



Full wwPDB EM Validation Report ⓘ

Apr 23, 2024 – 10:41 am BST

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.dev92
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

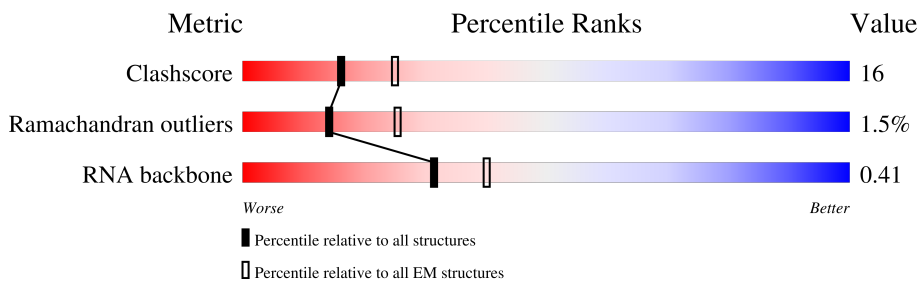
1 Overall quality at a glance i

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 $\leq 5\%$. 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	
2	UB	810	
3	UC	610	
4	UL	943	
5	UM	817	
6	US	552	
7	UU	939	
8	UV	1237	

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Mol	Chain	Length	Quality of chain
9	CI	183	26% 85% 14%
10	CJ	290	7% 68% 7% 24%
11	CK	593	6% 34% 63%
12	CL	1183	55% 41%
13	CM	367	97% ..
14	CN	297	62% 57% 5% 38%
15	JD	1267	49% 59% 36%
16	JF	252	86% 85% 14%
16	JG	252	86% 87% 12%
17	JH	483	54% 54% 46%
18	JL	318	53% 84% 11%
19	JJ	274	60% 6% 34%
20	DF	225	11% 92% 5%
21	DQ	143	6% 85% 13%
22	DS	146	49% 46% 7% 47%
23	DT	144	96% 87% 12%
24	Dc	67	94% 6%
25	D2	20	55% 10% 60% 25% 5%
26	D3	1758	13% 28% 28% 18% 21%
27	DA	255	65% 16% 16%
28	DE	261	91% 8%
29	DG	236	91% 5%
30	DH	190	7% 82% 14%
31	DI	200	82% 9% 6%
32	DJ	197	83% 10% 6%

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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
			Total	C	N	O		
7	UU	878	4328	2572	878	878	0	0

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 18 is a protein called Dimethyladenosine transferase.

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

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

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

- Molecule 20 is a protein called Rps5p.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 41 is a RNA chain called U3 snoRNA.

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

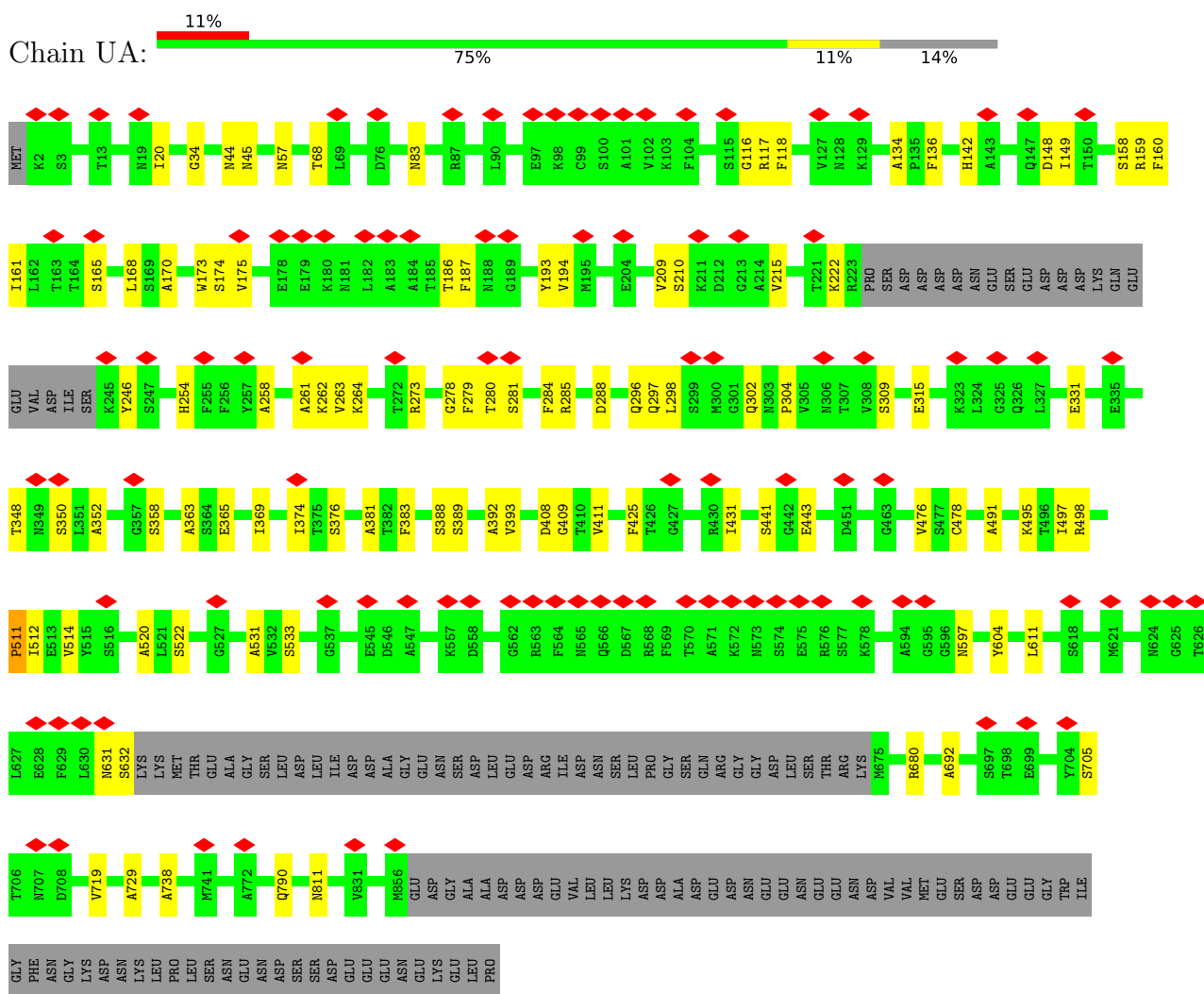
- Molecule 42 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

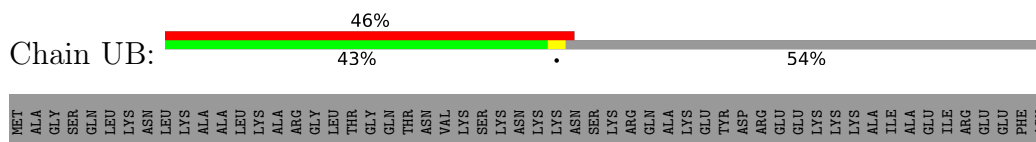
3 Residue-property plots

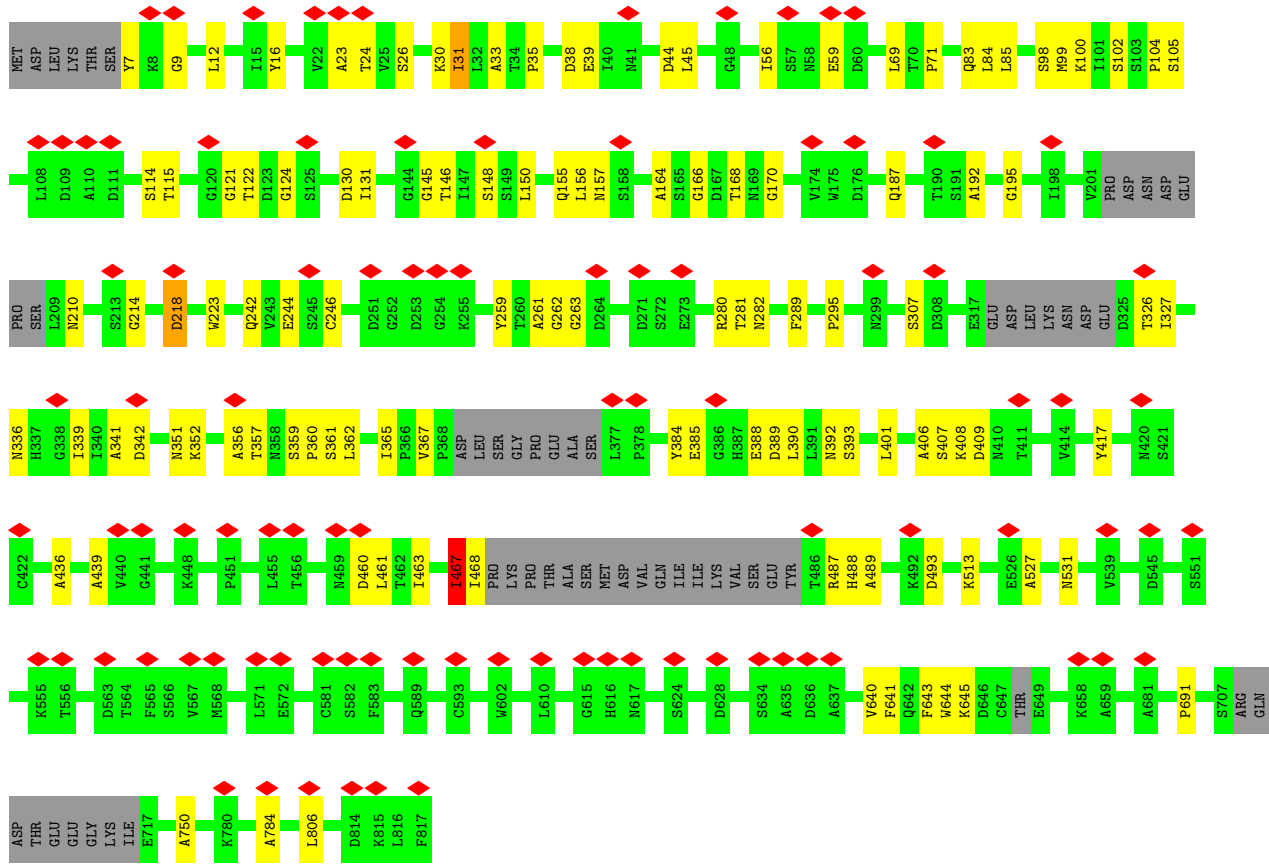
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

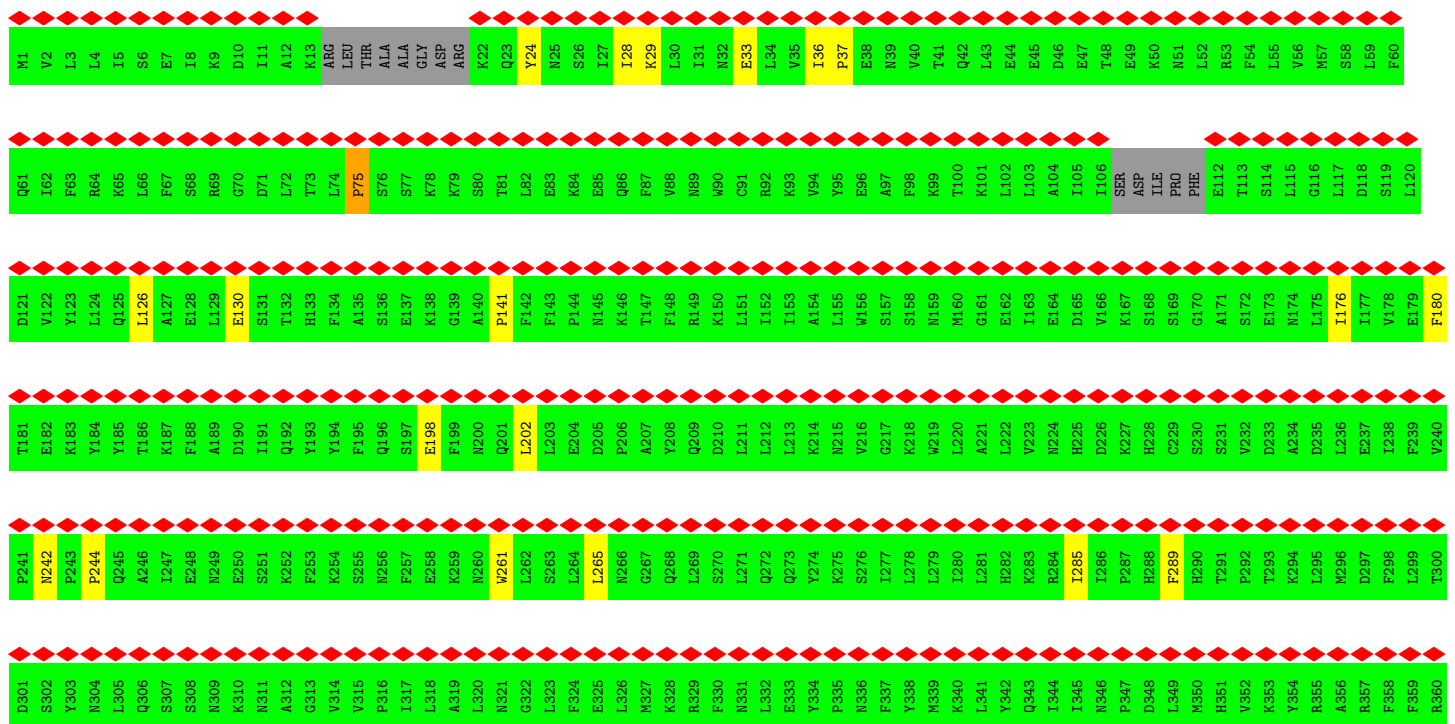
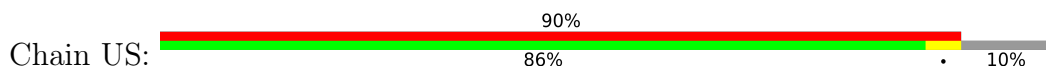


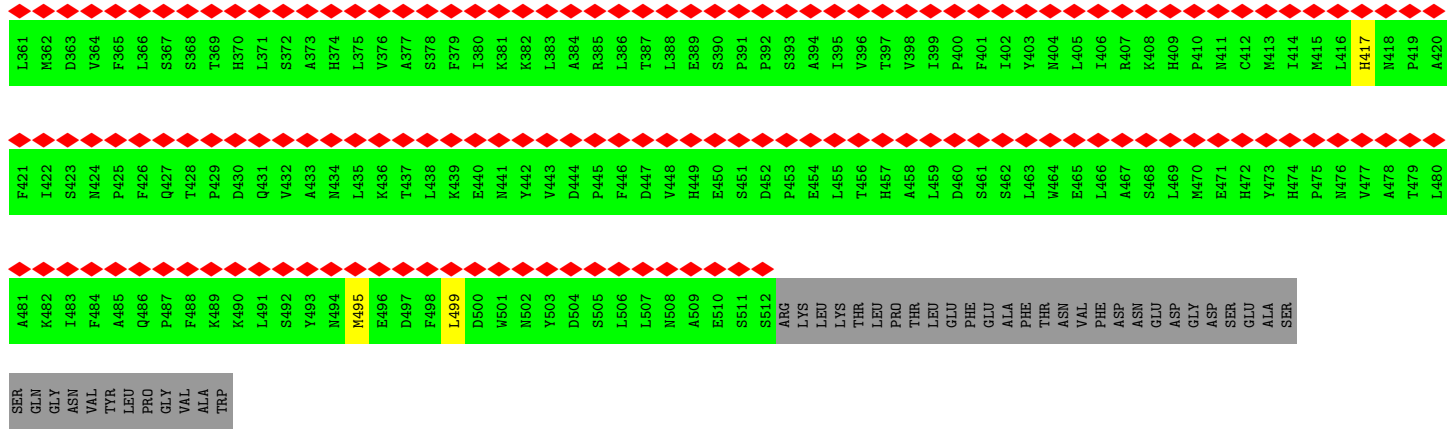
- Molecule 2: Nucleolar complex protein 14



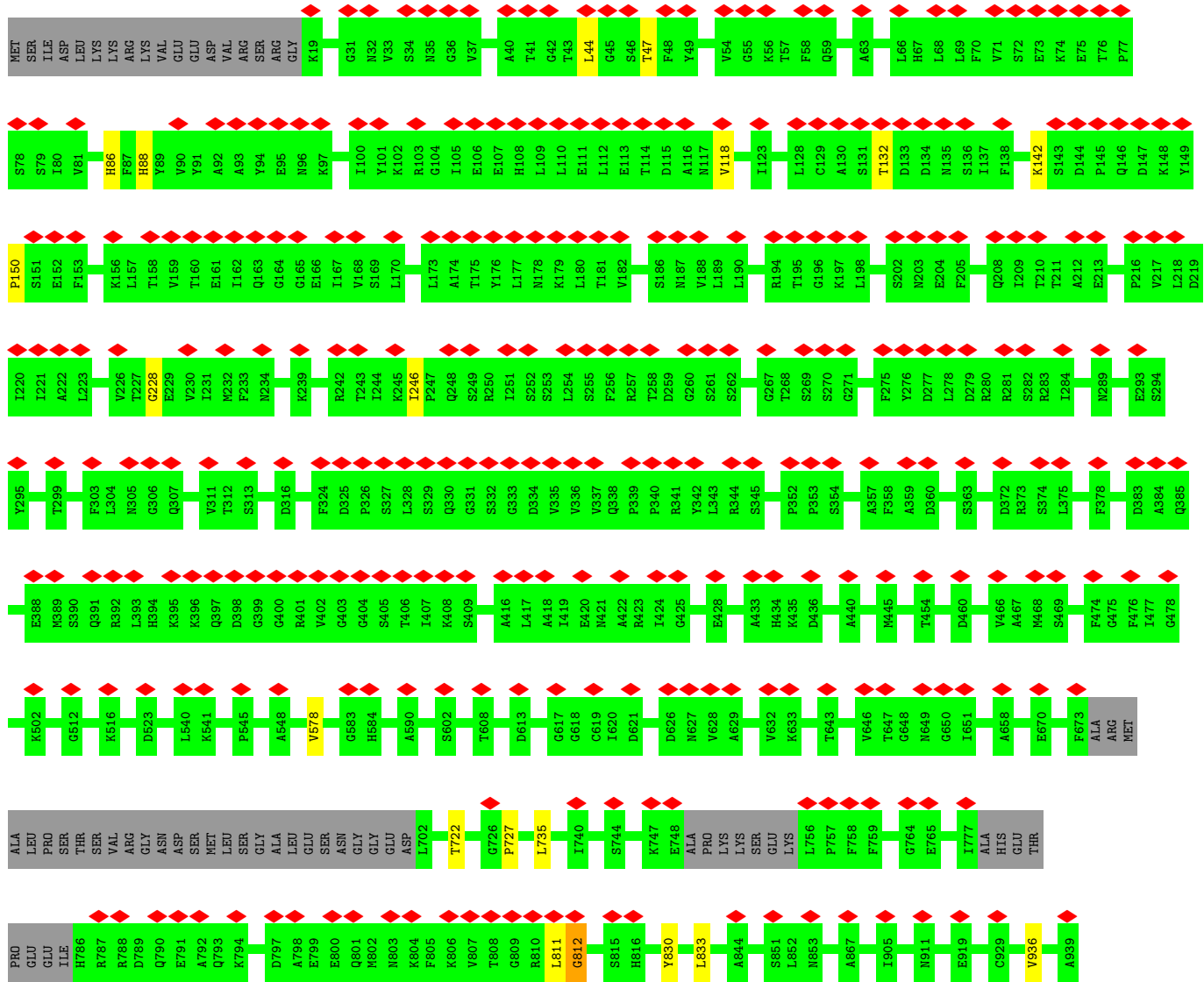


• Molecule 6: Nucleolar complex protein 4

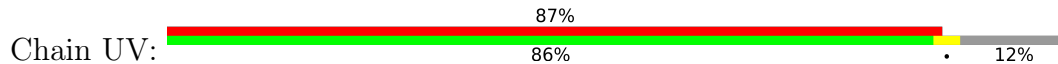




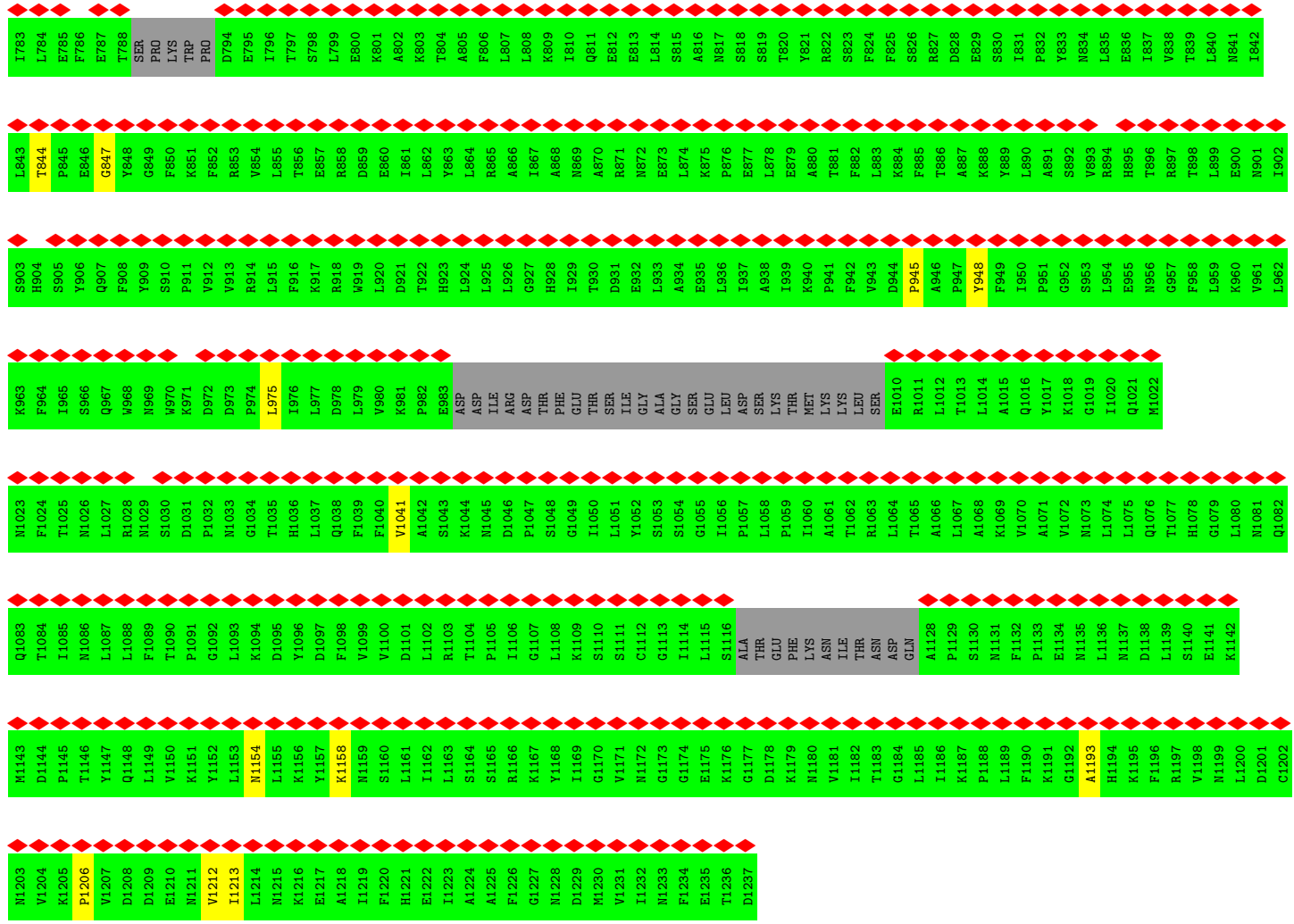
• Molecule 7: U3 small nucleolar RNA-associated protein 21



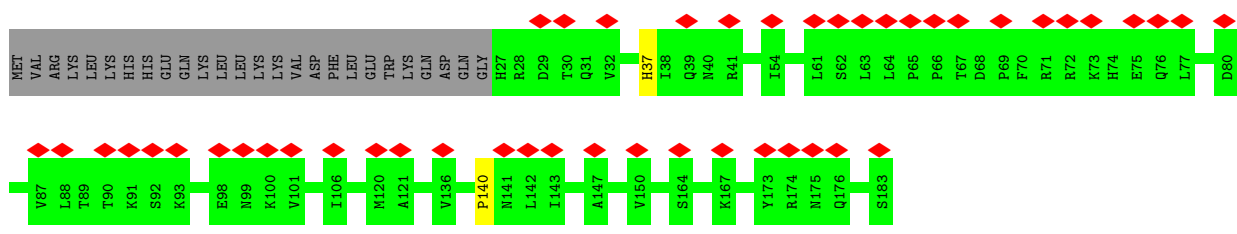
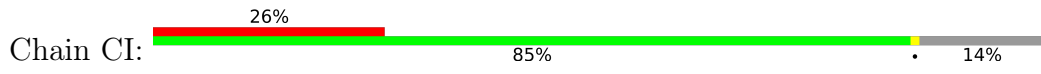
• Molecule 8: U3 small nucleolar RNA-associated protein 22



MET	ALA	THR	SER	VAL	LYS	ARG	LYS	ALA	ASN	GLU	THR	SER	ASP	ASN	ILE	VAL	LYS	VAL	GLN	LYS	HIS	SER	THR	GLN	ASP	GLY	SER	LYS	ASN	ASP	THR	ASN	ASN	GLY	LYS	ASP	SER	THR	VAL	PRO	GLU	GLN	ASN	ASP	GLU	GLU	ASP	GLU	SER	ASP	THR														
PRO	GLU	SER	SER	ASN	GLU	VAL	THR	ALA	ASN	THR	ALA	ALA	THR	ARG	HIS	ASN	ILE	GLY	LYS	VAL	T81	A82	T83	E84	S85	Y86	D87	I88	H89	I90	A91	R92	E93	T94	A95	E96	L97	F98	K99	S100	N101	I102	ARG	THR	VAL	PRO	K104	L105	Q106	I107	ASN	ASN	D108	E109	L110	L111	E112	Q113	V114	K115	L116	K117	Q118	K119	H120
V121	L122	K123	V124	E125	K126	F127	L128	H129	K130	L131	Y132	D133	L134	L135	Q136	E137	I138	P139	D140	W141	Y142	E143	K144	S145	L146	A147	E148	V149	D150	S151	E152	F153	K154	M155	K156	I157	V158	S159	V160	P161	F162	V163	D164	P165	K166	P167	I168	Q169	V170	M171	T172	N173	Y174	K175	F176	M177	Y178	K179	K180						
P181	D182	I183	S184	L185	I186	G187	S188	F189	A190	L191	K192	A193	G194	I195	Y196	P198	N199	G200	S201	S202	I203	D204	T205	L206	L207	T208	M209	P210	K211	E212	L213	F214	E215	K216	K217	D218	F219	L220	N221	F222	R223	C224	L225	H226	K227	R228	S229	V230	Y231	L232	A233	Y234	L235	T236	H237	L239	L240								
I241	L242	L243	K244	K245	D246	K247	L248	L249	L250	S251	F251	L252	Q253	L254	E255	Y256	S257	Y258	F259	D260	N261	D262	P263	L264	L265	P266	I267	L268	R269	I270	S271	C272	S273	K274	PRO	THR	GLY	ASP	SER	LEU	SER	D282	Y283	N284	F285	Y286	K287	T288	R289	F290	S291	I292	M293	L294	L295	I296	G297	F298	P299	Y300					
K301	V302	F303	E304	P305	K306	K307	L308	L309	P310	N311	R312	N313	C314	I315	R316	I317	ALA	GLN	GLU	SER	LYS	GLU	SER	L326	P327	A328	T329	P330	L331	Y332	N333	F334	S335	V336	L337	S338	S339	S340	T341	H342	E343	N344	Y345	L346	K347	Y348	L349	Y350	K351	L352	T352	K353	T356	E357	S358	F359	V360	E361							
A362	T363	V364	L365	G366	R367	L368	V369	L370	Q371	Q372	R373	G374	F375	S376	S377	M378	S379	S380	H381	S382	G383	S384	L385	G386	G387	F388	G389	T390	F391	E392	F393	T394	I395	L396	M397	A398	A399	L400	L401	M402	G403	G404	G405	I406	M407	S408	M409	K410	I411	L412	L413	H414	G415	F416	S417	S418	Y419	Q420	L421						
F422	K423	G424	V425	L426	K427	Y428	L429	A430	T431	M432	D433	L434	C435	H436	D437	G438	H439	L440	Q441	F442	H443	S444	M445	PRO	GLU	ASN	SER	SER	SER	SER	P453	A454	S455	K456	Y457	I458	D459	E460	G461	F462	Q463	T464	P465	T466	L467	F468	D469	K470	S471	T472	V473	V474	M475	I476	L477	T478	K479	M480	T481						
V482	S483	S484	Y485	Q486	L487	L488	K489	E490	Y491	A492	G493	E494	T495	L496	R497	M498	L499	N500	N501	V502	V503	Q504	D505	Q506	F507	S508	N509	I510	F511	L512	T513	N514	I515	S516	R517	F518	D519	N520	L521	K522	Y523	D524	L525	C526	V527	D528	V529	Q530	L531	P532	L533	G534	K535	Y536	N537	N538	L539	E540	T541						
S542	L543	A544	A545	T546	F547	G548	S549	R552	V553	K554	F555	L556	T557	L558	E559	N560	F561	L562	A563	H564	K565	L566	T567	N568	V569	A570	R571	Y572	A573	L574	G575	D576	R577	I578	K579	Y580	L581	Q582	L583	E584	M585	Y586	G587	Q588	K589	S590	D591	F592	F593	L594	T595	K596	R597	K598	V599	Y600	S601	N602							
T603	G604	G605	N606	H607	F608	N609	F610	D611	F612	N613	R614	V615	K616	L617	L618	V619	N620	P621	S622	E623	C624	D625	K626	L627	V628	T629	K630	G631	P632	A633	H634	S635	E636	T637	N638	S639	T640	E641	A642	A643	V644	F645	K646	N647	F648	M649	G650	L651	K652	S653	S654	L655	K656	R657	F658	K659	D660	G661	S662						
I663	T664	H665	C666	C667	V668	N669	S670	T671	S672	S673	S674	E675	P676	L677	L678	S679	S680	I681	V682	N683	F684	A685	L686	Q687	H688	H689	V690	K691	S692	K693	L694	Q695	L696	S697	N698	E699	T700	L701	K702	K703	F704	H705	N706	F707	F708	V709	L710	F711	N712	L713	P714	S715	L716	A717	L718	T719	S720	V721	L722						
M723	L724	S725	S726	F727	V728	N729	L730	K731	K732	S733	F734	D735	D736	L737	Y738	K739	L740	I741	F742	M743	M744	K745	L746	F747	L748	S749	V750	K751	S752	L753	L754	P755	V756	L757	S758	N759	E760	R761	V762	T763	S764	L765	C766	Q767	F768	V769	F770	L771	M772	Y773	S774	D775	F776	D777	F778	F779	Q780	D781	V782						

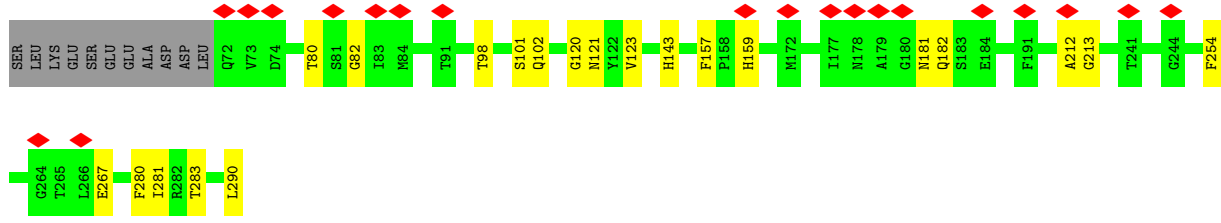


• Molecule 9: U3 small nucleolar ribonucleoprotein protein IMP3

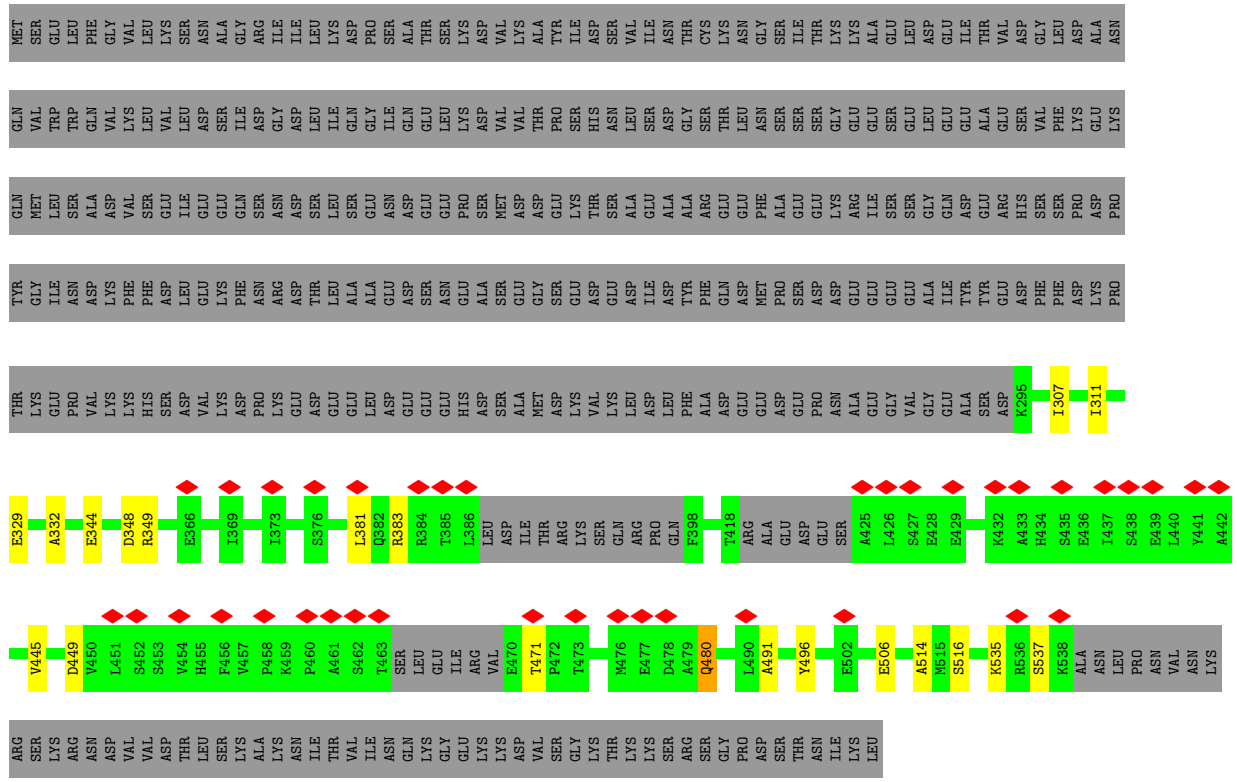


• Molecule 10: U3 small nucleolar ribonucleoprotein protein IMP4

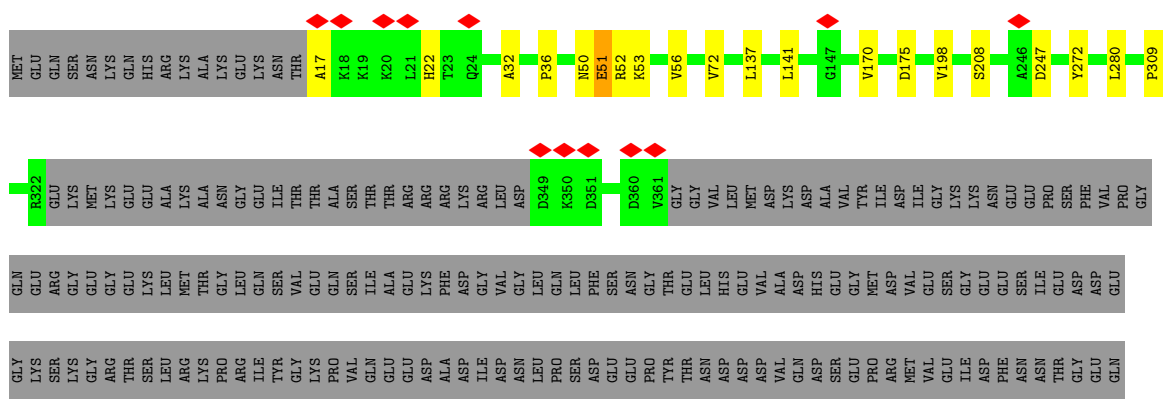


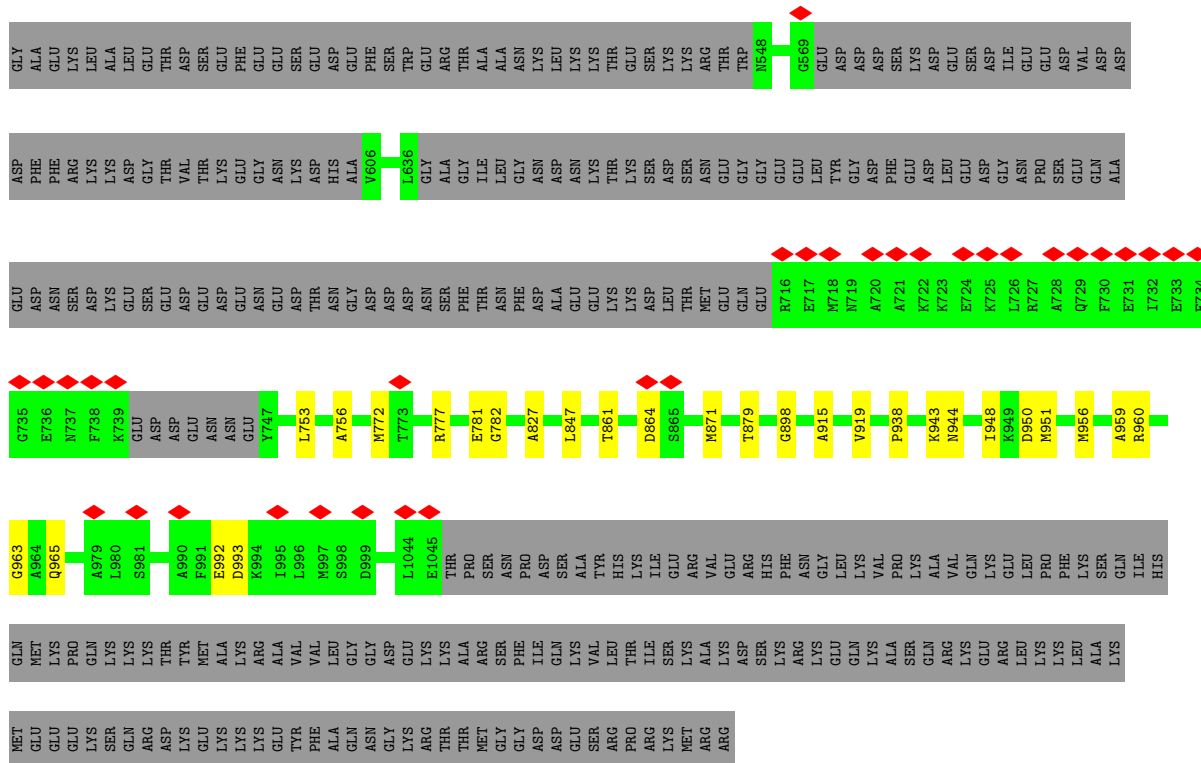


• Molecule 11: U3 small nucleolar RNA-associated protein MPP10



• Molecule 12: Ribosome biogenesis protein BMS1

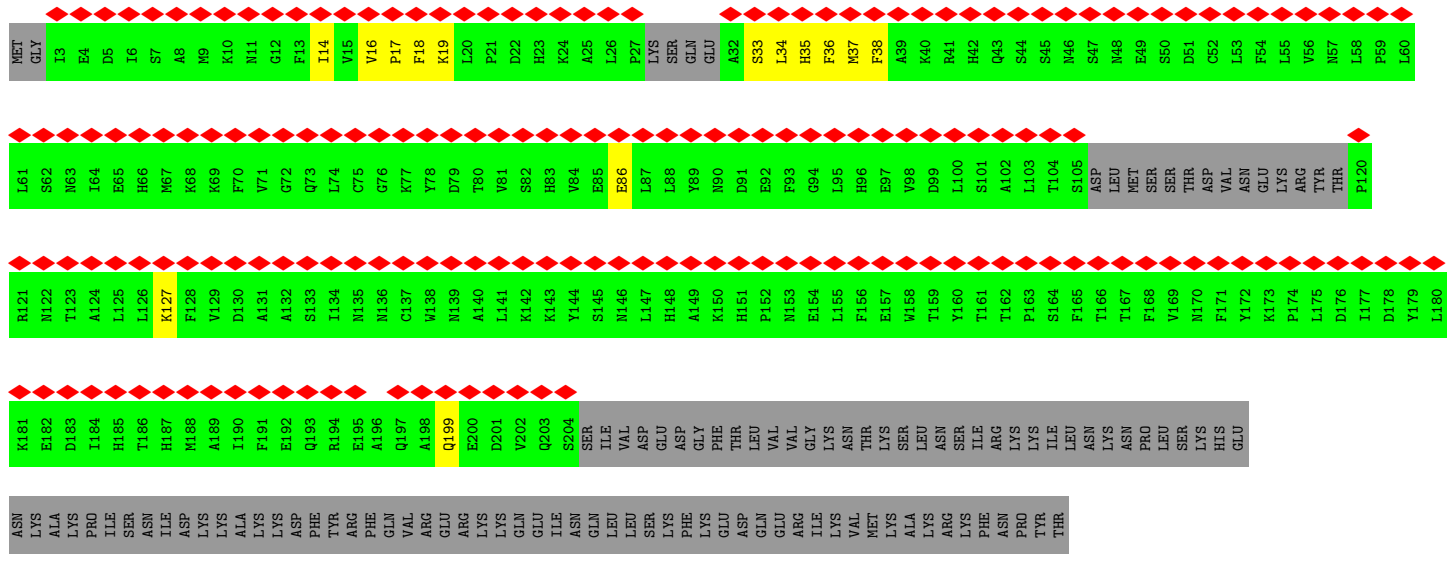




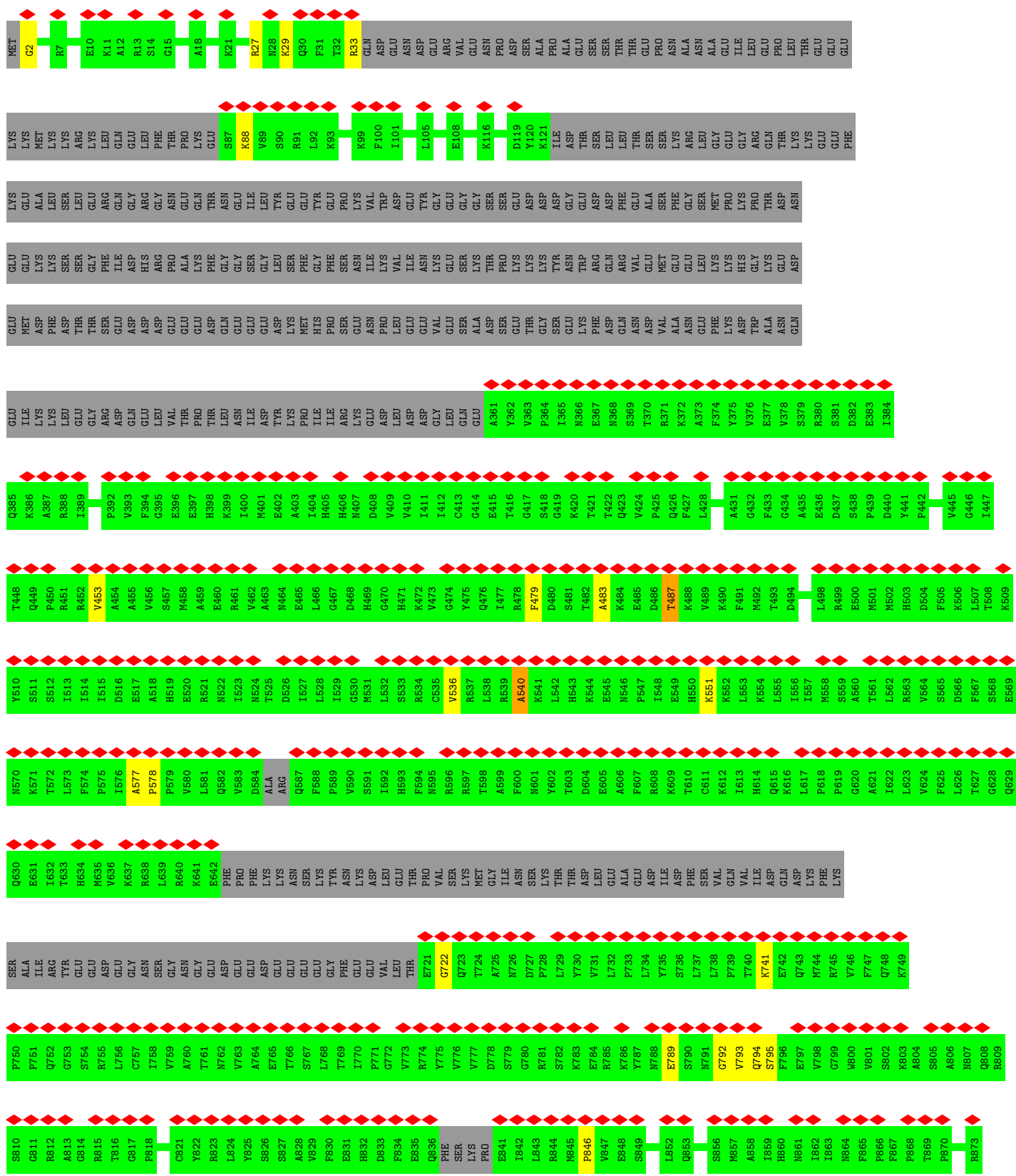
• Molecule 13: RNA 3'-terminal phosphate cyclase-like protein

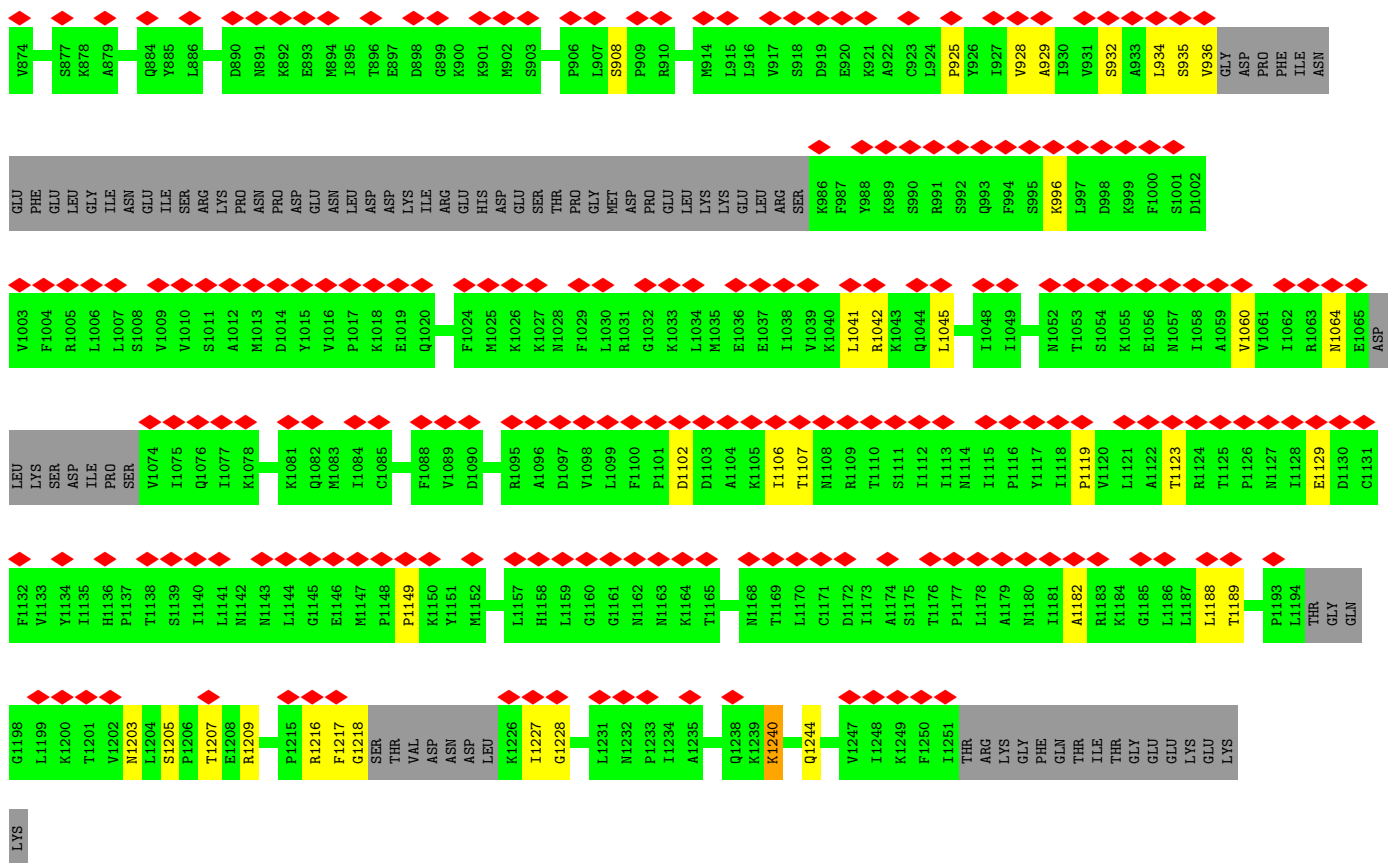


• Molecule 14: Ribosomal RNA-processing protein 7

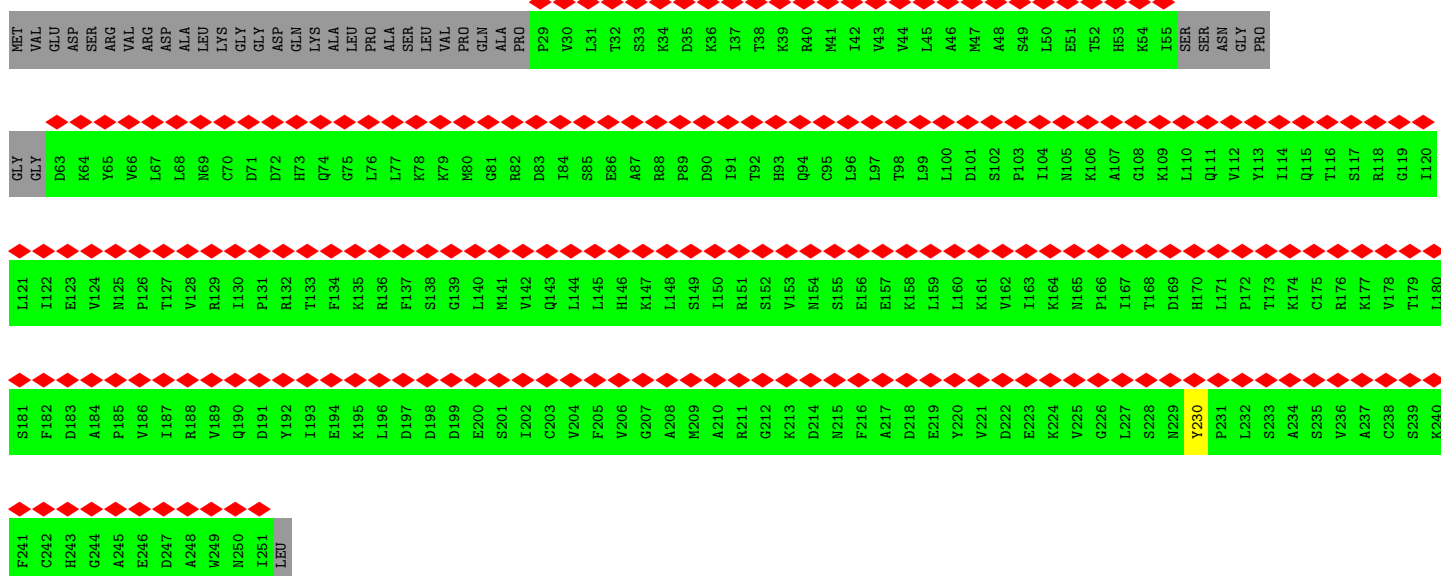
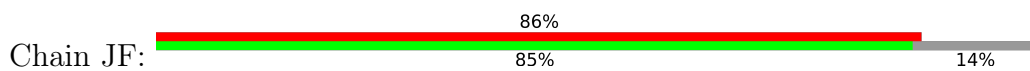


● Molecule 15: Probable ATP-dependent RNA helicase DHR1

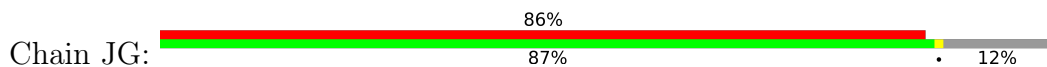


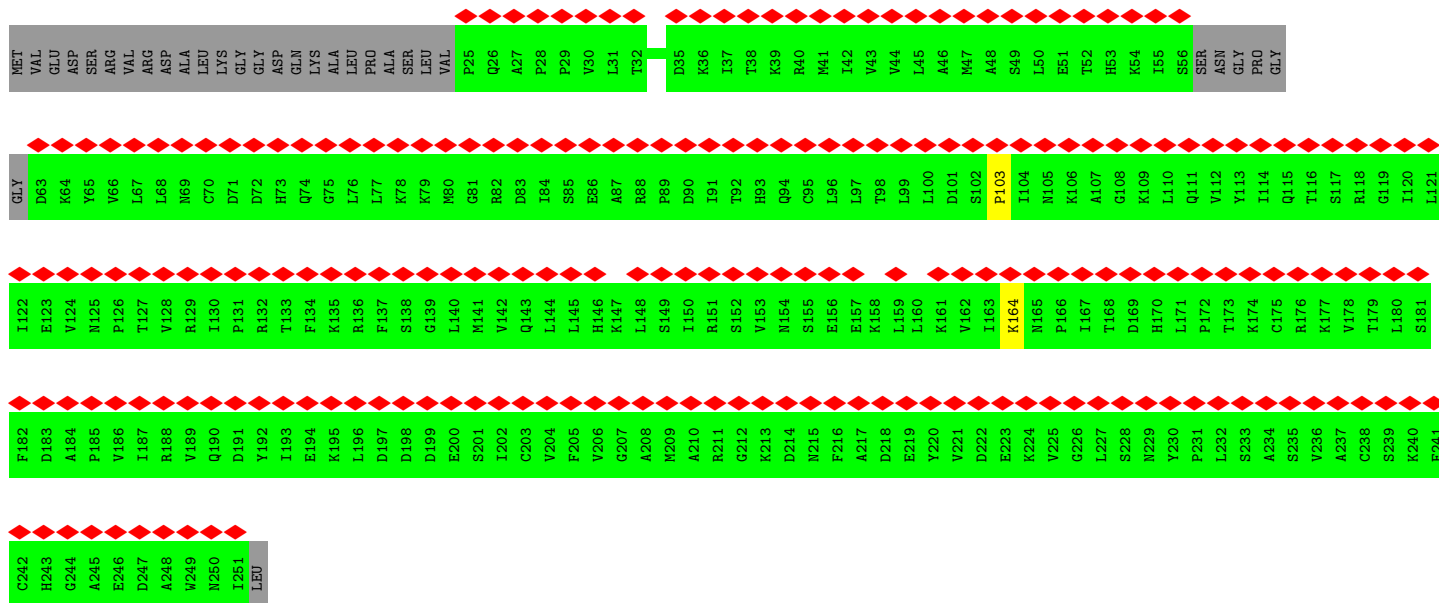


- Molecule 16: Ribosomal RNA small subunit methyltransferase NEP1

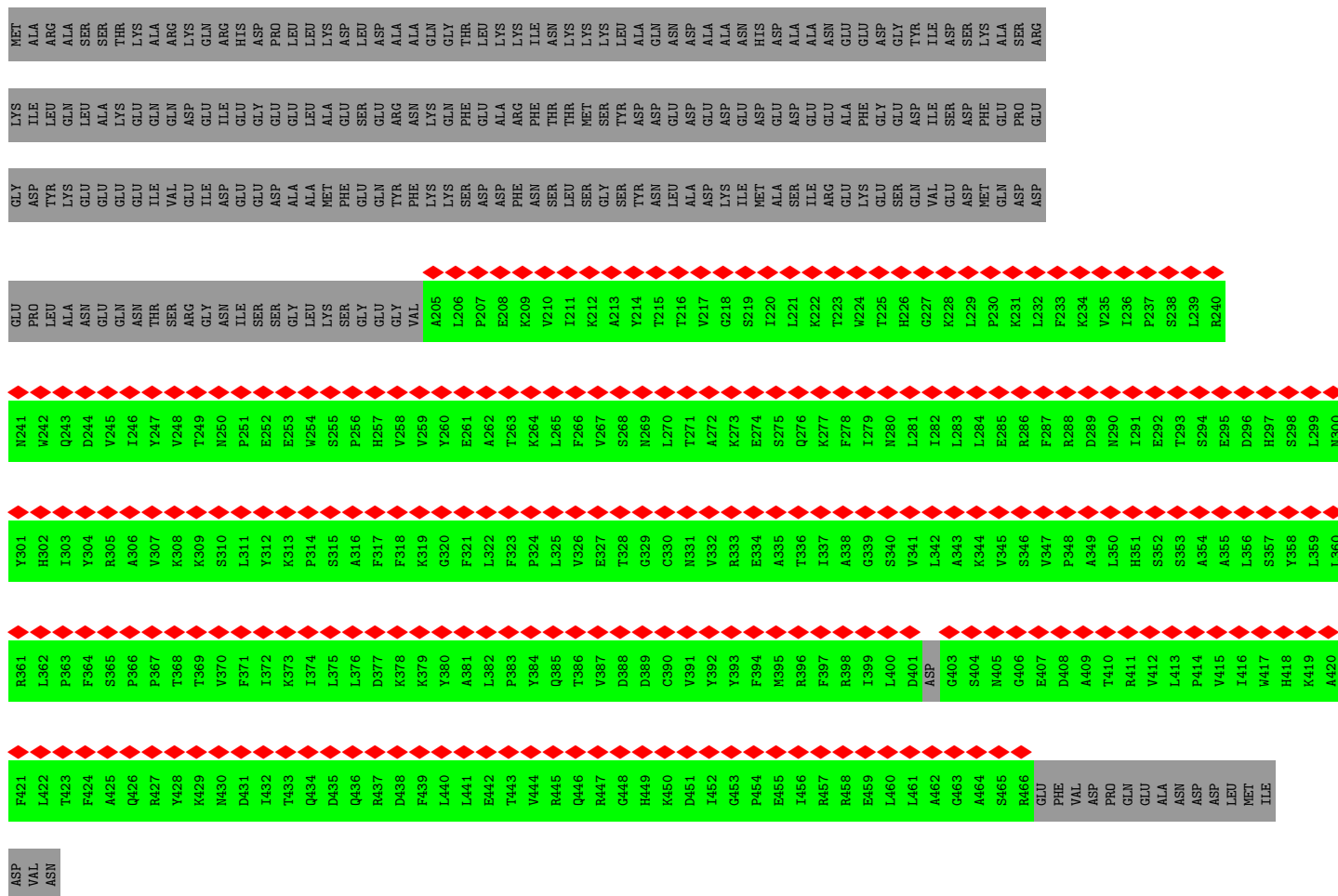


- Molecule 16: Ribosomal RNA small subunit methyltransferase NEP1

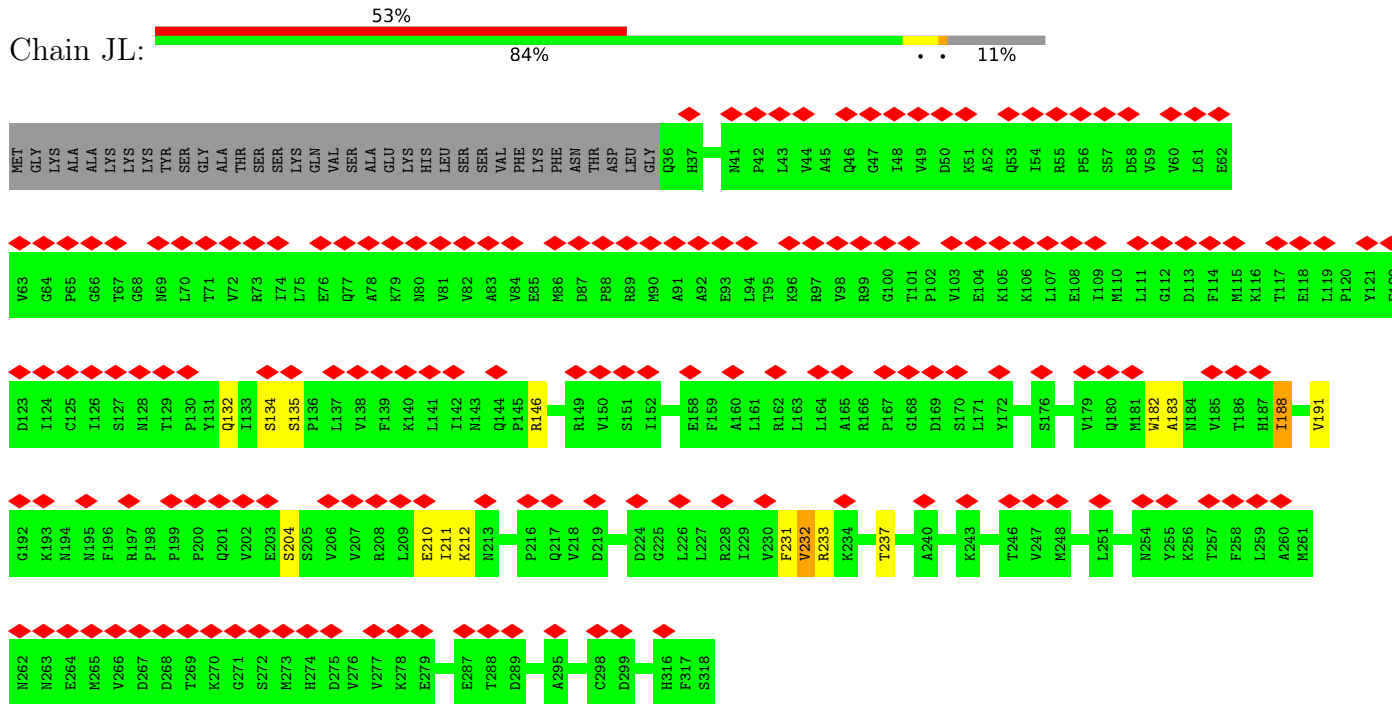




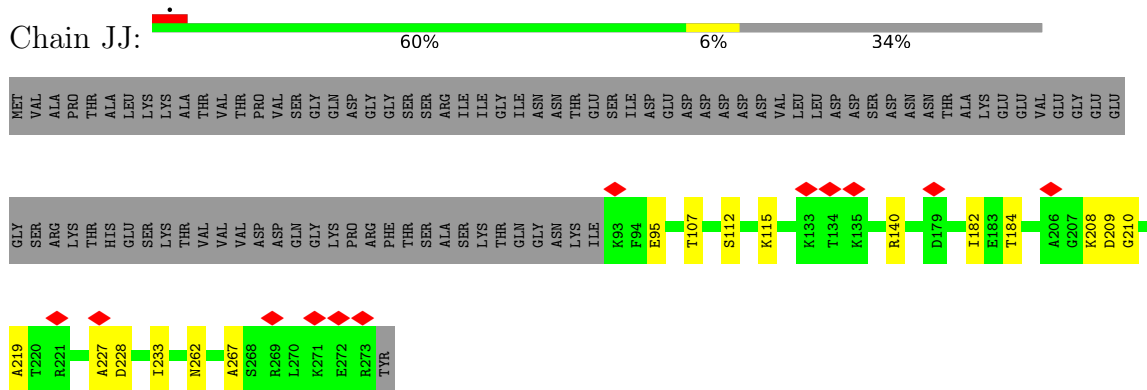
• Molecule 17: Essential nuclear protein 1



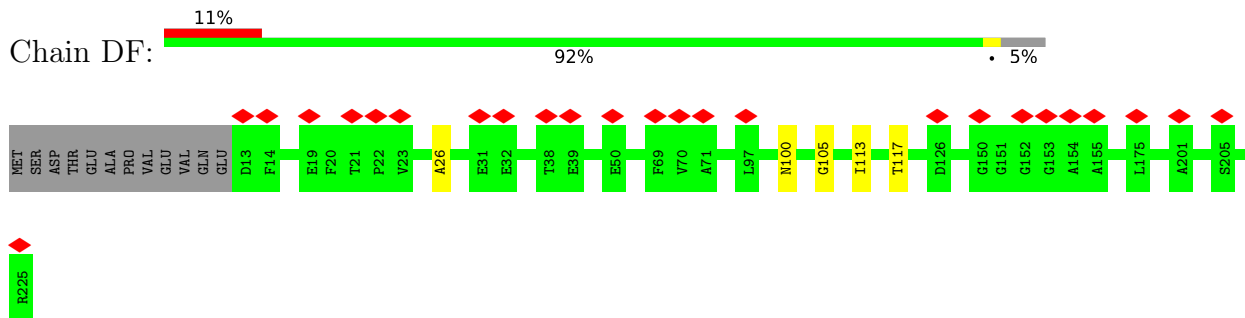
• Molecule 18: Dimethyladenosine transferase



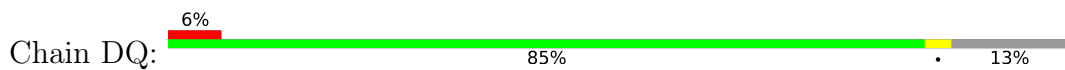
• Molecule 19: Pre-rRNA-processing protein PNO1

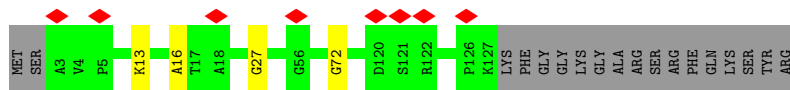


• Molecule 20: Rps5p

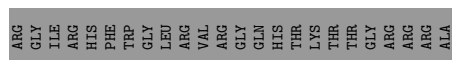
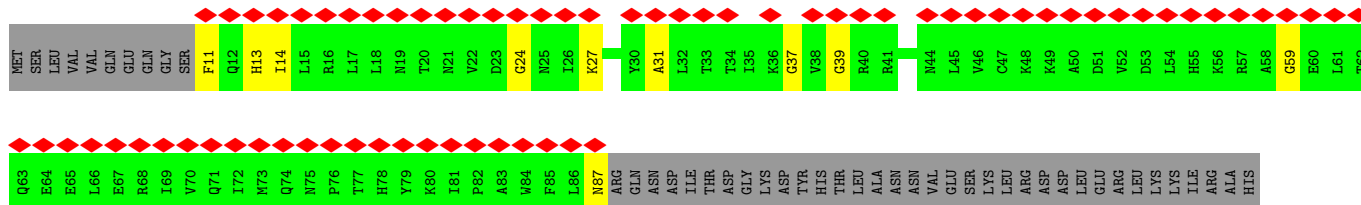


• Molecule 21: 40S ribosomal protein S16-A

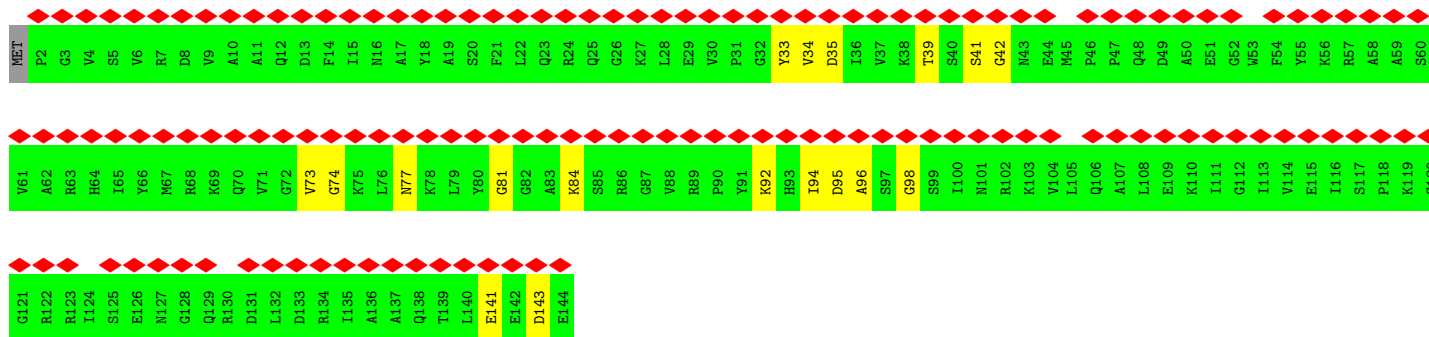
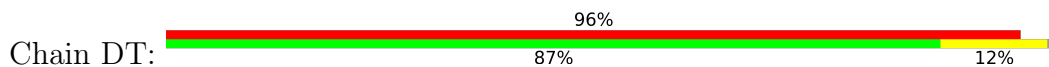




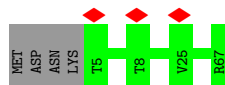
• Molecule 22: 40S ribosomal protein S18-A



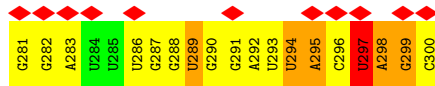
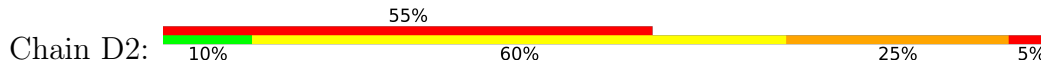
• Molecule 23: 40S ribosomal protein S19-A



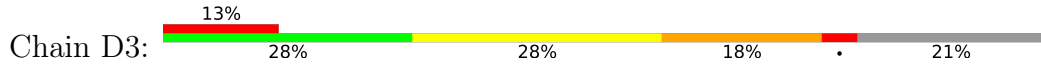
• Molecule 24: 40S ribosomal protein S28-A

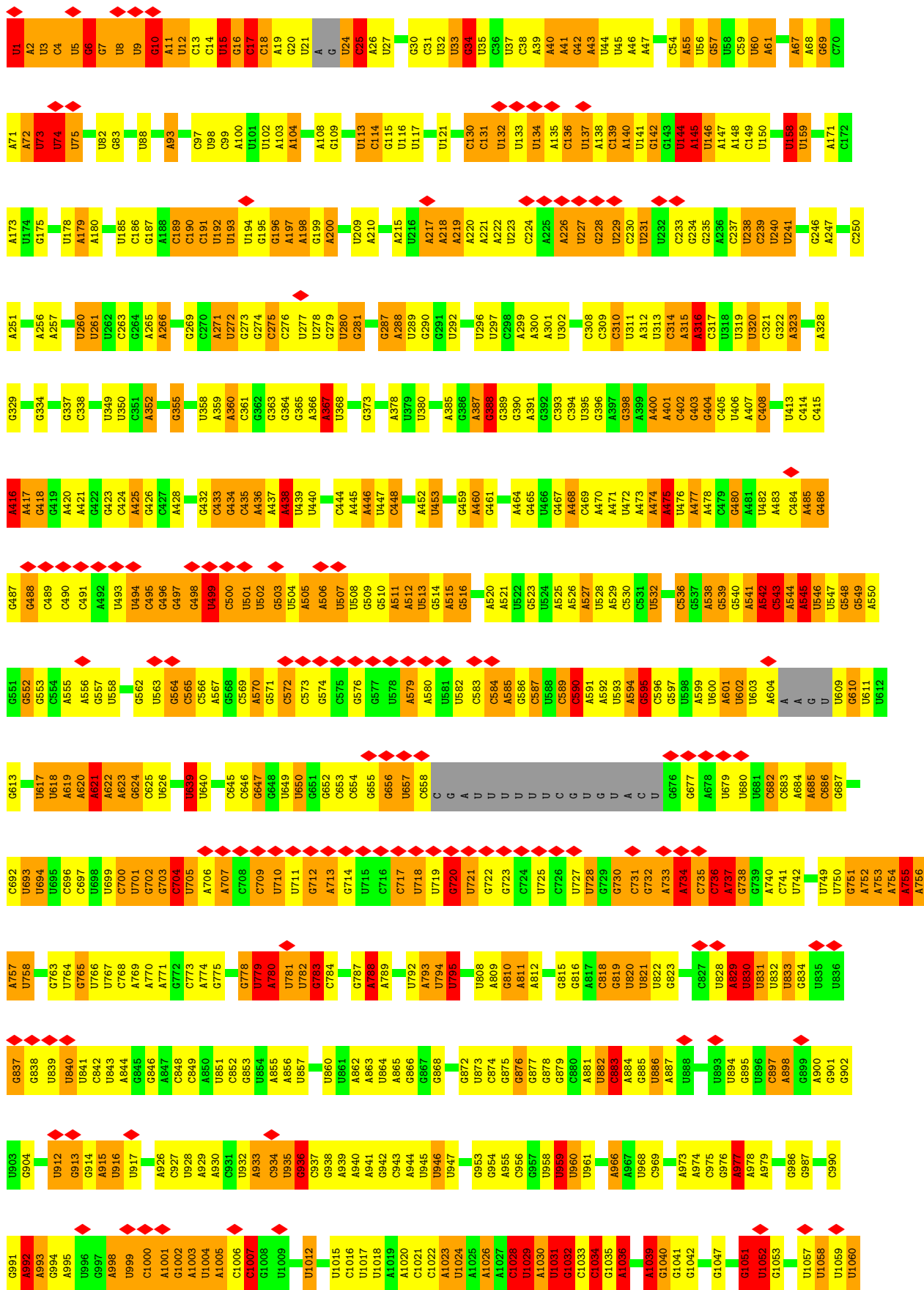


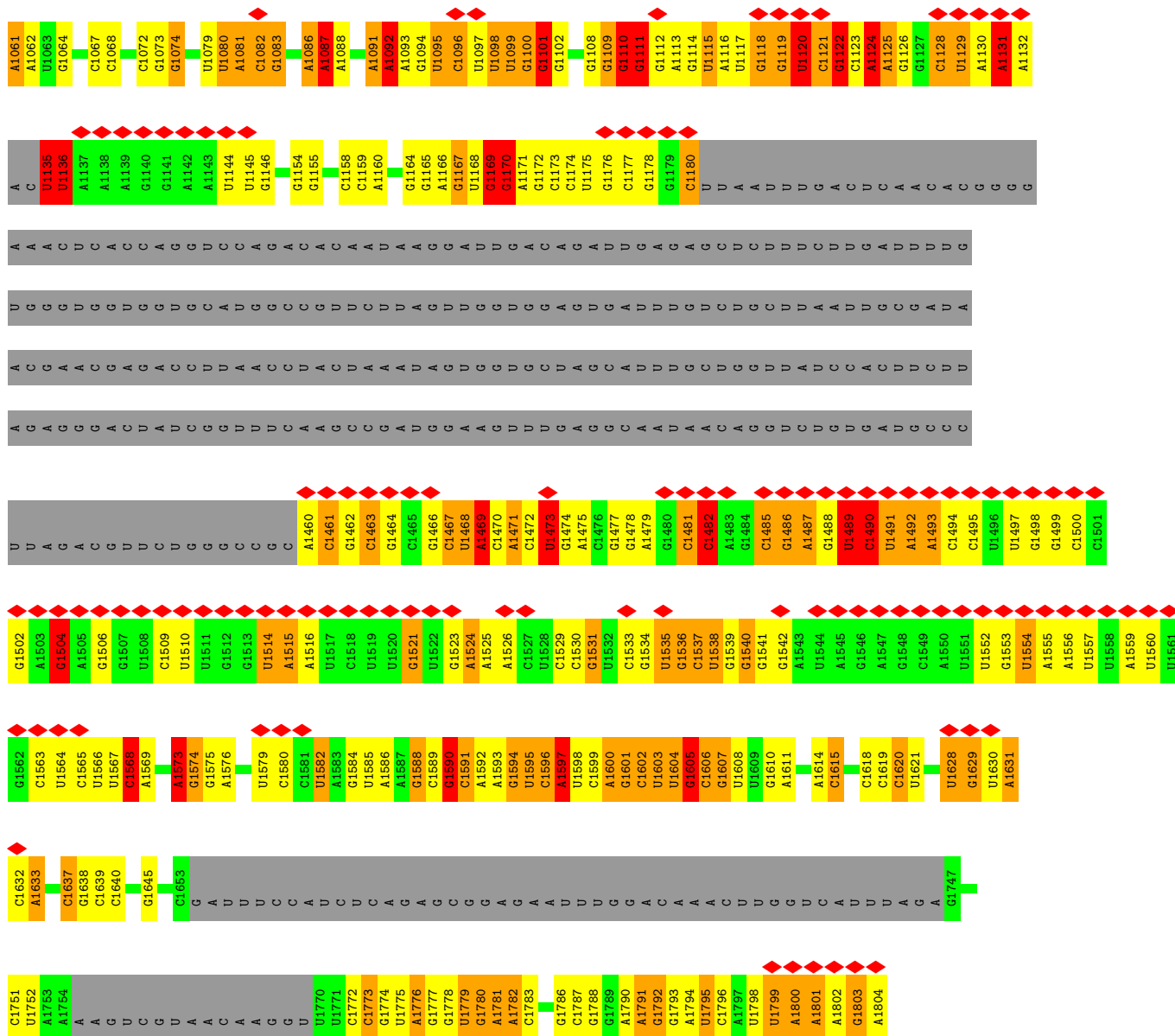
• Molecule 25: 5ETS RNA



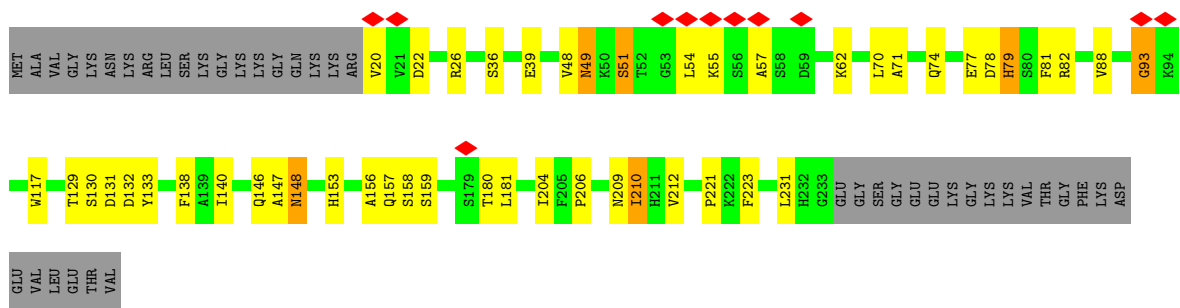
• Molecule 26: 18S rRNA







- Molecule 27: 40S ribosomal protein S1-A



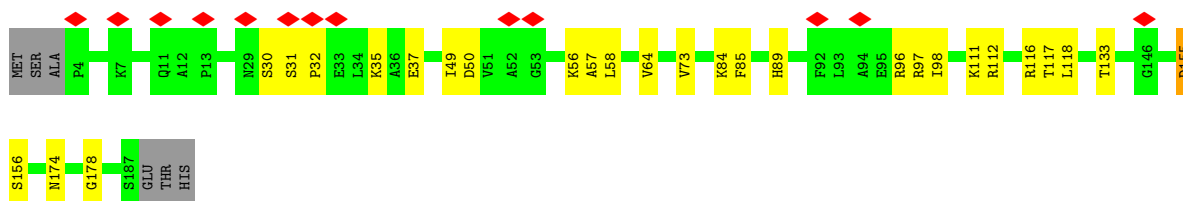
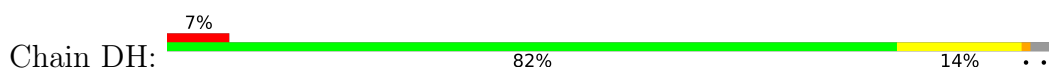
- Molecule 28: 40S ribosomal protein S4-A



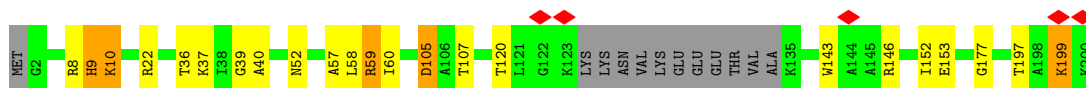
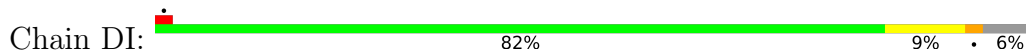
- Molecule 29: 40S ribosomal protein S6-A



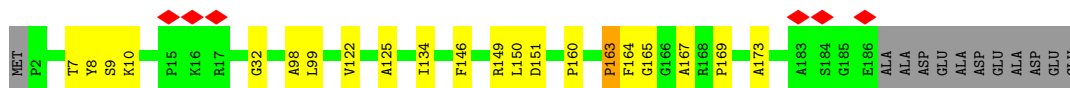
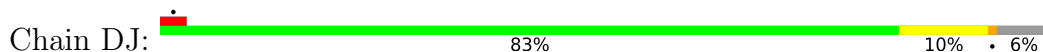
- Molecule 30: 40S ribosomal protein S7-A



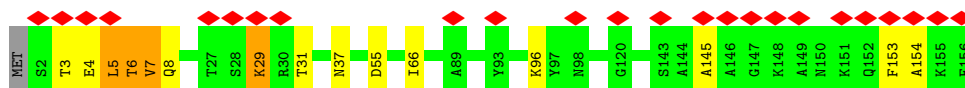
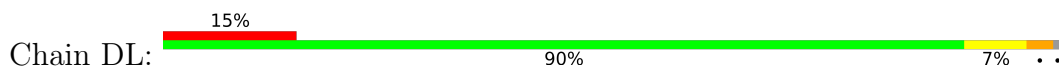
- Molecule 31: 40S ribosomal protein S8-A



- Molecule 32: 40S ribosomal protein S9-A



- Molecule 33: 40S ribosomal protein S11-A

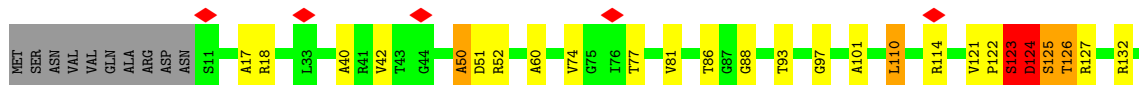
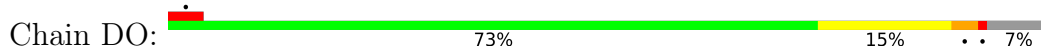


- Molecule 34: 40S ribosomal protein S13

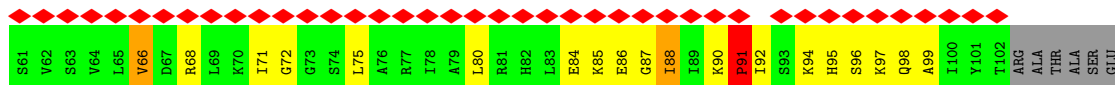
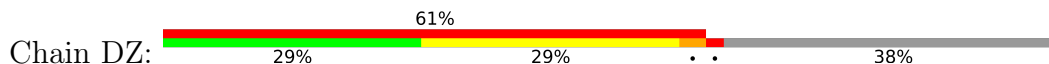




• Molecule 35: 40S ribosomal protein S14-A



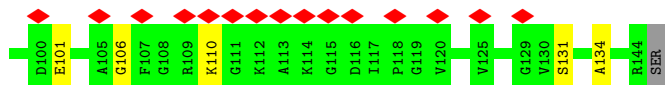
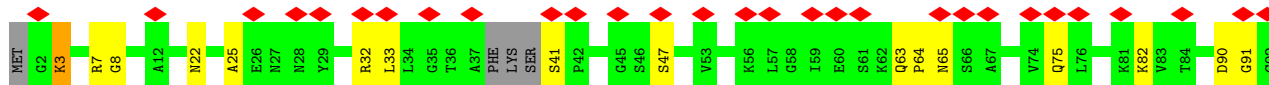
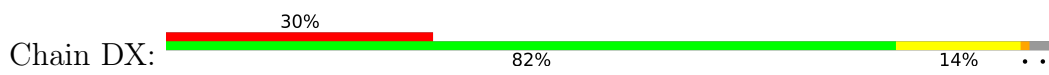
• Molecule 36: 40S ribosomal protein S25-A



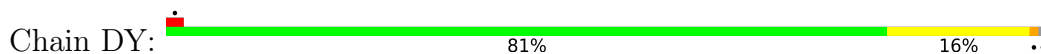
• Molecule 37: 40S ribosomal protein S22-A

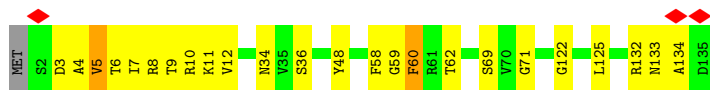


• Molecule 38: 40S ribosomal protein S23-A

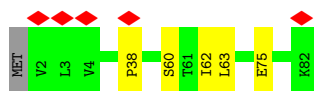


• Molecule 39: 40S ribosomal protein S24-A

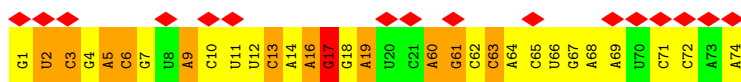
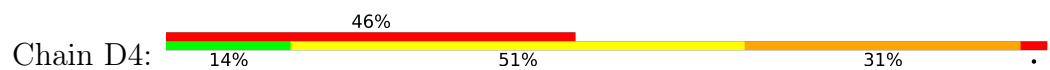




- Molecule 40: 40S ribosomal protein S27-A



- Molecule 41: U3 snoRNA



4 Experimental information

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 ($e^-/\text{\AA}^2$)	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 i

5.1 Standard geometry i

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(°)	Ideal(°)
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(°)	Ideal(°)
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(°)	Ideal(°)
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(°)	Ideal(°)
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(°)	Ideal(°)
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(°)	Ideal(°)
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(°)	Ideal(°)
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(°)	Ideal(°)
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 [i](#)

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 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

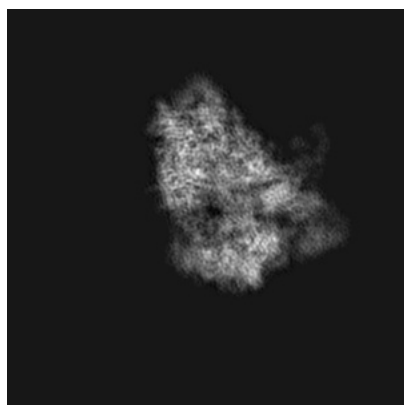
6 Map visualisation [i](#)

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 [i](#)

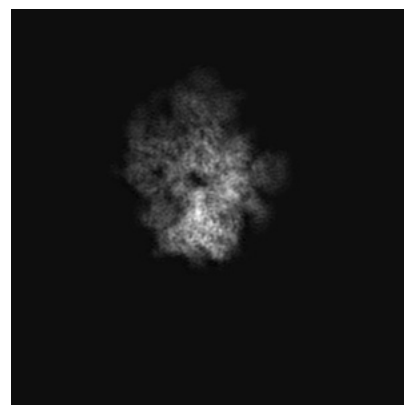
6.1.1 Primary map



X



Y

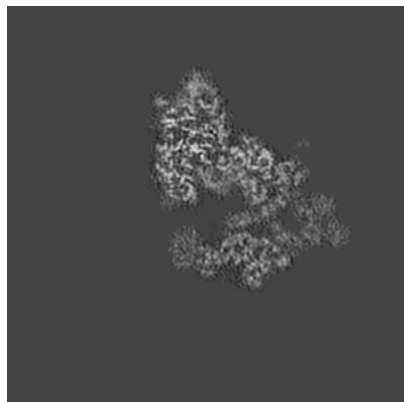


Z

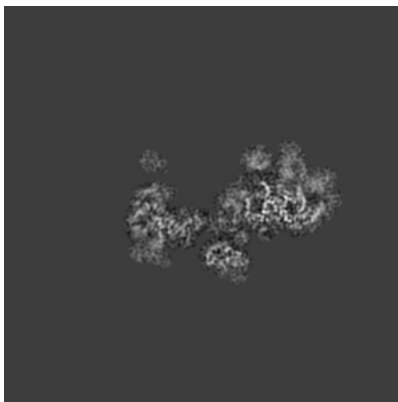
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

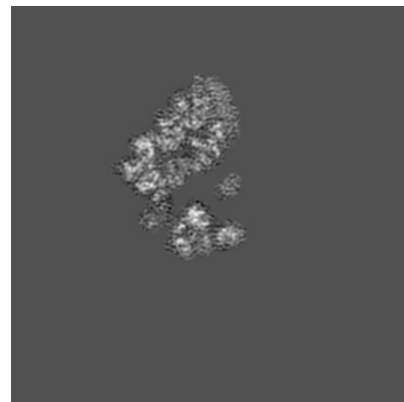
6.2.1 Primary map



X Index: 240



Y Index: 240

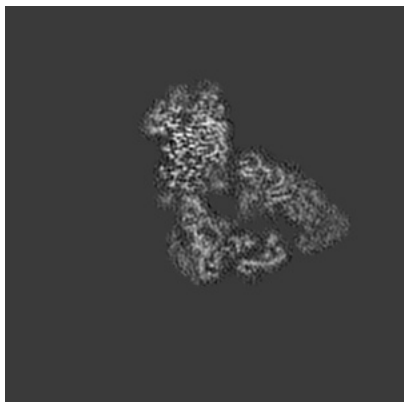


Z Index: 240

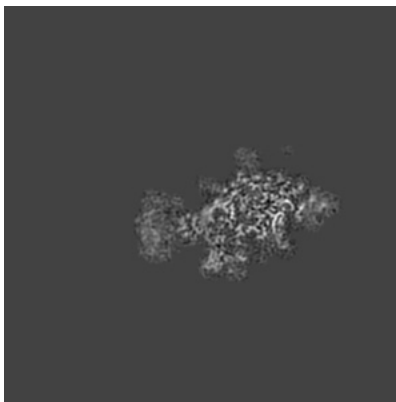
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

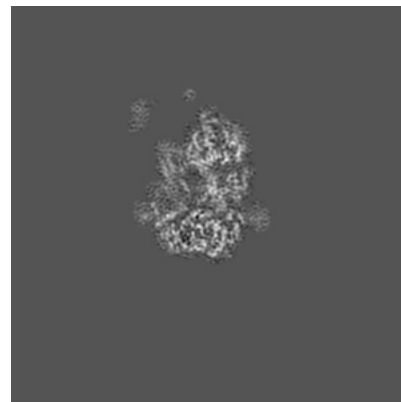
6.3.1 Primary map



X Index: 224



Y Index: 219

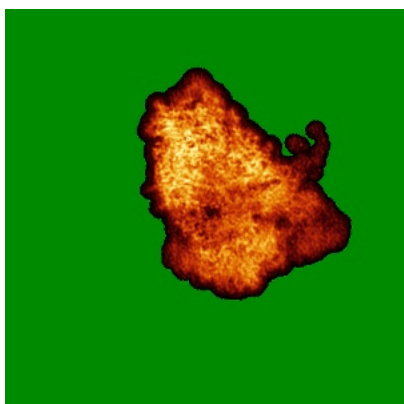


Z Index: 285

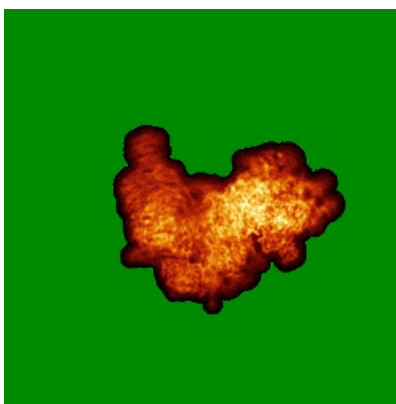
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

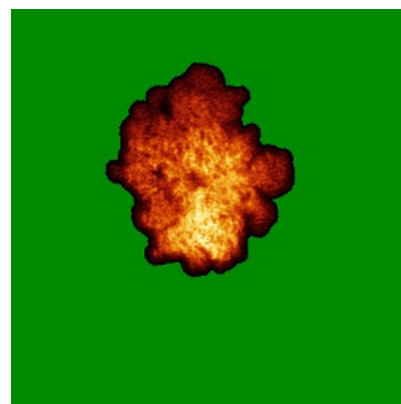
6.4.1 Primary map



X



Y

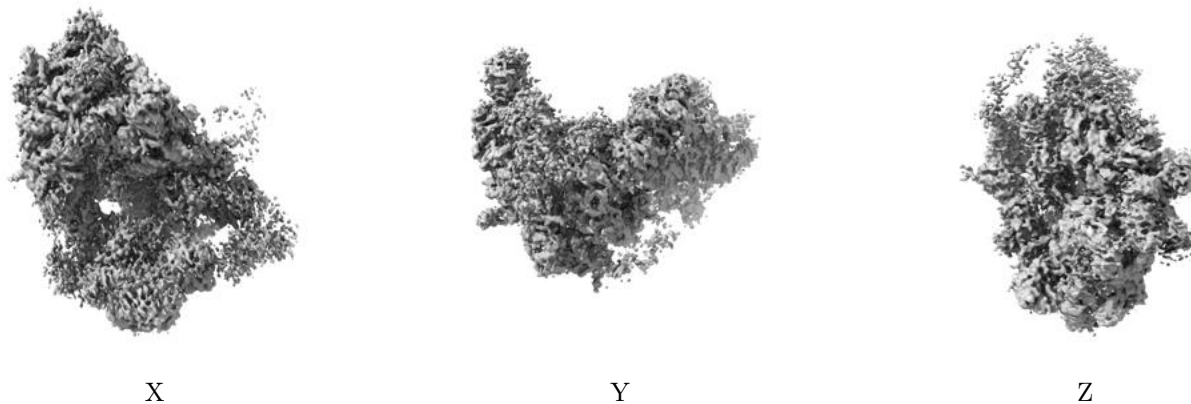


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



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.

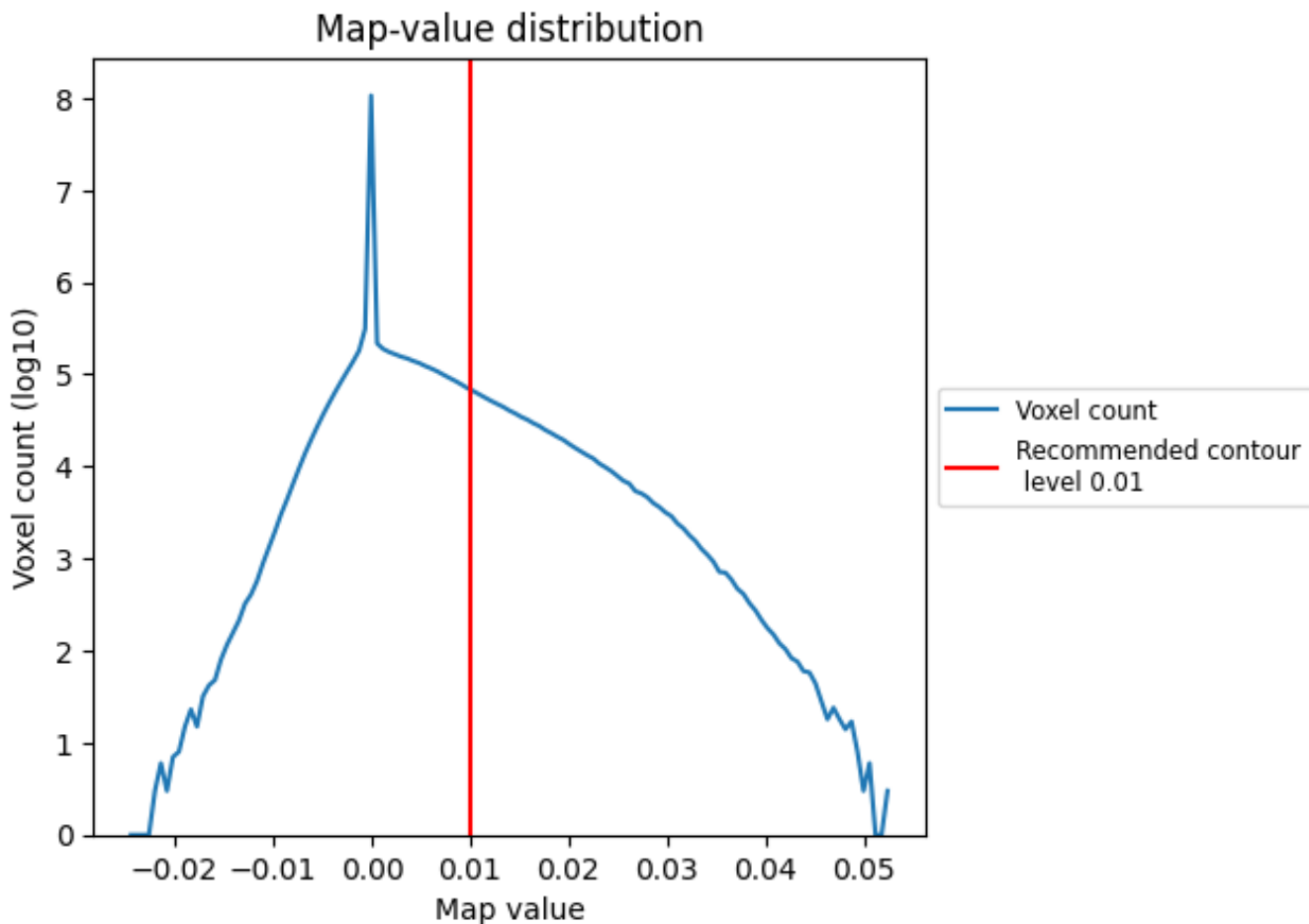
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

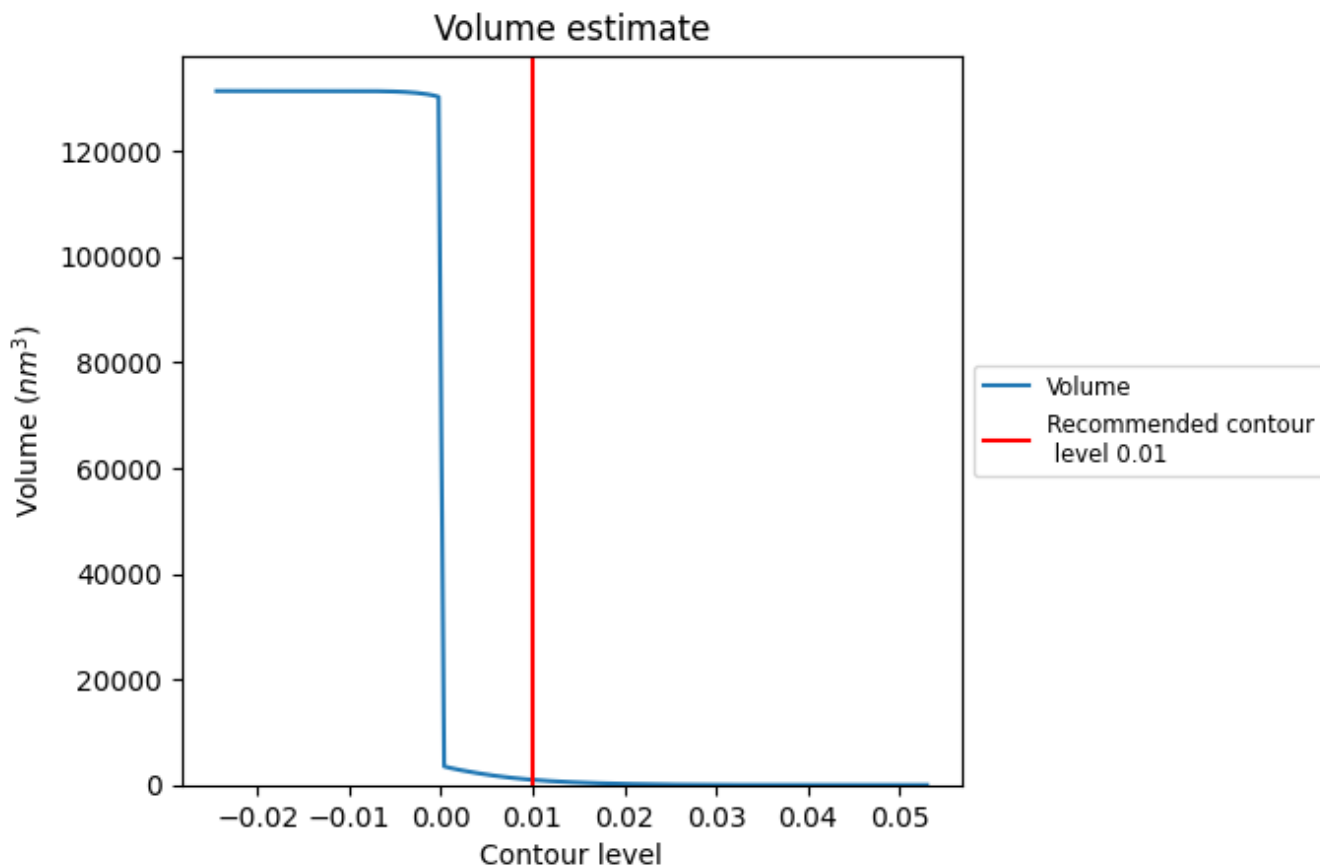
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

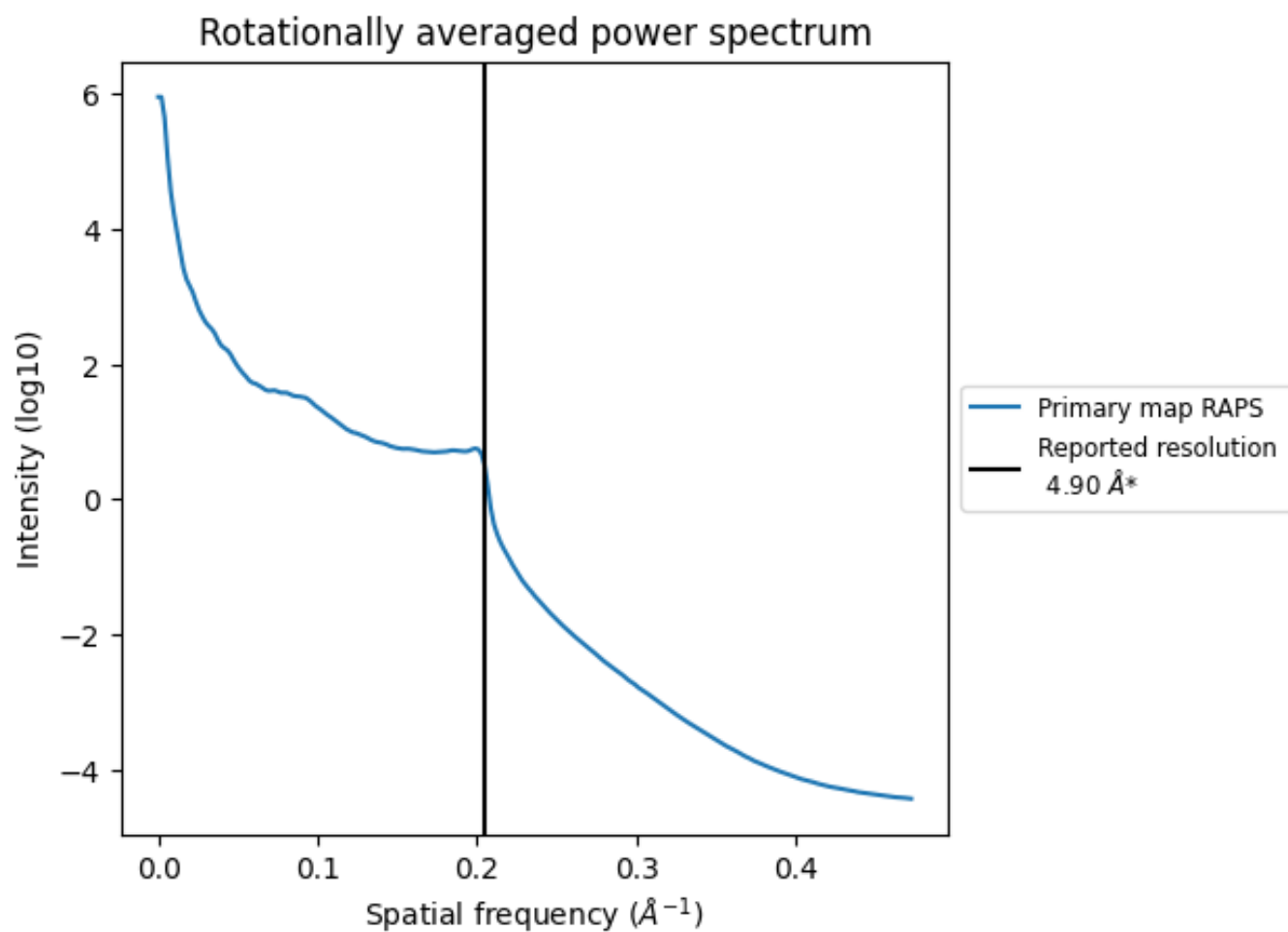
7.2 Volume estimate [\(i\)](#)



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](#)

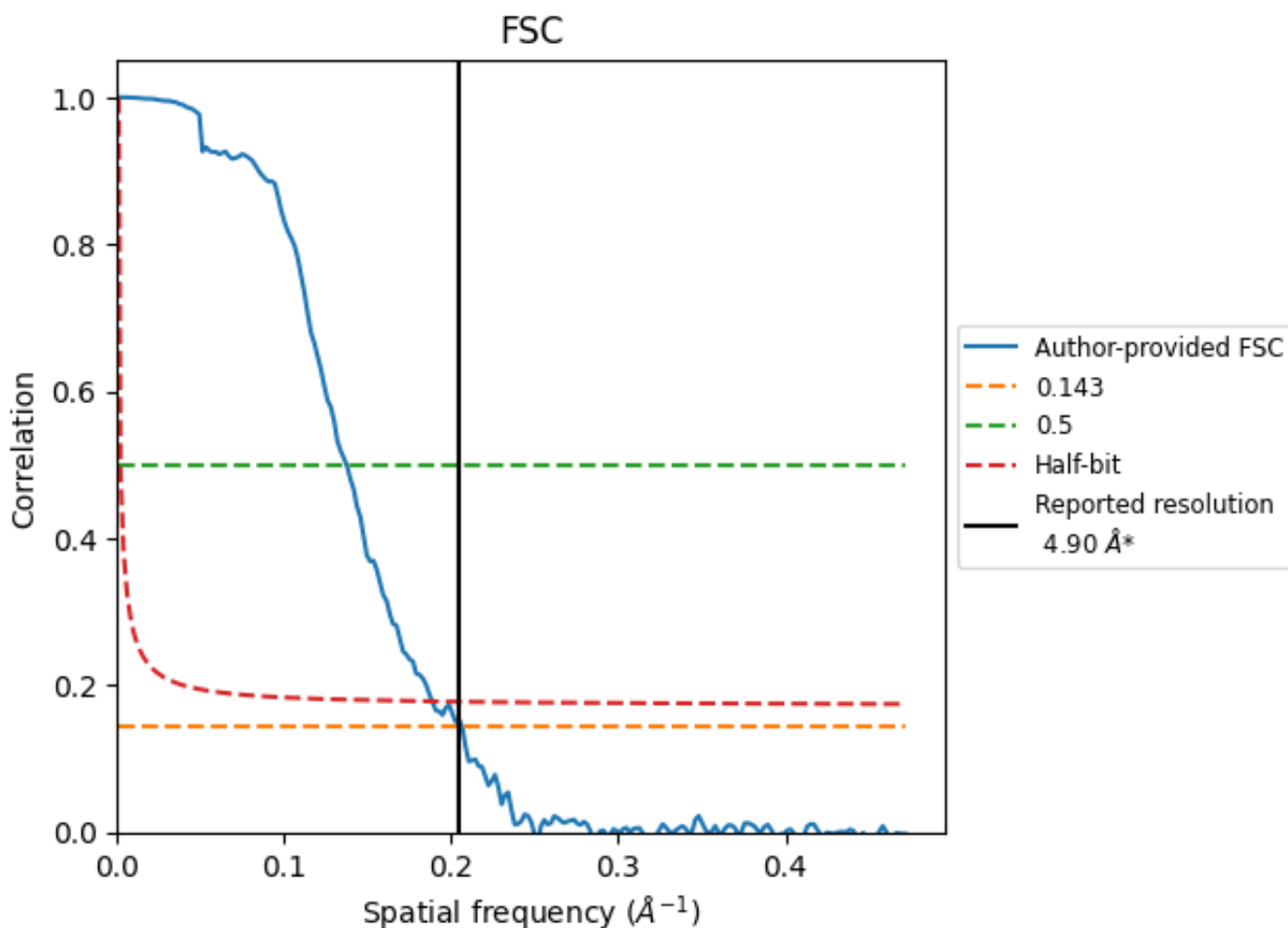


*Reported resolution corresponds to spatial frequency of 0.204\AA^{-1}

8 Fourier-Shell correlation [\(i\)](#)

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 [\(i\)](#)



*Reported resolution corresponds to spatial frequency of 0.204 Å⁻¹

8.2 Resolution estimates [i](#)

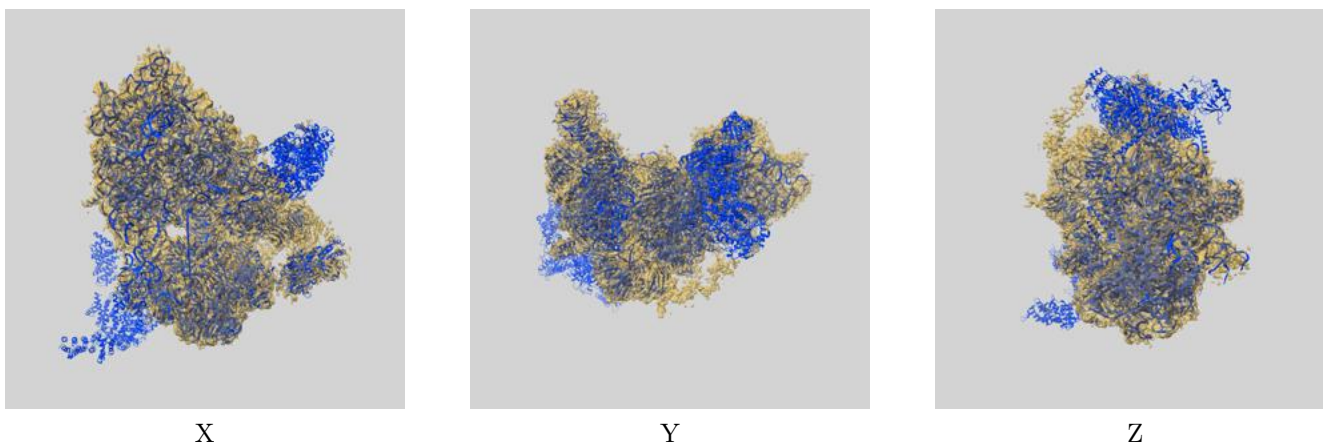
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.90	-	-
Author-provided FSC curve	4.84	7.28	5.30
Unmasked-calculated*	-	-	-

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

9 Map-model fit [i](#)

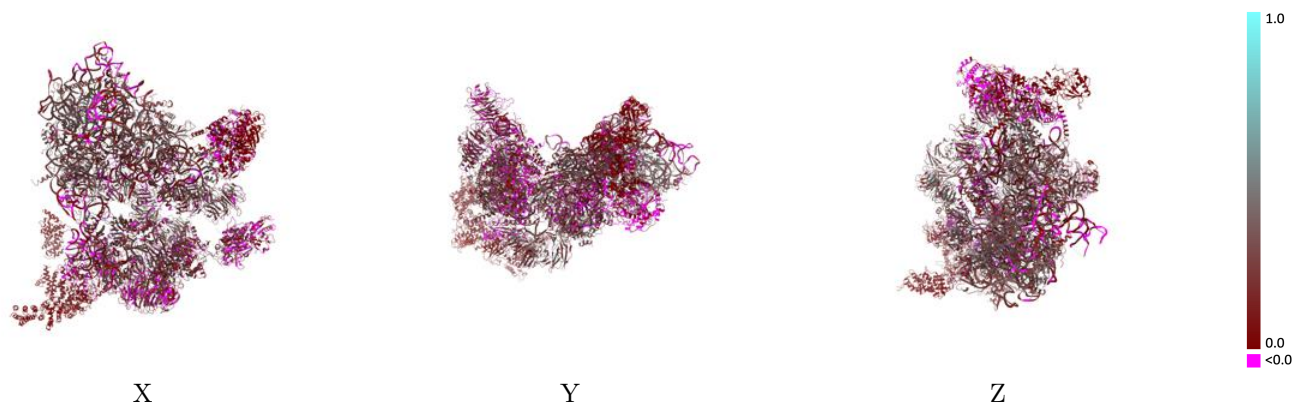
This section contains information regarding the fit between EMDB map EMD-11362 and PDB model 6ZQF. Per-residue inclusion information can be found in section 3 on page 12.

9.1 Map-model overlay [i](#)



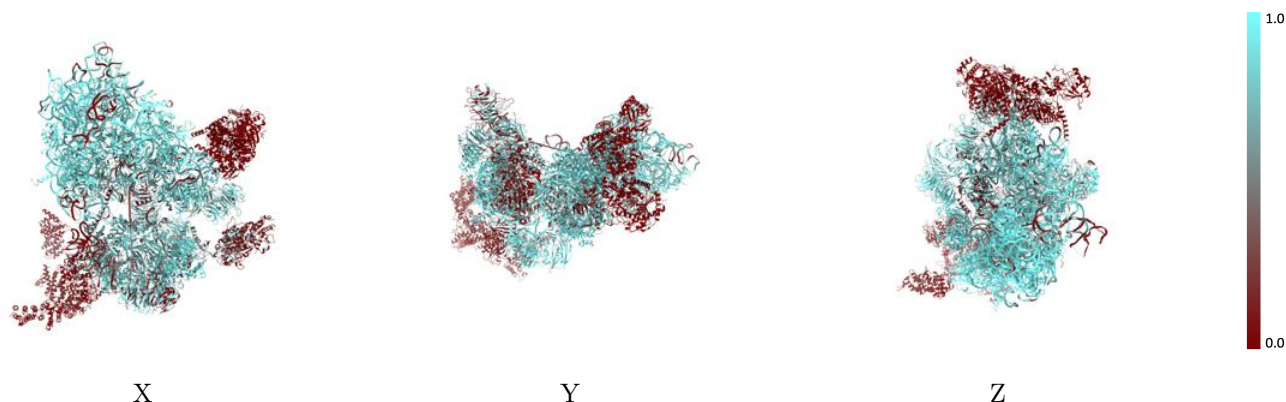
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [\(i\)](#)



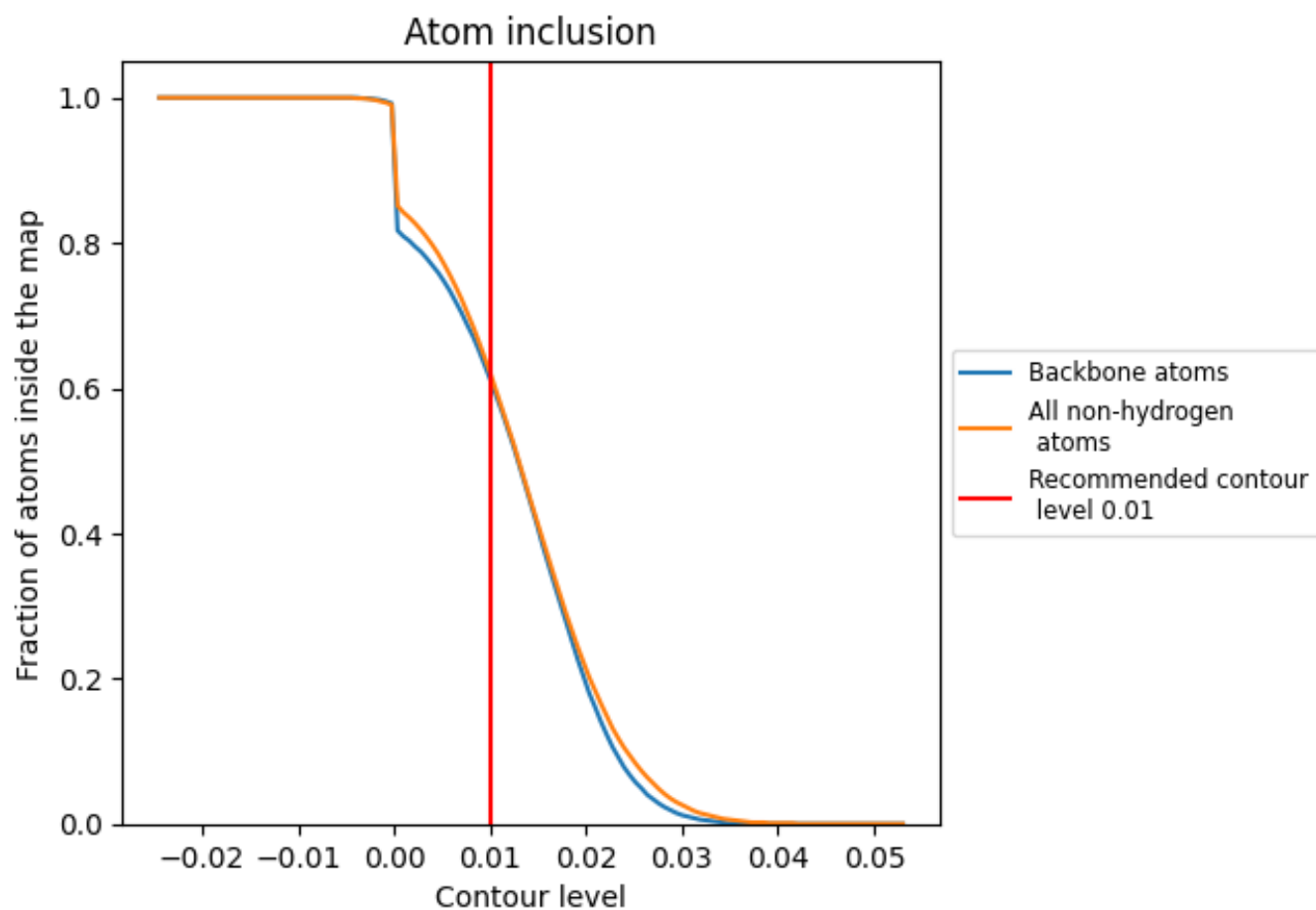
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [\(i\)](#)



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	0.6210	0.1920
CI	0.6320	0.2070
CJ	0.8130	0.3020
CK	0.7440	0.2380
CL	0.8810	0.3100
CM	0.9290	0.3380
CN	0.0090	0.0120
D2	0.4200	0.1080
D3	0.7560	0.2010
D4	0.4360	0.1260
DA	0.8810	0.3130
DE	0.9400	0.3670
DF	0.8120	0.2640
DG	0.9220	0.2900
DH	0.8830	0.2930
DI	0.9240	0.3140
DJ	0.9140	0.3090
DL	0.8050	0.2900
DN	0.9150	0.3320
DO	0.8530	0.2910
DQ	0.8150	0.2670
DS	0.0790	0.0220
DT	0.0900	0.0950
DW	0.9240	0.3390
DX	0.6170	0.1520
DY	0.9350	0.3400
DZ	0.0240	0.0330
Db	0.8580	0.3070
Dc	0.8970	0.3490
JD	0.2520	0.1100
JF	0.0000	-0.0010
JG	0.0380	-0.0220
JH	0.0000	0.0000
JJ	0.8670	0.2910
JL	0.4230	0.1400



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Chain	Atom inclusion	Q-score
UA	 0.7770	 0.2520
UB	 0.0020	 0.0060
UC	 0.6910	 0.1630
UL	 0.8820	 0.2890
UM	 0.7900	 0.2440
US	 0.0000	 -0.0000
UU	 0.5980	 0.1670
UV	 0.0210	 0.0100