



Full wwPDB EM Validation Report ⓘ

Sep 29, 2026 – 03:16 pm BST

PDB ID : 9SUL / pdb_00009sul
EMDB ID : EMD-55224
Title : CRYO-EM STRUCTURE OF TRYPANOSOMA BRUCEI BLOODSTREAM
FORM 80S RIBOSOME
Authors : Rajan, K.S.; Yonath, A.
Deposited on : 2025-09-29
Resolution : 2.10 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

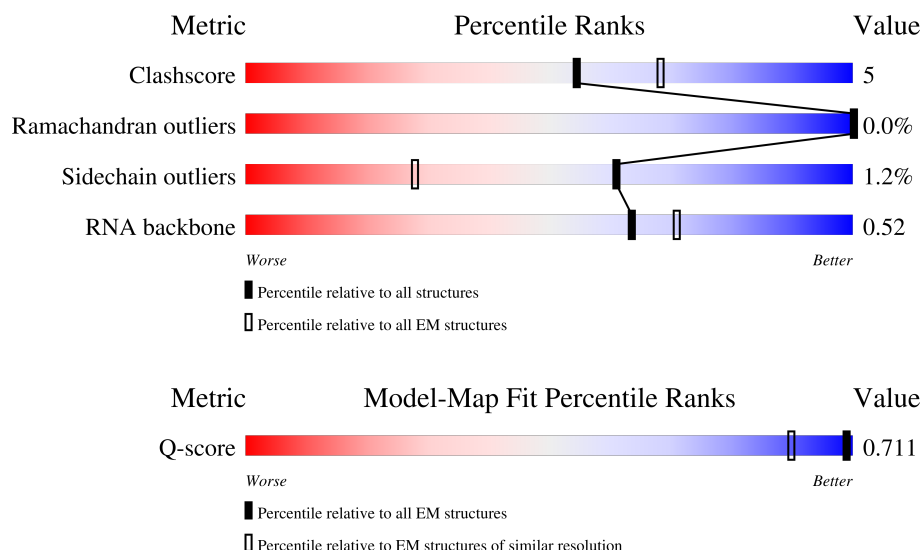
EMDB validation analysis : 0.0.1.dev133
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.2
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.51

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 2.10 Å.

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



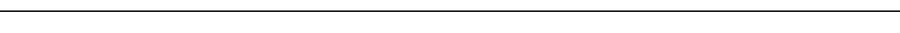
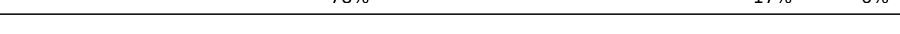
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	2317 (1.60 - 2.60)

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	Et	95	
2	A0	256	
3	A1	273	

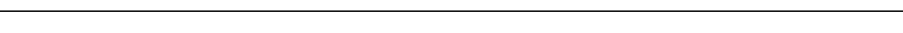
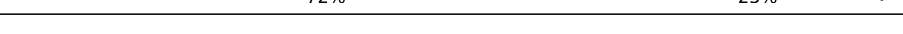
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Mol	Chain	Length	Quality of chain
4	A2	190	
5	A3	250	
6	A4	202	
7	A5	220	
8	A6	190	
9	A7	318	
10	A8	57	
11	A9	153	
12	AA	2280	
13	AC	277	
14	AD	172	
15	AE	174	
16	AF	144	
17	AG	151	
18	AH	144	
19	AI	152	
20	AJ	130	
21	AK	149	
22	AL	142	
23	AM	153	
24	AO	167	
25	AP	266	
26	AQ	117	
27	AR	194	
28	AS	143	

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Mol	Chain	Length	Quality of chain
29	AT	137	
30	AU	113	
31	AV	111	
32	AW	86	
33	AX	214	
34	AY	66	
35	AZ	103	
36	Az	279	
37	BA	1866	
38	BB	1544	
39	BC	209	
40	BD	120	
41	BE	217	
42	BF	78	
43	BG	183	
44	BH	136	
45	BI	193	
46	BK	213	
47	BL	194	
48	BN	218	
49	BO	222	
50	BP	189	
51	BQ	221	
52	BR	166	
53	BS	179	

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Mol	Chain	Length	Quality of chain
54	BT	260	
55	BU	159	
56	BV	130	
57	BW	139	
58	BX	164	
59	BY	125	
60	BZ	143	
61	Ba	133	
62	Bb	145	
63	Bc	146	
64	Bd	71	
65	Be	260	
66	Bf	429	
67	Bg	105	
68	Bh	188	
69	Bi	132	
70	Bj	170	
71	Bk	127	
72	Bl	149	
73	Bm	109	
74	Bn	84	
75	Bo	93	
76	Bp	82	
77	Bq	51	
78	Br	374	

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Mol	Chain	Length	Quality of chain
79	Bs	128	
80	Bt	106	
81	Bu	308	
82	Bv	192	
83	Bw	257	
84	Bx	276	
85	By	189	
86	Bz	34	

2 Entry composition

There are 95 unique types of molecules in this entry. The entry contains 211479 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 E-SITE TRNA.

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

- Molecule 2 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	A0	223	Total	C	N	O	S	0	0
			1814	1143	341	322	8		

- Molecule 3 is a protein called 40S ribosomal protein S4.

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

- Molecule 4 is a protein called 40S ribosomal protein S5, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	A2	183	Total	C	N	O	S	0	0
			1458	912	279	262	5		

- Molecule 5 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	A3	238	Total	C	N	O	S	0	0
			1899	1179	393	323	4		

- Molecule 6 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	A4	198	Total	C	N	O	S	0	0
			1642	1044	317	276	5		

- Molecule 7 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	A5	192	Total	C	N	O	S	0	0
			1536	967	308	259	2		

- Molecule 8 is a protein called Probable 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	A6	181	Total	C	N	O	S	0	0
			1495	941	301	245	8		

- Molecule 9 is a protein called Small ribosomal subunit protein RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	A7	309	Total	C	N	O	S	0	0
			2374	1485	421	457	11		

- Molecule 10 is a protein called Putative ribosomal protein S29.

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

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A8	5	HIS	ASP	conflict	UNP G0UD55
A8	19	SER	ALA	conflict	UNP G0UD55
A8	50	ASN	HIS	conflict	UNP G0UD55

- Molecule 11 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	A9	70	Total	C	N	O	S	0	1
			567	361	109	92	5		

- Molecule 12 is a RNA chain called SSU rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AA	1880	Total	C	N	O	P	1	0
			40169	17963	7203	13122	1881		

- Molecule 13 is a protein called 40S ribosomal protein SA.

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

- Molecule 14 is a protein called 40S ribosomal protein S10, putative.

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

- Molecule 15 is a protein called 40S ribosomal proteins S11, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AE	153	Total	C	N	O	S	0	0
			1251	783	253	210	5		

- Molecule 16 is a protein called Small ribosomal subunit protein eS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AF	118	Total	C	N	O	S	0	0
			922	565	167	182	8		

- Molecule 17 is a protein called 40S ribosomal protein S13, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AG	149	Total	C	N	O	S	0	0
			1193	749	235	202	7		

- Molecule 18 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AH	136	Total	C	N	O	S	0	0
			1015	623	195	188	9		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AH	131	IAS	ASP	conflict	UNP P19800

- Molecule 19 is a protein called 40S ribosomal protein S15, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AI	121	Total	C	N	O	S	0	0
			967	614	189	161	3		

- Molecule 20 is a protein called 40S ribosomal protein S15a, putative.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AK	142	Total	C	N	O	S	0	0
			1144	731	215	195	3		

- Molecule 22 is a protein called 40S ribosomal protein S17, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AL	124	Total	C	N	O	S	0	0
			967	614	188	160	5		

- Molecule 23 is a protein called 40S ribosomal protein S18, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AM	126	Total	C	N	O	S	0	0
			1027	647	197	179	4		

- Molecule 24 is a protein called Ribosomal protein S19, putative.

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

- Molecule 25 is a protein called 40S ribosomal protein S2, putative.

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

- Molecule 26 is a protein called Small ribosomal subunit protein uS10.

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

- Molecule 27 is a protein called 40S ribosomal protein S21, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	AR	89	Total	C	N	O	S	0	0
			668	415	120	130	3		

- Molecule 28 is a protein called 40S ribosomal protein S23, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	AS	140	Total	C	N	O	S	1	0
			1107	702	216	187	2		

- Molecule 29 is a protein called 40S ribosomal protein S24.

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

- Molecule 30 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	AU	73	Total	C	N	O	S	0	0
			569	362	102	100	5		

- Molecule 31 is a protein called 40S ribosomal protein S26.

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

- Molecule 32 is a protein called 40S ribosomal protein S27, putative.

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

- Molecule 33 is a protein called 40S ribosomal protein S3, putative.

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

- Molecule 34 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	AY	58	Total	C	N	O	S	0	0
			466	293	96	76	1		

- Molecule 35 is a protein called 40S ribosomal protein S33, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	AZ	59	Total	C	N	O	S	0	0
			457	277	95	81	4		

- Molecule 36 is a protein called RNA-binding protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Az	174	Total	C	N	O	S	0	0
			1366	862	258	245	1		

- Molecule 37 is a RNA chain called LSUa rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	BA	1541	Total	C	N	O	P	0	0
			33019	14754	6007	10717	1541		

- Molecule 38 is a RNA chain called LSUb rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	BB	1123	Total	C	N	O	P	0	0
			23998	10736	4295	7844	1123		

- Molecule 39 is a RNA chain called 5.8S rRNA.

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

- Molecule 40 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	BD	120	Total	C	N	O	P	0	0
			2553	1140	452	842	119		

- Molecule 41 is a RNA chain called SrRNA-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	BE	183	Total	C	N	O	P	0	0
			3879	1734	675	1287	183		

- Molecule 42 is a RNA chain called SrRNA-6.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	BF	76	Total	C	N	O	P	0	0
			1587	710	258	543	76		

- Molecule 43 is a RNA chain called SrRNA-2.

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

- Molecule 44 is a RNA chain called SrRNA-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	BH	115	Total	C	N	O	P	0	0
			2458	1095	442	806	115		

- Molecule 45 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	BI	192	Total	C	N	O	S	0	0
			1526	956	315	247	8		

- Molecule 46 is a protein called 60S ribosomal protein L10, putative.

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

- Molecule 47 is a protein called 60S ribosomal protein L11, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	BL	174	Total	C	N	O	S	0	0
			1385	873	259	246	7		

- Molecule 48 is a protein called 60S ribosomal protein L13.

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

- Molecule 49 is a protein called 60S ribosomal protein L13a, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	BO	221	Total	C	N	O	S	0	0
			1802	1141	364	290	7		

- Molecule 50 is a protein called 40S ribosomal protein L14, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	BP	177	Total	C	N	O	S	0	0
			1411	889	278	240	4		

- Molecule 51 is a protein called Ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	BQ	203	Total	C	N	O	S	0	0
			1717	1077	370	265	5		

- Molecule 52 is a protein called 60S ribosomal protein L17, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	BR	154	Total	C	N	O	S	0	0
			1244	782	246	208	8		

- Molecule 53 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	BS	177	Total	C	N	O	S	0	0
			1462	921	290	244	7		

- Molecule 54 is a protein called 60S ribosomal protein L19, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	BT	200	Total	C	N	O	S	0	0
			1644	1010	361	265	8		

- Molecule 55 is a protein called 60S ribosomal protein L21E, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	BU	158	Total	C	N	O	S	0	0
			1261	802	247	206	6		

- Molecule 56 is a protein called 60S ribosomal protein L22, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	BV	115	Total	C	N	O	S	0	0
			940	604	173	160	3		

- Molecule 57 is a protein called 60S ribosomal protein L23, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	BW	132	Total	C	N	O	S	0	0
			999	634	189	171	5		

- Molecule 58 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	BX	118	Total	C	N	O	S	0	0
			966	614	182	168	2		

- Molecule 59 is a protein called Ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	BY	63	Total	C	N	O	S	0	0
			542	353	107	78	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
60	BZ	122	Total	C	N	O	S	1	0
			1002	619	213	165	5		

- Molecule 61 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	Ba	133	Total	C	N	O	S	0	0
			1099	696	223	176	4		

- Molecule 62 is a protein called 60S ribosomal protein L27a.

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

- Molecule 63 is a protein called 60S ribosomal protein L28, putative.

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

- Molecule 64 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	Bd	69	Total	C	N	O	S	0	0
			561	343	126	91	1		

- Molecule 65 is a protein called 60S ribosomal protein L2, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	Be	254	Total	C	N	O	S	2	0
			1939	1205	399	322	13		

- Molecule 66 is a protein called Ribosomal protein L3, mitochondrial, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Bf	400	Total	C	N	O	S	0	0
			3212	2024	633	542	13		

- Molecule 67 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	Bg	96	Total	C	N	O	S	0	0
			736	459	132	140	5		

- Molecule 68 is a protein called 60S ribosomal subunit protein L31, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Bh	117	Total	C	N	O	S	0	0
			953	609	190	151	3		

- Molecule 69 is a protein called 60S ribosomal protein L32, putative.

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

- Molecule 70 is a protein called 60S ribosomal protein L34, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	Bj	122	Total	C	N	O	S	0	0
			1006	620	227	155	4		

- Molecule 71 is a protein called 60S ribosomal protein L35, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Bk	123	Total	C	N	O	S	0	0
			1014	636	217	158	3		

- Molecule 72 is a protein called 60S ribosomal protein L35A, putative.

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

- Molecule 73 is a protein called Ribosomal protein L36, putative.

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

- Molecule 74 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Bn	82	Total	C	N	O	S	0	0
			693	422	160	105	6		

- Molecule 75 is a protein called 60S ribosomal protein L37a, putative.

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

- Molecule 76 is a protein called 60S ribosomal protein L38, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Bp	77	Total	C	N	O	S	0	0
			622	390	124	104	4		

- Molecule 77 is a protein called 60S ribosomal protein L39, putative.

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

- Molecule 78 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Br	332	Total	C	N	O	S	0	0
			2607	1634	513	445	15		

- Molecule 79 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Bs	50	Total	C	N	O	S	0	0
			392	247	80	60	5		

- Molecule 80 is a protein called 60S ribosomal protein L44.

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

- Molecule 81 is a protein called 60S ribosomal protein L5, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Bu	303	Total	C	N	O	S	0	0
			2395	1510	456	423	6		

- Molecule 82 is a protein called 60S ribosomal protein L6, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	Bv	144	Total	C	N	O	S	0	0
			1106	701	203	199	3		

- Molecule 83 is a protein called 60S ribosomal protein L7, putative.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	Bw	227	Total	C	N	O	S	0	0
			1844	1172	355	309	8		

- Molecule 84 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	Bx	235	Total	C	N	O	S	0	0
			1875	1178	369	322	6		

- Molecule 85 is a protein called 60S ribosomal protein L9, putative.

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

- Molecule 86 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
86	Bz	33	Total	C	N	O	S	0	0
			289	175	75	37	2		

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

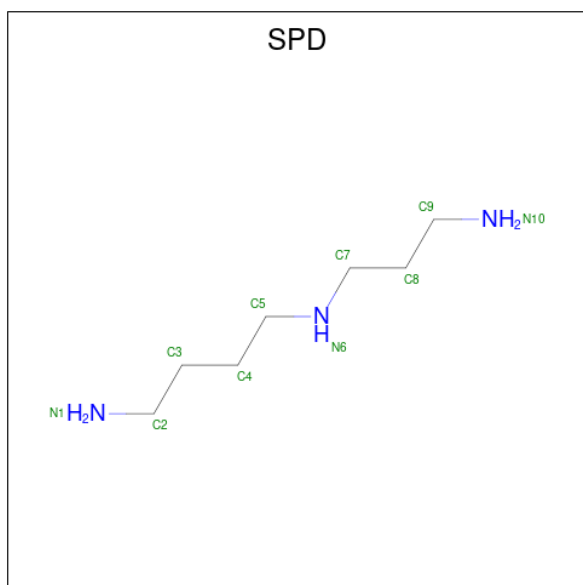
Mol	Chain	Residues	Atoms		AltConf
87	A3	1	Total	Mg	0
			1	1	
87	AA	40	Total	Mg	0
			40	40	
87	AO	1	Total	Mg	0
			1	1	
87	AV	1	Total	Mg	0
			1	1	
87	BA	92	Total	Mg	0
			92	92	
87	BB	66	Total	Mg	0
			66	66	

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Mol	Chain	Residues	Atoms		AltConf
87	BC	4	Total 4	Mg 4	0
87	BD	1	Total 1	Mg 1	0
87	BE	1	Total 1	Mg 1	0
87	BF	2	Total 2	Mg 2	0
87	BG	8	Total 8	Mg 8	0
87	BK	1	Total 1	Mg 1	0
87	BQ	2	Total 2	Mg 2	0
87	BR	1	Total 1	Mg 1	0
87	BU	1	Total 1	Mg 1	0
87	BW	1	Total 1	Mg 1	0
87	Bi	1	Total 1	Mg 1	0

- Molecule 88 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$).



Mol	Chain	Residues	Atoms			AltConf
88	A6	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	AA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	

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Mol	Chain	Residues	Atoms			AltConf
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	

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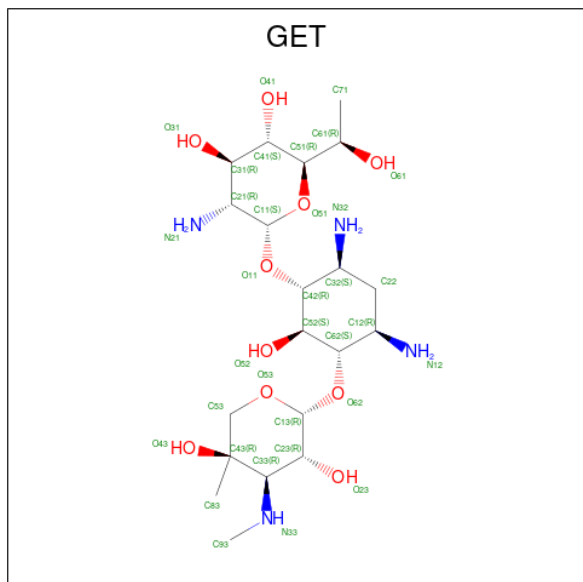
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Mol	Chain	Residues	Atoms			AltConf
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BA	1	Total	C	N	0
			10	7	3	
88	BB	1	Total	C	N	0
			10	7	3	
88	BB	1	Total	C	N	0
			10	7	3	
88	BB	1	Total	C	N	0
			10	7	3	
88	BB	1	Total	C	N	0
			10	7	3	
88	BB	1	Total	C	N	0
			10	7	3	
88	BB	1	Total	C	N	0
			10	7	3	
88	BB	1	Total	C	N	0
			10	7	3	
88	BC	1	Total	C	N	0
			10	7	3	
88	BC	1	Total	C	N	0
			10	7	3	
88	BC	1	Total	C	N	0
			10	7	3	
88	BE	1	Total	C	N	0
			10	7	3	
88	BG	1	Total	C	N	0
			10	7	3	
88	BG	1	Total	C	N	0
			10	7	3	
88	BQ	1	Total	C	N	0
			10	7	3	
88	Bd	1	Total	C	N	0
			10	7	3	

- Molecule 89 is ZINC ION (CCD ID: ZN) (formula: Zn).

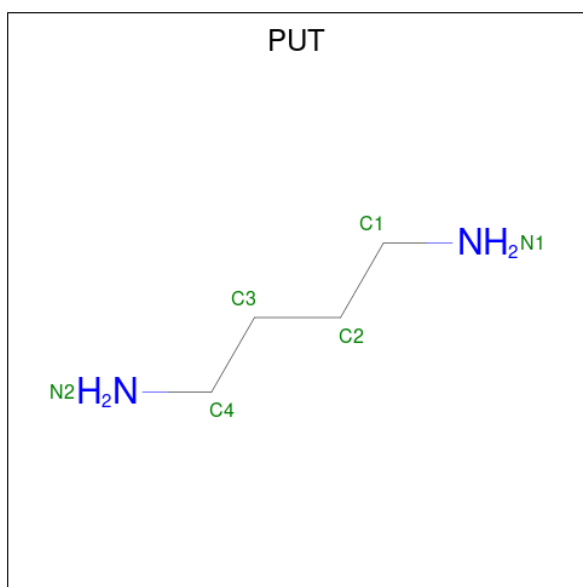
Mol	Chain	Residues	Atoms	AltConf
89	A9	1	Total Zn 1 1	0
89	AV	1	Total Zn 1 1	0
89	Bn	1	Total Zn 1 1	0
89	Bo	1	Total Zn 1 1	0
89	Bs	1	Total Zn 1 1	0
89	Bt	1	Total Zn 1 1	0

- Molecule 90 is GENETICIN (CCD ID: GET) (formula: $\text{C}_{20}\text{H}_{40}\text{N}_4\text{O}_{10}$).



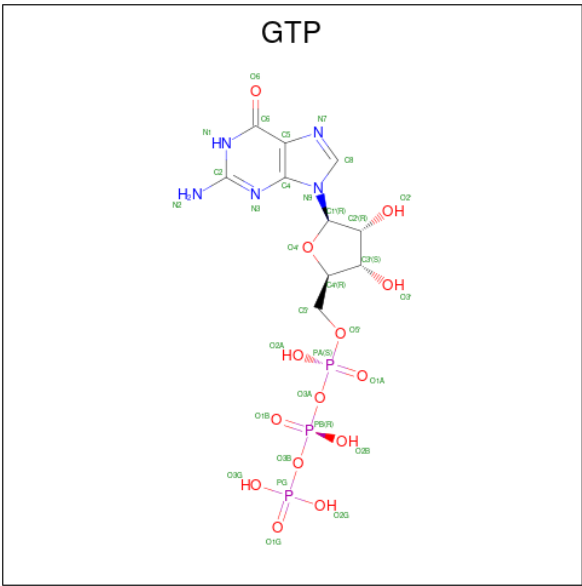
Mol	Chain	Residues	Atoms				AltConf
90	AA	1	Total 34	C 20	N 4	O 10	0
90	AA	1	Total 34	C 20	N 4	O 10	0
90	AA	1	Total 34	C 20	N 4	O 10	0

- Molecule 91 is 1,4-DIAMINOBUTANE (CCD ID: PUT) (formula: $\text{C}_4\text{H}_{12}\text{N}_2$).



Mol	Chain	Residues	Atoms			AltConf
91	AA	1	Total	C	N	0
			6	4	2	
91	AA	1	Total	C	N	0
			6	4	2	
91	AA	1	Total	C	N	0
			6	4	2	
91	AA	1	Total	C	N	0
			6	4	2	
91	BA	1	Total	C	N	0
			6	4	2	
91	BA	1	Total	C	N	0
			6	4	2	
91	BA	1	Total	C	N	0
			6	4	2	
91	BA	1	Total	C	N	0
			6	4	2	
91	BA	1	Total	C	N	0
			6	4	2	
91	BB	1	Total	C	N	0
			6	4	2	
91	BB	1	Total	C	N	0
			6	4	2	
91	BB	1	Total	C	N	0
			6	4	2	
91	BB	1	Total	C	N	0
			6	4	2	

- Molecule 92 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: C₁₀H₁₆N₅O₁₄P₃).



Mol	Chain	Residues	Atoms					AltConf
92	AA	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 93 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		AltConf
93	AA	11	Total	K	0
			11	11	
93	BA	18	Total	K	0
			18	18	
93	BB	23	Total	K	0
			23	23	
93	BC	2	Total	K	0
			2	2	
93	BE	3	Total	K	0
			3	3	
93	BF	1	Total	K	0
			1	1	
93	BG	3	Total	K	0
			3	3	
93	BH	2	Total	K	0
			2	2	
93	BK	1	Total	K	0
			1	1	
93	BN	1	Total	K	0
			1	1	

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Mol	Chain	Residues	Atoms	AltConf
93	BQ	1	Total K 1 1	0
93	Bb	1	Total K 1 1	0
93	Be	1	Total K 1 1	0
93	Bi	1	Total K 1 1	0

- Molecule 94 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms	AltConf
94	AA	5	Total Na 5 5	0
94	BA	1	Total Na 1 1	0
94	BB	10	Total Na 10 10	0
94	Be	1	Total Na 1 1	0

- Molecule 95 is water.

Mol	Chain	Residues	Atoms	AltConf
95	Et	5	Total O 5 5	0
95	A0	2	Total O 2 2	0
95	A5	3	Total O 3 3	0
95	AA	160	Total O 160 160	0
95	AE	1	Total O 1 1	0
95	AG	2	Total O 2 2	0
95	AJ	1	Total O 1 1	0
95	AV	1	Total O 1 1	0
95	AW	1	Total O 1 1	0

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Mol	Chain	Residues	Atoms		AltConf
95	BA	1050	Total 1050	O 1050	0
95	BB	889	Total 889	O 889	0
95	BC	38	Total 38	O 38	0
95	BD	6	Total 6	O 6	0
95	BE	16	Total 16	O 16	0
95	BF	7	Total 7	O 7	0
95	BG	151	Total 151	O 151	0
95	BH	30	Total 30	O 30	0
95	BI	10	Total 10	O 10	0
95	BK	2	Total 2	O 2	0
95	BN	14	Total 14	O 14	0
95	BO	18	Total 18	O 18	0
95	BQ	43	Total 43	O 43	0
95	BR	12	Total 12	O 12	0
95	BT	15	Total 15	O 15	0
95	BU	6	Total 6	O 6	0
95	BW	12	Total 12	O 12	0
95	BX	1	Total 1	O 1	0
95	BY	2	Total 2	O 2	0
95	BZ	2	Total 2	O 2	0
95	Bb	20	Total 20	O 20	0

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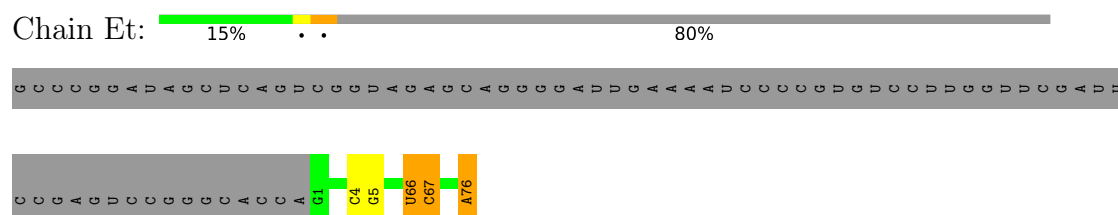
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Mol	Chain	Residues	Atoms		AltConf
95	Bd	5	Total 5	O 5	0
95	Be	49	Total 49	O 49	0
95	Bf	45	Total 45	O 45	0
95	Bh	6	Total 6	O 6	0
95	Bi	18	Total 18	O 18	0
95	Bj	15	Total 15	O 15	0
95	Bl	11	Total 11	O 11	0
95	Bn	17	Total 17	O 17	0
95	Bo	7	Total 7	O 7	0
95	Bq	3	Total 3	O 3	0
95	Br	30	Total 30	O 30	0
95	Bt	6	Total 6	O 6	0
95	Bu	1	Total 1	O 1	0
95	Bv	1	Total 1	O 1	0
95	Bw	11	Total 11	O 11	0
95	Bx	3	Total 3	O 3	0

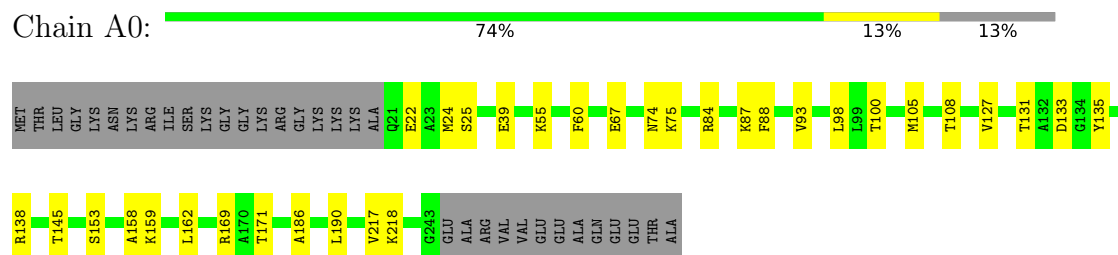
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

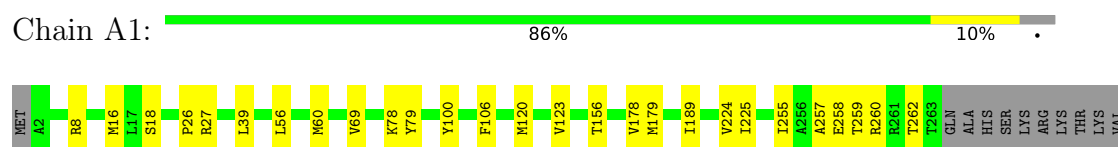
- Molecule 1: E-SITE tRNA



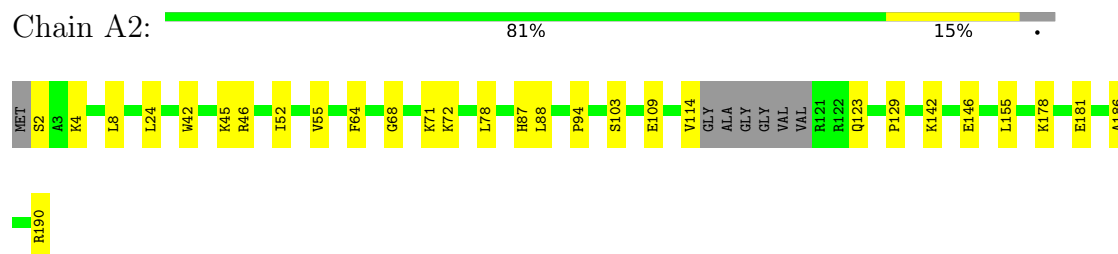
- Molecule 2: 40S ribosomal protein S3a



- Molecule 3: 40S ribosomal protein S4

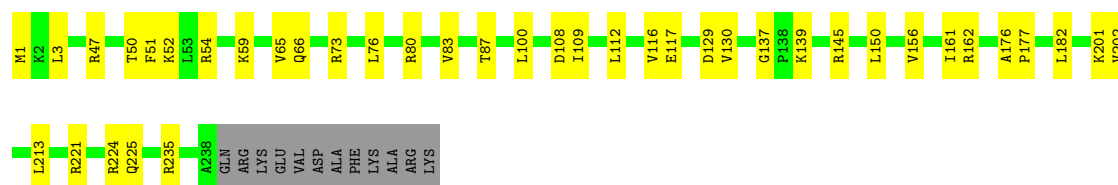


- Molecule 4: 40S ribosomal protein S5, putative



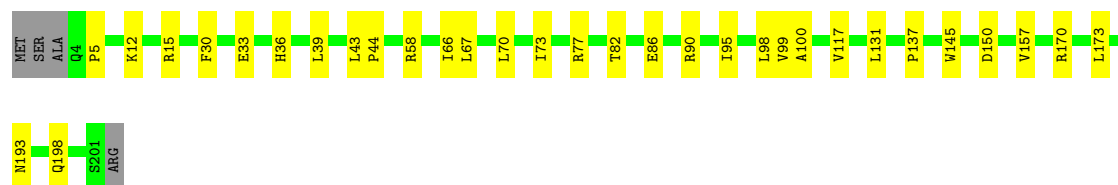
- Molecule 5: 40S ribosomal protein S6

Chain A3:  79% 16% 5%



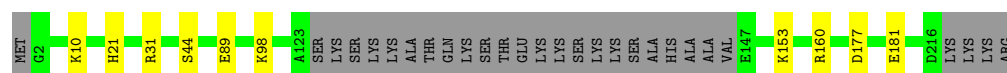
- Molecule 6: 40S ribosomal protein S7

Chain A4:  82% 16% .



- Molecule 7: 40S ribosomal protein S8

Chain A5:  83% 5% 13%



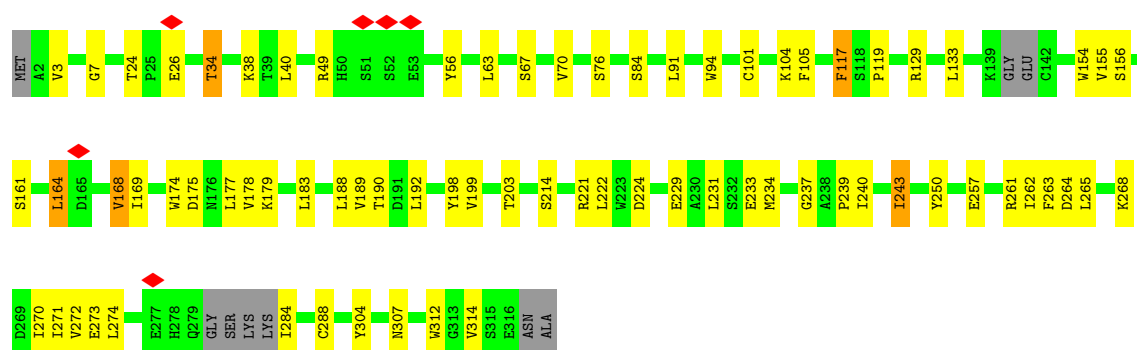
- Molecule 8: Probable 40S ribosomal protein S9

Chain A6:  83% 13% 5%



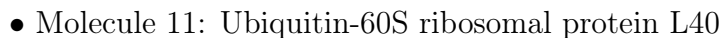
- Molecule 9: Small ribosomal subunit protein RACK1

Chain A7:  74% 22% . .

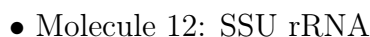


- Molecule 10: Putative ribosomal protein S29

Response	Percentage
Yes, I have used a mobile app to manage my account	84%
No, I have not used a mobile app to manage my account	14%



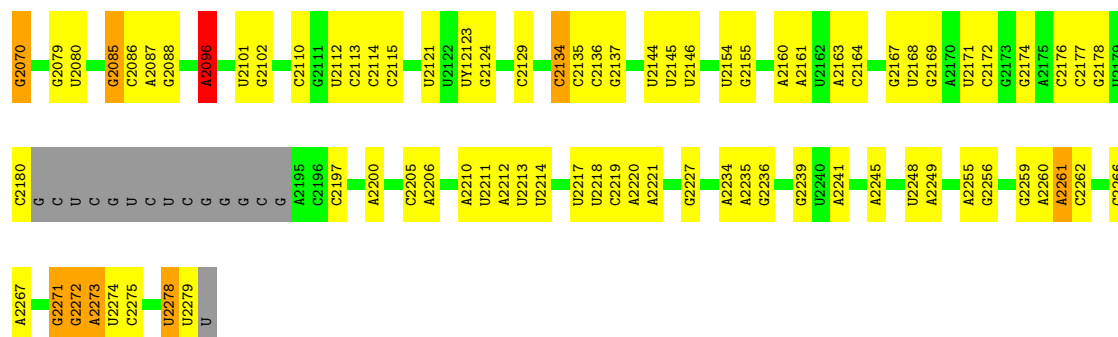
Response	Percentage
Yes	39%
No	7%
Don't know	54%



Device Type	Percentage
Smartphone	45%
Tablet	32%
Smartwatch	5%
Other	18%

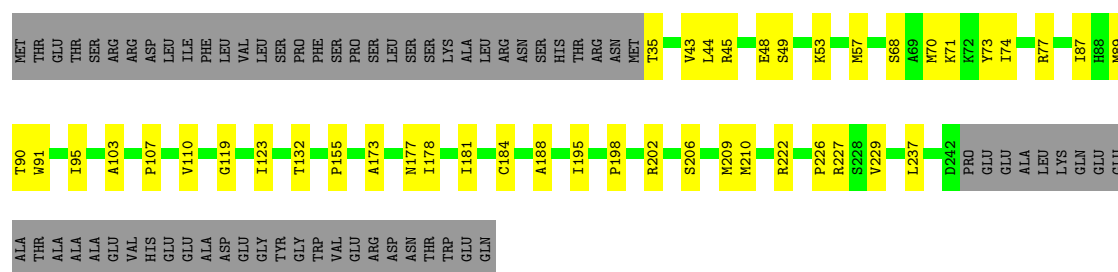






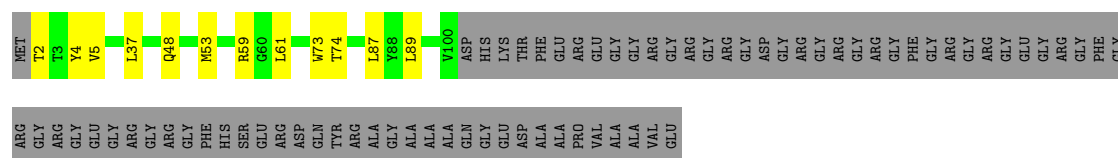
• Molecule 13: 40S ribosomal protein SA

Chain AC:



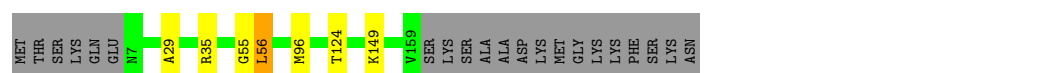
• Molecule 14: 40S ribosomal protein S10, putative

Chain AD:



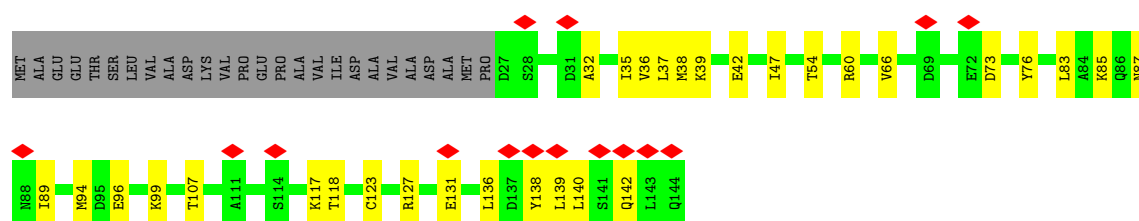
• Molecule 15: 40S ribosomal proteins S11, putative

Chain AE:



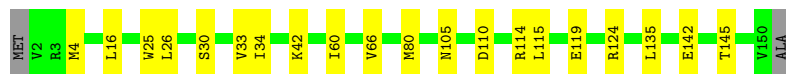
• Molecule 16: Small ribosomal subunit protein eS12

Chain AF:



- Molecule 17: 40S ribosomal protein S13, putative

Chain AG:  85% 13%



- Molecule 18: Small ribosomal subunit protein uS11

Chain AH:  78% 17% 6%



- Molecule 19: 40S ribosomal protein S15, putative

Chain AI:  64% 15% 20%



- Molecule 20: 40S ribosomal protein S15a, putative

Chain AJ:  90% 9%



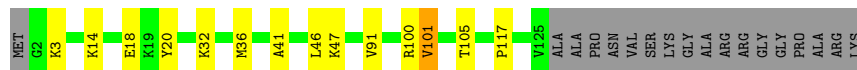
- Molecule 21: 40S ribosomal protein S16, putative

Chain AK:  83% 11% 5%



- Molecule 22: 40S ribosomal protein S17, putative

Chain AL:  77% 9% 13%



- Molecule 23: 40S ribosomal protein S18, putative

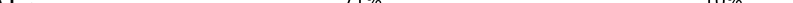
Chain AM:  70% 12% 18%

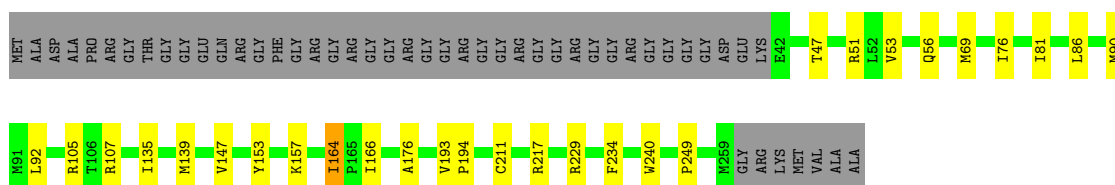
- Molecule 24: Ribosomal protein S19, putative

Chain AO:  79% 13% 8%

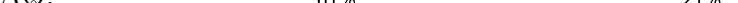


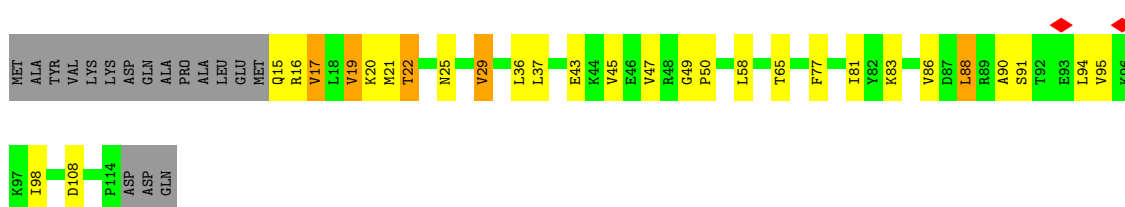
- Molecule 25: 40S ribosomal protein S2, putative

Chain AP:  71% 10% 18%



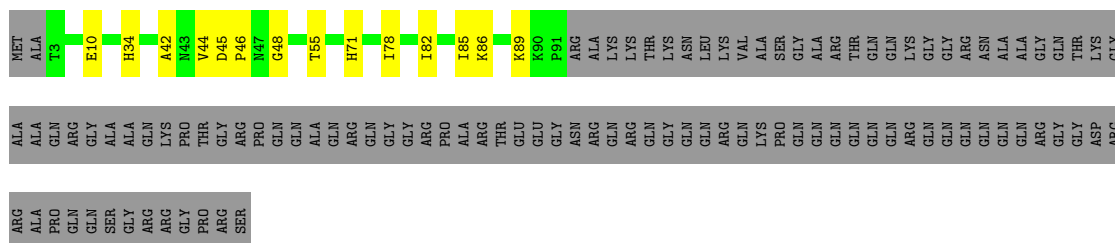
- Molecule 26: Small ribosomal subunit protein uS10

Chain AQ:  61% 21% 0 15%



- Molecule 27: 40S ribosomal protein S21, putative

Chain AR:



- Molecule 28: 40S ribosomal protein S23, putative

Chain AS:  85% 12% ..



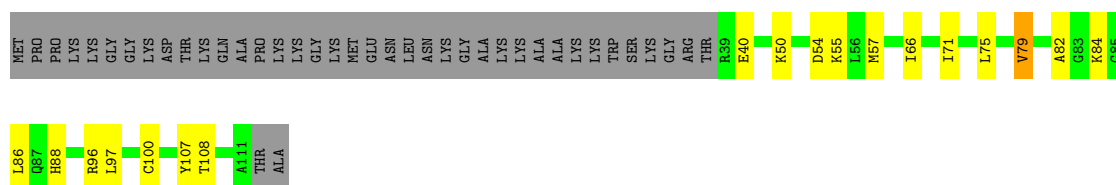
- Molecule 29: 40S ribosomal protein S24

Chain AT: 79% 15% 6%



- Molecule 30: 40S ribosomal protein S25

Chain AU: 49% 15% 35%



- Molecule 31: 40S ribosomal protein S26

Chain AV: 86% 6% 7%



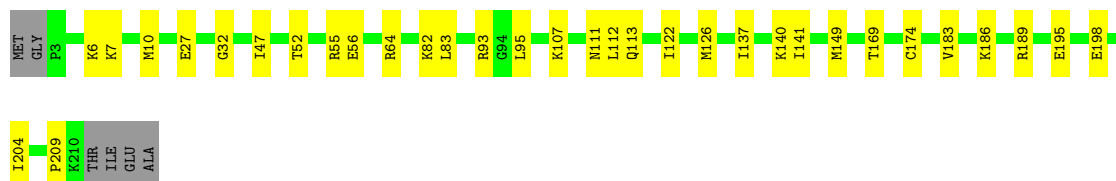
- Molecule 32: 40S ribosomal protein S27, putative

Chain AW: 83% 15% 2%



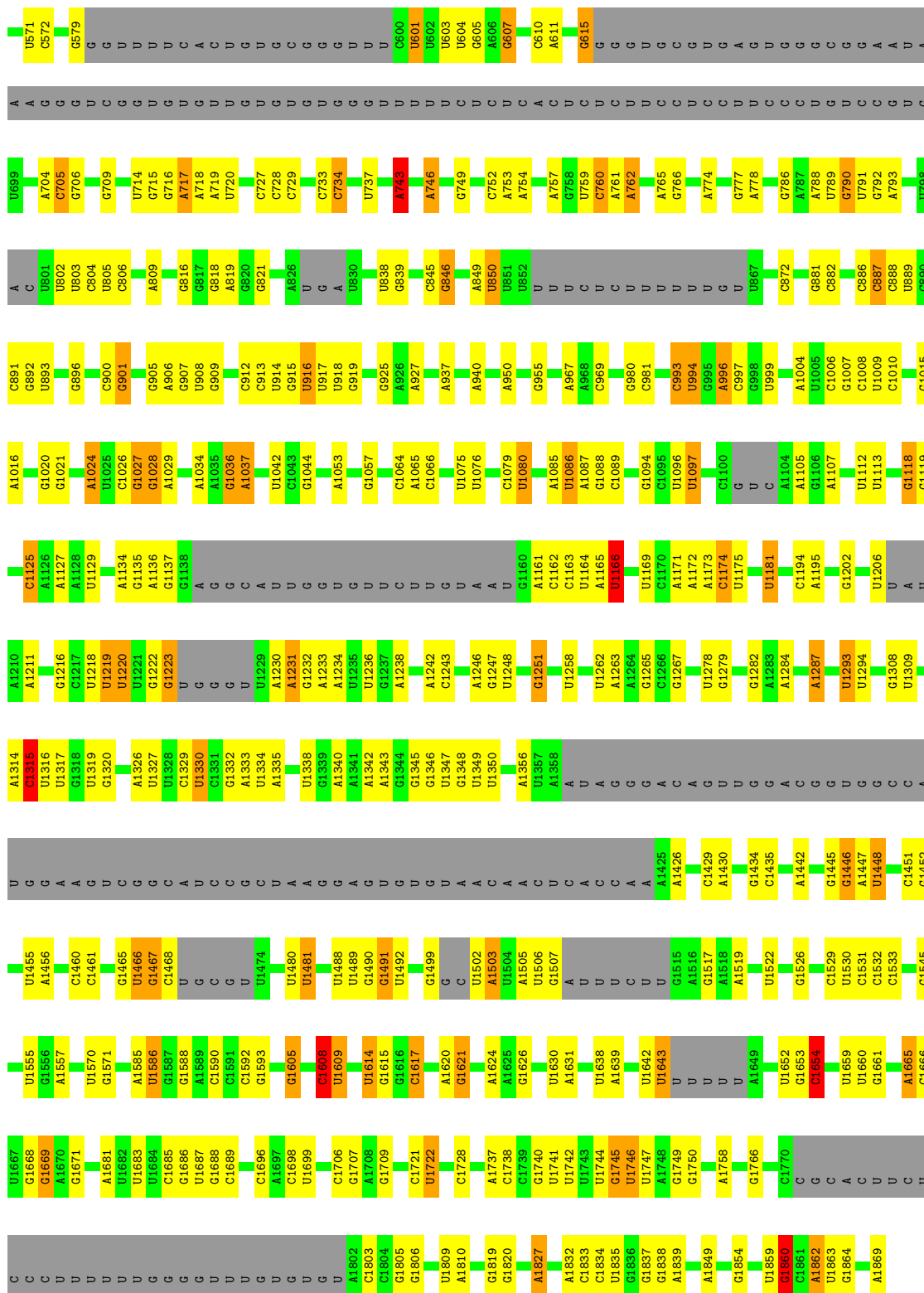
- Molecule 33: 40S ribosomal protein S3, putative

Chain AX: 82% 15% 3%



- Molecule 34: 40S ribosomal protein S30

Chain AY: 82% 6% 12%



• Molecule 38: LSUb rRNA

Chain BB:

45%

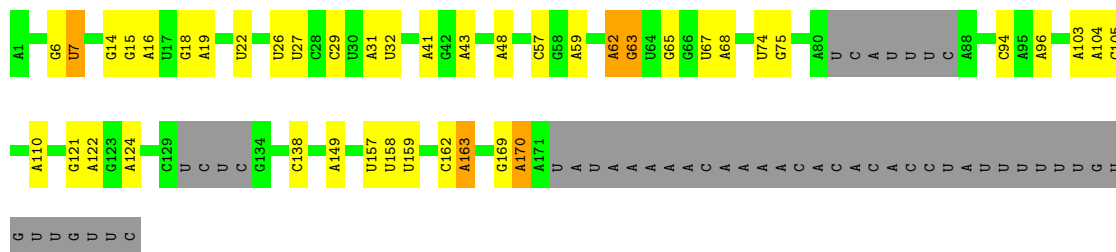
23%

5%

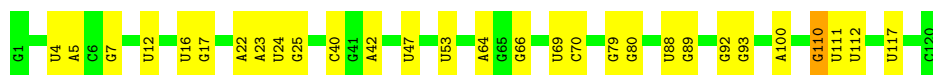
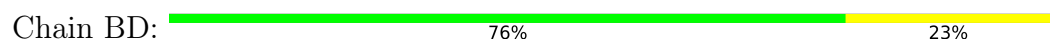
27%



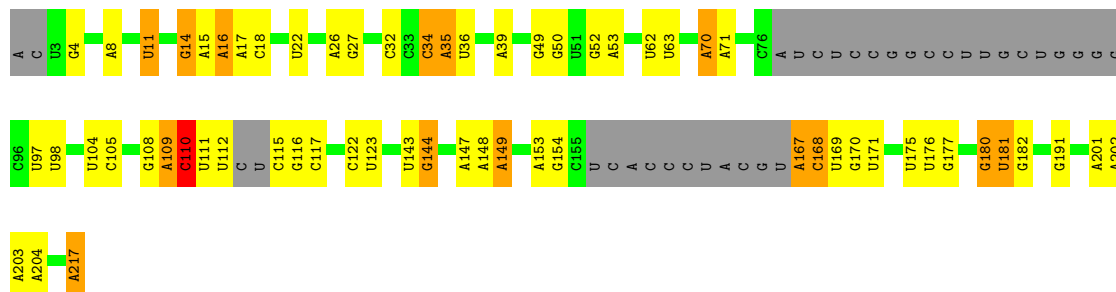
- Molecule 39: 5.8S rRNA



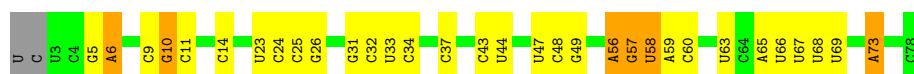
- Molecule 40: 5S rRNA



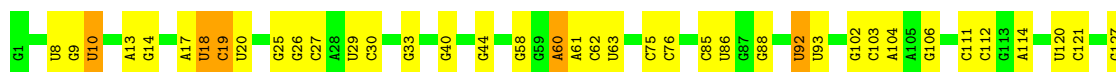
- Molecule 41: SrRNA-1



- Molecule 42: SrRNA-6



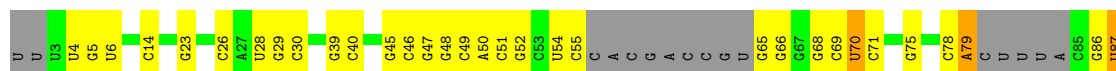
- Molecule 43: SrRNA-2





- Molecule 44: SrRNA-4

Chain BH: 51% 30% 15%



- Molecule 45: 60S ribosomal protein L18

Chain BI: 90% 10%



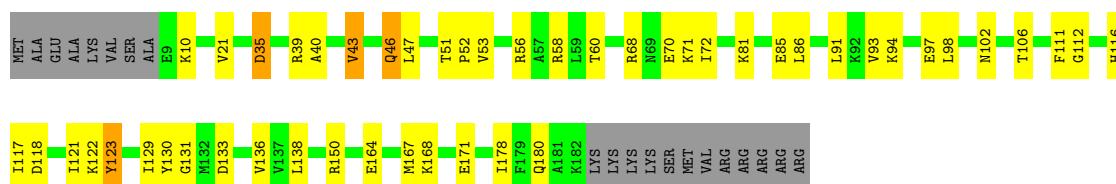
- Molecule 46: 60S ribosomal protein L10, putative

Chain BK: 78% 13% 9%



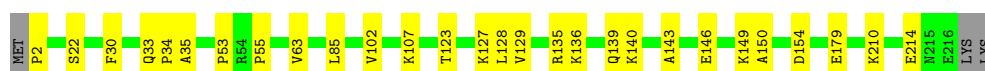
- Molecule 47: 60S ribosomal protein L11, putative

Chain BL: 64% 23% 10%



- Molecule 48: 60S ribosomal protein L13

Chain BN: 86% 13%



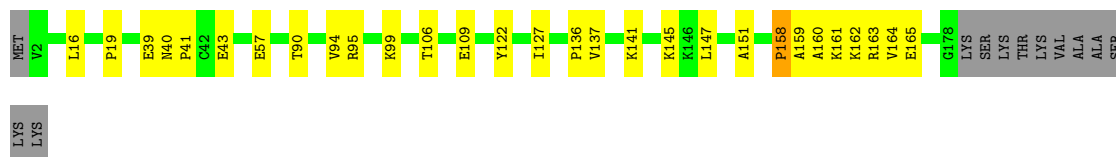
- Molecule 49: 60S ribosomal protein L13a, putative

Chain BO: 91% 8%



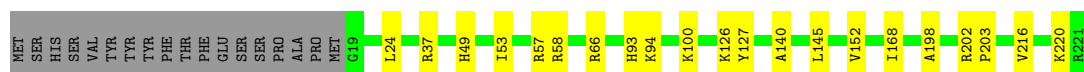
- Molecule 50: 40S ribosomal protein L14, putative

Chain BP: 78% 15% 6%



- Molecule 51: Ribosomal protein L15

Chain BQ: 82% 10% 8%



- Molecule 52: 60S ribosomal protein L17, putative

Chain BR: 87% 6% 7%



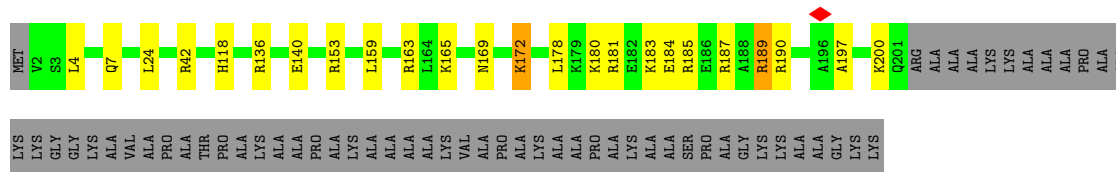
- Molecule 53: 60S ribosomal protein L18a

Chain BS: 89% 9% ..



- Molecule 54: 60S ribosomal protein L19, putative

Chain BT: 68% 8% 23%



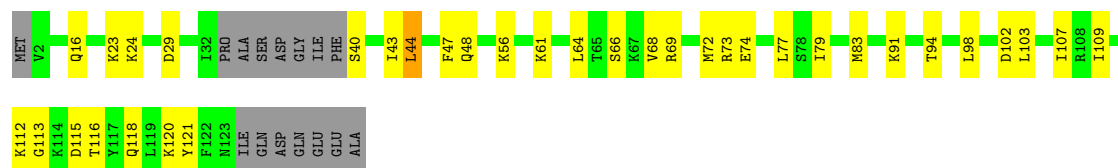
- Molecule 55: 60S ribosomal protein L21E, putative

Chain BU: 84% 14% ..



- Molecule 56: 60S ribosomal protein L22, putative

Chain BV: 



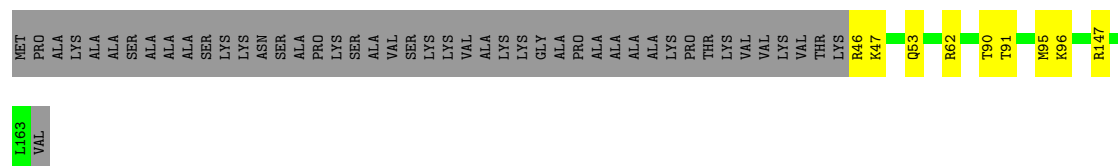
- Molecule 57: 60S ribosomal protein L23, putative

Chain BW: 

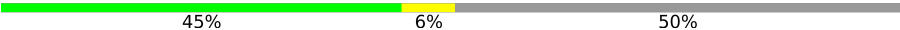


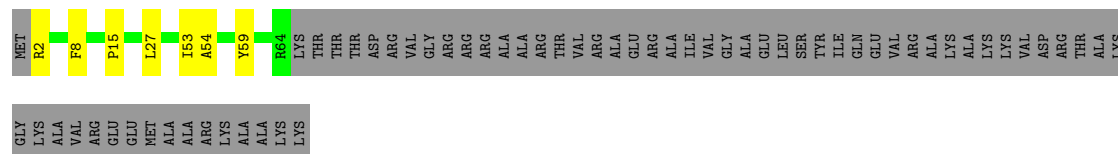
- Molecule 58: 60S ribosomal protein L23a

Chain BX: 



- Molecule 59: Ribosomal protein L24

Chain BY: 



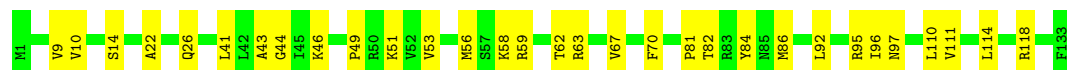
- Molecule 60: 60S ribosomal protein L26, putative

Chain BZ: 



- Molecule 61: 60S ribosomal protein L27

Chain Ba: 



• Molecule 62: 60S ribosomal protein L27a

Chain Bb:  89% 10%

• Molecule 63: 60S ribosomal protein L28, putative

Chain Bc:  82% 17%

• Molecule 64: 60S ribosomal protein L29

Chain Bd:  89% 8%

• Molecule 65: 60S ribosomal protein L2, putative

Chain Be:  90% 8%

• Molecule 66: Ribosomal protein L3, mitochondrial, putative

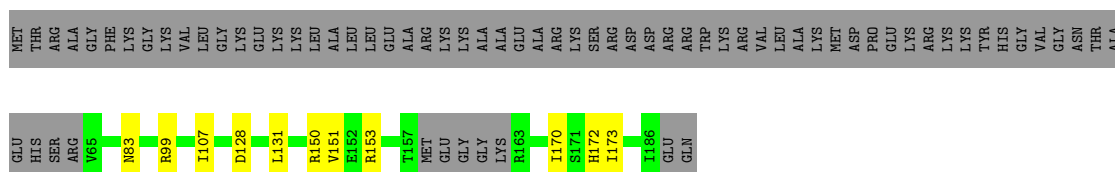
Chain Bf:  82% 11% 7%

• Molecule 67: 60S ribosomal protein L30

Chain Bg:  70% 20% 9%

• Molecule 68: 60S ribosomal subunit protein L31, putative

Chain Bh:  56% 6% 38%



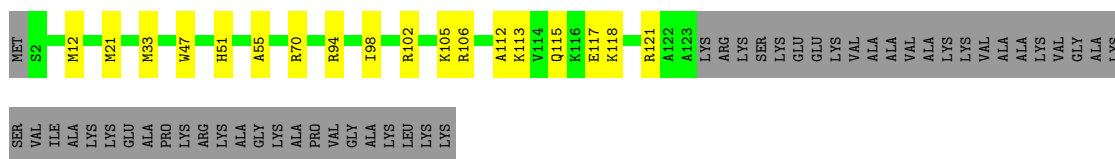
- Molecule 69: 60S ribosomal protein L32, putative

Chain Bi: 88% 11% ..



- Molecule 70: 60S ribosomal protein L34, putative

Chain Bj: 61% 11% 28%



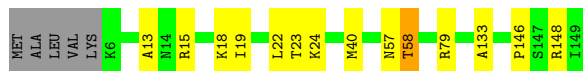
- Molecule 71: 60S ribosomal protein L35, putative

Chain Bk: 85% 12% .



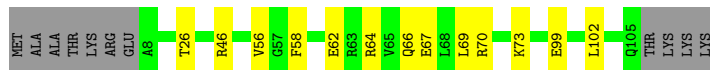
- Molecule 72: 60S ribosomal protein L35A, putative

Chain Bl: 87% 9% . .



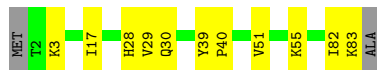
- Molecule 73: Ribosomal protein L36, putative

Chain Bm: 78% 12% 10%



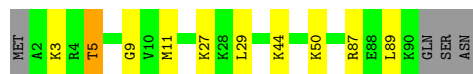
- Molecule 74: Ribosomal protein L37

Chain Bn: 85% 13% .



- Molecule 75: 60S ribosomal protein L37a, putative

Chain Bo:  85% 10% . .

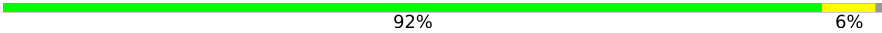


- Molecule 76: 60S ribosomal protein L38, putative

Chain Bp:  84% 10% 6%



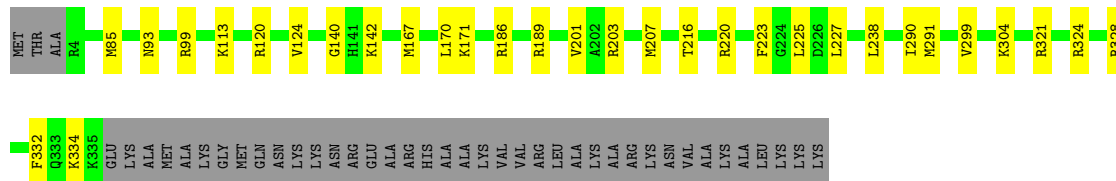
- Molecule 77: 60S ribosomal protein L39, putative

Chain Bq:  92% 6% .



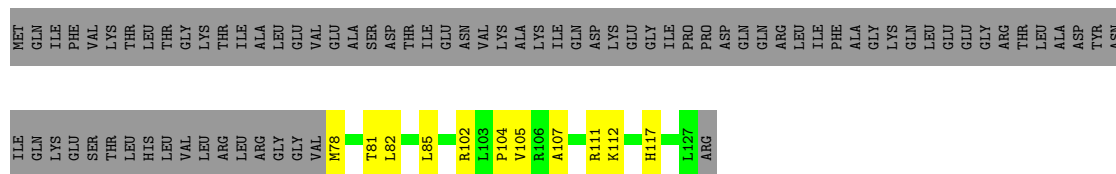
- Molecule 78: 60S ribosomal protein L4

Chain Br:  80% 8% 11%



- Molecule 79: Ubiquitin-60S ribosomal protein L40

Chain Bs:  30% 9% 61%



- Molecule 80: 60S ribosomal protein L44

Chain Bt:  83% 8% 8%



- Molecule 81: 60S ribosomal protein L5, putative



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	570752	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	1.05	Depositor
Minimum defocus (nm)	700	Depositor
Maximum defocus (nm)	1700	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.260	Depositor
Minimum map value	-0.087	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.005	Depositor
Map size (Å)	395.76, 395.76, 395.76	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8245, 0.8245, 0.8245	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: GET, PSU, A2M, SNC, K, PUT, OMG, UY1, NA, 5MC, HY3, IAS, 1MA, OMC, OMU, HIC, 7MG, B8N, MG, MA6, GTP, ZN, SPD

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	Et	0.45	0/450	0.84	0/698
2	A0	0.17	0/1841	0.38	0/2477
3	A1	0.16	0/2096	0.37	0/2819
4	A2	0.15	0/1480	0.34	0/1990
5	A3	0.16	0/1921	0.35	0/2563
6	A4	0.17	0/1656	0.36	0/2229
7	A5	0.16	0/1560	0.38	0/2086
8	A6	0.16	0/1525	0.36	0/2045
9	A7	0.15	0/2422	0.39	0/3301
10	A8	0.19	0/468	0.35	0/619
11	A9	0.11	0/580	0.31	0/771
12	AA	0.37	1/43870 (0.0%)	0.79	26/68332 (0.0%)
13	AC	0.15	0/1682	0.37	0/2275
14	AD	0.13	0/837	0.32	0/1129
15	AE	0.15	0/1276	0.34	0/1717
16	AF	0.16	0/918	0.43	0/1230
17	AG	0.17	0/1215	0.32	0/1629
18	AH	0.20	0/1021	0.42	0/1368
19	AI	0.14	0/988	0.31	0/1327
20	AJ	0.16	0/1035	0.34	0/1386
21	AK	0.15	0/1155	0.34	0/1550
22	AL	0.15	0/979	0.33	0/1312
23	AM	0.16	0/1044	0.36	0/1399
24	AO	0.13	0/1245	0.31	0/1665
25	AP	0.16	0/1723	0.37	0/2328
26	AQ	0.14	0/809	0.41	0/1091
27	AR	0.15	0/669	0.33	0/908
28	AS	0.15	0/1119	0.37	0/1495
29	AT	0.16	0/1050	0.37	0/1395
30	AU	0.23	0/575	0.51	0/769
31	AV	0.15	0/846	0.36	0/1132

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	AW	0.16	0/674	0.39	0/904
33	AX	0.13	0/1674	0.32	0/2236
34	AY	0.17	0/472	0.42	0/623
35	AZ	0.19	0/456	0.42	0/606
36	Az	0.17	0/1389	0.49	0/1870
37	BA	0.42	3/36024 (0.0%)	0.81	19/56130 (0.0%)
38	BB	0.44	3/25539 (0.0%)	0.85	20/39799 (0.1%)
39	BC	0.42	1/3662 (0.0%)	0.72	0/5700
40	BD	0.34	0/2852	0.71	0/4444
41	BE	0.37	0/4328	0.80	4/6731 (0.1%)
42	BF	0.34	0/1764	0.91	2/2740 (0.1%)
43	BG	0.43	0/4383	0.82	3/6835 (0.0%)
44	BH	0.39	0/2744	0.81	0/4270
45	BI	0.17	0/1552	0.37	0/2070
46	BK	0.16	0/1620	0.39	0/2171
47	BL	0.17	0/1406	0.44	2/1878 (0.1%)
48	BN	0.18	0/1793	0.42	0/2391
49	BO	0.17	0/1823	0.37	0/2431
50	BP	0.18	0/1431	0.38	1/1917 (0.1%)
51	BQ	0.18	0/1746	0.38	0/2331
52	BR	0.18	0/1269	0.35	0/1703
53	BS	0.17	0/1479	0.39	0/1986
54	BT	0.18	0/1661	0.40	0/2198
55	BU	0.17	0/1282	0.39	0/1722
56	BV	0.19	0/953	0.48	0/1268
57	BW	0.21	0/1016	0.42	0/1368
58	BX	0.15	0/983	0.35	0/1322
59	BY	0.19	0/562	0.42	0/756
60	BZ	0.15	0/1015	0.35	0/1353
61	Ba	0.18	0/1119	0.38	0/1489
62	Bb	0.18	0/1165	0.41	0/1554
63	Bc	0.16	0/1179	0.31	0/1573
64	Bd	0.18	0/572	0.37	0/766
65	Be	0.18	0/1972	0.42	0/2649
66	Bf	0.19	0/3269	0.38	0/4391
67	Bg	0.19	0/746	0.37	0/1008
68	Bh	0.17	0/970	0.38	0/1295
69	Bi	0.16	0/1097	0.34	0/1468
70	Bj	0.16	0/1024	0.37	0/1365
71	Bk	0.17	0/1022	0.42	0/1351
72	Bl	0.17	0/1187	0.41	0/1592
73	Bm	0.15	0/796	0.35	0/1057
74	Bn	0.20	0/707	0.45	0/942

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
75	Bo	0.26	0/711	0.48	0/946
76	Bp	0.18	0/631	0.44	0/840
77	Bq	0.19	0/471	0.35	0/626
78	Br	0.16	0/2660	0.36	0/3580
79	Bs	0.13	0/398	0.32	0/529
80	Bt	0.19	0/815	0.43	0/1077
81	Bu	0.17	0/2437	0.39	1/3271 (0.0%)
82	Bv	0.18	0/1115	0.36	0/1501
83	Bw	0.19	0/1879	0.41	0/2520
84	Bx	0.16	0/1892	0.36	0/2542
85	By	0.16	0/1536	0.37	0/2065
86	Bz	0.16	0/293	0.29	0/381
All	All	0.32	8/219270 (0.0%)	0.67	78/321166 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
56	BV	0	1
57	BW	0	1
60	BZ	0	1
All	All	0	3

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	BA	743	A2M	O3'-P	5.69	1.61	1.56
38	BB	545	A2M	O3'-P	5.25	1.61	1.56
38	BB	1388	A2M	O3'-P	5.25	1.61	1.56
39	BC	43	A2M	O3'-P	5.10	1.61	1.56
37	BA	746	A2M	O3'-P	5.10	1.61	1.56
38	BB	400	A2M	O3'-P	5.09	1.61	1.56
12	AA	2096	A2M	O3'-P	5.08	1.61	1.56
37	BA	1024	A2M	O3'-P	5.07	1.61	1.56

All (78) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	BA	477	G	O4'-C1'-N9	7.84	114.47	108.20
37	BA	1671	G	O4'-C1'-N9	7.27	114.02	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	BB	1079	C	C2-N1-C1'	7.21	126.73	118.80
38	BB	1170	C	C6-N1-C2	-7.14	117.44	120.30
38	BB	990	C	N1-C2-O2	7.10	123.16	118.90
12	AA	713	U	N3-C2-O2	-6.92	117.35	122.20
38	BB	990	C	N3-C2-O2	-6.87	117.09	121.90
38	BB	1170	C	N3-C2-O2	-6.69	117.22	121.90
12	AA	683	U	C2-N1-C1'	6.65	125.68	117.70
37	BA	955	G	O4'-C1'-N9	6.51	113.41	108.20
12	AA	936	C	C2-N1-C1'	6.51	125.96	118.80
12	AA	1461	C	C2-N1-C1'	6.47	125.92	118.80
12	AA	1383	U	C2-N1-C1'	6.36	125.34	117.70
50	BP	158	PRO	CA-N-CD	-6.34	103.12	112.00
38	BB	462	A	O5'-C5'-C4'	5.97	114.18	109.40
12	AA	936	C	N1-C2-O2	5.97	122.48	118.90
38	BB	61	C	C2-N1-C1'	5.93	125.33	118.80
12	AA	1767	C	C2-N1-C1'	5.86	125.24	118.80
37	BA	1654	C	C6-N1-C2	-5.85	117.96	120.30
38	BB	1404	G	O4'-C1'-N9	5.83	112.87	108.20
38	BB	1432	U	C2-N1-C1'	5.78	124.63	117.70
37	BA	1315	C	C2-N1-C1'	5.74	125.11	118.80
12	AA	313	C	C2-N1-C1'	5.73	125.10	118.80
41	BE	110	C	N1-C2-O2	5.72	122.33	118.90
37	BA	1617	C	O5'-C5'-C4'	5.72	113.97	109.40
12	AA	2031	C	N1-C2-O2	5.71	122.32	118.90
12	AA	1461	C	N1-C2-O2	5.70	122.32	118.90
42	BF	48	C	C2-N1-C1'	5.66	125.02	118.80
37	BA	1683	U	C2-N1-C1'	5.64	124.47	117.70
37	BA	1481	U	C2-N1-C1'	5.62	124.44	117.70
38	BB	1079	C	N1-C2-O2	5.62	122.27	118.90
38	BB	667	G	O5'-C5'-C4'	5.60	113.88	109.40
37	BA	96	C	O5'-C5'-C4'	5.59	113.87	109.40
41	BE	18	C	C2-N1-C1'	5.55	124.90	118.80
38	BB	1432	U	N1-C2-O2	5.53	126.67	122.80
42	BF	23	U	C2-N1-C1'	5.50	124.30	117.70
37	BA	566	C	C2-N1-C1'	5.50	124.85	118.80
12	AA	2031	C	C2-N1-C1'	5.49	124.83	118.80
38	BB	1432	U	N3-C2-O2	-5.46	118.38	122.20
12	AA	762	C	C2-N1-C1'	5.44	124.79	118.80
12	AA	762	C	N1-C2-O2	5.43	122.16	118.90
37	BA	1042	U	C2-N1-C1'	5.41	124.20	117.70
12	AA	1475	U	C2-N1-C1'	5.41	124.19	117.70
41	BE	110	C	C2-N1-C1'	5.37	124.70	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	2042	G	O5'-C5'-C4'	5.34	113.67	109.40
37	BA	1654	C	N3-C2-O2	-5.32	118.17	121.90
12	AA	1475	U	O4'-C1'-N1	5.32	112.22	108.50
12	AA	936	C	N3-C2-O2	-5.31	118.18	121.90
12	AA	936	C	C6-N1-C2	-5.29	118.19	120.30
37	BA	1027	G	O4'-C1'-N9	5.27	112.41	108.20
38	BB	1497	U	C2-N1-C1'	5.26	124.02	117.70
38	BB	379	U	N3-C2-O2	-5.25	118.52	122.20
12	AA	683	U	N1-C2-O2	5.24	126.47	122.80
38	BB	1079	C	C6-N1-C1'	-5.24	114.52	120.80
12	AA	1854	U	C2-N1-C1'	5.21	123.95	117.70
12	AA	313	C	N1-C2-O2	5.20	122.02	118.90
12	AA	971	U	P-O3'-C3'	5.19	125.93	119.70
38	BB	8	U	N3-C2-O2	-5.19	118.57	122.20
12	AA	156	U	C2-N1-C1'	5.17	123.91	117.70
81	Bu	225	PRO	CA-N-CD	-5.16	104.77	112.00
12	AA	712	G	C4-N9-C1'	5.16	133.21	126.50
41	BE	110	C	N3-C2-O2	-5.16	118.29	121.90
43	BG	63	U	C2-N1-C1'	5.15	123.88	117.70
37	BA	1654	C	C2-N1-C1'	5.14	124.45	118.80
12	AA	2031	C	N3-C2-O2	-5.14	118.30	121.90
12	AA	1483	C	N1-C2-O2	5.14	121.98	118.90
37	BA	1287	A	N9-C1'-C2'	5.13	117.65	112.00
37	BA	1446	G	O5'-C5'-C4'	5.12	113.49	109.40
38	BB	379	U	N1-C2-O2	5.11	126.38	122.80
38	BB	380	A	O5'-C5'-C4'	5.11	113.48	109.40
43	BG	33	G	O4'-C1'-N9	5.09	112.27	108.20
37	BA	1860	G	C4-N9-C1'	5.08	133.10	126.50
37	BA	1668	G	O4'-C1'-N9	5.07	112.26	108.20
38	BB	1157	G	O5'-C5'-C4'	5.05	113.44	109.40
43	BG	92	U	O5'-C5'-C4'	5.05	113.44	109.40
47	BL	123	TYR	CA-C-N	-5.02	106.72	120.97
47	BL	123	TYR	C-N-CA	-5.02	106.72	120.97
37	BA	566	C	N1-C2-O2	5.00	121.90	118.90

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
56	BV	102	ASP	Peptide
57	BW	82	ARG	Sidechain
60	BZ	57[A]	ARG	Sidechain

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	Et	404	0	211	3	0
2	A0	1814	0	1883	20	0
3	A1	2062	0	2181	17	0
4	A2	1458	0	1513	18	0
5	A3	1899	0	2027	30	0
6	A4	1642	0	1723	23	0
7	A5	1536	0	1623	11	0
8	A6	1495	0	1562	19	0
9	A7	2374	0	2277	45	0
10	A8	461	0	467	4	0
11	A9	567	0	578	8	0
12	AA	40169	0	20309	411	0
13	AC	1648	0	1687	32	0
14	AD	814	0	819	7	0
15	AE	1251	0	1301	8	0
16	AF	922	0	939	24	0
17	AG	1193	0	1262	14	0
18	AH	1015	0	1025	17	0
19	AI	967	0	993	14	0
20	AJ	1018	0	1050	9	0
21	AK	1144	0	1202	12	0
22	AL	967	0	1026	10	0
23	AM	1027	0	1072	15	0
24	AO	1220	0	1286	13	0
25	AP	1688	0	1734	17	0
26	AQ	800	0	856	23	0
27	AR	668	0	668	12	0
28	AS	1107	0	1152	10	0
29	AT	1034	0	1117	12	0
30	AU	569	0	611	13	0
31	AV	830	0	864	6	0
32	AW	660	0	666	13	0
33	AX	1652	0	1721	22	0
34	AY	466	0	517	3	0
35	AZ	457	0	494	7	0
36	Az	1366	0	1394	40	0
37	BA	33019	0	16678	232	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	BB	23998	0	12137	195	0
39	BC	3411	0	1736	20	0
40	BD	2553	0	1293	14	0
41	BE	3879	0	1968	29	0
42	BF	1587	0	814	14	0
43	BG	3919	0	1975	24	0
44	BH	2458	0	1244	18	0
45	BI	1526	0	1646	15	0
46	BK	1588	0	1651	20	0
47	BL	1385	0	1423	39	0
48	BN	1762	0	1864	21	0
49	BO	1802	0	1947	18	0
50	BP	1411	0	1505	22	0
51	BQ	1717	0	1790	15	0
52	BR	1244	0	1301	6	0
53	BS	1462	0	1487	12	0
54	BT	1644	0	1754	20	0
55	BU	1261	0	1313	17	0
56	BV	940	0	979	22	0
57	BW	999	0	1062	13	0
58	BX	966	0	1030	11	0
59	BY	542	0	546	5	0
60	BZ	1002	0	1079	15	0
61	Ba	1099	0	1174	20	0
62	Bb	1137	0	1174	9	0
63	Bc	1162	0	1246	14	0
64	Bd	561	0	583	5	0
65	Be	1939	0	2000	14	0
66	Bf	3212	0	3337	33	0
67	Bg	736	0	758	11	0
68	Bh	953	0	1040	5	0
69	Bi	1075	0	1135	12	0
70	Bj	1006	0	1080	14	0
71	Bk	1014	0	1130	12	0
72	Bl	1163	0	1221	11	0
73	Bm	786	0	865	10	0
74	Bn	693	0	709	6	0
75	Bo	699	0	726	6	0
76	Bp	622	0	674	5	0
77	Bq	457	0	495	3	0
78	Br	2607	0	2695	23	0
79	Bs	392	0	412	6	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
80	Bt	801	0	861	6	0
81	Bu	2395	0	2462	26	0
82	Bv	1106	0	1156	17	0
83	Bw	1844	0	1929	13	0
84	Bx	1875	0	2003	20	0
85	By	1515	0	1589	19	0
86	Bz	289	0	325	3	0
87	A3	1	0	0	0	0
87	AA	40	0	0	0	0
87	AO	1	0	0	0	0
87	AV	1	0	0	0	0
87	BA	92	0	0	0	0
87	BB	66	0	0	0	0
87	BC	4	0	0	0	0
87	BD	1	0	0	0	0
87	BE	1	0	0	0	0
87	BF	2	0	0	0	0
87	BG	8	0	0	0	0
87	BK	1	0	0	0	0
87	BQ	2	0	0	0	0
87	BR	1	0	0	0	0
87	BU	1	0	0	0	0
87	BW	1	0	0	0	0
87	Bi	1	0	0	0	0
88	A6	10	0	19	1	0
88	AA	120	0	228	9	0
88	BA	330	0	627	13	0
88	BB	80	0	152	3	0
88	BC	30	0	57	1	0
88	BE	10	0	19	0	0
88	BG	20	0	38	1	0
88	BQ	10	0	19	1	0
88	Bd	10	0	19	1	0
89	A9	1	0	0	0	0
89	AV	1	0	0	0	0
89	Bn	1	0	0	0	0
89	Bo	1	0	0	0	0
89	Bs	1	0	0	0	0
89	Bt	1	0	0	0	0
90	AA	102	0	120	1	0
91	AA	24	0	48	1	0
91	BA	30	0	60	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
91	BB	30	0	60	2	0
92	AA	32	0	12	3	0
93	AA	11	0	0	0	0
93	BA	18	0	0	0	0
93	BB	23	0	0	0	0
93	BC	2	0	0	0	0
93	BE	3	0	0	0	0
93	BF	1	0	0	0	0
93	BG	3	0	0	0	0
93	BH	2	0	0	0	0
93	BK	1	0	0	0	0
93	BN	1	0	0	0	0
93	BQ	1	0	0	0	0
93	Bb	1	0	0	0	0
93	Be	1	0	0	0	0
93	Bi	1	0	0	0	0
94	AA	5	0	0	0	0
94	BA	1	0	0	0	0
94	BB	10	0	0	0	0
94	Be	1	0	0	0	0
95	A0	2	0	0	0	0
95	A5	3	0	0	0	0
95	AA	160	0	0	0	0
95	AE	1	0	0	0	0
95	AG	2	0	0	0	0
95	AJ	1	0	0	0	0
95	AV	1	0	0	0	0
95	AW	1	0	0	0	0
95	BA	1050	0	0	1	0
95	BB	889	0	0	2	0
95	BC	38	0	0	0	0
95	BD	6	0	0	0	0
95	BE	16	0	0	0	0
95	BF	7	0	0	0	0
95	BG	151	0	0	0	0
95	BH	30	0	0	0	0
95	BI	10	0	0	0	0
95	BK	2	0	0	0	0
95	BN	14	0	0	0	0
95	BO	18	0	0	1	0
95	BQ	43	0	0	0	0
95	BR	12	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
95	BT	15	0	0	0	0
95	BU	6	0	0	0	0
95	BW	12	0	0	0	0
95	BX	1	0	0	0	0
95	BY	2	0	0	0	0
95	BZ	2	0	0	0	0
95	Bb	20	0	0	0	0
95	Bd	5	0	0	0	0
95	Be	49	0	0	0	0
95	Bf	45	0	0	0	0
95	Bh	6	0	0	0	0
95	Bi	18	0	0	0	0
95	Bj	15	0	0	0	0
95	Bl	11	0	0	0	0
95	Bn	17	0	0	0	0
95	Bo	7	0	0	0	0
95	Bq	3	0	0	0	0
95	Br	30	0	0	0	0
95	Bt	6	0	0	0	0
95	Bu	1	0	0	0	0
95	Bv	1	0	0	0	0
95	Bw	11	0	0	1	0
95	Bx	3	0	0	0	0
95	Et	5	0	0	0	0
All	All	211479	0	156289	1865	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 5.

All (1865) 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)
37:BA:545:G:H1	37:BA:601:U:H3	1.01	0.91
33:AX:55:ARG:HE	33:AX:55:ARG:H	1.18	0.91
12:AA:2036:G:H5'	24:AO:103:GLY:HA2	1.50	0.91
12:AA:465:G:HO2'	12:AA:713:U:H5	1.14	0.90
47:BL:117:ILE:HD11	47:BL:123:TYR:HB2	1.56	0.85
12:AA:844:A:H61	12:AA:888:C:H42	1.23	0.85
12:AA:1318:G:H1	12:AA:1479:U:H3	1.24	0.85
12:AA:616:G:H1	12:AA:631:U:H3	1.26	0.84
37:BA:615:G:H5'	37:BA:705:C:H4'	1.61	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:BK:36:ILE:HD11	46:BK:87:MET:HE2	1.61	0.80
2:A0:75:LYS:HE3	2:A0:75:LYS:HA	1.63	0.79
73:Bm:66:GLN:HG3	73:Bm:102:LEU:HD11	1.63	0.78
12:AA:1144:G:H1	12:AA:1237:U:H3	1.29	0.78
37:BA:1236:U:H5''	83:Bw:122:ARG:HD2	1.66	0.78
44:BH:78:C:H42	44:BH:87:U:H3	1.31	0.78
12:AA:761:C:H1'	12:AA:789:G:H22	1.49	0.78
26:AQ:58:LEU:HD11	33:AX:7:LYS:HG2	1.64	0.77
12:AA:1524:U:H3	12:AA:1533:G:H22	1.33	0.76
12:AA:1326:G:H1	12:AA:1471:U:H3	1.33	0.75
12:AA:545:A:H1'	88:AA:2375:SPD:H32	1.68	0.75
2:A0:169:ARG:HH22	12:AA:1463:C:H5	1.33	0.75
9:A7:234:MET:HE3	9:A7:268:LYS:HB3	1.70	0.73
7:A5:160:ARG:HD3	12:AA:268:A:H5''	1.70	0.72
85:By:103:VAL:HG22	85:By:108:VAL:HG22	1.72	0.72
79:Bs:111:ARG:HG3	79:Bs:112:LYS:HD3	1.70	0.72
38:BB:766:C:HO2'	38:BB:767:G:H8	1.38	0.72
2:A0:67:GLU:HG3	2:A0:87:LYS:HE3	1.70	0.72
30:AU:71:ILE:HG13	30:AU:86:LEU:HD21	1.70	0.72
61:Ba:53:VAL:HG22	61:Ba:56:MET:HE3	1.70	0.72
12:AA:1323:G:H1	12:AA:1474:U:H3	1.37	0.72
17:AG:42:LYS:HG2	17:AG:80:MET:HE1	1.72	0.72
26:AQ:19:VAL:HG22	26:AQ:21:MET:HE2	1.72	0.71
9:A7:203:THR:HG22	9:A7:243:ILE:HD12	1.73	0.71
38:BB:1040:U:H2'	38:BB:1041:G:C8	2.25	0.71
45:Bl:31:LYS:HE3	78:Br:291:MET:HE1	1.72	0.71
24:AO:23:LEU:HD12	24:AO:148:ALA:HB1	1.73	0.71
41:BE:52:G:H4'	41:BE:154:G:H4'	1.73	0.71
37:BA:1654:C:H5	52:BR:85:ARG:HH21	1.36	0.70
44:BH:119:U:H2'	44:BH:120:C:H4'	1.73	0.70
81:Bu:199:LYS:HE2	81:Bu:199:LYS:HA	1.71	0.70
21:AK:33:CYS:HA	21:AK:69:LEU:O	1.91	0.69
37:BA:996:A2M:HM'2	37:BA:997:C:H5'	1.73	0.69
84:Bx:49:ILE:H	84:Bx:51:ARG:HH21	1.36	0.69
85:By:89:LYS:HB2	85:By:181:THR:HB	1.73	0.69
36:Az:100:VAL:HG13	36:Az:113:ILE:HG23	1.73	0.69
28:AS:128:VAL:HG22	28:AS:138:LYS:HD3	1.73	0.69
9:A7:264:ASP:HB3	9:A7:271:ILE:HD11	1.75	0.68
52:BR:41:LEU:HD21	52:BR:99:GLU:HG3	1.75	0.68
7:A5:177:ASP:O	7:A5:181:GLU:HG3	1.93	0.68
82:Bv:145:ASP:O	82:Bv:149:GLN:HG3	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BA:761:A:H2'	37:BA:762:A2M:H8	1.75	0.68
30:AU:55:LYS:HE2	30:AU:75:LEU:HD23	1.76	0.68
12:AA:974:G:H21	54:BT:172:LYS:HG2	1.59	0.68
37:BA:545:G:N2	37:BA:601:U:O2	2.21	0.68
12:AA:1164:A:H5''	18:AH:127:PRO:HB3	1.76	0.67
11:A9:114:PHE:H	16:AF:85:LYS:HZ1	1.41	0.67
12:AA:580:C:H2'	12:AA:581:G:C8	2.28	0.67
17:AG:142:GLU:HB2	17:AG:145:THR:HG22	1.77	0.67
37:BA:1827:A:H4'	70:Bj:12:MET:HE2	1.77	0.67
38:BB:1469:U:H4'	38:BB:1470:A:H5''	1.76	0.67
12:AA:1216:A:H2'	12:AA:1217:A:C8	2.30	0.67
36:Az:211:ASN:HB2	36:Az:222:VAL:HG22	1.77	0.67
65:Be:39:GLY:HA2	65:Be:93:LYS:HD3	1.77	0.67
39:BC:67:U:H2'	39:BC:68:A:C8	2.30	0.66
5:A3:50:THR:HG23	5:A3:117:GLU:HB2	1.77	0.66
12:AA:971:U:C4	54:BT:163:ARG:HD2	2.30	0.66
37:BA:544:C:H2'	37:BA:545:G:C8	2.31	0.66
9:A7:119:PRO:HB2	9:A7:164:LEU:HD13	1.77	0.66
12:AA:767:C:H2'	12:AA:768:A:H8	1.61	0.66
36:Az:91:THR:HA	36:Az:100:VAL:HG21	1.77	0.66
37:BA:714:U:H6	69:Bi:129:ARG:HH21	1.42	0.66
22:AL:14:LYS:O	22:AL:18:GLU:HG2	1.95	0.66
25:AP:105:ARG:HD3	25:AP:107:ARG:HG3	1.78	0.66
29:AT:34:HIS:HB2	29:AT:37:TRP:HB2	1.77	0.66
23:AM:82:GLU:HG3	23:AM:96:THR:HG21	1.77	0.66
2:A0:84:ARG:HB3	2:A0:84:ARG:NH1	2.11	0.65
38:BB:998:U:H3	38:BB:1014:U:H3	1.43	0.65
74:Bn:82:ILE:HG13	74:Bn:83:LYS:HG2	1.77	0.65
12:AA:767:C:H2'	12:AA:768:A:C8	2.31	0.65
81:Bu:228:LYS:HA	81:Bu:228:LYS:HE2	1.78	0.65
37:BA:915:G:H2'	37:BA:916:OMU:H6	1.77	0.65
7:A5:98:LYS:HG3	12:AA:423:G:H5'	1.79	0.65
18:AH:109:LEU:HD23	31:AV:47:LEU:HD21	1.79	0.65
38:BB:5:A:H2'	38:BB:6:A:C8	2.32	0.65
37:BA:1231:A:H2'	37:BA:1233:A:H62	1.62	0.65
37:BA:1805:G:H21	37:BA:1869:A:H2'	1.61	0.65
12:AA:800:C:H2'	12:AA:801:G:C8	2.32	0.65
12:AA:1325:G:H1	12:AA:1472:U:H3	1.43	0.65
33:AX:55:ARG:H	33:AX:55:ARG:NE	1.91	0.65
37:BA:542:G:H1	37:BA:604:U:H3	1.43	0.65
12:AA:1469:G:H1	92:AA:2309:GTP:HN22	1.43	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A8:53:PHE:HB3	26:AQ:77:PHE:HB3	1.77	0.64
12:AA:1236:C:H5'	32:AW:29:PRO:HB3	1.78	0.64
6:A4:86:GLU:HB3	6:A4:90:ARG:HH21	1.63	0.64
5:A3:80:ARG:HG2	5:A3:87:THR:HA	1.79	0.64
50:BP:136:PRO:HB3	50:BP:141:LYS:HB3	1.79	0.64
36:Az:137:LYS:HE2	36:Az:137:LYS:HA	1.80	0.64
2:A0:84:ARG:HB3	2:A0:84:ARG:HH11	1.63	0.63
9:A7:91:LEU:HB2	9:A7:105:PHE:HB2	1.81	0.63
43:BG:92:U:H2'	43:BG:93:U:C6	2.33	0.63
39:BC:6:G:H2'	39:BC:7:OMU:H6	1.81	0.63
9:A7:237:GLY:H	9:A7:261:ARG:HH12	1.44	0.63
38:BB:477:A:H2'	38:BB:478:A:C8	2.33	0.63
47:BL:47:LEU:HD13	47:BL:121:ILE:HD11	1.79	0.63
58:BX:46:ARG:HE	58:BX:47:LYS:HB2	1.64	0.63
26:AQ:47:VAL:HG12	26:AQ:88:LEU:HD23	1.80	0.63
56:BV:91:LYS:HG3	56:BV:109:ILE:HD13	1.81	0.63
78:Br:216:THR:HB	78:Br:227:LEU:HD13	1.80	0.63
85:By:91:ARG:HD2	85:By:141:GLU:HB2	1.79	0.63
19:AI:24:TYR:HB3	19:AI:32:LEU:HD11	1.79	0.63
40:BD:92:G:H2'	40:BD:93:G:C8	2.34	0.63
79:Bs:104:PRO:HG2	79:Bs:107:ALA:HB2	1.80	0.63
12:AA:2160:A:H2'	12:AA:2161:A:C8	2.34	0.62
38:BB:532:U:H3	38:BB:536:G:H22	1.47	0.62
57:BW:8:VAL:HG13	57:BW:10:GLY:H	1.62	0.62
2:A0:127:VAL:HG13	2:A0:171:THR:HG23	1.81	0.62
12:AA:73:U:O2'	12:AA:74:U:H2'	1.99	0.62
12:AA:1950:A:H2'	12:AA:1951:A:C8	2.34	0.62
49:BO:79:ARG:HH11	49:BO:84:PRO:HG3	1.63	0.62
19:AI:68:ARG:O	19:AI:72:LYS:HD3	2.00	0.62
37:BA:765:A:H2'	37:BA:766:G:C8	2.35	0.62
12:AA:693:A:H2'	12:AA:694:A:C8	2.34	0.62
12:AA:431:G:H3'	15:AE:149:LYS:HB2	1.79	0.62
63:Bc:21:LYS:HG2	63:Bc:26:ARG:HG2	1.80	0.62
12:AA:1394:A:H2	92:AA:2309:GTP:HN21	1.46	0.62
38:BB:1140:A:H2'	38:BB:1141:G:C8	2.34	0.62
9:A7:261:ARG:HE	9:A7:270:ILE:HD12	1.64	0.62
12:AA:1576:A:H2'	12:AA:1577:G:C8	2.35	0.62
33:AX:6:LYS:O	33:AX:10:MET:HG2	2.00	0.62
46:BK:78:LYS:HE3	46:BK:79:ARG:CZ	2.30	0.61
37:BA:805:U:H2'	37:BA:806:C:C6	2.35	0.61
84:Bx:196:LYS:HB2	84:Bx:207:THR:HG23	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AA:1887:C:H42	90:AA:2304:GET:H711	1.65	0.61
6:A4:39:LEU:HB3	6:A4:43:LEU:HD23	1.83	0.61
11:A9:122:GLU:HG2	11:A9:130:ALA:HA	1.82	0.61
43:BG:18:U:H2'	43:BG:19:C:C6	2.35	0.61
61:Ba:58:LYS:O	61:Ba:62:THR:HG22	2.01	0.61
38:BB:1014:U:H2'	38:BB:1015:C:C6	2.35	0.61
39:BC:63:G:H22	39:BC:96:A:H2	1.49	0.61
8:A6:170:ARG:HH21	12:AA:640:A:H5'	1.64	0.61
9:A7:214:SER:HB3	9:A7:243:ILE:HG12	1.83	0.61
12:AA:580:C:H2'	12:AA:581:G:H8	1.66	0.61
23:AM:23:GLY:HA2	23:AM:57:ALA:HB3	1.83	0.61
56:BV:40:SER:O	56:BV:43:ILE:HG13	2.00	0.61
12:AA:1201:A:H2'	12:AA:1202:G:C8	2.36	0.61
38:BB:799:G:HO2'	38:BB:800:U:H6	1.49	0.61
44:BH:5:G:H2'	44:BH:6:U:C6	2.36	0.61
56:BV:103:LEU:HB3	56:BV:107:ILE:HD12	1.83	0.61
9:A7:224:ASP:HB2	9:A7:231:LEU:HD13	1.82	0.60
12:AA:599:G:H2'	12:AA:600:G:H8	1.65	0.60
26:AQ:17:VAL:HG13	26:AQ:88:LEU:HB2	1.83	0.60
37:BA:727:C:H2'	37:BA:728:C:C6	2.36	0.60
38:BB:1152:U:H2'	38:BB:1153:G:C8	2.36	0.60
12:AA:1938:A:H2	12:AA:1941:G:N3	1.97	0.60
37:BA:1088:G:H2'	37:BA:1089:C:C6	2.35	0.60
43:BG:18:U:H2'	43:BG:19:C:H6	1.66	0.60
12:AA:500:A:H2'	12:AA:501:C:C6	2.35	0.60
12:AA:1381:U:OP1	12:AA:1381:U:H4'	2.00	0.60
41:BE:148:A:H4'	41:BE:149:A:H5'	1.83	0.60
2:A0:93:VAL:HG22	2:A0:98:LEU:HD22	1.84	0.60
37:BA:1125:C:H3'	88:BA:1908:SPD:H22	1.83	0.60
61:Ba:10:VAL:HG12	61:Ba:81:PRO:HA	1.83	0.60
68:Bh:150:ARG:HB2	68:Bh:173:ILE:HD11	1.83	0.60
47:BL:116:HIS:HE1	47:BL:129:ILE:HA	1.67	0.60
57:BW:122:LYS:O	57:BW:126:GLU:HG3	2.01	0.60
3:A1:255:ILE:O	3:A1:259:THR:HG23	2.01	0.60
37:BA:717:A:H2'	37:BA:718:A:H8	1.67	0.60
73:Bm:64:ARG:HH11	73:Bm:64:ARG:HG3	1.65	0.60
84:Bx:101:ASN:O	84:Bx:105:LYS:HG2	2.02	0.60
12:AA:1311:C:HO2'	20:AJ:2:THR:N	2.00	0.60
61:Ba:92:LEU:HD13	61:Ba:96:ILE:HG13	1.83	0.60
13:AC:68:SER:HA	13:AC:71:LYS:HG3	1.84	0.59
26:AQ:37:LEU:HD11	26:AQ:50:PRO:HG3	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AP:147:VAL:HG21	25:AP:229:ARG:HG3	1.84	0.59
48:BN:179:GLU:CD	48:BN:179:GLU:H	2.11	0.59
51:BQ:57:ARG:HG2	51:BQ:58:ARG:HG3	1.83	0.59
38:BB:670:C:H2'	38:BB:671:C:C6	2.38	0.59
61:Ba:59:ARG:HH12	61:Ba:63:ARG:HH22	1.47	0.59
80:Bt:10:MET:HE1	80:Bt:72:LEU:HD13	1.84	0.59
12:AA:2085:G:H1	12:AA:2101:U:H3	1.49	0.59
54:BT:153:ARG:HG2	54:BT:153:ARG:HH11	1.67	0.59
54:BT:159:LEU:HD11	54:BT:163:ARG:NH2	2.18	0.59
18:AH:87:HIS:HA	18:AH:120:GLY:O	2.02	0.59
27:AR:85:ILE:HG23	27:AR:86:LYS:HG2	1.85	0.59
37:BA:906:A:H4'	37:BA:907:G:H5'	1.85	0.59
37:BA:1088:G:H2'	37:BA:1089:C:H6	1.68	0.59
12:AA:892:C:H2'	12:AA:893:G:H8	1.68	0.59
14:AD:5:VAL:HG22	14:AD:48:GLN:HG2	1.83	0.59
12:AA:839:A:H61	12:AA:891:C:H42	1.49	0.59
25:AP:81:ILE:HG21	25:AP:86:LEU:HB2	1.84	0.59
36:Az:171:GLY:O	36:Az:175:GLU:HG2	2.03	0.59
36:Az:234:ASP:HA	36:Az:237:GLU:HG3	1.84	0.59
43:BG:88:G:O6	88:BG:202:SPD:H91	2.02	0.59
65:Be:96:LEU:HD11	65:Be:107:ILE:HG23	1.84	0.59
18:AH:16:LYS:N	18:AH:16:LYS:HD2	2.18	0.59
29:AT:112:LYS:O	29:AT:116:GLU:HG2	2.03	0.59
36:Az:185:ILE:HD12	36:Az:195:VAL:HG22	1.85	0.59
37:BA:48:U:OP2	88:BA:1912:SPD:H52	2.03	0.59
38:BB:1414:C:H2'	38:BB:1415:G:C8	2.37	0.59
45:BI:138:PRO:HB2	78:Br:299:VAL:HG21	1.83	0.59
70:Bj:70:ARG:HG2	70:Bj:70:ARG:HH11	1.68	0.59
26:AQ:19:VAL:HG13	26:AQ:86:VAL:HB	1.84	0.58
37:BA:227:C:H2'	37:BA:228:U:H5''	1.85	0.58
37:BA:1332:G:H2'	37:BA:1333:A:C8	2.38	0.58
63:Bc:72:LYS:O	63:Bc:76:MET:HG3	2.03	0.58
2:A0:190:LEU:HD13	2:A0:217:VAL:HG21	1.85	0.58
12:AA:757:G:H1	12:AA:792:U:H3	1.50	0.58
16:AF:47:ILE:HD11	16:AF:127:ARG:NE	2.18	0.58
12:AA:1625:C:H2'	12:AA:1626:A:H8	1.67	0.58
13:AC:57:MET:HE2	22:AL:91:VAL:HB	1.86	0.58
26:AQ:22:THR:HG23	26:AQ:108:ASP:HB3	1.85	0.58
12:AA:1385:U:H3	27:AR:89:LYS:H	1.52	0.58
38:BB:683:A:H2'	38:BB:684:C:C6	2.39	0.58
82:Bv:39:LEU:HD11	82:Bv:82:ILE:HG13	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AA:836:A:H2'	12:AA:837:A:C8	2.38	0.58
22:AL:101:VAL:HG13	22:AL:105:THR:HB	1.85	0.58
38:BB:1334:PSU:H1'	66:Bf:255:ALA:HB3	1.86	0.58
16:AF:60:ARG:HG2	16:AF:60:ARG:HH11	1.68	0.58
33:AX:107:LYS:HG2	33:AX:112:LEU:HD22	1.86	0.58
70:Bj:118:LYS:HA	70:Bj:121:ARG:HG2	1.85	0.58
19:AI:41:LYS:HG2	19:AI:49:ARG:HG3	1.85	0.58
36:Az:161:SER:HB3	36:Az:162:PRO:HD3	1.86	0.58
4:A2:2:SER:HB3	21:AK:64:ARG:HH21	1.69	0.58
5:A3:1:MET:HE2	5:A3:109:ILE:HB	1.86	0.58
12:AA:2096:A2M:H5''	12:AA:2096:A2M:H8	1.85	0.58
13:AC:181:ILE:HG12	13:AC:195:ILE:HB	1.86	0.58
38:BB:1105:A:H2'	38:BB:1106:G:C8	2.38	0.58
72:Bl:19:ILE:O	72:Bl:23:THR:HG23	2.03	0.58
7:A5:21:HIS:HB2	12:AA:126:U:O2	2.02	0.58
61:Ba:49:PRO:HD3	61:Ba:67:VAL:HG12	1.86	0.58
9:A7:169:ILE:HD11	9:A7:183:LEU:HD13	1.85	0.57
37:BA:1218:U:H3'	37:BA:1219:U:H4'	1.85	0.57
57:BW:44:TYR:CZ	57:BW:46:GLY:HA2	2.39	0.57
5:A3:221:ARG:O	5:A3:225:GLN:HG2	2.04	0.57
12:AA:1147:A:H2'	12:AA:1148:G:C8	2.39	0.57
12:AA:2136:C:H2'	12:AA:2137:G:C8	2.38	0.57
30:AU:97:LEU:HD21	30:AU:100:CYS:HB2	1.85	0.57
56:BV:56:LYS:HG2	56:BV:61:LYS:HB3	1.85	0.57
56:BV:66:SER:HB2	56:BV:69:ARG:HH12	1.69	0.57
4:A2:190:ARG:HD2	35:AZ:94:GLU:HG2	1.85	0.57
28:AS:71:ARG:HH11	28:AS:71:ARG:HG3	1.69	0.57
37:BA:1834:C:H2'	37:BA:1835:U:C6	2.38	0.57
15:AE:56:LEU:HD22	15:AE:56:LEU:H	1.70	0.57
37:BA:563:G:H2'	37:BA:564:C:C6	2.39	0.57
12:AA:300:C:H2'	12:AA:301:C:H6	1.69	0.57
12:AA:974:G:N2	54:BT:172:LYS:HG2	2.20	0.57
12:AA:2009:A:H5'	12:AA:2010:C:H5	1.69	0.57
33:AX:141:ILE:HD11	33:AX:149:MET:HE3	1.87	0.57
44:BH:92:A:H2'	44:BH:93:G:O4'	2.03	0.57
50:BP:151:ALA:HB2	72:Bl:15:ARG:HD3	1.87	0.57
61:Ba:59:ARG:HH12	61:Ba:63:ARG:NH2	2.03	0.57
5:A3:129:ASP:OD1	5:A3:130:VAL:HG13	2.05	0.57
5:A3:162:ARG:HG2	5:A3:176:ALA:HB2	1.86	0.57
7:A5:10:LYS:HG2	15:AE:149:LYS:HE3	1.86	0.57
12:AA:486:C:H2'	12:AA:487:C:C6	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A1:179:MET:HB2	3:A1:189:ILE:HG12	1.86	0.57
12:AA:424:U:H2'	12:AA:425:G:C8	2.40	0.57
37:BA:717:A:H2'	37:BA:718:A:C8	2.39	0.57
37:BA:1315:C:N4	53:BS:179:ALA:HB1	2.19	0.57
85:By:111:ARG:HG2	85:By:119:VAL:HG22	1.87	0.57
12:AA:465:G:O2'	12:AA:713:U:H5	1.84	0.57
37:BA:1007:G:H2'	37:BA:1008:C:C6	2.39	0.57
38:BB:400:A2M:H8	38:BB:400:A2M:O5'	2.04	0.57
33:AX:195:GLU:HG2	33:AX:198:GLU:HB2	1.87	0.56
37:BA:752:C:H2'	37:BA:753:A:H8	1.68	0.56
37:BA:1555:U:OP2	78:Br:203:ARG:HD3	2.05	0.56
38:BB:608:U:H2'	38:BB:609:A2M:H8	1.86	0.56
12:AA:794:G:H2'	12:AA:795:A:H8	1.70	0.56
12:AA:748:A:N1	12:AA:799:A:H2	2.04	0.56
12:AA:793:U:H3'	12:AA:794:G:H8	1.70	0.56
24:AO:57:SER:HB2	24:AO:112:ALA:HA	1.86	0.56
37:BA:134:U:H2'	37:BA:136:A:H62	1.70	0.56
37:BA:246:U:H2'	37:BA:247:U:C6	2.39	0.56
37:BA:1685:C:H2'	37:BA:1686:G:C8	2.40	0.56
38:BB:1515:U:H2'	38:BB:1516:C:C6	2.39	0.56
51:BQ:126:LYS:HG2	51:BQ:127:TYR:CE1	2.40	0.56
54:BT:197:ALA:HA	54:BT:200:LYS:HD2	1.87	0.56
60:BZ:2:VAL:HG12	60:BZ:4:ILE:HG13	1.86	0.56
78:Br:189:ARG:HB2	78:Br:201:VAL:HG13	1.88	0.56
9:A7:174:TRP:HA	9:A7:198:TYR:HB2	1.86	0.56
37:BA:484:U:H2'	37:BA:485:G:C8	2.41	0.56
47:BL:39:ARG:O	47:BL:43:VAL:HG13	2.06	0.56
71:Bk:20:LYS:O	71:Bk:24:GLU:HG3	2.04	0.56
12:AA:311:A:C2	12:AA:312:C:H1'	2.40	0.56
36:Az:75:ASN:HD22	36:Az:117:ASN:HA	1.69	0.56
38:BB:1054:U:H2'	38:BB:1055:U:C6	2.41	0.56
6:A4:82:THR:O	6:A4:86:GLU:HG2	2.05	0.56
12:AA:1895:OMG:HM22	12:AA:1896:G:H5'	1.87	0.56
81:Bu:274:LYS:HZ3	81:Bu:275:PRO:HG2	1.71	0.56
82:Bv:61:VAL:HG11	82:Bv:98:ILE:HG21	1.87	0.56
37:BA:210:G:N2	37:BA:239:A:C4	2.74	0.56
38:BB:769:U:H2'	38:BB:770:G:C8	2.41	0.56
38:BB:1124:U:H5'	47:BL:72:ILE:HD11	1.86	0.56
39:BC:15:G:N7	88:BC:307:SPD:H51	2.21	0.56
37:BA:1643:U:H5'	52:BR:42:ARG:HG3	1.88	0.56
9:A7:237:GLY:H	9:A7:261:ARG:NH1	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BA:728:C:H2'	37:BA:729:C:C6	2.41	0.56
8:A6:47:THR:HG22	8:A6:51:MET:HE2	1.87	0.56
12:AA:1547:A:H2'	12:AA:1548:A:C8	2.41	0.56
23:AM:103:MET:HE2	23:AM:107:ARG:HH21	1.71	0.56
59:BY:2:ARG:HG2	59:BY:2:ARG:HH11	1.71	0.56
9:A7:239:PRO:HD2	9:A7:257:GLU:HG3	1.88	0.55
38:BB:1401:G:C2	66:Bf:255:ALA:HB1	2.41	0.55
41:BE:104:U:H2'	41:BE:105:C:C6	2.41	0.55
12:AA:837:A:H2	12:AA:893:G:H22	1.54	0.55
33:AX:169:THR:HG22	33:AX:186:LYS:HG2	1.88	0.55
37:BA:1065:A:H2'	37:BA:1066:C:C6	2.41	0.55
43:BG:17:A:H2'	43:BG:18:U:C6	2.41	0.55
12:AA:1821:A:C4	21:AK:31:PRO:HG3	2.41	0.55
30:AU:50:LYS:HD3	30:AU:54:ASP:OD1	2.06	0.55
37:BA:1721:C:H2'	37:BA:1722:U:C6	2.41	0.55
58:BX:46:ARG:HE	58:BX:47:LYS:H	1.54	0.55
67:Bg:22:ASN:O	67:Bg:26:GLN:HG3	2.06	0.55
5:A3:76:LEU:HD12	5:A3:100:LEU:HD12	1.89	0.55
37:BA:761:A:H2'	37:BA:762:A2M:C8	2.36	0.55
37:BA:1342:A:H2'	37:BA:1343:A:C8	2.40	0.55
47:BL:35:ASP:O	47:BL:39:ARG:HG3	2.06	0.55
2:A0:138:ARG:HB3	2:A0:218:LYS:HG3	1.87	0.55
12:AA:1881:U:H3'	12:AA:1882:U:H5''	1.89	0.55
83:Bw:169:LEU:HD12	83:Bw:183:MET:HE2	1.88	0.55
12:AA:840:C:H42	12:AA:890:U:H3	1.55	0.55
12:AA:1162:G:H2'	12:AA:1163:U:C6	2.41	0.55
45:BI:173:VAL:HG13	45:BI:179:GLU:HG3	1.86	0.55
66:Bf:396:ARG:O	66:Bf:400:ARG:HG2	2.07	0.55
12:AA:1565:A:H2'	12:AA:1566:C:C6	2.42	0.55
16:AF:35:ILE:O	16:AF:39:LYS:HG2	2.07	0.55
37:BA:16:U:H2'	37:BA:17:G:H8	1.71	0.55
37:BA:1502:U:HO2'	37:BA:1503:A:H8	1.52	0.55
88:BA:2047:SPD:H21	80:Bt:45:ARG:HG2	1.87	0.55
42:BF:47:U:H5'	42:BF:49:G:H5'	1.89	0.55
48:BN:214:GLU:OE1	48:BN:214:GLU:HA	2.07	0.55
12:AA:766:C:H42	12:AA:785:A:H61	1.54	0.55
23:AM:88:GLN:HA	23:AM:96:THR:HG23	1.89	0.55
37:BA:28:A:H2'	37:BA:29:C:H6	1.71	0.55
37:BA:1004:A:N1	38:BB:1432:U:H5	2.05	0.55
38:BB:980:A:H4'	70:Bj:105:LYS:HE2	1.88	0.55
51:BQ:198:ALA:O	51:BQ:202:ARG:HG2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AA:1473:C:H2'	12:AA:1474:U:C6	2.42	0.55
13:AC:49:SER:O	13:AC:53:LYS:HG2	2.07	0.55
13:AC:71:LYS:HA	13:AC:74:ILE:HD12	1.88	0.55
37:BA:1614:PSU:H2'	37:BA:1615:G:C8	2.42	0.55
73:Bm:46:ARG:HG2	73:Bm:46:ARG:HH11	1.71	0.55
35:AZ:94:GLU:OE2	35:AZ:97:ARG:HB2	2.07	0.54
37:BA:502:U:H2'	37:BA:503:A:C8	2.42	0.54
37:BA:719:A:H2'	37:BA:720:U:C6	2.42	0.54
47:BL:94:LYS:HD2	47:BL:111:PHE:HB2	1.87	0.54
37:BA:77:U:H5'	48:BN:63:VAL:HB	1.89	0.54
88:BB:1605:SPD:H52	95:BB:2665:HOH:O	2.08	0.54
9:A7:273:GLU:HA	9:A7:273:GLU:OE1	2.08	0.54
12:AA:91:G:OP2	88:AA:2375:SPD:H42	2.07	0.54
37:BA:1630:U:H2'	37:BA:1631:A:C8	2.42	0.54
12:AA:1235:C:OP2	32:AW:21:LYS:HE2	2.08	0.54
36:Az:160:LEU:HD12	36:Az:220:LEU:HD11	1.89	0.54
37:BA:1862:A:N1	38:BB:8:U:H5	2.05	0.54
38:BB:1509:U:H2'	38:BB:1510:G:H8	1.72	0.54
38:BB:1529:U:H4'	38:BB:1530:U:C2	2.42	0.54
12:AA:892:C:H2'	12:AA:893:G:C8	2.42	0.54
12:AA:1385:U:H3	27:AR:89:LYS:HB2	1.72	0.54
36:Az:144:LYS:CD	36:Az:144:LYS:H	2.21	0.54
37:BA:752:C:H2'	37:BA:753:A:C8	2.43	0.54
62:Bb:129:LEU:HG	62:Bb:133:LYS:HD2	1.90	0.54
85:By:76:ARG:O	85:By:80:THR:HG22	2.07	0.54
37:BA:242:A:N7	43:BG:10:U:H5	2.06	0.54
38:BB:1103:C:H2'	38:BB:1104:G:H8	1.71	0.54
39:BC:31:A:H3'	39:BC:32:U:H5''	1.90	0.54
83:Bw:137:PRO:O	83:Bw:141:MET:HG3	2.08	0.54
12:AA:581:G:H2'	12:AA:582:A:C8	2.42	0.54
12:AA:890:U:H2'	12:AA:891:C:C6	2.43	0.54
26:AQ:43:GLU:OE1	26:AQ:45:VAL:HG23	2.07	0.54
36:Az:160:LEU:HD21	36:Az:177:PHE:HZ	1.73	0.54
7:A5:153:LYS:NZ	7:A5:153:LYS:HB3	2.23	0.54
12:AA:599:G:H2'	12:AA:600:G:C8	2.42	0.54
12:AA:2160:A:H2'	12:AA:2161:A:H8	1.70	0.54
29:AT:17:PHE:HZ	29:AT:26:LYS:HD3	1.73	0.54
12:AA:1321:U:H3	12:AA:1476:A:H61	1.54	0.54
12:AA:2174:G:H1'	12:AA:2200:A:N6	2.22	0.54
29:AT:12:VAL:HG22	29:AT:32:VAL:HG22	1.89	0.54
38:BB:1470:A:O2'	38:BB:1471:U:H2'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BB:604:G:N7	91:BB:1601:PUT:H22	2.23	0.54
50:BP:158:PRO:HD2	50:BP:159:ALA:H	1.73	0.54
56:BV:44:LEU:HD23	56:BV:72:MET:HE2	1.89	0.54
82:Bv:34:THR:HB	82:Bv:50:ILE:HD12	1.90	0.54
6:A4:95:ILE:HD12	6:A4:173:LEU:HD12	1.89	0.53
12:AA:1576:A:H2'	12:AA:1577:G:H8	1.72	0.53
13:AC:91:TRP:O	13:AC:95:ILE:HG12	2.07	0.53
25:AP:164:ILE:HD12	25:AP:166:ILE:O	2.08	0.53
67:Bg:25:ILE:O	67:Bg:29:MET:HG2	2.08	0.53
37:BA:544:C:H2'	37:BA:545:G:H8	1.73	0.53
37:BA:912:C:H2'	37:BA:913:C:C6	2.44	0.53
38:BB:670:C:H2'	38:BB:671:C:H6	1.73	0.53
38:BB:1414:C:H2'	38:BB:1415:G:H8	1.72	0.53
12:AA:1858:U:H2'	12:AA:1859:U:C6	2.43	0.53
38:BB:1487:G:H5''	50:BP:163:ARG:HH21	1.72	0.53
70:Bj:47:TRP:HA	70:Bj:51:HIS:HB2	1.90	0.53
5:A3:66:GLN:HG2	12:AA:2176:C:H4'	1.89	0.53
38:BB:66:A:H2'	38:BB:67:G:O4'	2.08	0.53
12:AA:1737:U:H3	12:AA:1886:G:H22	1.56	0.53
37:BA:1740:G:H2'	37:BA:1741:U:C6	2.44	0.53
65:Be:92:VAL:HG12	65:Be:103:PRO:HG2	1.88	0.53
11:A9:132:VAL:HG21	11:A9:145:LYS:HD2	1.91	0.53
12:AA:1386:A:N6	13:AC:45:ARG:HH22	2.07	0.53
12:AA:2211:U:H2'	12:AA:2212:A:C8	2.44	0.53
37:BA:97:G:H2'	37:BA:98:A:C8	2.43	0.53
38:BB:1117:A:H5''	47:BL:112:GLY:HA3	1.90	0.53
38:BB:1527:G:H2'	38:BB:1528:C:C6	2.44	0.53
65:Be:137:ILE:HD11	65:Be:149:LYS:HB2	1.89	0.53
5:A3:213:LEU:HB3	12:AA:333:A:H4'	1.90	0.53
37:BA:1242:A:H2'	37:BA:1243:C:C6	2.44	0.53
38:BB:766:C:O2'	38:BB:767:G:H8	1.91	0.53
46:BK:99:ILE:HG22	46:BK:123:ASN:HB2	1.89	0.53
13:AC:43:VAL:HG13	13:AC:44:LEU:HG	1.89	0.53
37:BA:727:C:H2'	37:BA:728:C:H6	1.73	0.53
40:BD:69:U:H2'	40:BD:70:C:C6	2.43	0.53
12:AA:225:C:H2'	12:AA:226:U:H6	1.73	0.53
13:AC:53:LYS:HB2	13:AC:209:MET:HE3	1.91	0.53
25:AP:69:MET:HE1	25:AP:249:PRO:HG2	1.90	0.53
48:BN:55:PRO:HB3	48:BN:154:ASP:HB3	1.91	0.53
51:BQ:24:LEU:HD21	84:Bx:175:LEU:HD23	1.91	0.53
54:BT:178:LEU:C	54:BT:180:LYS:H	2.17	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AA:80:U:H2'	12:AA:81:G:C8	2.44	0.53
46:BK:111:LEU:HD23	46:BK:112:GLN:NE2	2.24	0.53
50:BP:147:LEU:CD1	72:BL:18:LYS:HG2	2.39	0.53
53:BS:5:HIS:CD2	53:BS:6:LEU:HG	2.43	0.53
54:BT:184:GLU:HA	54:BT:187:ARG:HG2	1.90	0.53
56:BV:16:GLN:HG2	56:BV:83:MET:HE2	1.89	0.53
67:Bg:33:LYS:HB2	67:Bg:105:ASP:HB3	1.90	0.53
70:Bj:21:MET:HG3	70:Bj:33:MET:HE2	1.90	0.53
70:Bj:117:GLU:HG2	70:Bj:121:ARG:HH21	1.73	0.53
83:Bw:87:HIS:CD2	83:Bw:89:ASN:HB2	2.44	0.53
12:AA:761:C:H1'	12:AA:789:G:N2	2.22	0.52
12:AA:1938:A:C8	12:AA:2034:G:H1'	2.44	0.52
25:AP:56:GLN:O	25:AP:56:GLN:HG3	2.10	0.52
36:Az:206:PHE:O	36:Az:210:LYS:HB2	2.08	0.52
37:BA:28:A:H2'	37:BA:29:C:C6	2.45	0.52
38:BB:2:C:H2'	38:BB:3:C:H6	1.75	0.52
55:BU:80:VAL:HG12	55:BU:81:ARG:HG2	1.91	0.52
4:A2:142:LYS:O	4:A2:146:GLU:HG3	2.09	0.52
5:A3:3:LEU:HD23	5:A3:112:LEU:HB3	1.90	0.52
37:BA:1163:C:H5''	81:Bu:5:LYS:HE2	1.91	0.52
37:BA:1863:U:H2'	37:BA:1864:G:C8	2.44	0.52
38:BB:1022:G:H2'	38:BB:1023:U:C6	2.44	0.52
66:Bf:339:ARG:O	66:Bf:340:ARG:HG2	2.10	0.52
12:AA:133:A:H2'	12:AA:134:G:C8	2.45	0.52
33:AX:52:THR:HB	33:AX:93:ARG:HE	1.74	0.52
38:BB:707:A:H2'	38:BB:708:C:C6	2.44	0.52
61:Ba:92:LEU:O	61:Ba:95:ARG:HD3	2.08	0.52
62:Bb:82:MET:HG3	62:Bb:99:ILE:HD11	1.91	0.52
5:A3:65:VAL:HG21	5:A3:100:LEU:HD13	1.91	0.52
5:A3:162:ARG:HH11	5:A3:162:ARG:HG3	1.75	0.52
12:AA:1917:U:H2'	12:AA:1918:C:H6	1.75	0.52
37:BA:846:G:H5'	45:BI:43:PRO:HB2	1.91	0.52
37:BA:1262:U:H2'	37:BA:1263:A:O4'	2.09	0.52
49:BO:192:LYS:HG3	50:BP:137:VAL:CG2	2.40	0.52
12:AA:790:U:H2'	12:AA:791:U:C6	2.44	0.52
17:AG:4:MET:HE2	17:AG:124:ARG:CZ	2.40	0.52
38:BB:379:U:H4'	38:BB:380:A:O5'	2.08	0.52
42:BF:66:U:H4'	42:BF:67:U:H3'	1.91	0.52
82:Bv:77:ASP:HB3	82:Bv:80:TYR:HD2	1.74	0.52
9:A7:156:SER:HG	9:A7:174:TRP:CD1	2.27	0.52
12:AA:299:A:H2'	12:AA:300:C:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Az:207:VAL:HG21	36:Az:224:LEU:HG	1.92	0.52
57:BW:70:GLU:H	57:BW:70:GLU:CD	2.18	0.52
12:AA:2220:A:H2'	12:AA:2221:A:C8	2.44	0.52
37:BA:889:U:H3	37:BA:892:G:H1	1.58	0.52
37:BA:1837:G:H2'	37:BA:1839:A:N7	2.24	0.52
6:A4:12:LYS:HA	6:A4:15:ARG:HG3	1.92	0.52
9:A7:3:VAL:HG22	9:A7:314:VAL:HG22	1.92	0.52
12:AA:765:A:H2'	12:AA:766:C:C6	2.44	0.52
12:AA:1390:A:H4'	12:AA:1391:U:O5'	2.09	0.52
37:BA:478:A:C2	39:BC:16:A:H1'	2.45	0.52
38:BB:1103:C:H2'	38:BB:1104:G:C8	2.44	0.52
43:BG:60:A:H2'	43:BG:61:A:H8	1.74	0.52
29:AT:27:GLN:HG2	29:AT:81:LEU:HD22	1.92	0.52
37:BA:16:U:H2'	37:BA:17:G:C8	2.45	0.52
37:BA:1451:C:H2'	37:BA:1452:G:O4'	2.10	0.52
44:BH:124:C:H2'	44:BH:125:U:H5''	1.91	0.52
62:Bb:134:ILE:HG21	62:Bb:141:VAL:HG23	1.91	0.52
38:BB:1266:C:H2'	38:BB:1267:A:C8	2.45	0.52
39:BC:18:G:H2'	39:BC:19:A:C8	2.43	0.52
58:BX:46:ARG:HH21	58:BX:47:LYS:HB2	1.75	0.52
66:Bf:224:ALA:HB2	66:Bf:343:ILE:HG23	1.92	0.52
12:AA:1380:U:H3'	12:AA:1381:U:H5''	1.92	0.51
12:AA:2086:C:H2'	12:AA:2087:A:H8	1.74	0.51
38:BB:61:C:H5''	38:BB:62:A:OP2	2.10	0.51
47:BL:122:LYS:HD3	47:BL:123:TYR:N	2.24	0.51
74:Bn:17:ILE:HG12	74:Bn:29:VAL:HG22	1.92	0.51
23:AM:3:LEU:HD21	30:AU:84:LYS:HB3	1.92	0.51
37:BA:1134:A:H2'	37:BA:1135:G:C8	2.46	0.51
41:BE:217:A:C6	61:Ba:59:ARG:HD2	2.46	0.51
52:BR:36:ILE:HA	52:BR:39:MET:SD	2.51	0.51
71:Bk:77:LYS:O	71:Bk:78:LYS:HG2	2.10	0.51
81:Bu:213:TYR:O	81:Bu:217:VAL:HG13	2.10	0.51
14:AD:2:THR:HG22	14:AD:4:TYR:H	1.76	0.51
37:BA:896:G:P	64:Bd:45:ARG:HH22	2.34	0.51
55:BU:60:ARG:HB2	55:BU:76:ILE:HD13	1.93	0.51
82:Bv:167:LEU:O	82:Bv:171:MET:HG2	2.10	0.51
12:AA:762:C:H3'	12:AA:763:G:H8	1.76	0.51
12:AA:782:C:H2'	12:AA:783:G:C8	2.45	0.51
12:AA:1325:G:H5''	32:AW:69:GLY:O	2.10	0.51
60:BZ:69:ALA:HB3	60:BZ:78:HIS:HB2	1.93	0.51
65:Be:206:PRO:HG3	65:Be:213:GLY:HA3	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:A6:15:ARG:NH1	8:A6:15:ARG:HB3	2.26	0.51
9:A7:49:ARG:HD2	9:A7:56:TYR:HA	1.93	0.51
12:AA:188:A:H2'	12:AA:189:A:O4'	2.11	0.51
12:AA:884:G:H2'	12:AA:885:G:C8	2.45	0.51
12:AA:2044:A:H2'	12:AA:2045:PSU:H6	1.74	0.51
12:AA:2087:A:H2'	12:AA:2088:G:H8	1.75	0.51
12:AA:2171:U:H2'	12:AA:2172:C:C6	2.45	0.51
37:BA:502:U:H2'	37:BA:503:A:H8	1.75	0.51
38:BB:61:C:O2	88:BB:1605:SPD:H51	2.11	0.51
38:BB:1105:A:H2'	38:BB:1106:G:H8	1.74	0.51
41:BE:8:A:C2	41:BE:104:U:H4'	2.46	0.51
41:BE:169:U:H5	54:BT:42:ARG:HH21	1.59	0.51
47:BL:116:HIS:CE1	47:BL:130:TYR:H	2.29	0.51
3:A1:258:GLU:O	3:A1:262:THR:HG23	2.10	0.51
36:Az:79:VAL:HG13	36:Az:138:VAL:HB	1.93	0.51
38:BB:671:C:H2'	38:BB:672:U:H6	1.76	0.51
41:BE:167:A:H2'	41:BE:168:C:C6	2.46	0.51
21:AK:12:VAL:HG12	21:AK:101:LYS:HE3	1.92	0.51
41:BE:202:A:H2'	41:BE:203:A:C8	2.46	0.51
54:BT:189:ARG:HE	54:BT:190:ARG:HH21	1.59	0.51
9:A7:214:SER:HB2	9:A7:240:ILE:HB	1.93	0.51
12:AA:1509:U:OP2	28:AS:4:THR:HB	2.11	0.51
33:AX:137:ILE:HG12	33:AX:183:VAL:HG12	1.92	0.51
43:BG:19:C:H2'	43:BG:20:U:C6	2.46	0.51
44:BH:54:U:H2'	44:BH:55:C:C6	2.45	0.51
51:BQ:24:LEU:HD11	84:Bx:175:LEU:HA	1.93	0.51
9:A7:40:LEU:HB2	9:A7:63:LEU:HB2	1.91	0.51
12:AA:181:C:H5''	29:AT:127:LYS:HE2	1.92	0.51
12:AA:866:G:H1'	12:AA:867:C:H5'	1.92	0.51
18:AH:90:MET:HE2	18:AH:105:ALA:HB1	1.93	0.51
25:AP:90:MET:HE3	25:AP:90:MET:HA	1.91	0.51
38:BB:671:C:H2'	38:BB:672:U:C6	2.45	0.51
41:BE:62:U:H2'	41:BE:63:U:C6	2.45	0.51
12:AA:764:U:H3	12:AA:787:G:H22	1.57	0.51
26:AQ:91:SER:O	26:AQ:95:VAL:HG13	2.09	0.51
32:AW:41:CYS:HB3	32:AW:60:CYS:SG	2.51	0.51
38:BB:677:A:H2'	38:BB:678:G:H8	1.76	0.51
38:BB:1041:G:H5''	88:BQ:304:SPD:H71	1.93	0.51
42:BF:73:A:H5''	82:Bv:44:ARG:CZ	2.41	0.51
46:BK:48:VAL:HG12	46:BK:140:THR:O	2.10	0.51
66:Bf:301:ALA:HB3	66:Bf:310:LYS:HG3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:A5:98:LYS:CG	12:AA:423:G:H5'	2.41	0.50
11:A9:116:VAL:HG21	16:AF:83:LEU:HD11	1.92	0.50
12:AA:2044:A:H2'	12:AA:2045:PSU:C6	2.45	0.50
16:AF:47:ILE:HD11	16:AF:127:ARG:HE	1.76	0.50
23:AM:85:LEU:HD12	23:AM:96:THR:HG22	1.93	0.50
37:BA:1026:C:H5''	88:BA:2039:SPD:H72	1.93	0.50
37:BA:1181:OMU:O5'	37:BA:1181:OMU:H6	2.10	0.50
38:BB:991:A:HO2'	38:BB:992:A:H8	1.59	0.50
49:BO:79:ARG:NH1	49:BO:84:PRO:HG3	2.25	0.50
12:AA:867:C:C2	12:AA:868:A:N7	2.79	0.50
20:AJ:111:MET:SD	20:AJ:115:GLU:HG2	2.51	0.50
37:BA:1489:U:H2'	37:BA:1490:G:C8	2.46	0.50
38:BB:125:C:H2'	38:BB:126:U:C6	2.46	0.50
41:BE:70:A:H2'	41:BE:71:A:C8	2.46	0.50
47:BL:81:LYS:O	47:BL:85:GLU:HG2	2.12	0.50
9:A7:161:SER:HB3	9:A7:168:VAL:HG13	1.93	0.50
12:AA:301:C:H2'	12:AA:302:A:C8	2.46	0.50
12:AA:313:C:OP2	36:Az:185:ILE:HG12	2.09	0.50
25:AP:92:LEU:HD22	25:AP:217:ARG:HB3	1.94	0.50
31:AV:47:LEU:HB3	31:AV:51:SER:HB2	1.92	0.50
38:BB:1255:A:O2'	38:BB:1256:A:H2'	2.10	0.50
43:BG:103:C:H2'	43:BG:104:A:C8	2.47	0.50
43:BG:103:C:H2'	43:BG:104:A:H8	1.76	0.50
44:BH:47:G:H3'	44:BH:48:G:H21	1.77	0.50
63:Bc:17:LYS:HD2	78:Br:140:GLY:HA2	1.93	0.50
12:AA:159:C:H2'	12:AA:160:G:C8	2.46	0.50
12:AA:2272:G:H5''	86:Bz:3:THR:HG22	1.93	0.50
88:BA:2043:SPD:H92	39:BC:15:G:OP1	2.11	0.50
44:BH:65:G:H2'	44:BH:66:G:C8	2.46	0.50
12:AA:1473:C:H2'	12:AA:1474:U:H6	1.76	0.50
83:Bw:84:ALA:HA	83:Bw:87:HIS:NE2	2.26	0.50
4:A2:42:TRP:CD2	4:A2:52:ILE:HG12	2.46	0.50
12:AA:2266:C:OP2	18:AH:138:SER:HB2	2.12	0.50
47:BL:39:ARG:HB2	47:BL:130:TYR:OH	2.11	0.50
48:BN:146:GLU:HA	48:BN:149:LYS:HE3	1.92	0.50
70:Bj:94:ARG:HG2	70:Bj:98:ILE:HD12	1.92	0.50
9:A7:224:ASP:HB3	9:A7:229:GLU:OE1	2.12	0.50
12:AA:781:U:H2'	12:AA:782:C:C6	2.47	0.50
12:AA:2087:A:H2'	12:AA:2088:G:C8	2.45	0.50
12:AA:2163:A:H2'	12:AA:2164:C:O4'	2.12	0.50
12:AA:2218:U:H2'	12:AA:2219:C:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AM:15:ARG:HD3	47:BL:117:ILE:HG21	1.93	0.50
26:AQ:17:VAL:HG11	26:AQ:95:VAL:HG11	1.93	0.50
37:BA:1053:A:OP1	48:BN:22:SER:HB3	2.12	0.50
37:BA:1293:U:H5'	37:BA:1481:U:H4'	1.93	0.50
43:BG:44:G:O2'	57:BW:8:VAL:HG11	2.12	0.50
48:BN:33:GLN:HB3	48:BN:34:PRO:HD3	1.93	0.50
12:AA:950:A:H2'	12:AA:951:A:C8	2.47	0.50
16:AF:38:MET:O	16:AF:42:GLU:HG2	2.12	0.50
24:AO:10:SER:HB3	24:AO:13:ARG:HG2	1.94	0.50
37:BA:118:G:H4'	51:BQ:66:ARG:HG2	1.94	0.50
45:BI:100:THR:HA	45:BI:119:ARG:NH1	2.27	0.50
81:Bu:4:VAL:HG22	81:Bu:5:LYS:N	2.27	0.50
2:A0:145:THR:HG21	2:A0:158:ALA:HB2	1.94	0.50
12:AA:224:U:H2'	12:AA:225:C:C6	2.46	0.50
12:AA:1512:G:O2'	12:AA:1513:G:H5'	2.12	0.50
12:AA:1853:A:H4'	12:AA:1854:U:O5'	2.12	0.50
16:AF:107:THR:HG22	16:AF:118:THR:HA	1.93	0.50
38:BB:556:U:H2'	38:BB:557:C:O4'	2.12	0.50
44:BH:29:G:H2'	44:BH:30:C:C6	2.47	0.50
46:BK:77:VAL:HG22	46:BK:82:LYS:HG2	1.94	0.50
57:BW:34:LYS:HB2	57:BW:66:LYS:HG2	1.94	0.50
67:Bg:28:VAL:HG11	67:Bg:103:ILE:HG12	1.93	0.50
12:AA:95:C:H5	12:AA:108:G:H21	1.60	0.49
12:AA:742:U:H3'	12:AA:743:G:H5'	1.94	0.49
12:AA:1200:A:H2'	12:AA:1201:A:C8	2.46	0.49
12:AA:1917:U:H2'	12:AA:1918:C:C6	2.47	0.49
12:AA:1936:A:H2'	12:AA:1937:C:C6	2.47	0.49
41:BE:34:C:O2'	41:BE:35:A:H8	1.95	0.49
41:BE:180:G:H5'	41:BE:181:U:OP2	2.12	0.49
82:Bv:160:GLN:O	82:Bv:164:LYS:HG2	2.12	0.49
85:By:16:THR:HG23	85:By:27:LYS:HB3	1.94	0.49
12:AA:225:C:H2'	12:AA:226:U:C6	2.46	0.49
12:AA:523:G:N7	88:AA:2303:SPD:H32	2.27	0.49
12:AA:1768:C:H2'	12:AA:1769:A:O4'	2.12	0.49
13:AC:173:ALA:HB1	13:AC:178:ILE:HB	1.94	0.49
19:AI:22:PHE:CE2	19:AI:116:GLY:HA3	2.47	0.49
24:AO:50:CYS:O	24:AO:54:VAL:HB	2.12	0.49
36:Az:119:ALA:O	36:Az:123:LYS:HG2	2.12	0.49
37:BA:1036:G:H5'	37:BA:1037:A:OP1	2.11	0.49
37:BA:1849:A:H2'	58:BX:147:ARG:NH2	2.27	0.49
85:By:10:THR:HG22	85:By:52:THR:HG22	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AA:811:C:H2'	12:AA:826:A:H61	1.77	0.49
13:AC:227:ARG:NE	27:AR:48:GLY:HA3	2.28	0.49
24:AO:31:TRP:HA	24:AO:155:ILE:HD11	1.93	0.49
25:AP:53:VAL:HG21	25:AP:76:ILE:HG23	1.94	0.49
37:BA:341:A:H2'	37:BA:342:C:C6	2.47	0.49
38:BB:640:G:H2'	38:BB:641:A:C8	2.47	0.49
38:BB:1211:U:H2'	38:BB:1212:G:H8	1.77	0.49
50:BP:147:LEU:HD11	72:Bl:18:LYS:HG2	1.93	0.49
50:BP:161:LYS:O	50:BP:165:GLU:HG2	2.12	0.49
12:AA:1399:C:H2'	12:AA:1400:C:O4'	2.12	0.49
12:AA:1671:U:H2'	12:AA:1672:G:C8	2.47	0.49
12:AA:2211:U:H2'	12:AA:2212:A:H8	1.76	0.49
12:AA:2271:G:O2'	86:Bz:3:THR:HB	2.12	0.49
37:BA:356:A:H2'	37:BA:357:G:C8	2.48	0.49
38:BB:1058:G:H2'	38:BB:1059:C:H6	1.77	0.49
38:BB:1531:G:H4'	38:BB:1532:G:O5'	2.12	0.49
84:Bx:70:THR:HG22	84:Bx:74:LYS:HD2	1.93	0.49
4:A2:87:HIS:HB2	4:A2:94:PRO:HG3	1.94	0.49
12:AA:1391:U:OP2	12:AA:1391:U:H6	1.95	0.49
12:AA:2114:C:H2'	12:AA:2115:C:H6	1.77	0.49
36:Az:176:LEU:HD21	36:Az:220:LEU:HD21	1.95	0.49
38:BB:1190:A:H5'	81:Bu:184:ASN:HB2	1.95	0.49
41:BE:49:G:H2'	41:BE:50:G:H8	1.77	0.49
2:A0:39:GLU:HB2	2:A0:74:ASN:HA	1.93	0.49
3:A1:257:ALA:HA	3:A1:260:ARG:HB3	1.94	0.49
12:AA:40:U:H2'	12:AA:41:U:C6	2.47	0.49
12:AA:758:G:H1	12:AA:791:U:H3	1.59	0.49
12:AA:1534:U:O4	88:AA:2374:SPD:H91	2.12	0.49
25:AP:47:THR:O	25:AP:51:ARG:HG3	2.13	0.49
37:BA:804:C:H2'	37:BA:805:U:H6	1.78	0.49
38:BB:799:G:O2'	38:BB:800:U:H6	1.95	0.49
40:BD:79:G:H2'	40:BD:80:G:C8	2.48	0.49
43:BG:136:G:OP1	79:Bs:102:ARG:HG2	2.13	0.49
45:BI:78:LEU:HD13	45:BI:82:LYS:HB3	1.94	0.49
5:A3:47:ARG:CZ	5:A3:47:ARG:HB3	2.43	0.49
6:A4:30:PHE:O	6:A4:33:GLU:HB3	2.13	0.49
12:AA:1549:U:H2'	12:AA:1550:U:C6	2.48	0.49
12:AA:1566:C:H2'	12:AA:1567:A:H8	1.77	0.49
12:AA:1827:C:H42	24:AO:139:ARG:HH11	1.59	0.49
12:AA:2144:U:H2'	12:AA:2145:U:C6	2.48	0.49
15:AE:96:MET:HE1	15:AE:124:THR:HG23	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AG:26:LEU:HD11	17:AG:60:ILE:HD13	1.95	0.49
41:BE:175:U:H2'	41:BE:176:U:O4'	2.12	0.49
21:AK:43:SER:HA	21:AK:51:ARG:HD3	1.94	0.49
25:AP:176:ALA:HB3	25:AP:211:CYS:SG	2.53	0.49
37:BA:255:G:H3'	60:BZ:57[B]:ARG:HH11	1.77	0.49
37:BA:1021:G:N7	88:BA:1915:SPD:H42	2.28	0.49
48:BN:123:THR:O	48:BN:127:LYS:HG2	2.13	0.49
56:BV:112:LYS:HE3	56:BV:118:GLN:OE1	2.12	0.49
62:Bb:30:SER:HB2	62:Bb:41:HIS:NE2	2.28	0.49
73:Bm:46:ARG:HG2	73:Bm:46:ARG:NH1	2.28	0.49
81:Bu:83:LEU:HB3	81:Bu:88:ILE:HB	1.93	0.49
84:Bx:219:GLU:H	84:Bx:219:GLU:CD	2.21	0.49
38:BB:1363:U:H2'	38:BB:1364:A:O4'	2.12	0.49
38:BB:1526:U:H2'	38:BB:1527:G:C8	2.48	0.49
81:Bu:274:LYS:HD2	81:Bu:275:PRO:HD2	1.95	0.49
12:AA:1916:U:H2'	12:AA:1917:U:C6	2.48	0.49
12:AA:2029:C:H4'	12:AA:2030:A:O4'	2.13	0.49
21:AK:33:CYS:HB2	21:AK:67:SER:O	2.12	0.49
34:AY:25:GLU:HA	34:AY:25:GLU:OE2	2.13	0.49
37:BA:265:A:H4'	37:BA:267:A:N7	2.27	0.49
37:BA:1346:G:O2'	79:Bs:117:HIS:HB2	2.13	0.49
38:BB:975:G:H4'	38:BB:976:C:O5'	2.12	0.49
51:BQ:140:ALA:HB2	51:BQ:145:LEU:HD23	1.94	0.49
8:A6:101:PRO:O	8:A6:105:GLU:HG2	2.13	0.48
30:AU:50:LYS:HA	30:AU:50:LYS:HE3	1.94	0.48
36:Az:125:ILE:HG23	36:Az:129:ASN:HD21	1.77	0.48
37:BA:1586:U:OP2	88:BA:2048:SPD:H41	2.13	0.48
58:BX:90:THR:HG21	71:Bk:38:MET:HE3	1.95	0.48
66:Bf:397:ARG:HE	66:Bf:401:LEU:HG	1.78	0.48
67:Bg:42:LEU:O	67:Bg:46:ARG:HG3	2.13	0.48
82:Bv:51:LEU:HD11	82:Bv:63:SER:HB2	1.94	0.48
2:A0:55:LYS:HD3	2:A0:60:PHE:HZ	1.79	0.48
9:A7:234:MET:HE1	9:A7:263:PHE:HB3	1.96	0.48
12:AA:33:U:H2'	12:AA:34:G:H8	1.77	0.48
12:AA:765:A:H2'	12:AA:766:C:H6	1.78	0.48
12:AA:794:G:H2'	12:AA:795:A:C8	2.48	0.48
17:AG:33:VAL:HG21	17:AG:66:VAL:HG11	1.94	0.48
26:AQ:16:ARG:HB3	26:AQ:88:LEU:O	2.12	0.48
9:A7:250:TYR:CE2	9:A7:265:LEU:HB2	2.48	0.48
12:AA:1568:A:H2'	12:AA:1569:G:O4'	2.13	0.48
45:BI:166:GLY:HA2	45:BI:189:ALA:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A0:22:GLU:HB2	2:A0:25:SER:HB3	1.96	0.48
12:AA:1754:G:H2'	12:AA:1755:U:O2	2.13	0.48
16:AF:32:ALA:O	16:AF:36:VAL:HG12	2.13	0.48
38:BB:1120:G:H2'	38:BB:1120:G:N3	2.28	0.48
56:BV:94:THR:O	56:BV:98:LEU:HG	2.14	0.48
69:Bi:127:LEU:O	69:Bi:130:VAL:HG22	2.13	0.48
84:Bx:178:TRP:CD1	84:Bx:178:TRP:H	2.31	0.48
8:A6:176:ARG:HG2	8:A6:180:LYS:HE3	1.96	0.48
9:A7:178:VAL:HB	9:A7:192:LEU:HB2	1.95	0.48
12:AA:1223:U:H2'	12:AA:1224:C:C6	2.49	0.48
12:AA:1490:A:H2'	12:AA:1491:A:C8	2.49	0.48
12:AA:1743:C:H1'	12:AA:1877:A:C4	2.49	0.48
29:AT:14:THR:HG23	29:AT:28:PHE:HB2	1.95	0.48
40:BD:16:U:H2'	40:BD:17:G:C8	2.49	0.48
11:A9:139:GLY:O	11:A9:152:MET:HG2	2.13	0.48
12:AA:159:C:H2'	12:AA:160:G:H8	1.78	0.48
12:AA:867:C:HO2'	12:AA:868:A:H8	1.61	0.48
12:AA:1782:G:O2'	12:AA:1783:U:H5''	2.13	0.48
12:AA:2058:U:H2'	12:AA:2059:C:C6	2.47	0.48
19:AI:55:HIS:HA	19:AI:58:ARG:HG3	1.95	0.48
36:Az:164:PHE:HE2	36:Az:218:LYS:HG3	1.78	0.48
37:BA:562:G:H2'	37:BA:563:G:C8	2.49	0.48
37:BA:759:U:H2'	37:BA:760:OMC:C6	2.48	0.48
38:BB:1139:A:H2'	38:BB:1140:A:C8	2.49	0.48
38:BB:1525:G:H2'	38:BB:1526:U:O4'	2.14	0.48
39:BC:29:C:H5'	48:BN:35:ALA:HB1	1.96	0.48
40:BD:23:A:H2'	40:BD:24:U:C6	2.49	0.48
49:BO:203:GLU:HG2	50:BP:127:ILE:HG21	1.95	0.48
33:AX:27:GLU:HG3	33:AX:64:ARG:HH21	1.79	0.48
37:BA:214:A:H4'	69:Bi:104:LYS:HD2	1.96	0.48
37:BA:749:G:H4'	88:BA:1916:SPD:H31	1.96	0.48
37:BA:1681:A:N1	77:Bq:5:LYS:HE2	2.28	0.48
54:BT:136:ARG:O	54:BT:140:GLU:HG3	2.14	0.48
58:BX:91:THR:O	58:BX:95:MET:HG2	2.14	0.48
81:Bu:166:PHE:HA	81:Bu:169:LEU:HB3	1.95	0.48
4:A2:8:LEU:HD21	4:A2:55:VAL:HG11	1.96	0.48
5:A3:54:ARG:HA	5:A3:54:ARG:HE	1.79	0.48
7:A5:10:LYS:HG3	12:AA:417:A:OP2	2.14	0.48
12:AA:353:C:H3'	12:AA:354:C:O2	2.14	0.48
12:AA:749:C:O2'	12:AA:750:G:H8	1.96	0.48
23:AM:10:PHE:HD1	23:AM:59:THR:HG23	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BA:888:C:H2'	37:BA:889:U:C6	2.49	0.48
37:BA:1161:A:H3'	37:BA:1162:C:H6	1.79	0.48
38:BB:980:A:H3'	38:BB:981:C:H6	1.79	0.48
38:BB:1278:G:H2'	38:BB:1279:C:H6	1.79	0.48
38:BB:1282:G:H5'	46:BK:8:CYS:SG	2.54	0.48
38:BB:1507:U:H2'	38:BB:1508:C:C6	2.49	0.48
40:BD:111:U:H2'	40:BD:112:U:O4'	2.14	0.48
60:BZ:48:ARG:HG2	60:BZ:112:ARG:CZ	2.42	0.48
69:Bi:126:LYS:O	69:Bi:130:VAL:HG13	2.14	0.48
79:Bs:78:MET:HE2	85:By:93:ALA:HB1	1.96	0.48
8:A6:60:THR:HG23	20:AJ:87:GLU:HG2	1.94	0.48
12:AA:382:C:O2'	88:AA:2375:SPD:H82	2.14	0.48
12:AA:1775:G:H2'	12:AA:1776:A:C8	2.49	0.48
17:AG:110:ASP:O	17:AG:114:ARG:HG2	2.14	0.48
26:AQ:20:LYS:HE2	26:AQ:83:LYS:HD3	1.95	0.48
35:AZ:45:LYS:HB3	35:AZ:60:ARG:HB3	1.95	0.48
37:BA:254:A2M:H8	37:BA:254:A2M:O5'	2.13	0.48
37:BA:445:A:N3	37:BA:447:G:H5''	2.29	0.48
37:BA:1434:G:H2'	37:BA:1435:C:C6	2.49	0.48
39:BC:65:G:H5''	71:Bk:7:ILE:HG13	1.96	0.48
81:Bu:3:PHE:CD1	81:Bu:4:VAL:N	2.76	0.48
2:A0:169:ARG:HH12	12:AA:1463:C:H41	1.61	0.48
12:AA:300:C:H2'	12:AA:301:C:C6	2.48	0.48
12:AA:1390:A:OP1	32:AW:13:VAL:HG23	2.14	0.48
12:AA:1941:G:H2'	12:AA:1942:U:C6	2.49	0.48
37:BA:804:C:H2'	37:BA:805:U:C6	2.49	0.48
38:BB:633:G:H2'	38:BB:634:G:C8	2.49	0.48
38:BB:1526:U:H2'	38:BB:1527:G:H8	1.78	0.48
50:BP:40:ASN:ND2	50:BP:43:GLU:HG3	2.28	0.48
53:BS:97:ARG:HG2	53:BS:141:VAL:HG13	1.96	0.48
65:Be:96:LEU:O	75:Bo:87:ARG:HD3	2.14	0.48
69:Bi:20:ARG:HG2	69:Bi:23:CYS:HB3	1.95	0.48
9:A7:38:LYS:HD3	9:A7:67:SER:HA	1.96	0.47
12:AA:341:A:O4'	15:AE:55:GLY:HA2	2.14	0.47
30:AU:66:ILE:HB	30:AU:107:TYR:HB2	1.96	0.47
37:BA:1608:OMC:HM22	37:BA:1609:PSU:H5''	1.96	0.47
38:BB:491:C:H2'	38:BB:492:A:H8	1.79	0.47
50:BP:106:THR:OG1	50:BP:109:GLU:HG3	2.14	0.47
57:BW:14:ARG:HG2	57:BW:14:ARG:HH11	1.79	0.47
61:Ba:110:LEU:O	61:Ba:114:LEU:HD13	2.13	0.47
85:By:13:GLU:H	85:By:13:GLU:CD	2.21	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
86:Bz:15:HIS:O	86:Bz:19:ILE:HG12	2.14	0.47
3:A1:56:LEU:HD13	3:A1:60:MET:HE3	1.95	0.47
4:A2:129:PRO:HG3	35:AZ:89:MET:O	2.14	0.47
8:A6:12:LYS:HB3	8:A6:12:LYS:HE3	1.64	0.47
12:AA:1503:A:H3'	12:AA:1504:C:H5'	1.95	0.47
12:AA:1748:C:H5'	26:AQ:50:PRO:HD2	1.95	0.47
30:AU:57:MET:HE1	30:AU:88:HIS:CE1	2.49	0.47
32:AW:56:LYS:HB3	32:AW:56:LYS:HE2	1.70	0.47
35:AZ:41:GLY:O	35:AZ:89:MET:HA	2.14	0.47
37:BA:1136:A:H2'	37:BA:1137:G:H8	1.79	0.47
38:BB:1526:U:H3	38:BB:1534:G:H1	1.62	0.47
41:BE:11:U:OP1	70:Bj:55:ALA:HB3	2.13	0.47
41:BE:49:G:H2'	41:BE:50:G:C8	2.49	0.47
47:BL:21:VAL:HA	47:BL:138:LEU:HD23	1.95	0.47
55:BU:119:LYS:HB2	55:BU:119:LYS:HZ3	1.79	0.47
61:Ba:51:LYS:HD2	84:Bx:43:ARG:HE	1.79	0.47
83:Bw:64:LEU:HD23	83:Bw:68:ARG:HD2	1.96	0.47
12:AA:727:U:H2'	12:AA:728:U:C6	2.49	0.47
19:AI:58:ARG:H	19:AI:58:ARG:HG2	1.45	0.47
22:AL:20:TYR:CZ	33:AX:209:PRO:HG3	2.49	0.47
36:Az:93:ILE:HG21	36:Az:133:VAL:HG21	1.96	0.47
37:BA:41:A:H5''	62:Bb:35:ALA:HB2	1.95	0.47
42:BF:31:G:H2'	42:BF:32:C:C6	2.50	0.47
66:Bf:392:LYS:HG2	66:Bf:393:ASP:N	2.29	0.47
68:Bh:83:ASN:HA	68:Bh:153:ARG:O	2.14	0.47
5:A3:139:LYS:HG2	5:A3:177:PRO:HB2	1.95	0.47
6:A4:58:ARG:H	6:A4:58:ARG:HD2	1.79	0.47
12:AA:56:A2M:HM'3	12:AA:56:A2M:H1'	1.75	0.47
12:AA:1393:U:H3'	12:AA:1394:A:H8	1.79	0.47
35:AZ:47:LEU:HD22	35:AZ:101:ARG:NH1	2.29	0.47
36:Az:155:SER:HB3	36:Az:224:LEU:HD22	1.96	0.47
37:BA:1165:A:H2'	37:BA:1166:PSU:O4'	2.14	0.47
49:BO:18:LYS:HG3	49:BO:19:LYS:N	2.28	0.47
60:BZ:57[A]:ARG:HG2	60:BZ:57[A]:ARG:NH1	2.28	0.47
37:BA:1223:G:H1'	55:BU:116:ARG:NH1	2.30	0.47
37:BA:1231:A:H5'	55:BU:131:SER:HB2	1.95	0.47
47:BL:150:ARG:HG3	81:Bu:156:LEU:HD12	1.95	0.47
72:Bl:57:ASN:OD1	72:Bl:58:THR:HG22	2.15	0.47
84:Bx:127:GLU:O	84:Bx:131:LYS:HG2	2.14	0.47
12:AA:1145:G:H2'	12:AA:1146:U:C6	2.49	0.47
12:AA:1626:A:H2'	12:AA:1627:G:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:BQ:24:LEU:HD12	84:Bx:178:TRP:HE1	1.80	0.47
71:Bk:5:VAL:HB	71:Bk:10:LEU:HD11	1.96	0.47
3:A1:27:ARG:O	3:A1:78:LYS:HE3	2.15	0.47
8:A6:71:GLU:OE2	12:AA:917:G:H5'	2.15	0.47
12:AA:545:A:O3'	88:AA:2375:SPD:H52	2.15	0.47
12:AA:764:U:H3	12:AA:787:G:H1	1.62	0.47
12:AA:1294:C:H2'	12:AA:1295:A:H8	1.80	0.47
12:AA:1630:U:O2	12:AA:1635:A:H4'	2.15	0.47
12:AA:2217:U:H2'	12:AA:2218:U:C6	2.50	0.47
13:AC:155:PRO:HG2	13:AC:178:ILE:HD13	1.96	0.47
22:AL:32:LYS:O	22:AL:36:MET:HG2	2.15	0.47
23:AM:15:ARG:CD	47:BL:117:ILE:HG21	2.45	0.47
34:AY:50:LYS:O	34:AY:50:LYS:HE3	2.14	0.47
37:BA:375:U:H2'	37:BA:376:U:C6	2.50	0.47
37:BA:508:C:H2'	37:BA:509:A:H8	1.80	0.47
37:BA:913:C:H2'	37:BA:914:U:C6	2.50	0.47
37:BA:1174:C:H2'	37:BA:1175:U:C6	2.50	0.47
37:BA:1314:A:H4'	37:BA:1315:C:OP2	2.14	0.47
37:BA:1570:U:H2'	37:BA:1571:G:C8	2.50	0.47
37:BA:1661:G:H5'	54:BT:24:LEU:O	2.14	0.47
38:BB:682:G:N3	38:BB:682:G:H5'	2.30	0.47
38:BB:1531:G:H1'	38:BB:1532:G:OP2	2.13	0.47
48:BN:128:LEU:HD11	71:Bk:123:TYR:HB2	1.97	0.47
57:BW:86:SER:HA	57:BW:96:TYR:HB3	1.97	0.47
79:Bs:82:LEU:HD13	85:By:93:ALA:HB2	1.95	0.47
2:A0:159:LYS:HB2	2:A0:162:LEU:HG	1.96	0.47
6:A4:66:ILE:HB	6:A4:98:LEU:HD23	1.96	0.47
8:A6:171:VAL:HG12	8:A6:175:LYS:HE2	1.97	0.47
12:AA:611:U:H2'	12:AA:612:G:C8	2.50	0.47
12:AA:704:U:OP1	28:AS:30:SER:HB2	2.15	0.47
23:AM:15:ARG:NE	47:BL:117:ILE:HG21	2.30	0.47
88:BA:1915:SPD:H71	95:BA:2864:HOH:O	2.14	0.47
48:BN:129:VAL:HB	71:Bk:123:TYR:O	2.14	0.47
78:Br:304:LYS:HB2	78:Br:304:LYS:NZ	2.29	0.47
4:A2:109:GLU:HG2	4:A2:186:ALA:HB1	1.97	0.47
6:A4:12:LYS:HB2	12:AA:1021:G:H5'	1.96	0.47
22:AL:3:LYS:HD3	22:AL:3:LYS:HA	1.72	0.47
23:AM:79:LYS:N	23:AM:79:LYS:HD2	2.29	0.47
26:AQ:43:GLU:HG3	26:AQ:94:LEU:HD11	1.97	0.47
36:Az:120:ALA:HA	36:Az:123:LYS:HG2	1.96	0.47
36:Az:202:ALA:HA	36:Az:205:LYS:HG2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BB:1098:U:H4'	38:BB:1099:A:O4'	2.14	0.47
39:BC:57:C:H4'	39:BC:63:G:N7	2.30	0.47
51:BQ:152:VAL:HG21	51:BQ:168:ILE:HG21	1.97	0.47
4:A2:46:ARG:HA	12:AA:2110:C:C4	2.50	0.47
8:A6:170:ARG:NH2	12:AA:640:A:H5'	2.30	0.47
12:AA:647:A:H61	12:AA:696:A:H5''	1.79	0.47
12:AA:837:A:H2'	12:AA:838:C:H5''	1.96	0.47
12:AA:1987:G:H2'	12:AA:1988:C:C6	2.50	0.47
12:AA:2272:G:H4'	12:AA:2273:A:OP1	2.14	0.47
36:Az:79:VAL:HG22	36:Az:140:VAL:HG22	1.96	0.47
37:BA:1502:U:O2'	37:BA:1503:A:H8	1.97	0.47
37:BA:1745:G:H4'	37:BA:1746:U:OP1	2.15	0.47
38:BB:790:A:H2'	38:BB:791:G:C8	2.49	0.47
41:BE:14:G:H1'	41:BE:16:A:OP2	2.15	0.47
43:BG:26:G:H2'	43:BG:27:C:C6	2.49	0.47
43:BG:170:G:H4'	43:BG:171:A:H3'	1.96	0.47
46:BK:78:LYS:HE2	46:BK:79:ARG:HG2	1.96	0.47
47:BL:60:THR:HB	47:BL:68:ARG:H	1.80	0.47
50:BP:16:LEU:HD21	50:BP:57:GLU:HB2	1.97	0.47
67:Bg:43:LYS:O	67:Bg:47:GLN:HG3	2.15	0.47
80:Bt:25:VAL:HG22	80:Bt:72:LEU:HD23	1.96	0.47
84:Bx:262:LYS:O	84:Bx:266:THR:HG23	2.15	0.47
5:A3:51:PHE:HE1	5:A3:116:VAL:HG22	1.80	0.46
6:A4:58:ARG:H	6:A4:58:ARG:CD	2.27	0.46
6:A4:70:LEU:HA	6:A4:100:ALA:HB1	1.97	0.46
12:AA:58:G:H2'	12:AA:59:C:C6	2.50	0.46
12:AA:1138:A:H5''	17:AG:16:LEU:HD12	1.97	0.46
12:AA:1831:U:O2'	12:AA:1834:C:H2'	2.14	0.46
16:AF:136:LEU:O	16:AF:140:LEU:HD13	2.15	0.46
22:AL:46:LEU:HD13	33:AX:204:ILE:HD11	1.98	0.46
36:Az:122:ARG:N	36:Az:122:ARG:HD2	2.30	0.46
37:BA:1706:C:H2'	37:BA:1707:G:O4'	2.15	0.46
41:BE:203:A:H2'	41:BE:204:A:C8	2.50	0.46
60:BZ:29:SER:HA	60:BZ:46:PRO:HA	1.96	0.46
66:Bf:92:TYR:HB2	66:Bf:159:ILE:HB	1.97	0.46
78:Br:120:ARG:O	78:Br:124:VAL:HG13	2.15	0.46
81:Bu:127:GLY:HA3	81:Bu:201:HIS:HB3	1.98	0.46
5:A3:52:LYS:HD3	5:A3:54:ARG:CZ	2.46	0.46
12:AA:850:U:H2'	12:AA:851:C:C6	2.50	0.46
12:AA:1317:U:H2'	12:AA:1318:G:C8	2.50	0.46
17:AG:115:LEU:O	17:AG:119:GLU:HG3	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BA:488:A:H2'	37:BA:489:A:O4'	2.15	0.46
38:BB:543:A:O5'	38:BB:544:A:H5'	2.16	0.46
38:BB:1509:U:H2'	38:BB:1510:G:C8	2.51	0.46
55:BU:117:ALA:HA	55:BU:120:LYS:HG2	1.96	0.46
70:Bj:117:GLU:HB3	70:Bj:121:ARG:HH21	1.79	0.46
12:AA:298:A:N7	12:AA:998:U:H5	2.14	0.46
37:BA:1194:C:H2'	37:BA:1195:A:C8	2.50	0.46
37:BA:1685:C:H2'	37:BA:1686:G:H8	1.81	0.46
39:BC:121:G:H2'	39:BC:122:A:C8	2.50	0.46
57:BW:74:LYS:HG3	57:BW:76:LEU:HD21	1.98	0.46
75:Bo:50:LYS:N	75:Bo:50:LYS:HD2	2.29	0.46
6:A4:150:ASP:HB2	12:AA:797:C:H4'	1.96	0.46
9:A7:7:GLY:HA3	9:A7:56:TYR:HB2	1.97	0.46
9:A7:179:LYS:HB3	9:A7:188:LEU:HD11	1.97	0.46
12:AA:111:U:H2'	12:AA:112:C:H6	1.80	0.46
12:AA:1783:U:H5	12:AA:1818:G:H1	1.63	0.46
12:AA:1896:G:H2'	12:AA:1897:U:C6	2.51	0.46
16:AF:60:ARG:HG2	16:AF:60:ARG:NH1	2.29	0.46
35:AZ:76:ILE:HD11	35:AZ:97:ARG:O	2.15	0.46
38:BB:1104:G:H2'	38:BB:1105:A:C8	2.51	0.46
54:BT:181:ARG:O	54:BT:184:GLU:HG3	2.15	0.46
61:Ba:86:MET:HE3	61:Ba:118:ARG:HD2	1.97	0.46
73:Bm:67:GLU:OE2	73:Bm:70:ARG:HD3	2.15	0.46
85:By:88:PHE:CZ	85:By:182:LYS:HD3	2.50	0.46
3:A1:16:MET:HG2	12:AA:944:A:C2	2.51	0.46
12:AA:57:OMU:O5'	12:AA:57:OMU:H6	2.16	0.46
12:AA:796:C:H2'	12:AA:797:C:C6	2.51	0.46
12:AA:2112:U:H2'	12:AA:2113:C:C6	2.49	0.46
21:AK:11:GLN:HE21	21:AK:28:THR:HB	1.80	0.46
37:BA:240:C:H2'	37:BA:241:A:C8	2.51	0.46
37:BA:743:A2M:HM'3	37:BA:743:A2M:H1'	1.77	0.46
37:BA:1659:U:H2'	37:BA:1660:U:C6	2.51	0.46
38:BB:707:A:H2'	38:BB:708:C:H6	1.79	0.46
40:BD:88:U:H2'	40:BD:89:G:O4'	2.15	0.46
75:Bo:11:MET:CG	75:Bo:27:LYS:HB2	2.46	0.46
81:Bu:22:ARG:HB3	81:Bu:28:THR:HG22	1.97	0.46
3:A1:100:TYR:HB2	3:A1:179:MET:HE3	1.96	0.46
12:AA:866:G:O2'	12:AA:867:C:H6	1.98	0.46
12:AA:1386:A:H61	13:AC:45:ARG:HH22	1.62	0.46
15:AE:35:ARG:HE	15:AE:35:ARG:HB3	1.49	0.46
19:AI:27:HIS:HB3	19:AI:32:LEU:HG	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:AS:11:ARG:O	28:AS:15:ARG:HG3	2.15	0.46
37:BA:253:G:H2'	37:BA:254:A2M:C8	2.46	0.46
41:BE:70:A:H2'	41:BE:71:A:H8	1.81	0.46
47:BL:47:LEU:HD11	47:BL:86:LEU:HD11	1.97	0.46
47:BL:93:VAL:HG22	47:BL:118:ASP:HB3	1.97	0.46
49:BO:84:PRO:HD2	95:BO:312:HOH:O	2.16	0.46
49:BO:192:LYS:HG3	50:BP:137:VAL:HG23	1.98	0.46
51:BQ:49:HIS:HB2	84:Bx:71:MET:HE2	1.98	0.46
63:Bc:65:LYS:HE2	63:Bc:77:TYR:CE1	2.51	0.46
69:Bi:17:LYS:HE3	69:Bi:17:LYS:HB3	1.85	0.46
82:Bv:86:THR:HG21	82:Bv:171:MET:HE1	1.98	0.46
6:A4:36:HIS:HB3	6:A4:39:LEU:HB2	1.98	0.46
12:AA:692:C:H2'	12:AA:693:A:C8	2.50	0.46
12:AA:2236:G:H5'	38:BB:520:A:C5	2.50	0.46
18:AH:16:LYS:HD2	18:AH:16:LYS:H	1.80	0.46
29:AT:59:GLU:C	29:AT:61:GLN:H	2.24	0.46
37:BA:1506:U:H2'	37:BA:1507:G:O4'	2.16	0.46
37:BA:1859:U:H2'	37:BA:1860:G:H5''	1.98	0.46
55:BU:154:GLU:OE1	55:BU:154:GLU:N	2.49	0.46
73:Bm:64:ARG:HG3	73:Bm:64:ARG:NH1	2.31	0.46
76:Bp:49:ASP:OD1	76:Bp:52:LYS:HG3	2.15	0.46
84:Bx:131:LYS:HD3	84:Bx:131:LYS:HA	1.70	0.46
12:AA:884:G:H2'	12:AA:885:G:H8	1.80	0.46
12:AA:1766:U:H3'	12:AA:1767:C:O2	2.15	0.46
12:AA:2101:U:H2'	12:AA:2102:G:C8	2.51	0.46
16:AF:54:THR:HG22	16:AF:83:LEU:HD22	1.98	0.46
37:BA:765:A:H2'	37:BA:766:G:H8	1.79	0.46
37:BA:1429:C:H2'	37:BA:1430:A:C8	2.51	0.46
38:BB:991:A:O2'	38:BB:992:A:H8	1.98	0.46
38:BB:1469:U:OP2	49:BO:19:LYS:HE2	2.16	0.46
38:BB:1471:U:H4'	38:BB:1472:C:H5'	1.96	0.46
46:BK:111:LEU:HD23	46:BK:112:GLN:HE21	1.80	0.46
47:BL:40:ALA:HB2	47:BL:130:TYR:CE1	2.51	0.46
47:BL:98:LEU:HD22	47:BL:102:ASN:HD22	1.81	0.46
56:BV:64:LEU:HD22	56:BV:68:VAL:HB	1.97	0.46
85:By:92:PHE:CD2	85:By:140:ASP:HB3	2.51	0.46
9:A7:274:LEU:HD13	9:A7:312:TRP:CD2	2.51	0.46
37:BA:1242:A:H2'	37:BA:1243:C:H6	1.81	0.46
38:BB:798:G:O2'	38:BB:799:G:H5'	2.16	0.46
38:BB:1292:A:H4'	46:BK:74:LYS:HG2	1.98	0.46
40:BD:4:U:H2'	40:BD:5:A:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BY:2:ARG:HG2	59:BY:2:ARG:NH1	2.31	0.46
61:Ba:46:LYS:HB3	61:Ba:46:LYS:HE2	1.83	0.46
12:AA:769:G:H1	12:AA:781:U:H3	1.62	0.46
12:AA:1566:C:C2	12:AA:1567:A:C8	3.04	0.46
12:AA:1941:G:H2'	12:AA:1942:U:H6	1.80	0.46
39:BC:163:A2M:HM'3	39:BC:163:A2M:H1'	1.84	0.46
42:BF:5:G:H5''	42:BF:6:A:OP2	2.15	0.46
4:A2:114:VAL:HB	4:A2:123:GLN:OE1	2.16	0.45
88:A6:201:SPD:H22	12:AA:460:A:OP1	2.16	0.45
12:AA:98:U:H2'	12:AA:99:G:H8	1.81	0.45
12:AA:1385:U:N3	27:AR:89:LYS:HB2	2.32	0.45
12:AA:2169:G:O6	88:AA:2306:SPD:H31	2.16	0.45
22:AL:41:ALA:HB3	22:AL:47:LYS:HE3	1.98	0.45
23:AM:106:THR:O	23:AM:110:GLU:HG3	2.15	0.45
32:AW:20:HIS:ND1	32:AW:21:LYS:O	2.50	0.45
36:Az:190:GLN:HB2	36:Az:192:TYR:CE1	2.51	0.45
37:BA:993:C:H5''	37:BA:994:U:O5'	2.15	0.45
37:BA:1488:U:H2'	37:BA:1489:U:C6	2.51	0.45
41:BE:116:G:OP1	54:BT:118:HIS:HA	2.16	0.45
44:BH:116:A:C6	44:BH:119:U:H5'	2.52	0.45
47:BL:116:HIS:HB2	47:BL:121:ILE:HD13	1.96	0.45
51:BQ:93:HIS:CE1	51:BQ:94:LYS:HE3	2.51	0.45
55:BU:142:LYS:HE3	55:BU:144:GLU:HG3	1.98	0.45
82:Bv:182:LYS:HB2	82:Bv:182:LYS:HE3	1.46	0.45
12:AA:835:A:H2	12:AA:895:G:H22	1.62	0.45
12:AA:1014:U:H2'	12:AA:1015:C:C6	2.51	0.45
12:AA:1655:U:O2'	12:AA:1656:U:H5'	2.16	0.45
12:AA:1697:G:H2'	12:AA:1698:U:C6	2.51	0.45
38:BB:21:C:H5''	38:BB:22:A:H5'	1.98	0.45
38:BB:1177:A:N6	88:BB:1606:SPD:H22	2.31	0.45
38:BB:1534:G:H5''	66:Bf:109:HIS:CE1	2.52	0.45
47:BL:10:LYS:HD3	47:BL:10:LYS:H	1.80	0.45
66:Bf:19:ARG:HB2	66:Bf:237:ARG:NH2	2.31	0.45
67:Bg:71:CYS:HB2	67:Bg:78:ILE:HD11	1.98	0.45
84:Bx:123:THR:O	84:Bx:127:GLU:HG2	2.17	0.45
84:Bx:241:VAL:HG22	84:Bx:244:ARG:NH2	2.31	0.45
5:A3:177:PRO:HA	12:AA:94:U:H5'	1.99	0.45
12:AA:338:U:H2'	12:AA:339:U:C6	2.51	0.45
12:AA:838:C:N4	12:AA:892:C:H42	2.14	0.45
12:AA:1704:G:H2'	12:AA:1705:A:C8	2.50	0.45
13:AC:48:GLU:HG2	22:AL:117:PRO:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BA:1342:A:H2'	37:BA:1343:A:H8	1.80	0.45
95:BB:1921:HOH:O	66:Bf:248:HIC:HD2	2.15	0.45
43:BG:29:U:H2'	43:BG:30:C:C6	2.51	0.45
49:BO:176:GLU:O	49:BO:180:ILE:HG12	2.16	0.45
63:Bc:7:LEU:O	63:Bc:11:LEU:HG	2.16	0.45
73:Bm:58:PHE:HD2	73:Bm:62:GLU:HB3	1.82	0.45
6:A4:145:TRP:CZ3	20:AJ:54:ASP:HB2	2.50	0.45
12:AA:57:OMU:H1'	12:AA:57:OMU:HM23	1.71	0.45
12:AA:175:G:H2'	12:AA:176:G:C8	2.51	0.45
12:AA:1164:A:H2'	12:AA:1165:C:C6	2.52	0.45
14:AD:53:MET:HG3	14:AD:73:TRP:CE3	2.51	0.45
25:AP:166:ILE:HD13	25:AP:234:PHE:CG	2.51	0.45
36:Az:210:LYS:HD3	36:Az:210:LYS:HA	1.71	0.45
37:BA:1086:PSU:H2'	37:BA:1087:A:C8	2.51	0.45
37:BA:1849:A:H2'	58:BX:147:ARG:HH21	1.81	0.45
66:Bf:57:VAL:HG22	66:Bf:73:VAL:HG22	1.98	0.45
4:A2:24:LEU:HD12	4:A2:103:SER:HA	1.98	0.45
4:A2:78:LEU:HD13	4:A2:155:LEU:HD12	1.99	0.45
12:AA:1236:C:H4'	17:AG:16:LEU:HD23	1.99	0.45
16:AF:39:LYS:HE2	16:AF:131:GLU:HB3	1.97	0.45
20:AJ:47:ILE:HG13	20:AJ:48:GLY:N	2.31	0.45
36:Az:103:ALA:HA	36:Az:112:ILE:O	2.17	0.45
37:BA:31:C:H4'	37:BA:64:A:H4'	1.99	0.45
37:BA:1173:A:H2'	46:BK:22:PHE:CZ	2.52	0.45
37:BA:1688:G:H2'	37:BA:1689:C:O4'	2.16	0.45
38:BB:412:U:H2'	38:BB:413:A:C8	2.52	0.45
38:BB:608:U:H2'	38:BB:609:A2M:C8	2.46	0.45
38:BB:810:C:H2'	38:BB:811:A:H8	1.81	0.45
47:BL:51:THR:HA	47:BL:52:PRO:HD3	1.86	0.45
66:Bf:58:ARG:HA	66:Bf:364:LYS:HG3	1.97	0.45
74:Bn:39:TYR:CD1	74:Bn:40:PRO:HA	2.51	0.45
2:A0:131:THR:OG1	2:A0:135:TYR:HB2	2.17	0.45
12:AA:834:G:H3'	12:AA:835:A:H8	1.81	0.45
37:BA:246:U:H2'	37:BA:247:U:H6	1.78	0.45
38:BB:401:U:C6	38:BB:405:U:C4	3.04	0.45
38:BB:1529:U:H6	66:Bf:209:ARG:HH12	1.65	0.45
50:BP:39:GLU:HG2	50:BP:41:PRO:HD3	1.99	0.45
53:BS:44:TRP:CG	53:BS:55:SER:HB3	2.51	0.45
56:BV:113:GLY:H	56:BV:116:THR:HG22	1.81	0.45
66:Bf:396:ARG:HD2	66:Bf:400:ARG:HH12	1.82	0.45
78:Br:171:LYS:HB2	78:Br:171:LYS:NZ	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
82:Bv:171:MET:HE3	82:Bv:171:MET:HB3	1.66	0.45
1:Et:76:A:H62	38:BB:1248:G:H5'	1.81	0.45
2:A0:88:PHE:HB3	2:A0:100:THR:HB	1.97	0.45
5:A3:201:LYS:HE2	5:A3:201:LYS:HB3	1.66	0.45
5:A3:235:ARG:HH12	12:AA:322:G:H5'	1.81	0.45
12:AA:224:U:H2'	12:AA:225:C:H6	1.82	0.45
12:AA:405:U:OP2	28:AS:18:ARG:HD3	2.16	0.45
12:AA:692:C:H2'	12:AA:693:A:H8	1.82	0.45
12:AA:1257:G:H4'	12:AA:2255:A:H4'	1.98	0.45
12:AA:1571:C:H2'	12:AA:1572:G:O4'	2.17	0.45
12:AA:1875:U:H2'	12:AA:1876:G:O4'	2.17	0.45
14:AD:59:ARG:HB3	14:AD:61:LEU:HG	1.99	0.45
16:AF:94:MET:HE1	16:AF:96:GLU:O	2.16	0.45
29:AT:10:VAL:HG22	29:AT:34:HIS:HB3	1.99	0.45
37:BA:1838:G:N1	41:BE:169:U:H2'	2.32	0.45
38:BB:631:A:H2'	38:BB:632:A:C8	2.51	0.45
43:BG:60:A:H2'	43:BG:61:A:C8	2.52	0.45
45:BI:78:LEU:HD23	45:BI:78:LEU:HA	1.84	0.45
47:BL:56:ARG:HH21	47:BL:71:LYS:HE3	1.81	0.45
50:BP:95:ARG:O	50:BP:99:LYS:HG2	2.17	0.45
56:BV:23:LYS:H	56:BV:23:LYS:HD2	1.82	0.45
71:Bk:5:VAL:HG21	71:Bk:54:GLY:HA2	1.99	0.45
1:Et:4:C:H2'	1:Et:5:G:C8	2.51	0.45
12:AA:1024:A:H2'	12:AA:1024:A:N3	2.31	0.45
12:AA:1613:A:H5'	12:AA:1614:C:OP2	2.17	0.45
12:AA:1767:C:H2'	12:AA:1768:C:O4'	2.17	0.45
16:AF:127:ARG:NH1	16:AF:127:ARG:HB2	2.32	0.45
32:AW:83:LYS:HE3	32:AW:83:LYS:HB3	1.70	0.45
36:Az:228:SER:OG	36:Az:231:LYS:HB2	2.17	0.45
37:BA:365:C:OP2	73:Bm:46:ARG:HD2	2.17	0.45
37:BA:571:U:O2	53:BS:132:PRO:HA	2.17	0.45
37:BA:1010:C:O2	38:BB:588:A2M:H2	2.16	0.45
38:BB:979:A:O4'	70:Bj:102:ARG:HG2	2.17	0.45
38:BB:1058:G:H2'	38:BB:1059:C:C6	2.51	0.45
38:BB:1153:G:H2'	38:BB:1154:C:C6	2.52	0.45
40:BD:66:G:H5'	81:Bu:10:LYS:HG3	1.99	0.45
44:BH:47:G:H2'	44:BH:48:G:N3	2.30	0.45
47:BL:121:ILE:HD12	47:BL:121:ILE:N	2.32	0.45
57:BW:8:VAL:HG12	57:BW:11:CYS:SG	2.57	0.45
59:BY:54:ALA:HA	59:BY:59:TYR:CG	2.52	0.45
61:Ba:82:THR:CG2	61:Ba:84:TYR:HD2	2.30	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:Be:173:GLY:O	65:Be:176:GLU:HG2	2.17	0.45
2:A0:84:ARG:HH12	2:A0:105:MET:HG2	1.82	0.45
6:A4:173:LEU:HD23	6:A4:173:LEU:HA	1.83	0.45
12:AA:111:U:H2'	12:AA:112:C:C6	2.51	0.45
12:AA:1762:A:H61	12:AA:1823:C:H42	1.65	0.45
33:AX:122:ILE:O	33:AX:126:MET:HG2	2.17	0.45
37:BA:734:C:H4'	69:Bi:22:ARG:NH2	2.31	0.45
37:BA:1112:U:H2'	37:BA:1113:U:C6	2.51	0.45
37:BA:1118:G:N3	38:BB:1080:A:H2'	2.31	0.45
37:BA:1490:G:H2'	37:BA:1491:G:O4'	2.16	0.45
37:BA:1532:C:H2'	37:BA:1533:C:C6	2.52	0.45
38:BB:408:A:H1'	38:BB:545:A2M:N6	2.31	0.45
38:BB:990:C:H5'	38:BB:991:A:O5'	2.17	0.45
38:BB:1126:U:H2'	38:BB:1127:C:C6	2.52	0.45
58:BX:62:ARG:HH11	58:BX:62:ARG:HG3	1.81	0.45
60:BZ:24:ARG:HG2	60:BZ:75:TRP:CH2	2.51	0.45
66:Bf:138:ARG:HD3	66:Bf:143:ARG:NH2	2.32	0.45
76:Bp:34:PHE:CE2	76:Bp:56:ILE:HD11	2.52	0.45
12:AA:764:U:H2'	12:AA:765:A:H8	1.82	0.45
12:AA:1626:A:H2'	12:AA:1627:G:H8	1.82	0.45
37:BA:1588:G:OP1	88:BA:2044:SPD:H92	2.17	0.45
38:BB:1085:A:H2'	38:BB:1086:A:C8	2.52	0.45
38:BB:1211:U:H2'	38:BB:1212:G:C8	2.51	0.45
39:BC:65:G:OP1	71:Bk:57:ARG:HD3	2.17	0.45
40:BD:4:U:H2'	40:BD:5:A:C8	2.52	0.45
12:AA:615:G:H2'	12:AA:616:G:O4'	2.16	0.44
12:AA:950:A:H2'	12:AA:951:A:H8	1.82	0.44
12:AA:1625:C:H2'	12:AA:1626:A:C8	2.48	0.44
12:AA:2086:C:H2'	12:AA:2087:A:C8	2.51	0.44
19:AI:67:LEU:HD21	19:AI:101:VAL:HG22	1.99	0.44
26:AQ:81:ILE:HD13	33:AX:10:MET:HG3	1.98	0.44
27:AR:10:GLU:OE1	27:AR:10:GLU:N	2.50	0.44
30:AU:84:LYS:HD3	30:AU:84:LYS:HA	1.64	0.44
31:AV:73:MET:HE2	31:AV:75:GLN:HE21	1.83	0.44
37:BA:83:U:H2'	37:BA:84:C:C6	2.52	0.44
40:BD:79:G:H2'	40:BD:80:G:H8	1.82	0.44
59:BY:2:ARG:HH21	59:BY:15:PRO:HB3	1.81	0.44
63:Bc:129:GLU:OE2	63:Bc:133:LYS:HE3	2.17	0.44
83:Bw:133:ARG:HG3	83:Bw:210:PHE:CD1	2.51	0.44
84:Bx:124:LYS:NZ	84:Bx:124:LYS:HB2	2.33	0.44
3:A1:39:LEU:HD13	3:A1:106:PHE:CD2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A1:178:VAL:HG12	3:A1:224:VAL:HA	1.98	0.44
8:A6:15:ARG:HD3	12:AA:29:G:C6	2.51	0.44
8:A6:87:GLU:OE2	8:A6:87:GLU:N	2.47	0.44
12:AA:210:C:H2'	12:AA:211:C:O4'	2.18	0.44
28:AS:48:LYS:HB2	28:AS:48:LYS:HE3	1.77	0.44
37:BA:255:G:H3'	60:BZ:57[B]:ARG:NH1	2.32	0.44
38:BB:400:A2M:HM'3	38:BB:400:A2M:H1'	1.77	0.44
38:BB:996:G:H2'	38:BB:997:G:C8	2.52	0.44
39:BC:62:A:H4'	39:BC:63:G:O5'	2.17	0.44
43:BG:75:C:H5'	66:Bf:336:ALA:HA	2.00	0.44
44:BH:78:C:H3'	44:BH:79:A:C8	2.51	0.44
48:BN:210:LYS:HB2	48:BN:210:LYS:HE2	1.75	0.44
61:Ba:82:THR:HG22	61:Ba:84:TYR:H	1.81	0.44
3:A1:26:PRO:HD3	12:AA:541:G:OP1	2.17	0.44
6:A4:86:GLU:HB3	6:A4:90:ARG:NH2	2.31	0.44
12:AA:314:C:H2'	12:AA:315:G:O4'	2.17	0.44
12:AA:2266:C:H2'	12:AA:2267:A:C8	2.52	0.44
16:AF:96:GLU:HB3	16:AF:99:LYS:HE2	1.98	0.44
18:AH:52:GLY:HA2	18:AH:61:GLU:HG2	1.99	0.44
38:BB:1092:G:N3	38:BB:1201:A2M:H2	2.32	0.44
38:BB:1504:G:O2'	72:Bl:13:ALA:HB2	2.17	0.44
42:BF:66:U:H5''	42:BF:68:U:O4'	2.16	0.44
81:Bu:108:ARG:HG2	81:Bu:260:PRO:HB2	1.99	0.44
9:A7:40:LEU:HD21	9:A7:84:SER:HB3	1.98	0.44
12:AA:1270:A:OP1	88:AA:2311:SPD:H21	2.17	0.44
12:AA:2213:U:H2'	12:AA:2214:U:C6	2.52	0.44
25:AP:153:TYR:CD1	25:AP:157:LYS:HD3	2.52	0.44
28:AS:32:THR:HG22	28:AS:34:VAL:H	1.82	0.44
36:Az:190:GLN:HB2	36:Az:192:TYR:HE1	1.82	0.44
37:BA:1863:U:H2'	37:BA:1864:G:H8	1.82	0.44
38:BB:362:G:H2'	38:BB:363:C:C6	2.52	0.44
38:BB:474:G:H2'	38:BB:475:U:C6	2.52	0.44
38:BB:1193:G:H2'	38:BB:1194:C:C6	2.53	0.44
39:BC:6:G:H2'	39:BC:7:OMU:C6	2.46	0.44
45:BI:135:MET:SD	78:Br:290:ILE:HG23	2.57	0.44
48:BN:30:PHE:HE1	51:BQ:216:VAL:HG13	1.82	0.44
65:Be:89:LEU:HD12	65:Be:95:PRO:HD2	1.97	0.44
69:Bi:124:ASN:HB3	69:Bi:127:LEU:HB2	2.00	0.44
85:By:40:LEU:HD23	85:By:40:LEU:HA	1.76	0.44
6:A4:43:LEU:N	6:A4:44:PRO:HD2	2.31	0.44
12:AA:2255:A:H2'	12:AA:2256:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BA:545:G:H2'	37:BA:546:C:C6	2.53	0.44
44:BH:45:G:H2'	44:BH:46:C:C6	2.53	0.44
66:Bf:152:ALA:O	66:Bf:156:LYS:HG2	2.17	0.44
5:A3:182:LEU:HD12	5:A3:182:LEU:HA	1.77	0.44
5:A3:235:ARG:HH12	12:AA:322:G:C5'	2.31	0.44
12:AA:1685:C:O2'	26:AQ:65:THR:HB	2.18	0.44
12:AA:2154:U:H2'	12:AA:2155:G:H8	1.83	0.44
26:AQ:45:VAL:HG21	26:AQ:98:ILE:HD11	1.99	0.44
37:BA:512:U:H2'	37:BA:513:C:C6	2.53	0.44
38:BB:1510:G:H2'	38:BB:1511:C:H6	1.83	0.44
38:BB:1532:G:H5'	66:Bf:169:ARG:CZ	2.47	0.44
40:BD:47:U:OP2	81:Bu:164:ARG:HD3	2.17	0.44
47:BL:91:LEU:HD23	47:BL:91:LEU:HA	1.85	0.44
66:Bf:261:HIS:HA	66:Bf:262:PRO:C	2.43	0.44
81:Bu:4:VAL:HG22	81:Bu:5:LYS:H	1.82	0.44
3:A1:100:TYR:H	3:A1:179:MET:HE1	1.82	0.44
5:A3:213:LEU:HD22	12:AA:334:C:H5'	1.99	0.44
12:AA:223:C:H2'	12:AA:224:U:C6	2.52	0.44
12:AA:1551:G:H2'	12:AA:1552:A:C8	2.52	0.44
12:AA:1662:U:H1'	14:AD:5:VAL:O	2.17	0.44
34:AY:43:ARG:HB3	34:AY:44:TYR:CD2	2.52	0.44
37:BA:28:A:C4	37:BA:399:A:C8	3.05	0.44
37:BA:777:G:H2'	37:BA:778:A:O4'	2.18	0.44
37:BA:1024:A2M:HM'3	37:BA:1024:A2M:H1'	1.86	0.44
41:BE:115:C:H2'	41:BE:116:G:C8	2.53	0.44
43:BG:17:A:H2'	43:BG:18:U:H6	1.82	0.44
49:BO:65:GLU:HG2	49:BO:69:LYS:HE2	2.00	0.44
66:Bf:139:THR:O	66:Bf:143:ARG:HG3	2.17	0.44
80:Bt:28:TYR:HD1	80:Bt:71:LYS:HE3	1.81	0.44
5:A3:73:ARG:NH2	12:AA:512:G:H5'	2.33	0.44
12:AA:141:U:H2'	12:AA:142:C:C6	2.52	0.44
12:AA:409:A:C2	12:AA:447:A:C5	3.05	0.44
12:AA:1760:G:H1	12:AA:1825:U:H3	1.64	0.44
12:AA:1925:A:H2'	12:AA:1925:A:N3	2.33	0.44
19:AI:118:MET:HG2	19:AI:126:PHE:CZ	2.51	0.44
36:Az:117:ASN:OD1	36:Az:119:ALA:HB3	2.17	0.44
37:BA:1136:A:H2'	37:BA:1137:G:C8	2.52	0.44
37:BA:1194:C:H2'	37:BA:1195:A:H8	1.82	0.44
38:BB:553:U:H2'	38:BB:554:C:C6	2.53	0.44
53:BS:8:HIS:NE2	53:BS:30:GLU:HG3	2.33	0.44
56:BV:73:ARG:HG2	56:BV:74:GLU:OE1	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:Bk:27:LYS:O	71:Bk:31:GLN:HG3	2.17	0.44
85:By:105:ASN:HB3	85:By:106:GLN:H	1.55	0.44
7:A5:31:ARG:HD2	12:AA:426:U:OP1	2.18	0.44
10:A8:10:ARG:NH1	10:A8:13:ILE:HB	2.32	0.44
11:A9:139:GLY:C	11:A9:152:MET:HG2	2.43	0.44
12:AA:500:A:H2'	12:AA:501:C:H6	1.77	0.44
12:AA:1018:U:H2'	12:AA:1019:G:C8	2.53	0.44
12:AA:1131:A:H2'	12:AA:1131:A:N3	2.33	0.44
22:AL:100:ARG:HD3	22:AL:100:ARG:HA	1.79	0.44
37:BA:790:G:H5''	78:Br:220:ARG:CZ	2.48	0.44
38:BB:990:C:H5'	38:BB:991:A:C5'	2.47	0.44
40:BD:110:G:H2'	40:BD:111:U:C6	2.52	0.44
42:BF:65:A:C6	82:Bv:66:MET:HE1	2.53	0.44
46:BK:182:GLU:H	46:BK:182:GLU:CD	2.26	0.44
49:BO:190:MET:HE3	49:BO:190:MET:HB3	1.70	0.44
50:BP:147:LEU:HD12	72:Bl:22:LEU:HD12	2.00	0.44
67:Bg:97:ARG:NH2	75:Bo:44:LYS:HE2	2.33	0.44
78:Br:93:ASN:HA	78:Br:99:ARG:O	2.18	0.44
5:A3:83:VAL:HG13	12:AA:194:C:H5''	2.00	0.43
5:A3:221:ARG:HB2	12:AA:332:G:C8	2.53	0.43
12:AA:1156:G:O2'	17:AG:105:ASN:HB3	2.18	0.43
12:AA:1575:G:C2	12:AA:1576:A:C8	3.06	0.43
12:AA:1668:G:H2'	12:AA:1669:A:O4'	2.17	0.43
12:AA:1916:U:H2'	12:AA:1917:U:H6	1.82	0.43
13:AC:77:ARG:HG2	13:AC:77:ARG:HH11	1.83	0.43
18:AH:75:VAL:HG12	18:AH:79:LYS:NZ	2.33	0.43
38:BB:1523:A:C6	38:BB:1537:G:C6	3.06	0.43
74:Bn:51:VAL:O	74:Bn:55:LYS:HG2	2.17	0.43
78:Br:186:ARG:HD2	78:Br:223:PHE:CZ	2.52	0.43
20:AJ:68:ARG:HG2	25:AP:240:TRP:CE2	2.52	0.43
37:BA:508:C:H2'	37:BA:509:A:C8	2.53	0.43
37:BA:1020:G:H1'	37:BA:1827:A:N6	2.32	0.43
37:BA:1096:U:H2'	37:BA:1097:U:O4'	2.18	0.43
38:BB:818:G:H1'	84:Bx:229:ARG:HG3	1.99	0.43
78:Br:207:MET:HE1	78:Br:238:LEU:HD23	2.00	0.43
5:A3:137:GLY:HA3	5:A3:161:ILE:HD12	2.00	0.43
9:A7:156:SER:HG	9:A7:174:TRP:HD1	1.65	0.43
12:AA:216:G:H2'	12:AA:217:G:H5''	1.99	0.43
12:AA:793:U:H3'	12:AA:794:G:C8	2.52	0.43
12:AA:2064:A:H2'	12:AA:2065:A:C8	2.54	0.43
12:AA:2249:A:H62	31:AV:30:ARG:NH2	2.16	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AG:4:MET:HE2	17:AG:124:ARG:NH2	2.33	0.43
20:AJ:3:MET:HE3	20:AJ:3:MET:HB2	1.82	0.43
37:BA:545:G:H2'	37:BA:546:C:H6	1.83	0.43
88:BA:1912:SPD:H91	51:BQ:100:LYS:HG3	2.00	0.43
38:BB:621:A:H2'	38:BB:622:A2M:H8	2.00	0.43
38:BB:646:A2M:H4'	49:BO:88:HY3:O2	2.18	0.43
38:BB:1325:G:H5''	38:BB:1326:A:H5''	2.00	0.43
41:BE:104:U:H2'	41:BE:105:C:H6	1.83	0.43
43:BG:61:A:H2'	43:BG:62:C:H6	1.82	0.43
60:BZ:109:ASN:O	60:BZ:113:LYS:HG3	2.18	0.43
66:Bf:56:ILE:HD13	66:Bf:363:LEU:HD22	2.00	0.43
66:Bf:391:LYS:O	66:Bf:395:ILE:HG12	2.19	0.43
12:AA:44:G:H2'	12:AA:45:C:C6	2.52	0.43
12:AA:1478:U:H5'	12:AA:1496:G:N2	2.34	0.43
13:AC:119:GLY:O	13:AC:123:ILE:HG23	2.18	0.43
26:AQ:19:VAL:HG11	26:AQ:36:LEU:HD21	2.01	0.43
37:BA:539:C:H3'	78:Br:321:ARG:HH22	1.83	0.43
37:BA:1308:G:H2'	37:BA:1309:U:C6	2.53	0.43
38:BB:134:C:H2'	38:BB:135:A:H8	1.83	0.43
46:BK:82:LYS:HB2	46:BK:83:GLU:OE1	2.19	0.43
56:BV:73:ARG:HG2	56:BV:74:GLU:CD	2.43	0.43
58:BX:96:LYS:HE3	58:BX:96:LYS:HB3	1.60	0.43
63:Bc:53:ILE:HD11	63:Bc:95:VAL:HG21	2.00	0.43
66:Bf:40:LYS:HA	66:Bf:40:LYS:HE2	2.00	0.43
85:By:90:VAL:O	85:By:141:GLU:HA	2.18	0.43
4:A2:178:LYS:HA	4:A2:181:GLU:HG2	1.99	0.43
8:A6:105:GLU:HA	8:A6:110:THR:HG21	2.01	0.43
12:AA:396:C:H2'	12:AA:397:A:C8	2.54	0.43
12:AA:733:G:O6	91:AA:2310:PUT:H22	2.17	0.43
12:AA:834:G:H5'	12:AA:835:A:C8	2.54	0.43
12:AA:1153:G:H1'	12:AA:1221:A:O4'	2.18	0.43
20:AJ:89:TRP:O	20:AJ:93:ILE:HG12	2.18	0.43
27:AR:45:ASP:HB2	27:AR:46:PRO:HD2	1.99	0.43
37:BA:265:A:H4'	37:BA:267:A:C8	2.53	0.43
37:BA:980:G:O2'	37:BA:1015:G:H4'	2.17	0.43
37:BA:1529:C:H2'	37:BA:1530:U:H6	1.84	0.43
38:BB:609:A2M:HM'3	38:BB:609:A2M:H1'	1.82	0.43
38:BB:692:U:H2'	38:BB:693:G:C8	2.54	0.43
38:BB:810:C:H2'	38:BB:811:A:C8	2.53	0.43
47:BL:46:GLN:HE21	47:BL:121:ILE:HG13	1.84	0.43
54:BT:169:ASN:HD22	54:BT:169:ASN:HA	1.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BT:183:LYS:HG2	54:BT:184:GLU:N	2.31	0.43
61:Ba:26:GLN:HB2	61:Ba:41:LEU:HB3	2.00	0.43
63:Bc:95:VAL:HG11	63:Bc:106:ALA:HB2	2.00	0.43
71:Bk:122:ILE:HD12	71:Bk:122:ILE:N	2.34	0.43
76:Bp:52:LYS:HA	76:Bp:55:LYS:HB3	2.01	0.43
83:Bw:245:ARG:HG2	83:Bw:248:LEU:HB2	2.00	0.43
9:A7:288:CYS:HB2	9:A7:304:TYR:CE2	2.53	0.43
12:AA:1140:G:H1'	32:AW:23:ARG:NH1	2.34	0.43
12:AA:1255:A:H2'	12:AA:1256:A:O4'	2.19	0.43
12:AA:1394:A:H2	92:AA:2309:GTP:N2	2.13	0.43
12:AA:1547:A:H2'	12:AA:1548:A:H8	1.83	0.43
21:AK:139:SER:OG	21:AK:142:THR:HG22	2.18	0.43
37:BA:177:A:H2'	37:BA:178:U:O4'	2.18	0.43
37:BA:281:C:H5'	60:BZ:31:PRO:HD3	2.00	0.43
38:BB:407:A:OP2	38:BB:588:A2M:H8	2.19	0.43
38:BB:823:G:H2'	38:BB:824:U:O4'	2.19	0.43
38:BB:1505:G:H2'	38:BB:1506:G:C8	2.54	0.43
43:BG:141:A:H2'	43:BG:142:A:O4'	2.17	0.43
44:BH:121:A:H2'	44:BH:122:U:C6	2.54	0.43
47:BL:164:GLU:O	47:BL:168:LYS:HG3	2.18	0.43
60:BZ:39:LYS:HE3	60:BZ:40:TYR:CZ	2.54	0.43
5:A3:59:LYS:HG2	5:A3:108:ASP:O	2.17	0.43
12:AA:395:A:H2'	12:AA:396:C:C6	2.54	0.43
12:AA:542:U:H2'	12:AA:543:C:C6	2.53	0.43
12:AA:546:A:H2'	12:AA:546:A:N3	2.34	0.43
12:AA:1980:C:H2'	12:AA:1981:G:O4'	2.19	0.43
12:AA:2177:C:H2'	12:AA:2178:G:H8	1.84	0.43
36:Az:125:ILE:HG23	36:Az:129:ASN:ND2	2.33	0.43
37:BA:886:C:H2'	37:BA:887:C:O4'	2.19	0.43
46:BK:31:ILE:HG22	46:BK:62:SER:HB2	2.01	0.43
47:BL:70:GLU:O	47:BL:72:ILE:HG23	2.19	0.43
48:BN:149:LYS:HD2	48:BN:150:ALA:N	2.33	0.43
57:BW:82:ARG:HH21	57:BW:118:GLY:C	2.27	0.43
4:A2:68:GLY:O	4:A2:71:LYS:HG2	2.19	0.43
12:AA:68:A:H2'	12:AA:69:G:O4'	2.19	0.43
28:AS:124:LYS:HE2	28:AS:127:SER:HA	2.01	0.43
33:AX:55:ARG:HD2	33:AX:56:GLU:H	1.83	0.43
38:BB:766:C:O2'	38:BB:767:G:C8	2.69	0.43
38:BB:990:C:H5'	38:BB:991:A:H5''	2.01	0.43
38:BB:1089:C:H41	55:BU:2:VAL:N	2.17	0.43
43:BG:75:C:O2'	43:BG:76:C:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:Bb:91:LYS:HD2	62:Bb:92:LYS:H	1.82	0.43
66:Bf:315:MET:H	66:Bf:315:MET:HG2	1.69	0.43
3:A1:120:MET:HE1	3:A1:225:ILE:HA	2.01	0.43
12:AA:98:U:H2'	12:AA:99:G:C8	2.54	0.43
12:AA:343:U:C4	15:AE:29:ALA:HB2	2.53	0.43
12:AA:579:C:H2'	12:AA:580:C:C6	2.53	0.43
12:AA:709:G:H5'	12:AA:715:G:N2	2.34	0.43
12:AA:764:U:H2'	12:AA:765:A:C8	2.53	0.43
12:AA:1164:A:H2'	12:AA:1165:C:H6	1.83	0.43
12:AA:2218:U:H2'	12:AA:2219:C:H6	1.84	0.43
17:AG:30:SER:O	17:AG:34:ILE:HG12	2.18	0.43
37:BA:1467:G:N7	53:BS:3:ARG:HD2	2.32	0.43
37:BA:1681:A:H2'	77:Bq:13:TYR:CE1	2.54	0.43
37:BA:1740:G:H2'	37:BA:1741:U:H6	1.83	0.43
38:BB:553:U:H2'	38:BB:554:C:H6	1.84	0.43
38:BB:1022:G:H2'	38:BB:1023:U:H6	1.82	0.43
38:BB:1129:C:H2'	38:BB:1130:G:O4'	2.19	0.43
91:BB:1601:PUT:H31	66:Bf:242:CYS:HB2	2.00	0.43
43:BG:19:C:H2'	43:BG:20:U:H6	1.82	0.43
48:BN:53:PRO:HG2	71:Bk:124:ALA:HB2	2.01	0.43
61:Ba:44:GLY:HA3	61:Ba:70:PHE:CZ	2.54	0.43
65:Be:176:GLU:HG3	75:Bo:29:LEU:CD1	2.49	0.43
66:Bf:161:ARG:HG2	66:Bf:187:GLN:HA	2.00	0.43
66:Bf:360:LYS:HD2	66:Bf:361:ILE:N	2.34	0.43
78:Br:332:PHE:CE2	83:Bw:64:LEU:HA	2.53	0.43
9:A7:175:ASP:OD1	9:A7:177:LEU:HB2	2.17	0.43
12:AA:1523:G:H2'	12:AA:1524:U:C6	2.54	0.43
13:AC:177:ASN:HD21	27:AR:34:HIS:HA	1.82	0.43
21:AK:28:THR:HG23	21:AK:70:ARG:HB3	2.01	0.43
29:AT:43:ALA:O	29:AT:47:ARG:HG3	2.19	0.43
30:AU:82:ALA:O	30:AU:86:LEU:HG	2.18	0.43
37:BA:184:U:H2'	37:BA:185:G:C8	2.54	0.43
37:BA:753:A:H2'	37:BA:754:A:C8	2.54	0.43
38:BB:1468:U:H5''	38:BB:1470:A:H62	1.84	0.43
38:BB:1516:C:H1'	66:Bf:140:THR:HG23	2.01	0.43
45:BI:156:VAL:HA	45:BI:159:PHE:CD2	2.54	0.43
45:BI:175:SER:HB3	45:BI:178:LYS:HB2	2.01	0.43
60:BZ:52:GLU:CG	60:BZ:105:LYS:HB3	2.48	0.43
69:Bi:33:TRP:CZ2	69:Bi:54:PRO:HD2	2.53	0.43
72:Bl:79:ARG:HG3	72:Bl:146:PRO:HD3	2.00	0.43
78:Br:142:LYS:HE3	78:Br:142:LYS:HB3	1.60	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A1:120:MET:HE2	3:A1:156:THR:HG21	2.00	0.42
8:A6:109:GLN:NE2	8:A6:125:ARG:HB2	2.34	0.42
9:A7:24:THR:OG1	9:A7:26:GLU:HG3	2.19	0.42
9:A7:261:ARG:NH2	9:A7:263:PHE:HE1	2.17	0.42
12:AA:80:U:H2'	12:AA:81:G:H8	1.83	0.42
12:AA:421:C:H2'	12:AA:422:C:C6	2.54	0.42
12:AA:585:G:N1	12:AA:600:G:C6	2.87	0.42
24:AO:22:THR:HG22	24:AO:23:LEU:H	1.84	0.42
37:BA:210:G:C2	37:BA:239:A:C5	3.07	0.42
37:BA:818:G:OP1	62:Bb:128:LYS:HG2	2.19	0.42
37:BA:1349:U:H2'	37:BA:1350:U:C6	2.54	0.42
38:BB:4:C:H2'	38:BB:5:A:C8	2.53	0.42
46:BK:49:CYS:HB3	46:BK:168:SER:HB3	2.01	0.42
50:BP:136:PRO:HG2	50:BP:145:LYS:HE3	2.00	0.42
53:BS:26:VAL:HG21	55:BU:140:PRO:HG3	2.01	0.42
62:Bb:72:THR:HG22	62:Bb:108:LYS:HB3	2.01	0.42
63:Bc:92:LYS:HD2	63:Bc:107:TYR:HB2	2.01	0.42
78:Br:324:ARG:HH11	78:Br:328:ARG:HH22	1.66	0.42
81:Bu:31:HIS:CE1	81:Bu:35:ARG:HE	2.36	0.42
81:Bu:76:MET:HE2	81:Bu:76:MET:HA	2.00	0.42
83:Bw:227:GLY:H	83:Bw:255:ARG:HH11	1.67	0.42
5:A3:224:ARG:HD3	12:AA:332:G:O6	2.19	0.42
12:AA:168:C:O2'	12:AA:169:A:H5'	2.19	0.42
12:AA:602:U:H2'	12:AA:603:G:O4'	2.19	0.42
12:AA:747:C:H2'	12:AA:748:A:C8	2.54	0.42
12:AA:789:G:OP2	12:AA:789:G:H8	2.02	0.42
12:AA:1986:C:H2'	12:AA:1987:G:C8	2.55	0.42
37:BA:265:A:H61	78:Br:167:MET:HE2	1.82	0.42
37:BA:1171:A:H2'	37:BA:1174:C:C5	2.54	0.42
39:BC:67:U:H2'	39:BC:68:A:H8	1.78	0.42
48:BN:127:LYS:HE2	48:BN:127:LYS:HB3	1.82	0.42
57:BW:112:LYS:HE3	57:BW:112:LYS:HB2	1.89	0.42
63:Bc:41:ARG:HH11	63:Bc:101:ASP:HB2	1.85	0.42
73:Bm:66:GLN:HG3	73:Bm:102:LEU:CD1	2.43	0.42
1:Et:66:U:H2'	1:Et:67:C:H6	1.84	0.42
12:AA:125:A2M:H8	12:AA:125:A2M:O5'	2.18	0.42
12:AA:396:C:H2'	12:AA:397:A:H8	1.84	0.42
12:AA:668:C:H2'	12:AA:669:A:O4'	2.20	0.42
12:AA:1490:A:H5'	12:AA:1703:U:O4	2.19	0.42
12:AA:1770:C:H4'	24:AO:158:ARG:HB3	2.01	0.42
17:AG:25:TRP:CE3	32:AW:83:LYS:HE2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AH:98:THR:O	18:AH:99:LYS:HB3	2.18	0.42
37:BA:881:G:H2'	37:BA:882:C:C6	2.54	0.42
37:BA:1665:A2M:HM'3	37:BA:1665:A2M:H1'	1.83	0.42
38:BB:1501:U:H5''	38:BB:1502:C:OP1	2.19	0.42
56:BV:103:LEU:HD22	56:BV:103:LEU:H	1.83	0.42
84:Bx:171:ASP:HA	84:Bx:172:HY3:C	2.49	0.42
3:A1:69:VAL:HG11	3:A1:79:TYR:CE1	2.55	0.42
4:A2:72:LYS:O	4:A2:72:LYS:HG3	2.20	0.42
6:A4:5:PRO:HB2	6:A4:30:PHE:CZ	2.55	0.42
6:A4:193:ASN:HB3	6:A4:198:GLN:HB2	2.02	0.42
12:AA:317:A:H2'	12:AA:318:G:O4'	2.19	0.42
12:AA:826:A:H1'	12:AA:827:G:C8	2.53	0.42
12:AA:1178:G:H2'	12:AA:1179:G:C8	2.54	0.42
12:AA:1631:G:N7	16:AF:117:LYS:HE2	2.33	0.42
16:AF:94:MET:HB2	16:AF:94:MET:HE2	1.78	0.42
21:AK:53:LYS:HA	21:AK:53:LYS:HD2	1.78	0.42
33:AX:82:LYS:HA	33:AX:82:LYS:HD2	1.87	0.42
37:BA:940:A:H4'	88:BA:2046:SPD:H91	2.00	0.42
37:BA:1085:A:OP1	48:BN:2:PRO:HA	2.19	0.42
37:BA:1246:A:H2'	37:BA:1247:G:C8	2.54	0.42
37:BA:1669:G:H1'	38:BB:41:A:N3	2.35	0.42
38:BB:1368:G:N3	38:BB:1388:A2M:H2	2.34	0.42
41:BE:35:A:H2'	41:BE:36:U:H6	1.84	0.42
42:BF:56:A:H4'	42:BF:57:G:O5'	2.18	0.42
58:BX:46:ARG:HA	58:BX:46:ARG:HD2	1.91	0.42
61:Ba:9:VAL:O	61:Ba:82:THR:HB	2.20	0.42
6:A4:67:LEU:HD23	6:A4:99:VAL:HB	2.01	0.42
8:A6:1:MET:HG3	8:A6:2:ARG:HG3	2.00	0.42
12:AA:581:G:H2'	12:AA:582:A:H8	1.83	0.42
12:AA:704:U:H2'	12:AA:705:U:C6	2.54	0.42
12:AA:999:U:H5'	12:AA:1000:G:H5''	2.02	0.42
13:AC:206:SER:O	13:AC:210:MET:HG2	2.19	0.42
14:AD:87:LEU:HB2	14:AD:89:LEU:HD12	2.02	0.42
16:AF:66:VAL:O	16:AF:123:CYS:HA	2.19	0.42
36:Az:144:LYS:H	36:Az:144:LYS:HD3	1.83	0.42
36:Az:184:ARG:C	36:Az:185:ILE:HD13	2.45	0.42
37:BA:135:U:H3'	37:BA:136:A:C8	2.54	0.42
38:BB:1045:G:H2'	38:BB:1046:A:C8	2.54	0.42
38:BB:1463:A:H2'	38:BB:1464:A:H8	1.84	0.42
43:BG:29:U:H2'	43:BG:30:C:H6	1.85	0.42
46:BK:52:VAL:HG23	46:BK:152:LEU:HD13	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BV:24:LYS:NZ	56:BV:115:ASP:HB3	2.35	0.42
63:Bc:78:LYS:NZ	63:Bc:80:THR:HG22	2.33	0.42
63:Bc:118:THR:HG22	63:Bc:122:LYS:HE3	2.01	0.42
68:Bh:151:VAL:HG22	68:Bh:170:ILE:HG23	2.01	0.42
78:Br:170:LEU:HD11	78:Br:225:LEU:HD22	2.01	0.42
9:A7:262:ILE:HG22	9:A7:271:ILE:HG13	2.01	0.42
12:AA:766:C:H2'	12:AA:767:C:C6	2.55	0.42
12:AA:795:A:H2'	12:AA:796:C:C6	2.54	0.42
12:AA:1317:U:H3	12:AA:1480:C:H42	1.67	0.42
12:AA:1380:U:H3'	12:AA:1381:U:C5'	2.49	0.42
12:AA:1652:OMU:H1'	12:AA:1652:OMU:HM23	1.60	0.42
12:AA:1750:G:C5	26:AQ:15:GLN:HB2	2.54	0.42
12:AA:1776:A:H2'	12:AA:1777:C:C6	2.55	0.42
12:AA:2038:C:H2'	12:AA:2039:C:O4'	2.19	0.42
13:AC:35:THR:HG23	13:AC:95:ILE:HB	2.02	0.42
18:AH:27:TYR:HB3	18:AH:34:PHE:HB2	2.01	0.42
18:AH:68:MET:HE3	18:AH:72:GLN:OE1	2.20	0.42
24:AO:81:VAL:HG12	24:AO:140:VAL:HG13	2.01	0.42
37:BA:382:G:H2'	37:BA:383:C:O4'	2.20	0.42
37:BA:572:C:OP1	53:BS:74:ARG:HD3	2.20	0.42
37:BA:1075:U:H2'	37:BA:1076:U:C6	2.54	0.42
37:BA:1531:C:H2'	37:BA:1532:C:C6	2.55	0.42
38:BB:518:U:H2'	38:BB:525:G:N2	2.34	0.42
38:BB:1054:U:H2'	38:BB:1055:U:H6	1.81	0.42
38:BB:1062:OMG:HM23	38:BB:1062:OMG:H1'	1.78	0.42
48:BN:140:LYS:HE2	48:BN:140:LYS:HB2	1.94	0.42
55:BU:42:VAL:HG21	55:BU:76:ILE:HD11	2.01	0.42
56:BV:47:PHE:CE1	56:BV:77:LEU:HG	2.54	0.42
56:BV:79:ILE:HD12	56:BV:79:ILE:N	2.34	0.42
67:Bg:60:PRO:HA	67:Bg:61:PRO:HD3	1.93	0.42
69:Bi:114:HIS:HB2	69:Bi:127:LEU:HD13	2.01	0.42
69:Bi:127:LEU:HD23	69:Bi:127:LEU:HA	1.83	0.42
82:Bv:67:LYS:HE3	82:Bv:67:LYS:HB2	1.64	0.42
6:A4:131:LEU:HD21	6:A4:157:VAL:HG21	2.01	0.42
9:A7:76:SER:HB3	9:A7:117:PHE:CE2	2.55	0.42
10:A8:10:ARG:HH11	10:A8:13:ILE:HB	1.84	0.42
12:AA:395:A:H2'	12:AA:396:C:H6	1.84	0.42
12:AA:1175:A:C8	12:AA:1189:U:C4	3.08	0.42
13:AC:73:TYR:CD1	13:AC:89:MET:HE2	2.54	0.42
13:AC:226:PRO:HB2	13:AC:229:VAL:HG12	2.02	0.42
16:AF:73:ASP:HB3	16:AF:76:TYR:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:AH:27:TYR:CD1	18:AH:27:TYR:C	2.97	0.42
23:AM:15:ARG:HH11	23:AM:20:ASN:ND2	2.17	0.42
26:AQ:49:GLY:HA2	26:AQ:50:PRO:HD3	1.92	0.42
33:AX:32:GLY:HA3	33:AX:52:THR:OG1	2.20	0.42
36:Az:125:ILE:HA	36:Az:129:ASN:OD1	2.20	0.42
49:BO:205:LEU:HD23	49:BO:208:MET:SD	2.60	0.42
55:BU:133:ARG:HG2	55:BU:133:ARG:NH1	2.34	0.42
56:BV:47:PHE:HE1	56:BV:77:LEU:HG	1.83	0.42
12:AA:201:A:C4	12:AA:203:A:C8	3.08	0.42
12:AA:1010:G:C4	12:AA:1011:A:C8	3.07	0.42
12:AA:1765:G:H21	12:AA:1769:A:H61	1.68	0.42
12:AA:1954:A:H2'	12:AA:1955:G:C8	2.54	0.42
12:AA:2154:U:H2'	12:AA:2155:G:C8	2.55	0.42
18:AH:75:VAL:O	18:AH:79:LYS:HG2	2.20	0.42
37:BA:607:G:O3'	72:Bl:148:ARG:HD3	2.19	0.42
38:BB:546:U:O2	38:BB:574:U:H4'	2.20	0.42
38:BB:643:U:H2'	38:BB:644:PSU:C6	2.55	0.42
38:BB:1104:G:H2'	38:BB:1105:A:H8	1.84	0.42
38:BB:1132:G:H2'	38:BB:1132:G:N3	2.35	0.42
42:BF:9:C:C2	42:BF:73:A:N6	2.88	0.42
42:BF:10:G:HO2'	42:BF:11:C:H6	1.66	0.42
42:BF:57:G:H5''	50:BP:122:TYR:CE1	2.54	0.42
44:BH:70:U:H2'	44:BH:71:C:C6	2.55	0.42
50:BP:90:THR:O	50:BP:94:VAL:HG13	2.20	0.42
3:A1:8:ARG:HD3	3:A1:18:SER:O	2.20	0.42
9:A7:94:TRP:CZ3	9:A7:101:CYS:HB2	2.54	0.42
12:AA:2134:OMC:H1'	12:AA:2134:OMC:HM23	1.81	0.42
13:AC:35:THR:HB	27:AR:82:ILE:O	2.20	0.42
13:AC:70:MET:HE3	13:AC:70:MET:HB3	1.78	0.42
18:AH:78:CYS:HA	18:AH:81:CYS:HB2	2.01	0.42
26:AQ:90:ALA:HB1	26:AQ:94:LEU:HB3	2.02	0.42
37:BA:178:U:H3'	37:BA:179:A:H5''	2.02	0.42
37:BA:908:U:H2'	37:BA:909:G:C8	2.55	0.42
37:BA:1027:G:H5'	37:BA:1029:A:H1'	2.01	0.42
38:BB:402:A:C4	74:Bn:3:LYS:HB3	2.55	0.42
38:BB:798:G:C2'	38:BB:799:G:H5'	2.50	0.42
64:Bd:5:LYS:HE3	64:Bd:8:THR:HB	2.02	0.42
67:Bg:21:ILE:HG12	67:Bg:79:HIS:CE1	2.55	0.42
8:A6:1:MET:HE2	8:A6:1:MET:HB2	1.99	0.42
9:A7:189:VAL:HG12	9:A7:190:THR:HG22	2.01	0.42
10:A8:54:VAL:HG23	10:A8:56:LEU:HG	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AA:284:A:H2'	12:AA:285:U:C6	2.55	0.42
12:AA:2205:C:H2'	12:AA:2206:A:C8	2.55	0.42
13:AC:73:TYR:CD1	13:AC:198:PRO:HG3	2.54	0.42
37:BA:140:G:H2'	37:BA:141:A:H8	1.85	0.42
37:BA:1278:U:H1'	37:BA:1279:G:C8	2.55	0.42
37:BA:1686:G:H2'	37:BA:1687:U:C6	2.55	0.42
39:BC:26:U:H2'	39:BC:27:U:C6	2.55	0.42
41:BE:26:A:H2'	41:BE:27:G:C8	2.55	0.42
41:BE:109:A:O2'	41:BE:110:C:H5'	2.19	0.42
43:BG:111:C:H2'	43:BG:112:C:C6	2.55	0.42
61:Ba:22:ALA:HA	61:Ba:44:GLY:HA2	2.01	0.42
65:Be:82:MET:HE3	65:Be:82:MET:HB2	1.92	0.42
65:Be:145:ARG:NH1	65:Be:145:ARG:HG2	2.35	0.42
12:AA:2028:C:C4	30:AU:79:VAL:HG22	2.54	0.41
13:AC:107:PRO:HB3	13:AC:222:ARG:NH2	2.35	0.41
24:AO:27:HIS:CE1	24:AO:29:TRP:HB3	2.55	0.41
37:BA:182:G:OP1	37:BA:308:C:H2'	2.20	0.41
38:BB:427:U:O2'	65:Be:11:GLY:HA3	2.19	0.41
38:BB:663:A:H2'	38:BB:664:G:O4'	2.20	0.41
38:BB:1199:C:H2'	38:BB:1200:C:O4'	2.20	0.41
38:BB:1267:A:H2'	38:BB:1268:G:O4'	2.20	0.41
40:BD:7:G:OP1	81:Bu:33:ARG:HD2	2.21	0.41
42:BF:57:G:C2	42:BF:58:U:C4	3.07	0.41
46:BK:69:ARG:HG3	46:BK:89:ILE:HD11	2.02	0.41
63:Bc:69:THR:HB	63:Bc:72:LYS:HG3	2.02	0.41
5:A3:145:ARG:HA	5:A3:150:LEU:HD12	2.01	0.41
9:A7:34:THR:HG23	9:A7:70:VAL:HB	2.02	0.41
12:AA:1136:U:H2'	12:AA:1137:G:C8	2.54	0.41
12:AA:1473:C:C2	12:AA:1474:U:C5	3.08	0.41
12:AA:1489:A:H2'	12:AA:1490:A:C8	2.55	0.41
12:AA:1565:A:H2'	12:AA:1566:C:H6	1.86	0.41
12:AA:2060:G:C5	12:AA:2061:C:C5	3.09	0.41
37:BA:1747:U:C2	37:BA:1820:G:C8	3.08	0.41
38:BB:625:A:C5	38:BB:626:C:C5	3.08	0.41
41:BE:97:U:H2'	41:BE:98:U:C6	2.55	0.41
46:BK:30:ARG:HE	46:BK:30:ARG:HB2	1.53	0.41
50:BP:162:LYS:HB3	50:BP:162:LYS:HE3	1.85	0.41
60:BZ:85:GLU:O	60:BZ:85:GLU:HG2	2.19	0.41
12:AA:58:G:H2'	12:AA:59:C:H6	1.86	0.41
12:AA:128:A:H4'	12:AA:130:A:C8	2.56	0.41
12:AA:343:U:C5	15:AE:29:ALA:HB2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AA:618:U:C4	12:AA:619:A:H1'	2.56	0.41
12:AA:1523:G:H2'	12:AA:1524:U:H6	1.85	0.41
12:AA:1680:A:O2'	33:AX:140:LYS:HD3	2.20	0.41
25:AP:90:MET:SD	25:AP:135:ILE:HG12	2.60	0.41
33:AX:47:ILE:HD12	33:AX:83:LEU:HD11	2.02	0.41
37:BA:1231:A:H2'	37:BA:1233:A:N6	2.31	0.41
38:BB:1196:A:H5'	38:BB:1197:G:O5'	2.19	0.41
38:BB:1511:C:H2'	38:BB:1512:C:C6	2.56	0.41
54:BT:165:LYS:HE2	54:BT:165:LYS:HB2	1.89	0.41
55:BU:39:TYR:CZ	55:BU:63:ILE:HD11	2.55	0.41
64:Bd:4:SER:OG	88:Bd:101:SPD:H82	2.20	0.41
85:By:107:LEU:HD23	85:By:123:VAL:HG22	2.02	0.41
4:A2:88:LEU:HD23	4:A2:88:LEU:HA	1.86	0.41
6:A4:73:ILE:O	6:A4:77:ARG:HG2	2.20	0.41
9:A7:221:ARG:HG2	9:A7:233:GLU:HG3	2.03	0.41
11:A9:114:PHE:N	16:AF:85:LYS:HZ1	2.13	0.41
12:AA:986:C:H2'	12:AA:987:C:C6	2.56	0.41
12:AA:1645:G:H2'	12:AA:1647:A:N7	2.35	0.41
12:AA:1761:G:H2'	12:AA:1762:A:H8	1.85	0.41
12:AA:2015:G:H5''	24:AO:94:LYS:HD2	2.03	0.41
16:AF:138:TYR:O	16:AF:142:GLN:HG2	2.20	0.41
36:Az:176:LEU:HD13	36:Az:215:PHE:CD1	2.54	0.41
37:BA:509:A:H2'	37:BA:510:U:C6	2.55	0.41
37:BA:901:G:OP1	45:BI:157:LYS:HD2	2.20	0.41
37:BA:1326:A:H5'	37:BA:1327:U:OP1	2.21	0.41
38:BB:767:G:H2'	38:BB:768:U:C6	2.55	0.41
47:BL:167:MET:O	47:BL:171:GLU:HG2	2.20	0.41
48:BN:85:LEU:HD11	48:BN:102:VAL:HG22	2.03	0.41
48:BN:129:VAL:O	48:BN:143:ALA:HB2	2.21	0.41
49:BO:205:LEU:HA	49:BO:208:MET:HB2	2.01	0.41
54:BT:190:ARG:HD3	54:BT:190:ARG:HA	1.86	0.41
55:BU:17:LYS:HA	55:BU:17:LYS:HD2	1.89	0.41
55:BU:149:ARG:O	55:BU:150:THR:HG22	2.20	0.41
57:BW:14:ARG:HG2	57:BW:14:ARG:NH1	2.36	0.41
58:BX:46:ARG:NE	58:BX:47:LYS:H	2.16	0.41
68:Bh:99:ARG:HD3	68:Bh:107:ILE:HD13	2.02	0.41
76:Bp:49:ASP:OD1	76:Bp:49:ASP:C	2.63	0.41
77:Bq:5:LYS:HE3	77:Bq:5:LYS:HB3	1.85	0.41
9:A7:129:ARG:HG2	9:A7:154:TRP:CD2	2.56	0.41
9:A7:129:ARG:HG2	9:A7:154:TRP:CG	2.55	0.41
12:AA:551:U:H3'	12:AA:552:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AA:607:U:H2'	12:AA:608:C:C6	2.55	0.41
13:AC:107:PRO:HB3	13:AC:222:ARG:HH22	1.86	0.41
18:AH:106:GLN:NE2	31:AV:47:LEU:HA	2.36	0.41
19:AI:31:PRO:O	19:AI:35:LEU:HG	2.21	0.41
27:AR:71:HIS:HE1	32:AW:5:ASP:OD1	2.02	0.41
37:BA:728:C:O2	72:Bl:133:ALA:HB3	2.19	0.41
38:BB:1266:C:H2'	38:BB:1267:A:H8	1.85	0.41
38:BB:1525:G:C6	38:BB:1526:U:C4	3.09	0.41
46:BK:52:VAL:HG22	46:BK:165:ILE:HG12	2.01	0.41
54:BT:4:LEU:HA	54:BT:7:GLN:OE1	2.20	0.41
66:Bf:398:GLU:HA	66:Bf:398:GLU:OE1	2.21	0.41
70:Bj:112:ALA:O	70:Bj:115:GLN:HG3	2.20	0.41
82:Bv:46:ARG:HH21	82:Bv:69:SER:HA	1.86	0.41
12:AA:107:G:H5'	12:AA:552:A:C2	2.55	0.41
12:AA:600:G:H2'	12:AA:601:U:H5'	2.02	0.41
16:AF:139:LEU:HD23	16:AF:139:LEU:HA	1.86	0.41
21:AK:54:ILE:HA	21:AK:88:ARG:HB3	2.02	0.41
28:AS:70:VAL:HG11	28:AS:94:ILE:HG21	2.03	0.41
36:Az:75:ASN:ND2	36:Az:117:ASN:HA	2.35	0.41
37:BA:376:U:H1'	38:BB:486:A:N3	2.35	0.41
37:BA:1251:G:OP1	64:Bd:4:SER:HB2	2.19	0.41
37:BA:1466:U:O3'	50:BP:19:PRO:HG2	2.20	0.41
37:BA:1665:A2M:H2'	37:BA:1666:C:C6	2.56	0.41
37:BA:1833:C:C2	37:BA:1834:C:C5	3.09	0.41
38:BB:622:A2M:H2'	38:BB:623:C:O4'	2.20	0.41
38:BB:646:A2M:HM'3	38:BB:646:A2M:H1'	1.88	0.41
50:BP:160:ALA:O	50:BP:164:VAL:HG23	2.21	0.41
53:BS:95:GLU:HB3	53:BS:141:VAL:HG21	2.03	0.41
56:BV:48:GLN:HG3	56:BV:72:MET:CB	2.50	0.41
60:BZ:48:ARG:HD3	60:BZ:49:LYS:O	2.21	0.41
61:Ba:43:ALA:HB1	61:Ba:111:VAL:HG11	2.01	0.41
21:AK:46:LEU:HA	21:AK:47:HY3:C	2.51	0.41
70:Bj:106:ARG:HE	70:Bj:106:ARG:HB2	1.71	0.41
75:Bo:5:THR:HG21	75:Bo:9:GLY:H	1.86	0.41
2:A0:186:ALA:O	2:A0:190:LEU:HG	2.21	0.41
6:A4:170:ARG:H	6:A4:170:ARG:HG2	1.64	0.41
7:A5:89:GLU:OE2	7:A5:89:GLU:HA	2.20	0.41
12:AA:579:C:H2'	12:AA:580:C:H6	1.86	0.41
12:AA:773:C:H2'	12:AA:774:G:C8	2.56	0.41
12:AA:1250:A:H2'	12:AA:1251:A:C8	2.55	0.41
12:AA:1379:U:H2'	12:AA:1380:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AC:77:ARG:HG2	13:AC:77:ARG:NH1	2.36	0.41
13:AC:110:VAL:O	13:AC:132:THR:HB	2.21	0.41
18:AH:26:ILE:HA	18:AH:34:PHE:O	2.21	0.41
26:AQ:25:ASN:O	26:AQ:29:VAL:HG22	2.20	0.41
32:AW:13:VAL:O	32:AW:17:ARG:HB2	2.21	0.41
37:BA:1460:C:H2'	37:BA:1461:C:O4'	2.21	0.41
38:BB:609:A2M:H8	38:BB:609:A2M:O5'	2.20	0.41
38:BB:980:A:H3'	38:BB:981:C:C6	2.56	0.41
38:BB:1335:C:H2'	38:BB:1336:U:C6	2.56	0.41
38:BB:1365:A:H4'	38:BB:1366:G:C8	2.56	0.41
38:BB:1514:U:H2'	38:BB:1515:U:C6	2.55	0.41
44:BH:39:G:H2'	44:BH:40:C:C6	2.56	0.41
44:BH:78:C:H3'	44:BH:79:A:H8	1.86	0.41
45:BI:44:PHE:O	45:BI:48:ILE:HG12	2.20	0.41
74:Bn:28:HIS:HE1	74:Bn:30:GLN:HB3	1.86	0.41
4:A2:45:LYS:HD2	4:A2:45:LYS:HA	1.87	0.41
12:AA:394:A:H2'	12:AA:395:A:C8	2.56	0.41
12:AA:770:U:H3	12:AA:780:C:H42	1.69	0.41
12:AA:1015:C:H2'	12:AA:1016:C:C6	2.56	0.41
12:AA:1238:U:H2'	12:AA:1239:C:C6	2.56	0.41
12:AA:1278:A:H2'	12:AA:1279:G:C8	2.56	0.41
12:AA:1316:A:OP2	12:AA:1495:U:H5	2.04	0.41
12:AA:1640:C:OP2	12:AA:1650:G:H8	2.03	0.41
12:AA:1908:C:H2'	12:AA:1909:C:C6	2.56	0.41
12:AA:2114:C:H2'	12:AA:2115:C:C6	2.55	0.41
19:AI:30:ASP:HB2	19:AI:31:PRO:HD3	2.01	0.41
25:AP:139:MET:HE2	25:AP:139:MET:HB3	1.87	0.41
25:AP:193:VAL:HB	25:AP:194:PRO:HD3	2.02	0.41
31:AV:48:ASP:OD1	31:AV:48:ASP:C	2.64	0.41
33:AX:95:LEU:HB3	33:AX:189:ARG:HD3	2.03	0.41
36:Az:156:SER:HA	36:Az:203:ALA:HB2	2.03	0.41
37:BA:356:A:H2'	37:BA:357:G:H8	1.85	0.41
37:BA:494:A:N3	38:BB:627:A:H4'	2.36	0.41
37:BA:917:U:H2'	37:BA:918:U:C6	2.56	0.41
37:BA:1164:U:H2'	37:BA:1165:A:C8	2.56	0.41
37:BA:1175:U:O4	88:BA:2042:SPD:H71	2.20	0.41
37:BA:1218:U:O2'	37:BA:1220:U:H5'	2.21	0.41
37:BA:1315:C:H41	53:BS:179:ALA:HB1	1.83	0.41
91:BA:1920:PUT:HN21	91:BA:1920:PUT:H12	1.84	0.41
38:BB:357:A:H8	38:BB:357:A:OP2	2.04	0.41
38:BB:438:U:H5''	65:Be:18:VAL:HG11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BB:1337:U:H2'	38:BB:1338:C:C6	2.56	0.41
38:BB:1428:U:H2'	38:BB:1429:PSU:C6	2.55	0.41
38:BB:1463:A:H2'	38:BB:1464:A:C8	2.55	0.41
41:BE:116:G:H2'	41:BE:117:C:H6	1.86	0.41
45:BI:100:THR:O	62:Bb:88:MET:HE1	2.21	0.41
47:BL:10:LYS:H	47:BL:10:LYS:CD	2.34	0.41
47:BL:123:TYR:C	47:BL:123:TYR:CD1	2.99	0.41
47:BL:178:ILE:HG22	47:BL:180:GLN:HG3	2.03	0.41
48:BN:135:ARG:HG3	48:BN:136:LYS:N	2.35	0.41
49:BO:189:LYS:C	49:BO:191:GLU:H	2.28	0.41
59:BY:8:PHE:HZ	59:BY:53:ILE:HG13	1.86	0.41
60:BZ:52:GLU:HG3	60:BZ:105:LYS:HB3	2.03	0.41
64:Bd:17:HIS:HA	64:Bd:20:GLY:HA2	2.02	0.41
69:Bi:47:TYR:HB2	69:Bi:50:GLN:HG3	2.02	0.41
70:Bj:113:LYS:HE3	70:Bj:113:LYS:HB3	1.77	0.41
81:Bu:293:LYS:HD3	81:Bu:293:LYS:HA	1.81	0.41
83:Bw:115:ARG:HG2	83:Bw:119:GLN:NE2	2.36	0.41
85:By:2:LYS:HE3	85:By:5:SER:OG	2.21	0.41
12:AA:1923:C:H3'	12:AA:1924:G:H5''	2.03	0.41
13:AC:184:CYS:O	13:AC:188:ALA:HB2	2.21	0.41
20:AJ:93:ILE:HD11	20:AJ:102:VAL:HG22	2.04	0.41
37:BA:224:U:H1'	63:Bc:145:ARG:HG2	2.02	0.41
37:BA:1747:U:H5	37:BA:1819:G:O2'	2.04	0.41
38:BB:4:C:H2'	38:BB:5:A:H8	1.85	0.41
38:BB:683:A:H2'	38:BB:684:C:H6	1.82	0.41
38:BB:1415:G:H2'	38:BB:1416:U:C6	2.56	0.41
45:BI:100:THR:HA	45:BI:119:ARG:HH11	1.86	0.41
65:Be:41:MET:HE3	65:Be:41:MET:HB3	1.79	0.41
68:Bh:131:LEU:HA	68:Bh:172:HIS:HB2	2.03	0.41
72:Bl:40:MET:HG2	82:Bv:181:ILE:HD13	2.03	0.41
76:Bp:76:ASN:C	76:Bp:76:ASN:OD1	2.64	0.41
78:Br:85:MET:HG3	78:Br:85:MET:O	2.21	0.41
81:Bu:170:LYS:HD3	81:Bu:186:PHE:CZ	2.56	0.41
83:Bw:170:LYS:HB3	83:Bw:170:LYS:HE2	1.82	0.41
85:By:117:LYS:HA	85:By:117:LYS:HD3	1.95	0.41
3:A1:69:VAL:HG11	3:A1:79:TYR:HE1	1.86	0.40
8:A6:131:ARG:HH22	29:AT:72:GLY:HA2	1.87	0.40
9:A7:104:LYS:HB2	9:A7:104:LYS:HE3	1.77	0.40
9:A7:133:LEU:HD21	9:A7:155:VAL:HG11	2.04	0.40
12:AA:483:G:O2'	12:AA:2210:A:H5''	2.21	0.40
13:AC:103:ALA:HB2	27:AR:42:ALA:HB2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AG:135:LEU:HD23	17:AG:135:LEU:HA	1.96	0.40
30:AU:55:LYS:HE2	30:AU:75:LEU:CD2	2.48	0.40
30:AU:96:ARG:HG3	30:AU:108:THR:HG22	2.03	0.40
36:Az:177:PHE:CE1	36:Az:195:VAL:HG21	2.56	0.40
37:BA:821:G:H4'	37:BA:839:G:H5'	2.04	0.40
38:BB:804:U:H1'	39:BC:170:A:H5''	2.03	0.40
42:BF:58:U:H2'	49:BO:212:ASN:HD21	1.85	0.40
52:BR:67:ILE:HD11	52:BR:80:LYS:HB3	2.03	0.40
66:Bf:400:ARG:HA	66:Bf:400:ARG:HD3	1.98	0.40
67:Bg:35:VAL:HG12	67:Bg:102:SER:HB3	2.04	0.40
73:Bm:69:LEU:HD13	73:Bm:99:GLU:HG3	2.02	0.40
82:Bv:64:GLY:HA3	82:Bv:65:HY3:C	2.51	0.40
83:Bw:122:ARG:HD3	95:Bw:306:HOH:O	2.21	0.40
9:A7:261:ARG:HH21	9:A7:270:ILE:HD11	1.85	0.40
12:AA:43:U:H2'	12:AA:44:G:O4'	2.20	0.40
12:AA:299:A:H2'	12:AA:300:C:H6	1.84	0.40
12:AA:1524:U:H3	12:AA:1533:G:N2	2.10	0.40
12:AA:1608:A:C2	12:AA:2050:A:C4	3.09	0.40
12:AA:1984:C:H2'	12:AA:1985:C:C6	2.56	0.40
14:AD:37:LEU:HD23	14:AD:37:LEU:HA	1.96	0.40
33:AX:111:ASN:O	33:AX:111:ASN:OD1	2.39	0.40
37:BA:116:U:H2'	37:BA:117:C:H6	1.85	0.40
37:BA:749:G:C6	38:BB:625:A:C8	3.09	0.40
37:BA:1698:C:O2'	37:BA:1699:U:H2'	2.22	0.40
38:BB:709:U:H3	38:BB:766:C:N4	2.18	0.40
38:BB:1110:A:H2'	38:BB:1111:G:O4'	2.21	0.40
38:BB:1505:G:H2'	38:BB:1506:G:H8	1.85	0.40
41:BE:143:U:H2'	41:BE:144:G:O4'	2.21	0.40
44:BH:5:G:H2'	44:BH:6:U:H6	1.82	0.40
46:BK:83:GLU:OE1	46:BK:83:GLU:N	2.54	0.40
49:BO:160:MET:HE2	49:BO:160:MET:HB3	1.86	0.40
52:BR:27:LYS:HD3	52:BR:63:TYR:HB3	2.03	0.40
55:BU:133:ARG:HG2	55:BU:133:ARG:HH11	1.86	0.40
66:Bf:41:PRO:HA	66:Bf:189:ASN:O	2.21	0.40
81:Bu:197:ASN:ND2	81:Bu:200:VAL:HG23	2.35	0.40
4:A2:4:LYS:HE3	4:A2:4:LYS:HB2	1.87	0.40
7:A5:160:ARG:HD2	12:AA:269:U:H4'	2.03	0.40
12:AA:306:C:H2'	12:AA:307:C:H6	1.86	0.40
12:AA:582:A:N1	12:AA:602:U:H5	2.19	0.40
12:AA:764:U:H3	12:AA:787:G:N2	2.19	0.40
12:AA:1520:U:OP2	88:AA:2374:SPD:H81	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AA:1839:C:H2'	12:AA:1840:C:O4'	2.21	0.40
12:AA:2051:U:OP1	19:AI:47:ARG:HG2	2.21	0.40
13:AC:87:ILE:HA	13:AC:90:THR:HB	2.04	0.40
13:AC:237:LEU:HD23	13:AC:237:LEU:HA	1.87	0.40
16:AF:87:ASN:HB3	16:AF:89:ILE:HG13	2.04	0.40
37:BA:601:U:H4'	78:Br:334:LYS:NZ	2.36	0.40
37:BA:1161:A:H3'	37:BA:1162:C:C6	2.56	0.40
37:BA:1445:G:C6	49:BO:80:LYS:HA	2.56	0.40
38:BB:1107:C:O2'	38:BB:1108:U:H5'	2.21	0.40
38:BB:1117:A:C2	47:BL:131:GLY:HA3	2.57	0.40
56:BV:29:ASP:C	56:BV:29:ASP:OD1	2.64	0.40
81:Bu:189:TYR:HA	81:Bu:196:LEU:HA	2.02	0.40
84:Bx:217:ASN:O	84:Bx:221:GLN:HG2	2.21	0.40
2:A0:24:MET:HE2	2:A0:24:MET:HB3	1.93	0.40
12:AA:1028:U:C2	54:BT:185:ARG:NH2	2.90	0.40
12:AA:1653:C:H2'	12:AA:1654:U:C6	2.57	0.40
12:AA:2255:A:H2'	12:AA:2256:G:H8	1.87	0.40
23:AM:15:ARG:HD2	23:AM:20:ASN:ND2	2.37	0.40
27:AR:78:ILE:HG21	27:AR:85:ILE:HD12	2.03	0.40
32:AW:22:ARG:HA	32:AW:27:GLN:HB3	2.03	0.40
37:BA:849:A:H2'	37:BA:850:U:C6	2.57	0.40
37:BA:1592:C:H2'	37:BA:1593:G:H8	1.86	0.40
38:BB:444:G:H2'	38:BB:445:C:C6	2.56	0.40
38:BB:979:A:H2'	38:BB:980:A:O4'	2.22	0.40
51:BQ:53:ILE:HD12	51:BQ:126:LYS:HD3	2.03	0.40
51:BQ:220:LYS:HB3	78:Br:113:LYS:CG	2.52	0.40
53:BS:95:GLU:OE2	53:BS:137:ARG:HG2	2.22	0.40
55:BU:68:THR:O	81:Bu:41:LYS:HB2	2.21	0.40
56:BV:120:LYS:HG3	56:BV:121:TYR:N	2.37	0.40
85:By:107:LEU:HD13	85:By:108:VAL:N	2.37	0.40
8:A6:131:ARG:NH2	29:AT:72:GLY:HA2	2.36	0.40
8:A6:178:ALA:HA	8:A6:181:LYS:NZ	2.36	0.40
11:A9:148:LEU:HD21	11:A9:150:TYR:CZ	2.56	0.40
12:AA:122:C:H2'	12:AA:123:U:C6	2.56	0.40
12:AA:1585:U:H5'	19:AI:139:GLY:H	1.87	0.40
12:AA:1695:C:H2'	12:AA:1696:G:N3	2.37	0.40
12:AA:1947:G:H2'	12:AA:1948:A:C8	2.56	0.40
12:AA:2134:OMC:H2'	12:AA:2135:C:O4'	2.21	0.40
12:AA:2167:G:H2'	12:AA:2168:U:C6	2.56	0.40
19:AI:21:LYS:HB3	19:AI:21:LYS:HE3	1.80	0.40
23:AM:61:SER:O	23:AM:65:LEU:HD22	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AO:154:LYS:HG2	24:AO:159:LYS:NZ	2.37	0.40
37:BA:479:A:N6	39:BC:14:G:H1'	2.36	0.40
38:BB:430:A:H2'	38:BB:431:A:C8	2.57	0.40
38:BB:601:OMC:HM23	38:BB:601:OMC:H1'	1.93	0.40
38:BB:1208:C:O3'	80:Bt:39:GLY:HA3	2.21	0.40
38:BB:1241:A:H2'	38:BB:1242:C:C6	2.57	0.40
42:BF:56:A:H5'	42:BF:57:G:C8	2.57	0.40
47:BL:58:ARG:NH1	47:BL:58:ARG:HB2	2.36	0.40
47:BL:94:LYS:O	47:BL:97:GLU:HG2	2.22	0.40
47:BL:122:LYS:HD3	47:BL:123:TYR:H	1.85	0.40
80:Bt:15:GLU:CD	80:Bt:15:GLU:H	2.29	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	
2	A0	221/256 (86%)	217 (98%)	4 (2%)	0	100	100
3	A1	260/273 (95%)	252 (97%)	8 (3%)	0	100	100
4	A2	179/190 (94%)	176 (98%)	3 (2%)	0	100	100
5	A3	236/250 (94%)	232 (98%)	4 (2%)	0	100	100
6	A4	194/202 (96%)	187 (96%)	7 (4%)	0	100	100
7	A5	188/220 (86%)	187 (100%)	1 (0%)	0	100	100
8	A6	179/190 (94%)	174 (97%)	5 (3%)	0	100	100
9	A7	302/318 (95%)	289 (96%)	13 (4%)	0	100	100
10	A8	54/57 (95%)	54 (100%)	0	0	100	100
11	A9	66/153 (43%)	61 (92%)	5 (8%)	0	100	100
13	AC	206/277 (74%)	199 (97%)	7 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	AD	97/172 (56%)	96 (99%)	1 (1%)	0	100	100
15	AE	151/174 (87%)	144 (95%)	7 (5%)	0	100	100
16	AF	115/144 (80%)	114 (99%)	1 (1%)	0	100	100
17	AG	147/151 (97%)	147 (100%)	0	0	100	100
18	AH	132/144 (92%)	126 (96%)	6 (4%)	0	100	100
19	AI	119/152 (78%)	115 (97%)	4 (3%)	0	100	100
20	AJ	127/130 (98%)	126 (99%)	1 (1%)	0	100	100
21	AK	139/149 (93%)	130 (94%)	9 (6%)	0	100	100
22	AL	122/142 (86%)	119 (98%)	3 (2%)	0	100	100
23	AM	124/153 (81%)	121 (98%)	3 (2%)	0	100	100
24	AO	152/167 (91%)	150 (99%)	2 (1%)	0	100	100
25	AP	216/266 (81%)	213 (99%)	3 (1%)	0	100	100
26	AQ	98/117 (84%)	95 (97%)	3 (3%)	0	100	100
27	AR	86/194 (44%)	85 (99%)	1 (1%)	0	100	100
28	AS	138/143 (96%)	135 (98%)	3 (2%)	0	100	100
29	AT	127/137 (93%)	120 (94%)	7 (6%)	0	100	100
30	AU	71/113 (63%)	68 (96%)	2 (3%)	1 (1%)	9	5
31	AV	101/111 (91%)	94 (93%)	7 (7%)	0	100	100
32	AW	83/86 (96%)	78 (94%)	5 (6%)	0	100	100
33	AX	206/214 (96%)	196 (95%)	10 (5%)	0	100	100
34	AY	56/66 (85%)	51 (91%)	5 (9%)	0	100	100
35	AZ	55/103 (53%)	53 (96%)	2 (4%)	0	100	100
36	Az	172/279 (62%)	160 (93%)	12 (7%)	0	100	100
45	BI	190/193 (98%)	186 (98%)	4 (2%)	0	100	100
46	BK	190/213 (89%)	184 (97%)	6 (3%)	0	100	100
47	BL	172/194 (89%)	169 (98%)	3 (2%)	0	100	100
48	BN	213/218 (98%)	205 (96%)	8 (4%)	0	100	100
49	BO	218/222 (98%)	215 (99%)	3 (1%)	0	100	100
50	BP	175/189 (93%)	171 (98%)	4 (2%)	0	100	100
51	BQ	200/221 (90%)	195 (98%)	5 (2%)	0	100	100
52	BR	152/166 (92%)	150 (99%)	2 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
53	BS	173/179 (97%)	170 (98%)	3 (2%)	0	100	100
54	BT	198/260 (76%)	194 (98%)	4 (2%)	0	100	100
55	BU	155/159 (98%)	150 (97%)	5 (3%)	0	100	100
56	BV	111/130 (85%)	104 (94%)	7 (6%)	0	100	100
57	BW	130/139 (94%)	129 (99%)	1 (1%)	0	100	100
58	BX	116/164 (71%)	115 (99%)	1 (1%)	0	100	100
59	BY	61/125 (49%)	60 (98%)	1 (2%)	0	100	100
60	BZ	121/143 (85%)	118 (98%)	3 (2%)	0	100	100
61	Ba	131/133 (98%)	130 (99%)	1 (1%)	0	100	100
62	Bb	142/145 (98%)	135 (95%)	7 (5%)	0	100	100
63	Bc	142/146 (97%)	141 (99%)	1 (1%)	0	100	100
64	Bd	67/71 (94%)	65 (97%)	2 (3%)	0	100	100
65	Be	253/260 (97%)	246 (97%)	7 (3%)	0	100	100
66	Bf	397/429 (92%)	388 (98%)	9 (2%)	0	100	100
67	Bg	94/105 (90%)	92 (98%)	2 (2%)	0	100	100
68	Bh	113/188 (60%)	111 (98%)	2 (2%)	0	100	100
69	Bi	129/132 (98%)	127 (98%)	2 (2%)	0	100	100
70	Bj	120/170 (71%)	117 (98%)	3 (2%)	0	100	100
71	Bk	121/127 (95%)	114 (94%)	7 (6%)	0	100	100
72	Bl	142/149 (95%)	138 (97%)	4 (3%)	0	100	100
73	Bm	96/109 (88%)	95 (99%)	1 (1%)	0	100	100
74	Bn	80/84 (95%)	78 (98%)	2 (2%)	0	100	100
75	Bo	87/93 (94%)	81 (93%)	6 (7%)	0	100	100
76	Bp	75/82 (92%)	73 (97%)	2 (3%)	0	100	100
77	Bq	48/51 (94%)	46 (96%)	1 (2%)	1 (2%)	5	2
78	Br	330/374 (88%)	317 (96%)	13 (4%)	0	100	100
79	Bs	48/128 (38%)	47 (98%)	1 (2%)	0	100	100
80	Bt	95/106 (90%)	89 (94%)	6 (6%)	0	100	100
81	Bu	299/308 (97%)	294 (98%)	5 (2%)	0	100	100
82	Bv	139/192 (72%)	134 (96%)	5 (4%)	0	100	100
83	Bw	225/257 (88%)	220 (98%)	5 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
84	Bx	230/276 (83%)	221 (96%)	9 (4%)	0	100	100
85	By	184/189 (97%)	179 (97%)	5 (3%)	0	100	100
86	Bz	31/34 (91%)	31 (100%)	0	0	100	100
All	All	11312/13146 (86%)	10988 (97%)	322 (3%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
30	AU	40	GLU
77	Bq	50	HIS

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	
2	A0	193/218 (88%)	190 (98%)	3 (2%)	55	64
3	A1	221/231 (96%)	220 (100%)	1 (0%)	81	88
4	A2	156/160 (98%)	155 (99%)	1 (1%)	78	86
5	A3	197/207 (95%)	195 (99%)	2 (1%)	68	76
6	A4	180/185 (97%)	179 (99%)	1 (1%)	78	86
7	A5	155/180 (86%)	154 (99%)	1 (1%)	78	86
8	A6	161/166 (97%)	159 (99%)	2 (1%)	63	72
9	A7	258/266 (97%)	248 (96%)	10 (4%)	28	31
10	A8	49/50 (98%)	46 (94%)	3 (6%)	17	15
11	A9	60/126 (48%)	60 (100%)	0	100	100
13	AC	183/243 (75%)	182 (100%)	1 (0%)	81	88
14	AD	87/131 (66%)	86 (99%)	1 (1%)	65	74
15	AE	138/156 (88%)	137 (99%)	1 (1%)	76	83
16	AF	99/119 (83%)	98 (99%)	1 (1%)	68	76
17	AG	128/131 (98%)	128 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	AH	103/111 (93%)	102 (99%)	1 (1%)	68	76
19	AI	98/128 (77%)	96 (98%)	2 (2%)	48	56
20	AJ	108/109 (99%)	108 (100%)	0	100	100
21	AK	117/123 (95%)	116 (99%)	1 (1%)	70	78
22	AL	100/122 (82%)	99 (99%)	1 (1%)	68	76
23	AM	111/133 (84%)	109 (98%)	2 (2%)	51	60
24	AO	127/137 (93%)	126 (99%)	1 (1%)	73	81
25	AP	181/204 (89%)	180 (99%)	1 (1%)	78	86
26	AQ	90/104 (86%)	85 (94%)	5 (6%)	19	18
27	AR	72/149 (48%)	70 (97%)	2 (3%)	38	43
28	AS	115/117 (98%)	112 (97%)	3 (3%)	40	46
29	AT	108/116 (93%)	105 (97%)	3 (3%)	38	43
30	AU	63/94 (67%)	62 (98%)	1 (2%)	55	64
31	AV	90/97 (93%)	89 (99%)	1 (1%)	65	74
32	AW	74/75 (99%)	73 (99%)	1 (1%)	59	67
33	AX	176/180 (98%)	174 (99%)	2 (1%)	65	74
34	AY	48/53 (91%)	48 (100%)	0	100	100
35	AZ	50/84 (60%)	50 (100%)	0	100	100
36	Az	140/216 (65%)	139 (99%)	1 (1%)	76	83
45	BI	164/165 (99%)	164 (100%)	0	100	100
46	BK	169/185 (91%)	169 (100%)	0	100	100
47	BL	147/167 (88%)	140 (95%)	7 (5%)	23	23
48	BN	185/188 (98%)	183 (99%)	2 (1%)	65	74
49	BO	193/194 (100%)	191 (99%)	2 (1%)	68	76
50	BP	146/158 (92%)	146 (100%)	0	100	100
51	BQ	175/192 (91%)	174 (99%)	1 (1%)	78	86
52	BR	132/144 (92%)	132 (100%)	0	100	100
53	BS	156/158 (99%)	153 (98%)	3 (2%)	50	58
54	BT	162/198 (82%)	160 (99%)	2 (1%)	63	72
55	BU	132/133 (99%)	128 (97%)	4 (3%)	36	41
56	BV	98/116 (84%)	97 (99%)	1 (1%)	68	76

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
57	BW	103/108 (95%)	102 (99%)	1 (1%)	68	76
58	BX	105/136 (77%)	104 (99%)	1 (1%)	68	76
59	BY	56/102 (55%)	55 (98%)	1 (2%)	51	60
60	BZ	109/125 (87%)	107 (98%)	2 (2%)	51	60
61	Ba	117/117 (100%)	115 (98%)	2 (2%)	53	62
62	Bb	115/116 (99%)	115 (100%)	0	100	100
63	Bc	128/130 (98%)	127 (99%)	1 (1%)	73	81
64	Bd	57/59 (97%)	57 (100%)	0	100	100
65	Be	197/203 (97%)	196 (100%)	1 (0%)	81	88
66	Bf	340/359 (95%)	339 (100%)	1 (0%)	86	91
67	Bg	85/92 (92%)	83 (98%)	2 (2%)	43	49
68	Bh	106/162 (65%)	105 (99%)	1 (1%)	70	78
69	Bi	116/117 (99%)	115 (99%)	1 (1%)	70	78
70	Bj	103/137 (75%)	103 (100%)	0	100	100
71	Bk	105/114 (92%)	105 (100%)	0	100	100
72	Bl	122/126 (97%)	120 (98%)	2 (2%)	55	64
73	Bm	81/90 (90%)	78 (96%)	3 (4%)	30	33
74	Bn	70/71 (99%)	70 (100%)	0	100	100
75	Bo	72/76 (95%)	69 (96%)	3 (4%)	26	28
76	Bp	71/77 (92%)	69 (97%)	2 (3%)	38	43
77	Bq	46/47 (98%)	46 (100%)	0	100	100
78	Br	278/310 (90%)	278 (100%)	0	100	100
79	Bs	39/111 (35%)	36 (92%)	3 (8%)	12	9
80	Bt	87/95 (92%)	86 (99%)	1 (1%)	65	74
81	Bu	242/247 (98%)	240 (99%)	2 (1%)	73	81
82	Bv	118/159 (74%)	116 (98%)	2 (2%)	53	62
83	Bw	190/213 (89%)	190 (100%)	0	100	100
84	Bx	198/228 (87%)	196 (99%)	2 (1%)	68	76
85	By	169/172 (98%)	164 (97%)	5 (3%)	36	41
86	Bz	29/31 (94%)	29 (100%)	0	100	100
All	All	9749/11049 (88%)	9632 (99%)	117 (1%)	61	72

All (117) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A0	108	THR
2	A0	133	ASP
2	A0	153	SER
3	A1	123	VAL
4	A2	64	PHE
5	A3	156	VAL
5	A3	202	VAL
6	A4	117	VAL
7	A5	44	SER
8	A6	19	GLU
8	A6	88	ASP
9	A7	34	THR
9	A7	117	PHE
9	A7	164	LEU
9	A7	168	VAL
9	A7	199	VAL
9	A7	222	LEU
9	A7	243	ILE
9	A7	272	VAL
9	A7	284	ILE
9	A7	307	ASN
10	A8	15	MET
10	A8	31	LEU
10	A8	40	CYS
13	AC	202	ARG
14	AD	74	THR
15	AE	56	LEU
16	AF	37	LEU
18	AH	144	LEU
19	AI	73	ASN
19	AI	99	SER
21	AK	28	THR
22	AL	101	VAL
23	AM	80	ILE
23	AM	82	GLU
24	AO	56	THR
25	AP	164	ILE
26	AQ	17	VAL
26	AQ	19	VAL
26	AQ	22	THR
26	AQ	29	VAL
26	AQ	88	LEU

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Mol	Chain	Res	Type
27	AR	44	VAL
27	AR	55	THR
28	AS	72	VAL
28	AS	105	PHE
28	AS	128	VAL
29	AT	14	THR
29	AT	22	LEU
29	AT	30	VAL
30	AU	79	VAL
31	AV	94	GLU
32	AW	56	LYS
33	AX	113	GLN
33	AX	174	CYS
36	Az	222	VAL
47	BL	35	ASP
47	BL	43	VAL
47	BL	46	GLN
47	BL	53	VAL
47	BL	106	THR
47	BL	133	ASP
47	BL	136	VAL
48	BN	107	LYS
48	BN	139	GLN
49	BO	137	VAL
49	BO	203	GLU
51	BQ	37	ARG
53	BS	3	ARG
53	BS	25	THR
53	BS	62	SER
54	BT	172	LYS
54	BT	189	ARG
55	BU	2	VAL
55	BU	109	LEU
55	BU	123	THR
55	BU	150	THR
56	BV	44	LEU
57	BW	133	THR
58	BX	53	GLN
59	BY	27	LEU
60	BZ	57[A]	ARG
60	BZ	57[B]	ARG
61	Ba	14	SER

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Mol	Chain	Res	Type
61	Ba	97	ASN
63	Bc	2	THR
65	Be	208	GLU
66	Bf	329	VAL
67	Bg	35	VAL
67	Bg	76	THR
68	Bh	128	ASP
69	Bi	130	VAL
72	Bl	24	LYS
72	Bl	58	THR
73	Bm	26	THR
73	Bm	56	VAL
73	Bm	73	LYS
75	Bo	3	LYS
75	Bo	5	THR
75	Bo	89	LEU
76	Bp	31	VAL
76	Bp	59	SER
79	Bs	81	THR
79	Bs	85	LEU
79	Bs	105	VAL
80	Bt	83	ASN
81	Bu	219	GLU
81	Bu	280	THR
82	Bv	146	GLU
82	Bv	164	LYS
84	Bx	49	ILE
84	Bx	139	THR
85	By	16	THR
85	By	32	THR
85	By	80	THR
85	By	109	GLU
85	By	138	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (93) such sidechains are listed below:

Mol	Chain	Res	Type
2	A0	193	ASN
3	A1	240	GLN
4	A2	25	ASN
4	A2	74	GLN
5	A3	225	GLN

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Mol	Chain	Res	Type
6	A4	94	ASN
6	A4	198	GLN
7	A5	52	ASN
9	A7	97	GLN
9	A7	100	GLN
9	A7	131	ASN
13	AC	75	HIS
13	AC	83	ASN
13	AC	88	HIS
13	AC	106	ASN
13	AC	177	ASN
13	AC	205	HIS
16	AF	88	ASN
18	AH	106	GLN
19	AI	73	ASN
19	AI	121	HIS
20	AJ	9	ASN
20	AJ	39	GLN
21	AK	13	GLN
22	AL	123	ASN
23	AM	12	HIS
23	AM	20	ASN
23	AM	88	GLN
24	AO	41	GLN
24	AO	65	GLN
25	AP	162	HIS
27	AR	38	GLN
29	AT	16	GLN
29	AT	119	ASN
31	AV	75	GLN
32	AW	20	HIS
36	Az	84	GLN
36	Az	190	GLN
46	BK	71	GLN
47	BL	50	GLN
47	BL	75	HIS
48	BN	10	HIS
48	BN	108	ASN
49	BO	44	GLN
49	BO	143	GLN
49	BO	163	HIS
49	BO	187	HIS

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Mol	Chain	Res	Type
51	BQ	40	GLN
51	BQ	173	HIS
52	BR	28	ASN
52	BR	69	ASN
52	BR	97	ASN
53	BS	5	HIS
53	BS	107	GLN
53	BS	121	HIS
54	BT	169	ASN
55	BU	102	GLN
56	BV	16	GLN
56	BV	71	ASN
57	BW	26	ASN
58	BX	101	ASN
59	BY	10	HIS
59	BY	14	HIS
60	BZ	78	HIS
61	Ba	123	ASN
62	Bb	104	ASN
62	Bb	144	GLN
63	Bc	15	ASN
64	Bd	9	ASN
64	Bd	19	ASN
66	Bf	39	GLN
66	Bf	109	HIS
66	Bf	124	GLN
66	Bf	275	HIS
67	Bg	79	HIS
68	Bh	132	ASN
69	Bi	89	GLN
69	Bi	124	ASN
70	Bj	101	GLN
71	Bk	21	GLN
73	Bm	20	ASN
74	Bn	48	ASN
78	Br	42	ASN
78	Br	183	ASN
78	Br	315	GLN
78	Br	333	GLN
81	Bu	139	GLN
81	Bu	216	GLN
83	Bw	182	GLN

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Mol	Chain	Res	Type
83	Bw	231	GLN
84	Bx	90	GLN
84	Bx	250	GLN
85	By	8	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	Et	17/95 (17%)	3 (17%)	0
12	AA	1860/2280 (81%)	414 (22%)	8 (0%)
37	BA	1519/1866 (81%)	244 (16%)	6 (0%)
38	BB	1117/1544 (72%)	199 (17%)	9 (0%)
39	BC	157/209 (75%)	19 (12%)	0
40	BD	119/120 (99%)	10 (8%)	0
41	BE	180/217 (82%)	33 (18%)	2 (1%)
42	BF	75/78 (96%)	17 (22%)	2 (2%)
43	BG	182/183 (99%)	25 (13%)	1 (0%)
44	BH	111/136 (81%)	21 (18%)	1 (0%)
All	All	5337/6728 (79%)	985 (18%)	29 (0%)

All (985) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	Et	66	U
1	Et	67	C
1	Et	76	A
12	AA	32	C
12	AA	45	C
12	AA	53	C
12	AA	54	A
12	AA	62	G
12	AA	70	G
12	AA	73	U
12	AA	75	A
12	AA	93	A
12	AA	94	U
12	AA	102	U
12	AA	103	U
12	AA	104	G
12	AA	131	PSU
12	AA	135	A

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Mol	Chain	Res	Type
12	AA	136	C
12	AA	139	A
12	AA	141	U
12	AA	144	G
12	AA	149	C
12	AA	153	A
12	AA	159	C
12	AA	161	G
12	AA	167	G
12	AA	171	U
12	AA	172	A
12	AA	173	C
12	AA	174	U
12	AA	176	G
12	AA	177	A
12	AA	185	G
12	AA	191	C
12	AA	192	G
12	AA	202	U
12	AA	206	U
12	AA	208	A
12	AA	217	G
12	AA	219	C
12	AA	268	A
12	AA	269	U
12	AA	270	G
12	AA	273	A
12	AA	274	C
12	AA	275	G
12	AA	276	U
12	AA	277	C
12	AA	278	C
12	AA	280	G
12	AA	291	A
12	AA	292	A
12	AA	293	A
12	AA	294	U
12	AA	295	U
12	AA	302	A
12	AA	303	A
12	AA	305	G
12	AA	308	U

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Mol	Chain	Res	Type
12	AA	309	C
12	AA	311	A
12	AA	312	C
12	AA	313	C
12	AA	316	G
12	AA	320	C
12	AA	321	A
12	AA	324	A
12	AA	325	A
12	AA	327	A
12	AA	330	C
12	AA	331	A
12	AA	334	C
12	AA	355	G
12	AA	356	U
12	AA	359	G
12	AA	362	A
12	AA	367	A
12	AA	368	G
12	AA	369	C
12	AA	370	C
12	AA	376	G
12	AA	377	C
12	AA	399	C
12	AA	408	C
12	AA	410	G
12	AA	417	A
12	AA	431	G
12	AA	432	A
12	AA	446	G
12	AA	447	A
12	AA	453	G
12	AA	454	C
12	AA	463	A
12	AA	473	U
12	AA	483	G
12	AA	493	A
12	AA	494	A
12	AA	495	U
12	AA	511	G
12	AA	512	G
12	AA	514	G

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Mol	Chain	Res	Type
12	AA	516	G
12	AA	517	C
12	AA	519	G
12	AA	527	G
12	AA	532	U
12	AA	537	C
12	AA	545	A
12	AA	547	A
12	AA	552	A
12	AA	553	C
12	AA	566	A
12	AA	573	A
12	AA	575	A
12	AA	602	U
12	AA	606	U
12	AA	607	U
12	AA	609	A
12	AA	612	G
12	AA	618	U
12	AA	619	A
12	AA	633	A
12	AA	638	C
12	AA	640	A
12	AA	641	G
12	AA	642	U
12	AA	643	A
12	AA	644	A
12	AA	659	G
12	AA	660	U
12	AA	667	C
12	AA	680	U
12	AA	681	A
12	AA	682	A
12	AA	685	C
12	AA	690	U
12	AA	696	A
12	AA	710	C
12	AA	713	U
12	AA	721	A2M
12	AA	722	A
12	AA	725	G
12	AA	726	G

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Mol	Chain	Res	Type
12	AA	736	G
12	AA	740	U
12	AA	742	U
12	AA	743	G
12	AA	746	C
12	AA	747	C
12	AA	750	G
12	AA	751	U
12	AA	760	G
12	AA	762	C
12	AA	767	C
12	AA	776	C
12	AA	777	C
12	AA	778	A
12	AA	779	C
12	AA	782	C
12	AA	783	G
12	AA	787	G
12	AA	788	U
12	AA	790	U
12	AA	793	U
12	AA	794	G
12	AA	801	G
12	AA	802	C
12	AA	805	U
12	AA	806	C
12	AA	807	G
12	AA	827	G
12	AA	833	A
12	AA	834	G
12	AA	835	A
12	AA	838	C
12	AA	839	A
12	AA	844	A
12	AA	845	G
12	AA	848	G
12	AA	851	C
12	AA	866	G
12	AA	867	C
12	AA	868	A
12	AA	872	C
12	AA	873	A

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Mol	Chain	Res	Type
12	AA	874	U
12	AA	875	G
12	AA	876	C
12	AA	890	U
12	AA	895	G
12	AA	899	U
12	AA	900	U
12	AA	907	G
12	AA	911	A
12	AA	921	G
12	AA	922	A
12	AA	934	U
12	AA	935	G
12	AA	936	C
12	AA	937	C
12	AA	938	G
12	AA	939	A
12	AA	941	U
12	AA	942	U
12	AA	947	U
12	AA	949	C
12	AA	971	U
12	AA	972	C
12	AA	973	A
12	AA	974	G
12	AA	975	C
12	AA	979	G
12	AA	980	G
12	AA	981	G
12	AA	982	G
12	AA	985	A
12	AA	988	G
12	AA	999	U
12	AA	1000	G
12	AA	1004	G
12	AA	1006	U
12	AA	1008	U
12	AA	1013	G
12	AA	1022	A
12	AA	1024	A
12	AA	1025	U
12	AA	1026	U

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Mol	Chain	Res	Type
12	AA	1027	A
12	AA	1028	U
12	AA	1029	G
12	AA	1133	G
12	AA	1135	A
12	AA	1139	A
12	AA	1149	U
12	AA	1153	G
12	AA	1160	A
12	AA	1163	U
12	AA	1169	U
12	AA	1185	U
12	AA	1190	A
12	AA	1192	A
12	AA	1210	A
12	AA	1212	A
12	AA	1229	A
12	AA	1236	C
12	AA	1237	U
12	AA	1243	A
12	AA	1247	A
12	AA	1265	A
12	AA	1280	A
12	AA	1281	G
12	AA	1282	A
12	AA	1298	C
12	AA	1301	C
12	AA	1302	A
12	AA	1303	A
12	AA	1305	C
12	AA	1308	U
12	AA	1309	G
12	AA	1320	A
12	AA	1381	U
12	AA	1383	U
12	AA	1384	U
12	AA	1385	U
12	AA	1387	U
12	AA	1389	A
12	AA	1391	U
12	AA	1393	U
12	AA	1395	C

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Mol	Chain	Res	Type
12	AA	1401	U
12	AA	1462	U
12	AA	1478	U
12	AA	1495	U
12	AA	1496	G
12	AA	1497	G
12	AA	1501	U
12	AA	1502	U
12	AA	1504	C
12	AA	1505	A
12	AA	1519	G
12	AA	1536	A
12	AA	1543	A
12	AA	1548	A
12	AA	1555	G
12	AA	1563	C
12	AA	1572	G
12	AA	1590	U
12	AA	1599	A
12	AA	1601	A
12	AA	1604	G
12	AA	1605	G
12	AA	1606	G
12	AA	1607	A
12	AA	1619	PSU
12	AA	1622	G
12	AA	1623	G
12	AA	1634	G
12	AA	1643	A
12	AA	1648	G
12	AA	1649	U
12	AA	1650	G
12	AA	1651	U
12	AA	1656	U
12	AA	1657	C
12	AA	1660	G
12	AA	1671	U
12	AA	1706	U
12	AA	1711	U
12	AA	1719	U
12	AA	1720	U
12	AA	1723	G

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Mol	Chain	Res	Type
12	AA	1726	A
12	AA	1730	G
12	AA	1751	U
12	AA	1752	A
12	AA	1757	C
12	AA	1765	G
12	AA	1770	C
12	AA	1771	A
12	AA	1773	A
12	AA	1774	G
12	AA	1775	G
12	AA	1777	C
12	AA	1778	A
12	AA	1780	C
12	AA	1782	G
12	AA	1783	U
12	AA	1820	C
12	AA	1822	U
12	AA	1827	C
12	AA	1830	U
12	AA	1832	U
12	AA	1833	U
12	AA	1834	C
12	AA	1835	A
12	AA	1836	G
12	AA	1841	C
12	AA	1853	A
12	AA	1854	U
12	AA	1855	U
12	AA	1856	C
12	AA	1869	G
12	AA	1870	C
12	AA	1871	A
12	AA	1876	G
12	AA	1880	U
12	AA	1882	U
12	AA	1888	A
12	AA	1892	G
12	AA	1894	A
12	AA	1895	OMG
12	AA	1899	OMU
12	AA	1902	G

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Mol	Chain	Res	Type
12	AA	1903	A
12	AA	1907	PSU
12	AA	1912	A
12	AA	1913	A
12	AA	1924	G
12	AA	1926	C
12	AA	1927	A
12	AA	1938	A
12	AA	1944	A
12	AA	1950	A
12	AA	1951	A
12	AA	1953	A
12	AA	1956	A
12	AA	1957	G
12	AA	1981	G
12	AA	1982	C
12	AA	1991	G
12	AA	1992	A
12	AA	1994	C
12	AA	1998	A
12	AA	2008	A
12	AA	2009	A
12	AA	2012	A
12	AA	2013	C
12	AA	2014	G
12	AA	2017	A
12	AA	2018	U
12	AA	2019	C
12	AA	2023	U
12	AA	2024	A
12	AA	2025	G
12	AA	2031	C
12	AA	2036	G
12	AA	2051	U
12	AA	2053	A
12	AA	2054	OMU
12	AA	2063	C
12	AA	2064	A
12	AA	2070	7MG
12	AA	2079	G
12	AA	2080	U
12	AA	2085	G

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Mol	Chain	Res	Type
12	AA	2096	A2M
12	AA	2124	G
12	AA	2129	C
12	AA	2180	C
12	AA	2197	C
12	AA	2234	A
12	AA	2235	A
12	AA	2239	G
12	AA	2241	A
12	AA	2245	A
12	AA	2248	U
12	AA	2259	G
12	AA	2261	MA6
12	AA	2262	C
12	AA	2271	G
12	AA	2272	G
12	AA	2273	A
12	AA	2274	U
12	AA	2275	C
12	AA	2278	PSU
12	AA	2279	U
37	BA	9	A
37	BA	28	A
37	BA	33	C
37	BA	42	A
37	BA	45	A
37	BA	51	C
37	BA	62	A
37	BA	67	A
37	BA	68	A
37	BA	74	C
37	BA	76	G
37	BA	88	G
37	BA	91	A
37	BA	95	G
37	BA	96	C
37	BA	102	A
37	BA	114	A
37	BA	125	A
37	BA	132	U
37	BA	135	U
37	BA	138	A

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Mol	Chain	Res	Type
37	BA	139	U
37	BA	140	G
37	BA	157	C
37	BA	178	U
37	BA	179	A
37	BA	180	G
37	BA	182	G
37	BA	204	U
37	BA	205	C
37	BA	218	A
37	BA	228	U
37	BA	229	G
37	BA	231	A
37	BA	242	A
37	BA	249	A
37	BA	252	U
37	BA	253	G
37	BA	256	U
37	BA	270	A
37	BA	274	G
37	BA	275	U
37	BA	276	C
37	BA	286	C
37	BA	287	A
37	BA	298	A
37	BA	301	G
37	BA	307	A
37	BA	308	C
37	BA	336	G
37	BA	353	U
37	BA	362	A
37	BA	365	C
37	BA	366	C
37	BA	367	G
37	BA	373	U
37	BA	391	A
37	BA	397	A
37	BA	398	G
37	BA	399	A
37	BA	403	G
37	BA	406	A
37	BA	420	C

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Mol	Chain	Res	Type
37	BA	439	U
37	BA	440	U
37	BA	447	G
37	BA	470	A
37	BA	473	A
37	BA	489	A
37	BA	491	G
37	BA	493	C
37	BA	514	U
37	BA	527	G
37	BA	548	C
37	BA	557	U
37	BA	560	G
37	BA	568	A
37	BA	579	G
37	BA	601	U
37	BA	603	U
37	BA	605	G
37	BA	607	G
37	BA	610	C
37	BA	611	A
37	BA	615	G
37	BA	704	A
37	BA	705	C
37	BA	706	G
37	BA	709	G
37	BA	715	G
37	BA	716	G
37	BA	717	A
37	BA	733	C
37	BA	734	C
37	BA	743	A2M
37	BA	746	A2M
37	BA	757	A
37	BA	774	A
37	BA	786	G
37	BA	788	A
37	BA	789	U
37	BA	790	G
37	BA	791	U
37	BA	792	G
37	BA	793	A

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Mol	Chain	Res	Type
37	BA	802	U
37	BA	803	U
37	BA	809	A
37	BA	816	G
37	BA	819	A
37	BA	838	U
37	BA	845	C
37	BA	846	G
37	BA	850	U
37	BA	872	C
37	BA	887	C
37	BA	891	C
37	BA	893	U
37	BA	900	C
37	BA	901	G
37	BA	905	G
37	BA	919	G
37	BA	937	A
37	BA	950	A
37	BA	967	A
37	BA	969	C
37	BA	981	C
37	BA	994	U
37	BA	999	U
37	BA	1016	A
37	BA	1028	OMG
37	BA	1034	A
37	BA	1036	G
37	BA	1037	A
37	BA	1044	G
37	BA	1057	G
37	BA	1064	C
37	BA	1079	C
37	BA	1080	PSU
37	BA	1094	G
37	BA	1097	U
37	BA	1105	A
37	BA	1107	A
37	BA	1119	G
37	BA	1125	C
37	BA	1127	A
37	BA	1166	PSU

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Mol	Chain	Res	Type
37	BA	1172	A
37	BA	1174	C
37	BA	1202	G
37	BA	1206	U
37	BA	1211	A
37	BA	1216	G
37	BA	1219	U
37	BA	1220	U
37	BA	1222	G
37	BA	1223	G
37	BA	1230	A
37	BA	1231	A
37	BA	1232	G
37	BA	1234	A
37	BA	1238	A
37	BA	1251	G
37	BA	1265	G
37	BA	1282	G
37	BA	1284	A
37	BA	1287	A
37	BA	1293	U
37	BA	1294	U
37	BA	1315	C
37	BA	1316	U
37	BA	1317	U
37	BA	1319	U
37	BA	1320	G
37	BA	1329	C
37	BA	1330	OMU
37	BA	1334	U
37	BA	1335	A
37	BA	1338	U
37	BA	1340	A
37	BA	1345	G
37	BA	1347	U
37	BA	1348	G
37	BA	1356	A
37	BA	1426	A
37	BA	1442	A
37	BA	1446	G
37	BA	1447	A
37	BA	1448	OMU

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Mol	Chain	Res	Type
37	BA	1455	U
37	BA	1456	A
37	BA	1465	G
37	BA	1466	U
37	BA	1467	G
37	BA	1468	C
37	BA	1480	U
37	BA	1491	G
37	BA	1492	U
37	BA	1499	G
37	BA	1503	A
37	BA	1505	A
37	BA	1517	G
37	BA	1519	A
37	BA	1522	U
37	BA	1526	G
37	BA	1545	G
37	BA	1557	A
37	BA	1585	A
37	BA	1586	U
37	BA	1590	C
37	BA	1605	OMG
37	BA	1608	OMC
37	BA	1617	C
37	BA	1621	OMG
37	BA	1624	A
37	BA	1626	G
37	BA	1638	U
37	BA	1639	A
37	BA	1642	U
37	BA	1643	U
37	BA	1652	U
37	BA	1653	G
37	BA	1654	C
37	BA	1669	G
37	BA	1696	C
37	BA	1722	U
37	BA	1728	C
37	BA	1737	A
37	BA	1738	C
37	BA	1744	U
37	BA	1746	U

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Mol	Chain	Res	Type
37	BA	1749	G
37	BA	1750	G
37	BA	1758	A
37	BA	1766	G
37	BA	1803	C
37	BA	1806	G
37	BA	1809	U
37	BA	1810	A
37	BA	1827	A
37	BA	1832	A
37	BA	1854	G
37	BA	1860	G
37	BA	1862	A
38	BB	7	C
38	BB	18	A
38	BB	22	A
38	BB	25	A
38	BB	61	C
38	BB	62	A
38	BB	63	U
38	BB	68	A
38	BB	69	A
38	BB	75	C
38	BB	76	A
38	BB	90	G
38	BB	98	G
38	BB	358	A
38	BB	359	A
38	BB	380	A
38	BB	386	G
38	BB	395	A
38	BB	404	U
38	BB	422	A
38	BB	424	G
38	BB	433	U
38	BB	439	A
38	BB	472	A
38	BB	474	G
38	BB	500	G
38	BB	501	C
38	BB	508	A
38	BB	513	G

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Mol	Chain	Res	Type
38	BB	520	A
38	BB	522	PSU
38	BB	536	G
38	BB	537	G
38	BB	543	A
38	BB	544	A
38	BB	552	OMG
38	BB	562	U
38	BB	571	G
38	BB	572	C
38	BB	574	U
38	BB	577	A
38	BB	578	UY1
38	BB	579	G
38	BB	598	U
38	BB	599	G
38	BB	600	U
38	BB	636	A
38	BB	637	A
38	BB	638	C
38	BB	639	G
38	BB	657	G
38	BB	661	A
38	BB	666	A
38	BB	667	G
38	BB	668	A
38	BB	675	U
38	BB	676	G
38	BB	699	G
38	BB	702	C
38	BB	706	G
38	BB	766	C
38	BB	772	U
38	BB	778	U
38	BB	779	A
38	BB	786	G
38	BB	787	A
38	BB	790	A
38	BB	798	G
38	BB	799	G
38	BB	800	U
38	BB	801	U

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Mol	Chain	Res	Type
38	BB	803	U
38	BB	804	U
38	BB	805	U
38	BB	807	G
38	BB	817	C
38	BB	818	G
38	BB	819	G
38	BB	825	G
38	BB	831	U
38	BB	832	C
38	BB	835	G
38	BB	837	C
38	BB	839	G
38	BB	970	G
38	BB	971	C
38	BB	972	C
38	BB	975	G
38	BB	976	C
38	BB	977	G
38	BB	978	G
38	BB	979	A
38	BB	980	A
38	BB	983	A
38	BB	991	A
38	BB	992	A
38	BB	999	G
38	BB	1014	U
38	BB	1016	U
38	BB	1023	U
38	BB	1026	U
38	BB	1027	G
38	BB	1028	U
38	BB	1035	A
38	BB	1038	U
38	BB	1039	C
38	BB	1040	U
38	BB	1049	G
38	BB	1050	G
38	BB	1057	G
38	BB	1062	OMG
38	BB	1069	A
38	BB	1095	U

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Mol	Chain	Res	Type
38	BB	1099	A
38	BB	1117	A
38	BB	1120	G
38	BB	1121	A
38	BB	1122	A
38	BB	1132	G
38	BB	1133	G
38	BB	1134	A
38	BB	1137	A
38	BB	1139	A
38	BB	1147	A
38	BB	1157	G
38	BB	1163	C
38	BB	1172	G
38	BB	1173	U
38	BB	1181	G
38	BB	1190	A
38	BB	1191	A
38	BB	1197	G
38	BB	1205	A
38	BB	1215	A
38	BB	1222	G
38	BB	1223	G
38	BB	1225	A
38	BB	1226	A
38	BB	1231	A
38	BB	1232	A
38	BB	1250	G
38	BB	1253	A
38	BB	1254	G
38	BB	1255	A
38	BB	1257	U
38	BB	1264	OMC
38	BB	1268	G
38	BB	1271	A
38	BB	1287	G
38	BB	1297	U
38	BB	1298	C
38	BB	1299	A
38	BB	1303	C
38	BB	1314	U
38	BB	1325	G

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Mol	Chain	Res	Type
38	BB	1329	U
38	BB	1341	A
38	BB	1389	C
38	BB	1390	A
38	BB	1396	C
38	BB	1401	G
38	BB	1425	A
38	BB	1432	U
38	BB	1434	PSU
38	BB	1437	C
38	BB	1444	U
38	BB	1446	G
38	BB	1449	G
38	BB	1452	G
38	BB	1457	C
38	BB	1458	G
38	BB	1459	A
38	BB	1464	A
38	BB	1468	U
38	BB	1470	A
38	BB	1472	C
38	BB	1479	A
38	BB	1490	G
38	BB	1496	U
38	BB	1498	U
38	BB	1499	U
38	BB	1501	U
38	BB	1502	C
38	BB	1503	U
38	BB	1504	G
38	BB	1512	C
38	BB	1513	G
38	BB	1514	U
38	BB	1517	G
38	BB	1519	U
38	BB	1520	G
38	BB	1521	G
38	BB	1523	A
38	BB	1525	G
38	BB	1529	U
38	BB	1530	U
38	BB	1531	G

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Mol	Chain	Res	Type
38	BB	1532	G
38	BB	1539	C
39	BC	22	U
39	BC	48	A
39	BC	59	A
39	BC	62	A
39	BC	63	G
39	BC	94	C
39	BC	103	A
39	BC	104	A
39	BC	105	C
39	BC	110	A
39	BC	124	A
39	BC	138	C
39	BC	149	A
39	BC	157	U
39	BC	158	U
39	BC	159	U
39	BC	162	C
39	BC	169	G
39	BC	170	A
40	BD	12	U
40	BD	22	A
40	BD	25	G
40	BD	40	C
40	BD	42	A
40	BD	53	U
40	BD	64	A
40	BD	100	A
40	BD	110	G
40	BD	117	U
41	BE	4	G
41	BE	11	U
41	BE	14	G
41	BE	15	A
41	BE	16	A
41	BE	17	A
41	BE	22	U
41	BE	32	C
41	BE	34	C
41	BE	35	A
41	BE	39	A

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Mol	Chain	Res	Type
41	BE	53	A
41	BE	70	A
41	BE	108	G
41	BE	109	A
41	BE	110	C
41	BE	111	U
41	BE	112	U
41	BE	122	C
41	BE	123	U
41	BE	144	G
41	BE	147	A
41	BE	149	A
41	BE	153	A
41	BE	168	C
41	BE	170	G
41	BE	171	U
41	BE	177	G
41	BE	181	U
41	BE	182	G
41	BE	191	G
41	BE	201	A
41	BE	217	A
42	BF	6	A
42	BF	10	G
42	BF	14	C
42	BF	24	C
42	BF	25	C
42	BF	26	G
42	BF	33	U
42	BF	34	C
42	BF	37	C
42	BF	44	U
42	BF	57	G
42	BF	58	U
42	BF	59	A
42	BF	60	C
42	BF	63	U
42	BF	69	U
42	BF	73	A
43	BG	8	U
43	BG	9	G
43	BG	10	U

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Mol	Chain	Res	Type
43	BG	13	A
43	BG	14	G
43	BG	19	C
43	BG	25	G
43	BG	40	G
43	BG	58	G
43	BG	60	A
43	BG	85	C
43	BG	86	U
43	BG	102	G
43	BG	106	G
43	BG	114	A
43	BG	120	U
43	BG	121	C
43	BG	127	G
43	BG	132	U
43	BG	137	G
43	BG	157	A
43	BG	158	A
43	BG	159	A
43	BG	168	A
43	BG	173	C
44	BH	4	U
44	BH	14	C
44	BH	23	G
44	BH	26	C
44	BH	28	U
44	BH	49	C
44	BH	50	A
44	BH	51	C
44	BH	52	G
44	BH	68	G
44	BH	69	C
44	BH	70	U
44	BH	75	G
44	BH	79	A
44	BH	86	G
44	BH	87	U
44	BH	99	G
44	BH	106	G
44	BH	109	G
44	BH	113	G

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Mol	Chain	Res	Type
44	BH	120	C

All (29) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
12	AA	291	A
12	AA	416	G
12	AA	750	G
12	AA	782	C
12	AA	899	U
12	AA	971	U
12	AA	1390	A
12	AA	1853	A
37	BA	228	U
37	BA	993	C
37	BA	1016	A
37	BA	1036	G
37	BA	1118	G
37	BA	1745	G
38	BB	379	U
38	BB	471	A
38	BB	636	A
38	BB	817	C
38	BB	976	C
38	BB	1224	A
38	BB	1255	A
38	BB	1500	U
38	BB	1531	G
41	BE	167	A
41	BE	180	G
42	BF	43	C
42	BF	56	A
43	BG	18	U
44	BH	106	G

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

158 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
38	PSU	BB	522	38	18,21,22	4.49	7 (38%)	22,30,33	1.74	5 (22%)
38	OMG	BB	1269	38	23,26,27	2.30	9 (39%)	33,38,41	2.22	12 (36%)
9	SNC	A7	157	9	4,7,8	0.70	0	1,7,9	0.86	0
38	PSU	BB	611	38	18,21,22	4.38	7 (38%)	22,30,33	1.63	4 (18%)
66	HIC	Bf	248	66	10,11,12	0.44	0	8,14,16	0.35	0
38	PSU	BB	629	38	18,21,22	4.50	7 (38%)	22,30,33	1.47	3 (13%)
12	OMG	AA	1700	12	23,26,27	2.37	9 (39%)	33,38,41	2.31	12 (36%)
12	OMC	AA	1844	12	19,22,23	3.01	8 (42%)	26,31,34	0.68	0
38	OMG	BB	71	38	23,26,27	2.38	8 (34%)	33,38,41	2.19	11 (33%)
37	OMC	BA	760	87,37	19,22,23	3.01	8 (42%)	26,31,34	0.67	0
38	PSU	BB	1160	38	18,21,22	4.46	7 (38%)	22,30,33	1.74	4 (18%)
55	SNC	BU	139	55	4,7,8	0.69	0	1,7,9	1.13	0
12	OMU	AA	714	12	19,22,23	2.99	8 (42%)	26,31,34	1.74	5 (19%)
16	SNC	AF	48	16	4,7,8	0.70	0	1,7,9	1.16	0
38	OMG	BB	1062	38	23,26,27	2.36	9 (39%)	33,38,41	2.35	12 (36%)
12	OMU	AA	36	12	19,22,23	2.94	8 (42%)	26,31,34	1.76	5 (19%)
38	5MC	BB	1324	87,93,38	18,22,23	3.51	7 (38%)	26,32,35	1.11	1 (3%)
12	PSU	AA	1612	12	18,21,22	4.49	7 (38%)	22,30,33	1.84	5 (22%)
37	A2M	BA	996	37	22,25,26	3.40	10 (45%)	31,36,39	2.31	9 (29%)
12	OMC	AA	2134	12	19,22,23	3.01	8 (42%)	26,31,34	0.71	0
38	A2M	BB	1388	38	22,25,26	3.40	10 (45%)	31,36,39	2.30	8 (25%)
12	OMG	AA	1517	12	23,26,27	2.38	9 (39%)	33,38,41	2.37	10 (30%)
12	MA6	AA	2260	12	23,26,27	1.35	3 (13%)	34,38,41	3.61	11 (32%)
37	A2M	BA	1665	37,38	22,25,26	3.37	10 (45%)	31,36,39	2.37	10 (32%)
38	OMU	BB	685	38	19,22,23	2.97	8 (42%)	26,31,34	1.58	5 (19%)
38	UY1	BB	578	87,93,38	19,22,23	0.61	1 (5%)	22,31,34	0.54	1 (4%)
37	OMC	BA	1006	37	19,22,23	2.89	8 (42%)	26,31,34	0.71	0
12	MA6	AA	2261	12	23,26,27	1.34	3 (13%)	34,38,41	3.70	11 (32%)
38	A2M	BB	622	37,38	22,25,26	3.42	10 (45%)	31,36,39	2.34	11 (35%)
37	PSU	BA	1614	37,38	18,21,22	4.49	8 (44%)	22,30,33	1.67	4 (18%)
38	OMC	BB	601	38	19,22,23	2.91	8 (42%)	26,31,34	0.74	0
84	HY3	Bx	172	84	6,8,9	0.93	0	5,10,12	2.00	2 (40%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	A2M	BC	163	39,37	22,25,26	3.46	10 (45%)	31,36,39	2.32	10 (32%)
12	OMG	AA	1676	12	23,26,27	2.31	9 (39%)	33,38,41	2.34	12 (36%)
12	OMU	AA	57	12	19,22,23	2.99	8 (42%)	26,31,34	1.66	5 (19%)
39	OMG	BC	75	39	23,26,27	2.33	9 (39%)	33,38,41	2.27	13 (39%)
37	PSU	BA	737	87,37	18,21,22	4.48	8 (44%)	22,30,33	1.50	3 (13%)
37	PSU	BA	452	37	18,21,22	4.49	7 (38%)	22,30,33	1.81	5 (22%)
65	SNC	Be	195	65	4,7,8	0.65	0	1,7,9	1.19	0
39	A2M	BC	41	39	22,25,26	3.39	9 (40%)	31,36,39	2.38	10 (32%)
12	OMG	AA	2227	12	23,26,27	2.32	9 (39%)	33,38,41	2.37	13 (39%)
12	7MG	AA	2070	12	22,26,27	4.24	10 (45%)	29,39,42	1.97	9 (31%)
12	OMU	AA	1652	12	19,22,23	2.98	8 (42%)	26,31,34	1.55	5 (19%)
37	PSU	BA	1009	37	18,21,22	4.49	7 (38%)	22,30,33	1.60	4 (18%)
12	OMG	AA	1931	12	23,26,27	2.39	9 (39%)	33,38,41	2.37	11 (33%)
38	OMC	BB	377	38	19,22,23	3.03	8 (42%)	26,31,34	0.68	0
39	A2M	BC	43	39	22,25,26	3.38	10 (45%)	31,36,39	2.35	10 (32%)
12	B8N	AA	1596	12	24,29,30	3.11	8 (33%)	29,42,45	1.77	6 (20%)
6	SNC	A4	138	6	4,7,8	0.69	0	1,7,9	1.09	0
38	OMC	BB	1264	38	19,22,23	2.99	8 (42%)	26,31,34	0.83	0
12	OMG	AA	1603	12	23,26,27	2.38	9 (39%)	33,38,41	2.33	12 (36%)
38	A2M	BB	1201	38	22,25,26	3.38	10 (45%)	31,36,39	2.48	13 (41%)
38	PSU	BB	528	38	18,21,22	4.47	7 (38%)	22,30,33	1.72	5 (22%)
38	PSU	BB	1409	38	18,21,22	4.52	7 (38%)	22,30,33	1.74	5 (22%)
12	OMG	AA	1531	12	23,26,27	2.26	9 (39%)	33,38,41	2.21	13 (39%)
12	PSU	AA	2045	12	18,21,22	4.49	7 (38%)	22,30,33	1.64	4 (18%)
27	SNC	AR	58	27	4,7,8	0.67	0	1,7,9	0.52	0
53	SNC	BS	100	53	4,7,8	0.75	0	1,7,9	1.10	0
38	PSU	BB	680	87,38	18,21,22	4.40	7 (38%)	22,30,33	1.58	4 (18%)
38	A2M	BB	400	38	22,25,26	3.37	9 (40%)	31,36,39	2.37	9 (29%)
38	PSU	BB	1429	93,38	18,21,22	4.50	7 (38%)	22,30,33	1.65	4 (18%)
38	A2M	BB	545	38	22,25,26	3.32	10 (45%)	31,36,39	2.57	12 (38%)
12	PSU	AA	1619	12	18,21,22	4.53	7 (38%)	22,30,33	1.75	5 (22%)
38	PSU	BB	644	38	18,21,22	4.47	7 (38%)	22,30,33	1.56	4 (18%)
12	OMC	AA	66	12	19,22,23	3.00	8 (42%)	26,31,34	0.84	0
38	OMG	BB	1245	38	23,26,27	2.36	9 (39%)	33,38,41	2.25	12 (36%)
38	PSU	BB	1319	38	18,21,22	4.52	7 (38%)	22,30,33	1.73	5 (22%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
12	OMC	AA	46	12	19,22,23	2.96	8 (42%)	26,31,34	0.66	0
37	PSU	BA	1129	37,93	18,21,22	4.49	7 (38%)	22,30,33	1.79	5 (22%)
38	PSU	BB	1210	38	18,21,22	4.51	7 (38%)	22,30,33	1.79	5 (22%)
37	A2M	BA	927	37	22,25,26	3.35	10 (45%)	31,36,39	2.43	11 (35%)
37	OMG	BA	1267	87,37	23,26,27	2.32	9 (39%)	33,38,41	2.22	15 (45%)
12	PSU	AA	61	12	18,21,22	4.55	7 (38%)	22,30,33	1.84	5 (22%)
12	PSU	AA	2121	12	18,21,22	4.48	7 (38%)	22,30,33	1.81	5 (22%)
12	A2M	AA	125	87,12	22,25,26	3.42	9 (40%)	31,36,39	2.36	9 (29%)
38	PSU	BB	1076	38	18,21,22	4.49	7 (38%)	22,30,33	1.94	5 (22%)
38	A2M	BB	1400	87,38	22,25,26	3.37	9 (40%)	31,36,39	2.50	11 (35%)
38	OMC	BB	1175	38	19,22,23	2.98	8 (42%)	26,31,34	0.83	0
37	OMG	BA	1028	37	23,26,27	2.33	9 (39%)	33,38,41	2.12	11 (33%)
37	PSU	BA	1609	37	18,21,22	4.49	7 (38%)	22,30,33	1.65	4 (18%)
38	PSU	BB	1434	38	18,21,22	4.25	8 (44%)	22,30,33	1.61	3 (13%)
37	PSU	BA	1169	37	18,21,22	4.52	7 (38%)	22,30,33	1.82	5 (22%)
38	OMG	BB	1094	38	23,26,27	2.31	9 (39%)	33,38,41	2.25	15 (45%)
18	IAS	AH	131	18	6,7,8	0.93	0	6,8,10	1.25	1 (16%)
37	PSU	BA	1086	37,93	18,21,22	4.51	7 (38%)	22,30,33	1.71	4 (18%)
12	OMG	AA	1895	87,12	23,26,27	2.33	9 (39%)	33,38,41	2.32	14 (42%)
37	OMU	BA	1742	37	19,22,23	2.99	8 (42%)	26,31,34	1.66	4 (15%)
38	PSU	BB	1419	38	18,21,22	4.49	7 (38%)	22,30,33	1.80	6 (27%)
38	OMG	BB	1247	38	23,26,27	2.35	9 (39%)	33,38,41	2.31	13 (39%)
37	OMC	BA	1608	37	19,22,23	3.04	8 (42%)	26,31,34	0.88	1 (3%)
37	OMU	BA	916	37	19,22,23	2.96	8 (42%)	26,31,34	1.56	5 (19%)
51	HY3	BQ	203	51	6,8,9	0.85	0	5,10,12	1.13	1 (20%)
12	OMU	AA	2054	12	19,22,23	3.01	8 (42%)	26,31,34	1.73	5 (19%)
39	OMU	BC	7	39,37	19,22,23	2.98	8 (42%)	26,31,34	1.65	5 (19%)
12	PSU	AA	1710	12	18,21,22	4.47	7 (38%)	22,30,33	1.74	3 (13%)
37	PSU	BA	1080	37,38	18,21,22	4.54	7 (38%)	22,30,33	1.75	4 (18%)
38	OMU	BB	73	38	19,22,23	2.90	7 (36%)	26,31,34	1.49	4 (15%)
37	PSU	BA	258	37	18,21,22	4.49	7 (38%)	22,30,33	1.63	4 (18%)
37	OMU	BA	46	37	19,22,23	2.97	8 (42%)	26,31,34	1.85	6 (23%)
37	OMG	BA	1605	37	23,26,27	2.40	9 (39%)	33,38,41	2.28	15 (45%)
12	PSU	AA	2278	12	18,21,22	4.45	7 (38%)	22,30,33	1.66	5 (22%)
21	HY3	AK	47	21	6,8,9	0.89	0	5,10,12	1.46	1 (20%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	PSU	BC	74	39	18,21,22	4.51	7 (38%)	22,30,33	1.78	5 (22%)
37	A2M	BA	762	37	22,25,26	3.41	10 (45%)	31,36,39	2.35	10 (32%)
38	PSU	BB	1403	87,38	18,21,22	4.24	8 (44%)	22,30,33	1.64	5 (22%)
49	HY3	BO	88	49	6,8,9	0.89	0	5,10,12	1.31	1 (20%)
37	OMG	BA	1621	87,37,38	23,26,27	2.29	9 (39%)	33,38,41	2.24	13 (39%)
28	HY3	AS	62	28	6,8,9	0.88	0	5,10,12	1.15	1 (20%)
38	OMC	BB	1413	38	19,22,23	3.01	8 (42%)	26,31,34	0.75	0
38	OMU	BB	1093	38	19,22,23	2.96	8 (42%)	26,31,34	1.63	5 (19%)
38	OMG	BB	72	37,38	23,26,27	2.33	8 (34%)	33,38,41	2.14	10 (30%)
38	OMG	BB	673	38	23,26,27	2.32	9 (39%)	33,38,41	2.31	13 (39%)
12	PSU	AA	1592	12	18,21,22	4.53	7 (38%)	22,30,33	1.75	5 (22%)
38	PSU	BB	490	38	18,21,22	4.52	7 (38%)	22,30,33	1.67	4 (18%)
12	OMU	AA	1674	12	19,22,23	3.00	8 (42%)	26,31,34	1.70	5 (19%)
12	OMC	AA	1932	12	19,22,23	2.99	8 (42%)	26,31,34	0.78	0
38	PSU	BB	455	93,38	18,21,22	4.52	8 (44%)	22,30,33	1.90	5 (22%)
12	A2M	AA	56	12	22,25,26	3.43	10 (45%)	31,36,39	2.31	10 (32%)
38	A2M	BB	590	38	22,25,26	3.36	9 (40%)	31,36,39	2.45	11 (35%)
12	PSU	AA	131	12	18,21,22	4.45	8 (44%)	22,30,33	1.80	4 (18%)
38	OMG	BB	552	38	23,26,27	2.37	9 (39%)	33,38,41	2.33	12 (36%)
37	OMG	BA	1709	37	23,26,27	2.32	9 (39%)	33,38,41	2.33	12 (36%)
37	1MA	BA	742	87,37	21,25,26	0.34	0	31,37,40	0.47	0
37	OMU	BA	1181	37	19,22,23	2.99	8 (42%)	26,31,34	1.75	5 (19%)
12	A2M	AA	2096	12	22,25,26	3.40	9 (40%)	31,36,39	2.40	11 (35%)
38	A2M	BB	588	37,93,38	22,25,26	3.35	10 (45%)	31,36,39	2.44	10 (32%)
38	A2M	BB	646	38	22,25,26	3.37	9 (40%)	31,36,39	2.27	9 (29%)
38	OMG	BB	659	87,38	23,26,27	2.31	9 (39%)	33,38,41	2.23	13 (39%)
53	SNC	BS	10	53	4,7,8	0.75	0	1,7,9	0.46	0
6	HY3	A4	137	6	6,8,9	0.87	0	5,10,12	1.25	1 (20%)
12	PSU	AA	1276	12	18,21,22	4.54	7 (38%)	22,30,33	1.61	3 (13%)
38	PSU	BB	615	38	18,21,22	4.50	7 (38%)	22,30,33	1.61	3 (13%)
38	OMU	BB	1435	38	19,22,23	2.96	7 (36%)	26,31,34	1.50	4 (15%)
37	OMG	BA	925	37	23,26,27	2.31	9 (39%)	33,38,41	2.30	13 (39%)
38	PSU	BB	1280	38	18,21,22	4.48	7 (38%)	22,30,33	1.75	6 (27%)
38	5MC	BB	542	87,38	18,22,23	3.48	7 (38%)	26,32,35	1.04	2 (7%)
12	UY1	AA	2123	12	19,22,23	0.41	0	22,31,34	0.99	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
37	A2M	BA	746	37	22,25,26	3.40	9 (40%)	31,36,39	2.38	10 (32%)
37	OMU	BA	1448	37	19,22,23	3.07	8 (42%)	26,31,34	1.71	4 (15%)
82	HY3	Bv	65	82	6,8,9	0.88	0	5,10,12	1.19	1 (20%)
38	PSU	BB	1398	87,38	18,21,22	4.37	7 (38%)	22,30,33	1.82	6 (27%)
37	A2M	BA	743	37,38	22,25,26	3.37	9 (40%)	31,36,39	2.34	10 (32%)
12	PSU	AA	1907	12	18,21,22	4.53	7 (38%)	22,30,33	1.74	5 (22%)
12	OMU	AA	1899	12	19,22,23	3.01	8 (42%)	26,31,34	1.77	5 (19%)
12	PSU	AA	2146	12	18,21,22	4.53	8 (44%)	22,30,33	1.66	3 (13%)
37	OMU	BA	1330	37	19,22,23	3.03	8 (42%)	26,31,34	1.71	4 (15%)
37	A2M	BA	1620	87,37,38	22,25,26	3.35	9 (40%)	31,36,39	2.37	11 (35%)
38	A2M	BB	95	38	22,25,26	3.47	9 (40%)	31,36,39	2.41	11 (35%)
37	A2M	BA	254	37	22,25,26	3.41	9 (40%)	31,36,39	2.37	10 (32%)
12	PSU	AA	662	12	18,21,22	4.49	7 (38%)	22,30,33	1.65	5 (22%)
37	PSU	BA	1166	37	18,21,22	4.52	8 (44%)	22,30,33	1.66	4 (18%)
12	PSU	AA	1610	12	18,21,22	4.49	8 (44%)	22,30,33	1.63	4 (18%)
37	A2M	BA	1024	37	22,25,26	3.39	10 (45%)	31,36,39	2.33	11 (35%)
37	PSU	BA	1258	37	18,21,22	4.56	7 (38%)	22,30,33	1.80	5 (22%)
38	PSU	BB	1334	38	18,21,22	4.31	8 (44%)	22,30,33	1.79	5 (22%)
12	A2M	AA	721	87,12	22,25,26	3.37	10 (45%)	31,36,39	2.48	12 (38%)
38	A2M	BB	609	38	22,25,26	3.40	10 (45%)	31,36,39	2.35	8 (25%)
37	PSU	BA	1248	37,93	18,21,22	4.51	7 (38%)	22,30,33	1.73	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
38	PSU	BB	522	38	-	2/7/25/26	0/2/2/2
38	OMG	BB	1269	38	-	0/9/27/28	0/3/3/3
9	SNC	A7	157	9	-	0/0/6/8	-
38	PSU	BB	611	38	-	0/7/25/26	0/2/2/2
66	HIC	Bf	248	66	-	0/5/6/8	0/1/1/1
38	PSU	BB	629	38	-	0/7/25/26	0/2/2/2
12	OMG	AA	1700	12	-	0/9/27/28	0/3/3/3
12	OMC	AA	1844	12	-	0/9/27/28	0/2/2/2
38	OMG	BB	71	38	-	0/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
37	OMC	BA	760	87,37	-	1/9/27/28	0/2/2/2
38	PSU	BB	1160	38	-	0/7/25/26	0/2/2/2
55	SNC	BU	139	55	-	0/0/6/8	-
12	OMU	AA	714	12	-	0/9/27/28	0/2/2/2
16	SNC	AF	48	16	-	0/0/6/8	-
38	OMG	BB	1062	38	-	3/9/27/28	0/3/3/3
12	OMU	AA	36	12	-	5/9/27/28	0/2/2/2
38	5MC	BB	1324	87,93,38	-	4/7/25/26	0/2/2/2
12	PSU	AA	1612	12	-	0/7/25/26	0/2/2/2
37	A2M	BA	996	37	-	0/9/27/28	0/3/3/3
12	OMC	AA	2134	12	-	0/9/27/28	0/2/2/2
38	A2M	BB	1388	38	-	0/9/27/28	0/3/3/3
12	OMG	AA	1517	12	-	0/9/27/28	0/3/3/3
12	MA6	AA	2260	12	-	0/11/29/30	0/3/3/3
37	A2M	BA	1665	37,38	-	1/9/27/28	0/3/3/3
38	OMU	BB	685	38	-	0/9/27/28	0/2/2/2
38	UY1	BB	578	87,93,38	-	4/9/27/28	0/2/2/2
37	OMC	BA	1006	37	-	0/9/27/28	0/2/2/2
12	MA6	AA	2261	12	-	2/11/29/30	0/3/3/3
38	A2M	BB	622	37,38	-	0/9/27/28	0/3/3/3
37	PSU	BA	1614	37,38	-	0/7/25/26	0/2/2/2
38	OMC	BB	601	38	-	0/9/27/28	0/2/2/2
84	HY3	Bx	172	84	-	1/1/12/14	0/1/1/1
39	A2M	BC	163	39,37	-	0/9/27/28	0/3/3/3
12	OMG	AA	1676	12	-	0/9/27/28	0/3/3/3
12	OMU	AA	57	12	-	1/9/27/28	0/2/2/2
39	OMG	BC	75	39	-	0/9/27/28	0/3/3/3
37	PSU	BA	737	87,37	-	0/7/25/26	0/2/2/2
37	PSU	BA	452	37	-	0/7/25/26	0/2/2/2
65	SNC	Be	195	65	-	0/0/6/8	-
39	A2M	BC	41	39	-	0/9/27/28	0/3/3/3
12	OMG	AA	2227	12	-	0/9/27/28	0/3/3/3
12	7MG	AA	2070	12	-	0/7/37/38	0/3/3/3
12	OMU	AA	1652	12	-	1/9/27/28	0/2/2/2
37	PSU	BA	1009	37	-	0/7/25/26	0/2/2/2
12	OMG	AA	1931	12	-	0/9/27/28	0/3/3/3
38	OMC	BB	377	38	-	0/9/27/28	0/2/2/2
39	A2M	BC	43	39	-	0/9/27/28	0/3/3/3
12	B8N	AA	1596	12	-	1/16/34/35	0/2/2/2
6	SNC	A4	138	6	-	0/0/6/8	-
38	OMC	BB	1264	38	-	1/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
12	OMG	AA	1603	12	-	1/9/27/28	0/3/3/3
38	A2M	BB	1201	38	-	0/9/27/28	0/3/3/3
38	PSU	BB	528	38	-	0/7/25/26	0/2/2/2
38	PSU	BB	1409	38	-	2/7/25/26	0/2/2/2
12	OMG	AA	1531	12	-	1/9/27/28	0/3/3/3
12	PSU	AA	2045	12	-	0/7/25/26	0/2/2/2
27	SNC	AR	58	27	-	0/0/6/8	-
53	SNC	BS	100	53	-	0/0/6/8	-
38	PSU	BB	680	87,38	-	0/7/25/26	0/2/2/2
38	A2M	BB	400	38	-	1/9/27/28	0/3/3/3
38	PSU	BB	1429	93,38	-	0/7/25/26	0/2/2/2
38	A2M	BB	545	38	-	2/9/27/28	0/3/3/3
12	PSU	AA	1619	12	-	2/7/25/26	0/2/2/2
38	PSU	BB	644	38	-	0/7/25/26	0/2/2/2
12	OMC	AA	66	12	-	0/9/27/28	0/2/2/2
38	OMG	BB	1245	38	-	0/9/27/28	0/3/3/3
38	PSU	BB	1319	38	-	0/7/25/26	0/2/2/2
12	OMC	AA	46	12	-	0/9/27/28	0/2/2/2
37	PSU	BA	1129	37,93	-	0/7/25/26	0/2/2/2
38	PSU	BB	1210	38	-	0/7/25/26	0/2/2/2
37	A2M	BA	927	37	-	0/9/27/28	0/3/3/3
37	OMG	BA	1267	87,37	-	0/9/27/28	0/3/3/3
12	PSU	AA	61	12	-	0/7/25/26	0/2/2/2
12	PSU	AA	2121	12	-	0/7/25/26	0/2/2/2
12	A2M	AA	125	87,12	-	0/9/27/28	0/3/3/3
38	PSU	BB	1076	38	-	0/7/25/26	0/2/2/2
38	A2M	BB	1400	87,38	-	0/9/27/28	0/3/3/3
38	OMC	BB	1175	38	-	0/9/27/28	0/2/2/2
37	OMG	BA	1028	37	-	1/9/27/28	0/3/3/3
37	PSU	BA	1609	37	-	0/7/25/26	0/2/2/2
38	PSU	BB	1434	38	-	0/7/25/26	0/2/2/2
37	PSU	BA	1169	37	-	0/7/25/26	0/2/2/2
38	OMG	BB	1094	38	-	1/9/27/28	0/3/3/3
18	IAS	AH	131	18	-	1/7/7/8	-
37	PSU	BA	1086	37,93	-	0/7/25/26	0/2/2/2
12	OMG	AA	1895	87,12	-	3/9/27/28	0/3/3/3
37	OMU	BA	1742	37	-	0/9/27/28	0/2/2/2
38	PSU	BB	1419	38	-	0/7/25/26	0/2/2/2
38	OMG	BB	1247	38	-	0/9/27/28	0/3/3/3
37	OMC	BA	1608	37	-	3/9/27/28	0/2/2/2
37	OMU	BA	916	37	-	0/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
51	HY3	BQ	203	51	-	1/1/12/14	0/1/1/1
12	OMU	AA	2054	12	-	2/9/27/28	0/2/2/2
39	OMU	BC	7	39,37	-	1/9/27/28	0/2/2/2
12	PSU	AA	1710	12	-	2/7/25/26	0/2/2/2
37	PSU	BA	1080	37,38	-	2/7/25/26	0/2/2/2
38	OMU	BB	73	38	-	0/9/27/28	0/2/2/2
37	PSU	BA	258	37	-	0/7/25/26	0/2/2/2
37	OMU	BA	46	37	-	0/9/27/28	0/2/2/2
37	OMG	BA	1605	37	-	0/9/27/28	0/3/3/3
12	PSU	AA	2278	12	-	1/7/25/26	0/2/2/2
21	HY3	AK	47	21	-	0/1/12/14	0/1/1/1
39	PSU	BC	74	39	-	0/7/25/26	0/2/2/2
37	A2M	BA	762	37	-	0/9/27/28	0/3/3/3
38	PSU	BB	1403	87,38	-	0/7/25/26	0/2/2/2
49	HY3	BO	88	49	-	0/1/12/14	0/1/1/1
37	OMG	BA	1621	87,37,38	-	1/9/27/28	0/3/3/3
28	HY3	AS	62	28	-	0/1/12/14	0/1/1/1
38	OMC	BB	1413	38	-	0/9/27/28	0/2/2/2
38	OMU	BB	1093	38	-	0/9/27/28	0/2/2/2
38	OMG	BB	72	37,38	-	0/9/27/28	0/3/3/3
38	OMG	BB	673	38	-	0/9/27/28	0/3/3/3
12	PSU	AA	1592	12	-	0/7/25/26	0/2/2/2
38	PSU	BB	490	38	-	0/7/25/26	0/2/2/2
12	OMU	AA	1674	12	-	0/9/27/28	0/2/2/2
12	OMC	AA	1932	12	-	0/9/27/28	0/2/2/2
38	PSU	BB	455	93,38	-	0/7/25/26	0/2/2/2
12	A2M	AA	56	12	-	1/9/27/28	0/3/3/3
38	A2M	BB	590	38	-	0/9/27/28	0/3/3/3
12	PSU	AA	131	12	-	2/7/25/26	0/2/2/2
38	OMG	BB	552	38	-	2/9/27/28	0/3/3/3
37	OMG	BA	1709	37	-	0/9/27/28	0/3/3/3
37	1MA	BA	742	87,37	-	2/7/25/26	0/3/3/3
37	OMU	BA	1181	37	-	0/9/27/28	0/2/2/2
12	A2M	AA	2096	12	-	0/9/27/28	0/3/3/3
38	A2M	BB	588	37,93,38	-	3/9/27/28	0/3/3/3
38	A2M	BB	646	38	-	0/9/27/28	0/3/3/3
38	OMG	BB	659	87,38	-	0/9/27/28	0/3/3/3
53	SNC	BS	10	53	-	0/0/6/8	-
6	HY3	A4	137	6	-	1/1/12/14	0/1/1/1
12	PSU	AA	1276	12	-	0/7/25/26	0/2/2/2
38	PSU	BB	615	38	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
38	OMU	BB	1435	38	-	0/9/27/28	0/2/2/2
37	OMG	BA	925	37	-	0/9/27/28	0/3/3/3
38	PSU	BB	1280	38	-	0/7/25/26	0/2/2/2
38	5MC	BB	542	87,38	-	0/7/25/26	0/2/2/2
12	UY1	AA	2123	12	-	1/9/27/28	0/2/2/2
37	A2M	BA	746	37	-	1/9/27/28	0/3/3/3
37	OMU	BA	1448	37	-	2/9/27/28	0/2/2/2
82	HY3	Bv	65	82	-	1/1/12/14	0/1/1/1
38	PSU	BB	1398	87,38	-	0/7/25/26	0/2/2/2
37	A2M	BA	743	37,38	-	3/9/27/28	0/3/3/3
12	PSU	AA	1907	12	-	2/7/25/26	0/2/2/2
12	OMU	AA	1899	12	-	2/9/27/28	0/2/2/2
12	PSU	AA	2146	12	-	0/7/25/26	0/2/2/2
37	OMU	BA	1330	37	-	2/9/27/28	0/2/2/2
37	A2M	BA	1620	87,37,38	-	0/9/27/28	0/3/3/3
38	A2M	BB	95	38	-	0/9/27/28	0/3/3/3
37	A2M	BA	254	37	-	0/9/27/28	0/3/3/3
12	PSU	AA	662	12	-	0/7/25/26	0/2/2/2
37	PSU	BA	1166	37	-	2/7/25/26	0/2/2/2
12	PSU	AA	1610	12	-	3/7/25/26	0/2/2/2
37	A2M	BA	1024	37	-	0/9/27/28	0/3/3/3
37	PSU	BA	1258	37	-	0/7/25/26	0/2/2/2
38	PSU	BB	1334	38	-	0/7/25/26	0/2/2/2
12	A2M	AA	721	87,12	-	4/9/27/28	0/3/3/3
38	A2M	BB	609	38	-	1/9/27/28	0/3/3/3
37	PSU	BA	1248	37,93	-	1/7/25/26	0/2/2/2

All (1119) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	BA	1080	PSU	C6-C5	11.97	1.49	1.35
12	AA	1276	PSU	C6-C5	11.92	1.49	1.35
37	BA	1086	PSU	C6-C5	11.92	1.49	1.35
12	AA	2146	PSU	C6-C5	11.91	1.49	1.35
37	BA	1258	PSU	C6-C5	11.89	1.49	1.35
12	AA	61	PSU	C6-C5	11.87	1.49	1.35
39	BC	74	PSU	C6-C5	11.87	1.49	1.35
38	BB	615	PSU	C6-C5	11.86	1.49	1.35
12	AA	1619	PSU	C6-C5	11.84	1.49	1.35
38	BB	1210	PSU	C6-C5	11.79	1.49	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	1429	PSU	C6-C5	11.78	1.49	1.35
37	BA	1166	PSU	C6-C5	11.78	1.49	1.35
38	BB	644	PSU	C6-C5	11.78	1.49	1.35
37	BA	737	PSU	C6-C5	11.77	1.49	1.35
12	AA	1592	PSU	C6-C5	11.77	1.49	1.35
38	BB	629	PSU	C6-C5	11.77	1.49	1.35
38	BB	1319	PSU	C6-C5	11.76	1.49	1.35
37	BA	1609	PSU	C6-C5	11.75	1.49	1.35
38	BB	455	PSU	C6-C5	11.75	1.49	1.35
12	AA	662	PSU	C6-C5	11.74	1.49	1.35
37	BA	1009	PSU	C6-C5	11.74	1.49	1.35
12	AA	131	PSU	C6-C5	11.73	1.49	1.35
12	AA	1907	PSU	C6-C5	11.73	1.49	1.35
38	BB	490	PSU	C6-C5	11.72	1.49	1.35
38	BB	1076	PSU	C6-C5	11.72	1.49	1.35
37	BA	258	PSU	C6-C5	11.71	1.49	1.35
38	BB	1280	PSU	C6-C5	11.70	1.48	1.35
12	AA	2121	PSU	C6-C5	11.69	1.48	1.35
37	BA	1129	PSU	C6-C5	11.68	1.48	1.35
37	BA	1248	PSU	C6-C5	11.68	1.48	1.35
12	AA	1610	PSU	C6-C5	11.68	1.48	1.35
38	BB	1409	PSU	C6-C5	11.68	1.48	1.35
37	BA	452	PSU	C6-C5	11.64	1.48	1.35
37	BA	1169	PSU	C6-C5	11.64	1.48	1.35
12	AA	2045	PSU	C6-C5	11.63	1.48	1.35
12	AA	2278	PSU	C6-C5	11.62	1.48	1.35
12	AA	1710	PSU	C6-C5	11.61	1.48	1.35
38	BB	528	PSU	C6-C5	11.59	1.48	1.35
38	BB	522	PSU	C6-C5	11.58	1.48	1.35
12	AA	1612	PSU	C6-C5	11.57	1.48	1.35
38	BB	680	PSU	C6-C5	11.55	1.48	1.35
38	BB	1419	PSU	C6-C5	11.55	1.48	1.35
38	BB	1160	PSU	C6-C5	11.50	1.48	1.35
38	BB	611	PSU	C6-C5	11.50	1.48	1.35
37	BA	1614	PSU	C6-C5	11.48	1.48	1.35
38	BB	1398	PSU	C6-C5	11.47	1.48	1.35
12	AA	2070	7MG	C8-N9	11.24	1.52	1.46
38	BB	1334	PSU	C6-C5	11.19	1.48	1.35
38	BB	1434	PSU	C6-C5	11.12	1.48	1.35
38	BB	1403	PSU	C6-C5	10.77	1.47	1.35
12	AA	1276	PSU	C2-N1	9.94	1.50	1.36
12	AA	1592	PSU	C2-N1	9.85	1.50	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	490	PSU	C2-N1	9.83	1.50	1.36
37	BA	1258	PSU	C2-N1	9.80	1.50	1.36
38	BB	615	PSU	C2-N1	9.79	1.50	1.36
37	BA	1080	PSU	C2-N1	9.79	1.50	1.36
38	BB	1419	PSU	C2-N1	9.78	1.50	1.36
12	AA	61	PSU	C2-N1	9.77	1.50	1.36
38	BB	1409	PSU	C2-N1	9.75	1.49	1.36
37	BA	1614	PSU	C2-N1	9.73	1.49	1.36
38	BB	1319	PSU	C2-N1	9.72	1.49	1.36
38	BB	629	PSU	C2-N1	9.72	1.49	1.36
37	BA	1166	PSU	C2-N1	9.72	1.49	1.36
12	AA	1610	PSU	C2-N1	9.71	1.49	1.36
12	AA	1907	PSU	C2-N1	9.71	1.49	1.36
38	BB	1280	PSU	C2-N1	9.67	1.49	1.36
38	BB	1076	PSU	C2-N1	9.66	1.49	1.36
37	BA	1169	PSU	C2-N1	9.66	1.49	1.36
37	BA	1248	PSU	C2-N1	9.65	1.49	1.36
12	AA	1619	PSU	C2-N1	9.64	1.49	1.36
37	BA	452	PSU	C2-N1	9.64	1.49	1.36
38	BB	644	PSU	C2-N1	9.64	1.49	1.36
12	AA	2045	PSU	C2-N1	9.64	1.49	1.36
37	BA	1129	PSU	C2-N1	9.63	1.49	1.36
12	AA	2146	PSU	C2-N1	9.63	1.49	1.36
12	AA	1612	PSU	C2-N1	9.63	1.49	1.36
37	BA	258	PSU	C2-N1	9.63	1.49	1.36
12	AA	1710	PSU	C2-N1	9.62	1.49	1.36
38	BB	522	PSU	C2-N1	9.62	1.49	1.36
12	AA	2121	PSU	C2-N1	9.61	1.49	1.36
12	AA	662	PSU	C2-N1	9.60	1.49	1.36
37	BA	1609	PSU	C2-N1	9.60	1.49	1.36
38	BB	1429	PSU	C2-N1	9.58	1.49	1.36
38	BB	528	PSU	C2-N1	9.58	1.49	1.36
38	BB	1210	PSU	C2-N1	9.57	1.49	1.36
37	BA	1086	PSU	C2-N1	9.57	1.49	1.36
12	AA	2070	7MG	C5-N7	9.56	1.46	1.35
38	BB	1160	PSU	C2-N1	9.56	1.49	1.36
37	BA	737	PSU	C2-N1	9.54	1.49	1.36
38	BB	455	PSU	C2-N1	9.51	1.49	1.36
39	BC	74	PSU	C2-N1	9.48	1.49	1.36
12	AA	2278	PSU	C2-N1	9.44	1.49	1.36
37	BA	1009	PSU	C2-N1	9.44	1.49	1.36
12	AA	131	PSU	C2-N1	9.32	1.49	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	1398	PSU	C2-N1	9.31	1.49	1.36
38	BB	680	PSU	C2-N1	9.23	1.49	1.36
38	BB	611	PSU	C2-N1	9.17	1.49	1.36
38	BB	542	5MC	C6-C5	9.15	1.49	1.34
38	BB	1324	5MC	C6-C5	9.12	1.49	1.34
38	BB	1334	PSU	C2-N1	9.10	1.49	1.36
39	BC	163	A2M	C2'-C1'	-8.76	1.30	1.53
38	BB	95	A2M	C2'-C1'	-8.70	1.30	1.53
38	BB	1434	PSU	C2-N1	8.69	1.48	1.36
38	BB	1403	PSU	C2-N1	8.66	1.48	1.36
12	AA	56	A2M	C2'-C1'	-8.65	1.30	1.53
12	AA	56	A2M	O4'-C1'	8.64	1.62	1.42
38	BB	95	A2M	O4'-C1'	8.63	1.62	1.42
38	BB	622	A2M	C2'-C1'	-8.63	1.30	1.53
38	BB	588	A2M	O4'-C1'	8.60	1.62	1.42
38	BB	590	A2M	O4'-C1'	8.60	1.62	1.42
12	AA	125	A2M	O4'-C1'	8.59	1.62	1.42
37	BA	746	A2M	C2'-C1'	-8.58	1.31	1.53
38	BB	609	A2M	C2'-C1'	-8.58	1.31	1.53
12	AA	2096	A2M	C2'-C1'	-8.57	1.31	1.53
38	BB	545	A2M	C2'-C1'	-8.55	1.31	1.53
39	BC	43	A2M	O4'-C1'	8.54	1.62	1.42
37	BA	762	A2M	O4'-C1'	8.54	1.62	1.42
37	BA	254	A2M	O4'-C1'	8.53	1.62	1.42
37	BA	743	A2M	C2'-C1'	-8.52	1.31	1.53
37	BA	1620	A2M	O4'-C1'	8.52	1.62	1.42
12	AA	125	A2M	C2'-C1'	-8.48	1.31	1.53
38	BB	622	A2M	O4'-C1'	8.47	1.62	1.42
37	BA	762	A2M	C2'-C1'	-8.47	1.31	1.53
38	BB	1201	A2M	O4'-C1'	8.47	1.62	1.42
39	BC	163	A2M	O4'-C1'	8.46	1.62	1.42
38	BB	1388	A2M	C2'-C1'	-8.46	1.31	1.53
38	BB	400	A2M	O4'-C1'	8.46	1.62	1.42
37	BA	1024	A2M	C2'-C1'	-8.45	1.31	1.53
37	BA	254	A2M	C2'-C1'	-8.44	1.31	1.53
38	BB	609	A2M	O4'-C1'	8.44	1.62	1.42
37	BA	1024	A2M	O4'-C1'	8.44	1.62	1.42
39	BC	41	A2M	C2'-C1'	-8.42	1.31	1.53
39	BC	43	A2M	C2'-C1'	-8.42	1.31	1.53
37	BA	996	A2M	C2'-C1'	-8.42	1.31	1.53
37	BA	1665	A2M	C2'-C1'	-8.42	1.31	1.53
37	BA	1665	A2M	O4'-C1'	8.41	1.61	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	BA	746	A2M	O4'-C1'	8.41	1.61	1.42
12	AA	2096	A2M	O4'-C1'	8.39	1.61	1.42
38	BB	590	A2M	C2'-C1'	-8.38	1.31	1.53
37	BA	996	A2M	O4'-C1'	8.38	1.61	1.42
38	BB	646	A2M	O4'-C1'	8.34	1.61	1.42
39	BC	41	A2M	O4'-C1'	8.30	1.61	1.42
37	BA	1620	A2M	C2'-C1'	-8.26	1.31	1.53
12	AA	721	A2M	O4'-C1'	8.26	1.61	1.42
37	BA	927	A2M	O4'-C1'	8.25	1.61	1.42
38	BB	400	A2M	C2'-C1'	-8.25	1.31	1.53
38	BB	1388	A2M	O4'-C1'	8.24	1.61	1.42
12	AA	721	A2M	C2'-C1'	-8.23	1.31	1.53
38	BB	1400	A2M	O4'-C1'	8.22	1.61	1.42
38	BB	588	A2M	C2'-C1'	-8.21	1.31	1.53
38	BB	1201	A2M	C2'-C1'	-8.21	1.31	1.53
37	BA	743	A2M	O4'-C1'	8.16	1.61	1.42
37	BA	927	A2M	C2'-C1'	-8.09	1.32	1.53
38	BB	545	A2M	O4'-C1'	7.91	1.60	1.42
38	BB	646	A2M	C2'-C1'	-7.89	1.32	1.53
38	BB	1400	A2M	C2'-C1'	-7.89	1.32	1.53
12	AA	1596	B8N	C6-N1	7.70	1.55	1.36
38	BB	455	PSU	C2-N3	7.64	1.50	1.37
37	BA	1169	PSU	C2-N3	7.60	1.50	1.37
12	AA	1907	PSU	C2-N3	7.59	1.50	1.37
38	BB	1409	PSU	C2-N3	7.57	1.50	1.37
37	BA	1258	PSU	C2-N3	7.57	1.50	1.37
37	BA	1009	PSU	C2-N3	7.56	1.50	1.37
37	BA	1614	PSU	C2-N3	7.55	1.50	1.37
12	AA	61	PSU	C2-N3	7.53	1.50	1.37
12	AA	1619	PSU	C2-N3	7.53	1.50	1.37
39	BC	74	PSU	C2-N3	7.52	1.50	1.37
38	BB	522	PSU	C2-N3	7.52	1.50	1.37
37	BA	1166	PSU	C2-N3	7.48	1.50	1.37
37	BA	1080	PSU	C2-N3	7.48	1.50	1.37
38	BB	1210	PSU	C2-N3	7.47	1.50	1.37
38	BB	1160	PSU	C2-N3	7.45	1.50	1.37
12	AA	1612	PSU	C2-N3	7.45	1.50	1.37
12	AA	1596	B8N	C4-N3	-7.44	1.26	1.40
12	AA	2045	PSU	C2-N3	7.43	1.50	1.37
38	BB	528	PSU	C2-N3	7.42	1.50	1.37
37	BA	452	PSU	C2-N3	7.41	1.50	1.37
38	BB	1319	PSU	C2-N3	7.40	1.50	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	AA	1592	PSU	C2-N3	7.39	1.50	1.37
38	BB	1419	PSU	C2-N3	7.38	1.50	1.37
37	BA	258	PSU	C2-N3	7.38	1.50	1.37
12	AA	662	PSU	C2-N3	7.37	1.50	1.37
12	AA	2121	PSU	C2-N3	7.36	1.50	1.37
12	AA	1610	PSU	C2-N3	7.35	1.50	1.37
38	BB	1429	PSU	C2-N3	7.35	1.50	1.37
12	AA	2146	PSU	C2-N3	7.35	1.50	1.37
38	BB	1280	PSU	C2-N3	7.34	1.50	1.37
38	BB	1076	PSU	C2-N3	7.33	1.50	1.37
37	BA	1129	PSU	C2-N3	7.33	1.50	1.37
37	BA	737	PSU	C2-N3	7.32	1.50	1.37
38	BB	490	PSU	C2-N3	7.32	1.50	1.37
37	BA	1248	PSU	C2-N3	7.31	1.50	1.37
37	BA	1086	PSU	C2-N3	7.26	1.49	1.37
12	AA	131	PSU	C2-N3	7.26	1.49	1.37
38	BB	611	PSU	C2-N3	7.25	1.49	1.37
12	AA	2278	PSU	C2-N3	7.24	1.49	1.37
37	BA	1609	PSU	C2-N3	7.20	1.49	1.37
37	BA	1448	OMU	C2-N1	7.19	1.50	1.38
38	BB	629	PSU	C2-N3	7.14	1.49	1.37
38	BB	615	PSU	C2-N3	7.13	1.49	1.37
38	BB	680	PSU	C2-N3	7.12	1.49	1.37
12	AA	1710	PSU	C2-N3	7.12	1.49	1.37
38	BB	1334	PSU	C2-N3	7.11	1.49	1.37
38	BB	644	PSU	C2-N3	7.07	1.49	1.37
12	AA	1276	PSU	C2-N3	7.06	1.49	1.37
38	BB	1398	PSU	C2-N3	7.04	1.49	1.37
38	BB	1434	PSU	C2-N3	7.01	1.49	1.37
38	BB	1403	PSU	C2-N3	7.01	1.49	1.37
37	BA	1330	OMU	C2-N1	6.97	1.49	1.38
37	BA	1742	OMU	C2-N1	6.94	1.49	1.38
12	AA	2070	7MG	C4-N9	6.93	1.45	1.37
12	AA	1674	OMU	C2-N1	6.90	1.49	1.38
12	AA	57	OMU	C2-N1	6.89	1.49	1.38
12	AA	714	OMU	C2-N1	6.89	1.49	1.38
12	AA	1899	OMU	C2-N1	6.87	1.49	1.38
12	AA	2054	OMU	C2-N1	6.86	1.49	1.38
37	BA	1181	OMU	C2-N1	6.85	1.49	1.38
38	BB	1093	OMU	C2-N1	6.83	1.49	1.38
12	AA	1652	OMU	C2-N1	6.83	1.49	1.38
37	BA	1330	OMU	C2-N3	6.80	1.50	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	AA	2054	OMU	C2-N3	6.75	1.50	1.38
39	BC	7	OMU	C2-N1	6.73	1.49	1.38
37	BA	916	OMU	C2-N1	6.73	1.49	1.38
38	BB	685	OMU	C2-N1	6.73	1.49	1.38
12	AA	714	OMU	C2-N3	6.72	1.50	1.38
12	AA	1674	OMU	C2-N3	6.71	1.49	1.38
37	BA	46	OMU	C2-N1	6.70	1.49	1.38
12	AA	1652	OMU	C2-N3	6.70	1.49	1.38
12	AA	36	OMU	C2-N1	6.68	1.49	1.38
12	AA	1899	OMU	C2-N3	6.68	1.49	1.38
12	AA	57	OMU	C2-N3	6.66	1.49	1.38
38	BB	1435	OMU	C2-N1	6.65	1.49	1.38
37	BA	1448	OMU	C2-N3	6.65	1.49	1.38
37	BA	927	A2M	O4'-C4'	-6.64	1.30	1.45
12	AA	721	A2M	O4'-C4'	-6.64	1.30	1.45
38	BB	646	A2M	O4'-C4'	-6.61	1.30	1.45
37	BA	46	OMU	C2-N3	6.61	1.49	1.38
38	BB	1400	A2M	O4'-C4'	-6.60	1.30	1.45
37	BA	1181	OMU	C2-N3	6.59	1.49	1.38
37	BA	1742	OMU	C2-N3	6.59	1.49	1.38
39	BC	7	OMU	C2-N3	6.56	1.49	1.38
38	BB	685	OMU	C2-N3	6.54	1.49	1.38
38	BB	1093	OMU	C2-N3	6.54	1.49	1.38
37	BA	916	OMU	C2-N3	6.49	1.49	1.38
38	BB	1388	A2M	O4'-C4'	-6.48	1.30	1.45
38	BB	1435	OMU	C2-N3	6.44	1.49	1.38
12	AA	2096	A2M	O4'-C4'	-6.43	1.30	1.45
37	BA	254	A2M	O4'-C4'	-6.40	1.30	1.45
12	AA	36	OMU	C2-N3	6.40	1.49	1.38
37	BA	743	A2M	O4'-C4'	-6.40	1.30	1.45
39	BC	163	A2M	O4'-C4'	-6.40	1.30	1.45
39	BC	41	A2M	O4'-C4'	-6.40	1.30	1.45
37	BA	996	A2M	O4'-C4'	-6.38	1.30	1.45
38	BB	377	OMC	C2-N3	6.38	1.49	1.36
38	BB	95	A2M	O4'-C4'	-6.37	1.30	1.45
38	BB	73	OMU	C2-N3	6.36	1.49	1.38
38	BB	1201	A2M	O4'-C4'	-6.36	1.30	1.45
38	BB	622	A2M	O4'-C4'	-6.36	1.30	1.45
12	AA	1844	OMC	C2-N3	6.35	1.49	1.36
12	AA	125	A2M	O4'-C4'	-6.35	1.30	1.45
37	BA	1024	A2M	O4'-C4'	-6.33	1.30	1.45
38	BB	609	A2M	O4'-C4'	-6.33	1.30	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	BA	1620	A2M	O4'-C4'	-6.30	1.30	1.45
37	BA	762	A2M	O4'-C4'	-6.29	1.30	1.45
38	BB	400	A2M	O4'-C4'	-6.29	1.30	1.45
37	BA	746	A2M	O4'-C4'	-6.28	1.31	1.45
12	AA	56	A2M	O4'-C4'	-6.26	1.31	1.45
12	AA	2134	OMC	C2-N3	6.26	1.49	1.36
38	BB	73	OMU	C2-N1	6.26	1.48	1.38
37	BA	1608	OMC	C2-N3	6.25	1.49	1.36
37	BA	760	OMC	C2-N3	6.22	1.49	1.36
37	BA	1665	A2M	O4'-C4'	-6.21	1.31	1.45
12	AA	1931	OMG	C4-N3	6.21	1.49	1.34
12	AA	1932	OMC	C2-N3	6.19	1.48	1.36
38	BB	1413	OMC	C6-C5	6.19	1.49	1.35
12	AA	66	OMC	C2-N3	6.18	1.48	1.36
12	AA	2070	7MG	C2-N3	6.18	1.48	1.33
12	AA	46	OMC	C2-N3	6.17	1.48	1.36
38	BB	1413	OMC	C2-N3	6.15	1.48	1.36
39	BC	43	A2M	O4'-C4'	-6.14	1.31	1.45
38	BB	542	5MC	C4-N3	6.14	1.44	1.34
38	BB	1264	OMC	C6-C5	6.14	1.49	1.35
12	AA	1596	B8N	C6-C5	6.13	1.43	1.34
38	BB	1175	OMC	C2-N3	6.12	1.48	1.36
37	BA	760	OMC	C6-C5	6.10	1.49	1.35
38	BB	1264	OMC	C2-N3	6.10	1.48	1.36
38	BB	1175	OMC	C6-C5	6.09	1.49	1.35
12	AA	1700	OMG	C4-N3	6.08	1.48	1.34
12	AA	1517	OMG	C4-N3	6.08	1.48	1.34
37	BA	1608	OMC	C6-C5	6.08	1.49	1.35
38	BB	588	A2M	O4'-C4'	-6.07	1.31	1.45
38	BB	545	A2M	O4'-C4'	-6.07	1.31	1.45
38	BB	377	OMC	C6-C5	6.06	1.49	1.35
12	AA	1603	OMG	C4-N3	6.06	1.48	1.34
12	AA	66	OMC	C6-C5	6.05	1.49	1.35
12	AA	1844	OMC	C6-C5	6.04	1.49	1.35
38	BB	590	A2M	O4'-C4'	-6.02	1.31	1.45
12	AA	2134	OMC	C6-C5	6.01	1.49	1.35
37	BA	1006	OMC	C2-N3	6.00	1.48	1.36
12	AA	1596	B8N	C2-N1	6.00	1.57	1.39
12	AA	1932	OMC	C6-C5	5.99	1.49	1.35
38	BB	1245	OMG	C4-N3	5.97	1.48	1.34
12	AA	46	OMC	C6-C5	5.97	1.48	1.35
38	BB	1324	5MC	C4-N3	5.97	1.44	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	71	OMG	C4-N3	5.97	1.48	1.34
38	BB	601	OMC	C2-N3	5.95	1.48	1.36
38	BB	1247	OMG	C4-N3	5.92	1.48	1.34
38	BB	601	OMC	C6-C5	5.89	1.48	1.35
37	BA	1605	OMG	C4-N3	5.88	1.48	1.34
37	BA	1006	OMC	C6-C5	5.85	1.48	1.35
38	BB	1324	5MC	C2-N3	5.85	1.48	1.36
39	BC	75	OMG	C4-N3	5.85	1.48	1.34
37	BA	1709	OMG	C4-N3	5.84	1.48	1.34
37	BA	1028	OMG	C4-N3	5.84	1.48	1.34
38	BB	1062	OMG	C4-N3	5.84	1.48	1.34
37	BA	1448	OMU	C6-C5	5.80	1.48	1.35
38	BB	542	5MC	C2-N3	5.79	1.48	1.36
12	AA	1676	OMG	C4-N3	5.78	1.48	1.34
37	BA	916	OMU	C6-C5	5.78	1.48	1.35
38	BB	552	OMG	C4-N3	5.78	1.48	1.34
12	AA	2227	OMG	C4-N3	5.76	1.48	1.34
39	BC	7	OMU	C6-C5	5.76	1.48	1.35
38	BB	685	OMU	C6-C5	5.75	1.48	1.35
12	AA	1652	OMU	C6-C5	5.74	1.48	1.35
37	BA	1330	OMU	C6-C5	5.73	1.48	1.35
37	BA	1181	OMU	C6-C5	5.70	1.48	1.35
37	BA	46	OMU	C6-C5	5.69	1.48	1.35
12	AA	1276	PSU	C6-N1	5.68	1.45	1.36
12	AA	1899	OMU	C6-C5	5.68	1.48	1.35
12	AA	1895	OMG	C4-N3	5.68	1.47	1.34
12	AA	57	OMU	C6-C5	5.68	1.48	1.35
38	BB	1093	OMU	C6-C5	5.68	1.48	1.35
38	BB	673	OMG	C4-N3	5.67	1.47	1.34
12	AA	1674	OMU	C6-C5	5.67	1.48	1.35
12	AA	36	OMU	C6-C5	5.66	1.48	1.35
12	AA	2054	OMU	C6-C5	5.66	1.48	1.35
37	BA	925	OMG	C4-N3	5.65	1.47	1.34
38	BB	72	OMG	C4-N3	5.65	1.47	1.34
12	AA	1531	OMG	C4-N3	5.61	1.47	1.34
37	BA	1267	OMG	C4-N3	5.60	1.47	1.34
37	BA	1742	OMU	C6-C5	5.58	1.48	1.35
38	BB	629	PSU	C6-N1	5.55	1.45	1.36
38	BB	659	OMG	C4-N3	5.53	1.47	1.34
37	BA	1609	PSU	C6-N1	5.53	1.45	1.36
38	BB	1269	OMG	C4-N3	5.53	1.47	1.34
38	BB	1319	PSU	C6-N1	5.52	1.45	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	1435	OMU	C6-C5	5.51	1.47	1.35
38	BB	644	PSU	C6-N1	5.50	1.45	1.36
38	BB	73	OMU	C6-C5	5.50	1.47	1.35
12	AA	714	OMU	C6-C5	5.48	1.47	1.35
37	BA	737	PSU	C6-N1	5.47	1.45	1.36
37	BA	1614	PSU	C6-N1	5.46	1.45	1.36
38	BB	615	PSU	C6-N1	5.46	1.45	1.36
38	BB	490	PSU	C6-N1	5.45	1.45	1.36
37	BA	258	PSU	C6-N1	5.42	1.45	1.36
38	BB	522	PSU	C6-N1	5.42	1.45	1.36
37	BA	1621	OMG	C4-N3	5.41	1.47	1.34
37	BA	1248	PSU	C6-N1	5.40	1.45	1.36
12	AA	1610	PSU	C6-N1	5.40	1.45	1.36
12	AA	2146	PSU	C6-N1	5.40	1.45	1.36
38	BB	1429	PSU	C6-N1	5.40	1.45	1.36
12	AA	2045	PSU	C6-N1	5.39	1.45	1.36
37	BA	1080	PSU	C6-N1	5.39	1.45	1.36
37	BA	1258	PSU	C6-N1	5.38	1.45	1.36
12	AA	1592	PSU	C6-N1	5.37	1.45	1.36
37	BA	452	PSU	C6-N1	5.37	1.45	1.36
12	AA	2121	PSU	C6-N1	5.37	1.45	1.36
12	AA	61	PSU	C6-N1	5.37	1.45	1.36
37	BA	1166	PSU	C6-N1	5.35	1.45	1.36
12	AA	662	PSU	C6-N1	5.35	1.45	1.36
37	BA	1169	PSU	C6-N1	5.34	1.45	1.36
38	BB	1094	OMG	C4-N3	5.34	1.47	1.34
38	BB	1210	PSU	C6-N1	5.34	1.45	1.36
38	BB	1280	PSU	C6-N1	5.33	1.45	1.36
12	AA	2070	7MG	C4-N3	5.33	1.46	1.34
39	BC	74	PSU	C6-N1	5.31	1.45	1.36
12	AA	2278	PSU	C6-N1	5.30	1.45	1.36
12	AA	1907	PSU	C6-N1	5.29	1.45	1.36
12	AA	1619	PSU	C6-N1	5.28	1.45	1.36
12	AA	1612	PSU	C6-N1	5.28	1.45	1.36
38	BB	455	PSU	C6-N1	5.27	1.45	1.36
12	AA	1710	PSU	C6-N1	5.27	1.45	1.36
38	BB	680	PSU	C6-N1	5.26	1.45	1.36
38	BB	1419	PSU	C6-N1	5.26	1.45	1.36
38	BB	1160	PSU	C6-N1	5.26	1.45	1.36
37	BA	1129	PSU	C6-N1	5.25	1.45	1.36
37	BA	1086	PSU	C6-N1	5.23	1.44	1.36
38	BB	377	OMC	C4-N3	5.23	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	AA	131	PSU	C6-N1	5.17	1.44	1.36
38	BB	1076	PSU	C6-N1	5.17	1.44	1.36
38	BB	1409	PSU	C6-N1	5.17	1.44	1.36
38	BB	528	PSU	C6-N1	5.15	1.44	1.36
37	BA	1009	PSU	C6-N1	5.15	1.44	1.36
12	AA	1844	OMC	C4-N3	5.14	1.44	1.34
12	AA	1931	OMG	C2-N3	5.13	1.45	1.33
12	AA	1517	OMG	C2-N3	5.13	1.45	1.33
12	AA	2134	OMC	C4-N3	5.11	1.44	1.34
12	AA	1700	OMG	C2-N3	5.10	1.45	1.33
38	BB	611	PSU	C6-N1	5.10	1.44	1.36
12	AA	1603	OMG	C2-N3	5.08	1.45	1.33
12	AA	1932	OMC	C4-N3	5.08	1.44	1.34
12	AA	46	OMC	C4-N3	5.08	1.44	1.34
37	BA	760	OMC	C4-N3	5.07	1.44	1.34
38	BB	71	OMG	C2-N3	5.07	1.45	1.33
12	AA	66	OMC	C4-N3	5.04	1.44	1.34
38	BB	1062	OMG	C2-N3	5.01	1.45	1.33
37	BA	1608	OMC	C4-N3	5.00	1.44	1.34
38	BB	377	OMC	C4-N4	5.00	1.45	1.33
12	AA	2134	OMC	C4-N4	4.95	1.45	1.33
37	BA	1605	OMG	C2-N3	4.94	1.45	1.33
38	BB	1398	PSU	C6-N1	4.94	1.44	1.36
38	BB	1175	OMC	C4-N3	4.94	1.44	1.34
12	AA	66	OMC	C4-N4	4.93	1.45	1.33
12	AA	1932	OMC	C4-N4	4.91	1.45	1.33
37	BA	760	OMC	C4-N4	4.91	1.45	1.33
38	BB	1434	PSU	C6-N1	4.89	1.44	1.36
12	AA	1844	OMC	C4-N4	4.89	1.45	1.33
38	BB	1413	OMC	C4-N3	4.89	1.44	1.34
12	AA	46	OMC	C4-N4	4.88	1.45	1.33
38	BB	1247	OMG	C2-N3	4.88	1.44	1.33
38	BB	1264	OMC	C4-N4	4.88	1.45	1.33
38	BB	1264	OMC	C4-N3	4.88	1.44	1.34
38	BB	552	OMG	C2-N3	4.88	1.44	1.33
38	BB	1175	OMC	C4-N4	4.87	1.45	1.33
38	BB	601	OMC	C4-N4	4.87	1.45	1.33
38	BB	1403	PSU	C1'-C5	-4.86	1.39	1.50
38	BB	1413	OMC	C4-N4	4.86	1.45	1.33
37	BA	1608	OMC	C4-N4	4.86	1.45	1.33
37	BA	1709	OMG	C2-N3	4.85	1.44	1.33
38	BB	1245	OMG	C2-N3	4.84	1.44	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	1334	PSU	C6-N1	4.83	1.44	1.36
37	BA	1028	OMG	C2-N3	4.82	1.44	1.33
12	AA	1895	OMG	C2-N3	4.82	1.44	1.33
12	AA	1676	OMG	C2-N3	4.82	1.44	1.33
38	BB	673	OMG	C2-N3	4.81	1.44	1.33
38	BB	601	OMC	C4-N3	4.79	1.44	1.34
37	BA	1608	OMC	C2-N1	4.78	1.50	1.40
38	BB	1403	PSU	C6-N1	4.76	1.44	1.36
37	BA	925	OMG	C2-N3	4.74	1.44	1.33
39	BC	75	OMG	C2-N3	4.74	1.44	1.33
12	AA	2227	OMG	C2-N3	4.71	1.44	1.33
38	BB	72	OMG	C2-N3	4.70	1.44	1.33
38	BB	1324	5MC	C6-N1	4.69	1.46	1.38
12	AA	1931	OMG	C2-N2	4.69	1.45	1.34
37	BA	1006	OMC	C4-N3	4.67	1.43	1.34
37	BA	1006	OMC	C4-N4	4.62	1.44	1.33
38	BB	1245	OMG	C2-N2	4.61	1.45	1.34
12	AA	1700	OMG	C2-N2	4.61	1.45	1.34
38	BB	1400	A2M	C6-N6	4.60	1.45	1.34
38	BB	646	A2M	C6-N6	4.59	1.45	1.34
12	AA	1531	OMG	C2-N3	4.58	1.44	1.33
38	BB	1269	OMG	C2-N3	4.58	1.44	1.33
12	AA	1517	OMG	C2-N2	4.58	1.45	1.34
38	BB	552	OMG	C2-N2	4.57	1.45	1.34
37	BA	1621	OMG	C2-N3	4.57	1.44	1.33
37	BA	1605	OMG	C2-N2	4.57	1.45	1.34
38	BB	659	OMG	C2-N3	4.55	1.44	1.33
12	AA	1603	OMG	C2-N2	4.55	1.45	1.34
38	BB	1062	OMG	C2-N2	4.52	1.45	1.34
38	BB	1201	A2M	C6-N6	4.52	1.45	1.34
38	BB	542	5MC	C6-N1	4.52	1.45	1.38
37	BA	1267	OMG	C2-N3	4.51	1.44	1.33
12	AA	2134	OMC	C2-N1	4.51	1.49	1.40
38	BB	1247	OMG	C2-N2	4.49	1.44	1.34
12	AA	56	A2M	C6-N6	4.49	1.45	1.34
37	BA	743	A2M	C6-N6	4.49	1.45	1.34
12	AA	1612	PSU	C1'-C5	-4.48	1.39	1.50
38	BB	1419	PSU	C1'-C5	-4.48	1.40	1.50
37	BA	254	A2M	C6-N6	4.48	1.45	1.34
38	BB	95	A2M	C6-N6	4.47	1.45	1.34
38	BB	1413	OMC	C2-N1	4.47	1.49	1.40
12	AA	2096	A2M	C6-N6	4.46	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	1388	A2M	C6-N6	4.45	1.45	1.34
37	BA	1024	A2M	C6-N6	4.45	1.45	1.34
38	BB	622	A2M	C6-N6	4.45	1.45	1.34
12	AA	1932	OMC	C2-N1	4.44	1.49	1.40
38	BB	1175	OMC	C2-N1	4.44	1.49	1.40
38	BB	1210	PSU	C1'-C5	-4.43	1.40	1.50
39	BC	163	A2M	C6-N6	4.43	1.45	1.34
12	AA	1844	OMC	C2-N1	4.43	1.49	1.40
37	BA	746	A2M	C6-N6	4.42	1.45	1.34
38	BB	1398	PSU	C1'-C5	-4.42	1.40	1.50
37	BA	1620	A2M	C6-N6	4.42	1.45	1.34
12	AA	721	A2M	C6-N6	4.41	1.45	1.34
12	AA	125	A2M	C6-N6	4.41	1.45	1.34
37	BA	1009	PSU	C1'-C5	-4.41	1.40	1.50
38	BB	377	OMC	C2-N1	4.41	1.49	1.40
37	BA	452	PSU	C1'-C5	-4.40	1.40	1.50
38	BB	1076	PSU	C1'-C5	-4.40	1.40	1.50
37	BA	762	A2M	C6-N6	4.39	1.45	1.34
38	BB	400	A2M	C6-N6	4.38	1.45	1.34
38	BB	528	PSU	C1'-C5	-4.38	1.40	1.50
12	AA	2121	PSU	C1'-C5	-4.37	1.40	1.50
37	BA	1665	A2M	C6-N6	4.37	1.45	1.34
12	AA	1895	OMG	C2-N2	4.37	1.44	1.34
38	BB	490	PSU	C1'-C5	-4.37	1.40	1.50
37	BA	927	A2M	C6-N6	4.37	1.45	1.34
38	BB	1094	OMG	C2-N3	4.36	1.43	1.33
38	BB	455	PSU	C1'-C5	-4.36	1.40	1.50
38	BB	1434	PSU	C1'-C5	-4.36	1.40	1.50
38	BB	1094	OMG	C2-N2	4.35	1.44	1.34
39	BC	75	OMG	C2-N2	4.35	1.44	1.34
12	AA	1907	PSU	C1'-C5	-4.34	1.40	1.50
12	AA	66	OMC	C2-N1	4.34	1.49	1.40
38	BB	1264	OMC	C2-N1	4.34	1.49	1.40
37	BA	1028	OMG	C2-N2	4.33	1.44	1.34
37	BA	1129	PSU	C1'-C5	-4.33	1.40	1.50
37	BA	1169	PSU	C1'-C5	-4.33	1.40	1.50
39	BC	43	A2M	C6-N6	4.33	1.45	1.34
12	AA	662	PSU	C1'-C5	-4.33	1.40	1.50
12	AA	1676	OMG	C2-N2	4.33	1.44	1.34
38	BB	71	OMG	C2-N2	4.32	1.44	1.34
38	BB	673	OMG	C2-N2	4.32	1.44	1.34
12	AA	61	PSU	C1'-C5	-4.31	1.40	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	BA	1709	OMG	C2-N2	4.30	1.44	1.34
37	BA	925	OMG	C2-N2	4.30	1.44	1.34
37	BA	1267	OMG	C2-N2	4.29	1.44	1.34
38	BB	1324	5MC	C2-N1	4.29	1.49	1.40
38	BB	1409	PSU	C1'-C5	-4.29	1.40	1.50
38	BB	590	A2M	C6-N6	4.29	1.44	1.34
38	BB	609	A2M	C6-N6	4.28	1.44	1.34
37	BA	760	OMC	C2-N1	4.28	1.49	1.40
37	BA	1086	PSU	C1'-C5	-4.28	1.40	1.50
37	BA	1609	PSU	C1'-C5	-4.26	1.40	1.50
37	BA	1258	PSU	C1'-C5	-4.26	1.40	1.50
38	BB	588	A2M	C6-N6	4.25	1.44	1.34
12	AA	2227	OMG	C2-N2	4.25	1.44	1.34
39	BC	41	A2M	C6-N6	4.24	1.44	1.34
38	BB	72	OMG	C2-N2	4.24	1.44	1.34
38	BB	644	PSU	C1'-C5	-4.24	1.40	1.50
12	AA	131	PSU	C1'-C5	-4.24	1.40	1.50
12	AA	2278	PSU	C1'-C5	-4.24	1.40	1.50
38	BB	629	PSU	C1'-C5	-4.23	1.40	1.50
37	BA	996	A2M	C6-N6	4.23	1.44	1.34
37	BA	258	PSU	C1'-C5	-4.23	1.40	1.50
38	BB	1280	PSU	C1'-C5	-4.21	1.40	1.50
12	AA	1710	PSU	C1'-C5	-4.21	1.40	1.50
12	AA	1592	PSU	C1'-C5	-4.20	1.40	1.50
12	AA	2045	PSU	C1'-C5	-4.20	1.40	1.50
38	BB	1429	PSU	C1'-C5	-4.20	1.40	1.50
38	BB	1269	OMG	C2-N2	4.20	1.44	1.34
38	BB	522	PSU	C1'-C5	-4.19	1.40	1.50
37	BA	1248	PSU	C1'-C5	-4.19	1.40	1.50
38	BB	659	OMG	C2-N2	4.18	1.44	1.34
38	BB	1334	PSU	C1'-C5	-4.18	1.40	1.50
37	BA	1166	PSU	C1'-C5	-4.18	1.40	1.50
39	BC	74	PSU	C1'-C5	-4.18	1.40	1.50
37	BA	1621	OMG	C2-N2	4.18	1.44	1.34
38	BB	611	PSU	C1'-C5	-4.17	1.40	1.50
38	BB	1160	PSU	C1'-C5	-4.14	1.40	1.50
38	BB	601	OMC	C2-N1	4.13	1.48	1.40
12	AA	1674	OMU	C4-N3	4.12	1.45	1.38
12	AA	46	OMC	C2-N1	4.11	1.48	1.40
38	BB	542	5MC	C4-N4	4.11	1.44	1.34
38	BB	680	PSU	C1'-C5	-4.11	1.40	1.50
12	AA	1619	PSU	C1'-C5	-4.09	1.40	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	AA	1276	PSU	C1'-C5	-4.09	1.40	1.50
37	BA	1330	OMU	C4-N3	4.08	1.45	1.38
38	BB	1324	5MC	C4-N4	4.07	1.44	1.34
38	BB	545	A2M	C6-N6	4.07	1.44	1.34
38	BB	1319	PSU	C1'-C5	-4.07	1.40	1.50
38	BB	615	PSU	C1'-C5	-4.05	1.40	1.50
37	BA	1006	OMC	C2-N1	4.04	1.48	1.40
37	BA	1614	PSU	C4-N3	4.03	1.46	1.38
12	AA	2054	OMU	C4-N3	4.02	1.45	1.38
12	AA	1899	OMU	C4-N3	4.01	1.45	1.38
37	BA	1742	OMU	C4-N3	4.00	1.45	1.38
37	BA	1614	PSU	C1'-C5	-3.99	1.41	1.50
12	AA	714	OMU	C4-N3	3.98	1.45	1.38
38	BB	1409	PSU	C4-N3	3.98	1.46	1.38
12	AA	1531	OMG	C2-N2	3.95	1.43	1.34
12	AA	2045	PSU	C4-N3	3.95	1.46	1.38
12	AA	57	OMU	C4-N3	3.94	1.45	1.38
37	BA	1169	PSU	C4-N3	3.93	1.46	1.38
37	BA	1448	OMU	C4-N3	3.93	1.45	1.38
39	BC	74	PSU	C4-N3	3.93	1.46	1.38
12	AA	1619	PSU	C4-N3	3.92	1.46	1.38
12	AA	1907	PSU	C4-N3	3.92	1.46	1.38
12	AA	2146	PSU	C1'-C5	-3.92	1.41	1.50
37	BA	1080	PSU	C1'-C5	-3.92	1.41	1.50
37	BA	1248	PSU	C4-N3	3.91	1.46	1.38
38	BB	73	OMU	O4-C4	-3.91	1.16	1.24
12	AA	1610	PSU	C4-N3	3.90	1.46	1.38
37	BA	737	PSU	C1'-C5	-3.90	1.41	1.50
38	BB	522	PSU	C4-N3	3.90	1.46	1.38
38	BB	1160	PSU	C4-N3	3.90	1.46	1.38
37	BA	46	OMU	C4-N3	3.90	1.45	1.38
12	AA	61	PSU	C4-N3	3.89	1.46	1.38
38	BB	528	PSU	C4-N3	3.88	1.46	1.38
37	BA	1258	PSU	C4-N3	3.87	1.46	1.38
37	BA	1166	PSU	C4-N3	3.87	1.46	1.38
37	BA	1080	PSU	C4-N3	3.86	1.46	1.38
38	BB	1319	PSU	C4-N3	3.84	1.46	1.38
12	AA	131	PSU	C4-N3	3.84	1.46	1.38
12	AA	662	PSU	C4-N3	3.84	1.46	1.38
12	AA	1612	PSU	C4-N3	3.84	1.46	1.38
38	BB	1435	OMU	O4-C4	-3.83	1.17	1.24
39	BC	7	OMU	C4-N3	3.82	1.45	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	BA	1129	PSU	C4-N3	3.81	1.45	1.38
12	AA	2278	PSU	C4-N3	3.81	1.45	1.38
12	AA	1610	PSU	C1'-C5	-3.81	1.41	1.50
37	BA	258	PSU	C4-N3	3.81	1.45	1.38
12	AA	2146	PSU	C4-N3	3.80	1.45	1.38
38	BB	455	PSU	C4-N3	3.80	1.45	1.38
38	BB	1334	PSU	C4-N3	3.80	1.45	1.38
12	AA	1592	PSU	C4-N3	3.80	1.45	1.38
12	AA	1652	OMU	C4-N3	3.79	1.45	1.38
37	BA	1181	OMU	C4-N3	3.78	1.45	1.38
38	BB	542	5MC	C2-N1	3.78	1.48	1.40
37	BA	452	PSU	C4-N3	3.77	1.45	1.38
38	BB	1076	PSU	C4-N3	3.77	1.45	1.38
38	BB	1093	OMU	C4-N3	3.75	1.45	1.38
38	BB	1419	PSU	C4-N3	3.74	1.45	1.38
38	BB	680	PSU	C4-N3	3.74	1.45	1.38
38	BB	1429	PSU	C4-N3	3.74	1.45	1.38
38	BB	1403	PSU	O4-C4	-3.73	1.16	1.23
38	BB	490	PSU	C4-N3	3.73	1.45	1.38
12	AA	2121	PSU	C4-N3	3.72	1.45	1.38
38	BB	685	OMU	C4-N3	3.71	1.45	1.38
12	AA	2070	7MG	C6-N1	3.71	1.45	1.38
38	BB	615	PSU	C4-N3	3.71	1.45	1.38
37	BA	737	PSU	C4-N3	3.70	1.45	1.38
37	BA	1086	PSU	C4-N3	3.69	1.45	1.38
38	BB	611	PSU	C4-N3	3.68	1.45	1.38
37	BA	916	OMU	C4-N3	3.68	1.45	1.38
38	BB	1210	PSU	C4-N3	3.68	1.45	1.38
37	BA	1009	PSU	C4-N3	3.68	1.45	1.38
38	BB	1280	PSU	C4-N3	3.66	1.45	1.38
12	AA	1710	PSU	C4-N3	3.66	1.45	1.38
12	AA	1276	PSU	C4-N3	3.65	1.45	1.38
12	AA	36	OMU	C4-N3	3.61	1.45	1.38
38	BB	1434	PSU	O4-C4	-3.61	1.16	1.23
37	BA	1609	PSU	C4-N3	3.59	1.45	1.38
12	AA	2260	MA6	C6-N6	3.58	1.47	1.36
38	BB	1094	OMG	C4-N9	-3.57	1.28	1.38
12	AA	1596	B8N	C1'-C5	3.57	1.58	1.50
38	BB	1435	OMU	C4-N3	3.56	1.44	1.38
12	AA	2261	MA6	C6-N6	3.56	1.47	1.36
39	BC	163	A2M	O3'-C3'	-3.54	1.34	1.43
38	BB	629	PSU	C4-N3	3.53	1.45	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	AA	2070	7MG	C2-N1	3.51	1.46	1.37
38	BB	644	PSU	C4-N3	3.47	1.45	1.38
37	BA	1267	OMG	C4-N9	-3.45	1.29	1.38
12	AA	2070	7MG	C5-C6	3.43	1.52	1.43
38	BB	1398	PSU	C4-N3	3.42	1.45	1.38
38	BB	72	OMG	C5-N7	-3.39	1.32	1.39
38	BB	659	OMG	C4-N9	-3.38	1.29	1.38
37	BA	1621	OMG	C4-N9	-3.38	1.29	1.38
38	BB	73	OMU	C4-N3	3.37	1.44	1.38
38	BB	1403	PSU	C4-N3	3.35	1.45	1.38
37	BA	1608	OMC	C6-N1	3.34	1.46	1.38
37	BA	760	OMC	C6-N1	3.30	1.46	1.38
38	BB	71	OMG	C5-N7	-3.30	1.32	1.39
12	AA	46	OMC	C6-N1	3.27	1.45	1.38
12	AA	1844	OMC	C6-N1	3.26	1.45	1.38
12	AA	714	OMU	O4-C4	-3.25	1.18	1.24
12	AA	2070	7MG	C2-N2	3.25	1.41	1.34
38	BB	377	OMC	C6-N1	3.24	1.45	1.38
12	AA	2054	OMU	O4-C4	-3.24	1.18	1.24
12	AA	1932	OMC	C6-N1	3.23	1.45	1.38
38	BB	1264	OMC	C6-N1	3.23	1.45	1.38
37	BA	46	OMU	O4-C4	-3.23	1.18	1.24
37	BA	1006	OMC	O2-C2	-3.23	1.17	1.23
12	AA	36	OMU	O4-C4	-3.23	1.18	1.24
37	BA	1006	OMC	C6-N1	3.21	1.45	1.38
37	BA	916	OMU	O4-C4	-3.21	1.18	1.24
12	AA	1899	OMU	O4-C4	-3.21	1.18	1.24
38	BB	72	OMG	O6-C6	-3.20	1.17	1.23
38	BB	1413	OMC	C6-N1	3.20	1.45	1.38
12	AA	66	OMC	C6-N1	3.20	1.45	1.38
12	AA	1531	OMG	C4-N9	-3.20	1.29	1.38
38	BB	1175	OMC	C6-N1	3.19	1.45	1.38
37	BA	1448	OMU	O4-C4	-3.19	1.18	1.24
37	BA	1742	OMU	O4-C4	-3.19	1.18	1.24
37	BA	1181	OMU	O4-C4	-3.19	1.18	1.24
38	BB	71	OMG	O6-C6	-3.19	1.17	1.23
39	BC	7	OMU	O4-C4	-3.18	1.18	1.24
12	AA	1710	PSU	O4-C4	-3.17	1.17	1.23
38	BB	685	OMU	O4-C4	-3.17	1.18	1.24
38	BB	1434	PSU	C4-N3	3.17	1.44	1.38
39	BC	41	A2M	O3'-C3'	-3.15	1.35	1.43
12	AA	2070	7MG	O6-C6	-3.15	1.17	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	1093	OMU	O4-C4	-3.14	1.18	1.24
38	BB	73	OMU	O2-C2	-3.13	1.17	1.23
38	BB	95	A2M	O3'-C3'	-3.12	1.35	1.43
37	BA	1028	OMG	C4-N9	-3.12	1.29	1.38
38	BB	1269	OMG	C4-N9	-3.11	1.30	1.38
38	BB	1400	A2M	O3'-C3'	-3.10	1.35	1.43
38	BB	1269	OMG	O6-C6	-3.10	1.17	1.23
37	BA	746	A2M	O3'-C3'	-3.09	1.35	1.43
38	BB	609	A2M	O3'-C3'	-3.09	1.35	1.43
38	BB	1413	OMC	O2-C2	-3.09	1.18	1.23
38	BB	542	5MC	O2-C2	-3.07	1.18	1.23
38	BB	601	OMC	C6-N1	3.07	1.45	1.38
38	BB	1264	OMC	O2-C2	-3.06	1.18	1.23
12	AA	2134	OMC	C6-N1	3.06	1.45	1.38
12	AA	125	A2M	O3'-C3'	-3.06	1.35	1.43
38	BB	1435	OMU	O2-C2	-3.06	1.17	1.23
38	BB	629	PSU	O4-C4	-3.06	1.17	1.23
37	BA	254	A2M	O3'-C3'	-3.05	1.35	1.43
38	BB	72	OMG	C4-N9	-3.04	1.30	1.38
38	BB	601	OMC	O2-C2	-3.02	1.18	1.23
39	BC	41	A2M	C5-C4	-3.02	1.33	1.39
12	AA	57	OMU	O4-C4	-3.02	1.18	1.24
38	BB	95	A2M	C5-N7	-3.02	1.33	1.39
37	BA	1330	OMU	O4-C4	-3.01	1.18	1.24
38	BB	588	A2M	O2'-C2'	3.01	1.50	1.42
38	BB	400	A2M	O2'-C2'	3.00	1.50	1.42
39	BC	43	A2M	O3'-C3'	-3.00	1.35	1.43
38	BB	1400	A2M	O2'-C2'	3.00	1.50	1.42
37	BA	762	A2M	O3'-C3'	-2.99	1.35	1.43
38	BB	1400	A2M	C5-N7	-2.99	1.33	1.39
12	AA	56	A2M	O3'-C3'	-2.99	1.35	1.43
12	AA	125	A2M	O2'-C2'	2.99	1.50	1.42
37	BA	746	A2M	O2'-C2'	2.99	1.50	1.42
12	AA	2146	PSU	O4-C4	-2.98	1.17	1.23
37	BA	1605	OMG	C4-N9	-2.98	1.30	1.38
38	BB	646	A2M	O2'-C2'	2.98	1.50	1.42
38	BB	659	OMG	O6-C6	-2.97	1.17	1.23
37	BA	1448	OMU	C6-N1	2.97	1.45	1.38
37	BA	996	A2M	C5-C4	-2.96	1.33	1.39
38	BB	646	A2M	O3'-C3'	-2.96	1.36	1.43
37	BA	996	A2M	O3'-C3'	-2.96	1.36	1.43
37	BA	1028	OMG	O6-C6	-2.96	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	545	A2M	C5-C4	-2.95	1.33	1.39
38	BB	609	A2M	O2'-C2'	2.95	1.50	1.42
37	BA	743	A2M	O2'-C2'	2.95	1.50	1.42
12	AA	1674	OMU	O4-C4	-2.95	1.18	1.24
12	AA	2134	OMC	O2-C2	-2.95	1.18	1.23
12	AA	66	OMC	O2-C2	-2.95	1.18	1.23
37	BA	1248	PSU	O4-C4	-2.95	1.18	1.23
12	AA	721	A2M	O3'-C3'	-2.95	1.36	1.43
38	BB	680	PSU	O4-C4	-2.95	1.18	1.23
37	BA	760	OMC	O2-C2	-2.94	1.18	1.23
37	BA	925	OMG	O6-C6	-2.94	1.18	1.23
38	BB	611	PSU	O4-C4	-2.94	1.18	1.23
38	BB	1435	OMU	C6-N1	2.94	1.45	1.38
12	AA	1652	OMU	O4-C4	-2.94	1.18	1.24
12	AA	1931	OMG	C5-N7	-2.93	1.33	1.39
37	BA	927	A2M	O3'-C3'	-2.93	1.36	1.43
38	BB	622	A2M	O3'-C3'	-2.93	1.36	1.43
37	BA	925	OMG	C4-N9	-2.93	1.30	1.38
38	BB	1201	A2M	O3'-C3'	-2.93	1.36	1.43
37	BA	1024	A2M	O3'-C3'	-2.93	1.36	1.43
38	BB	659	OMG	C5-N7	-2.92	1.33	1.39
37	BA	1665	A2M	O3'-C3'	-2.92	1.36	1.43
38	BB	1388	A2M	O2'-C2'	2.92	1.50	1.42
37	BA	1665	A2M	O2'-C2'	2.92	1.50	1.42
12	AA	1592	PSU	O4-C4	-2.92	1.18	1.23
38	BB	73	OMU	C6-N1	2.92	1.45	1.38
12	AA	1652	OMU	C6-N1	2.91	1.45	1.38
38	BB	590	A2M	O3'-C3'	-2.91	1.36	1.43
12	AA	1899	OMU	C6-N1	2.91	1.45	1.38
38	BB	552	OMG	C4-N9	-2.91	1.30	1.38
38	BB	400	A2M	O3'-C3'	-2.91	1.36	1.43
12	AA	1895	OMG	C4-N9	-2.90	1.30	1.38
37	BA	1086	PSU	O4-C4	-2.90	1.18	1.23
37	BA	254	A2M	O2'-C2'	2.90	1.50	1.42
38	BB	1247	OMG	C5-N7	-2.90	1.33	1.39
38	BB	685	OMU	C6-N1	2.90	1.45	1.38
38	BB	1429	PSU	O4-C4	-2.89	1.18	1.23
38	BB	1245	OMG	C4-N9	-2.89	1.30	1.38
38	BB	1334	PSU	O4-C4	-2.89	1.18	1.23
37	BA	1608	OMC	O2-C2	-2.89	1.18	1.23
38	BB	95	A2M	C5-C4	-2.89	1.33	1.39
37	BA	996	A2M	O2'-C2'	2.89	1.50	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	BC	75	OMG	C4-N9	-2.89	1.30	1.38
38	BB	1400	A2M	C5-C4	-2.88	1.33	1.39
37	BA	1605	OMG	C2-N1	2.88	1.44	1.37
38	BB	673	OMG	O6-C6	-2.88	1.18	1.23
12	AA	2227	OMG	C4-N9	-2.88	1.30	1.38
12	AA	2054	OMU	C6-N1	2.88	1.44	1.38
12	AA	1674	OMU	C6-N1	2.88	1.44	1.38
37	BA	916	OMU	C6-N1	2.88	1.44	1.38
38	BB	1210	PSU	O4-C4	-2.88	1.18	1.23
12	AA	1676	OMG	C4-N9	-2.87	1.30	1.38
37	BA	1742	OMU	C6-N1	2.86	1.44	1.38
37	BA	927	A2M	O2'-C2'	2.86	1.50	1.42
38	BB	545	A2M	O2'-C2'	2.86	1.49	1.42
38	BB	588	A2M	C5-C4	-2.86	1.33	1.39
37	BA	925	OMG	C5-N7	-2.86	1.33	1.39
38	BB	1247	OMG	C4-N9	-2.85	1.30	1.38
12	AA	1517	OMG	C5-N7	-2.85	1.33	1.39
38	BB	1175	OMC	O2-C2	-2.85	1.18	1.23
37	BA	762	A2M	C5-C4	-2.85	1.33	1.39
12	AA	57	OMU	C6-N1	2.84	1.44	1.38
38	BB	590	A2M	O2'-C2'	2.84	1.49	1.42
12	AA	1610	PSU	O4-C4	-2.84	1.18	1.23
38	BB	1201	A2M	O2'-C2'	2.84	1.49	1.42
37	BA	1181	OMU	C6-N1	2.84	1.44	1.38
39	BC	43	A2M	O2'-C2'	2.84	1.49	1.42
38	BB	1094	OMG	C6-N1	2.84	1.44	1.38
12	AA	1700	OMG	C5-N7	-2.84	1.33	1.39
37	BA	762	A2M	O2'-C2'	2.84	1.49	1.42
38	BB	455	PSU	O4-C4	-2.83	1.18	1.23
12	AA	721	A2M	O2'-C2'	2.83	1.49	1.42
38	BB	622	A2M	C5-C4	-2.83	1.33	1.39
38	BB	1201	A2M	C5-C4	-2.83	1.33	1.39
12	AA	2096	A2M	C5-C4	-2.83	1.33	1.39
37	BA	1609	PSU	O4-C4	-2.82	1.18	1.23
12	AA	46	OMC	O2-C2	-2.82	1.18	1.23
12	AA	721	A2M	C5-C4	-2.82	1.33	1.39
39	BC	163	A2M	O2'-C2'	2.82	1.49	1.42
38	BB	590	A2M	C5-C4	-2.82	1.33	1.39
39	BC	41	A2M	O2'-C2'	2.82	1.49	1.42
37	BA	1330	OMU	C6-N1	2.82	1.44	1.38
37	BA	1620	A2M	O2'-C2'	2.82	1.49	1.42
38	BB	1388	A2M	C5-C4	-2.82	1.33	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	400	A2M	C5-N7	-2.81	1.33	1.39
38	BB	552	OMG	O6-C6	-2.81	1.18	1.23
12	AA	1932	OMC	O2-C2	-2.81	1.18	1.23
38	BB	1245	OMG	C5-N7	-2.81	1.33	1.39
12	AA	36	OMU	C6-N1	2.81	1.44	1.38
37	BA	1709	OMG	C5-N7	-2.81	1.33	1.39
38	BB	644	PSU	O4-C4	-2.80	1.18	1.23
38	BB	673	OMG	C4-N9	-2.80	1.30	1.38
38	BB	545	A2M	O3'-C3'	-2.80	1.36	1.43
39	BC	41	A2M	C5-N7	-2.80	1.33	1.39
38	BB	622	A2M	O2'-C2'	2.80	1.49	1.42
38	BB	1388	A2M	O3'-C3'	-2.80	1.36	1.43
37	BA	1605	OMG	O6-C6	-2.80	1.18	1.23
38	BB	71	OMG	C2-N1	2.80	1.44	1.37
39	BC	163	A2M	C5-C4	-2.79	1.33	1.39
12	AA	714	OMU	C6-N1	2.79	1.44	1.38
38	BB	1062	OMG	C5-N7	-2.79	1.33	1.39
38	BB	1398	PSU	O4-C4	-2.79	1.18	1.23
38	BB	1062	OMG	C2-N1	2.79	1.44	1.37
37	BA	1169	PSU	O4-C4	-2.79	1.18	1.23
38	BB	400	A2M	C5-C4	-2.78	1.33	1.39
37	BA	1024	A2M	O2'-C2'	2.78	1.49	1.42
39	BC	7	OMU	C6-N1	2.78	1.44	1.38
12	AA	56	A2M	O2'-C2'	2.78	1.49	1.42
37	BA	1709	OMG	C4-N9	-2.77	1.30	1.38
39	BC	75	OMG	C2-N1	2.77	1.44	1.37
38	BB	1160	PSU	O4-C4	-2.77	1.18	1.23
38	BB	71	OMG	C4-N9	-2.77	1.30	1.38
37	BA	1665	A2M	C5-C4	-2.77	1.33	1.39
37	BA	1028	OMG	C5-N7	-2.77	1.33	1.39
12	AA	2260	MA6	C5-C4	-2.77	1.33	1.39
38	BB	552	OMG	C2-N1	2.77	1.44	1.37
38	BB	95	A2M	O2'-C2'	2.77	1.49	1.42
38	BB	72	OMG	C2-N1	2.76	1.44	1.37
12	AA	1603	OMG	C2-N1	2.76	1.44	1.37
12	AA	56	A2M	C5-C4	-2.76	1.33	1.39
38	BB	1094	OMG	C2-N1	2.76	1.44	1.37
12	AA	2261	MA6	C5-C4	-2.76	1.33	1.39
37	BA	1620	A2M	O3'-C3'	-2.76	1.36	1.43
12	AA	1531	OMG	C5-N7	-2.75	1.33	1.39
38	BB	1409	PSU	O4-C4	-2.75	1.18	1.23
37	BA	254	A2M	C5-C4	-2.75	1.33	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	AA	2096	A2M	O3'-C3'	-2.75	1.36	1.43
37	BA	1267	OMG	O6-C6	-2.74	1.18	1.23
37	BA	1024	A2M	C5-N7	-2.74	1.33	1.39
38	BB	609	A2M	C5-N7	-2.74	1.33	1.39
12	AA	1895	OMG	C6-N1	2.74	1.43	1.38
37	BA	927	A2M	C5-C4	-2.74	1.33	1.39
38	BB	1093	OMU	C6-N1	2.74	1.44	1.38
37	BA	737	PSU	O4-C4	-2.74	1.18	1.23
12	AA	125	A2M	C5-C4	-2.74	1.33	1.39
38	BB	646	A2M	C5-C4	-2.74	1.33	1.39
38	BB	673	OMG	C5-N7	-2.73	1.33	1.39
37	BA	1009	PSU	O4-C4	-2.73	1.18	1.23
38	BB	1388	A2M	C5-N7	-2.73	1.33	1.39
37	BA	743	A2M	C5-C4	-2.73	1.33	1.39
12	AA	1531	OMG	O6-C6	-2.73	1.18	1.23
37	BA	1258	PSU	O4-C4	-2.73	1.18	1.23
38	BB	1247	OMG	O6-C6	-2.73	1.18	1.23
12	AA	1603	OMG	C5-N7	-2.72	1.33	1.39
37	BA	1621	OMG	C5-N7	-2.72	1.33	1.39
12	AA	125	A2M	C5-N7	-2.72	1.33	1.39
38	BB	1269	OMG	C5-C6	2.72	1.54	1.44
12	AA	1276	PSU	O4-C4	-2.72	1.18	1.23
37	BA	1709	OMG	O6-C6	-2.72	1.18	1.23
37	BA	46	OMU	C6-N1	2.72	1.44	1.38
39	BC	74	PSU	O4-C4	-2.71	1.18	1.23
38	BB	1094	OMG	O6-C6	-2.71	1.18	1.23
38	BB	1319	PSU	O4-C4	-2.71	1.18	1.23
12	AA	2227	OMG	C5-N7	-2.71	1.33	1.39
38	BB	615	PSU	O4-C4	-2.71	1.18	1.23
38	BB	1324	5MC	O2-C2	-2.70	1.18	1.23
12	AA	1517	OMG	C2-N1	2.70	1.44	1.37
37	BA	1129	PSU	O4-C4	-2.70	1.18	1.23
37	BA	1621	OMG	C2-N1	2.70	1.44	1.37
37	BA	996	A2M	C5-N7	-2.70	1.33	1.39
12	AA	2227	OMG	O6-C6	-2.70	1.18	1.23
38	BB	588	A2M	O3'-C3'	-2.70	1.36	1.43
38	BB	377	OMC	O2-C2	-2.70	1.18	1.23
38	BB	1076	PSU	O4-C4	-2.70	1.18	1.23
12	AA	1676	OMG	C5-N7	-2.69	1.33	1.39
38	BB	1245	OMG	C2-N1	2.69	1.44	1.37
37	BA	258	PSU	O4-C4	-2.69	1.18	1.23
12	AA	1895	OMG	O6-C6	-2.69	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	BA	746	A2M	C5-N7	-2.68	1.33	1.39
12	AA	1895	OMG	C2-N1	2.68	1.44	1.37
37	BA	452	PSU	O4-C4	-2.68	1.18	1.23
12	AA	721	A2M	C5-N7	-2.68	1.34	1.39
12	AA	1700	OMG	C2-N1	2.68	1.44	1.37
38	BB	545	A2M	C5-N7	-2.68	1.34	1.39
37	BA	1080	PSU	O4-C4	-2.68	1.18	1.23
37	BA	1605	OMG	C6-N1	2.67	1.43	1.38
12	AA	1700	OMG	C4-N9	-2.67	1.31	1.38
12	AA	1907	PSU	O4-C4	-2.67	1.18	1.23
37	BA	1620	A2M	C5-C4	-2.67	1.34	1.39
37	BA	254	A2M	C5-N7	-2.67	1.34	1.39
37	BA	1267	OMG	C2-N1	2.67	1.44	1.37
12	AA	36	OMU	O2-C2	-2.66	1.18	1.23
38	BB	1419	PSU	O4-C4	-2.66	1.18	1.23
37	BA	1709	OMG	C2-N1	2.66	1.44	1.37
38	BB	659	OMG	C2-N1	2.66	1.44	1.37
12	AA	1517	OMG	O6-C6	-2.66	1.18	1.23
37	BA	925	OMG	C2-N1	2.65	1.44	1.37
38	BB	1280	PSU	O4-C4	-2.65	1.18	1.23
38	BB	552	OMG	C5-N7	-2.65	1.33	1.39
39	BC	43	A2M	C5-N7	-2.65	1.34	1.39
38	BB	1247	OMG	C2-N1	2.65	1.44	1.37
38	BB	588	A2M	C5-N7	-2.65	1.34	1.39
37	BA	1621	OMG	C6-N1	2.65	1.43	1.38
37	BA	1267	OMG	C6-N1	2.65	1.43	1.38
38	BB	673	OMG	C2-N1	2.65	1.44	1.37
37	BA	1665	A2M	C5-N7	-2.65	1.34	1.39
38	BB	646	A2M	C5-N7	-2.65	1.34	1.39
38	BB	673	OMG	C6-N1	2.65	1.43	1.38
12	AA	2096	A2M	O2'-C2'	2.65	1.49	1.42
37	BA	927	A2M	C5-N7	-2.64	1.34	1.39
38	BB	622	A2M	C5-N7	-2.64	1.34	1.39
12	AA	1931	OMG	C2-N1	2.64	1.44	1.37
37	BA	1028	OMG	C2-N1	2.64	1.44	1.37
39	BC	75	OMG	C5-N7	-2.64	1.34	1.39
12	AA	56	A2M	C5-N7	-2.64	1.34	1.39
39	BC	163	A2M	C5-N7	-2.64	1.34	1.39
38	BB	490	PSU	O4-C4	-2.63	1.18	1.23
38	BB	1245	OMG	O6-C6	-2.63	1.18	1.23
37	BA	762	A2M	C5-N7	-2.63	1.34	1.39
12	AA	61	PSU	O4-C4	-2.63	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	AA	1676	OMG	O6-C6	-2.63	1.18	1.23
12	AA	2227	OMG	C6-N1	2.63	1.43	1.38
38	BB	552	OMG	C5-C6	2.63	1.54	1.44
37	BA	1621	OMG	C5-C6	2.63	1.54	1.44
38	BB	1062	OMG	O6-C6	-2.63	1.18	1.23
37	BA	1267	OMG	C5-N7	-2.63	1.34	1.39
38	BB	1094	OMG	C5-C6	2.63	1.54	1.44
37	BA	1605	OMG	C5-N7	-2.63	1.34	1.39
37	BA	1605	OMG	C5-C6	2.63	1.54	1.44
38	BB	1201	A2M	C5-N7	-2.62	1.34	1.39
37	BA	1621	OMG	O6-C6	-2.62	1.18	1.23
12	AA	1612	PSU	O4-C4	-2.62	1.18	1.23
12	AA	2227	OMG	C2-N1	2.62	1.44	1.37
39	BC	75	OMG	C6-N1	2.62	1.43	1.38
38	BB	1062	OMG	C4-N9	-2.62	1.31	1.38
12	AA	1844	OMC	O2-C2	-2.61	1.18	1.23
12	AA	1676	OMG	C2-N1	2.61	1.44	1.37
12	AA	1619	PSU	O4-C4	-2.61	1.18	1.23
12	AA	2278	PSU	O4-C4	-2.61	1.18	1.23
38	BB	1413	OMC	C5-C4	2.61	1.48	1.42
12	AA	2227	OMG	C5-C6	2.61	1.54	1.44
12	AA	1603	OMG	C4-N9	-2.61	1.31	1.38
37	BA	760	OMC	C5-C4	2.61	1.48	1.42
38	BB	1269	OMG	C2-N1	2.61	1.44	1.37
39	BC	75	OMG	O6-C6	-2.61	1.18	1.23
12	AA	1531	OMG	C2-N1	2.61	1.44	1.37
37	BA	1614	PSU	O4-C4	-2.60	1.18	1.23
39	BC	43	A2M	C5-C4	-2.60	1.34	1.39
12	AA	131	PSU	O4-C4	-2.60	1.18	1.23
12	AA	2121	PSU	O4-C4	-2.60	1.18	1.23
12	AA	1931	OMG	O6-C6	-2.60	1.18	1.23
38	BB	552	OMG	C6-N1	2.60	1.43	1.38
37	BA	1620	A2M	C5-N7	-2.60	1.34	1.39
37	BA	1181	OMU	O2-C2	-2.60	1.18	1.23
37	BA	1166	PSU	O4-C4	-2.60	1.18	1.23
38	BB	590	A2M	C5-N7	-2.59	1.34	1.39
38	BB	522	PSU	O4-C4	-2.59	1.18	1.23
12	AA	1895	OMG	C5-N7	-2.59	1.34	1.39
37	BA	46	OMU	O2-C2	-2.59	1.18	1.23
38	BB	1062	OMG	C5-C6	2.59	1.54	1.44
38	BB	609	A2M	C5-C4	-2.59	1.34	1.39
12	AA	66	OMC	C5-C4	2.58	1.48	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	1264	OMC	C5-C4	2.58	1.48	1.42
37	BA	916	OMU	O2-C2	-2.58	1.18	1.23
12	AA	662	PSU	O4-C4	-2.58	1.18	1.23
38	BB	1269	OMG	C6-N1	2.58	1.43	1.38
12	AA	1603	OMG	O6-C6	-2.56	1.18	1.23
12	AA	2045	PSU	O4-C4	-2.56	1.18	1.23
37	BA	743	A2M	O5'-C5'	-2.56	1.38	1.44
12	AA	2096	A2M	C5-N7	-2.55	1.34	1.39
37	BA	1024	A2M	C5-C4	-2.55	1.34	1.39
38	BB	528	PSU	O4-C4	-2.55	1.18	1.23
12	AA	1603	OMG	C5-C6	2.54	1.53	1.44
37	BA	1608	OMC	C5-C4	2.54	1.48	1.42
12	AA	1603	OMG	C6-N1	2.54	1.43	1.38
38	BB	673	OMG	C5-C6	2.54	1.53	1.44
39	BC	7	OMU	O2-C2	-2.53	1.18	1.23
37	BA	1448	OMU	O2-C2	-2.53	1.18	1.23
37	BA	1267	OMG	C5-C6	2.53	1.53	1.44
37	BA	1448	OMU	C5-C4	2.53	1.49	1.43
12	AA	714	OMU	O2-C2	-2.53	1.18	1.23
38	BB	1269	OMG	C5-N7	-2.52	1.34	1.39
37	BA	925	OMG	C5-C6	2.52	1.53	1.44
38	BB	1093	OMU	O2-C2	-2.52	1.18	1.23
37	BA	743	A2M	C5-N7	-2.52	1.34	1.39
12	AA	1700	OMG	O6-C6	-2.51	1.18	1.23
39	BC	75	OMG	C5-C6	2.51	1.53	1.44
12	AA	1517	OMG	C5-C6	2.51	1.53	1.44
38	BB	1400	A2M	O5'-C5'	-2.51	1.38	1.44
12	AA	2134	OMC	C5-C4	2.50	1.48	1.42
38	BB	685	OMU	O2-C2	-2.50	1.18	1.23
38	BB	601	OMC	C5-C4	2.50	1.48	1.42
38	BB	1175	OMC	C5-C4	2.50	1.48	1.42
38	BB	1094	OMG	C5-N7	-2.50	1.34	1.39
37	BA	1742	OMU	O2-C2	-2.50	1.18	1.23
37	BA	1709	OMG	C5-C6	2.50	1.53	1.44
38	BB	1247	OMG	C5-C6	2.49	1.53	1.44
12	AA	1676	OMG	C5-C6	2.49	1.53	1.44
12	AA	2260	MA6	C5-N7	-2.49	1.34	1.39
12	AA	1895	OMG	C5-C6	2.49	1.53	1.44
12	AA	1700	OMG	C5-C6	2.48	1.53	1.44
37	BA	746	A2M	C5-C4	-2.48	1.34	1.39
38	BB	659	OMG	C5-C6	2.48	1.53	1.44
12	AA	1844	OMC	C5-C4	2.48	1.48	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	BB	377	OMC	C5-C4	2.48	1.48	1.42
12	AA	1517	OMG	C4-N9	-2.48	1.31	1.38
38	BB	1245	OMG	C5-C6	2.48	1.53	1.44
12	AA	1517	OMG	C6-N1	2.47	1.43	1.38
12	AA	1932	OMC	C5-C4	2.47	1.48	1.42
12	AA	1931	OMG	C4-N9	-2.47	1.31	1.38
38	BB	659	OMG	C6-N1	2.46	1.43	1.38
12	AA	1676	OMG	C6-N1	2.46	1.43	1.38
38	BB	646	A2M	O5'-C5'	-2.46	1.38	1.44
12	AA	46	OMC	C5-C4	2.46	1.48	1.42
38	BB	1062	OMG	C6-N1	2.45	1.43	1.38
12	AA	1596	B8N	O2-C2	-2.45	1.18	1.22
37	BA	743	A2M	O3'-C3'	-2.44	1.37	1.43
12	AA	1531	OMG	C6-N1	2.44	1.43	1.38
39	BC	7	OMU	C5-C4	2.43	1.49	1.43
38	BB	1403	PSU	O2-C2	-2.43	1.18	1.23
12	AA	2054	OMU	O2-C2	-2.42	1.18	1.23
37	BA	1181	OMU	C5-C4	2.42	1.49	1.43
12	AA	1899	OMU	O2-C2	-2.42	1.18	1.23
37	BA	1330	OMU	C5-C4	2.41	1.49	1.43
12	AA	57	OMU	O2-C2	-2.41	1.18	1.23
38	BB	685	OMU	C5-C4	2.41	1.49	1.43
12	AA	1931	OMG	C5-C6	2.41	1.53	1.44
38	BB	1247	OMG	C6-N1	2.40	1.43	1.38
12	AA	1674	OMU	O2-C2	-2.40	1.18	1.23
12	AA	1899	OMU	C5-C4	2.39	1.48	1.43
37	BA	1330	OMU	O2-C2	-2.38	1.18	1.23
37	BA	1006	OMC	C5-C4	2.37	1.48	1.42
12	AA	36	OMU	C5-C4	2.37	1.48	1.43
37	BA	996	A2M	C8-N9	-2.36	1.33	1.37
12	AA	1674	OMU	C5-C4	2.36	1.48	1.43
12	AA	1531	OMG	C5-C6	2.36	1.53	1.44
12	AA	2261	MA6	C5-N7	-2.36	1.34	1.39
37	BA	1028	OMG	C5-C6	2.36	1.53	1.44
37	BA	46	OMU	C5-C4	2.36	1.48	1.43
37	BA	925	OMG	C6-N1	2.33	1.43	1.38
37	BA	1709	OMG	C6-N1	2.33	1.43	1.38
38	BB	95	A2M	C8-N9	-2.33	1.33	1.37
12	AA	57	OMU	C5-C4	2.33	1.48	1.43
38	BB	1245	OMG	C6-N1	2.33	1.43	1.38
12	AA	1652	OMU	O2-C2	-2.33	1.18	1.23
38	BB	1201	A2M	C8-N9	-2.31	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	AA	1652	OMU	C5-C4	2.29	1.48	1.43
37	BA	746	A2M	O5'-C5'	-2.29	1.39	1.44
37	BA	996	A2M	O5'-C5'	-2.29	1.39	1.44
38	BB	71	OMG	C5-C6	2.29	1.52	1.44
12	AA	1931	OMG	C6-N1	2.28	1.43	1.38
37	BA	916	OMU	C5-C4	2.28	1.48	1.43
38	BB	1093	OMU	C5-C4	2.26	1.48	1.43
38	BB	1388	A2M	C8-N9	-2.25	1.33	1.37
12	AA	2054	OMU	C5-C4	2.25	1.48	1.43
38	BB	72	OMG	C5-C6	2.25	1.52	1.44
37	BA	762	A2M	C8-N9	-2.25	1.33	1.37
38	BB	545	A2M	O5'-C5'	-2.25	1.39	1.44
37	BA	927	A2M	C8-N9	-2.25	1.33	1.37
12	AA	1596	B8N	O4-C4	-2.24	1.18	1.23
12	AA	1596	B8N	C2-N3	2.23	1.42	1.38
37	BA	1620	A2M	O5'-C5'	-2.22	1.39	1.44
12	AA	714	OMU	C5-C4	2.22	1.48	1.43
37	BA	1742	OMU	C5-C4	2.22	1.48	1.43
37	BA	1665	A2M	O5'-C5'	-2.21	1.39	1.44
38	BB	1434	PSU	O2-C2	-2.21	1.18	1.23
12	AA	1700	OMG	C6-N1	2.20	1.42	1.38
12	AA	721	A2M	C8-N9	-2.20	1.33	1.37
12	AA	125	A2M	O5'-C5'	-2.16	1.39	1.44
39	BC	163	A2M	C8-N9	-2.16	1.33	1.37
37	BA	1024	A2M	C8-N9	-2.16	1.33	1.37
38	BB	1334	PSU	O2-C2	-2.15	1.18	1.23
37	BA	1024	A2M	O5'-C5'	-2.15	1.39	1.44
37	BA	1028	OMG	C6-N1	2.14	1.42	1.38
38	BB	622	A2M	C8-N9	-2.14	1.33	1.37
12	AA	131	PSU	C4-C5	2.14	1.50	1.44
39	BC	43	A2M	C8-N9	-2.13	1.33	1.37
12	AA	2096	A2M	C8-N9	-2.13	1.33	1.37
38	BB	578	UY1	O4'-C1'	-2.12	1.40	1.43
37	BA	927	A2M	O5'-C5'	-2.10	1.39	1.44
37	BA	1665	A2M	C8-N9	-2.10	1.33	1.37
39	BC	43	A2M	O5'-C5'	-2.10	1.39	1.44
37	BA	1614	PSU	C4-C5	2.09	1.50	1.44
37	BA	1166	PSU	C4-C5	2.09	1.50	1.44
38	BB	588	A2M	O5'-C5'	-2.08	1.39	1.44
39	BC	163	A2M	O5'-C5'	-2.07	1.39	1.44
12	AA	1610	PSU	C4-C5	2.07	1.50	1.44
38	BB	590	A2M	C8-N9	-2.06	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	BC	41	A2M	C8-N9	-2.06	1.33	1.37
38	BB	545	A2M	C8-N9	-2.05	1.33	1.37
37	BA	254	A2M	C8-N9	-2.05	1.33	1.37
38	BB	622	A2M	O5'-C5'	-2.04	1.39	1.44
12	AA	721	A2M	O5'-C5'	-2.04	1.39	1.44
12	AA	56	A2M	C8-N9	-2.04	1.33	1.37
12	AA	56	A2M	O5'-C5'	-2.03	1.39	1.44
38	BB	609	A2M	C8-N9	-2.03	1.33	1.37
38	BB	588	A2M	C8-N9	-2.03	1.33	1.37
38	BB	1201	A2M	O5'-C5'	-2.03	1.39	1.44
38	BB	400	A2M	O5'-C5'	-2.02	1.39	1.44
12	AA	2146	PSU	C4-C5	2.02	1.49	1.44
37	BA	737	PSU	C4-C5	2.02	1.49	1.44
38	BB	455	PSU	O2-C2	-2.02	1.19	1.23
38	BB	609	A2M	O5'-C5'	-2.01	1.39	1.44
37	BA	762	A2M	O5'-C5'	-2.00	1.39	1.44
38	BB	1388	A2M	O5'-C5'	-2.00	1.39	1.44

All (947) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	2261	MA6	N1-C6-N6	-15.57	100.06	117.08
12	AA	2260	MA6	N1-C6-N6	-14.78	100.92	117.08
12	AA	2261	MA6	C5-C6-N6	8.50	140.10	125.30
12	AA	2260	MA6	C5-C6-N6	7.97	139.18	125.30
12	AA	1517	OMG	C1'-N9-C8	-7.01	106.73	126.70
12	AA	1931	OMG	C1'-N9-C8	-6.98	106.82	126.70
38	BB	1062	OMG	C1'-N9-C8	-6.78	107.41	126.70
37	BA	1709	OMG	C1'-N9-C8	-6.67	107.70	126.70
38	BB	1245	OMG	C1'-N9-C8	-6.65	107.78	126.70
38	BB	1247	OMG	C1'-N9-C8	-6.62	107.86	126.70
12	AA	1676	OMG	C1'-N9-C8	-6.56	108.03	126.70
12	AA	1603	OMG	C1'-N9-C8	-6.51	108.17	126.70
12	AA	1700	OMG	C1'-N9-C8	-6.50	108.19	126.70
38	BB	72	OMG	C1'-N9-C8	-6.49	108.22	126.70
38	BB	552	OMG	C1'-N9-C8	-6.39	108.49	126.70
38	BB	71	OMG	C1'-N9-C8	-6.37	108.57	126.70
37	BA	925	OMG	C1'-N9-C8	-6.26	108.88	126.70
12	AA	2227	OMG	C1'-N9-C8	-6.22	108.99	126.70
38	BB	673	OMG	C1'-N9-C8	-6.22	108.99	126.70
12	AA	1895	OMG	C1'-N9-C8	-6.19	109.07	126.70
37	BA	1028	OMG	C1'-N9-C8	-6.17	109.12	126.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	BC	75	OMG	C1'-N9-C8	-6.11	109.30	126.70
12	AA	1517	OMG	C1'-N9-C4	6.05	144.48	126.50
12	AA	1531	OMG	C1'-N9-C8	-5.98	109.68	126.70
37	BA	746	A2M	N3-C2-N1	-5.97	119.26	128.60
37	BA	1621	OMG	C1'-N9-C8	-5.90	109.90	126.70
12	AA	1931	OMG	C1'-N9-C4	5.84	143.85	126.50
37	BA	743	A2M	N3-C2-N1	-5.80	119.52	128.60
38	BB	95	A2M	C5-C4-N3	-5.79	119.19	126.75
38	BB	609	A2M	N3-C2-N1	-5.77	119.58	128.60
37	BA	1605	OMG	C1'-N9-C8	-5.75	110.32	126.70
37	BA	254	A2M	N3-C2-N1	-5.74	119.62	128.60
37	BA	996	A2M	N3-C2-N1	-5.74	119.62	128.60
38	BB	1062	OMG	C1'-N9-C4	5.73	143.51	126.50
37	BA	46	OMU	C4-N3-C2	-5.72	119.04	126.58
39	BC	41	A2M	N3-C2-N1	-5.65	119.77	128.60
38	BB	400	A2M	C5-C4-N3	-5.64	119.39	126.75
38	BB	622	A2M	N3-C2-N1	-5.62	119.80	128.60
12	AA	1899	OMU	C4-N3-C2	-5.62	119.17	126.58
39	BC	163	A2M	N3-C2-N1	-5.62	119.81	128.60
12	AA	2096	A2M	N3-C2-N1	-5.62	119.81	128.60
12	AA	721	A2M	N3-C2-N1	-5.61	119.82	128.60
38	BB	545	A2M	N3-C2-N1	-5.61	119.83	128.60
38	BB	1201	A2M	N3-C2-N1	-5.58	119.87	128.60
37	BA	1665	A2M	N3-C2-N1	-5.57	119.89	128.60
37	BA	1709	OMG	C1'-N9-C4	5.56	143.02	126.50
37	BA	927	A2M	C5-C4-N3	-5.55	119.50	126.75
38	BB	588	A2M	N3-C2-N1	-5.54	119.93	128.60
12	AA	2260	MA6	N1-C2-N3	-5.54	119.93	128.60
12	AA	56	A2M	N3-C2-N1	-5.54	119.94	128.60
38	BB	72	OMG	C1'-N9-C4	5.53	142.92	126.50
39	BC	43	A2M	N3-C2-N1	-5.53	119.95	128.60
38	BB	588	A2M	C5-C4-N3	-5.52	119.55	126.75
38	BB	1400	A2M	N3-C2-N1	-5.52	119.97	128.60
12	AA	2261	MA6	N1-C2-N3	-5.51	119.98	128.60
37	BA	762	A2M	N3-C2-N1	-5.51	119.99	128.60
38	BB	590	A2M	C5-C4-N3	-5.49	119.58	126.75
38	BB	646	A2M	N3-C2-N1	-5.45	120.07	128.60
38	BB	1388	A2M	N3-C2-N1	-5.45	120.07	128.60
12	AA	36	OMU	C4-N3-C2	-5.44	119.40	126.58
38	BB	400	A2M	N3-C2-N1	-5.44	120.10	128.60
12	AA	721	A2M	C5-C4-N3	-5.43	119.66	126.75
38	BB	1247	OMG	C1'-N9-C4	5.43	142.62	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	BB	590	A2M	N3-C2-N1	-5.42	120.12	128.60
12	AA	714	OMU	C4-N3-C2	-5.42	119.43	126.58
12	AA	2054	OMU	C4-N3-C2	-5.42	119.43	126.58
12	AA	125	A2M	N3-C2-N1	-5.41	120.14	128.60
37	BA	1620	A2M	C5-C4-N3	-5.41	119.70	126.75
12	AA	125	A2M	C5-C4-N3	-5.40	119.70	126.75
38	BB	1201	A2M	C5-C4-N3	-5.38	119.73	126.75
37	BA	1665	A2M	C5-C4-N3	-5.38	119.73	126.75
38	BB	1245	OMG	C1'-N9-C4	5.37	142.44	126.50
37	BA	1181	OMU	C4-N3-C2	-5.35	119.52	126.58
37	BA	254	A2M	C5-C4-N3	-5.34	119.78	126.75
39	BC	43	A2M	C5-C4-N3	-5.34	119.79	126.75
12	AA	1676	OMG	C1'-N9-C4	5.32	142.31	126.50
37	BA	1448	OMU	C4-N3-C2	-5.30	119.58	126.58
37	BA	746	A2M	C5-C4-N3	-5.30	119.84	126.75
12	AA	1603	OMG	C1'-N9-C4	5.29	142.22	126.50
12	AA	1674	OMU	C4-N3-C2	-5.27	119.63	126.58
38	BB	1269	OMG	C1'-N9-C8	-5.26	111.71	126.70
38	BB	71	OMG	C1'-N9-C4	5.26	142.12	126.50
37	BA	1024	A2M	C5-C4-N3	-5.25	119.90	126.75
38	BB	609	A2M	C5-C4-N3	-5.25	119.90	126.75
37	BA	1330	OMU	C4-N3-C2	-5.25	119.66	126.58
12	AA	1700	OMG	C1'-N9-C4	5.24	142.07	126.50
37	BA	927	A2M	N3-C2-N1	-5.24	120.41	128.60
12	AA	2260	MA6	C5-C4-N3	-5.23	119.92	126.75
38	BB	552	OMG	C1'-N9-C4	5.23	142.02	126.50
37	BA	1742	OMU	C4-N3-C2	-5.22	119.70	126.58
37	BA	1024	A2M	N3-C2-N1	-5.22	120.44	128.60
38	BB	1400	A2M	N6-C6-N1	-5.21	106.94	118.35
37	BA	1620	A2M	N3-C2-N1	-5.21	120.45	128.60
38	BB	1400	A2M	C5-C4-N3	-5.21	119.96	126.75
38	BB	673	OMG	C1'-N9-C4	5.20	141.95	126.50
12	AA	56	A2M	C5-C4-N3	-5.19	119.98	126.75
38	BB	95	A2M	N3-C2-N1	-5.16	120.54	128.60
12	AA	2096	A2M	C5-C4-N3	-5.15	120.04	126.75
38	BB	659	OMG	C1'-N9-C8	-5.13	112.10	126.70
37	BA	762	A2M	N6-C6-N1	-5.11	107.17	118.35
12	AA	2227	OMG	C1'-N9-C4	5.10	141.64	126.50
39	BC	41	A2M	C5-C4-N3	-5.08	120.13	126.75
37	BA	925	OMG	C1'-N9-C4	5.07	141.57	126.50
38	BB	1388	A2M	C5-C4-N3	-5.05	120.16	126.75
38	BB	622	A2M	C5-C4-N3	-5.04	120.17	126.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	1596	B8N	C5-C4-N3	5.03	125.50	116.17
38	BB	590	A2M	N6-C6-N1	-5.01	107.37	118.35
39	BC	7	OMU	C4-N3-C2	-5.00	119.98	126.58
38	BB	1094	OMG	C1'-N9-C8	-5.00	112.46	126.70
12	AA	1710	PSU	C4-N3-C2	-5.00	119.14	126.34
37	BA	996	A2M	C5-C4-N3	-4.99	120.23	126.75
37	BA	1024	A2M	N6-C6-N1	-4.98	107.45	118.35
12	AA	721	A2M	N6-C6-N1	-4.98	107.45	118.35
37	BA	746	A2M	N6-C6-N1	-4.98	107.45	118.35
12	AA	57	OMU	C4-N3-C2	-4.96	120.03	126.58
37	BA	762	A2M	C5-C4-N3	-4.95	120.29	126.75
37	BA	1028	OMG	C1'-N9-C4	4.95	141.20	126.50
38	BB	1093	OMU	C4-N3-C2	-4.93	120.07	126.58
38	BB	609	A2M	N6-C6-N1	-4.93	107.55	118.35
38	BB	588	A2M	N6-C6-N1	-4.92	107.58	118.35
37	BA	1267	OMG	C1'-N9-C8	-4.91	112.71	126.70
38	BB	95	A2M	N6-C6-N1	-4.91	107.59	118.35
39	BC	163	A2M	C5-C4-N3	-4.91	120.34	126.75
12	AA	1895	OMG	C1'-N9-C4	4.90	141.06	126.50
38	BB	646	A2M	N6-C6-N1	-4.90	107.63	118.35
12	AA	2096	A2M	N6-C6-N1	-4.89	107.63	118.35
12	AA	2070	7MG	C5-C6-N1	4.89	119.60	110.99
38	BB	1388	A2M	N6-C6-N1	-4.88	107.67	118.35
37	BA	1665	A2M	N6-C6-N1	-4.87	107.68	118.35
39	BC	75	OMG	C1'-N9-C4	4.86	140.94	126.50
38	BB	545	A2M	C5-C4-N3	-4.85	120.42	126.75
12	AA	2261	MA6	C5-C4-N3	-4.84	120.44	126.75
37	BA	1620	A2M	N6-C6-N1	-4.83	107.77	118.35
38	BB	545	A2M	N6-C6-N1	-4.82	107.79	118.35
38	BB	622	A2M	N6-C6-N1	-4.82	107.80	118.35
38	BB	685	OMU	C4-N3-C2	-4.81	120.24	126.58
38	BB	1334	PSU	C4-N3-C2	-4.80	119.43	126.34
38	BB	400	A2M	N6-C6-N1	-4.79	107.85	118.35
38	BB	1201	A2M	N6-C6-N1	-4.79	107.86	118.35
37	BA	927	A2M	N6-C6-N1	-4.77	107.90	118.35
37	BA	743	A2M	C5-C4-N3	-4.77	120.53	126.75
38	BB	455	PSU	C4-N3-C2	-4.76	119.48	126.34
39	BC	163	A2M	N6-C6-N1	-4.76	107.92	118.35
37	BA	1621	OMG	C1'-N9-C4	4.76	140.64	126.50
12	AA	1531	OMG	C1'-N9-C4	4.76	140.63	126.50
12	AA	125	A2M	N6-C6-N1	-4.73	107.98	118.35
37	BA	254	A2M	N6-C6-N1	-4.73	107.98	118.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	BA	743	A2M	N6-C6-N1	-4.72	108.01	118.35
38	BB	1076	PSU	C4-N3-C2	-4.72	119.54	126.34
12	AA	1592	PSU	C4-N3-C2	-4.72	119.54	126.34
37	BA	996	A2M	N6-C6-N1	-4.71	108.03	118.35
37	BA	1169	PSU	C4-N3-C2	-4.71	119.55	126.34
38	BB	646	A2M	C5-C4-N3	-4.69	120.64	126.75
12	AA	56	A2M	N6-C6-N1	-4.68	108.11	118.35
39	BC	43	A2M	N6-C6-N1	-4.67	108.11	118.35
39	BC	41	A2M	N6-C6-N1	-4.67	108.12	118.35
37	BA	916	OMU	C4-N3-C2	-4.65	120.44	126.58
38	BB	1076	PSU	N1-C2-N3	4.63	120.37	115.13
12	AA	131	PSU	C4-N3-C2	-4.63	119.67	126.34
38	BB	1400	A2M	C5-C6-N6	4.62	133.49	123.43
37	BA	1258	PSU	C4-N3-C2	-4.60	119.71	126.34
12	AA	1596	B8N	C4-N3-C2	-4.60	119.65	125.46
39	BC	74	PSU	C4-N3-C2	-4.59	119.72	126.34
37	BA	1080	PSU	C4-N3-C2	-4.59	119.73	126.34
38	BB	1210	PSU	C4-N3-C2	-4.59	119.73	126.34
12	AA	1612	PSU	C4-N3-C2	-4.58	119.74	126.34
12	AA	1652	OMU	C4-N3-C2	-4.58	120.54	126.58
12	AA	2260	MA6	N9-C8-N7	-4.56	107.67	113.91
38	BB	1398	PSU	C4-N3-C2	-4.56	119.77	126.34
38	BB	545	A2M	O4'-C1'-N9	4.55	117.02	108.06
12	AA	61	PSU	C4-N3-C2	-4.52	119.82	126.34
38	BB	1409	PSU	C4-N3-C2	-4.51	119.84	126.34
38	BB	1400	A2M	N9-C8-N7	-4.50	107.75	113.91
12	AA	2261	MA6	N9-C8-N7	-4.50	107.75	113.91
37	BA	1248	PSU	C4-N3-C2	-4.50	119.86	126.34
38	BB	1160	PSU	C4-N3-C2	-4.50	119.86	126.34
38	BB	522	PSU	C4-N3-C2	-4.48	119.89	126.34
37	BA	1614	PSU	C4-N3-C2	-4.48	119.89	126.34
38	BB	1319	PSU	C4-N3-C2	-4.44	119.94	126.34
37	BA	1129	PSU	C4-N3-C2	-4.44	119.94	126.34
37	BA	1605	OMG	C1'-N9-C4	4.44	139.68	126.50
37	BA	762	A2M	C5-C6-N6	4.43	133.07	123.43
37	BA	452	PSU	C4-N3-C2	-4.41	119.98	126.34
38	BB	455	PSU	N1-C2-N3	4.41	120.13	115.13
12	AA	2121	PSU	C4-N3-C2	-4.40	119.99	126.34
37	BA	1024	A2M	C5-C6-N6	4.40	133.00	123.43
12	AA	1619	PSU	C4-N3-C2	-4.38	120.02	126.34
38	BB	545	A2M	N9-C8-N7	-4.38	107.92	113.91
37	BA	746	A2M	C5-C6-N6	4.38	132.96	123.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	BB	1201	A2M	N9-C8-N7	-4.38	107.92	113.91
39	BC	41	A2M	N9-C8-N7	-4.37	107.93	113.91
38	BB	1435	OMU	C4-N3-C2	-4.36	120.83	126.58
12	AA	1907	PSU	C4-N3-C2	-4.36	120.06	126.34
12	AA	721	A2M	N9-C8-N7	-4.35	107.96	113.91
37	BA	1086	PSU	C4-N3-C2	-4.34	120.08	126.34
12	AA	1612	PSU	N1-C2-N3	4.34	120.05	115.13
12	AA	2146	PSU	C4-N3-C2	-4.33	120.09	126.34
38	BB	1419	PSU	C4-N3-C2	-4.33	120.10	126.34
38	BB	622	A2M	N9-C8-N7	-4.31	108.01	113.91
12	AA	721	A2M	C5-C6-N6	4.31	132.80	123.43
12	AA	61	PSU	N1-C2-N3	4.30	120.00	115.13
12	AA	131	PSU	N1-C2-N3	4.30	120.00	115.13
12	AA	2096	A2M	N9-C8-N7	-4.30	108.04	113.91
37	BA	1267	OMG	N9-C8-N7	-4.29	105.32	113.39
12	AA	1517	OMG	C5-C4-N3	-4.28	121.51	128.46
38	BB	609	A2M	C5-C6-N6	4.28	132.75	123.43
12	AA	1610	PSU	C4-N3-C2	-4.28	120.18	126.34
38	BB	1094	OMG	N9-C8-N7	-4.28	105.34	113.39
38	BB	646	A2M	C5-C6-N6	4.27	132.73	123.43
12	AA	2070	7MG	C2-N3-C4	4.27	119.91	112.30
38	BB	673	OMG	C2-N3-C4	4.26	119.89	112.30
37	BA	1258	PSU	N1-C2-N3	4.26	119.95	115.13
38	BB	588	A2M	N9-C8-N7	-4.25	108.10	113.91
38	BB	1062	OMG	C2-N3-C4	4.25	119.87	112.30
38	BB	73	OMU	C4-N3-C2	-4.25	120.98	126.58
37	BA	1129	PSU	N1-C2-N3	4.24	119.93	115.13
38	BB	95	A2M	C5-C6-N6	4.23	132.64	123.43
38	BB	1269	OMG	C1'-N9-C4	4.22	139.04	126.50
39	BC	163	A2M	N9-C8-N7	-4.22	108.14	113.91
38	BB	1429	PSU	C4-N3-C2	-4.22	120.26	126.34
37	BA	1169	PSU	N1-C2-N3	4.22	119.91	115.13
38	BB	590	A2M	C5-C6-N6	4.21	132.60	123.43
38	BB	659	OMG	N9-C8-N7	-4.21	105.45	113.39
12	AA	2121	PSU	N1-C2-N3	4.21	119.90	115.13
12	AA	1517	OMG	C2-N3-C4	4.20	119.78	112.30
12	AA	1619	PSU	N1-C2-N3	4.19	119.88	115.13
37	BA	1166	PSU	C4-N3-C2	-4.18	120.31	126.34
38	BB	490	PSU	C4-N3-C2	-4.18	120.31	126.34
12	AA	2227	OMG	C2-N3-C4	4.18	119.74	112.30
38	BB	1398	PSU	N1-C2-N3	4.17	119.86	115.13
38	BB	528	PSU	C4-N3-C2	-4.17	120.33	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	2096	A2M	C5-C6-N6	4.16	132.47	123.43
37	BA	762	A2M	N9-C8-N7	-4.15	108.23	113.91
12	AA	1710	PSU	N1-C2-N3	4.15	119.83	115.13
37	BA	452	PSU	N1-C2-N3	4.14	119.83	115.13
38	BB	1388	A2M	C5-C6-N6	4.13	132.41	123.43
38	BB	400	A2M	C5-C6-N6	4.13	132.41	123.43
37	BA	743	A2M	N9-C8-N7	-4.13	108.27	113.91
38	BB	611	PSU	C4-N3-C2	-4.12	120.40	126.34
39	BC	7	OMU	N3-C2-N1	4.12	120.36	114.89
12	AA	1931	OMG	C5-C4-N3	-4.12	121.78	128.46
37	BA	1620	A2M	C5-C6-N6	4.12	132.39	123.43
39	BC	163	A2M	C5-C6-N6	4.12	132.39	123.43
38	BB	622	A2M	C5-C6-N6	4.11	132.38	123.43
38	BB	552	OMG	C2-N3-C4	4.11	119.62	112.30
37	BA	258	PSU	C4-N3-C2	-4.10	120.42	126.34
12	AA	2278	PSU	C4-N3-C2	-4.10	120.43	126.34
37	BA	1009	PSU	C4-N3-C2	-4.10	120.43	126.34
39	BC	74	PSU	N1-C2-N3	4.10	119.78	115.13
37	BA	1665	A2M	N9-C8-N7	-4.10	108.31	113.91
12	AA	1931	OMG	C2-N3-C4	4.10	119.60	112.30
38	BB	590	A2M	N9-C8-N7	-4.10	108.31	113.91
38	BB	522	PSU	N1-C2-N3	4.10	119.77	115.13
12	AA	125	A2M	N9-C8-N7	-4.10	108.31	113.91
38	BB	1269	OMG	C2-N3-C4	4.09	119.59	112.30
37	BA	743	A2M	C5-C6-N6	4.09	132.34	123.43
12	AA	56	A2M	N9-C8-N7	-4.09	108.32	113.91
38	BB	680	PSU	C4-N3-C2	-4.09	120.45	126.34
38	BB	646	A2M	N9-C8-N7	-4.09	108.33	113.91
38	BB	1409	PSU	N1-C2-N3	4.08	119.75	115.13
12	AA	2278	PSU	N1-C2-N3	4.08	119.75	115.13
38	BB	1062	OMG	C5-C4-N3	-4.08	121.84	128.46
12	AA	662	PSU	C4-N3-C2	-4.08	120.46	126.34
37	BA	927	A2M	N9-C8-N7	-4.07	108.35	113.91
38	BB	1334	PSU	N1-C2-N3	4.07	119.74	115.13
37	BA	1665	A2M	C5-C6-N6	4.07	132.28	123.43
37	BA	1609	PSU	C4-N3-C2	-4.07	120.48	126.34
38	BB	1247	OMG	C2-N3-C4	4.06	119.54	112.30
38	BB	1201	A2M	C5-C6-N6	4.06	132.27	123.43
38	BB	1324	5MC	C5-C6-N1	-4.05	119.17	123.34
12	AA	1276	PSU	C4-N3-C2	-4.05	120.51	126.34
38	BB	588	A2M	C5-C6-N6	4.04	132.23	123.43
12	AA	1895	OMG	C2-N3-C4	4.04	119.50	112.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	BA	1605	OMG	N9-C8-N7	-4.04	105.78	113.39
38	BB	1280	PSU	C4-N3-C2	-4.04	120.52	126.34
12	AA	1676	OMG	C2-N3-C4	4.04	119.49	112.30
37	BA	1620	A2M	N9-C8-N7	-4.03	108.40	113.91
39	BC	43	A2M	N9-C8-N7	-4.03	108.40	113.91
12	AA	125	A2M	C5-C6-N6	4.02	132.19	123.43
38	BB	615	PSU	C4-N3-C2	-4.01	120.56	126.34
38	BB	1210	PSU	N1-C2-N3	4.01	119.67	115.13
12	AA	1603	OMG	C2-N3-C4	4.01	119.44	112.30
37	BA	927	A2M	C5-C6-N6	4.01	132.15	123.43
12	AA	56	A2M	C5-C6-N6	4.01	132.15	123.43
38	BB	1419	PSU	N1-C2-N3	4.00	119.67	115.13
12	AA	1592	PSU	N1-C2-N3	4.00	119.66	115.13
37	BA	1086	PSU	N1-C2-N3	4.00	119.66	115.13
12	AA	2146	PSU	N1-C2-N3	3.99	119.65	115.13
38	BB	1160	PSU	N1-C2-N3	3.99	119.65	115.13
37	BA	1709	OMG	C2-N3-C4	3.98	119.39	112.30
38	BB	528	PSU	N1-C2-N3	3.98	119.64	115.13
37	BA	1024	A2M	N9-C8-N7	-3.97	108.48	113.91
39	BC	75	OMG	C2-N3-C4	3.97	119.37	112.30
12	AA	36	OMU	N3-C2-N1	3.97	120.16	114.89
12	AA	1907	PSU	N1-C2-N3	3.96	119.62	115.13
12	AA	1895	OMG	N9-C8-N7	-3.96	105.93	113.39
38	BB	1269	OMG	N9-C8-N7	-3.96	105.93	113.39
37	BA	1080	PSU	N1-C2-N3	3.96	119.61	115.13
37	BA	254	A2M	N9-C8-N7	-3.96	108.50	113.91
37	BA	254	A2M	C5-C6-N6	3.96	132.04	123.43
37	BA	996	A2M	C5-C6-N6	3.95	132.03	123.43
37	BA	1448	OMU	N3-C2-N1	3.95	120.13	114.89
37	BA	1181	OMU	N3-C2-N1	3.94	120.11	114.89
38	BB	1388	A2M	N9-C8-N7	-3.94	108.53	113.91
38	BB	1319	PSU	N1-C2-N3	3.93	119.58	115.13
38	BB	659	OMG	C2-N3-C4	3.93	119.30	112.30
37	BA	1605	OMG	C2-N3-C4	3.93	119.30	112.30
38	BB	1094	OMG	C2-N3-C4	3.93	119.30	112.30
38	BB	95	A2M	N9-C8-N7	-3.92	108.55	113.91
39	BC	75	OMG	N9-C8-N7	-3.92	106.01	113.39
38	BB	1280	PSU	N1-C2-N3	3.92	119.57	115.13
37	BA	1621	OMG	N9-C8-N7	-3.91	106.03	113.39
37	BA	925	OMG	C2-N3-C4	3.90	119.25	112.30
37	BA	996	A2M	N9-C8-N7	-3.90	108.58	113.91
37	BA	1166	PSU	N1-C2-N3	3.89	119.54	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	2260	MA6	C4-C5-C6	3.89	120.23	115.88
39	BC	43	A2M	C5-C6-N6	3.88	131.88	123.43
37	BA	1248	PSU	N1-C2-N3	3.88	119.53	115.13
12	AA	1700	OMG	C2-N3-C4	3.88	119.21	112.30
12	AA	1700	OMG	C5-C4-N3	-3.88	122.17	128.46
37	BA	925	OMG	N9-C8-N7	-3.88	106.09	113.39
38	BB	659	OMG	C1'-N9-C4	3.87	138.00	126.50
37	BA	46	OMU	N3-C2-N1	3.87	120.03	114.89
12	AA	1676	OMG	N9-C8-N7	-3.87	106.11	113.39
12	AA	2045	PSU	C4-N3-C2	-3.86	120.77	126.34
12	AA	1603	OMG	C5-C4-N3	-3.86	122.20	128.46
37	BA	1330	OMU	N3-C2-N1	3.85	120.01	114.89
37	BA	1614	PSU	N1-C2-N3	3.85	119.50	115.13
38	BB	609	A2M	N9-C8-N7	-3.85	108.65	113.91
12	AA	1700	OMG	N9-C8-N7	-3.84	106.15	113.39
38	BB	1434	PSU	N1-C2-N3	3.84	119.48	115.13
39	BC	41	A2M	C5-C6-N6	3.84	131.78	123.43
38	BB	1245	OMG	C2-N3-C4	3.84	119.14	112.30
38	BB	615	PSU	N1-C2-N3	3.83	119.47	115.13
37	BA	1709	OMG	C5-C4-N3	-3.83	122.24	128.46
38	BB	552	OMG	N9-C8-N7	-3.83	106.18	113.39
37	BA	1267	OMG	C2-N3-C4	3.83	119.12	112.30
12	AA	2227	OMG	C5-C4-N3	-3.83	122.25	128.46
12	AA	1531	OMG	N9-C8-N7	-3.83	106.18	113.39
12	AA	2227	OMG	N9-C8-N7	-3.83	106.19	113.39
37	BA	746	A2M	N9-C8-N7	-3.82	108.69	113.91
38	BB	545	A2M	C5-C6-N6	3.81	131.73	123.43
12	AA	1603	OMG	N9-C8-N7	-3.81	106.21	113.39
12	AA	2070	7MG	C5-C4-N3	-3.81	120.87	128.13
38	BB	400	A2M	N9-C8-N7	-3.80	108.71	113.91
38	BB	490	PSU	N1-C2-N3	3.80	119.43	115.13
37	BA	1621	OMG	C2-N3-C4	3.80	119.06	112.30
38	BB	588	A2M	C2-N3-C4	3.79	120.70	111.75
38	BB	1245	OMG	N9-C8-N7	-3.79	106.26	113.39
12	AA	1674	OMU	N3-C2-N1	3.79	119.92	114.89
38	BB	1434	PSU	C6-N1-C2	-3.78	118.82	122.68
37	BA	1609	PSU	N1-C2-N3	3.78	119.41	115.13
38	BB	1403	PSU	C4-N3-C2	-3.78	120.90	126.34
37	BA	737	PSU	C4-N3-C2	-3.77	120.90	126.34
12	AA	1899	OMU	C5-C4-N3	3.77	120.48	114.84
38	BB	1094	OMG	N2-C2-N1	3.76	124.72	116.71
38	BB	1434	PSU	C4-N3-C2	-3.75	120.94	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	2054	OMU	N3-C2-N1	3.74	119.86	114.89
38	BB	1093	OMU	N3-C2-N1	3.74	119.86	114.89
38	BB	1094	OMG	C1'-N9-C4	3.74	137.61	126.50
12	AA	1610	PSU	N1-C2-N3	3.73	119.36	115.13
12	AA	2045	PSU	N1-C2-N3	3.73	119.36	115.13
38	BB	611	PSU	N1-C2-N3	3.72	119.35	115.13
38	BB	644	PSU	C4-N3-C2	-3.72	120.97	126.34
37	BA	746	A2M	C2-N3-C4	3.72	120.54	111.75
38	BB	1247	OMG	N9-C8-N7	-3.71	106.40	113.39
12	AA	1899	OMU	N3-C2-N1	3.71	119.81	114.89
12	AA	662	PSU	N1-C2-N3	3.71	119.33	115.13
38	BB	1429	PSU	N1-C2-N3	3.70	119.33	115.13
37	BA	46	OMU	C5-C4-N3	3.70	120.38	114.84
37	BA	1028	OMG	C2-N3-C4	3.70	118.89	112.30
37	BA	254	A2M	C2-N3-C4	3.70	120.49	111.75
12	AA	1276	PSU	N1-C2-N3	3.69	119.31	115.13
38	BB	542	5MC	C5-C6-N1	-3.68	119.55	123.34
12	AA	714	OMU	N3-C2-N1	3.68	119.78	114.89
12	AA	1676	OMG	C5-C4-N3	-3.68	122.49	128.46
12	AA	721	A2M	C2-N3-C4	3.68	120.43	111.75
38	BB	673	OMG	C5-C4-N3	-3.67	122.51	128.46
12	AA	2054	OMU	C5-C4-N3	3.66	120.32	114.84
37	BA	258	PSU	N1-C2-N3	3.66	119.28	115.13
12	AA	714	OMU	C5-C4-N3	3.66	120.31	114.84
12	AA	1531	OMG	C2-N3-C4	3.66	118.81	112.30
37	BA	916	OMU	N3-C2-N1	3.65	119.73	114.89
38	BB	590	A2M	C2-N3-C4	3.63	120.33	111.75
37	BA	1028	OMG	N9-C8-N7	-3.63	106.56	113.39
38	BB	1247	OMG	C5-C4-N3	-3.62	122.58	128.46
12	AA	57	OMU	N3-C2-N1	3.62	119.70	114.89
37	BA	996	A2M	C2-N3-C4	3.62	120.29	111.75
37	BA	1665	A2M	C2-N3-C4	3.61	120.28	111.75
12	AA	2261	MA6	C2-N1-C6	3.61	120.28	111.75
37	BA	1620	A2M	C2-N3-C4	3.60	120.26	111.75
38	BB	673	OMG	N9-C8-N7	-3.60	106.61	113.39
37	BA	925	OMG	C5-C4-N3	-3.59	122.63	128.46
38	BB	1201	A2M	C2-N3-C4	3.59	120.23	111.75
84	Bx	172	HY3	C5-C4-C3	3.59	109.22	103.74
37	BA	1709	OMG	N9-C8-N7	-3.58	106.64	113.39
38	BB	685	OMU	N3-C2-N1	3.58	119.64	114.89
38	BB	552	OMG	C5-C4-N3	-3.57	122.67	128.46
12	AA	1931	OMG	N9-C8-N7	-3.56	106.68	113.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	BB	400	A2M	C2-N3-C4	3.56	120.17	111.75
38	BB	71	OMG	C5-C4-N3	-3.56	122.68	128.46
37	BA	1742	OMU	N3-C2-N1	3.56	119.61	114.89
38	BB	609	A2M	C2-N3-C4	3.55	120.15	111.75
12	AA	36	OMU	C5-C4-N3	3.55	120.15	114.84
37	BA	927	A2M	C2-N3-C4	3.55	120.13	111.75
12	AA	2096	A2M	C2-N3-C4	3.55	120.13	111.75
38	BB	95	A2M	C2-N3-C4	3.54	120.12	111.75
38	BB	622	A2M	C2-N3-C4	3.54	120.11	111.75
37	BA	1009	PSU	N1-C2-N3	3.53	119.13	115.13
39	BC	43	A2M	C2-N3-C4	3.53	120.10	111.75
38	BB	1062	OMG	N9-C8-N7	-3.53	106.74	113.39
12	AA	2260	MA6	N3-C4-N9	3.53	132.90	127.08
37	BA	1267	OMG	C1'-N9-C4	3.53	136.99	126.50
38	BB	644	PSU	N1-C2-N3	3.53	119.13	115.13
37	BA	1742	OMU	C5-C4-N3	3.53	120.12	114.84
12	AA	1895	OMG	C5-C4-N3	-3.53	122.74	128.46
12	AA	125	A2M	C2-N3-C4	3.53	120.08	111.75
39	BC	41	A2M	C2-N3-C4	3.52	120.08	111.75
38	BB	545	A2M	C2-N3-C4	3.51	120.05	111.75
38	BB	1094	OMG	C6-C5-N7	3.51	136.78	130.25
38	BB	629	PSU	C4-N3-C2	-3.51	121.28	126.34
12	AA	2260	MA6	C2-N1-C6	3.50	120.03	111.75
38	BB	680	PSU	N1-C2-N3	3.50	119.09	115.13
37	BA	1448	OMU	C5-C4-N3	3.50	120.07	114.84
38	BB	1403	PSU	N1-C2-N3	3.49	119.09	115.13
12	AA	2260	MA6	C2-N3-C4	3.49	119.98	111.75
37	BA	737	PSU	N1-C2-N3	3.48	119.08	115.13
38	BB	1400	A2M	C5-N7-C8	3.47	108.44	103.51
12	AA	56	A2M	C2-N3-C4	3.47	119.95	111.75
12	AA	1652	OMU	N3-C2-N1	3.47	119.49	114.89
38	BB	71	OMG	N9-C8-N7	-3.47	106.86	113.39
38	BB	1400	A2M	C2-N3-C4	3.46	119.92	111.75
37	BA	743	A2M	C2-N3-C4	3.45	119.91	111.75
37	BA	1181	OMU	C5-C4-N3	3.44	119.99	114.84
39	BC	75	OMG	C5-C4-N3	-3.44	122.88	128.46
38	BB	1388	A2M	C2-N3-C4	3.43	119.86	111.75
38	BB	588	A2M	C5-N7-C8	3.43	108.39	103.51
39	BC	163	A2M	C2-N3-C4	3.43	119.86	111.75
37	BA	927	A2M	N3-C4-N9	3.41	132.71	127.08
12	AA	2261	MA6	C2-N3-C4	3.41	119.80	111.75
38	BB	72	OMG	N9-C8-N7	-3.40	106.98	113.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	BB	400	A2M	N3-C4-N9	3.40	132.69	127.08
37	BA	762	A2M	C2-N3-C4	3.40	119.78	111.75
12	AA	721	A2M	C5-N7-C8	3.40	108.34	103.51
12	AA	1674	OMU	C5-C4-N3	3.40	119.92	114.84
12	AA	2261	MA6	C4-C5-C6	3.39	119.67	115.88
38	BB	1269	OMG	C5-C4-N3	-3.37	122.99	128.46
37	BA	1024	A2M	C2-N3-C4	3.36	119.70	111.75
12	AA	2045	PSU	C6-N1-C2	-3.36	119.25	122.68
37	BA	1330	OMU	C5-C4-N3	3.34	119.84	114.84
38	BB	1245	OMG	C5-C4-N3	-3.33	123.06	128.46
38	BB	1435	OMU	N3-C2-N1	3.33	119.31	114.89
38	BB	95	A2M	N3-C4-N9	3.32	132.56	127.08
38	BB	73	OMU	N3-C2-N1	3.32	119.30	114.89
37	BA	1665	A2M	N3-C4-N9	3.30	132.52	127.08
12	AA	57	OMU	C5-C4-N3	3.30	119.77	114.84
38	BB	1201	A2M	N3-C4-N9	3.26	132.46	127.08
38	BB	1201	A2M	C5-N7-C8	3.26	108.14	103.51
12	AA	125	A2M	N3-C4-N9	3.26	132.45	127.08
12	AA	1517	OMG	N9-C8-N7	-3.26	107.26	113.39
38	BB	629	PSU	N1-C2-N3	3.25	118.81	115.13
37	BA	1605	OMG	C5-C4-N3	-3.25	123.19	128.46
37	BA	1267	OMG	C6-C5-N7	3.23	136.25	130.25
39	BC	43	A2M	N3-C4-N9	3.23	132.40	127.08
38	BB	590	A2M	N3-C4-N9	3.22	132.40	127.08
38	BB	646	A2M	C2-N3-C4	3.22	119.36	111.75
38	BB	590	A2M	C5-N7-C8	3.22	108.08	103.51
37	BA	1267	OMG	C2'-C1'-N9	-3.21	107.98	114.22
38	BB	545	A2M	C2'-C1'-N9	-3.21	108.12	113.53
37	BA	1028	OMG	C5-C4-N3	-3.21	123.25	128.46
37	BA	1620	A2M	C5-N7-C8	3.21	108.07	103.51
38	BB	95	A2M	C5-N7-C8	3.20	108.06	103.51
12	AA	1531	OMG	C5-C4-N3	-3.20	123.27	128.46
37	BA	1024	A2M	C5-N7-C8	3.19	108.05	103.51
37	BA	1267	OMG	N2-C2-N1	3.18	123.49	116.71
12	AA	2260	MA6	C5-N7-C8	3.17	108.02	103.51
37	BA	1621	OMG	C5-C4-N3	-3.17	123.32	128.46
38	BB	622	A2M	C5-N7-C8	3.17	108.01	103.51
38	BB	685	OMU	C5-C4-N3	3.16	119.57	114.84
38	BB	1435	OMU	C5-C4-N3	3.16	119.57	114.84
12	AA	1612	PSU	C6-C5-C4	3.16	120.41	118.20
37	BA	927	A2M	C5-N7-C8	3.16	108.00	103.51
12	AA	2096	A2M	C5-N7-C8	3.16	107.99	103.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	2070	7MG	C5-C4-N9	3.15	110.43	106.35
12	AA	2070	7MG	C4-C5-N7	3.14	109.89	105.53
12	AA	721	A2M	N3-C4-N9	3.14	132.26	127.08
38	BB	1076	PSU	C6-C5-C4	3.14	120.39	118.20
38	BB	1093	OMU	C5-C4-N3	3.14	119.53	114.84
12	AA	1652	OMU	C5-C4-N3	3.13	119.53	114.84
12	AA	1596	B8N	N3-C2-N1	3.13	121.18	116.76
37	BA	254	A2M	N3-C4-N9	3.12	132.23	127.08
38	BB	1269	OMG	C6-C5-N7	3.12	136.04	130.25
38	BB	609	A2M	N3-C4-N9	3.11	132.21	127.08
12	AA	125	A2M	C5-N7-C8	3.11	107.92	103.51
12	AA	714	OMU	O4-C4-C5	-3.11	119.70	125.16
12	AA	1619	PSU	C6-N1-C2	-3.10	119.51	122.68
38	BB	1280	PSU	C6-N1-C2	-3.10	119.51	122.68
37	BA	1665	A2M	C5-N7-C8	3.10	107.91	103.51
39	BC	41	A2M	C5-N7-C8	3.09	107.90	103.51
38	BB	659	OMG	C5-C4-N3	-3.08	123.46	128.46
39	BC	163	A2M	C5-N7-C8	3.08	107.88	103.51
38	BB	73	OMU	C5-C4-N3	3.08	119.45	114.84
12	AA	56	A2M	N3-C4-N9	3.07	132.14	127.08
39	BC	41	A2M	N3-C4-N9	3.07	132.14	127.08
37	BA	916	OMU	C5-C4-N3	3.06	119.42	114.84
37	BA	762	A2M	C5-N7-C8	3.06	107.85	103.51
37	BA	1621	OMG	N2-C2-N1	3.06	123.22	116.71
12	AA	61	PSU	C6-N1-C2	-3.05	119.56	122.68
12	AA	2261	MA6	C5-N7-C8	3.04	107.83	103.51
38	BB	1076	PSU	C6-N1-C2	-3.04	119.57	122.68
12	AA	56	A2M	C5-N7-C8	3.03	107.82	103.51
38	BB	1403	PSU	C6-N1-C2	-3.03	119.59	122.68
38	BB	528	PSU	C6-N1-C2	-3.03	119.59	122.68
38	BB	659	OMG	C6-C5-N7	3.02	135.87	130.25
12	AA	2278	PSU	C6-N1-C2	-3.02	119.59	122.68
39	BC	43	A2M	C5-N7-C8	3.02	107.80	103.51
38	BB	72	OMG	C5-C4-N3	-3.02	123.57	128.46
12	AA	2054	OMU	O4-C4-C5	-3.01	119.87	125.16
39	BC	7	OMU	C5-C4-N3	3.00	119.32	114.84
38	BB	1419	PSU	C6-C5-C4	3.00	120.29	118.20
38	BB	1400	A2M	N3-C4-N9	3.00	132.02	127.08
38	BB	545	A2M	N3-C4-N9	2.99	132.01	127.08
12	AA	2261	MA6	N3-C4-N9	2.99	132.00	127.08
38	BB	400	A2M	C5-N7-C8	2.99	107.75	103.51
12	AA	2227	OMG	N2-C2-N1	2.98	123.06	116.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	2227	OMG	C2-N1-C6	-2.98	119.67	125.10
37	BA	746	A2M	N3-C4-N9	2.97	131.98	127.08
38	BB	1388	A2M	N3-C4-N9	2.97	131.98	127.08
38	BB	659	OMG	C2'-C1'-N9	-2.97	108.46	114.22
38	BB	615	PSU	C6-N1-C2	-2.97	119.65	122.68
12	AA	2096	A2M	N3-C4-N9	2.97	131.97	127.08
37	BA	254	A2M	C5-N7-C8	2.96	107.71	103.51
38	BB	545	A2M	C5-N7-C8	2.96	107.71	103.51
37	BA	1129	PSU	C6-N1-C2	-2.96	119.66	122.68
37	BA	1258	PSU	C6-N1-C2	-2.95	119.67	122.68
37	BA	452	PSU	C6-C5-C4	2.94	120.25	118.20
38	BB	590	A2M	C2'-C1'-N9	-2.94	108.58	113.53
38	BB	644	PSU	C6-N1-C2	-2.93	119.69	122.68
12	AA	2123	UY1	O3'-C3'-C2'	2.92	119.47	111.17
39	BC	41	A2M	C2'-C1'-N9	-2.92	108.61	113.53
38	BB	609	A2M	C5-N7-C8	2.92	107.66	103.51
12	AA	1895	OMG	C2-N1-C6	-2.92	119.78	125.10
37	BA	996	A2M	C5-N7-C8	2.92	107.65	103.51
38	BB	673	OMG	N2-C2-N1	2.91	122.92	116.71
38	BB	72	OMG	C2-N3-C4	2.91	117.48	112.30
38	BB	455	PSU	C6-N1-C2	-2.91	119.71	122.68
38	BB	1398	PSU	C6-C5-C4	2.91	120.23	118.20
37	BA	1166	PSU	C6-N1-C2	-2.91	119.71	122.68
37	BA	452	PSU	C6-N1-C2	-2.90	119.72	122.68
12	AA	2121	PSU	C6-N1-C2	-2.89	119.72	122.68
37	BA	1024	A2M	N3-C4-N9	2.89	131.85	127.08
37	BA	743	A2M	C5-N7-C8	2.89	107.62	103.51
12	AA	1612	PSU	C6-N1-C2	-2.88	119.73	122.68
38	BB	1269	OMG	C2-N1-C6	-2.88	119.84	125.10
38	BB	71	OMG	C2-N3-C4	2.88	117.43	112.30
37	BA	737	PSU	C6-N1-C2	-2.88	119.74	122.68
38	BB	646	A2M	N3-C4-N9	2.87	131.82	127.08
37	BA	1621	OMG	C6-C5-N7	2.87	135.59	130.25
38	BB	1269	OMG	N2-C2-N1	2.87	122.82	116.71
37	BA	1609	PSU	C6-N1-C2	-2.87	119.75	122.68
37	BA	46	OMU	O4-C4-C5	-2.87	120.12	125.16
38	BB	629	PSU	C6-N1-C2	-2.86	119.76	122.68
37	BA	1620	A2M	N3-C4-N9	2.86	131.79	127.08
38	BB	659	OMG	N2-C2-N1	2.86	122.80	116.71
39	BC	163	A2M	N3-C4-N9	2.86	131.79	127.08
38	BB	1388	A2M	C5-N7-C8	2.85	107.56	103.51
38	BB	1094	OMG	C4-C5-N7	-2.85	106.21	110.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	1899	OMU	O4-C4-C5	-2.85	120.15	125.16
37	BA	746	A2M	C5-N7-C8	2.84	107.55	103.51
37	BA	1605	OMG	N2-C2-N1	2.84	122.76	116.71
38	BB	522	PSU	C6-N1-C2	-2.83	119.79	122.68
38	BB	646	A2M	C5-N7-C8	2.83	107.53	103.51
12	AA	1674	OMU	O4-C4-C5	-2.83	120.19	125.16
37	BA	1330	OMU	O4-C4-C5	-2.82	120.20	125.16
38	BB	455	PSU	C6-C5-C4	2.81	120.16	118.20
12	AA	2146	PSU	C6-N1-C2	-2.81	119.81	122.68
38	BB	622	A2M	N3-C4-N9	2.81	131.71	127.08
38	BB	1269	OMG	C4-C5-N7	-2.81	106.28	110.72
12	AA	2070	7MG	O6-C6-C5	-2.80	120.67	127.54
38	BB	1280	PSU	C6-C5-C4	2.80	120.16	118.20
38	BB	588	A2M	N3-C4-N9	2.80	131.69	127.08
37	BA	925	OMG	N2-C2-N1	2.80	122.67	116.71
12	AA	57	OMU	O4-C4-C5	-2.80	120.24	125.16
37	BA	996	A2M	N3-C4-N9	2.79	131.69	127.08
38	BB	1403	PSU	C6-C5-C4	2.79	120.15	118.20
38	BB	673	OMG	C2-N1-C6	-2.79	120.00	125.10
12	AA	1676	OMG	C2-N1-C6	-2.79	120.02	125.10
38	BB	1409	PSU	C6-N1-C2	-2.78	119.84	122.68
12	AA	2121	PSU	C6-C5-C4	2.77	120.14	118.20
12	AA	1276	PSU	C6-N1-C2	-2.77	119.85	122.68
37	BA	1742	OMU	O4-C4-C5	-2.77	120.28	125.16
38	BB	1419	PSU	C6-N1-C2	-2.77	119.85	122.68
12	AA	2070	7MG	C2-N1-C6	-2.77	120.05	125.10
12	AA	1907	PSU	C6-N1-C2	-2.77	119.86	122.68
38	BB	490	PSU	C6-N1-C2	-2.76	119.86	122.68
12	AA	1517	OMG	C2-N1-C6	-2.76	120.07	125.10
37	BA	258	PSU	C6-N1-C2	-2.76	119.86	122.68
12	AA	1531	OMG	N2-C2-N1	2.76	122.58	116.71
38	BB	1160	PSU	C6-N1-C2	-2.75	119.87	122.68
38	BB	552	OMG	N2-C2-N1	2.75	122.58	116.71
38	BB	1062	OMG	C2-N1-C6	-2.75	120.08	125.10
37	BA	1621	OMG	C2-N1-C6	-2.75	120.09	125.10
37	BA	1709	OMG	C2-N1-C6	-2.74	120.10	125.10
38	BB	71	OMG	C2-N1-C6	-2.73	120.12	125.10
38	BB	1435	OMU	O4-C4-C5	-2.73	120.36	125.16
38	BB	72	OMG	N2-C2-N1	2.73	122.52	116.71
12	AA	662	PSU	C6-N1-C2	-2.72	119.90	122.68
37	BA	743	A2M	N3-C4-N9	2.72	131.56	127.08
12	AA	1610	PSU	C6-N1-C2	-2.72	119.91	122.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	1603	OMG	C2-N1-C6	-2.72	120.15	125.10
37	BA	1080	PSU	C6-N1-C2	-2.71	119.91	122.68
12	AA	1531	OMG	C2-N1-C6	-2.71	120.16	125.10
38	BB	552	OMG	C2-N1-C6	-2.71	120.16	125.10
12	AA	1895	OMG	N2-C2-N1	2.71	122.47	116.71
37	BA	1169	PSU	C6-N1-C2	-2.70	119.92	122.68
38	BB	1334	PSU	O2-C2-N1	-2.70	119.82	122.79
38	BB	673	OMG	C5-C6-N1	2.69	120.03	113.19
38	BB	588	A2M	C4-C5-N7	-2.69	107.34	110.62
38	BB	1429	PSU	C6-N1-C2	-2.69	119.94	122.68
38	BB	659	OMG	C2-N1-C6	-2.68	120.22	125.10
37	BA	1621	OMG	C4-C5-N7	-2.67	106.49	110.72
37	BA	762	A2M	N3-C4-N9	2.67	131.47	127.08
12	AA	2260	MA6	C4-N9-C8	2.66	108.61	105.73
12	AA	2227	OMG	C5-C6-N1	2.66	119.95	113.19
39	BC	74	PSU	C6-N1-C2	-2.66	119.96	122.68
12	AA	1895	OMG	C5-C6-N1	2.66	119.94	113.19
38	BB	659	OMG	C5-C6-N1	2.66	119.94	113.19
12	AA	1596	B8N	C31-N3-C4	2.66	121.22	117.31
12	AA	61	PSU	C6-C5-C4	2.65	120.05	118.20
38	BB	1269	OMG	C5-C6-N1	2.65	119.92	113.19
38	BB	659	OMG	C8-N7-C5	2.65	109.03	104.24
12	AA	1676	OMG	C5-C6-N1	2.65	119.91	113.19
38	BB	552	OMG	C6-C5-N7	2.64	135.16	130.25
37	BA	925	OMG	C2-N1-C6	-2.64	120.28	125.10
37	BA	1181	OMU	O4-C4-C5	-2.63	120.53	125.16
38	BB	611	PSU	O2-C2-N1	-2.63	119.90	122.79
38	BB	73	OMU	O4-C4-C5	-2.63	120.54	125.16
39	BC	74	PSU	O2-C2-N1	-2.63	119.90	122.79
37	BA	927	A2M	C4'-O4'-C1'	-2.63	103.68	109.47
37	BA	1267	OMG	C5-C4-N3	-2.62	124.21	128.46
38	BB	552	OMG	C5-C6-N1	2.62	119.83	113.19
12	AA	1517	OMG	C5-C6-N1	2.61	119.83	113.19
38	BB	1247	OMG	C5-C6-N1	2.61	119.82	113.19
12	AA	1603	OMG	C5-C6-N1	2.61	119.81	113.19
38	BB	611	PSU	C6-N1-C2	-2.61	120.02	122.68
38	BB	95	A2M	C6-C5-C4	2.59	120.67	117.18
39	BC	75	OMG	N2-C2-N1	2.59	122.22	116.71
37	BA	1709	OMG	C5-C6-N1	2.59	119.76	113.19
38	BB	1062	OMG	C5-C6-N1	2.59	119.76	113.19
12	AA	2261	MA6	C4-N9-C8	2.59	108.53	105.73
38	BB	542	5MC	CM5-C5-C6	-2.59	119.39	122.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	BA	1614	PSU	C6-N1-C2	-2.59	120.04	122.68
37	BA	1605	OMG	C6-C5-N7	2.58	135.05	130.25
38	BB	1210	PSU	C6-N1-C2	-2.58	120.04	122.68
12	AA	1676	OMG	O6-C6-C5	-2.57	119.78	126.60
38	BB	1210	PSU	C6-C5-C4	2.57	120.00	118.20
6	A4	137	HY3	O-C-CA	-2.56	117.69	124.83
12	AA	1895	OMG	O6-C6-C5	-2.56	119.80	126.60
38	BB	1094	OMG	C5-C4-N3	-2.56	124.31	128.46
38	BB	659	OMG	C4-C5-N7	-2.56	106.67	110.72
37	BA	1267	OMG	C5-C6-N1	2.56	119.69	113.19
12	AA	1907	PSU	C6-C5-C4	2.56	119.99	118.20
38	BB	588	A2M	C5-C4-N9	2.56	108.76	105.78
37	BA	1267	OMG	C4-C5-N7	-2.55	106.68	110.72
37	BA	1605	OMG	C5-C6-N1	2.55	119.66	113.19
12	AA	1676	OMG	N2-C2-N1	2.54	122.12	116.71
12	AA	1612	PSU	O2-C2-N1	-2.54	120.00	122.79
39	BC	75	OMG	C2-N1-C6	-2.53	120.48	125.10
18	AH	131	IAS	OD1-CG-CB	-2.53	118.05	125.43
38	BB	1094	OMG	C8-N7-C5	2.53	108.82	104.24
12	AA	1531	OMG	C5-C6-N1	2.53	119.61	113.19
12	AA	131	PSU	C6-N1-C2	-2.53	120.10	122.68
37	BA	1605	OMG	C2-N1-C6	-2.52	120.50	125.10
38	BB	1247	OMG	N2-C2-N1	2.52	122.08	116.71
38	BB	1269	OMG	C8-N7-C5	2.52	108.80	104.24
12	AA	131	PSU	O2-C2-N1	-2.52	120.02	122.79
38	BB	1247	OMG	C2-N1-C6	-2.51	120.52	125.10
37	BA	925	OMG	C8-N7-C5	2.51	108.79	104.24
38	BB	1093	OMU	O4-C4-C5	-2.51	120.75	125.16
38	BB	552	OMG	C4-C5-N7	-2.50	106.76	110.72
38	BB	528	PSU	C6-C5-C4	2.50	119.95	118.20
38	BB	455	PSU	O2-C2-N1	-2.50	120.04	122.79
39	BC	75	OMG	C5-C6-N1	2.50	119.53	113.19
38	BB	1094	OMG	C2-N1-C6	-2.50	120.55	125.10
12	AA	1700	OMG	C8-N7-C5	2.50	108.76	104.24
12	AA	1652	OMU	O4-C4-C5	-2.49	120.78	125.16
37	BA	1086	PSU	C6-N1-C2	-2.49	120.14	122.68
37	BA	46	OMU	O2-C2-N1	-2.49	119.48	122.79
38	BB	1319	PSU	C6-C5-C4	2.49	119.94	118.20
38	BB	673	OMG	C6-C5-N7	2.48	134.87	130.25
37	BA	925	OMG	C5-C6-N1	2.48	119.50	113.19
38	BB	1160	PSU	O2-C2-N1	-2.48	120.06	122.79
38	BB	1094	OMG	C5-C6-N1	2.48	119.49	113.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	2227	OMG	C6-C5-N7	2.48	134.86	130.25
38	BB	71	OMG	C2'-C1'-N9	-2.48	109.42	114.22
37	BA	1620	A2M	C4-C5-N7	-2.47	107.61	110.62
12	AA	2227	OMG	C4-C5-N7	-2.47	106.81	110.72
12	AA	1931	OMG	C5-C6-N1	2.47	119.46	113.19
37	BA	1267	OMG	C8-N7-C5	2.47	108.70	104.24
37	BA	1086	PSU	C6-C5-C4	2.46	119.92	118.20
37	BA	1129	PSU	C6-C5-C4	2.46	119.92	118.20
12	AA	2227	OMG	C8-N7-C5	2.46	108.69	104.24
12	AA	1907	PSU	O2-C2-N1	-2.46	120.08	122.79
12	AA	1700	OMG	C5-C6-N1	2.46	119.43	113.19
12	AA	1531	OMG	C2'-C1'-N9	-2.46	109.45	114.22
38	BB	1210	PSU	O2-C2-N1	-2.46	120.09	122.79
39	BC	75	OMG	C6-C5-N7	2.45	134.81	130.25
12	AA	2278	PSU	C6-C5-C4	2.45	119.91	118.20
38	BB	552	OMG	C8-N7-C5	2.45	108.68	104.24
37	BA	1248	PSU	C6-C5-C4	2.45	119.91	118.20
49	BO	88	HY3	O-C-CA	-2.45	118.00	124.83
37	BA	1028	OMG	C5-C6-N1	2.45	119.41	113.19
37	BA	1169	PSU	O2-C2-N1	-2.45	120.10	122.79
39	BC	75	OMG	C8-N7-C5	2.44	108.67	104.24
28	AS	62	HY3	O-C-CA	-2.44	118.02	124.83
37	BA	1621	OMG	C5-C6-N1	2.44	119.39	113.19
37	BA	1605	OMG	C8-N7-C5	2.44	108.66	104.24
39	BC	7	OMU	O2-C2-N1	-2.44	119.54	122.79
12	AA	1603	OMG	O6-C6-C5	-2.44	120.13	126.60
12	AA	1895	OMG	C6-C5-N7	2.44	134.78	130.25
38	BB	545	A2M	C4-N9-C8	2.44	108.37	105.73
12	AA	1895	OMG	C8-N7-C5	2.44	108.65	104.24
37	BA	1448	OMU	O4-C4-C5	-2.43	120.88	125.16
12	AA	1603	OMG	C8-N7-C5	2.43	108.64	104.24
37	BA	1621	OMG	C8-N7-C5	2.43	108.63	104.24
37	BA	1267	OMG	C2-N1-C6	-2.42	120.68	125.10
38	BB	1319	PSU	C6-N1-C2	-2.42	120.21	122.68
38	BB	1398	PSU	O2-C2-N1	-2.42	120.13	122.79
37	BA	1169	PSU	C6-C5-C4	2.41	119.89	118.20
12	AA	1700	OMG	C2-N1-C6	-2.41	120.70	125.10
12	AA	662	PSU	C6-C5-C4	2.41	119.89	118.20
37	BA	1024	A2M	C4-C5-N7	-2.41	107.68	110.62
12	AA	1531	OMG	C6-C5-N7	2.41	134.73	130.25
38	BB	1245	OMG	N2-C2-N1	2.40	121.82	116.71
12	AA	2227	OMG	O6-C6-C5	-2.40	120.24	126.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	BA	1605	OMG	O6-C6-C5	-2.39	120.25	126.60
37	BA	925	OMG	C4-C5-N7	-2.38	106.95	110.72
38	BB	1062	OMG	N2-C2-N1	2.38	121.79	116.71
38	BB	71	OMG	C5-C6-N1	2.38	119.24	113.19
37	BA	1608	OMC	O2-C2-N3	-2.38	118.46	122.33
37	BA	925	OMG	C6-C5-N7	2.38	134.67	130.25
12	AA	721	A2M	C4-C5-N7	-2.38	107.72	110.62
38	BB	400	A2M	C6-C5-C4	2.37	120.37	117.18
38	BB	528	PSU	O2-C2-N1	-2.37	120.18	122.79
82	Bv	65	HY3	O-C-CA	-2.37	118.22	124.83
37	BA	1248	PSU	C6-N1-C2	-2.37	120.26	122.68
38	BB	1398	PSU	C6-N1-C2	-2.36	120.27	122.68
12	AA	36	OMU	O2-C2-N1	-2.36	119.64	122.79
12	AA	1531	OMG	O6-C6-C5	-2.36	120.33	126.60
12	AA	1676	OMG	C8-N7-C5	2.36	108.52	104.24
38	BB	72	OMG	C2-N1-C6	-2.36	120.79	125.10
37	BA	1080	PSU	O2-C2-N1	-2.36	120.19	122.79
37	BA	1129	PSU	O2-C2-N1	-2.36	120.19	122.79
12	AA	1603	OMG	N2-C2-N1	2.35	121.73	116.71
12	AA	61	PSU	O2-C2-N1	-2.35	120.20	122.79
39	BC	75	OMG	O6-C6-C5	-2.35	120.36	126.60
12	AA	1895	OMG	C4-C5-N7	-2.35	107.01	110.72
12	AA	1619	PSU	O2-C2-N1	-2.35	120.21	122.79
12	AA	36	OMU	O4-C4-C5	-2.34	121.05	125.16
37	BA	1605	OMG	C4-C5-N7	-2.34	107.02	110.72
37	BA	1620	A2M	C5-C4-N9	2.33	108.50	105.78
39	BC	75	OMG	C4-C5-N7	-2.33	107.03	110.72
12	AA	1931	OMG	O6-C6-C5	-2.33	120.42	126.60
38	BB	1247	OMG	O6-C6-C5	-2.33	120.42	126.60
38	BB	1201	A2M	C2'-C1'-N9	-2.33	109.61	113.53
37	BA	1709	OMG	N2-C2-N1	2.32	121.66	116.71
38	BB	673	OMG	O6-C6-C5	-2.32	120.45	126.60
37	BA	1267	OMG	O6-C6-C5	-2.31	120.47	126.60
38	BB	1400	A2M	C2'-C1'-N9	-2.31	109.64	113.53
38	BB	490	PSU	C6-C5-C4	2.31	119.81	118.20
38	BB	1201	A2M	C4-N9-C8	2.31	108.23	105.73
12	AA	1592	PSU	C6-N1-C2	-2.31	120.33	122.68
38	BB	1062	OMG	C8-N7-C5	2.31	108.41	104.24
38	BB	1334	PSU	C6-C5-C4	2.30	119.81	118.20
38	BB	1245	OMG	N1-C2-N3	-2.30	119.03	123.32
12	AA	1931	OMG	C2-N1-C6	-2.30	120.91	125.10
37	BA	1258	PSU	O2-C2-N1	-2.29	120.27	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	2121	PSU	O2-C2-N1	-2.29	120.27	122.79
38	BB	95	A2M	C4-C5-N7	-2.29	107.83	110.62
12	AA	721	A2M	C3'-C2'-C1'	2.29	107.19	102.89
38	BB	1245	OMG	C8-N7-C5	2.29	108.38	104.24
37	BA	762	A2M	C4-C5-N7	-2.29	107.83	110.62
38	BB	673	OMG	C4-C5-N7	-2.29	107.10	110.72
21	AK	47	HY3	O-C-CA	-2.28	118.46	124.83
37	BA	1709	OMG	C8-N7-C5	2.28	108.37	104.24
38	BB	71	OMG	C8-N7-C5	2.28	108.37	104.24
38	BB	1280	PSU	O4'-C1'-C2'	2.28	108.36	105.14
38	BB	1269	OMG	C5-C4-N9	2.28	109.77	105.63
37	BA	1009	PSU	C6-C5-C4	2.28	119.79	118.20
12	AA	1676	OMG	C6-C5-N7	2.28	134.49	130.25
12	AA	1517	OMG	O6-C6-C5	-2.28	120.56	126.60
12	AA	1931	OMG	C8-N7-C5	2.28	108.36	104.24
38	BB	1409	PSU	O2-C2-N1	-2.27	120.29	122.79
38	BB	1076	PSU	O2-C2-N1	-2.27	120.29	122.79
51	BQ	203	HY3	O-C-CA	-2.27	118.50	124.83
38	BB	522	PSU	O2-C2-N1	-2.27	120.30	122.79
38	BB	71	OMG	N2-C2-N1	2.26	121.53	116.71
38	BB	673	OMG	C8-N7-C5	2.26	108.33	104.24
38	BB	1245	OMG	C5-C6-N1	2.26	118.93	113.19
37	BA	916	OMU	O4-C4-C5	-2.26	121.19	125.16
37	BA	1258	PSU	C6-C5-C4	2.26	119.78	118.20
37	BA	1028	OMG	N2-C2-N1	2.25	121.51	116.71
38	BB	622	A2M	C4-C5-N7	-2.25	107.88	110.62
38	BB	522	PSU	C6-C5-C4	2.25	119.77	118.20
38	BB	1094	OMG	C5-C4-N9	2.25	109.71	105.63
38	BB	685	OMU	O2-C2-N1	-2.25	119.80	122.79
38	BB	1409	PSU	C6-C5-C4	2.24	119.77	118.20
12	AA	1596	B8N	O4'-C1'-C2'	2.24	108.31	105.14
37	BA	1009	PSU	C6-N1-C2	-2.24	120.39	122.68
38	BB	680	PSU	C6-N1-C2	-2.24	120.39	122.68
12	AA	125	A2M	C6-C5-C4	2.24	120.19	117.18
38	BB	680	PSU	O2-C2-N1	-2.24	120.33	122.79
37	BA	1024	A2M	C6-C5-C4	2.24	120.19	117.18
37	BA	1605	OMG	C3'-C2'-C1'	-2.24	98.68	102.89
38	BB	72	OMG	C5-C6-N1	2.24	118.87	113.19
38	BB	1201	A2M	C4-C5-N7	-2.24	107.89	110.62
38	BB	1419	PSU	O4'-C1'-C2'	2.24	108.30	105.14
38	BB	1093	OMU	O2-C2-N1	-2.23	119.82	122.79
38	BB	1247	OMG	C8-N7-C5	2.23	108.28	104.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	1592	PSU	C6-C5-C4	2.23	119.76	118.20
37	BA	1614	PSU	O2-C2-N1	-2.23	120.34	122.79
12	AA	1700	OMG	C2'-C1'-N9	-2.23	109.90	114.22
37	BA	927	A2M	C6-C5-C4	2.23	120.17	117.18
38	BB	1062	OMG	C4-C5-N7	-2.22	107.21	110.72
12	AA	1700	OMG	C4-C5-N7	-2.22	107.21	110.72
38	BB	685	OMU	O4-C4-C5	-2.22	121.26	125.16
12	AA	1531	OMG	C8-N7-C5	2.22	108.25	104.24
38	BB	659	OMG	O6-C6-C5	-2.21	120.72	126.60
39	BC	74	PSU	C6-C5-C4	2.21	119.75	118.20
38	BB	1247	OMG	C6-C5-N7	2.21	134.37	130.25
37	BA	1709	OMG	O6-C6-C5	-2.21	120.73	126.60
12	AA	1710	PSU	C6-N1-C2	-2.21	120.42	122.68
38	BB	1403	PSU	O4'-C1'-C2'	2.21	108.26	105.14
38	BB	590	A2M	C4-C5-N7	-2.21	107.93	110.62
12	AA	1531	OMG	C4-C5-N7	-2.21	107.23	110.72
12	AA	1676	OMG	C4-C5-N7	-2.20	107.24	110.72
12	AA	2278	PSU	O2-C2-N1	-2.20	120.37	122.79
39	BC	41	A2M	C4-N9-C8	2.20	108.11	105.73
37	BA	1267	OMG	N1-C2-N3	-2.19	119.23	123.32
37	BA	1181	OMU	O2-C2-N1	-2.19	119.88	122.79
12	AA	2096	A2M	C4-C5-N7	-2.19	107.95	110.62
12	AA	2070	7MG	N9-C8-N7	2.19	106.50	103.38
12	AA	1603	OMG	C4-C5-N7	-2.18	107.27	110.72
12	AA	1931	OMG	N9-C4-N3	2.18	130.32	125.94
37	BA	1709	OMG	C4-C5-N7	-2.18	107.27	110.72
37	BA	452	PSU	O2-C2-N1	-2.18	120.39	122.79
37	BA	258	PSU	O2-C2-N1	-2.18	120.39	122.79
12	AA	1931	OMG	N1-C2-N3	-2.18	119.26	123.32
12	AA	1899	OMU	O2-C2-N1	-2.17	119.90	122.79
84	Bx	172	HY3	O-C-CA	-2.17	118.78	124.83
38	BB	1094	OMG	O6-C6-C5	-2.17	120.84	126.60
39	BC	163	A2M	C4-N9-C8	2.17	108.08	105.73
12	AA	1610	PSU	O4'-C1'-C2'	2.17	108.20	105.14
12	AA	1517	OMG	N9-C4-N3	2.16	130.28	125.94
37	BA	1028	OMG	O6-C6-C5	-2.16	120.86	126.60
39	BC	7	OMU	O4-C4-C5	-2.16	121.36	125.16
38	BB	1400	A2M	C6-C5-C4	2.16	120.09	117.18
37	BA	1621	OMG	O6-C6-C5	-2.16	120.87	126.60
37	BA	1028	OMG	C6-C5-N7	2.16	134.26	130.25
12	AA	2070	7MG	N9-C4-N3	2.16	128.69	125.47
37	BA	996	A2M	C4-C5-N7	-2.16	107.99	110.62

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	AA	1517	OMG	C8-N7-C5	2.15	108.14	104.24
38	BB	1400	A2M	C4-C5-N7	-2.15	108.00	110.62
38	BB	72	OMG	C8-N7-C5	2.15	108.13	104.24
37	BA	1028	OMG	C2-N1-C6	-2.15	121.18	125.10
37	BA	1028	OMG	N1-C2-N3	-2.14	119.32	123.32
38	BB	1245	OMG	C6-C5-N7	2.14	134.24	130.25
38	BB	646	A2M	C4-N9-C8	2.14	108.05	105.73
37	BA	927	A2M	C4-C5-N7	-2.14	108.01	110.62
37	BA	925	OMG	C2'-C1'-N9	-2.14	110.08	114.22
12	AA	1895	OMG	C2'-C1'-N9	-2.14	110.08	114.22
37	BA	925	OMG	O6-C6-C5	-2.13	120.94	126.60
38	BB	1419	PSU	O2-C2-N1	-2.13	120.44	122.79
38	BB	1094	OMG	N1-C2-N3	-2.13	119.35	123.32
12	AA	2054	OMU	O2-C2-N1	-2.13	119.96	122.79
12	AA	1700	OMG	O6-C6-C5	-2.13	120.95	126.60
37	BA	1709	OMG	C6-C5-N7	2.13	134.21	130.25
39	BC	163	A2M	C4-C5-N7	-2.13	108.03	110.62
37	BA	1024	A2M	C5-C4-N9	2.12	108.25	105.78
37	BA	1166	PSU	O2-C2-N1	-2.12	120.45	122.79
37	BA	1267	OMG	C8-N9-C4	2.12	110.09	106.05
38	BB	1429	PSU	O2-C2-N1	-2.12	120.45	122.79
38	BB	95	A2M	C5-C4-N9	2.12	108.25	105.78
37	BA	743	A2M	C2'-C1'-N9	2.12	117.10	113.53
37	BA	1248	PSU	O4'-C1'-C2'	2.12	108.13	105.14
12	AA	2096	A2M	C4-N9-C8	2.12	108.02	105.73
12	AA	2227	OMG	C2'-C1'-N9	-2.11	110.12	114.22
38	BB	1201	A2M	C6-C5-C4	2.11	120.02	117.18
38	BB	1062	OMG	O6-C6-C5	-2.11	121.00	126.60
37	BA	762	A2M	C5-C4-N9	2.11	108.23	105.78
38	BB	1334	PSU	C6-N1-C2	-2.11	120.53	122.68
38	BB	552	OMG	O6-C6-C5	-2.10	121.02	126.60
12	AA	1592	PSU	O2-C2-N1	-2.09	120.48	122.79
38	BB	590	A2M	C6-C5-C4	2.09	120.00	117.18
37	BA	46	OMU	C2'-C1'-N1	-2.09	110.16	114.22
12	AA	721	A2M	C6-C5-C4	2.09	119.99	117.18
38	BB	1247	OMG	N1-C2-N3	-2.09	119.42	123.32
12	AA	56	A2M	C6-C5-C4	2.09	119.99	117.18
12	AA	1596	B8N	O36-C34-C33	2.09	120.50	113.38
38	BB	622	A2M	C4-N9-C8	2.09	107.99	105.73
12	AA	57	OMU	O2-C2-N1	-2.09	120.01	122.79
37	BA	1605	OMG	N1-C2-N3	-2.08	119.43	123.32
12	AA	1700	OMG	N2-C2-N1	2.08	121.15	116.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	BA	1609	PSU	C6-C5-C4	2.08	119.65	118.20
38	BB	1201	A2M	C3'-C2'-C1'	2.08	106.80	102.89
38	BB	1398	PSU	O4'-C1'-C2'	2.08	108.07	105.14
12	AA	1603	OMG	C6-C5-N7	2.08	134.11	130.25
12	AA	2096	A2M	C3'-C2'-C1'	2.07	106.79	102.89
38	BB	1245	OMG	O6-C6-C5	-2.07	121.10	126.60
38	BB	545	A2M	C4'-O4'-C1'	-2.07	104.90	109.47
37	BA	1621	OMG	C5-C4-N9	2.07	109.39	105.63
12	AA	2123	UY1	O3'-C3'-C4'	2.07	117.03	111.05
37	BA	1620	A2M	C6-C5-C4	2.06	119.96	117.18
38	BB	72	OMG	C4-C5-N7	-2.06	107.45	110.72
12	AA	1619	PSU	C6-C5-C4	2.06	119.64	118.20
37	BA	1605	OMG	C8-N9-C4	2.06	109.97	106.05
37	BA	746	A2M	C5-C4-N9	2.06	108.18	105.78
12	AA	714	OMU	O2-C2-N1	-2.05	120.06	122.79
39	BC	43	A2M	C4-C5-N7	-2.05	108.12	110.62
38	BB	1319	PSU	O4'-C1'-C2'	2.05	108.03	105.14
37	BA	743	A2M	C4-N9-C8	2.05	107.95	105.73
38	BB	1245	OMG	C4-C5-N7	-2.05	107.48	110.72
39	BC	43	A2M	C2'-C1'-N9	-2.05	110.09	113.53
12	AA	662	PSU	O2-C2-N1	-2.04	120.54	122.79
12	AA	2045	PSU	O2-C2-N1	-2.04	120.54	122.79
38	BB	1062	OMG	C6-C5-N7	2.04	134.04	130.25
12	AA	56	A2M	C4-C5-N7	-2.04	108.14	110.62
38	BB	1094	OMG	C8-N9-C4	2.04	109.92	106.05
37	BA	254	A2M	C4-C5-N7	-2.03	108.14	110.62
37	BA	746	A2M	C4-C5-N7	-2.03	108.14	110.62
12	AA	1652	OMU	O2-C2-N1	-2.03	120.08	122.79
37	BA	916	OMU	O2-C2-N1	-2.03	120.09	122.79
37	BA	254	A2M	C6-C5-C4	2.03	119.91	117.18
38	BB	1247	OMG	C4-C5-N7	-2.03	107.51	110.72
37	BA	1665	A2M	C4-C5-N7	-2.03	108.15	110.62
38	BB	673	OMG	N1-C2-N3	-2.02	119.54	123.32
38	BB	578	UY1	O4'-C1'-C2'	2.02	108.24	104.48
37	BA	1665	A2M	C6-C5-C4	2.02	119.90	117.18
12	AA	1674	OMU	O2-C2-N1	-2.01	120.11	122.79
38	BB	1280	PSU	O2-C2-N1	-2.01	120.58	122.79
39	BC	75	OMG	N1-C2-N3	-2.01	119.58	123.32
38	BB	71	OMG	C4-C5-N7	-2.00	107.55	110.72
12	AA	2123	UY1	C3'-C2'-C1'	-2.00	99.37	103.09
12	AA	721	A2M	C4-N9-C8	2.00	107.90	105.73
38	BB	622	A2M	C5-C4-N9	2.00	108.11	105.78

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
38	BB	644	PSU	C6-C5-C4	2.00	119.60	118.20
12	AA	1895	OMG	C8-N9-C4	2.00	109.86	106.05

There are no chirality outliers.

All (91) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A4	137	HY3	O-C-CA-C3
12	AA	56	A2M	C1'-C2'-O2'-CM'
12	AA	57	OMU	C1'-C2'-O2'-CM2
12	AA	131	PSU	C3'-C4'-C5'-O5'
12	AA	131	PSU	O4'-C4'-C5'-O5'
12	AA	1596	B8N	N3-C31-C32-C33
12	AA	1610	PSU	C2'-C1'-C5-C4
12	AA	1610	PSU	O4'-C1'-C5-C4
12	AA	1610	PSU	O4'-C1'-C5-C6
12	AA	1619	PSU	C3'-C4'-C5'-O5'
12	AA	1652	OMU	C1'-C2'-O2'-CM2
12	AA	1710	PSU	O4'-C1'-C5-C4
12	AA	1710	PSU	O4'-C1'-C5-C6
12	AA	1907	PSU	C3'-C4'-C5'-O5'
12	AA	1907	PSU	O4'-C4'-C5'-O5'
12	AA	2054	OMU	C3'-C4'-C5'-O5'
12	AA	2054	OMU	O4'-C4'-C5'-O5'
12	AA	2278	PSU	O4'-C1'-C5-C6
37	BA	743	A2M	C1'-C2'-O2'-CM'
37	BA	760	OMC	C1'-C2'-O2'-CM2
37	BA	1080	PSU	C2'-C1'-C5-C4
37	BA	1080	PSU	C2'-C1'-C5-C6
37	BA	1166	PSU	C3'-C4'-C5'-O5'
37	BA	1166	PSU	O4'-C4'-C5'-O5'
37	BA	1330	OMU	O4'-C4'-C5'-O5'
37	BA	1665	A2M	C1'-C2'-O2'-CM'
38	BB	400	A2M	C1'-C2'-O2'-CM'
38	BB	522	PSU	C3'-C4'-C5'-O5'
38	BB	522	PSU	O4'-C4'-C5'-O5'
38	BB	545	A2M	O4'-C4'-C5'-O5'
38	BB	552	OMG	O4'-C4'-C5'-O5'
38	BB	609	A2M	C1'-C2'-O2'-CM'
38	BB	1062	OMG	O4'-C4'-C5'-O5'
38	BB	1062	OMG	C1'-C2'-O2'-CM2
12	AA	721	A2M	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
12	AA	721	A2M	C3'-C4'-C5'-O5'
37	BA	743	A2M	O4'-C4'-C5'-O5'
37	BA	1330	OMU	C3'-C4'-C5'-O5'
38	BB	552	OMG	C3'-C4'-C5'-O5'
38	BB	578	UY1	O4'-C4'-C5'-O5'
38	BB	1062	OMG	C3'-C4'-C5'-O5'
12	AA	1619	PSU	O4'-C4'-C5'-O5'
12	AA	1895	OMG	O4'-C4'-C5'-O5'
37	BA	743	A2M	C3'-C4'-C5'-O5'
38	BB	545	A2M	C3'-C4'-C5'-O5'
12	AA	2123	UY1	C1'-C2'-O2'-CM2
37	BA	1028	OMG	C3'-C2'-O2'-CM2
38	BB	1094	OMG	C3'-C2'-O2'-CM2
12	AA	36	OMU	C2'-C1'-N1-C6
38	BB	578	UY1	C3'-C4'-C5'-O5'
38	BB	1409	PSU	C3'-C4'-C5'-O5'
38	BB	1409	PSU	O4'-C4'-C5'-O5'
38	BB	1324	5MC	C2'-C1'-N1-C6
38	BB	578	UY1	C4'-C5'-O5'-P
37	BA	1448	OMU	C3'-C4'-C5'-O5'
51	BQ	203	HY3	O-C-CA-C3
12	AA	36	OMU	O4'-C1'-N1-C6
38	BB	1324	5MC	O4'-C1'-N1-C6
12	AA	2261	MA6	C4'-C5'-O5'-P
38	BB	1264	OMC	C4'-C5'-O5'-P
12	AA	721	A2M	C2'-C1'-N9-C8
38	BB	588	A2M	C2'-C1'-N9-C8
37	BA	746	A2M	C4'-C5'-O5'-P
37	BA	1621	OMG	C4'-C5'-O5'-P
38	BB	1324	5MC	O4'-C1'-N1-C2
37	BA	1448	OMU	O4'-C4'-C5'-O5'
38	BB	1324	5MC	C2'-C1'-N1-C2
12	AA	1603	OMG	O4'-C4'-C5'-O5'
12	AA	1895	OMG	C4'-C5'-O5'-P
18	AH	131	IAS	CA-CB-CG-OD1
12	AA	1531	OMG	C4'-C5'-O5'-P
12	AA	36	OMU	O4'-C1'-N1-C2
37	BA	1248	PSU	O4'-C1'-C5-C4
38	BB	578	UY1	O4'-C1'-C5-C4
12	AA	36	OMU	C3'-C2'-O2'-CM2
12	AA	36	OMU	C2'-C1'-N1-C2
12	AA	2261	MA6	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
37	BA	1608	OMC	O4'-C4'-C5'-O5'
12	AA	1895	OMG	C3'-C4'-C5'-O5'
39	BC	7	OMU	C1'-C2'-O2'-CM2
38	BB	588	A2M	O4'-C1'-N9-C8
37	BA	742	1MA	C2'-C1'-N9-C4
82	Bv	65	HY3	O-C-CA-C3
84	Bx	172	HY3	O-C-CA-C3
37	BA	742	1MA	C2'-C1'-N9-C8
37	BA	1608	OMC	C2'-C1'-N1-C2
38	BB	588	A2M	C2'-C1'-N9-C4
12	AA	1899	OMU	O4'-C4'-C5'-O5'
12	AA	721	A2M	O4'-C1'-N9-C8
12	AA	1899	OMU	C4'-C5'-O5'-P
37	BA	1608	OMC	C2'-C1'-N1-C6

There are no ring outliers.

42 monomers are involved in 54 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
66	Bf	248	HIC	1	0
37	BA	760	OMC	1	0
38	BB	1062	OMG	1	0
37	BA	996	A2M	1	0
12	AA	2134	OMC	2	0
38	BB	1388	A2M	1	0
37	BA	1665	A2M	2	0
38	BB	622	A2M	2	0
37	BA	1614	PSU	1	0
38	BB	601	OMC	1	0
84	Bx	172	HY3	1	0
39	BC	163	A2M	1	0
12	AA	57	OMU	2	0
12	AA	1652	OMU	1	0
38	BB	1201	A2M	1	0
12	AA	2045	PSU	2	0
38	BB	400	A2M	2	0
38	BB	1429	PSU	1	0
38	BB	545	A2M	1	0
38	BB	644	PSU	1	0
12	AA	125	A2M	1	0
37	BA	1609	PSU	1	0
37	BA	1086	PSU	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
12	AA	1895	OMG	1	0
37	BA	1608	OMC	1	0
37	BA	916	OMU	1	0
39	BC	7	OMU	2	0
21	AK	47	HY3	1	0
37	BA	762	A2M	2	0
49	BO	88	HY3	1	0
12	AA	56	A2M	1	0
37	BA	1181	OMU	1	0
12	AA	2096	A2M	1	0
38	BB	588	A2M	2	0
38	BB	646	A2M	2	0
82	Bv	65	HY3	1	0
37	BA	743	A2M	1	0
37	BA	254	A2M	2	0
37	BA	1166	PSU	1	0
37	BA	1024	A2M	1	0
38	BB	1334	PSU	1	0
38	BB	609	A2M	4	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 396 ligands modelled in this entry, 316 are monoatomic - leaving 80 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
88	SPD	BA	1922	-	9,9,9	0.43	0	8,8,8	0.36	0
88	SPD	BE	305	-	9,9,9	0.44	0	8,8,8	0.27	0
91	PUT	BB	1610	-	5,5,5	0.23	0	4,4,4	0.14	0
88	SPD	BA	1908	-	9,9,9	0.44	0	8,8,8	0.18	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
88	SPD	AA	2373	-	9,9,9	0.43	0	8,8,8	0.24	0
88	SPD	AA	2376	-	9,9,9	0.43	0	8,8,8	0.27	0
88	SPD	AA	2311	-	9,9,9	0.43	0	8,8,8	0.32	0
88	SPD	BB	1609	-	9,9,9	0.43	0	8,8,8	0.37	0
88	SPD	BA	1919	-	9,9,9	0.42	0	8,8,8	0.41	0
88	SPD	BB	1605	-	9,9,9	0.42	0	8,8,8	0.39	0
88	SPD	BA	1911	-	9,9,9	0.43	0	8,8,8	0.41	0
88	SPD	BA	2040	-	9,9,9	0.42	0	8,8,8	0.34	0
88	SPD	BG	201	-	9,9,9	0.43	0	8,8,8	0.19	0
88	SPD	BG	202	-	9,9,9	0.44	0	8,8,8	0.33	0
88	SPD	BA	1901	-	9,9,9	0.40	0	8,8,8	0.36	0
88	SPD	A6	201	-	9,9,9	0.42	0	8,8,8	0.35	0
88	SPD	BA	1910	-	9,9,9	0.42	0	8,8,8	0.22	0
88	SPD	BB	1606	-	9,9,9	0.44	0	8,8,8	0.47	0
88	SPD	BA	2048	-	9,9,9	0.43	0	8,8,8	0.23	0
91	PUT	BA	1907	-	5,5,5	0.24	0	4,4,4	0.15	0
88	SPD	BA	1913	-	9,9,9	0.42	0	8,8,8	0.24	0
88	SPD	BA	1921	-	9,9,9	0.42	0	8,8,8	0.45	0
88	SPD	BA	1916	-	9,9,9	0.42	0	8,8,8	0.26	0
88	SPD	BC	309	-	9,9,9	0.45	0	8,8,8	0.35	0
91	PUT	BB	1601	-	5,5,5	0.23	0	4,4,4	0.21	0
88	SPD	BA	1926	-	9,9,9	0.45	0	8,8,8	0.23	0
88	SPD	BB	1604	-	9,9,9	0.41	0	8,8,8	0.46	0
88	SPD	AA	2302	-	9,9,9	0.42	0	8,8,8	0.46	0
88	SPD	BA	1904	-	9,9,9	0.43	0	8,8,8	0.28	0
88	SPD	BA	1915	-	9,9,9	0.43	0	8,8,8	0.58	0
88	SPD	BA	2039	-	9,9,9	0.42	0	8,8,8	0.26	0
88	SPD	BA	2042	-	9,9,9	0.42	0	8,8,8	0.28	0
88	SPD	Bd	101	-	9,9,9	0.44	0	8,8,8	0.29	0
88	SPD	BQ	304	-	9,9,9	0.43	0	8,8,8	0.29	0
88	SPD	BA	2049	-	9,9,9	0.43	0	8,8,8	0.37	0
88	SPD	AA	2375	-	9,9,9	0.42	0	8,8,8	0.40	0
91	PUT	BB	1603	-	5,5,5	0.23	0	4,4,4	0.08	0
91	PUT	BA	1918	-	5,5,5	0.24	0	4,4,4	0.20	0
91	PUT	AA	2308	-	5,5,5	0.23	0	4,4,4	0.18	0
91	PUT	BA	1920	-	5,5,5	0.25	0	4,4,4	0.10	0
88	SPD	BA	1903	-	9,9,9	0.47	0	8,8,8	0.24	0
88	SPD	BA	1924	-	9,9,9	0.44	0	8,8,8	0.23	0
91	PUT	BA	2038	-	5,5,5	0.23	0	4,4,4	0.22	0
88	SPD	BA	1925	-	9,9,9	0.44	0	8,8,8	0.34	0
88	SPD	BA	1923	-	9,9,9	0.43	0	8,8,8	0.23	0
88	SPD	BB	1712	-	9,9,9	0.43	0	8,8,8	0.27	0
91	PUT	AA	2312	-	5,5,5	0.23	0	4,4,4	0.19	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
88	SPD	BC	307	-	9,9,9	0.43	0	8,8,8	0.38	0
91	PUT	BB	1607	-	5,5,5	0.23	0	4,4,4	0.19	0
91	PUT	BB	1608	-	5,5,5	0.24	0	4,4,4	0.15	0
90	GET	AA	2304	-	33,36,36	0.48	0	43,55,55	0.54	0
91	PUT	BA	1902	-	5,5,5	0.23	0	4,4,4	0.15	0
88	SPD	BA	1905	-	9,9,9	0.44	0	8,8,8	0.28	0
88	SPD	BA	1906	-	9,9,9	0.43	0	8,8,8	0.31	0
88	SPD	BA	2043	-	9,9,9	0.43	0	8,8,8	0.34	0
90	GET	AA	2370	-	33,36,36	0.48	0	43,55,55	0.62	0
88	SPD	AA	2374	-	9,9,9	0.43	0	8,8,8	0.19	0
88	SPD	AA	2301	-	9,9,9	0.44	0	8,8,8	0.34	0
92	GTP	AA	2309	87	30,34,34	0.84	0	46,54,54	1.60	10 (21%)
88	SPD	BA	1909	-	9,9,9	0.43	0	8,8,8	0.36	0
88	SPD	BC	308	-	9,9,9	0.43	0	8,8,8	0.47	0
88	SPD	BA	1917	-	9,9,9	0.43	0	8,8,8	0.31	0
91	PUT	AA	2310	-	5,5,5	0.23	0	4,4,4	0.30	0
88	SPD	BB	1602	-	9,9,9	0.43	0	8,8,8	0.55	0
88	SPD	BA	1912	-	9,9,9	0.46	0	8,8,8	0.23	0
88	SPD	BA	2047	-	9,9,9	0.42	0	8,8,8	0.31	0
88	SPD	AA	2303	-	9,9,9	0.44	0	8,8,8	0.16	0
88	SPD	AA	2306	-	9,9,9	0.42	0	8,8,8	0.35	0
88	SPD	BB	1711	-	9,9,9	0.41	0	8,8,8	0.18	0
88	SPD	BA	2045	-	9,9,9	0.43	0	8,8,8	0.30	0
88	SPD	AA	2305	-	9,9,9	0.43	0	8,8,8	0.32	0
88	SPD	BA	2046	-	9,9,9	0.41	0	8,8,8	0.32	0
88	SPD	AA	2371	-	9,9,9	0.42	0	8,8,8	0.34	0
88	SPD	BA	1914	-	9,9,9	0.43	0	8,8,8	0.35	0
90	GET	AA	2372	-	33,36,36	0.42	0	43,55,55	0.59	1 (2%)
88	SPD	AA	2307	-	9,9,9	0.44	0	8,8,8	0.22	0
88	SPD	BA	2041	-	9,9,9	0.43	0	8,8,8	0.31	0
88	SPD	BA	2044	-	9,9,9	0.43	0	8,8,8	0.29	0
91	PUT	AA	2313	-	5,5,5	0.23	0	4,4,4	0.16	0
88	SPD	BB	1611	-	9,9,9	0.43	0	8,8,8	0.24	0

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
88	SPD	BA	1922	-	-	1/7/7/7	-
88	SPD	BE	305	-	-	1/7/7/7	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
91	PUT	BB	1610	-	-	0/3/3/3	-
88	SPD	BA	1908	-	-	1/7/7/7	-
88	SPD	AA	2373	-	-	1/7/7/7	-
88	SPD	AA	2376	-	-	0/7/7/7	-
88	SPD	AA	2311	-	-	0/7/7/7	-
88	SPD	BB	1609	-	-	1/7/7/7	-
88	SPD	BA	1919	-	-	0/7/7/7	-
88	SPD	BB	1605	-	-	0/7/7/7	-
88	SPD	BA	1911	-	-	1/7/7/7	-
88	SPD	BA	2040	-	-	0/7/7/7	-
88	SPD	BG	201	-	-	1/7/7/7	-
88	SPD	BG	202	-	-	0/7/7/7	-
88	SPD	BA	1901	-	-	0/7/7/7	-
88	SPD	A6	201	-	-	0/7/7/7	-
88	SPD	BA	1910	-	-	1/7/7/7	-
88	SPD	BB	1606	-	-	0/7/7/7	-
88	SPD	BA	2048	-	-	0/7/7/7	-
91	PUT	BA	1907	-	-	0/3/3/3	-
88	SPD	BA	1913	-	-	2/7/7/7	-
88	SPD	BA	1921	-	-	0/7/7/7	-
88	SPD	BA	1916	-	-	3/7/7/7	-
88	SPD	BC	309	-	-	0/7/7/7	-
91	PUT	BB	1601	-	-	0/3/3/3	-
88	SPD	BA	1926	-	-	1/7/7/7	-
88	SPD	BB	1604	-	-	3/7/7/7	-
88	SPD	AA	2302	-	-	2/7/7/7	-
88	SPD	BA	1904	-	-	2/7/7/7	-
88	SPD	BA	1915	-	-	0/7/7/7	-
88	SPD	BA	2039	-	-	0/7/7/7	-
88	SPD	BA	2042	-	-	0/7/7/7	-
88	SPD	Bd	101	-	-	1/7/7/7	-
88	SPD	BQ	304	-	-	0/7/7/7	-
88	SPD	BA	2049	-	-	1/7/7/7	-
88	SPD	AA	2375	-	-	0/7/7/7	-
91	PUT	BB	1603	-	-	1/3/3/3	-
91	PUT	BA	1918	-	-	0/3/3/3	-
91	PUT	AA	2308	-	-	0/3/3/3	-
91	PUT	BA	1920	-	-	2/3/3/3	-
88	SPD	BA	1903	-	-	3/7/7/7	-
88	SPD	BA	1924	-	-	0/7/7/7	-
91	PUT	BA	2038	-	-	1/3/3/3	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
88	SPD	BA	1925	-	-	2/7/7/7	-
88	SPD	BA	1923	-	-	1/7/7/7	-
88	SPD	BB	1712	-	-	1/7/7/7	-
91	PUT	AA	2312	-	-	0/3/3/3	-
88	SPD	BC	307	-	-	0/7/7/7	-
91	PUT	BB	1607	-	-	0/3/3/3	-
91	PUT	BB	1608	-	-	1/3/3/3	-
90	GET	AA	2304	-	-	4/13/74/74	2/3/3/3
91	PUT	BA	1902	-	-	0/3/3/3	-
88	SPD	BA	1905	-	-	1/7/7/7	-
88	SPD	BA	1906	-	-	3/7/7/7	-
88	SPD	BA	2043	-	-	0/7/7/7	-
90	GET	AA	2370	-	-	1/13/74/74	0/3/3/3
88	SPD	AA	2374	-	-	1/7/7/7	-
88	SPD	AA	2301	-	-	0/7/7/7	-
92	GTP	AA	2309	87	-	1/22/38/38	0/3/3/3
88	SPD	BA	1909	-	-	0/7/7/7	-
88	SPD	BC	308	-	-	0/7/7/7	-
88	SPD	BA	1917	-	-	1/7/7/7	-
91	PUT	AA	2310	-	-	0/3/3/3	-
88	SPD	BB	1602	-	-	1/7/7/7	-
88	SPD	BA	1912	-	-	0/7/7/7	-
88	SPD	BA	2047	-	-	1/7/7/7	-
88	SPD	AA	2303	-	-	2/7/7/7	-
88	SPD	AA	2306	-	-	1/7/7/7	-
88	SPD	BB	1711	-	-	0/7/7/7	-
88	SPD	BA	2045	-	-	1/7/7/7	-
88	SPD	AA	2305	-	-	2/7/7/7	-
88	SPD	BA	2046	-	-	0/7/7/7	-
88	SPD	AA	2371	-	-	0/7/7/7	-
88	SPD	BA	1914	-	-	1/7/7/7	-
90	GET	AA	2372	-	-	1/13/74/74	0/3/3/3
88	SPD	AA	2307	-	-	0/7/7/7	-
88	SPD	BA	2041	-	-	0/7/7/7	-
88	SPD	BA	2044	-	-	1/7/7/7	-
91	PUT	AA	2313	-	-	0/3/3/3	-
88	SPD	BB	1611	-	-	1/7/7/7	-

There are no bond length outliers.

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
92	AA	2309	GTP	C5-C4-N3	-4.40	121.32	128.46
92	AA	2309	GTP	C2-N3-C4	4.35	120.05	112.30
92	AA	2309	GTP	PB-O3B-PG	-2.79	123.27	132.83
92	AA	2309	GTP	N9-C4-N3	2.68	131.33	125.94
92	AA	2309	GTP	N9-C8-N7	-2.68	108.34	113.39
92	AA	2309	GTP	C2-N1-C6	-2.45	120.63	125.10
92	AA	2309	GTP	C5-C6-N1	2.41	119.30	113.19
92	AA	2309	GTP	C8-N7-C5	2.38	108.55	104.24
92	AA	2309	GTP	O6-C6-C5	-2.26	120.61	126.60
90	AA	2372	GET	O11-C11-C21	2.22	112.03	108.22
92	AA	2309	GTP	PA-O3A-PB	-2.13	125.52	132.83

There are no chirality outliers.

All (59) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
90	AA	2304	GET	C12-C62-O62-C13
90	AA	2304	GET	C23-C33-N33-C93
90	AA	2370	GET	C23-C33-N33-C93
90	AA	2372	GET	C23-C33-N33-C93
88	AA	2302	SPD	C3-C4-C5-N6
88	BA	1910	SPD	N6-C7-C8-C9
88	BA	1906	SPD	C3-C4-C5-N6
88	BA	2049	SPD	C8-C7-N6-C5
88	BA	1903	SPD	C2-C3-C4-C5
88	BA	2045	SPD	C4-C5-N6-C7
88	BB	1602	SPD	C7-C8-C9-N10
88	BB	1604	SPD	C3-C4-C5-N6
88	BB	1604	SPD	C2-C3-C4-C5
88	BA	1906	SPD	C2-C3-C4-C5
88	BG	201	SPD	C2-C3-C4-C5
88	AA	2306	SPD	C2-C3-C4-C5
88	BA	1922	SPD	C2-C3-C4-C5
90	AA	2304	GET	C52-C42-O11-C11
88	BA	1906	SPD	C4-C5-N6-C7
88	BB	1712	SPD	C8-C7-N6-C5
90	AA	2304	GET	C52-C62-O62-C13
88	BA	1911	SPD	C2-C3-C4-C5
88	AA	2305	SPD	C8-C7-N6-C5
88	AA	2305	SPD	C2-C3-C4-C5
91	BA	2038	PUT	C1-C2-C3-C4
88	BA	1925	SPD	C3-C4-C5-N6
88	BA	1913	SPD	C7-C8-C9-N10

Continued on next page...

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Mol	Chain	Res	Type	Atoms
88	BB	1611	SPD	C7-C8-C9-N10
88	BA	1905	SPD	C8-C7-N6-C5
88	BB	1609	SPD	C3-C4-C5-N6
88	Bd	101	SPD	C2-C3-C4-C5
88	AA	2302	SPD	C2-C3-C4-C5
88	BA	1913	SPD	C8-C7-N6-C5
88	BA	1917	SPD	C8-C7-N6-C5
91	BB	1603	PUT	C1-C2-C3-C4
91	BA	1920	PUT	C1-C2-C3-C4
88	BA	1916	SPD	N6-C7-C8-C9
88	AA	2374	SPD	C8-C7-N6-C5
91	BB	1608	PUT	N1-C1-C2-C3
88	BA	1926	SPD	C2-C3-C4-C5
88	BA	1903	SPD	C4-C5-N6-C7
88	BA	1903	SPD	C8-C7-N6-C5
88	BA	1925	SPD	C2-C3-C4-C5
88	BA	1904	SPD	C3-C4-C5-N6
88	AA	2303	SPD	C8-C7-N6-C5
88	BA	1916	SPD	C7-C8-C9-N10
88	BB	1604	SPD	C7-C8-C9-N10
88	BA	1914	SPD	C4-C5-N6-C7
88	BA	1916	SPD	C8-C7-N6-C5
88	BA	2044	SPD	C4-C5-N6-C7
91	BA	1920	PUT	N1-C1-C2-C3
92	AA	2309	GTP	PB-O3A-PA-O2A
88	BA	1908	SPD	C3-C4-C5-N6
88	BA	1923	SPD	C4-C5-N6-C7
88	BA	2047	SPD	C8-C7-N6-C5
88	BE	305	SPD	C8-C7-N6-C5
88	AA	2303	SPD	C2-C3-C4-C5
88	BA	1904	SPD	C4-C5-N6-C7
88	AA	2373	SPD	C2-C3-C4-C5

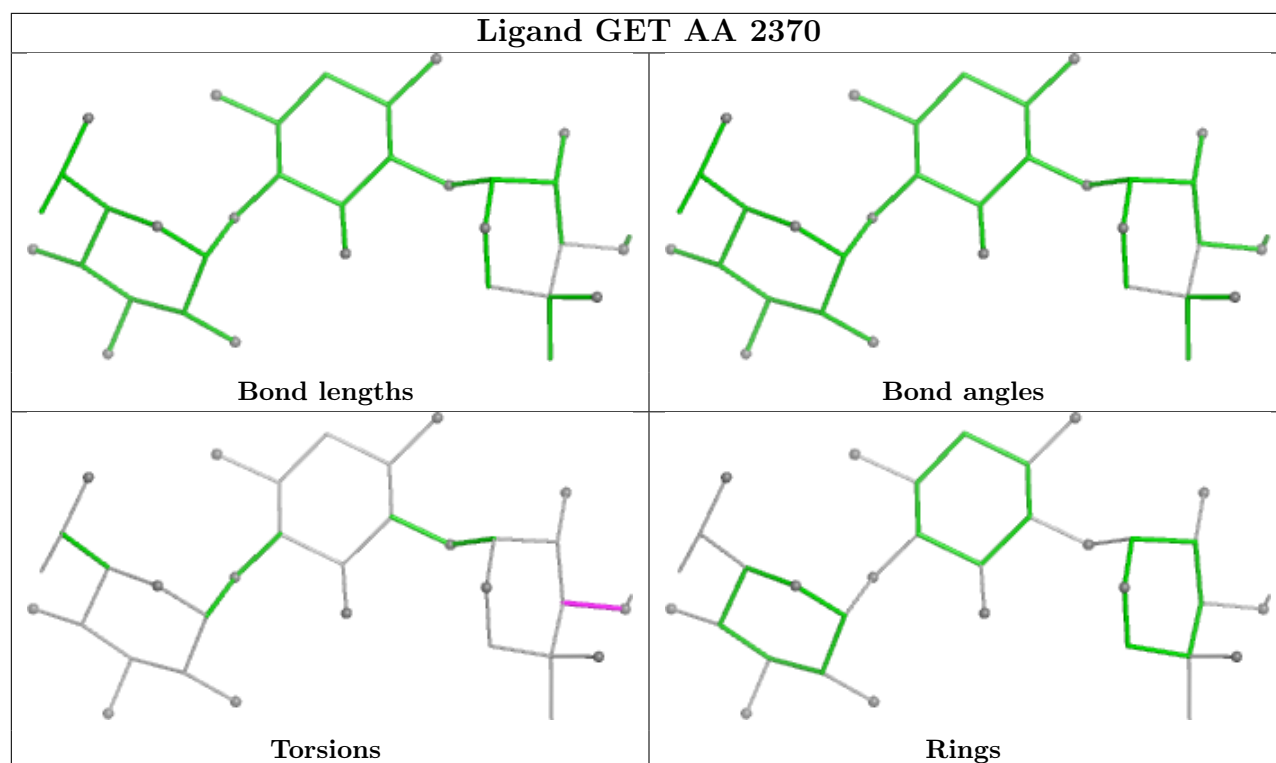
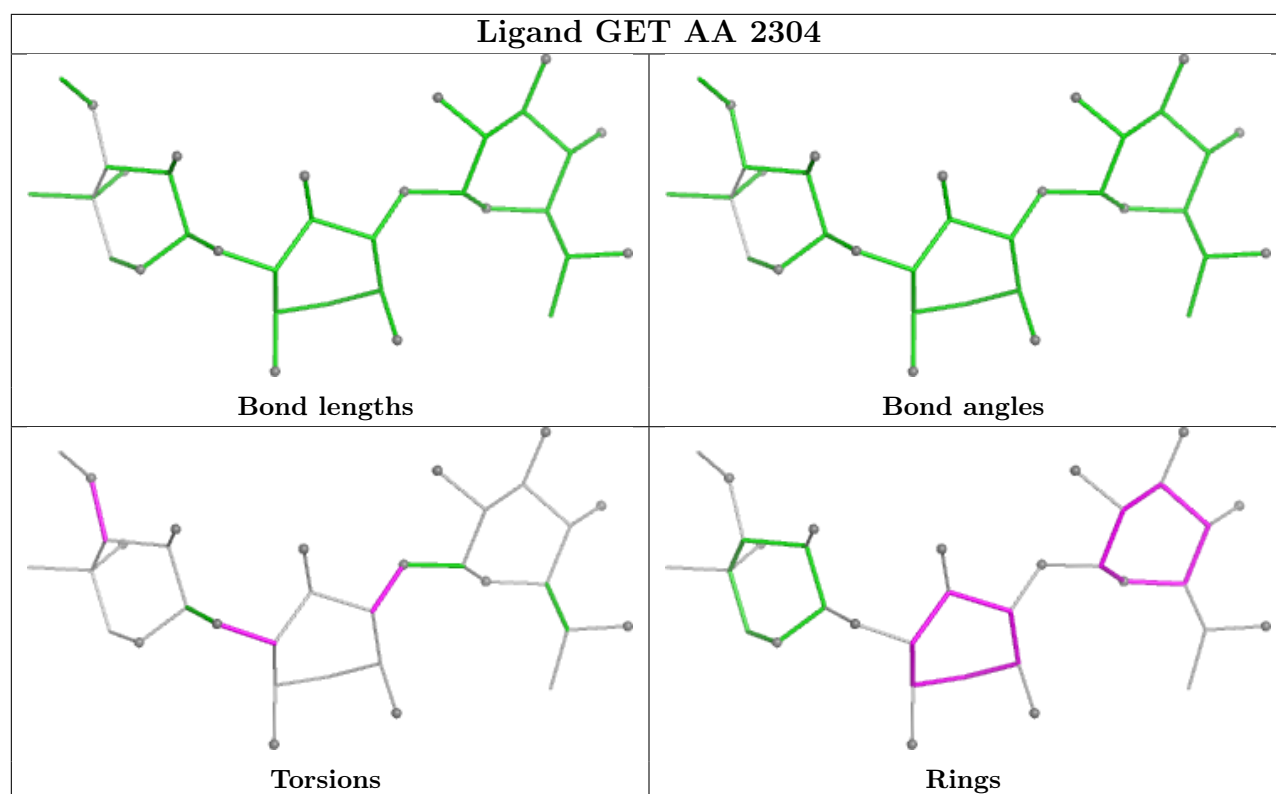
All (2) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
90	AA	2304	GET	C12-C22-C32-C42-C52-C62
90	AA	2304	GET	C11-C21-C31-C41-C51-O51

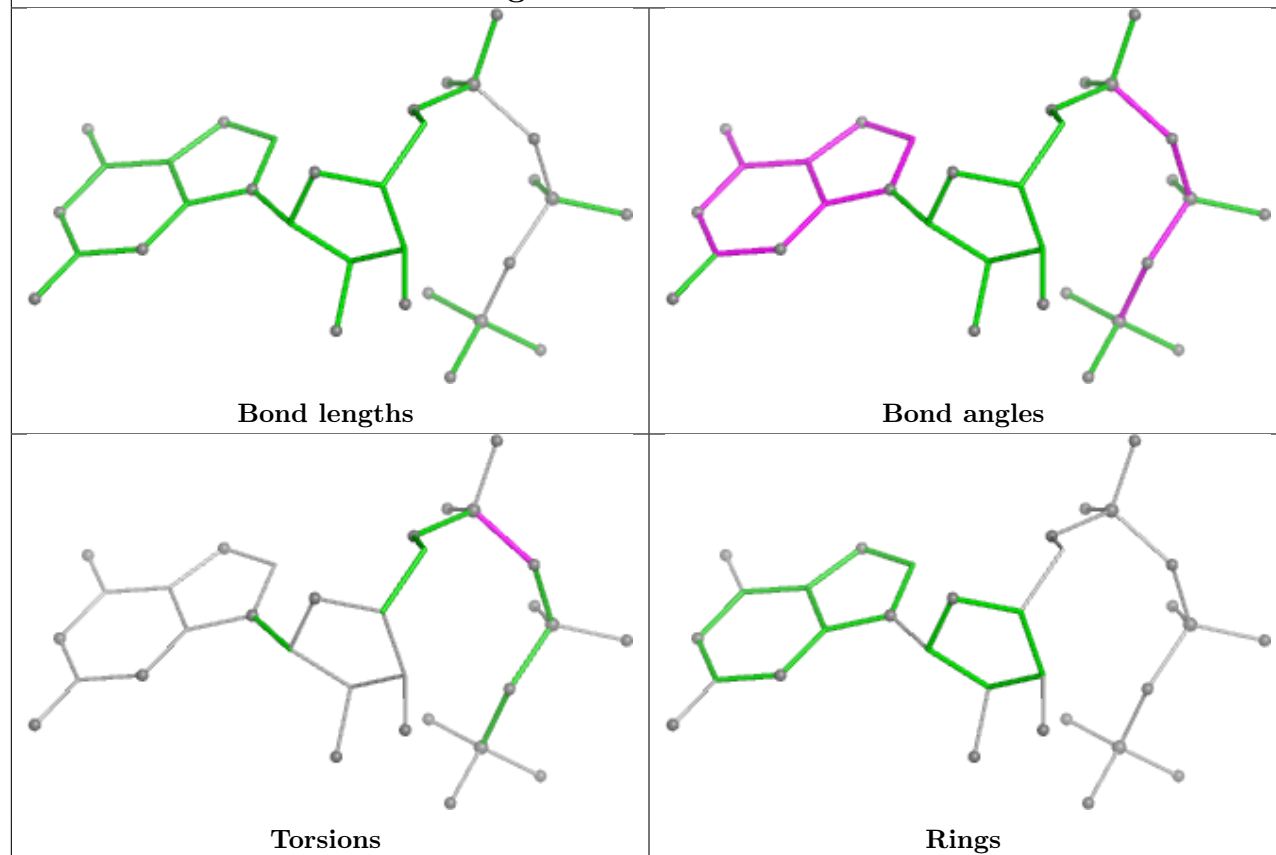
28 monomers are involved in 38 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
88	BA	1908	SPD	1	0
88	AA	2311	SPD	1	0
88	BB	1605	SPD	2	0
88	BG	202	SPD	1	0
88	A6	201	SPD	1	0
88	BB	1606	SPD	1	0
88	BA	2048	SPD	1	0
88	BA	1916	SPD	1	0
91	BB	1601	PUT	2	0
88	BA	1915	SPD	2	0
88	BA	2039	SPD	1	0
88	BA	2042	SPD	1	0
88	Bd	101	SPD	1	0
88	BQ	304	SPD	1	0
88	AA	2375	SPD	4	0
91	BA	1920	PUT	1	0
88	BC	307	SPD	1	0
90	AA	2304	GET	1	0
88	BA	2043	SPD	1	0
88	AA	2374	SPD	2	0
92	AA	2309	GTP	3	0
91	AA	2310	PUT	1	0
88	BA	1912	SPD	2	0
88	BA	2047	SPD	1	0
88	AA	2303	SPD	1	0
88	AA	2306	SPD	1	0
88	BA	2046	SPD	1	0
88	BA	2044	SPD	1	0

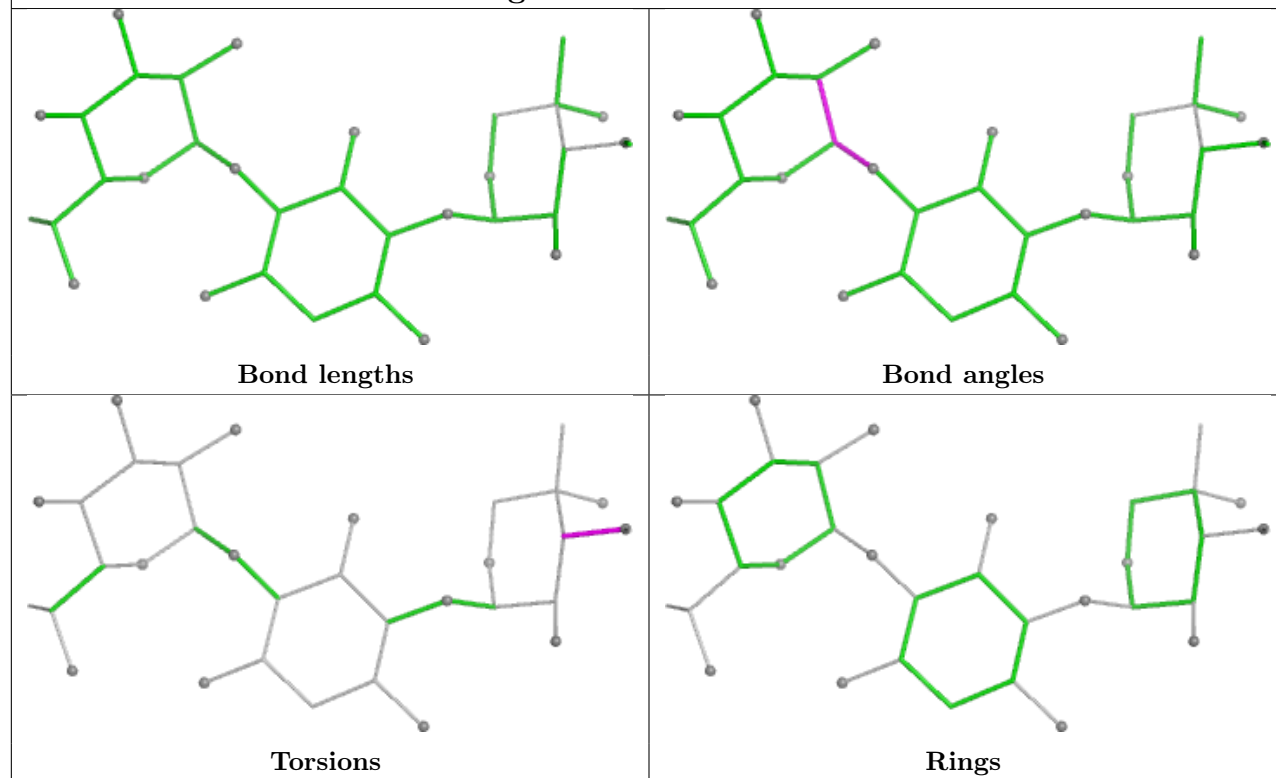
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



Ligand GTP AA 2309



Ligand GET AA 2372



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
1	Et	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Et	7:A	O3'	65:G	P	18.05

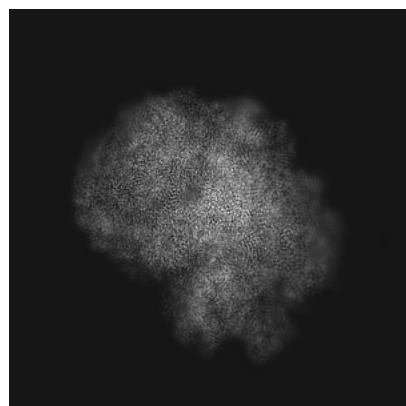
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-55224. These allow visual inspection of the internal detail of the map and identification of artifacts.

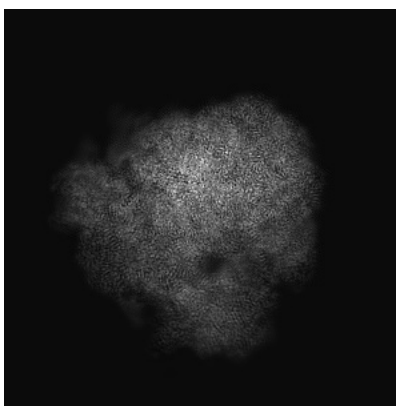
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

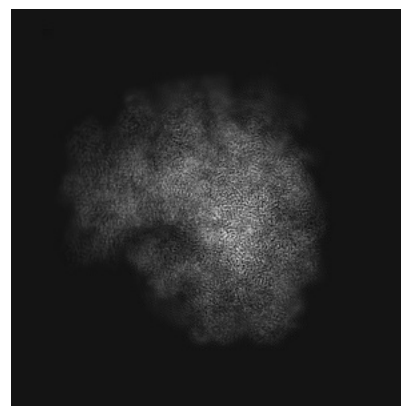
6.1.1 Primary map



X

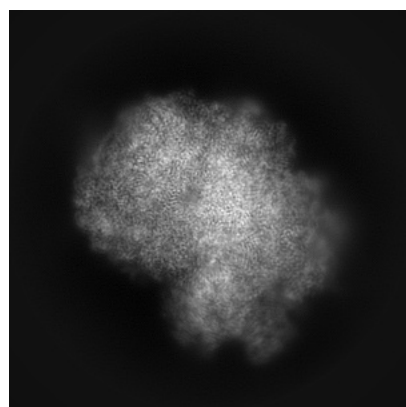


Y

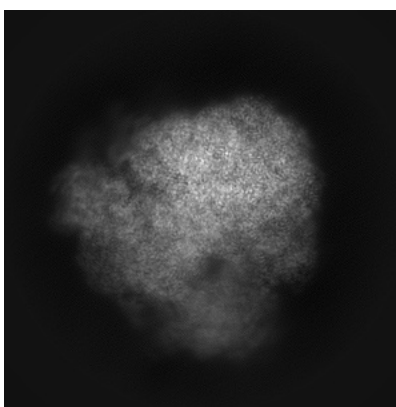


Z

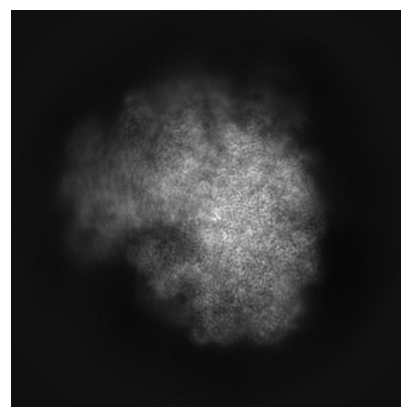
6.1.2 Raw map



X



Y

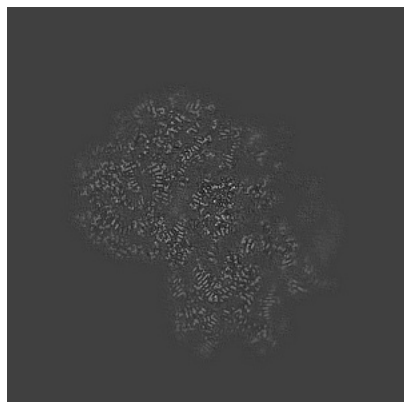


Z

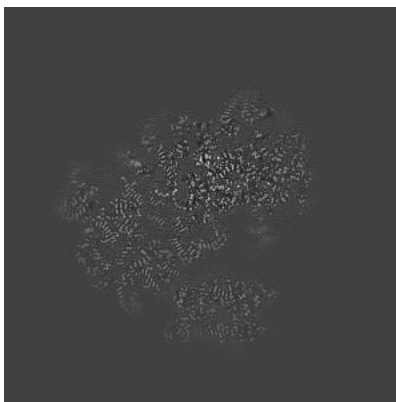
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

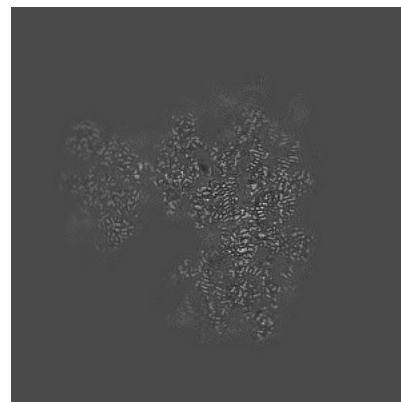
6.2.1 Primary map



X Index: 240

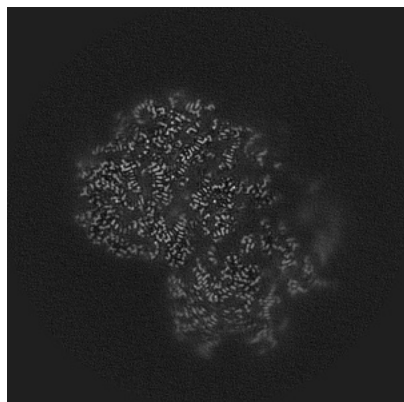


Y Index: 240

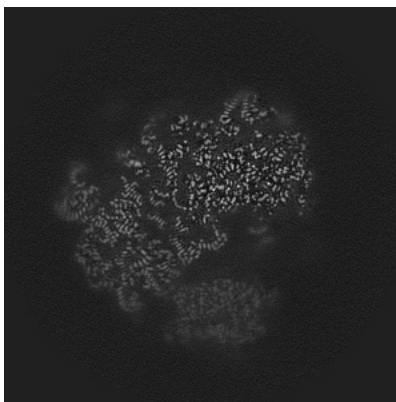


Z Index: 240

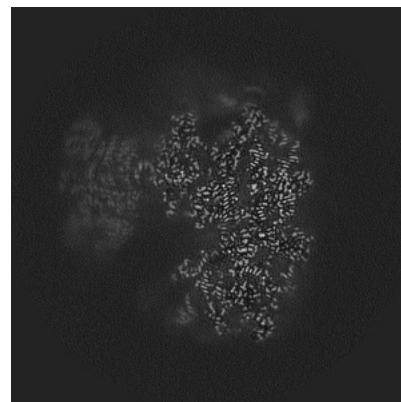
6.2.2 Raw map



X Index: 240



Y Index: 240



Z Index: 240

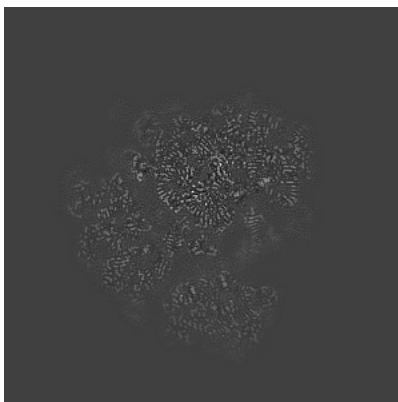
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

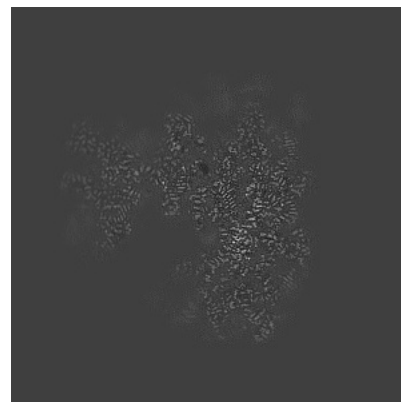
6.3.1 Primary map



X Index: 273

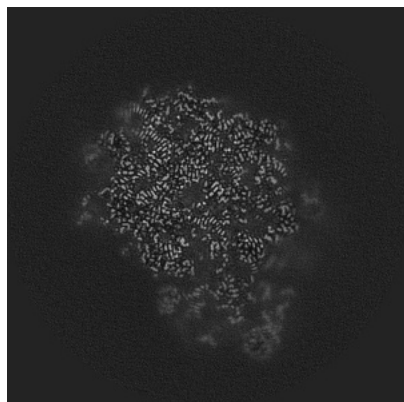


Y Index: 252

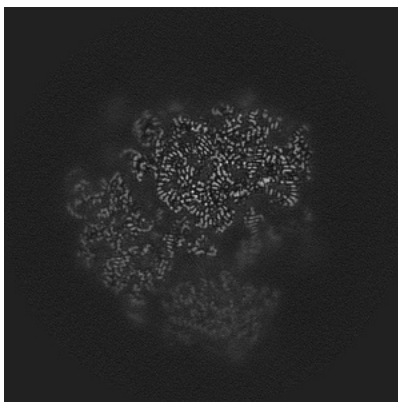


Z Index: 236

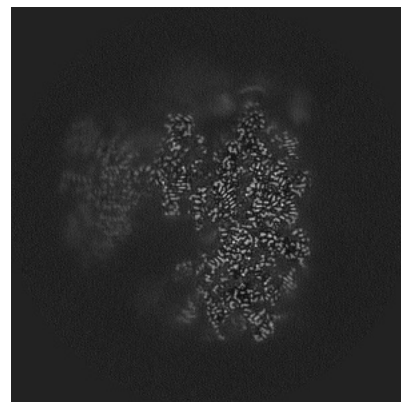
6.3.2 Raw map



X Index: 273



Y Index: 252

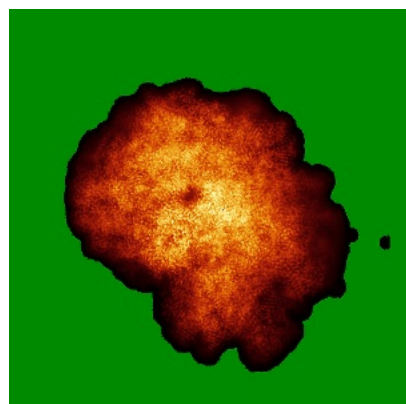


Z Index: 236

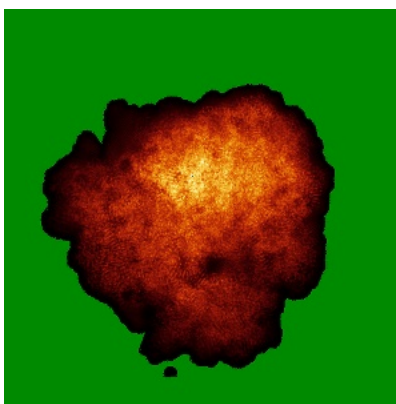
The images above show the largest variance slices of the map in three orthogonal directions.

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

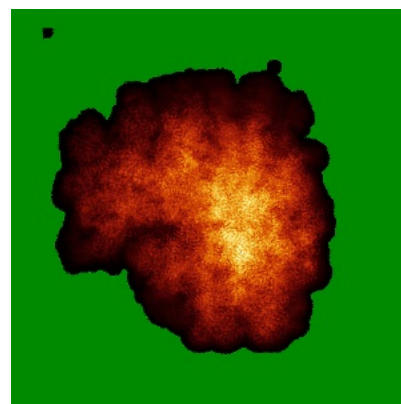
6.4.1 Primary map



X

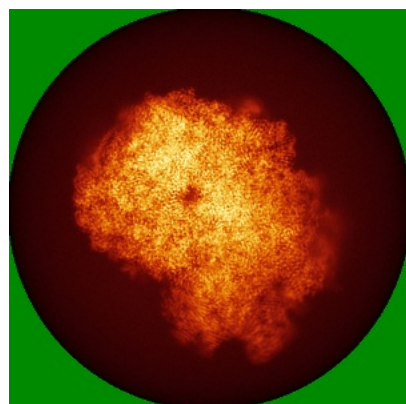


Y

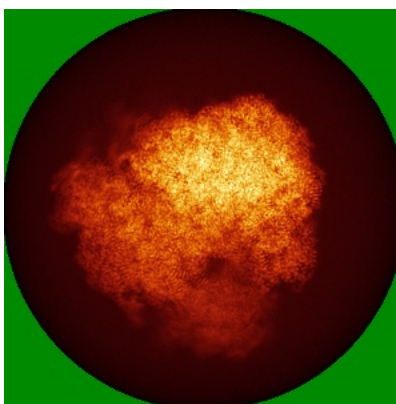


Z

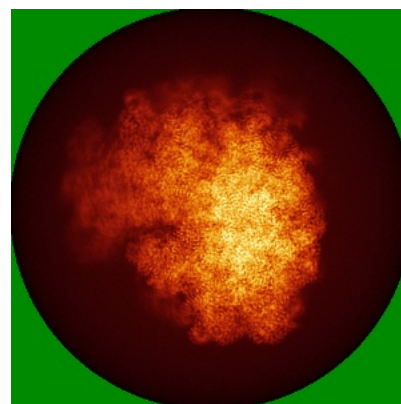
6.4.2 Raw map



X



Y

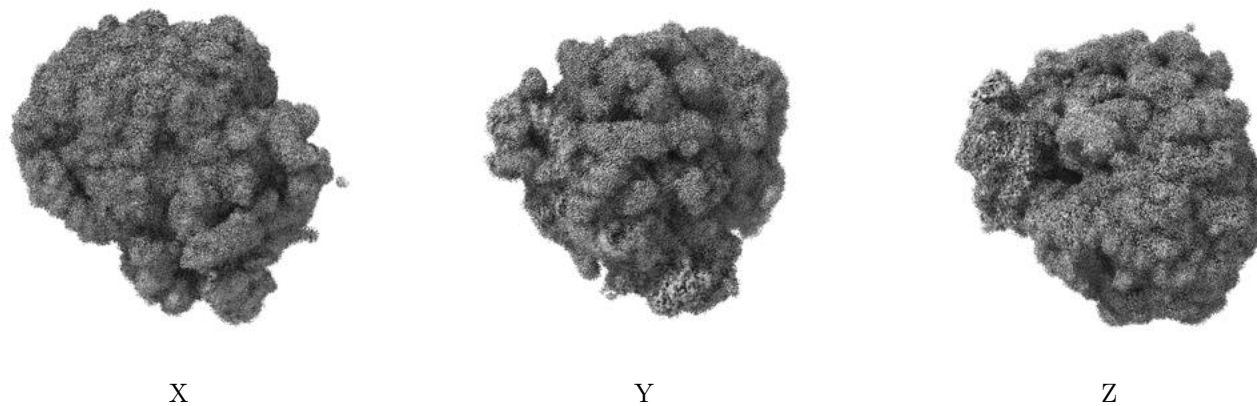


Z

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

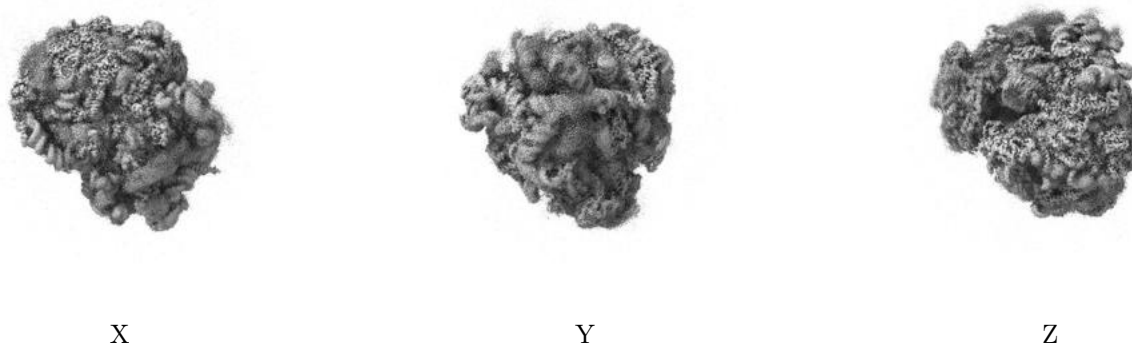
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.005. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

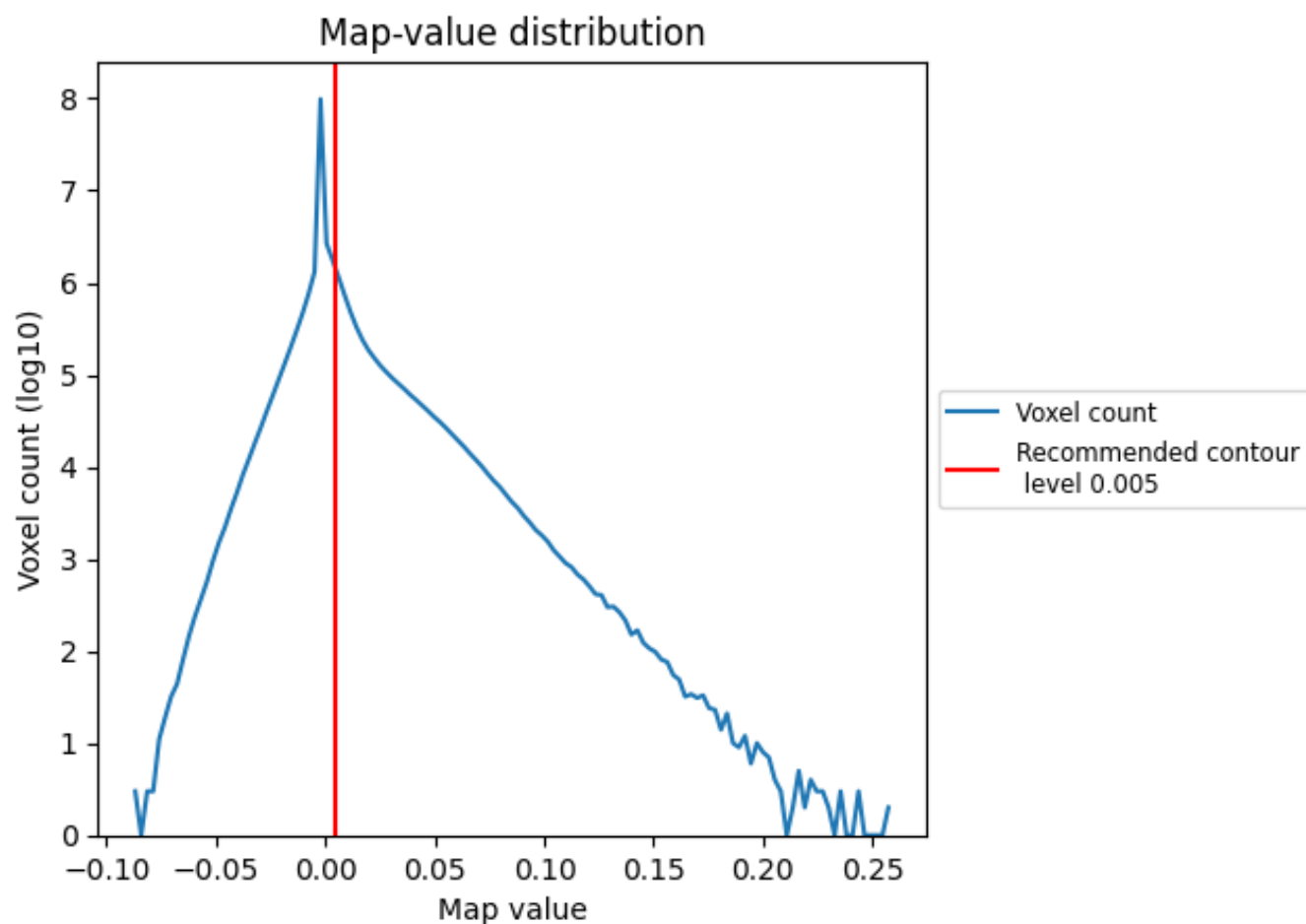
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

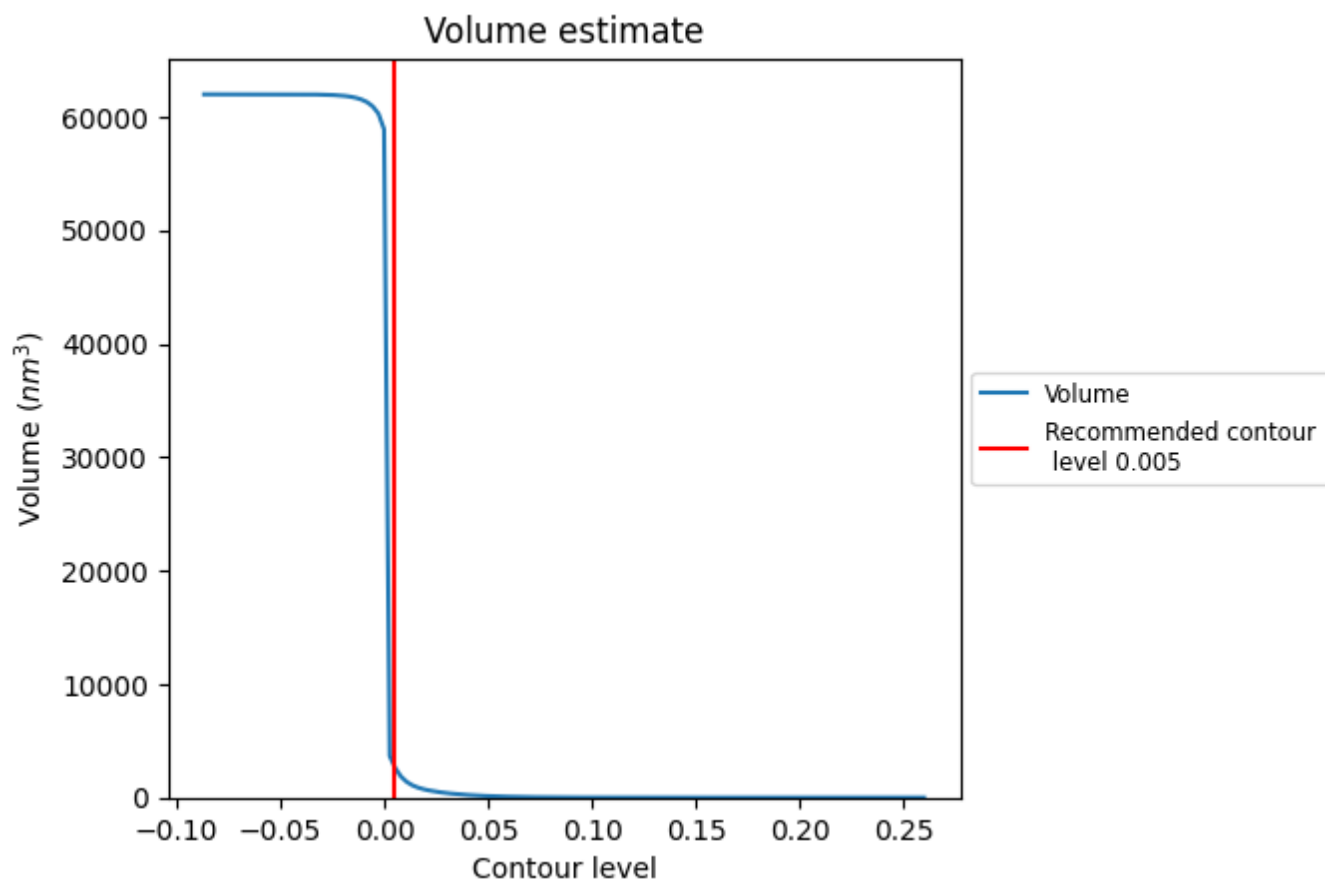
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

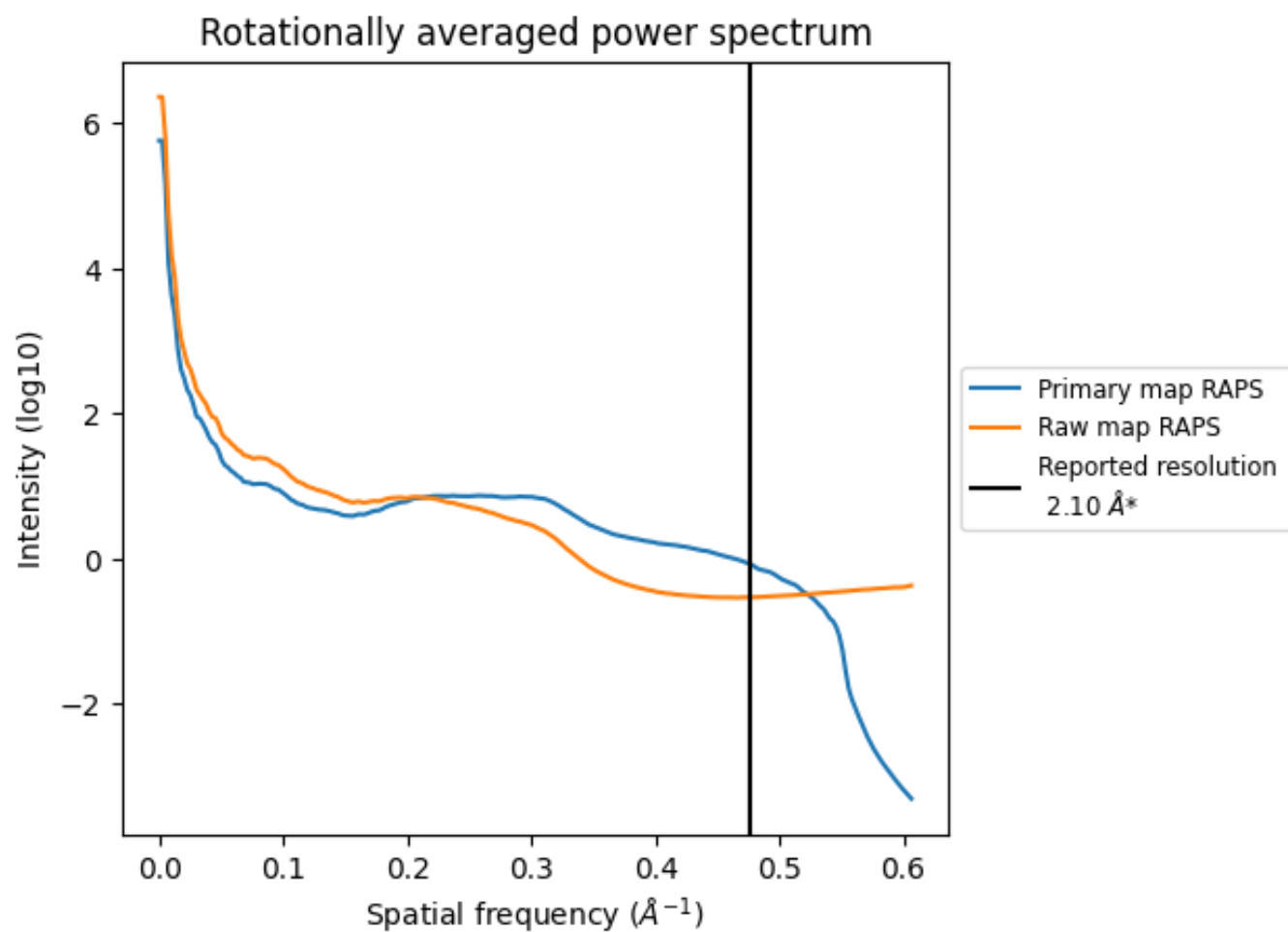
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2699 nm³; this corresponds to an approximate mass of 2438 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 ⓘ

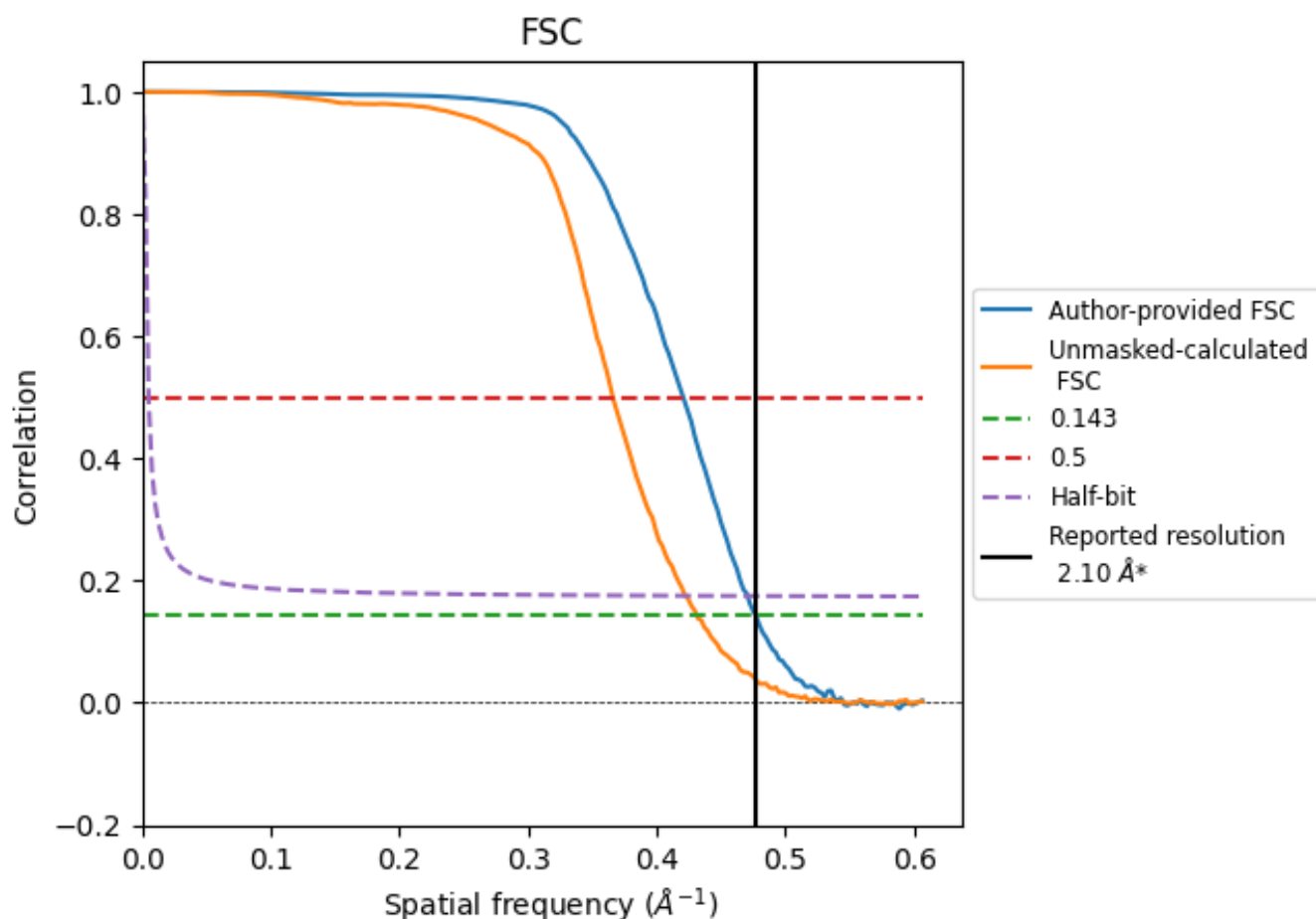


*Reported resolution corresponds to spatial frequency of 0.476 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.476 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

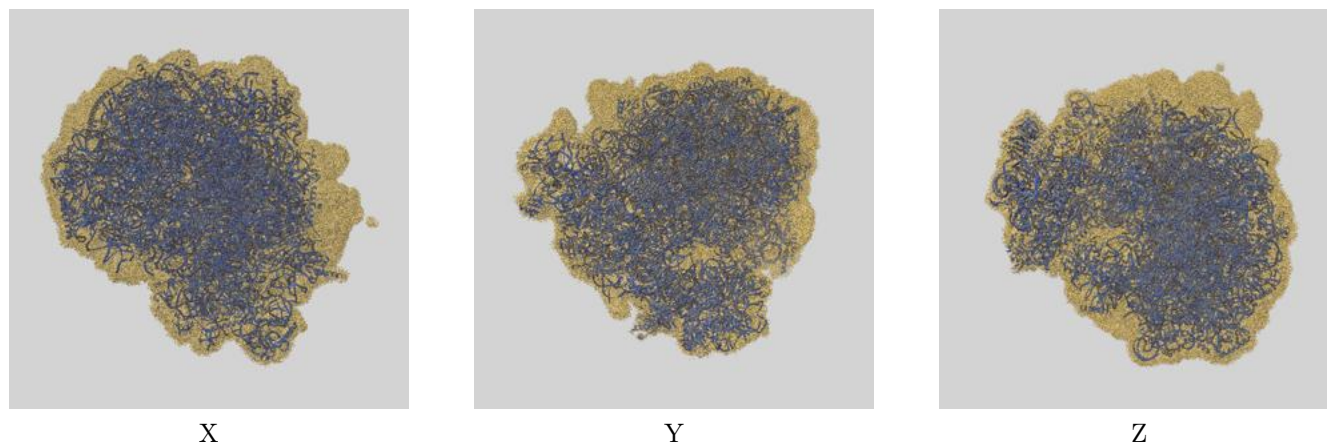
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.10	-	-
Author-provided FSC curve	2.10	2.38	2.12
Unmasked-calculated*	2.32	2.73	2.37

*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 2.32 differs from the reported value 2.1 by more than 10 %

9 Map-model fit [i](#)

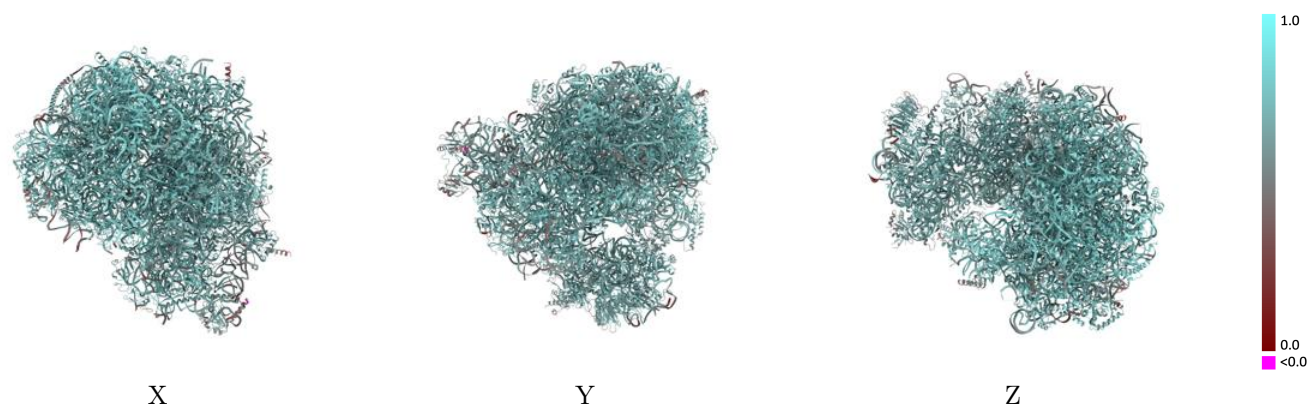
This section contains information regarding the fit between EMDB map EMD-55224 and PDB model 9SUL. Per-residue inclusion information can be found in section [3](#) on page [30](#).

9.1 Map-model overlay [i](#)



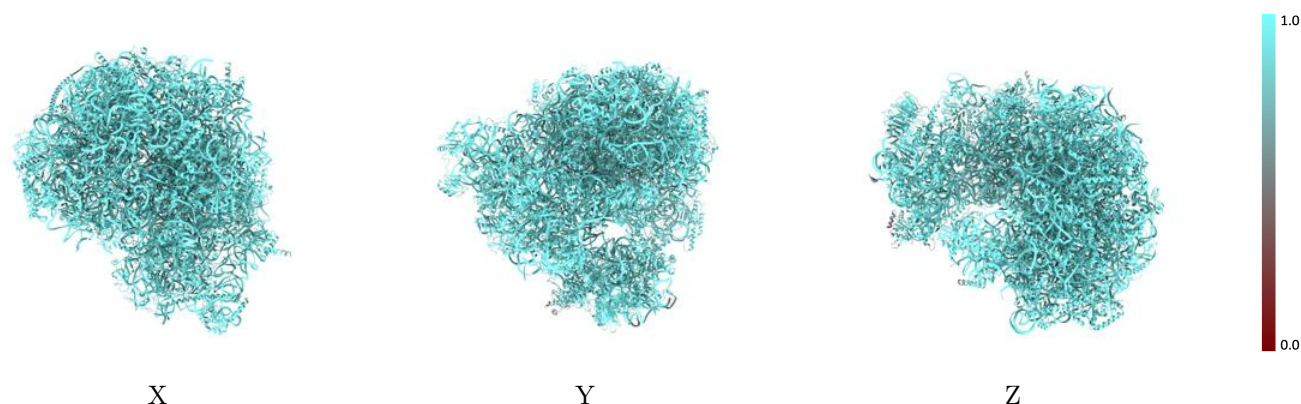
The images above show the 3D surface view of the map at the recommended contour level 0.005 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



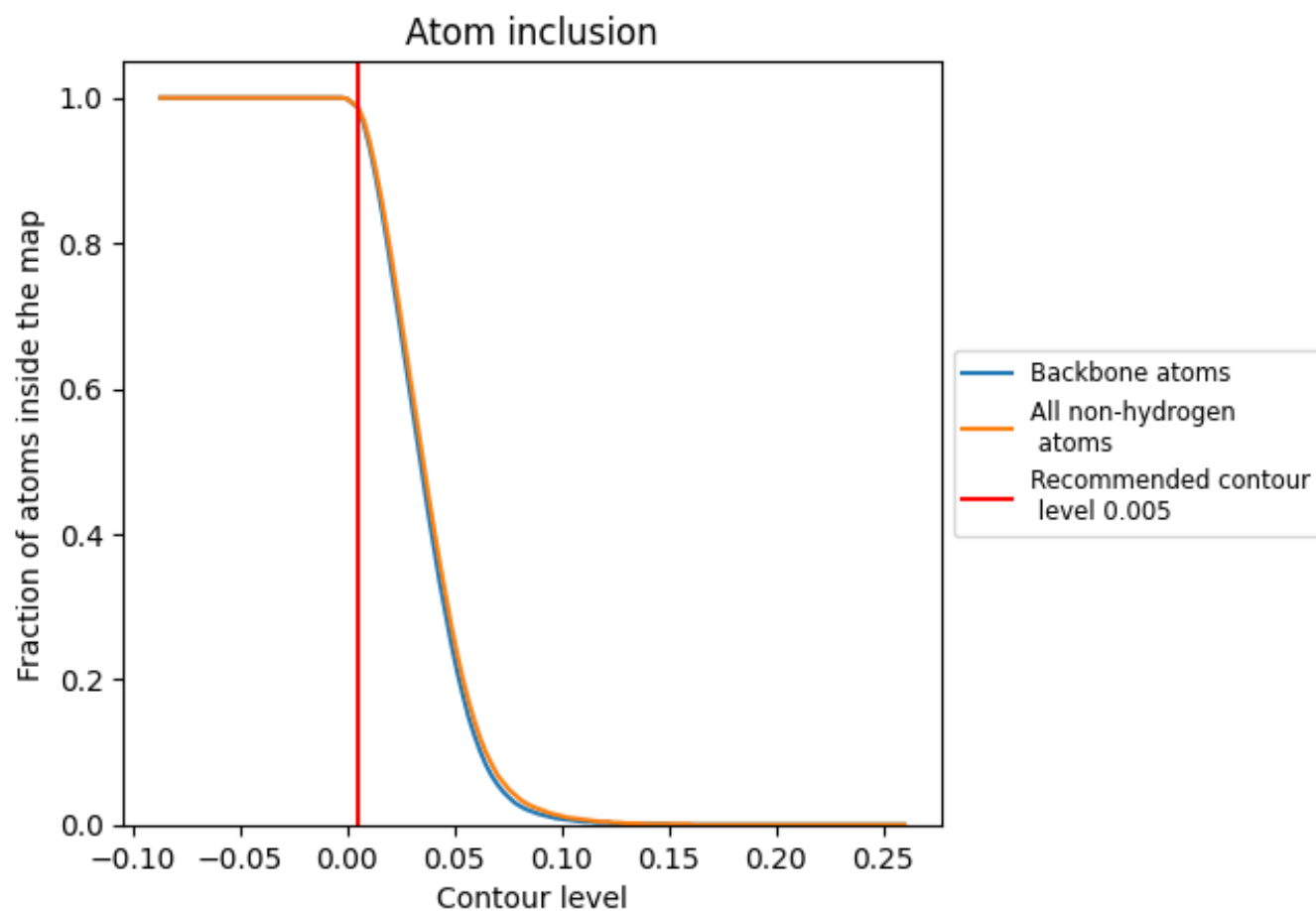
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.005).

9.4 Atom inclusion [i](#)



At the recommended contour level, 99% of all backbone atoms, 99% 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 (0.005) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9880	 0.7110
A0	 0.9900	 0.7110
A1	 0.9930	 0.7290
A2	 0.9930	 0.7010
A3	 0.9880	 0.6750
A4	 0.9890	 0.6950
A5	 0.9930	 0.7360
A6	 0.9870	 0.7160
A7	 0.9510	 0.6320
A8	 0.9980	 0.7130
A9	 0.8630	 0.5900
AA	 0.9890	 0.6770
AC	 0.9960	 0.6980
AD	 0.9750	 0.6730
AE	 0.9880	 0.7260
AF	 0.7330	 0.5400
AG	 0.9950	 0.7400
AH	 0.9850	 0.7020
AI	 0.9530	 0.6630
AJ	 0.9960	 0.7510
AK	 0.9900	 0.7030
AL	 0.9880	 0.6520
AM	 0.9680	 0.6780
AO	 0.9920	 0.6970
AP	 0.9840	 0.7140
AQ	 0.9260	 0.6420
AR	 0.9940	 0.7170
AS	 0.9910	 0.7310
AT	 0.9920	 0.7020
AU	 0.9700	 0.6770
AV	 0.9920	 0.7140
AW	 0.9810	 0.6800
AX	 0.9690	 0.6660
AY	 0.9580	 0.6570
AZ	 1.0000	 0.6440



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Chain	Atom inclusion	Q-score
Az	 0.9350	 0.5370
BA	 0.9960	 0.7360
BB	 0.9940	 0.7210
BC	 0.9970	 0.7320
BD	 0.9980	 0.7120
BE	 0.9930	 0.7000
BF	 0.9890	 0.6820
BG	 0.9980	 0.7290
BH	 0.9890	 0.6870
BI	 0.9950	 0.7710
BK	 0.9900	 0.7290
BL	 0.9730	 0.6180
BN	 0.9910	 0.7450
BO	 0.9980	 0.7760
BP	 0.9910	 0.7080
BQ	 1.0000	 0.7900
BR	 0.9980	 0.7870
BS	 0.9930	 0.7520
BT	 0.9760	 0.6990
BU	 0.9740	 0.7040
BV	 0.9740	 0.6040
BW	 0.9970	 0.7660
BX	 0.9970	 0.7460
BY	 1.0000	 0.7530
BZ	 0.9990	 0.7570
Ba	 0.9930	 0.7090
Bb	 0.9940	 0.7750
Bc	 0.9960	 0.7540
Bd	 0.9960	 0.7650
Be	 0.9990	 0.7850
Bf	 0.9940	 0.7640
Bg	 0.9920	 0.7300
Bh	 0.9960	 0.7560
Bi	 0.9950	 0.7760
Bj	 0.9800	 0.7180
Bk	 0.9900	 0.7070
Bl	 0.9980	 0.7750
Bm	 0.9990	 0.7440
Bn	 0.9990	 0.7910
Bo	 0.9960	 0.7690
Bp	 0.9850	 0.6820
Bq	 0.9980	 0.7650

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Chain	Atom inclusion	Q-score
Br	 0.9960	 0.7600
Bs	 0.9740	 0.6720
Bt	 0.9970	 0.7600
Bu	 0.9620	 0.6710
Bv	 0.9810	 0.7070
Bw	 0.9840	 0.7380
Bx	 0.9810	 0.7140
By	 0.9900	 0.6950
Bz	 0.9960	 0.7460
Et	 1.0000	 0.6250