46
23:31:63:ARG:HG3	36:R3:1327:C:C5'	2.46	0.46
29:4:123:LYS:HD3	29:4:123:LYS:HA	1.78	0.46
30:5:41:GLU:O	30:5:48:LEU:HD21	2.16	0.46
34:R1:279:A:C6	34:R1:362:A:H4'	2.51	0.46
34:R1:417:C:H2'	34:R1:418:C:C6	2.51	0.46
34:R1:567:U:H2'	34:R1:568:U:O4'	2.16	0.46
34:R1:1419:A:O2'	34:R1:1420:A:H5"	2.16	0.46
34:R1:2312:U:O3'	34:R1:2313:C:O4'	2.34	0.46
34:R1:2349:G:H2'	34:R1:2350:C:O4'	2.16	0.46
35:R2:45:A:H2'	35:R2:46:A:C8	2.51	0.46
36:R3:211:G:N2	36:R3:212:G:N7	2.64	0.46
36:R3:1391:U:H2'	36:R3:1392:G:H8	1.79	0.46
38:Y:335:PHE:CZ	38:Y:361:LEU:HB2	2.50	0.46
1:1:205:LYS:HA	1:1:205:LYS:HD3	1.77	0.46
3:11:52:LEU:O	34:R1:1061:U:H2'	2.16	0.46
4:13:4:PHE:CD2	12:20:99:VAL:HG11	2.51	0.46
14:22:94:ASP:OD2	34:R1:2013:A:O2'	2.29	0.46
22:30:6:ILE:HB	22:30:35:VAL:HG12	1.98	0.46
23:31:11:GLU:OE2	30:5:4:HIS:HB2	2.16	0.46
23:31:64:PHE:CD2	36:R3:1326:U:O2'	2.67	0.46
30:5:35:LEU:HA	30:5:35:LEU:HD13	1.73	0.46
34:R1:24:G:H2'	34:R1:25:U:C6	2.51	0.46
34:R1:1153:C:H2'	34:R1:1154:G:O4'	2.16	0.46
34:R1:1910:G:C2	34:R1:1921:G:C2	3.04	0.46
34:R1:2497:A:OP2	34:R1:2497:A:H8	1.99	0.46
34:R1:2677:G:H2'	34:R1:2678:C:C6	2.51	0.46
35:R2:4:C:H2'	35:R2:5:U:C6	2.51	0.46
36:R3:227:G:H2'	36:R3:228:A:C8	2.51	0.46
36:R3:417:G:N1	36:R3:426:U:C2	2.83	0.46
36:R3:420:U:O2'	36:R3:424:G:N2	2.49	0.46
36:R3:606:G:N2	36:R3:632:U:OP1	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:709:U:H2'	36:R3:710:G:H8	1.80	0.46
36:R3:1157:A:N7	36:R3:1180:A:N6	2.63	0.46
36:R3:1242:G:O6	36:R3:1295:U:O4	2.34	0.46
36:R3:1258:G:N2	36:R3:1279:G:H22	2.14	0.46
36:R3:1297:G:H4'	36:R3:1298:U:O5'	2.16	0.46
36:R3:1412:C:H2'	36:R3:1413:A:H8	1.81	0.46
37:T:74:C:H2'	37:T:75:C:C6	2.51	0.46
1:1:30:LEU:HD11	1:1:42:VAL:HG21	1.98	0.45
3:11:16:MET:CB	34:R1:1064:C:H5"	2.45	0.45
3:11:37:PHE:CA	34:R1:1071:G:H5"	2.46	0.45
6:15:112:LEU:O	34:R1:627:A:N6	2.40	0.45
9:18:11:ALA:HB2	9:18:96:GLY:N	2.30	0.45
12:20:46:TYR:OH	34:R1:992:C:OP1	2.26	0.45
15:23:65:GLY:HA3	15:23:77:ARG:O	2.17	0.45
23:31:6:HIS:CE1	35:R2:44:G:H5"	2.51	0.45
29:4:105:LEU:HD23	29:4:105:LEU:HA	1.78	0.45
30:5:36:ASN:ND2	30:5:87:LYS:NZ	2.65	0.45
32:9:112:LYS:H	32:9:112:LYS:HG2	1.51	0.45
34:R1:955:U:H5	34:R1:962:G:H1	1.64	0.45
34:R1:1622:G:H2'	34:R1:1623:G:H8	1.81	0.45
34:R1:2315:G:C6	34:R1:2316:G:C6	3.04	0.45
36:R3:504:C:C2	36:R3:542:G:N2	2.84	0.45
36:R3:511:C:O2'	36:R3:512:U:O5'	2.33	0.45
36:R3:1144:G:H2'	36:R3:1145:A:C8	2.50	0.45
37:T:43:G:H2'	37:T:44:G:C8	2.51	0.45
38:Y:182:PRO:HG2	38:Y:214:PHE:HE2	1.81	0.45
1:1:48:LEU:HD13	1:1:48:LEU:HA	1.85	0.45
18:27:43:THR:H	34:R1:2331:G:H4'	1.80	0.45
22:30:10:ARG:NH2	22:30:52:PHE:O	2.49	0.45
23:31:58:ASP:N	36:R3:1310:G:O6	2.46	0.45
24:32:3:GLN:HE21	24:32:6:LYS:HA	1.81	0.45
30:5:149:ARG:HA	34:R1:2305:U:C2	2.51	0.45
34:R1:29:U:H2'	34:R1:30:G:H8	1.81	0.45
34:R1:48:G:N2	34:R1:177:G:OP2	2.49	0.45
34:R1:52:A:OP2	34:R1:117:G:N1	2.39	0.45
34:R1:582:A:H2'	34:R1:583:G:H8	1.81	0.45
34:R1:1064:C:H3'	34:R1:1066:U:OP2	2.15	0.45
34:R1:1316:U:H2'	34:R1:1317:G:C8	2.51	0.45
34:R1:1733:G:H2'	34:R1:1734:G:C8	2.46	0.45
34:R1:1794:A:H2'	34:R1:1795:C:H6	1.80	0.45
34:R1:1873:G:H2'	34:R1:1874:C:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:2787:C:H2'	34:R1:2788:C:H6	1.81	0.45
36:R3:222:C:H2'	36:R3:223:A:C8	2.50	0.45
36:R3:386:C:H2'	36:R3:387:U:O4'	2.16	0.45
36:R3:838:G:H2'	36:R3:839:C:C6	2.51	0.45
36:R3:1287:A:H2'	36:R3:1288:A:H8	1.79	0.45
38:Y:342:LEU:HD23	38:Y:342:LEU:H	1.81	0.45
3:11:73:PRO:HB2	3:11:78:LEU:HB2	1.98	0.45
7:16:59:ARG:NE	7:16:59:ARG:HA	2.31	0.45
7:16:135:VAL:HB	17:25:57:TYR:CD2	2.52	0.45
29:4:141:MET:SD	29:4:141:MET:O	2.74	0.45
32:9:126:GLY:H	32:9:146:VAL:CG2	2.30	0.45
34:R1:162:U:O2'	34:R1:163:C:H5'	2.16	0.45
34:R1:1009:A:H2'	34:R1:1010:A:C8	2.51	0.45
34:R1:1057:A:H2'	34:R1:1058:U:C6	2.50	0.45
34:R1:1204:A:N6	34:R1:1242:U:O4	2.48	0.45
34:R1:1482:G:H2'	34:R1:1483:G:C8	2.49	0.45
34:R1:1483:G:H1	34:R1:1506:U:H3	1.64	0.45
36:R3:1070:U:H2'	36:R3:1071:C:H6	1.81	0.45
38:Y:413:ASP:OD1	38:Y:414:ASP:N	2.41	0.45
3:11:21:PRO:HA	34:R1:1077:A:O2'	2.16	0.45
7:16:29:GLY:HA2	7:16:106:ASP:OD2	2.16	0.45
18:27:65:GLY:HA2	18:27:85:GLU:O	2.16	0.45
23:31:61:ASN:O	36:R3:1311:A:N3	2.50	0.45
28:36:30:GLU:OE2	28:36:33:HIS:CG	2.69	0.45
31:6:41:GLU:HB2	31:6:54:ARG:NE	2.31	0.45
34:R1:780:G:C6	34:R1:782:A:N1	2.84	0.45
34:R1:1182:G:H2'	34:R1:1183:U:O4'	2.16	0.45
34:R1:1464:G:H2'	34:R1:1465:G:C8	2.51	0.45
34:R1:1511:G:H2'	34:R1:1512:C:H6	1.81	0.45
34:R1:1593:A:H2'	34:R1:1594:U:O4'	2.16	0.45
34:R1:1873:G:H2'	34:R1:1874:C:C6	2.51	0.45
34:R1:2100:G:C6	34:R1:2190:G:C5	3.03	0.45
34:R1:2157:G:H2'	34:R1:2158:A:C4	2.51	0.45
34:R1:2505:G:O2'	34:R1:2506:U:H5'	2.16	0.45
36:R3:712:A:H2'	36:R3:713:G:C8	2.51	0.45
36:R3:1265:C:H2'	36:R3:1266:G:C8	2.51	0.45
1:1:47:ASN:OD1	1:1:211:LYS:HB3	2.17	0.45
2:10:4:ASN:O	2:10:8:LYS:HG2	2.16	0.45
12:20:21:LYS:NZ	34:R1:20:C:OP1	2.27	0.45
13:21:1:MET:HA	13:21:43:ASN:HA	1.99	0.45
22:30:11:SER:OG	34:R1:988:A:OP2	2.26	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:6:27:GLY:HA3	31:6:78:VAL:HB	1.99	0.45
31:6:34:ARG:HD3	31:6:35:THR:N	2.32	0.45
34:R1:75:G:H22	34:R1:111:A:H2	1.64	0.45
34:R1:886:A:C2	34:R1:887:U:H4'	2.51	0.45
34:R1:1173:U:H2'	34:R1:1174:U:O4'	2.17	0.45
34:R1:1190:G:H2'	34:R1:1191:G:H8	1.80	0.45
34:R1:1218:G:H2'	34:R1:1219:U:C6	2.52	0.45
34:R1:1349:C:C2	34:R1:1350:C:C5	3.04	0.45
34:R1:1419:A:C8	34:R1:1579:A:N6	2.85	0.45
34:R1:2589:A:H2'	34:R1:2590:A:C8	2.52	0.45
36:R3:131:A:H2'	36:R3:132:C:C6	2.52	0.45
36:R3:517:G:H8	36:R3:517:G:OP2	2.00	0.45
36:R3:975:A:H5'	36:R3:975:A:N3	2.32	0.45
36:R3:1304:G:N2	36:R3:1334:G:C6	2.85	0.45
36:R3:1524:C:H2'	36:R3:1525:G:C8	2.51	0.45
2:10:97:LYS:O	2:10:101:LYS:HG2	2.17	0.45
3:11:36:GLU:OE1	3:11:60:VAL:HG11	2.16	0.45
10:19:86:LYS:HB3	10:19:86:LYS:HE3	1.70	0.45
14:22:5:ALA:O	34:R1:494:G:O2'	2.25	0.45
31:6:11:PRO:HD3	31:6:14:VAL:CG1	2.47	0.45
31:6:34:ARG:HG2	31:6:70:LEU:HD21	1.98	0.45
34:R1:271:G:C4	34:R1:367:G:N2	2.85	0.45
34:R1:876:C:H2'	34:R1:877:A:O4'	2.17	0.45
34:R1:2040:G:H2'	34:R1:2041:U:O4'	2.16	0.45
34:R1:2074:U:H2'	34:R1:2075:U:C6	2.51	0.45
34:R1:2284:A:H2'	34:R1:2285:C:O4'	2.16	0.45
36:R3:419:C:O2'	36:R3:421:U:H5	2.00	0.45
36:R3:1074:G:H2'	36:R3:1075:U:H6	1.81	0.45
36:R3:1138:G:H2'	36:R3:1140:C:C6	2.52	0.45
36:R3:1242:G:N2	36:R3:1295:U:O2	2.37	0.45
36:R3:1313:U:C2	36:R3:1314:C:C5	3.05	0.45
38:Y:143:GLY:HA3	38:Y:163:ARG:HH11	1.82	0.45
38:Y:224:ASP:O	38:Y:230:LEU:HD12	2.15	0.45
2:10:97:LYS:HD3	2:10:97:LYS:HA	1.68	0.45
6:15:56:PRO:O	6:15:60:ARG:HB2	2.16	0.45
6:15:76:GLU:OE2	34:R1:636:G:N2	2.49	0.45
18:27:40:GLN:OE1	18:27:44:LYS:N	2.50	0.45
20:29:5:GLU:HA	20:29:8:GLU:HG3	1.99	0.45
21:3:149:ASN:HB2	34:R1:2574:G:O2'	2.17	0.45
24:32:54:ILE:HG23	24:32:56:LYS:H	1.81	0.45
25:33:33:LEU:HD13	25:33:50:GLU:CB	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:4:143:LEU:HB3	29:4:146:VAL:CG1	2.47	0.45
34:R1:729:G:O2'	34:R1:763:G:H4'	2.16	0.45
34:R1:2302:U:H2'	34:R1:2303:G:H8	1.81	0.45
36:R3:737:C:H2'	36:R3:738:C:C6	2.52	0.45
38:Y:302:ARG:HD3	38:Y:472:GLU:OE2	2.16	0.45
3:11:10:LEU:C	34:R1:1059:G:N7	2.70	0.45
9:18:25:ARG:NH2	35:R2:8:C:O2'	2.49	0.45
10:19:98:TYR:O	10:19:102:ARG:HG2	2.17	0.45
17:25:29:ILE:HG13	35:R2:75:G:C1'	2.40	0.45
17:25:47:VAL:HA	17:25:50:MET:HB2	1.98	0.45
23:31:3:LYS:HB3	35:R2:44:G:C6	2.52	0.45
26:34:30:VAL:HG23	26:34:33:ARG:NH1	2.31	0.45
29:4:171:ASP:HB3	29:4:173:THR:HG22	1.99	0.45
34:R1:185:G:H2'	34:R1:186:G:C8	2.52	0.45
34:R1:666:A:H2'	34:R1:667:U:C6	2.51	0.45
34:R1:1085:A:N1	34:R1:1086:A:C8	2.84	0.45
34:R1:1094:U:H3'	34:R1:1096:A:OP2	2.17	0.45
34:R1:1164:C:H2'	34:R1:1165:A:H8	1.80	0.45
34:R1:1329:U:OP2	34:R1:1330:C:N4	2.50	0.45
34:R1:1782:U:H1'	34:R1:2609:U:H5"	1.98	0.45
34:R1:2215:C:H2'	34:R1:2216:G:C8	2.52	0.45
34:R1:2834:G:H2'	34:R1:2879:A:N6	2.31	0.45
36:R3:384:G:H2'	36:R3:385:C:C6	2.50	0.45
36:R3:524:G:H2'	36:R3:525:C:C6	2.51	0.45
36:R3:1263:C:H2'	36:R3:1264:U:H6	1.81	0.45
36:R3:1272:G:H2'	36:R3:1273:C:C6	2.52	0.45
36:R3:1478:U:H2'	36:R3:1479:C:H6	1.82	0.45
37:T:64:U:H2'	37:T:65:C:H6	1.81	0.45
38:Y:195:GLU:HG2	38:Y:218:VAL:HG13	1.97	0.45
2:10:62:ARG:HD3	2:10:63:ALA:HB2	1.99	0.45
6:15:109:LYS:HE2	6:15:128:THR:HG22	1.99	0.45
12:20:90:ASP:CG	13:21:11:GLN:HE21	2.20	0.45
15:23:34:VAL:HG23	15:23:81:LYS:HB3	1.98	0.45
25:33:28:THR:O	34:R1:2419:U:H2'	2.17	0.45
27:35:3:ILE:HD13	34:R1:666:A:H1'	1.99	0.45
28:36:12:ARG:HG3	28:36:13:ASN:ND2	2.31	0.45
34:R1:881:G:H2'	34:R1:882:G:C8	2.52	0.45
34:R1:1061:U:O2'	34:R1:1062:G:OP1	2.35	0.45
34:R1:1072:C:N4	34:R1:1092:C:H41	2.15	0.45
34:R1:1709:U:H2'	34:R1:1710:G:H8	1.82	0.45
34:R1:1794:A:H2'	34:R1:1795:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:180:U:H2'	36:R3:181:A:H8	1.80	0.45
36:R3:391:G:H2'	36:R3:392:C:O4'	2.16	0.45
36:R3:1001:C:H2'	36:R3:1002:G:C8	2.51	0.45
4:13:45:THR:HB	4:13:48:VAL:HG12	1.98	0.45
6:15:125:LEU:HD23	6:15:125:LEU:HA	1.88	0.45
12:20:58:GLN:HE21	12:20:58:GLN:C	2.19	0.45
13:21:16:GLU:OE2	13:21:101:ILE:HB	2.16	0.45
23:31:2:LYS:C	35:R2:44:G:C2	2.90	0.45
25:33:36:LYS:O	25:33:37:LYS:HG3	2.17	0.45
30:5:13:LYS:HD3	30:5:13:LYS:HA	1.80	0.45
31:6:41:GLU:OE1	31:6:42:VAL:N	2.49	0.45
32:9:122:LEU:HD22	32:9:128:HIS:ND1	2.31	0.45
34:R1:1419:A:H2'	34:R1:1421:G:N7	2.32	0.45
34:R1:1550:C:H2'	34:R1:1551:A:C8	2.52	0.45
34:R1:2014:A:H2'	34:R1:2015:A:C8	2.52	0.45
34:R1:2832:U:H1'	34:R1:2834:G:C4	2.52	0.45
36:R3:82:G:N2	36:R3:87:C:O2	2.50	0.45
36:R3:593:U:H2'	36:R3:594:U:C6	2.52	0.45
36:R3:594:U:H2'	36:R3:595:A:O4'	2.16	0.45
37:T:12:U:H2'	37:T:13:C:O4'	2.17	0.45
38:Y:362:LEU:O	38:Y:366:VAL:HG23	2.16	0.45
2:10:8:LYS:HD3	2:10:8:LYS:HA	1.42	0.44
3:11:79:LEU:HA	3:11:82:ALA:HB3	1.98	0.44
5:14:21:CYS:HB2	5:14:39:ILE:HD12	1.99	0.44
5:14:65:THR:HG22	5:14:67:LYS:N	2.32	0.44
9:18:30:ARG:NH2	35:R2:48:U:OP2	2.38	0.44
14:22:11:ARG:NE	34:R1:1322:A:OP1	2.50	0.44
21:3:43:ASP:N	21:3:43:ASP:OD1	2.51	0.44
21:3:55:LYS:HB2	21:3:75:ALA:HB3	1.98	0.44
34:R1:227:A:O2'	34:R1:228:C:O5'	2.34	0.44
34:R1:866:A:C8	34:R1:914:G:C6	3.05	0.44
34:R1:2400:G:C2	34:R1:2401:U:C2	3.05	0.44
36:R3:634:C:H2'	36:R3:635:A:C8	2.51	0.44
36:R3:678:U:H2'	36:R3:679:C:C6	2.52	0.44
36:R3:1109:C:C2	36:R3:1110:A:C8	3.04	0.44
38:Y:212:ARG:HH21	38:Y:213:HIS:CD2	2.35	0.44
3:11:15:GLY:H	34:R1:1062:G:C3'	2.30	0.44
5:14:63:VAL:HG12	5:14:107:LEU:HD11	1.99	0.44
7:16:10:ARG:HE	7:16:10:ARG:HB3	1.54	0.44
11:2:140:VAL:HG11	11:2:189:ALA:CB	2.46	0.44
13:21:26:ASP:OD1	13:21:26:ASP:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:21:59:ILE:HD13	13:21:59:ILE:HA	1.80	0.44
15:23:33:LYS:HG2	15:23:80:TRP:CE3	2.52	0.44
23:31:60:PHE:O	23:31:62:LYS:N	2.51	0.44
31:6:97:VAL:C	31:6:98:LYS:HD3	2.38	0.44
34:R1:24:G:H2'	34:R1:25:U:H6	1.82	0.44
34:R1:1636:U:H2'	34:R1:1637:A:C8	2.52	0.44
34:R1:1689:A:H2'	34:R1:1690:A:H8	1.83	0.44
34:R1:1800:C:HO2'	34:R1:1818:U:H3	1.63	0.44
34:R1:2031:A:N3	34:R1:2455:G:O2'	2.40	0.44
34:R1:2087:G:H2'	34:R1:2088:A:H8	1.81	0.44
34:R1:2103:C:H2'	34:R1:2104:C:H6	1.82	0.44
34:R1:2320:U:O2'	34:R1:2322:A:N7	2.50	0.44
34:R1:2345:G:N7	34:R1:2371:G:C2	2.84	0.44
34:R1:2809:A:H2'	34:R1:2810:A:C8	2.52	0.44
34:R1:2848:G:H2'	34:R1:2867:G:N2	2.32	0.44
34:R1:2869:G:H2'	34:R1:2870:C:C6	2.53	0.44
36:R3:1245:C:N4	36:R3:1292:G:O6	2.24	0.44
36:R3:1260:G:H21	36:R3:1275:A:H62	1.64	0.44
36:R3:1409:C:H2'	36:R3:1410:A:C8	2.51	0.44
36:R3:1432:G:H1'	36:R3:1468:A:N6	2.32	0.44
38:Y:44:MET:HG2	38:Y:178:LEU:HD23	1.99	0.44
38:Y:187:ASP:O	38:Y:191:ILE:HG13	2.17	0.44
3:11:102:ARG:HD2	3:11:141:ASP:HB3	1.99	0.44
11:2:140:VAL:HG12	11:2:141:HIS:N	2.32	0.44
18:27:53:CYS:SG	18:27:57:HIS:HA	2.56	0.44
21:3:6:GLY:HA3	21:3:29:VAL:HG22	2.00	0.44
25:33:41:VAL:HG12	25:33:42:VAL:HG22	1.99	0.44
29:4:155:GLU:O	29:4:159:LEU:HG	2.18	0.44
30:5:79:ARG:NH1	37:T:55:U:OP2	2.47	0.44
34:R1:225:C:H2'	34:R1:226:A:O4'	2.17	0.44
34:R1:648:G:O2'	34:R1:2351:G:OP1	2.33	0.44
34:R1:1320:C:C5	34:R1:1329:U:H5"	2.52	0.44
34:R1:1646:C:H5"	34:R1:1647:U:H5'	1.99	0.44
35:R2:9:G:C6	35:R2:112:G:C6	3.05	0.44
36:R3:62:U:H2'	36:R3:63:C:H6	1.83	0.44
36:R3:935:A:H2'	36:R3:936:C:C6	2.52	0.44
38:Y:461:ILE:HG23	38:Y:489:ILE:HG23	1.99	0.44
2:10:57:ASN:O	2:10:62:ARG:HD2	2.17	0.44
2:10:65:GLU:CB	34:R1:1106:G:H2'	2.47	0.44
2:10:73:LYS:HA	3:11:5:GLN:CB	2.46	0.44
3:11:32:VAL:H	34:R1:1087:G:H5"	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:11:91:LYS:HB3	3:11:94:LYS:HB2	1.99	0.44
4:13:96:ARG:NH2	34:R1:2639:A:C5'	2.80	0.44
14:22:6:LYS:HA	14:22:104:THR:HA	2.00	0.44
20:29:5:GLU:HG3	20:29:56:LEU:HD22	1.99	0.44
25:33:42:VAL:HA	34:R1:2342:C:H41	1.81	0.44
34:R1:226:A:H1'	34:R1:230:G:N2	2.32	0.44
34:R1:925:A:H2'	34:R1:926:G:H8	1.83	0.44
34:R1:1050:A:H2'	34:R1:1051:G:H5"	2.00	0.44
34:R1:1125:G:OP2	34:R1:1126:A:O2'	2.26	0.44
34:R1:2104:C:H2'	34:R1:2105:U:H6	1.82	0.44
34:R1:2191:A:H2'	34:R1:2192:U:C6	2.52	0.44
34:R1:2220:U:H2'	34:R1:2221:G:H8	1.82	0.44
35:R2:68:C:C2	35:R2:69:G:C8	3.06	0.44
36:R3:76:G:H2'	36:R3:77:A:H8	1.82	0.44
36:R3:309:A:H2'	36:R3:310:G:H8	1.82	0.44
36:R3:425:G:N7	36:R3:426:U:C4	2.86	0.44
36:R3:979:C:H1'	36:R3:1317:C:N4	2.33	0.44
36:R3:1356:G:N3	36:R3:1357:A:C8	2.86	0.44
38:Y:258:LYS:HE2	38:Y:294:LEU:HA	1.99	0.44
38:Y:262:ILE:HG21	38:Y:292:ILE:HG21	1.98	0.44
38:Y:345:GLY:HA2	38:Y:486:GLY:C	2.37	0.44
3:11:42:ASN:N	34:R1:1070:A:O3'	2.50	0.44
4:13:90:GLU:HA	4:13:90:GLU:OE2	2.17	0.44
9:18:25:ARG:HH22	35:R2:9:G:P	2.41	0.44
10:19:95:LYS:NZ	34:R1:2847:U:OP1	2.45	0.44
11:2:159:THR:HG21	34:R1:1819:A:H5"	2.00	0.44
14:22:78:GLU:O	34:R1:24:G:O2'	2.33	0.44
18:27:26:PHE:O	18:27:29:GLU:HG2	2.17	0.44
22:30:18:LYS:HB2	22:30:18:LYS:HE3	1.81	0.44
25:33:22:THR:HG22	25:33:23:THR:N	2.24	0.44
26:34:30:VAL:HG23	26:34:33:ARG:HH12	1.82	0.44
30:5:152:ASP:OD1	30:5:153:ILE:N	2.51	0.44
34:R1:305:C:H2'	34:R1:306:U:C6	2.53	0.44
34:R1:753:A:H2'	34:R1:754:U:C6	2.52	0.44
34:R1:1186:G:H2'	34:R1:1187:G:O4'	2.17	0.44
34:R1:1689:A:H2'	34:R1:1690:A:C8	2.52	0.44
34:R1:2135:A:C5	34:R1:2136:G:H1'	2.52	0.44
34:R1:2480:C:H2'	34:R1:2481:G:O4'	2.17	0.44
36:R3:201:G:H2'	36:R3:202:G:H8	1.83	0.44
36:R3:294:U:H2'	36:R3:295:C:C6	2.52	0.44
36:R3:420:U:H2'	36:R3:422:C:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:539:A:H3'	36:R3:540:G:H8	1.83	0.44
36:R3:1269:A:H3'	36:R3:1270:G:O4'	2.18	0.44
3:11:3:LYS:HE2	34:R1:1054:A:O2'	2.18	0.44
3:11:44:LYS:HE2	3:11:68:PHE:HE2	1.83	0.44
3:11:54:ILE:HG12	3:11:73:PRO:HG3	1.99	0.44
3:11:60:VAL:CG1	3:11:66:PHE:HD2	2.31	0.44
5:14:53:LYS:HG3	5:14:56:ASP:OD1	2.18	0.44
7:16:12:MET:HG2	7:16:71:LYS:HE2	1.98	0.44
9:18:30:ARG:HE	9:18:30:ARG:HB3	1.68	0.44
27:35:32:LEU:HD21	34:R1:2419:U:H6	1.81	0.44
30:5:79:ARG:HB2	30:5:82:TYR:CE1	2.52	0.44
34:R1:52:A:H2'	34:R1:53:A:C8	2.51	0.44
34:R1:150:U:H2'	34:R1:151:C:C6	2.53	0.44
34:R1:369:U:O4	34:R1:404:A:N6	2.51	0.44
34:R1:1864:U:OP1	34:R1:2410:G:O2'	2.28	0.44
34:R1:2006:C:O2'	34:R1:2823:A:N3	2.51	0.44
34:R1:2229:U:H2'	34:R1:2230:G:H8	1.82	0.44
34:R1:2538:C:H2'	34:R1:2539:C:H6	1.83	0.44
34:R1:2700:A:H2'	34:R1:2701:U:C6	2.52	0.44
35:R2:106:G:H2'	35:R2:107:G:O4'	2.17	0.44
36:R3:323:U:H2'	36:R3:324:G:O4'	2.17	0.44
36:R3:391:G:HO2'	36:R3:392:C:P	2.38	0.44
36:R3:508:U:H1'	36:R3:509:A:H2	1.83	0.44
36:R3:644:U:C2	36:R3:645:G:C8	3.06	0.44
36:R3:679:C:H2'	36:R3:680:C:H6	1.82	0.44
36:R3:1230:C:H2'	36:R3:1231:G:H8	1.82	0.44
36:R3:1441:A:H5"	36:R3:1442:G:OP2	2.17	0.44
37:T:58:A:O2'	37:T:59:U:H5"	2.16	0.44
38:Y:40:LYS:HZ3	38:Y:210:HIS:CE1	2.36	0.44
38:Y:142:VAL:HG22	38:Y:193:TRP:CH2	2.52	0.44
1:1:61:GLY:O	1:1:162:ARG:HD3	2.17	0.44
1:1:61:GLY:HA3	1:1:163:TYR:CZ	2.53	0.44
2:10:11:ILE:H	34:R1:1108:U:H5"	1.82	0.44
2:10:58:THR:HG21	2:10:82:ILE:HB	1.98	0.44
8:17:43:GLU:O	8:17:47:VAL:HG13	2.18	0.44
8:17:72:ASP:OD1	8:17:75:ILE:HG12	2.18	0.44
15:23:29:THR:HG21	15:23:84:TYR:HB3	2.00	0.44
17:25:29:ILE:HD11	35:R2:75:G:H4'	1.99	0.44
18:27:19:LYS:HA	18:27:19:LYS:HD3	1.72	0.44
19:28:53:LYS:HZ1	34:R1:373:U:P	2.40	0.44
23:31:25:ARG:HH22	30:5:30:VAL:CG1	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:31:26:SER:HB3	30:5:97:GLU:CA	2.48	0.44
23:31:55:GLY:C	36:R3:1309:G:C5	2.91	0.44
24:32:3:GLN:NE2	24:32:6:LYS:HA	2.33	0.44
34:R1:918:A:H5"	35:R2:97:C:O2'	2.18	0.44
34:R1:1565:C:O2'	34:R1:1566:A:H8	2.01	0.44
34:R1:1808:A:H3'	34:R1:1809:A:C8	2.53	0.44
34:R1:1922:G:H2'	34:R1:1923:U:C6	2.52	0.44
34:R1:2051:A:OP2	34:R1:2051:A:H8	1.99	0.44
36:R3:507:C:H3'	36:R3:508:U:H2'	1.99	0.44
36:R3:672:U:H2'	36:R3:673:A:H8	1.81	0.44
36:R3:1090:U:H2'	36:R3:1091:U:C6	2.53	0.44
36:R3:1405:G:O2'	36:R3:1518:A:O2'	2.16	0.44
38:Y:519:ASN:HB3	38:Y:522:ASP:OD1	2.18	0.44
2:10:68:PRO:HG2	2:10:69:PHE:CD1	2.53	0.44
3:11:68:PHE:CZ	34:R1:1098:A:H5"	2.51	0.44
7:16:35:ALA:HB2	7:16:102:LEU:HD11	2.00	0.44
8:17:44:LEU:HA	8:17:47:VAL:HG22	1.98	0.44
8:17:103:ARG:HG3	8:17:108:ALA:HB3	2.00	0.44
16:24:27:VAL:HG23	16:24:33:VAL:HG12	2.00	0.44
16:24:32:LYS:HB3	16:24:63:ALA:HB1	2.00	0.44
17:25:17:SER:O	17:25:21:ARG:HG3	2.18	0.44
22:30:5:LYS:HZ2	22:30:35:VAL:C	2.21	0.44
22:30:46:MET:O	22:30:50:VAL:HG22	2.18	0.44
23:31:62:LYS:HG2	36:R3:1310:G:H21	1.83	0.44
28:36:19:ARG:NH2	28:36:26:ILE:HD13	2.33	0.44
31:6:136:ASP:O	31:6:140:ILE:HG22	2.17	0.44
34:R1:2489:U:H2'	34:R1:2490:G:O4'	2.18	0.44
36:R3:198:G:H2'	36:R3:199:A:C8	2.53	0.44
36:R3:270:A:H2'	36:R3:271:C:C6	2.53	0.44
38:Y:119:LEU:HD23	38:Y:119:LEU:HA	1.75	0.44
38:Y:222:MET:HE1	38:Y:237:TYR:HA	2.00	0.44
2:10:108:VAL:HG12	2:10:109:LYS:HG2	2.00	0.44
3:11:33:ASN:ND2	34:R1:1103:A:N7	2.60	0.44
3:11:35:MET:HB2	34:R1:1089:A:H2'	1.99	0.44
21:3:29:VAL:O	21:3:185:ASN:HB3	2.17	0.44
23:31:6:HIS:CE1	35:R2:43:C:HO2'	2.33	0.44
29:4:69:ARG:O	34:R1:674:G:H4'	2.17	0.44
30:5:116:LEU:HD12	30:5:175:PRO:O	2.17	0.44
34:R1:134:G:H2'	34:R1:135:U:H6	1.83	0.44
34:R1:172:A:H2'	34:R1:173:A:H8	1.81	0.44
34:R1:457:A:N1	34:R1:470:A:H5"	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:1415:U:H1'	34:R1:1588:G:N2	2.33	0.44
34:R1:1849:G:H2'	34:R1:1850:G:H8	1.82	0.44
34:R1:2105:U:H3'	34:R1:2106:U:C6	2.53	0.44
36:R3:918:A:H2'	36:R3:919:A:C8	2.53	0.44
36:R3:1031:C:H5'	36:R3:1033:G:H1'	1.99	0.44
36:R3:1191:A:H2'	36:R3:1192:C:C6	2.53	0.44
36:R3:1294:G:H2'	36:R3:1295:U:H6	1.83	0.44
38:Y:81:VAL:HA	38:Y:84:THR:CG2	2.48	0.44
38:Y:469:LEU:HD12	38:Y:469:LEU:H	1.82	0.44
38:Y:496:GLU:O	38:Y:499:SER:OG	2.36	0.44
5:14:58:LEU:HA	5:14:89:ASN:HD21	1.83	0.43
5:14:64:ARG:NH1	5:14:101:GLY:HA3	2.33	0.43
12:20:31:TYR:CD1	12:20:31:TYR:C	2.91	0.43
16:24:43:LYS:NZ	34:R1:480:A:OP2	2.39	0.43
21:3:197:THR:HB	34:R1:2820:A:N1	2.33	0.43
23:31:3:LYS:HG3	35:R2:48:U:O2	2.18	0.43
23:31:16:CYS:HB3	23:31:19:GLY:O	2.18	0.43
29:4:119:ILE:O	29:4:187:VAL:HA	2.17	0.43
31:6:12:ALA:O	31:6:14:VAL:N	2.50	0.43
34:R1:18:U:H2'	34:R1:19:A:C8	2.53	0.43
34:R1:82:U:H2'	34:R1:83:A:C8	2.53	0.43
34:R1:219:A:N3	34:R1:234:U:O2'	2.46	0.43
34:R1:365:U:H2'	34:R1:366:C:C6	2.52	0.43
34:R1:582:A:H2'	34:R1:583:G:C8	2.53	0.43
34:R1:715:A:H2'	34:R1:716:A:C8	2.53	0.43
34:R1:1170:C:H2'	34:R1:1171:G:C8	2.53	0.43
34:R1:1288:G:OP2	34:R1:1288:G:N2	2.38	0.43
34:R1:1550:C:H2'	34:R1:1551:A:H8	1.83	0.43
34:R1:1771:C:H2'	34:R1:1772:A:H8	1.83	0.43
36:R3:575:G:O2'	36:R3:821:G:OP2	2.23	0.43
36:R3:711:G:H2'	36:R3:712:A:H8	1.84	0.43
36:R3:794:A:H2'	36:R3:795:C:C6	2.53	0.43
36:R3:1372:U:H2'	36:R3:1373:G:O4'	2.18	0.43
1:1:23:ILE:O	1:1:27:ILE:HG23	2.18	0.43
1:1:216:THR:HG22	1:1:218:MET:H	1.81	0.43
3:11:59:THR:HG21	34:R1:1056:G:O3'	2.18	0.43
8:17:73:ASN:ND2	34:R1:1453:A:H8	2.11	0.43
9:18:4:LYS:HA	9:18:7:ARG:NH1	2.34	0.43
12:20:58:GLN:CD	34:R1:1009:A:O4'	2.56	0.43
12:20:107:ALA:HA	12:20:110:GLU:CG	2.48	0.43
14:22:93:ALA:HB2	34:R1:1614:A:C2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:23:47:VAL:HG13	15:23:51:PHE:HD2	1.83	0.43
19:28:4:CYS:HB2	19:28:32:LEU:HD21	2.00	0.43
24:32:12:ARG:NH2	34:R1:517:C:OP1	2.51	0.43
25:33:36:LYS:HB2	34:R1:2383:G:N1	2.32	0.43
25:33:37:LYS:HB2	34:R1:2346:A:N9	2.33	0.43
30:5:37:MET:HB2	30:5:56:LEU:HD21	1.99	0.43
30:5:76:PHE:HD2	34:R1:2311:A:H5"	1.83	0.43
30:5:110:ILE:HD12	30:5:110:ILE:C	2.38	0.43
34:R1:312:G:H4'	34:R1:331:C:N3	2.33	0.43
34:R1:419:U:H2'	34:R1:420:C:C6	2.52	0.43
34:R1:703:U:H2'	34:R1:704:G:O4'	2.18	0.43
34:R1:922:C:C2	34:R1:923:G:C8	3.07	0.43
34:R1:1197:G:H2'	34:R1:1198:U:C6	2.54	0.43
34:R1:1357:C:H2'	34:R1:1358:G:O4'	2.19	0.43
34:R1:1775:U:O4	34:R1:1789:A:H2	2.01	0.43
34:R1:2273:A:H2'	34:R1:2274:A:C8	2.53	0.43
36:R3:187:G:H2'	36:R3:189:A:OP2	2.17	0.43
36:R3:322:C:H2'	36:R3:323:U:C6	2.53	0.43
36:R3:1432:G:HO2'	36:R3:1433:A:H8	1.64	0.43
2:10:43:LYS:HG3	2:10:98:GLU:OE2	2.19	0.43
3:11:40:ALA:N	34:R1:1071:G:O4'	2.51	0.43
3:11:44:LYS:HE2	3:11:68:PHE:CE2	2.53	0.43
4:13:63:ALA:HA	4:13:69:ARG:HH22	1.83	0.43
7:16:8:LYS:HG2	7:16:9:PHE:CE1	2.53	0.43
19:28:17:ARG:HE	19:28:23:ALA:HB2	1.82	0.43
21:3:15:PHE:CE1	21:3:21:SER:HB3	2.53	0.43
30:5:12:VAL:O	30:5:16:MET:HG2	2.19	0.43
31:6:17:LYS:HA	31:6:17:LYS:HD2	1.88	0.43
31:6:34:ARG:HH11	31:6:70:LEU:HD21	1.83	0.43
34:R1:144:A:H2'	34:R1:145:C:C6	2.53	0.43
34:R1:284:U:H3	34:R1:356:G:H1	1.67	0.43
34:R1:840:C:H2'	34:R1:841:G:C8	2.52	0.43
34:R1:1272:A:O2'	34:R1:1273:U:H5"	2.18	0.43
34:R1:1443:U:H2'	34:R1:1444:G:H8	1.83	0.43
34:R1:1722:A:H2'	34:R1:1723:G:O4'	2.18	0.43
34:R1:1734:G:H2'	34:R1:1735:A:H8	1.83	0.43
34:R1:1771:C:H2'	34:R1:1772:A:C8	2.53	0.43
34:R1:2247:A:H2'	34:R1:2248:C:C6	2.52	0.43
36:R3:530:G:O2'	36:R3:531:U:OP1	2.34	0.43
36:R3:704:A:C4	36:R3:705:G:C8	3.07	0.43
36:R3:925:G:C2	36:R3:927:G:C8	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:946:A:H2'	36:R3:947:G:C8	2.54	0.43
36:R3:1320:C:H2'	36:R3:1321:U:C6	2.53	0.43
38:Y:11:PHE:HD1	38:Y:12:GLY:H	1.65	0.43
3:11:100:ILE:HB	3:11:139:VAL:HG22	2.01	0.43
6:15:142:ILE:N	6:15:142:ILE:HD12	2.33	0.43
7:16:110:GLU:O	7:16:114:ARG:HG2	2.18	0.43
15:23:43:ILE:HD13	15:23:43:ILE:HA	1.84	0.43
20:29:17:GLU:OE2	20:29:21:LEU:HD12	2.18	0.43
21:3:109:VAL:HG21	21:3:193:VAL:HG12	2.00	0.43
23:31:11:GLU:OE1	23:31:25:ARG:HG3	2.19	0.43
29:4:97:ASN:HB2	29:4:100:MET:HG3	2.01	0.43
32:9:2:GLN:OE1	32:9:20:ASN:ND2	2.35	0.43
34:R1:121:G:H2'	34:R1:122:G:H8	1.83	0.43
34:R1:388:G:O6	34:R1:390:U:O2'	2.32	0.43
34:R1:543:G:H2'	34:R1:544:C:O4'	2.19	0.43
34:R1:598:U:H2'	34:R1:599:A:H8	1.83	0.43
34:R1:633:A:O2'	34:R1:2404:U:OP1	2.33	0.43
34:R1:1790:C:H2'	34:R1:1791:A:C8	2.53	0.43
34:R1:2122:U:O4	34:R1:2176:A:N6	2.51	0.43
34:R1:2182:U:H2'	34:R1:2183:A:H8	1.81	0.43
35:R2:34:A:C5	35:R2:44:G:N7	2.86	0.43
36:R3:165:G:H2'	36:R3:166:U:C6	2.53	0.43
36:R3:258:G:H1	36:R3:268:U:H3	1.66	0.43
36:R3:466:A:H8	36:R3:466:A:OP2	2.01	0.43
36:R3:1516:G:N2	36:R3:1519:A:OP2	2.40	0.43
3:11:44:LYS:HB3	34:R1:1071:G:OP2	2.18	0.43
27:35:35:LYS:HB2	27:35:40:LYS:HZ3	1.84	0.43
29:4:69:ARG:NH1	34:R1:674:G:H1'	2.34	0.43
29:4:110:SER:O	29:4:114:ARG:HG3	2.19	0.43
30:5:48:LEU:HD13	30:5:147:ARG:HH12	1.83	0.43
30:5:107:VAL:CG1	30:5:108:PRO:HD3	2.49	0.43
30:5:109:ARG:HG2	30:5:136:ILE:HA	2.01	0.43
31:6:42:VAL:HA	31:6:50:THR:O	2.17	0.43
34:R1:322:A:H5'	34:R1:340:A:H1'	1.99	0.43
34:R1:1178:C:C2	34:R1:1179:G:N7	2.86	0.43
34:R1:1366:A:H2'	34:R1:1367:A:O4'	2.19	0.43
34:R1:1505:A:H2'	34:R1:1506:U:C6	2.54	0.43
34:R1:2087:G:H2'	34:R1:2088:A:C8	2.53	0.43
34:R1:2097:A:H2'	34:R1:2098:U:H6	1.82	0.43
34:R1:2455:G:H2'	34:R1:2456:C:C6	2.53	0.43
36:R3:162:A:N6	36:R3:163:C:O2	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:337:G:C2	36:R3:338:A:C5	3.07	0.43
36:R3:883:C:O2'	36:R3:884:U:H5'	2.18	0.43
36:R3:1521:C:H2'	36:R3:1522:U:C6	2.53	0.43
36:R3:1522:U:H2'	36:R3:1523:G:H8	1.83	0.43
38:Y:109:SER:OG	38:Y:112:ASP:OD2	2.34	0.43
1:1:21:TYR:HB3	1:1:25:GLU:OE1	2.18	0.43
2:10:13:ALA:H	34:R1:1108:U:C5'	2.32	0.43
2:10:71:CYS:HA	2:10:73:LYS:CD	2.47	0.43
2:10:118:ILE:HG22	2:10:118:ILE:O	2.18	0.43
3:11:10:LEU:HD23	3:11:10:LEU:HA	1.86	0.43
3:11:14:ALA:HB2	34:R1:1060:U:C4'	2.46	0.43
3:11:117:THR:OG1	3:11:118:GLY:N	2.50	0.43
10:19:27:VAL:HG13	10:19:80:VAL:HG13	2.00	0.43
10:19:63:ILE:HD12	10:19:63:ILE:HA	1.91	0.43
14:22:30:SER:O	14:22:34:ASP:OD1	2.37	0.43
14:22:55:ILE:HD13	14:22:55:ILE:HA	1.83	0.43
22:30:5:LYS:NZ	22:30:36:GLU:HA	2.34	0.43
25:33:29:LYS:HG2	25:33:30:PRO:HD3	2.00	0.43
25:33:38:PHE:HZ	34:R1:2291:U:C2	2.37	0.43
25:33:44:GLN:HE22	34:R1:2288:A:C5'	2.31	0.43
30:5:3:LEU:HA	30:5:6:TYR:HB3	2.01	0.43
30:5:35:LEU:CD1	30:5:151:LEU:HD21	2.49	0.43
34:R1:1054:A:N6	34:R1:1055:G:C5	2.87	0.43
34:R1:1289:C:C2	34:R1:1290:C:C5	3.07	0.43
34:R1:1297:C:H2'	34:R1:1298:C:H6	1.83	0.43
36:R3:636:U:H2'	36:R3:637:C:H6	1.82	0.43
36:R3:696:A:H2'	36:R3:697:U:H6	1.83	0.43
36:R3:725:G:H2'	36:R3:726:C:C6	2.53	0.43
36:R3:881:G:H2'	36:R3:882:C:O4'	2.18	0.43
36:R3:1323:G:H2'	36:R3:1324:A:H8	1.82	0.43
37:T:5:G:C6	37:T:69:A:C6	3.07	0.43
38:Y:431:ASP:O	38:Y:434:LYS:HB3	2.19	0.43
3:11:26:ALA:HB2	34:R1:1079:C:H3'	2.00	0.43
3:11:31:GLY:H	34:R1:1087:G:C5'	2.30	0.43
4:13:16:TYR:CD1	4:13:140:LEU:HD22	2.54	0.43
4:13:16:TYR:HB2	4:13:54:ILE:HD13	2.01	0.43
13:21:3:ALA:HB2	13:21:101:ILE:HD11	2.00	0.43
17:25:73:LYS:HB3	17:25:73:LYS:HE3	1.65	0.43
18:27:38:VAL:HG13	18:27:59:LEU:HB2	2.00	0.43
23:31:8:LYS:HG2	35:R2:35:C:OP1	2.19	0.43
25:33:48:TYR:CG	34:R1:2346:A:N1	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:4:194:LYS:O	29:4:198:GLU:HG2	2.19	0.43
30:5:34:THR:CG2	30:5:87:LYS:CE	2.95	0.43
30:5:65:LEU:CD1	30:5:87:LYS:H	2.31	0.43
34:R1:598:U:H2'	34:R1:599:A:C8	2.53	0.43
34:R1:1197:G:H2'	34:R1:1198:U:H6	1.83	0.43
35:R2:32:U:C2	35:R2:51:G:N2	2.87	0.43
36:R3:216:U:H2'	36:R3:217:C:C6	2.54	0.43
36:R3:423:G:N1	36:R3:424:G:N3	2.67	0.43
36:R3:1124:G:N2	36:R3:1125:U:O4	2.40	0.43
36:R3:1310:G:N2	36:R3:1311:A:N9	2.67	0.43
36:R3:1526:G:H2'	36:R3:1527:U:C6	2.54	0.43
38:Y:223:ALA:HB1	38:Y:230:LEU:HD11	2.01	0.43
38:Y:272:PHE:CD1	38:Y:278:LYS:HD2	2.53	0.43
2:10:72:LEU:O	2:10:75:ALA:N	2.46	0.43
6:15:59:ARG:HD3	34:R1:250:G:H4'	2.01	0.43
7:16:97:GLN:OE1	7:16:97:GLN:N	2.52	0.43
8:17:103:ARG:HB2	8:17:108:ALA:H	1.84	0.43
10:19:8:GLU:OE2	10:19:9:GLN:N	2.52	0.43
23:31:3:LYS:HB3	35:R2:44:G:N1	2.28	0.43
23:31:9:TYR:CE2	30:5:96:TRP:CZ3	3.07	0.43
33:M:2:U:O2'	33:M:3:G:OP2	2.31	0.43
34:R1:665:U:H2'	34:R1:666:A:H8	1.84	0.43
34:R1:1710:G:H2'	34:R1:1711:A:C8	2.54	0.43
34:R1:1921:G:N1	34:R1:1922:G:C5	2.86	0.43
34:R1:2024:G:H2'	34:R1:2025:C:H6	1.83	0.43
34:R1:2707:U:H2'	34:R1:2708:G:C8	2.54	0.43
34:R1:2788:C:H2'	34:R1:2789:C:H6	1.83	0.43
34:R1:2813:A:H2'	34:R1:2814:A:C8	2.53	0.43
35:R2:45:A:H2'	35:R2:46:A:H8	1.83	0.43
36:R3:613:C:H2'	36:R3:614:C:H6	1.83	0.43
36:R3:1010:U:H2'	36:R3:1011:C:H6	1.83	0.43
36:R3:1436:U:O4	36:R3:1437:A:N6	2.52	0.43
36:R3:1459:G:H2'	36:R3:1460:C:H6	1.83	0.43
37:T:19:G:H1'	38:Y:420:SER:HB3	2.01	0.43
37:T:62:C:H2'	37:T:63:G:H8	1.84	0.43
1:1:44:VAL:HG22	1:1:214:ILE:HA	2.01	0.43
1:1:209:ILE:O	1:1:209:ILE:HG13	2.19	0.43
3:11:38:CYS:HA	34:R1:1071:G:O5'	2.19	0.43
11:2:66:PHE:HB3	11:2:150:GLY:O	2.19	0.43
13:21:6:GLN:HA	13:21:11:GLN:HA	2.01	0.43
15:23:56:GLU:OE2	15:23:88:LYS:HD3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:27:32:LEU:HA	18:27:64:ASP:HB3	2.01	0.43
19:28:46:VAL:HG11	19:28:77:TYR:HD2	1.83	0.43
20:29:32:ALA:HB2	20:29:37:LEU:HD23	2.00	0.43
24:32:7:PRO:HB3	24:32:11:LYS:HE2	2.01	0.43
25:33:33:LEU:HD13	25:33:50:GLU:HB2	1.99	0.43
30:5:45:ASP:O	30:5:48:LEU:HG	2.19	0.43
30:5:134:GLN:HE21	30:5:149:ARG:NH2	2.16	0.43
32:9:30:LEU:HB3	32:9:36:ALA:HB3	2.01	0.43
34:R1:487:C:H2'	34:R1:488:G:O4'	2.18	0.43
34:R1:953:G:H2'	34:R1:954:G:H8	1.84	0.43
34:R1:1709:U:H2'	34:R1:1710:G:C8	2.54	0.43
34:R1:2269:G:C2	34:R1:2270:A:C8	3.07	0.43
34:R1:2531:A:C4	34:R1:2532:G:C8	3.07	0.43
36:R3:198:G:H2'	36:R3:199:A:H8	1.83	0.43
36:R3:213:G:H2'	36:R3:213:G:N3	2.33	0.43
36:R3:382:A:H2'	36:R3:383:A:C8	2.54	0.43
36:R3:438:U:C4	36:R3:494:G:C5	3.06	0.43
38:Y:314:LYS:HD2	38:Y:314:LYS:HA	1.77	0.43
2:10:80:THR:O	2:10:82:ILE:HG13	2.19	0.43
3:11:18:ASN:CG	3:11:42:ASN:HD21	2.22	0.43
3:11:40:ALA:N	34:R1:1071:G:H5'	2.30	0.43
9:18:93:ASP:OD1	9:18:93:ASP:C	2.57	0.43
11:2:109:LEU:HD12	11:2:109:LEU:HA	1.86	0.43
13:21:55:ASP:OD1	13:21:56:GLY:N	2.52	0.43
23:31:65:ASN:ND2	36:R3:1268:G:C4	2.87	0.43
25:33:4:ILE:HB	34:R1:2400:G:C4	2.53	0.43
25:33:5:ARG:HD3	34:R1:2417:C:C2'	2.49	0.43
30:5:18:GLU:OE2	30:5:19:PHE:CG	2.71	0.43
31:6:89:VAL:HG11	31:6:162:ARG:HH21	1.84	0.43
34:R1:511:U:O4	34:R1:512:G:N1	2.52	0.43
34:R1:557:C:H2'	34:R1:558:U:C6	2.54	0.43
34:R1:634:C:H2'	34:R1:635:C:H6	1.83	0.43
34:R1:1442:U:H2'	34:R1:1443:U:C6	2.54	0.43
34:R1:1575:C:H2'	34:R1:1576:U:C6	2.53	0.43
35:R2:34:A:C6	35:R2:44:G:C8	3.07	0.43
36:R3:202:G:H2'	36:R3:203:G:C8	2.53	0.43
36:R3:663:A:H5'	36:R3:836:G:OP1	2.19	0.43
38:Y:6:ASN:N	38:Y:6:ASN:OD1	2.52	0.43
38:Y:170:LEU:HD23	38:Y:170:LEU:H	1.83	0.43
38:Y:391:HIS:CD2	38:Y:448:LEU:HD11	2.53	0.43
38:Y:395:PHE:CE2	38:Y:444:LYS:HG3	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:13:7:LYS:O	4:13:11:VAL:HG23	2.19	0.42
10:19:9:GLN:HA	10:19:12:MET:HE2	2.00	0.42
11:2:123:ILE:HG23	11:2:191:LEU:HD21	2.00	0.42
14:22:33:LEU:HD13	14:22:33:LEU:HA	1.84	0.42
15:23:88:LYS:HE2	15:23:88:LYS:HB2	1.75	0.42
21:3:16:THR:OG1	21:3:20:VAL:O	2.36	0.42
30:5:49:LEU:HD11	30:5:66:ILE:HD13	1.99	0.42
34:R1:48:G:H22	34:R1:177:G:P	2.42	0.42
34:R1:175:G:H2'	34:R1:176:A:C8	2.53	0.42
34:R1:614:A:H5'	34:R1:615:U:OP1	2.19	0.42
34:R1:1036:G:C6	34:R1:1120:G:C6	3.07	0.42
34:R1:1306:C:H5"	34:R1:1606:C:N4	2.34	0.42
34:R1:1540:G:O2'	34:R1:1541:C:O4'	2.22	0.42
34:R1:1604:C:H2'	34:R1:1605:C:C6	2.54	0.42
34:R1:2344:U:O5'	34:R1:2344:U:H6	2.02	0.42
34:R1:2630:G:C5	34:R1:2894:G:C6	3.07	0.42
34:R1:2700:A:H2'	34:R1:2701:U:H6	1.84	0.42
36:R3:271:C:H2'	36:R3:272:C:H6	1.84	0.42
36:R3:602:A:H2'	36:R3:603:U:H6	1.84	0.42
36:R3:709:U:H2'	36:R3:710:G:C8	2.53	0.42
36:R3:1304:G:N2	36:R3:1334:G:O6	2.52	0.42
38:Y:179:LEU:HD23	38:Y:179:LEU:N	2.34	0.42
3:11:32:VAL:HG12	34:R1:1087:G:H5'	2.00	0.42
3:11:69:VAL:HG12	3:11:70:THR:N	2.32	0.42
12:20:98:ALA:HB2	12:20:105:PHE:CE2	2.54	0.42
25:33:18:HIS:ND1	34:R1:2344:U:H2'	2.35	0.42
25:33:36:LYS:HE2	34:R1:2285:C:N1	2.34	0.42
25:33:47:ILE:HG12	34:R1:2286:G:O5'	2.19	0.42
34:R1:677:A:O2'	34:R1:2070:A:O2'	2.22	0.42
34:R1:1385:A:H1'	34:R1:1386:C:C6	2.54	0.42
34:R1:2107:G:N1	34:R1:2182:U:C2	2.79	0.42
34:R1:2291:U:O5'	34:R1:2380:C:O2'	2.37	0.42
34:R1:2310:C:H5"	34:R1:2311:A:OP2	2.19	0.42
36:R3:253:A:N6	36:R3:274:A:N1	2.66	0.42
36:R3:263:A:H2'	36:R3:264:C:C6	2.54	0.42
36:R3:768:A:H4'	36:R3:1523:G:N2	2.34	0.42
36:R3:962:C:H2'	36:R3:963:G:O4'	2.19	0.42
36:R3:1173:U:H2'	36:R3:1174:G:H8	1.84	0.42
36:R3:1304:G:H8	36:R3:1304:G:O5'	2.02	0.42
36:R3:1417:G:C6	36:R3:1482:G:C6	3.07	0.42
37:T:10:G:H2'	37:T:11:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:T:37:A:H2'	37:T:38:A:O4'	2.19	0.42
38:Y:334:LEU:HD21	38:Y:360:THR:CG2	2.49	0.42
1:1:48:LEU:HD23	1:1:171:ILE:HG22	2.02	0.42
3:11:33:ASN:N	3:11:36:GLU:OE1	2.51	0.42
4:13:85:LYS:HE3	4:13:85:LYS:HB3	1.82	0.42
5:14:14:SER:O	5:14:52:VAL:HG22	2.20	0.42
11:2:204:LEU:HD22	11:2:213:ARG:NH2	2.34	0.42
12:20:14:LYS:HB3	12:20:14:LYS:HE2	1.89	0.42
16:24:41:VAL:HG21	34:R1:480:A:H1'	2.01	0.42
16:24:76:THR:HB	16:24:78:LYS:HE3	2.01	0.42
21:3:138:LEU:HD21	34:R1:744:U:H5"	2.01	0.42
25:33:40:PRO:HB2	34:R1:2373:G:O2'	2.18	0.42
25:33:43:ARG:CZ	34:R1:2291:U:O2	2.66	0.42
29:4:180:LEU:HD23	29:4:180:LEU:HA	1.91	0.42
31:6:2:ARG:H	31:6:2:ARG:HG3	1.54	0.42
34:R1:58:G:O2'	34:R1:73:A:N1	2.44	0.42
34:R1:119:A:H4'	34:R1:120:U:H5'	2.01	0.42
34:R1:634:C:H2'	34:R1:635:C:C6	2.52	0.42
34:R1:813:U:O2'	34:R1:1225:G:H1'	2.19	0.42
34:R1:1042:G:C5	34:R1:1043:C:C4	3.07	0.42
34:R1:1637:A:H2'	34:R1:1638:C:C6	2.54	0.42
34:R1:2064:C:H2'	34:R1:2065:C:H6	1.80	0.42
34:R1:2420:C:H2'	34:R1:2421:G:C8	2.52	0.42
35:R2:6:G:H2'	35:R2:7:G:H8	1.84	0.42
35:R2:62:C:H2'	35:R2:63:C:C6	2.54	0.42
36:R3:618:C:H5'	36:R3:619:U:H5"	2.01	0.42
36:R3:818:G:H2'	36:R3:820:U:C5	2.53	0.42
38:Y:372:ASP:OD1	38:Y:373:SER:N	2.52	0.42
3:11:49:GLU:HG3	34:R1:1061:U:C2	2.54	0.42
5:14:85:VAL:HG11	5:14:115:ILE:HD12	2.00	0.42
8:17:96:ARG:NH1	24:32:51:ARG:HH22	2.18	0.42
11:2:25:LYS:HE3	11:2:25:LYS:HB3	1.86	0.42
12:20:55:GLN:O	12:20:58:GLN:HB3	2.20	0.42
12:20:87:VAL:HG13	13:21:49:ILE:HD11	2.01	0.42
23:31:24:ILE:HG21	30:5:100:GLU:HA	2.01	0.42
23:31:64:PHE:HB2	36:R3:1326:U:O2	2.19	0.42
29:4:69:ARG:NH2	34:R1:807:U:O2	2.52	0.42
30:5:3:LEU:HG	30:5:6:TYR:CD2	2.46	0.42
30:5:18:GLU:OE2	30:5:18:GLU:C	2.58	0.42
30:5:77:LYS:HD3	30:5:77:LYS:HA	1.71	0.42
31:6:72:ASN:O	31:6:76:ILE:HG12	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:1089:A:C5	34:R1:1090:A:N7	2.87	0.42
34:R1:1092:C:N4	34:R1:1093:G:C6	2.87	0.42
34:R1:2473:U:OP1	34:R1:2529:G:N2	2.48	0.42
34:R1:2494:G:C2	34:R1:2495:G:C8	3.08	0.42
34:R1:2795:C:H2'	34:R1:2796:U:O4'	2.20	0.42
34:R1:2838:G:C4	34:R1:2839:G:C8	3.08	0.42
36:R3:418:C:N3	36:R3:425:G:C2	2.85	0.42
36:R3:518:C:O2'	36:R3:530:G:N2	2.52	0.42
36:R3:838:G:H2'	36:R3:839:C:H6	1.84	0.42
36:R3:986:U:H2'	36:R3:987:G:C8	2.54	0.42
36:R3:1171:A:H2'	36:R3:1172:C:C6	2.54	0.42
36:R3:1291:U:H2'	36:R3:1292:G:C8	2.55	0.42
2:10:12:VAL:HG22	34:R1:1108:U:H1'	1.99	0.42
3:11:19:PRO:HB3	34:R1:1088:A:C4	2.54	0.42
3:11:28:GLY:HA2	34:R1:1087:G:C4'	2.45	0.42
3:11:61:TYR:HB3	34:R1:1056:G:O4'	2.20	0.42
6:15:10:GLU:HB2	34:R1:1175:A:N1	2.34	0.42
6:15:96:LYS:HE2	6:15:96:LYS:HB3	1.74	0.42
11:2:226:PRO:HD3	11:2:233:GLY:HA2	2.01	0.42
23:31:60:PHE:HA	36:R3:1327:C:N4	2.34	0.42
25:33:8:ILE:HD13	25:33:24:LYS:HB3	2.02	0.42
25:33:37:LYS:N	34:R1:2346:A:C5	2.88	0.42
30:5:35:LEU:HD11	30:5:98:PHE:CE1	2.54	0.42
34:R1:93:G:H2'	34:R1:94:A:H8	1.84	0.42
34:R1:741:U:H2'	34:R1:742:A:C8	2.55	0.42
34:R1:917:A:H5"	34:R1:2268:A:H61	1.84	0.42
34:R1:1048:A:N6	34:R1:1111:A:H1'	2.35	0.42
34:R1:1913:A:O2'	34:R1:1914:C:OP2	2.37	0.42
34:R1:2078:C:H2'	34:R1:2079:U:C6	2.54	0.42
34:R1:2107:G:C6	34:R1:2183:A:N6	2.87	0.42
36:R3:1437:A:H2'	36:R3:1438:G:C8	2.54	0.42
37:T:23:A:C2	37:T:24:G:C5	3.07	0.42
2:10:73:LYS:HG2	2:10:117:LEU:HD13	2.01	0.42
3:11:6:ALA:HB3	34:R1:1086:A:H62	1.84	0.42
3:11:13:ALA:O	34:R1:1062:G:H4'	2.20	0.42
3:11:19:PRO:CG	3:11:37:PHE:HB2	2.43	0.42
3:11:56:VAL:O	3:11:58:ILE:HG23	2.19	0.42
5:14:25:LEU:HD11	5:14:40:LYS:HB2	2.02	0.42
6:15:129:LYS:HG2	34:R1:636:G:OP1	2.19	0.42
9:18:110:ALA:O	9:18:115:LEU:HB3	2.19	0.42
10:19:17:PRO:O	10:19:19:PHE:HD1	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:20:88:GLU:OE1	12:20:88:GLU:N	2.47	0.42
19:28:4:CYS:SG	19:28:51:SER:OG	2.62	0.42
20:29:22:LEU:HD12	20:29:23:ARG:HE	1.83	0.42
25:33:28:THR:CG2	34:R1:2419:U:C2	3.02	0.42
30:5:102:LEU:O	30:5:107:VAL:HG12	2.20	0.42
30:5:160:LYS:HB2	30:5:160:LYS:HE2	1.84	0.42
31:6:25:ILE:HG23	31:6:78:VAL:HG11	2.02	0.42
34:R1:1360:G:C8	34:R1:1361:G:C8	3.07	0.42
34:R1:2418:A:H2'	34:R1:2419:U:C1'	2.50	0.42
34:R1:2418:A:N7	34:R1:2419:U:C4	2.88	0.42
34:R1:2478:A:C8	34:R1:2529:G:N7	2.88	0.42
34:R1:2813:A:C4	34:R1:2814:A:C8	3.07	0.42
35:R2:41:G:O2'	35:R2:42:C:OP1	2.36	0.42
35:R2:48:U:O2	35:R2:48:U:H2'	2.20	0.42
35:R2:94:A:H2'	35:R2:95:U:O4'	2.19	0.42
36:R3:223:A:H2'	36:R3:224:U:H6	1.84	0.42
36:R3:505:G:C2	36:R3:506:G:C5	3.07	0.42
36:R3:769:G:H4'	36:R3:1513:A:H4'	2.01	0.42
38:Y:399:LEU:HD12	38:Y:400:THR:H	1.85	0.42
2:10:31:ARG:HG2	2:10:33:VAL:HG23	2.01	0.42
3:11:10:LEU:HD11	34:R1:1080:A:C6	2.55	0.42
3:11:39:LYS:CB	34:R1:1071:G:H3'	2.50	0.42
3:11:52:LEU:HD11	3:11:77:VAL:O	2.19	0.42
4:13:101:ILE:HD12	4:13:101:ILE:H	1.84	0.42
5:14:58:LEU:HD11	5:14:86:LEU:HD13	2.02	0.42
7:16:12:MET:HB3	7:16:72:PRO:HD2	2.02	0.42
7:16:33:LEU:HD13	7:16:117:PHE:HB3	2.00	0.42
7:16:46:ILE:HD12	7:16:46:ILE:H	1.83	0.42
7:16:105:MET:SD	7:16:108:VAL:HG22	2.60	0.42
11:2:209:ALA:HA	11:2:212:TRP:CE2	2.53	0.42
15:23:69:ARG:CZ	15:23:69:ARG:HB2	2.49	0.42
15:23:73:ARG:NH2	34:R1:456:C:C2	2.87	0.42
17:25:83:LYS:H	17:25:83:LYS:HG2	1.74	0.42
22:30:5:LYS:HZ3	22:30:36:GLU:HB2	1.84	0.42
30:5:110:ILE:CD1	30:5:111:ARG:O	2.67	0.42
31:6:92:GLY:HA2	31:6:94:ARG:HH12	1.84	0.42
34:R1:385:C:O2'	34:R1:388:G:N2	2.53	0.42
34:R1:547:A:H4'	34:R1:548:G:N7	2.33	0.42
34:R1:1159:U:N3	34:R1:1160:G:N7	2.68	0.42
34:R1:1507:C:H5"	34:R1:1508:A:OP2	2.20	0.42
34:R1:1960:A:O2'	36:R3:1484:C:O2'	2.26	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:2244:U:H2'	34:R1:2245:U:O4'	2.20	0.42
34:R1:2684:U:H2'	34:R1:2685:G:O4'	2.20	0.42
35:R2:31:C:H2'	35:R2:32:U:H6	1.84	0.42
36:R3:385:C:H2'	36:R3:386:C:C6	2.55	0.42
36:R3:1070:U:H2'	36:R3:1071:C:C6	2.55	0.42
36:R3:1087:G:C6	36:R3:1099:G:C6	3.08	0.42
36:R3:1255:G:H2'	36:R3:1258:G:H21	1.85	0.42
36:R3:1263:C:C2	36:R3:1264:U:C5	3.07	0.42
38:Y:39:GLY:HA2	61:Y:601:ATP:O5'	2.19	0.42
38:Y:313:LYS:HA	38:Y:313:LYS:CE	2.43	0.42
38:Y:522:ASP:OD1	38:Y:522:ASP:N	2.52	0.42
1:1:142:VAL:C	1:1:162:ARG:HH12	2.23	0.42
2:10:8:LYS:C	2:10:10:ALA:H	2.23	0.42
2:10:12:VAL:HA	34:R1:1107:G:H2'	2.02	0.42
3:11:43:ALA:HB1	34:R1:1097:U:OP1	2.20	0.42
9:18:36:TYR:HD1	9:18:52:SER:HB2	1.84	0.42
15:23:69:ARG:HH12	15:23:74:ILE:HG22	1.85	0.42
21:3:124:ARG:HA	21:3:165:MET:CE	2.50	0.42
24:32:54:ILE:HD12	24:32:54:ILE:HA	1.83	0.42
25:33:5:ARG:NE	34:R1:2418:A:O5'	2.52	0.42
25:33:37:LYS:HB2	34:R1:2346:A:O4'	2.20	0.42
30:5:38:GLY:CA	34:R1:2312:U:H1'	2.50	0.42
30:5:40:GLY:HA2	34:R1:2311:A:O2'	2.19	0.42
34:R1:362:A:C5	34:R1:363:G:C8	3.08	0.42
34:R1:372:G:O2'	34:R1:373:U:P	2.78	0.42
34:R1:553:G:H2'	34:R1:554:U:C6	2.55	0.42
34:R1:1100:C:H2'	34:R1:1101:U:O4'	2.19	0.42
34:R1:1327:A:H2'	34:R1:1328:A:O4'	2.20	0.42
34:R1:1387:A:C6	34:R1:1401:G:N1	2.88	0.42
34:R1:2107:G:H2'	34:R1:2108:A:H8	1.79	0.42
36:R3:160:A:H2'	36:R3:161:A:O4'	2.19	0.42
36:R3:570:G:H2'	36:R3:571:U:C6	2.53	0.42
36:R3:767:A:H2'	36:R3:768:A:O4'	2.20	0.42
36:R3:1124:G:H1'	36:R3:1125:U:H5	1.85	0.42
36:R3:1306:A:N6	36:R3:1332:A:C8	2.88	0.42
36:R3:1411:C:H2'	36:R3:1412:C:C6	2.54	0.42
36:R3:1452:C:H4'	36:R3:1453:G:N1	2.35	0.42
1:1:48:LEU:HD21	1:1:196:LEU:HD23	2.02	0.42
1:1:164:ARG:O	1:1:164:ARG:HG2	2.20	0.42
11:2:44:ASN:OD1	11:2:44:ASN:N	2.52	0.42
12:20:5:ARG:HD2	34:R1:1251:C:OP2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:27:43:THR:O	18:27:43:THR:HG23	2.19	0.42
23:31:3:LYS:O	23:31:4:ASP:CB	2.68	0.42
23:31:6:HIS:NE2	35:R2:43:C:O3'	2.53	0.42
23:31:59:ARG:O	23:31:62:LYS:HB2	2.19	0.42
24:32:8:THR:CG2	34:R1:2020:A:H5'	2.49	0.42
27:35:30:HIS:HB2	34:R1:2420:C:C5	2.55	0.42
30:5:65:LEU:HD23	35:R2:42:C:C4	2.55	0.42
30:5:106:ALA:N	30:5:108:PRO:HD2	2.35	0.42
34:R1:599:A:H2'	34:R1:600:G:H8	1.85	0.42
34:R1:1057:A:N7	34:R1:1086:A:C8	2.88	0.42
34:R1:1171:G:H2'	34:R1:1172:C:O4'	2.20	0.42
34:R1:2175:C:H2'	34:R1:2176:A:H5"	2.02	0.42
34:R1:2895:G:H2'	34:R1:2896:C:C6	2.55	0.42
35:R2:32:U:C2	35:R2:33:G:N7	2.88	0.42
36:R3:446:G:H3'	36:R3:447:G:H8	1.85	0.42
36:R3:711:G:H2'	36:R3:712:A:C8	2.55	0.42
36:R3:904:U:H2'	36:R3:905:U:C6	2.54	0.42
36:R3:1181:G:H1'	36:R3:1182:G:C5	2.55	0.42
38:Y:95:VAL:HG13	38:Y:119:LEU:HD22	2.02	0.42
38:Y:158:PRO:O	38:Y:161:LYS:HG2	2.20	0.42
38:Y:179:LEU:HD12	38:Y:182:PRO:HG3	2.02	0.42
38:Y:223:ALA:HA	38:Y:232:VAL:HA	2.02	0.42
38:Y:241:MET:O	38:Y:245:THR:HG22	2.19	0.42
38:Y:353:THR:OG1	38:Y:354:ASN:N	2.53	0.42
1:1:62:ALA:HB2	1:1:162:ARG:CZ	2.50	0.42
2:10:65:GLU:OE1	2:10:65:GLU:HA	2.20	0.42
3:11:31:GLY:N	34:R1:1086:A:O3'	2.53	0.42
3:11:41:PHE:CZ	34:R1:1062:G:H5"	2.55	0.42
4:13:96:ARG:HH22	34:R1:2639:A:H4'	1.69	0.42
8:17:45:ARG:O	8:17:49:GLU:HG3	2.19	0.42
9:18:24:THR:HG1	9:18:90:VAL:HA	1.85	0.42
14:22:23:LEU:HD22	24:32:23:ALA:HB2	2.02	0.42
19:28:17:ARG:HA	19:28:17:ARG:HD3	1.61	0.42
23:31:5:ILE:HG22	35:R2:44:G:P	2.60	0.42
23:31:56:ARG:HG3	36:R3:1308:U:C5	2.51	0.42
30:5:32:LYS:HA	30:5:95:MET:SD	2.60	0.42
31:6:22:VAL:HA	31:6:35:THR:HA	2.02	0.42
34:R1:177:G:H3'	34:R1:178:G:H8	1.84	0.42
34:R1:291:G:C6	34:R1:350:G:C6	3.08	0.42
34:R1:340:A:H2'	34:R1:341:C:O4'	2.20	0.42
34:R1:441:U:H2'	34:R1:442:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:639:U:C2	34:R1:640:C:C5	3.07	0.42
34:R1:814:C:H1'	34:R1:1225:G:N2	2.34	0.42
34:R1:1042:G:C2'	34:R1:1043:C:H5'	2.50	0.42
34:R1:1070:A:O2'	34:R1:1070:A:N3	2.35	0.42
34:R1:2377:A:H2'	34:R1:2378:A:C8	2.55	0.42
36:R3:222:C:H2'	36:R3:223:A:H8	1.85	0.42
36:R3:996:A:H2	36:R3:1045:C:HO2'	1.67	0.42
36:R3:1276:G:H2'	36:R3:1277:C:O4'	2.20	0.42
36:R3:1305:G:O2'	36:R3:1306:A:O4'	2.38	0.42
38:Y:199:ASN:HB2	38:Y:218:VAL:HG12	2.01	0.42
38:Y:322:VAL:CG1	38:Y:376:VAL:HG13	2.50	0.42
38:Y:332:GLY:HA3	38:Y:333:PRO:HD3	1.89	0.42
38:Y:516:PHE:HE1	38:Y:526:SER:HB3	1.85	0.42
1:1:11:ILE:O	1:1:15:VAL:HG13	2.20	0.41
2:10:76:PHE:CE1	34:R1:1085:A:C8	3.08	0.41
2:10:93:ALA:HA	2:10:131:THR:HG22	2.02	0.41
3:11:54:ILE:HG13	34:R1:1061:U:C6	2.55	0.41
4:13:59:ALA:HB1	4:13:101:ILE:HD13	2.01	0.41
7:16:28:PHE:N	7:16:104:GLU:OE2	2.53	0.41
15:23:3:ARG:NH2	15:23:7:LEU:HD21	2.35	0.41
15:23:73:ARG:HH21	34:R1:65:U:H1'	1.85	0.41
17:25:56:PHE:CE1	17:25:61:LEU:HD21	2.55	0.41
19:28:9:LYS:NZ	34:R1:396:G:OP2	2.53	0.41
29:4:45:ALA:CB	34:R1:38:A:H4'	2.50	0.41
30:5:87:LYS:HD2	34:R1:2314:A:H5'	2.02	0.41
34:R1:402:A:H2'	34:R1:403:U:O4'	2.20	0.41
34:R1:897:C:O2	34:R1:897:C:H2'	2.20	0.41
34:R1:1176:U:N3	34:R1:1177:G:C6	2.87	0.41
34:R1:1847:G:N2	34:R1:1848:A:H62	2.17	0.41
34:R1:1998:A:H2'	34:R1:1999:C:C6	2.55	0.41
36:R3:99:C:HO2'	36:R3:100:G:P	2.43	0.41
36:R3:1270:G:H2'	36:R3:1271:A:N7	2.35	0.41
36:R3:1460:C:C2	36:R3:1461:G:C8	3.08	0.41
38:Y:22:VAL:HG11	38:Y:230:LEU:HD23	2.01	0.41
38:Y:350:VAL:HG22	38:Y:358:LYS:HZ2	1.82	0.41
2:10:65:GLU:OE2	34:R1:1053:C:C2	2.73	0.41
3:11:40:ALA:CA	34:R1:1071:G:P	3.08	0.41
3:11:57:VAL:HB	3:11:69:VAL:HB	2.02	0.41
4:13:13:ARG:HE	4:13:121:LYS:HZ3	1.69	0.41
4:13:93:ILE:HD13	4:13:93:ILE:HA	1.95	0.41
6:15:36:LYS:NZ	34:R1:568:U:OP1	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:18:110:ALA:HB1	9:18:115:LEU:HD23	2.02	0.41
10:19:28:LYS:HB3	10:19:39:LEU:HD22	2.02	0.41
11:2:140:VAL:CG1	11:2:189:ALA:HB1	2.49	0.41
15:23:5:GLU:H	15:23:5:GLU:CD	2.13	0.41
15:23:21:SER:O	15:23:24:MET:HG3	2.20	0.41
17:25:55:GLU:O	17:25:59:GLU:HG2	2.20	0.41
23:31:63:ARG:HG2	36:R3:1326:U:C2'	2.20	0.41
23:31:66:ILE:HG21	36:R3:1269:A:O5'	2.20	0.41
25:33:38:PHE:HZ	34:R1:2291:U:C1'	2.33	0.41
27:35:3:ILE:HG21	27:35:62:PRO:HG3	2.02	0.41
29:4:30:GLN:CD	34:R1:659:G:H21	2.23	0.41
30:5:60:SER:O	30:5:62:GLN:N	2.44	0.41
30:5:65:LEU:HD11	30:5:87:LYS:H	1.85	0.41
34:R1:203:A:OP2	34:R1:204:A:H2'	2.19	0.41
34:R1:537:G:H22	34:R1:555:G:H2'	1.84	0.41
34:R1:2127:G:N2	34:R1:2162:G:C4	2.89	0.41
34:R1:2320:U:H4'	34:R1:2321:U:C5	2.55	0.41
34:R1:2475:C:H42	34:R1:2529:G:H22	1.67	0.41
35:R2:33:G:C2	35:R2:34:A:C2	3.08	0.41
35:R2:87:U:H5"	35:R2:88:C:H5	1.84	0.41
36:R3:76:G:H2'	36:R3:77:A:C8	2.54	0.41
36:R3:138:G:C6	36:R3:226:G:C5	3.08	0.41
36:R3:554:A:H2'	36:R3:555:U:C6	2.56	0.41
36:R3:1030:U:H2'	36:R3:1031:C:H5'	2.02	0.41
36:R3:1198:G:H2'	36:R3:1199:U:C6	2.55	0.41
36:R3:1352:C:H2'	36:R3:1353:G:O4'	2.19	0.41
36:R3:1386:G:H2'	36:R3:1387:G:C8	2.55	0.41
37:T:52:G:N1	37:T:63:G:C6	2.88	0.41
38:Y:9:MET:CE	38:Y:53:PRO:HA	2.50	0.41
38:Y:45:LYS:HE2	38:Y:51:LEU:HD22	2.02	0.41
38:Y:196:GLN:O	38:Y:200:GLU:HB3	2.19	0.41
38:Y:434:LYS:CE	38:Y:438:VAL:HG23	2.47	0.41
9:18:80:GLU:HA	9:18:83:LEU:HG	2.02	0.41
21:3:63:PRO:O	34:R1:2786:U:O2'	2.33	0.41
23:31:60:PHE:O	23:31:61:ASN:C	2.57	0.41
27:35:63:TYR:CE1	34:R1:242:G:H5"	2.55	0.41
34:R1:152:A:H2'	34:R1:153:U:C6	2.55	0.41
34:R1:571:U:O2'	34:R1:573:U:O5'	2.35	0.41
34:R1:962:G:N2	34:R1:2250:G:H1	2.13	0.41
34:R1:1286:A:H1'	34:R1:1288:G:OP2	2.19	0.41
34:R1:1857:G:C2	34:R1:1884:G:C2	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:2347:C:H2'	34:R1:2348:U:H6	1.82	0.41
34:R1:2805:C:H2'	34:R1:2806:C:C6	2.55	0.41
34:R1:2847:U:H2'	34:R1:2848:G:O4'	2.21	0.41
35:R2:10:G:C5	35:R2:11:C:N3	2.88	0.41
36:R3:202:G:H21	36:R3:466:A:H61	1.68	0.41
36:R3:284:C:H2'	36:R3:285:C:H6	1.85	0.41
36:R3:285:C:H2'	36:R3:286:C:C6	2.55	0.41
36:R3:572:A:H5'	36:R3:573:A:OP2	2.21	0.41
36:R3:1249:C:H2'	36:R3:1250:A:H5"	2.02	0.41
36:R3:1436:U:H2'	36:R3:1437:A:C8	2.54	0.41
38:Y:451:LYS:HB3	38:Y:451:LYS:HE2	1.74	0.41
1:1:45:ALA:CB	1:1:172:HIS:HB3	2.51	0.41
2:10:4:ASN:HB2	34:R1:1111:A:H5"	2.02	0.41
2:10:64:VAL:HG11	34:R1:1105:U:H3	1.85	0.41
2:10:97:LYS:HB2	2:10:129:LEU:CD1	2.49	0.41
3:11:27:LEU:O	3:11:29:GLN:N	2.52	0.41
3:11:53:PRO:HB3	34:R1:1060:U:O5'	2.20	0.41
3:11:57:VAL:HG22	34:R1:1058:U:OP1	2.20	0.41
6:15:73:ILE:HD11	6:15:106:GLU:HB2	2.01	0.41
7:16:4:PRO:HG2	7:16:70:ASP:HA	2.01	0.41
10:19:108:ARG:HD2	36:R3:1463:U:OP1	2.21	0.41
13:21:1:MET:N	13:21:42:ALA:O	2.32	0.41
14:22:92:ARG:NH1	34:R1:747:U:O2'	2.53	0.41
16:24:7:ASP:N	16:24:7:ASP:OD1	2.47	0.41
16:24:17:ASP:HB3	16:24:20:LYS:HB3	2.03	0.41
16:24:55:GLY:O	34:R1:483:A:O2'	2.33	0.41
17:25:29:ILE:O	17:25:91:PHE:HB2	2.20	0.41
20:29:17:GLU:HB2	20:29:53:VAL:HG11	2.02	0.41
21:3:14:ILE:HD13	21:3:14:ILE:HA	1.85	0.41
21:3:118:PHE:HB2	34:R1:2823:A:OP1	2.20	0.41
22:30:5:LYS:NZ	22:30:36:GLU:HB2	2.34	0.41
23:31:27:THR:O	30:5:97:GLU:HG3	2.21	0.41
25:33:25:ASN:HD21	34:R1:2398:U:H3	1.68	0.41
25:33:28:THR:H	34:R1:2397:G:H22	1.67	0.41
32:9:55:GLU:OE1	32:9:58:LEU:HD23	2.20	0.41
34:R1:13:A:O2'	34:R1:15:G:N7	2.52	0.41
34:R1:413:C:H2'	34:R1:414:C:C6	2.55	0.41
34:R1:898:C:H2'	34:R1:899:A:O4'	2.20	0.41
34:R1:1080:A:H2'	34:R1:1081:U:C6	2.55	0.41
34:R1:1295:C:C2	34:R1:1296:G:C8	3.07	0.41
35:R2:54:G:H2'	35:R2:55:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:129:A:H1'	36:R3:130:A:C8	2.56	0.41
36:R3:745:G:H2'	36:R3:746:A:C8	2.52	0.41
36:R3:932:C:H2'	36:R3:933:G:C8	2.56	0.41
36:R3:976:G:C8	36:R3:1358:U:O2	2.73	0.41
2:10:5:LEU:O	2:10:8:LYS:HB2	2.21	0.41
6:15:73:ILE:HG13	6:15:106:GLU:OE1	2.21	0.41
11:2:269:ARG:HA	11:2:269:ARG:HD2	1.79	0.41
12:20:3:VAL:HG21	34:R1:1249:U:H4'	2.03	0.41
23:31:41:HIS:CE1	23:31:43:PHE:HB3	2.56	0.41
23:31:44:PHE:CD2	23:31:45:THR:HG23	2.56	0.41
30:5:48:LEU:HB2	30:5:147:ARG:NH1	2.35	0.41
31:6:24:THR:HG23	31:6:31:GLU:OE2	2.20	0.41
34:R1:172:A:H2'	34:R1:173:A:C8	2.54	0.41
34:R1:268:C:H2'	34:R1:269:C:H6	1.85	0.41
34:R1:296:U:H2'	34:R1:297:G:C8	2.55	0.41
34:R1:594:U:H2'	34:R1:595:C:H6	1.85	0.41
34:R1:1164:C:H2'	34:R1:1165:A:C8	2.56	0.41
34:R1:1443:U:C2	34:R1:1444:G:C8	3.09	0.41
34:R1:1857:G:H22	34:R1:1884:G:H2'	1.85	0.41
34:R1:2216:G:H2'	34:R1:2217:G:C8	2.53	0.41
34:R1:2642:G:C2	34:R1:2643:G:C8	3.08	0.41
34:R1:2661:G:H2'	34:R1:2662:A:O4'	2.21	0.41
35:R2:34:A:O2'	35:R2:35:C:H5"	2.20	0.41
36:R3:1304:G:N2	36:R3:1332:A:OP2	2.53	0.41
1:1:77:VAL:O	1:1:96:GLY:HA2	2.20	0.41
3:11:10:LEU:O	34:R1:1059:G:H5"	2.20	0.41
3:11:12:VAL:HG12	34:R1:1060:U:C5	2.56	0.41
8:17:115:LEU:HD23	8:17:115:LEU:HA	1.89	0.41
25:33:5:ARG:HE	34:R1:2418:A:C5'	2.34	0.41
25:33:36:LYS:HE2	34:R1:2285:C:C2'	2.51	0.41
27:35:11:LYS:NZ	34:R1:247:G:O6	2.49	0.41
29:4:69:ARG:NH1	34:R1:674:G:N3	2.66	0.41
29:4:122:GLU:N	29:4:122:GLU:OE1	2.53	0.41
29:4:131:THR:HG21	34:R1:320:A:C4	2.55	0.41
29:4:147:LEU:HD23	29:4:186:VAL:HG12	2.01	0.41
30:5:34:THR:HB	30:5:154:THR:OG1	2.20	0.41
34:R1:656:G:H2'	34:R1:657:U:C6	2.56	0.41
34:R1:891:G:H2'	34:R1:892:A:H5"	2.03	0.41
34:R1:1028:A:N3	34:R1:2486:C:O2'	2.39	0.41
34:R1:1089:A:C6	34:R1:1090:A:N7	2.89	0.41
34:R1:1538:G:H2'	34:R1:1539:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R1:1860:G:H2'	34:R1:1861:G:H8	1.86	0.41
34:R1:2400:G:H2'	34:R1:2401:U:C6	2.56	0.41
34:R1:2704:C:H2'	34:R1:2705:A:O4'	2.21	0.41
34:R1:2852:G:H2'	34:R1:2853:C:H6	1.86	0.41
36:R3:946:A:H2'	36:R3:947:G:H8	1.86	0.41
36:R3:1001:C:H2'	36:R3:1002:G:H8	1.85	0.41
36:R3:1175:G:H2'	36:R3:1176:A:C8	2.52	0.41
38:Y:524:LEU:HD13	38:Y:524:LEU:HA	1.92	0.41
2:10:76:PHE:HD2	34:R1:1083:U:O2'	2.03	0.41
3:11:9:LYS:HE3	3:11:9:LYS:HB3	1.73	0.41
3:11:10:LEU:HB3	3:11:11:GLN:H	1.60	0.41
3:11:38:CYS:C	34:R1:1071:G:OP1	2.59	0.41
3:11:99:LYS:HA	3:11:138:VAL:HG12	2.02	0.41
12:20:58:GLN:NE2	34:R1:1009:A:C5'	2.84	0.41
14:22:6:LYS:HZ1	14:22:8:ARG:HH11	1.69	0.41
21:3:4:LEU:HD12	21:3:4:LEU:HA	1.88	0.41
22:30:7:THR:O	22:30:54:VAL:HA	2.20	0.41
23:31:60:PHE:CE1	36:R3:1328:C:C5	3.03	0.41
24:32:37:HIS:CD2	24:32:43:THR:HG22	2.56	0.41
30:5:16:MET:SD	30:5:21:TYR:HB2	2.61	0.41
32:9:8:LYS:O	32:9:9:VAL:HG23	2.21	0.41
34:R1:12:U:O2	34:R1:12:U:H2'	2.20	0.41
34:R1:19:A:H2'	34:R1:20:C:C6	2.56	0.41
34:R1:640:C:H2'	34:R1:641:U:H6	1.86	0.41
34:R1:645:C:H2'	34:R1:647:G:N7	2.35	0.41
34:R1:940:G:H2'	34:R1:941:A:O4'	2.21	0.41
34:R1:1516:G:C6	34:R1:1517:G:C5	3.08	0.41
34:R1:1858:A:C2	34:R1:1885:A:H1'	2.55	0.41
34:R1:2157:G:O2'	34:R1:2158:A:O4'	2.35	0.41
34:R1:2460:U:C2	34:R1:2461:A:C8	3.09	0.41
34:R1:2584:U:HO2'	34:R1:2585:U:H6	1.62	0.41
34:R1:2644:G:O2'	34:R1:2645:G:H5'	2.21	0.41
34:R1:2786:U:H2'	34:R1:2787:C:H6	1.86	0.41
36:R3:358:U:C2	36:R3:359:G:C8	3.09	0.41
36:R3:1406:U:H2'	36:R3:1407:C:O4'	2.21	0.41
37:T:27:C:C2	37:T:28:C:C5	3.08	0.41
37:T:42:G:C6	37:T:43:G:C5	3.09	0.41
38:Y:322:VAL:HG11	38:Y:365:LEU:HD22	2.02	0.41
1:1:177:LYS:HB2	1:1:179:ASP:OD1	2.21	0.41
1:1:218:MET:N	1:1:218:MET:SD	2.94	0.41
2:10:13:ALA:N	34:R1:1108:U:P	2.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:10:31:ARG:HH12	2:10:36:ASP:HB2	1.85	0.41
2:10:76:PHE:HE1	34:R1:1085:A:C8	2.39	0.41
6:15:109:LYS:HG3	6:15:126:ARG:O	2.21	0.41
7:16:19:GLY:C	7:16:20:LEU:HD22	2.41	0.41
11:2:73:ILE:N	11:2:73:ILE:HD13	2.36	0.41
11:2:230:PRO:O	11:2:241:LYS:HE3	2.20	0.41
11:2:250:GLN:C	11:2:250:GLN:OE1	2.59	0.41
17:25:80:HIS:ND1	17:25:83:LYS:HG2	2.36	0.41
23:31:44:PHE:HD2	23:31:45:THR:HG23	1.85	0.41
23:31:61:ASN:C	23:31:63:ARG:N	2.73	0.41
26:34:24:THR:HG23	26:34:26:ASN:N	2.36	0.41
29:4:34:ALA:HA	29:4:94:GLN:HE21	1.84	0.41
30:5:33:ILE:HG12	30:5:95:MET:HG3	2.02	0.41
34:R1:155:A:H2'	34:R1:156:A:C8	2.56	0.41
34:R1:439:A:H2'	34:R1:440:C:O4'	2.20	0.41
34:R1:485:C:H2'	34:R1:486:C:H6	1.85	0.41
34:R1:1174:U:H4'	34:R1:1176:U:H1'	2.03	0.41
34:R1:2185:U:C4	34:R1:2186:G:C5	3.08	0.41
34:R1:2344:U:H5'	34:R1:2373:G:H4'	2.02	0.41
34:R1:2731:G:O2'	34:R1:2732:G:H5'	2.21	0.41
36:R3:410:G:H2'	36:R3:429:U:C4	2.55	0.41
36:R3:868:C:H2'	36:R3:869:G:O4'	2.21	0.41
36:R3:1014:A:H2'	36:R3:1015:G:N9	2.36	0.41
36:R3:1130:A:N6	36:R3:1144:G:O2'	2.54	0.41
36:R3:1225:A:H2'	36:R3:1225:A:N3	2.35	0.41
36:R3:1246:A:H2'	36:R3:1247:U:O4'	2.20	0.41
36:R3:1319:A:C8	36:R3:1323:G:C6	3.09	0.41
36:R3:1488:G:H2'	36:R3:1489:G:H8	1.86	0.41
38:Y:170:LEU:HD12	38:Y:201:ARG:NH2	2.36	0.41
1:1:9:ARG:O	1:1:13:GLU:HG3	2.20	0.41
1:1:189:LEU:HD23	1:1:189:LEU:HA	1.87	0.41
2:10:51:TYR:CE2	2:10:87:GLU:HA	2.55	0.41
2:10:72:LEU:HD11	34:R1:1085:A:N6	2.35	0.41
3:11:26:ALA:HB1	34:R1:1080:A:C8	2.56	0.41
4:13:69:ARG:O	4:13:89:PHE:HB3	2.21	0.41
6:15:18:ARG:NH2	34:R1:1250:G:N7	2.49	0.41
6:15:36:LYS:NZ	34:R1:567:U:O3'	2.49	0.41
6:15:92:LEU:HD12	6:15:92:LEU:HA	1.86	0.41
7:16:44:ARG:HD3	34:R1:2484:G:OP1	2.21	0.41
9:18:8:ILE:O	9:18:12:THR:HG23	2.21	0.41
9:18:8:ILE:HD13	9:18:8:ILE:HA	1.90	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:2:123:ILE:HG23	11:2:191:LEU:CD2	2.51	0.41
11:2:208:GLY:HA2	11:2:211:ARG:HB2	2.03	0.41
11:2:219:VAL:HG21	34:R1:782:A:C8	2.55	0.41
12:20:73:ILE:HD12	12:20:73:ILE:HA	1.94	0.41
13:21:38:VAL:O	13:21:54:VAL:HG23	2.21	0.41
17:25:32:GLY:HA3	17:25:93:ARG:HD2	2.03	0.41
21:3:33:ARG:NH2	21:3:53:GLY:O	2.54	0.41
22:30:30:ARG:HG2	22:30:33:HIS:HB2	2.03	0.41
23:31:65:ASN:O	36:R3:1268:G:C6	2.73	0.41
25:33:27:ARG:NH1	34:R1:2420:C:C2	2.87	0.41
29:4:101:TYR:HE1	34:R1:616:A:H4'	1.86	0.41
30:5:31:GLU:HG2	30:5:32:LYS:N	2.35	0.41
31:6:45:ALA:C	31:6:47:ASN:H	2.24	0.41
34:R1:2:G:H2'	34:R1:3:U:H6	1.86	0.41
34:R1:59:U:O2'	34:R1:74:A:OP2	2.30	0.41
34:R1:147:C:H2'	34:R1:148:U:C6	2.55	0.41
34:R1:413:C:H2'	34:R1:414:C:H6	1.86	0.41
34:R1:518:G:H2'	34:R1:519:U:C6	2.55	0.41
34:R1:704:G:H2'	34:R1:726:G:H22	1.86	0.41
34:R1:891:G:N2	34:R1:892:A:H62	2.19	0.41
34:R1:1172:C:H2'	34:R1:1173:U:C4	2.56	0.41
34:R1:1476:U:H2'	34:R1:1477:A:H8	1.86	0.41
34:R1:1711:A:H2'	34:R1:1712:U:C6	2.56	0.41
34:R1:2024:G:OP2	34:R1:2034:U:H4'	2.21	0.41
34:R1:2024:G:C4	34:R1:2040:G:N2	2.89	0.41
34:R1:2114:A:H61	34:R1:2119:A:N6	2.19	0.41
34:R1:2121:G:C2	34:R1:2178:C:O2	2.74	0.41
34:R1:2329:U:H2'	34:R1:2330:G:C8	2.56	0.41
34:R1:2345:G:H8	34:R1:2371:G:N2	2.02	0.41
34:R1:2373:G:H2'	34:R1:2374:C:C6	2.56	0.41
34:R1:2420:C:O2'	34:R1:2421:G:H5'	2.21	0.41
34:R1:2660:A:H8	34:R1:2660:A:OP1	2.03	0.41
34:R1:2661:G:OP2	34:R1:2661:G:H8	2.03	0.41
34:R1:2781:A:H5"	34:R1:2782:G:H5'	2.03	0.41
35:R2:38:C:N3	35:R2:44:G:N1	2.67	0.41
35:R2:60:C:C2	35:R2:61:G:C8	3.09	0.41
36:R3:166:U:H2'	36:R3:167:A:C8	2.56	0.41
36:R3:257:G:N1	36:R3:270:A:C6	2.89	0.41
36:R3:360:G:H2'	36:R3:361:G:C8	2.56	0.41
36:R3:948:C:H2'	36:R3:949:A:H8	1.86	0.41
36:R3:1062:U:H2'	36:R3:1063:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:1130:A:H5'	36:R3:1131:G:OP2	2.21	0.41
36:R3:1338:G:N3	37:T:41:A:O2'	2.53	0.41
38:Y:84:THR:O	38:Y:84:THR:OG1	2.37	0.41
38:Y:118:ASP:O	38:Y:122:LYS:HG2	2.21	0.41
38:Y:222:MET:HE3	38:Y:240:TYR:HB3	2.03	0.41
38:Y:312:ASP:HB2	38:Y:383:ARG:HH12	1.86	0.41
38:Y:408:TRP:C	38:Y:454:MET:HE2	2.41	0.41
38:Y:471:MET:HA	38:Y:474:ILE:HG12	2.03	0.41
2:10:75:ALA:O	34:R1:1084:A:C8	2.74	0.41
3:11:35:MET:N	34:R1:1089:A:C8	2.87	0.41
3:11:62:ALA:HA	3:11:64:ARG:HH22	1.86	0.41
5:14:40:LYS:HD2	5:14:57:VAL:HG12	2.04	0.41
8:17:38:LEU:HB3	8:17:39:PRO:HD3	2.02	0.41
11:2:47:ARG:H	11:2:47:ARG:HG2	1.76	0.41
11:2:73:ILE:HG22	11:2:95:TYR:HD2	1.86	0.41
14:22:74:ILE:HD12	14:22:105:VAL:HA	2.02	0.41
24:32:1:ALA:H3	34:R1:2056:G:H21	1.67	0.41
25:33:43:ARG:HH12	34:R1:2341:G:H1	1.68	0.41
27:35:3:ILE:CG2	27:35:62:PRO:HG3	2.51	0.41
28:36:7:VAL:HG22	28:36:38:GLY:HA3	2.03	0.41
32:9:9:VAL:O	32:9:10:ALA:C	2.59	0.41
34:R1:287:G:H2'	34:R1:288:U:H6	1.86	0.41
34:R1:1341:G:OP1	34:R1:1397:U:N3	2.36	0.41
34:R1:1437:C:O2'	34:R1:1516:G:O2'	2.31	0.41
34:R1:1495:A:H2'	34:R1:1496:A:C8	2.56	0.41
36:R3:825:A:H2'	36:R3:826:C:C6	2.56	0.41
36:R3:1435:G:H2'	36:R3:1436:U:C6	2.55	0.41
37:T:52:G:C2	37:T:53:G:C8	3.09	0.41
38:Y:163:ARG:HE	38:Y:163:ARG:HB2	1.62	0.41
38:Y:179:LEU:HD21	38:Y:207:ILE:CG1	2.50	0.41
38:Y:185:ASN:O	38:Y:185:ASN:ND2	2.54	0.41
2:10:64:VAL:HG11	34:R1:1105:U:C2	2.56	0.40
3:11:39:LYS:HE3	34:R1:1099:G:O6	2.21	0.40
5:14:59:LYS:HD3	5:14:89:ASN:HA	2.02	0.40
6:15:78:ARG:NH1	34:R1:626:A:H2'	2.35	0.40
6:15:131:ALA:O	6:15:135:ILE:HD12	2.21	0.40
10:19:52:ARG:NH2	34:R1:2720:U:H5"	2.36	0.40
11:2:208:GLY:HA2	34:R1:764:A:H5'	2.04	0.40
12:20:32:ARG:NH2	34:R1:1253:A:OP1	2.54	0.40
15:23:36:LYS:HA	15:23:36:LYS:HD2	1.92	0.40
16:24:23:LYS:O	16:24:36:GLU:HG3	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:31:3:LYS:HB2	35:R2:44:G:C2	2.55	0.40
28:36:6:SER:HB3	34:R1:2466:C:H5"	2.03	0.40
29:4:73:ILE:HD12	29:4:73:ILE:HA	1.92	0.40
30:5:78:ILE:HA	30:5:78:ILE:HD12	1.77	0.40
34:R1:232:G:H8	34:R1:232:G:OP2	2.03	0.40
34:R1:358:U:H2'	34:R1:359:G:H8	1.85	0.40
34:R1:372:G:N2	34:R1:401:A:OP2	2.45	0.40
34:R1:711:G:C6	34:R1:721:A:C6	3.10	0.40
34:R1:774:G:O2'	34:R1:775:G:O4'	2.39	0.40
34:R1:820:A:C2	34:R1:943:A:H4'	2.56	0.40
34:R1:1070:A:N6	34:R1:1096:A:C2	2.89	0.40
34:R1:1273:U:H4'	34:R1:1275:A:OP1	2.21	0.40
34:R1:1528:A:OP2	34:R1:1543:G:N2	2.54	0.40
34:R1:2011:U:H2'	34:R1:2012:G:O4'	2.21	0.40
36:R3:360:G:C6	36:R3:361:G:C6	3.09	0.40
36:R3:413:G:H1'	36:R3:428:G:N2	2.36	0.40
38:Y:10:GLN:O	38:Y:54:THR:OG1	2.38	0.40
1:1:40:GLU:HA	1:1:218:MET:HE1	2.04	0.40
2:10:26:VAL:HG12	2:10:84:TYR:HD1	1.86	0.40
2:10:27:VAL:HG23	2:10:110:ALA:HB2	2.03	0.40
2:10:82:ILE:HD11	2:10:111:ALA:HB3	2.04	0.40
3:11:39:LYS:C	34:R1:1071:G:P	3.00	0.40
3:11:52:LEU:O	34:R1:1061:U:C6	2.74	0.40
4:13:46:PRO:HD3	12:20:59:LEU:HD13	2.02	0.40
10:19:8:GLU:HG2	10:19:54:LEU:HB2	2.03	0.40
10:19:37:LYS:HB2	10:19:37:LYS:HE2	1.83	0.40
11:2:200:MET:HE3	34:R1:1820:U:C4	2.56	0.40
12:20:16:ILE:HD13	12:20:16:ILE:HA	1.85	0.40
12:20:83:LYS:NZ	34:R1:998:C:OP1	2.33	0.40
15:23:62:VAL:HG11	34:R1:1601:G:P	2.61	0.40
21:3:2:ILE:HG21	21:3:90:PHE:CE2	2.56	0.40
23:31:43:PHE:CZ	30:5:113:PHE:HD1	2.39	0.40
24:32:36:LYS:HE3	24:32:36:LYS:HB2	1.74	0.40
30:5:21:TYR:HB3	30:5:26:GLN:CD	2.42	0.40
30:5:45:ASP:OD1	38:Y:413:ASP:HB3	2.22	0.40
31:6:75:VAL:HA	31:6:78:VAL:HG22	2.04	0.40
34:R1:481:G:O2'	34:R1:506:G:N2	2.55	0.40
34:R1:1441:G:H2'	34:R1:1442:U:H6	1.85	0.40
34:R1:2391:G:O2'	34:R1:2429:G:N2	2.54	0.40
36:R3:453:G:H8	36:R3:453:G:OP2	2.04	0.40
36:R3:601:G:H2'	36:R3:602:A:H8	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:R3:707:U:C2	36:R3:708:C:C5	3.09	0.40
36:R3:950:U:H3	36:R3:1231:G:H1	1.70	0.40
36:R3:1015:G:H1'	36:R3:1218:C:O2'	2.21	0.40
36:R3:1096:C:C2	36:R3:1097:C:C5	3.08	0.40
36:R3:1227:A:H5'	36:R3:1228:C:OP2	2.21	0.40
36:R3:1418:A:N6	36:R3:1482:G:O2'	2.47	0.40
37:T:2:G:H2'	37:T:3:G:H8	1.86	0.40
38:Y:512:ARG:HG2	38:Y:513:VAL:H	1.85	0.40
1:1:172:HIS:NE2	34:R1:2122:U:O2	2.54	0.40
2:10:76:PHE:HA	34:R1:1084:A:H5"	2.04	0.40
3:11:8:VAL:HG22	34:R1:1057:A:C2	2.56	0.40
3:11:61:TYR:HE2	34:R1:1056:G:C2	2.39	0.40
8:17:103:ARG:HG2	8:17:110:MET:HE1	2.03	0.40
11:2:144:GLU:N	11:2:144:GLU:OE1	2.54	0.40
12:20:107:ALA:HA	12:20:110:GLU:CD	2.42	0.40
13:21:34:GLU:OE1	13:21:34:GLU:HA	2.20	0.40
16:24:82:VAL:CG1	16:24:93:ARG:HB3	2.51	0.40
17:25:91:PHE:HD1	17:25:91:PHE:HA	1.81	0.40
22:30:5:LYS:HZ2	22:30:36:GLU:HA	1.87	0.40
23:31:3:LYS:HD3	35:R2:48:U:N3	2.36	0.40
23:31:59:ARG:HB2	36:R3:1310:G:C4	2.56	0.40
24:32:12:ARG:O	24:32:16:ARG:HG3	2.21	0.40
25:33:37:LYS:HG2	34:R1:2383:G:N9	2.35	0.40
26:34:34:ARG:NH2	26:34:42:LEU:O	2.54	0.40
30:5:71:LYS:HG2	30:5:72:SER:H	1.85	0.40
30:5:169:LEU:HD22	30:5:174:PHE:CE2	2.56	0.40
34:R1:100:U:H4'	34:R1:101:A:O4'	2.20	0.40
34:R1:611:C:H2'	34:R1:612:G:O4'	2.21	0.40
34:R1:1518:C:H2'	34:R1:1519:G:H8	1.87	0.40
34:R1:2236:U:H2'	34:R1:2237:G:O4'	2.21	0.40
34:R1:2512:C:H2'	34:R1:2513:A:O4'	2.21	0.40
36:R3:57:G:H2'	36:R3:58:C:H6	1.86	0.40
36:R3:137:U:C2	36:R3:226:G:O6	2.74	0.40
36:R3:181:A:C4	36:R3:195:A:N6	2.90	0.40
36:R3:376:G:C4	36:R3:377:G:C8	3.09	0.40
36:R3:1179:A:H2'	36:R3:1180:A:O4'	2.21	0.40
36:R3:1333:A:H2'	36:R3:1334:G:O4'	2.22	0.40
38:Y:198:LEU:HD12	38:Y:198:LEU:HA	1.74	0.40
38:Y:327:LYS:O	38:Y:334:LEU:N	2.46	0.40
38:Y:347:LYS:NZ	38:Y:484:TYR:O	2.54	0.40
1:1:211:LYS:NZ	34:R1:2178:C:OP1	2.31	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:11:11:GLN:O	34:R1:1059:G:H3'	2.20	0.40
4:13:3:THR:HG23	34:R1:995:C:C2	2.57	0.40
4:13:32:LEU:O	4:13:36:LEU:HG	2.21	0.40
7:16:114:ARG:HD2	7:16:130:PHE:CD2	2.56	0.40
9:18:62:LEU:C	9:18:63:LYS:HD3	2.42	0.40
11:2:131:MET:HA	11:2:134:ILE:HD12	2.02	0.40
16:24:52:ASN:OD1	16:24:52:ASN:N	2.54	0.40
17:25:6:ALA:HB1	17:25:40:ILE:HG13	2.03	0.40
24:32:40:HIS:CE1	34:R1:2815:C:HO2'	2.36	0.40
25:33:5:ARG:HA	34:R1:2418:A:H1'	2.04	0.40
29:4:2:GLU:OE1	29:4:11:ALA:HB1	2.21	0.40
30:5:43:ILE:CD1	30:5:78:ILE:HD13	2.49	0.40
31:6:48:THR:OG1	31:6:49:LEU:N	2.55	0.40
34:R1:394:C:H2'	34:R1:395:U:O4'	2.21	0.40
34:R1:1011:G:C6	34:R1:1151:A:C6	3.10	0.40
34:R1:1038:G:H2'	34:R1:1039:A:H8	1.86	0.40
34:R1:1113:U:H2'	34:R1:1114:C:C6	2.56	0.40
34:R1:1433:A:H61	34:R1:1560:G:H1	1.68	0.40
34:R1:2725:A:O2'	34:R1:2726:A:C8	2.75	0.40
34:R1:2840:C:H2'	34:R1:2841:C:C6	2.56	0.40
34:R1:2854:G:C6	34:R1:2864:G:C6	3.10	0.40
35:R2:39:A:C2	35:R2:44:G:N2	2.90	0.40
36:R3:110:C:C2	36:R3:111:G:C8	3.09	0.40
36:R3:457:G:H3'	36:R3:458:U:H5"	2.02	0.40
36:R3:602:A:H2'	36:R3:603:U:C6	2.56	0.40
36:R3:836:G:C6	36:R3:851:G:C6	3.10	0.40
36:R3:908:A:H2'	36:R3:909:A:C8	2.56	0.40
36:R3:1347:G:O2'	36:R3:1373:G:O6	2.35	0.40
38:Y:14:LYS:H	38:Y:14:LYS:HG2	1.55	0.40
38:Y:307:ILE:O	38:Y:308:ARG:HD2	2.21	0.40
38:Y:419:ARG:HH12	38:Y:429:GLN:HG2	1.87	0.40
1:1:161:VAL:HG21	1:1:175:ILE:HG22	2.02	0.40
3:11:10:LEU:H	34:R1:1058:U:H1'	1.87	0.40
3:11:72:THR:HG22	3:11:116:MET:HG2	2.03	0.40
6:15:18:ARG:HH21	6:15:21:ARG:HG3	1.86	0.40
10:19:19:PHE:CE1	10:19:83:ILE:HG21	2.56	0.40
14:22:24:ILE:HG13	14:22:24:ILE:O	2.22	0.40
14:22:84:ARG:HD3	14:22:84:ARG:HA	1.89	0.40
17:25:25:LYS:HE2	17:25:25:LYS:HB2	1.93	0.40
21:3:58:ASN:ND2	21:3:58:ASN:C	2.75	0.40
23:31:1:MET:CB	35:R2:47:C:H41	2.31	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:31:66:ILE:HD13	36:R3:1269:A:H5"	2.02	0.40
27:35:9:ALA:HB1	27:35:61:LEU:HD21	2.02	0.40
30:5:16:MET:CE	30:5:21:TYR:HB2	2.51	0.40
34:R1:421:C:O2'	34:R1:422:A:P	2.79	0.40
34:R1:924:G:C2	34:R1:925:A:C5	3.10	0.40
34:R1:1218:G:N1	34:R1:1232:G:N7	2.70	0.40
34:R1:1475:G:O2'	34:R1:1732:C:N4	2.54	0.40
34:R1:1487:U:H2'	34:R1:1488:C:H6	1.85	0.40
34:R1:1625:C:H2'	34:R1:1626:A:O4'	2.21	0.40
34:R1:1744:A:H3'	34:R1:1745:A:H8	1.86	0.40
34:R1:1889:A:H2'	34:R1:1890:A:C8	2.56	0.40
34:R1:2107:G:O2'	34:R1:2108:A:O5'	2.38	0.40
34:R1:2153:C:H2'	34:R1:2154:A:C8	2.56	0.40
34:R1:2472:G:O2'	34:R1:2478:A:N6	2.53	0.40
34:R1:2637:U:H2'	34:R1:2638:G:O4'	2.21	0.40
36:R3:416:G:N1	36:R3:417:G:C6	2.90	0.40
36:R3:1057:G:H2'	36:R3:1058:G:O4'	2.22	0.40
38:Y:193:TRP:CZ3	38:Y:197:VAL:HG11	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	1	218/220 (99%)	203 (93%)	14 (6%)	1 (0%)	25 54
2	10	129/131 (98%)	89 (69%)	40 (31%)	0	100 100
3	11	139/141 (99%)	103 (74%)	34 (24%)	2 (1%)	9 31
4	13	140/142 (99%)	134 (96%)	6 (4%)	0	100 100
5	14	120/123 (98%)	104 (87%)	16 (13%)	0	100 100
6	15	141/143 (99%)	126 (89%)	15 (11%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	16	134/136 (98%)	126 (94%)	8 (6%)	0	100	100
8	17	118/120 (98%)	105 (89%)	13 (11%)	0	100	100
9	18	113/116 (97%)	111 (98%)	2 (2%)	0	100	100
10	19	112/114 (98%)	101 (90%)	11 (10%)	0	100	100
11	2	269/271 (99%)	245 (91%)	24 (9%)	0	100	100
12	20	115/117 (98%)	110 (96%)	5 (4%)	0	100	100
13	21	101/103 (98%)	89 (88%)	12 (12%)	0	100	100
14	22	108/110 (98%)	100 (93%)	8 (7%)	0	100	100
15	23	91/93 (98%)	78 (86%)	13 (14%)	0	100	100
16	24	100/102 (98%)	84 (84%)	16 (16%)	0	100	100
17	25	92/94 (98%)	88 (96%)	4 (4%)	0	100	100
18	27	73/75 (97%)	63 (86%)	9 (12%)	1 (1%)	9	31
19	28	75/77 (97%)	71 (95%)	4 (5%)	0	100	100
20	29	61/63 (97%)	59 (97%)	2 (3%)	0	100	100
21	3	207/209 (99%)	193 (93%)	14 (7%)	0	100	100
22	30	56/58 (97%)	50 (89%)	6 (11%)	0	100	100
23	31	64/66 (97%)	46 (72%)	17 (27%)	1 (2%)	8	29
24	32	54/56 (96%)	49 (91%)	5 (9%)	0	100	100
25	33	48/50 (96%)	34 (71%)	14 (29%)	0	100	100
26	34	44/46 (96%)	40 (91%)	4 (9%)	0	100	100
27	35	62/64 (97%)	59 (95%)	3 (5%)	0	100	100
28	36	36/38 (95%)	32 (89%)	4 (11%)	0	100	100
29	4	199/201 (99%)	185 (93%)	14 (7%)	0	100	100
30	5	175/177 (99%)	153 (87%)	22 (13%)	0	100	100
31	6	174/176 (99%)	158 (91%)	15 (9%)	1 (1%)	22	50
32	9	147/149 (99%)	133 (90%)	13 (9%)	1 (1%)	19	47
38	Y	528/530 (100%)	482 (91%)	42 (8%)	4 (1%)	16	44
39	sb	216/218 (99%)	200 (93%)	16 (7%)	0	100	100
40	sc	204/206 (99%)	194 (95%)	10 (5%)	0	100	100
41	sd	203/205 (99%)	181 (89%)	22 (11%)	0	100	100
42	se	155/157 (99%)	131 (84%)	23 (15%)	1 (1%)	22	50

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	sf	98/100 (98%)	79 (81%)	19 (19%)	0	100	100
44	sg	149/151 (99%)	137 (92%)	12 (8%)	0	100	100
45	sh	127/129 (98%)	114 (90%)	13 (10%)	0	100	100
46	si	125/127 (98%)	102 (82%)	22 (18%)	1 (1%)	16	44
47	sj	96/98 (98%)	88 (92%)	7 (7%)	1 (1%)	13	39
48	sk	114/116 (98%)	102 (90%)	12 (10%)	0	100	100
49	sl	121/123 (98%)	91 (75%)	30 (25%)	0	100	100
50	sm	112/114 (98%)	95 (85%)	17 (15%)	0	100	100
51	sn	98/100 (98%)	77 (79%)	21 (21%)	0	100	100
52	so	86/88 (98%)	81 (94%)	5 (6%)	0	100	100
53	sp	80/82 (98%)	67 (84%)	13 (16%)	0	100	100
54	sq	78/80 (98%)	67 (86%)	11 (14%)	0	100	100
55	sr	63/65 (97%)	58 (92%)	5 (8%)	0	100	100
56	ss	77/79 (98%)	68 (88%)	9 (12%)	0	100	100
57	st	83/85 (98%)	81 (98%)	2 (2%)	0	100	100
58	su	63/65 (97%)	42 (67%)	20 (32%)	1 (2%)	8	29
All	All	6591/6699 (98%)	5858 (89%)	718 (11%)	15 (0%)	45	72

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	1	118	PRO
3	11	19	PRO
3	11	52	LEU
38	Y	15	PRO
46	si	90	ASP
23	31	4	ASP
32	9	9	VAL
38	Y	303	GLN
42	se	122	VAL
47	sj	57	VAL
38	Y	14	LYS
58	su	37	TYR
31	6	11	PRO
38	Y	144	ILE
18	27	74	PRO

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 PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	1	106/171 (62%)	102 (96%)	4 (4%)	28	54
2	10	100/100 (100%)	93 (93%)	7 (7%)	12	37
3	11	109/109 (100%)	109 (100%)	0	100	100
4	13	116/116 (100%)	114 (98%)	2 (2%)	56	74
5	14	103/104 (99%)	99 (96%)	4 (4%)	27	53
6	15	102/102 (100%)	100 (98%)	2 (2%)	50	70
7	16	109/109 (100%)	104 (95%)	5 (5%)	23	49
8	17	100/100 (100%)	96 (96%)	4 (4%)	27	52
9	18	86/86 (100%)	82 (95%)	4 (5%)	22	49
10	19	99/99 (100%)	98 (99%)	1 (1%)	73	83
11	2	216/216 (100%)	208 (96%)	8 (4%)	29	54
12	20	89/89 (100%)	85 (96%)	4 (4%)	23	50
13	21	84/84 (100%)	83 (99%)	1 (1%)	67	80
14	22	93/93 (100%)	88 (95%)	5 (5%)	18	44
15	23	80/80 (100%)	75 (94%)	5 (6%)	15	40
16	24	83/83 (100%)	80 (96%)	3 (4%)	30	56
17	25	78/78 (100%)	76 (97%)	2 (3%)	41	64
18	27	57/57 (100%)	53 (93%)	4 (7%)	12	37
19	28	67/67 (100%)	66 (98%)	1 (2%)	60	76
20	29	55/55 (100%)	52 (94%)	3 (6%)	18	44
21	3	164/164 (100%)	161 (98%)	3 (2%)	54	73
22	30	48/48 (100%)	48 (100%)	0	100	100
23	31	59/59 (100%)	57 (97%)	2 (3%)	32	57
24	32	47/47 (100%)	45 (96%)	2 (4%)	25	50
25	33	45/45 (100%)	43 (96%)	2 (4%)	24	50
26	34	38/38 (100%)	37 (97%)	1 (3%)	41	64

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
27	35	51/51 (100%)	50 (98%)	1 (2%)	50 70
28	36	34/34 (100%)	33 (97%)	1 (3%)	37 61
29	4	165/165 (100%)	164 (99%)	1 (1%)	84 90
30	5	148/148 (100%)	137 (93%)	11 (7%)	11 35
31	6	137/137 (100%)	131 (96%)	6 (4%)	24 50
32	9	114/114 (100%)	113 (99%)	1 (1%)	75 86
38	Y	456/456 (100%)	438 (96%)	18 (4%)	27 53
39	sb	180/180 (100%)	174 (97%)	6 (3%)	33 58
40	sc	170/170 (100%)	163 (96%)	7 (4%)	26 51
41	sd	172/172 (100%)	170 (99%)	2 (1%)	67 80
42	se	119/119 (100%)	114 (96%)	5 (4%)	25 51
43	sf	87/87 (100%)	81 (93%)	6 (7%)	13 38
44	sg	124/124 (100%)	121 (98%)	3 (2%)	44 66
45	sh	104/104 (100%)	102 (98%)	2 (2%)	52 71
46	si	105/105 (100%)	94 (90%)	11 (10%)	5 21
47	sj	86/86 (100%)	84 (98%)	2 (2%)	45 67
48	sk	89/89 (100%)	84 (94%)	5 (6%)	17 43
49	sl	103/103 (100%)	98 (95%)	5 (5%)	21 48
50	sm	92/92 (100%)	86 (94%)	6 (6%)	14 39
51	sn	83/83 (100%)	81 (98%)	2 (2%)	44 66
52	so	76/76 (100%)	74 (97%)	2 (3%)	41 64
53	sp	65/65 (100%)	63 (97%)	2 (3%)	35 60
54	sq	74/74 (100%)	72 (97%)	2 (3%)	40 63
55	sr	56/56 (100%)	55 (98%)	1 (2%)	54 73
56	ss	70/70 (100%)	66 (94%)	4 (6%)	17 43
57	st	65/65 (100%)	64 (98%)	1 (2%)	60 76
58	su	55/55 (100%)	52 (94%)	3 (6%)	18 44
All	All	5413/5479 (99%)	5218 (96%)	195 (4%)	32 56

All (195) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1	47	ASN

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Mol	Chain	Res	Type
1	1	60	ARG
1	1	208	TYR
1	1	225	ASP
2	10	38	MET
2	10	51	TYR
2	10	56	ARG
2	10	62	ARG
2	10	81	LEU
2	10	96	PHE
2	10	99	PHE
4	13	52	ASP
4	13	95	ARG
5	14	32	TYR
5	14	49	ARG
5	14	56	ASP
5	14	90	ASN
6	15	42	SER
6	15	93	ASN
7	16	2	LEU
7	16	5	LYS
7	16	25	ASP
7	16	53	MET
7	16	100	LYS
8	17	2	ARG
8	17	59	SER
8	17	78	LYS
8	17	106	ASP
9	18	19	GLN
9	18	33	ARG
9	18	81	ARG
9	18	85	LYS
10	19	5	LYS
11	2	110	LYS
11	2	113	ASP
11	2	129	LEU
11	2	133	ASN
11	2	166	ARG
11	2	212	TRP
11	2	263	ASP
11	2	264	LYS
12	20	17	LEU
12	20	29	ARG

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Mol	Chain	Res	Type
12	20	88	GLU
12	20	110	GLU
13	21	26	ASP
14	22	16	LYS
14	22	53	SER
14	22	67	ASP
14	22	68	ASP
14	22	95	ARG
15	23	4	GLU
15	23	6	ARG
15	23	68	LYS
15	23	73	ARG
15	23	77	ARG
16	24	52	ASN
16	24	88	ASP
16	24	91	LYS
17	25	41	GLU
17	25	76	ASP
18	27	72	LYS
18	27	76	ASN
18	27	77	ARG
18	27	81	SER
19	28	77	TYR
20	29	4	LYS
20	29	13	GLU
20	29	49	ASP
21	3	1	MET
21	3	32	ASN
21	3	58	ASN
23	31	9	TYR
23	31	65	ASN
24	32	30	ASP
24	32	36	LYS
25	33	38	PHE
25	33	43	ARG
26	34	12	ARG
27	35	27	ASN
28	36	6	SER
29	4	137	LYS
30	5	9	ASP
30	5	18	GLU
30	5	19	PHE

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Mol	Chain	Res	Type
30	5	65	LEU
30	5	70	ARG
30	5	77	LYS
30	5	80	GLN
30	5	99	PHE
30	5	116	LEU
30	5	121	PHE
30	5	149	ARG
31	6	21	GLN
31	6	68	ARG
31	6	87	GLN
31	6	151	ARG
31	6	162	ARG
31	6	174	LYS
32	9	68	ARG
38	Y	11	PHE
38	Y	43	PHE
38	Y	65	ARG
38	Y	70	ARG
38	Y	115	LYS
38	Y	123	TYR
38	Y	127	ASP
38	Y	199	ASN
38	Y	209	SER
38	Y	231	ARG
38	Y	233	TYR
38	Y	290	ASP
38	Y	342	LEU
38	Y	383	ARG
38	Y	393	TYR
38	Y	497	PHE
38	Y	522	ASP
38	Y	523	TYR
39	sb	22	TRP
39	sb	96	LEU
39	sb	99	MET
39	sb	135	MET
39	sb	193	ASP
39	sb	224	ARG
40	sc	22	PHE
40	sc	41	TYR
40	sc	50	SER

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Mol	Chain	Res	Type
40	sc	113	LYS
40	sc	125	ARG
40	sc	163	ARG
40	sc	175	HIS
41	sd	137	SER
41	sd	170	LEU
42	se	75	LEU
42	se	82	HIS
42	se	92	ARG
42	se	96	GLN
42	se	161	GLU
43	sf	11	HIS
43	sf	47	LEU
43	sf	52	ASN
43	sf	53	LYS
43	sf	73	GLU
43	sf	82	ASP
44	sg	13	PRO
44	sg	75	LYS
44	sg	136	LYS
45	sh	8	ASP
45	sh	41	GLU
46	si	30	ASN
46	si	37	TYR
46	si	38	PHE
46	si	44	ARG
46	si	45	MET
46	si	53	LEU
46	si	87	MET
46	si	89	TYR
46	si	97	LEU
46	si	105	ARG
46	si	118	ARG
47	sj	88	MET
47	sj	97	ASP
48	sk	12	ARG
48	sk	71	ASP
48	sk	111	ASP
48	sk	120	CYS
48	sk	124	LYS
49	sl	18	SER
49	sl	26	CYS

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Mol	Chain	Res	Type
49	sl	101	LEU
49	sl	103	CYS
49	sl	116	TYR
50	sm	22	TYR
50	sm	62	PHE
50	sm	78	ARG
50	sm	84	CYS
50	sm	103	THR
50	sm	112	ARG
51	sn	39	ASP
51	sn	57	SER
52	so	19	ASN
52	so	37	HIS
53	sp	23	ASP
53	sp	69	ASP
54	sq	15	LYS
54	sq	79	GLU
55	sr	72	ARG
56	ss	14	LEU
56	ss	20	LYS
56	ss	28	LYS
56	ss	43	MET
57	st	73	ARG
58	su	11	PHE
58	su	17	ARG
58	su	32	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (25) such sidechains are listed below:

Mol	Chain	Res	Type
1	1	47	ASN
1	1	67	HIS
3	11	42	ASN
9	18	104	GLN
10	19	76	HIS
12	20	58	GLN
14	22	61	ASN
15	23	59	ASN
19	28	15	ASN
19	28	16	ASN
21	3	36	GLN
21	3	173	GLN

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Mol	Chain	Res	Type
23	31	65	ASN
26	34	26	ASN
28	36	37	GLN
30	5	62	GLN
32	9	11	ASN
43	sf	11	HIS
43	sf	14	GLN
43	sf	37	HIS
44	sg	67	ASN
44	sg	129	ASN
44	sg	147	ASN
47	sj	58	ASN
57	st	54	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
33	M	6/6 (100%)	4 (66%)	1 (16%)
34	R1	2902/2903 (99%)	542 (18%)	11 (0%)
35	R2	118/119 (99%)	20 (16%)	2 (1%)
36	R3	1536/1538 (99%)	320 (20%)	3 (0%)
37	T	75/76 (98%)	27 (36%)	1 (1%)
All	All	4637/4642 (99%)	913 (19%)	18 (0%)

All (913) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
33	M	2	U
33	M	3	G
33	M	4	A
33	M	5	A
34	R1	10	A
34	R1	15	G
34	R1	34	U
34	R1	35	G
34	R1	46	G
34	R1	50	U
34	R1	51	G
34	R1	63	A
34	R1	71	A
34	R1	74	A

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Mol	Chain	Res	Type
34	R1	75	G
34	R1	84	A
34	R1	96	C
34	R1	102	U
34	R1	118	A
34	R1	119	A
34	R1	120	U
34	R1	135	U
34	R1	140	C
34	R1	141	G
34	R1	142	A
34	R1	162	U
34	R1	163	C
34	R1	181	A
34	R1	196	A
34	R1	199	A
34	R1	203	A
34	R1	204	A
34	R1	205	G
34	R1	215	G
34	R1	216	A
34	R1	218	A
34	R1	219	A
34	R1	221	A
34	R1	222	A
34	R1	223	A
34	R1	228	C
34	R1	229	C
34	R1	230	G
34	R1	233	A
34	R1	248	G
34	R1	249	C
34	R1	255	A
34	R1	265	A
34	R1	266	G
34	R1	281	C
34	R1	285	G
34	R1	294	A
34	R1	302	C
34	R1	304	U
34	R1	311	A
34	R1	323	C

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Mol	Chain	Res	Type
34	R1	324	A
34	R1	329	G
34	R1	330	A
34	R1	353	C
34	R1	361	G
34	R1	362	A
34	R1	369	U
34	R1	371	A
34	R1	372	G
34	R1	373	U
34	R1	385	C
34	R1	386	G
34	R1	387	U
34	R1	395	U
34	R1	404	A
34	R1	405	U
34	R1	406	G
34	R1	411	G
34	R1	412	A
34	R1	417	C
34	R1	422	A
34	R1	424	G
34	R1	443	A
34	R1	457	A
34	R1	473	G
34	R1	475	C
34	R1	479	A
34	R1	480	A
34	R1	481	G
34	R1	490	C
34	R1	491	G
34	R1	504	A
34	R1	505	A
34	R1	509	C
34	R1	529	A
34	R1	530	G
34	R1	531	C
34	R1	532	A
34	R1	533	G
34	R1	543	G
34	R1	544	C
34	R1	545	U

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Mol	Chain	Res	Type
34	R1	546	U
34	R1	547	A
34	R1	548	G
34	R1	562	U
34	R1	563	A
34	R1	572	A
34	R1	573	U
34	R1	575	A
34	R1	603	A
34	R1	614	A
34	R1	615	U
34	R1	627	A
34	R1	637	A
34	R1	645	C
34	R1	646	U
34	R1	654	A
34	R1	655	A
34	R1	668	A
34	R1	669	G
34	R1	670	A
34	R1	685	A
34	R1	686	U
34	R1	687	C
34	R1	695	G
34	R1	709	U
34	R1	717	C
34	R1	722	A
34	R1	726	G
34	R1	729	G
34	R1	730	A
34	R1	740	C
34	R1	746	U
34	R1	747	U
34	R1	748	G
34	R1	775	G
34	R1	776	G
34	R1	782	A
34	R1	784	G
34	R1	785	G
34	R1	805	G
34	R1	812	C
34	R1	819	A

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Mol	Chain	Res	Type
34	R1	827	U
34	R1	830	G
34	R1	845	A
34	R1	846	U
34	R1	847	U
34	R1	858	G
34	R1	859	G
34	R1	869	G
34	R1	878	A
34	R1	886	A
34	R1	887	U
34	R1	888	C
34	R1	891	G
34	R1	894	U
34	R1	896	A
34	R1	897	C
34	R1	902	C
34	R1	905	A
34	R1	907	G
34	R1	910	A
34	R1	927	A
34	R1	932	U
34	R1	938	G
34	R1	941	A
34	R1	945	A
34	R1	946	C
34	R1	953	G
34	R1	961	C
34	R1	973	A
34	R1	974	G
34	R1	983	A
34	R1	995	C
34	R1	996	A
34	R1	1005	C
34	R1	1009	A
34	R1	1012	U
34	R1	1013	C
34	R1	1021	A
34	R1	1023	U
34	R1	1025	G
34	R1	1026	G
34	R1	1033	U

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Mol	Chain	Res	Type
34	R1	1041	G
34	R1	1043	C
34	R1	1045	C
34	R1	1046	A
34	R1	1047	G
34	R1	1048	A
34	R1	1051	G
34	R1	1053	C
34	R1	1054	A
34	R1	1055	G
34	R1	1057	A
34	R1	1058	U
34	R1	1059	G
34	R1	1060	U
34	R1	1061	U
34	R1	1062	G
34	R1	1063	G
34	R1	1064	C
34	R1	1065	U
34	R1	1066	U
34	R1	1067	A
34	R1	1069	A
34	R1	1070	A
34	R1	1071	G
34	R1	1072	C
34	R1	1073	A
34	R1	1074	G
34	R1	1075	C
34	R1	1076	C
34	R1	1077	A
34	R1	1078	U
34	R1	1079	C
34	R1	1080	A
34	R1	1083	U
34	R1	1084	A
34	R1	1085	A
34	R1	1086	A
34	R1	1087	G
34	R1	1088	A
34	R1	1089	A
34	R1	1090	A
34	R1	1094	U

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Mol	Chain	Res	Type
34	R1	1095	A
34	R1	1096	A
34	R1	1104	C
34	R1	1105	U
34	R1	1106	G
34	R1	1107	G
34	R1	1108	U
34	R1	1110	G
34	R1	1111	A
34	R1	1112	G
34	R1	1119	U
34	R1	1131	G
34	R1	1132	U
34	R1	1134	A
34	R1	1135	C
34	R1	1142	A
34	R1	1143	A
34	R1	1173	U
34	R1	1175	A
34	R1	1176	U
34	R1	1178	C
34	R1	1180	U
34	R1	1204	A
34	R1	1211	C
34	R1	1212	G
34	R1	1250	G
34	R1	1251	C
34	R1	1253	A
34	R1	1256	G
34	R1	1271	G
34	R1	1272	A
34	R1	1273	U
34	R1	1300	G
34	R1	1301	A
34	R1	1302	A
34	R1	1306	C
34	R1	1312	U
34	R1	1313	U
34	R1	1341	G
34	R1	1345	C
34	R1	1352	U
34	R1	1353	A

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Mol	Chain	Res	Type
34	R1	1365	A
34	R1	1368	G
34	R1	1378	A
34	R1	1379	U
34	R1	1383	A
34	R1	1386	C
34	R1	1392	A
34	R1	1393	A
34	R1	1395	A
34	R1	1403	A
34	R1	1416	G
34	R1	1417	C
34	R1	1420	A
34	R1	1421	G
34	R1	1428	C
34	R1	1452	G
34	R1	1458	U
34	R1	1461	C
34	R1	1475	G
34	R1	1482	G
34	R1	1490	A
34	R1	1503	A
34	R1	1504	A
34	R1	1507	C
34	R1	1508	A
34	R1	1515	A
34	R1	1519	G
34	R1	1522	A
34	R1	1524	G
34	R1	1530	G
34	R1	1532	A
34	R1	1534	U
34	R1	1535	A
34	R1	1536	C
34	R1	1558	C
34	R1	1559	U
34	R1	1560	G
34	R1	1569	A
34	R1	1578	U
34	R1	1583	A
34	R1	1587	G
34	R1	1608	A

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Mol	Chain	Res	Type
34	R1	1610	A
34	R1	1611	C
34	R1	1634	A
34	R1	1646	C
34	R1	1647	U
34	R1	1648	U
34	R1	1649	G
34	R1	1674	G
34	R1	1677	A
34	R1	1713	A
34	R1	1715	G
34	R1	1724	G
34	R1	1729	U
34	R1	1730	C
34	R1	1731	G
34	R1	1735	A
34	R1	1738	G
34	R1	1757	A
34	R1	1758	U
34	R1	1764	C
34	R1	1773	A
34	R1	1782	U
34	R1	1784	A
34	R1	1786	A
34	R1	1800	C
34	R1	1801	A
34	R1	1807	G
34	R1	1808	A
34	R1	1816	C
34	R1	1829	A
34	R1	1871	A
34	R1	1873	G
34	R1	1901	A
34	R1	1906	G
34	R1	1914	C
34	R1	1919	A
34	R1	1929	G
34	R1	1930	G
34	R1	1931	U
34	R1	1937	A
34	R1	1938	A
34	R1	1955	U

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Mol	Chain	Res	Type
34	R1	1963	U
34	R1	1966	A
34	R1	1967	C
34	R1	1970	A
34	R1	1971	U
34	R1	1972	G
34	R1	1975	G
34	R1	1991	U
34	R1	1997	C
34	R1	2020	A
34	R1	2022	U
34	R1	2023	C
34	R1	2030	A
34	R1	2031	A
34	R1	2033	A
34	R1	2036	C
34	R1	2043	C
34	R1	2055	C
34	R1	2056	G
34	R1	2060	A
34	R1	2061	G
34	R1	2062	A
34	R1	2063	C
34	R1	2069	G
34	R1	2072	C
34	R1	2093	G
34	R1	2096	C
34	R1	2110	G
34	R1	2111	U
34	R1	2112	G
34	R1	2115	G
34	R1	2118	U
34	R1	2119	A
34	R1	2120	G
34	R1	2121	G
34	R1	2124	G
34	R1	2125	G
34	R1	2126	A
34	R1	2127	G
34	R1	2128	G
34	R1	2131	U
34	R1	2132	U

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Mol	Chain	Res	Type
34	R1	2133	G
34	R1	2137	U
34	R1	2140	G
34	R1	2145	C
34	R1	2146	C
34	R1	2148	G
34	R1	2149	U
34	R1	2166	U
34	R1	2170	A
34	R1	2172	U
34	R1	2173	A
34	R1	2174	C
34	R1	2176	A
34	R1	2178	C
34	R1	2179	C
34	R1	2182	U
34	R1	2188	U
34	R1	2196	C
34	R1	2197	U
34	R1	2198	A
34	R1	2199	A
34	R1	2204	G
34	R1	2211	A
34	R1	2213	U
34	R1	2225	A
34	R1	2238	G
34	R1	2239	G
34	R1	2250	G
34	R1	2266	A
34	R1	2278	A
34	R1	2280	G
34	R1	2283	C
34	R1	2286	G
34	R1	2287	A
34	R1	2288	A
34	R1	2289	G
34	R1	2290	G
34	R1	2292	U
34	R1	2300	C
34	R1	2305	U
34	R1	2309	A
34	R1	2311	A

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Mol	Chain	Res	Type
34	R1	2313	C
34	R1	2315	G
34	R1	2318	G
34	R1	2320	U
34	R1	2322	A
34	R1	2325	G
34	R1	2327	A
34	R1	2333	A
34	R1	2334	U
34	R1	2335	A
34	R1	2343	U
34	R1	2344	U
34	R1	2345	G
34	R1	2347	C
34	R1	2350	C
34	R1	2357	G
34	R1	2359	C
34	R1	2361	G
34	R1	2371	G
34	R1	2380	C
34	R1	2381	A
34	R1	2383	G
34	R1	2385	C
34	R1	2397	G
34	R1	2398	U
34	R1	2399	G
34	R1	2402	U
34	R1	2403	C
34	R1	2406	A
34	R1	2418	A
34	R1	2419	U
34	R1	2420	C
34	R1	2422	C
34	R1	2423	U
34	R1	2429	G
34	R1	2430	A
34	R1	2441	U
34	R1	2448	A
34	R1	2452	C
34	R1	2476	A
34	R1	2478	A
34	R1	2491	U

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Mol	Chain	Res	Type
34	R1	2492	U
34	R1	2494	G
34	R1	2498	C
34	R1	2502	G
34	R1	2503	A
34	R1	2504	U
34	R1	2505	G
34	R1	2506	U
34	R1	2507	C
34	R1	2513	A
34	R1	2518	A
34	R1	2520	C
34	R1	2526	G
34	R1	2535	G
34	R1	2547	A
34	R1	2554	U
34	R1	2562	U
34	R1	2566	A
34	R1	2567	G
34	R1	2572	A
34	R1	2573	C
34	R1	2574	G
34	R1	2582	G
34	R1	2586	U
34	R1	2602	A
34	R1	2609	U
34	R1	2613	U
34	R1	2615	U
34	R1	2629	U
34	R1	2630	G
34	R1	2636	C
34	R1	2661	G
34	R1	2663	G
34	R1	2682	A
34	R1	2689	U
34	R1	2690	U
34	R1	2714	G
34	R1	2718	G
34	R1	2732	G
34	R1	2733	A
34	R1	2744	G
34	R1	2748	A

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Mol	Chain	Res	Type
34	R1	2752	C
34	R1	2759	G
34	R1	2764	A
34	R1	2765	A
34	R1	2777	G
34	R1	2778	A
34	R1	2779	U
34	R1	2791	G
34	R1	2797	U
34	R1	2798	U
34	R1	2800	A
34	R1	2807	U
34	R1	2808	G
34	R1	2820	A
34	R1	2821	A
34	R1	2823	A
34	R1	2833	U
34	R1	2835	A
34	R1	2849	U
34	R1	2867	G
34	R1	2868	A
34	R1	2872	A
34	R1	2879	A
34	R1	2884	U
34	R1	2886	A
34	R1	2887	A
34	R1	2893	A
34	R1	2901	C
35	R2	9	G
35	R2	11	C
35	R2	12	C
35	R2	13	G
35	R2	24	G
35	R2	35	C
35	R2	40	U
35	R2	41	G
35	R2	44	G
35	R2	45	A
35	R2	46	A
35	R2	48	U
35	R2	53	A
35	R2	67	G

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Mol	Chain	Res	Type
35	R2	88	C
35	R2	89	U
35	R2	90	C
35	R2	108	A
35	R2	109	A
35	R2	116	G
36	R3	3	A
36	R3	4	U
36	R3	7	A
36	R3	9	G
36	R3	22	G
36	R3	31	G
36	R3	32	A
36	R3	33	A
36	R3	39	G
36	R3	41	G
36	R3	42	G
36	R3	47	C
36	R3	48	C
36	R3	50	A
36	R3	51	A
36	R3	64	G
36	R3	68	G
36	R3	70	U
36	R3	71	A
36	R3	72	A
36	R3	73	C
36	R3	83	C
36	R3	84	U
36	R3	85	U
36	R3	86	G
36	R3	88	U
36	R3	95	C
36	R3	96	U
36	R3	100	G
36	R3	121	U
36	R3	130	A
36	R3	131	A
36	R3	136	C
36	R3	138	G
36	R3	144	G
36	R3	148	G

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Mol	Chain	Res	Type
36	R3	149	A
36	R3	150	U
36	R3	153	C
36	R3	154	U
36	R3	156	C
36	R3	163	C
36	R3	164	G
36	R3	166	U
36	R3	171	A
36	R3	173	U
36	R3	174	A
36	R3	183	C
36	R3	186	C
36	R3	197	A
36	R3	199	A
36	R3	209	U
36	R3	210	C
36	R3	211	G
36	R3	225	C
36	R3	226	G
36	R3	245	U
36	R3	247	G
36	R3	251	G
36	R3	266	G
36	R3	267	C
36	R3	280	C
36	R3	281	G
36	R3	283	U
36	R3	289	G
36	R3	293	G
36	R3	296	U
36	R3	305	G
36	R3	306	A
36	R3	328	C
36	R3	329	A
36	R3	330	C
36	R3	341	C
36	R3	342	C
36	R3	343	U
36	R3	344	A
36	R3	345	C
36	R3	347	G

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Mol	Chain	Res	Type
36	R3	351	G
36	R3	352	C
36	R3	354	G
36	R3	356	A
36	R3	358	U
36	R3	367	U
36	R3	369	G
36	R3	372	C
36	R3	378	G
36	R3	387	U
36	R3	391	G
36	R3	392	C
36	R3	394	G
36	R3	396	C
36	R3	398	U
36	R3	402	G
36	R3	404	G
36	R3	406	G
36	R3	409	U
36	R3	411	A
36	R3	413	G
36	R3	416	G
36	R3	420	U
36	R3	421	U
36	R3	422	C
36	R3	423	G
36	R3	425	G
36	R3	426	U
36	R3	429	U
36	R3	437	U
36	R3	439	U
36	R3	442	G
36	R3	448	A
36	R3	458	U
36	R3	464	U
36	R3	467	U
36	R3	468	A
36	R3	469	C
36	R3	475	C
36	R3	476	U
36	R3	477	C
36	R3	479	U

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Mol	Chain	Res	Type
36	R3	480	U
36	R3	482	A
36	R3	484	G
36	R3	485	U
36	R3	486	U
36	R3	487	A
36	R3	488	C
36	R3	491	G
36	R3	492	C
36	R3	493	A
36	R3	497	G
36	R3	502	A
36	R3	511	C
36	R3	513	C
36	R3	514	C
36	R3	517	G
36	R3	524	G
36	R3	527	G
36	R3	529	G
36	R3	531	U
36	R3	532	A
36	R3	540	G
36	R3	541	G
36	R3	547	A
36	R3	549	C
36	R3	553	A
36	R3	559	A
36	R3	561	U
36	R3	562	U
36	R3	564	C
36	R3	573	A
36	R3	575	G
36	R3	576	C
36	R3	577	G
36	R3	596	A
36	R3	605	U
36	R3	614	C
36	R3	615	G
36	R3	616	G
36	R3	620	C
36	R3	621	A
36	R3	633	G

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Mol	Chain	Res	Type
36	R3	665	A
36	R3	688	G
36	R3	701	U
36	R3	702	A
36	R3	703	G
36	R3	704	A
36	R3	713	G
36	R3	718	A
36	R3	721	G
36	R3	723	U
36	R3	724	G
36	R3	731	G
36	R3	734	G
36	R3	747	A
36	R3	755	G
36	R3	758	C
36	R3	777	A
36	R3	792	A
36	R3	815	A
36	R3	817	C
36	R3	818	G
36	R3	819	A
36	R3	829	G
36	R3	832	G
36	R3	843	U
36	R3	844	G
36	R3	846	G
36	R3	849	G
36	R3	851	G
36	R3	858	G
36	R3	872	A
36	R3	885	G
36	R3	889	A
36	R3	902	G
36	R3	914	A
36	R3	934	C
36	R3	935	A
36	R3	942	G
36	R3	943	U
36	R3	946	A
36	R3	947	G
36	R3	950	U

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Mol	Chain	Res	Type
36	R3	958	A
36	R3	960	U
36	R3	961	U
36	R3	966	G
36	R3	969	A
36	R3	971	G
36	R3	975	A
36	R3	976	G
36	R3	977	A
36	R3	981	U
36	R3	982	U
36	R3	991	U
36	R3	992	U
36	R3	993	G
36	R3	1004	A
36	R3	1020	G
36	R3	1028	C
36	R3	1029	U
36	R3	1031	C
36	R3	1032	G
36	R3	1033	G
36	R3	1044	A
36	R3	1045	C
36	R3	1046	A
36	R3	1053	G
36	R3	1064	G
36	R3	1085	U
36	R3	1094	G
36	R3	1099	G
36	R3	1101	A
36	R3	1129	C
36	R3	1132	C
36	R3	1134	G
36	R3	1137	C
36	R3	1138	G
36	R3	1139	G
36	R3	1140	C
36	R3	1154	G
36	R3	1158	C
36	R3	1159	U
36	R3	1168	U
36	R3	1169	A

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Mol	Chain	Res	Type
36	R3	1182	G
36	R3	1184	G
36	R3	1193	G
36	R3	1196	A
36	R3	1197	A
36	R3	1212	U
36	R3	1225	A
36	R3	1227	A
36	R3	1238	A
36	R3	1240	U
36	R3	1241	G
36	R3	1248	A
36	R3	1250	A
36	R3	1257	A
36	R3	1258	G
36	R3	1260	G
36	R3	1261	A
36	R3	1268	G
36	R3	1269	A
36	R3	1270	G
36	R3	1275	A
36	R3	1278	G
36	R3	1280	A
36	R3	1282	C
36	R3	1285	A
36	R3	1286	U
36	R3	1287	A
36	R3	1298	U
36	R3	1300	G
36	R3	1307	U
36	R3	1309	G
36	R3	1310	G
36	R3	1311	A
36	R3	1315	U
36	R3	1317	C
36	R3	1320	C
36	R3	1322	C
36	R3	1323	G
36	R3	1326	U
36	R3	1327	C
36	R3	1328	C
36	R3	1335	U

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Mol	Chain	Res	Type
36	R3	1336	C
36	R3	1346	A
36	R3	1353	G
36	R3	1363	A
36	R3	1364	U
36	R3	1378	C
36	R3	1379	G
36	R3	1381	U
36	R3	1397	C
36	R3	1398	A
36	R3	1419	G
36	R3	1441	A
36	R3	1443	C
36	R3	1448	C
36	R3	1451	U
36	R3	1452	C
36	R3	1480	A
36	R3	1492	A
36	R3	1493	A
36	R3	1497	G
36	R3	1499	A
36	R3	1502	A
36	R3	1503	A
36	R3	1506	U
36	R3	1517	G
36	R3	1529	G
36	R3	1530	G
36	R3	1533	C
36	R3	1534	A
36	R3	1535	C
36	R3	1538	C
36	R3	1539	C
37	T	9	A
37	T	10	G
37	T	13	C
37	T	16	C
37	T	17	U
37	T	20	G
37	T	21	A
37	T	22	G
37	T	23	A
37	T	25	C

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Mol	Chain	Res	Type
37	T	26	A
37	T	31	C
37	T	34	A
37	T	42	G
37	T	43	G
37	T	44	G
37	T	45	G
37	T	46	G
37	T	47	U
37	T	48	C
37	T	49	G
37	T	58	A
37	T	59	U
37	T	60	C
37	T	61	C
37	T	69	A
37	T	73	A

All (18) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
33	M	1	U
34	R1	227	A
34	R1	372	G
34	R1	421	C
34	R1	1020	A
34	R1	1061	U
34	R1	1070	A
34	R1	1093	G
34	R1	1130	U
34	R1	2286	G
34	R1	2317	A
34	R1	2326	C
35	R2	66	A
35	R2	87	U
36	R3	391	G
36	R3	1128	C
36	R3	1297	G
37	T	21	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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 129 ligands modelled in this entry, 127 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
61	ATP	Y	602	62	28,33,33	0.71	0	34,52,52	0.69	1 (2%)
61	ATP	Y	601	62	28,33,33	0.70	0	34,52,52	0.87	1 (2%)

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
61	ATP	Y	602	62	-	8/18/38/38	0/3/3/3
61	ATP	Y	601	62	-	7/18/38/38	0/3/3/3

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
61	Y	601	ATP	C4'-O4'-C1'	-3.71	106.53	109.92
61	Y	602	ATP	C5-C6-N6	2.32	123.85	120.31

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
61	Y	602	ATP	PB-O3B-PG-O2G
61	Y	602	ATP	C5'-O5'-PA-O1A
61	Y	602	ATP	C5'-O5'-PA-O2A
61	Y	602	ATP	C5'-O5'-PA-O3A
61	Y	602	ATP	O4'-C4'-C5'-O5'
61	Y	601	ATP	C3'-C4'-C5'-O5'
61	Y	602	ATP	C3'-C4'-C5'-O5'
61	Y	601	ATP	O4'-C4'-C5'-O5'
61	Y	601	ATP	PG-O3B-PB-O1B
61	Y	601	ATP	PA-O3A-PB-O2B
61	Y	601	ATP	PB-O3A-PA-O1A
61	Y	602	ATP	PB-O3B-PG-O1G
61	Y	602	ATP	PB-O3B-PG-O3G
61	Y	601	ATP	PA-O3A-PB-O1B
61	Y	601	ATP	PB-O3A-PA-O2A

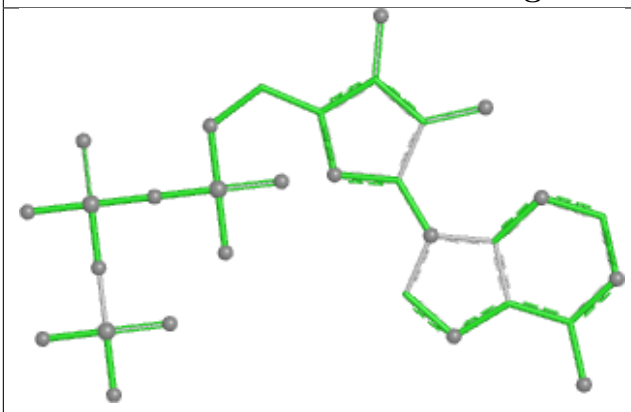
There are no ring outliers.

2 monomers are involved in 5 short contacts:

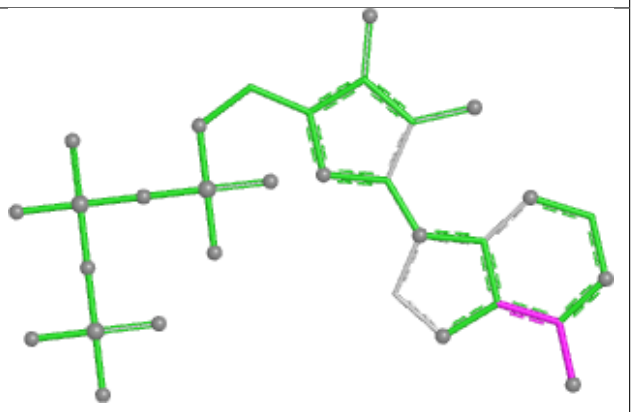
Mol	Chain	Res	Type	Clashes	Symm-Clashes
61	Y	602	ATP	2	0
61	Y	601	ATP	3	0

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 then 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.

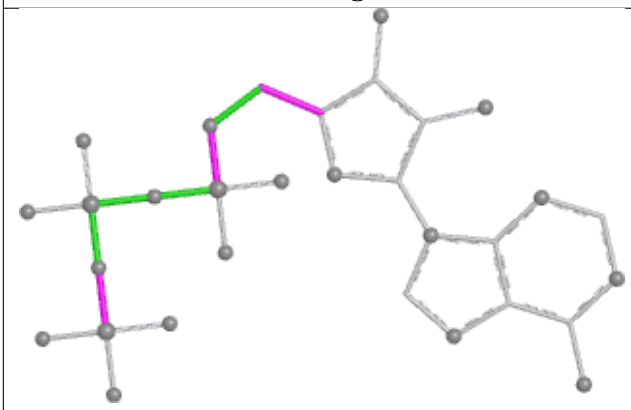
Ligand ATP Y 602



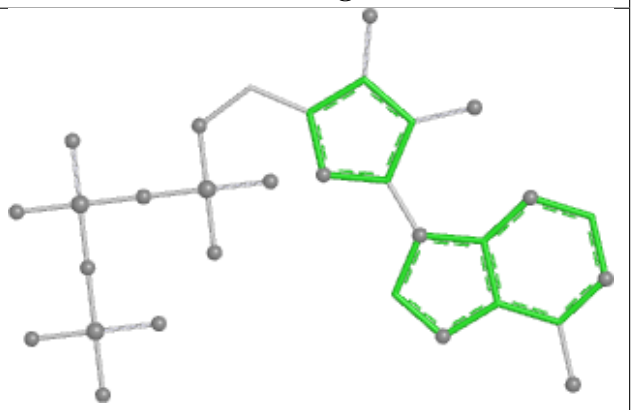
Bond lengths



Bond angles

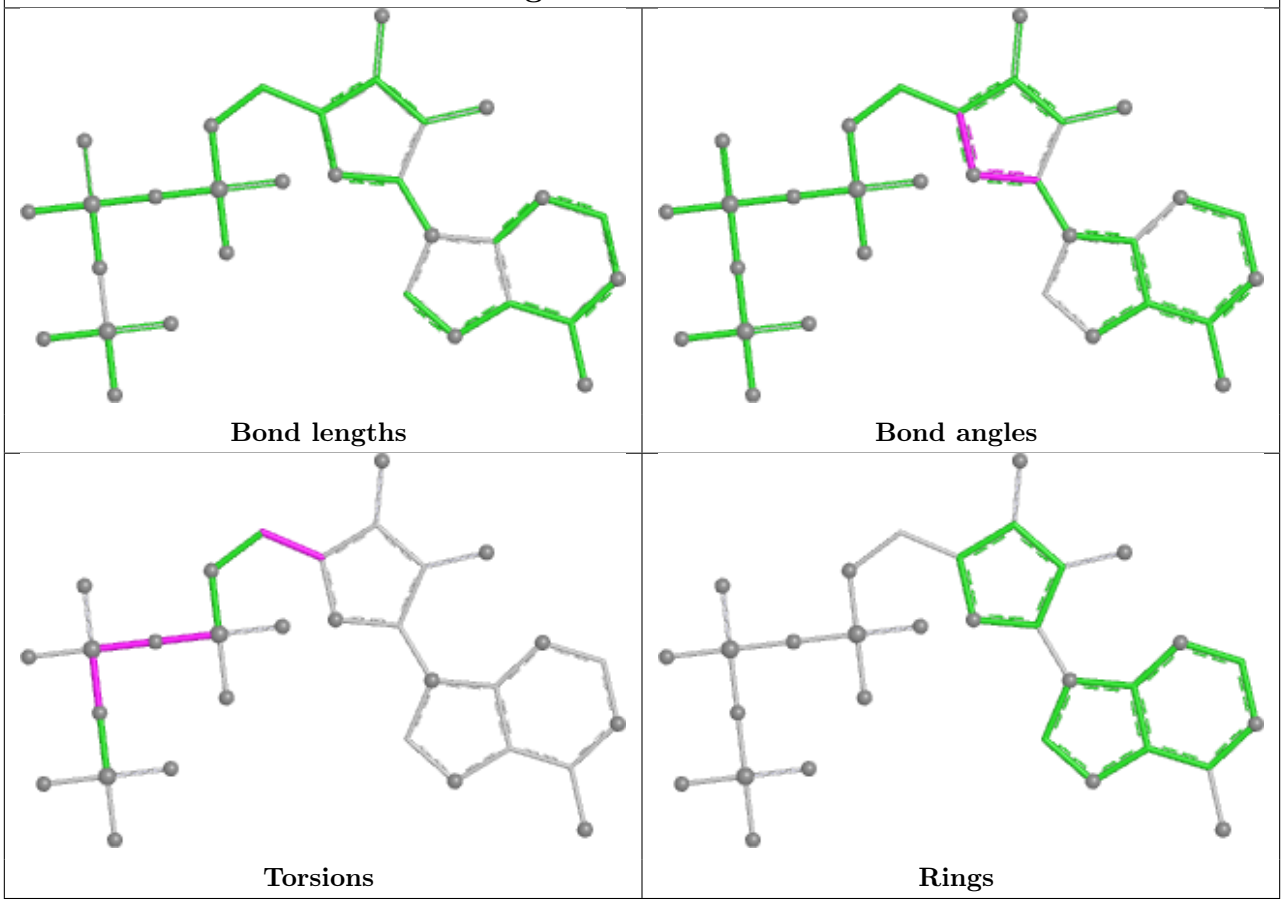


Torsions



Rings

Ligand ATP Y 601



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
36	R3	1
9	18	1
23	31	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	R3	1301:U	O3'	1303:C	P	5.76
1	18	2:ASP	C	3:LYS	N	3.13
1	31	58:ASP	C	59:ARG	N	1.67

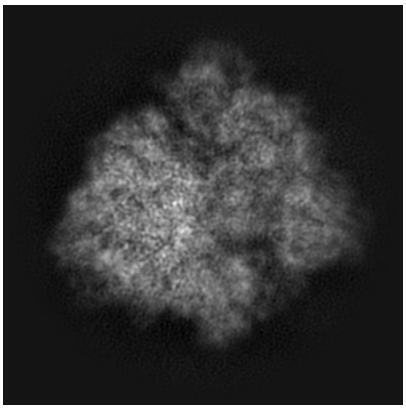
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-40923. These allow visual inspection of the internal detail of the map and identification of artifacts.

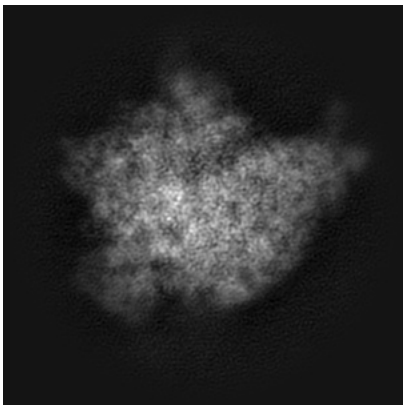
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

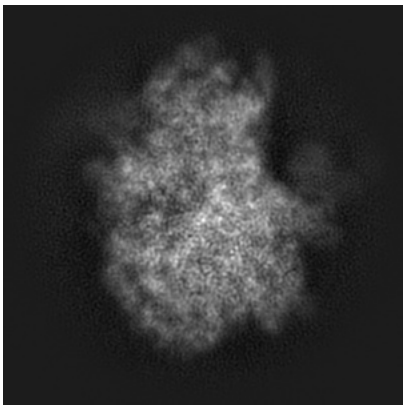
6.1.1 Primary map



X

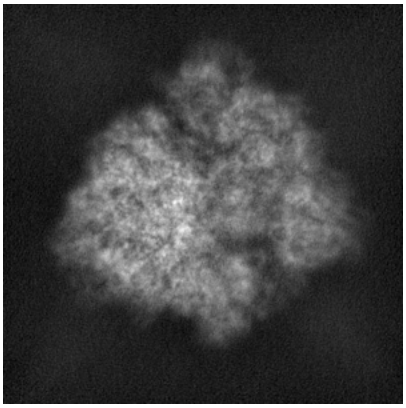


Y

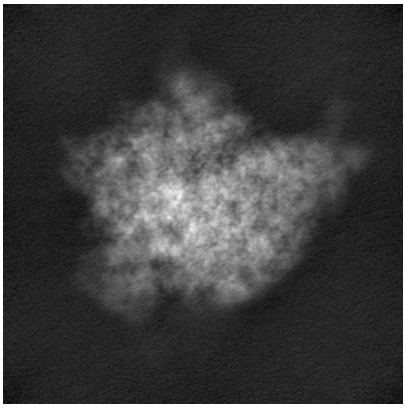


Z

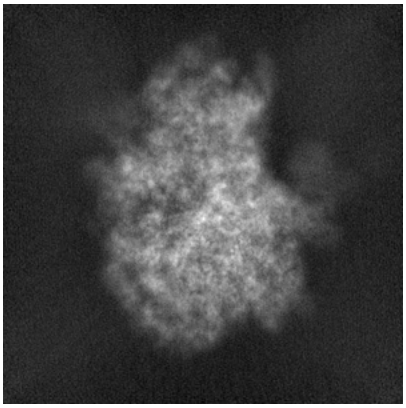
6.1.2 Raw map



X



Y

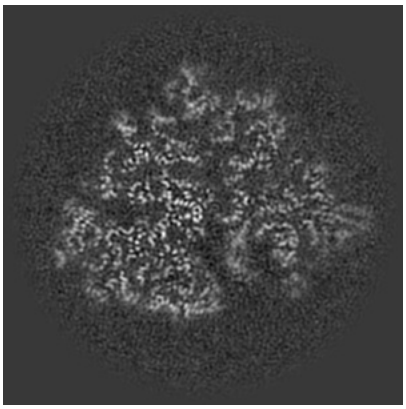


Z

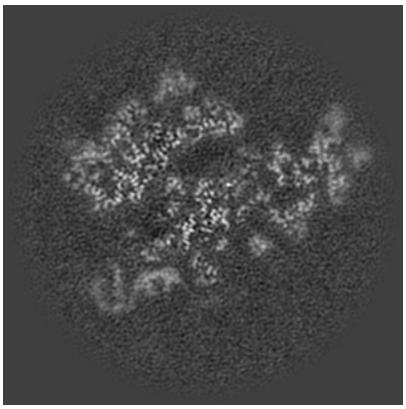
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

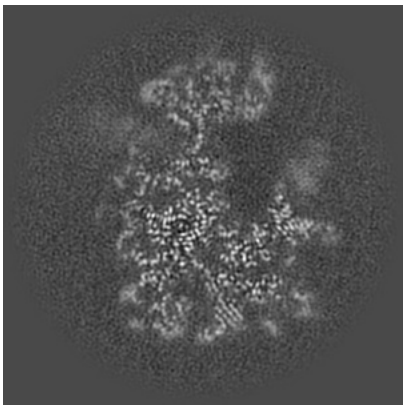
6.2.1 Primary map



X Index: 160

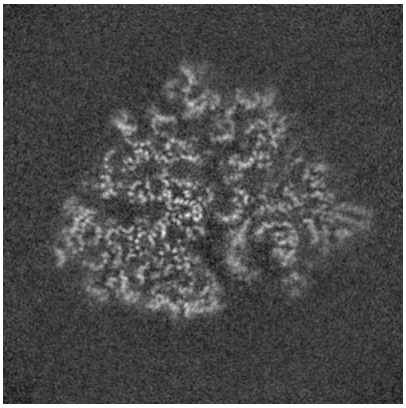


Y Index: 160

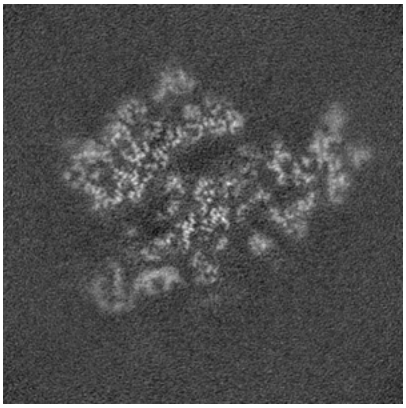


Z Index: 160

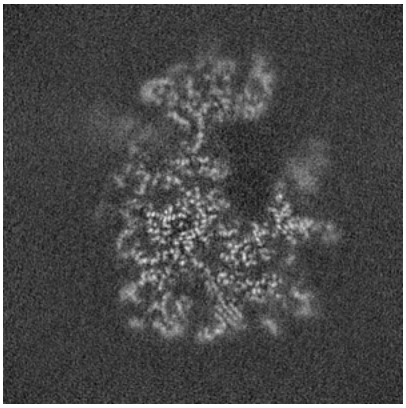
6.2.2 Raw map



X Index: 160



Y Index: 160

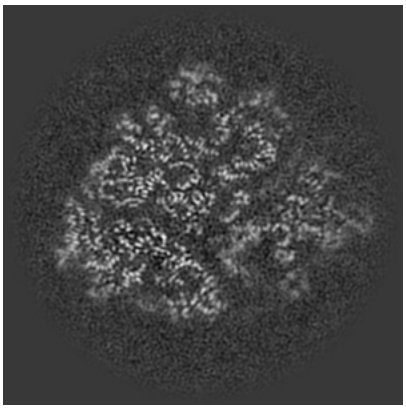


Z Index: 160

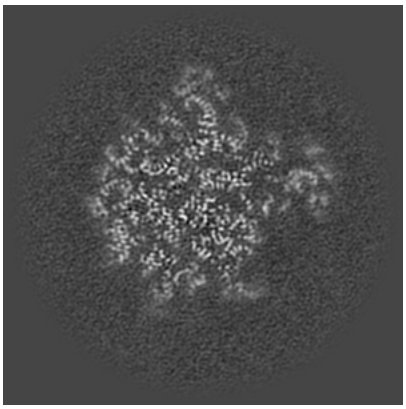
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

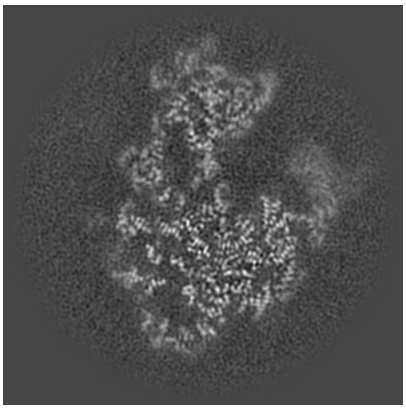
6.3.1 Primary map



X Index: 164

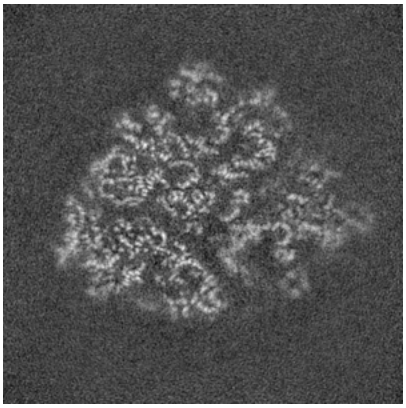


Y Index: 137

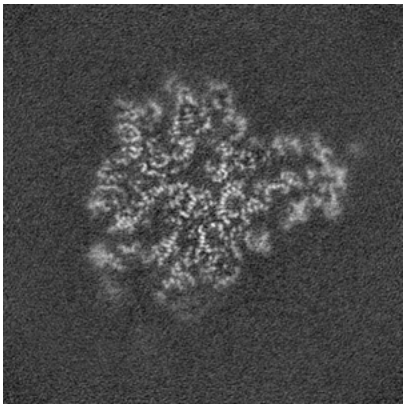


Z Index: 140

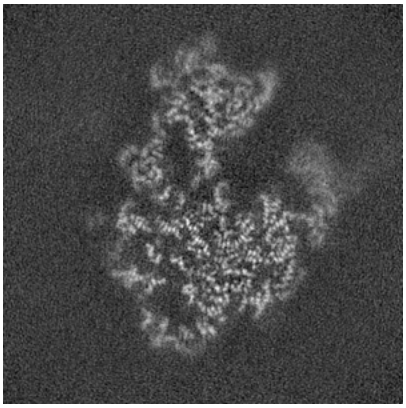
6.3.2 Raw map



X Index: 164



Y Index: 148

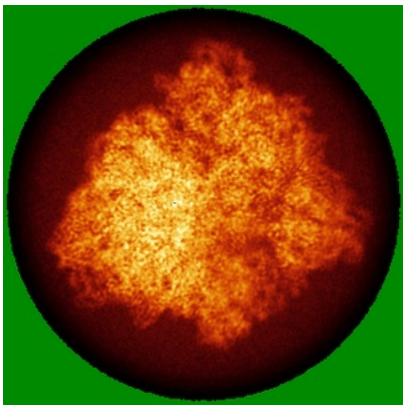


Z Index: 140

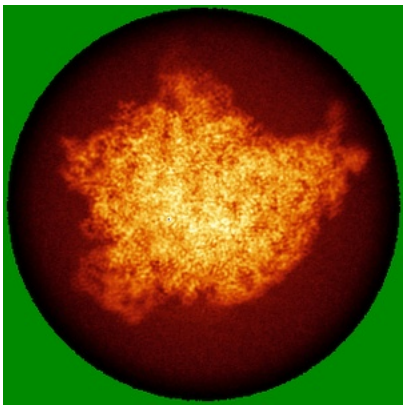
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

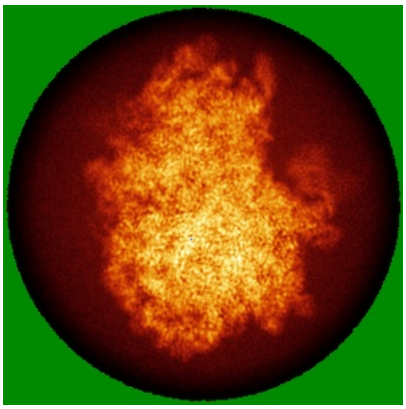
6.4.1 Primary map



X

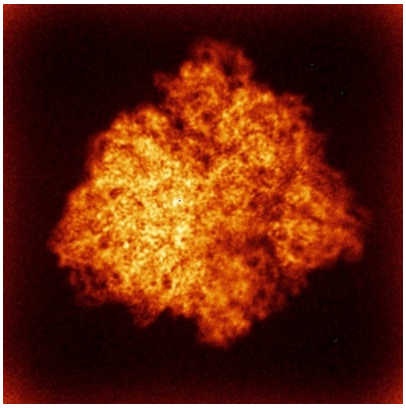


Y

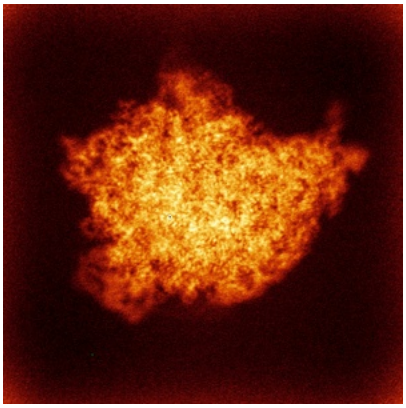


Z

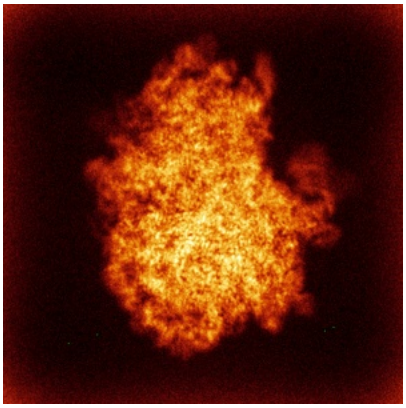
6.4.2 Raw map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

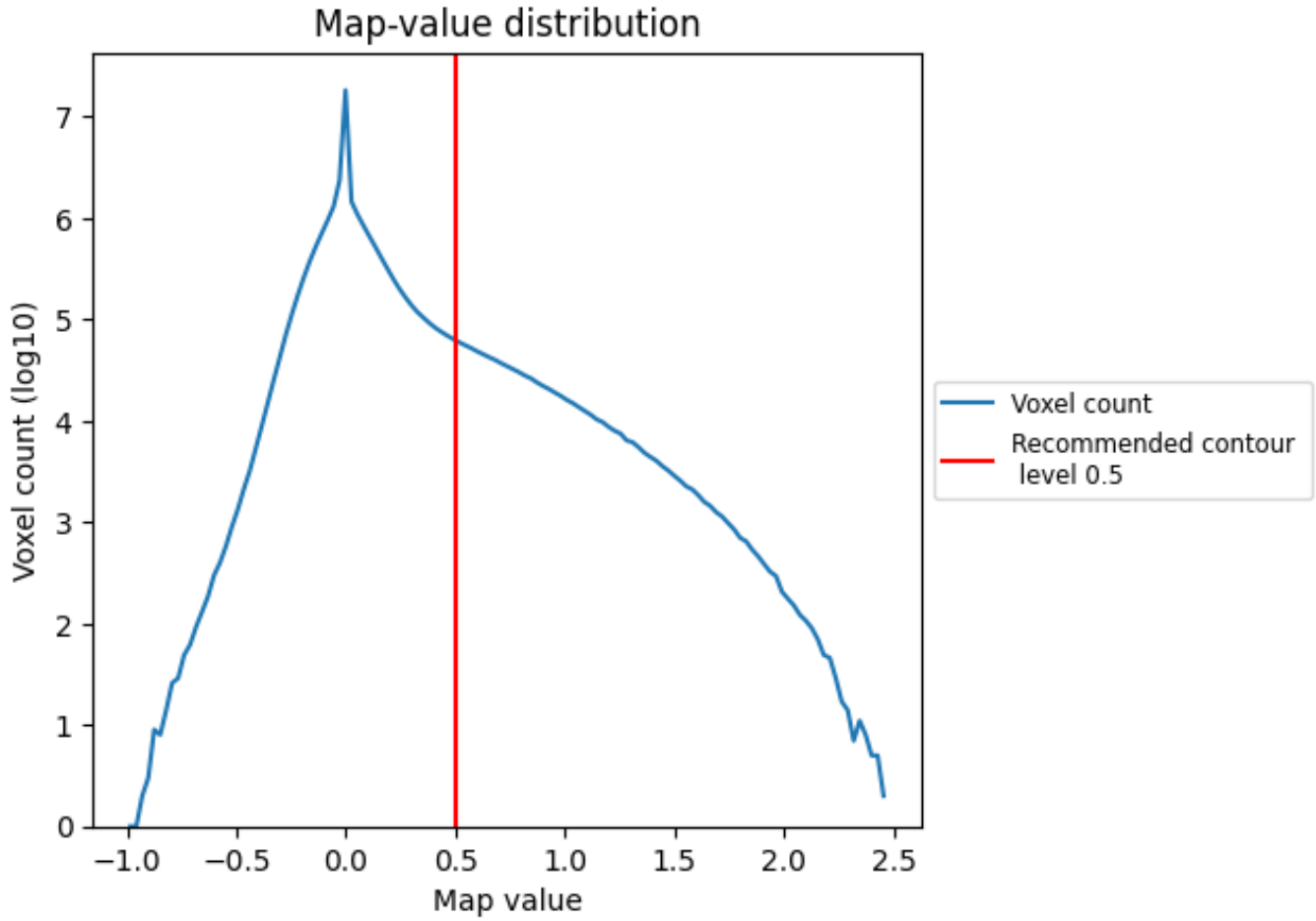
6.6 Mask visualisation (i)

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

7 Map analysis

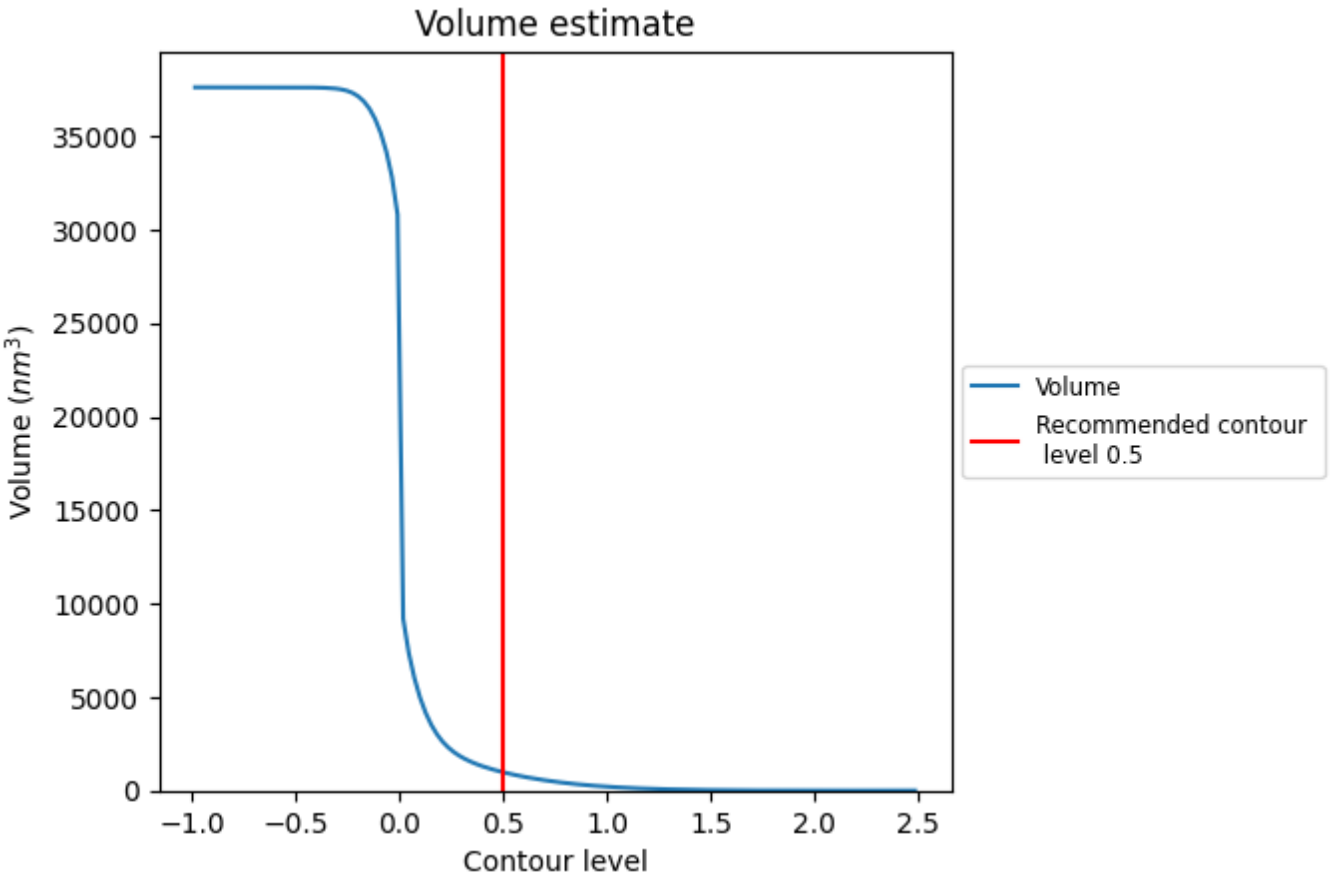
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

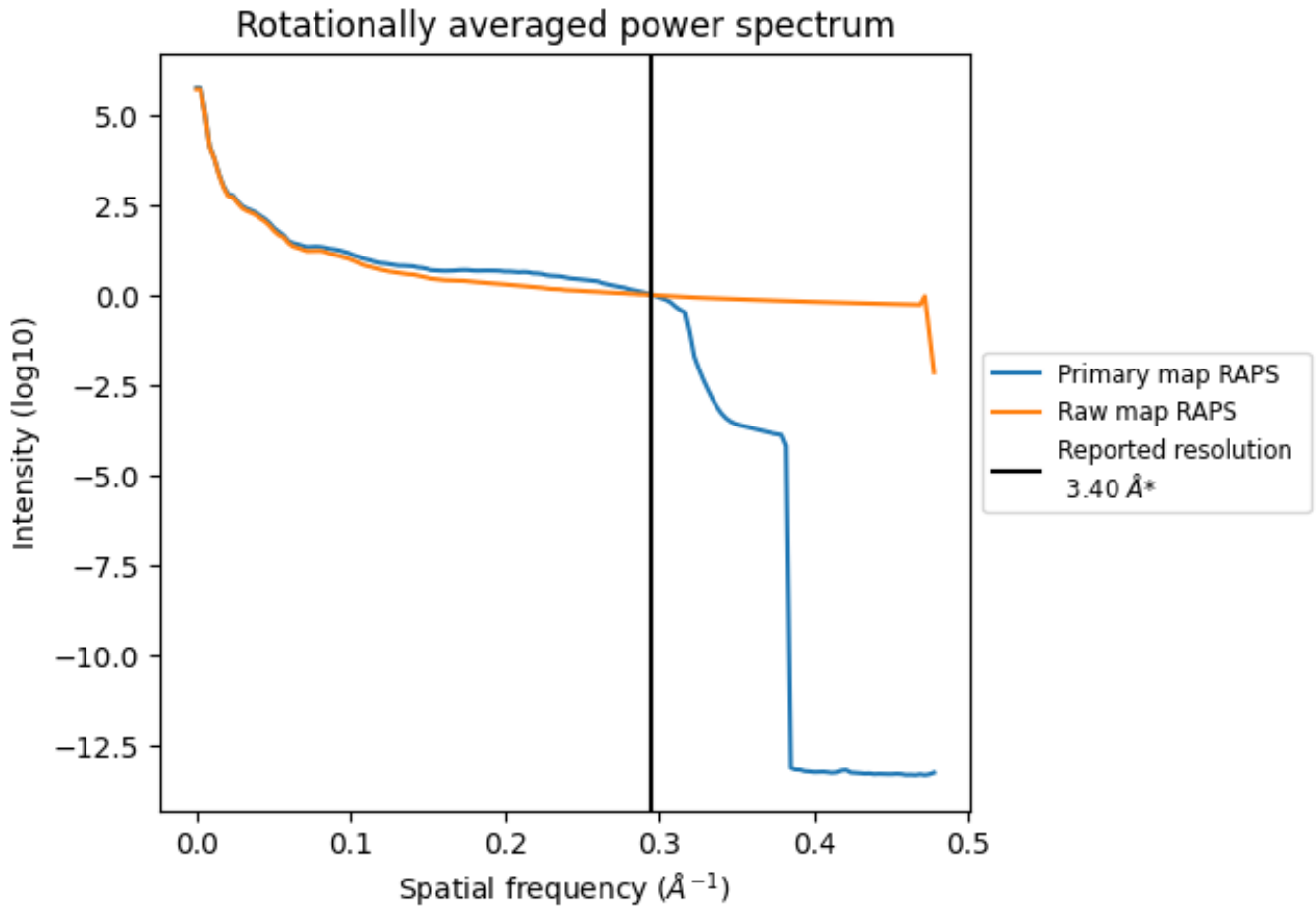
7.2 Volume estimate



The volume at the recommended contour level is 979 nm^3; this corresponds to an approximate mass of 885 kDa.

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

7.3 Rotationally averaged power spectrum (i)

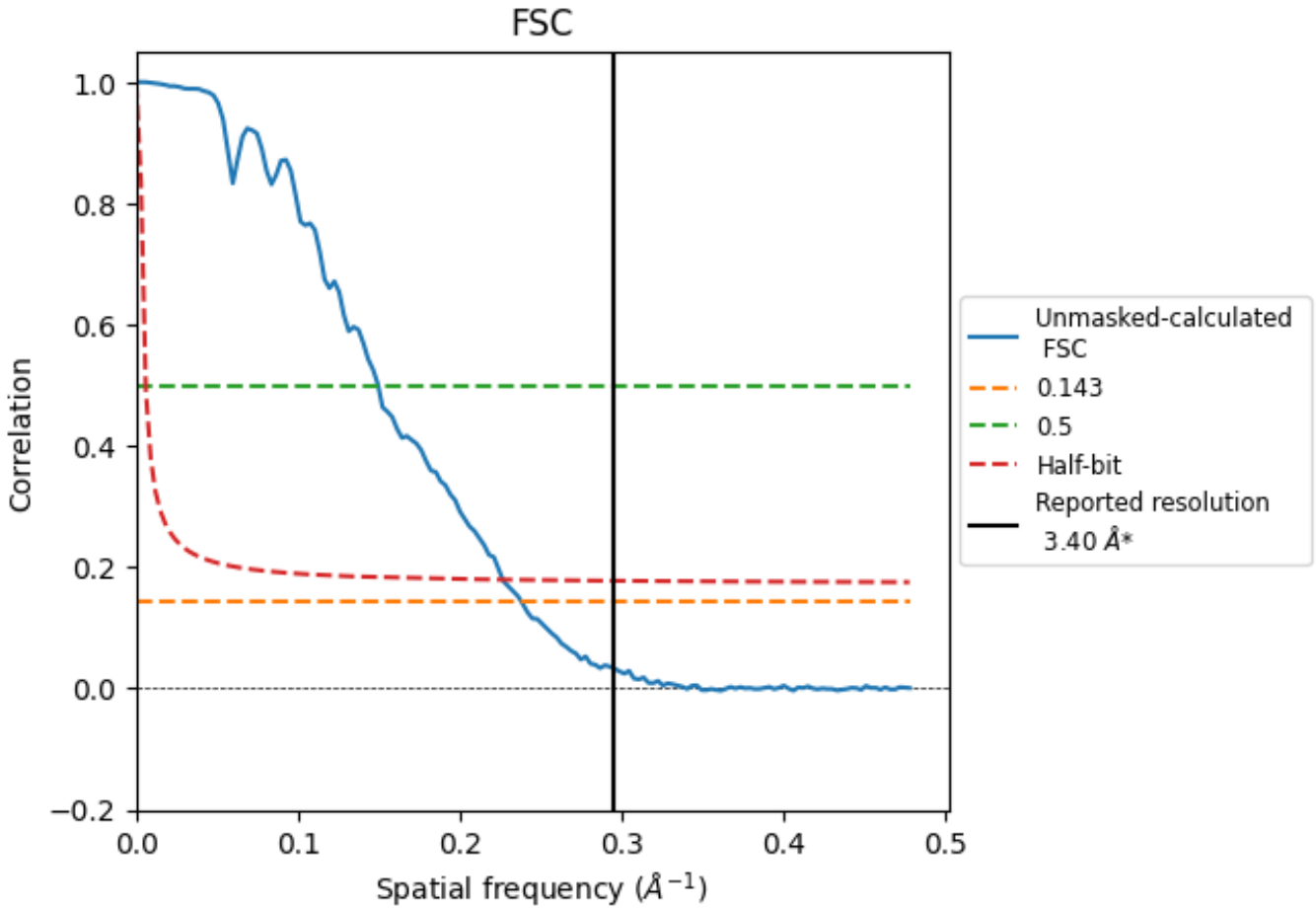


*Reported resolution corresponds to spatial frequency of 0.294 $Å^{-1}$

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.294 Å^{-1}

8.2 Resolution estimates (i)

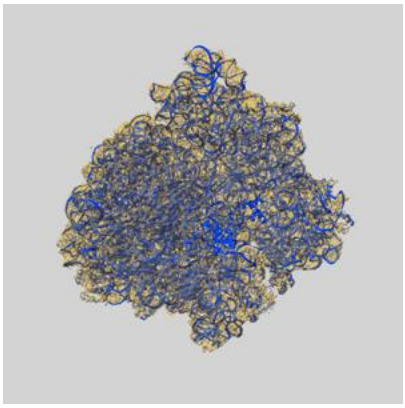
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.20	6.69	4.42

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.20 differs from the reported value 3.4 by more than 10 %

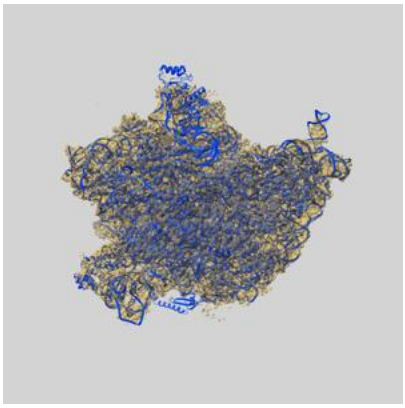
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-40923 and PDB model 9NJF. Per-residue inclusion information can be found in section 3 on page 16.

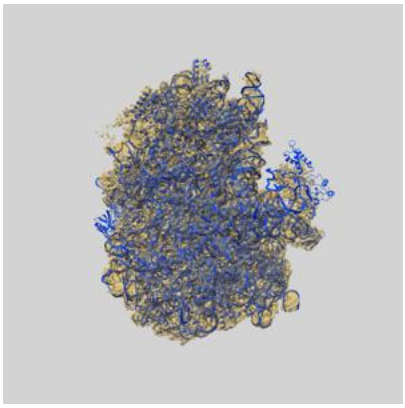
9.1 Map-model overlay



X



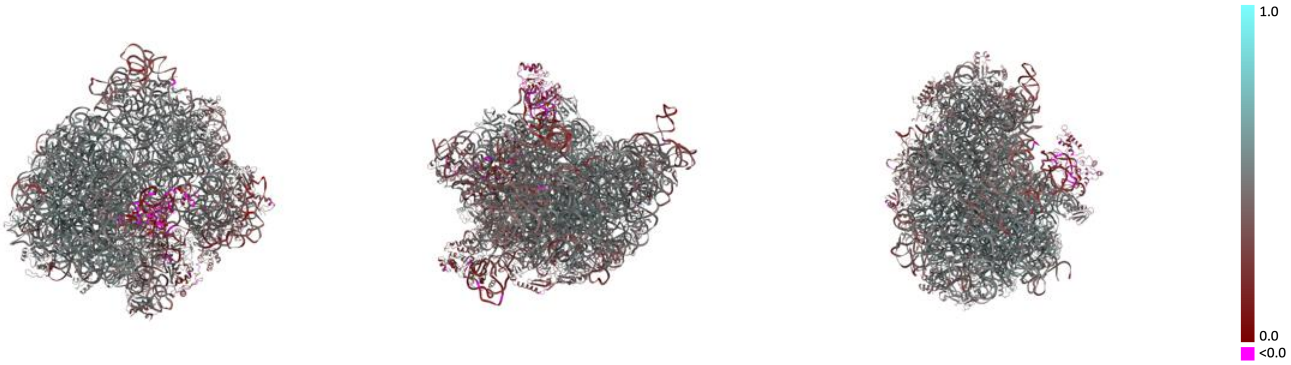
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

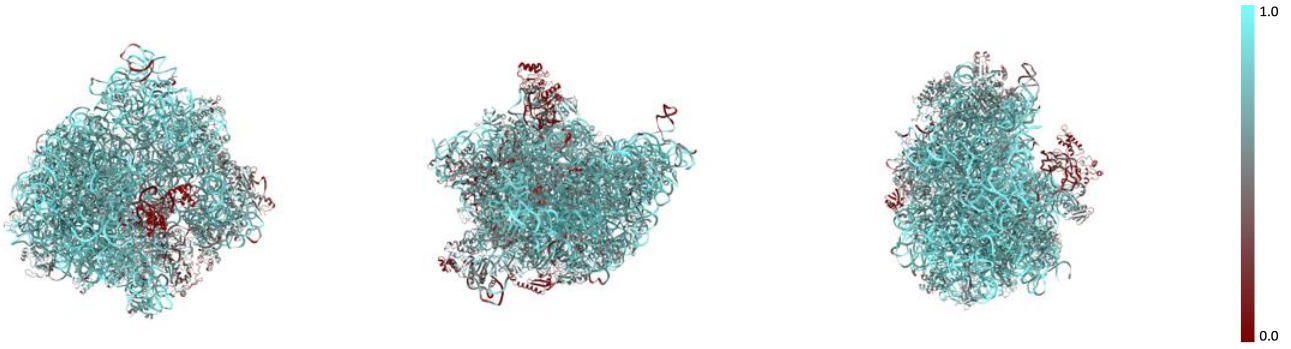
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

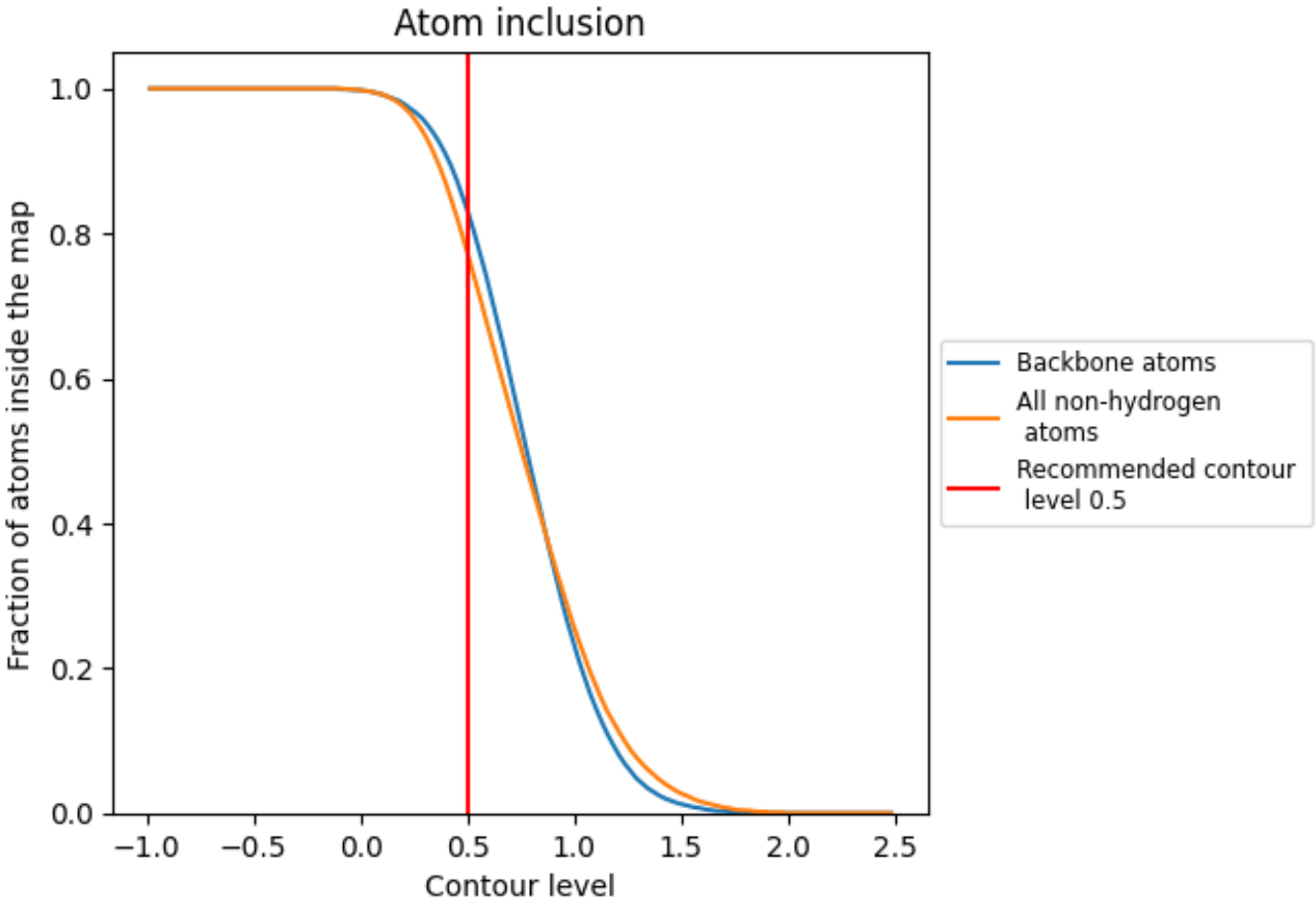
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.5).

9.4 Atom inclusion (i)



At the recommended contour level, 83% of all backbone atoms, 77% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7740	0.4530
1	0.4030	0.3290
10	0.1120	0.1550
11	0.1420	0.1250
13	0.7410	0.5170
14	0.6580	0.5130
15	0.7280	0.5040
16	0.7240	0.5100
17	0.7480	0.5070
18	0.6610	0.4530
19	0.6780	0.5060
2	0.7620	0.5370
20	0.7740	0.5090
21	0.6880	0.4780
22	0.6900	0.5100
23	0.6560	0.4850
24	0.5930	0.4500
25	0.6860	0.4830
27	0.7510	0.5360
28	0.7650	0.5270
29	0.6380	0.4240
3	0.7260	0.5110
30	0.6910	0.4800
31	0.2170	0.1040
32	0.7580	0.5150
33	0.1620	0.0880
34	0.7910	0.5400
35	0.7290	0.5330
36	0.7170	0.5370
4	0.6440	0.4700
5	0.4700	0.3290
6	0.5730	0.4290
9	0.2010	0.3180
M	0.6420	0.3860
R1	0.8690	0.4730

Continued on next page...

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Chain	Atom inclusion	Q-score
R2	0.8620	0.4220
R3	0.8560	0.4520
T	0.7920	0.3840
Y	0.5900	0.4100
sb	0.5410	0.3920
sc	0.5780	0.4470
sd	0.5930	0.4240
se	0.6920	0.4800
sf	0.6120	0.4330
sg	0.5790	0.4040
sh	0.6710	0.4690
si	0.5880	0.4100
sj	0.4460	0.3840
sk	0.6530	0.4570
sl	0.6660	0.4930
sm	0.5110	0.3820
sn	0.6000	0.4000
so	0.7010	0.4700
sp	0.6600	0.4670
sq	0.6140	0.4700
sr	0.6460	0.4690
ss	0.5230	0.4020
st	0.6780	0.4400
su	0.4330	0.3510