



Full wwPDB EM Validation Report ⓘ

Sep 23, 2025 – 05:26 pm BST

PDB ID : 8OVA / pdb_00008ova
EMDB ID : EMD-17208
Title : CRYO-EM STRUCTURE OF TRYPANOSOMA BRUCEI PROCYCLIC
FORM 80S RIBOSOME : PARENTAL STRAIN
Authors : Rajan, K.S.; Yonath, A.
Deposited on : 2023-04-25
Resolution : 2.47 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:

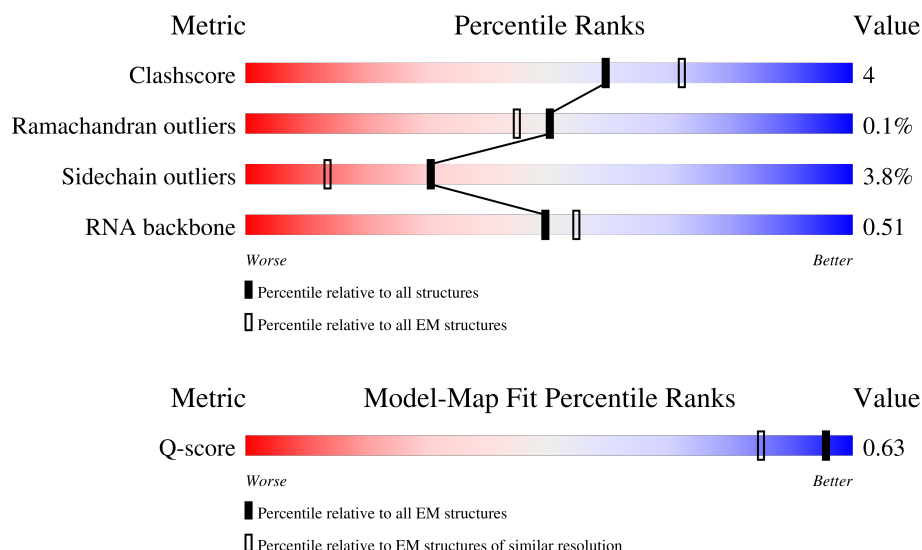
EMDB validation analysis : 0.0.1.dev129
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.46

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 2.47 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	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	6086 (1.98 - 2.97)

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	BA	1920	56% 23% • 16%
2	AA	2282	51% 25% 7% 16%
3	BB	1536	49% 20% 5% 27%

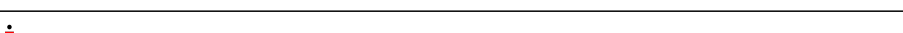
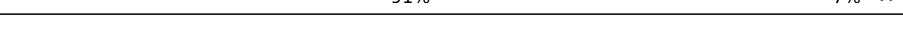
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Mol	Chain	Length	Quality of chain
4	BH	136	
5	BG	183	
6	BF	78	
7	BE	216	
8	BD	119	
9	BC	209	
10	AB	19	
11	AQ	117	
12	A8	57	
13	A9	153	
14	Az	279	
15	AH	144	
16	AI	152	
17	AJ	130	
18	AK	149	
19	AM	153	
20	AO	167	
21	AP	266	
22	AR	194	
23	AS	143	
24	AT	137	
25	AU	113	
26	AV	111	
27	AW	86	
28	AX	214	

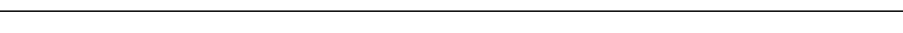
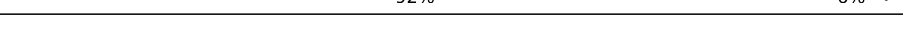
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Mol	Chain	Length	Quality of chain
29	AY	66	
30	AZ	103	
31	AL	142	
32	A0	256	
33	A1	273	
34	A2	190	
35	A3	250	
36	A4	202	
37	A5	220	
38	A6	190	
39	A7	318	
40	AC	277	
41	AD	172	
42	AE	174	
43	AG	151	
44	Bh	188	
45	Ba	133	
46	Bb	145	
47	Bc	146	
48	Bd	71	
49	Be	260	
50	Bz	34	
51	Bg	105	
52	Bf	429	
53	BI	193	

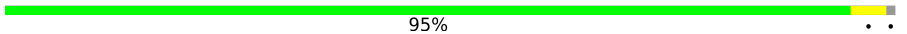
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Mol	Chain	Length	Quality of chain
54	Bj	170	
55	BK	213	
56	Bk	127	
57	BL	194	
58	Bl	149	
59	Bm	109	
60	BN	218	
61	Bn	84	
62	BO	222	
63	Bo	93	
64	Bp	82	
65	Bq	51	
66	BQ	221	
67	BR	166	
68	Br	374	
69	BS	179	
70	Bs	128	
71	BT	260	
72	Bt	106	
73	BU	159	
74	Bu	308	
75	BV	130	
76	Bv	192	
77	BW	139	
78	BX	164	

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Mol	Chain	Length	Quality of chain
79	Bw	257	 85%5%11%
80	Bx	276	 78%7%15%
81	BY	125	 47%49%
82	By	189	 78%19%..
83	BZ	143	 80%5%15%
84	Bi	132	 95%..
85	BP	189	 68%12%20%
86	AF	144	 58%21%20%

2 Entry composition

There are 91 unique types of molecules in this entry. The entry contains 209127 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 LSUa rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	BA	1604	Total	C	N	O	P	0	0
			34346	15345	6216	11181	1604		

- Molecule 2 is a RNA chain called SSU rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	AA	1919	Total	C	N	O	P	0	0
			40964	18316	7328	13401	1919		

- Molecule 3 is a RNA chain called LSUb rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	BB	1119	Total	C	N	O	P	0	0
			23918	10699	4282	7818	1119		

- Molecule 4 is a RNA chain called SrRNA-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	BH	119	Total	C	N	O	P	0	0
			2538	1131	451	837	119		

- Molecule 5 is a RNA chain called SrRNA-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	BG	183	Total	C	N	O	P	0	0
			3919	1746	708	1282	183		

- Molecule 6 is a RNA chain called SrRNA-6.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	BF	69	Total	C	N	O	P	0	0
			1444	646	239	490	69		

- Molecule 7 is a RNA chain called SrRNA-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	BE	188	Total	C	N	O	P	0	0
			3981	1780	692	1321	188		

- Molecule 8 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	BD	119	Total	C	N	O	P	0	0
			2533	1131	449	835	118		

- Molecule 9 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	BC	160	Total	C	N	O	P	0	0
			3411	1529	610	1113	159		

- Molecule 10 is a RNA chain called E-SITE TRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AB	19	Total	C	N	O	P	0	0
			404	181	76	129	18		

- Molecule 11 is a protein called Ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AQ	100	Total	C	N	O	S	0	0
			800	501	152	144	3		

- Molecule 12 is a protein called uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	A8	56	Total	C	N	O	S	0	0
			461	284	97	75	5		

- Molecule 13 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	A9	70	Total	C	N	O	S	0	1
			569	361	109	92	7		

- Molecule 14 is a protein called RNA-binding protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	Az	100	Total	C	N	O	S	0	0
			807	504	154	148	1		

- Molecule 15 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AH	134	Total	C	N	O	S	0	0
			992	607	193	183	9		

- Molecule 16 is a protein called 40S ribosomal protein S15, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AI	119	Total	C	N	O	S	0	0
			966	614	188	161	3		

- Molecule 17 is a protein called 40S ribosomal protein S15a, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AJ	129	Total	C	N	O	S	0	0
			1018	645	191	174	8		

- Molecule 18 is a protein called 40S ribosomal protein S16, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AK	142	Total	C	N	O	S	0	0
			1140	728	215	194	3		

- Molecule 19 is a protein called 40S ribosomal protein S18, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AM	141	Total	C	N	O	S	0	0
			1143	713	227	198	5		

- Molecule 20 is a protein called Ribosomal protein S19, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AO	154	Total	C	N	O	S	0	0
			1220	770	242	199	9		

- Molecule 21 is a protein called 40S ribosomal protein S2, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AP	218	Total	C	N	O	S	0	0
			1688	1078	298	303	9		

- Molecule 22 is a protein called 40S ribosomal protein S21, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AR	89	Total	C	N	O	S	0	0
			666	415	119	129	3		

- Molecule 23 is a protein called 40S ribosomal protein S23, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AS	140	Total	C	N	O	S	0	0
			1096	696	213	185	2		

- Molecule 24 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AT	129	Total	C	N	O	S	0	0
			1034	659	202	170	3		

- Molecule 25 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	AU	73	Total	C	N	O	S	0	0
			575	365	105	100	5		

- Molecule 26 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	AV	103	Total	C	N	O	S	0	0
			830	512	175	135	8		

- Molecule 27 is a protein called 40S ribosomal protein S27, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	AW	85	Total	C	N	O	S	0	0
			660	411	124	116	9		

- Molecule 28 is a protein called 40S ribosomal protein S3, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	AX	208	Total	C	N	O	S	0	0
			1652	1036	310	294	12		

- Molecule 29 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	AY	55	Total	C	N	O	S	0	0
			448	283	93	71	1		

- Molecule 30 is a protein called 40S ribosomal protein S33, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	AZ	58	Total	C	N	O	S	0	0
			449	271	94	80	4		

- Molecule 31 is a protein called 40S ribosomal protein S17, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	AL	122	Total	C	N	O	S	0	0
			945	600	184	156	5		

- Molecule 32 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	A0	220	Total	C	N	O	S	0	0
			1789	1129	336	316	8		

- Molecule 33 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	A1	262	Total	C	N	O	S	0	0
			2062	1306	388	359	9		

- Molecule 34 is a protein called 40S ribosomal protein S5, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	A2	183	Total	C	N	O	S	0	0
			1464	915	282	262	5		

- Molecule 35 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	A3	238	Total	C	N	O	S	0	0
			1871	1161	383	323	4		

- Molecule 36 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	A4	198	Total	C	N	O	S	0	0
			1602	1023	308	266	5		

- Molecule 37 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	A5	187	Total	C	N	O	S	0	0
			1471	927	291	251	2		

- Molecule 38 is a protein called Probable 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	A6	179	Total	C	N	O	S	0	0
			1477	929	297	243	8		

- Molecule 39 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	A7	309	Total	C	N	O	S	0	0
			2371	1483	418	458	12		

- Molecule 40 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	AC	208	Total	C	N	O	S	0	0
			1648	1049	297	291	11		

- Molecule 41 is a protein called 40S ribosomal protein S10, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	AD	99	Total	C	N	O	S	0	0
			814	531	140	139	4		

- Molecule 42 is a protein called 40S ribosomal proteins S11, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	AE	153	Total	C	N	O	S	0	0
			1249	782	253	209	5		

- Molecule 43 is a protein called 40S ribosomal protein S13, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	AG	150	Total	C	N	O	S	0	0
			1203	756	236	203	8		

- Molecule 44 is a protein called 60S ribosomal subunit protein L31, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Bh	156	Total	C	N	O	S	0	0
			1249	785	253	207	4		

- Molecule 45 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Ba	132	Total	C	N	O	S	0	0
			1085	688	219	175	3		

- Molecule 46 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Bb	144	Total	C	N	O	S	0	0
			1137	717	228	186	6		

- Molecule 47 is a protein called 60S ribosomal protein L28, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Bc	144	Total	C	N	O	S	0	0
			1162	723	234	197	8		

- Molecule 48 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Bd	67	Total	C	N	O	S	0	0
			547	335	123	88	1		

- Molecule 49 is a protein called 60S ribosomal protein L2, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	Be	254	Total	C	N	O	S	1	0
			1907	1189	394	312	12		

- Molecule 50 is a protein called Ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	Bz	32	Total	C	N	O	S	0	0
			284	172	74	36	2		

- Molecule 51 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	Bg	92	Total	C	N	O	S	0	0
			708	441	128	134	5		

- Molecule 52 is a protein called Ribosomal protein L3, mitochondrial, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	Bf	396	Total	C	N	O	S	0	0
			3174	2001	626	534	13		

- Molecule 53 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	BI	191	Total	C	N	O	S	0	0
			1517	950	313	246	8		

- Molecule 54 is a protein called 60S ribosomal protein L34, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	Bj	116	Total	C	N	O	S	0	0
			959	593	214	148	4		

- Molecule 55 is a protein called 60S ribosomal protein L10, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	BK	194	Total	C	N	O	S	0	0
			1588	1002	314	260	12		

- Molecule 56 is a protein called 60S ribosomal protein L35, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	Bk	123	Total	C	N	O	S	0	0
			1010	634	217	156	3		

- Molecule 57 is a protein called 60S ribosomal protein L11, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	BL	166	Total	C	N	O	S	0	0
			1325	836	247	235	7		

- Molecule 58 is a protein called 60S ribosomal protein L35A, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	Bl	144	Total	C	N	O	S	0	0
			1163	728	239	193	3		

- Molecule 59 is a protein called Ribosomal protein L36, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	Bm	98	Total	C	N	O	S	0	0
			786	493	164	127	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
60	BN	215	Total	C	N	O	S	0	0
			1762	1097	365	294	6		

- Molecule 61 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	Bn	80	Total	C	N	O	S	0	0
			676	410	157	103	6		

- Molecule 62 is a protein called 60S ribosomal protein L13a, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	BO	221	Total	C	N	O	S	0	0
			1801	1141	364	289	7		

- Molecule 63 is a protein called 60S ribosomal protein L37a, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	Bo	89	Total	C	N	O	S	0	0
			699	434	144	115	6		

- Molecule 64 is a protein called 60S ribosomal protein L38, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	Bp	77	Total	C	N	O	S	0	0
			626	393	125	104	4		

- Molecule 65 is a protein called 60S ribosomal protein L39, putative.

Mol	Chain	Residues	Atoms				AltConf	Trace
65	Bq	50	Total	C	N	O	0	0
			457	297	98	62		

- Molecule 66 is a protein called Ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	BQ	203	Total	C	N	O	S	0	0
			1716	1077	370	264	5		

- Molecule 67 is a protein called 60S ribosomal protein L17, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	BR	151	Total	C	N	O	S	0	0
			1219	767	242	202	8		

- Molecule 68 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Br	367	Total	C	N	O	S	0	0
			2882	1802	575	488	17		

- Molecule 69 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	BS	178	Total	C	N	O	S	0	0
			1465	926	289	243	7		

- Molecule 70 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Bs	50	Total	C	N	O	S	0	0
			394	247	80	60	7		

- Molecule 71 is a protein called 60S ribosomal protein L19, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	BT	196	Total	C	N	O	S	0	0
			1590	974	349	259	8		

- Molecule 72 is a protein called 60S ribosomal protein L44.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Bt	97	Total	C	N	O	S	0	0
			801	507	159	130	5		

- Molecule 73 is a protein called 60S ribosomal protein L21E, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	BU	157	Total	C	N	O	S	0	0
			1247	793	245	203	6		

- Molecule 74 is a protein called 60S ribosomal protein L5, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Bu	247	Total	C	N	O	S	0	0
			1964	1234	378	347	5		

- Molecule 75 is a protein called 60S ribosomal protein L22, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	BV	122	Total	C	N	O	S	0	0
			979	629	179	168	3		

- Molecule 76 is a protein called 60S ribosomal protein L6, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Bv	143	Total	C	N	O	S	0	0
			1101	699	202	197	3		

- Molecule 77 is a protein called 60S ribosomal protein L23, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	BW	136	Total	C	N	O	S	0	0
			1029	651	195	178	5		

- Molecule 78 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	BX	120	Total	C	N	O	S	0	0
			982	624	185	171	2		

- Molecule 79 is a protein called 60S ribosomal protein L7, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Bw	230	Total	C	N	O	S	0	0
			1872	1190	362	312	8		

- Molecule 80 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Bx	235	Total	C	N	O	S	0	0
			1874	1178	369	321	6		

- Molecule 81 is a protein called 60S ribosomal protein L24, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	BY	64	Total	C	N	O	S	0	0
			550	358	108	79	5		

- Molecule 82 is a protein called 60S ribosomal protein L9, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	By	186	Total	C	N	O	S	0	0
			1515	961	281	269	4		

- Molecule 83 is a protein called 60S ribosomal protein L26, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	BZ	122	Total	C	N	O	S	0	0
			993	614	210	164	5		

- Molecule 84 is a protein called 60S ribosomal protein L32, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	Bi	131	Total	C	N	O	S	0	0
			1075	678	217	176	4		

- Molecule 85 is a protein called 40S ribosomal protein L14, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	BP	152	Total	C	N	O	S	0	0
			1237	784	240	209	4		

- Molecule 86 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
86	AF	115	Total	C	N	O	S	0	0
			868	531	156	173	8		

- Molecule 87 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
87	BA	67	Total	Mg	0
			67	67	
87	AA	88	Total	Mg	0
			88	88	
87	BB	61	Total	Mg	0
			61	61	
87	BG	5	Total	Mg	0
			5	5	
87	BE	1	Total	Mg	0
			1	1	
87	BD	1	Total	Mg	0
			1	1	
87	BC	1	Total	Mg	0
			1	1	
87	AH	1	Total	Mg	0
			1	1	
87	AO	2	Total	Mg	0
			2	2	
87	A0	1	Total	Mg	0
			1	1	
87	Be	2	Total	Mg	0
			2	2	
87	Bf	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
87	BN	1	Total 1	Mg 1	0
87	BR	1	Total 1	Mg 1	0
87	BW	1	Total 1	Mg 1	0

- Molecule 88 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		AltConf
88	BA	8	Total 8	K 8	0
88	AA	25	Total 25	K 25	0
88	BB	12	Total 12	K 12	0
88	AH	1	Total 1	K 1	0
88	BZ	1	Total 1	K 1	0

- Molecule 89 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		AltConf
89	BA	10	Total 10	Na 10	0
89	AA	14	Total 14	Na 14	0
89	BB	14	Total 14	Na 14	0
89	A3	1	Total 1	Na 1	0
89	BK	1	Total 1	Na 1	0

- Molecule 90 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
90	A9	1	Total 1	Zn 1	0
90	Bn	1	Total 1	Zn 1	0

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Mol	Chain	Residues	Atoms		AltConf
90	Bo	1	Total 1	Zn 1	0
90	Bs	1	Total 1	Zn 1	0

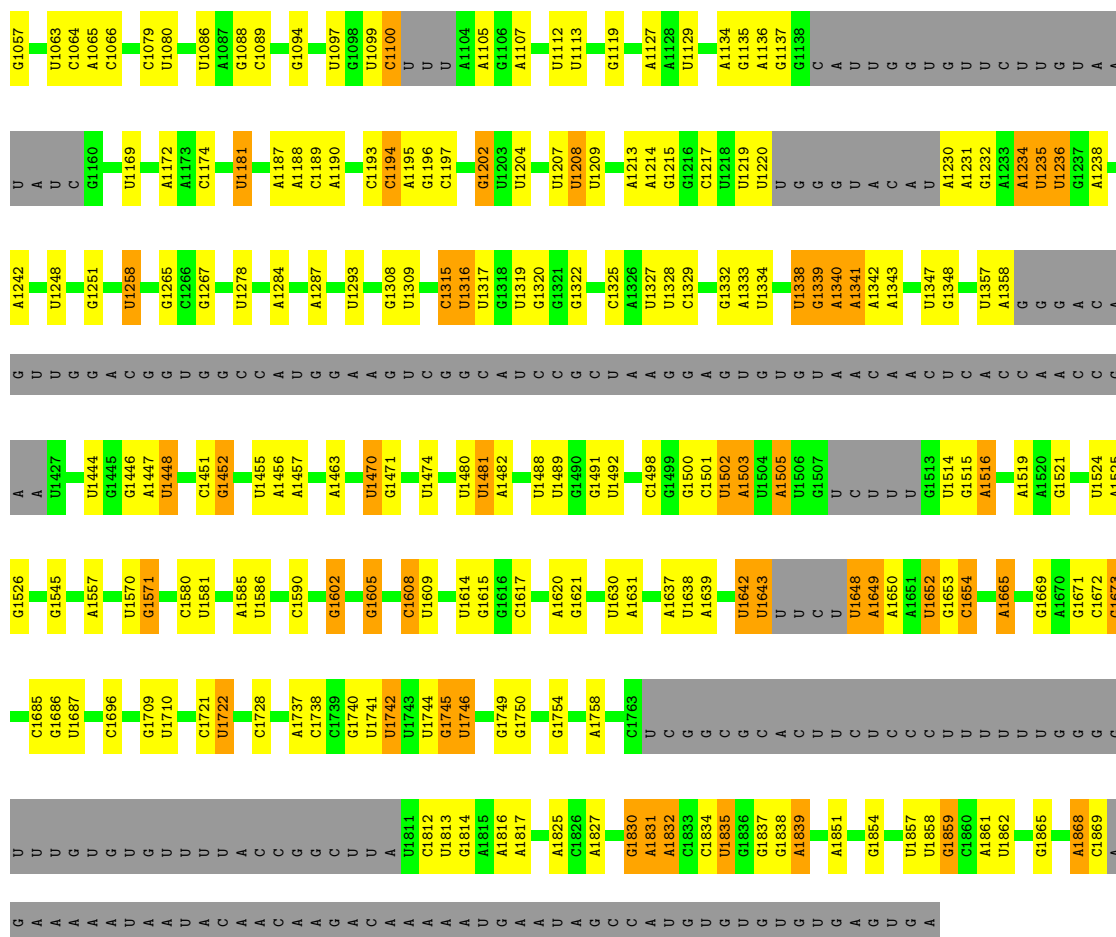
- Molecule 91 is water.

Mol	Chain	Residues	Atoms		AltConf
91	BA	53	Total 53	O 53	0
91	AA	40	Total 40	O 40	0
91	BB	61	Total 61	O 61	0
91	BH	2	Total 2	O 2	0
91	BG	4	Total 4	O 4	0
91	BE	1	Total 1	O 1	0
91	BC	1	Total 1	O 1	0
91	A8	1	Total 1	O 1	0
91	AH	1	Total 1	O 1	0
91	AK	1	Total 1	O 1	0
91	AV	3	Total 3	O 3	0
91	A2	1	Total 1	O 1	0
91	AG	1	Total 1	O 1	0
91	Bb	3	Total 3	O 3	0
91	Bd	1	Total 1	O 1	0
91	Be	7	Total 7	O 7	0
91	Bj	1	Total 1	O 1	0

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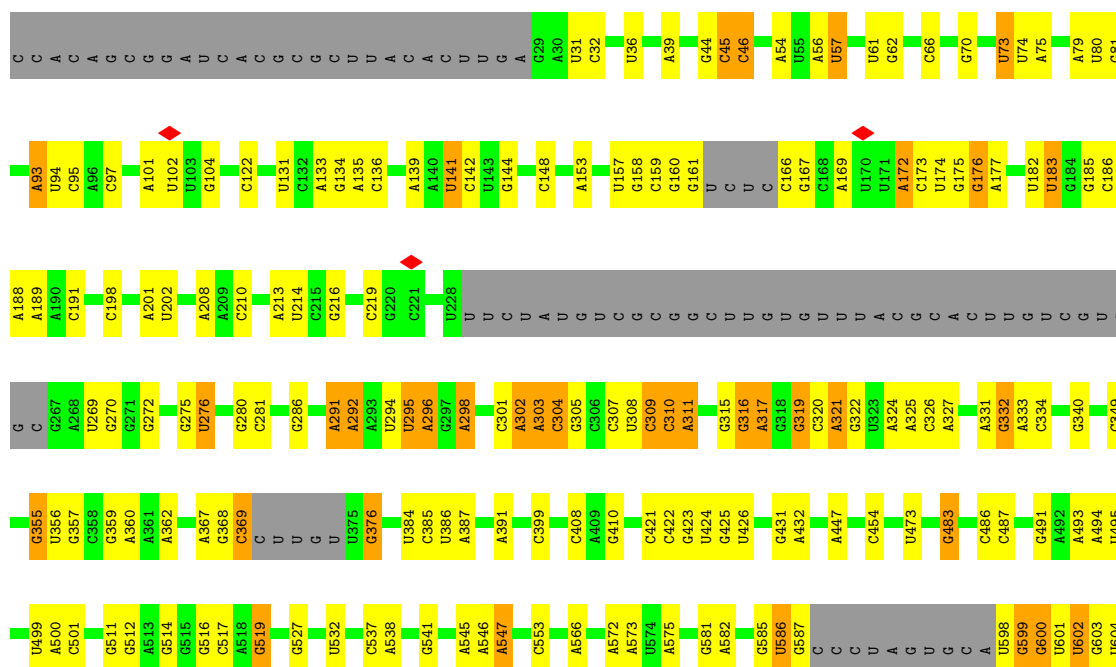
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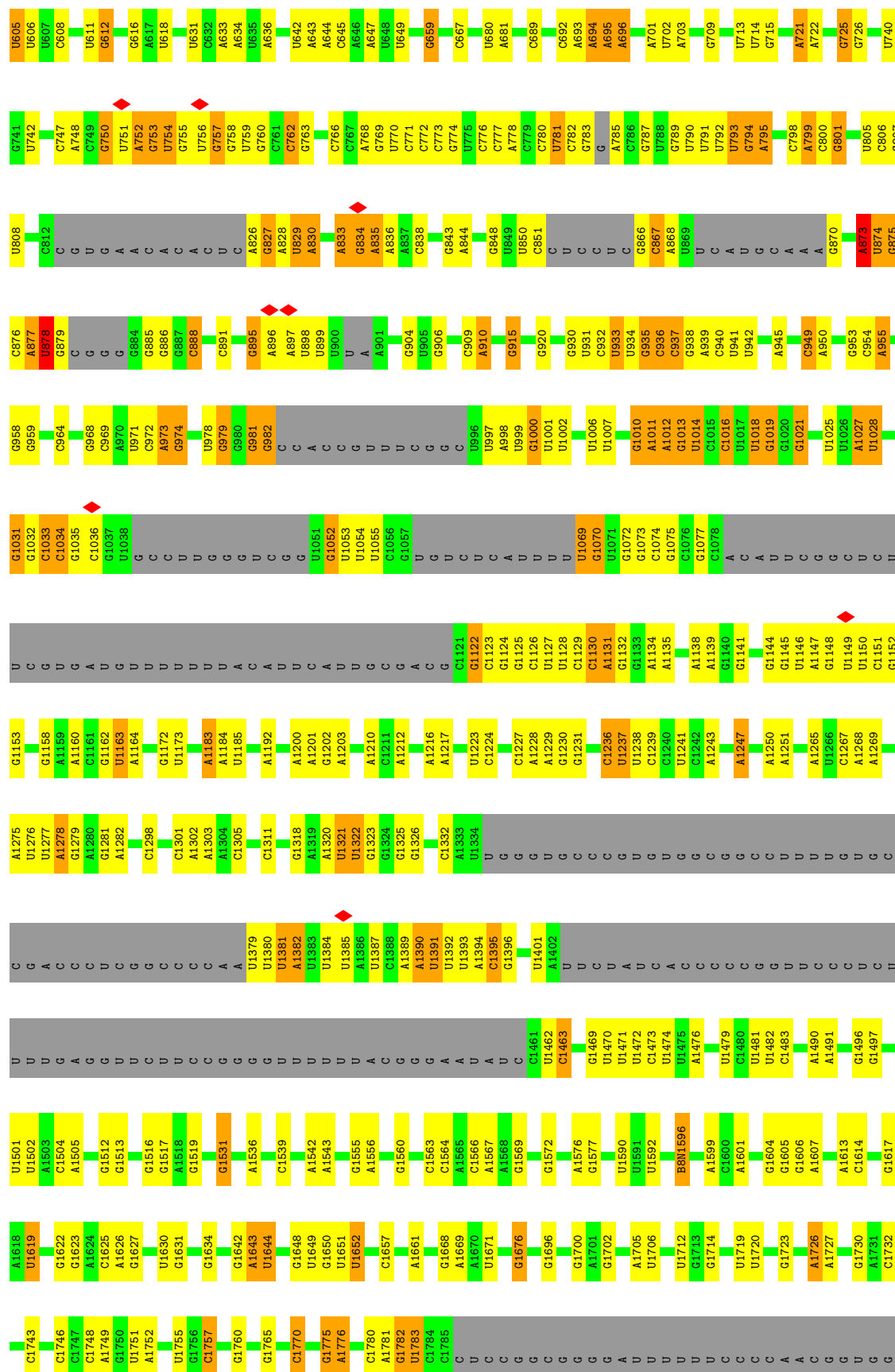
Mol	Chain	Residues	Atoms		AltConf
91	BK	1	Total 1	O 1	0
91	BN	1	Total 1	O 1	0
91	Bn	1	Total 1	O 1	0
91	BQ	2	Total 2	O 2	0
91	Br	1	Total 1	O 1	0
91	Bi	1	Total 1	O 1	0

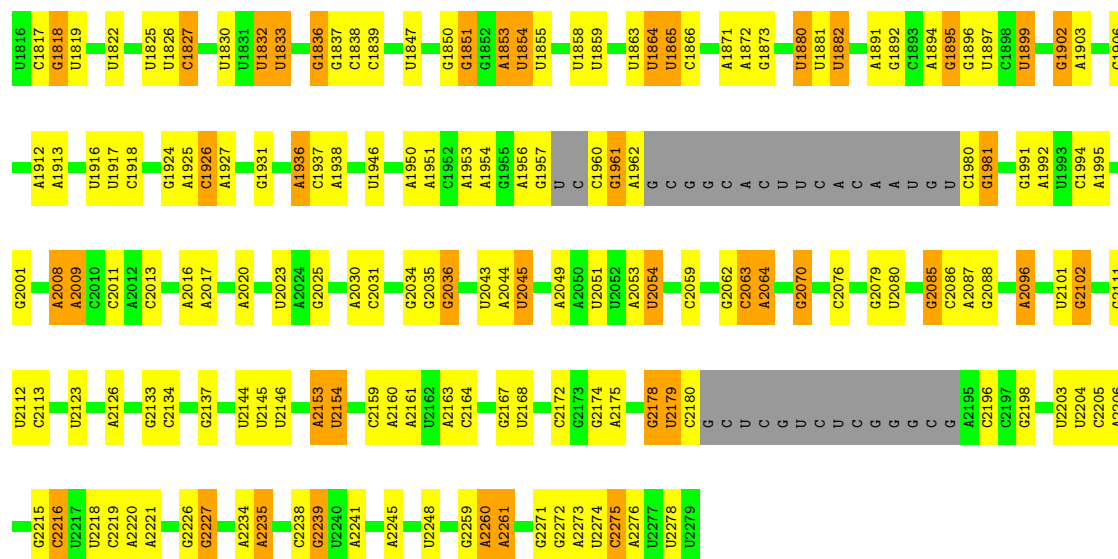


• Molecule 2: SSU rRNA

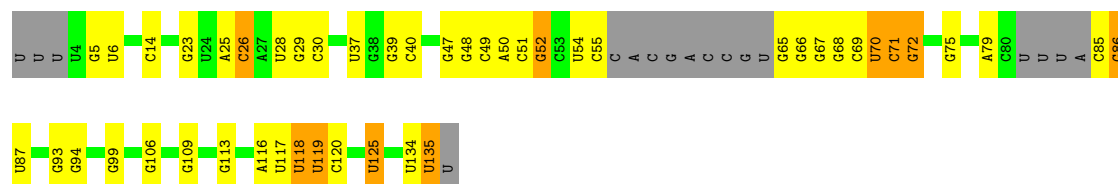
Chain AA: 51% 25% 7% 16%



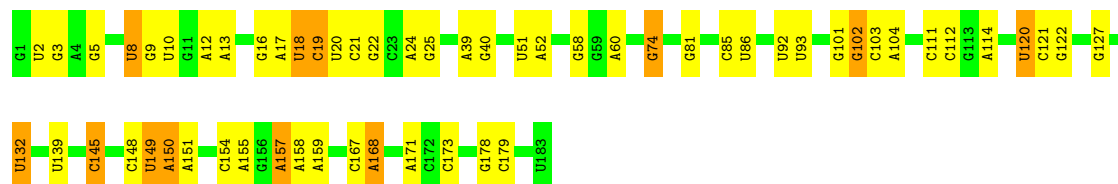




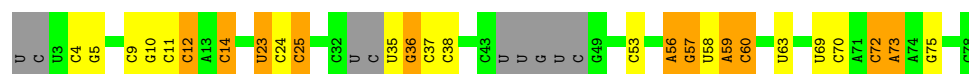
- Molecule 4: SrRNA-4



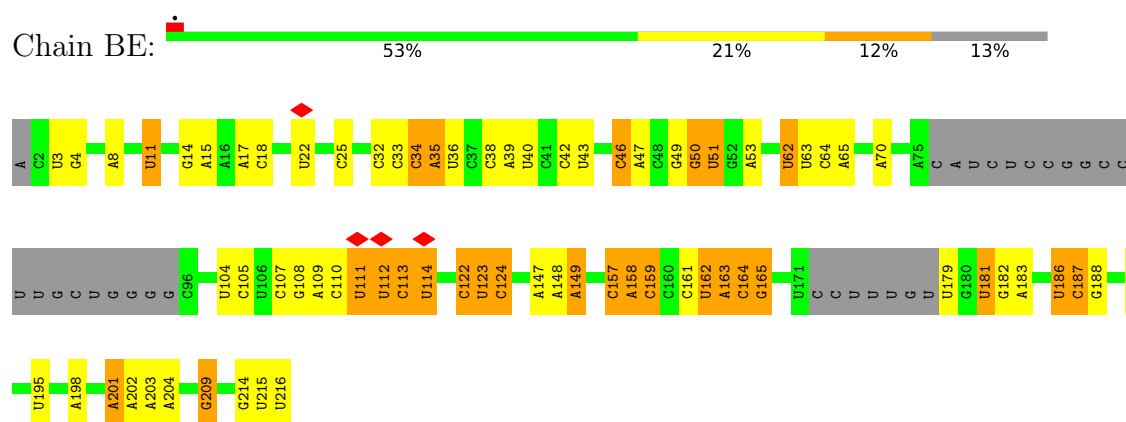
- Molecule 5: SrRNA-2



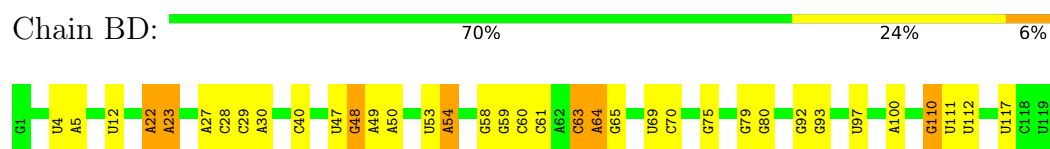
- Molecule 6: SrRNA-6



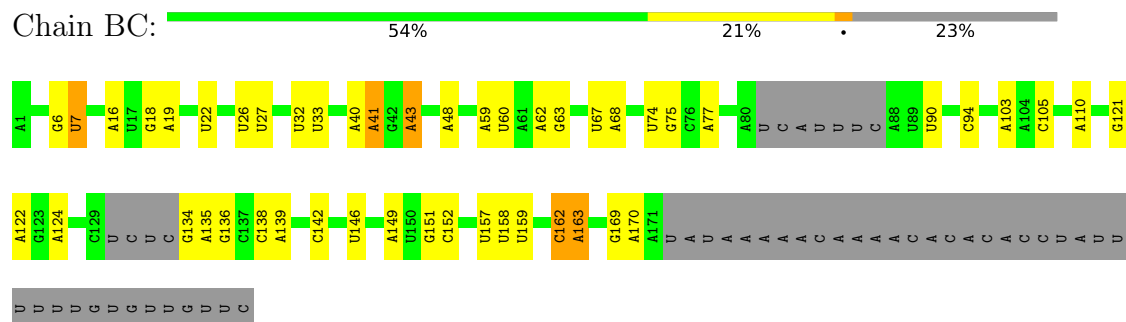
- Molecule 7: SrRNA-1



- Molecule 8: 5S rRNA



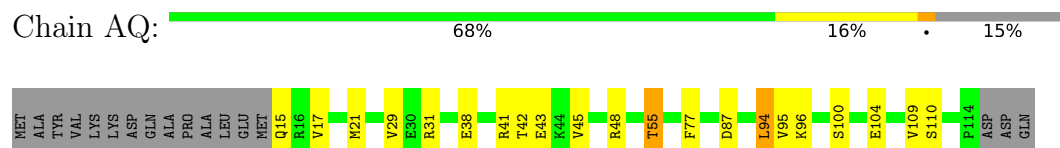
- Molecule 9: 5.8S rRNA



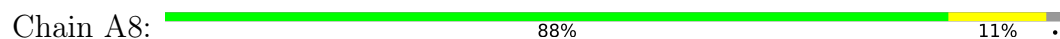
- Molecule 10: E-SITE tRNA

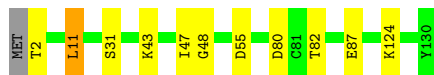


- Molecule 11: Ribosomal protein S10

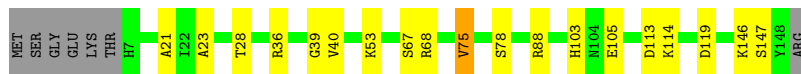


- Molecule 12: uS14





- Molecule 18: 40S ribosomal protein S16, putative



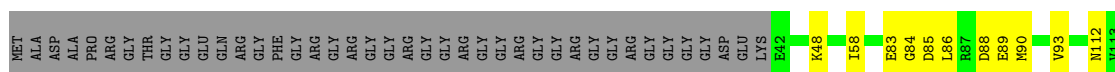
- Molecule 19: 40S ribosomal protein S18, putative



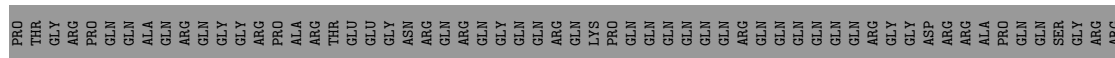
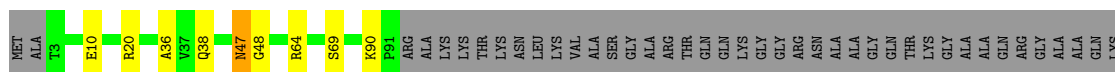
- Molecule 20: Ribosomal protein S19, putative



- Molecule 21: 40S ribosomal protein S2, putative



- Molecule 22: 40S ribosomal protein S21, putative



- Molecule 23: 40S ribosomal protein S23, putative

Chain AS:  85% 13% ..



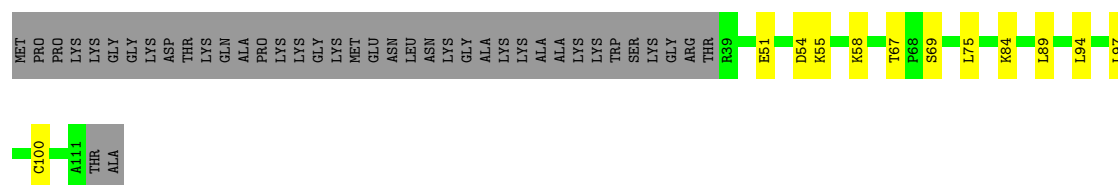
- Molecule 24: 40S ribosomal protein S24

Chain AT:  79% 15% 6%



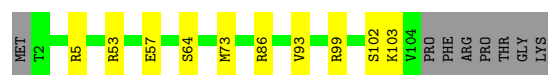
- Molecule 25: 40S ribosomal protein S25

Chain AU:  54% 11% 35%



- Molecule 26: 40S ribosomal protein S26

Chain AV:  84% 9% 7%



- Molecule 27: 40S ribosomal protein S27, putative

Chain AW:  81% 17% .



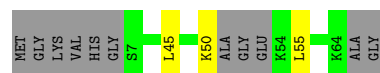
- Molecule 28: 40S ribosomal protein S3, putative

Chain AX:  86% 10% .



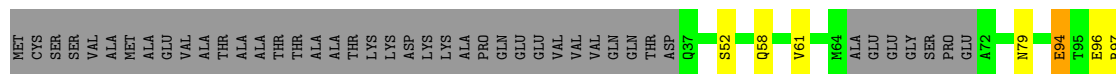
- Molecule 29: 40S ribosomal protein S30

Chain AY:  79% 5% 17%



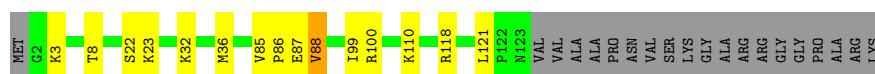
- Molecule 30: 40S ribosomal protein S33, putative

Chain AZ:  50% 6% 44%



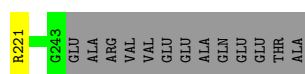
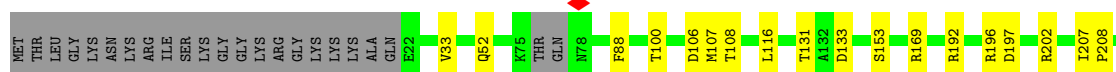
- Molecule 31: 40S ribosomal protein S17, putative

Chain AL:  75% 10% 14%



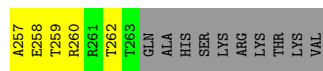
- Molecule 32: 40S ribosomal protein S3a

Chain A0:  79% 7% 14%



- Molecule 33: 40S ribosomal protein S4

Chain A1:  83% 12% 5%



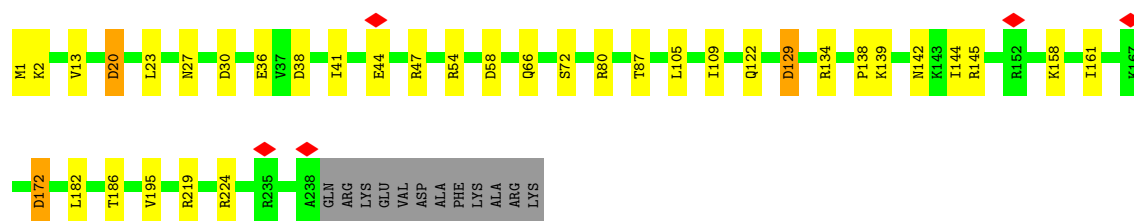
- Molecule 34: 40S ribosomal protein S5, putative

Chain A2:  88% 8% 4%



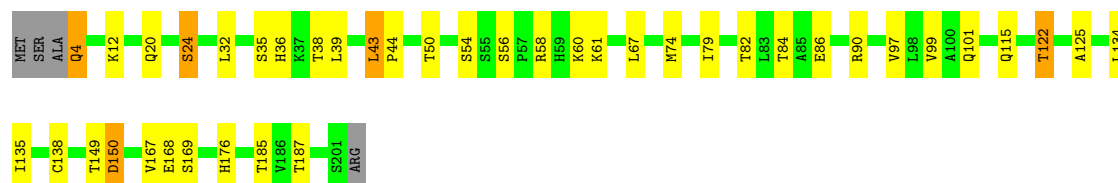
- Molecule 35: 40S ribosomal protein S6

Chain A3:  81% 13% 5%



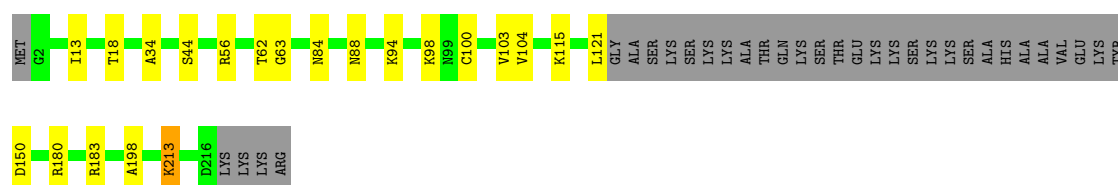
- Molecule 36: 40S ribosomal protein S7

Chain A4: 78% 18% ..



- Molecule 37: 40S ribosomal protein S8

Chain A5: 75% 9% 15%



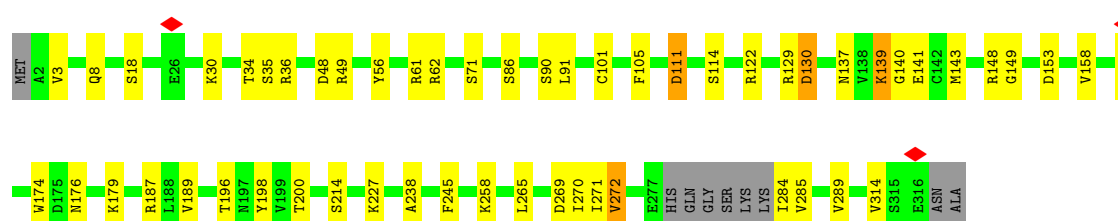
- Molecule 38: Probable 40S ribosomal protein S9

Chain A6: 87% 7% 6%



- Molecule 39: Guanine nucleotide-binding protein subunit beta-like protein

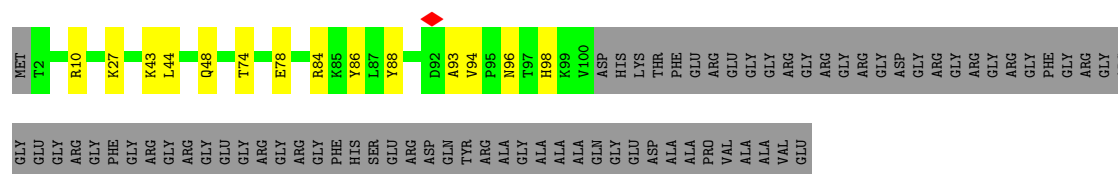
Chain A7: 80% 16% ..



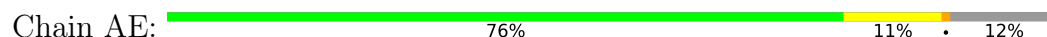
- Molecule 40: 40S ribosomal protein SA

Chain AC: 64% 11% 25%

- Molecule 41: 40S ribosomal protein S10, putative



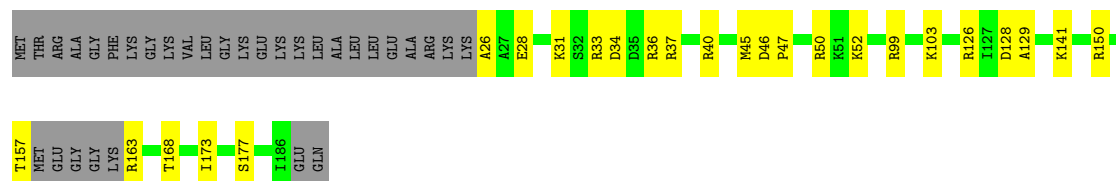
- Molecule 42: 40S ribosomal proteins S11, putative



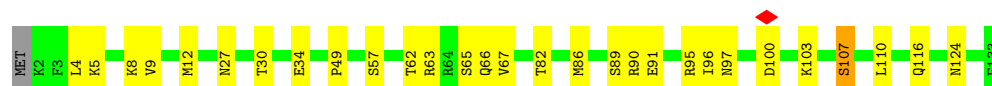
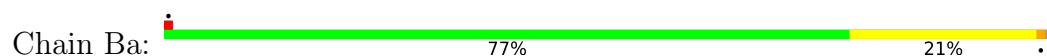
- Molecule 43: 40S ribosomal protein S13, putative



- Molecule 44: 60S ribosomal subunit protein L31, putative



- Molecule 45: 60S ribosomal protein L27



- Molecule 46: 60S ribosomal protein L27a

Chain Bb:  88% 10% ..



- Molecule 47: 60S ribosomal protein L28, putative

Chain Bc:  86% 12% .



- Molecule 48: 60S ribosomal protein L29

Chain Bd:  92% 6%



- Molecule 49: 60S ribosomal protein L2, putative

Chain Be:  90% 8% .



- Molecule 50: Ribosomal protein L41

Chain Bz:  91% 6%



- Molecule 51: 60S ribosomal protein L30

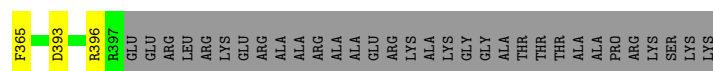
Chain Bg:  82% 6% 12%



- Molecule 52: Ribosomal protein L3, mitochondrial, putative

Chain Bf:  85% 7% 8%





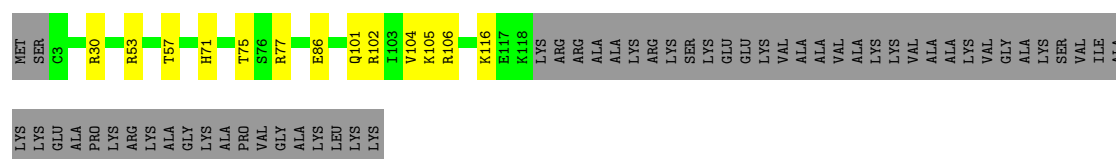
- Molecule 53: 60S ribosomal protein L18

Chain BI: 89% 9% ..



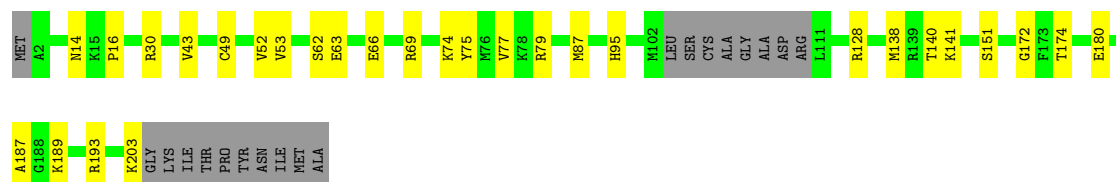
- Molecule 54: 60S ribosomal protein L34, putative

Chain Bj: 61% 8% 32%



- Molecule 55: 60S ribosomal protein L10, putative

Chain BK: 77% 14% 9%



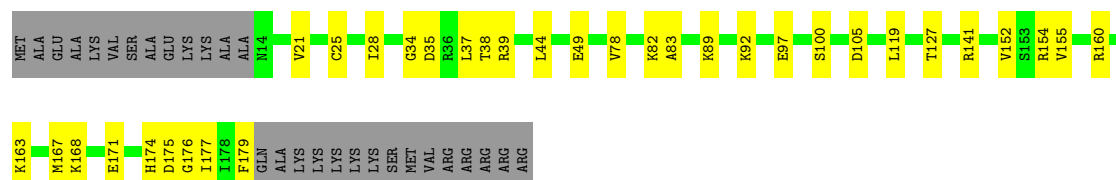
- Molecule 56: 60S ribosomal protein L35, putative

Chain Bk: 85% 12% .



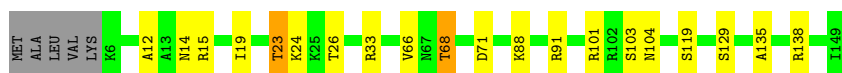
- Molecule 57: 60S ribosomal protein L11, putative

Chain BL: 68% 18% 14%

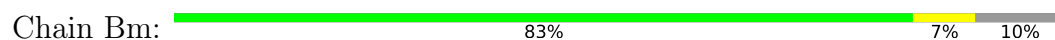


- Molecule 58: 60S ribosomal protein L35A, putative

Chain Bl: 83% 12% ..



- Molecule 59: Ribosomal protein L36, putative



- Molecule 60: 60S ribosomal protein L13



- Molecule 61: Ribosomal protein L37



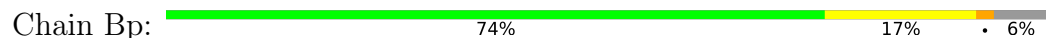
- Molecule 62: 60S ribosomal protein L13a, putative



- Molecule 63: 60S ribosomal protein L37a, putative



- Molecule 64: 60S ribosomal protein L38, putative



- Molecule 65: 60S ribosomal protein L39, putative





- Molecule 66: Ribosomal protein L15

Chain BQ: 86% 6% 8%



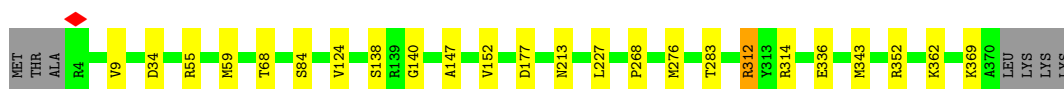
- Molecule 67: 60S ribosomal protein L17, putative

Chain BR: 87% 9%



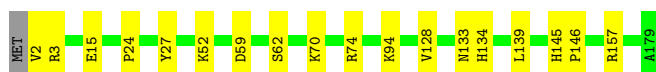
- Molecule 68: 60S ribosomal protein L4

Chain Br: 92% 6%



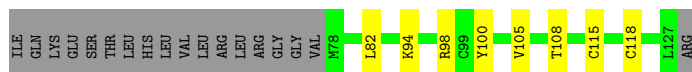
- Molecule 69: 60S ribosomal protein L18a

Chain BS: 89% 10%



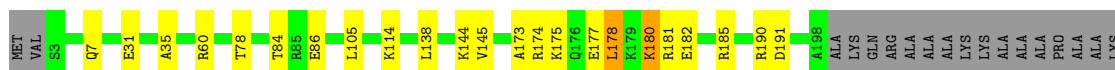
- Molecule 70: Ubiquitin-60S ribosomal protein L40

Chain Bs: 33% 6% 61%



- Molecule 71: 60S ribosomal protein L19, putative

Chain BT: 67% 8% 25%



- Molecule 72: 60S ribosomal protein L44

Chain Bt:  81% 8% 8%



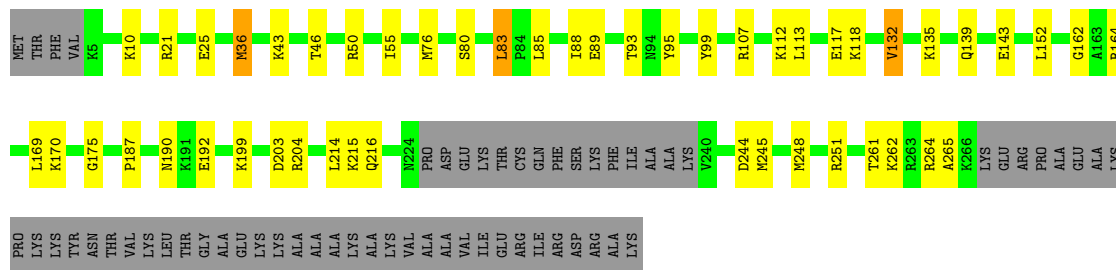
- Molecule 73: 60S ribosomal protein L21E, putative

Chain BU:  81% 16% ..



- Molecule 74: 60S ribosomal protein L5, putative

Chain Bu:  64% 15% 20%



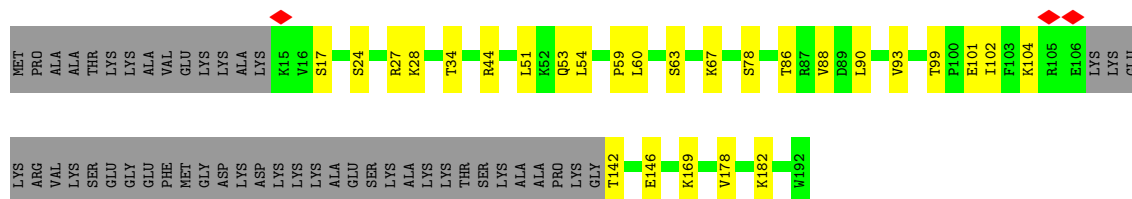
- Molecule 75: 60S ribosomal protein L22, putative

Chain BV:  71% 21% 6%



- Molecule 76: 60S ribosomal protein L6, putative

Chain Bv:  60% 14% 26%



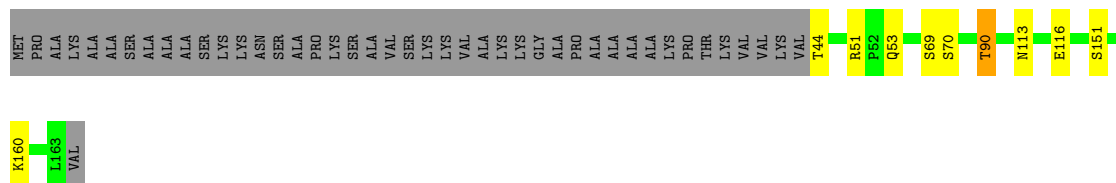
- Molecule 77: 60S ribosomal protein L23, putative

Chain BW:  83% 14%



- Molecule 78: 60S ribosomal protein L23a

Chain BX: 67% 5% 27%



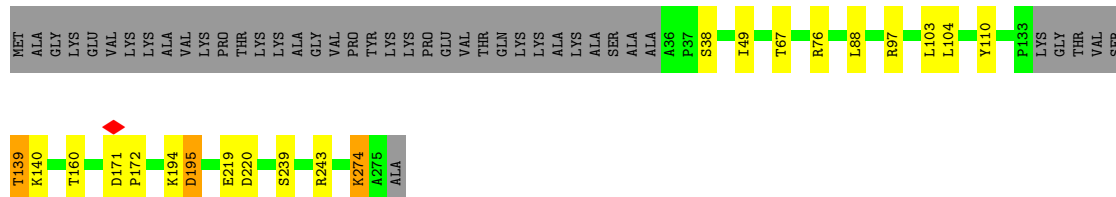
- Molecule 79: 60S ribosomal protein L7, putative

Chain Bw: 85% 5% 11%



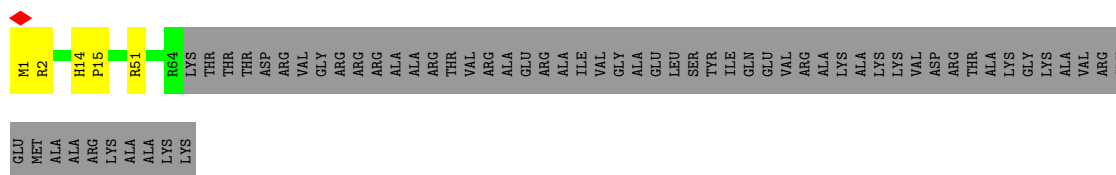
- Molecule 80: 60S ribosomal protein L7a

Chain Bx: 78% 7% 15%



- Molecule 81: 60S ribosomal protein L24, putative

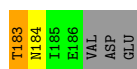
Chain BY: 47% 49%



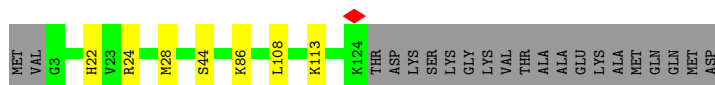
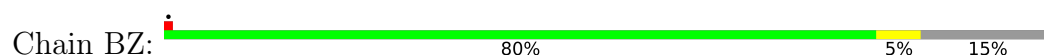
- Molecule 82: 60S ribosomal protein L9, putative

Chain By: 78% 19%





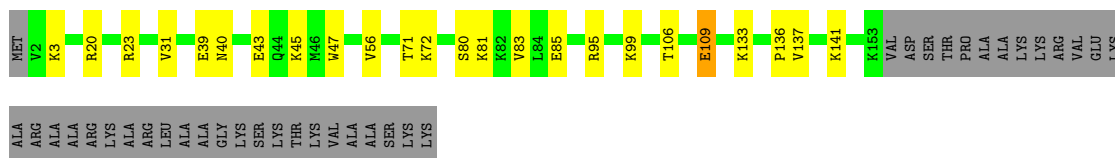
- Molecule 83: 60S ribosomal protein L26, putative



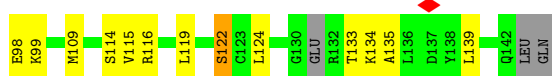
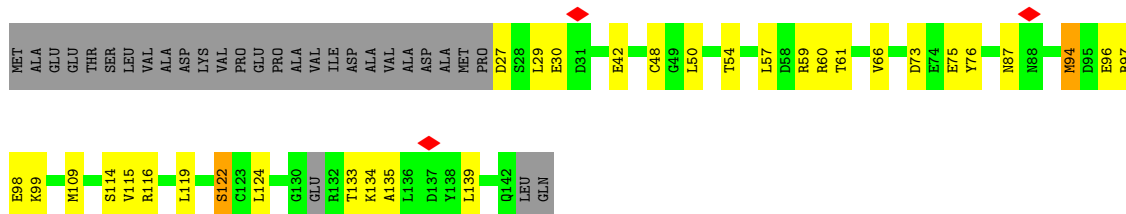
- Molecule 84: 60S ribosomal protein L32, putative



- Molecule 85: 40S ribosomal protein L14, putative



- Molecule 86: 40S ribosomal protein S12



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	459985	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	1.17	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.188	Depositor
Minimum map value	-0.056	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	408.0, 408.0, 408.0	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.85, 0.85, 0.85	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: OMG, PSU, MG, NA, 1MA, OMC, ZN, MA6, OMU, A2M, 5MC, K, B8N, 7MG

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	BA	0.21	1/37519 (0.0%)	0.32	0/58462
2	AA	0.24	0/44961	0.35	8/70031 (0.0%)
3	BB	0.24	1/25592 (0.0%)	0.34	7/39885 (0.0%)
4	BH	0.18	0/2833	0.30	0/4410
5	BG	0.19	0/4383	0.30	0/6835
6	BF	0.17	0/1604	0.33	0/2487
7	BE	0.19	0/4442	0.33	0/6910
8	BD	0.16	0/2830	0.24	0/4410
9	BC	0.23	0/3662	0.26	0/5700
10	AB	0.20	0/450	0.35	0/698
11	AQ	0.17	0/809	0.36	0/1091
12	A8	0.17	0/468	0.29	0/619
13	A9	0.17	0/582	0.42	0/773
14	Az	0.17	0/820	0.48	0/1100
15	AH	0.18	0/1006	0.38	0/1349
16	AI	0.15	0/986	0.25	0/1321
17	AJ	0.18	0/1035	0.29	0/1386
18	AK	0.18	0/1161	0.34	0/1561
19	AM	0.15	0/1161	0.27	0/1554
20	AO	0.17	0/1245	0.30	0/1665
21	AP	0.20	0/1723	0.32	0/2328
22	AR	0.16	0/676	0.27	0/919
23	AS	0.19	0/1117	0.38	0/1495
24	AT	0.16	0/1050	0.31	0/1395
25	AU	0.16	0/581	0.29	0/776
26	AV	0.25	0/846	0.39	0/1132
27	AW	0.17	0/674	0.41	0/904
28	AX	0.15	0/1674	0.28	0/2236
29	AY	0.17	0/453	0.31	0/596
30	AZ	0.19	0/448	0.35	0/595
31	AL	0.15	0/957	0.27	0/1282
32	A0	0.17	0/1815	0.29	0/2440

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	A1	0.18	0/2096	0.34	0/2819
34	A2	0.16	0/1486	0.26	0/1997
35	A3	0.16	0/1893	0.32	0/2533
36	A4	0.16	0/1634	0.30	0/2208
37	A5	0.18	0/1494	0.32	0/2004
38	A6	0.17	0/1507	0.29	0/2023
39	A7	0.14	0/2428	0.31	0/3311
40	AC	0.20	0/1682	0.27	0/2275
41	AD	0.17	0/837	0.34	0/1129
42	AE	0.17	0/1274	0.28	0/1714
43	AG	0.18	0/1225	0.28	0/1642
44	Bh	0.15	0/1270	0.30	0/1696
45	Ba	0.17	0/1105	0.28	0/1472
46	Bb	0.16	0/1165	0.32	0/1554
47	Bc	0.13	0/1179	0.26	0/1573
48	Bd	0.15	0/558	0.27	0/747
49	Be	0.18	0/1948	0.31	0/2621
50	Bz	0.22	0/288	0.37	0/374
51	Bg	0.16	0/718	0.23	0/969
52	Bf	0.15	0/3244	0.27	0/4360
53	BI	0.15	0/1543	0.27	0/2059
54	Bj	0.16	0/977	0.31	0/1304
55	BK	0.15	0/1620	0.27	0/2171
56	Bk	0.15	0/1018	0.33	0/1346
57	BL	0.15	0/1346	0.29	0/1800
58	Bl	0.15	0/1187	0.33	0/1592
59	Bm	0.14	0/796	0.28	0/1057
60	BN	0.15	0/1793	0.30	0/2391
61	Bn	0.16	0/690	0.30	0/920
62	BO	0.14	0/1832	0.26	0/2446
63	Bo	0.20	0/711	0.30	0/946
64	Bp	0.16	0/635	0.40	0/844
65	Bq	0.14	0/471	0.24	0/626
66	BQ	0.16	0/1755	0.28	0/2346
67	BR	0.15	0/1244	0.29	0/1669
68	Br	0.13	0/2936	0.27	0/3941
69	BS	0.15	0/1500	0.29	0/2018
70	Bs	0.17	0/400	0.35	0/531
71	BT	0.16	0/1607	0.33	0/2130
72	Bt	0.17	0/815	0.36	0/1077
73	BU	0.15	0/1276	0.32	0/1716
74	Bu	0.15	0/1999	0.31	0/2684
75	BV	0.18	0/995	0.40	0/1329

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	Bv	0.14	0/1120	0.28	0/1511
77	BW	0.17	0/1046	0.34	0/1408
78	BX	0.14	0/999	0.29	0/1343
79	Bw	0.15	0/1907	0.26	0/2556
80	Bx	0.14	0/1901	0.27	0/2557
81	BY	0.17	0/570	0.34	0/766
82	By	0.15	0/1536	0.33	0/2065
83	BZ	0.14	0/1006	0.29	0/1340
84	Bi	0.14	0/1097	0.27	0/1468
85	BP	0.14	0/1256	0.28	0/1683
86	AF	0.15	0/870	0.36	0/1169
All	All	0.20	2/221048 (0.0%)	0.32	15/324175 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	BB	545	A2M	O3'-P	5.02	1.61	1.56
1	BA	743	A2M	O3'-P	5.00	1.61	1.56

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	BB	515	G	P-O3'-C3'	-8.07	108.09	120.20
3	BB	528	U	P-O3'-C3'	-8.06	108.11	120.20
2	AA	878	U	P-O3'-C3'	-7.99	108.21	120.20
3	BB	514	G	P-O3'-C3'	-7.48	108.98	120.20
2	AA	874	U	P-O3'-C3'	-7.30	109.25	120.20
3	BB	529	C	P-O3'-C3'	-7.28	109.28	120.20
2	AA	875	G	P-O3'-C3'	-7.12	109.53	120.20
3	BB	516	A	P-O3'-C3'	-6.96	109.76	120.20
2	AA	876	C	P-O3'-C3'	-6.92	109.82	120.20
3	BB	527	C	P-O3'-C3'	-6.91	109.84	120.20
2	AA	1278	A	P-O3'-C3'	-6.57	110.34	120.20
2	AA	873	A	P-O3'-C3'	-6.38	110.63	120.20
2	AA	1277	U	P-O3'-C3'	-6.08	111.07	120.20
3	BB	530	U	P-O3'-C3'	-5.98	111.23	120.20
2	AA	877	A	P-O3'-C3'	-5.94	111.29	120.20

There are no chirality outliers.

There are no planarity outliers.

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	BA	34346	0	17349	210	0
2	AA	40964	0	20713	365	0
3	BB	23918	0	12111	169	0
4	BH	2538	0	1286	29	0
5	BG	3919	0	1975	34	0
6	BF	1444	0	744	20	0
7	BE	3981	0	2023	43	0
8	BD	2533	0	1283	22	0
9	BC	3411	0	1736	21	0
10	AB	404	0	211	6	0
11	AQ	800	0	856	12	0
12	A8	461	0	471	4	0
13	A9	569	0	582	1	0
14	Az	807	0	820	24	0
15	AH	992	0	1004	13	0
16	AI	966	0	999	11	0
17	AJ	1018	0	1050	7	0
18	AK	1140	0	1198	10	0
19	AM	1143	0	1192	14	0
20	AO	1220	0	1286	10	0
21	AP	1688	0	1734	13	0
22	AR	666	0	670	7	0
23	AS	1096	0	1151	10	0
24	AT	1034	0	1117	13	0
25	AU	575	0	622	7	0
26	AV	830	0	868	8	0
27	AW	660	0	666	9	0
28	AX	1652	0	1721	9	0
29	AY	448	0	502	1	0
30	AZ	449	0	483	6	0
31	AL	945	0	996	12	0
32	A0	1789	0	1859	12	0
33	A1	2062	0	2181	19	0
34	A2	1464	0	1524	10	0
35	A3	1871	0	1960	22	0
36	A4	1602	0	1664	25	0
37	A5	1471	0	1532	10	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	A6	1477	0	1536	8	0
39	A7	2371	0	2283	26	0
40	AC	1648	0	1687	19	0
41	AD	814	0	819	10	0
42	AE	1249	0	1296	11	0
43	AG	1203	0	1281	10	0
44	Bh	1249	0	1319	20	0
45	Ba	1085	0	1151	14	0
46	Bb	1137	0	1174	13	0
47	Bc	1162	0	1246	12	0
48	Bd	547	0	570	1	0
49	Be	1907	0	1967	13	0
50	Bz	284	0	323	1	0
51	Bg	708	0	726	3	0
52	Bf	3174	0	3300	20	0
53	BI	1517	0	1633	10	0
54	Bj	959	0	1026	11	0
55	BK	1588	0	1651	13	0
56	Bk	1010	0	1126	10	0
57	BL	1325	0	1355	19	0
58	Bl	1163	0	1221	14	0
59	Bm	786	0	865	6	0
60	BN	1762	0	1864	15	0
61	Bn	676	0	685	3	0
62	BO	1801	0	1952	6	0
63	Bo	699	0	726	8	0
64	Bp	626	0	685	10	0
65	Bq	457	0	495	3	0
66	BQ	1716	0	1796	5	0
67	BR	1219	0	1278	3	0
68	Br	2882	0	3011	14	0
69	BS	1465	0	1500	11	0
70	Bs	394	0	417	3	0
71	BT	1590	0	1662	16	0
72	Bt	801	0	865	5	0
73	BU	1247	0	1306	16	0
74	Bu	1964	0	2002	32	0
75	BV	979	0	1002	17	0
76	Bv	1101	0	1158	14	0
77	BW	1029	0	1090	12	0
78	BX	982	0	1050	6	0
79	Bw	1872	0	1966	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
80	Bx	1874	0	2008	11	0
81	BY	550	0	558	4	0
82	By	1515	0	1589	22	0
83	BZ	993	0	1071	4	0
84	Bi	1075	0	1135	4	0
85	BP	1237	0	1320	13	0
86	AF	868	0	879	23	0
87	A0	1	0	0	0	0
87	AA	88	0	0	0	0
87	AH	1	0	0	0	0
87	AO	2	0	0	0	0
87	BA	67	0	0	0	0
87	BB	61	0	0	0	0
87	BC	1	0	0	0	0
87	BD	1	0	0	0	0
87	BE	1	0	0	0	0
87	BG	5	0	0	0	0
87	BN	1	0	0	0	0
87	BR	1	0	0	0	0
87	BW	1	0	0	0	0
87	Be	2	0	0	0	0
87	Bf	1	0	0	0	0
88	AA	25	0	0	0	0
88	AH	1	0	0	0	0
88	BA	8	0	0	0	0
88	BB	12	0	0	0	0
88	BZ	1	0	0	0	0
89	A3	1	0	0	0	0
89	AA	14	0	0	0	0
89	BA	10	0	0	0	0
89	BB	14	0	0	0	0
89	BK	1	0	0	0	0
90	A9	1	0	0	0	0
90	Bn	1	0	0	0	0
90	Bo	1	0	0	0	0
90	Bs	1	0	0	0	0
91	A2	1	0	0	0	0
91	A8	1	0	0	0	0
91	AA	40	0	0	0	0
91	AG	1	0	0	0	0
91	AH	1	0	0	0	0
91	AK	1	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
91	AV	3	0	0	0	0
91	BA	53	0	0	0	0
91	BB	61	0	0	0	0
91	BC	1	0	0	0	0
91	BE	1	0	0	0	0
91	BG	4	0	0	0	0
91	BH	2	0	0	0	0
91	BK	1	0	0	0	0
91	BN	1	0	0	0	0
91	BQ	2	0	0	0	0
91	Bb	3	0	0	0	0
91	Bd	1	0	0	0	0
91	Be	7	0	0	0	0
91	Bi	1	0	0	0	0
91	Bj	1	0	0	0	0
91	Bn	1	0	0	0	0
91	Br	1	0	0	0	0
All	All	209127	0	154764	1580	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 4.

All (1580) 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)
2:AA:770:U:H3	2:AA:780:C:N4	1.56	1.03
2:AA:758:G:H1	2:AA:791:U:H3	1.10	0.99
36:A4:4:GLN:N	36:A4:4:GLN:HE21	1.60	0.98
4:BH:79:A:H2	4:BH:86:G:H1	1.05	0.95
3:BB:996:G:H1	3:BB:1016:U:H3	1.12	0.95
4:BH:52:G:H1	4:BH:70:U:H3	0.94	0.93
2:AA:769:G:H1	2:AA:781:U:H3	1.01	0.92
2:AA:483:G:N2	2:AA:500:A:N1	2.19	0.89
3:BB:1457:C:H5	6:BF:5:G:H1	1.22	0.85
1:BA:1202:G:H1	1:BA:1209:U:H3	0.85	0.85
77:BW:30:ASN:HD21	77:BW:115:GLY:H	1.23	0.85
1:BA:1498:C:H5	1:BA:1521:G:H1	1.28	0.82
2:AA:612:G:H1	2:AA:645:C:H5	1.24	0.82
2:AA:2178:G:H1	2:AA:2196:C:H5	1.25	0.82
2:AA:281:C:H5	2:AA:357:G:H1	1.28	0.81
74:Bu:248:MET:HE3	74:Bu:248:MET:H	1.44	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:BB:132:G:N2	7:BE:181:U:O4	2.14	0.81
1:BA:761:A:H2'	1:BA:762:A2M:H8	1.62	0.80
2:AA:757:G:H22	2:AA:792:U:H3	1.29	0.80
2:AA:1743:C:H5	2:AA:1851:G:H1	1.28	0.80
4:BH:79:A:N1	4:BH:86:G:O6	2.15	0.79
1:BA:1193:C:H42	1:BA:1217:C:H42	1.30	0.79
24:AT:89:MET:HE1	24:AT:103:MET:HE1	1.65	0.79
45:Ba:86:MET:SD	45:Ba:124:ASN:ND2	2.57	0.78
1:BA:1236:U:H5''	79:Bw:122:ARG:HD2	1.66	0.77
2:AA:286:G:H1	2:AA:349:C:H5	1.33	0.77
1:BA:1196:G:H22	1:BA:1214:A:H2	1.29	0.76
3:BB:1487:G:H22	3:BB:1505:G:H1	1.33	0.76
4:BH:26:C:N3	4:BH:125:U:O2'	2.19	0.76
2:AA:974:G:H22	2:AA:1021:G:H1	1.34	0.75
1:BA:198:C:H5	1:BA:295:G:H1	1.33	0.75
74:Bu:192:GLU:OE1	74:Bu:192:GLU:N	2.19	0.75
7:BE:201:A:OP2	49:Be:22:LYS:NZ	2.20	0.74
1:BA:513:C:H5	1:BA:715:G:H1	1.33	0.74
7:BE:38:C:H5	7:BE:188:G:H1	1.33	0.74
45:Ba:100:ASP:HB3	45:Ba:103:LYS:HG3	1.69	0.74
3:BB:793:C:H5	3:BB:1022:G:H1	1.36	0.74
4:BH:79:A:C2	4:BH:86:G:N1	2.54	0.74
1:BA:1838:G:N2	7:BE:164:C:O2'	2.21	0.74
6:BF:9:C:H5	6:BF:75:G:H1	1.36	0.74
1:BA:212:A:N6	1:BA:228:U:O2'	2.20	0.74
7:BE:11:U:OP2	54:Bj:77:ARG:NH2	2.21	0.74
16:AI:117:GLU:N	16:AI:117:GLU:OE2	2.21	0.73
55:BK:16:PRO:O	55:BK:95:HIS:ND1	2.17	0.73
2:AA:1021:G:H5'	36:A4:12:LYS:HB3	1.69	0.73
74:Bu:89:GLU:N	74:Bu:89:GLU:OE2	2.22	0.73
76:Bv:101:GLU:N	76:Bv:101:GLU:OE2	2.22	0.73
2:AA:915:G:H22	2:AA:945:A:H2	1.35	0.72
2:AA:867:C:H42	2:AA:879:G:H1	1.35	0.72
1:BA:1195:A:H2	1:BA:1215:G:H22	1.38	0.72
20:AO:107:GLU:N	20:AO:107:GLU:OE2	2.21	0.72
34:A2:48:ARG:HG3	34:A2:51:ARG:HH21	1.55	0.72
2:AA:308:U:OP2	14:Az:186:ARG:NH2	2.22	0.72
2:AA:754:U:H3	2:AA:794:G:H22	1.36	0.72
11:AQ:48:ARG:HB2	11:AQ:87:ASP:HB3	1.71	0.72
22:AR:10:GLU:OE2	22:AR:10:GLU:N	2.22	0.72
2:AA:553:C:H42	24:AT:106:LYS:HD3	1.54	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BE:113:C:H41	43:AG:149:MET:HE3	1.53	0.71
3:BB:1515:U:OP2	44:Bh:33:ARG:NH2	2.22	0.71
7:BE:25:C:H5	7:BE:209:G:H1	1.36	0.71
30:AZ:94:GLU:OE1	34:A2:187:LYS:NZ	2.17	0.71
1:BA:841:C:H42	1:BA:877:A:H61	1.39	0.71
3:BB:359:A:OP1	71:BT:114:LYS:NZ	2.24	0.71
1:BA:1868:A:H61	3:BB:2:C:H42	1.39	0.70
6:BF:4:C:H5	62:BO:11:ARG:HE	1.37	0.70
3:BB:979:C:O3'	54:Bj:105:LYS:NZ	2.24	0.70
3:BB:804:U:OP1	80:Bx:97:ARG:NH1	2.23	0.70
74:Bu:143:GLU:N	74:Bu:143:GLU:OE2	2.24	0.70
1:BA:223:G:H4'	1:BA:224:U:H5''	1.73	0.70
55:BK:180:GLU:OE2	55:BK:180:GLU:N	2.24	0.70
76:Bv:146:GLU:OE2	76:Bv:146:GLU:N	2.24	0.70
44:Bh:36:ARG:HD2	44:Bh:40:ARG:HE	1.55	0.70
1:BA:189:C:H5	1:BA:309:G:H1	1.40	0.69
2:AA:906:G:H1	2:AA:953:G:H22	1.40	0.69
18:AK:36:ARG:NH1	18:AK:39:GLY:O	2.25	0.69
57:BL:100:SER:HB3	57:BL:179:PHE:HA	1.74	0.69
3:BB:608:U:H2'	3:BB:609:A2M:H8	1.74	0.69
2:AA:305:G:H5''	14:Az:189:ARG:HD3	1.74	0.69
2:AA:1926:C:OP2	19:AM:137:THR:OG1	2.11	0.69
46:Bb:39:HIS:O	46:Bb:40:HIS:ND1	2.26	0.68
11:AQ:96:LYS:O	11:AQ:100:SER:OG	2.09	0.68
47:Bc:119:ARG:NH1	84:Bi:114:HIS:O	2.26	0.68
3:BB:1140:A:H2'	3:BB:1141:G:C8	2.29	0.68
3:BB:1518:G:N1	3:BB:1530:U:N3	2.41	0.68
27:AW:81:ARG:HH11	27:AW:81:ARG:HB3	1.59	0.68
2:AA:355:G:O2'	2:AA:357:G:OP2	2.11	0.68
39:A7:130:ASP:N	39:A7:130:ASP:OD1	2.26	0.68
3:BB:814:C:H5	3:BB:819:G:H1	1.41	0.68
2:AA:1569:G:H1	2:AA:2076:C:H5	1.40	0.68
46:Bb:116:GLN:HE21	53:BI:100:THR:HB	1.58	0.68
82:By:127:ASP:OD1	82:By:127:ASP:N	2.25	0.68
2:AA:320:C:H1'	2:AA:321:A:H2	1.57	0.68
2:AA:604:U:O2'	2:AA:605:U:O2	2.12	0.68
2:AA:982:G:H22	2:AA:1013:G:H1	1.40	0.67
2:AA:904:G:H1	2:AA:955:A:H2	1.41	0.67
3:BB:1468:U:H5''	3:BB:1470:A:H62	1.58	0.67
2:AA:974:G:N2	2:AA:1021:G:H22	1.93	0.67
24:AT:85:ASP:OD1	24:AT:86:LEU:N	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:Bp:18:LYS:HD3	64:Bp:19:ASP:H	1.60	0.67
69:BS:70:LYS:O	69:BS:74:ARG:NH2	2.28	0.67
3:BB:1516:G:H1	3:BB:1531:G:H22	1.42	0.67
36:A4:39:LEU:HD23	36:A4:79:ILE:HD12	1.76	0.67
2:AA:1917:U:O2'	12:A8:7:TRP:O	2.11	0.66
57:BL:39:ARG:HD2	57:BL:127:THR:HA	1.74	0.66
1:BA:1202:G:N2	1:BA:1209:U:O2	2.20	0.66
2:AA:1034:C:H2'	2:AA:1035:G:C8	2.30	0.66
10:AB:7:A:N1	10:AB:66:U:O2'	2.28	0.66
39:A7:238:ALA:HB2	39:A7:258:LYS:HD3	1.77	0.66
1:BA:631:G:O2'	1:BA:632:A:O5'	2.12	0.66
23:AS:32:THR:HG23	23:AS:34:VAL:H	1.60	0.66
1:BA:1817:A:OP2	78:BX:51:ARG:NH1	2.29	0.66
2:AA:198:C:OP1	35:A3:134:ARG:NH1	2.29	0.66
2:AA:553:C:N4	24:AT:106:LYS:O	2.28	0.66
3:BB:979:C:O2	54:Bj:101:GLN:NE2	2.29	0.65
3:BB:1515:U:H2'	3:BB:1516:G:C8	2.32	0.65
3:BB:1486:G:H1	3:BB:1506:G:H22	1.44	0.65
2:AA:800:C:O2'	2:AA:801:G:O5'	2.11	0.65
2:AA:1130:C:O2'	2:AA:1132:G:OP2	2.14	0.65
1:BA:761:A:H2'	1:BA:762:A2M:C8	2.27	0.65
2:AA:1712:U:H3	2:AA:1723:G:H22	1.44	0.65
3:BB:766:C:HO2'	3:BB:767:G:H8	1.45	0.65
11:AQ:77:PHE:HB3	12:A8:53:PHE:HB3	1.78	0.65
25:AU:51:GLU:N	25:AU:51:GLU:OE1	2.28	0.65
1:BA:121:G:OP1	59:Bm:44:LYS:NZ	2.25	0.65
1:BA:1470:U:OP1	85:BP:20:ARG:NH2	2.30	0.65
1:BA:1861:A:O2'	9:BC:139:A:N3	2.27	0.65
3:BB:1486:G:H22	3:BB:1506:G:H22	1.45	0.65
6:BF:25:C:OP1	85:BP:3:LYS:NZ	2.30	0.65
71:BT:7:GLN:NE2	71:BT:35:ALA:O	2.26	0.65
3:BB:1515:U:H3	3:BB:1532:G:H22	1.43	0.64
6:BF:23:U:OP1	82:By:22:ARG:NH1	2.29	0.64
4:BH:37:U:H5''	52:Bf:315:MET:HE2	1.79	0.64
5:BG:120:U:O2'	5:BG:122:G:OP2	2.14	0.64
2:AA:1395:C:O2	2:AA:1469:G:N2	2.31	0.64
40:AC:125:LYS:HE2	40:AC:237:LEU:HD23	1.79	0.64
4:BH:79:A:H2	4:BH:86:G:N1	1.87	0.64
4:BH:85:C:H6	37:A5:183:ARG:HH21	1.46	0.64
3:BB:449:C:O2'	3:BB:578:OMU:OP2	2.16	0.64
27:AW:81:ARG:HB3	27:AW:81:ARG:NH1	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:AL:86:PRO:O	40:AC:234:LYS:NZ	2.31	0.64
2:AA:930:G:H22	2:AA:939:A:H2	1.46	0.64
2:AA:931:U:H3	2:AA:938:G:H1	1.43	0.64
20:AO:30:ARG:HD3	20:AO:160:MET:HE1	1.80	0.64
7:BE:216:U:OP2	45:Ba:63:ARG:NH1	2.29	0.63
4:BH:118:U:O4	52:Bf:396:ARG:NH1	2.32	0.63
38:A6:63:GLU:O	38:A6:64:ASN:ND2	2.30	0.63
46:Bb:116:GLN:NE2	53:BI:99:MET:O	2.31	0.63
69:BS:133:ASN:O	69:BS:134:HIS:ND1	2.31	0.63
74:Bu:245:MET:HA	74:Bu:248:MET:HE1	1.80	0.63
11:AQ:17:VAL:HG21	11:AQ:95:VAL:HG21	1.80	0.63
46:Bb:72:THR:HG22	46:Bb:108:LYS:HB3	1.80	0.63
2:AA:553:C:N3	24:AT:106:LYS:NZ	2.46	0.63
2:AA:808:U:O2	36:A4:101:GLN:NE2	2.29	0.63
14:Az:153:GLU:OE1	14:Az:153:GLU:N	2.26	0.63
2:AA:999:U:H5'	2:AA:1000:G:H5''	1.79	0.63
2:AA:1028:U:O4	71:BT:185:ARG:NH2	2.32	0.63
40:AC:232:GLU:OE2	40:AC:232:GLU:N	2.29	0.63
55:BK:14:ASN:O	55:BK:128:ARG:NH2	2.32	0.63
73:BU:25:PRO:HG2	73:BU:94:GLU:HG2	1.80	0.63
6:BF:36:G:H2'	6:BF:37:C:C6	2.34	0.62
77:BW:42:LYS:HG3	77:BW:59:MET:HG2	1.81	0.62
2:AA:766:C:H42	2:AA:785:A:H61	1.47	0.62
31:AL:87:GLU:HG2	31:AL:88:VAL:HG12	1.79	0.62
74:Bu:199:LYS:NZ	74:Bu:203:ASP:OD2	2.31	0.62
74:Bu:264:ARG:NH1	74:Bu:265:ALA:O	2.32	0.62
2:AA:906:G:H22	2:AA:953:G:N2	1.98	0.62
4:BH:54:U:H3	4:BH:68:G:H1	1.44	0.62
1:BA:1671:G:O2'	1:BA:1673:G:OP2	2.18	0.62
2:AA:1516:G:H1	2:AA:1539:C:H5	1.46	0.62
36:A4:86:GLU:HB3	36:A4:90:ARG:HH21	1.65	0.62
1:BA:727:C:H2'	1:BA:728:C:H6	1.65	0.62
57:BL:175:ASP:N	57:BL:175:ASP:OD1	2.33	0.62
71:BT:190:ARG:NH2	71:BT:191:ASP:OD2	2.24	0.62
3:BB:968:C:H2'	3:BB:969:G:H5''	1.82	0.62
40:AC:43:VAL:HG13	40:AC:44:LEU:HG	1.80	0.62
1:BA:774:A:OP1	53:BI:115:SER:OG	2.18	0.62
2:AA:1147:A:H2'	2:AA:1148:G:C8	2.35	0.62
2:AA:2235:A:H4'	3:BB:520:A:H62	1.63	0.62
18:AK:103:HIS:O	39:A7:61:ARG:NH2	2.33	0.62
82:By:104:GLU:OE1	82:By:105:ASN:ND2	2.31	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1055:U:H3	2:AA:1072:G:H1	0.77	0.62
35:A3:58:ASP:HA	35:A3:109:ILE:HA	1.82	0.62
73:BU:152:ASP:OD1	73:BU:152:ASP:N	2.26	0.62
14:Az:156:SER:HB3	14:Az:200:ALA:HA	1.82	0.61
80:Bx:171:ASP:HB3	80:Bx:172:PRO:HD3	1.80	0.61
2:AA:1332:C:O2'	27:AW:76:THR:O	2.15	0.61
2:AA:1463:C:H5	32:A0:169:ARG:HH22	1.48	0.61
2:AA:1630:U:OP2	86:AF:116:ARG:NH1	2.33	0.61
19:AM:103:MET:HE2	19:AM:107:ARG:HH21	1.64	0.61
35:A3:129:ASP:OD1	35:A3:129:ASP:N	2.32	0.61
2:AA:1394:A:N1	2:AA:1470:U:O2'	2.29	0.61
19:AM:87:ARG:NH2	19:AM:111:ASP:OD2	2.32	0.61
21:AP:248:ASP:OD1	21:AP:248:ASP:N	2.32	0.61
2:AA:603:G:OP2	2:AA:603:G:N2	2.26	0.61
2:AA:834:G:N2	2:AA:834:G:OP1	2.33	0.61
2:AA:1162:G:H2'	2:AA:1163:U:C6	2.35	0.61
17:AJ:80:ASP:OD1	17:AJ:124:LYS:NZ	2.33	0.61
1:BA:957:A:OP2	63:Bo:4:ARG:NH1	2.32	0.61
2:AA:1980:C:H2'	2:AA:1981:G:C4	2.36	0.61
3:BB:1516:G:H22	3:BB:1531:G:N2	1.99	0.61
55:BK:30:ARG:HG3	55:BK:63:GLU:HG3	1.83	0.61
1:BA:1195:A:H2'	1:BA:1196:G:C8	2.36	0.61
2:AA:1318:G:H1	2:AA:1479:U:H3	1.49	0.61
3:BB:1140:A:H2'	3:BB:1141:G:H8	1.65	0.61
26:AV:86:ARG:HG2	26:AV:86:ARG:HH11	1.66	0.61
1:BA:973:G:N7	63:Bo:3:LYS:NZ	2.49	0.61
14:Az:226:THR:OG1	14:Az:227:ARG:N	2.32	0.61
75:BV:103:LEU:HD12	75:BV:103:LEU:H	1.66	0.61
1:BA:727:C:H2'	1:BA:728:C:C6	2.36	0.61
2:AA:2137:G:H21	2:AA:2260:MA6:H8	1.66	0.61
66:BQ:104:ALA:O	66:BQ:109:ARG:NH1	2.33	0.61
4:BH:72:G:H8	4:BH:93:G:H22	1.47	0.60
47:Bc:30:ASP:HB3	47:Bc:33:ASN:HB2	1.82	0.60
1:BA:226:G:O6	47:Bc:142:ARG:NH2	2.34	0.60
2:AA:868:A:N1	2:AA:878:U:H5	1.98	0.60
2:AA:958:G:OP2	2:AA:958:G:N2	2.29	0.60
14:Az:197:LEU:HD12	14:Az:203:ALA:HB2	1.82	0.60
40:AC:112:VAL:HG12	40:AC:159:VAL:HB	1.82	0.60
7:BE:157:C:N4	75:BV:122:PHE:O	2.28	0.60
1:BA:629:C:H5	1:BA:694:G:H1	1.48	0.60
3:BB:835:G:H1	3:BB:972:U:H3	1.49	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BE:148:A:H4'	7:BE:149:A:H5'	1.82	0.60
11:AQ:96:LYS:HD3	11:AQ:96:LYS:N	2.15	0.60
41:AD:10:ARG:NH1	41:AD:86:TYR:OH	2.35	0.60
2:AA:1323:G:H1	2:AA:1474:U:H3	1.50	0.60
3:BB:1486:G:H22	3:BB:1506:G:N2	1.99	0.60
35:A3:142:ASN:OD1	35:A3:145:ARG:NH1	2.34	0.60
45:Ba:4:LEU:O	45:Ba:27:ASN:ND2	2.35	0.60
86:AF:87:ASN:O	86:AF:87:ASN:ND2	2.32	0.60
2:AA:483:G:H1	2:AA:500:A:H61	1.48	0.60
14:Az:172:GLN:OE1	14:Az:216:ARG:NH1	2.35	0.60
51:Bg:109:SER:OG	51:Bg:110:ASP:N	2.35	0.60
1:BA:1231:A:H5'	73:BU:131:SER:HB2	1.83	0.60
7:BE:34:C:O2'	7:BE:35:A:H8	1.84	0.60
22:AR:47:ASN:OD1	22:AR:47:ASN:N	2.32	0.60
30:AZ:97:ARG:NH1	34:A2:190:ARG:HH12	1.99	0.60
2:AA:1311:C:HO2'	17:AJ:2:THR:N	2.00	0.60
1:BA:74:C:O2'	60:BN:71:ASN:OD1	2.20	0.59
1:BA:703:G:OP1	84:Bi:63:ARG:NH2	2.35	0.59
1:BA:527:G:O6	84:Bi:3:LYS:NZ	2.35	0.59
5:BG:18:U:H2'	5:BG:19:C:H6	1.65	0.59
74:Bu:162:GLY:HA2	74:Bu:187:PRO:HG3	1.84	0.59
82:By:141:GLU:OE1	82:By:141:GLU:N	2.34	0.59
2:AA:1960:C:H3'	2:AA:1961:G:C8	2.38	0.59
3:BB:993:G:O6	3:BB:1019:G:O6	2.20	0.59
3:BB:1143:G:H1'	73:BU:49:ARG:HH21	1.65	0.59
19:AM:10:PHE:HD2	19:AM:59:THR:HG23	1.67	0.59
22:AR:36:ALA:O	40:AC:177:ASN:ND2	2.28	0.59
74:Bu:107:ARG:NH1	74:Bu:175:GLY:O	2.31	0.59
27:AW:38:CYS:HB3	27:AW:64:LEU:HD11	1.84	0.59
80:Bx:195:ASP:OD1	80:Bx:195:ASP:N	2.34	0.59
3:BB:709:U:H5	3:BB:766:C:H42	1.50	0.59
45:Ba:62:THR:O	45:Ba:66:GLN:NE2	2.35	0.59
49:Be:242:ARG:NH2	49:Be:244:GLY:O	2.33	0.59
65:Bq:13:TYR:OH	65:Bq:50:HIS:O	2.20	0.59
2:AA:843:G:H21	2:AA:888:C:H42	1.51	0.59
1:BA:1642:U:H4'	1:BA:1643:U:H5'	1.84	0.59
2:AA:1760:G:H1	2:AA:1825:U:H3	1.50	0.59
3:BB:1516:G:OP2	44:Bh:33:ARG:NH2	2.35	0.59
5:BG:132:U:H3	5:BG:157:A:H2	1.49	0.59
15:AH:95:GLY:HA2	15:AH:129:PRO:HD3	1.85	0.59
64:Bp:54:ASP:N	64:Bp:54:ASP:OD1	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:BP:106:THR:HG22	85:BP:109:GLU:HG2	1.85	0.59
15:AH:13:SER:O	15:AH:13:SER:OG	2.18	0.59
2:AA:753:G:OP2	2:AA:753:G:N2	2.33	0.59
3:BB:1521:G:H22	3:BB:1527:G:H22	1.48	0.59
9:BC:142:C:O2'	78:BX:116:GLU:OE2	2.20	0.59
53:BI:16:ARG:NH2	53:BI:53:LEU:O	2.36	0.59
57:BL:105:ASP:HA	57:BL:163:LYS:HB2	1.84	0.59
2:AA:1034:C:H2'	2:AA:1035:G:H8	1.68	0.58
1:BA:531:G:H2'	1:BA:532:A:C8	2.38	0.58
82:By:9:ILE:HG23	82:By:72:LEU:HD13	1.84	0.58
44:Bh:45:MET:SD	44:Bh:45:MET:N	2.75	0.58
75:BV:41:ASP:OD1	75:BV:41:ASP:N	2.34	0.58
2:AA:2043:U:OP1	19:AM:89:ARG:NH1	2.36	0.58
3:BB:1129:C:OP1	57:BL:154:ARG:NH2	2.36	0.58
45:Ba:49:PRO:HD3	45:Ba:67:VAL:HG12	1.85	0.58
9:BC:6:G:H2'	9:BC:7:OMU:H6	1.86	0.58
41:AD:84:ARG:NH1	41:AD:93:ALA:O	2.35	0.58
64:Bp:33:LYS:HG2	64:Bp:46:VAL:HG12	1.86	0.58
74:Bu:248:MET:HA	74:Bu:251:ARG:HB2	1.85	0.58
86:AF:59:ARG:HG2	86:AF:61:THR:HG23	1.83	0.58
2:AA:964:C:H41	36:A4:115:GLN:HE22	1.51	0.58
3:BB:477:A:H2'	3:BB:478:A:C8	2.38	0.58
38:A6:21:GLU:CD	38:A6:21:GLU:H	2.12	0.58
45:Ba:34:GLU:OE1	45:Ba:34:GLU:N	2.30	0.58
1:BA:1342:A:H2'	1:BA:1343:A:C8	2.39	0.58
54:Bj:102:ARG:HB3	54:Bj:106:ARG:HH21	1.68	0.58
77:BW:105:VAL:HG12	77:BW:111:MET:HA	1.85	0.58
1:BA:254:A2M:O5'	1:BA:254:A2M:H8	2.04	0.58
1:BA:1194:C:H2'	1:BA:1195:A:C8	2.39	0.57
5:BG:18:U:H2'	5:BG:19:C:C6	2.39	0.57
22:AR:90:LYS:NZ	31:AL:110:LYS:O	2.31	0.57
1:BA:1570:U:H2'	1:BA:1571:G:C8	2.39	0.57
3:BB:1521:G:H22	3:BB:1527:G:N2	2.01	0.57
18:AK:88:ARG:NH2	18:AK:119:ASP:OD2	2.32	0.57
1:BA:351:A:OP2	72:Bt:41:ARG:NH1	2.37	0.57
2:AA:692:C:H2'	2:AA:693:A:H8	1.69	0.57
2:AA:751:U:H3'	2:AA:752:A:C8	2.39	0.57
3:BB:400:A2M:H8	3:BB:400:A2M:OP2	2.04	0.57
70:Bs:98:ARG:HG2	70:Bs:115:CYS:HB2	1.85	0.57
82:By:183:THR:OG1	82:By:184:ASN:N	2.34	0.57
1:BA:1502:U:O2'	1:BA:1503:A:O5'	2.22	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:316:G:O2'	2:AA:317:A:O5'	2.17	0.57
6:BF:72:C:OP1	58:Bl:101:ARG:NH2	2.38	0.57
7:BE:3:U:O2'	7:BE:215:U:O2	2.22	0.57
40:AC:39:SER:O	40:AC:41:ALA:N	2.38	0.57
71:BT:177:GLU:N	71:BT:177:GLU:OE2	2.38	0.57
2:AA:659:G:H1	2:AA:689:C:H5	1.52	0.57
2:AA:1151:C:H2'	2:AA:1152:G:C8	2.40	0.57
2:AA:2205:C:H2'	2:AA:2206:A:H8	1.69	0.57
3:BB:360:U:H2'	3:BB:361:U:C6	2.40	0.57
3:BB:1152:U:H2'	3:BB:1153:G:C8	2.39	0.57
11:AQ:38:GLU:OE1	11:AQ:41:ARG:NH2	2.36	0.57
20:AO:42:GLU:HG3	20:AO:44:LYS:HG3	1.85	0.57
23:AS:7:GLN:HA	42:AE:115:ARG:HG2	1.86	0.57
36:A4:54:SER:HG	36:A4:176:HIS:HE2	1.51	0.57
56:Bk:124:ALA:HB2	60:BN:53:PRO:HG2	1.85	0.57
2:AA:768:A:H61	2:AA:782:C:H42	1.52	0.57
85:BP:23:ARG:NE	85:BP:43:GLU:OE2	2.35	0.57
2:AA:295:U:O2'	2:AA:296:A:O5'	2.22	0.57
2:AA:1832:U:H4'	2:AA:1833:U:O5'	2.05	0.57
3:BB:97:A:O2'	3:BB:384:C:O2	2.18	0.57
1:BA:580:U:O4	68:Br:362:LYS:NZ	2.27	0.57
2:AA:1055:U:O4	2:AA:1072:G:O6	2.23	0.57
2:AA:2020:A:OP1	34:A2:77:ARG:NH2	2.37	0.57
75:BV:72:MET:HB2	75:BV:77:LEU:HD12	1.86	0.57
82:By:11:PHE:HB3	82:By:79:ILE:HD13	1.87	0.57
1:BA:557:U:H3	1:BA:576:U:H3	1.52	0.57
2:AA:31:U:O2	38:A6:16:ARG:NH2	2.29	0.57
2:AA:867:C:N4	2:AA:879:G:H1	2.00	0.57
2:AA:2137:G:N2	2:AA:2260:MA6:H8	2.20	0.57
3:BB:1521:G:H1	3:BB:1527:G:H1	1.51	0.57
45:Ba:8:LYS:NZ	45:Ba:82:THR:O	2.34	0.57
5:BG:19:C:H2'	5:BG:20:U:H6	1.70	0.57
39:A7:111:ASP:OD2	39:A7:129:ARG:NH1	2.37	0.57
2:AA:770:U:H3	2:AA:780:C:H42	0.72	0.56
2:AA:974:G:N2	2:AA:1021:G:H1	2.01	0.56
4:BH:79:A:N1	4:BH:86:G:C6	2.73	0.56
9:BC:67:U:H2'	9:BC:68:A:C8	2.39	0.56
35:A3:20:ASP:OD1	35:A3:20:ASP:N	2.27	0.56
2:AA:301:C:O2'	2:AA:302:A:H8	1.88	0.56
2:AA:933:U:H2'	2:AA:935:G:H21	1.70	0.56
3:BB:1523:A:H61	52:Bf:326:ASN:HB3	1.68	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BE:186:U:O2'	7:BE:187:C:O2	2.22	0.56
8:BD:29:C:O2'	8:BD:50:A:N1	2.38	0.56
28:AX:46:GLU:HG2	28:AX:86:PHE:HE2	1.69	0.56
32:A0:131:THR:OG1	32:A0:133:ASP:OD1	2.22	0.56
39:A7:271:ILE:HG22	39:A7:272:VAL:HG22	1.87	0.56
1:BA:1338:U:H5''	1:BA:1339:G:H5''	1.86	0.56
2:AA:331:A:H2'	2:AA:873:A:C2	2.40	0.56
1:BA:210:G:N2	1:BA:239:A:C4	2.74	0.56
2:AA:696:A:OP1	38:A6:39:ARG:NH2	2.39	0.56
2:AA:1216:A:H2'	2:AA:1217:A:C8	2.41	0.56
2:AA:1961:G:H2'	2:AA:1962:A:C8	2.40	0.56
2:AA:798:C:H2'	2:AA:799:A:C8	2.41	0.56
2:AA:982:G:H22	2:AA:1013:G:H22	1.54	0.56
34:A2:110:ASP:OD1	34:A2:111:SER:N	2.39	0.56
86:AF:75:GLU:H	86:AF:75:GLU:CD	2.13	0.56
1:BA:765:A:H2'	1:BA:766:G:C8	2.40	0.56
2:AA:303:A:HO2'	2:AA:304:C:H6	1.53	0.56
36:A4:20:GLN:O	36:A4:24:SER:OG	2.23	0.56
39:A7:143:MET:HA	39:A7:143:MET:HE2	1.87	0.56
57:BL:49:GLU:HG2	57:BL:82:LYS:HE2	1.88	0.56
78:BX:90:THR:O	78:BX:90:THR:OG1	2.23	0.56
2:AA:1757:C:H41	2:AA:1837:G:H1	1.54	0.56
2:AA:2049:A:OP2	16:AI:54:ARG:NH1	2.39	0.56
3:BB:992:C:H5''	3:BB:993:G:N2	2.21	0.56
1:BA:759:U:H2'	1:BA:760:OMC:C6	2.40	0.56
4:BH:5:G:H2'	4:BH:6:U:C6	2.41	0.56
4:BH:52:G:O6	4:BH:70:U:O4	2.24	0.56
4:BH:118:U:O2'	4:BH:119:U:O2	2.22	0.56
40:AC:116:ARG:NH1	40:AC:162:ASP:OD2	2.39	0.56
3:BB:837:C:H41	3:BB:970:C:N4	2.04	0.56
60:BN:67:THR:HG22	60:BN:69:ARG:H	1.71	0.56
2:AA:186:C:OP1	35:A3:2:LYS:NZ	2.38	0.55
3:BB:1414:C:H2'	3:BB:1415:G:C8	2.41	0.55
32:A0:196:ARG:NH2	32:A0:197:ASP:OD1	2.39	0.55
35:A3:80:ARG:HG2	35:A3:87:THR:HA	1.88	0.55
36:A4:4:GLN:N	36:A4:4:GLN:NE2	2.44	0.55
56:Bk:28:GLU:OE1	56:Bk:28:GLU:N	2.29	0.55
57:BL:155:VAL:O	57:BL:160:ARG:NH1	2.39	0.55
80:Bx:219:GLU:OE2	80:Bx:219:GLU:N	2.18	0.55
1:BA:645:U:H2'	1:BA:646:G:C8	2.41	0.55
1:BA:1023:U:H2'	1:BA:1024:A2M:H8	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:843:G:H21	2:AA:888:C:N4	2.04	0.55
3:BB:1414:C:H2'	3:BB:1415:G:H8	1.72	0.55
1:BA:563:G:H2'	1:BA:564:C:C6	2.41	0.55
1:BA:1505:A:OP2	47:Bc:89:SER:OG	2.19	0.55
2:AA:616:G:H1	2:AA:631:U:H3	1.54	0.55
39:A7:149:GLY:O	39:A7:179:LYS:NZ	2.37	0.55
2:AA:331:A:H2'	2:AA:873:A:H2	1.71	0.55
2:AA:692:C:H2'	2:AA:693:A:C8	2.41	0.55
3:BB:1292:A:H4'	55:BK:74:LYS:HG2	1.88	0.55
8:BD:63:C:H3'	8:BD:64:A:H5''	1.88	0.55
2:AA:1625:C:H2'	2:AA:1626:A:H8	1.72	0.55
9:BC:134:G:H2'	9:BC:135:A:H8	1.71	0.55
39:A7:91:LEU:HB2	39:A7:105:PHE:HB2	1.87	0.55
3:BB:1487:G:H22	3:BB:1505:G:H22	1.53	0.55
8:BD:63:C:O2'	55:BK:203:LYS:O	2.24	0.55
43:AG:83:GLU:H	43:AG:83:GLU:CD	2.14	0.55
57:BL:105:ASP:OD2	57:BL:105:ASP:N	2.36	0.55
1:BA:557:U:H2'	1:BA:558:C:C6	2.41	0.55
1:BA:915:OMG:H2'	1:BA:916:OMU:H6	1.89	0.55
2:AA:1010:G:C2	2:AA:1011:A:H1'	2.42	0.55
9:BC:134:G:H2'	9:BC:135:A:C8	2.42	0.55
44:Bh:128:ASP:OD2	44:Bh:129:ALA:N	2.40	0.55
3:BB:1521:G:H1	3:BB:1527:G:H22	1.53	0.55
32:A0:88:PHE:HB3	32:A0:100:THR:HB	1.89	0.55
53:BI:92:ASP:OD2	53:BI:111:ARG:NH2	2.40	0.55
2:AA:175:G:H2'	2:AA:176:G:C8	2.42	0.54
2:AA:1881:U:H3'	2:AA:1882:U:H5''	1.89	0.54
74:Bu:132:VAL:O	74:Bu:139:GLN:NE2	2.37	0.54
23:AS:125:VAL:O	23:AS:128:VAL:HG12	2.07	0.54
77:BW:106:ASN:OD1	77:BW:110:GLU:N	2.39	0.54
3:BB:1523:A:H61	52:Bf:327:ASP:H	1.56	0.54
1:BA:484:U:H2'	1:BA:485:G:C8	2.43	0.54
1:BA:576:U:H2'	1:BA:577:G:C8	2.43	0.54
3:BB:1040:U:H2'	3:BB:1041:G:C8	2.42	0.54
3:BB:1521:G:N2	3:BB:1527:G:H22	2.05	0.54
1:BA:502:U:H2'	1:BA:503:A:C8	2.42	0.54
1:BA:502:U:H2'	1:BA:503:A:H8	1.72	0.54
76:Bv:27:ARG:NH2	76:Bv:78:SER:O	2.40	0.54
2:AA:2235:A:H4'	3:BB:520:A:N6	2.23	0.54
44:Bh:26:ALA:N	44:Bh:28:GLU:OE1	2.41	0.54
74:Bu:143:GLU:H	74:Bu:143:GLU:CD	2.16	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AU:97:LEU:HD21	25:AU:100:CYS:HB2	1.89	0.54
37:A5:150:ASP:N	37:A5:150:ASP:OD1	2.41	0.54
74:Bu:244:ASP:N	74:Bu:244:ASP:OD1	2.40	0.54
1:BA:156:A:OP1	56:Bk:113:ARG:NH2	2.38	0.54
2:AA:1775:G:HO2'	2:AA:1776:A:H8	1.51	0.54
2:AA:2234:A:H2'	3:BB:520:A:N6	2.23	0.54
3:BB:769:U:H2'	3:BB:770:G:C8	2.43	0.54
5:BG:92:U:H2'	5:BG:93:U:C6	2.43	0.54
3:BB:1487:G:N2	3:BB:1505:G:H1	2.04	0.54
2:AA:747:C:H42	2:AA:800:C:H42	1.56	0.53
2:AA:954:C:H2'	2:AA:955:A:C8	2.43	0.53
2:AA:1379:U:H2'	2:AA:1380:U:C6	2.42	0.53
63:Bo:11:MET:HG2	63:Bo:27:LYS:HG3	1.89	0.53
2:AA:981:G:H3'	2:AA:982:G:H8	1.74	0.53
3:BB:1504:G:H2'	3:BB:1505:G:C8	2.44	0.53
54:Bj:86:GLU:OE1	54:Bj:86:GLU:N	2.41	0.53
86:AF:50:LEU:O	86:AF:54:THR:HG23	2.09	0.53
5:BG:51:U:H2'	5:BG:52:A:H8	1.74	0.53
9:BC:67:U:H2'	9:BC:68:A:H8	1.72	0.53
29:AY:50:LYS:H	29:AY:50:LYS:HD2	1.73	0.53
8:BD:4:U:H2'	8:BD:5:A:H8	1.74	0.53
52:Bf:50:LYS:HA	52:Bf:79:LEU:HD23	1.91	0.53
86:AF:133:THR:HG22	86:AF:135:ALA:H	1.73	0.53
1:BA:240:C:H2'	1:BA:241:A:C8	2.44	0.53
2:AA:979:G:H22	2:AA:1016:C:H5	1.56	0.53
11:AQ:31:ARG:NH1	11:AQ:104:GLU:OE1	2.41	0.53
15:AH:114:ARG:NE	30:AZ:96:GLU:OE1	2.30	0.53
47:Bc:58:ASP:N	47:Bc:58:ASP:OD2	2.42	0.53
1:BA:246:U:H3	5:BG:13:A:H62	1.57	0.53
1:BA:1187:A:H5''	1:BA:1188:A:H5'	1.91	0.53
2:AA:1847:U:H5''	11:AQ:55:THR:HG22	1.90	0.53
3:BB:360:U:H2'	3:BB:361:U:H6	1.72	0.53
39:A7:48:ASP:OD1	39:A7:48:ASP:N	2.42	0.53
44:Bh:150:ARG:HB2	44:Bh:173:ILE:HD11	1.89	0.53
57:BL:28:ILE:HD12	57:BL:44:LEU:HD22	1.89	0.53
57:BL:171:GLU:HA	57:BL:175:ASP:HA	1.90	0.53
71:BT:182:GLU:OE2	71:BT:182:GLU:HA	2.09	0.53
1:BA:752:C:H2'	1:BA:753:A:H8	1.74	0.53
2:AA:1052:G:N2	2:AA:1075:G:C2	2.77	0.53
2:AA:2205:C:H2'	2:AA:2206:A:C8	2.43	0.53
55:BK:75:TYR:CZ	55:BK:79:ARG:HG3	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:BV:71:ASN:OD1	75:BV:72:MET:N	2.41	0.53
2:AA:133:A:H2'	2:AA:134:G:C8	2.44	0.53
4:BH:25:A:H5''	52:Bf:123:LYS:HG3	1.91	0.53
7:BE:181:U:O2'	7:BE:182:G:H5'	2.08	0.53
1:BA:179:A:H2'	1:BA:180:G:C8	2.44	0.52
34:A2:87:HIS:HB2	34:A2:94:PRO:HG3	1.91	0.52
49:Be:42:ARG:HH11	49:Be:42:ARG:HG2	1.74	0.52
56:Bk:120:ARG:O	56:Bk:120:ARG:NH1	2.38	0.52
73:BU:156:MET:HG2	73:BU:156:MET:O	2.08	0.52
76:Bv:53:GLN:HG3	76:Bv:60:LEU:HD23	1.90	0.52
1:BA:743:A2M:H5'	1:BA:743:A2M:H8	1.90	0.52
11:AQ:43:GLU:OE2	11:AQ:94:LEU:HD21	2.09	0.52
44:Bh:33:ARG:HG2	44:Bh:36:ARG:HH21	1.75	0.52
1:BA:398:G:OP2	68:Br:55:ARG:NH1	2.42	0.52
2:AA:272:G:O3'	14:Az:218:LYS:NZ	2.42	0.52
23:AS:124:LYS:HE2	23:AS:127:SER:HA	1.92	0.52
47:Bc:21:LYS:HG2	47:Bc:26:ARG:HG2	1.92	0.52
69:BS:157:ARG:HG2	69:BS:157:ARG:HH11	1.74	0.52
86:AF:96:GLU:OE1	86:AF:98:GLU:HG2	2.09	0.52
1:BA:1194:C:H2'	1:BA:1195:A:H8	1.73	0.52
2:AA:122:C:H1'	2:AA:519:G:H5'	1.90	0.52
2:AA:1864:U:H3'	2:AA:1865:U:H5''	1.91	0.52
3:BB:496:A:H2'	3:BB:497:C:C6	2.44	0.52
74:Bu:152:LEU:HD22	74:Bu:169:LEU:HD13	1.91	0.52
1:BA:210:G:N2	1:BA:239:A:C5	2.77	0.52
2:AA:1250:A:H2'	2:AA:1251:A:C8	2.45	0.52
7:BE:203:A:H2'	7:BE:204:A:C8	2.44	0.52
24:AT:34:HIS:HB2	24:AT:37:TRP:HB2	1.92	0.52
3:BB:4:C:H2'	3:BB:5:A:H8	1.74	0.52
3:BB:1501:U:H3'	3:BB:1502:C:H5''	1.92	0.52
7:BE:34:C:HO2'	7:BE:35:A:H8	1.56	0.52
46:Bb:66:ASN:HB3	60:BN:67:THR:HG21	1.90	0.52
1:BA:485:G:H1'	5:BG:8:U:H5	1.75	0.52
1:BA:562:G:H2'	1:BA:563:G:C8	2.45	0.52
2:AA:1853:A:H4'	2:AA:1854:U:O5'	2.10	0.52
5:BG:19:C:H2'	5:BG:20:U:C6	2.45	0.52
14:Az:176:LEU:HD21	14:Az:220:LEU:HD21	1.92	0.52
28:AX:91:GLU:HG2	28:AX:92:VAL:HG23	1.91	0.52
32:A0:207:ILE:HG13	32:A0:208:PRO:HD2	1.91	0.52
79:Bw:228:GLY:O	79:Bw:255:ARG:NH2	2.42	0.52
86:AF:96:GLU:OE1	86:AF:97:ARG:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:728:C:H2'	1:BA:729:C:C6	2.45	0.52
1:BA:1648:U:O2'	1:BA:1649:A:OP1	2.28	0.52
2:AA:291:A:H2'	2:AA:292:A:C8	2.45	0.52
2:AA:1200:A:H2'	2:AA:1201:A:C8	2.45	0.52
3:BB:5:A:H2'	3:BB:6:A:C8	2.45	0.52
3:BB:424:G:H2'	3:BB:425:C:C6	2.44	0.52
2:AA:1381:U:H3'	2:AA:1382:A:C8	2.45	0.52
35:A3:44:GLU:OE1	35:A3:47:ARG:NH2	2.43	0.52
46:Bb:85:ASP:O	46:Bb:89:LYS:NZ	2.37	0.52
58:Bl:23:THR:O	58:Bl:24:LYS:HG3	2.10	0.52
1:BA:639:G:OP1	79:Bw:71:ARG:NH2	2.42	0.51
1:BA:765:A:H2'	1:BA:766:G:H8	1.76	0.51
1:BA:1332:G:H2'	1:BA:1333:A:C8	2.45	0.51
2:AA:1032:G:N2	2:AA:1127:U:O2	2.43	0.51
10:AB:5:G:H2'	10:AB:6:G:C8	2.45	0.51
51:Bg:27:LEU:HB3	51:Bg:109:SER:HB2	1.91	0.51
52:Bf:128:LEU:O	52:Bf:131:THR:OG1	2.22	0.51
2:AA:982:G:H1	2:AA:1013:G:H1	1.58	0.51
2:AA:1702:G:N2	2:AA:1705:A:OP2	2.40	0.51
2:AA:2112:U:O2'	30:AZ:52:SER:O	2.28	0.51
7:BE:122:C:H3'	7:BE:123:U:H5''	1.92	0.51
40:AC:232:GLU:H	40:AC:232:GLU:CD	2.18	0.51
85:BP:85:GLU:OE1	85:BP:85:GLU:N	2.36	0.51
1:BA:1740:G:H2'	1:BA:1741:U:O2	2.10	0.51
2:AA:936:C:O2	24:AT:26:LYS:NZ	2.42	0.51
2:AA:1325:G:H1	2:AA:1472:U:H3	1.59	0.51
20:AO:57:SER:HB2	20:AO:112:ALA:HA	1.91	0.51
60:BN:180:GLU:CD	60:BN:180:GLU:H	2.18	0.51
32:A0:107:MET:O	32:A0:107:MET:HG3	2.11	0.51
37:A5:84:ASN:ND2	37:A5:100:CYS:SG	2.83	0.51
75:BV:53:ASP:OD1	75:BV:53:ASP:N	2.34	0.51
80:Bx:139:THR:OG1	80:Bx:140:LYS:N	2.41	0.51
1:BA:179:A:H2'	1:BA:180:G:H8	1.74	0.51
1:BA:542:G:H1	1:BA:598:C:H5	1.59	0.51
2:AA:1726:A:H4'	2:AA:1727:A:O5'	2.11	0.51
3:BB:1518:G:O6	3:BB:1530:U:C4	2.63	0.51
21:AP:147:VAL:HG21	21:AP:229:ARG:HG3	1.91	0.51
22:AR:64:ARG:NH1	40:AC:194:ASP:OD2	2.42	0.51
36:A4:150:ASP:OD1	36:A4:150:ASP:N	2.34	0.51
86:AF:94:MET:HE1	86:AF:99:LYS:HE2	1.92	0.51
1:BA:308:C:H5'	56:Bk:120:ARG:HH21	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1007:G:H2'	1:BA:1008:C:C6	2.46	0.51
1:BA:1654:C:H5	67:BR:85:ARG:HH21	1.57	0.51
2:AA:1390:A:H4'	2:AA:1391:U:O5'	2.11	0.51
4:BH:47:G:H2'	4:BH:48:G:C8	2.45	0.51
4:BH:135:U:H3'	5:BG:24:A:N1	2.26	0.51
2:AA:2059:C:OP1	19:AM:40:ARG:HD3	2.11	0.51
2:AA:182:U:O2'	2:AA:183:U:H6	1.94	0.51
2:AA:1144:G:H1	2:AA:1237:U:H3	1.59	0.51
74:Bu:55:ILE:HG21	74:Bu:164:ARG:HH21	1.76	0.51
1:BA:7:A:O2'	1:BA:8:G:H8	1.94	0.51
1:BA:197:G:H2'	1:BA:198:C:O2	2.11	0.51
2:AA:2044:A:H2'	2:AA:2045:PSU:H6	1.76	0.51
3:BB:637:A:N3	3:BB:1278:G:O2'	2.37	0.51
45:Ba:65:SER:O	45:Ba:116:GLN:NE2	2.44	0.51
72:Bt:10:MET:HE1	72:Bt:72:LEU:HD13	1.92	0.51
74:Bu:76:MET:HE3	74:Bu:112:LYS:HD2	1.91	0.51
77:BW:70:GLU:CD	77:BW:70:GLU:H	2.18	0.51
2:AA:2276:A:O2'	26:AV:99:ARG:O	2.17	0.51
3:BB:990:A:H5'	3:BB:991:A:H5''	1.92	0.51
3:BB:1098:U:OP1	72:Bt:3:ASN:ND2	2.42	0.51
5:BG:101:G:H2'	5:BG:102:G:O4'	2.11	0.51
51:Bg:85:ASN:OD1	51:Bg:85:ASN:N	2.44	0.51
1:BA:746:A2M:H2'	1:BA:747:C:C6	2.46	0.50
3:BB:1224:A:O2'	3:BB:1225:A:OP1	2.28	0.50
5:BG:149:U:H5	5:BG:151:A:N7	2.10	0.50
9:BC:121:G:H2'	9:BC:122:A:C8	2.47	0.50
82:By:132:ARG:HD2	82:By:142:LEU:HD13	1.93	0.50
1:BA:1649:A:OP1	44:Bh:163:ARG:NH1	2.44	0.50
2:AA:586:U:H2'	2:AA:587:G:O4'	2.12	0.50
2:AA:974:G:H22	2:AA:1021:G:H22	1.57	0.50
8:BD:28:C:H1'	8:BD:54:A:H61	1.75	0.50
64:Bp:59:SER:O	64:Bp:59:SER:OG	2.27	0.50
86:AF:109:MET:SD	86:AF:115:VAL:HG22	2.51	0.50
7:BE:62:U:H2'	7:BE:63:U:O2	2.11	0.50
30:AZ:97:ARG:NH2	34:A2:190:ARG:OXT	2.45	0.50
33:A1:228:ASP:OD2	33:A1:230:SER:OG	2.28	0.50
76:Bv:28:LYS:HD3	76:Bv:28:LYS:N	2.26	0.50
83:BZ:108:LEU:HB3	83:BZ:113:LYS:HE3	1.93	0.50
2:AA:1164:A:H5''	15:AH:127:PRO:HB3	1.93	0.50
85:BP:81:LYS:HG3	85:BP:83:VAL:HG13	1.91	0.50
2:AA:933:U:H2'	2:AA:935:G:N2	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:BB:4:C:H2'	3:BB:5:A:C8	2.47	0.50
15:AH:47:CYS:HB3	15:AH:77:ARG:HG2	1.93	0.50
33:A1:26:PRO:HG3	33:A1:42:LEU:HD23	1.93	0.50
35:A3:158:LYS:HD2	35:A3:158:LYS:C	2.37	0.50
52:Bf:80:GLU:OE1	52:Bf:321:TYR:OH	2.20	0.50
82:By:138:VAL:HB	82:By:141:GLU:OE2	2.12	0.50
2:AA:694:A:O2'	2:AA:695:A:H8	1.94	0.50
2:AA:906:G:H1	2:AA:953:G:N2	2.08	0.50
21:AP:48:LYS:HD2	21:AP:257:LEU:HD13	1.93	0.50
1:BA:717:A:H2'	1:BA:718:A:C8	2.47	0.50
2:AA:340:G:N3	42:AE:55:GLY:HA3	2.26	0.50
2:AA:384:U:H2'	2:AA:385:C:O2	2.11	0.50
2:AA:572:A:OP1	38:A6:144:SER:OG	2.23	0.50
2:AA:649:U:H5	2:AA:693:A:N1	2.10	0.50
2:AA:1031:G:N2	2:AA:1128:U:O2	2.44	0.50
2:AA:1626:A:H2'	2:AA:1627:G:H8	1.76	0.50
14:Az:155:SER:OG	14:Az:225:SER:O	2.26	0.50
35:A3:172:ASP:N	35:A3:172:ASP:OD1	2.44	0.50
60:BN:55:PRO:HB3	60:BN:154:ASP:HB3	1.93	0.50
1:BA:1196:G:N2	1:BA:1214:A:H2	2.05	0.50
3:BB:1533:C:N4	3:BB:1534:G:O6	2.44	0.50
15:AH:27:TYR:HB3	15:AH:34:PHE:HB2	1.94	0.50
1:BA:557:U:H2'	1:BA:558:C:H6	1.76	0.50
2:AA:2034:G:H2'	2:AA:2035:G:H5'	1.93	0.50
25:AU:89:LEU:HD22	25:AU:94:LEU:HD12	1.94	0.50
75:BV:73:ARG:HB3	75:BV:74:GLU:OE2	2.12	0.50
3:BB:1487:G:N2	3:BB:1505:G:H22	2.10	0.49
7:BE:42:C:H2'	7:BE:43:U:O2	2.11	0.49
75:BV:27:LYS:HB2	75:BV:116:THR:HG22	1.93	0.49
1:BA:16:U:H2'	1:BA:17:G:H8	1.77	0.49
1:BA:1099:U:H4'	1:BA:1100:C:C2	2.47	0.49
1:BA:1685:C:H2'	1:BA:1686:G:C8	2.47	0.49
2:AA:1018:U:H3'	2:AA:1019:G:H5''	1.94	0.49
2:AA:2203:U:O3'	81:BY:51:ARG:NH2	2.45	0.49
5:BG:17:A:H2'	5:BG:18:U:C6	2.46	0.49
18:AK:113:ASP:OD1	18:AK:114:LYS:N	2.44	0.49
36:A4:32:LEU:HD21	36:A4:90:ARG:HH22	1.77	0.49
42:AE:68:LYS:HB2	42:AE:68:LYS:NZ	2.27	0.49
57:BL:78:VAL:HG12	57:BL:83:ALA:HB2	1.94	0.49
72:Bt:22:SER:O	72:Bt:75:SER:OG	2.30	0.49
77:BW:59:MET:HE2	77:BW:77:ASN:HB3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:909:C:H5'	2:AA:910:A:OP2	2.12	0.49
2:AA:2275:C:OP2	26:AV:5:ARG:NH1	2.46	0.49
74:Bu:117:GLU:HG2	74:Bu:118:LYS:HG3	1.94	0.49
2:AA:426:U:P	37:A5:56:ARG:HH22	2.34	0.49
2:AA:1631:G:OP2	86:AF:116:ARG:NH2	2.45	0.49
2:AA:1954:A:H61	2:AA:2011:C:H5	1.60	0.49
7:BE:43:U:H5	7:BE:183:A:N1	2.10	0.49
7:BE:158:A:O2'	7:BE:159:C:O5'	2.25	0.49
8:BD:92:G:H2'	8:BD:93:G:C8	2.48	0.49
36:A4:134:LEU:C	36:A4:135:ILE:HG13	2.36	0.49
24:AT:121:ASN:ND2	24:AT:129:LYS:O	2.46	0.49
26:AV:64:SER:O	26:AV:64:SER:OG	2.28	0.49
1:BA:717:A:H2'	1:BA:718:A:H8	1.77	0.49
3:BB:1290:C:H5	3:BB:1306:C:H42	1.59	0.49
3:BB:1518:G:N2	3:BB:1530:U:O2	2.45	0.49
10:AB:3:C:H2'	10:AB:4:C:O4'	2.13	0.49
71:BT:178:LEU:C	71:BT:180:LYS:H	2.20	0.49
7:BE:104:U:H2'	7:BE:105:C:C6	2.47	0.49
68:Br:9:VAL:HG13	68:Br:152:VAL:HG12	1.94	0.49
1:BA:1219:U:O2'	73:BU:116:ARG:NH2	2.44	0.49
2:AA:773:C:H2'	2:AA:774:G:C8	2.48	0.49
2:AA:800:C:O2'	2:AA:801:G:H8	1.95	0.49
2:AA:1576:A:H2'	2:AA:1577:G:C8	2.48	0.49
2:AA:2203:U:H2'	2:AA:2204:U:C6	2.48	0.49
3:BB:1152:U:H2'	3:BB:1153:G:H8	1.77	0.49
36:A4:36:HIS:HB3	36:A4:39:LEU:HB2	1.94	0.49
45:Ba:103:LYS:O	45:Ba:107:SER:OG	2.31	0.49
82:By:138:VAL:HG12	82:By:139:LYS:H	1.77	0.49
2:AA:1001:U:H2'	2:AA:1002:U:C6	2.48	0.49
2:AA:1183:A:H2'	2:AA:1184:A:C8	2.47	0.49
10:AB:5:G:H2'	10:AB:6:G:H8	1.77	0.49
46:Bb:88:MET:O	46:Bb:88:MET:HG2	2.13	0.49
68:Br:268:PRO:HA	68:Br:276:MET:HG3	1.95	0.49
1:BA:556:U:H3	1:BA:577:G:H1	1.59	0.49
2:AA:1055:U:OP1	36:A4:60:LYS:NZ	2.45	0.49
7:BE:123:U:O2'	7:BE:124:C:O5'	2.20	0.49
17:AJ:87:GLU:HG3	38:A6:60:THR:HG23	1.94	0.49
33:A1:138:THR:HG22	33:A1:140:ASP:H	1.78	0.49
76:Bv:99:THR:O	76:Bv:102:ILE:HG12	2.13	0.49
2:AA:1201:A:H2'	2:AA:1202:G:C8	2.48	0.48
2:AA:2163:A:H2'	2:AA:2164:C:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:BG:145:C:P	5:BG:145:C:H6	2.36	0.48
63:Bo:28:LYS:NZ	63:Bo:28:LYS:HB3	2.28	0.48
1:BA:1234:A:C2'	1:BA:1235:U:H5'	2.44	0.48
2:AA:1125:G:H2'	2:AA:1126:C:C6	2.48	0.48
3:BB:633:G:H2'	3:BB:634:G:C8	2.48	0.48
15:AH:17:ASP:OD1	15:AH:17:ASP:N	2.34	0.48
71:BT:174:ARG:HA	71:BT:178:LEU:HB2	1.95	0.48
86:AF:30:GLU:HA	86:AF:30:GLU:OE2	2.12	0.48
28:AX:91:GLU:H	28:AX:91:GLU:CD	2.21	0.48
74:Bu:99:TYR:HE2	74:Bu:170:LYS:HG3	1.78	0.48
74:Bu:190:ASN:ND2	74:Bu:192:GLU:OE1	2.46	0.48
1:BA:1136:A:H2'	1:BA:1137:G:H8	1.78	0.48
1:BA:1515:G:O2'	1:BA:1516:A:H5''	2.13	0.48
2:AA:101:A:H2'	2:AA:102:U:O4'	2.13	0.48
6:BF:35:U:O2'	6:BF:36:G:O4'	2.24	0.48
7:BE:8:A:C2	7:BE:104:U:H4'	2.48	0.48
19:AM:58:GLY:O	19:AM:59:THR:OG1	2.26	0.48
25:AU:54:ASP:OD1	25:AU:55:LYS:N	2.46	0.48
2:AA:1770:C:N3	20:AO:10:SER:OG	2.43	0.48
3:BB:1518:G:O6	3:BB:1530:U:O4	2.30	0.48
4:BH:48:G:H1	4:BH:94:G:H22	1.61	0.48
16:AI:88:ARG:NH2	16:AI:127:SER:O	2.43	0.48
35:A3:27:ASN:ND2	35:A3:30:ASP:OD2	2.47	0.48
36:A4:97:VAL:HG11	36:A4:134:LEU:HD23	1.95	0.48
86:AF:97:ARG:NH2	86:AF:119:LEU:HG	2.27	0.48
2:AA:973:A:H3'	2:AA:974:G:H5'	1.95	0.48
2:AA:1826:U:O2'	2:AA:1836:G:OP2	2.28	0.48
3:BB:1105:A:H2'	3:BB:1106:G:C8	2.48	0.48
1:BA:488:A:H2'	1:BA:489:A:O4'	2.13	0.48
1:BA:973:G:O6	63:Bo:3:LYS:NZ	2.44	0.48
3:BB:1486:G:N2	3:BB:1506:G:H22	2.10	0.48
42:AE:125:VAL:HG12	42:AE:153:TYR:HB2	1.96	0.48
52:Bf:71:GLU:OE2	81:BY:2:ARG:NH1	2.47	0.48
54:Bj:116:LYS:HD2	54:Bj:116:LYS:O	2.14	0.48
56:Bk:77:LYS:O	56:Bk:78:LYS:HG2	2.14	0.48
2:AA:57:OMU:HM23	2:AA:57:OMU:H1'	1.62	0.48
3:BB:79:C:O2'	5:BG:81:G:H4'	2.14	0.48
3:BB:1105:A:H2'	3:BB:1106:G:H8	1.79	0.48
59:Bm:104:GLN:HA	59:Bm:104:GLN:OE1	2.14	0.48
74:Bu:36:MET:HG2	74:Bu:50:ARG:HD2	1.96	0.48
1:BA:478:A:C2	9:BC:16:A:H1'	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1481:U:H2'	1:BA:1482:A:H8	1.79	0.48
23:AS:123:VAL:HG12	23:AS:124:LYS:HG3	1.95	0.48
27:AW:54:GLU:H	27:AW:54:GLU:CD	2.22	0.48
2:AA:157:U:H2'	2:AA:158:G:H8	1.79	0.47
2:AA:1052:G:N2	2:AA:1053:U:C2	2.81	0.47
2:AA:1917:U:H2'	2:AA:1918:C:H6	1.79	0.47
40:AC:242:ASP:OD1	40:AC:242:ASP:N	2.46	0.47
53:BI:3:VAL:HB	53:BI:5:LEU:HD13	1.95	0.47
83:BZ:86:LYS:HB3	83:BZ:86:LYS:HE3	1.62	0.47
1:BA:1136:A:H2'	1:BA:1137:G:C8	2.49	0.47
2:AA:838:C:H42	2:AA:891:C:H42	1.62	0.47
2:AA:979:G:H1	2:AA:1016:C:H41	1.62	0.47
14:Az:207:VAL:HG21	14:Az:224:LEU:HG	1.97	0.47
19:AM:26:LYS:NZ	19:AM:54:GLU:OE2	2.48	0.47
24:AT:9:GLU:OE2	24:AT:9:GLU:HA	2.14	0.47
32:A0:221:ARG:HB3	32:A0:221:ARG:NH1	2.29	0.47
39:A7:114:SER:HB3	39:A7:158:VAL:HG12	1.97	0.47
72:Bt:4:TYR:HB3	72:Bt:93:LEU:HD23	1.96	0.47
1:BA:760:OMC:HM23	1:BA:760:OMC:H1'	1.70	0.47
2:AA:599:G:H2'	2:AA:600:G:H8	1.80	0.47
2:AA:2218:U:H2'	2:AA:2219:C:C6	2.50	0.47
3:BB:1513:G:H22	3:BB:1534:G:N2	2.12	0.47
43:AG:66:VAL:HG22	43:AG:67:THR:HG23	1.96	0.47
43:AG:87:ASP:OD2	43:AG:87:ASP:N	2.45	0.47
1:BA:1685:C:H2'	1:BA:1686:G:H8	1.79	0.47
28:AX:52:THR:HG22	28:AX:90:VAL:HG21	1.96	0.47
53:BI:161:ALA:O	53:BI:167:SER:OG	2.25	0.47
64:Bp:29:PRO:O	64:Bp:30:LYS:HG2	2.14	0.47
77:BW:30:ASN:HD21	77:BW:115:GLY:N	2.03	0.47
82:By:81:GLY:HA2	82:By:85:GLY:H	1.79	0.47
1:BA:912:C:H2'	1:BA:913:C:C6	2.50	0.47
2:AA:636:A:OP2	24:AT:5:LYS:NZ	2.48	0.47
2:AA:693:A:O2'	2:AA:694:A:H5'	2.15	0.47
2:AA:770:U:N3	2:AA:780:C:N4	2.34	0.47
2:AA:1001:U:H2'	2:AA:1002:U:H6	1.80	0.47
2:AA:1184:A:H2'	2:AA:1185:U:H6	1.79	0.47
2:AA:1775:G:O2'	2:AA:1776:A:H8	1.98	0.47
3:BB:980:U:H2'	3:BB:981:A:O4'	2.14	0.47
33:A1:197:ARG:HA	33:A1:197:ARG:HD3	1.59	0.47
35:A3:138:PRO:HG2	35:A3:144:ILE:HG12	1.96	0.47
54:Bj:102:ARG:HB3	54:Bj:106:ARG:NH2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:375:U:H2'	1:BA:376:U:C6	2.48	0.47
1:BA:1197:C:H42	1:BA:1213:A:H61	1.63	0.47
3:BB:1515:U:H2'	3:BB:1516:G:H8	1.78	0.47
5:BG:154:C:H2'	5:BG:155:A:C8	2.50	0.47
40:AC:46:MET:HE1	40:AC:87:ILE:HG22	1.97	0.47
47:Bc:40:LYS:C	47:Bc:42:GLN:H	2.22	0.47
62:BO:188:LYS:HD2	62:BO:188:LYS:HA	1.59	0.47
1:BA:1837:G:OP2	54:Bj:30:ARG:NH2	2.48	0.47
2:AA:44:G:H2'	2:AA:45:C:C6	2.49	0.47
2:AA:1473:C:H2'	2:AA:1474:U:C6	2.50	0.47
2:AA:1858:U:H2'	2:AA:1859:U:C6	2.50	0.47
2:AA:2101:U:H2'	2:AA:2102:G:C8	2.49	0.47
20:AO:12:ILE:HD11	20:AO:158:ARG:HB2	1.96	0.47
33:A1:121:MET:HE2	33:A1:159:TYR:HB2	1.96	0.47
39:A7:122:ARG:HG2	39:A7:122:ARG:HH11	1.79	0.47
39:A7:245:PHE:HE1	39:A7:265:LEU:HD11	1.80	0.47
40:AC:111:THR:HG23	40:AC:155:PRO:HB3	1.96	0.47
57:BL:89:LYS:NZ	57:BL:119:LEU:O	2.33	0.47
1:BA:785:U:O2'	68:Br:213:ASN:ND2	2.48	0.47
2:AA:1668:G:H2'	2:AA:1669:A:O4'	2.15	0.47
4:BH:54:U:H2'	4:BH:55:C:C6	2.50	0.47
6:BF:72:C:H5''	6:BF:73:A:OP2	2.15	0.47
49:Be:206:PRO:HG3	49:Be:213:GLY:HA3	1.95	0.47
82:By:151:GLN:OE1	82:By:154:ARG:NH1	2.47	0.47
1:BA:1065:A:H2'	1:BA:1066:C:C6	2.50	0.47
3:BB:978:A:H61	49:Be:40:PHE:H	1.62	0.47
3:BB:1489:A:C6	3:BB:1504:G:C6	3.03	0.47
5:BG:16:G:H2'	5:BG:17:A:C8	2.50	0.47
16:AI:71:LYS:NZ	16:AI:97:VAL:O	2.40	0.47
35:A3:122:GLN:HA	35:A3:122:GLN:OE1	2.15	0.47
38:A6:76:MET:HE2	38:A6:90:ASP:HA	1.97	0.47
41:AD:78:GLU:CD	41:AD:78:GLU:H	2.23	0.47
82:By:13:GLU:CD	82:By:14:ASP:H	2.22	0.47
1:BA:762:A2M:N1	1:BA:917:U:H5	2.12	0.47
1:BA:1830:G:O2'	1:BA:1831:A:OP1	2.28	0.47
2:AA:1916:U:H2'	2:AA:1917:U:C6	2.51	0.47
2:AA:2008:A:O2'	2:AA:2009:A:H5''	2.15	0.47
7:BE:158:A:O2'	7:BE:159:C:H6	1.98	0.47
27:AW:39:PRO:HG3	27:AW:77:GLY:HA3	1.97	0.47
41:AD:88:TYR:CG	86:AF:42:GLU:HG2	2.50	0.47
1:BA:1036:G:H5'	1:BA:1037:A:OP1	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:298:A:C8	2:AA:998:A:H2	2.33	0.46
6:BF:36:G:H2'	6:BF:37:C:H6	1.79	0.46
7:BE:18:C:H5	54:Bj:71:HIS:NE2	2.12	0.46
8:BD:30:A:OP1	57:BL:141:ARG:NH1	2.49	0.46
14:Az:206:PHE:O	14:Az:210:LYS:HB2	2.15	0.46
35:A3:1:MET:HE2	35:A3:23:LEU:HD11	1.97	0.46
58:Bl:88:LYS:HB3	58:Bl:88:LYS:HE2	1.57	0.46
66:BQ:162:ASP:HB3	66:BQ:165:ILE:HG22	1.96	0.46
75:BV:70:VAL:HG12	75:BV:70:VAL:O	2.15	0.46
1:BA:1213:A:H2'	1:BA:1214:A:C8	2.51	0.46
1:BA:1230:A:H1'	73:BU:128:LYS:HB3	1.96	0.46
2:AA:73:U:O2'	2:AA:74:U:H2'	2.15	0.46
9:BC:162:C:H2'	9:BC:163:A2M:H8	1.97	0.46
40:AC:236:ASP:OD1	40:AC:236:ASP:N	2.47	0.46
68:Br:343:MET:HE3	68:Br:352:ARG:CZ	2.45	0.46
82:By:175:ASP:OD2	82:By:175:ASP:N	2.48	0.46
1:BA:703:G:O6	1:BA:704:A:N6	2.48	0.46
1:BA:1832:A:O2'	1:BA:1857:U:O2	2.26	0.46
1:BA:1834:C:H2'	1:BA:1835:U:C6	2.51	0.46
2:AA:291:A:O2'	2:AA:292:A:OP1	2.32	0.46
21:AP:112:ASN:HB2	21:AP:138:SER:HB3	1.98	0.46
24:AT:21:LYS:HB2	33:A1:92:THR:HG22	1.96	0.46
31:AL:87:GLU:H	31:AL:87:GLU:CD	2.23	0.46
33:A1:256:ALA:C	33:A1:258:GLU:H	2.24	0.46
42:AE:74:CYS:O	42:AE:78:SER:OG	2.22	0.46
65:Bq:18:LYS:HB2	65:Bq:18:LYS:HE3	1.78	0.46
81:BY:1:MET:HE2	81:BY:1:MET:HA	1.98	0.46
1:BA:681:U:H2'	1:BA:682:C:C6	2.50	0.46
1:BA:1745:G:H4'	1:BA:1746:U:OP1	2.14	0.46
2:AA:754:U:H3	2:AA:794:G:N2	2.11	0.46
7:BE:202:A:H2'	7:BE:203:A:C8	2.50	0.46
8:BD:4:U:H2'	8:BD:5:A:C8	2.51	0.46
10:AB:2:C:H2'	10:AB:3:C:C6	2.50	0.46
26:AV:102:SER:OG	26:AV:103:LYS:N	2.48	0.46
54:Bj:75:THR:HG22	54:Bj:77:ARG:H	1.81	0.46
1:BA:501:G:H5'	58:Bl:129:SER:HB2	1.98	0.46
2:AA:307:C:C2	2:AA:319:G:N2	2.84	0.46
2:AA:2154:OMU:HM23	2:AA:2154:OMU:H1'	1.55	0.46
10:AB:4:C:H2'	10:AB:5:G:C8	2.51	0.46
55:BK:66:GLU:OE2	55:BK:66:GLU:HA	2.15	0.46
2:AA:45:C:H2'	2:AA:46:OMC:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:701:A:H2'	2:AA:702:U:C6	2.51	0.46
2:AA:792:U:H3'	2:AA:793:U:H5''	1.98	0.46
6:BF:60:C:OP2	76:Bv:169:LYS:NZ	2.40	0.46
6:BF:60:C:C5	76:Bv:169:LYS:HB3	2.51	0.46
7:BE:162:U:H4'	7:BE:163:A:OP1	2.16	0.46
14:Az:189:ARG:HG3	14:Az:189:ARG:O	2.11	0.46
33:A1:182:GLY:HA2	33:A1:186:ARG:HD3	1.96	0.46
36:A4:82:THR:O	36:A4:86:GLU:HG2	2.15	0.46
39:A7:3:VAL:HG22	39:A7:314:VAL:HG22	1.97	0.46
52:Bf:161:ARG:HG2	52:Bf:187:GLN:HA	1.96	0.46
52:Bf:393:ASP:OD1	52:Bf:393:ASP:N	2.48	0.46
2:AA:794:G:H2'	2:AA:795:A:C8	2.50	0.46
2:AA:1127:U:H2'	2:AA:1128:U:C2	2.51	0.46
2:AA:2160:A:H2'	2:AA:2161:A:H8	1.81	0.46
8:BD:75:G:C8	69:BS:52:LYS:HG2	2.50	0.46
18:AK:105:GLU:OE2	39:A7:62:ARG:NH1	2.48	0.46
28:AX:32:GLY:O	28:AX:51:SER:OG	2.24	0.46
53:BI:114:LYS:O	53:BI:118:GLU:HG3	2.15	0.46
74:Bu:215:LYS:HB3	74:Bu:215:LYS:HE3	1.58	0.46
80:Bx:76:ARG:HA	80:Bx:76:ARG:HD2	1.84	0.46
1:BA:1648:U:H4'	44:Bh:163:ARG:HH12	1.81	0.46
2:AA:1326:G:H1	2:AA:1471:U:H3	1.63	0.46
2:AA:1748:C:H2'	2:AA:1749:A:C8	2.51	0.46
3:BB:571:G:O2'	3:BB:574:U:OP2	2.25	0.46
3:BB:1289:C:H2'	3:BB:1290:C:O2	2.16	0.46
7:BE:157:C:OP1	7:BE:157:C:H4'	2.16	0.46
2:AA:172:A:N3	2:AA:172:A:H2'	2.30	0.46
2:AA:755:G:H2'	2:AA:756:U:C6	2.51	0.46
3:BB:573:A:N3	3:BB:1415:G:O2'	2.44	0.46
3:BB:609:A2M:HM'3	3:BB:609:A2M:H1'	1.74	0.46
3:BB:810:C:H2'	3:BB:811:A:H8	1.80	0.46
3:BB:1040:U:H2'	3:BB:1041:G:H8	1.80	0.46
3:BB:1521:G:H1	3:BB:1527:G:N2	2.14	0.46
3:BB:1530:U:H3'	3:BB:1531:G:H8	1.81	0.46
5:BG:167:C:H2'	5:BG:168:A:O4'	2.15	0.46
17:AJ:55:ASP:N	17:AJ:55:ASP:OD2	2.48	0.46
28:AX:169:THR:HB	28:AX:186:LYS:HG2	1.98	0.46
32:A0:107:MET:O	32:A0:108:THR:HB	2.14	0.46
41:AD:43:LYS:HB3	41:AD:43:LYS:HZ2	1.81	0.46
41:AD:96:ASN:C	41:AD:98:HIS:H	2.24	0.46
1:BA:752:C:H2'	1:BA:753:A:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1630:U:H2'	1:BA:1631:A:C8	2.51	0.46
2:AA:1145:G:H2'	2:AA:1146:U:C6	2.50	0.46
2:AA:1902:G:O6	41:AD:27:LYS:NZ	2.49	0.46
3:BB:608:U:H2'	3:BB:609:A2M:C8	2.42	0.46
3:BB:799:G:O2'	3:BB:800:U:H6	1.98	0.46
3:BB:1523:A:N6	52:Bf:327:ASP:H	2.12	0.46
7:BE:53:A:N1	7:BE:63:U:H5	2.13	0.46
27:AW:20:HIS:ND1	27:AW:21:LYS:O	2.49	0.46
31:AL:3:LYS:HD2	31:AL:3:LYS:HA	1.71	0.46
40:AC:37:VAL:HG23	40:AC:39:SER:O	2.16	0.46
43:AG:148:ALA:O	43:AG:149:MET:HG3	2.16	0.46
61:Bn:39:TYR:CD1	61:Bn:40:PRO:HA	2.51	0.46
1:BA:505:C:OP1	58:Bl:88:LYS:NZ	2.31	0.45
2:AA:581:G:H2'	2:AA:582:A:C8	2.50	0.45
2:AA:601:U:O2'	2:AA:602:U:O2	2.22	0.45
2:AA:770:U:H2'	2:AA:771:C:C6	2.51	0.45
2:AA:974:G:H22	2:AA:1021:G:N2	2.14	0.45
2:AA:1566:C:H2'	2:AA:1567:A:H8	1.80	0.45
2:AA:2085:G:H1	2:AA:2101:U:H3	1.63	0.45
3:BB:1428:U:H2'	3:BB:1429:PSU:C6	2.51	0.45
9:BC:90:U:O2'	83:BZ:22:HIS:ND1	2.42	0.45
22:AR:20:ARG:HH21	22:AR:38:GLN:HG3	1.80	0.45
86:AF:27:ASP:OD2	86:AF:134:LYS:NZ	2.38	0.45
1:BA:1195:A:H2	1:BA:1215:G:N2	2.10	0.45
1:BA:1342:A:H2'	1:BA:1343:A:H8	1.81	0.45
2:AA:2178:G:C6	2:AA:2179:U:H1'	2.51	0.45
3:BB:992:C:H5''	3:BB:993:G:H21	1.80	0.45
36:A4:43:LEU:N	36:A4:44:PRO:HD2	2.31	0.45
1:BA:77:U:H5'	60:BN:63:VAL:HB	1.97	0.45
1:BA:559:C:O2'	1:BA:560:G:O5'	2.22	0.45
1:BA:1214:A:H2'	1:BA:1215:G:C8	2.52	0.45
2:AA:302:A:O2'	2:AA:303:A:H5'	2.17	0.45
2:AA:870:G:O2'	2:AA:873:A:N6	2.43	0.45
2:AA:1134:A:H61	36:A4:74:MET:HE3	1.82	0.45
2:AA:1782:G:O2'	2:AA:1783:U:O5'	2.28	0.45
14:Az:152:HIS:O	14:Az:155:SER:HB2	2.16	0.45
33:A1:259:THR:O	33:A1:262:THR:OG1	2.29	0.45
34:A2:65:LYS:HA	34:A2:65:LYS:HD3	1.59	0.45
75:BV:105:ASP:OD2	75:BV:105:ASP:C	2.59	0.45
82:By:129:LYS:HE2	82:By:131:TYR:HE2	1.81	0.45
1:BA:16:U:H2'	1:BA:17:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:982:G:N2	2:AA:1013:G:H1	2.11	0.45
2:AA:1917:U:H2'	2:AA:1918:C:C6	2.51	0.45
3:BB:991:A:O2'	3:BB:992:C:O5'	2.34	0.45
3:BB:1469:U:H4'	3:BB:1470:A:H5''	1.98	0.45
6:BF:73:A:H5''	76:Bv:44:ARG:CZ	2.47	0.45
7:BE:164:C:H3'	7:BE:165:G:C5'	2.47	0.45
8:BD:22:A:H2'	8:BD:23:A:H8	1.82	0.45
36:A4:39:LEU:O	36:A4:43:LEU:HB2	2.17	0.45
39:A7:49:ARG:HD2	39:A7:56:TYR:HA	1.98	0.45
1:BA:428:G:N2	1:BA:431:A:OP2	2.42	0.45
2:AA:835:A:H2'	2:AA:836:A:H8	1.82	0.45
2:AA:1123:C:H2'	2:AA:1124:G:C8	2.52	0.45
2:AA:2204:U:H2'	2:AA:2205:C:C6	2.51	0.45
3:BB:1415:G:H2'	3:BB:1416:U:C6	2.51	0.45
16:AI:43:LEU:O	19:AM:89:ARG:NH2	2.49	0.45
44:Bh:34:ASP:OD2	44:Bh:34:ASP:N	2.50	0.45
49:Be:41:MET:HE3	49:Be:41:MET:HB3	1.89	0.45
1:BA:830:U:N3	46:Bb:131:ASP:OD1	2.48	0.45
1:BA:1181:OMU:H6	1:BA:1181:OMU:O5'	2.17	0.45
2:AA:828:A:O2'	2:AA:829:U:O5'	2.33	0.45
2:AA:2160:A:H2'	2:AA:2161:A:C8	2.52	0.45
32:A0:106:ASP:OD2	32:A0:107:MET:N	2.40	0.45
33:A1:140:ASP:OD2	33:A1:142:HIS:ND1	2.49	0.45
64:Bp:6:LYS:HE2	64:Bp:6:LYS:HB2	1.60	0.45
1:BA:1219:U:H4'	73:BU:116:ARG:CZ	2.46	0.45
2:AA:141:U:H2'	2:AA:142:C:C6	2.51	0.45
2:AA:486:C:H2'	2:AA:487:C:C6	2.52	0.45
2:AA:547:A:OP2	33:A1:63:ARG:NH1	2.50	0.45
2:AA:751:U:H3'	2:AA:752:A:H8	1.81	0.45
2:AA:981:G:O6	2:AA:1014:U:O2	2.35	0.45
2:AA:1238:U:H2'	2:AA:1239:C:C6	2.52	0.45
2:AA:1512:G:O2'	2:AA:1513:G:H5'	2.17	0.45
3:BB:1471:U:H4'	3:BB:1472:C:H5'	1.99	0.45
5:BG:149:U:O2'	5:BG:150:A:OP2	2.28	0.45
15:AH:99:LYS:O	15:AH:99:LYS:HG3	2.16	0.45
23:AS:7:GLN:O	23:AS:7:GLN:HG3	2.16	0.45
74:Bu:85:LEU:HB3	74:Bu:262:LYS:NZ	2.32	0.45
1:BA:559:C:O2'	1:BA:560:G:H8	1.99	0.45
1:BA:1830:G:H2'	1:BA:1831:A:C8	2.51	0.45
2:AA:93:A:OP1	35:A3:139:LYS:NZ	2.50	0.45
2:AA:776:C:H5''	31:AL:118:ARG:NH1	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:BB:767:G:H2'	3:BB:768:U:C6	2.52	0.45
3:BB:983:U:O2'	3:BB:984:G:N3	2.48	0.45
3:BB:1488:C:H2'	3:BB:1489:A:H8	1.82	0.45
14:Az:168:THR:O	14:Az:169:THR:HG22	2.17	0.45
14:Az:202:ALA:HA	14:Az:205:LYS:NZ	2.32	0.45
37:A5:63:GLY:HA3	37:A5:198:ALA:O	2.17	0.45
58:Bl:66:VAL:HG13	58:Bl:71:ASP:HB3	1.99	0.45
60:BN:107:LYS:HB2	60:BN:107:LYS:HE3	1.72	0.45
75:BV:91:LYS:HG3	75:BV:109:ILE:HD13	1.99	0.45
1:BA:895:G:H2'	1:BA:896:G:H5'	1.98	0.45
2:AA:541:G:OP1	33:A1:26:PRO:HD3	2.17	0.45
2:AA:1782:G:H22	2:AA:1818:G:N2	2.15	0.45
2:AA:2087:A:H2'	2:AA:2088:G:H8	1.82	0.45
3:BB:622:A2M:H1'	3:BB:622:A2M:HM'3	1.76	0.45
3:BB:1487:G:H1	3:BB:1505:G:H1	1.64	0.45
5:BG:17:A:H2'	5:BG:18:U:H6	1.82	0.45
5:BG:20:U:H2'	5:BG:21:C:H6	1.82	0.45
9:BC:7:OMU:HM23	9:BC:7:OMU:H1'	1.57	0.45
21:AP:255:GLU:OE1	21:AP:255:GLU:N	2.36	0.45
62:BO:3:LEU:HD12	62:BO:4:PRO:HD2	1.99	0.45
75:BV:102:ASP:C	75:BV:102:ASP:OD2	2.60	0.45
82:By:154:ARG:NH2	82:By:155:GLU:OE1	2.50	0.45
86:AF:139:LEU:HD12	86:AF:139:LEU:HA	1.87	0.45
1:BA:719:A:H2'	1:BA:720:U:C6	2.52	0.45
1:BA:1721:C:H2'	1:BA:1722:U:C6	2.52	0.45
2:AA:148:C:O2	33:A1:143:ARG:HD3	2.17	0.45
2:AA:298:A:H61	2:AA:1006:U:H3	1.65	0.45
2:AA:694:A:O2'	2:AA:695:A:O5'	2.35	0.45
2:AA:1052:G:C2	2:AA:1075:G:N1	2.85	0.45
7:BE:46:C:OP1	71:BT:60:ARG:NE	2.47	0.45
16:AI:79:LYS:HB2	16:AI:79:LYS:NZ	2.30	0.45
21:AP:89:GLU:HG2	21:AP:90:MET:N	2.32	0.45
23:AS:60:LYS:HE3	23:AS:116:PRO:HA	1.99	0.45
48:Bd:22:LYS:O	73:BU:84:THR:HG22	2.17	0.45
1:BA:616:G:H5''	1:BA:706:G:H1'	1.99	0.44
1:BA:1134:A:H2'	1:BA:1135:G:C8	2.52	0.44
1:BA:1865:G:OP2	1:BA:1865:G:N2	2.42	0.44
2:AA:1237:U:H1'	43:AG:52:MET:HG3	1.98	0.44
2:AA:1782:G:H1	2:AA:1818:G:H1	1.65	0.44
3:BB:440:U:OP1	49:Be:54:ARG:NH2	2.42	0.44
3:BB:1513:G:H22	3:BB:1534:G:H22	1.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:BG:74:G:H5'	52:Bf:226:THR:HG21	1.99	0.44
8:BD:63:C:O2'	8:BD:64:A:OP1	2.30	0.44
18:AK:23:ALA:HB2	18:AK:75:VAL:HG13	1.99	0.44
18:AK:67:SER:OG	18:AK:68:ARG:N	2.50	0.44
57:BL:154:ARG:NH1	57:BL:154:ARG:HB3	2.32	0.44
75:BV:83:MET:HE3	75:BV:83:MET:HA	1.97	0.44
1:BA:1652:U:C5	67:BR:46:GLN:HG3	2.52	0.44
1:BA:1665:A2M:HM'3	1:BA:1665:A2M:H1'	1.71	0.44
2:AA:1035:G:H2'	2:AA:1036:C:C6	2.52	0.44
3:BB:631:A:H2'	3:BB:632:A:C8	2.52	0.44
3:BB:1062:OMG:HM23	3:BB:1062:OMG:H1'	1.81	0.44
7:BE:49:G:O2'	7:BE:50:G:OP2	2.31	0.44
15:AH:57:ALA:C	15:AH:59:ARG:H	2.25	0.44
25:AU:54:ASP:OD1	25:AU:54:ASP:C	2.60	0.44
35:A3:38:ASP:C	35:A3:38:ASP:OD2	2.60	0.44
58:Bl:103:SER:OG	58:Bl:104:ASN:N	2.50	0.44
1:BA:1207:U:H3'	1:BA:1208:U:H6	1.82	0.44
2:AA:866:G:HO2'	2:AA:867:C:H6	1.63	0.44
2:AA:1838:C:H2'	2:AA:1839:C:C6	2.52	0.44
3:BB:1487:G:H22	3:BB:1505:G:N2	2.15	0.44
5:BG:51:U:H2'	5:BG:52:A:C8	2.51	0.44
15:AH:91:ARG:NH2	15:AH:93:THR:O	2.50	0.44
1:BA:442:G:N1	1:BA:445:A:OP2	2.48	0.44
2:AA:1936:A:H2'	2:AA:1937:C:C6	2.52	0.44
3:BB:1058:G:H2'	3:BB:1059:C:H6	1.82	0.44
7:BE:46:C:H41	7:BE:179:U:H3	1.65	0.44
8:BD:60:C:H2'	8:BD:61:C:H6	1.83	0.44
8:BD:79:G:H2'	8:BD:80:G:H8	1.83	0.44
21:AP:116:ASP:OD2	21:AP:116:ASP:C	2.60	0.44
52:Bf:204:LEU:HD23	52:Bf:204:LEU:HA	1.85	0.44
60:BN:145:GLU:O	60:BN:149:LYS:HG2	2.16	0.44
65:Bq:21:ARG:HE	65:Bq:21:ARG:HB3	1.53	0.44
85:BP:45:LYS:HA	85:BP:47:TRP:CZ3	2.53	0.44
86:AF:57:LEU:HG	86:AF:124:LEU:HD11	2.00	0.44
1:BA:356:A:H2'	1:BA:357:G:C8	2.52	0.44
1:BA:753:A:H2'	1:BA:754:A:C8	2.52	0.44
1:BA:1502:U:O2'	1:BA:1503:A:H8	2.00	0.44
2:AA:95:C:O2'	2:AA:97:C:OP1	2.33	0.44
2:AA:182:U:O2'	2:AA:183:U:O5'	2.36	0.44
2:AA:369:C:H5	2:AA:376:G:H1	1.64	0.44
2:AA:1011:A:H3'	2:AA:1012:A:H5''	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1827:C:H41	20:AO:139:ARG:HH11	1.65	0.44
4:BH:65:G:H2'	4:BH:66:G:C8	2.52	0.44
31:AL:22:SER:O	31:AL:23:LYS:HG2	2.17	0.44
32:A0:202:ARG:HA	32:A0:202:ARG:HD2	1.87	0.44
67:BR:118:GLN:NE2	67:BR:120:ASP:OD2	2.40	0.44
74:Bu:10:LYS:HE3	74:Bu:10:LYS:HB2	1.78	0.44
86:AF:60:ARG:HG2	86:AF:60:ARG:HH11	1.82	0.44
1:BA:244:C:H2'	1:BA:245:C:H6	1.83	0.44
2:AA:769:G:N2	2:AA:781:U:O2	2.35	0.44
2:AA:949:C:H3'	2:AA:950:A:H8	1.82	0.44
2:AA:1267:C:H2'	2:AA:1268:A:O4'	2.17	0.44
2:AA:1321:U:H2'	2:AA:1322:U:C6	2.53	0.44
3:BB:487:G:H2'	3:BB:488:A:C8	2.53	0.44
3:BB:685:OMU:HM23	3:BB:685:OMU:H1'	1.67	0.44
3:BB:1132:G:N3	3:BB:1132:G:H2'	2.32	0.44
3:BB:1264:OMC:HM23	3:BB:1264:OMC:H1'	1.84	0.44
9:BC:146:U:H4'	78:BX:69:SER:O	2.18	0.44
14:Az:233:LYS:HB2	14:Az:233:LYS:HE3	1.81	0.44
17:AJ:43:LYS:HE3	17:AJ:43:LYS:HB3	1.76	0.44
58:Bl:12:ALA:C	58:Bl:14:ASN:H	2.25	0.44
79:Bw:57:LYS:HE2	79:Bw:57:LYS:HB2	1.59	0.44
1:BA:1648:U:O2'	44:Bh:163:ARG:NH1	2.51	0.44
3:BB:671:C:H2'	3:BB:672:U:H6	1.82	0.44
3:BB:1516:G:H2'	3:BB:1517:G:H8	1.82	0.44
9:BC:60:U:O4	56:Bk:63:ASN:ND2	2.47	0.44
39:A7:200:THR:O	39:A7:214:SER:HB3	2.17	0.44
42:AE:71:ASP:OD2	42:AE:129:PRO:HD3	2.17	0.44
60:BN:136:LYS:HZ2	60:BN:137:LYS:HG3	1.83	0.44
74:Bu:83:LEU:HB3	74:Bu:88:ILE:HB	2.00	0.44
86:AF:66:VAL:O	86:AF:122:SER:HA	2.18	0.44
2:AA:725:G:N1	2:AA:1247:A:OP1	2.51	0.44
3:BB:379:U:H4'	3:BB:380:A:O5'	2.17	0.44
4:BH:70:U:H2'	4:BH:71:C:C6	2.52	0.44
21:AP:116:ASP:OD2	21:AP:118:ASN:N	2.50	0.44
36:A4:67:LEU:HA	36:A4:99:VAL:O	2.18	0.44
75:BV:74:GLU:OE2	75:BV:74:GLU:N	2.51	0.44
77:BW:122:LYS:HB3	77:BW:122:LYS:HE2	1.85	0.44
82:By:40:LEU:HD23	82:By:40:LEU:HA	1.79	0.44
1:BA:33:C:H4'	66:BQ:113:LYS:HD2	2.00	0.44
1:BA:1204:U:H4'	74:Bu:46:THR:HG21	1.99	0.44
2:AA:546:A:H2'	2:AA:546:A:N3	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1321:U:H3	2:AA:1476:A:H61	1.64	0.44
2:AA:2167:G:H2'	2:AA:2168:U:C6	2.52	0.44
57:BL:97:GLU:HA	57:BL:176:GLY:O	2.18	0.44
74:Bu:245:MET:N	74:Bu:245:MET:HE2	2.32	0.44
79:Bw:134:LEU:HD23	79:Bw:134:LEU:HA	1.82	0.44
86:AF:73:ASP:OD1	86:AF:76:TYR:N	2.47	0.44
1:BA:1112:U:H2'	1:BA:1113:U:C6	2.53	0.43
11:AQ:41:ARG:HG2	11:AQ:41:ARG:HH11	1.83	0.43
45:Ba:12:MET:HE3	45:Ba:12:MET:HB3	1.90	0.43
60:BN:211:GLU:OE2	60:BN:211:GLU:HA	2.18	0.43
71:BT:173:ALA:C	71:BT:175:LYS:H	2.26	0.43
80:Bx:194:LYS:HD2	80:Bx:194:LYS:HA	1.74	0.43
83:BZ:24:ARG:O	83:BZ:28:MET:HG3	2.18	0.43
1:BA:299:C:H2'	1:BA:300:G:O4'	2.18	0.43
1:BA:1088:G:H2'	1:BA:1089:C:C6	2.52	0.43
2:AA:424:U:H2'	2:AA:425:G:C8	2.53	0.43
2:AA:2215:G:H2'	2:AA:2216:C:C6	2.52	0.43
3:BB:491:C:H2'	3:BB:492:A:H8	1.83	0.43
7:BE:113:C:H4'	7:BE:114:U:O4'	2.18	0.43
21:AP:88:ASP:HB3	21:AP:114:VAL:HG23	2.00	0.43
25:AU:51:GLU:H	25:AU:51:GLU:CD	2.25	0.43
81:BY:14:HIS:HB3	81:BY:15:PRO:HD2	2.00	0.43
85:BP:72:LYS:HE2	85:BP:72:LYS:HB2	1.71	0.43
2:AA:188:A:H2'	2:AA:189:A:O4'	2.18	0.43
2:AA:974:G:N3	2:AA:974:G:H2'	2.33	0.43
2:AA:1236:C:H5'	27:AW:29:PRO:HB3	1.99	0.43
2:AA:2215:G:H2'	2:AA:2216:C:H6	1.82	0.43
3:BB:1139:A:H2'	3:BB:1140:A:C8	2.53	0.43
9:BC:26:U:H2'	9:BC:27:U:C6	2.53	0.43
23:AS:24:ASP:OD1	23:AS:24:ASP:N	2.41	0.43
52:Bf:291:GLY:HA3	52:Bf:328:TYR:CE1	2.53	0.43
75:BV:16:GLN:O	75:BV:17:ARG:HB3	2.18	0.43
77:BW:7:ASN:OD1	77:BW:7:ASN:N	2.52	0.43
1:BA:1204:U:OP1	74:Bu:43:LYS:NZ	2.51	0.43
2:AA:423:G:H5'	37:A5:98:LYS:HB3	1.99	0.43
2:AA:1052:G:C2	2:AA:1053:U:C4	3.06	0.43
2:AA:1128:U:H2'	2:AA:1129:C:C6	2.53	0.43
2:AA:2044:A:H2'	2:AA:2045:PSU:C6	2.52	0.43
3:BB:837:C:H5	3:BB:970:C:H41	1.66	0.43
6:BF:56:A:OP2	58:Bl:33:ARG:NH1	2.51	0.43
35:A3:182:LEU:HD23	35:A3:182:LEU:HA	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BK:87:MET:HG3	55:BK:138:MET:HB2	2.01	0.43
71:BT:144:LYS:HB2	71:BT:144:LYS:NZ	2.34	0.43
85:BP:109:GLU:HG2	85:BP:109:GLU:H	1.46	0.43
1:BA:83:U:H2'	1:BA:84:C:C6	2.54	0.43
1:BA:103:A:H3'	1:BA:104:G:H21	1.83	0.43
1:BA:996:A2M:H1'	1:BA:996:A2M:HM'3	1.70	0.43
1:BA:1134:A:H2'	1:BA:1135:G:H8	1.84	0.43
2:AA:275:G:O2'	2:AA:276:U:H5'	2.18	0.43
2:AA:800:C:HO2'	2:AA:801:G:P	2.36	0.43
2:AA:1138:A:H8	2:AA:1138:A:OP2	2.02	0.43
2:AA:1880:U:O2	31:AL:3:LYS:HE2	2.19	0.43
2:AA:2204:U:H2'	2:AA:2205:C:H6	1.83	0.43
19:AM:95:LYS:HE2	19:AM:95:LYS:HB2	1.76	0.43
40:AC:60:HIS:HB3	40:AC:87:ILE:HD11	2.01	0.43
46:Bb:134:ILE:HG21	46:Bb:141:VAL:HG23	2.00	0.43
53:BI:47:LEU:HD12	53:BI:47:LEU:HA	1.85	0.43
57:BL:168:LYS:HA	57:BL:168:LYS:HD2	1.79	0.43
69:BS:157:ARG:HG2	69:BS:157:ARG:NH1	2.33	0.43
74:Bu:36:MET:HE2	74:Bu:36:MET:HB2	1.86	0.43
1:BA:1340:A:O2'	1:BA:1341:A:O5'	2.35	0.43
1:BA:1502:U:O2'	1:BA:1503:A:C8	2.69	0.43
2:AA:421:C:H2'	2:AA:422:C:C6	2.54	0.43
2:AA:971:U:H2'	2:AA:972:C:C6	2.54	0.43
2:AA:1069:U:O2'	2:AA:1070:G:OP1	2.33	0.43
2:AA:1172:G:H2'	2:AA:1173:U:C6	2.54	0.43
3:BB:817:C:H4'	3:BB:818:G:O5'	2.18	0.43
4:BH:29:G:H2'	4:BH:30:C:C6	2.53	0.43
9:BC:151:G:H2'	9:BC:152:C:H6	1.83	0.43
15:AH:99:LYS:HE3	15:AH:99:LYS:HB2	1.82	0.43
63:Bo:13:ARG:NH1	63:Bo:30:GLU:OE2	2.49	0.43
68:Br:177:ASP:OD1	68:Br:177:ASP:N	2.50	0.43
70:Bs:94:LYS:HD2	70:Bs:105:VAL:O	2.18	0.43
71:BT:105:LEU:HD23	71:BT:138:LEU:HD23	2.00	0.43
75:BV:103:LEU:HB3	75:BV:107:ILE:HD13	2.00	0.43
76:Bv:54:LEU:HD12	76:Bv:59:PRO:HD2	2.01	0.43
86:AF:124:LEU:HD23	86:AF:124:LEU:HA	1.81	0.43
1:BA:367:G:N7	59:Bm:39:ALA:HB2	2.33	0.43
2:AA:1230:G:H2'	2:AA:1231:G:C8	2.54	0.43
2:AA:2219:C:H2'	2:AA:2220:A:C8	2.54	0.43
3:BB:67:G:O6	44:Bh:103:LYS:NZ	2.51	0.43
4:BH:65:G:H2'	4:BH:66:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:BD:22:A:H2'	8:BD:23:A:C8	2.54	0.43
12:A8:6:GLN:O	12:A8:6:GLN:HG2	2.18	0.43
52:Bf:19:ARG:HB2	52:Bf:237:ARG:NH2	2.33	0.43
52:Bf:221:ASP:HB2	52:Bf:346:ARG:HG2	1.99	0.43
56:Bk:59:MET:HB3	56:Bk:59:MET:HE3	1.78	0.43
1:BA:28:A:H2'	1:BA:29:C:H6	1.84	0.43
2:AA:1013:G:N3	2:AA:1013:G:H2'	2.34	0.43
2:AA:1122:G:H2'	2:AA:1123:C:C6	2.54	0.43
2:AA:1531:OMG:OP1	50:Bz:20:LYS:NZ	2.48	0.43
3:BB:1336:U:H2'	3:BB:1337:U:C6	2.54	0.43
3:BB:1486:G:H1	3:BB:1506:G:H1	1.67	0.43
3:BB:1494:G:N2	3:BB:1496:U:H3	2.17	0.43
24:AT:68:LYS:HB3	24:AT:68:LYS:HE2	1.76	0.43
37:A5:213:LYS:HE3	37:A5:213:LYS:HB2	1.67	0.43
41:AD:78:GLU:CD	41:AD:78:GLU:N	2.77	0.43
59:Bm:69:LEU:HD13	59:Bm:99:GLU:HG3	2.00	0.43
1:BA:743:A2M:H1'	1:BA:743:A2M:HM'3	1.72	0.43
1:BA:805:U:H2'	1:BA:806:C:C6	2.53	0.43
2:AA:835:A:H2'	2:AA:836:A:C8	2.54	0.43
2:AA:932:C:H41	2:AA:937:C:N4	2.17	0.43
2:AA:982:G:N2	2:AA:1013:G:H22	2.16	0.43
2:AA:1124:G:H2'	2:AA:1125:G:C8	2.53	0.43
3:BB:496:A:H2'	3:BB:497:C:H6	1.83	0.43
3:BB:967:A:H3'	3:BB:968:C:H6	1.83	0.43
31:AL:100:ARG:N	31:AL:100:ARG:HD2	2.34	0.43
39:A7:139:LYS:HB2	39:A7:139:LYS:HE2	1.74	0.43
44:Bh:36:ARG:HH11	44:Bh:40:ARG:HE	1.67	0.43
47:Bc:121:LYS:HE3	47:Bc:121:LYS:HB2	1.84	0.43
60:BN:176:LYS:HE3	60:BN:176:LYS:HB2	1.71	0.43
61:Bn:17:ILE:HG12	61:Bn:29:VAL:HG22	2.01	0.43
76:Bv:101:GLU:HA	76:Bv:104:LYS:HB3	2.01	0.43
1:BA:822:U:H5	1:BA:833:A:N1	2.17	0.43
2:AA:752:A:H2'	2:AA:753:G:C2	2.53	0.43
3:BB:95:A2M:H1'	3:BB:95:A2M:HM'3	1.65	0.43
3:BB:643:U:H2'	3:BB:644:PSU:C6	2.54	0.43
21:AP:83:GLU:OE2	21:AP:84:GLY:N	2.49	0.43
26:AV:53:ARG:O	26:AV:57:GLU:HG2	2.19	0.43
31:AL:36:MET:HE3	31:AL:36:MET:HB3	1.76	0.43
47:Bc:17:LYS:HD3	68:Br:140:GLY:HA2	2.01	0.43
47:Bc:74:LYS:HD2	68:Br:147:ALA:HA	2.01	0.43
49:Be:129:ALA:HB3	49:Be:132:ASP:OD2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:Bu:132:VAL:C	74:Bu:139:GLN:HE21	2.24	0.43
1:BA:1088:G:H2'	1:BA:1089:C:H6	1.84	0.42
2:AA:1757:C:H5	2:AA:1837:G:H22	1.67	0.42
2:AA:1896:G:H2'	2:AA:1897:U:C6	2.54	0.42
3:BB:640:G:H2'	3:BB:641:A:C8	2.54	0.42
3:BB:1480:A:H2'	3:BB:1481:G:O4'	2.18	0.42
20:AO:27:HIS:HB3	20:AO:30:ARG:HG3	2.01	0.42
33:A1:165:LYS:NZ	33:A1:165:LYS:HB3	2.33	0.42
39:A7:269:ASP:OD1	39:A7:269:ASP:N	2.52	0.42
43:AG:43:LYS:HE3	43:AG:43:LYS:HB2	1.83	0.42
60:BN:93:ARG:HD2	60:BN:93:ARG:HA	1.80	0.42
1:BA:1580:C:H2'	1:BA:1581:U:H6	1.83	0.42
1:BA:1837:G:H2'	1:BA:1839:A:N7	2.33	0.42
2:AA:298:A:H8	2:AA:998:A:H2	1.67	0.42
2:AA:611:U:H2'	2:AA:612:G:C8	2.54	0.42
3:BB:838:U:H2'	3:BB:839:G:C8	2.53	0.42
3:BB:1500:U:H2'	3:BB:1501:U:H1'	2.00	0.42
5:BG:2:U:H2'	5:BG:3:G:C8	2.53	0.42
7:BE:8:A:H2	7:BE:104:U:H4'	1.84	0.42
19:AM:87:ARG:HA	19:AM:87:ARG:HD3	1.46	0.42
34:A2:37:HIS:CD2	34:A2:72:LYS:HG2	2.54	0.42
39:A7:140:GLY:C	39:A7:141:GLU:HG2	2.44	0.42
45:Ba:5:LYS:HB3	45:Ba:5:LYS:HE2	1.78	0.42
73:BU:17:LYS:HD3	73:BU:22:HIS:HA	2.01	0.42
85:BP:95:ARG:HE	85:BP:99:LYS:NZ	2.18	0.42
85:BP:136:PRO:HB3	85:BP:141:LYS:HB3	2.01	0.42
1:BA:303:G:H2'	1:BA:304:C:C6	2.55	0.42
1:BA:954:U:H2'	1:BA:955:G:O4'	2.19	0.42
2:AA:750:G:C6	2:AA:751:U:C5	3.07	0.42
3:BB:990:A:H5'	3:BB:991:A:C5'	2.49	0.42
7:BE:51:U:O4	75:BV:88:LYS:NZ	2.47	0.42
14:Az:208:LYS:C	14:Az:209:GLU:HG3	2.45	0.42
36:A4:32:LEU:HD21	36:A4:90:ARG:NH2	2.35	0.42
39:A7:176:ASN:ND2	39:A7:196:THR:O	2.53	0.42
42:AE:62:LYS:HA	42:AE:62:LYS:HD3	1.90	0.42
64:Bp:18:LYS:HE3	64:Bp:18:LYS:HA	2.00	0.42
69:BS:27:TYR:HB3	73:BU:146:LEU:HD22	2.01	0.42
1:BA:612:U:O2	68:Br:314:ARG:NH2	2.50	0.42
2:AA:868:A:N1	2:AA:878:U:C5	2.85	0.42
2:AA:1027:A:H8	71:BT:181:ARG:HD3	1.84	0.42
2:AA:1055:U:O2	2:AA:1072:G:N2	2.30	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:2112:U:H2'	2:AA:2113:C:C6	2.54	0.42
3:BB:1526:U:O2'	3:BB:1527:G:H8	2.03	0.42
6:BF:53:C:C2	76:Bv:182:LYS:HD3	2.55	0.42
36:A4:20:GLN:OE1	36:A4:20:GLN:HA	2.20	0.42
39:A7:35:SER:OG	39:A7:36:ARG:N	2.53	0.42
39:A7:111:ASP:OD1	39:A7:111:ASP:N	2.52	0.42
58:Bl:68:THR:HG22	58:Bl:71:ASP:H	1.85	0.42
61:Bn:20:ARG:NH1	61:Bn:39:TYR:OH	2.52	0.42
69:BS:139:LEU:HD13	69:BS:139:LEU:HA	1.92	0.42
73:BU:107:GLN:O	73:BU:107:GLN:NE2	2.52	0.42
82:By:114:LEU:HD11	82:By:165:VAL:HG22	2.02	0.42
2:AA:702:U:H2'	2:AA:703:A:C8	2.55	0.42
2:AA:1227:C:H2'	2:AA:1228:A:C8	2.53	0.42
2:AA:2238:C:H2'	2:AA:2239:G:O4'	2.18	0.42
3:BB:1337:U:H2'	3:BB:1338:C:C6	2.54	0.42
3:BB:1486:G:H1	3:BB:1506:G:N2	2.14	0.42
8:BD:69:U:H2'	8:BD:70:C:C6	2.54	0.42
18:AK:146:LYS:NZ	91:AK:201:HOH:O	2.52	0.42
28:AX:116:ARG:HH11	28:AX:116:ARG:HG3	1.84	0.42
42:AE:40:LYS:HD3	42:AE:41:HIS:CE1	2.54	0.42
52:Bf:57:VAL:HB	52:Bf:365:PHE:HB3	2.00	0.42
56:Bk:77:LYS:C	56:Bk:79:LEU:H	2.27	0.42
2:AA:829:U:H2'	2:AA:830:A:C8	2.54	0.42
2:AA:1473:C:H2'	2:AA:1474:U:H6	1.83	0.42
2:AA:1643:A:H3'	2:AA:1644:U:H5''	2.01	0.42
3:BB:125:C:H2'	3:BB:126:U:C6	2.54	0.42
3:BB:1054:U:H2'	3:BB:1055:U:C6	2.55	0.42
5:BG:178:G:H2'	5:BG:179:C:C6	2.54	0.42
8:BD:110:G:H2'	8:BD:111:U:C6	2.54	0.42
35:A3:54:ARG:HA	35:A3:54:ARG:HD2	1.93	0.42
39:A7:137:ASN:ND2	39:A7:139:LYS:O	2.52	0.42
44:Bh:99:ARG:HE	44:Bh:99:ARG:HB2	1.52	0.42
45:Ba:9:VAL:O	45:Ba:82:THR:HB	2.20	0.42
46:Bb:27:LYS:H	46:Bb:27:LYS:HG2	1.65	0.42
46:Bb:84:LYS:HA	46:Bb:84:LYS:HD2	1.85	0.42
59:Bm:66:GLN:NE2	59:Bm:102:LEU:HD11	2.34	0.42
60:BN:8:ILE:HA	60:BN:9:PRO:HD3	1.90	0.42
62:BO:107:PRO:O	62:BO:113:GLY:HA3	2.20	0.42
69:BS:15:GLU:O	69:BS:24:PRO:HG2	2.20	0.42
1:BA:501:G:H2'	1:BA:502:U:C6	2.55	0.42
1:BA:630:G:C2'	1:BA:631:G:H5'	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:321:A:H2'	2:AA:322:G:O4'	2.19	0.42
2:AA:833:A:H2'	2:AA:895:G:N2	2.34	0.42
2:AA:2159:C:H2'	2:AA:2160:A:H8	1.84	0.42
3:BB:1058:G:H2'	3:BB:1059:C:C6	2.54	0.42
3:BB:1335:C:H2'	3:BB:1336:U:C6	2.55	0.42
18:AK:53:LYS:HA	18:AK:53:LYS:HD2	1.78	0.42
24:AT:93:GLU:HB3	24:AT:98:LYS:HD2	2.02	0.42
39:A7:148:ARG:HH22	39:A7:187:ARG:HH12	1.66	0.42
55:BK:66:GLU:OE2	55:BK:69:ARG:NH1	2.52	0.42
64:Bp:18:LYS:HD3	64:Bp:19:ASP:N	2.29	0.42
80:Bx:239:SER:O	80:Bx:243:ARG:HG3	2.18	0.42
82:By:90:VAL:HG22	82:By:142:LEU:HB3	2.01	0.42
1:BA:818:G:OP1	46:Bb:128:LYS:HG2	2.20	0.42
2:AA:771:C:H2'	2:AA:772:C:C6	2.55	0.42
3:BB:621:A:H2'	3:BB:622:A2M:H8	2.02	0.42
3:BB:798:G:O2'	3:BB:799:G:H5'	2.19	0.42
3:BB:1098:U:H4'	3:BB:1099:A:O4'	2.20	0.42
7:BE:186:U:O2'	7:BE:187:C:O5'	2.38	0.42
8:BD:47:U:H2'	8:BD:48:G:H5''	2.01	0.42
8:BD:58:G:H2'	8:BD:59:G:H8	1.85	0.42
9:BC:18:G:H2'	9:BC:19:A:C8	2.55	0.42
18:AK:21:ALA:HB2	18:AK:78:SER:HB3	2.02	0.42
49:Be:93:LYS:HB2	49:Be:93:LYS:HE3	1.91	0.42
57:BL:34:GLY:O	57:BL:38:THR:HG23	2.19	0.42
66:BQ:138:VAL:HG21	66:BQ:148:GLU:HG3	2.02	0.42
68:Br:369:LYS:HD2	68:Br:369:LYS:O	2.20	0.42
2:AA:973:A:H8	2:AA:974:G:H5'	1.85	0.42
3:BB:656:C:O2'	52:Bf:271:ARG:NH2	2.44	0.42
4:BH:5:G:H2'	4:BH:6:U:H6	1.83	0.42
6:BF:37:C:H2'	6:BF:38:C:C6	2.55	0.42
9:BC:43:A2M:H1'	9:BC:43:A2M:HM'3	1.79	0.42
16:AI:75:LYS:HB2	16:AI:75:LYS:HE2	1.71	0.42
17:AJ:47:ILE:HG13	17:AJ:48:GLY:H	1.84	0.42
21:AP:85:ASP:O	21:AP:116:ASP:HA	2.20	0.42
39:A7:30:LYS:HE3	39:A7:56:TYR:CE2	2.55	0.42
69:BS:145:HIS:N	69:BS:146:PRO:HD2	2.35	0.42
76:Bv:67:LYS:HB2	76:Bv:67:LYS:HE3	1.76	0.42
1:BA:1063:U:H5	1:BA:1602:G:OP1	2.03	0.42
1:BA:1357:U:H2'	1:BA:1358:A:N3	2.35	0.42
2:AA:1027:A:H3'	2:AA:1027:A:N3	2.35	0.42
2:AA:1676:OMG:HM23	2:AA:1676:OMG:H1'	1.79	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:BB:670:C:H2'	3:BB:671:C:C6	2.54	0.42
6:BF:56:A:H5'	6:BF:57:G:C8	2.54	0.42
7:BE:64:C:H2'	7:BE:65:A:H8	1.85	0.42
7:BE:214:G:C2	7:BE:215:U:C5	3.08	0.42
41:AD:44:LEU:HD12	41:AD:48:GLN:HB2	2.02	0.42
42:AE:56:LEU:O	42:AE:58:PHE:N	2.46	0.42
1:BA:244:C:H2'	1:BA:245:C:C6	2.55	0.41
1:BA:1686:G:H2'	1:BA:1687:U:C6	2.55	0.41
1:BA:1813:U:H2'	1:BA:1814:G:O4'	2.20	0.41
2:AA:702:U:H2'	2:AA:703:A:H8	1.84	0.41
2:AA:826:A:N6	2:AA:827:G:O6	2.53	0.41
2:AA:2218:U:H2'	2:AA:2219:C:H6	1.85	0.41
3:BB:967:A:H3'	3:BB:968:C:C6	2.54	0.41
11:AQ:21:MET:HG2	11:AQ:109:VAL:HG22	2.02	0.41
15:AH:98:THR:C	15:AH:100:SER:H	2.28	0.41
16:AI:21:LYS:HB3	16:AI:21:LYS:HE2	1.76	0.41
33:A1:149:PRO:HG2	35:A3:219:ARG:NH1	2.35	0.41
36:A4:56:SER:HB2	36:A4:58:ARG:HH11	1.85	0.41
36:A4:122:THR:HG22	36:A4:125:ALA:H	1.85	0.41
49:Be:98:ILE:HD13	49:Be:166:ILE:HG22	2.02	0.41
69:BS:94:LYS:HE2	69:BS:94:LYS:HB3	1.90	0.41
71:BT:31:GLU:N	71:BT:31:GLU:CD	2.78	0.41
1:BA:341:A:H2'	1:BA:342:C:C6	2.54	0.41
1:BA:895:G:C2'	1:BA:896:G:H5'	2.51	0.41
2:AA:315:G:H1'	2:AA:316:G:H5'	2.02	0.41
2:AA:499:U:H2'	2:AA:500:A:C8	2.56	0.41
2:AA:1871:A:H2'	2:AA:1872:A:C8	2.55	0.41
2:AA:2153:A2M:H1'	2:AA:2153:A2M:HM'3	1.72	0.41
5:BG:2:U:H2'	5:BG:3:G:H8	1.84	0.41
5:BG:103:C:H2'	5:BG:104:A:H8	1.86	0.41
7:BE:50:G:HO2'	7:BE:51:U:H6	1.67	0.41
12:A8:55:LYS:HB3	12:A8:55:LYS:HE3	1.74	0.41
19:AM:60:LEU:HD23	19:AM:60:LEU:HA	1.92	0.41
32:A0:192:ARG:HG2	32:A0:192:ARG:HH11	1.85	0.41
33:A1:94:ASP:HB3	33:A1:96:PHE:CE2	2.54	0.41
43:AG:125:LEU:HD12	43:AG:125:LEU:HA	1.90	0.41
45:Ba:95:ARG:HE	45:Ba:110:LEU:HD11	1.86	0.41
63:Bo:50:LYS:O	63:Bo:54:ILE:HB	2.20	0.41
71:BT:84:THR:HG22	71:BT:86:GLU:H	1.84	0.41
1:BA:913:C:H2'	1:BA:914:U:C6	2.54	0.41
1:BA:1024:A2M:HM'3	1:BA:1024:A2M:H1'	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BA:1315:C:H5''	58:Bl:119:SER:OG	2.20	0.41
1:BA:1316:U:H5	1:BA:1457:A:N7	2.18	0.41
2:AA:1184:A:H2'	2:AA:1185:U:C6	2.56	0.41
2:AA:2203:U:H2'	2:AA:2204:U:H6	1.85	0.41
3:BB:372:A:H2'	3:BB:373:A:C8	2.55	0.41
13:A9:138:LYS:HB2	13:A9:138:LYS:HE2	1.87	0.41
14:Az:157:VAL:HG21	14:Az:227:ARG:O	2.20	0.41
14:Az:231:LYS:HE3	14:Az:231:LYS:HB2	1.79	0.41
23:AS:11:ARG:NH2	42:AE:118:LYS:O	2.32	0.41
31:AL:100:ARG:HA	31:AL:121:LEU:O	2.20	0.41
34:A2:126:ASP:OD1	34:A2:126:ASP:N	2.53	0.41
40:AC:46:MET:HB2	40:AC:91:TRP:CE2	2.55	0.41
59:Bm:54:ASP:OD1	59:Bm:54:ASP:C	2.63	0.41
60:BN:72:MET:SD	60:BN:72:MET:N	2.75	0.41
78:BX:160:LYS:HE2	78:BX:160:LYS:HB2	1.82	0.41
82:By:131:TYR:O	82:By:142:LEU:HD12	2.20	0.41
2:AA:311:A:N3	2:AA:311:A:H2'	2.34	0.41
2:AA:386:U:H2'	2:AA:387:A:H8	1.85	0.41
2:AA:1382:A:O2'	2:AA:1384:U:OP1	2.37	0.41
5:BG:148:C:O2'	5:BG:149:U:O2	2.31	0.41
19:AM:88:GLN:HA	19:AM:96:THR:HG23	2.02	0.41
26:AV:73:MET:HE3	26:AV:73:MET:HB2	1.88	0.41
28:AX:134:GLU:HG3	28:AX:152:ARG:HG2	2.02	0.41
38:A6:1:MET:HB3	38:A6:1:MET:HE2	1.81	0.41
41:AD:88:TYR:CD1	86:AF:42:GLU:HG2	2.55	0.41
55:BK:187:ALA:O	55:BK:189:LYS:N	2.51	0.41
74:Bu:95:TYR:CD2	74:Bu:204:ARG:HG2	2.55	0.41
1:BA:356:A:H2'	1:BA:357:G:H8	1.85	0.41
1:BA:1742:OMU:H1'	1:BA:1742:OMU:HM23	1.62	0.41
2:AA:762:C:H3'	2:AA:763:G:H8	1.84	0.41
2:AA:930:G:H1	2:AA:939:A:H2	1.66	0.41
2:AA:1391:U:OP2	2:AA:1391:U:H6	2.03	0.41
2:AA:1652:OMU:HM23	2:AA:1652:OMU:H1'	1.89	0.41
2:AA:2087:A:H2'	2:AA:2088:G:C8	2.55	0.41
5:BG:149:U:H1'	5:BG:150:A:H5'	2.03	0.41
14:Az:208:LYS:O	14:Az:209:GLU:HG3	2.21	0.41
15:AH:98:THR:O	15:AH:99:LYS:HB3	2.21	0.41
16:AI:72:LYS:NZ	16:AI:72:LYS:HB3	2.36	0.41
25:AU:54:ASP:O	25:AU:58:LYS:HD3	2.20	0.41
26:AV:86:ARG:HG2	26:AV:86:ARG:NH1	2.34	0.41
43:AG:32:ASP:OD1	43:AG:32:ASP:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BK:49:CYS:HB2	55:BK:172:GLY:HA2	2.01	0.41
58:Bl:91:ARG:HA	58:Bl:91:ARG:HD2	1.95	0.41
68:Br:312:ARG:H	68:Br:312:ARG:HG3	1.57	0.41
85:BP:39:GLU:HG3	85:BP:40:ASN:N	2.35	0.41
86:AF:94:MET:HE3	86:AF:96:GLU:H	1.85	0.41
1:BA:779:G:H2'	1:BA:780:G:C8	2.55	0.41
1:BA:1308:G:H2'	1:BA:1309:U:C6	2.55	0.41
2:AA:500:A:H2'	2:AA:501:C:C6	2.56	0.41
2:AA:828:A:HO2'	2:AA:829:U:P	2.43	0.41
2:AA:972:C:N3	2:AA:1131:A:C2	2.88	0.41
2:AA:1490:A:H2'	2:AA:1491:A:C8	2.55	0.41
2:AA:2016:A:H2'	2:AA:2017:A:C8	2.56	0.41
3:BB:469:U:H2'	3:BB:470:G:H21	1.85	0.41
3:BB:1532:G:C2	3:BB:1533:C:C2	3.09	0.41
5:BG:18:U:O2'	5:BG:19:C:OP1	2.34	0.41
8:BD:59:G:H2'	8:BD:60:C:H6	1.86	0.41
16:AI:45:HIS:H	16:AI:45:HIS:CD2	2.38	0.41
21:AP:176:ALA:HB3	21:AP:211:CYS:SG	2.60	0.41
30:AZ:58:GLN:HG3	30:AZ:79:ASN:OD1	2.20	0.41
37:A5:34:ALA:HB2	37:A5:56:ARG:HD3	2.02	0.41
39:A7:174:TRP:HA	39:A7:198:TYR:HB2	2.02	0.41
44:Bh:31:LYS:HE3	44:Bh:31:LYS:HB3	1.78	0.41
47:Bc:37:ASN:HB3	47:Bc:39:THR:HG23	2.01	0.41
49:Be:96:LEU:O	63:Bo:87:ARG:HD3	2.20	0.41
68:Br:59:MET:HE3	68:Br:59:MET:HB3	1.91	0.41
73:BU:149:ARG:O	73:BU:150:THR:HG22	2.21	0.41
77:BW:61:MET:HE3	77:BW:61:MET:HB3	1.91	0.41
80:Bx:103:LEU:HD23	80:Bx:103:LEU:HA	1.93	0.41
1:BA:97:G:H2'	1:BA:98:A:C8	2.55	0.41
1:BA:315:C:H2'	1:BA:316:C:C6	2.56	0.41
1:BA:1202:G:O6	1:BA:1209:U:O4	2.38	0.41
2:AA:1032:G:O2'	2:AA:1033:C:H5'	2.21	0.41
2:AA:1223:U:H2'	2:AA:1224:C:C6	2.55	0.41
2:AA:2036:G:N2	2:AA:2062:G:H1'	2.35	0.41
3:BB:407:A:OP2	3:BB:588:A2M:H8	2.20	0.41
5:BG:2:U:H5	5:BG:22:G:H1	1.69	0.41
9:BC:151:G:H2'	9:BC:152:C:C6	2.55	0.41
11:AQ:96:LYS:HD3	11:AQ:96:LYS:H	1.82	0.41
19:AM:15:ARG:NH1	19:AM:20:ASN:OD1	2.53	0.41
58:Bl:135:ALA:HA	58:Bl:138:ARG:HG3	2.03	0.41
64:Bp:49:ASP:OD1	64:Bp:49:ASP:N	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:2063:C:H5''	2:AA:2064:A:H5'	2.03	0.41
3:BB:1141:G:H1	3:BB:1200:C:H41	1.67	0.41
4:BH:85:C:H6	37:A5:183:ARG:NH2	2.14	0.41
4:BH:86:G:OP2	4:BH:86:G:H8	2.04	0.41
6:BF:12:C:O2'	6:BF:14:C:OP1	2.32	0.41
9:BC:163:A2M:H1'	9:BC:163:A2M:HM'3	1.68	0.41
49:Be:145:ARG:NH1	49:Be:145:ARG:HG2	2.34	0.41
57:BL:167:MET:HE3	57:BL:167:MET:HB2	1.89	0.41
62:BO:176:GLU:O	62:BO:180:ILE:HG12	2.21	0.41
69:BS:3:ARG:HH11	69:BS:3:ARG:HG3	1.86	0.41
1:BA:180:G:H2'	1:BA:181:G:C8	2.55	0.41
1:BA:473:A:H2'	1:BA:473:A:N3	2.36	0.41
2:AA:309:C:O2'	2:AA:310:C:O4'	2.33	0.41
2:AA:781:U:H2'	2:AA:782:C:C6	2.55	0.41
2:AA:1012:A:H3'	2:AA:1013:G:H8	1.85	0.41
2:AA:1613:A:H5'	2:AA:1614:C:OP2	2.21	0.41
2:AA:1960:C:H3'	2:AA:1961:G:H8	1.85	0.41
2:AA:2178:G:N2	2:AA:2180:C:OP1	2.54	0.41
3:BB:677:A:H2'	3:BB:678:G:H8	1.85	0.41
3:BB:790:A:H2'	3:BB:791:G:C8	2.56	0.41
3:BB:979:C:H2'	3:BB:980:U:C6	2.56	0.41
3:BB:1278:G:H2'	3:BB:1279:C:H6	1.85	0.41
6:BF:56:A:H4'	6:BF:57:G:O5'	2.19	0.41
8:BD:49:A:H8	8:BD:50:A:N7	2.19	0.41
32:A0:52:GLN:OE1	32:A0:52:GLN:C	2.64	0.41
35:A3:161:ILE:HD12	35:A3:161:ILE:C	2.46	0.41
47:Bc:133:LYS:HE3	47:Bc:133:LYS:HB2	1.80	0.41
55:BK:140:THR:OG1	55:BK:141:LYS:N	2.54	0.41
57:BL:35:ASP:OD1	57:BL:35:ASP:N	2.54	0.41
64:Bp:61:HIS:ND1	64:Bp:62:PRO:HD2	2.35	0.41
74:Bu:21:ARG:O	74:Bu:25:GLU:HG3	2.21	0.41
79:Bw:183:MET:HE3	79:Bw:183:MET:HB2	1.91	0.41
82:By:1:MET:HE2	82:By:1:MET:HB2	1.89	0.41
1:BA:103:A:H2'	1:BA:104:G:N3	2.36	0.41
1:BA:814:A:H2'	1:BA:815:A:C8	2.56	0.41
1:BA:1858:U:H3'	1:BA:1859:G:H21	1.86	0.41
2:AA:133:A:H2'	2:AA:134:G:H8	1.86	0.41
2:AA:755:G:C2	2:AA:756:U:C2	3.09	0.41
2:AA:759:U:H2'	2:AA:760:G:C8	2.56	0.41
2:AA:915:G:N2	2:AA:945:A:H2	2.11	0.41
2:AA:1018:U:H6	2:AA:1018:U:H2'	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AA:1054:U:H5''	36:A4:61:LYS:HE2	2.01	0.41
2:AA:1576:A:H2'	2:AA:1577:G:H8	1.85	0.41
3:BB:399:U:H2'	3:BB:400:A2M:C8	2.51	0.41
3:BB:1089:C:H41	73:BU:2:VAL:N	2.19	0.41
3:BB:1175:OMC:HM23	3:BB:1175:OMC:H1'	1.86	0.41
3:BB:1349:G:O2'	70:Bs:100:TYR:O	2.39	0.41
8:BD:79:G:H2'	8:BD:80:G:C8	2.56	0.41
20:AO:41:GLN:C	20:AO:41:GLN:OE1	2.64	0.41
22:AR:48:GLY:HA3	40:AC:227:ARG:NH1	2.36	0.41
27:AW:22:ARG:HA	27:AW:27:GLN:HB3	2.01	0.41
43:AG:148:ALA:C	43:AG:149:MET:HG3	2.46	0.41
44:Bh:50:ARG:O	44:Bh:52:LYS:NZ	2.46	0.41
80:Bx:274:LYS:HE3	80:Bx:274:LYS:HB2	1.44	0.41
1:BA:509:A:H2'	1:BA:510:U:C6	2.55	0.40
1:BA:890:C:H3'	1:BA:891:C:H5'	2.03	0.40
3:BB:996:G:O6	3:BB:1016:U:O4	2.39	0.40
3:BB:1296:U:H6	3:BB:1296:U:H2'	1.68	0.40
5:BG:111:C:H2'	5:BG:112:C:C6	2.56	0.40
6:BF:59:A:N3	6:BF:59:A:H2'	2.35	0.40
14:Az:226:THR:HG1	14:Az:227:ARG:H	1.66	0.40
20:AO:127:LEU:HD23	20:AO:127:LEU:HA	1.90	0.40
33:A1:257:ALA:HA	33:A1:260:ARG:HB3	2.03	0.40
37:A5:115:LYS:HD3	37:A5:115:LYS:HA	1.69	0.40
40:AC:170:LEU:HD22	40:AC:180:VAL:HG11	2.03	0.40
42:AE:139:VAL:HG12	42:AE:158:VAL:HG22	2.03	0.40
44:Bh:46:ASP:N	44:Bh:47:PRO:HD2	2.35	0.40
54:Bj:53:ARG:NH2	54:Bj:57:THR:O	2.53	0.40
62:BO:118:ARG:HE	62:BO:118:ARG:HB2	1.70	0.40
2:AA:332:G:O6	35:A3:224:ARG:HD3	2.21	0.40
2:AA:906:G:N2	2:AA:953:G:H22	2.20	0.40
2:AA:981:G:H3'	2:AA:982:G:C8	2.53	0.40
2:AA:1278:A:H2'	2:AA:1279:G:C8	2.56	0.40
4:BH:66:G:H2'	4:BH:67:G:C8	2.57	0.40
5:BG:20:U:H2'	5:BG:21:C:C6	2.57	0.40
16:AI:57:ASP:OD2	16:AI:57:ASP:N	2.52	0.40
44:Bh:36:ARG:NH2	44:Bh:37:ARG:HB2	2.36	0.40
49:Be:42:ARG:HG2	49:Be:42:ARG:NH1	2.37	0.40
58:Bl:19:ILE:O	58:Bl:23:THR:OG1	2.29	0.40
68:Br:34:ASP:OD1	68:Br:34:ASP:N	2.54	0.40
78:BX:113:ASN:OD1	78:BX:116:GLU:HG2	2.20	0.40
79:Bw:62:ARG:NH1	79:Bw:198:ASP:OD1	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
84:Bi:16:LYS:HB3	84:Bi:16:LYS:NZ	2.36	0.40
85:BP:141:LYS:HD3	85:BP:141:LYS:HA	1.81	0.40
1:BA:457:A:H8	1:BA:457:A:O5'	2.04	0.40
1:BA:559:C:O2'	1:BA:560:G:C8	2.73	0.40
1:BA:1451:C:H2'	1:BA:1452:G:O4'	2.21	0.40
2:AA:159:C:H2'	2:AA:160:G:H8	1.86	0.40
3:BB:83:G:O2'	3:BB:598:U:O4	2.34	0.40
3:BB:412:U:H2'	3:BB:413:A:C8	2.56	0.40
3:BB:671:C:H2'	3:BB:672:U:C6	2.55	0.40
7:BE:35:A:H2'	7:BE:36:U:H6	1.85	0.40
14:Az:160:LEU:HB3	14:Az:163:ILE:HD13	2.04	0.40
17:AJ:11:LEU:HD12	17:AJ:11:LEU:HA	1.88	0.40
21:AP:86:LEU:HA	21:AP:86:LEU:HD23	1.78	0.40
31:AL:99:ILE:C	31:AL:100:ARG:HD2	2.47	0.40
35:A3:161:ILE:HD12	35:A3:161:ILE:O	2.21	0.40
73:BU:43:VAL:HG21	73:BU:97:ARG:CZ	2.52	0.40
73:BU:87:LYS:HE3	73:BU:87:LYS:HB3	1.82	0.40
76:Bv:51:LEU:HD11	76:Bv:63:SER:HB3	2.03	0.40
77:BW:91:ASP:OD2	77:BW:91:ASP:C	2.64	0.40
82:By:162:LEU:HD23	82:By:162:LEU:HA	1.94	0.40
1:BA:675:U:C2'	1:BA:676:C:H5'	2.52	0.40
1:BA:1204:U:H3'	74:Bu:135:LYS:HZ3	1.86	0.40
1:BA:1488:U:H2'	1:BA:1489:U:C6	2.57	0.40
2:AA:80:U:H2'	2:AA:81:G:C8	2.57	0.40
2:AA:709:G:H5'	2:AA:715:G:N2	2.36	0.40
2:AA:2086:C:H2'	2:AA:2087:A:H8	1.86	0.40
2:AA:2227:OMG:HM23	2:AA:2227:OMG:H1'	1.85	0.40
4:BH:39:G:H2'	4:BH:40:C:C6	2.57	0.40
8:BD:111:U:H2'	8:BD:112:U:O4'	2.21	0.40
9:BC:40:A:H2'	9:BC:41:A2M:H8	2.03	0.40
23:AS:6:GLY:O	23:AS:7:GLN:HB3	2.22	0.40
28:AX:79:LYS:N	28:AX:79:LYS:HD3	2.36	0.40
33:A1:155:ASP:HB2	33:A1:170:ILE:O	2.22	0.40
53:BI:92:ASP:OD1	53:BI:92:ASP:N	2.54	0.40
56:Bk:117:LYS:HE2	56:Bk:117:LYS:HB3	1.93	0.40
66:BQ:141:ASP:OD2	66:BQ:141:ASP:C	2.64	0.40
2:AA:1122:G:H2'	2:AA:1123:C:H6	1.86	0.40
2:AA:2144:U:H2'	2:AA:2145:U:C6	2.57	0.40
7:BE:111:U:O2'	7:BE:112:U:O4'	2.38	0.40
14:Az:218:LYS:HA	14:Az:218:LYS:HD3	1.94	0.40
33:A1:183:GLY:C	33:A1:185:ASN:H	2.29	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:Bh:126:ARG:H	44:Bh:126:ARG:HG2	1.71	0.40
46:Bb:36:GLY:O	46:Bb:41:HIS:HB2	2.21	0.40
52:Bf:41:PRO:HB2	52:Bf:199:LEU:HD22	2.03	0.40
71:BT:31:GLU:N	71:BT:31:GLU:OE1	2.49	0.40
77:BW:72:ARG:O	77:BW:74:LYS:NZ	2.54	0.40
80:Bx:110:TYR:OH	80:Bx:220:ASP:OD1	2.35	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	AQ	98/117 (84%)	96 (98%)	2 (2%)	0	100	100
12	A8	54/57 (95%)	53 (98%)	1 (2%)	0	100	100
13	A9	66/153 (43%)	61 (92%)	5 (8%)	0	100	100
14	Az	98/279 (35%)	84 (86%)	13 (13%)	1 (1%)	13	23
15	AH	132/144 (92%)	118 (89%)	14 (11%)	0	100	100
16	AI	115/152 (76%)	112 (97%)	3 (3%)	0	100	100
17	AJ	127/130 (98%)	123 (97%)	4 (3%)	0	100	100
18	AK	140/149 (94%)	134 (96%)	6 (4%)	0	100	100
19	AM	139/153 (91%)	134 (96%)	5 (4%)	0	100	100
20	AO	152/167 (91%)	147 (97%)	5 (3%)	0	100	100
21	AP	216/266 (81%)	203 (94%)	12 (6%)	1 (0%)	25	41
22	AR	87/194 (45%)	85 (98%)	2 (2%)	0	100	100
23	AS	138/143 (96%)	128 (93%)	10 (7%)	0	100	100
24	AT	127/137 (93%)	118 (93%)	9 (7%)	0	100	100
25	AU	71/113 (63%)	67 (94%)	4 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	AV	101/111 (91%)	94 (93%)	7 (7%)	0	100	100
27	AW	83/86 (96%)	80 (96%)	3 (4%)	0	100	100
28	AX	206/214 (96%)	196 (95%)	10 (5%)	0	100	100
29	AY	51/66 (77%)	50 (98%)	1 (2%)	0	100	100
30	AZ	54/103 (52%)	52 (96%)	2 (4%)	0	100	100
31	AL	120/142 (84%)	115 (96%)	5 (4%)	0	100	100
32	A0	216/256 (84%)	211 (98%)	5 (2%)	0	100	100
33	A1	260/273 (95%)	245 (94%)	15 (6%)	0	100	100
34	A2	179/190 (94%)	177 (99%)	2 (1%)	0	100	100
35	A3	236/250 (94%)	228 (97%)	8 (3%)	0	100	100
36	A4	196/202 (97%)	187 (95%)	9 (5%)	0	100	100
37	A5	183/220 (83%)	176 (96%)	7 (4%)	0	100	100
38	A6	177/190 (93%)	173 (98%)	4 (2%)	0	100	100
39	A7	305/318 (96%)	294 (96%)	11 (4%)	0	100	100
40	AC	206/277 (74%)	200 (97%)	6 (3%)	0	100	100
41	AD	97/172 (56%)	94 (97%)	3 (3%)	0	100	100
42	AE	151/174 (87%)	143 (95%)	8 (5%)	0	100	100
43	AG	148/151 (98%)	144 (97%)	4 (3%)	0	100	100
44	Bh	152/188 (81%)	142 (93%)	10 (7%)	0	100	100
45	Ba	130/133 (98%)	129 (99%)	1 (1%)	0	100	100
46	Bb	142/145 (98%)	136 (96%)	6 (4%)	0	100	100
47	Bc	142/146 (97%)	139 (98%)	3 (2%)	0	100	100
48	Bd	65/71 (92%)	63 (97%)	2 (3%)	0	100	100
49	Be	253/260 (97%)	247 (98%)	6 (2%)	0	100	100
50	Bz	30/34 (88%)	30 (100%)	0	0	100	100
51	Bg	90/105 (86%)	90 (100%)	0	0	100	100
52	Bf	394/429 (92%)	388 (98%)	6 (2%)	0	100	100
53	BI	189/193 (98%)	183 (97%)	6 (3%)	0	100	100
54	Bj	114/170 (67%)	111 (97%)	3 (3%)	0	100	100
55	BK	190/213 (89%)	182 (96%)	8 (4%)	0	100	100
56	Bk	121/127 (95%)	115 (95%)	5 (4%)	1 (1%)	16	29

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
57	BL	164/194 (84%)	155 (94%)	9 (6%)	0	100	100
58	Bl	142/149 (95%)	136 (96%)	6 (4%)	0	100	100
59	Bm	96/109 (88%)	95 (99%)	1 (1%)	0	100	100
60	BN	213/218 (98%)	202 (95%)	11 (5%)	0	100	100
61	Bn	78/84 (93%)	76 (97%)	2 (3%)	0	100	100
62	BO	219/222 (99%)	218 (100%)	1 (0%)	0	100	100
63	Bo	87/93 (94%)	83 (95%)	4 (5%)	0	100	100
64	Bp	75/82 (92%)	71 (95%)	4 (5%)	0	100	100
65	Bq	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
66	BQ	201/221 (91%)	197 (98%)	4 (2%)	0	100	100
67	BR	149/166 (90%)	147 (99%)	2 (1%)	0	100	100
68	Br	365/374 (98%)	352 (96%)	13 (4%)	0	100	100
69	BS	176/179 (98%)	170 (97%)	6 (3%)	0	100	100
70	Bs	48/128 (38%)	46 (96%)	2 (4%)	0	100	100
71	BT	194/260 (75%)	186 (96%)	8 (4%)	0	100	100
72	Bt	95/106 (90%)	91 (96%)	4 (4%)	0	100	100
73	BU	155/159 (98%)	143 (92%)	11 (7%)	1 (1%)	22	36
74	Bu	243/308 (79%)	234 (96%)	9 (4%)	0	100	100
75	BV	120/130 (92%)	111 (92%)	8 (7%)	1 (1%)	16	29
76	Bv	139/192 (72%)	134 (96%)	5 (4%)	0	100	100
77	BW	134/139 (96%)	132 (98%)	2 (2%)	0	100	100
78	BX	118/164 (72%)	114 (97%)	4 (3%)	0	100	100
79	Bw	228/257 (89%)	223 (98%)	5 (2%)	0	100	100
80	Bx	231/276 (84%)	220 (95%)	11 (5%)	0	100	100
81	BY	62/125 (50%)	60 (97%)	2 (3%)	0	100	100
82	By	184/189 (97%)	175 (95%)	9 (5%)	0	100	100
83	BZ	120/143 (84%)	118 (98%)	2 (2%)	0	100	100
84	Bi	129/132 (98%)	125 (97%)	4 (3%)	0	100	100
85	BP	150/189 (79%)	144 (96%)	6 (4%)	0	100	100
86	AF	111/144 (77%)	107 (96%)	3 (3%)	1 (1%)	14	26
All	All	11215/13146 (85%)	10789 (96%)	420 (4%)	6 (0%)	50	67

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
14	Az	169	THR
56	Bk	6	LYS
73	BU	33	ASN
75	BV	17	ARG
86	AF	122	SER
21	AP	58	ILE

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
11	AQ	90/104 (86%)	83 (92%)	7 (8%)	10	19
12	A8	49/50 (98%)	47 (96%)	2 (4%)	26	47
13	A9	62/126 (49%)	58 (94%)	4 (6%)	14	27
14	Az	86/216 (40%)	81 (94%)	5 (6%)	17	32
15	AH	101/112 (90%)	97 (96%)	4 (4%)	27	48
16	AI	100/128 (78%)	100 (100%)	0	100	100
17	AJ	108/109 (99%)	105 (97%)	3 (3%)	38	63
18	AK	117/124 (94%)	113 (97%)	4 (3%)	32	55
19	AM	123/133 (92%)	118 (96%)	5 (4%)	26	47
20	AO	127/137 (93%)	123 (97%)	4 (3%)	35	59
21	AP	181/204 (89%)	171 (94%)	10 (6%)	18	34
22	AR	73/150 (49%)	71 (97%)	2 (3%)	40	64
23	AS	115/118 (98%)	108 (94%)	7 (6%)	15	29
24	AT	108/116 (93%)	103 (95%)	5 (5%)	23	42
25	AU	64/94 (68%)	60 (94%)	4 (6%)	15	28
26	AV	90/97 (93%)	89 (99%)	1 (1%)	70	86
27	AW	74/75 (99%)	71 (96%)	3 (4%)	26	47
28	AX	176/180 (98%)	166 (94%)	10 (6%)	17	32

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
29	AY	47/53 (89%)	45 (96%)	2 (4%)	25	45
30	AZ	49/84 (58%)	47 (96%)	2 (4%)	26	47
31	AL	96/122 (79%)	92 (96%)	4 (4%)	25	46
32	A0	190/218 (87%)	187 (98%)	3 (2%)	58	79
33	A1	221/231 (96%)	212 (96%)	9 (4%)	26	47
34	A2	157/160 (98%)	154 (98%)	3 (2%)	52	74
35	A3	191/207 (92%)	180 (94%)	11 (6%)	17	32
36	A4	173/187 (92%)	157 (91%)	16 (9%)	7	14
37	A5	147/180 (82%)	136 (92%)	11 (8%)	11	21
38	A6	159/166 (96%)	154 (97%)	5 (3%)	35	59
39	A7	260/267 (97%)	241 (93%)	19 (7%)	11	22
40	AC	183/243 (75%)	177 (97%)	6 (3%)	33	56
41	AD	87/131 (66%)	85 (98%)	2 (2%)	45	69
42	AE	137/156 (88%)	133 (97%)	4 (3%)	37	61
43	AG	130/131 (99%)	126 (97%)	4 (3%)	35	59
44	Bh	133/162 (82%)	129 (97%)	4 (3%)	36	60
45	Ba	115/117 (98%)	107 (93%)	8 (7%)	12	23
46	Bb	115/116 (99%)	113 (98%)	2 (2%)	56	77
47	Bc	128/130 (98%)	126 (98%)	2 (2%)	58	79
48	Bd	56/59 (95%)	55 (98%)	1 (2%)	54	76
49	Be	191/204 (94%)	186 (97%)	5 (3%)	41	65
50	Bz	29/31 (94%)	29 (100%)	0	100	100
51	Bg	81/92 (88%)	79 (98%)	2 (2%)	42	67
52	Bf	337/360 (94%)	331 (98%)	6 (2%)	54	76
53	BI	163/165 (99%)	155 (95%)	8 (5%)	21	39
54	Bj	99/137 (72%)	98 (99%)	1 (1%)	73	87
55	BK	169/185 (91%)	161 (95%)	8 (5%)	22	41
56	Bk	104/114 (91%)	100 (96%)	4 (4%)	28	50
57	BL	142/167 (85%)	135 (95%)	7 (5%)	21	39
58	Bl	122/126 (97%)	118 (97%)	4 (3%)	33	56
59	Bm	81/90 (90%)	81 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
60	BN	185/188 (98%)	184 (100%)	1 (0%)	86	94
61	Bn	68/71 (96%)	68 (100%)	0	100	100
62	BO	194/195 (100%)	193 (100%)	1 (0%)	86	94
63	Bo	72/76 (95%)	71 (99%)	1 (1%)	62	81
64	Bp	72/77 (94%)	66 (92%)	6 (8%)	9	17
65	Bq	46/47 (98%)	46 (100%)	0	100	100
66	BQ	176/193 (91%)	171 (97%)	5 (3%)	38	63
67	BR	129/144 (90%)	126 (98%)	3 (2%)	45	69
68	Br	304/310 (98%)	296 (97%)	8 (3%)	41	65
69	BS	159/160 (99%)	155 (98%)	4 (2%)	42	67
70	Bs	41/111 (37%)	38 (93%)	3 (7%)	11	22
71	BT	153/198 (77%)	149 (97%)	4 (3%)	41	65
72	Bt	87/95 (92%)	82 (94%)	5 (6%)	17	32
73	BU	132/134 (98%)	122 (92%)	10 (8%)	11	20
74	Bu	199/247 (81%)	190 (96%)	9 (4%)	23	43
75	BV	100/116 (86%)	89 (89%)	11 (11%)	5	9
76	Bv	119/160 (74%)	110 (92%)	9 (8%)	11	20
77	BW	106/108 (98%)	102 (96%)	4 (4%)	28	50
78	BX	107/136 (79%)	102 (95%)	5 (5%)	22	41
79	Bw	193/213 (91%)	190 (98%)	3 (2%)	58	79
80	Bx	199/229 (87%)	190 (96%)	9 (4%)	23	43
81	BY	57/102 (56%)	57 (100%)	0	100	100
82	By	169/172 (98%)	160 (95%)	9 (5%)	19	36
83	BZ	108/125 (86%)	107 (99%)	1 (1%)	75	89
84	Bi	116/117 (99%)	115 (99%)	1 (1%)	75	89
85	BP	132/158 (84%)	125 (95%)	7 (5%)	19	36
86	AF	93/120 (78%)	89 (96%)	4 (4%)	25	45
All	All	9652/11066 (87%)	9286 (96%)	366 (4%)	30	50

All (366) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
11	AQ	15	GLN

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Mol	Chain	Res	Type
11	AQ	29	VAL
11	AQ	42	THR
11	AQ	45	VAL
11	AQ	55	THR
11	AQ	94	LEU
11	AQ	110	SER
12	A8	9	SER
12	A8	31	LEU
13	A9	82	VAL
13	A9	103	TYR
13	A9	107	THR
13	A9	113	SER
14	Az	158	VAL
14	Az	166	THR
14	Az	178	THR
14	Az	189	ARG
14	Az	226	THR
15	AH	13	SER
15	AH	69	MET
15	AH	100	SER
15	AH	117	MET
17	AJ	11	LEU
17	AJ	31	SER
17	AJ	82	THR
18	AK	28	THR
18	AK	40	VAL
18	AK	75	VAL
18	AK	147	SER
19	AM	7	SER
19	AM	9	SER
19	AM	35	LYS
19	AM	87	ARG
19	AM	139	THR
20	AO	56	THR
20	AO	57	SER
20	AO	113	SER
20	AO	130	LEU
21	AP	93	VAL
21	AP	168	VAL
21	AP	206	VAL
21	AP	208	THR
21	AP	209	SER

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Mol	Chain	Res	Type
21	AP	229	ARG
21	AP	244	GLU
21	AP	246	SER
21	AP	248	ASP
21	AP	254	SER
22	AR	47	ASN
22	AR	69	SER
23	AS	2	THR
23	AS	30	SER
23	AS	44	SER
23	AS	70	VAL
23	AS	112	VAL
23	AS	115	ILE
23	AS	123	VAL
24	AT	2	VAL
24	AT	22	LEU
24	AT	24	ASN
24	AT	30	VAL
24	AT	122	LYS
25	AU	67	THR
25	AU	69	SER
25	AU	75	LEU
25	AU	84	LYS
26	AV	93	VAL
27	AW	9	SER
27	AW	45	THR
27	AW	57	CYS
28	AX	37	GLU
28	AX	38	HIS
28	AX	43	THR
28	AX	112	LEU
28	AX	141	ILE
28	AX	148	SER
28	AX	158	LYS
28	AX	169	THR
28	AX	188	MET
28	AX	205	THR
29	AY	45	LEU
29	AY	55	LEU
30	AZ	61	VAL
30	AZ	94	GLU
31	AL	8	THR

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Mol	Chain	Res	Type
31	AL	32	LYS
31	AL	85	VAL
31	AL	88	VAL
32	A0	33	VAL
32	A0	116	LEU
32	A0	153	SER
33	A1	54	ASN
33	A1	91	LYS
33	A1	99	LEU
33	A1	118	ILE
33	A1	135	VAL
33	A1	138	THR
33	A1	167	LEU
33	A1	228	ASP
33	A1	238	LYS
34	A2	35	VAL
34	A2	64	PHE
34	A2	140	MET
35	A3	13	VAL
35	A3	20	ASP
35	A3	36	GLU
35	A3	41	ILE
35	A3	66	GLN
35	A3	72	SER
35	A3	105	LEU
35	A3	129	ASP
35	A3	172	ASP
35	A3	186	THR
35	A3	195	VAL
36	A4	4	GLN
36	A4	24	SER
36	A4	35	SER
36	A4	38	THR
36	A4	43	LEU
36	A4	50	THR
36	A4	84	THR
36	A4	122	THR
36	A4	138	CYS
36	A4	149	THR
36	A4	150	ASP
36	A4	167	VAL
36	A4	168	GLU

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Mol	Chain	Res	Type
36	A4	169	SER
36	A4	185	THR
36	A4	187	THR
37	A5	13	ILE
37	A5	18	THR
37	A5	44	SER
37	A5	62	THR
37	A5	88	ASN
37	A5	94	LYS
37	A5	103	VAL
37	A5	104	VAL
37	A5	121	LEU
37	A5	180	ARG
37	A5	213	LYS
38	A6	54	THR
38	A6	124	SER
38	A6	144	SER
38	A6	150	SER
38	A6	161	SER
39	A7	8	GLN
39	A7	18	SER
39	A7	34	THR
39	A7	71	SER
39	A7	86	SER
39	A7	90	SER
39	A7	101	CYS
39	A7	111	ASP
39	A7	130	ASP
39	A7	139	LYS
39	A7	153	ASP
39	A7	165	ASP
39	A7	189	VAL
39	A7	227	LYS
39	A7	270	ILE
39	A7	272	VAL
39	A7	284	ILE
39	A7	285	VAL
39	A7	289	VAL
40	AC	61	LEU
40	AC	78	THR
40	AC	129	LEU
40	AC	133	SER

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Mol	Chain	Res	Type
40	AC	202	ARG
40	AC	236	ASP
41	AD	74	THR
41	AD	94	VAL
42	AE	56	LEU
42	AE	81	SER
42	AE	93	SER
42	AE	159	VAL
43	AG	32	ASP
43	AG	66	VAL
43	AG	143	SER
43	AG	150	VAL
44	Bh	141	LYS
44	Bh	157	THR
44	Bh	168	THR
44	Bh	177	SER
45	Ba	30	THR
45	Ba	57	SER
45	Ba	89	SER
45	Ba	90	ARG
45	Ba	91	GLU
45	Ba	96	ILE
45	Ba	97	ASN
45	Ba	107	SER
46	Bb	27	LYS
46	Bb	134	ILE
47	Bc	128	LYS
47	Bc	131	SER
48	Bd	13	SER
49	Be	18	VAL
49	Be	90[A]	CYS
49	Be	90[B]	CYS
49	Be	115	ASN
49	Be	130	SER
51	Bg	20	THR
51	Bg	90	THR
52	Bf	71	GLU
52	Bf	135	GLN
52	Bf	151	LYS
52	Bf	171	LEU
52	Bf	295	SER
52	Bf	357	LEU

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Mol	Chain	Res	Type
53	BI	3	VAL
53	BI	26	ILE
53	BI	75	THR
53	BI	76	VAL
53	BI	89	ILE
53	BI	100	THR
53	BI	142	ASN
53	BI	183	SER
54	Bj	104	VAL
55	BK	43	VAL
55	BK	52	VAL
55	BK	53	VAL
55	BK	62	SER
55	BK	77	VAL
55	BK	151	SER
55	BK	174	THR
55	BK	193	ARG
56	Bk	5	VAL
56	Bk	81	SER
56	Bk	86	THR
56	Bk	122	ILE
57	BL	21	VAL
57	BL	25	CYS
57	BL	37	LEU
57	BL	92	LYS
57	BL	152	VAL
57	BL	174	HIS
57	BL	177	ILE
58	Bl	15	ARG
58	Bl	23	THR
58	Bl	26	THR
58	Bl	68	THR
60	BN	67	THR
62	BO	213	VAL
63	Bo	78	THR
64	Bp	12	LEU
64	Bp	19	ASP
64	Bp	31	VAL
64	Bp	39	SER
64	Bp	59	SER
64	Bp	63	SER
66	BQ	117	VAL

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Mol	Chain	Res	Type
66	BQ	143	THR
66	BQ	201	LEU
66	BQ	202	ARG
66	BQ	221	ARG
67	BR	13	LYS
67	BR	19	ILE
67	BR	57	CYS
68	Br	68	THR
68	Br	84	SER
68	Br	124	VAL
68	Br	138	SER
68	Br	227	LEU
68	Br	283	THR
68	Br	312	ARG
68	Br	336	GLU
69	BS	2	VAL
69	BS	59	ASP
69	BS	62	SER
69	BS	128	VAL
70	Bs	82	LEU
70	Bs	108	THR
70	Bs	118	CYS
71	BT	78	THR
71	BT	145	VAL
71	BT	178	LEU
71	BT	180	LYS
72	Bt	7	LYS
72	Bt	61	LYS
72	Bt	75	SER
72	Bt	87	ARG
72	Bt	93	LEU
73	BU	9	CYS
73	BU	24	VAL
73	BU	60	ARG
73	BU	64	VAL
73	BU	87	LYS
73	BU	90	CYS
73	BU	125	LEU
73	BU	130	VAL
73	BU	145	VAL
73	BU	152	ASP
74	Bu	36	MET

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Mol	Chain	Res	Type
74	Bu	80	SER
74	Bu	83	LEU
74	Bu	93	THR
74	Bu	113	LEU
74	Bu	132	VAL
74	Bu	214	LEU
74	Bu	216	GLN
74	Bu	261	THR
75	BV	25	VAL
75	BV	30	CYS
75	BV	35	SER
75	BV	66	SER
75	BV	77	LEU
75	BV	78	SER
75	BV	80	THR
75	BV	81	THR
75	BV	82	THR
75	BV	93	LEU
75	BV	109	ILE
76	Bv	17	SER
76	Bv	24	SER
76	Bv	34	THR
76	Bv	86	THR
76	Bv	88	VAL
76	Bv	90	LEU
76	Bv	93	VAL
76	Bv	142	THR
76	Bv	178	VAL
77	BW	31	THR
77	BW	75	VAL
77	BW	76	LEU
77	BW	133	THR
78	BX	44	THR
78	BX	53	GLN
78	BX	70	SER
78	BX	90	THR
78	BX	151	SER
79	Bw	176	VAL
79	Bw	189	HIS
79	Bw	206	CYS
80	Bx	38	SER
80	Bx	49	ILE

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Mol	Chain	Res	Type
80	Bx	67	THR
80	Bx	88	LEU
80	Bx	104	LEU
80	Bx	139	THR
80	Bx	160	THR
80	Bx	195	ASP
80	Bx	274	LYS
82	By	16	THR
82	By	32	THR
82	By	41	GLN
82	By	80	THR
82	By	82	VAL
82	By	117	LYS
82	By	127	ASP
82	By	130	VAL
82	By	183	THR
83	BZ	44	SER
84	Bi	87	LEU
85	BP	31	VAL
85	BP	56	VAL
85	BP	71	THR
85	BP	80	SER
85	BP	109	GLU
85	BP	133	LYS
85	BP	137	VAL
86	AF	29	LEU
86	AF	48	CYS
86	AF	94	MET
86	AF	114	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (79) such sidechains are listed below:

Mol	Chain	Res	Type
12	A8	27	ASN
14	Az	152	HIS
19	AM	88	GLN
21	AP	112	ASN
23	AS	7	GLN
24	AT	20	ASN
24	AT	27	GLN
24	AT	119	ASN
27	AW	27	GLN

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Mol	Chain	Res	Type
27	AW	86	HIS
28	AX	144	GLN
28	AX	163	HIS
28	AX	191	GLN
31	AL	56	HIS
32	A0	97	ASN
32	A0	155	ASN
32	A0	184	ASN
33	A1	47	ASN
33	A1	239	GLN
34	A2	25	ASN
35	A3	231	HIS
35	A3	237	ASN
36	A4	42	GLN
36	A4	115	GLN
36	A4	198	GLN
38	A6	64	ASN
38	A6	138	GLN
38	A6	177	ASN
39	A7	97	GLN
39	A7	131	ASN
39	A7	241	ASN
40	AC	168	GLN
41	AD	51	GLN
41	AD	65	GLN
43	AG	62	GLN
44	Bh	83	ASN
46	Bb	116	GLN
48	Bd	9	ASN
49	Be	38	HIS
52	Bf	124	GLN
52	Bf	174	ASN
52	Bf	187	GLN
53	BI	58	ASN
55	BK	71	GLN
57	BL	50	GLN
59	Bm	66	GLN
60	BN	16	HIS
61	Bn	10	GLN
62	BO	68	ASN
62	BO	119	GLN
62	BO	143	GLN

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Mol	Chain	Res	Type
64	Bp	27	HIS
64	Bp	41	HIS
65	Bq	33	ASN
66	BQ	134	ASN
67	BR	97	ASN
68	Br	145	ASN
69	BS	107	GLN
71	BT	65	GLN
72	Bt	94	ASN
75	BV	54	ASN
77	BW	30	ASN
77	BW	83	GLN
78	BX	71	ASN
79	Bw	125	GLN
79	Bw	140	ASN
79	Bw	182	GLN
80	Bx	217	ASN
81	BY	17	HIS
82	By	64	ASN
83	BZ	8	ASN
83	BZ	78	HIS
84	Bi	21	HIS
84	Bi	79	ASN
84	Bi	124	ASN
85	BP	34	ASN
85	BP	44	GLN
85	BP	68	ASN
86	AF	44	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	BA	1585/1920 (82%)	300 (18%)	9 (0%)
10	AB	17/19 (89%)	7 (41%)	1 (5%)
2	AA	1902/2282 (83%)	426 (22%)	13 (0%)
3	BB	1113/1536 (72%)	209 (18%)	5 (0%)
4	BH	116/136 (85%)	27 (23%)	0
5	BG	182/183 (99%)	30 (16%)	1 (0%)
6	BF	66/78 (84%)	17 (25%)	1 (1%)
7	BE	185/216 (85%)	47 (25%)	4 (2%)
8	BD	118/119 (99%)	15 (12%)	0

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
9	BC	157/209 (75%)	22 (14%)	0
All	All	5441/6698 (81%)	1100 (20%)	34 (0%)

All (1100) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	BA	8	G
1	BA	28	A
1	BA	33	C
1	BA	42	A
1	BA	45	A
1	BA	51	C
1	BA	62	A
1	BA	68	A
1	BA	76	G
1	BA	91	A
1	BA	95	G
1	BA	96	C
1	BA	102	A
1	BA	112	C
1	BA	113	A
1	BA	114	A
1	BA	125	A
1	BA	135	U
1	BA	138	A
1	BA	139	U
1	BA	140	G
1	BA	145	C
1	BA	156	A
1	BA	179	A
1	BA	184	U
1	BA	204	U
1	BA	205	C
1	BA	207	A
1	BA	218	A
1	BA	224	U
1	BA	225	U
1	BA	229	G
1	BA	231	A
1	BA	238	U
1	BA	242	A
1	BA	252	U

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Mol	Chain	Res	Type
1	BA	253	G
1	BA	262	G
1	BA	268	G
1	BA	269	A
1	BA	270	A
1	BA	274	G
1	BA	275	U
1	BA	276	C
1	BA	285	A
1	BA	286	C
1	BA	298	A
1	BA	301	G
1	BA	307	A
1	BA	308	C
1	BA	336	G
1	BA	353	U
1	BA	362	A
1	BA	365	C
1	BA	366	C
1	BA	373	U
1	BA	391	A
1	BA	397	A
1	BA	398	G
1	BA	399	A
1	BA	401	U
1	BA	403	G
1	BA	406	A
1	BA	420	C
1	BA	421	A
1	BA	439	U
1	BA	440	U
1	BA	447	G
1	BA	470	A
1	BA	473	A
1	BA	489	A
1	BA	491	G
1	BA	493	C
1	BA	494	A
1	BA	501	G
1	BA	507	U
1	BA	508	C
1	BA	514	U

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Mol	Chain	Res	Type
1	BA	527	G
1	BA	545	G
1	BA	549	A
1	BA	550	A
1	BA	552	U
1	BA	554	C
1	BA	560	G
1	BA	568	A
1	BA	575	G
1	BA	579	G
1	BA	580	U
1	BA	587	U
1	BA	588	G
1	BA	591	C
1	BA	597	U
1	BA	598	C
1	BA	610	C
1	BA	611	A
1	BA	615	G
1	BA	617	U
1	BA	619	C
1	BA	620	G
1	BA	621	U
1	BA	623	A
1	BA	627	G
1	BA	631	G
1	BA	632	A
1	BA	635	A
1	BA	636	A
1	BA	637	A
1	BA	638	G
1	BA	639	G
1	BA	646	G
1	BA	647	U
1	BA	648	G
1	BA	649	U
1	BA	654	U
1	BA	676	C
1	BA	677	U
1	BA	680	C
1	BA	686	C
1	BA	690	G

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Mol	Chain	Res	Type
1	BA	697	C
1	BA	699	U
1	BA	705	C
1	BA	706	G
1	BA	716	G
1	BA	717	A
1	BA	718	A
1	BA	726	G
1	BA	733	C
1	BA	743	A2M
1	BA	744	A
1	BA	746	A2M
1	BA	757	A
1	BA	774	A
1	BA	785	U
1	BA	791	U
1	BA	792	G
1	BA	799	C
1	BA	800	U
1	BA	801	U
1	BA	802	U
1	BA	803	U
1	BA	809	A
1	BA	816	G
1	BA	819	A
1	BA	834	C
1	BA	836	C
1	BA	837	G
1	BA	838	U
1	BA	845	C
1	BA	846	G
1	BA	872	C
1	BA	890	C
1	BA	891	C
1	BA	894	G
1	BA	896	G
1	BA	900	C
1	BA	901	G
1	BA	905	G
1	BA	919	G
1	BA	926	A
1	BA	936	A

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Mol	Chain	Res	Type
1	BA	937	A
1	BA	950	A
1	BA	963	G
1	BA	969	C
1	BA	981	C
1	BA	991	U
1	BA	994	U
1	BA	999	U
1	BA	1027	G
1	BA	1028	OMG
1	BA	1034	A
1	BA	1036	G
1	BA	1037	A
1	BA	1044	G
1	BA	1045	A
1	BA	1057	G
1	BA	1064	C
1	BA	1079	C
1	BA	1080	U
1	BA	1094	G
1	BA	1097	U
1	BA	1100	C
1	BA	1105	A
1	BA	1107	A
1	BA	1119	G
1	BA	1127	A
1	BA	1172	A
1	BA	1174	C
1	BA	1189	C
1	BA	1190	A
1	BA	1194	C
1	BA	1202	G
1	BA	1208	U
1	BA	1220	U
1	BA	1232	G
1	BA	1234	A
1	BA	1235	U
1	BA	1236	U
1	BA	1238	A
1	BA	1242	A
1	BA	1251	G
1	BA	1258	PSU

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Mol	Chain	Res	Type
1	BA	1265	G
1	BA	1278	U
1	BA	1284	A
1	BA	1287	A
1	BA	1293	U
1	BA	1315	C
1	BA	1316	U
1	BA	1317	U
1	BA	1319	U
1	BA	1320	G
1	BA	1322	G
1	BA	1325	C
1	BA	1327	U
1	BA	1328	U
1	BA	1334	U
1	BA	1338	U
1	BA	1339	G
1	BA	1340	A
1	BA	1341	A
1	BA	1347	U
1	BA	1348	G
1	BA	1444	U
1	BA	1446	G
1	BA	1447	A
1	BA	1448	OMU
1	BA	1452	G
1	BA	1455	U
1	BA	1456	A
1	BA	1463	A
1	BA	1470	U
1	BA	1471	G
1	BA	1474	U
1	BA	1480	U
1	BA	1481	U
1	BA	1491	G
1	BA	1492	U
1	BA	1500	G
1	BA	1501	C
1	BA	1502	U
1	BA	1503	A
1	BA	1505	A
1	BA	1514	U

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Mol	Chain	Res	Type
1	BA	1516	A
1	BA	1519	A
1	BA	1525	A
1	BA	1526	G
1	BA	1545	G
1	BA	1557	A
1	BA	1571	G
1	BA	1585	A
1	BA	1586	U
1	BA	1590	C
1	BA	1602	G
1	BA	1605	OMG
1	BA	1608	OMC
1	BA	1615	G
1	BA	1617	C
1	BA	1637	A
1	BA	1638	U
1	BA	1639	A
1	BA	1642	U
1	BA	1643	U
1	BA	1649	A
1	BA	1650	A
1	BA	1652	U
1	BA	1653	G
1	BA	1654	C
1	BA	1669	G
1	BA	1672	C
1	BA	1673	G
1	BA	1696	C
1	BA	1710	U
1	BA	1722	U
1	BA	1728	C
1	BA	1737	A
1	BA	1738	C
1	BA	1744	U
1	BA	1746	U
1	BA	1749	G
1	BA	1750	G
1	BA	1754	G
1	BA	1758	A
1	BA	1812	C
1	BA	1816	A

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Mol	Chain	Res	Type
1	BA	1825	A
1	BA	1827	A
1	BA	1831	A
1	BA	1832	A
1	BA	1835	U
1	BA	1839	A
1	BA	1851	A
1	BA	1854	G
1	BA	1859	G
1	BA	1862	U
1	BA	1868	A
1	BA	1869	C
2	AA	32	C
2	AA	39	A
2	AA	45	C
2	AA	54	A
2	AA	62	G
2	AA	70	G
2	AA	73	U
2	AA	75	A
2	AA	79	A
2	AA	93	A
2	AA	94	U
2	AA	104	G
2	AA	135	A
2	AA	136	C
2	AA	139	A
2	AA	141	U
2	AA	144	G
2	AA	153	A
2	AA	161	G
2	AA	167	G
2	AA	169	A
2	AA	172	A
2	AA	173	C
2	AA	174	U
2	AA	176	G
2	AA	177	A
2	AA	183	U
2	AA	185	G
2	AA	191	C
2	AA	201	A

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Mol	Chain	Res	Type
2	AA	202	U
2	AA	208	A
2	AA	210	C
2	AA	213	A
2	AA	214	U
2	AA	216	G
2	AA	219	C
2	AA	269	U
2	AA	270	G
2	AA	276	U
2	AA	280	G
2	AA	292	A
2	AA	294	U
2	AA	295	U
2	AA	296	A
2	AA	298	A
2	AA	302	A
2	AA	303	A
2	AA	304	C
2	AA	309	C
2	AA	310	C
2	AA	311	A
2	AA	316	G
2	AA	317	A
2	AA	319	G
2	AA	321	A
2	AA	324	A
2	AA	325	A
2	AA	326	C
2	AA	327	A
2	AA	332	G
2	AA	333	A
2	AA	334	C
2	AA	355	G
2	AA	356	U
2	AA	359	G
2	AA	360	A
2	AA	362	A
2	AA	367	A
2	AA	368	G
2	AA	369	C
2	AA	376	G

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Mol	Chain	Res	Type
2	AA	391	A
2	AA	399	C
2	AA	408	C
2	AA	410	G
2	AA	431	G
2	AA	432	A
2	AA	447	A
2	AA	454	C
2	AA	473	U
2	AA	483	G
2	AA	491	G
2	AA	493	A
2	AA	494	A
2	AA	495	U
2	AA	511	G
2	AA	512	G
2	AA	514	G
2	AA	516	G
2	AA	517	C
2	AA	519	G
2	AA	527	G
2	AA	532	U
2	AA	537	C
2	AA	538	A
2	AA	545	A
2	AA	547	A
2	AA	566	A
2	AA	573	A
2	AA	575	A
2	AA	585	G
2	AA	586	U
2	AA	599	G
2	AA	600	G
2	AA	602	U
2	AA	605	U
2	AA	606	U
2	AA	608	C
2	AA	612	G
2	AA	618	U
2	AA	633	A
2	AA	634	A
2	AA	642	U

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Mol	Chain	Res	Type
2	AA	643	A
2	AA	644	A
2	AA	647	A
2	AA	659	G
2	AA	667	C
2	AA	680	U
2	AA	681	A
2	AA	694	A
2	AA	695	A
2	AA	696	A
2	AA	713	U
2	AA	721	A2M
2	AA	722	A
2	AA	725	G
2	AA	726	G
2	AA	740	U
2	AA	742	U
2	AA	748	A
2	AA	750	G
2	AA	752	A
2	AA	753	G
2	AA	754	U
2	AA	757	G
2	AA	762	C
2	AA	777	C
2	AA	778	A
2	AA	781	U
2	AA	783	G
2	AA	787	G
2	AA	789	G
2	AA	790	U
2	AA	793	U
2	AA	794	G
2	AA	795	A
2	AA	799	A
2	AA	801	G
2	AA	805	U
2	AA	806	C
2	AA	807	G
2	AA	827	G
2	AA	829	U
2	AA	830	A

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Mol	Chain	Res	Type
2	AA	833	A
2	AA	834	G
2	AA	835	A
2	AA	844	A
2	AA	848	G
2	AA	850	U
2	AA	851	C
2	AA	867	C
2	AA	873	A
2	AA	874	U
2	AA	875	G
2	AA	877	A
2	AA	878	U
2	AA	885	G
2	AA	886	G
2	AA	888	C
2	AA	895	G
2	AA	896	A
2	AA	897	A
2	AA	898	U
2	AA	899	U
2	AA	910	A
2	AA	915	G
2	AA	920	G
2	AA	933	U
2	AA	934	U
2	AA	935	G
2	AA	936	C
2	AA	937	C
2	AA	940	C
2	AA	941	U
2	AA	949	C
2	AA	955	A
2	AA	959	G
2	AA	968	G
2	AA	969	C
2	AA	973	A
2	AA	974	G
2	AA	978	U
2	AA	979	G
2	AA	981	G
2	AA	982	G

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Mol	Chain	Res	Type
2	AA	997	U
2	AA	1000	G
2	AA	1007	U
2	AA	1010	G
2	AA	1011	A
2	AA	1012	A
2	AA	1013	G
2	AA	1014	U
2	AA	1016	C
2	AA	1018	U
2	AA	1019	G
2	AA	1021	G
2	AA	1025	U
2	AA	1027	A
2	AA	1028	U
2	AA	1031	G
2	AA	1033	C
2	AA	1034	C
2	AA	1052	G
2	AA	1070	G
2	AA	1073	G
2	AA	1074	C
2	AA	1077	G
2	AA	1122	G
2	AA	1130	C
2	AA	1131	A
2	AA	1135	A
2	AA	1139	A
2	AA	1141	G
2	AA	1149	U
2	AA	1150	U
2	AA	1153	G
2	AA	1158	G
2	AA	1160	A
2	AA	1163	U
2	AA	1183	A
2	AA	1192	A
2	AA	1203	A
2	AA	1210	A
2	AA	1212	A
2	AA	1229	A
2	AA	1236	C

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Mol	Chain	Res	Type
2	AA	1237	U
2	AA	1241	U
2	AA	1243	A
2	AA	1247	A
2	AA	1265	A
2	AA	1269	A
2	AA	1275	A
2	AA	1281	G
2	AA	1282	A
2	AA	1298	C
2	AA	1301	C
2	AA	1302	A
2	AA	1303	A
2	AA	1305	C
2	AA	1320	A
2	AA	1322	U
2	AA	1381	U
2	AA	1382	A
2	AA	1385	U
2	AA	1387	U
2	AA	1389	A
2	AA	1391	U
2	AA	1392	U
2	AA	1393	U
2	AA	1395	C
2	AA	1396	G
2	AA	1401	U
2	AA	1462	U
2	AA	1463	C
2	AA	1481	U
2	AA	1482	U
2	AA	1483	C
2	AA	1496	G
2	AA	1497	G
2	AA	1501	U
2	AA	1502	U
2	AA	1504	C
2	AA	1505	A
2	AA	1519	G
2	AA	1536	A
2	AA	1542	A
2	AA	1543	A

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Mol	Chain	Res	Type
2	AA	1555	G
2	AA	1556	A
2	AA	1560	G
2	AA	1563	C
2	AA	1564	C
2	AA	1572	G
2	AA	1590	U
2	AA	1596	B8N
2	AA	1599	A
2	AA	1601	A
2	AA	1604	G
2	AA	1605	G
2	AA	1606	G
2	AA	1607	A
2	AA	1617	G
2	AA	1619	PSU
2	AA	1622	G
2	AA	1623	G
2	AA	1634	G
2	AA	1642	G
2	AA	1643	A
2	AA	1644	U
2	AA	1648	G
2	AA	1649	U
2	AA	1650	G
2	AA	1651	U
2	AA	1657	C
2	AA	1661	A
2	AA	1671	U
2	AA	1696	G
2	AA	1706	U
2	AA	1714	G
2	AA	1719	U
2	AA	1720	U
2	AA	1726	A
2	AA	1730	G
2	AA	1732	C
2	AA	1746	C
2	AA	1751	U
2	AA	1752	A
2	AA	1755	U
2	AA	1757	C

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Mol	Chain	Res	Type
2	AA	1765	G
2	AA	1770	C
2	AA	1775	G
2	AA	1776	A
2	AA	1780	C
2	AA	1781	A
2	AA	1782	G
2	AA	1783	U
2	AA	1817	C
2	AA	1818	G
2	AA	1819	U
2	AA	1822	U
2	AA	1827	C
2	AA	1830	U
2	AA	1832	U
2	AA	1833	U
2	AA	1836	G
2	AA	1850	G
2	AA	1851	G
2	AA	1853	A
2	AA	1854	U
2	AA	1855	U
2	AA	1863	U
2	AA	1864	U
2	AA	1865	U
2	AA	1866	C
2	AA	1873	G
2	AA	1880	U
2	AA	1882	U
2	AA	1891	A
2	AA	1892	G
2	AA	1894	A
2	AA	1895	OMG
2	AA	1899	OMU
2	AA	1902	G
2	AA	1903	A
2	AA	1906	C
2	AA	1912	A
2	AA	1913	A
2	AA	1924	G
2	AA	1925	A
2	AA	1926	C

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Mol	Chain	Res	Type
2	AA	1927	A
2	AA	1936	A
2	AA	1938	A
2	AA	1946	U
2	AA	1950	A
2	AA	1951	A
2	AA	1953	A
2	AA	1956	A
2	AA	1957	G
2	AA	1961	G
2	AA	1981	G
2	AA	1991	G
2	AA	1992	A
2	AA	1994	C
2	AA	1995	A
2	AA	2001	G
2	AA	2008	A
2	AA	2009	A
2	AA	2013	C
2	AA	2023	U
2	AA	2025	G
2	AA	2030	A
2	AA	2031	C
2	AA	2036	G
2	AA	2051	U
2	AA	2053	A
2	AA	2054	OMU
2	AA	2063	C
2	AA	2064	A
2	AA	2070	7MG
2	AA	2079	G
2	AA	2080	U
2	AA	2085	G
2	AA	2096	A2M
2	AA	2102	G
2	AA	2111	G
2	AA	2126	A
2	AA	2133	G
2	AA	2172	C
2	AA	2174	G
2	AA	2175	A
2	AA	2178	G

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Mol	Chain	Res	Type
2	AA	2179	U
2	AA	2198	G
2	AA	2216	C
2	AA	2221	A
2	AA	2226	G
2	AA	2235	A
2	AA	2239	G
2	AA	2241	A
2	AA	2245	A
2	AA	2248	U
2	AA	2259	G
2	AA	2261	MA6
2	AA	2271	G
2	AA	2272	G
2	AA	2273	A
2	AA	2274	U
2	AA	2275	C
2	AA	2278	U
3	BB	7	C
3	BB	12	G
3	BB	18	A
3	BB	22	A
3	BB	25	A
3	BB	29	C
3	BB	33	A
3	BB	61	C
3	BB	62	A
3	BB	63	U
3	BB	68	A
3	BB	69	A
3	BB	75	C
3	BB	76	A
3	BB	90	G
3	BB	133	G
3	BB	136	A
3	BB	137	A
3	BB	359	A
3	BB	360	U
3	BB	371	G
3	BB	380	A
3	BB	381	C
3	BB	386	G

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Mol	Chain	Res	Type
3	BB	395	A
3	BB	398	G
3	BB	400	A2M
3	BB	404	U
3	BB	408	A
3	BB	422	A
3	BB	433	U
3	BB	440	U
3	BB	452	A
3	BB	470	G
3	BB	474	G
3	BB	481	U
3	BB	484	C
3	BB	487	G
3	BB	513	G
3	BB	514	G
3	BB	520	A
3	BB	521	C
3	BB	522	PSU
3	BB	527	C
3	BB	536	G
3	BB	537	G
3	BB	545	A2M
3	BB	548	C
3	BB	552	OMG
3	BB	571	G
3	BB	574	U
3	BB	577	A
3	BB	579	G
3	BB	598	U
3	BB	600	U
3	BB	629	PSU
3	BB	637	A
3	BB	638	C
3	BB	639	G
3	BB	657	G
3	BB	661	A
3	BB	665	A
3	BB	666	A
3	BB	667	G
3	BB	668	A
3	BB	675	U

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Mol	Chain	Res	Type
3	BB	676	G
3	BB	683	A
3	BB	706	G
3	BB	766	C
3	BB	767	G
3	BB	768	U
3	BB	770	G
3	BB	778	U
3	BB	779	A
3	BB	786	G
3	BB	787	A
3	BB	789	G
3	BB	790	A
3	BB	798	G
3	BB	799	G
3	BB	800	U
3	BB	801	U
3	BB	803	U
3	BB	804	U
3	BB	806	U
3	BB	807	G
3	BB	817	C
3	BB	818	G
3	BB	819	G
3	BB	825	G
3	BB	830	G
3	BB	831	U
3	BB	837	C
3	BB	968	C
3	BB	969	G
3	BB	971	G
3	BB	975	G
3	BB	977	A
3	BB	978	A
3	BB	979	C
3	BB	982	C
3	BB	983	U
3	BB	984	G
3	BB	991	A
3	BB	992	C
3	BB	1014	U
3	BB	1023	U

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Mol	Chain	Res	Type
3	BB	1027	G
3	BB	1028	U
3	BB	1035	A
3	BB	1038	U
3	BB	1039	C
3	BB	1049	G
3	BB	1050	G
3	BB	1057	G
3	BB	1062	OMG
3	BB	1091	G
3	BB	1095	U
3	BB	1099	A
3	BB	1117	A
3	BB	1120	G
3	BB	1122	A
3	BB	1124	U
3	BB	1132	G
3	BB	1134	A
3	BB	1137	A
3	BB	1139	A
3	BB	1147	A
3	BB	1157	G
3	BB	1162	A
3	BB	1163	C
3	BB	1172	G
3	BB	1173	U
3	BB	1190	A
3	BB	1191	A
3	BB	1197	G
3	BB	1205	A
3	BB	1215	A
3	BB	1220	C
3	BB	1221	A
3	BB	1222	G
3	BB	1223	G
3	BB	1225	A
3	BB	1226	A
3	BB	1231	A
3	BB	1250	G
3	BB	1253	A
3	BB	1254	G
3	BB	1255	A

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Mol	Chain	Res	Type
3	BB	1257	U
3	BB	1264	OMC
3	BB	1268	G
3	BB	1271	A
3	BB	1287	G
3	BB	1298	C
3	BB	1299	A
3	BB	1325	G
3	BB	1329	U
3	BB	1330	C
3	BB	1341	A
3	BB	1377	U
3	BB	1389	C
3	BB	1390	A
3	BB	1396	C
3	BB	1401	G
3	BB	1425	A
3	BB	1432	U
3	BB	1437	C
3	BB	1444	U
3	BB	1446	G
3	BB	1449	G
3	BB	1452	G
3	BB	1453	A
3	BB	1457	C
3	BB	1458	G
3	BB	1459	A
3	BB	1464	A
3	BB	1468	U
3	BB	1470	A
3	BB	1478	A
3	BB	1479	A
3	BB	1486	G
3	BB	1489	A
3	BB	1490	G
3	BB	1491	U
3	BB	1494	G
3	BB	1495	U
3	BB	1496	U
3	BB	1498	U
3	BB	1501	U
3	BB	1502	C

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Mol	Chain	Res	Type
3	BB	1503	U
3	BB	1504	G
3	BB	1505	G
3	BB	1507	U
3	BB	1508	C
3	BB	1514	U
3	BB	1515	U
3	BB	1518	G
3	BB	1519	U
3	BB	1520	G
3	BB	1523	A
3	BB	1524	U
3	BB	1526	U
3	BB	1527	G
3	BB	1530	U
3	BB	1535	C
3	BB	1536	U
4	BH	14	C
4	BH	23	G
4	BH	26	C
4	BH	28	U
4	BH	49	C
4	BH	50	A
4	BH	51	C
4	BH	52	G
4	BH	69	C
4	BH	70	U
4	BH	71	C
4	BH	72	G
4	BH	75	G
4	BH	86	G
4	BH	87	U
4	BH	99	G
4	BH	106	G
4	BH	109	G
4	BH	113	G
4	BH	116	A
4	BH	117	U
4	BH	118	U
4	BH	119	U
4	BH	120	C
4	BH	125	U

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Mol	Chain	Res	Type
4	BH	134	U
4	BH	135	U
5	BG	5	G
5	BG	8	U
5	BG	9	G
5	BG	10	U
5	BG	12	A
5	BG	19	C
5	BG	25	G
5	BG	39	A
5	BG	40	G
5	BG	58	G
5	BG	60	A
5	BG	74	G
5	BG	85	C
5	BG	86	U
5	BG	102	G
5	BG	114	A
5	BG	120	U
5	BG	121	C
5	BG	127	G
5	BG	132	U
5	BG	139	U
5	BG	145	C
5	BG	149	U
5	BG	150	A
5	BG	157	A
5	BG	158	A
5	BG	159	A
5	BG	168	A
5	BG	171	A
5	BG	173	C
6	BF	10	G
6	BF	11	C
6	BF	12	C
6	BF	14	C
6	BF	23	U
6	BF	24	C
6	BF	25	C
6	BF	36	G
6	BF	57	G
6	BF	58	U

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Mol	Chain	Res	Type
6	BF	59	A
6	BF	60	C
6	BF	63	U
6	BF	69	U
6	BF	70	C
6	BF	72	C
6	BF	73	A
7	BE	4	G
7	BE	11	U
7	BE	14	G
7	BE	15	A
7	BE	17	A
7	BE	22	U
7	BE	32	C
7	BE	33	C
7	BE	34	C
7	BE	35	A
7	BE	39	A
7	BE	40	U
7	BE	46	C
7	BE	47	A
7	BE	50	G
7	BE	51	U
7	BE	62	U
7	BE	70	A
7	BE	107	C
7	BE	108	G
7	BE	109	A
7	BE	110	C
7	BE	111	U
7	BE	112	U
7	BE	113	C
7	BE	114	U
7	BE	122	C
7	BE	123	U
7	BE	124	C
7	BE	147	A
7	BE	149	A
7	BE	157	C
7	BE	158	A
7	BE	159	C
7	BE	161	C

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Mol	Chain	Res	Type
7	BE	162	U
7	BE	163	A
7	BE	164	C
7	BE	165	G
7	BE	181	U
7	BE	186	U
7	BE	187	C
7	BE	191	G
7	BE	195	U
7	BE	198	A
7	BE	201	A
7	BE	209	G
8	BD	12	U
8	BD	22	A
8	BD	23	A
8	BD	27	A
8	BD	40	C
8	BD	48	G
8	BD	53	U
8	BD	54	A
8	BD	63	C
8	BD	64	A
8	BD	65	G
8	BD	97	U
8	BD	100	A
8	BD	110	G
8	BD	117	U
9	BC	22	U
9	BC	32	U
9	BC	33	U
9	BC	48	A
9	BC	59	A
9	BC	62	A
9	BC	63	G
9	BC	77	A
9	BC	94	C
9	BC	103	A
9	BC	105	C
9	BC	110	A
9	BC	124	A
9	BC	136	G
9	BC	138	C

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Mol	Chain	Res	Type
9	BC	149	A
9	BC	157	U
9	BC	158	U
9	BC	159	U
9	BC	162	C
9	BC	169	G
9	BC	170	A
10	AB	4	C
10	AB	66	U
10	AB	67	C
10	AB	70	G
10	AB	71	G
10	AB	73	A
10	AB	76	A

All (34) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	BA	268	G
1	BA	597	U
1	BA	610	C
1	BA	1036	G
1	BA	1316	U
1	BA	1524	U
1	BA	1648	U
1	BA	1745	G
1	BA	1830	G
2	AA	166	C
2	AA	172	A
2	AA	291	A
2	AA	324	A
2	AA	598	U
2	AA	978	U
2	AA	1069	U
2	AA	1321	U
2	AA	1381	U
2	AA	1390	A
2	AA	1832	U
2	AA	1853	A
2	AA	1924	G
3	BB	379	U
3	BB	817	C

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Mol	Chain	Res	Type
3	BB	1038	U
3	BB	1224	A
3	BB	1507	U
5	BG	18	U
6	BF	56	A
7	BE	123	U
7	BE	158	A
7	BE	162	U
7	BE	186	U
10	AB	66	U

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

125 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$
1	A2M	BA	746	1	18,25,26	3.65	7 (38%)	18,36,39	3.74	4 (22%)
2	A2M	AA	56	89,2	18,25,26	3.63	7 (38%)	18,36,39	3.72	4 (22%)
3	A2M	BB	609	3	18,25,26	3.62	7 (38%)	18,36,39	3.67	4 (22%)
3	A2M	BB	545	87,3	18,25,26	3.69	8 (44%)	18,36,39	3.89	5 (27%)
1	PSU	BA	1169	1	18,21,22	4.43	7 (38%)	22,30,33	1.87	5 (22%)
2	OMC	AA	66	2	19,22,23	2.93	8 (42%)	26,31,34	0.77	0
3	A2M	BB	95	3	18,25,26	3.60	8 (44%)	18,36,39	3.72	4 (22%)
3	A2M	BB	1400	87,3	18,25,26	3.61	8 (44%)	18,36,39	3.76	4 (22%)
1	PSU	BA	1609	1	18,21,22	4.44	7 (38%)	22,30,33	1.84	5 (22%)
2	B8N	AA	1596	2	24,29,30	3.01	6 (25%)	29,42,45	1.72	5 (17%)
1	OMG	BA	1267	1	18,26,27	2.49	8 (44%)	19,38,41	1.63	5 (26%)
1	OMC	BA	760	1	19,22,23	2.91	8 (42%)	26,31,34	0.72	0
2	OMG	AA	1931	89,2	18,26,27	2.51	8 (44%)	19,38,41	1.62	5 (26%)
1	A2M	BA	762	1	18,25,26	3.60	7 (38%)	18,36,39	3.79	4 (22%)
2	PSU	AA	131	2	18,21,22	4.41	7 (38%)	22,30,33	1.74	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	OMU	AA	1652	2	19,22,23	2.99	8 (42%)	26,31,34	1.72	5 (19%)
3	OMG	BB	1094	3	18,26,27	2.50	8 (44%)	19,38,41	1.64	4 (21%)
3	OMC	BB	1413	3	19,22,23	2.92	8 (42%)	26,31,34	0.76	0
1	OMU	BA	1181	1	19,22,23	2.97	8 (42%)	26,31,34	1.80	5 (19%)
3	OMG	BB	71	3	18,26,27	2.52	8 (44%)	19,38,41	1.58	4 (21%)
3	OMG	BB	673	3	18,26,27	2.52	8 (44%)	19,38,41	1.61	4 (21%)
3	PSU	BB	1160	3	18,21,22	4.46	7 (38%)	22,30,33	1.83	5 (22%)
3	OMG	BB	1269	3	18,26,27	2.48	8 (44%)	19,38,41	1.54	5 (26%)
2	A2M	AA	2153	2	18,25,26	3.64	9 (50%)	18,36,39	3.90	4 (22%)
3	OMU	BB	578	89,3	19,22,23	2.95	8 (42%)	26,31,34	1.73	4 (15%)
1	PSU	BA	1086	88,1,87	18,21,22	4.38	7 (38%)	22,30,33	1.83	5 (22%)
1	OMG	BA	1621	1,3	18,26,27	2.46	8 (44%)	19,38,41	1.52	5 (26%)
3	5MC	BB	1324	3	18,22,23	3.51	7 (38%)	26,32,35	1.10	1 (3%)
2	PSU	AA	2045	2	18,21,22	4.39	7 (38%)	22,30,33	1.81	5 (22%)
3	OMG	BB	1245	3	18,26,27	2.51	8 (44%)	19,38,41	1.54	4 (21%)
1	OMG	BA	1709	1	18,26,27	2.53	8 (44%)	19,38,41	1.56	4 (21%)
1	A2M	BA	996	89,1	18,25,26	3.62	7 (38%)	18,36,39	3.68	4 (22%)
1	PSU	BA	1009	1	18,21,22	4.39	7 (38%)	22,30,33	1.85	5 (22%)
9	A2M	BC	163	9,1	18,25,26	3.59	7 (38%)	18,36,39	3.79	4 (22%)
3	OMC	BB	377	3	19,22,23	2.98	8 (42%)	26,31,34	0.71	0
3	PSU	BB	455	88,87,3	18,21,22	4.41	7 (38%)	22,30,33	1.84	5 (22%)
3	A2M	BB	1201	3	18,25,26	3.61	8 (44%)	18,36,39	3.72	4 (22%)
2	OMG	AA	1700	2	18,26,27	2.43	8 (44%)	19,38,41	1.65	5 (26%)
3	OMU	BB	685	3	19,22,23	2.98	8 (42%)	26,31,34	1.73	5 (19%)
2	OMC	AA	46	2	19,22,23	2.86	8 (42%)	26,31,34	0.77	0
2	OMU	AA	2054	2	19,22,23	2.97	8 (42%)	26,31,34	1.73	4 (15%)
1	A2M	BA	1620	1,87,3	18,25,26	3.61	8 (44%)	18,36,39	3.75	4 (22%)
1	OMG	BA	925	1	18,26,27	2.50	8 (44%)	19,38,41	1.54	3 (15%)
1	OMG	BA	1605	1	18,26,27	2.52	8 (44%)	19,38,41	1.61	4 (21%)
3	OMG	BB	659	3	18,26,27	2.50	8 (44%)	19,38,41	1.61	5 (26%)
1	OMG	BA	1028	1	18,26,27	2.50	8 (44%)	19,38,41	1.52	4 (21%)
3	OMU	BB	73	3	19,22,23	2.96	8 (42%)	26,31,34	1.69	5 (19%)
9	PSU	BC	74	9	18,21,22	4.49	7 (38%)	22,30,33	1.88	5 (22%)
1	OMC	BA	1608	1	19,22,23	2.95	8 (42%)	26,31,34	0.96	2 (7%)
1	A2M	BA	1665	1,3	18,25,26	3.61	8 (44%)	18,36,39	3.70	4 (22%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	PSU	AA	1619	2	18,21,22	4.38	8 (44%)	22,30,33	1.64	4 (18%)
3	A2M	BB	588	1,3	18,25,26	3.63	8 (44%)	18,36,39	3.78	5 (27%)
3	OMC	BB	1264	3	19,22,23	2.95	8 (42%)	26,31,34	0.82	0
3	PSU	BB	1398	87,3	18,21,22	4.41	8 (44%)	22,30,33	1.86	6 (27%)
1	A2M	BA	254	1	18,25,26	3.61	8 (44%)	18,36,39	3.77	4 (22%)
2	OMU	AA	1899	2	19,22,23	3.00	8 (42%)	26,31,34	1.78	5 (19%)
3	OMG	BB	1062	3	18,26,27	2.51	8 (44%)	19,38,41	1.56	4 (21%)
3	PSU	BB	1076	3	18,21,22	4.41	7 (38%)	22,30,33	1.94	5 (22%)
3	OMU	BB	1375	3	19,22,23	2.96	8 (42%)	26,31,34	1.71	5 (19%)
2	MA6	AA	2260	2	18,26,27	1.14	1 (5%)	19,38,41	3.21	2 (10%)
9	A2M	BC	43	9	18,25,26	3.59	7 (38%)	18,36,39	3.72	4 (22%)
2	PSU	AA	1276	2	18,21,22	4.37	7 (38%)	22,30,33	1.87	5 (22%)
1	OMU	BA	1742	1	19,22,23	2.96	8 (42%)	26,31,34	1.71	4 (15%)
2	PSU	AA	942	2	18,21,22	4.41	7 (38%)	22,30,33	1.68	5 (22%)
3	PSU	BB	629	3	18,21,22	4.40	7 (38%)	22,30,33	1.79	5 (22%)
1	PSU	BA	1258	1	18,21,22	4.41	7 (38%)	22,30,33	1.84	5 (22%)
3	A2M	BB	1388	3	18,25,26	3.64	7 (38%)	18,36,39	3.88	4 (22%)
3	PSU	BB	680	87,3	18,21,22	4.39	7 (38%)	22,30,33	1.83	5 (22%)
3	PSU	BB	1210	3	18,21,22	4.45	7 (38%)	22,30,33	1.78	5 (22%)
1	PSU	BA	1129	1	18,21,22	4.43	7 (38%)	22,30,33	1.82	5 (22%)
1	OMU	BA	1448	1	19,22,23	2.97	8 (42%)	26,31,34	1.74	4 (15%)
3	PSU	BB	1280	3	18,21,22	4.41	7 (38%)	22,30,33	1.86	6 (27%)
1	OMC	BA	1006	1	19,22,23	2.91	8 (42%)	26,31,34	0.74	0
1	PSU	BA	1248	1	18,21,22	4.44	7 (38%)	22,30,33	1.84	6 (27%)
1	PSU	BA	452	1	18,21,22	4.46	7 (38%)	22,30,33	1.78	5 (22%)
2	OMG	AA	1676	88,2	18,26,27	2.51	8 (44%)	19,38,41	1.56	4 (21%)
9	OMG	BC	75	9	18,26,27	2.55	8 (44%)	19,38,41	1.56	4 (21%)
3	OMG	BB	1247	3	18,26,27	2.52	8 (44%)	19,38,41	1.52	4 (21%)
2	OMU	AA	57	2	19,22,23	2.96	8 (42%)	26,31,34	1.72	5 (19%)
3	A2M	BB	646	3	18,25,26	3.63	7 (38%)	18,36,39	3.76	4 (22%)
3	OMC	BB	1175	3	19,22,23	2.95	8 (42%)	26,31,34	0.78	0
1	PSU	BA	1614	1,3	18,21,22	4.43	7 (38%)	22,30,33	1.79	5 (22%)
2	PSU	AA	61	2	18,21,22	4.46	7 (38%)	22,30,33	1.87	5 (22%)
3	OMC	BB	601	3	19,22,23	2.91	8 (42%)	26,31,34	0.71	0
3	PSU	BB	522	3	18,21,22	4.42	7 (38%)	22,30,33	1.77	5 (22%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	OMU	BB	1093	3	19,22,23	3.01	8 (42%)	26,31,34	1.73	5 (19%)
2	OMU	AA	2123	2	19,22,23	2.87	7 (36%)	26,31,34	1.81	4 (15%)
2	PSU	AA	2146	2	18,21,22	4.39	7 (38%)	22,30,33	1.70	4 (18%)
1	OMU	BA	916	1	19,22,23	2.96	8 (42%)	26,31,34	1.77	5 (19%)
1	OMG	BA	915	1	18,26,27	2.51	8 (44%)	19,38,41	1.59	4 (21%)
3	OMG	BB	552	3	18,26,27	2.46	8 (44%)	19,38,41	1.50	4 (21%)
2	OMG	AA	1895	2,87	18,26,27	2.49	8 (44%)	19,38,41	1.55	4 (21%)
2	OMG	AA	1517	2	18,26,27	2.53	8 (44%)	19,38,41	1.57	4 (21%)
2	A2M	AA	721	2,87	18,25,26	3.64	8 (44%)	18,36,39	3.82	4 (22%)
3	OMU	BB	1435	3	19,22,23	2.98	8 (42%)	26,31,34	1.72	5 (19%)
3	PSU	BB	1319	3	18,21,22	4.46	8 (44%)	22,30,33	1.83	6 (27%)
1	OMC	BA	1329	1	19,22,23	3.03	8 (42%)	26,31,34	0.78	0
2	PSU	AA	1592	2	18,21,22	4.39	7 (38%)	22,30,33	1.85	5 (22%)
2	OMC	AA	2134	2	19,22,23	2.84	8 (42%)	26,31,34	0.72	0
1	PSU	BA	258	1	18,21,22	4.49	7 (38%)	22,30,33	1.78	5 (22%)
2	OMG	AA	2227	2	18,26,27	2.49	8 (44%)	19,38,41	1.56	4 (21%)
2	OMU	AA	714	2	19,22,23	2.94	8 (42%)	26,31,34	1.71	5 (19%)
2	MA6	AA	2261	2	18,26,27	1.17	1 (5%)	19,38,41	3.01	2 (10%)
3	PSU	BB	644	3	18,21,22	4.41	7 (38%)	22,30,33	1.82	5 (22%)
1	A2M	BA	743	1,3	18,25,26	3.62	8 (44%)	18,36,39	3.92	4 (22%)
1	1MA	BA	742	1,87	16,25,26	3.96	4 (25%)	18,37,40	1.75	3 (16%)
1	A2M	BA	1024	1	18,25,26	3.58	7 (38%)	18,36,39	3.70	4 (22%)
2	7MG	AA	2070	2	22,26,27	4.14	10 (45%)	29,39,42	2.05	9 (31%)
3	A2M	BB	622	1,3	18,25,26	3.59	7 (38%)	18,36,39	3.76	4 (22%)
3	A2M	BB	400	3	18,25,26	3.62	8 (44%)	18,36,39	3.71	4 (22%)
1	PSU	BA	737	1,87	18,21,22	4.39	7 (38%)	22,30,33	1.77	5 (22%)
2	OMG	AA	1531	2	18,26,27	2.42	8 (44%)	19,38,41	1.60	4 (21%)
3	PSU	BB	1334	3	18,21,22	4.38	7 (38%)	22,30,33	1.80	5 (22%)
2	OMU	AA	2154	2	19,22,23	2.98	8 (42%)	26,31,34	1.74	5 (19%)
3	5MC	BB	542	87,3	18,22,23	3.41	7 (38%)	26,32,35	1.08	2 (7%)
1	OMU	BA	46	1	19,22,23	2.96	8 (42%)	26,31,34	1.78	5 (19%)
3	PSU	BB	1429	3	18,21,22	4.37	7 (38%)	22,30,33	1.87	5 (22%)
9	OMU	BC	7	9,1	19,22,23	2.99	8 (42%)	26,31,34	1.72	5 (19%)
2	A2M	AA	2096	2	18,25,26	3.62	7 (38%)	18,36,39	3.87	5 (27%)
3	PSU	BB	611	3	18,21,22	4.37	8 (44%)	22,30,33	1.65	4 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
9	A2M	BC	41	9	18,25,26	3.62	8 (44%)	18,36,39	3.77	4 (22%)
3	PSU	BB	615	3	18,21,22	4.42	7 (38%)	22,30,33	1.82	5 (22%)
2	OMU	AA	36	2	19,22,23	2.95	8 (42%)	26,31,34	1.86	5 (19%)
1	A2M	BA	927	1	18,25,26	3.62	7 (38%)	18,36,39	3.66	4 (22%)
3	PSU	BB	1409	3	18,21,22	4.47	7 (38%)	22,30,33	1.74	5 (22%)

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
1	A2M	BA	746	1	-	0/5/27/28	0/3/3/3
2	A2M	AA	56	89,2	-	1/5/27/28	0/3/3/3
3	A2M	BB	609	3	-	1/5/27/28	0/3/3/3
3	A2M	BB	545	87,3	-	2/5/27/28	0/3/3/3
1	PSU	BA	1169	1	-	0/7/25/26	0/2/2/2
2	OMC	AA	66	2	-	0/9/27/28	0/2/2/2
3	A2M	BB	95	3	-	1/5/27/28	0/3/3/3
3	A2M	BB	1400	87,3	-	0/5/27/28	0/3/3/3
1	PSU	BA	1609	1	-	0/7/25/26	0/2/2/2
2	B8N	AA	1596	2	-	5/16/34/35	0/2/2/2
1	OMG	BA	1267	1	-	0/5/27/28	0/3/3/3
1	OMC	BA	760	1	-	1/9/27/28	0/2/2/2
2	OMG	AA	1931	89,2	-	0/5/27/28	0/3/3/3
1	A2M	BA	762	1	-	1/5/27/28	0/3/3/3
2	PSU	AA	131	2	-	2/7/25/26	0/2/2/2
2	OMU	AA	1652	2	-	0/9/27/28	0/2/2/2
3	OMG	BB	1094	3	-	0/5/27/28	0/3/3/3
3	OMC	BB	1413	3	-	0/9/27/28	0/2/2/2
1	OMU	BA	1181	1	-	0/9/27/28	0/2/2/2
3	OMG	BB	71	3	-	0/5/27/28	0/3/3/3
3	OMG	BB	673	3	-	0/5/27/28	0/3/3/3
3	PSU	BB	1160	3	-	0/7/25/26	0/2/2/2
3	OMG	BB	1269	3	-	0/5/27/28	0/3/3/3
2	A2M	AA	2153	2	-	1/5/27/28	0/3/3/3
3	OMU	BB	578	89,3	-	5/9/27/28	0/2/2/2
1	PSU	BA	1086	88,1,87	-	0/7/25/26	0/2/2/2
1	OMG	BA	1621	1,3	-	0/5/27/28	0/3/3/3
3	5MC	BB	1324	3	-	4/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	PSU	AA	2045	2	-	0/7/25/26	0/2/2/2
3	OMG	BB	1245	3	-	0/5/27/28	0/3/3/3
1	OMG	BA	1709	1	-	0/5/27/28	0/3/3/3
1	A2M	BA	996	89,1	-	1/5/27/28	0/3/3/3
1	PSU	BA	1009	1	-	0/7/25/26	0/2/2/2
9	A2M	BC	163	9,1	-	1/5/27/28	0/3/3/3
3	OMC	BB	377	3	-	0/9/27/28	0/2/2/2
3	PSU	BB	455	88,87,3	-	0/7/25/26	0/2/2/2
3	A2M	BB	1201	3	-	3/5/27/28	0/3/3/3
2	OMG	AA	1700	2	-	0/5/27/28	0/3/3/3
3	OMU	BB	685	3	-	1/9/27/28	0/2/2/2
2	OMC	AA	46	2	-	0/9/27/28	0/2/2/2
2	OMU	AA	2054	2	-	2/9/27/28	0/2/2/2
1	A2M	BA	1620	1,87,3	-	0/5/27/28	0/3/3/3
1	OMG	BA	925	1	-	0/5/27/28	0/3/3/3
1	OMG	BA	1605	1	-	2/5/27/28	0/3/3/3
3	OMG	BB	659	3	-	0/5/27/28	0/3/3/3
1	OMG	BA	1028	1	-	2/5/27/28	0/3/3/3
3	OMU	BB	73	3	-	0/9/27/28	0/2/2/2
9	PSU	BC	74	9	-	0/7/25/26	0/2/2/2
1	OMC	BA	1608	1	-	3/9/27/28	0/2/2/2
1	A2M	BA	1665	1,3	-	3/5/27/28	0/3/3/3
2	PSU	AA	1619	2	-	2/7/25/26	0/2/2/2
3	A2M	BB	588	1,3	-	1/5/27/28	0/3/3/3
3	OMC	BB	1264	3	-	1/9/27/28	0/2/2/2
3	PSU	BB	1398	87,3	-	1/7/25/26	0/2/2/2
1	A2M	BA	254	1	-	0/5/27/28	0/3/3/3
2	OMU	AA	1899	2	-	4/9/27/28	0/2/2/2
3	OMG	BB	1062	3	-	3/5/27/28	0/3/3/3
3	PSU	BB	1076	3	-	0/7/25/26	0/2/2/2
3	OMU	BB	1375	3	-	1/9/27/28	0/2/2/2
2	MA6	AA	2260	2	-	0/7/29/30	0/3/3/3
9	A2M	BC	43	9	-	1/5/27/28	0/3/3/3
2	PSU	AA	1276	2	-	0/7/25/26	0/2/2/2
1	OMU	BA	1742	1	-	1/9/27/28	0/2/2/2
2	PSU	AA	942	2	-	4/7/25/26	0/2/2/2
3	PSU	BB	629	3	-	2/7/25/26	0/2/2/2
1	PSU	BA	1258	1	-	2/7/25/26	0/2/2/2
3	A2M	BB	1388	3	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PSU	BB	680	87,3	-	0/7/25/26	0/2/2/2
3	PSU	BB	1210	3	-	0/7/25/26	0/2/2/2
1	PSU	BA	1129	1	-	0/7/25/26	0/2/2/2
1	OMU	BA	1448	1	-	2/9/27/28	0/2/2/2
3	PSU	BB	1280	3	-	0/7/25/26	0/2/2/2
1	OMC	BA	1006	1	-	0/9/27/28	0/2/2/2
1	PSU	BA	1248	1	-	0/7/25/26	0/2/2/2
1	PSU	BA	452	1	-	0/7/25/26	0/2/2/2
2	OMG	AA	1676	88,2	-	1/5/27/28	0/3/3/3
9	OMG	BC	75	9	-	1/5/27/28	0/3/3/3
3	OMG	BB	1247	3	-	0/5/27/28	0/3/3/3
2	OMU	AA	57	2	-	1/9/27/28	0/2/2/2
3	A2M	BB	646	3	-	0/5/27/28	0/3/3/3
3	OMC	BB	1175	3	-	0/9/27/28	0/2/2/2
1	PSU	BA	1614	1,3	-	2/7/25/26	0/2/2/2
2	PSU	AA	61	2	-	0/7/25/26	0/2/2/2
3	OMC	BB	601	3	-	0/9/27/28	0/2/2/2
3	PSU	BB	522	3	-	2/7/25/26	0/2/2/2
3	OMU	BB	1093	3	-	0/9/27/28	0/2/2/2
2	OMU	AA	2123	2	-	0/9/27/28	0/2/2/2
2	PSU	AA	2146	2	-	0/7/25/26	0/2/2/2
1	OMU	BA	916	1	-	0/9/27/28	0/2/2/2
1	OMG	BA	915	1	-	0/5/27/28	0/3/3/3
3	OMG	BB	552	3	-	2/5/27/28	0/3/3/3
2	OMG	AA	1895	2,87	-	1/5/27/28	0/3/3/3
2	OMG	AA	1517	2	-	1/5/27/28	0/3/3/3
2	A2M	AA	721	2,87	-	3/5/27/28	0/3/3/3
3	OMU	BB	1435	3	-	0/9/27/28	0/2/2/2
3	PSU	BB	1319	3	-	0/7/25/26	0/2/2/2
1	OMC	BA	1329	1	-	1/9/27/28	0/2/2/2
2	PSU	AA	1592	2	-	2/7/25/26	0/2/2/2
2	OMC	AA	2134	2	-	1/9/27/28	0/2/2/2
1	PSU	BA	258	1	-	0/7/25/26	0/2/2/2
2	OMG	AA	2227	2	-	0/5/27/28	0/3/3/3
2	OMU	AA	714	2	-	0/9/27/28	0/2/2/2
2	MA6	AA	2261	2	-	1/7/29/30	0/3/3/3
3	PSU	BB	644	3	-	0/7/25/26	0/2/2/2
1	A2M	BA	743	1,3	-	2/5/27/28	0/3/3/3
1	1MA	BA	742	1,87	-	0/3/25/26	0/3/3/3
1	A2M	BA	1024	1	-	1/5/27/28	0/3/3/3
2	7MG	AA	2070	2	-	1/7/37/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	A2M	BB	622	1,3	-	1/5/27/28	0/3/3/3
3	A2M	BB	400	3	-	2/5/27/28	0/3/3/3
1	PSU	BA	737	1,87	-	0/7/25/26	0/2/2/2
2	OMG	AA	1531	2	-	1/5/27/28	0/3/3/3
3	PSU	BB	1334	3	-	0/7/25/26	0/2/2/2
2	OMU	AA	2154	2	-	1/9/27/28	0/2/2/2
3	5MC	BB	542	87,3	-	1/7/25/26	0/2/2/2
1	OMU	BA	46	1	-	0/9/27/28	0/2/2/2
3	PSU	BB	1429	3	-	0/7/25/26	0/2/2/2
9	OMU	BC	7	9,1	-	1/9/27/28	0/2/2/2
2	A2M	AA	2096	2	-	2/5/27/28	0/3/3/3
3	PSU	BB	611	3	-	0/7/25/26	0/2/2/2
9	A2M	BC	41	9	-	0/5/27/28	0/3/3/3
3	PSU	BB	615	3	-	0/7/25/26	0/2/2/2
2	OMU	AA	36	2	-	6/9/27/28	0/2/2/2
1	A2M	BA	927	1	-	0/5/27/28	0/3/3/3
3	PSU	BB	1409	3	-	0/7/25/26	0/2/2/2

All (935) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	BA	742	1MA	C2-N3	14.22	1.46	1.29
1	BA	258	PSU	C6-C5	11.65	1.48	1.35
3	BB	1409	PSU	C6-C5	11.60	1.48	1.35
1	BA	452	PSU	C6-C5	11.60	1.48	1.35
9	BC	74	PSU	C6-C5	11.56	1.48	1.35
3	BB	1160	PSU	C6-C5	11.55	1.48	1.35
1	BA	1129	PSU	C6-C5	11.55	1.48	1.35
3	BB	1319	PSU	C6-C5	11.55	1.48	1.35
3	BB	1210	PSU	C6-C5	11.53	1.48	1.35
2	AA	942	PSU	C6-C5	11.52	1.48	1.35
1	BA	1609	PSU	C6-C5	11.48	1.48	1.35
3	BB	644	PSU	C6-C5	11.48	1.48	1.35
2	AA	61	PSU	C6-C5	11.48	1.48	1.35
3	BB	522	PSU	C6-C5	11.47	1.48	1.35
2	AA	2146	PSU	C6-C5	11.46	1.48	1.35
1	BA	1248	PSU	C6-C5	11.44	1.48	1.35
1	BA	1614	PSU	C6-C5	11.42	1.48	1.35
2	AA	131	PSU	C6-C5	11.42	1.48	1.35
1	BA	1086	PSU	C6-C5	11.42	1.48	1.35
3	BB	615	PSU	C6-C5	11.40	1.48	1.35
2	AA	2045	PSU	C6-C5	11.40	1.48	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	BA	1258	PSU	C6-C5	11.39	1.48	1.35
1	BA	1169	PSU	C6-C5	11.38	1.48	1.35
3	BB	611	PSU	C6-C5	11.37	1.48	1.35
3	BB	680	PSU	C6-C5	11.37	1.48	1.35
3	BB	455	PSU	C6-C5	11.36	1.48	1.35
2	AA	1592	PSU	C6-C5	11.35	1.48	1.35
3	BB	1398	PSU	C6-C5	11.34	1.48	1.35
1	BA	1009	PSU	C6-C5	11.33	1.48	1.35
3	BB	629	PSU	C6-C5	11.33	1.48	1.35
2	AA	1619	PSU	C6-C5	11.32	1.48	1.35
3	BB	1076	PSU	C6-C5	11.30	1.48	1.35
3	BB	1429	PSU	C6-C5	11.30	1.48	1.35
1	BA	737	PSU	C6-C5	11.29	1.48	1.35
3	BB	1334	PSU	C6-C5	11.28	1.48	1.35
3	BB	1280	PSU	C6-C5	11.27	1.48	1.35
2	AA	1276	PSU	C6-C5	11.23	1.48	1.35
2	AA	2070	7MG	C8-N9	10.67	1.51	1.46
2	AA	131	PSU	C2-N1	9.71	1.49	1.36
1	BA	258	PSU	C2-N1	9.66	1.49	1.36
3	BB	1160	PSU	C2-N1	9.62	1.49	1.36
9	BC	74	PSU	C2-N1	9.60	1.49	1.36
2	AA	61	PSU	C2-N1	9.60	1.49	1.36
1	BA	452	PSU	C2-N1	9.58	1.49	1.36
1	BA	1169	PSU	C2-N1	9.55	1.49	1.36
3	BB	1319	PSU	C2-N1	9.53	1.49	1.36
3	BB	1409	PSU	C2-N1	9.53	1.49	1.36
3	BB	1210	PSU	C2-N1	9.52	1.49	1.36
1	BA	1609	PSU	C2-N1	9.50	1.49	1.36
3	BB	615	PSU	C2-N1	9.49	1.49	1.36
3	BB	629	PSU	C2-N1	9.47	1.49	1.36
1	BA	1248	PSU	C2-N1	9.47	1.49	1.36
3	BB	455	PSU	C2-N1	9.47	1.49	1.36
1	BA	737	PSU	C2-N1	9.47	1.49	1.36
1	BA	1129	PSU	C2-N1	9.45	1.49	1.36
1	BA	1614	PSU	C2-N1	9.45	1.49	1.36
3	BB	1280	PSU	C2-N1	9.44	1.49	1.36
3	BB	1334	PSU	C2-N1	9.44	1.49	1.36
3	BB	1076	PSU	C2-N1	9.44	1.49	1.36
3	BB	644	PSU	C2-N1	9.43	1.49	1.36
1	BA	1009	PSU	C2-N1	9.42	1.49	1.36
2	AA	1276	PSU	C2-N1	9.42	1.49	1.36
3	BB	522	PSU	C2-N1	9.40	1.49	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	AA	1592	PSU	C2-N1	9.39	1.49	1.36
1	BA	1258	PSU	C2-N1	9.39	1.49	1.36
3	BB	680	PSU	C2-N1	9.38	1.49	1.36
3	BB	1398	PSU	C2-N1	9.37	1.49	1.36
2	AA	1619	PSU	C2-N1	9.36	1.49	1.36
2	AA	2045	PSU	C2-N1	9.34	1.49	1.36
1	BA	1086	PSU	C2-N1	9.33	1.49	1.36
3	BB	1429	PSU	C2-N1	9.30	1.49	1.36
3	BB	611	PSU	C2-N1	9.30	1.49	1.36
2	AA	2146	PSU	C2-N1	9.27	1.49	1.36
2	AA	942	PSU	C2-N1	9.18	1.49	1.36
2	AA	2070	7MG	C5-N7	9.14	1.46	1.35
3	BB	1324	5MC	C6-C5	9.14	1.49	1.34
3	BB	400	A2M	C3'-C4'	-8.96	1.30	1.53
2	AA	2153	A2M	C3'-C4'	-8.92	1.30	1.53
3	BB	1388	A2M	C3'-C4'	-8.83	1.30	1.53
2	AA	2096	A2M	C3'-C4'	-8.83	1.30	1.53
3	BB	1400	A2M	C3'-C4'	-8.82	1.30	1.53
1	BA	927	A2M	C3'-C4'	-8.81	1.30	1.53
3	BB	1201	A2M	C3'-C4'	-8.80	1.30	1.53
1	BA	1665	A2M	C3'-C4'	-8.79	1.30	1.53
3	BB	646	A2M	C3'-C4'	-8.77	1.30	1.53
2	AA	56	A2M	C3'-C4'	-8.77	1.30	1.53
1	BA	1620	A2M	C3'-C4'	-8.76	1.30	1.53
3	BB	542	5MC	C6-C5	8.74	1.49	1.34
1	BA	996	A2M	C3'-C4'	-8.74	1.30	1.53
2	AA	721	A2M	C3'-C4'	-8.73	1.30	1.53
1	BA	1024	A2M	C3'-C4'	-8.72	1.30	1.53
3	BB	622	A2M	C3'-C4'	-8.68	1.30	1.53
9	BC	41	A2M	C3'-C4'	-8.68	1.30	1.53
9	BC	43	A2M	C3'-C4'	-8.67	1.30	1.53
1	BA	254	A2M	C3'-C4'	-8.67	1.30	1.53
3	BB	609	A2M	C3'-C4'	-8.67	1.30	1.53
9	BC	163	A2M	C3'-C4'	-8.65	1.30	1.53
3	BB	95	A2M	C3'-C4'	-8.65	1.30	1.53
1	BA	762	A2M	C3'-C4'	-8.65	1.30	1.53
3	BB	588	A2M	C3'-C4'	-8.65	1.30	1.53
1	BA	746	A2M	C3'-C4'	-8.65	1.30	1.53
3	BB	545	A2M	C3'-C4'	-8.47	1.31	1.53
1	BA	743	A2M	C3'-C4'	-8.41	1.31	1.53
2	AA	1596	B8N	C6-N1	8.09	1.56	1.36
3	BB	545	A2M	O4'-C1'	-8.03	1.29	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	BC	41	A2M	O4'-C4'	7.77	1.62	1.45
3	BB	1400	A2M	O4'-C4'	7.76	1.62	1.45
1	BA	746	A2M	O4'-C4'	7.74	1.62	1.45
3	BB	609	A2M	O4'-C4'	7.73	1.62	1.45
1	BA	254	A2M	O4'-C4'	7.73	1.62	1.45
9	BC	43	A2M	O4'-C4'	7.71	1.62	1.45
3	BB	646	A2M	O4'-C4'	7.70	1.62	1.45
3	BB	1388	A2M	O4'-C4'	7.68	1.62	1.45
3	BB	588	A2M	O4'-C4'	7.67	1.62	1.45
1	BA	1665	A2M	O4'-C4'	7.67	1.62	1.45
1	BA	743	A2M	O4'-C1'	-7.66	1.30	1.41
3	BB	622	A2M	O4'-C4'	7.66	1.62	1.45
1	BA	762	A2M	O4'-C4'	7.65	1.62	1.45
3	BB	400	A2M	O4'-C4'	7.65	1.62	1.45
2	AA	56	A2M	O4'-C4'	7.64	1.62	1.45
1	BA	1620	A2M	O4'-C4'	7.64	1.62	1.45
2	AA	2096	A2M	O4'-C4'	7.64	1.62	1.45
1	BA	996	A2M	O4'-C4'	7.64	1.62	1.45
3	BB	545	A2M	O4'-C4'	7.64	1.62	1.45
9	BC	163	A2M	O4'-C4'	7.61	1.62	1.45
3	BB	95	A2M	O4'-C4'	7.59	1.62	1.45
1	BA	743	A2M	O4'-C4'	7.59	1.62	1.45
1	BA	746	A2M	O4'-C1'	-7.59	1.30	1.41
1	BA	1024	A2M	O4'-C4'	7.58	1.61	1.45
2	AA	2153	A2M	O4'-C4'	7.58	1.61	1.45
3	BB	1201	A2M	O4'-C4'	7.54	1.61	1.45
2	AA	721	A2M	O4'-C1'	-7.54	1.30	1.41
9	BC	74	PSU	C2-N3	7.52	1.50	1.37
3	BB	1409	PSU	C2-N3	7.47	1.50	1.37
3	BB	522	PSU	C2-N3	7.47	1.50	1.37
1	BA	927	A2M	O4'-C1'	-7.46	1.30	1.41
2	AA	942	PSU	C2-N3	7.44	1.50	1.37
2	AA	61	PSU	C2-N3	7.44	1.50	1.37
3	BB	1210	PSU	C2-N3	7.42	1.50	1.37
1	BA	927	A2M	O4'-C4'	7.42	1.61	1.45
1	BA	1609	PSU	C2-N3	7.42	1.50	1.37
3	BB	588	A2M	O4'-C1'	-7.42	1.30	1.41
1	BA	1248	PSU	C2-N3	7.41	1.50	1.37
2	AA	721	A2M	O4'-C4'	7.41	1.61	1.45
1	BA	258	PSU	C2-N3	7.41	1.50	1.37
1	BA	1258	PSU	C2-N3	7.40	1.50	1.37
1	BA	452	PSU	C2-N3	7.40	1.50	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	BB	1280	PSU	C2-N3	7.38	1.50	1.37
1	BA	1129	PSU	C2-N3	7.38	1.50	1.37
2	AA	1596	B8N	C4-N3	-7.37	1.26	1.40
3	BB	1319	PSU	C2-N3	7.36	1.50	1.37
2	AA	56	A2M	O4'-C1'	-7.36	1.30	1.41
2	AA	2045	PSU	C2-N3	7.36	1.50	1.37
1	BA	1169	PSU	C2-N3	7.36	1.50	1.37
3	BB	1160	PSU	C2-N3	7.35	1.50	1.37
1	BA	1614	PSU	C2-N3	7.35	1.50	1.37
3	BB	629	PSU	C2-N3	7.33	1.50	1.37
3	BB	1398	PSU	C2-N3	7.32	1.50	1.37
1	BA	996	A2M	O4'-C1'	-7.32	1.30	1.41
2	AA	2146	PSU	C2-N3	7.32	1.50	1.37
3	BB	615	PSU	C2-N3	7.32	1.50	1.37
3	BB	609	A2M	O4'-C1'	-7.31	1.30	1.41
3	BB	646	A2M	O4'-C1'	-7.31	1.30	1.41
3	BB	1076	PSU	C2-N3	7.31	1.50	1.37
3	BB	455	PSU	C2-N3	7.30	1.50	1.37
1	BA	1086	PSU	C2-N3	7.29	1.50	1.37
3	BB	1388	A2M	O4'-C1'	-7.29	1.30	1.41
3	BB	1429	PSU	C2-N3	7.29	1.50	1.37
2	AA	2153	A2M	O4'-C1'	-7.28	1.30	1.41
3	BB	644	PSU	C2-N3	7.28	1.50	1.37
2	AA	2096	A2M	O4'-C1'	-7.27	1.30	1.41
9	BC	41	A2M	O4'-C1'	-7.27	1.30	1.41
3	BB	1334	PSU	C2-N3	7.27	1.50	1.37
2	AA	1592	PSU	C2-N3	7.26	1.49	1.37
2	AA	2070	7MG	C4-N9	7.26	1.46	1.37
1	BA	1009	PSU	C2-N3	7.24	1.49	1.37
1	BA	762	A2M	O4'-C1'	-7.24	1.31	1.41
1	BA	737	PSU	C2-N3	7.24	1.49	1.37
3	BB	611	PSU	C2-N3	7.23	1.49	1.37
9	BC	163	A2M	O4'-C1'	-7.23	1.31	1.41
3	BB	680	PSU	C2-N3	7.23	1.49	1.37
1	BA	254	A2M	O4'-C1'	-7.22	1.31	1.41
3	BB	1201	A2M	O4'-C1'	-7.22	1.31	1.41
3	BB	95	A2M	O4'-C1'	-7.20	1.31	1.41
1	BA	1620	A2M	O4'-C1'	-7.19	1.31	1.41
2	AA	1619	PSU	C2-N3	7.18	1.49	1.37
1	BA	1665	A2M	O4'-C1'	-7.18	1.31	1.41
2	AA	1276	PSU	C2-N3	7.18	1.49	1.37
1	BA	1024	A2M	O4'-C1'	-7.16	1.31	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	BB	622	A2M	O4'-C1'	-7.16	1.31	1.41
9	BC	43	A2M	O4'-C1'	-7.13	1.31	1.41
3	BB	1400	A2M	O4'-C1'	-7.03	1.31	1.41
2	AA	131	PSU	C2-N3	7.03	1.49	1.37
2	AA	1899	OMU	C2-N1	7.00	1.49	1.38
3	BB	400	A2M	O4'-C1'	-6.96	1.31	1.41
3	BB	1093	OMU	C2-N1	6.90	1.49	1.38
2	AA	1652	OMU	C2-N1	6.89	1.49	1.38
3	BB	578	OMU	C2-N1	6.89	1.49	1.38
3	BB	1435	OMU	C2-N1	6.88	1.49	1.38
1	BA	1448	OMU	C2-N1	6.88	1.49	1.38
2	AA	2054	OMU	C2-N1	6.88	1.49	1.38
1	BA	46	OMU	C2-N1	6.88	1.49	1.38
1	BA	916	OMU	C2-N1	6.86	1.49	1.38
9	BC	7	OMU	C2-N1	6.85	1.49	1.38
3	BB	685	OMU	C2-N1	6.83	1.49	1.38
2	AA	36	OMU	C2-N1	6.82	1.49	1.38
1	BA	1742	OMU	C2-N1	6.82	1.49	1.38
1	BA	1181	OMU	C2-N1	6.79	1.49	1.38
2	AA	1899	OMU	C2-N3	6.79	1.50	1.38
2	AA	2154	OMU	C2-N1	6.77	1.49	1.38
3	BB	73	OMU	C2-N1	6.76	1.49	1.38
2	AA	2154	OMU	C2-N3	6.75	1.50	1.38
2	AA	57	OMU	C2-N1	6.74	1.49	1.38
3	BB	1375	OMU	C2-N1	6.73	1.49	1.38
3	BB	1093	OMU	C2-N3	6.72	1.49	1.38
2	AA	714	OMU	C2-N1	6.72	1.49	1.38
9	BC	7	OMU	C2-N3	6.69	1.49	1.38
2	AA	2054	OMU	C2-N3	6.63	1.49	1.38
3	BB	73	OMU	C2-N3	6.63	1.49	1.38
2	AA	1652	OMU	C2-N3	6.62	1.49	1.38
1	BA	1181	OMU	C2-N3	6.61	1.49	1.38
3	BB	685	OMU	C2-N3	6.61	1.49	1.38
2	AA	2123	OMU	C2-N1	6.61	1.49	1.38
1	BA	916	OMU	C2-N3	6.59	1.49	1.38
3	BB	1435	OMU	C2-N3	6.58	1.49	1.38
2	AA	57	OMU	C2-N3	6.58	1.49	1.38
1	BA	1742	OMU	C2-N3	6.58	1.49	1.38
1	BA	1448	OMU	C2-N3	6.58	1.49	1.38
3	BB	578	OMU	C2-N3	6.55	1.49	1.38
3	BB	1375	OMU	C2-N3	6.53	1.49	1.38
1	BA	46	OMU	C2-N3	6.52	1.49	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	BA	1329	OMC	C2-N3	6.47	1.49	1.36
2	AA	36	OMU	C2-N3	6.44	1.49	1.38
2	AA	714	OMU	C2-N3	6.44	1.49	1.38
3	BB	377	OMC	C2-N3	6.30	1.49	1.36
2	AA	2123	OMU	C2-N3	6.22	1.49	1.38
1	BA	760	OMC	C2-N3	6.20	1.48	1.36
2	AA	2070	7MG	C2-N3	6.20	1.48	1.33
3	BB	1175	OMC	C2-N3	6.17	1.48	1.36
3	BB	601	OMC	C2-N3	6.15	1.48	1.36
2	AA	66	OMC	C2-N3	6.15	1.48	1.36
3	BB	1264	OMC	C2-N3	6.13	1.48	1.36
1	BA	1608	OMC	C2-N3	6.12	1.48	1.36
1	BA	1006	OMC	C2-N3	6.10	1.48	1.36
3	BB	542	5MC	C4-N3	6.10	1.44	1.34
3	BB	1324	5MC	C4-N3	6.09	1.44	1.34
3	BB	1413	OMC	C2-N3	6.06	1.48	1.36
1	BA	1329	OMC	C6-C5	6.00	1.49	1.35
2	AA	46	OMC	C2-N3	5.99	1.48	1.36
3	BB	1264	OMC	C6-C5	5.96	1.48	1.35
3	BB	377	OMC	C6-C5	5.95	1.48	1.35
3	BB	542	5MC	C2-N3	5.93	1.48	1.36
3	BB	1413	OMC	C6-C5	5.92	1.48	1.35
3	BB	1175	OMC	C6-C5	5.89	1.48	1.35
1	BA	1608	OMC	C6-C5	5.88	1.48	1.35
2	AA	66	OMC	C6-C5	5.86	1.48	1.35
2	AA	2134	OMC	C2-N3	5.85	1.48	1.36
1	BA	1006	OMC	C6-C5	5.83	1.48	1.35
1	BA	760	OMC	C6-C5	5.83	1.48	1.35
3	BB	1324	5MC	C2-N3	5.82	1.48	1.36
3	BB	601	OMC	C6-C5	5.78	1.48	1.35
2	AA	46	OMC	C6-C5	5.77	1.48	1.35
2	AA	2134	OMC	C6-C5	5.73	1.48	1.35
3	BB	1093	OMU	C6-C5	5.70	1.48	1.35
9	BC	7	OMU	C6-C5	5.68	1.48	1.35
2	AA	36	OMU	C6-C5	5.65	1.48	1.35
2	AA	1652	OMU	C6-C5	5.65	1.48	1.35
2	AA	1596	B8N	C2-N1	5.65	1.56	1.39
3	BB	1375	OMU	C6-C5	5.63	1.48	1.35
2	AA	2154	OMU	C6-C5	5.63	1.48	1.35
3	BB	685	OMU	C6-C5	5.63	1.48	1.35
1	BA	1448	OMU	C6-C5	5.61	1.48	1.35
1	BA	46	OMU	C6-C5	5.61	1.48	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	BB	1435	OMU	C6-C5	5.61	1.48	1.35
2	AA	57	OMU	C6-C5	5.58	1.48	1.35
3	BB	73	OMU	C6-C5	5.58	1.48	1.35
2	AA	714	OMU	C6-C5	5.58	1.48	1.35
1	BA	1181	OMU	C6-C5	5.57	1.48	1.35
2	AA	1899	OMU	C6-C5	5.57	1.48	1.35
1	BA	916	OMU	C6-C5	5.57	1.48	1.35
3	BB	578	OMU	C6-C5	5.56	1.48	1.35
1	BA	1742	OMU	C6-C5	5.55	1.48	1.35
2	AA	2054	OMU	C6-C5	5.54	1.47	1.35
2	AA	2123	OMU	C6-C5	5.37	1.47	1.35
9	BC	74	PSU	C6-N1	5.35	1.45	1.36
1	BA	258	PSU	C6-N1	5.34	1.45	1.36
2	AA	2070	7MG	C4-N3	5.33	1.46	1.34
1	BA	1329	OMC	C4-N3	5.32	1.45	1.34
2	AA	942	PSU	C6-N1	5.27	1.45	1.36
1	BA	1169	PSU	C6-N1	5.26	1.45	1.36
3	BB	1160	PSU	C6-N1	5.25	1.45	1.36
2	AA	1619	PSU	C6-N1	5.25	1.44	1.36
1	BA	1248	PSU	C6-N1	5.25	1.44	1.36
3	BB	1210	PSU	C6-N1	5.24	1.44	1.36
1	BA	452	PSU	C6-N1	5.24	1.44	1.36
3	BB	1409	PSU	C6-N1	5.24	1.44	1.36
1	BA	1609	PSU	C6-N1	5.24	1.44	1.36
2	AA	1676	OMG	C2-N3	5.23	1.45	1.33
1	BA	1028	OMG	C2-N3	5.22	1.45	1.33
3	BB	1319	PSU	C6-N1	5.21	1.44	1.36
9	BC	75	OMG	C2-N3	5.21	1.45	1.33
3	BB	455	PSU	C6-N1	5.21	1.44	1.36
1	BA	1009	PSU	C6-N1	5.21	1.44	1.36
2	AA	1517	OMG	C2-N3	5.21	1.45	1.33
2	AA	61	PSU	C6-N1	5.21	1.44	1.36
1	BA	1709	OMG	C2-N3	5.20	1.45	1.33
1	BA	1605	OMG	C2-N3	5.20	1.45	1.33
3	BB	615	PSU	C6-N1	5.20	1.44	1.36
1	BA	1129	PSU	C6-N1	5.19	1.44	1.36
3	BB	680	PSU	C6-N1	5.19	1.44	1.36
3	BB	1247	OMG	C2-N3	5.19	1.45	1.33
3	BB	1076	PSU	C6-N1	5.18	1.44	1.36
3	BB	1062	OMG	C2-N3	5.17	1.45	1.33
3	BB	1245	OMG	C2-N3	5.16	1.45	1.33
2	AA	131	PSU	C6-N1	5.15	1.44	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	BA	1614	PSU	C6-N1	5.14	1.44	1.36
3	BB	1398	PSU	C6-N1	5.14	1.44	1.36
3	BB	71	OMG	C2-N3	5.14	1.45	1.33
3	BB	611	PSU	C6-N1	5.14	1.44	1.36
3	BB	522	PSU	C6-N1	5.13	1.44	1.36
2	AA	2227	OMG	C2-N3	5.13	1.45	1.33
3	BB	377	OMC	C4-N3	5.13	1.44	1.34
3	BB	629	PSU	C6-N1	5.13	1.44	1.36
2	AA	2146	PSU	C6-N1	5.13	1.44	1.36
2	AA	1276	PSU	C6-N1	5.13	1.44	1.36
3	BB	1334	PSU	C6-N1	5.12	1.44	1.36
1	BA	737	PSU	C6-N1	5.12	1.44	1.36
1	BA	1258	PSU	C6-N1	5.11	1.44	1.36
2	AA	1596	B8N	C6-C5	5.11	1.42	1.34
3	BB	1280	PSU	C6-N1	5.11	1.44	1.36
2	AA	1592	PSU	C6-N1	5.11	1.44	1.36
2	AA	2045	PSU	C6-N1	5.11	1.44	1.36
3	BB	673	OMG	C2-N3	5.10	1.45	1.33
1	BA	915	OMG	C2-N3	5.09	1.45	1.33
3	BB	644	PSU	C6-N1	5.08	1.44	1.36
1	BA	925	OMG	C2-N3	5.05	1.45	1.33
2	AA	1895	OMG	C2-N3	5.03	1.45	1.33
3	BB	1269	OMG	C2-N3	5.01	1.45	1.33
3	BB	601	OMC	C4-N3	5.01	1.44	1.34
1	BA	1086	PSU	C6-N1	5.01	1.44	1.36
3	BB	1175	OMC	C4-N3	5.00	1.44	1.34
1	BA	1006	OMC	C4-N3	5.00	1.44	1.34
2	AA	1931	OMG	C2-N3	4.98	1.45	1.33
1	BA	1608	OMC	C4-N3	4.97	1.44	1.34
2	AA	66	OMC	C4-N3	4.97	1.44	1.34
3	BB	1429	PSU	C6-N1	4.97	1.44	1.36
1	BA	760	OMC	C4-N3	4.96	1.44	1.34
3	BB	659	OMG	C2-N3	4.95	1.45	1.33
3	BB	1094	OMG	C2-N3	4.95	1.45	1.33
2	AA	1531	OMG	C2-N3	4.94	1.45	1.33
1	BA	1621	OMG	C2-N3	4.93	1.45	1.33
3	BB	1264	OMC	C4-N3	4.93	1.44	1.34
3	BB	1413	OMC	C4-N3	4.93	1.44	1.34
2	AA	1517	OMG	C4-N3	4.90	1.49	1.37
3	BB	552	OMG	C2-N3	4.89	1.45	1.33
1	BA	1267	OMG	C2-N3	4.86	1.45	1.33
2	AA	1676	OMG	C4-N3	4.85	1.49	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	BC	75	OMG	C4-N3	4.83	1.49	1.37
1	BA	1329	OMC	C4-N4	4.81	1.45	1.33
1	BA	1709	OMG	C4-N3	4.80	1.49	1.37
3	BB	1247	OMG	C4-N3	4.79	1.49	1.37
1	BA	1605	OMG	C4-N3	4.79	1.49	1.37
2	AA	46	OMC	C4-N3	4.79	1.44	1.34
1	BA	1028	OMG	C4-N3	4.78	1.49	1.37
2	AA	2134	OMC	C4-N3	4.78	1.44	1.34
3	BB	377	OMC	C4-N4	4.78	1.45	1.33
3	BB	673	OMG	C4-N3	4.77	1.48	1.37
2	AA	1700	OMG	C2-N3	4.76	1.44	1.33
3	BB	1175	OMC	C4-N4	4.75	1.45	1.33
3	BB	1245	OMG	C4-N3	4.75	1.48	1.37
3	BB	1062	OMG	C4-N3	4.75	1.48	1.37
2	AA	1931	OMG	C4-N3	4.75	1.48	1.37
3	BB	1264	OMC	C4-N4	4.74	1.45	1.33
3	BB	1413	OMC	C4-N4	4.74	1.45	1.33
2	AA	2227	OMG	C4-N3	4.74	1.48	1.37
2	AA	1895	OMG	C4-N3	4.73	1.48	1.37
3	BB	71	OMG	C4-N3	4.72	1.48	1.37
1	BA	915	OMG	C4-N3	4.72	1.48	1.37
1	BA	925	OMG	C4-N3	4.71	1.48	1.37
1	BA	760	OMC	C4-N4	4.71	1.45	1.33
3	BB	1247	OMG	C2-N2	4.67	1.45	1.34
2	AA	66	OMC	C4-N4	4.67	1.44	1.33
3	BB	552	OMG	C4-N3	4.67	1.48	1.37
3	BB	659	OMG	C4-N3	4.66	1.48	1.37
3	BB	1094	OMG	C4-N3	4.65	1.48	1.37
1	BA	1608	OMC	C4-N4	4.65	1.44	1.33
1	BA	1621	OMG	C4-N3	4.64	1.48	1.37
2	AA	2134	OMC	C4-N4	4.63	1.44	1.33
3	BB	1269	OMG	C4-N3	4.63	1.48	1.37
3	BB	71	OMG	C2-N2	4.62	1.45	1.34
3	BB	1062	OMG	C2-N2	4.62	1.45	1.34
3	BB	601	OMC	C4-N4	4.61	1.44	1.33
9	BC	75	OMG	C2-N2	4.61	1.45	1.34
1	BA	1028	OMG	C2-N2	4.60	1.45	1.34
1	BA	1006	OMC	C4-N4	4.60	1.44	1.33
3	BB	1245	OMG	C2-N2	4.60	1.45	1.34
2	AA	46	OMC	C4-N4	4.59	1.44	1.33
1	BA	1709	OMG	C2-N2	4.59	1.45	1.34
3	BB	673	OMG	C2-N2	4.58	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	BA	1605	OMG	C2-N2	4.58	1.45	1.34
2	AA	1517	OMG	C2-N2	4.58	1.45	1.34
3	BB	1324	5MC	C6-N1	4.57	1.45	1.38
1	BA	915	OMG	C2-N2	4.57	1.45	1.34
1	BA	1608	OMC	C2-N1	4.56	1.49	1.40
2	AA	1931	OMG	C2-N2	4.56	1.45	1.34
3	BB	1076	PSU	C1'-C5	-4.56	1.39	1.50
1	BA	925	OMG	C2-N2	4.56	1.45	1.34
2	AA	1895	OMG	C2-N2	4.55	1.45	1.34
2	AA	1676	OMG	C2-N2	4.55	1.45	1.34
1	BA	1267	OMG	C4-N3	4.55	1.48	1.37
3	BB	659	OMG	C2-N2	4.53	1.45	1.34
3	BB	1269	OMG	C2-N2	4.52	1.44	1.34
3	BB	1094	OMG	C2-N2	4.51	1.44	1.34
2	AA	1700	OMG	C4-N3	4.50	1.48	1.37
2	AA	2227	OMG	C2-N2	4.47	1.44	1.34
3	BB	1398	PSU	C1'-C5	-4.46	1.40	1.50
1	BA	742	1MA	C2-N1	4.46	1.44	1.35
3	BB	552	OMG	C2-N2	4.46	1.44	1.34
2	AA	1700	OMG	C2-N2	4.46	1.44	1.34
9	BC	74	PSU	C1'-C5	-4.46	1.40	1.50
1	BA	1267	OMG	C2-N2	4.45	1.44	1.34
1	BA	1621	OMG	C2-N2	4.45	1.44	1.34
2	AA	1531	OMG	C4-N3	4.44	1.48	1.37
3	BB	1429	PSU	C1'-C5	-4.44	1.40	1.50
2	AA	61	PSU	C1'-C5	-4.44	1.40	1.50
1	BA	1329	OMC	C2-N1	4.43	1.49	1.40
3	BB	1264	OMC	C2-N1	4.43	1.49	1.40
1	BA	1009	PSU	C1'-C5	-4.42	1.40	1.50
2	AA	1276	PSU	C1'-C5	-4.41	1.40	1.50
3	BB	1160	PSU	C1'-C5	-4.41	1.40	1.50
2	AA	1596	B8N	C1'-C5	-4.41	1.40	1.50
2	AA	1592	PSU	C1'-C5	-4.40	1.40	1.50
1	BA	1248	PSU	C1'-C5	-4.39	1.40	1.50
3	BB	1280	PSU	C1'-C5	-4.39	1.40	1.50
3	BB	1175	OMC	C2-N1	4.37	1.49	1.40
1	BA	1169	PSU	C1'-C5	-4.37	1.40	1.50
2	AA	1531	OMG	C2-N2	4.36	1.44	1.34
1	BA	1129	PSU	C1'-C5	-4.35	1.40	1.50
3	BB	455	PSU	C1'-C5	-4.35	1.40	1.50
3	BB	615	PSU	C1'-C5	-4.34	1.40	1.50
1	BA	452	PSU	C1'-C5	-4.32	1.40	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	AA	2045	PSU	C1'-C5	-4.32	1.40	1.50
3	BB	1319	PSU	C1'-C5	-4.32	1.40	1.50
3	BB	377	OMC	C2-N1	4.31	1.49	1.40
1	BA	737	PSU	C1'-C5	-4.31	1.40	1.50
1	BA	1258	PSU	C1'-C5	-4.30	1.40	1.50
1	BA	1614	PSU	C1'-C5	-4.29	1.40	1.50
1	BA	1086	PSU	C1'-C5	-4.28	1.40	1.50
3	BB	1409	PSU	C1'-C5	-4.28	1.40	1.50
3	BB	644	PSU	C1'-C5	-4.27	1.40	1.50
1	BA	1609	PSU	C1'-C5	-4.27	1.40	1.50
3	BB	680	PSU	C1'-C5	-4.27	1.40	1.50
3	BB	1324	5MC	C4-N4	4.26	1.45	1.34
1	BA	258	PSU	C1'-C5	-4.25	1.40	1.50
2	AA	66	OMC	C2-N1	4.24	1.49	1.40
3	BB	1210	PSU	C1'-C5	-4.24	1.40	1.50
3	BB	629	PSU	C1'-C5	-4.23	1.40	1.50
3	BB	1334	PSU	C1'-C5	-4.22	1.40	1.50
1	BA	1006	OMC	C2-N1	4.20	1.49	1.40
2	AA	2146	PSU	C1'-C5	-4.20	1.40	1.50
3	BB	601	OMC	C2-N1	4.19	1.49	1.40
1	BA	760	OMC	C2-N1	4.18	1.49	1.40
3	BB	542	5MC	C4-N4	4.17	1.44	1.34
3	BB	542	5MC	C6-N1	4.16	1.45	1.38
3	BB	522	PSU	C1'-C5	-4.15	1.40	1.50
3	BB	1413	OMC	C2-N1	4.12	1.48	1.40
3	BB	611	PSU	C1'-C5	-4.10	1.40	1.50
2	AA	46	OMC	C2-N1	4.10	1.48	1.40
1	BA	742	1MA	C4-N3	4.08	1.50	1.37
2	AA	131	PSU	C1'-C5	-4.08	1.40	1.50
3	BB	1324	5MC	C2-N1	4.05	1.48	1.40
3	BB	542	5MC	C2-N1	4.05	1.48	1.40
1	BA	1181	OMU	C4-N3	4.01	1.45	1.38
2	AA	2154	OMU	C4-N3	4.01	1.45	1.38
2	AA	942	PSU	C1'-C5	-4.00	1.41	1.50
2	AA	1619	PSU	C1'-C5	-4.00	1.41	1.50
3	BB	1375	OMU	C4-N3	4.00	1.45	1.38
3	BB	1435	OMU	C4-N3	4.00	1.45	1.38
9	BC	7	OMU	C4-N3	3.99	1.45	1.38
2	AA	1652	OMU	C4-N3	3.99	1.45	1.38
3	BB	73	OMU	C4-N3	3.98	1.45	1.38
3	BB	1093	OMU	C4-N3	3.98	1.45	1.38
2	AA	57	OMU	C4-N3	3.97	1.45	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	AA	2134	OMC	C2-N1	3.97	1.48	1.40
1	BA	1742	OMU	C4-N3	3.94	1.45	1.38
1	BA	1448	OMU	C4-N3	3.93	1.45	1.38
2	AA	1899	OMU	C4-N3	3.92	1.45	1.38
3	BB	522	PSU	C4-N3	3.91	1.46	1.38
2	AA	942	PSU	C4-N3	3.91	1.46	1.38
3	BB	1409	PSU	C4-N3	3.91	1.46	1.38
2	AA	2054	OMU	C4-N3	3.90	1.45	1.38
3	BB	685	OMU	C4-N3	3.89	1.45	1.38
9	BC	74	PSU	C4-N3	3.84	1.46	1.38
1	BA	258	PSU	C4-N3	3.83	1.46	1.38
1	BA	916	OMU	C4-N3	3.82	1.45	1.38
2	AA	714	OMU	C4-N3	3.81	1.45	1.38
2	AA	1619	PSU	C4-N3	3.80	1.45	1.38
1	BA	452	PSU	C4-N3	3.79	1.45	1.38
2	AA	1592	PSU	C4-N3	3.77	1.45	1.38
1	BA	1614	PSU	C4-N3	3.77	1.45	1.38
1	BA	1129	PSU	C4-N3	3.76	1.45	1.38
2	AA	61	PSU	C4-N3	3.76	1.45	1.38
3	BB	1210	PSU	C4-N3	3.76	1.45	1.38
3	BB	611	PSU	C4-N3	3.75	1.45	1.38
1	BA	1609	PSU	C4-N3	3.75	1.45	1.38
1	BA	46	OMU	C4-N3	3.75	1.45	1.38
1	BA	1258	PSU	C4-N3	3.75	1.45	1.38
3	BB	1280	PSU	C4-N3	3.74	1.45	1.38
2	AA	2045	PSU	C4-N3	3.74	1.45	1.38
3	BB	615	PSU	C4-N3	3.74	1.45	1.38
3	BB	629	PSU	C4-N3	3.74	1.45	1.38
1	BA	737	PSU	C4-N3	3.72	1.45	1.38
2	AA	2146	PSU	C4-N3	3.71	1.45	1.38
3	BB	578	OMU	C4-N3	3.71	1.45	1.38
3	BB	1334	PSU	C4-N3	3.70	1.45	1.38
3	BB	1319	PSU	C4-N3	3.70	1.45	1.38
3	BB	1160	PSU	C4-N3	3.70	1.45	1.38
1	BA	1267	OMG	C6-N1	3.69	1.43	1.37
9	BC	75	OMG	C6-N1	3.69	1.43	1.37
1	BA	1086	PSU	C4-N3	3.69	1.45	1.38
1	BA	1248	PSU	C4-N3	3.69	1.45	1.38
3	BB	1429	PSU	C4-N3	3.69	1.45	1.38
1	BA	1169	PSU	C4-N3	3.67	1.45	1.38
2	AA	36	OMU	C4-N3	3.67	1.45	1.38
3	BB	455	PSU	C4-N3	3.66	1.45	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	BB	644	PSU	C4-N3	3.66	1.45	1.38
1	BA	1009	PSU	C4-N3	3.64	1.45	1.38
3	BB	680	PSU	C4-N3	3.63	1.45	1.38
3	BB	1398	PSU	C4-N3	3.63	1.45	1.38
2	AA	1276	PSU	C4-N3	3.61	1.45	1.38
2	AA	2123	OMU	C4-N3	3.60	1.45	1.38
3	BB	1076	PSU	C4-N3	3.60	1.45	1.38
1	BA	1605	OMG	C6-N1	3.60	1.43	1.37
3	BB	1094	OMG	C6-N1	3.60	1.43	1.37
2	AA	131	PSU	C4-N3	3.58	1.45	1.38
3	BB	673	OMG	C6-N1	3.56	1.43	1.37
3	BB	1269	OMG	C6-N1	3.55	1.43	1.37
3	BB	1245	OMG	C6-N1	3.54	1.43	1.37
3	BB	659	OMG	C6-N1	3.54	1.43	1.37
2	AA	1517	OMG	C6-N1	3.53	1.43	1.37
2	AA	1931	OMG	C6-N1	3.52	1.43	1.37
1	BA	1709	OMG	C6-N1	3.51	1.43	1.37
3	BB	71	OMG	C6-N1	3.50	1.43	1.37
3	BB	1247	OMG	C6-N1	3.50	1.43	1.37
2	AA	1895	OMG	C6-N1	3.49	1.43	1.37
1	BA	1621	OMG	C6-N1	3.47	1.43	1.37
2	AA	2227	OMG	C6-N1	3.47	1.43	1.37
3	BB	1062	OMG	C6-N1	3.47	1.43	1.37
2	AA	2070	7MG	C6-N1	3.46	1.45	1.38
1	BA	925	OMG	C6-N1	3.45	1.43	1.37
1	BA	915	OMG	C6-N1	3.45	1.43	1.37
1	BA	1028	OMG	C6-N1	3.43	1.43	1.37
2	AA	2123	OMU	O4-C4	-3.41	1.17	1.24
3	BB	552	OMG	C6-N1	3.41	1.43	1.37
2	AA	1676	OMG	C6-N1	3.37	1.42	1.37
2	AA	2070	7MG	C2-N1	3.36	1.46	1.37
1	BA	1329	OMC	C6-N1	3.33	1.46	1.38
2	AA	2070	7MG	C5-C6	3.31	1.52	1.43
2	AA	36	OMU	O4-C4	-3.28	1.18	1.24
2	AA	1531	OMG	C6-N1	3.27	1.42	1.37
2	AA	1700	OMG	C6-N1	3.24	1.42	1.37
2	AA	2070	7MG	O6-C6	-3.23	1.17	1.23
2	AA	2070	7MG	C2-N2	3.23	1.41	1.34
2	AA	714	OMU	O4-C4	-3.22	1.18	1.24
2	AA	1531	OMG	C5-C4	-3.20	1.34	1.43
1	BA	1608	OMC	C6-N1	3.18	1.45	1.38
1	BA	46	OMU	O4-C4	-3.18	1.18	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	BB	377	OMC	C6-N1	3.18	1.45	1.38
2	AA	2054	OMU	O4-C4	-3.18	1.18	1.24
2	AA	1700	OMG	C5-C4	-3.17	1.35	1.43
2	AA	2134	OMC	O2-C2	-3.17	1.17	1.23
3	BB	1413	OMC	C6-N1	3.16	1.45	1.38
1	BA	1006	OMC	C6-N1	3.15	1.45	1.38
3	BB	1375	OMU	O4-C4	-3.13	1.18	1.24
2	AA	66	OMC	C6-N1	3.12	1.45	1.38
1	BA	916	OMU	O4-C4	-3.12	1.18	1.24
3	BB	545	A2M	O3'-C3'	3.12	1.50	1.43
2	AA	721	A2M	O3'-C3'	3.12	1.50	1.43
1	BA	1448	OMU	O4-C4	-3.12	1.18	1.24
3	BB	1264	OMC	C6-N1	3.12	1.45	1.38
3	BB	601	OMC	C6-N1	3.11	1.45	1.38
3	BB	685	OMU	O4-C4	-3.11	1.18	1.24
2	AA	1652	OMU	O4-C4	-3.11	1.18	1.24
3	BB	1175	OMC	C6-N1	3.11	1.45	1.38
3	BB	1094	OMG	C5-C6	3.11	1.53	1.47
2	AA	2153	A2M	C6-N6	3.09	1.45	1.34
3	BB	1435	OMU	O4-C4	-3.09	1.18	1.24
1	BA	743	A2M	O3'-C3'	3.08	1.50	1.43
1	BA	1181	OMU	O4-C4	-3.08	1.18	1.24
2	AA	57	OMU	O4-C4	-3.08	1.18	1.24
3	BB	73	OMU	O4-C4	-3.07	1.18	1.24
1	BA	254	A2M	C6-N6	3.07	1.45	1.34
9	BC	75	OMG	C5-C6	3.07	1.53	1.47
1	BA	915	OMG	C5-C6	3.06	1.53	1.47
1	BA	1665	A2M	C6-N6	3.06	1.45	1.34
9	BC	7	OMU	O4-C4	-3.06	1.18	1.24
1	BA	927	A2M	C6-N6	3.06	1.45	1.34
3	BB	1093	OMU	O4-C4	-3.05	1.18	1.24
2	AA	46	OMC	C6-N1	3.05	1.45	1.38
3	BB	673	OMG	C5-C6	3.05	1.53	1.47
2	AA	1899	OMU	O4-C4	-3.05	1.18	1.24
2	AA	2096	A2M	C6-N6	3.05	1.45	1.34
9	BC	43	A2M	C6-N6	3.04	1.45	1.34
1	BA	743	A2M	C6-N6	3.04	1.45	1.34
3	BB	646	A2M	C6-N6	3.04	1.45	1.34
1	BA	1605	OMG	C5-C6	3.04	1.53	1.47
3	BB	1201	A2M	C6-N6	3.04	1.45	1.34
3	BB	71	OMG	C5-C6	3.04	1.53	1.47
3	BB	95	A2M	C6-N6	3.03	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	BB	622	A2M	C6-N6	3.03	1.45	1.34
1	BA	746	A2M	C6-N6	3.03	1.45	1.34
3	BB	1388	A2M	C6-N6	3.03	1.45	1.34
1	BA	1742	OMU	O4-C4	-3.03	1.18	1.24
2	AA	1931	OMG	C5-C6	3.03	1.53	1.47
1	BA	762	A2M	C6-N6	3.03	1.45	1.34
2	AA	56	A2M	C6-N6	3.03	1.45	1.34
9	BC	163	A2M	C6-N6	3.02	1.45	1.34
3	BB	588	A2M	C6-N6	3.02	1.45	1.34
1	BA	1024	A2M	C6-N6	3.02	1.45	1.34
1	BA	1267	OMG	C5-C4	-3.02	1.35	1.43
3	BB	588	A2M	O3'-C3'	3.02	1.50	1.43
3	BB	659	OMG	C5-C4	-3.02	1.35	1.43
1	BA	996	A2M	C6-N6	3.02	1.45	1.34
2	AA	721	A2M	C6-N6	3.02	1.45	1.34
1	BA	760	OMC	C6-N1	3.01	1.45	1.38
3	BB	1400	A2M	C6-N6	3.01	1.45	1.34
1	BA	925	OMG	C5-C6	3.01	1.53	1.47
2	AA	131	PSU	O4-C4	-3.01	1.17	1.23
3	BB	578	OMU	O4-C4	-3.01	1.18	1.24
9	BC	41	A2M	C6-N6	3.01	1.45	1.34
1	BA	1620	A2M	C6-N6	3.01	1.45	1.34
2	AA	2096	A2M	O3'-C3'	3.00	1.50	1.43
3	BB	601	OMC	O2-C2	-3.00	1.18	1.23
3	BB	609	A2M	C6-N6	3.00	1.45	1.34
2	AA	46	OMC	O2-C2	-2.99	1.18	1.23
3	BB	400	A2M	C6-N6	2.99	1.44	1.34
2	AA	2154	OMU	O4-C4	-2.98	1.18	1.24
1	BA	1006	OMC	O2-C2	-2.98	1.18	1.23
2	AA	2261	MA6	C5-C4	-2.98	1.33	1.40
3	BB	1269	OMG	C5-C6	2.98	1.53	1.47
2	AA	1676	OMG	C5-C6	2.97	1.53	1.47
3	BB	1413	OMC	O2-C2	-2.97	1.18	1.23
3	BB	1094	OMG	C5-C4	-2.97	1.35	1.43
3	BB	545	A2M	C6-N6	2.96	1.44	1.34
1	BA	1267	OMG	C5-C6	2.96	1.53	1.47
2	AA	66	OMC	O2-C2	-2.96	1.18	1.23
1	BA	1608	OMC	O2-C2	-2.95	1.18	1.23
3	BB	659	OMG	C5-C6	2.95	1.53	1.47
3	BB	1264	OMC	O2-C2	-2.95	1.18	1.23
2	AA	2134	OMC	C6-N1	2.95	1.45	1.38
3	BB	1247	OMG	C5-C6	2.94	1.53	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	BB	95	A2M	O3'-C3'	2.94	1.49	1.43
1	BA	1709	OMG	C5-C6	2.94	1.53	1.47
1	BA	1621	OMG	C5-C6	2.93	1.53	1.47
3	BB	552	OMG	C5-C6	2.93	1.53	1.47
1	BA	1665	A2M	O3'-C3'	2.93	1.49	1.43
1	BA	746	A2M	O3'-C3'	2.92	1.49	1.43
3	BB	1388	A2M	C5-C4	-2.92	1.33	1.40
1	BA	915	OMG	C5-C4	-2.92	1.35	1.43
2	AA	1931	OMG	C5-C4	-2.91	1.35	1.43
3	BB	1398	PSU	O4-C4	-2.91	1.18	1.23
1	BA	760	OMC	O2-C2	-2.91	1.18	1.23
3	BB	1062	OMG	C5-C6	2.90	1.53	1.47
2	AA	1895	OMG	C5-C4	-2.90	1.35	1.43
3	BB	622	A2M	O3'-C3'	2.90	1.49	1.43
3	BB	1245	OMG	C5-C6	2.90	1.53	1.47
3	BB	646	A2M	O3'-C3'	2.90	1.49	1.43
3	BB	1201	A2M	O3'-C3'	2.90	1.49	1.43
1	BA	1621	OMG	C5-C4	-2.90	1.35	1.43
3	BB	1388	A2M	O3'-C3'	2.89	1.49	1.43
1	BA	927	A2M	O3'-C3'	2.89	1.49	1.43
3	BB	545	A2M	C5-C4	-2.89	1.33	1.40
3	BB	552	OMG	C5-C4	-2.89	1.35	1.43
9	BC	41	A2M	O3'-C3'	2.88	1.49	1.43
2	AA	56	A2M	C5-C4	-2.88	1.33	1.40
2	AA	721	A2M	C5-C4	-2.88	1.33	1.40
3	BB	1324	5MC	O2-C2	-2.88	1.18	1.23
2	AA	2227	OMG	C5-C4	-2.87	1.35	1.43
1	BA	254	A2M	O3'-C3'	2.87	1.49	1.43
3	BB	1175	OMC	O2-C2	-2.87	1.18	1.23
2	AA	2227	OMG	C5-C6	2.86	1.53	1.47
3	BB	1245	OMG	C5-C4	-2.85	1.35	1.43
1	BA	1620	A2M	O3'-C3'	2.85	1.49	1.43
9	BC	43	A2M	O3'-C3'	2.85	1.49	1.43
3	BB	1400	A2M	O3'-C3'	2.85	1.49	1.43
1	BA	996	A2M	C5-C4	-2.85	1.33	1.40
3	BB	680	PSU	O4-C4	-2.85	1.18	1.23
1	BA	996	A2M	O3'-C3'	2.85	1.49	1.43
1	BA	762	A2M	O3'-C3'	2.85	1.49	1.43
2	AA	1517	OMG	C5-C6	2.84	1.53	1.47
1	BA	1028	OMG	C5-C6	2.84	1.53	1.47
2	AA	2153	A2M	C5-C4	-2.84	1.33	1.40
3	BB	400	A2M	C5-C4	-2.84	1.33	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	AA	1895	OMG	C5-C6	2.84	1.53	1.47
2	AA	2096	A2M	C5-C4	-2.84	1.33	1.40
1	BA	925	OMG	C5-C4	-2.84	1.35	1.43
3	BB	609	A2M	O3'-C3'	2.83	1.49	1.43
3	BB	1334	PSU	O4-C4	-2.83	1.18	1.23
3	BB	1269	OMG	C5-C4	-2.83	1.35	1.43
1	BA	1709	OMG	C5-C4	-2.83	1.35	1.43
2	AA	2123	OMU	O2-C2	-2.83	1.17	1.23
1	BA	743	A2M	C5-C4	-2.83	1.33	1.40
1	BA	1248	PSU	O4-C4	-2.83	1.18	1.23
2	AA	714	OMU	C6-N1	2.82	1.44	1.38
9	BC	163	A2M	O3'-C3'	2.82	1.49	1.43
9	BC	163	A2M	C5-C4	-2.82	1.33	1.40
3	BB	1400	A2M	C5-C4	-2.82	1.33	1.40
3	BB	71	OMG	C5-C4	-2.82	1.35	1.43
3	BB	588	A2M	C5-C4	-2.82	1.33	1.40
2	AA	1652	OMU	C6-N1	2.82	1.44	1.38
2	AA	1276	PSU	O4-C4	-2.82	1.18	1.23
3	BB	1076	PSU	O4-C4	-2.82	1.18	1.23
3	BB	609	A2M	C5-C4	-2.82	1.33	1.40
3	BB	673	OMG	C5-C4	-2.82	1.35	1.43
1	BA	1665	A2M	C5-C4	-2.81	1.33	1.40
1	BA	1024	A2M	C5-C4	-2.81	1.33	1.40
2	AA	1517	OMG	C5-C4	-2.81	1.35	1.43
1	BA	1009	PSU	O4-C4	-2.81	1.18	1.23
3	BB	1062	OMG	C5-C4	-2.81	1.35	1.43
3	BB	646	A2M	C5-C4	-2.80	1.33	1.40
3	BB	1435	OMU	C6-N1	2.80	1.44	1.38
2	AA	1899	OMU	C6-N1	2.80	1.44	1.38
3	BB	1201	A2M	C5-C4	-2.80	1.33	1.40
3	BB	644	PSU	O4-C4	-2.80	1.18	1.23
3	BB	685	OMU	C6-N1	2.80	1.44	1.38
3	BB	73	OMU	C6-N1	2.80	1.44	1.38
9	BC	43	A2M	C5-C4	-2.80	1.33	1.40
1	BA	1620	A2M	C5-C4	-2.80	1.33	1.40
1	BA	746	A2M	C5-C4	-2.80	1.33	1.40
3	BB	1093	OMU	C6-N1	2.79	1.44	1.38
1	BA	1169	PSU	O4-C4	-2.79	1.18	1.23
2	AA	942	PSU	O4-C4	-2.79	1.18	1.23
3	BB	455	PSU	O4-C4	-2.79	1.18	1.23
1	BA	737	PSU	O4-C4	-2.78	1.18	1.23
9	BC	7	OMU	C6-N1	2.78	1.44	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	BB	578	OMU	C6-N1	2.78	1.44	1.38
2	AA	1676	OMG	C5-C4	-2.78	1.36	1.43
1	BA	1181	OMU	C6-N1	2.78	1.44	1.38
1	BA	1742	OMU	C6-N1	2.78	1.44	1.38
9	BC	75	OMG	C5-C4	-2.78	1.36	1.43
1	BA	1086	PSU	O4-C4	-2.78	1.18	1.23
3	BB	1247	OMG	C5-C4	-2.77	1.36	1.43
9	BC	41	A2M	C5-C4	-2.77	1.33	1.40
3	BB	622	A2M	C5-C4	-2.77	1.33	1.40
3	BB	377	OMC	O2-C2	-2.77	1.18	1.23
3	BB	1280	PSU	O4-C4	-2.77	1.18	1.23
1	BA	1605	OMG	C5-C4	-2.77	1.36	1.43
1	BA	742	1MA	C5-C4	-2.77	1.36	1.43
1	BA	254	A2M	C5-C4	-2.77	1.33	1.40
1	BA	916	OMU	C6-N1	2.76	1.44	1.38
3	BB	95	A2M	C5-C4	-2.76	1.33	1.40
3	BB	615	PSU	O4-C4	-2.76	1.18	1.23
2	AA	57	OMU	C6-N1	2.76	1.44	1.38
1	BA	927	A2M	C5-C4	-2.76	1.33	1.40
1	BA	1448	OMU	C6-N1	2.76	1.44	1.38
2	AA	1700	OMG	C5-C6	2.75	1.53	1.47
1	BA	1024	A2M	O3'-C3'	2.75	1.49	1.43
3	BB	1375	OMU	C6-N1	2.75	1.44	1.38
3	BB	1160	PSU	O4-C4	-2.75	1.18	1.23
3	BB	542	5MC	O2-C2	-2.75	1.18	1.23
3	BB	1429	PSU	O4-C4	-2.74	1.18	1.23
2	AA	36	OMU	C6-N1	2.74	1.44	1.38
2	AA	56	A2M	O3'-C3'	2.74	1.49	1.43
1	BA	1620	A2M	O2'-C2'	-2.74	1.35	1.42
1	BA	1028	OMG	C5-C4	-2.74	1.36	1.43
1	BA	762	A2M	C5-C4	-2.73	1.33	1.40
1	BA	46	OMU	C6-N1	2.73	1.44	1.38
2	AA	2054	OMU	C6-N1	2.73	1.44	1.38
2	AA	1619	PSU	O4-C4	-2.73	1.18	1.23
1	BA	1614	PSU	O4-C4	-2.73	1.18	1.23
2	AA	1592	PSU	O4-C4	-2.72	1.18	1.23
9	BC	75	OMG	C2-N1	2.72	1.44	1.37
3	BB	629	PSU	O4-C4	-2.72	1.18	1.23
3	BB	545	A2M	O2'-C2'	-2.72	1.35	1.42
2	AA	2153	A2M	O2'-C2'	-2.71	1.35	1.42
1	BA	1609	PSU	O4-C4	-2.70	1.18	1.23
3	BB	400	A2M	O3'-C3'	2.70	1.49	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	BB	1400	A2M	O2'-C2'	-2.70	1.35	1.42
2	AA	2154	OMU	C6-N1	2.70	1.44	1.38
1	BA	1258	PSU	O4-C4	-2.69	1.18	1.23
3	BB	1319	PSU	O4-C4	-2.69	1.18	1.23
1	BA	1267	OMG	C2-N1	2.69	1.44	1.37
1	BA	927	A2M	O2'-C2'	-2.69	1.35	1.42
2	AA	2146	PSU	O4-C4	-2.69	1.18	1.23
2	AA	2153	A2M	O3'-C3'	2.69	1.49	1.43
3	BB	400	A2M	O2'-C2'	-2.68	1.35	1.42
2	AA	61	PSU	O4-C4	-2.68	1.18	1.23
1	BA	1329	OMC	O2-C2	-2.68	1.18	1.23
3	BB	1201	A2M	O2'-C2'	-2.68	1.35	1.42
3	BB	1210	PSU	O4-C4	-2.68	1.18	1.23
3	BB	673	OMG	C2-N1	2.67	1.44	1.37
1	BA	1709	OMG	C2-N1	2.67	1.44	1.37
1	BA	452	PSU	O4-C4	-2.67	1.18	1.23
3	BB	1094	OMG	C2-N1	2.66	1.44	1.37
1	BA	258	PSU	O4-C4	-2.65	1.18	1.23
3	BB	1409	PSU	O4-C4	-2.65	1.18	1.23
9	BC	74	PSU	O4-C4	-2.65	1.18	1.23
1	BA	762	A2M	O2'-C2'	-2.65	1.35	1.42
2	AA	56	A2M	O2'-C2'	-2.64	1.35	1.42
2	AA	2260	MA6	C5-C4	-2.64	1.33	1.40
3	BB	646	A2M	O2'-C2'	-2.64	1.35	1.42
1	BA	254	A2M	O2'-C2'	-2.64	1.35	1.42
3	BB	659	OMG	C2-N1	2.64	1.44	1.37
1	BA	1129	PSU	O4-C4	-2.63	1.18	1.23
1	BA	1621	OMG	C2-N1	2.63	1.44	1.37
3	BB	1247	OMG	C2-N1	2.63	1.44	1.37
1	BA	1605	OMG	C2-N1	2.63	1.44	1.37
1	BA	746	A2M	O2'-C2'	-2.63	1.35	1.42
2	AA	2045	PSU	O4-C4	-2.63	1.18	1.23
3	BB	1062	OMG	C2-N1	2.63	1.44	1.37
9	BC	41	A2M	O2'-C2'	-2.62	1.35	1.42
2	AA	721	A2M	O2'-C2'	-2.62	1.35	1.42
3	BB	71	OMG	C2-N1	2.62	1.44	1.37
3	BB	1388	A2M	O2'-C2'	-2.62	1.35	1.42
3	BB	1245	OMG	C2-N1	2.62	1.44	1.37
2	AA	1931	OMG	C2-N1	2.61	1.44	1.37
2	AA	1895	OMG	C2-N1	2.61	1.44	1.37
2	AA	1531	OMG	O6-C6	-2.61	1.18	1.23
3	BB	1269	OMG	C2-N1	2.61	1.44	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	AA	1531	OMG	C5-C6	2.60	1.52	1.47
1	BA	996	A2M	O2'-C2'	-2.60	1.36	1.42
1	BA	925	OMG	C2-N1	2.60	1.44	1.37
2	AA	2123	OMU	C6-N1	2.60	1.44	1.38
3	BB	611	PSU	O4-C4	-2.59	1.18	1.23
3	BB	522	PSU	O4-C4	-2.58	1.18	1.23
3	BB	622	A2M	O2'-C2'	-2.58	1.36	1.42
1	BA	1028	OMG	C2-N1	2.58	1.44	1.37
1	BA	915	OMG	C2-N1	2.57	1.44	1.37
3	BB	552	OMG	C2-N1	2.57	1.44	1.37
3	BB	609	A2M	O2'-C2'	-2.56	1.36	1.42
2	AA	36	OMU	O2-C2	-2.56	1.18	1.23
2	AA	714	OMU	O2-C2	-2.56	1.18	1.23
3	BB	1375	OMU	O2-C2	-2.56	1.18	1.23
2	AA	1676	OMG	C2-N1	2.55	1.44	1.37
2	AA	1700	OMG	O6-C6	-2.55	1.18	1.23
2	AA	2227	OMG	C2-N1	2.55	1.44	1.37
1	BA	1742	OMU	O2-C2	-2.55	1.18	1.23
1	BA	46	OMU	O2-C2	-2.55	1.18	1.23
1	BA	743	A2M	O2'-C2'	-2.54	1.36	1.42
1	BA	1665	A2M	O2'-C2'	-2.54	1.36	1.42
3	BB	95	A2M	O2'-C2'	-2.53	1.36	1.42
3	BB	1435	OMU	O2-C2	-2.53	1.18	1.23
3	BB	685	OMU	O2-C2	-2.53	1.18	1.23
1	BA	1024	A2M	O2'-C2'	-2.52	1.36	1.42
2	AA	1517	OMG	C2-N1	2.52	1.43	1.37
2	AA	57	OMU	O2-C2	-2.51	1.18	1.23
9	BC	163	A2M	O2'-C2'	-2.51	1.36	1.42
1	BA	1329	OMC	C5-C4	2.51	1.48	1.42
9	BC	43	A2M	O2'-C2'	-2.49	1.36	1.42
2	AA	2054	OMU	O2-C2	-2.49	1.18	1.23
3	BB	578	OMU	O2-C2	-2.49	1.18	1.23
3	BB	659	OMG	O6-C6	-2.48	1.18	1.23
2	AA	1700	OMG	C2-N1	2.48	1.43	1.37
2	AA	1517	OMG	O6-C6	-2.47	1.18	1.23
1	BA	1448	OMU	O2-C2	-2.47	1.18	1.23
2	AA	1895	OMG	O6-C6	-2.47	1.18	1.23
3	BB	1413	OMC	C5-C4	2.47	1.48	1.42
1	BA	916	OMU	O2-C2	-2.47	1.18	1.23
9	BC	7	OMU	O2-C2	-2.45	1.18	1.23
3	BB	377	OMC	C5-C4	2.44	1.48	1.42
2	AA	1652	OMU	O2-C2	-2.44	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	AA	1899	OMU	O2-C2	-2.44	1.18	1.23
3	BB	73	OMU	O2-C2	-2.44	1.18	1.23
2	AA	1676	OMG	O6-C6	-2.43	1.18	1.23
1	BA	1267	OMG	O6-C6	-2.43	1.18	1.23
1	BA	925	OMG	O6-C6	-2.43	1.18	1.23
1	BA	1181	OMU	O2-C2	-2.43	1.18	1.23
3	BB	1269	OMG	O6-C6	-2.43	1.18	1.23
3	BB	552	OMG	O6-C6	-2.42	1.18	1.23
3	BB	673	OMG	O6-C6	-2.42	1.18	1.23
3	BB	1062	OMG	O6-C6	-2.42	1.18	1.23
1	BA	1028	OMG	O6-C6	-2.41	1.18	1.23
3	BB	588	A2M	O2'-C2'	-2.41	1.36	1.42
3	BB	1093	OMU	O2-C2	-2.41	1.18	1.23
3	BB	1245	OMG	O6-C6	-2.41	1.18	1.23
1	BA	915	OMG	O6-C6	-2.41	1.18	1.23
1	BA	1709	OMG	O6-C6	-2.40	1.18	1.23
2	AA	2227	OMG	O6-C6	-2.40	1.18	1.23
2	AA	1931	OMG	O6-C6	-2.40	1.18	1.23
3	BB	1247	OMG	O6-C6	-2.40	1.18	1.23
1	BA	1621	OMG	O6-C6	-2.40	1.18	1.23
2	AA	1531	OMG	C2-N1	2.39	1.43	1.37
2	AA	2154	OMU	O2-C2	-2.39	1.18	1.23
3	BB	1264	OMC	C5-C4	2.39	1.48	1.42
3	BB	1175	OMC	C5-C4	2.39	1.48	1.42
3	BB	1094	OMG	O6-C6	-2.38	1.18	1.23
3	BB	1093	OMU	C5-C4	2.35	1.48	1.43
3	BB	71	OMG	O6-C6	-2.35	1.18	1.23
2	AA	66	OMC	C5-C4	2.33	1.48	1.42
2	AA	2154	OMU	C5-C4	2.32	1.48	1.43
2	AA	1652	OMU	C5-C4	2.32	1.48	1.43
3	BB	601	OMC	C5-C4	2.32	1.48	1.42
3	BB	685	OMU	C5-C4	2.31	1.48	1.43
1	BA	1006	OMC	C5-C4	2.31	1.48	1.42
1	BA	1181	OMU	C5-C4	2.31	1.48	1.43
9	BC	75	OMG	O6-C6	-2.30	1.18	1.23
3	BB	578	OMU	C5-C4	2.30	1.48	1.43
2	AA	2134	OMC	C5-C4	2.30	1.48	1.42
2	AA	2096	A2M	O2'-C2'	-2.27	1.36	1.42
3	BB	1375	OMU	C5-C4	2.27	1.48	1.43
1	BA	760	OMC	C5-C4	2.27	1.48	1.42
9	BC	7	OMU	C5-C4	2.27	1.48	1.43
1	BA	46	OMU	C5-C4	2.26	1.48	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	BA	1448	OMU	C5-C4	2.24	1.48	1.43
1	BA	1742	OMU	C5-C4	2.24	1.48	1.43
3	BB	1435	OMU	C5-C4	2.23	1.48	1.43
2	AA	57	OMU	C5-C4	2.23	1.48	1.43
2	AA	46	OMC	C5-C4	2.23	1.48	1.42
1	BA	1608	OMC	C5-C4	2.22	1.48	1.42
1	BA	916	OMU	C5-C4	2.22	1.48	1.43
2	AA	1899	OMU	C5-C4	2.22	1.48	1.43
2	AA	714	OMU	C5-C4	2.22	1.48	1.43
2	AA	2054	OMU	C5-C4	2.22	1.48	1.43
2	AA	36	OMU	C5-C4	2.21	1.48	1.43
3	BB	73	OMU	C5-C4	2.19	1.48	1.43
2	AA	1596	B8N	O2-C2	-2.18	1.18	1.22
1	BA	1605	OMG	O6-C6	-2.18	1.18	1.23
2	AA	1619	PSU	C4-C5	2.17	1.50	1.44
3	BB	400	A2M	O5'-C5'	-2.16	1.39	1.44
1	BA	743	A2M	O5'-C5'	-2.11	1.39	1.44
1	BA	1620	A2M	C2-N3	2.11	1.35	1.32
2	AA	721	A2M	O5'-C5'	-2.09	1.39	1.44
3	BB	1201	A2M	C2-N3	2.08	1.35	1.32
1	BA	254	A2M	C2-N3	2.08	1.35	1.32
3	BB	1319	PSU	O4'-C1'	-2.07	1.41	1.43
9	BC	41	A2M	C2-N3	2.07	1.35	1.32
3	BB	95	A2M	C2-N3	2.05	1.35	1.32
3	BB	588	A2M	C2-N3	2.05	1.35	1.32
2	AA	2153	A2M	O5'-C5'	-2.05	1.39	1.44
2	AA	2153	A2M	C2-N3	2.04	1.35	1.32
1	BA	1665	A2M	C2-N3	2.04	1.35	1.32
3	BB	611	PSU	C4-C5	2.02	1.49	1.44
3	BB	545	A2M	O5'-C5'	-2.02	1.39	1.44
3	BB	1400	A2M	C2-N3	2.01	1.35	1.32
3	BB	1398	PSU	O4'-C1'	-2.00	1.41	1.43

All (508) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	AA	2260	MA6	N1-C6-N6	-12.60	103.80	117.06
2	AA	2261	MA6	N1-C6-N6	-11.59	104.85	117.06
1	BA	762	A2M	C5-C6-N6	10.89	136.89	120.35
1	BA	743	A2M	C5-C6-N6	10.71	136.62	120.35
2	AA	2096	A2M	C5-C6-N6	10.70	136.61	120.35
3	BB	1388	A2M	C5-C6-N6	10.66	136.55	120.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	BB	95	A2M	C5-C6-N6	10.64	136.52	120.35
9	BC	41	A2M	C5-C6-N6	10.59	136.44	120.35
1	BA	1620	A2M	C5-C6-N6	10.56	136.40	120.35
1	BA	1665	A2M	C5-C6-N6	10.52	136.34	120.35
2	AA	721	A2M	C5-C6-N6	10.51	136.33	120.35
3	BB	622	A2M	C5-C6-N6	10.51	136.32	120.35
3	BB	646	A2M	C5-C6-N6	10.50	136.31	120.35
3	BB	545	A2M	C5-C6-N6	10.50	136.31	120.35
1	BA	746	A2M	C5-C6-N6	10.49	136.29	120.35
9	BC	163	A2M	C5-C6-N6	10.48	136.28	120.35
1	BA	927	A2M	C5-C6-N6	10.48	136.27	120.35
1	BA	996	A2M	C5-C6-N6	10.46	136.25	120.35
2	AA	56	A2M	C5-C6-N6	10.42	136.19	120.35
9	BC	43	A2M	C5-C6-N6	10.42	136.19	120.35
3	BB	1400	A2M	C5-C6-N6	10.41	136.17	120.35
2	AA	2153	A2M	C5-C6-N6	10.41	136.16	120.35
1	BA	254	A2M	C5-C6-N6	10.40	136.16	120.35
3	BB	400	A2M	C5-C6-N6	10.37	136.12	120.35
3	BB	609	A2M	C5-C6-N6	10.37	136.10	120.35
1	BA	1024	A2M	C5-C6-N6	10.35	136.09	120.35
3	BB	588	A2M	C5-C6-N6	10.35	136.08	120.35
3	BB	1201	A2M	C5-C6-N6	10.32	136.03	120.35
2	AA	2153	A2M	C1'-N9-C4	-8.71	111.34	126.64
3	BB	1388	A2M	C1'-N9-C4	-8.15	112.33	126.64
3	BB	545	A2M	C1'-N9-C4	-7.98	112.61	126.64
1	BA	743	A2M	C1'-N9-C4	-7.92	112.72	126.64
1	BA	254	A2M	C1'-N9-C4	-7.77	112.98	126.64
2	AA	721	A2M	C1'-N9-C4	-7.70	113.12	126.64
9	BC	163	A2M	C1'-N9-C4	-7.70	113.12	126.64
2	AA	2096	A2M	C1'-N9-C4	-7.65	113.20	126.64
3	BB	646	A2M	C1'-N9-C4	-7.63	113.24	126.64
3	BB	1201	A2M	C1'-N9-C4	-7.60	113.29	126.64
9	BC	41	A2M	C1'-N9-C4	-7.55	113.38	126.64
3	BB	588	A2M	C1'-N9-C4	-7.53	113.42	126.64
3	BB	1400	A2M	C1'-N9-C4	-7.51	113.44	126.64
3	BB	622	A2M	C1'-N9-C4	-7.50	113.47	126.64
9	BC	43	A2M	C1'-N9-C4	-7.40	113.64	126.64
1	BA	743	A2M	N6-C6-N1	-7.39	103.23	118.57
1	BA	1024	A2M	C1'-N9-C4	-7.39	113.67	126.64
2	AA	2096	A2M	N6-C6-N1	-7.38	103.25	118.57
1	BA	1620	A2M	N6-C6-N1	-7.34	103.33	118.57
2	AA	721	A2M	N6-C6-N1	-7.31	103.40	118.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	BB	1388	A2M	N6-C6-N1	-7.30	103.42	118.57
3	BB	400	A2M	C1'-N9-C4	-7.30	113.82	126.64
1	BA	927	A2M	N6-C6-N1	-7.29	103.44	118.57
3	BB	545	A2M	N6-C6-N1	-7.28	103.46	118.57
2	AA	56	A2M	C1'-N9-C4	-7.27	113.86	126.64
1	BA	1665	A2M	N6-C6-N1	-7.26	103.49	118.57
3	BB	95	A2M	N6-C6-N1	-7.23	103.56	118.57
9	BC	41	A2M	N6-C6-N1	-7.23	103.57	118.57
3	BB	646	A2M	N6-C6-N1	-7.22	103.58	118.57
1	BA	762	A2M	N6-C6-N1	-7.22	103.58	118.57
3	BB	622	A2M	N6-C6-N1	-7.21	103.61	118.57
1	BA	746	A2M	N6-C6-N1	-7.21	103.61	118.57
1	BA	996	A2M	N6-C6-N1	-7.21	103.62	118.57
9	BC	163	A2M	N6-C6-N1	-7.20	103.62	118.57
1	BA	762	A2M	C1'-N9-C4	-7.20	114.00	126.64
9	BC	43	A2M	N6-C6-N1	-7.19	103.64	118.57
3	BB	1400	A2M	N6-C6-N1	-7.19	103.65	118.57
3	BB	609	A2M	C1'-N9-C4	-7.18	114.02	126.64
1	BA	1620	A2M	C1'-N9-C4	-7.18	114.03	126.64
2	AA	56	A2M	N6-C6-N1	-7.17	103.70	118.57
2	AA	2153	A2M	N6-C6-N1	-7.13	103.78	118.57
1	BA	254	A2M	N6-C6-N1	-7.11	103.81	118.57
1	BA	1024	A2M	N6-C6-N1	-7.11	103.82	118.57
3	BB	400	A2M	N6-C6-N1	-7.11	103.82	118.57
3	BB	588	A2M	N6-C6-N1	-7.10	103.83	118.57
3	BB	1201	A2M	N6-C6-N1	-7.06	103.91	118.57
3	BB	609	A2M	N6-C6-N1	-7.05	103.94	118.57
1	BA	746	A2M	C1'-N9-C4	-6.94	114.44	126.64
3	BB	95	A2M	C1'-N9-C4	-6.92	114.47	126.64
1	BA	1665	A2M	C1'-N9-C4	-6.89	114.54	126.64
1	BA	996	A2M	C1'-N9-C4	-6.78	114.73	126.64
1	BA	927	A2M	C1'-N9-C4	-6.46	115.29	126.64
2	AA	36	OMU	C4-N3-C2	-5.61	119.18	126.58
3	BB	1388	A2M	N3-C2-N1	-5.61	119.92	128.68
1	BA	746	A2M	N3-C2-N1	-5.59	119.94	128.68
3	BB	1400	A2M	N3-C2-N1	-5.58	119.95	128.68
3	BB	545	A2M	N3-C2-N1	-5.58	119.96	128.68
1	BA	743	A2M	N3-C2-N1	-5.57	119.97	128.68
2	AA	2153	A2M	N3-C2-N1	-5.56	119.99	128.68
9	BC	163	A2M	N3-C2-N1	-5.56	119.99	128.68
1	BA	1665	A2M	N3-C2-N1	-5.55	120.01	128.68
2	AA	56	A2M	N3-C2-N1	-5.55	120.01	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	AA	721	A2M	N3-C2-N1	-5.55	120.01	128.68
1	BA	762	A2M	N3-C2-N1	-5.54	120.02	128.68
2	AA	2123	OMU	C4-N3-C2	-5.54	119.27	126.58
2	AA	2261	MA6	N3-C2-N1	-5.53	120.03	128.68
1	BA	996	A2M	N3-C2-N1	-5.53	120.04	128.68
1	BA	927	A2M	N3-C2-N1	-5.52	120.05	128.68
1	BA	46	OMU	C4-N3-C2	-5.50	119.32	126.58
3	BB	622	A2M	N3-C2-N1	-5.50	120.08	128.68
9	BC	41	A2M	N3-C2-N1	-5.49	120.10	128.68
3	BB	1201	A2M	N3-C2-N1	-5.49	120.10	128.68
3	BB	646	A2M	N3-C2-N1	-5.48	120.12	128.68
1	BA	1181	OMU	C4-N3-C2	-5.48	119.36	126.58
1	BA	916	OMU	C4-N3-C2	-5.47	119.36	126.58
3	BB	588	A2M	N3-C2-N1	-5.45	120.17	128.68
2	AA	2260	MA6	N3-C2-N1	-5.44	120.18	128.68
9	BC	43	A2M	N3-C2-N1	-5.43	120.18	128.68
1	BA	254	A2M	N3-C2-N1	-5.43	120.19	128.68
3	BB	1093	OMU	C4-N3-C2	-5.43	119.42	126.58
1	BA	1024	A2M	N3-C2-N1	-5.42	120.20	128.68
1	BA	1620	A2M	N3-C2-N1	-5.42	120.20	128.68
2	AA	2096	A2M	N3-C2-N1	-5.42	120.21	128.68
2	AA	2154	OMU	C4-N3-C2	-5.41	119.45	126.58
3	BB	609	A2M	N3-C2-N1	-5.41	120.23	128.68
1	BA	1448	OMU	C4-N3-C2	-5.37	119.50	126.58
3	BB	685	OMU	C4-N3-C2	-5.35	119.52	126.58
3	BB	400	A2M	N3-C2-N1	-5.34	120.33	128.68
2	AA	2054	OMU	C4-N3-C2	-5.34	119.54	126.58
3	BB	1435	OMU	C4-N3-C2	-5.34	119.54	126.58
2	AA	714	OMU	C4-N3-C2	-5.32	119.56	126.58
2	AA	1652	OMU	C4-N3-C2	-5.32	119.56	126.58
3	BB	578	OMU	C4-N3-C2	-5.30	119.59	126.58
9	BC	7	OMU	C4-N3-C2	-5.29	119.60	126.58
3	BB	1375	OMU	C4-N3-C2	-5.29	119.61	126.58
2	AA	1899	OMU	C4-N3-C2	-5.27	119.62	126.58
1	BA	1742	OMU	C4-N3-C2	-5.26	119.64	126.58
2	AA	57	OMU	C4-N3-C2	-5.24	119.67	126.58
3	BB	95	A2M	N3-C2-N1	-5.20	120.55	128.68
3	BB	73	OMU	C4-N3-C2	-5.20	119.72	126.58
1	BA	742	1MA	N1-C2-N3	-5.12	120.06	126.02
2	AA	1596	B8N	C5-C4-N3	5.11	125.64	116.17
2	AA	2070	7MG	C5-C6-N1	4.98	119.77	110.99
1	BA	1169	PSU	C4-N3-C2	-4.76	119.48	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	BB	1076	PSU	C4-N3-C2	-4.72	119.53	126.34
2	AA	1276	PSU	C4-N3-C2	-4.71	119.56	126.34
3	BB	455	PSU	C4-N3-C2	-4.67	119.61	126.34
9	BC	74	PSU	C4-N3-C2	-4.66	119.62	126.34
2	AA	131	PSU	C4-N3-C2	-4.66	119.63	126.34
3	BB	1398	PSU	C4-N3-C2	-4.65	119.63	126.34
1	BA	1248	PSU	C4-N3-C2	-4.65	119.64	126.34
2	AA	61	PSU	C4-N3-C2	-4.63	119.67	126.34
3	BB	644	PSU	C4-N3-C2	-4.61	119.69	126.34
1	BA	1009	PSU	C4-N3-C2	-4.60	119.72	126.34
1	BA	1258	PSU	C4-N3-C2	-4.59	119.72	126.34
3	BB	615	PSU	C4-N3-C2	-4.59	119.72	126.34
2	AA	1592	PSU	C4-N3-C2	-4.59	119.72	126.34
3	BB	680	PSU	C4-N3-C2	-4.59	119.72	126.34
3	BB	1429	PSU	C4-N3-C2	-4.59	119.73	126.34
3	BB	1334	PSU	C4-N3-C2	-4.58	119.74	126.34
1	BA	1129	PSU	C4-N3-C2	-4.58	119.74	126.34
3	BB	1160	PSU	C4-N3-C2	-4.56	119.77	126.34
3	BB	1280	PSU	C4-N3-C2	-4.55	119.78	126.34
3	BB	1210	PSU	C4-N3-C2	-4.55	119.79	126.34
1	BA	737	PSU	C4-N3-C2	-4.55	119.79	126.34
1	BA	1086	PSU	C4-N3-C2	-4.54	119.79	126.34
1	BA	1614	PSU	C4-N3-C2	-4.51	119.84	126.34
1	BA	1609	PSU	C4-N3-C2	-4.51	119.84	126.34
3	BB	629	PSU	C4-N3-C2	-4.50	119.85	126.34
3	BB	1409	PSU	C4-N3-C2	-4.50	119.85	126.34
1	BA	452	PSU	C4-N3-C2	-4.50	119.86	126.34
1	BA	258	PSU	C4-N3-C2	-4.48	119.89	126.34
3	BB	1319	PSU	C4-N3-C2	-4.47	119.89	126.34
3	BB	1076	PSU	N1-C2-N3	4.45	120.17	115.13
2	AA	2045	PSU	C4-N3-C2	-4.42	119.97	126.34
2	AA	1596	B8N	C4-N3-C2	-4.41	119.88	125.46
3	BB	522	PSU	C4-N3-C2	-4.39	120.01	126.34
3	BB	1429	PSU	N1-C2-N3	4.39	120.11	115.13
2	AA	1592	PSU	N1-C2-N3	4.39	120.10	115.13
1	BA	1258	PSU	N1-C2-N3	4.36	120.07	115.13
2	AA	1619	PSU	C4-N3-C2	-4.34	120.08	126.34
2	AA	1276	PSU	N1-C2-N3	4.32	120.03	115.13
1	BA	1086	PSU	N1-C2-N3	4.32	120.02	115.13
2	AA	2070	7MG	C2-N3-C4	4.31	119.97	112.30
1	BA	1169	PSU	N1-C2-N3	4.30	120.00	115.13
2	AA	61	PSU	N1-C2-N3	4.30	120.00	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	1609	PSU	N1-C2-N3	4.29	120.00	115.13
9	BC	74	PSU	N1-C2-N3	4.29	119.99	115.13
3	BB	455	PSU	N1-C2-N3	4.29	119.99	115.13
1	BA	1009	PSU	N1-C2-N3	4.29	119.99	115.13
3	BB	680	PSU	N1-C2-N3	4.28	119.98	115.13
3	BB	1160	PSU	N1-C2-N3	4.26	119.96	115.13
3	BB	1398	PSU	N1-C2-N3	4.26	119.96	115.13
2	AA	36	OMU	N3-C2-N1	4.25	120.54	114.89
2	AA	2045	PSU	N1-C2-N3	4.25	119.94	115.13
2	AA	2146	PSU	C4-N3-C2	-4.24	120.22	126.34
1	BA	1129	PSU	N1-C2-N3	4.24	119.94	115.13
3	BB	1319	PSU	N1-C2-N3	4.24	119.94	115.13
3	BB	644	PSU	N1-C2-N3	4.24	119.93	115.13
1	BA	1614	PSU	N1-C2-N3	4.23	119.92	115.13
3	BB	615	PSU	N1-C2-N3	4.22	119.92	115.13
3	BB	1280	PSU	N1-C2-N3	4.21	119.90	115.13
3	BB	522	PSU	N1-C2-N3	4.19	119.88	115.13
3	BB	611	PSU	C4-N3-C2	-4.18	120.31	126.34
2	AA	2123	OMU	N3-C2-N1	4.18	120.44	114.89
1	BA	1248	PSU	N1-C2-N3	4.18	119.86	115.13
1	BA	258	PSU	N1-C2-N3	4.17	119.86	115.13
3	BB	629	PSU	N1-C2-N3	4.17	119.85	115.13
3	BB	1334	PSU	N1-C2-N3	4.15	119.84	115.13
3	BB	1210	PSU	N1-C2-N3	4.14	119.82	115.13
2	AA	2070	7MG	C5-C4-N3	-4.13	120.25	128.13
1	BA	737	PSU	N1-C2-N3	4.09	119.77	115.13
1	BA	452	PSU	N1-C2-N3	4.09	119.76	115.13
2	AA	942	PSU	C4-N3-C2	-4.07	120.48	126.34
1	BA	742	1MA	C5-C6-N1	4.06	119.95	113.90
2	AA	131	PSU	N1-C2-N3	4.06	119.72	115.13
2	AA	2146	PSU	N1-C2-N3	4.04	119.71	115.13
3	BB	1409	PSU	N1-C2-N3	4.03	119.69	115.13
3	BB	685	OMU	N3-C2-N1	4.01	120.22	114.89
1	BA	916	OMU	N3-C2-N1	4.00	120.20	114.89
9	BC	7	OMU	N3-C2-N1	3.99	120.19	114.89
3	BB	1093	OMU	N3-C2-N1	3.97	120.16	114.89
3	BB	578	OMU	N3-C2-N1	3.93	120.10	114.89
1	BA	46	OMU	N3-C2-N1	3.93	120.10	114.89
2	AA	1899	OMU	N3-C2-N1	3.90	120.06	114.89
3	BB	611	PSU	N1-C2-N3	3.90	119.54	115.13
1	BA	1448	OMU	N3-C2-N1	3.89	120.06	114.89
3	BB	1375	OMU	N3-C2-N1	3.89	120.05	114.89

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	1181	OMU	N3-C2-N1	3.89	120.05	114.89
2	AA	57	OMU	N3-C2-N1	3.89	120.05	114.89
2	AA	714	OMU	N3-C2-N1	3.88	120.04	114.89
2	AA	942	PSU	N1-C2-N3	3.86	119.51	115.13
2	AA	1652	OMU	N3-C2-N1	3.86	120.02	114.89
1	BA	1742	OMU	N3-C2-N1	3.85	120.00	114.89
2	AA	1619	PSU	N1-C2-N3	3.84	119.48	115.13
2	AA	2154	OMU	N3-C2-N1	3.83	119.98	114.89
2	AA	2054	OMU	N3-C2-N1	3.83	119.98	114.89
3	BB	1435	OMU	N3-C2-N1	3.79	119.93	114.89
3	BB	1324	5MC	C5-C6-N1	-3.75	119.48	123.34
3	BB	73	OMU	N3-C2-N1	3.74	119.85	114.89
2	AA	1517	OMG	C5-C6-N1	3.64	120.38	113.95
2	AA	1676	OMG	C5-C6-N1	3.63	120.36	113.95
2	AA	1931	OMG	C5-C6-N1	3.62	120.35	113.95
1	BA	915	OMG	C5-C6-N1	3.60	120.32	113.95
2	AA	1700	OMG	C5-C6-N1	3.59	120.29	113.95
3	BB	1062	OMG	C5-C6-N1	3.58	120.28	113.95
2	AA	1531	OMG	C5-C6-N1	3.57	120.26	113.95
1	BA	1709	OMG	C5-C6-N1	3.56	120.23	113.95
1	BA	46	OMU	C5-C4-N3	3.56	120.16	114.84
2	AA	2123	OMU	C5-C4-N3	3.56	120.16	114.84
2	AA	2227	OMG	C5-C6-N1	3.54	120.20	113.95
3	BB	1245	OMG	C5-C6-N1	3.54	120.20	113.95
3	BB	673	OMG	C5-C6-N1	3.54	120.19	113.95
3	BB	1094	OMG	C5-C6-N1	3.53	120.18	113.95
2	AA	714	OMU	C5-C4-N3	3.52	120.11	114.84
3	BB	71	OMG	C5-C6-N1	3.52	120.16	113.95
9	BC	75	OMG	C5-C6-N1	3.51	120.15	113.95
3	BB	1269	OMG	C5-C6-N1	3.51	120.14	113.95
2	AA	36	OMU	C5-C4-N3	3.51	120.09	114.84
1	BA	1181	OMU	C5-C4-N3	3.50	120.07	114.84
3	BB	1247	OMG	C5-C6-N1	3.50	120.13	113.95
1	BA	925	OMG	C5-C6-N1	3.49	120.12	113.95
3	BB	659	OMG	C5-C6-N1	3.49	120.11	113.95
3	BB	1435	OMU	C5-C4-N3	3.48	120.05	114.84
2	AA	1895	OMG	C5-C6-N1	3.48	120.09	113.95
1	BA	1028	OMG	C5-C6-N1	3.46	120.06	113.95
1	BA	1605	OMG	C5-C6-N1	3.45	120.05	113.95
2	AA	2054	OMU	C5-C4-N3	3.45	120.00	114.84
1	BA	1621	OMG	C5-C6-N1	3.43	120.01	113.95
1	BA	916	OMU	C5-C4-N3	3.42	119.96	114.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	1448	OMU	C5-C4-N3	3.41	119.94	114.84
3	BB	1093	OMU	C5-C4-N3	3.41	119.94	114.84
2	AA	1652	OMU	C5-C4-N3	3.41	119.94	114.84
1	BA	1267	OMG	C5-C6-N1	3.40	119.95	113.95
3	BB	73	OMU	C5-C4-N3	3.39	119.92	114.84
3	BB	552	OMG	C5-C6-N1	3.39	119.94	113.95
3	BB	685	OMU	C5-C4-N3	3.39	119.91	114.84
1	BA	1742	OMU	C5-C4-N3	3.38	119.90	114.84
3	BB	1375	OMU	C5-C4-N3	3.37	119.89	114.84
3	BB	578	OMU	C5-C4-N3	3.37	119.88	114.84
9	BC	7	OMU	C5-C4-N3	3.36	119.87	114.84
2	AA	2154	OMU	C5-C4-N3	3.36	119.86	114.84
2	AA	57	OMU	C5-C4-N3	3.34	119.84	114.84
2	AA	2070	7MG	C4-C5-N7	3.31	110.12	105.53
2	AA	1899	OMU	C5-C4-N3	3.27	119.73	114.84
2	AA	942	PSU	C6-N1-C2	-3.23	119.38	122.68
3	BB	542	5MC	C5-C6-N1	-3.20	120.04	123.34
3	BB	1076	PSU	C6-C5-C4	3.20	120.44	118.20
3	BB	1429	PSU	C6-N1-C2	-3.18	119.43	122.68
2	AA	2045	PSU	C6-N1-C2	-3.17	119.44	122.68
3	BB	522	PSU	C6-N1-C2	-3.17	119.44	122.68
2	AA	2070	7MG	C5-C4-N9	3.13	110.42	106.35
1	BA	1609	PSU	C6-N1-C2	-3.11	119.50	122.68
2	AA	2146	PSU	C6-N1-C2	-3.10	119.51	122.68
1	BA	1086	PSU	C6-N1-C2	-3.09	119.53	122.68
2	AA	1592	PSU	C6-N1-C2	-3.07	119.54	122.68
2	AA	1596	B8N	N3-C2-N1	3.07	121.09	116.76
3	BB	1160	PSU	C6-N1-C2	-3.06	119.55	122.68
3	BB	1319	PSU	C6-N1-C2	-3.01	119.60	122.68
2	AA	1517	OMG	C2-N1-C6	-3.01	119.56	125.10
3	BB	615	PSU	C6-N1-C2	-3.00	119.61	122.68
1	BA	1709	OMG	C2-N1-C6	-3.00	119.57	125.10
2	AA	2123	OMU	O4-C4-C5	-3.00	119.89	125.16
2	AA	1676	OMG	C2-N1-C6	-3.00	119.58	125.10
2	AA	1531	OMG	C2-N1-C6	-3.00	119.58	125.10
2	AA	2070	7MG	C2-N1-C6	-2.99	119.65	125.10
9	BC	74	PSU	C6-C5-C4	2.99	120.29	118.20
3	BB	1062	OMG	C2-N1-C6	-2.98	119.60	125.10
1	BA	915	OMG	C2-N1-C6	-2.98	119.61	125.10
1	BA	1258	PSU	C6-N1-C2	-2.98	119.63	122.68
3	BB	455	PSU	C6-N1-C2	-2.98	119.64	122.68
2	AA	1700	OMG	C8-N7-C5	2.98	108.66	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	BB	680	PSU	C6-N1-C2	-2.97	119.64	122.68
3	BB	1076	PSU	C6-N1-C2	-2.97	119.65	122.68
1	BA	1605	OMG	C2-N1-C6	-2.97	119.64	125.10
3	BB	644	PSU	C6-N1-C2	-2.97	119.65	122.68
3	BB	1280	PSU	C6-N1-C2	-2.96	119.65	122.68
2	AA	2227	OMG	C2-N1-C6	-2.96	119.65	125.10
1	BA	1181	OMU	O4-C4-C5	-2.96	119.96	125.16
2	AA	1276	PSU	C6-N1-C2	-2.95	119.66	122.68
3	BB	659	OMG	C8-N7-C5	2.95	108.61	102.99
3	BB	73	OMU	O4-C4-C5	-2.94	119.99	125.16
1	BA	1129	PSU	C6-N1-C2	-2.94	119.68	122.68
2	AA	2054	OMU	O4-C4-C5	-2.94	120.00	125.16
3	BB	673	OMG	C8-N7-C5	2.94	108.58	102.99
3	BB	1210	PSU	C6-N1-C2	-2.94	119.68	122.68
3	BB	1269	OMG	C2-N1-C6	-2.94	119.69	125.10
3	BB	1435	OMU	O4-C4-C5	-2.93	120.01	125.16
3	BB	71	OMG	C2-N1-C6	-2.93	119.71	125.10
3	BB	1245	OMG	C2-N1-C6	-2.92	119.72	125.10
1	BA	915	OMG	C8-N7-C5	2.92	108.55	102.99
2	AA	61	PSU	C6-N1-C2	-2.91	119.70	122.68
2	AA	1531	OMG	C8-N7-C5	2.91	108.54	102.99
3	BB	629	PSU	C6-N1-C2	-2.91	119.71	122.68
2	AA	2154	OMU	O4-C4-C5	-2.91	120.05	125.16
1	BA	1267	OMG	C8-N7-C5	2.91	108.53	102.99
2	AA	1899	OMU	O4-C4-C5	-2.91	120.05	125.16
1	BA	1605	OMG	C8-N7-C5	2.91	108.53	102.99
1	BA	1742	OMU	O4-C4-C5	-2.90	120.05	125.16
9	BC	75	OMG	C2-N1-C6	-2.90	119.76	125.10
1	BA	258	PSU	C6-N1-C2	-2.90	119.72	122.68
3	BB	1094	OMG	C8-N7-C5	2.90	108.50	102.99
3	BB	1334	PSU	C6-N1-C2	-2.89	119.72	122.68
3	BB	1375	OMU	O4-C4-C5	-2.89	120.08	125.16
1	BA	1009	PSU	C6-N1-C2	-2.89	119.73	122.68
3	BB	673	OMG	C2-N1-C6	-2.89	119.78	125.10
9	BC	74	PSU	C6-N1-C2	-2.88	119.74	122.68
2	AA	1700	OMG	C2-N1-C6	-2.88	119.80	125.10
1	BA	1028	OMG	C2-N1-C6	-2.88	119.80	125.10
1	BA	1614	PSU	C6-N1-C2	-2.87	119.75	122.68
2	AA	1931	OMG	C2-N1-C6	-2.87	119.82	125.10
3	BB	611	PSU	C6-N1-C2	-2.87	119.75	122.68
2	AA	1895	OMG	C2-N1-C6	-2.87	119.82	125.10
2	AA	57	OMU	O4-C4-C5	-2.86	120.13	125.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	916	OMU	O4-C4-C5	-2.85	120.14	125.16
2	AA	1895	OMG	C8-N7-C5	2.85	108.43	102.99
3	BB	1247	OMG	C2-N1-C6	-2.85	119.84	125.10
2	AA	1652	OMU	O4-C4-C5	-2.85	120.14	125.16
3	BB	71	OMG	C8-N7-C5	2.85	108.41	102.99
2	AA	2227	OMG	C8-N7-C5	2.83	108.39	102.99
2	AA	1676	OMG	C8-N7-C5	2.83	108.38	102.99
3	BB	1398	PSU	C6-N1-C2	-2.83	119.79	122.68
3	BB	1062	OMG	C8-N7-C5	2.82	108.37	102.99
9	BC	75	OMG	C8-N7-C5	2.82	108.37	102.99
2	AA	2070	7MG	O6-C6-C5	-2.82	120.62	127.54
1	BA	925	OMG	C8-N7-C5	2.82	108.36	102.99
3	BB	659	OMG	C2-N1-C6	-2.82	119.91	125.10
1	BA	452	PSU	C6-N1-C2	-2.82	119.80	122.68
3	BB	1094	OMG	C2-N1-C6	-2.81	119.92	125.10
9	BC	7	OMU	O4-C4-C5	-2.81	120.22	125.16
2	AA	1931	OMG	C8-N7-C5	2.81	108.34	102.99
1	BA	1267	OMG	C2-N1-C6	-2.81	119.93	125.10
1	BA	742	1MA	C8-N7-C5	2.80	108.33	102.99
3	BB	1429	PSU	O2-C2-N1	-2.80	119.71	122.79
1	BA	1621	OMG	C8-N7-C5	2.80	108.32	102.99
2	AA	131	PSU	C6-N1-C2	-2.80	119.83	122.68
3	BB	1245	OMG	C8-N7-C5	2.79	108.31	102.99
1	BA	1448	OMU	O4-C4-C5	-2.79	120.25	125.16
1	BA	1248	PSU	C6-N1-C2	-2.78	119.84	122.68
2	AA	36	OMU	O4-C4-C5	-2.78	120.27	125.16
1	BA	1621	OMG	C2-N1-C6	-2.78	119.98	125.10
3	BB	1093	OMU	O4-C4-C5	-2.77	120.29	125.16
3	BB	1247	OMG	C8-N7-C5	2.77	108.27	102.99
2	AA	61	PSU	C6-C5-C4	2.77	120.13	118.20
1	BA	1258	PSU	O2-C2-N1	-2.77	119.75	122.79
1	BA	925	OMG	C2-N1-C6	-2.77	120.01	125.10
1	BA	1169	PSU	C6-N1-C2	-2.76	119.86	122.68
3	BB	1269	OMG	C8-N7-C5	2.76	108.25	102.99
3	BB	1409	PSU	C6-N1-C2	-2.76	119.86	122.68
1	BA	1169	PSU	C6-C5-C4	2.76	120.13	118.20
3	BB	685	OMU	O4-C4-C5	-2.75	120.32	125.16
1	BA	1709	OMG	C8-N7-C5	2.75	108.23	102.99
3	BB	578	OMU	O4-C4-C5	-2.75	120.33	125.16
2	AA	1276	PSU	C6-C5-C4	2.74	120.11	118.20
1	BA	1086	PSU	O2-C2-N1	-2.73	119.79	122.79
1	BA	737	PSU	C6-N1-C2	-2.72	119.90	122.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	AA	714	OMU	O4-C4-C5	-2.72	120.37	125.16
2	AA	1517	OMG	C8-N7-C5	2.72	108.17	102.99
3	BB	552	OMG	C2-N1-C6	-2.71	120.10	125.10
1	BA	1248	PSU	C6-C5-C4	2.71	120.09	118.20
1	BA	1009	PSU	C6-C5-C4	2.71	120.09	118.20
2	AA	2045	PSU	O2-C2-N1	-2.70	119.81	122.79
3	BB	552	OMG	C8-N7-C5	2.70	108.12	102.99
3	BB	1280	PSU	C6-C5-C4	2.68	120.07	118.20
3	BB	1398	PSU	C6-C5-C4	2.68	120.07	118.20
1	BA	1028	OMG	C8-N7-C5	2.67	108.08	102.99
1	BA	1609	PSU	C6-C5-C4	2.65	120.05	118.20
1	BA	46	OMU	O4-C4-C5	-2.64	120.51	125.16
3	BB	615	PSU	O2-C2-N1	-2.64	119.88	122.79
2	AA	1596	B8N	O4-C4-N3	-2.62	115.52	119.98
2	AA	1592	PSU	O2-C2-N1	-2.62	119.91	122.79
3	BB	1076	PSU	O2-C2-N1	-2.62	119.91	122.79
3	BB	455	PSU	O2-C2-N1	-2.61	119.91	122.79
2	AA	61	PSU	O2-C2-N1	-2.61	119.92	122.79
3	BB	629	PSU	O2-C2-N1	-2.60	119.92	122.79
2	AA	1619	PSU	C6-N1-C2	-2.59	120.03	122.68
3	BB	522	PSU	O2-C2-N1	-2.58	119.95	122.79
2	AA	2070	7MG	N9-C4-N3	2.58	129.33	125.47
3	BB	1280	PSU	O2-C2-N1	-2.58	119.95	122.79
1	BA	1614	PSU	O2-C2-N1	-2.57	119.96	122.79
3	BB	1319	PSU	C6-C5-C4	2.56	119.99	118.20
3	BB	1334	PSU	O2-C2-N1	-2.52	120.01	122.79
2	AA	2070	7MG	N9-C8-N7	2.51	106.96	103.38
3	BB	1398	PSU	O2-C2-N1	-2.50	120.04	122.79
1	BA	1129	PSU	O2-C2-N1	-2.49	120.05	122.79
2	AA	1592	PSU	C6-C5-C4	2.49	119.94	118.20
1	BA	258	PSU	C6-C5-C4	2.48	119.93	118.20
3	BB	1160	PSU	C6-C5-C4	2.48	119.93	118.20
3	BB	1409	PSU	O2-C2-N1	-2.47	120.07	122.79
9	BC	74	PSU	O2-C2-N1	-2.47	120.07	122.79
3	BB	680	PSU	O2-C2-N1	-2.46	120.08	122.79
1	BA	452	PSU	C6-C5-C4	2.46	119.92	118.20
2	AA	2146	PSU	O2-C2-N1	-2.46	120.09	122.79
1	BA	1609	PSU	O2-C2-N1	-2.44	120.11	122.79
3	BB	644	PSU	O2-C2-N1	-2.43	120.11	122.79
3	BB	1429	PSU	C6-C5-C4	2.43	119.90	118.20
1	BA	737	PSU	O2-C2-N1	-2.43	120.12	122.79
2	AA	942	PSU	O2-C2-N1	-2.42	120.12	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	BA	1169	PSU	O2-C2-N1	-2.40	120.15	122.79
3	BB	1160	PSU	O2-C2-N1	-2.40	120.15	122.79
1	BA	1608	OMC	O2-C2-N3	-2.40	118.43	122.33
1	BA	1248	PSU	O2-C2-N1	-2.39	120.16	122.79
1	BA	1009	PSU	O2-C2-N1	-2.37	120.18	122.79
1	BA	1086	PSU	C6-C5-C4	2.37	119.85	118.20
1	BA	1181	OMU	O2-C2-N1	-2.36	119.65	122.79
1	BA	452	PSU	O2-C2-N1	-2.34	120.22	122.79
1	BA	737	PSU	C6-C5-C4	2.34	119.83	118.20
1	BA	1129	PSU	C6-C5-C4	2.34	119.83	118.20
1	BA	1709	OMG	O6-C6-C5	-2.33	119.82	124.37
2	AA	1517	OMG	O6-C6-C5	-2.32	119.84	124.37
3	BB	1210	PSU	O2-C2-N1	-2.32	120.24	122.79
2	AA	2154	OMU	O2-C2-N1	-2.32	119.71	122.79
2	AA	1276	PSU	O2-C2-N1	-2.31	120.24	122.79
3	BB	1062	OMG	O6-C6-C5	-2.31	119.86	124.37
3	BB	542	5MC	CM5-C5-C6	-2.31	119.76	122.85
2	AA	36	OMU	O2-C2-N1	-2.31	119.72	122.79
2	AA	2045	PSU	C6-C5-C4	2.30	119.81	118.20
1	BA	1267	OMG	N2-C2-N1	2.30	121.61	116.71
2	AA	1899	OMU	C1'-N1-C2	2.30	121.73	117.57
1	BA	1608	OMC	C1'-N1-C2	2.29	123.53	118.42
1	BA	1258	PSU	C6-C5-C4	2.29	119.80	118.20
3	BB	615	PSU	C6-C5-C4	2.29	119.80	118.20
3	BB	680	PSU	C6-C5-C4	2.29	119.80	118.20
1	BA	1028	OMG	O6-C6-C5	-2.28	119.92	124.37
1	BA	1614	PSU	C6-C5-C4	2.28	119.79	118.20
3	BB	588	A2M	O2'-C2'-C1'	2.27	113.58	109.09
3	BB	1319	PSU	O2-C2-N1	-2.25	120.31	122.79
3	BB	629	PSU	C6-C5-C4	2.25	119.77	118.20
3	BB	1319	PSU	O4'-C1'-C2'	2.24	108.30	105.14
3	BB	644	PSU	C6-C5-C4	2.24	119.76	118.20
3	BB	1280	PSU	O4'-C1'-C2'	2.23	108.29	105.14
9	BC	75	OMG	O6-C6-C5	-2.23	120.02	124.37
3	BB	455	PSU	C6-C5-C4	2.22	119.75	118.20
3	BB	611	PSU	O2-C2-N1	-2.21	120.36	122.79
3	BB	1247	OMG	O6-C6-C5	-2.21	120.06	124.37
1	BA	258	PSU	O2-C2-N1	-2.20	120.37	122.79
2	AA	57	OMU	O2-C2-N1	-2.19	119.88	122.79
3	BB	1210	PSU	C6-C5-C4	2.18	119.72	118.20
3	BB	659	OMG	O6-C6-C5	-2.18	120.11	124.37
2	AA	2227	OMG	O6-C6-C5	-2.17	120.13	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	BB	1245	OMG	O6-C6-C5	-2.17	120.14	124.37
3	BB	1409	PSU	C6-C5-C4	2.16	119.71	118.20
2	AA	1676	OMG	O6-C6-C5	-2.16	120.15	124.37
2	AA	1895	OMG	O6-C6-C5	-2.16	120.15	124.37
2	AA	1700	OMG	N2-C2-N1	2.16	121.31	116.71
3	BB	1398	PSU	O4'-C1'-C2'	2.15	108.17	105.14
2	AA	1596	B8N	C31-N3-C4	2.14	120.47	117.31
3	BB	1334	PSU	C6-C5-C4	2.14	119.69	118.20
2	AA	1931	OMG	O6-C6-C5	-2.14	120.19	124.37
2	AA	2096	A2M	O2'-C2'-C1'	2.14	113.33	109.09
9	BC	7	OMU	O2-C2-N1	-2.13	119.96	122.79
1	BA	1621	OMG	N2-C2-N1	2.13	121.25	116.71
2	AA	1619	PSU	O2-C2-N1	-2.13	120.45	122.79
3	BB	1094	OMG	N2-C2-N1	2.13	121.24	116.71
1	BA	1248	PSU	O4'-C1'-C2'	2.13	108.14	105.14
3	BB	1269	OMG	O6-C6-C5	-2.11	120.25	124.37
3	BB	1375	OMU	O2-C2-N1	-2.11	119.98	122.79
3	BB	73	OMU	O2-C2-N1	-2.11	119.98	122.79
3	BB	685	OMU	O2-C2-N1	-2.11	119.98	122.79
2	AA	714	OMU	O2-C2-N1	-2.11	119.98	122.79
1	BA	1605	OMG	O6-C6-C5	-2.10	120.26	124.37
2	AA	1531	OMG	O6-C6-C5	-2.10	120.27	124.37
1	BA	1621	OMG	O6-C6-C5	-2.10	120.27	124.37
1	BA	916	OMU	O2-C2-N1	-2.10	120.00	122.79
1	BA	46	OMU	O2-C2-N1	-2.10	120.00	122.79
3	BB	1093	OMU	O2-C2-N1	-2.09	120.00	122.79
3	BB	545	A2M	O4'-C1'-C2'	-2.09	102.97	106.59
3	BB	71	OMG	O6-C6-C5	-2.08	120.31	124.37
3	BB	1435	OMU	O2-C2-N1	-2.05	120.06	122.79
2	AA	1700	OMG	O6-C6-C5	-2.05	120.37	124.37
3	BB	552	OMG	O6-C6-C5	-2.05	120.38	124.37
3	BB	673	OMG	O6-C6-C5	-2.04	120.38	124.37
2	AA	1931	OMG	N2-C2-N1	2.04	121.06	116.71
1	BA	1267	OMG	O6-C6-C5	-2.04	120.38	124.37
3	BB	1269	OMG	N2-C2-N1	2.04	121.05	116.71
3	BB	659	OMG	N2-C2-N1	2.04	121.05	116.71
3	BB	522	PSU	C6-C5-C4	2.03	119.62	118.20
1	BA	915	OMG	O6-C6-C5	-2.03	120.40	124.37
2	AA	942	PSU	O4'-C1'-C2'	2.03	108.00	105.14
2	AA	1652	OMU	O2-C2-N1	-2.02	120.10	122.79

There are no chirality outliers.

All (105) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
9	BC	7	OMU	C1'-C2'-O2'-CM2
9	BC	43	A2M	C1'-C2'-O2'-CM'
9	BC	163	A2M	C1'-C2'-O2'-CM'
1	BA	743	A2M	C1'-C2'-O2'-CM'
1	BA	760	OMC	C1'-C2'-O2'-CM2
1	BA	762	A2M	C1'-C2'-O2'-CM'
1	BA	996	A2M	C1'-C2'-O2'-CM'
1	BA	1024	A2M	C1'-C2'-O2'-CM'
1	BA	1028	OMG	O4'-C4'-C5'-O5'
1	BA	1028	OMG	C3'-C4'-C5'-O5'
1	BA	1258	PSU	C3'-C4'-C5'-O5'
1	BA	1258	PSU	O4'-C4'-C5'-O5'
1	BA	1329	OMC	C1'-C2'-O2'-CM2
1	BA	1665	A2M	C1'-C2'-O2'-CM'
1	BA	1742	OMU	C1'-C2'-O2'-CM2
2	AA	56	A2M	C1'-C2'-O2'-CM'
2	AA	57	OMU	C1'-C2'-O2'-CM2
2	AA	131	PSU	O4'-C1'-C5-C4
2	AA	131	PSU	O4'-C1'-C5-C6
2	AA	721	A2M	O4'-C4'-C5'-O5'
2	AA	721	A2M	C3'-C4'-C5'-O5'
2	AA	721	A2M	C1'-C2'-O2'-CM'
2	AA	942	PSU	O4'-C1'-C5-C4
2	AA	942	PSU	C2'-C1'-C5-C6
2	AA	942	PSU	O4'-C1'-C5-C6
2	AA	1596	B8N	O4'-C4'-C5'-O5'
2	AA	1596	B8N	N3-C31-C32-C33
2	AA	1619	PSU	C3'-C4'-C5'-O5'
2	AA	1899	OMU	O4'-C1'-N1-C2
2	AA	2054	OMU	O4'-C4'-C5'-O5'
2	AA	2096	A2M	C1'-C2'-O2'-CM'
2	AA	2153	A2M	C1'-C2'-O2'-CM'
2	AA	2154	OMU	C1'-C2'-O2'-CM2
3	BB	95	A2M	C1'-C2'-O2'-CM'
3	BB	400	A2M	O4'-C4'-C5'-O5'
3	BB	400	A2M	C3'-C4'-C5'-O5'
3	BB	522	PSU	C3'-C4'-C5'-O5'
3	BB	552	OMG	O4'-C4'-C5'-O5'
3	BB	552	OMG	C3'-C4'-C5'-O5'
3	BB	578	OMU	O4'-C1'-N1-C2
3	BB	578	OMU	O4'-C1'-N1-C6
3	BB	578	OMU	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
3	BB	588	A2M	C1'-C2'-O2'-CM'
3	BB	609	A2M	C1'-C2'-O2'-CM'
3	BB	622	A2M	C1'-C2'-O2'-CM'
3	BB	629	PSU	C3'-C4'-C5'-O5'
3	BB	629	PSU	O4'-C4'-C5'-O5'
3	BB	685	OMU	C1'-C2'-O2'-CM2
3	BB	1062	OMG	O4'-C4'-C5'-O5'
3	BB	1062	OMG	C3'-C4'-C5'-O5'
1	BA	1448	OMU	C3'-C4'-C5'-O5'
2	AA	1596	B8N	C3'-C4'-C5'-O5'
2	AA	2054	OMU	C3'-C4'-C5'-O5'
3	BB	522	PSU	O4'-C4'-C5'-O5'
2	AA	1899	OMU	O4'-C1'-N1-C6
1	BA	1448	OMU	O4'-C4'-C5'-O5'
1	BA	1665	A2M	O4'-C4'-C5'-O5'
2	AA	1619	PSU	O4'-C4'-C5'-O5'
3	BB	578	OMU	C3'-C4'-C5'-O5'
3	BB	1201	A2M	C3'-C4'-C5'-O5'
1	BA	1665	A2M	C3'-C4'-C5'-O5'
1	BA	1614	PSU	C3'-C4'-C5'-O5'
2	AA	36	OMU	O4'-C4'-C5'-O5'
2	AA	36	OMU	C2'-C1'-N1-C6
3	BB	1324	5MC	C2'-C1'-N1-C6
2	AA	1592	PSU	O4'-C4'-C5'-O5'
3	BB	1201	A2M	O4'-C4'-C5'-O5'
2	AA	1676	OMG	C1'-C2'-O2'-CM2
3	BB	1324	5MC	O4'-C1'-N1-C6
2	AA	1596	B8N	C31-C32-C33-C34
2	AA	1517	OMG	C3'-C2'-O2'-CM2
3	BB	545	A2M	C3'-C2'-O2'-CM'
1	BA	1605	OMG	C3'-C4'-C5'-O5'
2	AA	36	OMU	C3'-C4'-C5'-O5'
2	AA	36	OMU	O4'-C1'-N1-C6
1	BA	1614	PSU	O4'-C4'-C5'-O5'
2	AA	942	PSU	O4'-C4'-C5'-O5'
2	AA	2070	7MG	O4'-C4'-C5'-O5'
2	AA	2096	A2M	C3'-C4'-C5'-O5'
3	BB	578	OMU	C4'-C5'-O5'-P
3	BB	542	5MC	O4'-C4'-C5'-O5'
3	BB	1324	5MC	C2'-C1'-N1-C2
1	BA	1605	OMG	C3'-C2'-O2'-CM2
3	BB	545	A2M	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
3	BB	1324	5MC	O4'-C1'-N1-C2
2	AA	1899	OMU	C4'-C5'-O5'-P
2	AA	2261	MA6	C4'-C5'-O5'-P
1	BA	1608	OMC	C2'-C1'-N1-C6
3	BB	1398	PSU	O4'-C1'-C5-C4
3	BB	1375	OMU	C3'-C2'-O2'-CM2
3	BB	1264	OMC	C4'-C5'-O5'-P
2	AA	1596	B8N	N34-C33-C34-O35
2	AA	36	OMU	O4'-C1'-N1-C2
2	AA	1531	OMG	C4'-C5'-O5'-P
2	AA	1592	PSU	C3'-C4'-C5'-O5'
2	AA	2134	OMC	O4'-C4'-C5'-O5'
9	BC	75	OMG	C1'-C2'-O2'-CM2
3	BB	1062	OMG	C1'-C2'-O2'-CM2
1	BA	743	A2M	O4'-C4'-C5'-O5'
1	BA	1608	OMC	C2'-C1'-N1-C2
2	AA	36	OMU	C2'-C1'-N1-C2
1	BA	1608	OMC	O4'-C4'-C5'-O5'
2	AA	1895	OMG	C4'-C5'-O5'-P
2	AA	1899	OMU	O4'-C4'-C5'-O5'
3	BB	1201	A2M	C4'-C5'-O5'-P

There are no ring outliers.

38 monomers are involved in 50 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	BA	746	A2M	1	0
3	BB	609	A2M	3	0
3	BB	95	A2M	1	0
1	BA	760	OMC	2	0
1	BA	762	A2M	3	0
2	AA	1652	OMU	1	0
1	BA	1181	OMU	1	0
2	AA	2153	A2M	1	0
3	BB	578	OMU	1	0
2	AA	2045	PSU	2	0
1	BA	996	A2M	1	0
9	BC	163	A2M	2	0
3	BB	685	OMU	1	0
2	AA	46	OMC	1	0
1	BA	1665	A2M	1	0
3	BB	588	A2M	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	BB	1264	OMC	1	0
1	BA	254	A2M	1	0
3	BB	1062	OMG	1	0
2	AA	2260	MA6	2	0
9	BC	43	A2M	1	0
1	BA	1742	OMU	1	0
2	AA	1676	OMG	1	0
2	AA	57	OMU	1	0
3	BB	1175	OMC	1	0
1	BA	916	OMU	1	0
1	BA	915	OMG	1	0
2	AA	2227	OMG	1	0
3	BB	644	PSU	1	0
1	BA	743	A2M	2	0
1	BA	1024	A2M	2	0
3	BB	622	A2M	2	0
3	BB	400	A2M	2	0
2	AA	1531	OMG	1	0
2	AA	2154	OMU	1	0
3	BB	1429	PSU	1	0
9	BC	7	OMU	2	0
9	BC	41	A2M	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 325 ligands modelled in this entry, 325 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 [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
10	AB	1
2	AA	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AB	7:A	O3'	65:G	P	16.03
1	AA	1596:B8N	O3'	1597:C	P	4.10

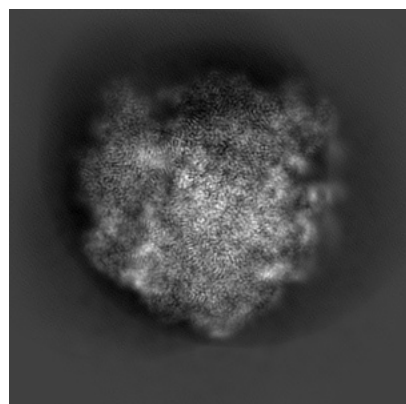
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-17208. These allow visual inspection of the internal detail of the map and identification of artifacts.

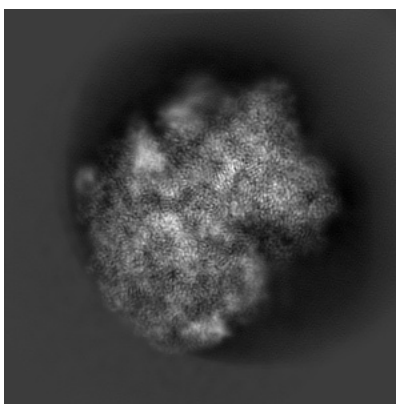
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

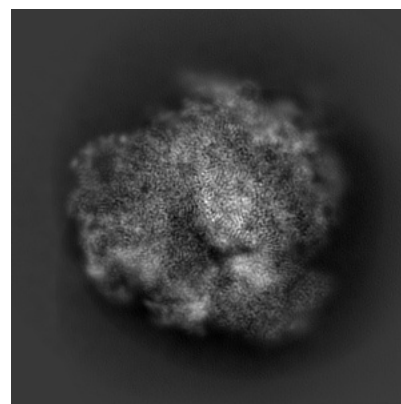
6.1.1 Primary map



X

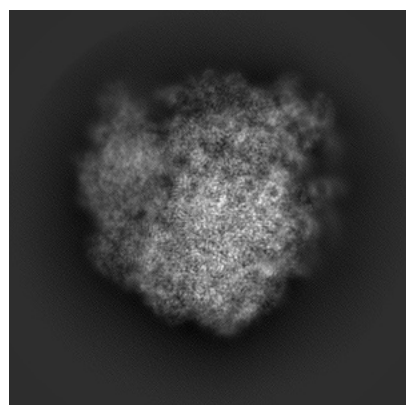


Y

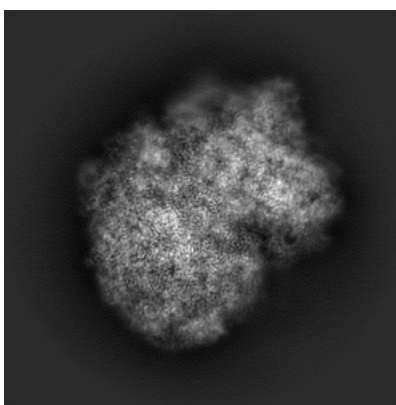


Z

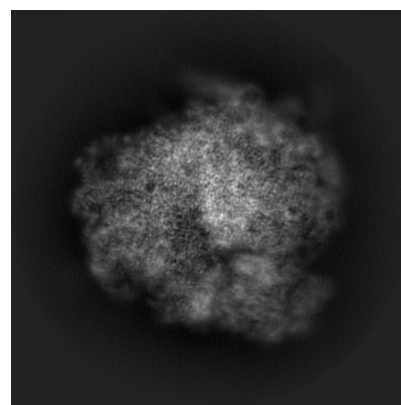
6.1.2 Raw map



X



Y

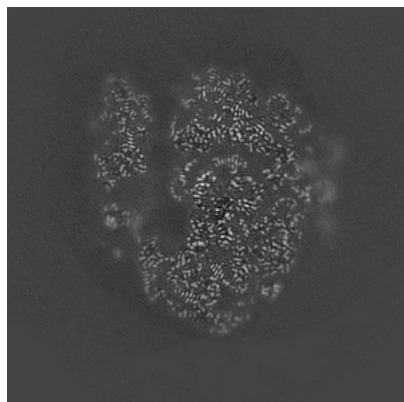


Z

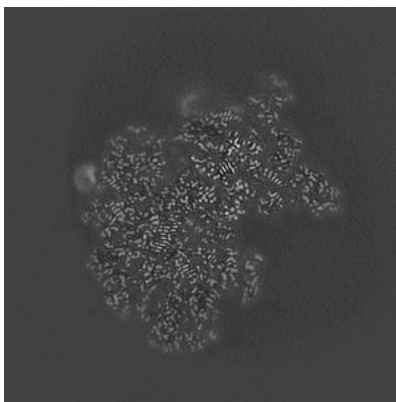
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

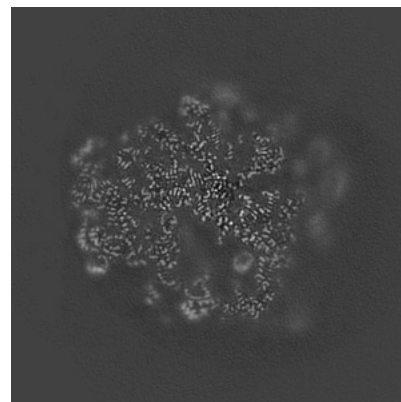
6.2.1 Primary map



X Index: 240

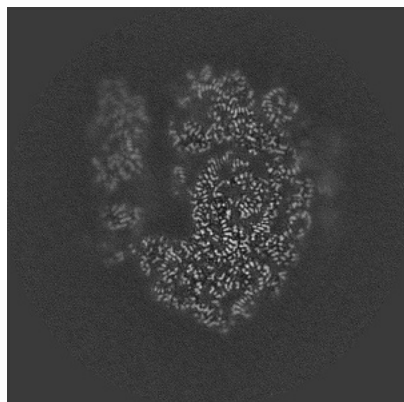


Y Index: 240

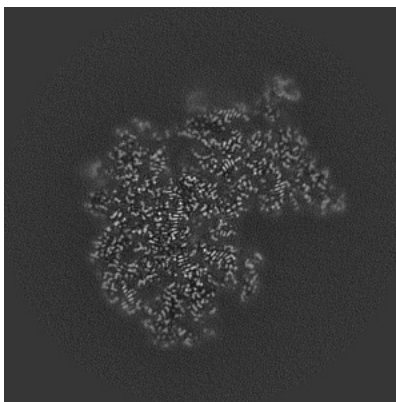


Z Index: 240

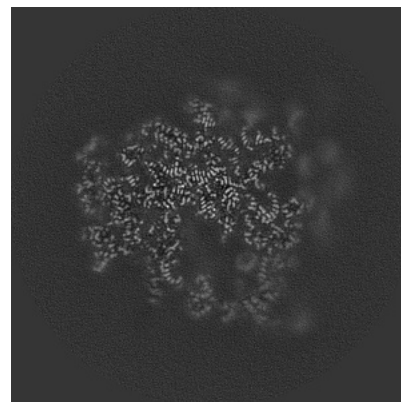
6.2.2 Raw map



X Index: 240



Y Index: 240

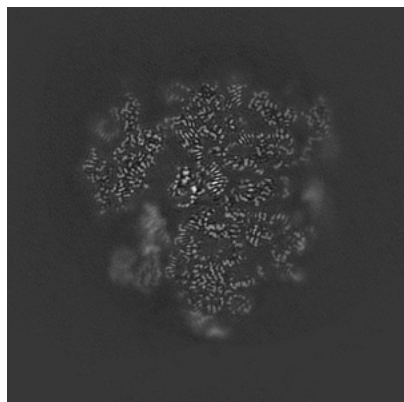


Z Index: 240

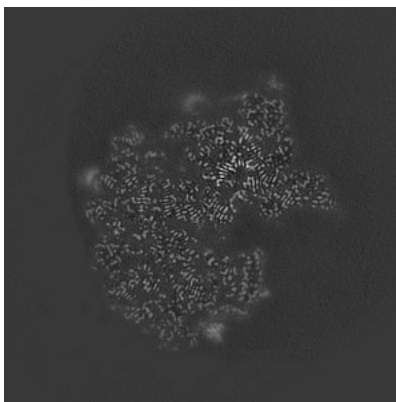
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

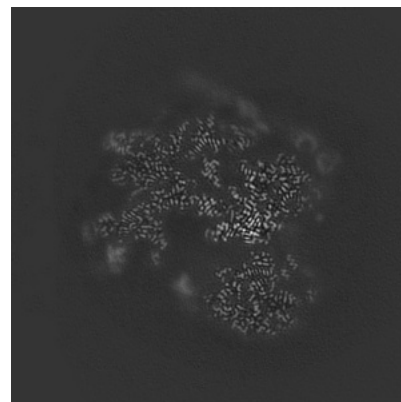
6.3.1 Primary map



X Index: 269

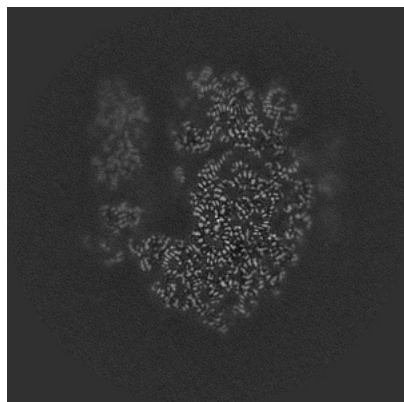


Y Index: 230

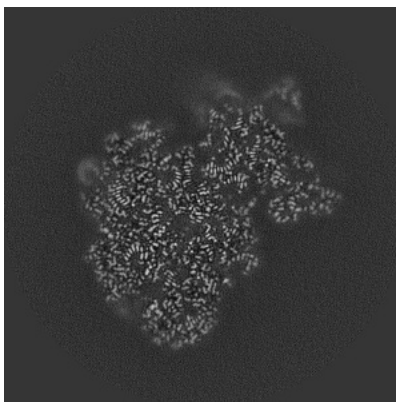


Z Index: 274

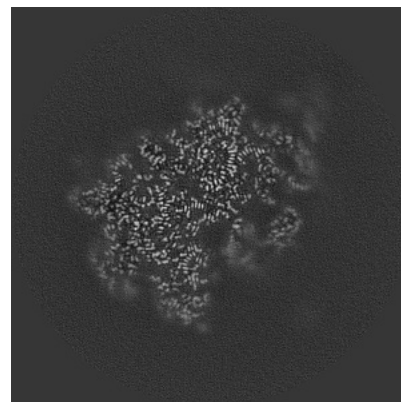
6.3.2 Raw map



X Index: 238



Y Index: 252

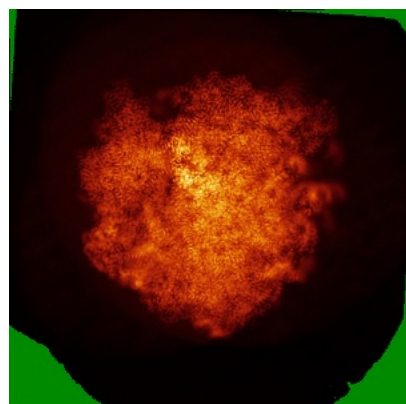


Z Index: 206

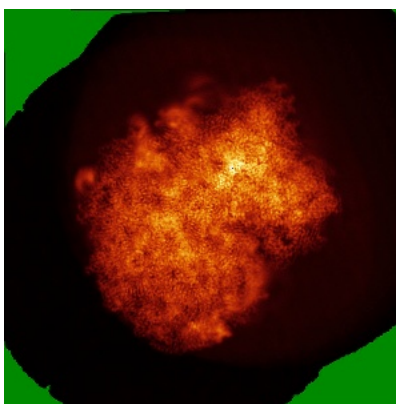
The images above show the largest variance slices of the map in three orthogonal directions.

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

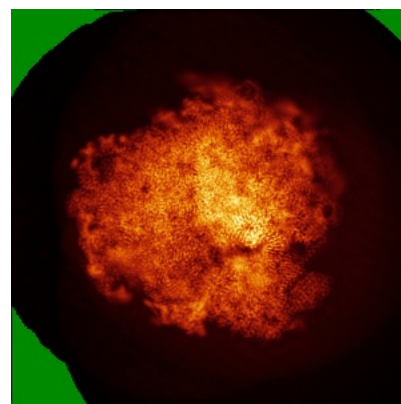
6.4.1 Primary map



X

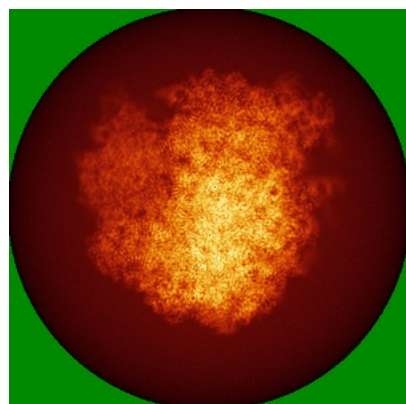


Y

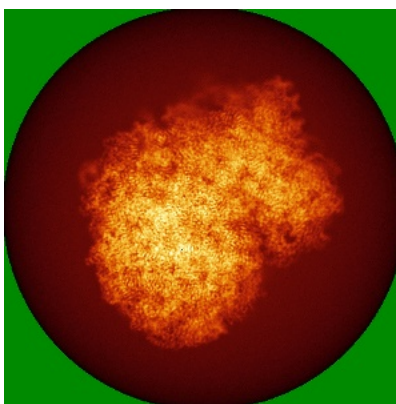


Z

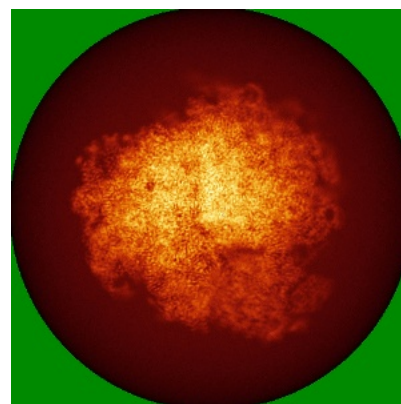
6.4.2 Raw map



X



Y

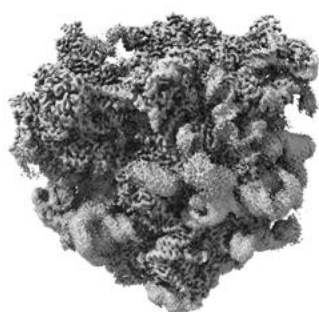


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



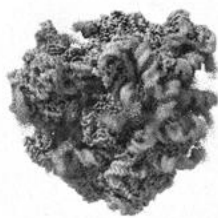
Y



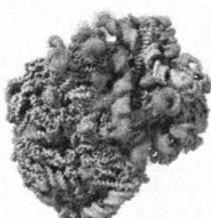
Z

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

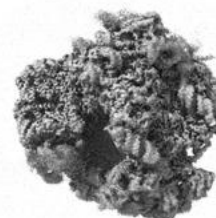
6.5.2 Raw map



X



Y



Z

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

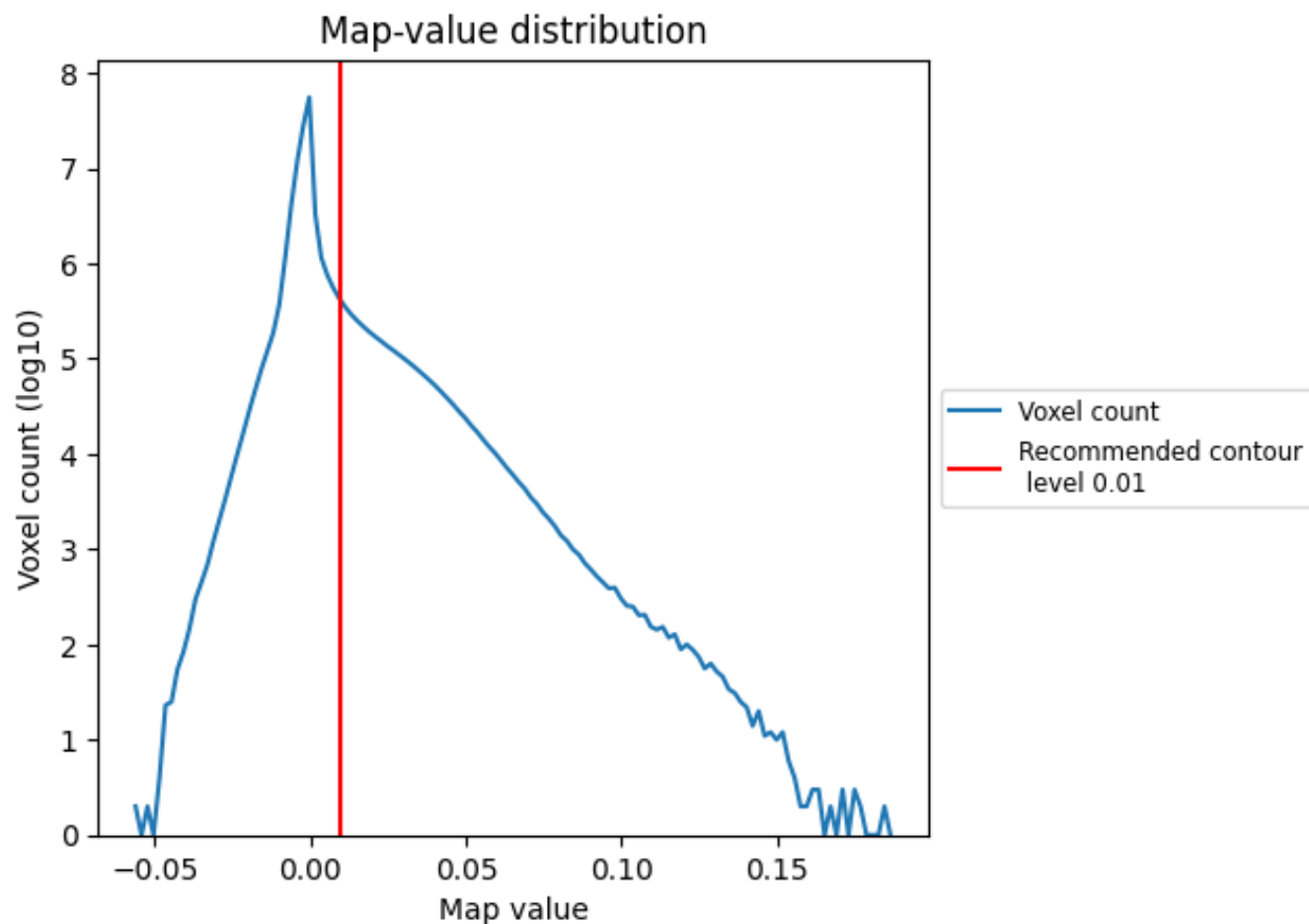
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

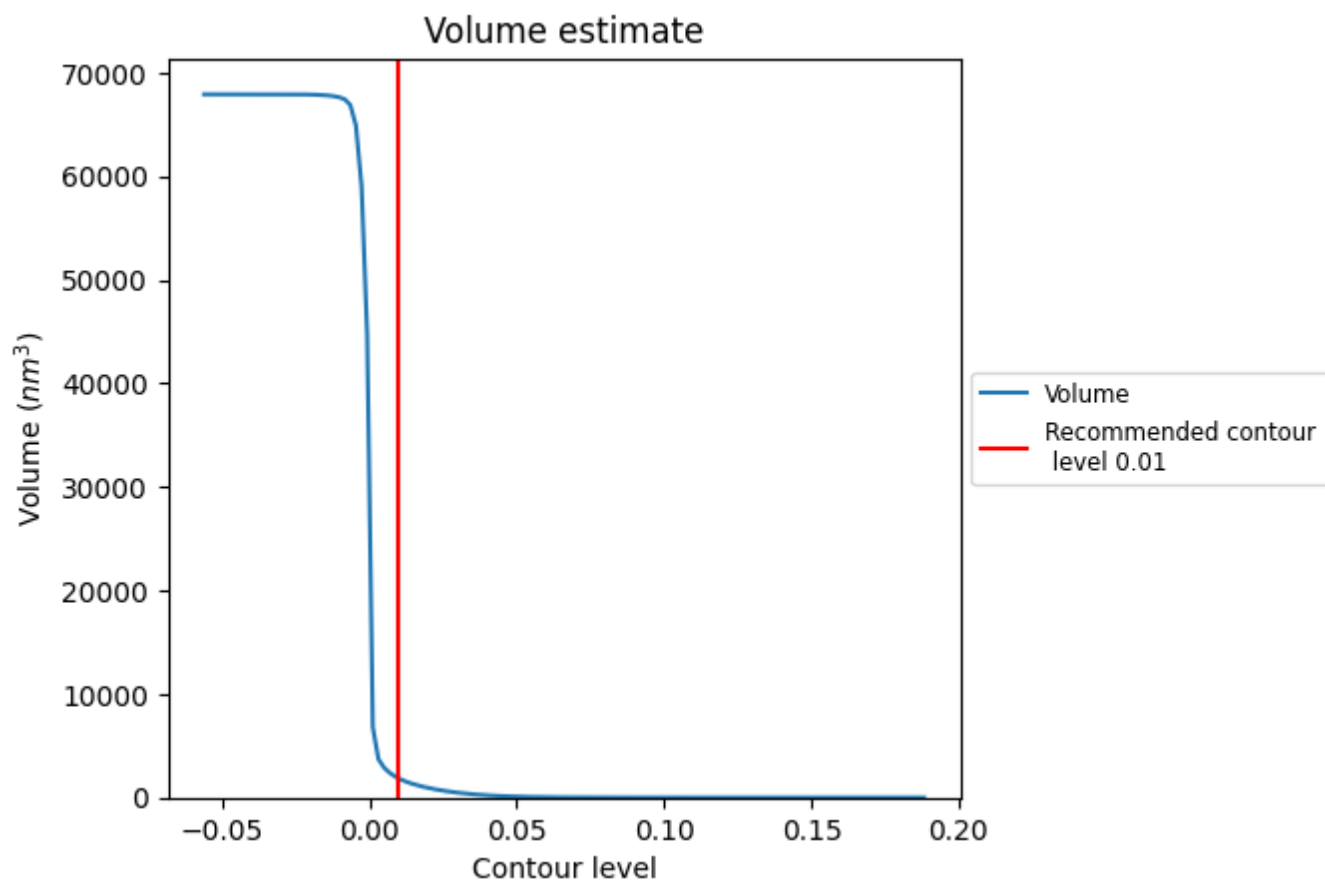
This section contains the results of statistical analysis of the map.

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.

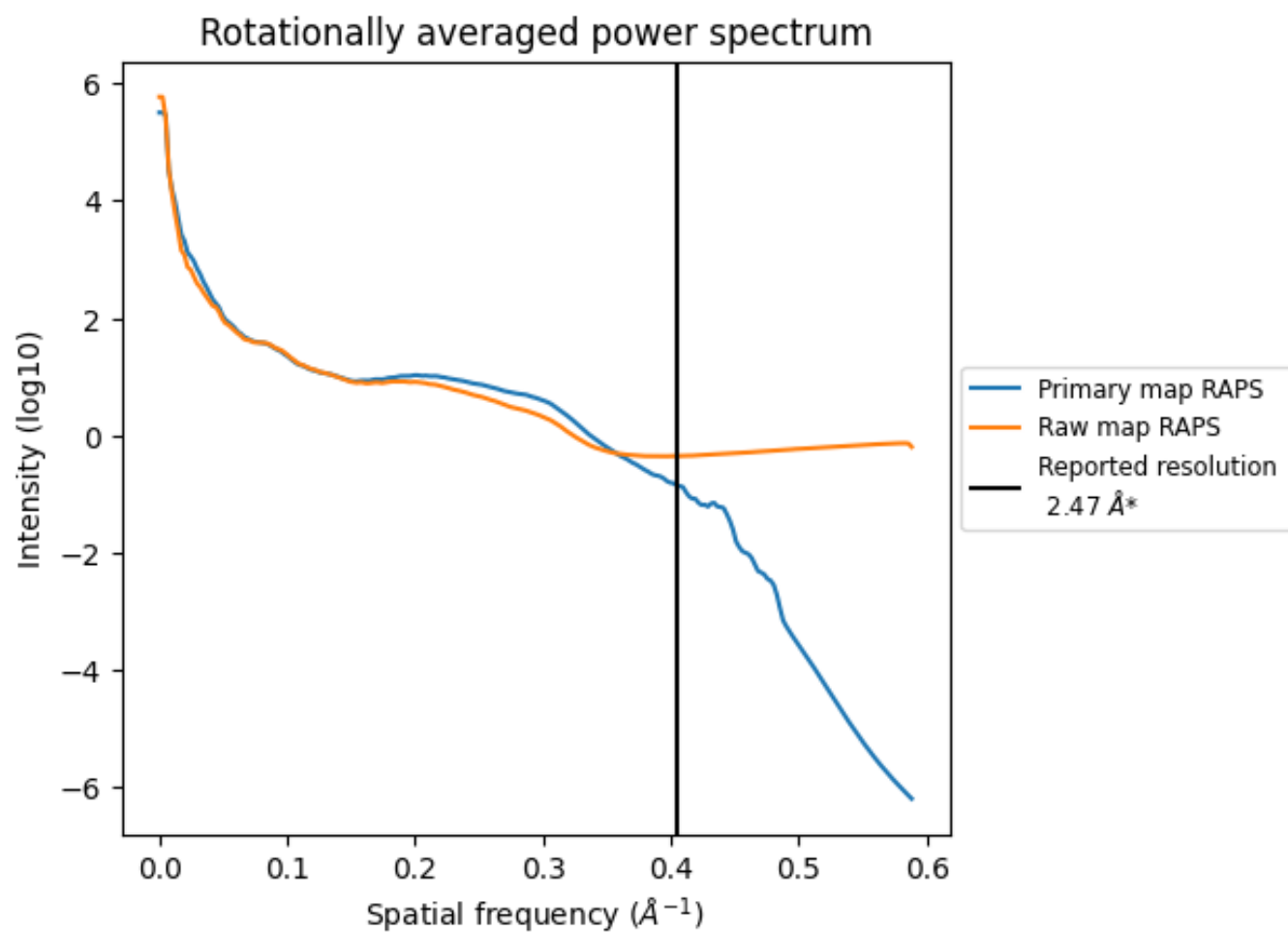
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1853 nm^3 ; this corresponds to an approximate mass of 1674 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 ⓘ

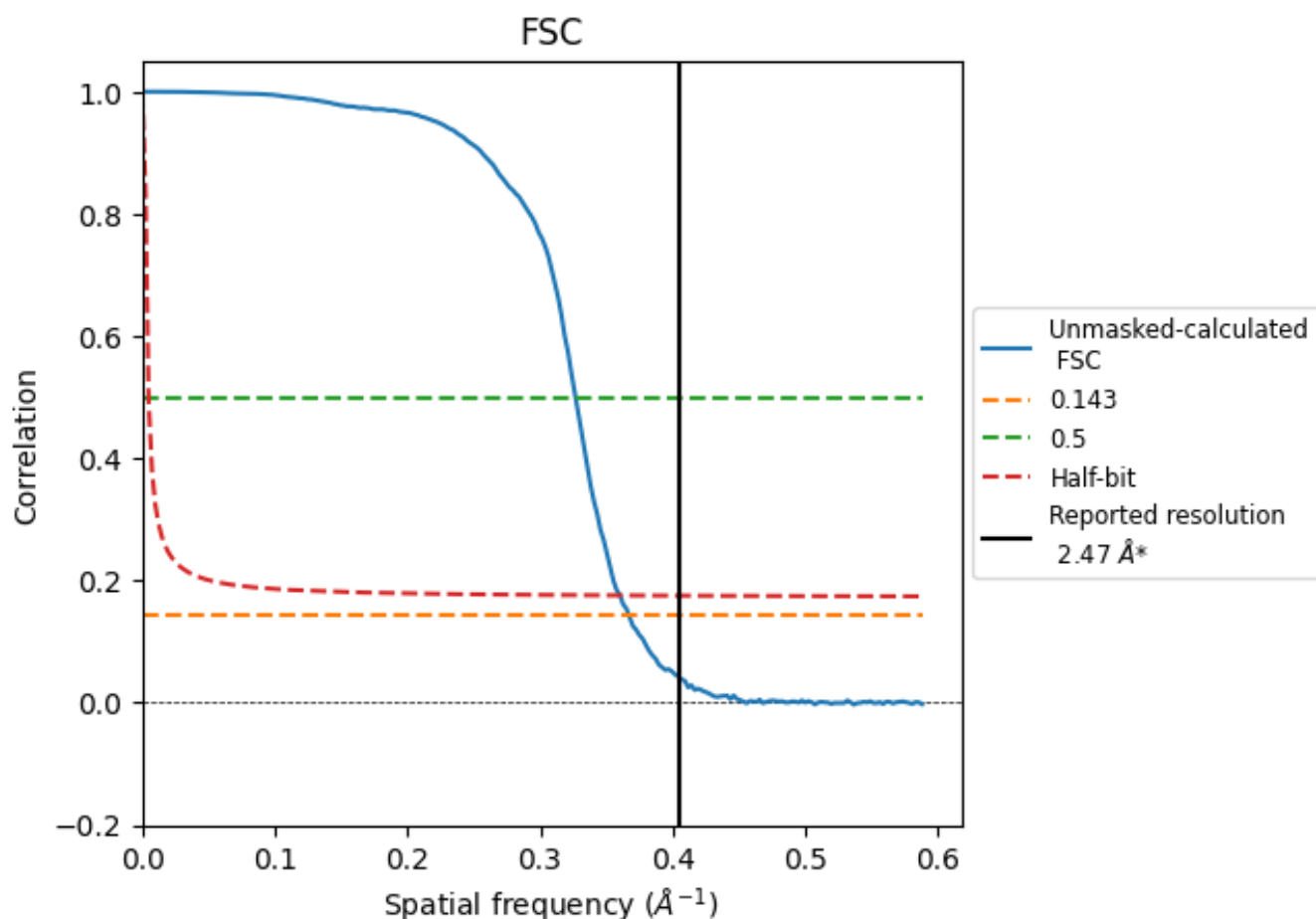


*Reported resolution corresponds to spatial frequency of 0.405 Å⁻¹

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 0.405 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

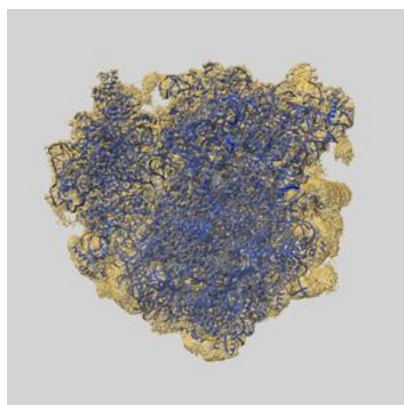
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.47	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	2.72	3.06	2.77

*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 2.72 differs from the reported value 2.47 by more than 10 %

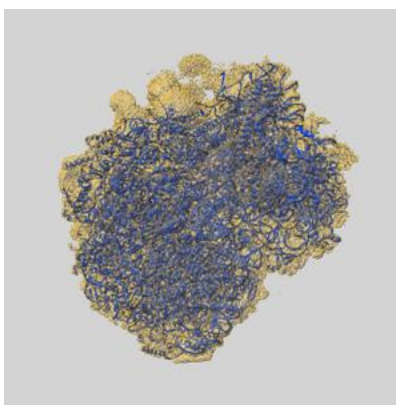
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-17208 and PDB model 8OVA. Per-residue inclusion information can be found in section 3 on page 23.

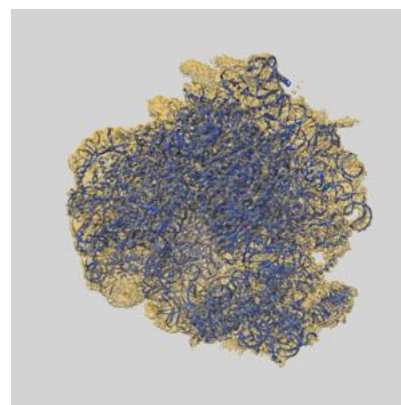
9.1 Map-model overlay [i](#)



X



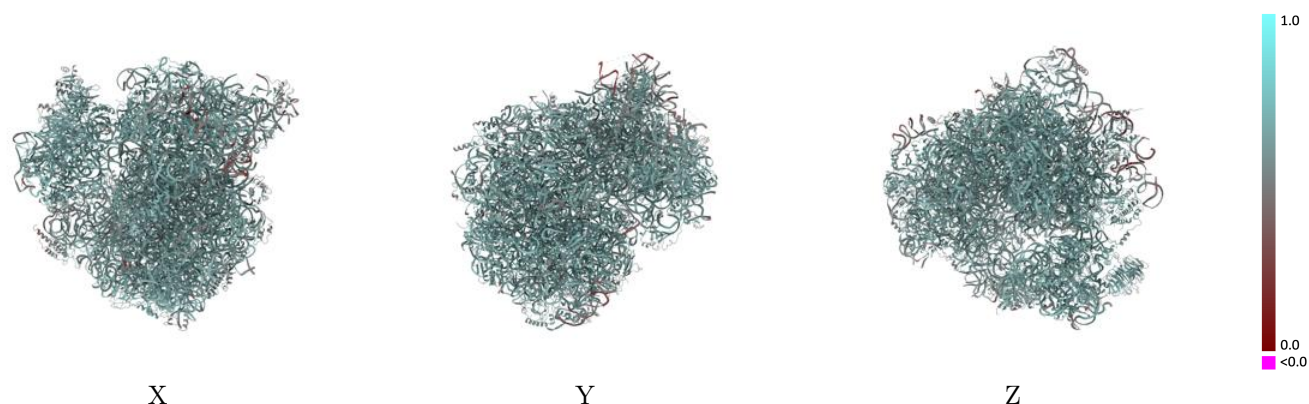
Y



Z

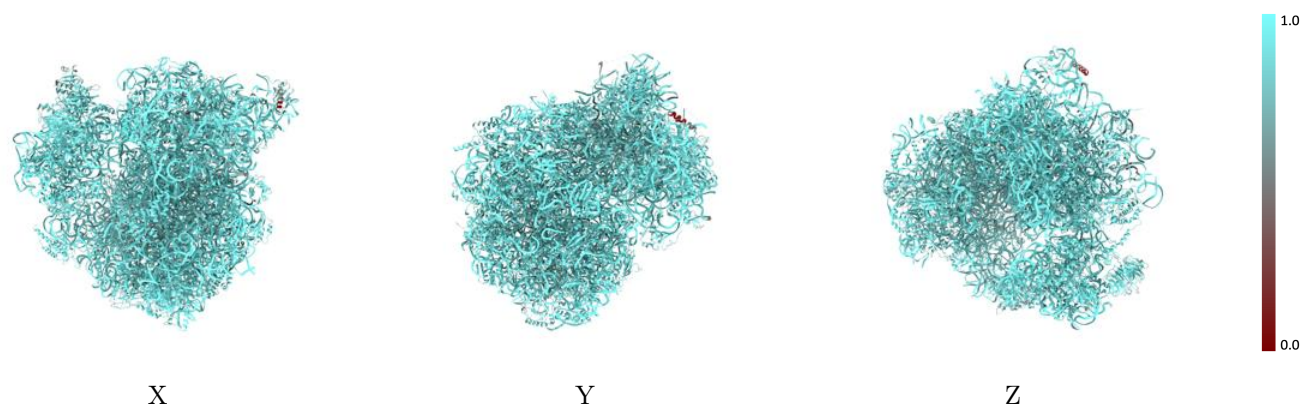
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



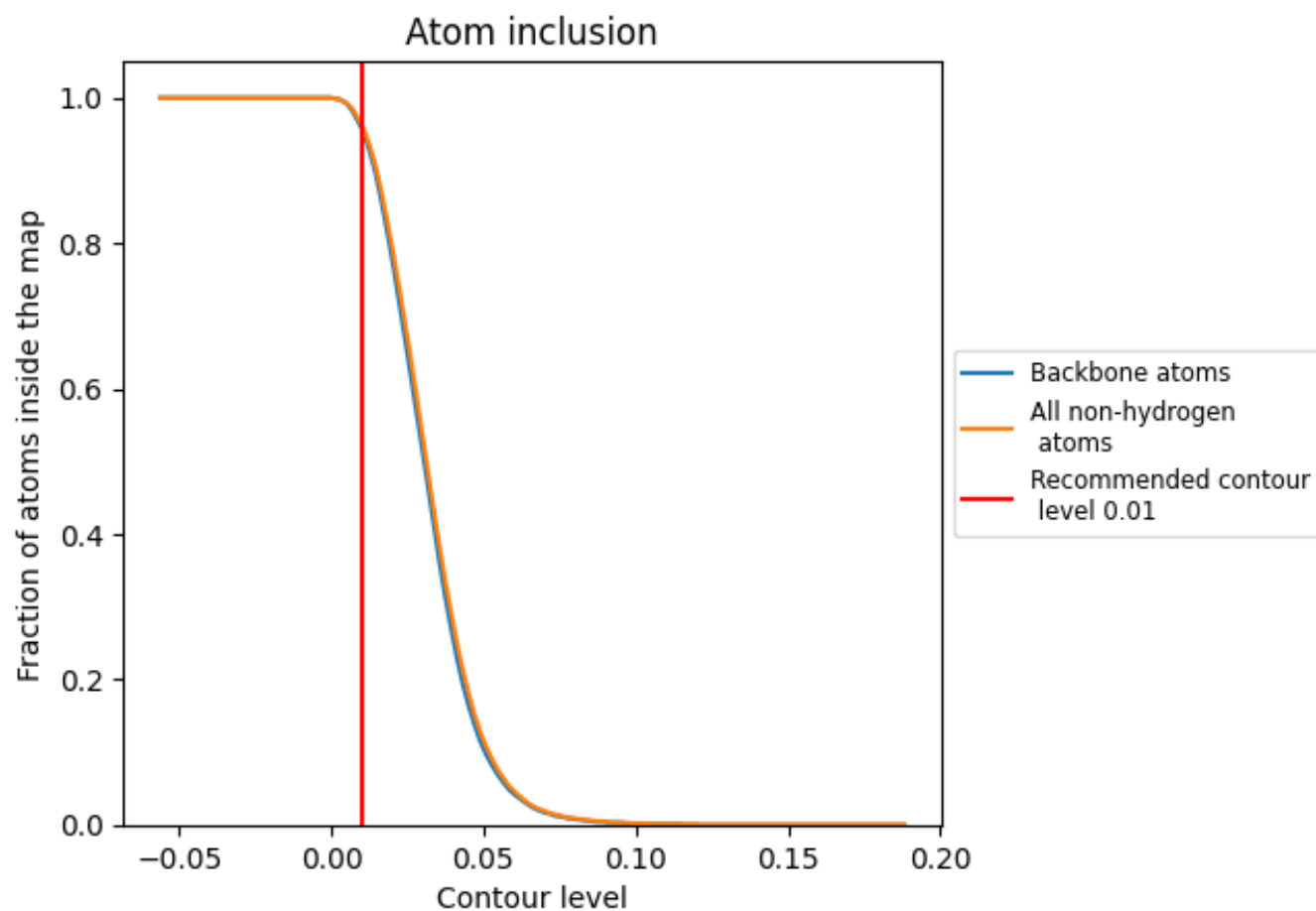
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.01).

9.4 Atom inclusion [i](#)



At the recommended contour level, 96% of all backbone atoms, 96% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9630	 0.6300
A0	 0.9530	 0.6360
A1	 0.9380	 0.6390
A2	 0.9490	 0.6370
A3	 0.8860	 0.5930
A4	 0.9350	 0.6190
A5	 0.9400	 0.6270
A6	 0.9510	 0.6410
A7	 0.9040	 0.6060
A8	 0.9780	 0.6660
A9	 0.8290	 0.5920
AA	 0.9700	 0.6190
AB	 0.9850	 0.5040
AC	 0.9780	 0.6320
AD	 0.9370	 0.6330
AE	 0.9410	 0.6400
AF	 0.7780	 0.5560
AG	 0.9420	 0.6350
AH	 0.9500	 0.6270
AI	 0.9170	 0.6370
AJ	 0.9720	 0.6620
AK	 0.9760	 0.6510
AL	 0.9550	 0.6070
AM	 0.9380	 0.6370
AO	 0.9760	 0.6570
AP	 0.9500	 0.6400
AQ	 0.9130	 0.6050
AR	 0.9620	 0.6350
AS	 0.9550	 0.6450
AT	 0.9200	 0.6320
AU	 0.9290	 0.6250
AV	 0.9670	 0.6390
AW	 0.9320	 0.6250
AX	 0.9150	 0.6210
AY	 0.9260	 0.6300



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Chain	Atom inclusion	Q-score
AZ	 0.9330	 0.6060
Az	 0.7110	 0.5290
BA	 0.9880	 0.6470
BB	 0.9900	 0.6330
BC	 0.9930	 0.6420
BD	 0.9990	 0.5970
BE	 0.9640	 0.6100
BF	 0.9800	 0.5970
BG	 0.9920	 0.6440
BH	 0.9820	 0.6030
BI	 0.9530	 0.6640
BK	 0.9420	 0.6330
BL	 0.9540	 0.5200
BN	 0.9370	 0.6370
BO	 0.9390	 0.6590
BP	 0.9490	 0.6080
BQ	 0.9850	 0.6790
BR	 0.9720	 0.6770
BS	 0.9390	 0.6500
BT	 0.9270	 0.6060
BU	 0.9370	 0.6250
BV	 0.9690	 0.5600
BW	 0.9470	 0.6400
BX	 0.9230	 0.6370
BY	 0.9700	 0.6290
BZ	 0.9240	 0.6390
Ba	 0.9650	 0.5990
Bb	 0.9590	 0.6620
Bc	 0.9410	 0.6400
Bd	 0.9620	 0.6640
Be	 0.9840	 0.6710
Bf	 0.9540	 0.6600
Bg	 0.9580	 0.6290
Bh	 0.9460	 0.6030
Bi	 0.9370	 0.6640
Bj	 0.9510	 0.6420
Bk	 0.9550	 0.5850
Bl	 0.9610	 0.6600
Bm	 0.9190	 0.6290
Bn	 0.9870	 0.6890
Bo	 0.9690	 0.6490
Bp	 0.9660	 0.5790

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Chain	Atom inclusion	Q-score
Bq	 0.9450	 0.6610
Br	 0.9400	 0.6560
Bs	 0.9870	 0.6110
Bt	 0.9480	 0.6500
Bu	 0.9700	 0.5640
Bv	 0.8800	 0.6030
Bw	 0.9530	 0.6580
Bx	 0.9360	 0.6210
By	 0.9470	 0.6100
Bz	 0.9730	 0.6500