Full wwPDB EM Validation Report ⓘ

Dec 17, 2022 – 11:07 pm GMT

PDB ID	:	6ZQF
EMDB ID	:	EMD-11362
Title	:	Cryo-EM structure of the 90S pre-ribosome from Saccharomyces cerevisiae, state Dis-B (Poly-Ala)
Authors	:	Cheng, J.; Lau, B.; Venuta, G.L.; Berninghausen, O.; Hurt, E.; Beckmann, R.
Deposited on	:	2020-07-09
Resolution	:	4.90 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:

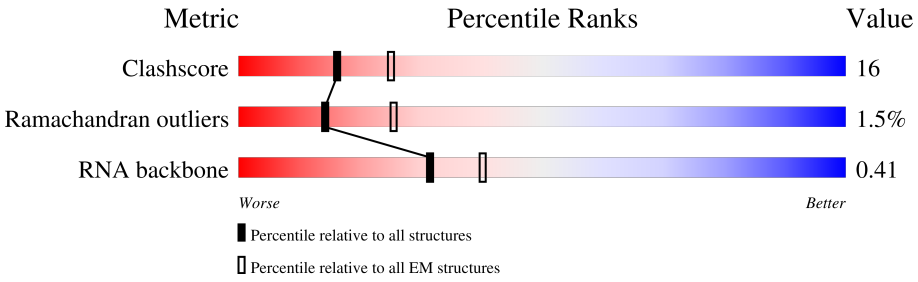
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.90 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	158937	4297
Ramachandran outliers	154571	4023
RNA backbone	4643	859

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	UA	923	11% 75% 11% 14%
2	UB	810	46% 43% 54%
3	UC	610	7% 92%
4	UL	943	78% 18%
5	UM	817	12% 79% 14% 7%
6	US	552	90% 86% 10%
7	UU	939	34% 91% 6%
8	UV	1237	87% 86% 12%

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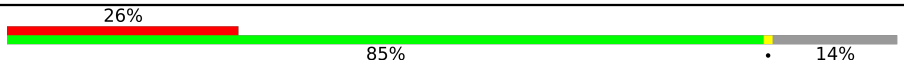
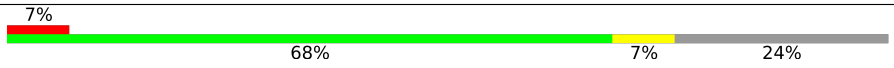
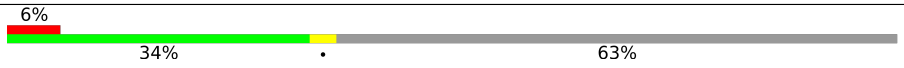
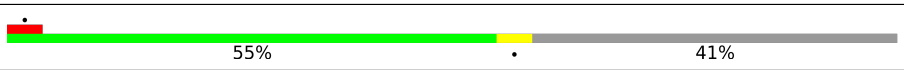
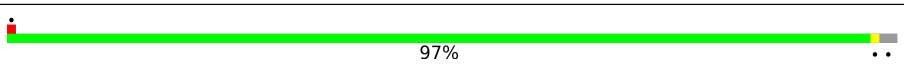
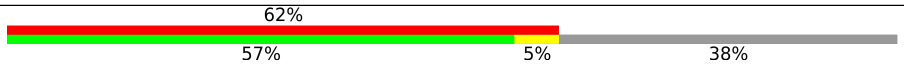
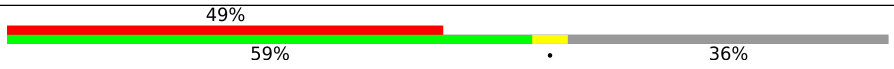
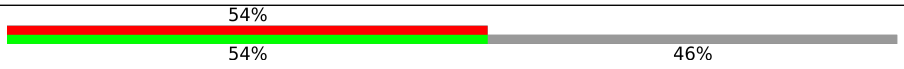
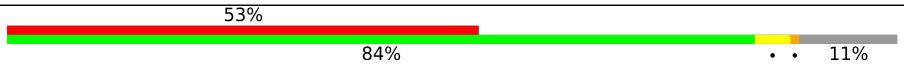
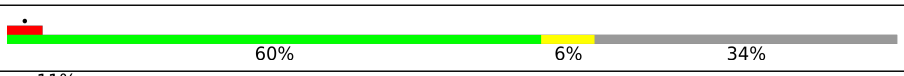
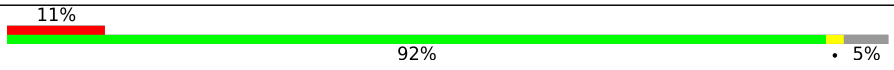
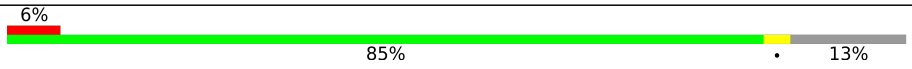
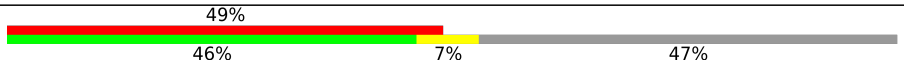
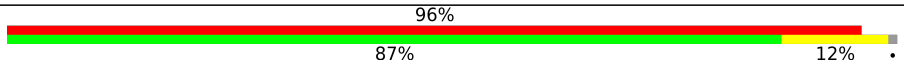
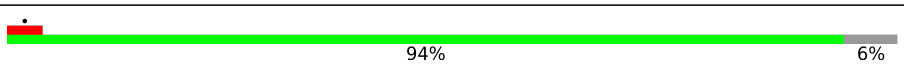
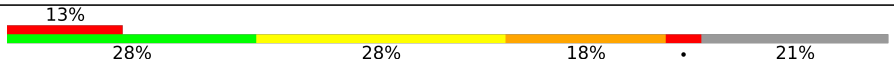
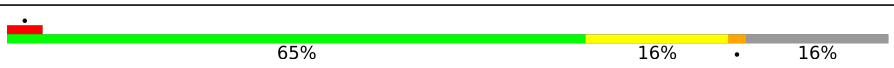
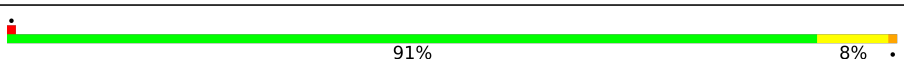
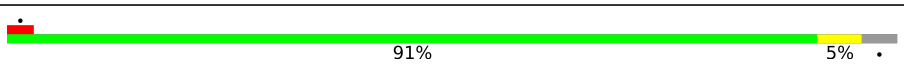
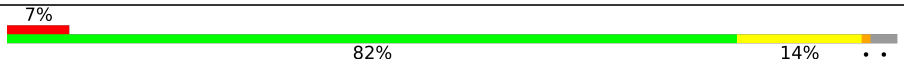
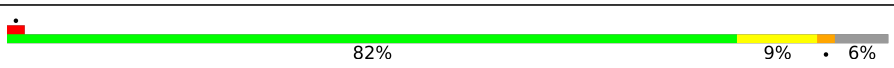
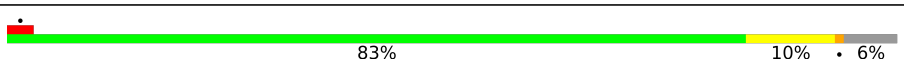
Mol	Chain	Length	Quality of chain
9	CI	183	
10	CJ	290	
11	CK	593	
12	CL	1183	
13	CM	367	
14	CN	297	
15	JD	1267	
16	JF	252	
16	JG	252	
17	JH	483	
18	JL	318	
19	JJ	274	
20	DF	225	
21	DQ	143	
22	DS	146	
23	DT	144	
24	Dc	67	
25	D2	20	
26	D3	1758	
27	DA	255	
28	DE	261	
29	DG	236	
30	DH	190	
31	DI	200	
32	DJ	197	

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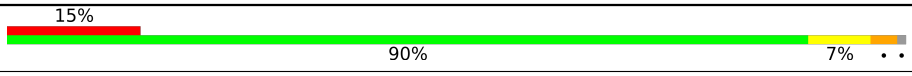
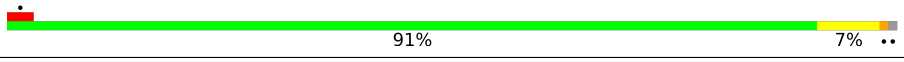
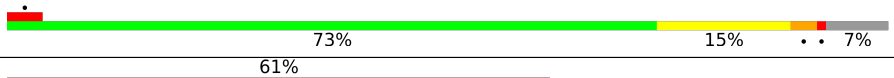
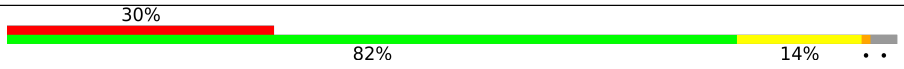
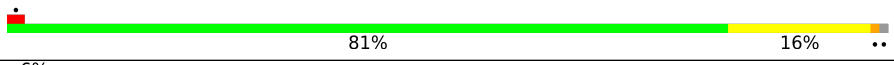
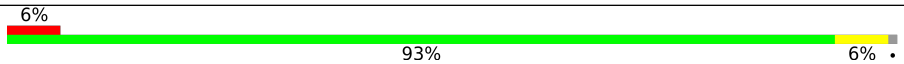
Mol	Chain	Length	Quality of chain
33	DL	156	
34	DN	151	
35	DO	137	
36	DZ	108	
37	DW	130	
38	DX	145	
39	DY	135	
40	Db	82	
41	D4	35	

2 Entry composition (i)

There are 42 unique types of molecules in this entry. The entry contains 89582 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 Periodic tryptophan protein 2.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
1	UA	792	3916	2332	792	792	0	0

- Molecule 2 is a protein called Nucleolar complex protein 14.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
2	UB	370	1845	1105	370	370	0	0

- Molecule 3 is a protein called Something about silencing protein 10.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
3	UC	47	233	139	47	47	0	0

- Molecule 4 is a protein called U3 small nucleolar RNA-associated protein 12.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
4	UL	777	3841	2287	777	777	0	0

- Molecule 5 is a protein called U3 small nucleolar RNA-associated protein 13.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
5	UM	762	3763	2239	762	762	0	0

- Molecule 6 is a protein called Nucleolar complex protein 4.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	US	499	2486	1488	499	499	0	0

- Molecule 7 is a protein called U3 small nucleolar RNA-associated protein 21.

Mol	Chain	Residues	Atoms				AltConf	Trace
7	UU	878	Total 4328	C 2572	N 878	O 878	0	0

- Molecule 8 is a protein called U3 small nucleolar RNA-associated protein 22.

Mol	Chain	Residues	Atoms				AltConf	Trace
8	UV	1093	Total 5417	C 3231	N 1093	O 1093	0	0

- Molecule 9 is a protein called U3 small nucleolar ribonucleoprotein protein IMP3.

Mol	Chain	Residues	Atoms				AltConf	Trace
9	CI	157	Total 781	C 467	N 157	O 157	0	0

- Molecule 10 is a protein called U3 small nucleolar ribonucleoprotein protein IMP4.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	CJ	219	Total 1083	C 645	N 219	O 219	0	0

- Molecule 11 is a protein called U3 small nucleolar RNA-associated protein MPP10.

Mol	Chain	Residues	Atoms				AltConf	Trace
11	CK	221	Total 1101	C 659	N 221	O 221	0	0

- Molecule 12 is a protein called Ribosome biogenesis protein BMS1.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	CL	695	Total 3433	C 2044	N 695	O 694	0	0

- Molecule 13 is a protein called RNA 3'-terminal phosphate cyclase-like protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
13	CM	360	Total 1767	C 1047	N 360	O 360	0	0

- Molecule 14 is a protein called Ribosomal RNA-processing protein 7.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	CN	184	Total 916	C 548	N 184	O 184	0	0

- Molecule 15 is a protein called Probable ATP-dependent RNA helicase DHR1.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	JD	807	Total 3995	C 2381	N 807	O 807	0	0

- Molecule 16 is a protein called Ribosomal RNA small subunit methyltransferase NEP1.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	JF	216	Total 1071	C 639	N 216	O 216	0	0
16	JG	221	Total 1096	C 654	N 221	O 221	0	0

- Molecule 17 is a protein called Essential nuclear protein 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	JH	261	Total 1295	C 773	N 261	O 261	0	0

- Molecule 18 is a protein called Dimethyladenosine transferase.

Mol	Chain	Residues	Atoms				AltConf	Trace
18	JL	283	Total 1401	C 835	N 283	O 283	0	0

- Molecule 19 is a protein called Pre-rRNA-processing protein PNO1.

Mol	Chain	Residues	Atoms				AltConf	Trace
19	JJ	181	Total 893	C 531	N 181	O 181	0	0

- Molecule 20 is a protein called Rps5p.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	DF	213	Total 1055	C 629	N 213	O 213	0	0

- Molecule 21 is a protein called 40S ribosomal protein S16-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	DQ	125	Total 616	C 366	N 125	O 125	0	0

- Molecule 22 is a protein called 40S ribosomal protein S18-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
22	DS	77	Total 381	C 227	N 77	O 77	0	0

- Molecule 23 is a protein called 40S ribosomal protein S19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	DT	143	Total 700	C 414	N 143	O 143	0	0

- Molecule 24 is a protein called 40S ribosomal protein S28-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	Dc	63	Total 310	C 184	N 63	O 63	0	0

- Molecule 25 is a RNA chain called 5ETS RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	D2	20	Total 429	C 191	N 75	O 143	P 20	0	0

- Molecule 26 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	D3	1392	Total 29645	C 13257	N 5244	O 9752	P 1392	0	0

- Molecule 27 is a protein called 40S ribosomal protein S1-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
27	DA	214	Total 1061	C 633	N 214	O 214	0	0

- Molecule 28 is a protein called 40S ribosomal protein S4-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	DE	260	Total 1276	C 756	N 260	O 260	0	0

- Molecule 29 is a protein called 40S ribosomal protein S6-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	DG	226	Total 1113	C 661	N 226	O 226	0	0

- Molecule 30 is a protein called 40S ribosomal protein S7-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	DH	184	Total 913	C 545	N 184	O 184	0	0

- Molecule 31 is a protein called 40S ribosomal protein S8-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	DI	188	Total 924	C 548	N 188	O 188	0	0

- Molecule 32 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
32	DJ	185	Total 915	C 545	N 185	O 185	0	0

- Molecule 33 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	DL	155	Total 766	C 456	N 155	O 155	0	0

- Molecule 34 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms				AltConf	Trace
34	DN	150	Total 742	C 442	N 150	O 150	0	0

- Molecule 35 is a protein called 40S ribosomal protein S14-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
35	DO	127	Total 620	C 366	N 127	O 127	0	0

- Molecule 36 is a protein called 40S ribosomal protein S25-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
36	DZ	67	Total 332	C 198	N 67	O 67	0	0

- Molecule 37 is a protein called 40S ribosomal protein S22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	DW	129	Total 634	C 376	N 129	O 129	0	0

- Molecule 38 is a protein called 40S ribosomal protein S23-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
38	DX	140	Total 684	C 404	N 140	O 140	0	0

- Molecule 39 is a protein called 40S ribosomal protein S24-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	DY	134	Total 661	C 393	N 134	O 134	0	0

- Molecule 40 is a protein called 40S ribosomal protein S27-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	Db	81	Total 400	C 238	N 81	O 81	0	0

- Molecule 41 is a RNA chain called U3 snoRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	D4	35	Total 743	C 333	N 134	O 241	P 35	0	0

- Molecule 42 is ZINC ION (three-letter code: ZN) (formula: Zn).

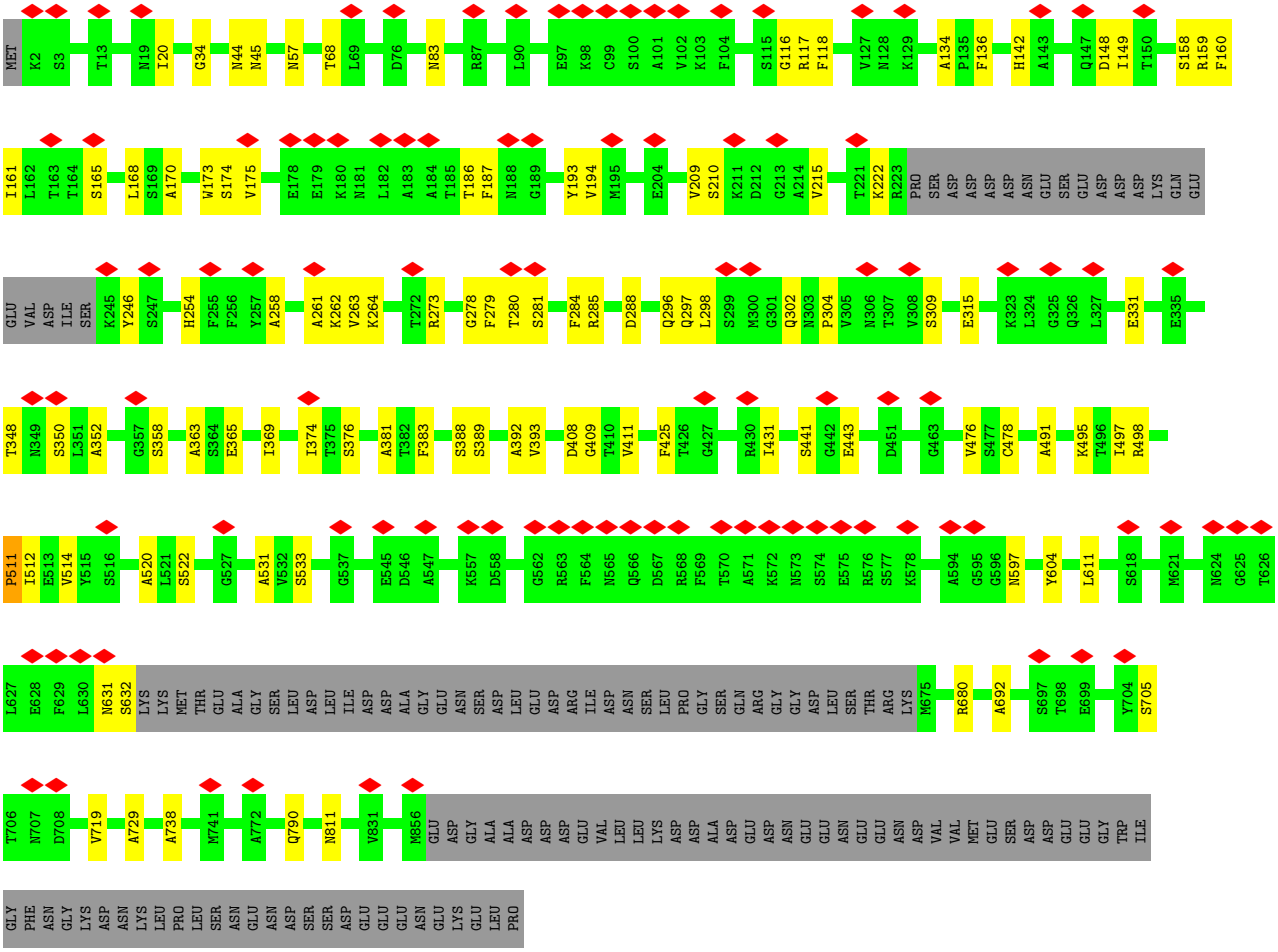
Mol	Chain	Residues	Atoms		AltConf
42	Db	1	Total	Zn	0
			1	1	

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.

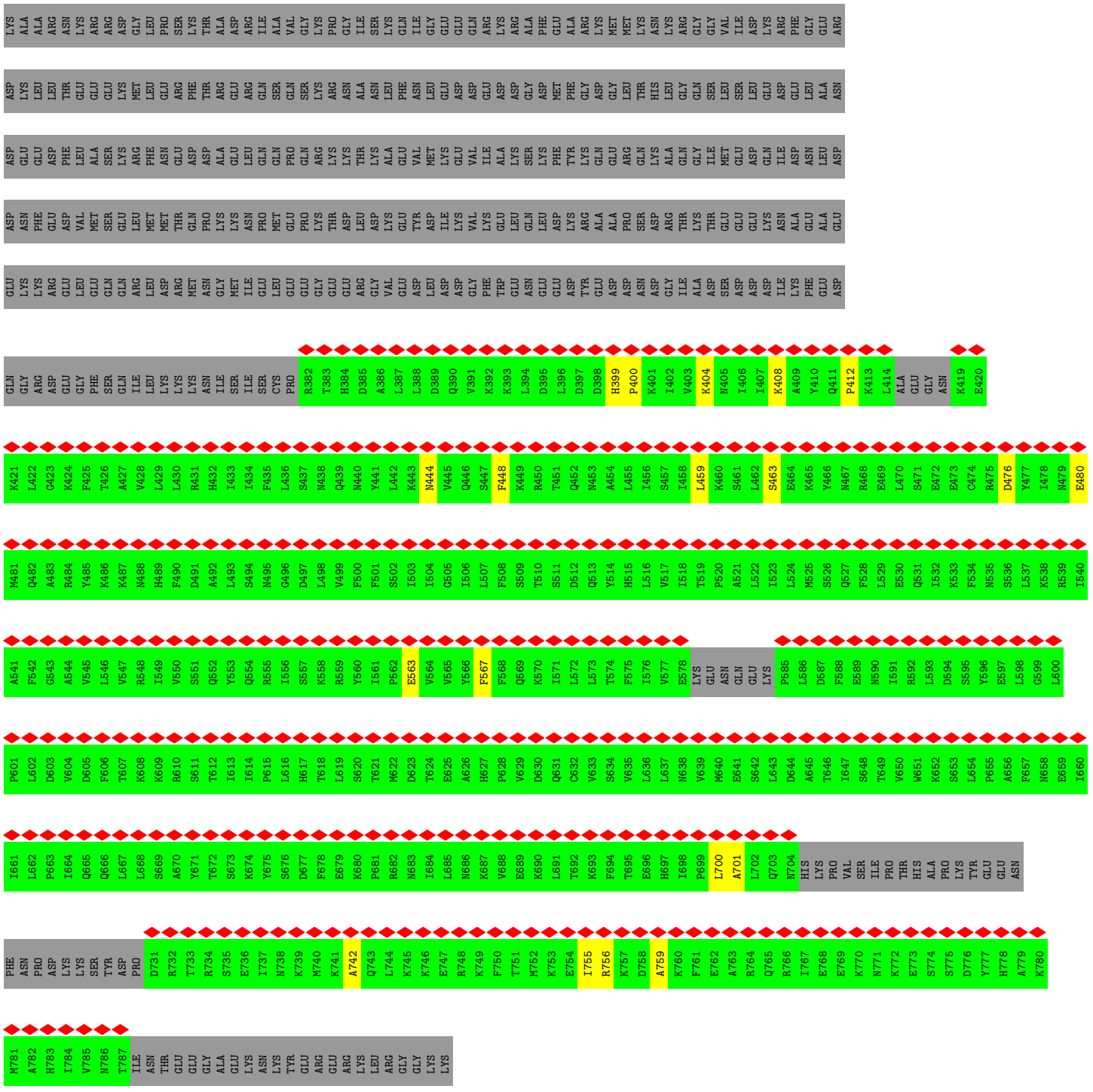
• Molecule 1: Periodic tryptophan protein 2

Chain UA:



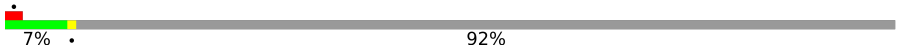
• Molecule 2: Nucleolar complex protein 14

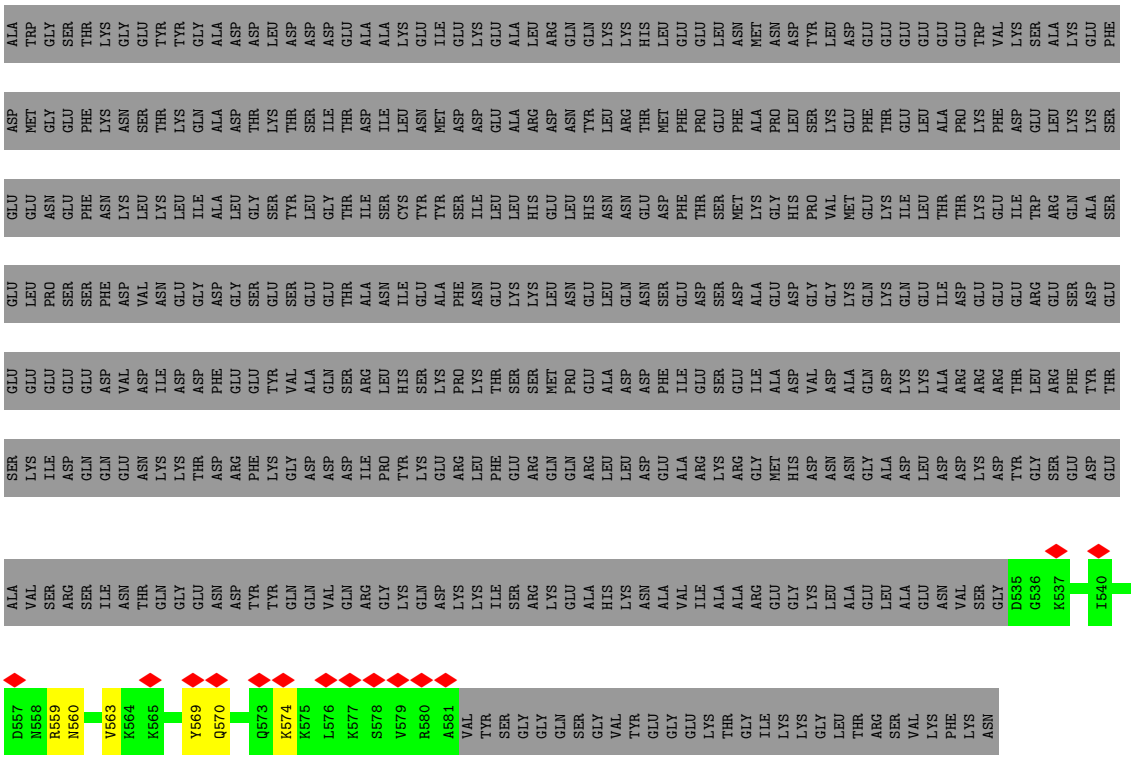
Chain UB:



• Molecule 3: Something about silencing protein 10

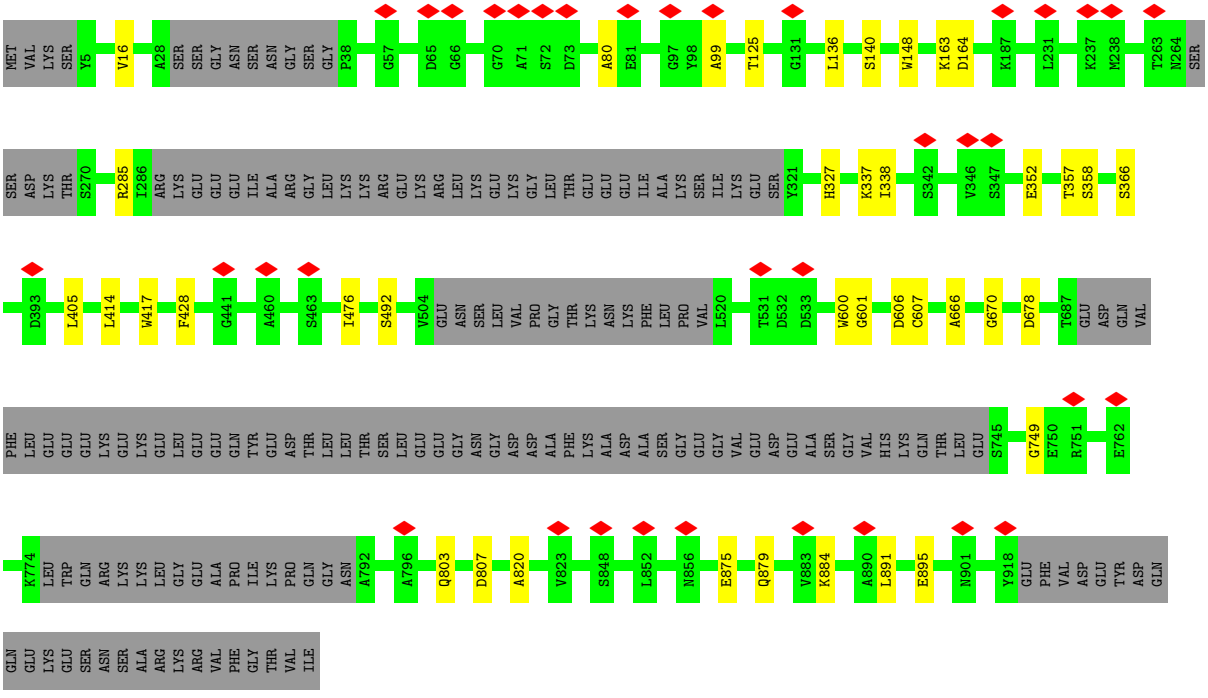
Chain UC:





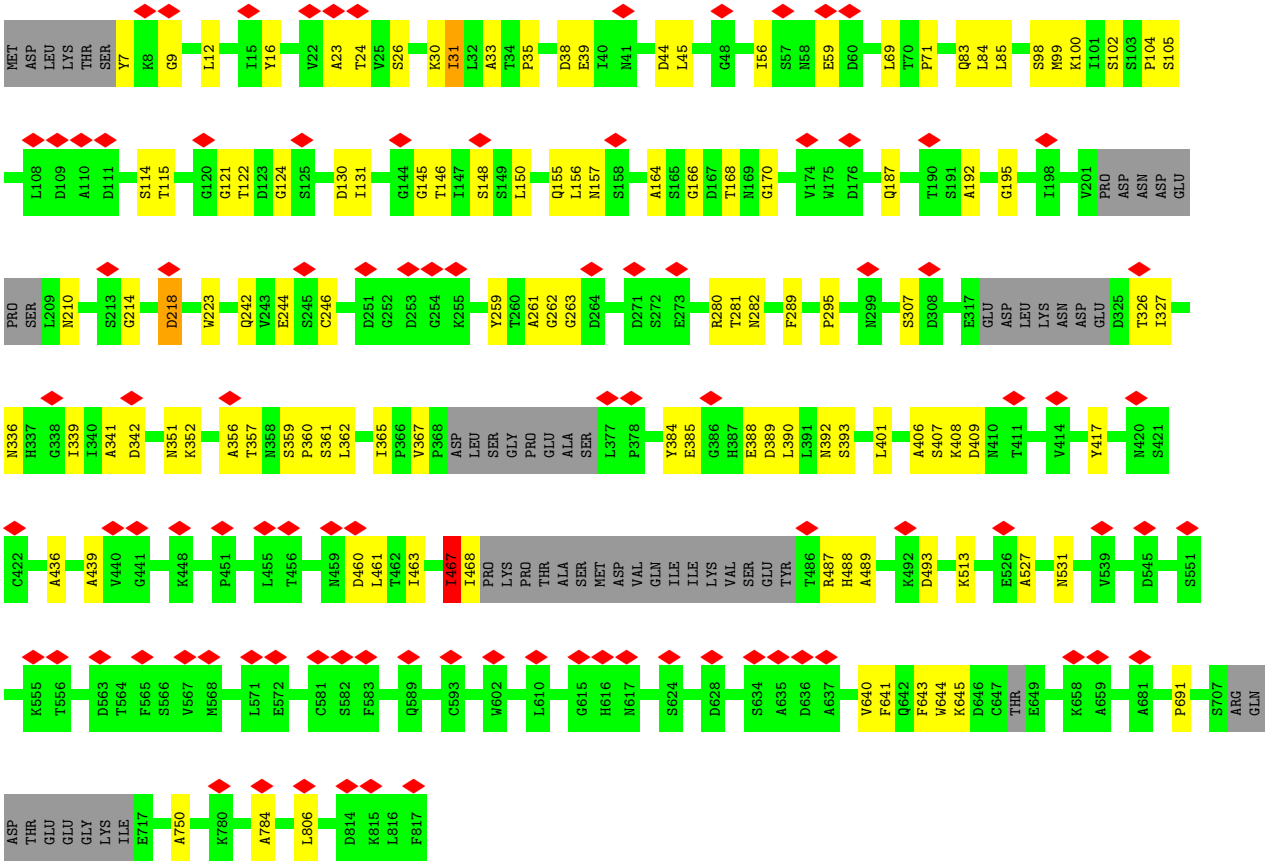
• Molecule 4: U3 small nucleolar RNA-associated protein 12

Chain UL:



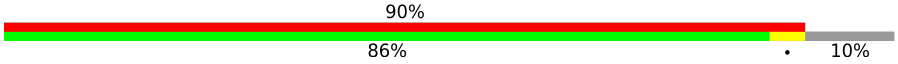
• Molecule 5: U3 small nucleolar RNA-associated protein 13

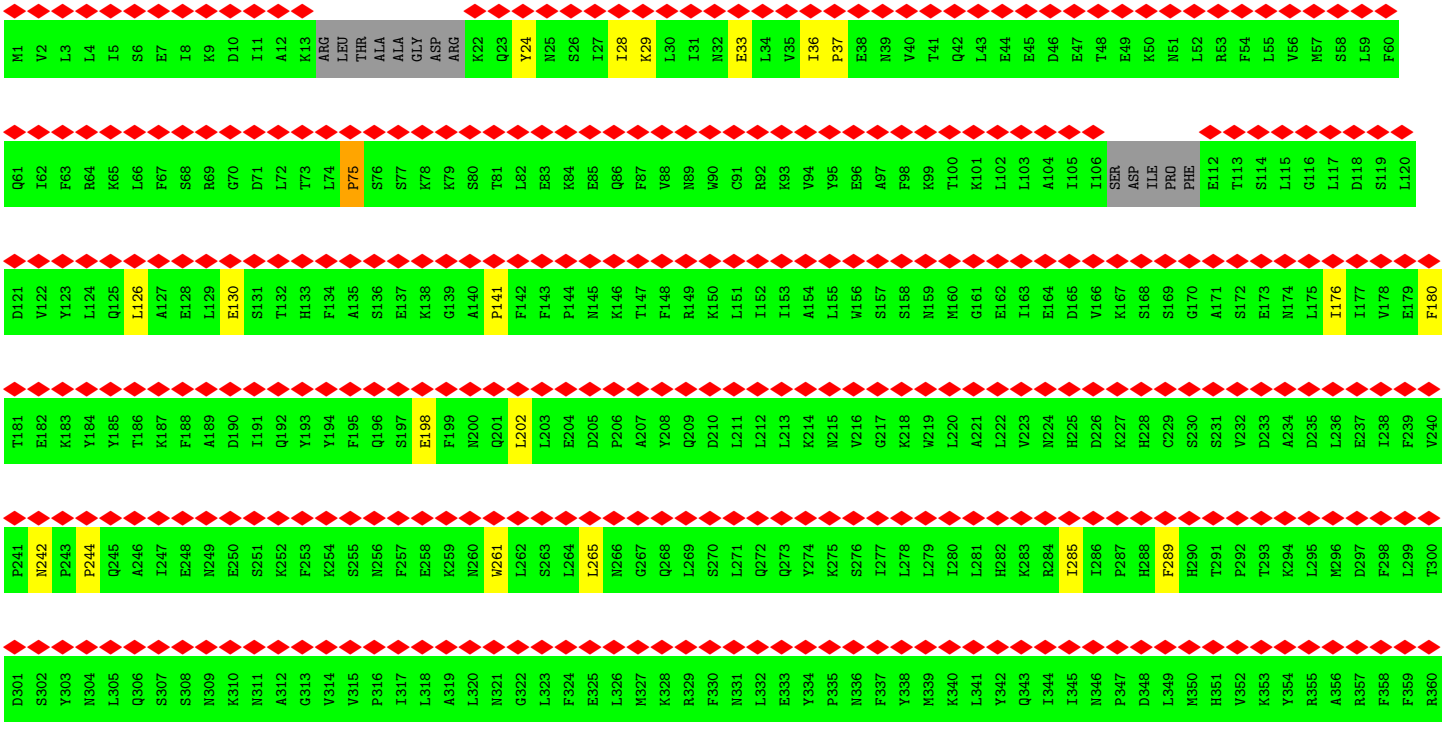
Chain UM:

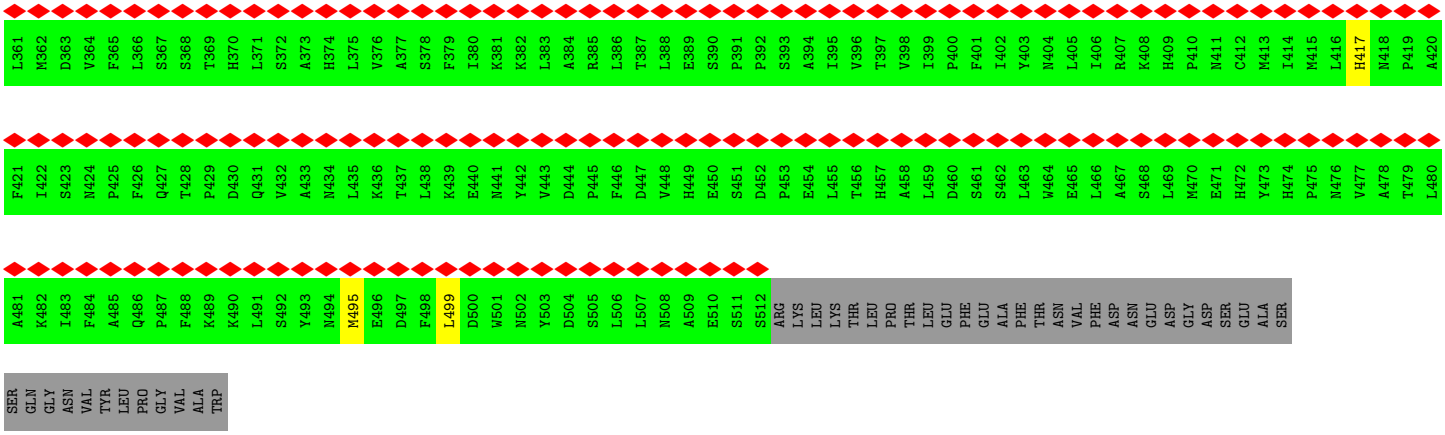


• Molecule 6: Nucleolar complex protein 4

Chain US:

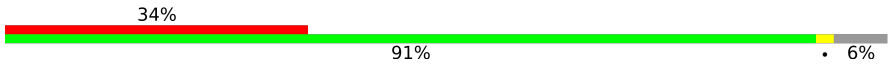


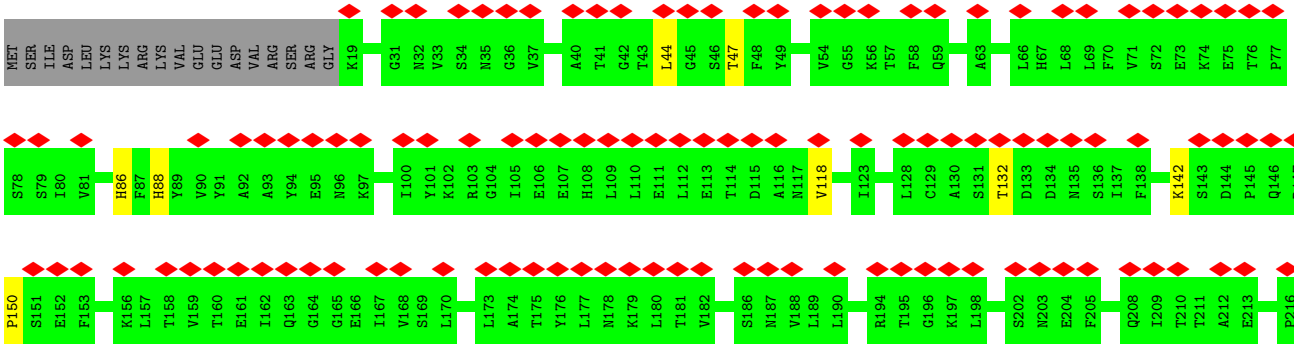




• Molecule 7: U3 small nucleolar RNA-associated protein 21

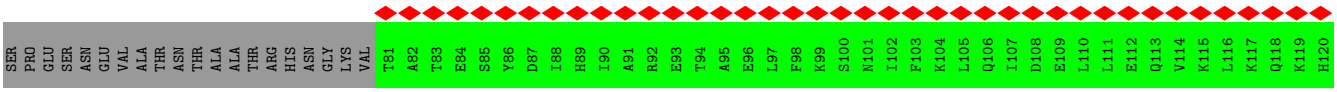
Chain UU:

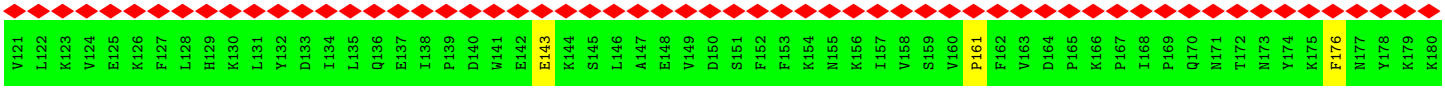


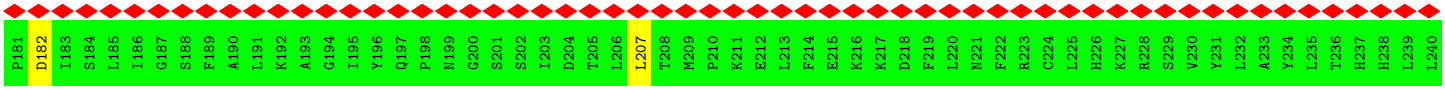


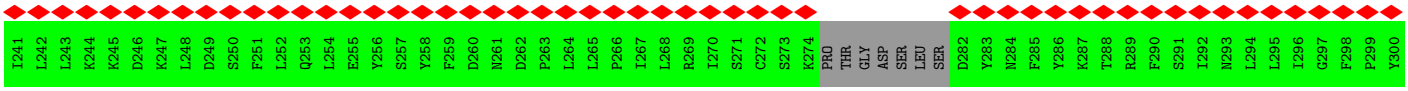
• Molecule 8: U3 small nucleolar RNA-associated protein 22

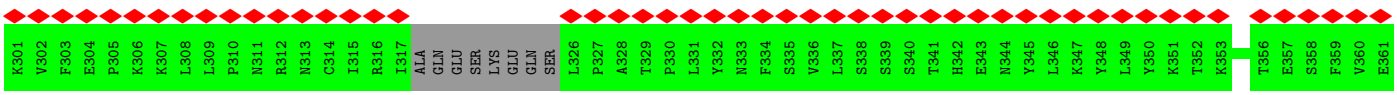
Chain UV:

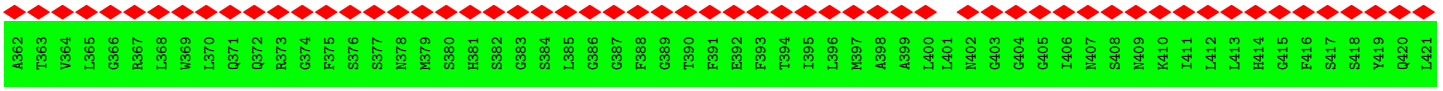


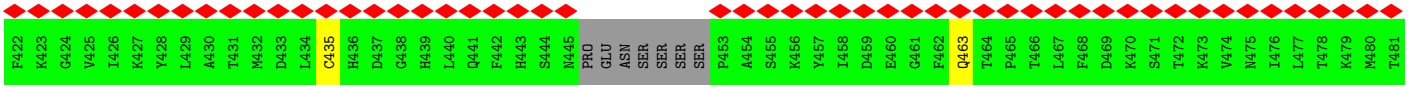


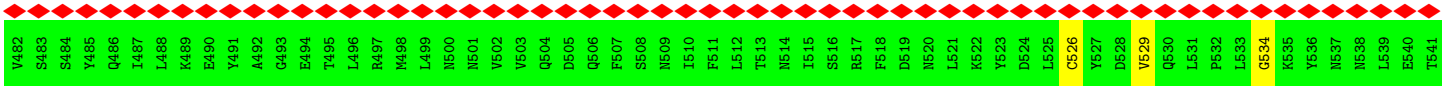


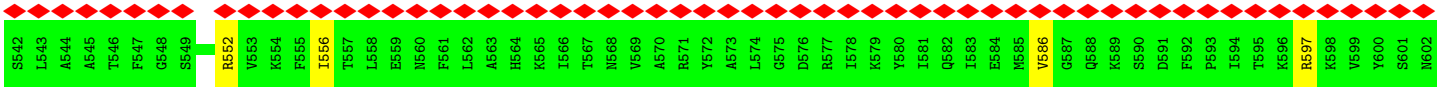


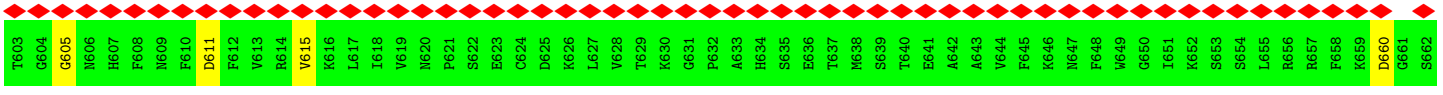


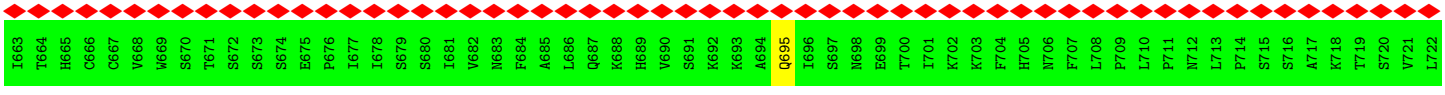


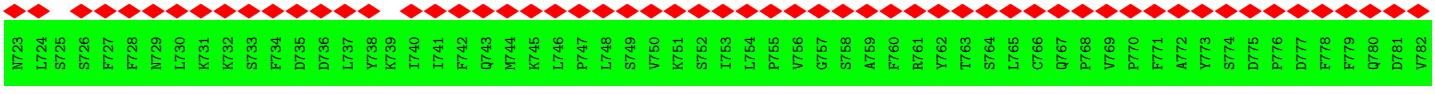


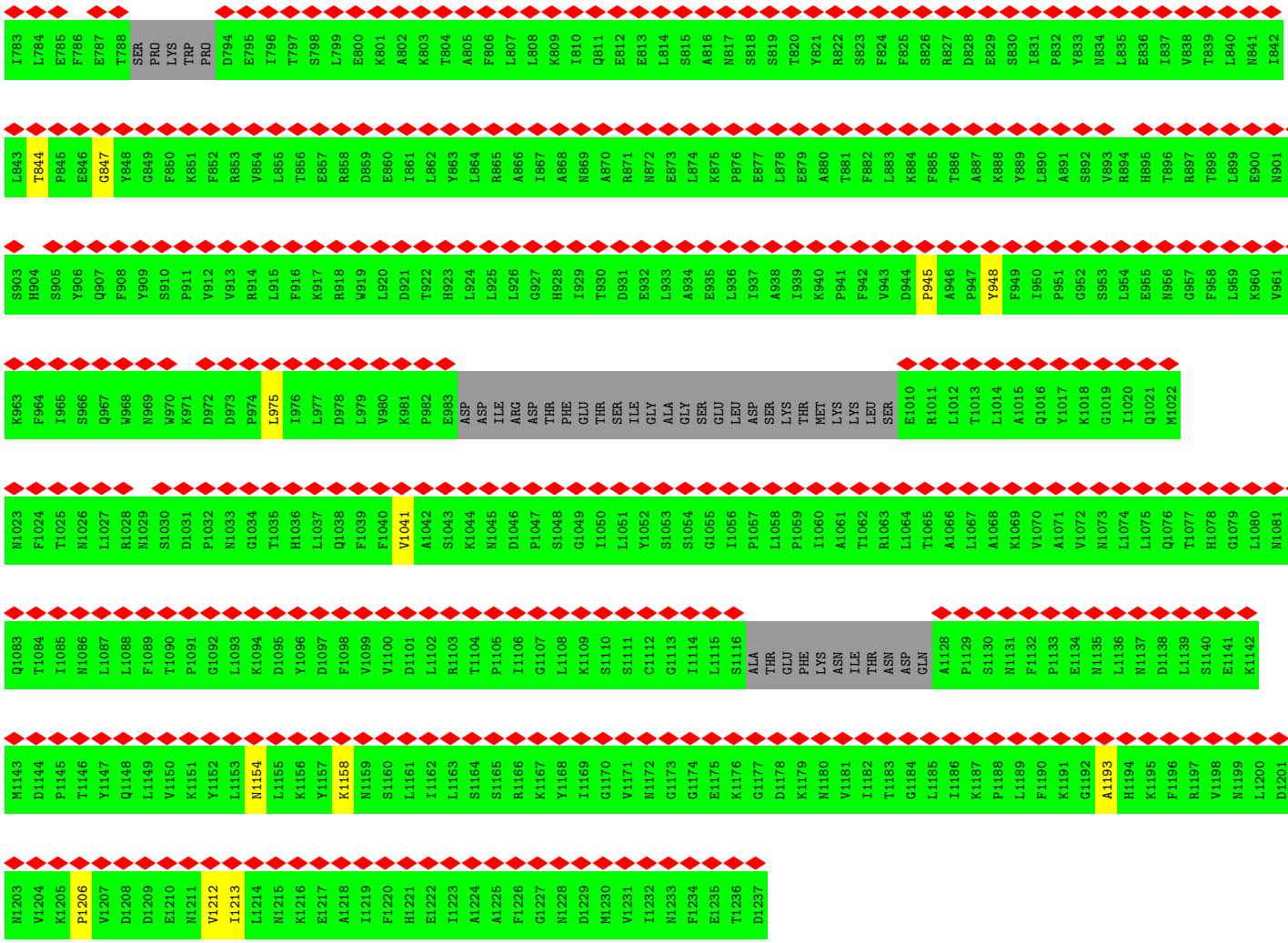






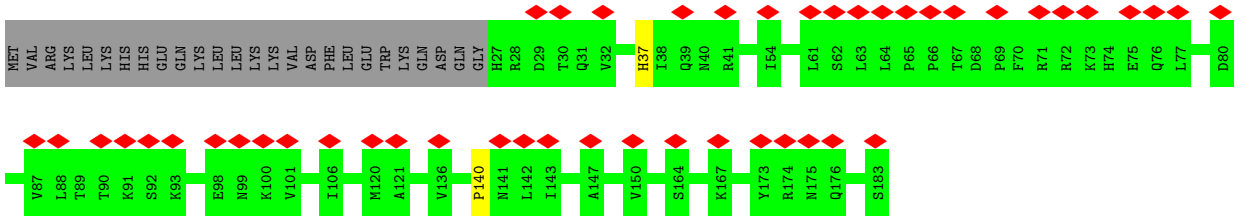






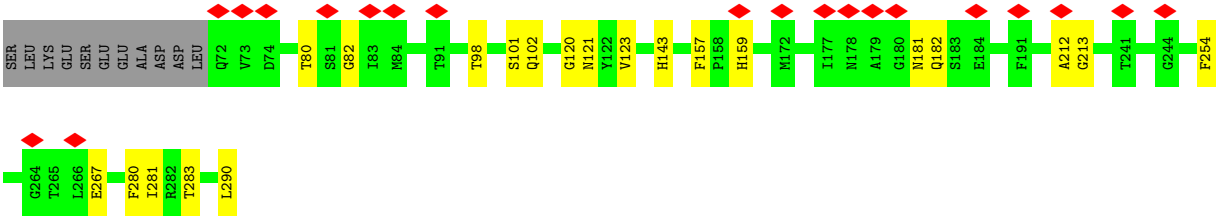
• Molecule 9: U3 small nucleolar ribonucleoprotein protein IMP3

Chain CI:



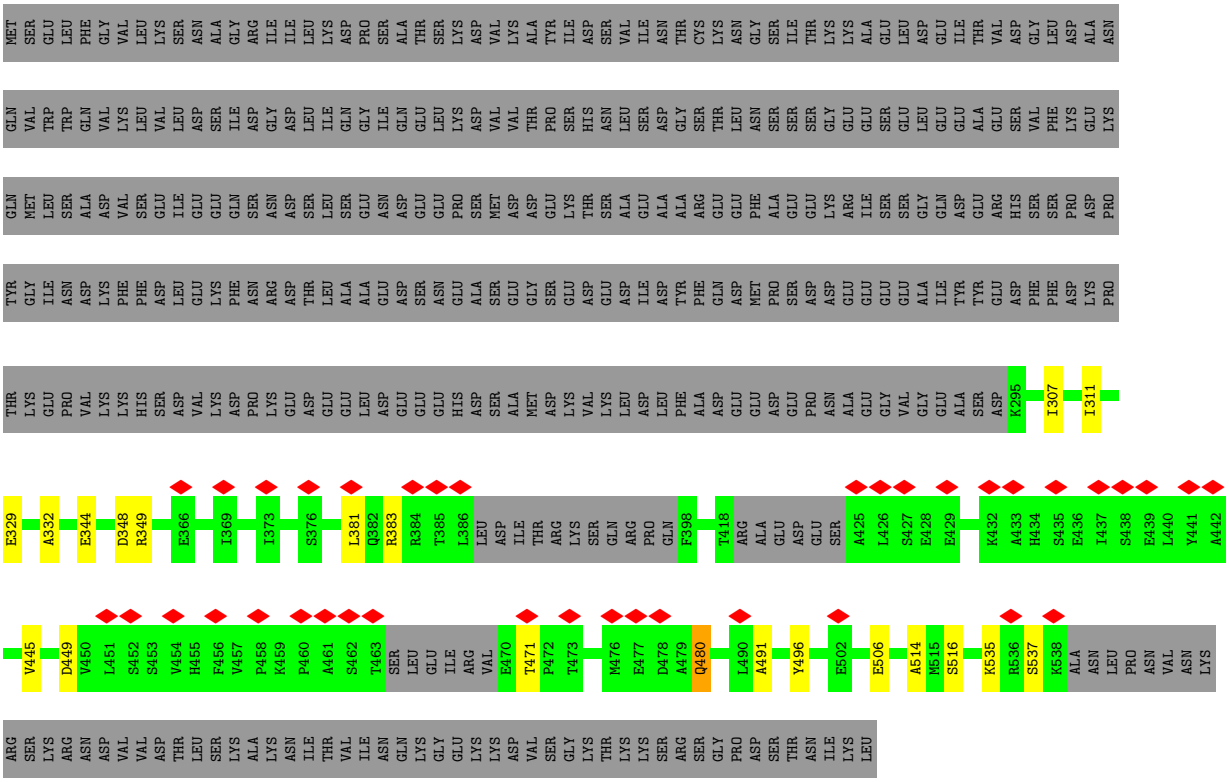
• Molecule 10: U3 small nucleolar ribonucleoprotein protein IMP4

Chain CJ:



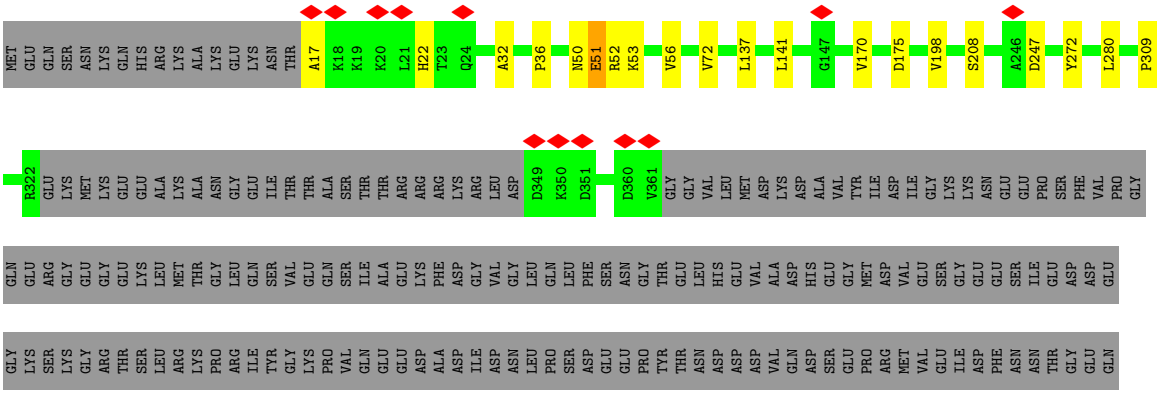
• Molecule 11: U3 small nucleolar RNA-associated protein MPP10

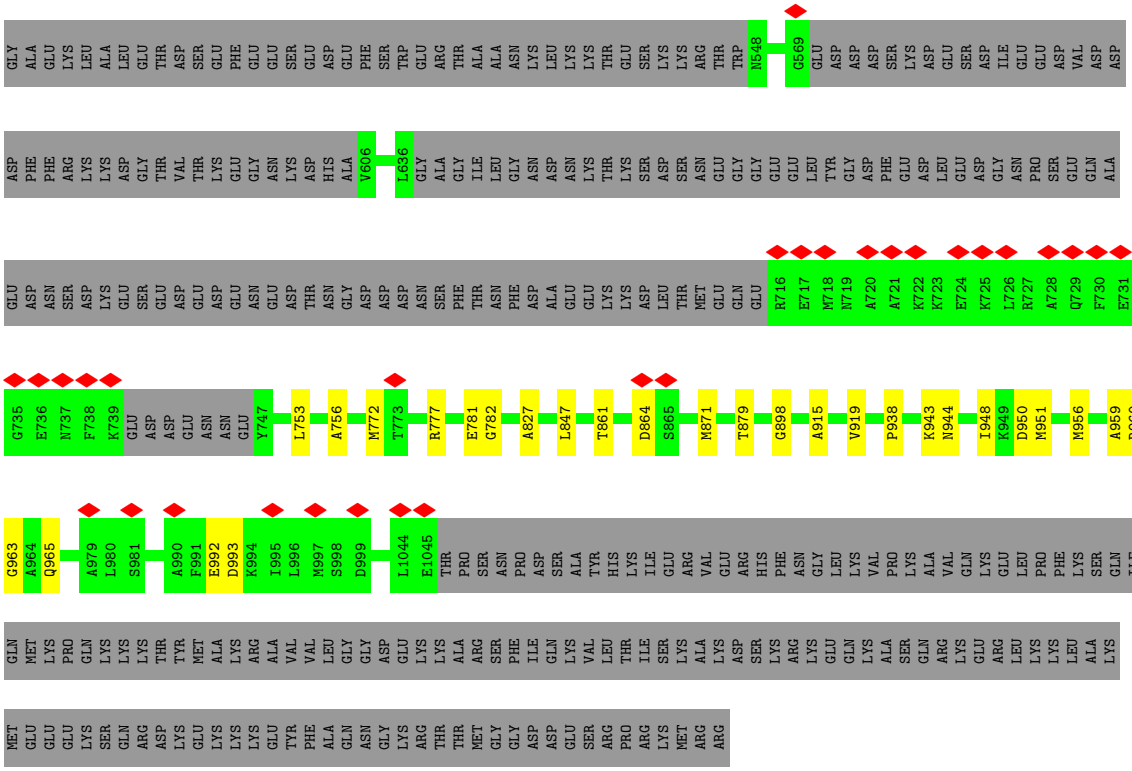
Chain CK:



• Molecule 12: Ribosome biogenesis protein BMS1

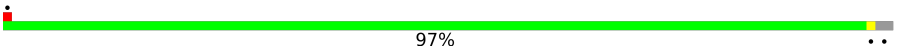
Chain CL:





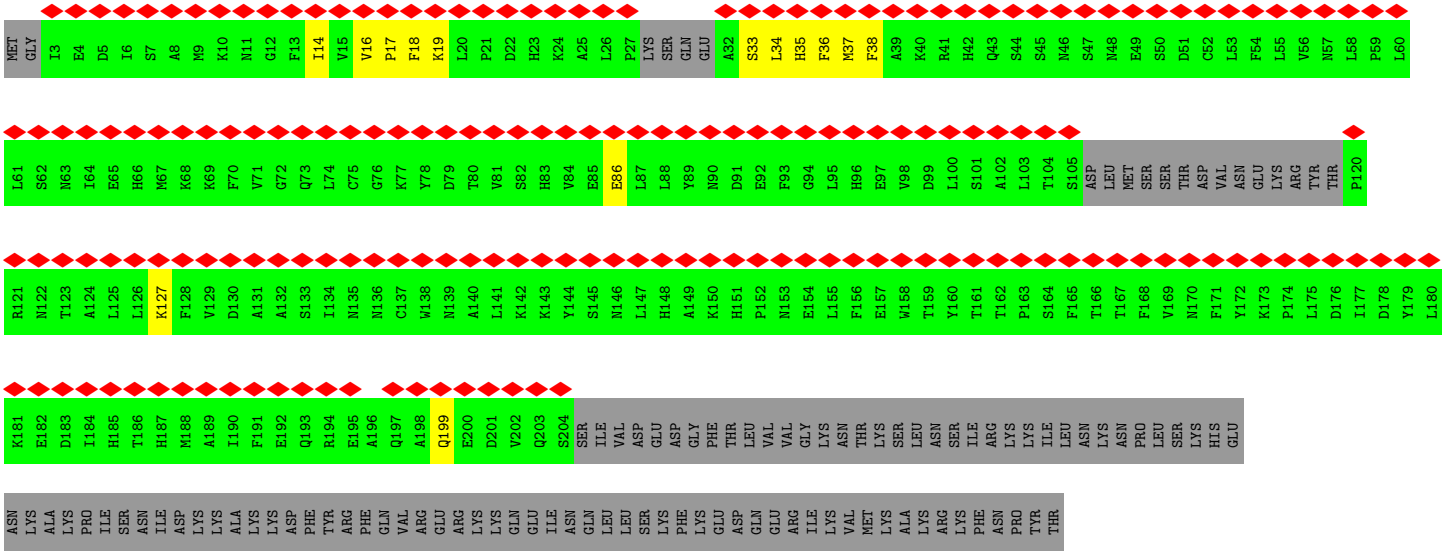
• Molecule 13: RNA 3'-terminal phosphate cyclase-like protein

Chain CM:



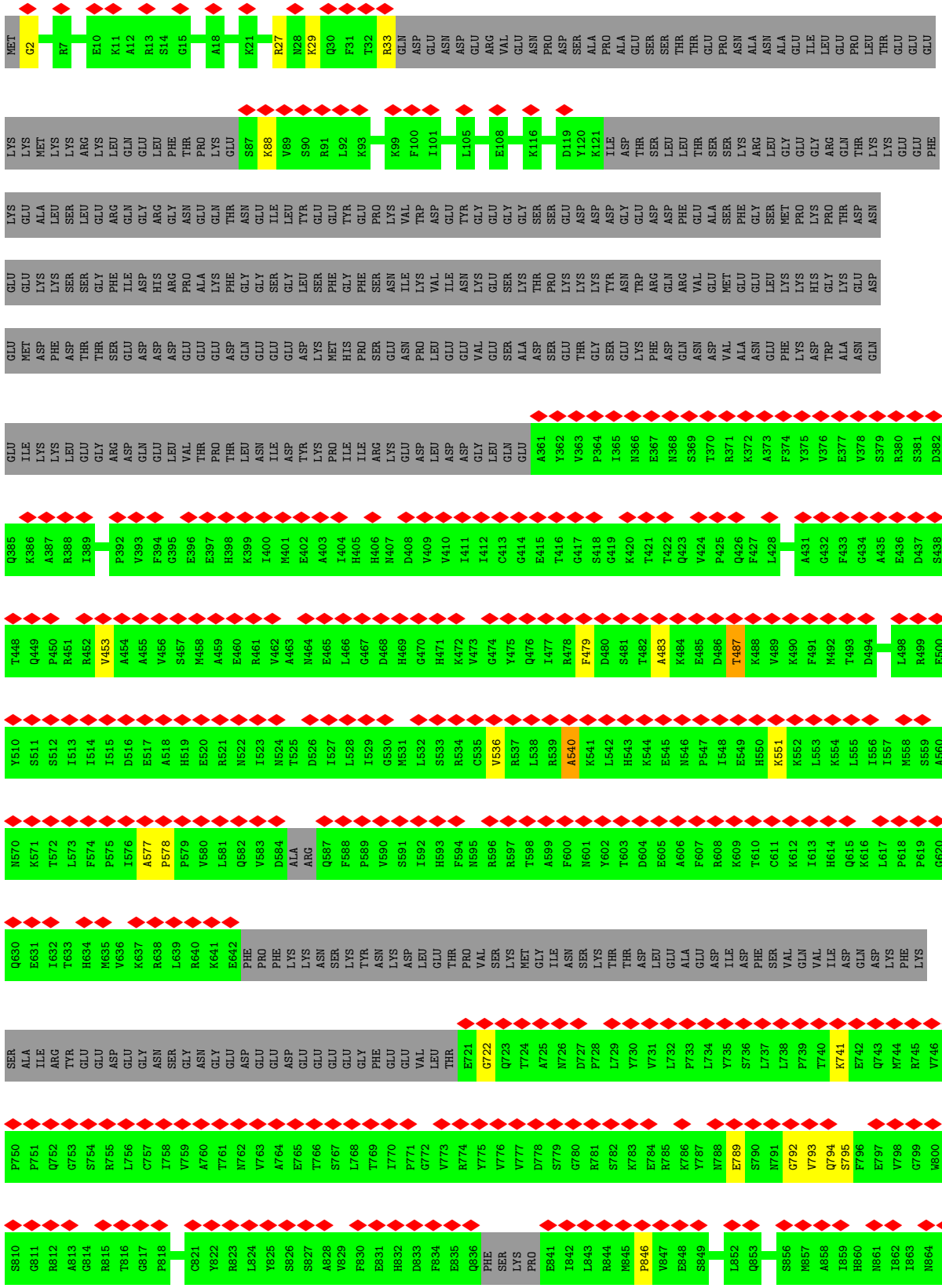
• Molecule 14: Ribosomal RNA-processing protein 7

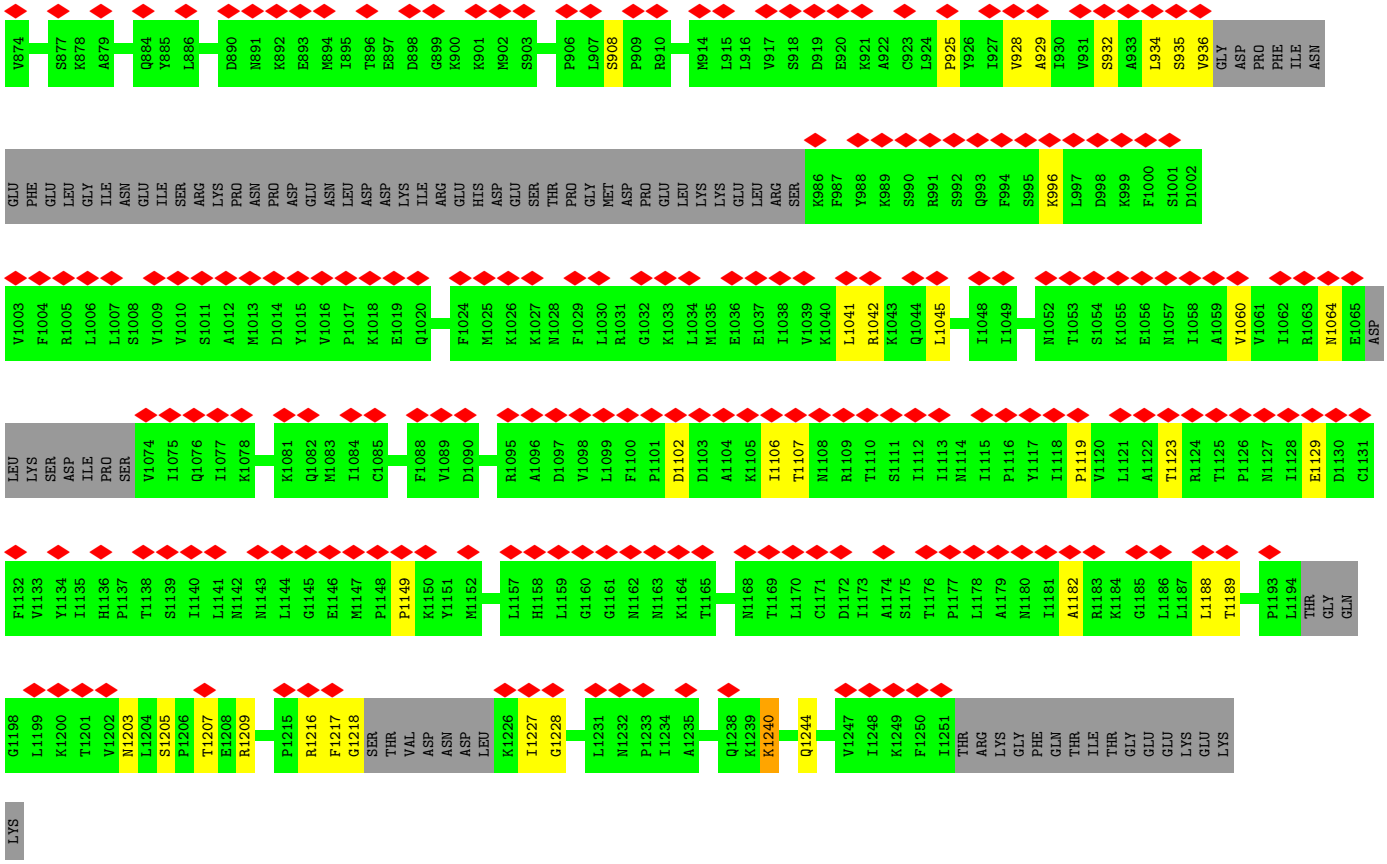
Chain CN:



• Molecule 15: Probable ATP-dependent RNA helicase DHR1

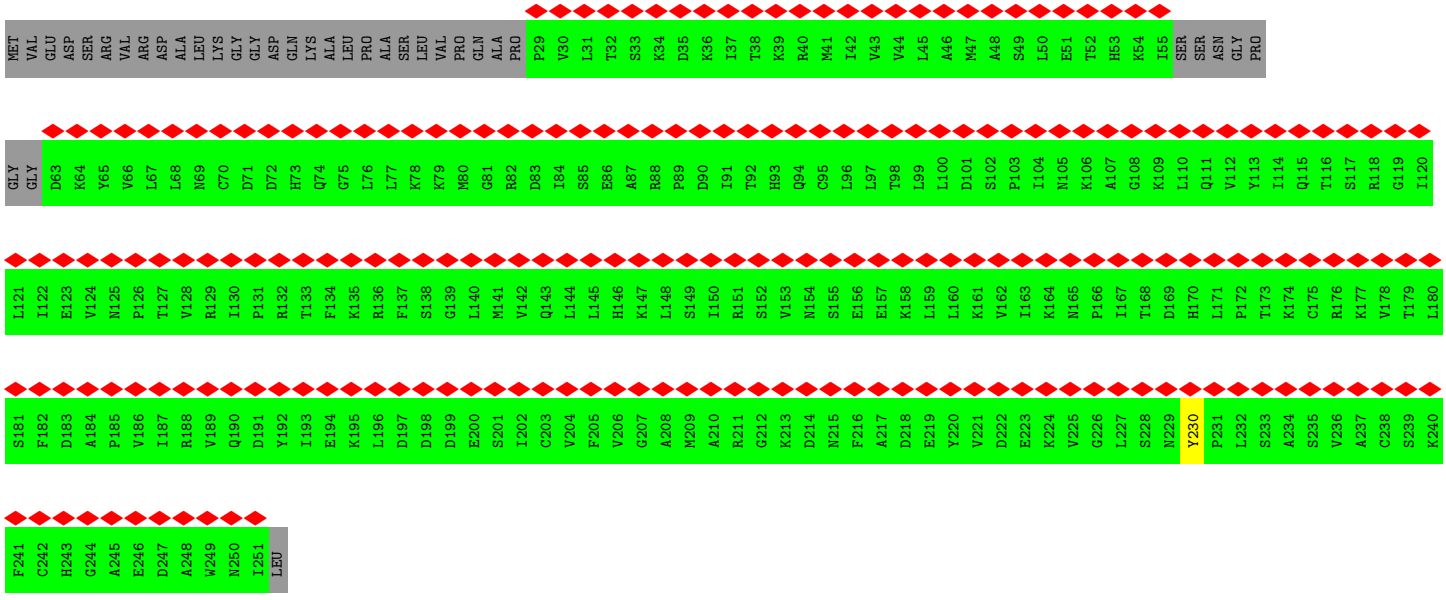
Chain JD:





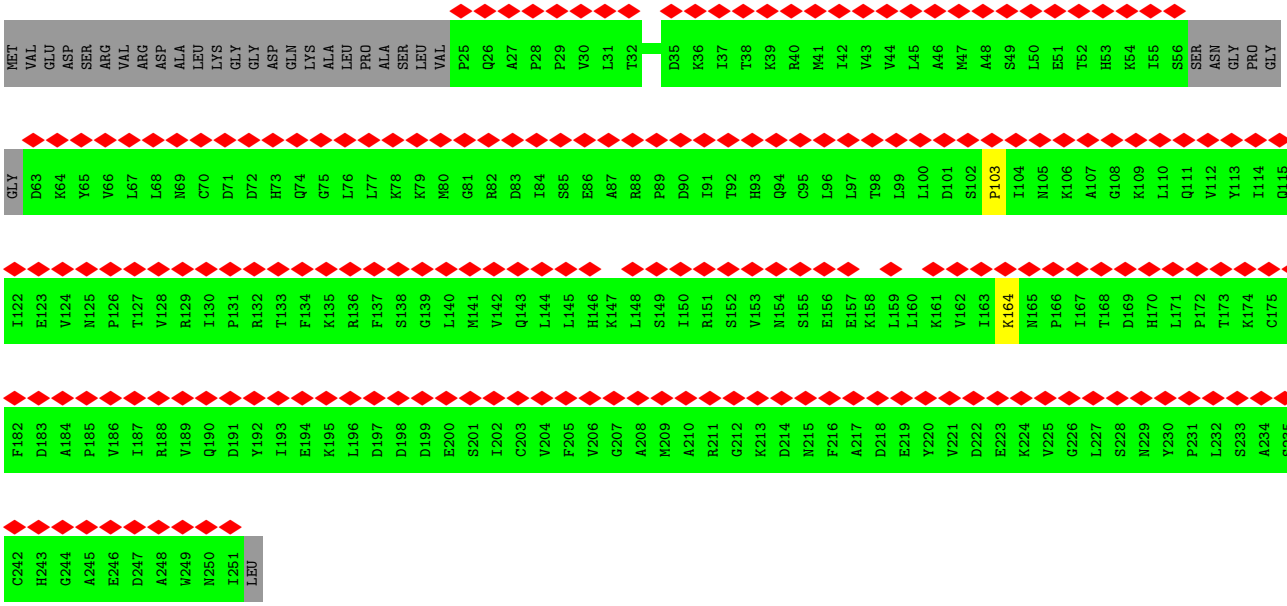
• Molecule 16: Ribosomal RNA small subunit methyltransferase NEP1

Chain JF:



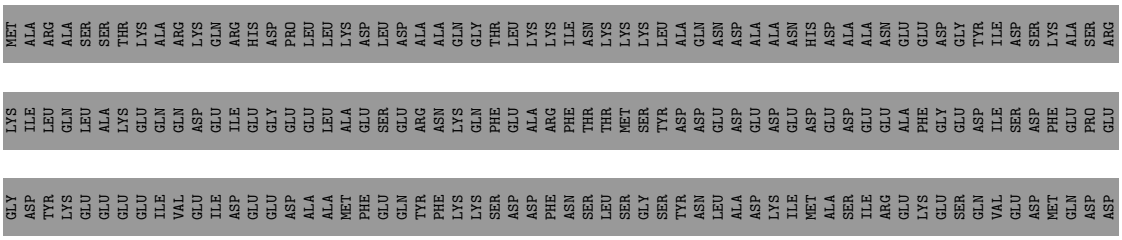
• Molecule 16: Ribosomal RNA small subunit methyltransferase NEP1

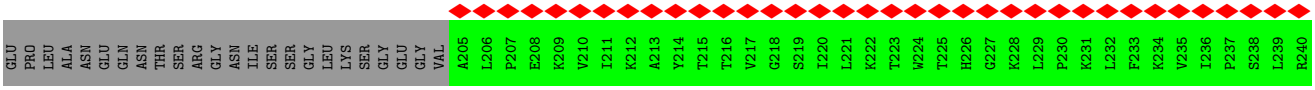
Chain JG:

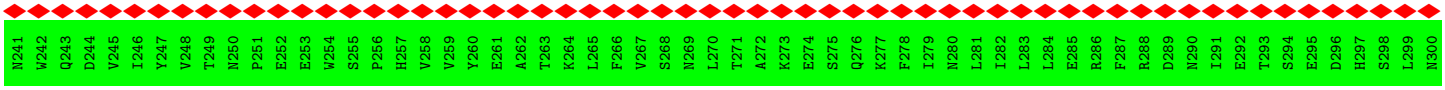


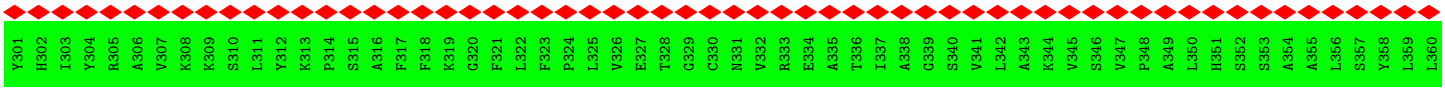
• Molecule 17: Essential nuclear protein 1

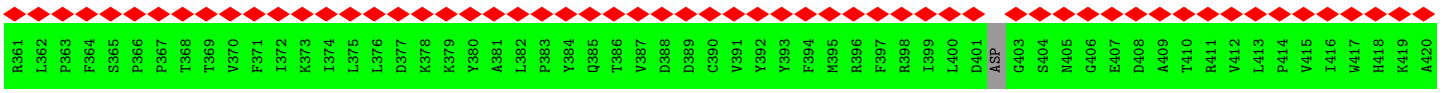
Chain JH:

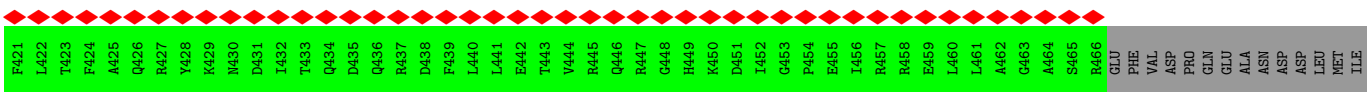






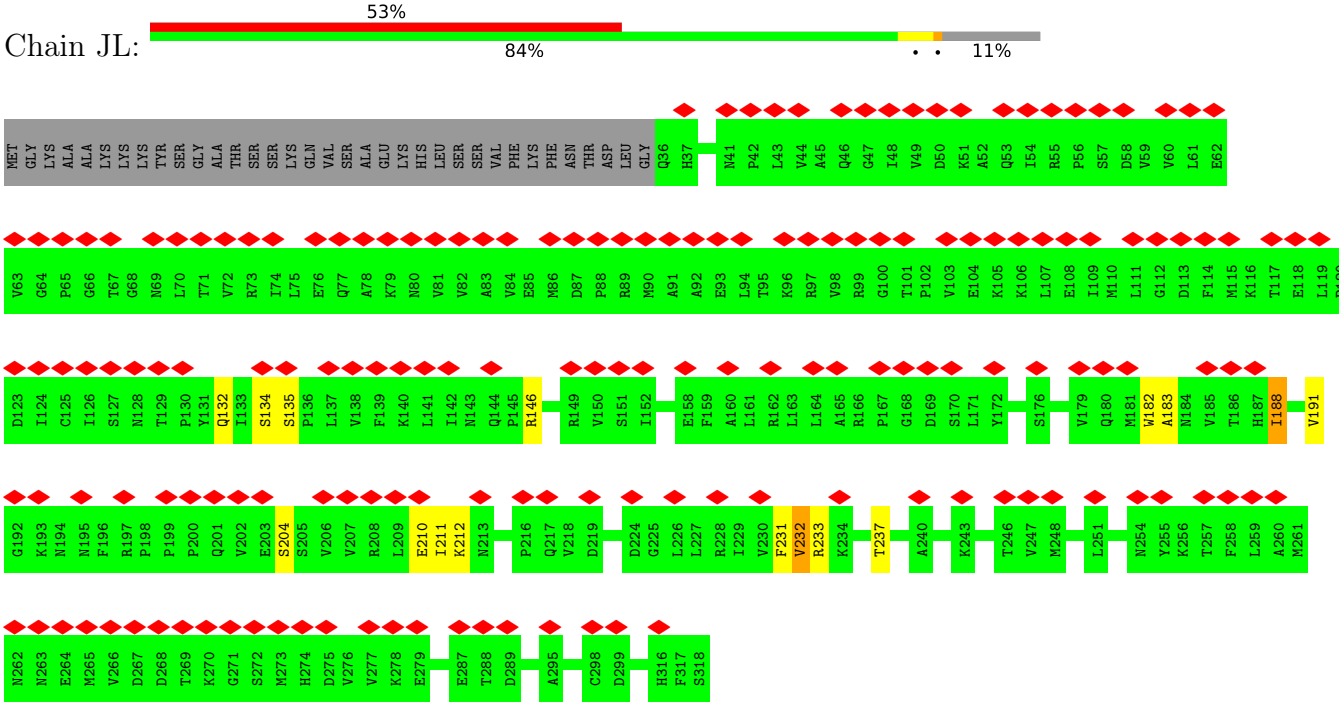






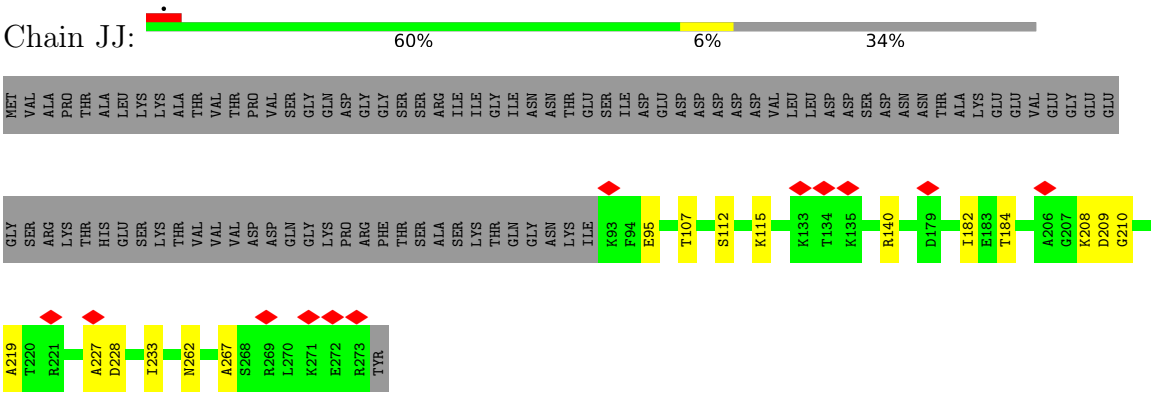
• Molecule 18: Dimethyladenosine transferase

Chain JL:



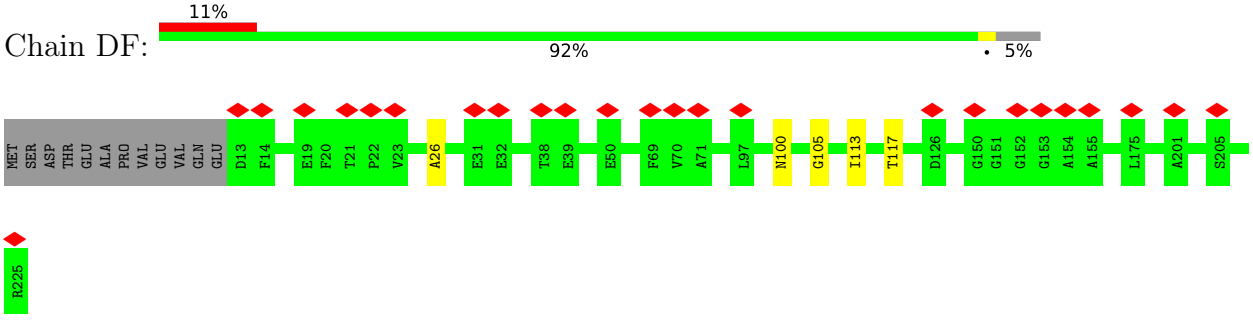
• Molecule 19: Pre-rRNA-processing protein PNO1

Chain JJ:



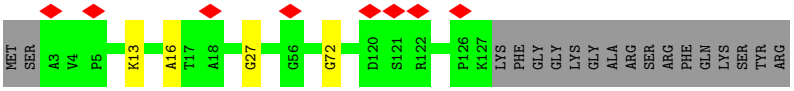
• Molecule 20: Rps5p

Chain DF:

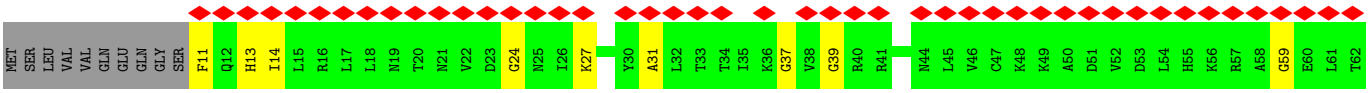


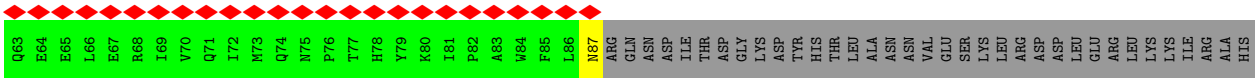
• Molecule 21: 40S ribosomal protein S16-A

Chain DQ:

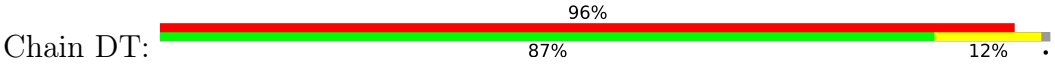


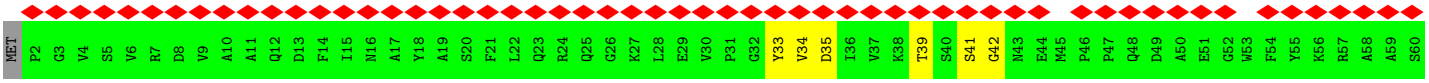
• Molecule 22: 40S ribosomal protein S18-A

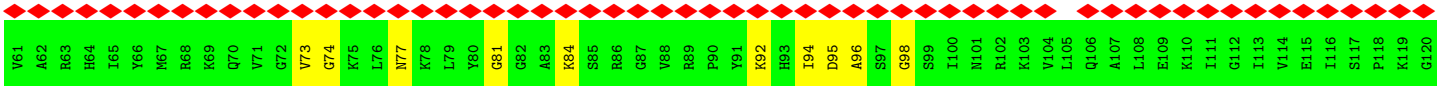


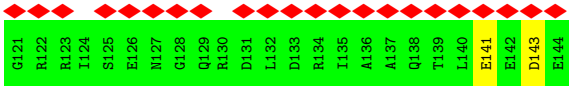


• Molecule 23: 40S ribosomal protein S19-A

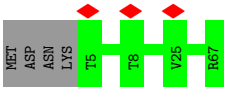




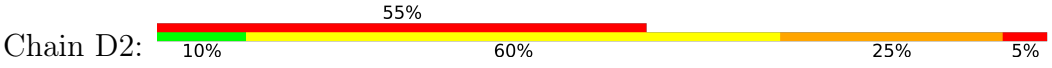


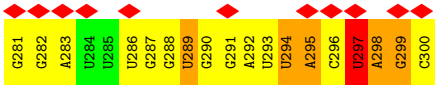


• Molecule 24: 40S ribosomal protein S28-A

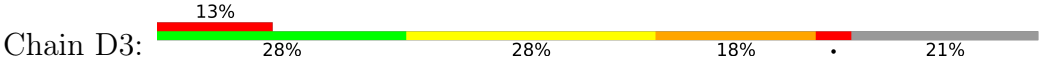


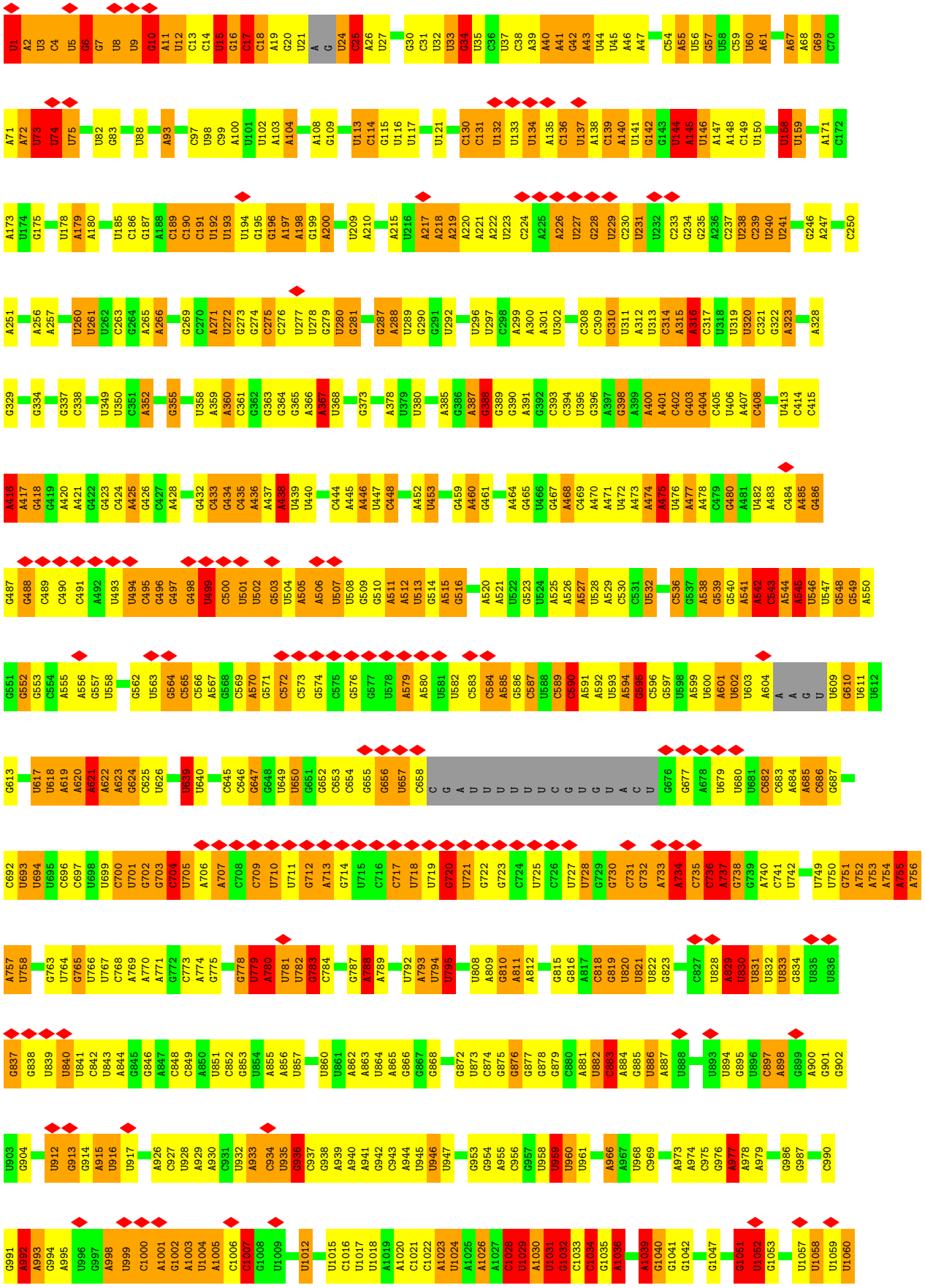
• Molecule 25: 5ETS RNA

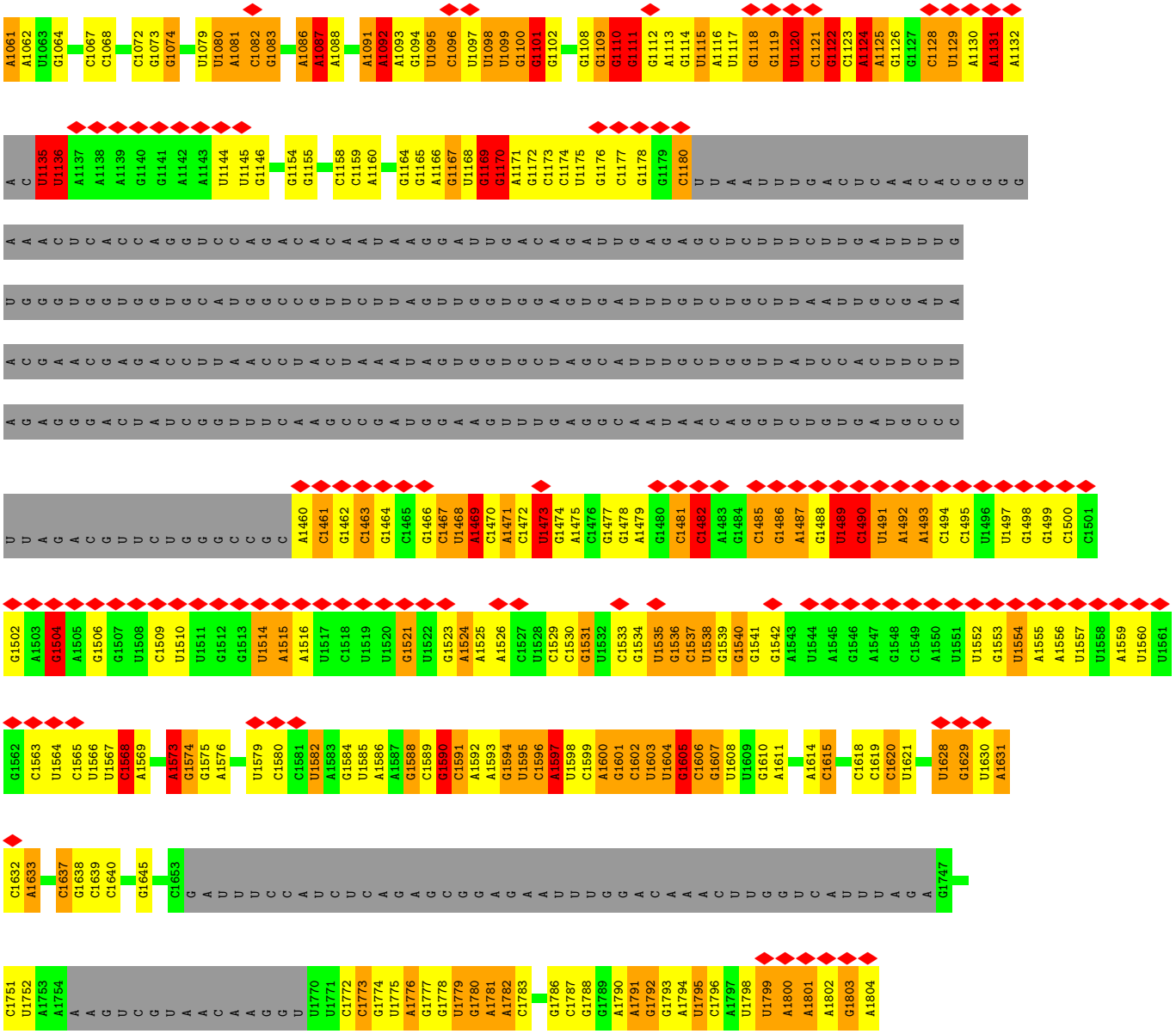




• Molecule 26: 18S rRNA

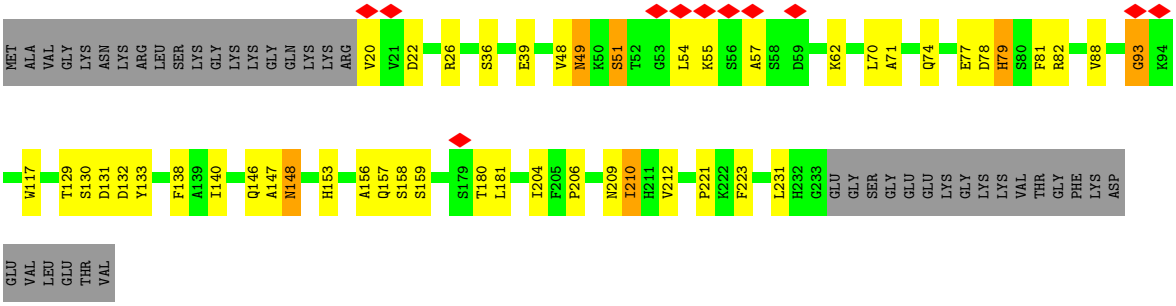






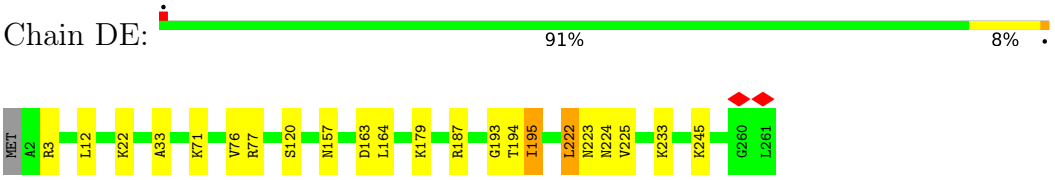
• Molecule 27: 40S ribosomal protein S1-A

Chain DA:



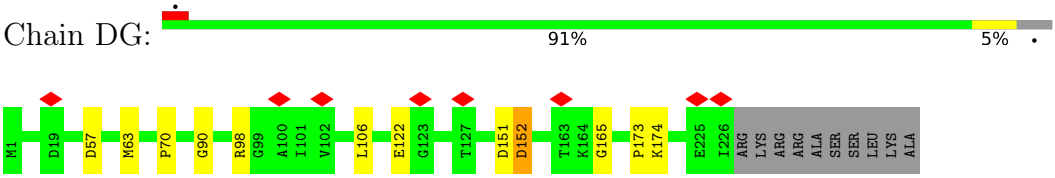
• Molecule 28: 40S ribosomal protein S4-A

Chain DE:



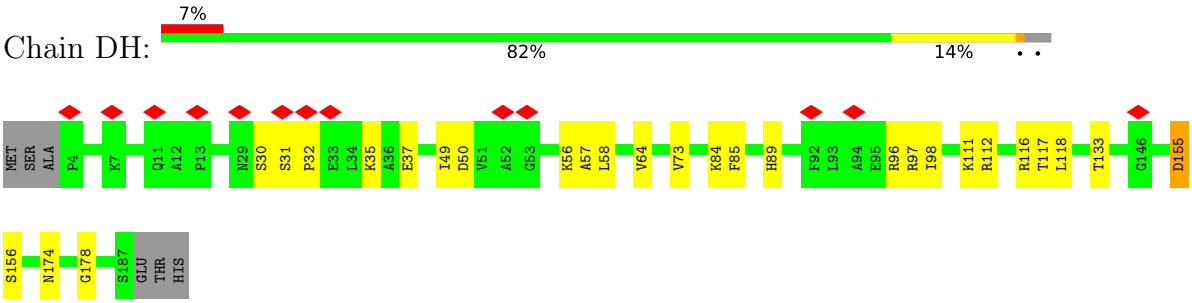
• Molecule 29: 40S ribosomal protein S6-A

Chain DG:



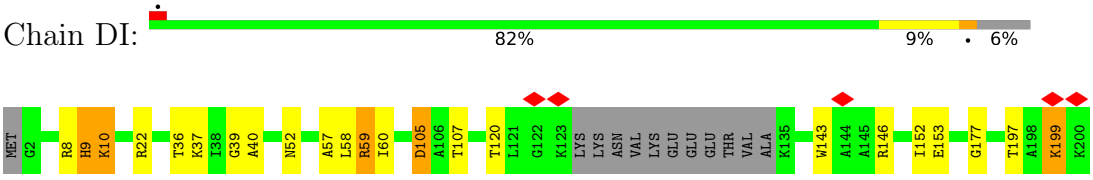
• Molecule 30: 40S ribosomal protein S7-A

Chain DH:



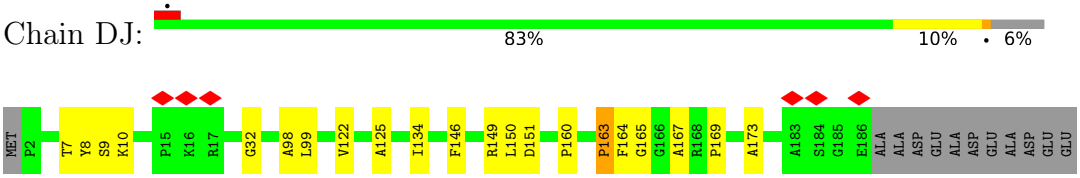
• Molecule 31: 40S ribosomal protein S8-A

Chain DI:



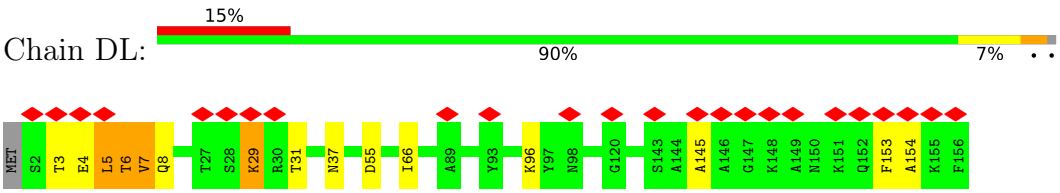
• Molecule 32: 40S ribosomal protein S9-A

Chain DJ:



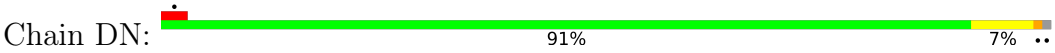
• Molecule 33: 40S ribosomal protein S11-A

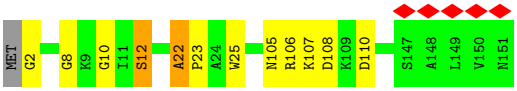
Chain DL:



• Molecule 34: 40S ribosomal protein S13

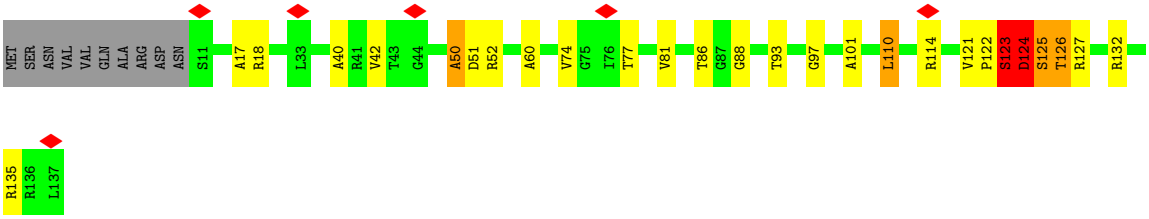
Chain DN:





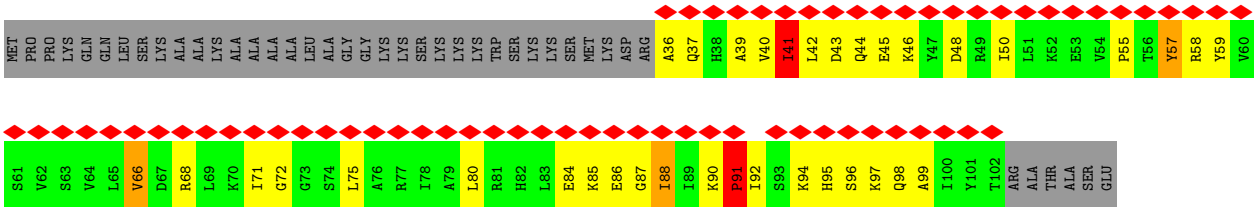
• Molecule 35: 40S ribosomal protein S14-A

Chain DO:



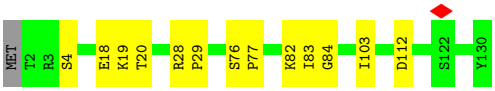
• Molecule 36: 40S ribosomal protein S25-A

Chain DZ:



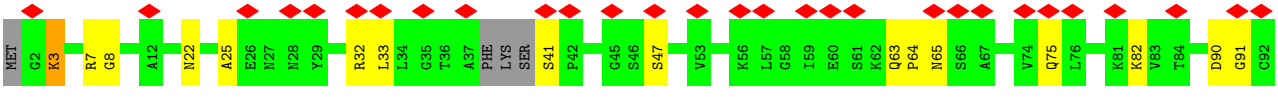
• Molecule 37: 40S ribosomal protein S22-A

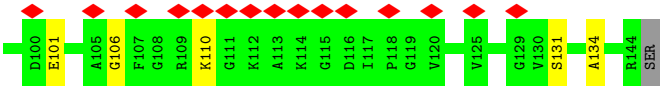
Chain DW:



• Molecule 38: 40S ribosomal protein S23-A

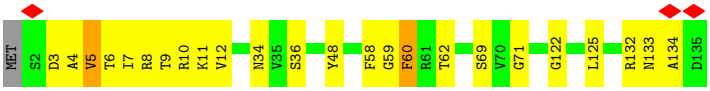
Chain DX:



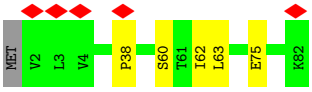


• Molecule 39: 40S ribosomal protein S24-A

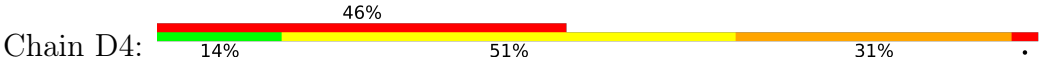
Chain DY:

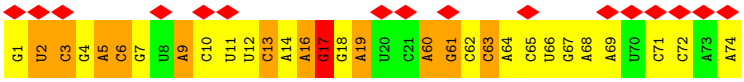


• Molecule 40: 40S ribosomal protein S27-A



• Molecule 41: U3 snoRNA





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	16654	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	44	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.053	Depositor
Minimum map value	-0.024	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	508.32, 508.32, 508.32	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.059, 1.059, 1.059	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	UA	0.66	0/3913	0.69	0/5447
2	UB	0.29	0/1841	0.49	2/2568 (0.1%)
3	UC	0.33	0/232	0.47	0/322
4	UL	0.30	0/3834	0.57	0/5330
5	UM	0.66	0/3756	0.89	3/5219 (0.1%)
6	US	0.31	0/2483	0.50	2/3466 (0.1%)
7	UU	0.44	0/4324	0.59	0/6010
8	UV	0.28	0/5410	0.47	0/7534
9	CI	0.36	0/780	0.56	0/1088
10	CJ	0.38	0/1082	0.65	0/1506
11	CK	0.55	0/1097	0.60	0/1527
12	CL	0.57	1/3427 (0.0%)	0.64	0/4764
13	CM	0.47	0/1766	0.59	0/2451
14	CN	0.27	0/913	0.47	0/1271
15	JD	0.60	1/3985 (0.0%)	1.00	3/5539 (0.1%)
16	JF	0.28	0/1069	0.49	0/1488
16	JG	0.31	0/1094	0.50	0/1523
17	JH	0.37	0/1293	0.50	0/1801
18	JL	0.71	1/1400 (0.1%)	0.91	2/1950 (0.1%)
19	JJ	0.56	0/892	0.57	0/1240
20	DF	0.34	0/1054	0.58	0/1468
21	DQ	0.38	0/615	0.62	0/854
22	DS	0.26	0/380	0.53	0/528
23	DT	0.28	0/699	0.61	0/968
24	Dc	0.33	0/309	0.56	0/428
25	D2	2.98	50/479 (10.4%)	1.85	19/745 (2.6%)
26	D3	0.69	8/33150 (0.0%)	1.27	250/51635 (0.5%)
27	DA	0.56	0/1060	0.67	0/1477
28	DE	0.48	0/1275	0.73	0/1769
29	DG	0.53	0/1112	0.66	0/1545
30	DH	0.43	0/912	0.66	0/1271
31	DI	0.53	0/922	0.73	0/1278

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
32	DJ	0.46	0/914	0.65	0/1272
33	DL	0.53	0/765	0.65	0/1064
34	DN	0.45	0/741	0.67	1/1031 (0.1%)
35	DO	0.51	0/619	0.67	0/856
36	DZ	0.41	0/331	0.69	2/460 (0.4%)
37	DW	0.48	0/633	0.71	0/878
38	DX	0.44	0/682	0.67	0/942
39	DY	0.41	0/660	0.61	0/917
40	Db	0.41	0/399	0.65	0/554
41	D4	1.91	37/828 (4.5%)	1.59	21/1282 (1.6%)
All	All	0.62	98/93130 (0.1%)	0.96	305/135266 (0.2%)

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
4	UL	0	2
5	UM	0	3
7	UU	0	1
10	CJ	0	3
12	CL	0	2
18	JL	0	1
21	DQ	0	1
22	DS	0	1
26	D3	0	4
35	DO	0	3
36	DZ	0	1
38	DX	0	1
All	All	0	23

All (98) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	D2	292	A	N9-C4	-10.81	1.31	1.37
18	JL	188	ILE	C-N	8.72	1.54	1.34
25	D2	298	A	N3-C4	-8.70	1.29	1.34
12	CL	56	VAL	C-N	8.35	1.50	1.34
25	D2	292	A	N3-C4	-8.21	1.29	1.34
25	D2	298	A	N9-C4	-8.07	1.33	1.37
25	D2	298	A	C5-C4	-7.78	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	D2	292	A	N7-C5	-7.62	1.34	1.39
26	D3	1029	U	O3'-P	-7.56	1.52	1.61
25	D2	290	G	N7-C5	-7.44	1.34	1.39
41	D4	60	A	C5-C4	-7.40	1.33	1.38
25	D2	288	G	N7-C5	-7.35	1.34	1.39
41	D4	63	C	C4-C5	-7.35	1.37	1.43
41	D4	60	A	N3-C4	-7.34	1.30	1.34
41	D4	74	A	N7-C5	-7.23	1.34	1.39
41	D4	60	A	N7-C5	-7.22	1.34	1.39
25	D2	290	G	C5-C4	-7.16	1.33	1.38
25	D2	298	A	N7-C5	-7.15	1.34	1.39
41	D4	63	C	N1-C6	-7.14	1.32	1.37
41	D4	61	G	N7-C5	-7.11	1.34	1.39
41	D4	60	A	C6-N1	-6.96	1.30	1.35
26	D3	1588	G	O3'-P	-6.67	1.53	1.61
25	D2	296	C	N1-C6	-6.66	1.33	1.37
41	D4	69	A	N7-C5	-6.64	1.35	1.39
41	D4	67	G	N7-C5	-6.55	1.35	1.39
25	D2	286	U	C2-N3	-6.39	1.33	1.37
25	D2	298	A	C6-N1	-6.37	1.31	1.35
25	D2	291	G	C5-C4	-6.32	1.33	1.38
25	D2	287	G	C5-C4	-6.31	1.33	1.38
41	D4	66	U	C2-N3	-6.25	1.33	1.37
41	D4	67	G	N3-C4	-6.24	1.31	1.35
25	D2	281	G	C5-C4	-6.20	1.34	1.38
41	D4	71	C	N1-C6	-6.19	1.33	1.37
25	D2	297	U	C2-N3	-6.18	1.33	1.37
41	D4	68	A	N7-C5	-6.17	1.35	1.39
41	D4	62	C	C4-C5	-6.15	1.38	1.43
41	D4	67	G	C5-C4	-6.12	1.34	1.38
25	D2	290	G	N3-C4	-6.10	1.31	1.35
25	D2	292	A	C5-C4	-6.09	1.34	1.38
41	D4	64	A	N7-C5	-6.07	1.35	1.39
25	D2	281	G	C6-N1	-6.07	1.35	1.39
41	D4	62	C	N1-C6	-6.04	1.33	1.37
25	D2	295	A	C5-C4	-6.02	1.34	1.38
41	D4	74	A	N9-C4	-6.01	1.34	1.37
41	D4	64	A	N9-C4	-5.99	1.34	1.37
25	D2	283	A	N9-C4	-5.98	1.34	1.37
25	D2	282	G	N3-C4	-5.93	1.31	1.35
41	D4	63	C	N3-C4	-5.84	1.29	1.33
25	D2	288	G	N9-C8	-5.81	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	D2	291	G	N7-C5	-5.79	1.35	1.39
25	D2	283	A	C5-C4	-5.76	1.34	1.38
41	D4	19	A	C1'-N9	-5.74	1.38	1.46
41	D4	60	A	C5-C6	-5.74	1.35	1.41
41	D4	60	A	N9-C8	-5.70	1.33	1.37
25	D2	296	C	N1-C2	-5.69	1.34	1.40
25	D2	283	A	N7-C5	-5.69	1.35	1.39
41	D4	64	A	N3-C4	-5.69	1.31	1.34
25	D2	288	G	C5-C4	-5.65	1.34	1.38
25	D2	281	G	N7-C5	-5.64	1.35	1.39
25	D2	290	G	C6-N1	-5.64	1.35	1.39
25	D2	287	G	C6-N1	-5.61	1.35	1.39
41	D4	61	G	C6-N1	-5.61	1.35	1.39
25	D2	288	G	C6-N1	-5.60	1.35	1.39
25	D2	299	G	C5-C4	-5.57	1.34	1.38
41	D4	67	G	N9-C8	-5.53	1.33	1.37
41	D4	74	A	N3-C4	-5.48	1.31	1.34
41	D4	69	A	C5-C6	-5.47	1.36	1.41
41	D4	67	G	N1-C2	-5.46	1.33	1.37
26	D3	16	G	P-O5'	5.42	1.65	1.59
25	D2	295	A	C5-C6	-5.42	1.36	1.41
25	D2	298	A	C5-C6	-5.41	1.36	1.41
41	D4	61	G	C5-C4	-5.41	1.34	1.38
25	D2	281	G	N3-C4	-5.39	1.31	1.35
26	D3	992	A	N9-C4	-5.38	1.34	1.37
41	D4	61	G	N1-C2	-5.37	1.33	1.37
25	D2	288	G	C5-C6	-5.35	1.37	1.42
41	D4	66	U	N3-C4	-5.31	1.33	1.38
26	D3	16	G	O3'-P	-5.31	1.54	1.61
25	D2	299	G	N9-C8	-5.30	1.34	1.37
25	D2	287	G	N7-C5	-5.29	1.36	1.39
41	D4	68	A	N3-C4	-5.26	1.31	1.34
25	D2	290	G	N9-C8	-5.26	1.34	1.37
25	D2	282	G	N9-C4	-5.22	1.33	1.38
41	D4	68	A	N9-C4	-5.22	1.34	1.37
25	D2	295	A	N9-C4	-5.21	1.34	1.37
25	D2	286	U	N1-C2	-5.20	1.33	1.38
25	D2	290	G	C5-C6	-5.18	1.37	1.42
26	D3	12	U	C1'-N1	5.10	1.56	1.48
26	D3	1122	G	O3'-P	5.10	1.67	1.61
25	D2	300	C	C4-C5	-5.10	1.38	1.43
25	D2	291	G	N9-C8	-5.08	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	D2	283	A	N3-C4	-5.08	1.31	1.34
15	JD	996	LYS	C-N	-5.07	1.22	1.34
41	D4	67	G	C6-N1	-5.06	1.36	1.39
25	D2	295	A	N3-C4	-5.03	1.31	1.34
41	D4	69	A	C5-C4	-5.02	1.35	1.38
25	D2	281	G	N9-C8	-5.01	1.34	1.37
26	D3	145	A	N9-C4	5.00	1.40	1.37

All (305) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	D3	897	C	P-O3'-C3'	-27.03	87.27	119.70
26	D3	15	U	C4'-C3'-O3'	20.56	154.12	113.00
26	D3	1111	G	N9-C1'-C2'	-16.31	92.80	114.00
26	D3	16	G	O5'-P-OP2	-14.71	92.47	105.70
26	D3	897	C	O3'-P-O5'	-14.19	77.04	104.00
26	D3	897	C	OP2-P-O3'	13.15	134.12	105.20
26	D3	15	U	O3'-P-O5'	12.37	127.51	104.00
26	D3	1083	G	N9-C1'-C2'	-12.35	97.94	114.00
26	D3	1605	G	N9-C1'-C2'	-11.92	98.50	114.00
26	D3	1032	G	N9-C1'-C2'	-11.63	98.88	114.00
26	D3	475	A	N9-C1'-C2'	-11.30	99.31	114.00
26	D3	1170	G	N9-C1'-C2'	-11.16	99.49	114.00
26	D3	316	A	N9-C1'-C2'	-10.99	99.71	114.00
26	D3	1124	A	N9-C1'-C2'	-10.86	99.88	114.00
26	D3	883	C	N1-C1'-C2'	-10.72	100.06	114.00
18	JL	188	ILE	O-C-N	-10.57	105.79	122.70
26	D3	34	G	N9-C1'-C2'	-10.50	100.35	114.00
26	D3	15	U	C2'-C3'-O3'	-10.49	86.41	109.50
26	D3	311	U	N1-C1'-C2'	-10.42	100.46	114.00
26	D3	1007	C	N1-C1'-C2'	-10.38	100.51	114.00
26	D3	758	U	N1-C1'-C2'	-10.27	100.65	114.00
26	D3	639	U	N3-C2-O2	-10.25	115.03	122.20
26	D3	388	G	N9-C1'-C2'	-10.18	100.77	114.00
26	D3	1490	C	C6-N1-C2	-9.62	116.45	120.30
26	D3	6	G	N9-C1'-C2'	-9.55	101.49	112.00
26	D3	977	A	N9-C1'-C2'	-9.42	101.64	112.00
26	D3	946	U	N1-C1'-C2'	-9.39	101.67	112.00
41	D4	61	G	N1-C6-O6	-9.37	114.28	119.90
26	D3	788	A	N9-C1'-C2'	-9.24	101.84	112.00
26	D3	15	U	P-O3'-C3'	9.19	130.72	119.70
26	D3	1	U	C4'-C3'-O3'	-9.05	90.39	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	D3	1467	C	C6-N1-C2	-9.03	116.69	120.30
26	D3	976	G	N9-C1'-C2'	-8.87	102.24	112.00
41	D4	9	A	N9-C1'-C2'	-8.82	102.29	112.00
26	D3	1607	G	P-O3'-C3'	8.81	130.28	119.70
26	D3	595	G	N9-C1'-C2'	-8.59	102.55	112.00
26	D3	438	A	C4'-C3'-O3'	-8.54	91.46	109.40
26	D3	589	C	N1-C1'-C2'	-8.54	102.60	112.00
41	D4	17	G	N9-C1'-C2'	-8.53	102.62	112.00
41	D4	61	G	C8-N9-C4	-8.37	103.05	106.40
25	D2	294	U	N1-C2-O2	8.26	128.58	122.80
41	D4	66	U	N3-C2-O2	-8.14	116.50	122.20
26	D3	1131	A	N9-C1'-C2'	-8.03	103.17	112.00
26	D3	145	A	C8-N9-C4	-8.02	102.59	105.80
26	D3	1031	U	C4'-C3'-O3'	-8.02	92.57	109.40
26	D3	1485	C	C6-N1-C2	-7.95	117.12	120.30
26	D3	448	C	O5'-P-OP2	-7.95	98.55	105.70
26	D3	75	U	N1-C2-O2	7.86	128.31	122.80
26	D3	975	C	N1-C1'-C2'	-7.81	103.41	112.00
26	D3	453	U	C2-N1-C1'	7.80	127.06	117.70
26	D3	453	U	N3-C2-O2	-7.80	116.74	122.20
26	D3	1101	G	N9-C1'-C2'	-7.76	103.46	112.00
26	D3	1606	C	C6-N1-C2	-7.75	117.20	120.30
25	D2	288	G	C6-C5-N7	-7.75	125.75	130.40
26	D3	1110	G	C1'-C2'-O2'	-7.66	87.61	110.60
26	D3	543	C	N3-C2-O2	-7.60	116.58	121.90
15	JD	540	ALA	CB-CA-C	7.58	121.47	110.10
5	UM	468	ILE	CB-CA-C	7.56	126.72	111.60
26	D3	1463	C	C6-N1-C2	7.48	123.29	120.30
26	D3	639	U	N1-C2-O2	7.48	128.03	122.80
26	D3	1590	G	C1'-C2'-O2'	-7.48	88.17	110.60
26	D3	1083	G	C4'-C3'-O3'	7.45	127.89	113.00
26	D3	99	C	O5'-P-OP2	-7.43	99.02	105.70
26	D3	830	U	N3-C2-O2	-7.34	117.06	122.20
26	D3	1039	A	O4'-C1'-N9	7.33	114.07	108.20
26	D3	402	C	O5'-P-OP1	-7.28	99.15	105.70
26	D3	1	U	N1-C1'-C2'	7.26	123.44	114.00
26	D3	287	G	O4'-C1'-N9	7.25	114.00	108.20
26	D3	590	C	N1-C1'-C2'	-7.22	104.06	112.00
26	D3	1125	A	OP2-P-O3'	7.21	121.07	105.20
26	D3	137	U	N3-C2-O2	-7.20	117.16	122.20
6	US	75	PRO	N-CA-CB	7.15	111.88	103.30
26	D3	453	U	N1-C2-O2	7.11	127.78	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	D3	1012	U	C2-N3-C4	7.10	131.26	127.00
25	D2	294	U	O5'-P-OP1	-7.10	99.31	105.70
26	D3	75	U	C2-N1-C1'	7.08	126.20	117.70
26	D3	10	G	N9-C1'-C2'	-7.08	104.21	112.00
26	D3	16	G	C1'-C2'-O2'	-7.04	89.47	110.60
26	D3	728	U	C2-N1-C1'	7.04	126.15	117.70
26	D3	795	U	N3-C2-O2	-7.04	117.28	122.20
26	D3	959	U	N3-C2-O2	-7.01	117.29	122.20
26	D3	621	A	N9-C1'-C2'	-6.97	104.33	112.00
41	D4	63	C	C5-C6-N1	6.96	124.48	121.00
26	D3	542	A	O4'-C1'-N9	6.95	113.76	108.20
26	D3	1607	G	OP2-P-O3'	-6.92	89.97	105.20
26	D3	142	G	N3-C4-N9	-6.92	121.85	126.00
26	D3	647	G	N3-C4-N9	-6.88	121.87	126.00
26	D3	1169	G	N9-C1'-C2'	-6.83	104.49	112.00
26	D3	158	U	P-O3'-C3'	6.81	127.87	119.70
26	D3	758	U	C4'-C3'-O3'	6.79	126.58	113.00
26	D3	507	U	N1-C2-O2	6.78	127.55	122.80
26	D3	142	G	N3-C4-C5	6.75	131.98	128.60
26	D3	545	A	C2'-C3'-O3'	-6.75	94.65	109.50
26	D3	1125	A	O3'-P-O5'	-6.74	91.19	104.00
26	D3	1568	C	C6-N1-C2	-6.72	117.61	120.30
26	D3	830	U	N1-C2-O2	6.66	127.46	122.80
26	D3	507	U	N3-C2-O2	-6.64	117.55	122.20
41	D4	60	A	C5-C6-N1	6.64	121.02	117.70
26	D3	61	A	N7-C8-N9	6.63	117.12	113.80
26	D3	1092	A	C2'-C3'-O3'	-6.63	94.91	109.50
26	D3	936	G	N9-C1'-C2'	-6.61	104.72	112.00
26	D3	1123	C	N1-C1'-C2'	-6.61	104.73	112.00
26	D3	1568	C	P-O3'-C3'	6.60	127.62	119.70
26	D3	425	A	C8-N9-C4	-6.58	103.17	105.80
26	D3	18	C	N1-C1'-C2'	-6.57	104.78	112.00
18	JL	188	ILE	CA-C-N	6.55	131.61	117.20
36	DZ	91	PRO	N-CA-CB	6.52	111.12	103.30
41	D4	63	C	C6-N1-C2	-6.50	117.70	120.30
26	D3	139	C	C6-N1-C2	-6.50	117.70	120.30
26	D3	704	C	N1-C2-O2	6.49	122.79	118.90
26	D3	408	C	N1-C2-O2	-6.46	115.02	118.90
26	D3	499	U	C2-N1-C1'	6.46	125.46	117.70
26	D3	142	G	N1-C6-O6	6.46	123.78	119.90
26	D3	1469	A	N9-C1'-C2'	-6.42	104.94	112.00
26	D3	595	G	C4'-C3'-O3'	6.41	125.82	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	D3	142	G	N3-C2-N2	-6.39	115.42	119.90
26	D3	402	C	C6-N1-C2	6.39	122.86	120.30
26	D3	737	A	O4'-C1'-N9	6.39	113.31	108.20
26	D3	811	A	C8-N9-C4	-6.39	103.24	105.80
26	D3	1473	U	C2-N1-C1'	6.35	125.32	117.70
26	D3	73	U	OP1-P-O3'	6.33	119.13	105.20
41	D4	65	C	N3-C2-O2	-6.33	117.47	121.90
26	D3	137	U	N1-C2-O2	6.31	127.22	122.80
26	D3	16	G	N9-C1'-C2'	-6.28	105.09	112.00
25	D2	286	U	N3-C2-O2	-6.25	117.83	122.20
26	D3	532	U	O5'-P-OP1	-6.25	100.08	105.70
26	D3	16	G	OP2-P-O3'	6.24	118.93	105.20
26	D3	1180	C	C6-N1-C2	-6.24	117.80	120.30
26	D3	1180	C	C5-C6-N1	6.22	124.11	121.00
26	D3	507	U	C2-N1-C1'	6.21	125.15	117.70
26	D3	1591	C	N1-C1'-C2'	-6.20	105.18	112.00
25	D2	288	G	C4-C5-N7	6.19	113.28	110.80
26	D3	728	U	N1-C2-O2	6.17	127.12	122.80
26	D3	728	U	N3-C2-O2	-6.17	117.88	122.20
26	D3	579	A	P-O3'-C3'	6.14	127.06	119.70
26	D3	75	U	N3-C2-O2	-6.13	117.91	122.20
26	D3	966	A	C8-N9-C4	6.12	108.25	105.80
26	D3	144	U	N3-C2-O2	-6.11	117.92	122.20
26	D3	779	U	O4'-C1'-N1	6.11	113.08	108.20
26	D3	704	C	O4'-C1'-N1	6.09	113.07	108.20
26	D3	400	A	O4'-C1'-N9	6.09	113.07	108.20
26	D3	767	U	N3-C2-O2	-6.05	117.96	122.20
41	D4	72	C	C6-N1-C2	-6.04	117.88	120.30
36	DZ	55	PRO	N-CA-CB	6.00	110.50	103.30
26	D3	475	A	C4'-C3'-O3'	6.00	125.00	113.00
25	D2	288	G	C4-N9-C1'	6.00	134.30	126.50
26	D3	736	C	C2-N1-C1'	6.00	125.39	118.80
26	D3	1083	G	C1'-C2'-O2'	-5.97	92.70	110.60
26	D3	416	A	O5'-P-OP1	-5.96	100.34	105.70
26	D3	74	U	O5'-P-OP1	-5.96	100.34	105.70
26	D3	367	A	C4'-C3'-O3'	5.96	124.91	113.00
26	D3	992	A	C2-N3-C4	-5.96	107.62	110.60
26	D3	1092	A	C4'-C3'-O3'	-5.96	96.89	109.40
15	JD	996	LYS	O-C-N	-5.95	113.17	122.70
26	D3	543	C	N1-C2-O2	5.95	122.47	118.90
5	UM	218	ASP	CB-CA-C	-5.95	98.50	110.40
26	D3	113	U	N1-C2-O2	-5.95	118.64	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	D4	67	G	C4-N9-C1'	5.94	134.22	126.50
26	D3	1028	C	C4'-C3'-O3'	-5.93	96.95	109.40
25	D2	286	U	C5-C4-O4	5.92	129.45	125.90
26	D3	1604	U	N1-C1'-C2'	-5.91	105.50	112.00
41	D4	61	G	C5-C6-O6	5.90	132.14	128.60
41	D4	5	A	N9-C1'-C2'	-5.88	105.54	112.00
25	D2	292	A	N3-C4-N9	-5.87	122.70	127.40
26	D3	1620	C	P-O3'-C3'	5.87	126.74	119.70
26	D3	438	A	N9-C1'-C2'	5.86	121.62	114.00
26	D3	992	A	N3-C4-C5	5.85	130.90	126.80
26	D3	5	U	C1'-C2'-O2'	-5.84	93.08	110.60
25	D2	289	U	C5-C6-N1	5.84	125.62	122.70
26	D3	334	G	C2-N3-C4	-5.82	108.99	111.90
26	D3	610	G	C5-C6-O6	-5.80	125.12	128.60
2	UB	412	PRO	N-CA-CB	5.79	110.25	103.30
26	D3	720	G	OP1-P-O3'	5.78	117.92	105.20
26	D3	34	G	C4'-C3'-O3'	5.76	124.53	113.00
26	D3	810	G	C6-C5-N7	-5.76	126.94	130.40
26	D3	1120	U	N1-C1'-C2'	-5.75	105.67	112.00
26	D3	1170	G	C4'-C3'-O3'	5.73	124.46	113.00
25	D2	288	G	C8-N9-C1'	-5.71	119.57	127.00
26	D3	367	A	N9-C1'-C2'	-5.71	105.72	112.00
2	UB	400	PRO	N-CA-CB	5.70	110.14	103.30
26	D3	945	U	C1'-C2'-O2'	-5.69	93.52	110.60
26	D3	992	A	N3-C4-N9	-5.69	122.85	127.40
26	D3	545	A	C4'-C3'-O3'	-5.68	97.47	109.40
26	D3	704	C	C2-N1-C1'	5.67	125.04	118.80
6	US	37	PRO	N-CA-CB	5.67	110.10	103.30
26	D3	883	C	C4'-C3'-O3'	5.67	124.33	113.00
26	D3	542	A	C4-N9-C1'	5.66	136.50	126.30
26	D3	1121	C	N1-C1'-C2'	-5.65	105.78	112.00
26	D3	734	A	P-O3'-C3'	5.65	126.48	119.70
25	D2	286	U	N3-C4-O4	-5.64	115.45	119.40
26	D3	610	G	C8-N9-C1'	-5.64	119.66	127.00
26	D3	25	C	C2'-C3'-O3'	5.64	122.73	113.70
26	D3	310	C	N1-C1'-C2'	-5.64	105.79	112.00
26	D3	145	A	N9-C4-C5	5.63	108.05	105.80
26	D3	75	U	C6-N1-C1'	-5.63	113.31	121.20
26	D3	385	A	C8-N9-C4	5.63	108.05	105.80
26	D3	1590	G	N9-C1'-C2'	-5.61	105.82	112.00
25	D2	293	U	C6-N1-C2	-5.60	117.64	121.00
26	D3	720	G	P-O3'-C3'	5.59	126.41	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	D3	1473	U	C5-C6-N1	5.59	125.50	122.70
26	D3	810	G	C4-C5-N7	5.59	113.03	110.80
26	D3	73	U	N3-C2-O2	-5.58	118.29	122.20
26	D3	1034	C	C4'-C3'-O3'	5.57	124.13	113.00
15	JD	487	THR	N-CA-CB	5.56	120.87	110.30
26	D3	440	U	N3-C4-O4	-5.55	115.51	119.40
26	D3	380	U	O5'-P-OP1	-5.55	100.70	105.70
26	D3	142	G	C5-C6-N1	-5.55	108.72	111.50
26	D3	401	A	OP2-P-O3'	5.55	117.41	105.20
25	D2	299	G	C5-C6-N1	5.55	114.27	111.50
41	D4	72	C	C5-C6-N1	5.55	123.77	121.00
26	D3	499	U	C6-N1-C1'	-5.54	113.44	121.20
26	D3	780	A	C2-N3-C4	-5.54	107.83	110.60
26	D3	610	G	C4-N9-C1'	5.54	133.70	126.50
26	D3	406	U	C6-N1-C2	5.54	124.32	121.00
26	D3	380	U	N1-C2-O2	5.53	126.67	122.80
26	D3	388	G	C4'-C3'-O3'	5.53	124.05	113.00
26	D3	755	A	P-O3'-C3'	5.52	126.33	119.70
26	D3	1052	U	C2-N1-C1'	5.52	124.32	117.70
25	D2	291	G	C4-C5-N7	5.51	113.00	110.80
26	D3	402	C	N3-C2-O2	5.50	125.75	121.90
26	D3	453	U	C6-N1-C1'	-5.50	113.49	121.20
26	D3	1504	G	O5'-P-OP1	5.50	117.31	110.70
26	D3	973	A	O5'-P-OP2	-5.50	100.75	105.70
26	D3	1482	C	C6-N1-C2	-5.50	118.10	120.30
26	D3	17	C	O5'-P-OP2	-5.49	100.76	105.70
26	D3	497	G	P-O3'-C3'	5.49	126.29	119.70
26	D3	1776	A	N1-C6-N6	-5.47	115.32	118.60
26	D3	1597	A	N9-C1'-C2'	-5.47	105.99	112.00
41	D4	60	A	C4-N9-C1'	5.46	136.13	126.30
26	D3	1036	A	N9-C1'-C2'	-5.46	106.00	112.00
41	D4	65	C	N1-C2-O2	5.46	122.17	118.90
26	D3	323	A	C8-N9-C4	-5.45	103.62	105.80
26	D3	1607	G	O3'-P-O5'	5.45	114.36	104.00
26	D3	542	A	N7-C8-N9	5.44	116.52	113.80
25	D2	293	U	N1-C2-N3	5.44	118.16	114.90
26	D3	501	U	OP1-P-O3'	5.44	117.16	105.20
41	D4	60	A	C6-N1-C2	-5.43	115.34	118.60
26	D3	1087	A	C1'-C2'-O2'	-5.42	94.34	110.60
25	D2	293	U	C6-N1-C1'	5.42	128.78	121.20
26	D3	1490	C	C2-N1-C1'	5.42	124.76	118.80
26	D3	973	A	C2-N3-C4	-5.40	107.90	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	D3	355	G	N3-C4-C5	-5.38	125.91	128.60
26	D3	1029	U	C4'-C3'-O3'	-5.38	98.11	109.40
26	D3	55	A	C8-N9-C4	-5.37	103.65	105.80
26	D3	536	C	C5-C6-N1	5.36	123.68	121.00
26	D3	1776	A	N9-C4-C5	5.34	107.94	105.80
26	D3	61	A	C5-N7-C8	-5.34	101.23	103.90
26	D3	1	U	P-O3'-C3'	5.33	126.10	119.70
26	D3	396	G	C5-C6-O6	-5.32	125.41	128.60
41	D4	67	G	C6-C5-N7	-5.32	127.21	130.40
26	D3	1489	U	C5-C6-N1	5.30	125.35	122.70
26	D3	398	G	C4-C5-N7	5.30	112.92	110.80
26	D3	1136	U	N3-C2-O2	-5.29	118.50	122.20
34	DN	22	ALA	C-N-CA	5.29	144.20	122.00
26	D3	447	U	C6-N1-C2	-5.28	117.83	121.00
26	D3	1034	C	N1-C1'-C2'	-5.28	106.20	112.00
5	UM	467	ILE	O-C-N	-5.27	114.27	122.70
25	D2	299	G	N1-C6-O6	-5.27	116.74	119.90
26	D3	783	G	O4'-C1'-N9	5.26	112.41	108.20
25	D2	289	U	C6-N1-C2	-5.26	117.84	121.00
41	D4	72	C	N3-C2-O2	-5.25	118.22	121.90
41	D4	63	C	C5-C4-N4	-5.24	116.53	120.20
26	D3	499	U	P-O3'-C3'	5.23	125.98	119.70
26	D3	73	U	P-O3'-C3'	5.21	125.95	119.70
26	D3	945	U	N1-C1'-C2'	-5.21	106.27	112.00
26	D3	543	C	C4-C5-C6	5.21	120.00	117.40
26	D3	1135	U	P-O3'-C3'	5.21	125.95	119.70
26	D3	334	G	N1-C2-N2	-5.19	111.53	116.20
26	D3	142	G	C2-N3-C4	-5.18	109.31	111.90
26	D3	938	G	OP2-P-O3'	5.18	116.60	105.20
26	D3	113	U	N3-C2-O2	5.18	125.82	122.20
26	D3	624	G	N1-C6-O6	-5.17	116.80	119.90
26	D3	527	A	C8-N9-C4	-5.17	103.73	105.80
26	D3	647	G	N3-C2-N2	-5.17	116.28	119.90
26	D3	139	C	P-O3'-C3'	5.17	125.90	119.70
26	D3	403	G	N3-C4-N9	5.16	129.10	126.00
41	D4	71	C	C6-N1-C2	-5.16	118.24	120.30
26	D3	1620	C	C6-N1-C2	-5.15	118.24	120.30
26	D3	391	A	C4-C5-C6	-5.15	114.43	117.00
26	D3	1051	G	P-O3'-C3'	5.14	125.87	119.70
26	D3	1028	C	N1-C1'-C2'	5.14	120.68	114.00
26	D3	734	A	OP1-P-O3'	5.14	116.51	105.20
26	D3	1180	C	C2-N1-C1'	5.13	124.44	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	D3	17	C	C6-N1-C2	-5.12	118.25	120.30
26	D3	704	C	N3-C2-O2	-5.10	118.33	121.90
26	D3	589	C	C4'-C3'-O3'	5.10	123.19	113.00
26	D3	1573	A	P-O3'-C3'	5.09	125.81	119.70
26	D3	1560	U	N3-C2-O2	-5.09	118.64	122.20
26	D3	1481	C	P-O3'-C3'	5.08	125.79	119.70
26	D3	425	A	N7-C8-N9	5.07	116.34	113.80
25	D2	294	U	N3-C2-O2	-5.06	118.66	122.20
26	D3	829	A	P-O3'-C3'	5.06	125.77	119.70
26	D3	1136	U	N1-C2-O2	5.06	126.34	122.80
26	D3	1637	C	C6-N1-C2	-5.05	118.28	120.30
26	D3	61	A	O4'-C1'-N9	5.05	112.24	108.20
26	D3	1088	A	C3'-C2'-C1'	5.05	105.54	101.50
26	D3	959	U	N1-C2-O2	5.04	126.33	122.80
26	D3	621	A	C4-N9-C1'	5.03	135.36	126.30
26	D3	621	A	C8-N9-C1'	-5.03	118.64	127.70
26	D3	137	U	C2-N1-C1'	5.01	123.72	117.70
26	D3	1122	G	C3'-C2'-C1'	5.01	105.51	101.50
26	D3	402	C	C2-N1-C1'	-5.01	113.29	118.80
26	D3	973	A	C5-C6-N1	-5.01	115.19	117.70
26	D3	1036	A	C1'-C2'-O2'	-5.01	95.57	110.60
26	D3	189	C	N1-C2-O2	5.01	121.91	118.90

There are no chirality outliers.

All (23) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
10	CJ	254	PHE	Peptide
10	CJ	267	GLU	Peptide
10	CJ	80	THR	Peptide
12	CL	17	ALA	Mainchain
12	CL	772	MET	Peptide
26	D3	1111	G	Sidechain
26	D3	1124	A	Sidechain
26	D3	15	U	Sidechain
26	D3	316	A	Sidechain
35	DO	123	SER	Peptide
35	DO	124	ASP	Peptide
35	DO	135	ARG	Peptide
21	DQ	13	LYS	Peptide
22	DS	13	HIS	Peptide
38	DX	3	LYS	Peptide

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Mol	Chain	Res	Type	Group
36	DZ	41	ILE	Peptide
18	JL	188	ILE	Mainchain
4	UL	16	VAL	Peptide
4	UL	678	ASP	Peptide
5	UM	282	ASN	Peptide
5	UM	467	ILE	Peptide
5	UM	489	ALA	Peptide
7	UU	86	HIS	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	UA	3916	0	1763	121	0
2	UB	1845	0	787	26	0
3	UC	233	0	103	29	0
4	UL	3841	0	1710	22	0
5	UM	3763	0	1686	112	0
6	US	2486	0	1067	13	0
7	UU	4328	0	1932	17	0
8	UV	5417	0	2327	16	0
9	CI	781	0	329	0	0
10	CJ	1083	0	477	62	0
11	CK	1101	0	482	42	0
12	CL	3433	0	1517	73	0
13	CM	1767	0	795	3	0
14	CN	916	0	401	17	0
15	JD	3995	0	1737	47	0
16	JF	1071	0	467	1	0
16	JG	1096	0	478	4	0
17	JH	1295	0	570	0	0
18	JL	1401	0	604	20	0
19	JJ	893	0	397	35	0
20	DF	1055	0	496	6	0
21	DQ	616	0	285	2	0
22	DS	381	0	167	15	0
23	DT	700	0	332	22	0
24	Dc	310	0	134	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
25	D2	429	0	213	23	0
26	D3	29645	0	14916	1497	0
27	DA	1061	0	473	21	0
28	DE	1276	0	576	13	0
29	DG	1113	0	510	5	0
30	DH	913	0	400	12	0
31	DI	924	0	452	10	0
32	DJ	915	0	422	18	0
33	DL	766	0	340	6	0
34	DN	742	0	345	17	0
35	DO	620	0	311	49	0
36	DZ	332	0	149	22	0
37	DW	634	0	289	25	0
38	DX	684	0	315	64	0
39	DY	661	0	310	40	0
40	Db	400	0	180	0	0
41	D4	743	0	381	39	0
42	Db	1	0	0	0	0
All	All	89582	0	41625	2049	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 16.

All (2049) 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)
15:JD:88:LYS:CB	26:D3:1118:G:H22	1.07	1.68
26:D3:904:G:H4'	26:D3:1005:A:C2	1.32	1.63
26:D3:564:G:C4	26:D3:1596:C:C6	1.88	1.61
26:D3:564:G:C4	26:D3:1596:C:H6	1.15	1.59
26:D3:473:A:H4'	26:D3:768:C:C2	1.32	1.58
26:D3:932:U:H4'	26:D3:933:A:C5'	1.24	1.57
26:D3:932:U:C4'	26:D3:933:A:H5'	1.33	1.56
26:D3:1026:A:C2	26:D3:1792:G:N1	1.77	1.49
26:D3:538:A:H5'	26:D3:543:C:N3	1.28	1.49
12:CL:993:ASP:CB	26:D3:565:C:C4	1.97	1.45
26:D3:887:A:C2	35:DO:126:THR:CB	2.00	1.45
1:UA:159:ARG:O	1:UA:174:SER:CA	1.63	1.43
26:D3:40:A:O2'	26:D3:41:A:C5'	1.64	1.43
26:D3:886:U:O2'	35:DO:122:PRO:CA	1.64	1.42
26:D3:473:A:C4'	26:D3:768:C:O2	1.68	1.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:JJ:209:ASP:HA	26:D3:1796:C:C4'	1.51	1.41
26:D3:364:G:C2'	26:D3:756:A:N6	1.84	1.41
15:JD:792:GLY:O	15:JD:908:SER:CB	1.68	1.39
15:JD:793:VAL:CB	15:JD:935:SER:HA	1.53	1.39
15:JD:88:LYS:CB	26:D3:1118:G:N2	1.83	1.36
26:D3:783:G:C8	39:DY:12:VAL:N	1.92	1.35
26:D3:754:A:N1	26:D3:793:A:O2'	1.58	1.34
19:JJ:209:ASP:CA	26:D3:1796:C:H4'	1.55	1.33
18:JL:135:SER:CB	26:D3:1779:U:H4'	1.57	1.31
26:D3:780:A:O3'	39:DY:9:THR:N	1.59	1.31
1:UA:158:SER:O	1:UA:175:VAL:CB	1.77	1.30
26:D3:783:G:H8	39:DY:12:VAL:N	1.24	1.30
26:D3:14:C:O2	41:D4:17:G:N1	1.63	1.30
1:UA:159:ARG:O	1:UA:175:VAL:N	1.62	1.29
26:D3:564:G:N9	26:D3:1596:C:C6	1.99	1.29
5:UM:114:SER:O	5:UM:131:ILE:CB	1.80	1.28
1:UA:116:GLY:C	1:UA:148:ASP:CB	2.01	1.28
19:JJ:210:GLY:CA	26:D3:1796:C:H1'	1.60	1.28
1:UA:34:GLY:O	1:UA:57:ASN:HA	1.20	1.28
26:D3:904:G:C4'	26:D3:1005:A:N3	1.95	1.28
26:D3:364:G:O2'	26:D3:756:A:N6	1.62	1.27
12:CL:992:GLU:O	26:D3:565:C:N4	1.68	1.26
26:D3:778:G:O6	39:DY:10:ARG:CB	1.82	1.25
3:UC:560:ASN:CB	26:D3:477:A:H4'	1.63	1.25
2:UB:701:ALA:HA	6:US:417:HIS:CB	1.65	1.25
26:D3:364:G:C2'	26:D3:756:A:H62	1.46	1.25
26:D3:618:U:OP1	26:D3:1030:A:H2'	1.29	1.25
1:UA:134:ALA:CA	25:D2:297:U:C5	2.20	1.25
10:CJ:281:ILE:CB	26:D3:562:G:C6	2.19	1.24
26:D3:15:U:O2	41:D4:16:A:N1	1.71	1.24
26:D3:904:G:H4'	26:D3:1005:A:N3	1.46	1.23
26:D3:904:G:C4'	26:D3:1005:A:C2	2.20	1.23
26:D3:564:G:N3	26:D3:1596:C:C6	2.06	1.23
26:D3:1026:A:C2	26:D3:1792:G:C2	2.26	1.23
5:UM:168:THR:O	5:UM:192:ALA:HB2	1.32	1.23
26:D3:886:U:C1'	35:DO:122:PRO:HA	1.67	1.23
14:CN:18:PHE:O	14:CN:34:LEU:HA	1.34	1.22
26:D3:886:U:C2'	35:DO:122:PRO:HA	1.67	1.22
26:D3:887:A:N3	35:DO:126:THR:CB	2.02	1.22
26:D3:1111:G:O2'	26:D3:1112:G:H5'	1.32	1.22
1:UA:159:ARG:O	1:UA:174:SER:C	1.78	1.21

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:JD:2:GLY:HA2	26:D3:358:U:OP2	1.40	1.21
10:CJ:181:ASN:CB	26:D3:1159:C:N1	2.02	1.21
26:D3:2:A:O2'	26:D3:3:U:H5'	1.36	1.20
12:CL:993:ASP:CB	26:D3:565:C:N4	2.05	1.20
1:UA:134:ALA:HB1	25:D2:297:U:C5	1.74	1.20
19:JJ:210:GLY:N	26:D3:1796:C:H1'	1.53	1.20
26:D3:885:G:O2'	35:DO:123:SER:CB	1.89	1.20
1:UA:134:ALA:CB	25:D2:297:U:C5	2.24	1.20
5:UM:168:THR:O	5:UM:192:ALA:CB	1.88	1.20
11:CK:349:ARG:HA	12:CL:963:GLY:O	1.36	1.20
15:JD:1123:THR:CB	15:JD:1218:GLY:HA2	1.72	1.20
5:UM:281:THR:HA	5:UM:327:ILE:CB	1.72	1.19
26:D3:473:A:C4'	26:D3:768:C:C2	2.20	1.19
26:D3:1026:A:C2	26:D3:1792:G:C6	2.29	1.19
1:UA:520:ALA:HB3	1:UA:533:SER:CB	1.73	1.18
26:D3:15:U:O2	41:D4:16:A:C2	1.95	1.18
26:D3:771:A:H4'	32:DJ:7:THR:O	1.41	1.18
5:UM:281:THR:CB	5:UM:327:ILE:CB	2.20	1.18
26:D3:876:G:C6	26:D3:936:G:C6	2.32	1.18
26:D3:221:A:N6	26:D3:840:U:O4	1.74	1.18
12:CL:943:LYS:CB	26:D3:1595:U:OP1	1.89	1.18
26:D3:473:A:H4'	26:D3:768:C:O2	1.04	1.18
10:CJ:102:GLN:CB	26:D3:1580:C:OP1	1.91	1.18
26:D3:601:A:H5"	38:DX:41:SER:N	1.57	1.17
26:D3:886:U:O2'	35:DO:122:PRO:N	1.74	1.17
19:JJ:210:GLY:N	26:D3:1796:C:C1'	2.08	1.16
26:D3:619:A:H2	26:D3:1110:G:N2	1.42	1.16
26:D3:1119:G:N2	41:D4:7:G:H1'	1.61	1.16
26:D3:219:A:H5'	26:D3:831:U:H1'	1.17	1.15
26:D3:754:A:C2	26:D3:793:A:O2'	1.98	1.15
26:D3:365:G:H4'	26:D3:757:A:N1	1.60	1.15
26:D3:564:G:N3	26:D3:1596:C:H6	1.41	1.14
26:D3:887:A:H4'	35:DO:88:GLY:HA2	1.21	1.14
5:UM:389:ASP:CB	5:UM:409:ASP:H	1.59	1.14
26:D3:31:C:H5'	38:DX:134:ALA:HB2	1.28	1.14
26:D3:32:U:C2'	26:D3:33:U:H5'	1.76	1.14
26:D3:219:A:C2	26:D3:842:C:O2	2.00	1.14
26:D3:879:G:H4'	34:DN:108:ASP:HA	1.26	1.14
26:D3:792:U:C4	26:D3:793:A:N6	2.16	1.14
26:D3:13:C:O2	41:D4:18:G:N2	1.81	1.14
10:CJ:182:GLN:N	26:D3:1159:C:N3	1.96	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:JJ:184:THR:O	35:DO:93:THR:CB	1.96	1.13
11:CK:535:LYS:CB	26:D3:1628:U:C6	2.32	1.13
1:UA:631:ASN:O	41:D4:60:A:H2	1.32	1.13
26:D3:886:U:H1'	35:DO:122:PRO:HA	1.30	1.13
26:D3:222:A:N1	26:D3:839:U:N3	1.96	1.12
26:D3:228:G:C2	26:D3:834:G:C2	2.37	1.12
1:UA:134:ALA:HA	25:D2:297:U:C5	1.75	1.12
11:CK:535:LYS:CB	26:D3:1628:U:C5	2.32	1.12
15:JD:793:VAL:CB	15:JD:935:SER:CA	2.28	1.12
26:D3:1111:G:O2'	26:D3:1112:G:C5'	1.98	1.12
26:D3:365:G:O5'	26:D3:757:A:N6	1.82	1.12
26:D3:564:G:C1'	26:D3:1596:C:C6	2.33	1.12
26:D3:1092:A:O2'	26:D3:1093:A:H3'	1.47	1.12
26:D3:1601:G:H4'	26:D3:1602:C:OP2	1.36	1.12
5:UM:341:ALA:N	5:UM:356:ALA:O	1.80	1.11
26:D3:599:A:H4'	38:DX:106:GLY:N	1.63	1.11
26:D3:979:A:O2'	26:D3:1775:U:O2'	1.62	1.11
26:D3:750:U:C2'	26:D3:751:G:H5'	1.80	1.11
5:UM:168:THR:O	5:UM:192:ALA:CA	1.97	1.11
26:D3:219:A:H3'	26:D3:831:U:O2	1.50	1.11
26:D3:364:G:HO2'	26:D3:756:A:N6	1.35	1.11
26:D3:40:A:O2'	26:D3:41:A:H5'	0.95	1.11
26:D3:1026:A:N1	26:D3:1792:G:C6	2.18	1.11
1:UA:134:ALA:HB1	25:D2:297:U:C4	1.87	1.10
12:CL:993:ASP:CA	26:D3:565:C:N4	2.13	1.10
5:UM:281:THR:CA	5:UM:327:ILE:CB	2.29	1.10
1:UA:692:ALA:HB2	1:UA:705:SER:HA	1.22	1.10
15:JD:793:VAL:CB	15:JD:934:LEU:O	1.98	1.10
27:DA:36:SER:CB	27:DA:231:LEU:O	1.99	1.10
3:UC:559:ARG:O	26:D3:476:U:C6	2.04	1.09
1:UA:134:ALA:HB1	25:D2:297:U:C6	1.87	1.09
1:UA:692:ALA:HB2	1:UA:705:SER:CA	1.79	1.09
26:D3:220:A:H5"	26:D3:832:U:H1'	1.15	1.09
1:UA:134:ALA:CB	25:D2:297:U:C4	2.36	1.09
26:D3:564:G:N9	26:D3:1596:C:C5	2.20	1.09
5:UM:393:SER:CB	5:UM:406:ALA:HB3	1.82	1.08
26:D3:538:A:H5'	26:D3:543:C:C4	1.88	1.08
10:CJ:213:GLY:N	11:CK:381:LEU:O	1.87	1.08
18:JL:183:ALA:HB1	18:JL:210:GLU:O	1.50	1.08
26:D3:219:A:N7	26:D3:830:U:C4	2.20	1.08
26:D3:14:C:O2	41:D4:17:G:C2	2.06	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:886:U:O2'	35:DO:122:PRO:HA	1.26	1.07
26:D3:992:A:H2'	26:D3:1777:G:H1'	1.31	1.07
12:CL:992:GLU:C	26:D3:565:C:H41	1.58	1.07
1:UA:161:ILE:N	1:UA:173:TRP:O	1.88	1.07
26:D3:219:A:N1	26:D3:842:C:O2	1.86	1.07
15:JD:932:SER:CB	15:JD:1041:LEU:CB	2.32	1.07
15:JD:1189:THR:O	15:JD:1216:ARG:N	1.87	1.07
26:D3:619:A:C2	26:D3:1110:G:N2	2.23	1.06
26:D3:792:U:O4	26:D3:793:A:N6	1.88	1.06
26:D3:1176:G:H1'	26:D3:1464:G:N2	1.69	1.06
26:D3:237:C:H2'	26:D3:834:G:O4'	1.55	1.06
26:D3:473:A:O2'	26:D3:768:C:N3	1.88	1.06
26:D3:599:A:O2'	38:DX:47:SER:O	1.74	1.06
26:D3:601:A:C5'	38:DX:41:SER:N	2.17	1.06
26:D3:932:U:C4'	26:D3:933:A:C5'	2.08	1.06
1:UA:159:ARG:O	1:UA:174:SER:HA	1.27	1.06
14:CN:14:ILE:O	14:CN:38:PHE:HA	1.53	1.06
15:JD:1217:PHE:O	15:JD:1228:GLY:CA	2.04	1.06
26:D3:223:U:O4	26:D3:838:G:O6	1.72	1.05
26:D3:1081:A:C2	26:D3:1091:A:N6	2.24	1.05
10:CJ:212:ALA:CA	11:CK:381:LEU:O	2.05	1.05
22:DS:87:ASN:HA	26:D3:1565:C:O2'	1.57	1.05
26:D3:473:A:H4'	26:D3:768:C:N3	1.70	1.05
3:UC:560:ASN:CB	26:D3:477:A:C4'	2.34	1.04
26:D3:569:C:H2'	38:DX:63:GLN:CB	1.86	1.04
26:D3:1096:C:H42	37:DW:18:GLU:CB	1.70	1.04
10:CJ:181:ASN:CB	26:D3:1159:C:C6	2.38	1.04
15:JD:789:GLU:CB	15:JD:846:PRO:CB	2.34	1.04
26:D3:792:U:H2'	26:D3:793:A:C8	1.91	1.04
26:D3:1601:G:H5'	26:D3:1602:C:C5	1.92	1.04
26:D3:15:U:C2	41:D4:16:A:N1	2.26	1.04
26:D3:473:A:H5'	26:D3:769:A:C1'	1.86	1.04
26:D3:572:C:H41	38:DX:91:GLY:HA3	1.15	1.04
26:D3:564:G:N9	26:D3:1596:C:H6	1.41	1.04
26:D3:887:A:H2	35:DO:126:THR:CB	1.49	1.04
26:D3:538:A:C5'	26:D3:543:C:N3	2.20	1.03
26:D3:992:A:C8	26:D3:1777:G:O4'	2.12	1.03
5:UM:351:ASN:O	5:UM:367:VAL:CB	2.06	1.03
23:DT:74:GLY:C	26:D3:1498:G:P	2.37	1.03
26:D3:32:U:H2'	26:D3:33:U:H5'	1.36	1.03
26:D3:473:A:C4'	26:D3:768:C:N3	2.22	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:876:G:H2'	26:D3:936:G:N2	1.72	1.03
26:D3:1026:A:C6	26:D3:1792:G:C6	2.46	1.03
3:UC:563:VAL:CB	26:D3:478:A:OP1	2.07	1.02
26:D3:599:A:N3	38:DX:47:SER:CB	2.22	1.02
26:D3:1601:G:H5'	26:D3:1602:C:C6	1.93	1.02
26:D3:221:A:H5"	26:D3:833:U:O2	1.59	1.02
26:D3:570:A:O3'	38:DX:64:PRO:N	1.81	1.02
26:D3:886:U:H1'	35:DO:122:PRO:CA	1.89	1.02
26:D3:599:A:C4'	38:DX:106:GLY:H	1.72	1.02
26:D3:219:A:C5'	26:D3:831:U:H1'	1.90	1.01
14:CN:16:VAL:O	14:CN:36:PHE:HA	1.60	1.01
26:D3:473:A:H5'	26:D3:769:A:H1'	1.01	1.01
26:D3:620:A:N7	26:D3:1109:G:C2	2.29	1.01
1:UA:159:ARG:C	1:UA:175:VAL:H	1.62	1.01
26:D3:569:C:C2'	38:DX:63:GLN:CB	2.39	1.01
26:D3:609:U:O4	38:DX:25:ALA:CB	2.09	1.01
41:D4:2:U:O2'	41:D4:3:C:OP1	1.78	1.01
5:UM:85:LEU:N	5:UM:99:MET:O	1.94	1.00
18:JL:231:PHE:O	18:JL:233:ARG:N	1.94	1.00
26:D3:792:U:C2	26:D3:793:A:N7	2.29	1.00
1:UA:117:ARG:HA	1:UA:148:ASP:HA	1.43	1.00
1:UA:632:SER:HA	41:D4:60:A:C2	1.96	1.00
12:CL:175:ASP:CB	12:CL:208:SER:O	2.09	1.00
26:D3:220:A:C5'	26:D3:832:U:H1'	1.90	1.00
26:D3:1039:A:N6	26:D3:1091:A:C2	2.28	1.00
18:JL:132:GLN:HA	26:D3:1781:A:H3'	1.43	1.00
26:D3:887:A:C4'	35:DO:88:GLY:HA2	1.92	1.00
26:D3:1178:G:O6	26:D3:1461:C:N4	1.95	1.00
7:UU:47:THR:CB	25:D2:298:A:O2'	2.10	1.00
26:D3:222:A:N1	26:D3:839:U:C2	2.29	1.00
26:D3:876:G:H2'	26:D3:936:G:H22	1.19	1.00
26:D3:770:A:H4'	32:DJ:9:SER:O	1.62	1.00
36:DZ:57:TYR:CB	36:DZ:58:ARG:HA	1.92	1.00
26:D3:570:A:H5"	38:DX:64:PRO:O	1.62	0.99
1:UA:116:GLY:O	1:UA:148:ASP:CB	2.08	0.99
5:UM:750:ALA:N	26:D3:1638:G:O6	1.94	0.99
26:D3:8:U:C4	26:D3:16:G:N2	2.30	0.99
26:D3:570:A:H4'	38:DX:63:GLN:C	1.82	0.99
1:UA:222:LYS:HA	1:UA:246:TYR:CB	1.92	0.99
26:D3:569:C:O2'	38:DX:63:GLN:CB	2.11	0.99
5:UM:362:LEU:N	5:UM:384:TYR:O	1.95	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:JJ:262:ASN:HA	26:D3:1004:U:O2'	1.62	0.98
26:D3:228:G:N3	26:D3:834:G:N2	2.10	0.98
26:D3:222:A:N6	26:D3:839:U:H3	1.59	0.98
26:D3:564:G:N3	26:D3:1596:C:H1'	1.78	0.98
10:CJ:102:GLN:CA	26:D3:1580:C:OP1	2.10	0.98
10:CJ:212:ALA:HB1	11:CK:381:LEU:O	1.64	0.98
26:D3:993:A:OP1	26:D3:1777:G:N3	1.96	0.98
1:UA:409:GLY:HA2	1:UA:431:ILE:O	1.63	0.98
26:D3:364:G:H2'	26:D3:756:A:N6	1.79	0.98
1:UA:631:ASN:O	41:D4:60:A:C2	2.16	0.97
10:CJ:181:ASN:CB	26:D3:1159:C:C2	2.47	0.97
26:D3:220:A:C6	26:D3:841:U:O4	1.94	0.97
19:JJ:262:ASN:CB	26:D3:1005:A:OP1	2.11	0.97
26:D3:1176:G:C2	26:D3:1464:G:C4	2.52	0.97
26:D3:599:A:H5"	38:DX:106:GLY:O	1.64	0.97
26:D3:792:U:H3	26:D3:793:A:H62	1.07	0.97
3:UC:563:VAL:CB	26:D3:478:A:P	2.53	0.97
10:CJ:281:ILE:CB	26:D3:562:G:N1	2.26	0.96
26:D3:219:A:H5'	26:D3:831:U:C1'	1.95	0.96
26:D3:473:A:C3'	26:D3:768:C:O2	2.12	0.96
26:D3:781:U:P	39:DY:8:ARG:HA	2.04	0.96
26:D3:1026:A:H2	26:D3:1792:G:C2	1.75	0.96
23:DT:74:GLY:C	26:D3:1498:G:OP2	2.03	0.96
26:D3:876:G:N1	26:D3:936:G:O6	1.98	0.96
26:D3:765:G:N2	32:DJ:146:PHE:O	1.98	0.96
26:D3:886:U:O2	35:DO:122:PRO:CB	2.14	0.96
26:D3:31:C:C5'	38:DX:134:ALA:HB2	1.96	0.96
5:UM:84:LEU:HA	5:UM:100:LYS:HA	1.45	0.96
26:D3:876:G:N1	26:D3:936:G:C6	2.33	0.95
26:D3:1096:C:O4'	37:DW:19:LYS:CB	2.13	0.95
15:JD:789:GLU:CB	15:JD:846:PRO:N	2.29	0.95
26:D3:600:U:O3'	38:DX:41:SER:HA	1.65	0.95
6:US:141:PRO:CB	6:US:242:ASN:CB	2.44	0.95
2:UB:700:LEU:O	6:US:417:HIS:HA	1.64	0.95
26:D3:222:A:N6	26:D3:839:U:O4	1.99	0.95
26:D3:564:G:C8	26:D3:1596:C:H5	1.84	0.95
26:D3:1601:G:C5'	26:D3:1602:C:C6	2.49	0.95
26:D3:876:G:O6	26:D3:935:U:N3	1.99	0.95
26:D3:219:A:C8	26:D3:830:U:C5	2.54	0.95
26:D3:792:U:H2'	26:D3:793:A:H8	1.28	0.95
8:UV:143:GLU:HA	8:UV:176:PHE:O	1.67	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:UA:381:ALA:HB2	11:CK:480:GLN:O	1.64	0.94
2:UB:742:ALA:HB1	26:D3:1460:A:P	2.06	0.94
26:D3:40:A:H2'	26:D3:41:A:C8	2.01	0.94
26:D3:794:U:O2'	26:D3:795:U:O2	1.83	0.94
26:D3:887:A:O3'	35:DO:88:GLY:HA3	1.67	0.94
26:D3:570:A:O3'	38:DX:64:PRO:O	1.83	0.94
5:UM:281:THR:HA	5:UM:327:ILE:N	1.82	0.94
26:D3:1039:A:N6	26:D3:1091:A:N1	2.13	0.94
26:D3:609:U:O4	38:DX:25:ALA:HB3	1.67	0.94
5:UM:281:THR:HA	5:UM:327:ILE:CA	1.98	0.94
26:D3:364:G:C1'	26:D3:756:A:N6	2.30	0.94
26:D3:1178:G:C2	26:D3:1462:G:C5	2.56	0.94
26:D3:220:A:N6	26:D3:841:U:O4	1.99	0.94
26:D3:473:A:C5'	26:D3:769:A:H1'	1.96	0.94
26:D3:778:G:O6	39:DY:10:ARG:CA	2.15	0.94
26:D3:993:A:OP1	26:D3:1777:G:N2	2.00	0.94
26:D3:1180:C:O4'	26:D3:1460:A:N6	2.00	0.94
26:D3:755:A:O2'	26:D3:756:A:O5'	1.85	0.94
26:D3:14:C:O2	41:D4:17:G:N2	2.01	0.94
10:CJ:212:ALA:CB	11:CK:381:LEU:O	2.16	0.93
11:CK:535:LYS:CA	26:D3:1628:U:C5	2.51	0.93
1:UA:34:GLY:O	1:UA:57:ASN:CA	2.15	0.93
5:UM:7:TYR:HA	5:UM:645:LYS:O	1.68	0.93
26:D3:219:A:N7	26:D3:830:U:O4	2.02	0.93
26:D3:1176:G:C2	26:D3:1464:G:C5	2.55	0.93
6:US:141:PRO:O	6:US:244:PRO:CB	2.16	0.93
18:JL:135:SER:CB	26:D3:1779:U:C4'	2.46	0.93
26:D3:609:U:C4	38:DX:25:ALA:HB3	2.04	0.93
26:D3:599:A:H4'	38:DX:106:GLY:H	0.78	0.93
26:D3:1597:A:H2'	26:D3:1598:U:C6	2.03	0.93
1:UA:116:GLY:CA	1:UA:148:ASP:CB	2.47	0.93
4:UL:163:LYS:O	26:D3:1752:U:H5'	1.68	0.93
10:CJ:101:SER:CB	26:D3:1580:C:O3'	2.17	0.93
12:CL:993:ASP:HA	26:D3:565:C:N4	1.84	0.93
26:D3:8:U:O4	26:D3:16:G:N2	2.02	0.92
26:D3:619:A:H2	26:D3:1110:G:H21	0.95	0.92
26:D3:1096:C:H5'	37:DW:19:LYS:CB	1.99	0.92
11:CK:329:GLU:CB	26:D3:556:A:N1	2.32	0.92
14:CN:18:PHE:O	14:CN:34:LEU:CA	2.16	0.92
5:UM:31:ILE:H	5:UM:45:LEU:H	1.17	0.92
15:JD:1182:ALA:O	15:JD:1188:LEU:CB	2.18	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:1482:C:OP2	26:D3:1521:G:N1	2.03	0.92
26:D3:224:C:H42	26:D3:837:G:H1	0.93	0.92
5:UM:30:LYS:HA	5:UM:45:LEU:O	1.68	0.92
19:JJ:107:THR:CB	26:D3:1801:A:N6	2.33	0.92
26:D3:600:U:O4'	38:DX:47:SER:HA	1.67	0.92
26:D3:364:G:C2'	26:D3:756:A:H61	1.74	0.91
1:UA:134:ALA:HA	25:D2:297:U:H5	1.33	0.91
19:JJ:210:GLY:HA2	26:D3:1796:C:H1'	1.51	0.91
26:D3:15:U:H3	41:D4:16:A:H61	1.12	0.91
26:D3:570:A:C5'	38:DX:64:PRO:O	2.18	0.91
26:D3:886:U:C2'	35:DO:122:PRO:CA	2.35	0.91
10:CJ:98:THR:CA	26:D3:1580:C:H5'	2.01	0.91
26:D3:564:G:C4	26:D3:1596:C:C5	2.57	0.91
26:D3:564:G:H1'	26:D3:1596:C:C6	2.03	0.91
3:UC:574:LYS:CB	26:D3:502:U:O2'	2.18	0.91
5:UM:24:THR:CB	5:UM:69:LEU:N	2.34	0.91
11:CK:349:ARG:CA	12:CL:963:GLY:O	2.18	0.91
26:D3:472:U:H4'	26:D3:770:A:O4'	1.70	0.91
26:D3:564:G:N3	26:D3:1596:C:C1'	2.33	0.91
2:UB:742:ALA:CB	26:D3:1460:A:P	2.59	0.91
10:CJ:98:THR:O	26:D3:1580:C:H5'	1.71	0.91
1:UA:117:ARG:CA	1:UA:148:ASP:HA	2.00	0.90
26:D3:364:G:C1'	26:D3:756:A:H61	1.83	0.90
26:D3:781:U:P	39:DY:9:THR:N	2.44	0.90
2:UB:755:ILE:CB	12:CL:960:ARG:N	2.35	0.90
26:D3:1026:A:N1	26:D3:1792:G:C5	2.37	0.90
3:UC:559:ARG:O	26:D3:476:U:N1	2.03	0.90
26:D3:564:G:C8	26:D3:1596:C:C5	2.59	0.90
26:D3:755:A:O2'	26:D3:756:A:O4'	1.88	0.90
12:CL:32:ALA:HB1	38:DX:33:LEU:O	1.71	0.90
26:D3:1096:C:N3	37:DW:18:GLU:CB	2.35	0.90
26:D3:15:U:H3	41:D4:16:A:N6	1.68	0.90
5:UM:242:GLN:O	5:UM:262:GLY:HA2	1.72	0.90
5:UM:281:THR:HA	5:UM:327:ILE:H	1.37	0.90
23:DT:42:GLY:HA3	23:DT:84:LYS:CB	2.02	0.90
26:D3:876:G:C6	26:D3:936:G:C5	2.60	0.90
26:D3:1096:C:N4	37:DW:18:GLU:CB	2.35	0.90
26:D3:570:A:C3'	38:DX:64:PRO:O	2.19	0.90
26:D3:224:C:N4	26:D3:837:G:H1	1.70	0.89
26:D3:564:G:N2	26:D3:1596:C:O4'	2.05	0.89
26:D3:879:G:C4'	34:DN:108:ASP:HA	2.02	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:1176:G:N3	26:D3:1464:G:C2	2.40	0.89
10:CJ:181:ASN:CB	26:D3:1159:C:C1'	2.50	0.89
26:D3:873:U:O2'	26:D3:1047:G:OP1	1.90	0.89
12:CL:777:ARG:O	12:CL:781:GLU:N	2.05	0.89
26:D3:599:A:C5'	38:DX:106:GLY:O	2.20	0.89
19:JJ:210:GLY:H	26:D3:1796:C:C1'	1.83	0.89
26:D3:222:A:N6	26:D3:839:U:C4	2.40	0.89
26:D3:932:U:H5"	26:D3:933:A:H5"	1.52	0.89
26:D3:1064:G:O2'	27:DA:204:ILE:O	1.89	0.89
15:JD:1217:PHE:O	15:JD:1228:GLY:HA2	1.72	0.89
12:CL:992:GLU:C	26:D3:565:C:C5	2.47	0.89
22:DS:87:ASN:C	26:D3:1565:C:HO2'	1.74	0.89
26:D3:219:A:N1	26:D3:842:C:C2	2.40	0.89
26:D3:613:G:H5'	26:D3:1099:U:C5	2.08	0.89
26:D3:1124:A:HO2'	26:D3:1125:A:H8	0.93	0.88
26:D3:1174:C:C4	26:D3:1466:G:N2	2.42	0.88
22:DS:39:GLY:CA	26:D3:1566:U:OP1	2.22	0.88
26:D3:218:A:H2	26:D3:843:U:HO2'	1.18	0.88
26:D3:222:A:N1	26:D3:839:U:O2	2.06	0.88
26:D3:993:A:OP1	26:D3:1777:G:C2	2.27	0.88
10:CJ:98:THR:HA	26:D3:1580:C:H5'	1.54	0.88
1:UA:520:ALA:CB	1:UA:533:SER:CB	2.50	0.88
26:D3:570:A:O3'	38:DX:64:PRO:C	1.91	0.88
26:D3:780:A:C8	39:DY:8:ARG:CB	2.57	0.88
26:D3:40:A:O2'	26:D3:41:A:C4'	2.22	0.88
26:D3:40:A:C2'	26:D3:41:A:H5'	2.02	0.87
26:D3:1178:G:C5	26:D3:1462:G:C6	2.62	0.87
22:DS:87:ASN:O	26:D3:1565:C:O2'	1.89	0.87
26:D3:476:U:O2	26:D3:545:A:C8	2.27	0.87
26:D3:1026:A:N3	26:D3:1792:G:N1	2.22	0.87
26:D3:1124:A:O2'	26:D3:1125:A:H8	1.57	0.87
10:CJ:101:SER:CB	26:D3:1580:C:H5"	2.03	0.87
26:D3:750:U:O2'	26:D3:751:G:H5'	1.74	0.87
19:JJ:107:THR:CB	26:D3:1801:A:H62	1.87	0.87
10:CJ:280:PHE:O	26:D3:564:G:O3'	1.92	0.87
26:D3:1029:U:O2'	26:D3:1031:U:C5	2.28	0.87
26:D3:1176:G:C4	26:D3:1464:G:N1	2.43	0.87
1:UA:597:ASN:HA	1:UA:680:ARG:CB	2.05	0.87
10:CJ:102:GLN:N	26:D3:1580:C:OP1	2.08	0.87
10:CJ:281:ILE:CA	26:D3:562:G:C6	2.57	0.87
26:D3:895:G:H1	26:D3:917:U:H3	1.23	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CK:348:ASP:O	12:CL:965:GLN:N	2.07	0.86
22:DS:37:GLY:N	26:D3:1567:U:OP1	2.06	0.86
26:D3:468:A:N1	26:D3:594:A:O2'	2.05	0.86
26:D3:365:G:P	26:D3:757:A:H61	1.98	0.86
3:UC:559:ARG:CB	26:D3:476:U:H2'	2.05	0.86
26:D3:222:A:N6	26:D3:839:U:N3	2.20	0.86
26:D3:992:A:H8	26:D3:1776:A:HO2'	0.98	0.86
26:D3:1176:G:N2	26:D3:1464:G:C4	2.44	0.86
5:UM:195:GLY:O	5:UM:214:GLY:N	2.08	0.86
15:JD:793:VAL:CB	15:JD:934:LEU:C	2.42	0.86
22:DS:11:PHE:CB	36:DZ:72:GLY:HA2	2.06	0.86
26:D3:222:A:C2	26:D3:839:U:O2	2.29	0.86
5:UM:24:THR:CB	5:UM:69:LEU:H	1.88	0.86
26:D3:1469:A:O2'	26:D3:1470:C:O4'	1.94	0.86
14:CN:199:GLN:CB	26:D3:1060:U:H1'	2.06	0.86
1:UA:160:PHE:HA	1:UA:174:SER:HA	1.55	0.85
5:UM:359:SER:O	5:UM:390:LEU:HA	1.76	0.85
15:JD:1217:PHE:O	15:JD:1228:GLY:HA3	1.73	0.85
12:CL:992:GLU:C	26:D3:565:C:H5	1.79	0.85
1:UA:495:LYS:O	1:UA:514:VAL:N	2.09	0.85
1:UA:729:ALA:HB3	1:UA:738:ALA:HB2	1.58	0.85
1:UA:159:ARG:CA	1:UA:175:VAL:H	1.90	0.85
26:D3:887:A:H4'	35:DO:88:GLY:CA	2.04	0.85
10:CJ:101:SER:CB	26:D3:1580:C:H4'	2.07	0.85
26:D3:618:U:OP1	26:D3:1030:A:C2'	2.20	0.85
26:D3:1176:G:C4	26:D3:1464:G:C2	2.64	0.85
26:D3:572:C:H41	38:DX:91:GLY:CA	1.90	0.85
26:D3:1601:G:C5'	26:D3:1602:C:H6	1.86	0.85
10:CJ:101:SER:CB	26:D3:1580:C:C4'	2.55	0.84
19:JJ:262:ASN:CA	26:D3:1004:U:O2'	2.24	0.84
26:D3:740:A:H2'	26:D3:741:C:H5"	1.57	0.84
26:D3:219:A:H2	26:D3:842:C:O2	1.61	0.84
26:D3:220:A:OP2	26:D3:832:U:O4'	1.95	0.84
5:UM:246:CYS:HA	5:UM:259:TYR:O	1.76	0.84
1:UA:258:ALA:HB1	1:UA:261:ALA:HB3	1.58	0.84
26:D3:217:A:N6	26:D3:828:U:O2'	2.11	0.84
26:D3:783:G:O6	39:DY:10:ARG:CB	2.25	0.84
3:UC:560:ASN:CB	26:D3:477:A:O5'	2.25	0.84
1:UA:116:GLY:HA2	1:UA:148:ASP:CB	2.08	0.84
1:UA:284:PHE:N	1:UA:298:LEU:O	2.10	0.84
3:UC:563:VAL:HA	26:D3:478:A:OP1	1.78	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:506:A:N1	26:D3:585:A:C4	2.35	0.83
26:D3:220:A:H5"	26:D3:832:U:C1'	2.06	0.83
26:D3:1002:G:O2'	26:D3:1003:A:O4'	1.96	0.83
18:JL:132:GLN:HA	26:D3:1781:A:C3'	2.08	0.83
5:UM:24:THR:CB	5:UM:69:LEU:CB	2.55	0.83
26:D3:754:A:C6	26:D3:793:A:O2'	2.31	0.83
26:D3:886:U:H1'	35:DO:123:SER:N	1.94	0.83
15:JD:1240:LYS:HA	15:JD:1244:GLN:O	1.78	0.83
26:D3:223:U:C4	26:D3:838:G:O6	2.23	0.83
26:D3:1100:G:O2'	37:DW:76:SER:CB	2.27	0.83
26:D3:142:G:H22	26:D3:173:A:H2	1.24	0.82
22:DS:87:ASN:CA	26:D3:1565:C:O2'	2.27	0.82
26:D3:218:A:N6	26:D3:830:U:O4	2.12	0.82
26:D3:1176:G:C6	26:D3:1464:G:C6	2.67	0.82
41:D4:12:U:H2'	41:D4:13:C:H6	1.42	0.82
5:UM:389:ASP:CB	5:UM:409:ASP:N	2.42	0.82
12:CL:993:ASP:CB	26:D3:565:C:N3	2.42	0.82
26:D3:228:G:C2	26:D3:834:G:N2	2.46	0.82
26:D3:237:C:H5"	26:D3:238:U:H5'	1.61	0.82
26:D3:1002:G:O2'	26:D3:1003:A:H5'	1.79	0.82
26:D3:1178:G:C6	26:D3:1462:G:C6	2.68	0.82
1:UA:381:ALA:CB	11:CK:480:GLN:O	2.27	0.82
26:D3:473:A:O3'	26:D3:768:C:O2	1.97	0.82
26:D3:792:U:N3	26:D3:793:A:N6	2.19	0.82
2:UB:755:ILE:O	12:CL:960:ARG:HA	1.79	0.82
5:UM:170:GLY:O	5:UM:187:GLN:HA	1.80	0.82
26:D3:941:A:O2'	26:D3:977:A:H5'	1.79	0.82
26:D3:1591:C:N3	26:D3:1605:G:N2	2.27	0.82
3:UC:560:ASN:CB	26:D3:477:A:C5'	2.58	0.81
26:D3:140:A:N6	26:D3:281:G:OP1	2.12	0.81
5:UM:168:THR:O	5:UM:192:ALA:HA	1.79	0.81
26:D3:221:A:C6	26:D3:840:U:O4	2.16	0.81
1:UA:159:ARG:O	1:UA:174:SER:CB	2.28	0.81
26:D3:2:A:C2'	26:D3:3:U:H5'	2.10	0.81
26:D3:238:U:OP1	26:D3:834:G:H5'	1.79	0.81
36:DZ:41:ILE:HA	36:DZ:44:GLN:H	1.44	0.81
26:D3:15:U:O2	41:D4:16:A:H2	1.64	0.81
14:CN:18:PHE:C	14:CN:34:LEU:HA	1.99	0.81
26:D3:932:U:C5'	26:D3:933:A:H5"	2.11	0.81
26:D3:933:A:H2	26:D3:944:A:H61	1.28	0.81
26:D3:1026:A:C5	26:D3:1792:G:O6	2.34	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:609:U:C2	38:DX:22:ASN:O	2.32	0.81
26:D3:886:U:O2'	35:DO:121:VAL:C	2.17	0.81
26:D3:620:A:C5	26:D3:1109:G:C4	2.69	0.81
26:D3:932:U:C3'	26:D3:933:A:H5'	2.10	0.81
30:DH:133:THR:O	30:DH:155:ASP:CB	2.29	0.81
26:D3:16:G:H2'	26:D3:17:C:C6	2.15	0.81
26:D3:992:A:H2	26:D3:1012:U:H3	1.25	0.81
26:D3:750:U:H2'	26:D3:751:G:H5'	1.59	0.80
26:D3:778:G:C6	39:DY:10:ARG:CB	2.64	0.80
26:D3:471:A:O2'	26:D3:770:A:O2'	2.00	0.80
26:D3:932:U:C4'	26:D3:933:A:H5"	2.10	0.80
26:D3:1180:C:C1'	26:D3:1460:A:N6	2.45	0.80
26:D3:904:G:H4'	26:D3:1005:A:H2	0.98	0.80
2:UB:755:ILE:C	12:CL:959:ALA:O	2.20	0.80
5:UM:361:SER:HA	5:UM:385:GLU:HA	1.64	0.80
26:D3:1124:A:O2'	26:D3:1125:A:O5'	2.00	0.80
8:UV:1206:PRO:HA	8:UV:1212:VAL:HA	1.64	0.80
26:D3:1170:G:C6	26:D3:1574:G:C5	2.69	0.80
5:UM:463:ILE:N	5:UM:487:ARG:O	2.15	0.80
23:DT:41:SER:CB	23:DT:94:ILE:CB	2.60	0.80
26:D3:879:G:H4'	34:DN:108:ASP:CA	2.11	0.79
3:UC:559:ARG:CA	26:D3:476:U:H2'	2.12	0.79
26:D3:93:A:C6	26:D3:398:G:C6	2.70	0.79
26:D3:365:G:C4'	26:D3:757:A:N1	2.41	0.79
26:D3:781:U:P	39:DY:8:ARG:CA	2.71	0.79
26:D3:1605:G:H2'	26:D3:1606:C:C6	2.16	0.79
26:D3:781:U:OP1	39:DY:7:ILE:O	2.01	0.79
12:CL:992:GLU:CB	26:D3:565:C:H5	1.95	0.79
23:DT:98:GLY:N	26:D3:1502:G:O6	2.15	0.79
10:CJ:120:GLY:O	26:D3:1585:U:H5"	1.83	0.79
26:D3:237:C:H2'	26:D3:834:G:C1'	2.12	0.79
3:UC:563:VAL:CA	26:D3:478:A:OP1	2.30	0.79
18:JL:183:ALA:HB2	18:JL:211:ILE:HA	1.63	0.79
26:D3:876:G:C2'	26:D3:936:G:N2	2.45	0.79
10:CJ:98:THR:HA	26:D3:1580:C:C5'	2.13	0.79
15:JD:793:VAL:CB	15:JD:935:SER:N	2.46	0.79
26:D3:228:G:C2	26:D3:834:G:N3	2.50	0.79
26:D3:1177:C:O2	26:D3:1462:G:N2	2.15	0.79
26:D3:955:A:O2'	26:D3:1073:G:H1'	1.83	0.78
26:D3:1174:C:N3	26:D3:1466:G:N2	2.31	0.78
26:D3:1533:C:H4'	26:D3:1539:G:N1	1.98	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DA:62:LYS:O	27:DA:88:VAL:O	2.00	0.78
26:D3:564:G:C1'	26:D3:1596:C:C5	2.64	0.78
1:UA:729:ALA:CB	1:UA:738:ALA:HB2	2.14	0.78
10:CJ:212:ALA:HA	11:CK:381:LEU:O	1.82	0.78
16:JG:164:LYS:CB	26:D3:1576:A:H4'	2.14	0.78
26:D3:571:G:P	38:DX:64:PRO:O	2.33	0.78
26:D3:701:U:H3	26:D3:737:A:H61	1.30	0.78
26:D3:1588:G:H1	26:D3:1608:U:H3	1.32	0.78
12:CL:993:ASP:CB	26:D3:565:C:C5	2.66	0.78
26:D3:398:G:O2'	28:DE:3:ARG:O	2.02	0.78
1:UA:280:THR:HA	1:UA:304:PRO:CB	2.14	0.78
19:JJ:209:ASP:CA	26:D3:1796:C:C4'	2.32	0.78
26:D3:228:G:N2	26:D3:834:G:N3	2.31	0.78
26:D3:1178:G:C4	26:D3:1462:G:N1	2.52	0.78
1:UA:315:GLU:O	1:UA:331:GLU:HA	1.84	0.78
8:UV:586:VAL:O	8:UV:611:ASP:N	2.13	0.78
26:D3:1096:C:C2	37:DW:19:LYS:HA	2.19	0.78
26:D3:13:C:O2	41:D4:18:G:C2	2.37	0.77
26:D3:224:C:N3	26:D3:837:G:N2	2.30	0.77
10:CJ:290:LEU:CB	26:D3:563:U:OP2	2.31	0.77
11:CK:332:ALA:HB2	12:CL:951:MET:C	2.05	0.77
27:DA:129:THR:CB	27:DA:180:THR:O	2.32	0.77
10:CJ:181:ASN:CA	26:D3:1159:C:C2	2.67	0.77
10:CJ:283:THR:CB	26:D3:562:G:C8	2.68	0.77
26:D3:316:A:O2'	26:D3:317:C:O5'	2.02	0.77
26:D3:904:G:O4'	26:D3:1005:A:N3	2.15	0.77
26:D3:702:G:O6	26:D3:736:C:N4	2.14	0.77
26:D3:999:U:H4'	26:D3:1000:C:C5	2.19	0.77
14:CN:18:PHE:H	14:CN:34:LEU:C	1.87	0.77
26:D3:40:A:O2'	26:D3:41:A:O4'	2.02	0.77
26:D3:104:A:OP2	26:D3:308:C:N4	2.18	0.77
26:D3:1039:A:C5	26:D3:1091:A:C6	2.72	0.77
4:UL:164:ASP:HA	26:D3:1751:C:O2'	1.85	0.77
26:D3:1601:G:C4'	26:D3:1602:C:OP2	2.27	0.77
26:D3:1026:A:C6	26:D3:1792:G:C5	2.73	0.76
26:D3:1119:G:C2	41:D4:7:G:H1'	2.20	0.76
26:D3:887:A:O3'	35:DO:88:GLY:CA	2.32	0.76
19:JJ:210:GLY:N	26:D3:1796:C:O4'	2.16	0.76
26:D3:2:A:O2'	26:D3:3:U:C5'	2.26	0.76
26:D3:364:G:N3	26:D3:756:A:N1	2.34	0.76
26:D3:473:A:C5'	26:D3:768:C:O2	2.33	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:781:U:P	39:DY:7:ILE:O	2.43	0.76
10:CJ:212:ALA:C	11:CK:381:LEU:O	2.24	0.76
26:D3:782:U:H3	39:DY:48:TYR:CB	1.98	0.76
5:UM:7:TYR:CA	5:UM:645:LYS:O	2.33	0.76
8:UV:529:VAL:HA	8:UV:695:GLN:O	1.86	0.76
26:D3:900:A:O4'	26:D3:915:A:H2	1.68	0.76
26:D3:1096:C:N1	37:DW:19:LYS:HA	2.00	0.76
26:D3:1537:C:O2'	26:D3:1540:G:O6	2.03	0.76
7:UU:47:THR:N	25:D2:299:G:O4'	2.19	0.76
26:D3:886:U:H1'	35:DO:123:SER:H	1.49	0.76
5:UM:31:ILE:HA	5:UM:44:ASP:HA	1.67	0.75
10:CJ:280:PHE:CB	26:D3:564:G:O2'	2.34	0.75
26:D3:473:A:C2'	26:D3:768:C:N3	2.48	0.75
26:D3:6:G:O2'	26:D3:7:G:C5'	2.34	0.75
26:D3:929:A:C1'	35:DO:124:ASP:CB	2.64	0.75
10:CJ:98:THR:C	26:D3:1580:C:H5'	2.07	0.75
26:D3:781:U:OP2	39:DY:8:ARG:C	2.24	0.75
26:D3:820:U:H2'	26:D3:821:U:H4'	1.67	0.75
26:D3:993:A:H5"	26:D3:1778:G:O4'	1.85	0.75
26:D3:1096:C:C2	37:DW:19:LYS:CA	2.69	0.75
26:D3:946:U:O2'	26:D3:947:U:O4'	2.04	0.75
26:D3:1591:C:C2	26:D3:1605:G:N2	2.54	0.75
26:D3:1180:C:C1'	26:D3:1460:A:H61	2.00	0.75
26:D3:1176:G:O6	26:D3:1463:C:N4	2.19	0.75
26:D3:32:U:O2'	26:D3:33:U:H5'	1.87	0.75
26:D3:994:G:OP2	26:D3:1778:G:C1'	2.34	0.75
37:DW:82:LYS:O	37:DW:84:GLY:N	2.20	0.74
26:D3:364:G:H1'	26:D3:756:A:N6	2.01	0.74
26:D3:570:A:H4'	38:DX:64:PRO:N	2.02	0.74
26:D3:929:A:H1'	35:DO:124:ASP:CB	2.17	0.74
10:CJ:182:GLN:O	26:D3:1159:C:N4	2.19	0.74
19:JJ:182:ILE:HA	19:JJ:233:ILE:O	1.86	0.74
26:D3:1092:A:HO2'	26:D3:1093:A:H3'	1.52	0.74
26:D3:1591:C:HO2'	26:D3:1592:A:H8	1.35	0.74
27:DA:138:PHE:O	27:DA:212:VAL:O	2.05	0.74
5:UM:7:TYR:CB	5:UM:645:LYS:O	2.36	0.74
12:CL:36:PRO:CB	38:DX:32:ARG:CB	2.66	0.74
26:D3:1178:G:N1	26:D3:1461:C:N3	2.35	0.74
1:UA:159:ARG:HA	1:UA:175:VAL:H	1.52	0.74
26:D3:219:A:N1	26:D3:842:C:N3	2.34	0.74
26:D3:395:U:O4'	29:DG:90:GLY:HA3	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:778:G:O6	39:DY:10:ARG:HA	1.87	0.74
26:D3:1780:G:OP1	26:D3:1781:A:C8	2.41	0.74
12:CL:753:LEU:O	12:CL:756:ALA:N	2.21	0.74
26:D3:538:A:C5'	26:D3:543:C:H42	1.99	0.74
26:D3:873:U:O2'	26:D3:1047:G:H5"	1.88	0.74
3:UC:559:ARG:CB	26:D3:476:U:C2'	2.66	0.74
5:UM:168:THR:C	5:UM:192:ALA:HB2	2.07	0.74
10:CJ:182:GLN:N	26:D3:1159:C:C4	2.55	0.74
26:D3:523:G:H5'	39:DY:60:PHE:O	1.88	0.74
26:D3:538:A:H5'	26:D3:543:C:N4	2.02	0.74
26:D3:1467:C:C2'	26:D3:1468:U:H5'	2.18	0.74
26:D3:1790:A:C2'	26:D3:1791:A:H5'	2.18	0.74
26:D3:1096:C:C4	37:DW:18:GLU:CB	2.71	0.74
26:D3:876:G:O6	26:D3:935:U:C4	2.41	0.73
3:UC:559:ARG:O	26:D3:476:U:C2'	2.36	0.73
11:CK:535:LYS:CA	26:D3:1628:U:H5	2.01	0.73
18:JL:231:PHE:C	18:JL:233:ARG:H	1.90	0.73
1:UA:116:GLY:O	1:UA:148:ASP:CA	2.35	0.73
26:D3:946:U:H2'	26:D3:947:U:C6	2.23	0.73
26:D3:979:A:HO2'	26:D3:1775:U:HO2'	0.91	0.73
1:UA:719:VAL:HA	7:UU:578:VAL:O	1.89	0.73
5:UM:30:LYS:CA	5:UM:45:LEU:O	2.36	0.73
26:D3:609:U:N3	38:DX:22:ASN:O	2.22	0.73
10:CJ:283:THR:CB	26:D3:562:G:N7	2.51	0.73
15:JD:2:GLY:HA2	26:D3:358:U:P	2.29	0.73
26:D3:237:C:C4	26:D3:834:G:N7	2.56	0.73
26:D3:751:G:O6	26:D3:752:A:N6	2.21	0.73
26:D3:876:G:H2'	26:D3:943:C:O2	1.88	0.73
10:CJ:283:THR:N	26:D3:562:G:N7	2.37	0.73
37:DW:77:PRO:CB	38:DX:7:ARG:O	2.37	0.72
1:UA:158:SER:C	1:UA:175:VAL:CB	2.57	0.72
26:D3:1594:G:N2	26:D3:1603:U:C2	2.57	0.72
10:CJ:101:SER:CB	26:D3:1580:C:C5'	2.67	0.72
26:D3:620:A:C5	26:D3:1109:G:N3	2.57	0.72
26:D3:886:U:C2'	35:DO:122:PRO:CB	2.67	0.72
26:D3:933:A:H2'	26:D3:933:A:N3	2.05	0.72
26:D3:1178:G:C6	26:D3:1462:G:O6	2.41	0.72
5:UM:104:PRO:O	5:UM:122:THR:N	2.22	0.72
26:D3:1589:C:H2'	26:D3:1590:G:C8	2.25	0.72
41:D4:12:U:H2'	41:D4:13:C:C6	2.23	0.72
1:UA:365:GLU:O	1:UA:389:SER:CB	2.38	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:UM:105:SER:CB	5:UM:121:GLY:HA2	2.20	0.72
26:D3:388:G:O2'	26:D3:389:G:H5'	1.90	0.72
5:UM:342:ASP:H	5:UM:356:ALA:HB3	1.54	0.72
26:D3:932:U:C5'	26:D3:933:A:C5'	2.65	0.72
26:D3:992:A:C8	26:D3:1776:A:O2'	2.39	0.72
36:DZ:92:ILE:HA	36:DZ:98:GLN:O	1.88	0.72
23:DT:74:GLY:O	26:D3:1498:G:OP2	2.07	0.71
26:D3:373:G:OP1	33:DL:96:LYS:HA	1.90	0.71
26:D3:656:G:O2'	26:D3:657:U:O4'	2.08	0.71
26:D3:770:A:O2'	32:DJ:9:SER:N	2.17	0.71
26:D3:868:G:H1	26:D3:960:U:H3	1.37	0.71
26:D3:1039:A:C6	26:D3:1091:A:C6	2.78	0.71
1:UA:45:ASN:O	1:UA:376:SER:CB	2.39	0.71
1:UA:348:THR:HA	1:UA:363:ALA:O	1.89	0.71
26:D3:1028:C:N3	26:D3:1030:A:H1'	2.04	0.71
26:D3:1180:C:C4'	26:D3:1460:A:N6	2.53	0.71
1:UA:409:GLY:CA	1:UA:431:ILE:O	2.38	0.71
36:DZ:46:LYS:O	36:DZ:50:ILE:CB	2.39	0.71
2:UB:755:ILE:CB	12:CL:959:ALA:C	2.59	0.71
1:UA:68:THR:O	1:UA:83:ASN:HA	1.89	0.71
4:UL:884:LYS:CB	5:UM:806:LEU:CB	2.69	0.71
26:D3:570:A:C4'	38:DX:64:PRO:O	2.38	0.71
26:D3:1601:G:H5"	26:D3:1602:C:H6	1.53	0.71
26:D3:620:A:N7	26:D3:1109:G:N3	2.38	0.71
22:DS:11:PHE:N	36:DZ:39:ALA:HA	2.06	0.71
26:D3:476:U:O2	26:D3:545:A:N7	2.24	0.71
26:D3:1800:A:H2'	26:D3:1800:A:N3	2.04	0.71
26:D3:219:A:N7	26:D3:830:U:C5	2.58	0.71
27:DA:39:GLU:CB	27:DA:74:GLN:HA	2.20	0.71
35:DO:50:ALA:O	35:DO:52:ARG:N	2.24	0.71
7:UU:88:HIS:HA	25:D2:298:A:H61	1.55	0.71
15:JD:932:SER:CB	15:JD:1041:LEU:C	2.58	0.71
26:D3:218:A:O2'	26:D3:219:A:OP1	2.08	0.71
26:D3:1131:A:O2'	26:D3:1132:A:O5'	2.08	0.71
26:D3:1170:G:C8	26:D3:1574:G:H2'	2.26	0.71
11:CK:535:LYS:HA	26:D3:1628:U:C5	2.23	0.70
15:JD:925:PRO:CB	15:JD:1064:ASN:O	2.39	0.70
19:JJ:107:THR:CB	26:D3:1801:A:C6	2.74	0.70
26:D3:221:A:H2	26:D3:840:U:O2	1.70	0.70
26:D3:1176:G:N1	26:D3:1464:G:C5	2.59	0.70
26:D3:1176:G:C6	26:D3:1463:C:N4	2.60	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:829:A:O2'	26:D3:830:U:OP2	2.09	0.70
26:D3:1575:G:H2'	26:D3:1576:A:C8	2.26	0.70
5:UM:12:LEU:N	5:UM:641:PHE:O	2.24	0.70
26:D3:1039:A:C6	26:D3:1091:A:N1	2.59	0.70
27:DA:157:GLN:O	27:DA:159:SER:N	2.24	0.70
26:D3:994:G:OP2	26:D3:1778:G:O2'	2.09	0.70
12:CL:992:GLU:O	26:D3:565:C:C4	2.44	0.70
26:D3:218:A:C5	26:D3:830:U:C5	2.79	0.70
10:CJ:181:ASN:HA	26:D3:1159:C:C2	2.27	0.70
12:CL:992:GLU:CB	26:D3:565:C:C5	2.74	0.70
22:DS:39:GLY:HA3	26:D3:1566:U:OP1	1.92	0.70
26:D3:883:C:O2'	26:D3:884:A:O4'	2.09	0.70
26:D3:927:C:O2	35:DO:125:SER:CB	2.40	0.70
26:D3:1178:G:H1'	26:D3:1462:G:N2	2.07	0.70
10:CJ:98:THR:HA	26:D3:1580:C:C4'	2.21	0.70
26:D3:134:U:OP1	26:D3:136:C:N4	2.25	0.70
26:D3:221:A:C2	26:D3:840:U:O2	2.36	0.70
2:UB:756:ARG:HA	12:CL:959:ALA:O	1.92	0.69
26:D3:1469:A:O2'	26:D3:1470:C:C6	2.44	0.69
22:DS:39:GLY:N	26:D3:1566:U:OP1	2.24	0.69
26:D3:956:C:H5"	26:D3:1072:C:C2'	2.22	0.69
2:UB:759:ALA:HB2	12:CL:960:ARG:O	1.92	0.69
5:UM:16:TYR:O	5:UM:336:ASN:CB	2.39	0.69
5:UM:280:ARG:O	5:UM:326:THR:HA	1.92	0.69
26:D3:1579:U:H2'	26:D3:1580:C:H6	1.57	0.69
26:D3:475:A:O2'	26:D3:476:U:H5'	1.92	0.69
26:D3:513:U:H2'	26:D3:514:G:C8	2.28	0.69
26:D3:900:A:O4'	26:D3:915:A:C2	2.45	0.69
12:CL:72:VAL:HA	12:CL:137:LEU:O	1.93	0.69
12:CL:992:GLU:O	26:D3:564:G:C2	2.46	0.69
26:D3:20:G:OP1	38:DX:110:LYS:O	2.10	0.69
26:D3:570:A:C3'	38:DX:64:PRO:N	2.55	0.69
26:D3:732:G:O2'	26:D3:733:A:O4'	2.10	0.69
26:D3:904:G:C5'	26:D3:1005:A:N3	2.54	0.69
26:D3:1178:G:C2	26:D3:1462:G:C4	2.79	0.69
26:D3:564:G:C2	26:D3:1596:C:C1'	2.76	0.69
26:D3:780:A:N9	39:DY:8:ARG:CB	2.49	0.69
26:D3:1081:A:N1	26:D3:1091:A:C6	2.61	0.69
26:D3:1176:G:C1'	26:D3:1464:G:N2	2.53	0.69
26:D3:222:A:C6	26:D3:839:U:N3	2.40	0.69
26:D3:237:C:C2'	26:D3:834:G:O4'	2.36	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:620:A:C6	26:D3:1109:G:C5	2.81	0.69
26:D3:1170:G:O6	26:D3:1574:G:C5	2.45	0.69
26:D3:1178:G:C4	26:D3:1462:G:C2	2.81	0.69
26:D3:1490:C:O2'	26:D3:1491:U:O2	2.10	0.69
26:D3:877:G:OP2	26:D3:937:C:H1'	1.93	0.68
4:UL:600:TRP:HA	4:UL:607:CYS:HA	1.75	0.68
26:D3:771:A:O5'	32:DJ:8:TYR:HA	1.94	0.68
26:D3:783:G:N7	39:DY:12:VAL:N	2.39	0.68
26:D3:1178:G:C4	26:D3:1462:G:C6	2.81	0.68
26:D3:1788:G:OP2	35:DO:132:ARG:CB	2.41	0.68
26:D3:564:G:C2	26:D3:1596:C:O4'	2.46	0.68
26:D3:620:A:N6	26:D3:1109:G:C6	2.62	0.68
26:D3:876:G:C4	26:D3:936:G:N1	2.62	0.68
5:UM:83:GLN:CB	5:UM:102:SER:O	2.41	0.68
26:D3:1579:U:H2'	26:D3:1580:C:C6	2.28	0.68
15:JD:932:SER:CB	15:JD:1041:LEU:O	2.41	0.68
19:JJ:107:THR:CB	26:D3:1801:A:N7	2.57	0.68
26:D3:1026:A:C4	26:D3:1792:G:O6	2.46	0.68
26:D3:1469:A:HO2'	26:D3:1470:C:H6	1.41	0.68
26:D3:40:A:C2'	26:D3:41:A:C8	2.75	0.68
1:UA:134:ALA:O	25:D2:297:U:N3	2.10	0.68
26:D3:1534:G:O6	36:DZ:95:HIS:CB	2.42	0.68
26:D3:780:A:O3'	39:DY:8:ARG:C	2.31	0.68
26:D3:1471:A:C2	26:D3:1540:G:H4'	2.29	0.68
26:D3:875:G:O2'	26:D3:937:C:O4'	2.10	0.67
26:D3:1605:G:H2'	26:D3:1606:C:H6	1.58	0.67
19:JJ:208:LYS:HA	26:D3:1795:U:H4'	1.76	0.67
1:UA:134:ALA:HB1	25:D2:297:U:C2	2.30	0.67
12:CL:50:ASN:O	12:CL:53:LYS:N	2.27	0.67
26:D3:228:G:C4	26:D3:834:G:N2	2.62	0.67
26:D3:1119:G:H22	41:D4:7:G:H1'	1.57	0.67
30:DH:50:ASP:HA	30:DH:56:LYS:HA	1.76	0.67
19:JJ:107:THR:CB	26:D3:1801:A:C5	2.77	0.67
26:D3:993:A:H5'	26:D3:1777:G:H1'	1.77	0.67
26:D3:1467:C:O2'	26:D3:1468:U:H5'	1.95	0.67
15:JD:792:GLY:C	15:JD:908:SER:CB	2.62	0.67
22:DS:87:ASN:C	26:D3:1565:C:O2'	2.28	0.67
26:D3:473:A:C1'	26:D3:768:C:N3	2.57	0.67
1:UA:632:SER:HA	41:D4:60:A:N3	2.08	0.67
5:UM:289:PHE:H	5:UM:307:SER:CB	2.07	0.67
5:UM:408:LYS:HA	5:UM:436:ALA:HB1	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:54:C:O2'	26:D3:459:G:N7	2.26	0.67
15:JD:536:VAL:O	15:JD:540:ALA:HB3	1.95	0.67
27:DA:70:LEU:O	27:DA:74:GLN:N	2.27	0.67
26:D3:1170:G:N7	26:D3:1574:G:C8	2.63	0.67
1:UA:116:GLY:C	1:UA:148:ASP:CA	2.64	0.67
26:D3:793:A:H3'	26:D3:793:A:OP2	1.95	0.67
26:D3:1131:A:HO2'	26:D3:1132:A:H8	1.43	0.67
14:CN:16:VAL:O	14:CN:36:PHE:CA	2.39	0.67
26:D3:260:U:H3'	26:D3:261:U:H5"	1.77	0.67
26:D3:599:A:C2	38:DX:47:SER:CB	2.77	0.67
26:D3:1096:C:C4	37:DW:18:GLU:C	2.69	0.67
1:UA:478:CYS:H	1:UA:491:ALA:HB3	1.60	0.66
5:UM:461:LEU:O	5:UM:488:HIS:HA	1.95	0.66
26:D3:956:C:H5"	26:D3:1072:C:H2'	1.77	0.66
26:D3:1615:C:O5'	26:D3:1615:C:H6	1.77	0.66
26:D3:609:U:C2	38:DX:22:ASN:C	2.66	0.66
26:D3:876:G:C5	26:D3:936:G:C6	2.82	0.66
26:D3:1174:C:N3	26:D3:1466:G:C2	2.63	0.66
26:D3:473:A:O2'	26:D3:768:C:C4	2.43	0.66
26:D3:932:U:C3'	26:D3:933:A:C5'	2.70	0.66
26:D3:955:A:H4'	26:D3:1073:G:O2'	1.96	0.66
26:D3:1026:A:C5	26:D3:1792:G:C6	2.84	0.66
26:D3:1170:G:C6	26:D3:1574:G:C4	2.82	0.66
3:UC:559:ARG:C	26:D3:476:U:H2'	2.15	0.66
12:CL:22:HIS:CB	26:D3:313:U:C4	2.78	0.66
1:UA:134:ALA:HB1	25:D2:297:U:N3	2.10	0.66
26:D3:219:A:H5'	26:D3:831:U:O2'	1.95	0.66
26:D3:734:A:H5"	26:D3:735:C:OP1	1.96	0.66
26:D3:754:A:N1	26:D3:793:A:C2'	2.59	0.66
26:D3:780:A:O3'	39:DY:8:ARG:HA	1.91	0.66
27:DA:51:SER:HA	27:DA:57:ALA:H	1.61	0.66
5:UM:408:LYS:O	5:UM:436:ALA:HA	1.96	0.66
26:D3:599:A:H5'	38:DX:106:GLY:O	1.96	0.66
1:UA:522:SER:N	1:UA:531:ALA:O	2.29	0.66
10:CJ:280:PHE:CB	12:CL:992:GLU:CB	2.74	0.66
19:JJ:210:GLY:HA3	26:D3:1796:C:H1'	1.74	0.66
26:D3:6:G:O2'	26:D3:7:G:O5'	2.14	0.66
26:D3:1082:C:H6	37:DW:20:THR:O	1.78	0.66
26:D3:1176:G:N1	26:D3:1464:G:C6	2.64	0.66
26:D3:1494:C:H2'	26:D3:1495:C:C6	2.31	0.66
11:CK:445:VAL:O	11:CK:449:ASP:CB	2.44	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:30:G:H4'	38:DX:131:SER:CB	2.25	0.66
26:D3:1597:A:H2'	26:D3:1598:U:C5	2.30	0.66
26:D3:1601:G:H2'	26:D3:1601:G:N3	2.11	0.66
26:D3:237:C:C4	26:D3:834:G:C8	2.84	0.65
26:D3:1177:C:N3	26:D3:1463:C:N3	2.43	0.65
3:UC:559:ARG:O	26:D3:476:U:H2'	1.95	0.65
18:JL:231:PHE:C	18:JL:233:ARG:N	2.44	0.65
26:D3:1177:C:C2	26:D3:1463:C:N3	2.64	0.65
1:UA:134:ALA:CB	25:D2:297:U:C6	2.63	0.65
26:D3:515:A:C2	26:D3:543:C:H6	2.14	0.65
26:D3:956:C:H4'	26:D3:1072:C:O2	1.96	0.65
26:D3:755:A:H2'	26:D3:756:A:C8	2.31	0.65
26:D3:897:C:O2'	26:D3:898:A:H8	1.79	0.65
26:D3:1174:C:C2	26:D3:1466:G:N2	2.64	0.65
2:UB:755:ILE:CB	12:CL:959:ALA:HB3	2.27	0.65
26:D3:364:G:HO2'	26:D3:756:A:H62	0.65	0.65
26:D3:41:A:H8	26:D3:41:A:OP2	1.80	0.65
26:D3:818:C:N4	26:D3:819:G:O6	2.29	0.65
26:D3:1039:A:C5	26:D3:1091:A:N6	2.64	0.65
26:D3:1176:G:N2	26:D3:1464:G:N9	2.45	0.65
5:UM:168:THR:O	5:UM:192:ALA:N	2.30	0.65
5:UM:360:PRO:CB	5:UM:388:GLU:O	2.45	0.65
26:D3:73:U:H1'	26:D3:74:U:H5'	1.79	0.65
26:D3:702:G:O2'	26:D3:703:G:H8	1.79	0.65
26:D3:773:C:OP1	28:DE:22:LYS:O	2.14	0.65
26:D3:935:U:H2'	26:D3:936:G:H8	1.62	0.65
5:UM:341:ALA:HB3	5:UM:356:ALA:HB1	1.79	0.64
26:D3:865:A:OP2	26:D3:1036:A:OP1	2.14	0.64
27:DA:130:SER:CB	27:DA:180:THR:HA	2.27	0.64
1:UA:692:ALA:CB	1:UA:705:SER:HA	2.14	0.64
2:UB:701:ALA:CA	6:US:417:HIS:CB	2.60	0.64
11:CK:535:LYS:HA	26:D3:1628:U:H5	1.62	0.64
12:CL:943:LYS:CB	26:D3:1594:G:H5'	2.28	0.64
5:UM:389:ASP:CB	5:UM:409:ASP:CB	2.76	0.64
26:D3:473:A:C3'	26:D3:768:C:C2	2.73	0.64
26:D3:613:G:C5'	26:D3:1099:U:C5	2.79	0.64
29:DG:57:ASP:HA	29:DG:106:LEU:HA	1.79	0.64
41:D4:9:A:O2'	41:D4:10:C:C6	2.49	0.64
26:D3:538:A:C5'	26:D3:543:C:N4	2.60	0.64
26:D3:956:C:H5"	26:D3:1072:C:O2'	1.98	0.64
26:D3:1131:A:O2'	26:D3:1132:A:H8	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:UA:263:VAL:HA	1:UA:278:GLY:O	1.97	0.64
5:UM:393:SER:CB	5:UM:406:ALA:CB	2.69	0.64
26:D3:190:C:N4	26:D3:196:G:O6	2.31	0.64
26:D3:228:G:N1	26:D3:834:G:C2	2.65	0.64
26:D3:897:C:HO2'	26:D3:898:A:H8	1.43	0.64
1:UA:159:ARG:C	1:UA:174:SER:HA	2.13	0.64
2:UB:759:ALA:HB2	12:CL:960:ARG:C	2.18	0.64
26:D3:219:A:H8	26:D3:830:U:C5	2.12	0.64
26:D3:1605:G:O2'	26:D3:1606:C:O4'	2.14	0.64
8:UV:660:ASP:CB	27:DA:93:GLY:HA2	2.28	0.64
26:D3:60:U:O4'	26:D3:453:U:H5"	1.98	0.64
26:D3:1553:G:H2'	26:D3:1555:A:OP2	1.98	0.64
1:UA:350:SER:H	1:UA:363:ALA:HB3	1.63	0.63
26:D3:1790:A:O2'	26:D3:1791:A:H5'	1.98	0.63
36:DZ:57:TYR:CB	36:DZ:58:ARG:CA	2.75	0.63
26:D3:1092:A:O2'	26:D3:1093:A:C3'	2.37	0.63
10:CJ:181:ASN:CB	26:D3:1159:C:H1'	2.26	0.63
26:D3:388:G:N7	26:D3:423:G:C2	2.67	0.63
26:D3:755:A:H2'	26:D3:756:A:H8	1.63	0.63
26:D3:564:G:C1'	26:D3:1596:C:H6	1.93	0.63
26:D3:1601:G:H5"	26:D3:1602:C:C6	2.28	0.63
12:CL:993:ASP:N	26:D3:565:C:H41	1.95	0.63
26:D3:702:G:HO2'	26:D3:703:G:H8	1.44	0.63
1:UA:388:SER:CB	1:UA:408:ASP:CB	2.76	0.63
26:D3:876:G:C4	26:D3:936:G:C2	2.87	0.63
26:D3:220:A:H3'	26:D3:832:U:O2	1.98	0.63
26:D3:780:A:O3'	39:DY:8:ARG:CA	2.46	0.63
11:CK:537:SER:CB	26:D3:1145:U:O2	2.47	0.63
26:D3:755:A:O2'	26:D3:756:A:P	2.57	0.63
26:D3:1039:A:N7	26:D3:1091:A:C5	2.65	0.63
33:DL:6:THR:O	33:DL:8:GLN:N	2.32	0.63
26:D3:142:G:N2	26:D3:173:A:H2	1.95	0.63
26:D3:781:U:P	39:DY:8:ARG:C	2.77	0.63
26:D3:886:U:H1'	35:DO:122:PRO:C	2.20	0.63
26:D3:1096:C:C2	37:DW:19:LYS:N	2.67	0.63
26:D3:1597:A:O2'	26:D3:1598:U:C5'	2.46	0.63
15:JD:540:ALA:HB1	15:JD:551:LYS:CB	2.29	0.62
26:D3:1494:C:H2'	26:D3:1495:C:H6	1.63	0.62
5:UM:105:SER:CB	5:UM:121:GLY:CA	2.77	0.62
22:DS:87:ASN:O	26:D3:1565:C:H1'	1.99	0.62
26:D3:387:A:H8	26:D3:387:A:OP2	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:932:U:H4'	26:D3:933:A:C4'	2.21	0.62
26:D3:1096:C:C5'	37:DW:19:LYS:CB	2.77	0.62
23:DT:74:GLY:CA	26:D3:1498:G:OP2	2.47	0.62
26:D3:506:A:C6	26:D3:585:A:C2	2.57	0.62
26:D3:694:U:C5	30:DH:96:ARG:O	2.53	0.62
26:D3:1538:U:HO2'	26:D3:1539:G:H8	1.47	0.62
11:CK:348:ASP:O	12:CL:965:GLN:CB	2.47	0.62
26:D3:599:A:H5"	38:DX:106:GLY:C	2.19	0.62
26:D3:613:G:H5'	26:D3:1099:U:H5	1.62	0.62
26:D3:954:G:O3'	34:DN:8:GLY:HA3	1.99	0.62
26:D3:1177:C:N4	26:D3:1463:C:N4	2.46	0.62
10:CJ:121:ASN:CB	26:D3:1585:U:OP1	2.47	0.62
26:D3:474:A:C2	26:D3:594:A:H5"	2.34	0.62
26:D3:591:A:H2'	26:D3:592:A:C8	2.35	0.62
26:D3:1553:G:N1	26:D3:1556:A:OP2	2.33	0.62
26:D3:1591:C:N4	26:D3:1605:G:H1	1.97	0.62
26:D3:217:A:OP1	26:D3:830:U:H4'	1.99	0.62
26:D3:843:U:H2'	26:D3:844:A:H8	1.65	0.62
26:D3:1176:G:C5	26:D3:1464:G:C6	2.87	0.62
26:D3:1177:C:N4	26:D3:1463:C:H42	1.98	0.62
26:D3:1597:A:H2'	26:D3:1598:U:H6	1.58	0.62
3:UC:559:ARG:C	26:D3:476:U:H3'	2.20	0.62
12:CL:993:ASP:CA	26:D3:565:C:H41	1.95	0.62
5:UM:393:SER:CB	5:UM:439:ALA:HA	2.30	0.62
26:D3:955:A:H5"	34:DN:10:GLY:N	2.15	0.62
26:D3:992:A:H8	26:D3:1777:G:O4'	1.80	0.62
26:D3:1081:A:N1	26:D3:1091:A:N6	2.47	0.62
33:DL:5:LEU:O	33:DL:7:VAL:N	2.26	0.62
26:D3:40:A:O2'	26:D3:41:A:P	2.57	0.62
26:D3:998:A:H5"	26:D3:998:A:H8	1.64	0.62
26:D3:1067:C:H2'	26:D3:1068:C:H6	1.65	0.62
12:CL:992:GLU:C	26:D3:565:C:N4	2.32	0.61
26:D3:219:A:H5'	26:D3:831:U:C2'	2.28	0.61
26:D3:878:G:O2'	34:DN:110:ASP:CB	2.48	0.61
26:D3:1602:C:H2'	26:D3:1603:U:C6	2.34	0.61
2:UB:756:ARG:N	12:CL:959:ALA:O	2.33	0.61
3:UC:560:ASN:N	26:D3:477:A:O5'	2.33	0.61
18:JL:183:ALA:CB	18:JL:210:GLU:O	2.40	0.61
5:UM:115:THR:O	5:UM:131:ILE:N	2.33	0.61
5:UM:691:PRO:CB	11:CK:514:ALA:HB3	2.30	0.61
12:CL:944:ASN:CB	26:D3:1595:U:OP2	2.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:649:U:O2'	26:D3:650:U:O5'	2.17	0.61
32:DJ:163:PRO:O	32:DJ:165:GLY:N	2.31	0.61
8:UV:1154:ASN:O	8:UV:1158:LYS:CB	2.48	0.61
19:JJ:262:ASN:CB	26:D3:1004:U:O2'	2.47	0.61
30:DH:49:ILE:O	30:DH:57:ALA:N	2.28	0.61
26:D3:594:A:H4'	26:D3:595:G:H5'	1.82	0.61
26:D3:601:A:C5'	38:DX:41:SER:CA	2.78	0.61
26:D3:620:A:C6	26:D3:1109:G:C4	2.88	0.61
26:D3:620:A:C8	26:D3:1109:G:N3	2.68	0.61
26:D3:781:U:OP2	39:DY:8:ARG:CA	2.49	0.61
10:CJ:143:HIS:CB	26:D3:1604:U:OP1	2.49	0.61
26:D3:1176:G:C2	26:D3:1464:G:C6	2.88	0.61
41:D4:17:G:O2'	41:D4:18:G:O4'	2.19	0.61
26:D3:220:A:OP2	26:D3:831:U:H2'	2.01	0.61
26:D3:476:U:C2	26:D3:545:A:N7	2.69	0.61
26:D3:572:C:N4	38:DX:91:GLY:HA3	2.01	0.61
26:D3:717:C:H42	26:D3:720:G:H22	1.48	0.61
1:UA:264:LYS:N	1:UA:278:GLY:O	2.32	0.61
1:UA:497:ILE:N	1:UA:512:ILE:O	2.28	0.61
26:D3:218:A:H2	26:D3:843:U:O2'	1.84	0.61
26:D3:740:A:C2'	26:D3:741:C:H5"	2.28	0.61
26:D3:839:U:H2'	26:D3:840:U:H5'	1.82	0.61
5:UM:351:ASN:O	5:UM:367:VAL:N	2.33	0.60
12:CL:993:ASP:N	26:D3:565:C:C5	2.69	0.60
26:D3:219:A:C8	26:D3:831:U:C2	2.89	0.60
26:D3:564:G:N3	26:D3:1596:C:N1	2.47	0.60
26:D3:900:A:C1'	26:D3:915:A:H2	2.14	0.60
26:D3:6:G:O2'	26:D3:7:G:H5'	2.00	0.60
26:D3:34:G:O2'	26:D3:35:U:H5'	2.01	0.60
26:D3:571:G:OP1	38:DX:65:ASN:N	2.32	0.60
26:D3:12:U:O2	41:D4:19:A:C2	2.54	0.60
18:JL:132:GLN:CB	26:D3:1781:A:H5'	2.31	0.60
26:D3:590:C:O2'	26:D3:591:A:H5'	2.01	0.60
26:D3:1178:G:C1'	26:D3:1462:G:N2	2.64	0.60
26:D3:619:A:C2	26:D3:1110:G:C2	2.89	0.60
26:D3:876:G:C2	26:D3:936:G:C6	2.89	0.60
10:CJ:290:LEU:CB	26:D3:563:U:P	2.90	0.60
12:CL:993:ASP:N	26:D3:565:C:N4	2.49	0.60
15:JD:29:LYS:O	15:JD:33:ARG:N	2.27	0.60
26:D3:20:G:H2'	26:D3:21:U:H6	1.67	0.60
26:D3:1597:A:O2'	26:D3:1598:U:H5'	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:D4:9:A:HO2'	41:D4:10:C:H6	1.47	0.60
26:D3:482:U:H2'	26:D3:483:A:H8	1.66	0.60
26:D3:570:A:H4'	38:DX:63:GLN:CA	2.32	0.60
26:D3:1108:G:O2'	38:DX:25:ALA:HB1	2.02	0.60
39:DY:3:ASP:O	39:DY:5:VAL:N	2.30	0.60
26:D3:706:A:N1	26:D3:734:A:N6	2.49	0.60
26:D3:1180:C:C4'	26:D3:1460:A:H61	2.14	0.60
26:D3:855:A:C2	26:D3:857:U:H1'	2.37	0.59
26:D3:926:A:C2	35:DO:126:THR:HA	2.36	0.59
26:D3:1600:A:H4'	26:D3:1601:G:C5'	2.32	0.59
26:D3:1799:U:O5'	26:D3:1799:U:H6	1.83	0.59
1:UA:136:PHE:O	25:D2:297:U:N3	2.35	0.59
1:UA:369:ILE:O	1:UA:383:PHE:N	2.33	0.59
1:UA:790:GLN:O	7:UU:722:THR:HA	2.02	0.59
26:D3:116:U:H2'	26:D3:117:U:C6	2.37	0.59
26:D3:515:A:N1	26:D3:543:C:C6	2.70	0.59
26:D3:782:U:N3	39:DY:48:TYR:CB	2.60	0.59
26:D3:851:U:H2'	26:D3:852:C:C6	2.37	0.59
26:D3:499:U:O2'	26:D3:500:C:H5"	2.01	0.59
1:UA:134:ALA:HB1	25:D2:297:U:N1	2.16	0.59
5:UM:38:ASP:CB	5:UM:59:GLU:O	2.51	0.59
5:UM:210:ASN:HA	5:UM:223:TRP:O	2.02	0.59
15:JD:928:VAL:CB	15:JD:1045:LEU:CB	2.80	0.59
26:D3:363:G:N2	26:D3:755:A:H61	1.99	0.59
26:D3:1026:A:C4	26:D3:1792:G:C6	2.90	0.59
26:D3:1533:C:H4'	26:D3:1539:G:C2	2.38	0.59
26:D3:280:U:O2'	26:D3:281:G:OP2	2.17	0.59
26:D3:564:G:O4'	26:D3:1596:C:C5	2.55	0.59
26:D3:992:A:O2'	26:D3:1776:A:C2	2.55	0.59
4:UL:476:ILE:HA	4:UL:492:SER:HA	1.82	0.59
5:UM:124:GLY:HA3	5:UM:145:GLY:O	2.03	0.59
5:UM:463:ILE:O	5:UM:487:ARG:CB	2.50	0.59
11:CK:349:ARG:CB	12:CL:963:GLY:O	2.50	0.59
26:D3:40:A:H2'	26:D3:41:A:H8	1.66	0.59
26:D3:219:A:C8	26:D3:830:U:C4	2.85	0.59
26:D3:1073:G:H2'	26:D3:1074:G:H5"	1.83	0.59
5:UM:12:LEU:O	5:UM:640:VAL:HA	2.02	0.59
26:D3:539:G:H8	26:D3:539:G:OP2	1.85	0.59
10:CJ:101:SER:CB	26:D3:1580:C:C3'	2.80	0.59
26:D3:1467:C:H2'	26:D3:1468:U:H5'	1.85	0.59
4:UL:666:ALA:HB3	4:UL:670:GLY:H	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:CJ:98:THR:O	26:D3:1580:C:C5'	2.48	0.59
15:JD:929:ALA:HB2	15:JD:1042:ARG:CB	2.32	0.59
26:D3:1029:U:O2'	26:D3:1031:U:H5	1.82	0.59
26:D3:694:U:H5	30:DH:96:ARG:O	1.86	0.58
26:D3:904:G:C4'	26:D3:1005:A:H2	1.85	0.58
26:D3:1176:G:C6	26:D3:1464:G:O6	2.56	0.58
26:D3:1178:G:N1	26:D3:1462:G:C5	2.70	0.58
26:D3:843:U:H2'	26:D3:844:A:C8	2.38	0.58
26:D3:955:A:OP1	34:DN:10:GLY:N	2.23	0.58
11:CK:535:LYS:O	26:D3:1628:U:H5	1.87	0.58
26:D3:6:G:C6	26:D3:19:A:C6	2.91	0.58
26:D3:1170:G:C2	26:D3:1171:A:C8	2.91	0.58
26:D3:1178:G:N2	26:D3:1462:G:C8	2.71	0.58
30:DH:35:LYS:O	30:DH:37:GLU:N	2.32	0.58
1:UA:193:TYR:O	1:UA:210:SER:HA	2.04	0.58
1:UA:631:ASN:C	41:D4:60:A:H2	2.04	0.58
23:DT:73:VAL:CB	26:D3:1499:G:P	2.68	0.58
26:D3:620:A:C5	26:D3:1109:G:C2	2.91	0.58
5:UM:85:LEU:O	5:UM:98:SER:HA	2.03	0.58
10:CJ:213:GLY:H	11:CK:381:LEU:C	2.07	0.58
26:D3:886:U:O2'	35:DO:122:PRO:CB	2.45	0.58
26:D3:1176:G:C5	26:D3:1464:G:N1	2.71	0.58
5:UM:115:THR:O	5:UM:130:ASP:HA	2.03	0.58
5:UM:168:THR:HA	5:UM:192:ALA:CB	2.33	0.58
14:CN:16:VAL:O	14:CN:35:HIS:O	2.22	0.58
26:D3:121:U:H1'	28:DE:33:ALA:HB3	1.85	0.58
26:D3:570:A:C4'	38:DX:64:PRO:N	2.67	0.58
26:D3:750:U:C3'	26:D3:751:G:H5'	2.34	0.58
5:UM:155:GLN:O	5:UM:156:LEU:C	2.42	0.58
26:D3:506:A:N1	26:D3:585:A:N3	2.21	0.58
26:D3:783:G:O6	39:DY:11:LYS:N	2.36	0.58
26:D3:876:G:O6	26:D3:936:G:C5	2.56	0.58
5:UM:339:ILE:O	5:UM:357:THR:CB	2.51	0.58
27:DA:138:PHE:C	27:DA:212:VAL:O	2.42	0.58
11:CK:535:LYS:O	26:D3:1628:U:C5	2.57	0.57
26:D3:219:A:C8	26:D3:830:U:H5	2.16	0.57
26:D3:520:A:H2'	26:D3:521:A:C8	2.39	0.57
26:D3:783:G:H2'	39:DY:12:VAL:O	2.03	0.57
26:D3:994:G:OP2	26:D3:1778:G:C2'	2.51	0.57
26:D3:1798:U:C5	26:D3:1799:U:C4	2.91	0.57
36:DZ:36:ALA:HB3	36:DZ:37:GLN:HA	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:887:A:C5'	35:DO:88:GLY:HA2	2.34	0.57
26:D3:1174:C:C4	26:D3:1466:G:C2	2.92	0.57
1:UA:281:SER:O	1:UA:302:GLN:O	2.21	0.57
26:D3:876:G:C5	26:D3:936:G:N1	2.72	0.57
39:DY:62:THR:HA	39:DY:69:SER:HA	1.84	0.57
12:CL:992:GLU:C	26:D3:565:C:C4	2.76	0.57
8:UV:161:PRO:HA	8:UV:597:ARG:HA	1.87	0.57
26:D3:1164:G:H2'	26:D3:1165:G:C8	2.39	0.57
26:D3:1176:G:N1	26:D3:1463:C:N4	2.53	0.57
26:D3:752:A:H2'	26:D3:753:A:O4'	2.05	0.57
26:D3:514:G:O2'	26:D3:515:A:H5'	2.04	0.57
26:D3:1096:C:N3	37:DW:18:GLU:C	2.58	0.57
26:D3:620:A:N7	26:D3:1109:G:N2	2.53	0.57
5:UM:244:GLU:N	5:UM:261:ALA:O	2.38	0.57
26:D3:316:A:O2'	26:D3:317:C:O4'	2.22	0.57
26:D3:955:A:HO2'	26:D3:1073:G:H1'	1.69	0.57
28:DE:222:LEU:O	28:DE:224:ASN:N	2.38	0.57
26:D3:61:A:H8	26:D3:269:G:HO2'	1.51	0.56
26:D3:297:U:O2'	28:DE:33:ALA:HA	2.05	0.56
26:D3:312:A:C2	26:D3:314:C:H2'	2.39	0.56
26:D3:770:A:O2'	32:DJ:8:TYR:CB	2.53	0.56
26:D3:1111:G:O2'	26:D3:1112:G:O5'	2.23	0.56
26:D3:1591:C:O2'	26:D3:1592:A:H8	1.88	0.56
11:CK:445:VAL:O	11:CK:449:ASP:N	2.35	0.56
26:D3:472:U:O3'	26:D3:769:A:O2'	2.12	0.56
26:D3:542:A:H5"	26:D3:544:A:C8	2.40	0.56
26:D3:704:C:H3'	26:D3:704:C:OP2	2.05	0.56
26:D3:1591:C:O2'	26:D3:1592:A:C8	2.57	0.56
1:UA:273:ARG:O	1:UA:288:ASP:HA	2.05	0.56
2:UB:756:ARG:CA	12:CL:959:ALA:O	2.52	0.56
11:CK:491:ALA:CB	26:D3:1633:A:H4'	2.35	0.56
26:D3:8:U:O4	26:D3:16:G:C2	2.58	0.56
26:D3:876:G:N2	26:D3:943:C:C4	2.73	0.56
26:D3:1773:C:H2'	26:D3:1774:G:C8	2.40	0.56
35:DO:60:ALA:HB1	35:DO:101:ALA:HB2	1.86	0.56
1:UA:116:GLY:C	1:UA:148:ASP:HA	2.26	0.56
1:UA:350:SER:CB	1:UA:392:ALA:HA	2.35	0.56
26:D3:14:C:C2	41:D4:17:G:N1	2.50	0.56
26:D3:365:G:H4'	26:D3:757:A:C2	2.38	0.56
26:D3:601:A:P	38:DX:41:SER:HA	2.45	0.56
26:D3:1170:G:C5	26:D3:1574:G:C8	2.93	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:1600:A:O5'	26:D3:1602:C:H1'	2.05	0.56
32:DJ:149:ARG:O	32:DJ:151:ASP:N	2.38	0.56
26:D3:876:G:C5	26:D3:936:G:C2	2.93	0.56
26:D3:1041:G:H2'	26:D3:1042:G:C8	2.40	0.56
19:JJ:209:ASP:N	26:D3:1796:C:O5'	2.35	0.56
26:D3:438:A:O2'	26:D3:465:G:N2	2.35	0.56
26:D3:601:A:H5'	38:DX:41:SER:CB	2.35	0.56
26:D3:926:A:H2	35:DO:126:THR:HA	1.71	0.56
12:CL:777:ARG:O	12:CL:781:GLU:CB	2.54	0.56
15:JD:1129:GLU:CB	15:JD:1227:ILE:H	2.19	0.56
23:DT:73:VAL:CB	26:D3:1499:G:O5'	2.53	0.56
26:D3:61:A:H8	26:D3:269:G:O2'	1.89	0.56
26:D3:218:A:N6	26:D3:830:U:C4	2.74	0.56
26:D3:246:G:N2	33:DL:66:ILE:O	2.35	0.56
26:D3:1469:A:H2'	26:D3:1470:C:C6	2.40	0.56
26:D3:933:A:N1	26:D3:944:A:N1	2.54	0.56
26:D3:1026:A:N1	26:D3:1792:G:C4	2.73	0.56
10:CJ:98:THR:O	26:D3:1579:U:O3'	2.24	0.56
26:D3:1177:C:N3	26:D3:1463:C:C4	2.73	0.56
26:D3:1178:G:O6	26:D3:1461:C:C4	2.59	0.56
26:D3:885:G:C2'	35:DO:123:SER:CB	2.83	0.56
31:DI:39:GLY:N	31:DI:60:ILE:O	2.33	0.56
26:D3:601:A:H5'	38:DX:41:SER:CA	2.35	0.55
26:D3:130:C:O2'	26:D3:131:C:OP1	2.24	0.55
26:D3:218:A:N7	26:D3:830:U:C5	2.74	0.55
26:D3:553:G:N2	26:D3:584:C:N3	2.54	0.55
26:D3:564:G:N2	26:D3:1596:C:C4'	2.70	0.55
26:D3:1178:G:C5	26:D3:1462:G:N1	2.72	0.55
19:JJ:209:ASP:C	26:D3:1796:C:O2'	2.44	0.55
26:D3:473:A:O4'	26:D3:768:C:N3	2.39	0.55
26:D3:590:C:O2'	26:D3:591:A:C5'	2.55	0.55
26:D3:1591:C:N3	26:D3:1605:G:C2	2.75	0.55
32:DJ:160:PRO:O	32:DJ:167:ALA:HB2	2.06	0.55
1:UA:170:ALA:O	1:UA:186:THR:HA	2.06	0.55
11:CK:535:LYS:C	26:D3:1628:U:C5	2.80	0.55
3:UC:569:TYR:CB	32:DJ:32:GLY:HA3	2.35	0.55
10:CJ:181:ASN:HA	26:D3:1159:C:O2	2.07	0.55
12:CL:993:ASP:CA	26:D3:565:C:C4	2.73	0.55
26:D3:93:A:C6	26:D3:398:G:C5	2.94	0.55
26:D3:237:C:H3'	26:D3:834:G:H5'	1.88	0.55
26:D3:271:A:H5'	26:D3:272:U:OP2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:365:G:P	26:D3:757:A:N6	2.72	0.55
26:D3:1514:U:H5"	26:D3:1515:A:N3	2.22	0.55
6:US:285:ILE:O	6:US:289:PHE:N	2.38	0.55
18:JL:132:GLN:N	26:D3:1781:A:O3'	2.40	0.55
26:D3:296:U:H2'	26:D3:297:U:C6	2.41	0.55
26:D3:476:U:O2	26:D3:545:A:H8	1.85	0.55
39:DY:60:PHE:H	39:DY:71:GLY:HA2	1.72	0.55
1:UA:284:PHE:O	1:UA:297:GLN:HA	2.06	0.55
5:UM:281:THR:O	5:UM:327:ILE:O	2.24	0.55
26:D3:226:A:H2'	26:D3:227:U:H5'	1.89	0.55
20:DF:105:GLY:HA2	26:D3:1610:G:C4'	2.37	0.55
26:D3:72:A:C2	26:D3:73:U:N3	2.75	0.55
26:D3:472:U:H4'	26:D3:770:A:C1'	2.37	0.55
26:D3:541:A:O5'	26:D3:542:A:OP2	2.24	0.55
26:D3:1776:A:H2'	26:D3:1777:G:C8	2.42	0.55
36:DZ:87:GLY:O	36:DZ:88:ILE:CB	2.55	0.55
7:UU:830:TYR:O	7:UU:833:LEU:N	2.40	0.55
26:D3:876:G:C2	26:D3:936:G:O6	2.58	0.55
1:UA:284:PHE:O	1:UA:298:LEU:N	2.35	0.55
1:UA:411:VAL:O	1:UA:425:PHE:N	2.38	0.55
5:UM:408:LYS:O	5:UM:436:ALA:CB	2.55	0.55
26:D3:407:A:H2'	26:D3:408:C:C6	2.42	0.55
26:D3:866:G:OP1	34:DN:2:GLY:HA2	2.06	0.55
1:UA:215:VAL:N	1:UA:254:HIS:O	2.35	0.54
26:D3:595:G:HO2'	26:D3:596:C:H6	1.49	0.54
26:D3:1591:C:N4	26:D3:1605:G:N1	2.55	0.54
5:UM:463:ILE:O	5:UM:487:ARG:N	2.40	0.54
26:D3:32:U:O2'	26:D3:33:U:C5'	2.55	0.54
26:D3:472:U:C4'	26:D3:770:A:O4'	2.49	0.54
26:D3:218:A:C6	26:D3:830:U:O4	2.60	0.54
26:D3:222:A:H2	26:D3:839:U:O2	1.86	0.54
26:D3:404:G:H2'	26:D3:405:C:C6	2.43	0.54
26:D3:487:G:H3'	26:D3:488:G:H5"	1.88	0.54
26:D3:701:U:H3	26:D3:737:A:N6	2.01	0.54
26:D3:886:U:C1'	35:DO:122:PRO:CA	2.48	0.54
26:D3:1086:A:H2'	26:D3:1087:A:C8	2.41	0.54
1:UA:358:SER:HA	1:UA:374:ILE:CB	2.37	0.54
2:UB:755:ILE:O	12:CL:959:ALA:O	2.25	0.54
26:D3:1096:C:N3	37:DW:19:LYS:N	2.56	0.54
26:D3:1629:G:H1'	26:D3:1631:A:H62	1.71	0.54
28:DE:120:SER:O	28:DE:163:ASP:O	2.25	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:UA:604:TYR:HA	1:UA:611:LEU:HA	1.89	0.54
26:D3:872:G:N2	26:D3:1047:G:H4'	2.22	0.54
26:D3:883:C:O2'	26:D3:884:A:C5'	2.56	0.54
26:D3:1491:U:H4'	26:D3:1492:A:H4'	1.90	0.54
3:UC:559:ARG:C	26:D3:476:U:C2'	2.76	0.54
15:JD:795:SER:CA	15:JD:935:SER:O	2.55	0.54
26:D3:1124:A:O2'	26:D3:1125:A:C8	2.48	0.54
1:UA:116:GLY:O	1:UA:148:ASP:HA	2.06	0.54
5:UM:281:THR:CA	5:UM:327:ILE:H	2.13	0.54
26:D3:781:U:OP2	39:DY:7:ILE:O	2.25	0.54
26:D3:992:A:O2'	26:D3:1776:A:H2	1.90	0.54
26:D3:1081:A:C2	26:D3:1091:A:C6	2.96	0.54
26:D3:1176:G:N3	26:D3:1464:G:N3	2.54	0.54
10:CJ:212:ALA:HA	11:CK:381:LEU:CB	2.37	0.54
23:DT:42:GLY:CA	23:DT:84:LYS:CB	2.83	0.54
26:D3:2:A:H2'	26:D3:3:U:H6	1.72	0.54
26:D3:42:G:H2'	26:D3:43:A:C8	2.43	0.54
26:D3:435:C:H4'	26:D3:436:A:C4	2.43	0.54
26:D3:2:A:H2'	26:D3:3:U:C6	2.42	0.54
26:D3:158:U:O2'	26:D3:159:U:H3'	2.08	0.54
26:D3:364:G:H21	26:D3:756:A:H2	1.50	0.54
27:DA:77:GLU:O	27:DA:79:HIS:N	2.37	0.54
1:UA:117:ARG:N	1:UA:148:ASP:HA	2.22	0.54
3:UC:563:VAL:CB	26:D3:477:A:O3'	2.55	0.54
8:UV:552:ARG:O	8:UV:556:ILE:HA	2.07	0.54
14:CN:16:VAL:N	14:CN:37:MET:O	2.41	0.54
26:D3:6:G:C5	26:D3:19:A:N1	2.76	0.54
26:D3:39:A:C2	26:D3:40:A:N6	2.76	0.54
26:D3:781:U:OP2	39:DY:9:THR:N	2.40	0.54
32:DJ:122:VAL:O	32:DJ:125:ALA:HB3	2.08	0.54
5:UM:408:LYS:O	5:UM:436:ALA:CA	2.57	0.53
12:CL:898:GLY:N	12:CL:915:ALA:O	2.41	0.53
15:JD:27:ARG:CB	26:D3:355:G:O3'	2.56	0.53
18:JL:132:GLN:CA	26:D3:1781:A:O3'	2.56	0.53
26:D3:367:A:H2'	26:D3:368:U:C6	2.43	0.53
26:D3:894:U:H2'	26:D3:895:G:C8	2.43	0.53
12:CL:280:LEU:O	12:CL:782:GLY:O	2.26	0.53
26:D3:12:U:O2	41:D4:19:A:H2	1.91	0.53
26:D3:590:C:HO2'	26:D3:591:A:H8	1.54	0.53
37:DW:103:ILE:HA	37:DW:112:ASP:HA	1.90	0.53
4:UL:414:LEU:N	4:UL:428:PHE:O	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:JF:230:TYR:CB	16:JG:103:PRO:HA	2.38	0.53
26:D3:992:A:N7	26:D3:1777:G:C4'	2.71	0.53
26:D3:1039:A:N7	26:D3:1091:A:C6	2.77	0.53
26:D3:1131:A:N3	26:D3:1132:A:C8	2.76	0.53
10:CJ:280:PHE:N	26:D3:564:G:O2'	2.41	0.53
26:D3:219:A:C5	26:D3:830:U:O4	2.60	0.53
26:D3:1169:G:OP1	26:D3:1466:G:O6	2.26	0.53
26:D3:1604:U:O2'	26:D3:1605:G:C5'	2.55	0.53
10:CJ:182:GLN:C	26:D3:1159:C:N4	2.61	0.53
26:D3:840:U:O2'	26:D3:841:U:H5"	2.09	0.53
41:D4:2:U:C2'	41:D4:3:C:OP1	2.56	0.53
3:UC:574:LYS:CB	26:D3:502:U:HO2'	2.21	0.53
10:CJ:82:GLY:O	11:CK:383:ARG:HA	2.09	0.53
26:D3:1178:G:N3	26:D3:1462:G:C4	2.76	0.53
36:DZ:66:VAL:C	36:DZ:68:ARG:H	2.12	0.53
26:D3:1028:C:C2	26:D3:1030:A:H1'	2.43	0.53
26:D3:1176:G:H1'	26:D3:1464:G:H22	1.66	0.53
1:UA:811:ASN:HA	7:UU:936:VAL:O	2.09	0.53
12:CL:864:ASP:CB	26:D3:558:U:H4'	2.39	0.53
18:JL:182:TRP:O	18:JL:212:LYS:CB	2.57	0.53
23:DT:42:GLY:HA3	23:DT:84:LYS:CA	2.39	0.53
26:D3:229:U:H2'	26:D3:230:C:C6	2.44	0.53
26:D3:393:C:H2'	26:D3:394:C:C6	2.44	0.53
26:D3:703:G:H2'	26:D3:704:C:H5'	1.90	0.53
23:DT:74:GLY:HA3	26:D3:1498:G:OP2	2.09	0.53
1:UA:118:PHE:HA	1:UA:142:HIS:O	2.08	0.53
5:UM:150:LEU:HA	5:UM:164:ALA:O	2.09	0.53
23:DT:73:VAL:CB	26:D3:1500:C:OP2	2.57	0.53
26:D3:505:A:N3	26:D3:505:A:H2'	2.23	0.53
26:D3:316:A:O2'	26:D3:317:C:C5'	2.57	0.52
26:D3:647:G:H22	26:D3:687:G:N2	2.08	0.52
26:D3:260:U:H3'	26:D3:261:U:C5'	2.37	0.52
38:DX:75:GLN:HA	38:DX:82:LYS:HA	1.91	0.52
5:UM:168:THR:C	5:UM:192:ALA:CB	2.71	0.52
10:CJ:283:THR:CA	26:D3:562:G:N7	2.73	0.52
19:JJ:262:ASN:CA	26:D3:1004:U:HO2'	2.22	0.52
26:D3:601:A:H2'	26:D3:602:U:C6	2.45	0.52
26:D3:770:A:H2'	32:DJ:8:TYR:HA	1.89	0.52
26:D3:751:G:C6	26:D3:752:A:C6	2.97	0.52
26:D3:1594:G:N2	26:D3:1603:U:O2	2.41	0.52
1:UA:159:ARG:C	1:UA:175:VAL:N	2.34	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:UM:30:LYS:CB	5:UM:45:LEU:O	2.57	0.52
5:UM:168:THR:CA	5:UM:192:ALA:HB2	2.38	0.52
5:UM:342:ASP:N	5:UM:356:ALA:HB3	2.21	0.52
20:DF:105:GLY:HA2	26:D3:1610:G:H4'	1.92	0.52
26:D3:730:G:H21	26:D3:731:C:H5'	1.75	0.52
41:D4:9:A:O2'	41:D4:10:C:H6	1.88	0.52
5:UM:341:ALA:HB3	5:UM:356:ALA:CB	2.39	0.52
26:D3:617:U:H2'	26:D3:618:U:C6	2.44	0.52
26:D3:839:U:C2'	26:D3:840:U:H5'	2.39	0.52
26:D3:999:U:H4'	26:D3:1000:C:C6	2.45	0.52
26:D3:1026:A:C6	26:D3:1792:G:O6	2.54	0.52
26:D3:1525:A:O4'	26:D3:1590:G:H4'	2.09	0.52
5:UM:168:THR:HA	5:UM:192:ALA:HB1	1.90	0.52
26:D3:15:U:H2'	26:D3:16:G:O5'	2.06	0.52
10:CJ:182:GLN:N	26:D3:1159:C:C2	2.64	0.52
12:CL:943:LYS:CB	26:D3:1595:U:P	2.94	0.52
23:DT:77:ASN:O	23:DT:81:GLY:N	2.40	0.52
26:D3:237:C:N4	26:D3:834:G:N7	2.58	0.52
26:D3:272:U:HO2'	26:D3:273:G:H8	1.56	0.52
26:D3:515:A:N1	26:D3:543:C:H6	2.06	0.52
26:D3:751:G:N1	26:D3:752:A:C6	2.78	0.52
23:DT:41:SER:CB	23:DT:95:ASP:O	2.58	0.52
26:D3:221:A:N6	26:D3:840:U:C4	2.63	0.52
26:D3:780:A:H1'	39:DY:8:ARG:C	2.30	0.52
26:D3:885:G:HO2'	35:DO:123:SER:CB	2.16	0.52
26:D3:956:C:OP2	34:DN:10:GLY:CA	2.58	0.52
35:DO:17:ALA:HB3	35:DO:81:VAL:HA	1.91	0.52
36:DZ:41:ILE:HA	36:DZ:44:GLN:N	2.21	0.52
26:D3:886:U:H2'	35:DO:122:PRO:CB	2.40	0.52
36:DZ:41:ILE:C	36:DZ:43:ASP:N	2.64	0.52
1:UA:352:ALA:HB2	1:UA:393:VAL:O	2.10	0.51
5:UM:23:ALA:HB1	5:UM:33:ALA:O	2.10	0.51
26:D3:692:C:H2'	26:D3:693:U:O4'	2.10	0.51
8:UV:1193:ALA:HA	8:UV:1213:ILE:HA	1.93	0.51
26:D3:472:U:C4'	26:D3:770:A:C1'	2.88	0.51
26:D3:482:U:H2'	26:D3:483:A:C8	2.44	0.51
26:D3:935:U:H2'	26:D3:936:G:C8	2.45	0.51
26:D3:1032:G:H2'	26:D3:1033:C:C6	2.46	0.51
1:UA:159:ARG:HA	1:UA:175:VAL:N	2.24	0.51
5:UM:148:SER:N	5:UM:166:GLY:O	2.42	0.51
5:UM:359:SER:C	5:UM:390:LEU:HA	2.30	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:1524:A:C6	26:D3:1525:A:C6	2.97	0.51
15:JD:932:SER:CB	15:JD:1041:LEU:CA	2.88	0.51
26:D3:620:A:C8	26:D3:1109:G:C2	2.96	0.51
26:D3:792:U:C4	26:D3:793:A:C6	2.93	0.51
26:D3:819:G:O2'	26:D3:821:U:OP2	2.13	0.51
26:D3:977:A:H8	26:D3:977:A:OP2	1.93	0.51
26:D3:1000:C:O5'	26:D3:1000:C:H6	1.94	0.51
26:D3:108:A:H2'	26:D3:109:G:C8	2.45	0.51
26:D3:787:G:H2'	26:D3:788:A:C8	2.46	0.51
26:D3:1098:U:H4'	26:D3:1099:U:H5'	1.93	0.51
26:D3:1553:G:N2	26:D3:1555:A:H3'	2.24	0.51
4:UL:125:THR:H	4:UL:140:SER:HA	1.76	0.51
5:UM:360:PRO:HA	5:UM:389:ASP:O	2.11	0.51
26:D3:197:A:H2'	26:D3:198:A:C8	2.46	0.51
26:D3:564:G:H21	26:D3:1596:C:C4'	2.24	0.51
26:D3:572:C:N4	38:DX:91:GLY:CA	2.69	0.51
26:D3:1023:A:H1'	26:D3:1024:U:C5	2.45	0.51
26:D3:1039:A:N6	26:D3:1091:A:C6	2.78	0.51
26:D3:1594:G:C6	26:D3:1600:A:C2	2.99	0.51
26:D3:1601:G:N3	26:D3:1601:G:C2'	2.73	0.51
31:DI:105:ASP:O	31:DI:107:THR:N	2.38	0.51
12:CL:827:ALA:HA	12:CL:919:VAL:HA	1.93	0.51
26:D3:59:C:C4	26:D3:452:A:C6	2.99	0.51
26:D3:323:A:OP2	31:DI:10:LYS:HA	2.11	0.51
26:D3:702:G:C6	26:D3:737:A:N6	2.79	0.51
26:D3:1798:U:C4	26:D3:1799:U:N3	2.79	0.51
35:DO:122:PRO:O	35:DO:124:ASP:N	2.43	0.51
1:UA:692:ALA:HB2	1:UA:705:SER:CB	2.40	0.51
26:D3:34:G:O2'	26:D3:35:U:C5'	2.59	0.51
26:D3:142:G:N2	26:D3:173:A:C2	2.73	0.51
26:D3:711:U:H1'	26:D3:712:G:C8	2.46	0.51
26:D3:992:A:H2	26:D3:1012:U:N3	2.01	0.51
26:D3:1111:G:HO2'	26:D3:1112:G:C5'	2.19	0.51
26:D3:702:G:O6	26:D3:737:A:N6	2.44	0.50
26:D3:792:U:N3	26:D3:793:A:N7	2.58	0.50
26:D3:1489:U:H2'	26:D3:1490:C:C5	2.46	0.50
1:UA:117:ARG:N	1:UA:148:ASP:CB	2.71	0.50
4:UL:749:GLY:HA3	4:UL:820:ALA:HB1	1.93	0.50
26:D3:315:A:N7	26:D3:350:U:C4	2.79	0.50
26:D3:416:A:H5'	26:D3:417:A:N7	2.25	0.50
26:D3:473:A:H5"	26:D3:768:C:O2	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:794:U:O2'	26:D3:795:U:H5'	2.11	0.50
26:D3:1490:C:H4'	26:D3:1491:U:OP1	2.11	0.50
12:CL:992:GLU:CA	26:D3:565:C:H5	2.23	0.50
18:JL:132:GLN:CA	26:D3:1781:A:H3'	2.29	0.50
26:D3:220:A:OP2	26:D3:832:U:C4'	2.59	0.50
26:D3:363:G:H21	26:D3:755:A:N6	2.09	0.50
26:D3:433:C:H2'	26:D3:434:G:H3'	1.93	0.50
26:D3:495:C:H3'	26:D3:496:G:O4'	2.11	0.50
26:D3:545:A:H4'	26:D3:546:U:OP1	2.09	0.50
26:D3:709:C:C4	26:D3:710:U:H1'	2.46	0.50
26:D3:1469:A:C2'	26:D3:1470:C:C6	2.95	0.50
27:DA:146:GLN:O	27:DA:148:ASN:N	2.44	0.50
31:DI:37:LYS:H	31:DI:59:ARG:H	1.60	0.50
1:UA:632:SER:HA	41:D4:60:A:H2	1.53	0.50
26:D3:1002:G:O2'	26:D3:1003:A:C5'	2.54	0.50
26:D3:238:U:OP1	26:D3:834:G:C5'	2.57	0.50
26:D3:564:G:N2	26:D3:1596:C:C1'	2.74	0.50
26:D3:793:A:H3'	26:D3:793:A:P	2.52	0.50
26:D3:968:U:H2'	26:D3:969:C:O4'	2.11	0.50
26:D3:1094:G:C2'	26:D3:1095:U:H5'	2.41	0.50
26:D3:1177:C:C4	26:D3:1463:C:N4	2.79	0.50
39:DY:122:GLY:O	39:DY:125:LEU:N	2.35	0.50
4:UL:337:LYS:O	4:UL:358:SER:N	2.37	0.50
26:D3:42:G:C6	26:D3:378:A:C6	3.00	0.50
26:D3:114:C:H6	26:D3:114:C:H5'	1.76	0.50
26:D3:191:C:O2'	26:D3:192:U:O5'	2.25	0.50
26:D3:364:G:C2	26:D3:756:A:N1	2.79	0.50
26:D3:1034:C:H2'	26:D3:1035:G:C8	2.47	0.50
26:D3:1535:U:H1'	26:D3:1536:G:N1	2.27	0.50
41:D4:10:C:H2'	41:D4:11:U:H6	1.77	0.50
4:UL:803:GLN:O	4:UL:807:ASP:N	2.42	0.50
26:D3:566:C:H2'	26:D3:567:A:H8	1.77	0.50
26:D3:874:C:H5'	26:D3:1047:G:OP1	2.12	0.50
1:UA:136:PHE:O	25:D2:297:U:C2	2.65	0.50
1:UA:194:VAL:HA	1:UA:209:VAL:O	2.12	0.50
26:D3:61:A:C8	26:D3:269:G:O2'	2.64	0.50
26:D3:571:G:OP2	38:DX:64:PRO:O	2.30	0.50
26:D3:999:U:HO2'	26:D3:1000:C:H5	1.60	0.50
30:DH:58:LEU:N	30:DH:89:HIS:O	2.40	0.50
3:UC:559:ARG:C	26:D3:476:U:C3'	2.80	0.50
5:UM:341:ALA:H	5:UM:356:ALA:C	2.06	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:JD:1189:THR:N	15:JD:1216:ARG:O	2.42	0.50
26:D3:256:A:H2'	26:D3:257:A:O4'	2.12	0.50
26:D3:472:U:H1'	26:D3:769:A:C2	2.47	0.50
26:D3:1175:U:H2'	26:D3:1176:G:C8	2.47	0.50
12:CL:32:ALA:CB	38:DX:33:LEU:O	2.53	0.49
26:D3:247:A:H4'	33:DL:37:ASN:O	2.11	0.49
26:D3:473:A:H1'	26:D3:768:C:H42	1.77	0.49
26:D3:751:G:C6	26:D3:752:A:C5	3.00	0.49
26:D3:755:A:C2	26:D3:756:A:C4	3.00	0.49
26:D3:999:U:H4'	26:D3:1000:C:H5	1.70	0.49
26:D3:1029:U:HO2'	26:D3:1031:U:H6	1.47	0.49
26:D3:1540:G:N3	26:D3:1540:G:H2'	2.27	0.49
18:JL:231:PHE:O	18:JL:232:VAL:C	2.49	0.49
26:D3:792:U:H3	26:D3:793:A:N6	1.91	0.49
26:D3:1502:G:N2	26:D3:1504:G:H3'	2.28	0.49
29:DG:151:ASP:O	29:DG:152:ASP:CB	2.60	0.49
32:DJ:163:PRO:C	32:DJ:165:GLY:H	2.14	0.49
39:DY:132:ARG:C	39:DY:134:ALA:H	2.15	0.49
18:JL:191:VAL:N	18:JL:204:SER:O	2.37	0.49
36:DZ:43:ASP:HA	36:DZ:46:LYS:CB	2.43	0.49
14:CN:14:ILE:O	14:CN:37:MET:O	2.29	0.49
20:DF:100:ASN:HA	26:D3:1166:A:OP1	2.12	0.49
26:D3:652:G:H1	26:D3:682:C:H42	1.58	0.49
26:D3:734:A:H4'	26:D3:735:C:H5'	1.93	0.49
26:D3:1552:U:H2'	26:D3:1553:G:O4'	2.13	0.49
26:D3:287:G:O2'	26:D3:288:A:OP2	2.25	0.49
26:D3:363:G:H21	26:D3:755:A:H61	1.58	0.49
26:D3:751:G:C6	26:D3:752:A:N6	2.80	0.49
26:D3:770:A:O3'	32:DJ:9:SER:N	2.45	0.49
26:D3:912:U:H4'	26:D3:913:G:H2'	1.94	0.49
8:UV:182:ASP:O	8:UV:207:LEU:HA	2.13	0.49
26:D3:31:C:C5'	38:DX:134:ALA:CB	2.81	0.49
26:D3:217:A:OP1	26:D3:217:A:H2'	2.13	0.49
26:D3:946:U:HO2'	26:D3:947:U:H6	1.57	0.49
26:D3:1176:G:N1	26:D3:1463:C:C4	2.78	0.49
26:D3:1529:C:H2'	26:D3:1530:C:C6	2.47	0.49
1:UA:520:ALA:HB3	1:UA:533:SER:CA	2.38	0.49
3:UC:559:ARG:O	26:D3:476:U:C1'	2.60	0.49
26:D3:190:C:O2'	26:D3:191:C:H5'	2.13	0.49
26:D3:1154:G:H2'	26:D3:1155:G:H8	1.78	0.49
5:UM:9:GLY:HA2	5:UM:643:PHE:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:UU:44:LEU:O	25:D2:299:G:C8	2.65	0.49
26:D3:1026:A:N3	26:D3:1792:G:C6	2.74	0.49
26:D3:1180:C:H1'	26:D3:1460:A:N6	2.27	0.49
26:D3:1489:U:H5'	26:D3:1489:U:H6	1.76	0.49
20:DF:26:ALA:HB3	21:DQ:27:GLY:O	2.13	0.49
26:D3:238:U:P	26:D3:834:G:H5'	2.52	0.49
26:D3:364:G:H2'	26:D3:757:A:C6	2.47	0.49
26:D3:1177:C:H42	26:D3:1463:C:N4	2.09	0.49
35:DO:97:GLY:O	35:DO:101:ALA:HB2	2.13	0.49
36:DZ:41:ILE:HA	36:DZ:44:GLN:CB	2.43	0.49
1:UA:20:ILE:O	1:UA:309:SER:CB	2.61	0.48
5:UM:463:ILE:O	5:UM:487:ARG:CA	2.61	0.48
12:CL:992:GLU:O	26:D3:565:C:C5	2.63	0.48
13:CM:192:THR:N	13:CM:246:VAL:O	2.34	0.48
19:JJ:262:ASN:CB	26:D3:1004:U:HO2'	2.26	0.48
26:D3:56:U:H4'	26:D3:57:G:H5'	1.94	0.48
26:D3:956:C:P	34:DN:10:GLY:HA2	2.53	0.48
26:D3:1487:A:O2'	26:D3:1488:G:H5'	2.13	0.48
26:D3:1629:G:H22	26:D3:1637:C:H1'	1.77	0.48
26:D3:468:A:C2	26:D3:594:A:O2'	2.62	0.48
26:D3:904:G:H5'	26:D3:1005:A:N3	2.28	0.48
1:UA:358:SER:O	1:UA:374:ILE:N	2.40	0.48
13:CM:192:THR:O	13:CM:246:VAL:N	2.44	0.48
19:JJ:210:GLY:CA	26:D3:1796:C:C1'	2.55	0.48
26:D3:31:C:O2'	26:D3:547:U:H5"	2.13	0.48
26:D3:876:G:H3'	26:D3:936:G:H21	1.77	0.48
26:D3:751:G:C5	26:D3:752:A:N7	2.82	0.48
26:D3:990:C:H2'	26:D3:991:G:O4'	2.12	0.48
26:D3:1800:A:N3	26:D3:1800:A:C2'	2.75	0.48
1:UA:476:VAL:HA	1:UA:491:ALA:O	2.13	0.48
10:CJ:157:PHE:O	10:CJ:159:HIS:N	2.46	0.48
26:D3:8:U:O4	26:D3:16:G:N1	2.46	0.48
26:D3:138:A:N6	26:D3:266:A:H61	2.11	0.48
26:D3:778:G:C8	26:D3:783:G:C2	3.01	0.48
34:DN:23:PRO:O	34:DN:25:TRP:N	2.42	0.48
26:D3:260:U:O2'	26:D3:261:U:OP1	2.29	0.48
26:D3:315:A:C8	26:D3:350:U:C4	3.02	0.48
26:D3:366:A:OP1	26:D3:758:U:O2'	2.24	0.48
26:D3:414:C:N4	26:D3:415:C:N4	2.62	0.48
26:D3:473:A:C5'	26:D3:769:A:C1'	2.75	0.48
5:UM:352:LYS:HA	5:UM:365:ILE:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:CK:535:LYS:C	26:D3:1628:U:H5	2.16	0.48
26:D3:819:G:N3	26:D3:820:U:H5	2.12	0.48
1:UA:280:THR:CA	1:UA:304:PRO:CB	2.91	0.48
18:JL:132:GLN:CB	26:D3:1782:A:OP2	2.61	0.48
26:D3:699:U:H2'	26:D3:700:C:C6	2.48	0.48
26:D3:936:G:HO2'	26:D3:937:C:H6	1.62	0.48
31:DI:8:ARG:C	31:DI:9:HIS:O	2.49	0.48
10:CJ:280:PHE:CA	26:D3:564:G:O2'	2.62	0.48
12:CL:861:THR:HA	12:CL:871:MET:HA	1.95	0.48
26:D3:1468:U:H2'	26:D3:1469:A:C8	2.49	0.48
26:D3:1597:A:C2'	26:D3:1598:U:C6	2.88	0.48
26:D3:315:A:C8	26:D3:350:U:O4	2.67	0.48
26:D3:1800:A:C2	26:D3:1803:G:O6	2.67	0.48
26:D3:196:G:O2'	26:D3:197:A:OP2	2.30	0.47
26:D3:749:U:H2'	26:D3:750:U:C6	2.49	0.47
26:D3:779:U:OP2	26:D3:780:A:H2	1.96	0.47
26:D3:877:G:H5'	26:D3:937:C:O2	2.15	0.47
26:D3:934:C:H4'	26:D3:935:U:H6	1.79	0.47
26:D3:939:A:H2'	26:D3:940:A:C8	2.48	0.47
30:DH:174:ASN:O	30:DH:178:GLY:N	2.45	0.47
26:D3:32:U:C3'	26:D3:33:U:H5'	2.43	0.47
26:D3:1035:G:H2'	26:D3:1036:A:H8	1.79	0.47
26:D3:1169:G:O2'	26:D3:1576:A:N6	2.47	0.47
26:D3:1591:C:O2'	26:D3:1592:A:O4'	2.31	0.47
26:D3:315:A:N1	26:D3:349:U:O2'	2.40	0.47
26:D3:1781:A:H4'	26:D3:1782:A:OP1	2.13	0.47
41:D4:5:A:H2'	41:D4:6:C:C6	2.49	0.47
5:UM:31:ILE:H	5:UM:45:LEU:N	1.99	0.47
12:CL:879:THR:CB	26:D3:572:C:N3	2.78	0.47
26:D3:237:C:H2'	26:D3:834:G:H1'	1.94	0.47
26:D3:1177:C:O2	26:D3:1463:C:C2	2.68	0.47
36:DZ:41:ILE:C	36:DZ:43:ASP:H	2.18	0.47
12:CL:141:LEU:HA	12:CL:170:VAL:O	2.14	0.47
26:D3:473:A:C3'	26:D3:768:C:N3	2.77	0.47
26:D3:542:A:H2'	26:D3:543:C:H3'	1.95	0.47
26:D3:700:C:H42	26:D3:738:G:H1	1.61	0.47
26:D3:751:G:N1	26:D3:752:A:C5	2.83	0.47
26:D3:993:A:H5'	26:D3:1777:G:C1'	2.12	0.47
26:D3:1080:U:H2'	26:D3:1081:A:C8	2.48	0.47
26:D3:1170:G:C8	26:D3:1574:G:C2'	2.94	0.47
26:D3:1601:G:H5'	26:D3:1602:C:H5	1.66	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:UL:164:ASP:HA	26:D3:1751:C:HO2'	1.77	0.47
5:UM:393:SER:N	5:UM:406:ALA:O	2.47	0.47
5:UM:784:ALA:CB	11:CK:496:TYR:CB	2.93	0.47
26:D3:93:A:H2'	26:D3:398:G:N2	2.30	0.47
26:D3:237:C:C5	26:D3:834:G:C8	3.03	0.47
26:D3:263:C:H4'	26:D3:292:U:H5'	1.95	0.47
26:D3:876:G:C2	26:D3:936:G:N1	2.83	0.47
26:D3:1007:C:O5'	26:D3:1007:C:H6	1.98	0.47
26:D3:1170:G:C5	26:D3:1574:G:N9	2.82	0.47
26:D3:1174:C:C4	26:D3:1175:U:C4	3.03	0.47
26:D3:1178:G:C5	26:D3:1462:G:O6	2.65	0.47
26:D3:1777:G:H2'	26:D3:1778:G:C8	2.50	0.47
5:UM:168:THR:CA	5:UM:192:ALA:CB	2.93	0.47
6:US:176:ILE:O	6:US:180:PHE:N	2.45	0.47
10:CJ:280:PHE:O	26:D3:565:C:P	2.71	0.47
15:JD:795:SER:CB	15:JD:936:VAL:HA	2.45	0.47
26:D3:158:U:HO2'	26:D3:159:U:H3'	1.80	0.47
26:D3:599:A:H5"	38:DX:106:GLY:CA	2.45	0.47
26:D3:754:A:H3'	26:D3:755:A:H5"	1.97	0.47
26:D3:1180:C:H4'	26:D3:1460:A:N6	2.29	0.47
4:UL:338:ILE:HA	4:UL:357:THR:HA	1.96	0.47
12:CL:938:PRO:HA	12:CL:948:ILE:HA	1.96	0.47
26:D3:472:U:O2	26:D3:769:A:H2	1.98	0.47
26:D3:488:G:OP1	26:D3:488:G:H4'	2.14	0.47
26:D3:600:U:H2'	26:D3:601:A:C8	2.49	0.47
26:D3:639:U:OP1	30:DH:117:THR:CB	2.63	0.47
26:D3:941:A:C2'	26:D3:977:A:H5'	2.45	0.47
26:D3:1017:U:H2'	26:D3:1018:U:C6	2.49	0.47
26:D3:1051:G:O2'	26:D3:1052:U:P	2.73	0.47
28:DE:222:LEU:O	28:DE:225:VAL:N	2.47	0.47
4:UL:601:GLY:N	4:UL:606:ASP:O	2.48	0.47
8:UV:526:CYS:HA	8:UV:615:VAL:O	2.14	0.47
12:CL:50:ASN:O	12:CL:51:GLU:C	2.52	0.47
14:CN:18:PHE:O	14:CN:35:HIS:N	2.47	0.47
15:JD:1123:THR:CB	15:JD:1218:GLY:CA	2.67	0.47
26:D3:6:G:HO2'	26:D3:7:G:H8	1.63	0.47
26:D3:67:A:C2	26:D3:69:G:H1'	2.49	0.47
26:D3:142:G:C8	26:D3:142:G:O5'	2.68	0.47
26:D3:702:G:C6	26:D3:737:A:C6	3.03	0.47
26:D3:720:G:O2'	26:D3:721:U:H5'	2.15	0.47
26:D3:1607:G:C2	26:D3:1608:U:C4	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:CN:17:PRO:HA	14:CN:34:LEU:O	2.15	0.47
26:D3:720:G:H2'	26:D3:720:G:N3	2.30	0.47
26:D3:781:U:OP2	39:DY:7:ILE:C	2.54	0.47
26:D3:1478:G:H2'	26:D3:1479:A:O4'	2.14	0.47
26:D3:1563:C:H2'	26:D3:1564:U:C6	2.50	0.47
26:D3:1605:G:O2'	26:D3:1606:C:H5'	2.14	0.47
1:UA:44:ASN:HA	7:UU:727:PRO:CB	2.45	0.46
2:UB:742:ALA:CB	26:D3:1460:A:OP2	2.62	0.46
15:JD:795:SER:CB	15:JD:935:SER:O	2.62	0.46
15:JD:1203:ASN:HA	15:JD:1209:ARG:HA	1.97	0.46
15:JD:1207:THR:HA	15:JD:1240:LYS:CB	2.45	0.46
26:D3:142:G:O5'	26:D3:142:G:H8	1.98	0.46
2:UB:755:ILE:CB	12:CL:956:MET:O	2.64	0.46
18:JL:132:GLN:CA	26:D3:1781:A:C3'	2.87	0.46
26:D3:218:A:C5	26:D3:830:U:H5	2.32	0.46
26:D3:367:A:H2'	26:D3:368:U:H6	1.80	0.46
26:D3:594:A:H4'	26:D3:595:G:C5'	2.44	0.46
26:D3:1180:C:H4'	26:D3:1460:A:H62	1.81	0.46
26:D3:1180:C:O2'	26:D3:1460:A:N6	2.48	0.46
27:DA:49:ASN:O	27:DA:57:ALA:HB2	2.14	0.46
26:D3:93:A:C4	26:D3:398:G:C2	3.04	0.46
26:D3:1101:G:O2'	37:DW:4:SER:CB	2.64	0.46
26:D3:1489:U:HO2'	26:D3:1490:C:P	2.38	0.46
11:CK:307:ILE:O	11:CK:311:ILE:N	2.48	0.46
26:D3:192:U:O2'	26:D3:193:U:O5'	2.27	0.46
26:D3:237:C:C5'	26:D3:238:U:H5'	2.40	0.46
26:D3:808:U:H2'	26:D3:809:A:C8	2.51	0.46
26:D3:912:U:H4'	26:D3:913:G:O5'	2.15	0.46
26:D3:1575:G:H2'	26:D3:1576:A:H8	1.79	0.46
1:UA:160:PHE:CA	1:UA:174:SER:HA	2.35	0.46
7:UU:47:THR:CB	25:D2:298:A:HO2'	2.23	0.46
26:D3:639:U:OP1	30:DH:118:LEU:N	2.48	0.46
26:D3:1614:A:H2'	26:D3:1615:C:C6	2.51	0.46
2:UB:755:ILE:C	12:CL:959:ALA:C	2.74	0.46
26:D3:144:U:O2'	26:D3:145:A:H8	1.99	0.46
26:D3:147:A:H2'	26:D3:148:A:O4'	2.16	0.46
26:D3:238:U:P	26:D3:834:G:C5'	3.04	0.46
26:D3:468:A:C5	26:D3:595:G:N7	2.83	0.46
26:D3:473:A:O2'	26:D3:768:C:C2	2.52	0.46
26:D3:542:A:H8	26:D3:542:A:HO2'	1.63	0.46
26:D3:1173:C:O2'	26:D3:1174:C:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:UL:352:GLU:HA	4:UL:366:SER:HA	1.98	0.46
7:UU:118:VAL:HA	7:UU:132:THR:HA	1.97	0.46
15:JD:929:ALA:HA	15:JD:1042:ARG:HA	1.97	0.46
26:D3:97:C:H2'	26:D3:98:U:C6	2.49	0.46
26:D3:717:C:N4	26:D3:720:G:H22	2.11	0.46
26:D3:830:U:O2	26:D3:830:U:H2'	2.15	0.46
26:D3:830:U:O2'	26:D3:831:U:H6	1.98	0.46
26:D3:1603:U:H2'	26:D3:1604:U:C6	2.51	0.46
41:D4:17:G:O2'	41:D4:18:G:C5'	2.63	0.46
3:UC:559:ARG:O	26:D3:476:U:C3'	2.63	0.46
3:UC:559:ARG:O	26:D3:476:U:H3'	2.16	0.46
16:JG:164:LYS:CB	26:D3:1576:A:C4'	2.92	0.46
26:D3:6:G:C4	26:D3:19:A:C2	3.04	0.46
26:D3:647:G:N2	26:D3:687:G:N2	2.64	0.46
26:D3:754:A:C6	26:D3:793:A:C2'	2.99	0.46
26:D3:883:C:HO2'	26:D3:884:A:H8	1.62	0.46
26:D3:885:G:N2	35:DO:124:ASP:O	2.48	0.46
26:D3:1178:G:H1'	26:D3:1462:G:C2	2.50	0.46
26:D3:1535:U:H1'	26:D3:1536:G:C6	2.51	0.46
15:JD:789:GLU:CB	15:JD:846:PRO:CA	2.92	0.46
26:D3:564:G:C2	26:D3:1596:C:H1'	2.43	0.46
26:D3:1131:A:C2	26:D3:1132:A:C5	3.04	0.46
26:D3:1591:C:H2'	26:D3:1592:A:C8	2.50	0.46
33:DL:29:LYS:O	33:DL:31:THR:N	2.46	0.46
34:DN:105:ASN:C	34:DN:107:LYS:H	2.20	0.46
41:D4:2:U:O2'	41:D4:3:C:P	2.73	0.46
8:UV:534:GLY:N	8:UV:605:GLY:O	2.45	0.46
15:JD:793:VAL:CA	15:JD:935:SER:HA	2.39	0.46
26:D3:445:A:H1'	26:D3:525:A:OP1	2.15	0.46
26:D3:992:A:C8	26:D3:1777:G:C4'	2.99	0.46
26:D3:1485:C:C2	26:D3:1486:G:H1'	2.51	0.46
26:D3:1606:C:H2'	26:D3:1607:G:C8	2.51	0.46
7:UU:228:GLY:O	7:UU:246:ILE:N	2.40	0.45
18:JL:183:ALA:CB	18:JL:211:ILE:HA	2.41	0.45
26:D3:494:U:O2'	26:D3:495:C:O5'	2.32	0.45
26:D3:1028:C:OP1	26:D3:1028:C:H6	1.99	0.45
26:D3:1125:A:H2'	26:D3:1126:G:H8	1.81	0.45
26:D3:1178:G:N1	26:D3:1462:G:C6	2.85	0.45
26:D3:1469:A:H4'	26:D3:1541:G:H4'	1.99	0.45
26:D3:1489:U:O4'	26:D3:1494:C:C2	2.69	0.45
26:D3:1538:U:O2'	26:D3:1539:G:H8	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:DA:131:ASP:O	27:DA:133:TYR:N	2.44	0.45
8:UV:844:THR:O	8:UV:847:GLY:N	2.49	0.45
23:DT:42:GLY:HA3	23:DT:84:LYS:HA	1.97	0.45
26:D3:600:U:C1'	38:DX:47:SER:HA	2.46	0.45
26:D3:1034:C:H2'	26:D3:1035:G:H8	1.81	0.45
26:D3:1504:G:OP2	26:D3:1504:G:H8	1.99	0.45
6:US:29:LYS:O	6:US:33:GLU:N	2.49	0.45
10:CJ:123:VAL:HA	26:D3:1606:C:OP1	2.16	0.45
19:JJ:209:ASP:N	26:D3:1796:C:C4'	2.78	0.45
26:D3:218:A:C6	26:D3:830:U:C4	3.04	0.45
26:D3:472:U:H1'	26:D3:769:A:H2	1.80	0.45
26:D3:876:G:N2	26:D3:943:C:N4	2.65	0.45
26:D3:901:G:C6	26:D3:902:G:C6	3.04	0.45
26:D3:1504:G:OP2	26:D3:1504:G:C8	2.69	0.45
37:DW:28:ARG:HA	37:DW:29:PRO:HA	1.66	0.45
2:UB:459:LEU:O	2:UB:463:SER:N	2.49	0.45
4:UL:285:ARG:N	4:UL:327:HIS:O	2.42	0.45
13:CM:193:GLY:O	13:CM:225:ILE:HA	2.16	0.45
26:D3:420:A:H2'	26:D3:421:A:O4'	2.17	0.45
26:D3:514:G:HO2'	26:D3:515:A:H8	1.64	0.45
26:D3:808:U:O4	26:D3:809:A:N6	2.49	0.45
26:D3:1540:G:C6	26:D3:1541:G:C5	3.04	0.45
26:D3:1605:G:O2'	26:D3:1606:C:C5'	2.64	0.45
1:UA:170:ALA:O	1:UA:186:THR:CA	2.63	0.45
1:UA:279:PHE:O	1:UA:304:PRO:CB	2.65	0.45
20:DF:105:GLY:HA2	26:D3:1610:G:O4'	2.17	0.45
26:D3:6:G:O2'	26:D3:7:G:O4'	2.33	0.45
26:D3:287:G:O2'	26:D3:288:A:P	2.75	0.45
26:D3:992:A:N7	26:D3:1777:G:H4'	2.31	0.45
36:DZ:94:LYS:C	36:DZ:96:SER:N	2.69	0.45
5:UM:401:LEU:CB	5:UM:417:TYR:O	2.65	0.45
15:JD:2:GLY:CA	26:D3:358:U:OP2	2.35	0.45
16:JG:164:LYS:CB	26:D3:1576:A:C5'	2.95	0.45
26:D3:468:A:C6	26:D3:595:G:C8	3.04	0.45
26:D3:564:G:C5	26:D3:1596:C:C6	2.84	0.45
26:D3:755:A:P	26:D3:755:A:H8	2.39	0.45
26:D3:904:G:N2	26:D3:1002:G:O6	2.50	0.45
28:DE:179:LYS:N	28:DE:194:THR:O	2.49	0.45
2:UB:476:ASP:O	2:UB:480:GLU:N	2.46	0.45
3:UC:569:TYR:CB	32:DJ:32:GLY:CA	2.94	0.45
26:D3:649:U:O2'	26:D3:650:U:H6	2.00	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:756:A:C2'	26:D3:757:A:H5'	2.47	0.45
26:D3:946:U:C2'	26:D3:947:U:C6	2.96	0.45
26:D3:977:A:OP2	26:D3:977:A:C8	2.70	0.45
26:D3:1592:A:H2'	26:D3:1593:A:C8	2.52	0.45
35:DO:77:THR:O	35:DO:110:LEU:HA	2.17	0.45
35:DO:122:PRO:C	35:DO:124:ASP:N	2.70	0.45
5:UM:361:SER:CB	5:UM:385:GLU:CB	2.94	0.45
10:CJ:283:THR:CB	26:D3:562:G:H8	2.28	0.45
26:D3:512:A:OP2	32:DJ:173:ALA:N	2.49	0.45
26:D3:1034:C:H42	26:D3:1101:G:H1	1.64	0.45
26:D3:1497:U:C2	26:D3:1498:G:C8	3.05	0.45
26:D3:1604:U:O2'	26:D3:1605:G:O5'	2.35	0.45
7:UU:47:THR:N	25:D2:299:G:C1'	2.76	0.45
19:JJ:208:LYS:HA	26:D3:1795:U:C5'	2.47	0.45
26:D3:131:C:O2'	26:D3:132:U:OP1	2.33	0.45
26:D3:413:U:H2'	26:D3:414:C:H6	1.81	0.45
26:D3:620:A:N6	26:D3:1109:G:C5	2.85	0.45
26:D3:705:U:H2'	26:D3:706:A:C8	2.52	0.45
26:D3:717:C:H2'	26:D3:718:U:H5"	1.98	0.45
26:D3:894:U:H2'	26:D3:895:G:H8	1.79	0.45
26:D3:1514:U:H5'	26:D3:1514:U:O2	2.17	0.45
36:DZ:45:GLU:O	36:DZ:48:ASP:N	2.50	0.45
4:UL:875:GLU:O	4:UL:879:GLN:N	2.49	0.45
26:D3:417:A:H4'	26:D3:418:G:O5'	2.16	0.45
26:D3:955:A:H5"	34:DN:10:GLY:CA	2.46	0.45
14:CN:18:PHE:H	14:CN:34:LEU:CA	2.30	0.44
26:D3:350:U:O2	26:D3:352:A:C6	2.70	0.44
26:D3:620:A:H2'	26:D3:621:A:C5	2.53	0.44
26:D3:1586:A:H1'	26:D3:1611:A:N6	2.32	0.44
26:D3:1602:C:OP2	26:D3:1602:C:C6	2.70	0.44
1:UA:262:LYS:O	1:UA:279:PHE:HA	2.17	0.44
2:UB:444:ASN:O	2:UB:448:PHE:N	2.45	0.44
2:UB:563:GLU:O	2:UB:567:PHE:N	2.48	0.44
26:D3:73:U:H4'	26:D3:74:U:OP1	2.18	0.44
26:D3:364:G:H2'	26:D3:756:A:H61	1.59	0.44
26:D3:489:C:H2'	26:D3:490:C:C6	2.52	0.44
19:JJ:209:ASP:HA	26:D3:1796:C:H4'	0.61	0.44
26:D3:102:U:O4	26:D3:360:A:H2'	2.16	0.44
26:D3:946:U:H2'	26:D3:947:U:C5	2.53	0.44
28:DE:71:LYS:CB	28:DE:76:VAL:HA	2.48	0.44
1:UA:170:ALA:O	1:UA:187:PHE:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:35:U:H5”	26:D3:516:G:OP1	2.17	0.44
26:D3:477:A:H61	26:D3:511:A:H61	1.64	0.44
26:D3:545:A:H4’	26:D3:546:U:H5’	1.99	0.44
26:D3:647:G:N2	26:D3:687:G:H22	2.16	0.44
26:D3:934:C:H4’	26:D3:935:U:C6	2.53	0.44
26:D3:1057:U:H1’	26:D3:1058:U:H2’	1.99	0.44
1:UA:729:ALA:HB1	1:UA:738:ALA:HB2	1.97	0.44
4:UL:405:LEU:N	4:UL:417:TRP:O	2.51	0.44
26:D3:238:U:OP2	26:D3:834:G:H4’	2.18	0.44
26:D3:435:C:H4’	26:D3:436:A:C5	2.53	0.44
26:D3:902:G:H8	26:D3:902:G:O5’	2.01	0.44
26:D3:926:A:H2	35:DO:126:THR:N	2.16	0.44
26:D3:936:G:O2’	26:D3:937:C:O4’	2.35	0.44
26:D3:1591:C:C2’	26:D3:1592:A:H8	2.31	0.44
1:UA:258:ALA:CB	1:UA:261:ALA:HB3	2.38	0.44
4:UL:136:LEU:N	4:UL:148:TRP:O	2.44	0.44
26:D3:1170:G:OP2	26:D3:1171:A:OP2	2.36	0.44
26:D3:1174:C:H2’	26:D3:1175:U:O4’	2.16	0.44
26:D3:1596:C:O2	26:D3:1596:C:H2’	2.18	0.44
31:DI:197:THR:C	31:DI:199:LYS:H	2.20	0.44
2:UB:755:ILE:CB	12:CL:959:ALA:CB	2.93	0.44
3:UC:570:GLN:O	26:D3:503:G:O5’	2.36	0.44
14:CN:19:LYS:HA	14:CN:33:SER:O	2.18	0.44
21:DQ:16:ALA:HB2	21:DQ:72:GLY:HA3	2.00	0.44
26:D3:55:A:N6	26:D3:403:G:H1’	2.33	0.44
26:D3:413:U:H2’	26:D3:414:C:C6	2.52	0.44
26:D3:1067:C:H2’	26:D3:1068:C:C6	2.48	0.44
15:JD:453:VAL:CB	15:JD:741:LYS:CB	2.96	0.44
26:D3:468:A:N6	26:D3:595:G:C4	2.86	0.44
26:D3:1780:G:H4’	26:D3:1781:A:H5”	2.00	0.44
28:DE:179:LYS:O	28:DE:194:THR:O	2.35	0.44
5:UM:168:THR:HA	5:UM:192:ALA:HB2	2.00	0.44
7:UU:47:THR:H	25:D2:299:G:C1’	2.29	0.44
26:D3:30:G:O3’	38:DX:131:SER:CB	2.66	0.44
26:D3:40:A:O2’	26:D3:41:A:C8	2.71	0.44
26:D3:366:A:H2’	26:D3:367:A:C8	2.52	0.44
26:D3:1128:C:C6	26:D3:1128:C:OP2	2.71	0.44
26:D3:1490:C:C4	26:D3:1492:A:C5	3.06	0.44
26:D3:1525:A:H2’	26:D3:1526:A:C8	2.53	0.44
11:CK:535:LYS:HA	26:D3:1628:U:C6	2.53	0.43
20:DF:113:ILE:O	20:DF:117:THR:N	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:145:A:O2'	26:D3:146:U:O5'	2.34	0.43
26:D3:219:A:H5"	26:D3:831:U:H1'	1.93	0.43
26:D3:986:G:H2'	26:D3:987:G:O4'	2.17	0.43
26:D3:1015:U:H5"	26:D3:1016:C:OP2	2.18	0.43
26:D3:1604:U:H2'	26:D3:1605:G:H5"	2.00	0.43
5:UM:24:THR:CB	5:UM:69:LEU:CA	2.97	0.43
11:CK:506:GLU:HA	11:CK:516:SER:HA	1.98	0.43
11:CK:535:LYS:CA	26:D3:1628:U:C6	2.90	0.43
12:CL:22:HIS:CB	26:D3:313:U:N3	2.81	0.43
12:CL:247:ASP:N	12:CL:272:TYR:O	2.44	0.43
26:D3:10:G:HO2'	26:D3:11:A:P	2.41	0.43
26:D3:595:G:H2'	26:D3:596:C:C6	2.54	0.43
26:D3:876:G:C5	26:D3:936:G:C5	3.06	0.43
26:D3:1026:A:H2	26:D3:1792:G:N2	2.09	0.43
26:D3:1166:A:H2'	26:D3:1167:G:O4'	2.17	0.43
26:D3:1533:C:N4	26:D3:1534:G:C6	2.87	0.43
5:UM:146:THR:O	5:UM:168:THR:N	2.52	0.43
26:D3:472:U:OP1	32:DJ:10:LYS:HA	2.18	0.43
26:D3:550:A:O5'	26:D3:550:A:H8	2.01	0.43
26:D3:646:C:H2'	26:D3:647:G:C8	2.53	0.43
26:D3:770:A:C2'	32:DJ:8:TYR:HA	2.48	0.43
26:D3:993:A:H5"	26:D3:1778:G:C1'	2.47	0.43
26:D3:1176:G:C4	26:D3:1464:G:C6	3.05	0.43
5:UM:155:GLN:O	5:UM:157:ASN:N	2.50	0.43
22:DS:24:GLY:O	22:DS:59:GLY:N	2.51	0.43
26:D3:485:A:H2'	26:D3:486:G:O4'	2.19	0.43
26:D3:625:C:H2'	26:D3:626:U:C6	2.53	0.43
26:D3:712:G:H2'	26:D3:713:A:O4'	2.18	0.43
26:D3:783:G:H8	39:DY:12:VAL:CA	2.18	0.43
26:D3:819:G:O6	26:D3:853:G:C6	2.71	0.43
26:D3:1176:G:H1'	26:D3:1464:G:H21	1.72	0.43
26:D3:1178:G:N9	26:D3:1462:G:C2	2.85	0.43
28:DE:71:LYS:HA	28:DE:76:VAL:O	2.19	0.43
23:DT:98:GLY:CA	26:D3:1502:G:O6	2.66	0.43
26:D3:13:C:C2	41:D4:19:A:N1	2.86	0.43
26:D3:328:A:H2'	26:D3:329:G:O4'	2.18	0.43
26:D3:1007:C:H6	26:D3:1007:C:P	2.42	0.43
26:D3:1460:A:C2	26:D3:1461:C:C2	3.07	0.43
26:D3:1467:C:H2'	26:D3:1468:U:C5'	2.48	0.43
27:DA:140:ILE:O	27:DA:210:ILE:HA	2.18	0.43
5:UM:263:GLY:O	5:UM:289:PHE:HA	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:179:A:H2'	26:D3:180:A:O4'	2.19	0.43
26:D3:620:A:C4	26:D3:1109:G:H1'	2.54	0.43
26:D3:622:A:H4'	26:D3:623:A:OP1	2.19	0.43
26:D3:755:A:C2'	26:D3:756:A:C8	3.00	0.43
26:D3:929:A:N6	26:D3:930:A:C6	2.85	0.43
26:D3:958:U:O4	34:DN:12:SER:O	2.35	0.43
26:D3:1096:C:N4	37:DW:18:GLU:CA	2.82	0.43
26:D3:1582:U:C2	26:D3:1614:A:C5	3.07	0.43
26:D3:1591:C:H2'	26:D3:1592:A:H8	1.83	0.43
26:D3:1787:C:P	35:DO:132:ARG:H	2.41	0.43
26:D3:35:U:C5'	26:D3:516:G:OP1	2.67	0.43
26:D3:682:C:H2'	26:D3:683:C:O4'	2.19	0.43
26:D3:733:A:H4'	26:D3:734:A:C5	2.53	0.43
26:D3:885:G:H2'	26:D3:886:U:C6	2.53	0.43
26:D3:1176:G:H1	26:D3:1463:C:N4	2.10	0.43
26:D3:1486:G:H1'	26:D3:1592:A:O2'	2.19	0.43
31:DI:36:THR:HA	31:DI:58:LEU:HA	2.00	0.43
31:DI:143:TRP:O	31:DI:146:ARG:O	2.37	0.43
1:UA:441:SER:O	1:UA:443:GLU:N	2.52	0.43
2:UB:404:LYS:O	2:UB:408:LYS:N	2.49	0.43
26:D3:199:G:HO2'	26:D3:200:A:H8	1.65	0.43
26:D3:693:U:H5'	26:D3:694:U:C5'	2.48	0.43
26:D3:876:G:C3'	26:D3:936:G:N2	2.81	0.43
26:D3:1585:U:O2'	26:D3:1586:A:H5'	2.18	0.43
4:UL:891:LEU:O	4:UL:895:GLU:N	2.51	0.43
26:D3:72:A:C2	26:D3:73:U:C4	3.06	0.43
26:D3:595:G:O2'	26:D3:596:C:O4'	2.37	0.43
36:DZ:66:VAL:C	36:DZ:68:ARG:N	2.72	0.43
22:DS:27:LYS:O	22:DS:31:ALA:N	2.45	0.43
26:D3:1:U:H1'	26:D3:2:A:C8	2.54	0.43
26:D3:37:U:OP1	26:D3:530:C:H1'	2.18	0.43
26:D3:93:A:C8	26:D3:398:G:H2'	2.54	0.43
26:D3:452:A:H3'	26:D3:453:U:C5	2.54	0.43
26:D3:694:U:C5	30:DH:97:ARG:O	2.72	0.43
26:D3:732:G:H2'	26:D3:732:G:N3	2.34	0.43
26:D3:992:A:C2'	26:D3:1777:G:H1'	2.23	0.43
26:D3:1061:A:H2'	26:D3:1062:A:H5'	2.00	0.43
23:DT:33:TYR:O	23:DT:35:ASP:N	2.50	0.42
26:D3:31:C:H5"	38:DX:134:ALA:HB2	1.91	0.42
26:D3:40:A:O2'	26:D3:41:A:O5'	2.31	0.42
26:D3:552:G:N1	26:D3:587:C:O2	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:603:U:H2'	26:D3:604:A:H8	1.83	0.42
26:D3:707:A:O2'	26:D3:731:C:N4	2.52	0.42
26:D3:753:A:OP2	28:DE:187:ARG:N	2.51	0.42
26:D3:782:U:H4'	39:DY:12:VAL:CB	2.49	0.42
26:D3:915:A:H3'	26:D3:916:U:C6	2.54	0.42
26:D3:1472:C:H4'	26:D3:1473:U:H5"	2.01	0.42
26:D3:1509:C:H2'	26:D3:1510:U:O4'	2.19	0.42
26:D3:1588:G:C5	26:D3:1589:C:C5	3.06	0.42
1:UA:315:GLU:O	1:UA:331:GLU:CA	2.61	0.42
26:D3:38:C:H2'	26:D3:39:A:H5'	2.01	0.42
26:D3:545:A:N3	26:D3:546:U:H1'	2.34	0.42
26:D3:549:G:H2'	26:D3:550:A:C8	2.55	0.42
26:D3:1096:C:C6	37:DW:19:LYS:HA	2.54	0.42
26:D3:1164:G:H2'	26:D3:1165:G:H8	1.82	0.42
26:D3:1176:G:N3	26:D3:1464:G:C4	2.86	0.42
26:D3:1573:A:O4'	26:D3:1574:G:C2	2.72	0.42
5:UM:307:SER:O	27:DA:20:VAL:CB	2.67	0.42
7:UU:811:LEU:O	7:UU:812:GLY:C	2.58	0.42
26:D3:82:U:H2'	26:D3:83:G:O4'	2.18	0.42
26:D3:312:A:C5	26:D3:352:A:C2	3.07	0.42
26:D3:499:U:H6	26:D3:499:U:H2'	1.39	0.42
26:D3:529:A:H2'	26:D3:530:C:O4'	2.20	0.42
26:D3:886:U:C1'	35:DO:123:SER:H	2.27	0.42
26:D3:994:G:OP2	26:D3:1778:G:H1'	2.16	0.42
26:D3:994:G:P	26:D3:1778:G:O2'	2.77	0.42
26:D3:1167:G:C2	26:D3:1168:U:C2	3.07	0.42
26:D3:1176:G:C2	26:D3:1464:G:N3	2.86	0.42
26:D3:1554:U:H5"	26:D3:1555:A:OP2	2.19	0.42
26:D3:1787:C:OP2	35:DO:132:ARG:CB	2.67	0.42
1:UA:161:ILE:O	1:UA:173:TRP:N	2.43	0.42
5:UM:246:CYS:CA	5:UM:259:TYR:O	2.58	0.42
5:UM:784:ALA:HB2	11:CK:496:TYR:CB	2.49	0.42
26:D3:300:A:O2'	26:D3:301:A:H5'	2.19	0.42
26:D3:542:A:O2'	26:D3:543:C:O5'	2.37	0.42
26:D3:699:U:OP2	26:D3:733:A:N6	2.52	0.42
26:D3:876:G:O6	26:D3:936:G:N7	2.52	0.42
26:D3:1114:G:H2'	26:D3:1115:U:C6	2.54	0.42
26:D3:1490:C:P	26:D3:1490:C:O4'	2.78	0.42
26:D3:1597:A:O2'	26:D3:1598:U:O5'	2.38	0.42
26:D3:459:G:O2'	26:D3:460:A:OP1	2.32	0.42
26:D3:809:A:C6	26:D3:810:G:C6	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:935:U:C2'	26:D3:936:G:H5'	2.49	0.42
1:UA:348:THR:CA	1:UA:363:ALA:O	2.63	0.42
5:UM:9:GLY:HA2	5:UM:644:TRP:HA	2.00	0.42
7:UU:88:HIS:HA	25:D2:298:A:N6	2.27	0.42
26:D3:24:U:H2'	26:D3:25:C:C2	2.53	0.42
26:D3:31:C:H5"	38:DX:134:ALA:CB	2.49	0.42
26:D3:933:A:N3	26:D3:933:A:C2'	2.77	0.42
26:D3:1120:U:O5'	26:D3:1120:U:H6	2.02	0.42
26:D3:1493:A:O2'	26:D3:1494:C:OP2	2.30	0.42
1:UA:285:ARG:HA	1:UA:296:GLN:O	2.19	0.42
5:UM:39:GLU:HA	5:UM:56:ILE:O	2.18	0.42
15:JD:794:GLN:C	15:JD:935:SER:O	2.58	0.42
26:D3:218:A:C6	26:D3:844:A:H1'	2.54	0.42
26:D3:230:C:H2'	26:D3:231:U:H5"	2.00	0.42
26:D3:872:G:H2'	26:D3:873:U:O4'	2.19	0.42
26:D3:1026:A:N1	26:D3:1792:G:C2	2.79	0.42
26:D3:1108:G:HO2'	38:DX:25:ALA:HB1	1.85	0.42
26:D3:1117:U:O2	26:D3:1117:U:H2'	2.19	0.42
26:D3:1491:U:O2'	26:D3:1492:A:H5"	2.20	0.42
1:UA:215:VAL:O	1:UA:254:HIS:N	2.37	0.42
26:D3:71:A:N1	26:D3:72:A:C6	2.88	0.42
26:D3:446:A:N6	26:D3:461:G:H21	2.16	0.42
26:D3:927:C:H2'	26:D3:928:U:C6	2.55	0.42
26:D3:1033:C:C2'	26:D3:1034:C:H5'	2.50	0.42
26:D3:1080:U:OP2	26:D3:1080:U:H6	2.01	0.42
26:D3:1096:C:C4'	37:DW:19:LYS:CB	2.97	0.42
26:D3:1490:C:C5	26:D3:1492:A:C4	3.08	0.42
26:D3:1602:C:H2'	26:D3:1603:U:H6	1.81	0.42
19:JJ:112:SER:O	19:JJ:115:LYS:N	2.45	0.42
26:D3:24:U:H2'	26:D3:25:C:N3	2.35	0.42
26:D3:878:G:H1'	34:DN:110:ASP:CB	2.49	0.42
26:D3:881:A:H2'	26:D3:882:U:O4'	2.19	0.42
26:D3:1594:G:C5	26:D3:1600:A:C2	3.08	0.42
41:D4:10:C:H2'	41:D4:11:U:C6	2.55	0.42
6:US:126:LEU:O	6:US:130:GLU:N	2.51	0.42
8:UV:435:CYS:O	8:UV:463:GLN:N	2.51	0.42
8:UV:945:PRO:O	8:UV:948:TYR:N	2.53	0.42
12:CL:847:LEU:HA	12:CL:898:GLY:HA2	2.02	0.42
26:D3:196:G:O2'	26:D3:197:A:P	2.78	0.42
26:D3:229:U:H2'	26:D3:230:C:H6	1.83	0.42
26:D3:464:A:C2	26:D3:465:G:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:542:A:O2'	26:D3:543:C:P	2.77	0.42
26:D3:591:A:H2'	26:D3:592:A:H8	1.82	0.42
26:D3:601:A:O5'	38:DX:41:SER:N	2.52	0.42
26:D3:694:U:C6	30:DH:97:ARG:O	2.72	0.42
26:D3:1102:G:O4'	37:DW:4:SER:CB	2.68	0.42
26:D3:1178:G:C2	26:D3:1462:G:C6	3.05	0.42
26:D3:1773:C:H2'	26:D3:1774:G:H8	1.81	0.42
2:UB:755:ILE:C	12:CL:960:ARG:HA	2.39	0.41
5:UM:392:ASN:H	5:UM:407:SER:HA	1.85	0.41
6:US:24:TYR:O	6:US:28:ILE:N	2.53	0.41
23:DT:92:LYS:HA	26:D3:1591:C:OP1	2.18	0.41
26:D3:149:C:H2'	26:D3:150:U:C6	2.55	0.41
26:D3:603:U:H2'	26:D3:604:A:C8	2.54	0.41
26:D3:877:G:H5'	26:D3:937:C:H1'	2.01	0.41
26:D3:1171:A:H2'	26:D3:1172:G:C8	2.55	0.41
31:DI:57:ALA:HB2	31:DI:177:GLY:HA2	2.01	0.41
7:UU:142:LYS:HA	7:UU:150:PRO:HA	2.02	0.41
10:CJ:182:GLN:C	26:D3:1159:C:H42	2.24	0.41
26:D3:472:U:O4'	26:D3:770:A:H1'	2.20	0.41
26:D3:564:G:C5	26:D3:1596:C:C5	3.07	0.41
26:D3:709:C:N4	26:D3:710:U:H1'	2.35	0.41
26:D3:875:G:H1'	26:D3:937:C:H4'	2.01	0.41
26:D3:876:G:C3'	26:D3:936:G:H21	2.32	0.41
26:D3:1164:G:C2	26:D3:1165:G:C5	3.08	0.41
26:D3:1171:A:N6	26:D3:1468:U:H3	2.18	0.41
26:D3:1176:G:N2	26:D3:1463:C:N3	2.68	0.41
26:D3:1176:G:N2	26:D3:1464:G:C8	2.88	0.41
4:UL:80:ALA:HB1	4:UL:99:ALA:H	1.86	0.41
8:UV:975:LEU:O	8:UV:1041:VAL:HA	2.21	0.41
23:DT:141:GLU:C	23:DT:143:ASP:H	2.24	0.41
26:D3:220:A:C6	26:D3:221:A:N7	2.88	0.41
26:D3:480:G:N2	26:D3:509:G:H1'	2.34	0.41
26:D3:523:G:H5"	39:DY:59:GLY:O	2.20	0.41
26:D3:978:A:H2'	26:D3:979:A:O4'	2.19	0.41
26:D3:1591:C:C2'	26:D3:1592:A:C8	3.04	0.41
26:D3:1594:G:C6	26:D3:1600:A:H2	2.38	0.41
28:DE:194:THR:O	28:DE:195:ILE:CB	2.68	0.41
1:UA:381:ALA:HB1	11:CK:480:GLN:O	2.18	0.41
1:UA:495:LYS:O	1:UA:514:VAL:CA	2.69	0.41
15:JD:1106:ILE:HA	15:JD:1107:THR:HA	1.88	0.41
26:D3:209:U:H2'	26:D3:210:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:239:C:H6	26:D3:239:C:H2'	1.65	0.41
26:D3:491:C:H42	26:D3:496:G:H1	1.69	0.41
26:D3:525:A:C6	26:D3:526:A:C6	3.08	0.41
26:D3:958:U:O4	34:DN:12:SER:C	2.59	0.41
26:D3:1175:U:H2'	26:D3:1176:G:H8	1.85	0.41
26:D3:1603:U:H2'	26:D3:1604:U:H6	1.86	0.41
1:UA:149:ILE:HA	1:UA:165:SER:HA	2.03	0.41
26:D3:93:A:C5	26:D3:398:G:C5	3.09	0.41
26:D3:413:U:C2	26:D3:414:C:C6	3.08	0.41
26:D3:472:U:C4'	26:D3:770:A:H1'	2.50	0.41
26:D3:763:G:C6	26:D3:764:U:C4	3.09	0.41
6:US:198:GLU:O	6:US:202:LEU:N	2.30	0.41
14:CN:86:GLU:O	14:CN:127:LYS:N	2.49	0.41
26:D3:538:A:C4'	26:D3:543:C:N3	2.82	0.41
26:D3:991:G:H4'	26:D3:1786:G:O2'	2.21	0.41
26:D3:1029:U:O2'	26:D3:1031:U:C6	2.54	0.41
26:D3:1494:C:C2	26:D3:1495:C:C5	3.07	0.41
4:UL:164:ASP:O	26:D3:1751:C:H4'	2.21	0.41
5:UM:784:ALA:HB1	11:CK:496:TYR:CB	2.51	0.41
19:JJ:219:ALA:HB1	19:JJ:267:ALA:HB2	2.03	0.41
26:D3:71:A:H2'	26:D3:72:A:O4'	2.20	0.41
26:D3:750:U:HO2'	26:D3:751:G:H5'	1.78	0.41
26:D3:848:C:H2'	26:D3:849:C:C6	2.56	0.41
5:UM:26:SER:CB	5:UM:71:PRO:O	2.68	0.41
10:CJ:280:PHE:H	26:D3:564:G:HO2'	1.67	0.41
19:JJ:209:ASP:CA	26:D3:1796:C:O4'	2.67	0.41
26:D3:40:A:C2'	26:D3:41:A:H8	2.26	0.41
26:D3:42:G:O6	26:D3:378:A:N6	2.54	0.41
26:D3:88:U:H4'	26:D3:171:A:O4'	2.21	0.41
26:D3:275:C:N3	26:D3:276:C:N4	2.66	0.41
26:D3:702:G:C2	26:D3:703:G:H1'	2.55	0.41
26:D3:1174:C:C5	26:D3:1466:G:N2	2.86	0.41
26:D3:1177:C:N3	26:D3:1462:G:N1	2.65	0.41
26:D3:1180:C:H1'	26:D3:1460:A:C6	2.56	0.41
26:D3:1477:G:C2	26:D3:1531:G:N3	2.88	0.41
26:D3:1491:U:H4'	26:D3:1492:A:C4'	2.51	0.41
29:DG:63:MET:HA	29:DG:98:ARG:O	2.20	0.41
6:US:495:MET:O	6:US:499:LEU:N	2.53	0.41
12:CL:50:ASN:O	12:CL:52:ARG:N	2.54	0.41
19:JJ:95:GLU:O	19:JJ:140:ARG:HA	2.20	0.41
26:D3:3:U:H2'	26:D3:4:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:639:U:OP2	26:D3:639:U:H4'	2.21	0.41
26:D3:702:G:N2	26:D3:703:G:H1'	2.36	0.41
26:D3:956:C:OP1	26:D3:1073:G:H5'	2.20	0.41
26:D3:1000:C:O2'	26:D3:1001:A:C8	2.71	0.41
26:D3:1039:A:O2'	26:D3:1040:G:P	2.79	0.41
26:D3:1129:U:O2	26:D3:1129:U:C2'	2.69	0.41
26:D3:1605:G:C2'	26:D3:1606:C:H6	2.31	0.41
35:DO:126:THR:O	35:DO:127:ARG:C	2.59	0.41
19:JJ:209:ASP:HA	26:D3:1796:C:C5'	2.38	0.41
26:D3:93:A:C5	26:D3:398:G:C4	3.09	0.41
26:D3:301:A:H2'	26:D3:302:U:O4'	2.21	0.41
26:D3:548:G:O2'	26:D3:597:G:H4'	2.20	0.41
26:D3:780:A:H1'	39:DY:9:THR:N	2.36	0.41
26:D3:821:U:C5	26:D3:853:G:N2	2.89	0.41
26:D3:959:U:O2	26:D3:959:U:H2'	2.21	0.41
26:D3:1604:U:O2'	26:D3:1605:G:O4'	2.32	0.41
27:DA:71:ALA:HB2	27:DA:79:HIS:O	2.21	0.41
36:DZ:36:ALA:N	36:DZ:37:GLN:CA	2.84	0.41
5:UM:351:ASN:O	5:UM:367:VAL:CA	2.66	0.40
11:CK:332:ALA:HB2	12:CL:951:MET:O	2.19	0.40
15:JD:1189:THR:O	15:JD:1216:ARG:CA	2.66	0.40
23:DT:39:THR:O	23:DT:96:ALA:HB1	2.22	0.40
26:D3:395:U:C4'	29:DG:90:GLY:HA3	2.50	0.40
26:D3:794:U:C2'	26:D3:795:U:O2	2.69	0.40
26:D3:830:U:O2'	26:D3:831:U:OP2	2.31	0.40
26:D3:992:A:C8	26:D3:1777:G:C1'	3.01	0.40
26:D3:1491:U:H4'	26:D3:1492:A:C5'	2.51	0.40
26:D3:1790:A:H2'	26:D3:1791:A:H5'	1.97	0.40
6:US:261:TRP:O	6:US:265:LEU:N	2.40	0.40
22:DS:11:PHE:CB	36:DZ:72:GLY:CA	2.89	0.40
23:DT:74:GLY:CA	26:D3:1498:G:P	3.09	0.40
26:D3:93:A:N6	26:D3:398:G:C5	2.88	0.40
26:D3:240:U:H1'	26:D3:241:U:P	2.61	0.40
26:D3:685:A:O2'	26:D3:686:C:H5'	2.21	0.40
26:D3:710:U:H2'	26:D3:711:U:H5'	2.02	0.40
26:D3:1122:G:C2	41:D4:4:G:N2	2.89	0.40
26:D3:1176:G:C2	26:D3:1464:G:C2	3.05	0.40
27:DA:77:GLU:C	27:DA:79:HIS:N	2.74	0.40
27:DA:117:TRP:O	27:DA:153:HIS:O	2.39	0.40
14:CN:14:ILE:O	14:CN:38:PHE:CA	2.45	0.40
26:D3:435:C:O2	26:D3:435:C:H2'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:D3:900:A:C1'	26:D3:915:A:C2	2.98	0.40
31:DI:9:HIS:O	31:DI:10:LYS:CB	2.68	0.40
5:UM:115:THR:O	5:UM:130:ASP:CA	2.70	0.40
26:D3:9:U:O2'	26:D3:11:A:H5"	2.21	0.40
26:D3:189:C:H2'	26:D3:190:C:H5'	2.04	0.40
26:D3:288:A:H2'	26:D3:289:U:O4'	2.20	0.40
26:D3:498:G:O2'	26:D3:499:U:O5'	2.34	0.40
26:D3:819:G:O6	26:D3:853:G:C5	2.74	0.40
26:D3:953:G:H2'	26:D3:954:G:C8	2.56	0.40
26:D3:956:C:OP2	34:DN:10:GLY:HA3	2.22	0.40
26:D3:1119:G:H2'	26:D3:1120:U:C6	2.56	0.40
26:D3:1135:U:O2'	26:D3:1136:U:OP2	2.35	0.40
26:D3:1486:G:N3	26:D3:1486:G:H2'	2.37	0.40
26:D3:1595:U:O2	26:D3:1595:U:C2'	2.69	0.40
41:D4:17:G:O2'	41:D4:18:G:O5'	2.40	0.40
1:UA:498:ARG:HA	1:UA:511:PRO:HA	2.02	0.40
26:D3:113:U:H4'	26:D3:115:G:OP1	2.22	0.40
26:D3:320:U:O2	26:D3:320:U:C2'	2.70	0.40
26:D3:498:G:C5	26:D3:499:U:O4	2.74	0.40
26:D3:538:A:O4'	26:D3:543:C:N3	2.55	0.40
26:D3:609:U:H4'	26:D3:610:G:O5'	2.22	0.40
26:D3:1474:G:H2'	26:D3:1475:A:H8	1.87	0.40
26:D3:1541:G:C5	26:D3:1542:G:C6	3.09	0.40
26:D3:1568:C:H6	26:D3:1568:C:H2'	1.73	0.40
36:DZ:91:PRO:O	36:DZ:99:ALA:HA	2.21	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	UA	786/923 (85%)	752 (96%)	32 (4%)	2 (0%)	41 76

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	UB	362/810 (45%)	347 (96%)	14 (4%)	1 (0%)	41 76
3	UC	45/610 (7%)	45 (100%)	0	0	100 100
4	UL	763/943 (81%)	712 (93%)	51 (7%)	0	100 100
5	UM	748/817 (92%)	698 (93%)	40 (5%)	10 (1%)	12 48
6	US	493/552 (89%)	470 (95%)	21 (4%)	2 (0%)	34 72
7	UU	870/939 (93%)	823 (95%)	45 (5%)	2 (0%)	47 81
8	UV	1079/1237 (87%)	1011 (94%)	68 (6%)	0	100 100
9	CI	155/183 (85%)	145 (94%)	8 (5%)	2 (1%)	12 48
10	CJ	217/290 (75%)	193 (89%)	24 (11%)	0	100 100
11	CK	213/593 (36%)	206 (97%)	4 (2%)	3 (1%)	11 46
12	CL	683/1183 (58%)	643 (94%)	36 (5%)	4 (1%)	25 65
13	CM	358/367 (98%)	344 (96%)	14 (4%)	0	100 100
14	CN	178/297 (60%)	169 (95%)	9 (5%)	0	100 100
15	JD	787/1267 (62%)	723 (92%)	52 (7%)	12 (2%)	10 46
16	JF	212/252 (84%)	208 (98%)	4 (2%)	0	100 100
16	JG	217/252 (86%)	211 (97%)	6 (3%)	0	100 100
17	JH	257/483 (53%)	252 (98%)	5 (2%)	0	100 100
18	JL	281/318 (88%)	267 (95%)	10 (4%)	4 (1%)	11 46
19	JJ	179/274 (65%)	167 (93%)	10 (6%)	2 (1%)	14 52
20	DF	211/225 (94%)	198 (94%)	13 (6%)	0	100 100
21	DQ	123/143 (86%)	111 (90%)	12 (10%)	0	100 100
22	DS	75/146 (51%)	68 (91%)	6 (8%)	1 (1%)	12 48
23	DT	141/144 (98%)	127 (90%)	13 (9%)	1 (1%)	22 62
24	Dc	61/67 (91%)	57 (93%)	4 (7%)	0	100 100
27	DA	212/255 (83%)	171 (81%)	18 (8%)	23 (11%)	0 8
28	DE	258/261 (99%)	223 (86%)	25 (10%)	10 (4%)	3 26
29	DG	224/236 (95%)	202 (90%)	16 (7%)	6 (3%)	5 33
30	DH	182/190 (96%)	147 (81%)	22 (12%)	13 (7%)	1 16
31	DI	184/200 (92%)	163 (89%)	10 (5%)	11 (6%)	1 19
32	DJ	183/197 (93%)	161 (88%)	15 (8%)	7 (4%)	3 26
33	DL	153/156 (98%)	126 (82%)	17 (11%)	10 (6%)	1 18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
34	DN	148/151 (98%)	133 (90%)	12 (8%)	3 (2%)	7 39
35	DO	125/137 (91%)	95 (76%)	17 (14%)	13 (10%)	0 9
36	DZ	65/108 (60%)	28 (43%)	21 (32%)	16 (25%)	0 1
37	DW	127/130 (98%)	114 (90%)	12 (9%)	1 (1%)	19 60
38	DX	136/145 (94%)	120 (88%)	12 (9%)	4 (3%)	4 31
39	DY	132/135 (98%)	110 (83%)	14 (11%)	8 (6%)	1 18
40	Db	79/82 (96%)	62 (78%)	12 (15%)	5 (6%)	1 18
All	All	11702/15698 (74%)	10802 (92%)	724 (6%)	176 (2%)	14 46

All (176) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	UM	218	ASP
6	US	75	PRO
15	JD	1240	LYS
18	JL	232	VAL
23	DT	34	VAL
27	DA	49	ASN
27	DA	79	HIS
27	DA	132	ASP
27	DA	148	ASN
27	DA	181	LEU
27	DA	206	PRO
27	DA	221	PRO
28	DE	164	LEU
28	DE	195	ILE
28	DE	223	ASN
29	DG	122	GLU
29	DG	173	PRO
30	DH	32	PRO
30	DH	64	VAL
30	DH	111	LYS
30	DH	112	ARG
30	DH	116	ARG
30	DH	155	ASP
31	DI	22	ARG
31	DI	152	ILE
31	DI	153	GLU
32	DJ	98	ALA
32	DJ	134	ILE

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Mol	Chain	Res	Type
32	DJ	150	LEU
33	DL	7	VAL
33	DL	29	LYS
34	DN	22	ALA
35	DO	50	ALA
35	DO	124	ASP
35	DO	125	SER
35	DO	126	THR
36	DZ	42	LEU
36	DZ	57	TYR
36	DZ	71	ILE
36	DZ	85	LYS
36	DZ	88	ILE
36	DZ	90	LYS
36	DZ	91	PRO
36	DZ	97	LYS
37	DW	83	ILE
38	DX	3	LYS
38	DX	90	ASP
39	DY	6	THR
40	Db	62	ILE
1	UA	168	LEU
5	UM	31	ILE
5	UM	467	ILE
5	UM	513	LYS
5	UM	531	ASN
11	CK	480	GLN
12	CL	198	VAL
15	JD	483	ALA
15	JD	1102	ASP
18	JL	237	THR
19	JJ	228	ASP
27	DA	51	SER
27	DA	93	GLY
27	DA	223	PHE
28	DE	12	LEU
28	DE	222	LEU
29	DG	152	ASP
29	DG	174	LYS
30	DH	30	SER
30	DH	73	VAL
30	DH	85	PHE

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Mol	Chain	Res	Type
30	DH	98	ILE
30	DH	156	SER
31	DI	59	ARG
31	DI	105	ASP
31	DI	120	THR
32	DJ	169	PRO
33	DL	4	GLU
33	DL	145	ALA
33	DL	154	ALA
34	DN	12	SER
35	DO	42	VAL
35	DO	51	ASP
35	DO	110	LEU
35	DO	123	SER
36	DZ	41	ILE
36	DZ	66	VAL
36	DZ	86	GLU
38	DX	8	GLY
39	DY	4	ALA
39	DY	36	SER
39	DY	60	PHE
40	Db	60	SER
40	Db	75	GLU
5	UM	35	PRO
5	UM	295	PRO
5	UM	460	ASP
5	UM	493	ASP
15	JD	578	PRO
19	JJ	227	ALA
27	DA	26	ARG
27	DA	78	ASP
27	DA	147	ALA
28	DE	77	ARG
28	DE	245	LYS
29	DG	70	PRO
30	DH	31	SER
30	DH	84	LYS
31	DI	9	HIS
31	DI	40	ALA
31	DI	199	LYS
32	DJ	164	PHE
33	DL	3	THR

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Mol	Chain	Res	Type
33	DL	55	ASP
33	DL	153	PHE
35	DO	40	ALA
35	DO	74	VAL
36	DZ	59	TYR
36	DZ	75	LEU
36	DZ	80	LEU
39	DY	34	ASN
39	DY	58	PHE
39	DY	133	ASN
40	Db	38	PRO
5	UM	527	ALA
6	US	36	ILE
7	UU	735	LEU
9	CI	37	HIS
11	CK	344	GLU
15	JD	487	THR
15	JD	1119	PRO
18	JL	134	SER
27	DA	22	ASP
27	DA	54	LEU
27	DA	55	LYS
27	DA	156	ALA
27	DA	158	SER
27	DA	209	ASN
28	DE	157	ASN
28	DE	193	GLY
29	DG	165	GLY
31	DI	10	LYS
31	DI	52	ASN
34	DN	106	ARG
35	DO	18	ARG
35	DO	86	THR
35	DO	114	ARG
36	DZ	84	GLU
39	DY	5	VAL
40	Db	63	LEU
12	CL	51	GLU
12	CL	309	PRO
12	CL	950	ASP
18	JL	146	ARG
27	DA	81	PHE

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Mol	Chain	Res	Type
27	DA	82	ARG
32	DJ	99	LEU
32	DJ	163	PRO
38	DX	101	GLU
1	UA	511	PRO
7	UU	812	GLY
15	JD	479	PHE
15	JD	577	ALA
15	JD	1149	PRO
15	JD	1205	SER
27	DA	210	ILE
28	DE	233	LYS
33	DL	5	LEU
33	DL	6	THR
9	CI	140	PRO
11	CK	471	THR
15	JD	722	GLY
36	DZ	40	VAL
2	UB	399	HIS
27	DA	48	VAL
15	JD	1060	VAL
22	DS	14	ILE

5.3.2 Protein sidechains (i)

There are no protein residues with a non-rotameric sidechain to report in this entry.

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
25	D2	19/20 (95%)	4 (21%)	0
26	D3	1387/1758 (78%)	489 (35%)	148 (10%)
41	D4	34/35 (97%)	8 (23%)	4 (11%)
All	All	1440/1813 (79%)	501 (34%)	152 (10%)

All (501) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
25	D2	289	U
25	D2	294	U
25	D2	295	A

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Mol	Chain	Res	Type
25	D2	297	U
26	D3	2	A
26	D3	3	U
26	D3	4	C
26	D3	5	U
26	D3	6	G
26	D3	7	G
26	D3	8	U
26	D3	9	U
26	D3	10	G
26	D3	11	A
26	D3	17	C
26	D3	18	C
26	D3	25	C
26	D3	26	A
26	D3	27	U
26	D3	33	U
26	D3	34	G
26	D3	40	A
26	D3	41	A
26	D3	42	G
26	D3	43	A
26	D3	44	U
26	D3	45	U
26	D3	46	A
26	D3	47	A
26	D3	57	G
26	D3	60	U
26	D3	67	A
26	D3	68	A
26	D3	69	G
26	D3	72	A
26	D3	73	U
26	D3	74	U
26	D3	75	U
26	D3	100	A
26	D3	103	A
26	D3	104	A
26	D3	114	C
26	D3	130	C
26	D3	131	C
26	D3	132	U

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Mol	Chain	Res	Type
26	D3	133	U
26	D3	134	U
26	D3	135	A
26	D3	136	C
26	D3	137	U
26	D3	140	A
26	D3	141	U
26	D3	144	U
26	D3	145	A
26	D3	146	U
26	D3	158	U
26	D3	159	U
26	D3	175	G
26	D3	178	U
26	D3	179	A
26	D3	185	U
26	D3	186	C
26	D3	187	G
26	D3	190	C
26	D3	191	C
26	D3	192	U
26	D3	193	U
26	D3	194	U
26	D3	195	G
26	D3	196	G
26	D3	197	A
26	D3	198	A
26	D3	200	A
26	D3	215	A
26	D3	217	A
26	D3	218	A
26	D3	219	A
26	D3	226	A
26	D3	227	U
26	D3	228	G
26	D3	229	U
26	D3	231	U
26	D3	233	C
26	D3	234	G
26	D3	235	G
26	D3	238	U
26	D3	239	C

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Mol	Chain	Res	Type
26	D3	240	U
26	D3	241	U
26	D3	250	C
26	D3	251	A
26	D3	260	U
26	D3	261	U
26	D3	265	A
26	D3	266	A
26	D3	271	A
26	D3	272	U
26	D3	274	G
26	D3	275	C
26	D3	277	U
26	D3	278	U
26	D3	279	G
26	D3	280	U
26	D3	281	G
26	D3	288	A
26	D3	290	G
26	D3	299	A
26	D3	309	C
26	D3	310	C
26	D3	314	C
26	D3	315	A
26	D3	316	A
26	D3	319	U
26	D3	320	U
26	D3	321	C
26	D3	322	G
26	D3	337	G
26	D3	338	C
26	D3	352	A
26	D3	359	A
26	D3	360	A
26	D3	361	C
26	D3	367	A
26	D3	387	A
26	D3	388	G
26	D3	390	G
26	D3	400	A
26	D3	401	A
26	D3	402	C

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Mol	Chain	Res	Type
26	D3	404	G
26	D3	416	A
26	D3	418	G
26	D3	424	C
26	D3	425	A
26	D3	426	G
26	D3	428	A
26	D3	433	C
26	D3	434	G
26	D3	435	C
26	D3	436	A
26	D3	437	A
26	D3	438	A
26	D3	439	U
26	D3	444	C
26	D3	446	A
26	D3	448	C
26	D3	460	A
26	D3	467	G
26	D3	468	A
26	D3	469	C
26	D3	470	A
26	D3	474	A
26	D3	475	A
26	D3	477	A
26	D3	480	G
26	D3	484	C
26	D3	485	A
26	D3	486	G
26	D3	488	G
26	D3	493	U
26	D3	494	U
26	D3	495	C
26	D3	496	G
26	D3	497	G
26	D3	498	G
26	D3	499	U
26	D3	500	C
26	D3	502	U
26	D3	504	U
26	D3	505	A
26	D3	506	A

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Mol	Chain	Res	Type
26	D3	507	U
26	D3	508	U
26	D3	510	G
26	D3	511	A
26	D3	512	A
26	D3	513	U
26	D3	515	A
26	D3	516	G
26	D3	527	A
26	D3	528	U
26	D3	532	U
26	D3	536	C
26	D3	538	A
26	D3	539	G
26	D3	540	G
26	D3	541	A
26	D3	542	A
26	D3	543	C
26	D3	544	A
26	D3	545	A
26	D3	546	U
26	D3	548	G
26	D3	549	G
26	D3	552	G
26	D3	555	A
26	D3	557	G
26	D3	564	G
26	D3	565	C
26	D3	570	A
26	D3	572	C
26	D3	573	C
26	D3	574	G
26	D3	576	G
26	D3	579	A
26	D3	580	A
26	D3	582	U
26	D3	583	C
26	D3	584	C
26	D3	585	A
26	D3	586	G
26	D3	587	C
26	D3	589	C

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Mol	Chain	Res	Type
26	D3	590	C
26	D3	593	U
26	D3	594	A
26	D3	595	G
26	D3	601	A
26	D3	602	U
26	D3	611	U
26	D3	617	U
26	D3	618	U
26	D3	619	A
26	D3	620	A
26	D3	621	A
26	D3	622	A
26	D3	623	A
26	D3	624	G
26	D3	639	U
26	D3	640	U
26	D3	645	C
26	D3	650	U
26	D3	653	C
26	D3	654	C
26	D3	655	G
26	D3	656	G
26	D3	657	U
26	D3	658	C
26	D3	677	G
26	D3	679	U
26	D3	680	U
26	D3	682	C
26	D3	684	A
26	D3	685	A
26	D3	686	C
26	D3	693	U
26	D3	694	U
26	D3	696	C
26	D3	697	C
26	D3	700	C
26	D3	701	U
26	D3	702	G
26	D3	703	G
26	D3	704	C
26	D3	705	U

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Mol	Chain	Res	Type
26	D3	707	A
26	D3	709	C
26	D3	710	U
26	D3	712	G
26	D3	713	A
26	D3	714	G
26	D3	717	C
26	D3	718	U
26	D3	719	U
26	D3	721	U
26	D3	722	G
26	D3	723	G
26	D3	725	U
26	D3	727	U
26	D3	728	U
26	D3	730	G
26	D3	731	C
26	D3	732	G
26	D3	733	A
26	D3	734	A
26	D3	735	C
26	D3	736	C
26	D3	737	A
26	D3	738	G
26	D3	742	U
26	D3	751	G
26	D3	752	A
26	D3	753	A
26	D3	754	A
26	D3	755	A
26	D3	756	A
26	D3	757	A
26	D3	765	G
26	D3	766	U
26	D3	774	A
26	D3	775	G
26	D3	778	G
26	D3	779	U
26	D3	780	A
26	D3	781	U
26	D3	782	U
26	D3	783	G

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Mol	Chain	Res	Type
26	D3	784	C
26	D3	788	A
26	D3	789	A
26	D3	793	A
26	D3	794	U
26	D3	795	U
26	D3	811	A
26	D3	812	A
26	D3	815	G
26	D3	816	G
26	D3	818	C
26	D3	819	G
26	D3	820	U
26	D3	821	U
26	D3	822	U
26	D3	823	G
26	D3	829	A
26	D3	830	U
26	D3	831	U
26	D3	833	U
26	D3	837	G
26	D3	840	U
26	D3	846	G
26	D3	856	A
26	D3	860	U
26	D3	862	A
26	D3	863	A
26	D3	864	U
26	D3	876	G
26	D3	883	C
26	D3	886	U
26	D3	898	A
26	D3	912	U
26	D3	913	G
26	D3	914	G
26	D3	915	A
26	D3	916	U
26	D3	933	A
26	D3	934	C
26	D3	935	U
26	D3	936	G
26	D3	942	G

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Mol	Chain	Res	Type
26	D3	959	U
26	D3	960	U
26	D3	961	U
26	D3	966	A
26	D3	974	A
26	D3	977	A
26	D3	992	A
26	D3	993	A
26	D3	995	A
26	D3	998	A
26	D3	999	U
26	D3	1000	C
26	D3	1001	A
26	D3	1002	G
26	D3	1003	A
26	D3	1004	U
26	D3	1005	A
26	D3	1006	C
26	D3	1007	C
26	D3	1020	A
26	D3	1021	C
26	D3	1022	C
26	D3	1023	A
26	D3	1024	U
26	D3	1026	A
26	D3	1028	C
26	D3	1029	U
26	D3	1030	A
26	D3	1031	U
26	D3	1032	G
26	D3	1034	C
26	D3	1036	A
26	D3	1039	A
26	D3	1040	G
26	D3	1052	U
26	D3	1053	G
26	D3	1058	U
26	D3	1059	U
26	D3	1060	U
26	D3	1061	A
26	D3	1074	G
26	D3	1079	U

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Mol	Chain	Res	Type
26	D3	1080	U
26	D3	1081	A
26	D3	1082	C
26	D3	1083	G
26	D3	1086	A
26	D3	1087	A
26	D3	1091	A
26	D3	1092	A
26	D3	1095	U
26	D3	1096	C
26	D3	1097	U
26	D3	1098	U
26	D3	1099	U
26	D3	1100	G
26	D3	1101	G
26	D3	1109	G
26	D3	1110	G
26	D3	1111	G
26	D3	1113	A
26	D3	1116	A
26	D3	1118	G
26	D3	1119	G
26	D3	1121	C
26	D3	1122	G
26	D3	1124	A
26	D3	1128	C
26	D3	1129	U
26	D3	1130	A
26	D3	1131	A
26	D3	1136	U
26	D3	1144	U
26	D3	1146	G
26	D3	1158	C
26	D3	1160	A
26	D3	1167	G
26	D3	1169	G
26	D3	1170	G
26	D3	1461	C
26	D3	1469	A
26	D3	1471	A
26	D3	1473	U
26	D3	1481	C

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Mol	Chain	Res	Type
26	D3	1482	C
26	D3	1486	G
26	D3	1487	A
26	D3	1489	U
26	D3	1490	C
26	D3	1491	U
26	D3	1492	A
26	D3	1493	A
26	D3	1504	G
26	D3	1506	G
26	D3	1514	U
26	D3	1515	A
26	D3	1516	A
26	D3	1521	G
26	D3	1523	G
26	D3	1524	A
26	D3	1531	G
26	D3	1535	U
26	D3	1536	G
26	D3	1537	C
26	D3	1538	U
26	D3	1540	G
26	D3	1554	U
26	D3	1557	U
26	D3	1559	A
26	D3	1569	A
26	D3	1574	G
26	D3	1582	U
26	D3	1584	G
26	D3	1590	G
26	D3	1594	G
26	D3	1595	U
26	D3	1596	C
26	D3	1597	A
26	D3	1599	C
26	D3	1600	A
26	D3	1601	G
26	D3	1602	C
26	D3	1603	U
26	D3	1605	G
26	D3	1615	C
26	D3	1618	C

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Mol	Chain	Res	Type
26	D3	1619	C
26	D3	1621	U
26	D3	1628	U
26	D3	1629	G
26	D3	1630	U
26	D3	1631	A
26	D3	1632	C
26	D3	1633	A
26	D3	1639	C
26	D3	1640	C
26	D3	1645	G
26	D3	1772	C
26	D3	1773	C
26	D3	1779	U
26	D3	1780	G
26	D3	1781	A
26	D3	1782	A
26	D3	1783	C
26	D3	1791	A
26	D3	1792	G
26	D3	1793	G
26	D3	1794	A
26	D3	1795	U
26	D3	1799	U
26	D3	1801	A
26	D3	1802	A
26	D3	1803	G
26	D3	1804	A
41	D4	2	U
41	D4	3	C
41	D4	6	C
41	D4	13	C
41	D4	14	A
41	D4	17	G
41	D4	61	G
41	D4	63	C

All (152) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
26	D3	1	U
26	D3	2	A

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Mol	Chain	Res	Type
26	D3	3	U
26	D3	7	G
26	D3	8	U
26	D3	9	U
26	D3	10	G
26	D3	24	U
26	D3	25	C
26	D3	40	A
26	D3	41	A
26	D3	42	G
26	D3	43	A
26	D3	44	U
26	D3	45	U
26	D3	46	A
26	D3	68	A
26	D3	73	U
26	D3	74	U
26	D3	93	A
26	D3	103	A
26	D3	130	C
26	D3	131	C
26	D3	132	U
26	D3	139	C
26	D3	144	U
26	D3	158	U
26	D3	218	A
26	D3	240	U
26	D3	278	U
26	D3	280	U
26	D3	315	A
26	D3	320	U
26	D3	321	C
26	D3	352	A
26	D3	359	A
26	D3	387	A
26	D3	400	A
26	D3	417	A
26	D3	432	G
26	D3	433	C
26	D3	434	G
26	D3	435	C
26	D3	436	A

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Mol	Chain	Res	Type
26	D3	437	A
26	D3	438	A
26	D3	467	G
26	D3	468	A
26	D3	474	A
26	D3	475	A
26	D3	497	G
26	D3	498	G
26	D3	499	U
26	D3	501	U
26	D3	503	G
26	D3	510	G
26	D3	512	A
26	D3	541	A
26	D3	544	A
26	D3	545	A
26	D3	579	A
26	D3	589	C
26	D3	593	U
26	D3	594	A
26	D3	617	U
26	D3	618	U
26	D3	619	A
26	D3	620	A
26	D3	621	A
26	D3	685	A
26	D3	704	C
26	D3	720	G
26	D3	721	U
26	D3	734	A
26	D3	752	A
26	D3	754	A
26	D3	755	A
26	D3	757	A
26	D3	765	G
26	D3	782	U
26	D3	793	A
26	D3	794	U
26	D3	811	A
26	D3	829	A
26	D3	882	U
26	D3	933	A

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Mol	Chain	Res	Type
26	D3	934	C
26	D3	1000	C
26	D3	1001	A
26	D3	1002	G
26	D3	1003	A
26	D3	1004	U
26	D3	1005	A
26	D3	1006	C
26	D3	1022	C
26	D3	1023	A
26	D3	1028	C
26	D3	1029	U
26	D3	1030	A
26	D3	1031	U
26	D3	1032	G
26	D3	1051	G
26	D3	1058	U
26	D3	1081	A
26	D3	1082	C
26	D3	1091	A
26	D3	1092	A
26	D3	1095	U
26	D3	1096	C
26	D3	1097	U
26	D3	1098	U
26	D3	1099	U
26	D3	1100	G
26	D3	1109	G
26	D3	1110	G
26	D3	1115	U
26	D3	1120	U
26	D3	1128	C
26	D3	1129	U
26	D3	1130	A
26	D3	1131	A
26	D3	1135	U
26	D3	1169	G
26	D3	1468	U
26	D3	1469	A
26	D3	1481	C
26	D3	1489	U
26	D3	1491	U

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Mol	Chain	Res	Type
26	D3	1492	A
26	D3	1535	U
26	D3	1568	C
26	D3	1573	A
26	D3	1590	G
26	D3	1594	G
26	D3	1595	U
26	D3	1596	C
26	D3	1597	A
26	D3	1599	C
26	D3	1600	A
26	D3	1601	G
26	D3	1620	C
26	D3	1632	C
26	D3	1779	U
26	D3	1780	G
26	D3	1781	A
26	D3	1782	A
26	D3	1800	A
26	D3	1802	A
41	D4	1	G
41	D4	2	U
41	D4	13	C
41	D4	16	A

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 1 ligands modelled in this entry, 1 is monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
41	D4	2

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	D4	21:C	O3'	60:A	P	58.94
1	D4	14:A	O3'	16:A	P	3.64

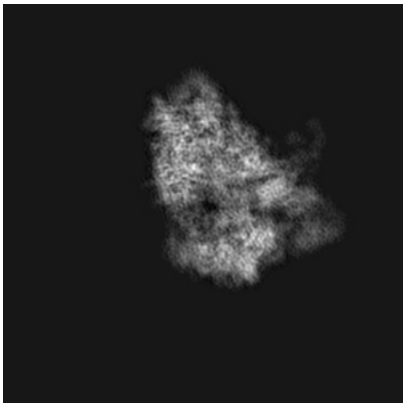
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-11362. These allow visual inspection of the internal detail of the map and identification of artifacts.

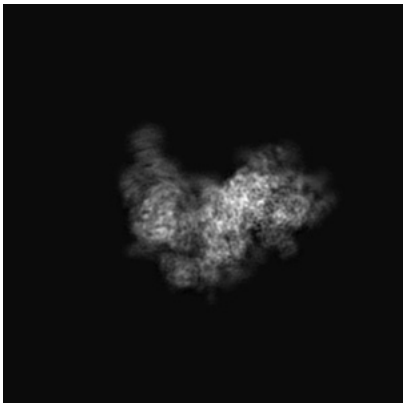
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

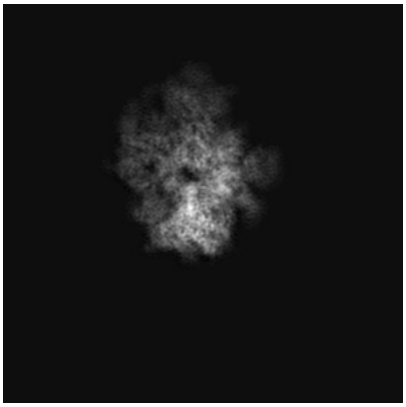
6.1.1 Primary map



X



Y

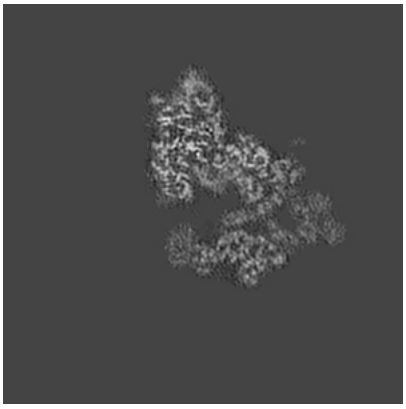


Z

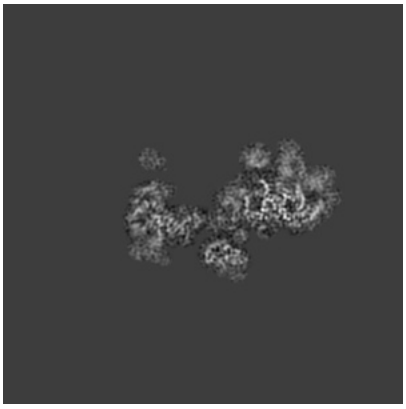
The images above show the map projected in three orthogonal directions.

6.2 Central slices

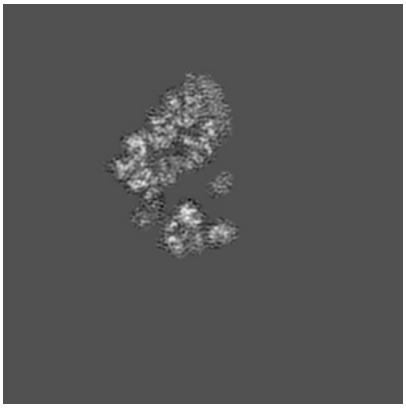
6.2.1 Primary map



X Index: 240



Y Index: 240

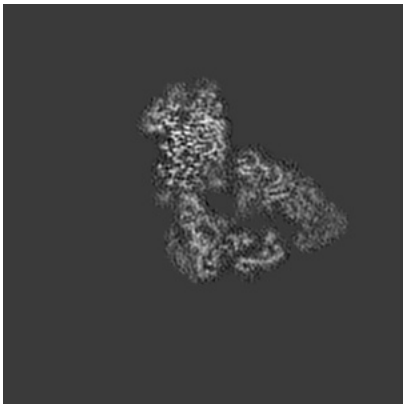


Z Index: 240

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

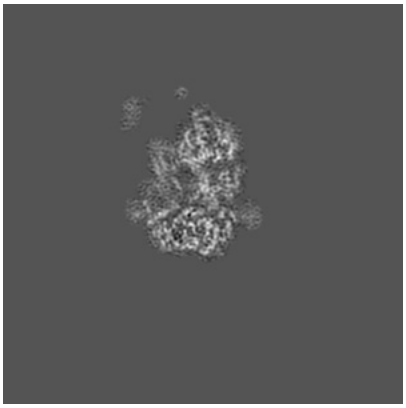
6.3 Largest variance slices (i)

6.3.1 Primary map



X Index: 224

Y Index: 219



Z Index: 285

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

6.4 Orthogonal surface views (i)

6.4.1 Primary map

X

Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

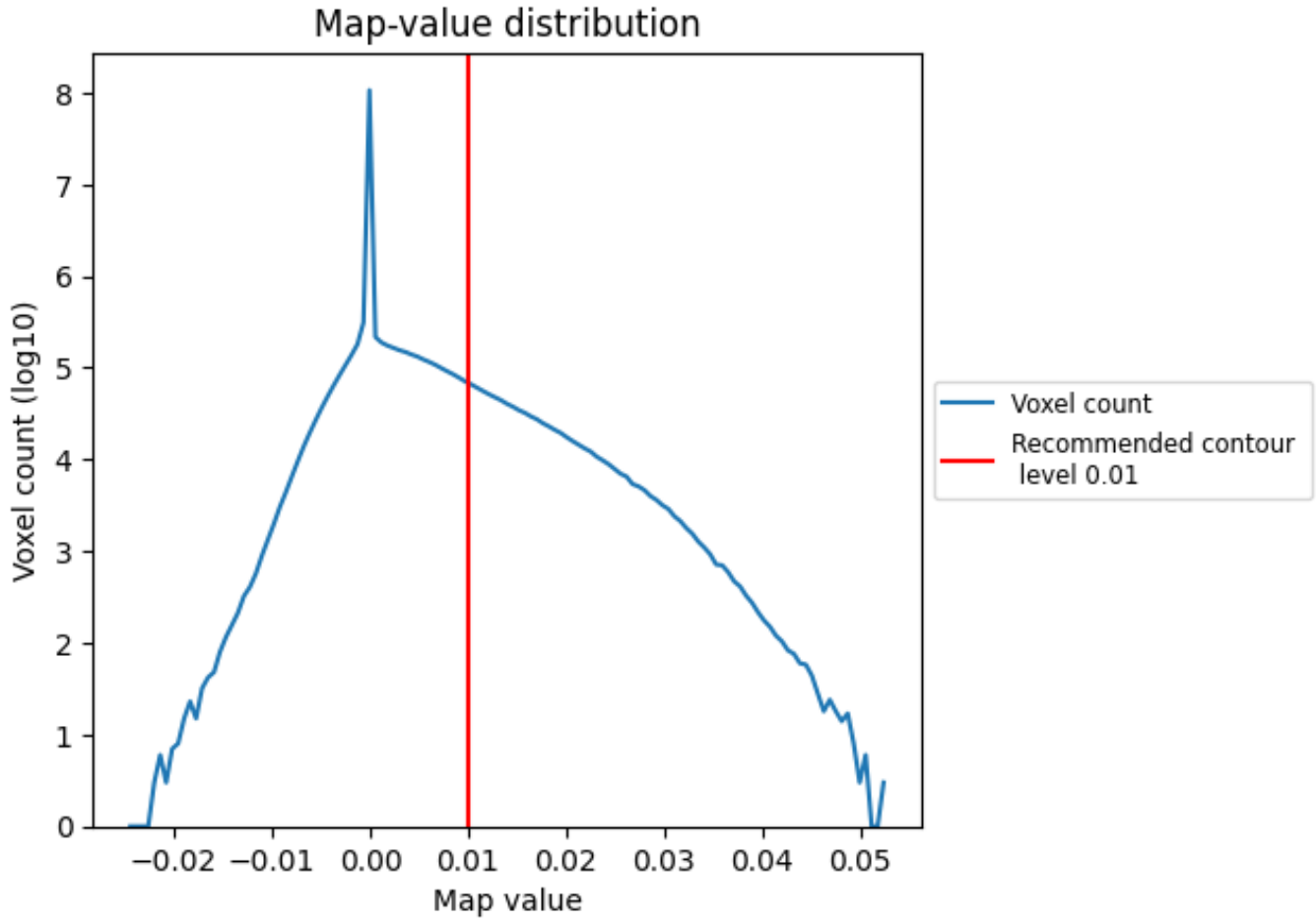
6.5 Mask visualisation (i)

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

7 Map analysis

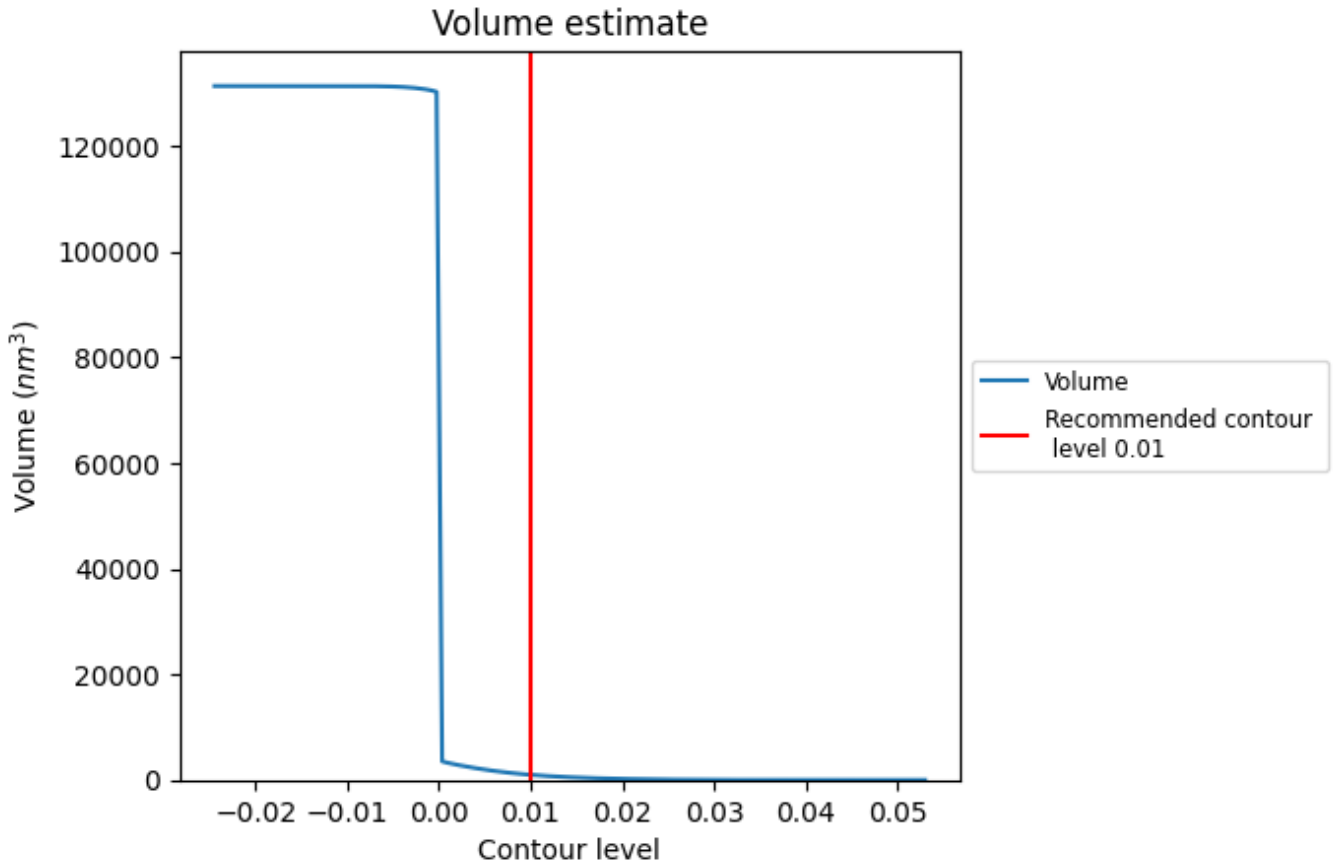
This section contains the results of statistical analysis of the map.

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.

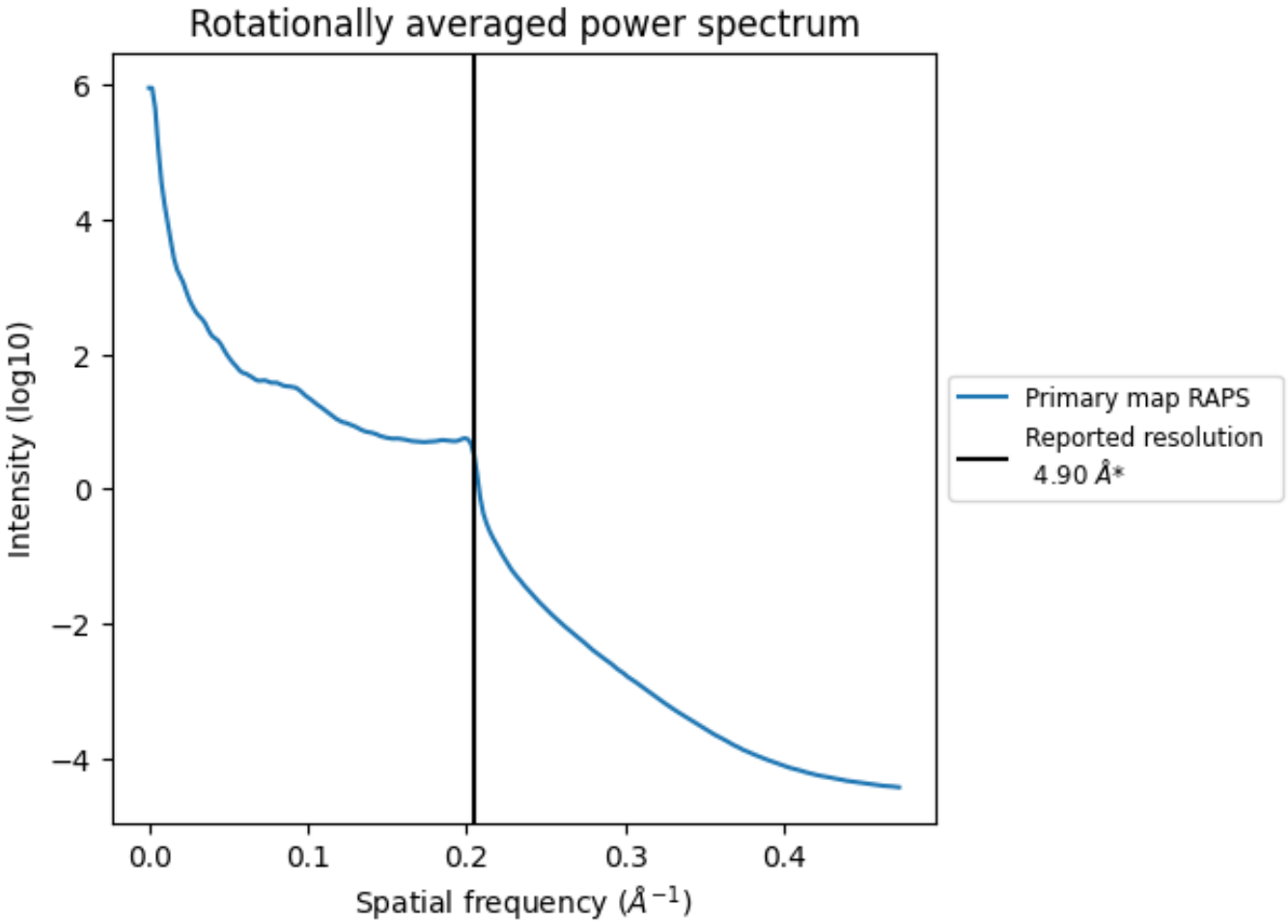
7.2 Volume estimate



The volume at the recommended contour level is 976 nm^3; this corresponds to an approximate mass of 881 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)

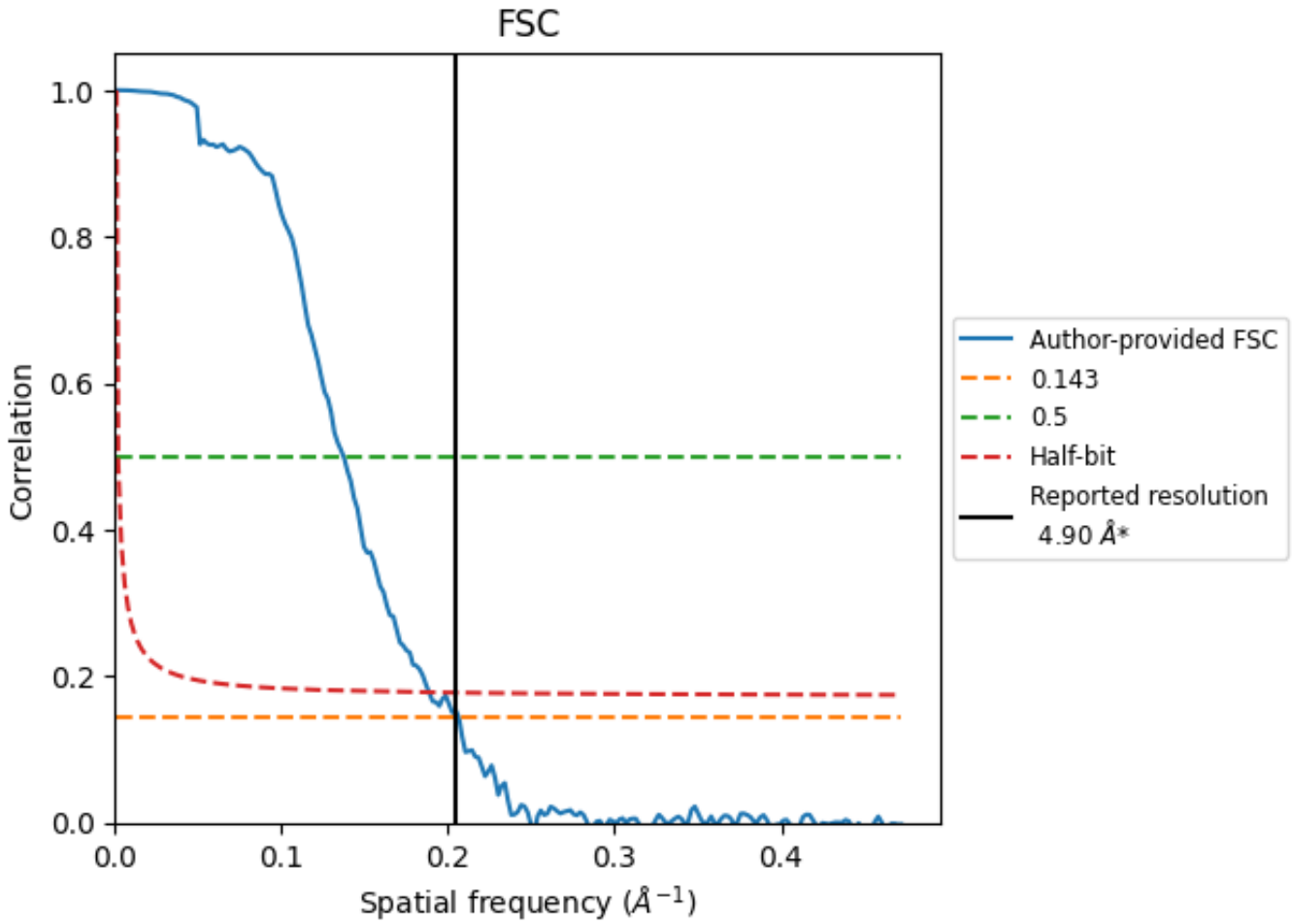


*Reported resolution corresponds to spatial frequency of 0.204 Å^{-1}

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 0.204 Å^{-1}

8.2 Resolution estimates (i)

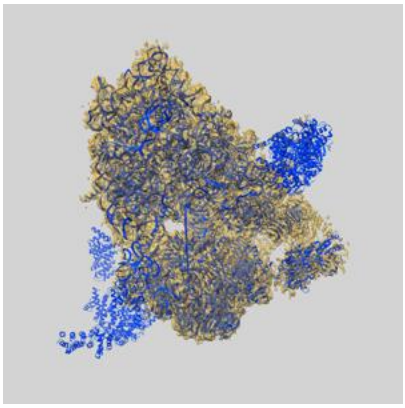
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.90	-	-
Author-provided FSC curve	4.84	7.28	5.30
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

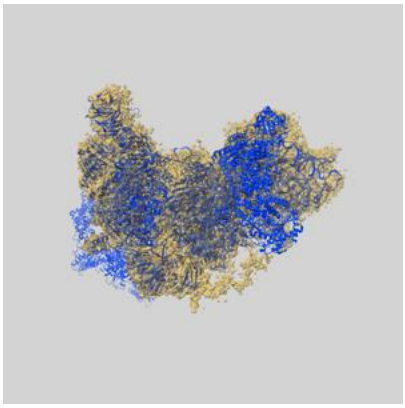
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-11362 and PDB model 6ZQF. Per-residue inclusion information can be found in section 3 on page 12.

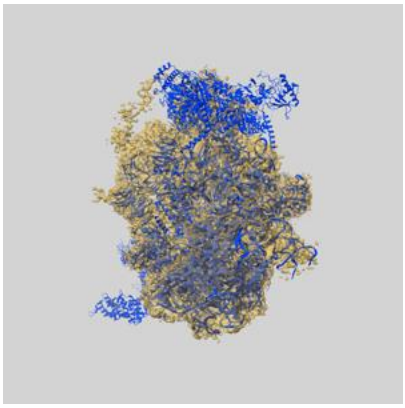
9.1 Map-model overlay



X



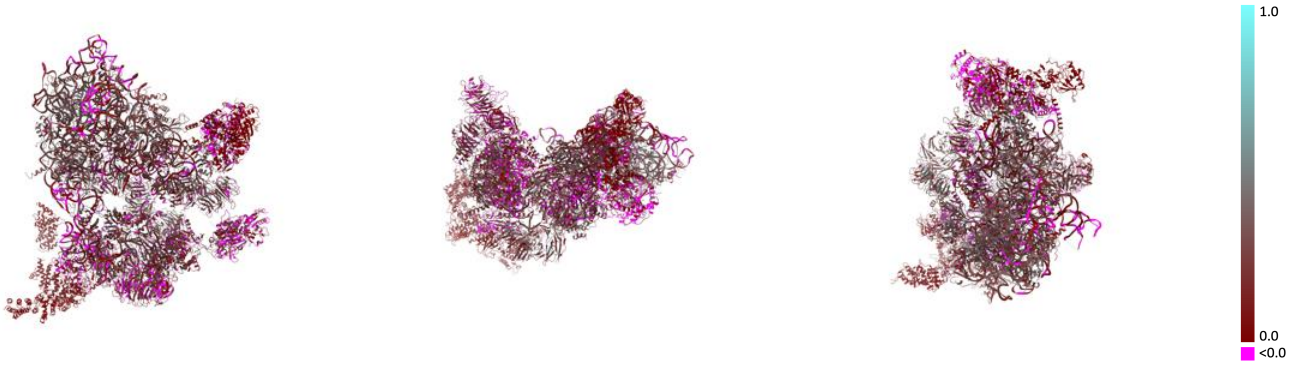
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.01 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.

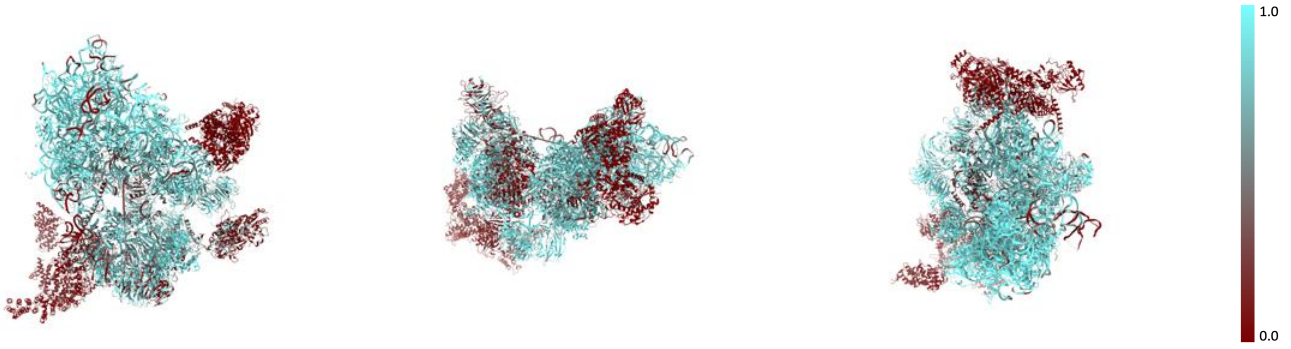
9.2 Q-score mapped to coordinate model



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.

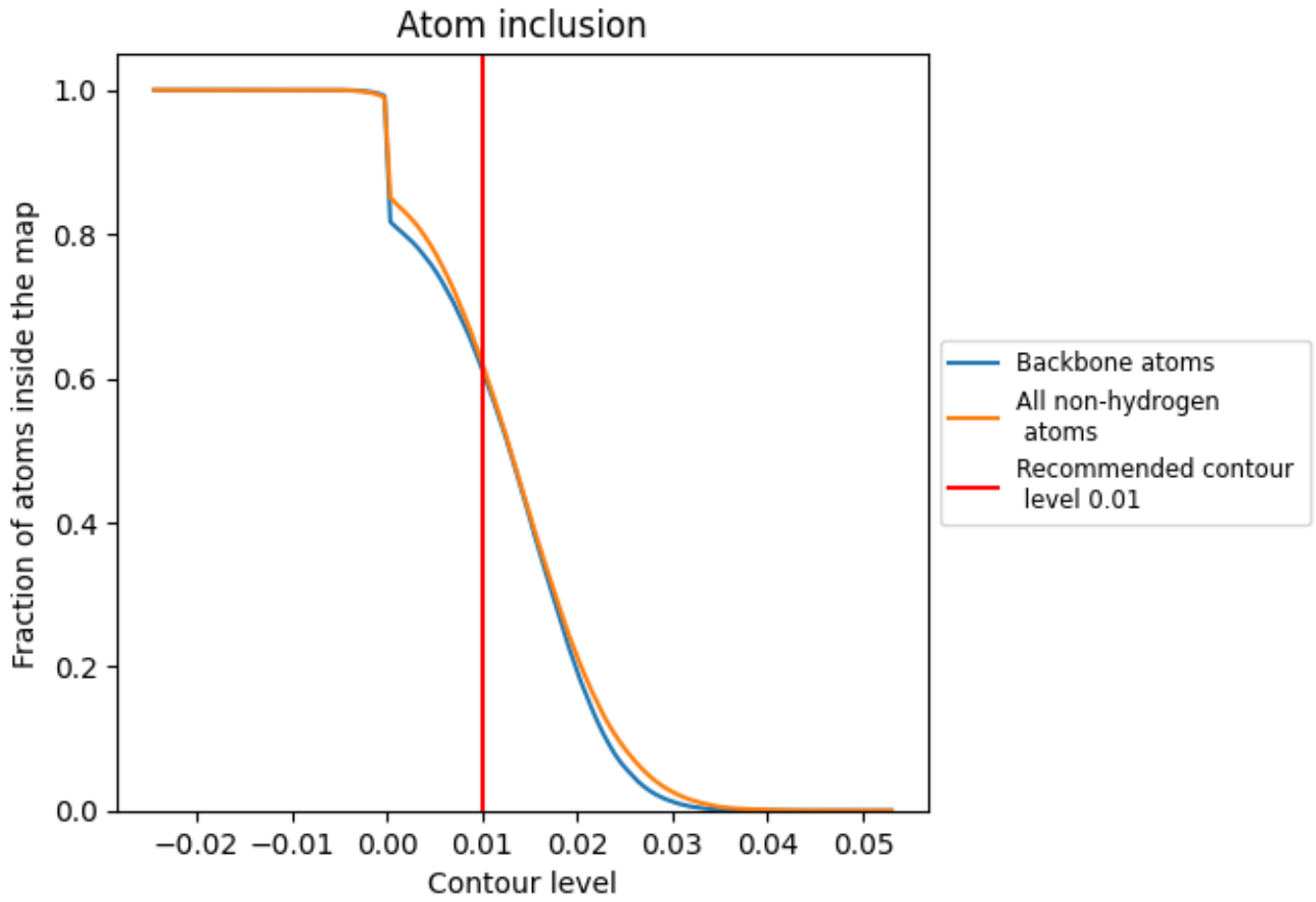
9.3 Atom inclusion mapped to coordinate model



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 (0.01).

9.4 Atom inclusion (i)



At the recommended contour level, 61% of all backbone atoms, 62% 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 (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6213	0.1920
CI	0.6325	0.2070
CJ	0.8126	0.3020
CK	0.7439	0.2380
CL	0.8806	0.3100
CM	0.9287	0.3380
CN	0.0087	0.0120
D2	0.4196	0.1080
D3	0.7557	0.2010
D4	0.4361	0.1260
DA	0.8812	0.3130
DE	0.9404	0.3670
DF	0.8123	0.2640
DG	0.9218	0.2900
DH	0.8828	0.2930
DI	0.9242	0.3140
DJ	0.9137	0.3090
DL	0.8055	0.2900
DN	0.9151	0.3320
DO	0.8532	0.2910
DQ	0.8149	0.2670
DS	0.0787	0.0220
DT	0.0900	0.0950
DW	0.9243	0.3390
DX	0.6170	0.1520
DY	0.9349	0.3400
DZ	0.0241	0.0330
Db	0.8579	0.3070
Dc	0.8968	0.3490
JD	0.2521	0.1100
JF	0.0000	-0.0010
JG	0.0383	-0.0220
JH	0.0000	0.0000
JJ	0.8667	0.2910
JL	0.4233	0.1400

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Chain	Atom inclusion	Q-score
UA	0.7768	0.2520
UB	0.0022	0.0060
UC	0.6910	0.1630
UL	0.8821	0.2890
UM	0.7901	0.2440
US	0.0000	-0.0000
UU	0.5984	0.1670
UV	0.0214	0.0100