Full wwPDB EM Validation Report ⓘ

Mar 18, 2026 – 11:57 AM UTC

PDB ID	:	9F1D / pdb_00009f1d
EMDB ID	:	EMD-50126
Title	:	Mammalian quaternary complex of a translating 80S ribosome, NAC, MetAP1 and NatA/E-HYPK
Authors	:	Yudin, D.; Scaiola, A.; Ban, N.
Deposited on	:	2024-04-18
Resolution	:	3.26 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:

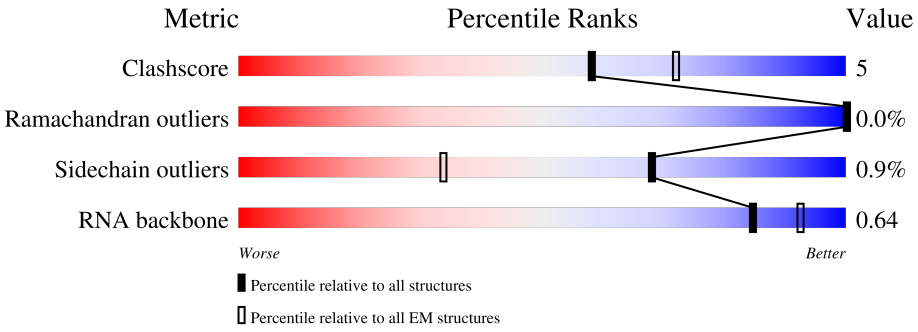
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data 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)	:	2.49

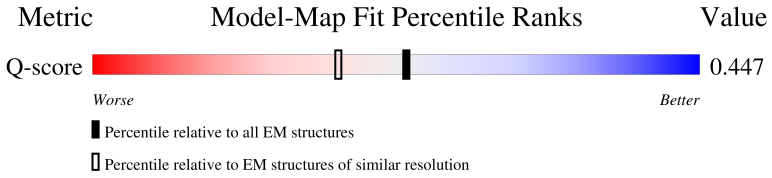
1 Overall quality at a glance

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

The reported resolution of this entry is 3.26 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	14557 (2.76 - 3.76)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	B5	4808	7% 55% 20% 23%
2	BT	160	85% 14%
3	Bb	245	8% 38% 6% 56%

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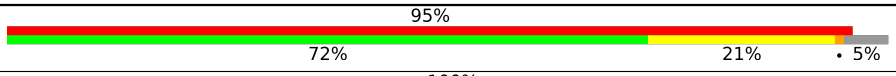
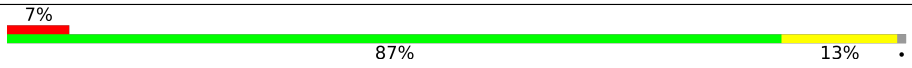
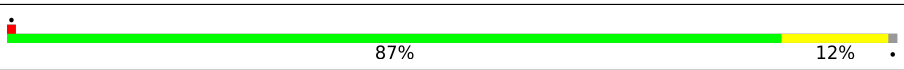
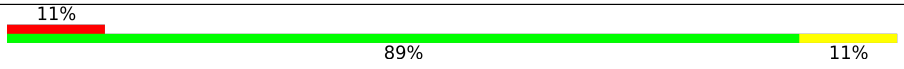
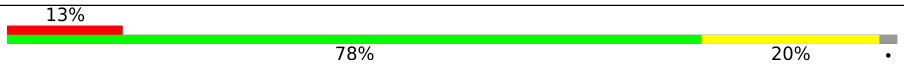
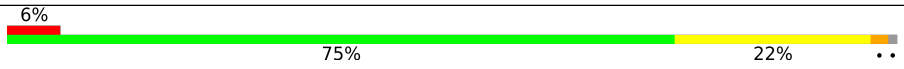
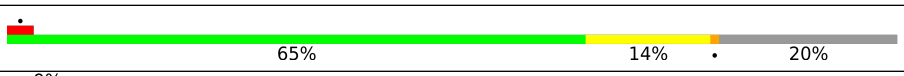
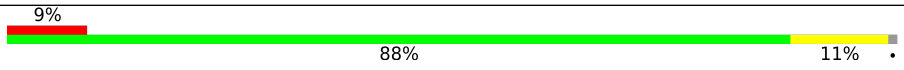
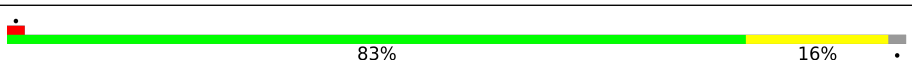
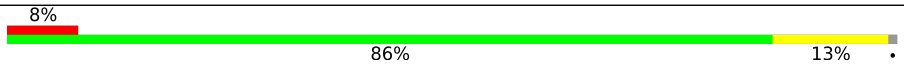
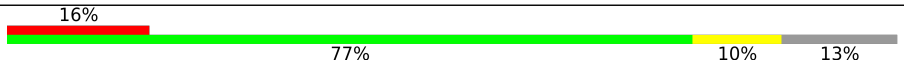
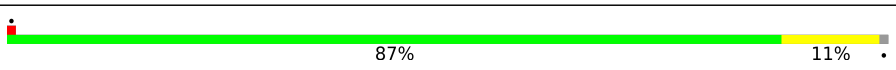
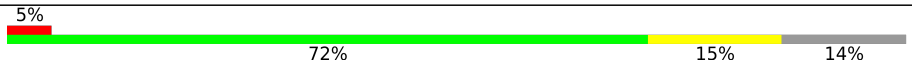
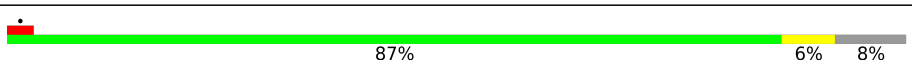
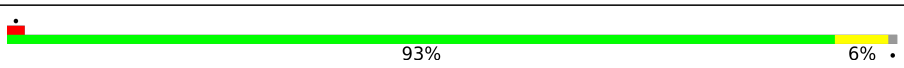
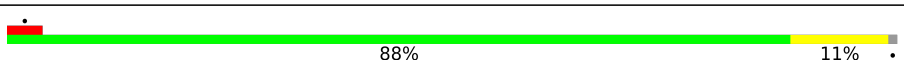
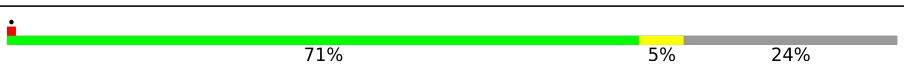
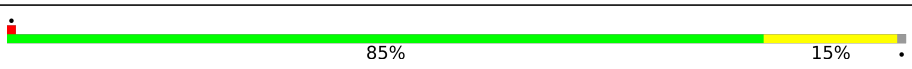
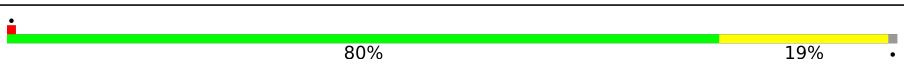
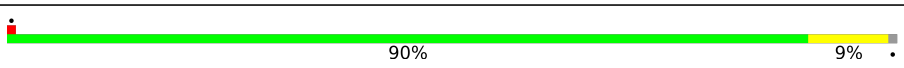
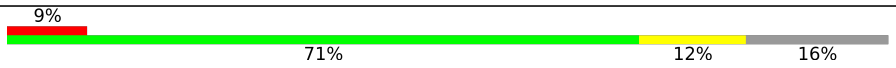
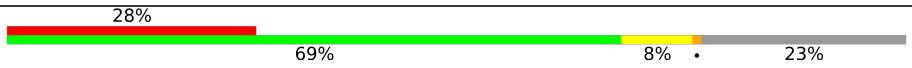
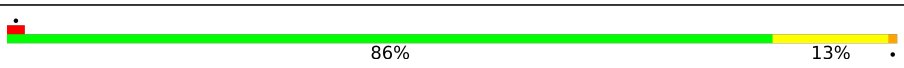
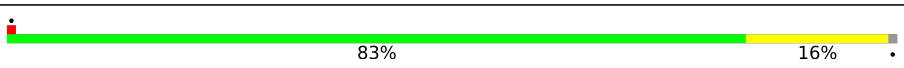
Mol	Chain	Length	Quality of chain
4	Bt	165	
5	AH	3	
6	Aq	135	
7	B7	120	
8	AT	76	
9	Ar	151	
10	B8	158	
11	BU	128	
12	As	145	
13	BA	257	
14	BV	140	
15	At	119	
16	BB	403	
17	BP	184	
18	BY	145	
19	Av	130	
20	B	297	
21	BX	156	
22	BQ	188	
23	BZ	136	
24	Aw	143	
25	BE	291	
26	BW	157	
27	Au	83	
28	Ba	148	

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Mol	Chain	Length	Quality of chain
29	Ax	130	6% 85% 11%
30	BF	247	81% 11% 9%
31	BR	196	6% 82% 10% 8%
32	AZ	294	63% 12% 25%
33	Ay	124	18% 56% 13% 31%
34	BG	266	9% 79% 9% 12%
35	BC	412	80% 7% 12%
36	BS	176	93% 7%
37	Aa	264	6% 73% 12% 15%
38	Az	25	16% 88% 12%
39	BH	192	87% 12%
40	EA	386	79% 65% 14% 21%
41	Ab	293	66% 9% 25%
42	Bc	115	13% 87% 7% 6%
43	BI	214	5% 86% 14%
44	Ct	238	49% 41% 8% 51%
45	Ac	281	10% 73% 7% 20%
46	Bd	125	6% 72% 14% 14%
47	BJ	178	81% 14%
48	Cu	162	51% 52% 12% 34%
49	Ad	263	84% 16%
50	Be	135	84% 13%
51	BK	27	85% 100%
52	DA	403	38% 30% 9% 62%
53	Ae	204	8% 82% 12% 6%

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Mol	Chain	Length	Quality of chain
54	Bf	110	88% 12%
55	BL	211	8% 90% 9%
56	DB	915	89% 65% 25% 9%
57	Af	249	12% 76% 19% 5%
58	Bg	117	5% 91% 6%
59	BM	218	53% 10% 37%
60	DC	235	69% 57% 13% 30%
61	Ag	432	7% 36% 8% 56%
62	Bh	123	84% 15%
63	BN	204	86% 14%
64	DD	228	25% 17% 8% 75%
65	Ah	208	6% 81% 18%
66	Bi	105	90% 7%
67	BO	203	88% 10%
68	A2	1870	9% 64% 26% 5%
69	Ai	194	5% 84% 11% 5%
70	Bj	97	75% 13% 11%
71	AA	84	11% 83% 15%
72	Aj	165	5% 48% 10% 42%
73	Bk	70	9% 89% 10%
74	AB	69	9% 83% 9% 9%
75	Ak	158	13% 89% 8%
76	Bl	51	8% 78% 20%
77	AC	156	32% 40% 7% 53%
78	Al	132	74% 77% 17% 6%

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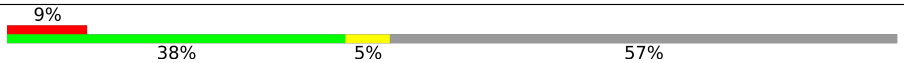
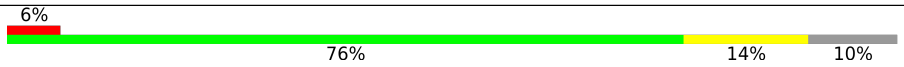
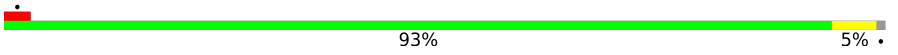
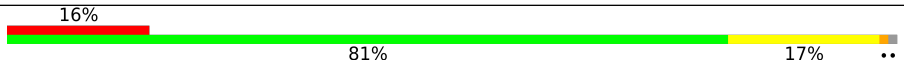
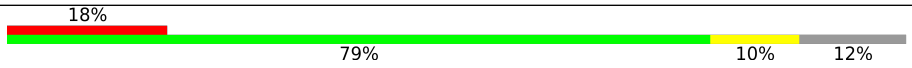
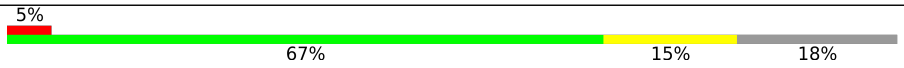
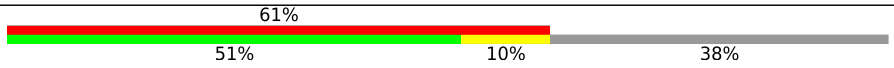
Mol	Chain	Length	Quality of chain
79	Bm	128	
80	AD	133	
81	Am	151	
82	Bo	106	
83	AE	115	
84	An	151	
85	Bp	92	
86	AF	317	
87	Ao	145	
88	Br	136	
89	AG	56	
90	Ap	172	
91	Bs	318	

2 Entry composition (i)

There are 99 unique types of molecules in this entry. The entry contains 237089 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	B5	3706	79525	35447	14532	25840	3706	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B5	3550	UY1	U	conflict	GB GBCN01009604.1

- Molecule 2 is a protein called 60S ribosomal protein L21.

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

- Molecule 3 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	Bb	108	881	548	196	134	3	0	0

- Molecule 4 is a protein called 60S ribosomal protein L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	Bt	156	1178	733	221	220	4	0	0

- Molecule 5 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	O	P		
5	AH	3	36	15	18	3	0	0

- Molecule 6 is a protein called 40S ribosomal protein eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	Aq	134	Total	C	N	O	S	0	0
			1080	678	201	197	4		

- Molecule 7 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	B7	119	Total	C	N	O	P	0	0
			2538	1131	451	837	119		

- Molecule 8 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AT	76	Total	C	N	O	P	0	0
			939	393	11	459	76		

- Molecule 9 is a protein called Small ribosomal subunit protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	Ar	148	Total	C	N	O	S	0	0
			1217	763	245	208	1		

- Molecule 10 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	B8	156	Total	C	N	O	P	0	0
			3319	1481	585	1097	156		

- Molecule 11 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	BU	102	Total	C	N	O	S	0	0
			831	531	146	152	2		

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BU	32	GLY	ARG	variant	UNP G1TSG1
BU	36	ALA	GLU	variant	UNP G1TSG1
BU	39	PHE	SER	variant	UNP G1TSG1
BU	54	GLY	ARG	variant	UNP G1TSG1
BU	97	ARG	HIS	variant	UNP G1TSG1

- Molecule 12 is a protein called 40S ribosomal protein S19.

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

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
As	119	GLY	TRP	variant	UNP G1TN62
As	142	ASN	LYS	variant	UNP G1TN62

- Molecule 13 is a protein called Large ribosomal subunit protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	BA	253	Total	C	N	O	S	0	0
			1940	1214	396	324	6		

- Molecule 14 is a protein called Ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	BV	139	Total	C	N	O	S	0	0
			1034	648	199	182	5		

- Molecule 15 is a protein called 40S ribosomal protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	At	104	Total	C	N	O	S	0	0
			821	514	155	148	4		

- Molecule 16 is a protein called Ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	BB	398	Total	C	N	O	S	0	0
			3206	2042	605	546	13		

- Molecule 17 is a protein called Large ribosomal subunit protein uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	BP	159	Total	C	N	O	S	0	0
			1289	809	249	222	9		

- Molecule 18 is a protein called Ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	BY	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 19 is a protein called Ribosomal protein S15a.

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

- Molecule 20 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	B	293	Total	C	N	O	S	0	0
			2391	1512	438	427	14		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	176	SER	GLY	variant	UNP G1SZF4
B	248	ARG	GLN	variant	UNP G1SZF4

- Molecule 21 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	BX	118	Total	C	N	O	S	0	0
			967	618	181	167	1		

- Molecule 22 is a protein called Large ribosomal subunit protein eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	BQ	187	Total	C	N	O	S	0	0
			1515	946	315	250	4		

- Molecule 23 is a protein called 60S ribosomal protein L27.

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

- Molecule 24 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Aw	141	Total	C	N	O	S	0	0
			1099	693	219	184	3		

- Molecule 25 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	BE	243	Total	C	N	O	S	0	0
			1960	1258	378	321	3		

- Molecule 26 is a protein called Ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	BW	121	Total	C	N	O	S	0	0
			991	619	202	166	4		

- Molecule 27 is a protein called Small ribosomal subunit protein eS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Au	83	Total	C	N	O	S	0	0
			640	394	117	124	5		

- Molecule 28 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	Ba	147	Total	C	N	O	S	0	0
			1163	734	239	186	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Ax	125	Total	C	N	O	S	0	0
			1015	642	199	169	5		

- Molecule 30 is a protein called Ribosomal Protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	BF	226	Total	C	N	O	S	0	0
			1886	1211	362	304	9		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BF	61	ARG	GLY	variant	UNP G1TUB1
BF	93	ARG	GLY	variant	UNP G1TUB1
BF	131	MET	VAL	variant	UNP G1TUB1
BF	153	ILE	VAL	variant	UNP G1TUB1

- Molecule 31 is a protein called Ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	BR	180	Total	C	N	O	S	0	0
			1508	933	328	238	9		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BR	38	ARG	CYS	variant	UNP G1TJR3
BR	64	ARG	GLN	variant	UNP G1TJR3
BR	94	THR	LYS	variant	UNP G1TJR3

- Molecule 32 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	AZ	221	Total	C	N	O	S	0	0
			1743	1107	305	323	8		

- Molecule 33 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Ay	85	Total	C	N	O	S	0	0
			683	439	128	115	1		

- Molecule 34 is a protein called Large ribosomal subunit protein eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	BG	233	Total	C	N	O	S	0	0
			1877	1197	361	315	4		

- Molecule 35 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	BC	362	Total	C	N	O	S	0	0
			2886	1814	577	481	14		

- Molecule 36 is a protein called Large ribosomal subunit protein eL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	BS	176	Total	C	N	O	S	0	0
			1457	924	288	234	11		

- Molecule 37 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Aa	224	Total	C	N	O	S	0	0
			1815	1152	328	321	14		

- Molecule 38 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Az	25	Total	C	N	O	S	0	0
			239	145	64	27	3		

- Molecule 39 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	BH	190	Total	C	N	O	S	0	0
			1516	954	284	272	6		

- Molecule 40 is a protein called Methionine aminopeptidase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	EA	304	Total	C	N	O	S	0	0
			2395	1505	430	442	18		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
EA	220	ASN	ASP	engineered mutation	UNP P53582

- Molecule 41 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Ab	220	Total	C	N	O	S	0	0
			1706	1105	292	300	9		

- Molecule 42 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Bc	108	Total	C	N	O	S	0	0
			836	530	148	151	7		

- Molecule 43 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	BI	213	Total	C	N	O	S	0	0
			1717	1086	332	285	14		

- Molecule 44 is a protein called Nascent polypeptide-associated complex subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Ct	117	Total	C	N	O	S	0	0
			908	568	166	170	4		

There are 23 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ct	-22	MET	-	initiating methionine	UNP Q13765
Ct	-21	GLY	-	expression tag	UNP Q13765
Ct	-20	SER	-	expression tag	UNP Q13765
Ct	-19	SER	-	expression tag	UNP Q13765
Ct	-18	HIS	-	expression tag	UNP Q13765
Ct	-17	HIS	-	expression tag	UNP Q13765
Ct	-16	HIS	-	expression tag	UNP Q13765
Ct	-15	HIS	-	expression tag	UNP Q13765
Ct	-14	HIS	-	expression tag	UNP Q13765
Ct	-13	HIS	-	expression tag	UNP Q13765
Ct	-12	SER	-	expression tag	UNP Q13765
Ct	-11	SER	-	expression tag	UNP Q13765
Ct	-10	GLY	-	expression tag	UNP Q13765
Ct	-9	LEU	-	expression tag	UNP Q13765
Ct	-8	GLU	-	expression tag	UNP Q13765
Ct	-7	VAL	-	expression tag	UNP Q13765
Ct	-6	LEU	-	expression tag	UNP Q13765
Ct	-5	PHE	-	expression tag	UNP Q13765
Ct	-4	GLN	-	expression tag	UNP Q13765
Ct	-3	GLY	-	expression tag	UNP Q13765
Ct	-2	PRO	-	expression tag	UNP Q13765
Ct	-1	SER	-	expression tag	UNP Q13765
Ct	0	GLY	-	expression tag	UNP Q13765

- Molecule 45 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Ac	225	Total	C	N	O	S	0	0
			1751	1116	315	313	7		

- Molecule 46 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Bd	107	Total	C	N	O	S	0	0
			888	560	171	155	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
47	BJ	170	Total	C	N	O	S	0	0
			1362	861	254	241	6		

- Molecule 48 is a protein called Isoform 2 of Transcription factor BTF3.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Cu	107	Total	C	N	O	S	0	0
			828	518	154	153	3		

- Molecule 49 is a protein called 40S ribosomal protein S4.

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

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ad	25	GLY	SER	variant	UNP G1TK17
Ad	51	ARG	LYS	variant	UNP G1TK17
Ad	78	THR	ALA	variant	UNP G1TK17
Ad	156	VAL	MET	variant	UNP G1TK17

- Molecule 50 is a protein called Ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	Be	130	Total	C	N	O	S	0	0
			1070	676	221	168	5		

- Molecule 51 is a protein called Nascent chain.

Mol	Chain	Residues	Atoms				AltConf	Trace
51	BK	27	Total	C	N	O	0	0
			135	81	27	27		

- Molecule 52 is a protein called Glutathione S-transferase class-mu 26 kDa isozyme,N-alpha-acetyltransferase 50,N-alpha-acetyltransferase 50.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	DA	155	Total	C	N	O	S	0	0
			1260	808	221	225	6		

- Molecule 53 is a protein called Ribosomal protein S5.

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

- Molecule 54 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	Bf	110	Total	C	N	O	S	0	0
			884	560	175	144	5		

- Molecule 55 is a protein called Large ribosomal subunit protein eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	BL	210	Total	C	N	O	S	0	0
			1702	1065	354	279	4		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BL	74	ARG	HIS	variant	UNP G1TKB3
BL	190	ARG	HIS	variant	UNP G1TKB3

- Molecule 56 is a protein called N-alpha-acetyltransferase 15, NatA auxiliary subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	DB	837	Total	C	N	O	S	0	0
			6900	4391	1192	1276	41		

There are 49 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
DB	-48	MET	-	initiating methionine	UNP Q9BXJ9
DB	-47	GLY	-	expression tag	UNP Q9BXJ9
DB	-46	SER	-	expression tag	UNP Q9BXJ9
DB	-45	SER	-	expression tag	UNP Q9BXJ9
DB	-44	HIS	-	expression tag	UNP Q9BXJ9
DB	-43	HIS	-	expression tag	UNP Q9BXJ9
DB	-42	HIS	-	expression tag	UNP Q9BXJ9
DB	-41	HIS	-	expression tag	UNP Q9BXJ9
DB	-40	HIS	-	expression tag	UNP Q9BXJ9
DB	-39	HIS	-	expression tag	UNP Q9BXJ9
DB	-38	SER	-	expression tag	UNP Q9BXJ9
DB	-37	SER	-	expression tag	UNP Q9BXJ9
DB	-36	GLY	-	expression tag	UNP Q9BXJ9
DB	-35	LEU	-	expression tag	UNP Q9BXJ9
DB	-34	VAL	-	expression tag	UNP Q9BXJ9
DB	-33	PRO	-	expression tag	UNP Q9BXJ9
DB	-32	ARG	-	expression tag	UNP Q9BXJ9
DB	-31	GLY	-	expression tag	UNP Q9BXJ9
DB	-30	SER	-	expression tag	UNP Q9BXJ9
DB	-29	HIS	-	expression tag	UNP Q9BXJ9
DB	-28	MET	-	expression tag	UNP Q9BXJ9
DB	-27	ALA	-	expression tag	UNP Q9BXJ9
DB	-26	SER	-	expression tag	UNP Q9BXJ9
DB	-25	MET	-	expression tag	UNP Q9BXJ9
DB	-24	THR	-	expression tag	UNP Q9BXJ9
DB	-23	GLY	-	expression tag	UNP Q9BXJ9
DB	-22	GLY	-	expression tag	UNP Q9BXJ9
DB	-21	GLN	-	expression tag	UNP Q9BXJ9
DB	-20	GLN	-	expression tag	UNP Q9BXJ9
DB	-19	MET	-	expression tag	UNP Q9BXJ9
DB	-18	GLY	-	expression tag	UNP Q9BXJ9
DB	-17	ARG	-	expression tag	UNP Q9BXJ9
DB	-16	ALA	-	expression tag	UNP Q9BXJ9
DB	-15	ARG	-	expression tag	UNP Q9BXJ9
DB	-14	GLY	-	expression tag	UNP Q9BXJ9
DB	-13	ILE	-	expression tag	UNP Q9BXJ9
DB	-12	GLN	-	expression tag	UNP Q9BXJ9
DB	-11	ARG	-	expression tag	UNP Q9BXJ9
DB	-10	PRO	-	expression tag	UNP Q9BXJ9
DB	-9	THR	-	expression tag	UNP Q9BXJ9
DB	-8	SER	-	expression tag	UNP Q9BXJ9
DB	-7	THR	-	expression tag	UNP Q9BXJ9
DB	-6	SER	-	expression tag	UNP Q9BXJ9

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Chain	Residue	Modelled	Actual	Comment	Reference
DB	-5	SER	-	expression tag	UNP Q9BXJ9
DB	-4	LEU	-	expression tag	UNP Q9BXJ9
DB	-3	VAL	-	expression tag	UNP Q9BXJ9
DB	-2	ALA	-	expression tag	UNP Q9BXJ9
DB	-1	ALA	-	expression tag	UNP Q9BXJ9
DB	0	ALA	-	expression tag	UNP Q9BXJ9

- Molecule 57 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	Af	237	Total	C	N	O	S	0	0
			1923	1200	387	329	7		

- Molecule 58 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	Bg	114	Total	C	N	O	S	0	0
			906	566	187	147	6		

- Molecule 59 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	BM	138	Total	C	N	O	S	0	0
			1137	727	221	182	7		

- Molecule 60 is a protein called N-alpha-acetyltransferase 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	DC	165	Total	C	N	O	S	0	0
			1339	844	242	242	11		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
DC	24	GLN	GLU	engineered mutation	UNP P41227
DC	26	PHE	TYR	engineered mutation	UNP P41227

- Molecule 61 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	Ag	190	Total	C	N	O	S	0	0
			1529	975	281	272	1		

- Molecule 62 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	Bh	122	Total	C	N	O	S	0	0
			1013	640	204	168	1		

- Molecule 63 is a protein called Ribosomal protein L15.

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

- Molecule 64 is a protein called Isoform 2 of Huntingtin-interacting protein K.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	DD	57	Total	C	N	O	S	0	0
			439	269	78	89	3		

There are 107 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
DD	-106	MET	-	initiating methionine	UNP Q9NX55
DD	-105	LYS	-	expression tag	UNP Q9NX55
DD	-104	HIS	-	expression tag	UNP Q9NX55
DD	-103	HIS	-	expression tag	UNP Q9NX55
DD	-102	HIS	-	expression tag	UNP Q9NX55
DD	-101	HIS	-	expression tag	UNP Q9NX55
DD	-100	HIS	-	expression tag	UNP Q9NX55
DD	-99	HIS	-	expression tag	UNP Q9NX55
DD	-98	PRO	-	expression tag	UNP Q9NX55
DD	-97	MET	-	expression tag	UNP Q9NX55
DD	-96	SER	-	expression tag	UNP Q9NX55
DD	-95	ASP	-	expression tag	UNP Q9NX55
DD	-94	SER	-	expression tag	UNP Q9NX55
DD	-93	GLU	-	expression tag	UNP Q9NX55
DD	-92	VAL	-	expression tag	UNP Q9NX55
DD	-91	ASN	-	expression tag	UNP Q9NX55
DD	-90	GLN	-	expression tag	UNP Q9NX55
DD	-89	GLU	-	expression tag	UNP Q9NX55
DD	-88	ALA	-	expression tag	UNP Q9NX55

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Chain	Residue	Modelled	Actual	Comment	Reference
DD	-87	LYS	-	expression tag	UNP Q9NX55
DD	-86	PRO	-	expression tag	UNP Q9NX55
DD	-85	GLU	-	expression tag	UNP Q9NX55
DD	-84	VAL	-	expression tag	UNP Q9NX55
DD	-83	LYS	-	expression tag	UNP Q9NX55
DD	-82	PRO	-	expression tag	UNP Q9NX55
DD	-81	GLU	-	expression tag	UNP Q9NX55
DD	-80	VAL	-	expression tag	UNP Q9NX55
DD	-79	LYS	-	expression tag	UNP Q9NX55
DD	-78	PRO	-	expression tag	UNP Q9NX55
DD	-77	GLU	-	expression tag	UNP Q9NX55
DD	-76	THR	-	expression tag	UNP Q9NX55
DD	-75	HIS	-	expression tag	UNP Q9NX55
DD	-74	ILE	-	expression tag	UNP Q9NX55
DD	-73	ASN	-	expression tag	UNP Q9NX55
DD	-72	LEU	-	expression tag	UNP Q9NX55
DD	-71	LYS	-	expression tag	UNP Q9NX55
DD	-70	VAL	-	expression tag	UNP Q9NX55
DD	-69	SER	-	expression tag	UNP Q9NX55
DD	-68	ASP	-	expression tag	UNP Q9NX55
DD	-67	GLY	-	expression tag	UNP Q9NX55
DD	-66	SER	-	expression tag	UNP Q9NX55
DD	-65	SER	-	expression tag	UNP Q9NX55
DD	-64	GLU	-	expression tag	UNP Q9NX55
DD	-63	ILE	-	expression tag	UNP Q9NX55
DD	-62	PHE	-	expression tag	UNP Q9NX55
DD	-61	PHE	-	expression tag	UNP Q9NX55
DD	-60	LYS	-	expression tag	UNP Q9NX55
DD	-59	ILE	-	expression tag	UNP Q9NX55
DD	-58	LYS	-	expression tag	UNP Q9NX55
DD	-57	LYS	-	expression tag	UNP Q9NX55
DD	-56	THR	-	expression tag	UNP Q9NX55
DD	-55	THR	-	expression tag	UNP Q9NX55
DD	-54	PRO	-	expression tag	UNP Q9NX55
DD	-53	LEU	-	expression tag	UNP Q9NX55
DD	-52	ARG	-	expression tag	UNP Q9NX55
DD	-51	ARG	-	expression tag	UNP Q9NX55
DD	-50	LEU	-	expression tag	UNP Q9NX55
DD	-49	MET	-	expression tag	UNP Q9NX55
DD	-48	GLU	-	expression tag	UNP Q9NX55
DD	-47	ALA	-	expression tag	UNP Q9NX55
DD	-46	PHE	-	expression tag	UNP Q9NX55

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Chain	Residue	Modelled	Actual	Comment	Reference
DD	-45	ALA	-	expression tag	UNP Q9NX55
DD	-44	LYS	-	expression tag	UNP Q9NX55
DD	-43	ARG	-	expression tag	UNP Q9NX55
DD	-42	GLN	-	expression tag	UNP Q9NX55
DD	-41	GLY	-	expression tag	UNP Q9NX55
DD	-40	LYS	-	expression tag	UNP Q9NX55
DD	-39	GLU	-	expression tag	UNP Q9NX55
DD	-38	MET	-	expression tag	UNP Q9NX55
DD	-37	ASP	-	expression tag	UNP Q9NX55
DD	-36	SER	-	expression tag	UNP Q9NX55
DD	-35	LEU	-	expression tag	UNP Q9NX55
DD	-34	ARG	-	expression tag	UNP Q9NX55
DD	-33	PHE	-	expression tag	UNP Q9NX55
DD	-32	LEU	-	expression tag	UNP Q9NX55
DD	-31	TYR	-	expression tag	UNP Q9NX55
DD	-30	ASP	-	expression tag	UNP Q9NX55
DD	-29	GLY	-	expression tag	UNP Q9NX55
DD	-28	ILE	-	expression tag	UNP Q9NX55
DD	-27	ARG	-	expression tag	UNP Q9NX55
DD	-26	ILE	-	expression tag	UNP Q9NX55
DD	-25	GLN	-	expression tag	UNP Q9NX55
DD	-24	ALA	-	expression tag	UNP Q9NX55
DD	-23	ASP	-	expression tag	UNP Q9NX55
DD	-22	GLN	-	expression tag	UNP Q9NX55
DD	-21	THR	-	expression tag	UNP Q9NX55
DD	-20	PRO	-	expression tag	UNP Q9NX55
DD	-19	GLU	-	expression tag	UNP Q9NX55
DD	-18	ASP	-	expression tag	UNP Q9NX55
DD	-17	LEU	-	expression tag	UNP Q9NX55
DD	-16	ASP	-	expression tag	UNP Q9NX55
DD	-15	MET	-	expression tag	UNP Q9NX55
DD	-14	GLU	-	expression tag	UNP Q9NX55
DD	-13	ASP	-	expression tag	UNP Q9NX55
DD	-12	ASN	-	expression tag	UNP Q9NX55
DD	-11	ASP	-	expression tag	UNP Q9NX55
DD	-10	ILE	-	expression tag	UNP Q9NX55
DD	-9	ILE	-	expression tag	UNP Q9NX55
DD	-8	GLU	-	expression tag	UNP Q9NX55
DD	-7	ALA	-	expression tag	UNP Q9NX55
DD	-6	HIS	-	expression tag	UNP Q9NX55
DD	-5	ARG	-	expression tag	UNP Q9NX55
DD	-4	GLU	-	expression tag	UNP Q9NX55

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Chain	Residue	Modelled	Actual	Comment	Reference
DD	-3	GLN	-	expression tag	UNP Q9NX55
DD	-2	ILE	-	expression tag	UNP Q9NX55
DD	-1	GLY	-	expression tag	UNP Q9NX55
DD	0	GLY	-	expression tag	UNP Q9NX55

- Molecule 65 is a protein called 40S ribosomal protein S8.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ah	47	ARG	GLY	variant	UNP G1TJW1

- Molecule 66 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Bi	102	Total	C	N	O	S	0	0
			830	520	176	129	5		

- Molecule 67 is a protein called Large ribosomal subunit protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	BO	199	Total	C	N	O	S	0	0
			1630	1051	319	255	5		

- Molecule 68 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	A2	1770	Total	C	N	O	P	0	0
			37833	16911	6781	12371	1770		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A2	1249	B8N	C	conflict	GB GBCT01000564.1
A2	1338	4AC	C	conflict	GB GBCT01000564.1
A2	1843	4AC	C	conflict	GB GBCT01000564.1

- Molecule 69 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Ai	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 70 is a protein called Ribosomal protein L37.

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

- Molecule 71 is a protein called 40S ribosomal protein S27.

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

- Molecule 72 is a protein called S10_plectin domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Aj	96	Total	C	N	O	S	0	0
			810	530	143	131	6		

- Molecule 73 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	Bk	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Bk	24	LYS	ASN	variant	UNP G1U001

- Molecule 74 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	AB	63	Total	C	N	O	S	0	0
			495	302	98	93	2		

- Molecule 75 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Ak	154	Total	C	N	O	S	0	0
			1262	804	236	216	6		

- Molecule 76 is a protein called 60S ribosomal protein L39-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Bl	50	Total	C	N	O	S	0	0
			447	286	96	64	1		

- Molecule 77 is a protein called Ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	AC	74	Total	C	N	O	S	0	0
			610	385	117	101	7		

- Molecule 78 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Al	124	Total	C	N	O	S	0	0
			958	600	170	179	9		

- Molecule 79 is a protein called Ubiquitin-ribosomal protein eL40 fusion protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Bm	52	Total	C	N	O	S	0	0
			432	269	90	67	6		

- Molecule 80 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	AD	57	Total	C	N	O	S	0	0
			457	282	101	73	1		

- Molecule 81 is a protein called 40S ribosomal protein S13.

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

- Molecule 82 is a protein called Large ribosomal subunit protein eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	Bo	105	Total	C	N	O	S	0	0
			863	543	175	139	6		

- Molecule 83 is a protein called Small ribosomal subunit protein eS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	AE	101	Total	C	N	O	S	0	0
			814	507	170	132	5		

- Molecule 84 is a protein called Small ribosomal subunit protein uS11.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
An	165	IAS	ASP	conflict	UNP A0AAA9WYR1

- Molecule 85 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	Bp	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 86 is a protein called Small ribosomal subunit protein RACK1.

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

- Molecule 87 is a protein called 40S ribosomal protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
87	Ao	128	Total	C	N	O	S	0	0
			1048	665	197	179	7		

- Molecule 88 is a protein called Large ribosomal subunit protein eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
88	Br	123	Total	C	N	O	S	0	0
			990	613	205	167	5		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Br	103	ARG	HIS	conflict	UNP G1U7L1

- Molecule 89 is a protein called 40S ribosomal protein S29.

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

- Molecule 90 is a protein called Small ribosomal subunit protein uS9.

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

- Molecule 91 is a protein called Large ribosomal subunit protein uL10.

Mol	Chain	Residues	Atoms					AltConf	Trace
91	Bs	196	Total	C	N	O	S	0	0
			1507	959	263	276	9		

- Molecule 92 is UNKNOWN ATOM OR ION (CCD ID: UNX) (formula: X).

Mol	Chain	Residues	Atoms		AltConf
92	B5	200	Total	X	0
			200	200	
92	BT	2	Total	X	0
			2	2	
92	Bb	2	Total	X	0
			2	2	
92	B7	6	Total	X	0
			6	6	
92	AT	2	Total	X	0
			2	2	
92	B8	6	Total	X	0
			6	6	
92	BA	4	Total	X	0
			4	4	

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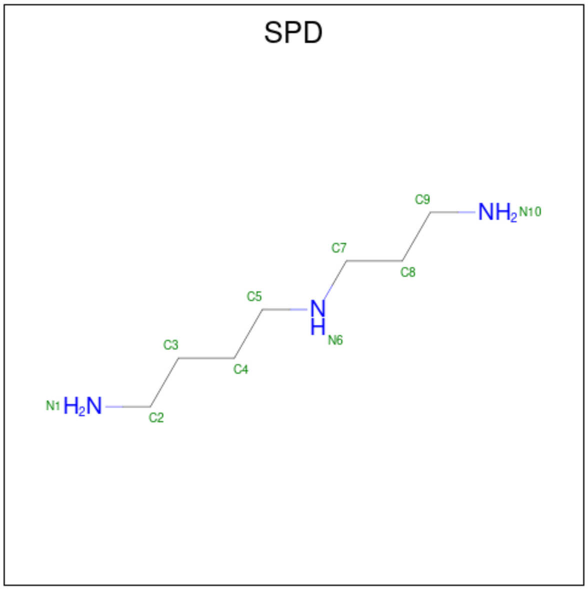
Mol	Chain	Residues	Atoms	AltConf
92	BB	3	Total X 3 3	0
92	BY	1	Total X 1 1	0
92	BQ	2	Total X 2 2	0
92	BH	1	Total X 1 1	0
92	BI	1	Total X 1 1	0
92	Ad	1	Total X 1 1	0
92	Be	3	Total X 3 3	0
92	Bf	1	Total X 1 1	0
92	BL	1	Total X 1 1	0
92	BN	1	Total X 1 1	0
92	A2	54	Total X 54 54	0
92	Ak	1	Total X 1 1	0
92	Bo	1	Total X 1 1	0
92	AE	1	Total X 1 1	0
92	An	1	Total X 1 1	0

- Molecule 93 is SPERMIDINE (CCD ID: SPD) (formula: $C_7H_{19}N_3$).



Mol	Chain	Residues	Atoms	AltConf
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0

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Mol	Chain	Residues	Atoms	AltConf
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	B5	1	Total C N 10 7 3	0
93	A2	1	Total C N 10 7 3	0
93	A2	1	Total C N 10 7 3	0
93	A2	1	Total C N 10 7 3	0
93	A2	1	Total C N 10 7 3	0
93	A2	1	Total C N 10 7 3	0
93	A2	1	Total C N 10 7 3	0
93	A2	1	Total C N 10 7 3	0

- Molecule 94 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	AltConf
94	B5	283	Total Mg 283 283	0
94	B7	9	Total Mg 9 9	0
94	AT	2	Total Mg 2 2	0

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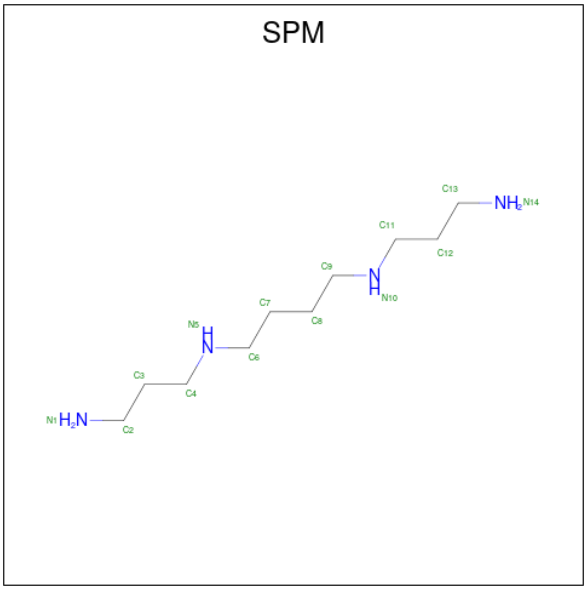
Mol	Chain	Residues	Atoms	AltConf
94	B8	8	Total Mg 8 8	0
94	BV	1	Total Mg 1 1	0
94	BP	1	Total Mg 1 1	0
94	Ba	1	Total Mg 1 1	0
94	BI	1	Total Mg 1 1	0
94	Ct	1	Total Mg 1 1	0
94	Be	1	Total Mg 1 1	0
94	A2	110	Total Mg 110 110	0
94	Bj	1	Total Mg 1 1	0
94	An	1	Total Mg 1 1	0

- Molecule 95 is SPERMINE (CCD ID: SPM) (formula: $C_{10}H_{26}N_4$).



Mol	Chain	Residues	Atoms	AltConf
95	B5	1	Total C N 14 10 4	0

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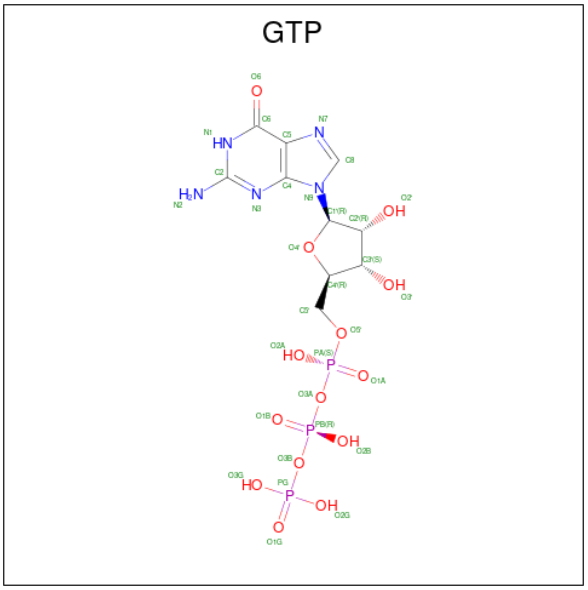
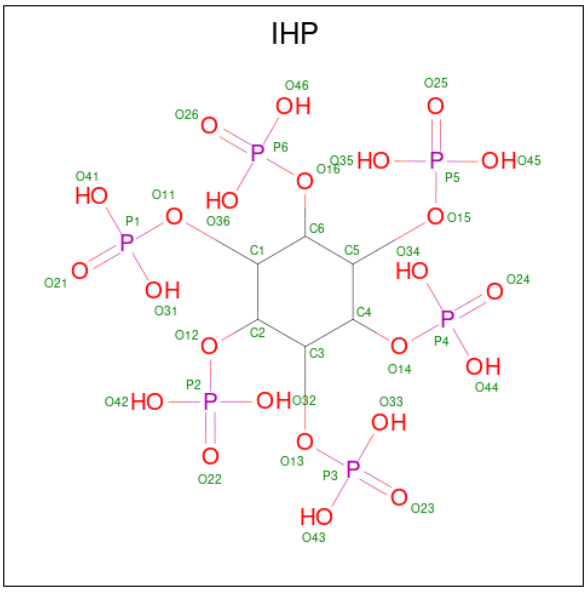
Mol	Chain	Residues	Atoms			AltConf
95	B5	1	Total	C	N	0
			14	10	4	
95	A2	1	Total	C	N	0
			14	10	4	

- Molecule 96 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					AltConf
96	B7	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 97 is INOSITOL HEXAKISPHOSPHATE (CCD ID: IHP) (formula: $C_6H_{18}O_{24}P_6$).



Mol	Chain	Residues	Atoms				AltConf
97	DB	1	Total	C	O	P	0
			36	6	24	6	

- Molecule 98 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
98	Bg	1	Total	Zn	0
			1	1	
98	Bj	1	Total	Zn	0
			1	1	
98	AC	1	Total	Zn	0
			1	1	
98	Bm	1	Total	Zn	0
			1	1	
98	Bo	1	Total	Zn	0
			1	1	
98	AE	1	Total	Zn	0
			1	1	
98	Bp	1	Total	Zn	0
			1	1	
98	AG	1	Total	Zn	0
			1	1	

- Molecule 99 is water.

Mol	Chain	Residues	Atoms	AltConf
99	B5	1383	Total O 1383 1383	0
99	BT	2	Total O 2 2	0
99	Bb	1	Total O 1 1	0
99	AH	3	Total O 3 3	0
99	B7	45	Total O 45 45	0
99	AT	12	Total O 12 12	0
99	Ar	2	Total O 2 2	0
99	B8	48	Total O 48 48	0
99	As	1	Total O 1 1	0
99	BA	7	Total O 7 7	0
99	BV	3	Total O 3 3	0
99	BB	8	Total O 8 8	0
99	BP	3	Total O 3 3	0
99	B	1	Total O 1 1	0
99	BX	1	Total O 1 1	0
99	Aw	4	Total O 4 4	0
99	Ba	7	Total O 7 7	0
99	BR	5	Total O 5 5	0
99	BC	6	Total O 6 6	0
99	Aa	3	Total O 3 3	0
99	BH	2	Total O 2 2	0
99	BI	1	Total O 1 1	0

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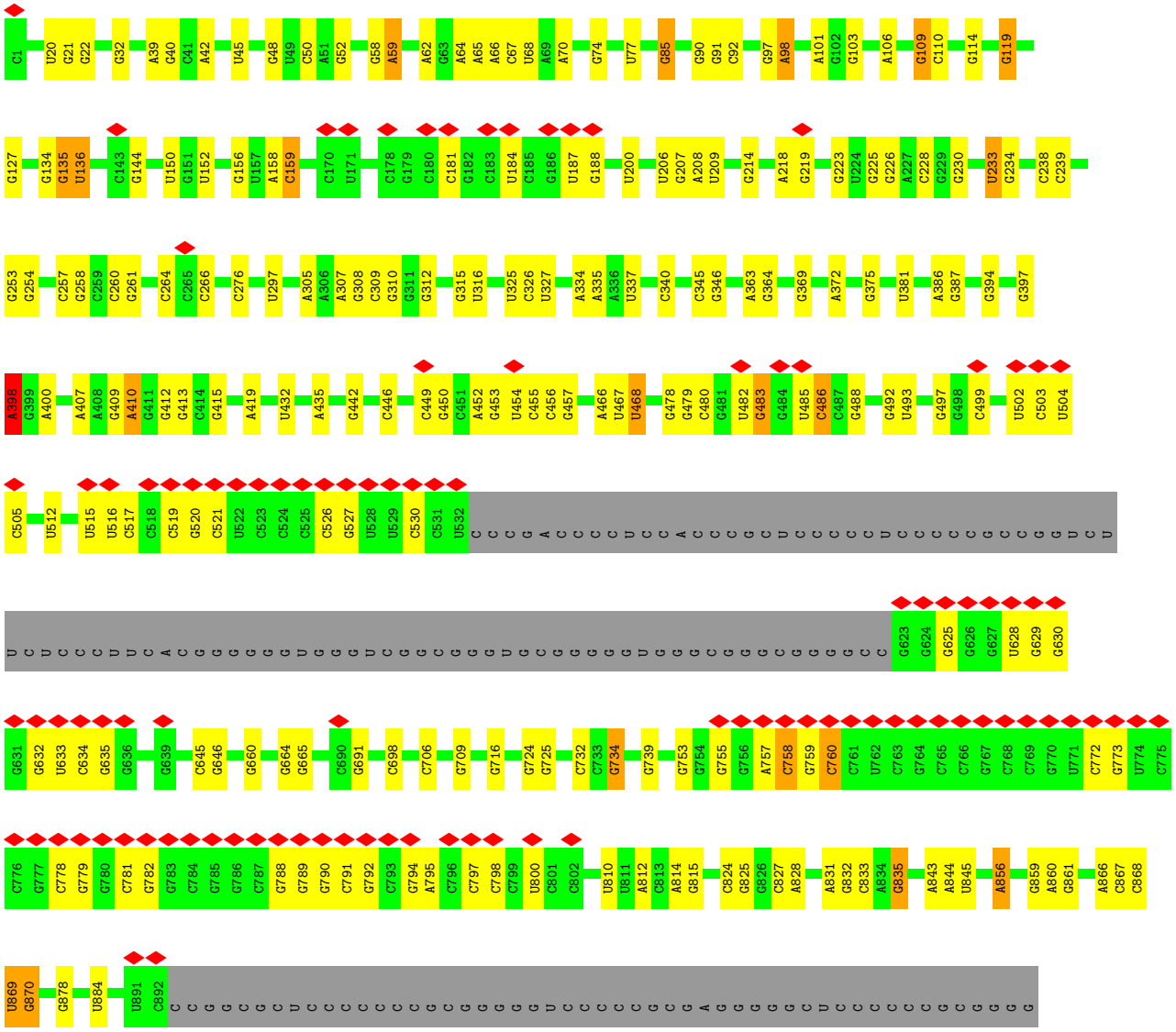
Mol	Chain	Residues	Atoms	AltConf
99	Ct	3	Total O 3 3	0
99	Bd	1	Total O 1 1	0
99	Ad	2	Total O 2 2	0
99	Be	4	Total O 4 4	0
99	BL	1	Total O 1 1	0
99	Af	1	Total O 1 1	0
99	Bg	3	Total O 3 3	0
99	BN	6	Total O 6 6	0
99	A2	531	Total O 531 531	0
99	Bj	6	Total O 6 6	0
99	Ak	2	Total O 2 2	0
99	Bl	3	Total O 3 3	0
99	Bm	1	Total O 1 1	0
99	Bo	1	Total O 1 1	0
99	AE	1	Total O 1 1	0
99	An	1	Total O 1 1	0
99	Ap	2	Total O 2 2	0

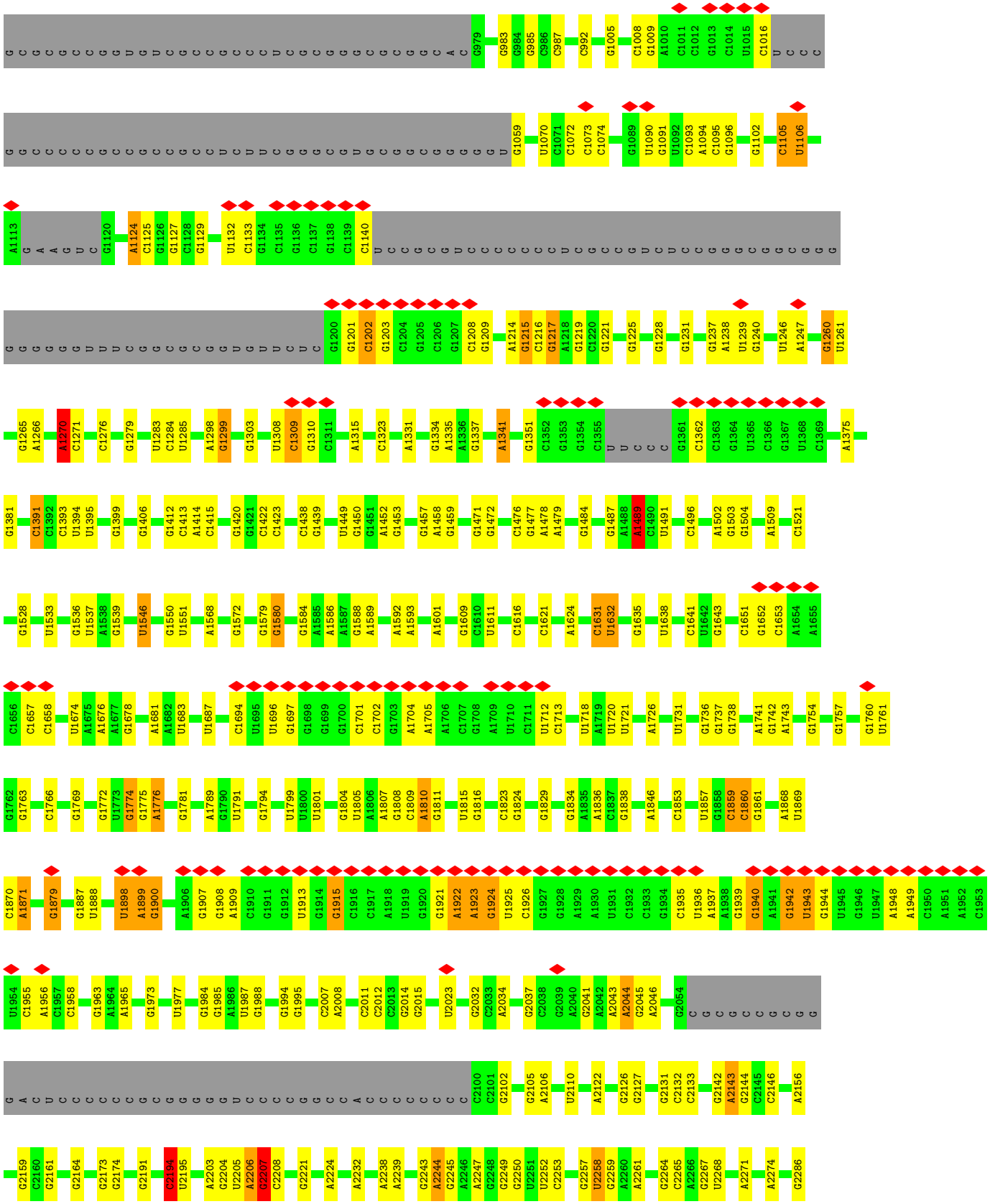
3 Residue-property plots (i)

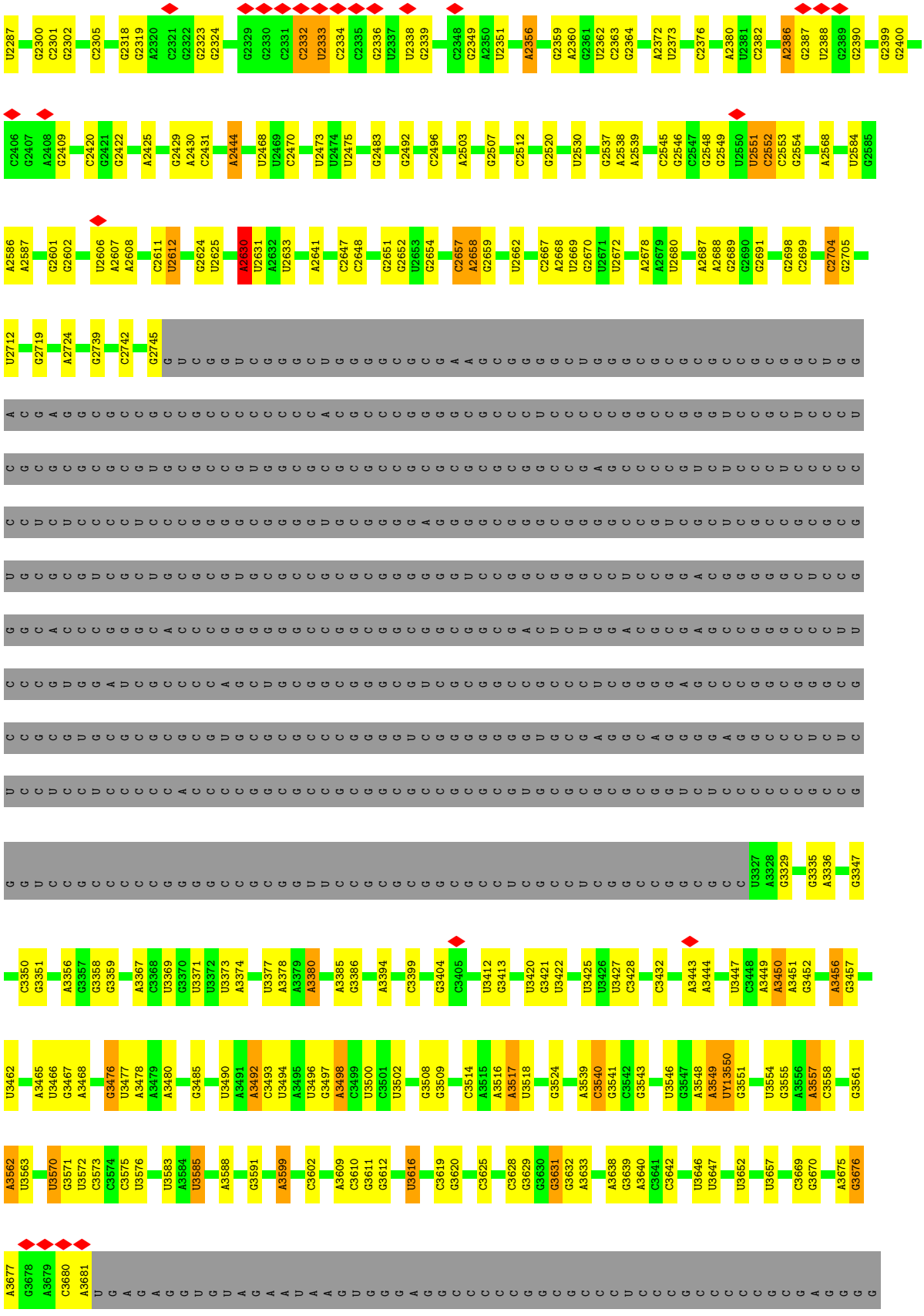
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

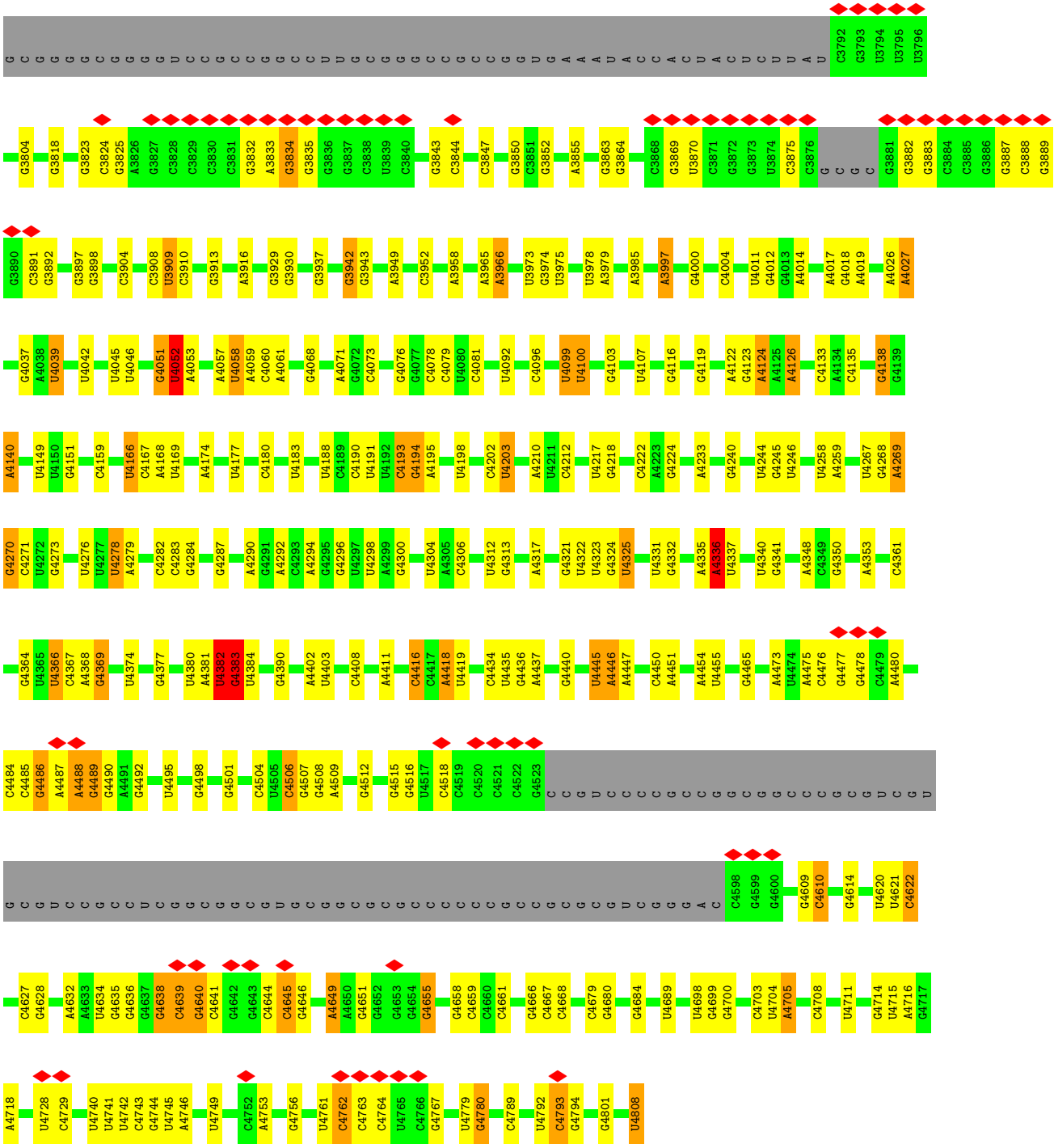
- Molecule 1: 28S rRNA

Chain B5:

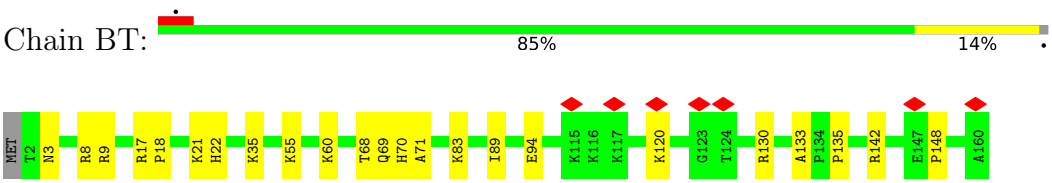






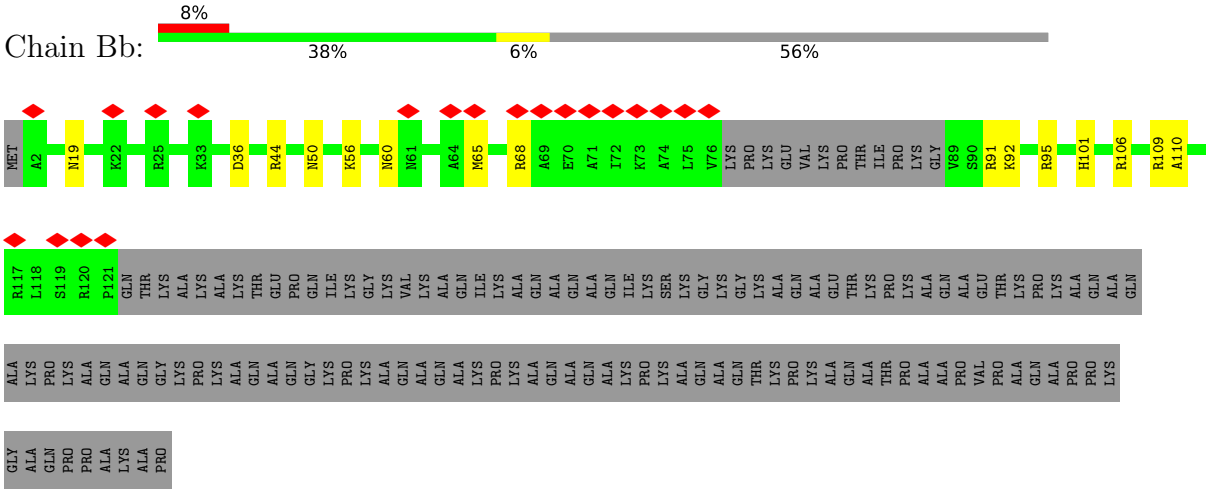


• Molecule 2: 60S ribosomal protein L21



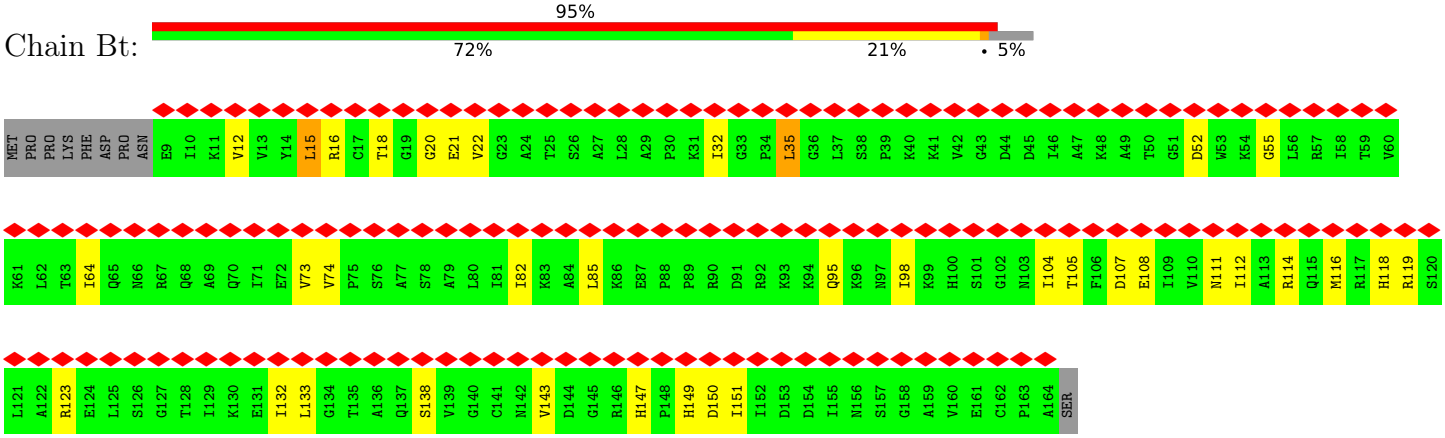
• Molecule 3: 60S ribosomal protein L29

Chain Bb:



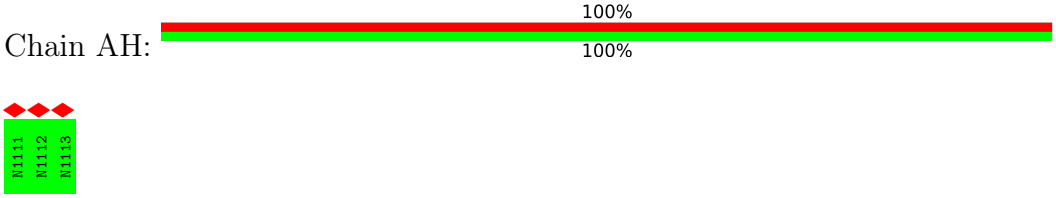
• Molecule 4: 60S ribosomal protein L12

Chain Bt:



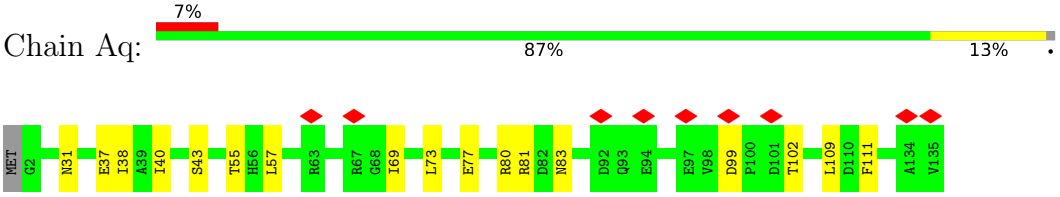
• Molecule 5: mRNA

Chain AH:



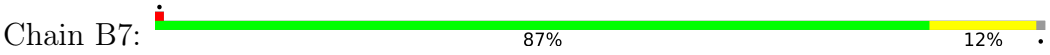
• Molecule 6: 40S ribosomal protein eS17

Chain Aq:

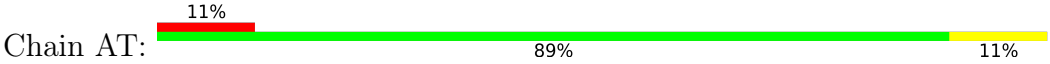


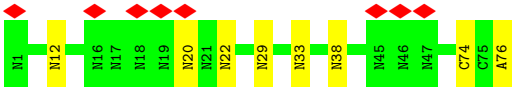
• Molecule 7: 5S rRNA

Chain B7:

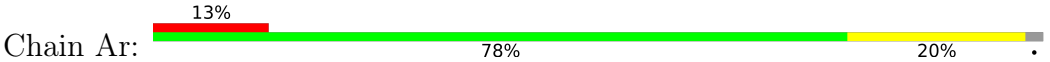


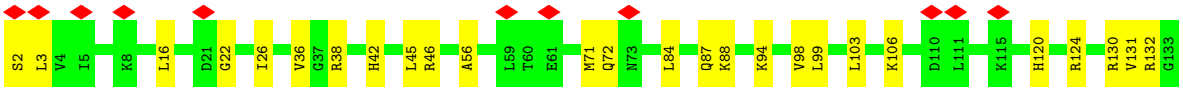
• Molecule 8: P-site tRNA

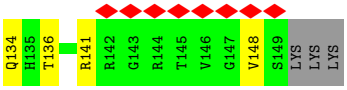




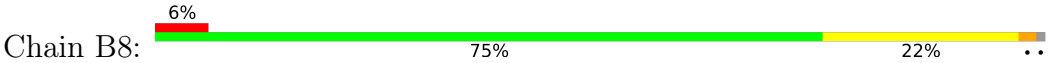
• Molecule 9: Small ribosomal subunit protein uS13

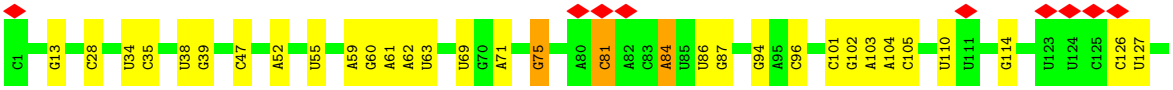




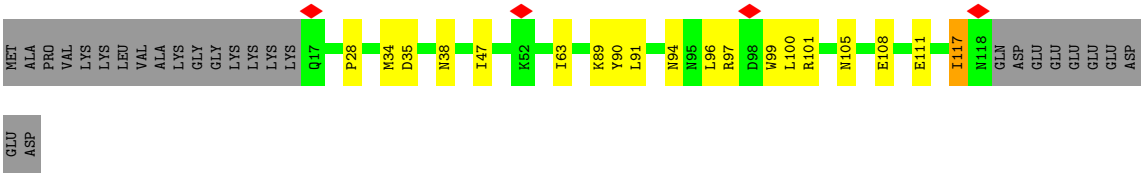


• Molecule 10: 5.8S rRNA

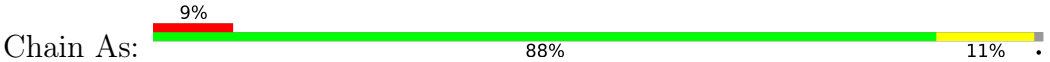


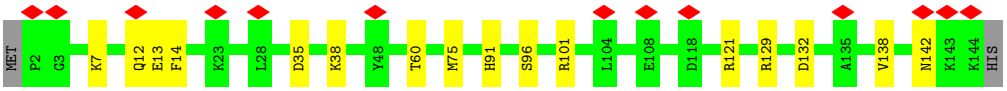


• Molecule 11: 60S ribosomal protein L22



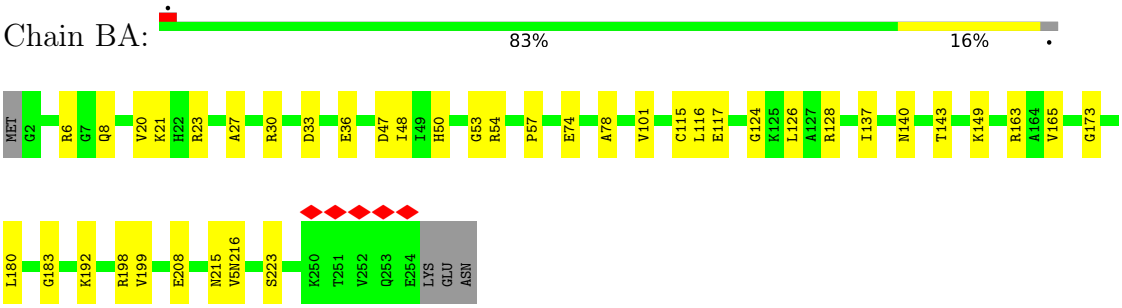
• Molecule 12: 40S ribosomal protein S19





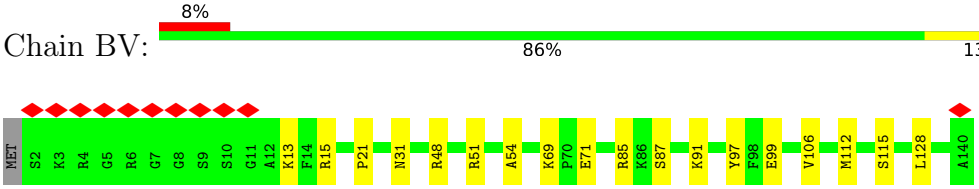
• Molecule 13: Large ribosomal subunit protein uL2

Chain BA:



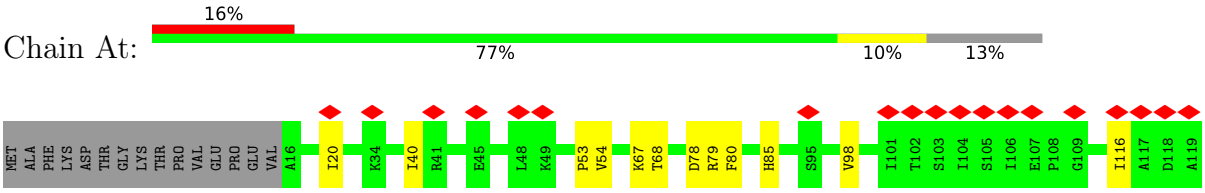
• Molecule 14: Ribosomal protein L23

Chain BV:



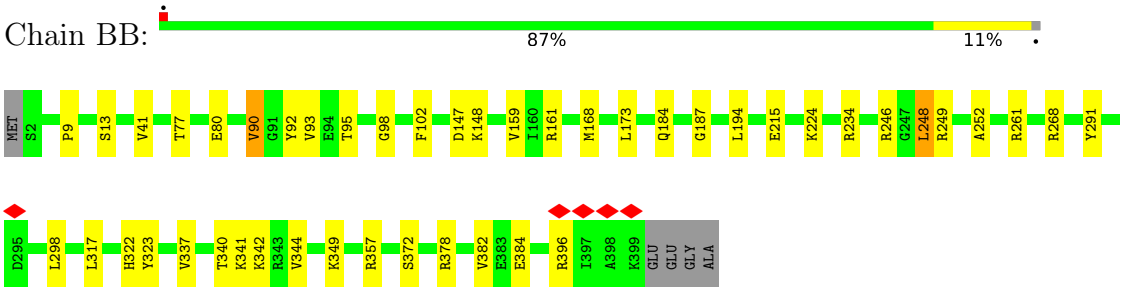
• Molecule 15: 40S ribosomal protein uS10

Chain At:



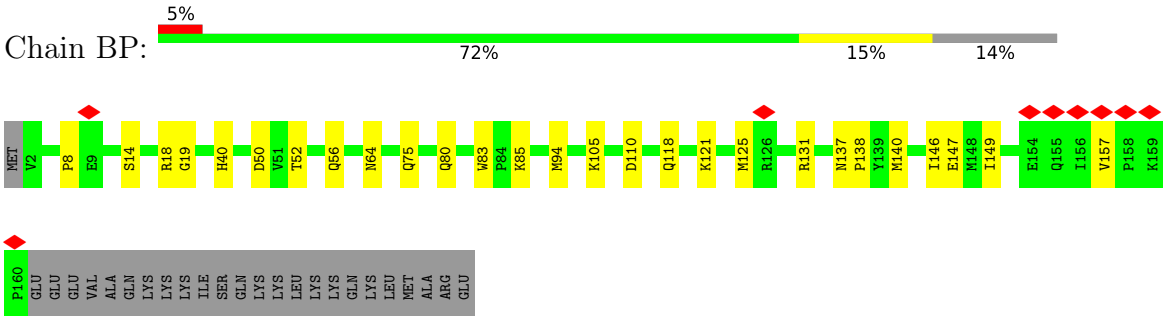
• Molecule 16: Ribosomal protein L3

Chain BB:



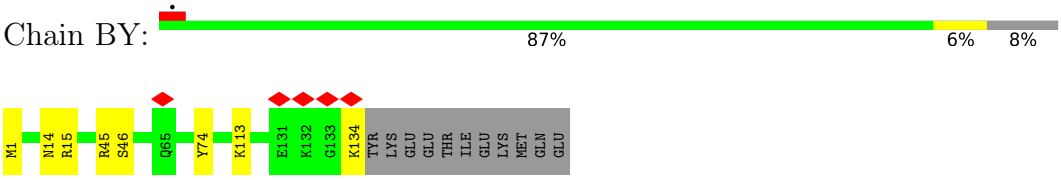
• Molecule 17: Large ribosomal subunit protein uL22

Chain BP:



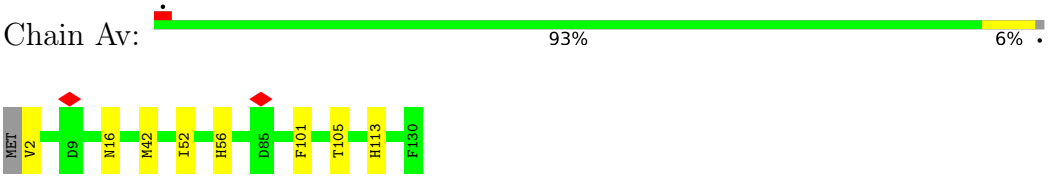
• Molecule 18: Ribosomal protein L26

Chain BY:



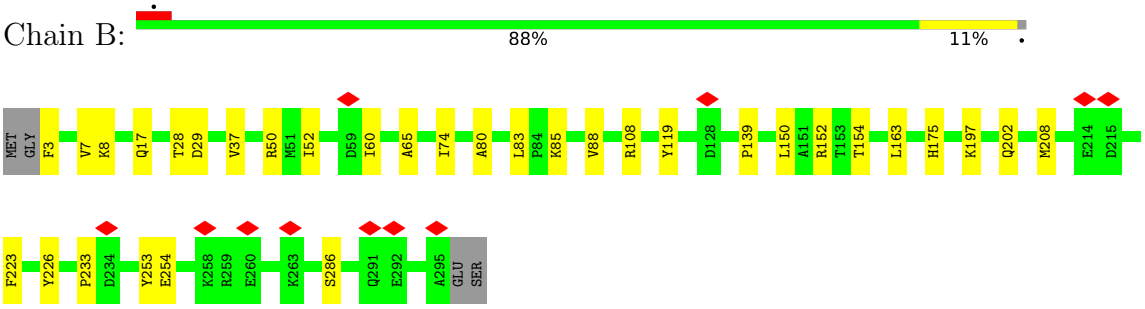
• Molecule 19: Ribosomal protein S15a

Chain Av:



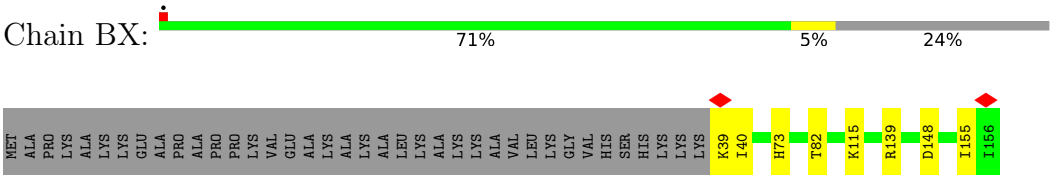
• Molecule 20: Large ribosomal subunit protein uL18

Chain B:



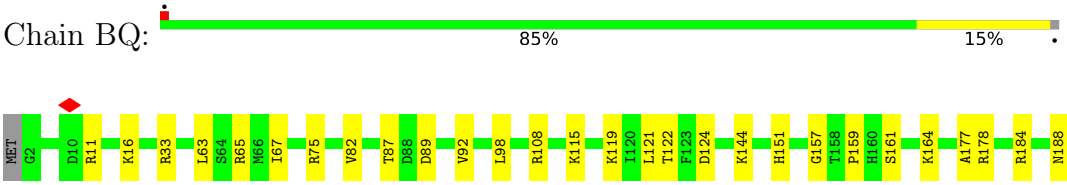
• Molecule 21: Large ribosomal subunit protein uL23

Chain BX:



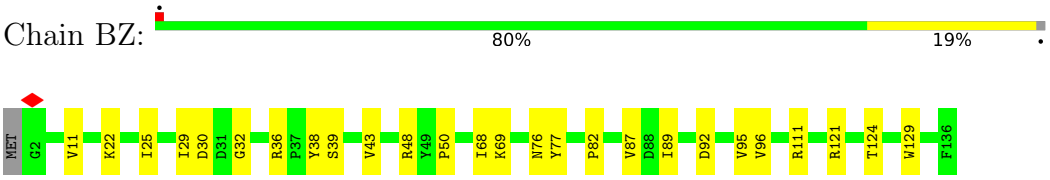
• Molecule 22: Large ribosomal subunit protein eL18

Chain BQ:



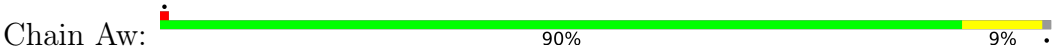
• Molecule 23: 60S ribosomal protein L27

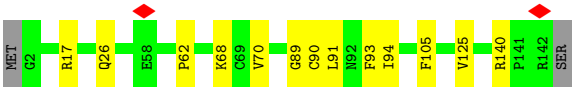
Chain BZ:



• Molecule 24: 40S ribosomal protein S23

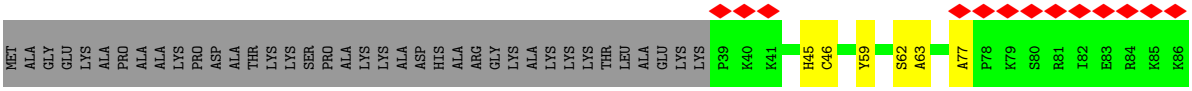
Chain Aw:

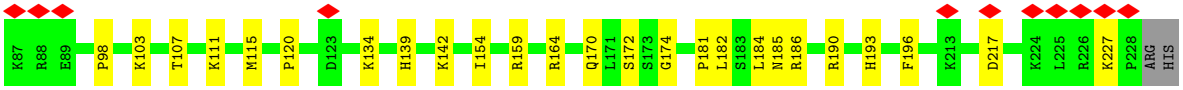


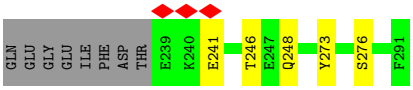


• Molecule 25: 60S ribosomal protein L6

Chain BE:

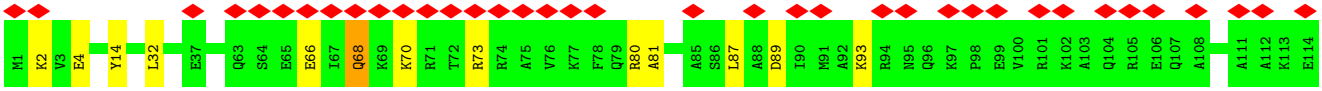


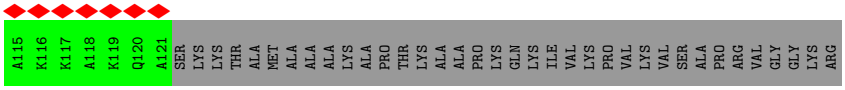




• Molecule 26: Ribosomal protein L24

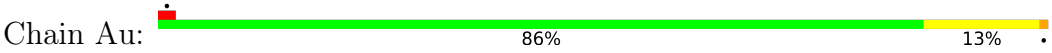
Chain BW:

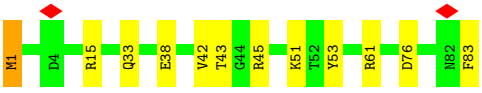




• Molecule 27: Small ribosomal subunit protein eS21

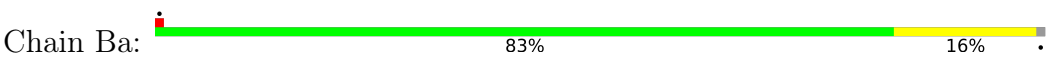
Chain Au:

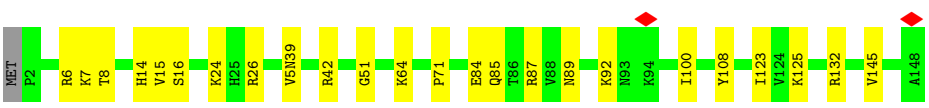




• Molecule 28: 60S ribosomal protein L27a

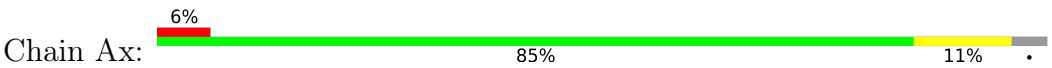
Chain Ba:

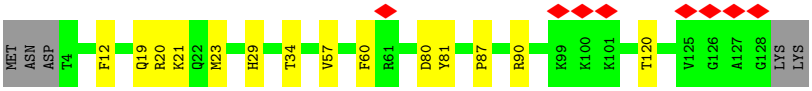




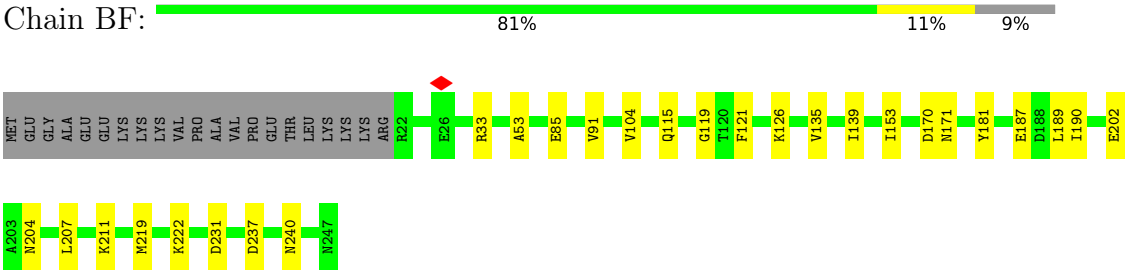
• Molecule 29: 40S ribosomal protein S24

Chain Ax:

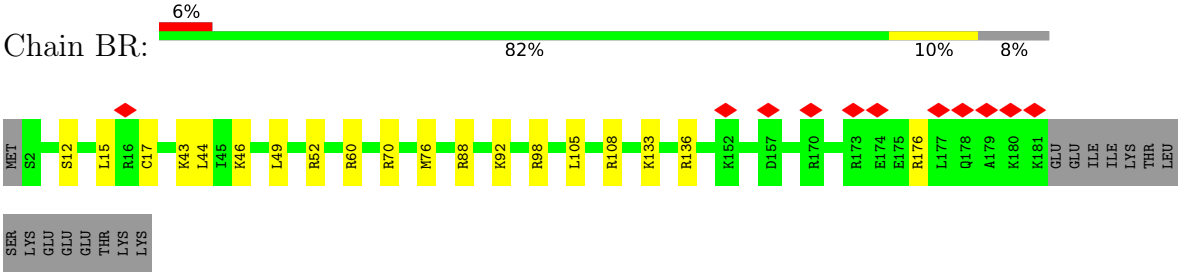




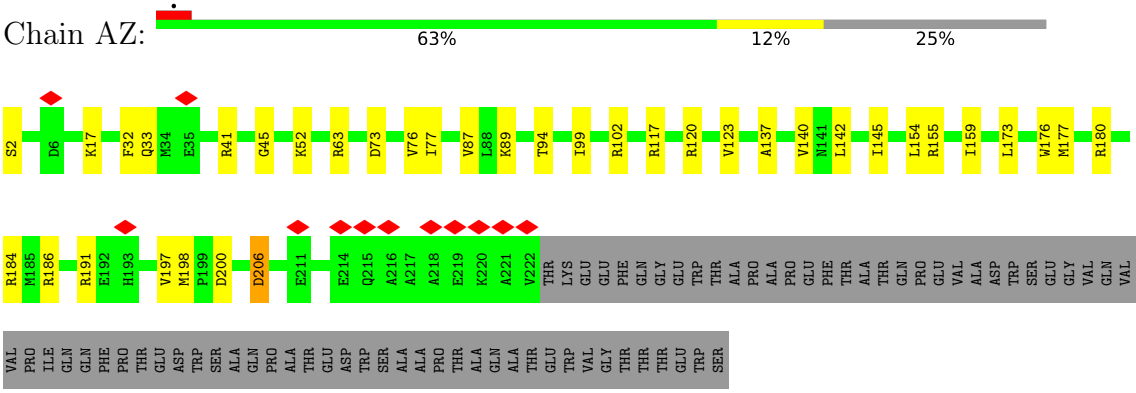
• Molecule 30: Ribosomal Protein uL30



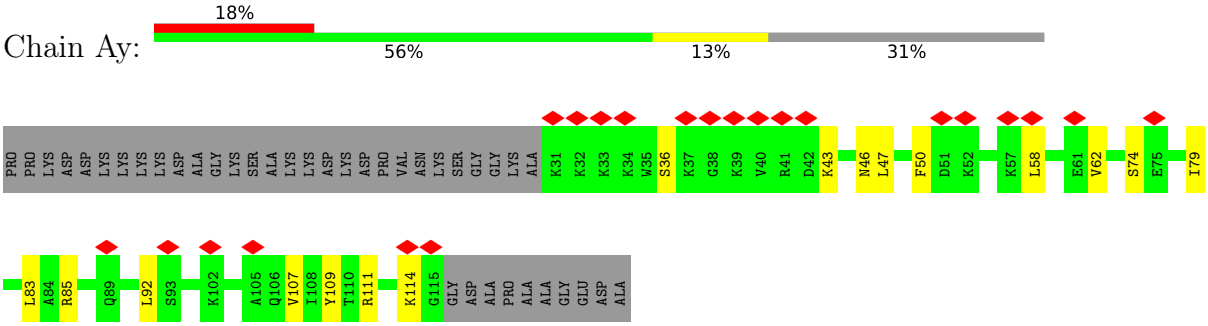
• Molecule 31: Ribosomal protein L19



• Molecule 32: Small ribosomal subunit protein uS2

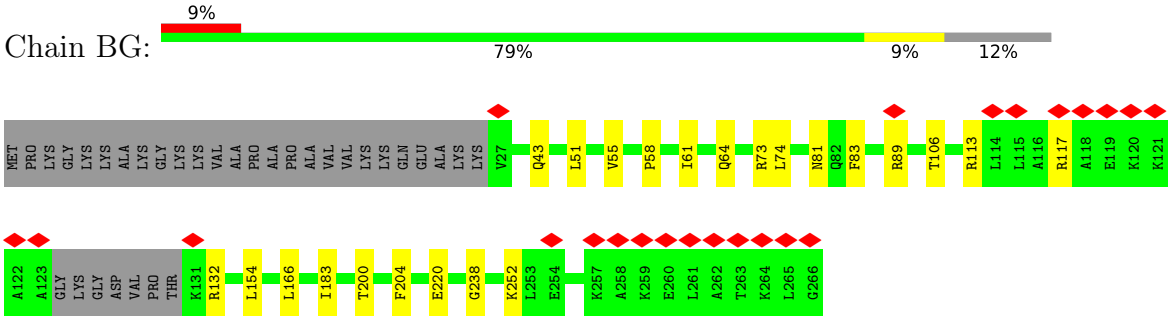


• Molecule 33: 40S ribosomal protein S25



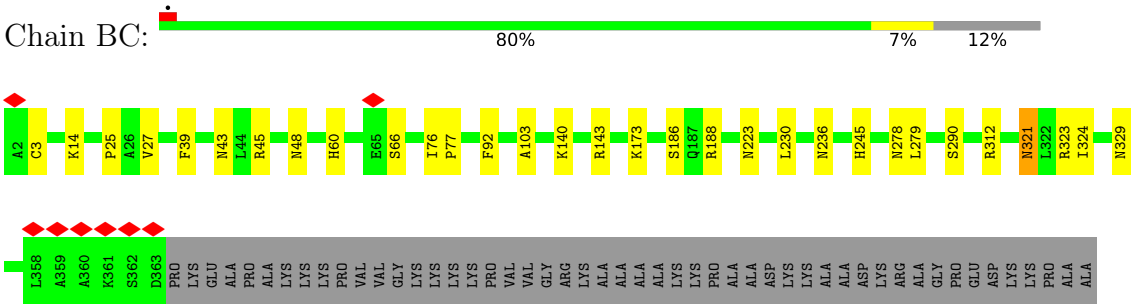
• Molecule 34: Large ribosomal subunit protein eL8

Chain BG:



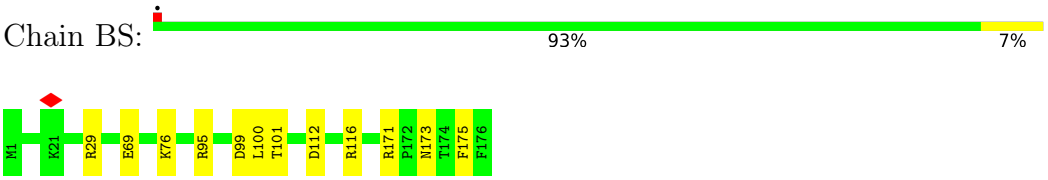
• Molecule 35: Large ribosomal subunit protein uL4

Chain BC:



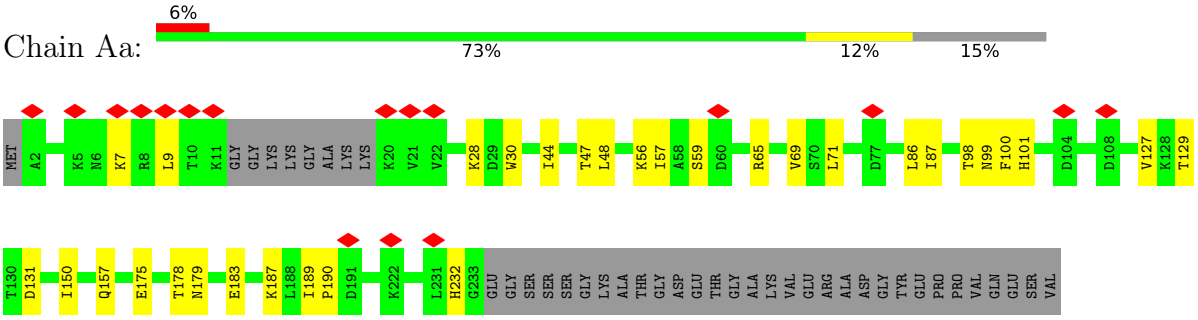
• Molecule 36: Large ribosomal subunit protein eL20

Chain BS:



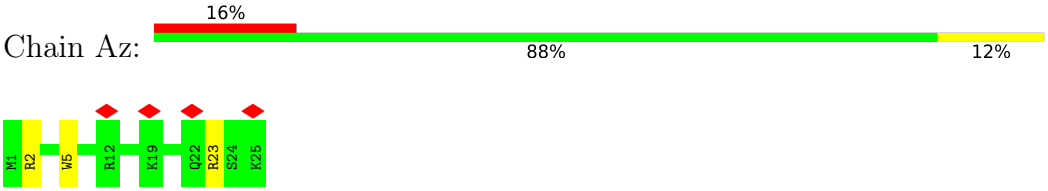
• Molecule 37: 40S ribosomal protein S3a

Chain Aa:



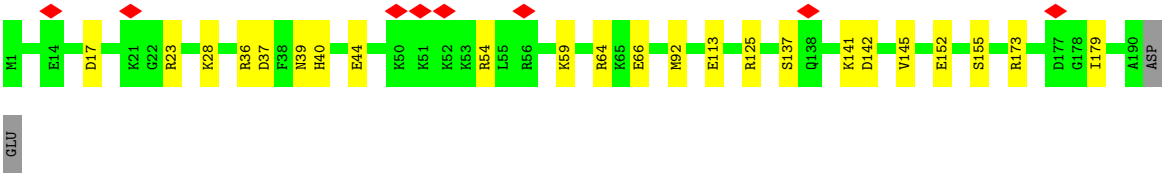
• Molecule 38: 60S ribosomal protein L41

Chain Az:

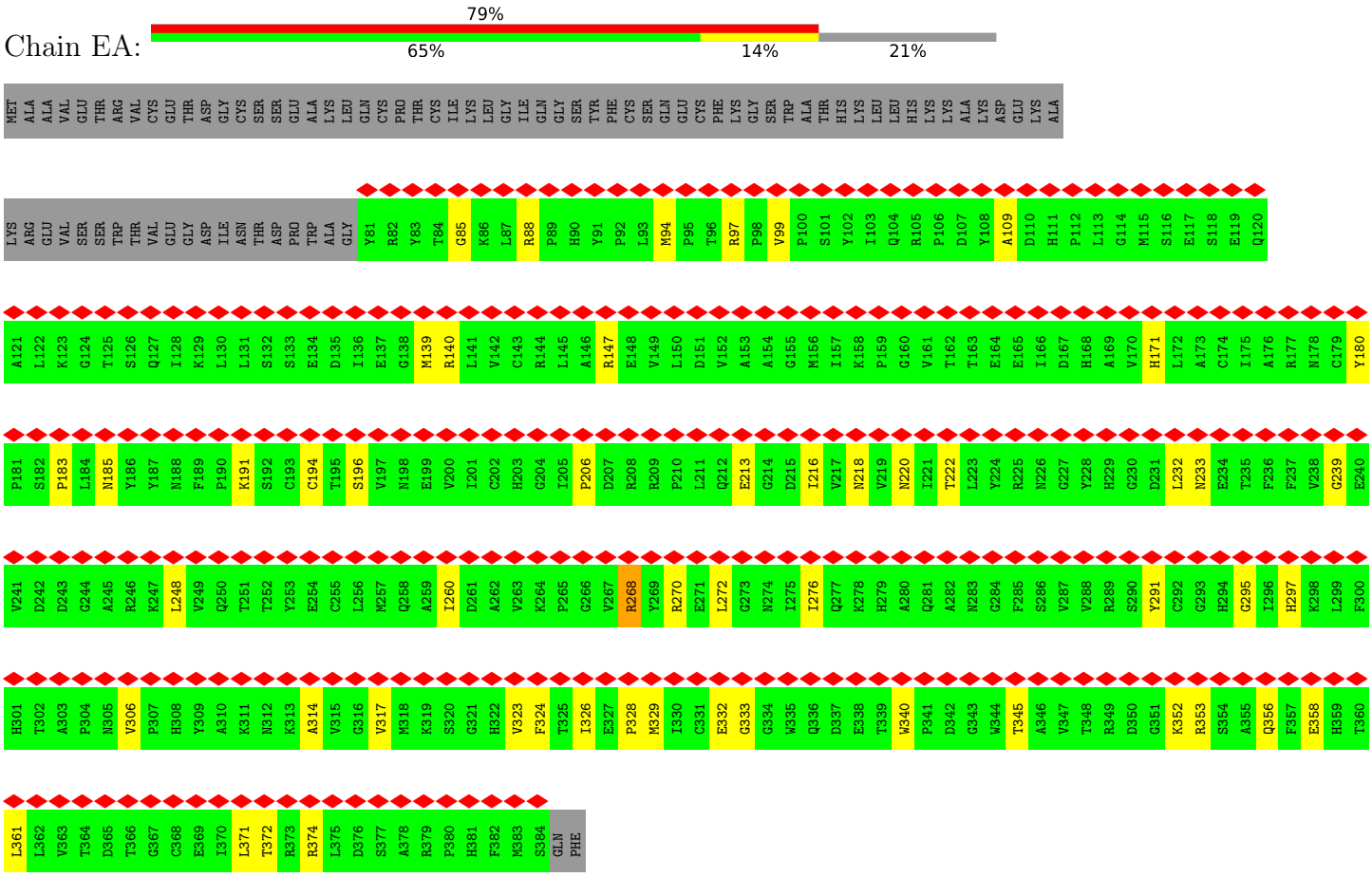


• Molecule 39: 60S ribosomal protein L9

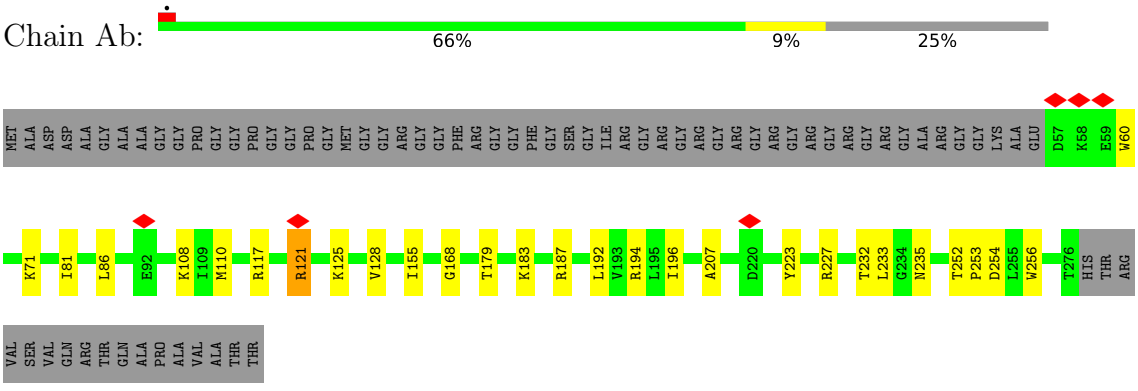
Chain BH:



• Molecule 40: Methionine aminopeptidase 1

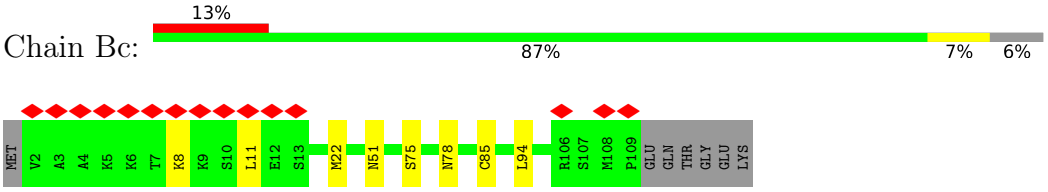


• Molecule 41: Small ribosomal subunit protein uS5



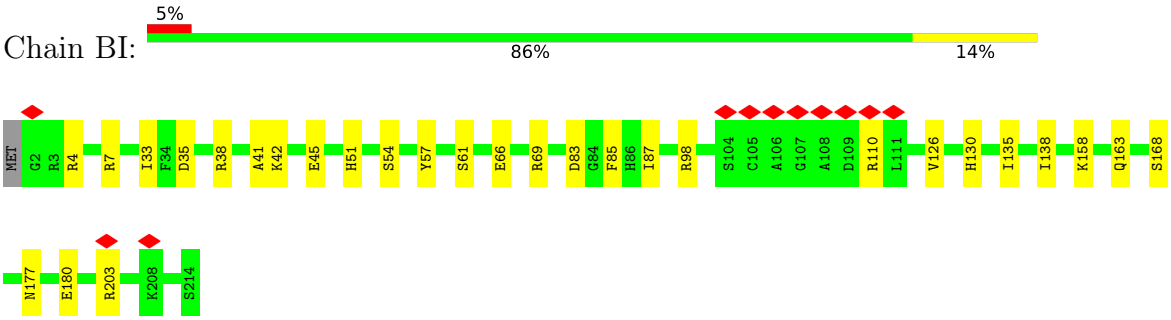
• Molecule 42: 60S ribosomal protein L30

Chain Bc:



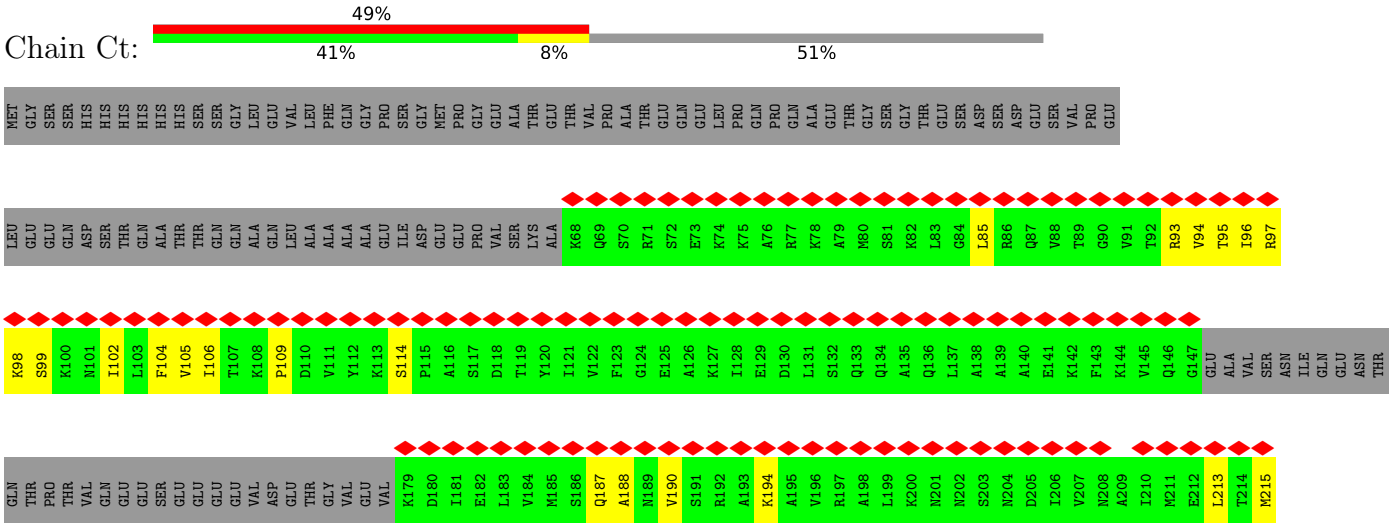
• Molecule 43: 60S ribosomal protein L10

Chain BI:



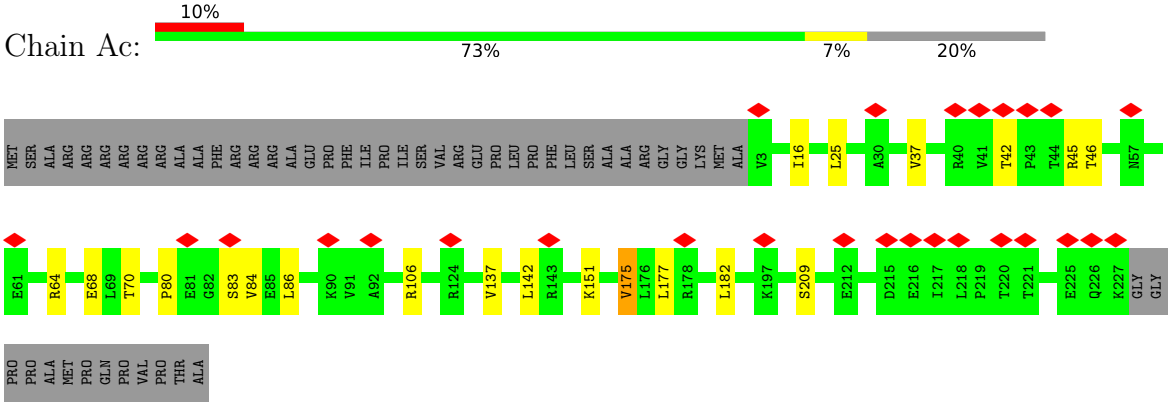
• Molecule 44: Nascent polypeptide-associated complex subunit alpha

Chain Ct:



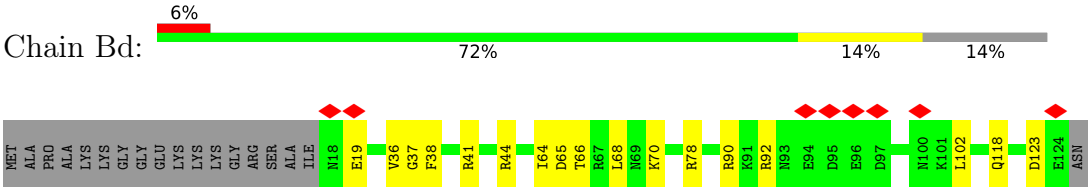
• Molecule 45: 40S ribosomal protein S3

Chain Ac:



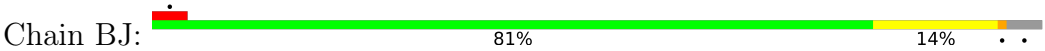
• Molecule 46: 60S ribosomal protein L31

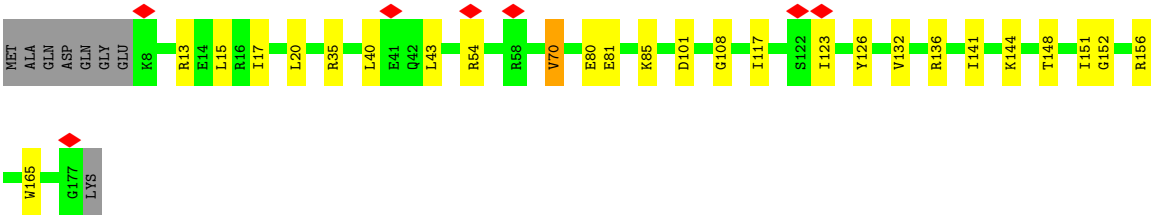
Chain Bd:



• Molecule 47: 60S ribosomal protein L11

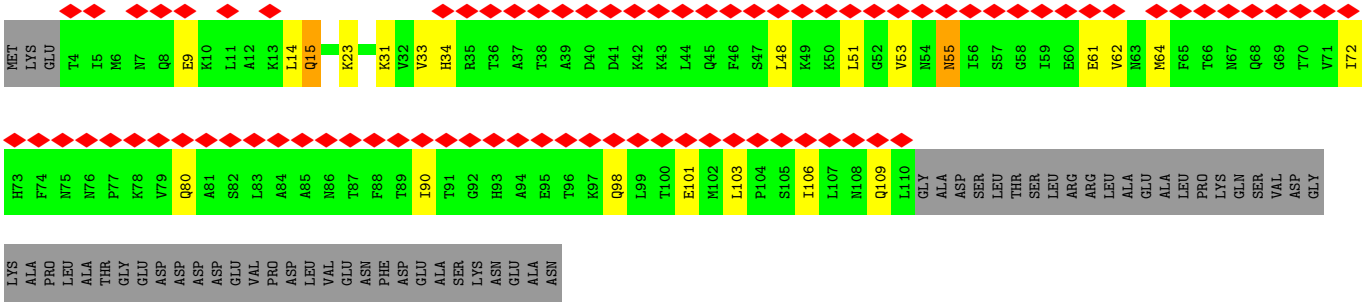
Chain BJ:





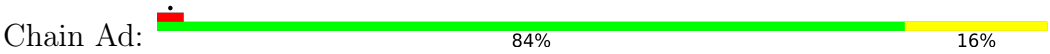
• Molecule 48: Isoform 2 of Transcription factor BTF3

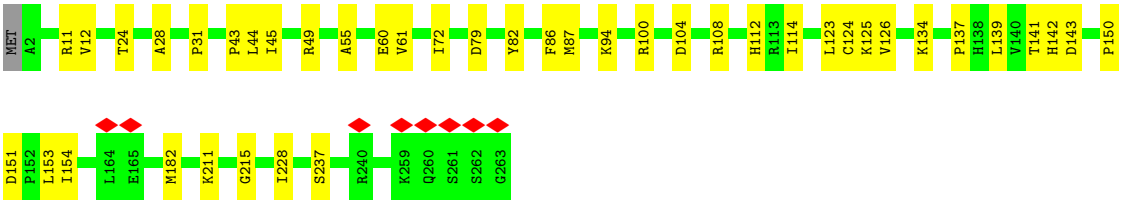
Chain Cu:



• Molecule 49: 40S ribosomal protein S4

Chain Ad:



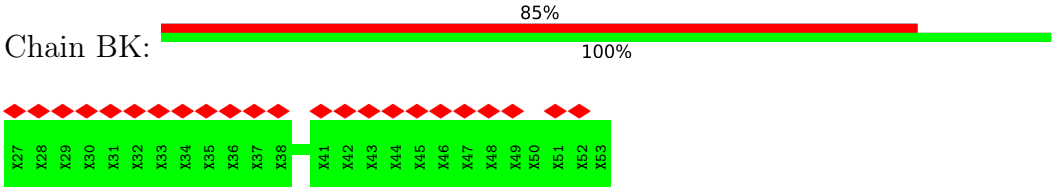


• Molecule 50: Ribosomal protein L32

Chain Be:

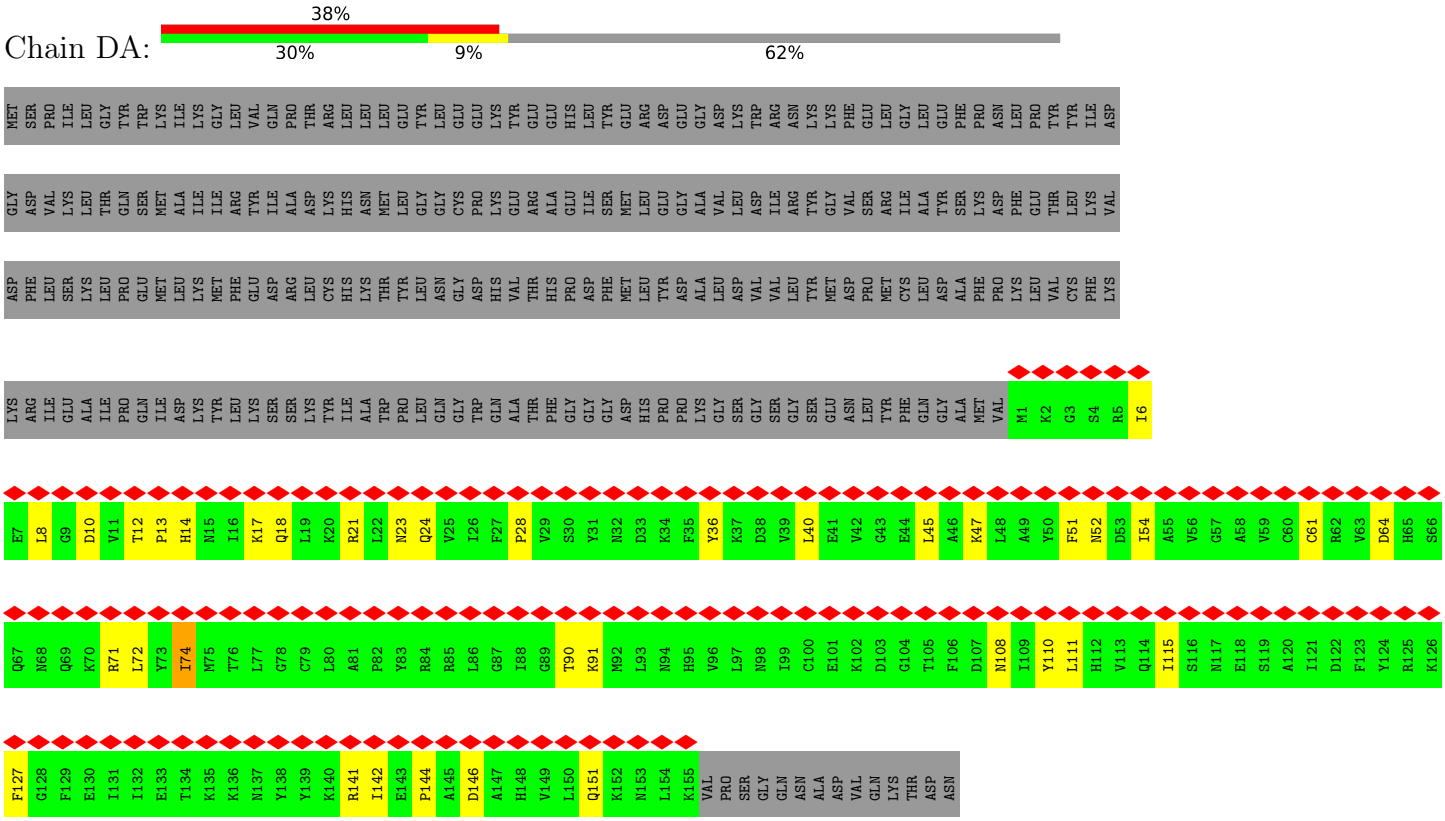
• Molecule 51: Nascent chain

Chain BK:



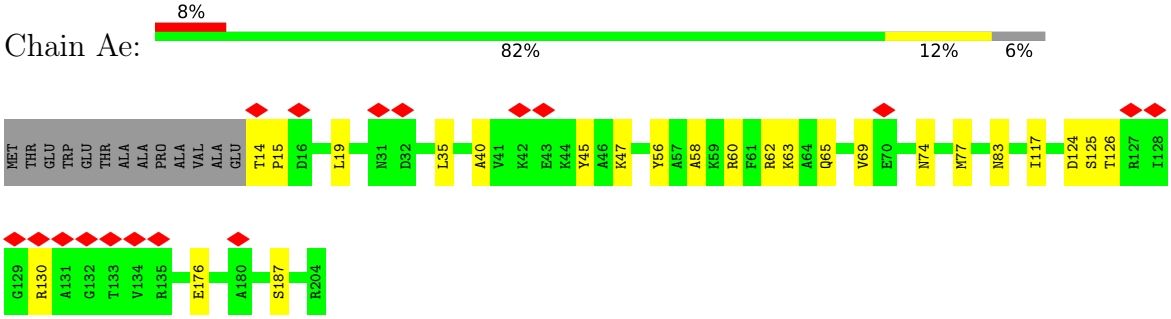
• Molecule 52: Glutathione S-transferase class-mu 26 kDa isozyme,N-alpha-acetyltransferase 50, N-alpha-acetyltransferase 50

Chain DA:



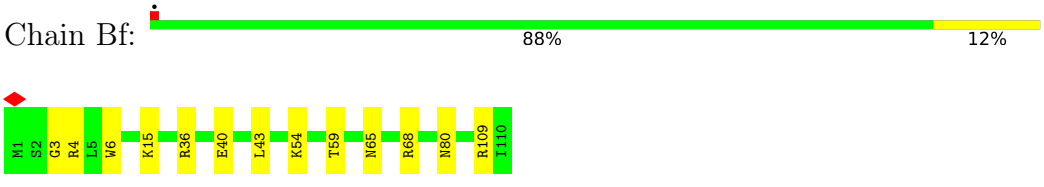
• Molecule 53: Ribosomal protein S5

Chain Ae:



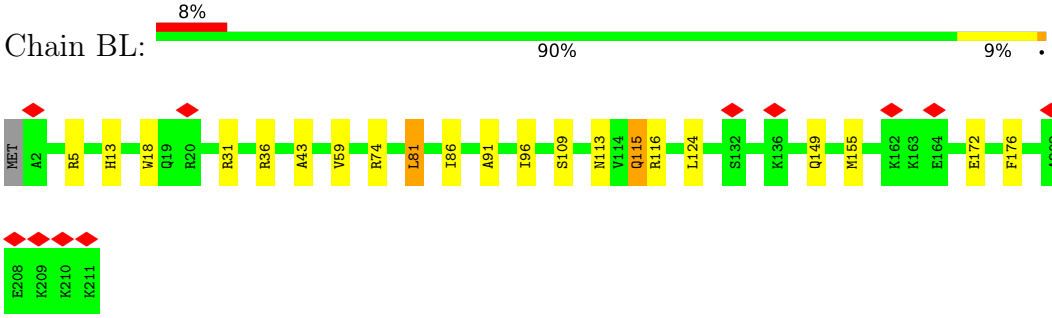
• Molecule 54: 60S ribosomal protein L35a

Chain Bf:



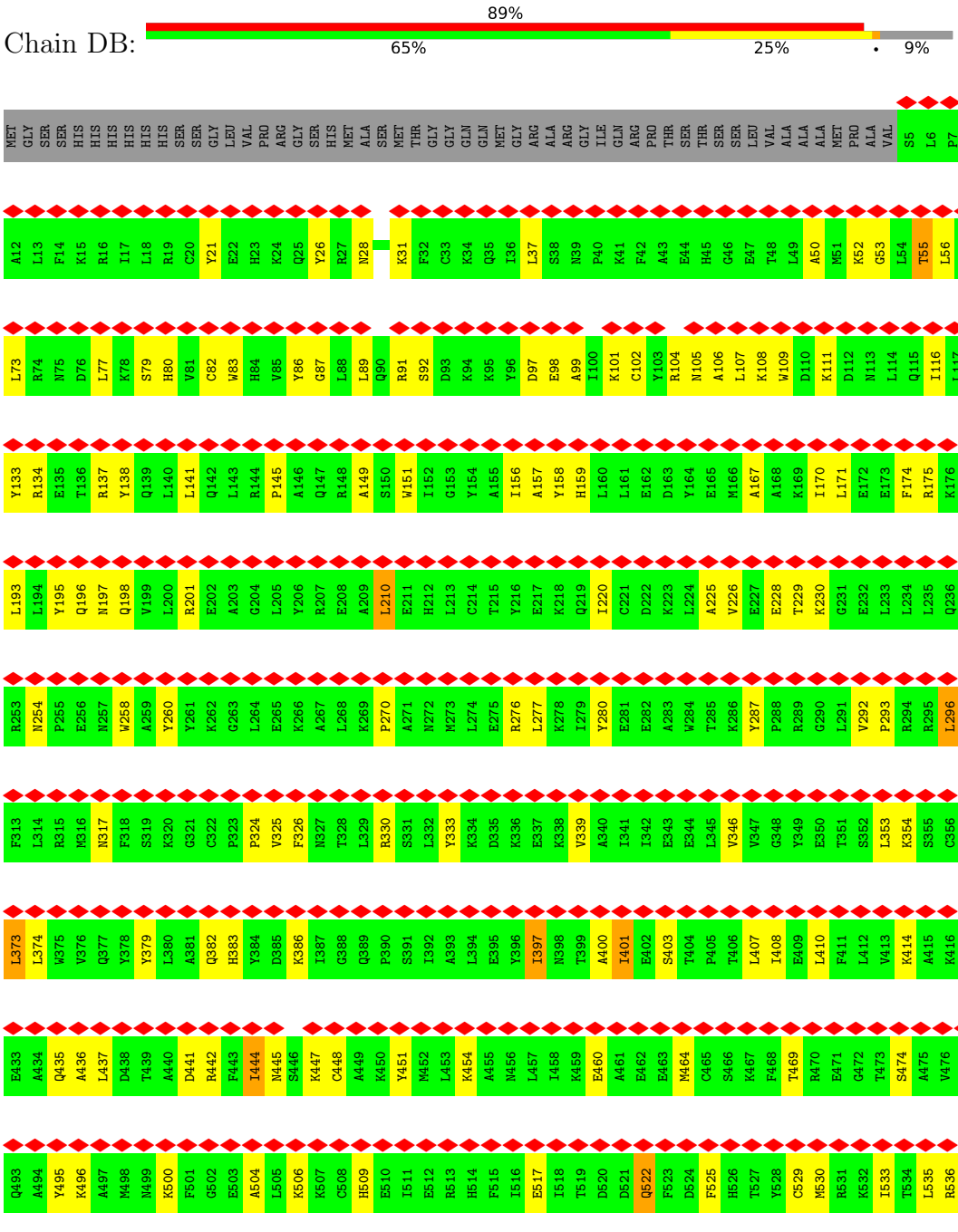
• Molecule 55: Large ribosomal subunit protein eL13

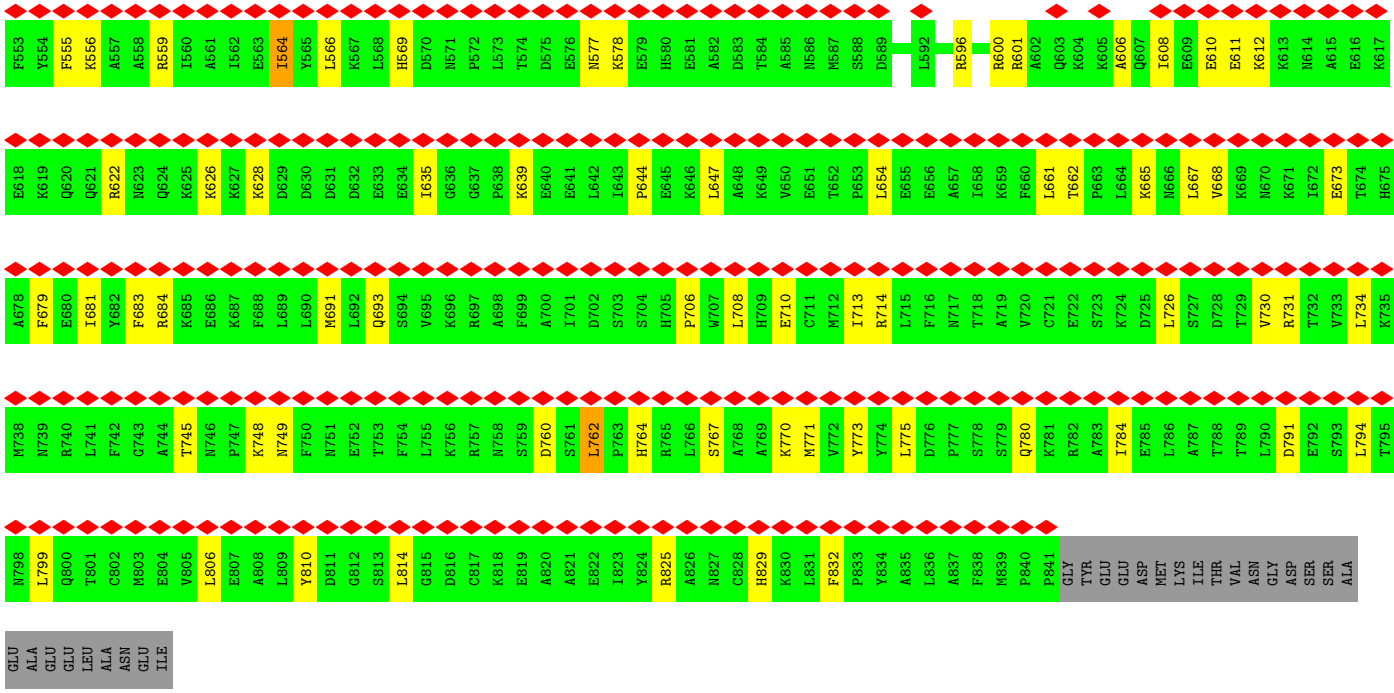
Chain BL:



• Molecule 56: N-alpha-acetyltransferase 15, NatA auxiliary subunit

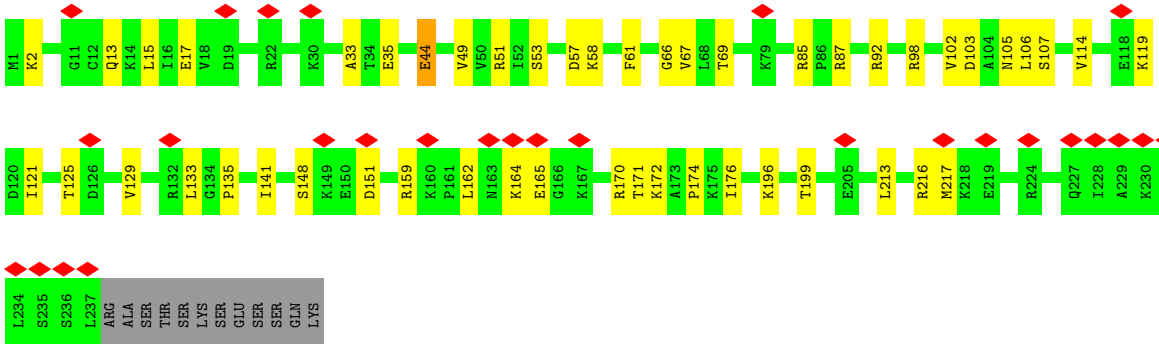
Chain DB:





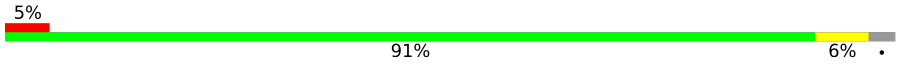
- Molecule 57: 40S ribosomal protein S6

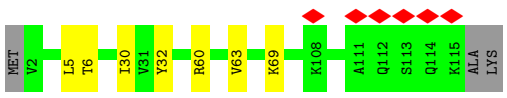
Chain Af:



- Molecule 58: 60S ribosomal protein L34

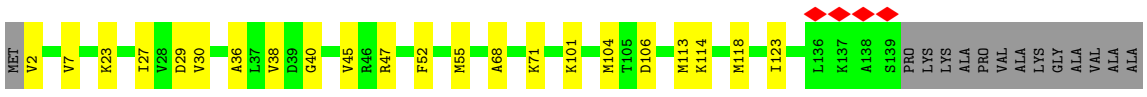
Chain Bg:

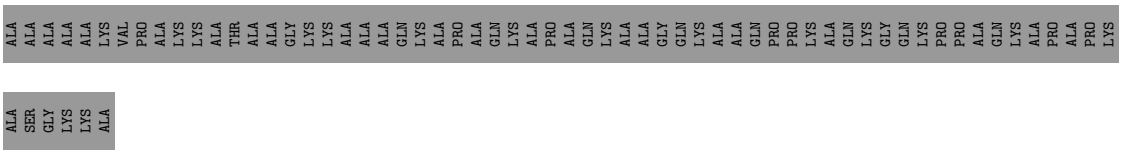




- Molecule 59: 60S ribosomal protein L14

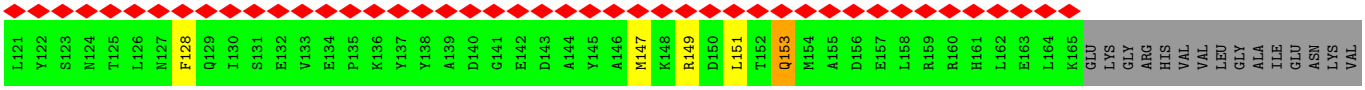
Chain BM:





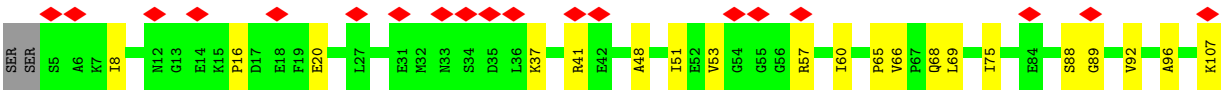
• Molecule 60: N-alpha-acetyltransferase 10

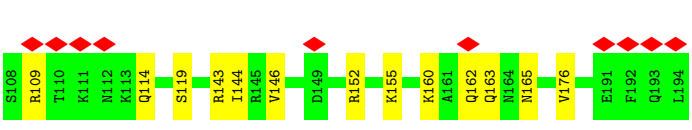
Chain DC:



• Molecule 61: 40S ribosomal protein S7

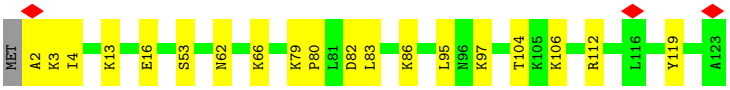
Chain Ag:





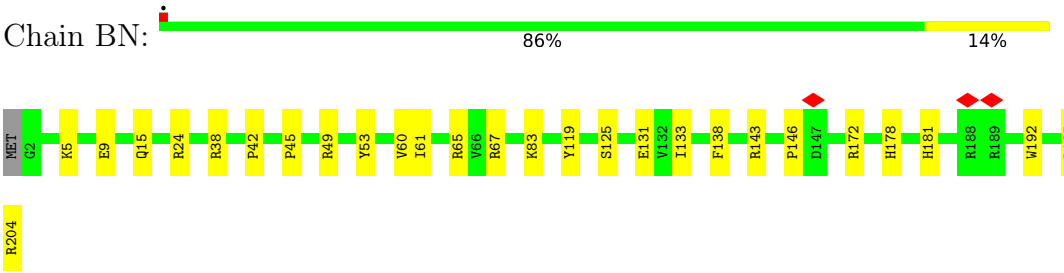
• Molecule 62: 60S ribosomal protein L35

Chain Bh:



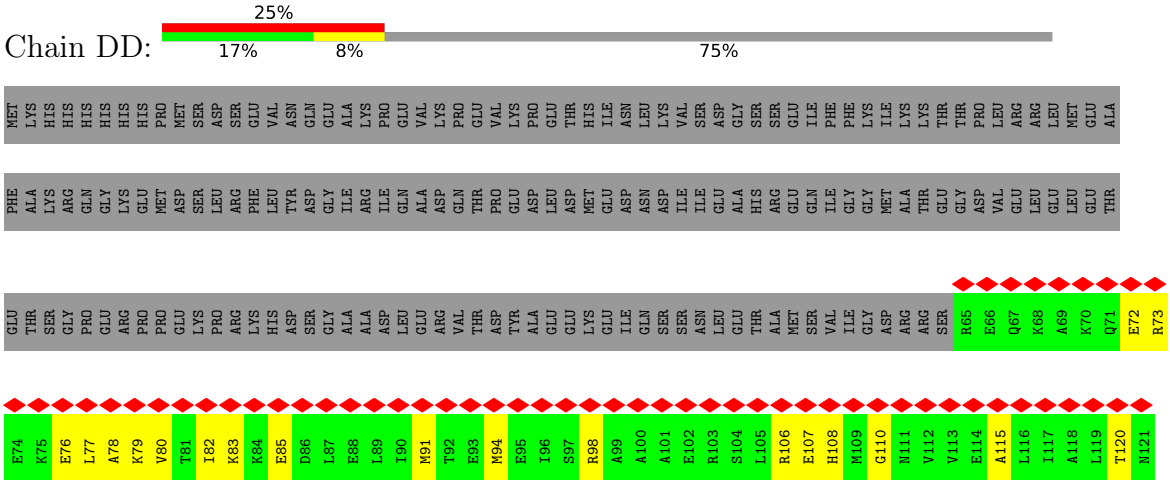
• Molecule 63: Ribosomal protein L15

Chain BN:



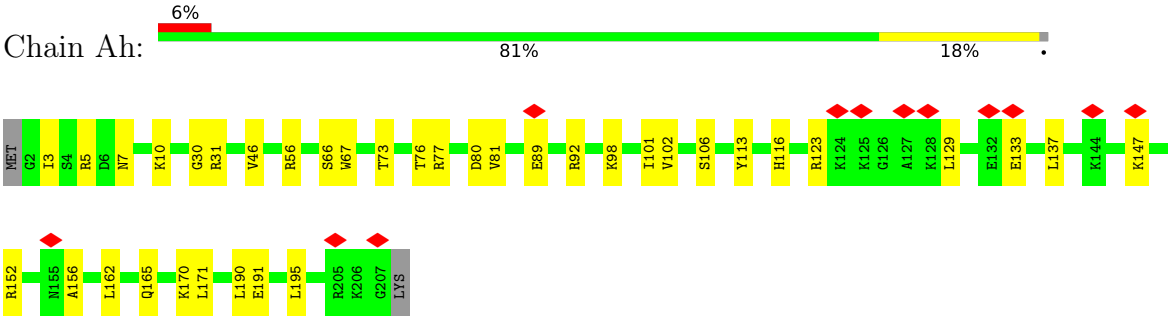
• Molecule 64: Isoform 2 of Huntingtin-interacting protein K

Chain DD:



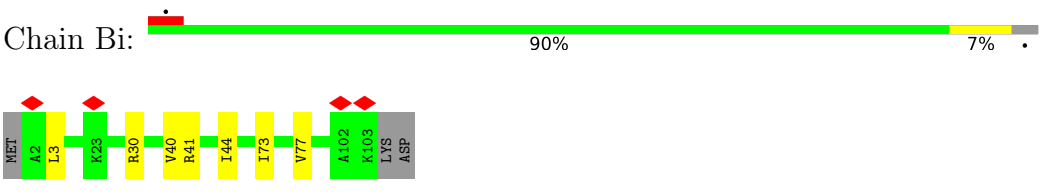
• Molecule 65: 40S ribosomal protein S8

Chain Ah:



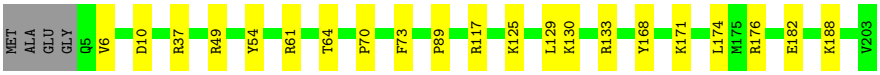
• Molecule 66: 60S ribosomal protein L36

Chain Bi:



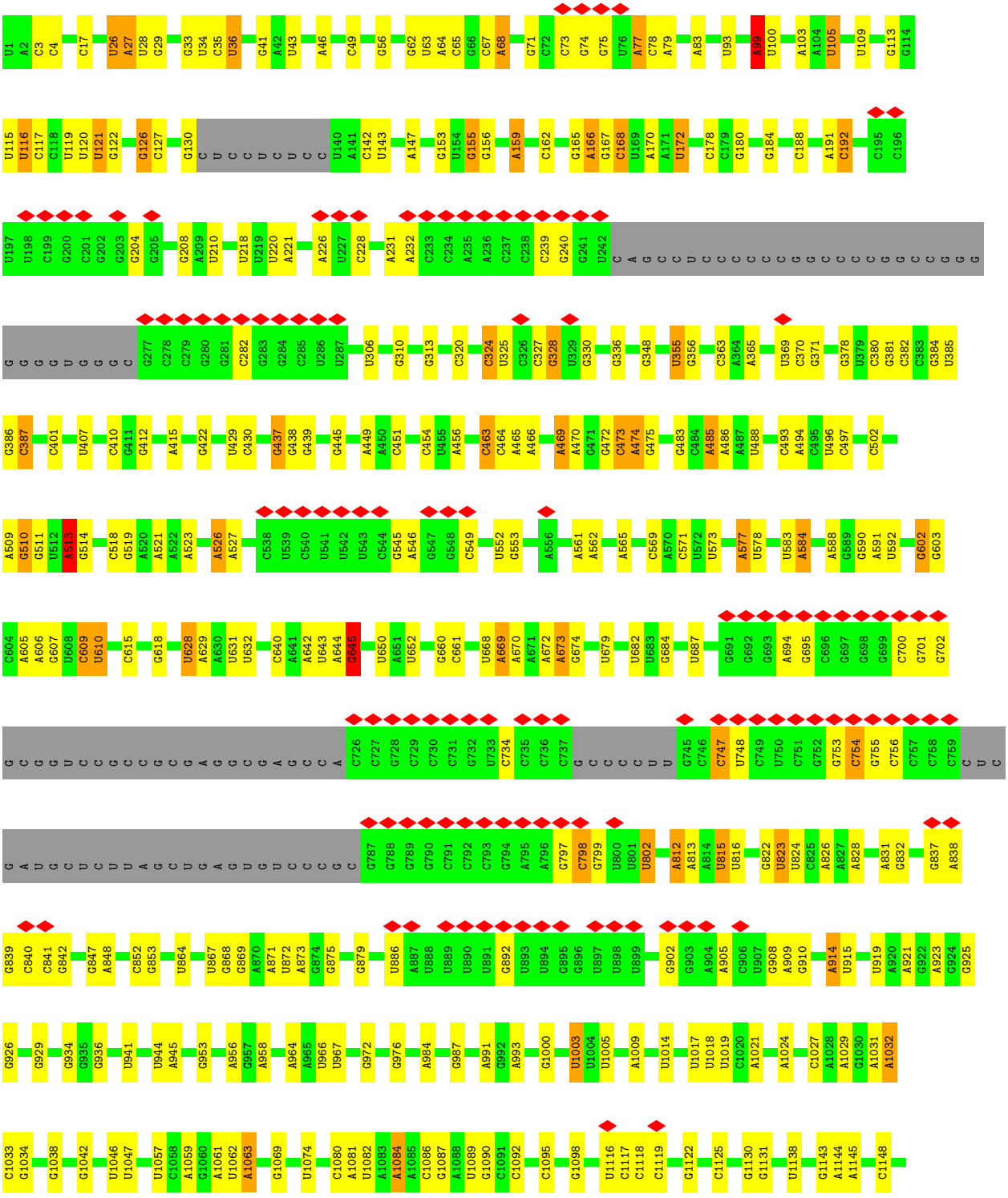
• Molecule 67: Large ribosomal subunit protein uL13

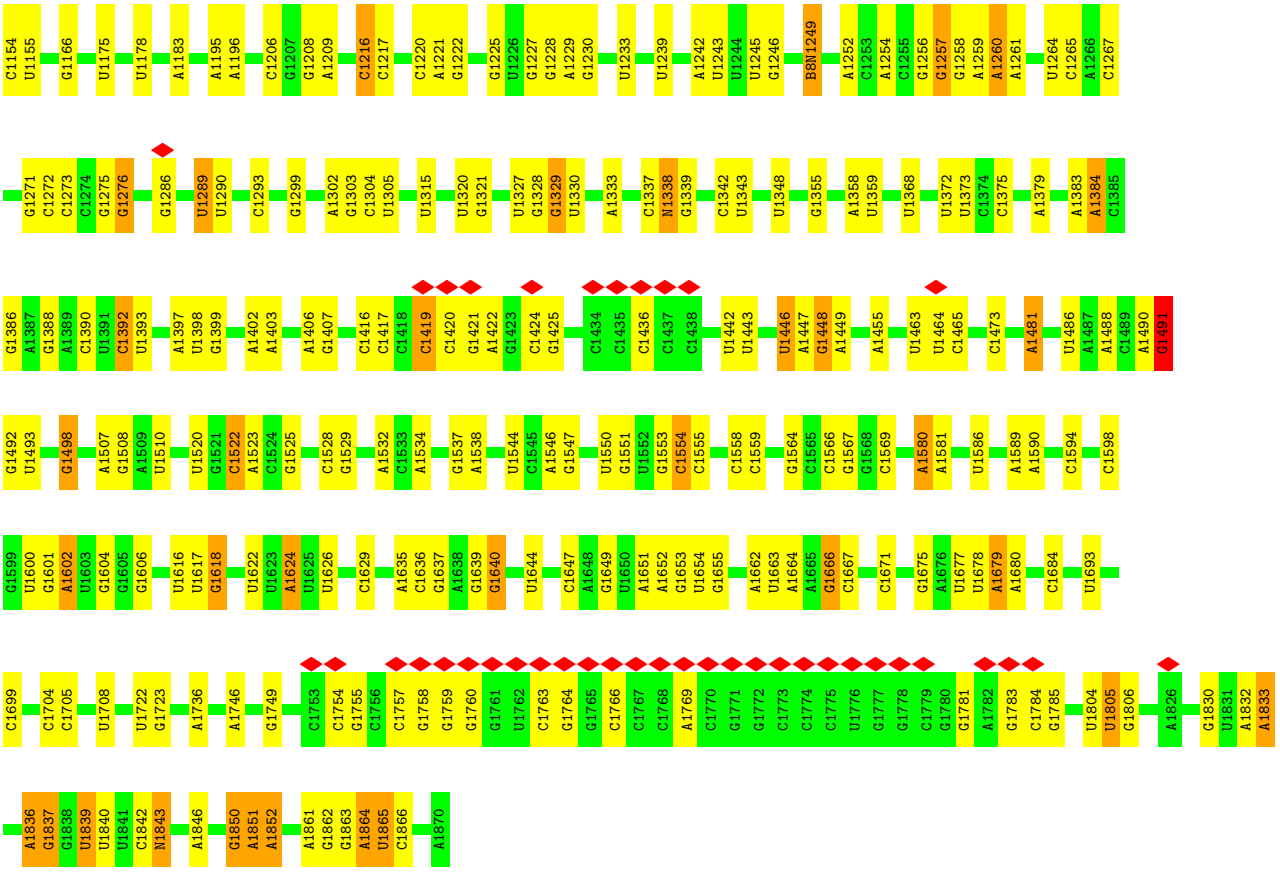
Chain BO:



- Molecule 68: 18S rRNA

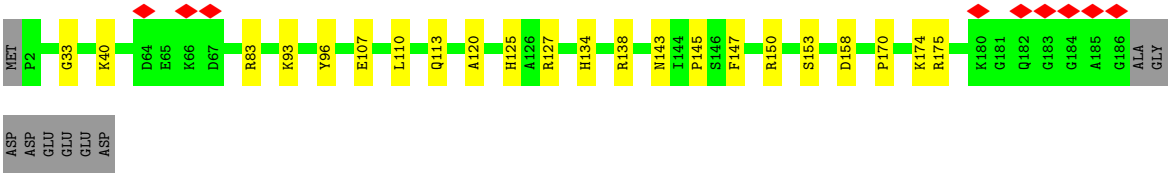
Chain A2:





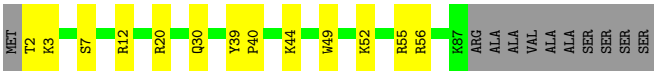
• Molecule 69: 40S ribosomal protein S9

Chain Ai:



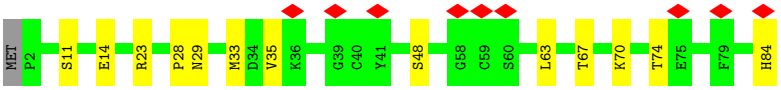
• Molecule 70: Ribosomal protein L37

Chain Bj:



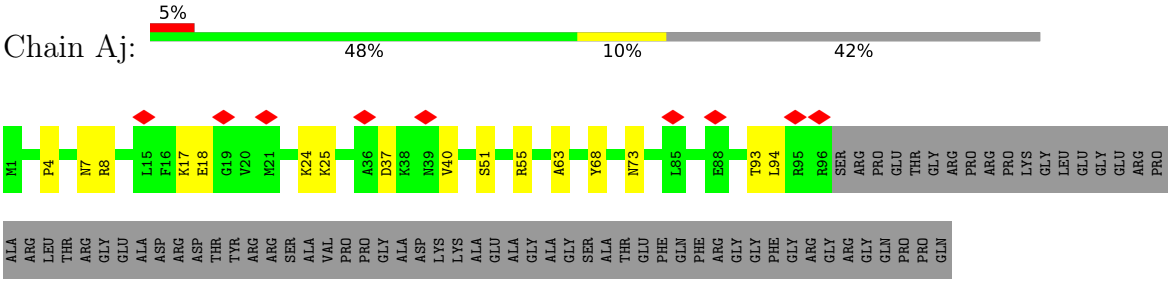
• Molecule 71: 40S ribosomal protein S27

Chain AA:



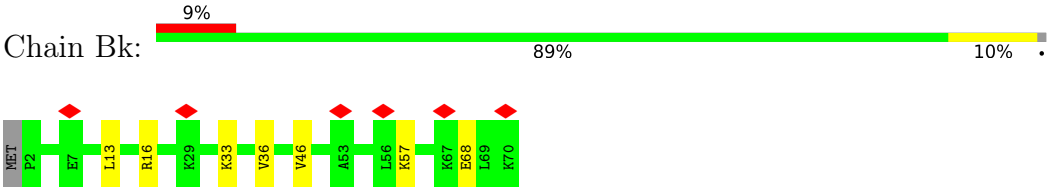
• Molecule 72: S10_plectin domain-containing protein

Chain Aj:



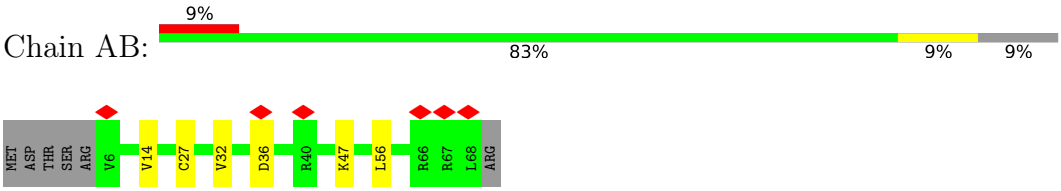
• Molecule 73: 60S ribosomal protein L38

Chain Bk:



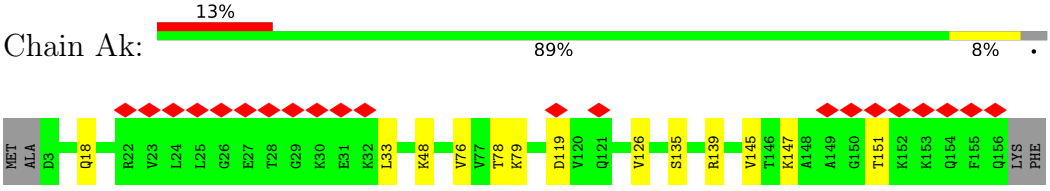
• Molecule 74: 40S ribosomal protein S28

Chain AB:



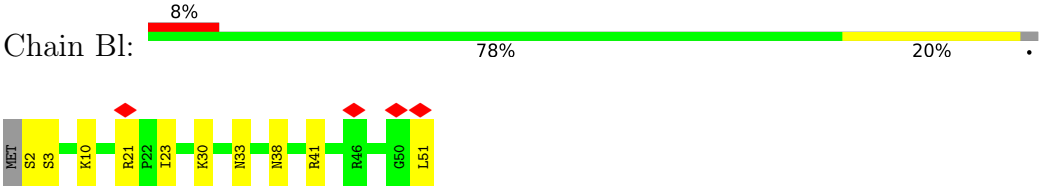
• Molecule 75: 40S ribosomal protein S11

Chain Ak:



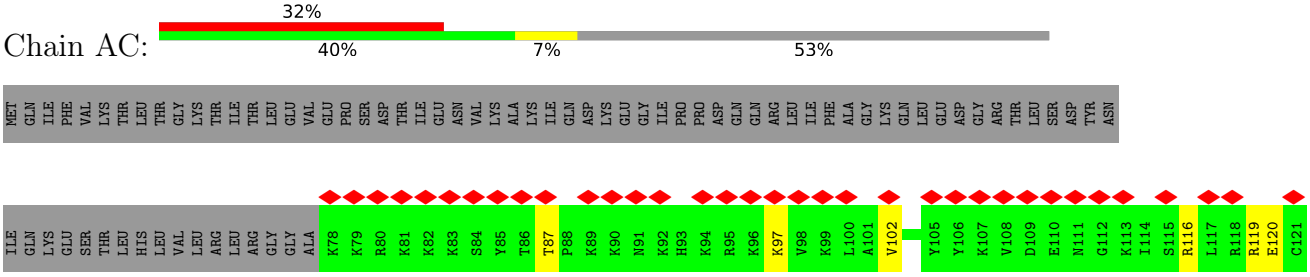
• Molecule 76: 60S ribosomal protein L39-like

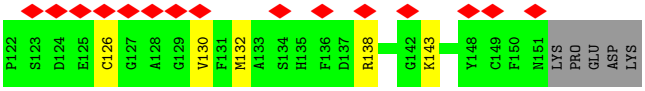
Chain Bl:



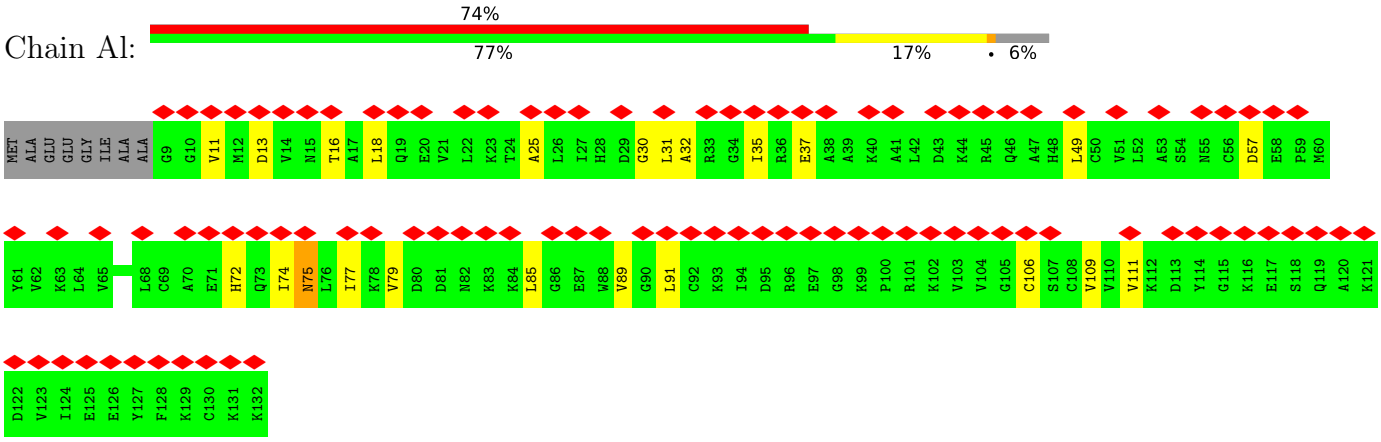
• Molecule 77: Ribosomal protein S27a

Chain AC:

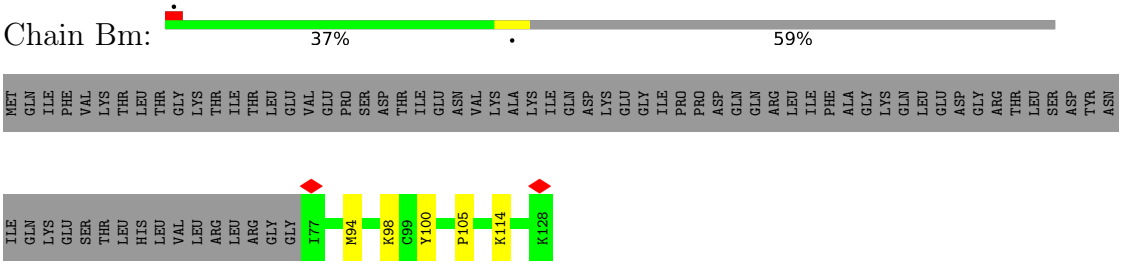




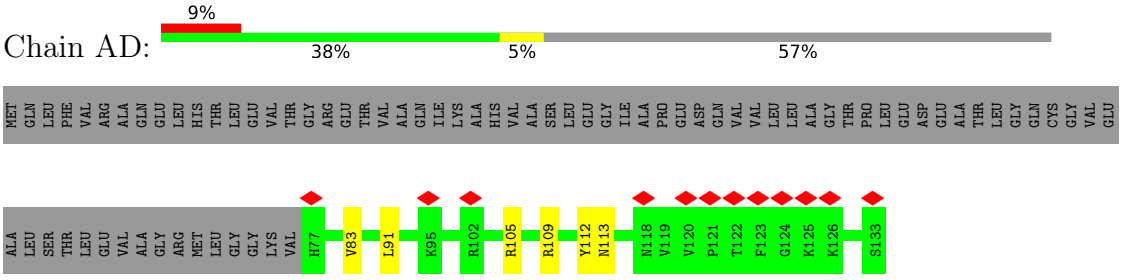
• Molecule 78: 40S ribosomal protein S12



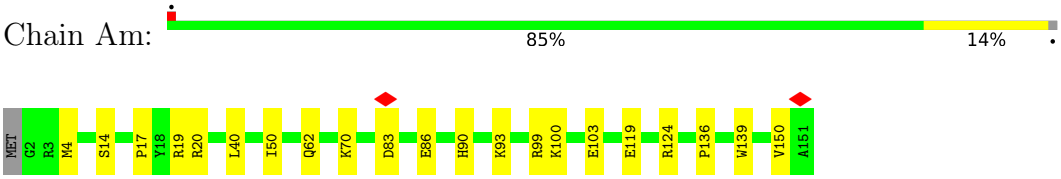
• Molecule 79: Ubiquitin-ribosomal protein eL40 fusion protein



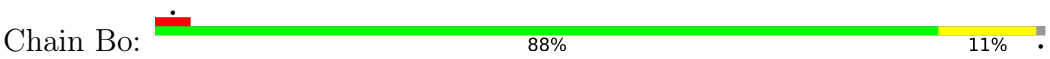
• Molecule 80: 40S ribosomal protein S30

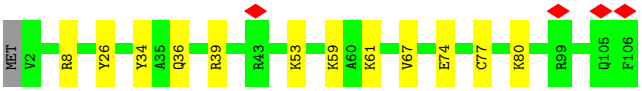


• Molecule 81: 40S ribosomal protein S13

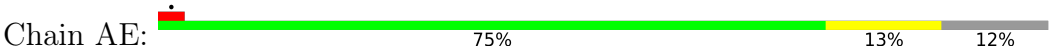


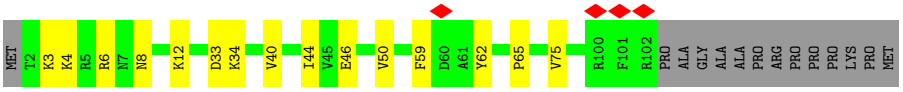
• Molecule 82: Large ribosomal subunit protein eL42



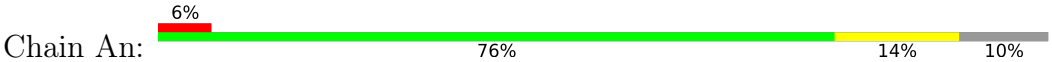


• Molecule 83: Small ribosomal subunit protein eS26

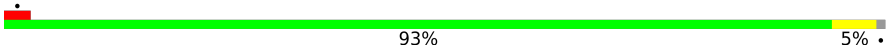


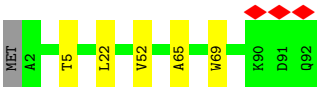


• Molecule 84: Small ribosomal subunit protein uS11

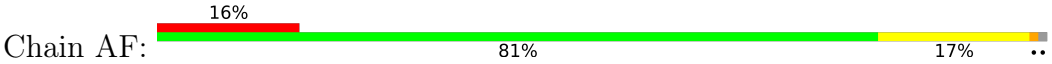


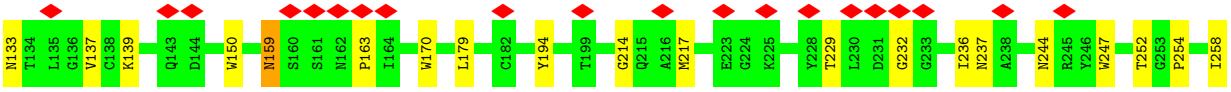
• Molecule 85: 60S ribosomal protein L37a

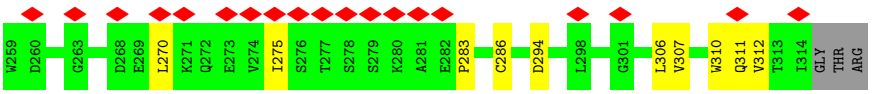




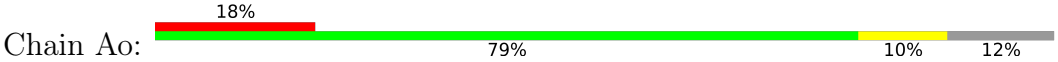
• Molecule 86: Small ribosomal subunit protein RACK1

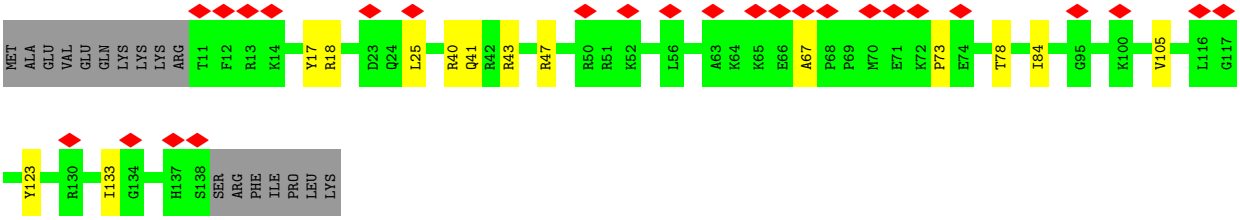




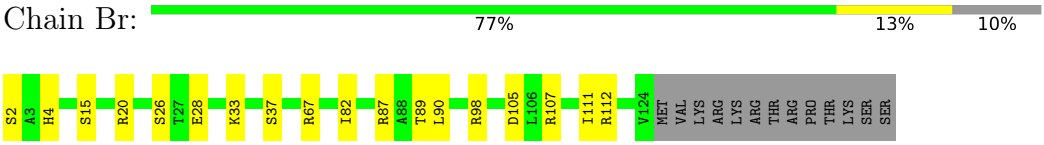


• Molecule 87: 40S ribosomal protein uS19

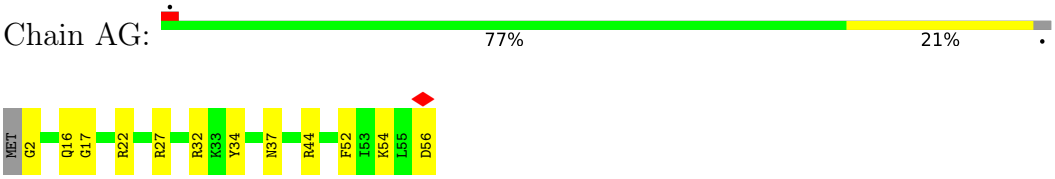




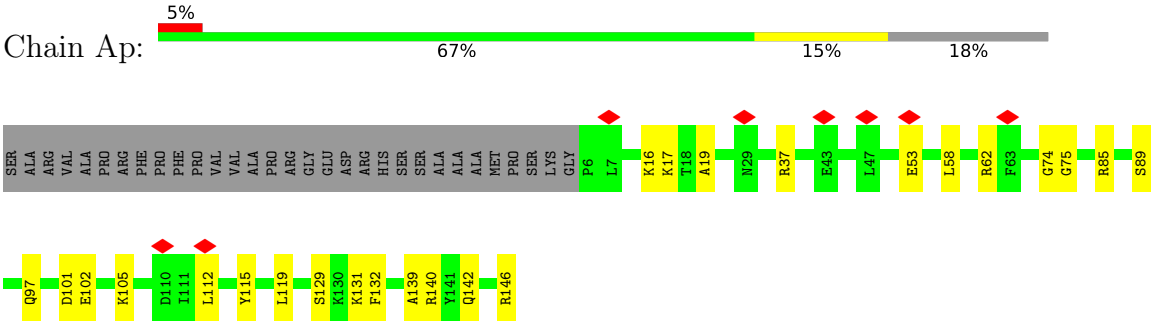
• Molecule 88: Large ribosomal subunit protein eL28



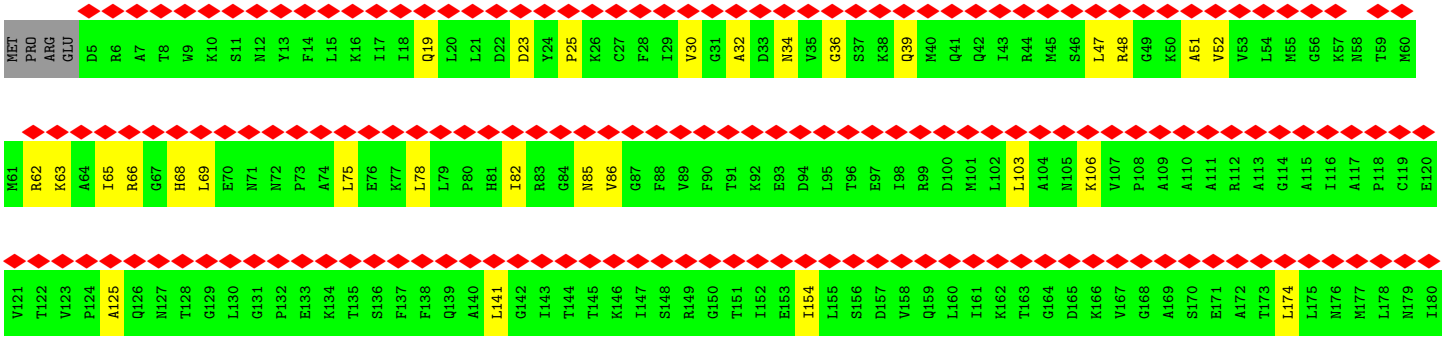
• Molecule 89: 40S ribosomal protein S29

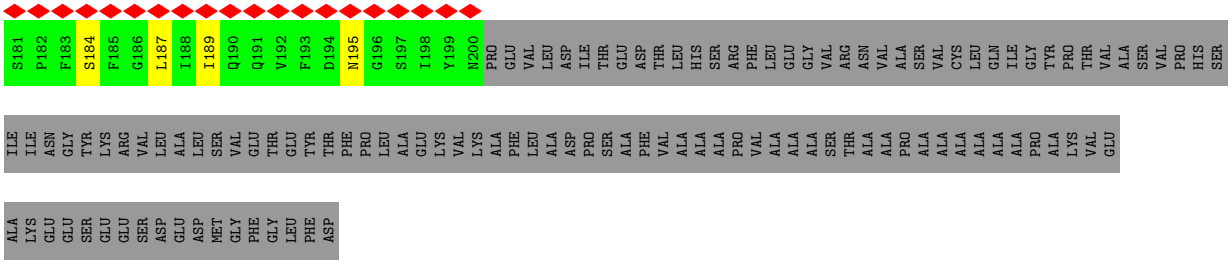


• Molecule 90: Small ribosomal subunit protein uS9



• Molecule 91: Large ribosomal subunit protein uL10




S181 P182 F183 S184 F185 G186 L187 I188 I189 Q190 Q191 V192 F193 D194 N195 G196 S197 I198 Y199 N200 PRO GLU VAL LEU LEU ASP ILE THR GLU ASP THR LEU HIS SER ARG PHE LEU GLU GLY VAL ARG ASN VAL ALA SER VAL CYS LEU GLN ILE GLY TYR PRO THR VAL ALA SER VAL PRO HIS SER
ILE ILE ASN GLY TYR LYS ARG VAL LEU ALA LEU SER VAL GLU THR GLU TYR THR PHE PRO LEU ALA GLU LYS VAL LYS ALA PHE LEU ALA ASP PRO SER ALA PHE VAL ALA ALA ALA PRO VAL ALA ALA ALA SER THR ALA ALA PRO ALA ALA ALA ALA ALA ALA PRO ALA LYS VAL GLU
ALA LYS GLU GLU SER GLU GLU SER ASP GLU ASP MET GLY PHE GLY LEU PHE ASP

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	23034	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.400	Depositor
Minimum map value	-0.732	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.058	Depositor
Recommended contour level	0.25	Depositor
Map size (Å)	593.6, 593.6, 593.6	wwPDB
Map dimensions	560, 560, 560	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MLZ, 1MA, SPD, OMU, G7M, IHP, UR3, 5MC, AME, UNX, SPM, SAC, OMG, V5N, HIC, NMM, PSU, ZN, UY1, 6MZ, IAS, AYA, A2M, MG, GTP, MA6, B8N, 4AC, OMC, M3L, HY3

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	B5	0.11	3/86006 (0.0%)	0.12	0/134179
2	BT	0.07	0/1326	0.18	0/1770
3	Bb	0.07	0/884	0.18	0/1169
4	Bt	0.07	0/1193	0.21	0/1609
6	Aq	0.06	0/1094	0.18	0/1469
7	B7	0.06	0/2835	0.09	0/4418
8	AT	0.05	0/68	0.15	0/103
9	Ar	0.06	0/1226	0.19	0/1643
10	B8	0.06	0/3635	0.11	0/5661
11	BU	0.08	0/845	0.21	0/1134
12	As	0.06	0/1119	0.16	0/1498
13	BA	0.09	0/1965	0.22	0/2633
14	BV	0.08	0/1048	0.20	0/1402
15	At	0.07	0/831	0.20	0/1115
16	BB	0.08	0/3261	0.20	0/4364
17	BP	0.08	0/1317	0.21	0/1768
18	BY	0.07	0/1132	0.20	0/1504
19	Av	0.09	0/1051	0.19	0/1406
20	B	0.07	0/2437	0.20	0/3264
21	BX	0.07	0/984	0.19	0/1323
22	BQ	0.08	0/1539	0.20	0/2054
23	BZ	0.07	0/1130	0.19	0/1507
24	Aw	0.07	0/1107	0.19	0/1475
25	BE	0.09	0/1998	0.22	0/2673
26	BW	0.07	0/1006	0.19	0/1334
27	Au	0.07	0/636	0.17	0/852
28	Ba	0.07	0/1179	0.20	0/1572
29	Ax	0.06	0/1032	0.18	0/1371
30	BF	0.08	0/1922	0.20	0/2563
31	BR	0.07	0/1524	0.17	0/2013
32	AZ	0.08	0/1771	0.20	0/2406

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	Ay	0.07	0/691	0.19	0/922
34	BG	0.07	0/1908	0.19	0/2566
35	BC	0.08	0/2932	0.19	0/3939
36	BS	0.07	0/1497	0.19	0/2008
37	Aa	0.08	0/1841	0.22	0/2459
38	Az	0.06	0/240	0.14	0/305
39	BH	0.08	0/1535	0.20	0/2063
40	EA	0.07	0/2455	0.21	0/3333
41	Ab	0.08	0/1742	0.21	0/2354
42	Bc	0.07	0/847	0.17	0/1134
43	BI	0.07	0/1756	0.19	0/2346
44	Ct	0.08	0/913	0.22	0/1219
45	Ac	0.07	0/1779	0.20	0/2395
46	Bd	0.07	0/903	0.18	0/1216
47	BJ	0.07	0/1385	0.20	0/1852
48	Cu	0.09	0/836	0.28	0/1122
49	Ad	0.07	0/2118	0.20	0/2849
50	Be	0.07	0/1088	0.20	0/1451
52	DA	0.07	0/1284	0.21	0/1728
53	Ae	0.07	0/1531	0.23	0/2059
54	Bf	0.08	0/903	0.19	0/1208
55	BL	0.07	0/1733	0.19	0/2316
56	DB	0.12	0/7038	0.28	1/9468 (0.0%)
57	Af	0.06	0/1946	0.18	0/2590
58	Bg	0.07	0/916	0.20	0/1220
59	BM	0.07	0/1158	0.18	0/1547
60	DC	0.09	0/1368	0.24	0/1843
61	Ag	0.07	0/1552	0.19	0/2079
62	Bh	0.06	0/1021	0.16	0/1348
63	BN	0.07	0/1746	0.19	0/2338
64	DD	0.42	0/439	0.55	0/587
65	Ah	0.07	0/1715	0.19	0/2287
66	Bi	0.06	0/841	0.18	0/1112
67	BO	0.08	0/1662	0.19	0/2222
68	A2	0.13	2/40342 (0.0%)	0.12	0/62877
69	Ai	0.07	0/1550	0.19	0/2069
70	Bj	0.07	0/720	0.22	0/952
71	AA	0.06	0/665	0.19	0/891
72	Aj	0.07	0/834	0.19	0/1125
73	Bk	0.08	0/575	0.19	0/761
74	AB	0.07	0/497	0.18	0/666
75	Ak	0.07	0/1284	0.20	0/1717
76	Bl	0.07	0/459	0.17	0/608

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
77	AC	0.06	0/622	0.20	0/822
78	Al	0.07	0/968	0.22	0/1296
79	Bm	0.08	0/426	0.21	0/564
80	AD	0.06	0/462	0.18	0/607
81	Am	0.06	0/1232	0.18	0/1656
82	Bo	0.07	0/866	0.19	0/1141
83	AE	0.07	0/828	0.19	0/1109
84	An	0.12	0/1020	0.21	0/1366
85	Bp	0.08	0/718	0.22	0/953
86	AF	0.07	0/2493	0.21	0/3394
87	Ao	0.06	0/1069	0.19	0/1429
88	Br	0.08	0/996	0.21	0/1335
89	AG	0.08	0/470	0.21	0/623
90	Ap	0.09	0/1142	0.26	0/1528
91	Bs	0.07	0/1530	0.19	0/2064
All	All	0.10	5/244188 (0.0%)	0.16	1/356290 (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
82	Bo	0	1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B5	4269	A2M	O3'-P	5.07	1.61	1.56
1	B5	1270	A2M	O3'-P	5.04	1.61	1.56
68	A2	1679	A2M	O3'-P	5.04	1.61	1.56
1	B5	3517	A2M	O3'-P	5.02	1.61	1.56
68	A2	485	A2M	O3'-P	5.01	1.61	1.56

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	DB	116	ILE	N-CA-C	-5.06	107.87	112.12

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
82	Bo	53	MLZ	Mainchain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B5	79525	0	40255	554	0
2	BT	1298	0	1365	21	0
3	Bb	881	0	957	13	0
4	Bt	1178	0	1235	24	0
5	AH	36	0	25	0	0
6	Aq	1080	0	1135	12	0
7	B7	2538	0	1283	7	0
8	AT	939	0	617	6	0
9	Ar	1217	0	1279	20	0
10	B8	3319	0	1684	24	0
11	BU	831	0	852	12	0
12	As	1113	0	1145	14	0
13	BA	1940	0	2028	31	0
14	BV	1034	0	1097	14	0
15	At	821	0	883	9	0
16	BB	3206	0	3353	32	0
17	BP	1289	0	1329	18	0
18	BY	1115	0	1205	8	0
19	Av	1034	0	1080	7	0
20	B	2391	0	2424	21	0
21	BX	967	0	1040	4	0
22	BQ	1515	0	1634	19	0
23	BZ	1107	0	1182	14	0
24	Aw	1099	0	1162	9	0
25	BE	1960	0	2153	25	0
26	BW	991	0	1048	10	0
27	Au	640	0	633	7	0
28	Ba	1163	0	1202	19	0
29	Ax	1015	0	1086	9	0
30	BF	1886	0	2008	19	0
31	BR	1508	0	1664	14	0
32	AZ	1743	0	1748	24	0
33	Ay	683	0	761	11	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
34	BG	1877	0	2023	15	0
35	BC	2886	0	3057	21	0
36	BS	1457	0	1492	8	0
37	Aa	1815	0	1908	20	0
38	Az	239	0	289	2	0
39	BH	1516	0	1597	16	0
40	EA	2395	0	2344	29	0
41	Ab	1706	0	1796	17	0
42	Bc	836	0	888	5	0
43	BI	1717	0	1764	19	0
44	Ct	908	0	971	16	0
45	Ac	1751	0	1846	13	0
46	Bd	888	0	930	12	0
47	BJ	1362	0	1399	16	0
48	Cu	828	0	874	17	0
49	Ad	2076	0	2177	27	0
50	Be	1070	0	1165	13	0
51	BK	135	0	33	0	0
52	DA	1260	0	1282	24	0
53	Ae	1509	0	1563	17	0
54	Bf	884	0	923	9	0
55	BL	1702	0	1820	16	0
56	DB	6900	0	6944	178	0
57	Af	1923	0	2089	37	0
58	Bg	906	0	998	5	0
59	BM	1137	0	1211	16	0
60	DC	1339	0	1315	22	0
61	Ag	1529	0	1627	19	0
62	Bh	1013	0	1147	19	0
63	BN	1701	0	1749	23	0
64	DD	439	0	441	17	0
65	Ah	1686	0	1772	24	0
66	Bi	830	0	916	7	0
67	BO	1630	0	1778	15	0
68	A2	37833	0	19165	284	0
69	Ai	1525	0	1640	15	0
70	Bj	705	0	737	14	0
71	AA	651	0	672	7	0
72	Aj	810	0	836	11	0
73	Bk	569	0	637	3	0
74	AB	495	0	523	4	0
75	Ak	1262	0	1335	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
76	Bl	447	0	480	8	0
77	AC	610	0	634	9	0
78	Al	958	0	993	18	0
79	Bm	432	0	470	4	0
80	AD	457	0	502	8	0
81	Am	1208	0	1294	16	0
82	Bo	863	0	929	7	0
83	AE	814	0	863	11	0
84	An	1016	0	1038	14	0
85	Bp	708	0	756	4	0
86	AF	2436	0	2393	33	0
87	Ao	1048	0	1093	10	0
88	Br	990	0	1052	14	0
89	AG	459	0	448	13	0
90	Ap	1124	0	1193	20	0
91	Bs	1507	0	1564	25	0
92	A2	54	0	0	2	0
92	AE	1	0	0	0	0
92	AT	2	0	0	0	0
92	Ad	1	0	0	0	0
92	Ak	1	0	0	0	0
92	An	1	0	0	0	0
92	B5	200	0	0	2	0
92	B7	6	0	0	1	0
92	B8	6	0	0	0	0
92	BA	4	0	0	0	0
92	BB	3	0	0	0	0
92	BH	1	0	0	0	0
92	BI	1	0	0	0	0
92	BL	1	0	0	0	0
92	BN	1	0	0	0	0
92	BQ	2	0	0	1	0
92	BT	2	0	0	0	0
92	BY	1	0	0	0	0
92	Bb	2	0	0	0	0
92	Be	3	0	0	0	0
92	Bf	1	0	0	0	0
92	Bo	1	0	0	0	0
93	A2	80	0	152	6	0
93	B5	220	0	418	11	0
94	A2	110	0	0	0	0
94	AT	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
94	An	1	0	0	0	0
94	B5	283	0	0	0	0
94	B7	9	0	0	0	0
94	B8	8	0	0	0	0
94	BI	1	0	0	0	0
94	BP	1	0	0	0	0
94	BV	1	0	0	0	0
94	Ba	1	0	0	0	0
94	Be	1	0	0	0	0
94	Bj	1	0	0	0	0
94	Ct	1	0	0	0	0
95	A2	14	0	26	3	0
95	B5	28	0	52	1	0
96	B7	32	0	11	0	0
97	DB	36	0	6	1	0
98	AC	1	0	0	0	0
98	AE	1	0	0	0	0
98	AG	1	0	0	0	0
98	Bg	1	0	0	0	0
98	Bj	1	0	0	0	0
98	Bm	1	0	0	0	0
98	Bo	1	0	0	0	0
98	Bp	1	0	0	0	0
99	A2	531	0	0	25	0
99	AE	1	0	0	0	0
99	AH	3	0	0	0	0
99	AT	12	0	0	1	0
99	Aa	3	0	0	1	0
99	Ad	2	0	0	0	0
99	Af	1	0	0	0	0
99	Ak	2	0	0	0	0
99	An	1	0	0	0	0
99	Ap	2	0	0	0	0
99	Ar	2	0	0	1	0
99	As	1	0	0	0	0
99	Aw	4	0	0	1	0
99	B	1	0	0	0	0
99	B5	1383	0	0	49	0
99	B7	45	0	0	2	0
99	B8	48	0	0	0	0
99	BA	7	0	0	0	0
99	BB	8	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
99	BC	6	0	0	0	0
99	BH	2	0	0	0	0
99	BI	1	0	0	0	0
99	BL	1	0	0	0	0
99	BN	6	0	0	0	0
99	BP	3	0	0	0	0
99	BR	5	0	0	0	0
99	BT	2	0	0	0	0
99	BV	3	0	0	0	0
99	BX	1	0	0	0	0
99	Ba	7	0	0	1	0
99	Bb	1	0	0	0	0
99	Bd	1	0	0	0	0
99	Be	4	0	0	0	0
99	Bg	3	0	0	0	0
99	Bj	6	0	0	1	0
99	Bl	3	0	0	0	0
99	Bm	1	0	0	0	0
99	Bo	1	0	0	0	0
99	Ct	3	0	0	0	0
All	All	237089	0	178592	1861	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 (1861) 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)
92:A2:2002:UNX:UNK	99:A2:2415:HOH:O	1.01	1.27
92:B5:4955:UNX:UNK	99:B5:6243:HOH:O	1.10	1.26
19:Av:2:VAL:N	68:A2:1092:C:HO2'	1.58	1.01
1:B5:3374:A:HO2'	70:Bj:2:THR:N	1.69	0.90
92:B7:212:UNX:UNK	99:B7:321:HOH:O	1.58	0.84
1:B5:4447:A:HO2'	39:BH:40:HIS:HD1	1.28	0.81
1:B5:3540:OMC:HM22	1:B5:3541:G:H5'	1.68	0.75
49:Ad:125:LYS:H	49:Ad:142:HIS:HD2	1.35	0.74
52:DA:142:ILE:HG22	52:DA:144:PRO:HD2	1.69	0.73
1:B5:3373:U:OP2	1:B5:3378:A:N6	2.22	0.73
56:DB:354:LYS:HG3	56:DB:373:LEU:HD21	1.69	0.73
84:An:34:PHE:HB3	84:An:41:PHE:HB2	1.71	0.73
92:A2:2001:UNX:UNK	99:A2:2485:HOH:O	1.69	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:BQ:119:LYS:HE3	22:BQ:121:LEU:HD21	1.72	0.71
59:BM:40:GLY:HA3	59:BM:45:VAL:HB	1.72	0.71
1:B5:4361:C:H5"	16:BB:357:ARG:HE	1.54	0.71
86:AF:247:TRP:HB3	86:AF:258:ILE:HD11	1.73	0.71
91:Bs:65:ILE:HG23	91:Bs:75:LEU:HB3	1.71	0.71
1:B5:4640:G:H1	1:B5:4659:C:H42	1.37	0.70
1:B5:1399:G:OP2	1:B5:1399:G:N2	2.21	0.70
1:B5:1908:G:H4'	91:Bs:36:GLY:HA2	1.74	0.70
32:AZ:94:THR:HG23	32:AZ:186:ARG:HH12	1.56	0.70
68:A2:1131:G:N2	68:A2:1131:G:OP2	2.24	0.70
68:A2:577:A2M:HM'2	68:A2:578:U:H5'	1.71	0.70
52:DA:45:LEU:HB3	52:DA:61:CYS:HB2	1.73	0.70
90:Ap:97:GLN:HB2	90:Ap:105:LYS:HG3	1.74	0.70
68:A2:1491:OMG:HM22	68:A2:1492:G:H5'	1.74	0.70
1:B5:1676:A:P	99:B5:5517:HOH:O	2.49	0.69
1:B5:4416:C:O2'	14:BV:15:ARG:NH2	2.26	0.69
86:AF:60:ARG:HE	90:Ap:97:GLN:HE22	1.40	0.69
1:B5:308:G:N2	1:B5:308:G:OP2	2.24	0.68
1:B5:1237:G:OP2	1:B5:1237:G:N2	2.21	0.68
45:Ac:16:ILE:HG21	89:AG:22:ARG:HH11	1.58	0.68
41:Ab:117:ARG:HH21	93:A2:1908:SPD:HN6	1.39	0.68
68:A2:43:U:P	99:A2:2223:HOH:O	2.52	0.68
1:B5:4411:A:P	99:B5:5802:HOH:O	2.52	0.68
1:B5:4369:OMG:N7	99:B5:5602:HOH:O	2.26	0.67
26:BW:80:ARG:NH2	57:Af:129:VAL:O	2.26	0.67
44:Ct:98:LYS:HB3	44:Ct:102:ILE:HB	1.77	0.67
1:B5:4194:G:C8	99:B5:5568:HOH:O	2.46	0.67
91:Bs:47:LEU:HB3	91:Bs:51:ALA:HB3	1.76	0.67
1:B5:3420:U:OP2	13:BA:198:ARG:NH2	2.27	0.67
1:B5:1476:C:P	99:B5:5505:HOH:O	2.53	0.67
53:Ae:130:ARG:HD2	68:A2:1684:C:H5'	1.75	0.67
56:DB:105:ASN:OD1	56:DB:108:LYS:NZ	2.27	0.67
69:Ai:120:ALA:O	69:Ai:125:HIS:ND1	2.27	0.67
84:An:103:ASN:HB3	84:An:169:ARG:HG2	1.76	0.67
1:B5:2548:G:O6	31:BR:46:LYS:NZ	2.27	0.67
1:B5:2624:G:N7	99:B5:5652:HOH:O	2.29	0.66
14:BV:69:LYS:HG2	14:BV:71:GLU:HG2	1.77	0.66
1:B5:1899:A:H1'	91:Bs:63:LYS:HD3	1.76	0.66
47:BJ:17:ILE:HD12	47:BJ:80:GLU:HG2	1.76	0.66
1:B5:4436:G:C8	99:B5:5786:HOH:O	2.46	0.66
1:B5:1635:G:P	99:B5:5525:HOH:O	2.52	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:2250:G:N2	76:Bl:51:LEU:OXT	2.29	0.66
48:Cu:64:MET:HB2	48:Cu:72:ILE:HB	1.77	0.66
68:A2:905:A:O2'	75:Ak:48:LYS:NZ	2.29	0.66
1:B5:2545:C:OP1	11:BU:101:ARG:NH2	2.26	0.66
34:BG:58:PRO:HD2	34:BG:61:ILE:HD12	1.77	0.66
64:DD:77:LEU:HA	64:DD:107:GLU:HB2	1.78	0.66
1:B5:4632:A:OP1	67:BO:188:LYS:NZ	2.29	0.66
1:B5:223:G:N3	35:BC:223:ASN:ND2	2.43	0.66
1:B5:4218:G:O2'	79:Bm:100:TYR:O	2.13	0.66
68:A2:430:C:O2'	68:A2:812:A:N1	2.28	0.66
12:As:101:ARG:NH2	68:A2:1567:G:N7	2.43	0.65
1:B5:4279:A:P	99:B5:5521:HOH:O	2.54	0.65
1:B5:103:G:N7	99:B5:5654:HOH:O	2.29	0.65
68:A2:1532:A:H4'	68:A2:1606:G:H4'	1.78	0.65
1:B5:3557:A2M:HM'2	1:B5:3558:C:H5'	1.78	0.65
60:DC:10:ASP:HB3	60:DC:52:ILE:HD11	1.77	0.65
68:A2:1273:C:HO2'	89:AG:2:GLY:N	1.93	0.65
1:B5:1391:C:O2'	3:Bb:106:ARG:NH2	2.30	0.65
1:B5:2444:A:N6	1:B5:2587:A:OP2	2.28	0.65
1:B5:4639:C:O2'	1:B5:4641:C:OP2	2.15	0.65
68:A2:228:C:H42	68:A2:902:G:H1'	1.62	0.65
10:B8:81:C:HO2'	62:Bh:2:ALA:N	1.95	0.65
48:Cu:62:VAL:HG11	48:Cu:90:ILE:HD13	1.79	0.65
68:A2:953:G:H21	84:An:52:THR:HG21	1.61	0.65
40:EA:109:ALA:O	40:EA:185:ASN:ND2	2.30	0.64
43:BI:38:ARG:HD2	43:BI:41:ALA:HB2	1.80	0.64
4:Bt:123:ARG:HG2	91:Bs:48:ARG:HD3	1.79	0.64
68:A2:1397:A:O2'	68:A2:1399:G:N7	2.31	0.64
1:B5:1757:G:N2	1:B5:1757:G:OP2	2.31	0.64
15:At:85:HIS:ND1	68:A2:1448:OMG:OP1	2.31	0.64
21:BX:82:THR:HG22	21:BX:155:ILE:HG23	1.79	0.64
1:B5:4011:U:N3	20:B:17:GLN:O	2.29	0.64
49:Ad:11:ARG:HA	49:Ad:28:ALA:HB2	1.79	0.64
64:DD:83:LYS:HD3	64:DD:85:GLU:H	1.63	0.64
68:A2:1388:G:P	99:A2:2102:HOH:O	2.55	0.64
1:B5:2287:U:C4	99:B5:5703:HOH:O	2.46	0.64
1:B5:4366:OMU:OP2	1:B5:4416:C:N4	2.31	0.64
68:A2:513:A2M:HM'2	68:A2:514:G:H5'	1.79	0.64
40:EA:183:PRO:HD3	40:EA:222:THR:HB	1.79	0.64
1:B5:3555:G:N2	1:B5:3555:G:OP2	2.31	0.64
68:A2:1392:OMC:HM22	68:A2:1393:U:H5'	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:Al:75:ASN:N	78:Al:75:ASN:OD1	2.29	0.63
47:BJ:35:ARG:NH1	47:BJ:123:ILE:O	2.32	0.63
56:DB:353:LEU:HB3	56:DB:373:LEU:HG	1.80	0.63
1:B5:2143:A:N7	35:BC:143:ARG:NH1	2.46	0.63
1:B5:4018:G:N2	1:B5:4018:G:OP2	2.30	0.63
1:B5:2704:OMC:HM22	1:B5:2705:G:H5'	1.79	0.63
9:Ar:88:LYS:O	87:Ao:18:ARG:NH1	2.32	0.63
91:Bs:62:ARG:NH2	91:Bs:82:ILE:O	2.31	0.63
1:B5:3909:U:H5'	1:B5:3910:C:H5"	1.80	0.63
56:DB:254:ASN:HB2	56:DB:260:TYR:HE2	1.62	0.63
1:B5:466:A:H5"	56:DB:600:ARG:HH22	1.64	0.63
1:B5:1334:G:N2	1:B5:1337:G:OP2	2.28	0.63
32:AZ:17:LYS:HB3	32:AZ:173:LEU:HD11	1.81	0.63
1:B5:369:G:N2	1:B5:372:A:OP2	2.30	0.63
1:B5:1809:C:H2'	1:B5:1810:A2M:H8	1.81	0.63
68:A2:1018:U:OP1	81:Am:62:GLN:NE2	2.32	0.63
44:Ct:187:GLN:HE22	56:DB:77:LEU:HB3	1.64	0.62
68:A2:1604:G:P	99:A2:2167:HOH:O	2.57	0.62
1:B5:4202:OMC:HM22	1:B5:4203:PSU:H5"	1.82	0.62
26:BW:2:LYS:NZ	26:BW:4:GLU:OE2	2.31	0.62
1:B5:2659:G:N7	99:B5:5694:HOH:O	2.31	0.62
1:B5:3985:A:P	99:B5:5535:HOH:O	2.56	0.62
1:B5:3541:G:OP2	1:B5:3541:G:N2	2.31	0.62
69:Ai:170:PRO:O	69:Ai:175:ARG:NH1	2.32	0.62
1:B5:3452:G:H22	1:B5:3465:A:H2	1.48	0.62
30:BF:104:VAL:HG13	30:BF:135:VAL:HG12	1.81	0.62
33:Ay:46:ASN:ND2	68:A2:1600:U:OP2	2.33	0.62
53:Ae:60:ARG:HD2	68:A2:1680:A:H2'	1.81	0.62
56:DB:762:LEU:HD12	56:DB:797:ARG:HG2	1.81	0.62
40:EA:326:ILE:HG22	40:EA:328:PRO:HD3	1.80	0.62
48:Cu:48:LEU:HA	48:Cu:51:LEU:HB2	1.80	0.62
11:BU:99:TRP:HE1	48:Cu:15:GLN:HB2	1.64	0.62
36:BS:173:ASN:ND2	36:BS:175:PHE:O	2.33	0.62
68:A2:121:OMU:HM22	68:A2:122:G:H5'	1.80	0.62
1:B5:1937:A:N3	1:B5:1958:C:O2'	2.31	0.62
1:B5:1915:G:N3	4:Bt:138:SER:OG	2.33	0.62
10:B8:81:C:O2'	62:Bh:2:ALA:N	2.33	0.62
40:EA:194:CYS:HB2	40:EA:220:ASN:HB3	1.82	0.62
52:DA:54:ILE:HB	56:DB:407:LEU:HD21	1.82	0.62
30:BF:189:LEU:HD21	30:BF:207:LEU:HD21	1.82	0.61
56:DB:441:ASP:O	56:DB:445:ASN:ND2	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:AD:109:ARG:O	80:AD:113:ASN:ND2	2.33	0.61
25:BE:115:MET:O	88:Br:87:ARG:NH1	2.33	0.61
82:Bo:36:GLN:OE1	82:Bo:39:ARG:NH2	2.33	0.61
1:B5:3585:PSU:O2'	1:B5:4718:A:N3	2.33	0.61
1:B5:4103:G:P	99:B5:5506:HOH:O	2.57	0.61
22:BQ:161:SER:O	92:BQ:202:UNX:UNK	1.81	0.61
30:BF:237:ASP:O	30:BF:240:ASN:ND2	2.33	0.61
1:B5:1922:A:H1'	1:B5:1949:A:H4'	1.81	0.61
57:Af:159:ARG:HB3	57:Af:171:THR:HB	1.83	0.61
1:B5:136:U:O4	62:Bh:79:LYS:NZ	2.31	0.61
41:Ab:187:ARG:HD2	41:Ab:192:LEU:HD12	1.81	0.61
86:AF:11:LEU:HB2	86:AF:307:VAL:HB	1.81	0.61
27:Au:38:GLU:HA	32:AZ:63:ARG:HH21	1.65	0.61
1:B5:1879:G:H22	1:B5:4180:C:H5"	1.66	0.61
1:B5:2258:OMU:HM22	1:B5:2259:G:H5'	1.83	0.61
22:BQ:16:LYS:O	22:BQ:33:ARG:NH2	2.34	0.61
52:DA:10:ASP:OD1	52:DA:47:LYS:NZ	2.33	0.61
1:B5:1829:G:OP2	1:B5:1829:G:N2	2.32	0.61
1:B5:2173:G:O6	92:B5:5076:UNX:UNK	1.81	0.61
3:Bb:65:MET:HG2	3:Bb:68:ARG:HH22	1.66	0.61
7:B7:6:C:H4'	20:B:52:ILE:HD13	1.82	0.61
68:A2:1216:C:H42	68:A2:1221:A:H61	1.48	0.61
75:Ak:135:SER:O	75:Ak:139:ARG:NH1	2.34	0.61
86:AF:217:MET:HG2	86:AF:229:THR:HG22	1.83	0.61
1:B5:4304:U:OP2	16:BB:246:ARG:NH2	2.34	0.61
31:BR:44:LEU:HD22	31:BR:49:LEU:HD12	1.83	0.61
57:Af:13:GLN:NE2	68:A2:153:G:N3	2.48	0.61
82:Bo:34:TYR:O	82:Bo:39:ARG:NH1	2.34	0.61
1:B5:734:G:OP2	59:BM:71:LYS:NZ	2.33	0.61
46:Bd:64:ILE:HG23	46:Bd:68:LEU:HD23	1.81	0.61
68:A2:191:A:H62	68:A2:208:G:H21	1.48	0.61
1:B5:1260:OMG:HM22	1:B5:1261:U:H5'	1.83	0.60
1:B5:1741:A:H5"	1:B5:1742:G:H5'	1.82	0.60
1:B5:2161:G:N2	1:B5:2164:G:OP2	2.34	0.60
1:B5:4507:G:OP1	67:BO:117:ARG:NH2	2.34	0.60
41:Ab:187:ARG:NH1	68:A2:1143:G:OP1	2.33	0.60
64:DD:79:LYS:N	64:DD:107:GLU:H	1.98	0.60
1:B5:2712:U:O2'	1:B5:2724:A:N7	2.34	0.60
20:B:65:ALA:HB2	20:B:74:ILE:HD13	1.83	0.60
25:BE:227:LYS:HE2	25:BE:241:GLU:H	1.66	0.60
64:DD:78:ALA:HA	64:DD:106:ARG:HB3	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Ak:78:THR:HG22	75:Ak:79:LYS:HG3	1.82	0.60
1:B5:4287:G:N2	1:B5:4290:A:OP2	2.34	0.60
1:B5:432:U:H1'	93:B5:5241:SPD:HN6	1.66	0.60
1:B5:4140:A:N7	99:B5:5695:HOH:O	2.31	0.60
20:B:83:LEU:HB3	20:B:88:VAL:HB	1.83	0.60
1:B5:2286:G:N7	99:B5:5703:HOH:O	2.31	0.60
22:BQ:122:THR:OG1	22:BQ:124:ASP:OD1	2.16	0.60
26:BW:70:LYS:NZ	57:Af:33:ALA:O	2.33	0.60
53:Ae:125:SER:O	74:AB:47:LYS:NZ	2.35	0.60
12:As:12:GLN:HE22	68:A2:1594:C:H1'	1.66	0.60
68:A2:99:A2M:HM'2	68:A2:100:U:H5'	1.82	0.60
68:A2:1839:U:P	99:A2:2119:HOH:O	2.60	0.60
91:Bs:32:ALA:O	91:Bs:85:ASN:ND2	2.34	0.60
1:B5:1265:G:O6	99:B5:5522:HOH:O	2.14	0.60
1:B5:2126:G:N7	99:B5:5705:HOH:O	2.31	0.60
13:BA:137:ILE:HD11	13:BA:149:LYS:HB2	1.84	0.60
68:A2:463:OMC:HM22	68:A2:464:C:H5'	1.84	0.60
26:BW:66:GLU:HG3	26:BW:68:GLN:HE22	1.67	0.60
83:AE:44:ILE:O	84:An:113:GLN:NE2	2.34	0.60
7:B7:105:C:OP2	43:BI:203:ARG:NH1	2.33	0.60
57:Af:162:LEU:HD11	57:Af:172:LYS:HG3	1.83	0.60
1:B5:435:A:O2'	50:Be:26:ASP:OD2	2.19	0.60
1:B5:2007:C:OP1	54:Bf:15:LYS:NZ	2.35	0.60
56:DB:198:GLN:HG3	56:DB:536:ARG:HH21	1.66	0.60
75:Ak:119:ASP:O	75:Ak:147:LYS:NZ	2.35	0.60
1:B5:1539:G:N7	93:B5:4962:SPD:N10	2.50	0.59
10:B8:38:U:O2'	62:Bh:86:LYS:NZ	2.33	0.59
42:Bc:8:LYS:NZ	68:A2:1009:A:OP2	2.28	0.59
56:DB:423:ASN:HB3	56:DB:426:GLU:HB2	1.83	0.59
68:A2:75:G:O2'	68:A2:77:A:OP1	2.19	0.59
17:BP:138:PRO:HB3	17:BP:140:MET:HE2	1.84	0.59
40:EA:260:ILE:HG12	40:EA:361:LEU:HD11	1.82	0.59
56:DB:408:ILE:HD12	60:DC:79:ARG:HH22	1.67	0.59
65:Ah:101:ILE:HD12	65:Ah:190:LEU:HD11	1.84	0.59
81:Am:99:ARG:NH2	81:Am:119:GLU:OE2	2.35	0.59
1:B5:74:G:H5"	55:BL:59:VAL:HB	1.83	0.59
1:B5:1789:A:OP2	55:BL:5:ARG:NH2	2.34	0.59
1:B5:3978:U:O4	82:Bo:8:ARG:NH2	2.36	0.59
15:At:78:ASP:OD2	89:AG:44:ARG:NH1	2.35	0.59
68:A2:437:OMG:HM22	68:A2:438:G:H5'	1.84	0.59
1:B5:152:U:OP2	63:BN:49:ARG:NH2	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:3628:C:O2'	16:BB:268:ARG:NH2	2.35	0.59
40:EA:94:MET:SD	40:EA:97:ARG:NH2	2.76	0.59
1:B5:1838:G:O2'	50:Be:57:ASN:OD1	2.20	0.59
7:B7:23:A:N3	7:B7:118:C:O2'	2.34	0.59
57:Af:98:ARG:NH2	57:Af:103:ASP:OD1	2.35	0.59
1:B5:4068:G:N2	1:B5:4071:A:OP2	2.36	0.59
56:DB:58:CYS:HA	56:DB:635:ILE:HG23	1.84	0.59
68:A2:1704:OMC:HM22	68:A2:1705:C:H5'	1.84	0.59
1:B5:92:C:OP1	93:B5:4941:SPD:N10	2.35	0.59
7:B7:6:C:O2'	20:B:50:ARG:NH2	2.36	0.59
1:B5:1924:G:H1'	1:B5:1942:G:H2'	1.85	0.59
9:Ar:136:THR:OG1	68:A2:1522:C:OP2	2.20	0.59
15:At:79:ARG:NH1	89:AG:56:ASP:OXT	2.36	0.59
54:Bf:43:LEU:O	54:Bf:109:ARG:NH1	2.32	0.59
1:B5:394:G:N7	99:B5:5711:HOH:O	2.32	0.59
27:Au:38:GLU:OE2	27:Au:51:LYS:NZ	2.34	0.59
45:Ac:177:LEU:HD13	45:Ac:182:LEU:HD13	1.84	0.59
56:DB:270:PRO:HG2	56:DB:276:ARG:HG2	1.84	0.59
78:Al:11:VAL:HG13	78:Al:13:ASP:H	1.67	0.59
1:B5:3449:A:OP2	1:B5:3467:G:N2	2.32	0.58
56:DB:171:LEU:HD13	56:DB:196:GLN:HG2	1.85	0.58
56:DB:748:LYS:HG2	56:DB:775:LEU:HD13	1.85	0.58
68:A2:1260:A:H1'	68:A2:1265:C:H42	1.68	0.58
37:Aa:175:GLU:O	37:Aa:187:LYS:NZ	2.36	0.58
43:BI:38:ARG:NH2	43:BI:83:ASP:O	2.35	0.58
35:BC:14:LYS:HA	35:BC:173:LYS:HD3	1.85	0.58
52:DA:12:THR:HG22	52:DA:14:HIS:H	1.69	0.58
1:B5:755:G:H1	1:B5:800:U:H3	1.50	0.58
1:B5:3450:A2M:HM'2	1:B5:3451:A:H5'	1.85	0.58
1:B5:4174:A:P	99:B5:5530:HOH:O	2.61	0.58
1:B5:4779:U:OP2	16:BB:396:ARG:NH2	2.36	0.58
56:DB:156:ILE:HD11	56:DB:535:LEU:HD22	1.86	0.58
86:AF:236:ILE:HG12	86:AF:252:THR:HG22	1.84	0.58
29:Ax:57:VAL:HB	29:Ax:60:PHE:HE2	1.69	0.58
1:B5:1624:A:N3	1:B5:1791:U:O2'	2.33	0.58
1:B5:4516:G:OP1	67:BO:176:ARG:NH1	2.36	0.58
68:A2:1355:G:N2	68:A2:1358:A:OP2	2.31	0.58
1:B5:135:G:N2	62:Bh:95:LEU:O	2.33	0.58
1:B5:2250:G:N2	1:B5:2250:G:OP2	2.36	0.58
1:B5:3642:C:O2'	1:B5:3942:OMG:N2	2.35	0.58
1:B5:4679:C:OP1	25:BE:159:ARG:NH1	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:AZ:206:ASP:OD1	32:AZ:206:ASP:N	2.37	0.58
68:A2:1090:G:H4'	95:A2:1962:SPM:H111	1.85	0.58
1:B5:1674:U:H5'	93:B5:5141:SPD:H41	1.86	0.58
1:B5:4271:C:OP1	16:BB:246:ARG:NH1	2.35	0.58
11:BU:117:ILE:HG23	48:Cu:14:LEU:HD11	1.85	0.58
12:As:129:ARG:NH1	68:A2:1417:C:OP1	2.37	0.58
56:DB:83:TRP:HB2	56:DB:106:ALA:HB2	1.86	0.58
68:A2:1089:U:OP1	95:A2:1962:SPM:N14	2.36	0.58
68:A2:1386:G:P	99:A2:2114:HOH:O	2.61	0.58
1:B5:1834:G:O2'	1:B5:1846:A:N3	2.31	0.58
1:B5:3619:OMC:HM22	1:B5:3620:G:H5'	1.84	0.58
26:BW:81:ALA:HB2	26:BW:87:LEU:HB2	1.86	0.58
63:BN:201:HIS:O	63:BN:204:ARG:NH1	2.37	0.58
2:BT:133:ALA:HB3	30:BF:126:LYS:HB2	1.86	0.58
33:Ay:111:ARG:HD2	33:Ay:114:LYS:HE3	1.84	0.58
56:DB:91:ARG:HH12	56:DB:119:ASP:HB3	1.69	0.58
68:A2:1034:G:N1	68:A2:1081:A:O2'	2.33	0.58
45:Ac:106:ARG:HG3	45:Ac:175:VAL:HB	1.86	0.57
68:A2:1651:A:H5"	90:Ap:139:ALA:HB2	1.86	0.57
78:Al:79:VAL:HG11	78:Al:85:LEU:HB2	1.86	0.57
1:B5:2364:G:H5'	1:B5:2483:G:H1'	1.87	0.57
47:BJ:81:GLU:OE2	47:BJ:85:LYS:NZ	2.35	0.57
1:B5:1093:C:H2'	1:B5:1094:A:H8	1.69	0.57
1:B5:1810:A2M:HM'2	1:B5:1811:G:H5'	1.86	0.57
40:EA:139:MET:HE2	40:EA:323:VAL:HG11	1.85	0.57
45:Ac:151:LYS:NZ	68:A2:1486:U:OP1	2.37	0.57
52:DA:6:ILE:HG12	52:DA:51:PHE:HD1	1.69	0.57
68:A2:1624:A:OP2	93:A2:1922:SPD:N1	2.38	0.57
71:AA:23:ARG:HH22	71:AA:29:ASN:HD21	1.52	0.57
41:Ab:196:ILE:HB	41:Ab:223:TYR:HB2	1.85	0.57
68:A2:1529:G:O2'	68:A2:1667:C:OP1	2.20	0.57
70:Bj:20:ARG:NH1	70:Bj:39:TYR:OH	2.36	0.57
1:B5:3958:A:N1	2:BT:3:ASN:ND2	2.49	0.57
10:B8:141:C:OP1	63:BN:38:ARG:NH1	2.38	0.57
56:DB:91:ARG:NH2	56:DB:119:ASP:O	2.35	0.57
1:B5:467:U:OP2	56:DB:600:ARG:NH2	2.37	0.57
1:B5:2362:U:O2'	1:B5:2373:U:O2	2.22	0.57
23:BZ:95:VAL:HG13	23:BZ:96:VAL:HG23	1.87	0.57
56:DB:28:ASN:HA	56:DB:31:LYS:HE3	1.85	0.57
61:Ag:107:LYS:O	61:Ag:109:ARG:NH2	2.38	0.57
68:A2:191:A:H3'	68:A2:192:C:H5"	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AA:84:HIS:OXT	81:Am:19:ARG:NH1	2.37	0.57
90:Ap:58:LEU:HB3	90:Ap:62:ARG:HD2	1.86	0.57
1:B5:468:U:O5'	56:DB:601:ARG:NH2	2.37	0.57
1:B5:1270:A2M:OP2	1:B5:4191:U:O2'	2.23	0.57
1:B5:2221:G:N2	1:B5:2224:A:OP2	2.36	0.57
1:B5:4480:A:H61	1:B5:4704:U:H3	1.53	0.57
56:DB:80:HIS:CE1	56:DB:109:TRP:HB2	2.40	0.57
71:AA:11:SER:OG	71:AA:14:GLU:OE1	2.22	0.57
88:Br:90:LEU:HD22	88:Br:111:ILE:HG23	1.85	0.57
1:B5:1341:A:O2'	1:B5:1422:C:O2'	2.21	0.57
1:B5:1423:C:OP1	28:Ba:132:ARG:NH2	2.37	0.57
1:B5:4282:OMC:HM22	1:B5:4283:C:H5'	1.87	0.57
25:BE:120:PRO:O	88:Br:112:ARG:NH1	2.37	0.57
68:A2:1448:OMG:HM22	68:A2:1449:A:H5'	1.87	0.57
1:B5:4268:G:O2'	1:B5:4271:C:OP2	2.21	0.57
24:Aw:26:GLN:NE2	99:Aw:201:HOH:O	2.38	0.57
56:DB:549:ARG:HB2	56:DB:667:LEU:HD12	1.87	0.57
60:DC:41:LEU:HB3	60:DC:58:ALA:HB3	1.86	0.57
67:BO:125:LYS:HG2	67:BO:129:LEU:HD12	1.86	0.57
91:Bs:106:LYS:HD3	91:Bs:184:SER:HB2	1.87	0.57
1:B5:214:G:O2'	56:DB:626:LYS:HD3	2.05	0.56
1:B5:230:G:OP1	18:BY:15:ARG:NH1	2.37	0.56
1:B5:1846:A:H4'	30:BF:222:LYS:HE3	1.87	0.56
1:B5:3539:A:OP1	38:Az:23:ARG:NH2	2.35	0.56
54:Bf:40:GLU:O	54:Bf:109:ARG:NH2	2.38	0.56
56:DB:188:GLU:HB3	56:DB:533:ILE:HD12	1.87	0.56
61:Ag:65:PRO:HD2	61:Ag:68:GLN:HE21	1.70	0.56
68:A2:941:U:H3	68:A2:1003:U:H3	1.51	0.56
75:Ak:18:GLN:HG2	75:Ak:33:LEU:HD21	1.87	0.56
1:B5:1923:A:N7	1:B5:1949:A:O2'	2.35	0.56
57:Af:2:LYS:HB3	57:Af:15:LEU:HD11	1.86	0.56
68:A2:1286:G:H22	78:Al:57:ASP:HB2	1.70	0.56
76:Bl:30:LYS:HB2	76:Bl:33:ASN:HB2	1.86	0.56
86:AF:120:ILE:HB	86:AF:132:TRP:HB2	1.86	0.56
1:B5:1005:G:OP1	2:BT:142:ARG:NH1	2.37	0.56
1:B5:1395:U:OP2	30:BF:33:ARG:NH2	2.38	0.56
1:B5:3422:U:O2'	1:B5:3549:A:N3	2.37	0.56
1:B5:4516:G:H5"	67:BO:176:ARG:HD3	1.88	0.56
16:BB:317:LEU:HB2	16:BB:372:SER:HB2	1.87	0.56
40:EA:233:ASN:ND2	40:EA:358:GLU:OE1	2.38	0.56
52:DA:74:ILE:HG13	52:DA:111:LEU:HB3	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:DB:98:GLU:HA	56:DB:101:LYS:HD2	1.85	0.56
68:A2:747:C:O2	68:A2:797:G:N2	2.37	0.56
68:A2:1555:C:O2	72:Aj:24:LYS:NZ	2.38	0.56
13:BA:6:ARG:HH12	13:BA:199:VAL:H	1.52	0.56
16:BB:261:ARG:HB2	67:BO:64:THR:HG21	1.86	0.56
20:B:223:PHE:HB3	20:B:226:TYR:HB2	1.87	0.56
32:AZ:33:GLN:HB3	32:AZ:154:LEU:HD12	1.87	0.56
56:DB:145:PRO:O	56:DB:151:TRP:NE1	2.31	0.56
68:A2:105:PSU:OP1	93:A2:1955:SPD:N10	2.38	0.56
1:B5:1631:C:H41	1:B5:4124:A:H5"	1.69	0.56
1:B5:4495:U:H5"	54:Bf:54:LYS:HE3	1.88	0.56
9:Ar:84:LEU:O	9:Ar:87:GLN:NE2	2.33	0.56
68:A2:518:OMC:HM22	68:A2:519:G:H5'	1.88	0.56
1:B5:1095:C:H2'	1:B5:1096:G:H8	1.70	0.56
23:BZ:25:ILE:HA	23:BZ:43:VAL:HG12	1.88	0.56
1:B5:530:C:H42	1:B5:625:G:H1	1.53	0.56
11:BU:28:PRO:HB2	11:BU:34:MET:HG2	1.88	0.56
14:BV:85:ARG:NH1	14:BV:99:GLU:O	2.32	0.56
22:BQ:157:GLY:O	22:BQ:188:ASN:ND2	2.39	0.56
83:AE:44:ILE:HD12	83:AE:65:PRO:HG2	1.88	0.56
1:B5:4194:G:H5"	1:B5:4195:A:H5"	1.87	0.56
16:BB:95:THR:OG1	16:BB:98:GLY:O	2.19	0.56
56:DB:401:ILE:HA	56:DB:410:LEU:HD13	1.88	0.56
56:DB:693:GLN:HG2	64:DD:120:THR:HG23	1.87	0.56
91:Bs:103:LEU:HD12	91:Bs:106:LYS:HZ1	1.71	0.56
1:B5:4060:C:O2'	3:Bb:36:ASP:OD1	2.21	0.56
9:Ar:36:VAL:HG21	9:Ar:71:MET:HE3	1.88	0.56
9:Ar:124:ARG:NH1	87:Ao:123:TYR:OH	2.37	0.56
68:A2:1544:U:H5"	90:Ap:37:ARG:HH12	1.71	0.56
68:A2:1842:C:H2'	68:A2:1843:4AC:H6	1.88	0.56
86:AF:244:ASN:ND2	86:AF:294:ASP:O	2.39	0.56
1:B5:1284:OMC:HM22	1:B5:1285:U:H5'	1.87	0.56
1:B5:3480:A:O2'	13:BA:223:SER:OG	2.23	0.56
68:A2:445:G:H4'	93:A2:1930:SPD:H91	1.88	0.56
68:A2:1080:C:O2'	68:A2:1183:A:N1	2.37	0.56
1:B5:758:C:O2'	1:B5:760:C:N4	2.35	0.55
1:B5:1935:C:H42	1:B5:1939:G:H22	1.54	0.55
1:B5:2658:A2M:HM'2	1:B5:2659:G:H5'	1.88	0.55
1:B5:3421:G:O2'	1:B5:3550:UY1:OP2	2.21	0.55
44:Ct:95:THR:HG21	48:Cu:109:GLN:HB3	1.88	0.55
52:DA:115:ILE:HD13	52:DA:146:ASP:HB2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:Ae:56:TYR:HB3	53:Ae:63:LYS:HA	1.88	0.55
9:Ar:124:ARG:NE	9:Ar:130:ARG:O	2.35	0.55
11:BU:91:LEU:HD22	11:BU:96:LEU:HD11	1.88	0.55
12:As:121:ARG:NH1	68:A2:1564:G:OP1	2.38	0.55
26:BW:80:ARG:NH1	68:A2:167:G:O2'	2.39	0.55
68:A2:166:A2M:HM'2	68:A2:167:G:H5'	1.87	0.55
68:A2:869:G:OP2	68:A2:869:G:N2	2.34	0.55
68:A2:926:G:H1	68:A2:1018:U:H3	1.53	0.55
68:A2:936:G:N7	99:A2:2177:HOH:O	2.33	0.55
68:A2:1206:C:N4	99:A2:2215:HOH:O	2.38	0.55
1:B5:85:G:O2'	1:B5:97:G:O6	2.22	0.55
20:B:208:MET:HE3	20:B:233:PRO:HG3	1.87	0.55
65:Ah:98:LYS:HB3	68:A2:378:G:H5'	1.88	0.55
1:B5:85:G:N2	1:B5:98:A:OP2	2.31	0.55
1:B5:3612:G:C8	99:B5:5690:HOH:O	2.59	0.55
37:Aa:7:LYS:NZ	68:A2:966:U:OP1	2.38	0.55
56:DB:418:TYR:O	56:DB:423:ASN:N	2.37	0.55
1:B5:1132:U:N3	1:B5:1201:G:OP1	2.37	0.55
1:B5:4684:G:N1	54:Bf:3:GLY:O	2.35	0.55
44:Ct:94:VAL:HB	44:Ct:106:ILE:HB	1.88	0.55
56:DB:825:ARG:O	56:DB:829:HIS:ND1	2.39	0.55
68:A2:1402:A:N6	68:A2:1442:U:O2'	2.39	0.55
81:Am:4:MET:SD	81:Am:124:ARG:NH2	2.80	0.55
1:B5:1805:U:OP1	43:BI:4:ARG:NH1	2.39	0.55
11:BU:105:ASN:ND2	11:BU:111:GLU:OE1	2.36	0.55
44:Ct:194:LYS:HB3	44:Ct:213:LEU:HD22	1.88	0.55
56:DB:193:LEU:O	56:DB:197:ASN:ND2	2.39	0.55
68:A2:1261:A:P	99:A2:2143:HOH:O	2.64	0.55
74:AB:32:VAL:HG11	74:AB:56:LEU:HD12	1.89	0.55
13:BA:27:ALA:O	13:BA:128:ARG:NH1	2.40	0.55
13:BA:101:VAL:HG22	13:BA:165:VAL:HG22	1.88	0.55
47:BJ:144:LYS:O	47:BJ:148:THR:OG1	2.22	0.55
52:DA:52:ASN:HB2	56:DB:371:THR:HG21	1.87	0.55
56:DB:80:HIS:HE1	56:DB:109:TRP:HB2	1.71	0.55
1:B5:1939:G:O2'	1:B5:1940:G:N7	2.39	0.55
1:B5:4794:G:N2	46:Bd:118:GLN:OE1	2.40	0.55
40:EA:295:GLY:HA2	40:EA:324:PHE:HA	1.87	0.55
41:Ab:183:LYS:HD3	41:Ab:194:ARG:HH21	1.71	0.55
1:B5:1546:U:OP2	1:B5:2699:C:O2'	2.22	0.55
40:EA:216:ILE:HD11	40:EA:353:ARG:HB3	1.88	0.55
68:A2:27:A2M:P	99:A2:2108:HOH:O	2.65	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:1772:G:N2	1:B5:1774:G:O4'	2.40	0.55
1:B5:4764:C:O2'	1:B5:4767:G:N3	2.36	0.55
47:BJ:13:ARG:O	47:BJ:136:ARG:NH1	2.40	0.55
9:Ar:141:ARG:NH2	68:A2:1525:G:N7	2.55	0.54
39:BH:23:ARG:HE	39:BH:39:ASN:HA	1.71	0.54
1:B5:1741:A:O2'	1:B5:1776:A:OP1	2.24	0.54
1:B5:2110:U:OP1	88:Br:37:SER:OG	2.25	0.54
1:B5:4004:C:OP2	47:BJ:54:ARG:NH1	2.40	0.54
1:B5:4366:OMU:HM22	1:B5:4367:C:H5'	1.88	0.54
9:Ar:26:ILE:HG13	9:Ar:45:LEU:HD21	1.89	0.54
13:BA:117:GLU:HG2	13:BA:124:GLY:H	1.71	0.54
15:At:20:ILE:HG13	15:At:116:ILE:HG13	1.88	0.54
28:Ba:71:PRO:HG2	28:Ba:108:TYR:HA	1.88	0.54
55:BL:109:SER:O	55:BL:113:ASN:ND2	2.37	0.54
56:DB:517:GLU:OE2	56:DB:639:LYS:NZ	2.40	0.54
61:Ag:143:ARG:HB2	61:Ag:155:LYS:HB2	1.89	0.54
68:A2:116:OMU:HM22	68:A2:117:C:H5'	1.90	0.54
68:A2:1481:A:O2'	89:AG:56:ASP:OXT	2.24	0.54
1:B5:2647:OMC:HM22	1:B5:2648:C:H5'	1.89	0.54
20:B:85:LYS:NZ	20:B:254:GLU:OE2	2.35	0.54
23:BZ:87:VAL:HG12	23:BZ:89:ILE:HG13	1.89	0.54
52:DA:18:GLN:HE21	56:DB:437:LEU:HB3	1.72	0.54
64:DD:79:LYS:HD2	64:DD:80:VAL:H	1.72	0.54
68:A2:1446:PSU:O2	68:A2:1447:A:N6	2.40	0.54
75:Ak:147:LYS:HD2	75:Ak:151:THR:HG21	1.88	0.54
1:B5:239:C:OP1	18:BY:46:SER:OG	2.26	0.54
9:Ar:38:ARG:O	9:Ar:42:HIS:ND1	2.30	0.54
14:BV:13:LYS:HB3	14:BV:128:LEU:HD11	1.89	0.54
1:B5:483:G:O2'	1:B5:486:C:OP2	2.26	0.54
1:B5:1988:G:HO2'	1:B5:3616:PSU:HO2'	1.55	0.54
1:B5:2689:G:N7	99:B5:5729:HOH:O	2.33	0.54
1:B5:4312:U:O2'	16:BB:234:ARG:NH1	2.34	0.54
49:Ad:44:LEU:HD21	49:Ad:72:ILE:HD11	1.90	0.54
1:B5:709:G:OP1	35:BC:321:ASN:ND2	2.41	0.54
1:B5:1694:C:O2	20:B:3:PHE:N	2.40	0.54
1:B5:2243:G:H21	58:Bg:6:THR:HG22	1.71	0.54
68:A2:28:U:H2'	68:A2:29:G:H8	1.73	0.54
1:B5:2122:A:O2'	50:Be:48:ARG:NH2	2.40	0.54
30:BF:121:PHE:O	30:BF:204:ASN:ND2	2.39	0.54
68:A2:469:A2M:HM'2	68:A2:470:A:H5'	1.90	0.54
68:A2:521:A:O2'	68:A2:826:A:N3	2.36	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:A2:828:A:N7	99:A2:2184:HOH:O	2.34	0.54
68:A2:1342:C:N3	99:A2:2178:HOH:O	2.33	0.54
69:Ai:138:ARG:NH1	69:Ai:153:SER:OG	2.40	0.54
1:B5:1738:G:N7	99:B5:5737:HOH:O	2.34	0.54
13:BA:140:ASN:ND2	13:BA:143:THR:OG1	2.41	0.54
16:BB:215:GLU:OE2	16:BB:349:LYS:NZ	2.38	0.54
56:DB:254:ASN:OD1	60:DC:93:GLN:NE2	2.40	0.54
90:Ap:129:SER:O	90:Ap:131:LYS:NZ	2.38	0.54
1:B5:62:A:N3	1:B5:77:U:O2'	2.37	0.54
1:B5:1907:G:H4'	91:Bs:34:ASN:HD22	1.73	0.54
57:Af:121:ILE:N	57:Af:125:THR:OG1	2.41	0.54
68:A2:1148:C:OP1	83:AE:6:ARG:NH1	2.38	0.54
1:B5:2257:G:H2'	1:B5:2258:OMU:H6	1.89	0.54
1:B5:4099:PSU:H5'	1:B5:4100:U:H5'	1.89	0.54
17:BP:14:SER:O	17:BP:105:LYS:NZ	2.36	0.54
27:Au:15:ARG:NH1	27:Au:33:GLN:OE1	2.39	0.54
35:BC:60:HIS:HA	35:BC:92:PHE:HE1	1.73	0.54
56:DB:79:SER:OG	56:DB:82:CYS:SG	2.59	0.54
1:B5:58:G:H4'	1:B5:59:A:H4'	1.89	0.53
1:B5:1504:G:OP1	99:B5:5528:HOH:O	2.18	0.53
4:Bt:123:ARG:HG2	91:Bs:48:ARG:HH11	1.73	0.53
45:Ac:70:THR:HG22	45:Ac:86:LEU:HD13	1.90	0.53
57:Af:170:ARG:NH1	68:A2:71:G:O6	2.41	0.53
64:DD:72:GLU:OE1	64:DD:73:ARG:NH2	2.42	0.53
1:B5:2688:A:H61	1:B5:3575:C:H42	1.55	0.53
20:B:152:ARG:HG3	20:B:154:THR:HG23	1.89	0.53
49:Ad:79:ASP:HB3	49:Ad:82:TYR:HB2	1.90	0.53
65:Ah:123:ARG:NH1	65:Ah:133:GLU:OE1	2.40	0.53
79:Bm:94:MET:HG2	79:Bm:105:PRO:HA	1.90	0.53
82:Bo:59:LYS:NZ	82:Bo:61:LYS:O	2.40	0.53
1:B5:4744:G:N2	1:B5:4780:G:O2'	2.41	0.53
56:DB:226:VAL:HG12	56:DB:230:LYS:HE2	1.90	0.53
58:Bg:5:LEU:HD21	58:Bg:30:ILE:HG22	1.90	0.53
68:A2:1264:U:O2	89:AG:16:GLN:NE2	2.38	0.53
81:Am:136:PRO:HG2	81:Am:139:TRP:HB2	1.91	0.53
1:B5:156:G:OP2	62:Bh:106:LYS:NZ	2.40	0.53
1:B5:381:U:H4'	1:B5:415:G:H5'	1.90	0.53
41:Ab:192:LEU:HB3	41:Ab:227:ARG:HG2	1.90	0.53
68:A2:1276:G:N2	68:A2:1507:A:OP2	2.38	0.53
1:B5:32:G:H21	1:B5:50:C:H5	1.57	0.53
1:B5:375:G:OP2	70:Bj:52:LYS:NZ	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Ay:85:ARG:NH2	68:A2:1598:C:OP2	2.39	0.53
65:Ah:31:ARG:NH2	68:A2:382:C:OP2	2.41	0.53
86:AF:77:PHE:HB3	86:AF:89:LEU:HD11	1.91	0.53
90:Ap:53:GLU:OE1	90:Ap:85:ARG:NH2	2.40	0.53
49:Ad:126:VAL:HG22	49:Ad:139:LEU:HD21	1.90	0.53
56:DB:228:GLU:OE2	56:DB:260:TYR:OH	2.24	0.53
56:DB:745:THR:HB	56:DB:749:ASN:HD22	1.74	0.53
60:DC:12:MET:HA	60:DC:28:MET:HE1	1.90	0.53
61:Ag:51:ILE:HD11	61:Ag:176:VAL:HG22	1.91	0.53
62:Bh:13:LYS:NZ	62:Bh:16:GLU:OE2	2.42	0.53
68:A2:1084:A:N7	68:A2:1842:C:O2'	2.39	0.53
86:AF:39:THR:HG22	86:AF:60:ARG:HG2	1.90	0.53
1:B5:1763:G:H5"	2:BT:35:LYS:HE3	1.91	0.53
10:B8:102:G:OP2	10:B8:104:A:O2'	2.27	0.53
14:BV:106:VAL:HG12	14:BV:112:MET:HA	1.91	0.53
17:BP:50:ASP:OD2	17:BP:56:GLN:NE2	2.42	0.53
68:A2:1663:U:O4	68:A2:1664:A:N6	2.39	0.53
68:A2:1861:A:N7	83:AE:34:LYS:NZ	2.56	0.53
72:Aj:4:PRO:HB2	72:Aj:7:ASN:HD22	1.73	0.53
23:BZ:22:LYS:NZ	23:BZ:129:TRP:O	2.39	0.53
77:AC:126:CYS:HB2	77:AC:130:VAL:HB	1.91	0.53
1:B5:238:C:OP2	18:BY:45:ARG:NH2	2.42	0.53
1:B5:480:C:OP1	88:Br:67:ARG:NH1	2.42	0.53
1:B5:2568:A:N6	31:BR:88:ARG:O	2.42	0.53
1:B5:3646:U:H1'	93:B5:5366:SPD:H102	1.74	0.53
56:DB:726:LEU:HB2	56:DB:731:ARG:CZ	2.39	0.53
62:Bh:80:PRO:HD2	62:Bh:83:LEU:HD12	1.91	0.53
68:A2:1864:A:OP2	83:AE:4:LYS:NZ	2.38	0.53
1:B5:1271:C:P	99:B5:5507:HOH:O	2.63	0.53
1:B5:1869:U:OP2	67:BO:49:ARG:NH1	2.35	0.53
1:B5:1921:G:N2	1:B5:1948:A:O2'	2.36	0.53
1:B5:2549:G:C6	1:B5:2551:U:H5"	2.44	0.53
10:B8:75:OMG:OP2	18:BY:74:TYR:OH	2.24	0.53
36:BS:112:ASP:OD1	36:BS:116:ARG:NH1	2.35	0.53
83:AE:59:PHE:HB2	83:AE:62:TYR:HB2	1.91	0.53
1:B5:48:G:OP1	63:BN:192:TRP:NE1	2.42	0.52
1:B5:2652:G:O2'	1:B5:4390:G:OP1	2.26	0.52
32:AZ:176:TRP:HE1	32:AZ:197:VAL:HG23	1.73	0.52
49:Ad:49:ARG:NH2	68:A2:497:C:OP1	2.33	0.52
56:DB:277:LEU:HD11	56:DB:301:LEU:HD21	1.91	0.52
61:Ag:119:SER:O	68:A2:914:A:N6	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:A2:1166:G:OP2	68:A2:1166:G:N2	2.32	0.52
91:Bs:19:GLN:NE2	91:Bs:23:ASP:OD2	2.41	0.52
1:B5:1125:C:H5	25:BE:62:SER:HB2	1.74	0.52
1:B5:3676:OMG:HM22	1:B5:3677:A:H5'	1.91	0.52
10:B8:52:A:OP1	76:Bl:21:ARG:NH1	2.42	0.52
55:BL:81:LEU:HD12	55:BL:86:ILE:HB	1.91	0.52
68:A2:27:A2M:OP2	99:A2:2108:HOH:O	2.19	0.52
68:A2:355:OMU:HM22	68:A2:356:G:H5'	1.91	0.52
68:A2:1031:A:H2'	68:A2:1032:A2M:H8	1.91	0.52
68:A2:1289:OMU:HM22	68:A2:1290:U:H5'	1.91	0.52
1:B5:878:G:OP1	1:B5:1124:A:N6	2.42	0.52
1:B5:1496:C:H5"	13:BA:21:LYS:HG2	1.92	0.52
1:B5:1611:U:OP2	28:Ba:26:ARG:NH2	2.31	0.52
1:B5:3562:A2M:HM'2	1:B5:3563:U:H5'	1.90	0.52
1:B5:4292:A:N7	13:BA:215:ASN:ND2	2.57	0.52
61:Ag:60:ILE:HB	61:Ag:92:VAL:HG22	1.92	0.52
68:A2:1222:G:O2'	68:A2:1677:U:O2	2.27	0.52
1:B5:1678:G:N3	1:B5:1681:A:N6	2.57	0.52
13:BA:53:GLY:O	13:BA:192:LYS:NZ	2.43	0.52
17:BP:40:HIS:NE2	17:BP:110:ASP:O	2.35	0.52
33:Ay:74:SER:OG	33:Ay:79:ILE:O	2.25	0.52
37:Aa:57:ILE:HG22	37:Aa:59:SER:H	1.73	0.52
39:BH:17:ASP:HB3	39:BH:28:LYS:HB3	1.92	0.52
42:Bc:51:ASN:ND2	42:Bc:78:ASN:OD1	2.33	0.52
68:A2:1227:G:N1	68:A2:1640:G7M:OP2	2.34	0.52
68:A2:1271:G:O2'	68:A2:1302:A:N7	2.39	0.52
78:Al:25:ALA:O	78:Al:30:GLY:N	2.40	0.52
1:B5:4649:A:H4'	16:BB:95:THR:HG22	1.90	0.52
1:B5:4668:C:H5"	59:BM:114:LYS:HD2	1.91	0.52
2:BT:9:ARG:O	2:BT:55:LYS:NZ	2.39	0.52
25:BE:164:ARG:O	25:BE:185:ASN:ND2	2.42	0.52
44:Ct:96:ILE:HB	44:Ct:104:PHE:HB2	1.92	0.52
56:DB:794:LEU:HD12	56:DB:797:ARG:NH2	2.24	0.52
57:Af:44:GLU:HB3	57:Af:119:LYS:HD3	1.91	0.52
72:Aj:37:ASP:OD1	72:Aj:37:ASP:N	2.42	0.52
77:AC:126:CYS:HB3	77:AC:143:LYS:HD3	1.91	0.52
1:B5:521:C:O2'	55:BL:115:GLN:OE1	2.27	0.52
23:BZ:76:ASN:OD1	23:BZ:77:TYR:N	2.43	0.52
28:Ba:89:ASN:OD1	28:Ba:92:LYS:NZ	2.43	0.52
49:Ad:134:LYS:NZ	68:A2:127:C:O2	2.39	0.52
56:DB:134:ARG:HB3	56:DB:138:TYR:CZ	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:A2:642:A:OP1	69:Ai:40:LYS:NZ	2.36	0.52
1:B5:2338:U:H2'	1:B5:2339:G:H8	1.75	0.52
1:B5:2422:G:N2	1:B5:2425:A:OP2	2.37	0.52
1:B5:3818:G:OP1	34:BG:252:LYS:NZ	2.42	0.52
1:B5:4745:U:H4'	1:B5:4746:A:H5'	1.92	0.52
32:AZ:177:MET:SD	32:AZ:180:ARG:NH2	2.82	0.52
43:BI:66:GLU:OE2	43:BI:69:ARG:NH2	2.43	0.52
68:A2:1528:C:OP1	90:Ap:142:GLN:NE2	2.43	0.52
68:A2:1754:C:H2'	68:A2:1755:G:H8	1.74	0.52
1:B5:2473:U:O4	11:BU:89:LYS:NZ	2.43	0.52
1:B5:2625:U:OP2	76:Bl:10:LYS:NZ	2.41	0.52
9:Ar:46:ARG:HG2	12:As:35:ASP:HB2	1.91	0.52
27:Au:83:PHE:O	32:AZ:52:LYS:NZ	2.43	0.52
46:Bd:19:GLU:OE1	46:Bd:92:ARG:NH1	2.43	0.52
65:Ah:67:TRP:NE1	65:Ah:191:GLU:OE2	2.33	0.52
68:A2:694:A:H2'	68:A2:695:G:H8	1.75	0.52
68:A2:1299:G:H4'	87:Ao:78:THR:HA	1.91	0.52
89:AG:17:GLY:O	89:AG:27:ARG:NH1	2.42	0.52
1:B5:1737:G:O2'	2:BT:60:LYS:NZ	2.43	0.52
1:B5:2249:G:N7	76:Bl:2:SER:N	2.58	0.52
56:DB:525:PHE:O	56:DB:529:CYS:N	2.41	0.52
68:A2:1805:OMU:HM22	68:A2:1806:G:H5'	1.90	0.52
1:B5:68:U:OP1	63:BN:178:HIS:ND1	2.34	0.52
1:B5:2014:G:OP1	35:BC:312:ARG:NH2	2.43	0.52
28:Ba:14:HIS:ND1	99:Ba:401:HOH:O	2.31	0.52
37:Aa:47:THR:OG1	37:Aa:65:ARG:NH1	2.43	0.52
57:Af:135:PRO:HG2	57:Af:141:ILE:HD13	1.92	0.52
68:A2:142:C:N4	68:A2:330:G:OP1	2.32	0.52
70:Bj:30:GLN:CD	99:Bj:201:HOH:O	2.53	0.52
1:B5:327:U:O2'	66:Bi:30:ARG:NH1	2.43	0.51
1:B5:4122:A:O2'	28:Ba:42:ARG:NH1	2.43	0.51
1:B5:4138:OMG:HM21	1:B5:4140:A:H2'	1.92	0.51
68:A2:1329:OMG:HM22	68:A2:1330:U:H5'	1.92	0.51
1:B5:228:C:O2'	18:BY:14:ASN:ND2	2.43	0.51
1:B5:1412:G:O2'	22:BQ:75:ARG:NH2	2.41	0.51
6:Aq:37:GLU:OE1	86:AF:150:TRP:NE1	2.43	0.51
13:BA:180:LEU:HD21	85:Bp:22:LEU:HB3	1.92	0.51
37:Aa:179:ASN:HB3	37:Aa:183:GLU:HB2	1.91	0.51
41:Ab:232:THR:HG22	41:Ab:235:ASN:H	1.75	0.51
1:B5:1888:U:OP1	39:BH:64:ARG:NH1	2.43	0.51
1:B5:4151:G:OP2	43:BI:7:ARG:NH2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:DB:556:LYS:NZ	97:DB:901:IHP:O42	2.43	0.51
68:A2:526:A:H2'	68:A2:527:A:H8	1.76	0.51
68:A2:1315:U:O2'	72:Aj:8:ARG:NH2	2.39	0.51
1:B5:3476:OMG:HM22	1:B5:3477:U:H5'	1.92	0.51
1:B5:4350:G:N2	1:B5:4353:A:OP2	2.43	0.51
6:Aq:40:ILE:HB	45:Ac:209:SER:HB3	1.93	0.51
49:Ad:112:HIS:NE2	49:Ad:237:SER:O	2.44	0.51
56:DB:408:ILE:HD13	56:DB:444:ILE:HD11	1.92	0.51
65:Ah:147:LYS:NZ	68:A2:204:G:OP2	2.39	0.51
68:A2:945:A:H5"	84:An:134:PRO:HB3	1.92	0.51
68:A2:1830:G:N7	99:A2:2194:HOH:O	2.35	0.51
1:B5:394:G:N2	1:B5:397:G:OP2	2.35	0.51
2:BT:22:HIS:O	20:B:17:GLN:NE2	2.38	0.51
24:Aw:93:PHE:O	24:Aw:140:ARG:NH1	2.43	0.51
40:EA:213:GLU:HG3	40:EA:239:GLY:HA3	1.92	0.51
56:DB:254:ASN:HB2	56:DB:260:TYR:CE2	2.45	0.51
68:A2:929:G:H1	68:A2:1014:U:H3	1.57	0.51
68:A2:1069:G:N7	99:A2:2191:HOH:O	2.34	0.51
68:A2:1508:G:N2	77:AC:87:THR:O	2.38	0.51
77:AC:116:ARG:NH1	77:AC:120:GLU:OE2	2.43	0.51
78:Al:89:VAL:HG11	78:Al:109:VAL:HG11	1.92	0.51
43:BI:87:ILE:HG12	43:BI:138:ILE:HG12	1.93	0.51
46:Bd:38:PHE:HB3	46:Bd:78:ARG:HG2	1.92	0.51
65:Ah:89:GLU:OE1	65:Ah:92:ARG:NH2	2.43	0.51
91:Bs:68:HIS:HB3	91:Bs:75:LEU:HD22	1.93	0.51
1:B5:2662:U:P	99:B5:5551:HOH:O	2.68	0.51
57:Af:85:ARG:O	57:Af:87:ARG:NH1	2.42	0.51
68:A2:1419:C:O2'	68:A2:1421:G:OP2	2.26	0.51
68:A2:1551:G:H3'	68:A2:1580:A:H61	1.75	0.51
91:Bs:25:PRO:HB2	91:Bs:195:ASN:HD21	1.76	0.51
68:A2:1259:A:P	99:A2:2105:HOH:O	2.67	0.51
78:Al:49:LEU:HB3	78:Al:111:VAL:HB	1.92	0.51
1:B5:1070:U:O2	20:B:286:SER:OG	2.26	0.51
12:As:60:THR:HG23	12:As:75:MET:HE2	1.92	0.51
44:Ct:96:ILE:HG23	48:Cu:62:VAL:HG22	1.93	0.51
56:DB:50:ALA:HA	56:DB:69:VAL:HG22	1.92	0.51
56:DB:496:LYS:HE2	56:DB:504:ALA:HB1	1.92	0.51
68:A2:43:U:OP2	68:A2:486:A:N6	2.34	0.51
68:A2:753:G:O2'	68:A2:754:C:O2	2.28	0.51
1:B5:1458:A:H4'	1:B5:1459:G:H5'	1.92	0.51
1:B5:2105:G:OP2	88:Br:98:ARG:NH2	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Bt:147:HIS:HD2	4:Bt:149:HIS:HB2	1.76	0.51
36:BS:99:ASP:OD1	36:BS:100:LEU:N	2.42	0.51
37:Aa:189:ILE:HB	37:Aa:190:PRO:HD3	1.93	0.51
68:A2:220:U:H2'	68:A2:221:A:H8	1.76	0.51
71:AA:35:VAL:HG21	71:AA:63:LEU:HD13	1.91	0.51
1:B5:2654:G:N2	1:B5:2657:C:OP2	2.38	0.50
17:BP:52:THR:HG23	17:BP:85:LYS:HG3	1.93	0.50
56:DB:178:GLN:O	56:DB:189:TYR:OH	2.28	0.50
59:BM:29:ASP:OD1	59:BM:30:VAL:N	2.41	0.50
68:A2:1260:A:N6	68:A2:1520:U:OP1	2.43	0.50
68:A2:1337:C:H41	68:A2:1338:4AC:HM73	1.76	0.50
1:B5:1299:G:OP1	22:BQ:108:ARG:NH2	2.38	0.50
1:B5:1536:G:N7	99:B5:5748:HOH:O	2.34	0.50
25:BE:181:PRO:HD2	25:BE:184:LEU:HD12	1.93	0.50
56:DB:73:LEU:HD22	56:DB:77:LEU:HD23	1.93	0.50
56:DB:773:TYR:HE1	56:DB:780:GLN:HA	1.76	0.50
68:A2:1029:A:P	99:A2:2109:HOH:O	2.68	0.50
68:A2:1839:U:P	99:A2:2107:HOH:O	2.69	0.50
69:Ai:107:GLU:O	69:Ai:113:GLN:NE2	2.44	0.50
1:B5:856:A:H1'	1:B5:2015:G:H5"	1.92	0.50
1:B5:3518:U:OP1	1:B5:4296:G:O2'	2.24	0.50
1:B5:4092:U:O2'	82:Bo:80:LYS:O	2.23	0.50
63:BN:138:PHE:HA	63:BN:143:ARG:HE	1.76	0.50
1:B5:62:A:OP1	63:BN:172:ARG:NH1	2.45	0.50
1:B5:1984:G:O6	1:B5:3602:C:O2'	2.28	0.50
1:B5:4052:OMU:HM22	1:B5:4053:A:H5'	1.94	0.50
1:B5:4224:G:O2'	1:B5:4348:A:N1	2.44	0.50
1:B5:4416:C:O2'	1:B5:4418:A:OP2	2.26	0.50
11:BU:47:ILE:HD12	11:BU:63:ILE:HD11	1.93	0.50
21:BX:73:HIS:CD2	21:BX:115:LYS:HD3	2.46	0.50
56:DB:569:HIS:CE1	56:DB:654:LEU:HG	2.46	0.50
57:Af:148:SER:N	57:Af:151:ASP:OD2	2.44	0.50
80:AD:91:LEU:HD23	80:AD:91:LEU:H	1.76	0.50
91:Bs:30:VAL:HG21	91:Bs:187:LEU:HD13	1.94	0.50
1:B5:2624:G:O2'	76:Bl:3:SER:O	2.30	0.50
12:As:7:LYS:HB3	90:Ap:37:ARG:HG2	1.93	0.50
12:As:101:ARG:NH1	68:A2:1566:C:OP2	2.44	0.50
53:Ae:74:ASN:HA	53:Ae:77:MET:HE2	1.93	0.50
68:A2:412:G:N7	99:A2:2197:HOH:O	2.35	0.50
68:A2:1547:G:H21	68:A2:1671:C:H1'	1.77	0.50
1:B5:3625:C:O2'	1:B5:4718:A:N1	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:4222:C:O2	39:BH:173:ARG:NH2	2.45	0.50
1:B5:4440:G:OP1	1:B5:4440:G:N2	2.42	0.50
40:EA:291:TYR:HB2	40:EA:329:MET:HE1	1.94	0.50
67:BO:10:ASP:OD2	67:BO:37:ARG:NH2	2.45	0.50
67:BO:54:TYR:OH	67:BO:73:PHE:O	2.28	0.50
78:Al:32:ALA:HB1	78:Al:37:GLU:HG2	1.93	0.50
1:B5:66:A:O2'	1:B5:326:C:O2	2.29	0.50
1:B5:337:U:OP1	55:BL:31:ARG:NH1	2.40	0.50
1:B5:1105:C:C5	3:Bb:92:LYS:HD2	2.46	0.50
1:B5:1804:G:N2	1:B5:1807:A:OP2	2.42	0.50
1:B5:2127:G:OP1	28:Ba:7:LYS:NZ	2.40	0.50
1:B5:4233:A:N7	99:B5:5743:HOH:O	2.34	0.50
1:B5:4382:PSU:O2	46:Bd:78:ARG:NH2	2.45	0.50
29:Ax:34:THR:O	68:A2:571:C:O2'	2.29	0.50
40:EA:218:ASN:ND2	40:EA:356:GLN:O	2.45	0.50
68:A2:976:G:OP1	84:An:98:ARG:NH1	2.43	0.50
1:B5:2507:G:H4'	1:B5:2520:G:H4'	1.94	0.50
1:B5:4073:C:OP1	2:BT:70:HIS:NE2	2.37	0.50
40:EA:85:GLY:O	40:EA:88:ARG:NH1	2.33	0.50
56:DB:326:PHE:CZ	56:DB:379:TYR:HA	2.47	0.50
68:A2:63:U:O2'	68:A2:170:A:N3	2.44	0.50
1:B5:1868:A:C8	1:B5:1871:A:H1'	2.46	0.50
1:B5:1943:U:H2'	1:B5:1944:G:C8	2.47	0.50
4:Bt:18:THR:OG1	4:Bt:21:GLU:O	2.26	0.50
27:Au:43:THR:OG1	27:Au:45:ARG:NH1	2.45	0.50
40:EA:191:LYS:HG3	40:EA:206:PRO:HD2	1.94	0.50
48:Cu:48:LEU:HD23	48:Cu:51:LEU:HD12	1.94	0.50
63:BN:53:TYR:HB2	63:BN:133:ILE:HD13	1.92	0.50
72:Aj:17:LYS:NZ	72:Aj:18:GLU:OE2	2.44	0.50
1:B5:3913:G:O6	99:B5:5531:HOH:O	2.19	0.49
1:B5:4445:U:H1'	1:B5:4446:A:H5"	1.93	0.49
10:B8:60:G:O6	62:Bh:62:ASN:ND2	2.38	0.49
12:As:38:LYS:NZ	68:A2:1629:C:OP1	2.35	0.49
13:BA:36:GLU:OE1	13:BA:163:ARG:NH1	2.35	0.49
32:AZ:76:VAL:HG12	32:AZ:123:VAL:HB	1.93	0.49
32:AZ:184:ARG:HD3	32:AZ:191:ARG:HG2	1.93	0.49
49:Ad:124:CYS:HB3	49:Ad:141:THR:HB	1.93	0.49
68:A2:165:G:N2	68:A2:165:G:OP2	2.45	0.49
1:B5:1415:C:H5"	22:BQ:144:LYS:HG2	1.94	0.49
1:B5:3456:A2M:HM'2	1:B5:3457:G:H5'	1.92	0.49
1:B5:4484:C:OP1	1:B5:4808:U:O2'	2.30	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:As:96:SER:OG	68:A2:1569:C:OP1	2.28	0.49
56:DB:134:ARG:HH21	56:DB:158:TYR:HA	1.77	0.49
62:Bh:104:THR:HG23	63:BN:146:PRO:HB2	1.94	0.49
1:B5:4037:G:H5'	1:B5:4039:PSU:C6	2.47	0.49
9:Ar:38:ARG:NH1	99:Ar:201:HOH:O	2.44	0.49
44:Ct:94:VAL:HG13	48:Cu:64:MET:HE1	1.92	0.49
56:DB:104:ARG:HH21	56:DB:124:GLN:NE2	2.10	0.49
69:Ai:93:LYS:HB2	69:Ai:96:TYR:HD2	1.77	0.49
1:B5:526:C:H2'	1:B5:527:G:H8	1.78	0.49
42:Bc:78:ASN:OD1	42:Bc:78:ASN:N	2.45	0.49
56:DB:484:CYS:HA	60:DC:19:LEU:HD13	1.94	0.49
68:A2:602:OMG:HM22	68:A2:603:G:H5'	1.94	0.49
78:Al:79:VAL:HG21	78:Al:85:LEU:HD13	1.95	0.49
87:Ao:40:ARG:HH21	87:Ao:43:ARG:HD3	1.76	0.49
1:B5:859:G:O2'	1:B5:2106:A:N6	2.45	0.49
1:B5:1283:U:OP1	28:Ba:8:THR:OG1	2.26	0.49
1:B5:1472:G:H22	35:BC:103:ALA:HA	1.78	0.49
1:B5:4368:A:H4'	16:BB:13:SER:HB2	1.93	0.49
56:DB:190:SER:HB2	56:DB:220:ILE:HA	1.95	0.49
56:DB:469:THR:HB	56:DB:478:ASN:HD22	1.77	0.49
75:Ak:126:VAL:HG12	75:Ak:145:VAL:HG22	1.94	0.49
86:AF:87:LEU:HB2	86:AF:101:PHE:HB2	1.95	0.49
1:B5:632:G:H5"	1:B5:633:U:H5'	1.94	0.49
1:B5:1898:U:H1'	1:B5:1900:G:C2	2.47	0.49
1:B5:4026:A:N6	20:B:28:THR:O	2.43	0.49
2:BT:135:PRO:HB3	30:BF:85:GLU:HB2	1.93	0.49
33:Ay:92:LEU:HD22	33:Ay:109:TYR:HE1	1.78	0.49
56:DB:608:ILE:HG22	56:DB:612:LYS:HE3	1.94	0.49
56:DB:794:LEU:HB2	56:DB:797:ARG:CZ	2.42	0.49
60:DC:72:ILE:HG13	60:DC:91:MET:HE1	1.95	0.49
87:Ao:41:GLN:HG3	87:Ao:84:ILE:HD13	1.94	0.49
90:Ap:101:ASP:OD1	90:Ap:102:GLU:N	2.41	0.49
1:B5:1016:C:O2'	1:B5:1059:G:O4'	2.30	0.49
1:B5:3942:OMG:HM22	1:B5:3943:G:H5'	1.95	0.49
40:EA:276:ILE:HD13	40:EA:328:PRO:HB3	1.94	0.49
47:BJ:141:ILE:HD11	47:BJ:151:ILE:HA	1.93	0.49
56:DB:566:LEU:HD21	56:DB:681:ILE:HD13	1.93	0.49
68:A2:1675:G:N7	90:Ap:17:LYS:NZ	2.60	0.49
1:B5:260:C:H2'	1:B5:261:G:H8	1.78	0.49
1:B5:2106:A:OP1	88:Br:107:ARG:NH2	2.46	0.49
1:B5:2146:C:H5"	50:Be:104:SER:HB3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:2360:A:N3	1:B5:2382:C:O2'	2.46	0.49
1:B5:4627:C:H2'	1:B5:4628:G:H8	1.78	0.49
49:Ad:31:PRO:HG3	49:Ad:43:PRO:HG3	1.95	0.49
68:A2:562:A:O2'	69:Ai:134:HIS:NE2	2.45	0.49
70:Bj:2:THR:O	70:Bj:7:SER:OG	2.24	0.49
1:B5:1284:OMC:OP1	28:Ba:6:ARG:NH2	2.46	0.49
1:B5:1471:G:O2'	55:BL:18:TRP:NE1	2.46	0.49
1:B5:4473:A:O2'	1:B5:4705:A:O2'	2.31	0.49
3:Bb:56:LYS:O	3:Bb:60:ASN:ND2	2.31	0.49
14:BV:13:LYS:HD2	14:BV:128:LEU:HD21	1.95	0.49
31:BR:12:SER:OG	31:BR:17:CYS:O	2.21	0.49
32:AZ:41:ARG:HE	32:AZ:45:GLY:HA2	1.78	0.49
52:DA:74:ILE:HD11	52:DA:111:LEU:HD22	1.95	0.49
56:DB:569:HIS:HB2	56:DB:684:ARG:HH11	1.77	0.49
68:A2:1547:G:N2	68:A2:1671:C:O2	2.45	0.49
68:A2:1616:U:O4	87:Ao:40:ARG:NH2	2.46	0.49
1:B5:2247:A:H1'	70:Bj:12:ARG:HH11	1.78	0.49
27:Au:1:AME:HT23	27:Au:1:AME:HA	1.53	0.49
43:BI:177:ASN:HB2	43:BI:180:GLU:HG2	1.94	0.49
60:DC:8:PRO:HA	60:DC:11:LEU:HG	1.94	0.49
61:Ag:114:GLN:NE2	68:A2:875:G:N3	2.57	0.49
78:Al:31:LEU:HD11	78:Al:109:VAL:HB	1.95	0.49
9:Ar:132:ARG:HB2	9:Ar:134:GLN:HE22	1.78	0.48
23:BZ:29:ILE:HG22	23:BZ:32:GLY:H	1.78	0.48
39:BH:92:MET:HE2	39:BH:179:ILE:HG22	1.94	0.48
53:Ae:58:ALA:HB3	53:Ae:62:ARG:HH21	1.78	0.48
56:DB:53:GLY:HA3	56:DB:69:VAL:HG23	1.94	0.48
57:Af:103:ASP:OD2	57:Af:105:ASN:ND2	2.33	0.48
73:Bk:13:LEU:HD23	73:Bk:16:ARG:HH21	1.78	0.48
86:AF:237:ASN:ND2	86:AF:286:CYS:O	2.36	0.48
1:B5:407:A:O2'	1:B5:410:A:OP1	2.25	0.48
1:B5:1811:G:O2'	1:B5:3965:A:N3	2.41	0.48
1:B5:2205:U:H2'	1:B5:2206:A2M:H8	1.95	0.48
16:BB:340:THR:OG1	16:BB:341:LYS:N	2.46	0.48
33:Ay:58:LEU:HD12	33:Ay:62:VAL:HG21	1.94	0.48
53:Ae:19:LEU:HD21	53:Ae:69:VAL:HG11	1.95	0.48
57:Af:67:VAL:HG12	57:Af:69:THR:HG22	1.94	0.48
57:Af:159:ARG:NH2	68:A2:78:C:OP1	2.46	0.48
1:B5:97:G:N7	55:BL:13:HIS:NE2	2.58	0.48
1:B5:2207:OMG:HM22	1:B5:2208:OMC:H5"	1.94	0.48
1:B5:2252:U:H4'	1:B5:2271:A:H4'	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:2431:C:OP1	1:B5:2611:C:O2'	2.29	0.48
44:Ct:98:LYS:HG2	44:Ct:99:SER:H	1.78	0.48
44:Ct:190:VAL:HG21	44:Ct:213:LEU:HD13	1.96	0.48
57:Af:2:LYS:NZ	68:A2:156:G:OP1	2.46	0.48
68:A2:1209:A:O2'	68:A2:1836:A:N7	2.45	0.48
1:B5:2630:A2M:P	99:B5:5772:HOH:O	2.72	0.48
23:BZ:36:ARG:NH1	23:BZ:38:TYR:OH	2.45	0.48
40:EA:140:ARG:HG2	40:EA:371:LEU:HD22	1.94	0.48
48:Cu:55:ASN:N	48:Cu:55:ASN:OD1	2.47	0.48
49:Ad:45:ILE:HA	49:Ad:61:VAL:HG11	1.95	0.48
53:Ae:124:ASP:OD1	53:Ae:125:SER:N	2.42	0.48
56:DB:128:ARG:N	56:DB:133:TYR:OH	2.46	0.48
68:A2:485:A2M:O5'	68:A2:485:A2M:H8	2.14	0.48
68:A2:852:C:H5"	68:A2:853:G:H5'	1.95	0.48
1:B5:1766:C:H1'	3:Bb:50:ASN:HD21	1.78	0.48
2:BT:18:PRO:HG2	2:BT:21:LYS:HB2	1.96	0.48
4:Bt:95:GLN:HG3	4:Bt:98:ILE:HG12	1.95	0.48
24:Aw:70:VAL:HG11	24:Aw:94:ILE:HG21	1.94	0.48
25:BE:246:THR:HG22	25:BE:248:GLN:H	1.78	0.48
64:DD:79:LYS:H	64:DD:106:ARG:HD3	1.77	0.48
68:A2:1617:U:O4	87:Ao:40:ARG:NH2	2.47	0.48
81:Am:93:LYS:HA	81:Am:150:VAL:HG21	1.94	0.48
84:An:40:THR:HG21	84:An:74:ALA:HB2	1.94	0.48
91:Bs:30:VAL:HG12	91:Bs:189:ILE:HA	1.94	0.48
1:B5:1394:U:HO2'	30:BF:33:ARG:HE	1.57	0.48
1:B5:1955:C:H2'	1:B5:1956:A:H8	1.79	0.48
1:B5:3852:G:N2	34:BG:43:GLN:O	2.46	0.48
1:B5:3908:C:H5	34:BG:73:ARG:HH12	1.60	0.48
7:B7:97:G:N7	99:B7:308:HOH:O	2.35	0.48
8:AT:74:C:H3'	43:BI:110:ARG:HH22	1.78	0.48
25:BE:98:PRO:HA	25:BE:107:THR:HA	1.95	0.48
37:Aa:28:LYS:HB3	37:Aa:48:LEU:HD11	1.94	0.48
43:BI:42:LYS:HB2	43:BI:45:GLU:HG3	1.95	0.48
43:BI:61:SER:HA	43:BI:126:VAL:HG12	1.96	0.48
53:Ae:63:LYS:NZ	68:A2:1679:A2M:OP2	2.38	0.48
61:Ag:162:GLN:OE1	61:Ag:165:ASN:ND2	2.44	0.48
1:B5:1315:A:N1	10:B8:28:C:O2'	2.45	0.48
4:Bt:133:LEU:HD11	4:Bt:151:ILE:HG13	1.96	0.48
6:Aq:77:GLU:OE2	6:Aq:81:ARG:NH2	2.47	0.48
9:Ar:98:VAL:HG11	9:Ar:106:LYS:HG3	1.94	0.48
10:B8:141:C:H5"	63:BN:60:VAL:HG11	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:DB:431:MET:HB3	56:DB:448:CYS:SG	2.54	0.48
68:A2:631:U:O2	68:A2:631:U:H2'	2.13	0.48
1:B5:3863:G:H2'	1:B5:3864:G:H8	1.79	0.48
1:B5:3997:A:H5"	47:BJ:108:GLY:HA3	1.95	0.48
36:BS:95:ARG:NH2	36:BS:112:ASP:OD2	2.43	0.48
40:EA:340:TRP:HB2	40:EA:345:THR:HB	1.96	0.48
52:DA:28:PRO:O	52:DA:141:ARG:NH2	2.46	0.48
52:DA:51:PHE:O	52:DA:54:ILE:HG12	2.14	0.48
56:DB:89:LEU:O	56:DB:92:SER:OG	2.23	0.48
56:DB:714:ARG:HG3	56:DB:771:MET:HE1	1.95	0.48
68:A2:1021:A:N7	81:Am:70:LYS:NZ	2.61	0.48
72:Aj:63:ALA:HB3	72:Aj:68:TYR:HE2	1.79	0.48
74:AB:36:ASP:N	74:AB:36:ASP:OD1	2.46	0.48
1:B5:1414:A:OP1	22:BQ:65:ARG:NH2	2.45	0.48
1:B5:1772:G:OP1	2:BT:120:LYS:NZ	2.41	0.48
56:DB:201:ARG:NH2	56:DB:229:THR:HB	2.28	0.48
56:DB:496:LYS:HG2	56:DB:564:ILE:HD11	1.95	0.48
68:A2:1042:G:O6	99:A2:2111:HOH:O	2.20	0.48
68:A2:1763:C:H2'	68:A2:1764:G:C8	2.49	0.48
1:B5:4366:OMU:OP1	14:BV:51:ARG:NH1	2.45	0.48
8:AT:38:N:O2'	68:A2:1059:A:OP1	2.30	0.48
17:BP:8:PRO:HG3	17:BP:149:ILE:HD13	1.95	0.48
34:BG:154:LEU:HB3	34:BG:204:PHE:HB2	1.95	0.48
1:B5:3561:G:H2'	1:B5:3562:A2M:H8	1.96	0.47
1:B5:4159:C:O2	43:BI:158:LYS:NZ	2.41	0.47
13:BA:116:LEU:HB3	13:BA:126:LEU:HB2	1.96	0.47
24:Aw:90:CYS:HA	24:Aw:93:PHE:HD2	1.79	0.47
30:BF:187:GLU:OE2	35:BC:329:ASN:ND2	2.47	0.47
53:Ae:35:LEU:HD22	53:Ae:117:ILE:HG12	1.95	0.47
55:BL:91:ALA:HB1	55:BL:96:ILE:HB	1.96	0.47
56:DB:541:LEU:HD12	60:DC:36:LEU:HD21	1.95	0.47
61:Ag:57:ARG:NH2	61:Ag:89:GLY:O	2.47	0.47
64:DD:76:GLU:O	64:DD:107:GLU:HG3	2.14	0.47
86:AF:107:ASP:HB2	86:AF:125:ARG:HH11	1.77	0.47
1:B5:2146:C:OP1	50:Be:107:ASN:ND2	2.47	0.47
13:BA:57:PRO:HG2	13:BA:78:ALA:HB3	1.96	0.47
29:Ax:12:PHE:HZ	29:Ax:21:LYS:HD3	1.79	0.47
32:AZ:73:ASP:HB3	32:AZ:120:ARG:HB2	1.96	0.47
40:EA:333:GLY:HA3	40:EA:352:LYS:HD2	1.95	0.47
68:A2:1293:C:H42	77:AC:138:ARG:HH21	1.62	0.47
68:A2:1804:U:H2'	68:A2:1805:OMU:H6	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
88:Br:26:SER:OG	88:Br:28:GLU:OE1	2.27	0.47
1:B5:2204:G:O2'	1:B5:3591:G:O6	2.26	0.47
30:BF:181:TYR:CZ	30:BF:202:GLU:HG2	2.49	0.47
45:Ac:25:LEU:HD12	45:Ac:37:VAL:HG11	1.96	0.47
56:DB:191:GLU:HB3	56:DB:195:TYR:CZ	2.48	0.47
56:DB:535:LEU:HA	56:DB:538:TYR:HB2	1.96	0.47
86:AF:5:MET:HG2	86:AF:312:VAL:HG22	1.96	0.47
86:AF:214:GLY:HA2	86:AF:236:ILE:HG13	1.97	0.47
1:B5:2301:C:H5"	63:BN:67:ARG:HD2	1.94	0.47
1:B5:4051:G:O5'	2:BT:83:LYS:NZ	2.45	0.47
10:B8:96:C:H5"	62:Bh:66:LYS:HG2	1.95	0.47
53:Ae:83:ASN:HD22	68:A2:1652:A:H1'	1.79	0.47
55:BL:176:PHE:HB2	66:Bi:3:LEU:HD23	1.96	0.47
56:DB:330:ARG:HA	56:DB:333:TYR:CD2	2.49	0.47
68:A2:1558:C:O2	89:AG:32:ARG:NH2	2.47	0.47
1:B5:206:U:OP1	56:DB:31:LYS:HD3	2.14	0.47
1:B5:2552:C:OP2	31:BR:43:LYS:NZ	2.36	0.47
1:B5:4061:A:OP1	2:BT:69:GLN:NE2	2.46	0.47
1:B5:4324:G:H2'	1:B5:4325:PSU:H6	1.79	0.47
47:BJ:20:LEU:HD13	47:BJ:132:VAL:HG22	1.96	0.47
57:Af:102:VAL:HG13	57:Af:106:LEU:HD12	1.95	0.47
68:A2:824:U:N3	69:Ai:143:ASN:OD1	2.44	0.47
68:A2:1598:C:H4'	68:A2:1604:G:C6	2.49	0.47
10:B8:13:G:O2'	17:BP:121:LYS:O	2.31	0.47
22:BQ:178:ARG:H	28:Ba:51:GLY:HA2	1.79	0.47
33:Ay:43:LYS:HE3	68:A2:1601:G:H4'	1.97	0.47
49:Ad:100:ARG:HB2	49:Ad:114:ILE:HD13	1.95	0.47
76:Bl:23:ILE:HG23	76:Bl:38:ASN:HB2	1.96	0.47
1:B5:264:C:O2	62:Bh:112:ARG:NH2	2.47	0.47
1:B5:456:C:H2'	1:B5:457:G:H8	1.79	0.47
1:B5:1584:G:N1	13:BA:208:GLU:OE1	2.42	0.47
1:B5:1922:A:H4'	1:B5:1923:A:C8	2.49	0.47
1:B5:2300:G:OP1	63:BN:65:ARG:NH2	2.47	0.47
1:B5:2336:G:O2'	10:B8:126:C:O2'	2.31	0.47
4:Bt:112:ILE:HG22	4:Bt:132:ILE:HD13	1.97	0.47
6:Aq:31:ASN:ND2	6:Aq:55:THR:OG1	2.41	0.47
19:Av:56:HIS:HB3	81:Am:20:ARG:HH21	1.79	0.47
29:Ax:20:ARG:NH2	49:Ad:60:GLU:OE1	2.48	0.47
35:BC:66:SER:HA	35:BC:77:PRO:HA	1.96	0.47
37:Aa:56:LYS:NZ	68:A2:953:G:OP1	2.47	0.47
39:BH:141:LYS:NZ	39:BH:142:ASP:OD2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Bc:11:LEU:HD13	42:Bc:75:SER:HB2	1.95	0.47
43:BI:51:HIS:CD2	43:BI:168:SER:HB2	2.49	0.47
43:BI:57:TYR:HD1	43:BI:130:HIS:HA	1.80	0.47
46:Bd:37:GLY:O	46:Bd:41:ARG:HG3	2.15	0.47
48:Cu:103:LEU:HA	48:Cu:106:ILE:HG22	1.97	0.47
52:DA:64:ASP:OD2	52:DA:110:TYR:OH	2.27	0.47
56:DB:442:ARG:CZ	60:DC:23:PRO:HA	2.44	0.47
57:Af:49:VAL:HG23	57:Af:114:VAL:HB	1.96	0.47
65:Ah:80:ASP:OD1	65:Ah:81:VAL:N	2.48	0.47
68:A2:700:C:H2'	68:A2:701:G:C8	2.50	0.47
89:AG:22:ARG:HH21	89:AG:37:ASN:HB2	1.78	0.47
90:Ap:16:LYS:HG3	90:Ap:17:LYS:H	1.79	0.47
1:B5:3952:C:O2'	1:B5:4081:C:O2'	2.25	0.47
10:B8:155:C:OP1	34:BG:89:ARG:NH2	2.48	0.47
26:BW:73:ARG:NH1	68:A2:1781:G:OP2	2.48	0.47
37:Aa:86:LEU:HB3	37:Aa:98:THR:HB	1.97	0.47
39:BH:113:GLU:HG2	39:BH:125:ARG:HG2	1.97	0.47
41:Ab:252:THR:OG1	41:Ab:254:ASP:OD1	2.26	0.47
43:BI:54:SER:HB2	43:BI:135:ILE:HD11	1.97	0.47
54:Bf:4:ARG:NH1	54:Bf:6:TRP:O	2.43	0.47
57:Af:133:LEU:O	68:A2:168:C:O2'	2.30	0.47
59:BM:101:LYS:HA	59:BM:104:MET:HG3	1.97	0.47
65:Ah:3:ILE:O	65:Ah:30:GLY:N	2.48	0.47
1:B5:40:G:N2	1:B5:4126:A:N7	2.63	0.47
1:B5:778:C:H2'	1:B5:779:G:C8	2.49	0.47
1:B5:2658:A2M:P	99:B5:5552:HOH:O	2.73	0.47
1:B5:4140:A:OP1	99:B5:5522:HOH:O	2.21	0.47
1:B5:4269:A2M:H5"	1:B5:4270:G:H5'	1.97	0.47
13:BA:173:GLY:O	85:Bp:69:TRP:NE1	2.46	0.47
21:BX:39:LYS:HB3	21:BX:40:ILE:H	1.51	0.47
33:Ay:79:ILE:HB	33:Ay:83:LEU:HD23	1.97	0.47
49:Ad:87:MET:HE2	49:Ad:123:LEU:HB2	1.97	0.47
52:DA:90:THR:HG23	52:DA:127:PHE:HZ	1.78	0.47
56:DB:134:ARG:O	56:DB:138:TYR:N	2.45	0.47
56:DB:137:ARG:HH11	56:DB:157:ALA:HB2	1.80	0.47
56:DB:210:LEU:HD12	56:DB:237:LEU:HD12	1.96	0.47
60:DC:99:ILE:HD11	60:DC:151:LEU:HD22	1.97	0.47
65:Ah:10:LYS:NZ	68:A2:371:G:O2'	2.48	0.47
68:A2:1289:OMU:OP2	77:AC:97:LYS:NZ	2.42	0.47
68:A2:1602:A:OP2	68:A2:1637:G:N2	2.48	0.47
69:Ai:127:ARG:HD3	80:AD:105:ARG:HD3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:2667:OMC:HM22	1:B5:2668:A:H5'	1.97	0.47
1:B5:3386:G:O2'	1:B5:3425:U:OP1	2.32	0.47
1:B5:3870:U:H3	1:B5:3887:G:H1	1.63	0.47
1:B5:4340:U:H2'	1:B5:4341:G:H8	1.80	0.47
1:B5:4699:G:H2'	1:B5:4700:G:C8	2.50	0.47
19:Av:56:HIS:O	68:A2:919:U:O2'	2.33	0.47
20:B:119:TYR:OH	20:B:139:PRO:O	2.33	0.47
25:BE:172:SER:OG	25:BE:217:ASP:OD2	2.33	0.47
40:EA:268:ARG:HG3	40:EA:270:ARG:HG2	1.96	0.47
56:DB:124:GLN:HB3	56:DB:133:TYR:CE1	2.50	0.47
56:DB:770:LYS:HG2	56:DB:814:LEU:HD21	1.97	0.47
64:DD:107:GLU:CG	64:DD:108:HIS:H	2.28	0.47
68:A2:49:C:H2'	68:A2:473:C:H41	1.79	0.47
68:A2:925:G:H5'	81:Am:4:MET:HE3	1.96	0.47
1:B5:466:A:O2'	1:B5:468:U:OP2	2.32	0.46
1:B5:512:U:OP2	28:Ba:85:GLN:NE2	2.48	0.46
1:B5:1489:A2M:OP2	99:B5:5537:HOH:O	2.21	0.46
1:B5:2336:G:HO2'	10:B8:126:C:HO2'	1.60	0.46
37:Aa:179:ASN:ND2	37:Aa:183:GLU:OE1	2.48	0.46
56:DB:130:LEU:HD23	56:DB:133:TYR:CD2	2.50	0.46
60:DC:1:MET:HE3	60:DC:81:HIS:HD2	1.80	0.46
67:BO:130:LYS:HB2	67:BO:133:ARG:HG2	1.95	0.46
1:B5:2232:A:H5'	46:Bd:70:LYS:HE2	1.97	0.46
1:B5:4336:A2M:HM'2	1:B5:4337:U:H5'	1.98	0.46
7:B7:55:A:O2'	47:BJ:151:ILE:O	2.31	0.46
16:BB:224:LYS:HG2	16:BB:340:THR:HB	1.97	0.46
16:BB:317:LEU:HD22	16:BB:382:VAL:HG13	1.97	0.46
16:BB:378:ARG:HE	26:BW:32:LEU:HD21	1.79	0.46
33:Ay:36:SER:HB3	68:A2:1639:G:H4'	1.96	0.46
56:DB:330:ARG:HA	56:DB:333:TYR:HD2	1.78	0.46
71:AA:28:PRO:HG3	81:Am:17:PRO:HG3	1.96	0.46
1:B5:90:G:OP2	1:B5:92:C:N4	2.47	0.46
10:B8:71:A:N1	10:B8:84:A:O2'	2.44	0.46
16:BB:168:MET:HE1	16:BB:173:LEU:HD12	1.97	0.46
56:DB:400:ALA:O	56:DB:403:SER:OG	2.30	0.46
68:A2:324:C:H42	68:A2:328:G:N2	2.13	0.46
84:An:46:ASP:N	84:An:46:ASP:OD1	2.47	0.46
1:B5:67:C:N4	1:B5:325:U:O2'	2.48	0.46
1:B5:1528:G:OP1	31:BR:92:LYS:NZ	2.41	0.46
1:B5:2691:G:O2'	1:B5:3570:U:O4	2.29	0.46
4:Bt:20:GLY:H	4:Bt:55:GLY:N	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AT:33:N:OP2	90:Ap:146:ARG:NH1	2.48	0.46
9:Ar:22:GLY:HA2	9:Ar:56:ALA:HB3	1.96	0.46
13:BA:30:ARG:HG2	13:BA:74:GLU:HG3	1.97	0.46
23:BZ:121:ARG:O	23:BZ:124:THR:OG1	2.30	0.46
90:Ap:132:PHE:O	90:Ap:140:ARG:NH2	2.46	0.46
1:B5:706:C:OP1	25:BE:142:LYS:NZ	2.40	0.46
1:B5:2601:G:O2'	1:B5:2608:A:N3	2.35	0.46
1:B5:3377:U:OP2	99:B5:5538:HOH:O	2.21	0.46
14:BV:31:ASN:HD21	14:BV:115:SER:HG	1.59	0.46
15:At:78:ASP:OD1	89:AG:54:LYS:NZ	2.47	0.46
56:DB:480:ASN:OD1	56:DB:488:GLN:NE2	2.43	0.46
69:Ai:170:PRO:HB3	69:Ai:174:LYS:HE3	1.96	0.46
81:Am:86:GLU:O	81:Am:90:HIS:ND1	2.44	0.46
1:B5:1853:C:H4'	67:BO:89:PRO:HD3	1.98	0.46
1:B5:3432:C:H2'	1:B5:3478:A:H61	1.81	0.46
13:BA:30:ARG:NH1	13:BA:36:GLU:OE2	2.45	0.46
60:DC:18:ASN:HD21	60:DC:26:PHE:H	1.63	0.46
68:A2:1338:4AC:H2'	68:A2:1339:G:H8	1.81	0.46
86:AF:8:ARG:NE	86:AF:311:GLN:OE1	2.47	0.46
1:B5:1208:C:H2'	1:B5:1209:G:C8	2.50	0.46
1:B5:1687:U:O2'	43:BI:35:ASP:OD1	2.34	0.46
1:B5:2651:G:O2'	31:BR:60:ARG:NH1	2.48	0.46
1:B5:4380:U:OP1	93:B5:5100:SPD:N10	2.41	0.46
63:BN:42:PRO:HG3	63:BN:61:ILE:HG13	1.97	0.46
68:A2:99:A2M:H8	68:A2:99:A2M:O5'	2.15	0.46
1:B5:992:C:OP1	1:B5:1106:U:O2'	2.33	0.46
2:BT:94:GLU:OE1	2:BT:94:GLU:N	2.46	0.46
13:BA:47:ASP:OD1	13:BA:48:ILE:N	2.49	0.46
33:Ay:47:LEU:HB2	33:Ay:79:ILE:HG22	1.98	0.46
48:Cu:98:GLN:HB2	48:Cu:101:GLU:HG3	1.97	0.46
54:Bf:59:THR:OG1	54:Bf:65:ASN:OD1	2.33	0.46
56:DB:123:LEU:HA	56:DB:126:GLN:HE22	1.81	0.46
1:B5:260:C:H2'	1:B5:261:G:C8	2.51	0.46
1:B5:2302:G:N2	1:B5:2305:C:OP2	2.48	0.46
9:Ar:3:LEU:HB3	33:Ay:50:PHE:HD2	1.80	0.46
47:BJ:35:ARG:NH1	47:BJ:126:TYR:OH	2.49	0.46
52:DA:13:PRO:HG3	52:DA:40:LEU:HD13	1.98	0.46
56:DB:69:VAL:HG21	56:DB:89:LEU:HD11	1.98	0.46
56:DB:418:TYR:HB3	56:DB:423:ASN:HB2	1.96	0.46
82:Bo:26:TYR:HB3	82:Bo:67:VAL:HB	1.97	0.46
1:B5:305:A:P	63:BN:15:GLN:HE22	2.38	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Bt:35:LEU:HD13	4:Bt:64:ILE:HG21	1.98	0.46
10:B8:84:A:O4'	62:Bh:3:LYS:NZ	2.49	0.46
13:BA:48:ILE:HD13	85:Bp:65:ALA:HB2	1.97	0.46
28:Ba:24:LYS:HD2	28:Ba:26:ARG:HH21	1.80	0.46
32:AZ:198:MET:HG2	32:AZ:200:ASP:H	1.81	0.46
41:Ab:168:GLY:N	41:Ab:179:THR:O	2.38	0.46
53:Ae:45:TYR:OH	53:Ae:65:GLN:NE2	2.49	0.46
56:DB:713:ILE:HB	56:DB:771:MET:HE2	1.97	0.46
1:B5:1940:G:O6	1:B5:1942:G:N2	2.49	0.45
16:BB:384:GLU:OE2	26:BW:14:TYR:OH	2.33	0.45
17:BP:94:MET:HE1	17:BP:146:ILE:HB	1.98	0.45
22:BQ:178:ARG:N	28:Ba:51:GLY:HA2	2.31	0.45
34:BG:83:PHE:HA	34:BG:183:ILE:HD13	1.98	0.45
37:Aa:98:THR:O	37:Aa:232:HIS:NE2	2.49	0.45
39:BH:44:GLU:OE2	59:BM:2:VAL:N	2.48	0.45
65:Ah:113:TYR:OH	65:Ah:156:ALA:O	2.34	0.45
65:Ah:116:HIS:O	65:Ah:152:ARG:NH2	2.49	0.45
91:Bs:85:ASN:OD1	91:Bs:85:ASN:N	2.49	0.45
1:B5:1225:G:H5'	35:BC:323:ARG:HB2	1.97	0.45
1:B5:3404:G:OP2	1:B5:3404:G:N2	2.36	0.45
32:AZ:32:PHE:CD1	68:A2:1098:G:H4'	2.51	0.45
56:DB:550:GLN:NE2	56:DB:667:LEU:O	2.50	0.45
68:A2:62:G:H1'	68:A2:172:OMU:HM23	1.98	0.45
1:B5:207:G:OP2	56:DB:31:LYS:NZ	2.40	0.45
1:B5:456:C:H2'	1:B5:457:G:C8	2.52	0.45
1:B5:2363:C:H2'	1:B5:2364:G:H8	1.81	0.45
1:B5:2420:C:OP1	23:BZ:111:ARG:NH1	2.48	0.45
10:B8:38:U:HO2'	62:Bh:86:LYS:NZ	2.14	0.45
25:BE:170:GLN:HE21	25:BE:174:GLY:HA2	1.81	0.45
37:Aa:157:GLN:NE2	99:Aa:301:HOH:O	2.49	0.45
40:EA:233:ASN:H	40:EA:358:GLU:HB3	1.80	0.45
57:Af:199:THR:HG21	68:A2:126:G:H8	1.80	0.45
68:A2:64:A:H2	68:A2:83:A:H62	1.64	0.45
1:B5:307:A:N3	1:B5:310:G:O2'	2.45	0.45
1:B5:1804:G:OP2	43:BI:98:ARG:NH2	2.45	0.45
1:B5:3374:A:O2'	70:Bj:2:THR:N	2.43	0.45
1:B5:4645:C:O2	1:B5:4655:G:N2	2.50	0.45
14:BV:21:PRO:HA	14:BV:54:ALA:HA	1.97	0.45
25:BE:134:LYS:O	25:BE:139:HIS:NE2	2.50	0.45
28:Ba:84:GLU:OE2	28:Ba:87:ARG:NH2	2.50	0.45
52:DA:23:ASN:HD22	52:DA:36:TYR:HE1	1.64	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:DD:79:LYS:HG2	64:DD:110:GLY:HA2	1.97	0.45
65:Ah:81:VAL:HG22	65:Ah:102:VAL:HG12	1.98	0.45
68:A2:35:C:H2'	68:A2:36:PSU:H6	1.81	0.45
69:Ai:33:GLY:HA3	80:AD:112:TYR:CG	2.52	0.45
1:B5:1712:U:H2'	1:B5:1713:C:C6	2.52	0.45
1:B5:4408:C:O2'	1:B5:4743:C:OP1	2.32	0.45
4:Bt:111:ASN:HA	4:Bt:114:ARG:HD2	1.99	0.45
25:BE:273:TYR:OH	59:BM:106:ASP:OD2	2.32	0.45
45:Ac:64:ARG:HH12	72:Aj:73:ASN:CG	2.24	0.45
61:Ag:69:LEU:HD22	61:Ag:96:ALA:HB2	1.98	0.45
68:A2:502:C:OP1	93:A2:1947:SPD:N6	2.49	0.45
1:B5:150:U:OP2	34:BG:200:THR:OG1	2.24	0.45
1:B5:308:G:H2'	66:Bi:41:ARG:HH12	1.82	0.45
95:B5:5194:SPM:H22	22:BQ:11:ARG:HB3	1.98	0.45
35:BC:290:SER:HB3	88:Br:4:HIS:HE1	1.81	0.45
53:Ae:47:LYS:NZ	90:Ap:115:TYR:O	2.46	0.45
68:A2:1678:U:H2'	68:A2:1679:A2M:H8	1.98	0.45
86:AF:232:GLY:HA3	86:AF:252:THR:HG21	1.99	0.45
91:Bs:65:ILE:HG12	91:Bs:75:LEU:HD23	1.98	0.45
1:B5:67:C:OP2	1:B5:312:G:N2	2.49	0.45
1:B5:1449:U:H2'	1:B5:1450:G:H8	1.82	0.45
4:Bt:15:LEU:HD22	4:Bt:16:ARG:H	1.82	0.45
6:Aq:99:ASP:OD1	6:Aq:102:THR:N	2.45	0.45
8:AT:20:N:O2'	8:AT:22:N:OP1	2.35	0.45
20:B:37:VAL:HG12	20:B:50:ARG:HD3	1.97	0.45
23:BZ:30:ASP:O	23:BZ:39:SER:OG	2.29	0.45
45:Ac:42:THR:OG1	45:Ac:45:ARG:O	2.24	0.45
56:DB:791:ASP:O	56:DB:797:ARG:NH1	2.49	0.45
68:A2:668:U:O4	68:A2:1144:A:N6	2.50	0.45
86:AF:85:GLY:HA2	86:AF:108:VAL:HG23	1.99	0.45
90:Ap:19:ALA:HB2	90:Ap:75:GLY:HA3	1.99	0.45
1:B5:70:A:OP2	28:Ba:64:LYS:NZ	2.37	0.45
1:B5:781:C:H2'	1:B5:782:G:H8	1.82	0.45
6:Aq:83:ASN:OD1	32:AZ:89:LYS:NZ	2.50	0.45
7:B7:74:A:N1	7:B7:100:A:H5"	2.31	0.45
10:B8:86:U:OP2	18:BY:113:LYS:NZ	2.49	0.45
10:B8:149:G:H21	34:BG:64:GLN:HE22	1.63	0.45
16:BB:41:VAL:HA	16:BB:187:GLY:HA3	1.98	0.45
32:AZ:145:ILE:HG12	32:AZ:159:ILE:HB	1.99	0.45
56:DB:258:TRP:CD1	60:DC:2:ASN:HB2	2.52	0.45
68:A2:984:A:OP1	68:A2:1074:U:O2'	2.27	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:A2:1546:A:H4'	90:Ap:74:GLY:HA2	1.99	0.45
68:A2:1649:G:O2'	68:A2:1675:G:O6	2.31	0.45
1:B5:757:A:N6	1:B5:759:G:O6	2.50	0.45
1:B5:1217:G:H4'	25:BE:77:ALA:HB2	1.97	0.45
19:Av:16:ASN:ND2	68:A2:1095:C:O2	2.50	0.45
40:EA:99:VAL:HG11	40:EA:180:TYR:HD1	1.81	0.45
56:DB:326:PHE:O	56:DB:330:ARG:HG3	2.17	0.45
56:DB:522:GLN:H	56:DB:522:GLN:HG2	1.50	0.45
56:DB:545:GLU:HA	56:DB:548:LEU:HG	1.98	0.45
68:A2:1766:C:H1'	68:A2:1769:A:H61	1.82	0.45
1:B5:158:A:N1	1:B5:276:C:O2'	2.42	0.45
1:B5:1503:G:OP1	93:B5:5079:SPD:N10	2.50	0.45
1:B5:1696:U:H2'	1:B5:1697:G:C8	2.52	0.45
1:B5:2011:C:H5"	30:BF:115:GLN:HE21	1.80	0.45
1:B5:2399:G:H2'	1:B5:2400:G:C8	2.52	0.45
1:B5:4323:U:H2'	1:B5:4324:G:C8	2.52	0.45
10:B8:101:C:O2'	70:Bj:20:ARG:O	2.28	0.45
15:At:80:PHE:HB3	89:AG:52:PHE:HB3	1.97	0.45
49:Ad:182:MET:HB2	49:Ad:228:ILE:HD13	1.99	0.45
52:DA:108:ASN:ND2	52:DA:151:GLN:HE21	2.15	0.45
57:Af:164:LYS:HG2	57:Af:165:GLU:H	1.82	0.45
68:A2:1014:U:OP1	68:A2:1130:G:O2'	2.35	0.45
68:A2:1032:A2M:HM'2	68:A2:1033:C:H5'	1.99	0.45
68:A2:1652:A:H2'	68:A2:1653:G:H8	1.82	0.45
1:B5:1621:C:O2'	1:B5:1643:G:OP1	2.29	0.44
1:B5:3373:U:OP2	99:B5:5540:HOH:O	2.21	0.44
1:B5:3571:G:N2	1:B5:3575:C:O2'	2.51	0.44
1:B5:4620:U:C4	59:BM:113:MET:HG3	2.52	0.44
16:BB:90:VAL:HG13	16:BB:161:ARG:HB2	1.99	0.44
25:BE:45:HIS:ND1	25:BE:46:CYS:O	2.50	0.44
29:Ax:19:GLN:HE21	49:Ad:94:LYS:NZ	2.15	0.44
44:Ct:188:ALA:HA	56:DB:108:LYS:NZ	2.31	0.44
56:DB:26:TYR:HB3	56:DB:55:THR:HG22	1.98	0.44
56:DB:333:TYR:HD1	56:DB:339:VAL:HG22	1.81	0.44
56:DB:397:ILE:HG21	56:DB:414:LYS:HG3	1.99	0.44
56:DB:760:ASP:HA	56:DB:794:LEU:HD23	2.00	0.44
60:DC:107:VAL:HG13	60:DC:149:ARG:HB3	1.99	0.44
65:Ah:7:ASN:HD22	68:A2:387:C:H5'	1.82	0.44
67:BO:61:ARG:HA	67:BO:70:PRO:HD2	1.98	0.44
68:A2:606:A:N7	99:A2:2199:HOH:O	2.36	0.44
68:A2:1759:G:H2'	68:A2:1760:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:1008:C:H2'	1:B5:1009:G:H8	1.82	0.44
1:B5:2142:G:H3'	1:B5:2143:A:H5"	1.99	0.44
1:B5:3882:G:H2'	1:B5:3883:G:H8	1.82	0.44
14:BV:91:LYS:HA	14:BV:91:LYS:HD3	1.82	0.44
30:BF:135:VAL:HG23	30:BF:139:ILE:HD13	1.98	0.44
36:BS:76:LYS:NZ	36:BS:100:LEU:O	2.39	0.44
56:DB:522:GLN:HE21	56:DB:522:GLN:HB3	1.50	0.44
64:DD:91:MET:HE1	64:DD:98:ARG:HA	1.99	0.44
1:B5:519:C:H2'	1:B5:520:G:C8	2.53	0.44
1:B5:2399:G:H2'	1:B5:2400:G:H8	1.83	0.44
19:Av:101:PHE:HA	19:Av:113:HIS:CE1	2.52	0.44
50:Be:124:ASN:N	50:Be:124:ASN:OD1	2.50	0.44
56:DB:794:LEU:HB2	56:DB:797:ARG:NH1	2.32	0.44
68:A2:510:OMG:HM22	68:A2:511:G:H5'	1.98	0.44
86:AF:73:SER:OG	86:AF:117:ASN:OD1	2.27	0.44
1:B5:208:A:H2	1:B5:233:U:H5"	1.82	0.44
1:B5:1335:A:N7	93:B5:5344:SPD:N10	2.65	0.44
1:B5:3374:A:C4	70:Bj:3:LYS:HB3	2.53	0.44
1:B5:3843:G:H4'	1:B5:3844:C:H5'	2.00	0.44
4:Bt:147:HIS:CD2	4:Bt:149:HIS:HB2	2.52	0.44
16:BB:248:LEU:HD12	16:BB:249:ARG:HG3	2.00	0.44
20:B:60:ILE:HB	20:B:80:ALA:HB2	1.99	0.44
41:Ab:207:ALA:HB2	68:A2:4:C:H4'	1.98	0.44
56:DB:661:LEU:HB3	56:DB:665:LYS:HE3	1.99	0.44
57:Af:196:LYS:NZ	68:A2:126:G:O6	2.34	0.44
64:DD:79:LYS:HE2	64:DD:110:GLY:HA3	1.98	0.44
68:A2:220:U:H2'	68:A2:221:A:C8	2.52	0.44
68:A2:1338:4AC:H2'	68:A2:1339:G:C8	2.52	0.44
91:Bs:141:LEU:HD12	91:Bs:174:LEU:HD12	2.00	0.44
1:B5:778:C:H2'	1:B5:779:G:H8	1.81	0.44
1:B5:3413:G:OP2	13:BA:128:ARG:NH2	2.48	0.44
37:Aa:71:LEU:HD11	37:Aa:189:ILE:HG23	1.98	0.44
40:EA:232:LEU:HD13	40:EA:372:THR:HB	1.99	0.44
47:BJ:40:LEU:HD12	47:BJ:70:VAL:HG22	2.00	0.44
56:DB:401:ILE:HG12	56:DB:410:LEU:HD13	2.00	0.44
68:A2:26:U:H2'	68:A2:27:A2M:H8	1.99	0.44
68:A2:1375:C:O2'	68:A2:1465:C:O2	2.34	0.44
68:A2:1554:C:H41	89:AG:22:ARG:CZ	2.30	0.44
84:An:29:GLY:O	84:An:94:HIS:N	2.42	0.44
1:B5:119:G:O4'	34:BG:132:ARG:NH2	2.50	0.44
1:B5:1279:G:OP2	99:B5:5539:HOH:O	2.21	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:3399:C:H4'	13:BA:8:GLN:HA	1.99	0.44
1:B5:4383:OMG:HM22	1:B5:4384:U:H5'	1.99	0.44
49:Ad:137:PRO:HG2	49:Ad:150:PRO:HD2	1.99	0.44
52:DA:17:LYS:HG2	56:DB:436:ALA:HB1	2.00	0.44
56:DB:175:ARG:NE	56:DB:193:LEU:HD23	2.33	0.44
63:BN:9:GLU:HB2	66:Bi:44:ILE:HG13	2.00	0.44
68:A2:1498:G:N7	72:Aj:25:LYS:NZ	2.49	0.44
73:Bk:57:LYS:NZ	73:Bk:68:GLU:OE2	2.36	0.44
87:Ao:17:TYR:HB3	87:Ao:25:LEU:HD11	1.99	0.44
1:B5:106:A:O2'	1:B5:335:A:N3	2.45	0.44
1:B5:1760:G:H4'	1:B5:1761:U:H5"	1.99	0.44
1:B5:3517:A2M:HM'1	1:B5:4283:C:H1'	2.00	0.44
4:Bt:147:HIS:NE2	4:Bt:150:ASP:OD1	2.51	0.44
8:AT:12:N:OP2	99:AT:201:HOH:O	2.21	0.44
15:At:40:ILE:HD11	15:At:53:PRO:HD3	1.99	0.44
24:Aw:89:GLY:HA2	80:AD:83:VAL:HG12	2.00	0.44
47:BJ:15:LEU:HD12	47:BJ:165:TRP:HB2	2.00	0.44
68:A2:1830:G:H1'	68:A2:1851:MA6:H2	1.99	0.44
78:Al:31:LEU:HD21	78:Al:89:VAL:HG12	2.00	0.44
86:AF:87:LEU:HD21	86:AF:108:VAL:HG11	2.00	0.44
1:B5:4666:G:N2	1:B5:4666:G:OP2	2.51	0.44
16:BB:80:GLU:OE1	16:BB:323:TYR:OH	2.26	0.44
25:BE:154:ILE:HG12	25:BE:164:ARG:HG2	1.99	0.44
31:BR:98:ARG:NE	31:BR:133:LYS:O	2.46	0.44
40:EA:99:VAL:HG22	40:EA:171:HIS:HE1	1.82	0.44
40:EA:196:SER:HB2	40:EA:218:ASN:HB3	1.99	0.44
44:Ct:190:VAL:HB	44:Ct:194:LYS:HD2	1.99	0.44
57:Af:174:PRO:HB3	68:A2:65:C:C6	2.53	0.44
60:DC:13:ASN:HB2	60:DC:52:ILE:HD12	2.00	0.44
65:Ah:56:ARG:NH2	68:A2:381:G:OP1	2.51	0.44
69:Ai:83:ARG:HH21	69:Ai:150:ARG:NH1	2.16	0.44
1:B5:364:G:O6	70:Bj:55:ARG:NH2	2.42	0.44
1:B5:2318:G:H4'	1:B5:2319:G:H8	1.82	0.44
1:B5:3588:A:H5"	17:BP:83:TRP:O	2.18	0.44
32:AZ:77:ILE:HD11	32:AZ:99:ILE:HD12	1.99	0.44
48:Cu:34:HIS:O	48:Cu:34:HIS:ND1	2.50	0.44
49:Ad:55:ALA:HB1	49:Ad:60:GLU:HB2	1.99	0.44
57:Af:15:LEU:HD22	68:A2:155:G:H4'	1.99	0.44
61:Ag:20:GLU:HG2	61:Ag:48:ALA:H	1.83	0.44
63:BN:181:HIS:O	63:BN:195:ARG:NH2	2.49	0.44
68:A2:17:C:O2'	68:A2:1195:A:N1	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:AC:119:ARG:O	77:AC:132:MET:N	2.50	0.44
1:B5:257:C:H2'	1:B5:258:G:H8	1.83	0.43
1:B5:716:G:P	1:B5:835:G:H22	2.41	0.43
1:B5:2687:A:O2'	1:B5:4377:G:H4'	2.18	0.43
1:B5:4447:A:O2'	39:BH:40:HIS:ND1	2.35	0.43
17:BP:131:ARG:HG3	17:BP:137:ASN:ND2	2.33	0.43
32:AZ:77:ILE:HG13	32:AZ:99:ILE:HB	2.00	0.43
35:BC:76:ILE:HD12	35:BC:77:PRO:HD2	2.00	0.43
56:DB:431:MET:HE3	56:DB:448:CYS:SG	2.58	0.43
56:DB:522:GLN:HA	56:DB:525:PHE:HD2	1.83	0.43
57:Af:2:LYS:HG2	57:Af:17:GLU:HG2	2.00	0.43
68:A2:958:A:OP1	84:An:57:THR:OG1	2.32	0.43
91:Bs:106:LYS:HB3	91:Bs:184:SER:HB3	1.98	0.43
1:B5:419:A:N3	1:B5:1276:C:O2'	2.48	0.43
1:B5:664:G:H2'	1:B5:665:G:H8	1.83	0.43
1:B5:1859:C:H3'	1:B5:1860:C:H5"	2.01	0.43
1:B5:2492:G:N7	99:B5:5764:HOH:O	2.36	0.43
4:Bt:105:THR:HB	4:Bt:108:GLU:HG3	2.00	0.43
34:BG:113:ARG:HH12	34:BG:117:ARG:HH21	1.65	0.43
35:BC:45:ARG:O	35:BC:48:ASN:ND2	2.51	0.43
37:Aa:129:THR:OG1	37:Aa:131:ASP:OD1	2.32	0.43
45:Ac:68:GLU:HG3	72:Aj:93:THR:HG21	1.99	0.43
46:Bd:36:VAL:HG21	46:Bd:44:ARG:HD3	1.99	0.43
59:BM:36:ALA:HB2	59:BM:52:PHE:CZ	2.53	0.43
68:A2:1618:G:H3'	87:Ao:47:ARG:HH22	1.82	0.43
77:AC:130:VAL:HG21	77:AC:143:LYS:HD2	2.00	0.43
91:Bs:39:GLN:HE22	91:Bs:106:LYS:HA	1.83	0.43
1:B5:442:G:OP1	54:Bf:68:ARG:NH1	2.44	0.43
1:B5:629:G:H2'	1:B5:630:G:C8	2.53	0.43
1:B5:1572:G:H1'	1:B5:2356:A:N6	2.32	0.43
1:B5:3374:A:OP1	99:B5:5538:HOH:O	2.21	0.43
1:B5:4638:G:N2	1:B5:4661:C:O2	2.51	0.43
1:B5:4708:C:O2'	17:BP:75:GLN:NE2	2.52	0.43
1:B5:4714:G:O2'	1:B5:4716:A:N6	2.43	0.43
4:Bt:82:ILE:HA	4:Bt:85:LEU:HD12	1.99	0.43
11:BU:35:ASP:OD2	11:BU:38:ASN:N	2.46	0.43
25:BE:182:LEU:HD12	25:BE:186:ARG:HA	1.98	0.43
29:Ax:29:HIS:O	29:Ax:29:HIS:ND1	2.48	0.43
30:BF:53:ALA:HB2	30:BF:187:GLU:HG3	2.00	0.43
30:BF:153:ILE:HD12	30:BF:190:ILE:HG12	2.00	0.43
56:DB:419:LYS:HZ1	56:DB:454:LYS:HD2	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:DB:559:ARG:NH1	56:DB:673:GLU:OE1	2.51	0.43
61:Ag:160:LYS:HA	61:Ag:163:GLN:HB2	2.01	0.43
68:A2:1242:A:O2'	68:A2:1267:C:O2'	2.26	0.43
69:Ai:158:ASP:OD1	69:Ai:158:ASP:N	2.51	0.43
81:Am:40:LEU:HD12	81:Am:50:ILE:HG23	2.00	0.43
1:B5:158:A:H5"	1:B5:159:C:H2'	2.01	0.43
1:B5:1412:G:N7	99:B5:5769:HOH:O	2.36	0.43
1:B5:2239:A:N7	1:B5:2657:C:H2'	2.33	0.43
4:Bt:32:ILE:HB	4:Bt:35:LEU:HD11	2.00	0.43
16:BB:77:THR:HG21	16:BB:337:VAL:HG22	2.00	0.43
17:BP:18:ARG:NH1	17:BP:147:GLU:OE1	2.50	0.43
17:BP:118:GLN:NE2	17:BP:147:GLU:OE2	2.52	0.43
22:BQ:63:LEU:N	22:BQ:87:THR:O	2.50	0.43
23:BZ:92:ASP:HB3	23:BZ:95:VAL:HG12	2.00	0.43
25:BE:103:LYS:HE2	25:BE:103:LYS:HB2	1.90	0.43
49:Ad:86:PHE:CD2	49:Ad:87:MET:HG2	2.53	0.43
56:DB:21:TYR:CZ	56:DB:55:THR:HG23	2.53	0.43
61:Ag:37:LYS:O	61:Ag:41:ARG:HG3	2.18	0.43
65:Ah:106:SER:HB3	65:Ah:171:LEU:HG	2.00	0.43
1:B5:1736:G:H8	99:B5:5883:HOH:O	1.90	0.43
1:B5:4283:C:H2'	1:B5:4284:G:C8	2.54	0.43
1:B5:4515:G:OP1	67:BO:168:TYR:OH	2.27	0.43
6:Aq:77:GLU:HG3	6:Aq:80:ARG:HH21	1.83	0.43
11:BU:117:ILE:HG13	48:Cu:31:LYS:HB3	2.01	0.43
17:BP:19:GLY:N	17:BP:146:ILE:O	2.50	0.43
25:BE:59:TYR:HB3	25:BE:63:ALA:HB3	1.99	0.43
37:Aa:48:LEU:O	84:An:51:GLU:HG3	2.18	0.43
37:Aa:150:ILE:HG12	68:A2:1125:C:H5"	2.00	0.43
56:DB:97:ASP:O	56:DB:101:LYS:HG3	2.18	0.43
56:DB:258:TRP:CZ3	56:DB:296:LEU:HG	2.53	0.43
56:DB:550:GLN:HG2	56:DB:668:VAL:HG23	1.99	0.43
57:Af:58:LYS:HA	57:Af:107:SER:HB2	2.00	0.43
60:DC:128:PHE:HB3	60:DC:147:MET:HE2	1.99	0.43
61:Ag:144:ILE:HG21	61:Ag:152:ARG:HH21	1.84	0.43
64:DD:79:LYS:HD3	64:DD:110:GLY:N	2.33	0.43
66:Bi:73:ILE:O	66:Bi:77:VAL:HG22	2.18	0.43
68:A2:28:U:H2'	68:A2:29:G:C8	2.52	0.43
68:A2:1229:A:H2'	68:A2:1230:G:C8	2.54	0.43
68:A2:1833:6MZ:H8	68:A2:1833:6MZ:O5'	2.19	0.43
72:Aj:51:SER:OG	72:Aj:55:ARG:NH1	2.52	0.43
1:B5:2584:U:H2'	13:BA:50:HIS:HD2	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:4057:A:H2'	1:B5:4058:PSU:H6	1.83	0.43
16:BB:322:HIS:O	16:BB:342:LYS:NZ	2.34	0.43
24:Aw:17:ARG:NH2	68:A2:660:G:H21	2.17	0.43
41:Ab:60:TRP:O	41:Ab:71:LYS:NZ	2.37	0.43
52:DA:8:LEU:HG	52:DA:91:LYS:HE3	2.00	0.43
52:DA:18:GLN:HG2	56:DB:437:LEU:HD22	2.01	0.43
56:DB:159:HIS:CE1	56:DB:167:ALA:HB1	2.54	0.43
68:A2:239:C:H2'	68:A2:240:G:C8	2.54	0.43
68:A2:628:OMU:H2'	68:A2:628:OMU:H6	1.79	0.43
71:AA:67:THR:OG1	71:AA:70:LYS:O	2.36	0.43
78:Al:49:LEU:HD11	78:Al:77:ILE:HD13	2.00	0.43
83:AE:33:ASP:OD1	83:AE:33:ASP:N	2.51	0.43
90:Ap:112:LEU:HD22	90:Ap:119:LEU:HD13	2.01	0.43
1:B5:3412:U:OP1	13:BA:54:ARG:NH2	2.36	0.43
1:B5:4610:C:N4	36:BS:171:ARG:O	2.50	0.43
20:B:197:LYS:HD2	20:B:202:GLN:HG3	1.99	0.43
45:Ac:142:LEU:HD21	45:Ac:182:LEU:HD21	2.00	0.43
56:DB:474:SER:O	56:DB:478:ASN:ND2	2.51	0.43
64:DD:82:ILE:HG13	64:DD:106:ARG:NH1	2.34	0.43
83:AE:3:LYS:NZ	83:AE:8:ASN:OD1	2.52	0.43
86:AF:133:ASN:HD21	86:AF:137:VAL:HB	1.84	0.43
1:B5:398:A2M:H8	1:B5:398:A2M:O5'	2.18	0.43
1:B5:1568:A:H5'	13:BA:183:GLY:HA2	2.00	0.43
1:B5:2102:G:O3'	25:BE:111:LYS:NZ	2.50	0.43
1:B5:3468:A:OP2	99:B5:5542:HOH:O	2.21	0.43
6:Aq:109:LEU:HD13	32:AZ:52:LYS:HB2	2.00	0.43
25:BE:193:HIS:HB3	25:BE:196:PHE:HD2	1.84	0.43
48:Cu:55:ASN:HA	48:Cu:80:GLN:HA	2.01	0.43
50:Be:90:MET:HG3	88:Br:33:LYS:HA	2.00	0.43
53:Ae:40:ALA:HB1	53:Ae:45:TYR:CG	2.53	0.43
56:DB:606:ALA:O	56:DB:610:GLU:HG2	2.19	0.43
60:DC:153:GLN:HE21	60:DC:153:GLN:HB3	1.66	0.43
82:Bo:74:GLU:HB3	82:Bo:77:CYS:HB3	2.01	0.43
84:An:136:PRO:HB2	84:An:166:SER:HB2	2.01	0.43
86:AF:59:LEU:HD23	86:AF:90:TRP:CE3	2.54	0.43
1:B5:1701:C:H2'	1:B5:1702:C:C6	2.54	0.43
1:B5:2739:G:OP1	31:BR:136:ARG:NH1	2.51	0.43
4:Bt:108:GLU:HA	4:Bt:111:ASN:HD21	1.83	0.43
31:BR:70:ARG:HD3	31:BR:76:MET:HE2	2.00	0.43
56:DB:317:ASN:HB3	56:DB:325:VAL:HG21	2.00	0.43
56:DB:806:LEU:HB3	56:DB:810:TYR:CE2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:BM:47:ARG:NH2	59:BM:68:ALA:O	2.42	0.43
62:Bh:4:ILE:HD12	62:Bh:53:SER:HB3	2.00	0.43
62:Bh:82:ASP:OD1	62:Bh:82:ASP:N	2.51	0.43
68:A2:605:A:N3	68:A2:640:C:O2'	2.50	0.43
68:A2:1328:G:OP1	99:A2:2112:HOH:O	2.21	0.43
1:B5:2362:U:H1'	1:B5:2363:C:C6	2.54	0.43
1:B5:2658:A2M:P	1:B5:2658:A2M:H8	2.59	0.43
13:BA:116:LEU:N	13:BA:126:LEU:O	2.52	0.43
16:BB:147:ASP:OD1	16:BB:148:LYS:N	2.52	0.43
19:Av:42:MET:HE1	61:Ag:146:VAL:HG12	2.01	0.43
32:AZ:155:ARG:NH2	68:A2:1138:U:O2'	2.49	0.43
56:DB:134:ARG:NH2	56:DB:158:TYR:HA	2.34	0.43
56:DB:330:ARG:HG2	56:DB:386:LYS:NZ	2.34	0.43
65:Ah:165:GLN:HE22	65:Ah:195:LEU:HD11	1.83	0.43
68:A2:523:A:H5"	69:Ai:145:PRO:HD2	2.01	0.43
68:A2:1038:G:H4'	68:A2:1846:A:H4'	2.01	0.43
68:A2:1590:A:N3	68:A2:1654:U:O2'	2.51	0.43
87:Ao:67:ALA:HB2	87:Ao:73:PRO:HB3	2.01	0.43
1:B5:208:A:C2	1:B5:233:U:H5"	2.54	0.42
1:B5:492:G:H4'	35:BC:3:CYS:HB3	2.00	0.42
1:B5:2043:A:N6	1:B5:2044:A:N1	2.67	0.42
1:B5:4622:C:N4	25:BE:184:LEU:O	2.46	0.42
4:Bt:52:ASP:OD1	4:Bt:52:ASP:N	2.42	0.42
13:BA:20:VAL:HG12	13:BA:23:ARG:HD2	2.00	0.42
17:BP:18:ARG:HA	17:BP:147:GLU:HA	2.01	0.42
31:BR:176:ARG:NH2	68:A2:910:G:OP1	2.52	0.42
34:BG:51:LEU:O	34:BG:55:VAL:HG23	2.19	0.42
56:DB:447:LYS:O	56:DB:451:TYR:HD1	2.02	0.42
58:Bg:60:ARG:HB2	58:Bg:63:VAL:HG23	2.01	0.42
68:A2:456:A:O2'	68:A2:1736:A:N3	2.46	0.42
1:B5:135:G:N7	62:Bh:97:LYS:HE3	2.34	0.42
1:B5:835:G:OP1	59:BM:23:LYS:NZ	2.39	0.42
1:B5:1741:A:N3	2:BT:130:ARG:NH2	2.63	0.42
1:B5:4331:U:H2'	1:B5:4332:G:C8	2.55	0.42
1:B5:4508:G:H2'	1:B5:4509:A:H8	1.83	0.42
57:Af:53:SER:HB2	68:A2:165:G:H4'	2.01	0.42
57:Af:176:ILE:HG22	68:A2:77:A:N3	2.33	0.42
61:Ag:88:SER:OG	61:Ag:89:GLY:N	2.52	0.42
68:A2:1330:U:O2'	68:A2:1333:A:OP2	2.32	0.42
78:Al:11:VAL:HG21	78:Al:16:THR:HG21	2.00	0.42
86:AF:91:ASP:OD2	86:AF:93:THR:OG1	2.32	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:20:U:H3'	1:B5:21:G:H8	1.84	0.42
1:B5:375:G:N7	70:Bj:56:ARG:NH2	2.61	0.42
1:B5:753:G:H5'	39:BH:54:ARG:HH12	1.84	0.42
1:B5:1208:C:H2'	1:B5:1209:G:H8	1.83	0.42
1:B5:1458:A:H62	22:BQ:87:THR:HG21	1.83	0.42
1:B5:3599:A2M:HM'3	1:B5:3599:A2M:H1'	1.78	0.42
12:As:91:HIS:HE2	68:A2:1666:G:P	2.40	0.42
29:Ax:23:MET:N	29:Ax:23:MET:SD	2.92	0.42
31:BR:15:LEU:HD13	31:BR:52:ARG:HB2	2.01	0.42
35:BC:25:PRO:HB2	35:BC:27:VAL:HG12	2.00	0.42
42:Bc:22:MET:HE3	42:Bc:85:CYS:SG	2.59	0.42
49:Ad:12:VAL:O	68:A2:813:A:O2'	2.31	0.42
60:DC:61:GLU:OE1	60:DC:69:HIS:NE2	2.42	0.42
64:DD:108:HIS:CD2	64:DD:115:ALA:HA	2.54	0.42
65:Ah:162:LEU:HD11	65:Ah:191:GLU:HG2	2.01	0.42
68:A2:679:U:OP2	68:A2:1027:C:N4	2.45	0.42
68:A2:1551:G:O2'	68:A2:1559:C:O2	2.34	0.42
81:Am:83:ASP:OD1	81:Am:83:ASP:N	2.52	0.42
86:AF:170:TRP:HA	86:AF:194:TYR:HB2	2.01	0.42
86:AF:270:LEU:HD23	86:AF:310:TRP:CD2	2.54	0.42
1:B5:1309:C:N4	93:B5:5202:SPD:H101	2.17	0.42
1:B5:1769:G:H4'	3:Bb:68:ARG:NH1	2.35	0.42
1:B5:3897:G:H2'	1:B5:3898:G:H8	1.84	0.42
1:B5:4138:OMG:N3	1:B5:4193:5MC:HM52	2.34	0.42
22:BQ:177:ALA:O	22:BQ:184:ARG:HB2	2.19	0.42
27:Au:53:TYR:OH	27:Au:76:ASP:OD2	2.30	0.42
29:Ax:87:PRO:HD2	29:Ax:90:ARG:HD2	2.02	0.42
30:BF:91:VAL:O	30:BF:119:GLY:HA2	2.20	0.42
41:Ab:121:ARG:NH1	41:Ab:121:ARG:O	2.52	0.42
45:Ac:80:PRO:O	45:Ac:83:SER:OG	2.35	0.42
52:DA:21:ARG:HD3	52:DA:24:GLN:HE21	1.83	0.42
56:DB:102:CYS:HA	56:DB:105:ASN:HD22	1.83	0.42
56:DB:810:TYR:OH	56:DB:825:ARG:NE	2.52	0.42
68:A2:1246:G:O2'	68:A2:1493:U:OP1	2.34	0.42
68:A2:1708:U:O2	68:A2:1850:G:N2	2.52	0.42
1:B5:645:C:H2'	1:B5:646:G:H8	1.84	0.42
1:B5:2363:C:H2'	1:B5:2364:G:C8	2.54	0.42
1:B5:2468:U:H5"	48:Cu:23:LYS:HG3	2.02	0.42
1:B5:4488:A:H2'	1:B5:4689:U:H3	1.84	0.42
1:B5:4506:C:OP2	67:BO:171:LYS:NZ	2.36	0.42
1:B5:4635:G:H2'	1:B5:4636:G:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:BT:148:PRO:HB2	36:BS:29:ARG:HB2	2.00	0.42
4:Bt:35:LEU:H	4:Bt:35:LEU:HG	1.73	0.42
12:As:132:ASP:OD2	68:A2:1416:C:O2'	2.29	0.42
23:BZ:50:PRO:HD3	23:BZ:68:ILE:HG12	2.01	0.42
46:Bd:92:ARG:HA	46:Bd:102:LEU:HD23	2.01	0.42
56:DB:37:LEU:HD12	56:DB:52:LYS:NZ	2.34	0.42
68:A2:120:U:H2'	68:A2:121:OMU:H6	2.02	0.42
68:A2:159:A2M:H8	68:A2:159:A2M:O5'	2.20	0.42
68:A2:1087:G:OP2	83:AE:12:LYS:NZ	2.38	0.42
86:AF:163:PRO:HB2	86:AF:179:LEU:HB3	2.01	0.42
1:B5:45:U:O4	63:BN:83:LYS:NZ	2.50	0.42
1:B5:3548:A:OP1	1:B5:3550:UY1:N1	2.52	0.42
1:B5:4323:U:H2'	1:B5:4324:G:H8	1.85	0.42
28:Ba:14:HIS:O	28:Ba:16:SER:N	2.53	0.42
32:AZ:140:VAL:HG23	32:AZ:142:LEU:HB2	2.01	0.42
35:BC:140:LYS:HE3	35:BC:245:HIS:HB2	2.00	0.42
40:EA:248:LEU:HD22	40:EA:332:GLU:HG3	2.01	0.42
55:BL:43:ALA:HB1	55:BL:149:GLN:HE22	1.84	0.42
55:BL:116:ARG:NH2	55:BL:155:MET:O	2.45	0.42
68:A2:987:G:N7	99:A2:2203:HOH:O	2.37	0.42
68:A2:1063:A:OP1	93:A2:1939:SPD:H52	2.19	0.42
68:A2:1229:A:O2'	68:A2:1635:A:N3	2.43	0.42
68:A2:1383:A:H2'	68:A2:1384:A2M:H8	2.02	0.42
84:An:98:ARG:HB3	84:An:132:VAL:HG23	2.02	0.42
86:AF:159:ASN:HD22	86:AF:159:ASN:H	1.66	0.42
1:B5:788:G:H2'	1:B5:789:G:H8	1.85	0.42
1:B5:1487:G:N2	1:B5:1592:A:OP2	2.34	0.42
1:B5:2612:U:C2	58:Bg:69:LYS:HB2	2.54	0.42
1:B5:3373:U:OP1	99:B5:5546:HOH:O	2.22	0.42
1:B5:4027:A:OP2	99:B5:5544:HOH:O	2.21	0.42
1:B5:4434:C:O2'	39:BH:155:SER:OG	2.34	0.42
11:BU:90:TYR:O	11:BU:94:ASN:ND2	2.43	0.42
14:BV:48:ARG:HH12	16:BB:9:PRO:HG2	1.85	0.42
44:Ct:93:ARG:HE	44:Ct:105:VAL:HG13	1.85	0.42
53:Ae:14:THR:HB	53:Ae:15:PRO:HD3	2.01	0.42
56:DB:280:TYR:CE1	56:DB:296:LEU:HD13	2.54	0.42
56:DB:324:PRO:HB3	60:DC:80:SER:O	2.20	0.42
56:DB:730:VAL:O	56:DB:734:LEU:HG	2.19	0.42
57:Af:57:ASP:OD1	57:Af:61:PHE:N	2.52	0.42
64:DD:79:LYS:O	64:DD:106:ARG:NH1	2.52	0.42
69:Ai:110:LEU:HB2	69:Ai:147:PHE:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
91:Bs:82:ILE:HG23	91:Bs:86:VAL:HG21	2.01	0.42
1:B5:22:G:OP1	70:Bj:44:LYS:N	2.44	0.42
1:B5:1095:C:H2'	1:B5:1096:G:C8	2.52	0.42
1:B5:2359:G:OP1	58:Bg:60:ARG:NH2	2.50	0.42
6:Aq:57:LEU:HD13	6:Aq:69:ILE:HD11	2.02	0.42
23:BZ:11:VAL:HG12	23:BZ:82:PRO:HA	2.02	0.42
34:BG:74:LEU:HD13	63:BN:24:ARG:HH12	1.85	0.42
39:BH:37:ASP:OD2	39:BH:39:ASN:ND2	2.53	0.42
39:BH:137:SER:HB2	39:BH:145:VAL:HG23	2.00	0.42
41:Ab:128:VAL:HG11	41:Ab:155:ILE:HG12	2.01	0.42
49:Ad:141:THR:OG1	49:Ad:143:ASP:OD1	2.25	0.42
56:DB:346:VAL:HG21	56:DB:383:HIS:NE2	2.35	0.42
68:A2:1320:U:H2'	68:A2:1321:G:C8	2.55	0.42
68:A2:1473:C:O3'	86:AF:15:ASN:ND2	2.51	0.42
73:Bk:33:LYS:HG2	73:Bk:46:VAL:HG22	2.01	0.42
78:Al:11:VAL:HG11	78:Al:16:THR:HB	2.01	0.42
81:Am:100:LYS:O	81:Am:103:GLU:HG2	2.20	0.42
83:AE:46:GLU:O	83:AE:50:VAL:HG23	2.20	0.42
1:B5:1215:G:H5"	3:Bb:110:ALA:HB1	2.01	0.42
1:B5:1909:A:N6	1:B5:1955:C:OP2	2.53	0.42
1:B5:3888:C:H2'	1:B5:3889:G:C8	2.55	0.42
1:B5:4627:C:H2'	1:B5:4628:G:C8	2.54	0.42
56:DB:87:GLY:HA2	56:DB:99:ALA:HA	2.02	0.42
56:DB:708:LEU:HD23	56:DB:708:LEU:HA	1.93	0.42
57:Af:213:LEU:HG	57:Af:217:MET:HE2	2.02	0.42
65:Ah:66:SER:HA	65:Ah:73:THR:HA	2.02	0.42
68:A2:1606:G:H21	68:A2:1635:A:H62	1.66	0.42
86:AF:133:ASN:HB3	86:AF:139:LYS:HE3	2.01	0.42
1:B5:478:G:H2'	1:B5:479:G:H8	1.85	0.42
1:B5:2012:C:H5"	30:BF:211:LYS:HB3	2.01	0.42
1:B5:2239:A:OP1	93:B5:5079:SPD:N1	2.53	0.42
1:B5:2376:C:OP1	21:BX:139:ARG:NH1	2.53	0.42
1:B5:4198:U:OP2	1:B5:4268:G:N1	2.31	0.42
1:B5:4269:A2M:OP1	99:B5:5543:HOH:O	2.21	0.42
1:B5:4762:C:H41	65:Ah:170:LYS:HE3	1.84	0.42
9:Ar:124:ARG:HB2	9:Ar:131:VAL:HG12	2.02	0.42
10:B8:153:C:H2'	10:B8:154:G:C8	2.55	0.42
24:Aw:68:LYS:HB3	24:Aw:91:LEU:HD13	2.02	0.42
35:BC:39:PHE:O	35:BC:43:ASN:ND2	2.45	0.42
37:Aa:30:TRP:CE2	37:Aa:48:LEU:HD13	2.55	0.42
40:EA:147:ARG:HD2	40:EA:374:ARG:HG2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:Ab:253:PRO:HA	41:Ab:256:TRP:CE2	2.55	0.42
54:Bf:36:ARG:HB2	54:Bf:80:ASN:HA	2.01	0.42
56:DB:151:TRP:HB3	56:DB:174:PHE:CE1	2.55	0.42
56:DB:190:SER:HA	56:DB:193:LEU:HD12	2.02	0.42
56:DB:418:TYR:O	56:DB:422:GLY:N	2.53	0.42
56:DB:435:GLN:HE21	56:DB:448:CYS:HB2	1.84	0.42
59:BM:52:PHE:HA	59:BM:55:MET:HE2	2.01	0.42
68:A2:552:U:H2'	68:A2:553:G:H8	1.85	0.42
68:A2:1537:G:H2'	68:A2:1538:A:C8	2.55	0.42
1:B5:4367:C:OP1	14:BV:48:ARG:HD2	2.20	0.41
4:Bt:116:MET:HA	4:Bt:118:HIS:CE1	2.55	0.41
6:Aq:37:GLU:HG3	6:Aq:38:ILE:HG23	2.00	0.41
35:BC:230:LEU:HD21	35:BC:236:ASN:H	1.85	0.41
37:Aa:44:ILE:HD12	37:Aa:69:VAL:HG21	2.02	0.41
41:Ab:108:LYS:HB2	41:Ab:233:LEU:HD13	2.01	0.41
52:DA:45:LEU:HD13	52:DA:72:LEU:HD11	2.01	0.41
53:Ae:126:THR:HG21	74:AB:27:CYS:SG	2.60	0.41
56:DB:509:HIS:HD2	56:DB:647:LEU:HD13	1.85	0.41
56:DB:535:LEU:HD23	56:DB:538:TYR:HD2	1.85	0.41
68:A2:1837:G:OP1	68:A2:1840:U:H4'	2.19	0.41
86:AF:31:ILE:HG13	86:AF:43:TRP:HB2	2.02	0.41
88:Br:82:ILE:HG22	88:Br:89:THR:HG22	2.02	0.41
1:B5:772:C:H2'	1:B5:773:G:H8	1.85	0.41
1:B5:1399:G:H21	1:B5:1399:G:P	2.40	0.41
1:B5:1651:C:H2'	1:B5:1652:G:O4'	2.20	0.41
9:Ar:36:VAL:HG23	9:Ar:99:LEU:HD22	2.01	0.41
16:BB:92:TYR:HB2	16:BB:159:VAL:HB	2.01	0.41
44:Ct:94:VAL:HG23	44:Ct:109:PRO:HG3	2.01	0.41
50:Be:35:TRP:CZ2	50:Be:56:PRO:HD2	2.56	0.41
56:DB:181:SER:OG	56:DB:189:TYR:OH	2.37	0.41
56:DB:794:LEU:H	56:DB:797:ARG:HH12	1.67	0.41
61:Ag:66:VAL:HG11	68:A2:914:A:N3	2.35	0.41
65:Ah:129:LEU:HD21	65:Ah:137:LEU:HD12	2.02	0.41
1:B5:223:G:H4'	1:B5:225:G:N7	2.35	0.41
1:B5:253:G:H2'	1:B5:254:G:H8	1.85	0.41
1:B5:1202:C:H2'	1:B5:1203:G:C8	2.55	0.41
1:B5:1381:G:N1	1:B5:1413:C:OP2	2.48	0.41
1:B5:1641:C:OP1	3:Bb:19:ASN:ND2	2.53	0.41
1:B5:1815:U:H2'	1:B5:1816:G:C8	2.55	0.41
1:B5:2131:G:O2'	1:B5:2133:C:O5'	2.37	0.41
1:B5:4335:A:N1	1:B5:4367:C:O2'	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Aw:68:LYS:HE2	80:AD:83:VAL:HG22	2.01	0.41
32:AZ:99:ILE:HD11	32:AZ:117:ARG:HD2	2.00	0.41
35:BC:278:ASN:OD1	35:BC:279:LEU:N	2.50	0.41
39:BH:59:LYS:HE2	39:BH:66:GLU:HB3	2.02	0.41
49:Ad:151:ASP:HB3	49:Ad:154:ILE:HG13	2.02	0.41
50:Be:100:ALA:HB3	50:Be:103:VAL:HG23	2.02	0.41
56:DB:69:VAL:HG12	56:DB:86:TYR:CZ	2.55	0.41
56:DB:101:LYS:O	56:DB:105:ASN:ND2	2.54	0.41
56:DB:460:GLU:O	56:DB:464:MET:HG2	2.21	0.41
56:DB:482:MET:HE2	60:DC:25:ASN:HB2	2.03	0.41
56:DB:710:GLU:HG3	56:DB:767:SER:HB2	2.02	0.41
57:Af:164:LYS:NZ	68:A2:68:A:OP2	2.40	0.41
61:Ag:8:ILE:HD13	61:Ag:16:PRO:HB3	2.01	0.41
78:Al:91:LEU:HD22	78:Al:106:CYS:HB2	2.02	0.41
1:B5:4079:C:O2	2:BT:8:ARG:NH1	2.53	0.41
6:Aq:43:SER:OG	68:A2:1390:C:OP1	2.25	0.41
16:BB:161:ARG:HG2	16:BB:184:GLN:HA	2.02	0.41
47:BJ:43:LEU:HD13	47:BJ:117:ILE:HD11	2.02	0.41
50:Be:82:VAL:HG13	50:Be:114:ARG:HG2	2.01	0.41
56:DB:555:PHE:HB3	56:DB:559:ARG:NE	2.35	0.41
68:A2:1481:A:H5'	90:Ap:131:LYS:HE2	2.02	0.41
91:Bs:103:LEU:O	91:Bs:106:LYS:NZ	2.46	0.41
1:B5:85:G:P	99:B5:5687:HOH:O	2.78	0.41
1:B5:827:C:H2'	1:B5:828:A:C8	2.56	0.41
1:B5:1308:U:OP2	55:BL:36:ARG:NH2	2.51	0.41
1:B5:1789:A:N3	1:B5:2126:G:O2'	2.53	0.41
1:B5:2261:A:H5"	17:BP:125:MET:HE1	2.01	0.41
1:B5:2274:A:OP1	76:Bl:41:ARG:NH1	2.44	0.41
1:B5:2742:C:OP1	31:BR:108:ARG:NH2	2.42	0.41
1:B5:3335:G:H2'	1:B5:3336:A:C8	2.56	0.41
1:B5:4273:G:OP2	1:B5:4273:G:N2	2.42	0.41
1:B5:4667:C:O2	59:BM:118:MET:HE1	2.20	0.41
9:Ar:16:LEU:HD21	9:Ar:72:GLN:HE21	1.86	0.41
16:BB:93:VAL:HG23	16:BB:102:PHE:HB2	2.03	0.41
32:AZ:137:ALA:HB1	32:AZ:142:LEU:HB3	2.01	0.41
56:DB:706:PRO:HD3	56:DB:764:HIS:CE1	2.55	0.41
68:A2:1763:C:H2'	68:A2:1764:G:H8	1.83	0.41
78:Al:18:LEU:HD22	78:Al:77:ILE:HG21	2.02	0.41
84:An:178:LEU:HD23	84:An:178:LEU:H	1.85	0.41
1:B5:226:G:OP2	18:BY:1:MET:N	2.46	0.41
1:B5:1105:C:O2	3:Bb:91:ARG:NE	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B5:3351:G:H22	1:B5:3356:A:H1'	1.86	0.41
11:BU:28:PRO:HB3	11:BU:100:LEU:HD11	2.02	0.41
30:BF:170:ASP:OD1	30:BF:171:ASN:N	2.53	0.41
30:BF:219:MET:HB3	30:BF:231:ASP:OD2	2.20	0.41
37:Aa:99:ASN:OD1	37:Aa:100:PHE:N	2.53	0.41
45:Ac:137:VAL:HG22	45:Ac:151:LYS:HG3	2.03	0.41
47:BJ:152:GLY:O	47:BJ:156:ARG:HG3	2.20	0.41
49:Ad:108:ARG:NH2	68:A2:847:G:N7	2.68	0.41
56:DB:252:GLU:HA	56:DB:287:TYR:OH	2.21	0.41
62:Bh:95:LEU:HD23	63:BN:143:ARG:NH1	2.35	0.41
68:A2:35:C:H2'	68:A2:36:PSU:C6	2.56	0.41
68:A2:231:A:H2'	68:A2:232:A:C8	2.55	0.41
68:A2:908:G:H2'	68:A2:909:A:C8	2.55	0.41
1:B5:788:G:H2'	1:B5:789:G:C8	2.56	0.41
1:B5:1420:G:OP1	3:Bb:44:ARG:NH1	2.53	0.41
1:B5:1977:U:O2'	79:Bm:114:LYS:O	2.37	0.41
1:B5:2386:A:H4'	10:B8:127:U:C5	2.55	0.41
1:B5:3497:G:H21	1:B5:3498:A:N6	2.18	0.41
1:B5:4403:U:N3	93:B5:5100:SPD:H82	2.35	0.41
12:As:13:GLU:OE2	12:As:142:ASN:ND2	2.46	0.41
15:At:20:ILE:HG12	15:At:98:VAL:HG21	2.02	0.41
15:At:67:LYS:HE2	15:At:78:ASP:OD1	2.20	0.41
22:BQ:67:ILE:HG12	22:BQ:98:LEU:HD11	2.03	0.41
28:Ba:100:ILE:HG13	28:Ba:123:ILE:HB	2.03	0.41
29:Ax:80:ASP:OD1	29:Ax:81:TYR:N	2.54	0.41
40:EA:272:LEU:HD12	40:EA:306:VAL:HG11	2.03	0.41
41:Ab:81:ILE:HG23	41:Ab:86:LEU:HB2	2.03	0.41
55:BL:172:GLU:HG3	66:Bi:3:LEU:HD22	2.02	0.41
56:DB:296:LEU:N	56:DB:297:PRO:HD2	2.36	0.41
56:DB:401:ILE:HD12	56:DB:414:LYS:NZ	2.36	0.41
56:DB:622:ARG:HA	56:DB:626:LYS:HD2	2.02	0.41
68:A2:1759:G:H2'	68:A2:1760:G:H8	1.85	0.41
86:AF:12:LYS:HG2	86:AF:306:LEU:HD22	2.01	0.41
91:Bs:125:ALA:HA	91:Bs:154:ILE:HB	2.03	0.41
1:B5:2194:OMC:HM22	1:B5:2195:U:H5'	2.02	0.41
1:B5:2602:G:H1'	1:B5:2607:A:H2	1.85	0.41
1:B5:3680:C:H2'	1:B5:3681:A:O4'	2.21	0.41
1:B5:4485:C:H42	1:B5:4699:G:H1	1.68	0.41
38:Az:2:ARG:HD3	38:Az:5:TRP:NE1	2.35	0.41
44:Ct:85:LEU:HD22	44:Ct:114:SER:HA	2.03	0.41
49:Ad:153:LEU:HD13	57:Af:216:ARG:HD2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:DB:104:ARG:HG2	56:DB:120:LEU:HD11	2.03	0.41
56:DB:107:LEU:O	56:DB:111:LYS:HG3	2.20	0.41
56:DB:292:VAL:N	56:DB:293:PRO:HD2	2.36	0.41
65:Ah:5:ARG:NH2	68:A2:385:U:O4	2.39	0.41
68:A2:381:G:N1	68:A2:384:G:OP2	2.52	0.41
68:A2:609:C:H2'	68:A2:610:PSU:H6	1.85	0.41
68:A2:797:G:H2'	68:A2:798:C:H4'	2.03	0.41
68:A2:1256:G:OP1	68:A2:1257:G:O2'	2.23	0.41
68:A2:1865:U:OP2	83:AE:4:LYS:NZ	2.43	0.41
91:Bs:66:ARG:HA	91:Bs:69:LEU:HG	2.01	0.41
1:B5:52:G:H4'	1:B5:1484:G:H4'	2.02	0.41
1:B5:101:A:OP2	99:B5:5548:HOH:O	2.22	0.41
1:B5:109:G:OP2	55:BL:74:ARG:NH2	2.54	0.41
1:B5:519:C:H2'	1:B5:520:G:H8	1.86	0.41
1:B5:1208:C:OP1	3:Bb:95:ARG:NH1	2.53	0.41
1:B5:1438:C:H4'	1:B5:1439:G:O4'	2.20	0.41
1:B5:2742:C:P	31:BR:108:ARG:HH22	2.43	0.41
1:B5:3834:G:H1'	1:B5:3835:G:C8	2.56	0.41
1:B5:4278:PSU:OP2	1:B5:4300:G:N1	2.46	0.41
1:B5:4792:U:H3'	1:B5:4793:C:C6	2.56	0.41
2:BT:17:ARG:HB2	2:BT:22:HIS:CE1	2.56	0.41
3:Bb:101:HIS:O	3:Bb:109:ARG:NH1	2.51	0.41
4:Bt:104:ILE:HB	4:Bt:143:VAL:HG22	2.03	0.41
4:Bt:118:HIS:CD2	4:Bt:119:ARG:HG2	2.56	0.41
9:Ar:120:HIS:CE1	9:Ar:124:ARG:HD2	2.56	0.41
10:B8:47:C:H1'	10:B8:61:A:H2'	2.03	0.41
12:As:14:PHE:HA	12:As:138:VAL:HG21	2.02	0.41
13:BA:33:ASP:OD1	13:BA:33:ASP:N	2.53	0.41
13:BA:117:GLU:HG2	13:BA:124:GLY:N	2.34	0.41
24:Aw:91:LEU:HB3	80:AD:83:VAL:HG11	2.02	0.41
25:BE:164:ARG:NH1	25:BE:276:SER:OG	2.52	0.41
28:Ba:125:LYS:HG2	28:Ba:145:VAL:HB	2.03	0.41
34:BG:81:ASN:ND2	34:BG:238:GLY:HA3	2.36	0.41
41:Ab:110:MET:HG3	41:Ab:125:LYS:HB3	2.03	0.41
43:BI:85:PHE:HD2	43:BI:87:ILE:HG13	1.86	0.41
49:Ad:104:ASP:OD1	49:Ad:108:ARG:N	2.41	0.41
56:DB:495:TYR:HD1	56:DB:500:LYS:HD2	1.86	0.41
56:DB:679:PHE:HB3	56:DB:691:MET:HE1	2.03	0.41
56:DB:799:LEU:HG	56:DB:832:PHE:CD1	2.56	0.41
59:BM:123:ILE:HD13	67:BO:182:GLU:HG2	2.03	0.41
63:BN:5:LYS:HG3	66:Bi:40:VAL:HG11	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:A2:545:G:H2'	68:A2:546:A:C8	2.55	0.41
68:A2:1228:G:N2	68:A2:1636:C:O2'	2.54	0.41
78:Al:72:HIS:CD2	78:Al:74:ILE:HD11	2.56	0.41
79:Bm:98:M3L:HM13	79:Bm:98:M3L:HD2	1.82	0.41
1:B5:114:G:N2	1:B5:158:A:H61	2.20	0.41
1:B5:345:C:H2'	1:B5:346:G:C8	2.55	0.41
1:B5:827:C:H2'	1:B5:828:A:H8	1.85	0.41
1:B5:1509:A:OP1	85:Bp:5:THR:OG1	2.26	0.41
1:B5:4166:PSU:H2'	1:B5:4166:PSU:O4	2.21	0.41
1:B5:4270:G:C2	16:BB:252:ALA:HB1	2.56	0.41
1:B5:4445:U:H4'	1:B5:4446:A:OP1	2.21	0.41
20:B:108:ARG:CZ	20:B:253:TYR:HB2	2.51	0.41
23:BZ:48:ARG:HB3	23:BZ:69:LYS:HB3	2.01	0.41
44:Ct:97:ARG:HD3	48:Cu:61:GLU:HG2	2.01	0.41
53:Ae:176:GLU:OE2	53:Ae:187:SER:OG	2.29	0.41
56:DB:105:ASN:HA	56:DB:108:LYS:HD2	2.02	0.41
56:DB:479:LEU:HB3	56:DB:484:CYS:HB2	2.03	0.41
68:A2:643:U:H4'	68:A2:645:OMG:H4'	2.01	0.41
68:A2:1017:U:H5"	81:Am:14:SER:HB3	2.02	0.41
68:A2:1019:U:O2'	81:Am:86:GLU:OE2	2.38	0.41
1:B5:772:C:H2'	1:B5:773:G:C8	2.56	0.40
1:B5:1823:C:H2'	1:B5:1824:G:H8	1.85	0.40
1:B5:3669:C:H1'	63:BN:125:SER:HB3	2.03	0.40
1:B5:4052:OMU:OP2	22:BQ:159:PRO:HD2	2.21	0.40
1:B5:4698:U:H2'	1:B5:4699:G:C8	2.56	0.40
20:B:29:ASP:HB2	20:B:150:LEU:HD21	2.03	0.40
28:Ba:26:ARG:HD3	28:Ba:26:ARG:HA	1.84	0.40
36:BS:69:GLU:HG2	36:BS:101:THR:HG22	2.03	0.40
39:BH:36:ARG:NH1	39:BH:152:GLU:OE2	2.52	0.40
40:EA:270:ARG:HB3	40:EA:314:ALA:HB3	2.02	0.40
46:Bd:19:GLU:O	46:Bd:90:ARG:NE	2.54	0.40
46:Bd:65:ASP:OD1	46:Bd:66:THR:N	2.54	0.40
50:Be:78:LEU:O	88:Br:20:ARG:NH1	2.53	0.40
56:DB:56:LEU:HD22	56:DB:61:LYS:HD2	2.03	0.40
56:DB:184:LYS:HG2	56:DB:189:TYR:CZ	2.55	0.40
56:DB:225:ALA:HB1	56:DB:536:ARG:HH12	1.87	0.40
56:DB:495:TYR:HB2	56:DB:504:ALA:HB2	2.02	0.40
56:DB:538:TYR:CD1	60:DC:36:LEU:HD22	2.56	0.40
57:Af:35:GLU:HG2	57:Af:51:ARG:HB2	2.03	0.40
57:Af:133:LEU:HD22	68:A2:65:C:C2	2.56	0.40
63:BN:119:TYR:OH	63:BN:131:GLU:OE1	2.30	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:Ah:76:THR:OG1	65:Ah:77:ARG:N	2.54	0.40
68:A2:437:OMG:H5"	68:A2:474:A:N6	2.36	0.40
68:A2:527:A:H5'	80:AD:105:ARG:HH21	1.86	0.40
68:A2:1757:C:H2'	68:A2:1758:G:C8	2.56	0.40
1:B5:1550:G:P	99:B5:6076:HOH:O	2.79	0.40
1:B5:1601:A:O2'	70:Bj:49:TRP:O	2.32	0.40
1:B5:2244:A2M:HM'2	1:B5:2245:G:O5'	2.20	0.40
1:B5:3631:OMG:HM22	1:B5:3632:G:H5'	2.04	0.40
1:B5:4046:U:H4'	2:BT:89:ILE:HG22	2.04	0.40
6:Aq:109:LEU:HG	6:Aq:111:PHE:HD2	1.86	0.40
14:BV:87:SER:HA	14:BV:97:TYR:HB3	2.03	0.40
16:BB:291:TYR:HB3	16:BB:298:LEU:HD11	2.02	0.40
32:AZ:102:ARG:HD2	32:AZ:102:ARG:HA	1.89	0.40
47:BJ:101:ASP:OD1	47:BJ:101:ASP:N	2.53	0.40
49:Ad:24:THR:HG22	68:A2:496:U:H4'	2.03	0.40
50:Be:104:SER:O	50:Be:108:ARG:HG3	2.20	0.40
52:DA:71:ARG:HG2	52:DA:108:ASN:HB3	2.03	0.40
56:DB:56:LEU:HB3	56:DB:61:LYS:HB2	2.03	0.40
56:DB:506:LYS:HD2	56:DB:644:PRO:HD3	2.02	0.40
56:DB:541:LEU:O	56:DB:545:GLU:HG3	2.20	0.40
57:Af:92:ARG:O	68:A2:454:C:O2'	2.30	0.40
70:Bj:39:TYR:CG	70:Bj:40:PRO:HA	2.56	0.40
77:AC:102:VAL:HG21	78:Al:35:ILE:HG21	2.03	0.40
1:B5:2332:C:H4'	1:B5:2333:U:H5	1.86	0.40
1:B5:3380:A:H1'	1:B5:3517:A2M:N6	2.36	0.40
1:B5:3675:A:H2'	1:B5:3676:OMG:C8	2.57	0.40
1:B5:4450:C:H2'	1:B5:4451:A:C8	2.57	0.40
1:B5:4680:G:O3'	25:BE:190:ARG:NH2	2.55	0.40
4:Bt:105:THR:HG22	4:Bt:107:ASP:H	1.87	0.40
22:BQ:89:ASP:HB3	22:BQ:92:VAL:HG23	2.04	0.40
22:BQ:151:HIS:ND1	22:BQ:164:LYS:O	2.54	0.40
26:BW:89:ASP:O	26:BW:93:LYS:HG2	2.21	0.40
35:BC:186:SER:O	35:BC:188:ARG:NH1	2.54	0.40
35:BC:321:ASN:HB3	35:BC:324:ILE:HB	2.03	0.40
37:Aa:87:ILE:HG22	37:Aa:101:HIS:HB2	2.03	0.40
46:Bd:123:ASP:OD1	46:Bd:123:ASP:N	2.54	0.40
56:DB:326:PHE:CZ	56:DB:382:GLN:HB2	2.57	0.40
56:DB:369:PRO:HG2	56:DB:372:THR:HG23	2.02	0.40
56:DB:773:TYR:CE1	56:DB:780:GLN:HA	2.54	0.40
59:BM:7:VAL:HG11	59:BM:52:PHE:HE1	1.87	0.40
68:A2:673:A:C2	95:A2:1962:SPM:H72	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:Aj:94:LEU:HD23	72:Aj:94:LEU:HA	1.97	0.40
86:AF:32:LEU:HB2	86:AF:71:ILE:HD11	2.02	0.40
1:B5:869:U:H4'	1:B5:870:G:C8	2.55	0.40
1:B5:1478:A:N3	1:B5:4135:C:O2'	2.53	0.40
1:B5:2142:G:H5'	88:Br:15:SER:HB2	2.03	0.40
1:B5:2208:OMC:OP2	99:B5:5550:HOH:O	2.22	0.40
2:BT:68:THR:OG1	2:BT:71:ALA:O	2.32	0.40
13:BA:115:CYS:HA	13:BA:128:ARG:HG2	2.04	0.40
16:BB:194:LEU:HD23	16:BB:194:LEU:HA	1.94	0.40
17:BP:40:HIS:CE1	17:BP:157:VAL:HB	2.56	0.40
17:BP:64:ASN:ND2	17:BP:80:GLN:OE1	2.53	0.40
19:Av:52:ILE:HB	61:Ag:144:ILE:HB	2.02	0.40
20:B:7:VAL:HG23	20:B:8:LYS:HG3	2.02	0.40
43:BI:33:ILE:HB	43:BI:69:ARG:NH1	2.37	0.40
56:DB:149:ALA:HB1	56:DB:530:MET:HB3	2.03	0.40
56:DB:419:LYS:HD2	56:DB:451:TYR:CE2	2.56	0.40
56:DB:496:LYS:HZ3	56:DB:564:ILE:HD12	1.87	0.40
59:BM:27:ILE:HD13	59:BM:38:VAL:HG12	2.02	0.40
65:Ah:5:ARG:NE	68:A2:380:C:O2	2.49	0.40
68:A2:1220:C:P	99:A2:2122:HOH:O	2.80	0.40
90:Ap:89:SER:HB3	90:Ap:112:LEU:HD13	2.04	0.40
1:B5:1008:C:H2'	1:B5:1009:G:C8	2.55	0.40
1:B5:2323:G:H2'	1:B5:2324:G:H8	1.85	0.40
1:B5:3966:6MZ:O5'	1:B5:3966:6MZ:H8	2.20	0.40
1:B5:4059:A:H4'	2:BT:71:ALA:HB3	2.04	0.40
1:B5:4486:G:H2'	1:B5:4489:G:H5'	2.03	0.40
1:B5:4703:C:N4	1:B5:4704:U:O4	2.55	0.40
1:B5:4741:U:H2'	1:B5:4742:U:C6	2.57	0.40
8:AT:29:N:H4'	9:Ar:148:VAL:HG11	2.04	0.40
14:BV:112:MET:HE2	14:BV:112:MET:HB3	1.97	0.40
18:BY:134:LYS:HE3	18:BY:134:LYS:HB3	1.97	0.40
20:B:163:LEU:HD21	20:B:175:HIS:CG	2.56	0.40
34:BG:166:LEU:HD21	63:BN:45:PRO:HG2	2.04	0.40
49:Ad:211:LYS:HE3	49:Ad:215:GLY:HA2	2.03	0.40
50:Be:67:LYS:HG2	50:Be:68:HIS:CD2	2.56	0.40
55:BL:124:LEU:HD11	62:Bh:119:TYR:HB2	2.04	0.40
57:Af:66:GLY:HA2	68:A2:1746:A:H1'	2.02	0.40
68:A2:415:A:OP1	68:A2:815:PSU:O2'	2.28	0.40
68:A2:552:U:H2'	68:A2:553:G:C8	2.57	0.40
68:A2:583:U:H2'	68:A2:584:A:H5"	2.04	0.40
68:A2:1550:U:OP1	89:AG:34:TYR:OH	2.30	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71:AA:33:MET:HE2	71:AA:48:SER:HA	2.04	0.40
86:AF:254:PRO:HB3	86:AF:283:PRO:HB2	2.03	0.40
88:Br:105:ASP:OD1	88:Br:105:ASP:N	2.53	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	BT	157/160 (98%)	155 (99%)	2 (1%)	0	100	100
3	Bb	103/245 (42%)	98 (95%)	5 (5%)	0	100	100
4	Bt	154/165 (93%)	153 (99%)	1 (1%)	0	100	100
6	Aq	132/135 (98%)	132 (100%)	0	0	100	100
9	Ar	146/151 (97%)	143 (98%)	3 (2%)	0	100	100
11	BU	100/128 (78%)	98 (98%)	2 (2%)	0	100	100
12	As	140/145 (97%)	140 (100%)	0	0	100	100
13	BA	250/257 (97%)	241 (96%)	9 (4%)	0	100	100
14	BV	137/140 (98%)	136 (99%)	1 (1%)	0	100	100
15	At	102/119 (86%)	100 (98%)	2 (2%)	0	100	100
16	BB	395/403 (98%)	392 (99%)	3 (1%)	0	100	100
17	BP	157/184 (85%)	155 (99%)	2 (1%)	0	100	100
18	BY	132/145 (91%)	131 (99%)	1 (1%)	0	100	100
19	Av	127/130 (98%)	127 (100%)	0	0	100	100
20	B	291/297 (98%)	287 (99%)	4 (1%)	0	100	100
21	BX	116/156 (74%)	114 (98%)	2 (2%)	0	100	100
22	BQ	185/188 (98%)	182 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
23	BZ	133/136 (98%)	132 (99%)	1 (1%)	0	100	100
24	Aw	138/143 (96%)	136 (99%)	2 (1%)	0	100	100
25	BE	239/291 (82%)	235 (98%)	4 (2%)	0	100	100
26	BW	119/157 (76%)	118 (99%)	1 (1%)	0	100	100
27	Au	81/83 (98%)	79 (98%)	2 (2%)	0	100	100
28	Ba	144/148 (97%)	138 (96%)	5 (4%)	1 (1%)	18	48
29	Ax	123/130 (95%)	123 (100%)	0	0	100	100
30	BF	224/247 (91%)	218 (97%)	6 (3%)	0	100	100
31	BR	178/196 (91%)	178 (100%)	0	0	100	100
32	AZ	219/294 (74%)	215 (98%)	4 (2%)	0	100	100
33	Ay	83/124 (67%)	81 (98%)	2 (2%)	0	100	100
34	BG	229/266 (86%)	226 (99%)	3 (1%)	0	100	100
35	BC	360/412 (87%)	358 (99%)	2 (1%)	0	100	100
36	BS	174/176 (99%)	172 (99%)	2 (1%)	0	100	100
37	Aa	220/264 (83%)	218 (99%)	2 (1%)	0	100	100
38	Az	23/25 (92%)	23 (100%)	0	0	100	100
39	BH	188/192 (98%)	188 (100%)	0	0	100	100
40	EA	302/386 (78%)	297 (98%)	4 (1%)	1 (0%)	36	66
41	Ab	218/293 (74%)	218 (100%)	0	0	100	100
42	Bc	106/115 (92%)	104 (98%)	2 (2%)	0	100	100
43	BI	211/214 (99%)	208 (99%)	3 (1%)	0	100	100
44	Ct	113/238 (48%)	110 (97%)	3 (3%)	0	100	100
45	Ac	223/281 (79%)	221 (99%)	2 (1%)	0	100	100
46	Bd	105/125 (84%)	105 (100%)	0	0	100	100
47	BJ	168/178 (94%)	167 (99%)	1 (1%)	0	100	100
48	Cu	105/162 (65%)	100 (95%)	5 (5%)	0	100	100
49	Ad	260/263 (99%)	257 (99%)	3 (1%)	0	100	100
50	Be	128/135 (95%)	128 (100%)	0	0	100	100
52	DA	153/403 (38%)	150 (98%)	3 (2%)	0	100	100
53	Ae	189/204 (93%)	185 (98%)	4 (2%)	0	100	100
54	Bf	108/110 (98%)	107 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
55	BL	208/211 (99%)	205 (99%)	3 (1%)	0	100	100
56	DB	835/915 (91%)	823 (99%)	10 (1%)	2 (0%)	43	70
57	Af	235/249 (94%)	234 (100%)	1 (0%)	0	100	100
58	Bg	112/117 (96%)	111 (99%)	1 (1%)	0	100	100
59	BM	136/218 (62%)	134 (98%)	2 (2%)	0	100	100
60	DC	163/235 (69%)	162 (99%)	1 (1%)	0	100	100
61	Ag	188/432 (44%)	185 (98%)	3 (2%)	0	100	100
62	Bh	120/123 (98%)	119 (99%)	1 (1%)	0	100	100
63	BN	201/204 (98%)	199 (99%)	2 (1%)	0	100	100
64	DD	55/228 (24%)	50 (91%)	5 (9%)	0	100	100
65	Ah	204/208 (98%)	201 (98%)	3 (2%)	0	100	100
66	Bi	100/105 (95%)	98 (98%)	2 (2%)	0	100	100
67	BO	197/203 (97%)	196 (100%)	1 (0%)	0	100	100
69	Ai	183/194 (94%)	181 (99%)	2 (1%)	0	100	100
70	Bj	84/97 (87%)	83 (99%)	1 (1%)	0	100	100
71	AA	81/84 (96%)	79 (98%)	2 (2%)	0	100	100
72	Aj	94/165 (57%)	90 (96%)	4 (4%)	0	100	100
73	Bk	67/70 (96%)	67 (100%)	0	0	100	100
74	AB	61/69 (88%)	61 (100%)	0	0	100	100
75	Ak	152/158 (96%)	150 (99%)	2 (1%)	0	100	100
76	Bl	48/51 (94%)	48 (100%)	0	0	100	100
77	AC	72/156 (46%)	71 (99%)	1 (1%)	0	100	100
78	Al	122/132 (92%)	119 (98%)	3 (2%)	0	100	100
79	Bm	49/128 (38%)	49 (100%)	0	0	100	100
80	AD	55/133 (41%)	54 (98%)	1 (2%)	0	100	100
81	Am	148/151 (98%)	147 (99%)	1 (1%)	0	100	100
82	Bo	102/106 (96%)	100 (98%)	2 (2%)	0	100	100
83	AE	99/115 (86%)	98 (99%)	1 (1%)	0	100	100
84	An	132/151 (87%)	129 (98%)	3 (2%)	0	100	100
85	Bp	89/92 (97%)	87 (98%)	2 (2%)	0	100	100
86	AF	311/317 (98%)	304 (98%)	7 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
87	Ao	126/145 (87%)	123 (98%)	3 (2%)	0	100	100
88	Br	121/136 (89%)	120 (99%)	1 (1%)	0	100	100
89	AG	53/56 (95%)	53 (100%)	0	0	100	100
90	Ap	139/172 (81%)	133 (96%)	6 (4%)	0	100	100
91	Bs	194/318 (61%)	188 (97%)	6 (3%)	0	100	100
All	All	13424/16183 (83%)	13230 (99%)	190 (1%)	4 (0%)	100	100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
40	EA	297	HIS
56	DB	577	ASN
56	DB	578	LYS
28	Ba	15	VAL

5.3.2 Protein sidechains (i)

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	BT	139/140 (99%)	139 (100%)	0	100	100
3	Bb	87/183 (48%)	87 (100%)	0	100	100
4	Bt	128/137 (93%)	122 (95%)	6 (5%)	23	51
6	Aq	120/121 (99%)	119 (99%)	1 (1%)	73	78
9	Ar	127/130 (98%)	125 (98%)	2 (2%)	55	70
11	BU	91/113 (80%)	88 (97%)	3 (3%)	33	57
12	As	112/114 (98%)	112 (100%)	0	100	100
13	BA	194/198 (98%)	194 (100%)	0	100	100
14	BV	106/107 (99%)	106 (100%)	0	100	100
15	At	94/107 (88%)	92 (98%)	2 (2%)	47	66
16	BB	344/347 (99%)	341 (99%)	3 (1%)	70	76

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	BP	140/163 (86%)	140 (100%)	0	100	100
18	BY	124/135 (92%)	124 (100%)	0	100	100
19	Av	112/113 (99%)	111 (99%)	1 (1%)	70	76
20	B	247/250 (99%)	247 (100%)	0	100	100
21	BX	106/134 (79%)	105 (99%)	1 (1%)	70	76
22	BQ	164/165 (99%)	162 (99%)	2 (1%)	63	74
23	BZ	117/118 (99%)	117 (100%)	0	100	100
24	Aw	112/114 (98%)	110 (98%)	2 (2%)	51	69
25	BE	216/251 (86%)	216 (100%)	0	100	100
26	BW	100/126 (79%)	99 (99%)	1 (1%)	68	75
27	Au	67/67 (100%)	65 (97%)	2 (3%)	36	59
28	Ba	118/119 (99%)	118 (100%)	0	100	100
29	Ax	107/112 (96%)	106 (99%)	1 (1%)	70	76
30	BF	197/215 (92%)	197 (100%)	0	100	100
31	BR	159/175 (91%)	158 (99%)	1 (1%)	78	81
32	AZ	182/242 (75%)	180 (99%)	2 (1%)	65	75
33	Ay	75/102 (74%)	74 (99%)	1 (1%)	61	73
34	BG	199/223 (89%)	197 (99%)	2 (1%)	68	75
35	BC	302/336 (90%)	301 (100%)	1 (0%)	86	86
36	BS	154/154 (100%)	154 (100%)	0	100	100
37	Aa	203/231 (88%)	200 (98%)	3 (2%)	57	71
38	Az	24/24 (100%)	24 (100%)	0	100	100
39	BH	169/171 (99%)	169 (100%)	0	100	100
40	EA	261/330 (79%)	259 (99%)	2 (1%)	73	78
41	Ab	185/223 (83%)	184 (100%)	1 (0%)	81	82
42	Bc	92/98 (94%)	91 (99%)	1 (1%)	65	75
43	BI	180/181 (99%)	179 (99%)	1 (1%)	78	81
44	Ct	100/202 (50%)	99 (99%)	1 (1%)	68	75
45	Ac	189/232 (82%)	186 (98%)	3 (2%)	55	70
46	Bd	98/110 (89%)	98 (100%)	0	100	100
47	BJ	143/149 (96%)	142 (99%)	1 (1%)	76	79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
48	Cu	91/136 (67%)	86 (94%)	5 (6%)	19 46
49	Ad	224/225 (100%)	224 (100%)	0	100 100
50	Be	116/121 (96%)	116 (100%)	0	100 100
52	DA	137/355 (39%)	136 (99%)	1 (1%)	76 79
53	Ae	161/170 (95%)	161 (100%)	0	100 100
54	Bf	89/89 (100%)	89 (100%)	0	100 100
55	BL	175/176 (99%)	173 (99%)	2 (1%)	65 75
56	DB	746/806 (93%)	724 (97%)	22 (3%)	37 60
57	Af	207/218 (95%)	206 (100%)	1 (0%)	81 82
58	Bg	98/100 (98%)	97 (99%)	1 (1%)	68 75
59	BM	117/161 (73%)	117 (100%)	0	100 100
60	DC	141/202 (70%)	139 (99%)	2 (1%)	59 72
61	Ag	170/360 (47%)	168 (99%)	2 (1%)	63 74
62	Bh	109/110 (99%)	109 (100%)	0	100 100
63	BN	171/172 (99%)	171 (100%)	0	100 100
64	DD	45/201 (22%)	44 (98%)	1 (2%)	45 65
65	Ah	178/180 (99%)	177 (99%)	1 (1%)	78 81
66	Bi	86/89 (97%)	86 (100%)	0	100 100
67	BO	171/173 (99%)	169 (99%)	2 (1%)	63 74
69	Ai	161/168 (96%)	161 (100%)	0	100 100
70	Bj	73/80 (91%)	73 (100%)	0	100 100
71	AA	75/76 (99%)	74 (99%)	1 (1%)	61 73
72	Aj	87/136 (64%)	86 (99%)	1 (1%)	65 75
73	Bk	64/65 (98%)	63 (98%)	1 (2%)	55 70
74	AB	56/62 (90%)	55 (98%)	1 (2%)	51 69
75	Ak	139/142 (98%)	138 (99%)	1 (1%)	76 79
76	Bl	47/48 (98%)	47 (100%)	0	100 100
77	AC	67/140 (48%)	67 (100%)	0	100 100
78	Al	104/108 (96%)	103 (99%)	1 (1%)	68 75
79	Bm	47/115 (41%)	47 (100%)	0	100 100
80	AD	47/106 (44%)	47 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
81	Am	130/131 (99%)	130 (100%)	0	100 100
82	Bo	92/93 (99%)	92 (100%)	0	100 100
83	AE	88/98 (90%)	86 (98%)	2 (2%)	44 65
84	An	105/118 (89%)	104 (99%)	1 (1%)	68 75
85	Bp	74/75 (99%)	73 (99%)	1 (1%)	59 72
86	AF	272/275 (99%)	269 (99%)	3 (1%)	65 75
87	Ao	114/130 (88%)	112 (98%)	2 (2%)	51 69
88	Br	106/119 (89%)	106 (100%)	0	100 100
89	AG	48/49 (98%)	48 (100%)	0	100 100
90	Ap	117/140 (84%)	117 (100%)	0	100 100
91	Bs	164/258 (64%)	162 (99%)	2 (1%)	63 74
All	All	11693/13738 (85%)	11589 (99%)	104 (1%)	68 76

All (104) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	Bt	12	VAL
4	Bt	15	LEU
4	Bt	22	VAL
4	Bt	35	LEU
4	Bt	73	VAL
4	Bt	74	VAL
6	Aq	73	LEU
9	Ar	94	LYS
9	Ar	103	LEU
11	BU	97	ARG
11	BU	108	GLU
11	BU	117	ILE
15	At	54	VAL
15	At	68	THR
16	BB	90	VAL
16	BB	248	LEU
16	BB	344	VAL
19	Av	105	THR
21	BX	148	ASP
22	BQ	82	VAL
22	BQ	115	LYS
24	Aw	105	PHE

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Mol	Chain	Res	Type
24	Aw	125	VAL
26	BW	68	GLN
27	Au	42	VAL
27	Au	61	ARG
29	Ax	120	THR
31	BR	105	LEU
32	AZ	87	VAL
32	AZ	206	ASP
33	Ay	107	VAL
34	BG	106	THR
34	BG	220	GLU
35	BC	321	ASN
37	Aa	9	LEU
37	Aa	127	VAL
37	Aa	178	THR
40	EA	268	ARG
40	EA	317	VAL
41	Ab	121	ARG
42	Bc	94	LEU
43	BI	163	GLN
44	Ct	215	MET
45	Ac	46	THR
45	Ac	84	VAL
45	Ac	175	VAL
47	BJ	70	VAL
48	Cu	9	GLU
48	Cu	15	GLN
48	Cu	33	VAL
48	Cu	53	VAL
48	Cu	55	ASN
52	DA	74	ILE
55	BL	81	LEU
55	BL	115	GLN
56	DB	55	THR
56	DB	120	LEU
56	DB	123	LEU
56	DB	141	LEU
56	DB	170	ILE
56	DB	210	LEU
56	DB	296	LEU
56	DB	373	LEU
56	DB	374	LEU

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Mol	Chain	Res	Type
56	DB	397	ILE
56	DB	401	ILE
56	DB	444	ILE
56	DB	522	GLN
56	DB	547	VAL
56	DB	564	ILE
56	DB	596	ARG
56	DB	611	GLU
56	DB	628	LYS
56	DB	662	THR
56	DB	683	PHE
56	DB	762	LEU
56	DB	784	ILE
57	Af	44	GLU
58	Bg	32	TYR
60	DC	107	VAL
60	DC	153	GLN
61	Ag	53	VAL
61	Ag	75	ILE
64	DD	94	MET
65	Ah	46	VAL
67	BO	6	VAL
67	BO	174	LEU
71	AA	74	THR
72	Aj	40	VAL
73	Bk	36	VAL
74	AB	14	VAL
75	Ak	76	VAL
78	Al	75	ASN
83	AE	40	VAL
83	AE	75	VAL
84	An	21	VAL
85	Bp	52	VAL
86	AF	12	LYS
86	AF	159	ASN
86	AF	275	ILE
87	Ao	105	VAL
87	Ao	133	ILE
91	Bs	52	VAL
91	Bs	78	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (153) such sidechains are listed below:

Mol	Chain	Res	Type
2	BT	131	GLN
3	Bb	50	ASN
4	Bt	118	HIS
6	Aq	74	GLN
9	Ar	72	GLN
11	BU	17	GLN
11	BU	116	GLN
12	As	12	GLN
13	BA	50	HIS
13	BA	97	ASN
13	BA	140	ASN
13	BA	205	ASN
13	BA	253	GLN
16	BB	121	ASN
16	BB	289	GLN
17	BP	75	GLN
17	BP	137	ASN
18	BY	18	HIS
19	Av	91	ASN
20	B	111	ASN
20	B	282	GLN
21	BX	107	HIS
21	BX	111	GLN
21	BX	151	ASN
22	BQ	125	GLN
24	Aw	92	ASN
25	BE	131	HIS
25	BE	170	GLN
26	BW	68	GLN
26	BW	120	GLN
27	Au	2	GLN
28	Ba	60	HIS
29	Ax	15	ASN
29	Ax	19	GLN
29	Ax	85	ASN
29	Ax	89	HIS
30	BF	57	HIS
30	BF	115	GLN
31	BR	36	ASN
31	BR	40	GLN
31	BR	86	ASN
31	BR	143	HIS
32	AZ	113	GLN

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Mol	Chain	Res	Type
33	Ay	112	ASN
34	BG	38	ASN
34	BG	46	GLN
34	BG	64	GLN
34	BG	81	ASN
34	BG	153	GLN
35	BC	48	ASN
35	BC	61	GLN
35	BC	89	GLN
35	BC	119	GLN
35	BC	212	ASN
35	BC	310	HIS
35	BC	329	ASN
36	BS	117	HIS
37	Aa	76	ASN
37	Aa	92	GLN
37	Aa	124	HIS
39	BH	39	ASN
39	BH	42	ASN
39	BH	98	HIS
40	EA	198	ASN
40	EA	218	ASN
40	EA	233	ASN
40	EA	258	GLN
40	EA	281	GLN
41	Ab	178	HIS
42	Bc	40	GLN
43	BI	59	GLN
43	BI	73	ASN
43	BI	92	HIS
43	BI	163	GLN
44	Ct	201	ASN
47	BJ	97	ASN
48	Cu	15	GLN
48	Cu	17	GLN
49	Ad	98	ASN
49	Ad	142	HIS
50	Be	34	ASN
50	Be	68	HIS
52	DA	18	GLN
52	DA	24	GLN
52	DA	95	HIS

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Mol	Chain	Res	Type
53	Ae	65	GLN
53	Ae	83	ASN
53	Ae	118	ASN
54	Bf	20	ASN
55	BL	149	GLN
56	DB	25	GLN
56	DB	57	ASN
56	DB	126	GLN
56	DB	139	GLN
56	DB	251	GLN
56	DB	327	ASN
56	DB	456	ASN
56	DB	509	HIS
56	DB	522	GLN
56	DB	526	HIS
56	DB	569	HIS
56	DB	571	ASN
56	DB	693	GLN
56	DB	709	HIS
56	DB	717	ASN
56	DB	749	ASN
58	Bg	114	GLN
59	BM	33	GLN
59	BM	48	GLN
60	DC	18	ASN
60	DC	24	GLN
60	DC	25	ASN
60	DC	93	GLN
63	BN	158	HIS
65	Ah	7	ASN
65	Ah	138	ASN
65	Ah	167	GLN
66	Bi	15	HIS
66	Bi	26	HIS
66	Bi	36	HIS
67	BO	180	GLN
69	Ai	154	GLN
70	Bj	57	ASN
70	Bj	66	HIS
71	AA	29	ASN
71	AA	51	GLN
72	Aj	50	GLN

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Mol	Chain	Res	Type
72	Aj	77	GLN
73	Bk	58	GLN
75	Ak	11	GLN
76	Bl	25	GLN
78	Al	28	HIS
80	AD	89	GLN
81	Am	13	GLN
81	Am	36	GLN
84	An	103	ASN
84	An	113	GLN
86	AF	159	ASN
86	AF	188	HIS
86	AF	222	ASN
86	AF	296	GLN
87	Ao	54	HIS
88	Br	4	HIS
89	AG	28	HIS
89	AG	37	ASN
90	Ap	8	GLN
90	Ap	80	GLN
90	Ap	97	GLN
90	Ap	114	GLN
91	Bs	34	ASN
91	Bs	39	GLN
91	Bs	41	GLN
91	Bs	195	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	B5	3694/4808 (76%)	428 (11%)	2 (0%)
10	B8	155/158 (98%)	15 (9%)	0
5	AH	0/3	-	-
68	A2	1764/1870 (94%)	219 (12%)	0
7	B7	118/120 (98%)	7 (5%)	0
8	AT	2/76 (2%)	1 (50%)	0
All	All	5733/7035 (81%)	670 (11%)	2 (0%)

All (670) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	B5	39	A
1	B5	42	A
1	B5	59	A
1	B5	64	A
1	B5	65	A
1	B5	85	G
1	B5	91	G
1	B5	98	A
1	B5	109	G
1	B5	110	C
1	B5	119	G
1	B5	127	G
1	B5	134	G
1	B5	135	G
1	B5	136	U
1	B5	144	G
1	B5	159	C
1	B5	181	C
1	B5	184	U
1	B5	187	U
1	B5	188	G
1	B5	200	U
1	B5	209	U
1	B5	218	A
1	B5	219	G
1	B5	233	U
1	B5	234	G
1	B5	266	C
1	B5	297	U
1	B5	309	C
1	B5	315	G
1	B5	316	U
1	B5	334	A
1	B5	340	C
1	B5	363	A
1	B5	386	A
1	B5	387	G
1	B5	398	A2M
1	B5	409	G
1	B5	410	A
1	B5	412	G
1	B5	413	G
1	B5	446	C

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Mol	Chain	Res	Type
1	B5	449	C
1	B5	450	G
1	B5	452	A
1	B5	453	G
1	B5	454	U
1	B5	455	C
1	B5	468	U
1	B5	482	U
1	B5	483	G
1	B5	485	U
1	B5	486	C
1	B5	488	G
1	B5	493	U
1	B5	497	G
1	B5	499	C
1	B5	502	U
1	B5	503	C
1	B5	504	U
1	B5	505	C
1	B5	515	U
1	B5	516	U
1	B5	517	C
1	B5	628	U
1	B5	634	C
1	B5	635	G
1	B5	660	G
1	B5	691	G
1	B5	698	C
1	B5	724	G
1	B5	725	G
1	B5	732	C
1	B5	734	G
1	B5	739	G
1	B5	758	C
1	B5	760	C
1	B5	790	G
1	B5	791	C
1	B5	792	G
1	B5	794	G
1	B5	795	A
1	B5	797	C
1	B5	798	C

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Mol	Chain	Res	Type
1	B5	810	U
1	B5	812	A
1	B5	814	A
1	B5	815	G
1	B5	824	C
1	B5	825	G
1	B5	831	A
1	B5	832	G
1	B5	833	C
1	B5	835	G
1	B5	843	A
1	B5	844	A
1	B5	845	U
1	B5	856	A
1	B5	860	A
1	B5	861	G
1	B5	866	A
1	B5	867	C
1	B5	868	C
1	B5	869	U
1	B5	870	G
1	B5	884	U
1	B5	983	G
1	B5	985	G
1	B5	987	C
1	B5	1072	C
1	B5	1073	C
1	B5	1074	C
1	B5	1090	U
1	B5	1091	G
1	B5	1102	G
1	B5	1105	C
1	B5	1106	U
1	B5	1124	A
1	B5	1127	G
1	B5	1129	G
1	B5	1133	C
1	B5	1140	C
1	B5	1202	C
1	B5	1214	A
1	B5	1215	G
1	B5	1216	C

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Mol	Chain	Res	Type
1	B5	1217	G
1	B5	1219	G
1	B5	1221	G
1	B5	1228	G
1	B5	1231	G
1	B5	1238	A
1	B5	1239	U
1	B5	1240	G
1	B5	1246	U
1	B5	1247	A
1	B5	1270	A2M
1	B5	1298	A
1	B5	1299	G
1	B5	1303	G
1	B5	1309	C
1	B5	1310	G
1	B5	1323	C
1	B5	1331	A
1	B5	1341	A
1	B5	1351	G
1	B5	1362	C
1	B5	1375	A
1	B5	1391	C
1	B5	1393	C
1	B5	1406	G
1	B5	1452	A
1	B5	1453	G
1	B5	1457	G
1	B5	1489	A2M
1	B5	1502	A
1	B5	1521	C
1	B5	1533	U
1	B5	1546	U
1	B5	1551	U
1	B5	1579	G
1	B5	1580	OMG
1	B5	1586	A
1	B5	1588	G
1	B5	1589	A
1	B5	1593	A
1	B5	1609	G
1	B5	1616	C

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Mol	Chain	Res	Type
1	B5	1631	C
1	B5	1632	PSU
1	B5	1653	C
1	B5	1657	C
1	B5	1658	C
1	B5	1704	A
1	B5	1705	A
1	B5	1726	A
1	B5	1743	A
1	B5	1754	G
1	B5	1774	G
1	B5	1775	G
1	B5	1776	A
1	B5	1781	G
1	B5	1794	G
1	B5	1808	G
1	B5	1836	A
1	B5	1857	U
1	B5	1859	C
1	B5	1860	C
1	B5	1861	G
1	B5	1870	C
1	B5	1871	A
1	B5	1879	G
1	B5	1887	G
1	B5	1898	U
1	B5	1899	A
1	B5	1900	G
1	B5	1913	U
1	B5	1915	G
1	B5	1922	A
1	B5	1923	A
1	B5	1924	G
1	B5	1925	U
1	B5	1926	C
1	B5	1936	U
1	B5	1940	G
1	B5	1942	G
1	B5	1943	U
1	B5	1963	G
1	B5	1965	A
1	B5	1973	G

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Mol	Chain	Res	Type
1	B5	1985	G
1	B5	1987	U
1	B5	1994	G
1	B5	1995	G
1	B5	2008	A
1	B5	2023	U
1	B5	2032	G
1	B5	2034	A
1	B5	2037	G
1	B5	2041	G
1	B5	2044	A
1	B5	2045	G
1	B5	2046	A
1	B5	2132	C
1	B5	2143	A
1	B5	2144	G
1	B5	2156	A
1	B5	2159	G
1	B5	2174	G
1	B5	2191	G
1	B5	2194	OMC
1	B5	2203	A
1	B5	2207	OMG
1	B5	2238	A
1	B5	2253	C
1	B5	2264	G
1	B5	2268	U
1	B5	2332	C
1	B5	2333	U
1	B5	2334	C
1	B5	2349	G
1	B5	2356	A
1	B5	2372	A
1	B5	2380	A
1	B5	2386	A
1	B5	2387	G
1	B5	2388	U
1	B5	2390	G
1	B5	2409	G
1	B5	2429	G
1	B5	2430	A
1	B5	2444	A

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Mol	Chain	Res	Type
1	B5	2470	C
1	B5	2496	C
1	B5	2503	A
1	B5	2512	C
1	B5	2530	U
1	B5	2537	G
1	B5	2538	A
1	B5	2539	A
1	B5	2546	G
1	B5	2551	U
1	B5	2552	C
1	B5	2553	C
1	B5	2554	G
1	B5	2586	A
1	B5	2606	U
1	B5	2612	U
1	B5	2630	A2M
1	B5	2631	U
1	B5	2633	U
1	B5	2641	A
1	B5	2657	C
1	B5	2669	U
1	B5	2670	G
1	B5	2672	U
1	B5	2678	A
1	B5	2698	G
1	B5	2745	G
1	B5	3329	G
1	B5	3347	G
1	B5	3350	C
1	B5	3358	G
1	B5	3367	A
1	B5	3380	A
1	B5	3385	A
1	B5	3394	A
1	B5	3428	C
1	B5	3443	A
1	B5	3444	A
1	B5	3485	G
1	B5	3492	A2M
1	B5	3493	C
1	B5	3498	A

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Mol	Chain	Res	Type
1	B5	3508	G
1	B5	3509	G
1	B5	3516	A
1	B5	3543	G
1	B5	3546	U
1	B5	3549	A
1	B5	3551	G
1	B5	3570	U
1	B5	3572	U
1	B5	3609	A
1	B5	3610	C
1	B5	3611	G
1	B5	3629	G
1	B5	3633	A
1	B5	3638	A
1	B5	3639	G
1	B5	3640	A
1	B5	3647	U
1	B5	3670	G
1	B5	3804	G
1	B5	3823	G
1	B5	3824	C
1	B5	3825	G
1	B5	3832	G
1	B5	3833	A
1	B5	3834	G
1	B5	3847	C
1	B5	3850	G
1	B5	3855	A
1	B5	3869	G
1	B5	3875	C
1	B5	3891	C
1	B5	3892	G
1	B5	3904	C
1	B5	3909	U
1	B5	3916	A
1	B5	3929	G
1	B5	3930	G
1	B5	3937	G
1	B5	3949	A
1	B5	3975	U
1	B5	3979	A

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Mol	Chain	Res	Type
1	B5	3997	A
1	B5	4000	G
1	B5	4012	G
1	B5	4014	A
1	B5	4017	A
1	B5	4019	A
1	B5	4027	A
1	B5	4051	G
1	B5	4052	OMU
1	B5	4076	G
1	B5	4078	C
1	B5	4096	C
1	B5	4100	U
1	B5	4119	G
1	B5	4123	G
1	B5	4124	A
1	B5	4126	A
1	B5	4133	C
1	B5	4140	A
1	B5	4167	C
1	B5	4168	A
1	B5	4183	U
1	B5	4190	C
1	B5	4194	G
1	B5	4210	A
1	B5	4212	C
1	B5	4258	U
1	B5	4259	A
1	B5	4270	G
1	B5	4294	A
1	B5	4306	C
1	B5	4313	G
1	B5	4321	G
1	B5	4336	A2M
1	B5	4381	A
1	B5	4382	PSU
1	B5	4383	OMG
1	B5	4402	A
1	B5	4416	C
1	B5	4418	A
1	B5	4437	A
1	B5	4446	A

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Mol	Chain	Res	Type
1	B5	4454	A
1	B5	4455	U
1	B5	4465	G
1	B5	4475	A
1	B5	4476	C
1	B5	4477	G
1	B5	4478	G
1	B5	4486	G
1	B5	4487	A
1	B5	4488	A
1	B5	4489	G
1	B5	4490	G
1	B5	4492	G
1	B5	4498	G
1	B5	4501	G
1	B5	4504	C
1	B5	4506	C
1	B5	4512	G
1	B5	4518	C
1	B5	4609	G
1	B5	4610	C
1	B5	4614	G
1	B5	4621	U
1	B5	4622	C
1	B5	4634	U
1	B5	4638	G
1	B5	4639	C
1	B5	4640	G
1	B5	4644	C
1	B5	4645	C
1	B5	4646	G
1	B5	4649	A
1	B5	4651	G
1	B5	4655	G
1	B5	4658	G
1	B5	4705	A
1	B5	4715	U
1	B5	4728	U
1	B5	4729	C
1	B5	4753	A
1	B5	4756	G
1	B5	4761	U

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Mol	Chain	Res	Type
1	B5	4762	C
1	B5	4763	C
1	B5	4780	G
1	B5	4789	C
1	B5	4793	C
1	B5	4801	G
1	B5	4808	U
7	B7	7	G
7	B7	33	U
7	B7	53	U
7	B7	54	A
7	B7	64	G
7	B7	110	G
7	B7	120	U
8	AT	76	A
10	B8	34	U
10	B8	35	C
10	B8	39	G
10	B8	59	A
10	B8	62	A
10	B8	63	U
10	B8	81	C
10	B8	84	A
10	B8	87	G
10	B8	94	G
10	B8	103	A
10	B8	105	C
10	B8	110	U
10	B8	114	G
10	B8	156	U
68	A2	3	C
68	A2	26	U
68	A2	33	G
68	A2	41	G
68	A2	46	A
68	A2	56	G
68	A2	67	C
68	A2	68	A
68	A2	73	C
68	A2	74	G
68	A2	77	A
68	A2	79	A

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Mol	Chain	Res	Type
68	A2	99	A2M
68	A2	103	A
68	A2	113	G
68	A2	115	U
68	A2	126	G
68	A2	130	G
68	A2	143	U
68	A2	147	A
68	A2	155	G
68	A2	162	C
68	A2	168	C
68	A2	178	C
68	A2	180	G
68	A2	184	G
68	A2	188	C
68	A2	192	C
68	A2	226	A
68	A2	282	C
68	A2	306	U
68	A2	310	G
68	A2	313	G
68	A2	320	C
68	A2	324	C
68	A2	325	U
68	A2	327	C
68	A2	328	G
68	A2	336	G
68	A2	348	G
68	A2	363	C
68	A2	365	A
68	A2	369	U
68	A2	370	C
68	A2	386	G
68	A2	387	C
68	A2	401	C
68	A2	410	C
68	A2	422	G
68	A2	439	G
68	A2	449	A
68	A2	451	C
68	A2	465	A
68	A2	466	A

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Mol	Chain	Res	Type
68	A2	472	G
68	A2	473	C
68	A2	474	A
68	A2	475	G
68	A2	483	G
68	A2	488	U
68	A2	493	C
68	A2	494	A
68	A2	509	A
68	A2	513	A2M
68	A2	526	A
68	A2	549	C
68	A2	561	A
68	A2	565	A
68	A2	569	C
68	A2	584	A
68	A2	588	A
68	A2	590	G
68	A2	592	U
68	A2	607	G
68	A2	609	C
68	A2	615	C
68	A2	618	G
68	A2	629	A
68	A2	632	U
68	A2	644	A
68	A2	645	OMG
68	A2	661	C
68	A2	669	A2M
68	A2	670	A
68	A2	672	A
68	A2	673	A
68	A2	674	G
68	A2	702	G
68	A2	734	C
68	A2	747	C
68	A2	748	U
68	A2	754	C
68	A2	755	G
68	A2	756	C
68	A2	798	C
68	A2	799	G

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Mol	Chain	Res	Type
68	A2	802	PSU
68	A2	812	A
68	A2	822	G
68	A2	823	PSU
68	A2	831	A
68	A2	832	G
68	A2	837	G
68	A2	838	A
68	A2	839	G
68	A2	840	C
68	A2	841	C
68	A2	842	G
68	A2	848	A
68	A2	871	A
68	A2	872	U
68	A2	873	A
68	A2	879	G
68	A2	886	U
68	A2	892	G
68	A2	914	A
68	A2	915	U
68	A2	921	A
68	A2	923	A
68	A2	934	G
68	A2	944	U
68	A2	956	A
68	A2	964	A
68	A2	972	G
68	A2	991	A
68	A2	993	A
68	A2	1000	G
68	A2	1003	U
68	A2	1024	A
68	A2	1061	A
68	A2	1062	U
68	A2	1063	A
68	A2	1084	A
68	A2	1086	C
68	A2	1116	U
68	A2	1117	C
68	A2	1118	C
68	A2	1119	C

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Mol	Chain	Res	Type
68	A2	1122	G
68	A2	1145	A
68	A2	1154	C
68	A2	1155	U
68	A2	1196	A
68	A2	1208	G
68	A2	1216	C
68	A2	1217	C
68	A2	1225	G
68	A2	1243	U
68	A2	1249	B8N
68	A2	1252	A
68	A2	1254	A
68	A2	1257	G
68	A2	1258	G
68	A2	1260	A
68	A2	1272	C
68	A2	1275	G
68	A2	1276	G
68	A2	1303	G
68	A2	1304	C
68	A2	1305	U
68	A2	1343	U
68	A2	1359	U
68	A2	1372	U
68	A2	1373	U
68	A2	1379	A
68	A2	1398	U
68	A2	1403	A
68	A2	1406	A
68	A2	1407	G
68	A2	1419	C
68	A2	1420	C
68	A2	1422	A
68	A2	1424	C
68	A2	1425	G
68	A2	1436	C
68	A2	1455	A
68	A2	1463	U
68	A2	1464	U
68	A2	1481	A
68	A2	1488	A

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Mol	Chain	Res	Type
68	A2	1490	A
68	A2	1491	OMG
68	A2	1498	G
68	A2	1510	U
68	A2	1522	C
68	A2	1523	A
68	A2	1534	A
68	A2	1553	G
68	A2	1554	C
68	A2	1580	A
68	A2	1581	A
68	A2	1586	U
68	A2	1589	A
68	A2	1602	A
68	A2	1618	G
68	A2	1622	U
68	A2	1624	A
68	A2	1647	C
68	A2	1655	G
68	A2	1662	A
68	A2	1666	G
68	A2	1699	C
68	A2	1722	U
68	A2	1723	G
68	A2	1749	G
68	A2	1783	G
68	A2	1784	C
68	A2	1785	G
68	A2	1832	A
68	A2	1836	A
68	A2	1837	G
68	A2	1839	U
68	A2	1850	G
68	A2	1852	MA6
68	A2	1862	G
68	A2	1863	G
68	A2	1864	A
68	A2	1865	U
68	A2	1866	C

All (2) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	B5	1588	G
1	B5	4445	U

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
1	OMG	B5	4240	1	23,26,27	1.18	3 (13%)	32,38,41	1.99	6 (18%)
1	PSU	B5	4246	1	18,21,22	1.35	2 (11%)	21,30,33	2.04	4 (19%)
1	6MZ	B5	3966	1	22,25,26	1.48	4 (18%)	29,36,39	2.14	9 (31%)
24	HY3	Aw	62	24	7,8,9	1.89	1 (14%)	7,10,12	2.38	2 (28%)
1	PSU	B5	4325	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	3 (14%)
1	PSU	B5	3652	1,94	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
68	PSU	A2	36	68	18,21,22	1.35	2 (11%)	21,30,33	2.03	4 (19%)
68	OMC	A2	174	94,68	19,22,23	0.79	0	25,31,34	0.83	0
1	PSU	B5	1799	1	18,21,22	1.35	2 (11%)	21,30,33	2.03	4 (19%)
1	1MA	B5	1266	1,94	21,25,26	1.39	4 (19%)	30,37,40	1.74	5 (16%)
1	PSU	B5	1721	1	18,21,22	1.35	2 (11%)	21,30,33	2.03	4 (19%)
12	NMM	As	67	12	8,11,12	0.54	0	7,12,14	0.50	0
68	A2M	A2	27	94,68	22,25,26	1.50	4 (18%)	30,36,39	2.10	9 (30%)
68	OMC	A2	463	68	19,22,23	0.80	0	25,31,34	0.86	1 (4%)
1	OMG	B5	2267	1	23,26,27	1.18	3 (13%)	32,38,41	1.97	6 (18%)
68	PSU	A2	823	68	18,21,22	1.38	2 (11%)	21,30,33	2.00	3 (14%)
1	A2M	B5	1270	1	22,25,26	1.49	4 (18%)	30,36,39	2.09	10 (33%)
68	PSU	A2	1046	68	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
1	OMG	B5	3974	1	23,26,27	1.18	3 (13%)	32,38,41	1.98	6 (18%)
68	OMC	A2	1704	68	19,22,23	0.79	0	25,31,34	0.80	0
1	OMU	B5	2680	1	19,22,23	1.23	3 (15%)	25,31,34	1.81	4 (16%)
68	PSU	A2	105	68	18,21,22	1.37	2 (11%)	21,30,33	2.01	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
9	SAC	Ar	2	9	7,8,9	0.56	0	7,9,11	0.99	1 (14%)
68	PSU	A2	650	68	18,21,22	1.35	2 (11%)	21,30,33	2.02	4 (19%)
1	PSU	B5	4278	1	18,21,22	1.39	2 (11%)	21,30,33	2.03	3 (14%)
68	A2M	A2	1679	68	22,25,26	1.50	4 (18%)	30,36,39	2.19	10 (33%)
13	V5N	BA	216	13	8,11,12	2.09	2 (25%)	8,14,16	1.68	2 (25%)
1	OMG	B5	4138	1	23,26,27	1.19	3 (13%)	32,38,41	1.99	6 (18%)
1	OMG	B5	4245	1	23,26,27	1.19	3 (13%)	32,38,41	1.96	6 (18%)
1	PSU	B5	4298	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
68	PSU	A2	802	68	18,21,22	1.37	2 (11%)	21,30,33	1.99	3 (14%)
1	PSU	B5	4107	1	18,21,22	1.38	2 (11%)	21,30,33	2.03	4 (19%)
1	OMC	B5	2194	1,94	19,22,23	0.80	0	25,31,34	0.94	1 (4%)
1	A2M	B5	2658	1,94	22,25,26	1.50	4 (18%)	30,36,39	2.10	8 (26%)
1	PSU	B5	1638	1	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
1	5MC	B5	3514	1,94	19,22,23	1.62	3 (15%)	26,32,35	1.14	3 (11%)
1	PSU	B5	3447	1	18,21,22	1.37	2 (11%)	21,30,33	2.01	3 (14%)
1	OMC	B5	3619	1	19,22,23	0.79	0	25,31,34	0.84	0
1	OMU	B5	4052	1	19,22,23	1.23	4 (21%)	25,31,34	1.78	4 (16%)
1	A2M	B5	4317	1	22,25,26	1.50	4 (18%)	30,36,39	2.11	9 (30%)
88	SAC	Br	2	88	7,8,9	0.56	0	7,9,11	0.92	1 (14%)
1	PSU	B5	1801	1	18,21,22	1.38	2 (11%)	21,30,33	2.03	4 (19%)
68	PSU	A2	1047	68	18,21,22	1.37	2 (11%)	21,30,33	2.03	3 (14%)
1	OMG	B5	4116	1	23,26,27	1.19	3 (13%)	32,38,41	1.99	6 (18%)
1	PSU	B5	4149	1	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
1	PSU	B5	1537	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	3 (14%)
68	PSU	A2	1446	68	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	OMG	B5	3476	1	23,26,27	1.18	3 (13%)	32,38,41	1.99	6 (18%)
1	OMG	B5	1477	1	23,26,27	1.18	3 (13%)	32,38,41	1.99	6 (18%)
68	A2M	A2	1032	68	22,25,26	1.50	4 (18%)	30,36,39	2.12	10 (33%)
1	PSU	B5	1491	1	18,21,22	1.38	2 (11%)	21,30,33	2.05	4 (19%)
1	A2M	B5	1810	1,94	22,25,26	1.50	4 (18%)	30,36,39	2.18	10 (33%)
68	PSU	A2	1644	94,68	18,21,22	1.35	2 (11%)	21,30,33	2.04	4 (19%)
1	A2M	B5	398	1	22,25,26	1.50	4 (18%)	30,36,39	2.16	10 (33%)
68	OMG	A2	437	68	23,26,27	1.19	3 (13%)	32,38,41	1.99	6 (18%)
1	PSU	B5	4166	1	18,21,22	1.41	2 (11%)	21,30,33	1.95	4 (19%)
68	OMG	A2	602	68	23,26,27	1.18	3 (13%)	32,38,41	1.97	6 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
68	G7M	A2	1640	68	23,26,27	3.16	8 (34%)	34,39,42	3.37	13 (38%)
1	A2M	B5	2630	1,94	22,25,26	1.49	4 (18%)	30,36,39	2.18	8 (26%)
1	PSU	B5	3576	1	18,21,22	1.38	2 (11%)	21,30,33	2.02	3 (14%)
68	OMG	A2	1448	68	23,26,27	1.19	3 (13%)	32,38,41	1.99	6 (18%)
1	OMC	B5	2208	1,94	19,22,23	0.79	0	25,31,34	0.79	0
84	IAS	An	165	84	6,7,8	0.99	0	3,8,10	1.54	1 (33%)
1	OMU	B5	4366	1	19,22,23	1.25	4 (21%)	25,31,34	1.81	4 (16%)
68	OMC	A2	1392	68	19,22,23	0.79	0	25,31,34	0.86	1 (4%)
1	PSU	B5	3554	1	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
1	OMG	B5	4369	1	23,26,27	1.18	3 (13%)	32,38,41	2.00	6 (18%)
1	PSU	B5	4322	1	18,21,22	1.36	2 (11%)	21,30,33	2.01	3 (14%)
10	PSU	B8	55	10	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
68	PSU	A2	815	68	18,21,22	1.38	2 (11%)	21,30,33	2.02	4 (19%)
1	5MC	B5	4193	1	19,22,23	1.63	3 (15%)	26,32,35	1.16	2 (7%)
1	PSU	B5	4435	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	3 (14%)
68	A2M	A2	166	68	22,25,26	1.51	4 (18%)	30,36,39	2.15	9 (30%)
16	HIC	BB	245	16	10,11,12	0.59	0	9,14,16	0.79	0
1	PSU	B5	3371	1	18,21,22	1.38	2 (11%)	21,30,33	1.98	3 (14%)
1	A2M	B5	3450	1	22,25,26	1.50	4 (18%)	30,36,39	2.10	9 (30%)
1	A2M	B5	3492	1,68	22,25,26	1.50	4 (18%)	30,36,39	2.18	9 (30%)
68	PSU	A2	218	68	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
68	B8N	A2	1249	68	25,29,30	1.47	4 (16%)	28,42,45	1.39	4 (14%)
1	OMG	B5	4383	1	23,26,27	1.19	3 (13%)	32,38,41	1.99	6 (18%)
1	OMC	B5	2704	1	19,22,23	0.79	0	25,31,34	0.85	1 (4%)
1	A2M	B5	1479	1	22,25,26	1.50	4 (18%)	30,36,39	2.08	8 (26%)
68	OMU	A2	1805	68	19,22,23	1.24	4 (21%)	25,31,34	1.78	4 (16%)
68	A2M	A2	591	68	22,25,26	1.52	4 (18%)	30,36,39	2.19	7 (23%)
1	PSU	B5	4749	1	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
1	OMC	B5	3601	1	19,22,23	0.78	0	25,31,34	0.81	0
10	PSU	B8	69	10	18,21,22	1.37	2 (11%)	21,30,33	2.00	3 (14%)
68	PSU	A2	119	68	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
1	PSU	B5	1720	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
68	4AC	A2	1843	68	21,24,25	1.08	1 (4%)	28,34,37	1.30	3 (10%)
68	PSU	A2	1057	68	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
68	PSU	A2	610	68	18,21,22	1.36	2 (11%)	21,30,33	2.01	3 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	PSU	B5	3494	1	18,21,22	1.38	2 (11%)	21,30,33	2.02	3 (14%)
1	OMG	B5	2719	1	23,26,27	1.19	3 (13%)	32,38,41	2.02	6 (18%)
3	MLZ	Bb	5	3	8,9,10	0.50	0	4,9,11	0.16	0
1	PSU	B5	1632	1	18,21,22	1.41	2 (11%)	21,30,33	2.00	4 (19%)
1	PSU	B5	3585	1,94	18,21,22	1.38	2 (11%)	21,30,33	2.02	3 (14%)
1	PSU	B5	4711	1	18,21,22	1.34	2 (11%)	21,30,33	2.01	4 (19%)
82	MLZ	Bo	53	82	8,9,10	0.51	0	4,9,11	0.10	0
1	A2M	B5	4336	1	22,25,26	1.50	4 (18%)	30,36,39	2.14	10 (33%)
68	A2M	A2	469	68	22,25,26	1.50	4 (18%)	30,36,39	2.11	9 (30%)
68	OMU	A2	121	68	19,22,23	1.23	3 (15%)	25,31,34	1.78	4 (16%)
1	A2M	B5	400	1	22,25,26	1.50	4 (18%)	30,36,39	2.10	9 (30%)
1	PSU	B5	4374	1	18,21,22	1.38	2 (11%)	21,30,33	2.05	4 (19%)
1	OMC	B5	2667	1	19,22,23	0.79	0	25,31,34	0.80	0
1	OMU	B5	3973	1	19,22,23	1.24	4 (21%)	25,31,34	1.79	4 (16%)
1	PSU	B5	3496	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
1	OMU	B5	3657	1	19,22,23	1.24	3 (15%)	25,31,34	1.82	4 (16%)
1	PSU	B5	4203	1	18,21,22	1.37	2 (11%)	21,30,33	2.01	3 (14%)
1	PSU	B5	3583	1	18,21,22	1.38	2 (11%)	21,30,33	2.02	3 (14%)
68	PSU	A2	1245	68	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
1	A2M	B5	3599	1	22,25,26	1.50	4 (18%)	30,36,39	2.09	9 (30%)
79	M3L	Bm	98	79	10,11,12	0.85	0	9,14,16	0.58	0
68	OMU	A2	628	68	19,22,23	1.20	2 (10%)	25,31,34	1.80	5 (20%)
68	OMC	A2	518	68	19,22,23	0.79	0	25,31,34	0.83	0
1	PSU	B5	3462	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
68	PSU	A2	1368	68	18,21,22	1.35	2 (11%)	21,30,33	2.01	4 (19%)
68	PSU	A2	687	68	18,21,22	1.37	2 (11%)	21,30,33	2.01	3 (14%)
1	OMG	B5	3631	1	23,26,27	1.18	3 (13%)	32,38,41	1.99	6 (18%)
27	AME	Au	1	27	9,10,11	0.51	0	9,11,13	0.89	1 (11%)
1	OMG	B5	1580	1	23,26,27	1.18	3 (13%)	32,38,41	1.98	6 (18%)
68	PSU	A2	1082	68	18,21,22	1.38	2 (11%)	21,30,33	2.00	4 (19%)
35	AYA	BC	2	35	6,7,8	0.71	0	6,8,10	0.64	0
1	PSU	B5	4217	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	3 (14%)
68	PSU	A2	864	68	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	OMC	B5	3433	1	19,22,23	0.78	0	25,31,34	0.75	0
1	A2M	B5	3562	1	22,25,26	1.51	4 (18%)	30,36,39	2.14	9 (30%)
1	OMC	B5	3573	1	19,22,23	0.78	0	25,31,34	0.88	1 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
68	OMG	A2	684	68	23,26,27	1.18	3 (13%)	32,38,41	1.98	6 (18%)
1	A2M	B5	3517	1	22,25,26	1.48	4 (18%)	30,36,39	2.18	11 (36%)
68	OMU	A2	116	68	19,22,23	1.21	3 (15%)	25,31,34	1.80	5 (20%)
68	A2M	A2	99	94,68	22,25,26	1.50	4 (18%)	30,36,39	2.12	9 (30%)
68	A2M	A2	159	68	22,25,26	1.51	4 (18%)	30,36,39	2.12	9 (30%)
68	PSU	A2	682	68	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	A2M	B5	1489	1,94	22,25,26	1.49	4 (18%)	30,36,39	2.08	9 (30%)
1	OMG	B5	3942	1,8	23,26,27	1.18	3 (13%)	32,38,41	1.98	6 (18%)
1	PSU	B5	3616	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	UR3	B5	4276	1	19,22,23	1.00	1 (5%)	26,32,35	1.71	2 (7%)
1	PSU	B5	4740	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	3 (14%)
68	OMU	A2	355	68	19,22,23	1.23	3 (15%)	25,31,34	1.78	4 (16%)
1	OMC	B5	2647	1	19,22,23	0.79	0	25,31,34	0.84	0
28	V5N	Ba	39	28	8,11,12	2.12	2 (25%)	8,14,16	1.64	2 (25%)
32	SAC	AZ	2	32	7,8,9	0.55	0	7,9,11	0.94	1 (14%)
68	A2M	A2	513	68	22,25,26	1.50	4 (18%)	30,36,39	2.12	9 (30%)
68	A2M	A2	577	68	22,25,26	1.52	4 (18%)	30,36,39	2.11	9 (30%)
1	OMC	B5	4282	1,94	19,22,23	0.79	0	25,31,34	0.85	0
1	OMC	B5	3540	1	19,22,23	0.79	0	25,31,34	0.86	1 (4%)
68	4AC	A2	1338	68	21,24,25	1.04	1 (4%)	28,34,37	1.26	3 (10%)
1	OMG	B5	4364	1	23,26,27	1.18	3 (13%)	32,38,41	1.99	6 (18%)
68	A2M	A2	1384	68	22,25,26	1.50	4 (18%)	30,36,39	2.09	9 (30%)
1	OMC	B5	1284	1	19,22,23	0.80	0	25,31,34	0.81	0
68	A2M	A2	485	68	22,25,26	1.51	4 (18%)	30,36,39	2.09	9 (30%)
68	OMG	A2	1491	94,68	23,26,27	1.19	3 (13%)	32,38,41	1.98	6 (18%)
68	6MZ	A2	1833	94,68	22,25,26	1.49	4 (18%)	29,36,39	2.13	9 (31%)
1	UY1	B5	3550	1	19,22,23	1.44	3 (15%)	21,31,34	2.02	6 (28%)
1	PSU	B5	2351	1	18,21,22	1.35	2 (11%)	21,30,33	2.03	4 (19%)
1	A2M	B5	4269	1,94	22,25,26	1.50	4 (18%)	30,36,39	2.13	10 (33%)
1	PSU	B5	4058	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	3 (14%)
68	OMU	A2	1289	68	19,22,23	1.25	4 (21%)	25,31,34	1.77	5 (20%)
1	A2M	B5	3456	1	22,25,26	1.49	4 (18%)	30,36,39	2.15	10 (33%)
1	PSU	B5	1683	1	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
68	PSU	A2	1178	68	18,21,22	1.34	2 (11%)	21,30,33	1.99	3 (14%)
68	PSU	A2	1348	68	18,21,22	1.35	2 (11%)	21,30,33	2.02	4 (19%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	OMG	B5	2207	1	23,26,27	1.18	3 (13%)	32,38,41	1.98	6 (18%)
1	PSU	B5	4188	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
68	PSU	A2	407	68	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	OMC	B5	2265	1,94	19,22,23	0.80	0	25,31,34	0.90	1 (4%)
1	OMC	B5	4202	1	19,22,23	0.79	0	25,31,34	0.84	0
1	PSU	B5	3369	1	18,21,22	1.37	2 (11%)	21,30,33	2.04	4 (19%)
68	PSU	A2	1175	68	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
68	PSU	A2	573	68	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
1	OMU	B5	2258	1	19,22,23	1.24	4 (21%)	25,31,34	1.77	4 (16%)
1	OMU	B5	4244	1	19,22,23	1.23	3 (15%)	25,31,34	1.78	5 (20%)
68	OMU	A2	1443	94,68	19,22,23	1.25	4 (21%)	25,31,34	1.79	4 (16%)
68	PSU	A2	1005	68	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
1	OMC	B5	1820	1,94	19,22,23	0.78	0	25,31,34	0.80	0
1	PSU	B5	4045	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	3 (14%)
68	OMG	A2	510	94,68	23,26,27	1.18	3 (13%)	32,38,41	1.98	6 (18%)
68	MA6	A2	1851	68	23,26,27	2.37	5 (21%)	33,38,41	3.79	13 (39%)
1	OMG	B5	3359	1	23,26,27	1.18	3 (13%)	32,38,41	2.00	6 (18%)
68	OMU	A2	172	68	19,22,23	1.21	3 (15%)	25,31,34	1.79	4 (16%)
68	OMG	A2	868	68	23,26,27	1.17	2 (8%)	32,38,41	1.97	5 (15%)
68	PSU	A2	1693	68	18,21,22	1.38	2 (11%)	21,30,33	2.01	3 (14%)
1	PSU	B5	1718	1	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
1	PSU	B5	4382	1	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
1	PSU	B5	3466	1	18,21,22	1.36	2 (11%)	21,30,33	2.02	3 (14%)
68	PSU	A2	109	68	18,21,22	1.36	2 (11%)	21,30,33	2.03	3 (14%)
68	PSU	A2	210	68	18,21,22	1.37	2 (11%)	21,30,33	2.00	3 (14%)
1	PSU	B5	1731	1	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	PSU	B5	3502	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
68	PSU	A2	1626	68	18,21,22	1.38	2 (11%)	21,30,33	2.03	3 (14%)
68	OMG	A2	645	68	23,26,27	1.18	3 (13%)	32,38,41	1.99	6 (18%)
1	OMG	B5	1260	1	23,26,27	1.19	3 (13%)	32,38,41	2.00	6 (18%)
1	OMG	B5	3524	1	23,26,27	1.18	3 (13%)	32,38,41	1.99	6 (18%)
1	A2M	B5	2244	1,94	22,25,26	1.50	4 (18%)	30,36,39	2.11	9 (30%)
1	PSU	B5	2475	1	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
68	A2M	A2	669	94,68	22,25,26	1.48	4 (18%)	30,36,39	2.11	9 (30%)
1	OMG	B5	3676	1	23,26,27	1.18	3 (13%)	32,38,41	1.99	6 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
68	PSU	A2	967	68	18,21,22	1.38	2 (11%)	21,30,33	2.00	3 (14%)
68	PSU	A2	652	68	18,21,22	1.37	2 (11%)	21,30,33	2.03	3 (14%)
1	PSU	B5	3427	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
1	PSU	B5	4042	1	18,21,22	1.36	2 (11%)	21,30,33	2.03	4 (19%)
68	PSU	A2	34	68	18,21,22	1.37	2 (11%)	21,30,33	2.01	3 (14%)
68	OMU	A2	1327	94,68	19,22,23	1.22	3 (15%)	25,31,34	1.80	5 (20%)
68	PSU	A2	816	68	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
68	PSU	A2	1239	68	18,21,22	1.37	2 (11%)	21,30,33	2.02	4 (19%)
68	PSU	A2	93	68	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
1	PSU	B5	4177	1	18,21,22	1.36	2 (11%)	21,30,33	2.02	3 (14%)
1	PSU	B5	4169	1	18,21,22	1.35	2 (11%)	21,30,33	2.02	4 (19%)
68	OMG	A2	1329	68	23,26,27	1.19	3 (13%)	32,38,41	1.99	6 (18%)
68	PSU	A2	1233	68	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
68	OMU	A2	429	68	19,22,23	1.23	4 (21%)	25,31,34	1.78	4 (16%)
1	PSU	B5	4099	1	18,21,22	1.37	2 (11%)	21,30,33	2.03	4 (19%)
1	PSU	B5	4039	1	18,21,22	1.37	2 (11%)	21,30,33	2.02	3 (14%)
1	PSU	B5	3490	1	18,21,22	1.35	2 (11%)	21,30,33	2.00	4 (19%)
10	OMG	B8	75	10	23,26,27	1.19	3 (13%)	32,38,41	1.99	6 (18%)
1	PSU	B5	4267	1,94	18,21,22	1.36	2 (11%)	21,30,33	2.06	4 (19%)
1	A2M	B5	2206	1,94	22,25,26	1.49	4 (18%)	30,36,39	2.11	9 (30%)
68	MA6	A2	1852	68	23,26,27	2.34	5 (21%)	33,38,41	3.75	13 (39%)
68	PSU	A2	867	68	18,21,22	1.36	2 (11%)	21,30,33	2.04	4 (19%)
1	PSU	B5	3500	1	18,21,22	1.36	2 (11%)	21,30,33	2.02	4 (19%)
1	PSU	B5	4419	1	18,21,22	1.36	2 (11%)	21,30,33	2.01	3 (14%)
1	A2M	B5	3557	1	22,25,26	1.49	4 (18%)	30,36,39	2.11	9 (30%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMG	B5	4240	1	-	0/9/27/28	0/3/3/3
1	PSU	B5	4246	1	-	1/7/25/26	0/2/2/2
1	6MZ	B5	3966	1	-	0/9/27/28	0/3/3/3
24	HY3	Aw	62	24	-	1/1/12/14	0/1/1/1
1	PSU	B5	4325	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	B5	3652	1,94	-	0/7/25/26	0/2/2/2
68	PSU	A2	36	68	-	0/7/25/26	0/2/2/2
68	OMC	A2	174	94,68	-	0/9/27/28	0/2/2/2
1	PSU	B5	1799	1	-	0/7/25/26	0/2/2/2
1	1MA	B5	1266	1,94	-	0/7/25/26	0/3/3/3
1	PSU	B5	1721	1	-	0/7/25/26	0/2/2/2
12	NMM	As	67	12	-	0/9/11/13	-
68	A2M	A2	27	94,68	-	1/9/27/28	0/3/3/3
68	OMC	A2	463	68	-	0/9/27/28	0/2/2/2
1	OMG	B5	2267	1	-	1/9/27/28	0/3/3/3
68	PSU	A2	823	68	-	0/7/25/26	0/2/2/2
1	A2M	B5	1270	1	-	0/9/27/28	0/3/3/3
68	PSU	A2	1046	68	-	0/7/25/26	0/2/2/2
1	OMG	B5	3974	1	-	0/9/27/28	0/3/3/3
68	OMC	A2	1704	68	-	0/9/27/28	0/2/2/2
1	OMU	B5	2680	1	-	1/9/27/28	0/2/2/2
68	PSU	A2	105	68	-	0/7/25/26	0/2/2/2
9	SAC	Ar	2	9	-	0/7/8/10	-
68	PSU	A2	650	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	4278	1	-	0/7/25/26	0/2/2/2
68	A2M	A2	1679	68	-	0/9/27/28	0/3/3/3
13	V5N	BA	216	13	-	1/9/10/12	0/1/1/1
1	OMG	B5	4138	1	-	1/9/27/28	0/3/3/3
1	OMG	B5	4245	1	-	0/9/27/28	0/3/3/3
1	PSU	B5	4298	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	802	68	-	2/7/25/26	0/2/2/2
1	PSU	B5	4107	1	-	0/7/25/26	0/2/2/2
1	OMC	B5	2194	1,94	-	1/9/27/28	0/2/2/2
1	A2M	B5	2658	1,94	-	0/9/27/28	0/3/3/3
1	PSU	B5	1638	1	-	0/7/25/26	0/2/2/2
1	5MC	B5	3514	1,94	-	0/7/25/26	0/2/2/2
1	PSU	B5	3447	1	-	0/7/25/26	0/2/2/2
1	OMC	B5	3619	1	-	2/9/27/28	0/2/2/2
1	OMU	B5	4052	1	-	0/9/27/28	0/2/2/2
1	A2M	B5	4317	1	-	1/9/27/28	0/3/3/3
88	SAC	Br	2	88	-	0/7/8/10	-
1	PSU	B5	1801	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	1047	68	-	0/7/25/26	0/2/2/2
1	OMG	B5	4116	1	-	0/9/27/28	0/3/3/3
1	PSU	B5	4149	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	1537	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	1446	68	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	OMG	B5	3476	1	-	1/9/27/28	0/3/3/3
1	OMG	B5	1477	1	-	0/9/27/28	0/3/3/3
68	A2M	A2	1032	68	-	1/9/27/28	0/3/3/3
1	PSU	B5	1491	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	1810	1,94	-	1/9/27/28	0/3/3/3
68	PSU	A2	1644	94,68	-	0/7/25/26	0/2/2/2
1	A2M	B5	398	1	-	3/9/27/28	0/3/3/3
68	OMG	A2	437	68	-	0/9/27/28	0/3/3/3
1	PSU	B5	4166	1	-	4/7/25/26	0/2/2/2
68	OMG	A2	602	68	-	0/9/27/28	0/3/3/3
68	G7M	A2	1640	68	-	2/7/25/26	0/3/3/3
1	A2M	B5	2630	1,94	-	2/9/27/28	0/3/3/3
1	PSU	B5	3576	1	-	1/7/25/26	0/2/2/2
68	OMG	A2	1448	68	-	3/9/27/28	0/3/3/3
1	OMC	B5	2208	1,94	-	0/9/27/28	0/2/2/2
84	IAS	An	165	84	-	2/7/7/8	-
1	OMU	B5	4366	1	-	0/9/27/28	0/2/2/2
68	OMC	A2	1392	68	-	0/9/27/28	0/2/2/2
1	PSU	B5	3554	1	-	0/7/25/26	0/2/2/2
1	OMG	B5	4369	1	-	1/9/27/28	0/3/3/3
1	PSU	B5	4322	1	-	0/7/25/26	0/2/2/2
10	PSU	B8	55	10	-	0/7/25/26	0/2/2/2
68	PSU	A2	815	68	-	0/7/25/26	0/2/2/2
1	5MC	B5	4193	1	-	4/7/25/26	0/2/2/2
1	PSU	B5	4435	1	-	0/7/25/26	0/2/2/2
68	A2M	A2	166	68	-	0/9/27/28	0/3/3/3
16	HIC	BB	245	16	-	2/5/6/8	0/1/1/1
1	PSU	B5	3371	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	3450	1	-	0/9/27/28	0/3/3/3
1	A2M	B5	3492	1,68	-	0/9/27/28	0/3/3/3
68	PSU	A2	218	68	-	0/7/25/26	0/2/2/2
68	B8N	A2	1249	68	-	4/16/34/35	0/2/2/2
1	OMG	B5	4383	1	-	0/9/27/28	0/3/3/3
1	OMC	B5	2704	1	-	1/9/27/28	0/2/2/2
1	A2M	B5	1479	1	-	0/9/27/28	0/3/3/3
68	OMU	A2	1805	68	-	0/9/27/28	0/2/2/2
68	A2M	A2	591	68	-	3/9/27/28	0/3/3/3
1	PSU	B5	4749	1	-	0/7/25/26	0/2/2/2
1	OMC	B5	3601	1	-	0/9/27/28	0/2/2/2
10	PSU	B8	69	10	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
68	PSU	A2	119	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	1720	1	-	0/7/25/26	0/2/2/2
68	4AC	A2	1843	68	-	4/11/29/30	0/2/2/2
68	PSU	A2	1057	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	610	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	3494	1	-	0/7/25/26	0/2/2/2
1	OMG	B5	2719	1	-	0/9/27/28	0/3/3/3
3	MLZ	Bb	5	3	-	1/7/8/10	-
1	PSU	B5	1632	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	3585	1,94	-	0/7/25/26	0/2/2/2
1	PSU	B5	4711	1	-	0/7/25/26	0/2/2/2
82	MLZ	Bo	53	82	-	0/7/8/10	-
1	A2M	B5	4336	1	-	1/9/27/28	0/3/3/3
68	A2M	A2	469	68	-	1/9/27/28	0/3/3/3
68	OMU	A2	121	68	-	0/9/27/28	0/2/2/2
1	A2M	B5	400	1	-	0/9/27/28	0/3/3/3
1	PSU	B5	4374	1	-	0/7/25/26	0/2/2/2
1	OMC	B5	2667	1	-	1/9/27/28	0/2/2/2
1	OMU	B5	3973	1	-	0/9/27/28	0/2/2/2
1	PSU	B5	3496	1	-	0/7/25/26	0/2/2/2
1	OMU	B5	3657	1	-	0/9/27/28	0/2/2/2
1	PSU	B5	4203	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	3583	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	1245	68	-	0/7/25/26	0/2/2/2
1	A2M	B5	3599	1	-	1/9/27/28	0/3/3/3
79	M3L	Bm	98	79	-	2/9/10/12	-
68	OMU	A2	628	68	-	4/9/27/28	0/2/2/2
68	OMC	A2	518	68	-	0/9/27/28	0/2/2/2
1	PSU	B5	3462	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	1368	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	687	68	-	0/7/25/26	0/2/2/2
1	OMG	B5	3631	1	-	1/9/27/28	0/3/3/3
27	AME	Au	1	27	-	2/9/10/12	-
1	OMG	B5	1580	1	-	0/9/27/28	0/3/3/3
68	PSU	A2	1082	68	-	0/7/25/26	0/2/2/2
35	AYA	BC	2	35	-	0/5/6/8	-
1	PSU	B5	4217	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	864	68	-	0/7/25/26	0/2/2/2
1	OMC	B5	3433	1	-	4/9/27/28	0/2/2/2
1	A2M	B5	3562	1	-	0/9/27/28	0/3/3/3
1	OMC	B5	3573	1	-	2/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
68	OMG	A2	684	68	-	2/9/27/28	0/3/3/3
1	A2M	B5	3517	1	-	2/9/27/28	0/3/3/3
68	OMU	A2	116	68	-	1/9/27/28	0/2/2/2
68	A2M	A2	99	94,68	-	2/9/27/28	0/3/3/3
68	A2M	A2	159	68	-	0/9/27/28	0/3/3/3
68	PSU	A2	682	68	-	0/7/25/26	0/2/2/2
1	A2M	B5	1489	1,94	-	2/9/27/28	0/3/3/3
1	OMG	B5	3942	1,8	-	0/9/27/28	0/3/3/3
1	PSU	B5	3616	1	-	0/7/25/26	0/2/2/2
1	UR3	B5	4276	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4740	1	-	0/7/25/26	0/2/2/2
68	OMU	A2	355	68	-	1/9/27/28	0/2/2/2
1	OMC	B5	2647	1	-	1/9/27/28	0/2/2/2
28	V5N	Ba	39	28	-	0/9/10/12	0/1/1/1
32	SAC	AZ	2	32	-	2/7/8/10	-
68	A2M	A2	513	68	-	2/9/27/28	0/3/3/3
68	A2M	A2	577	68	-	2/9/27/28	0/3/3/3
1	OMC	B5	4282	1,94	-	0/9/27/28	0/2/2/2
1	OMC	B5	3540	1	-	0/9/27/28	0/2/2/2
68	4AC	A2	1338	68	-	3/11/29/30	0/2/2/2
1	OMG	B5	4364	1	-	0/9/27/28	0/3/3/3
68	A2M	A2	1384	68	-	0/9/27/28	0/3/3/3
1	OMC	B5	1284	1	-	1/9/27/28	0/2/2/2
68	A2M	A2	485	68	-	0/9/27/28	0/3/3/3
68	OMG	A2	1491	94,68	-	0/9/27/28	0/3/3/3
68	6MZ	A2	1833	94,68	-	0/9/27/28	0/3/3/3
1	UY1	B5	3550	1	-	1/9/27/28	0/2/2/2
1	PSU	B5	2351	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	4269	1,94	-	0/9/27/28	0/3/3/3
1	PSU	B5	4058	1	-	0/7/25/26	0/2/2/2
68	OMU	A2	1289	68	-	0/9/27/28	0/2/2/2
1	A2M	B5	3456	1	-	0/9/27/28	0/3/3/3
1	PSU	B5	1683	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	1178	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	1348	68	-	0/7/25/26	0/2/2/2
1	OMG	B5	2207	1	-	2/9/27/28	0/3/3/3
1	PSU	B5	4188	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	407	68	-	0/7/25/26	0/2/2/2
1	OMC	B5	2265	1,94	-	1/9/27/28	0/2/2/2
1	OMC	B5	4202	1	-	0/9/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	B5	3369	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	1175	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	573	68	-	0/7/25/26	0/2/2/2
1	OMU	B5	2258	1	-	1/9/27/28	0/2/2/2
1	OMU	B5	4244	1	-	0/9/27/28	0/2/2/2
68	OMU	A2	1443	94,68	-	1/9/27/28	0/2/2/2
68	PSU	A2	1005	68	-	0/7/25/26	0/2/2/2
1	OMC	B5	1820	1,94	-	1/9/27/28	0/2/2/2
1	PSU	B5	4045	1	-	0/7/25/26	0/2/2/2
68	OMG	A2	510	94,68	-	1/9/27/28	0/3/3/3
68	MA6	A2	1851	68	-	0/11/29/30	0/3/3/3
1	OMG	B5	3359	1	-	0/9/27/28	0/3/3/3
68	OMU	A2	172	68	-	0/9/27/28	0/2/2/2
68	OMG	A2	868	68	-	0/9/27/28	0/3/3/3
68	PSU	A2	1693	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	1718	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4382	1	-	4/7/25/26	0/2/2/2
1	PSU	B5	3466	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	109	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	210	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	1731	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	3502	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	1626	68	-	0/7/25/26	0/2/2/2
68	OMG	A2	645	68	-	3/9/27/28	0/3/3/3
1	OMG	B5	1260	1	-	1/9/27/28	0/3/3/3
1	OMG	B5	3524	1	-	0/9/27/28	0/3/3/3
1	A2M	B5	2244	1,94	-	0/9/27/28	0/3/3/3
1	PSU	B5	2475	1	-	0/7/25/26	0/2/2/2
68	A2M	A2	669	94,68	-	2/9/27/28	0/3/3/3
1	OMG	B5	3676	1	-	0/9/27/28	0/3/3/3
68	PSU	A2	967	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	652	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	3427	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4042	1	-	0/7/25/26	0/2/2/2
68	PSU	A2	34	68	-	0/7/25/26	0/2/2/2
68	OMU	A2	1327	94,68	-	0/9/27/28	0/2/2/2
68	PSU	A2	816	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	1239	68	-	0/7/25/26	0/2/2/2
68	PSU	A2	93	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	4177	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4169	1	-	0/7/25/26	0/2/2/2
68	OMG	A2	1329	68	-	0/9/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
68	PSU	A2	1233	68	-	0/7/25/26	0/2/2/2
68	OMU	A2	429	68	-	6/9/27/28	0/2/2/2
1	PSU	B5	4099	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4039	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	3490	1	-	0/7/25/26	0/2/2/2
10	OMG	B8	75	10	-	0/9/27/28	0/3/3/3
1	PSU	B5	4267	1,94	-	0/7/25/26	0/2/2/2
1	A2M	B5	2206	1,94	-	0/9/27/28	0/3/3/3
68	MA6	A2	1852	68	-	3/11/29/30	0/3/3/3
68	PSU	A2	867	68	-	0/7/25/26	0/2/2/2
1	PSU	B5	3500	1	-	0/7/25/26	0/2/2/2
1	PSU	B5	4419	1	-	0/7/25/26	0/2/2/2
1	A2M	B5	3557	1	-	0/9/27/28	0/3/3/3

All (522) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	A2	1640	G7M	C4-N9	8.06	1.58	1.38
68	A2	1640	G7M	O6-C6	7.62	1.38	1.23
68	A2	1851	MA6	C5-N7	7.05	1.52	1.39
68	A2	1852	MA6	C5-N7	6.97	1.51	1.39
68	A2	1640	G7M	C5-C4	6.25	1.53	1.38
1	B5	3514	5MC	C5-C4	5.83	1.48	1.44
1	B5	4193	5MC	C5-C4	5.77	1.48	1.44
68	A2	1851	MA6	C8-N9	-5.76	1.27	1.37
68	A2	1852	MA6	C8-N9	-5.68	1.27	1.37
28	Ba	39	V5N	CG-ND1	-5.00	1.33	1.37
13	BA	216	V5N	CG-ND1	-4.90	1.33	1.37
68	A2	591	A2M	C5-C4	4.81	1.47	1.39
68	A2	577	A2M	C5-C4	4.73	1.47	1.39
68	A2	1833	6MZ	C5-C4	4.71	1.47	1.39
68	A2	513	A2M	C5-C4	4.70	1.47	1.39
68	A2	166	A2M	C5-C4	4.70	1.47	1.39
1	B5	3562	A2M	C5-C4	4.70	1.47	1.39
1	B5	3492	A2M	C5-C4	4.70	1.47	1.39
68	A2	469	A2M	C5-C4	4.70	1.47	1.39
1	B5	2658	A2M	C5-C4	4.69	1.47	1.39
68	A2	159	A2M	C5-C4	4.68	1.47	1.39
1	B5	3599	A2M	C5-C4	4.68	1.47	1.39
1	B5	2630	A2M	C5-C4	4.67	1.47	1.39
1	B5	3966	6MZ	C5-C4	4.67	1.47	1.39
68	A2	485	A2M	C5-C4	4.67	1.47	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	A2	27	A2M	C5-C4	4.67	1.47	1.39
1	B5	3557	A2M	C5-C4	4.66	1.47	1.39
1	B5	4317	A2M	C5-C4	4.66	1.47	1.39
68	A2	1679	A2M	C5-C4	4.66	1.47	1.39
1	B5	398	A2M	C5-C4	4.66	1.47	1.39
1	B5	1479	A2M	C5-C4	4.66	1.47	1.39
68	A2	1384	A2M	C5-C4	4.66	1.47	1.39
1	B5	2244	A2M	C5-C4	4.65	1.47	1.39
1	B5	400	A2M	C5-C4	4.65	1.47	1.39
1	B5	2206	A2M	C5-C4	4.65	1.47	1.39
1	B5	3450	A2M	C5-C4	4.64	1.47	1.39
1	B5	4336	A2M	C5-C4	4.63	1.47	1.39
68	A2	1032	A2M	C5-C4	4.62	1.47	1.39
68	A2	99	A2M	C5-C4	4.62	1.47	1.39
1	B5	3456	A2M	C5-C4	4.62	1.47	1.39
1	B5	1810	A2M	C5-C4	4.62	1.47	1.39
1	B5	1270	A2M	C5-C4	4.61	1.47	1.39
1	B5	4269	A2M	C5-C4	4.60	1.47	1.39
68	A2	669	A2M	C5-C4	4.60	1.47	1.39
24	Aw	62	HY3	C3-CA	-4.58	1.50	1.55
1	B5	3517	A2M	C5-C4	4.57	1.47	1.39
1	B5	1489	A2M	C5-C4	4.54	1.47	1.39
68	A2	1640	G7M	C2-N2	4.53	1.44	1.34
68	A2	1640	G7M	C2-N1	3.92	1.47	1.37
1	B5	3550	UY1	C6-C5	3.89	1.39	1.35
68	A2	1851	MA6	C4-N9	-3.87	1.29	1.37
68	A2	1852	MA6	C4-N9	-3.82	1.29	1.37
68	A2	1249	B8N	C4-C5	-3.61	1.39	1.47
1	B5	1632	PSU	C6-C5	3.56	1.39	1.35
1	B5	4166	PSU	C6-C5	3.47	1.39	1.35
68	A2	1239	PSU	C6-C5	3.42	1.39	1.35
68	A2	1851	MA6	C5-C4	3.42	1.45	1.39
68	A2	210	PSU	C6-C5	3.40	1.39	1.35
68	A2	1852	MA6	C5-C4	3.40	1.45	1.39
1	B5	3494	PSU	C6-C5	3.38	1.39	1.35
68	A2	1693	PSU	C6-C5	3.38	1.39	1.35
1	B5	3554	PSU	C6-C5	3.37	1.39	1.35
1	B5	3583	PSU	C6-C5	3.37	1.39	1.35
68	A2	967	PSU	C6-C5	3.37	1.39	1.35
1	B5	4107	PSU	C6-C5	3.36	1.39	1.35
1	B5	1491	PSU	C6-C5	3.36	1.39	1.35
68	A2	573	PSU	C6-C5	3.36	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B5	3447	PSU	C6-C5	3.35	1.39	1.35
1	B5	4188	PSU	C6-C5	3.35	1.39	1.35
1	B5	4740	PSU	C6-C5	3.35	1.39	1.35
68	A2	802	PSU	C6-C5	3.35	1.39	1.35
1	B5	2475	PSU	C6-C5	3.35	1.39	1.35
68	A2	105	PSU	C6-C5	3.35	1.39	1.35
68	A2	815	PSU	C6-C5	3.35	1.39	1.35
1	B5	4278	PSU	C6-C5	3.35	1.39	1.35
68	A2	34	PSU	C6-C5	3.34	1.39	1.35
1	B5	3502	PSU	C6-C5	3.34	1.39	1.35
1	B5	1801	PSU	C6-C5	3.34	1.39	1.35
68	A2	1057	PSU	C6-C5	3.34	1.39	1.35
68	A2	218	PSU	C6-C5	3.34	1.39	1.35
68	A2	1175	PSU	C6-C5	3.34	1.39	1.35
10	B8	69	PSU	C6-C5	3.34	1.39	1.35
68	A2	867	PSU	C6-C5	3.34	1.39	1.35
68	A2	407	PSU	C6-C5	3.33	1.39	1.35
68	A2	864	PSU	C6-C5	3.33	1.39	1.35
68	A2	1446	PSU	C6-C5	3.33	1.39	1.35
68	A2	109	PSU	C6-C5	3.33	1.39	1.35
1	B5	3427	PSU	C6-C5	3.33	1.39	1.35
68	A2	1233	PSU	C6-C5	3.33	1.39	1.35
1	B5	1683	PSU	C6-C5	3.32	1.39	1.35
68	A2	816	PSU	C6-C5	3.32	1.39	1.35
1	B5	3462	PSU	C6-C5	3.32	1.39	1.35
1	B5	4203	PSU	C6-C5	3.32	1.39	1.35
1	B5	4382	PSU	C6-C5	3.32	1.39	1.35
1	B5	1799	PSU	C6-C5	3.32	1.39	1.35
68	A2	652	PSU	C6-C5	3.32	1.39	1.35
1	B5	3466	PSU	C6-C5	3.32	1.39	1.35
68	A2	687	PSU	C6-C5	3.31	1.39	1.35
1	B5	4374	PSU	C6-C5	3.31	1.39	1.35
68	A2	36	PSU	C6-C5	3.31	1.39	1.35
1	B5	4322	PSU	C6-C5	3.31	1.39	1.35
68	A2	1047	PSU	C6-C5	3.31	1.39	1.35
68	A2	1082	PSU	C6-C5	3.31	1.39	1.35
1	B5	1537	PSU	C6-C5	3.31	1.39	1.35
1	B5	4042	PSU	C6-C5	3.31	1.39	1.35
68	A2	823	PSU	C6-C5	3.31	1.39	1.35
68	A2	1046	PSU	C6-C5	3.31	1.39	1.35
68	A2	1640	G7M	C2-N3	3.31	1.41	1.33
1	B5	3500	PSU	C6-C5	3.31	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	A2	1005	PSU	C6-C5	3.30	1.38	1.35
68	A2	1626	PSU	C6-C5	3.30	1.38	1.35
1	B5	1718	PSU	C6-C5	3.30	1.38	1.35
1	B5	3585	PSU	C6-C5	3.29	1.38	1.35
10	B8	55	PSU	C6-C5	3.29	1.38	1.35
68	A2	682	PSU	C6-C5	3.29	1.38	1.35
1	B5	4749	PSU	C6-C5	3.29	1.38	1.35
68	A2	1851	MA6	C6-N6	3.29	1.45	1.36
1	B5	3576	PSU	C6-C5	3.29	1.38	1.35
1	B5	4177	PSU	C6-C5	3.29	1.38	1.35
1	B5	3371	PSU	C6-C5	3.29	1.38	1.35
68	A2	93	PSU	C6-C5	3.29	1.38	1.35
68	A2	1245	PSU	C6-C5	3.29	1.38	1.35
1	B5	4045	PSU	C6-C5	3.28	1.38	1.35
68	A2	650	PSU	C6-C5	3.28	1.38	1.35
1	B5	4298	PSU	C6-C5	3.28	1.38	1.35
68	A2	610	PSU	C6-C5	3.28	1.38	1.35
1	B5	1721	PSU	C6-C5	3.28	1.38	1.35
1	B5	4099	PSU	C6-C5	3.27	1.38	1.35
1	B5	1266	1MA	C6-N6	3.27	1.35	1.28
1	B5	1638	PSU	C6-C5	3.27	1.38	1.35
1	B5	4058	PSU	C6-C5	3.27	1.38	1.35
68	A2	1368	PSU	C6-C5	3.27	1.38	1.35
1	B5	4267	PSU	C6-C5	3.27	1.38	1.35
1	B5	3490	PSU	C6-C5	3.27	1.38	1.35
1	B5	3496	PSU	C6-C5	3.27	1.38	1.35
1	B5	4246	PSU	C6-C5	3.26	1.38	1.35
1	B5	1720	PSU	C6-C5	3.26	1.38	1.35
68	A2	119	PSU	C6-C5	3.26	1.38	1.35
1	B5	4419	PSU	C6-C5	3.25	1.38	1.35
68	A2	1644	PSU	C6-C5	3.24	1.38	1.35
1	B5	3369	PSU	C6-C5	3.24	1.38	1.35
1	B5	4435	PSU	C6-C5	3.24	1.38	1.35
1	B5	4169	PSU	C6-C5	3.24	1.38	1.35
68	A2	1348	PSU	C6-C5	3.24	1.38	1.35
1	B5	1731	PSU	C6-C5	3.23	1.38	1.35
1	B5	4039	PSU	C6-C5	3.23	1.38	1.35
1	B5	4217	PSU	C6-C5	3.23	1.38	1.35
1	B5	2351	PSU	C6-C5	3.22	1.38	1.35
68	A2	1249	B8N	C4-N3	-3.22	1.34	1.40
68	A2	1852	MA6	C6-N6	3.22	1.45	1.36
1	B5	3652	PSU	C6-C5	3.21	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B5	4711	PSU	C6-C5	3.21	1.38	1.35
1	B5	4149	PSU	C6-C5	3.20	1.38	1.35
1	B5	3616	PSU	C6-C5	3.19	1.38	1.35
1	B5	4325	PSU	C6-C5	3.19	1.38	1.35
1	B5	1266	1MA	C5-C4	3.18	1.47	1.38
68	A2	1178	PSU	C6-C5	3.16	1.38	1.35
1	B5	3676	OMG	C5-C4	3.16	1.47	1.38
1	B5	1580	OMG	C5-C4	3.16	1.47	1.38
1	B5	3524	OMG	C5-C4	3.16	1.47	1.38
1	B5	2719	OMG	C5-C4	3.15	1.47	1.38
68	A2	1448	OMG	C5-C4	3.14	1.47	1.38
1	B5	1477	OMG	C5-C4	3.14	1.47	1.38
1	B5	3476	OMG	C5-C4	3.13	1.47	1.38
1	B5	4116	OMG	C5-C4	3.13	1.47	1.38
68	A2	437	OMG	C5-C4	3.13	1.47	1.38
68	A2	602	OMG	C5-C4	3.12	1.47	1.38
1	B5	4364	OMG	C5-C4	3.12	1.47	1.38
68	A2	1329	OMG	C5-C4	3.12	1.47	1.38
1	B5	3942	OMG	C5-C4	3.12	1.47	1.38
1	B5	4138	OMG	C5-C4	3.12	1.47	1.38
68	A2	510	OMG	C5-C4	3.12	1.47	1.38
68	A2	1491	OMG	C5-C4	3.12	1.47	1.38
68	A2	684	OMG	C5-C4	3.12	1.47	1.38
1	B5	4383	OMG	C5-C4	3.11	1.47	1.38
68	A2	868	OMG	C5-C4	3.11	1.47	1.38
1	B5	2207	OMG	C5-C4	3.11	1.47	1.38
1	B5	4245	OMG	C5-C4	3.11	1.47	1.38
1	B5	4369	OMG	C5-C4	3.11	1.47	1.38
1	B5	4240	OMG	C5-C4	3.11	1.47	1.38
1	B5	3974	OMG	C5-C4	3.10	1.47	1.38
1	B5	2267	OMG	C5-C4	3.10	1.47	1.38
1	B5	3631	OMG	C5-C4	3.10	1.47	1.38
10	B8	75	OMG	C5-C4	3.10	1.47	1.38
68	A2	645	OMG	C5-C4	3.09	1.47	1.38
1	B5	3359	OMG	C5-C4	3.09	1.47	1.38
1	B5	1260	OMG	C5-C4	3.07	1.47	1.38
68	A2	1843	4AC	C4-N4	-2.95	1.35	1.39
68	A2	1249	B8N	C6-C5	2.91	1.39	1.35
1	B5	4193	5MC	C6-C5	2.90	1.39	1.34
68	A2	1338	4AC	C4-N4	-2.86	1.35	1.39
1	B5	3550	UY1	C2-N1	2.81	1.40	1.36
68	A2	591	A2M	C5-C6	2.77	1.48	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B5	3369	PSU	C4-N3	-2.76	1.33	1.38
68	A2	166	A2M	C5-C6	2.75	1.48	1.41
1	B5	4336	A2M	C5-C6	2.73	1.48	1.41
1	B5	3599	A2M	C5-C6	2.73	1.48	1.41
68	A2	1679	A2M	C5-C6	2.73	1.48	1.41
1	B5	3616	PSU	C4-N3	-2.73	1.33	1.38
68	A2	469	A2M	C5-C6	2.72	1.48	1.41
1	B5	1489	A2M	C5-C6	2.71	1.48	1.41
68	A2	577	A2M	C5-C6	2.71	1.48	1.41
68	A2	159	A2M	C5-C6	2.71	1.48	1.41
68	A2	669	A2M	C5-C6	2.71	1.48	1.41
1	B5	3514	5MC	C6-C5	2.71	1.39	1.34
1	B5	3966	6MZ	C5-C6	2.70	1.48	1.41
1	B5	1479	A2M	C5-C6	2.70	1.48	1.41
68	A2	513	A2M	C5-C6	2.70	1.48	1.41
68	A2	27	A2M	C5-C6	2.70	1.48	1.41
1	B5	4269	A2M	C5-C6	2.70	1.48	1.41
68	A2	1384	A2M	C5-C6	2.70	1.48	1.41
1	B5	4317	A2M	C5-C6	2.70	1.48	1.41
1	B5	3492	A2M	C5-C6	2.70	1.48	1.41
1	B5	2206	A2M	C5-C6	2.70	1.48	1.41
1	B5	400	A2M	C5-C6	2.69	1.48	1.41
1	B5	4374	PSU	C4-N3	-2.69	1.33	1.38
1	B5	4058	PSU	C4-N3	-2.69	1.33	1.38
1	B5	1810	A2M	C5-C6	2.69	1.48	1.41
1	B5	1801	PSU	C4-N3	-2.69	1.33	1.38
1	B5	4366	OMU	C4-N3	-2.69	1.34	1.38
1	B5	398	A2M	C5-C6	2.69	1.48	1.41
1	B5	3371	PSU	C4-N3	-2.69	1.33	1.38
1	B5	3450	A2M	C5-C6	2.69	1.48	1.41
1	B5	4107	PSU	C4-N3	-2.69	1.33	1.38
1	B5	3456	A2M	C5-C6	2.69	1.48	1.41
68	A2	485	A2M	C5-C6	2.69	1.48	1.41
1	B5	4244	OMU	C4-N3	-2.69	1.34	1.38
1	B5	3657	OMU	C4-N3	-2.68	1.34	1.38
1	B5	4278	PSU	C4-N3	-2.68	1.33	1.38
1	B5	4039	PSU	C4-N3	-2.68	1.33	1.38
68	A2	1032	A2M	C5-C6	2.68	1.48	1.41
1	B5	1491	PSU	C4-N3	-2.68	1.33	1.38
1	B5	4042	PSU	C4-N3	-2.68	1.33	1.38
68	A2	99	A2M	C5-C6	2.68	1.48	1.41
1	B5	3557	A2M	C5-C6	2.68	1.48	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	A2	816	PSU	C4-N3	-2.68	1.33	1.38
1	B5	3562	A2M	C5-C6	2.68	1.48	1.41
1	B5	2244	A2M	C5-C6	2.68	1.48	1.41
1	B5	4749	PSU	C4-N3	-2.68	1.33	1.38
1	B5	4099	PSU	C4-N3	-2.67	1.33	1.38
68	A2	650	PSU	C4-N3	-2.67	1.33	1.38
1	B5	1270	A2M	C5-C6	2.67	1.48	1.41
1	B5	3973	OMU	C4-N3	-2.67	1.34	1.38
1	B5	1731	PSU	C4-N3	-2.67	1.33	1.38
1	B5	3502	PSU	C4-N3	-2.67	1.33	1.38
1	B5	4246	PSU	C4-N3	-2.67	1.33	1.38
1	B5	2658	A2M	C5-C6	2.66	1.48	1.41
1	B5	4052	OMU	C4-N3	-2.66	1.34	1.38
68	A2	1833	6MZ	C5-C6	2.66	1.48	1.41
1	B5	2351	PSU	C4-N3	-2.66	1.33	1.38
1	B5	3427	PSU	C4-N3	-2.66	1.33	1.38
68	A2	1082	PSU	C4-N3	-2.66	1.33	1.38
1	B5	3462	PSU	C4-N3	-2.66	1.33	1.38
10	B8	55	PSU	C4-N3	-2.66	1.33	1.38
68	A2	1327	OMU	C4-N3	-2.66	1.34	1.38
1	B5	4382	PSU	C4-N3	-2.66	1.33	1.38
1	B5	4203	PSU	C4-N3	-2.66	1.33	1.38
68	A2	407	PSU	C4-N3	-2.66	1.33	1.38
1	B5	3576	PSU	C4-N3	-2.66	1.33	1.38
1	B5	3585	PSU	C4-N3	-2.66	1.33	1.38
1	B5	3652	PSU	C4-N3	-2.66	1.33	1.38
1	B5	4298	PSU	C4-N3	-2.66	1.33	1.38
1	B5	4188	PSU	C4-N3	-2.65	1.33	1.38
68	A2	652	PSU	C4-N3	-2.65	1.33	1.38
1	B5	2680	OMU	C4-N3	-2.65	1.34	1.38
68	A2	105	PSU	C4-N3	-2.65	1.33	1.38
68	A2	815	PSU	C4-N3	-2.65	1.33	1.38
68	A2	93	PSU	C4-N3	-2.65	1.33	1.38
1	B5	2258	OMU	C4-N3	-2.65	1.34	1.38
68	A2	218	PSU	C4-N3	-2.65	1.33	1.38
68	A2	1368	PSU	C4-N3	-2.65	1.33	1.38
68	A2	1047	PSU	C4-N3	-2.65	1.33	1.38
1	B5	2630	A2M	C5-C6	2.65	1.48	1.41
68	A2	1046	PSU	C4-N3	-2.65	1.33	1.38
68	A2	864	PSU	C4-N3	-2.65	1.33	1.38
68	A2	355	OMU	C4-N3	-2.65	1.34	1.38
68	A2	1693	PSU	C4-N3	-2.65	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	A2	867	PSU	C4-N3	-2.65	1.33	1.38
1	B5	4149	PSU	C4-N3	-2.64	1.33	1.38
68	A2	1233	PSU	C4-N3	-2.64	1.33	1.38
68	A2	1239	PSU	C4-N3	-2.64	1.33	1.38
68	A2	121	OMU	C4-N3	-2.64	1.34	1.38
1	B5	1720	PSU	C4-N3	-2.64	1.33	1.38
1	B5	3496	PSU	C4-N3	-2.64	1.33	1.38
1	B5	3490	PSU	C4-N3	-2.64	1.33	1.38
68	A2	1626	PSU	C4-N3	-2.64	1.33	1.38
68	A2	573	PSU	C4-N3	-2.64	1.33	1.38
1	B5	4169	PSU	C4-N3	-2.64	1.33	1.38
68	A2	1805	OMU	C4-N3	-2.64	1.34	1.38
1	B5	3517	A2M	C5-C6	2.64	1.48	1.41
1	B5	4435	PSU	C4-N3	-2.64	1.33	1.38
68	A2	1644	PSU	C4-N3	-2.64	1.33	1.38
68	A2	1245	PSU	C4-N3	-2.63	1.33	1.38
68	A2	1057	PSU	C4-N3	-2.63	1.33	1.38
1	B5	1638	PSU	C4-N3	-2.63	1.33	1.38
1	B5	3583	PSU	C4-N3	-2.63	1.33	1.38
1	B5	4740	PSU	C4-N3	-2.63	1.33	1.38
68	A2	967	PSU	C4-N3	-2.63	1.33	1.38
1	B5	4325	PSU	C4-N3	-2.63	1.33	1.38
1	B5	1537	PSU	C4-N3	-2.63	1.33	1.38
1	B5	1799	PSU	C4-N3	-2.63	1.33	1.38
68	A2	34	PSU	C4-N3	-2.63	1.33	1.38
10	B8	69	PSU	C4-N3	-2.63	1.33	1.38
68	A2	1289	OMU	C4-N3	-2.63	1.34	1.38
68	A2	610	PSU	C4-N3	-2.63	1.33	1.38
68	A2	1005	PSU	C4-N3	-2.63	1.33	1.38
1	B5	3466	PSU	C4-N3	-2.63	1.33	1.38
68	A2	682	PSU	C4-N3	-2.62	1.33	1.38
1	B5	3500	PSU	C4-N3	-2.62	1.33	1.38
68	A2	1175	PSU	C4-N3	-2.62	1.33	1.38
68	A2	687	PSU	C4-N3	-2.62	1.33	1.38
68	A2	116	OMU	C4-N3	-2.62	1.34	1.38
1	B5	4177	PSU	C4-N3	-2.62	1.33	1.38
68	A2	1348	PSU	C4-N3	-2.62	1.33	1.38
1	B5	4711	PSU	C4-N3	-2.62	1.33	1.38
1	B5	2475	PSU	C4-N3	-2.62	1.33	1.38
68	A2	429	OMU	C4-N3	-2.62	1.34	1.38
68	A2	109	PSU	C4-N3	-2.62	1.34	1.38
1	B5	4045	PSU	C4-N3	-2.61	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	A2	1178	PSU	C4-N3	-2.61	1.34	1.38
68	A2	1446	PSU	C4-N3	-2.61	1.34	1.38
68	A2	802	PSU	C4-N3	-2.61	1.34	1.38
1	B5	1721	PSU	C4-N3	-2.61	1.34	1.38
68	A2	628	OMU	C4-N3	-2.60	1.34	1.38
68	A2	1443	OMU	C4-N3	-2.60	1.34	1.38
68	A2	823	PSU	C4-N3	-2.60	1.34	1.38
1	B5	1718	PSU	C4-N3	-2.60	1.34	1.38
1	B5	1683	PSU	C4-N3	-2.59	1.34	1.38
68	A2	36	PSU	C4-N3	-2.59	1.34	1.38
68	A2	119	PSU	C4-N3	-2.59	1.34	1.38
1	B5	4419	PSU	C4-N3	-2.59	1.34	1.38
1	B5	4267	PSU	C4-N3	-2.59	1.34	1.38
1	B5	1632	PSU	C4-N3	-2.59	1.34	1.38
68	A2	172	OMU	C4-N3	-2.59	1.34	1.38
1	B5	4217	PSU	C4-N3	-2.58	1.34	1.38
1	B5	3447	PSU	C4-N3	-2.58	1.34	1.38
1	B5	3494	PSU	C4-N3	-2.58	1.34	1.38
1	B5	3554	PSU	C4-N3	-2.57	1.34	1.38
1	B5	4322	PSU	C4-N3	-2.56	1.34	1.38
68	A2	210	PSU	C4-N3	-2.56	1.34	1.38
68	A2	1249	B8N	C2-N3	-2.55	1.34	1.38
1	B5	4166	PSU	C4-N3	-2.54	1.34	1.38
1	B5	4138	OMG	C6-N1	-2.52	1.34	1.38
1	B5	2719	OMG	C6-N1	-2.51	1.34	1.38
1	B5	3942	OMG	C6-N1	-2.50	1.34	1.38
10	B8	75	OMG	C6-N1	-2.50	1.34	1.38
68	A2	1491	OMG	C6-N1	-2.49	1.34	1.38
1	B5	2207	OMG	C6-N1	-2.49	1.34	1.38
1	B5	1580	OMG	C6-N1	-2.49	1.34	1.38
1	B5	1477	OMG	C6-N1	-2.49	1.34	1.38
1	B5	4245	OMG	C6-N1	-2.48	1.34	1.38
68	A2	510	OMG	C6-N1	-2.48	1.34	1.38
68	A2	437	OMG	C6-N1	-2.48	1.34	1.38
1	B5	4116	OMG	C6-N1	-2.48	1.34	1.38
68	A2	1329	OMG	C6-N1	-2.47	1.34	1.38
1	B5	3631	OMG	C6-N1	-2.47	1.34	1.38
1	B5	1260	OMG	C6-N1	-2.46	1.34	1.38
1	B5	4383	OMG	C6-N1	-2.46	1.34	1.38
68	A2	645	OMG	C6-N1	-2.46	1.34	1.38
1	B5	4240	OMG	C6-N1	-2.45	1.34	1.38
1	B5	3359	OMG	C6-N1	-2.45	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B5	4364	OMG	C6-N1	-2.45	1.34	1.38
1	B5	3974	OMG	C6-N1	-2.45	1.34	1.38
68	A2	602	OMG	C6-N1	-2.45	1.34	1.38
68	A2	1448	OMG	C6-N1	-2.44	1.34	1.38
1	B5	4369	OMG	C6-N1	-2.44	1.34	1.38
1	B5	3476	OMG	C6-N1	-2.44	1.34	1.38
68	A2	684	OMG	C6-N1	-2.43	1.34	1.38
1	B5	3524	OMG	C6-N1	-2.43	1.34	1.38
1	B5	2267	OMG	C6-N1	-2.42	1.34	1.38
28	Ba	39	V5N	CD2-NE2	-2.41	1.33	1.37
1	B5	3676	OMG	C6-N1	-2.40	1.34	1.38
68	A2	1833	6MZ	C5-N7	-2.39	1.34	1.39
13	BA	216	V5N	CD2-NE2	-2.38	1.33	1.37
1	B5	1489	A2M	C8-N7	2.37	1.36	1.31
68	A2	591	A2M	C5-N7	-2.37	1.34	1.39
68	A2	1679	A2M	C8-N7	2.36	1.36	1.31
68	A2	166	A2M	C8-N7	2.35	1.36	1.31
68	A2	868	OMG	C6-N1	-2.35	1.34	1.38
1	B5	398	A2M	C8-N7	2.35	1.36	1.31
1	B5	400	A2M	C8-N7	2.35	1.36	1.31
1	B5	1479	A2M	C5-N7	-2.35	1.34	1.39
1	B5	2630	A2M	C5-N7	-2.35	1.34	1.39
68	A2	1640	G7M	C5-N7	2.35	1.41	1.39
68	A2	485	A2M	C5-N7	-2.34	1.34	1.39
1	B5	2658	A2M	C5-N7	-2.34	1.34	1.39
68	A2	577	A2M	C5-N7	-2.34	1.34	1.39
1	B5	3562	A2M	C8-N7	2.34	1.36	1.31
68	A2	513	A2M	C8-N7	2.34	1.36	1.31
68	A2	159	A2M	C8-N7	2.34	1.36	1.31
1	B5	3456	A2M	C8-N7	2.34	1.36	1.31
1	B5	3599	A2M	C8-N7	2.34	1.36	1.31
1	B5	1810	A2M	C8-N7	2.33	1.36	1.31
68	A2	577	A2M	C8-N7	2.33	1.36	1.31
68	A2	159	A2M	C5-N7	-2.33	1.34	1.39
1	B5	3450	A2M	C8-N7	2.33	1.36	1.31
1	B5	4336	A2M	C8-N7	2.33	1.36	1.31
68	A2	99	A2M	C8-N7	2.33	1.36	1.31
1	B5	4269	A2M	C8-N7	2.33	1.36	1.31
1	B5	3966	6MZ	C5-N7	-2.33	1.34	1.39
1	B5	3557	A2M	C8-N7	2.33	1.36	1.31
68	A2	485	A2M	C8-N7	2.33	1.36	1.31
1	B5	1270	A2M	C8-N7	2.32	1.36	1.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B5	400	A2M	C5-N7	-2.32	1.34	1.39
68	A2	27	A2M	C8-N7	2.32	1.36	1.31
1	B5	1266	1MA	C2-N3	2.32	1.34	1.30
1	B5	3492	A2M	C8-N7	2.32	1.36	1.31
1	B5	2244	A2M	C8-N7	2.31	1.36	1.31
68	A2	1384	A2M	C8-N7	2.31	1.36	1.31
1	B5	2658	A2M	C8-N7	2.31	1.36	1.31
1	B5	1270	A2M	C5-N7	-2.31	1.34	1.39
1	B5	3450	A2M	C5-N7	-2.31	1.34	1.39
1	B5	4317	A2M	C8-N7	2.31	1.36	1.31
68	A2	669	A2M	C8-N7	2.31	1.36	1.31
68	A2	27	A2M	C5-N7	-2.30	1.34	1.39
68	A2	1384	A2M	C5-N7	-2.30	1.34	1.39
1	B5	3517	A2M	C8-N7	2.30	1.36	1.31
68	A2	469	A2M	C8-N7	2.30	1.36	1.31
68	A2	1032	A2M	C8-N7	2.30	1.36	1.31
1	B5	3562	A2M	C5-N7	-2.30	1.34	1.39
68	A2	99	A2M	C5-N7	-2.30	1.34	1.39
1	B5	2206	A2M	C5-N7	-2.29	1.34	1.39
1	B5	3492	A2M	C5-N7	-2.29	1.34	1.39
1	B5	2206	A2M	C8-N7	2.29	1.36	1.31
68	A2	513	A2M	C5-N7	-2.29	1.34	1.39
1	B5	398	A2M	C5-N7	-2.29	1.34	1.39
1	B5	3514	5MC	C6-N1	-2.28	1.34	1.38
1	B5	1810	A2M	C5-N7	-2.28	1.34	1.39
1	B5	4317	A2M	C5-N7	-2.28	1.34	1.39
1	B5	4336	A2M	C5-N7	-2.28	1.34	1.39
68	A2	1032	A2M	C5-N7	-2.27	1.34	1.39
1	B5	3517	A2M	C5-N7	-2.27	1.34	1.39
68	A2	1640	G7M	C4-N3	2.27	1.39	1.34
1	B5	2244	A2M	C5-N7	-2.27	1.34	1.39
68	A2	669	A2M	C5-N7	-2.27	1.34	1.39
1	B5	1479	A2M	C8-N7	2.27	1.36	1.31
1	B5	4269	A2M	C5-N7	-2.26	1.34	1.39
1	B5	2630	A2M	C8-N7	2.26	1.36	1.31
1	B5	3599	A2M	C5-N7	-2.26	1.35	1.39
1	B5	1489	A2M	C5-N7	-2.26	1.35	1.39
68	A2	166	A2M	C5-N7	-2.26	1.35	1.39
1	B5	3550	UY1	C6-N1	-2.26	1.32	1.36
68	A2	591	A2M	C8-N7	2.25	1.36	1.31
1	B5	4366	OMU	C2-N3	-2.25	1.34	1.38
68	A2	1443	OMU	C2-N3	-2.25	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	A2	1679	A2M	C5-N7	-2.24	1.35	1.39
68	A2	1289	OMU	C2-N1	2.24	1.42	1.38
1	B5	3966	6MZ	C8-N7	2.24	1.36	1.31
1	B5	3456	A2M	C5-N7	-2.24	1.35	1.39
68	A2	469	A2M	C5-N7	-2.24	1.35	1.39
1	B5	4244	OMU	C2-N3	-2.23	1.34	1.38
1	B5	3557	A2M	C5-N7	-2.22	1.35	1.39
1	B5	3657	OMU	C2-N3	-2.21	1.34	1.38
1	B5	2680	OMU	C2-N3	-2.21	1.34	1.38
68	A2	355	OMU	C2-N3	-2.21	1.34	1.38
68	A2	1327	OMU	C2-N3	-2.21	1.34	1.38
68	A2	1833	6MZ	C8-N7	2.20	1.35	1.31
68	A2	121	OMU	C2-N3	-2.18	1.34	1.38
1	B5	3973	OMU	C2-N3	-2.18	1.34	1.38
1	B5	4193	5MC	C6-N1	-2.18	1.34	1.38
1	B5	2719	OMG	C5-N7	-2.17	1.34	1.39
1	B5	2258	OMU	C2-N3	-2.17	1.34	1.38
68	A2	429	OMU	C2-N3	-2.16	1.34	1.38
1	B5	4052	OMU	C2-N3	-2.16	1.34	1.38
68	A2	172	OMU	C2-N3	-2.15	1.34	1.38
68	A2	1805	OMU	C2-N3	-2.15	1.34	1.38
68	A2	628	OMU	C2-N3	-2.15	1.34	1.38
68	A2	116	OMU	C2-N3	-2.14	1.34	1.38
68	A2	1289	OMU	C2-N3	-2.13	1.34	1.38
68	A2	1443	OMU	C2-N1	2.13	1.41	1.38
68	A2	1491	OMG	C5-N7	-2.12	1.34	1.39
68	A2	1448	OMG	C5-N7	-2.12	1.34	1.39
68	A2	1805	OMU	C2-N1	2.12	1.41	1.38
1	B5	1266	1MA	C5-N7	-2.11	1.34	1.39
1	B5	4138	OMG	C5-N7	-2.11	1.34	1.39
1	B5	4245	OMG	C5-N7	-2.10	1.34	1.39
1	B5	1260	OMG	C5-N7	-2.09	1.34	1.39
1	B5	2258	OMU	C5-C4	-2.09	1.39	1.43
1	B5	2258	OMU	C2-N1	2.09	1.41	1.38
68	A2	510	OMG	C5-N7	-2.09	1.34	1.39
1	B5	3974	OMG	C5-N7	-2.08	1.34	1.39
1	B5	3942	OMG	C5-N7	-2.08	1.34	1.39
10	B8	75	OMG	C5-N7	-2.08	1.34	1.39
1	B5	3657	OMU	C5-C4	-2.08	1.39	1.43
1	B5	3476	OMG	C5-N7	-2.08	1.34	1.39
1	B5	4116	OMG	C5-N7	-2.08	1.34	1.39
68	A2	429	OMU	C2-N1	2.08	1.41	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	A2	645	OMG	C5-N7	-2.07	1.34	1.39
1	B5	4366	OMU	C5-C4	-2.07	1.39	1.43
68	A2	121	OMU	C5-C4	-2.07	1.39	1.43
1	B5	1580	OMG	C5-N7	-2.06	1.34	1.39
1	B5	2680	OMU	C5-C4	-2.06	1.39	1.43
1	B5	2207	OMG	C5-N7	-2.06	1.34	1.39
68	A2	355	OMU	C5-C4	-2.06	1.39	1.43
1	B5	3676	OMG	C5-N7	-2.06	1.34	1.39
1	B5	1477	OMG	C5-N7	-2.06	1.34	1.39
68	A2	437	OMG	C5-N7	-2.06	1.34	1.39
68	A2	172	OMU	C5-C4	-2.06	1.39	1.43
68	A2	684	OMG	C5-N7	-2.05	1.35	1.39
1	B5	4276	UR3	C2-N1	2.05	1.41	1.38
1	B5	4369	OMG	C5-N7	-2.05	1.35	1.39
1	B5	4052	OMU	C5-C4	-2.05	1.39	1.43
68	A2	1805	OMU	C5-C4	-2.05	1.39	1.43
1	B5	2267	OMG	C5-N7	-2.04	1.35	1.39
1	B5	4383	OMG	C5-N7	-2.04	1.35	1.39
1	B5	3631	OMG	C5-N7	-2.04	1.35	1.39
68	A2	429	OMU	C5-C4	-2.03	1.39	1.43
68	A2	1329	OMG	C5-N7	-2.03	1.35	1.39
68	A2	602	OMG	C5-N7	-2.03	1.35	1.39
1	B5	4240	OMG	C5-N7	-2.03	1.35	1.39
1	B5	3973	OMU	C5-C4	-2.03	1.39	1.43
68	A2	1289	OMU	C5-C4	-2.03	1.39	1.43
68	A2	1443	OMU	C5-C4	-2.03	1.39	1.43
1	B5	3524	OMG	C5-N7	-2.03	1.35	1.39
68	A2	1327	OMU	C5-C4	-2.02	1.39	1.43
1	B5	4364	OMG	C5-N7	-2.02	1.35	1.39
1	B5	4244	OMU	C5-C4	-2.02	1.39	1.43
1	B5	4052	OMU	C2-N1	2.01	1.41	1.38
1	B5	3359	OMG	C5-N7	-2.01	1.35	1.39
1	B5	3973	OMU	C2-N1	2.01	1.41	1.38
68	A2	116	OMU	C5-C4	-2.01	1.39	1.43
1	B5	4366	OMU	C2-N1	2.00	1.41	1.38

All (1007) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	1851	MA6	C4-N9-C8	15.07	121.56	105.74
68	A2	1852	MA6	C4-N9-C8	14.82	121.30	105.74
68	A2	1640	G7M	C8-N7-C5	11.39	122.03	107.78

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	4276	UR3	C4-N3-C2	-6.77	119.13	124.58
68	A2	1640	G7M	N9-C4-N3	6.66	139.26	125.95
68	A2	591	A2M	C5-C4-N3	-6.59	117.64	126.72
68	A2	1852	MA6	N3-C4-N9	6.58	138.36	127.17
1	B5	4267	PSU	N1-C2-N3	6.45	121.98	115.17
1	B5	4374	PSU	N1-C2-N3	6.43	121.95	115.17
1	B5	2719	OMG	C5-C4-N3	-6.43	118.16	128.39
1	B5	4217	PSU	N1-C2-N3	6.43	121.95	115.17
1	B5	1537	PSU	N1-C2-N3	6.42	121.94	115.17
1	B5	4278	PSU	N1-C2-N3	6.42	121.94	115.17
1	B5	3369	PSU	N1-C2-N3	6.42	121.94	115.17
1	B5	4435	PSU	N1-C2-N3	6.42	121.94	115.17
1	B5	3494	PSU	N1-C2-N3	6.41	121.93	115.17
68	A2	867	PSU	N1-C2-N3	6.41	121.93	115.17
1	B5	4749	PSU	N1-C2-N3	6.41	121.93	115.17
1	B5	3616	PSU	N1-C2-N3	6.41	121.93	115.17
1	B5	1491	PSU	N1-C2-N3	6.41	121.93	115.17
1	B5	4325	PSU	N1-C2-N3	6.40	121.92	115.17
68	A2	1644	PSU	N1-C2-N3	6.40	121.92	115.17
68	A2	1851	MA6	C4-C5-N7	-6.40	103.26	110.58
1	B5	1720	PSU	N1-C2-N3	6.40	121.92	115.17
68	A2	407	PSU	N1-C2-N3	6.40	121.92	115.17
68	A2	1047	PSU	N1-C2-N3	6.40	121.92	115.17
1	B5	1731	PSU	N1-C2-N3	6.39	121.91	115.17
1	B5	4045	PSU	N1-C2-N3	6.39	121.91	115.17
68	A2	1446	PSU	N1-C2-N3	6.39	121.91	115.17
1	B5	4382	PSU	N1-C2-N3	6.39	121.90	115.17
68	A2	1005	PSU	N1-C2-N3	6.39	121.90	115.17
68	A2	682	PSU	N1-C2-N3	6.38	121.90	115.17
1	B5	2351	PSU	N1-C2-N3	6.38	121.90	115.17
1	B5	1721	PSU	N1-C2-N3	6.38	121.90	115.17
1	B5	3502	PSU	N1-C2-N3	6.38	121.89	115.17
1	B5	1801	PSU	N1-C2-N3	6.38	121.89	115.17
1	B5	3583	PSU	N1-C2-N3	6.37	121.89	115.17
1	B5	4246	PSU	N1-C2-N3	6.37	121.89	115.17
68	A2	816	PSU	N1-C2-N3	6.37	121.89	115.17
68	A2	1233	PSU	N1-C2-N3	6.37	121.89	115.17
1	B5	3576	PSU	N1-C2-N3	6.37	121.89	115.17
1	B5	4099	PSU	N1-C2-N3	6.37	121.89	115.17
1	B5	3585	PSU	N1-C2-N3	6.37	121.89	115.17
1	B5	4107	PSU	N1-C2-N3	6.37	121.89	115.17
68	A2	93	PSU	N1-C2-N3	6.37	121.89	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	652	PSU	N1-C2-N3	6.37	121.89	115.17
68	A2	1626	PSU	N1-C2-N3	6.37	121.88	115.17
1	B5	4042	PSU	N1-C2-N3	6.36	121.88	115.17
1	B5	4058	PSU	N1-C2-N3	6.36	121.88	115.17
68	A2	864	PSU	N1-C2-N3	6.36	121.88	115.17
1	B5	4169	PSU	N1-C2-N3	6.36	121.88	115.17
68	A2	815	PSU	N1-C2-N3	6.36	121.87	115.17
68	A2	36	PSU	N1-C2-N3	6.36	121.87	115.17
68	A2	109	PSU	N1-C2-N3	6.36	121.87	115.17
1	B5	3652	PSU	N1-C2-N3	6.35	121.87	115.17
1	B5	1718	PSU	N1-C2-N3	6.35	121.86	115.17
1	B5	4149	PSU	N1-C2-N3	6.35	121.86	115.17
1	B5	3462	PSU	N1-C2-N3	6.34	121.86	115.17
68	A2	573	PSU	N1-C2-N3	6.34	121.86	115.17
1	B5	2475	PSU	N1-C2-N3	6.34	121.86	115.17
1	B5	3500	PSU	N1-C2-N3	6.34	121.86	115.17
68	A2	1851	MA6	N3-C4-N9	6.34	137.96	127.17
1	B5	4039	PSU	N1-C2-N3	6.34	121.86	115.17
1	B5	1683	PSU	N1-C2-N3	6.34	121.86	115.17
68	A2	1046	PSU	N1-C2-N3	6.34	121.86	115.17
1	B5	4177	PSU	N1-C2-N3	6.34	121.85	115.17
68	A2	650	PSU	N1-C2-N3	6.34	121.85	115.17
1	B5	4298	PSU	N1-C2-N3	6.33	121.85	115.17
68	A2	687	PSU	N1-C2-N3	6.33	121.85	115.17
68	A2	1348	PSU	N1-C2-N3	6.33	121.85	115.17
1	B5	3427	PSU	N1-C2-N3	6.33	121.85	115.17
68	A2	119	PSU	N1-C2-N3	6.33	121.85	115.17
1	B5	3496	PSU	N1-C2-N3	6.33	121.84	115.17
68	A2	610	PSU	N1-C2-N3	6.33	121.84	115.17
1	B5	4188	PSU	N1-C2-N3	6.32	121.84	115.17
1	B5	4740	PSU	N1-C2-N3	6.32	121.84	115.17
68	A2	210	PSU	N1-C2-N3	6.32	121.84	115.17
68	A2	1239	PSU	N1-C2-N3	6.32	121.84	115.17
68	A2	823	PSU	N1-C2-N3	6.32	121.84	115.17
1	B5	1638	PSU	N1-C2-N3	6.32	121.83	115.17
1	B5	3447	PSU	N1-C2-N3	6.32	121.83	115.17
68	A2	34	PSU	N1-C2-N3	6.32	121.83	115.17
68	A2	1245	PSU	N1-C2-N3	6.32	121.83	115.17
1	B5	1799	PSU	N1-C2-N3	6.31	121.83	115.17
1	B5	4419	PSU	N1-C2-N3	6.31	121.83	115.17
68	A2	1057	PSU	N1-C2-N3	6.31	121.83	115.17
10	B8	55	PSU	N1-C2-N3	6.31	121.83	115.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	105	PSU	N1-C2-N3	6.31	121.83	115.17
68	A2	1368	PSU	N1-C2-N3	6.31	121.82	115.17
1	B5	4203	PSU	N1-C2-N3	6.30	121.82	115.17
68	A2	967	PSU	N1-C2-N3	6.30	121.82	115.17
1	B5	3554	PSU	N1-C2-N3	6.30	121.82	115.17
1	B5	4711	PSU	N1-C2-N3	6.30	121.81	115.17
1	B5	3466	PSU	N1-C2-N3	6.30	121.81	115.17
1	B5	4322	PSU	N1-C2-N3	6.30	121.81	115.17
1	B5	3490	PSU	N1-C2-N3	6.30	121.81	115.17
68	A2	1693	PSU	N1-C2-N3	6.29	121.81	115.17
1	B5	1632	PSU	N1-C2-N3	6.29	121.81	115.17
68	A2	1175	PSU	N1-C2-N3	6.29	121.80	115.17
68	A2	218	PSU	N1-C2-N3	6.28	121.80	115.17
68	A2	802	PSU	N1-C2-N3	6.27	121.78	115.17
68	A2	1082	PSU	N1-C2-N3	6.27	121.78	115.17
10	B8	69	PSU	N1-C2-N3	6.26	121.77	115.17
1	B5	1477	OMG	C5-C4-N3	-6.24	118.45	128.39
1	B5	3371	PSU	N1-C2-N3	6.24	121.75	115.17
68	A2	1178	PSU	N1-C2-N3	6.23	121.74	115.17
1	B5	1580	OMG	C5-C4-N3	-6.23	118.48	128.39
68	A2	1491	OMG	C5-C4-N3	-6.22	118.48	128.39
1	B5	3524	OMG	C5-C4-N3	-6.22	118.50	128.39
1	B5	4138	OMG	C5-C4-N3	-6.19	118.54	128.39
68	A2	1640	G7M	C6-C5-N7	6.19	139.93	132.17
1	B5	4364	OMG	C5-C4-N3	-6.17	118.56	128.39
1	B5	2207	OMG	C5-C4-N3	-6.17	118.57	128.39
10	B8	75	OMG	C5-C4-N3	-6.16	118.58	128.39
1	B5	3359	OMG	C5-C4-N3	-6.16	118.58	128.39
1	B5	3942	OMG	C5-C4-N3	-6.16	118.58	128.39
1	B5	3476	OMG	C5-C4-N3	-6.16	118.59	128.39
68	A2	1329	OMG	C5-C4-N3	-6.16	118.59	128.39
68	A2	645	OMG	C5-C4-N3	-6.16	118.59	128.39
1	B5	4245	OMG	C5-C4-N3	-6.16	118.59	128.39
1	B5	4240	OMG	C5-C4-N3	-6.15	118.60	128.39
68	A2	1448	OMG	C5-C4-N3	-6.15	118.60	128.39
1	B5	3676	OMG	C5-C4-N3	-6.14	118.62	128.39
68	A2	510	OMG	C5-C4-N3	-6.14	118.62	128.39
1	B5	4369	OMG	C5-C4-N3	-6.13	118.63	128.39
68	A2	437	OMG	C5-C4-N3	-6.13	118.63	128.39
1	B5	4116	OMG	C5-C4-N3	-6.13	118.64	128.39
68	A2	1833	6MZ	C5-C4-N3	-6.12	118.28	126.72
1	B5	1260	OMG	C5-C4-N3	-6.12	118.65	128.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	4383	OMG	C5-C4-N3	-6.10	118.68	128.39
1	B5	2267	OMG	C5-C4-N3	-6.10	118.69	128.39
68	A2	1852	MA6	C4-C5-N7	-6.09	103.62	110.58
68	A2	684	OMG	C5-C4-N3	-6.09	118.70	128.39
68	A2	602	OMG	C5-C4-N3	-6.08	118.71	128.39
68	A2	1640	G7M	CN7-N7-C5	-6.08	119.22	126.80
1	B5	3974	OMG	C5-C4-N3	-6.07	118.72	128.39
1	B5	4166	PSU	N1-C2-N3	6.07	121.57	115.17
1	B5	3631	OMG	C5-C4-N3	-6.05	118.75	128.39
1	B5	2658	A2M	C5-C4-N3	-6.00	118.45	126.72
68	A2	513	A2M	C5-C4-N3	-5.96	118.51	126.72
68	A2	166	A2M	C5-C4-N3	-5.94	118.54	126.72
1	B5	2206	A2M	C5-C4-N3	-5.91	118.58	126.72
68	A2	485	A2M	C5-C4-N3	-5.91	118.59	126.72
1	B5	1479	A2M	C5-C4-N3	-5.90	118.59	126.72
1	B5	3966	6MZ	C5-C4-N3	-5.90	118.59	126.72
68	A2	27	A2M	C5-C4-N3	-5.88	118.62	126.72
68	A2	577	A2M	C5-C4-N3	-5.87	118.63	126.72
1	B5	2630	A2M	C5-C4-N3	-5.85	118.66	126.72
1	B5	3450	A2M	C5-C4-N3	-5.85	118.66	126.72
68	A2	868	OMG	C5-C4-N3	-5.85	119.08	128.39
68	A2	159	A2M	C5-C4-N3	-5.85	118.67	126.72
68	A2	469	A2M	C5-C4-N3	-5.84	118.68	126.72
1	B5	2244	A2M	C5-C4-N3	-5.83	118.69	126.72
68	A2	669	A2M	C5-C4-N3	-5.82	118.70	126.72
1	B5	3599	A2M	C5-C4-N3	-5.82	118.70	126.72
1	B5	3562	A2M	C5-C4-N3	-5.81	118.71	126.72
1	B5	1270	A2M	C5-C4-N3	-5.80	118.73	126.72
1	B5	1489	A2M	C5-C4-N3	-5.80	118.74	126.72
68	A2	1851	MA6	N9-C8-N7	-5.78	105.73	113.94
68	A2	1679	A2M	C5-C4-N3	-5.78	118.76	126.72
1	B5	4317	A2M	C5-C4-N3	-5.78	118.76	126.72
1	B5	4336	A2M	C5-C4-N3	-5.78	118.76	126.72
1	B5	4269	A2M	C5-C4-N3	-5.77	118.77	126.72
68	A2	99	A2M	C5-C4-N3	-5.76	118.78	126.72
1	B5	400	A2M	C5-C4-N3	-5.76	118.78	126.72
68	A2	1032	A2M	C5-C4-N3	-5.76	118.78	126.72
1	B5	3557	A2M	C5-C4-N3	-5.76	118.79	126.72
1	B5	398	A2M	C5-C4-N3	-5.75	118.80	126.72
1	B5	1810	A2M	C5-C4-N3	-5.74	118.81	126.72
1	B5	3517	A2M	C5-C4-N3	-5.73	118.82	126.72
1	B5	3492	A2M	C5-C4-N3	-5.72	118.84	126.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	1384	A2M	C5-C4-N3	-5.71	118.85	126.72
24	Aw	62	HY3	C4-C3-CA	-5.71	96.31	102.51
1	B5	3456	A2M	C5-C4-N3	-5.65	118.94	126.72
1	B5	1266	1MA	C5-C4-N3	-5.59	119.04	127.27
68	A2	1852	MA6	C5-C4-N3	-5.53	119.11	126.72
68	A2	1852	MA6	N9-C8-N7	-5.51	106.11	113.94
1	B5	3550	UY1	C4-N3-C2	-5.45	118.86	126.37
68	A2	1851	MA6	C5-C4-N3	-5.36	119.33	126.72
68	A2	591	A2M	N3-C4-N9	5.30	136.19	127.17
1	B5	2719	OMG	C2-N3-C4	5.21	121.28	112.30
1	B5	1477	OMG	C2-N3-C4	5.07	121.03	112.30
1	B5	3359	OMG	C2-N3-C4	5.06	121.02	112.30
1	B5	3476	OMG	C2-N3-C4	5.06	121.02	112.30
1	B5	3631	OMG	C2-N3-C4	5.06	121.02	112.30
1	B5	1260	OMG	C2-N3-C4	5.06	121.02	112.30
1	B5	4369	OMG	C2-N3-C4	5.06	121.01	112.30
68	A2	602	OMG	C2-N3-C4	5.06	121.01	112.30
68	A2	645	OMG	C2-N3-C4	5.06	121.01	112.30
68	A2	1329	OMG	C2-N3-C4	5.05	121.00	112.30
1	B5	3524	OMG	C2-N3-C4	5.05	121.00	112.30
1	B5	3676	OMG	C2-N3-C4	5.05	121.00	112.30
1	B5	1580	OMG	C2-N3-C4	5.05	121.00	112.30
1	B5	3942	OMG	C2-N3-C4	5.05	121.00	112.30
1	B5	4364	OMG	C2-N3-C4	5.05	120.99	112.30
1	B5	4240	OMG	C2-N3-C4	5.04	120.98	112.30
68	A2	1448	OMG	C2-N3-C4	5.04	120.98	112.30
1	B5	4383	OMG	C2-N3-C4	5.04	120.98	112.30
1	B5	4138	OMG	C2-N3-C4	5.04	120.97	112.30
10	B8	75	OMG	C2-N3-C4	5.03	120.97	112.30
1	B5	4116	OMG	C2-N3-C4	5.03	120.97	112.30
68	A2	684	OMG	C2-N3-C4	5.03	120.96	112.30
68	A2	510	OMG	C2-N3-C4	5.02	120.95	112.30
1	B5	2207	OMG	C2-N3-C4	5.02	120.94	112.30
68	A2	1491	OMG	C2-N3-C4	5.02	120.94	112.30
68	A2	437	OMG	C2-N3-C4	5.02	120.94	112.30
1	B5	4245	OMG	C2-N3-C4	5.02	120.94	112.30
68	A2	1640	G7M	C2-N3-C4	5.02	120.94	112.30
1	B5	3974	OMG	C2-N3-C4	5.01	120.92	112.30
1	B5	2267	OMG	C2-N3-C4	5.01	120.92	112.30
68	A2	868	OMG	C2-N3-C4	5.00	120.91	112.30
68	A2	1833	6MZ	N3-C4-N9	4.95	135.58	127.17
1	B5	3657	OMU	C4-N3-C2	-4.83	120.61	126.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	628	OMU	C4-N3-C2	-4.82	120.63	126.61
1	B5	2719	OMG	N9-C4-N3	4.79	135.52	125.95
68	A2	1327	OMU	C4-N3-C2	-4.79	120.67	126.61
68	A2	1843	4AC	N4-C4-N3	4.77	121.61	113.87
1	B5	2680	OMU	C4-N3-C2	-4.74	120.72	126.61
68	A2	116	OMU	C4-N3-C2	-4.74	120.72	126.61
1	B5	3973	OMU	C4-N3-C2	-4.73	120.74	126.61
1	B5	4244	OMU	C4-N3-C2	-4.72	120.75	126.61
1	B5	2658	A2M	N3-C4-N9	4.72	135.20	127.17
1	B5	1266	1MA	C2-N3-C4	4.72	121.79	112.53
1	B5	4366	OMU	C4-N3-C2	-4.72	120.76	126.61
68	A2	513	A2M	N3-C4-N9	4.70	135.17	127.17
68	A2	172	OMU	C4-N3-C2	-4.70	120.78	126.61
68	A2	429	OMU	C4-N3-C2	-4.67	120.81	126.61
68	A2	577	A2M	N3-C4-N9	4.67	135.10	127.17
68	A2	1338	4AC	N4-C4-N3	4.66	121.44	113.87
1	B5	3966	6MZ	N3-C4-N9	4.66	135.10	127.17
68	A2	166	A2M	N3-C4-N9	4.66	135.10	127.17
68	A2	1443	OMU	C4-N3-C2	-4.66	120.83	126.61
68	A2	1491	OMG	N9-C4-N3	4.66	135.27	125.95
68	A2	485	A2M	N3-C4-N9	4.66	135.09	127.17
68	A2	355	OMU	C4-N3-C2	-4.66	120.83	126.61
1	B5	1479	A2M	N3-C4-N9	4.65	135.07	127.17
68	A2	121	OMU	C4-N3-C2	-4.65	120.84	126.61
1	B5	2630	A2M	N3-C4-N9	4.64	135.06	127.17
1	B5	4052	OMU	C4-N3-C2	-4.64	120.85	126.61
1	B5	3562	A2M	N3-C4-N9	4.64	135.05	127.17
1	B5	1580	OMG	N9-C4-N3	4.62	135.20	125.95
68	A2	27	A2M	N3-C4-N9	4.62	135.03	127.17
1	B5	2258	OMU	C4-N3-C2	-4.62	120.88	126.61
1	B5	3524	OMG	N9-C4-N3	4.62	135.19	125.95
68	A2	1805	OMU	C4-N3-C2	-4.61	120.89	126.61
68	A2	469	A2M	N3-C4-N9	4.61	135.01	127.17
1	B5	1477	OMG	N9-C4-N3	4.61	135.16	125.95
1	B5	2244	A2M	N3-C4-N9	4.60	135.00	127.17
10	B8	75	OMG	N9-C4-N3	4.60	135.15	125.95
1	B5	3450	A2M	N3-C4-N9	4.60	134.99	127.17
1	B5	3599	A2M	N3-C4-N9	4.59	134.97	127.17
1	B5	2206	A2M	N3-C4-N9	4.59	134.97	127.17
68	A2	159	A2M	N3-C4-N9	4.59	134.97	127.17
1	B5	3517	A2M	N3-C4-N9	4.58	134.96	127.17
1	B5	1270	A2M	N3-C4-N9	4.58	134.95	127.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	2207	OMG	N9-C4-N3	4.58	135.10	125.95
1	B5	4317	A2M	N3-C4-N9	4.57	134.95	127.17
1	B5	4138	OMG	N9-C4-N3	4.57	135.10	125.95
68	A2	437	OMG	N9-C4-N3	4.57	135.09	125.95
68	A2	1384	A2M	N3-C4-N9	4.57	134.94	127.17
68	A2	1640	G7M	C5-C4-N3	-4.57	119.52	128.15
1	B5	3492	A2M	N3-C4-N9	4.57	134.93	127.17
68	A2	1032	A2M	N3-C4-N9	4.56	134.93	127.17
68	A2	510	OMG	N9-C4-N3	4.56	135.07	125.95
1	B5	3942	OMG	N9-C4-N3	4.56	135.07	125.95
68	A2	1679	A2M	N3-C4-N9	4.56	134.92	127.17
68	A2	1448	OMG	N9-C4-N3	4.55	135.05	125.95
68	A2	669	A2M	N3-C4-N9	4.55	134.91	127.17
68	A2	1289	OMU	C4-N3-C2	-4.55	120.97	126.61
1	B5	4364	OMG	N9-C4-N3	4.55	135.04	125.95
1	B5	4336	A2M	N3-C4-N9	4.54	134.90	127.17
1	B5	3676	OMG	N9-C4-N3	4.54	135.03	125.95
1	B5	398	A2M	N3-C4-N9	4.54	134.88	127.17
1	B5	400	A2M	N3-C4-N9	4.53	134.87	127.17
1	B5	4269	A2M	N3-C4-N9	4.53	134.87	127.17
68	A2	645	OMG	N9-C4-N3	4.52	135.00	125.95
68	A2	99	A2M	N3-C4-N9	4.52	134.85	127.17
1	B5	4245	OMG	N9-C4-N3	4.51	134.98	125.95
1	B5	4240	OMG	N9-C4-N3	4.51	134.98	125.95
1	B5	4116	OMG	N9-C4-N3	4.51	134.97	125.95
1	B5	2267	OMG	N9-C4-N3	4.51	134.97	125.95
1	B5	3557	A2M	N3-C4-N9	4.51	134.84	127.17
1	B5	3359	OMG	N9-C4-N3	4.51	134.97	125.95
1	B5	1489	A2M	N3-C4-N9	4.51	134.83	127.17
1	B5	1810	A2M	C2'-C1'-N9	-4.50	106.34	113.75
1	B5	1810	A2M	N3-C4-N9	4.50	134.83	127.17
1	B5	3476	OMG	N9-C4-N3	4.50	134.95	125.95
1	B5	1260	OMG	N9-C4-N3	4.48	134.92	125.95
68	A2	684	OMG	N9-C4-N3	4.48	134.90	125.95
1	B5	4383	OMG	N9-C4-N3	4.47	134.89	125.95
68	A2	1329	OMG	N9-C4-N3	4.47	134.88	125.95
1	B5	3456	A2M	N3-C4-N9	4.46	134.76	127.17
1	B5	4369	OMG	N9-C4-N3	4.45	134.86	125.95
1	B5	3550	UY1	N1-C2-N3	4.45	119.86	115.17
1	B5	3974	OMG	N9-C4-N3	4.45	134.85	125.95
1	B5	3631	OMG	N9-C4-N3	4.40	134.76	125.95
68	A2	602	OMG	N9-C4-N3	4.36	134.67	125.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	1851	MA6	N1-C2-N3	-4.30	122.08	128.58
68	A2	1852	MA6	N1-C2-N3	-4.22	122.20	128.58
68	A2	116	OMU	N3-C2-N1	4.19	120.34	114.89
1	B5	3657	OMU	N3-C2-N1	4.18	120.33	114.89
1	B5	4244	OMU	N3-C2-N1	4.17	120.33	114.89
68	A2	429	OMU	N3-C2-N1	4.17	120.32	114.89
68	A2	868	OMG	N9-C4-N3	4.17	134.28	125.95
1	B5	2680	OMU	N3-C2-N1	4.16	120.31	114.89
1	B5	4267	PSU	C4-N3-C2	-4.16	120.65	126.37
1	B5	3456	A2M	C2'-C1'-N9	-4.16	106.91	113.75
1	B5	4366	OMU	N3-C2-N1	4.15	120.29	114.89
68	A2	628	OMU	N3-C2-N1	4.15	120.29	114.89
1	B5	3973	OMU	N3-C2-N1	4.15	120.29	114.89
1	B5	3369	PSU	C4-N3-C2	-4.14	120.66	126.37
68	A2	218	PSU	C4-N3-C2	-4.14	120.67	126.37
1	B5	1491	PSU	C4-N3-C2	-4.13	120.67	126.37
68	A2	1443	OMU	N3-C2-N1	4.13	120.27	114.89
1	B5	1720	PSU	C4-N3-C2	-4.13	120.68	126.37
1	B5	4246	PSU	C4-N3-C2	-4.13	120.68	126.37
68	A2	1679	A2M	C2'-C1'-N9	-4.13	106.95	113.75
68	A2	355	OMU	N3-C2-N1	4.12	120.26	114.89
68	A2	121	OMU	N3-C2-N1	4.12	120.26	114.89
68	A2	682	PSU	C4-N3-C2	-4.12	120.69	126.37
1	B5	1801	PSU	C4-N3-C2	-4.12	120.70	126.37
1	B5	2351	PSU	C4-N3-C2	-4.12	120.70	126.37
1	B5	1731	PSU	C4-N3-C2	-4.11	120.70	126.37
1	B5	3616	PSU	C4-N3-C2	-4.11	120.70	126.37
68	A2	1348	PSU	C4-N3-C2	-4.11	120.70	126.37
1	B5	1683	PSU	C4-N3-C2	-4.11	120.71	126.37
1	B5	1799	PSU	C4-N3-C2	-4.11	120.71	126.37
1	B5	4749	PSU	C4-N3-C2	-4.11	120.71	126.37
1	B5	3502	PSU	C4-N3-C2	-4.11	120.71	126.37
1	B5	4188	PSU	C4-N3-C2	-4.11	120.71	126.37
68	A2	867	PSU	C4-N3-C2	-4.11	120.71	126.37
68	A2	573	PSU	C4-N3-C2	-4.11	120.72	126.37
68	A2	1644	PSU	C4-N3-C2	-4.11	120.72	126.37
68	A2	1805	OMU	N3-C2-N1	4.10	120.23	114.89
1	B5	4217	PSU	C4-N3-C2	-4.10	120.72	126.37
1	B5	1718	PSU	C4-N3-C2	-4.10	120.72	126.37
68	A2	407	PSU	C4-N3-C2	-4.10	120.72	126.37
1	B5	4298	PSU	C4-N3-C2	-4.10	120.72	126.37
68	A2	1446	PSU	C4-N3-C2	-4.10	120.72	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	1057	PSU	C4-N3-C2	-4.10	120.72	126.37
68	A2	36	PSU	C4-N3-C2	-4.10	120.73	126.37
68	A2	93	PSU	C4-N3-C2	-4.10	120.73	126.37
1	B5	4042	PSU	C4-N3-C2	-4.09	120.73	126.37
68	A2	864	PSU	C4-N3-C2	-4.09	120.73	126.37
1	B5	1721	PSU	C4-N3-C2	-4.09	120.73	126.37
68	A2	1175	PSU	C4-N3-C2	-4.09	120.73	126.37
1	B5	4325	PSU	C4-N3-C2	-4.09	120.74	126.37
1	B5	2258	OMU	N3-C2-N1	4.09	120.21	114.89
68	A2	172	OMU	N3-C2-N1	4.09	120.21	114.89
68	A2	109	PSU	C4-N3-C2	-4.09	120.74	126.37
68	A2	1327	OMU	N3-C2-N1	4.09	120.21	114.89
1	B5	3500	PSU	C4-N3-C2	-4.09	120.74	126.37
68	A2	816	PSU	C4-N3-C2	-4.09	120.74	126.37
1	B5	4039	PSU	C4-N3-C2	-4.09	120.74	126.37
1	B5	4149	PSU	C4-N3-C2	-4.08	120.74	126.37
68	A2	1368	PSU	C4-N3-C2	-4.08	120.75	126.37
1	B5	3427	PSU	C4-N3-C2	-4.08	120.75	126.37
1	B5	4045	PSU	C4-N3-C2	-4.08	120.75	126.37
68	A2	1046	PSU	C4-N3-C2	-4.08	120.75	126.37
1	B5	1638	PSU	C4-N3-C2	-4.08	120.76	126.37
1	B5	4435	PSU	C4-N3-C2	-4.08	120.76	126.37
1	B5	3652	PSU	C4-N3-C2	-4.07	120.76	126.37
68	A2	1005	PSU	C4-N3-C2	-4.07	120.76	126.37
68	A2	1233	PSU	C4-N3-C2	-4.07	120.76	126.37
1	B5	3462	PSU	C4-N3-C2	-4.07	120.76	126.37
68	A2	1245	PSU	C4-N3-C2	-4.07	120.76	126.37
1	B5	398	A2M	C2'-C1'-N9	-4.07	107.05	113.75
68	A2	119	PSU	C4-N3-C2	-4.07	120.77	126.37
1	B5	3496	PSU	C4-N3-C2	-4.07	120.77	126.37
1	B5	4374	PSU	C4-N3-C2	-4.07	120.77	126.37
68	A2	652	PSU	C4-N3-C2	-4.07	120.77	126.37
1	B5	4052	OMU	N3-C2-N1	4.07	120.19	114.89
1	B5	4177	PSU	C4-N3-C2	-4.07	120.77	126.37
1	B5	4740	PSU	C4-N3-C2	-4.07	120.77	126.37
1	B5	4107	PSU	C4-N3-C2	-4.06	120.77	126.37
68	A2	1239	PSU	C4-N3-C2	-4.06	120.77	126.37
1	B5	4099	PSU	C4-N3-C2	-4.06	120.77	126.37
68	A2	1047	PSU	C4-N3-C2	-4.06	120.78	126.37
68	A2	650	PSU	C4-N3-C2	-4.06	120.78	126.37
1	B5	4711	PSU	C4-N3-C2	-4.06	120.78	126.37
1	B5	3466	PSU	C4-N3-C2	-4.06	120.78	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	3554	PSU	C4-N3-C2	-4.06	120.78	126.37
10	B8	69	PSU	C4-N3-C2	-4.05	120.79	126.37
1	B5	1537	PSU	C4-N3-C2	-4.05	120.79	126.37
10	B8	55	PSU	C4-N3-C2	-4.05	120.79	126.37
68	A2	815	PSU	C4-N3-C2	-4.05	120.80	126.37
1	B5	3490	PSU	C4-N3-C2	-4.05	120.80	126.37
68	A2	687	PSU	C4-N3-C2	-4.04	120.81	126.37
1	B5	4322	PSU	C4-N3-C2	-4.04	120.81	126.37
68	A2	591	A2M	C2-N3-C4	4.04	121.69	111.83
68	A2	105	PSU	C4-N3-C2	-4.03	120.82	126.37
68	A2	1693	PSU	C4-N3-C2	-4.02	120.83	126.37
68	A2	1626	PSU	C4-N3-C2	-4.02	120.83	126.37
68	A2	610	PSU	C4-N3-C2	-4.02	120.83	126.37
1	B5	4419	PSU	C4-N3-C2	-4.02	120.83	126.37
1	B5	2475	PSU	C4-N3-C2	-4.02	120.83	126.37
1	B5	3583	PSU	C4-N3-C2	-4.02	120.83	126.37
1	B5	4203	PSU	C4-N3-C2	-4.02	120.84	126.37
68	A2	1178	PSU	C4-N3-C2	-4.01	120.84	126.37
1	B5	4169	PSU	C4-N3-C2	-4.01	120.84	126.37
68	A2	1289	OMU	N3-C2-N1	4.01	120.11	114.89
1	B5	4382	PSU	C4-N3-C2	-4.01	120.85	126.37
68	A2	1082	PSU	C4-N3-C2	-4.01	120.85	126.37
1	B5	3585	PSU	C4-N3-C2	-4.00	120.85	126.37
1	B5	3447	PSU	C4-N3-C2	-4.00	120.86	126.37
1	B5	4058	PSU	C4-N3-C2	-4.00	120.86	126.37
1	B5	4278	PSU	C4-N3-C2	-3.99	120.87	126.37
1	B5	3494	PSU	C4-N3-C2	-3.99	120.87	126.37
68	A2	1640	G7M	CN7-N7-C8	-3.98	118.76	124.79
68	A2	34	PSU	C4-N3-C2	-3.98	120.89	126.37
1	B5	3576	PSU	C4-N3-C2	-3.97	120.91	126.37
68	A2	1851	MA6	C2-N1-C6	3.96	121.50	111.83
68	A2	967	PSU	C4-N3-C2	-3.96	120.92	126.37
68	A2	210	PSU	C4-N3-C2	-3.94	120.94	126.37
68	A2	802	PSU	C4-N3-C2	-3.93	120.96	126.37
68	A2	1327	OMU	C5-C4-N3	3.93	120.30	114.80
1	B5	3371	PSU	C4-N3-C2	-3.91	120.98	126.37
1	B5	3562	A2M	C2'-C1'-N9	-3.90	107.34	113.75
68	A2	628	OMU	C5-C4-N3	3.88	120.24	114.80
68	A2	823	PSU	C4-N3-C2	-3.88	121.03	126.37
1	B5	3657	OMU	C5-C4-N3	3.87	120.22	114.80
68	A2	1640	G7M	N9-C8-N7	-3.85	103.12	112.48
1	B5	3973	OMU	C5-C4-N3	3.84	120.18	114.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	1632	PSU	C4-N3-C2	-3.84	121.08	126.37
1	B5	2680	OMU	C5-C4-N3	3.83	120.17	114.80
1	B5	4366	OMU	C5-C4-N3	3.83	120.16	114.80
68	A2	116	OMU	C5-C4-N3	3.83	120.16	114.80
1	B5	4244	OMU	C5-C4-N3	3.82	120.16	114.80
68	A2	1852	MA6	C2-N1-C6	3.82	121.16	111.83
1	B5	4052	OMU	C5-C4-N3	3.81	120.14	114.80
68	A2	172	OMU	C5-C4-N3	3.81	120.14	114.80
68	A2	429	OMU	C5-C4-N3	3.81	120.14	114.80
68	A2	1289	OMU	C5-C4-N3	3.81	120.13	114.80
68	A2	99	A2M	C2'-C1'-N9	-3.81	107.49	113.75
68	A2	1443	OMU	C5-C4-N3	3.81	120.13	114.80
68	A2	121	OMU	C5-C4-N3	3.80	120.12	114.80
1	B5	2258	OMU	C5-C4-N3	3.80	120.12	114.80
68	A2	1640	G7M	C5-C6-N1	3.79	119.67	111.84
68	A2	1805	OMU	C5-C4-N3	3.78	120.10	114.80
68	A2	355	OMU	C5-C4-N3	3.77	120.09	114.80
1	B5	1489	A2M	C2-N3-C4	3.77	121.05	111.83
68	A2	166	A2M	C2-N3-C4	3.77	121.03	111.83
1	B5	4374	PSU	O2-C2-N1	-3.77	118.91	122.79
68	A2	513	A2M	C2-N3-C4	3.76	121.00	111.83
68	A2	1679	A2M	C2-N3-C4	3.74	120.96	111.83
1	B5	3576	PSU	O2-C2-N1	-3.73	118.94	122.79
1	B5	4336	A2M	C2-N3-C4	3.72	120.92	111.83
68	A2	27	A2M	C2-N3-C4	3.72	120.92	111.83
68	A2	1626	PSU	O2-C2-N1	-3.72	118.95	122.79
68	A2	823	PSU	O2-C2-N1	-3.71	118.96	122.79
1	B5	2206	A2M	C2-N3-C4	3.71	120.89	111.83
1	B5	1270	A2M	C2-N3-C4	3.71	120.89	111.83
68	A2	669	A2M	C2-N3-C4	3.71	120.88	111.83
1	B5	1479	A2M	C2-N3-C4	3.70	120.88	111.83
1	B5	2658	A2M	C2-N3-C4	3.70	120.87	111.83
68	A2	469	A2M	C2-N3-C4	3.70	120.87	111.83
68	A2	1833	6MZ	C2-N3-C4	3.70	120.86	111.83
68	A2	1851	MA6	C6-C5-N7	3.70	139.33	133.43
1	B5	1810	A2M	C2-N3-C4	3.70	120.86	111.83
1	B5	2244	A2M	C2-N3-C4	3.69	120.85	111.83
1	B5	4269	A2M	C2-N3-C4	3.69	120.85	111.83
1	B5	3517	A2M	C2-N3-C4	3.69	120.84	111.83
68	A2	485	A2M	C2-N3-C4	3.68	120.83	111.83
10	B8	55	PSU	O2-C2-N1	-3.68	118.99	122.79
1	B5	398	A2M	C2-N3-C4	3.68	120.83	111.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	3450	A2M	C2-N3-C4	3.68	120.82	111.83
68	A2	99	A2M	C2-N3-C4	3.68	120.82	111.83
68	A2	159	A2M	C2-N3-C4	3.68	120.82	111.83
68	A2	1032	A2M	C2-N3-C4	3.68	120.82	111.83
1	B5	3599	A2M	C2-N3-C4	3.68	120.81	111.83
1	B5	400	A2M	C2-N3-C4	3.68	120.81	111.83
1	B5	4317	A2M	C2-N3-C4	3.68	120.81	111.83
1	B5	3456	A2M	C2-N3-C4	3.68	120.81	111.83
1	B5	3562	A2M	C2-N3-C4	3.68	120.81	111.83
1	B5	4382	PSU	O2-C2-N1	-3.68	119.00	122.79
1	B5	4045	PSU	O2-C2-N1	-3.68	119.00	122.79
1	B5	4267	PSU	O2-C2-N1	-3.68	119.00	122.79
68	A2	577	A2M	C2-N3-C4	3.68	120.81	111.83
1	B5	1491	PSU	O2-C2-N1	-3.67	119.00	122.79
1	B5	3557	A2M	C2-N3-C4	3.67	120.80	111.83
1	B5	3966	6MZ	C2-N3-C4	3.67	120.80	111.83
1	B5	3494	PSU	O2-C2-N1	-3.67	119.01	122.79
1	B5	2630	A2M	C2-N3-C4	3.67	120.78	111.83
1	B5	4169	PSU	O2-C2-N1	-3.66	119.01	122.79
1	B5	4419	PSU	O2-C2-N1	-3.66	119.01	122.79
1	B5	2475	PSU	O2-C2-N1	-3.66	119.02	122.79
68	A2	1233	PSU	O2-C2-N1	-3.66	119.02	122.79
1	B5	3492	A2M	C2-N3-C4	3.66	120.76	111.83
68	A2	1384	A2M	C2-N3-C4	3.65	120.75	111.83
1	B5	4435	PSU	O2-C2-N1	-3.65	119.02	122.79
1	B5	3557	A2M	C2'-C1'-N9	-3.65	107.75	113.75
1	B5	1731	PSU	O2-C2-N1	-3.65	119.03	122.79
1	B5	4217	PSU	O2-C2-N1	-3.65	119.03	122.79
1	B5	3462	PSU	O2-C2-N1	-3.64	119.03	122.79
1	B5	4325	PSU	O2-C2-N1	-3.64	119.03	122.79
1	B5	3616	PSU	O2-C2-N1	-3.64	119.04	122.79
68	A2	652	PSU	O2-C2-N1	-3.64	119.04	122.79
68	A2	573	PSU	O2-C2-N1	-3.63	119.05	122.79
1	B5	3447	PSU	O2-C2-N1	-3.63	119.05	122.79
68	A2	864	PSU	O2-C2-N1	-3.63	119.05	122.79
68	A2	1046	PSU	O2-C2-N1	-3.62	119.05	122.79
68	A2	109	PSU	O2-C2-N1	-3.62	119.05	122.79
1	B5	4278	PSU	O2-C2-N1	-3.62	119.05	122.79
68	A2	802	PSU	O2-C2-N1	-3.62	119.06	122.79
1	B5	4269	A2M	C2'-C1'-N9	-3.62	107.80	113.75
68	A2	93	PSU	O2-C2-N1	-3.62	119.06	122.79
68	A2	1446	PSU	O2-C2-N1	-3.62	119.06	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	867	PSU	O2-C2-N1	-3.62	119.06	122.79
1	B5	1638	PSU	O2-C2-N1	-3.62	119.06	122.79
1	B5	3585	PSU	O2-C2-N1	-3.62	119.06	122.79
1	B5	3583	PSU	O2-C2-N1	-3.61	119.06	122.79
1	B5	4058	PSU	O2-C2-N1	-3.61	119.06	122.79
1	B5	1683	PSU	O2-C2-N1	-3.61	119.06	122.79
1	B5	4107	PSU	O2-C2-N1	-3.61	119.06	122.79
68	A2	36	PSU	O2-C2-N1	-3.61	119.06	122.79
68	A2	1644	PSU	O2-C2-N1	-3.61	119.06	122.79
1	B5	3427	PSU	O2-C2-N1	-3.61	119.07	122.79
68	A2	1640	G7M	C4-C5-N7	-3.61	101.77	107.67
68	A2	210	PSU	O2-C2-N1	-3.61	119.07	122.79
68	A2	1047	PSU	O2-C2-N1	-3.60	119.07	122.79
68	A2	1175	PSU	O2-C2-N1	-3.60	119.07	122.79
1	B5	3466	PSU	O2-C2-N1	-3.60	119.07	122.79
1	B5	3652	PSU	O2-C2-N1	-3.60	119.08	122.79
68	A2	1245	PSU	O2-C2-N1	-3.60	119.08	122.79
68	A2	34	PSU	O2-C2-N1	-3.60	119.08	122.79
68	A2	407	PSU	O2-C2-N1	-3.59	119.08	122.79
68	A2	1693	PSU	O2-C2-N1	-3.59	119.08	122.79
68	A2	610	PSU	O2-C2-N1	-3.59	119.08	122.79
1	B5	4149	PSU	O2-C2-N1	-3.59	119.08	122.79
68	A2	682	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	1799	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	4099	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	4298	PSU	O2-C2-N1	-3.59	119.09	122.79
68	A2	119	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	4042	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	4177	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	4322	PSU	O2-C2-N1	-3.59	119.09	122.79
68	A2	967	PSU	O2-C2-N1	-3.59	119.09	122.79
1	B5	2351	PSU	O2-C2-N1	-3.58	119.09	122.79
68	A2	1057	PSU	O2-C2-N1	-3.58	119.09	122.79
1	B5	1721	PSU	O2-C2-N1	-3.58	119.10	122.79
1	B5	4749	PSU	O2-C2-N1	-3.58	119.10	122.79
1	B5	3554	PSU	O2-C2-N1	-3.57	119.10	122.79
68	A2	687	PSU	O2-C2-N1	-3.57	119.10	122.79
1	B5	4246	PSU	O2-C2-N1	-3.57	119.10	122.79
68	A2	1239	PSU	O2-C2-N1	-3.57	119.11	122.79
68	A2	650	PSU	O2-C2-N1	-3.57	119.11	122.79
1	B5	3496	PSU	O2-C2-N1	-3.57	119.11	122.79
68	A2	1032	A2M	C2'-C1'-N9	-3.57	107.88	113.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	4193	5MC	C5-C6-N1	-3.57	119.44	123.31
1	B5	1718	PSU	O2-C2-N1	-3.56	119.11	122.79
1	B5	3502	PSU	O2-C2-N1	-3.56	119.11	122.79
1	B5	2206	A2M	C4-C5-N7	-3.56	106.51	110.58
1	B5	1489	A2M	C4-C5-N7	-3.56	106.51	110.58
1	B5	2630	A2M	C2'-C1'-N9	-3.56	107.90	113.75
68	A2	1005	PSU	O2-C2-N1	-3.56	119.12	122.79
1	B5	4166	PSU	C4-N3-C2	-3.56	121.47	126.37
1	B5	1720	PSU	O2-C2-N1	-3.55	119.12	122.79
1	B5	4188	PSU	O2-C2-N1	-3.55	119.13	122.79
68	A2	868	OMG	C6-C5-N7	3.55	136.75	130.29
1	B5	1537	PSU	O2-C2-N1	-3.55	119.13	122.79
1	B5	4269	A2M	C4-C5-N7	-3.54	106.53	110.58
1	B5	4711	PSU	O2-C2-N1	-3.54	119.14	122.79
1	B5	4336	A2M	C2'-C1'-N9	-3.54	107.93	113.75
68	A2	816	PSU	O2-C2-N1	-3.53	119.15	122.79
1	B5	4336	A2M	C4-C5-N7	-3.53	106.55	110.58
1	B5	3369	PSU	O2-C2-N1	-3.53	119.15	122.79
68	A2	166	A2M	C4-C5-N7	-3.53	106.55	110.58
68	A2	105	PSU	O2-C2-N1	-3.53	119.15	122.79
1	B5	1801	PSU	O2-C2-N1	-3.52	119.16	122.79
1	B5	4740	PSU	O2-C2-N1	-3.52	119.16	122.79
1	B5	3500	PSU	O2-C2-N1	-3.51	119.16	122.79
68	A2	1178	PSU	O2-C2-N1	-3.51	119.16	122.79
68	A2	815	PSU	O2-C2-N1	-3.51	119.17	122.79
1	B5	4203	PSU	O2-C2-N1	-3.51	119.17	122.79
68	A2	469	A2M	C4-C5-N7	-3.51	106.57	110.58
68	A2	1368	PSU	O2-C2-N1	-3.51	119.17	122.79
68	A2	1679	A2M	C4-C5-N7	-3.51	106.57	110.58
68	A2	669	A2M	C4-C5-N7	-3.51	106.57	110.58
68	A2	159	A2M	C4-C5-N7	-3.50	106.58	110.58
1	B5	3450	A2M	C4-C5-N7	-3.50	106.58	110.58
1	B5	3490	PSU	O2-C2-N1	-3.50	119.18	122.79
68	A2	1348	PSU	O2-C2-N1	-3.50	119.18	122.79
1	B5	1810	A2M	C4-C5-N7	-3.50	106.58	110.58
1	B5	4039	PSU	O2-C2-N1	-3.49	119.19	122.79
1	B5	4317	A2M	C4-C5-N7	-3.49	106.59	110.58
1	B5	3371	PSU	O2-C2-N1	-3.49	119.19	122.79
1	B5	4166	PSU	O2-C2-N1	-3.49	119.19	122.79
68	A2	513	A2M	C4-C5-N7	-3.48	106.60	110.58
1	B5	398	A2M	C4-C5-N7	-3.48	106.60	110.58
68	A2	1032	A2M	C4-C5-N7	-3.48	106.60	110.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	1632	PSU	O2-C2-N1	-3.48	119.20	122.79
68	A2	1082	PSU	O2-C2-N1	-3.48	119.20	122.79
1	B5	2244	A2M	C4-C5-N7	-3.47	106.61	110.58
1	B5	3557	A2M	C4-C5-N7	-3.47	106.61	110.58
68	A2	577	A2M	C4-C5-N7	-3.47	106.61	110.58
1	B5	1270	A2M	C4-C5-N7	-3.47	106.61	110.58
68	A2	218	PSU	O2-C2-N1	-3.46	119.22	122.79
1	B5	3456	A2M	C4-C5-N7	-3.46	106.62	110.58
68	A2	99	A2M	C4-C5-N7	-3.46	106.63	110.58
68	A2	485	A2M	C4-C5-N7	-3.45	106.64	110.58
1	B5	2658	A2M	C4-C5-N7	-3.45	106.64	110.58
68	A2	27	A2M	C4-C5-N7	-3.45	106.64	110.58
1	B5	400	A2M	C4-C5-N7	-3.44	106.64	110.58
68	A2	1249	B8N	N3-C2-N1	3.44	120.92	116.72
1	B5	2244	A2M	C2'-C1'-N9	-3.44	108.09	113.75
1	B5	3562	A2M	C4-C5-N7	-3.44	106.65	110.58
1	B5	1266	1MA	N9-C4-N3	3.42	134.70	126.90
1	B5	3599	A2M	C4-C5-N7	-3.42	106.67	110.58
68	A2	1249	B8N	C4-N3-C2	-3.42	121.41	125.62
1	B5	3517	A2M	C4-C5-N7	-3.42	106.67	110.58
1	B5	3492	A2M	C2'-C1'-N9	-3.41	108.14	113.75
1	B5	1479	A2M	C4-C5-N7	-3.41	106.69	110.58
68	A2	1384	A2M	C4-C5-N7	-3.41	106.69	110.58
1	B5	2630	A2M	C4-C5-N7	-3.40	106.69	110.58
10	B8	69	PSU	O2-C2-N1	-3.40	119.28	122.79
68	A2	1852	MA6	C1'-N9-C8	-3.40	119.56	127.09
1	B5	3966	6MZ	C4-C5-N7	-3.38	106.72	110.58
1	B5	3492	A2M	C4-C5-N7	-3.38	106.72	110.58
68	A2	1852	MA6	C6-C5-N7	3.37	138.82	133.43
68	A2	1851	MA6	C1'-N9-C8	-3.37	119.61	127.09
1	B5	3631	OMG	C6-C5-N7	3.36	136.40	130.29
68	A2	602	OMG	C6-C5-N7	3.34	136.37	130.29
68	A2	1851	MA6	C4-N9-C1'	-3.34	118.83	126.63
1	B5	1489	A2M	N3-C2-N1	-3.33	123.54	128.58
1	B5	4369	OMG	C6-C5-N7	3.32	136.33	130.29
68	A2	577	A2M	C2'-C1'-N9	-3.32	108.29	113.75
1	B5	3456	A2M	N3-C2-N1	-3.31	123.57	128.58
68	A2	1852	MA6	C2-N3-C4	3.31	119.92	111.83
68	A2	1329	OMG	C6-C5-N7	3.31	136.31	130.29
68	A2	1679	A2M	N3-C2-N1	-3.31	123.58	128.58
1	B5	4336	A2M	N3-C2-N1	-3.31	123.58	128.58
1	B5	3974	OMG	C6-C5-N7	3.30	136.30	130.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	4383	OMG	C6-C5-N7	3.30	136.30	130.29
68	A2	591	A2M	C4-C5-N7	-3.30	106.81	110.58
1	B5	1260	OMG	C6-C5-N7	3.30	136.29	130.29
68	A2	591	A2M	N3-C2-N1	-3.29	123.60	128.58
68	A2	1851	MA6	C2-N3-C4	3.29	119.86	111.83
68	A2	684	OMG	C6-C5-N7	3.28	136.25	130.29
1	B5	4276	UR3	C5-C4-N3	3.28	119.36	115.04
13	BA	216	V5N	CD2-CG-ND1	3.27	110.16	105.76
68	A2	166	A2M	N3-C2-N1	-3.27	123.64	128.58
68	A2	1640	G7M	O6-C6-C5	-3.27	120.72	128.01
68	A2	27	A2M	C2'-C1'-N9	-3.26	108.38	113.75
1	B5	1810	A2M	N3-C2-N1	-3.26	123.64	128.58
1	B5	400	A2M	C2'-C1'-N9	-3.26	108.38	113.75
1	B5	4116	OMG	C6-C5-N7	3.26	136.22	130.29
1	B5	1270	A2M	N3-C2-N1	-3.26	123.65	128.58
1	B5	3476	OMG	C6-C5-N7	3.26	136.22	130.29
68	A2	1032	A2M	N3-C2-N1	-3.26	123.65	128.58
1	B5	4269	A2M	N3-C2-N1	-3.25	123.66	128.58
68	A2	1833	6MZ	C4-C5-N7	-3.25	106.86	110.58
1	B5	3492	A2M	N3-C2-N1	-3.25	123.66	128.58
1	B5	3517	A2M	N3-C2-N1	-3.25	123.66	128.58
68	A2	99	A2M	N3-C2-N1	-3.25	123.66	128.58
1	B5	398	A2M	N3-C2-N1	-3.24	123.67	128.58
1	B5	3359	OMG	C6-C5-N7	3.24	136.19	130.29
68	A2	469	A2M	N3-C2-N1	-3.24	123.68	128.58
1	B5	4138	OMG	C6-C5-N7	3.23	136.18	130.29
1	B5	3557	A2M	N3-C2-N1	-3.23	123.69	128.58
1	B5	3676	OMG	C6-C5-N7	3.23	136.17	130.29
1	B5	400	A2M	N3-C2-N1	-3.23	123.69	128.58
68	A2	1384	A2M	N3-C2-N1	-3.23	123.69	128.58
1	B5	4240	OMG	C6-C5-N7	3.23	136.16	130.29
28	Ba	39	V5N	CD2-CG-ND1	3.22	110.11	105.76
1	B5	4364	OMG	C6-C5-N7	3.22	136.16	130.29
1	B5	4317	A2M	N3-C2-N1	-3.22	123.70	128.58
68	A2	27	A2M	N3-C2-N1	-3.22	123.71	128.58
68	A2	1448	OMG	C6-C5-N7	3.22	136.15	130.29
1	B5	3942	OMG	C6-C5-N7	3.22	136.14	130.29
68	A2	645	OMG	C6-C5-N7	3.22	136.14	130.29
1	B5	2267	OMG	C6-C5-N7	3.21	136.14	130.29
68	A2	669	A2M	N3-C2-N1	-3.21	123.73	128.58
68	A2	1852	MA6	C4-N9-C1'	-3.20	119.14	126.63
68	A2	513	A2M	N3-C2-N1	-3.20	123.73	128.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	3599	A2M	N3-C2-N1	-3.20	123.73	128.58
1	B5	2244	A2M	N3-C2-N1	-3.20	123.73	128.58
1	B5	2206	A2M	N3-C2-N1	-3.20	123.74	128.58
68	A2	437	OMG	C6-C5-N7	3.20	136.11	130.29
1	B5	3450	A2M	C2'-C1'-N9	-3.19	108.50	113.75
68	A2	166	A2M	C2'-C1'-N9	-3.19	108.50	113.75
10	B8	75	OMG	C6-C5-N7	3.18	136.08	130.29
1	B5	3562	A2M	N3-C2-N1	-3.18	123.77	128.58
1	B5	3450	A2M	N3-C2-N1	-3.18	123.77	128.58
1	B5	1479	A2M	N3-C2-N1	-3.18	123.77	128.58
1	B5	2207	OMG	C6-C5-N7	3.18	136.07	130.29
1	B5	4245	OMG	C6-C5-N7	3.18	136.07	130.29
1	B5	2630	A2M	N3-C2-N1	-3.17	123.78	128.58
1	B5	3524	OMG	C6-C5-N7	3.17	136.07	130.29
68	A2	485	A2M	N3-C2-N1	-3.17	123.78	128.58
1	B5	1477	OMG	C6-C5-N7	3.17	136.06	130.29
68	A2	510	OMG	C6-C5-N7	3.17	136.05	130.29
68	A2	1384	A2M	C2'-C1'-N9	-3.17	108.54	113.75
1	B5	3514	5MC	C5-C6-N1	-3.16	119.88	123.31
1	B5	1580	OMG	C6-C5-N7	3.15	136.02	130.29
1	B5	3966	6MZ	C6-C5-N7	3.14	135.86	132.43
68	A2	577	A2M	N3-C2-N1	-3.14	123.82	128.58
1	B5	3966	6MZ	N1-C2-N3	-3.14	123.83	128.58
68	A2	159	A2M	N3-C2-N1	-3.12	123.85	128.58
68	A2	159	A2M	C2'-C1'-N9	-3.12	108.62	113.75
1	B5	2658	A2M	N3-C2-N1	-3.10	123.88	128.58
68	A2	628	OMU	O4-C4-C5	-3.10	119.82	125.16
68	A2	1327	OMU	O4-C4-C5	-3.08	119.84	125.16
68	A2	513	A2M	C2'-C1'-N9	-3.08	108.68	113.75
68	A2	172	OMU	O4-C4-C5	-3.08	119.86	125.16
1	B5	4317	A2M	C2'-C1'-N9	-3.08	108.69	113.75
68	A2	469	A2M	C2'-C1'-N9	-3.07	108.71	113.75
1	B5	2719	OMG	C6-C5-N7	3.06	135.87	130.29
68	A2	1833	6MZ	N1-C2-N3	-3.05	123.96	128.58
1	B5	2680	OMU	O4-C4-C5	-3.05	119.90	125.16
1	B5	4366	OMU	O4-C4-C5	-3.05	119.91	125.16
1	B5	4052	OMU	O4-C4-C5	-3.05	119.91	125.16
68	A2	1289	OMU	O4-C4-C5	-3.04	119.91	125.16
68	A2	116	OMU	O4-C4-C5	-3.04	119.92	125.16
1	B5	2258	OMU	O4-C4-C5	-3.03	119.94	125.16
68	A2	121	OMU	O4-C4-C5	-3.03	119.94	125.16
68	A2	1491	OMG	C6-C5-N7	3.03	135.79	130.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	3973	OMU	O4-C4-C5	-3.02	119.95	125.16
68	A2	1805	OMU	O4-C4-C5	-3.02	119.95	125.16
1	B5	4244	OMU	O4-C4-C5	-3.02	119.95	125.16
68	A2	429	OMU	O4-C4-C5	-3.02	119.95	125.16
1	B5	3657	OMU	O4-C4-C5	-3.01	119.97	125.16
1	B5	3599	A2M	C2'-C1'-N9	-3.01	108.80	113.75
1	B5	2658	A2M	C2'-C1'-N9	-3.01	108.80	113.75
68	A2	1852	MA6	C5-C4-N9	-3.01	102.53	105.81
68	A2	1640	G7M	C2-N1-C6	-2.99	119.68	125.11
68	A2	1443	OMU	O4-C4-C5	-2.98	120.02	125.16
68	A2	355	OMU	O4-C4-C5	-2.97	120.03	125.16
1	B5	3966	6MZ	C9-N6-C6	-2.96	120.10	122.85
1	B5	2206	A2M	C2'-C1'-N9	-2.94	108.91	113.75
1	B5	1270	A2M	C2'-C1'-N9	-2.86	109.05	113.75
68	A2	1851	MA6	C5-C4-N9	-2.84	102.71	105.81
1	B5	3517	A2M	C4-N9-C8	2.83	108.71	105.74
1	B5	3514	5MC	C5-C4-N3	-2.80	118.89	121.75
1	B5	3456	A2M	C4-N9-C8	2.74	108.62	105.74
1	B5	4193	5MC	C5-C4-N3	-2.73	118.96	121.75
1	B5	3517	A2M	C2'-C1'-N9	-2.73	109.26	113.75
1	B5	4336	A2M	C4-N9-C8	2.73	108.60	105.74
68	A2	1679	A2M	C4-N9-C8	2.72	108.60	105.74
68	A2	1384	A2M	C4-N9-C8	2.71	108.59	105.74
1	B5	1810	A2M	C4-N9-C8	2.71	108.58	105.74
1	B5	3562	A2M	C4-N9-C8	2.71	108.58	105.74
1	B5	3517	A2M	O4'-C1'-N9	2.71	113.29	108.09
68	A2	1032	A2M	C4-N9-C8	2.71	108.58	105.74
68	A2	868	OMG	C4-C5-N7	-2.69	106.40	110.67
68	A2	1833	6MZ	C6-C5-N7	2.69	135.36	132.43
1	B5	398	A2M	C4-N9-C8	2.68	108.56	105.74
1	B5	4369	OMG	C4-C5-N7	-2.68	106.43	110.67
1	B5	4317	A2M	C4-N9-C8	2.67	108.55	105.74
1	B5	1489	A2M	C4-N9-C8	2.67	108.54	105.74
1	B5	4269	A2M	C4-N9-C8	2.66	108.53	105.74
1	B5	3492	A2M	C4-N9-C8	2.66	108.53	105.74
68	A2	1329	OMG	C4-C5-N7	-2.65	106.47	110.67
68	A2	469	A2M	C4-N9-C8	2.65	108.52	105.74
1	B5	1270	A2M	C4-N9-C8	2.64	108.52	105.74
68	A2	602	OMG	C4-C5-N7	-2.64	106.49	110.67
1	B5	3450	A2M	C4-N9-C8	2.63	108.50	105.74
68	A2	577	A2M	C4-N9-C8	2.62	108.49	105.74
1	B5	2244	A2M	C4-N9-C8	2.61	108.48	105.74

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	684	OMG	C4-C5-N7	-2.61	106.53	110.67
1	B5	4336	A2M	C5-N7-C8	2.60	107.54	103.45
1	B5	3359	OMG	C4-C5-N7	-2.60	106.55	110.67
1	B5	3476	OMG	C4-C5-N7	-2.60	106.56	110.67
1	B5	1260	OMG	C4-C5-N7	-2.59	106.56	110.67
1	B5	4138	OMG	C4-C5-N7	-2.59	106.56	110.67
1	B5	4364	OMG	C4-C5-N7	-2.59	106.56	110.67
1	B5	3676	OMG	C4-C5-N7	-2.59	106.56	110.67
68	A2	166	A2M	C5-N7-C8	2.59	107.52	103.45
1	B5	3974	OMG	C4-C5-N7	-2.59	106.57	110.67
1	B5	4240	OMG	C4-C5-N7	-2.59	106.57	110.67
1	B5	3631	OMG	C4-C5-N7	-2.59	106.57	110.67
1	B5	4116	OMG	C4-C5-N7	-2.59	106.57	110.67
68	A2	166	A2M	C4-N9-C8	2.59	108.45	105.74
1	B5	4383	OMG	C4-C5-N7	-2.59	106.57	110.67
1	B5	400	A2M	C4-N9-C8	2.59	108.45	105.74
1	B5	3599	A2M	C4-N9-C8	2.58	108.45	105.74
1	B5	3557	A2M	C4-N9-C8	2.58	108.45	105.74
68	A2	669	A2M	C4-N9-C8	2.58	108.45	105.74
1	B5	1477	OMG	C4-C5-N7	-2.58	106.58	110.67
1	B5	2206	A2M	C5-N7-C8	2.57	107.50	103.45
68	A2	577	A2M	C5-N7-C8	2.57	107.49	103.45
1	B5	4269	A2M	C5-N7-C8	2.57	107.49	103.45
68	A2	1843	4AC	C5-C4-N4	-2.57	118.61	122.94
1	B5	1489	A2M	C5-N7-C8	2.57	107.49	103.45
84	An	165	IAS	OD1-CG-CB	-2.56	117.92	125.38
68	A2	513	A2M	C4-N9-C8	2.56	108.43	105.74
1	B5	3524	OMG	C4-C5-N7	-2.56	106.61	110.67
68	A2	513	A2M	C5-N7-C8	2.56	107.47	103.45
68	A2	1679	A2M	C5-N7-C8	2.56	107.47	103.45
1	B5	3942	OMG	C4-C5-N7	-2.56	106.62	110.67
1	B5	1266	1MA	C4-C5-N7	-2.55	106.62	110.67
68	A2	1448	OMG	C4-C5-N7	-2.55	106.62	110.67
1	B5	1270	A2M	C5-N7-C8	2.55	107.46	103.45
68	A2	27	A2M	C4-N9-C8	2.55	108.42	105.74
1	B5	4317	A2M	C5-N7-C8	2.55	107.46	103.45
68	A2	645	OMG	C4-C5-N7	-2.55	106.63	110.67
1	B5	398	A2M	C5-N7-C8	2.55	107.46	103.45
68	A2	159	A2M	C5-N7-C8	2.55	107.46	103.45
68	A2	99	A2M	C4-N9-C8	2.55	108.41	105.74
1	B5	3450	A2M	C5-N7-C8	2.55	107.45	103.45
1	B5	4245	OMG	C4-C5-N7	-2.55	106.64	110.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	485	A2M	C4-N9-C8	2.54	108.41	105.74
68	A2	669	A2M	C5-N7-C8	2.54	107.45	103.45
1	B5	2207	OMG	C4-C5-N7	-2.54	106.64	110.67
1	B5	2630	A2M	C4-N9-C8	2.54	108.40	105.74
1	B5	1580	OMG	C4-C5-N7	-2.54	106.65	110.67
68	A2	159	A2M	C4-N9-C8	2.54	108.40	105.74
1	B5	3456	A2M	C5-N7-C8	2.54	107.44	103.45
68	A2	469	A2M	C5-N7-C8	2.54	107.44	103.45
68	A2	1032	A2M	C5-N7-C8	2.54	107.44	103.45
1	B5	3517	A2M	C5-N7-C8	2.53	107.43	103.45
68	A2	437	OMG	C4-C5-N7	-2.53	106.67	110.67
68	A2	485	A2M	C5-N7-C8	2.52	107.42	103.45
27	Au	1	AME	O-C-CA	-2.52	118.29	124.77
10	B8	75	OMG	C4-C5-N7	-2.52	106.68	110.67
1	B5	3562	A2M	C5-N7-C8	2.52	107.41	103.45
68	A2	510	OMG	C4-C5-N7	-2.52	106.68	110.67
68	A2	1384	A2M	C5-N7-C8	2.51	107.40	103.45
68	A2	27	A2M	C5-N7-C8	2.51	107.39	103.45
1	B5	2267	OMG	C4-C5-N7	-2.51	106.70	110.67
1	B5	400	A2M	C5-N7-C8	2.51	107.39	103.45
1	B5	2244	A2M	C5-N7-C8	2.51	107.39	103.45
1	B5	1810	A2M	C5-N7-C8	2.51	107.39	103.45
1	B5	2719	OMG	C4-C5-N7	-2.50	106.70	110.67
1	B5	2206	A2M	C4-N9-C8	2.50	108.36	105.74
13	BA	216	V5N	O-C-CA	-2.49	118.36	124.77
1	B5	2630	A2M	C5-N7-C8	2.49	107.37	103.45
1	B5	3492	A2M	C5-N7-C8	2.49	107.37	103.45
1	B5	3550	UY1	CM2-O2'-C2'	-2.49	108.08	114.47
1	B5	2658	A2M	C5-N7-C8	2.48	107.36	103.45
68	A2	99	A2M	C5-N7-C8	2.48	107.35	103.45
1	B5	3557	A2M	C5-N7-C8	2.47	107.33	103.45
1	B5	1479	A2M	C4-N9-C8	2.47	108.33	105.74
1	B5	3599	A2M	C5-N7-C8	2.47	107.33	103.45
68	A2	591	A2M	C5-N7-C8	2.47	107.33	103.45
9	Ar	2	SAC	O-C-CA	-2.47	118.42	124.77
1	B5	3966	6MZ	C4-N9-C8	2.46	108.33	105.74
68	A2	1338	4AC	C5-C4-N4	-2.46	118.79	122.94
1	B5	1479	A2M	C5-N7-C8	2.46	107.32	103.45
1	B5	3550	UY1	C6-C5-C4	2.46	119.83	118.17
1	B5	3550	UY1	O2-C2-N1	-2.45	120.26	122.79
1	B5	2658	A2M	C4-N9-C8	2.45	108.31	105.74
68	A2	1491	OMG	C4-C5-N7	-2.44	106.80	110.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	3966	6MZ	C5-N7-C8	2.44	107.29	103.45
68	A2	1833	6MZ	C4-N9-C8	2.44	108.30	105.74
68	A2	669	A2M	C2'-C1'-N9	-2.41	109.79	113.75
68	A2	1833	6MZ	C5-N7-C8	2.41	107.23	103.45
68	A2	485	A2M	C2'-C1'-N9	-2.40	109.81	113.75
32	AZ	2	SAC	O-C-CA	-2.39	118.63	124.77
1	B5	4166	PSU	C6-C5-C4	-2.36	116.58	118.17
1	B5	2194	OMC	O2-C2-N3	-2.36	118.61	122.33
68	A2	1338	4AC	C6-C5-C4	2.35	119.84	117.00
24	Aw	62	HY3	O-C-CA	-2.34	118.68	124.86
28	Ba	39	V5N	O-C-CA	-2.32	118.80	124.77
68	A2	1327	OMU	O2-C2-N1	-2.29	119.82	122.80
88	Br	2	SAC	O-C-CA	-2.28	118.90	124.77
1	B5	2265	OMC	O2-C2-N3	-2.28	118.74	122.33
68	A2	1852	MA6	C5-C6-N6	-2.28	121.73	125.33
68	A2	628	OMU	O2-C2-N1	-2.28	119.83	122.80
1	B5	1489	A2M	C6-C5-N7	2.24	136.41	132.09
68	A2	1843	4AC	C6-C5-C4	2.22	119.68	117.00
68	A2	1833	6MZ	C9-N6-C6	-2.21	120.80	122.85
68	A2	1640	G7M	C5-C4-N9	-2.19	101.22	105.88
1	B5	3514	5MC	O2-C2-N3	-2.19	118.88	122.33
68	A2	1679	A2M	C6-C5-N7	2.19	136.30	132.09
68	A2	1289	OMU	C1'-N1-C2	2.18	121.52	117.59
1	B5	1266	1MA	C6-C5-N7	2.18	136.02	132.16
1	B5	4336	A2M	C6-C5-N7	2.18	136.30	132.09
68	A2	1249	B8N	C5-C4-N3	2.18	120.11	116.15
68	A2	591	A2M	C4-N9-C8	2.17	108.02	105.74
1	B5	3456	A2M	C6-C5-N7	2.16	136.25	132.09
1	B5	3517	A2M	C6-C5-N7	2.16	136.25	132.09
1	B5	3573	OMC	O2-C2-N3	-2.16	118.93	122.33
1	B5	4246	PSU	C5-C6-N1	-2.15	119.15	122.14
1	B5	4269	A2M	C6-C5-N7	2.15	136.24	132.09
68	A2	1491	OMG	O6-C6-C5	-2.15	120.85	126.53
68	A2	1448	OMG	O6-C6-C5	-2.14	120.88	126.53
1	B5	2719	OMG	O6-C6-C5	-2.14	120.89	126.53
1	B5	1810	A2M	C6-C5-N7	2.14	136.21	132.09
1	B5	1580	OMG	O6-C6-C5	-2.13	120.90	126.53
1	B5	4317	A2M	C6-C5-N7	2.13	136.20	132.09
1	B5	4188	PSU	C5-C6-N1	-2.13	119.18	122.14
1	B5	3369	PSU	C5-C6-N1	-2.13	119.18	122.14
68	A2	166	A2M	C6-C5-N7	2.13	136.19	132.09
1	B5	398	A2M	C6-C5-N7	2.12	136.18	132.09

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	B8	75	OMG	O6-C6-C5	-2.12	120.93	126.53
1	B5	1801	PSU	C5-C6-N1	-2.12	119.20	122.14
68	A2	645	OMG	O6-C6-C5	-2.12	120.95	126.53
68	A2	407	PSU	C5-C6-N1	-2.11	119.21	122.14
1	B5	2207	OMG	O6-C6-C5	-2.11	120.96	126.53
68	A2	1046	PSU	C5-C6-N1	-2.11	119.21	122.14
68	A2	1644	PSU	C5-C6-N1	-2.11	119.21	122.14
68	A2	669	A2M	C6-C5-N7	2.11	136.16	132.09
1	B5	3359	OMG	O6-C6-C5	-2.11	120.97	126.53
68	A2	99	A2M	C6-C5-N7	2.11	136.15	132.09
1	B5	1799	PSU	C5-C6-N1	-2.11	119.22	122.14
1	B5	4116	OMG	O6-C6-C5	-2.10	120.98	126.53
68	A2	469	A2M	C6-C5-N7	2.10	136.14	132.09
1	B5	3557	A2M	C6-C5-N7	2.10	136.14	132.09
1	B5	1260	OMG	O6-C6-C5	-2.10	120.99	126.53
1	B5	3942	OMG	O6-C6-C5	-2.10	120.99	126.53
68	A2	1384	A2M	C6-C5-N7	2.10	136.13	132.09
1	B5	3517	A2M	N9-C8-N7	-2.10	110.96	113.94
68	A2	437	OMG	O6-C6-C5	-2.10	121.00	126.53
1	B5	400	A2M	C6-C5-N7	2.10	136.13	132.09
1	B5	1270	A2M	C6-C5-N7	2.10	136.13	132.09
1	B5	4042	PSU	C5-C6-N1	-2.09	119.23	122.14
68	A2	1032	A2M	C6-C5-N7	2.09	136.12	132.09
68	A2	1348	PSU	C5-C6-N1	-2.09	119.24	122.14
68	A2	159	A2M	C6-C5-N7	2.09	136.12	132.09
1	B5	4336	A2M	N9-C8-N7	-2.09	110.97	113.94
68	A2	1851	MA6	C5-N7-C8	2.09	106.73	103.45
1	B5	2704	OMC	O2-C2-N3	-2.09	119.03	122.33
1	B5	4364	OMG	O6-C6-C5	-2.09	121.02	126.53
68	A2	1446	PSU	C5-C6-N1	-2.09	119.24	122.14
1	B5	2267	OMG	O6-C6-C5	-2.09	121.02	126.53
1	B5	4244	OMU	O2-C2-N1	-2.09	120.08	122.80
1	B5	4383	OMG	O6-C6-C5	-2.09	121.02	126.53
1	B5	3974	OMG	O6-C6-C5	-2.09	121.03	126.53
1	B5	4240	OMG	O6-C6-C5	-2.09	121.03	126.53
1	B5	1721	PSU	C5-C6-N1	-2.08	119.25	122.14
1	B5	3676	OMG	O6-C6-C5	-2.08	121.03	126.53
1	B5	2244	A2M	C6-C5-N7	2.08	136.10	132.09
68	A2	650	PSU	C5-C6-N1	-2.08	119.25	122.14
1	B5	4245	OMG	O6-C6-C5	-2.08	121.04	126.53
1	B5	1479	A2M	C2'-C1'-N9	-2.08	110.33	113.75
1	B5	2206	A2M	C6-C5-N7	2.08	136.10	132.09

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B5	1477	OMG	O6-C6-C5	-2.08	121.05	126.53
68	A2	1249	B8N	C32-C31-N3	-2.07	108.53	112.16
68	A2	682	PSU	C5-C6-N1	-2.07	119.26	122.14
1	B5	1718	PSU	C5-C6-N1	-2.07	119.26	122.14
1	B5	3450	A2M	C6-C5-N7	2.07	136.08	132.09
1	B5	1683	PSU	C5-C6-N1	-2.07	119.27	122.14
1	B5	4138	OMG	O6-C6-C5	-2.07	121.07	126.53
68	A2	864	PSU	C5-C6-N1	-2.07	119.27	122.14
68	A2	1057	PSU	C5-C6-N1	-2.07	119.27	122.14
1	B5	3502	PSU	C5-C6-N1	-2.07	119.27	122.14
68	A2	816	PSU	C5-C6-N1	-2.07	119.27	122.14
1	B5	2351	PSU	C5-C6-N1	-2.06	119.28	122.14
1	B5	3631	OMG	O6-C6-C5	-2.06	121.08	126.53
1	B5	3524	OMG	O6-C6-C5	-2.06	121.09	126.53
68	A2	510	OMG	O6-C6-C5	-2.06	121.09	126.53
1	B5	3462	PSU	C5-C6-N1	-2.06	119.28	122.14
10	B8	55	PSU	C5-C6-N1	-2.06	119.28	122.14
1	B5	4711	PSU	C5-C6-N1	-2.06	119.28	122.14
68	A2	573	PSU	C5-C6-N1	-2.06	119.28	122.14
68	A2	684	OMG	O6-C6-C5	-2.06	121.10	126.53
68	A2	513	A2M	C6-C5-N7	2.06	136.06	132.09
1	B5	3456	A2M	N9-C8-N7	-2.06	111.02	113.94
68	A2	119	PSU	C5-C6-N1	-2.06	119.29	122.14
1	B5	3562	A2M	C6-C5-N7	2.06	136.05	132.09
1	B5	4749	PSU	C5-C6-N1	-2.05	119.29	122.14
68	A2	867	PSU	C5-C6-N1	-2.05	119.29	122.14
68	A2	93	PSU	C5-C6-N1	-2.05	119.29	122.14
1	B5	4369	OMG	O6-C6-C5	-2.05	121.11	126.53
1	B5	3540	OMC	O2-C2-N3	-2.05	119.10	122.33
68	A2	27	A2M	C6-C5-N7	2.05	136.04	132.09
68	A2	463	OMC	O2-C2-N3	-2.05	119.10	122.33
1	B5	1491	PSU	C5-C6-N1	-2.05	119.30	122.14
1	B5	1489	A2M	N9-C8-N7	-2.05	111.03	113.94
1	B5	3492	A2M	C6-C5-N7	2.05	136.04	132.09
1	B5	1638	PSU	C5-C6-N1	-2.05	119.30	122.14
68	A2	116	OMU	O2-C2-N1	-2.05	120.13	122.80
68	A2	1233	PSU	C5-C6-N1	-2.05	119.30	122.14
68	A2	1329	OMG	O6-C6-C5	-2.05	121.13	126.53
68	A2	1245	PSU	C5-C6-N1	-2.05	119.30	122.14
68	A2	1392	OMC	O2-C2-N3	-2.04	119.11	122.33
1	B5	3476	OMG	O6-C6-C5	-2.04	121.14	126.53
1	B5	3616	PSU	C5-C6-N1	-2.04	119.31	122.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
68	A2	1679	A2M	N9-C8-N7	-2.04	111.04	113.94
1	B5	4267	PSU	C5-C6-N1	-2.04	119.31	122.14
1	B5	1632	PSU	O4'-C1'-C2'	2.04	107.98	105.15
68	A2	815	PSU	C5-C6-N1	-2.04	119.31	122.14
1	B5	3500	PSU	C5-C6-N1	-2.04	119.31	122.14
1	B5	3427	PSU	C5-C6-N1	-2.04	119.31	122.14
1	B5	4298	PSU	C5-C6-N1	-2.04	119.31	122.14
1	B5	4374	PSU	C5-C6-N1	-2.04	119.31	122.14
68	A2	577	A2M	C6-C5-N7	2.03	136.01	132.09
1	B5	4169	PSU	C5-C6-N1	-2.03	119.32	122.14
68	A2	1175	PSU	C5-C6-N1	-2.03	119.32	122.14
1	B5	1731	PSU	C5-C6-N1	-2.03	119.32	122.14
1	B5	3652	PSU	C5-C6-N1	-2.03	119.32	122.14
1	B5	4099	PSU	C5-C6-N1	-2.03	119.32	122.14
1	B5	1720	PSU	C5-C6-N1	-2.03	119.32	122.14
1	B5	3554	PSU	C5-C6-N1	-2.03	119.33	122.14
68	A2	218	PSU	C5-C6-N1	-2.03	119.33	122.14
1	B5	3599	A2M	C6-C5-N7	2.03	136.00	132.09
68	A2	1239	PSU	C5-C6-N1	-2.03	119.33	122.14
1	B5	398	A2M	N9-C8-N7	-2.02	111.06	113.94
1	B5	3550	UY1	C6-N1-C2	-2.02	120.81	122.69
68	A2	602	OMG	O6-C6-C5	-2.02	121.20	126.53
1	B5	4149	PSU	C5-C6-N1	-2.02	119.34	122.14
68	A2	105	PSU	C5-C6-N1	-2.02	119.34	122.14
1	B5	4269	A2M	N9-C8-N7	-2.02	111.08	113.94
1	B5	4382	PSU	O4'-C1'-C2'	2.01	107.94	105.15
68	A2	1368	PSU	C5-C6-N1	-2.01	119.35	122.14
1	B5	1270	A2M	N9-C8-N7	-2.01	111.09	113.94
1	B5	3490	PSU	C5-C6-N1	-2.01	119.36	122.14
1	B5	1810	A2M	N9-C8-N7	-2.01	111.09	113.94
1	B5	4107	PSU	C5-C6-N1	-2.01	119.36	122.14
68	A2	485	A2M	C6-C5-N7	2.00	135.96	132.09
1	B5	2475	PSU	C5-C6-N1	-2.00	119.36	122.14
1	B5	3496	PSU	C5-C6-N1	-2.00	119.36	122.14
68	A2	36	PSU	C5-C6-N1	-2.00	119.36	122.14
68	A2	1005	PSU	C5-C6-N1	-2.00	119.36	122.14
68	A2	1082	PSU	O4'-C1'-C2'	2.00	107.92	105.15
68	A2	1032	A2M	N9-C8-N7	-2.00	111.10	113.94

There are no chirality outliers.

All (120) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	B5	2207	OMG	O4'-C4'-C5'-O5'
1	B5	3433	OMC	C2'-C1'-N1-C2
1	B5	3433	OMC	C2'-C1'-N1-C6
1	B5	3599	A2M	C1'-C2'-O2'-CM'
1	B5	4166	PSU	C2'-C1'-C5-C4
1	B5	4166	PSU	C2'-C1'-C5-C6
1	B5	4193	5MC	C2'-C1'-N1-C2
1	B5	4193	5MC	C2'-C1'-N1-C6
1	B5	4336	A2M	C4'-C5'-O5'-P
1	B5	4382	PSU	O4'-C1'-C5-C4
1	B5	4382	PSU	O4'-C1'-C5-C6
13	BA	216	V5N	O-C-CA-CB
68	A2	429	OMU	C2'-C1'-N1-C2
68	A2	429	OMU	C2'-C1'-N1-C6
68	A2	513	A2M	O4'-C4'-C5'-O5'
68	A2	513	A2M	C3'-C4'-C5'-O5'
68	A2	628	OMU	C2'-C1'-N1-C6
68	A2	645	OMG	O4'-C4'-C5'-O5'
68	A2	1852	MA6	C5-C6-N6-C9
79	Bm	98	M3L	O-C-CA-CB
68	A2	1249	B8N	N34-C33-C34-O35
68	A2	1338	4AC	N3-C4-N4-C7
68	A2	1338	4AC	O7-C7-N4-C4
68	A2	1338	4AC	CM7-C7-N4-C4
68	A2	1843	4AC	N3-C4-N4-C7
68	A2	1843	4AC	C5-C4-N4-C7
68	A2	1843	4AC	O7-C7-N4-C4
68	A2	1843	4AC	CM7-C7-N4-C4
68	A2	628	OMU	C2'-C1'-N1-C2
1	B5	398	A2M	O4'-C4'-C5'-O5'
1	B5	2207	OMG	C3'-C4'-C5'-O5'
1	B5	4382	PSU	C3'-C4'-C5'-O5'
68	A2	99	A2M	O4'-C4'-C5'-O5'
68	A2	1448	OMG	C3'-C4'-C5'-O5'
68	A2	429	OMU	O4'-C1'-N1-C2
27	Au	1	AME	CT2-CT1-N-CA
27	Au	1	AME	OT-CT1-N-CA
1	B5	3517	A2M	O4'-C4'-C5'-O5'
1	B5	4382	PSU	O4'-C4'-C5'-O5'
68	A2	669	A2M	O4'-C4'-C5'-O5'
68	A2	684	OMG	O4'-C4'-C5'-O5'
68	A2	1249	B8N	N34-C33-C34-O36
1	B5	3517	A2M	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
68	A2	645	OMG	C3'-C4'-C5'-O5'
68	A2	669	A2M	C3'-C4'-C5'-O5'
68	A2	429	OMU	O4'-C1'-N1-C6
1	B5	398	A2M	C3'-C4'-C5'-O5'
1	B5	1489	A2M	O4'-C4'-C5'-O5'
1	B5	1489	A2M	C3'-C4'-C5'-O5'
68	A2	577	A2M	C3'-C4'-C5'-O5'
68	A2	1448	OMG	O4'-C4'-C5'-O5'
68	A2	1640	G7M	O4'-C4'-C5'-O5'
16	BB	245	HIC	CA-CB-CG-ND1
68	A2	1640	G7M	C3'-C4'-C5'-O5'
68	A2	99	A2M	C3'-C4'-C5'-O5'
68	A2	469	A2M	O4'-C4'-C5'-O5'
32	AZ	2	SAC	C-CA-N-C1A
68	A2	1249	B8N	C32-C33-C34-O36
68	A2	577	A2M	O4'-C4'-C5'-O5'
68	A2	802	PSU	C3'-C4'-C5'-O5'
1	B5	2630	A2M	C2'-C1'-N9-C8
84	An	165	IAS	C-CA-CB-CG
3	Bb	5	MLZ	N-CA-CB-CG
68	A2	591	A2M	C2'-C1'-N9-C4
68	A2	27	A2M	O4'-C4'-C5'-O5'
32	AZ	2	SAC	CB-CA-N-C1A
68	A2	1249	B8N	C32-C33-C34-O35
68	A2	591	A2M	C2'-C1'-N9-C8
84	An	165	IAS	N-CA-CB-CG
1	B5	2680	OMU	C3'-C2'-O2'-CM2
1	B5	3619	OMC	C3'-C2'-O2'-CM2
1	B5	4369	OMG	C3'-C2'-O2'-CM2
68	A2	355	OMU	C3'-C2'-O2'-CM2
1	B5	3576	PSU	C4'-C5'-O5'-P
1	B5	4246	PSU	C4'-C5'-O5'-P
68	A2	645	OMG	C4'-C5'-O5'-P
68	A2	1852	MA6	C4'-C5'-O5'-P
16	BB	245	HIC	CA-CB-CG-CD2
1	B5	4166	PSU	O4'-C1'-C5-C4
1	B5	3619	OMC	C4'-C5'-O5'-P
1	B5	3433	OMC	O4'-C1'-N1-C6
1	B5	4193	5MC	O4'-C1'-N1-C6
68	A2	628	OMU	O4'-C1'-N1-C6
1	B5	1820	OMC	C3'-C2'-O2'-CM2
1	B5	2258	OMU	C3'-C2'-O2'-CM2

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Mol	Chain	Res	Type	Atoms
1	B5	2267	OMG	C3'-C2'-O2'-CM2
1	B5	2667	OMC	C3'-C2'-O2'-CM2
68	A2	684	OMG	C3'-C4'-C5'-O5'
68	A2	1032	A2M	O4'-C4'-C5'-O5'
68	A2	628	OMU	O4'-C1'-N1-C2
1	B5	3550	UY1	C4'-C5'-O5'-P
1	B5	4317	A2M	O4'-C4'-C5'-O5'
68	A2	510	OMG	O4'-C4'-C5'-O5'
1	B5	4193	5MC	O4'-C1'-N1-C2
24	Aw	62	HY3	O-C-CA-C3
68	A2	429	OMU	O4'-C4'-C5'-O5'
1	B5	4166	PSU	O4'-C1'-C5-C6
1	B5	2630	A2M	O4'-C1'-N9-C8
1	B5	398	A2M	C3'-C2'-O2'-CM'
1	B5	1260	OMG	C3'-C2'-O2'-CM2
1	B5	1284	OMC	C3'-C2'-O2'-CM2
1	B5	1810	A2M	C3'-C2'-O2'-CM'
1	B5	2265	OMC	C3'-C2'-O2'-CM2
1	B5	2647	OMC	C3'-C2'-O2'-CM2
1	B5	2704	OMC	C3'-C2'-O2'-CM2
1	B5	3476	OMG	C3'-C2'-O2'-CM2
1	B5	3573	OMC	C3'-C2'-O2'-CM2
1	B5	3631	OMG	C3'-C2'-O2'-CM2
1	B5	4138	OMG	C3'-C2'-O2'-CM2
68	A2	116	OMU	C3'-C2'-O2'-CM2
68	A2	1443	OMU	C3'-C2'-O2'-CM2
68	A2	1448	OMG	C3'-C2'-O2'-CM2
68	A2	591	A2M	O4'-C1'-N9-C8
68	A2	1852	MA6	N1-C6-N6-C9
1	B5	2194	OMC	C2'-C1'-N1-C2
79	Bm	98	M3L	C-CA-CB-CG
1	B5	3433	OMC	O4'-C1'-N1-C2
1	B5	3573	OMC	O4'-C4'-C5'-O5'
68	A2	802	PSU	C4'-C5'-O5'-P
68	A2	429	OMU	C3'-C4'-C5'-O5'

There are no ring outliers.

93 monomers are involved in 119 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	B5	3966	6MZ	1	0
1	B5	4325	PSU	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
68	A2	36	PSU	2	0
68	A2	27	A2M	3	0
68	A2	463	OMC	1	0
1	B5	1270	A2M	1	0
68	A2	1704	OMC	1	0
68	A2	105	PSU	1	0
1	B5	4278	PSU	1	0
68	A2	1679	A2M	2	0
1	B5	4138	OMG	2	0
1	B5	2194	OMC	1	0
1	B5	2658	A2M	3	0
1	B5	3619	OMC	1	0
1	B5	4052	OMU	2	0
68	A2	1446	PSU	1	0
1	B5	3476	OMG	1	0
68	A2	1032	A2M	2	0
1	B5	1810	A2M	2	0
1	B5	398	A2M	1	0
68	A2	437	OMG	2	0
1	B5	4166	PSU	1	0
68	A2	602	OMG	1	0
68	A2	1640	G7M	1	0
1	B5	2630	A2M	1	0
68	A2	1448	OMG	2	0
1	B5	2208	OMC	2	0
1	B5	4366	OMU	3	0
68	A2	1392	OMC	1	0
1	B5	4369	OMG	1	0
68	A2	815	PSU	1	0
1	B5	4193	5MC	1	0
68	A2	166	A2M	1	0
1	B5	3450	A2M	1	0
1	B5	4383	OMG	1	0
1	B5	2704	OMC	1	0
68	A2	1805	OMU	2	0
68	A2	1843	4AC	1	0
68	A2	610	PSU	1	0
1	B5	3585	PSU	1	0
1	B5	4336	A2M	1	0
68	A2	469	A2M	1	0
68	A2	121	OMU	2	0
1	B5	2667	OMC	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	B5	4203	PSU	1	0
1	B5	3599	A2M	1	0
79	Bm	98	M3L	1	0
68	A2	628	OMU	1	0
68	A2	518	OMC	1	0
1	B5	3631	OMG	1	0
27	Au	1	AME	1	0
1	B5	3562	A2M	2	0
1	B5	3517	A2M	2	0
68	A2	116	OMU	1	0
68	A2	99	A2M	2	0
68	A2	159	A2M	1	0
1	B5	1489	A2M	1	0
1	B5	3942	OMG	2	0
1	B5	3616	PSU	1	0
68	A2	355	OMU	1	0
1	B5	2647	OMC	1	0
68	A2	513	A2M	1	0
68	A2	577	A2M	1	0
1	B5	4282	OMC	1	0
1	B5	3540	OMC	1	0
68	A2	1338	4AC	3	0
68	A2	1384	A2M	1	0
1	B5	1284	OMC	2	0
68	A2	485	A2M	1	0
68	A2	1491	OMG	1	0
68	A2	1833	6MZ	1	0
1	B5	3550	UY1	2	0
1	B5	4269	A2M	2	0
1	B5	4058	PSU	1	0
68	A2	1289	OMU	2	0
1	B5	3456	A2M	1	0
1	B5	2207	OMG	1	0
1	B5	4202	OMC	1	0
1	B5	2258	OMU	2	0
68	A2	510	OMG	1	0
68	A2	1851	MA6	1	0
68	A2	172	OMU	1	0
1	B5	4382	PSU	1	0
68	A2	645	OMG	1	0
1	B5	1260	OMG	1	0
1	B5	2244	A2M	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	B5	3676	OMG	2	0
68	A2	1329	OMG	1	0
1	B5	4099	PSU	1	0
1	B5	4039	PSU	1	0
10	B8	75	OMG	1	0
1	B5	2206	A2M	1	0
1	B5	3557	A2M	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 758 ligands modelled in this entry, 295 are unknown and 428 are monoatomic - leaving 35 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	$\#\|Z\| > 2$
93	SPD	A2	1955	-	9,9,9	0.15	0	8,8,8	0.17	0
93	SPD	A2	1908	-	9,9,9	0.15	0	8,8,8	0.18	0
95	SPM	A2	1962	-	13,13,13	0.15	0	12,12,12	0.15	0
95	SPM	B5	5059	-	13,13,13	0.15	0	12,12,12	0.14	0
93	SPD	B5	5222	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	5162	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	B5	4962	-	9,9,9	0.16	0	8,8,8	0.18	0
93	SPD	B5	5019	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	A2	1915	-	9,9,9	0.16	0	8,8,8	0.17	0
93	SPD	A2	1947	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	5241	-	9,9,9	0.15	0	8,8,8	0.16	0
93	SPD	A2	1930	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	A2	1939	-	9,9,9	0.16	0	8,8,8	0.17	0
93	SPD	B5	5323	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	4982	-	9,9,9	0.15	0	8,8,8	0.19	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
95	SPM	B5	5194	-	13,13,13	0.15	0	12,12,12	0.20	0
93	SPD	B5	4922	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	5039	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	B5	5000	-	9,9,9	0.15	0	8,8,8	0.17	0
93	SPD	B5	5366	-	9,9,9	0.15	0	8,8,8	0.21	0
93	SPD	B5	4941	-	9,9,9	0.15	0	8,8,8	0.17	0
93	SPD	B5	5120	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	A2	1922	-	9,9,9	0.16	0	8,8,8	0.18	0
96	GTP	B7	214	7	33,34,34	0.58	0	50,54,54	0.58	0
93	SPD	B5	4902	-	9,9,9	0.16	0	8,8,8	0.17	0
93	SPD	B5	5141	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	B5	5100	-	9,9,9	0.15	0	8,8,8	0.17	0
93	SPD	B5	5303	-	9,9,9	0.15	0	8,8,8	0.16	0
93	SPD	B5	5344	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	5387	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	A2	1929	-	9,9,9	0.15	0	8,8,8	0.16	0
97	IHP	DB	901	-	36,36,36	1.61	6 (16%)	60,60,60	1.20	5 (8%)
93	SPD	B5	5079	-	9,9,9	0.15	0	8,8,8	0.19	0
93	SPD	B5	5182	-	9,9,9	0.15	0	8,8,8	0.18	0
93	SPD	B5	5202	-	9,9,9	0.16	0	8,8,8	0.19	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
93	SPD	A2	1955	-	-	0/7/7/7	-
93	SPD	A2	1908	-	-	1/7/7/7	-
95	SPM	A2	1962	-	-	1/11/11/11	-
95	SPM	B5	5059	-	-	0/11/11/11	-
93	SPD	B5	5222	-	-	0/7/7/7	-
93	SPD	B5	5162	-	-	0/7/7/7	-
93	SPD	B5	4962	-	-	0/7/7/7	-
93	SPD	B5	5019	-	-	0/7/7/7	-
93	SPD	A2	1915	-	-	0/7/7/7	-
93	SPD	A2	1947	-	-	1/7/7/7	-
93	SPD	B5	5241	-	-	1/7/7/7	-
93	SPD	A2	1930	-	-	0/7/7/7	-
93	SPD	A2	1939	-	-	0/7/7/7	-
93	SPD	B5	5323	-	-	1/7/7/7	-
93	SPD	B5	4982	-	-	1/7/7/7	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
95	SPM	B5	5194	-	-	1/11/11/11	-
93	SPD	B5	4922	-	-	0/7/7/7	-
93	SPD	B5	5039	-	-	0/7/7/7	-
93	SPD	B5	5000	-	-	0/7/7/7	-
93	SPD	B5	5366	-	-	0/7/7/7	-
93	SPD	B5	4941	-	-	0/7/7/7	-
93	SPD	B5	5120	-	-	0/7/7/7	-
93	SPD	A2	1922	-	-	0/7/7/7	-
96	GTP	B7	214	7	-	0/22/38/38	0/3/3/3
93	SPD	B5	4902	-	-	1/7/7/7	-
93	SPD	B5	5141	-	-	0/7/7/7	-
93	SPD	B5	5100	-	-	0/7/7/7	-
93	SPD	B5	5303	-	-	1/7/7/7	-
93	SPD	B5	5344	-	-	1/7/7/7	-
93	SPD	B5	5387	-	-	1/7/7/7	-
93	SPD	A2	1929	-	-	0/7/7/7	-
97	IHP	DB	901	-	-	5/30/54/54	0/1/1/1
93	SPD	B5	5079	-	-	0/7/7/7	-
93	SPD	B5	5182	-	-	0/7/7/7	-
93	SPD	B5	5202	-	-	1/7/7/7	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
97	DB	901	IHP	P2-O12	3.66	1.65	1.59
97	DB	901	IHP	P5-O15	3.57	1.65	1.59
97	DB	901	IHP	P1-O11	3.40	1.65	1.59
97	DB	901	IHP	P6-O16	3.35	1.65	1.59
97	DB	901	IHP	P3-O13	3.33	1.65	1.59
97	DB	901	IHP	P4-O14	3.31	1.65	1.59

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
97	DB	901	IHP	C6-C5-C4	4.34	119.94	110.43
97	DB	901	IHP	C5-C4-C3	3.60	118.33	110.43
97	DB	901	IHP	C5-C6-C1	3.51	118.12	110.43
97	DB	901	IHP	C4-C3-C2	2.18	115.21	110.43
97	DB	901	IHP	P3-O13-C3	-2.03	118.01	123.43

There are no chirality outliers.

All (17) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
97	DB	901	IHP	C1-C2-O12-P2
97	DB	901	IHP	C4-C5-O15-P5
95	A2	1962	SPM	C8-C9-N10-C11
93	B5	4982	SPD	C4-C5-N6-C7
93	B5	5323	SPD	C2-C3-C4-C5
93	A2	1947	SPD	C2-C3-C4-C5
97	DB	901	IHP	C5-O15-P5-O35
97	DB	901	IHP	C6-O16-P6-O46
93	A2	1908	SPD	C2-C3-C4-C5
93	B5	4902	SPD	C2-C3-C4-C5
93	B5	5344	SPD	C2-C3-C4-C5
93	B5	5241	SPD	C2-C3-C4-C5
93	B5	5387	SPD	C2-C3-C4-C5
97	DB	901	IHP	C4-O14-P4-O24
93	B5	5303	SPD	C2-C3-C4-C5
93	B5	5202	SPD	C2-C3-C4-C5
95	B5	5194	SPM	C6-C7-C8-C9

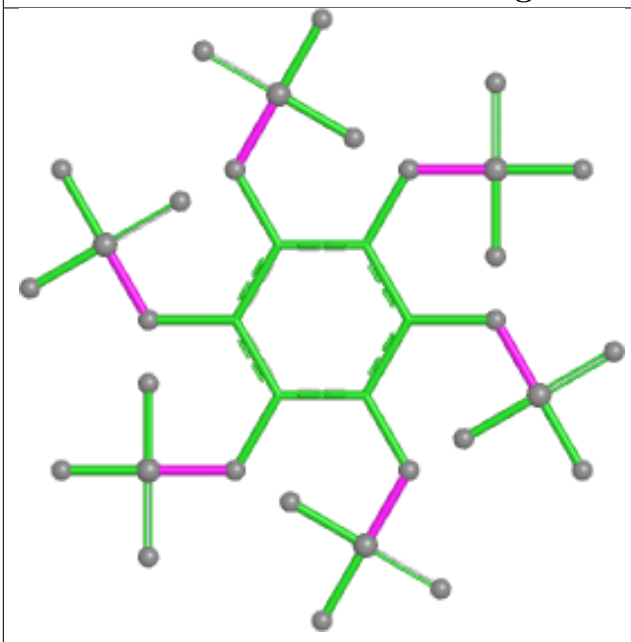
There are no ring outliers.

18 monomers are involved in 22 short contacts:

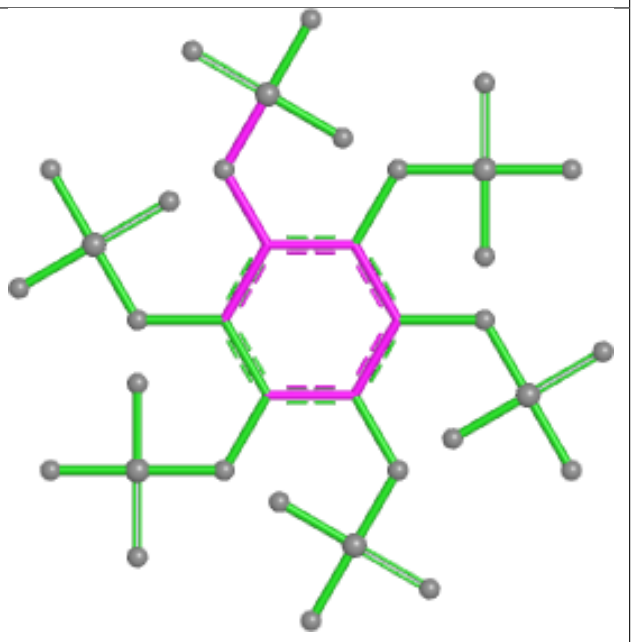
Mol	Chain	Res	Type	Clashes	Symm-Clashes
93	A2	1955	SPD	1	0
93	A2	1908	SPD	1	0
95	A2	1962	SPM	3	0
93	B5	4962	SPD	1	0
93	A2	1947	SPD	1	0
93	B5	5241	SPD	1	0
93	A2	1930	SPD	1	0
93	A2	1939	SPD	1	0
95	B5	5194	SPM	1	0
93	B5	5366	SPD	1	0
93	B5	4941	SPD	1	0
93	A2	1922	SPD	1	0
93	B5	5141	SPD	1	0
93	B5	5100	SPD	2	0
93	B5	5344	SPD	1	0
97	DB	901	IHP	1	0
93	B5	5079	SPD	2	0
93	B5	5202	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 then 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.

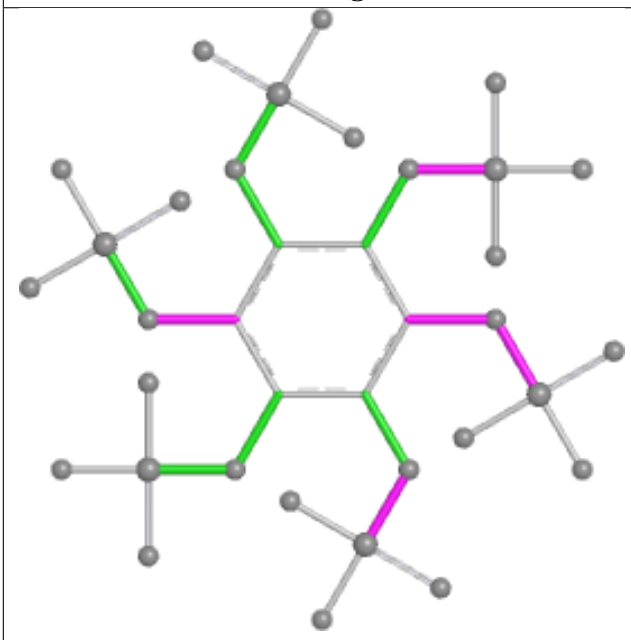
Ligand IHP DB 901



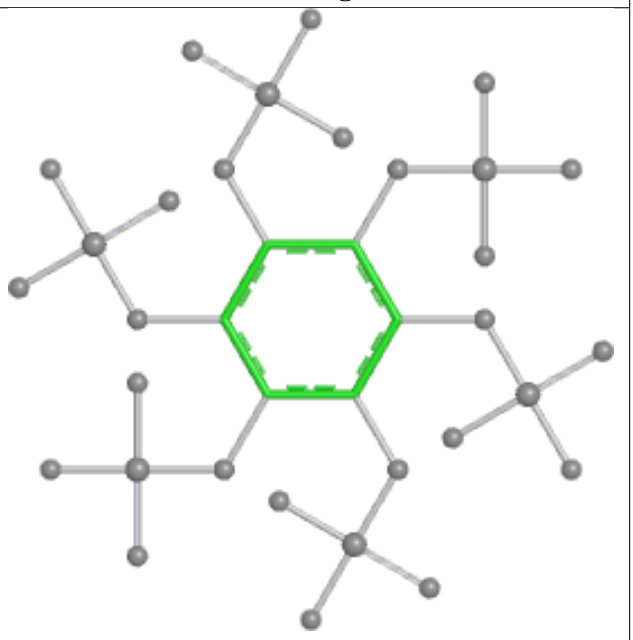
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

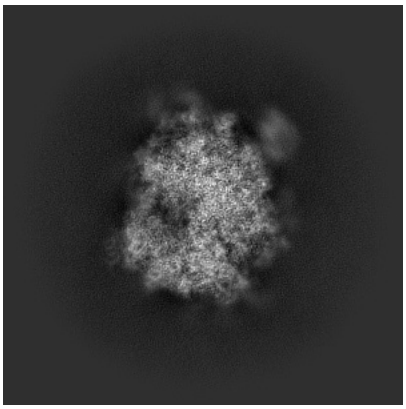
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-50126. These allow visual inspection of the internal detail of the map and identification of artifacts.

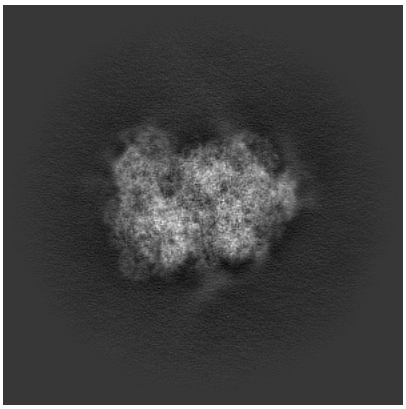
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

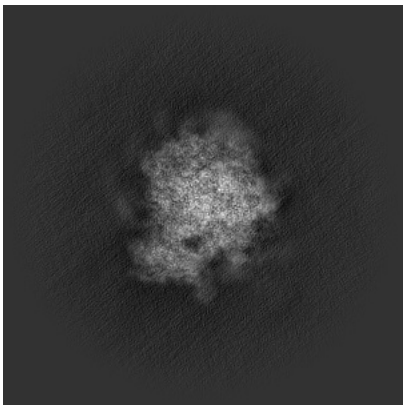
6.1.1 Primary map



X

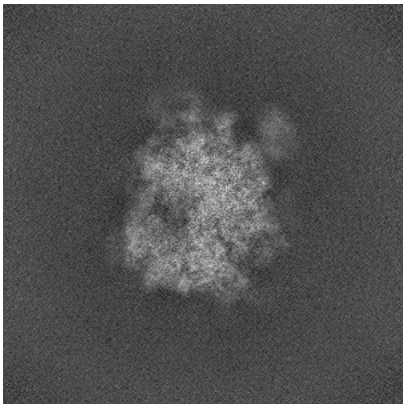


Y

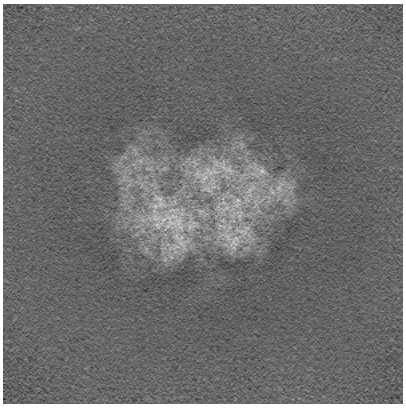


Z

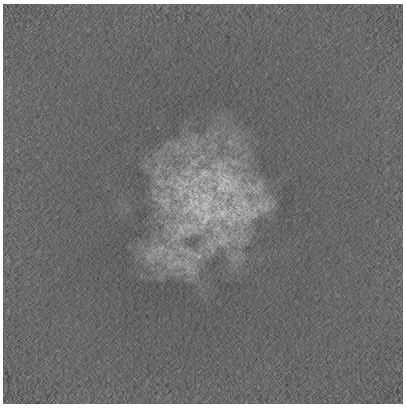
6.1.2 Raw map



X



Y

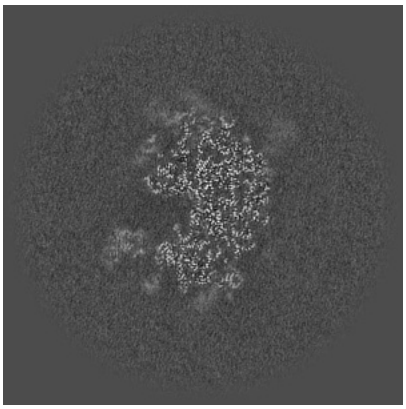


Z

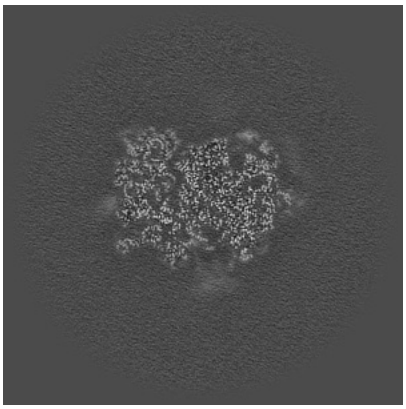
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

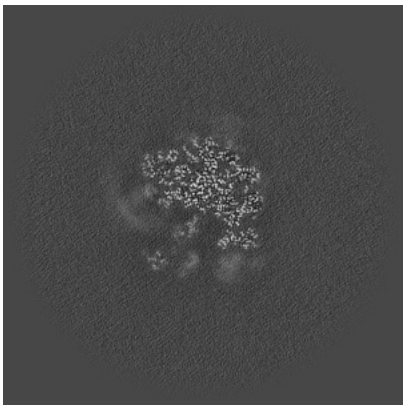
6.2.1 Primary map



X Index: 280

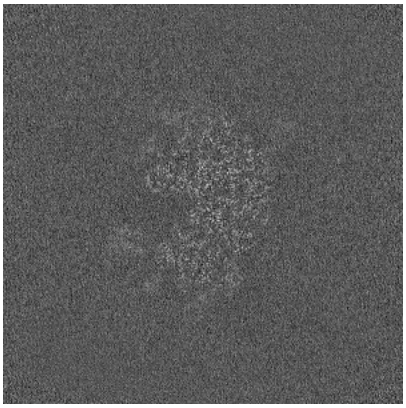


Y Index: 280

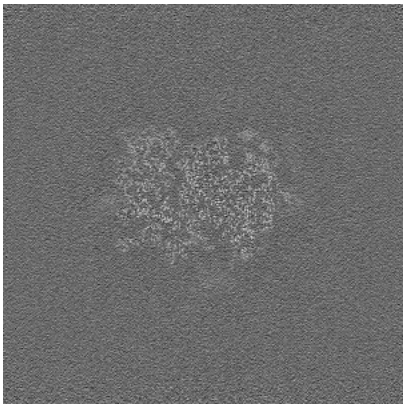


Z Index: 280

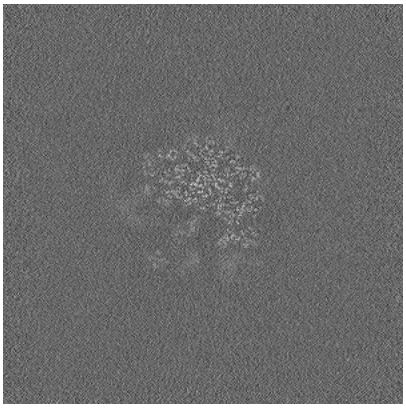
6.2.2 Raw map



X Index: 280



Y Index: 280

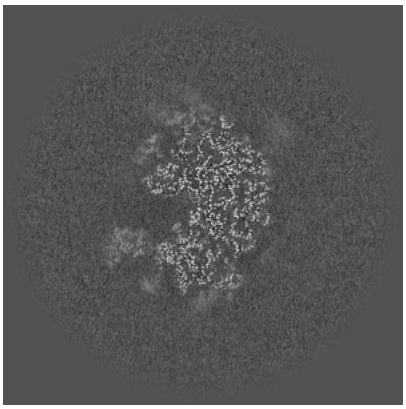


Z Index: 280

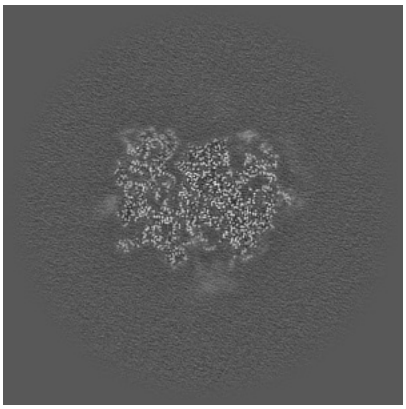
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

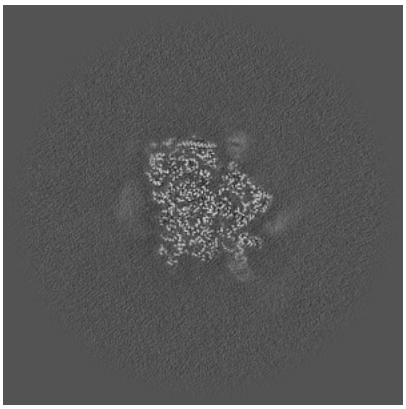
6.3.1 Primary map



X Index: 279

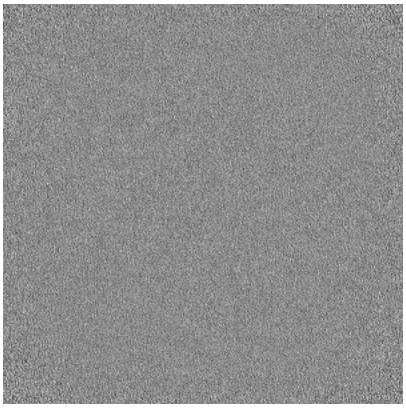


Y Index: 281

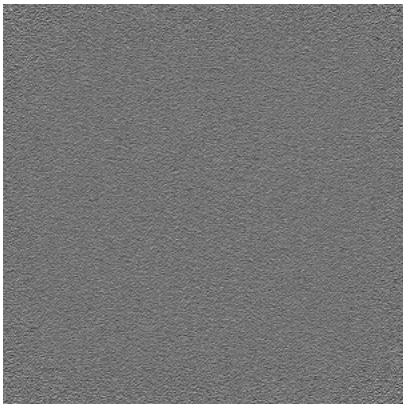


Z Index: 309

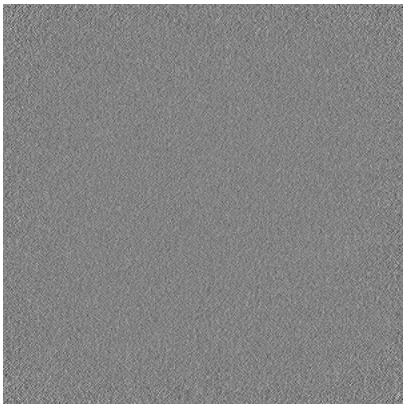
6.3.2 Raw map



X Index: 0



Y Index: 0

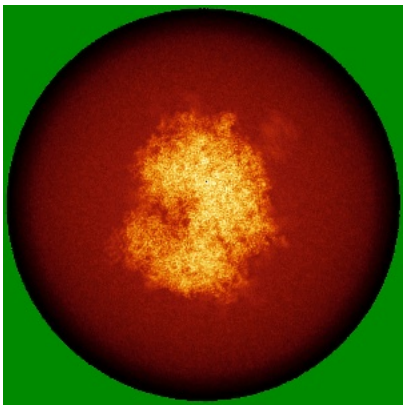


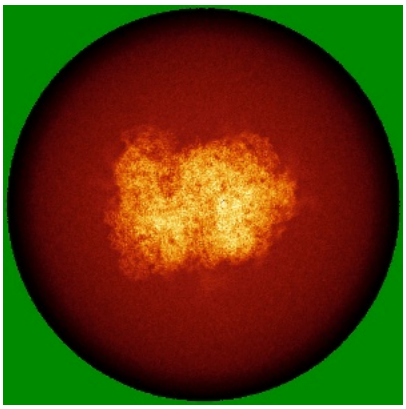
Z Index: 0

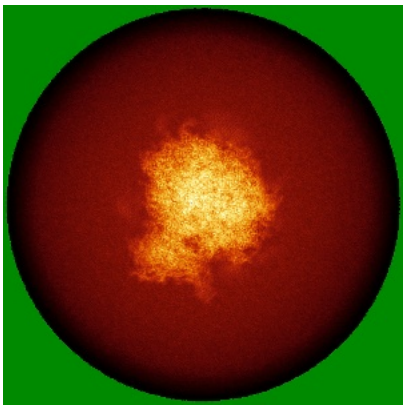
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

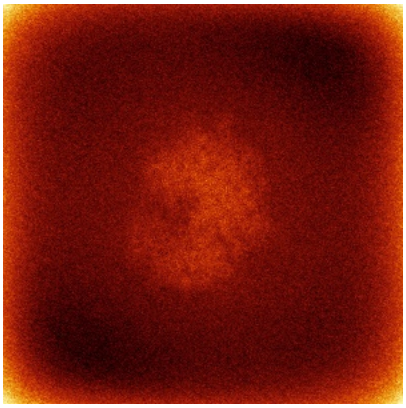
6.4.1 Primary map

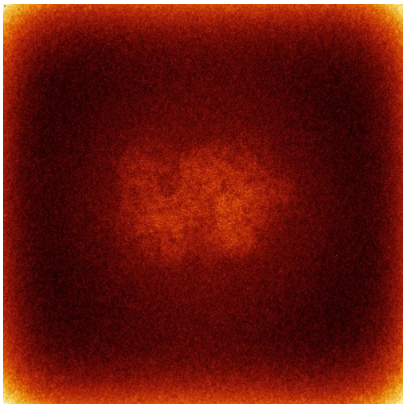

X

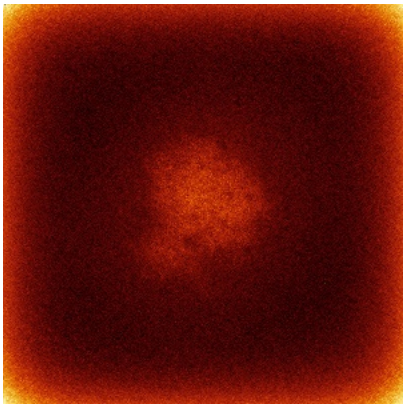

Y


Z

6.4.2 Raw map


X

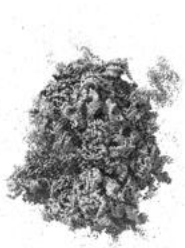

Y


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



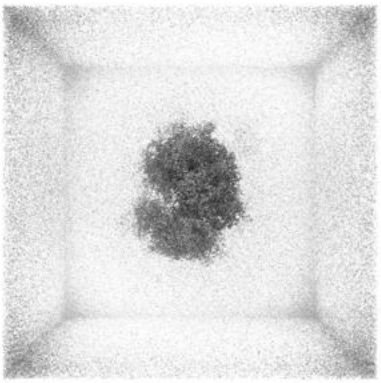
X

Y

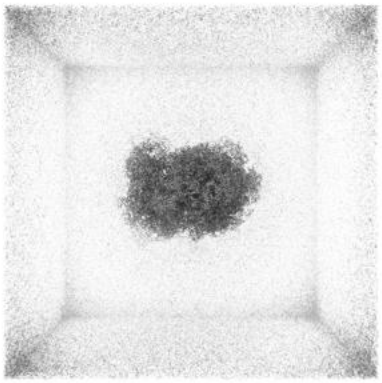
Z

The images above show the 3D surface view of the map at the recommended contour level 0.25. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

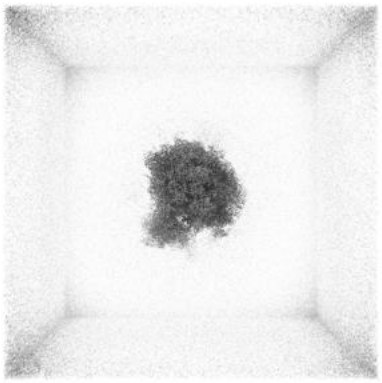
6.5.2 Raw map



X



Y



Z

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

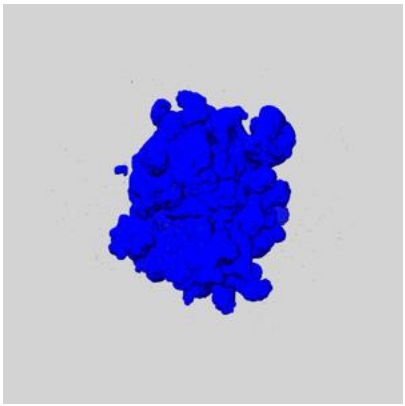
6.6 Mask visualisation

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

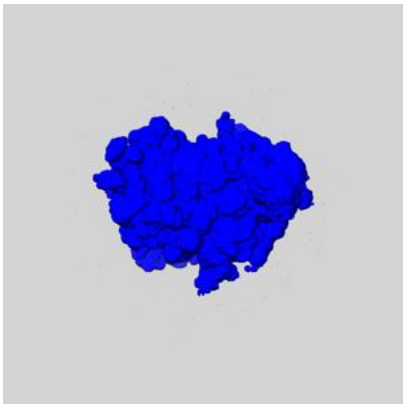
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

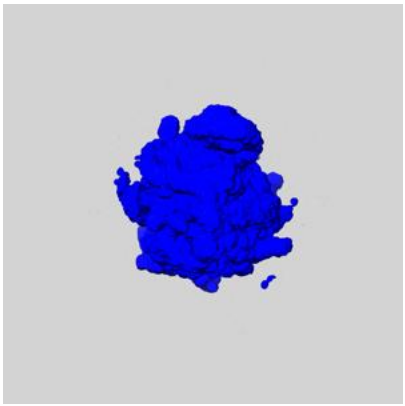
6.6.1 emd_50126_msk_1.map



X

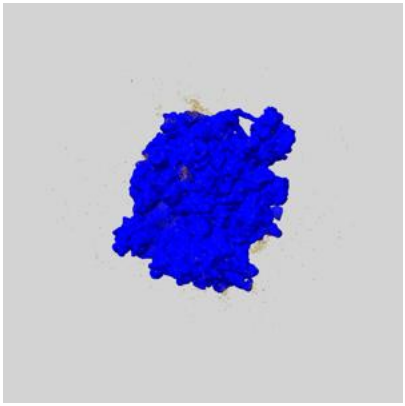


Y

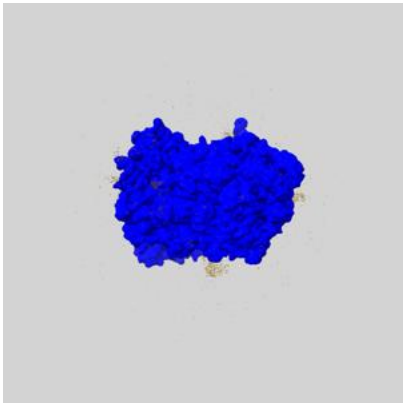


Z

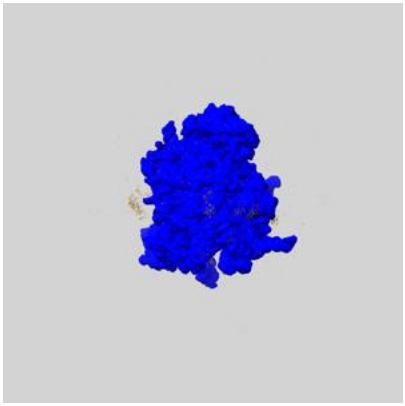
6.6.2 emd_50126_msk_2.map



X



Y

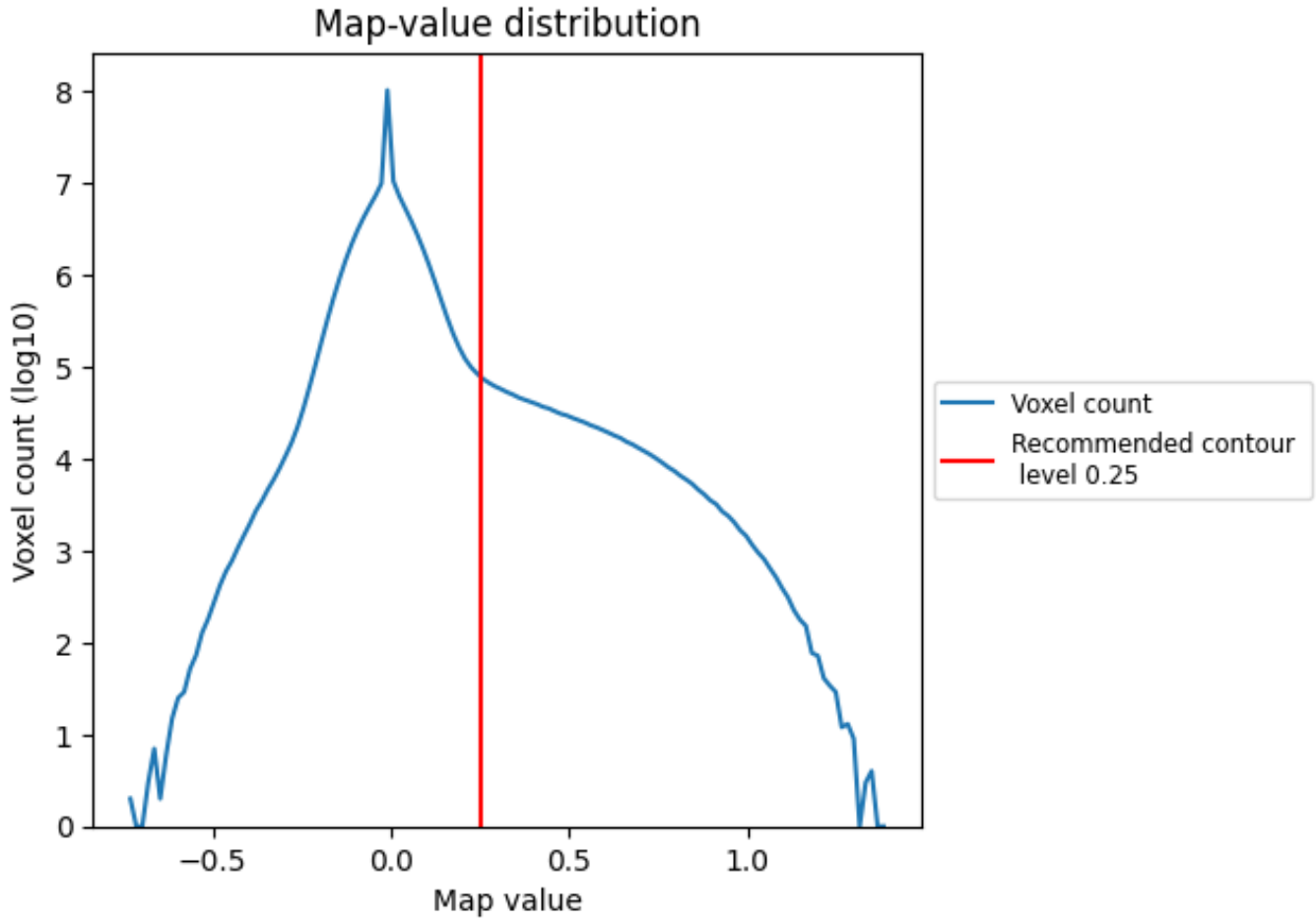


Z

7 Map analysis

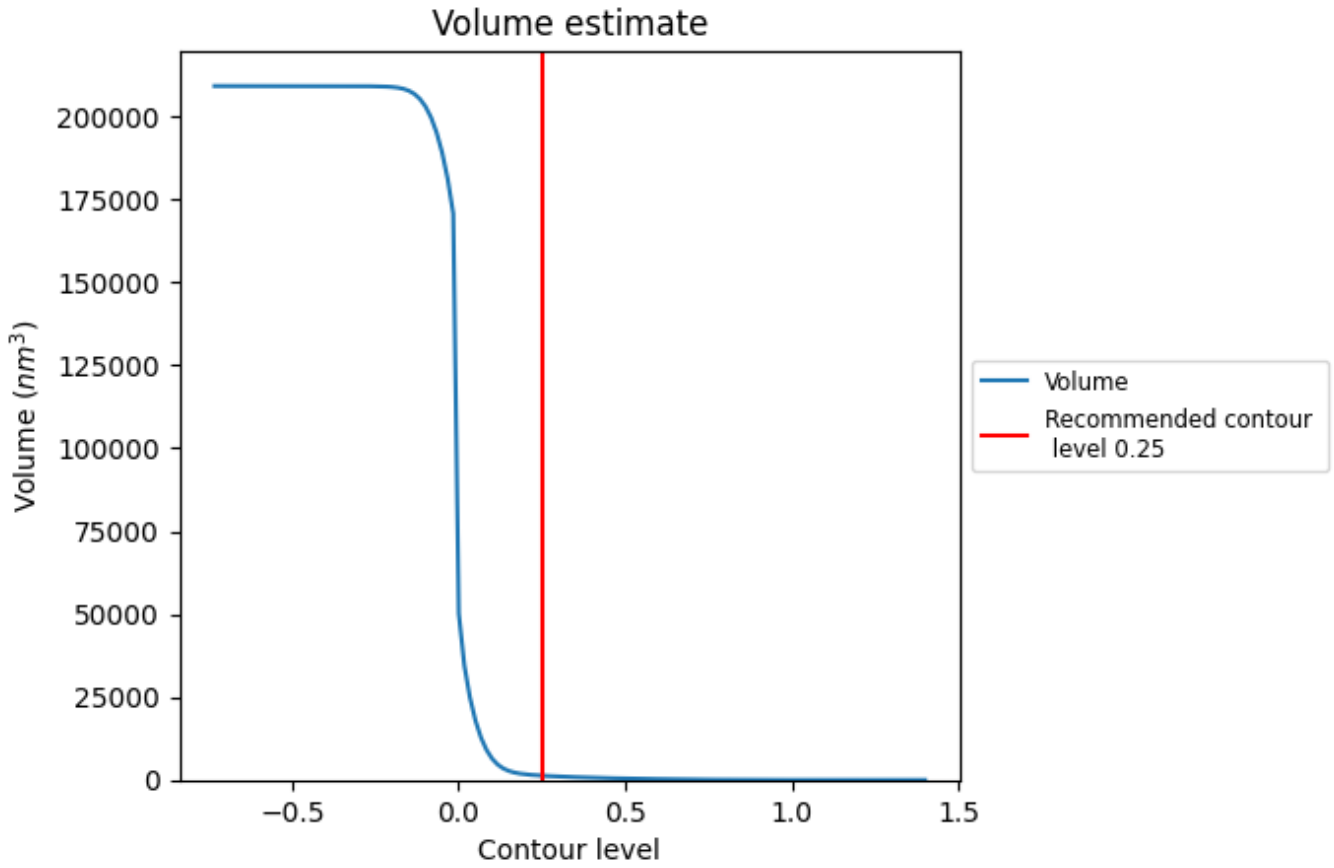
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

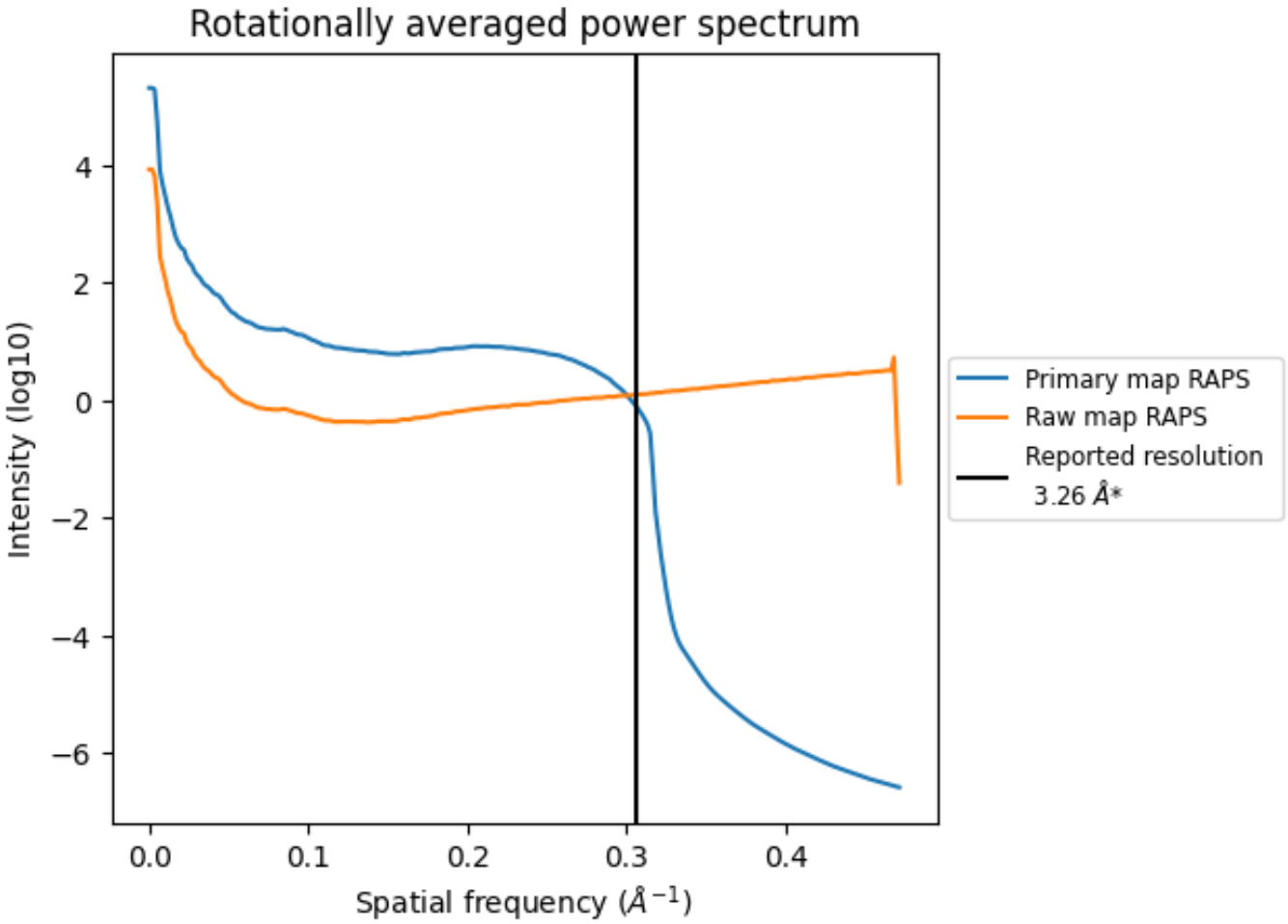
7.2 Volume estimate



The volume at the recommended contour level is 1299 nm^3; this corresponds to an approximate mass of 1173 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

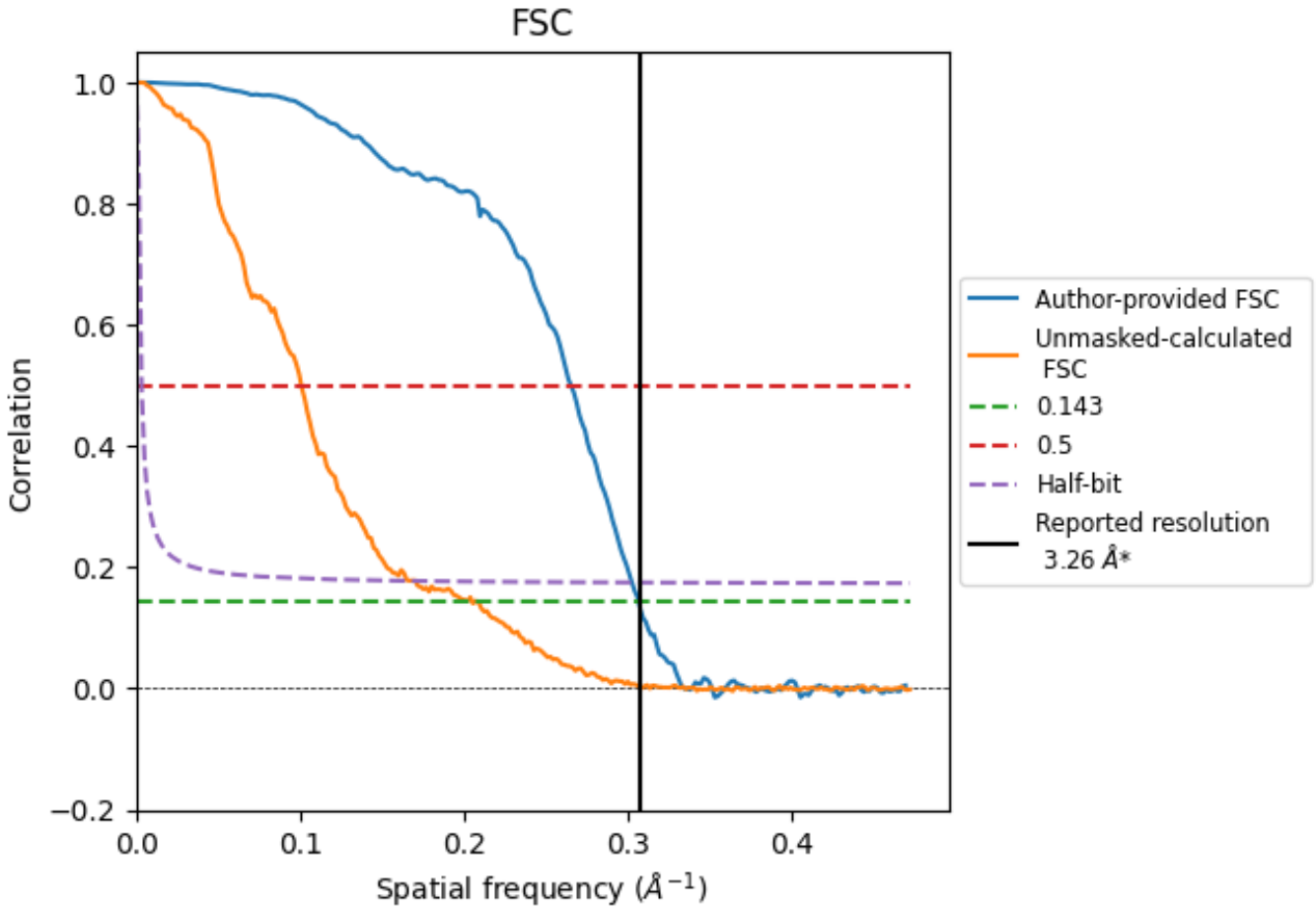


*Reported resolution corresponds to spatial frequency of 0.307 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.307 Å^{-1}

8.2 Resolution estimates (i)

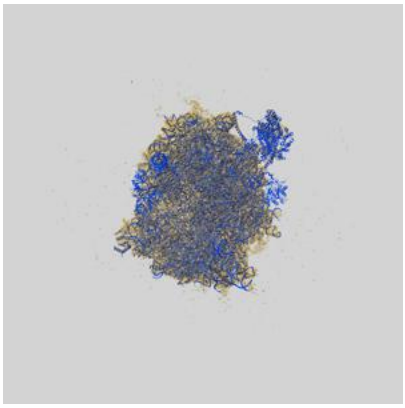
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.26	-	-
Author-provided FSC curve	3.26	3.77	3.31
Unmasked-calculated*	4.88	9.93	5.87

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.88 differs from the reported value 3.26 by more than 10 %

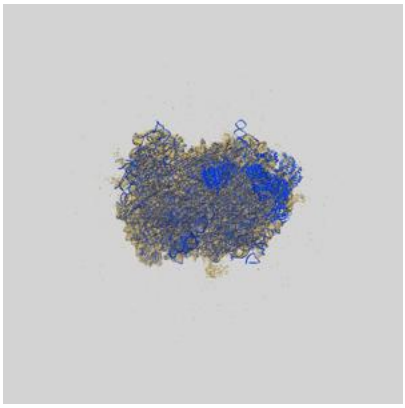
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-50126 and PDB model 9F1D. Per-residue inclusion information can be found in section 3 on page 35.

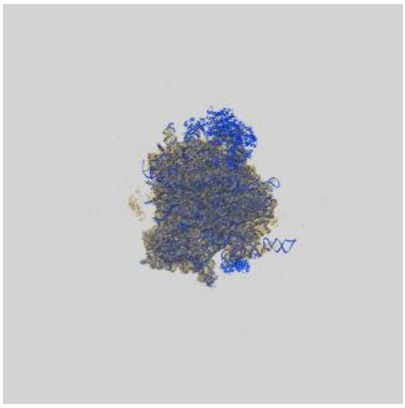
9.1 Map-model overlay



X



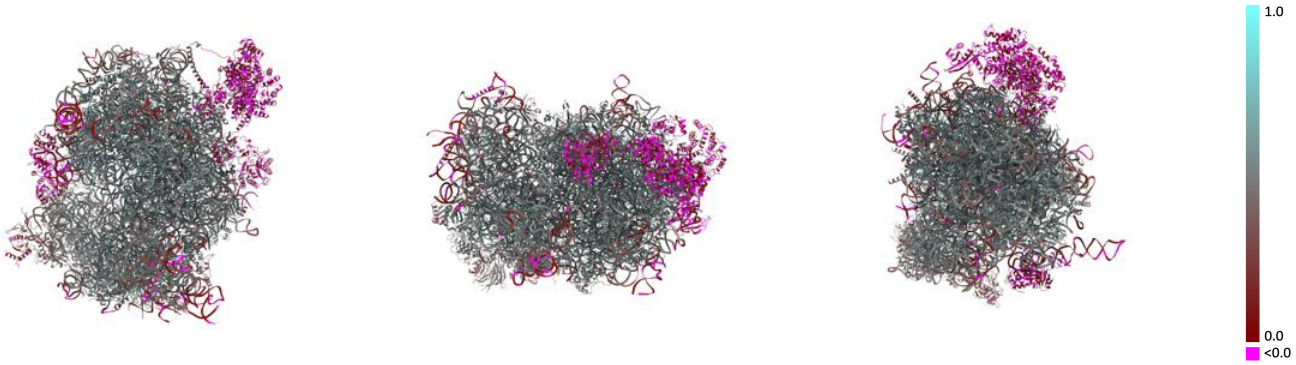
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.25 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.

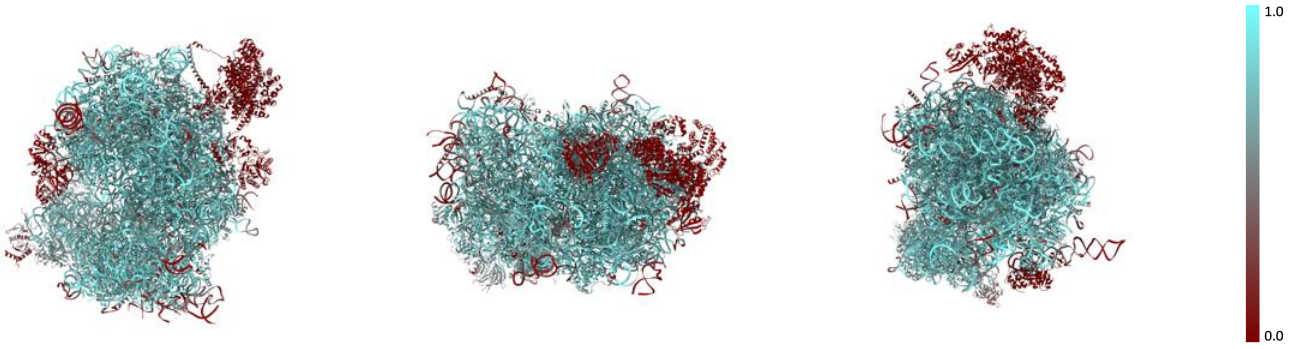
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

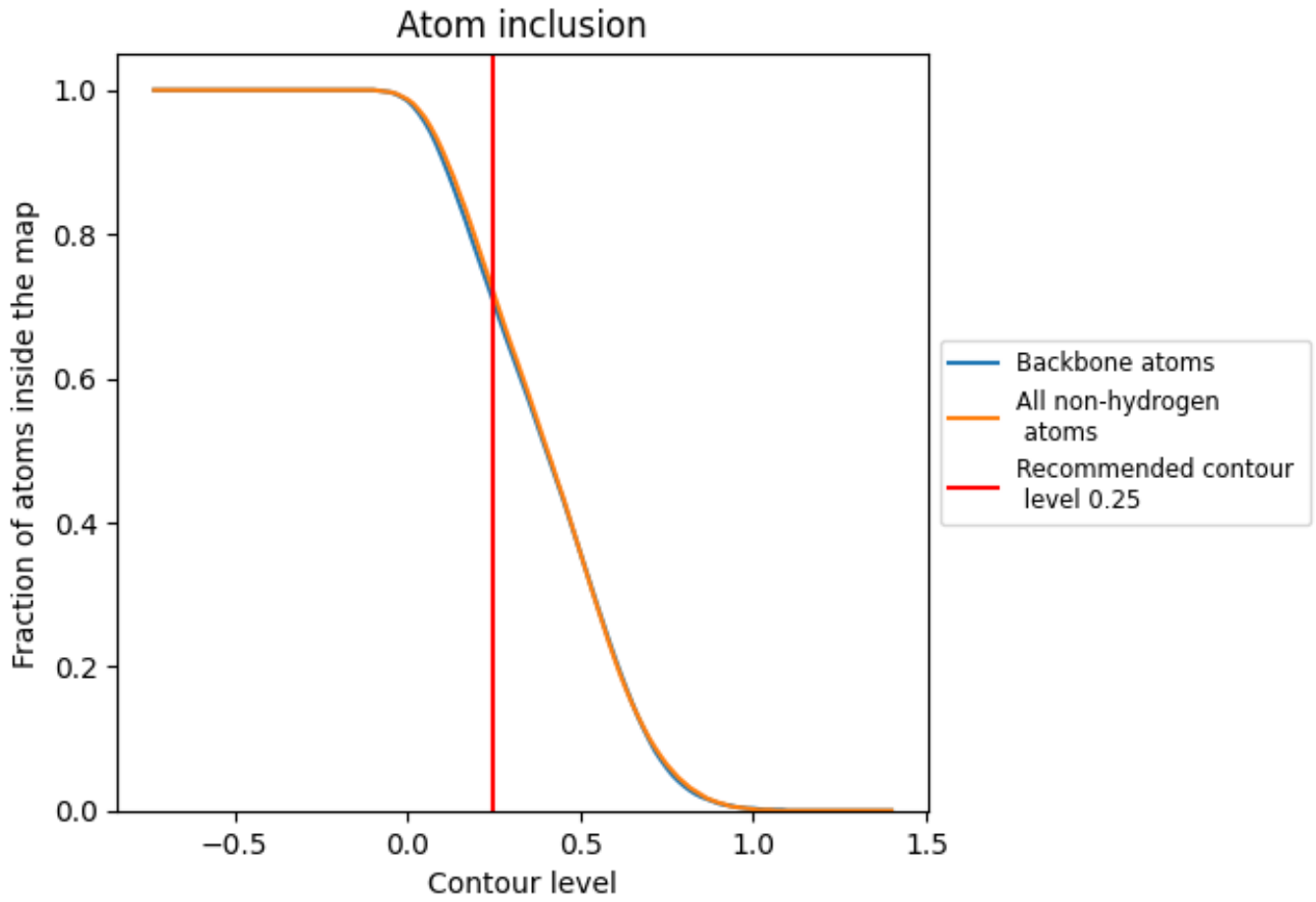
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.25).

9.4 Atom inclusion (i)



At the recommended contour level, 70% of all backbone atoms, 72% 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 (0.25) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7170	0.4470
A2	0.8080	0.4530
AA	0.6850	0.4930
AB	0.6560	0.4740
AC	0.3050	0.2390
AD	0.5910	0.4330
AE	0.7460	0.5090
AF	0.5890	0.3900
AG	0.7760	0.4930
AH	0.1390	0.4330
AT	0.6570	0.4410
AZ	0.7330	0.4930
Aa	0.6800	0.4900
Ab	0.7510	0.5170
Ac	0.6280	0.4370
Ad	0.7350	0.5090
Ae	0.6540	0.4590
Af	0.6250	0.4190
Ag	0.6330	0.4300
Ah	0.7210	0.4960
Ai	0.7410	0.4910
Aj	0.6380	0.4050
Ak	0.6870	0.4880
Al	0.2070	0.1750
Am	0.7440	0.5220
An	0.7090	0.5030
Ao	0.5990	0.4060
Ap	0.6840	0.4750
Aq	0.6850	0.4660
Ar	0.6320	0.4270
As	0.6770	0.4480
At	0.5950	0.4170
Au	0.7270	0.5060
Av	0.7710	0.5370
Aw	0.7310	0.5300

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
Ax	0.6910	0.4590
Ay	0.5290	0.3970
Az	0.6240	0.5030
B	0.7700	0.5000
B5	0.8200	0.4700
B7	0.9110	0.5140
B8	0.8540	0.4930
BA	0.7870	0.5470
BB	0.7850	0.5380
BC	0.7910	0.5390
BE	0.7060	0.4750
BF	0.7870	0.5360
BG	0.6950	0.4820
BH	0.7190	0.5080
BI	0.7680	0.5320
BJ	0.7060	0.4860
BK	0.1700	0.4450
BL	0.7420	0.5090
BM	0.7890	0.5160
BN	0.8280	0.5550
BO	0.7800	0.5350
BP	0.7600	0.5320
BQ	0.7910	0.5450
BR	0.7290	0.4960
BS	0.8040	0.5420
BT	0.7460	0.5190
BU	0.6880	0.4870
BV	0.7030	0.5220
BW	0.5320	0.3540
BX	0.7420	0.5200
BY	0.7450	0.5230
BZ	0.7650	0.5120
Ba	0.8140	0.5480
Bb	0.6580	0.4560
Bc	0.6700	0.4790
Bd	0.7210	0.5170
Be	0.7710	0.5390
Bf	0.8200	0.5510
Bg	0.7350	0.5160
Bh	0.7550	0.5060
Bi	0.7220	0.5030
Bj	0.8430	0.5550

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Chain	Atom inclusion	Q-score
Bk	0.6550	0.4630
Bl	0.7420	0.5300
Bm	0.7780	0.5440
Bo	0.7290	0.5210
Bp	0.7370	0.5320
Br	0.7970	0.5410
Bs	0.0190	0.0810
Bt	0.0130	0.0520
Ct	0.0360	0.0630
Cu	0.1890	0.1950
DA	0.0010	0.0140
DB	0.0490	0.0560
DC	0.0250	0.0300
DD	0.0000	0.0100
EA	0.0010	0.0590