



Full wwPDB EM Validation Report ⓘ

Sep 16, 2026 – 12:28 AM JST

PDB ID : 9WW6 / pdb_00009ww6
EMDB ID : EMD-66299
Title : human 80S ribosome delta eL41 non-rotated state
Authors : Fujino, M.; Tanaka, Y.; Iwasaki, W.; Ito, T.; Yokoyama, T.
Deposited on : 2025-09-22
Resolution : 2.83 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.dev133
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.50

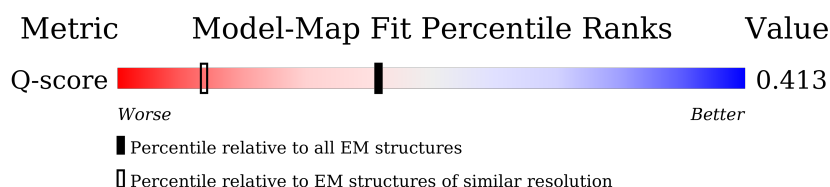
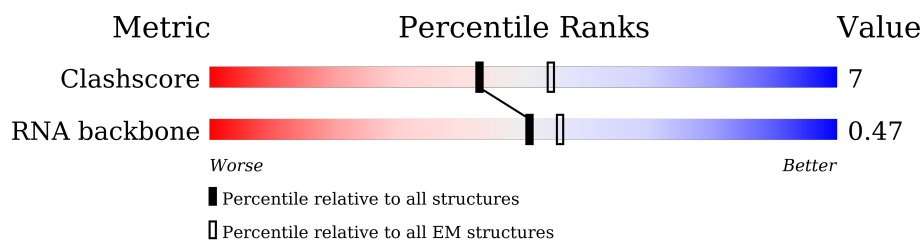
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.83 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
RNA backbone	8273	3508	-
Q-score	-	25397	11847 (2.33 - 3.33)

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	AA	5069	
2	AB	120	
3	AC	157	
4	AD	257	
5	AE	402	

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Mol	Chain	Length	Quality of chain
6	AF	368	
7	AG	293	
8	AH	247	
9	AI	248	
10	AJ	266	
11	AK	192	
12	AL	214	
13	AM	178	
14	AN	211	
15	AO	215	
16	AP	204	
17	AQ	203	
18	AR	184	
19	AS	188	
20	AT	196	
21	AU	176	
22	AV	160	
23	AW	128	
24	AX	140	
25	AY	157	
26	AZ	156	
27	Aa	145	
28	Ab	136	
29	Ac	148	
30	Ad	159	

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Mol	Chain	Length	Quality of chain
31	Ae	115	
32	Af	125	
33	Ag	135	
34	Ah	110	
35	Ai	117	
36	Aj	123	
37	Ak	105	
38	Al	97	
39	Am	70	
40	An	51	
41	Ao	128	
42	Aq	106	
43	Ar	92	
44	As	137	
45	BA	1869	
46	BB	263	
47	BC	295	
48	BD	264	
49	BE	243	
50	BF	204	
51	BG	194	
52	BH	208	
53	BI	165	
54	BJ	158	
55	BK	145	

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Mol	Chain	Length	Quality of chain
56	BL	146	
57	BM	152	
58	BN	145	
59	BO	119	
60	BP	83	
61	BQ	143	
62	BR	115	
63	BS	69	
64	BT	56	
65	BU	317	
66	BV	293	
67	BW	249	
68	BX	194	
69	BY	132	
70	BZ	151	
71	Ba	151	
72	Bb	130	
73	Bc	133	
74	Bd	125	
75	Be	84	
76	Bf	133	
77	Bg	156	
78	Bh	135	

2 Entry composition

There are 81 unique types of molecules in this entry. The entry contains 214513 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 RNA chain called 28S rRNA (3773-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
1	AA	3770	Total	C	N	O	P	0	0
			80142	35694	14578	26101	3769		

- Molecule 2 is a RNA chain called 5S rRNA (120-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
2	AB	120	Total	C	N	O	P	0	0
			2558	1141	456	842	119		

- Molecule 3 is a RNA chain called 5.8S rRNA (156-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
3	AC	156	Total	C	N	O	P	0	0
			3316	1482	585	1094	155		

- Molecule 4 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	AD	248	Total	C	N	O	S	0	0
			1898	1189	389	314	6		

- Molecule 5 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	AE	402	Total	C	N	O	S	0	0
			3239	2061	608	556	14		

- Molecule 6 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	AF	364	Total	C	N	O	S	0	0
			2895	1822	578	480	15		

- Molecule 7 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	AG	293	Total	C	N	O	S	0	0
			2382	1507	434	427	14		

- Molecule 8 is a protein called Large ribosomal subunit protein eL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AH	236	Total	C	N	O	S	0	0
			1904	1222	361	317	4		

- Molecule 9 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AI	225	Total	C	N	O	S	1	0
			1878	1207	361	301	9		

- Molecule 10 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AJ	241	Total	C	N	O	S	1	0
			1935	1233	374	324	4		

- Molecule 11 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AK	190	Total	C	N	O	S	0	0
			1518	956	284	272	6		

- Molecule 12 is a protein called Ribosomal protein uL16-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AL	213	Total	C	N	O	S	0	0
			1713	1083	329	285	16		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AL	49	CYS	GLY	conflict	UNP Q96L21

- Molecule 13 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AM	176	Total	C	N	O	S	0	0
			1410	888	263	253	6		

- Molecule 14 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AN	210	Total	C	N	O	S	0	0
			1701	1064	352	281	4		

- Molecule 15 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AO	139	Total	C	N	O	S	0	0
			1138	730	218	183	7		

- Molecule 16 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AP	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 17 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AQ	201	Total	C	N	O	S	0	0
			1650	1063	321	261	5		

- Molecule 18 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AR	153	Total	C	N	O	S	0	0
			1242	776	241	216	9		

- Molecule 19 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AS	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 20 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AT	187	Total	C	N	O	S	0	0
			1566	971	336	250	9		

- Molecule 21 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AU	175	Total	C	N	O	S	0	0
			1453	925	283	235	10		

- Molecule 22 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AV	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 23 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AW	101	Total	C	N	O	S	0	0
			825	529	144	150	2		

- Molecule 24 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AX	131	Total	C	N	O	S	0	0
			979	618	184	172	5		

- Molecule 25 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	AY	63	Total	C	N	O	S	0	0
			528	337	103	85	3		

- Molecule 26 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	AZ	120	Total	C	N	O	S	0	0
			985	630	185	169	1		

- Molecule 27 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Aa	132	Total	C	N	O	S	0	0
			1102	692	223	184	3		

- Molecule 28 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	Ab	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 29 is a protein called Large ribosomal subunit protein uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Ac	147	Total	C	N	O	S	0	0
			1163	736	237	187	3		

- Molecule 30 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Ad	99	Total	C	N	O	S	0	0
			808	502	177	125	4		

- Molecule 31 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Ae	98	Total	C	N	O	S	0	0
			764	485	135	138	6		

- Molecule 32 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Af	106	Total	C	N	O	S	0	0
			879	555	170	152	2		

- Molecule 33 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Ag	128	Total	C	N	O	S	0	0
			1053	667	216	165	5		

- Molecule 34 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Ah	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 35 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Ai	109	Total	C	N	O	S	0	0
			868	544	179	139	6		

- Molecule 36 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Aj	122	Total	C	N	O	S	0	0
			1015	641	205	168	1		

- Molecule 37 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Ak	99	Total	C	N	O	S	0	0
			813	509	173	126	5		

- Molecule 38 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Al	86	Total	C	N	O	S	0	0
			705	434	155	111	5		

- Molecule 39 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Am	68	Total	C	N	O	S	0	0
			559	360	101	97	1		

- Molecule 40 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	An	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 41 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Ao	51	Total	C	N	O	S	0	0
			419	260	88	65	6		

- Molecule 42 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Aq	102	Total	C	N	O	S	1	0
			842	527	174	135	6		

- Molecule 43 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Ar	88	Total	C	N	O	S	0	0
			681	430	131	113	7		

- Molecule 44 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	As	123	Total	C	N	O	S	0	0
			987	612	205	166	4		

- Molecule 45 is a RNA chain called 18S rRNA (1740-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
45	BA	1733	Total	C	N	O	P	0	0
			36808	16444	6572	12059	1733		

- Molecule 46 is a protein called 40S ribosomal protein S4, X isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	BB	262	Total	C	N	O	S	0	0
			2076	1324	386	358	8		

- Molecule 47 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	BC	219	Total	C	N	O	S	0	0
			1727	1096	302	320	9		

- Molecule 48 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	BD	215	Total	C	N	O	S	0	0
			1747	1109	312	312	14		

- Molecule 49 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	BE	227	Total	C	N	O	S	0	0
			1765	1125	317	315	8		

- Molecule 50 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	BF	191	Total	C	N	O	S	0	0
			1509	943	286	273	7		

- Molecule 51 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	BG	186	Total	C	N	O	S	0	0
			1497	956	274	266	1		

- Molecule 52 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	BH	206	Total	C	N	O	S	0	0
			1686	1058	332	291	5		

- Molecule 53 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	BI	97	Total	C	N	O	S	0	0
			816	533	144	133	6		

- Molecule 54 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	BJ	154	Total	C	N	O	S	0	0
			1258	802	235	215	6		

- Molecule 55 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	BK	125	Total	C	N	O	S	0	0
			1027	653	193	174	7		

- Molecule 56 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	BL	141	Total	C	N	O	S	0	0
			1124	715	212	194	3		

- Molecule 57 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	BM	145	Total	C	N	O	S	0	0
			1194	748	241	203	2		

- Molecule 58 is a protein called Small ribosomal subunit protein eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	BN	143	Total	C	N	O	S	0	0
			1113	698	214	198	3		

- Molecule 59 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	BO	103	Total	C	N	O	S	0	0
			817	511	155	147	4		

- Molecule 60 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	BP	83	Total	C	N	O	S	0	0
			636	393	117	121	5		

- Molecule 61 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	BQ	141	Total	C	N	O	S	0	0
			1098	693	219	183	3		

- Molecule 62 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	BR	102	Total	C	N	O	S	1	0
			829	517	174	133	5		

- Molecule 63 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	BS	64	Total	C	N	O	S	0	0
			506	308	102	94	2		

- Molecule 64 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	BT	55	Total	C	N	O	S	0	0
			459	286	94	74	5		

- Molecule 65 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	BU	313	Total	C	N	O	S	0	0
			2436	1535	424	465	12		

- Molecule 66 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	BV	221	Total	C	N	O	S	1	0
			1724	1115	298	301	10		

- Molecule 67 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	BW	234	Total	C	N	O	S	0	0
			1903	1188	384	324	7		

- Molecule 68 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	BX	182	Total	C	N	O	S	1	0
			1520	967	306	245	2		

- Molecule 69 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	BY	118	Total	C	N	O	S	0	0
			906	568	158	172	8		

- Molecule 70 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	BZ	150	Total	C	N	O	S	0	0
			1208	773	229	205	1		

- Molecule 71 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Ba	136	Total	C	N	O	S	0	0
			1016	621	199	190	6		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ba	138	IAS	ASP	conflict	UNP P62263

- Molecule 72 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Bb	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 73 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Bc	128	Total	C	N	O	S	1	0
			1048	661	207	175	5		

- Molecule 74 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Bd	75	Total	C	N	O	S	0	0
			598	382	111	104	1		

- Molecule 75 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Be	83	Total	C	N	O	S	0	0
			651	408	121	115	7		

- Molecule 76 is a protein called Ubiquitin-like FUBI-ribosomal protein eS30 fusion protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Bf	58	Total	C	N	O	S	0	0
			459	284	100	74	1		

- Molecule 77 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Bg	67	Total	C	N	O	S	0	0
			548	346	102	93	7		

- Molecule 78 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Bh	131	Total	C	N	O	S	0	0
			1064	668	198	194	4		

- Molecule 79 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
79	AA	174	Total	Mg	0
			174	174	
79	AB	2	Total	Mg	0
			2	2	
79	AC	3	Total	Mg	0
			3	3	
79	AE	1	Total	Mg	0
			1	1	
79	AP	1	Total	Mg	0
			1	1	
79	AX	1	Total	Mg	0
			1	1	
79	Al	1	Total	Mg	0
			1	1	
79	BA	6	Total	Mg	0
			6	6	

- Molecule 80 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms	AltConf
80	AA	47	Total K 47 47	0
80	AB	1	Total K 1 1	0
80	AC	1	Total K 1 1	0
80	AD	1	Total K 1 1	0
80	AL	1	Total K 1 1	0
80	Ag	1	Total K 1 1	0
80	Ah	1	Total K 1 1	0
80	Aq	1	Total K 1 1	0
80	BA	2	Total K 2 2	0
80	BT	1	Total K 1 1	0

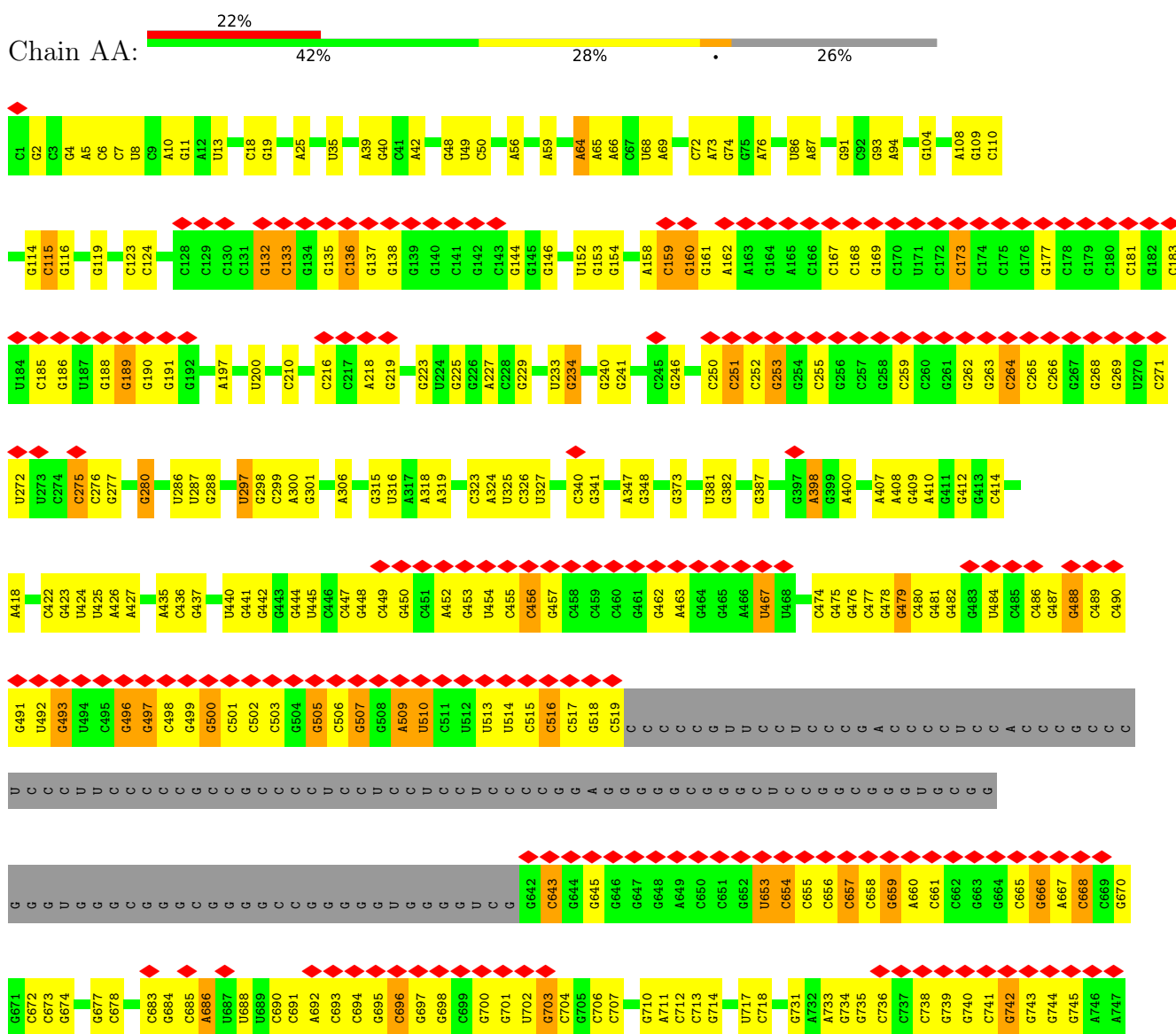
- Molecule 81 is ZINC ION (CCD ID: ZN) (formula: Zn).

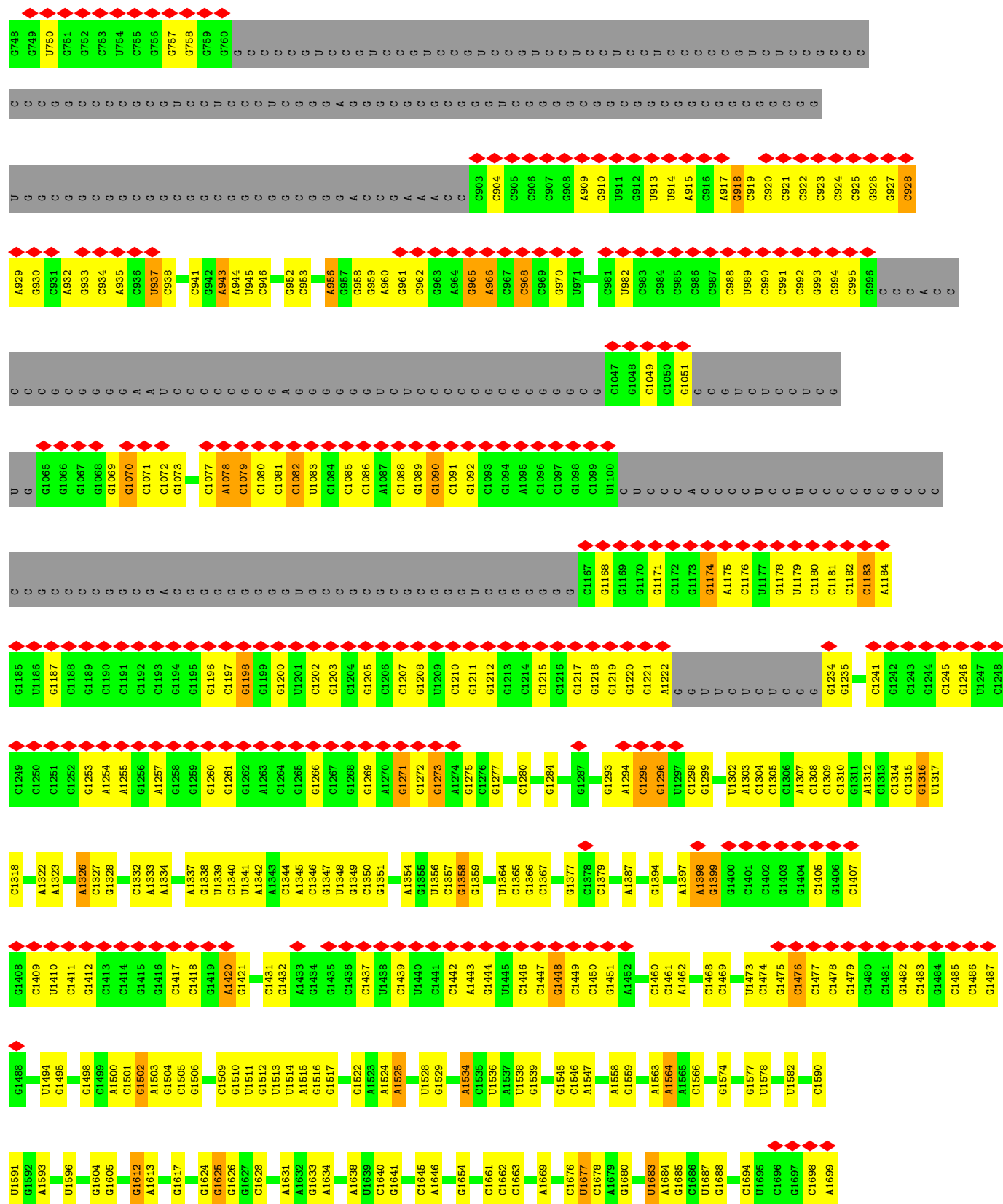
Mol	Chain	Residues	Atoms	AltConf
81	Ai	1	Total Zn 1 1	0
81	Al	1	Total Zn 1 1	0
81	Ao	1	Total Zn 1 1	0
81	Aq	1	Total Zn 1 1	0
81	Ar	1	Total Zn 1 1	0
81	BR	1	Total Zn 1 1	0
81	BT	1	Total Zn 1 1	0
81	Bg	1	Total Zn 1 1	0

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.

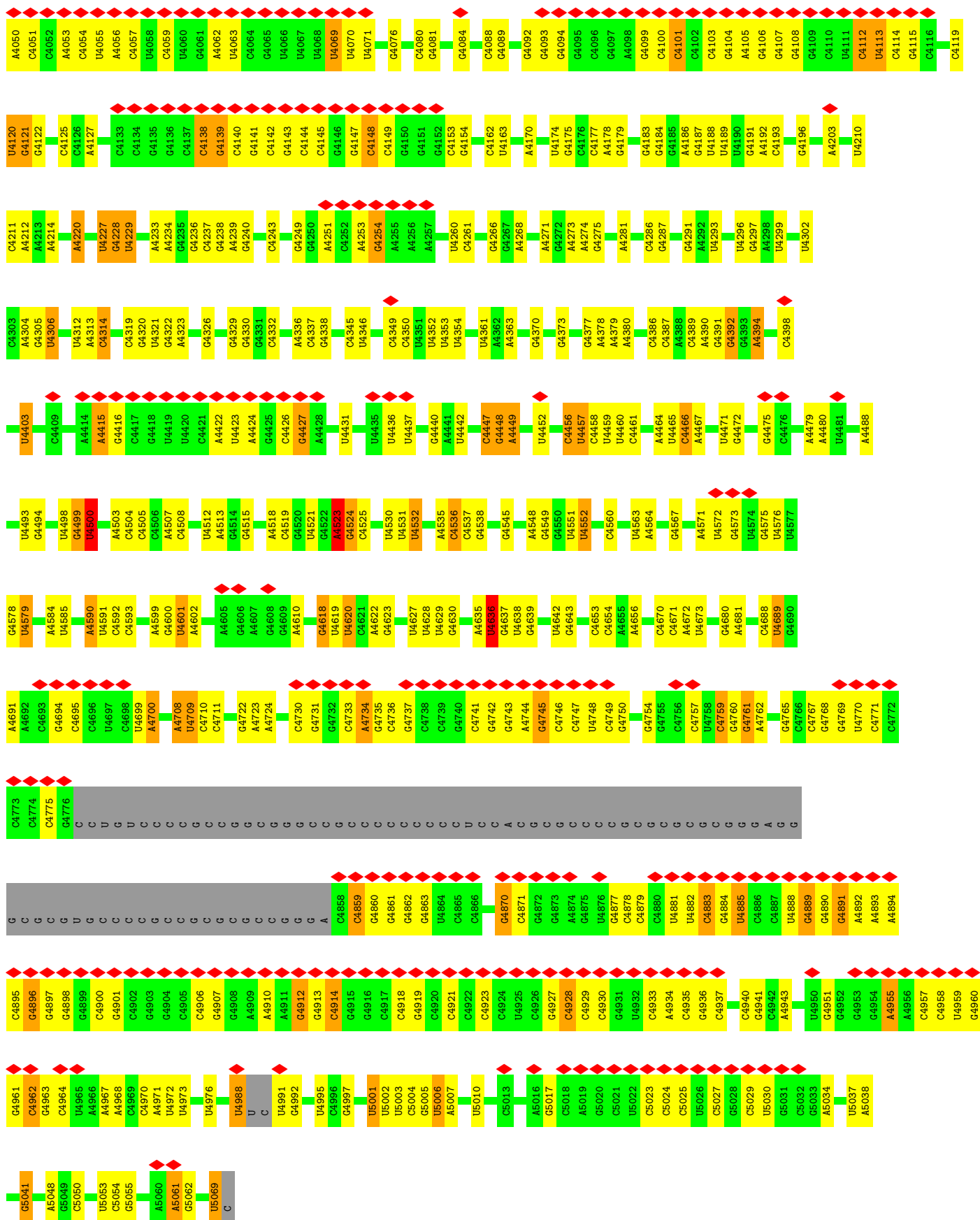
• Molecule 1: 28S rRNA (3773-MER)



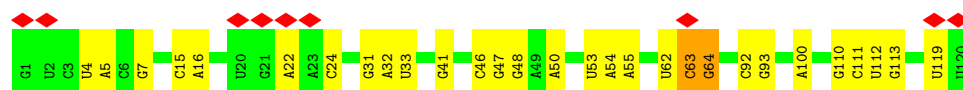
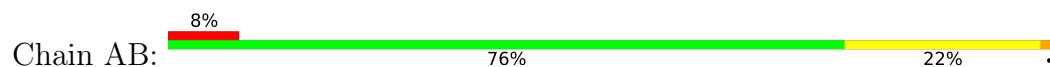




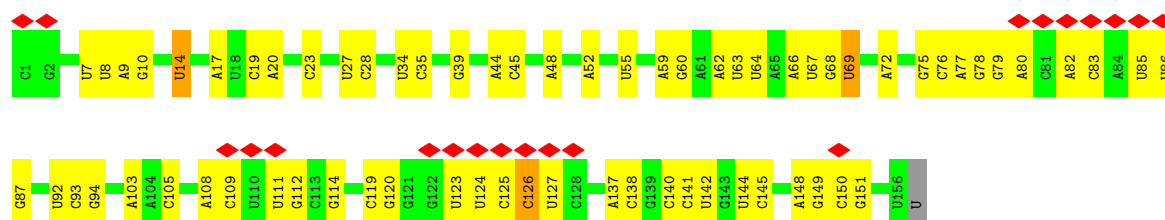




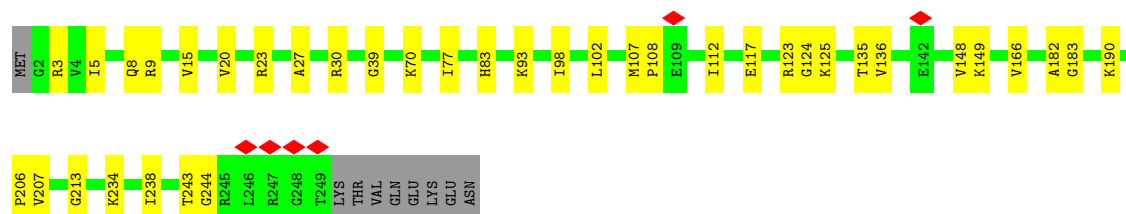
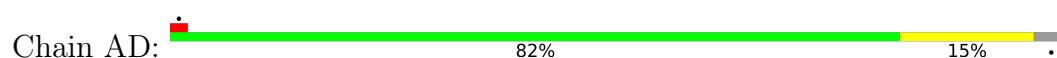
- Molecule 2: 5S rRNA (120-MER)



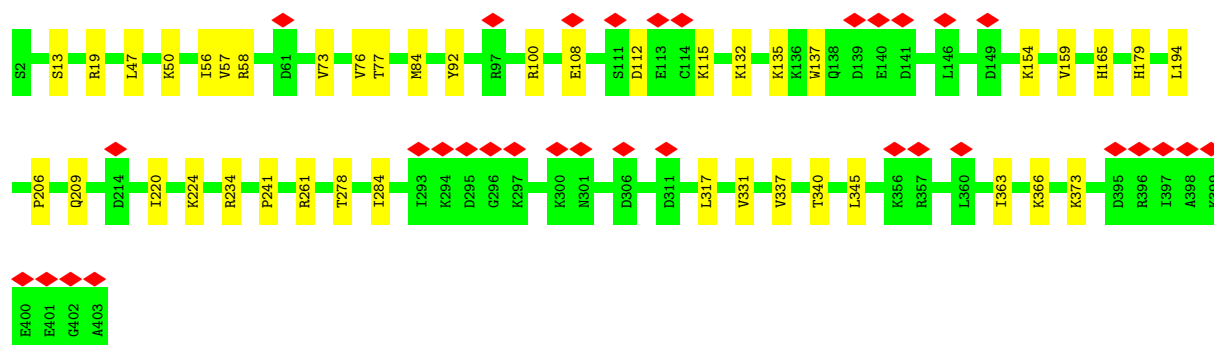
- Molecule 3: 5.8S rRNA (156-MER)



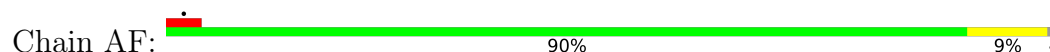
- Molecule 4: 60S ribosomal protein L8

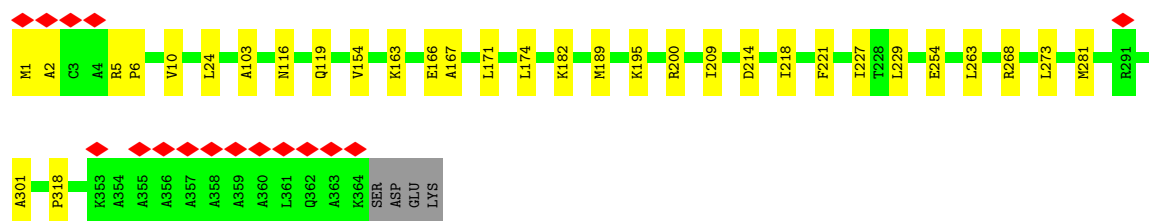


- Molecule 5: Large ribosomal subunit protein uL3

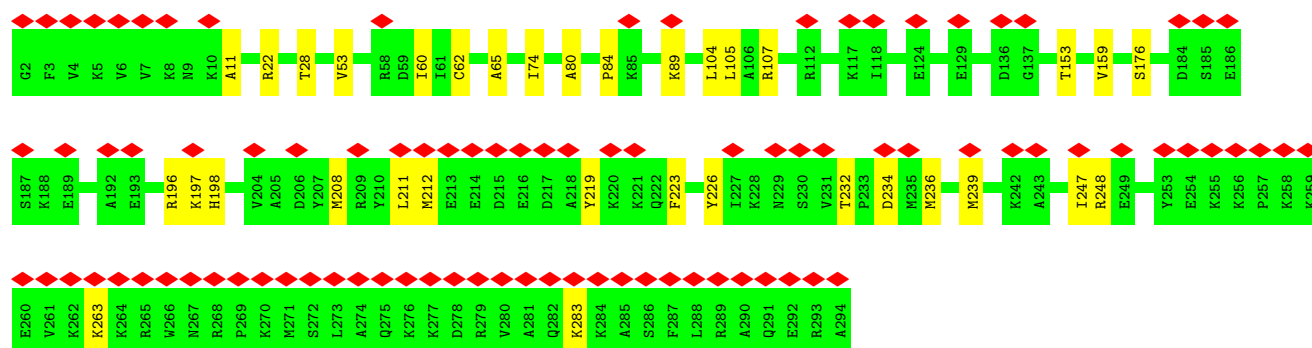
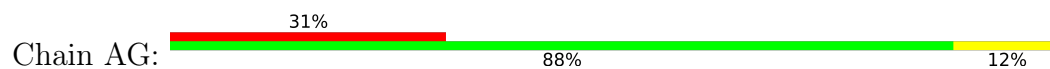


- Molecule 6: Large ribosomal subunit protein uL4

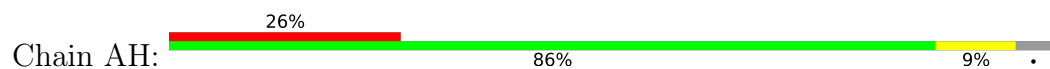




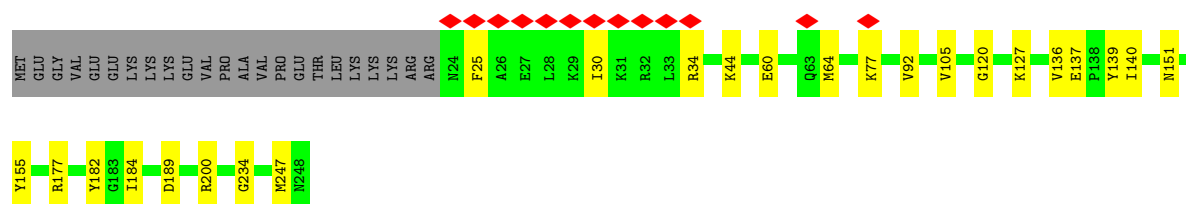
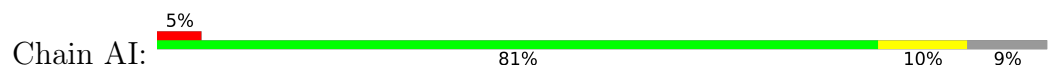
• Molecule 7: Large ribosomal subunit protein uL18



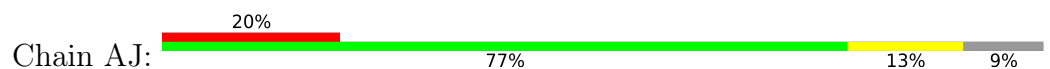
• Molecule 8: Large ribosomal subunit protein eL6

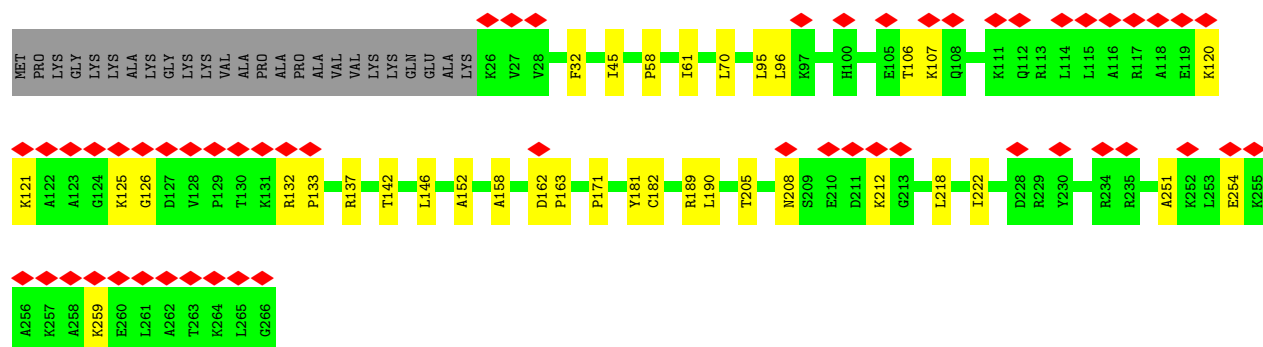


• Molecule 9: 60S ribosomal protein L7



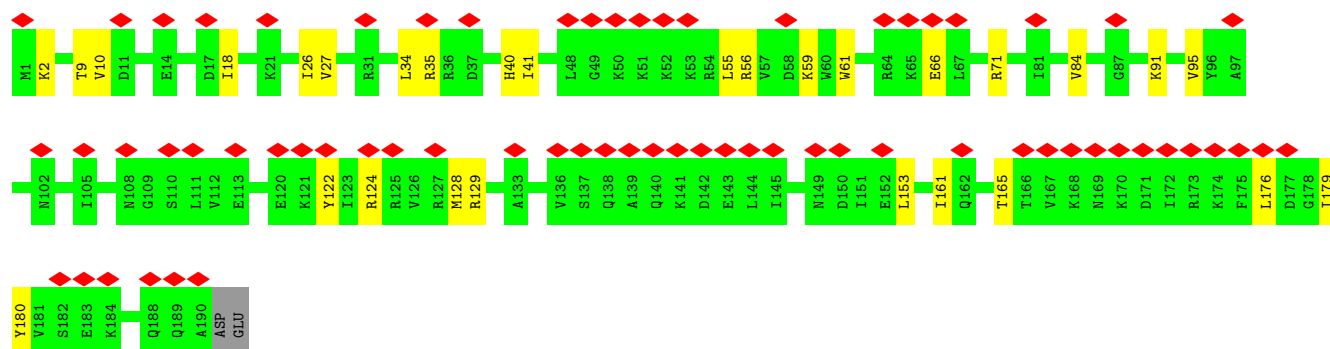
• Molecule 10: 60S ribosomal protein L7a





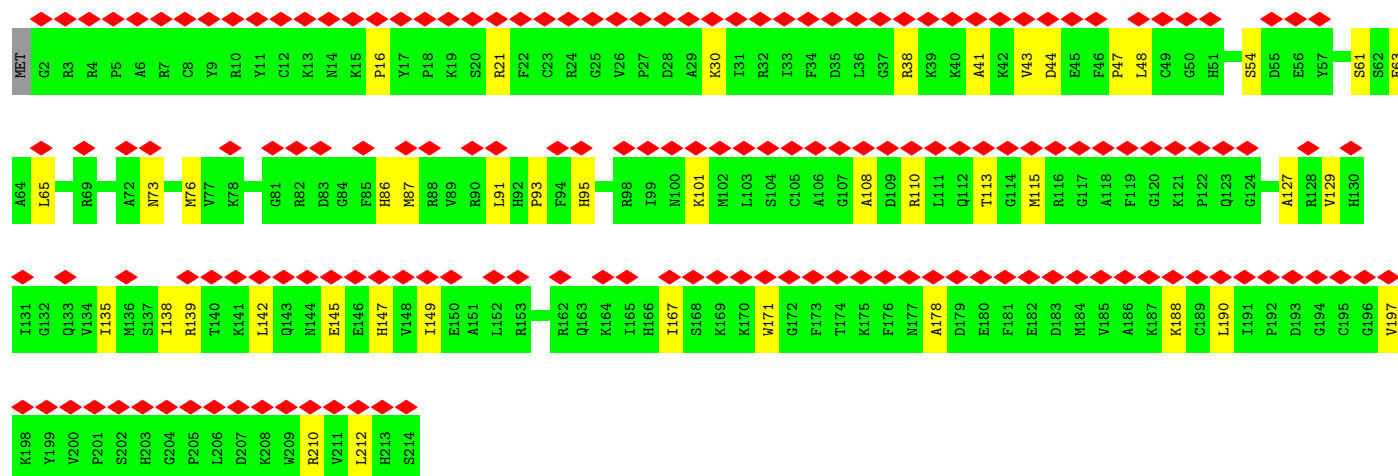
• Molecule 11: 60S ribosomal protein L9

Chain AK: 35% 84% 15% .



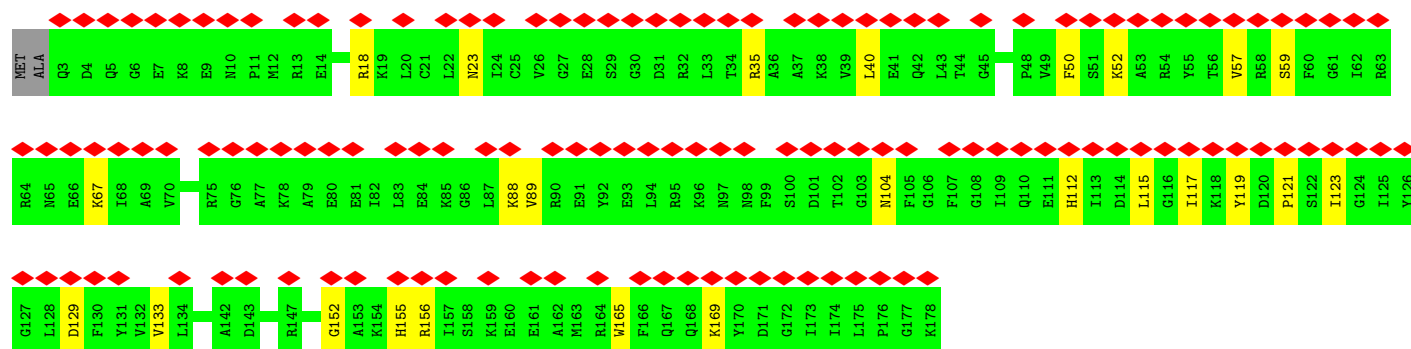
• Molecule 12: Ribosomal protein uL16-like

Chain AL: 77% 80% 20%

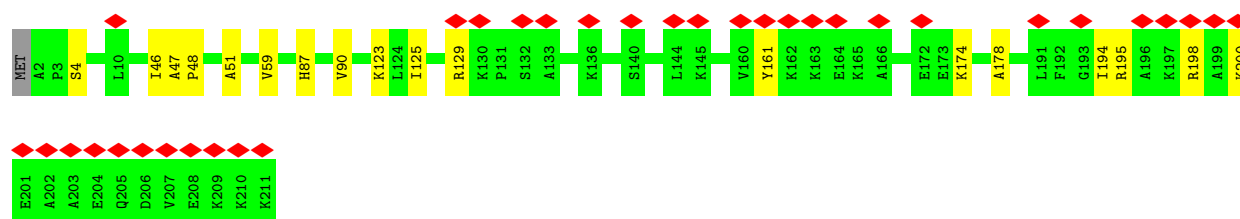


• Molecule 13: 60S ribosomal protein L11

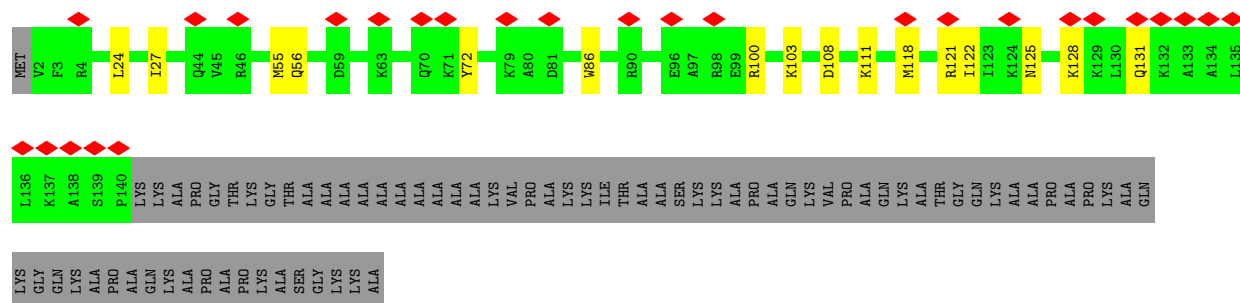
Chain AM: 75% 85% 14%



• Molecule 14: 60S ribosomal protein L13



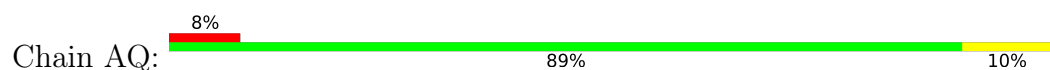
• Molecule 15: 60S ribosomal protein L14



• Molecule 16: 60S ribosomal protein L15

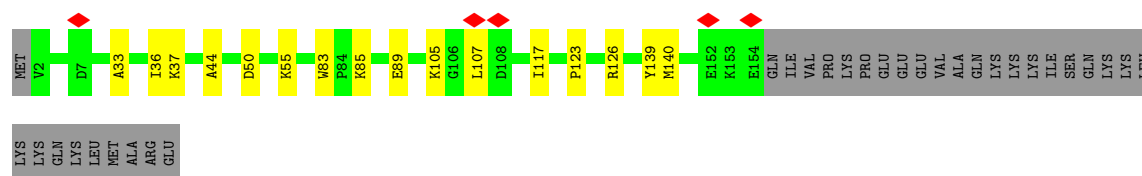


• Molecule 17: 60S ribosomal protein L13a



- Molecule 18: 60S ribosomal protein L17

Chain AR:  74% 9% 17%



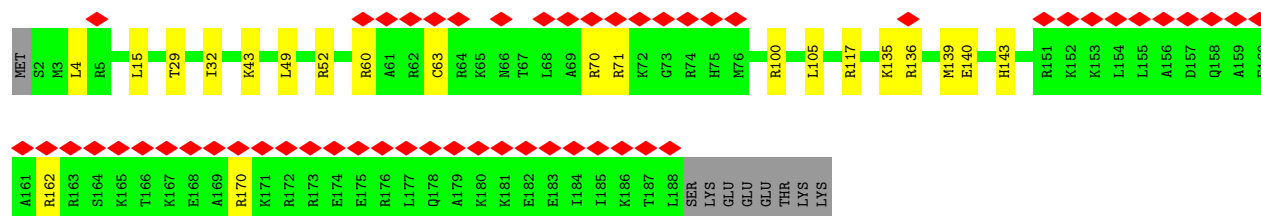
- Molecule 19: 60S ribosomal protein L18

Chain AS:  92% 7%



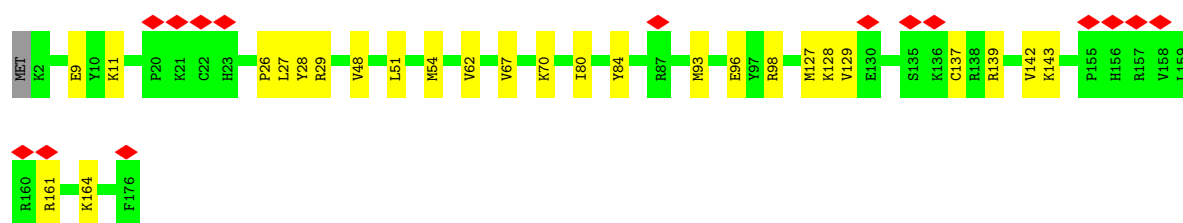
- Molecule 20: 60S ribosomal protein L19

Chain AT:  28% 85% 11% 5%



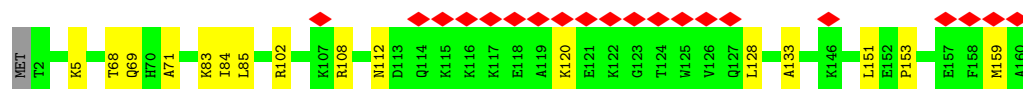
- Molecule 21: 60S ribosomal protein L18a

Chain AU:  9% 85% 15%



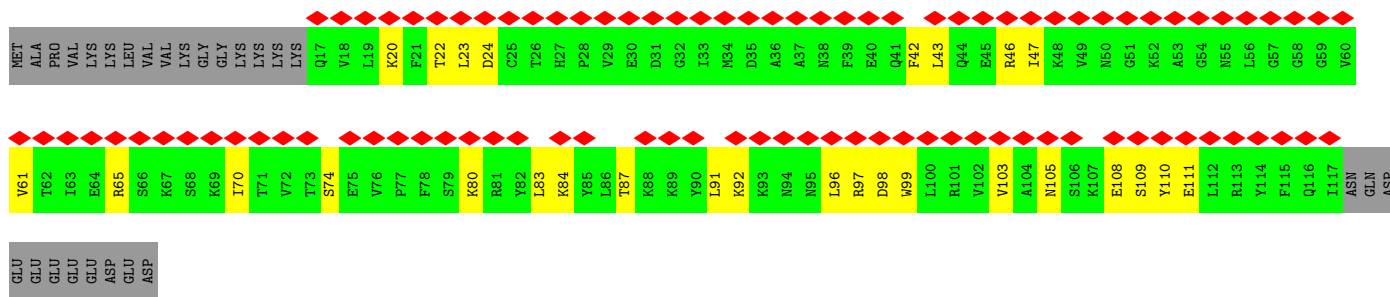
- Molecule 22: 60S ribosomal protein L21

Chain AV:  12% 89% 10%

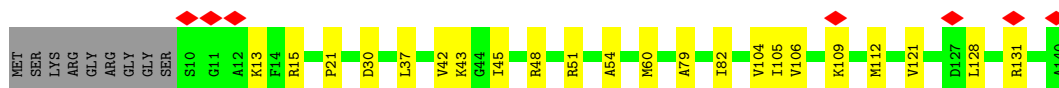
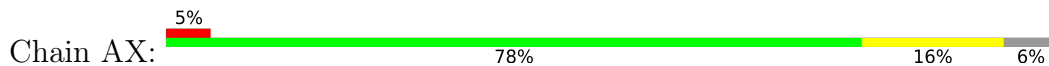


- Molecule 23: 60S ribosomal protein L22

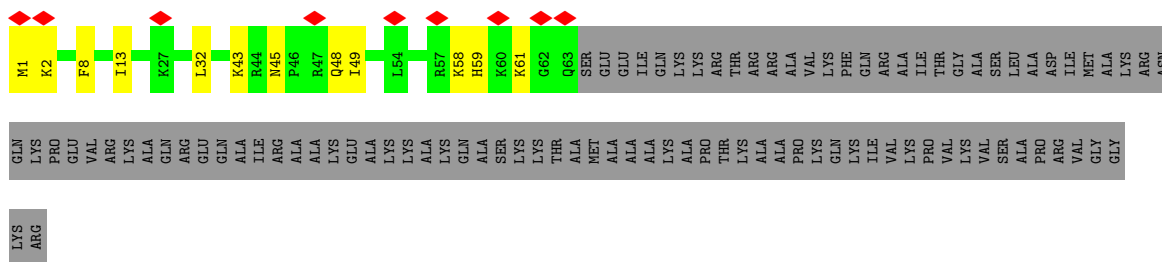
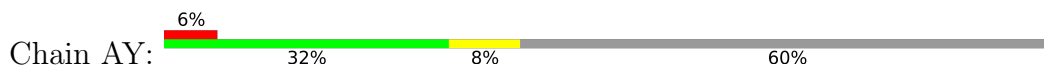
Chain AW:  73% 57% 22% 21%



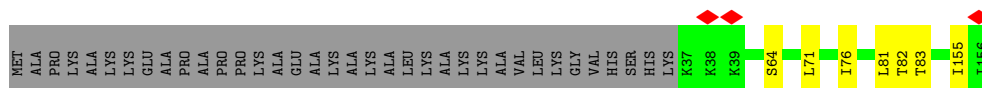
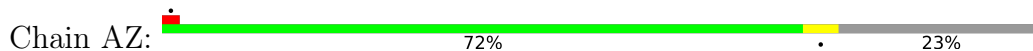
- Molecule 24: 60S ribosomal protein L23



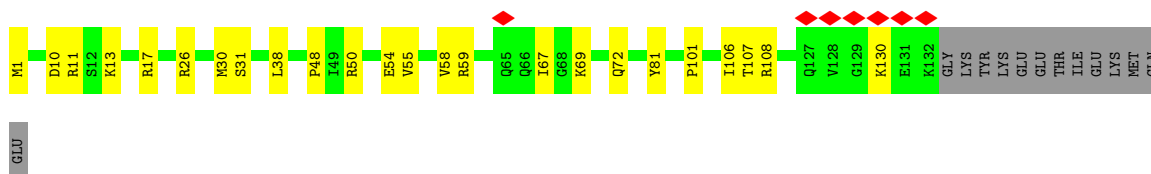
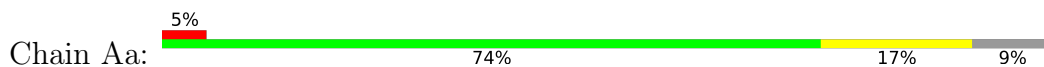
- Molecule 25: 60S ribosomal protein L24



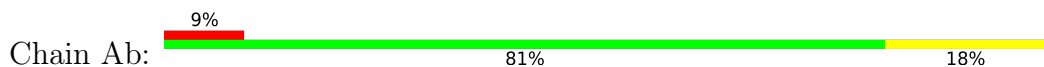
- Molecule 26: 60S ribosomal protein L23a

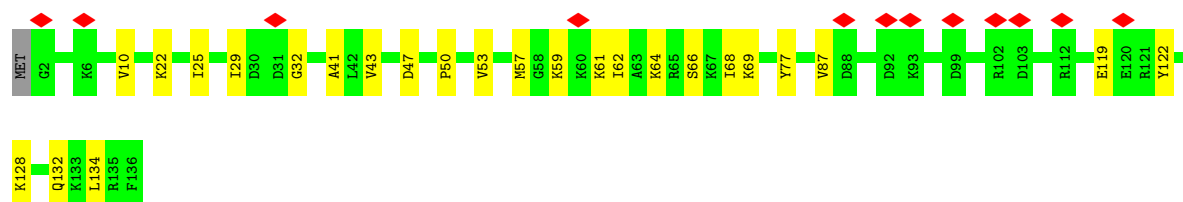


- Molecule 27: 60S ribosomal protein L26

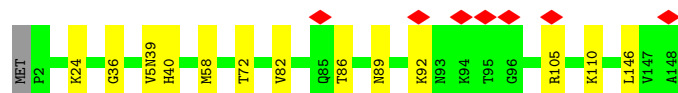


- Molecule 28: 60S ribosomal protein L27

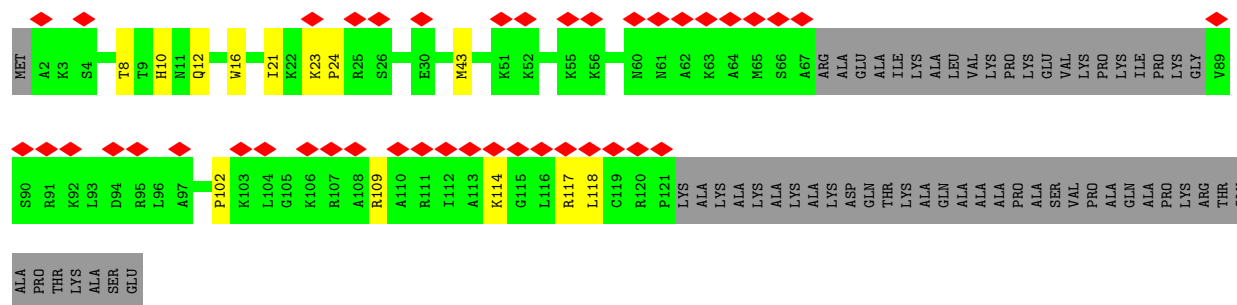




- Molecule 29: Large ribosomal subunit protein uL15



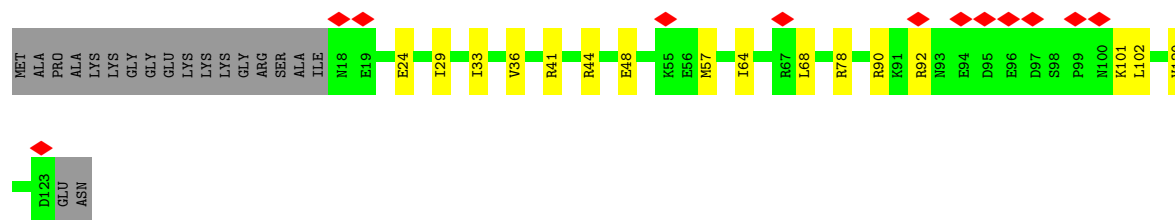
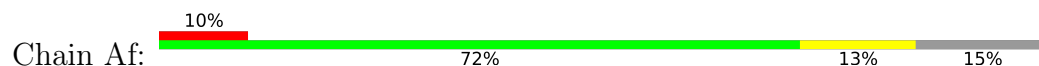
- Molecule 30: 60S ribosomal protein L29



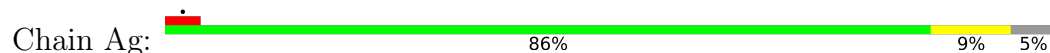
- Molecule 31: 60S ribosomal protein L30



- Molecule 32: 60S ribosomal protein L31



- Molecule 33: 60S ribosomal protein L32

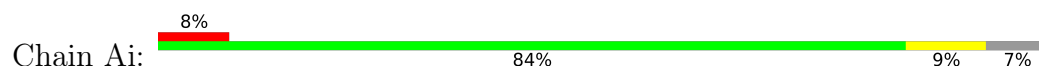




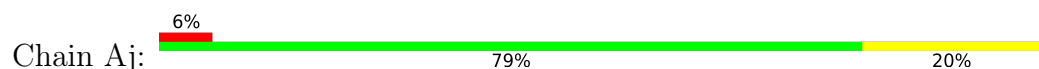
- Molecule 34: 60S ribosomal protein L35a



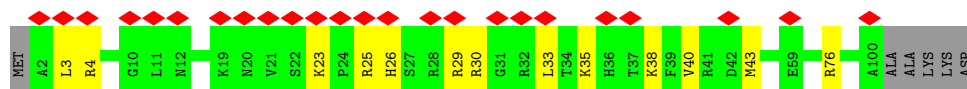
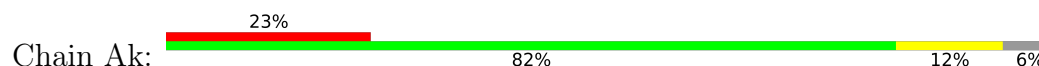
- Molecule 35: 60S ribosomal protein L34



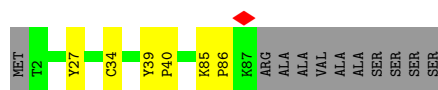
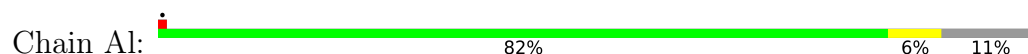
- Molecule 36: 60S ribosomal protein L35



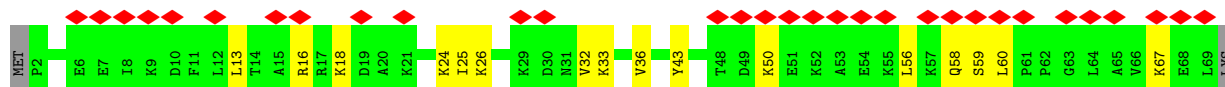
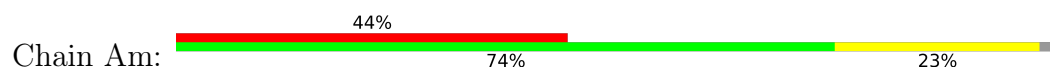
- Molecule 37: 60S ribosomal protein L36



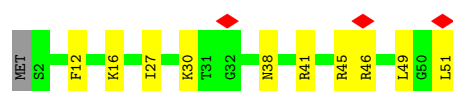
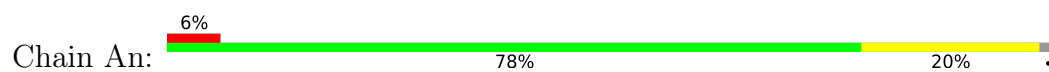
- Molecule 38: 60S ribosomal protein L37



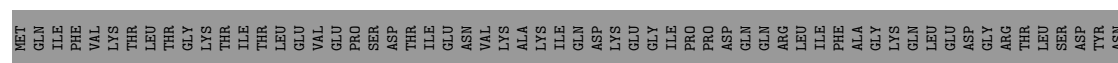
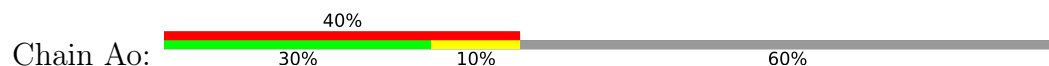
- Molecule 39: 60S ribosomal protein L38



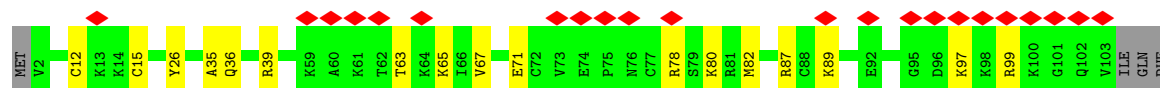
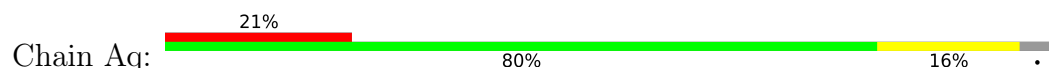
- Molecule 40: 60S ribosomal protein L39



- Molecule 41: Ubiquitin-60S ribosomal protein L40



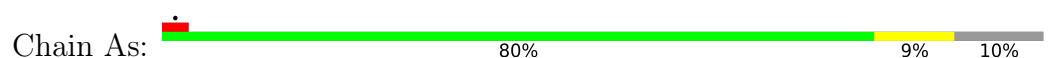
- Molecule 42: 60S ribosomal protein L36a



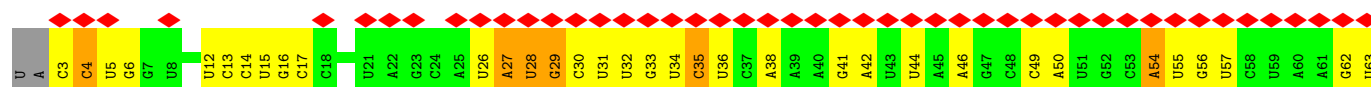
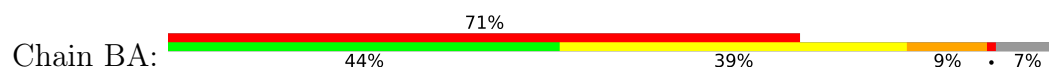
- Molecule 43: 60S ribosomal protein L37a



- Molecule 44: 60S ribosomal protein L28

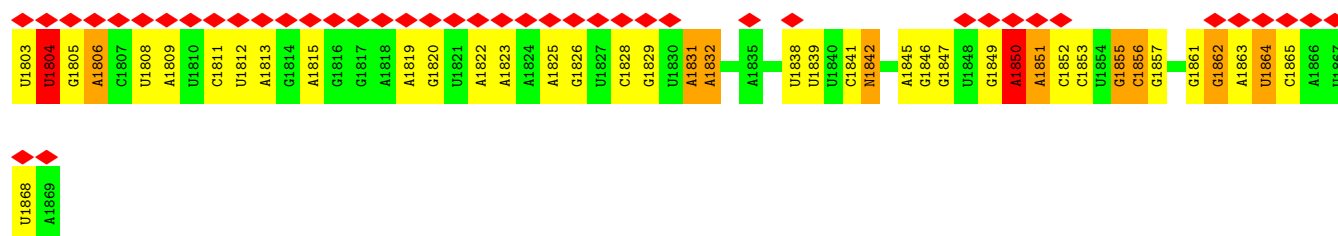


- Molecule 45: 18S rRNA (1740-MER)

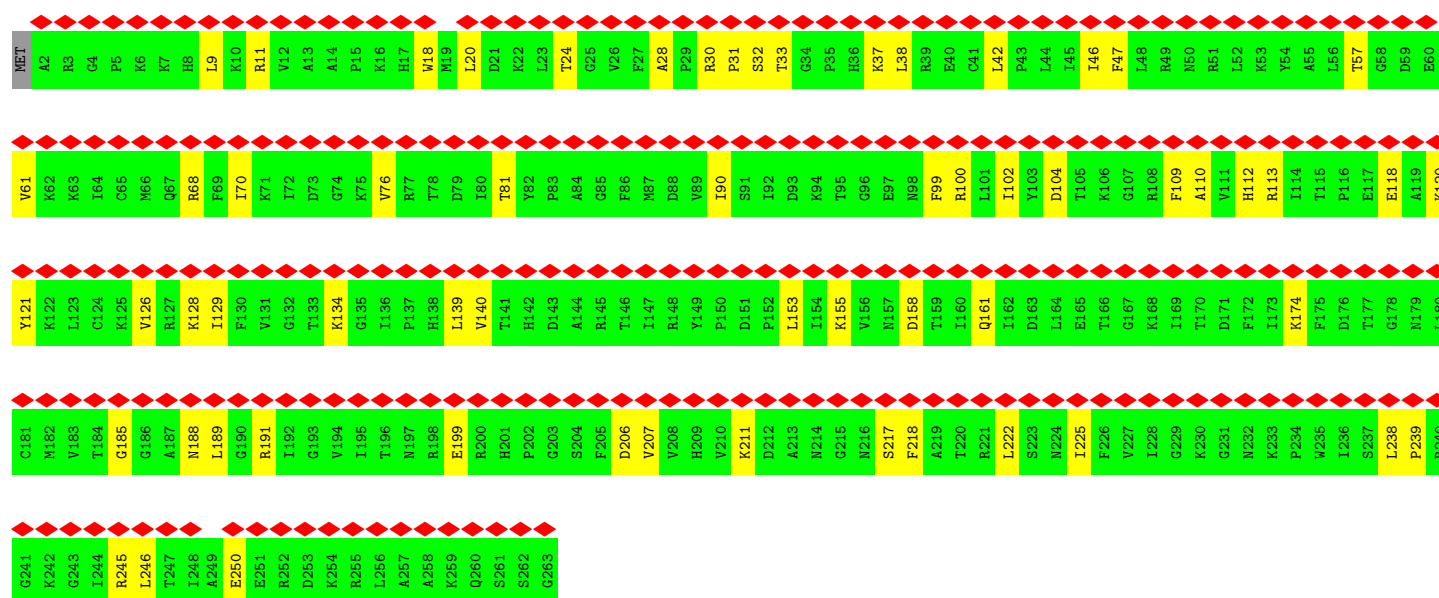
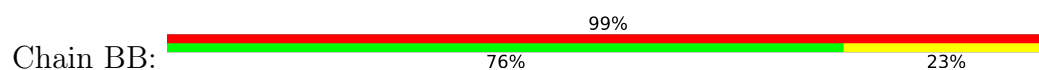




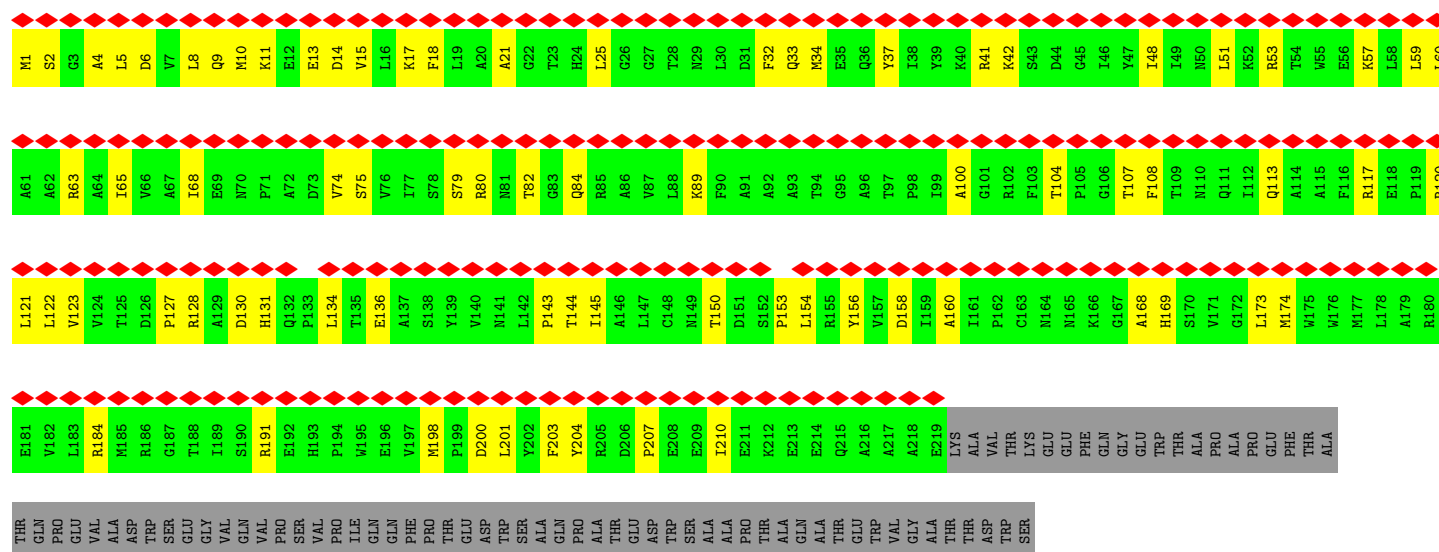
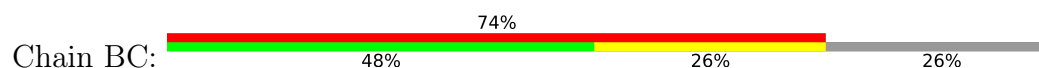
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G1563	C1564	C1565	G1566	C1567	C1568	A1569	G1570	G1571	C1572	G1573	C1574	G1575	G1576	G1577	U1578	A1579	G1580	G1581	C1582	U1642	U1643	G1644	C1645	C1646	A1647	G1648	U1649	A1650	U1651	G1652	U1653	G1654	C1655	U1656	C1657	G1658	U1659	C1660	A1661	U1662	A1663	A1664	C1665	C1666	U1667	U1668	G1669	C1670	C1671	U1672	U1673	G1674	A1675	U1676	U1677	A1678	A1679	G1680	U1681	C1682	
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U1444	U1445	A1446	G1447	G1448	G1449	G1450	G1451	A1452	C1453	A1454	A1455	G1456	U1457	G1458	G1459	G1460	G1461	U1462	U1463	C1464	A1465	G1466	C1467	C1468	A1469	C1470	C1471	C1472	G1473	A1474	G1475	U1476	U1477	U1478	G1479	A1480	G1481	C1482	A1483	A1484	U1485	A1486	A1487	C1488	A1489	G1490	G1491	U1492	C1493	U1494	U1495	U1496	G1497	A1498	U1499	G1500	C1501	C1502			
A1383	C1384	G1385	A1386	G1387	A1388	C1389	U1390	C1391	U1392	G1393	G1394	C1395	A1396	U1397	G1398	C1399	U1400	A1401	A1402	C1403	A1405	G1406	U1407	U1408	A1409	G1410	G1411	G1412	G1413	A1414	C1415	G1416	C1417	G1418	C1419	G1420	A1421	G1422	C1423	G1424	G1425	U1426	C1427	G1428	G1429	C1430	G1431	U1432	C1433	G1434	C1435	C1436	C1437	A1438	A1439	C1440	U1441	U1442			
G1320	G1321	G1322	U1323	G1324	G1325	U11326	G1327	G1328	U1329	G1330	C1331	A1332	U1333	G1334	G1335	C1336	N1337	G1338	U1339	C1340	C1341	U1342	U1343	A1344	G1345	U1346	U1347	G1348	G1349	U1350	A1353	G1354	C1355	U1359	U1360	G1361	U1362	C1363	U1364	G1365	G1366	U1367	U1368	A1369	A1370	U1371	U1372	C1373	C1374	G1375	A1376	U1377	A1378	C1379	C1380	G1381	A1382				
A1200	U1201	U1202	G1203	A1204	C1205	G1206	G1207	A1208	A1209	G1210	G1211	G1212	C1213	A1214	C1215	C1216	A1217	C1218	C1219	A1220	G1221	G1222	A1223	G1224	U1225	G1226	G1227	A1228	C1230	C1231	U1232	G1233	C1234	G1235	G1236	C1237	U1238	U1239	A1240	A1241	U1242	U1243	U1244	G1245	A1246	C1247	B8N1248	C1249	A1250	A1251	C1252	A1253	G1254	G1255	G1256	G1257	A1258	A1259			
C1124	G1125	G1126	C1127	C1128	G1129	C1132	A1133	G1134	C1135	U1136	U1137	C1138	C1139	G1140	A1144	A1145	A1148	A1149	A1150	C1153	A1081	U1082	U1155	U1156	C1163	G1164	G1165	G1166	A1170	G1172	U1173	U1174	G1175	G1176	U1177	U1178	G1179	C1180	A1181	A1182	A1183	G1184	C1185	U1186	C1191	U1192	U1193	A1194	A1195	G1198	A1199										
A1030	A1031	A1036	U1045	U1046	G1051	A1052	C1053	G1054	A1055	U1056	G1057	A1058	G1059	A1060	U1061	A1062	C1063	C1064	G1065	U1081	A1082	A1083	A1084	U1085	G1086	A1093	C1095	G1096	G1097	C1098	G1099	U1101	G1102	C1103	G1104	G1105	C1109	G1110	U1111	U1112	A1113	U1114	U1115	C1116	C1117	C1118	A1119	U1120	G1121	A1122	C1123										
C941	G942	U943	A944	C951	G952	C953	U954	A955	G958	G959	U960	G961	A962	A963	A964	U965	U966	C967	U968	U969	G970	G971	C974	G975	A980	A981	G982	C983	C984	G985	G986	A990	G991	A996	A997	U1003	U1004	G1005	G1010	A1011	A1012	U1013	G1014	U1017	A1023	A1027															



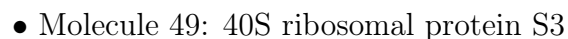
- Molecule 46: 40S ribosomal protein S4, X isoform



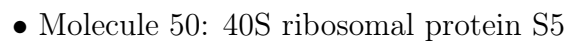
- Molecule 47: Small ribosomal subunit protein uS2



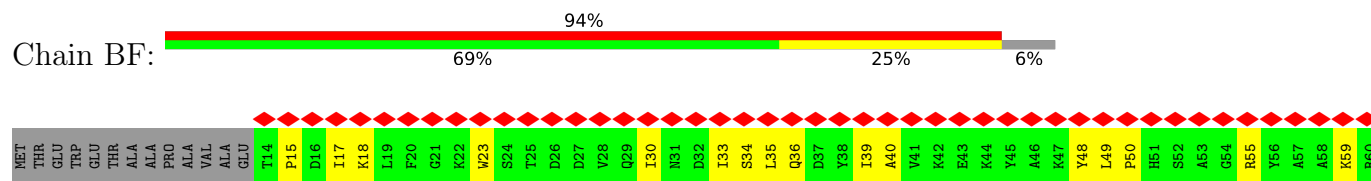
Chain BD:

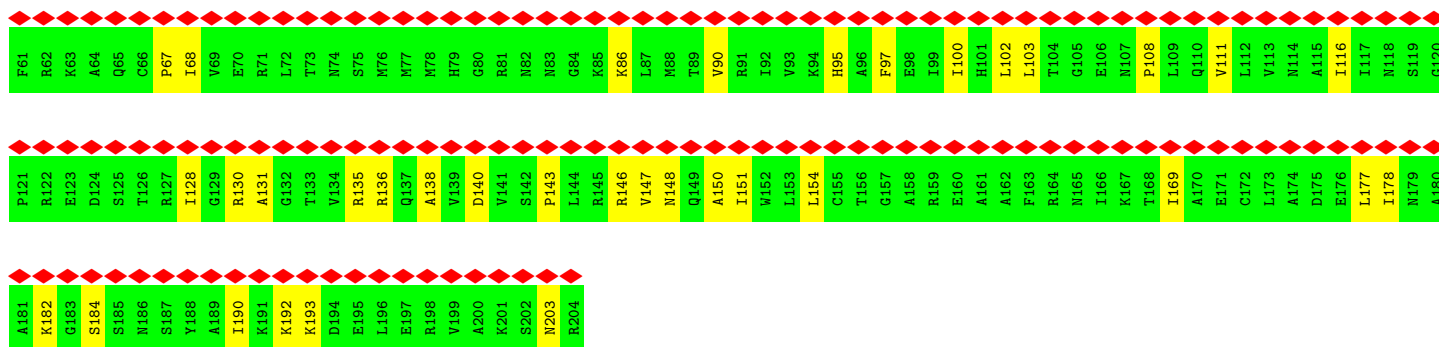


Chain BE:

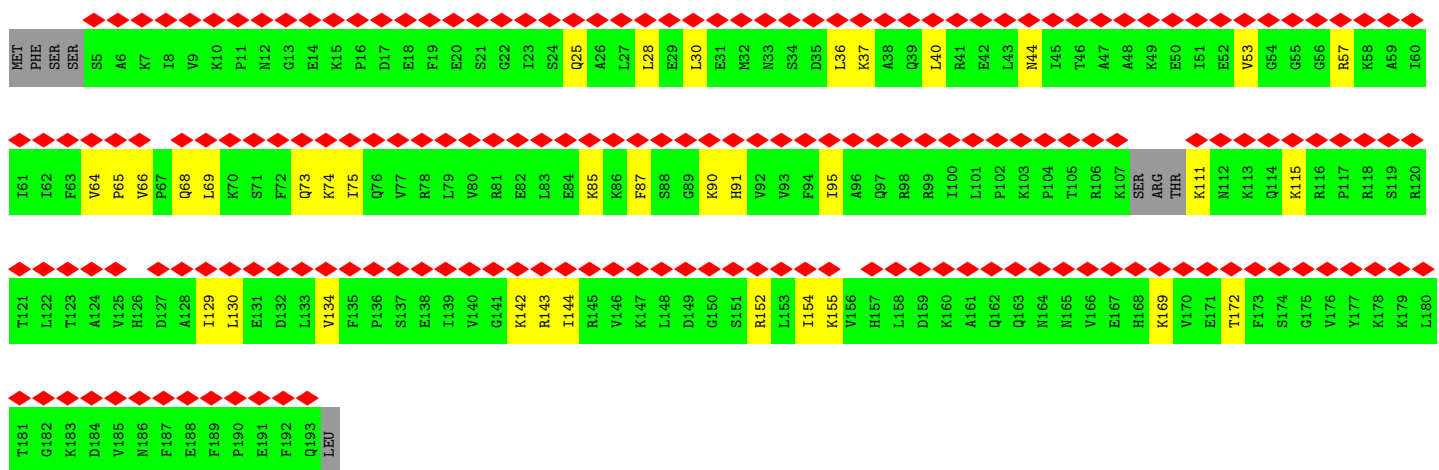
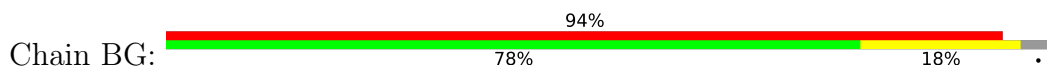


Chain BF:

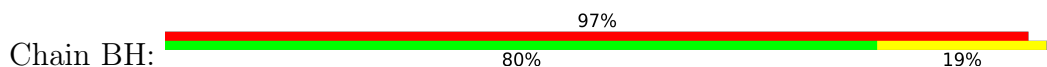




• Molecule 51: 40S ribosomal protein S7

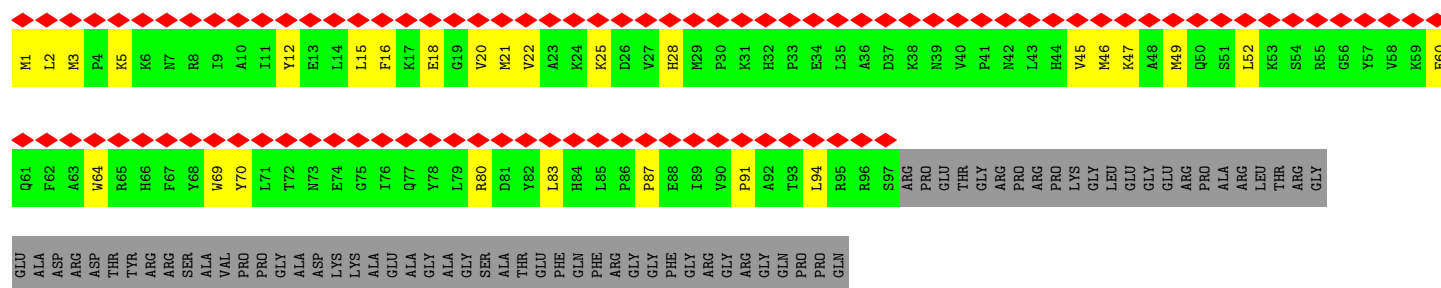


• Molecule 52: 40S ribosomal protein S8



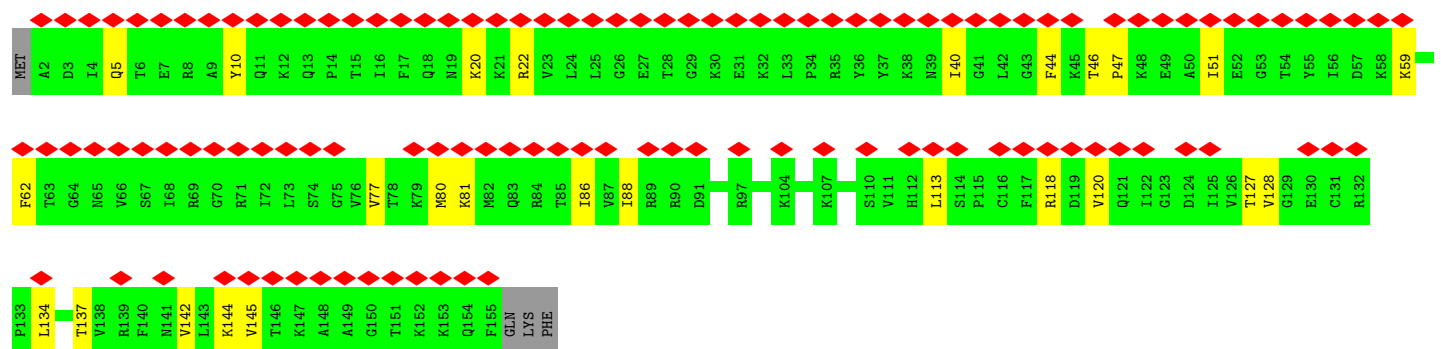
• Molecule 53: 40S ribosomal protein S10





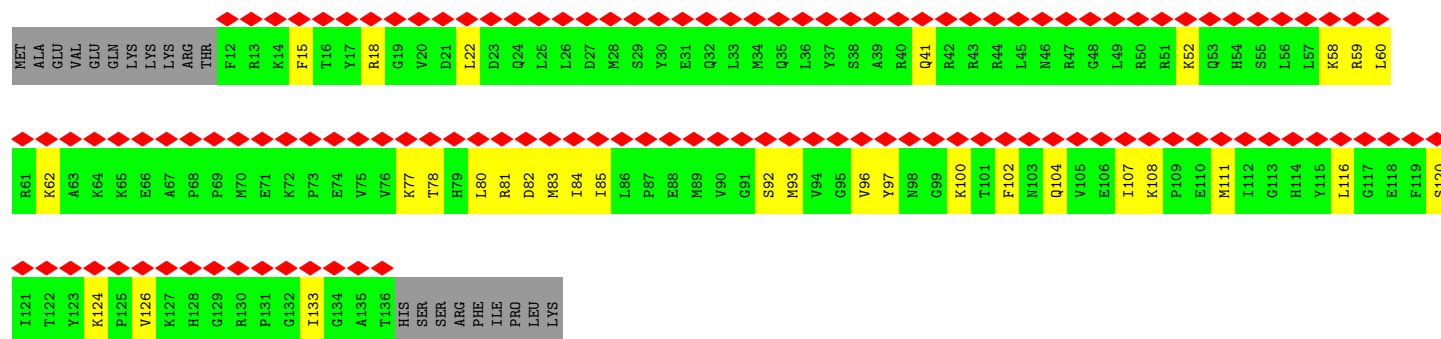
• Molecule 54: 40S ribosomal protein S11

Chain BJ: 74%
81% 16%



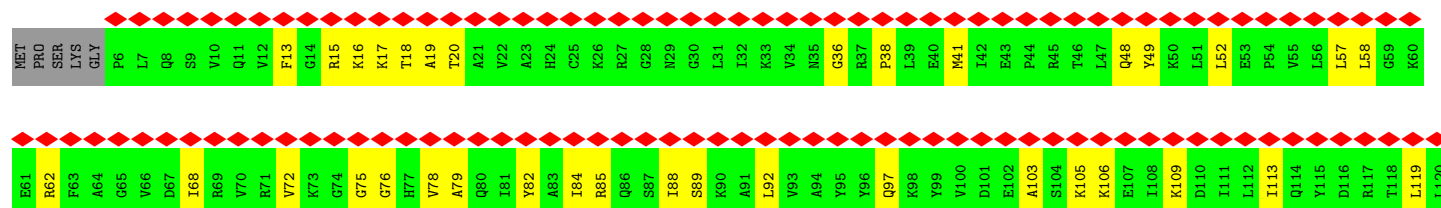
• Molecule 55: 40S ribosomal protein S15

Chain BK: 86%
64% 22% 14%



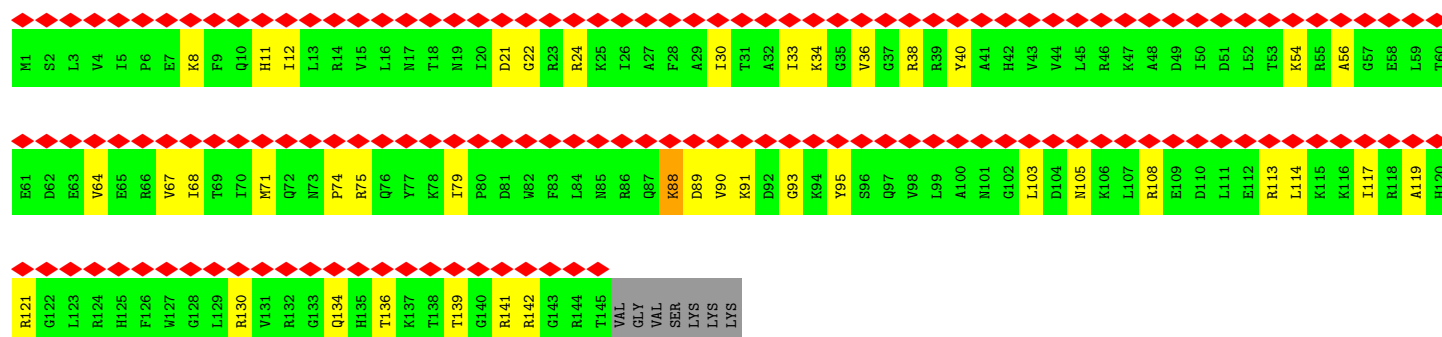
• Molecule 56: 40S ribosomal protein S16

Chain BL: 97%
66% 31%

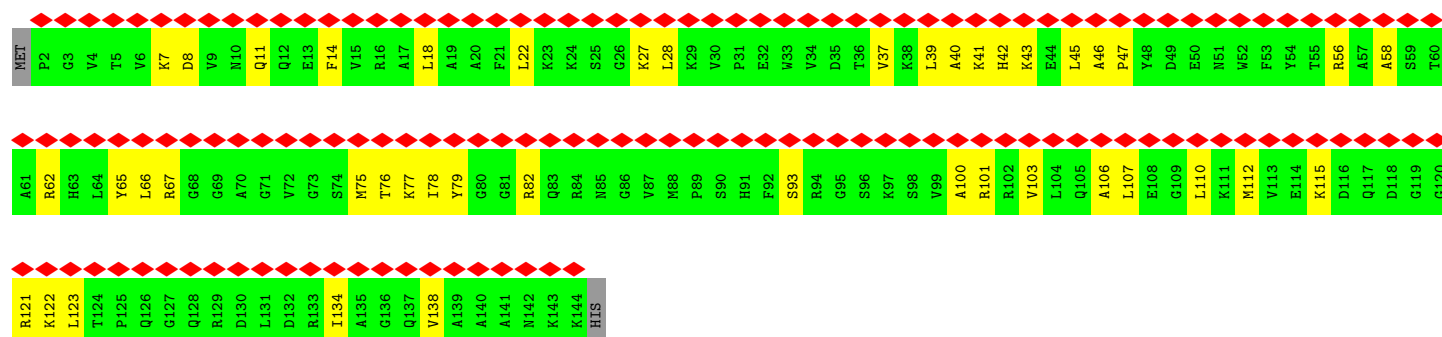
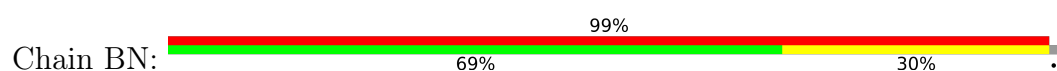




• Molecule 57: 40S ribosomal protein S18



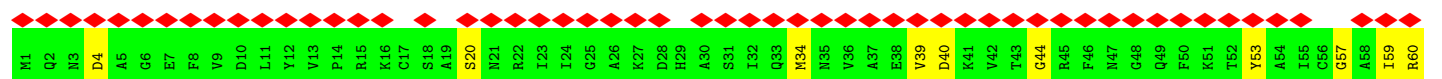
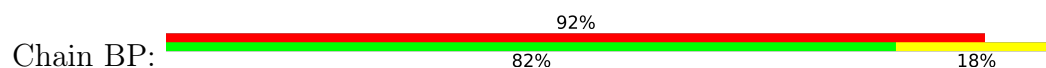
• Molecule 58: Small ribosomal subunit protein eS19

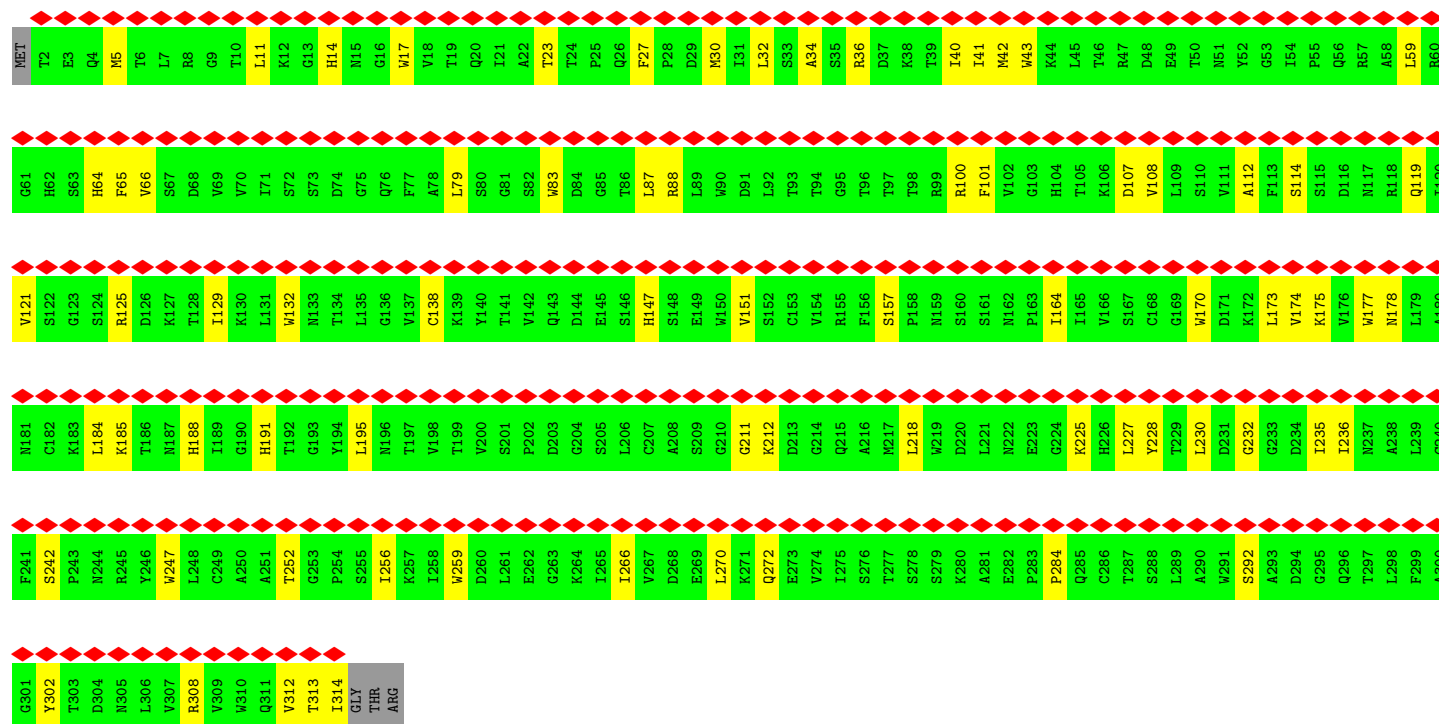


• Molecule 59: 40S ribosomal protein S20

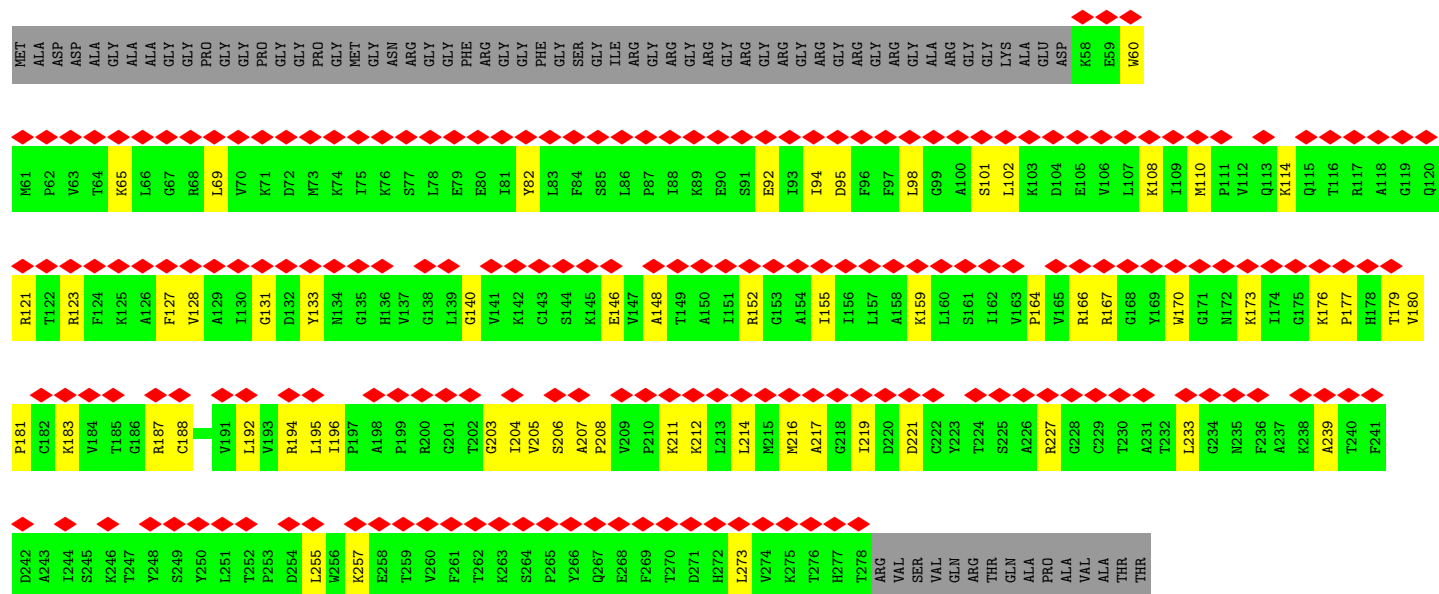


• Molecule 60: 40S ribosomal protein S21

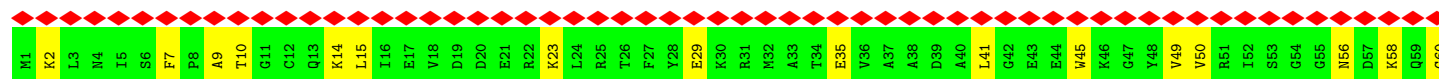
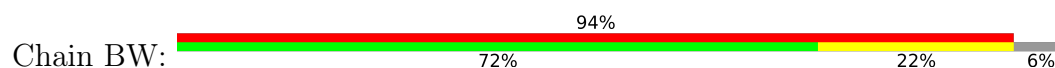




• Molecule 66: 40S ribosomal protein S2



• Molecule 67: 40S ribosomal protein S6

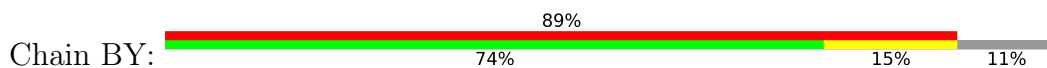




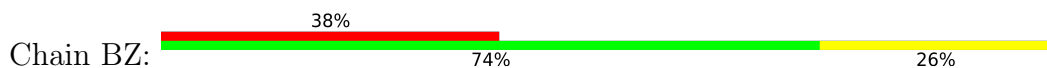
• Molecule 68: 40S ribosomal protein S9

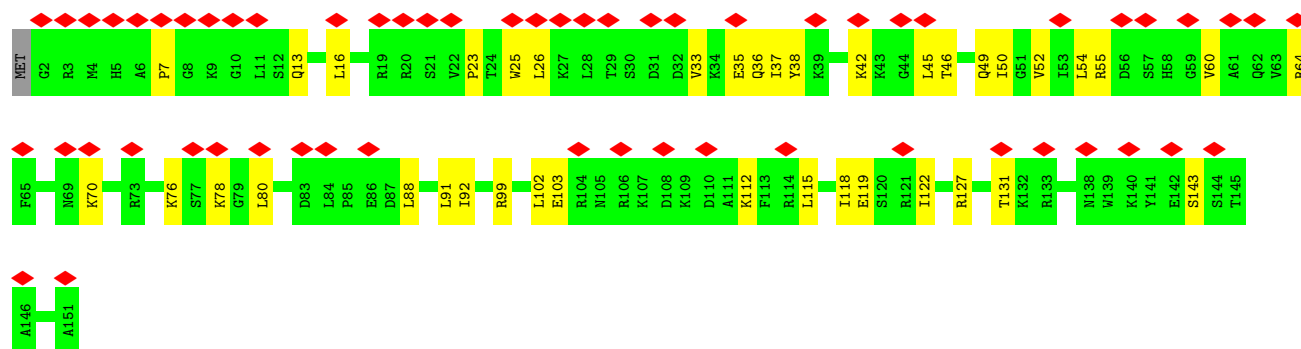


• Molecule 69: 40S ribosomal protein S12

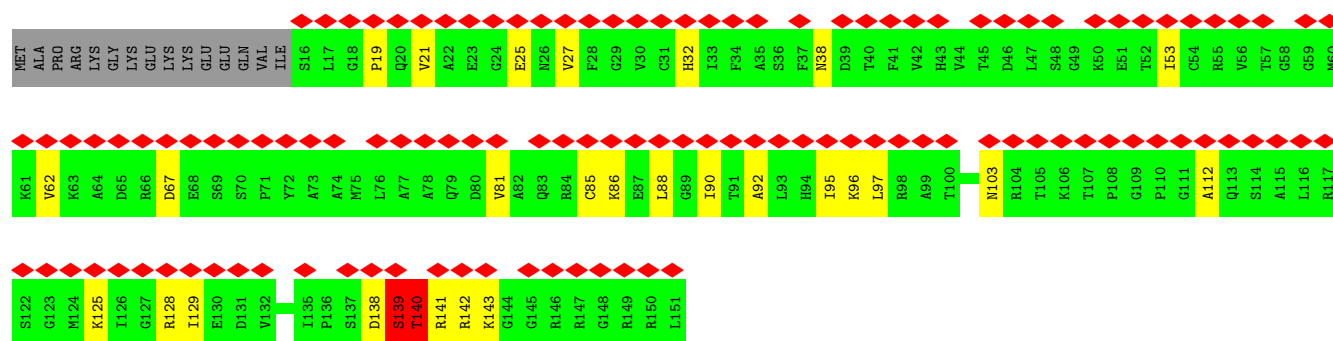
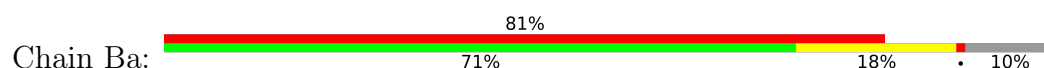


• Molecule 70: 40S ribosomal protein S13

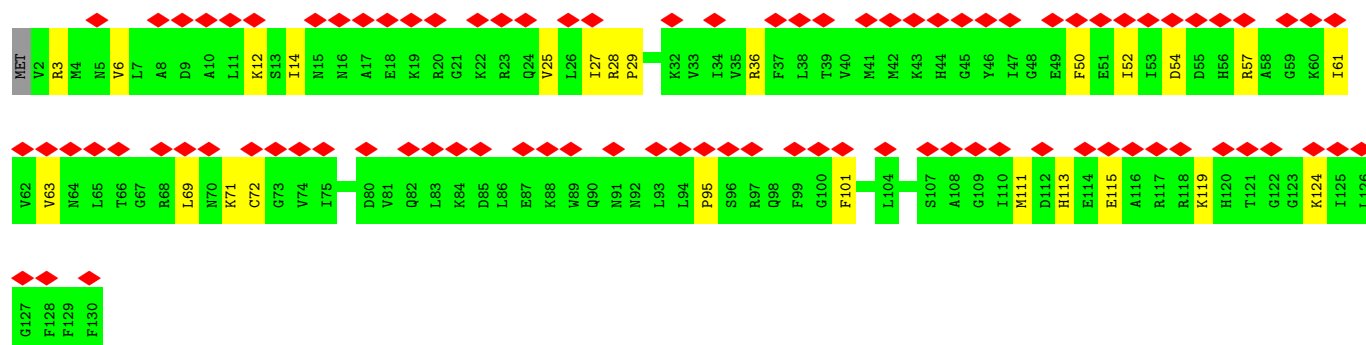
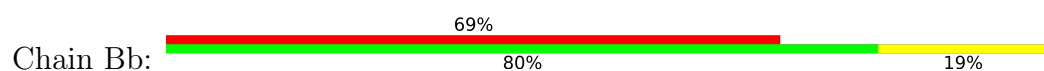




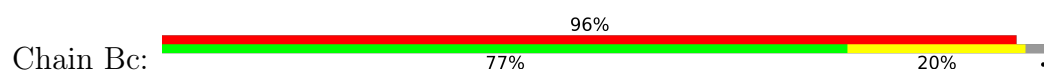
- Molecule 71: Small ribosomal subunit protein uS11

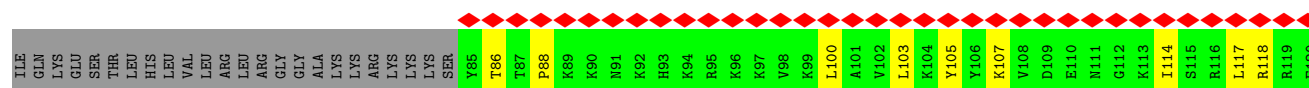


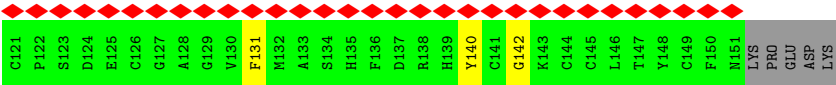
- Molecule 72: 40S ribosomal protein S15a



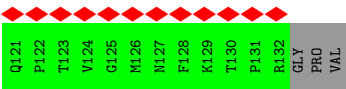
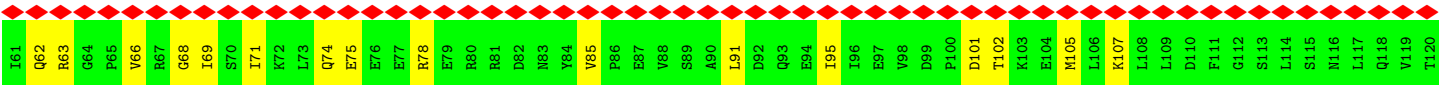
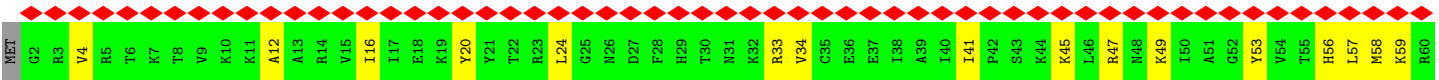
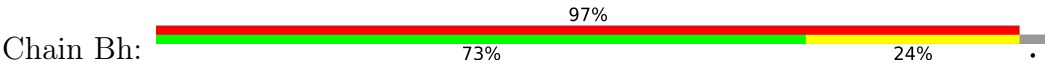
- Molecule 73: 40S ribosomal protein S24







• Molecule 78: 40S ribosomal protein S17



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	30970	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	JEOL CRYO ARM 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.684	Depositor
Minimum map value	-0.777	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.049	Depositor
Recommended contour level	0.23	Depositor
Map size ($\text{\AA}$)	528.0, 528.0, 528.0	wwPDB
Map dimensions	640, 640, 640	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	0.825, 0.825, 0.825	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG, MA6, UR3, PSU, 5MC, V5N, G7M, 1MA, NMM, UY1, B8N, OMC, OMU, 4AC, A2M, OMG, HIC, ZN, 6MZ, K, IAS

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	AA	0.14	3/86652 (0.0%)	0.27	0/135106
2	AB	0.10	0/2858	0.25	0/4455
3	AC	0.13	0/3609	0.26	0/5623
4	AD	0.12	0/1936	0.33	0/2596
5	AE	0.12	0/3294	0.34	0/4406
6	AF	0.12	0/2949	0.31	0/3960
7	AG	0.13	0/2428	0.39	0/3252
8	AH	0.14	0/1942	0.37	0/2606
9	AI	0.13	0/1916	0.30	0/2553
10	AJ	0.16	0/1971	0.44	0/2651
11	AK	0.15	0/1537	0.40	0/2066
12	AL	0.15	0/1753	0.39	0/2343
13	AM	0.15	0/1433	0.45	0/1915
14	AN	0.14	0/1732	0.35	0/2315
15	AO	0.15	0/1161	0.39	0/1554
16	AP	0.11	0/1746	0.29	0/2338
17	AQ	0.15	0/1682	0.38	0/2250
18	AR	0.15	0/1268	0.39	0/1701
19	AS	0.11	0/1537	0.29	0/2052
20	AT	0.12	0/1582	0.33	0/2091
21	AU	0.15	0/1493	0.38	0/2003
22	AV	0.16	0/1326	0.43	0/1770
23	AW	0.20	0/839	0.60	0/1126
24	AX	0.13	0/993	0.37	0/1332
25	AY	0.13	0/541	0.38	0/720
26	AZ	0.13	0/1002	0.35	0/1345
27	Aa	0.14	0/1119	0.40	0/1488
28	Ab	0.14	0/1130	0.36	0/1507
29	Ac	0.10	0/1179	0.27	0/1573
30	Ad	0.13	0/821	0.35	0/1084
31	Ae	0.18	0/774	0.50	0/1038

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	Af	0.12	0/894	0.34	0/1204
33	Ag	0.11	0/1071	0.29	0/1429
34	Ah	0.12	0/895	0.30	0/1198
35	Ai	0.12	0/878	0.30	0/1170
36	Aj	0.11	0/1023	0.32	0/1351
37	Ak	0.14	0/824	0.42	0/1090
38	Al	0.10	0/720	0.28	0/952
39	Am	0.13	0/565	0.36	0/750
40	An	0.14	0/454	0.28	0/599
41	Ao	0.10	0/425	0.28	0/564
42	Aq	0.14	0/858	0.38	0/1131
43	Ar	0.12	0/691	0.37	0/919
44	As	0.13	0/1002	0.35	0/1344
45	BA	0.15	2/38960 (0.0%)	0.27	2/60699 (0.0%)
46	BB	0.14	0/2118	0.36	0/2849
47	BC	0.23	0/1764	0.51	0/2396
48	BD	0.15	0/1774	0.46	0/2373
49	BE	0.15	0/1793	0.42	0/2414
50	BF	0.17	0/1531	0.49	0/2059
51	BG	0.15	0/1519	0.41	0/2033
52	BH	0.13	0/1715	0.37	0/2287
53	BI	0.15	0/840	0.41	0/1133
54	BJ	0.14	0/1280	0.39	0/1712
55	BK	0.15	0/1047	0.40	0/1399
56	BL	0.14	0/1142	0.45	0/1528
57	BM	0.16	0/1212	0.52	1/1624 (0.1%)
58	BN	0.16	0/1119	0.44	0/1498
59	BO	0.12	0/827	0.35	0/1110
60	BP	0.16	0/643	0.46	0/860
61	BQ	0.14	0/1116	0.43	0/1490
62	BR	0.14	0/847	0.37	0/1135
63	BS	0.13	0/508	0.38	0/680
64	BT	0.13	0/470	0.34	0/623
65	BU	0.16	0/2493	0.41	0/3394
66	BV	0.16	0/1764	0.44	0/2382
67	BW	0.13	0/1926	0.35	0/2563
68	BX	0.18	0/1548	0.48	0/2066
69	BY	0.14	0/916	0.38	0/1233
70	BZ	0.16	0/1232	0.41	0/1656
71	Ba	0.29	0/1020	0.61	2/1366 (0.1%)
72	Bb	0.15	0/1051	0.43	0/1406
73	Bc	0.14	0/1068	0.43	0/1418
74	Bd	0.12	0/604	0.36	0/810

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	Be	0.17	0/665	0.46	0/891
76	Bf	0.15	0/465	0.39	0/612
77	Bg	0.13	0/560	0.36	0/745
78	Bh	0.18	0/1078	0.51	0/1447
All	All	0.14	5/225118 (0.0%)	0.32	5/330411 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
71	Ba	0	3

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	BA	484	A2M	O3'-P	5.18	1.61	1.56
1	AA	2415	OMU	O3'-P	5.10	1.61	1.56
1	AA	4523	A2M	O3'-P	5.04	1.61	1.56
1	AA	3785	A2M	O3'-P	5.03	1.61	1.56
45	BA	1288	OMU	O3'-P	5.01	1.61	1.56

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	1639	G7M	OP1-P-O3'	10.17	127.57	105.20
71	Ba	140	THR	O-C-N	-8.60	112.99	122.88
45	BA	1639	G7M	O3'-P-O5'	-8.59	87.69	104.00
71	Ba	139	SER	O-C-N	-6.29	112.93	123.00
57	BM	88	LYS	CA-CB-CG	5.44	124.98	114.10

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
71	Ba	139	SER	Mainchain
71	Ba	140	THR	Mainchain
71	Ba	141	ARG	Mainchain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	80142	0	40458	688	0
2	AB	2558	0	1296	14	0
3	AC	3316	0	1687	34	0
4	AD	1898	0	1993	25	0
5	AE	3239	0	3377	24	0
6	AF	2895	0	3076	20	0
7	AG	2382	0	2410	27	0
8	AH	1904	0	2055	13	0
9	AI	1878	0	2009	18	0
10	AJ	1935	0	2087	21	0
11	AK	1518	0	1601	20	0
12	AL	1713	0	1751	27	0
13	AM	1410	0	1441	17	0
14	AN	1701	0	1818	15	0
15	AO	1138	0	1204	12	0
16	AP	1701	0	1749	12	0
17	AQ	1650	0	1794	15	0
18	AR	1242	0	1269	11	0
19	AS	1513	0	1628	9	0
20	AT	1566	0	1729	16	0
21	AU	1453	0	1490	17	0
22	AV	1298	0	1366	14	0
23	AW	825	0	850	20	0
24	AX	979	0	1039	14	0
25	AY	528	0	541	8	0
26	AZ	985	0	1066	6	0
27	Aa	1102	0	1189	16	0
28	Ab	1107	0	1182	16	0
29	Ac	1163	0	1206	10	0
30	Ad	808	0	875	10	0
31	Ae	764	0	804	12	0
32	Af	879	0	924	9	0
33	Ag	1053	0	1147	8	0
34	Ah	876	0	911	4	0
35	Ai	868	0	959	7	0
36	Aj	1015	0	1148	21	0
37	Ak	813	0	894	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	Al	705	0	737	3	0
39	Am	559	0	624	12	0
40	An	444	0	483	7	0
41	Ao	419	0	452	11	0
42	Aq	842	0	914	10	0
43	Ar	681	0	731	6	0
44	As	987	0	1050	7	0
45	BA	36808	0	18593	493	0
46	BB	2076	0	2177	40	0
47	BC	1727	0	1729	58	0
48	BD	1747	0	1822	39	0
49	BE	1765	0	1865	35	0
50	BF	1509	0	1563	38	0
51	BG	1497	0	1590	26	0
52	BH	1686	0	1772	36	0
53	BI	816	0	841	29	0
54	BJ	1258	0	1332	17	0
55	BK	1027	0	1075	30	0
56	BL	1124	0	1193	36	0
57	BM	1194	0	1250	29	0
58	BN	1113	0	1145	35	0
59	BO	817	0	882	20	0
60	BP	636	0	637	13	0
61	BQ	1098	0	1167	27	0
62	BR	829	0	883	24	0
63	BS	506	0	536	5	0
64	BT	459	0	448	11	0
65	BU	2436	0	2393	51	0
66	BV	1724	0	1817	61	0
67	BW	1903	0	2068	46	0
68	BX	1520	0	1642	51	0
69	BY	906	0	921	13	0
70	BZ	1208	0	1292	29	0
71	Ba	1016	0	1038	26	0
72	Bb	1034	0	1080	20	0
73	Bc	1048	0	1122	17	0
74	Bd	598	0	656	11	0
75	Be	651	0	672	15	0
76	Bf	459	0	503	7	0
77	Bg	548	0	549	8	0
78	Bh	1064	0	1118	26	0
79	AA	174	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
79	AB	2	0	0	0	0
79	AC	3	0	0	0	0
79	AE	1	0	0	0	0
79	AP	1	0	0	0	0
79	AX	1	0	0	0	0
79	Al	1	0	0	0	0
79	BA	6	0	0	0	0
80	AA	47	0	0	0	0
80	AB	1	0	0	0	0
80	AC	1	0	0	0	0
80	AD	1	0	0	0	0
80	AL	1	0	0	0	0
80	Ag	1	0	0	0	0
80	Ah	1	0	0	0	0
80	Aq	1	0	0	0	0
80	BA	2	0	0	0	0
80	BT	1	0	0	0	0
81	Ai	1	0	0	0	0
81	Al	1	0	0	0	0
81	Ao	1	0	0	0	0
81	Aq	1	0	0	0	0
81	Ar	1	0	0	0	0
81	BR	1	0	0	0	0
81	BT	1	0	0	0	0
81	Bg	1	0	0	0	0
All	All	214513	0	158385	2440	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 7.

All (2440) 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)
45:BA:3:C:C5'	66:BV:205:VAL:HG22	1.59	1.32
45:BA:3:C:H5'	66:BV:205:VAL:CG2	1.82	1.07
45:BA:3:C:H5'	66:BV:205:VAL:HG22	1.08	1.05
45:BA:3:C:C5	68:BX:17:ARG:NH1	2.27	1.03
1:AA:4745:G:H1	1:AA:4955:A:N6	1.60	1.00
1:AA:734:G:H1	1:AA:929:A:N6	1.60	0.99
1:AA:3944:G:H1	1:AA:4069:U:H3	1.07	0.98
45:BA:3:C:H4'	66:BV:206:SER:N	1.78	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:1656:G:H1	45:BA:1668:U:H3	1.13	0.95
45:BA:1748:G:H1	45:BA:1786:U:H3	0.98	0.95
45:BA:1137:U:H3	45:BA:1148:A:H62	1.03	0.95
45:BA:3:C:H4'	66:BV:206:SER:CA	1.96	0.94
45:BA:50:A:H62	45:BA:477:G:H21	1.11	0.91
45:BA:50:A:H62	45:BA:477:G:N2	1.68	0.90
45:BA:1722:G:H1	45:BA:1812:U:H3	0.88	0.86
1:AA:2557:G:H1	1:AA:2570:U:H3	1.20	0.85
58:BN:18:LEU:HD12	58:BN:134:ILE:HD12	1.60	0.84
1:AA:966:A:H5''	1:AA:2092:G:H22	1.43	0.81
45:BA:1204:A:H61	45:BA:1694:U:H3	1.29	0.81
45:BA:50:A:N6	45:BA:477:G:H21	1.80	0.79
1:AA:4745:G:H1	1:AA:4955:A:H61	0.83	0.79
51:BG:143:ARG:HB2	51:BG:155:LYS:HB2	1.65	0.78
64:BT:24:CYS:HB3	64:BT:42:CYS:SG	2.23	0.78
56:BL:97:GLN:HB2	56:BL:105:LYS:HG3	1.66	0.77
45:BA:1755:C:O2	45:BA:1777:G:N2	2.17	0.77
45:BA:1288:OMU:HN3	45:BA:1311:C:H42	1.31	0.77
45:BA:38:A:H61	45:BA:515:G:H1	1.31	0.76
68:BX:81:LEU:HD13	68:BX:87:LEU:HB3	1.68	0.76
1:AA:505:G:H1	1:AA:653:U:H3	1.34	0.76
31:Ae:34:THR:HG23	31:Ae:95:ALA:HB2	1.68	0.74
45:BA:1723:G:N2	45:BA:1811:C:O2	2.17	0.74
65:BU:107:ASP:H	78:Bh:33:ARG:HH12	1.37	0.73
1:AA:918:G:H5'	15:AO:72:TYR:HE2	1.54	0.73
1:AA:1517:G:H22	6:AF:103:ALA:HA	1.53	0.73
51:BG:66:VAL:HA	51:BG:69:LEU:HD23	1.71	0.73
45:BA:1137:U:H3	45:BA:1148:A:N6	1.85	0.73
6:AF:163:LYS:HB2	6:AF:166:GLU:HG3	1.71	0.73
45:BA:1238:PSU:HN3	45:BA:1242:U:H5	1.37	0.73
1:AA:496:G:H2'	1:AA:497:G:H4'	1.71	0.72
47:BC:14:ASP:O	47:BC:18:PHE:HB2	1.88	0.72
47:BC:123:VAL:HG22	47:BC:145:ILE:HB	1.71	0.72
45:BA:1382:A:H2'	45:BA:1383:A2M:H8	1.72	0.72
45:BA:1737:G:H1	45:BA:1797:U:H3	1.38	0.71
53:BI:3:MET:HE1	53:BI:47:LYS:HB3	1.71	0.71
69:BY:91:LEU:HD13	69:BY:106:CYS:HB2	1.72	0.71
7:AG:236:MET:HA	7:AG:239:MET:HG2	1.72	0.71
45:BA:3:C:C4'	66:BV:205:VAL:HG22	2.19	0.71
45:BA:57:U:H4'	45:BA:499:G:H21	1.55	0.71
50:BF:128:ILE:HA	50:BF:135:ARG:HD3	1.70	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2745:A:H2'	1:AA:2746:A:H8	1.55	0.71
45:BA:1803:U:H2'	45:BA:1804:OMU:H6	1.72	0.71
45:BA:3:C:C5'	66:BV:205:VAL:CG2	2.52	0.71
57:BM:130:ARG:HG2	57:BM:134:GLN:HB2	1.73	0.71
1:AA:1332:C:H2'	1:AA:1333:A:H8	1.56	0.70
45:BA:1621:U:H3	55:BK:81:ARG:HG3	1.55	0.70
1:AA:3717:A:H2'	1:AA:3718:A2M:H8	1.73	0.70
66:BV:69:LEU:HG	66:BV:273:LEU:HD21	1.72	0.70
27:Aa:38:LEU:HD11	27:Aa:108:ARG:HA	1.73	0.70
56:BL:89:SER:HB2	56:BL:119:LEU:HD11	1.73	0.70
70:BZ:26:LEU:HD21	70:BZ:60:VAL:HG12	1.72	0.70
45:BA:176:U:H3	45:BA:313:A:H62	1.38	0.70
7:AG:211:LEU:HB3	7:AG:219:TYR:HB2	1.71	0.70
47:BC:89:LYS:HE2	47:BC:201:LEU:HB3	1.74	0.69
67:BW:131:ARG:HE	67:BW:133:LEU:HB3	1.58	0.69
54:BJ:80:MET:HE1	54:BJ:120:VAL:HG12	1.74	0.69
71:Ba:32:HIS:HA	71:Ba:96:LYS:HB2	1.74	0.68
1:AA:1078:A:H5'	1:AA:1079:C:H5	1.57	0.68
45:BA:1324:G:N2	45:BA:1504:U:O2	2.26	0.68
49:BE:72:VAL:HA	53:BI:20:VAL:HG21	1.75	0.68
1:AA:1460:C:H5''	19:AS:144:LYS:HG2	1.76	0.68
1:AA:4618:OMG:H5''	24:AX:15:ARG:HB3	1.75	0.68
21:AU:96:GLU:HG3	21:AU:139:ARG:HG2	1.76	0.68
45:BA:3:C:H5''	66:BV:205:VAL:HG22	1.73	0.68
45:BA:38:A:N6	45:BA:515:G:H1	1.91	0.68
51:BG:30:LEU:HD13	51:BG:40:LEU:HB3	1.75	0.68
1:AA:734:G:H1	1:AA:929:A:H61	0.78	0.67
21:AU:137:CYS:HB3	21:AU:143:LYS:HE3	1.75	0.67
23:AW:65:ARG:HG3	23:AW:70:ILE:HG13	1.76	0.67
59:BO:83:ARG:HH21	64:BT:55:LEU:HD13	1.59	0.67
37:Ak:25:ARG:HD2	37:Ak:26:HIS:H	1.59	0.67
45:BA:125:C:H5'	45:BA:127:C:H41	1.60	0.67
45:BA:983:A:H2	71:Ba:140:THR:HG22	1.58	0.67
65:BU:87:LEU:HB2	65:BU:101:PHE:HB2	1.76	0.67
49:BE:53:THR:HB	49:BE:94:ARG:HE	1.58	0.67
9:AI:105:VAL:HG13	9:AI:136:VAL:HG12	1.76	0.67
12:AL:30:LYS:HD3	12:AL:63:GLU:HG3	1.76	0.67
21:AU:9:GLU:HG2	21:AU:67:VAL:HB	1.76	0.67
12:AL:47:PRO:HG2	12:AL:48:LEU:HD23	1.76	0.67
1:AA:2620:G:H1	1:AA:2636:U:H3	1.43	0.66
1:AA:3965:A:N1	1:AA:4043:G:O6	2.27	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:4174:U:H2'	1:AA:4175:G:H8	1.59	0.66
45:BA:1144:A:H5'	45:BA:1355:C:H41	1.60	0.66
70:BZ:25:TRP:HE1	75:Be:83:GLN:HB2	1.59	0.66
51:BG:95:ILE:HD11	51:BG:129:ILE:HG12	1.77	0.66
45:BA:1523:C:H5''	57:BM:141:ARG:HH12	1.59	0.66
49:BE:172:VAL:HG23	49:BE:185:LYS:HG3	1.77	0.66
1:AA:4415:A:H62	1:AA:4427:G:H21	1.43	0.66
45:BA:1120:U:H5'	75:Be:72:ARG:HH12	1.61	0.66
45:BA:1279:C:H2'	45:BA:1280:G:H8	1.60	0.66
1:AA:2647:A:H61	1:AA:2686:G:H1	1.44	0.66
57:BM:89:ASP:HB3	57:BM:93:GLY:H	1.61	0.66
54:BJ:20:LYS:HB3	54:BJ:22:ARG:HH21	1.60	0.65
1:AA:1447:C:H2'	1:AA:1448:G:H8	1.61	0.65
58:BN:115:LYS:HA	58:BN:121:ARG:HD2	1.76	0.65
1:AA:1700:G:H8	1:AA:2097:U:H3	1.44	0.65
17:AQ:34:VAL:HG22	17:AQ:103:LYS:HB2	1.77	0.65
49:BE:16:ILE:HG23	53:BI:64:TRP:HZ3	1.61	0.65
45:BA:377:G:H5'	52:BH:98:LYS:HB3	1.77	0.65
45:BA:1849:G:H3'	45:BA:1850:MA6:H8	1.77	0.65
47:BC:144:THR:HG23	47:BC:158:ASP:H	1.61	0.65
1:AA:4694:G:H5''	1:AA:4695:C:H5	1.61	0.65
47:BC:68:ILE:HG23	47:BC:120:ARG:HH21	1.62	0.65
1:AA:1864:G:H21	12:AL:115:MET:HE2	1.62	0.65
45:BA:1127:C:H4'	75:Be:17:ARG:HD3	1.79	0.65
46:BB:129:ILE:HG13	46:BB:139:LEU:HB3	1.79	0.65
45:BA:1030:A:H2'	45:BA:1031:A2M:H8	1.79	0.65
52:BH:13:LYS:HG3	54:BJ:137:THR:HG21	1.78	0.65
61:BQ:115:ILE:HD13	61:BQ:118:VAL:HG22	1.79	0.65
1:AA:2411:C:H2'	1:AA:2412:A:H8	1.62	0.64
65:BU:40:ILE:HG23	65:BU:59:LEU:HB2	1.78	0.64
58:BN:45:LEU:HD22	58:BN:46:ALA:H	1.62	0.64
1:AA:3944:G:N2	1:AA:4069:U:O2	2.21	0.64
35:AI:83:CYS:SG	35:AI:86:CYS:HB2	2.37	0.64
45:BA:84:A:H5''	73:Be:122:LYS:HD3	1.78	0.64
51:BG:144:ILE:HD13	51:BG:154:ILE:HG13	1.78	0.64
52:BH:97:VAL:HG22	52:BH:100:CYS:HB3	1.78	0.64
1:AA:4415:A:H62	1:AA:4427:G:N2	1.96	0.64
1:AA:3829:G:H2'	1:AA:3830:A2M:H8	1.80	0.64
3:AC:67:U:H2'	3:AC:68:G:H8	1.61	0.64
1:AA:4859:C:H3'	1:AA:4860:G:H8	1.63	0.64
11:AK:2:LYS:HE2	11:AK:61:TRP:HB3	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:154:LYS:HG2	5:AE:194:LEU:HD12	1.79	0.63
10:AJ:120:LYS:HZ2	10:AJ:125:LYS:H	1.46	0.63
16:AP:5:LYS:HD2	37:Ak:40:VAL:HG21	1.79	0.63
1:AA:1859:C:H42	1:AA:1875:C:H42	1.47	0.63
51:BG:57:ARG:HH12	51:BG:90:LYS:HA	1.63	0.63
1:AA:3932:U:H2'	1:AA:3933:G:H8	1.62	0.63
13:AM:35:ARG:HB3	13:AM:123:ILE:HG23	1.80	0.63
45:BA:1472:C:O2	45:BA:1476:A:N6	2.32	0.63
45:BA:119:PSU:HN3	46:BB:33:THR:HG21	1.64	0.63
45:BA:642:U:H4'	45:BA:644:OMG:H4'	1.81	0.63
58:BN:75:MET:HE2	58:BN:100:ALA:HA	1.80	0.63
65:BU:313:THR:HG23	65:BU:314:ILE:HG13	1.81	0.63
75:Be:19:HIS:HB3	75:Be:22:LYS:HG3	1.80	0.63
45:BA:3:C:O4'	66:BV:205:VAL:HG23	1.97	0.63
71:Ba:86:LYS:HD3	71:Ba:86:LYS:H	1.63	0.63
30:Ad:114:LYS:O	30:Ad:118:LEU:HB2	1.98	0.63
45:BA:1124:C:H5''	48:BD:150:ILE:HG12	1.81	0.63
45:BA:1653:U:O2	45:BA:1671:G:N2	2.31	0.63
65:BU:125:ARG:HD2	78:Bh:33:ARG:HG3	1.81	0.63
8:AH:102:GLY:H	8:AH:105:ARG:HH21	1.47	0.62
29:Ac:72:THR:HG22	29:Ac:110:LYS:HB3	1.81	0.62
76:Bf:25:LYS:HE2	76:Bf:25:LYS:HA	1.81	0.62
1:AA:2520:C:H2'	1:AA:2521:G:H8	1.63	0.62
46:BB:42:LEU:HD11	46:BB:47:PHE:HB2	1.80	0.62
61:BQ:101:LEU:HB3	61:BQ:124:LYS:HB3	1.80	0.62
1:AA:928:C:H2'	1:AA:929:A:H8	1.64	0.62
66:BV:187:ARG:HG3	66:BV:192:LEU:HD23	1.81	0.62
68:BX:106:LEU:HD12	68:BX:109:ARG:HD2	1.81	0.62
45:BA:562:U:H2'	45:BA:563:G:C8	2.35	0.62
73:Bc:61:ARG:HE	73:Bc:62:THR:N	1.98	0.62
78:Bh:62:GLN:HB3	78:Bh:63:ARG:HH21	1.64	0.62
1:AA:2362:U:H2'	1:AA:2363:A2M:H8	1.81	0.62
3:AC:83:C:H41	27:Aa:50:ARG:HH21	1.47	0.62
10:AJ:182:CYS:HB3	10:AJ:222:ILE:HG21	1.82	0.62
31:Ae:28:VAL:HG12	31:Ae:95:ALA:HB3	1.82	0.62
36:Aj:55:ALA:O	36:Aj:59:THR:HG23	2.00	0.62
8:AH:93:THR:HG23	8:AH:106:VAL:HG22	1.82	0.62
44:As:119:ARG:HA	44:As:122:LYS:HD3	1.81	0.61
45:BA:1451:G:H21	45:BA:1474:A:H61	1.48	0.61
45:BA:1650:A:H5''	56:BL:139:ALA:HB2	1.82	0.61
60:BP:59:ILE:H	60:BP:59:ILE:HD12	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:Ba:139:SER:C	71:Ba:140:THR:HG23	2.25	0.61
1:AA:4906:C:H2'	1:AA:4907:G:H8	1.64	0.61
1:AA:115:C:H5''	16:AP:5:LYS:HE3	1.82	0.61
1:AA:2414:G:H2'	1:AA:2415:OMU:H6	1.82	0.61
30:Ad:8:THR:HG22	30:Ad:10:HIS:H	1.64	0.61
1:AA:189:G:H2'	1:AA:190:G:H8	1.65	0.61
1:AA:300:A:H2'	1:AA:301:G:H8	1.64	0.61
71:Ba:103:ASN:OD1	71:Ba:140:THR:O	2.19	0.61
73:Bc:41:ARG:HD2	73:Bc:55:ILE:HG22	1.82	0.61
62:BR:22:ARG:HH11	62:BR:27:ALA:HB1	1.65	0.61
66:BV:65:LYS:HD3	66:BV:273:LEU:HD13	1.81	0.61
45:BA:1505:U:H5''	45:BA:1506:A:H5'	1.82	0.61
68:BX:46:VAL:HG13	68:BX:102:ILE:HD11	1.82	0.61
1:AA:3848:U:H2'	1:AA:3849:A:H8	1.65	0.61
45:BA:518:G:H2'	45:BA:519:A:H8	1.65	0.61
45:BA:1101:U:H2'	45:BA:1102:G:H8	1.66	0.61
45:BA:1137:U:O4	45:BA:1148:A:N7	2.33	0.61
1:AA:3870:C:H2'	1:AA:3871:A:H8	1.66	0.61
1:AA:4761:G:H2'	1:AA:4762:A:H8	1.65	0.61
7:AG:223:PHE:HB3	7:AG:226:TYR:HB2	1.82	0.61
45:BA:1112:U:O2	45:BA:1121:G:O6	2.19	0.61
46:BB:9:LEU:HB2	46:BB:30:ARG:HB2	1.82	0.61
47:BC:21:ALA:HB3	47:BC:173:LEU:HD22	1.83	0.61
1:AA:2550:G:H2'	1:AA:2551:A:H8	1.65	0.61
1:AA:3868:G:H22	1:AA:3900:G:H1'	1.66	0.61
22:AV:159:MET:HA	22:AV:159:MET:HE3	1.82	0.61
45:BA:28:U:H2'	45:BA:29:G:H8	1.66	0.60
46:BB:11:ARG:HA	46:BB:28:ALA:HB2	1.83	0.60
48:BD:80:ALA:HB1	71:Ba:128:ARG:HH22	1.65	0.60
49:BE:134:CYS:HB2	49:BE:188:ILE:HG12	1.83	0.60
66:BV:128:VAL:HG11	66:BV:155:ILE:HG22	1.83	0.60
14:AN:161:TYR:HA	29:Ac:105:ARG:NH2	2.16	0.60
45:BA:503:C:H3'	45:BA:504:G:C8	2.37	0.60
45:BA:612:U:H3	45:BA:629:A:H62	1.49	0.60
50:BF:49:LEU:HD11	56:BL:49:TYR:HB3	1.83	0.60
58:BN:107:LEU:HA	58:BN:110:LEU:HD12	1.81	0.60
1:AA:4120:U:H4'	1:AA:4121:G:H5'	1.84	0.60
1:AA:4274:A:H2'	1:AA:4275:G:H8	1.67	0.60
45:BA:1567:G:H21	45:BA:1628:C:H1'	1.66	0.60
22:AV:108:ARG:O	22:AV:112:ASN:HB2	2.01	0.60
45:BA:141:A:H4'	45:BA:142:C:H3'	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:639:C:H2'	45:BA:640:A:H8	1.66	0.60
6:AF:116:ASN:HB2	6:AF:119:GLN:HG3	1.82	0.60
45:BA:1547:C:H3'	45:BA:1548:G:H8	1.66	0.60
52:BH:36:THR:HG23	52:BH:96:LEU:HB2	1.84	0.60
1:AA:18:C:H2'	1:AA:19:G:H8	1.64	0.60
31:Ae:20:LEU:O	31:Ae:24:SER:HB2	2.02	0.60
45:BA:854:A:H2'	45:BA:855:G:H8	1.67	0.60
47:BC:57:LYS:HD2	47:BC:60:LEU:HD21	1.82	0.60
52:BH:194:GLU:O	52:BH:198:TYR:HB2	2.02	0.60
3:AC:72:A:H61	3:AC:79:G:H1	1.50	0.60
31:Ae:48:LEU:HD21	31:Ae:60:ILE:HG21	1.83	0.60
45:BA:1359:U:H2'	45:BA:1360:PSU:H6	1.65	0.60
48:BD:103:MET:HG3	48:BD:188:LEU:HD21	1.82	0.60
28:Ab:25:ILE:HA	28:Ab:43:VAL:HG12	1.84	0.60
1:AA:4227:OMU:HM21	1:AA:4336:A:H1'	1.84	0.60
21:AU:127:MET:HG2	22:AV:153:PRO:HB2	1.84	0.60
45:BA:522:A:H62	68:BX:41:ARG:HH22	1.50	0.60
45:BA:3:C:C6	68:BX:17:ARG:NH1	2.68	0.59
47:BC:17:LYS:HB2	78:Bh:91:LEU:HD13	1.84	0.59
50:BF:50:PRO:HG2	50:BF:90:VAL:HG22	1.82	0.59
56:BL:19:ALA:HB2	56:BL:75:GLY:HA3	1.84	0.59
66:BV:65:LYS:HG2	66:BV:273:LEU:HD22	1.83	0.59
74:Bd:48:VAL:HA	74:Bd:83:LEU:HD22	1.83	0.59
20:AT:60:ARG:HD3	20:AT:63:CYS:HB3	1.83	0.59
52:BH:106:SER:HB3	52:BH:171:LEU:HD23	1.84	0.59
70:BZ:115:LEU:O	70:BZ:119:GLU:HG2	2.02	0.59
1:AA:4642:U:H2'	1:AA:4643:G:H8	1.66	0.59
26:AZ:64:SER:HB2	36:Aj:69:LEU:HD13	1.84	0.59
50:BF:116:ILE:HD11	50:BF:151:ILE:HG13	1.85	0.59
68:BX:38:ARG:HD3	68:BX:39:ASN:HB3	1.84	0.59
78:Bh:24:LEU:HD11	78:Bh:34:VAL:HG21	1.84	0.59
20:AT:4:LEU:HD11	20:AT:29:THR:HG23	1.84	0.59
45:BA:28:U:H2'	45:BA:29:G:C8	2.38	0.59
66:BV:166:ARG:HG2	66:BV:181:PRO:HG3	1.84	0.59
70:BZ:91:LEU:HB3	70:BZ:122:ILE:HG12	1.83	0.59
72:Bb:50:PHE:HB3	72:Bb:63:VAL:HG13	1.85	0.59
1:AA:2647:A:N6	1:AA:2686:G:H1	2.00	0.59
28:Ab:50:PRO:HD3	28:Ab:68:ILE:HG12	1.85	0.59
1:AA:659:G:H2'	1:AA:660:A:C8	2.38	0.59
1:AA:1503:A:H1'	1:AA:1504:G:C8	2.37	0.59
1:AA:1870:C:H2'	1:AA:1871:A2M:H8	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AU:80:ILE:HG12	21:AU:129:VAL:HG22	1.84	0.59
45:BA:928:G:H2'	45:BA:929:G:C8	2.36	0.59
47:BC:184:ARG:HE	47:BC:191:ARG:HD2	1.67	0.59
48:BD:121:ILE:HG12	48:BD:161:VAL:HG13	1.85	0.59
71:Ba:138:IAS:CG	71:Ba:139:SER:O	2.50	0.59
45:BA:568:C:H42	45:BA:582:U:H3	1.51	0.59
1:AA:2377:C:O2	1:AA:2381:A:N6	2.36	0.59
45:BA:38:A:H5'	68:BX:5:ARG:HB3	1.84	0.59
45:BA:170:A:H5'	67:BW:137:ARG:HG3	1.84	0.59
71:Ba:139:SER:C	71:Ba:140:THR:CG2	2.75	0.59
1:AA:422:C:H2'	1:AA:423:G:H8	1.68	0.59
43:Ar:51:ALA:HB3	43:Ar:54:ILE:HD12	1.84	0.59
45:BA:338:G:H2'	45:BA:339:A:H8	1.68	0.59
46:BB:68:ARG:HD2	46:BB:76:VAL:HG11	1.85	0.59
47:BC:14:ASP:HA	47:BC:17:LYS:HE2	1.84	0.59
55:BK:108:LYS:HZ1	57:BM:117:ILE:HA	1.66	0.59
1:AA:691:C:H2'	1:AA:692:A:H8	1.67	0.59
31:Ae:47:ILE:HB	31:Ae:94:LEU:HG	1.84	0.59
47:BC:108:PHE:HB2	47:BC:136:GLU:HG2	1.85	0.59
49:BE:75:LYS:HE2	53:BI:21:MET:HA	1.85	0.59
1:AA:698:G:H21	1:AA:968:C:H42	1.51	0.58
1:AA:2351:OMC:HM22	1:AA:2352:U:H5'	1.84	0.58
1:AA:4601:U:H2'	1:AA:4602:A:H8	1.67	0.58
1:AA:2608:G:H5'	20:AT:100:ARG:HH22	1.68	0.58
7:AG:62:CYS:HB3	7:AG:105:LEU:HD22	1.86	0.58
36:Aj:80:PRO:HD2	36:Aj:83:LEU:HD12	1.85	0.58
68:BX:83:ARG:HH11	68:BX:150:ARG:HD3	1.69	0.58
45:BA:223:C:H2'	45:BA:224:A:H8	1.67	0.58
45:BA:442:C:H42	45:BA:449:A:H62	1.51	0.58
1:AA:2906:G:H21	1:AA:3586:G:H22	1.52	0.58
28:Ab:29:ILE:HG22	28:Ab:32:GLY:H	1.68	0.58
45:BA:126:G:H5''	67:BW:195:LYS:HD3	1.84	0.58
61:BQ:48:LYS:HB3	61:BQ:75:ILE:HD11	1.85	0.58
32:Af:36:VAL:HG21	32:Af:44:ARG:HG2	1.86	0.58
1:AA:2861:OMC:HM22	1:AA:2862:G:H5'	1.85	0.58
19:AS:70:MET:HE2	19:AS:80:ALA:HB2	1.85	0.58
21:AU:51:LEU:HD23	22:AV:151:LEU:HB3	1.86	0.58
36:Aj:7:ARG:H	36:Aj:7:ARG:HD2	1.67	0.58
61:BQ:107:ARG:HB2	61:BQ:112:VAL:HG22	1.86	0.58
77:Bg:100:LEU:HD21	77:Bg:103:LEU:HD13	1.85	0.58
19:AS:99:LYS:HE2	19:AS:121:LEU:HD11	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Aq:63:THR:HG22	42:Aq:89:LYS:HG3	1.84	0.58
45:BA:116:OMU:HM22	45:BA:117:C:H5'	1.85	0.58
45:BA:1155:U:H1'	72:Bb:71:LYS:HD3	1.84	0.58
77:Bg:140:TYR:CZ	77:Bg:142:GLY:HA2	2.39	0.58
6:AF:6:PRO:HD2	6:AF:24:LEU:HD12	1.84	0.58
1:AA:1447:C:H2'	1:AA:1448:G:C8	2.39	0.58
36:Aj:87:LYS:HB3	36:Aj:91:MET:HE2	1.84	0.58
45:BA:3:C:H4'	66:BV:206:SER:HA	1.80	0.58
45:BA:3:C:O4'	66:BV:205:VAL:CG2	2.51	0.58
45:BA:38:A:N1	45:BA:515:G:N2	2.51	0.58
47:BC:33:GLN:HB2	47:BC:154:LEU:HD13	1.85	0.58
58:BN:76:THR:HG23	58:BN:77:LYS:HE3	1.84	0.58
72:Bb:69:LEU:HD11	72:Bb:72:CYS:HB2	1.86	0.58
1:AA:2594:C:H5''	4:AD:70:LYS:HD2	1.86	0.58
17:AQ:29:LEU:HB3	34:Ah:10:ILE:HG21	1.85	0.58
45:BA:170:A:H1'	67:BW:136:LYS:HD3	1.84	0.58
48:BD:122:GLU:HG2	48:BD:140:VAL:HG12	1.85	0.58
49:BE:29:LEU:HD23	49:BE:32:ASP:HB2	1.85	0.58
71:Ba:138:IAS:N	71:Ba:139:SER:N	2.48	0.58
62:BR:44:ILE:HD13	62:BR:67:LEU:HB2	1.84	0.57
66:BV:108:LYS:HD3	66:BV:233:LEU:HG	1.85	0.57
1:AA:2411:C:H2'	1:AA:2412:A:C8	2.39	0.57
1:AA:2777:G:H5''	1:AA:2778:G:H5'	1.85	0.57
5:AE:50:LYS:HB2	5:AE:345:LEU:HD11	1.87	0.57
47:BC:201:LEU:HD21	78:Bh:85:VAL:HG22	1.86	0.57
71:Ba:97:LEU:HD21	71:Ba:112:ALA:HB1	1.84	0.57
72:Bb:111:MET:HE1	72:Bb:119:LYS:HD2	1.86	0.57
72:Bb:111:MET:HE2	72:Bb:115:GLU:HB3	1.85	0.57
1:AA:691:C:H2'	1:AA:692:A:C8	2.39	0.57
1:AA:2479:G:H22	1:AA:2500:U:H3	1.52	0.57
1:AA:4537:C:H2'	1:AA:4538:G:H8	1.69	0.57
21:AU:11:LYS:HD2	21:AU:29:ARG:HD2	1.85	0.57
37:Ak:26:HIS:CE1	37:Ak:29:ARG:HH21	2.22	0.57
45:BA:150:A:N6	45:BA:168:C:O2	2.38	0.57
45:BA:1643:PSU:H4'	56:BL:143:LYS:HG2	1.85	0.57
65:BU:232:GLY:HA3	65:BU:252:THR:HG21	1.86	0.57
68:BX:60:LEU:HD12	68:BX:94:LEU:HD21	1.86	0.57
70:BZ:49:GLN:HA	70:BZ:52:VAL:HG12	1.86	0.57
76:Bf:34:ARG:HA	76:Bf:37:GLN:HB2	1.87	0.57
1:AA:229:G:H5''	27:Aa:11:ARG:HG3	1.86	0.57
1:AA:3805:U:H2'	1:AA:3806:G:H8	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Aa:72:GLN:HB3	27:Aa:81:TYR:HB2	1.87	0.57
45:BA:1004:PSU:H2'	45:BA:1005:G:H8	1.68	0.57
45:BA:1722:G:O6	45:BA:1812:U:O4	2.23	0.57
61:BQ:14:ARG:O	61:BQ:18:ARG:HB2	2.04	0.57
68:BX:85:GLY:HA3	68:BX:108:ARG:HH21	1.70	0.57
70:BZ:88:LEU:O	70:BZ:92:ILE:HG13	2.04	0.57
3:AC:14:OMU:H5'	18:AR:123:PRO:HG3	1.87	0.57
16:AP:159:ARG:HB3	16:AP:164:LEU:HB2	1.84	0.57
58:BN:42:HIS:HB3	58:BN:93:SER:HB3	1.86	0.57
77:Bg:86:THR:HG23	77:Bg:88:PRO:HD3	1.86	0.57
1:AA:700:G:H2'	1:AA:701:G:C8	2.39	0.57
1:AA:1857:C:H2'	1:AA:1858:A:H8	1.68	0.57
1:AA:3697:U:H5''	1:AA:3698:G:H5'	1.85	0.57
6:AF:10:VAL:HG11	6:AF:254:GLU:HG3	1.86	0.57
10:AJ:137[A]:ARG:HD2	10:AJ:146:LEU:HD11	1.86	0.57
45:BA:1856:C:H2'	45:BA:1857:G:H8	1.70	0.57
49:BE:93:THR:HB	49:BE:96:LEU:HD13	1.87	0.57
52:BH:81:VAL:HG22	52:BH:102:VAL:HG12	1.87	0.57
1:AA:666:G:H2'	1:AA:668:C:H5	1.70	0.57
22:AV:68:THR:HG22	22:AV:69:GLN:H	1.69	0.57
45:BA:26:U:H2'	45:BA:27:A2M:H8	1.85	0.57
45:BA:159:A2M:H2	45:BA:468:A2M:H1'	1.86	0.57
51:BG:74:LYS:HG3	51:BG:75:ILE:HG23	1.86	0.57
68:BX:139:LYS:HG3	68:BX:161:LEU:HD11	1.85	0.57
41:Ao:87:GLN:HA	41:Ao:90:ASN:HB2	1.86	0.57
47:BC:18:PHE:HA	47:BC:173:LEU:HD21	1.86	0.57
3:AC:19:C:H2'	3:AC:20:A:H8	1.69	0.57
6:AF:1:MET:HE3	6:AF:2:ALA:HB2	1.87	0.57
11:AK:128:MET:HE1	11:AK:161:ILE:HD11	1.87	0.57
28:Ab:10:VAL:HG22	28:Ab:87:VAL:HG12	1.86	0.57
39:Am:56:LEU:HA	39:Am:59:SER:HB2	1.86	0.57
45:BA:1550:G:H3'	45:BA:1579:A:H61	1.68	0.57
51:BG:69:LEU:O	51:BG:73:GLN:HG2	2.05	0.57
1:AA:2003:G:H1	1:AA:2016:C:H42	1.53	0.57
1:AA:2745:A:H2'	1:AA:2746:A:C8	2.39	0.57
6:AF:5:ARG:HB3	6:AF:24:LEU:HB3	1.87	0.57
7:AG:65:ALA:HB2	7:AG:74:ILE:HD13	1.86	0.57
23:AW:92:LYS:HB2	23:AW:97:ARG:HD2	1.87	0.57
45:BA:576:A2M:HM'2	45:BA:577:U:H5'	1.87	0.57
47:BC:63:ARG:HH21	60:BP:39:VAL:HG22	1.69	0.57
45:BA:1808:U:H2'	45:BA:1809:A:H8	1.69	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BC:6:ASP:HA	47:BC:9:GLN:HB2	1.87	0.56
48:BD:103:MET:HB3	48:BD:215:VAL:HB	1.87	0.56
67:BW:50:VAL:HG11	67:BW:111:LEU:HD13	1.87	0.56
67:BW:124:LEU:HD13	67:BW:125:THR:HG23	1.86	0.56
48:BD:85:LYS:HB3	48:BD:101:HIS:HB3	1.86	0.56
1:AA:318:A:H2'	1:AA:319:A:H8	1.71	0.56
1:AA:1474:C:H2'	1:AA:1475:G:C8	2.40	0.56
1:AA:1604:G:H2'	1:AA:1605:G:C8	2.41	0.56
5:AE:132:LYS:HA	5:AE:135:LYS:HE2	1.87	0.56
7:AG:84:PRO:HB3	7:AG:89:LYS:HG3	1.87	0.56
24:AX:82:ILE:HD12	24:AX:121:VAL:HG12	1.87	0.56
45:BA:103:A:H5'	52:BH:12:ARG:HH12	1.70	0.56
45:BA:1845:A:H2'	45:BA:1846:G:C8	2.41	0.56
66:BV:214:LEU:HD22	66:BV:219:ILE:HD13	1.85	0.56
73:Bc:54:VAL:HB	73:Bc:76:TYR:HB2	1.86	0.56
74:Bd:66:LYS:HA	74:Bd:111:ARG:HG2	1.87	0.56
1:AA:189:G:H2'	1:AA:190:G:C8	2.40	0.56
20:AT:105:LEU:HD13	20:AT:135:LYS:HG2	1.88	0.56
66:BV:114:LYS:HB3	66:BV:121:ARG:HH21	1.70	0.56
67:BW:2:LYS:HB3	67:BW:15:LEU:HD11	1.88	0.56
73:Bc:106:GLN:O	73:Bc:110:ARG:HG2	2.05	0.56
1:AA:926:G:H2'	1:AA:927:G:C8	2.40	0.56
1:AA:1486:C:H2'	1:AA:1487:G:C8	2.41	0.56
1:AA:2815:A2M:HM'2	1:AA:2816:G:H5'	1.88	0.56
21:AU:48:VAL:HG11	21:AU:54:MET:HE2	1.87	0.56
23:AW:83:LEU:O	23:AW:87:THR:HG23	2.06	0.56
48:BD:171:ILE:HD13	48:BD:174:ARG:HH12	1.70	0.56
1:AA:1245:C:H2'	1:AA:1246:G:H8	1.70	0.56
52:BH:103:LEU:HD22	52:BH:170:LYS:HB2	1.88	0.56
68:BX:43:VAL:HA	68:BX:46:VAL:HG12	1.85	0.56
68:BX:78:LEU:HD23	68:BX:81:LEU:HD21	1.88	0.56
72:Bb:101:PHE:HD1	72:Bb:113:HIS:HE2	1.53	0.56
1:AA:4745:G:N2	1:AA:4955:A:N1	2.36	0.56
28:Ab:61:LYS:HA	28:Ab:64:LYS:HG2	1.86	0.56
45:BA:54:A:H4'	45:BA:506:G:H5''	1.86	0.56
45:BA:1453:C:H42	45:BA:1476:A:H2	1.51	0.56
45:BA:1589:A:H4'	58:BN:82:ARG:HD3	1.88	0.56
1:AA:1273:G:H5''	30:Ad:117:ARG:HE	1.71	0.56
1:AA:1732:C:H2'	1:AA:1733:G:C8	2.41	0.56
1:AA:1933:G:H2'	1:AA:1934:A:C8	2.40	0.56
8:AH:119:GLU:HG3	33:Ag:7:LEU:HD22	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:1514:G:H2'	45:BA:1515:G:H8	1.70	0.56
53:BI:25:LYS:HA	53:BI:46:MET:HE1	1.88	0.56
15:AO:118:MET:O	15:AO:122:ILE:HG13	2.05	0.56
45:BA:639:C:H2'	45:BA:640:A:C8	2.39	0.56
53:BI:64:TRP:CE2	64:BT:23:VAL:HG22	2.40	0.56
54:BJ:59:LYS:HG2	54:BJ:134:LEU:HG	1.88	0.56
67:BW:74:ARG:HD2	67:BW:94:ARG:HB3	1.88	0.56
1:AA:160:G:H2'	1:AA:161:G:C8	2.41	0.56
1:AA:1505:C:H2'	1:AA:1506:G:H8	1.70	0.56
1:AA:4274:A:H2'	1:AA:4275:G:C8	2.40	0.56
3:AC:19:C:H2'	3:AC:20:A:C8	2.41	0.56
45:BA:4:C:H2'	45:BA:5:U:H6	1.71	0.56
60:BP:40:ASP:HB3	60:BP:44:GLY:H	1.71	0.56
45:BA:1298:G:H4'	55:BK:78:THR:HA	1.87	0.55
58:BN:65:TYR:HD1	58:BN:66:LEU:HD22	1.71	0.55
21:AU:161:ARG:HE	21:AU:164:LYS:HB2	1.70	0.55
45:BA:848:U:H2'	45:BA:849:A:H8	1.71	0.55
45:BA:1536:G:H2'	45:BA:1537:A:H8	1.71	0.55
53:BI:91:PRO:HG2	53:BI:94:LEU:HG	1.88	0.55
1:AA:734:G:N2	1:AA:929:A:N1	2.39	0.55
25:AY:8:PHE:HZ	25:AY:49:ILE:HG13	1.71	0.55
45:BA:1805:G:H2'	45:BA:1806:A:C8	2.42	0.55
51:BG:142:LYS:HB2	72:Bb:54:ASP:HB3	1.89	0.55
1:AA:1332:C:H2'	1:AA:1333:A:C8	2.39	0.55
45:BA:1862:G:H1	62:BR:28:ARG:HH22	1.53	0.55
77:Bg:105:TYR:HD1	77:Bg:118:ARG:HH21	1.54	0.55
32:Af:24:GLU:HB2	32:Af:120:VAL:HG12	1.89	0.55
45:BA:678:U:H2'	45:BA:679:A:H8	1.71	0.55
45:BA:1845:A:H2'	45:BA:1846:G:H8	1.72	0.55
45:BA:1856:C:H2'	45:BA:1857:G:C8	2.42	0.55
65:BU:83:TRP:HE3	65:BU:107:ASP:HB3	1.72	0.55
69:BY:36:ARG:HG3	69:BY:40:LYS:HE2	1.87	0.55
1:AA:4178:A:H2'	1:AA:4179:G:H8	1.72	0.55
50:BF:100:ILE:HG21	50:BF:177:LEU:HD21	1.88	0.55
67:BW:77:LEU:HD12	67:BW:81:HIS:HB3	1.88	0.55
70:BZ:118:ILE:O	70:BZ:122:ILE:HG13	2.06	0.55
1:AA:1197:C:H2'	1:AA:1198:G:H8	1.72	0.55
47:BC:1:MET:HE3	60:BP:79:VAL:HA	1.88	0.55
50:BF:150:ALA:O	50:BF:154:LEU:HD12	2.07	0.55
57:BM:75:ARG:HH21	57:BM:95:TYR:HB3	1.72	0.55
1:AA:1217:G:H2'	1:AA:1218:G:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1500:A:H5''	1:AA:1501:C:H5''	1.88	0.55
1:AA:1503:A:H4'	1:AA:1504:G:H5'	1.89	0.55
1:AA:1577:G:O2'	1:AA:1612:G:H4'	2.07	0.55
1:AA:4363:A:H5''	42:Aq:36:GLN:HG2	1.89	0.55
1:AA:4694:G:H1'	11:AK:71:ARG:HH12	1.72	0.55
12:AL:108:ALA:H	12:AL:113:THR:HG23	1.71	0.55
35:Ai:94:ALA:O	35:Ai:98:GLU:HG2	2.07	0.55
45:BA:92:A:H5'	45:BA:93:PSU:HN1	1.72	0.55
45:BA:3:C:C4	68:BX:17:ARG:NH1	2.67	0.55
45:BA:375:U:H2'	45:BA:376:A:C8	2.42	0.55
45:BA:1010:G:H2'	45:BA:1011:A:H8	1.72	0.55
46:BB:128:LYS:HG3	46:BB:140:VAL:HG12	1.89	0.55
62:BR:27:ALA:HB2	71:Ba:142:ARG:CZ	2.36	0.55
66:BV:192:LEU:HB3	66:BV:227:ARG:HG3	1.88	0.55
12:AL:91:LEU:HD11	12:AL:129:VAL:HB	1.88	0.54
45:BA:1115:U:H3	45:BA:1119:A:H61	1.56	0.54
55:BK:80:LEU:HD12	55:BK:83:MET:HB2	1.87	0.54
62:BR:20:PRO:HA	62:BR:31:PRO:HA	1.89	0.54
70:BZ:127:ARG:O	70:BZ:131:THR:HG23	2.07	0.54
28:Ab:59:LYS:HE2	28:Ab:59:LYS:H	1.71	0.54
41:Ao:98:LYS:HB3	41:Ao:115:CYS:HB2	1.89	0.54
45:BA:1603:G:H4'	57:BM:38:ARG:HH21	1.72	0.54
1:AA:5037:U:H2'	1:AA:5038:A:C8	2.42	0.54
45:BA:314:U:H5	67:BW:191:ARG:HH12	1.56	0.54
45:BA:1402:A:H4'	59:BO:51:LYS:HE3	1.87	0.54
45:BA:1755:C:N3	45:BA:1777:G:N1	2.54	0.54
46:BB:18:TRP:HB3	46:BB:20:LEU:HD13	1.88	0.54
73:Bc:10:ARG:HB3	73:Bc:24:VAL:HG13	1.89	0.54
1:AA:160:G:H2'	1:AA:161:G:H8	1.72	0.54
1:AA:1700:G:H1	9:Al:177:ARG:HD3	1.73	0.54
1:AA:1914:C:H4'	17:AQ:89:PRO:HD3	1.88	0.54
1:AA:3855:C:H2'	1:AA:3856:A:H8	1.72	0.54
4:AD:20:VAL:HA	4:AD:23:ARG:HG3	1.90	0.54
23:AW:91:LEU:HG	23:AW:96:LEU:HB2	1.90	0.54
36:Aj:63:GLN:O	36:Aj:67:GLU:HG3	2.07	0.54
45:BA:1703:OMC:HM22	45:BA:1704:C:H5'	1.90	0.54
4:AD:83:HIS:HB3	43:Ar:64:VAL:HG13	1.88	0.54
56:BL:17:LYS:HD2	56:BL:18:THR:HG23	1.90	0.54
1:AA:733:A:H61	1:AA:930:G:H22	1.53	0.54
27:Aa:30:MET:HB3	27:Aa:101:PRO:HG3	1.90	0.54
1:AA:3604:A:H5'	20:AT:71:ARG:HD2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:AK:18:ILE:HG12	11:AK:27:VAL:HG22	1.90	0.54
56:BL:68:ILE:HG21	56:BL:88:ILE:HG12	1.88	0.54
1:AA:4323:A:H4'	7:AG:176:SER:HB3	1.88	0.54
1:AA:4619:U:H2'	1:AA:4620:OMU:H6	1.90	0.54
23:AW:80:LYS:HD2	23:AW:108:GLU:HA	1.90	0.54
45:BA:1139:C:H2'	45:BA:1140:G:C8	2.42	0.54
46:BB:31:PRO:HG2	46:BB:38:LEU:HD12	1.89	0.54
1:AA:10:A:H2'	1:AA:11:G:H8	1.71	0.54
1:AA:4892:A:H1'	15:AO:121:ARG:HH21	1.73	0.54
33:Ag:8:VAL:HG12	33:Ag:10:PRO:HD3	1.90	0.54
45:BA:223:C:H2'	45:BA:224:A:C8	2.43	0.54
45:BA:1128:C:H2'	45:BA:1129:G:C8	2.43	0.54
50:BF:35:LEU:HD22	50:BF:147:VAL:HG13	1.88	0.54
61:BQ:73:GLN:HB2	61:BQ:80:LYS:HE2	1.90	0.54
68:BX:97:ILE:H	68:BX:97:ILE:HD12	1.72	0.54
1:AA:1420:A:H5'	1:AA:1501:C:H5	1.73	0.54
1:AA:1845:U:H2'	1:AA:1846:G:H8	1.72	0.54
14:AN:161:TYR:HA	29:Ac:105:ARG:HH22	1.71	0.54
25:AY:1:MET:HE2	25:AY:1:MET:HA	1.90	0.54
35:Ai:78:TYR:HB3	35:Ai:82:MET:HB2	1.89	0.54
45:BA:1324:G:N1	45:BA:1504:U:N3	2.55	0.54
52:BH:175:ILE:HG22	52:BH:177:SER:H	1.73	0.54
55:BK:83:MET:HB3	55:BK:116:LEU:HD23	1.89	0.54
56:BL:103:ALA:HA	56:BL:106:LYS:HD2	1.88	0.54
1:AA:1538:U:H2'	1:AA:1539:G:H8	1.73	0.53
20:AT:170:ARG:HH22	45:BA:872:A:H2	1.56	0.53
27:Aa:55:VAL:HG12	27:Aa:106:ILE:HA	1.90	0.53
49:BE:50:ILE:HG13	49:BE:88:ALA:HA	1.90	0.53
67:BW:14:LYS:HG2	67:BW:124:LEU:HD23	1.90	0.53
1:AA:462:G:H2'	1:AA:463:A:C8	2.43	0.53
10:AJ:58:PRO:HG2	10:AJ:61:ILE:HD12	1.89	0.53
10:AJ:152:ALA:HA	10:AJ:205:THR:HG22	1.89	0.53
45:BA:1422:G:H2'	45:BA:1424:G:H8	1.73	0.53
55:BK:52:LYS:HD3	55:BK:52:LYS:H	1.72	0.53
1:AA:2255:C:H5''	9:AI:25:PHE:HB2	1.90	0.53
8:AH:191:GLN:HA	8:AH:194:VAL:HG22	1.91	0.53
23:AW:80:LYS:HG2	23:AW:110:TYR:HE2	1.73	0.53
31:Ae:47:ILE:HD12	31:Ae:94:LEU:HD11	1.91	0.53
45:BA:116:OMU:HN3	45:BA:347:G:H22	1.54	0.53
45:BA:144:U:H2'	45:BA:145:G:H8	1.73	0.53
45:BA:158:A:H2'	45:BA:159:A2M:H8	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:345:U:H5''	46:BB:37:LYS:HD3	1.89	0.53
45:BA:907:G:H2'	45:BA:908:A:C8	2.43	0.53
45:BA:1705:C:H2'	45:BA:1706:G:C8	2.43	0.53
46:BB:100:ARG:HD2	46:BB:102:ILE:HD11	1.91	0.53
52:BH:175:ILE:H	52:BH:175:ILE:HD12	1.72	0.53
55:BK:133:ILE:H	55:BK:133:ILE:HD12	1.72	0.53
67:BW:142:ARG:HD3	67:BW:147:LEU:HD13	1.90	0.53
73:Bc:27:VAL:HG11	73:Bc:35:VAL:HG21	1.89	0.53
43:Ar:74:THR:O	43:Ar:78:THR:HG23	2.09	0.53
45:BA:1103:C:H2'	45:BA:1104:G:C8	2.44	0.53
46:BB:206:ASP:HB2	46:BB:222:LEU:HG	1.90	0.53
1:AA:1528:U:H2'	1:AA:1529:G:C8	2.44	0.53
1:AA:4723:A:H2'	1:AA:4724:A:C8	2.44	0.53
21:AU:161:ARG:HB2	21:AU:161:ARG:HH11	1.73	0.53
50:BF:15:PRO:HG3	56:BL:57:LEU:HD22	1.90	0.53
52:BH:105:ASP:HB3	52:BH:107:THR:HG23	1.90	0.53
53:BI:60:GLU:HB2	53:BI:69:TRP:CD1	2.43	0.53
55:BK:58:LYS:HG2	55:BK:62:LYS:HD3	1.90	0.53
55:BK:77:LYS:H	55:BK:77:LYS:HD2	1.73	0.53
57:BM:74:PRO:HB2	57:BM:79:ILE:HG21	1.90	0.53
24:AX:42:VAL:HB	24:AX:45:ILE:HG13	1.90	0.53
45:BA:388:U:H2'	45:BA:389:A:C8	2.43	0.53
45:BA:483:C:H5''	61:BQ:48:LYS:HE3	1.91	0.53
45:BA:1370:A:H62	78:Bh:4:VAL:HG13	1.73	0.53
50:BF:55:ARG:HD3	56:BL:125:ARG:HD3	1.91	0.53
45:BA:1515:G:H2'	45:BA:1516:G:H8	1.73	0.53
48:BD:229:MET:HE2	48:BD:229:MET:HA	1.89	0.53
61:BQ:107:ARG:HB3	61:BQ:110:HIS:HB3	1.90	0.53
65:BU:64:HIS:HD1	65:BU:83:TRP:HD1	1.56	0.53
66:BV:167:ARG:HB3	66:BV:177:PRO:HB2	1.90	0.53
67:BW:78:SER:HB3	67:BW:92:ARG:HD3	1.90	0.53
67:BW:142:ARG:HA	67:BW:147:LEU:HB2	1.89	0.53
1:AA:1217:G:H2'	1:AA:1218:G:C8	2.44	0.53
1:AA:1683:PSU:H2'	1:AA:1684:A:C8	2.44	0.53
1:AA:3880:G:H2'	1:AA:3881:G:C8	2.44	0.53
1:AA:5005:G:H22	1:AA:5041:G:H1'	1.73	0.53
17:AQ:7:LEU:HB3	17:AQ:33:VAL:HG22	1.91	0.53
45:BA:908:A:H2'	45:BA:909:G:H8	1.74	0.53
45:BA:981:A:H2'	45:BA:982:G:C8	2.44	0.53
53:BI:80:ARG:HD2	53:BI:87:PRO:HA	1.91	0.53
1:AA:467:U:H5	1:AA:686:A:H61	1.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1218:G:H2'	1:AA:1219:G:H8	1.74	0.53
1:AA:2704:C:H2'	1:AA:2705:G:H8	1.73	0.53
15:AO:125:ASN:HA	15:AO:128:LYS:HG2	1.90	0.53
45:BA:104:A:N6	45:BA:356:C:O2	2.42	0.53
45:BA:1236:G:H2'	45:BA:1237:C:C6	2.44	0.53
49:BE:135:GLU:HG2	49:BE:153:VAL:HG12	1.91	0.53
50:BF:34:SER:HA	63:BS:55:VAL:HB	1.90	0.53
58:BN:27:LYS:HB3	58:BN:110:LEU:HD23	1.91	0.53
62:BR:31:PRO:HG2	62:BR:34:LYS:HB3	1.91	0.53
67:BW:10:THR:HB	67:BW:129:VAL:HG23	1.90	0.53
1:AA:2730:U:H2'	1:AA:2731:C:C6	2.44	0.53
1:AA:3917:A:H2'	1:AA:3918:G:H8	1.73	0.53
27:Aa:58:VAL:HG23	27:Aa:59:ARG:HG2	1.91	0.53
46:BB:199:GLU:HB2	46:BB:207:VAL:HG12	1.91	0.53
47:BC:84:GLN:HG3	47:BC:100:ALA:HB1	1.91	0.53
52:BH:103:LEU:HD13	52:BH:170:LYS:HD3	1.90	0.53
1:AA:1669:A:H4'	1:AA:1685:G:N2	2.24	0.52
1:AA:3772:U:H5	1:AA:3776:G:H22	1.55	0.52
33:Ag:82:VAL:HG13	33:Ag:114:ARG:HG2	1.89	0.52
45:BA:1017:U:H5'	70:BZ:55:ARG:HE	1.74	0.52
66:BV:121:ARG:NH1	66:BV:123:ARG:HE	2.07	0.52
66:BV:208:PRO:HG3	68:BX:18:ARG:HH12	1.74	0.52
1:AA:323:C:H2'	1:AA:324:A:H8	1.74	0.52
1:AA:1511:U:H2'	1:AA:1512:G:H8	1.74	0.52
1:AA:4523:A2M:H5''	1:AA:4524:G:H5'	1.90	0.52
13:AM:165:TRP:O	13:AM:169:LYS:HB3	2.09	0.52
45:BA:600:G:H2'	45:BA:601:OMG:H8	1.73	0.52
45:BA:1099:G:H22	45:BA:1133:A:H2	1.57	0.52
46:BB:222:LEU:HD13	46:BB:225:ILE:HD11	1.92	0.52
65:BU:211:GLY:H	65:BU:236:ILE:HD12	1.74	0.52
78:Bh:58:MET:HE3	78:Bh:58:MET:HA	1.90	0.52
1:AA:4319:C:H2'	1:AA:4320:G:H8	1.74	0.52
1:AA:4861:G:H2'	1:AA:4862:G:C8	2.44	0.52
37:Ak:33:LEU:HD11	37:Ak:38:LYS:HB2	1.91	0.52
45:BA:26:U:H5'	45:BA:517:OMC:HM22	1.90	0.52
45:BA:600:G:H2'	45:BA:601:OMG:C8	2.45	0.52
45:BA:1237:C:H2'	45:BA:1238:PSU:C6	2.44	0.52
55:BK:81:ARG:HH22	55:BK:97:TYR:HB3	1.74	0.52
1:AA:425:U:H2'	1:AA:426:A:H8	1.75	0.52
1:AA:2884:G:H2'	1:AA:2885:A:H8	1.75	0.52
1:AA:3710:G:H21	1:AA:3711:A:H61	1.58	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:55:U:H3'	45:BA:451:G:H22	1.75	0.52
45:BA:443:U:H3	45:BA:447:A:H62	1.57	0.52
45:BA:1240:A:H2'	45:BA:1241:A:C4	2.44	0.52
45:BA:1623:A:H1'	57:BM:121:ARG:HH22	1.74	0.52
53:BI:64:TRP:HE1	64:BT:46:TYR:HE2	1.55	0.52
56:BL:16:LYS:HG3	56:BL:17:LYS:H	1.74	0.52
59:BO:26:SER:HB3	59:BO:32:LEU:HD22	1.90	0.52
1:AA:3718:A2M:HM'2	1:AA:3719:A:H5'	1.91	0.52
3:AC:77:A:H2'	3:AC:78:G:O4'	2.10	0.52
9:AI:182:TYR:HB3	9:AI:200:ARG:HG3	1.90	0.52
45:BA:996:A:H2'	45:BA:997:A:C8	2.45	0.52
45:BA:1812:U:H2'	45:BA:1813:A:H8	1.74	0.52
56:BL:128:GLU:HB3	56:BL:137:ALA:HB1	1.91	0.52
1:AA:4:G:H2'	1:AA:5:A:H8	1.74	0.52
1:AA:2704:C:H2'	1:AA:2705:G:C8	2.44	0.52
1:AA:4112:C:H5''	1:AA:4113:U:H5	1.73	0.52
1:AA:4508:C:H5''	24:AX:43:LYS:HD2	1.90	0.52
12:AL:76:MET:HA	12:AL:76:MET:HE2	1.92	0.52
45:BA:4:C:H2'	45:BA:5:U:C6	2.44	0.52
1:AA:299:C:H2'	1:AA:300:A:H8	1.75	0.52
1:AA:4302:U:H4'	22:AV:5:LYS:HG2	1.92	0.52
1:AA:4912:G:H5'	1:AA:4913:G:H5''	1.91	0.52
1:AA:4957:C:H2'	1:AA:4958:C:C6	2.45	0.52
10:AJ:96:LEU:HD11	10:AJ:189:ARG:HG2	1.92	0.52
20:AT:136:ARG:O	20:AT:140:GLU:HG2	2.09	0.52
36:Aj:6:ALA:O	36:Aj:10:ARG:HG2	2.09	0.52
45:BA:5:U:H2'	45:BA:6:G:H8	1.74	0.52
45:BA:528:A:H2'	45:BA:529:A:C8	2.44	0.52
45:BA:695:C:H41	45:BA:737:G:H1'	1.75	0.52
45:BA:1014:G:N2	75:Be:51:GLN:HE22	2.08	0.52
45:BA:1240:A:C2	55:BK:100:LYS:HB2	2.44	0.52
45:BA:1279:C:H2'	45:BA:1280:G:C8	2.42	0.52
58:BN:112:MET:HA	58:BN:112:MET:HE3	1.92	0.52
1:AA:1824:G:H2'	1:AA:1825:A:C8	2.45	0.52
1:AA:3873:G:H2'	1:AA:3874:G:C8	2.45	0.52
5:AE:112:ASP:HA	5:AE:115:LYS:HB2	1.91	0.52
18:AR:37:LYS:HG3	18:AR:117:ILE:HG22	1.92	0.52
45:BA:380:G:H1'	52:BH:5:ARG:HH11	1.75	0.52
45:BA:1649:U:H2'	45:BA:1650:A:C8	2.45	0.52
12:AL:145:GLU:O	12:AL:149:ILE:HG12	2.10	0.52
45:BA:668:A2M:H5''	45:BA:1198:G:H4'	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:696:G:H1'	45:BA:737:G:H1	1.75	0.52
50:BF:108:PRO:HA	50:BF:111:VAL:HG12	1.91	0.52
12:AL:171:TRP:HB2	12:AL:178:ALA:HA	1.92	0.52
24:AX:21:PRO:HA	24:AX:54:ALA:HA	1.91	0.52
45:BA:1010:G:H2'	45:BA:1011:A:C8	2.44	0.52
54:BJ:120:VAL:HG22	54:BJ:145:VAL:HG11	1.91	0.52
56:BL:62:ARG:HB3	56:BL:92:LEU:HD21	1.91	0.52
65:BU:11:LEU:HD22	65:BU:43:TRP:HE1	1.75	0.52
66:BV:69:LEU:HD11	66:BV:273:LEU:HD11	1.92	0.52
70:BZ:37:ILE:HG13	70:BZ:54:LEU:HD11	1.91	0.52
1:AA:132:G:C2	1:AA:133:C:H1'	2.45	0.51
1:AA:478:G:H2'	1:AA:479:G:H8	1.76	0.51
1:AA:3792:OMG:HM22	1:AA:3793:U:H5'	1.91	0.51
1:AA:4507:A:H2'	1:AA:4508:C:C6	2.45	0.51
3:AC:78:G:H2'	3:AC:79:G:C8	2.45	0.51
12:AL:54:SER:HB2	12:AL:135:ILE:HD11	1.90	0.51
50:BF:33:ILE:HG23	63:BS:55:VAL:HG11	1.92	0.51
52:BH:197:PHE:HD2	54:BJ:10:TYR:HD1	1.58	0.51
60:BP:20:SER:HB3	60:BP:59:ILE:HD11	1.91	0.51
1:AA:956:A:H1'	1:AA:2076:G:H5''	1.92	0.51
1:AA:2640:G:H2'	1:AA:2641:A:C8	2.45	0.51
1:AA:4743:G:H2'	1:AA:4744:A:C8	2.45	0.51
25:AY:45:ASN:HB3	25:AY:48:GLN:HG3	1.92	0.51
36:Aj:20:GLN:O	36:Aj:24:LEU:HD22	2.09	0.51
53:BI:12:TYR:HE1	53:BI:52:LEU:HD11	1.76	0.51
56:BL:76:GLY:H	56:BL:79:ALA:HB3	1.76	0.51
75:Be:50:ALA:HB3	75:Be:71:ALA:HB2	1.92	0.51
1:AA:1939:A:H5'	1:AA:1940:G:H4'	1.92	0.51
1:AA:4088:C:H2'	1:AA:4089:G:H8	1.74	0.51
45:BA:29:G:H2'	45:BA:30:C:C6	2.44	0.51
47:BC:65:ILE:HD11	47:BC:74:VAL:HG21	1.92	0.51
62:BR:24:THR:HG21	62:BR:71:LEU:HB2	1.92	0.51
71:Ba:95:ILE:HB	71:Ba:129:ILE:HG12	1.93	0.51
1:AA:4967:A:H2'	1:AA:4968:A:H8	1.76	0.51
6:AF:209:ILE:HB	6:AF:229:LEU:HD13	1.92	0.51
45:BA:512:A2M:H2'	45:BA:513:G:C8	2.45	0.51
45:BA:980:A:H2'	45:BA:981:A:C8	2.45	0.51
47:BC:169:HIS:HA	47:BC:203:PHE:HD1	1.75	0.51
48:BD:92:GLN:HG3	48:BD:97:LEU:HD11	1.92	0.51
50:BF:140:ASP:HB2	63:BS:46:VAL:HG12	1.93	0.51
67:BW:138:ALA:O	67:BW:142:ARG:HG2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:BX:109:ARG:HB2	68:BX:112:THR:HG23	1.91	0.51
1:AA:4403:PSU:HN3	1:AA:4440:G:H1	1.59	0.51
14:AN:123:LYS:HB2	36:Aj:122:LYS:HB2	1.91	0.51
15:AO:27:ILE:HD11	15:AO:55:MET:HE1	1.92	0.51
45:BA:1649:U:O2	45:BA:1675:A:N7	2.44	0.51
48:BD:110:MET:HA	48:BD:113:MET:HE3	1.91	0.51
50:BF:39:ILE:HD12	50:BF:68:ILE:HD13	1.93	0.51
68:BX:36:GLY:HA3	68:BX:123:ILE:HG12	1.92	0.51
68:BX:86:VAL:HG12	68:BX:100:LEU:HD11	1.93	0.51
1:AA:93:G:H2'	1:AA:94:A:C8	2.45	0.51
1:AA:435:A:H61	1:AA:1312:A:H2	1.58	0.51
1:AA:4238:G:H2'	1:AA:4239:A:H8	1.75	0.51
1:AA:4767:C:H2'	1:AA:4768:G:C8	2.45	0.51
3:AC:72:A:N6	3:AC:79:G:H1	2.08	0.51
15:AO:100:ARG:HA	15:AO:103:LYS:HG2	1.93	0.51
45:BA:30:C:H42	45:BA:644:OMG:HN1	1.57	0.51
45:BA:388:U:H2'	45:BA:389:A:H8	1.74	0.51
45:BA:1757:G:C2	45:BA:1775:U:O2	2.64	0.51
1:AA:10:A:H2'	1:AA:11:G:C8	2.46	0.51
1:AA:710:G:H2'	1:AA:711:A:C8	2.45	0.51
1:AA:4323:A:C6	7:AG:153:THR:HG21	2.46	0.51
51:BG:44:ASN:H	51:BG:68:GLN:HE22	1.59	0.51
58:BN:28:LEU:HD23	58:BN:106:ALA:HB1	1.93	0.51
1:AA:3911:C:H2'	1:AA:3912:U:H6	1.76	0.51
1:AA:4125:C:H5'	10:AJ:45:ILE:HD12	1.92	0.51
61:BQ:32:LEU:HD11	61:BQ:34:THR:HG22	1.91	0.51
65:BU:212:LYS:HA	65:BU:235:ILE:HG23	1.93	0.51
1:AA:4321:U:H2'	1:AA:4322:G:C8	2.45	0.51
38:Al:85:LYS:HD2	38:Al:86:PRO:HD2	1.92	0.51
39:Am:26:LYS:HB3	39:Am:33:LYS:HB2	1.93	0.51
45:BA:121:OMU:HM22	45:BA:122:G:H5'	1.93	0.51
45:BA:1327:G:H2'	45:BA:1328:OMG:H8	1.76	0.51
45:BA:1677:U:H5''	50:BF:148:ASN:HB3	1.93	0.51
58:BN:39:LEU:HD13	58:BN:56:ARG:HH21	1.76	0.51
65:BU:34:ALA:HB1	65:BU:66:VAL:HB	1.93	0.51
66:BV:121:ARG:HH12	66:BV:123:ARG:HB2	1.75	0.51
1:AA:18:C:H2'	1:AA:19:G:C8	2.45	0.51
1:AA:1563:A:H2'	1:AA:1564:A:C8	2.46	0.51
1:AA:4761:G:H2'	1:AA:4762:A:C8	2.46	0.51
1:AA:4918:C:H2'	1:AA:4919:G:C8	2.46	0.51
16:AP:68:ARG:HE	16:AP:128:LYS:HD2	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Aa:67:ILE:HD13	27:Aa:107:THR:HG21	1.93	0.51
36:Aj:6:ALA:HA	36:Aj:9:LEU:HD12	1.92	0.51
37:Ak:25:ARG:HD2	37:Ak:26:HIS:N	2.26	0.51
45:BA:3:C:O2	45:BA:3:C:H2'	2.11	0.51
56:BL:68:ILE:HD13	56:BL:88:ILE:HG23	1.93	0.51
61:BQ:46:HIS:HB3	61:BQ:101:LEU:HD11	1.93	0.51
78:Bh:56:HIS:O	78:Bh:59:LYS:HG2	2.11	0.51
1:AA:136:C:H4'	1:AA:137:G:H5'	1.93	0.50
1:AA:2521:G:H4'	35:Ai:26:PRO:HD2	1.92	0.50
1:AA:2648:G:H2'	1:AA:2649:G:H8	1.75	0.50
1:AA:3932:U:H2'	1:AA:3933:G:C8	2.44	0.50
1:AA:4352:U:H1'	29:Ac:58:MET:HE1	1.92	0.50
5:AE:77:THR:HG21	5:AE:337:VAL:HG22	1.92	0.50
46:BB:37:LYS:H	46:BB:37:LYS:HE2	1.76	0.50
70:BZ:23:PRO:HG2	70:BZ:26:LEU:HB2	1.93	0.50
71:Ba:53:ILE:HG23	71:Ba:88:LEU:HD23	1.93	0.50
72:Bb:52:ILE:HG23	72:Bb:61:ILE:HG12	1.92	0.50
1:AA:3848:U:H2'	1:AA:3849:A:C8	2.45	0.50
1:AA:4768:G:H2'	1:AA:4769:G:C8	2.46	0.50
11:AK:59:LYS:HE2	11:AK:66:GLU:HG2	1.94	0.50
13:AM:23:ASN:HB3	13:AM:129:ASP:HB3	1.94	0.50
13:AM:89:VAL:HG21	13:AM:115:LEU:HD22	1.93	0.50
48:BD:137:LEU:HD22	48:BD:215:VAL:HG22	1.91	0.50
66:BV:60:TRP:CD2	66:BV:92:GLU:HG3	2.46	0.50
66:BV:194:ARG:HD3	66:BV:196:ILE:HD11	1.93	0.50
70:BZ:78:LYS:HG2	70:BZ:80:LEU:HG	1.94	0.50
1:AA:161:G:H2'	1:AA:162:A:H8	1.76	0.50
1:AA:2101:C:H2'	1:AA:2102:G:C8	2.46	0.50
2:AB:22:A:H2	2:AB:119:U:H4'	1.77	0.50
3:AC:67:U:H2'	3:AC:68:G:C8	2.45	0.50
45:BA:1478:U:H2'	45:BA:1479:G:C8	2.46	0.50
45:BA:1548:G:H21	45:BA:1656:G:H4'	1.76	0.50
45:BA:1677:U:H2'	45:BA:1678:A2M:H8	1.94	0.50
65:BU:27:PHE:HB2	65:BU:30:MET:HB2	1.93	0.50
1:AA:161:G:H2'	1:AA:162:A:C8	2.46	0.50
1:AA:263:G:H2'	1:AA:264:C:H5	1.77	0.50
1:AA:418:A:C2	3:AC:17:A:H1'	2.46	0.50
1:AA:4148:C:H5''	28:Ab:59:LYS:HE3	1.93	0.50
26:AZ:81:LEU:HG	26:AZ:83:THR:HG23	1.92	0.50
45:BA:1575:G:H2'	45:BA:1576:G:H8	1.76	0.50
48:BD:176:VAL:HG23	48:BD:184:VAL:HG11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BJ:77:VAL:HG12	54:BJ:88:ILE:HG22	1.93	0.50
57:BM:136:THR:HA	57:BM:139:THR:HB	1.94	0.50
70:BZ:33:VAL:O	70:BZ:37:ILE:HD12	2.11	0.50
1:AA:2804:OMC:HM22	1:AA:2805:C:H5'	1.94	0.50
12:AL:43:VAL:HG22	12:AL:171:TRP:HE1	1.75	0.50
45:BA:1198:G:H2'	45:BA:1199:A:C8	2.47	0.50
46:BB:118:GLU:HG2	46:BB:121:TYR:HE1	1.76	0.50
1:AA:436:C:H2'	1:AA:437:G:H8	1.75	0.50
1:AA:4188:U:H2'	1:AA:4189:U:C6	2.47	0.50
8:AH:179:LEU:HD12	8:AH:183:ARG:HA	1.94	0.50
39:Am:58:GLN:H	39:Am:58:GLN:CD	2.19	0.50
58:BN:103:VAL:O	58:BN:107:LEU:HD13	2.12	0.50
59:BO:67:LYS:HA	64:BT:44:ARG:HD2	1.93	0.50
62:BR:10:ARG:HH21	62:BR:12:LYS:HE2	1.77	0.50
70:BZ:45:LEU:HA	70:BZ:49:GLN:HE21	1.77	0.50
1:AA:500:G:H1'	1:AA:505:G:C8	2.46	0.50
1:AA:1316:OMG:HM22	1:AA:1317:U:H5'	1.92	0.50
1:AA:4456:OMC:HM22	1:AA:4457:PSU:H5''	1.93	0.50
1:AA:4563:U:H2'	1:AA:4564:A:H8	1.75	0.50
14:AN:125:ILE:HD11	36:Aj:122:LYS:HG3	1.92	0.50
23:AW:23:LEU:HD22	23:AW:110:TYR:HB2	1.93	0.50
24:AX:106:VAL:HG12	24:AX:112:MET:HA	1.92	0.50
45:BA:601:OMG:H2'	45:BA:602:G:C8	2.47	0.50
45:BA:1013:U:H2'	45:BA:1014:G:H8	1.77	0.50
47:BC:42:LYS:HE2	78:Bh:101:ASP:HB3	1.94	0.50
49:BE:138:VAL:HG12	49:BE:150:MET:HB3	1.93	0.50
1:AA:1338:G:H4'	1:AA:1339:U:H6	1.77	0.50
1:AA:4120:U:H3	43:Ar:41:PHE:HE1	1.60	0.50
45:BA:1101:U:H2'	45:BA:1102:G:C8	2.46	0.50
45:BA:1513:C:H2'	45:BA:1514:G:H8	1.77	0.50
45:BA:1671:G:H2'	45:BA:1672:U:H6	1.76	0.50
46:BB:20:LEU:HD11	46:BB:46:ILE:HD12	1.92	0.50
46:BB:188:ASN:HD21	46:BB:218:PHE:HB2	1.76	0.50
49:BE:72:VAL:HG22	53:BI:20:VAL:HG11	1.92	0.50
65:BU:112:ALA:HB3	65:BU:121:VAL:HB	1.94	0.50
66:BV:204:ILE:HD13	66:BV:211:LYS:HG3	1.94	0.50
1:AA:3861:A:H2'	1:AA:3862:A:H8	1.77	0.50
13:AM:52:LYS:HD3	13:AM:67:LYS:HG3	1.93	0.50
23:AW:43:LEU:HD12	23:AW:47:ILE:HD11	1.93	0.50
45:BA:85:A:H2'	45:BA:86:C:C6	2.47	0.50
69:BY:85:LEU:O	69:BY:89:VAL:HG12	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:299:C:H2'	1:AA:300:A:C8	2.47	0.49
1:AA:2275:G:H2'	1:AA:2276:A:C8	2.46	0.49
1:AA:3609:G:H2'	1:AA:3610:A:H8	1.77	0.49
13:AM:104:ASN:HB3	13:AM:133:VAL:HA	1.94	0.49
18:AR:85:LYS:O	18:AR:89:GLU:HG2	2.11	0.49
1:AA:2575:U:H5''	1:AA:2576:G:H5'	1.93	0.49
1:AA:4389:C:H2'	1:AA:4390:A:C8	2.48	0.49
1:AA:4699:U:H1'	1:AA:4700:A:H5''	1.93	0.49
7:AG:212:MET:HE2	7:AG:212:MET:HA	1.93	0.49
11:AK:26:ILE:HG12	11:AK:35:ARG:HE	1.77	0.49
45:BA:3:C:C4'	66:BV:206:SER:N	2.65	0.49
45:BA:952:G:H2'	45:BA:953:C:C6	2.47	0.49
45:BA:1488:C:H3'	45:BA:1489:A:H4'	1.93	0.49
47:BC:80:ARG:HG2	47:BC:82:THR:H	1.77	0.49
48:BD:164:ILE:O	48:BD:168:MET:HG3	2.12	0.49
59:BO:20:ILE:HD13	59:BO:98:VAL:HG11	1.94	0.49
1:AA:1505:C:H2'	1:AA:1506:G:C8	2.46	0.49
1:AA:4228:OMG:H5''	1:AA:4229:U:O4'	2.13	0.49
1:AA:4537:C:H2'	1:AA:4538:G:C8	2.47	0.49
5:AE:57:VAL:HG22	5:AE:73:VAL:HG22	1.94	0.49
7:AG:107:ARG:HD2	7:AG:248:ARG:HG2	1.95	0.49
29:Ac:36:GLY:HA3	29:Ac:40:HIS:CE1	2.47	0.49
45:BA:186:C:H2'	45:BA:187:G:C8	2.47	0.49
45:BA:483:C:H5''	61:BQ:48:LYS:HB2	1.94	0.49
45:BA:573:U:O2	45:BA:576:A2M:H8	2.12	0.49
45:BA:906:U:H2'	45:BA:907:G:C8	2.48	0.49
52:BH:195:LEU:O	52:BH:199:LEU:HD12	2.11	0.49
66:BV:183:LYS:HD3	66:BV:194:ARG:HH21	1.77	0.49
1:AA:943:A:H62	9:AI:151:ASN:HD21	1.61	0.49
1:AA:1494:U:H2'	1:AA:1495:G:H8	1.77	0.49
1:AA:3598:C:H2'	1:AA:3599:A:C8	2.47	0.49
30:Ad:23:LYS:HD2	30:Ad:24:PRO:HD2	1.94	0.49
45:BA:1036:A:H4'	45:BA:1855:G:N2	2.27	0.49
57:BM:64:VAL:O	57:BM:68:ILE:HG12	2.12	0.49
65:BU:17:TRP:HB3	65:BU:36:ARG:HG3	1.93	0.49
70:BZ:64:ARG:HD3	70:BZ:70:LYS:HG3	1.95	0.49
1:AA:2520:C:H2'	1:AA:2521:G:C8	2.44	0.49
23:AW:22:THR:O	23:AW:109:SER:HA	2.12	0.49
28:Ab:68:ILE:HD12	28:Ab:119:GLU:HG3	1.95	0.49
45:BA:1259:A:H62	45:BA:1518:C:H3'	1.78	0.49
45:BA:1624:U:H2'	45:BA:1625:PSU:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BE:163:PRO:O	49:BE:167:TYR:HB2	2.12	0.49
53:BI:15:LEU:HD22	53:BI:21:MET:HE2	1.94	0.49
68:BX:45:ARG:O	68:BX:49:THR:HG23	2.13	0.49
1:AA:2749:C:H2'	1:AA:2750:G:H8	1.78	0.49
1:AA:3870:C:H2'	1:AA:3871:A:C8	2.46	0.49
1:AA:4680:G:H2'	1:AA:4681:A:C8	2.48	0.49
2:AB:15:C:H2'	2:AB:16:A:H8	1.77	0.49
6:AF:301:ALA:HB1	19:AS:132:LYS:HD3	1.95	0.49
9:AI:127:LYS:HB2	22:AV:133:ALA:HB3	1.93	0.49
42:Aq:12:CYS:HB3	42:Aq:15:CYS:HB2	1.93	0.49
45:BA:213:G:H2'	45:BA:214:U:O4'	2.13	0.49
45:BA:1539:U:H2'	45:BA:1540:G:C8	2.47	0.49
50:BF:95:HIS:HB3	74:Bd:106:GLN:HG2	1.95	0.49
55:BK:96:VAL:HB	55:BK:120:SER:HB2	1.94	0.49
78:Bh:71:ILE:HB	78:Bh:74:GLN:HG2	1.93	0.49
1:AA:223:G:H4'	1:AA:225:G:N7	2.27	0.49
1:AA:742:G:H2'	1:AA:743:G:C8	2.47	0.49
1:AA:1218:G:H2'	1:AA:1219:G:C8	2.48	0.49
1:AA:3596:A:H4'	20:AT:143:HIS:HB3	1.95	0.49
4:AD:135:THR:HG23	4:AD:149:LYS:HB3	1.94	0.49
5:AE:108:GLU:HB2	5:AE:137:TRP:CE3	2.47	0.49
61:BQ:66:ILE:HD13	76:Bf:4:GLY:HA3	1.94	0.49
61:BQ:133:LEU:HD13	61:BQ:140:ARG:HG3	1.94	0.49
1:AA:2535:G:H2'	1:AA:2536:A:C8	2.47	0.49
1:AA:3732:A:H2'	1:AA:3733:A:H8	1.78	0.49
11:AK:95:VAL:HB	41:Ao:82:LEU:HD13	1.94	0.49
21:AU:27:LEU:HD23	21:AU:62:VAL:HG21	1.94	0.49
28:Ab:128:LYS:O	28:Ab:132:GLN:HB2	2.13	0.49
38:Al:39:TYR:CD1	38:Al:40:PRO:HA	2.48	0.49
45:BA:801:PSU:H2'	45:BA:802:A:H8	1.78	0.49
54:BJ:86:ILE:HG12	54:BJ:113:LEU:HB2	1.94	0.49
68:BX:164:PRO:HA	68:BX:168:GLY:H	1.77	0.49
69:BY:48:HIS:HB2	69:BY:111:VAL:HG23	1.95	0.49
73:Bc:90:ARG:HA	73:Bc:93:ARG:HD2	1.94	0.49
1:AA:1089:G:H2'	1:AA:1090:G:H8	1.77	0.49
11:AK:165:THR:HG21	11:AK:179:ILE:HG12	1.94	0.49
40:An:38:ASN:HB3	40:An:41:ARG:HG2	1.94	0.49
45:BA:5:U:H2'	45:BA:6:G:C8	2.47	0.49
45:BA:27:A2M:H5''	45:BA:484:A2M:H1'	1.94	0.49
45:BA:1514:G:H2'	45:BA:1515:G:C8	2.46	0.49
45:BA:1649:U:N3	45:BA:1675:A:C8	2.74	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:1794:C:H2'	45:BA:1795:G:C8	2.48	0.49
45:BA:1841:C:H2'	45:BA:1842:4AC:H6	1.95	0.49
47:BC:123:VAL:HA	47:BC:145:ILE:O	2.13	0.49
58:BN:39:LEU:HD13	58:BN:56:ARG:NH2	2.28	0.49
65:BU:173:LEU:HA	65:BU:188:HIS:O	2.13	0.49
68:BX:120:ALA:HB2	68:BX:129:LEU:HD21	1.94	0.49
1:AA:3924:C:H2'	1:AA:3925:OMU:H6	1.95	0.49
2:AB:92:C:H2'	2:AB:93:G:H8	1.77	0.49
32:Af:92:ARG:HA	32:Af:102:LEU:HD23	1.95	0.49
45:BA:649:PSU:H2'	45:BA:650:A:H8	1.77	0.49
45:BA:903:A:H2'	45:BA:904:A:C8	2.48	0.49
45:BA:1163:C:H2'	45:BA:1164:G:H8	1.77	0.49
55:BK:80:LEU:HD13	55:BK:82:ASP:H	1.78	0.49
1:AA:424:U:H2'	1:AA:425:U:C6	2.48	0.48
1:AA:654:C:H4'	6:AF:268:ARG:HD2	1.95	0.48
1:AA:4503:A:H2'	1:AA:4504:C:C6	2.48	0.48
1:AA:4627:U:H4'	5:AE:373:LYS:HD2	1.95	0.48
1:AA:4861:G:H2'	1:AA:4862:G:H8	1.78	0.48
3:AC:78:G:H2'	3:AC:79:G:H8	1.77	0.48
4:AD:30:ARG:HA	4:AD:123:ARG:HH21	1.78	0.48
37:Ak:43:MET:HA	37:Ak:43:MET:HE2	1.95	0.48
45:BA:803:C:H1'	72:Bb:124:LYS:HE3	1.95	0.48
52:BH:19:LYS:H	52:BH:19:LYS:HD2	1.78	0.48
58:BN:77:LYS:HA	58:BN:77:LYS:HD3	1.70	0.48
65:BU:129:ILE:HD11	65:BU:151:VAL:HG21	1.94	0.48
1:AA:1494:U:H2'	1:AA:1495:G:C8	2.48	0.48
1:AA:1758:G:H2'	1:AA:1759:G:C8	2.48	0.48
1:AA:2483:G:H1	1:AA:2495:U:H3	1.59	0.48
4:AD:234:LYS:HG2	4:AD:238:ILE:HG12	1.95	0.48
10:AJ:95:LEU:HD13	10:AJ:218:LEU:HD23	1.95	0.48
45:BA:110:U:O2	45:BA:351:G:N2	2.45	0.48
45:BA:338:G:H2'	45:BA:339:A:C8	2.47	0.48
45:BA:795:A:H2'	45:BA:796:G:C4	2.47	0.48
47:BC:75:SER:HB2	47:BC:117:ARG:HH21	1.78	0.48
49:BE:133:GLY:HA3	49:BE:155:GLY:HA3	1.95	0.48
51:BG:130:LEU:O	51:BG:134:VAL:HG12	2.13	0.48
65:BU:157:SER:HB2	65:BU:164:ILE:HG22	1.94	0.48
66:BV:203:GLY:O	66:BV:221:ASP:HA	2.13	0.48
78:Bh:12:ALA:O	78:Bh:16:ILE:HG12	2.13	0.48
1:AA:4088:C:H2'	1:AA:4089:G:C8	2.48	0.48
1:AA:4878:C:H2'	1:AA:4879:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AY:59:HIS:HB3	25:AY:61:LYS:HZ3	1.78	0.48
33:Ag:78:LEU:HB3	44:As:20:ARG:HD3	1.94	0.48
45:BA:99:A2M:HM'2	45:BA:100:PSU:H5''	1.95	0.48
45:BA:909:G:H2'	45:BA:910:G:C8	2.48	0.48
48:BD:186:ASN:HA	48:BD:189:ILE:HD12	1.94	0.48
51:BG:144:ILE:HD11	51:BG:152:ARG:HB3	1.94	0.48
58:BN:39:LEU:HD11	58:BN:47:PRO:HG3	1.95	0.48
1:AA:1317:U:H2'	1:AA:1318:C:C6	2.49	0.48
1:AA:1613:A:H5'	4:AD:183:GLY:HA2	1.94	0.48
1:AA:4238:G:H2'	1:AA:4239:A:C8	2.48	0.48
1:AA:4239:A:H2'	1:AA:4240:G:H8	1.78	0.48
20:AT:15:LEU:HD13	20:AT:52:ARG:HB2	1.95	0.48
45:BA:345:U:H2'	45:BA:346:C:C6	2.48	0.48
45:BA:907:G:H2'	45:BA:908:A:H8	1.77	0.48
45:BA:941:C:H2'	45:BA:942:G:C8	2.49	0.48
45:BA:1327:G:H2'	45:BA:1328:OMG:C8	2.47	0.48
45:BA:1457:U:H2'	45:BA:1458:G:H8	1.77	0.48
53:BI:45:VAL:O	53:BI:49:MET:HG2	2.13	0.48
65:BU:36:ARG:HA	65:BU:65:PHE:HB3	1.94	0.48
65:BU:114:SER:HB3	65:BU:119:GLN:HB3	1.95	0.48
69:BY:61:TYR:O	69:BY:65:VAL:HG12	2.13	0.48
1:AA:516:C:H42	1:AA:643:C:H41	1.61	0.48
1:AA:1346:C:H2'	1:AA:1347:G:H8	1.78	0.48
1:AA:1916:G:O6	34:Ah:18:LEU:HB2	2.13	0.48
5:AE:92:TYR:HB2	5:AE:159:VAL:HB	1.96	0.48
11:AK:9:THR:HG23	11:AK:56:ARG:HG2	1.95	0.48
45:BA:30:C:H2'	45:BA:31:U:O4'	2.14	0.48
45:BA:506:G:N2	45:BA:509:OMG:HN21	2.10	0.48
45:BA:1515:G:H2'	45:BA:1516:G:C8	2.47	0.48
47:BC:200:ASP:HA	47:BC:203:PHE:CD2	2.48	0.48
68:BX:134:HIS:HE1	68:BX:164:PRO:HD2	1.77	0.48
1:AA:1528:U:H2'	1:AA:1529:G:H8	1.78	0.48
1:AA:2456:G:H2'	1:AA:2457:G:H8	1.79	0.48
1:AA:4178:A:H2'	1:AA:4179:G:C8	2.48	0.48
17:AQ:81:TRP:HB2	17:AQ:104:VAL:HG21	1.96	0.48
38:Al:27:TYR:HA	38:Al:34:CYS:HA	1.95	0.48
45:BA:4:C:O5'	66:BV:207:ALA:HB2	2.13	0.48
45:BA:65:C:H5	67:BW:136:LYS:HD2	1.77	0.48
45:BA:1567:G:H2'	45:BA:1568:C:C6	2.48	0.48
45:BA:1567:G:H5''	58:BN:37:VAL:HG23	1.95	0.48
52:BH:144:LYS:HE2	52:BH:144:LYS:HB3	1.71	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BK:52:LYS:HD3	55:BK:52:LYS:N	2.27	0.48
55:BK:85:ILE:HD12	55:BK:111:MET:HB3	1.95	0.48
70:BZ:13:GLN:HE21	75:Be:21:LYS:NZ	2.11	0.48
1:AA:1341:U:H2'	1:AA:1342:A:H8	1.78	0.48
1:AA:1513:U:H4'	14:AN:4:SER:HB2	1.96	0.48
1:AA:2607:C:H2'	1:AA:2608:G:C8	2.49	0.48
8:AH:95:PRO:HA	8:AH:104:THR:HA	1.95	0.48
25:AY:13:ILE:HG12	25:AY:32:LEU:HD13	1.96	0.48
45:BA:149:A:N7	45:BA:169:U:O2	2.47	0.48
45:BA:603:C:H1'	45:BA:604:A:N7	2.28	0.48
57:BM:117:ILE:HD11	57:BM:119:ALA:HB2	1.96	0.48
1:AA:1504:G:H2'	1:AA:1505:C:C6	2.48	0.48
1:AA:1509:C:H2'	1:AA:1510:G:H8	1.79	0.48
1:AA:1645:C:H2'	1:AA:1646:A:C8	2.49	0.48
1:AA:1830:G:H2'	1:AA:1831:G:C8	2.49	0.48
1:AA:2607:C:H2'	1:AA:2608:G:H8	1.78	0.48
1:AA:4239:A:H2'	1:AA:4240:G:C8	2.49	0.48
1:AA:4929:C:H2'	1:AA:4930:C:C6	2.49	0.48
2:AB:15:C:H2'	2:AB:16:A:C8	2.49	0.48
8:AH:162:VAL:HG12	8:AH:177:GLY:HA2	1.96	0.48
45:BA:1517:G:H2'	45:BA:1518:C:C6	2.49	0.48
52:BH:175:ILE:HA	52:BH:187:GLY:HA3	1.96	0.48
65:BU:178:ASN:HD22	65:BU:185:LYS:HD2	1.77	0.48
73:Bc:82:ALA:O	73:Bc:86:GLU:HB2	2.14	0.48
74:Bd:101:SER:H	74:Bd:108:ILE:HG23	1.79	0.48
78:Bh:75:GLU:HA	78:Bh:78:ARG:HG2	1.95	0.48
1:AA:297:U:H2'	1:AA:298:G:H8	1.78	0.48
1:AA:492:U:H3'	1:AA:493:G:H8	1.79	0.48
1:AA:742:G:H2'	1:AA:743:G:H8	1.79	0.48
13:AM:88:LYS:HA	13:AM:88:LYS:HD2	1.65	0.48
18:AR:36:ILE:HD11	18:AR:44:ALA:HB1	1.96	0.48
37:Ak:76:ARG:HD3	37:Ak:76:ARG:HA	1.67	0.48
39:Am:13:LEU:HA	39:Am:16:ARG:HG2	1.96	0.48
47:BC:37:TYR:HA	47:BC:53:ARG:HE	1.79	0.48
57:BM:22:GLY:HA2	57:BM:56:ALA:HB3	1.95	0.48
65:BU:218:LEU:HB3	65:BU:227:LEU:HB2	1.96	0.48
67:BW:56:ASN:HB3	67:BW:60:GLY:HA2	1.95	0.48
69:BY:33:ARG:HD2	69:BY:91:LEU:HD12	1.95	0.48
1:AA:114:G:H21	1:AA:276:C:H1'	1.79	0.48
1:AA:4080:C:H2'	1:AA:4081:G:H8	1.79	0.48
1:AA:4415:A:N6	1:AA:4427:G:H21	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:4967:A:H2'	1:AA:4968:A:C8	2.49	0.48
11:AK:176:LEU:HD12	41:Ao:78:ILE:HD13	1.96	0.48
14:AN:178:ALA:HB1	29:Ac:146:LEU:HD21	1.96	0.48
17:AQ:10:ASP:HB2	17:AQ:117:ARG:HB3	1.96	0.48
45:BA:647:U:H2'	45:BA:648:A:C8	2.49	0.48
45:BA:1542:C:H5''	58:BN:11:GLN:HE22	1.78	0.48
47:BC:1:MET:HA	47:BC:59:LEU:HD13	1.95	0.48
47:BC:25:LEU:HD23	47:BC:25:LEU:H	1.77	0.48
67:BW:76:LEU:HD11	67:BW:92:ARG:HH11	1.79	0.48
69:BY:37:GLU:HA	69:BY:40:LYS:HE3	1.95	0.48
76:Bf:22:GLN:HB2	76:Bf:24:LYS:HZ3	1.78	0.48
78:Bh:66:VAL:HG12	78:Bh:68:GLY:H	1.78	0.48
1:AA:74:G:H5''	14:AN:59:VAL:HG22	1.95	0.47
1:AA:123:C:H2'	1:AA:124:C:H6	1.79	0.47
1:AA:1327:C:H2'	1:AA:1328:G:C8	2.49	0.47
1:AA:1344:C:H2'	1:AA:1345:A:H8	1.79	0.47
2:AB:46:C:H2'	2:AB:47:G:H8	1.79	0.47
28:Ab:22:LYS:HE3	28:Ab:134:LEU:HB2	1.94	0.47
31:Ae:46:VAL:HB	31:Ae:71:VAL:HG22	1.96	0.47
45:BA:435:A:H2'	45:BA:450:C:H5'	1.96	0.47
45:BA:1568:C:H2'	45:BA:1569:A:C8	2.49	0.47
47:BC:79:SER:HB3	47:BC:130:ASP:HB3	1.95	0.47
47:BC:143:PRO:HB3	60:BP:34:MET:SD	2.54	0.47
48:BD:125:VAL:HG21	48:BD:172:MET:HB3	1.95	0.47
59:BO:56:MET:HB2	59:BO:86:LYS:HB3	1.96	0.47
67:BW:64:LYS:HD2	67:BW:65:GLN:H	1.79	0.47
1:AA:325:U:H2'	1:AA:326:C:C6	2.49	0.47
1:AA:4466:C:H2'	1:AA:4467:A:H8	1.79	0.47
1:AA:4888:U:H2'	1:AA:4889:G:C8	2.49	0.47
3:AC:64:U:H1'	36:Aj:59:THR:HG21	1.96	0.47
5:AE:58:ARG:HA	5:AE:366:LYS:HG3	1.96	0.47
18:AR:33:ALA:HA	18:AR:36:ILE:HG22	1.94	0.47
45:BA:346:C:H2'	45:BA:347:G:O4'	2.15	0.47
45:BA:750:C:H42	45:BA:793:G:H1'	1.79	0.47
47:BC:4:ALA:H	60:BP:80:SER:HB2	1.78	0.47
51:BG:36:LEU:HD23	51:BG:40:LEU:HD22	1.95	0.47
1:AA:318:A:H2'	1:AA:319:A:C8	2.49	0.47
1:AA:488:G:H2'	1:AA:489:C:C6	2.49	0.47
1:AA:713:C:H2'	1:AA:714:G:H8	1.79	0.47
1:AA:1197:C:H2'	1:AA:1198:G:C8	2.49	0.47
1:AA:4336:A:H5''	1:AA:4337:C:H5'	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AL:61:SER:O	12:AL:65:LEU:HD12	2.14	0.47
13:AM:112:HIS:HD2	13:AM:117:ILE:HD11	1.78	0.47
16:AP:116:LEU:HD22	16:AP:135:ILE:HD11	1.95	0.47
45:BA:340:C:H2'	45:BA:341:C:C6	2.49	0.47
45:BA:1405:A:H2'	45:BA:1406:G:O4'	2.12	0.47
46:BB:104:ASP:HB3	46:BB:110:ALA:HB2	1.96	0.47
49:BE:135:GLU:HB2	49:BE:187:LYS:HG3	1.95	0.47
50:BF:131:ALA:HB2	50:BF:136:ARG:HG2	1.96	0.47
1:AA:1906:U:H2'	1:AA:1907:A:H8	1.80	0.47
11:AK:122:TYR:CE2	11:AK:124:ARG:HD3	2.49	0.47
45:BA:1649:U:H2'	45:BA:1650:A:H8	1.78	0.47
45:BA:1798:C:H2'	45:BA:1799:G:O4'	2.15	0.47
51:BG:65:PRO:HB2	51:BG:68:GLN:HB2	1.96	0.47
53:BI:91:PRO:HD2	53:BI:94:LEU:HD12	1.95	0.47
56:BL:72:VAL:HG11	56:BL:84:ILE:HD11	1.95	0.47
59:BO:34:LYS:HE3	59:BO:34:LYS:HB2	1.69	0.47
68:BX:84:ILE:HD13	68:BX:86:VAL:HG23	1.95	0.47
1:AA:993:G:H3'	1:AA:994:G:H8	1.79	0.47
1:AA:1079:C:H2'	1:AA:1080:C:H6	1.79	0.47
1:AA:1333:A:H2'	1:AA:1334:A:C8	2.49	0.47
1:AA:1339:U:H2'	1:AA:1340:OMC:C6	2.49	0.47
1:AA:1942:A:H2'	1:AA:1943:A:C8	2.49	0.47
1:AA:2107:C:H2'	1:AA:2108:G:N7	2.29	0.47
1:AA:2610:G:H2'	1:AA:2611:A:H8	1.80	0.47
1:AA:4883:C:H2'	1:AA:4884:G:C8	2.49	0.47
5:AE:224:LYS:HG2	5:AE:340:THR:HG22	1.96	0.47
11:AK:27:VAL:HG12	11:AK:84:VAL:HG21	1.97	0.47
31:Ae:38:ILE:HD11	31:Ae:46:VAL:HG21	1.96	0.47
45:BA:1286:G:H21	45:BA:1313:A:H62	1.63	0.47
48:BD:71:LEU:HA	48:BD:74:LEU:HD12	1.96	0.47
68:BX:78:LEU:HA	68:BX:81:LEU:HG	1.97	0.47
1:AA:297:U:H2'	1:AA:298:G:C8	2.50	0.47
1:AA:1514:U:H2'	1:AA:1515:A:C8	2.49	0.47
1:AA:1825:A:H2'	1:AA:1826:G:C8	2.50	0.47
1:AA:2722:G:H2'	1:AA:2723:U:C6	2.50	0.47
1:AA:3684:G:H2'	1:AA:3685:C:C6	2.50	0.47
12:AL:87:MET:HG2	12:AL:138:ILE:HG12	1.96	0.47
12:AL:190:LEU:HD22	12:AL:197:VAL:HB	1.97	0.47
14:AN:195:ARG:HG2	14:AN:198:ARG:HH12	1.79	0.47
45:BA:120:U:H2'	45:BA:121:OMU:H6	1.95	0.47
45:BA:674:C:H2'	45:BA:675:U:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:1544:C:H41	45:BA:1588:A:H3'	1.78	0.47
46:BB:57:THR:O	46:BB:61:VAL:HG23	2.13	0.47
49:BE:202:LYS:HD2	49:BE:203:PRO:HD2	1.97	0.47
1:AA:440:U:H2'	1:AA:441:G:C8	2.50	0.47
1:AA:1183:C:H2'	1:AA:1184:A:C8	2.50	0.47
1:AA:1477:C:H2'	1:AA:1478:C:C6	2.49	0.47
1:AA:2521:G:H2'	1:AA:2522:G:H8	1.80	0.47
1:AA:3732:A:H2'	1:AA:3733:A:C8	2.50	0.47
1:AA:3774:A:H2'	1:AA:3775:A:C8	2.50	0.47
1:AA:3916:G:H2'	1:AA:3917:A:C8	2.49	0.47
1:AA:4499:OMG:C2	1:AA:4500:PSU:H1'	2.50	0.47
8:AH:220:LYS:HE3	8:AH:220:LYS:HB3	1.78	0.47
31:Ae:22:MET:O	31:Ae:23:LYS:HG2	2.13	0.47
39:Am:56:LEU:O	39:Am:60:LEU:HD22	2.14	0.47
45:BA:14:C:O2	45:BA:668:A2M:H2	2.14	0.47
45:BA:155:G:H1	45:BA:163:U:H3	1.63	0.47
45:BA:464:A:H5'	45:BA:465:A:C8	2.50	0.47
45:BA:529:A:H2'	45:BA:530:U:C6	2.50	0.47
45:BA:867:OMG:HN22	51:BG:115:LYS:HD2	1.79	0.47
45:BA:1172:U:H2'	45:BA:1173:A:H8	1.79	0.47
45:BA:1688:C:H2'	45:BA:1689:C:H6	1.80	0.47
46:BB:90:ILE:HB	46:BB:99:PHE:HB2	1.96	0.47
46:BB:121:TYR:HD2	46:BB:161:GLN:HG3	1.80	0.47
48:BD:100:PHE:HB3	48:BD:181:LEU:HD11	1.96	0.47
65:BU:87:LEU:HD11	65:BU:108:VAL:HG11	1.96	0.47
78:Bh:66:VAL:HB	78:Bh:69:ILE:HD11	1.96	0.47
1:AA:426:A:H2'	1:AA:427:A:H8	1.79	0.47
1:AA:2780:C:H2'	1:AA:2781:G:H8	1.80	0.47
1:AA:3824:A:H2'	1:AA:3825:A2M:H8	1.97	0.47
1:AA:4551:U:H2'	1:AA:4552:PSU:C6	2.50	0.47
2:AB:110:G:H2'	2:AB:111:C:C6	2.50	0.47
12:AL:38:ARG:HG2	12:AL:41:ALA:HB2	1.96	0.47
16:AP:47:LYS:HE3	16:AP:51:LEU:HD21	1.97	0.47
20:AT:32:ILE:HD11	20:AT:49:LEU:HB3	1.97	0.47
24:AX:43:LYS:HG3	24:AX:60:MET:HE2	1.96	0.47
45:BA:1284:A:C5	69:BY:91:LEU:HD11	2.49	0.47
48:BD:82:ARG:HG3	48:BD:103:MET:HE2	1.97	0.47
67:BW:200:LYS:HB3	67:BW:200:LYS:HE2	1.76	0.47
1:AA:2333:G:N7	6:AF:189:MET:HE3	2.30	0.47
1:AA:4459:U:H2'	1:AA:4460:U:C6	2.50	0.47
3:AC:76:C:H2'	3:AC:77:A:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Ag:100:ALA:HB3	33:Ag:103:VAL:HG23	1.97	0.47
45:BA:92:A:H61	45:BA:444:G:H1'	1.80	0.47
47:BC:127:PRO:O	47:BC:131:HIS:HB3	2.15	0.47
61:BQ:93:PHE:HB3	61:BQ:133:LEU:HD11	1.97	0.47
67:BW:201:LYS:HD3	67:BW:201:LYS:HA	1.65	0.47
1:AA:3785:A2M:HM'1	1:AA:4537:C:H1'	1.97	0.47
1:AA:4991:U:H2'	1:AA:4992:G:C8	2.50	0.47
6:AF:263:LEU:HG	6:AF:273:LEU:HD12	1.95	0.47
18:AR:140:MET:HE3	18:AR:140:MET:HB3	1.82	0.47
45:BA:806:U:H2'	45:BA:807:G:H8	1.80	0.47
45:BA:1277:C:H2'	45:BA:1278:A:H8	1.80	0.47
45:BA:1649:U:C2	45:BA:1675:A:N7	2.83	0.47
57:BM:34:LYS:HZ3	57:BM:103:LEU:HB3	1.80	0.47
1:AA:1088:C:H2'	1:AA:1089:G:C8	2.51	0.46
1:AA:1476:C:H2'	1:AA:1477:C:C6	2.49	0.46
1:AA:1884:C:H2'	1:AA:1885:G:H8	1.79	0.46
1:AA:4253:A:H5'	1:AA:4254:G:C8	2.49	0.46
1:AA:4723:A:H4'	5:AE:100:ARG:HD2	1.97	0.46
1:AA:4870:G:C6	15:AO:56:GLN:HG2	2.51	0.46
9:AI:137:GLU:HG3	9:AI:234:GLY:HA2	1.96	0.46
10:AJ:121:LYS:HA	10:AJ:121:LYS:HD2	1.69	0.46
23:AW:43:LEU:O	23:AW:47:ILE:HG12	2.14	0.46
42:Aq:78:ARG:H	42:Aq:78:ARG:CZ	2.28	0.46
45:BA:996:A:H5''	70:BZ:7:PRO:HG3	1.96	0.46
49:BE:157:MET:HE1	49:BE:187:LYS:HB2	1.97	0.46
68:BX:65:GLU:HA	68:BX:70:ARG:HD3	1.96	0.46
1:AA:920:C:H2'	1:AA:921:C:C6	2.51	0.46
1:AA:921:C:H2'	1:AA:922:C:C6	2.50	0.46
10:AJ:106:THR:HG22	10:AJ:107:LYS:H	1.80	0.46
23:AW:84:LYS:HD2	23:AW:110:TYR:HE1	1.80	0.46
29:Ac:89:ASN:HA	29:Ac:92:LYS:HG2	1.96	0.46
45:BA:3:C:H4'	66:BV:206:SER:C	2.39	0.46
45:BA:574:A:H4'	73:Bc:89:HIS:HB2	1.96	0.46
45:BA:1353:A:H2'	45:BA:1354:G:C8	2.50	0.46
45:BA:1567:G:H4'	58:BN:37:VAL:HA	1.96	0.46
47:BC:2:SER:HB2	47:BC:5:LEU:H	1.80	0.46
55:BK:96:VAL:HG13	55:BK:116:LEU:HD12	1.97	0.46
57:BM:54:LYS:HA	57:BM:54:LYS:HD2	1.73	0.46
66:BV:183:LYS:HD2	72:Bb:95:PRO:HA	1.96	0.46
69:BY:68:LEU:HD22	77:Bg:114:ILE:HG21	1.97	0.46
1:AA:1475:G:H2'	1:AA:1476:C:C6	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2568:C:H2'	1:AA:2569:G:H8	1.78	0.46
1:AA:4389:C:H2'	1:AA:4390:A:H8	1.81	0.46
1:AA:4988:U:H2'	1:AA:5061:A:N7	2.30	0.46
1:AA:5006:U:H4'	1:AA:5007:A:H5'	1.96	0.46
3:AC:119:C:H2'	3:AC:120:G:H8	1.80	0.46
5:AE:220:ILE:HG12	5:AE:278:THR:HG23	1.97	0.46
45:BA:145:G:H2'	45:BA:146:G:C8	2.50	0.46
45:BA:454:U:H5''	67:BW:94:ARG:HG2	1.96	0.46
45:BA:1228:A:H2'	45:BA:1229:G:H8	1.80	0.46
45:BA:1797:U:H2'	45:BA:1798:C:C6	2.50	0.46
45:BA:1864:U:H5''	62:BR:5:ARG:HH22	1.80	0.46
48:BD:121:ILE:HD13	48:BD:164:ILE:HG21	1.96	0.46
55:BK:77:LYS:HB2	55:BK:102:PHE:CD2	2.50	0.46
66:BV:214:LEU:HA	66:BV:217:ALA:HB3	1.97	0.46
1:AA:2539:C:H2'	1:AA:2540:C:C6	2.50	0.46
1:AA:4535:A:H2'	1:AA:4536:OMC:H6	1.79	0.46
1:AA:4642:U:H2'	1:AA:4643:G:C8	2.48	0.46
18:AR:105:LYS:HB3	18:AR:107:LEU:HD23	1.97	0.46
19:AS:110:ARG:HG3	19:AS:120:ILE:HD12	1.97	0.46
21:AU:84:TYR:CE1	21:AU:93:MET:HE3	2.51	0.46
45:BA:879:C:H3'	45:BA:880:G:H21	1.80	0.46
45:BA:1238:PSU:H2'	45:BA:1239:U:O4'	2.16	0.46
45:BA:1657:G:H2'	45:BA:1658:G:H8	1.80	0.46
47:BC:37:TYR:HE1	60:BP:83:PHE:HZ	1.63	0.46
50:BF:135:ARG:HA	50:BF:135:ARG:HE	1.78	0.46
65:BU:79:LEU:HD11	65:BU:87:LEU:HD23	1.98	0.46
66:BV:146:GLU:HG3	66:BV:148:ALA:H	1.81	0.46
78:Bh:59:LYS:O	78:Bh:63:ARG:HG2	2.15	0.46
1:AA:7:C:H2'	1:AA:8:U:C6	2.51	0.46
1:AA:1417:C:H2'	1:AA:1418:C:H6	1.81	0.46
1:AA:1461:C:H2'	1:AA:1462:A:H8	1.79	0.46
1:AA:1857:C:H2'	1:AA:1858:A:C8	2.49	0.46
1:AA:2469:C:H5	1:AA:2471:G:H22	1.64	0.46
12:AL:44:ASP:HA	12:AL:171:TRP:HZ2	1.79	0.46
45:BA:1051:G:H2'	45:BA:1052:A:H8	1.80	0.46
45:BA:1520:G:H21	55:BK:126:VAL:HG11	1.80	0.46
45:BA:1623:A:H5'	45:BA:1624:U:H5''	1.97	0.46
45:BA:1628:C:H2'	45:BA:1629:C:C6	2.51	0.46
45:BA:1671:G:H2'	45:BA:1672:U:C6	2.51	0.46
45:BA:1706:G:H2'	45:BA:1707:U:H6	1.80	0.46
50:BF:190:ILE:HA	50:BF:193:LYS:HG2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:BV:133:TYR:HD1	66:BV:216:MET:HA	1.81	0.46
66:BV:180:VAL:HG11	66:BV:195:LEU:HD12	1.98	0.46
1:AA:1683:PSU:H2'	1:AA:1684:A:H8	1.80	0.46
7:AG:104:LEU:HD13	7:AG:247:ILE:HD12	1.98	0.46
16:AP:6:TYR:CZ	37:Ak:40:VAL:HG22	2.51	0.46
45:BA:1103:C:H2'	45:BA:1104:G:H8	1.79	0.46
45:BA:1172:U:H2'	45:BA:1173:A:C8	2.51	0.46
45:BA:1451:G:H21	45:BA:1474:A:N6	2.14	0.46
47:BC:169:HIS:HA	47:BC:203:PHE:CD1	2.51	0.46
47:BC:203:PHE:HZ	78:Bh:91:LEU:HD11	1.80	0.46
49:BE:75:LYS:HD3	53:BI:18:GLU:HG2	1.98	0.46
54:BJ:128:VAL:HG12	54:BJ:142:VAL:HA	1.98	0.46
66:BV:110:MET:HE1	66:BV:127:PHE:HZ	1.81	0.46
68:BX:44:TRP:HA	68:BX:47:LYS:HE2	1.96	0.46
72:Bb:3:ARG:HD2	72:Bb:6:VAL:HG12	1.97	0.46
1:AA:1504:G:H2'	1:AA:1505:C:H6	1.80	0.46
1:AA:2295:C:H2'	1:AA:2296:G:H8	1.81	0.46
1:AA:2423:A:H2'	1:AA:2424:OMG:C8	2.51	0.46
1:AA:3713:U:H2'	1:AA:3714:G:N7	2.30	0.46
1:AA:4186:A:H2'	1:AA:4187:G:C8	2.51	0.46
3:AC:148:A:H2'	3:AC:149:G:C8	2.50	0.46
27:Aa:10:ASP:HB3	27:Aa:13:LYS:HB2	1.98	0.46
45:BA:57:U:H3	45:BA:88:G:H1	1.62	0.46
45:BA:433:A:H2'	45:BA:434:G:C8	2.51	0.46
45:BA:1228:A:H2'	45:BA:1229:G:C8	2.50	0.46
45:BA:1562:C:H2'	45:BA:1563:G:C8	2.50	0.46
45:BA:1673:U:H2'	45:BA:1674:G:O4'	2.16	0.46
47:BC:34:MET:HG2	47:BC:150:THR:HA	1.97	0.46
48:BD:33:VAL:HG23	48:BD:44:ILE:HB	1.98	0.46
50:BF:111:VAL:HG21	50:BF:178:ILE:HD12	1.97	0.46
51:BG:91:HIS:CE1	51:BG:169:LYS:HD3	2.51	0.46
54:BJ:46:THR:HG22	54:BJ:62:PHE:HD1	1.81	0.46
65:BU:64:HIS:HD1	65:BU:83:TRP:CD1	2.34	0.46
65:BU:218:LEU:HD23	65:BU:227:LEU:HD22	1.98	0.46
71:Ba:92:ALA:HA	71:Ba:125:LYS:O	2.15	0.46
1:AA:909:A:H2'	1:AA:910:G:H8	1.81	0.46
1:AA:1338:G:H4'	1:AA:1339:U:C6	2.50	0.46
1:AA:1847:C:H2'	1:AA:1848:C:C6	2.50	0.46
4:AD:206:PRO:HG3	4:AD:213:GLY:HA3	1.97	0.46
5:AE:206:PRO:HG2	5:AE:209:GLN:HG3	1.97	0.46
26:AZ:82:THR:HG21	36:Aj:37:THR:HG22	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Aa:31:SER:HA	27:Aa:48:PRO:HA	1.98	0.46
45:BA:649:PSU:H2'	45:BA:650:A:C8	2.51	0.46
48:BD:188:LEU:HD11	48:BD:215:VAL:HG21	1.98	0.46
67:BW:76:LEU:HD11	67:BW:92:ARG:HB3	1.98	0.46
67:BW:230:LYS:HA	67:BW:233:ARG:HG2	1.98	0.46
69:BY:52:LEU:HD21	69:BY:65:VAL:HG21	1.98	0.46
1:AA:506:C:H2'	1:AA:507:G:C8	2.51	0.46
1:AA:1478:C:H2'	1:AA:1479:G:C8	2.51	0.46
1:AA:2454:U:H2'	1:AA:2455:G:H8	1.79	0.46
1:AA:2611:A:H5'	1:AA:2688:G:H5''	1.98	0.46
1:AA:4890:G:C6	1:AA:4891:G:O6	2.69	0.46
13:AM:57:VAL:HG22	13:AM:59:SER:H	1.81	0.46
45:BA:533:A:H2'	45:BA:534:G:C8	2.51	0.46
45:BA:877:C:H2'	45:BA:878:G:C8	2.51	0.46
45:BA:1705:C:H2'	45:BA:1706:G:H8	1.80	0.46
53:BI:21:MET:HB3	53:BI:21:MET:HE3	1.76	0.46
56:BL:15:ARG:HD3	56:BL:20:THR:HG23	1.97	0.46
62:BR:21:ILE:HD13	62:BR:32:LYS:HA	1.96	0.46
67:BW:216:ARG:HH12	67:BW:219:GLU:HG3	1.81	0.46
1:AA:3767:C:H2'	1:AA:3768:PSU:H6	1.81	0.46
1:AA:4220:6MZ:H8	1:AA:4220:6MZ:O5'	2.16	0.46
23:AW:61:VAL:HG22	23:AW:74:SER:HB3	1.97	0.46
45:BA:1438:A:H2'	45:BA:1439:A:C8	2.51	0.46
45:BA:1464:C:H2'	45:BA:1465:A:C8	2.51	0.46
45:BA:1745:A:H1'	67:BW:66:GLY:HA2	1.98	0.46
54:BJ:127:THR:HB	54:BJ:144:LYS:HB3	1.98	0.46
1:AA:268:G:H2'	1:AA:269:G:H8	1.80	0.45
1:AA:660:A:H2'	1:AA:661:C:C6	2.52	0.45
1:AA:1468:C:H2'	1:AA:1469:C:H6	1.81	0.45
1:AA:4897:G:H2'	1:AA:4898:G:C8	2.51	0.45
30:Ad:114:LYS:HG3	30:Ad:118:LEU:HD12	1.98	0.45
45:BA:443:U:O4	45:BA:447:A:N7	2.49	0.45
45:BA:462:OMC:HM22	45:BA:463:C:H5'	1.98	0.45
45:BA:1213:C:H2'	45:BA:1214:A:H8	1.81	0.45
45:BA:1569:A:H5'	58:BN:41:LYS:HD3	1.98	0.45
47:BC:8:LEU:HG	47:BC:191:ARG:HH22	1.81	0.45
49:BE:218:LEU:HD22	49:BE:219:PRO:HD2	1.98	0.45
52:BH:67:TRP:HZ2	52:BH:162:LEU:HD21	1.81	0.45
57:BM:21:ASP:HB3	57:BM:24:ARG:HG3	1.98	0.45
1:AA:717:U:H2'	1:AA:718:C:C6	2.52	0.45
1:AA:1298:C:H2'	1:AA:1299:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1754:U:H3	1:AA:1776:A:H61	1.64	0.45
1:AA:2647:A:N6	1:AA:2686:G:N1	2.55	0.45
1:AA:3720:G:H1	1:AA:3733:A:H61	1.63	0.45
1:AA:3887:OMC:HM22	1:AA:3888:G:H5'	1.98	0.45
1:AA:4392:OMG:HM21	1:AA:4394:A:H2'	1.98	0.45
3:AC:144:U:H2'	3:AC:145:C:C6	2.51	0.45
11:AK:40:HIS:C	11:AK:41:ILE:HD13	2.41	0.45
15:AO:108:ASP:HA	15:AO:111:LYS:HD3	1.98	0.45
19:AS:18:PRO:HG3	19:AS:29:VAL:HG21	1.97	0.45
37:AK:3:LEU:HD12	37:AK:4:ARG:HB2	1.97	0.45
40:AN:16:LYS:HD2	40:AN:49:LEU:HD22	1.98	0.45
45:BA:1398:G:H4'	65:BU:88:ARG:NH2	2.31	0.45
53:BI:28:HIS:HB3	64:BT:8:TRP:CD2	2.51	0.45
62:BR:38:LYS:HE3	62:BR:83:VAL:HG21	1.98	0.45
66:BV:131:GLY:HA3	66:BV:216:MET:HB2	1.98	0.45
1:AA:86:U:H2'	1:AA:87:A:H8	1.82	0.45
1:AA:1089:G:H2'	1:AA:1090:G:C8	2.51	0.45
1:AA:1341:U:H2'	1:AA:1342:A:C8	2.51	0.45
7:AG:53:VAL:HG11	7:AG:159:VAL:HA	1.98	0.45
45:BA:65:C:H41	67:BW:136:LYS:HB2	1.81	0.45
45:BA:505:G:H3'	45:BA:506:G:H8	1.80	0.45
45:BA:604:A:H1'	45:BA:639:C:O2'	2.16	0.45
45:BA:668:A2M:H8	45:BA:668:A2M:H2'	1.83	0.45
45:BA:669:A:H2'	45:BA:670:A:C4	2.51	0.45
45:BA:1304:U:H2'	45:BA:1305:C:C6	2.51	0.45
45:BA:1528:G:H2'	45:BA:1529:C:C6	2.52	0.45
49:BE:16:ILE:HG23	53:BI:64:TRP:CZ3	2.48	0.45
55:BK:15:PHE:HB3	55:BK:22:LEU:HD11	1.99	0.45
56:BL:58:LEU:HB3	56:BL:62:ARG:HD2	1.98	0.45
61:BQ:50:ILE:HG23	61:BQ:97:ASN:HA	1.97	0.45
65:BU:11:LEU:HD22	65:BU:43:TRP:NE1	2.30	0.45
66:BV:208:PRO:O	66:BV:212:LYS:HG3	2.16	0.45
1:AA:347:A:H2'	1:AA:348:G:C8	2.52	0.45
1:AA:478:G:H2'	1:AA:479:G:C8	2.51	0.45
1:AA:1308:C:H2'	1:AA:1309:C:C6	2.52	0.45
1:AA:1450:C:H2'	1:AA:1451:G:O4'	2.17	0.45
1:AA:1893:C:H1'	1:AA:1937:C:O2	2.17	0.45
1:AA:4884:G:H2'	1:AA:4885:U:C6	2.50	0.45
2:AB:55:A:H4'	13:AM:155:HIS:HB2	1.97	0.45
18:AR:126:ARG:NH1	18:AR:126:ARG:HB2	2.31	0.45
37:AK:26:HIS:O	37:AK:29:ARG:HG3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:Ao:93:LYS:HE3	41:Ao:102:ARG:HD3	1.97	0.45
42:Aq:82:MET:HE3	42:Aq:82:MET:HB3	1.87	0.45
44:As:4:HIS:O	44:As:8:MET:HG2	2.15	0.45
45:BA:1014:G:H22	75:Be:51:GLN:HE22	1.63	0.45
45:BA:1174:PSU:H2'	45:BA:1175:G:H8	1.81	0.45
45:BA:1804:OMU:HM22	45:BA:1805:G:H5'	1.99	0.45
46:BB:185:GLY:N	46:BB:189:LEU:HD13	2.31	0.45
49:BE:76:ARG:HH11	53:BI:22:VAL:HG11	1.82	0.45
52:BH:97:VAL:HG23	52:BH:99:ASN:H	1.82	0.45
58:BN:22:LEU:HG	58:BN:28:LEU:HD11	1.97	0.45
58:BN:28:LEU:HD12	58:BN:28:LEU:H	1.82	0.45
67:BW:212:LEU:O	67:BW:216:ARG:HG2	2.16	0.45
1:AA:280:G:H5''	16:AP:14:LYS:HE2	1.96	0.45
1:AA:474:C:H2'	1:AA:475:G:H8	1.82	0.45
1:AA:1079:C:H2'	1:AA:1080:C:C6	2.51	0.45
1:AA:2647:A:N1	1:AA:2686:G:N2	2.65	0.45
1:AA:3700:C:H2'	1:AA:3746:A:H61	1.81	0.45
1:AA:4424:A:H5'	41:Ao:125:LYS:HE2	1.99	0.45
1:AA:4578:G:H2'	1:AA:4579:PSU:C6	2.51	0.45
3:AC:83:C:N4	27:Aa:50:ARG:HH21	2.13	0.45
45:BA:562:U:OP1	68:BX:170:PRO:HA	2.16	0.45
45:BA:1565:C:H2'	45:BA:1566:G:C8	2.51	0.45
45:BA:1850:MA6:H8	45:BA:1850:MA6:OP2	2.15	0.45
56:BL:134:GLY:HA3	56:BL:140:ARG:HA	1.97	0.45
57:BM:36:VAL:HG22	57:BM:40:TYR:CE1	2.52	0.45
1:AA:168:C:H2'	1:AA:169:G:C8	2.50	0.45
1:AA:926:G:H2'	1:AA:927:G:H8	1.82	0.45
1:AA:1963:C:H2'	1:AA:1964:A:C8	2.52	0.45
1:AA:2552:G:H21	1:AA:2766:A:H62	1.65	0.45
1:AA:4591:U:H2'	1:AA:4592:C:C6	2.51	0.45
24:AX:48:ARG:HG2	24:AX:51:ARG:HB2	1.98	0.45
27:Aa:54:GLU:HA	27:Aa:69:LYS:HA	1.99	0.45
45:BA:414:A:H2'	45:BA:415:A:H8	1.81	0.45
45:BA:645:C:H2'	45:BA:646:G:H8	1.82	0.45
45:BA:984:C:H2'	45:BA:985:G:C8	2.51	0.45
45:BA:1244:PSU:H2'	45:BA:1245:G:H8	1.82	0.45
45:BA:1468:C:H2'	45:BA:1469:A:C8	2.52	0.45
49:BE:197:LYS:HA	49:BE:197:LYS:HD2	1.56	0.45
52:BH:54:LYS:HE2	52:BH:54:LYS:HB2	1.62	0.45
61:BQ:71:ARG:HB3	61:BQ:80:LYS:HD2	1.97	0.45
65:BU:272:GLN:HE21	65:BU:284:PRO:HG2	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:BX:124:HIS:O	68:BX:128:VAL:HG23	2.15	0.45
1:AA:937:U:H2'	1:AA:938:C:C6	2.51	0.45
1:AA:1358:G:C8	1:AA:1377:G:N1	2.77	0.45
1:AA:4093:G:H2'	1:AA:4094:G:H8	1.81	0.45
9:AI:77:LYS:HB2	9:AI:77:LYS:HE2	1.74	0.45
20:AT:4:LEU:HD22	20:AT:32:ILE:HG22	1.97	0.45
44:As:63:VAL:HG13	44:As:79:ARG:HG2	1.99	0.45
45:BA:12:U:H2'	45:BA:13:C:C6	2.52	0.45
45:BA:645:C:H2'	45:BA:646:G:C8	2.52	0.45
45:BA:817:G:H21	45:BA:818:A:N6	2.15	0.45
45:BA:1163:C:H2'	45:BA:1164:G:C8	2.52	0.45
47:BC:131:HIS:HA	47:BC:134:LEU:HD23	1.98	0.45
49:BE:29:LEU:HB3	49:BE:34:TYR:HB2	1.97	0.45
53:BI:5:LYS:HA	53:BI:5:LYS:HD2	1.72	0.45
56:BL:36:GLY:O	58:BN:7:LYS:HG3	2.17	0.45
59:BO:56:MET:SD	59:BO:57:PRO:HD2	2.56	0.45
68:BX:127:ARG:HG2	76:Bf:31:ARG:HD2	1.98	0.45
1:AA:1174:G:H2'	1:AA:1175:A:C8	2.52	0.45
1:AA:1295:C:H4'	1:AA:1296:G:C8	2.52	0.45
1:AA:1315:C:H2'	1:AA:1316:OMG:H8	1.82	0.45
1:AA:1461:C:H2'	1:AA:1462:A:C8	2.52	0.45
1:AA:3893:C:H2'	1:AA:3894:A:H8	1.81	0.45
1:AA:4153:C:H2'	1:AA:4154:G:C8	2.52	0.45
1:AA:4767:C:H2'	1:AA:4768:G:H8	1.81	0.45
1:AA:5002:U:H2'	1:AA:5003:U:H6	1.81	0.45
4:AD:136:VAL:HA	4:AD:148:VAL:HG12	1.99	0.45
4:AD:190:LYS:HE2	4:AD:190:LYS:HB3	1.77	0.45
14:AN:47:ALA:HB1	14:AN:48:PRO:HD2	1.98	0.45
20:AT:135:LYS:O	20:AT:139:MET:HG3	2.17	0.45
45:BA:492:C:H4'	45:BA:493:A:OP2	2.17	0.45
45:BA:668:A2M:H1'	45:BA:668:A2M:HM'2	1.69	0.45
45:BA:1105:G:O3'	75:Be:69:GLY:HA3	2.17	0.45
45:BA:1674:G:H5''	50:BF:86:LYS:HD2	1.99	0.45
51:BG:144:ILE:HG23	72:Bb:52:ILE:HB	1.99	0.45
57:BM:90:VAL:HB	57:BM:91:LYS:HE2	1.98	0.45
58:BN:22:LEU:HD12	58:BN:22:LEU:HA	1.86	0.45
65:BU:42:MET:HE2	65:BU:42:MET:HB3	1.84	0.45
66:BV:152:ARG:O	66:BV:155:ILE:HG13	2.16	0.45
68:BX:101:LYS:HG3	68:BX:103:GLU:H	1.82	0.45
1:AA:4:G:H2'	1:AA:5:A:C8	2.51	0.45
1:AA:441:G:H2'	1:AA:442:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:480:C:H2'	1:AA:481:G:C8	2.52	0.45
1:AA:710:G:H2'	1:AA:711:A:H8	1.81	0.45
1:AA:1344:C:H2'	1:AA:1345:A:C8	2.52	0.45
1:AA:3670:C:H2'	1:AA:3671:G:C8	2.51	0.45
1:AA:4460:U:H2'	1:AA:4461:C:C6	2.52	0.45
7:AG:196:ARG:C	7:AG:198:HIS:H	2.25	0.45
12:AL:93:PRO:HA	12:AL:127:ALA:HB2	1.99	0.45
45:BA:1222:G:H2'	45:BA:1223:A:C8	2.52	0.45
58:BN:40:ALA:HB3	58:BN:43:LYS:HG2	1.98	0.45
61:BQ:34:THR:HA	61:BQ:37:LYS:HB3	1.99	0.45
66:BV:82:TYR:CZ	66:BV:164:PRO:HD3	2.52	0.45
1:AA:1751:A:H2'	1:AA:1752:G:C8	2.52	0.45
1:AA:2521:G:H2'	1:AA:2522:G:C8	2.52	0.45
1:AA:2671:C:H2'	1:AA:2672:C:C6	2.52	0.45
1:AA:2702:C:H4'	23:AW:103:VAL:HG21	2.00	0.45
30:Ad:102:PRO:HA	30:Ad:109:ARG:HH22	1.82	0.45
44:As:90:LEU:HD22	44:As:111:ILE:HG23	1.99	0.45
45:BA:912:C:H3'	45:BA:913:A:H3'	1.97	0.45
45:BA:1457:U:H2'	45:BA:1458:G:C8	2.52	0.45
45:BA:1547:C:H1'	45:BA:1670:C:H4'	1.99	0.45
48:BD:143:THR:HB	48:BD:205:TYR:HE2	1.82	0.45
57:BM:30:ILE:O	57:BM:33:ILE:HG13	2.17	0.45
58:BN:65:TYR:HB2	58:BN:123:LEU:HD22	1.99	0.45
59:BO:62:ARG:HG2	59:BO:81:GLN:HB3	1.98	0.45
65:BU:228:TYR:HD2	65:BU:230:LEU:HG	1.82	0.45
1:AA:35:U:H4'	1:AA:1525:A:C2	2.52	0.44
1:AA:1628:C:OP2	4:AD:9:ARG:HD2	2.17	0.44
1:AA:1846:G:H2'	1:AA:1847:C:C6	2.52	0.44
1:AA:2028:C:H2'	1:AA:2029:A:H8	1.83	0.44
1:AA:2648:G:H2'	1:AA:2649:G:C8	2.52	0.44
1:AA:3664:G:H2'	1:AA:3665:G:H8	1.82	0.44
1:AA:4313:A:H4'	22:AV:71:ALA:HB3	1.99	0.44
3:AC:8:U:H2'	3:AC:9:A:C8	2.52	0.44
3:AC:60:G:C6	36:Aj:59:THR:HG22	2.51	0.44
12:AL:101:LYS:HE2	12:AL:110:ARG:HG2	2.00	0.44
17:AQ:187:LYS:HD2	17:AQ:187:LYS:HA	1.65	0.44
33:Ag:19:LYS:HE3	33:Ag:19:LYS:HB3	1.75	0.44
45:BA:974:C:H2'	45:BA:975:G:H8	1.81	0.44
45:BA:1301:A:H5''	64:BT:6:LEU:HG	1.99	0.44
46:BB:211:LYS:HD3	46:BB:217:SER:HB3	1.98	0.44
50:BF:192:LYS:HD2	50:BF:192:LYS:HA	1.60	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BO:51:LYS:HD2	59:BO:90:ASP:HB2	1.98	0.44
65:BU:132:TRP:CD1	65:BU:138:CYS:HA	2.51	0.44
75:Be:45:THR:HG23	75:Be:82:LYS:HZ1	1.82	0.44
1:AA:424:U:H2'	1:AA:425:U:H6	1.82	0.44
1:AA:1207:C:H2'	1:AA:1208:G:H8	1.82	0.44
1:AA:2005:G:H2'	1:AA:2006:U:H5	1.81	0.44
1:AA:2744:A:H2'	1:AA:2745:A:C8	2.53	0.44
1:AA:4174:U:H2'	1:AA:4175:G:C8	2.46	0.44
1:AA:4314:C:H4'	22:AV:68:THR:HG21	1.99	0.44
1:AA:4913:G:H4'	1:AA:4914:C:O5'	2.18	0.44
3:AC:141:C:H2'	3:AC:142:U:C6	2.51	0.44
4:AD:3:ARG:HG2	4:AD:207:VAL:HG22	1.98	0.44
24:AX:109:LYS:HB3	24:AX:109:LYS:HE2	1.71	0.44
28:Ab:41:ALA:HB2	28:Ab:77:TYR:HE1	1.83	0.44
45:BA:675:U:H2'	45:BA:676:C:C6	2.53	0.44
45:BA:867:OMG:HM22	51:BG:115:LYS:HZ3	1.83	0.44
45:BA:959:G:H2'	45:BA:960:U:C6	2.52	0.44
52:BH:141:ARG:HA	52:BH:141:ARG:HD2	1.81	0.44
61:BQ:125:VAL:HG23	61:BQ:130:LEU:HD11	1.99	0.44
67:BW:94:ARG:HA	67:BW:94:ARG:HD2	1.74	0.44
74:Bd:74:SER:HA	74:Bd:79:ILE:HG13	1.99	0.44
1:AA:49:U:H2'	1:AA:50:C:H6	1.82	0.44
1:AA:2565:A:H3'	1:AA:2566:G:H8	1.82	0.44
1:AA:2633:U:H2'	1:AA:2634:C:H6	1.82	0.44
1:AA:4186:A:H2'	1:AA:4187:G:H8	1.82	0.44
1:AA:4708:A:N3	1:AA:4709:U:H5'	2.33	0.44
9:AI:60:GLU:O	9:AI:64:MET:HG2	2.17	0.44
21:AU:26:PRO:HG2	21:AU:28:TYR:OH	2.17	0.44
45:BA:74:G:H21	67:BW:171:THR:HG22	1.81	0.44
45:BA:512:A2M:H2'	45:BA:513:G:H8	1.83	0.44
45:BA:671:A:H2	45:BA:672:A:H62	1.65	0.44
45:BA:678:U:H2'	45:BA:679:A:C8	2.52	0.44
45:BA:1718:G:H21	45:BA:1815:A:H62	1.65	0.44
50:BF:40:ALA:HB3	50:BF:67:PRO:HA	2.00	0.44
55:BK:60:LEU:HD11	55:BK:92:SER:HB3	2.00	0.44
55:BK:92:SER:HB2	55:BK:107:ILE:HG13	1.99	0.44
56:BL:105:LYS:HE3	56:BL:105:LYS:HB3	1.77	0.44
62:BR:46:GLU:HG3	62:BR:48:ALA:H	1.82	0.44
66:BV:166:ARG:HH12	66:BV:255:LEU:HD21	1.82	0.44
67:BW:7:PHE:CZ	67:BW:9:ALA:HB3	2.52	0.44
1:AA:440:U:H2'	1:AA:441:G:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2664:G:H4'	1:AA:2677:G:H4'	1.98	0.44
1:AA:3613:U:H2'	1:AA:3614:G:C8	2.52	0.44
1:AA:4101:C:H41	1:AA:4105:A:H2	1.63	0.44
17:AQ:76:PRO:HB3	17:AQ:138:LEU:HG	2.00	0.44
45:BA:1384:C:H2'	45:BA:1385:G:H8	1.82	0.44
45:BA:1564:C:OP2	58:BN:101:ARG:HB2	2.18	0.44
46:BB:158:ASP:OD1	46:BB:174:LYS:HA	2.18	0.44
53:BI:12:TYR:HB3	53:BI:83:LEU:HD11	2.00	0.44
53:BI:20:VAL:HG12	53:BI:70:TYR:HA	1.99	0.44
67:BW:167:LYS:HE2	67:BW:167:LYS:HB2	1.77	0.44
74:Bd:73:VAL:HG12	74:Bd:79:ILE:HD11	1.98	0.44
1:AA:1662:C:H2'	1:AA:1663:C:H6	1.83	0.44
1:AA:2275:G:H2'	1:AA:2276:A:H8	1.82	0.44
1:AA:3844:PSU:H2'	1:AA:3845:A:H8	1.81	0.44
1:AA:4153:C:H2'	1:AA:4154:G:H8	1.81	0.44
11:AK:180:TYR:HB2	41:Ao:85:LEU:HD21	1.98	0.44
45:BA:150:A:N6	45:BA:168:C:C2	2.84	0.44
45:BA:1406:G:H2'	45:BA:1407:U:C6	2.52	0.44
50:BF:30:ILE:HB	50:BF:36:GLN:HG2	1.99	0.44
58:BN:14:PHE:HA	58:BN:138:VAL:HG21	1.99	0.44
66:BV:121:ARG:HD2	66:BV:123:ARG:HH21	1.83	0.44
68:BX:22:LYS:HD3	68:BX:22:LYS:HA	1.62	0.44
70:BZ:52:VAL:HG23	70:BZ:55:ARG:NH2	2.33	0.44
1:AA:190:G:H2'	1:AA:191:G:H8	1.83	0.44
1:AA:480:C:H2'	1:AA:481:G:H8	1.82	0.44
1:AA:1448:G:H2'	1:AA:1449:C:C6	2.53	0.44
1:AA:3965:A:H2	1:AA:4043:G:H1	1.66	0.44
1:AA:4392:OMG:N3	1:AA:4447:5MC:HM52	2.33	0.44
10:AJ:158:ALA:HB2	10:AJ:190:LEU:HD12	2.00	0.44
28:Ab:47:ASP:HB3	28:Ab:69:LYS:HD3	1.99	0.44
45:BA:678:U:O2	45:BA:1027:A:N7	2.50	0.44
45:BA:1213:C:H2'	45:BA:1214:A:C8	2.53	0.44
45:BA:1862:G:H1	62:BR:28:ARG:NH2	2.15	0.44
46:BB:99:PHE:HE2	46:BB:113:ARG:HG3	1.83	0.44
46:BB:153:LEU:HD11	67:BW:216:ARG:HH21	1.83	0.44
47:BC:121:LEU:HD12	47:BC:122:LEU:H	1.83	0.44
48:BD:59:SER:HB2	48:BD:91:VAL:HG21	2.00	0.44
48:BD:74:LEU:HD11	48:BD:84:PHE:HB2	1.99	0.44
48:BD:146:ARG:HD3	48:BD:206:PRO:HG3	2.00	0.44
49:BE:51:LEU:HB3	49:BE:91:VAL:HB	1.98	0.44
57:BM:79:ILE:HD12	57:BM:79:ILE:HA	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:BW:58:LYS:HE3	67:BW:105:ASN:HB3	1.99	0.44
1:AA:1662:C:H2'	1:AA:1663:C:C6	2.52	0.44
1:AA:4710:C:H2'	1:AA:4711:C:C6	2.53	0.44
1:AA:4929:C:H2'	1:AA:4930:C:H6	1.82	0.44
27:Aa:130:LYS:HE2	27:Aa:130:LYS:HB2	1.84	0.44
34:Ah:53:ALA:HB3	34:Ah:68:ARG:HE	1.83	0.44
45:BA:432:G:H2'	45:BA:433:A:C8	2.52	0.44
45:BA:941:C:H2'	45:BA:942:G:H8	1.82	0.44
45:BA:943:U:C2	45:BA:944:A:C8	3.06	0.44
45:BA:1174:PSU:H2'	45:BA:1175:G:C8	2.51	0.44
46:BB:246:LEU:HD22	46:BB:250:GLU:HB3	2.00	0.44
61:BQ:57:VAL:HB	61:BQ:116:PRO:HD2	1.99	0.44
65:BU:308:ARG:HE	65:BU:308:ARG:HB3	1.65	0.44
1:AA:475:G:H2'	1:AA:476:G:C8	2.53	0.44
1:AA:1669:A:H4'	1:AA:1685:G:H22	1.83	0.44
1:AA:1845:U:H2'	1:AA:1846:G:C8	2.51	0.44
1:AA:2028:C:H2'	1:AA:2029:A:C8	2.53	0.44
1:AA:2274:C:H2'	1:AA:2275:G:H8	1.83	0.44
1:AA:2300:A:C8	6:AF:182:LYS:HD2	2.53	0.44
1:AA:3746:A:H5''	4:AD:244:GLY:HA3	1.99	0.44
1:AA:4748:U:H5''	34:Ah:54:LYS:HD2	2.00	0.44
24:AX:37:LEU:HD21	24:AX:105:ILE:HD11	1.99	0.44
32:Af:41:ARG:HG3	32:Af:78:ARG:HA	2.00	0.44
40:An:41:ARG:HD2	40:An:41:ARG:HA	1.85	0.44
45:BA:601:OMG:HM22	45:BA:601:OMG:H1'	1.60	0.44
45:BA:1447:OMG:H2'	45:BA:1448:A:C8	2.53	0.44
49:BE:152:PHE:HD1	49:BE:152:PHE:HA	1.69	0.44
55:BK:85:ILE:HD13	55:BK:107:ILE:HG23	2.00	0.44
68:BX:76:ALA:O	68:BX:80:ARG:HG2	2.17	0.44
69:BY:18:LEU:HD23	69:BY:123:VAL:HG21	1.99	0.44
1:AA:425:U:H2'	1:AA:426:A:C8	2.53	0.44
1:AA:3602:C:H2'	1:AA:3603:G:C8	2.53	0.44
1:AA:3609:G:H2'	1:AA:3610:A:C8	2.52	0.44
1:AA:3681:G:C6	4:AD:125:LYS:HB3	2.53	0.44
1:AA:3718:A2M:H2	1:AA:3934:G:O4'	2.18	0.44
1:AA:4177:C:H2'	1:AA:4178:A:H8	1.82	0.44
1:AA:4601:U:O2	1:AA:4610:A:N7	2.51	0.44
10:AJ:120:LYS:NZ	10:AJ:126:GLY:H	2.16	0.44
10:AJ:251:ALA:HA	10:AJ:254:GLU:HG3	2.00	0.44
14:AN:200:LYS:HA	14:AN:200:LYS:HD2	1.78	0.44
31:Ae:29:LEU:HD22	31:Ae:91:VAL:HG11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:454:U:H2'	45:BA:455:A:C8	2.53	0.44
45:BA:475:C:H1'	45:BA:507:G:H1'	2.00	0.44
45:BA:858:A:H2'	45:BA:859:G:C8	2.53	0.44
45:BA:1794:C:H2'	45:BA:1795:G:H8	1.82	0.44
45:BA:1828:C:H2'	45:BA:1829:G:H8	1.83	0.44
50:BF:102:LEU:HB2	74:Bd:108:ILE:HD11	1.98	0.44
55:BK:124:LYS:HD3	55:BK:124:LYS:H	1.81	0.44
61:BQ:28:LYS:HG2	61:BQ:32:LEU:HD23	1.99	0.44
68:BX:169:ARG:HG2	68:BX:170:PRO:HD2	2.00	0.44
78:Bh:20:TYR:O	78:Bh:24:LEU:HD23	2.17	0.44
1:AA:510:U:H5'	29:Ac:86:THR:HG23	1.99	0.43
1:AA:657:C:H2'	1:AA:658:C:C6	2.53	0.43
1:AA:1417:C:H2'	1:AA:1418:C:C6	2.53	0.43
1:AA:1628:C:H5''	4:AD:15:VAL:HG21	2.00	0.43
1:AA:2391:G:H2'	1:AA:2392:C:C6	2.52	0.43
1:AA:4138:C:C4	1:AA:4139:G:H1'	2.53	0.43
4:AD:98:ILE:HD13	4:AD:166:VAL:HG12	2.00	0.43
18:AR:50:ASP:HB3	18:AR:55:LYS:HB2	1.99	0.43
28:Ab:53:VAL:HG21	28:Ab:62:ILE:HG23	1.99	0.43
45:BA:81:U:H3'	45:BA:82:G:H8	1.83	0.43
45:BA:1413:G:H2'	45:BA:1414:A:H8	1.83	0.43
45:BA:1692:PSU:H5'	62:BR:92:ARG:HH12	1.82	0.43
49:BE:73:VAL:HG11	49:BE:86:LEU:HD11	2.00	0.43
50:BF:18:LYS:HA	50:BF:18:LYS:HD3	1.93	0.43
52:BH:170:LYS:HB3	52:BH:170:LYS:HE3	1.79	0.43
59:BO:26:SER:HB2	59:BO:110:VAL:HG13	1.98	0.43
59:BO:80:PHE:CE2	64:BT:54:LYS:HG3	2.53	0.43
65:BU:14:HIS:CD2	65:BU:41:ILE:HG12	2.53	0.43
68:BX:101:LYS:HG2	68:BX:104:ASP:OD1	2.18	0.43
68:BX:134:HIS:CE1	68:BX:164:PRO:HD2	2.53	0.43
1:AA:136:C:H42	36:Aj:75:GLY:H	1.66	0.43
1:AA:1333:A:H2'	1:AA:1334:A:H8	1.82	0.43
1:AA:1511:U:H2'	1:AA:1512:G:C8	2.53	0.43
1:AA:1830:G:H2'	1:AA:1831:G:H8	1.84	0.43
1:AA:2078:C:H2'	1:AA:2079:G:C8	2.53	0.43
1:AA:2274:C:H2'	1:AA:2275:G:C8	2.52	0.43
1:AA:2543:A:H2	1:AA:2773:G:H22	1.66	0.43
1:AA:2743:A:H2'	1:AA:2744:A:C8	2.53	0.43
1:AA:4770:U:H2'	1:AA:4771:C:C6	2.53	0.43
37:Ak:4:ARG:HD2	37:Ak:4:ARG:HA	1.74	0.43
45:BA:652:U:H2'	45:BA:653:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:1216:C:H5''	45:BA:1217:A:H5'	2.00	0.43
50:BF:103:LEU:HG	74:Bd:67:LEU:HD13	1.99	0.43
52:BH:26:LYS:HE3	52:BH:26:LYS:HB3	1.79	0.43
54:BJ:118:ARG:HD3	54:BJ:118:ARG:N	2.33	0.43
55:BK:108:LYS:HZ2	55:BK:111:MET:HE2	1.82	0.43
57:BM:8:LYS:HA	57:BM:8:LYS:HD2	1.74	0.43
60:BP:34:MET:HB2	60:BP:53:TYR:HB2	2.01	0.43
78:Bh:107:LYS:HE3	78:Bh:107:LYS:HB3	1.82	0.43
1:AA:2727:C:H2'	1:AA:2728:U:C6	2.53	0.43
1:AA:3708:C:H2'	1:AA:3709:U:C6	2.53	0.43
1:AA:4448:G:H5''	1:AA:4449:A:H5'	2.00	0.43
13:AM:121:PRO:HG3	57:BM:11:HIS:HD2	1.84	0.43
39:Am:18:LYS:HD2	39:Am:18:LYS:HA	1.76	0.43
44:As:97:ILE:HD12	44:As:107:ARG:HA	2.00	0.43
45:BA:3:C:C4'	66:BV:205:VAL:CG2	2.91	0.43
45:BA:110:U:H3	45:BA:351:G:H1	1.66	0.43
45:BA:887:U:H3	45:BA:901:G:H21	1.65	0.43
45:BA:1515:G:H1'	55:BK:97:TYR:HE2	1.83	0.43
48:BD:169:MET:O	48:BD:172:MET:HB2	2.18	0.43
49:BE:29:LEU:HD13	49:BE:34:TYR:CD1	2.53	0.43
65:BU:5:MET:HE2	65:BU:312:VAL:HG22	2.01	0.43
69:BY:15:ASN:O	69:BY:19:GLN:HG2	2.18	0.43
1:AA:1590:C:H4'	1:AA:2857:A:H5'	2.00	0.43
1:AA:2723:U:H2'	1:AA:2724:G:C8	2.53	0.43
1:AA:3598:C:H2'	1:AA:3599:A:H8	1.83	0.43
1:AA:3911:C:H2'	1:AA:3912:U:C6	2.53	0.43
35:Ai:107:LEU:HD23	35:Ai:107:LEU:HA	1.86	0.43
43:Ar:28:LYS:HE2	43:Ar:28:LYS:HB2	1.78	0.43
45:BA:191:A:H62	45:BA:208:G:N2	2.16	0.43
45:BA:436:OMG:HM22	45:BA:437:G:H5'	2.00	0.43
45:BA:503:C:H3'	45:BA:504:G:H8	1.82	0.43
45:BA:903:A:H2'	45:BA:904:A:H8	1.84	0.43
45:BA:1280:G:H2'	45:BA:1281:G:H8	1.83	0.43
45:BA:1513:C:H2'	45:BA:1514:G:C8	2.51	0.43
45:BA:1535:U:C6	50:BF:169:ILE:HG21	2.53	0.43
45:BA:1831:A:H2'	45:BA:1832:6MZ:H8	1.99	0.43
45:BA:1849:G:N7	45:BA:1850:MA6:H102	2.34	0.43
47:BC:10:MET:SD	47:BC:15:VAL:HB	2.58	0.43
47:BC:104:THR:HG23	47:BC:107:THR:HB	2.00	0.43
48:BD:124:HIS:HA	48:BD:137:LEU:O	2.17	0.43
50:BF:143:PRO:O	50:BF:147:VAL:HG22	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BH:150:ASP:HA	52:BH:153:LYS:HD2	2.00	0.43
56:BL:38:PRO:HG3	58:BN:8:ASP:HA	2.01	0.43
60:BP:53:TYR:HD1	60:BP:69:ILE:HG13	1.83	0.43
68:BX:144:ILE:HG13	68:BX:146:SER:H	1.83	0.43
1:AA:474:C:H2'	1:AA:475:G:C8	2.54	0.43
1:AA:918:G:H5'	15:AO:72:TYR:CE2	2.44	0.43
1:AA:1947:U:H2'	41:Ao:109:ASN:HB2	2.00	0.43
1:AA:2493:G:H21	3:AC:126:C:H3'	1.83	0.43
1:AA:4319:C:H2'	1:AA:4320:G:C8	2.53	0.43
1:AA:4748:U:H2'	1:AA:4749:C:C6	2.53	0.43
1:AA:4933:C:H2'	1:AA:4934:A:C8	2.54	0.43
3:AC:119:C:H2'	3:AC:120:G:C8	2.53	0.43
7:AG:60:ILE:HB	7:AG:80:ALA:HB2	2.00	0.43
7:AG:208:MET:HG2	7:AG:223:PHE:CE2	2.54	0.43
14:AN:46:ILE:HD11	14:AN:51:ALA:HA	2.00	0.43
16:AP:104:GLU:HA	16:AP:160:GLU:HG3	1.99	0.43
17:AQ:8:VAL:HG12	17:AQ:117:ARG:HG3	1.99	0.43
22:AV:120:LYS:HA	22:AV:120:LYS:HD2	1.77	0.43
24:AX:13:LYS:HD2	24:AX:128:LEU:HD11	2.00	0.43
45:BA:647:U:H2'	45:BA:648:A:H8	1.83	0.43
45:BA:793:G:H2'	45:BA:794:A:C8	2.53	0.43
45:BA:963:A:H61	45:BA:1065:G:H1'	1.83	0.43
45:BA:1199:A:H2'	45:BA:1200:A:C8	2.53	0.43
45:BA:1430:C:H2'	45:BA:1431:G:C8	2.53	0.43
45:BA:1536:G:H2'	45:BA:1537:A:C8	2.53	0.43
45:BA:1650:A:H2'	45:BA:1651:A:O4'	2.19	0.43
52:BH:125:LYS:HB3	52:BH:125:LYS:HE3	1.74	0.43
65:BU:147:HIS:CE1	65:BU:175:LYS:HG2	2.54	0.43
75:Be:2:PRO:HB2	75:Be:5:LYS:HE3	1.99	0.43
1:AA:252:C:H2'	1:AA:253:G:C2	2.53	0.43
1:AA:423:G:H2'	1:AA:424:U:C6	2.53	0.43
1:AA:1260:G:H2'	1:AA:1261:G:C8	2.53	0.43
1:AA:1348:U:H2'	1:AA:1349:G:H8	1.83	0.43
1:AA:1878:G:H2'	1:AA:1879:C:C6	2.54	0.43
1:AA:3656:A:H2'	1:AA:3657:U:H6	1.83	0.43
1:AA:4759:C:H2'	1:AA:4760:G:C8	2.53	0.43
1:AA:4894:A:H5''	1:AA:4896:G:H1'	2.00	0.43
2:AB:4:U:H2'	2:AB:5:A:H8	1.82	0.43
27:Aa:26:ARG:O	27:Aa:30:MET:HG3	2.18	0.43
31:Ae:11:LEU:HA	31:Ae:14:ILE:HG22	2.00	0.43
45:BA:1267:C:H2'	45:BA:1268:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BC:11:LYS:NZ	47:BC:13:GLU:HB3	2.33	0.43
48:BD:97:LEU:H	48:BD:97:LEU:HD12	1.84	0.43
49:BE:106:ARG:HG3	49:BE:175:VAL:HG22	2.01	0.43
50:BF:138:ALA:HB2	50:BF:203:ASN:HD21	1.84	0.43
56:BL:130:LYS:HA	56:BL:137:ALA:HA	1.99	0.43
58:BN:18:LEU:HD23	58:BN:58:ALA:HA	2.00	0.43
65:BU:65:PHE:HB2	65:BU:83:TRP:CD1	2.54	0.43
70:BZ:16:LEU:HB2	72:Bb:57:ARG:HH22	1.83	0.43
74:Bd:57:LYS:HE3	74:Bd:57:LYS:HB2	1.85	0.43
1:AA:287:U:H2'	1:AA:288:G:C8	2.53	0.43
1:AA:1937:C:H2'	1:AA:1938:C:C5	2.54	0.43
1:AA:2456:G:H2'	1:AA:2457:G:C8	2.53	0.43
1:AA:4629:U:H2'	1:AA:4630:G:H8	1.84	0.43
1:AA:4928:C:H2'	1:AA:4929:C:C6	2.54	0.43
2:AB:112:U:H2'	2:AB:113:G:H8	1.83	0.43
3:AC:66:A:H2'	3:AC:67:U:C6	2.54	0.43
4:AD:39:GLY:HA2	4:AD:93:LYS:HG3	2.01	0.43
14:AN:174:LYS:HB3	14:AN:174:LYS:HE2	1.84	0.43
28:Ab:66:SER:HB2	28:Ab:122:TYR:HE2	1.84	0.43
30:Ad:12:GLN:HB3	30:Ad:16:TRP:CZ2	2.53	0.43
36:Aj:46:LYS:O	36:Aj:50:VAL:HG23	2.19	0.43
53:BI:64:TRP:CD2	64:BT:23:VAL:HG22	2.54	0.43
54:BJ:47:PRO:O	54:BJ:51:ILE:HG23	2.18	0.43
55:BK:93:MET:HG2	55:BK:104:GLN:HE21	1.84	0.43
56:BL:38:PRO:HG2	56:BL:41:MET:HG2	2.00	0.43
73:Bc:48:TYR:HD2	73:Bc:75:ILE:HD11	1.84	0.43
78:Bh:45:LYS:O	78:Bh:49:LYS:HG2	2.19	0.43
1:AA:919:C:H2'	1:AA:920:C:C6	2.54	0.43
1:AA:1687:U:H2'	1:AA:1688:G:C8	2.54	0.43
1:AA:2090:U:H4'	1:AA:2091:C:H3'	2.00	0.43
1:AA:2709:C:H5'	20:AT:43:LYS:HD2	2.00	0.43
1:AA:4323:A:N6	7:AG:153:THR:HG21	2.34	0.43
1:AA:4734:A:H1'	1:AA:4735:G:C8	2.54	0.43
3:AC:92:U:H2'	3:AC:93:C:O4'	2.18	0.43
3:AC:140:C:H2'	3:AC:141:C:C6	2.54	0.43
6:AF:154:VAL:HG11	6:AF:174:LEU:HD11	2.00	0.43
8:AH:222:LEU:HD21	8:AH:225:PRO:HB3	2.01	0.43
11:AK:122:TYR:HE2	11:AK:124:ARG:HD3	1.84	0.43
12:AL:21:ARG:H	12:AL:21:ARG:HD2	1.84	0.43
20:AT:70:ARG:HE	20:AT:70:ARG:HB3	1.63	0.43
36:Aj:89:ARG:O	36:Aj:93:ARG:HG2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:116:OMU:HM21	52:BH:49:ARG:HG2	2.01	0.43
45:BA:507:G:H4'	45:BA:508:A:H5''	2.01	0.43
45:BA:942:G:H2'	45:BA:943:U:C6	2.53	0.43
45:BA:1056:PSU:H2'	45:BA:1057:C:O4'	2.19	0.43
45:BA:1399:C:H5''	65:BU:100:ARG:NH1	2.34	0.43
47:BC:198:MET:HE1	47:BC:200:ASP:HB2	2.00	0.43
56:BL:82:TYR:HA	56:BL:85:ARG:HH12	1.84	0.43
60:BP:57:GLY:HA2	60:BP:60:ARG:HB3	1.99	0.43
70:BZ:16:LEU:H	72:Bb:57:ARG:HH22	1.67	0.43
78:Bh:95:ILE:HD13	78:Bh:95:ILE:HA	1.92	0.43
1:AA:64:A:H1'	1:AA:76:A:H1'	2.01	0.43
1:AA:702:U:H3'	1:AA:703:G:H5''	2.01	0.43
1:AA:1077:C:H2'	1:AA:1078:A:H5''	2.00	0.43
1:AA:1309:C:H2'	1:AA:1310:C:C6	2.54	0.43
1:AA:1743:A:H5'	7:AG:11:ALA:HB1	2.00	0.43
1:AA:2605:G:H2'	1:AA:2606:G:H8	1.83	0.43
1:AA:2683:C:H2'	1:AA:2684:C:C6	2.54	0.43
5:AE:261:ARG:HB2	17:AQ:64:THR:HG21	2.00	0.43
9:AI:105:VAL:HG11	9:AI:139:TYR:CD2	2.53	0.43
10:AJ:162:ASP:HB3	10:AJ:163:PRO:HD3	1.99	0.43
10:AJ:208:ASN:O	10:AJ:212:LYS:HG3	2.19	0.43
15:AO:122:ILE:HA	15:AO:125:ASN:ND2	2.33	0.43
22:AV:83:LYS:HE2	22:AV:85:LEU:HD21	2.01	0.43
37:Ak:23:LYS:HB3	37:Ak:23:LYS:HE3	1.77	0.43
45:BA:124:U:H2'	45:BA:125:C:O4'	2.19	0.43
45:BA:508:A:O2'	45:BA:509:OMG:H5''	2.18	0.43
45:BA:980:A:H2'	45:BA:981:A:H8	1.82	0.43
45:BA:1208:A:H2'	45:BA:1209:A:H8	1.83	0.43
45:BA:1808:U:H2'	45:BA:1809:A:C8	2.51	0.43
53:BI:1:MET:HB3	53:BI:2:LEU:H	1.67	0.43
65:BU:23:THR:HG21	65:BU:292:SER:HA	2.00	0.43
66:BV:102:LEU:HD23	66:BV:102:LEU:HA	1.88	0.43
66:BV:188:CYS:HB2	66:BV:239:ALA:HB2	2.00	0.43
71:Ba:62:VAL:HG21	71:Ba:67:ASP:O	2.18	0.43
72:Bb:27:ILE:HD11	72:Bb:61:ILE:HB	2.01	0.43
77:Bg:118:ARG:HB3	77:Bg:131:PHE:HB3	2.01	0.43
1:AA:86:U:H2'	1:AA:87:A:C8	2.54	0.43
1:AA:159:C:H3'	37:Ak:25:ARG:NH2	2.32	0.43
1:AA:190:G:H2'	1:AA:191:G:C8	2.54	0.43
1:AA:422:C:H2'	1:AA:423:G:C8	2.51	0.43
1:AA:455:C:O2'	1:AA:456:C:H5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1478:C:H2'	1:AA:1479:G:H8	1.84	0.43
1:AA:2730:U:H2'	1:AA:2731:C:H6	1.82	0.43
1:AA:3671:G:H2'	1:AA:3672:G:C2	2.54	0.43
1:AA:4458:C:H2'	1:AA:4459:U:C6	2.53	0.43
1:AA:4906:C:H2'	1:AA:4907:G:C8	2.50	0.43
3:AC:137:A:H2'	3:AC:138:C:C6	2.53	0.43
7:AG:22:ARG:HB3	7:AG:28:THR:HG23	2.01	0.43
7:AG:211:LEU:HD13	7:AG:219:TYR:HA	2.01	0.43
45:BA:107:A:H2'	45:BA:108:G:H8	1.84	0.43
45:BA:960:U:H5	71:Ba:38:ASN:HD21	1.66	0.43
45:BA:1278:A:H2'	45:BA:1279:C:C6	2.53	0.43
45:BA:1401:A:H5''	59:BO:52:GLY:HA3	2.01	0.43
56:BL:132:PHE:HB2	59:BO:77:TRP:HD1	1.84	0.43
65:BU:32:LEU:HD23	65:BU:32:LEU:H	1.82	0.43
70:BZ:38:TYR:O	70:BZ:42:LYS:HG2	2.19	0.43
1:AA:1298:C:H2'	1:AA:1299:G:H8	1.84	0.42
1:AA:1358:G:N7	1:AA:1377:G:N2	2.65	0.42
1:AA:4737:G:H5''	1:AA:5069:U:H2'	1.99	0.42
2:AB:4:U:H2'	2:AB:5:A:C8	2.54	0.42
11:AK:91:LYS:HE2	11:AK:91:LYS:HB3	1.81	0.42
13:AM:18:ARG:HB2	13:AM:133:VAL:HG23	2.00	0.42
19:AS:122:THR:HG22	19:AS:123:PHE:H	1.84	0.42
21:AU:161:ARG:HB2	21:AU:161:ARG:NH1	2.34	0.42
23:AW:20:LYS:HZ3	23:AW:20:LYS:HG2	1.66	0.42
45:BA:432:G:H2'	45:BA:433:A:H8	1.84	0.42
45:BA:525:A:H2'	45:BA:526:A:H8	1.84	0.42
45:BA:1144:A:H2'	45:BA:1145:A:C8	2.53	0.42
45:BA:1534:C:H1'	45:BA:1536:G:C5	2.54	0.42
45:BA:1621:U:O2'	45:BA:1622:U:H2'	2.19	0.42
45:BA:1819:A:H2'	45:BA:1820:G:C8	2.54	0.42
46:BB:32:SER:HB3	46:BB:81:THR:HG23	2.01	0.42
47:BC:156:TYR:CZ	60:BP:61:ARG:HG2	2.53	0.42
50:BF:23:TRP:CH2	50:BF:97:PHE:HB3	2.54	0.42
55:BK:41:GLN:HG3	55:BK:84:ILE:HG21	2.01	0.42
1:AA:233:U:O2'	1:AA:234:G:H5''	2.19	0.42
1:AA:713:C:H2'	1:AA:714:G:C8	2.54	0.42
1:AA:1304:C:H2'	1:AA:1305:C:C6	2.55	0.42
1:AA:1398:A:H4'	1:AA:1399:G:H5'	2.01	0.42
1:AA:3871:A:H2'	1:AA:3872:A:C8	2.54	0.42
1:AA:4551:U:H2'	1:AA:4552:PSU:H6	1.84	0.42
1:AA:4584:A:H2'	1:AA:4585:U:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:4862:G:H2'	1:AA:4863:G:C8	2.53	0.42
22:AV:102:ARG:HD2	22:AV:102:ARG:HA	1.84	0.42
42:Aq:35:ALA:O	42:Aq:39:ARG:HG3	2.19	0.42
45:BA:15:U:H2'	45:BA:16:G:O4'	2.19	0.42
45:BA:49:C:H2'	45:BA:472:C:H41	1.84	0.42
45:BA:689:U:H5'	72:Bb:36:ARG:NH2	2.34	0.42
45:BA:1097:G:H4'	47:BC:32:PHE:CD1	2.54	0.42
45:BA:1324:G:N2	45:BA:1508:A:H2	2.17	0.42
45:BA:1496:U:H1'	64:BT:24:CYS:HB2	2.01	0.42
48:BD:57:ILE:HG22	48:BD:59:SER:H	1.84	0.42
49:BE:138:VAL:HG23	49:BE:184:ILE:HG22	2.01	0.42
56:BL:82:TYR:HA	56:BL:85:ARG:NH1	2.33	0.42
59:BO:101:ILE:H	59:BO:101:ILE:HG13	1.63	0.42
65:BU:242:SER:HB2	65:BU:247:TRP:HB2	2.01	0.42
66:BV:94:ILE:HD12	66:BV:95:ASP:N	2.34	0.42
70:BZ:36:GLN:HA	70:BZ:36:GLN:HE21	1.84	0.42
72:Bb:14:ILE:HG12	72:Bb:25:VAL:HG11	2.00	0.42
75:Be:54:VAL:HG23	75:Be:63:LEU:HB3	2.01	0.42
1:AA:398:A2M:H8	1:AA:398:A2M:O5'	2.18	0.42
1:AA:447:C:H2'	1:AA:448:G:H8	1.84	0.42
1:AA:1069:G:H2'	1:AA:1070:G:C8	2.53	0.42
1:AA:2597:G:H2'	1:AA:2598:A:C8	2.54	0.42
1:AA:4962:C:H2'	1:AA:4963:G:H8	1.85	0.42
3:AC:9:A:H2'	3:AC:10:G:H8	1.84	0.42
12:AL:87:MET:HE3	12:AL:87:MET:HB2	1.87	0.42
17:AQ:7:LEU:HD13	17:AQ:31:ARG:HH12	1.82	0.42
32:Af:64:ILE:HG23	32:Af:68:LEU:HD23	2.01	0.42
45:BA:795:A:H2'	45:BA:796:G:N9	2.34	0.42
45:BA:908:A:H2'	45:BA:909:G:C8	2.54	0.42
65:BU:177:TRP:HA	65:BU:184:LEU:HA	2.00	0.42
68:BX:37:LEU:HD23	68:BX:37:LEU:HA	1.84	0.42
76:Bf:21:LYS:HD2	76:Bf:21:LYS:HA	1.85	0.42
1:AA:153:G:H2'	1:AA:154:G:H8	1.85	0.42
1:AA:447:C:H2'	1:AA:448:G:C8	2.54	0.42
1:AA:1502:G:H1	19:AS:89:ASP:HA	1.85	0.42
1:AA:1617:G:H1'	1:AA:2513:A:N6	2.33	0.42
1:AA:2063:G:H2'	1:AA:2064:G:C8	2.54	0.42
1:AA:2597:G:H2'	1:AA:2598:A:H8	1.84	0.42
1:AA:4424:A:H8	41:Ao:125:LYS:HE3	1.84	0.42
1:AA:4479:A:H2'	1:AA:4480:A:O4'	2.19	0.42
1:AA:4688:C:H2'	1:AA:4689:PSU:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:140:C:H2'	3:AC:141:C:H6	1.84	0.42
23:AW:24:ASP:HB3	23:AW:111:GLU:OE2	2.19	0.42
30:Ad:43:MET:HE2	30:Ad:43:MET:HB2	1.92	0.42
45:BA:109:PSU:H2'	45:BA:110:U:C6	2.54	0.42
45:BA:354:OMU:HM22	45:BA:355:G:H5'	2.01	0.42
45:BA:394:G:H5'	54:BJ:81:LYS:HD3	2.01	0.42
45:BA:662:G:H5'	45:BA:1156:U:C2	2.53	0.42
45:BA:673:G:H2'	45:BA:674:C:C6	2.55	0.42
45:BA:1828:C:H2'	45:BA:1829:G:C8	2.54	0.42
56:BL:78:VAL:HG12	56:BL:82:TYR:HE2	1.84	0.42
58:BN:75:MET:HG3	58:BN:79:TYR:CE2	2.55	0.42
67:BW:230:LYS:HE3	67:BW:230:LYS:HB3	1.81	0.42
1:AA:137:G:H2'	1:AA:138:G:H8	1.85	0.42
1:AA:1356:U:H2'	1:AA:1357:C:C6	2.54	0.42
1:AA:2705:G:H1	1:AA:2710:C:H5	1.66	0.42
1:AA:3893:C:H2'	1:AA:3894:A:C8	2.54	0.42
3:AC:7:U:H2'	3:AC:8:U:C6	2.55	0.42
10:AJ:70:LEU:HD23	10:AJ:70:LEU:HA	1.90	0.42
13:AM:35:ARG:HD2	13:AM:123:ILE:HA	2.02	0.42
15:AO:24:LEU:HD11	15:AO:86:TRP:CG	2.54	0.42
15:AO:128:LYS:HA	15:AO:131:GLN:HG2	2.02	0.42
22:AV:84:ILE:HG13	30:Ad:21:ILE:HG22	2.02	0.42
23:AW:80:LYS:HE3	23:AW:110:TYR:CE2	2.55	0.42
24:AX:30:ASP:HB3	24:AX:104:VAL:HG12	2.01	0.42
45:BA:931:C:H2'	45:BA:932:G:C8	2.55	0.42
45:BA:1229:G:H5'	57:BM:142:ARG:HH21	1.85	0.42
45:BA:1467:C:H2'	45:BA:1468:C:C6	2.54	0.42
46:BB:70:ILE:HD12	46:BB:70:ILE:HA	1.84	0.42
46:BB:112:HIS:HB2	46:BB:239:PRO:HB3	2.02	0.42
47:BC:57:LYS:HE3	47:BC:160:ALA:O	2.19	0.42
47:BC:113:GLN:H	47:BC:113:GLN:HG3	1.63	0.42
48:BD:181:LEU:HA	48:BD:184:VAL:HG22	2.02	0.42
50:BF:59:LYS:HD3	50:BF:59:LYS:HA	1.95	0.42
51:BG:37:LYS:HA	51:BG:37:LYS:HD2	1.66	0.42
51:BG:87:PHE:HD2	51:BG:90:LYS:HG3	1.84	0.42
56:BL:146:ARG:HA	56:BL:146:ARG:HD2	1.77	0.42
58:BN:14:PHE:HE2	58:BN:62:ARG:HB3	1.85	0.42
66:BV:127:PHE:HA	66:BV:140:GLY:O	2.20	0.42
68:BX:110:LEU:O	68:BX:114:VAL:HG23	2.20	0.42
71:Ba:86:LYS:HB2	71:Ba:86:LYS:HE2	1.92	0.42
78:Bh:41:ILE:HG21	78:Bh:47:ARG:HB2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:173:C:H5'	14:AN:129:ARG:HH22	1.84	0.42
1:AA:744:G:H2'	1:AA:745:G:C8	2.55	0.42
1:AA:1234:G:H2'	1:AA:1235:G:H8	1.85	0.42
1:AA:2571:C:H2'	1:AA:2572:C:H6	1.85	0.42
1:AA:4653:C:H2'	1:AA:4654:C:C6	2.55	0.42
1:AA:5001:PSU:H5'	5:AE:317:LEU:HD13	2.01	0.42
6:AF:195:LYS:HA	6:AF:200:ARG:HA	2.01	0.42
7:AG:263:LYS:HA	7:AG:263:LYS:HD2	1.76	0.42
8:AH:50:LEU:HD12	8:AH:50:LEU:HA	1.90	0.42
8:AH:201:ILE:HG22	8:AH:264:ILE:HD13	2.01	0.42
12:AL:73:ASN:HB2	12:AL:87:MET:HE1	2.01	0.42
19:AS:16:LYS:HE2	19:AS:16:LYS:HB2	1.74	0.42
21:AU:98:ARG:HG3	21:AU:142:VAL:HG13	2.02	0.42
45:BA:509:OMG:HM22	45:BA:510:G:C8	2.55	0.42
45:BA:1236:G:H2'	45:BA:1237:C:H6	1.83	0.42
45:BA:1609:C:H2'	45:BA:1610:G:C8	2.54	0.42
45:BA:1846:G:H2'	45:BA:1847:G:C8	2.54	0.42
49:BE:22:ASN:O	49:BE:26:THR:HG23	2.20	0.42
55:BK:108:LYS:H	55:BK:108:LYS:HG2	1.65	0.42
59:BO:51:LYS:HB3	59:BO:90:ASP:HB2	2.01	0.42
64:BT:39:CYS:O	64:BT:43:PHE:HB2	2.20	0.42
68:BX:46:VAL:HG11	68:BX:106:LEU:HD11	2.02	0.42
1:AA:6:C:H2'	1:AA:7:C:H6	1.85	0.42
1:AA:268:G:H2'	1:AA:269:G:C8	2.54	0.42
1:AA:1085:C:H2'	1:AA:1086:C:C6	2.55	0.42
1:AA:1733:G:N3	1:AA:4214:A:H2'	2.34	0.42
1:AA:2789:A:H1'	40:An:45:ARG:HH22	1.85	0.42
1:AA:4578:G:H2'	1:AA:4579:PSU:H6	1.85	0.42
1:AA:5004:C:H2'	1:AA:5005:G:O4'	2.19	0.42
7:AG:196:ARG:O	7:AG:197:LYS:HG2	2.19	0.42
8:AH:150:LEU:HD11	8:AH:164:PHE:HB2	2.01	0.42
17:AQ:159:LYS:HE3	17:AQ:159:LYS:HB2	1.71	0.42
21:AU:70:LYS:HD2	21:AU:70:LYS:HA	1.69	0.42
23:AW:98:ASP:HB3	23:AW:99:TRP:CE2	2.55	0.42
25:AY:43:LYS:HB2	25:AY:43:LYS:HE3	1.70	0.42
25:AY:58:LYS:HE2	25:AY:58:LYS:HB2	1.96	0.42
45:BA:1442:OMU:HM21	56:BL:13:PHE:HB3	2.00	0.42
45:BA:1852:C:H2'	45:BA:1853:C:C6	2.54	0.42
50:BF:182:LYS:HE3	50:BF:184:SER:HB2	2.01	0.42
65:BU:191:HIS:CG	65:BU:195:LEU:HD21	2.54	0.42
65:BU:302:TYR:CE1	65:BU:308:ARG:HD2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:BV:98:LEU:HD11	66:BV:101:SER:HB2	2.01	0.42
68:BX:63:LEU:HD12	68:BX:64:ASP:H	1.84	0.42
74:Bd:58:LEU:HD12	74:Bd:62:VAL:HG21	2.00	0.42
78:Bh:63:ARG:HE	78:Bh:63:ARG:N	2.17	0.42
1:AA:250:C:H2'	1:AA:251:C:C6	2.54	0.42
1:AA:993:G:H3'	1:AA:994:G:C8	2.55	0.42
1:AA:1811:G:H2'	1:AA:1812:C:H6	1.85	0.42
1:AA:2571:C:H2'	1:AA:2572:C:C6	2.55	0.42
1:AA:3608:A:H2'	1:AA:3609:G:H8	1.84	0.42
1:AA:3933:G:H2'	1:AA:3934:G:H8	1.85	0.42
1:AA:4504:C:H2'	1:AA:4505:C:H6	1.84	0.42
1:AA:4638:U:H2'	1:AA:4639:G:N3	2.35	0.42
1:AA:4935:C:H2'	1:AA:4936:G:C8	2.54	0.42
5:AE:56:ILE:HG23	5:AE:76:VAL:HG21	2.02	0.42
35:Ai:105:LYS:HB2	35:Ai:105:LYS:HE2	1.86	0.42
42:Aq:97:LYS:O	42:Aq:99:ARG:HD3	2.19	0.42
45:BA:806:U:H2'	45:BA:807:G:C8	2.55	0.42
45:BA:1451:G:N2	45:BA:1474:A:H61	2.16	0.42
45:BA:1610:G:H2'	45:BA:1611:G:C8	2.54	0.42
49:BE:109:LEU:HD21	49:BE:175:VAL:HG21	2.02	0.42
58:BN:122:LYS:HB2	58:BN:122:LYS:HE3	1.87	0.42
62:BR:66:LYS:HD3	62:BR:66:LYS:HA	1.89	0.42
65:BU:174:VAL:O	65:BU:174:VAL:HG12	2.20	0.42
65:BU:230:LEU:HD22	65:BU:259:TRP:CD2	2.55	0.42
67:BW:14:LYS:HA	67:BW:14:LYS:HD3	1.80	0.42
1:AA:277:G:C6	37:Ak:30:ARG:HG2	2.55	0.42
1:AA:475:G:H2'	1:AA:476:G:H8	1.84	0.42
1:AA:1304:C:H2'	1:AA:1305:C:H6	1.85	0.42
1:AA:1350:C:H2'	1:AA:1351:G:C8	2.55	0.42
1:AA:1545:G:H2'	1:AA:1546:C:C6	2.54	0.42
1:AA:1994:C:H2'	1:AA:1995:G:H4'	2.02	0.42
1:AA:2623:A:H2'	1:AA:2624:G:H8	1.84	0.42
1:AA:3652:A:O2'	4:AD:182:ALA:HB2	2.20	0.42
1:AA:5002:U:H2'	1:AA:5003:U:C6	2.55	0.42
4:AD:102:LEU:HB2	4:AD:107:MET:HE3	2.00	0.42
6:AF:214:ASP:OD1	6:AF:218:ILE:HD12	2.20	0.42
17:AQ:197:LYS:HE2	17:AQ:197:LYS:HB2	1.87	0.42
22:AV:112:ASN:OD1	22:AV:128:LEU:HD12	2.20	0.42
39:Am:16:ARG:HE	39:Am:16:ARG:HB3	1.52	0.42
45:BA:181:A:H2'	45:BA:182:C:C5	2.55	0.42
45:BA:414:A:H2'	45:BA:415:A:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:594:A:H4'	45:BA:595:U:H5'	2.02	0.42
45:BA:675:U:H2'	45:BA:676:C:H6	1.85	0.42
45:BA:835:C:H3'	73:Bc:8:ARG:HH12	1.84	0.42
45:BA:1272:OMC:HM22	45:BA:1273:C:H5'	2.01	0.42
45:BA:1647:A:C2	45:BA:1675:A:H5''	2.55	0.42
45:BA:1746:U:H4'	67:BW:65:GLN:NE2	2.35	0.42
48:BD:199:LYS:HE3	48:BD:199:LYS:HB2	1.81	0.42
53:BI:16:PHE:O	53:BI:91:PRO:HB3	2.20	0.42
1:AA:654:C:H2'	1:AA:655:C:O4'	2.20	0.42
1:AA:1449:C:H2'	1:AA:1450:C:C6	2.55	0.42
1:AA:2079:G:H2'	1:AA:2080:U:C6	2.55	0.42
1:AA:2097:U:H5'	1:AA:2098:G:O5'	2.20	0.42
1:AA:4997:G:H1	1:AA:5053:U:H3	1.68	0.42
10:AJ:32:PHE:HE1	28:Ab:53:VAL:HG22	1.85	0.42
11:AK:10:VAL:HG12	11:AK:55:LEU:HB3	2.02	0.42
12:AL:86:HIS:HB3	12:AL:139:ARG:HG2	2.02	0.42
12:AL:188:LYS:HB3	12:AL:212:LEU:HD11	2.02	0.42
25:AY:2:LYS:HD2	25:AY:2:LYS:HA	1.78	0.42
45:BA:1126:G:P	47:BC:41:ARG:HH12	2.42	0.42
45:BA:1271:C:H2'	45:BA:1272:OMC:H6	1.84	0.42
48:BD:30:TRP:CD1	71:Ba:19:PRO:HG3	2.55	0.42
50:BF:35:LEU:HD11	50:BF:146:ARG:HH21	1.85	0.42
51:BG:85:LYS:HB2	51:BG:85:LYS:HE2	1.81	0.42
61:BQ:50:ILE:HD13	61:BQ:50:ILE:HA	1.88	0.42
66:BV:176:LYS:HD2	66:BV:176:LYS:HA	1.78	0.42
68:BX:20:PHE:HA	68:BX:25:LEU:HD11	2.02	0.42
70:BZ:76:LYS:HA	70:BZ:76:LYS:HD2	1.89	0.42
1:AA:240:G:H2'	1:AA:241:G:O4'	2.20	0.41
1:AA:300:A:H2'	1:AA:301:G:C8	2.51	0.41
1:AA:653:U:H2'	1:AA:654:C:C6	2.55	0.41
1:AA:1871:A2M:HM'2	1:AA:1872:G:H5'	2.02	0.41
1:AA:2454:U:H2'	1:AA:2455:G:C8	2.54	0.41
1:AA:3658:C:H2'	1:AA:3659:G:H8	1.85	0.41
1:AA:4504:C:H2'	1:AA:4505:C:C6	2.55	0.41
2:AB:92:C:H2'	2:AB:93:G:C8	2.54	0.41
7:AG:197:LYS:HE2	7:AG:197:LYS:HB3	1.88	0.41
17:AQ:183:LYS:HD3	17:AQ:183:LYS:HA	1.73	0.41
29:Ac:24:LYS:H	29:Ac:24:LYS:HG3	1.56	0.41
37:Ak:25:ARG:HD2	37:Ak:25:ARG:HA	1.71	0.41
42:Aq:26:TYR:HB3	42:Aq:67:VAL:HB	2.02	0.41
45:BA:1259:A:H61	45:BA:1519:U:H5	1.66	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:1402:A:H1'	59:BO:54:VAL:HG13	2.01	0.41
45:BA:1690:U:H2'	45:BA:1691:U:C6	2.55	0.41
47:BC:168:ALA:HB1	47:BC:204:TYR:HB2	2.02	0.41
56:BL:76:GLY:N	56:BL:79:ALA:HB3	2.34	0.41
57:BM:67:VAL:O	57:BM:71:MET:HG2	2.19	0.41
59:BO:19:ARG:HB3	59:BO:117:ALA:HB2	2.02	0.41
63:BS:37:ASP:HB3	63:BS:40:ARG:HG3	2.02	0.41
68:BX:143:ASN:HB2	73:Bc:64:PHE:HZ	1.85	0.41
71:Ba:21:VAL:HG22	71:Ba:25:GLU:HG3	2.02	0.41
1:AA:1307:A:H2'	1:AA:1308:C:C6	2.55	0.41
1:AA:1558:A:H2'	1:AA:1559:G:H8	1.84	0.41
1:AA:2026:A:H2'	1:AA:2027:U:H6	1.85	0.41
1:AA:2374:A:H2'	1:AA:2375:A:H8	1.85	0.41
1:AA:2588:C:H5''	1:AA:2589:C:H5''	2.01	0.41
1:AA:2749:C:H2'	1:AA:2750:G:C8	2.55	0.41
1:AA:3861:A:H2'	1:AA:3862:A:C8	2.55	0.41
1:AA:4460:U:H2'	1:AA:4461:C:H6	1.84	0.41
3:AC:27:U:H2'	3:AC:28:C:C6	2.55	0.41
5:AE:165:HIS:HA	5:AE:179:HIS:O	2.20	0.41
8:AH:149:ILE:HD12	8:AH:271:LEU:HD21	2.02	0.41
13:AM:40:LEU:HD23	13:AM:40:LEU:HA	1.83	0.41
14:AN:194:ILE:O	14:AN:198:ARG:HG3	2.20	0.41
45:BA:107:A:H2'	45:BA:108:G:C8	2.55	0.41
45:BA:367:U:H4'	45:BA:371:A:C8	2.55	0.41
45:BA:653:A:H2'	45:BA:654:A:O4'	2.19	0.41
45:BA:1712:A:H2'	45:BA:1713:C:C6	2.55	0.41
47:BC:207:PRO:HA	47:BC:210:ILE:HG13	2.02	0.41
52:BH:67:TRP:HE1	52:BH:162:LEU:HD11	1.85	0.41
57:BM:71:MET:HE2	57:BM:71:MET:HA	2.02	0.41
59:BO:61:LEU:O	59:BO:81:GLN:HA	2.20	0.41
62:BR:89:ARG:HG3	62:BR:92:ARG:HH21	1.85	0.41
66:BV:257:LYS:HB2	66:BV:257:LYS:HE2	1.76	0.41
67:BW:29:GLU:HA	67:BW:101:ILE:HG23	2.01	0.41
1:AA:426:A:H2'	1:AA:427:A:C8	2.54	0.41
1:AA:5005:G:N2	1:AA:5041:G:H1'	2.35	0.41
23:AW:46:ARG:HG3	23:AW:46:ARG:O	2.19	0.41
23:AW:105:ASN:ND2	23:AW:111:GLU:HB2	2.36	0.41
28:Ab:57:MET:SD	28:Ab:61:LYS:HD3	2.60	0.41
32:Af:29:ILE:O	32:Af:33:ILE:HG12	2.20	0.41
35:Ai:60:ARG:HB2	35:Ai:63:VAL:HG23	2.01	0.41
39:Am:24:LYS:HE3	39:Am:67:LYS:HE3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:609:PSU:H2'	45:BA:610:G:H8	1.84	0.41
45:BA:959:G:H22	45:BA:963:A:H5'	1.86	0.41
45:BA:1093:A:H2'	45:BA:1094:C:C6	2.55	0.41
47:BC:128:ARG:HH21	47:BC:153:PRO:HD3	1.85	0.41
48:BD:94:LYS:HA	48:BD:94:LYS:HD2	1.70	0.41
48:BD:227:LYS:HE2	48:BD:227:LYS:HB2	1.70	0.41
62:BR:58:VAL:HG12	71:Ba:125:LYS:HB3	2.03	0.41
65:BU:259:TRP:CD1	65:BU:266:ILE:HD13	2.55	0.41
71:Ba:95:ILE:HD13	71:Ba:95:ILE:HA	1.86	0.41
72:Bb:52:ILE:HG12	72:Bb:61:ILE:HG23	2.01	0.41
73:Bc:74:MET:HE2	73:Bc:74:MET:C	2.45	0.41
1:AA:275:C:H2'	1:AA:276:C:C2	2.55	0.41
1:AA:326:C:H2'	1:AA:327:U:C6	2.56	0.41
1:AA:1473:U:H2'	1:AA:1474:C:C6	2.56	0.41
1:AA:2480:G:N2	1:AA:2499:C:H41	2.19	0.41
1:AA:2663:G:H4'	20:AT:117:ARG:HD2	2.01	0.41
1:AA:4958:C:H2'	1:AA:4959:U:C6	2.55	0.41
3:AC:108:A:H2'	3:AC:109:C:O4'	2.20	0.41
24:AX:131:ARG:HA	24:AX:131:ARG:HD2	1.86	0.41
45:BA:511:U:H2'	45:BA:512:A2M:H8	2.02	0.41
45:BA:1501:C:H2'	45:BA:1502:C:H6	1.85	0.41
45:BA:1587:G:H2'	58:BN:78:ILE:HA	2.01	0.41
49:BE:65:ARG:O	49:BE:69:LEU:HG	2.20	0.41
61:BQ:132:ALA:HB1	61:BQ:138:LYS:HB2	2.02	0.41
66:BV:114:LYS:HB3	66:BV:121:ARG:NH2	2.33	0.41
67:BW:189:ARG:O	67:BW:192:ILE:HG13	2.21	0.41
1:AA:441:G:H2'	1:AA:442:G:C8	2.56	0.41
1:AA:1091:C:H2'	1:AA:1092:G:H8	1.84	0.41
1:AA:4192:A:H2'	1:AA:4193:C:H6	1.85	0.41
1:AA:4635:A:H3'	1:AA:4636:PSU:H4'	2.00	0.41
2:AB:63:C:H5'	2:AB:64:G:H5''	2.03	0.41
7:AG:89:LYS:HB2	7:AG:89:LYS:HE2	1.66	0.41
9:AI:184:ILE:HG23	9:AI:189:ASP:HB2	2.01	0.41
27:Aa:13:LYS:O	27:Aa:17:ARG:HD3	2.21	0.41
39:Am:25:ILE:HD13	39:Am:25:ILE:HA	1.93	0.41
42:Aq:65:LYS:HE3	42:Aq:87:ARG:NH2	2.35	0.41
45:BA:1004:PSU:H2'	45:BA:1005:G:C8	2.52	0.41
45:BA:1430:C:H2'	45:BA:1431:G:H8	1.85	0.41
45:BA:1567:G:H2'	45:BA:1568:C:N1	2.36	0.41
45:BA:1612:G:H5''	57:BM:88:LYS:HE3	2.02	0.41
45:BA:1690:U:H2'	45:BA:1691:U:H6	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:1736:G:H2'	45:BA:1737:G:H8	1.85	0.41
47:BC:57:LYS:NZ	47:BC:60:LEU:HD11	2.36	0.41
60:BP:4:ASP:N	66:BV:173:LYS:HG2	2.36	0.41
61:BQ:115:ILE:HD12	61:BQ:115:ILE:O	2.20	0.41
66:BV:170:TRP:HB2	66:BV:179:THR:HG21	2.02	0.41
67:BW:41:LEU:HG	67:BW:45:TRP:CD1	2.56	0.41
68:BX:40:LYS:HD2	76:Bf:34:ARG:HH12	1.86	0.41
1:AA:68:U:H2'	1:AA:69:A:O4'	2.21	0.41
1:AA:506:C:H2'	1:AA:507:G:H8	1.85	0.41
1:AA:711:A:H2'	1:AA:712:C:C6	2.55	0.41
1:AA:952:G:H2'	1:AA:953:C:C6	2.56	0.41
1:AA:1081:C:O2'	1:AA:1082:C:H5'	2.20	0.41
1:AA:3910:C:H2'	1:AA:3911:C:C6	2.55	0.41
1:AA:4070:U:H2'	1:AA:4071:U:C6	2.55	0.41
1:AA:4736:C:H2'	1:AA:4737:G:H8	1.85	0.41
3:AC:68:G:H2'	3:AC:69:PSU:O4'	2.20	0.41
4:AD:107:MET:HA	4:AD:108:PRO:HD3	1.92	0.41
9:AI:92:VAL:O	9:AI:120:GLY:HA2	2.20	0.41
11:AK:71:ARG:HA	11:AK:71:ARG:HD2	1.81	0.41
12:AL:16:PRO:HA	12:AL:95:HIS:CD2	2.55	0.41
13:AM:152:GLY:O	13:AM:156:ARG:HG3	2.20	0.41
26:AZ:155:ILE:HA	36:Aj:37:THR:HG21	2.02	0.41
45:BA:906:U:H2'	45:BA:907:G:H8	1.85	0.41
45:BA:963:A:H2'	45:BA:964:A:O4'	2.20	0.41
45:BA:1252:C:N4	45:BA:1526:G:H4'	2.35	0.41
45:BA:1757:G:N3	45:BA:1757:G:H2'	2.36	0.41
46:BB:126:VAL:HG22	46:BB:139:LEU:HD13	2.01	0.41
50:BF:17:ILE:HA	50:BF:48:TYR:CZ	2.56	0.41
54:BJ:40:ILE:HD13	54:BJ:44:PHE:HD2	1.85	0.41
62:BR:22:ARG:NH1	62:BR:27:ALA:HB1	2.35	0.41
62:BR:44:ILE:HG13	62:BR:65:PRO:HG2	2.03	0.41
65:BU:175:LYS:HB2	65:BU:184:LEU:HD11	2.03	0.41
68:BX:108:ARG:HG3	68:BX:149:VAL:HG22	2.01	0.41
1:AA:509:A:C4	29:Ac:82:VAL:HG12	2.56	0.41
1:AA:909:A:H2'	1:AA:910:G:C8	2.56	0.41
1:AA:965:G:H21	1:AA:2092:G:H1'	1.86	0.41
1:AA:1350:C:H2'	1:AA:1351:G:H8	1.86	0.41
1:AA:1593:A:H5''	1:AA:2839:PSU:H5'	2.02	0.41
1:AA:2616:C:H2'	1:AA:2617:G:H8	1.85	0.41
1:AA:3748:A:H5''	4:AD:243:THR:HB	2.02	0.41
1:AA:4069:U:H2'	1:AA:4070:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:4188:U:H2'	1:AA:4189:U:H6	1.85	0.41
1:AA:4236:G:H2'	1:AA:4237:C:C6	2.56	0.41
1:AA:4286:C:H2'	1:AA:4287:G:C8	2.56	0.41
5:AE:19:ARG:HB2	5:AE:234:ARG:NH2	2.35	0.41
9:AI:44:LYS:HE3	9:AI:44:LYS:HB3	1.75	0.41
9:AI:136:VAL:O	9:AI:140:ILE:HG12	2.21	0.41
26:AZ:71:LEU:HG	26:AZ:76:ILE:HD11	2.03	0.41
37:AK:35:LYS:H	37:AK:35:LYS:HD3	1.85	0.41
42:AQ:71:GLU:HG3	42:AQ:80:LYS:HG2	2.02	0.41
45:BA:649:PSU:H1'	61:BQ:45:SER:HB3	2.03	0.41
45:BA:1113:A:O2'	45:BA:1114:U:H5'	2.20	0.41
47:BC:18:PHE:HZ	47:BC:174:MET:HE1	1.86	0.41
48:BD:125:VAL:O	48:BD:136:ARG:HA	2.21	0.41
56:BL:113:ILE:HD12	56:BL:113:ILE:HA	1.91	0.41
61:BQ:67:ARG:HD3	61:BQ:115:ILE:HG22	2.02	0.41
61:BQ:79:LYS:HB2	61:BQ:79:LYS:HE2	1.83	0.41
65:BU:225:LYS:HD3	65:BU:225:LYS:HA	1.65	0.41
67:BW:221:LYS:HA	67:BW:224:ARG:HG2	2.03	0.41
71:BA:21:VAL:HG21	71:BA:27:VAL:HG23	2.03	0.41
72:BB:28:ARG:HB3	72:BB:29:PRO:HD3	2.02	0.41
73:BC:81:TYR:HA	73:BC:84:LYS:HG2	2.03	0.41
1:AA:167:C:H2'	1:AA:168:C:C6	2.55	0.41
1:AA:477:C:H2'	1:AA:478:G:H8	1.86	0.41
1:AA:683:C:H2'	1:AA:684:G:C8	2.55	0.41
1:AA:1085:C:H2'	1:AA:1086:C:H6	1.84	0.41
1:AA:1468:C:H2'	1:AA:1469:C:C6	2.56	0.41
1:AA:1510:G:H2'	1:AA:1511:U:C6	2.56	0.41
1:AA:1824:G:H2'	1:AA:1825:A:H8	1.85	0.41
1:AA:1850:A:H2'	1:AA:1851:G:C8	2.56	0.41
1:AA:2017:A:H3'	1:AA:2018:C:C5	2.55	0.41
1:AA:2391:G:H2'	1:AA:2392:C:H6	1.86	0.41
1:AA:2477:A:H2	1:AA:2478:C:H41	1.67	0.41
1:AA:2716:C:H2'	1:AA:2717:G:C8	2.56	0.41
1:AA:3607:U:H2'	1:AA:3608:A:H8	1.86	0.41
1:AA:4345:C:H2'	1:AA:4346:U:H6	1.86	0.41
1:AA:4592:C:H2'	1:AA:4593:C:C6	2.56	0.41
1:AA:4622:A:H4'	5:AE:13:SER:HB2	2.02	0.41
2:AB:7:G:H5''	7:AG:22:ARG:HD3	2.02	0.41
2:AB:31:G:H2'	2:AB:32:A:C8	2.56	0.41
12:AL:149:ILE:HD11	12:AL:167:ILE:HD11	2.02	0.41
16:AP:135:ILE:HD12	16:AP:151:ILE:HD13	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Ae:35:LEU:HD23	31:Ae:35:LEU:HA	1.87	0.41
32:Af:44:ARG:O	32:Af:48:GLU:HG2	2.20	0.41
44:As:52:GLU:OE1	44:As:53:PRO:HD2	2.20	0.41
45:BA:492:C:H41	45:BA:508:A:N6	2.19	0.41
46:BB:18:TRP:HH2	46:BB:31:PRO:HD3	1.86	0.41
46:BB:42:LEU:HB2	46:BB:109:PHE:CE2	2.55	0.41
46:BB:134:LYS:HE3	46:BB:134:LYS:HA	2.03	0.41
47:BC:48:ILE:HD12	78:Bh:102:THR:HG22	2.03	0.41
48:BD:167:LYS:HA	48:BD:170:GLU:HG3	2.02	0.41
50:BF:102:LEU:HD23	74:Bd:67:LEU:HD12	2.02	0.41
54:BJ:40:ILE:HD11	54:BJ:44:PHE:HB2	2.03	0.41
68:BX:15:THR:HG22	68:BX:44:TRP:CZ3	2.56	0.41
77:Bg:107:LYS:HE3	77:Bg:107:LYS:HB3	1.80	0.41
78:Bh:53:TYR:O	78:Bh:57:LEU:HG	2.21	0.41
1:AA:40:G:N2	1:AA:4380:A:H62	2.18	0.41
1:AA:444:G:H2'	1:AA:445:U:C6	2.56	0.41
1:AA:690:C:H2'	1:AA:691:C:C6	2.56	0.41
1:AA:693:C:H2'	1:AA:694:C:C6	2.56	0.41
1:AA:706:C:H2'	1:AA:707:C:C6	2.56	0.41
1:AA:1271:G:H1'	9:AI:34:ARG:NH2	2.36	0.41
1:AA:1346:C:H2'	1:AA:1347:G:C8	2.55	0.41
1:AA:1777:C:H2'	1:AA:1778:C:C6	2.56	0.41
1:AA:2029:A:H2'	1:AA:2030:A:C8	2.56	0.41
1:AA:2091:C:H4'	1:AA:2092:G:H5'	2.03	0.41
1:AA:2421:G:H1'	18:AR:139:TYR:CE2	2.56	0.41
1:AA:2756:G:H2'	1:AA:2757:A:C8	2.56	0.41
1:AA:2901:G:H2'	1:AA:2902:G:H4'	2.03	0.41
1:AA:4456:OMC:HM21	5:AE:241:PRO:HD3	2.01	0.41
1:AA:4769:G:H2'	1:AA:4770:U:O4'	2.21	0.41
3:AC:44:A:H2'	3:AC:45:C:C6	2.56	0.41
4:AD:5:ILE:HG12	4:AD:8:GLN:HG3	2.03	0.41
5:AE:58:ARG:HD2	5:AE:363:ILE:HG23	2.03	0.41
5:AE:284:ILE:HG23	5:AE:331:VAL:HG13	2.03	0.41
6:AF:281:MET:HE3	6:AF:281:MET:HB3	1.86	0.41
9:AI:247:MET:HE2	9:AI:247:MET:HB3	1.96	0.41
10:AJ:132:ARG:HA	10:AJ:133:PRO:HD3	1.91	0.41
10:AJ:259:LYS:HE2	10:AJ:259:LYS:HB3	1.82	0.41
13:AM:50:PHE:N	13:AM:50:PHE:CD2	2.89	0.41
16:AP:120:TRP:HE1	16:AP:123:GLU:CG	2.33	0.41
21:AU:128:LYS:HB3	21:AU:128:LYS:HE3	1.85	0.41
26:AZ:82:THR:HG22	26:AZ:155:ILE:HB	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Aj:73:TYR:HA	36:Aj:76:LYS:HG3	2.03	0.41
36:Aj:97:LYS:HE3	36:Aj:97:LYS:HB3	1.88	0.41
39:Am:24:LYS:HG2	39:Am:67:LYS:HB3	2.02	0.41
41:Ao:99:CYS:HB3	41:Ao:115:CYS:HB3	2.01	0.41
45:BA:203:G:H3'	45:BA:204:G:C8	2.56	0.41
45:BA:491:C:H4'	45:BA:574:A:N1	2.36	0.41
45:BA:537:C:H41	45:BA:546:G:H21	1.69	0.41
45:BA:886:A:H2'	45:BA:887:U:O4'	2.20	0.41
45:BA:1182:A:C5	45:BA:1183:A:H1'	2.56	0.41
45:BA:1310:U:H2'	45:BA:1311:C:C5	2.55	0.41
45:BA:1529:C:H2'	45:BA:1530:U:C6	2.56	0.41
45:BA:1575:G:H2'	45:BA:1576:G:C8	2.54	0.41
45:BA:1597:C:H4'	45:BA:1603:G:O6	2.21	0.41
48:BD:67:PHE:O	48:BD:69:VAL:HG23	2.20	0.41
49:BE:20:GLU:HB3	53:BI:64:TRP:CZ3	2.55	0.41
50:BF:97:PHE:CD2	50:BF:108:PRO:HB2	2.56	0.41
51:BG:64:VAL:HG13	51:BG:69:LEU:HD22	2.02	0.41
52:BH:10:LYS:HE2	52:BH:10:LYS:HB3	1.94	0.41
52:BH:195:LEU:HD12	52:BH:199:LEU:HD11	2.02	0.41
63:BS:10:LYS:HE2	63:BS:10:LYS:HB3	1.83	0.41
66:BV:173:LYS:H	66:BV:173:LYS:CD	2.34	0.41
68:BX:48:PHE:O	68:BX:52:LYS:HG2	2.21	0.41
69:BY:24:THR:HA	69:BY:27:ILE:HB	2.03	0.41
70:BZ:35:GLU:HA	70:BZ:38:TYR:CD2	2.56	0.41
70:BZ:46:THR:O	70:BZ:50:ILE:HG13	2.21	0.41
70:BZ:99:ARG:NH2	70:BZ:143:SER:HB2	2.35	0.41
71:Ba:81:VAL:HG12	71:Ba:85:CYS:SG	2.61	0.41
71:Ba:143:LYS:HB3	71:Ba:143:LYS:HE2	1.92	0.41
72:Bb:12:LYS:HD3	72:Bb:12:LYS:HA	1.86	0.41
77:Bg:107:LYS:HB3	77:Bg:117:LEU:HD21	2.03	0.41
1:AA:677:G:H2'	1:AA:678:C:C6	2.56	0.41
1:AA:1932:A:H2'	1:AA:1933:G:C8	2.56	0.41
1:AA:3672:G:O2'	1:AA:3673:C:H5''	2.21	0.41
1:AA:3866:C:H2'	1:AA:3867:A2M:O4'	2.20	0.41
1:AA:4970:C:C2	1:AA:4971:A:C8	3.09	0.41
11:AK:34:LEU:HD23	11:AK:34:LEU:HA	1.88	0.41
11:AK:129:ARG:HB3	11:AK:153:LEU:HD22	2.02	0.41
32:Af:101:LYS:HE3	32:Af:101:LYS:HB2	1.68	0.41
39:Am:32:VAL:HG23	39:Am:50:LYS:HE3	2.03	0.41
40:An:12:PHE:CD2	40:An:51:LEU:HD13	2.56	0.41
45:BA:163:U:H5''	67:BW:85:ARG:NH1	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:377:G:O5'	52:BH:99:ASN:HB2	2.20	0.41
45:BA:1257:G:H4'	45:BA:1258:A:H5''	2.03	0.41
45:BA:1491:G:H2'	45:BA:1492:U:C6	2.56	0.41
45:BA:1678:A2M:HM'2	45:BA:1679:A:C4	2.56	0.41
45:BA:1822:A:H2'	45:BA:1823:A:C8	2.56	0.41
48:BD:34:LYS:HB2	48:BD:34:LYS:HE2	1.84	0.41
51:BG:25:GLN:HA	51:BG:28:LEU:HD22	2.03	0.41
66:BV:65:LYS:HE2	66:BV:65:LYS:HB3	1.90	0.41
67:BW:35:GLU:H	67:BW:35:GLU:HG2	1.70	0.41
70:BZ:102:LEU:HD11	70:BZ:112:LYS:HA	2.03	0.41
75:Be:14:GLU:HA	75:Be:17:ARG:HB2	2.03	0.41
1:AA:424:U:C2	1:AA:425:U:C5	3.09	0.40
1:AA:696:C:H5'	1:AA:697:G:H5'	2.02	0.40
1:AA:1175:A:H2'	1:AA:1176:C:C6	2.56	0.40
1:AA:2448:G:H2'	1:AA:2449:A:C8	2.56	0.40
1:AA:2605:G:H2'	1:AA:2606:G:C8	2.56	0.40
1:AA:2884:G:H2'	1:AA:2885:A:C8	2.52	0.40
1:AA:3727:A:H2'	1:AA:3728:A:C8	2.57	0.40
4:AD:117:GLU:HG2	4:AD:124:GLY:H	1.86	0.40
12:AL:48:LEU:HD21	12:AL:142:LEU:HA	2.03	0.40
20:AT:162:ARG:HG3	45:BA:873:G:C8	2.56	0.40
23:AW:42:PHE:HE1	23:AW:46:ARG:CZ	2.34	0.40
36:Aj:91:MET:HE3	36:Aj:91:MET:HB3	1.95	0.40
40:An:27:ILE:HG13	40:An:30:LYS:NZ	2.36	0.40
45:BA:958:G:H2'	45:BA:959:G:C8	2.57	0.40
45:BA:1406:G:H2'	45:BA:1407:U:H6	1.87	0.40
47:BC:201:LEU:HD23	47:BC:201:LEU:HA	1.89	0.40
49:BE:76:ARG:HD2	53:BI:22:VAL:HG21	2.03	0.40
52:BH:197:PHE:CE2	54:BJ:5:GLN:HB3	2.55	0.40
61:BQ:128:VAL:HG21	61:BQ:141:PRO:HD3	2.03	0.40
70:BZ:99:ARG:HG3	70:BZ:103:GLU:OE1	2.21	0.40
71:Ba:85:CYS:HB3	71:Ba:90:ILE:HB	2.02	0.40
1:AA:381:U:H2'	1:AA:382:G:O4'	2.21	0.40
1:AA:993:G:H8	1:AA:994:G:C8	2.40	0.40
1:AA:2347:A:C4	33:Ag:31:ILE:HD11	2.56	0.40
1:AA:2823:G:H2'	1:AA:2824:OMC:H6	1.86	0.40
1:AA:3779:A:C2	1:AA:3780:G:H1'	2.56	0.40
1:AA:4210:U:H2'	1:AA:4211:C:C6	2.56	0.40
1:AA:4286:C:H2'	1:AA:4287:G:H8	1.86	0.40
1:AA:4600:G:H1'	1:AA:4601:U:H5	1.87	0.40
4:AD:112:ILE:HG13	43:Ar:79:VAL:HG22	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:167:ALA:O	6:AF:171:LEU:HG	2.21	0.40
7:AG:212:MET:HE3	7:AG:219:TYR:CD2	2.56	0.40
7:AG:283:LYS:HB3	12:AL:210:ARG:HH21	1.86	0.40
9:AI:30:ILE:O	9:AI:34:ARG:HG2	2.21	0.40
13:AM:119:TYR:HE2	57:BM:12:ILE:HD13	1.85	0.40
45:BA:929:G:N2	45:BA:1104:G:H4'	2.36	0.40
45:BA:1242:U:H4'	45:BA:1243:U:H5''	2.03	0.40
45:BA:1520:G:N3	45:BA:1520:G:H2'	2.36	0.40
45:BA:1611:G:H2'	45:BA:1612:G:O4'	2.21	0.40
45:BA:1648:G:H5'	56:BL:125:ARG:HD2	2.03	0.40
45:BA:1727:G:H2'	45:BA:1728:U:C6	2.57	0.40
46:BB:155:LYS:HD3	46:BB:155:LYS:HA	1.79	0.40
51:BG:90:LYS:H	51:BG:90:LYS:HG2	1.72	0.40
51:BG:111:LYS:HE3	51:BG:111:LYS:HB2	1.73	0.40
57:BM:113:ARG:HD2	57:BM:114:LEU:HD12	2.02	0.40
59:BO:30:LYS:HD2	59:BO:30:LYS:HA	1.90	0.40
62:BR:102:ARG:HE	62:BR:103:PRO:HD2	1.86	0.40
65:BU:256:ILE:HB	65:BU:270:LEU:HB2	2.02	0.40
68:BX:110:LEU:HD23	68:BX:130:ILE:HD11	2.03	0.40
1:AA:227:A:H4'	27:Aa:1:MET:HE3	2.04	0.40
1:AA:286:U:H2'	1:AA:287:U:C6	2.57	0.40
1:AA:1431:C:H2'	1:AA:1432:G:O4'	2.22	0.40
1:AA:2026:A:H2'	1:AA:2027:U:C6	2.57	0.40
1:AA:2538:U:H2'	1:AA:2539:C:C6	2.56	0.40
1:AA:3927:U:H2'	1:AA:3928:A:C8	2.56	0.40
1:AA:4260:U:H2'	1:AA:4261:C:C6	2.56	0.40
4:AD:27:ALA:HB1	4:AD:77:ILE:HG13	2.02	0.40
6:AF:221:PHE:HB3	6:AF:227:ILE:HG21	2.02	0.40
10:AJ:137[A]:ARG:HG2	10:AJ:142:THR:HG21	2.02	0.40
33:Ag:77:PHE:HD2	33:Ag:88:LEU:HD11	1.86	0.40
41:Ao:99:CYS:HB2	41:Ao:114:LYS:HE2	2.03	0.40
45:BA:857:U:H2'	45:BA:858:A:C8	2.56	0.40
45:BA:1202:U:O2'	66:BV:114:LYS:HG3	2.21	0.40
45:BA:1308:U:H2'	45:BA:1309:C:C6	2.56	0.40
46:BB:191:ARG:CZ	46:BB:245:ARG:HE	2.35	0.40
47:BC:51:LEU:HB2	78:Bh:105:MET:HE1	2.02	0.40
49:BE:24:PHE:CZ	49:BE:69:LEU:HD22	2.57	0.40
52:BH:38:ILE:HD11	52:BH:81:VAL:HG23	2.04	0.40
52:BH:165:GLN:HB2	52:BH:171:LEU:HD22	2.04	0.40
55:BK:18:ARG:CZ	57:BM:88:LYS:HB2	2.52	0.40
62:BR:36:ILE:HD11	62:BR:78:ALA:HB2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:BU:170:TRP:CD1	65:BU:170:TRP:N	2.89	0.40
66:BV:94:ILE:HD11	66:BV:159:LYS:HB3	2.04	0.40
67:BW:35:GLU:HB2	67:BW:49:VAL:HG12	2.03	0.40
71:Ba:53:ILE:HG21	71:Ba:90:ILE:HD11	2.03	0.40
73:Bc:8:ARG:HE	73:Bc:9:THR:H	1.68	0.40
1:AA:271:C:H2'	1:AA:272:U:H6	1.86	0.40
1:AA:481:G:H2'	1:AA:482:G:C8	2.57	0.40
1:AA:1273:G:H5''	30:Ad:117:ARG:HG2	2.03	0.40
1:AA:1952:G:H2'	1:AA:1953:U:C6	2.57	0.40
1:AA:3720:G:H1	1:AA:3733:A:N6	2.20	0.40
1:AA:3856:A:H5''	18:AR:83:TRP:O	2.22	0.40
5:AE:47:LEU:HB2	5:AE:84:MET:SD	2.61	0.40
6:AF:318:PRO:HG2	9:Al:155:TYR:HB3	2.04	0.40
7:AG:232:THR:HG22	7:AG:234:ASP:H	1.86	0.40
10:AJ:171:PRO:HB3	10:AJ:181:TYR:CZ	2.56	0.40
16:AP:68:ARG:NE	16:AP:128:LYS:HD2	2.36	0.40
17:AQ:78:ARG:HA	17:AQ:78:ARG:HD2	1.88	0.40
40:An:46:ARG:HG3	40:An:46:ARG:HH11	1.85	0.40
45:BA:144:U:H2'	45:BA:145:G:C8	2.55	0.40
45:BA:1231:C:H5'	45:BA:1665:G:O6	2.22	0.40
46:BB:11:ARG:NE	46:BB:24:THR:HB	2.37	0.40
46:BB:238:LEU:HD12	46:BB:238:LEU:H	1.85	0.40
55:BK:59:ARG:HA	55:BK:62:LYS:HE2	2.02	0.40
56:BL:48:GLN:O	56:BL:52:LEU:HG	2.21	0.40
57:BM:105:ASN:HA	57:BM:108:ARG:HB3	2.02	0.40
62:BR:44:ILE:H	62:BR:44:ILE:HG12	1.70	0.40
62:BR:49:ALA:O	62:BR:53:ILE:HG12	2.22	0.40
67:BW:23:LYS:HG3	67:BW:41:LEU:HA	2.02	0.40
70:BZ:52:VAL:CG2	75:Be:51:GLN:HG3	2.52	0.40
1:AA:735:G:H2'	1:AA:736:C:C6	2.56	0.40
1:AA:1942:A:N6	1:AA:2039:G:H2'	2.37	0.40
1:AA:2845:A:H61	1:AA:3843:C:H42	1.68	0.40
1:AA:4531:U:H4'	1:AA:4532:PSU:H5''	2.04	0.40
12:AL:76:MET:HE1	12:AL:147:HIS:HB3	2.04	0.40
14:AN:87:HIS:HB3	14:AN:90:VAL:HG12	2.03	0.40
24:AX:60:MET:HG2	24:AX:79:ALA:O	2.21	0.40
32:Af:57:MET:HE3	32:Af:90:ARG:HB2	2.03	0.40
39:Am:36:VAL:HG22	39:Am:43:TYR:HB2	2.03	0.40
45:BA:35:C:H42	45:BA:520:A:H61	1.70	0.40
45:BA:114:G:H1	45:BA:350:C:H1'	1.86	0.40
45:BA:375:U:H2'	45:BA:376:A:H8	1.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BA:439:A:H4'	45:BA:1799:G:H4'	2.02	0.40
45:BA:833:C:H41	73:BC:10:ARG:NH1	2.20	0.40
46:BB:120:LYS:H	46:BB:120:LYS:HG3	1.68	0.40
47:BC:34:MET:HE3	47:BC:34:MET:HA	2.03	0.40
50:BF:130:ARG:HD2	50:BF:130:ARG:HA	1.84	0.40
51:BG:53:VAL:HG21	51:BG:172:THR:HA	2.03	0.40
52:BH:5:ARG:HE	52:BH:5:ARG:HB2	1.73	0.40
53:BI:21:MET:SD	53:BI:69:TRP:HB2	2.61	0.40
56:BL:105:LYS:HD2	56:BL:109:LYS:HD3	2.04	0.40
62:BR:71:LEU:HD13	62:BR:73:TYR:HE1	1.87	0.40
68:BX:116:LYS:HA	68:BX:116:LYS:HD3	1.92	0.40
75:Be:62:VAL:HG13	75:Be:74:THR:HG21	2.02	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

There are no protein backbone outliers to report in this entry.

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
1	AA	3701/5069 (73%)	822 (22%)	0
2	AB	119/120 (99%)	11 (9%)	0
3	AC	155/157 (98%)	27 (17%)	0
45	BA	1707/1869 (91%)	442 (25%)	0
All	All	5682/7215 (78%)	1302 (22%)	0

All (1302) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	2	G
1	AA	13	U

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Mol	Chain	Res	Type
1	AA	25	A
1	AA	39	A
1	AA	42	A
1	AA	48	G
1	AA	56	A
1	AA	59	A
1	AA	64	A
1	AA	65	A
1	AA	66	A
1	AA	72	C
1	AA	73	A
1	AA	91	G
1	AA	104	G
1	AA	108	A
1	AA	109	G
1	AA	110	C
1	AA	115	C
1	AA	116	G
1	AA	119	G
1	AA	132	G
1	AA	133	C
1	AA	135	G
1	AA	136	C
1	AA	144	G
1	AA	146	G
1	AA	152	U
1	AA	158	A
1	AA	159	C
1	AA	160	G
1	AA	173	C
1	AA	177	G
1	AA	181	C
1	AA	183	C
1	AA	185	C
1	AA	186	G
1	AA	188	G
1	AA	189	G
1	AA	197	A
1	AA	200	U
1	AA	210	C
1	AA	216	C
1	AA	218	A

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Mol	Chain	Res	Type
1	AA	219	G
1	AA	234	G
1	AA	246	G
1	AA	251	C
1	AA	253	G
1	AA	255	C
1	AA	259	C
1	AA	262	G
1	AA	264	C
1	AA	265	C
1	AA	266	C
1	AA	275	C
1	AA	280	G
1	AA	297	U
1	AA	306	A
1	AA	315	G
1	AA	316	U
1	AA	340	C
1	AA	341	G
1	AA	373	G
1	AA	387	G
1	AA	407	A
1	AA	408	A
1	AA	409	G
1	AA	410	A
1	AA	412	G
1	AA	414	C
1	AA	449	C
1	AA	450	G
1	AA	452	A
1	AA	453	G
1	AA	454	U
1	AA	456	C
1	AA	457	G
1	AA	467	U
1	AA	479	G
1	AA	484	U
1	AA	486	C
1	AA	487	G
1	AA	488	G
1	AA	490	C
1	AA	491	G

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Mol	Chain	Res	Type
1	AA	493	G
1	AA	496	G
1	AA	497	G
1	AA	498	C
1	AA	499	G
1	AA	500	G
1	AA	501	C
1	AA	502	C
1	AA	503	C
1	AA	505	G
1	AA	507	G
1	AA	509	A
1	AA	510	U
1	AA	513	U
1	AA	514	U
1	AA	515	C
1	AA	516	C
1	AA	517	C
1	AA	518	G
1	AA	519	C
1	AA	643	C
1	AA	645	G
1	AA	653	U
1	AA	654	C
1	AA	656	C
1	AA	657	C
1	AA	659	G
1	AA	665	C
1	AA	666	G
1	AA	667	A
1	AA	668	C
1	AA	670	G
1	AA	672	C
1	AA	673	C
1	AA	674	G
1	AA	685	C
1	AA	686	A
1	AA	688	U
1	AA	695	G
1	AA	696	C
1	AA	703	G
1	AA	704	C

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Mol	Chain	Res	Type
1	AA	731	G
1	AA	738	C
1	AA	739	G
1	AA	740	G
1	AA	741	C
1	AA	742	G
1	AA	750	U
1	AA	757	G
1	AA	758	G
1	AA	904	C
1	AA	913	U
1	AA	914	U
1	AA	915	A
1	AA	917	A
1	AA	918	G
1	AA	923	C
1	AA	924	C
1	AA	925	C
1	AA	928	C
1	AA	932	A
1	AA	933	G
1	AA	934	C
1	AA	935	A
1	AA	937	U
1	AA	941	C
1	AA	943	A
1	AA	944	A
1	AA	945	U
1	AA	946	C
1	AA	956	A
1	AA	958	G
1	AA	959	G
1	AA	960	A
1	AA	961	G
1	AA	962	C
1	AA	965	G
1	AA	966	A
1	AA	968	C
1	AA	970	G
1	AA	982	U
1	AA	988	C
1	AA	989	U

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Mol	Chain	Res	Type
1	AA	990	C
1	AA	991	C
1	AA	992	C
1	AA	995	C
1	AA	1049	C
1	AA	1051	G
1	AA	1070	G
1	AA	1071	C
1	AA	1072	C
1	AA	1073	G
1	AA	1078	A
1	AA	1079	C
1	AA	1082	C
1	AA	1083	U
1	AA	1090	G
1	AA	1168	G
1	AA	1171	G
1	AA	1174	G
1	AA	1178	G
1	AA	1179	U
1	AA	1180	C
1	AA	1181	C
1	AA	1182	C
1	AA	1183	C
1	AA	1187	G
1	AA	1196	G
1	AA	1198	G
1	AA	1200	G
1	AA	1202	C
1	AA	1203	G
1	AA	1205	G
1	AA	1210	C
1	AA	1211	G
1	AA	1212	G
1	AA	1215	C
1	AA	1220	G
1	AA	1221	G
1	AA	1222	A
1	AA	1241	C
1	AA	1253	G
1	AA	1254	A
1	AA	1255	A

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Mol	Chain	Res	Type
1	AA	1257	A
1	AA	1266	G
1	AA	1269	G
1	AA	1271	G
1	AA	1272	C
1	AA	1273	G
1	AA	1275	G
1	AA	1277	G
1	AA	1280	C
1	AA	1284	G
1	AA	1293	G
1	AA	1294	A
1	AA	1295	C
1	AA	1296	G
1	AA	1302	U
1	AA	1303	A
1	AA	1314	C
1	AA	1326	A2M
1	AA	1337	A
1	AA	1354	A
1	AA	1358	G
1	AA	1359	G
1	AA	1364	U
1	AA	1365	C
1	AA	1366	G
1	AA	1367	C
1	AA	1379	C
1	AA	1387	A
1	AA	1394	G
1	AA	1397	A
1	AA	1398	A
1	AA	1399	G
1	AA	1405	C
1	AA	1407	C
1	AA	1409	C
1	AA	1410	U
1	AA	1411	C
1	AA	1412	G
1	AA	1420	A
1	AA	1421	G
1	AA	1437	C
1	AA	1439	C

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Mol	Chain	Res	Type
1	AA	1442	C
1	AA	1443	A
1	AA	1444	G
1	AA	1446	C
1	AA	1448	G
1	AA	1476	C
1	AA	1482	G
1	AA	1483	C
1	AA	1485	C
1	AA	1498	G
1	AA	1502	G
1	AA	1516	G
1	AA	1525	A
1	AA	1534	A2M
1	AA	1547	A
1	AA	1564	A
1	AA	1566	C
1	AA	1574	G
1	AA	1578	U
1	AA	1591	U
1	AA	1596	U
1	AA	1612	G
1	AA	1624	G
1	AA	1625	OMG
1	AA	1626	G
1	AA	1631	A
1	AA	1633	G
1	AA	1634	A
1	AA	1638	A
1	AA	1640	C
1	AA	1641	G
1	AA	1654	G
1	AA	1661	C
1	AA	1676	C
1	AA	1677	PSU
1	AA	1678	C
1	AA	1680	G
1	AA	1694	C
1	AA	1698	C
1	AA	1699	A
1	AA	1700	G
1	AA	1702	C

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Mol	Chain	Res	Type
1	AA	1703	C
1	AA	1704	C
1	AA	1705	G
1	AA	1708	G
1	AA	1738	A
1	AA	1739	G
1	AA	1742	A
1	AA	1750	G
1	AA	1757	U
1	AA	1758	G
1	AA	1759	G
1	AA	1760	G
1	AA	1761	G
1	AA	1762	C
1	AA	1763	C
1	AA	1765	A
1	AA	1766	A
1	AA	1768	C
1	AA	1770	A
1	AA	1771	U
1	AA	1772	C
1	AA	1775	A
1	AA	1780	A
1	AA	1785	C
1	AA	1787	A
1	AA	1803	G
1	AA	1804	A
1	AA	1806	G
1	AA	1807	C
1	AA	1810	G
1	AA	1815	G
1	AA	1821	G
1	AA	1822	U
1	AA	1823	G
1	AA	1834	U
1	AA	1836	G
1	AA	1837	A
1	AA	1842	G
1	AA	1855	G
1	AA	1869	G
1	AA	1881	OMC
1	AA	1891	A

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Mol	Chain	Res	Type
1	AA	1892	A
1	AA	1897	A
1	AA	1916	G
1	AA	1917	A
1	AA	1918	U
1	AA	1919	G
1	AA	1921	C
1	AA	1922	G
1	AA	1925	G
1	AA	1930	U
1	AA	1931	C
1	AA	1932	A
1	AA	1935	C
1	AA	1936	C
1	AA	1940	G
1	AA	1947	U
1	AA	1948	G
1	AA	1959	U
1	AA	1960	A
1	AA	1961	G
1	AA	1966	C
1	AA	1972	G
1	AA	1974	U
1	AA	1975	G
1	AA	1977	C
1	AA	1979	A
1	AA	1981	G
1	AA	1982	G
1	AA	1983	A
1	AA	1984	A
1	AA	1985	G
1	AA	1987	C
1	AA	1991	A
1	AA	1993	C
1	AA	1995	G
1	AA	1996	C
1	AA	1998	A
1	AA	2000	G
1	AA	2001	G
1	AA	2002	A
1	AA	2003	G
1	AA	2005	G

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Mol	Chain	Res	Type
1	AA	2006	U
1	AA	2007	G
1	AA	2009	A
1	AA	2010	A
1	AA	2011	C
1	AA	2012	A
1	AA	2013	A
1	AA	2015	U
1	AA	2019	C
1	AA	2020	U
1	AA	2022	C
1	AA	2024	G
1	AA	2025	A
1	AA	2026	A
1	AA	2033	A
1	AA	2046	G
1	AA	2048	U
1	AA	2055	G
1	AA	2056	G
1	AA	2069	A
1	AA	2071	A
1	AA	2084	C
1	AA	2085	G
1	AA	2089	G
1	AA	2092	G
1	AA	2093	A
1	AA	2094	G
1	AA	2095	A
1	AA	2096	G
1	AA	2097	U
1	AA	2098	G
1	AA	2100	A
1	AA	2101	C
1	AA	2104	G
1	AA	2105	A
1	AA	2106	G
1	AA	2107	C
1	AA	2108	G
1	AA	2109	G
1	AA	2110	C
1	AA	2111	G
1	AA	2112	G

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Mol	Chain	Res	Type
1	AA	2113	G
1	AA	2252	G
1	AA	2253	A
1	AA	2254	G
1	AA	2256	C
1	AA	2258	C
1	AA	2259	G
1	AA	2266	C
1	AA	2270	G
1	AA	2289	C
1	AA	2300	A
1	AA	2301	G
1	AA	2306	G
1	AA	2313	A
1	AA	2316	G
1	AA	2331	G
1	AA	2332	A
1	AA	2333	G
1	AA	2345	G
1	AA	2348	G
1	AA	2351	OMC
1	AA	2364	OMG
1	AA	2383	C
1	AA	2392	C
1	AA	2395	A
1	AA	2397	G
1	AA	2398	U
1	AA	2416	G
1	AA	2417	A
1	AA	2421	G
1	AA	2422	OMC
1	AA	2425	U
1	AA	2441	C
1	AA	2450	G
1	AA	2469	C
1	AA	2470	C
1	AA	2474	G
1	AA	2475	G
1	AA	2479	G
1	AA	2480	G
1	AA	2483	G
1	AA	2485	U

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Mol	Chain	Res	Type
1	AA	2486	G
1	AA	2487	G
1	AA	2488	C
1	AA	2489	C
1	AA	2490	U
1	AA	2491	C
1	AA	2501	C
1	AA	2502	G
1	AA	2503	G
1	AA	2504	C
1	AA	2505	C
1	AA	2506	G
1	AA	2513	A
1	AA	2519	U
1	AA	2529	A
1	AA	2544	G
1	AA	2546	G
1	AA	2549	G
1	AA	2553	A
1	AA	2556	G
1	AA	2560	C
1	AA	2573	A
1	AA	2583	C
1	AA	2586	G
1	AA	2587	A
1	AA	2601	A
1	AA	2602	G
1	AA	2627	C
1	AA	2632	PSU
1	AA	2638	G
1	AA	2639	U
1	AA	2640	G
1	AA	2652	G
1	AA	2653	C
1	AA	2662	G
1	AA	2669	C
1	AA	2676	A
1	AA	2686	G
1	AA	2687	U
1	AA	2688	G
1	AA	2694	G
1	AA	2695	A

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Mol	Chain	Res	Type
1	AA	2696	A
1	AA	2707	U
1	AA	2709	C
1	AA	2710	C
1	AA	2711	G
1	AA	2712	G
1	AA	2719	C
1	AA	2720	C
1	AA	2724	G
1	AA	2725	A
1	AA	2726	G
1	AA	2739	C
1	AA	2742	G
1	AA	2743	A
1	AA	2754	G
1	AA	2759	G
1	AA	2761	U
1	AA	2763	U
1	AA	2764	A
1	AA	2770	C
1	AA	2787	A2M
1	AA	2788	U
1	AA	2790	U
1	AA	2806	A
1	AA	2814	C
1	AA	2815	A2M
1	AA	2826	U
1	AA	2827	G
1	AA	2835	A
1	AA	2848	G
1	AA	2855	G
1	AA	2899	C
1	AA	2900	U
1	AA	2902	G
1	AA	2903	G
1	AA	2906	G
1	AA	2908	U
1	AA	3589	G
1	AA	3594	C
1	AA	3596	A
1	AA	3597	G
1	AA	3604	A

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Mol	Chain	Res	Type
1	AA	3606	U
1	AA	3615	G
1	AA	3618	C
1	AA	3619	G
1	AA	3626	G
1	AA	3635	A
1	AA	3644	U
1	AA	3648	A
1	AA	3662	A
1	AA	3664	G
1	AA	3672	G
1	AA	3673	C
1	AA	3674	G
1	AA	3709	U
1	AA	3710	G
1	AA	3711	A
1	AA	3712	A
1	AA	3713	U
1	AA	3714	G
1	AA	3727	A
1	AA	3748	A
1	AA	3753	G
1	AA	3757	G
1	AA	3758	U
1	AA	3759	A
1	AA	3760	A
1	AA	3761	C
1	AA	3774	A
1	AA	3776	G
1	AA	3777	G
1	AA	3785	A2M
1	AA	3786	U
1	AA	3811	G
1	AA	3814	U
1	AA	3817	A
1	AA	3818	UY1
1	AA	3819	G
1	AA	3823	G
1	AA	3838	U
1	AA	3839	G
1	AA	3840	U
1	AA	3844	PSU

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Mol	Chain	Res	Type
1	AA	3877	A
1	AA	3878	C
1	AA	3892	U
1	AA	3897	G
1	AA	3901	A
1	AA	3906	A
1	AA	3907	G
1	AA	3908	A
1	AA	3915	U
1	AA	3938	G
1	AA	3947	A
1	AA	3948	C
1	AA	3949	A
1	AA	3956	G
1	AA	3957	U
1	AA	3961	G
1	AA	3963	A
1	AA	3965	A
1	AA	3966	A
1	AA	3967	G
1	AA	3969	G
1	AA	3970	G
1	AA	3973	G
1	AA	3974	G
1	AA	4035	G
1	AA	4036	G
1	AA	4037	C
1	AA	4038	C
1	AA	4044	U
1	AA	4045	G
1	AA	4046	A
1	AA	4048	A
1	AA	4049	U
1	AA	4050	A
1	AA	4051	C
1	AA	4053	A
1	AA	4054	C
1	AA	4055	U
1	AA	4056	A
1	AA	4057	C
1	AA	4059	C
1	AA	4062	A

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Mol	Chain	Res	Type
1	AA	4063	U
1	AA	4069	U
1	AA	4076	G
1	AA	4084	G
1	AA	4092	G
1	AA	4099	G
1	AA	4100	C
1	AA	4101	C
1	AA	4103	C
1	AA	4104	G
1	AA	4106	G
1	AA	4107	G
1	AA	4108	G
1	AA	4112	C
1	AA	4113	U
1	AA	4114	C
1	AA	4115	G
1	AA	4119	C
1	AA	4120	U
1	AA	4121	G
1	AA	4122	G
1	AA	4127	A
1	AA	4138	C
1	AA	4139	G
1	AA	4140	C
1	AA	4141	G
1	AA	4142	C
1	AA	4143	G
1	AA	4144	C
1	AA	4145	C
1	AA	4147	G
1	AA	4148	C
1	AA	4149	C
1	AA	4162	C
1	AA	4163	U
1	AA	4170	A
1	AA	4183	G
1	AA	4184	G
1	AA	4191	G
1	AA	4203	A
1	AA	4212	A
1	AA	4229	U

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Mol	Chain	Res	Type
1	AA	4233	A
1	AA	4234	A
1	AA	4243	C
1	AA	4249	G
1	AA	4251	A
1	AA	4254	G
1	AA	4266	G
1	AA	4268	A
1	AA	4271	A
1	AA	4273	A
1	AA	4281	A
1	AA	4291	G
1	AA	4297	G
1	AA	4304	A
1	AA	4305	G
1	AA	4306	OMU
1	AA	4314	C
1	AA	4326	G
1	AA	4329	G
1	AA	4330	G
1	AA	4332	C
1	AA	4338	G
1	AA	4349	C
1	AA	4350	C
1	AA	4354	U
1	AA	4373	G
1	AA	4377	G
1	AA	4378	A
1	AA	4379	A
1	AA	4386	C
1	AA	4387	C
1	AA	4391	G
1	AA	4394	A
1	AA	4398	C
1	AA	4415	A
1	AA	4416	G
1	AA	4422	A
1	AA	4426	C
1	AA	4427	G
1	AA	4436	U
1	AA	4437	U
1	AA	4448	G

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Mol	Chain	Res	Type
1	AA	4449	A
1	AA	4452	U
1	AA	4464	A
1	AA	4465	U
1	AA	4466	C
1	AA	4472	G
1	AA	4475	G
1	AA	4488	A
1	AA	4500	PSU
1	AA	4512	U
1	AA	4513	A
1	AA	4515	G
1	AA	4518	A
1	AA	4519	C
1	AA	4523	A2M
1	AA	4524	G
1	AA	4525	C
1	AA	4545	G
1	AA	4548	A
1	AA	4549	G
1	AA	4560	C
1	AA	4567	G
1	AA	4572	U
1	AA	4573	G
1	AA	4575	G
1	AA	4590	A2M
1	AA	4599	A
1	AA	4601	U
1	AA	4636	PSU
1	AA	4656	A
1	AA	4670	C
1	AA	4671	C
1	AA	4672	A
1	AA	4691	A
1	AA	4700	A
1	AA	4708	A
1	AA	4709	U
1	AA	4722	G
1	AA	4730	C
1	AA	4731	G
1	AA	4733	C
1	AA	4734	A

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Mol	Chain	Res	Type
1	AA	4741	C
1	AA	4742	G
1	AA	4745	G
1	AA	4746	C
1	AA	4747	C
1	AA	4750	G
1	AA	4754	G
1	AA	4757	C
1	AA	4759	C
1	AA	4761	G
1	AA	4765	G
1	AA	4775	C
1	AA	4859	C
1	AA	4870	G
1	AA	4871	C
1	AA	4877	G
1	AA	4881	U
1	AA	4882	U
1	AA	4883	C
1	AA	4885	U
1	AA	4889	G
1	AA	4891	G
1	AA	4893	A
1	AA	4895	C
1	AA	4896	G
1	AA	4900	C
1	AA	4901	G
1	AA	4910	A
1	AA	4912	G
1	AA	4914	C
1	AA	4921	C
1	AA	4923	C
1	AA	4927	G
1	AA	4928	C
1	AA	4937	C
1	AA	4940	C
1	AA	4941	G
1	AA	4943	A
1	AA	4951	G
1	AA	4955	A
1	AA	4960	G
1	AA	4961	G

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Mol	Chain	Res	Type
1	AA	4962	C
1	AA	4964	C
1	AA	4976	U
1	AA	4988	U
1	AA	4995	U
1	AA	5006	U
1	AA	5017	G
1	AA	5023	C
1	AA	5024	C
1	AA	5025	C
1	AA	5027	C
1	AA	5029	C
1	AA	5030	U
1	AA	5034	A
1	AA	5041	G
1	AA	5048	A
1	AA	5050	C
1	AA	5054	C
1	AA	5055	G
1	AA	5061	A
1	AA	5062	G
1	AA	5069	U
2	AB	24	C
2	AB	33	U
2	AB	41	G
2	AB	48	G
2	AB	50	A
2	AB	53	U
2	AB	54	A
2	AB	62	U
2	AB	63	C
2	AB	64	G
2	AB	100	A
3	AC	23	C
3	AC	34	U
3	AC	35	C
3	AC	39	G
3	AC	48	A
3	AC	52	A
3	AC	59	A
3	AC	62	A
3	AC	63	U

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Mol	Chain	Res	Type
3	AC	80	A
3	AC	82	A
3	AC	85	U
3	AC	86	U
3	AC	87	G
3	AC	94	G
3	AC	103	A
3	AC	105	C
3	AC	111	U
3	AC	112	G
3	AC	114	G
3	AC	123	U
3	AC	124	U
3	AC	125	C
3	AC	126	C
3	AC	127	U
3	AC	150	C
3	AC	151	G
45	BA	4	C
45	BA	17	C
45	BA	28	U
45	BA	29	G
45	BA	32	U
45	BA	33	G
45	BA	35	C
45	BA	41	G
45	BA	42	A
45	BA	44	U
45	BA	46	A
45	BA	54	A
45	BA	56	G
45	BA	62	G
45	BA	65	C
45	BA	66	G
45	BA	67	C
45	BA	68	A
45	BA	72	C
45	BA	73	C
45	BA	74	G
45	BA	76	U
45	BA	93	PSU
45	BA	99	A2M

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Mol	Chain	Res	Type
45	BA	103	A
45	BA	113	G
45	BA	114	G
45	BA	115	U
45	BA	123	G
45	BA	126	G
45	BA	128	U
45	BA	130	G
45	BA	142	C
45	BA	143	U
45	BA	146	G
45	BA	149	A
45	BA	155	G
45	BA	164	A
45	BA	166	A2M
45	BA	167	G
45	BA	168	C
45	BA	173	A
45	BA	175	A
45	BA	178	C
45	BA	180	G
45	BA	181	A
45	BA	182	C
45	BA	184	G
45	BA	198	U
45	BA	200	G
45	BA	203	G
45	BA	204	G
45	BA	206	G
45	BA	214	U
45	BA	288	G
45	BA	294	U
45	BA	295	C
45	BA	305	U
45	BA	307	G
45	BA	308	G
45	BA	309	G
45	BA	310	C
45	BA	312	G
45	BA	318	A
45	BA	319	C
45	BA	323	C

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Mol	Chain	Res	Type
45	BA	324	C
45	BA	325	C
45	BA	326	C
45	BA	329	G
45	BA	335	G
45	BA	351	G
45	BA	360	A
45	BA	362	C
45	BA	364	A
45	BA	368	U
45	BA	381	C
45	BA	382	C
45	BA	385	G
45	BA	386	C
45	BA	407	G
45	BA	408	A
45	BA	409	C
45	BA	428	OMU
45	BA	436	OMG
45	BA	438	G
45	BA	440	G
45	BA	448	A
45	BA	450	C
45	BA	452	G
45	BA	462	OMC
45	BA	464	A
45	BA	466	G
45	BA	471	G
45	BA	472	C
45	BA	473	A
45	BA	474	G
45	BA	482	G
45	BA	483	C
45	BA	484	A2M
45	BA	487	U
45	BA	488	U
45	BA	493	A
45	BA	494	C
45	BA	495	U
45	BA	496	C
45	BA	497	C
45	BA	498	C

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Mol	Chain	Res	Type
45	BA	501	C
45	BA	502	C
45	BA	504	G
45	BA	505	G
45	BA	507	G
45	BA	508	A
45	BA	509	OMG
45	BA	510	G
45	BA	511	U
45	BA	512	A2M
45	BA	513	G
45	BA	517	OMC
45	BA	518	G
45	BA	524	U
45	BA	525	A
45	BA	528	A
45	BA	531	A
45	BA	532	C
45	BA	536	A
45	BA	537	C
45	BA	539	C
45	BA	545	A
45	BA	546	G
45	BA	554	A
45	BA	556	U
45	BA	557	U
45	BA	558	G
45	BA	559	G
45	BA	561	A
45	BA	562	U
45	BA	563	G
45	BA	564	A
45	BA	565	G
45	BA	570	C
45	BA	574	A
45	BA	576	A2M
45	BA	583	A
45	BA	588	G
45	BA	589	G
45	BA	590	A2M
45	BA	591	U
45	BA	592	C

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Mol	Chain	Res	Type
45	BA	594	A
45	BA	604	A
45	BA	606	G
45	BA	607	U
45	BA	614	C
45	BA	617	G
45	BA	627	U
45	BA	628	A
45	BA	643	A
45	BA	655	A
45	BA	656	G
45	BA	660	C
45	BA	668	A2M
45	BA	669	A
45	BA	670	A
45	BA	671	A
45	BA	673	G
45	BA	684	G
45	BA	688	U
45	BA	689	U
45	BA	690	G
45	BA	692	G
45	BA	696	G
45	BA	697	G
45	BA	698	G
45	BA	732	U
45	BA	733	C
45	BA	734	C
45	BA	735	C
45	BA	736	C
45	BA	738	C
45	BA	748	C
45	BA	750	C
45	BA	751	G
45	BA	752	G
45	BA	753	C
45	BA	787	G
45	BA	788	G
45	BA	790	C
45	BA	791	C
45	BA	792	C
45	BA	794	A

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Mol	Chain	Res	Type
45	BA	797	C
45	BA	798	G
45	BA	799	U
45	BA	800	U
45	BA	810	A
45	BA	811	A
45	BA	814	PSU
45	BA	815	PSU
45	BA	818	A
45	BA	819	G
45	BA	821	G
45	BA	822	PSU
45	BA	826	A
45	BA	830	A
45	BA	831	G
45	BA	832	G
45	BA	842	C
45	BA	843	C
45	BA	847	A
45	BA	859	G
45	BA	860	G
45	BA	861	A
45	BA	862	A
45	BA	869	A
45	BA	870	A
45	BA	871	U
45	BA	872	A
45	BA	874	G
45	BA	876	C
45	BA	881	G
45	BA	882	U
45	BA	884	C
45	BA	888	U
45	BA	891	G
45	BA	892	U
45	BA	893	U
45	BA	895	G
45	BA	896	U
45	BA	897	U
45	BA	898	U
45	BA	899	U
45	BA	900	C

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Mol	Chain	Res	Type
45	BA	901	G
45	BA	903	A
45	BA	904	A
45	BA	913	A
45	BA	914	U
45	BA	920	A
45	BA	922	A
45	BA	933	G
45	BA	934	G
45	BA	943	U
45	BA	955	A
45	BA	959	G
45	BA	963	A
45	BA	970	G
45	BA	971	G
45	BA	986	G
45	BA	990	A
45	BA	1017	U
45	BA	1023	A
45	BA	1027	A
45	BA	1054	G
45	BA	1060	A
45	BA	1061	U
45	BA	1062	A
45	BA	1081	U
45	BA	1082	A
45	BA	1083	A
45	BA	1085	C
45	BA	1096	G
45	BA	1109	C
45	BA	1114	U
45	BA	1115	U
45	BA	1116	C
45	BA	1121	G
45	BA	1123	C
45	BA	1132	C
45	BA	1138	C
45	BA	1139	C
45	BA	1149	A
45	BA	1150	A
45	BA	1153	C
45	BA	1154	U

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Mol	Chain	Res	Type
45	BA	1155	U
45	BA	1166	G
45	BA	1170	A
45	BA	1171	G
45	BA	1183	A
45	BA	1194	A
45	BA	1195	A
45	BA	1200	A
45	BA	1203	G
45	BA	1204	A
45	BA	1207	G
45	BA	1215	C
45	BA	1216	C
45	BA	1217	A
45	BA	1220	A
45	BA	1224	G
45	BA	1231	C
45	BA	1240	A
45	BA	1241	A
45	BA	1242	U
45	BA	1248	B8N
45	BA	1249	C
45	BA	1250	A
45	BA	1251	A
45	BA	1252	C
45	BA	1253	A
45	BA	1256	G
45	BA	1257	G
45	BA	1259	A
45	BA	1264	C
45	BA	1271	C
45	BA	1273	C
45	BA	1274	G
45	BA	1275	G
45	BA	1281	G
45	BA	1283	C
45	BA	1284	A
45	BA	1285	G
45	BA	1286	G
45	BA	1290	G
45	BA	1298	G
45	BA	1301	A

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Mol	Chain	Res	Type
45	BA	1302	G
45	BA	1303	C
45	BA	1308	U
45	BA	1330	G
45	BA	1333	U
45	BA	1337	4AC
45	BA	1341	C
45	BA	1343	U
45	BA	1345	G
45	BA	1347	PSU
45	BA	1348	G
45	BA	1353	A
45	BA	1363	C
45	BA	1364	U
45	BA	1371	U
45	BA	1372	U
45	BA	1378	A
45	BA	1397	U
45	BA	1398	G
45	BA	1399	C
45	BA	1402	A
45	BA	1403	C
45	BA	1419	C
45	BA	1420	G
45	BA	1421	A
45	BA	1422	G
45	BA	1424	G
45	BA	1433	C
45	BA	1435	C
45	BA	1436	C
45	BA	1437	C
45	BA	1438	A
45	BA	1439	A
45	BA	1442	OMU
45	BA	1449	G
45	BA	1452	A
45	BA	1454	A
45	BA	1459	G
45	BA	1463	U
45	BA	1473	G
45	BA	1488	C
45	BA	1489	A

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Mol	Chain	Res	Type
45	BA	1490	OMG
45	BA	1491	G
45	BA	1494	U
45	BA	1495	G
45	BA	1497	G
45	BA	1500	G
45	BA	1501	C
45	BA	1507	G
45	BA	1521	C
45	BA	1522	A
45	BA	1531	A
45	BA	1533	A
45	BA	1535	U
45	BA	1536	G
45	BA	1544	C
45	BA	1547	C
45	BA	1556	A
45	BA	1573	G
45	BA	1574	C
45	BA	1575	G
45	BA	1580	A
45	BA	1585	U
45	BA	1588	A
45	BA	1597	C
45	BA	1598	G
45	BA	1601	A
45	BA	1606	G
45	BA	1621	U
45	BA	1623	A
45	BA	1637	A
45	BA	1645	C
45	BA	1646	C
45	BA	1647	A
45	BA	1648	G
45	BA	1649	U
45	BA	1654	G
45	BA	1659	U
45	BA	1660	C
45	BA	1661	A
45	BA	1664	A
45	BA	1665	G
45	BA	1668	U

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Mol	Chain	Res	Type
45	BA	1669	G
45	BA	1672	U
45	BA	1683	C
45	BA	1698	C
45	BA	1699	A
45	BA	1715	A
45	BA	1721	U
45	BA	1722	G
45	BA	1744	G
45	BA	1745	A
45	BA	1752	C
45	BA	1753	C
45	BA	1754	G
45	BA	1757	G
45	BA	1758	G
45	BA	1761	U
45	BA	1773	C
45	BA	1776	G
45	BA	1778	C
45	BA	1781	A
45	BA	1783	C
45	BA	1784	G
45	BA	1786	U
45	BA	1804	OMU
45	BA	1806	A
45	BA	1825	A
45	BA	1826	G
45	BA	1831	A
45	BA	1838	U
45	BA	1839	U
45	BA	1850	MA6
45	BA	1851	MA6
45	BA	1855	G
45	BA	1856	C
45	BA	1861	G
45	BA	1862	G
45	BA	1863	A
45	BA	1864	U
45	BA	1865	C
45	BA	1868	U

There are no RNA pucker outliers to report.

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

224 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
45	PSU	BA	918	45	18,21,22	1.43	3 (16%)	22,30,33	1.88	3 (13%)
45	PSU	BA	36	45	18,21,22	1.37	2 (11%)	22,30,33	1.80	4 (18%)
1	PSU	AA	1792	1	18,21,22	1.40	2 (11%)	22,30,33	1.81	3 (13%)
1	OMU	AA	4306	1	19,22,23	1.23	4 (21%)	26,31,34	1.63	4 (15%)
1	PSU	AA	3822	1	18,21,22	1.35	2 (11%)	22,30,33	1.89	4 (18%)
1	OMG	AA	1625	80,1	23,26,27	1.20	3 (13%)	33,38,41	1.92	6 (18%)
45	A2M	BA	166	45	22,25,26	1.47	4 (18%)	31,36,39	2.20	8 (25%)
45	PSU	BA	649	45	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	AA	4576	1	18,21,22	1.34	2 (11%)	22,30,33	1.85	4 (18%)
45	OMG	BA	867	45	23,26,27	1.23	3 (13%)	33,38,41	2.06	6 (18%)
45	PSU	BA	1186	45	18,21,22	1.33	2 (11%)	22,30,33	1.83	3 (13%)
45	OMU	BA	354	45	19,22,23	1.21	3 (15%)	26,31,34	1.68	4 (15%)
1	A2M	AA	1534	79,1	22,25,26	1.47	4 (18%)	31,36,39	2.10	8 (25%)
1	A2M	AA	3718	1	22,25,26	1.48	4 (18%)	31,36,39	2.04	7 (22%)
1	PSU	AA	4579	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	AA	1582	1	18,21,22	1.39	2 (11%)	22,30,33	1.80	3 (13%)
1	PSU	AA	1536	1	18,21,22	1.37	2 (11%)	22,30,33	1.86	3 (13%)
45	PSU	BA	296	45	18,21,22	1.34	2 (11%)	22,30,33	1.84	3 (13%)
1	OMC	AA	2804	1	19,22,23	0.82	0	26,31,34	0.79	0
1	A2M	AA	1326	1	22,25,26	1.46	4 (18%)	31,36,39	2.12	7 (22%)
1	OMC	AA	2861	1	19,22,23	0.83	0	26,31,34	1.02	2 (7%)
1	PSU	AA	3764	1	18,21,22	1.37	2 (11%)	22,30,33	1.82	3 (13%)
45	G7M	BA	1639	45	23,26,27	5.05	20 (86%)	35,39,42	1.72	7 (20%)
45	OMC	BA	462	45	19,22,23	0.81	0	26,31,34	0.76	0
1	PSU	AA	4500	1	18,21,22	1.39	2 (11%)	22,30,33	1.82	3 (13%)
45	OMG	BA	1447	45	23,26,27	1.18	3 (13%)	33,38,41	1.94	6 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	PSU	AA	4689	1	18,21,22	1.35	2 (11%)	22,30,33	1.79	3 (13%)
1	OMC	AA	3808	1	19,22,23	0.83	0	26,31,34	0.96	1 (3%)
45	PSU	BA	1596	45	18,21,22	1.38	2 (11%)	22,30,33	1.85	4 (18%)
45	A2M	BA	99	45	22,25,26	1.46	4 (18%)	31,36,39	2.13	8 (25%)
45	PSU	BA	651	45	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	AA	1781	1	18,21,22	1.32	2 (11%)	22,30,33	1.87	3 (13%)
45	PSU	BA	801	45	18,21,22	1.35	2 (11%)	22,30,33	1.92	3 (13%)
45	OMG	BA	1490	45	23,26,27	1.21	3 (13%)	33,38,41	1.89	6 (18%)
45	MA6	BA	1850	45	23,26,27	1.49	4 (17%)	34,38,41	2.41	12 (35%)
45	A2M	BA	590	45	22,25,26	1.50	4 (18%)	31,36,39	2.25	6 (19%)
1	5MC	AA	4447	80,1	18,22,23	1.01	2 (11%)	26,32,35	1.21	2 (7%)
45	OMU	BA	121	45	19,22,23	1.18	2 (10%)	26,31,34	1.68	5 (19%)
3	PSU	AC	55	3	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
45	A2M	BA	468	45	22,25,26	1.48	4 (18%)	31,36,39	2.09	10 (32%)
1	UR3	AA	4530	1	19,22,23	1.01	1 (5%)	26,32,35	1.40	1 (3%)
45	PSU	BA	667	45	18,21,22	1.37	2 (11%)	22,30,33	1.84	3 (13%)
1	OMG	AA	4228	1	23,26,27	1.18	3 (13%)	33,38,41	1.94	6 (18%)
1	OMC	AA	1340	1	19,22,23	0.82	0	26,31,34	0.88	0
1	OMC	AA	2365	1	19,22,23	0.80	0	26,31,34	0.76	0
1	A2M	AA	3867	1	22,25,26	1.49	4 (18%)	31,36,39	2.11	7 (22%)
1	OMG	AA	4637	1	23,26,27	1.22	3 (13%)	33,38,41	1.98	6 (18%)
1	PSU	AA	1677	1	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
1	A2M	AA	2787	79,1	22,25,26	1.45	4 (18%)	31,36,39	2.20	8 (25%)
45	PSU	BA	686	45	18,21,22	1.36	2 (11%)	22,30,33	1.85	3 (13%)
45	OMC	BA	1272	45	19,22,23	0.82	0	26,31,34	0.87	1 (3%)
45	OMU	BA	428	45	19,22,23	1.17	2 (10%)	26,31,34	1.68	5 (19%)
1	PSU	AA	1744	1	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
45	PSU	BA	1174	45	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
1	A2M	AA	2815	1	22,25,26	1.47	4 (18%)	31,36,39	2.18	7 (22%)
1	UY1	AA	3818	80,1	19,22,23	4.37	7 (36%)	22,31,34	1.89	6 (27%)
45	A2M	BA	576	45	22,25,26	1.48	4 (18%)	31,36,39	2.05	9 (29%)
45	PSU	BA	1056	45	18,21,22	1.38	2 (11%)	22,30,33	1.83	4 (18%)
1	PSU	AA	5001	1	18,21,22	1.37	2 (11%)	22,30,33	1.87	3 (13%)
45	OMC	BA	517	45	19,22,23	0.85	0	26,31,34	1.17	2 (7%)
45	PSU	BA	1347	45	18,21,22	1.39	2 (11%)	22,30,33	1.81	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	PSU	AA	4628	1	18,21,22	1.36	2 (11%)	22,30,33	1.89	3 (13%)
45	PSU	BA	93	45	18,21,22	1.32	2 (11%)	22,30,33	1.84	3 (13%)
45	A2M	BA	1383	45	22,25,26	1.48	4 (18%)	31,36,39	2.12	9 (29%)
45	PSU	BA	63	45	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
45	MA6	BA	1851	45	23,26,27	1.48	4 (17%)	34,38,41	2.39	13 (38%)
45	PSU	BA	218	45	18,21,22	1.35	2 (11%)	22,30,33	1.81	3 (13%)
45	PSU	BA	300	45	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	AA	3825	1	22,25,26	1.49	4 (18%)	31,36,39	2.07	8 (25%)
45	UY1	BA	1326	45	19,22,23	4.40	7 (36%)	22,31,34	1.85	5 (22%)
1	6MZ	AA	4220	1	22,25,26	1.45	4 (18%)	30,36,39	2.18	9 (30%)
1	PSU	AA	4299	1	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
1	PSU	AA	4552	1	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	AA	4973	1	18,21,22	1.33	2 (11%)	22,30,33	1.86	3 (13%)
45	PSU	BA	34	45	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
45	PSU	BA	866	45	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
45	PSU	BA	100	45	18,21,22	1.36	2 (11%)	22,30,33	1.85	3 (13%)
1	PSU	AA	1862	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
1	PSU	AA	3695	1	18,21,22	1.33	2 (11%)	22,30,33	1.91	4 (18%)
3	OMG	AC	75	3	23,26,27	1.22	3 (13%)	33,38,41	1.93	6 (18%)
1	PSU	AA	4293	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	4 (18%)
45	PSU	BA	105	45	18,21,22	1.36	2 (11%)	22,30,33	1.84	3 (13%)
45	OMG	BA	683	45	23,26,27	1.20	3 (13%)	33,38,41	1.95	6 (18%)
45	PSU	BA	1046	45	18,21,22	1.33	2 (11%)	22,30,33	1.83	3 (13%)
1	OMG	AA	1316	1	23,26,27	1.22	3 (13%)	33,38,41	1.97	6 (18%)
1	OMC	AA	1881	79,1	19,22,23	0.81	0	26,31,34	0.93	0
1	PSU	AA	3768	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	AA	2363	79,1	22,25,26	1.46	4 (18%)	31,36,39	2.07	8 (25%)
1	OMG	AA	3744	1	23,26,27	1.20	3 (13%)	33,38,41	1.94	5 (15%)
45	OMU	BA	1442	45	19,22,23	1.23	3 (15%)	26,31,34	1.66	5 (19%)
1	OMG	AA	1522	1	23,26,27	1.20	3 (13%)	33,38,41	1.94	5 (15%)
1	PSU	AA	1782	1	18,21,22	1.33	2 (11%)	22,30,33	1.84	3 (13%)
45	PSU	BA	1625	45	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	AA	1871	79,1	22,25,26	1.45	4 (18%)	31,36,39	2.17	9 (29%)
1	PSU	AA	3762	1	18,21,22	1.35	2 (11%)	22,30,33	1.84	3 (13%)
45	PSU	BA	1136	45	18,21,22	1.35	2 (11%)	22,30,33	1.90	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	PSU	AA	3730	1	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	AA	4532	1	18,21,22	1.38	2 (11%)	22,30,33	1.86	3 (13%)
45	PSU	BA	609	45	18,21,22	1.36	2 (11%)	22,30,33	1.88	3 (13%)
45	PSU	BA	1445	45	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
1	PSU	AA	3884	1	18,21,22	1.37	2 (11%)	22,30,33	1.84	3 (13%)
1	PSU	AA	4423	1	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
1	OMC	AA	2824	1	19,22,23	0.82	0	26,31,34	0.88	1 (3%)
45	PSU	BA	1177	45	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
45	PSU	BA	1232	45	18,21,22	1.37	2 (11%)	22,30,33	1.90	3 (13%)
45	B8N	BA	1248	45	24,29,30	0.92	1 (4%)	29,42,45	1.36	4 (13%)
1	PSU	AA	2632	1	18,21,22	1.37	2 (11%)	22,30,33	1.81	3 (13%)
1	OMC	AA	3701	80,1	19,22,23	0.79	0	26,31,34	0.75	0
1	PSU	AA	3770	1	18,21,22	1.38	2 (11%)	22,30,33	1.83	3 (13%)
1	PSU	AA	4521	79,1	18,21,22	1.37	2 (11%)	22,30,33	1.89	3 (13%)
45	OMG	BA	436	45	23,26,27	1.20	3 (13%)	33,38,41	1.92	6 (18%)
1	1MA	AA	1322	79,1	21,25,26	1.37	4 (19%)	31,37,40	1.69	6 (19%)
45	A2M	BA	159	45	22,25,26	1.47	4 (18%)	31,36,39	2.10	7 (22%)
1	A2M	AA	1524	1	22,25,26	1.47	4 (18%)	31,36,39	2.13	9 (29%)
1	OMC	AA	3841	1	19,22,23	0.80	0	26,31,34	0.74	0
1	PSU	AA	1779	1	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	AA	3637	80,1	18,21,22	1.41	3 (16%)	22,30,33	1.95	4 (18%)
45	OMU	BA	116	45	19,22,23	1.20	3 (15%)	26,31,34	1.63	4 (15%)
1	OMC	AA	2422	79,1	19,22,23	0.81	0	26,31,34	0.78	0
45	OMU	BA	1288	45	19,22,23	1.20	2 (10%)	26,31,34	1.62	5 (19%)
45	PSU	BA	109	45	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
58	NMM	BN	67	58	9,11,12	1.71	1 (11%)	6,12,14	1.08	1 (16%)
1	PSU	AA	4431	1	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	AA	3844	1	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
1	OMC	AA	4536	1	19,22,23	0.83	0	26,31,34	0.90	1 (3%)
1	OMG	AA	4623	1	23,26,27	1.21	3 (13%)	33,38,41	1.93	6 (18%)
45	6MZ	BA	1832	45	22,25,26	1.46	4 (18%)	30,36,39	2.15	9 (30%)
45	PSU	BA	1004	45	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
45	PSU	BA	366	45	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	AA	4590	1	22,25,26	1.47	4 (18%)	31,36,39	2.09	8 (25%)
1	OMG	AA	3792	1	23,26,27	1.22	3 (13%)	33,38,41	1.97	6 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	OMG	AA	4196	1	23,26,27	1.22	3 (13%)	33,38,41	1.99	6 (18%)
1	OMC	AA	2351	79,1	19,22,23	0.86	0	26,31,34	1.33	4 (15%)
45	OMG	BA	601	45	23,26,27	1.24	3 (13%)	33,38,41	1.97	6 (18%)
1	OMU	AA	2837	1	19,22,23	1.22	3 (15%)	26,31,34	1.69	4 (15%)
1	OMG	AA	4392	1	23,26,27	1.20	3 (13%)	33,38,41	1.93	5 (15%)
45	A2M	BA	484	45	22,25,26	1.48	4 (18%)	31,36,39	2.11	8 (25%)
1	OMG	AA	3899	79,1	23,26,27	1.20	3 (13%)	33,38,41	1.93	5 (15%)
1	PSU	AA	4353	1	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
1	A2M	AA	3724	1	22,25,26	1.47	4 (18%)	31,36,39	2.08	8 (25%)
1	PSU	AA	2508	1	18,21,22	1.36	2 (11%)	22,30,33	1.83	3 (13%)
1	PSU	AA	1860	1	18,21,22	1.36	2 (11%)	22,30,33	1.85	3 (13%)
1	PSU	AA	4493	80,1	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
45	PSU	BA	1045	45	18,21,22	1.34	2 (11%)	22,30,33	1.84	3 (13%)
45	OMG	BA	644	45	23,26,27	1.20	3 (13%)	33,38,41	1.89	6 (18%)
1	PSU	AA	4457	1	18,21,22	1.36	2 (11%)	22,30,33	1.93	4 (18%)
45	OMG	BA	1328	45	23,26,27	1.20	3 (13%)	33,38,41	1.93	6 (18%)
1	PSU	AA	1683	1	18,21,22	1.36	2 (11%)	22,30,33	1.84	3 (13%)
45	PSU	BA	1367	45	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
45	PSU	BA	1643	45	18,21,22	1.32	2 (11%)	22,30,33	1.90	4 (18%)
45	A2M	BA	1678	45	22,25,26	1.47	4 (18%)	31,36,39	2.16	9 (29%)
45	OMG	BA	509	45	23,26,27	1.17	3 (13%)	33,38,41	1.97	6 (18%)
45	PSU	BA	966	45	18,21,22	1.33	2 (11%)	22,30,33	1.84	3 (13%)
45	PSU	BA	1003	45	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
45	PSU	BA	681	45	18,21,22	1.36	2 (11%)	22,30,33	1.81	3 (13%)
45	OMC	BA	1703	45	19,22,23	0.80	0	26,31,34	0.74	0
1	OMC	AA	3887	1	19,22,23	0.83	0	26,31,34	0.92	1 (3%)
1	A2M	AA	4523	79,1	22,25,26	1.45	4 (18%)	31,36,39	2.19	10 (32%)
45	A2M	BA	1031	45	22,25,26	1.47	4 (18%)	31,36,39	2.07	8 (25%)
1	PSU	AA	4636	1	18,21,22	1.35	2 (11%)	22,30,33	1.95	5 (22%)
1	A2M	AA	3830	1	22,25,26	1.46	4 (18%)	31,36,39	2.16	8 (25%)
1	PSU	AA	5010	1	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	AA	3853	79,1	18,21,22	1.38	2 (11%)	22,30,33	1.81	3 (13%)
45	PSU	BA	119	45	18,21,22	1.32	2 (11%)	22,30,33	1.81	3 (13%)
1	OMG	AA	4370	1	23,26,27	1.19	3 (13%)	33,38,41	1.93	6 (18%)
45	A2M	BA	668	45	22,25,26	1.47	4 (18%)	31,36,39	2.19	9 (29%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	PSU	AA	4673	80,1	18,21,22	1.36	2 (11%)	22,30,33	1.83	3 (13%)
3	PSU	AC	69	3	18,21,22	1.36	2 (11%)	22,30,33	1.86	4 (18%)
1	PSU	AA	3920	79,1	18,21,22	1.35	2 (11%)	22,30,33	1.89	4 (18%)
1	A2M	AA	4571	1	22,25,26	1.46	4 (18%)	31,36,39	2.15	9 (29%)
1	OMG	AA	4499	1	23,26,27	1.21	3 (13%)	33,38,41	1.97	6 (18%)
1	OMG	AA	2424	1	23,26,27	1.20	3 (13%)	33,38,41	1.93	6 (18%)
45	OMU	BA	172	45	19,22,23	1.19	2 (10%)	26,31,34	1.72	4 (15%)
1	A2M	AA	400	1	22,25,26	1.46	4 (18%)	31,36,39	2.10	10 (32%)
1	PSU	AA	3715	79,1	18,21,22	1.36	2 (11%)	22,30,33	1.82	3 (13%)
1	PSU	AA	3639	1	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
45	A2M	BA	512	45	22,25,26	1.47	4 (18%)	31,36,39	2.19	9 (29%)
45	PSU	BA	572	45	18,21,22	1.34	2 (11%)	22,30,33	1.83	4 (18%)
1	PSU	AA	4442	1	18,21,22	1.37	2 (11%)	22,30,33	1.91	4 (18%)
45	PSU	BA	1360	45	18,21,22	1.35	2 (11%)	22,30,33	1.84	4 (18%)
1	A2M	AA	1323	1	22,25,26	1.48	4 (18%)	31,36,39	2.08	8 (25%)
1	PSU	AA	3851	1	18,21,22	1.38	2 (11%)	22,30,33	1.84	3 (13%)
71	IAS	Ba	138	71	6,7,8	1.10	0	6,8,10	1.45	0
1	A2M	AA	398	1	22,25,26	1.47	4 (18%)	31,36,39	2.22	10 (32%)
1	OMU	AA	4620	1	19,22,23	1.24	4 (21%)	26,31,34	1.67	4 (15%)
1	OMG	AA	2364	1	23,26,27	1.19	3 (13%)	33,38,41	1.95	6 (18%)
1	OMC	AA	4456	1	19,22,23	0.83	0	26,31,34	1.04	2 (7%)
45	OMC	BA	1391	45	19,22,23	0.82	0	26,31,34	0.85	1 (3%)
45	PSU	BA	863	45	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
45	PSU	BA	814	45	18,21,22	1.38	3 (16%)	22,30,33	1.92	4 (18%)
1	OMU	AA	3925	1	19,22,23	1.22	2 (10%)	26,31,34	1.69	4 (15%)
1	PSU	AA	2839	1	18,21,22	1.35	2 (11%)	22,30,33	1.81	3 (13%)
1	OMC	AA	3869	1	19,22,23	0.81	0	26,31,34	0.76	0
45	4AC	BA	1337	45	21,24,25	1.08	1 (4%)	29,34,37	1.53	5 (17%)
45	PSU	BA	1238	45	18,21,22	1.32	2 (11%)	22,30,33	1.78	3 (13%)
1	PSU	AA	4312	1	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
5	HIC	AE	245	5	10,11,12	0.50	0	8,14,16	0.55	0
1	5MC	AA	3782	79,1	18,22,23	0.97	2 (11%)	26,32,35	1.20	3 (11%)
1	PSU	AA	2843	1	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
45	4AC	BA	1842	45	21,24,25	1.09	1 (4%)	29,34,37	1.52	5 (17%)
1	OMG	AA	3627	1	23,26,27	1.20	3 (13%)	33,38,41	1.95	6 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
45	A2M	BA	27	45	22,25,26	1.50	4 (18%)	31,36,39	2.04	7 (22%)
45	OMU	BA	1804	45	19,22,23	1.25	4 (21%)	26,31,34	1.68	5 (19%)
1	PSU	AA	4471	1	18,21,22	1.37	2 (11%)	22,30,33	1.86	3 (13%)
45	PSU	BA	406	45	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
45	PSU	BA	1692	45	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	AA	2401	1	22,25,26	1.46	4 (18%)	31,36,39	2.12	10 (32%)
1	A2M	AA	3785	1	22,25,26	1.42	4 (18%)	31,36,39	2.25	11 (35%)
1	OMG	AA	4618	1	23,26,27	1.18	3 (13%)	33,38,41	1.99	6 (18%)
45	OMC	BA	174	45	19,22,23	0.81	0	26,31,34	0.81	0
1	OMU	AA	2415	1	19,22,23	1.23	3 (15%)	26,31,34	1.67	5 (19%)
1	OMU	AA	4227	1	19,22,23	1.25	3 (15%)	26,31,34	1.72	4 (15%)
1	PSU	AA	4403	1	18,21,22	1.34	2 (11%)	22,30,33	1.92	4 (18%)
1	OMG	AA	2876	1	23,26,27	1.21	3 (13%)	33,38,41	1.95	6 (18%)
1	PSU	AA	4296	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	4 (18%)
1	PSU	AA	4361	1	18,21,22	1.34	2 (11%)	22,30,33	1.83	3 (13%)
29	V5N	Ac	39	29	9,11,12	0.81	0	9,14,16	1.42	2 (22%)
45	PSU	BA	822	45	18,21,22	1.34	2 (11%)	22,30,33	1.87	4 (18%)
1	OMU	AA	4498	1	19,22,23	1.21	2 (10%)	26,31,34	1.69	5 (19%)
45	PSU	BA	815	45	18,21,22	1.38	2 (11%)	22,30,33	1.87	4 (18%)
3	OMU	AC	14	1,3	19,22,23	1.25	4 (21%)	26,31,34	1.80	5 (19%)
1	PSU	AA	4972	1	18,21,22	1.33	2 (11%)	22,30,33	1.86	3 (13%)
1	OMG	AA	4494	1	23,26,27	1.21	3 (13%)	33,38,41	1.92	6 (18%)
45	PSU	BA	1244	45	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
45	PSU	BA	918	45	-	2/7/25/26	0/2/2/2
45	PSU	BA	36	45	-	1/7/25/26	0/2/2/2
1	PSU	AA	1792	1	-	2/7/25/26	0/2/2/2
1	OMU	AA	4306	1	-	0/9/27/28	0/2/2/2
1	PSU	AA	3822	1	-	0/7/25/26	0/2/2/2
1	OMG	AA	1625	80,1	-	2/9/27/28	0/3/3/3
45	A2M	BA	166	45	-	2/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
45	PSU	BA	649	45	-	0/7/25/26	0/2/2/2
1	PSU	AA	4576	1	-	0/7/25/26	0/2/2/2
45	OMG	BA	867	45	-	3/9/27/28	0/3/3/3
45	PSU	BA	1186	45	-	0/7/25/26	0/2/2/2
45	OMU	BA	354	45	-	1/9/27/28	0/2/2/2
1	A2M	AA	1534	79,1	-	1/9/27/28	0/3/3/3
1	A2M	AA	3718	1	-	0/9/27/28	0/3/3/3
1	PSU	AA	4579	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	1582	1	-	3/7/25/26	0/2/2/2
1	PSU	AA	1536	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	296	45	-	0/7/25/26	0/2/2/2
1	OMC	AA	2804	1	-	0/9/27/28	0/2/2/2
1	A2M	AA	1326	1	-	3/9/27/28	0/3/3/3
1	OMC	AA	2861	1	-	1/9/27/28	0/2/2/2
1	PSU	AA	3764	1	-	2/7/25/26	0/2/2/2
45	G7M	BA	1639	45	-	0/7/25/26	0/3/3/3
45	OMC	BA	462	45	-	2/9/27/28	0/2/2/2
1	PSU	AA	4500	1	-	3/7/25/26	0/2/2/2
45	OMG	BA	1447	45	-	1/9/27/28	0/3/3/3
1	PSU	AA	4689	1	-	0/7/25/26	0/2/2/2
1	OMC	AA	3808	1	-	0/9/27/28	0/2/2/2
45	PSU	BA	1596	45	-	2/7/25/26	0/2/2/2
45	A2M	BA	99	45	-	2/9/27/28	0/3/3/3
45	PSU	BA	651	45	-	0/7/25/26	0/2/2/2
1	PSU	AA	1781	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	801	45	-	0/7/25/26	0/2/2/2
45	OMG	BA	1490	45	-	3/9/27/28	0/3/3/3
45	MA6	BA	1850	45	-	7/11/29/30	0/3/3/3
45	A2M	BA	590	45	-	3/9/27/28	0/3/3/3
1	5MC	AA	4447	80,1	-	4/7/25/26	0/2/2/2
45	OMU	BA	121	45	-	0/9/27/28	0/2/2/2
3	PSU	AC	55	3	-	0/7/25/26	0/2/2/2
45	A2M	BA	468	45	-	2/9/27/28	0/3/3/3
1	UR3	AA	4530	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	667	45	-	1/7/25/26	0/2/2/2
1	OMG	AA	4228	1	-	0/9/27/28	0/3/3/3
1	OMC	AA	1340	1	-	0/9/27/28	0/2/2/2
1	OMC	AA	2365	1	-	0/9/27/28	0/2/2/2
1	A2M	AA	3867	1	-	1/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMG	AA	4637	1	-	0/9/27/28	0/3/3/3
1	PSU	AA	1677	1	-	0/7/25/26	0/2/2/2
1	A2M	AA	2787	79,1	-	3/9/27/28	0/3/3/3
45	PSU	BA	686	45	-	0/7/25/26	0/2/2/2
45	OMC	BA	1272	45	-	0/9/27/28	0/2/2/2
45	OMU	BA	428	45	-	7/9/27/28	0/2/2/2
1	PSU	AA	1744	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	1174	45	-	0/7/25/26	0/2/2/2
1	A2M	AA	2815	1	-	0/9/27/28	0/3/3/3
1	UY1	AA	3818	80,1	-	3/9/27/28	0/2/2/2
45	A2M	BA	576	45	-	2/9/27/28	0/3/3/3
45	PSU	BA	1056	45	-	0/7/25/26	0/2/2/2
1	PSU	AA	5001	1	-	0/7/25/26	0/2/2/2
45	OMC	BA	517	45	-	7/9/27/28	0/2/2/2
45	PSU	BA	1347	45	-	2/7/25/26	0/2/2/2
1	PSU	AA	4628	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	93	45	-	3/7/25/26	0/2/2/2
45	A2M	BA	1383	45	-	0/9/27/28	0/3/3/3
45	PSU	BA	63	45	-	0/7/25/26	0/2/2/2
45	MA6	BA	1851	45	-	4/11/29/30	0/3/3/3
45	PSU	BA	218	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	300	45	-	2/7/25/26	0/2/2/2
1	A2M	AA	3825	1	-	0/9/27/28	0/3/3/3
45	UY1	BA	1326	45	-	1/9/27/28	0/2/2/2
1	6MZ	AA	4220	1	-	0/9/27/28	0/3/3/3
1	PSU	AA	4299	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	4552	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	4973	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	34	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	866	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	100	45	-	0/7/25/26	0/2/2/2
1	PSU	AA	1862	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	3695	1	-	0/7/25/26	0/2/2/2
3	OMG	AC	75	3	-	0/9/27/28	0/3/3/3
1	PSU	AA	4293	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	105	45	-	0/7/25/26	0/2/2/2
45	OMG	BA	683	45	-	0/9/27/28	0/3/3/3
45	PSU	BA	1046	45	-	0/7/25/26	0/2/2/2
1	OMG	AA	1316	1	-	0/9/27/28	0/3/3/3
1	OMC	AA	1881	79,1	-	2/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	AA	3768	1	-	0/7/25/26	0/2/2/2
1	A2M	AA	2363	79,1	-	0/9/27/28	0/3/3/3
1	OMG	AA	3744	1	-	0/9/27/28	0/3/3/3
45	OMU	BA	1442	45	-	1/9/27/28	0/2/2/2
1	OMG	AA	1522	1	-	0/9/27/28	0/3/3/3
1	PSU	AA	1782	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	1625	45	-	0/7/25/26	0/2/2/2
1	A2M	AA	1871	79,1	-	0/9/27/28	0/3/3/3
1	PSU	AA	3762	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	1136	45	-	0/7/25/26	0/2/2/2
1	PSU	AA	3730	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	4532	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	609	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	1445	45	-	0/7/25/26	0/2/2/2
1	PSU	AA	3884	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	4423	1	-	0/7/25/26	0/2/2/2
1	OMC	AA	2824	1	-	0/9/27/28	0/2/2/2
45	PSU	BA	1177	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	1232	45	-	4/7/25/26	0/2/2/2
45	B8N	BA	1248	45	-	6/16/34/35	0/2/2/2
1	PSU	AA	2632	1	-	1/7/25/26	0/2/2/2
1	OMC	AA	3701	80,1	-	4/9/27/28	0/2/2/2
1	PSU	AA	3770	1	-	2/7/25/26	0/2/2/2
1	PSU	AA	4521	79,1	-	0/7/25/26	0/2/2/2
45	OMG	BA	436	45	-	2/9/27/28	0/3/3/3
1	1MA	AA	1322	79,1	-	0/7/25/26	0/3/3/3
45	A2M	BA	159	45	-	0/9/27/28	0/3/3/3
1	A2M	AA	1524	1	-	1/9/27/28	0/3/3/3
1	OMC	AA	3841	1	-	0/9/27/28	0/2/2/2
1	PSU	AA	1779	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	3637	80,1	-	0/7/25/26	0/2/2/2
45	OMU	BA	116	45	-	0/9/27/28	0/2/2/2
1	OMC	AA	2422	79,1	-	1/9/27/28	0/2/2/2
45	OMU	BA	1288	45	-	0/9/27/28	0/2/2/2
45	PSU	BA	109	45	-	0/7/25/26	0/2/2/2
58	NMM	BN	67	58	-	4/9/11/13	-
1	PSU	AA	4431	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	3844	1	-	3/7/25/26	0/2/2/2
1	OMC	AA	4536	1	-	0/9/27/28	0/2/2/2
1	OMG	AA	4623	1	-	2/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
45	6MZ	BA	1832	45	-	0/9/27/28	0/3/3/3
45	PSU	BA	1004	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	366	45	-	0/7/25/26	0/2/2/2
1	A2M	AA	4590	1	-	2/9/27/28	0/3/3/3
1	OMG	AA	3792	1	-	0/9/27/28	0/3/3/3
1	OMG	AA	4196	1	-	0/9/27/28	0/3/3/3
1	OMC	AA	2351	79,1	-	3/9/27/28	0/2/2/2
45	OMG	BA	601	45	-	2/9/27/28	0/3/3/3
1	OMU	AA	2837	1	-	1/9/27/28	0/2/2/2
1	OMG	AA	4392	1	-	0/9/27/28	0/3/3/3
45	A2M	BA	484	45	-	1/9/27/28	0/3/3/3
1	OMG	AA	3899	79,1	-	0/9/27/28	0/3/3/3
1	PSU	AA	4353	1	-	0/7/25/26	0/2/2/2
1	A2M	AA	3724	1	-	0/9/27/28	0/3/3/3
1	PSU	AA	2508	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	1860	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	4493	80,1	-	0/7/25/26	0/2/2/2
45	PSU	BA	1045	45	-	2/7/25/26	0/2/2/2
45	OMG	BA	644	45	-	1/9/27/28	0/3/3/3
1	PSU	AA	4457	1	-	0/7/25/26	0/2/2/2
45	OMG	BA	1328	45	-	0/9/27/28	0/3/3/3
1	PSU	AA	1683	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	1367	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	1643	45	-	0/7/25/26	0/2/2/2
45	A2M	BA	1678	45	-	0/9/27/28	0/3/3/3
45	OMG	BA	509	45	-	0/9/27/28	0/3/3/3
45	PSU	BA	966	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	1003	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	681	45	-	0/7/25/26	0/2/2/2
45	OMC	BA	1703	45	-	1/9/27/28	0/2/2/2
1	OMC	AA	3887	1	-	1/9/27/28	0/2/2/2
1	A2M	AA	4523	79,1	-	2/9/27/28	0/3/3/3
45	A2M	BA	1031	45	-	0/9/27/28	0/3/3/3
1	PSU	AA	4636	1	-	5/7/25/26	0/2/2/2
1	A2M	AA	3830	1	-	0/9/27/28	0/3/3/3
1	PSU	AA	5010	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	3853	79,1	-	0/7/25/26	0/2/2/2
45	PSU	BA	119	45	-	0/7/25/26	0/2/2/2
1	OMG	AA	4370	1	-	0/9/27/28	0/3/3/3
45	A2M	BA	668	45	-	6/9/27/28	0/3/3/3
1	PSU	AA	4673	80,1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PSU	AC	69	3	-	0/7/25/26	0/2/2/2
1	PSU	AA	3920	79,1	-	0/7/25/26	0/2/2/2
1	A2M	AA	4571	1	-	0/9/27/28	0/3/3/3
1	OMG	AA	4499	1	-	0/9/27/28	0/3/3/3
1	OMG	AA	2424	1	-	0/9/27/28	0/3/3/3
45	OMU	BA	172	45	-	0/9/27/28	0/2/2/2
1	A2M	AA	400	1	-	0/9/27/28	0/3/3/3
1	PSU	AA	3715	79,1	-	0/7/25/26	0/2/2/2
1	PSU	AA	3639	1	-	0/7/25/26	0/2/2/2
45	A2M	BA	512	45	-	1/9/27/28	0/3/3/3
45	PSU	BA	572	45	-	1/7/25/26	0/2/2/2
1	PSU	AA	4442	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	1360	45	-	0/7/25/26	0/2/2/2
1	A2M	AA	1323	1	-	2/9/27/28	0/3/3/3
1	PSU	AA	3851	1	-	0/7/25/26	0/2/2/2
71	IAS	Ba	138	71	-	3/7/7/8	-
1	A2M	AA	398	1	-	2/9/27/28	0/3/3/3
1	OMU	AA	4620	1	-	0/9/27/28	0/2/2/2
1	OMG	AA	2364	1	-	2/9/27/28	0/3/3/3
1	OMC	AA	4456	1	-	1/9/27/28	0/2/2/2
45	OMC	BA	1391	45	-	2/9/27/28	0/2/2/2
45	PSU	BA	863	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	814	45	-	4/7/25/26	0/2/2/2
1	OMU	AA	3925	1	-	0/9/27/28	0/2/2/2
1	PSU	AA	2839	1	-	0/7/25/26	0/2/2/2
1	OMC	AA	3869	1	-	0/9/27/28	0/2/2/2
45	4AC	BA	1337	45	-	3/11/29/30	0/2/2/2
45	PSU	BA	1238	45	-	0/7/25/26	0/2/2/2
1	PSU	AA	4312	1	-	0/7/25/26	0/2/2/2
5	HIC	AE	245	5	-	0/5/6/8	0/1/1/1
1	5MC	AA	3782	79,1	-	0/7/25/26	0/2/2/2
1	PSU	AA	2843	1	-	0/7/25/26	0/2/2/2
45	4AC	BA	1842	45	-	0/11/29/30	0/2/2/2
1	OMG	AA	3627	1	-	0/9/27/28	0/3/3/3
45	A2M	BA	27	45	-	0/9/27/28	0/3/3/3
45	OMU	BA	1804	45	-	2/9/27/28	0/2/2/2
1	PSU	AA	4471	1	-	0/7/25/26	0/2/2/2
45	PSU	BA	406	45	-	0/7/25/26	0/2/2/2
45	PSU	BA	1692	45	-	0/7/25/26	0/2/2/2
1	A2M	AA	2401	1	-	0/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	A2M	AA	3785	1	-	2/9/27/28	0/3/3/3
1	OMG	AA	4618	1	-	1/9/27/28	0/3/3/3
45	OMC	BA	174	45	-	0/9/27/28	0/2/2/2
1	OMU	AA	2415	1	-	0/9/27/28	0/2/2/2
1	OMU	AA	4227	1	-	0/9/27/28	0/2/2/2
1	PSU	AA	4403	1	-	0/7/25/26	0/2/2/2
1	OMG	AA	2876	1	-	1/9/27/28	0/3/3/3
1	PSU	AA	4296	1	-	0/7/25/26	0/2/2/2
1	PSU	AA	4361	1	-	0/7/25/26	0/2/2/2
29	V5N	Ac	39	29	-	0/9/10/12	0/1/1/1
45	PSU	BA	822	45	-	4/7/25/26	0/2/2/2
1	OMU	AA	4498	1	-	0/9/27/28	0/2/2/2
45	PSU	BA	815	45	-	3/7/25/26	0/2/2/2
3	OMU	AC	14	1,3	-	0/9/27/28	0/2/2/2
1	PSU	AA	4972	1	-	0/7/25/26	0/2/2/2
1	OMG	AA	4494	1	-	0/9/27/28	0/3/3/3
45	PSU	BA	1244	45	-	0/7/25/26	0/2/2/2

All (545) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	BA	1326	UY1	C6-C5	11.84	1.49	1.35
1	AA	3818	UY1	C6-C5	11.74	1.49	1.35
45	BA	1639	G7M	C8-N7	10.61	1.52	1.33
45	BA	1639	G7M	C2'-C3'	-10.54	1.24	1.53
45	BA	1326	UY1	C2-N1	9.59	1.49	1.36
1	AA	3818	UY1	C2-N1	9.54	1.49	1.36
45	BA	1326	UY1	C2-N3	7.87	1.51	1.37
1	AA	3818	UY1	C2-N3	7.81	1.50	1.37
45	BA	1639	G7M	C2-N3	6.49	1.48	1.33
45	BA	1639	G7M	O4'-C4'	-6.31	1.30	1.45
45	BA	1639	G7M	C4-N3	6.15	1.48	1.34
45	BA	1639	G7M	C2-N2	5.65	1.47	1.34
45	BA	1326	UY1	C6-N1	5.55	1.45	1.36
1	AA	3818	UY1	C6-N1	5.48	1.45	1.36
45	BA	1639	G7M	C8-N9	5.47	1.51	1.35
45	BA	1639	G7M	C3'-C4'	5.35	1.66	1.53
45	BA	1639	G7M	C1'-N9	-5.16	1.32	1.47
45	BA	1639	G7M	C5-N7	5.09	1.45	1.39
45	BA	590	A2M	C5-C4	4.73	1.47	1.39
45	BA	27	A2M	C5-C4	4.70	1.47	1.39
45	BA	1850	MA6	C5-C4	4.69	1.47	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	BA	159	A2M	C5-C4	4.68	1.47	1.39
45	BA	484	A2M	C5-C4	4.64	1.47	1.39
45	BA	166	A2M	C5-C4	4.64	1.47	1.39
1	AA	2815	A2M	C5-C4	4.63	1.47	1.39
45	BA	576	A2M	C5-C4	4.61	1.47	1.39
45	BA	1383	A2M	C5-C4	4.60	1.47	1.39
45	BA	1832	6MZ	C5-C4	4.59	1.47	1.39
1	AA	3718	A2M	C5-C4	4.59	1.47	1.39
1	AA	3867	A2M	C5-C4	4.59	1.47	1.39
45	BA	1851	MA6	C5-C4	4.58	1.47	1.39
1	AA	4220	6MZ	C5-C4	4.58	1.47	1.39
45	BA	468	A2M	C5-C4	4.56	1.47	1.39
45	BA	668	A2M	C5-C4	4.55	1.47	1.39
45	BA	1031	A2M	C5-C4	4.54	1.47	1.39
45	BA	512	A2M	C5-C4	4.53	1.47	1.39
1	AA	1326	A2M	C5-C4	4.52	1.47	1.39
1	AA	1524	A2M	C5-C4	4.52	1.47	1.39
1	AA	3825	A2M	C5-C4	4.52	1.47	1.39
1	AA	4590	A2M	C5-C4	4.52	1.47	1.39
45	BA	1678	A2M	C5-C4	4.52	1.47	1.39
1	AA	398	A2M	C5-C4	4.51	1.47	1.39
1	AA	1323	A2M	C5-C4	4.50	1.47	1.39
1	AA	400	A2M	C5-C4	4.49	1.47	1.39
1	AA	3724	A2M	C5-C4	4.49	1.47	1.39
1	AA	2787	A2M	C5-C4	4.49	1.47	1.39
1	AA	2401	A2M	C5-C4	4.48	1.47	1.39
45	BA	99	A2M	C5-C4	4.48	1.47	1.39
1	AA	4571	A2M	C5-C4	4.47	1.47	1.39
1	AA	3830	A2M	C5-C4	4.47	1.47	1.39
58	BN	67	NMM	CZ-NH2	4.46	1.45	1.34
1	AA	1534	A2M	C5-C4	4.45	1.47	1.39
1	AA	2363	A2M	C5-C4	4.45	1.47	1.39
1	AA	1871	A2M	C5-C4	4.43	1.47	1.39
1	AA	4523	A2M	C5-C4	4.41	1.47	1.39
1	AA	3785	A2M	C5-C4	4.32	1.47	1.39
45	BA	1639	G7M	O4'-C1'	4.25	1.52	1.42
45	BA	1326	UY1	C4-N3	4.08	1.46	1.38
1	AA	3818	UY1	C4-N3	4.05	1.46	1.38
45	BA	1842	4AC	C5-C4	3.86	1.49	1.40
45	BA	1639	G7M	C5-C6	3.83	1.54	1.43
45	BA	1337	4AC	C5-C4	3.77	1.48	1.40
45	BA	1639	G7M	C2-N1	3.69	1.46	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	BA	1639	G7M	C6-N1	3.49	1.45	1.38
45	BA	815	PSU	C6-C5	3.46	1.39	1.35
45	BA	1232	PSU	C6-C5	3.44	1.39	1.35
45	BA	1596	PSU	C6-C5	3.41	1.39	1.35
45	BA	300	PSU	C6-C5	3.40	1.39	1.35
45	BA	609	PSU	C6-C5	3.34	1.39	1.35
45	BA	1174	PSU	C6-C5	3.31	1.39	1.35
1	AA	1792	PSU	C6-C5	3.31	1.39	1.35
1	AA	5010	PSU	C6-C5	3.31	1.39	1.35
45	BA	801	PSU	C6-C5	3.31	1.39	1.35
45	BA	1136	PSU	C6-C5	3.31	1.39	1.35
45	BA	1056	PSU	C6-C5	3.30	1.39	1.35
45	BA	1347	PSU	C6-C5	3.30	1.39	1.35
1	AA	1677	PSU	C6-C5	3.29	1.39	1.35
1	AA	4532	PSU	C6-C5	3.29	1.39	1.35
45	BA	667	PSU	C6-C5	3.29	1.39	1.35
1	AA	1683	PSU	C6-C5	3.29	1.39	1.35
1	AA	3762	PSU	C6-C5	3.29	1.39	1.35
45	BA	867	OMG	C5-C4	3.28	1.47	1.38
1	AA	5001	PSU	C6-C5	3.28	1.39	1.35
45	BA	1004	PSU	C6-C5	3.28	1.39	1.35
45	BA	814	PSU	C6-C5	3.28	1.39	1.35
45	BA	100	PSU	C6-C5	3.27	1.39	1.35
45	BA	1625	PSU	C6-C5	3.27	1.39	1.35
1	AA	3851	PSU	C6-C5	3.27	1.39	1.35
1	AA	1779	PSU	C6-C5	3.27	1.39	1.35
45	BA	63	PSU	C6-C5	3.27	1.39	1.35
1	AA	3715	PSU	C6-C5	3.26	1.39	1.35
1	AA	4423	PSU	C6-C5	3.26	1.39	1.35
1	AA	1536	PSU	C6-C5	3.26	1.39	1.35
1	AA	1860	PSU	C6-C5	3.26	1.39	1.35
45	BA	1244	PSU	C6-C5	3.26	1.39	1.35
45	BA	406	PSU	C6-C5	3.25	1.39	1.35
1	AA	3770	PSU	C6-C5	3.25	1.39	1.35
45	BA	34	PSU	C6-C5	3.25	1.39	1.35
1	AA	3764	PSU	C6-C5	3.24	1.39	1.35
45	BA	1177	PSU	C6-C5	3.24	1.39	1.35
1	AA	3822	PSU	C6-C5	3.24	1.39	1.35
1	AA	4296	PSU	C6-C5	3.24	1.39	1.35
1	AA	4673	PSU	C6-C5	3.24	1.39	1.35
45	BA	36	PSU	C6-C5	3.24	1.39	1.35
45	BA	866	PSU	C6-C5	3.23	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	BA	863	PSU	C6-C5	3.23	1.39	1.35
45	BA	109	PSU	C6-C5	3.23	1.39	1.35
45	BA	686	PSU	C6-C5	3.23	1.39	1.35
3	AC	55	PSU	C6-C5	3.23	1.39	1.35
1	AA	2508	PSU	C6-C5	3.23	1.39	1.35
1	AA	4628	PSU	C6-C5	3.22	1.39	1.35
45	BA	572	PSU	C6-C5	3.22	1.39	1.35
1	AA	3637	PSU	C6-C5	3.22	1.39	1.35
1	AA	4471	PSU	C6-C5	3.22	1.39	1.35
45	BA	651	PSU	C6-C5	3.21	1.39	1.35
45	BA	1445	PSU	C6-C5	3.21	1.39	1.35
1	AA	2843	PSU	C6-C5	3.21	1.39	1.35
1	AA	3730	PSU	C6-C5	3.21	1.39	1.35
45	BA	649	PSU	C6-C5	3.21	1.39	1.35
45	BA	1045	PSU	C6-C5	3.20	1.39	1.35
1	AA	3884	PSU	C6-C5	3.19	1.39	1.35
1	AA	3853	PSU	C6-C5	3.19	1.39	1.35
1	AA	4521	PSU	C6-C5	3.19	1.39	1.35
1	AA	3844	PSU	C6-C5	3.19	1.39	1.35
45	BA	1692	PSU	C6-C5	3.19	1.39	1.35
45	BA	296	PSU	C6-C5	3.18	1.39	1.35
45	BA	918	PSU	C6-C5	3.18	1.39	1.35
45	BA	105	PSU	C6-C5	3.18	1.39	1.35
45	BA	1003	PSU	C6-C5	3.18	1.39	1.35
45	BA	822	PSU	C6-C5	3.17	1.39	1.35
45	BA	1639	G7M	O2'-C2'	3.17	1.50	1.43
1	AA	1782	PSU	C6-C5	3.17	1.39	1.35
1	AA	2632	PSU	C6-C5	3.17	1.39	1.35
1	AA	1582	PSU	C6-C5	3.17	1.39	1.35
1	AA	4500	PSU	C6-C5	3.17	1.39	1.35
1	AA	4499	OMG	C5-C4	3.16	1.47	1.38
1	AA	1744	PSU	C6-C5	3.16	1.39	1.35
45	BA	218	PSU	C6-C5	3.16	1.39	1.35
1	AA	1322	1MA	C6-N6	3.15	1.35	1.28
1	AA	3920	PSU	C6-C5	3.15	1.39	1.35
1	AA	3792	OMG	C5-C4	3.15	1.47	1.38
1	AA	4299	PSU	C6-C5	3.15	1.39	1.35
45	BA	601	OMG	C5-C4	3.15	1.47	1.38
45	BA	1046	PSU	C6-C5	3.15	1.39	1.35
1	AA	4353	PSU	C6-C5	3.15	1.39	1.35
1	AA	4431	PSU	C6-C5	3.15	1.39	1.35
1	AA	4196	OMG	C5-C4	3.14	1.47	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	4312	PSU	C6-C5	3.14	1.39	1.35
3	AC	75	OMG	C5-C4	3.14	1.47	1.38
45	BA	966	PSU	C6-C5	3.14	1.39	1.35
1	AA	4552	PSU	C6-C5	3.13	1.39	1.35
45	BA	1328	OMG	C5-C4	3.13	1.47	1.38
1	AA	4493	PSU	C6-C5	3.13	1.39	1.35
3	AC	69	PSU	C6-C5	3.13	1.39	1.35
1	AA	3768	PSU	C6-C5	3.13	1.39	1.35
1	AA	4361	PSU	C6-C5	3.13	1.39	1.35
1	AA	1781	PSU	C6-C5	3.12	1.39	1.35
1	AA	1862	PSU	C6-C5	3.12	1.39	1.35
45	BA	1490	OMG	C5-C4	3.12	1.47	1.38
1	AA	4293	PSU	C6-C5	3.12	1.39	1.35
45	BA	681	PSU	C6-C5	3.12	1.39	1.35
1	AA	4442	PSU	C6-C5	3.11	1.38	1.35
45	BA	683	OMG	C5-C4	3.11	1.47	1.38
1	AA	3639	PSU	C6-C5	3.10	1.38	1.35
45	BA	644	OMG	C5-C4	3.10	1.47	1.38
1	AA	4973	PSU	C6-C5	3.10	1.38	1.35
1	AA	3744	OMG	C5-C4	3.10	1.47	1.38
45	BA	1367	PSU	C6-C5	3.09	1.38	1.35
1	AA	2424	OMG	C5-C4	3.09	1.47	1.38
45	BA	509	OMG	C5-C4	3.09	1.47	1.38
1	AA	2839	PSU	C6-C5	3.09	1.38	1.35
1	AA	4392	OMG	C5-C4	3.09	1.47	1.38
45	BA	436	OMG	C5-C4	3.08	1.47	1.38
45	BA	1447	OMG	C5-C4	3.08	1.47	1.38
1	AA	1625	OMG	C5-C4	3.08	1.47	1.38
1	AA	4494	OMG	C5-C4	3.08	1.47	1.38
1	AA	4579	PSU	C6-C5	3.08	1.38	1.35
45	BA	1360	PSU	C6-C5	3.07	1.38	1.35
1	AA	4576	PSU	C6-C5	3.07	1.38	1.35
1	AA	4623	OMG	C5-C4	3.07	1.47	1.38
1	AA	1322	1MA	C5-C4	3.07	1.47	1.38
1	AA	2876	OMG	C5-C4	3.07	1.47	1.38
1	AA	4637	OMG	C5-C4	3.07	1.47	1.38
1	AA	2364	OMG	C5-C4	3.06	1.47	1.38
1	AA	4972	PSU	C6-C5	3.06	1.38	1.35
45	BA	1186	PSU	C6-C5	3.06	1.38	1.35
1	AA	3627	OMG	C5-C4	3.06	1.47	1.38
1	AA	4636	PSU	C6-C5	3.05	1.38	1.35
1	AA	4618	OMG	C5-C4	3.05	1.47	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	3899	OMG	C5-C4	3.04	1.47	1.38
1	AA	3695	PSU	C6-C5	3.04	1.38	1.35
1	AA	4370	OMG	C5-C4	3.03	1.47	1.38
1	AA	1316	OMG	C5-C4	3.03	1.47	1.38
1	AA	4689	PSU	C6-C5	3.01	1.38	1.35
1	AA	1522	OMG	C5-C4	3.01	1.47	1.38
1	AA	4457	PSU	C6-C5	3.00	1.38	1.35
45	BA	93	PSU	C6-C5	3.00	1.38	1.35
45	BA	1639	G7M	C4-N9	3.00	1.45	1.38
45	BA	366	PSU	C6-C5	2.99	1.38	1.35
45	BA	119	PSU	C6-C5	2.98	1.38	1.35
45	BA	1238	PSU	C6-C5	2.98	1.38	1.35
1	AA	4228	OMG	C5-C4	2.97	1.47	1.38
1	AA	4403	PSU	C6-C5	2.93	1.38	1.35
1	AA	3637	PSU	C4-N3	-2.92	1.33	1.38
45	BA	1643	PSU	C6-C5	2.87	1.38	1.35
1	AA	4447	5MC	C6-C5	2.85	1.39	1.34
45	BA	1326	UY1	C1'-C5	2.85	1.56	1.50
45	BA	1850	MA6	C5-C6	2.80	1.48	1.41
45	BA	1851	MA6	C5-C6	2.79	1.48	1.41
1	AA	4636	PSU	C4-N3	-2.78	1.33	1.38
1	AA	3782	5MC	C6-C5	2.76	1.39	1.34
45	BA	1678	A2M	C5-C6	2.75	1.48	1.41
1	AA	3818	UY1	C1'-C5	2.75	1.56	1.50
45	BA	484	A2M	C5-C6	2.75	1.48	1.41
45	BA	590	A2M	C5-C6	2.75	1.48	1.41
45	BA	468	A2M	C5-C6	2.73	1.48	1.41
45	BA	512	A2M	C5-C6	2.73	1.48	1.41
1	AA	4521	PSU	C4-N3	-2.73	1.33	1.38
1	AA	3724	A2M	C5-C6	2.72	1.48	1.41
45	BA	822	PSU	C4-N3	-2.71	1.33	1.38
1	AA	4552	PSU	C4-N3	-2.71	1.33	1.38
45	BA	668	A2M	C5-C6	2.70	1.48	1.41
45	BA	576	A2M	C5-C6	2.70	1.48	1.41
45	BA	1326	UY1	O4-C4	-2.70	1.18	1.23
1	AA	2815	A2M	C5-C6	2.70	1.48	1.41
1	AA	398	A2M	C5-C6	2.69	1.48	1.41
1	AA	1534	A2M	C5-C6	2.69	1.48	1.41
1	AA	3818	UY1	O4-C4	-2.69	1.18	1.23
1	AA	3884	PSU	C4-N3	-2.69	1.33	1.38
45	BA	609	PSU	C4-N3	-2.69	1.33	1.38
1	AA	1677	PSU	C4-N3	-2.69	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	4689	PSU	C4-N3	-2.69	1.33	1.38
1	AA	3822	PSU	C4-N3	-2.68	1.33	1.38
1	AA	5001	PSU	C4-N3	-2.68	1.33	1.38
1	AA	4571	A2M	C5-C6	2.68	1.48	1.41
45	BA	681	PSU	C4-N3	-2.68	1.33	1.38
1	AA	2843	PSU	C4-N3	-2.68	1.33	1.38
45	BA	1031	A2M	C5-C6	2.68	1.48	1.41
1	AA	4493	PSU	C4-N3	-2.68	1.33	1.38
1	AA	1862	PSU	C4-N3	-2.68	1.33	1.38
1	AA	3730	PSU	C4-N3	-2.67	1.33	1.38
3	AC	55	PSU	C4-N3	-2.67	1.33	1.38
45	BA	1056	PSU	C4-N3	-2.67	1.33	1.38
1	AA	4403	PSU	C4-N3	-2.67	1.33	1.38
1	AA	4457	PSU	C4-N3	-2.67	1.33	1.38
45	BA	366	PSU	C4-N3	-2.67	1.33	1.38
45	BA	27	A2M	C5-C6	2.67	1.48	1.41
1	AA	4673	PSU	C4-N3	-2.67	1.33	1.38
45	BA	1004	PSU	C4-N3	-2.66	1.33	1.38
1	AA	4299	PSU	C4-N3	-2.66	1.33	1.38
1	AA	4293	PSU	C4-N3	-2.66	1.33	1.38
1	AA	3844	PSU	C4-N3	-2.66	1.33	1.38
1	AA	3695	PSU	C4-N3	-2.66	1.33	1.38
1	AA	3867	A2M	C5-C6	2.65	1.48	1.41
1	AA	1524	A2M	C5-C6	2.65	1.48	1.41
1	AA	4579	PSU	C4-N3	-2.65	1.33	1.38
45	BA	406	PSU	C4-N3	-2.65	1.33	1.38
1	AA	1582	PSU	C4-N3	-2.65	1.33	1.38
45	BA	1383	A2M	C5-C6	2.65	1.48	1.41
3	AC	14	OMU	C4-N3	-2.65	1.33	1.38
1	AA	400	A2M	C5-C6	2.65	1.48	1.41
1	AA	3825	A2M	C5-C6	2.64	1.48	1.41
45	BA	166	A2M	C5-C6	2.64	1.48	1.41
45	BA	1692	PSU	C4-N3	-2.64	1.33	1.38
1	AA	3718	A2M	C5-C6	2.64	1.48	1.41
1	AA	4312	PSU	C4-N3	-2.64	1.33	1.38
1	AA	4471	PSU	C4-N3	-2.64	1.33	1.38
1	AA	4590	A2M	C5-C6	2.64	1.48	1.41
1	AA	4628	PSU	C4-N3	-2.63	1.33	1.38
1	AA	2401	A2M	C5-C6	2.63	1.48	1.41
1	AA	1860	PSU	C4-N3	-2.63	1.34	1.38
1	AA	3851	PSU	C4-N3	-2.63	1.34	1.38
1	AA	4532	PSU	C4-N3	-2.63	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	4973	PSU	C4-N3	-2.63	1.34	1.38
1	AA	2508	PSU	C4-N3	-2.63	1.34	1.38
45	BA	1136	PSU	C4-N3	-2.63	1.34	1.38
1	AA	4431	PSU	C4-N3	-2.63	1.34	1.38
45	BA	1232	PSU	C4-N3	-2.62	1.34	1.38
1	AA	2363	A2M	C5-C6	2.62	1.48	1.41
1	AA	2839	PSU	C4-N3	-2.62	1.34	1.38
1	AA	3770	PSU	C4-N3	-2.62	1.34	1.38
1	AA	4442	PSU	C4-N3	-2.62	1.34	1.38
45	BA	1045	PSU	C4-N3	-2.62	1.34	1.38
1	AA	3639	PSU	C4-N3	-2.62	1.34	1.38
45	BA	651	PSU	C4-N3	-2.62	1.34	1.38
1	AA	1792	PSU	C4-N3	-2.62	1.34	1.38
45	BA	296	PSU	C4-N3	-2.62	1.34	1.38
45	BA	815	PSU	C4-N3	-2.62	1.34	1.38
45	BA	686	PSU	C4-N3	-2.62	1.34	1.38
45	BA	801	PSU	C4-N3	-2.62	1.34	1.38
45	BA	814	PSU	C4-N3	-2.61	1.34	1.38
45	BA	1625	PSU	C4-N3	-2.61	1.34	1.38
1	AA	4296	PSU	C4-N3	-2.61	1.34	1.38
1	AA	4353	PSU	C4-N3	-2.61	1.34	1.38
1	AA	3768	PSU	C4-N3	-2.61	1.34	1.38
45	BA	649	PSU	C4-N3	-2.61	1.34	1.38
1	AA	3920	PSU	C4-N3	-2.61	1.34	1.38
1	AA	1316	OMG	C6-N1	-2.61	1.34	1.38
45	BA	63	PSU	C4-N3	-2.61	1.34	1.38
45	BA	1186	PSU	C4-N3	-2.61	1.34	1.38
1	AA	4620	OMU	C4-N3	-2.61	1.33	1.38
45	BA	966	PSU	C4-N3	-2.61	1.34	1.38
45	BA	863	PSU	C4-N3	-2.61	1.34	1.38
1	AA	1781	PSU	C4-N3	-2.60	1.34	1.38
1	AA	4361	PSU	C4-N3	-2.60	1.34	1.38
45	BA	667	PSU	C4-N3	-2.60	1.34	1.38
1	AA	1326	A2M	C5-C6	2.60	1.48	1.41
45	BA	99	A2M	C5-C6	2.60	1.48	1.41
45	BA	109	PSU	C4-N3	-2.60	1.34	1.38
1	AA	1536	PSU	C4-N3	-2.60	1.34	1.38
45	BA	1367	PSU	C4-N3	-2.60	1.34	1.38
1	AA	1744	PSU	C4-N3	-2.60	1.34	1.38
45	BA	105	PSU	C4-N3	-2.60	1.34	1.38
45	BA	159	A2M	C5-C6	2.60	1.48	1.41
45	BA	1445	PSU	C4-N3	-2.60	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	4576	PSU	C4-N3	-2.60	1.34	1.38
45	BA	100	PSU	C4-N3	-2.60	1.34	1.38
45	BA	1177	PSU	C4-N3	-2.60	1.34	1.38
1	AA	1683	PSU	C4-N3	-2.59	1.34	1.38
45	BA	1174	PSU	C4-N3	-2.59	1.34	1.38
1	AA	5010	PSU	C4-N3	-2.59	1.34	1.38
45	BA	1248	B8N	C4-N3	-2.59	1.35	1.40
45	BA	1643	PSU	C4-N3	-2.59	1.34	1.38
45	BA	93	PSU	C4-N3	-2.59	1.34	1.38
1	AA	1323	A2M	C5-C6	2.59	1.48	1.41
45	BA	918	PSU	C4-N3	-2.59	1.34	1.38
1	AA	4972	PSU	C4-N3	-2.59	1.34	1.38
1	AA	1782	PSU	C4-N3	-2.58	1.34	1.38
45	BA	1244	PSU	C4-N3	-2.58	1.34	1.38
1	AA	4523	A2M	C5-C6	2.58	1.48	1.41
45	BA	1003	PSU	C4-N3	-2.58	1.34	1.38
45	BA	1347	PSU	C4-N3	-2.58	1.34	1.38
1	AA	2632	PSU	C4-N3	-2.58	1.34	1.38
1	AA	3792	OMG	C6-N1	-2.58	1.34	1.38
45	BA	1596	PSU	C4-N3	-2.58	1.34	1.38
1	AA	4306	OMU	C4-N3	-2.58	1.33	1.38
1	AA	3925	OMU	C4-N3	-2.57	1.33	1.38
1	AA	4196	OMG	C6-N1	-2.57	1.34	1.38
1	AA	4500	PSU	C4-N3	-2.57	1.34	1.38
1	AA	4637	OMG	C6-N1	-2.57	1.34	1.38
45	BA	300	PSU	C4-N3	-2.57	1.34	1.38
1	AA	3830	A2M	C5-C6	2.57	1.48	1.41
1	AA	3762	PSU	C4-N3	-2.57	1.34	1.38
1	AA	4392	OMG	C6-N1	-2.57	1.34	1.38
45	BA	867	OMG	C6-N1	-2.57	1.34	1.38
3	AC	69	PSU	C4-N3	-2.57	1.34	1.38
1	AA	2876	OMG	C6-N1	-2.57	1.34	1.38
45	BA	1238	PSU	C4-N3	-2.57	1.34	1.38
45	BA	34	PSU	C4-N3	-2.56	1.34	1.38
45	BA	866	PSU	C4-N3	-2.56	1.34	1.38
45	BA	218	PSU	C4-N3	-2.56	1.34	1.38
1	AA	3853	PSU	C4-N3	-2.56	1.34	1.38
45	BA	1360	PSU	C4-N3	-2.55	1.34	1.38
1	AA	1871	A2M	C5-C6	2.55	1.48	1.41
1	AA	4623	OMG	C6-N1	-2.55	1.34	1.38
3	AC	75	OMG	C6-N1	-2.55	1.34	1.38
45	BA	119	PSU	C4-N3	-2.54	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	BA	572	PSU	C4-N3	-2.54	1.34	1.38
1	AA	1779	PSU	C4-N3	-2.54	1.34	1.38
1	AA	3785	A2M	C5-C6	2.54	1.48	1.41
1	AA	3764	PSU	C4-N3	-2.54	1.34	1.38
1	AA	4423	PSU	C4-N3	-2.53	1.34	1.38
1	AA	2787	A2M	C5-C6	2.53	1.48	1.41
1	AA	2424	OMG	C6-N1	-2.53	1.34	1.38
1	AA	3899	OMG	C6-N1	-2.53	1.34	1.38
1	AA	4494	OMG	C6-N1	-2.52	1.34	1.38
1	AA	4227	OMU	C4-N3	-2.52	1.34	1.38
1	AA	1625	OMG	C6-N1	-2.52	1.34	1.38
1	AA	2837	OMU	C4-N3	-2.51	1.34	1.38
1	AA	1522	OMG	C6-N1	-2.51	1.34	1.38
1	AA	4220	6MZ	C5-C6	2.51	1.48	1.41
1	AA	2415	OMU	C4-N3	-2.51	1.34	1.38
45	BA	1046	PSU	C4-N3	-2.50	1.34	1.38
1	AA	3715	PSU	C4-N3	-2.50	1.34	1.38
1	AA	3627	OMG	C6-N1	-2.50	1.34	1.38
1	AA	3744	OMG	C6-N1	-2.50	1.34	1.38
45	BA	1804	OMU	C4-N3	-2.50	1.34	1.38
1	AA	4499	OMG	C6-N1	-2.50	1.34	1.38
45	BA	1490	OMG	C6-N1	-2.50	1.34	1.38
45	BA	36	PSU	C4-N3	-2.50	1.34	1.38
1	AA	4370	OMG	C6-N1	-2.48	1.34	1.38
45	BA	683	OMG	C6-N1	-2.48	1.34	1.38
45	BA	601	OMG	C6-N1	-2.47	1.34	1.38
45	BA	116	OMU	C4-N3	-2.47	1.34	1.38
45	BA	1850	MA6	C8-N7	2.47	1.36	1.31
45	BA	1832	6MZ	C5-C6	2.46	1.48	1.41
45	BA	644	OMG	C6-N1	-2.46	1.34	1.38
45	BA	1442	OMU	C4-N3	-2.46	1.34	1.38
45	BA	1328	OMG	C6-N1	-2.46	1.34	1.38
45	BA	354	OMU	C4-N3	-2.46	1.34	1.38
1	AA	4498	OMU	C4-N3	-2.46	1.34	1.38
1	AA	2364	OMG	C6-N1	-2.45	1.34	1.38
45	BA	436	OMG	C6-N1	-2.45	1.34	1.38
45	BA	918	PSU	O4'-C1'	-2.45	1.40	1.43
45	BA	172	OMU	C4-N3	-2.44	1.34	1.38
45	BA	468	A2M	C8-N7	2.44	1.36	1.31
45	BA	1288	OMU	C4-N3	-2.44	1.34	1.38
1	AA	3724	A2M	C8-N7	2.43	1.36	1.31
45	BA	428	OMU	C4-N3	-2.43	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	4590	A2M	C8-N7	2.42	1.36	1.31
1	AA	2401	A2M	C8-N7	2.42	1.36	1.31
45	BA	512	A2M	C8-N7	2.41	1.36	1.31
45	BA	121	OMU	C4-N3	-2.41	1.34	1.38
1	AA	4228	OMG	C6-N1	-2.40	1.34	1.38
45	BA	668	A2M	C8-N7	2.40	1.36	1.31
45	BA	1678	A2M	C8-N7	2.40	1.36	1.31
45	BA	601	OMG	C5-N7	-2.39	1.34	1.39
45	BA	1851	MA6	C8-N7	2.39	1.36	1.31
1	AA	1534	A2M	C8-N7	2.39	1.36	1.31
1	AA	398	A2M	C8-N7	2.38	1.36	1.31
1	AA	400	A2M	C8-N7	2.38	1.36	1.31
45	BA	166	A2M	C5-N7	-2.38	1.34	1.39
1	AA	4618	OMG	C6-N1	-2.37	1.34	1.38
1	AA	3867	A2M	C5-N7	-2.37	1.34	1.39
45	BA	576	A2M	C8-N7	2.37	1.36	1.31
45	BA	1804	OMU	C2-N1	2.36	1.42	1.38
1	AA	3825	A2M	C5-N7	-2.36	1.34	1.39
1	AA	3785	A2M	C8-N7	2.35	1.36	1.31
45	BA	1447	OMG	C6-N1	-2.35	1.34	1.38
45	BA	1031	A2M	C8-N7	2.35	1.36	1.31
1	AA	1323	A2M	C8-N7	2.35	1.36	1.31
1	AA	4571	A2M	C8-N7	2.35	1.36	1.31
1	AA	3830	A2M	C5-N7	-2.34	1.34	1.39
1	AA	1524	A2M	C5-N7	-2.34	1.34	1.39
1	AA	2787	A2M	C5-N7	-2.34	1.34	1.39
45	BA	1383	A2M	C8-N7	2.34	1.36	1.31
45	BA	590	A2M	C8-N7	2.34	1.36	1.31
1	AA	2363	A2M	C8-N7	2.33	1.36	1.31
1	AA	4447	5MC	C6-N1	-2.33	1.34	1.38
1	AA	4523	A2M	C8-N7	2.32	1.36	1.31
1	AA	3825	A2M	C8-N7	2.32	1.36	1.31
45	BA	509	OMG	C6-N1	-2.32	1.34	1.38
1	AA	3718	A2M	C8-N7	2.32	1.36	1.31
1	AA	1323	A2M	C5-N7	-2.32	1.34	1.39
45	BA	27	A2M	C8-N7	2.32	1.36	1.31
1	AA	3867	A2M	C8-N7	2.31	1.36	1.31
1	AA	1326	A2M	C5-N7	-2.31	1.34	1.39
45	BA	484	A2M	C8-N7	2.31	1.36	1.31
45	BA	867	OMG	C5-N7	-2.30	1.34	1.39
1	AA	1524	A2M	C8-N7	2.30	1.36	1.31
1	AA	2815	A2M	C5-N7	-2.30	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	4220	6MZ	C5-N7	-2.30	1.34	1.39
45	BA	99	A2M	C5-N7	-2.30	1.34	1.39
45	BA	99	A2M	C8-N7	2.30	1.35	1.31
1	AA	1871	A2M	C5-N7	-2.29	1.34	1.39
45	BA	27	A2M	C5-N7	-2.29	1.34	1.39
45	BA	159	A2M	C5-N7	-2.29	1.34	1.39
1	AA	1316	OMG	C5-N7	-2.29	1.34	1.39
1	AA	2876	OMG	C5-N7	-2.29	1.34	1.39
1	AA	3792	OMG	C5-N7	-2.29	1.34	1.39
45	BA	1442	OMU	C2-N1	2.29	1.42	1.38
1	AA	1871	A2M	C8-N7	2.28	1.35	1.31
1	AA	4220	6MZ	C8-N7	2.28	1.35	1.31
1	AA	3718	A2M	C5-N7	-2.28	1.34	1.39
1	AA	1326	A2M	C8-N7	2.28	1.35	1.31
45	BA	590	A2M	C5-N7	-2.27	1.34	1.39
1	AA	4494	OMG	C5-N7	-2.27	1.34	1.39
1	AA	2363	A2M	C5-N7	-2.27	1.34	1.39
1	AA	2815	A2M	C8-N7	2.27	1.35	1.31
3	AC	75	OMG	C5-N7	-2.27	1.34	1.39
45	BA	1832	6MZ	C5-N7	-2.26	1.34	1.39
1	AA	3830	A2M	C8-N7	2.26	1.35	1.31
1	AA	1534	A2M	C5-N7	-2.26	1.34	1.39
1	AA	3785	A2M	C5-N7	-2.26	1.34	1.39
1	AA	4196	OMG	C5-N7	-2.26	1.34	1.39
45	BA	1490	OMG	C5-N7	-2.25	1.34	1.39
1	AA	4523	A2M	C5-N7	-2.25	1.34	1.39
1	AA	2424	OMG	C5-N7	-2.25	1.34	1.39
1	AA	4637	OMG	C5-N7	-2.25	1.34	1.39
45	BA	1832	6MZ	C8-N7	2.25	1.35	1.31
45	BA	1031	A2M	C5-N7	-2.24	1.34	1.39
1	AA	2415	OMU	C2-N1	2.24	1.42	1.38
1	AA	2401	A2M	C5-N7	-2.24	1.34	1.39
1	AA	4227	OMU	C2-N1	2.24	1.42	1.38
1	AA	4590	A2M	C5-N7	-2.23	1.34	1.39
45	BA	484	A2M	C5-N7	-2.23	1.34	1.39
45	BA	576	A2M	C5-N7	-2.22	1.34	1.39
45	BA	1639	G7M	O6-C6	-2.22	1.19	1.23
45	BA	159	A2M	C8-N7	2.22	1.35	1.31
1	AA	4623	OMG	C5-N7	-2.21	1.34	1.39
45	BA	166	A2M	C8-N7	2.21	1.35	1.31
45	BA	512	A2M	C5-N7	-2.21	1.34	1.39
1	AA	2787	A2M	C8-N7	2.21	1.35	1.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	BA	1639	G7M	O3'-C3'	2.21	1.48	1.43
45	BA	668	A2M	C5-N7	-2.21	1.34	1.39
1	AA	3782	5MC	C6-N1	-2.21	1.34	1.38
1	AA	4499	OMG	C5-N7	-2.21	1.34	1.39
1	AA	1522	OMG	C5-N7	-2.20	1.34	1.39
3	AC	14	OMU	C2-N1	2.20	1.42	1.38
1	AA	398	A2M	C5-N7	-2.20	1.34	1.39
1	AA	400	A2M	C5-N7	-2.20	1.34	1.39
1	AA	4571	A2M	C5-N7	-2.20	1.34	1.39
1	AA	2364	OMG	C5-N7	-2.20	1.34	1.39
45	BA	1328	OMG	C5-N7	-2.20	1.34	1.39
45	BA	1678	A2M	C5-N7	-2.19	1.34	1.39
1	AA	3899	OMG	C5-N7	-2.19	1.34	1.39
45	BA	1383	A2M	C5-N7	-2.19	1.34	1.39
45	BA	683	OMG	C5-N7	-2.19	1.34	1.39
45	BA	1639	G7M	C2'-C1'	2.19	1.60	1.53
1	AA	1625	OMG	C5-N7	-2.19	1.34	1.39
1	AA	3744	OMG	C5-N7	-2.19	1.34	1.39
45	BA	644	OMG	C5-N7	-2.18	1.34	1.39
45	BA	1639	G7M	C5-C4	2.17	1.43	1.38
1	AA	4227	OMU	C2-N3	-2.17	1.34	1.38
1	AA	3724	A2M	C5-N7	-2.17	1.34	1.39
1	AA	1322	1MA	C2-N3	2.16	1.34	1.30
1	AA	4392	OMG	C5-N7	-2.16	1.34	1.39
1	AA	1322	1MA	C5-N7	-2.16	1.34	1.39
1	AA	4370	OMG	C5-N7	-2.16	1.34	1.39
3	AC	14	OMU	C2-N3	-2.16	1.34	1.38
1	AA	3627	OMG	C5-N7	-2.16	1.34	1.39
1	AA	4620	OMU	C2-N3	-2.16	1.34	1.38
1	AA	4306	OMU	C2-N3	-2.15	1.34	1.38
1	AA	4498	OMU	C2-N3	-2.14	1.34	1.38
45	BA	468	A2M	C5-N7	-2.14	1.35	1.39
1	AA	4618	OMG	C5-N7	-2.14	1.34	1.39
45	BA	1288	OMU	C2-N1	2.13	1.41	1.38
45	BA	509	OMG	C5-N7	-2.13	1.35	1.39
1	AA	2837	OMU	C2-N3	-2.12	1.34	1.38
1	AA	4530	UR3	C2-N1	2.12	1.41	1.38
3	AC	14	OMU	C5-C4	-2.12	1.38	1.43
1	AA	3925	OMU	C2-N3	-2.11	1.34	1.38
45	BA	1851	MA6	C5-N7	-2.10	1.35	1.39
45	BA	436	OMG	C5-N7	-2.10	1.35	1.39
45	BA	172	OMU	C2-N3	-2.10	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	BA	1804	OMU	C5-C4	-2.09	1.39	1.43
1	AA	2415	OMU	C2-N3	-2.09	1.34	1.38
45	BA	1850	MA6	C5-N7	-2.09	1.35	1.39
45	BA	116	OMU	C2-N3	-2.09	1.34	1.38
45	BA	354	OMU	C2-N1	2.07	1.41	1.38
45	BA	814	PSU	O4'-C1'	-2.07	1.41	1.43
45	BA	1442	OMU	C2-N3	-2.07	1.34	1.38
1	AA	4228	OMG	C5-N7	-2.06	1.35	1.39
45	BA	428	OMU	C2-N3	-2.06	1.34	1.38
45	BA	1447	OMG	C5-N7	-2.06	1.35	1.39
1	AA	2837	OMU	C2-N1	2.05	1.41	1.38
1	AA	4620	OMU	C2-N1	2.05	1.41	1.38
1	AA	4306	OMU	C5-C4	-2.04	1.39	1.43
1	AA	3637	PSU	C2-N3	-2.04	1.34	1.37
1	AA	4306	OMU	C2-N1	2.03	1.41	1.38
45	BA	354	OMU	C2-N3	-2.03	1.34	1.38
45	BA	116	OMU	C5-C4	-2.03	1.39	1.43
1	AA	4620	OMU	C5-C4	-2.02	1.39	1.43
45	BA	121	OMU	C2-N3	-2.01	1.34	1.38
45	BA	1804	OMU	C2-N3	-2.01	1.34	1.38

All (968) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	590	A2M	C5-C4-N3	-7.25	117.29	126.75
45	BA	867	OMG	C5-C4-N3	-6.93	117.22	128.46
1	AA	2815	A2M	C5-C4-N3	-6.91	117.73	126.75
1	AA	3867	A2M	C5-C4-N3	-6.69	118.03	126.75
45	BA	484	A2M	C5-C4-N3	-6.54	118.21	126.75
1	AA	3830	A2M	C5-C4-N3	-6.53	118.23	126.75
1	AA	1326	A2M	C5-C4-N3	-6.52	118.24	126.75
45	BA	1678	A2M	C5-C4-N3	-6.52	118.24	126.75
45	BA	166	A2M	C5-C4-N3	-6.50	118.27	126.75
1	AA	3792	OMG	C5-C4-N3	-6.49	117.93	128.46
45	BA	99	A2M	C5-C4-N3	-6.49	118.29	126.75
1	AA	4196	OMG	C5-C4-N3	-6.48	117.95	128.46
1	AA	3637	PSU	N1-C2-N3	6.47	122.46	115.13
1	AA	3718	A2M	C5-C4-N3	-6.45	118.33	126.75
45	BA	1832	6MZ	C5-C4-N3	-6.41	118.39	126.75
1	AA	1524	A2M	C5-C4-N3	-6.40	118.39	126.75
45	BA	1850	MA6	C5-C4-N3	-6.39	118.41	126.75
45	BA	601	OMG	C5-C4-N3	-6.38	118.11	128.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	1031	A2M	C5-C4-N3	-6.37	118.44	126.75
1	AA	2363	A2M	C5-C4-N3	-6.36	118.45	126.75
3	AC	75	OMG	C5-C4-N3	-6.36	118.15	128.46
1	AA	3825	A2M	C5-C4-N3	-6.35	118.46	126.75
45	BA	159	A2M	C5-C4-N3	-6.35	118.46	126.75
45	BA	27	A2M	C5-C4-N3	-6.34	118.48	126.75
1	AA	3724	A2M	C5-C4-N3	-6.33	118.49	126.75
1	AA	4220	6MZ	C5-C4-N3	-6.33	118.50	126.75
45	BA	668	A2M	C5-C4-N3	-6.32	118.50	126.75
45	BA	576	A2M	C5-C4-N3	-6.32	118.51	126.75
1	AA	4590	A2M	C5-C4-N3	-6.32	118.51	126.75
1	AA	2787	A2M	C5-C4-N3	-6.31	118.52	126.75
1	AA	4637	OMG	C5-C4-N3	-6.31	118.23	128.46
45	BA	512	A2M	C5-C4-N3	-6.30	118.53	126.75
1	AA	1323	A2M	C5-C4-N3	-6.30	118.53	126.75
1	AA	2876	OMG	C5-C4-N3	-6.28	118.27	128.46
1	AA	4499	OMG	C5-C4-N3	-6.28	118.27	128.46
1	AA	1534	A2M	C5-C4-N3	-6.28	118.56	126.75
1	AA	1316	OMG	C5-C4-N3	-6.27	118.29	128.46
1	AA	400	A2M	C5-C4-N3	-6.26	118.59	126.75
45	BA	1383	A2M	C5-C4-N3	-6.24	118.60	126.75
1	AA	2424	OMG	C5-C4-N3	-6.23	118.35	128.46
1	AA	398	A2M	C5-C4-N3	-6.22	118.63	126.75
1	AA	3744	OMG	C5-C4-N3	-6.22	118.37	128.46
1	AA	2401	A2M	C5-C4-N3	-6.22	118.64	126.75
45	BA	468	A2M	C5-C4-N3	-6.22	118.64	126.75
1	AA	4571	A2M	C5-C4-N3	-6.21	118.64	126.75
1	AA	4523	A2M	C5-C4-N3	-6.20	118.66	126.75
1	AA	4618	OMG	C5-C4-N3	-6.20	118.41	128.46
1	AA	2364	OMG	C5-C4-N3	-6.18	118.44	128.46
45	BA	683	OMG	C5-C4-N3	-6.17	118.45	128.46
1	AA	3785	A2M	C5-C4-N3	-6.16	118.71	126.75
1	AA	1871	A2M	C5-C4-N3	-6.14	118.74	126.75
45	BA	509	OMG	C5-C4-N3	-6.13	118.51	128.46
45	BA	1328	OMG	C5-C4-N3	-6.13	118.52	128.46
45	BA	1851	MA6	C5-C4-N3	-6.12	118.76	126.75
1	AA	4636	PSU	N1-C2-N3	6.12	122.06	115.13
1	AA	4623	OMG	C5-C4-N3	-6.12	118.54	128.46
1	AA	1625	OMG	C5-C4-N3	-6.11	118.55	128.46
1	AA	4494	OMG	C5-C4-N3	-6.10	118.56	128.46
1	AA	4392	OMG	C5-C4-N3	-6.10	118.57	128.46
1	AA	4457	PSU	N1-C2-N3	6.09	122.03	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	3899	OMG	C5-C4-N3	-6.08	118.59	128.46
45	BA	801	PSU	N1-C2-N3	6.07	122.00	115.13
1	AA	4628	PSU	N1-C2-N3	6.05	121.98	115.13
1	AA	3627	OMG	C5-C4-N3	-6.02	118.69	128.46
45	BA	609	PSU	N1-C2-N3	6.02	121.95	115.13
1	AA	4521	PSU	N1-C2-N3	6.01	121.94	115.13
1	AA	3920	PSU	N1-C2-N3	6.00	121.93	115.13
45	BA	1643	PSU	N1-C2-N3	6.00	121.93	115.13
1	AA	4370	OMG	C5-C4-N3	-6.00	118.73	128.46
1	AA	4442	PSU	N1-C2-N3	6.00	121.92	115.13
1	AA	4403	PSU	N1-C2-N3	5.99	121.92	115.13
1	AA	1677	PSU	N1-C2-N3	5.98	121.91	115.13
1	AA	3768	PSU	N1-C2-N3	5.98	121.90	115.13
1	AA	3695	PSU	N1-C2-N3	5.97	121.90	115.13
1	AA	4493	PSU	N1-C2-N3	5.97	121.90	115.13
1	AA	4579	PSU	N1-C2-N3	5.97	121.90	115.13
45	BA	814	PSU	N1-C2-N3	5.97	121.90	115.13
45	BA	644	OMG	C5-C4-N3	-5.97	118.78	128.46
1	AA	4532	PSU	N1-C2-N3	5.97	121.89	115.13
45	BA	1447	OMG	C5-C4-N3	-5.97	118.78	128.46
45	BA	63	PSU	N1-C2-N3	5.96	121.89	115.13
45	BA	1490	OMG	C5-C4-N3	-5.96	118.79	128.46
1	AA	1862	PSU	N1-C2-N3	5.96	121.88	115.13
1	AA	4471	PSU	N1-C2-N3	5.96	121.88	115.13
45	BA	1692	PSU	N1-C2-N3	5.95	121.88	115.13
1	AA	3822	PSU	N1-C2-N3	5.95	121.88	115.13
1	AA	4296	PSU	N1-C2-N3	5.95	121.87	115.13
1	AA	1522	OMG	C5-C4-N3	-5.95	118.81	128.46
45	BA	1367	PSU	N1-C2-N3	5.94	121.86	115.13
45	BA	1003	PSU	N1-C2-N3	5.94	121.86	115.13
45	BA	1232	PSU	N1-C2-N3	5.94	121.86	115.13
1	AA	4423	PSU	N1-C2-N3	5.93	121.85	115.13
45	BA	366	PSU	N1-C2-N3	5.93	121.85	115.13
1	AA	5001	PSU	N1-C2-N3	5.93	121.84	115.13
1	AA	5010	PSU	N1-C2-N3	5.93	121.84	115.13
3	AC	55	PSU	N1-C2-N3	5.92	121.84	115.13
45	BA	1625	PSU	N1-C2-N3	5.92	121.84	115.13
1	AA	3730	PSU	N1-C2-N3	5.92	121.83	115.13
45	BA	406	PSU	N1-C2-N3	5.92	121.83	115.13
1	AA	1744	PSU	N1-C2-N3	5.92	121.83	115.13
45	BA	105	PSU	N1-C2-N3	5.91	121.83	115.13
45	BA	686	PSU	N1-C2-N3	5.91	121.83	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1781	PSU	N1-C2-N3	5.91	121.83	115.13
1	AA	4973	PSU	N1-C2-N3	5.91	121.82	115.13
1	AA	3844	PSU	N1-C2-N3	5.90	121.82	115.13
45	BA	34	PSU	N1-C2-N3	5.90	121.82	115.13
45	BA	1445	PSU	N1-C2-N3	5.90	121.82	115.13
1	AA	4431	PSU	N1-C2-N3	5.90	121.82	115.13
45	BA	1136	PSU	N1-C2-N3	5.89	121.81	115.13
45	BA	436	OMG	C5-C4-N3	-5.89	118.90	128.46
1	AA	3770	PSU	N1-C2-N3	5.89	121.81	115.13
1	AA	4312	PSU	N1-C2-N3	5.89	121.81	115.13
45	BA	651	PSU	N1-C2-N3	5.89	121.80	115.13
45	BA	863	PSU	N1-C2-N3	5.89	121.80	115.13
45	BA	1244	PSU	N1-C2-N3	5.89	121.80	115.13
1	AA	1536	PSU	N1-C2-N3	5.89	121.80	115.13
45	BA	1004	PSU	N1-C2-N3	5.89	121.80	115.13
45	BA	100	PSU	N1-C2-N3	5.88	121.80	115.13
1	AA	4576	PSU	N1-C2-N3	5.88	121.80	115.13
45	BA	649	PSU	N1-C2-N3	5.88	121.80	115.13
1	AA	3762	PSU	N1-C2-N3	5.88	121.80	115.13
45	BA	1177	PSU	N1-C2-N3	5.88	121.79	115.13
1	AA	4353	PSU	N1-C2-N3	5.88	121.79	115.13
45	BA	866	PSU	N1-C2-N3	5.88	121.79	115.13
1	AA	1860	PSU	N1-C2-N3	5.87	121.78	115.13
1	AA	4299	PSU	N1-C2-N3	5.87	121.78	115.13
45	BA	1174	PSU	N1-C2-N3	5.87	121.78	115.13
1	AA	4500	PSU	N1-C2-N3	5.86	121.77	115.13
1	AA	3639	PSU	N1-C2-N3	5.86	121.77	115.13
1	AA	4552	PSU	N1-C2-N3	5.86	121.77	115.13
45	BA	822	PSU	N1-C2-N3	5.86	121.77	115.13
1	AA	2508	PSU	N1-C2-N3	5.85	121.76	115.13
45	BA	966	PSU	N1-C2-N3	5.85	121.76	115.13
45	BA	918	PSU	N1-C2-N3	5.85	121.76	115.13
1	AA	3851	PSU	N1-C2-N3	5.85	121.76	115.13
1	AA	4972	PSU	N1-C2-N3	5.85	121.76	115.13
1	AA	3884	PSU	N1-C2-N3	5.84	121.75	115.13
45	BA	1056	PSU	N1-C2-N3	5.84	121.75	115.13
45	BA	300	PSU	N1-C2-N3	5.84	121.75	115.13
45	BA	1046	PSU	N1-C2-N3	5.83	121.74	115.13
1	AA	4673	PSU	N1-C2-N3	5.83	121.74	115.13
45	BA	1596	PSU	N1-C2-N3	5.83	121.73	115.13
1	AA	4293	PSU	N1-C2-N3	5.83	121.73	115.13
1	AA	2843	PSU	N1-C2-N3	5.83	121.73	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1779	PSU	N1-C2-N3	5.83	121.73	115.13
1	AA	1792	PSU	N1-C2-N3	5.82	121.73	115.13
1	AA	4361	PSU	N1-C2-N3	5.82	121.72	115.13
1	AA	3764	PSU	N1-C2-N3	5.82	121.72	115.13
45	BA	681	PSU	N1-C2-N3	5.82	121.72	115.13
1	AA	1782	PSU	N1-C2-N3	5.81	121.72	115.13
45	BA	109	PSU	N1-C2-N3	5.81	121.72	115.13
45	BA	667	PSU	N1-C2-N3	5.81	121.72	115.13
3	AC	69	PSU	N1-C2-N3	5.81	121.71	115.13
1	AA	1683	PSU	N1-C2-N3	5.81	121.71	115.13
1	AA	3715	PSU	N1-C2-N3	5.81	121.71	115.13
45	BA	1045	PSU	N1-C2-N3	5.81	121.71	115.13
1	AA	2839	PSU	N1-C2-N3	5.81	121.71	115.13
45	BA	1186	PSU	N1-C2-N3	5.81	121.71	115.13
45	BA	1347	PSU	N1-C2-N3	5.79	121.69	115.13
45	BA	1360	PSU	N1-C2-N3	5.79	121.69	115.13
45	BA	93	PSU	N1-C2-N3	5.79	121.69	115.13
45	BA	296	PSU	N1-C2-N3	5.78	121.68	115.13
45	BA	815	PSU	N1-C2-N3	5.76	121.65	115.13
45	BA	590	A2M	N3-C4-N9	5.75	136.56	127.08
45	BA	218	PSU	N1-C2-N3	5.75	121.64	115.13
1	AA	2632	PSU	N1-C2-N3	5.74	121.63	115.13
1	AA	1582	PSU	N1-C2-N3	5.72	121.61	115.13
45	BA	119	PSU	N1-C2-N3	5.72	121.61	115.13
1	AA	4689	PSU	N1-C2-N3	5.70	121.59	115.13
1	AA	3853	PSU	N1-C2-N3	5.70	121.58	115.13
45	BA	572	PSU	N1-C2-N3	5.70	121.58	115.13
45	BA	36	PSU	N1-C2-N3	5.69	121.58	115.13
1	AA	4228	OMG	C5-C4-N3	-5.68	119.24	128.46
1	AA	4530	UR3	C4-N3-C2	-5.66	119.23	124.56
45	BA	1238	PSU	N1-C2-N3	5.61	121.49	115.13
1	AA	2815	A2M	N3-C4-N9	5.37	135.94	127.08
45	BA	867	OMG	N9-C4-N3	5.31	136.60	125.94
45	BA	867	OMG	C2-N3-C4	5.27	121.69	112.30
1	AA	1322	1MA	C5-C4-N3	-5.27	119.40	127.26
1	AA	3867	A2M	N3-C4-N9	5.25	135.73	127.08
45	BA	99	A2M	N3-C4-N9	5.21	135.66	127.08
45	BA	166	A2M	N3-C4-N9	5.20	135.66	127.08
45	BA	1832	6MZ	N3-C4-N9	5.20	135.66	127.08
1	AA	3830	A2M	N3-C4-N9	5.18	135.61	127.08
1	AA	4618	OMG	C2-N3-C4	5.16	121.50	112.30
1	AA	1326	A2M	N3-C4-N9	5.11	135.51	127.08

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	509	OMG	C2-N3-C4	5.08	121.34	112.30
1	AA	2876	OMG	C2-N3-C4	5.06	121.31	112.30
1	AA	4196	OMG	C2-N3-C4	5.05	121.29	112.30
45	BA	159	A2M	N3-C4-N9	5.04	135.38	127.08
1	AA	2364	OMG	C2-N3-C4	5.03	121.27	112.30
1	AA	3792	OMG	C2-N3-C4	5.02	121.25	112.30
1	AA	2787	A2M	N3-C4-N9	5.01	135.34	127.08
1	AA	1524	A2M	N3-C4-N9	5.01	135.34	127.08
1	AA	4637	OMG	C2-N3-C4	5.01	121.23	112.30
45	BA	683	OMG	C2-N3-C4	4.99	121.20	112.30
45	BA	484	A2M	N3-C4-N9	4.99	135.30	127.08
1	AA	1323	A2M	N3-C4-N9	4.99	135.30	127.08
1	AA	3825	A2M	N3-C4-N9	4.97	135.26	127.08
45	BA	601	OMG	N9-C4-N3	4.96	135.90	125.94
45	BA	27	A2M	N3-C4-N9	4.96	135.25	127.08
1	AA	4499	OMG	C2-N3-C4	4.95	121.13	112.30
45	BA	1031	A2M	N3-C4-N9	4.95	135.24	127.08
1	AA	3718	A2M	N3-C4-N9	4.95	135.24	127.08
1	AA	1316	OMG	C2-N3-C4	4.95	121.12	112.30
45	BA	1678	A2M	N3-C4-N9	4.95	135.24	127.08
1	AA	400	A2M	N3-C4-N9	4.94	135.22	127.08
3	AC	75	OMG	C2-N3-C4	4.94	121.10	112.30
45	BA	1383	A2M	N3-C4-N9	4.93	135.21	127.08
1	AA	3899	OMG	C2-N3-C4	4.93	121.08	112.30
1	AA	3744	OMG	C2-N3-C4	4.92	121.06	112.30
1	AA	3792	OMG	N9-C4-N3	4.90	135.78	125.94
1	AA	1522	OMG	C2-N3-C4	4.90	121.03	112.30
1	AA	2363	A2M	N3-C4-N9	4.90	135.16	127.08
1	AA	4196	OMG	N9-C4-N3	4.90	135.78	125.94
45	BA	576	A2M	N3-C4-N9	4.89	135.14	127.08
1	AA	2424	OMG	C2-N3-C4	4.89	121.01	112.30
1	AA	4370	OMG	C2-N3-C4	4.89	121.00	112.30
1	AA	3785	A2M	N3-C4-N9	4.89	135.13	127.08
1	AA	4571	A2M	N3-C4-N9	4.88	135.12	127.08
45	BA	512	A2M	N3-C4-N9	4.88	135.12	127.08
1	AA	4392	OMG	C2-N3-C4	4.88	120.99	112.30
1	AA	4590	A2M	N3-C4-N9	4.87	135.11	127.08
1	AA	4523	A2M	N3-C4-N9	4.87	135.11	127.08
1	AA	3627	OMG	C2-N3-C4	4.87	120.98	112.30
45	BA	1447	OMG	C2-N3-C4	4.86	120.96	112.30
45	BA	668	A2M	N3-C4-N9	4.86	135.09	127.08
1	AA	1625	OMG	C2-N3-C4	4.86	120.95	112.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	4220	6MZ	N3-C4-N9	4.86	135.08	127.08
1	AA	4623	OMG	C2-N3-C4	4.85	120.94	112.30
1	AA	3724	A2M	N3-C4-N9	4.85	135.07	127.08
45	BA	601	OMG	C2-N3-C4	4.84	120.92	112.30
45	BA	1328	OMG	C2-N3-C4	4.84	120.92	112.30
1	AA	398	A2M	N3-C4-N9	4.83	135.05	127.08
45	BA	436	OMG	C2-N3-C4	4.83	120.91	112.30
1	AA	4494	OMG	C2-N3-C4	4.83	120.90	112.30
1	AA	1871	A2M	N3-C4-N9	4.82	135.03	127.08
45	BA	468	A2M	N3-C4-N9	4.81	135.00	127.08
1	AA	2401	A2M	N3-C4-N9	4.79	134.97	127.08
45	BA	644	OMG	C2-N3-C4	4.78	120.81	112.30
1	AA	4228	OMG	C2-N3-C4	4.76	120.78	112.30
3	AC	75	OMG	N9-C4-N3	4.75	135.48	125.94
1	AA	4499	OMG	N9-C4-N3	4.73	135.43	125.94
45	BA	1850	MA6	N3-C4-N9	4.72	134.86	127.08
45	BA	1490	OMG	C2-N3-C4	4.71	120.70	112.30
1	AA	1316	OMG	N9-C4-N3	4.70	135.38	125.94
1	AA	1322	1MA	C2-N3-C4	4.70	121.65	112.41
1	AA	1534	A2M	N3-C4-N9	4.69	134.81	127.08
45	BA	1328	OMG	N9-C4-N3	4.67	135.31	125.94
45	BA	1851	MA6	N3-C4-N9	4.66	134.76	127.08
1	AA	3818	UY1	C4-N3-C2	-4.64	119.65	126.34
1	AA	4494	OMG	N9-C4-N3	4.64	135.26	125.94
1	AA	2876	OMG	N9-C4-N3	4.64	135.25	125.94
1	AA	2424	OMG	N9-C4-N3	4.63	135.24	125.94
1	AA	4637	OMG	N9-C4-N3	4.62	135.21	125.94
45	BA	683	OMG	N9-C4-N3	4.62	135.21	125.94
1	AA	1625	OMG	N9-C4-N3	4.58	135.13	125.94
45	BA	1326	UY1	C4-N3-C2	-4.56	119.77	126.34
45	BA	1490	OMG	N9-C4-N3	4.55	135.08	125.94
1	AA	3744	OMG	N9-C4-N3	4.53	135.04	125.94
45	BA	1639	G7M	C2-N3-C4	4.51	120.33	112.30
45	BA	509	OMG	N9-C4-N3	4.51	134.99	125.94
45	BA	644	OMG	N9-C4-N3	4.50	134.97	125.94
45	BA	172	OMU	C4-N3-C2	-4.49	120.65	126.58
45	BA	428	OMU	C4-N3-C2	-4.46	120.70	126.58
1	AA	2364	OMG	N9-C4-N3	4.46	134.89	125.94
1	AA	4623	OMG	N9-C4-N3	4.46	134.89	125.94
1	AA	4618	OMG	N9-C4-N3	4.45	134.88	125.94
45	BA	1337	4AC	O7-C7-N4	4.45	129.02	121.82
1	AA	4498	OMU	C4-N3-C2	-4.45	120.71	126.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	1842	4AC	O7-C7-N4	4.44	129.01	121.82
1	AA	3925	OMU	C4-N3-C2	-4.44	120.73	126.58
1	AA	3627	OMG	N9-C4-N3	4.43	134.83	125.94
1	AA	4227	OMU	C4-N3-C2	-4.42	120.75	126.58
1	AA	3899	OMG	N9-C4-N3	4.39	134.76	125.94
1	AA	4392	OMG	N9-C4-N3	4.39	134.75	125.94
1	AA	4370	OMG	N9-C4-N3	4.37	134.72	125.94
45	BA	1851	MA6	C2-N1-C6	4.36	122.05	111.75
45	BA	121	OMU	C4-N3-C2	-4.35	120.84	126.58
45	BA	590	A2M	C2-N3-C4	4.35	122.03	111.75
3	AC	14	OMU	C4-N3-C2	-4.35	120.84	126.58
45	BA	1447	OMG	N9-C4-N3	4.35	134.67	125.94
45	BA	436	OMG	N9-C4-N3	4.33	134.64	125.94
45	BA	354	OMU	C4-N3-C2	-4.33	120.88	126.58
1	AA	2837	OMU	C4-N3-C2	-4.32	120.89	126.58
45	BA	1850	MA6	C2-N1-C6	4.27	121.83	111.75
1	AA	398	A2M	C2'-C1'-N9	-4.27	106.34	113.53
45	BA	1639	G7M	C5-C4-N3	-4.26	119.98	128.15
1	AA	1522	OMG	N9-C4-N3	4.26	134.48	125.94
1	AA	4620	OMU	C4-N3-C2	-4.25	120.97	126.58
1	AA	2415	OMU	C4-N3-C2	-4.25	120.97	126.58
45	BA	1850	MA6	C9-N6-C6	-4.25	109.38	120.40
45	BA	1442	OMU	C4-N3-C2	-4.23	121.00	126.58
3	AC	14	OMU	N3-C2-N1	4.19	120.46	114.89
1	AA	4498	OMU	N3-C2-N1	4.18	120.44	114.89
45	BA	1326	UY1	N1-C2-N3	4.18	119.86	115.13
1	AA	4447	5MC	C5-C6-N1	-4.17	119.05	123.34
1	AA	3818	UY1	N1-C2-N3	4.16	119.84	115.13
1	AA	3925	OMU	N3-C2-N1	4.15	120.40	114.89
1	AA	4227	OMU	N3-C2-N1	4.15	120.40	114.89
45	BA	1804	OMU	C4-N3-C2	-4.13	121.13	126.58
1	AA	2415	OMU	N3-C2-N1	4.12	120.36	114.89
1	AA	2837	OMU	N3-C2-N1	4.09	120.33	114.89
45	BA	121	OMU	N3-C2-N1	4.09	120.32	114.89
1	AA	4636	PSU	C4-N3-C2	-4.09	120.44	126.34
45	BA	354	OMU	N3-C2-N1	4.07	120.29	114.89
1	AA	2815	A2M	C2-N3-C4	4.06	121.35	111.75
45	BA	1851	MA6	C9-N6-C6	-4.06	109.87	120.40
45	BA	428	OMU	N3-C2-N1	4.05	120.27	114.89
45	BA	1678	A2M	C2-N3-C4	4.05	121.32	111.75
45	BA	1248	B8N	C4-N3-C2	-4.04	120.36	125.46
1	AA	4228	OMG	N9-C4-N3	4.03	134.04	125.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	4306	OMU	C4-N3-C2	-4.03	121.26	126.58
1	AA	1677	PSU	C4-N3-C2	-4.03	120.53	126.34
45	BA	172	OMU	N3-C2-N1	4.02	120.23	114.89
45	BA	1288	OMU	C4-N3-C2	-4.02	121.28	126.58
45	BA	116	OMU	C4-N3-C2	-4.01	121.30	126.58
45	BA	1804	OMU	N3-C2-N1	4.00	120.20	114.89
45	BA	1136	PSU	C4-N3-C2	-3.99	120.59	126.34
1	AA	3822	PSU	C4-N3-C2	-3.98	120.60	126.34
1	AA	4403	PSU	C4-N3-C2	-3.98	120.60	126.34
1	AA	3637	PSU	C4-N3-C2	-3.97	120.62	126.34
1	AA	4620	OMU	N3-C2-N1	3.96	120.15	114.89
45	BA	1177	PSU	C4-N3-C2	-3.96	120.64	126.34
1	AA	1326	A2M	C2-N3-C4	3.96	121.10	111.75
1	AA	4296	PSU	C4-N3-C2	-3.96	120.64	126.34
1	AA	4457	PSU	C4-N3-C2	-3.96	120.64	126.34
1	AA	3830	A2M	C2-N3-C4	3.95	121.08	111.75
1	AA	4293	PSU	C4-N3-C2	-3.94	120.66	126.34
45	BA	1442	OMU	N3-C2-N1	3.94	120.12	114.89
1	AA	1534	A2M	C2-N3-C4	3.94	121.05	111.75
1	AA	3724	A2M	C2-N3-C4	3.94	121.05	111.75
1	AA	3695	PSU	C4-N3-C2	-3.94	120.67	126.34
1	AA	1781	PSU	C4-N3-C2	-3.94	120.67	126.34
45	BA	1842	4AC	N4-C4-N3	3.93	120.45	113.85
45	BA	166	A2M	C2-N3-C4	3.93	121.03	111.75
1	AA	4306	OMU	N3-C2-N1	3.93	120.11	114.89
1	AA	1862	PSU	C4-N3-C2	-3.93	120.68	126.34
45	BA	99	A2M	C2-N3-C4	3.92	121.02	111.75
45	BA	801	PSU	C4-N3-C2	-3.92	120.69	126.34
45	BA	512	A2M	C2-N3-C4	3.91	121.00	111.75
1	AA	4590	A2M	C2-N3-C4	3.91	120.99	111.75
1	AA	4523	A2M	C2'-C1'-N9	-3.91	106.95	113.53
45	BA	300	PSU	C4-N3-C2	-3.90	120.71	126.34
1	AA	2401	A2M	C2-N3-C4	3.90	120.96	111.75
1	AA	3920	PSU	C4-N3-C2	-3.90	120.72	126.34
45	BA	116	OMU	N3-C2-N1	3.89	120.06	114.89
1	AA	4523	A2M	C2-N3-C4	3.89	120.95	111.75
1	AA	3785	A2M	C2-N3-C4	3.89	120.94	111.75
45	BA	814	PSU	C4-N3-C2	-3.89	120.73	126.34
1	AA	2843	PSU	C4-N3-C2	-3.88	120.74	126.34
1	AA	2363	A2M	C2-N3-C4	3.88	120.93	111.75
45	BA	484	A2M	C2-N3-C4	3.88	120.93	111.75
45	BA	1850	MA6	C2-N3-C4	3.88	120.93	111.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	4431	PSU	C4-N3-C2	-3.88	120.75	126.34
1	AA	4973	PSU	C4-N3-C2	-3.88	120.75	126.34
45	BA	468	A2M	C2-N3-C4	3.88	120.92	111.75
1	AA	398	A2M	C2-N3-C4	3.88	120.91	111.75
1	AA	1323	A2M	C2-N3-C4	3.88	120.91	111.75
45	BA	1232	PSU	C4-N3-C2	-3.87	120.76	126.34
45	BA	822	PSU	C4-N3-C2	-3.87	120.76	126.34
45	BA	1031	A2M	C2-N3-C4	3.87	120.90	111.75
1	AA	5001	PSU	C4-N3-C2	-3.87	120.76	126.34
45	BA	1288	OMU	N3-C2-N1	3.87	120.03	114.89
45	BA	1639	G7M	C5-C6-N1	3.87	119.87	111.79
1	AA	4972	PSU	C4-N3-C2	-3.87	120.76	126.34
1	AA	4220	6MZ	C2-N3-C4	3.87	120.89	111.75
1	AA	3867	A2M	C2-N3-C4	3.87	120.89	111.75
1	AA	1536	PSU	C4-N3-C2	-3.87	120.77	126.34
45	BA	1383	A2M	C2-N3-C4	3.87	120.89	111.75
45	BA	815	PSU	C4-N3-C2	-3.87	120.77	126.34
1	AA	4579	PSU	C4-N3-C2	-3.86	120.77	126.34
1	AA	3768	PSU	C4-N3-C2	-3.86	120.78	126.34
1	AA	4521	PSU	C4-N3-C2	-3.86	120.78	126.34
1	AA	4493	PSU	C4-N3-C2	-3.86	120.78	126.34
1	AA	400	A2M	C2-N3-C4	3.86	120.86	111.75
45	BA	1445	PSU	C4-N3-C2	-3.86	120.78	126.34
45	BA	63	PSU	C4-N3-C2	-3.85	120.78	126.34
45	BA	609	PSU	C4-N3-C2	-3.85	120.79	126.34
1	AA	4628	PSU	C4-N3-C2	-3.85	120.79	126.34
1	AA	5010	PSU	C4-N3-C2	-3.85	120.79	126.34
45	BA	1692	PSU	C4-N3-C2	-3.85	120.79	126.34
1	AA	3844	PSU	C4-N3-C2	-3.85	120.80	126.34
1	AA	4442	PSU	C4-N3-C2	-3.84	120.80	126.34
1	AA	1871	A2M	C2-N3-C4	3.84	120.82	111.75
1	AA	2787	A2M	C2-N3-C4	3.84	120.82	111.75
1	AA	4571	A2M	C2-N3-C4	3.84	120.82	111.75
1	AA	3730	PSU	C4-N3-C2	-3.84	120.81	126.34
45	BA	1625	PSU	C4-N3-C2	-3.84	120.81	126.34
45	BA	668	A2M	C2-N3-C4	3.84	120.82	111.75
45	BA	1337	4AC	N4-C4-N3	3.84	120.29	113.85
45	BA	651	PSU	C4-N3-C2	-3.83	120.81	126.34
45	BA	1832	6MZ	C2-N3-C4	3.83	120.81	111.75
45	BA	1045	PSU	C4-N3-C2	-3.83	120.82	126.34
45	BA	27	A2M	C2-N3-C4	3.83	120.80	111.75
45	BA	576	A2M	C2-N3-C4	3.83	120.79	111.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	4353	PSU	C4-N3-C2	-3.83	120.83	126.34
1	AA	4299	PSU	C4-N3-C2	-3.82	120.83	126.34
45	BA	1851	MA6	C2-N3-C4	3.82	120.78	111.75
1	AA	3825	A2M	C2-N3-C4	3.82	120.77	111.75
3	AC	55	PSU	C4-N3-C2	-3.82	120.84	126.34
1	AA	1782	PSU	C4-N3-C2	-3.81	120.84	126.34
45	BA	866	PSU	C4-N3-C2	-3.81	120.84	126.34
45	BA	1004	PSU	C4-N3-C2	-3.81	120.84	126.34
45	BA	1174	PSU	C4-N3-C2	-3.81	120.85	126.34
1	AA	1744	PSU	C4-N3-C2	-3.81	120.85	126.34
45	BA	686	PSU	C4-N3-C2	-3.81	120.85	126.34
45	BA	109	PSU	C4-N3-C2	-3.81	120.85	126.34
45	BA	406	PSU	C4-N3-C2	-3.81	120.85	126.34
45	BA	1643	PSU	C4-N3-C2	-3.81	120.85	126.34
45	BA	649	PSU	C4-N3-C2	-3.81	120.85	126.34
1	AA	1524	A2M	C2-N3-C4	3.81	120.74	111.75
45	BA	1003	PSU	C4-N3-C2	-3.81	120.86	126.34
45	BA	863	PSU	C4-N3-C2	-3.80	120.87	126.34
1	AA	1683	PSU	C4-N3-C2	-3.80	120.87	126.34
1	AA	4312	PSU	C4-N3-C2	-3.80	120.87	126.34
45	BA	34	PSU	C4-N3-C2	-3.80	120.87	126.34
45	BA	366	PSU	C4-N3-C2	-3.79	120.87	126.34
45	BA	100	PSU	C4-N3-C2	-3.79	120.88	126.34
1	AA	4552	PSU	C4-N3-C2	-3.79	120.88	126.34
1	AA	1779	PSU	C4-N3-C2	-3.79	120.88	126.34
45	BA	1851	MA6	C10-N6-C6	-3.79	110.58	120.40
45	BA	1244	PSU	C4-N3-C2	-3.78	120.89	126.34
1	AA	4471	PSU	C4-N3-C2	-3.78	120.89	126.34
45	BA	966	PSU	C4-N3-C2	-3.77	120.90	126.34
3	AC	69	PSU	C4-N3-C2	-3.77	120.90	126.34
1	AA	4576	PSU	C4-N3-C2	-3.77	120.90	126.34
1	AA	1871	A2M	C2'-C1'-N9	-3.77	107.18	113.53
1	AA	2508	PSU	C4-N3-C2	-3.77	120.91	126.34
1	AA	4423	PSU	C4-N3-C2	-3.76	120.91	126.34
1	AA	3718	A2M	C2-N3-C4	3.76	120.63	111.75
1	AA	4361	PSU	C4-N3-C2	-3.76	120.93	126.34
1	AA	3639	PSU	C4-N3-C2	-3.76	120.93	126.34
45	BA	159	A2M	C2-N3-C4	3.75	120.61	111.75
1	AA	1860	PSU	C4-N3-C2	-3.75	120.94	126.34
1	AA	3884	PSU	C4-N3-C2	-3.75	120.94	126.34
45	BA	1046	PSU	C4-N3-C2	-3.74	120.94	126.34
1	AA	3851	PSU	C4-N3-C2	-3.73	120.96	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	3762	PSU	C4-N3-C2	-3.73	120.97	126.34
45	BA	93	PSU	C4-N3-C2	-3.73	120.97	126.34
45	BA	1850	MA6	C10-N6-C6	-3.72	110.74	120.40
1	AA	4673	PSU	C4-N3-C2	-3.72	120.98	126.34
1	AA	4532	PSU	C4-N3-C2	-3.71	120.99	126.34
45	BA	1367	PSU	C4-N3-C2	-3.70	121.00	126.34
45	BA	667	PSU	C4-N3-C2	-3.68	121.04	126.34
45	BA	801	PSU	O2-C2-N1	-3.68	118.74	122.79
45	BA	918	PSU	C4-N3-C2	-3.68	121.04	126.34
45	BA	1851	MA6	N1-C6-N6	3.67	121.10	117.08
45	BA	1186	PSU	C4-N3-C2	-3.67	121.06	126.34
45	BA	105	PSU	C4-N3-C2	-3.67	121.06	126.34
45	BA	296	PSU	C4-N3-C2	-3.66	121.06	126.34
45	BA	1596	PSU	C4-N3-C2	-3.66	121.06	126.34
45	BA	572	PSU	C4-N3-C2	-3.65	121.08	126.34
45	BA	218	PSU	C4-N3-C2	-3.64	121.09	126.34
45	BA	1056	PSU	C4-N3-C2	-3.63	121.11	126.34
45	BA	119	PSU	C4-N3-C2	-3.63	121.11	126.34
45	BA	1643	PSU	O2-C2-N1	-3.63	118.79	122.79
1	AA	1779	PSU	O2-C2-N1	-3.62	118.80	122.79
1	AA	2839	PSU	C4-N3-C2	-3.61	121.14	126.34
45	BA	681	PSU	C4-N3-C2	-3.60	121.15	126.34
1	AA	3770	PSU	C4-N3-C2	-3.60	121.15	126.34
45	BA	1360	PSU	C4-N3-C2	-3.60	121.15	126.34
1	AA	3853	PSU	C4-N3-C2	-3.60	121.16	126.34
1	AA	3715	PSU	C4-N3-C2	-3.59	121.17	126.34
1	AA	1582	PSU	C4-N3-C2	-3.57	121.19	126.34
45	BA	428	OMU	C5-C4-N3	3.57	120.18	114.84
1	AA	2632	PSU	C4-N3-C2	-3.57	121.20	126.34
1	AA	4228	OMG	C6-C5-N7	3.56	136.88	130.25
1	AA	1792	PSU	C4-N3-C2	-3.56	121.20	126.34
45	BA	366	PSU	O2-C2-N1	-3.56	118.87	122.79
1	AA	3818	UY1	C6-C5-C4	3.56	120.68	118.20
1	AA	3925	OMU	C5-C4-N3	3.56	120.16	114.84
1	AA	4620	OMU	C5-C4-N3	3.54	120.14	114.84
45	BA	1850	MA6	C4-C5-N7	-3.54	106.31	110.62
45	BA	172	OMU	C5-C4-N3	3.54	120.13	114.84
1	AA	4498	OMU	C5-C4-N3	3.53	120.13	114.84
1	AA	4227	OMU	C5-C4-N3	3.53	120.13	114.84
1	AA	2351	OMC	O2-C2-N3	-3.53	116.59	122.33
1	AA	2787	A2M	C2'-C1'-N9	-3.53	107.59	113.53
45	BA	863	PSU	O2-C2-N1	-3.53	118.91	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	354	OMU	C5-C4-N3	3.52	120.11	114.84
1	AA	4500	PSU	C4-N3-C2	-3.52	121.27	126.34
1	AA	2837	OMU	C5-C4-N3	3.52	120.10	114.84
45	BA	1850	MA6	N1-C6-N6	3.51	120.93	117.08
1	AA	3764	PSU	C4-N3-C2	-3.51	121.28	126.34
45	BA	121	OMU	C5-C4-N3	3.51	120.09	114.84
1	AA	4457	PSU	O2-C2-N1	-3.51	118.93	122.79
1	AA	4571	A2M	C2'-C1'-N9	-3.50	107.63	113.53
45	BA	1347	PSU	C4-N3-C2	-3.49	121.31	126.34
45	BA	1442	OMU	C5-C4-N3	3.49	120.06	114.84
45	BA	1678	A2M	C4-C5-N7	-3.49	106.37	110.62
1	AA	1534	A2M	C4-C5-N7	-3.49	106.37	110.62
1	AA	4532	PSU	O2-C2-N1	-3.48	118.95	122.79
1	AA	3695	PSU	O2-C2-N1	-3.48	118.96	122.79
45	BA	1326	UY1	C6-C5-C4	3.48	120.63	118.20
1	AA	2351	OMC	C1'-N1-C2	3.48	126.18	118.42
1	AA	3639	PSU	O2-C2-N1	-3.47	118.97	122.79
45	BA	1851	MA6	C4-C5-N7	-3.47	106.39	110.62
1	AA	4442	PSU	O2-C2-N1	-3.47	118.97	122.79
45	BA	1003	PSU	O2-C2-N1	-3.47	118.97	122.79
1	AA	4689	PSU	C4-N3-C2	-3.46	121.35	126.34
1	AA	4423	PSU	O2-C2-N1	-3.45	119.00	122.79
45	BA	1238	PSU	C4-N3-C2	-3.44	121.38	126.34
3	AC	14	OMU	C5-C4-N3	3.44	119.98	114.84
45	BA	116	OMU	C5-C4-N3	3.43	119.97	114.84
1	AA	4306	OMU	C5-C4-N3	3.42	119.96	114.84
1	AA	2415	OMU	C5-C4-N3	3.42	119.96	114.84
1	AA	3764	PSU	O2-C2-N1	-3.42	119.02	122.79
45	BA	1596	PSU	O2-C2-N1	-3.42	119.02	122.79
1	AA	4628	PSU	O2-C2-N1	-3.42	119.02	122.79
1	AA	3770	PSU	O2-C2-N1	-3.42	119.03	122.79
45	BA	1244	PSU	O2-C2-N1	-3.42	119.03	122.79
1	AA	3762	PSU	O2-C2-N1	-3.42	119.03	122.79
45	BA	651	PSU	O2-C2-N1	-3.42	119.03	122.79
45	BA	1625	PSU	O2-C2-N1	-3.41	119.03	122.79
45	BA	63	PSU	O2-C2-N1	-3.41	119.04	122.79
3	AC	14	OMU	C1'-N1-C2	3.40	123.73	117.57
1	AA	1522	OMG	C6-C5-N7	3.40	136.58	130.25
1	AA	4296	PSU	O2-C2-N1	-3.40	119.05	122.79
45	BA	1288	OMU	C5-C4-N3	3.40	119.93	114.84
45	BA	296	PSU	O2-C2-N1	-3.40	119.05	122.79
1	AA	4471	PSU	O2-C2-N1	-3.39	119.05	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	4579	PSU	O2-C2-N1	-3.39	119.05	122.79
45	BA	866	PSU	O2-C2-N1	-3.39	119.05	122.79
1	AA	4521	PSU	O2-C2-N1	-3.39	119.06	122.79
1	AA	4636	PSU	O2-C2-N1	-3.39	119.06	122.79
3	AC	69	PSU	O2-C2-N1	-3.39	119.06	122.79
45	BA	1360	PSU	O2-C2-N1	-3.39	119.06	122.79
45	BA	1232	PSU	O2-C2-N1	-3.39	119.06	122.79
45	BA	484	A2M	C4-C5-N7	-3.38	106.50	110.62
45	BA	36	PSU	C4-N3-C2	-3.37	121.48	126.34
45	BA	36	PSU	O2-C2-N1	-3.36	119.09	122.79
45	BA	1174	PSU	O2-C2-N1	-3.36	119.09	122.79
45	BA	815	PSU	O2-C2-N1	-3.36	119.10	122.79
1	AA	3768	PSU	O2-C2-N1	-3.35	119.10	122.79
45	BA	1136	PSU	O2-C2-N1	-3.35	119.10	122.79
45	BA	1347	PSU	O2-C2-N1	-3.35	119.10	122.79
1	AA	4552	PSU	O2-C2-N1	-3.35	119.10	122.79
45	BA	686	PSU	O2-C2-N1	-3.35	119.10	122.79
1	AA	1744	PSU	O2-C2-N1	-3.35	119.10	122.79
1	AA	1677	PSU	O2-C2-N1	-3.34	119.11	122.79
45	BA	649	PSU	O2-C2-N1	-3.34	119.11	122.79
1	AA	4220	6MZ	C9-N6-C6	-3.34	119.99	122.87
45	BA	814	PSU	O2-C2-N1	-3.34	119.11	122.79
45	BA	1367	PSU	O2-C2-N1	-3.34	119.11	122.79
45	BA	436	OMG	C6-C5-N7	3.34	136.46	130.25
1	AA	398	A2M	C4-C5-N7	-3.34	106.55	110.62
1	AA	3730	PSU	O2-C2-N1	-3.34	119.12	122.79
1	AA	3715	PSU	O2-C2-N1	-3.34	119.12	122.79
45	BA	1692	PSU	O2-C2-N1	-3.33	119.12	122.79
1	AA	1860	PSU	O2-C2-N1	-3.33	119.12	122.79
45	BA	1804	OMU	C5-C4-N3	3.33	119.83	114.84
45	BA	34	PSU	O2-C2-N1	-3.33	119.12	122.79
1	AA	5010	PSU	O2-C2-N1	-3.33	119.12	122.79
1	AA	2401	A2M	C4-C5-N7	-3.33	106.56	110.62
45	BA	406	PSU	O2-C2-N1	-3.32	119.14	122.79
45	BA	1238	PSU	O2-C2-N1	-3.32	119.14	122.79
1	AA	4618	OMG	C6-C5-N7	3.32	136.41	130.25
45	BA	1186	PSU	O2-C2-N1	-3.32	119.14	122.79
45	BA	468	A2M	C4-C5-N7	-3.31	106.58	110.62
1	AA	3920	PSU	O2-C2-N1	-3.31	119.14	122.79
45	BA	1004	PSU	O2-C2-N1	-3.31	119.14	122.79
45	BA	1447	OMG	C6-C5-N7	3.31	136.41	130.25
1	AA	1683	PSU	O2-C2-N1	-3.31	119.15	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	4392	OMG	C6-C5-N7	3.31	136.40	130.25
45	BA	668	A2M	C4-C5-N7	-3.31	106.59	110.62
1	AA	4403	PSU	O2-C2-N1	-3.31	119.15	122.79
45	BA	109	PSU	O2-C2-N1	-3.30	119.15	122.79
1	AA	1536	PSU	O2-C2-N1	-3.30	119.16	122.79
45	BA	918	PSU	O2-C2-N1	-3.30	119.16	122.79
45	BA	119	PSU	O2-C2-N1	-3.29	119.17	122.79
1	AA	1782	PSU	O2-C2-N1	-3.29	119.17	122.79
1	AA	4590	A2M	C4-C5-N7	-3.29	106.61	110.62
1	AA	4312	PSU	O2-C2-N1	-3.29	119.17	122.79
1	AA	4972	PSU	O2-C2-N1	-3.29	119.17	122.79
1	AA	4576	PSU	O2-C2-N1	-3.29	119.17	122.79
45	BA	100	PSU	O2-C2-N1	-3.29	119.17	122.79
45	BA	300	PSU	O2-C2-N1	-3.28	119.17	122.79
1	AA	3825	A2M	C4-C5-N7	-3.28	106.62	110.62
1	AA	3851	PSU	O2-C2-N1	-3.28	119.18	122.79
45	BA	1046	PSU	O2-C2-N1	-3.28	119.18	122.79
45	BA	509	OMG	C6-C5-N7	3.27	136.34	130.25
1	AA	3718	A2M	C4-C5-N7	-3.27	106.64	110.62
45	BA	512	A2M	C4-C5-N7	-3.27	106.64	110.62
1	AA	1792	PSU	O2-C2-N1	-3.27	119.19	122.79
45	BA	966	PSU	O2-C2-N1	-3.27	119.19	122.79
1	AA	4571	A2M	C4-C5-N7	-3.27	106.64	110.62
1	AA	2363	A2M	C4-C5-N7	-3.27	106.64	110.62
1	AA	3724	A2M	C4-C5-N7	-3.26	106.64	110.62
45	BA	1177	PSU	O2-C2-N1	-3.26	119.20	122.79
1	AA	2815	A2M	C4-C5-N7	-3.26	106.65	110.62
45	BA	667	PSU	O2-C2-N1	-3.26	119.20	122.79
1	AA	4493	PSU	O2-C2-N1	-3.26	119.20	122.79
1	AA	3899	OMG	C6-C5-N7	3.26	136.31	130.25
1	AA	4370	OMG	C6-C5-N7	3.26	136.31	130.25
1	AA	4299	PSU	O2-C2-N1	-3.26	119.20	122.79
45	BA	105	PSU	O2-C2-N1	-3.26	119.20	122.79
1	AA	4293	PSU	O2-C2-N1	-3.26	119.20	122.79
1	AA	3867	A2M	C4-C5-N7	-3.26	106.65	110.62
1	AA	4673	PSU	O2-C2-N1	-3.26	119.21	122.79
1	AA	3853	PSU	O2-C2-N1	-3.25	119.21	122.79
45	BA	590	A2M	N3-C2-N1	-3.25	123.51	128.60
45	BA	1383	A2M	C4-C5-N7	-3.25	106.66	110.62
45	BA	609	PSU	O2-C2-N1	-3.25	119.21	122.79
1	AA	4689	PSU	O2-C2-N1	-3.25	119.21	122.79
45	BA	572	PSU	O2-C2-N1	-3.25	119.21	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	3627	OMG	C6-C5-N7	3.25	136.29	130.25
1	AA	4500	PSU	O2-C2-N1	-3.24	119.22	122.79
1	AA	1862	PSU	O2-C2-N1	-3.24	119.22	122.79
45	BA	1056	PSU	O2-C2-N1	-3.24	119.22	122.79
45	BA	576	A2M	C4-C5-N7	-3.24	106.67	110.62
1	AA	400	A2M	C4-C5-N7	-3.24	106.67	110.62
1	AA	3785	A2M	N3-C2-N1	-3.24	123.53	128.60
1	AA	4523	A2M	C4-C5-N7	-3.24	106.67	110.62
45	BA	1031	A2M	C4-C5-N7	-3.24	106.67	110.62
1	AA	4353	PSU	O2-C2-N1	-3.23	119.23	122.79
45	BA	93	PSU	O2-C2-N1	-3.23	119.23	122.79
1	AA	5001	PSU	O2-C2-N1	-3.23	119.23	122.79
1	AA	4220	6MZ	C4-C5-N7	-3.23	106.68	110.62
1	AA	1871	A2M	N3-C2-N1	-3.22	123.56	128.60
1	AA	2632	PSU	O2-C2-N1	-3.22	119.24	122.79
1	AA	3844	PSU	O2-C2-N1	-3.22	119.24	122.79
1	AA	1871	A2M	C4-C5-N7	-3.22	106.69	110.62
1	AA	1781	PSU	O2-C2-N1	-3.22	119.24	122.79
1	AA	1322	1MA	N9-C4-N3	3.22	134.45	126.94
1	AA	3830	A2M	C4-C5-N7	-3.22	106.69	110.62
1	AA	4590	A2M	N3-C2-N1	-3.22	123.56	128.60
1	AA	4973	PSU	O2-C2-N1	-3.22	119.25	122.79
1	AA	2364	OMG	C6-C5-N7	3.22	136.24	130.25
1	AA	4523	A2M	N3-C2-N1	-3.22	123.57	128.60
1	AA	3822	PSU	O2-C2-N1	-3.22	119.25	122.79
45	BA	822	PSU	O2-C2-N1	-3.22	119.25	122.79
3	AC	55	PSU	O2-C2-N1	-3.22	119.25	122.79
1	AA	3884	PSU	O2-C2-N1	-3.22	119.25	122.79
1	AA	1326	A2M	C4-C5-N7	-3.21	106.70	110.62
1	AA	4361	PSU	O2-C2-N1	-3.21	119.25	122.79
1	AA	1524	A2M	C4-C5-N7	-3.21	106.71	110.62
1	AA	4431	PSU	O2-C2-N1	-3.20	119.27	122.79
1	AA	4623	OMG	C6-C5-N7	3.20	136.19	130.25
45	BA	1445	PSU	O2-C2-N1	-3.20	119.27	122.79
45	BA	218	PSU	O2-C2-N1	-3.19	119.27	122.79
1	AA	2508	PSU	O2-C2-N1	-3.19	119.28	122.79
45	BA	1678	A2M	N3-C2-N1	-3.19	123.61	128.60
1	AA	1326	A2M	N3-C2-N1	-3.18	123.63	128.60
1	AA	4637	OMG	C6-C5-N7	3.18	136.16	130.25
1	AA	2401	A2M	N3-C2-N1	-3.18	123.63	128.60
45	BA	681	PSU	O2-C2-N1	-3.17	119.30	122.79
1	AA	2843	PSU	O2-C2-N1	-3.17	119.30	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	1383	A2M	N3-C2-N1	-3.17	123.64	128.60
1	AA	3830	A2M	N3-C2-N1	-3.17	123.64	128.60
1	AA	2839	PSU	O2-C2-N1	-3.16	119.31	122.79
45	BA	683	OMG	C6-C5-N7	3.16	136.13	130.25
45	BA	1639	G7M	O6-C6-C5	-3.16	120.93	128.06
1	AA	4220	6MZ	N1-C2-N3	-3.16	123.66	128.60
1	AA	1323	A2M	N3-C2-N1	-3.16	123.66	128.60
45	BA	166	A2M	N3-C2-N1	-3.16	123.67	128.60
1	AA	1582	PSU	O2-C2-N1	-3.16	119.32	122.79
45	BA	166	A2M	C4-C5-N7	-3.16	106.78	110.62
1	AA	3724	A2M	N3-C2-N1	-3.15	123.67	128.60
45	BA	468	A2M	N3-C2-N1	-3.15	123.67	128.60
1	AA	3782	5MC	C5-C6-N1	-3.15	120.09	123.34
1	AA	1534	A2M	N3-C2-N1	-3.15	123.67	128.60
45	BA	1045	PSU	O2-C2-N1	-3.15	119.33	122.79
1	AA	1323	A2M	C4-C5-N7	-3.14	106.79	110.62
1	AA	398	A2M	N3-C2-N1	-3.14	123.69	128.60
45	BA	512	A2M	N3-C2-N1	-3.13	123.70	128.60
45	BA	1851	MA6	N1-C2-N3	-3.13	123.70	128.60
1	AA	3785	A2M	C4-C5-N7	-3.13	106.81	110.62
1	AA	3744	OMG	C6-C5-N7	3.13	136.07	130.25
45	BA	27	A2M	C4-C5-N7	-3.13	106.81	110.62
1	AA	4220	6MZ	C6-C5-N7	3.13	135.78	132.39
1	AA	2787	A2M	N3-C2-N1	-3.12	123.72	128.60
1	AA	400	A2M	N3-C2-N1	-3.12	123.72	128.60
45	BA	644	OMG	C6-C5-N7	3.11	136.03	130.25
1	AA	2787	A2M	C4-C5-N7	-3.11	106.83	110.62
1	AA	2363	A2M	N3-C2-N1	-3.10	123.76	128.60
1	AA	1625	OMG	C6-C5-N7	3.10	136.01	130.25
1	AA	3785	A2M	O4'-C1'-N9	3.09	114.14	108.06
45	BA	590	A2M	C4-C5-N7	-3.09	106.86	110.62
1	AA	2876	OMG	C6-C5-N7	3.08	135.98	130.25
45	BA	1031	A2M	N3-C2-N1	-3.08	123.78	128.60
45	BA	99	A2M	N3-C2-N1	-3.08	123.78	128.60
1	AA	4571	A2M	N3-C2-N1	-3.08	123.79	128.60
1	AA	3785	A2M	C2'-C1'-N9	-3.08	108.35	113.53
45	BA	159	A2M	C4-C5-N7	-3.07	106.88	110.62
1	AA	2815	A2M	N3-C2-N1	-3.06	123.81	128.60
1	AA	4499	OMG	C6-C5-N7	3.06	135.94	130.25
45	BA	1850	MA6	N1-C2-N3	-3.06	123.82	128.60
1	AA	1316	OMG	C6-C5-N7	3.06	135.93	130.25
45	BA	27	A2M	N3-C2-N1	-3.03	123.86	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	1804	OMU	O4-C4-C5	-3.03	119.83	125.16
45	BA	99	A2M	C4-C5-N7	-3.03	106.93	110.62
1	AA	4494	OMG	C6-C5-N7	3.02	135.87	130.25
45	BA	428	OMU	O4-C4-C5	-3.01	119.86	125.16
45	BA	1832	6MZ	N1-C2-N3	-3.01	123.89	128.60
45	BA	517	OMC	O2-C2-N3	-3.01	117.43	122.33
1	AA	2401	A2M	C2'-C1'-N9	-3.00	108.48	113.53
45	BA	121	OMU	O4-C4-C5	-3.00	119.89	125.16
1	AA	3637	PSU	O2-C2-N1	-3.00	119.49	122.79
45	BA	116	OMU	O4-C4-C5	-2.99	119.89	125.16
45	BA	1832	6MZ	C4-C5-N7	-2.99	106.98	110.62
45	BA	1328	OMG	C6-C5-N7	2.98	135.80	130.25
45	BA	172	OMU	O4-C4-C5	-2.98	119.92	125.16
45	BA	1383	A2M	C2'-C1'-N9	-2.97	108.52	113.53
1	AA	2424	OMG	C6-C5-N7	2.96	135.76	130.25
45	BA	668	A2M	N3-C2-N1	-2.96	123.97	128.60
45	BA	1678	A2M	C5-N7-C8	2.96	107.72	103.51
45	BA	576	A2M	N3-C2-N1	-2.94	124.00	128.60
45	BA	1442	OMU	O4-C4-C5	-2.94	119.99	125.16
1	AA	3825	A2M	N3-C2-N1	-2.94	124.01	128.60
1	AA	4196	OMG	C6-C5-N7	2.94	135.71	130.25
45	BA	354	OMU	O4-C4-C5	-2.94	120.00	125.16
3	AC	14	OMU	O4-C4-C5	-2.92	120.03	125.16
1	AA	2415	OMU	O4-C4-C5	-2.91	120.05	125.16
1	AA	3925	OMU	O4-C4-C5	-2.90	120.06	125.16
1	AA	1524	A2M	N3-C2-N1	-2.90	124.07	128.60
45	BA	1288	OMU	O4-C4-C5	-2.90	120.06	125.16
45	BA	484	A2M	N3-C2-N1	-2.89	124.08	128.60
45	BA	1326	UY1	C6-N1-C2	-2.89	119.73	122.68
1	AA	2837	OMU	O4-C4-C5	-2.89	120.08	125.16
45	BA	1490	OMG	C6-C5-N7	2.88	135.61	130.25
3	AC	75	OMG	C6-C5-N7	2.88	135.60	130.25
1	AA	4227	OMU	O4-C4-C5	-2.87	120.12	125.16
1	AA	1534	A2M	C5-N7-C8	2.86	107.57	103.51
1	AA	4620	OMU	O4-C4-C5	-2.85	120.15	125.16
45	BA	159	A2M	N3-C2-N1	-2.85	124.15	128.60
1	AA	4498	OMU	O4-C4-C5	-2.85	120.16	125.16
1	AA	3792	OMG	C6-C5-N7	2.84	135.53	130.25
1	AA	3830	A2M	C5-N7-C8	2.84	107.54	103.51
45	BA	1248	B8N	N3-C2-N1	2.83	120.76	116.76
1	AA	398	A2M	C5-N7-C8	2.82	107.51	103.51
45	BA	1851	MA6	C5-N7-C8	2.82	107.51	103.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2401	A2M	C5-N7-C8	2.81	107.51	103.51
45	BA	166	A2M	C5-N7-C8	2.80	107.49	103.51
45	BA	512	A2M	C2'-C1'-N9	-2.80	108.81	113.53
1	AA	1522	OMG	C4-C5-N7	-2.80	106.29	110.72
1	AA	4306	OMU	O4-C4-C5	-2.80	120.24	125.16
1	AA	3867	A2M	N3-C2-N1	-2.79	124.23	128.60
1	AA	2815	A2M	C5-N7-C8	2.79	107.47	103.51
45	BA	468	A2M	C5-N7-C8	2.79	107.47	103.51
45	BA	1850	MA6	C5-N7-C8	2.78	107.46	103.51
45	BA	166	A2M	C2'-C1'-N9	-2.78	108.84	113.53
45	BA	512	A2M	C5-N7-C8	2.78	107.46	103.51
1	AA	4228	OMG	C4-C5-N7	-2.78	106.32	110.72
1	AA	4571	A2M	C5-N7-C8	2.77	107.45	103.51
1	AA	4392	OMG	C4-C5-N7	-2.76	106.35	110.72
1	AA	3867	A2M	C5-N7-C8	2.76	107.43	103.51
1	AA	4523	A2M	C5-N7-C8	2.76	107.43	103.51
1	AA	4637	OMG	C4-C5-N7	-2.76	106.36	110.72
1	AA	4618	OMG	C4-C5-N7	-2.75	106.36	110.72
1	AA	4590	A2M	C5-N7-C8	2.75	107.42	103.51
45	BA	668	A2M	C5-N7-C8	2.75	107.42	103.51
1	AA	400	A2M	C5-N7-C8	2.75	107.42	103.51
1	AA	3785	A2M	C5-N7-C8	2.75	107.41	103.51
45	BA	484	A2M	C5-N7-C8	2.74	107.40	103.51
1	AA	1871	A2M	C5-N7-C8	2.74	107.40	103.51
1	AA	3785	A2M	C4-N9-C8	2.73	108.69	105.73
1	AA	3724	A2M	C5-N7-C8	2.73	107.39	103.51
1	AA	3718	A2M	N3-C2-N1	-2.73	124.34	128.60
1	AA	1326	A2M	C5-N7-C8	2.73	107.38	103.51
45	BA	1832	6MZ	C6-C5-N7	2.73	135.34	132.39
1	AA	3899	OMG	C4-C5-N7	-2.73	106.41	110.72
45	BA	1031	A2M	C5-N7-C8	2.72	107.38	103.51
45	BA	1383	A2M	C5-N7-C8	2.72	107.37	103.51
1	AA	3818	UY1	C6-N1-C2	-2.71	119.91	122.68
1	AA	4623	OMG	C4-C5-N7	-2.71	106.43	110.72
1	AA	3825	A2M	C5-N7-C8	2.71	107.36	103.51
45	BA	1639	G7M	C2-N1-C6	-2.71	120.16	125.10
45	BA	1447	OMG	C4-C5-N7	-2.71	106.44	110.72
1	AA	3744	OMG	C4-C5-N7	-2.70	106.44	110.72
1	AA	1524	A2M	C5-N7-C8	2.69	107.34	103.51
1	AA	1323	A2M	C5-N7-C8	2.69	107.33	103.51
1	AA	4370	OMG	C4-C5-N7	-2.69	106.46	110.72
1	AA	2364	OMG	C4-C5-N7	-2.69	106.47	110.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1316	OMG	C4-C5-N7	-2.68	106.48	110.72
1	AA	2363	A2M	C5-N7-C8	2.68	107.31	103.51
45	BA	590	A2M	C5-N7-C8	2.67	107.31	103.51
1	AA	3627	OMG	C4-C5-N7	-2.67	106.50	110.72
45	BA	436	OMG	C4-C5-N7	-2.67	106.50	110.72
1	AA	2787	A2M	C5-N7-C8	2.66	107.28	103.51
1	AA	4220	6MZ	C5-N7-C8	2.65	107.28	103.51
45	BA	509	OMG	C4-C5-N7	-2.65	106.53	110.72
29	Ac	39	V5N	O2-CB-CA	2.64	112.86	107.28
45	BA	99	A2M	C5-N7-C8	2.64	107.26	103.51
29	Ac	39	V5N	O2-CB-CG	-2.64	105.97	110.73
1	AA	4523	A2M	C4-N9-C8	2.63	108.58	105.73
1	AA	3782	5MC	C5-C4-N3	-2.62	118.84	121.67
1	AA	4456	OMC	O2-C2-N3	-2.62	118.07	122.33
1	AA	1625	OMG	C4-C5-N7	-2.61	106.58	110.72
1	AA	400	A2M	C4-N9-C8	2.61	108.56	105.73
45	BA	1804	OMU	C1'-N1-C2	2.61	122.29	117.57
45	BA	601	OMG	C6-C5-N7	2.60	135.09	130.25
45	BA	576	A2M	C5-N7-C8	2.60	107.20	103.51
45	BA	1832	6MZ	C5-N7-C8	2.60	107.20	103.51
45	BA	867	OMG	C6-C5-N7	2.59	135.07	130.25
45	BA	517	OMC	C1'-N1-C2	2.59	124.20	118.42
1	AA	4499	OMG	C4-C5-N7	-2.59	106.63	110.72
1	AA	3718	A2M	C5-N7-C8	2.59	107.18	103.51
45	BA	683	OMG	C4-C5-N7	-2.58	106.63	110.72
1	AA	3830	A2M	C2'-C1'-N9	-2.58	109.18	113.53
45	BA	1337	4AC	CM7-C7-N4	-2.58	110.83	115.29
1	AA	2876	OMG	C4-C5-N7	-2.58	106.64	110.72
1	AA	2861	OMC	O2-C2-N3	-2.57	118.15	122.33
1	AA	3782	5MC	O2-C2-N3	-2.57	118.16	122.33
45	BA	99	A2M	C2'-C1'-N9	-2.56	109.21	113.53
1	AA	4196	OMG	C4-C5-N7	-2.56	106.67	110.72
1	AA	4571	A2M	C4-N9-C8	2.55	108.50	105.73
1	AA	1322	1MA	C4-C5-N7	-2.55	106.68	110.72
1	AA	1871	A2M	C4-N9-C8	2.55	108.49	105.73
1	AA	398	A2M	C4-N9-C8	2.54	108.48	105.73
1	AA	2424	OMG	C4-C5-N7	-2.54	106.70	110.72
1	AA	2401	A2M	C4-N9-C8	2.53	108.47	105.73
45	BA	644	OMG	C4-C5-N7	-2.53	106.71	110.72
1	AA	1323	A2M	C4-N9-C8	2.53	108.47	105.73
45	BA	1383	A2M	C4-N9-C8	2.52	108.46	105.73
3	AC	75	OMG	C4-C5-N7	-2.52	106.73	110.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	27	A2M	C5-N7-C8	2.52	107.09	103.51
45	BA	159	A2M	C5-N7-C8	2.51	107.08	103.51
1	AA	3792	OMG	C4-C5-N7	-2.51	106.75	110.72
45	BA	468	A2M	C4-N9-C8	2.50	108.43	105.73
1	AA	4494	OMG	C4-C5-N7	-2.48	106.79	110.72
1	AA	3825	A2M	C4-N9-C8	2.48	108.42	105.73
1	AA	2787	A2M	C4-N9-C8	2.48	108.41	105.73
45	BA	1832	6MZ	C4-N9-C8	2.46	108.39	105.73
45	BA	99	A2M	C4-N9-C8	2.46	108.39	105.73
45	BA	601	OMG	O6-C6-C5	-2.46	120.08	126.60
1	AA	3830	A2M	C4-N9-C8	2.46	108.39	105.73
45	BA	1326	UY1	O2-C2-N1	-2.46	120.09	122.79
45	BA	1288	OMU	C1'-N1-C2	2.46	122.02	117.57
45	BA	1328	OMG	C4-C5-N7	-2.45	106.84	110.72
1	AA	4447	5MC	C5-C4-N3	-2.44	119.04	121.67
1	AA	3818	UY1	O2-C2-N1	-2.43	120.11	122.79
45	BA	867	OMG	C4-C5-N7	-2.43	106.87	110.72
1	AA	3808	OMC	O2-C2-N3	-2.43	118.38	122.33
1	AA	2351	OMC	C1'-N1-C6	-2.42	115.57	120.84
45	BA	1851	MA6	C4-N9-C8	2.41	108.34	105.73
1	AA	4590	A2M	C4-N9-C8	2.41	108.34	105.73
45	BA	512	A2M	C4-N9-C8	2.41	108.33	105.73
45	BA	668	A2M	C4-N9-C8	2.40	108.33	105.73
1	AA	2861	OMC	C1'-N1-C2	2.39	123.75	118.42
45	BA	668	A2M	C2'-C1'-N9	-2.38	109.52	113.53
1	AA	4456	OMC	C1'-N1-C2	2.38	123.73	118.42
45	BA	1850	MA6	C10-N6-C9	-2.38	108.47	116.12
45	BA	1832	6MZ	C9-N6-C6	-2.37	120.83	122.87
45	BA	166	A2M	C4-N9-C8	2.35	108.28	105.73
1	AA	4403	PSU	O4'-C1'-C2'	2.34	108.45	105.14
45	BA	1031	A2M	C4-N9-C8	2.34	108.27	105.73
45	BA	1678	A2M	C4-N9-C8	2.34	108.26	105.73
1	AA	1534	A2M	C6-C5-N7	2.34	136.38	132.02
45	BA	1842	4AC	CM7-C7-N4	-2.33	111.26	115.29
1	AA	3887	OMC	O2-C2-N3	-2.33	118.54	122.33
45	BA	1842	4AC	C1'-N1-C2	2.33	123.62	118.42
45	BA	1490	OMG	C4-C5-N7	-2.32	107.04	110.72
45	BA	814	PSU	O4'-C1'-C2'	2.32	108.42	105.14
1	AA	1524	A2M	C4-N9-C8	2.32	108.24	105.73
1	AA	3724	A2M	C4-N9-C8	2.32	108.24	105.73
1	AA	1326	A2M	C4-N9-C8	2.31	108.23	105.73
1	AA	2363	A2M	C4-N9-C8	2.31	108.23	105.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	601	OMG	C4-C5-N7	-2.31	107.07	110.72
45	BA	1328	OMG	O6-C6-C5	-2.30	120.50	126.60
1	AA	3867	A2M	C4-N9-C8	2.29	108.21	105.73
1	AA	1524	A2M	O4'-C1'-N9	2.29	112.56	108.06
45	BA	1678	A2M	C6-C5-N7	2.27	136.25	132.02
45	BA	1337	4AC	C1'-N1-C2	2.27	123.48	118.42
1	AA	4442	PSU	O4'-C1'-C2'	2.27	108.34	105.14
1	AA	2351	OMC	O2-C2-N1	2.26	123.55	118.89
1	AA	1534	A2M	C4-N9-C8	2.26	108.17	105.73
1	AA	4636	PSU	C5-C6-N1	-2.25	118.73	122.11
45	BA	576	A2M	C4-N9-C8	2.25	108.16	105.73
45	BA	1490	OMG	O6-C6-C5	-2.24	120.66	126.60
1	AA	2824	OMC	O2-C2-N3	-2.24	118.69	122.33
45	BA	468	A2M	C2'-C1'-N9	-2.24	109.76	113.53
45	BA	36	PSU	C6-C5-C4	-2.22	116.64	118.20
45	BA	159	A2M	C4-N9-C8	2.21	108.13	105.73
3	AC	69	PSU	O4'-C1'-C2'	2.21	108.26	105.14
1	AA	2415	OMU	C1'-N1-C2	2.21	121.57	117.57
1	AA	2401	A2M	C6-C5-N7	2.21	136.13	132.02
45	BA	428	OMU	O2-C2-N1	-2.20	119.86	122.79
1	AA	398	A2M	C6-C5-N7	2.19	136.10	132.02
1	AA	1322	1MA	C6-C5-N7	2.19	136.18	132.20
45	BA	468	A2M	C6-C5-N7	2.19	136.09	132.02
45	BA	1851	MA6	C10-N6-C9	-2.18	109.09	116.12
1	AA	3785	A2M	N9-C8-N7	-2.18	110.94	113.91
45	BA	1639	G7M	N9-C8-N7	-2.18	106.83	112.21
1	AA	4457	PSU	O4'-C1'-C2'	2.18	108.21	105.14
45	BA	509	OMG	O6-C6-C5	-2.17	120.83	126.60
1	AA	4220	6MZ	C4-N9-C8	2.17	108.08	105.73
45	BA	1842	4AC	C5-C4-N4	-2.17	119.15	122.92
1	AA	4536	OMC	O2-C2-N3	-2.17	118.81	122.33
1	AA	3724	A2M	C6-C5-N7	2.16	136.05	132.02
1	AA	4590	A2M	C6-C5-N7	2.16	136.04	132.02
45	BA	27	A2M	C4-N9-C8	2.15	108.06	105.73
45	BA	576	A2M	C2'-C1'-N9	-2.15	109.91	113.53
45	BA	1643	PSU	O4'-C1'-C2'	2.15	108.17	105.14
1	AA	3637	PSU	C5-C6-N1	-2.14	118.89	122.11
45	BA	1391	OMC	O2-C2-N3	-2.14	118.84	122.33
1	AA	3718	A2M	C4-N9-C8	2.14	108.05	105.73
45	BA	572	PSU	O4'-C1'-C2'	2.14	108.16	105.14
1	AA	4228	OMG	O6-C6-C5	-2.14	120.93	126.60
1	AA	3785	A2M	C6-C5-N7	2.13	135.98	132.02

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	BA	1851	MA6	C5-C6-N6	-2.12	121.60	125.30
45	BA	668	A2M	C6-C5-N7	2.12	135.97	132.02
45	BA	1383	A2M	C6-C5-N7	2.12	135.97	132.02
1	AA	4523	A2M	C6-C5-N7	2.12	135.97	132.02
45	BA	512	A2M	C6-C5-N7	2.12	135.96	132.02
1	AA	1871	A2M	C6-C5-N7	2.12	135.96	132.02
1	AA	4571	A2M	C6-C5-N7	2.11	135.96	132.02
45	BA	644	OMG	O6-C6-C5	-2.11	121.00	126.60
45	BA	1337	4AC	C5-C4-N4	-2.11	119.25	122.92
45	BA	1248	B8N	O4'-C1'-C2'	2.10	108.11	105.14
1	AA	1524	A2M	C2'-C1'-N9	-2.10	109.99	113.53
1	AA	400	A2M	C2'-C1'-N9	-2.10	110.00	113.53
1	AA	4636	PSU	O4'-C1'-C2'	2.10	108.10	105.14
1	AA	3792	OMG	O6-C6-C5	-2.10	121.04	126.60
45	BA	1447	OMG	O6-C6-C5	-2.10	121.04	126.60
1	AA	1322	1MA	N1-C2-N3	-2.09	123.51	126.00
1	AA	400	A2M	C6-C5-N7	2.09	135.92	132.02
1	AA	4498	OMU	O2-C2-N1	-2.09	120.01	122.79
45	BA	822	PSU	O4'-C1'-C2'	2.09	108.09	105.14
45	BA	867	OMG	O6-C6-C5	-2.09	121.06	126.60
1	AA	4494	OMG	O6-C6-C5	-2.09	121.06	126.60
1	AA	2401	A2M	N9-C8-N7	-2.09	111.06	113.91
45	BA	1248	B8N	C31-N3-C2	2.08	120.78	117.67
1	AA	3695	PSU	O4'-C1'-C2'	2.08	108.07	105.14
45	BA	1850	MA6	C5-C6-N6	-2.08	121.68	125.30
45	BA	576	A2M	C6-C5-N7	2.07	135.88	132.02
1	AA	3920	PSU	O4'-C1'-C2'	2.07	108.06	105.14
45	BA	1272	OMC	O2-C2-N3	-2.07	118.96	122.33
1	AA	4499	OMG	O6-C6-C5	-2.07	121.11	126.60
1	AA	2876	OMG	O6-C6-C5	-2.07	121.11	126.60
1	AA	3822	PSU	C5-C6-N1	-2.07	119.01	122.11
1	AA	4293	PSU	C5-C6-N1	-2.07	119.01	122.11
1	AA	2424	OMG	O6-C6-C5	-2.07	121.12	126.60
45	BA	484	A2M	C6-C5-N7	2.06	135.87	132.02
1	AA	4523	A2M	N9-C8-N7	-2.06	111.10	113.91
1	AA	4196	OMG	O6-C6-C5	-2.06	121.14	126.60
45	BA	1442	OMU	C1'-N1-C2	2.05	121.29	117.57
45	BA	436	OMG	O6-C6-C5	-2.05	121.15	126.60
1	AA	3818	UY1	O4'-C1'-C2'	2.05	108.29	104.48
1	AA	1625	OMG	O6-C6-C5	-2.05	121.16	126.60
3	AC	75	OMG	O6-C6-C5	-2.05	121.17	126.60
45	BA	1031	A2M	C6-C5-N7	2.04	135.83	132.02

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	4576	PSU	O4'-C1'-C2'	2.04	108.03	105.14
1	AA	4637	OMG	O6-C6-C5	-2.04	121.19	126.60
45	BA	484	A2M	C4-N9-C8	2.04	107.94	105.73
1	AA	398	A2M	N9-C8-N7	-2.04	111.13	113.91
45	BA	1360	PSU	O4'-C1'-C2'	2.04	108.02	105.14
1	AA	2364	OMG	O6-C6-C5	-2.03	121.20	126.60
45	BA	1056	PSU	O4'-C1'-C2'	2.03	108.01	105.14
45	BA	1678	A2M	N9-C8-N7	-2.03	111.13	113.91
45	BA	1596	PSU	O4'-C1'-C2'	2.03	108.01	105.14
45	BA	121	OMU	O2-C2-N1	-2.03	120.09	122.79
45	BA	1639	G7M	C5-C4-N9	2.03	110.34	105.89
1	AA	4296	PSU	C5-C6-N1	-2.03	119.07	122.11
1	AA	2363	A2M	C6-C5-N7	2.03	135.79	132.02
1	AA	2815	A2M	C4-N9-C8	2.02	107.92	105.73
1	AA	4618	OMG	O6-C6-C5	-2.02	121.23	126.60
1	AA	3627	OMG	O6-C6-C5	-2.02	121.24	126.60
1	AA	4370	OMG	O6-C6-C5	-2.02	121.24	126.60
45	BA	683	OMG	O6-C6-C5	-2.02	121.24	126.60
58	BN	67	NMM	CD-NE-CZ	-2.02	119.81	123.50
1	AA	1323	A2M	C6-C5-N7	2.01	135.77	132.02
1	AA	3825	A2M	C6-C5-N7	2.01	135.77	132.02
45	BA	468	A2M	N9-C8-N7	-2.01	111.16	113.91
1	AA	1316	OMG	O6-C6-C5	-2.01	121.27	126.60
1	AA	400	A2M	N9-C8-N7	-2.01	111.17	113.91
45	BA	815	PSU	O4'-C1'-C2'	2.01	107.97	105.14
1	AA	4623	OMG	O6-C6-C5	-2.01	121.28	126.60

There are no chirality outliers.

All (182) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
58	BN	67	NMM	C-CA-CB-CG
58	BN	67	NMM	N-CA-CB-CG
58	BN	67	NMM	O-C-CA-CB
1	AA	1582	PSU	C2'-C1'-C5-C4
1	AA	1582	PSU	O4'-C1'-C5-C4
1	AA	1582	PSU	O4'-C1'-C5-C6
1	AA	1625	OMG	O4'-C4'-C5'-O5'
1	AA	1625	OMG	C3'-C4'-C5'-O5'
1	AA	2364	OMG	O4'-C4'-C5'-O5'
1	AA	2364	OMG	C3'-C4'-C5'-O5'
1	AA	2632	PSU	C2'-C1'-C5-C4

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Mol	Chain	Res	Type	Atoms
1	AA	3701	OMC	C2'-C1'-N1-C2
1	AA	3701	OMC	C2'-C1'-N1-C6
1	AA	3867	A2M	C1'-C2'-O2'-CM'
1	AA	4590	A2M	C4'-C5'-O5'-P
1	AA	4636	PSU	C2'-C1'-C5-C4
1	AA	4636	PSU	C3'-C4'-C5'-O5'
45	BA	36	PSU	C2'-C1'-C5-C4
45	BA	166	A2M	C3'-C4'-C5'-O5'
45	BA	300	PSU	C2'-C1'-C5-C6
45	BA	428	OMU	C2'-C1'-N1-C2
45	BA	428	OMU	C2'-C1'-N1-C6
45	BA	462	OMC	C3'-C4'-C5'-O5'
45	BA	462	OMC	O4'-C4'-C5'-O5'
45	BA	512	A2M	C1'-C2'-O2'-CM'
45	BA	517	OMC	O4'-C1'-N1-C2
45	BA	517	OMC	O4'-C1'-N1-C6
45	BA	517	OMC	C3'-C4'-C5'-O5'
45	BA	517	OMC	O4'-C4'-C5'-O5'
45	BA	576	A2M	O4'-C4'-C5'-O5'
45	BA	576	A2M	C3'-C4'-C5'-O5'
45	BA	601	OMG	C1'-C2'-O2'-CM2
45	BA	668	A2M	C1'-C2'-O2'-CM'
45	BA	814	PSU	O4'-C1'-C5-C4
45	BA	814	PSU	C2'-C1'-C5-C6
45	BA	814	PSU	O4'-C1'-C5-C6
45	BA	815	PSU	C2'-C1'-C5-C4
45	BA	822	PSU	C2'-C1'-C5-C6
45	BA	822	PSU	O4'-C1'-C5-C6
45	BA	918	PSU	O4'-C4'-C5'-O5'
45	BA	1232	PSU	C2'-C1'-C5-C4
45	BA	1232	PSU	C2'-C1'-C5-C6
45	BA	1347	PSU	C3'-C4'-C5'-O5'
45	BA	1490	OMG	O4'-C4'-C5'-O5'
45	BA	1850	MA6	C5-C6-N6-C9
45	BA	1850	MA6	C5-C6-N6-C10
45	BA	1850	MA6	N1-C6-N6-C10
71	Ba	138	IAS	N-CA-CB-CG
71	Ba	138	IAS	CA-CB-CG-OD1
1	AA	1323	A2M	O4'-C4'-C5'-O5'
1	AA	1323	A2M	C3'-C4'-C5'-O5'
1	AA	1326	A2M	C3'-C4'-C5'-O5'
1	AA	3785	A2M	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
1	AA	3785	A2M	C3'-C4'-C5'-O5'
1	AA	3844	PSU	O4'-C4'-C5'-O5'
1	AA	4500	PSU	C3'-C4'-C5'-O5'
1	AA	4500	PSU	O4'-C4'-C5'-O5'
45	BA	99	A2M	O4'-C4'-C5'-O5'
45	BA	1347	PSU	O4'-C4'-C5'-O5'
45	BA	1851	MA6	O4'-C4'-C5'-O5'
1	AA	4447	5MC	C2'-C1'-N1-C6
1	AA	1881	OMC	O4'-C4'-C5'-O5'
1	AA	3844	PSU	C3'-C4'-C5'-O5'
1	AA	4636	PSU	O4'-C4'-C5'-O5'
45	BA	93	PSU	C3'-C4'-C5'-O5'
45	BA	93	PSU	O4'-C4'-C5'-O5'
45	BA	822	PSU	C3'-C4'-C5'-O5'
45	BA	822	PSU	O4'-C4'-C5'-O5'
45	BA	918	PSU	C3'-C4'-C5'-O5'
45	BA	1248	B8N	O4'-C4'-C5'-O5'
45	BA	1248	B8N	C3'-C4'-C5'-O5'
45	BA	1851	MA6	C3'-C4'-C5'-O5'
45	BA	1850	MA6	N1-C6-N6-C9
1	AA	1881	OMC	C3'-C4'-C5'-O5'
45	BA	99	A2M	C3'-C4'-C5'-O5'
1	AA	4447	5MC	C2'-C1'-N1-C2
1	AA	1792	PSU	C3'-C4'-C5'-O5'
1	AA	3770	PSU	C3'-C4'-C5'-O5'
45	BA	166	A2M	O4'-C4'-C5'-O5'
1	AA	3764	PSU	C3'-C4'-C5'-O5'
1	AA	4523	A2M	O4'-C4'-C5'-O5'
45	BA	428	OMU	O4'-C4'-C5'-O5'
45	BA	436	OMG	O4'-C4'-C5'-O5'
45	BA	1045	PSU	O4'-C4'-C5'-O5'
45	BA	1850	MA6	O4'-C4'-C5'-O5'
1	AA	398	A2M	O4'-C4'-C5'-O5'
45	BA	436	OMG	C3'-C4'-C5'-O5'
45	BA	590	A2M	C2'-C1'-N9-C4
58	BN	67	NMM	CA-CB-CG-CD
1	AA	3818	UY1	C4'-C5'-O5'-P
1	AA	1326	A2M	O4'-C4'-C5'-O5'
45	BA	468	A2M	O4'-C4'-C5'-O5'
1	AA	1792	PSU	O4'-C4'-C5'-O5'
45	BA	517	OMC	C2'-C1'-N1-C6
45	BA	867	OMG	C4'-C5'-O5'-P

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Mol	Chain	Res	Type	Atoms
1	AA	2787	A2M	C2'-C1'-N9-C8
45	BA	590	A2M	C2'-C1'-N9-C8
45	BA	668	A2M	C2'-C1'-N9-C8
1	AA	3764	PSU	O4'-C4'-C5'-O5'
1	AA	3770	PSU	O4'-C4'-C5'-O5'
1	AA	3818	UY1	O4'-C4'-C5'-O5'
45	BA	1045	PSU	C3'-C4'-C5'-O5'
45	BA	1391	OMC	O4'-C4'-C5'-O5'
45	BA	1850	MA6	C3'-C4'-C5'-O5'
45	BA	1804	OMU	C1'-C2'-O2'-CM2
45	BA	1337	4AC	C4'-C5'-O5'-P
45	BA	428	OMU	C3'-C4'-C5'-O5'
45	BA	1248	B8N	C31-C32-C33-C34
1	AA	2837	OMU	C3'-C2'-O2'-CM2
45	BA	354	OMU	C3'-C2'-O2'-CM2
45	BA	1442	OMU	C3'-C2'-O2'-CM2
1	AA	4447	5MC	O4'-C1'-N1-C6
1	AA	2351	OMC	C2'-C1'-N1-C6
45	BA	1248	B8N	N34-C33-C34-O36
71	Ba	138	IAS	C-CA-CB-CG
1	AA	3844	PSU	C4'-C5'-O5'-P
45	BA	668	A2M	C4'-C5'-O5'-P
45	BA	814	PSU	C4'-C5'-O5'-P
1	AA	4447	5MC	O4'-C1'-N1-C2
45	BA	517	OMC	C4'-C5'-O5'-P
45	BA	590	A2M	C4'-C5'-O5'-P
45	BA	1337	4AC	C3'-C4'-C5'-O5'
1	AA	2351	OMC	C2'-C1'-N1-C2
45	BA	1851	MA6	C5-C6-N6-C10
1	AA	1326	A2M	C4'-C5'-O5'-P
1	AA	4500	PSU	C4'-C5'-O5'-P
45	BA	1850	MA6	C4'-C5'-O5'-P
1	AA	3701	OMC	O4'-C1'-N1-C6
45	BA	428	OMU	O4'-C1'-N1-C6
45	BA	484	A2M	C3'-C2'-O2'-CM'
45	BA	1703	OMC	C3'-C2'-O2'-CM2
1	AA	3887	OMC	C4'-C5'-O5'-P
45	BA	644	OMG	C4'-C5'-O5'-P
45	BA	1248	B8N	C4'-C5'-O5'-P
45	BA	1490	OMG	C4'-C5'-O5'-P
45	BA	517	OMC	C2'-C1'-N1-C2
1	AA	2787	A2M	C2'-C1'-N9-C4

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Mol	Chain	Res	Type	Atoms
45	BA	668	A2M	C2'-C1'-N9-C4
1	AA	1524	A2M	O4'-C1'-N9-C8
1	AA	4523	A2M	C3'-C4'-C5'-O5'
45	BA	1447	OMG	C3'-C4'-C5'-O5'
1	AA	4636	PSU	O4'-C1'-C5-C4
45	BA	667	PSU	O4'-C1'-C5-C4
45	BA	815	PSU	O4'-C1'-C5-C4
45	BA	1232	PSU	O4'-C1'-C5-C4
45	BA	1326	UY1	O4'-C1'-C5-C4
45	BA	1596	PSU	O4'-C1'-C5-C4
45	BA	867	OMG	C2'-C1'-N9-C8
1	AA	2876	OMG	C3'-C2'-O2'-CM2
1	AA	4623	OMG	C3'-C2'-O2'-CM2
1	AA	3701	OMC	O4'-C1'-N1-C2
45	BA	93	PSU	C4'-C5'-O5'-P
45	BA	428	OMU	C4'-C5'-O5'-P
45	BA	668	A2M	O4'-C1'-N9-C8
45	BA	1248	B8N	N34-C33-C34-O35
45	BA	572	PSU	O4'-C4'-C5'-O5'
45	BA	1851	MA6	N1-C6-N6-C10
45	BA	867	OMG	C2'-C1'-N9-C4
1	AA	3818	UY1	C3'-C4'-C5'-O5'
1	AA	4618	OMG	O4'-C4'-C5'-O5'
45	BA	468	A2M	C3'-C4'-C5'-O5'
45	BA	668	A2M	O4'-C4'-C5'-O5'
1	AA	4623	OMG	C1'-C2'-O2'-CM2
45	BA	1804	OMU	C3'-C2'-O2'-CM2
1	AA	2861	OMC	C2'-C1'-N1-C2
1	AA	4456	OMC	C2'-C1'-N1-C2
45	BA	428	OMU	O4'-C1'-N1-C2
1	AA	398	A2M	C3'-C4'-C5'-O5'
45	BA	1490	OMG	C3'-C4'-C5'-O5'
1	AA	4636	PSU	O4'-C1'-C5-C6
45	BA	300	PSU	O4'-C1'-C5-C6
45	BA	815	PSU	O4'-C1'-C5-C6
45	BA	1232	PSU	O4'-C1'-C5-C6
45	BA	1596	PSU	O4'-C1'-C5-C6
1	AA	2787	A2M	O4'-C1'-N9-C8
1	AA	1534	A2M	O4'-C4'-C5'-O5'
1	AA	2351	OMC	O4'-C4'-C5'-O5'
45	BA	601	OMG	O4'-C4'-C5'-O5'
45	BA	1337	4AC	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
1	AA	2422	OMC	O4'-C4'-C5'-O5'
1	AA	4590	A2M	C3'-C4'-C5'-O5'
45	BA	1391	OMC	C3'-C4'-C5'-O5'

There are no ring outliers.

94 monomers are involved in 128 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
45	BA	649	PSU	3	0
45	BA	867	OMG	2	0
45	BA	354	OMU	1	0
1	AA	3718	A2M	3	0
1	AA	4579	PSU	2	0
1	AA	2804	OMC	1	0
1	AA	2861	OMC	1	0
45	BA	462	OMC	1	0
1	AA	4500	PSU	1	0
45	BA	1447	OMG	1	0
1	AA	4689	PSU	1	0
45	BA	99	A2M	1	0
45	BA	801	PSU	1	0
45	BA	1850	MA6	3	0
1	AA	4447	5MC	1	0
45	BA	121	OMU	2	0
45	BA	468	A2M	1	0
1	AA	4228	OMG	1	0
1	AA	1340	OMC	1	0
1	AA	3867	A2M	1	0
45	BA	1272	OMC	2	0
45	BA	1174	PSU	2	0
1	AA	2815	A2M	1	0
45	BA	576	A2M	2	0
45	BA	1056	PSU	1	0
1	AA	5001	PSU	1	0
45	BA	517	OMC	1	0
45	BA	93	PSU	1	0
45	BA	1383	A2M	1	0
1	AA	3825	A2M	1	0
1	AA	4220	6MZ	1	0
1	AA	4552	PSU	2	0
45	BA	100	PSU	1	0
1	AA	1316	OMG	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	AA	3768	PSU	1	0
1	AA	2363	A2M	1	0
45	BA	1442	OMU	1	0
45	BA	1625	PSU	1	0
1	AA	1871	A2M	2	0
1	AA	4532	PSU	1	0
45	BA	609	PSU	1	0
1	AA	2824	OMC	1	0
45	BA	436	OMG	1	0
45	BA	159	A2M	2	0
45	BA	116	OMU	3	0
45	BA	1288	OMU	1	0
45	BA	109	PSU	1	0
1	AA	3844	PSU	1	0
1	AA	4536	OMC	1	0
45	BA	1832	6MZ	1	0
45	BA	1004	PSU	2	0
1	AA	3792	OMG	1	0
1	AA	2351	OMC	1	0
45	BA	601	OMG	4	0
1	AA	4392	OMG	2	0
45	BA	484	A2M	1	0
45	BA	644	OMG	2	0
1	AA	4457	PSU	1	0
45	BA	1328	OMG	2	0
1	AA	1683	PSU	2	0
45	BA	1643	PSU	1	0
45	BA	1678	A2M	2	0
45	BA	509	OMG	3	0
45	BA	1703	OMC	1	0
1	AA	3887	OMC	1	0
1	AA	4523	A2M	1	0
45	BA	1031	A2M	1	0
1	AA	4636	PSU	1	0
1	AA	3830	A2M	1	0
45	BA	119	PSU	1	0
45	BA	668	A2M	4	0
3	AC	69	PSU	1	0
1	AA	4499	OMG	1	0
1	AA	2424	OMG	1	0
45	BA	512	A2M	3	0
45	BA	1360	PSU	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
71	Ba	138	IAS	2	0
1	AA	398	A2M	1	0
1	AA	4620	OMU	1	0
1	AA	4456	OMC	2	0
1	AA	3925	OMU	1	0
1	AA	2839	PSU	1	0
45	BA	1238	PSU	3	0
45	BA	1842	4AC	1	0
45	BA	27	A2M	2	0
45	BA	1804	OMU	2	0
45	BA	1692	PSU	1	0
1	AA	3785	A2M	1	0
1	AA	4618	OMG	1	0
1	AA	2415	OMU	1	0
1	AA	4227	OMU	1	0
1	AA	4403	PSU	1	0
3	AC	14	OMU	1	0
45	BA	1244	PSU	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 254 ligands modelled in this entry, 254 are 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 ⓘ

There are no chain breaks in this entry.

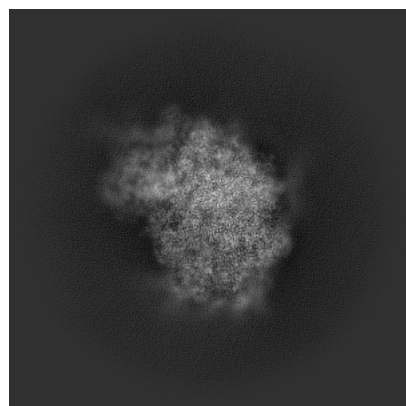
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-66299. These allow visual inspection of the internal detail of the map and identification of artifacts.

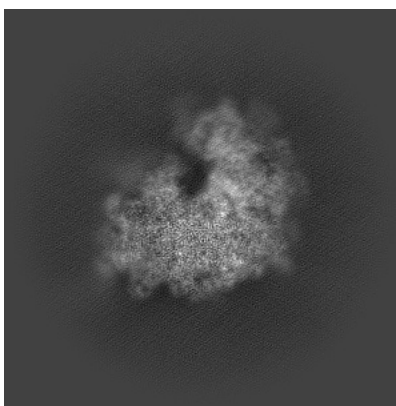
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

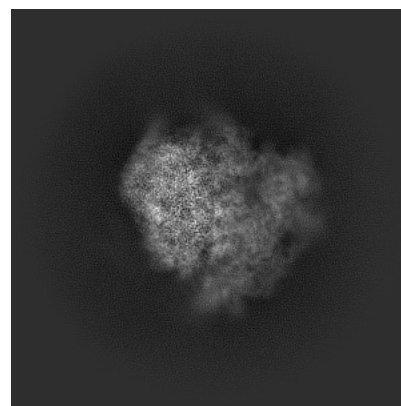
6.1.1 Primary map



X

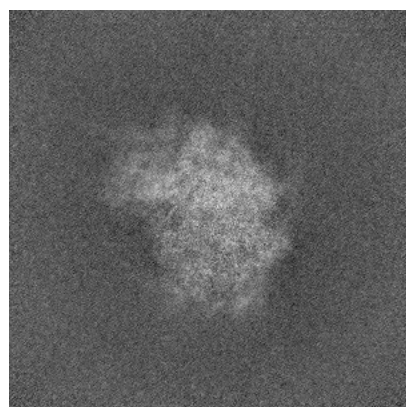


Y

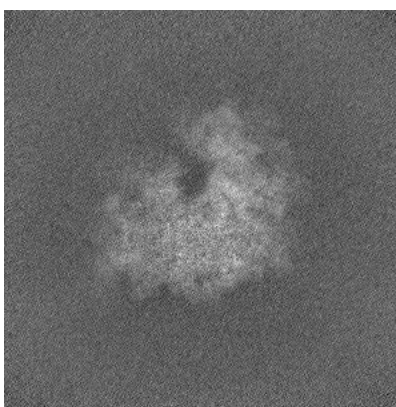


Z

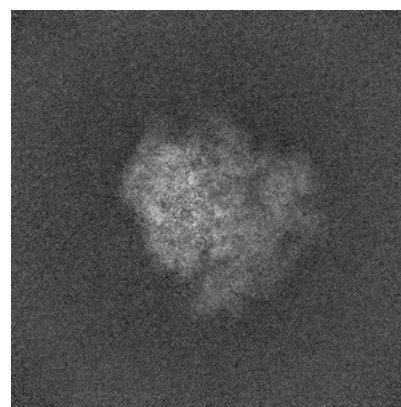
6.1.2 Raw map



X



Y

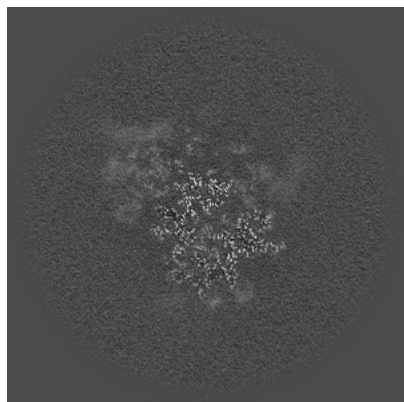


Z

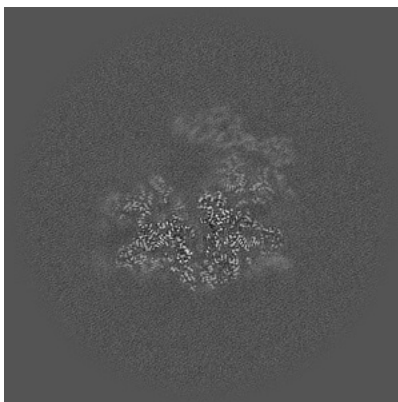
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

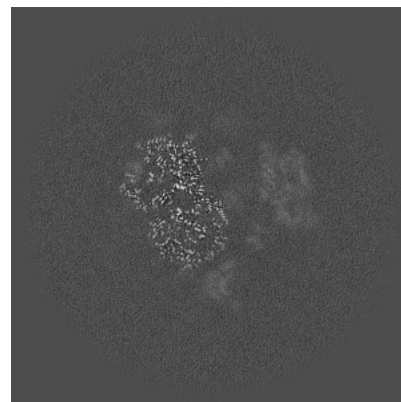
6.2.1 Primary map



X Index: 320

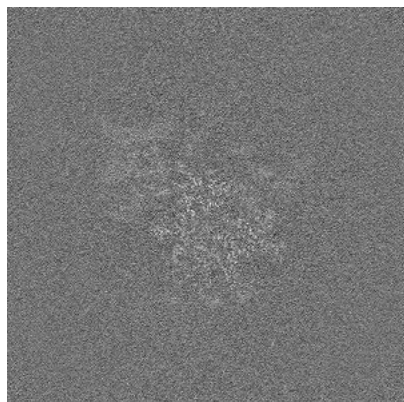


Y Index: 320

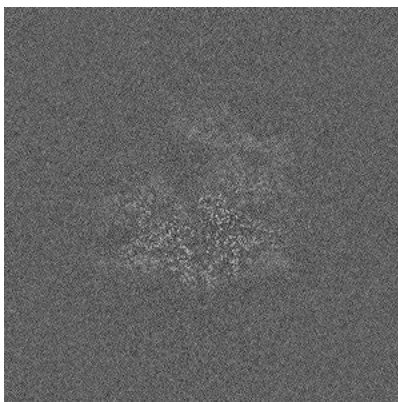


Z Index: 320

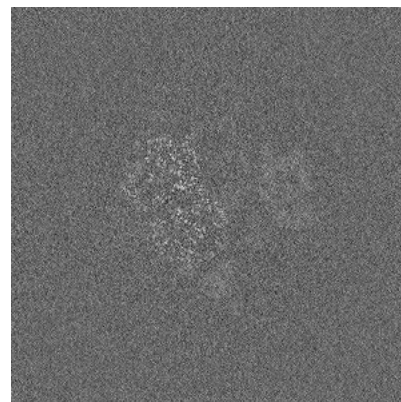
6.2.2 Raw map



X Index: 320



Y Index: 320

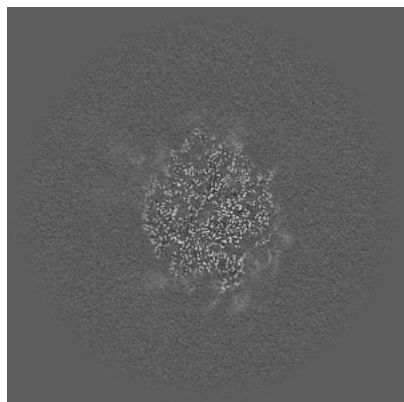


Z Index: 320

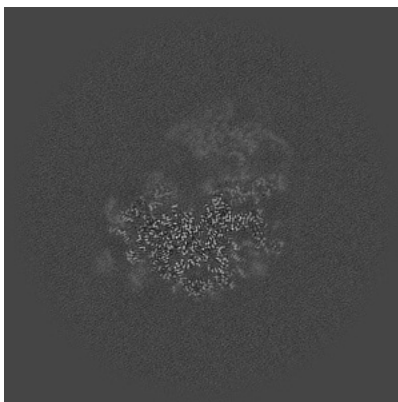
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

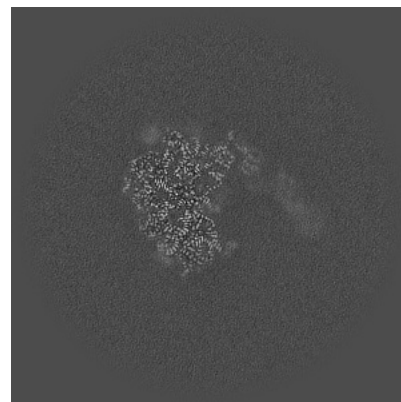
6.3.1 Primary map



X Index: 287

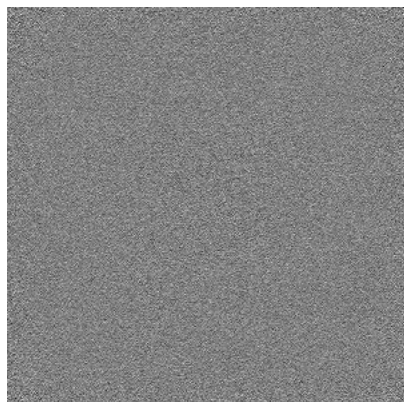


Y Index: 338

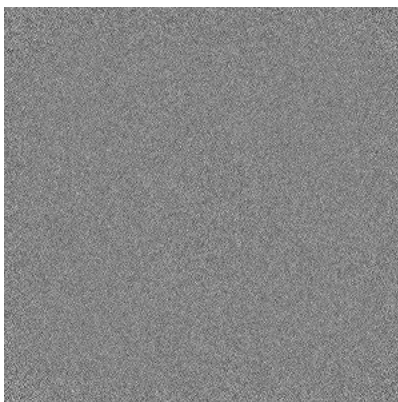


Z Index: 282

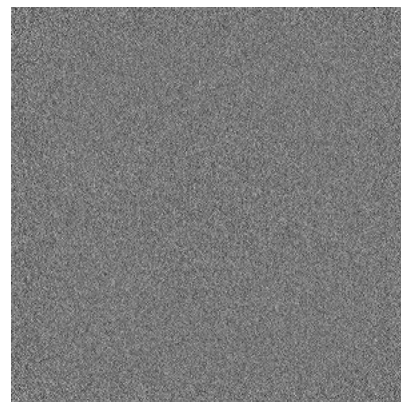
6.3.2 Raw map



X Index: 0



Y Index: 0

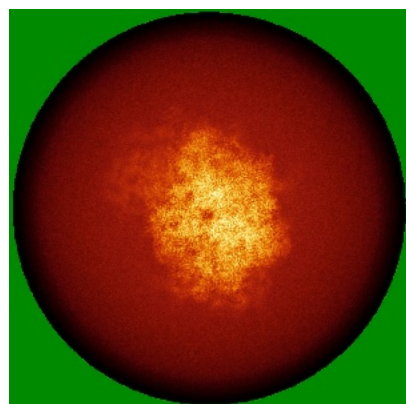


Z Index: 0

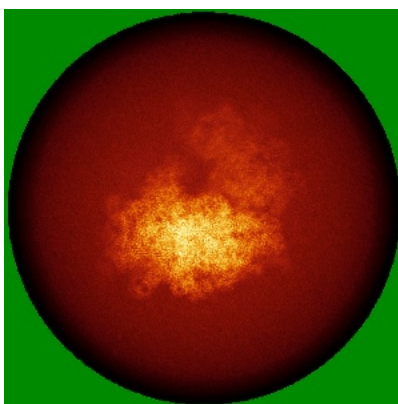
The images above show the largest variance slices of the map in three orthogonal directions.

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

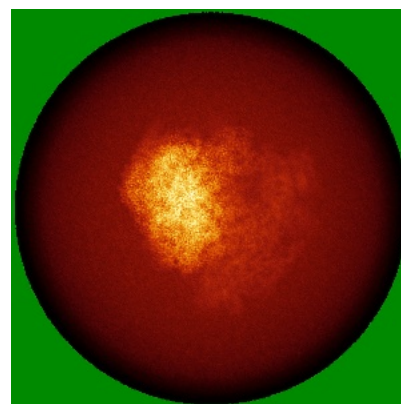
6.4.1 Primary map



X

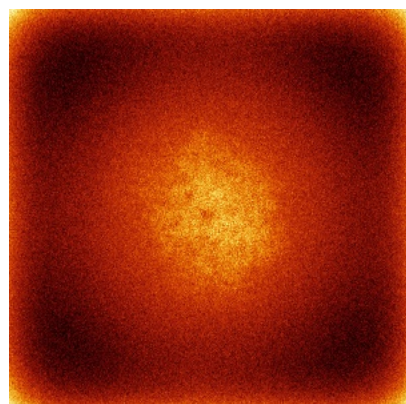


Y

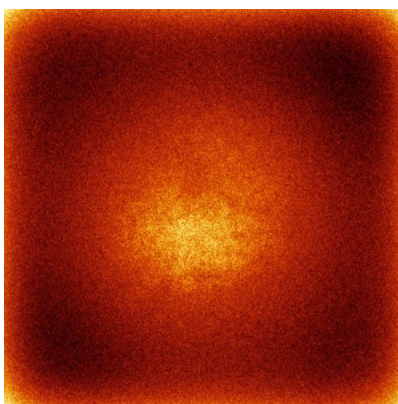


Z

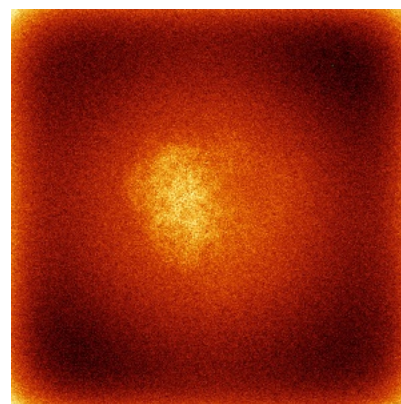
6.4.2 Raw map



X



Y

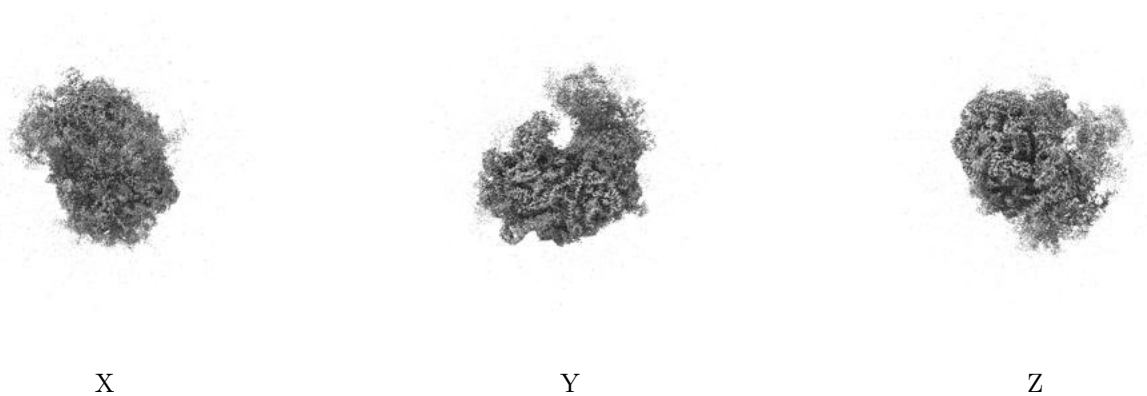


Z

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

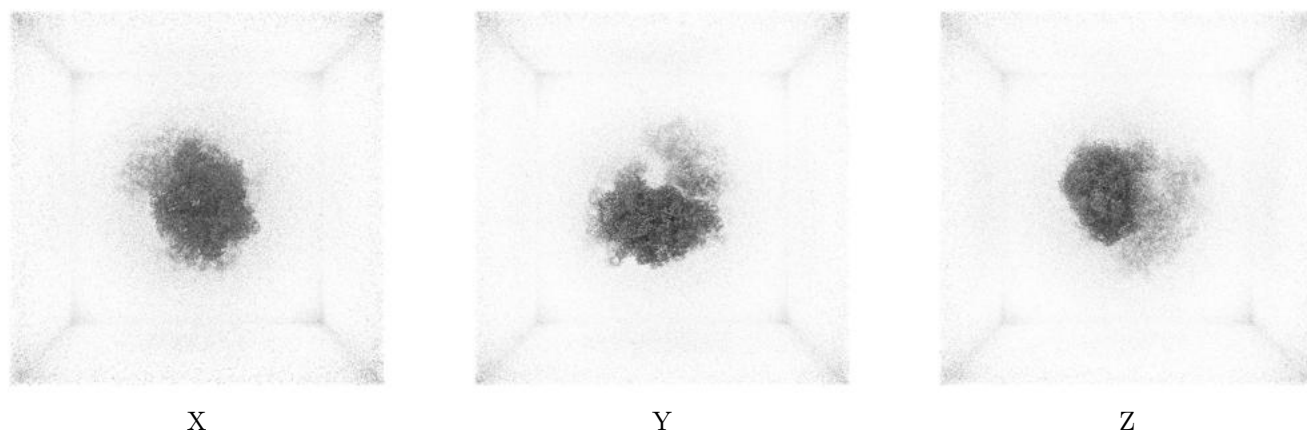
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.23. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

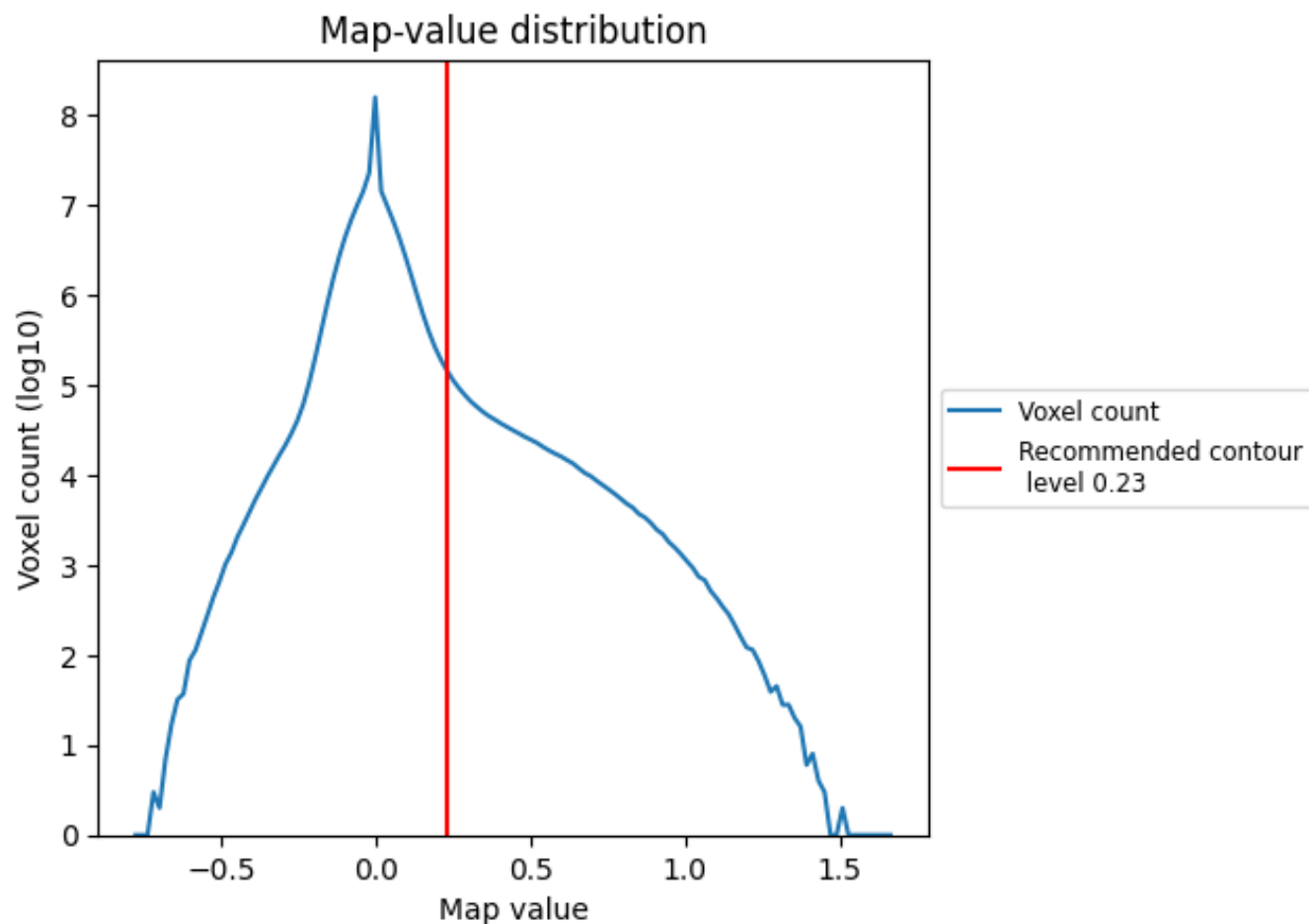
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

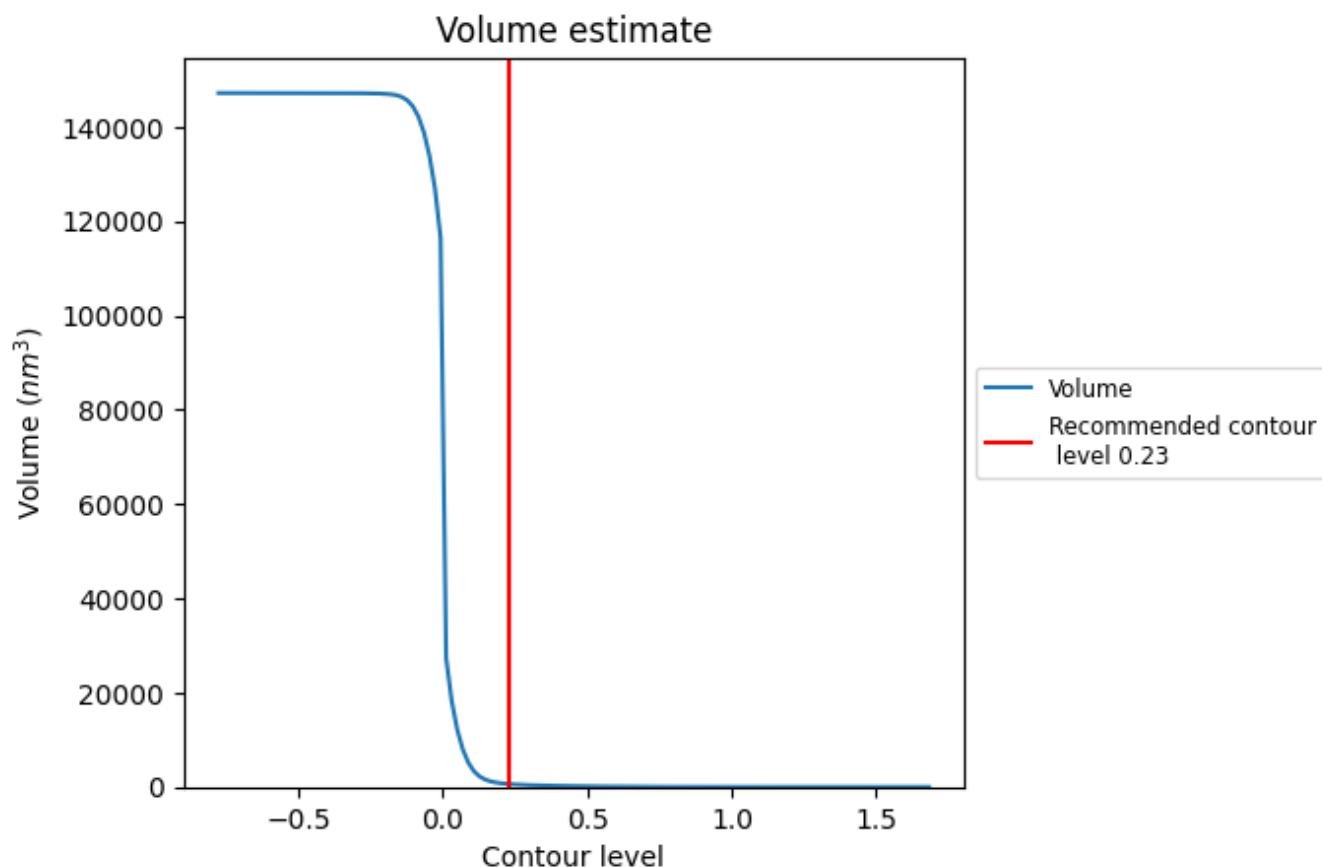
This section contains the results of statistical analysis of the map.

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.

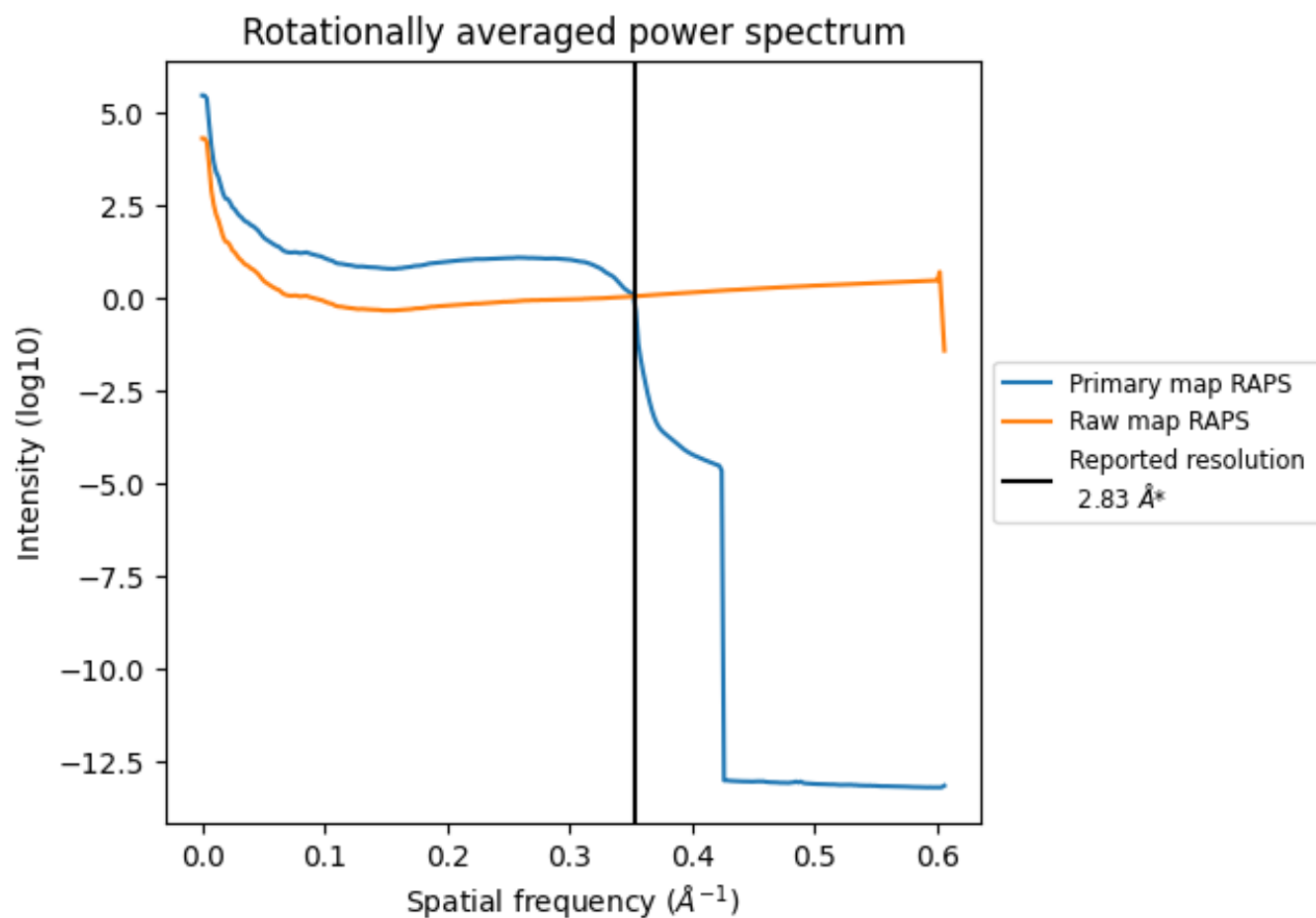
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 617 nm^3 ; this corresponds to an approximate mass of 557 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 ⓘ

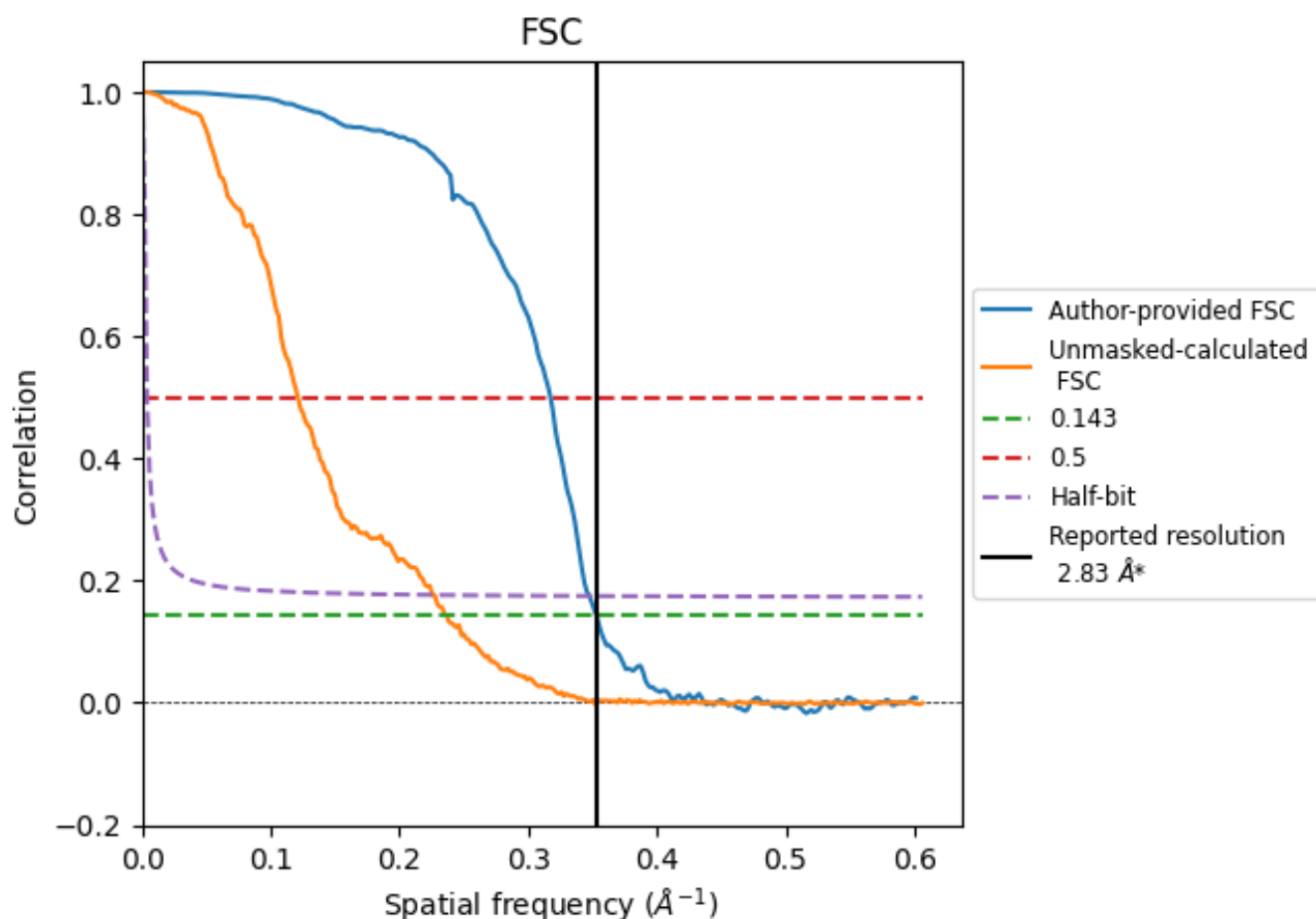


*Reported resolution corresponds to spatial frequency of 0.353 Å⁻¹

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 0.353 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

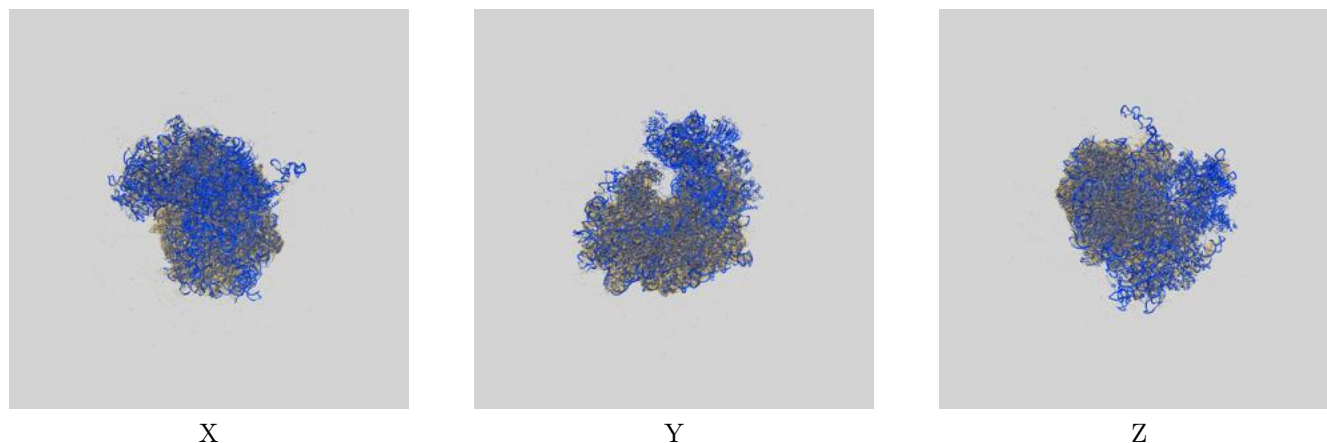
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.83	-	-
Author-provided FSC curve	2.83	3.15	2.88
Unmasked-calculated*	4.24	8.27	4.43

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.24 differs from the reported value 2.83 by more than 10 %

9 Map-model fit [i](#)

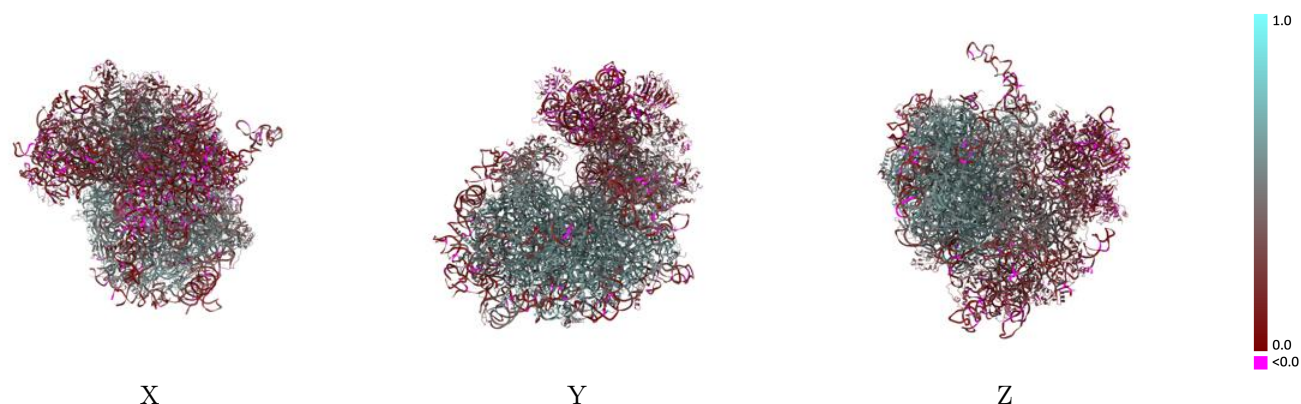
This section contains information regarding the fit between EMDB map EMD-66299 and PDB model 9WW6. Per-residue inclusion information can be found in [section 3](#) on [page 19](#).

9.1 Map-model overlay [i](#)



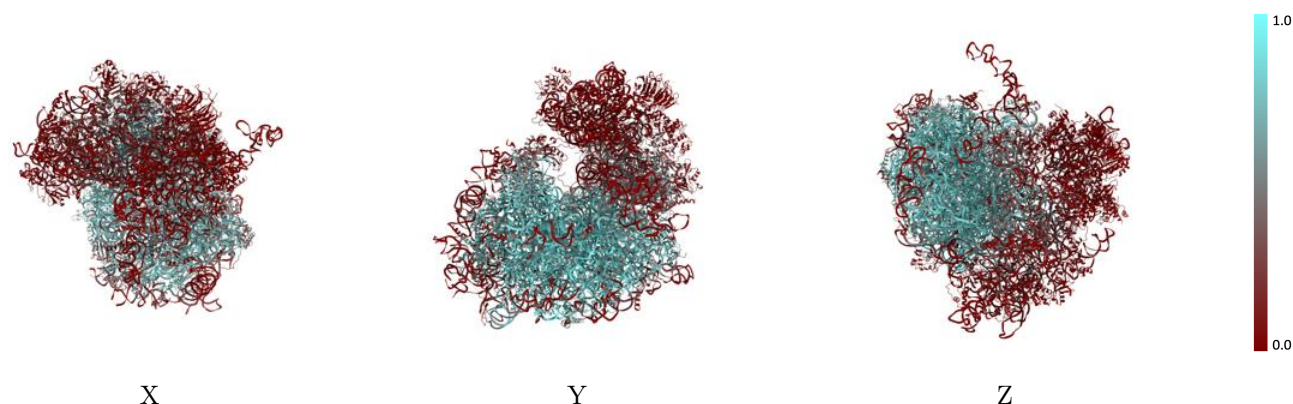
The images above show the 3D surface view of the map at the recommended contour level 0.23 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



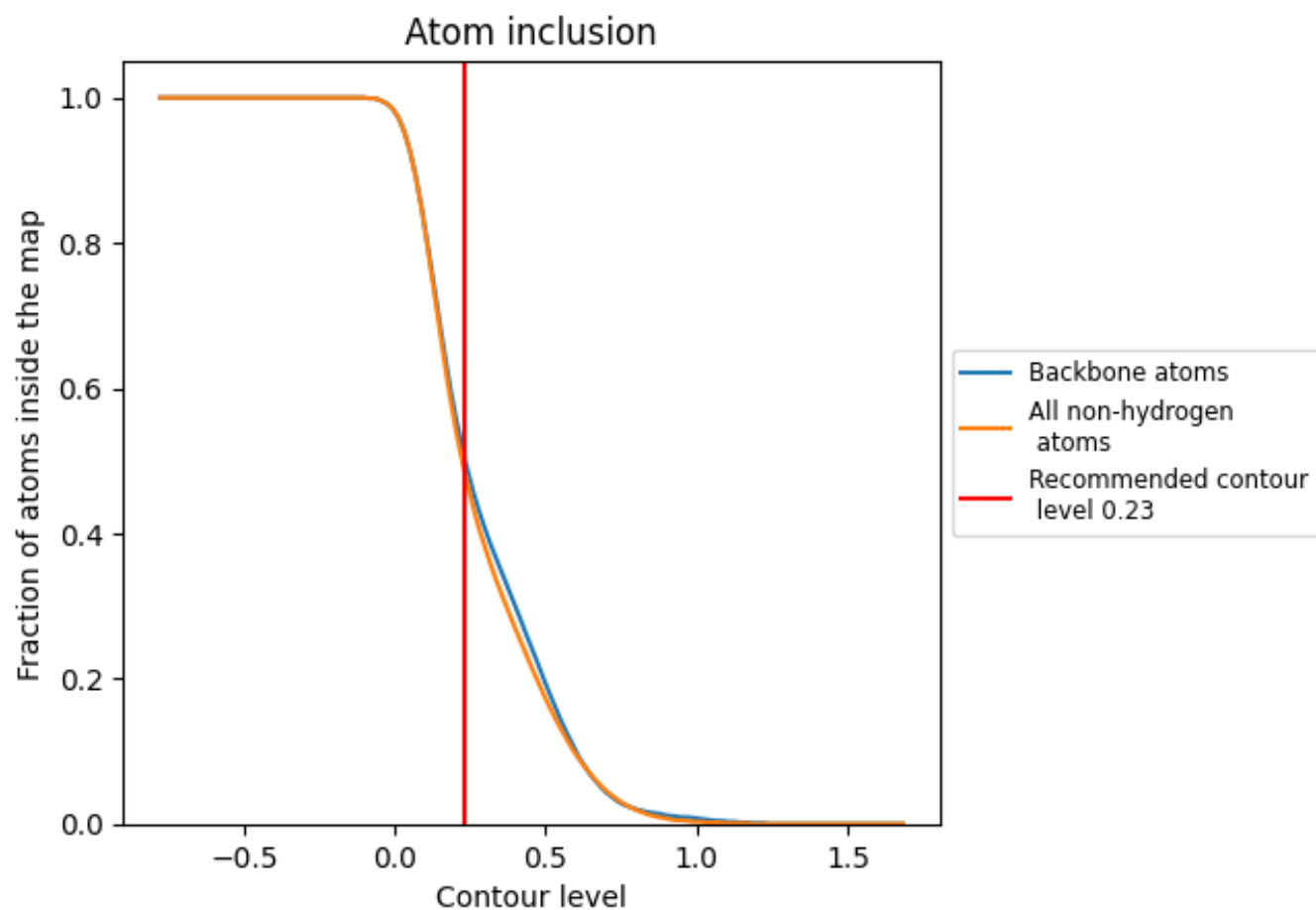
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.23).

9.4 Atom inclusion [i](#)



At the recommended contour level, 51% of all backbone atoms, 49% 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 (0.23) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.4860	 0.4130
AA	 0.6520	 0.4610
AB	 0.7310	 0.4880
AC	 0.7950	 0.5390
AD	 0.8460	 0.6220
AE	 0.7430	 0.5820
AF	 0.8120	 0.5990
AG	 0.5170	 0.4700
AH	 0.5590	 0.4990
AI	 0.7800	 0.5870
AJ	 0.6010	 0.5150
AK	 0.4730	 0.4880
AL	 0.2110	 0.4060
AM	 0.2590	 0.3950
AN	 0.6710	 0.5460
AO	 0.5830	 0.5110
AP	 0.8880	 0.6280
AQ	 0.7410	 0.5850
AR	 0.7980	 0.6030
AS	 0.8570	 0.6180
AT	 0.5630	 0.5040
AU	 0.7180	 0.5640
AV	 0.7130	 0.5690
AW	 0.1520	 0.3460
AX	 0.7700	 0.5960
AY	 0.6860	 0.5710
AZ	 0.7650	 0.5950
Aa	 0.7540	 0.5750
Ab	 0.6820	 0.5540
Ac	 0.8340	 0.6090
Ad	 0.5060	 0.4860
Ae	 0.6870	 0.5490
Af	 0.7110	 0.5770
Ag	 0.8240	 0.6180
Ah	 0.8430	 0.6160



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Chain	Atom inclusion	Q-score
Ai	 0.7680	 0.5940
Aj	 0.7110	 0.5800
Ak	 0.5820	 0.5340
Al	 0.8640	 0.6210
Am	 0.4410	 0.4870
An	 0.7640	 0.5960
Ao	 0.0000	 0.1390
Aq	 0.6170	 0.5420
Ar	 0.7730	 0.6020
As	 0.8110	 0.5990
BA	 0.2390	 0.2530
BB	 0.0610	 0.2910
BC	 0.0850	 0.2830
BD	 0.2570	 0.4040
BE	 0.0260	 0.2130
BF	 0.0310	 0.2050
BG	 0.0690	 0.2800
BH	 0.0890	 0.3280
BI	 0.0060	 0.1410
BJ	 0.2310	 0.4130
BK	 0.0080	 0.1640
BL	 0.0230	 0.2040
BM	 0.0200	 0.2010
BN	 0.0160	 0.1950
BO	 0.0230	 0.1800
BP	 0.1210	 0.3280
BQ	 0.1080	 0.3460
BR	 0.0730	 0.2970
BS	 0.0210	 0.2380
BT	 0.0200	 0.1790
BU	 0.0050	 0.1400
BV	 0.1490	 0.3340
BW	 0.0220	 0.2230
BX	 0.0730	 0.2450
BY	 0.0040	 0.1260
BZ	 0.4550	 0.4970
Ba	 0.2110	 0.3810
Bb	 0.3250	 0.4490
Bc	 0.0340	 0.1990
Bd	 0.0050	 0.1460
Be	 0.2130	 0.3800
Bf	 0.0470	 0.2650

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Chain	Atom inclusion	Q-score
Bg	 0.0070	 0.0600
Bh	 0.0250	 0.2120