

wwPDB X-ray Structure Validation Summary Report (i)

Jun 23, 2024 – 03:10 PM EDT

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This is a wwPDB X-ray Structure 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/XrayValidationReportHelp with specific help available everywhere you see the (i) 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 (1)) were used in the production of this report:

MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.37.1
buster-report	:	1.1.7(2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure: $X\text{-}RAY\;DIFFRACTION$

The reported resolution of this entry is 2.80 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	$egin{array}{c} { m Whole \ archive} \ (\#{ m Entries}) \end{array}$	${f Similar\ resolution}\ (\#{ m Entries,\ resolution\ range}({ m \AA}))$
R _{free}	130704	3140 (2.80-2.80)
Clashscore	141614	3569 (2.80-2.80)
Ramachandran outliers	138981	3498 (2.80-2.80)
Sidechain outliers	138945	3500 (2.80-2.80)
RSRZ outliers	127900	3078 (2.80-2.80)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain					
			6%					
1	A	758	7	4%	23% ••			
			6%					
2	В	733		5%	24% •			
			13%					
3	Ι	30	33%	53%	10% •			
			7%					
4	J	42	33%	52%	7% 5% •			
			4%					
5	F	154	67%		27% • •			



Mol	Chain	Length	Quality of chain							
6	G	97	11%	%		46%		11%	• 6%	
7	L	167	14%	41%		40%		11%	••	
8	С	81	5%	62%			32%		5%•	
9	D	147	14%	46%		37%		10%	• •	
10	E	66	12%	50%		449	%		6%	
11	Н	90	12%	49%		36%		6%	• 7%	
12	K	129	9%	30%	••	569	%			
13	2	269	11%		47%	8%	•	23%		
14	4	252	28%		40%	99	6 •	21%		
15	1	202	<u>19%</u> 30%			56%		8%	••	
16	3	275	12%		51%	12%		22%		

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
17	CL0	А	1011	Х	-	-	-
18	CLA	1	1001	Х	-	Х	-
18	CLA	1	1002	X	-	Х	-
18	CLA	1	1003	X	-	Х	-
18	CLA	1	1004	Х	-	Х	-
18	CLA	1	1005	X	-	-	-
18	CLA	1	1006	Х	-	-	-
18	CLA	1	1007	X	-	-	-
18	CLA	1	1008	X	-	Х	-
18	CLA	1	1011	X	-	-	-
18	CLA	1	1012	Х	-	-	-
18	CLA	1	1013	X	-	-	-
18	CLA	1	1014	X	-	-	-
18	CLA	2	2001	Х	-	Х	-
18	CLA	2	2002	X	-	Х	-
18	CLA	2	2003	X	_	Х	-
18	CLA	2	2004	Х	-	Х	-
18	CLA	2	2005	Х	-	Х	-



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Mol		Chain	Res	Chirality	Geometry	Clashes	Electron density
18	CLA	2	2006	X	-	Х	-
18	CLA	2	2007	Х	-	Х	-
18	CLA	2	2008	X	-	-	-
18	CLA	2	2009	X	-	_	-
18	CLA	2	2012	Х	-	Х	-
18	CLA	2	2016	Х	-	Х	-
18	CLA	2	2019	Х	-	-	-
18	CLA	3	3001	Х	_	Х	_
18	CLA	3	3002	Х	_	-	_
18	CLA	3	3003	Х	_	Х	-
18	CLA	3	3004	Х	_	-	_
18	CLA	3	3005	Х	_	-	_
18	CLA	3	3006	Х	_	Х	-
18	CLA	3	3007	Х	_	-	-
18	CLA	3	3008	Х	-	-	-
18	CLA	3	3010	Х	-	Х	-
18	CLA	3	3012	Х	-	Х	-
18	CLA	3	3013	Х	-	Х	-
18	CLA	3	3017	Х	_	-	-
18	CLA	3	3018	Х	-	-	-
18	CLA	3	3019	Х	-	-	Х
18	CLA	4	4001	Х	-	Х	-
18	CLA	4	4002	Х	-	-	-
18	CLA	4	4003	Х	-	-	-
18	CLA	4	4004	Х	-	-	-
18	CLA	4	4005	Х	-	-	-
18	CLA	4	4006	Х	-	Х	-
18	CLA	4	4007	Х	-	-	-
18	CLA	4	4008	Х	-	-	-
18	CLA	4	4009	Х	-	-	-
18	CLA	4	4012	Х	-	Х	-
18	CLA	4	4016	X	-	Х	-
18	CLA	4	4017	Х	-	-	-
18	CLA	А	1013	Х	-	-	-
18	CLA	А	1022	Х	-	-	-
18	CLA	А	1101	Х	-	-	-
18	CLA	А	1102	Х	-	-	-
18	CLA	A	1103	X	-	-	-
18	CLA	А	1104	X		-	
18	CLA	A	1105	X	-	-	-
18	CLA	A	1106	X	-	-	-
18	CLA	А	1107	Х	-	-	-



Conti	nued from	m previou	is page.				
Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
18	CLA	А	1108	Х	-	-	-
18	CLA	А	1109	Х	-	-	-
18	CLA	А	1110	Х	-	-	-
18	CLA	А	1111	Х	-	-	-
18	CLA	А	1112	Х	-	-	-
18	CLA	А	1113	X	-	-	-
18	CLA	А	1114	Х	-	-	-
18	CLA	А	1115	X	-	-	-
18	CLA	А	1116	Х	-	-	-
18	CLA	А	1117	Х	-	-	-
18	CLA	А	1118	Х	-	-	-
18	CLA	А	1119	Х	-	-	-
18	CLA	А	1120	Х	-	-	-
18	CLA	А	1121	Х	-	-	-
18	CLA	А	1122	Х	-	-	-
18	CLA	А	1123	Х	_	-	-
18	CLA	А	1124	Х	_	-	-
18	CLA	А	1125	Х	_	-	_
18	CLA	А	1126	Х	-	-	-
18	CLA	А	1127	Х	-	-	-
18	CLA	А	1128	Х	-	-	-
18	CLA	А	1129	X	-	_	-
18	CLA	А	1131	X	-	_	-
18	CLA	А	1132	X	_	_	-
18	CLA	А	1134	X	_	-	-
18	CLA	А	1135	X	-	-	-
18	CLA	А	1136	X	_	-	_
18	CLA	А	1137	X	_	-	_
18	CLA	А	1138	X	_	-	_
18	CLA	А	1139	X	_	_	_
18	CLA	А	1140	X	_	_	_
18	CLA	A	1151	X	_	_	_
18	CLA	A	1237	X	_	_	_
18	CLA	B	1012	X	_	_	_
18	CLA	B	1021	X		_	
18	CLA	B	1021	X		_	
18	CLA	B	1201	X	_	_	_
18	CLA	B	1201	X	_	_	
18	CLA	R	1202	X			
18		R	1203	X			
18		R D	1204		-	-	-
10		ם ק	1200	Λ V	-	-	-
18	ULA	Б	1200	$ \Lambda$	-	-	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
18	CLA	В	1208	Х	-	-	-
18	CLA	В	1209	Х	-	-	-
18	CLA	В	1210	Х	_	-	-
18	CLA	В	1211	Х	_	-	-
18	CLA	В	1212	Х	-	-	-
18	CLA	В	1214	Х	-	-	-
18	CLA	В	1215	Х	-	-	-
18	CLA	В	1216	Х	-	-	-
18	CLA	В	1217	Х	-	-	-
18	CLA	В	1218	Х	-	-	-
18	CLA	В	1219	Х	-	-	-
18	CLA	В	1221	Х	-	-	-
18	CLA	В	1222	Х	-	-	-
18	CLA	В	1224	Х	_	-	_
18	CLA	В	1225	Х	_	-	-
18	CLA	В	1226	Х	_	-	-
18	CLA	В	1227	Х	_	-	-
18	CLA	В	1228	Х	-	-	-
18	CLA	В	1229	Х	-	_	-
18	CLA	В	1230	Х	_	_	-
18	CLA	В	1231	Х	-	-	-
18	CLA	В	1232	X	_	_	-
18	CLA	В	1234	X	_	-	-
18	CLA	В	1235	X	-	-	_
18	CLA	В	1236	X	_	-	_
18	CLA	В	1238	X	_	-	_
18	CLA	В	1239	X	_	-	_
18	CLA	В	1240	X	_	_	_
18	CLA	F	1301	X	_	_	_
18	CLA	F	1302	X	_	_	_
18	CLA	G	1001	X	_	X	_
18	CLA	G	1002	X	_	X	
18	CLA	G	1003	X	_	X	
18	CLA	Н	1000	X	_	-	
18	CLA	I	1302	X			
18	CLA	K K	1002	X			
18	CLA	I.	1501	X			
18		I.	1502	X		-	
18		I.	1502	X	-	-	
20	BCR	2 2	3503	<u> </u>	-	v	-
22	BCD	ม R	0000 6005	-	-	Λ	- V
22	DOR		0000	-	-	- V	Λ
22	BUK	G	2011	-	-	$ \Lambda$	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
22	BCR	L	6019	-	-	Х	-
27	LUT	1	1501	Х	-	Х	-
27	LUT	1	1502	Х	-	-	-
27	LUT	2	2501	Х	-	Х	-
27	LUT	2	2502	Х	-	Х	-
27	LUT	3	3501	Х	-	Х	Х
27	LUT	3	3502	Х	-	Х	-
27	LUT	4	4501	Х	-	Х	-
27	LUT	4	4502	Х	-	Х	-
27	LUT	4	4503	Х	_	Х	-
27	LUT	Ι	6018	Х	-	-	-
28	CHL	1	1009	Х	_	Х	_
28	CHL	1	1010	Х	_	-	-
28	CHL	2	2010	Х	-	-	-
28	CHL	2	2011	Х	_	_	_
28	CHL	2	2013	Х	-	-	-
28	CHL	3	3011	Х	_	Х	_
28	CHL	4	4010	X	_	-	_
28	CHL	4	4011	X	-	-	-
28	CHL	4	4013	X	_	_	_



2 Entry composition (i)

There are 29 unique types of molecules in this entry. The entry contains 35653 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 protein called Photosystem I P700 chlorophyll a apoprotein A1.

Mol	Chain	Residues		At	toms		ZeroOcc	AltConf	Trace	
1	А	742	Total 5852	C 3833	N 997	O 1004	S 18	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
А	21	ILE	LEU	engineered mutation	UNP P05310
А	22	LEU	VAL	engineered mutation	UNP P05310
А	117	ARG	GLY	engineered mutation	UNP P05310
А	220	GLY	ARG	engineered mutation	UNP P05310

• Molecule 2 is a protein called Photosystem I P700 chlorophyll a apoprotein A2.

Mol	Chain	Residues		At	oms		ZeroOcc	AltConf	Trace	
2	В	732	Total 5856	C 3851	N 995	O 996	S 14	0	0	0

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
В	5	LEU	ILE	engineered mutation	UNP P05311
В	115	ILE	ASN	engineered mutation	UNP P05311
В	273	MET	VAL	engineered mutation	UNP P05311
В	471	SER	THR	engineered mutation	UNP P05311
В	476	VAL	ILE	engineered mutation	UNP P05311
В	477	LEU	PRO	engineered mutation	UNP P05311
В	635	TYR	ILE	engineered mutation	UNP P05311

• Molecule 3 is a protein called Photosystem I reaction center subunit VIII.



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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	Ι	29	Total 224	$\begin{array}{c} \mathrm{C} \\ 155 \end{array}$	N 35	O 33	S 1	0	0	0

• Molecule 4 is a protein called Photosystem I reaction center subunit IX.

Mol	Chain	Residues		Aton	ns		ZeroOcc	AltConf	Trace
4	J	41	Total 321	C 217	N 50	O 54	0	0	0

• Molecule 5 is a protein called Photosystem I reaction center subunit III.

Mol	Chain	Residues		At	oms		ZeroOcc	AltConf	Trace	
5	F	150	Total 1187	C 770	N 207	O 208	${S \over 2}$	0	0	0

• Molecule 6 is a protein called photosystem I reaction center.

Mol	Chain	Residues		Ato	ms		ZeroOcc	AltConf	Trace
6	G	91	Total 689	C 444	N 117	O 128	0	0	0

• Molecule 7 is a protein called Putative uncharacterized protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	L	160	Total 1197	C 791	N 190	O 215	S 1	0	0	0

• Molecule 8 is a protein called Photosystem I iron-sulfur center.

Mol	Chain	Residues		\mathbf{A}	toms			ZeroOcc	AltConf	Trace
8	С	80	Total 612	C 379	N 107	0 115	S 11	0	0	0

• Molecule 9 is a protein called Photosystem I reaction center subunit II, chloroplastic.

Mol	Chain	Residues		Atoms					AltConf	Trace
9	D	141	Total 1116	C 720	N 192	0 201	${ m S} { m 3}$	0	0	0

• Molecule 10 is a protein called Photosystem I reaction center subunit IV A, chloroplastic.



Mol	Chain	Residues		Ator	\mathbf{ns}		ZeroOcc	AltConf	Trace
10	Ε	66	Total 530	C 337	N 93	O 100	0	0	0

• Molecule 11 is a protein called Photosystem I reaction center subunit VI.

Mol	Chain	Residues		Ator	ns		ZeroOcc	AltConf	Trace
11	Н	84	Total 642	$\begin{array}{c} \mathrm{C} \\ 425 \end{array}$	N 97	O 120	0	0	0

• Molecule 12 is a protein called Photosystem I reaction center subunit X psaK.

Mol	Chain	Residues		Atoms				ZeroOcc	AltConf	Trace
12	K	57	Total 379	C 241	N 64	0 71	${ m S} { m 3}$	0	0	0

• Molecule 13 is a protein called Type II chlorophyll a/b binding protein from photosystem I.

Mol	Chain	Residues		Atoms					AltConf	Trace
13	2	207	Total 1613	$\begin{array}{c} \mathrm{C} \\ 1057 \end{array}$	N 263	O 289	${S \atop 4}$	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
2	133	LEU	ASN	engineered mutation	UNP Q41038

• Molecule 14 is a protein called Chlorophyll a-b binding protein P4, chloroplastic.

Mol	Chain	Residues		Atoms					AltConf	Trace
14	4	198	Total 1544	C 1007	N 252	0 282	${ m S} { m 3}$	0	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
4	128	ASP	ALA	engineered mutation	UNP Q9SQL2

• Molecule 15 is a protein called Light-harvesting complex I chlorophyll A/B-binding protein.

Mol	Chain	Residues		At	oms			ZeroOcc	AltConf	Trace
15	1	194	Total 1513	C 986	N 254	O 268	${S \atop 5}$	0	0	0



• Molecule 16 is a protein called Chlorophyll a-b binding protein 3, chloroplastic.

Mol	Chain	Residues		Atoms					AltConf	Trace
16	2	215	Total	С	Ν	0	\mathbf{S}	0	0	0
10	3	210	1619	1053	263	298	5		U	U

• Molecule 17 is CHLOROPHYLL A ISOMER (three-letter code: CL0) (formula: $C_{55}H_{72}MgN_4O_5$).



Mol	Chain	Residues		At	oms	ZeroOcc	AltConf		
17	А	1	Total 65	$\begin{array}{c} \mathrm{C} \\ 55 \end{array}$	Mg 1	N 4	O 5	0	0

• Molecule 18 is CHLOROPHYLL A (three-letter code: CLA) (formula: $C_{55}H_{72}MgN_4O_5$).





Mol	Chain	Residues		At	oms			ZeroOcc	AltConf
18	А	1	Total	С	Mg	Ν	0	0	0
10		1	65	55	1	4	5	0	0
18	А	1	Total	С	Mg	Ν	Ο	0	0
10		1	50	40	1	4	5	0	
18	А	1	Total	С	Mg	Ν	Ο	0	0
		_	60	50	1	4	5	Ŭ,	
18	А	1	Total	С	Mg	Ν	Ο	0	0
			65	55	1	4	5		_
18	А	1	Total	C	Mg	N	Õ	0	0
			50	40	1	4	5		
18	А	1	Total	C	Mg	Ν	Ō	0	0
			65	55	1	4	5		_
18	А	1	Total	C	Mg	N	Õ	0	0
			65	55	1	4	5		_
18	А	1	Total	C	Mg	N	Õ	0	0
			51	41	1	4	5		_
18	А	1	Total	C	Mg	Ν	Ō	0	0
			65	55	1	4	5		
18	А	1	Total	C	Mg	N	Õ	0	0
			65	55	1	4	5		
18	А	1	Total	C	Mg	N	Õ	0	0
			46	36	1	4	5		
18	А	1	Total	C	Mg	N	O F	0	0
			<u>65</u>	$\frac{55}{C}$	1	4	5		
18	А	1	Total	C 4F	Mg	N 4	U F	0	0
				$\frac{45}{C}$		4 N	0		
18	А	1	10tal	50	Mg	IN 4	U E	0	0
			Total	$\frac{50}{0}$	1 	4 N	$\frac{0}{0}$		
18	А	1	10tai 65	C EE		1	5	0	0
			Total	$\frac{55}{C}$	1 Ma	4 N	$\frac{0}{0}$		
18	А	1	10tai 46	26	1 IVIG	1N - 1	5	0	0
			Total	<u> </u>	Ma	4 N	$\frac{0}{0}$		
18	А	1	10tai 46	36	1 International	1	5	0	0
			Total	<u> </u>	Ma	N	$\frac{0}{0}$		
18	А	1	60	50	1	4	5	0	0
			Total	<u> </u>	Mo	N	$\frac{0}{0}$		
18	А	1	55	45	1 ¹¹ 5	4	5	0	0
			Total	<u>C</u>	Mo	N	0		
18	А	1	65	55	-115 1	4	5	0	0
			Total	<u> </u>	Mo	N	0		
18	А	1	65	55	1	4	5	0	0
			Total	$\overline{\mathbf{C}}$	Mø	N	$\overline{0}$		
18	A	1	55	$\overline{45}$	1	4	$\overline{5}$	0	0



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Mol	Chain	Residues		At	oms			ZeroOcc	AltConf
10	٨	1	Total	С	Mg	Ν	Ο	0	0
10	A	1	60	50	1	4	5	0	0
19	Δ	1	Total	С	Mg	Ν	Ο	0	0
10	A	1	65	55	1	4	5	0	0
18	Λ	1	Total	С	Mg	Ν	Ο	0	0
10	Π	T	65	55	1	4	5	0	0
18	Δ	1	Total	С	Mg	Ν	Ο	0	0
10	11	Ĩ	65	55	1	4	5	0	0
18	А	1	Total	С	Mg	Ν	Ο	0	0
10		1	65	55	1	4	5	0	0
18	А	1	Total	С	Mg	Ν	Ο	0	0
10		Ť	65	55	1	4	5	0	0
18	А	1	Total	С	Mg	Ν	Ο	0	0
10		1	55	45	1	4	5	Ŭ	
18	А	1	Total	С	Mg	Ν	Ο	0	0
		-	55	45	1	4	5	Ŭ	
18	А	1	Total	С	Mg	Ν	Ο	0	0
		-	51	41	1	4	5	Ŭ	
18	А	1	Total	С	Mg	Ν	Ο	0	0
10		-	56	46	1	4	5	Ŭ	
18	А	1	Total	С	Mg	Ν	Ο	0	0
		-	55	45	1	4	5	Ŭ	<u> </u>
18	А	1	Total	С	Mg	Ν	Ο	0	0
		-	65	55	1	4	5	Ŭ	<u> </u>
18	А	1	Total	С	Mg	Ν	Ο	0	0
		_	65	55	1	4	5		
18	А	1	Total	С	Mg	Ν	O	0	0
		_	46	36	1	4	5		
18	А	1	Total	C	Mg	Ν	Ō	0	0
			60	50	1	4	5	_	_
18	А	1	Total	С	Mg	Ν	Ō	0	0
			65	55	1	4	5		_
18	А	1	Total	С	Mg	Ν	Ō	0	0
			46	36	1	4	5		
18	А	1	Total	С	Mg	Ν	Ō	0	0
		_	65	55	1	4	5		
18	А	1	'I'otal	C	Mg	N	Õ	0	0
			50	40	1	4	5		_
18	А	1	Total	C	Mg	N	0	0	0
		-	65	55	1	4	5	, in the second	
18	А	1	Total	С	Mg	Ν	0	0	0
	*1		65	55	1	4	5		



Mol	Chain	Residues	0	At	oms			ZeroOcc	AltConf
10		1	Total	С	Mg	Ν	0	0	0
18	A	1	50	40	1	4	5	0	0
10	р	1	Total	С	Mg	Ν	Ο	0	0
18	В	1	65	55	1	4	5	0	0
10	р	1	Total	С	Mg	Ν	Ο	0	0
18	D	L	65	55	1	4	5	0	0
10	D	1	Total	С	Mg	Ν	0	0	0
10	D	L	60	50	1	4	5	0	0
10	D	1	Total	С	Mg	Ν	Ο	0	0
10	D	L	55	45	1	4	5	0	0
10	D	1	Total	С	Mg	Ν	Ο	0	0
10	D	L	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	0	0	0
10	D	L	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
10	D	L	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
10	D	T	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	0	0	0
10	D	L	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	0	0	0
10	D	T	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
10	D	T	55	45	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
10	D	T	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
10		1	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
	2	-	46	36	1	4	5	Ŭ	
18	В	1	Total	С	Mg	Ν	Ο	0	0
	2	-	65	55	1	4	5	Ŭ	
18	В	1	Total	С	Mg	Ν	Ο	0	0
		-	60	50	1	4	5	Ŭ	
18	В	1	Total	С	Mg	Ν	Ο	0	0
		-	65	55	1	4	5	Ŭ	
18	В	1	Total	C	Mg	Ν	0	0	0
	_	_	65	55	1	4	5		
18	В	1	'I'otal	C	Mg	Ν	Ō	0	0
		-	65	55	1	4	5		
18	В	1	Total	C	Mg	Ν	O	0	0
		- -	65	55	1	4	5		



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Mol	Chain	Residues		At	oms			ZeroOcc	AltConf
10	D	1	Total	С	Mg	Ν	Ο	0	0
18	D	1	65	55	1	4	5	0	0
10	D	1	Total	С	Mg	Ν	Ο	0	0
18	D	1	50	40	1	4	5	0	0
10	D	1	Total	С	Mg	Ν	Ο	0	0
10	D	1	65	55	1	4	5	0	0
10	D	1	Total	С	Mg	Ν	Ο	0	0
10	D	1	65	55	1	4	5	0	0
10	D	1	Total	С	Mg	Ν	Ο	0	0
10	D	1	55	45	1	4	5	0	0
19	р	1	Total	С	Mg	Ν	0	0	0
10	D	1	46	36	1	4	5	0	0
19	р	1	Total	С	Mg	Ν	Ο	0	0
10	D	1	65	55	1	4	5	0	0
19	р	1	Total	С	Mg	Ν	Ο	0	0
10	D	1	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
10	D	1	55	45	1	4	5	0	0
10	D	1	Total	С	Mg	Ν	Ο	0	0
10	D	1	60	50	1	4	5	0	0
19	Р	1	Total	С	Mg	Ν	0	0	0
10	D	1	59	49	1	4	5	0	0
10	D	1	Total	С	Mg	Ν	Ο	0	0
10	D	1	60	50	1	4	5	0	0
19	В	1	Total	С	Mg	Ν	0	0	0
10	D	1	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	0	0	0
10	D	T	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
10	D	I	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
10	D	I	65	55	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
10	D	I	60	50	1	4	5	0	0
18	В	1	Total	С	Mg	Ν	Ο	0	0
10	D	T	65	55	1	4	5	0	0
18	R	1	Total	С	Mg	Ν	0	0	0
		±	58	48	1	4	5	0	0
18	B	1	Total	С	Mg	Ν	0	0	0
10	D	1	55	45	1	4	5	0	0
18	R	1	Total	С	Mg	Ν	0	0	Ο
10	U	1 I	60	50	1	4	5	0	U



Mol	Chain	Residues	0	At	oms			ZeroOcc	AltConf
10	т	1	Total	С	Mg	Ν	Ο	0	0
18	J	1	50	40	1	4	5	0	0
10	F	1	Total	С	Mg	Ν	Ο	0	0
18	F	1	45	35	1	4	5	0	0
10	F	1	Total	С	Mg	Ν	0	0	0
18	Г	1	50	40	1	4	5	0	0
10	C	1	Total	С	Mg	Ν	Ο	0	0
10	G	1	55	45	1	4	5	0	0
10	С	1	Total	С	Mg	Ν	Ο	0	0
10	G	1	46	36	1	4	5	0	0
19	C	1	Total	С	Mg	Ν	Ο	0	0
10	G	1	60	50	1	4	5	0	0
18	т	1	Total	С	Mg	Ν	Ο	0	0
10		1	50	40	1	4	5	0	0
18	т	1	Total	С	Mg	Ν	Ο	0	0
10		1	60	50	1	4	5	0	0
18	T	1	Total	С	Mg	Ν	Ο	0	Ο
10		T	50	40	1	4	5	0	0
18	Ц	1	Total	С	Mg	Ν	Ο	0	0
10	11	1	46	36	1	4	5	0	0
18	K	1	Total	С	Mg	Ν	Ο	0	0
10	17	T	46	36	1	4	5	0	0
18	2	1	Total	С	Mg	Ν	Ο	0	Ο
10	2	1	60	50	1	4	5	0	0
18	2	1	Total	С	Mg	Ν	Ο	0	0
10		Ĩ	46	36	1	4	5	0	0
18	2	1	Total	С	Mg	Ν	Ο	0	0
10		1	55	45	1	4	5	0	0
18	2	1	Total	С	Mg	Ν	Ο	0	0
	-	-	65	55	1	4	5	Ŭ	
18	2	1	Total	С	Mg	Ν	Ο	0	0
	_	-	55	45	1	4	5	Ŭ	
18	2	1	Total	С	Mg	Ν	Ο	0	0
		_	55	45	1	4	5		
18	2	1	Total	С	Mg	Ν	Ο	0	0
		_	60	50	1	4	5		
18	2	1	'Iotal	C	Mg	N	Õ	0	0
			50	40	1	4	5	_	-
18	2	1	Total	C	Mg	N	Ũ	0	0
	_	_	55	45	1	4	5		
18	2	1	'Iotal	C	Mg	N	Ũ	0	0
	_	-	50	40	1	4	5	Ĭ	



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
10	0	1	Total C Mg I	N O	0
10		1	27 22 1 4	4 0	0
18	2	1	Total C Mg N	0	0
10	2	1	50 40 1 4	5	0
18	4	1	Total C Mg N	0	0
10	т	1	50 40 1 4	5	0
18	4	1	Total C Mg N	O 0	0
10	Т	Ĩ	60 50 1 4	5	0
18	4	1	Total C Mg N	O 0	0
10	Т	Ĩ	50 40 1 4	5	0
18	4	1	Total C Mg N	O 0	0
10	4	1	65 55 1 4	5	0
18	4	1	Total C Mg N	O 0	0
10	4	1	60 50 1 4	5	0
18	4	1	Total C Mg N	O 0	0
10	4	T	60 50 1 4	5	0
18	4	1	Total C Mg N	0	0
10	4	1	50 40 1 4	5	0
10	4	1	Total C Mg N	0	0
10	4	1	60 50 1 4	5	0
10	4	1	Total C Mg N	0	0
10	4	1	46 36 1 4	5	0
10	4	1	Total C Mg N	0	0
10	4	1	65 55 1 4	5	0
10	4	1	Total C Mg N	0	0
10	4	1	46 36 1 4	5	0
10	4	1	Total C Mg N	0	0
10	4	1	65 55 1 4	5	0
10	1	1	Total C Mg N	0	0
10	1	1	60 50 1 4	5	0
10	1	1	Total C Mg N	0	0
10	1	1	46 36 1 4	5	0
10	1	1	Total C Mg N	0	0
10	1	1	55 45 1 4	5	0
10	1	1	Total C Mg N	0	0
18	1	1	65 55 1 4	5	0
10	1	1	Total C Mg N	0	0
18		1	$55 \ 45 \ 1 \ 4$	5	0
10	1	1	Total C Mg N	0	0
18		1	50 40 1 4	5 0	0
10	1	1	Total C Mg N	0	0
18		1	46 36 1 4	5	



α \cdot \cdot \cdot	C		
Continued	from	previous	page
	5	1	1 5

Mol	Chain	Residues	0	At	oms			ZeroOcc	AltConf
10	1	1	Total	С	Mg	Ν	0	0	0
10	1	1	46	36	1	4	5	0	0
10	1	1	Total	С	Mg	Ν	Ο	0	0
10	1	1	50	40	1	4	5	0	0
10	1	1	Total	С	Mg	Ν	0	0	0
10	1	1	50	40	1	4	5	0	0
19	1	1	Total	С	Mg	Ν	0	0	0
10	1	1	46	36	1	4	5	0	0
18	1	1	Total	С	Mg	Ν	0	0	0
10	1	1	46	36	1	4	5	0	0
18	3	1	Total	С	Mg	Ν	Ο	0	0
10	5	T	50	40	1	4	5	0	0
18	3	1	Total	С	Mg	Ν	Ο	0	0
10	5	L	46	36	1	4	5	0	0
18	3	1	Total	С	Mg	Ν	Ο	0	0
10	5	I	60	50	1	4	5	0	0
18	3	1	Total	С	Mg	Ν	Ο	0	0
10	5	I	60	50	1	4	5	0	0
18	3	1	Total	С	Mg	Ν	Ο	0	0
10	5	T	55	45	1	4	5	0	0
18	3	1	Total	С	Mg	Ν	Ο	0	0
10	5	T	50	40	1	4	5	0	0
18	3	1	Total	С	Mg	Ν	Ο	0	0
10	5	I	50	40	1	4	5	0	0
18	3	1	Total	С	Mg	Ν	Ο	0	0
10	5	I	48	38	1	4	5	0	0
18	3	1	Total	\mathbf{C}	Mg	Ν	Ο	0	0
10	0	1	60	50	1	4	5	0	0
18	3	1	Total	\mathbf{C}	Mg	Ν	Ο	0	0
10	0	1	50	40	1	4	5	0	0
18	3	1	Total	\mathbf{C}	Mg	Ν	Ο	0	0
10	0	Ĩ	46	36	1	4	5	0	0
18	3	1	Total	\mathbf{C}	Mg	Ν	Ο	0	0
	5	1	46	36	1	4	5		
18	3	1	Total	С	Mg	Ν	Ο	0	0
	5	1	50	40	1	4	5		
18	3	1	Tota	l (C M	g l	N	0	0
10	5	±	27	2	2 1	4	4		





Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
19	А	1	TotalFeS844	0	0
19	С	1	TotalFeS844	0	0
19	С	1	TotalFeS844	0	0



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
20	А	1	Total 33	C 31	O 2	0	0



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
20	В	1	Total 33	C 31	O 2	0	0

• Molecule 21 is 1,2-DIPALMITOYL-PHOSPHATIDYL-GLYCEROLE (three-letter code: LHG) (formula: $C_{38}H_{75}O_{10}P$).



Mol	Chain	Residues	I	Aton	ns		ZeroOcc	AltConf
91	Δ	1	Total	С	Ο	Р	0	0
21	Π	T	40	29	10	1	0	0
21	Δ	1	Total	С	Ο	Р	0	0
21	Π	T	49	38	10	1	0	0
21	B	1	Total	С	Ο	Р	0	0
21	D	T	21	10	10	1	0	0
21	2	1	Total	С	Ο	Р	0	0
21	2	T	24	13	10	1	0	0
91	1	1	Total	С	Ο	Р	0	0
21		I	49	38	10	1		

• Molecule 22 is BETA-CAROTENE (three-letter code: BCR) (formula: $C_{40}H_{56}$).





Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
22	А	1	Total C 40 40	0	0
22	А	1	Total C 40 40	0	0
22	А	1	Total C 40 40	0	0
22	А	1	Total C 40 40	0	0
22	А	1	Total C 40 40	0	0
22	А	1	Total C 40 40	0	0
22	В	1	Total C 40 40	0	0
22	В	1	Total C 40 40	0	0
22	В	1	Total C 40 40	0	0
22	В	1	Total C 40 40	0	0
22	В	1	Total C 40 40	0	0
22	Ι	1	Total C 40 40	0	0
22	J	1	Total C 40 40	0	0
22	J	1	Total C 40 40	0	0



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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
22	F	1	Total C 40 40	0	0
22	F	1	Total C 40 40	0	0
22	G	1	Total C 40 40	0	0
22	L	1	Total C 40 40	0	0
22	L	1	Total C 40 40	0	0
22	K	1	Total C 40 40	0	0
22	3	1	Total C 40 40	0	0

• Molecule 23 is 1,2-DISTEAROYL-MONOGALACTOSYL-DIGLYCERIDE (three-letter code: LMG) (formula: $C_{45}H_{86}O_{10}$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
23	B	1	Total	С	0	0	0
20	D	I	38	28	10	0	0
23	T	1	Total	С	0	0	0
20	J	1	55	45	10	0	0
93	F	1	Total	С	0	0	0
20	Г	1	23	13	10	0	0
93	F	1	Total	С	0	0	0
	Г		37	27	10		0



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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
23	G	1	Total C O 41 31 10	0	0
23	2	1	Total C O 35 25 10	0	0
23	4	1	Total C O 35 25 10	0	0

• Molecule 24 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
24	В	1	Total Ca 1 1	0	0

• Molecule 25 is DIGALACTOSYL DIACYL GLYCEROL (DGDG) (three-letter code: DGD) (formula: $C_{51}H_{96}O_{15}$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
25	В	1	Total 61	C 46	O 15	0	0

- Molecule 26 is DODECYL-ALPHA-D-MALTOSIDE (three-letter code: LMU) (formula: $\rm C_{24}H_{46}O_{11}).$





Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
26	В	1	Total C O 35 24 11	0	0
26	В	1	Total C O 35 24 11	0	0

• Molecule 27 is (3R,3'R,6S)-4,5-DIDEHYDRO-5,6-DIHYDRO-BETA,BETA-CAROTENE-3,3'-DIOL (three-letter code: LUT) (formula: C₄₀H₅₆O₂).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
27	Ι	1	Total 42	C 40	O 2	0	0



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
27	2	1	Total C O 42 40 2	0	0
27	2	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 42 & 40 & 2 \end{array}$	0	0
27	4	1	Total C O 42 40 2	0	0
27	4	1	Total C O 42 40 2	0	0
27	4	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 42 & 40 & 2 \end{array}$	0	0
27	1	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 42 & 40 & 2 \end{array}$	0	0
27	1	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 42 & 40 & 2 \end{array}$	0	0
27	3	1	$\begin{array}{ccc} \text{Total} & \text{C} & \text{O} \\ 42 & 40 & 2 \end{array}$	0	0
27	3	1	Total C O 42 40 2	0	0

• Molecule 28 is CHLOROPHYLL B (three-letter code: CHL) (formula: $C_{55}H_{70}MgN_4O_6$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
28	2	1	Total 47	C 36	Mg 1	N 4	O 6	0	0
28	2	1	Total 48	С 37	Mg 1	N 4	O 6	0	0



Mol	Chain	Residues		At	oms			ZeroOcc	AltConf	
<u> </u>	0	1	Total	С	Mg	Ν	Ο	0	0	
20	20 2	T	46	35	1	4	6	0	0	
28	4	4 1	Total	С	Mg	Ν	Ο	0	0	
20	4		47	36	1	4	6	0	0	
28	4	1	Total	С	Mg	Ν	Ο	0	0	
20	20 4	T	51	40	1	4	6	0	0	
<u> </u>	4	4 1	Total	С	Mg	Ν	0	0	0	
20	4		47	36	1	4	6	0	0	
28	1	1	Total	С	Mg	Ν	Ο	0	0	
20	1	1	56	45	1	4	6	0	0	
28	1	1	Total	С	Mg	Ν	Ο	0	0	
20	28 1	1	47	36	1	4	6	0	0	
20	2	1	Total	С	Mg	Ν	Ο	0	0	
20	5		56	45	1	4	6	0		

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• Molecule 29 is (1R,2S)-4-{(1E,3E,5E,7E,9E,11E,13E,15E,17E)-18-[(4S)-4-hydroxy-2,6,6-tri methylcyclohex-1-en-1-yl]-3,7,12,16-tetramethyloctadeca-1,3,5,7,9,11,13,15,17-nonaen-1-yl]-2,5,5-trimethylcyclohex-3-en-1-ol (three-letter code: ZEX) (formula: $C_{40}H_{56}O_2$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
29	4	1	Total 42	C 40	O 2	0	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 electron 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 dot above a residue indicates a poor fit to the electron density (RSRZ > 2). 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 7: Putative uncharacterized protein 14% Chain L: 41% 40% 11% ALA VAL GLN SER GLU CLU • Molecule 8: Photosystem I iron-sulfur center Chain C: 62% 5%• 32% • Molecule 9: Photosystem I reaction center subunit II, chloroplastic 14% Chain D: 46% 37% 10% LYS GLU ALA PRO VAL CLY H168 P169 K170 D171 3172 S197 P198 1199 E200 K201 K202 F203 F203 F203 G205 G205 G205 G205 G205 G205 G205 C208 R206 C203 C203 C210 D210 D210 166 167 • Molecule 10: Photosystem I reaction center subunit IV A, chloroplastic 12% Chain E: 50% 44% 6% 191 192 193 • Molecule 11: Photosystem I reaction center subunit VI Chain H: 49% 36% 7% 6% • GLY LYS







 \bullet Molecule 15: Light-harvesting complex I chlorophyll A/B-binding protein





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants	189.00Å 201.90Å 213.20Å	Depositor
a, b, c, α , β , γ	90.00° 90.00° 90.00°	Depositor
Bosolution (Å)	48.65 - 2.80	Depositor
Resolution (A)	39.89 - 2.79	EDS
% Data completeness	$100.0 \ (48.65-2.80)$	Depositor
(in resolution range)	88.8 (39.89-2.79)	EDS
R_{merge}	0.26	Depositor
R _{sym}	(Not available)	Depositor
$< I/\sigma(I) > 1$	$1.29 (at 2.81 \text{\AA})$	Xtriage
Refinement program	PHENIX	Depositor
P. P.	0.259 , 0.268	Depositor
n, n_{free}	0.243 , 0.255	DCC
R_{free} test set	3977 reflections $(1.99%)$	wwPDB-VP
Wilson B-factor $(Å^2)$	78.1	Xtriage
Anisotropy	0.306	Xtriage
Bulk solvent $k_{sol}(e/A^3), B_{sol}(A^2)$	0.26 , 65.0	EDS
L-test for $twinning^2$	$ < L >=0.47, < L^2>=0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	35653	wwPDB-VP
Average B, all atoms $(Å^2)$	113.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 1.92% of the height of the origin peak. No significant pseudotranslation is detected.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.



¹Intensities estimated from amplitudes.

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: ZEX, CLA, CA, SF4, LHG, CL0, LUT, CHL, LMG, BCR, DGD, LMU, PQN

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).

Mal	Chain	Bo	nd lengths	Bond angles		
WIOI	Ullaili	RMSZ	# Z > 5	RMSZ	# Z > 5	
1	А	0.23	0/6049	0.40	0/8253	
2	В	0.24	0/6067	0.40	0/8287	
3	Ι	0.92	0/230	1.02	2/313~(0.6%)	
4	J	0.76	0/330	0.90	2/452~(0.4%)	
5	F	0.62	0/1214	0.64	0/1638	
6	G	0.78	0/705	1.01	3/956~(0.3%)	
7	L	0.76	0/1233	0.94	7/1690~(0.4%)	
8	С	0.82	0/625	0.81	1/846~(0.1%)	
9	D	1.00	0/1146	1.06	7/1550~(0.5%)	
10	Е	0.89	0/542	0.90	3/737~(0.4%)	
11	Н	0.62	0/662	0.85	4/902~(0.4%)	
12	Κ	0.48	0/381	0.87	1/517~(0.2%)	
13	2	0.94	2/1672~(0.1%)	1.09	11/2292~(0.5%)	
14	4	0.93	2/1592~(0.1%)	0.99	10/2174~(0.5%)	
15	1	0.86	0/1563	1.04	6/2132~(0.3%)	
16	3	0.86	2/1666~(0.1%)	1.08	11/2265~(0.5%)	
All	All	0.63	6/25677~(0.0%)	0.76	68/35004~(0.2%)	

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
6	G	0	1
7	L	0	1
13	2	0	1
14	4	0	1
16	3	0	1
All	All	0	5



Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	$\operatorname{Ideal}(\operatorname{\AA})$
14	4	153	GLU	C-O	-10.68	1.03	1.23
13	2	164	GLU	C-O	-10.38	1.03	1.23
16	3	205	GLY	C-N	7.70	1.48	1.34
16	3	205	GLY	C-O	-7.23	1.12	1.23
13	2	164	GLU	C-N	6.29	1.44	1.33

The worst 5 of 6 bond length outliers are listed below:

The worst 5 of 68 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^{o})$	$Ideal(^{o})$
6	G	101	PHE	C-N-CA	11.02	149.25	121.70
6	G	100	HIS	N-CA-C	-10.25	83.33	111.00
13	2	165	GLY	N-CA-C	-9.45	89.48	113.10
11	Н	120	GLY	N-CA-C	-8.68	91.41	113.10
16	3	206	PRO	CA-N-CD	-8.59	99.47	111.50

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	\mathbf{Res}	Type	Group
13	2	164	GLU	Mainchain
16	3	205	GLY	Mainchain
14	4	153	GLU	Mainchain
6	G	101	PHE	Peptide
7	L	98	ARG	Sidechain

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	А	5852	0	5710	169	0
2	В	5856	0	5666	146	0
3	Ι	224	0	247	34	0
4	J	321	0	328	48	0
5	F	1187	0	1226	39	3
6	G	689	0	675	112	0
7	L	1197	0	1187	165	3



Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	С	612	0	594	36	0
9	D	1116	0	1126	103	0
10	Е	530	0	530	44	0
11	Н	642	0	637	48	0
12	Κ	379	0	386	92	0
13	2	1613	0	1554	371	0
14	4	1544	0	1489	230	0
15	1	1513	0	1495	379	0
16	3	1619	0	1554	472	0
17	А	65	0	72	6	0
18	1	615	0	511	235	0
18	2	628	0	538	255	0
18	3	698	0	559	265	0
18	4	677	0	635	195	0
18	А	2583	0	2555	197	0
18	В	2519	0	2617	217	0
18	F	95	0	72	20	0
18	G	161	0	141	92	0
18	Н	46	0	33	4	0
18	J	50	0	39	7	0
18	Κ	46	0	33	12	0
18	L	160	0	137	39	0
19	А	8	0	0	1	0
19	С	16	0	0	0	0
20	А	33	0	46	3	0
20	В	33	0	46	5	0
21	1	49	0	74	15	0
21	2	24	0	18	6	0
21	А	89	0	127	12	0
21	В	21	0	12	1	0
22	3	40	0	48	21	0
22	А	240	0	292	21	0
22	В	200	0	245	24	0
22	F	80	0	98	19	0
22	G	40	0	49	29	0
22	Ι	40	0	49	3	0
22	J	80	0	98	15	0
22	K	40	0	49	17	0
22	L	80	0	98	28	0
23	2	35	0	40	9	0
23	4	35	0	40	6	0
23	В	38	0	46	3	0



Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
23	F	60	0	60	13	0
23	G	41	0	52	20	0
23	J	55	0	86	9	0
24	В	1	0	0	0	0
25	В	61	0	83	4	0
26	В	70	0	92	4	0
27	1	84	0	110	48	0
27	2	84	0	110	55	0
27	3	84	0	110	62	0
27	4	126	0	165	84	0
27	Ι	42	0	55	14	0
28	1	103	0	78	35	0
28	2	141	0	95	39	0
28	3	56	0	47	22	0
28	4	145	0	99	44	0
29	4	42	0	56	12	0
All	All	35653	0	35119	3560	3

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 50.

The worst 5 of 3560 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)
16:3:138:GLN:HB2	16:3:145:ALA:HB2	1.25	1.18
18:3:3012:CLA:HBB1	18:3:3012:CLA:HMB1	1.18	1.17
16:3:268:VAL:HG21	18:3:3003:CLA:H43	1.17	1.16
18:3:3004:CLA:HMB1	18:3:3004:CLA:HBB1	1.25	1.15
16:3:111:LEU:HD22	18:3:3006:CLA:CBB	1.74	1.15

All (3) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:96:LYS:CD	7:L:170:LYS:NZ[3_555]	1.69	0.51
5:F:96:LYS:CE	7:L:170:LYS:NZ[3_555]	1.86	0.34
5:F:96:LYS:CG	7:L:170:LYS:NZ[3_555]	1.99	0.21


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 X-ray entries followed by that with respect to entries of similar resolution.

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	Perce	entiles
1	А	740/758~(98%)	691~(93%)	45 (6%)	4 (0%)	29	61
2	В	730/733~(100%)	695~(95%)	30 (4%)	5 (1%)	22	53
3	Ι	27/30~(90%)	25~(93%)	1 (4%)	1 (4%)	3	11
4	J	39/42~(93%)	34 (87%)	3 (8%)	2 (5%)	2	6
5	F	148/154~(96%)	138 (93%)	8 (5%)	2(1%)	11	34
6	G	89/97~(92%)	76~(85%)	8 (9%)	5~(6%)	2	5
7	L	158/167~(95%)	133 (84%)	15 (10%)	10 (6%)	1	3
8	С	78/81~(96%)	72 (92%)	6 (8%)	0	100	100
9	D	139/147~(95%)	116 (84%)	14 (10%)	9~(6%)	1	3
10	Ε	64/66~(97%)	57~(89%)	6 (9%)	1 (2%)	9	31
11	Н	82/90~(91%)	65~(79%)	10 (12%)	7 (8%)	1	1
12	Κ	53/129~(41%)	49 (92%)	2(4%)	2(4%)	3	10
13	2	205/269~(76%)	184 (90%)	7 (3%)	14 (7%)	1	3
14	4	196/252~(78%)	174 (89%)	15 (8%)	7~(4%)	3	11
15	1	192/202~(95%)	168 (88%)	17 (9%)	7~(4%)	3	11
16	3	213/275~(78%)	189 (89%)	15 (7%)	9 (4%)	3	9
All	All	3153/3492~(90%)	2866 (91%)	202 (6%)	85 (3%)	5	17

5 of 85 Ramachandran outliers are listed below:

Mol	Chain	\mathbf{Res}	Type
1	А	127	VAL
3	Ι	6	SER
4	J	11	ALA
6	G	101	PHE
6	G	102	GLU



4Y28

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 X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1	А	603/619~(97%)	595~(99%)	8 (1%)	69	91
2	В	599/600~(100%)	587~(98%)	12 (2%)	55	84
3	Ι	25/26~(96%)	23~(92%)	2(8%)	12	34
4	J	33/35~(94%)	29~(88%)	4 (12%)	5	15
5	F	123/127~(97%)	115~(94%)	8 (6%)	17	44
6	G	71/76~(93%)	65~(92%)	6 (8%)	10	31
7	L	124/133~(93%)	107~(86%)	17 (14%)	3	11
8	С	69/70~(99%)	65~(94%)	4 (6%)	20	50
9	D	120/125~(96%)	110 (92%)	10 (8%)	11	32
10	Ε	59/59~(100%)	57~(97%)	2(3%)	37	71
11	Н	69/74~(93%)	63~(91%)	6 (9%)	10	30
12	Κ	38/99~(38%)	32 (84%)	6 (16%)	2	8
13	2	166/216~(77%)	148 (89%)	18 (11%)	6	19
14	4	161/202~(80%)	145 (90%)	16 (10%)	8	23
15	1	158/167~(95%)	141 (89%)	17 (11%)	6	19
16	3	159/213~(75%)	135~(85%)	24 (15%)	3	9
All	All	2577/2841 (91%)	2417 (94%)	160 (6%)	18	47

5 of 160 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
14	4	221	GLN
16	3	148	TYR
15	1	40	ASP
15	1	159	LYS
16	3	225	LEU

Sometimes side chains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 59 such side chains are listed below:



Mol	Chain	Res	Type
8	С	71	HIS
16	3	185	GLN
12	К	130	HIS
16	3	174	GLN
15	1	201	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 209 ligands modelled in this entry, 1 is monoatomic - leaving 208 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 Chai		Chain	Res	Link	Link Bond lengths				Bond angles			
WIOI	Type Chain Ite	nes		Counts	RMSZ	# Z >2	Counts	RMSZ	# Z > 2			
18	CLA	3	3006	-	50,58,73	2.57	20 (40%)	58,95,113	2.97	24 (41%)		
18	CLA	В	1205	-	65,73,73	2.36	19 (29%)	76,113,113	2.46	23 (30%)		
18	CLA	L	1501	7	50,58,73	2.57	18 (36%)	58,95,113	2.94	25 (43%)		
18	CLA	В	1225	-	65,73,73	2.38	20 (30%)	76,113,113	2.52	21 (27%)		
22	BCR	В	6005	-	41,41,41	2.71	6 (14%)	56,56,56	<mark>6.79</mark>	23 (41%)		
27	LUT	2	2501	-	42,43,43	2.43	1 (2%)	51,60,60	2.11	14 (27%)		
23	LMG	F	5002	-	37,37,55	1.07	2 (5%)	45,45,63	1.27	5 (11%)		
18	CLA	В	1023	-	65,73,73	2.36	19 (29%)	76,113,113	2.55	24 (31%)		



Mol	Type	Chain	Bog	Link	B	ond leng	gths	Bo	nd angl	es
	туре	Chan	Ites		Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z >2
18	CLA	В	1240	21	65,73,73	2.36	19 (29%)	76,113,113	2.60	25 (32%)
18	CLA	А	1127	-	65,73,73	<mark>2.39</mark>	19 (29%)	76,113,113	2.53	22 (28%)
18	CLA	2	2003	-	55,63,73	2.38	18 (32%)	64,101,113	3.05	24 (37%)
21	LHG	2	2801	-	23,23,48	1.32	2 (8%)	26,29,54	1.21	4 (15%)
27	LUT	4	4502	-	42,43,43	2.38	3 (7%)	51,60,60	1.95	15 (29%)
18	CLA	В	1223	-	65,73,73	2.34	19 (29%)	76,113,113	2.60	24 (31%)
18	CLA	В	1206	2	65,73,73	<mark>2.39</mark>	19 (29%)	76,113,113	2.60	24 (31%)
18	CLA	В	1227	-	65,73,73	2.37	20 (30%)	76,113,113	2.59	24 (31%)
18	CLA	4	4012	14	65,73,73	2.21	18 (27%)	76,113,113	2.68	26 (34%)
21	LHG	1	1801	18	48,48,48	0.91	2 (4%)	51,54,54	1.20	5 (9%)
18	CLA	1	1001	15	60,68,73	2.30	19 (31%)	70,107,113	2.74	21 (30%)
18	CLA	2	2009	13	50,58,73	2.57	20 (40%)	58,95,113	2.94	23 (39%)
18	CLA	А	1108	-	46,54,73	2.90	20 (43%)	53,90,113	2.84	21 (39%)
18	CLA	3	3002	-	46,54,73	2.68	20 (43%)	53,90,113	3.03	25 (47%)
19	SF4	А	3001	2,1	0,12,12	-	-	-		
18	CLA	2	2002	-	46,54,73	2.65	19 (41%)	53,90,113	2.99	24 (45%)
20	PQN	А	5001	-	34,34,34	1.62	2 (5%)	42,45,45	1.19	3 (7%)
18	CLA	В	1219	-	60,68,73	2.48	20 (33%)	70,107,113	2.60	21 (30%)
18	CLA	А	1124	-	55,63,73	2.59	20 (36%)	64,101,113	2.85	23 (35%)
18	CLA	А	1110	-	55,63,73	2.60	20 (36%)	64,101,113	2.73	23 (35%)
28	CHL	3	3011	-	56,64,74	1.87	9 (16%)	61,102,114	1.51	12 (19%)
18	CLA	А	1132	-	65,73,73	2.37	20 (30%)	76,113,113	2.56	23 (30%)
18	CLA	А	1101	-	65,73,73	2.36	19 (29%)	76,113,113	2.65	22 (28%)
18	CLA	G	1003	-	60,68,73	2.35	19 (31%)	70,107,113	2.74	25 (35%)
23	LMG	J	5001	-	55,55,55	0.88	2 (3%)	63,63,63	1.44	7 (11%)
18	CLA	L	1502	-	60,68,73	2.34	18 (30%)	70,107,113	2.73	24 (34%)
28	CHL	2	2011	-	48,56,74	2.02	10 (20%)	51,92,114	1.57	11 (21%)
18	CLA	В	1216	-	65,73,73	2.38	20 (30%)	76,113,113	2.56	23 (30%)
28	CHL	2	2010	-	47,55,74	1.97	9 (19%)	50,91,114	1.47	9 (18%)
18	CLA	4	4008	-	46,54,73	2.60	18 (39%)	53,90,113	3.32	26 (49%)
18	CLA	А	1103	-	65,73,73	2.34	20 (30%)	76,113,113	2.61	24 (31%)
18	CLA	3	3001	16	50,58,73	2.56	19 (38%)	58,95,113	2.97	21 (36%)
18	CLA	В	1213	_	60,68,73	2.47	18 (30%)	70,107,113	2.67	22 (31%)
18	CLA	А	1112	_	65,73,73	2.36	20 (30%)	76,113,113	2.54	22 (28%)
18	CLA	В	1228	-	60,68,73	2.48	19 (31%)	70,107,113	2.65	22 (31%)



Mal	Tuno	Chain	Dog	Link	В	ond leng	gths	Bo	ond angl	es
	туре	Chain	nes		Counts	RMSZ	# Z >2	Counts	RMSZ	# Z >2
18	CLA	3	3013	-	46,54,73	2.77	20 (43%)	53,90,113	2.67	20 (37%)
22	BCR	А	6002	-	41,41,41	2.74	6 (14%)	$56,\!56,\!56$	6.45	22 (39%)
28	CHL	1	1010	15	47,55,74	1.64	7 (14%)	50,91,114	1.41	8 (16%)
18	CLA	А	1102	-	$50,\!58,\!73$	2.71	19 (38%)	$58,\!95,\!113$	2.86	21 (36%)
18	CLA	4	4007	-	60,68,73	2.27	17 (28%)	70,107,113	2.88	23 (32%)
18	CLA	А	1119	-	65,73,73	2.37	19 (29%)	76,113,113	2.54	23 (30%)
18	CLA	В	1238	-	65,73,73	2.39	20 (30%)	76,113,113	2.55	21 (27%)
18	CLA	А	1105	-	51,59,73	2.70	20 (39%)	59,96,113	2.89	25 (42%)
18	CLA	А	1128	-	65,73,73	2.37	19 (29%)	76,113,113	2.51	21 (27%)
23	LMG	В	5005	-	38,38,55	1.08	2 (5%)	46,46,63	1.04	3 (6%)
18	CLA	G	1001	-	55,63,73	2.43	18 (32%)	64,101,113	2.88	28 (43%)
18	CLA	3	3012	16	50,58,73	2.50	19 (38%)	58,95,113	3.08	23 (39%)
18	CLA	F	1302	5	50,58,73	2.62	18 (36%)	58,95,113	2.94	21 (36%)
22	BCR	J	6013	-	41,41,41	2.89	8 (19%)	56,56,56	6.55	30 (53%)
18	CLA	2	2007	-	60,68,73	2.37	19 (31%)	70,107,113	2.67	22 (31%)
27	LUT	1	1501	-	42,43,43	2.50	4 (9%)	51,60,60	2.31	14 (27%)
21	LHG	В	5004	18	20,20,48	1.34	2 (10%)	23,26,54	1.53	3 (13%)
22	BCR	L	6019	-	41,41,41	2.93	7 (17%)	56,56,56	6.55	24 (42%)
18	CLA	А	1134	-	55,63,73	2.59	19 (34%)	64,101,113	2.78	22 (34%)
18	CLA	В	1236	-	55,63,73	2.58	19 (34%)	64,101,113	2.84	22 (34%)
18	CLA	В	1210	-	65,73,73	2.34	19 (29%)	76,113,113	2.56	23 (30%)
18	CLA	1	1002	-	46,54,73	2.63	18 (39%)	53,90,113	3.08	22 (41%)
18	CLA	1	1005	-	55,63,73	2.39	19 (34%)	64,101,113	2.89	26 (40%)
22	BCR	А	6003	-	41,41,41	2.79	6 (14%)	56,56,56	6.48	20 (35%)
18	CLA	2	2019	-	29,35,73	3.22	14 (48%)	28,60,113	3.34	16 (57%)
18	CLA	2	2012	13	55,63,73	2.39	18 (32%)	64,101,113	2.85	23 (35%)
18	CLA	А	1022	-	65,73,73	2.39	19 (29%)	76,113,113	2.48	23 (30%)
18	CLA	А	1109	-	65,73,73	2.37	19 (29%)	76,113,113	2.58	22 (28%)
18	CLA	G	1002	-	46,54,73	2.74	20 (43%)	53,90,113	2.93	22 (41%)
18	CLA	А	1104	-	65,73,73	2.37	20 (30%)	76,113,113	2.61	22 (28%)
27	LUT	4	4501	-	42,43,43	2.44	3 (7%)	51,60,60	2.19	16 (31%)
18	CLA	4	4006	-	50,58,73	2.51	18 (36%)	58,95,113	2.85	23 (39%)
18	CLA	А	1126	-	65,73,73	2.38	20 (30%)	76,113,113	2.56	23 (30%)
18	CLA	В	1221	-	65,73,73	2.38	20 (30%)	76,113,113	2.62	25 (32%)
18	CLA	4	4017	-	65,73,73	2.21	19 (29%)	76,113,113	2.60	25 (32%)



Mol	ol Type Chain Res Link		Bond lengths			Bond angles				
	Type	Ullalli	nes		Counts	RMSZ	# Z >2	Counts	RMSZ	# Z >2
18	CLA	А	1113	-	46,54,73	2.87	19 (41%)	53,90,113	2.83	21 (39%)
18	CLA	А	1120	-	60,68,73	2.46	19 (31%)	70,107,113	2.70	21 (30%)
18	CLA	А	1137	-	$55,\!63,\!73$	2.58	20 (36%)	64,101,113	2.74	22 (34%)
18	CLA	А	1129	-	$50,\!58,\!73$	2.71	19 (38%)	58,95,113	2.92	23 (39%)
22	BCR	А	6007	-	41,41,41	2.75	7 (17%)	56, 56, 56	6.52	23 (41%)
27	LUT	3	3501	-	42,43,43	2.34	1 (2%)	51,60,60	2.37	19 (37%)
18	CLA	3	3017	-	46,54,73	2.73	18 (39%)	53,90,113	2.84	21 (39%)
18	CLA	J	1302	4	50,58,73	2.73	20 (40%)	58,95,113	2.96	23 (39%)
18	CLA	3	3010	-	60,68,73	2.34	18 (30%)	70,107,113	2.78	23 (32%)
18	CLA	А	1237	-	60,68,73	2.46	19 (31%)	70,107,113	2.80	23 (32%)
18	CLA	А	1125	-	60,68,73	2.43	19 (31%)	70,107,113	2.69	24 (34%)
18	CLA	В	1231	-	60,68,73	2.50	20 (33%)	70,107,113	2.60	23 (32%)
22	BCR	J	6012	-	41,41,41	2.91	8 (19%)	56,56,56	6.56	29 (51%)
22	BCR	В	6009	-	41,41,41	2.81	6 (14%)	56,56,56	<mark>6.39</mark>	23 (41%)
18	CLA	А	1130	-	50,58,73	2.74	20 (40%)	58,95,113	2.94	21 (36%)
18	CLA	1	1007	21	46,54,73	2.65	19 (41%)	53,90,113	3.16	21 (39%)
23	LMG	4	4801	-	35,35,55	1.04	2 (5%)	43,43,63	1.63	10 (23%)
22	BCR	L	6020	-	41,41,41	2.83	7 (17%)	56,56,56	6.55	29 (51%)
18	CLA	А	1118	-	46,54,73	2.86	18 (39%)	53,90,113	2.91	20 (37%)
28	CHL	2	2013	_	46,54,74	1.60	7 (15%)	49,90,114	1.45	9 (18%)
18	CLA	В	1217	-	46,54,73	2.88	20 (43%)	53,90,113	2.84	19 (35%)
18	CLA	1	1004	15	65,73,73	2.22	19 (29%)	76,113,113	2.65	23 (30%)
18	CLA	В	1229	-	65,73,73	2.37	20 (30%)	76,113,113	2.60	23 (30%)
23	LMG	G	2021	-	41,41,55	0.95	2 (4%)	49,49,63	1.16	5 (10%)
18	CLA	В	1220	-	65,73,73	2.37	20 (30%)	76,113,113	2.47	23 (30%)
18	CLA	В	1209	-	46,54,73	2.91	19 (41%)	53,90,113	2.85	19 (35%)
18	CLA	1	1011	_	50,58,73	2.52	18 (36%)	58,95,113	2.93	24 (41%)
18	CLA	В	1230	_	58,66,73	2.48	17 (29%)	67,104,113	2.86	22 (32%)
18	CLA	L	1503	_	50,58,73	2.56	18 (36%)	58,95,113	2.97	22 (37%)
22	BCR	K	2011	-	41,41,41	2.71	6 (14%)	56,56,56	6.74	27 (48%)
27	LUT	4	4503	-	42,43,43	2.41	3 (7%)	51,60,60	2.42	15 (29%)
18	CLA	2	2004	13	65,73,73	2.36	17 (26%)	76,113,113	2.51	23 (30%)
27	LUT	1	1502	_	42,43,43	2.47	4 (9%)	51,60,60	2.21	18 (35%)
18	CLA	4	4002	-	50,58,73	2.56	17 (34%)	58,95,113	2.97	26 (44%)
18	CLA	1	1012	15	50,58,73	2.57	20 (40%)	58,95,113	2.89	23 (39%)



Mal	Mol Type Chain Bes Li		Link	B	ond leng	gths	Bond angles			
	Type	Chan	nes		Counts	RMSZ	# Z >2	Counts	RMSZ	# Z >2
18	CLA	А	1151	21	50,58,73	2.76	20 (40%)	58,95,113	<mark>2.90</mark>	20 (34%)
18	CLA	2	2005	-	$55,\!63,\!73$	2.49	18 (32%)	64,101,113	2.76	24 (37%)
18	CLA	А	1135	-	$51,\!59,\!73$	2.68	19 (37%)	59, 96, 113	2.93	22 (37%)
18	CLA	В	1235	-	65,73,73	2.36	19 (29%)	76,113,113	2.64	22 (28%)
18	CLA	В	1208	-	55,63,73	2.60	20 (36%)	64,101,113	2.82	22 (34%)
18	CLA	В	1234	-	60,68,73	2.49	20 (33%)	70,107,113	2.72	24 (34%)
18	CLA	1	1014	15	46,54,73	2.70	19 (41%)	53,90,113	<mark>3.07</mark>	22 (41%)
19	SF4	С	3003	8	0,12,12	-	-	-		
22	BCR	F	6014	-	41,41,41	3.05	7 (17%)	$56,\!56,\!56$	<mark>6.69</mark>	23 (41%)
27	LUT	Ι	6018	-	42,43,43	2.46	1 (2%)	51,60,60	2.21	18 (35%)
18	CLA	А	1133	-	55,63,73	2.58	20 (36%)	64,101,113	2.77	22 (34%)
18	CLA	А	1139	-	65,73,73	2.37	20 (30%)	76,113,113	2.56	23 (30%)
18	CLA	А	1140	-	65,73,73	<mark>2.39</mark>	20 (30%)	76,113,113	2.55	23 (30%)
22	BCR	3	3503	-	41,41,41	2.95	9 (21%)	56,56,56	6.43	31 (55%)
17	CL0	А	1011	-	65,73,73	2.38	20 (30%)	76,113,113	2.55	22 (28%)
18	CLA	К	1001	-	46,54,73	2.73	19 (41%)	53,90,113	3.10	20 (37%)
26	LMU	В	8001	-	36,36,36	0.49	0	47,47,47	1.18	5 (10%)
18	CLA	4	4005	14	60,68,73	2.28	18 (30%)	70,107,113	2.84	27 (38%)
18	CLA	А	1123	-	65,73,73	2.39	20 (30%)	76,113,113	2.59	23 (30%)
22	BCR	В	6006	-	41,41,41	2.79	6 (14%)	56,56,56	<mark>6.86</mark>	28 (50%)
18	CLA	А	1136	-	56,64,73	2.56	20 (35%)	65,102,113	2.78	25 (38%)
18	CLA	1	1003	15	55,63,73	2.42	21 (38%)	64,101,113	2.83	26 (40%)
19	SF4	С	3002	8	0,12,12	-	-	-		
18	CLA	В	1204	-	55,63,73	2.61	19 (34%)	64,101,113	2.78	21 (32%)
18	CLA	В	1201	-	$50,\!58,\!73$	2.70	20 (40%)	$58,\!95,\!113$	2.86	24 (41%)
26	LMU	В	8002	-	36,36,36	0.45	0	47,47,47	1.06	<mark>3 (6%)</mark>
18	CLA	В	1215	-	60,68,73	2.50	20 (33%)	70,107,113	2.68	22 (31%)
27	LUT	3	3502	-	42,43,43	2.39	3 (7%)	51,60,60	2.28	17 (33%)
18	CLA	В	1211	-	65,73,73	2.34	19 (29%)	76,113,113	2.63	25 (32%)
28	CHL	4	4010	-	47,55,74	2.11	12 (25%)	50,91,114	1.74	13 (26%)
27	LUT	2	2502	-	42,43,43	2.47	3 (7%)	51,60,60	2.10	16 (31%)
18	CLA	4	4003	14	65,73,73	2.25	20 (30%)	76,113,113	2.59	24 (31%)
18	CLA	А	1122	-	65,73,73	2.37	19 (29%)	76,113,113	2.53	22 (28%)
18	CLA	В	1224	-	65,73,73	2.36	19 (29%)	76,113,113	2.58	23 (30%)
18	CLA	3	3004	16	60,68,73	2.32	19 (31%)	70,107,113	2.67	20 (28%)



Mol	Type	Chain	Bos	Link	Bond lengths		gths	Bo	ond angl	es
	Type	Ullalli	nes		Counts	RMSZ	# Z >2	Counts	RMSZ	# Z >2
18	CLA	2	2001	13	$60,\!68,\!73$	<mark>2.29</mark>	19 (31%)	70,107,113	2.81	27 (38%)
18	CLA	1	1006	-	$50,\!58,\!73$	2.59	21 (42%)	58,95,113	2.95	23 (39%)
18	CLA	В	1212	-	$55,\!63,\!73$	2.57	20 (36%)	64,101,113	2.83	23 (35%)
28	CHL	4	4013	-	47,55,74	1.98	9 (19%)	50,91,114	1.64	11 (22%)
18	CLA	А	1131	-	65,73,73	<mark>2.37</mark>	20 (30%)	76,113,113	2.56	21 (27%)
18	CLA	А	1116	-	60,68,73	2.47	19 (31%)	70,107,113	2.75	22 (31%)
18	CLA	В	1218	-	65,73,73	2.37	20 (30%)	76,113,113	2.63	22 (28%)
18	CLA	В	1012	-	65,73,73	2.36	19 (29%)	76,113,113	2.50	22 (28%)
18	CLA	2	2006	-	55,63,73	2.49	18 (32%)	64,101,113	2.80	22 (34%)
18	CLA	4	4004	14	60,68,73	2.31	18 (30%)	70,107,113	2.68	24 (34%)
18	CLA	F	1301	-	45,53,73	2.64	17 (37%)	52,89,113	2.91	18 (34%)
18	CLA	3	3018	16	50,58,73	2.57	21 (42%)	58,95,113	3.03	25 (43%)
18	CLA	1	1013	-	46,54,73	2.74	20 (43%)	53,90,113	2.98	19 (35%)
18	CLA	3	3003	16	60,68,73	2.36	19 (31%)	70,107,113	2.73	24 (34%)
21	LHG	А	5003	18	39,39,48	1.04	2 (5%)	42,45,54	1.18	4 (9%)
18	CLA	В	1226	-	65,73,73	2.35	19 (29%)	76,113,113	2.55	22 (28%)
18	CLA	А	1106	1	65,73,73	2.39	20 (30%)	76,113,113	2.61	23 (30%)
18	CLA	В	1202	-	65,73,73	2.35	19 (29%)	76,113,113	2.65	23 (30%)
18	CLA	4	4009	14	50,58,73	2.48	19 (38%)	58,95,113	2.93	22 (37%)
18	CLA	3	3007	-	50,58,73	2.58	20 (40%)	58,95,113	2.93	24 (41%)
20	PQN	В	5002	-	34,34,34	1.69	2 (5%)	42,45,45	1.07	3 (7%)
18	CLA	В	1214	-	59,67,73	2.50	19 (32%)	68,105,113	2.73	23 (33%)
18	CLA	А	1013	-	65,73,73	2.36	20 (30%)	76,113,113	2.58	23 (30%)
22	BCR	В	6004	-	41,41,41	2.78	6 (14%)	56,56,56	6.67	29 (51%)
18	CLA	А	1138	-	65,73,73	2.40	20 (30%)	76,113,113	2.48	24 (31%)
22	BCR	В	6010	-	41,41,41	2.73	6 (14%)	56,56,56	<mark>6.56</mark>	23 (41%)
22	BCR	А	6008	-	41,41,41	2.83	6 (14%)	56,56,56	6.57	26 (46%)
21	LHG	А	7001	-	48,48,48	0.96	2 (4%)	51,54,54	1.13	4 (7%)
23	LMG	F	5001	-	23,23,55	1.24	3 (13%)	31,31,63	1.72	6 (19%)
18	CLA	А	1115	-	46,54,73	2.89	20 (43%)	53,90,113	2.79	19 (35%)
18	CLA	А	1121	-	55,63,73	2.58	20 (36%)	64,101,113	2.86	24 (37%)
18	CLA	2	2016	13	50,58,73	2.62	18 (36%)	58,95,113	3.57	29 (50%)
22	BCR	Ι	6020	-	41,41,41	2.77	7 (17%)	56,56,56	6.64	20 (35%)
18	CLA	3	3019	-	29,35,73	<mark>3.33</mark>	15 (51%)	28,60,113	3.29	15 (53%)
18	CLA	4	4001	14	60,68,73	2.30	19 (31%)	70,107,113	2.76	26 (37%)



Mal	Type	Chain	Bos	Link	B	ond leng	gths	Bond angles		
WIOI	Type	Ullalli	nes		Counts	RMSZ	# Z >2	Counts	RMSZ	# Z >2
18	CLA	В	1222	-	$65,\!73,\!73$	2.36	19 (29%)	76,113,113	2.64	25 (32%)
22	BCR	А	6017	-	41,41,41	2.67	6 (14%)	56,56,56	7.12	27 (48%)
18	CLA	А	1114	-	46,54,73	2.89	19 (41%)	53,90,113	2.86	20 (37%)
29	ZEX	4	4505	-	42,43,43	1.08	3 (7%)	55,60,60	2.17	19 (34%)
18	CLA	Н	1000	11	46,54,73	2.88	19 (41%)	53,90,113	2.84	19 (35%)
28	CHL	1	1009	-	56,64,74	1.57	8 (14%)	61,102,114	1.33	11 (18%)
18	CLA	В	1203	2	65,73,73	2.33	19 (29%)	76,113,113	2.60	22 (28%)
18	CLA	А	1111	-	60,68,73	2.46	19 (31%)	70,107,113	2.64	24 (34%)
18	CLA	А	1117	-	65,73,73	2.38	19 (29%)	76,113,113	2.54	22 (28%)
18	CLA	4	4016	-	46,54,73	2.76	18 (39%)	53,90,113	2.93	23 (43%)
22	BCR	F	6016	-	41,41,41	3.07	9 (21%)	56,56,56	6.70	24 (42%)
18	CLA	1	1008	-	46,54,73	2.67	18 (39%)	53,90,113	2.98	24 (45%)
28	CHL	4	4011	-	51,59,74	1.89	10 (19%)	55,96,114	1.56	11 (20%)
18	CLA	3	3005	-	55,63,73	2.45	19 (34%)	64,101,113	2.89	24 (37%)
18	CLA	В	1021	-	65,73,73	2.37	18 (27%)	76,113,113	2.64	23 (30%)
18	CLA	2	2008	-	50,58,73	2.48	19 (38%)	58,95,113	<mark>3.32</mark>	30 (51%)
18	CLA	В	1232	-	55,63,73	2.58	20 (36%)	64,101,113	2.74	21 (32%)
18	CLA	3	3008	-	48,56,73	2.54	18 (37%)	55,92,113	3.48	27 (49%)
22	BCR	А	6011	-	41,41,41	2.89	6 (14%)	56,56,56	6.72	24 (42%)
22	BCR	G	2011	-	41,41,41	<mark>3.05</mark>	7 (17%)	56,56,56	<mark>6.73</mark>	29 (51%)
23	LMG	2	2802	-	35,35,55	1.08	2 (5%)	43,43,63	1.33	7 (16%)
18	CLA	В	1207	-	65,73,73	2.37	20 (30%)	76,113,113	2.62	23 (30%)
18	CLA	А	1107	1	65,73,73	2.38	20 (30%)	76,113,113	2.58	23 (30%)
18	CLA	В	1239	-	65,73,73	2.37	20 (30%)	76,113,113	2.58	22 (28%)
25	DGD	В	7101	-	62,62,67	0.91	1 (1%)	76,76,81	1.33	11 (14%)

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
18	CLA	3	3006	-	1/1/12/20	6/19/97/115	-
18	CLA	В	1205	-	1/1/15/20	10/37/115/115	-
18	CLA	L	1501	7	1/1/12/20	7/19/97/115	-
18	CLA	В	1225	-	1/1/15/20	16/37/115/115	-



Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	BCR	В	6005	-	-	13/29/63/63	0/2/2/2
27	LUT	2	2501	-	1/1/12/27	3/29/67/67	0/2/2/2
23	LMG	F	5002	-	-	15/32/52/70	0/1/1/1
18	CLA	В	1023	-	1/1/15/20	10/37/115/115	-
18	CLA	В	1240	21	1/1/15/20	17/37/115/115	-
18	CLA	А	1127	-	1/1/15/20	19/37/115/115	-
18	CLA	2	2003	-	1/1/13/20	11/25/103/115	-
27	LUT	4	4502	-	1/1/12/27	8/29/67/67	0/2/2/2
21	LHG	2	2801	-	-	15/28/28/53	-
18	CLA	В	1223	-	_	14/37/115/115	-
18	CLA	В	1206	2	1/1/15/20	15/37/115/115	-
18	CLA	В	1227	-	1/1/15/20	11/37/115/115	-
18	CLA	4	4012	14	1/1/15/20	17/37/115/115	-
21	LHG	1	1801	18	-	24/53/53/53	-
18	CLA	1	1001	15	1/1/14/20	14/31/109/115	-
18	CLA	2	2009	13	1/1/12/20	7/19/97/115	-
18	CLA	А	1108	-	1/1/11/20	6/15/93/115	-
18	CLA	3	3002	-	1/1/11/20	6/15/93/115	-
19	SF4	А	3001	2,1	-	-	0/6/5/5
18	CLA	2	2002	-	1/1/11/20	8/15/93/115	-
20	PQN	А	5001	-	-	10/23/43/43	0/2/2/2
18	CLA	В	1219	-	1/1/14/20	17/31/109/115	-
18	CLA	А	1124	-	1/1/13/20	10/25/103/115	-
18	CLA	А	1110	-	1/1/13/20	10/25/103/115	-
28	CHL	3	3011	-	4/4/18/26	6/27/125/137	-
18	CLA	А	1132	-	1/1/15/20	13/37/115/115	-
18	CLA	А	1101	-	1/1/15/20	15/37/115/115	-
18	CLA	G	1003	-	1/1/14/20	13/31/109/115	-
23	LMG	J	5001	-	-	36/50/70/70	0/1/1/1
18	CLA	L	1502	-	1/1/14/20	15/31/109/115	-
25	DGD	В	7101	-	-	23/50/90/95	0/2/2/2
28	CHL	2	2011	-	3/3/16/26	2/18/116/137	-
18	CLA	В	1216	-	1/1/15/20	13/37/115/115	-
28	CHL	2	2010	-	3/3/16/26	2/17/115/137	-



Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
18	CLA	4	4008	-	1/1/11/20	12/15/93/115	-
18	CLA	А	1103	-	1/1/15/20	21/37/115/115	-
18	CLA	3	3001	16	1/1/12/20	4/19/97/115	-
18	CLA	В	1213	-	-	13/31/109/115	-
18	CLA	А	1112	-	1/1/15/20	14/37/115/115	-
18	CLA	В	1228	-	1/1/14/20	15/31/109/115	-
18	CLA	3	3013	-	1/1/11/20	11/15/93/115	-
22	BCR	А	6002	-	-	11/29/63/63	0/2/2/2
28	CHL	1	1010	15	3/3/16/26	5/17/115/137	-
18	CLA	А	1102	-	1/1/12/20	7/19/97/115	-
18	CLA	4	4007	-	1/1/14/20	14/31/109/115	-
18	CLA	А	1119	-	1/1/15/20	24/37/115/115	-
18	CLA	В	1238	-	1/1/15/20	15/37/115/115	-
18	CLA	А	1105	-	1/1/12/20	12/21/99/115	-
18	CLA	А	1128	-	1/1/15/20	13/37/115/115	-
23	LMG	В	5005	-	-	17/33/53/70	0/1/1/1
18	CLA	G	1001	-	1/1/13/20	18/25/103/115	-
18	CLA	3	3012	16	1/1/12/20	7/19/97/115	-
18	CLA	F	1302	5	1/1/12/20	10/19/97/115	-
22	BCR	J	6013	-	-	13/29/63/63	0/2/2/2
18	CLA	2	2007	-	1/1/14/20	13/31/109/115	-
27	LUT	1	1501	-	1/1/12/27	8/29/67/67	0/2/2/2
21	LHG	В	5004	18	-	15/23/23/53	-
22	BCR	L	6019	-	-	11/29/63/63	0/2/2/2
18	CLA	А	1134	-	1/1/13/20	15/25/103/115	-
18	CLA	В	1236	-	1/1/13/20	10/25/103/115	-
18	CLA	В	1210	-	1/1/15/20	15/37/115/115	-
18	CLA	1	1002	-	1/1/11/20	6/15/93/115	-
18	CLA	1	1005	-	1/1/13/20	10/25/103/115	-
22	BCR	А	6003	-	-	13/29/63/63	0/2/2/2
18	CLA	2	2019	-	1/1/5/20	-	-
18	CLA	2	2012	13	1/1/13/20	9/25/103/115	-
18	CLA	А	1022	-	1/1/15/20	12/37/115/115	-
18	CLA	A	1109	-	1/1/15/20	11/37/115/115	-



Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
18	CLA	G	1002	-	1/1/11/20	8/15/93/115	-
18	CLA	А	1104	-	1/1/15/20	16/37/115/115	-
27	LUT	4	4501	-	1/1/12/27	4/29/67/67	0/2/2/2
18	CLA	4	4006	-	1/1/12/20	6/19/97/115	-
18	CLA	А	1126	-	1/1/15/20	15/37/115/115	-
18	CLA	В	1221	-	1/1/15/20	19/37/115/115	-
18	CLA	4	4017	-	1/1/15/20	19/37/115/115	-
18	CLA	А	1113	-	1/1/11/20	11/15/93/115	-
18	CLA	А	1120	-	1/1/14/20	16/31/109/115	-
18	CLA	А	1137	-	1/1/13/20	12/25/103/115	-
18	CLA	А	1129	-	1/1/12/20	9/19/97/115	-
27	LUT	3	3501	-	1/1/12/27	5/29/67/67	0/2/2/2
22	BCR	А	6007	-	-	6/29/63/63	0/2/2/2
18	CLA	3	3017	-	1/1/11/20	9/15/93/115	-
18	CLA	J	1302	4	1/1/12/20	11/19/97/115	-
18	CLA	3	3010	-	1/1/14/20	17/31/109/115	-
18	CLA	А	1237	-	1/1/14/20	13/31/109/115	-
18	CLA	А	1125	-	1/1/14/20	19/31/109/115	-
18	CLA	В	1231	-	1/1/14/20	11/31/109/115	-
22	BCR	J	6012	-	-	11/29/63/63	0/2/2/2
22	BCR	В	6009	-	-	7/29/63/63	0/2/2/2
18	CLA	А	1130	-	-	7/19/97/115	-
18	CLA	1	1007	21	1/1/11/20	8/15/93/115	-
23	LMG	4	4801	-	-	16/30/50/70	0/1/1/1
22	BCR	L	6020	-	-	9/29/63/63	0/2/2/2
18	CLA	А	1118	-	1/1/11/20	8/15/93/115	-
28	CHL	2	2013	-	3/3/16/26	4/15/113/137	-
18	CLA	В	1217	-	1/1/11/20	8/15/93/115	-
18	CLA	1	1004	15	1/1/15/20	18/37/115/115	-
18	CLA	В	1229	-	1/1/15/20	15/37/115/115	-
23	LMG	G	2021	-	-	24/36/56/70	0/1/1/1
18	CLA	В	1209	-	1/1/11/20	5/15/93/115	-
18	CLA	1	1011	-	1/1/12/20	10/19/97/115	-
18	CLA	В	1220	-	-	16/37/115/115	-



Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
18	CLA	В	1230	-	1/1/13/20	16/29/107/115	-
18	CLA	L	1503	-	1/1/12/20	5/19/97/115	-
22	BCR	K	2011	-	-	11/29/63/63	0/2/2/2
27	LUT	4	4503	-	1/1/12/27	10/29/67/67	0/2/2/2
18	CLA	2	2004	13	1/1/15/20	13/37/115/115	-
18	CLA	4	4002	-	1/1/12/20	7/19/97/115	-
18	CLA	1	1012	15	1/1/12/20	8/19/97/115	-
18	CLA	А	1151	21	1/1/12/20	11/19/97/115	-
18	CLA	2	2005	-	1/1/13/20	14/25/103/115	-
18	CLA	А	1135	-	1/1/12/20	6/21/99/115	-
18	CLA	В	1235	-	1/1/15/20	17/37/115/115	-
18	CLA	В	1208	-	1/1/13/20	15/25/103/115	-
18	CLA	В	1234	-	1/1/14/20	11/31/109/115	-
18	CLA	1	1014	15	1/1/11/20	9/15/93/115	-
27	LUT	Ι	6018	-	1/1/12/27	3/29/67/67	0/2/2/2
22	BCR	F	6014	-	-	12/29/63/63	0/2/2/2
19	SF4	С	3003	8	-	-	0/6/5/5
18	CLA	А	1133	-	-	10/25/103/115	-
18	CLA	А	1139	-	1/1/15/20	14/37/115/115	-
18	CLA	А	1140	-	1/1/15/20	16/37/115/115	-
22	BCR	3	3503	-	-	14/29/63/63	0/2/2/2
17	CL0	А	1011	-	3/3/20/25	8/37/135/135	-
18	CLA	K	1001	-	1/1/11/20	11/15/93/115	-
26	LMU	В	8001	-	-	8/21/61/61	0/2/2/2
18	CLA	4	4005	14	1/1/14/20	12/31/109/115	-
18	CLA	А	1123	-	1/1/15/20	16/37/115/115	-
22	BCR	В	6006	-	-	10/29/63/63	0/2/2/2
18	CLA	А	1136	-	1/1/13/20	9/27/105/115	-
18	CLA	1	1003	15	1/1/13/20	7/25/103/115	-
19	SF4	С	3002	8	-	-	0/6/5/5
18	CLA	В	1204	-	1/1/13/20	12/25/103/115	-
18	CLA	В	1201	-	1/1/12/20	10/19/97/115	-
26	LMU	В	8002	-	-	14/21/61/61	0/2/2/2
18	CLA	В	1215	-	1/1/14/20	15/31/109/115	-



Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
27	LUT	3	3502	-	1/1/12/27	8/29/67/67	0/2/2/2
18	CLA	В	1211	-	1/1/15/20	11/37/115/115	-
28	CHL	4	4010	-	3/3/16/26	4/17/115/137	-
27	LUT	2	2502	-	1/1/12/27	4/29/67/67	0/2/2/2
18	CLA	4	4003	14	1/1/15/20	17/37/115/115	-
18	CLA	А	1122	-	1/1/15/20	24/37/115/115	-
18	CLA	В	1224	-	1/1/15/20	21/37/115/115	-
18	CLA	3	3004	16	1/1/14/20	10/31/109/115	-
18	CLA	2	2001	13	1/1/14/20	18/31/109/115	-
18	CLA	1	1006	-	1/1/12/20	8/19/97/115	-
18	CLA	В	1212	-	1/1/13/20	7/25/103/115	-
28	CHL	4	4013	-	3/3/16/26	4/17/115/137	-
18	CLA	А	1131	-	1/1/15/20	12/37/115/115	-
18	CLA	А	1116	-	1/1/14/20	17/31/109/115	-
18	CLA	В	1218	-	1/1/15/20	16/37/115/115	-
18	CLA	В	1012	-	1/1/15/20	15/37/115/115	-
18	CLA	2	2006	-	1/1/13/20	10/25/103/115	-
18	CLA	4	4004	14	1/1/14/20	10/31/109/115	-
18	CLA	F	1301	-	1/1/11/20	2/13/91/115	-
18	CLA	3	3018	16	1/1/12/20	7/19/97/115	-
18	CLA	1	1013	-	1/1/11/20	8/15/93/115	-
18	CLA	3	3003	16	1/1/14/20	10/31/109/115	-
21	LHG	А	5003	18	-	21/44/44/53	-
18	CLA	В	1226	-	1/1/15/20	19/37/115/115	-
18	CLA	А	1106	1	1/1/15/20	14/37/115/115	-
18	CLA	В	1202	-	1/1/15/20	18/37/115/115	-
18	CLA	4	4009	14	1/1/12/20	4/19/97/115	-
18	CLA	3	3007	-	1/1/12/20	6/19/97/115	-
20	PQN	В	5002	-	-	13/23/43/43	0/2/2/2
18	CLA	В	1214	-	1/1/13/20	10/30/108/115	-
18	CLA	А	1013	-	1/1/15/20	12/37/115/115	-
22	BCR	В	6004	-	-	10/29/63/63	0/2/2/2
18	CLA	А	1138	-	1/1/15/20	19/37/115/115	-
22	BCR	В	6010	-	-	10/29/63/63	0/2/2/2



Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	BCR	А	6008	-	-	9/29/63/63	0/2/2/2
21	LHG	А	7001	-	-	30/53/53/53	-
23	LMG	F	5001	-	-	9/16/36/70	0/1/1/1
18	CLA	А	1115	-	1/1/11/20	6/15/93/115	-
18	CLA	А	1121	-	1/1/13/20	15/25/103/115	-
18	CLA	2	2016	13	1/1/12/20	9/19/97/115	-
22	BCR	Ι	6020	-	-	10/29/63/63	0/2/2/2
18	CLA	3	3019	-	1/1/5/20	-	-
18	CLA	4	4001	14	1/1/14/20	13/31/109/115	-
18	CLA	В	1222	-	1/1/15/20	16/37/115/115	-
22	BCR	А	6017	-	-	10/29/63/63	0/2/2/2
18	CLA	А	1114	-	1/1/11/20	6/15/93/115	-
29	ZEX	4	4505	-	-	2/29/67/67	0/2/2/2
18	CLA	Н	1000	11	1/1/11/20	10/15/93/115	-
28	CHL	1	1009	-	4/4/18/26	8/27/125/137	-
18	CLA	В	1203	2	1/1/15/20	14/37/115/115	-
18	CLA	А	1111	-	1/1/14/20	11/31/109/115	-
18	CLA	А	1117	-	1/1/15/20	13/37/115/115	-
18	CLA	4	4016	-	1/1/11/20	11/15/93/115	-
22	BCR	F	6016	-	-	8/29/63/63	0/2/2/2
18	CLA	1	1008	-	1/1/11/20	9/15/93/115	-
28	CHL	4	4011	-	3/3/17/26	3/21/119/137	-
18	CLA	3	3005	-	1/1/13/20	17/25/103/115	-
18	CLA	В	1021	-	1/1/15/20	14/37/115/115	-
18	CLA	2	2008	-	1/1/12/20	9/19/97/115	-
18	CLA	В	1232	-	1/1/13/20	6/25/103/115	-
18	CLA	3	3008	-	1/1/11/20	12/17/95/115	-
22	BCR	А	6011	-	-	18/29/63/63	0/2/2/2
22	BCR	G	2011	-	-	11/29/63/63	0/2/2/2
23	LMG	2	2802	-	-	12/30/50/70	0/1/1/1
18	CLA	В	1207	-	_	18/37/115/115	-
18	CLA	А	1107	1	1/1/15/20	14/37/115/115	_
18	CLA	В	1239	-	1/1/15/20	18/37/115/115	_
27	LUT	1	1502	-	1/1/12/27	3/29/67/67	0/2/2/2

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
27	2	2502	LUT	C24-C25	14.89	1.51	1.33
27	Ι	6018	LUT	C24-C25	14.89	1.51	1.33
27	2	2501	LUT	C24-C25	14.81	1.51	1.33
27	1	1501	LUT	C24-C25	14.74	1.51	1.33
27	1	1502	LUT	C24-C25	14.31	1.51	1.33

The worst 5 of 3091 bond length outliers are listed below:

The worst 5 of 4248 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	$Observed(^{o})$	$Ideal(^{o})$
22	А	6017	BCR	C16-C17-C18	29.85	169.91	127.31
22	G	2011	BCR	C16-C17-C18	27.95	167.20	127.31
22	В	6005	BCR	C16-C17-C18	27.71	166.86	127.31
22	K	2011	BCR	C16-C17-C18	27.60	166.70	127.31
22	Ι	6020	BCR	C16-C17-C18	27.15	166.06	127.31

5 of 182 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
17	А	1011	CL0	ND
17	А	1011	CL0	NC
17	А	1011	CL0	NA
18	А	1013	CLA	ND
18	А	1151	CLA	ND

5 of 2380 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
18	А	1013	CLA	CHA-CBD-CGD-O1D
18	А	1151	CLA	CHA-CBD-CGD-O1D
18	А	1151	CLA	CHA-CBD-CGD-O2D
18	А	1151	CLA	CBD-CGD-O2D-CED
18	А	1022	CLA	CBD-CGD-O2D-CED

There are no ring outliers.

205 monomers are involved in 1953 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
18	3	3006	CLA	36	0
18	В	1205	CLA	8	0
18	L	1501	CLA	15	0
18	В	1225	CLA	4	0



Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	В	6005	BCR	2	0
27	2	2501	LUT	23	0
23	F	5002	LMG	6	0
18	В	1023	CLA	5	0
18	В	1240	CLA	10	0
18	А	1127	CLA	6	0
18	2	2003	CLA	30	0
21	2	2801	LHG	6	0
27	4	4502	LUT	31	0
18	В	1223	CLA	4	0
18	В	1206	CLA	6	0
18	В	1227	CLA	8	0
18	4	4012	CLA	28	0
21	1	1801	LHG	15	0
18	1	1001	CLA	48	0
18	2	2009	CLA	15	0
18	А	1108	CLA	3	0
18	3	3002	CLA	10	0
19	А	3001	SF4	1	0
18	2	2002	CLA	38	0
20	А	5001	PQN	3	0
18	В	1219	CLA	2	0
18	А	1124	CLA	4	0
18	А	1110	CLA	10	0
28	3	3011	CHL	22	0
18	А	1132	CLA	7	0
18	А	1101	CLA	6	0
18	G	1003	CLA	30	0
23	J	5001	LMG	9	0
18	L	1502	CLA	13	0
28	2	2011	CHL	6	0
18	В	1216	CLA	7	0
28	2	2010	CHL	18	0
18	4	4008	CLA	15	0
18	A	1103	CLA	6	0
18	3	3001	CLA	24	0
18	В	1213	CLA	6	0
18	A	1112	CLA	13	0
18	B	1228	CLA	1	0
18	3	3013	CLA	23	0
22	A	6002	BCR	4	0
28	1	1010	\vdash CHL	8	0



Mol	Chain	Res	Type	Clashes	Symm-Clashes
18	А	1102	CLA	4	0
18	4	4007	CLA	20	0
18	А	1119	CLA	7	0
18	В	1238	CLA	9	0
18	А	1105	CLA	3	0
18	А	1128	CLA	11	0
23	В	5005	LMG	3	0
18	G	1001	CLA	36	0
18	3	3012	CLA	32	0
18	F	1302	CLA	14	0
22	J	6013	BCR	8	0
18	2	2007	CLA	26	0
27	1	1501	LUT	31	0
21	В	5004	LHG	1	0
22	L	6019	BCR	22	0
18	A	1134	CLA	2	0
18	В	1236	CLA	5	0
18	В	1210	CLA	9	0
18	1	1002	CLA	21	0
18	1	1005	CLA	15	0
22	A	6003	BCR	2	0
18	2	2012	CLA	24	0
18	A	1022	CLA	7	0
18	A	1109	CLA	8	0
18	G	1002	CLA	26	0
18	A	1104	CLA	4	0
27	4	4501	LUT	21	0
18	4	4006	CLA	21	0
18	A	1126	CLA	10	0
18	В	1221	CLA	14	0
18	4	4017	CLA	11	0
18	A	1113	CLA	2	0
18	A	1120	CLA	3	0
18	A	1137	CLA	3	0
18	A	1129	CLA	1	0
22	A	6007	BCR	3	0
27	3	3501	LUT	38	0
18	3	3017	CLA	11	0
18	J	1302	CLA	7	0
18	3	3010	CLA	34	0
18	A	1237	CLA	5	0
18	A	1125	CLA	3	0



Mol	Chain	Res	Type	Clashes	Symm-Clashes
18	В	1231	CLA	3	0
22	J	6012	BCR	7	0
22	В	6009	BCR	6	0
18	А	1130	CLA	4	0
18	1	1007	CLA	10	0
23	4	4801	LMG	6	0
22	L	6020	BCR	6	0
18	А	1118	CLA	3	0
28	2	2013	CHL	18	0
18	В	1217	CLA	1	0
18	1	1004	CLA	26	0
18	В	1229	CLA	6	0
23	G	2021	LMG	20	0
18	В	1220	CLA	11	0
18	В	1209	CLA	3	0
18	1	1011	CLA	18	0
18	В	1230	CLA	8	0
18	L	1503	CLA	11	0
22	K	2011	BCR	17	0
27	4	4503	LUT	32	0
18	2	2004	CLA	23	0
27	1	1502	LUT	17	0
18	4	4002	CLA	11	0
18	1	1012	CLA	16	0
18	А	1151	CLA	4	0
18	2	2005	CLA	24	0
18	А	1135	CLA	4	0
18	В	1235	CLA	5	0
18	В	1208	CLA	7	0
18	В	1234	CLA	8	0
18	1	1014	CLA	14	0
22	F	6014	BCR	8	0
27	Ι	6018	LUT	14	0
18	А	1133	CLA	3	0
18	A	1139	CLA	5	0
18	А	1140	CLA	5	0
22	3	3503	BCR	21	0
17	A	1011	CL0	6	0
18	K	1001	CLA	12	0
26	В	8001	LMU	1	0
18	4	4005	CLA	16	0
18	А	1123	CLA	4	0



Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	В	6006	BCR	5	0
18	А	1136	CLA	7	0
18	1	1003	CLA	32	0
18	В	1204	CLA	10	0
18	В	1201	CLA	2	0
26	В	8002	LMU	3	0
18	В	1215	CLA	4	0
27	3	3502	LUT	24	0
18	В	1211	CLA	7	0
28	4	4010	CHL	8	0
27	2	2502	LUT	32	0
18	4	4003	CLA	13	0
18	А	1122	CLA	6	0
18	В	1224	CLA	7	0
18	3	3004	CLA	20	0
18	2	2001	CLA	33	0
18	1	1006	CLA	11	0
18	В	1212	CLA	5	0
28	4	4013	CHL	19	0
18	А	1131	CLA	3	0
18	А	1116	CLA	7	0
18	В	1218	CLA	11	0
18	В	1012	CLA	6	0
18	2	2006	CLA	22	0
18	4	4004	CLA	19	0
18	F	1301	CLA	6	0
18	3	3018	CLA	19	0
18	1	1013	CLA	16	0
18	3	3003	CLA	51	0
21	A	5003	LHG	5	0
18	В	1226	CLA	7	0
18	A	1106	CLA	9	0
18	В	1202	CLA	7	0
18	4	4009	CLA	9	0
18	3	3007	CLA	8	0
20	В	5002	PQN	5	0
18	В	1214	CLA	3	0
18	A	1013	CLA	8	0
22	В	6004	BCR	10	0
18	A	1138	CLA	4	0
22	В	6010	BCR	1	0
22	А	6008	BCR	2	0



Mol	Chain	Res	Type	Clashes	Symm-Clashes
21	А	7001	LHG	7	0
23	F	5001	LMG	7	0
18	А	1115	CLA	3	0
18	А	1121	CLA	4	0
18	2	2016	CLA	36	0
22	Ι	6020	BCR	3	0
18	3	3019	CLA	1	0
18	4	4001	CLA	25	0
18	В	1222	CLA	8	0
22	А	6017	BCR	5	0
18	А	1114	CLA	3	0
29	4	4505	ZEX	12	0
18	Н	1000	CLA	4	0
28	1	1009	CHL	27	0
18	В	1203	CLA	3	0
18	А	1111	CLA	8	0
18	А	1117	CLA	4	0
18	4	4016	CLA	24	0
22	F	6016	BCR	11	0
18	1	1008	CLA	34	0
28	4	4011	CHL	20	0
18	3	3005	CLA	18	0
18	В	1021	CLA	9	0
18	2	2008	CLA	16	0
18	В	1232	CLA	3	0
18	3	3008	CLA	19	0
22	А	6011	BCR	5	0
22	G	2011	BCR	29	0
23	2	2802	LMG	9	0
18	В	1207	CLA	12	0
18	А	1107	CLA	3	0
18	В	1239	CLA	5	0
25	В	7101	DGD	4	0

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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.







Torsions Rings



































































Rings



Torsions




































































































































































































































































































































































































































5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.



6 Fit of model and data (i)

6.1 Protein, DNA and RNA chains (i)

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	$\langle RSRZ \rangle$	#RSRZ>2	$OWAB(Å^2)$	Q<0.9
1	А	742/758~(97%)	0.36	49 (6%) 18 11	56, 92, 150, 244	0
2	В	732/733~(99%)	0.30	43 (5%) 22 14	61, 89, 126, 157	0
3	Ι	29/30~(96%)	0.52	4 (13%) 2 1	89, 114, 148, 153	0
4	J	41/42~(97%)	0.18	3 (7%) 15 8	70, 80, 116, 164	0
5	F	150/154~(97%)	0.08	6 (4%) 38 28	66, 90, 122, 157	0
6	G	91/97~(93%)	0.50	11 (12%) 4 2	98, 129, 174, 184	0
7	L	160/167~(95%)	0.68	24 (15%) 2 1	86, 123, 172, 197	0
8	С	80/81~(98%)	0.11	4 (5%) 28 19	66, 81, 96, 106	0
9	D	141/147~(95%)	0.56	20 (14%) 2 1	77, 97, 120, 139	0
10	Е	66/66~(100%)	0.35	8 (12%) 4 2	65, 91, 136, 183	0
11	Н	84/90~(93%)	0.33	11 (13%) 3 2	103, 138, 178, 234	0
12	K	57/129~(44%)	1.59	20 (35%) 0 0	147, 215, 286, 324	0
13	2	207/269~(76%)	0.60	30 (14%) 2 1	85, 130, 180, 270	0
14	4	198/252~(78%)	0.60	26 (13%) 3 2	84, 121, 193, 274	0
15	1	194/202~(96%)	0.85	39 (20%) 1 0	95, 147, 225, 289	0
16	3	$21\overline{5/275}$ (78%)	0.74	34(15%) 2 1	111, 179, 317, 368	0
All	All	3187/3492~(91%)	0.46	332 (10%) 6 3	56, 106, 205, 368	0

The worst 5 of 332 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
15	1	103	GLY	12.4
16	3	145	ALA	10.8
15	1	172	LYS	9.5
2	В	82	PHE	8.1
9	D	206	LYS	7.5



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

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	$\mathbf{B} ext{-factors}(\mathrm{\AA}^2)$	Q<0.9
18	CLA	3	3019	27/65	0.29	0.59	158,174,188,189	1
23	LMG	В	5005	38/55	0.61	0.31	76,120,141,143	0
18	CLA	2	2016	50/65	0.67	0.30	114,164,207,211	0
22	BCR	G	2011	40/40	0.68	0.29	112,132,172,174	0
27	LUT	3	3501	42/42	0.68	0.63	202,209,216,218	0
27	LUT	2	2501	42/42	0.71	0.35	121,137,141,143	0
22	BCR	В	6005	40/40	0.72	0.41	87,103,182,184	0
27	LUT	3	3502	42/42	0.74	0.34	133,142,164,166	0
22	BCR	J	6013	40/40	0.75	0.34	74,94,112,116	0
23	LMG	G	2021	41/55	0.76	0.29	138,156,175,176	0
22	BCR	3	3503	40/40	0.76	0.31	119,136,175,177	0
18	CLA	1	1013	46/65	0.77	0.34	127,154,181,185	0
18	CLA	2	2019	27/65	0.77	0.18	148,159,174,174	1
22	BCR	В	6004	40/40	0.77	0.36	105,112,138,144	0
22	BCR	В	6006	40/40	0.78	0.35	94,115,164,164	0
27	LUT	1	1501	42/42	0.79	0.32	115,142,189,197	0
18	CLA	4	4016	46/65	0.79	0.30	126,166,177,183	0
22	BCR	K	2011	40/40	0.79	0.37	125,136,144,147	0
26	LMU	В	8001	35/35	0.80	0.28	104,158,168,172	0
18	CLA	4	4006	50/65	0.80	0.24	110,127,148,156	0
18	CLA	3	3003	60/65	0.80	0.25	137,170,188,190	0
18	CLA	Κ	1001	46/65	0.80	0.35	147,173,200,209	0
18	CLA	1	1008	46/65	0.80	0.25	112,129,142,150	0
28	CHL	3	3011	56/66	0.80	0.34	144,156,197,200	0
22	BCR	L	6019	40/40	0.81	0.40	88,105,132,135	0
18	CLA	3	3018	50/65	0.81	0.31	173,190,207,213	0
27	LUT	4	4501	42/42	0.81	0.25	$107, 121, 142, \overline{149}$	0



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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(A ²)	Q<0.9
18	CLA	3	3004	60/65	0.81	0.26	125,139,154,155	0
21	LHG	2	2801	24/49	0.81	0.25	109,123,148,152	0
18	CLA	3	3007	50/65	0.81	0.23	175,193,239,246	0
23	LMG	2	2802	35/55	0.81	0.41	108,127,149,152	0
18	CLA	3	3006	50/65	0.82	0.25	125,157,167,170	0
18	CLA	2	2002	46/65	0.82	0.21	137,154,171,183	0
18	CLA	3	3010	60/65	0.82	0.29	122,158,181,196	0
18	CLA	4	4002	50/65	0.82	0.24	107,141,171,211	0
26	LMU	В	8002	35/35	0.83	0.23	162,173,189,191	0
18	CLA	L	1503	50/65	0.83	0.37	106,114,143,149	0
18	CLA	1	1006	50/65	0.83	0.24	125,138,144,148	0
22	BCR	J	6012	40/40	0.83	0.31	67,80,89,91	0
18	CLA	3	3008	48/65	0.83	0.46	180,199,214,217	0
22	BCR	А	6008	40/40	0.83	0.31	76,97,137,139	0
28	CHL	4	4010	47/66	0.83	0.28	105,125,180,187	0
18	CLA	2	2007	60/65	0.83	0.30	116,142,189,195	0
18	CLA	В	1212	55/65	0.84	0.26	109,129,146,154	0
27	LUT	4	4503	42/42	0.84	0.38	110,135,158,160	0
18	CLA	1	1001	60/65	0.84	0.20	122,151,165,171	0
18	CLA	В	1214	59/65	0.84	0.30	71,91,100,108	0
18	CLA	4	4001	60/65	0.84	0.27	113,129,158,160	0
28	CHL	2	2010	47/66	0.84	0.25	111,134,142,143	0
18	CLA	J	1302	50/65	0.84	0.35	137,152,189,196	0
18	CLA	G	1003	60/65	0.84	0.24	97,121,149,153	0
18	CLA	Н	1000	46/65	0.85	0.31	119,150,170,176	0
18	CLA	1	1011	50/65	0.85	0.29	126,153,175,185	0
22	BCR	В	6009	40/40	0.85	0.28	63,78,94,95	0
22	BCR	В	6010	40/40	0.85	0.28	64,73,96,100	0
18	CLA	3	3012	50/65	0.85	0.22	117,135,142,144	0
27	LUT	2	2502	42/42	0.85	0.36	102,115,124,131	0
18	CLA	4	4007	60/65	0.85	0.29	110,130,179,183	0
18	CLA	4	4008	46/65	0.85	0.25	93,112,129,137	0
18	CLA	А	1113	46/65	0.85	0.27	119,135,172,187	0
27	LUT	1	1502	42/42	0.85	0.27	85,116,128,129	0
22	BCR	А	6003	40/40	0.85	0.34	79,94,139,140	0
18	CLA	В	1222	65/65	0.85	0.30	58,74,103,110	0
18	CLA	В	1234	60/65	0.85	0.30	64,77,106,108	0
23	LMG	J	5001	55/55	0.85	0.22	62,96,110,122	0
23	LMG	F	5002	37/55	0.85	0.39	84,107,120,126	0
22	BCR	А	6007	40/40	0.86	0.30	77,90,147,151	0
18	CLA	А	1112	65/65	0.86	0.25	101,118,138,140	0
18	CLA	L	1501	50/65	0.86	0.22	106,129,153,159	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	$B-factors(Å^2)$	Q<0.9
27	LUT	4	4502	42/42	0.86	0.26	88,106,117,121	0
18	CLA	А	1107	65/65	0.86	0.29	60,77,94,105	0
18	CLA	В	1213	60/65	0.86	0.23	85,105,118,126	0
18	CLA	3	3013	46/65	0.86	0.19	127,157,166,176	0
18	CLA	А	1123	65/65	0.86	0.31	70,88,93,96	0
18	CLA	А	1134	55/65	0.86	0.27	112,124,168,172	0
18	CLA	2	2006	55/65	0.86	0.23	105,132,173,174	0
18	CLA	В	1231	60/65	0.86	0.23	65,81,101,104	0
28	CHL	1	1010	47/66	0.86	0.17	125,137,152,155	0
27	LUT	Ι	6018	42/42	0.86	0.28	101,109,116,121	0
18	CLA	3	3005	55/65	0.87	0.25	107,131,144,157	0
18	CLA	A	1115	46/65	0.87	0.24	107,141,170,178	0
23	LMG	F	5001	23/55	0.87	0.27	86,94,106,109	0
18	CLA	A	1151	50/65	0.87	0.24	99,113,187,189	0
18	CLA	A	1110	55/65	0.87	0.27	97,114,138,143	0
22	BCR	F	6014	40/40	0.87	0.27	54,64,73,74	0
23	LMG	4	4801	35/55	0.87	0.25	104,117,128,132	0
25	DGD	В	7101	61/66	0.87	0.24	62,79,104,113	0
18	CLA	1	1014	46/65	0.87	0.17	83,110,123,143	0
18	CLA	3	3001	50/65	0.87	0.31	147,169,201,206	0
28	CHL	1	1009	56/66	0.87	0.25	92,105,113,130	0
18	CLA	1	1005	55/65	0.87	0.21	84,113,122,124	0
18	CLA	В	1228	$\frac{60}{65}$	0.87	0.26	63,73,111,114	0
18	CLA	G	1001	$\frac{55}{65}$	0.88	0.17	119.145.181.184	0
18	CLA	4	4004	$\frac{60}{65}$	0.88	0.24	76,99,112,118	0
18	CLA	4	4017	${65/65}$	0.88	0.27	93,103,120,121	0
18	CLA	3	3017	$\frac{46}{65}$	0.88	0.24	101,119,134,145	0
28	CHL	2	2011	48/66	0.88	0.24	108.124.129.136	0
18	CLA	A	1105	$\frac{1}{51/65}$	0.88	0.25	66.88.97.100	0
18	CLA	1	1002	$\frac{46}{65}$	0.88	0.19	120.155.171.194	0
18	CLA	A	1109	$\frac{65}{65}$	0.88	0.22	71.85.94.101	0
21	LHG	1	1801	$\frac{49/49}{49/49}$	0.88	0.26	94.113.164.170	0
18	CLA	2	2003	$\frac{-5}{55/65}$	0.89	0.16	103.127.135.158	0
18	CLA	F	1301	$\frac{1}{45/65}$	0.89	0.23	61,73.86.101	0
18	CLA	Ā	1114	46/65	0.89	0.29	107,117,124.136	0
18	CLA	A	1118	$\frac{46}{65}$	0.89	0.23	99.108.127.131	0
18	CLA	1	1004	$\frac{10/00}{65/65}$	0.89	0.23	98.114.122.125	0
18	CLA	A	1103	$\frac{65/65}{65}$	0.89	0.25	66.83.104.107	0
18	CLA	L	1502	$\frac{60/65}{60}$	0.89	0.23	86 116 125 130	0
18	CLA	B	1227	$\frac{65/65}{65}$	0.89	0.23	60 74 99 105	0
18	CLA	B	1023	$\frac{65}{65}$	0.89	0.24	57.70.94 105	0
18	CLA	B	1218	$\frac{65/65}{65/65}$	0.89	0.25	86.100.155.160	0
10	0111	D	1210	00/00	0.00	0.20	Continued on nex	rt page
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	$B-factors(Å^2)$	Q<0.9		
24	CA	В	6000	1/1	0.89	0.06	100,100,100,100	0		
18	CLA	2	2001	60/65	0.89	0.29	114,134,167,169	0		
18	CLA	А	1104	65/65	0.89	0.28	55,73,81,85	0		
18	CLA	3	3002	46/65	0.89	0.24	173,188,195,222	0		
22	BCR	L	6020	40/40	0.89	0.37	98,131,157,164	0		
29	ZEX	4	4505	42/42	0.89	0.25	85,96,107,114	0		
18	CLA	2	2012	55/65	0.90	0.29	86,104,149,153	0		
18	CLA	В	1232	55/65	0.90	0.22	$80,\!97,\!118,\!122$	0		
18	CLA	А	1140	65/65	0.90	0.28	58,66,78,106	0		
21	LHG	А	7001	49/49	0.90	0.23	56,72,84,92	0		
18	CLA	2	2009	50/65	0.90	0.18	100,117,138,139	0		
22	BCR	F	6016	40/40	0.90	0.21	66,75,91,94	0		
18	CLA	А	1111	60/65	0.90	0.24	75,91,112,118	0		
18	CLA	А	1120	60/65	0.90	0.18	95,118,178,182	0		
28	CHL	2	2013	46/66	0.90	0.23	110,125,130,135	0		
18	CLA	4	4003	65/65	0.90	0.23	84,106,135,143	0		
18	CLA	А	1130	50/65	0.90	0.23	83,100,123,127	0		
18	CLA	В	1216	65/65	0.90	0.24	73,86,105,108	0		
18	CLA	А	1106	65/65	0.90	0.28	59,74,90,106	0		
18	CLA	А	1022	65/65	0.90	0.24	58,76,88,99	0		
18	CLA	1	1007	46/65	0.91	0.19	112,131,162,181	0		
18	CLA	2	2008	50/65	0.91	0.20	109,138,148,156	0		
18	CLA	В	1021	65/65	0.91	0.25	61,72,80,83	0		
18	CLA	А	1116	60/65	0.91	0.25	89,119,137,142	0		
18	CLA	В	1204	55/65	0.91	0.20	80,103,118,124	0		
18	CLA	А	1135	51/65	0.91	0.28	72,92,114,117	0		
18	CLA	А	1101	65/65	0.91	0.23	58,72,90,113	0		
18	CLA	В	1223	65/65	0.91	0.22	59,78,90,96	0		
18	CLA	В	1208	55/65	0.91	0.19	82,114,133,137	0		
18	CLA	В	1210	65/65	0.91	0.28	81,94,107,113	0		
18	CLA	4	4005	60/65	0.91	0.21	84,97,106,120	0		
18	CLA	В	1211	65/65	0.91	0.23	$93,\!107,\!131,\!136$	0		
18	CLA	А	1139	65/65	0.91	0.25	56,70,98,104	0		
18	CLA	В	1012	65/65	0.91	0.27	51,69,85,92	0		
18	CLA	А	1133	55/65	0.91	0.23	83,109,120,126	0		
18	CLA	А	1108	46/65	0.91	0.29	85,101,121,126	0		
18	CLA	В	1236	55/65	0.91	0.24	$56,\!69,\!117,\!124$	0		
18	CLA	2	2004	65/65	0.91	0.22	84,105,117,125	0		
18	CLA	1	1003	55/65	0.91	0.19	100,122,134,142	0		
28	CHL	4	4011	51/66	0.91	0.23	117,131,149,154	0		
28	CHL	4	4013	47/66	0.91	0.20	98,118,130,134	0		
18	CLA	2	2005	55/65	0.91	0.25	93,103,129,135	0		



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Mol	Type	Chain	Res	Atoms	RSCC	RSR	$B-factors(Å^2)$	Q<0.9		
18	CLA	В	1229	65/65	0.91	0.26	60,72,82,84	0		
18	CLA	В	1230	58/65	0.91	0.20	58,74,83,86	0		
22	BCR	А	6002	40/40	0.91	0.28	82,115,168,169	0		
20	PQN	А	5001	33/33	0.92	0.24	53,63,76,85	0		
21	LHG	А	5003	40/49	0.92	0.21	101,117,132,134	0		
18	CLA	А	1102	50/65	0.92	0.20	58,69,95,104	0		
21	LHG	В	5004	21/49	0.92	0.16	86,102,116,119	0		
18	CLA	А	1136	56/65	0.92	0.17	84,98,115,119	0		
18	CLA	В	1215	60/65	0.92	0.30	82,91,102,109	0		
18	CLA	В	1224	65/65	0.92	0.30	65,83,100,107	0		
18	CLA	В	1225	65/65	0.92	0.30	66, 81, 98, 105	0		
18	CLA	А	1124	55/65	0.92	0.23	59,77,104,116	0		
18	CLA	В	1239	65/65	0.92	0.24	69,82,111,116	0		
22	BCR	А	6011	40/40	0.92	0.36	61,73,88,96	0		
22	BCR	А	6017	40/40	0.92	0.25	71,86,105,122	0		
18	CLA	А	1125	60/65	0.92	0.22	79,94,102,114	0		
18	CLA	А	1126	65/65	0.92	0.28	65,79,87,97	0		
18	CLA	А	1127	65/65	0.92	0.33	$69,\!83,\!95,\!99$	0		
18	CLA	В	1217	46/65	0.92	0.27	96,109,124,127	0		
18	CLA	А	1128	65/65	0.92	0.21	56,66,74,85	0		
22	BCR	Ι	6020	40/40	0.92	0.26	85,97,110,111	0		
18	CLA	В	1219	60/65	0.92	0.20	82,97,134,135	0		
18	CLA	В	1220	65/65	0.92	0.23	61,76,114,118	0		
18	CLA	А	1119	65/65	0.92	0.23	78,95,107,115	0		
18	CLA	А	1129	50/65	0.92	0.24	71,93,115,126	0		
18	CLA	В	1235	65/65	0.92	0.22	54,68,78,92	0		
18	CLA	В	1207	65/65	0.92	0.23	78,102,122,129	0		
18	CLA	4	4012	65/65	0.92	0.21	92,104,117,120	0		
18	CLA	А	1138	65/65	0.92	0.26	55,65,75,82	0		
18	CLA	А	1132	65/65	0.92	0.28	79,94,120,129	0		
18	CLA	А	1121	55/65	0.92	0.17	104,123,209,211	0		
18	CLA	А	1122	65/65	0.92	0.23	76,96,122,139	0		
18	CLA	В	1206	65/65	0.93	0.21	86,104,112,127	0		
18	CLA	В	1238	65/65	0.93	0.22	70,85,96,116	0		
18	CLA	А	1131	65/65	0.93	0.30	79,93,103,112	0		
18	CLA	В	1209	46/65	0.93	0.22	100,109,118,145	0		
18	CLA	В	1226	65/65	0.93	0.23	65,76,97,103	0		
18	CLA	4	4009	50/65	0.93	0.20	85,94,116,131	0		
18	CLA	В	1240	65/65	0.93	0.19	66,84,103,108	0		
18	CLA	А	1117	65/65	0.93	0.36	85,98,110,114	0		
18	CLA	А	1013	65/65	0.93	0.32	49,62,74,90	0		
18	CLA	А	1137	55/65	0.93	0.22	71,85,125,126	0		



Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
18	CLA	А	1237	60/65	0.94	0.29	75,94,113,116	0
17	CL0	А	1011	65/65	0.94	0.24	52,70,82,84	0
18	CLA	В	1201	50/65	0.94	0.18	80,93,131,134	0
18	CLA	1	1012	50/65	0.94	0.16	$103,\!125,\!130,\!132$	0
18	CLA	F	1302	50/65	0.94	0.16	$67,\!84,\!114,\!124$	0
20	PQN	В	5002	33/33	0.94	0.23	54,72,91,93	0
18	CLA	В	1221	65/65	0.94	0.24	$66,\!78,\!115,\!122$	0
18	CLA	G	1002	46/65	0.94	0.19	142,160,173,181	0
18	CLA	В	1205	65/65	0.94	0.26	$90,\!103,\!116,\!152$	0
19	SF4	С	3002	8/8	0.95	0.12	73,103,107,107	0
18	CLA	В	1202	65/65	0.95	0.22	71,82,91,104	0
18	CLA	В	1203	65/65	0.96	0.22	68,82,97,104	0
19	SF4	С	3003	8/8	0.97	0.07	89,106,119,126	0
19	SF4	А	3001	8/8	0.98	0.10	69,95,97,99	0

Continued from previous page...

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.



































































































































































































































































































































































































































































































































































































































6.5 Other polymers (i)

There are no such residues in this entry.

