wwPDB EM Validation Summary Report

Apr 16, 2024 – 12:13 pm BST

PDB ID	:	7O80
EMDB ID	:	EMD-12758
Title	:	Rabbit 80S ribosome in complex with eRF1 and ABCE1 stalled at the STOP codon in the mutated SARS-CoV-2 slippery site
Authors	:	Bhatt, P.R.; Scaiola, A.; Leibundgut, M.A.; Atkins, J.F.; Ban, N.
Deposited on	:	2021-04-14
Resolution	:	2.90 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

EMDB validation analysis	:	0.0.1.dev92
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	FAILED
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	FAILED
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.90 Å.

There are no overall percentile quality scores available for this entry.

MolProbity failed to run properly - the sequence quality summary graphics cannot be shown.

2 Entry composition (i)

There are 95 unique types of molecules in this entry. The entry contains 235677 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 18S rRNA.

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

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 2 is a protein called 40S ribosomal protein S27.

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

- Molecule 3 is a protein called Ribosomal protein S28.

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

- Molecule 4 is a protein called Ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	AC	73	601	379	115	100	7	0	0

- Molecule 5 is a protein called 40S ribosomal protein S30.

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

- Molecule 6 is a protein called Ribosomal protein eS26.

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

- Molecule 7 is a protein called RACK1.

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

- Molecule 8 is a protein called uS14.

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

- Molecule 9 is a RNA chain called mRNA containing SARS-CoV-2 sequence.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AH	24	Total	C	N	O	P	0	0
			508	227	84	173	24		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AH	3466	U	A	conflict	GB NC_045512.2
AH	3468	A	C	conflict	GB NC_045512.2

- Molecule 10 is a RNA chain called E-site tRNA.

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

- Molecule 11 is a RNA chain called P-site Leu-tRNA(Leu).

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AT	86	Total	C	N	O	P	0	0
			1840	820	330	604	86		

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

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

- Molecule 13 is a protein called 40S ribosomal protein S3a.

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

- Molecule 14 is a protein called Ribosomal protein uS5.

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

- Molecule 15 is a protein called 40S ribosomal protein S3.

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

- Molecule 16 is a protein called Ribosomal protein eS4.

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

- Molecule 17 is a protein called Ribosomal protein S5.

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

- Molecule 18 is a protein called 40S ribosomal protein S6.

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

- Molecule 19 is a protein called 40S ribosomal protein S7.

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

- Molecule 20 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	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	conflict	UNP G1TJW1

- Molecule 21 is a protein called Ribosomal protein S9 (Predicted).

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

- Molecule 22 is a protein called Ribosomal protein eS10.

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

- Molecule 23 is a protein called 40S ribosomal protein S11.

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

- Molecule 24 is a protein called 40S ribosomal protein S12.

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

- Molecule 25 is a protein called uS15.

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

- Molecule 26 is a protein called 40S ribosomal protein uS11.

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

- Molecule 27 is a protein called 40S ribosomal protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Ao	133	Total	C	N	O	S	0	0
			1091	694	205	185	7		

- Molecule 28 is a protein called Ribosomal protein S16.

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

- Molecule 29 is a protein called 40S ribosomal protein eS17.

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

- Molecule 30 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Ar	145	Total	C	N	O	S	0	0
			1200	753	242	204	1		

- Molecule 31 is a protein called Ribosomal protein eS19.

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

- Molecule 32 is a protein called 40S ribosomal protein uS10.

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

- Molecule 33 is a protein called Ribosomal protein eS21.

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

- Molecule 34 is a protein called Ribosomal protein S15a.

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

- Molecule 35 is a protein called 40S ribosomal protein S23.

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

- Molecule 36 is a protein called 40S ribosomal protein S24.

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

- Molecule 37 is a protein called 40S ribosomal protein S25.

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

- 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 RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	B5	3764	Total	C	N	O	P	0	0
			80772	36003	14762	26243	3764		

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 40 is a RNA chain called 5S rRNA.

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

- Molecule 41 is a RNA chain called 5.8S rRNA.

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

- Molecule 42 is a protein called Ribosomal protein uL2.

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

- Molecule 43 is a protein called Ribosomal protein L3.

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

- Molecule 44 is a protein called 60S ribosomal protein L4.

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

- Molecule 45 is a protein called Ribosomal_L18_c domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	BD	294	Total	C	N	O	S	0	0
			2398	1516	439	429	14		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BD	2	AAC	GLY	conflict	UNP G1SYJ6

- Molecule 46 is a protein called 60S ribosomal protein L6.

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

- Molecule 47 is a protein called Ribosomal Protein uL30.

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

- Molecule 48 is a protein called Ribosomal protein eL8.

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

- Molecule 49 is a protein called 60S ribosomal protein L9.

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

- Molecule 50 is a protein called 60S ribosomal protein L10.

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

- Molecule 51 is a protein called Ribosomal protein L11.

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

- Molecule 52 is a protein called Replicase polyprotein 1ab.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	BK	36	Total	C	N	O	S	0	0
			273	169	46	52	6		

- Molecule 53 is a protein called Ribosomal protein eL13.

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

- Molecule 54 is a protein called Ribosomal protein L14.

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

- Molecule 55 is a protein called Ribosomal protein L15.

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

- Molecule 56 is a protein called Ribosomal protein L13a.

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

- Molecule 57 is a protein called uL22.

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

- Molecule 58 is a protein called Ribosomal protein L18.

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

- Molecule 59 is a protein called 60S ribosomal protein L19.

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

- Molecule 60 is a protein called Ribosomal protein L18a.

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

- Molecule 61 is a protein called eL21.

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

- Molecule 62 is a protein called Ribosomal protein eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	BU	99	Total	C	N	O	S	0	0
			806	516	141	147	2		

- Molecule 63 is a protein called Ribosomal protein L23.

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

- Molecule 64 is a protein called eL24.

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

- Molecule 65 is a protein called uL23.

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

- Molecule 66 is a protein called Ribosomal protein L26.

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

- Molecule 67 is a protein called 60S ribosomal protein L27.

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

- Molecule 68 is a protein called 60S ribosomal protein L27a.

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

- Molecule 69 is a protein called 60S ribosomal protein L29.

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

- Molecule 70 is a protein called eL30.

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

- Molecule 71 is a protein called eL31.

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

- Molecule 72 is a protein called eL32.

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

- Molecule 73 is a protein called eL33.

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

- Molecule 74 is a protein called 60S ribosomal protein L34.

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

- Molecule 75 is a protein called uL29.

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

- Molecule 76 is a protein called 60S ribosomal protein L36.

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

- Molecule 77 is a protein called Ribosomal protein L37.

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

- Molecule 78 is a protein called eL38.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	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	conflict	UNP G1U001

- Molecule 79 is a protein called eL39.

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

- Molecule 80 is a protein called 60S ribosomal protein L40.

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

- Molecule 81 is a protein called eL42.

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

- Molecule 82 is a protein called eL43.

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

- Molecule 83 is a protein called Ribosomal protein eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	Br	126	Total	C	N	O	S	0	0
			1014	629	209	170	6		

- Molecule 84 is a protein called 60S acidic ribosomal protein P0.

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

- Molecule 85 is a protein called Ribosomal protein L12.

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

- Molecule 86 is a protein called Ribosomal protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
86	Bv	212	Total	C	N	O	S	0	0
			1707	1092	308	299	8		

- Molecule 87 is a protein called Eukaryotic peptide chain release factor subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
87	By	416	Total	C	N	O	S	0	0
			3280	2087	559	623	11		

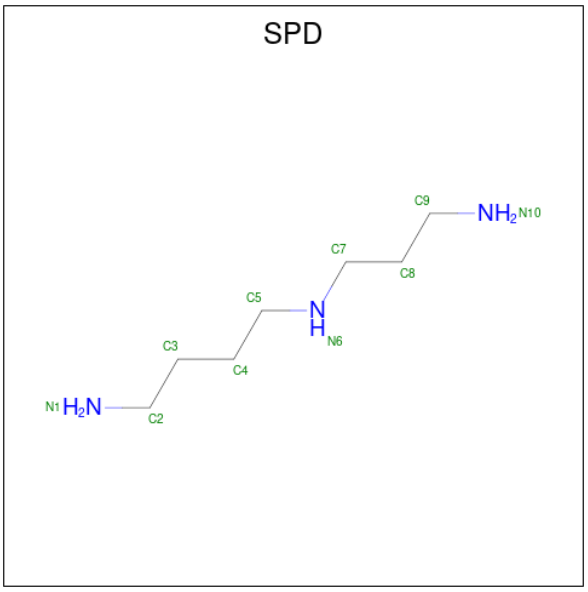
There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
By	183	ALA	GLY	engineered mutation	UNP P62497
By	184	ALA	GLY	engineered mutation	UNP P62497

- Molecule 88 is a protein called ATP binding cassette subfamily E member 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
88	Bz	595	Total	C	N	O	S	0	0
			4668	2982	801	854	31		

- Molecule 89 is SPERMIDINE (three-letter code: SPD) (formula: $C_7H_{19}N_3$).



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

- Molecule 90 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	AltConf
90	A2	102	Total Mg 102 102	0
90	AH	1	Total Mg 1 1	0
90	AT	2	Total Mg 2 2	0
90	B5	235	Total Mg 235 235	0
90	B7	4	Total Mg 4 4	0
90	B8	6	Total Mg 6 6	0
90	BI	1	Total Mg 1 1	0
90	BP	1	Total Mg 1 1	0
90	BR	1	Total Mg 1 1	0
90	BV	1	Total Mg 1 1	0
90	Ba	1	Total Mg 1 1	0

- Molecule 91 is UNKNOWN ATOM OR ION (three-letter code: UNX) (formula: X).

Mol	Chain	Residues	Atoms	AltConf
91	A2	76	Total X 76 76	0
91	AT	4	Total X 4 4	0
91	Ab	1	Total X 1 1	0
91	Ak	1	Total X 1 1	0
91	Ar	1	Total X 1 1	0
91	B5	244	Total X 244 244	0
91	B7	10	Total X 10 10	0
91	B8	16	Total X 16 16	0
91	BA	2	Total X 2 2	0
91	BB	3	Total X 3 3	0
91	BC	1	Total X 1 1	0
91	BH	1	Total X 1 1	0
91	BI	1	Total X 1 1	0
91	BL	1	Total X 1 1	0
91	BN	2	Total X 2 2	0
91	BP	1	Total X 1 1	0
91	BQ	2	Total X 2 2	0
91	BT	1	Total X 1 1	0
91	Bb	1	Total X 1 1	0
91	Be	2	Total X 2 2	0
91	Bf	1	Total X 1 1	0

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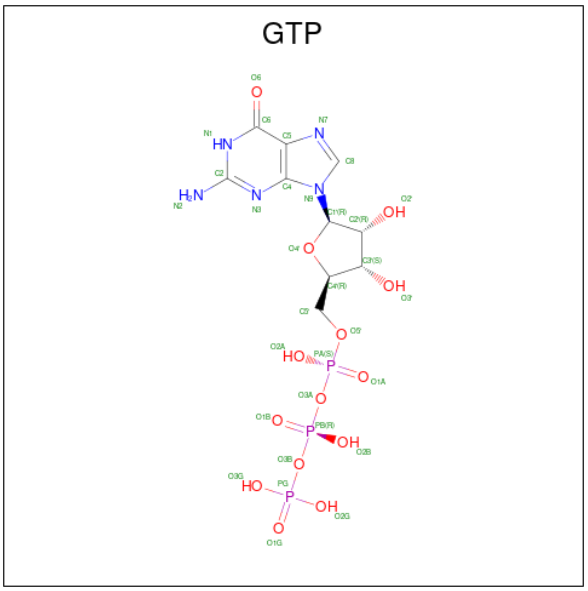
Mol	Chain	Residues	Atoms	AltConf
91	Bg	1	Total X 1 1	0
91	Bo	1	Total X 1 1	0

- Molecule 92 is ZINC ION (three-letter code: ZN) (formula: Zn).

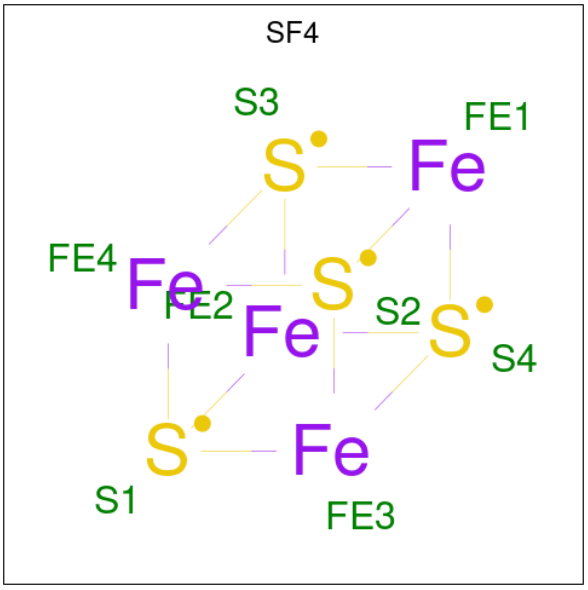
Mol	Chain	Residues	Atoms	AltConf
92	AC	1	Total Zn 1 1	0
92	AE	1	Total Zn 1 1	0
92	AG	1	Total Zn 1 1	0
92	Bg	1	Total Zn 1 1	0
92	Bj	1	Total Zn 1 1	0
92	Bm	1	Total Zn 1 1	0
92	Bo	1	Total Zn 1 1	0
92	Bp	1	Total Zn 1 1	0

- Molecule 93 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



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

- Molecule 94 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe_4S_4).



Mol	Chain	Residues	Atoms			AltConf
94	Bz	1	Total	Fe	S	0
			8	4	4	
94	Bz	1	Total	Fe	S	0
			8	4	4	

- Molecule 95 is water.

Mol	Chain	Residues	Atoms		AltConf
95	A2	473	Total	O	0
			473	473	
95	AH	10	Total	O	0
			10	10	
95	AT	12	Total	O	0
			12	12	
95	Aa	2	Total	O	0
			2	2	
95	Ab	1	Total	O	0
			1	1	
95	Ad	1	Total	O	0
			1	1	
95	Af	2	Total	O	0
			2	2	

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Mol	Chain	Residues	Atoms	AltConf
95	Ak	1	Total O 1 1	0
95	Am	1	Total O 1 1	0
95	An	2	Total O 2 2	0
95	Ap	4	Total O 4 4	0
95	Ar	1	Total O 1 1	0
95	As	4	Total O 4 4	0
95	Aw	4	Total O 4 4	0
95	B5	1117	Total O 1117 1117	0
95	B7	17	Total O 17 17	0
95	B8	31	Total O 31 31	0
95	BA	5	Total O 5 5	0
95	BB	7	Total O 7 7	0
95	BC	3	Total O 3 3	0
95	BD	1	Total O 1 1	0
95	BF	1	Total O 1 1	0
95	BH	1	Total O 1 1	0
95	BI	1	Total O 1 1	0
95	BL	1	Total O 1 1	0
95	BN	2	Total O 2 2	0
95	BO	3	Total O 3 3	0
95	BP	3	Total O 3 3	0

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Mol	Chain	Residues	Atoms	AltConf
95	BR	5	Total O 5 5	0
95	BV	4	Total O 4 4	0
95	BX	1	Total O 1 1	0
95	BY	1	Total O 1 1	0
95	Ba	7	Total O 7 7	0
95	Bb	1	Total O 1 1	0
95	Bd	1	Total O 1 1	0
95	Be	4	Total O 4 4	0
95	Bf	1	Total O 1 1	0
95	By	1	Total O 1 1	0

MolProbity failed to run properly - this section is therefore empty.

3 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	55057	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 ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	56604	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor

4 Model quality

4.1 Standard geometry

MolProbity failed to run properly - this section is therefore empty.

4.2 Too-close contacts

MolProbity failed to run properly - this section is therefore empty.

4.3 Torsion angles

4.3.1 Protein backbone

MolProbity failed to run properly - this section is therefore empty.

4.3.2 Protein sidechains

MolProbity failed to run properly - this section is therefore empty.

4.3.3 RNA

MolProbity failed to run properly - this section is therefore empty.

4.4 Non-standard residues in protein, DNA, RNA chains

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
41	OMG	B8	75	41	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
1	PSU	A2	573	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
39	OMC	B5	4202	39	19,22,23	0.82	0	26,31,34	0.80	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	A2M	A2	1032	1	18,25,26	1.01	1 (5%)	18,36,39	1.26	2 (11%)
39	A2M	B5	3450	39	18,25,26	1.02	1 (5%)	18,36,39	1.21	2 (11%)
39	5MC	B5	4193	39	18,22,23	0.98	2 (11%)	26,32,35	1.19	2 (7%)
1	A2M	A2	166	1	18,25,26	1.05	1 (5%)	18,36,39	1.28	2 (11%)
1	PSU	A2	1047	1	18,21,22	1.36	2 (11%)	22,30,33	1.89	3 (13%)
39	OMC	B5	2194	90,39	19,22,23	0.82	0	26,31,34	0.92	2 (7%)
39	PSU	B5	1537	39	18,21,22	1.36	2 (11%)	22,30,33	1.88	3 (13%)
42	V5N	BA	216	42	4,11,12	0.77	0	5,14,16	1.54	1 (20%)
39	OMU	B5	3973	39	19,22,23	1.24	3 (15%)	26,31,34	1.69	4 (15%)
1	A2M	A2	577	1	18,25,26	1.01	1 (5%)	18,36,39	1.22	2 (11%)
39	OMU	B5	2680	39	19,22,23	1.23	2 (10%)	26,31,34	1.75	5 (19%)
1	PSU	A2	1178	1	18,21,22	1.35	2 (11%)	22,30,33	1.90	3 (13%)
1	OMG	A2	1329	1	18,26,27	0.94	1 (5%)	19,38,41	1.10	2 (10%)
1	OMG	A2	1491	90,1	18,26,27	0.92	1 (5%)	19,38,41	1.08	2 (10%)
39	OMC	B5	3540	39	19,22,23	0.82	0	26,31,34	0.84	1 (3%)
39	PSU	B5	4435	39	18,21,22	1.36	2 (11%)	22,30,33	1.94	3 (13%)
1	OMG	A2	510	90,1	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
1	OMC	A2	518	1	19,22,23	0.81	0	26,31,34	0.81	0
1	OMC	A2	1392	1	19,22,23	0.82	0	26,31,34	0.88	1 (3%)
39	PSU	B5	4203	39	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
81	MLZ	Bo	53	81	8,9,10	0.48	0	4,9,11	0.09	0
39	OMU	B5	4366	39	19,22,23	1.24	4 (21%)	26,31,34	1.75	4 (15%)
1	PSU	A2	407	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
39	PSU	B5	4169	39	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
11	5MU	AT	64	11	19,22,23	1.42	5 (26%)	28,32,35	2.02	5 (17%)
1	PSU	A2	1239	1	18,21,22	1.36	2 (11%)	22,30,33	1.89	3 (13%)
39	PSU	B5	4278	39	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
39	PSU	B5	4711	39	18,21,22	1.34	2 (11%)	22,30,33	1.89	4 (18%)
1	PSU	A2	1057	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
1	A2M	A2	27	90,1	18,25,26	1.02	1 (5%)	18,36,39	1.23	2 (11%)
39	OMG	B5	4383	39	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
1	OMC	A2	174	90,1	19,22,23	0.82	0	26,31,34	0.80	0
39	PSU	B5	1721	39	18,21,22	1.35	2 (11%)	22,30,33	1.90	4 (18%)
39	A2M	B5	1489	90,39	18,25,26	1.00	1 (5%)	18,36,39	1.33	2 (11%)
1	PSU	A2	815	1	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	OMU	B5	4244	39	19,22,23	1.21	2 (10%)	26,31,34	1.74	5 (19%)
69	MLZ	Bb	5	69	8,9,10	0.49	0	4,9,11	0.24	0
1	PSU	A2	967	1	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
39	OMC	B5	2265	90,39	19,22,23	0.82	0	26,31,34	0.88	1 (3%)
1	B8N	A2	1249	1	24,29,30	1.28	3 (12%)	29,42,45	1.30	3 (10%)
39	1MA	B5	1266	90,39	16,25,26	1.54	2 (12%)	18,37,40	1.06	3 (16%)
39	OMG	B5	1477	39	18,26,27	0.94	1 (5%)	19,38,41	1.09	2 (10%)
39	PSU	B5	2475	39	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
39	OMG	B5	3942	39,11	18,26,27	0.92	1 (5%)	19,38,41	1.09	3 (15%)
39	OMG	B5	3974	39	18,26,27	0.89	1 (5%)	19,38,41	1.12	2 (10%)
41	PSU	B8	55	41	18,21,22	1.34	2 (11%)	22,30,33	1.91	4 (18%)
39	PSU	B5	1801	39	18,21,22	1.34	2 (11%)	22,30,33	1.92	4 (18%)
39	6MZ	B5	3966	39	18,25,26	0.86	1 (5%)	16,36,39	2.19	4 (25%)
1	A2M	A2	159	1	18,25,26	1.02	1 (5%)	18,36,39	1.39	2 (11%)
1	PSU	A2	1082	1	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
39	OMG	B5	3676	39	18,26,27	0.92	1 (5%)	19,38,41	1.11	2 (10%)
39	A2M	B5	3517	39	18,25,26	0.92	1 (5%)	18,36,39	1.38	2 (11%)
11	PSU	AT	65	11	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	A2	669	90,1	18,25,26	0.97	1 (5%)	18,36,39	1.32	2 (11%)
1	MA6	A2	1852	1	18,26,27	0.94	1 (5%)	19,38,41	1.43	3 (15%)
1	PSU	A2	1233	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
39	PSU	B5	4740	39	18,21,22	1.36	2 (11%)	22,30,33	1.89	3 (13%)
30	SAC	Ar	2	30	7,8,9	0.54	0	8,9,11	0.92	1 (12%)
39	PSU	B5	1491	39	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
39	UR3	B5	4276	39	19,22,23	0.99	0	26,32,35	1.43	1 (3%)
39	PSU	B5	3652	90,39	18,21,22	1.36	2 (11%)	22,30,33	1.88	3 (13%)
39	A2M	B5	1810	90,39	18,25,26	1.01	1 (5%)	18,36,39	1.24	2 (11%)
1	A2M	A2	469	1	18,25,26	1.02	1 (5%)	18,36,39	1.24	2 (11%)
39	OMG	B5	1580	39	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
1	OMU	A2	1327	90,1	19,22,23	1.20	2 (10%)	26,31,34	1.71	5 (19%)
39	PSU	B5	4382	39	18,21,22	1.33	2 (11%)	22,30,33	1.88	3 (13%)
39	OMG	B5	3359	39	18,26,27	0.93	1 (5%)	19,38,41	1.13	2 (10%)
1	OMU	A2	1289	1	19,22,23	1.22	3 (15%)	26,31,34	1.66	4 (15%)
39	PSU	B5	4374	39	18,21,22	1.35	2 (11%)	22,30,33	1.92	3 (13%)
39	PSU	B5	3466	39	18,21,22	1.33	2 (11%)	22,30,33	1.89	4 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	OMG	B5	3631	39	18,26,27	0.94	1 (5%)	19,38,41	1.09	2 (10%)
39	PSU	B5	4298	39	18,21,22	1.34	2 (11%)	22,30,33	1.92	3 (13%)
39	A2M	B5	3599	39	18,25,26	0.99	1 (5%)	18,36,39	1.22	2 (11%)
43	HIC	BB	245	43	8,11,12	0.88	0	6,14,16	0.84	0
39	PSU	B5	3585	90,39	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
39	OMG	B5	2719	39	18,26,27	0.92	1 (5%)	19,38,41	1.07	2 (10%)
1	PSU	A2	682	1	18,21,22	1.36	2 (11%)	22,30,33	1.89	3 (13%)
39	A2M	B5	3557	39	18,25,26	1.01	1 (5%)	18,36,39	1.20	2 (11%)
39	OMU	B5	4052	39	19,22,23	1.24	3 (15%)	26,31,34	1.69	5 (19%)
39	PSU	B5	4749	39	18,21,22	1.34	2 (11%)	22,30,33	1.91	3 (13%)
1	OMC	A2	1704	1	19,22,23	0.81	0	26,31,34	0.84	1 (3%)
1	OMG	A2	684	1	18,26,27	0.92	1 (5%)	19,38,41	1.12	2 (10%)
39	OMC	B5	3601	39	19,22,23	0.82	0	26,31,34	0.76	0
39	OMG	B5	3476	39	18,26,27	0.93	1 (5%)	19,38,41	1.09	2 (10%)
39	OMG	B5	2267	39	18,26,27	0.92	1 (5%)	19,38,41	1.06	2 (10%)
1	OMU	A2	116	1	19,22,23	1.19	2 (10%)	26,31,34	1.69	5 (19%)
39	OMG	B5	4240	39	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
39	OMG	B5	4369	39	18,26,27	0.94	1 (5%)	19,38,41	1.12	2 (10%)
1	PSU	A2	1005	1	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	A2	1368	1	18,21,22	1.34	2 (11%)	22,30,33	1.90	3 (13%)
39	OMG	B5	4364	39	18,26,27	0.93	1 (5%)	19,38,41	1.10	2 (10%)
1	OMU	A2	121	1	19,22,23	1.23	3 (15%)	26,31,34	1.70	4 (15%)
1	OMG	A2	437	1	18,26,27	0.92	1 (5%)	19,38,41	1.09	2 (10%)
39	PSU	B5	3496	39	18,21,22	1.34	2 (11%)	22,30,33	1.92	4 (18%)
39	PSU	B5	2351	39	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
1	PSU	A2	1046	1	18,21,22	1.35	2 (11%)	22,30,33	1.90	3 (13%)
39	A2M	B5	3492	39	18,25,26	1.03	1 (5%)	18,36,39	1.33	2 (11%)
39	A2M	B5	4336	39	18,25,26	1.02	1 (5%)	18,36,39	1.20	2 (11%)
39	PSU	B5	4325	39	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
39	UY1	B5	3550	39	19,22,23	1.36	3 (15%)	22,31,34	1.96	5 (22%)
1	4AC	A2	1843	1	21,24,25	1.11	2 (9%)	29,34,37	1.21	3 (10%)
1	PSU	A2	119	1	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	A2	1175	1	18,21,22	1.36	2 (11%)	22,30,33	1.93	3 (13%)
1	A2M	A2	591	1	18,25,26	1.05	1 (5%)	18,36,39	1.21	2 (11%)
39	A2M	B5	3562	39	18,25,26	1.01	1 (5%)	18,36,39	1.24	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	PSU	B5	3576	39	18,21,22	1.36	2 (11%)	22,30,33	1.88	3 (13%)
1	PSU	A2	210	1	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
39	PSU	B5	3502	39	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
39	OMG	B5	2207	39	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
39	A2M	B5	1270	39	18,25,26	0.95	1 (5%)	18,36,39	1.26	2 (11%)
39	OMC	B5	2667	39	19,22,23	0.81	0	26,31,34	0.84	1 (3%)
31	NMM	As	67	31	9,11,12	0.59	0	6,12,14	0.39	0
1	A2M	A2	513	1	18,25,26	1.01	1 (5%)	18,36,39	1.19	2 (11%)
39	PSU	B5	1632	39	18,21,22	1.35	2 (11%)	22,30,33	1.89	4 (18%)
44	AYA	BC	2	44	6,7,8	0.76	0	5,8,10	0.28	0
1	MA6	A2	1851	1	18,26,27	0.94	1 (5%)	19,38,41	1.58	3 (15%)
1	PSU	A2	1446	1	18,21,22	1.34	2 (11%)	22,30,33	1.91	4 (18%)
1	A2M	A2	485	1	18,25,26	1.02	1 (5%)	18,36,39	1.22	2 (11%)
39	PSU	B5	1683	39	18,21,22	1.33	2 (11%)	22,30,33	1.90	3 (13%)
39	PSU	B5	4188	39	18,21,22	1.35	2 (11%)	22,30,33	1.92	3 (13%)
41	PSU	B8	69	41	18,21,22	1.36	2 (11%)	22,30,33	1.92	3 (13%)
80	M3L	Bm	98	80	10,11,12	0.82	0	9,14,16	0.47	0
1	G7M	A2	1640	11,1	20,26,27	2.62	4 (20%)	17,39,42	0.93	1 (5%)
68	V5N	Ba	39	68	4,11,12	0.77	0	5,14,16	1.54	1 (20%)
39	OMG	B5	4138	39	18,26,27	0.92	1 (5%)	19,38,41	1.10	2 (10%)
1	PSU	A2	93	1	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
39	A2M	B5	2630	90,39	18,25,26	0.96	1 (5%)	18,36,39	1.34	2 (11%)
39	OMG	B5	1260	39	18,26,27	0.93	1 (5%)	19,38,41	1.17	2 (10%)
1	6MZ	A2	1833	90,1	18,25,26	0.92	1 (5%)	16,36,39	1.77	4 (25%)
39	OMC	B5	2704	39	19,22,23	0.81	0	26,31,34	0.77	0
39	PSU	B5	1638	39	18,21,22	1.36	2 (11%)	22,30,33	1.94	3 (13%)
39	A2M	B5	2244	90,39	18,25,26	1.01	1 (5%)	18,36,39	1.22	2 (11%)
39	A2M	B5	3456	39	18,25,26	1.03	1 (5%)	18,36,39	1.22	2 (11%)
1	PSU	A2	864	1	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
39	PSU	B5	4246	39	18,21,22	1.34	2 (11%)	22,30,33	1.92	3 (13%)
1	PSU	A2	218	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
39	PSU	B5	4267	90,39	18,21,22	1.35	2 (11%)	22,30,33	1.94	4 (18%)
1	PSU	A2	802	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
39	A2M	B5	400	39	18,25,26	1.00	1 (5%)	18,36,39	1.22	2 (11%)
1	A2M	A2	99	90,1	18,25,26	1.04	1 (5%)	18,36,39	1.25	2 (11%)
39	OMC	B5	2647	39	19,22,23	0.81	0	26,31,34	0.81	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	PSU	B5	4177	39	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	A2	109	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
39	PSU	B5	4099	39	18,21,22	1.34	2 (11%)	22,30,33	1.91	3 (13%)
1	PSU	A2	1693	1	18,21,22	1.37	2 (11%)	22,30,33	1.88	3 (13%)
39	PSU	B5	3447	39	18,21,22	1.36	2 (11%)	22,30,33	1.91	3 (13%)
39	OMC	B5	3573	39	19,22,23	0.80	0	26,31,34	0.82	0
1	OMU	A2	172	1	19,22,23	1.19	2 (10%)	26,31,34	1.71	4 (15%)
1	OMU	A2	355	1	19,22,23	1.22	2 (10%)	26,31,34	1.73	4 (15%)
39	OMG	B5	4116	39	18,26,27	0.94	1 (5%)	19,38,41	1.07	2 (10%)
39	PSU	B5	4042	39	18,21,22	1.33	2 (11%)	22,30,33	1.92	3 (13%)
39	OMG	B5	4245	39	18,26,27	0.93	1 (5%)	19,38,41	1.05	2 (10%)
1	A2M	A2	1384	1	18,25,26	1.02	1 (5%)	18,36,39	1.20	2 (11%)
39	PSU	B5	3369	39	18,21,22	1.35	2 (11%)	22,30,33	1.90	4 (18%)
39	PSU	B5	1799	39	18,21,22	1.36	2 (11%)	22,30,33	1.93	3 (13%)
1	4AC	A2	1338	1	21,24,25	1.06	1 (4%)	29,34,37	1.27	3 (10%)
1	PSU	A2	687	1	18,21,22	1.33	2 (11%)	22,30,33	1.89	3 (13%)
1	OMG	A2	645	1	18,26,27	0.93	1 (5%)	19,38,41	1.10	2 (10%)
39	PSU	B5	4107	39	18,21,22	1.37	2 (11%)	22,30,33	1.88	3 (13%)
39	PSU	B5	3583	39	18,21,22	1.35	2 (11%)	22,30,33	1.91	3 (13%)
1	PSU	A2	652	1	18,21,22	1.35	2 (11%)	22,30,33	1.92	4 (18%)
1	OMU	A2	628	1	19,22,23	1.18	2 (10%)	26,31,34	1.71	5 (19%)
39	PSU	B5	4039	39	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
1	PSU	A2	105	1	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
33	AME	Au	1	33	9,10,11	0.48	0	9,11,13	0.85	1 (11%)
1	OMC	A2	463	1	19,22,23	0.81	0	26,31,34	0.82	0
39	A2M	B5	2658	39	18,25,26	1.01	1 (5%)	18,36,39	1.23	2 (11%)
39	PSU	B5	4322	39	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
39	PSU	B5	3427	39	18,21,22	1.37	2 (11%)	22,30,33	1.89	3 (13%)
39	PSU	B5	4058	39	18,21,22	1.36	2 (11%)	22,30,33	1.91	3 (13%)
39	5MC	B5	3514	90,39	18,22,23	0.96	2 (11%)	26,32,35	1.20	3 (11%)
83	SAC	Br	2	83	7,8,9	0.53	0	8,9,11	0.82	1 (12%)
1	PSU	A2	1245	1	18,21,22	1.33	2 (11%)	22,30,33	1.90	3 (13%)
1	OMU	A2	1805	1	19,22,23	1.23	3 (15%)	26,31,34	1.71	4 (15%)
39	PSU	B5	4149	39	18,21,22	1.36	2 (11%)	22,30,33	1.94	4 (18%)
39	OMC	B5	4282	39	19,22,23	0.82	0	26,31,34	0.82	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	PSU	A2	867	1	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
39	PSU	B5	3371	39	18,21,22	1.37	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	A2	823	1	18,21,22	1.36	2 (11%)	22,30,33	1.91	4 (18%)
39	A2M	B5	1479	39	18,25,26	1.02	1 (5%)	18,36,39	1.26	2 (11%)
1	OMU	A2	429	1	19,22,23	1.19	2 (10%)	26,31,34	1.70	5 (19%)
39	PSU	B5	3500	39	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
35	HY3	Aw	62	35	6,8,9	2.13	1 (16%)	5,10,12	1.12	1 (20%)
1	PSU	A2	1348	1	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
1	PSU	A2	1644	90,1	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
1	PSU	A2	816	1	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
39	OMC	B5	3619	39	19,22,23	0.81	0	26,31,34	0.78	0
39	PSU	B5	4166	39	18,21,22	1.37	2 (11%)	22,30,33	1.81	3 (13%)
39	PSU	B5	1731	39	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
39	PSU	B5	4045	39	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
1	OMG	A2	1448	1	18,26,27	0.92	1 (5%)	19,38,41	1.08	2 (10%)
39	PSU	B5	1718	39	18,21,22	1.33	2 (11%)	22,30,33	1.88	3 (13%)
39	PSU	B5	3616	39	18,21,22	1.38	2 (11%)	22,30,33	1.93	3 (13%)
1	PSU	A2	36	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
1	A2M	A2	1679	1	18,25,26	1.02	1 (5%)	18,36,39	1.24	2 (11%)
39	PSU	B5	1720	39	18,21,22	1.36	2 (11%)	22,30,33	1.88	3 (13%)
39	A2M	B5	4269	90,39	18,25,26	1.01	1 (5%)	18,36,39	1.25	2 (11%)
39	A2M	B5	4317	39	18,25,26	1.01	1 (5%)	18,36,39	1.27	2 (11%)
39	A2M	B5	398	39	18,25,26	1.01	1 (5%)	18,36,39	1.25	2 (11%)
39	OMU	B5	3657	39	19,22,23	1.23	2 (10%)	26,31,34	1.74	5 (19%)
1	PSU	A2	610	1	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
39	PSU	B5	4419	39	18,21,22	1.35	2 (11%)	22,30,33	1.90	3 (13%)
39	PSU	B5	3490	39	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
39	OMC	B5	1284	39	19,22,23	0.83	0	26,31,34	0.80	0
1	PSU	A2	34	1	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
39	OMC	B5	2208	90,39	19,22,23	0.82	0	26,31,34	0.79	0
39	OMU	B5	2258	39	19,22,23	1.21	3 (15%)	26,31,34	1.68	4 (15%)
1	OMU	A2	1443	90,1	19,22,23	1.23	2 (10%)	26,31,34	1.70	4 (15%)
39	PSU	B5	3554	39	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
1	OMG	A2	602	1	18,26,27	0.93	1 (5%)	19,38,41	1.07	2 (10%)
39	A2M	B5	2206	90,39	18,25,26	1.00	1 (5%)	18,36,39	1.22	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
1	PSU	A2	650	1	18,21,22	1.34	2 (11%)	22,30,33	1.90	4 (18%)
39	OMC	B5	3433	39	19,22,23	0.80	0	26,31,34	0.80	0
1	OMG	A2	868	1	18,26,27	0.95	1 (5%)	19,38,41	1.08	2 (10%)
39	OMG	B5	3524	39	18,26,27	0.93	1 (5%)	19,38,41	1.07	2 (10%)
39	OMC	B5	1820	90,39	19,22,23	0.80	0	26,31,34	0.83	0
39	PSU	B5	3462	39	18,21,22	1.34	2 (11%)	22,30,33	1.91	3 (13%)
12	SAC	AZ	2	12	7,8,9	0.53	0	8,9,11	0.86	1 (12%)
39	PSU	B5	4217	39	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
39	PSU	B5	3494	39	18,21,22	1.38	2 (11%)	22,30,33	1.89	3 (13%)
1	PSU	A2	1626	1	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
41	OMG	B8	75	41	-	1/5/27/28	0/3/3/3
1	PSU	A2	573	1	-	0/7/25/26	0/2/2/2
39	OMC	B5	4202	39	-	0/9/27/28	0/2/2/2
1	A2M	A2	1032	1	-	0/5/27/28	0/3/3/3
39	A2M	B5	3450	39	-	1/5/27/28	0/3/3/3
39	5MC	B5	4193	39	-	4/7/25/26	0/2/2/2
1	A2M	A2	166	1	-	0/5/27/28	0/3/3/3
1	PSU	A2	1047	1	-	0/7/25/26	0/2/2/2
39	OMC	B5	2194	90,39	-	2/9/27/28	0/2/2/2
39	PSU	B5	1537	39	-	0/7/25/26	0/2/2/2
42	V5N	BA	216	42	-	1/5/10/12	0/1/1/1
39	OMU	B5	3973	39	-	1/9/27/28	0/2/2/2
1	A2M	A2	577	1	-	2/5/27/28	0/3/3/3
39	OMU	B5	2680	39	-	1/9/27/28	0/2/2/2
1	PSU	A2	1178	1	-	0/7/25/26	0/2/2/2
1	OMG	A2	1329	1	-	0/5/27/28	0/3/3/3
1	OMG	A2	1491	90,1	-	1/5/27/28	0/3/3/3
39	OMC	B5	3540	39	-	1/9/27/28	0/2/2/2
39	PSU	B5	4435	39	-	0/7/25/26	0/2/2/2
1	OMG	A2	510	90,1	-	1/5/27/28	0/3/3/3
1	OMC	A2	518	1	-	0/9/27/28	0/2/2/2
1	OMC	A2	1392	1	-	0/9/27/28	0/2/2/2
39	PSU	B5	4203	39	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
81	MLZ	Bo	53	81	-	0/7/8/10	-
39	OMU	B5	4366	39	-	0/9/27/28	0/2/2/2
1	PSU	A2	407	1	-	0/7/25/26	0/2/2/2
39	PSU	B5	4169	39	-	0/7/25/26	0/2/2/2
11	5MU	AT	64	11	-	0/7/25/26	0/2/2/2
1	PSU	A2	1239	1	-	0/7/25/26	0/2/2/2
39	PSU	B5	4278	39	-	2/7/25/26	0/2/2/2
39	PSU	B5	4711	39	-	0/7/25/26	0/2/2/2
1	PSU	A2	1057	1	-	0/7/25/26	0/2/2/2
1	A2M	A2	27	90,1	-	0/5/27/28	0/3/3/3
39	OMG	B5	4383	39	-	1/5/27/28	0/3/3/3
1	OMC	A2	174	90,1	-	0/9/27/28	0/2/2/2
39	PSU	B5	1721	39	-	0/7/25/26	0/2/2/2
39	A2M	B5	1489	90,39	-	1/5/27/28	0/3/3/3
1	PSU	A2	815	1	-	0/7/25/26	0/2/2/2
39	OMU	B5	4244	39	-	0/9/27/28	0/2/2/2
69	MLZ	Bb	5	69	-	2/7/8/10	-
1	PSU	A2	967	1	-	0/7/25/26	0/2/2/2
39	OMC	B5	2265	90,39	-	1/9/27/28	0/2/2/2
1	B8N	A2	1249	1	-	4/16/34/35	0/2/2/2
39	1MA	B5	1266	90,39	-	0/3/25/26	0/3/3/3
39	OMG	B5	1477	39	-	0/5/27/28	0/3/3/3
39	PSU	B5	2475	39	-	0/7/25/26	0/2/2/2
39	OMG	B5	3942	39,11	-	0/5/27/28	0/3/3/3
39	OMG	B5	3974	39	-	0/5/27/28	0/3/3/3
41	PSU	B8	55	41	-	0/7/25/26	0/2/2/2
39	PSU	B5	1801	39	-	0/7/25/26	0/2/2/2
39	6MZ	B5	3966	39	-	0/5/27/28	0/3/3/3
1	A2M	A2	159	1	-	1/5/27/28	0/3/3/3
1	PSU	A2	1082	1	-	0/7/25/26	0/2/2/2
39	OMG	B5	3676	39	-	0/5/27/28	0/3/3/3
39	A2M	B5	3517	39	-	1/5/27/28	0/3/3/3
11	PSU	AT	65	11	-	0/7/25/26	0/2/2/2
1	A2M	A2	669	90,1	-	2/5/27/28	0/3/3/3
1	MA6	A2	1852	1	-	1/7/29/30	0/3/3/3
1	PSU	A2	1233	1	-	0/7/25/26	0/2/2/2
39	PSU	B5	4740	39	-	0/7/25/26	0/2/2/2
30	SAC	Ar	2	30	-	0/7/8/10	-
39	PSU	B5	1491	39	-	0/7/25/26	0/2/2/2
39	UR3	B5	4276	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	3652	90,39	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	A2M	B5	1810	90,39	-	2/5/27/28	0/3/3/3
1	A2M	A2	469	1	-	1/5/27/28	0/3/3/3
39	OMG	B5	1580	39	-	0/5/27/28	0/3/3/3
1	OMU	A2	1327	90,1	-	0/9/27/28	0/2/2/2
39	PSU	B5	4382	39	-	4/7/25/26	0/2/2/2
39	OMG	B5	3359	39	-	0/5/27/28	0/3/3/3
1	OMU	A2	1289	1	-	2/9/27/28	0/2/2/2
39	PSU	B5	4374	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	3466	39	-	0/7/25/26	0/2/2/2
39	OMG	B5	3631	39	-	1/5/27/28	0/3/3/3
39	PSU	B5	4298	39	-	0/7/25/26	0/2/2/2
39	A2M	B5	3599	39	-	2/5/27/28	0/3/3/3
43	HIC	BB	245	43	-	1/5/6/8	0/1/1/1
39	PSU	B5	3585	90,39	-	0/7/25/26	0/2/2/2
39	OMG	B5	2719	39	-	0/5/27/28	0/3/3/3
1	PSU	A2	682	1	-	0/7/25/26	0/2/2/2
39	A2M	B5	3557	39	-	1/5/27/28	0/3/3/3
39	OMU	B5	4052	39	-	0/9/27/28	0/2/2/2
39	PSU	B5	4749	39	-	0/7/25/26	0/2/2/2
1	OMC	A2	1704	1	-	2/9/27/28	0/2/2/2
1	OMG	A2	684	1	-	3/5/27/28	0/3/3/3
39	OMC	B5	3601	39	-	0/9/27/28	0/2/2/2
39	OMG	B5	3476	39	-	1/5/27/28	0/3/3/3
39	OMG	B5	2267	39	-	0/5/27/28	0/3/3/3
1	OMU	A2	116	1	-	1/9/27/28	0/2/2/2
39	OMG	B5	4240	39	-	0/5/27/28	0/3/3/3
39	OMG	B5	4369	39	-	1/5/27/28	0/3/3/3
1	PSU	A2	1005	1	-	0/7/25/26	0/2/2/2
1	PSU	A2	1368	1	-	0/7/25/26	0/2/2/2
39	OMG	B5	4364	39	-	0/5/27/28	0/3/3/3
1	OMU	A2	121	1	-	0/9/27/28	0/2/2/2
1	OMG	A2	437	1	-	0/5/27/28	0/3/3/3
39	PSU	B5	3496	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	2351	39	-	0/7/25/26	0/2/2/2
1	PSU	A2	1046	1	-	0/7/25/26	0/2/2/2
39	A2M	B5	3492	39	-	0/5/27/28	0/3/3/3
39	A2M	B5	4336	39	-	1/5/27/28	0/3/3/3
39	PSU	B5	4325	39	-	0/7/25/26	0/2/2/2
39	UY1	B5	3550	39	-	1/9/27/28	0/2/2/2
1	4AC	A2	1843	1	-	2/11/29/30	0/2/2/2
1	PSU	A2	119	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	A2	1175	1	-	0/7/25/26	0/2/2/2
1	A2M	A2	591	1	-	0/5/27/28	0/3/3/3
39	A2M	B5	3562	39	-	0/5/27/28	0/3/3/3
39	PSU	B5	3576	39	-	1/7/25/26	0/2/2/2
1	PSU	A2	210	1	-	0/7/25/26	0/2/2/2
39	PSU	B5	3502	39	-	0/7/25/26	0/2/2/2
39	OMG	B5	2207	39	-	2/5/27/28	0/3/3/3
39	A2M	B5	1270	39	-	0/5/27/28	0/3/3/3
39	OMC	B5	2667	39	-	1/9/27/28	0/2/2/2
31	NMM	As	67	31	-	0/9/11/13	-
1	A2M	A2	513	1	-	2/5/27/28	0/3/3/3
39	PSU	B5	1632	39	-	3/7/25/26	0/2/2/2
44	AYA	BC	2	44	-	3/4/6/8	-
1	MA6	A2	1851	1	-	0/7/29/30	0/3/3/3
1	PSU	A2	1446	1	-	0/7/25/26	0/2/2/2
1	A2M	A2	485	1	-	0/5/27/28	0/3/3/3
39	PSU	B5	1683	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	4188	39	-	0/7/25/26	0/2/2/2
41	PSU	B8	69	41	-	0/7/25/26	0/2/2/2
80	M3L	Bm	98	80	-	0/9/10/12	-
1	G7M	A2	1640	11,1	-	0/3/25/26	0/3/3/3
68	V5N	Ba	39	68	-	0/5/10/12	0/1/1/1
39	OMG	B5	4138	39	-	0/5/27/28	0/3/3/3
1	PSU	A2	93	1	-	0/7/25/26	0/2/2/2
39	A2M	B5	2630	90,39	-	0/5/27/28	0/3/3/3
39	OMG	B5	1260	39	-	1/5/27/28	0/3/3/3
1	6MZ	A2	1833	90,1	-	1/5/27/28	0/3/3/3
39	OMC	B5	2704	39	-	0/9/27/28	0/2/2/2
39	PSU	B5	1638	39	-	0/7/25/26	0/2/2/2
39	A2M	B5	2244	90,39	-	0/5/27/28	0/3/3/3
39	A2M	B5	3456	39	-	0/5/27/28	0/3/3/3
1	PSU	A2	864	1	-	0/7/25/26	0/2/2/2
39	PSU	B5	4246	39	-	1/7/25/26	0/2/2/2
1	PSU	A2	218	1	-	0/7/25/26	0/2/2/2
39	PSU	B5	4267	90,39	-	0/7/25/26	0/2/2/2
1	PSU	A2	802	1	-	0/7/25/26	0/2/2/2
39	A2M	B5	400	39	-	0/5/27/28	0/3/3/3
1	A2M	A2	99	90,1	-	2/5/27/28	0/3/3/3
39	OMC	B5	2647	39	-	0/9/27/28	0/2/2/2
39	PSU	B5	4177	39	-	0/7/25/26	0/2/2/2
1	PSU	A2	109	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	PSU	B5	4099	39	-	0/7/25/26	0/2/2/2
1	PSU	A2	1693	1	-	0/7/25/26	0/2/2/2
39	PSU	B5	3447	39	-	0/7/25/26	0/2/2/2
39	OMC	B5	3573	39	-	0/9/27/28	0/2/2/2
1	OMU	A2	172	1	-	0/9/27/28	0/2/2/2
1	OMU	A2	355	1	-	0/9/27/28	0/2/2/2
39	OMG	B5	4116	39	-	0/5/27/28	0/3/3/3
39	PSU	B5	4042	39	-	0/7/25/26	0/2/2/2
39	OMG	B5	4245	39	-	0/5/27/28	0/3/3/3
1	A2M	A2	1384	1	-	0/5/27/28	0/3/3/3
39	PSU	B5	3369	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	1799	39	-	0/7/25/26	0/2/2/2
1	4AC	A2	1338	1	-	4/11/29/30	0/2/2/2
1	PSU	A2	687	1	-	0/7/25/26	0/2/2/2
1	OMG	A2	645	1	-	3/5/27/28	0/3/3/3
39	PSU	B5	4107	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	3583	39	-	0/7/25/26	0/2/2/2
1	PSU	A2	652	1	-	0/7/25/26	0/2/2/2
1	OMU	A2	628	1	-	3/9/27/28	0/2/2/2
39	PSU	B5	4039	39	-	0/7/25/26	0/2/2/2
1	PSU	A2	105	1	-	0/7/25/26	0/2/2/2
33	AME	Au	1	33	-	2/9/10/12	-
1	OMC	A2	463	1	-	0/9/27/28	0/2/2/2
39	A2M	B5	2658	39	-	2/5/27/28	0/3/3/3
39	PSU	B5	4322	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	3427	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	4058	39	-	0/7/25/26	0/2/2/2
39	5MC	B5	3514	90,39	-	0/7/25/26	0/2/2/2
83	SAC	Br	2	83	-	0/7/8/10	-
1	PSU	A2	1245	1	-	0/7/25/26	0/2/2/2
1	OMU	A2	1805	1	-	0/9/27/28	0/2/2/2
39	PSU	B5	4149	39	-	0/7/25/26	0/2/2/2
39	OMC	B5	4282	39	-	0/9/27/28	0/2/2/2
1	PSU	A2	867	1	-	0/7/25/26	0/2/2/2
39	PSU	B5	3371	39	-	0/7/25/26	0/2/2/2
1	PSU	A2	823	1	-	0/7/25/26	0/2/2/2
39	A2M	B5	1479	39	-	0/5/27/28	0/3/3/3
1	OMU	A2	429	1	-	6/9/27/28	0/2/2/2
39	PSU	B5	3500	39	-	0/7/25/26	0/2/2/2
35	HY3	Aw	62	35	-	1/1/12/14	0/1/1/1
1	PSU	A2	1348	1	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	PSU	A2	1644	90,1	-	0/7/25/26	0/2/2/2
1	PSU	A2	816	1	-	0/7/25/26	0/2/2/2
39	OMC	B5	3619	39	-	2/9/27/28	0/2/2/2
39	PSU	B5	4166	39	-	1/7/25/26	0/2/2/2
39	PSU	B5	1731	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	4045	39	-	0/7/25/26	0/2/2/2
1	OMG	A2	1448	1	-	3/5/27/28	0/3/3/3
39	PSU	B5	1718	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	3616	39	-	0/7/25/26	0/2/2/2
1	PSU	A2	36	1	-	0/7/25/26	0/2/2/2
1	A2M	A2	1679	1	-	0/5/27/28	0/3/3/3
39	PSU	B5	1720	39	-	0/7/25/26	0/2/2/2
39	A2M	B5	4269	90,39	-	2/5/27/28	0/3/3/3
39	A2M	B5	4317	39	-	0/5/27/28	0/3/3/3
39	A2M	B5	398	39	-	2/5/27/28	0/3/3/3
39	OMU	B5	3657	39	-	0/9/27/28	0/2/2/2
1	PSU	A2	610	1	-	0/7/25/26	0/2/2/2
39	PSU	B5	4419	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	3490	39	-	0/7/25/26	0/2/2/2
39	OMC	B5	1284	39	-	2/9/27/28	0/2/2/2
1	PSU	A2	34	1	-	0/7/25/26	0/2/2/2
39	OMC	B5	2208	90,39	-	0/9/27/28	0/2/2/2
39	OMU	B5	2258	39	-	0/9/27/28	0/2/2/2
1	OMU	A2	1443	90,1	-	2/9/27/28	0/2/2/2
39	PSU	B5	3554	39	-	0/7/25/26	0/2/2/2
1	OMG	A2	602	1	-	0/5/27/28	0/3/3/3
39	A2M	B5	2206	90,39	-	0/5/27/28	0/3/3/3
1	PSU	A2	650	1	-	0/7/25/26	0/2/2/2
39	OMC	B5	3433	39	-	4/9/27/28	0/2/2/2
1	OMG	A2	868	1	-	0/5/27/28	0/3/3/3
39	OMG	B5	3524	39	-	0/5/27/28	0/3/3/3
39	OMC	B5	1820	90,39	-	1/9/27/28	0/2/2/2
39	PSU	B5	3462	39	-	0/7/25/26	0/2/2/2
12	SAC	AZ	2	12	-	1/7/8/10	-
39	PSU	B5	4217	39	-	0/7/25/26	0/2/2/2
39	PSU	B5	3494	39	-	2/7/25/26	0/2/2/2
1	PSU	A2	1626	1	-	0/7/25/26	0/2/2/2

The worst 5 of 328 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A2	1640	G7M	C8-N9	7.41	1.46	1.33
1	A2	1640	G7M	C8-N7	7.15	1.46	1.33
35	Aw	62	HY3	C3-CA	-4.91	1.50	1.55
39	B5	1266	1MA	C2-N3	4.72	1.34	1.29
1	A2	1640	G7M	C5-C4	4.29	1.47	1.39

The worst 5 of 565 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
39	B5	1638	PSU	N1-C2-N3	6.15	122.10	115.13
41	B8	69	PSU	N1-C2-N3	6.15	122.10	115.13
39	B5	4149	PSU	N1-C2-N3	6.15	122.09	115.13
39	B5	3494	PSU	N1-C2-N3	6.14	122.08	115.13
39	B5	4246	PSU	N1-C2-N3	6.13	122.07	115.13

There are no chirality outliers.

5 of 118 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A2	159	A2M	C1'-C2'-O2'-CM'
1	A2	429	OMU	C2'-C1'-N1-C2
1	A2	429	OMU	C2'-C1'-N1-C6
1	A2	513	A2M	O4'-C4'-C5'-O5'
1	A2	645	OMG	O4'-C4'-C5'-O5'

There are no ring outliers.

No monomer is involved in short contacts.

4.5 Carbohydrates (i)

There are no monosaccharides in this entry.

4.6 Ligand geometry (i)

Of 741 ligands modelled in this entry, 363 are monoatomic and 374 are unknown - leaving 4 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	GTP	B7	201	40	26,34,34	0.95	2 (7%)	32,54,54	0.79	0
94	SF4	Bz	1000	88	0,12,12	-	-	-		
89	SPD	A2	1901	-	9,9,9	0.16	0	8,8,8	0.16	0
94	SF4	Bz	1001	88	0,12,12	-	-	-		

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	GTP	B7	201	40	-	0/18/38/38	0/3/3/3
94	SF4	Bz	1000	88	-	-	0/6/5/5
89	SPD	A2	1901	-	-	0/7/7/7	-
94	SF4	Bz	1001	88	-	-	0/6/5/5

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
93	B7	201	GTP	C5-C6	-2.61	1.42	1.47
93	B7	201	GTP	C8-N7	-2.08	1.31	1.35

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

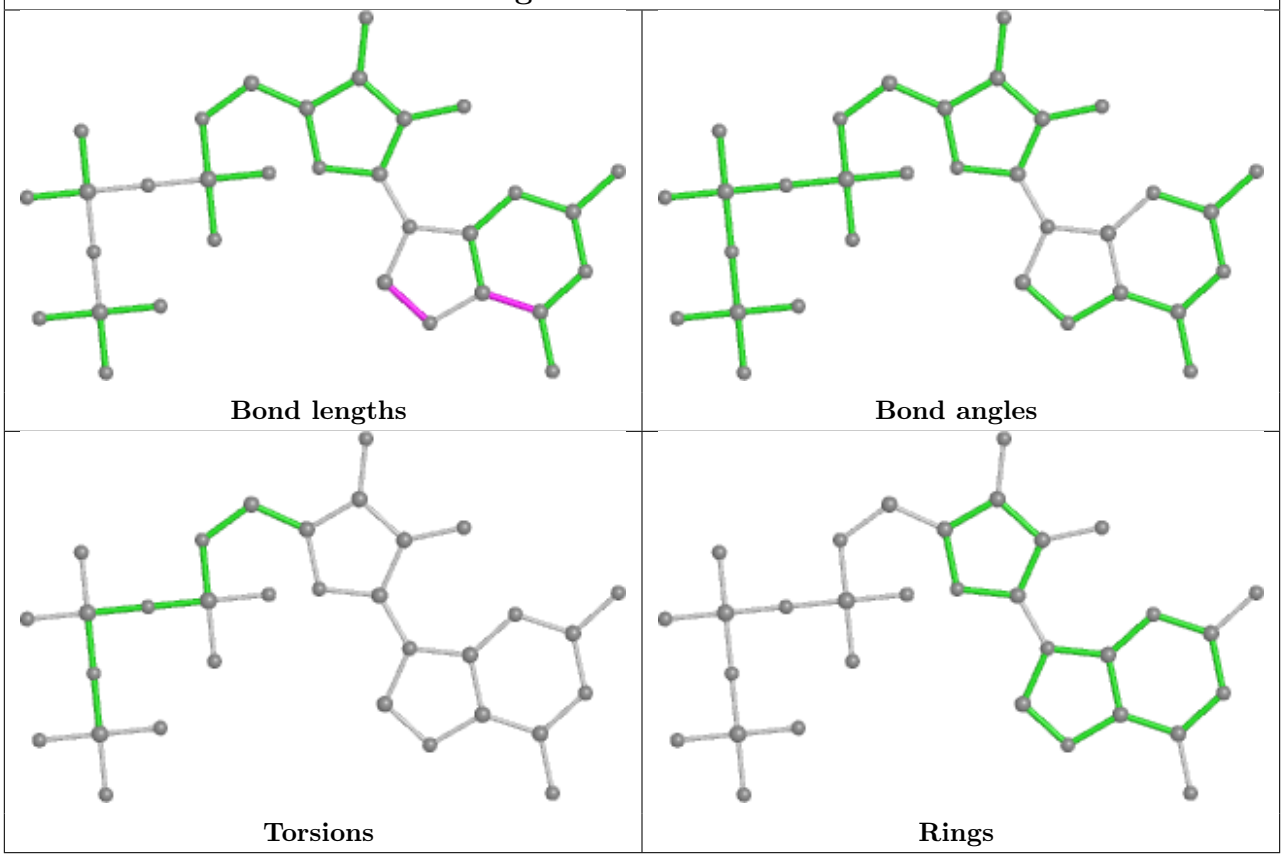
There are no ring outliers.

No monomer is involved in short contacts.

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 GTP B7 201



4.7 Other polymers (i)

There are no such residues in this entry.

4.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

5 Map visualisation

This section contains visualisations of the EMDB entry EMD-12758. 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.

5.1 Orthogonal projections

This section was not generated.

5.2 Central slices

This section was not generated.

5.3 Largest variance slices

This section was not generated.

5.4 Orthogonal standard-deviation projections (False-color)

This section was not generated.

5.5 Orthogonal surface views

This section was not generated.

5.6 Mask visualisation

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

6 Map analysis

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

6.1 Map-value distribution

This section was not generated.

6.2 Volume estimate versus contour level

This section was not generated.

6.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

7 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

8 Map-model fit

This section was not generated.