Full wwPDB X-ray Structure Validation Report ⓘ

Sep 16, 2025 – 04:22 AM EDT

PDB ID	:	9PDA / pdb_00009pda
Title	:	Structure of Porcine Trypsin Crystals Grown From PEG and Complexed With Crystallization Additives IV
Authors	:	McPherson, A.
Deposited on	:	2025-06-30
Resolution	:	1.18 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
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:

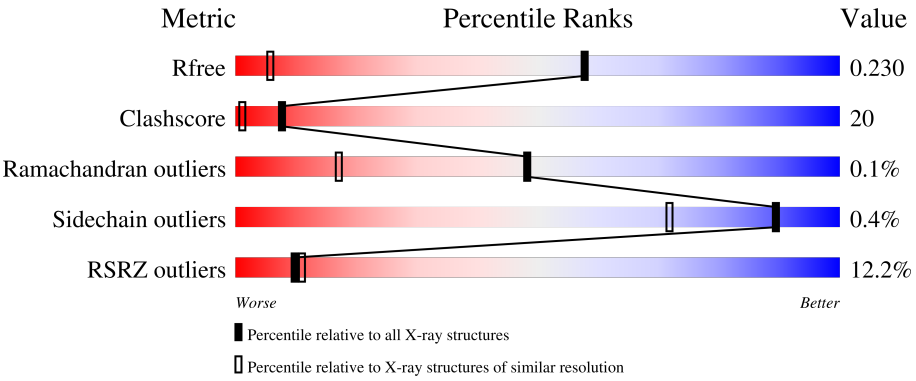
MolProbity	:	4-5-2 with Phenix2.0rc1
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0rc1
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 1.18 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1569 (1.20-1.16)
Clashscore	180529	1711 (1.20-1.16)
Ramachandran outliers	177936	1657 (1.20-1.16)
Sidechain outliers	177891	1657 (1.20-1.16)
RSRZ outliers	164620	1568 (1.20-1.16)

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
1	A	231	12% 88% 8%
1	B	231	19% 85% 12%
1	C	231	13% 75% 22%
1	D	231	4% 79% 16%

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
2	BEN	C	301	-	-	X	-
5	PEG	B	325	-	-	X	-
5	PEG	C	308	-	-	X	-
5	PEG	C	309	-	-	X	-
5	PEG	C	312	-	-	X	-
5	PEG	C	316	-	-	X	-
5	PEG	D	319	-	-	X	-
5	PEG	D	320	-	-	X	-
5	PEG	D	321	-	-	X	-
8	PG4	D	333	-	-	X	-

2 Entry composition

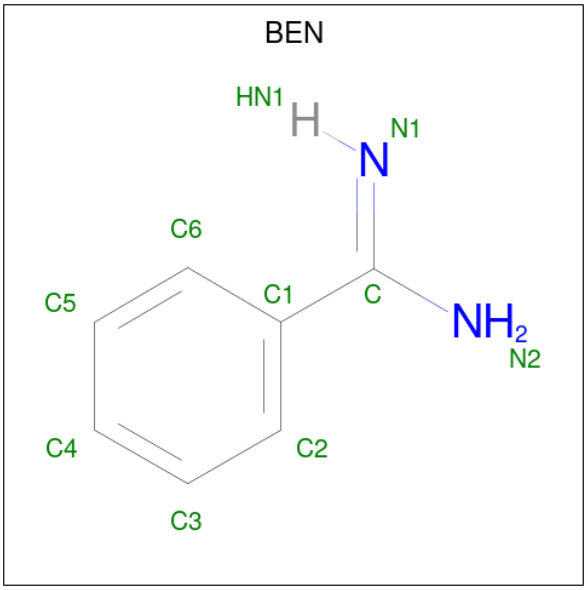
There are 12 unique types of molecules in this entry. The entry contains 16671 atoms, of which 7751 are hydrogens and 0 are deuteriums.

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 Trypsin.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	223	Total	C	H	N	O	S	0	2	0
			3258	1027	1604	288	325	14			
1	B	223	Total	C	H	N	O	S	0	1	0
			3238	1020	1596	287	321	14			
1	C	223	Total	C	H	N	O	S	0	0	0
			3237	1020	1595	287	321	14			
1	D	223	Total	C	H	N	O	S	0	5	0
			3293	1038	1624	291	326	14			

- Molecule 2 is BENZAMIDINE (CCD ID: BEN) (formula: $C_7H_8N_2$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	H	N	0	0
			17	7	8	2		
2	B	1	Total	C	H	N	0	0
			17	7	8	2		

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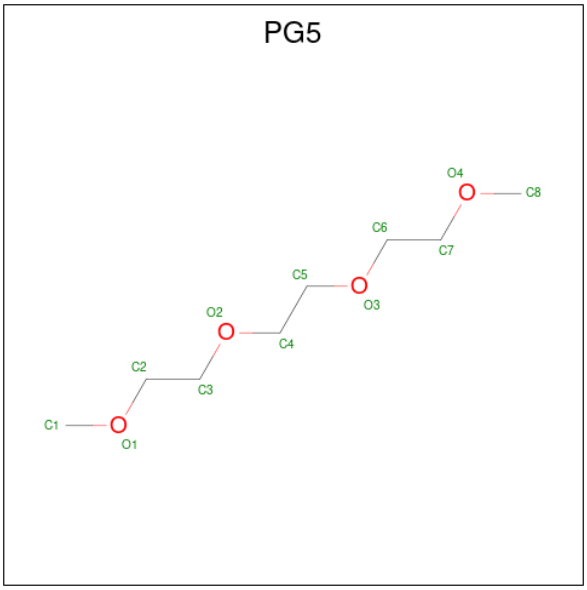
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	B	1	Total C H N 17 7 8 2	0	0
2	B	1	Total C H N 17 7 8 2	0	0
2	C	1	Total C H N 17 7 8 2	0	0
2	C	1	Total C H N 17 7 8 2	0	0
2	C	1	Total C H N 17 7 8 2	0	0
2	D	1	Total C H N 17 7 8 2	0	0
2	D	1	Total C H N 34 14 16 4	0	1
2	D	1	Total C H N 17 7 8 2	0	0

- Molecule 3 is 1-METHOXY-2-[2-(2-METHOXY-ETHOXY]-ETHANE (CCD ID: PG5) (formula: $C_8H_{18}O_4$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C H O 30 8 18 4	0	0
3	A	1	Total C H O 30 8 18 4	0	0
3	A	1	Total C H O 30 8 18 4	0	0

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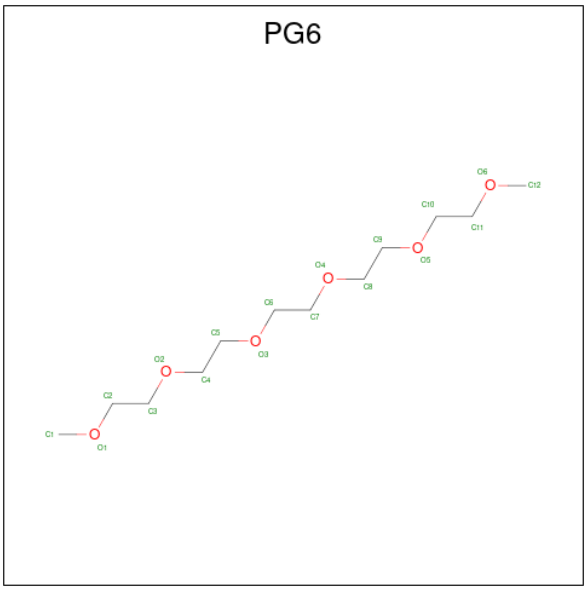
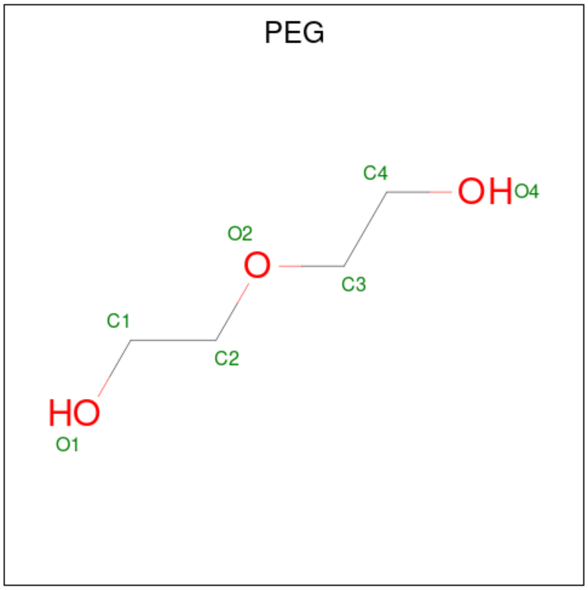
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	B	1	Total	C	H	O	0	0
			30	8	18	4		
3	B	1	Total	C	H	O	0	0
			30	8	18	4		
3	B	1	Total	C	H	O	0	0
			30	8	18	4		
3	B	1	Total	C	H	O	0	0
			30	8	18	4		
3	C	1	Total	C	H	O	0	0
			30	8	18	4		
3	C	1	Total	C	H	O	0	0
			30	8	18	4		
3	D	1	Total	C	H	O	0	0
			29	8	17	4		
3	D	1	Total	C	H	O	0	0
			30	8	18	4		
3	D	1	Total	C	H	O	0	0
			30	8	18	4		

- Molecule 4 is 1-(2-METHOXY-ETHOXY)-2-{2-[2-(2-METHOXY-ETHOXY]-ETHOXY}-ETHANE (CCD ID: PG6) (formula: $C_{12}H_{26}O_6$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total	C	H	O	0	0
			44	12	26	6		

- Molecule 5 is DI(HYDROXYETHYL)ETHER (CCD ID: PEG) (formula: $C_4H_{10}O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C H O 17 4 10 3	0	0
5	A	1	Total C H O 17 4 10 3	0	0
5	A	1	Total C H O 17 4 10 3	0	0
5	A	1	Total C H O 17 4 10 3	0	0
5	A	1	Total C H O 17 4 10 3	0	0
5	A	1	Total C H O 17 4 10 3	0	0
5	A	1	Total C H O 17 4 10 3	0	0
5	A	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 34 8 20 6	0	1
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	B	1	Total C H O 16 4 9 3	0	0
5	B	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 17 4 10 3	0	0
5	C	1	Total C H O 34 8 20 6	0	1
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 34 8 20 6	0	1
5	D	1	Total C H O 16 4 9 3	0	0
5	D	1	Total C H O 15 4 8 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0

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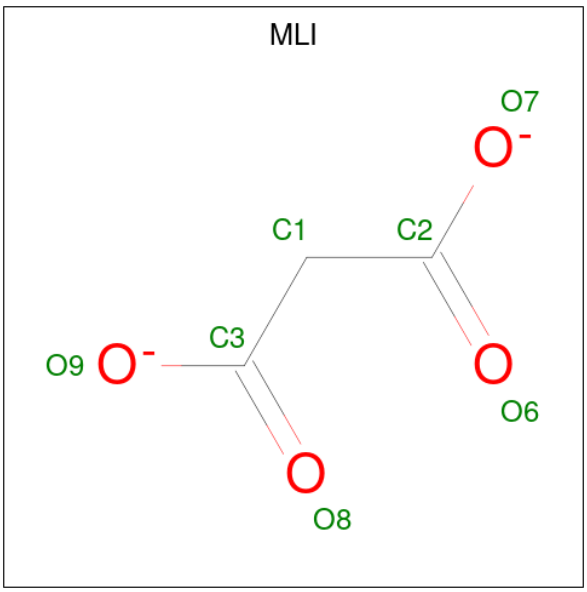
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0
5	D	1	Total C H O 17 4 10 3	0	0

- Molecule 6 is CALCIUM ION (CCD ID: CA) (formula: Ca).

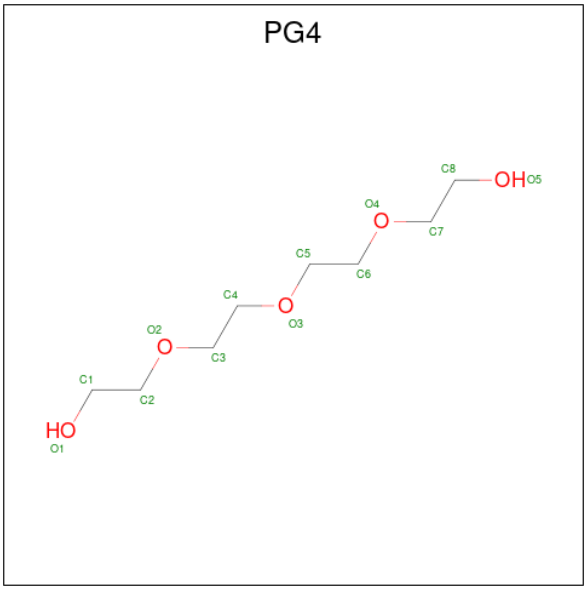
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total Ca 1 1	0	0
6	B	1	Total Ca 1 1	0	0
6	C	1	Total Ca 1 1	0	0
6	D	2	Total Ca 2 2	0	0

- Molecule 7 is MALONATE ION (CCD ID: MLI) (formula: $C_3H_2O_4$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	1	Total C H O 9 3 2 4	0	0
7	B	1	Total C H O 9 3 2 4	0	0
7	C	1	Total C H O 9 3 2 4	0	0
7	D	1	Total C H O 9 3 2 4	0	0

- Molecule 8 is TETRAETHYLENE GLYCOL (CCD ID: PG4) (formula: $C_8H_{18}O_5$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	A	1	Total C H O 29 8 17 4	0	0
8	A	1	Total C H O 30 8 17 5	0	0
8	A	1	Total C H O 31 8 18 5	0	0
8	A	1	Total C H O 31 8 18 5	0	0
8	B	1	Total C H O 31 8 18 5	0	0
8	B	1	Total C H O 31 8 18 5	0	0
8	B	1	Total C H O 31 8 18 5	0	0
8	C	1	Total C H O 31 8 18 5	0	0

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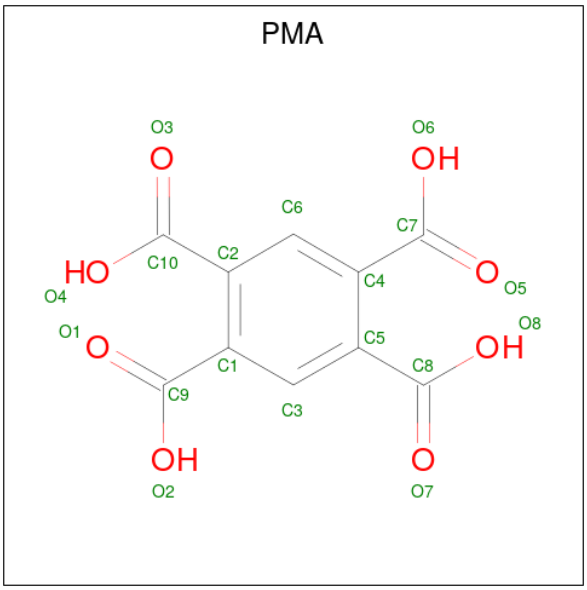
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	C	1	Total C H O 31 8 18 5	0	0
8	C	1	Total C H O 31 8 18 5	0	0
8	C	1	Total C H O 31 8 18 5	0	0
8	C	1	Total C H O 31 8 18 5	0	0
8	D	1	Total C H O 31 8 18 5	0	0
8	D	1	Total C H O 31 8 18 5	0	0
8	D	1	Total C H O 31 8 18 5	0	0
8	D	1	Total C H O 31 8 18 5	0	0
8	D	1	Total C H O 31 8 18 5	0	0
8	D	1	Total C H O 31 8 18 5	0	0

- Molecule 9 is PYROMELLITIC ACID (CCD ID: PMA) (formula: $C_{10}H_6O_8$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	B	1	Total C H O 20 10 2 8	0	0

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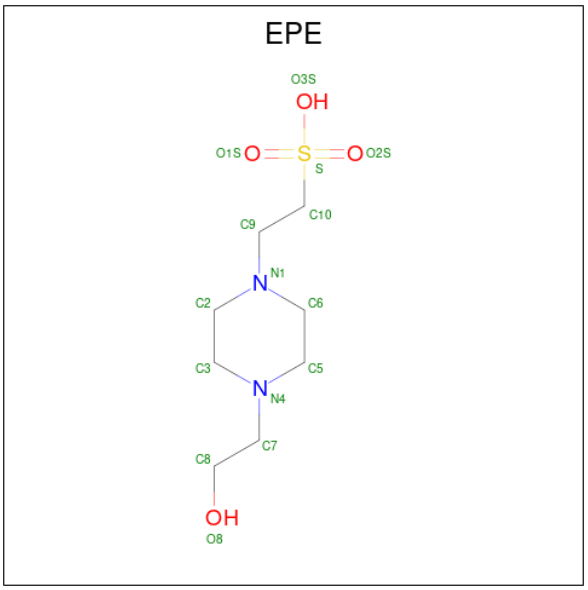
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	D	1	Total C H O 20 10 2 8	0	0

- Molecule 10 is 4-(2-HYDROXYETHYL)-1-PIPERAZINE ETHANESULFONIC ACID (CCD ID: EPE) (formula: $C_8H_{18}N_2O_4S$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
10	C	1	Total C H N O S 31 8 16 2 4 1	0	0
10	D	1	Total C H N O S 32 8 17 2 4 1	0	0

- Molecule 11 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
11	D	1	Total Cl 1 1	0	0

- Molecule 12 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
12	A	292	Total O 294 294	0	7
12	B	263	Total O 269 269	0	14

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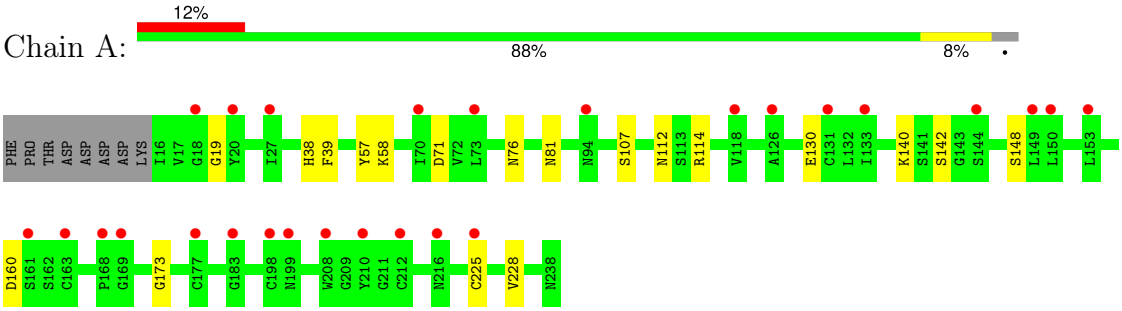
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
12	C	358	Total O 361 361	0	8
12	D	344	Total O 347 347	0	6

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.

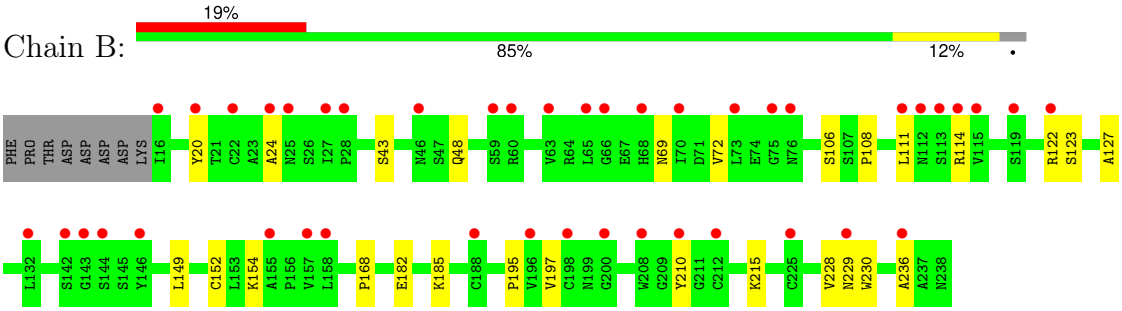
• Molecule 1: Trypsin

Chain A:



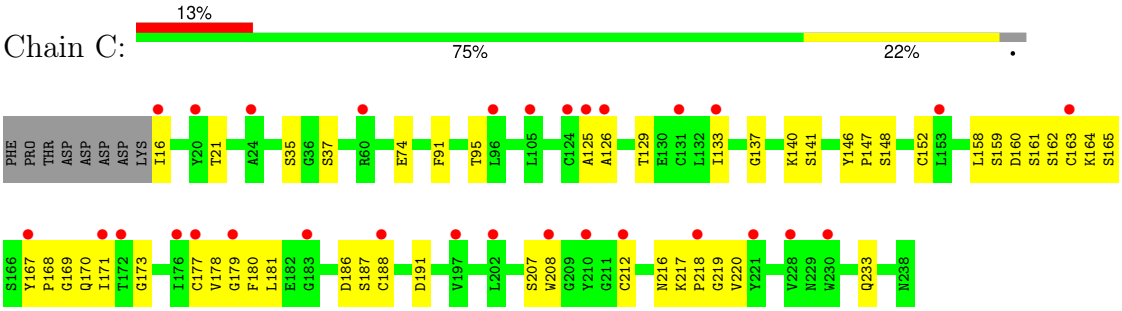
• Molecule 1: Trypsin

Chain B:



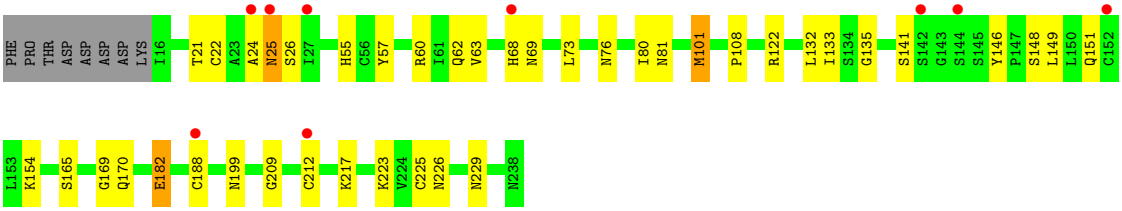
• Molecule 1: Trypsin

Chain C:



• Molecule 1: Trypsin

Chain D:


PHE PRO THR ASP ASP ASP ASP LYS I16 T21 C22 A23 A24 N25 S26 I27 H55 C56 Y57 R60 I61 Q62 V63 H68 N69 L73 N76 I80 N81 M101 P108 R122 L132 I133 S134 G135 S141 S142 G143 S144 S145 Y146 P147 S148 L149 L150 Q151 C152
L153 K154 S165 G169 Q170 E182 C188 N199 G209 C212 K217 K223 V224 C225 N226 N229 N238

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	70.66Å 50.72Å 125.69Å 90.00° 99.52° 90.00°	Depositor
Resolution (Å)	39.25 – 1.18 39.25 – 1.18	Depositor EDS
% Data completeness (in resolution range)	91.1 (39.25-1.18) 91.1 (39.25-1.18)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.60 (at 1.18Å)	Xtriage
Refinement program	PHENIX 1.21.1_5286	Depositor
R, R_{free}	0.195 , 0.230 0.195 , 0.230	Depositor DCC
R_{free} test set	13014 reflections (4.52%)	wwPDB-VP
Wilson B-factor (Å^2)	15.5	Xtriage
Anisotropy	0.214	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 45.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.97	EDS
Total number of atoms	16671	wwPDB-VP
Average B, all atoms (Å^2)	28.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 76.22 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.0847e-06. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: PG6, MLI, PG4, CA, PG5, PMA, PEG, CL, EPE, BEN

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.55	0/1689	0.71	0/2293
1	B	0.47	0/1674	0.63	0/2273
1	C	0.61	0/1674	0.74	0/2273
1	D	0.62	0/1713	0.74	1/2326 (0.0%)
All	All	0.56	0/6750	0.71	1/9165 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	101	MET	CA-CB-CG	5.32	124.73	114.10

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1654	1604	1605	18	3
1	B	1642	1596	1595	31	1
1	C	1642	1595	1595	105	0
1	D	1669	1624	1630	69	2
2	A	9	8	7	0	0
2	B	27	24	21	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	C	27	24	21	4	0
2	D	36	32	28	1	0
3	A	36	54	54	6	0
3	B	48	72	72	8	0
3	C	24	36	36	4	0
3	D	36	53	54	8	0
4	A	18	26	26	2	0
5	A	56	80	80	3	0
5	B	133	189	190	24	0
5	C	112	160	160	26	0
5	D	147	207	210	27	1
6	A	1	0	0	0	0
6	B	1	0	0	0	0
6	C	1	0	0	0	0
6	D	2	0	0	0	0
7	A	7	2	2	1	0
7	B	7	2	2	1	0
7	C	7	2	2	0	0
7	D	7	2	2	0	0
8	A	51	70	69	3	2
8	B	39	54	54	7	0
8	C	65	90	90	11	0
8	D	78	108	108	14	4
9	B	18	2	2	3	0
9	D	18	2	2	4	0
10	C	15	16	18	3	0
10	D	15	17	17	3	0
11	D	1	0	0	0	1
12	A	294	0	0	13	10
12	B	269	0	0	23	10
12	C	361	0	0	97	14
12	D	347	0	0	61	5
All	All	8920	7751	7752	303	28

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 20.

All (303) 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)
1:D:225:CYS:SG	12:D:419:HOH:O	1.92	1.26

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:177:CYS:SG	12:C:679:HOH:O	1.91	1.25
1:D:101:MET:SD	12:D:682:HOH:O	1.96	1.22
1:C:188:CYS:SG	12:C:580:HOH:O	2.02	1.18
1:C:163:CYS:SG	12:C:679:HOH:O	2.02	1.15
1:A:142:SER:O	12:A:401:HOH:O	1.68	1.11
1:C:161:SER:O	12:C:403:HOH:O	1.67	1.09
1:C:126:ALA:O	12:C:404:HOH:O	1.69	1.09
1:D:229[A]:ASN:OD1	8:D:333:PG4:O5	1.71	1.07
1:C:164:LYS:N	12:C:403:HOH:O	1.90	1.03
1:C:178:VAL:O	12:C:407:HOH:O	1.77	1.03
1:C:163:CYS:O	12:C:405:HOH:O	1.74	1.02
3:D:312:PG5:O1	12:D:401:HOH:O	1.78	1.00
1:C:161:SER:O	12:C:406:HOH:O	1.77	1.00
1:C:167:TYR:OH	12:C:408:HOH:O	1.79	0.99
5:D:335:PEG:O4	12:D:403:HOH:O	1.82	0.98
1:D:135:GLY:O	12:D:402:HOH:O	1.81	0.98
1:B:229:ASN:OD1	12:B:402:HOH:O	1.81	0.97
1:C:233:GLN:OE1	12:C:409:HOH:O	1.81	0.97
9:B:302:PMA:O3	12:B:403:HOH:O	1.81	0.96
1:C:212:CYS:SG	12:C:470:HOH:O	2.22	0.96
1:D:25[A]:ASN:ND2	12:D:410:HOH:O	2.00	0.95
1:C:187:SER:O	12:C:410:HOH:O	1.83	0.95
1:D:151:GLN:O	12:D:402:HOH:O	1.84	0.94
1:D:199:ASN:OD1	12:D:404:HOH:O	1.86	0.94
1:B:106:SER:O	12:B:405:HOH:O	1.87	0.93
1:C:219:GLY:O	12:C:407:HOH:O	1.84	0.93
1:C:158:LEU:HD11	12:C:476:HOH:O	1.70	0.91
1:D:63:VAL:O	12:D:405:HOH:O	1.89	0.91
1:D:169:GLY:O	12:D:401:HOH:O	1.88	0.90
1:C:140:LYS:NZ	12:C:420:HOH:O	2.04	0.90
1:C:233:GLN:OE1	12:C:411:HOH:O	1.88	0.90
1:C:212:CYS:SG	12:C:410:HOH:O	2.30	0.89
1:C:133:ILE:O	12:C:413:HOH:O	1.90	0.88
1:C:91:PHE:O	12:C:412:HOH:O	1.90	0.88
5:C:316:PEG:O4	12:C:415:HOH:O	1.93	0.86
1:D:212:CYS:O	12:D:407:HOH:O	1.92	0.86
1:C:191:ASP:OD2	12:C:414:HOH:O	1.92	0.85
1:C:186:ASP:CG	12:C:401:HOH:O	2.19	0.85
1:C:141:SER:O	12:C:416:HOH:O	1.93	0.85
5:B:316:PEG:O4	12:B:404:HOH:O	1.85	0.84
5:C:312:PEG:O4	12:C:417:HOH:O	1.94	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:335:PEG:O1	12:D:408:HOH:O	1.95	0.84
1:C:216:ASN:HA	12:C:430:HOH:O	1.76	0.83
5:B:317[A]:PEG:O4	12:B:407:HOH:O	1.97	0.83
5:B:317[B]:PEG:O4	12:B:408:HOH:O	1.97	0.82
1:C:186:ASP:OD2	12:C:418:HOH:O	1.96	0.82
1:C:16:ILE:N	12:C:423:HOH:O	2.13	0.81
1:C:188:CYS:HA	12:C:410:HOH:O	1.78	0.81
1:D:209:GLY:O	12:D:409:HOH:O	1.99	0.81
5:B:316:PEG:O4	12:B:409:HOH:O	1.99	0.80
1:C:188:CYS:O	12:C:414:HOH:O	2.00	0.80
1:D:22:CYS:O	12:D:411:HOH:O	2.00	0.79
1:C:191:ASP:CG	12:C:414:HOH:O	2.26	0.78
1:D:151:GLN:N	12:D:402:HOH:O	2.14	0.78
1:A:130[B]:GLU:OE1	12:A:405:HOH:O	1.95	0.78
5:B:306:PEG:O4	12:B:410:HOH:O	2.02	0.77
9:B:302:PMA:O2	12:B:403:HOH:O	2.00	0.77
1:C:165:SER:N	12:C:403:HOH:O	1.96	0.77
1:C:167:TYR:CE2	12:C:402:HOH:O	2.38	0.76
8:B:330:PG4:O5	12:B:411:HOH:O	2.03	0.76
1:B:24:ALA:O	12:B:412:HOH:O	2.04	0.75
1:C:21:THR:N	12:C:422:HOH:O	2.18	0.75
1:B:152:CYS:SG	12:B:539:HOH:O	2.45	0.74
1:A:225:CYS:O	12:A:406:HOH:O	2.04	0.74
1:C:218:PRO:N	12:C:402:HOH:O	2.22	0.73
1:C:217:LYS:C	12:C:402:HOH:O	2.31	0.72
1:C:164:LYS:HA	5:C:308:PEG:H41	1.71	0.71
1:C:181:LEU:HD22	12:C:430:HOH:O	1.89	0.71
1:D:229[B]:ASN:OD1	12:D:413:HOH:O	2.09	0.71
3:D:312:PG5:H41	12:D:487:HOH:O	1.91	0.70
1:D:57:TYR:HA	12:D:682:HOH:O	1.91	0.70
1:D:108:PRO:HG3	5:D:317:PEG:H11	1.72	0.70
1:C:164:LYS:CA	5:C:308:PEG:H41	2.22	0.70
1:C:181:LEU:HB3	12:C:430:HOH:O	1.92	0.69
5:D:319:PEG:C1	5:D:320:PEG:H32	2.23	0.69
2:C:301:BEN:N2	12:C:401:HOH:O	2.25	0.69
1:B:114:ARG:NH1	12:B:415:HOH:O	2.22	0.68
1:C:164:LYS:HB2	12:C:406:HOH:O	1.92	0.68
1:B:210:TYR:CG	2:B:304:BEN:H3	2.29	0.68
1:D:25[B]:ASN:ND2	12:D:412:HOH:O	2.01	0.67
1:A:140:LYS:HD3	12:A:401:HOH:O	1.94	0.67
1:C:16:ILE:CA	12:C:423:HOH:O	2.43	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:21:THR:OG1	12:C:422:HOH:O	2.11	0.66
1:D:62:GLN:HG2	12:D:405:HOH:O	1.95	0.66
1:B:123:SER:OG	8:B:329:PG4:H51	1.96	0.66
1:C:181:LEU:CB	12:C:430:HOH:O	2.44	0.66
1:C:218:PRO:HB3	12:C:476:HOH:O	1.96	0.65
1:D:76:ASN:ND2	12:D:417:HOH:O	2.19	0.65
1:C:129:THR:HB	12:C:404:HOH:O	1.97	0.65
1:A:173:GLY:O	12:A:407:HOH:O	2.15	0.64
1:C:74:GLU:OE2	12:C:493[B]:HOH:O	2.15	0.64
1:D:182:GLU:OE2	12:D:415:HOH:O	2.15	0.63
1:C:129:THR:CB	12:C:404:HOH:O	2.45	0.63
1:B:228:VAL:HG11	3:B:307:PG5:H41	1.80	0.62
1:C:207:SER:HB3	12:C:428:HOH:O	1.98	0.62
1:B:210:TYR:HB3	2:B:304:BEN:H2	1.82	0.62
1:C:168:PRO:HA	5:C:308:PEG:H42	1.81	0.61
1:C:179:GLY:C	12:C:476:HOH:O	2.43	0.61
1:C:208:TRP:CD1	12:C:428:HOH:O	2.53	0.61
1:C:217:LYS:NZ	5:C:320:PEG:O1	2.33	0.61
1:D:68:HIS:CE1	12:D:411:HOH:O	2.53	0.61
1:D:60:ARG:NH1	12:D:423:HOH:O	2.33	0.61
1:D:21:THR:HG21	8:D:331:PG4:H51	1.82	0.61
1:D:81:ASN:HB3	8:D:329:PG4:H12	1.83	0.61
5:B:324:PEG:O4	12:B:406:HOH:O	1.92	0.60
1:C:220:VAL:C	12:C:428:HOH:O	2.44	0.60
5:D:319:PEG:C2	5:D:320:PEG:H32	2.30	0.60
3:A:304:PG5:O4	12:A:409:HOH:O	2.16	0.60
2:C:301:BEN:C	12:C:401:HOH:O	2.48	0.60
1:C:125:ALA:HB1	12:C:404:HOH:O	2.02	0.60
7:A:311:MLI:O9	12:A:408:HOH:O	2.16	0.59
5:D:308:PEG:H12	12:D:593:HOH:O	2.03	0.59
5:A:306:PEG:O4	12:A:403:HOH:O	1.84	0.59
3:D:303:PG5:H13	3:D:304:PG5:H42	1.83	0.59
1:B:108:PRO:HB2	3:B:305:PG5:H42	1.85	0.58
9:D:302:PMA:H6	8:D:333:PG4:H51	1.85	0.58
2:C:301:BEN:C	12:C:410:HOH:O	2.51	0.58
1:A:148:SER:H	8:A:317:PG4:H42	1.68	0.58
1:D:62:GLN:CG	12:D:405:HOH:O	2.49	0.58
1:A:107:SER:OG	12:A:410:HOH:O	2.17	0.58
1:D:217:LYS:O	12:D:416:HOH:O	2.17	0.57
1:C:167:TYR:O	5:C:308:PEG:H42	2.04	0.57
9:D:302:PMA:C6	8:D:333:PG4:H51	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:D:329:PG4:C6	12:D:459:HOH:O	2.54	0.56
1:C:161:SER:OG	5:C:316:PEG:H22	2.06	0.56
1:D:148:SER:OG	5:D:320:PEG:H42	2.05	0.55
1:B:123:SER:OG	8:B:329:PG4:C5	2.53	0.55
1:D:80:ILE:N	12:D:405:HOH:O	2.29	0.55
1:D:24:ALA:CB	12:D:690:HOH:O	2.55	0.55
3:D:312:PG5:C3	12:D:433:HOH:O	2.55	0.55
1:B:149:LEU:HD12	1:B:149:LEU:N	2.22	0.54
1:D:182:GLU:H	1:D:182:GLU:CD	2.14	0.54
8:D:330:PG4:H22	12:D:621:HOH:O	2.07	0.54
1:C:147:PRO:HA	8:C:324:PG4:H61	1.89	0.54
1:D:108:PRO:CG	5:D:317:PEG:H11	2.38	0.54
1:B:154:LYS:NZ	12:B:424:HOH:O	2.41	0.53
1:C:152:CYS:HA	12:C:447:HOH:O	2.07	0.53
1:C:173:GLY:O	12:C:426:HOH:O	2.18	0.53
2:D:309:BEN:H4	12:D:477:HOH:O	2.08	0.53
1:C:217:LYS:HB3	12:C:408:HOH:O	2.08	0.53
1:C:164:LYS:HB3	5:C:308:PEG:H31	1.90	0.53
5:D:319:PEG:O2	5:D:320:PEG:H21	2.09	0.53
1:B:168:PRO:HG3	5:B:319:PEG:H42	1.91	0.53
1:C:140:LYS:HD3	12:C:472:HOH:O	2.07	0.53
1:C:162:SER:C	12:C:403:HOH:O	2.52	0.53
1:D:141:SER:HA	8:D:330:PG4:H11	1.90	0.53
1:C:146:TYR:O	8:C:325:PG4:H72	2.09	0.53
5:D:337:PEG:H31	12:D:670:HOH:O	2.08	0.52
1:C:171:ILE:C	12:C:434:HOH:O	2.52	0.52
3:B:311:PG5:H81	7:B:321:MLI:H12	1.92	0.52
1:C:180:PHE:O	12:C:424:HOH:O	2.18	0.52
1:C:159:SER:HB2	5:C:309:PEG:H32	1.92	0.51
1:A:71:ASP:OD2	3:A:302:PG5:H52	2.10	0.51
1:C:158:LEU:CB	12:C:429:HOH:O	2.58	0.51
3:B:311:PG5:H83	5:B:317[A]:PEG:H21	1.91	0.51
1:D:25[A]:ASN:HA	12:D:432:HOH:O	2.11	0.51
1:C:165:SER:N	12:C:406:HOH:O	2.44	0.51
1:C:167:TYR:HB2	12:C:405:HOH:O	2.11	0.51
1:C:35:SER:OG	12:C:425:HOH:O	2.18	0.50
1:C:146:TYR:HB3	8:C:325:PG4:H61	1.92	0.50
1:C:158:LEU:HB2	12:C:429:HOH:O	2.09	0.50
1:D:226:ASN:N	12:D:419:HOH:O	2.44	0.50
1:B:230:TRP:HB2	5:B:325:PEG:H21	1.94	0.50
1:C:161:SER:OG	5:C:309:PEG:O2	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:311:PG5:H83	5:B:317[B]:PEG:H21	1.92	0.50
1:C:129:THR:OG1	12:C:404:HOH:O	2.17	0.50
1:C:164:LYS:HA	12:C:405:HOH:O	2.11	0.50
10:D:305:EPE:H71	12:D:548:HOH:O	2.11	0.50
1:D:146:TYR:O	5:D:320:PEG:H41	2.11	0.49
1:C:164:LYS:CA	12:C:403:HOH:O	2.48	0.49
1:D:68:HIS:CE1	1:D:149:LEU:HB3	2.47	0.49
1:A:57:TYR:O	8:A:318:PG4:H61	2.12	0.49
1:B:111:LEU:H	3:B:305:PG5:H71	1.77	0.49
1:C:181:LEU:CD2	12:C:430:HOH:O	2.53	0.49
1:D:25[B]:ASN:ND2	12:D:420:HOH:O	2.30	0.49
5:D:321:PEG:H32	5:D:322:PEG:C2	2.43	0.49
1:C:180:PHE:C	12:C:424:HOH:O	2.54	0.49
1:B:20:TYR:HB2	5:B:317[A]:PEG:H31	1.95	0.49
5:D:321:PEG:H32	5:D:322:PEG:H22	1.96	0.48
1:C:148:SER:H	8:C:324:PG4:C6	2.26	0.48
8:C:325:PG4:H82	12:C:417:HOH:O	2.13	0.48
1:B:236:ALA:O	5:B:312:PEG:H31	2.14	0.48
5:D:319:PEG:O2	5:D:320:PEG:C2	2.62	0.48
1:A:160:ASP:H	4:A:303:PG6:H11	1.79	0.48
8:C:324:PG4:H42	12:C:449:HOH:O	2.14	0.47
1:D:25[B]:ASN:HA	12:D:432:HOH:O	2.14	0.47
5:D:319:PEG:H22	5:D:320:PEG:H32	1.96	0.47
1:D:63:VAL:N	12:D:405:HOH:O	2.45	0.47
1:D:229[A]:ASN:HB3	8:D:333:PG4:H52	1.97	0.47
9:B:302:PMA:O3	9:B:302:PMA:O2	2.32	0.47
1:B:69:ASN:CG	1:B:72:VAL:HG22	2.39	0.47
1:C:181:LEU:HA	12:C:424:HOH:O	2.14	0.47
1:C:161:SER:OG	5:C:316:PEG:C2	2.63	0.47
1:C:164:LYS:HE2	5:C:308:PEG:H12	1.97	0.47
10:C:303:EPE:H72	12:C:474:HOH:O	2.13	0.47
3:C:306:PG5:H82	8:C:322:PG4:H71	1.96	0.47
8:A:316:PG4:O4	8:A:316:PG4:H42	2.15	0.47
1:D:151:GLN:CA	12:D:402:HOH:O	2.60	0.47
1:D:132[B]:LEU:HD23	1:D:133:ILE:N	2.30	0.47
1:C:133:ILE:HG13	12:C:431:HOH:O	2.14	0.46
8:C:326:PG4:C1	12:C:538:HOH:O	2.63	0.46
1:C:167:TYR:N	12:C:405:HOH:O	2.30	0.46
1:D:26:SER:N	12:D:432:HOH:O	2.49	0.46
5:A:307:PEG:O1	12:A:402:HOH:O	1.76	0.46
1:B:197:VAL:HG11	5:B:309:PEG:H42	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:122:ARG:HG2	3:D:303:PG5:H71	1.98	0.46
1:D:223:LYS:HG2	12:D:419:HOH:O	2.16	0.46
5:C:312:PEG:H21	8:C:325:PG4:O3	2.16	0.46
1:C:126:ALA:N	12:C:404:HOH:O	2.48	0.46
1:C:168:PRO:HA	5:C:308:PEG:H32	1.97	0.46
1:D:108:PRO:HB3	5:D:317:PEG:H42	1.98	0.46
1:C:168:PRO:CA	5:C:308:PEG:H42	2.45	0.46
5:D:316:PEG:H32	5:D:327:PEG:H21	1.97	0.46
1:B:20:TYR:HA	12:B:407:HOH:O	2.16	0.45
1:A:58:LYS:HA	3:A:305:PG5:H21	1.98	0.45
1:C:164:LYS:HE2	10:C:303:EPE:H31	1.98	0.45
1:C:188:CYS:C	12:C:414:HOH:O	2.52	0.45
5:C:316:PEG:H21	12:C:440:HOH:O	2.17	0.45
3:D:312:PG5:H31	12:D:433:HOH:O	2.16	0.45
1:A:58:LYS:CB	3:A:305:PG5:H21	2.47	0.45
1:B:114:ARG:NH2	12:B:436:HOH:O	2.49	0.45
1:C:218:PRO:HB3	12:C:424:HOH:O	2.17	0.45
1:A:81:ASN:HB3	12:A:633:HOH:O	2.16	0.45
1:D:199:ASN:HB3	12:D:620:HOH:O	2.17	0.45
1:C:167:TYR:HE2	12:C:402:HOH:O	1.88	0.45
9:D:302:PMA:C1	8:D:333:PG4:H82	2.47	0.45
5:B:309:PEG:O1	12:B:401:HOH:O	1.67	0.44
5:C:309:PEG:H31	12:C:440:HOH:O	2.16	0.44
1:D:170:GLN:HA	12:D:401:HOH:O	2.16	0.44
5:B:325:PEG:O2	8:B:330:PG4:H71	2.17	0.44
1:C:179:GLY:CA	12:C:476:HOH:O	2.64	0.44
1:D:69:ASN:HD22	5:D:318[A]:PEG:C2	2.30	0.44
1:B:48:GLN:NE2	12:B:413:HOH:O	2.19	0.44
5:B:316:PEG:H22	12:B:407:HOH:O	2.18	0.44
1:C:152:CYS:CA	12:C:447:HOH:O	2.66	0.44
1:B:20:TYR:HB2	5:B:317[B]:PEG:H31	1.98	0.44
1:B:229:ASN:HB3	5:B:325:PEG:O4	2.16	0.44
8:C:326:PG4:H81	12:C:707:HOH:O	2.18	0.44
1:C:164:LYS:CB	5:C:308:PEG:H41	2.48	0.44
3:B:305:PG5:H51	12:B:524:HOH:O	2.18	0.43
5:C:309:PEG:C4	12:C:440:HOH:O	2.66	0.43
1:D:225:CYS:C	12:D:419:HOH:O	2.61	0.43
5:D:321:PEG:H22	5:D:322:PEG:H22	1.99	0.43
1:D:60:ARG:HG2	8:D:329:PG4:H61	1.99	0.43
1:C:137:GLY:HA3	12:C:414:HOH:O	2.19	0.43
4:A:303:PG6:H62	12:A:569:HOH:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:230:TRP:HA	5:B:325:PEG:H32	2.01	0.43
1:D:149:LEU:HD11	5:D:318[B]:PEG:H32	2.01	0.43
3:D:303:PG5:H32	12:D:645:HOH:O	2.18	0.43
1:B:197:VAL:HG11	5:B:309:PEG:C4	2.49	0.42
2:B:303:BEN:H3	12:B:495:HOH:O	2.18	0.42
5:C:312:PEG:H31	8:C:325:PG4:O4	2.18	0.42
1:A:19:GLY:O	5:A:307:PEG:H31	2.18	0.42
1:D:55:HIS:O	5:D:324:PEG:C1	2.67	0.42
1:C:164:LYS:NZ	10:C:303:EPE:H71	2.35	0.42
1:D:182:GLU:N	1:D:182:GLU:OE1	2.53	0.42
5:D:336:PEG:H12	12:D:667:HOH:O	2.18	0.42
1:D:25[A]:ASN:HA	12:D:633:HOH:O	2.20	0.42
1:D:165:SER:HA	5:D:310:PEG:H41	2.00	0.42
5:B:319:PEG:H31	12:B:533:HOH:O	2.18	0.42
9:D:302:PMA:C4	8:D:333:PG4:H72	2.49	0.42
1:B:149:LEU:HD22	3:B:311:PG5:H12	2.01	0.42
1:C:160:ASP:H	3:C:306:PG5:C6	2.33	0.42
1:C:167:TYR:OH	12:C:402:HOH:O	1.79	0.42
3:C:306:PG5:H51	5:C:309:PEG:H32	2.02	0.42
1:D:24:ALA:HA	12:D:690:HOH:O	2.19	0.42
3:D:303:PG5:C3	12:D:645:HOH:O	2.68	0.42
1:A:38:HIS:H	3:A:302:PG5:H81	1.85	0.41
1:D:217:LYS:NZ	12:D:414:HOH:O	2.14	0.41
5:D:320:PEG:H12	12:D:541:HOH:O	2.20	0.41
2:C:301:BEN:N1	12:C:410:HOH:O	2.37	0.41
5:B:308:PEG:H41	8:B:330:PG4:C4	2.51	0.41
1:D:81:ASN:CB	8:D:329:PG4:H12	2.50	0.41
1:A:39:PHE:HB3	3:A:304:PG5:H72	2.02	0.41
1:A:228:VAL:HB	12:A:406:HOH:O	2.19	0.41
1:D:132[A]:LEU:HD13	1:D:154:LYS:HE3	2.01	0.41
1:B:43:SER:OG	1:B:195:PRO:HB3	2.21	0.41
1:B:122:ARG:NH2	8:B:329:PG4:H21	2.35	0.41
1:D:199:ASN:ND2	12:D:434:HOH:O	2.50	0.41
1:C:95:THR:HG22	5:C:328[A]:PEG:H42	2.02	0.41
10:D:305:EPE:H31	12:D:494:HOH:O	2.20	0.41
1:A:76:ASN:CG	1:A:114:ARG:HD2	2.45	0.41
1:C:37:SER:HA	5:C:312:PEG:O1	2.21	0.41
1:C:220:VAL:HG12	12:C:428:HOH:O	2.20	0.41
1:D:25[B]:ASN:HA	12:D:633:HOH:O	2.20	0.41
1:D:68:HIS:CG	12:D:690:HOH:O	2.73	0.41
1:D:73:LEU:HD21	5:D:311:PEG:H31	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:D:305:EPE:C7	12:D:548:HOH:O	2.68	0.41
5:B:308:PEG:H32	8:B:330:PG4:O3	2.21	0.41
1:C:220:VAL:HB	12:C:428:HOH:O	2.20	0.41
1:D:229[A]:ASN:CB	8:D:333:PG4:H52	2.51	0.41
1:D:69:ASN:HD22	5:D:318[A]:PEG:H21	1.87	0.40
1:C:170:GLN:HA	12:C:444:HOH:O	2.21	0.40
5:D:319:PEG:O1	5:D:320:PEG:H32	2.21	0.40
1:C:169:GLY:H	5:C:308:PEG:C4	2.34	0.40
1:C:178:VAL:N	12:C:407:HOH:O	2.06	0.40
3:C:305:PG5:H42	12:C:701:HOH:O	2.20	0.40
5:C:313:PEG:H12	12:C:595:HOH:O	2.22	0.40
1:D:57:TYR:HD1	12:D:682:HOH:O	1.99	0.40
1:B:215:LYS:H	5:B:322:PEG:H12	1.86	0.40
1:D:68:HIS:CD2	12:D:690:HOH:O	2.73	0.40

All (28) 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)
12:B:602:HOH:O	12:C:683:HOH:O[1_545]	1.38	0.82
11:D:338:CL:CL	12:A:609:HOH:O[1_554]	1.58	0.62
8:D:333:PG4:O1	12:C:725:HOH:O[2_745]	1.68	0.52
12:A:404:HOH:O	12:C:651:HOH:O[2_746]	1.75	0.45
12:C:641:HOH:O	12:D:426:HOH:O[2_755]	1.75	0.45
12:A:616:HOH:O	12:C:706:HOH:O[2_746]	1.77	0.43
12:A:633:HOH:O	12:B:503:HOH:O[1_565]	1.79	0.41
12:D:605:HOH:O	12:D:680:HOH:O[2_745]	1.80	0.40
8:A:316:PG4:O5	12:C:448:HOH:O[2_746]	1.82	0.38
12:A:495:HOH:O	12:C:491:HOH:O[2_846]	1.85	0.35
1:A:112:ASN:ND2	12:B:405:HOH:O[1_565]	1.88	0.32
1:A:112:ASN:HD21	12:B:405:HOH:O[1_565]	1.29	0.31
12:C:453:HOH:O	12:D:458:HOH:O[1_565]	1.89	0.31
12:A:627:HOH:O	12:B:503:HOH:O[1_565]	1.92	0.28
12:A:690:HOH:O	12:C:706:HOH:O[2_746]	1.99	0.21
8:D:333:PG4:HO1	12:C:725:HOH:O[2_745]	1.40	0.20
8:D:332:PG4:O2	12:A:611:HOH:O[1_554]	2.07	0.13
12:A:417:HOH:O	12:C:452:HOH:O[2_746]	2.12	0.08
12:A:462:HOH:O	12:C:471:HOH:O[2_746]	2.12	0.08
12:B:427:HOH:O	12:C:657:HOH:O[1_545]	2.12	0.08
1:A:114:ARG:NE	12:B:411:HOH:O[2_756]	2.15	0.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:B:608:HOH:O	12:C:541:HOH:O[1_545]	2.15	0.05
1:D:188:CYS:SG	8:D:328:PG4:O5[2_855]	2.15	0.05
12:D:621:HOH:O	12:D:636:HOH:O[2_855]	2.15	0.05
12:D:662:HOH:O	12:D:738:HOH:O[1_545]	2.17	0.03
1:B:127:ALA:O	12:B:406:HOH:O[2_756]	2.18	0.02
8:A:315:PG4:O3	12:B:474:HOH:O[2_756]	2.19	0.01
1:D:21:THR:H	5:D:321:PEG:O2[2_855]	1.59	0.01

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	Percentiles
1	A	223/231 (96%)	217 (97%)	6 (3%)	0	100 100
1	B	221/231 (96%)	217 (98%)	4 (2%)	0	100 100
1	C	221/231 (96%)	217 (98%)	4 (2%)	0	100 100
1	D	226/231 (98%)	218 (96%)	6 (3%)	2 (1%)	14 1
All	All	891/924 (96%)	869 (98%)	20 (2%)	2 (0%)	48 16

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	25[A]	ASN
1	D	25[B]	ASN

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 sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	185/191 (97%)	185 (100%)	0	100	100
1	B	183/191 (96%)	181 (99%)	2 (1%)	70	36
1	C	183/191 (96%)	183 (100%)	0	100	100
1	D	188/191 (98%)	187 (100%)	1 (0%)	86	64
All	All	739/764 (97%)	736 (100%)	3 (0%)	89	72

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	182	GLU
1	B	185	LYS
1	D	182	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	151	GLN
1	C	233	GLN
1	D	203	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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 120 ligands modelled in this entry, 6 are monoatomic - leaving 114 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	$\#\|Z\| > 2$
5	PEG	D	308	-	6,6,6	0.21	0	5,5,5	0.43	0
5	PEG	D	334	-	6,6,6	0.24	0	5,5,5	0.23	0
3	PG5	B	307	-	11,11,11	0.31	0	10,10,10	0.20	0
8	PG4	B	330	-	12,12,12	0.34	0	11,11,11	0.49	0
8	PG4	D	333	-	12,12,12	0.42	0	11,11,11	0.68	0
2	BEN	D	306[A]	-	9,9,9	0.68	0	7,11,11	0.78	0
5	PEG	B	326	-	6,6,6	0.29	0	5,5,5	0.69	0
5	PEG	D	324	-	6,6,6	0.27	0	5,5,5	0.33	0
5	PEG	B	308	-	6,6,6	0.26	0	5,5,5	0.30	0
5	PEG	B	319	-	6,6,6	0.22	0	5,5,5	0.25	0
3	PG5	C	306	-	11,11,11	0.32	0	10,10,10	0.30	0
8	PG4	B	328	-	12,12,12	0.28	0	11,11,11	0.25	0
7	MLI	B	321	-	6,6,6	1.73	1 (16%)	7,7,7	1.15	0
5	PEG	D	310	-	6,6,6	0.24	0	5,5,5	0.25	0
5	PEG	D	327	-	6,6,6	0.27	0	5,5,5	0.25	0
4	PG6	A	303	-	17,17,17	0.33	0	16,16,16	0.37	0
8	PG4	D	329	-	12,12,12	0.37	0	11,11,11	0.39	0
3	PG5	B	327	-	11,11,11	0.30	0	10,10,10	0.16	0
7	MLI	C	315	-	6,6,6	1.69	1 (16%)	7,7,7	1.18	0
8	PG4	A	318	-	12,12,12	0.28	0	11,11,11	0.38	0
7	MLI	A	311	-	6,6,6	1.78	1 (16%)	7,7,7	0.99	0
5	PEG	A	309	-	6,6,6	0.25	0	5,5,5	0.26	0
5	PEG	C	328[B]	-	6,6,6	0.27	0	5,5,5	0.26	0
5	PEG	A	313	-	6,6,6	0.29	0	5,5,5	0.42	0
5	PEG	B	324	-	6,6,6	0.28	0	5,5,5	0.15	0
2	BEN	A	301	-	9,9,9	0.51	0	7,11,11	0.35	0
5	PEG	A	314	-	6,6,6	0.24	0	5,5,5	0.32	0
5	PEG	C	328[A]	-	6,6,6	0.25	0	5,5,5	0.26	0
2	BEN	B	304	-	9,9,9	0.66	0	7,11,11	1.15	1 (14%)
5	PEG	C	312	-	6,6,6	0.26	0	5,5,5	0.73	0
5	PEG	D	311	-	6,6,6	0.29	0	5,5,5	0.25	0
5	PEG	A	312	-	6,6,6	0.24	0	5,5,5	0.24	0
3	PG5	A	304	-	11,11,11	0.28	0	10,10,10	0.27	0
5	PEG	D	307	-	6,6,6	0.24	0	5,5,5	0.25	0
5	PEG	D	319	-	6,6,6	0.23	0	5,5,5	0.44	0
5	PEG	D	326	-	6,6,6	0.22	0	5,5,5	0.16	0
5	PEG	A	306	-	6,6,6	0.25	0	5,5,5	0.22	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
10	EPE	C	303	-	15,15,15	0.87	1 (6%)	19,20,20	0.87	0
5	PEG	A	319	-	6,6,6	0.28	0	5,5,5	0.67	0
2	BEN	D	309	-	9,9,9	0.86	0	7,11,11	1.26	1 (14%)
3	PG5	D	312	-	11,11,11	0.35	0	10,10,10	0.87	0
5	PEG	B	316	-	6,6,6	0.25	0	5,5,5	0.30	0
5	PEG	B	323	-	6,6,6	0.28	0	5,5,5	0.53	0
5	PEG	D	336	-	6,6,6	0.25	0	5,5,5	0.17	0
8	PG4	B	329	-	12,12,12	0.43	0	11,11,11	0.93	0
8	PG4	A	315	-	11,11,12	0.28	0	10,10,11	0.81	1 (10%)
3	PG5	C	305	-	11,11,11	0.31	0	10,10,10	0.20	0
3	PG5	D	304	-	11,11,11	0.30	0	10,10,10	0.17	0
2	BEN	B	303	-	9,9,9	0.60	0	7,11,11	1.57	2 (28%)
5	PEG	D	322	2	6,6,6	0.36	0	5,5,5	0.51	0
5	PEG	C	316	-	6,6,6	0.26	0	5,5,5	0.46	0
2	BEN	B	301	-	9,9,9	0.55	0	7,11,11	1.97	3 (42%)
8	PG4	C	323	-	12,12,12	0.29	0	11,11,11	0.23	0
5	PEG	B	322	-	6,6,6	0.25	0	5,5,5	0.24	0
5	PEG	D	337	-	6,6,6	0.23	0	5,5,5	0.27	0
5	PEG	B	309	-	6,6,6	0.29	0	5,5,5	0.17	0
10	EPE	D	305	-	15,15,15	0.87	1 (6%)	19,20,20	1.17	2 (10%)
5	PEG	C	310	-	6,6,6	0.26	0	5,5,5	0.22	0
9	PMA	B	302	-	18,18,18	1.36	2 (11%)	26,26,26	1.55	5 (19%)
8	PG4	C	325	-	12,12,12	0.29	0	11,11,11	0.34	0
5	PEG	C	304	-	6,6,6	0.25	0	5,5,5	0.19	0
3	PG5	A	302	-	11,11,11	0.30	0	10,10,10	0.28	0
8	PG4	C	322	-	12,12,12	0.27	0	11,11,11	0.24	0
5	PEG	D	320	-	6,6,6	0.28	0	5,5,5	0.49	0
5	PEG	C	327	-	6,6,6	0.24	0	5,5,5	0.22	0
5	PEG	C	318	-	6,6,6	0.23	0	5,5,5	0.26	0
5	PEG	D	325	-	6,6,6	0.33	0	5,5,5	0.23	0
2	BEN	D	301	-	9,9,9	1.02	1 (11%)	7,11,11	1.92	3 (42%)
5	PEG	D	316	-	6,6,6	0.24	0	5,5,5	0.40	0
5	PEG	D	318[B]	-	6,6,6	0.25	0	5,5,5	0.23	0
5	PEG	D	317	-	6,6,6	0.32	0	5,5,5	0.47	0
5	PEG	C	313	-	6,6,6	0.26	0	5,5,5	0.28	0
8	PG4	A	316	-	12,12,12	0.32	0	11,11,11	0.45	0
3	PG5	B	305	-	11,11,11	0.42	0	10,10,10	0.70	0
5	PEG	B	317[B]	-	6,6,6	0.26	0	5,5,5	0.24	0
3	PG5	A	305	-	11,11,11	0.33	0	10,10,10	0.20	0
7	MLI	D	315	-	6,6,6	1.54	1 (16%)	7,7,7	1.18	0
5	PEG	C	317	-	6,6,6	0.26	0	5,5,5	0.24	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
5	PEG	A	308	-	6,6,6	0.24	0	5,5,5	0.18	0
3	PG5	D	303	-	11,11,11	0.29	0	10,10,10	0.18	0
5	PEG	C	320	-	6,6,6	0.27	0	5,5,5	0.46	0
5	PEG	C	311	-	6,6,6	0.27	0	5,5,5	0.20	0
5	PEG	B	314	-	6,6,6	0.24	0	5,5,5	0.32	0
5	PEG	D	318[A]	-	6,6,6	0.25	0	5,5,5	0.44	0
8	PG4	D	331	-	12,12,12	0.29	0	11,11,11	0.23	0
5	PEG	B	317[A]	-	6,6,6	0.25	0	5,5,5	0.29	0
5	PEG	C	319	-	6,6,6	0.23	0	5,5,5	0.26	0
2	BEN	C	307	-	9,9,9	0.64	0	7,11,11	0.99	1 (14%)
8	PG4	D	330	-	12,12,12	0.30	0	11,11,11	0.25	0
5	PEG	D	323	-	6,6,6	0.27	0	5,5,5	0.36	0
5	PEG	B	331	-	6,6,6	0.24	0	5,5,5	0.23	0
5	PEG	C	308	-	6,6,6	0.52	0	5,5,5	1.10	1 (20%)
5	PEG	B	310	-	6,6,6	0.24	0	5,5,5	0.19	0
5	PEG	B	318	-	6,6,6	0.28	0	5,5,5	0.19	0
8	PG4	D	328	-	12,12,12	0.30	0	11,11,11	0.26	0
5	PEG	D	335	-	6,6,6	0.30	0	5,5,5	0.39	0
5	PEG	B	315	-	6,6,6	0.25	0	5,5,5	0.25	0
2	BEN	C	302	-	9,9,9	0.72	0	7,11,11	2.00	2 (28%)
5	PEG	C	321	-	6,6,6	0.23	0	5,5,5	0.22	0
5	PEG	A	307	-	6,6,6	0.27	0	5,5,5	0.28	0
8	PG4	A	317	-	12,12,12	0.34	0	11,11,11	0.26	0
2	BEN	C	301	-	9,9,9	0.71	0	7,11,11	1.29	1 (14%)
5	PEG	B	313	-	6,6,6	0.25	0	5,5,5	0.24	0
3	PG5	B	311	-	11,11,11	0.31	0	10,10,10	0.25	0
5	PEG	B	325	-	6,6,6	0.29	0	5,5,5	0.31	0
5	PEG	D	321	-	6,6,6	0.30	0	5,5,5	0.40	0
8	PG4	C	324	-	12,12,12	0.35	0	11,11,11	0.48	0
8	PG4	C	326	-	12,12,12	0.26	0	11,11,11	0.24	0
9	PMA	D	302	-	18,18,18	1.25	3 (16%)	26,26,26	1.52	4 (15%)
8	PG4	D	332	-	12,12,12	0.29	0	11,11,11	0.24	0
5	PEG	C	309	-	6,6,6	0.28	0	5,5,5	0.48	0
2	BEN	D	306[B]	5	9,9,9	1.40	1 (11%)	7,11,11	1.88	2 (28%)
5	PEG	B	306	-	6,6,6	0.22	0	5,5,5	0.34	0
5	PEG	B	312	-	6,6,6	0.29	0	5,5,5	0.19	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	PEG	D	308	-	-	2/4/4/4	-
5	PEG	D	334	-	-	3/4/4/4	-
3	PG5	B	307	-	-	3/9/9/9	-
8	PG4	B	330	-	-	6/10/10/10	-
8	PG4	D	333	-	-	5/10/10/10	-
2	BEN	D	306[A]	-	-	0/4/4/4	0/1/1/1
5	PEG	B	326	-	-	3/4/4/4	-
5	PEG	D	324	-	-	3/4/4/4	-
5	PEG	B	308	-	-	1/4/4/4	-
5	PEG	B	319	-	-	2/4/4/4	-
3	PG5	C	306	-	-	5/9/9/9	-
8	PG4	B	328	-	-	7/10/10/10	-
7	MLI	B	321	-	-	3/4/4/4	-
5	PEG	D	310	-	-	0/4/4/4	-
5	PEG	D	327	-	-	3/4/4/4	-
4	PG6	A	303	-	-	7/15/15/15	-
8	PG4	D	329	-	-	3/10/10/10	-
3	PG5	B	327	-	-	5/9/9/9	-
7	MLI	C	315	-	-	2/4/4/4	-
8	PG4	A	318	-	-	5/10/10/10	-
7	MLI	A	311	-	-	4/4/4/4	-
5	PEG	A	309	-	-	2/4/4/4	-
5	PEG	C	328[B]	-	-	1/4/4/4	-
5	PEG	A	313	-	-	3/4/4/4	-
5	PEG	B	324	-	-	2/4/4/4	-
2	BEN	A	301	-	-	0/4/4/4	0/1/1/1
5	PEG	A	314	-	-	1/4/4/4	-
5	PEG	C	328[A]	-	-	1/4/4/4	-
2	BEN	B	304	-	-	4/4/4/4	0/1/1/1
5	PEG	C	312	-	-	3/4/4/4	-
5	PEG	D	311	-	-	3/4/4/4	-
5	PEG	A	312	-	-	3/4/4/4	-
3	PG5	A	304	-	-	4/9/9/9	-
5	PEG	D	307	-	-	1/4/4/4	-
5	PEG	D	319	-	-	3/4/4/4	-
5	PEG	D	326	-	-	3/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	PEG	A	306	-	-	3/4/4/4	-
10	EPE	C	303	-	-	3/9/19/19	0/1/1/1
5	PEG	A	319	-	-	1/4/4/4	-
2	BEN	D	309	-	-	2/4/4/4	0/1/1/1
3	PG5	D	312	-	-	7/9/9/9	-
5	PEG	B	316	-	-	3/4/4/4	-
5	PEG	B	323	-	-	1/4/4/4	-
5	PEG	D	336	-	-	4/4/4/4	-
8	PG4	B	329	-	-	5/10/10/10	-
8	PG4	A	315	-	-	2/9/9/10	-
3	PG5	C	305	-	-	6/9/9/9	-
3	PG5	D	304	-	-	5/9/9/9	-
2	BEN	B	303	-	-	0/4/4/4	0/1/1/1
5	PEG	D	322	2	-	2/4/4/4	-
5	PEG	C	316	-	-	2/4/4/4	-
2	BEN	B	301	-	-	2/4/4/4	0/1/1/1
8	PG4	C	323	-	-	5/10/10/10	-
5	PEG	B	322	-	-	3/4/4/4	-
5	PEG	D	337	-	-	1/4/4/4	-
5	PEG	B	309	-	-	2/4/4/4	-
10	EPE	D	305	-	-	4/9/19/19	0/1/1/1
5	PEG	C	310	-	-	1/4/4/4	-
9	PMA	B	302	-	-	6/16/16/16	0/1/1/1
8	PG4	C	325	-	-	6/10/10/10	-
5	PEG	C	304	-	-	1/4/4/4	-
3	PG5	A	302	-	-	5/9/9/9	-
8	PG4	C	322	-	-	5/10/10/10	-
5	PEG	D	320	-	-	2/4/4/4	-
5	PEG	C	327	-	-	2/4/4/4	-
5	PEG	C	318	-	-	0/4/4/4	-
5	PEG	D	325	-	-	1/4/4/4	-
2	BEN	D	301	-	-	0/4/4/4	0/1/1/1
5	PEG	D	316	-	-	2/4/4/4	-
5	PEG	D	318[B]	-	-	2/4/4/4	-
5	PEG	D	317	-	-	2/4/4/4	-
5	PEG	C	313	-	-	3/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
8	PG4	A	316	-	-	7/10/10/10	-
3	PG5	B	305	-	-	5/9/9/9	-
5	PEG	B	317[B]	-	-	1/4/4/4	-
3	PG5	A	305	-	-	6/9/9/9	-
7	MLI	D	315	-	-	0/4/4/4	-
5	PEG	C	317	-	-	2/4/4/4	-
5	PEG	A	308	-	-	2/4/4/4	-
3	PG5	D	303	-	-	4/9/9/9	-
5	PEG	C	320	-	-	2/4/4/4	-
5	PEG	C	311	-	-	2/4/4/4	-
5	PEG	B	314	-	-	3/4/4/4	-
5	PEG	D	318[A]	-	-	2/4/4/4	-
8	PG4	D	331	-	-	4/10/10/10	-
5	PEG	B	317[A]	-	-	1/4/4/4	-
5	PEG	C	319	-	-	4/4/4/4	-
2	BEN	C	307	-	-	3/4/4/4	0/1/1/1
8	PG4	D	330	-	-	7/10/10/10	-
5	PEG	D	323	-	-	2/4/4/4	-
5	PEG	B	331	-	-	1/4/4/4	-
5	PEG	C	308	-	-	4/4/4/4	-
5	PEG	B	310	-	-	1/4/4/4	-
5	PEG	B	318	-	-	2/4/4/4	-
8	PG4	D	328	-	-	4/10/10/10	-
5	PEG	D	335	-	-	3/4/4/4	-
5	PEG	B	315	-	-	2/4/4/4	-
2	BEN	C	302	-	-	0/4/4/4	0/1/1/1
5	PEG	C	321	-	-	3/4/4/4	-
5	PEG	A	307	-	-	1/4/4/4	-
8	PG4	A	317	-	-	7/10/10/10	-
2	BEN	C	301	-	-	0/4/4/4	0/1/1/1
5	PEG	B	313	-	-	2/4/4/4	-
3	PG5	B	311	-	-	6/9/9/9	-
5	PEG	B	325	-	-	2/4/4/4	-
5	PEG	D	321	-	-	2/4/4/4	-
8	PG4	C	324	-	-	5/10/10/10	-
8	PG4	C	326	-	-	3/10/10/10	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
9	PMA	D	302	-	-	2/16/16/16	0/1/1/1
8	PG4	D	332	-	-	6/10/10/10	-
5	PEG	C	309	-	-	2/4/4/4	-
2	BEN	D	306[B]	5	-	0/4/4/4	0/1/1/1
5	PEG	B	306	-	-	2/4/4/4	-
5	PEG	B	312	-	-	3/4/4/4	-

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	306[B]	BEN	C6-C1	3.27	1.44	1.39
7	B	321	MLI	C1-C3	2.83	1.55	1.51
7	A	311	MLI	C1-C3	2.81	1.55	1.51
7	C	315	MLI	C1-C3	2.71	1.55	1.51
9	B	302	PMA	C2-C10	2.51	1.55	1.49
9	D	302	PMA	O6-C7	-2.46	1.23	1.30
10	D	305	EPE	C10-S	2.37	1.80	1.77
7	D	315	MLI	C1-C3	2.30	1.54	1.51
10	C	303	EPE	C10-S	2.21	1.80	1.77
9	B	302	PMA	C1-C9	2.20	1.54	1.49
9	D	302	PMA	C5-C8	2.11	1.54	1.49
2	D	301	BEN	C2-C1	-2.09	1.36	1.39
9	D	302	PMA	C2-C10	2.06	1.54	1.49

All (29) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	D	302	PMA	O5-C7-C4	-4.64	110.90	121.97
9	B	302	PMA	O7-C8-C5	-3.73	113.07	121.97
2	D	306[B]	BEN	C1-C-N2	-3.36	112.92	118.01
2	B	301	BEN	C5-C6-C1	3.32	123.62	120.36
2	D	309	BEN	C1-C-N2	-3.28	113.03	118.01
9	B	302	PMA	O8-C8-O7	3.19	130.22	123.35
2	D	306[B]	BEN	C5-C6-C1	-3.16	117.26	120.36
2	C	302	BEN	C5-C6-C1	-3.12	117.30	120.36
9	D	302	PMA	O6-C7-C4	2.95	123.67	115.28
2	B	303	BEN	C5-C6-C1	-2.89	117.53	120.36
9	D	302	PMA	O8-C8-O7	2.78	129.33	123.35
2	D	301	BEN	C3-C2-C1	2.75	123.07	120.36
2	C	302	BEN	C4-C3-C2	-2.74	116.86	120.24
2	D	301	BEN	C6-C1-C2	-2.62	115.23	118.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	D	305	EPE	C6-C5-N4	2.55	115.80	110.65
2	B	301	BEN	C4-C3-C2	2.52	123.34	120.24
2	C	307	BEN	C1-C-N2	-2.51	114.20	118.01
2	B	303	BEN	C6-C1-C2	2.49	121.73	118.57
2	D	301	BEN	C5-C6-C1	2.37	122.69	120.36
9	B	302	PMA	C6-C4-C7	2.33	124.44	117.89
2	C	301	BEN	C1-C-N2	-2.31	114.51	118.01
5	C	308	PEG	O4-C4-C3	2.29	125.31	111.82
9	D	302	PMA	O7-C8-C5	-2.24	116.62	121.97
8	A	315	PG4	C7-O4-C6	-2.22	105.28	113.06
9	B	302	PMA	O1-C9-C1	-2.20	116.72	121.97
2	B	304	BEN	C1-C-N2	-2.14	114.77	118.01
9	B	302	PMA	O3-C10-C2	-2.13	116.88	121.97
10	D	305	EPE	C7-N4-C3	2.05	116.71	111.24
2	B	301	BEN	C4-C5-C6	-2.04	117.73	120.24

There are no chirality outliers.

All (327) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	D	309	BEN	N2-C-C1-C2
2	D	309	BEN	N2-C-C1-C6
10	C	303	EPE	C8-C7-N4-C5
10	D	305	EPE	N4-C7-C8-O8
3	B	327	PG5	O3-C6-C7-O4
3	C	305	PG5	O1-C2-C3-O2
3	C	305	PG5	O3-C6-C7-O4
8	A	316	PG4	O2-C3-C4-O3
8	B	329	PG4	O3-C5-C6-O4
8	C	323	PG4	O2-C3-C4-O3
8	C	325	PG4	O3-C5-C6-O4
3	B	311	PG5	O3-C6-C7-O4
3	C	306	PG5	O3-C6-C7-O4
3	D	312	PG5	O3-C6-C7-O4
3	B	327	PG5	O2-C4-C5-O3
8	D	330	PG4	O2-C3-C4-O3
8	D	332	PG4	O2-C3-C4-O3
3	B	305	PG5	O3-C6-C7-O4
8	C	324	PG4	O3-C5-C6-O4
5	B	309	PEG	O1-C1-C2-O2
5	C	328[A]	PEG	O2-C3-C4-O4
3	C	305	PG5	O2-C4-C5-O3

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Mol	Chain	Res	Type	Atoms
8	A	317	PG4	O2-C3-C4-O3
8	C	323	PG4	O3-C5-C6-O4
8	A	318	PG4	O2-C3-C4-O3
8	D	331	PG4	O2-C3-C4-O3
8	B	329	PG4	O2-C3-C4-O3
8	A	315	PG4	O3-C5-C6-O4
3	A	304	PG5	O2-C4-C5-O3
4	A	303	PG6	O3-C6-C7-O4
3	D	304	PG5	O1-C2-C3-O2
4	A	303	PG6	O1-C2-C3-O2
4	A	303	PG6	O2-C4-C5-O3
3	A	305	PG5	O2-C4-C5-O3
5	B	315	PEG	O1-C1-C2-O2
5	B	317[B]	PEG	O2-C3-C4-O4
5	C	308	PEG	O2-C3-C4-O4
5	D	318[A]	PEG	O2-C3-C4-O4
5	D	321	PEG	O1-C1-C2-O2
5	D	337	PEG	O2-C3-C4-O4
8	D	330	PG4	O1-C1-C2-O2
8	D	330	PG4	O4-C7-C8-O5
8	D	332	PG4	O4-C7-C8-O5
8	D	333	PG4	O1-C1-C2-O2
3	A	302	PG5	O1-C2-C3-O2
3	D	312	PG5	O1-C2-C3-O2
8	D	330	PG4	O3-C5-C6-O4
8	A	317	PG4	O3-C5-C6-O4
5	A	308	PEG	O2-C3-C4-O4
5	A	312	PEG	O1-C1-C2-O2
5	B	326	PEG	O2-C3-C4-O4
5	C	313	PEG	O1-C1-C2-O2
5	C	319	PEG	O2-C3-C4-O4
5	C	327	PEG	O1-C1-C2-O2
5	C	328[B]	PEG	O2-C3-C4-O4
5	D	322	PEG	O2-C3-C4-O4
5	D	336	PEG	O1-C1-C2-O2
8	A	316	PG4	O1-C1-C2-O2
8	B	328	PG4	O1-C1-C2-O2
8	D	331	PG4	O4-C7-C8-O5
8	D	333	PG4	O4-C7-C8-O5
3	B	305	PG5	O2-C4-C5-O3
5	B	326	PEG	C4-C3-O2-C2
8	B	330	PG4	O3-C5-C6-O4

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Mol	Chain	Res	Type	Atoms
5	A	306	PEG	O1-C1-C2-O2
5	A	309	PEG	O2-C3-C4-O4
5	A	314	PEG	O2-C3-C4-O4
5	C	317	PEG	O2-C3-C4-O4
5	D	307	PEG	O2-C3-C4-O4
5	D	321	PEG	O2-C3-C4-O4
5	D	334	PEG	O1-C1-C2-O2
8	D	332	PG4	O1-C1-C2-O2
3	D	303	PG5	O2-C4-C5-O3
3	D	303	PG5	O3-C6-C7-O4
3	C	306	PG5	O2-C4-C5-O3
3	A	302	PG5	O3-C6-C7-O4
3	D	303	PG5	O1-C2-C3-O2
5	B	316	PEG	O1-C1-C2-O2
5	B	322	PEG	O1-C1-C2-O2
5	B	324	PEG	O1-C1-C2-O2
5	D	311	PEG	O1-C1-C2-O2
5	D	316	PEG	O1-C1-C2-O2
5	D	324	PEG	O1-C1-C2-O2
8	A	317	PG4	O1-C1-C2-O2
8	A	317	PG4	O4-C7-C8-O5
8	D	328	PG4	O1-C1-C2-O2
3	B	307	PG5	O3-C6-C7-O4
3	A	305	PG5	O1-C2-C3-O2
5	B	314	PEG	O2-C3-C4-O4
5	D	320	PEG	O2-C3-C4-O4
5	D	324	PEG	O2-C3-C4-O4
5	D	334	PEG	O2-C3-C4-O4
8	C	323	PG4	O4-C7-C8-O5
8	C	326	PG4	O1-C1-C2-O2
5	B	326	PEG	C1-C2-O2-C3
5	A	307	PEG	O2-C3-C4-O4
5	A	309	PEG	O1-C1-C2-O2
5	B	319	PEG	O2-C3-C4-O4
5	B	322	PEG	O2-C3-C4-O4
5	C	308	PEG	O1-C1-C2-O2
5	C	312	PEG	O1-C1-C2-O2
5	C	320	PEG	O1-C1-C2-O2
5	D	317	PEG	O1-C1-C2-O2
5	D	319	PEG	O1-C1-C2-O2
5	D	325	PEG	O1-C1-C2-O2
5	D	326	PEG	O1-C1-C2-O2

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Mol	Chain	Res	Type	Atoms
5	D	336	PEG	O2-C3-C4-O4
8	B	328	PG4	O4-C7-C8-O5
8	C	322	PG4	O4-C7-C8-O5
8	C	325	PG4	O4-C7-C8-O5
8	D	328	PG4	O4-C7-C8-O5
8	A	316	PG4	C8-C7-O4-C6
3	B	311	PG5	O2-C4-C5-O3
8	D	328	PG4	O3-C5-C6-O4
5	D	326	PEG	O2-C3-C4-O4
3	D	304	PG5	O2-C4-C5-O3
3	B	307	PG5	O1-C2-C3-O2
4	A	303	PG6	O4-C8-C9-O5
3	B	305	PG5	O1-C2-C3-O2
10	C	303	EPE	C10-C9-N1-C2
10	C	303	EPE	C10-C9-N1-C6
10	D	305	EPE	C10-C9-N1-C2
10	D	305	EPE	C10-C9-N1-C6
5	B	325	PEG	O2-C3-C4-O4
5	C	321	PEG	O1-C1-C2-O2
5	D	318[B]	PEG	O1-C1-C2-O2
8	B	328	PG4	O2-C3-C4-O3
8	B	330	PG4	C6-C5-O3-C4
5	B	310	PEG	O1-C1-C2-O2
8	A	316	PG4	C4-C3-O2-C2
7	A	311	MLI	C2-C1-C3-O8
5	C	313	PEG	O2-C3-C4-O4
8	C	322	PG4	O1-C1-C2-O2
5	A	313	PEG	O1-C1-C2-O2
5	B	316	PEG	O2-C3-C4-O4
5	D	308	PEG	O1-C1-C2-O2
3	B	327	PG5	C6-C7-O4-C8
3	D	312	PG5	C2-C3-O2-C4
3	D	312	PG5	C3-C2-O1-C1
7	A	311	MLI	C2-C1-C3-O9
8	C	325	PG4	C6-C5-O3-C4
3	B	307	PG5	C7-C6-O3-C5
5	D	318[B]	PEG	O2-C3-C4-O4
8	C	324	PG4	O1-C1-C2-O2
5	C	311	PEG	C1-C2-O2-C3
8	B	330	PG4	C5-C6-O4-C7
8	D	333	PG4	C6-C5-O3-C4
5	B	313	PEG	C1-C2-O2-C3

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Mol	Chain	Res	Type	Atoms
5	D	335	PEG	C1-C2-O2-C3
5	A	319	PEG	C1-C2-O2-C3
5	D	322	PEG	C1-C2-O2-C3
5	D	336	PEG	C1-C2-O2-C3
8	D	328	PG4	C6-C5-O3-C4
3	B	311	PG5	C4-C5-O3-C6
4	A	303	PG6	C5-C4-O2-C3
5	A	313	PEG	C1-C2-O2-C3
5	D	308	PEG	C1-C2-O2-C3
8	C	322	PG4	C1-C2-O2-C3
8	D	330	PG4	C6-C5-O3-C4
3	D	304	PG5	C6-C7-O4-C8
5	D	311	PEG	C1-C2-O2-C3
5	D	320	PEG	C4-C3-O2-C2
8	B	329	PG4	C5-C6-O4-C7
8	C	325	PG4	C1-C2-O2-C3
3	C	306	PG5	C2-C3-O2-C4
5	C	309	PEG	O2-C3-C4-O4
5	C	317	PEG	O1-C1-C2-O2
5	D	327	PEG	O2-C3-C4-O4
8	C	325	PG4	O1-C1-C2-O2
8	D	331	PG4	O1-C1-C2-O2
5	D	319	PEG	C1-C2-O2-C3
3	D	312	PG5	C5-C4-O2-C3
9	B	302	PMA	C6-C4-C7-O5
9	B	302	PMA	C6-C4-C7-O6
3	C	305	PG5	C2-C3-O2-C4
8	D	333	PG4	C5-C6-O4-C7
5	B	312	PEG	C4-C3-O2-C2
8	A	316	PG4	C5-C6-O4-C7
5	A	312	PEG	C1-C2-O2-C3
8	A	318	PG4	C6-C5-O3-C4
8	C	322	PG4	C3-C4-O3-C5
3	D	312	PG5	C7-C6-O3-C5
8	C	325	PG4	O2-C3-C4-O3
2	C	307	BEN	N1-C-C1-C2
2	C	307	BEN	N2-C-C1-C6
3	A	305	PG5	C4-C5-O3-C6
8	B	330	PG4	O2-C3-C4-O3
5	C	319	PEG	C4-C3-O2-C2
3	C	306	PG5	O1-C2-C3-O2
3	B	327	PG5	C3-C2-O1-C1

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Mol	Chain	Res	Type	Atoms
5	D	323	PEG	C4-C3-O2-C2
8	A	318	PG4	C5-C6-O4-C7
8	B	328	PG4	C6-C5-O3-C4
5	B	306	PEG	O2-C3-C4-O4
5	B	308	PEG	O1-C1-C2-O2
5	B	306	PEG	C4-C3-O2-C2
3	B	305	PG5	C5-C4-O2-C3
8	D	330	PG4	C1-C2-O2-C3
5	C	308	PEG	C4-C3-O2-C2
8	D	330	PG4	C4-C3-O2-C2
5	D	318[A]	PEG	C4-C3-O2-C2
8	D	329	PG4	C3-C4-O3-C5
8	D	329	PG4	C1-C2-O2-C3
8	C	322	PG4	C5-C6-O4-C7
3	B	327	PG5	C5-C4-O2-C3
5	A	306	PEG	C4-C3-O2-C2
5	A	313	PEG	O2-C3-C4-O4
5	B	318	PEG	O1-C1-C2-O2
5	C	316	PEG	O1-C1-C2-O2
5	D	311	PEG	O2-C3-C4-O4
5	B	322	PEG	C4-C3-O2-C2
8	C	324	PG4	C5-C6-O4-C7
3	A	302	PG5	C6-C7-O4-C8
3	A	305	PG5	C6-C7-O4-C8
5	B	313	PEG	O1-C1-C2-O2
5	B	331	PEG	O2-C3-C4-O4
5	D	327	PEG	O1-C1-C2-O2
8	B	329	PG4	O1-C1-C2-O2
5	D	335	PEG	C4-C3-O2-C2
9	B	302	PMA	C5-C4-C7-O5
3	A	305	PG5	O3-C6-C7-O4
3	C	305	PG5	C5-C4-O2-C3
5	D	336	PEG	C4-C3-O2-C2
3	B	311	PG5	O1-C2-C3-O2
9	B	302	PMA	C5-C4-C7-O6
5	C	310	PEG	O2-C3-C4-O4
5	D	335	PEG	O2-C3-C4-O4
8	A	316	PG4	C1-C2-O2-C3
8	C	326	PG4	C8-C7-O4-C6
5	C	308	PEG	C1-C2-O2-C3
8	C	324	PG4	C6-C5-O3-C4
3	D	304	PG5	C3-C2-O1-C1

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Mol	Chain	Res	Type	Atoms
8	D	332	PG4	C5-C6-O4-C7
8	B	328	PG4	C5-C6-O4-C7
8	D	332	PG4	C3-C4-O3-C5
5	D	317	PEG	C4-C3-O2-C2
5	C	309	PEG	C4-C3-O2-C2
7	C	315	MLI	C2-C1-C3-O8
5	A	306	PEG	O2-C3-C4-O4
5	C	311	PEG	O1-C1-C2-O2
8	B	330	PG4	O4-C7-C8-O5
5	D	316	PEG	C1-C2-O2-C3
5	B	314	PEG	C4-C3-O2-C2
3	A	302	PG5	C2-C3-O2-C4
5	B	309	PEG	C1-C2-O2-C3
3	D	304	PG5	O3-C6-C7-O4
3	A	304	PG5	O3-C6-C7-O4
5	B	314	PEG	C1-C2-O2-C3
7	C	315	MLI	C2-C1-C3-O9
5	B	312	PEG	O2-C3-C4-O4
5	B	319	PEG	C4-C3-O2-C2
2	B	304	BEN	N2-C-C1-C2
2	B	304	BEN	N2-C-C1-C6
2	C	307	BEN	N2-C-C1-C2
8	C	323	PG4	C4-C3-O2-C2
5	C	316	PEG	C4-C3-O2-C2
3	B	311	PG5	C3-C2-O1-C1
8	B	329	PG4	C1-C2-O2-C3
3	A	305	PG5	C5-C4-O2-C3
8	A	317	PG4	C8-C7-O4-C6
7	B	321	MLI	C3-C1-C2-O7
8	A	316	PG4	O3-C5-C6-O4
8	A	318	PG4	O1-C1-C2-O2
5	A	312	PEG	C4-C3-O2-C2
3	D	312	PG5	O2-C4-C5-O3
4	A	303	PG6	C9-C8-O4-C7
5	B	318	PEG	C4-C3-O2-C2
5	B	324	PEG	C1-C2-O2-C3
7	B	321	MLI	C2-C1-C3-O8
5	B	325	PEG	O1-C1-C2-O2
8	A	317	PG4	C6-C5-O3-C4
8	C	324	PG4	O2-C3-C4-O3
5	C	327	PEG	C4-C3-O2-C2
5	C	313	PEG	C1-C2-O2-C3

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Mol	Chain	Res	Type	Atoms
5	C	319	PEG	C1-C2-O2-C3
3	A	304	PG5	C6-C7-O4-C8
5	D	323	PEG	O2-C3-C4-O4
3	C	306	PG5	C3-C2-O1-C1
5	D	334	PEG	C4-C3-O2-C2
9	D	302	PMA	C3-C5-C8-O8
7	B	321	MLI	C3-C1-C2-O6
8	A	317	PG4	C3-C4-O3-C5
9	B	302	PMA	C3-C5-C8-O8
5	D	319	PEG	C4-C3-O2-C2
5	C	321	PEG	C1-C2-O2-C3
5	C	319	PEG	O1-C1-C2-O2
8	D	332	PG4	O3-C5-C6-O4
9	B	302	PMA	C3-C5-C8-O7
8	B	328	PG4	O3-C5-C6-O4
9	D	302	PMA	C3-C5-C8-O7
8	C	326	PG4	O3-C5-C6-O4
8	B	328	PG4	C4-C3-O2-C2
5	B	323	PEG	C4-C3-O2-C2
5	C	312	PEG	C4-C3-O2-C2
10	D	305	EPE	C8-C7-N4-C3
5	B	316	PEG	C1-C2-O2-C3
8	A	318	PG4	O3-C5-C6-O4
2	B	301	BEN	N1-C-C1-C2
2	B	301	BEN	N2-C-C1-C2
2	B	304	BEN	N1-C-C1-C2
2	B	304	BEN	N1-C-C1-C6
3	C	305	PG5	C6-C7-O4-C8
3	D	303	PG5	C5-C4-O2-C3
8	D	333	PG4	O3-C5-C6-O4
5	B	315	PEG	C4-C3-O2-C2
8	A	315	PG4	O1-C1-C2-O2
8	D	329	PG4	C4-C3-O2-C2
5	C	304	PEG	C1-C2-O2-C3
8	B	330	PG4	C8-C7-O4-C6
7	A	311	MLI	C3-C1-C2-O7
5	B	317[A]	PEG	O2-C3-C4-O4
5	C	321	PEG	C4-C3-O2-C2
3	B	305	PG5	C7-C6-O3-C5
8	D	331	PG4	O3-C5-C6-O4
3	A	304	PG5	O1-C2-C3-O2
5	D	326	PEG	C1-C2-O2-C3

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Mol	Chain	Res	Type	Atoms
7	A	311	MLI	C3-C1-C2-O6
5	A	308	PEG	O1-C1-C2-O2
5	B	312	PEG	O1-C1-C2-O2
5	C	320	PEG	O2-C3-C4-O4
5	D	324	PEG	C1-C2-O2-C3
5	C	312	PEG	C1-C2-O2-C3
8	C	323	PG4	C6-C5-O3-C4
5	D	327	PEG	C1-C2-O2-C3
3	B	311	PG5	C6-C7-O4-C8
4	A	303	PG6	O5-C10-C11-O6
3	A	302	PG5	C3-C2-O1-C1

There are no ring outliers.

74 monomers are involved in 159 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	D	308	PEG	1	0
3	B	307	PG5	1	0
8	B	330	PG4	4	0
8	D	333	PG4	7	2
5	D	324	PEG	1	0
5	B	308	PEG	2	0
5	B	319	PEG	2	0
3	C	306	PG5	3	0
7	B	321	MLI	1	0
5	D	310	PEG	1	0
5	D	327	PEG	1	0
4	A	303	PG6	2	0
8	D	329	PG4	4	0
8	A	318	PG4	1	0
7	A	311	MLI	1	0
5	B	324	PEG	1	0
5	C	328[A]	PEG	1	0
2	B	304	BEN	2	0
5	C	312	PEG	4	0
5	D	311	PEG	1	0
3	A	304	PG5	2	0
5	D	319	PEG	6	0
5	A	306	PEG	1	0
10	C	303	EPE	3	0
2	D	309	BEN	1	0
3	D	312	PG5	4	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	B	316	PEG	3	0
5	D	336	PEG	1	0
8	B	329	PG4	3	0
8	A	315	PG4	0	1
3	C	305	PG5	1	0
3	D	304	PG5	1	0
2	B	303	BEN	1	0
5	D	322	PEG	3	0
5	C	316	PEG	4	0
5	B	322	PEG	1	0
5	D	337	PEG	1	0
5	B	309	PEG	3	0
10	D	305	EPE	3	0
9	B	302	PMA	3	0
8	C	325	PG4	5	0
3	A	302	PG5	2	0
8	C	322	PG4	1	0
5	D	320	PEG	9	0
5	D	316	PEG	1	0
5	D	318[B]	PEG	1	0
5	D	317	PEG	3	0
5	C	313	PEG	1	0
8	A	316	PG4	1	1
3	B	305	PG5	3	0
5	B	317[B]	PEG	3	0
3	A	305	PG5	2	0
3	D	303	PG5	4	0
5	C	320	PEG	1	0
5	D	318[A]	PEG	2	0
8	D	331	PG4	1	0
5	B	317[A]	PEG	3	0
8	D	330	PG4	2	0
5	C	308	PEG	10	0
8	D	328	PG4	0	1
5	D	335	PEG	2	0
5	A	307	PEG	2	0
8	A	317	PG4	1	0
2	C	301	BEN	4	0
3	B	311	PG5	4	0
5	B	325	PEG	4	0
5	D	321	PEG	3	1
8	C	324	PG4	3	0

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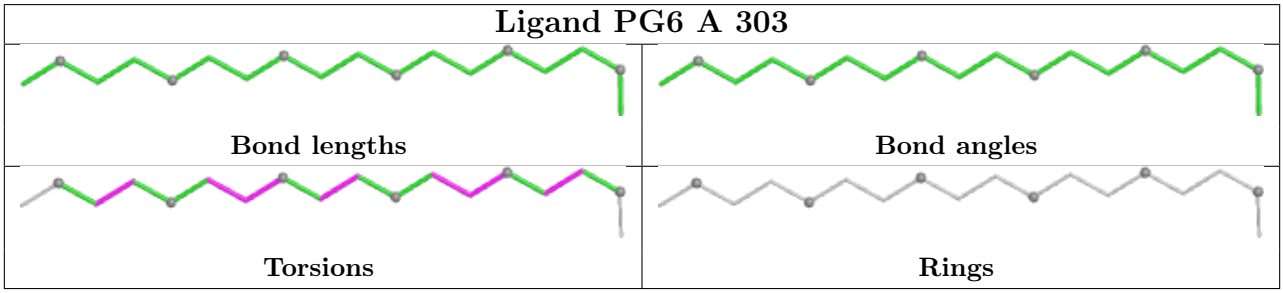
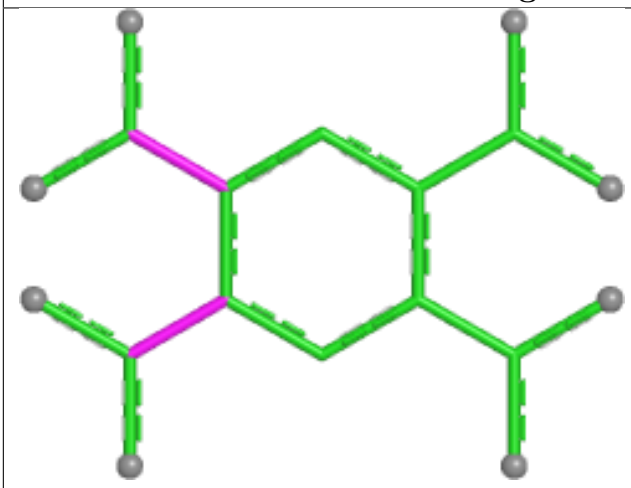
Mol	Chain	Res	Type	Clashes	Symm-Clashes
8	C	326	PG4	2	0
9	D	302	PMA	4	0
8	D	332	PG4	0	1
5	C	309	PEG	5	0
5	B	306	PEG	1	0
5	B	312	PEG	1	0

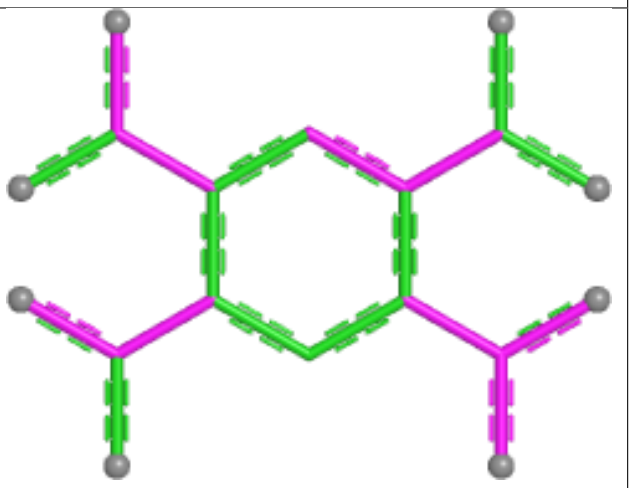
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



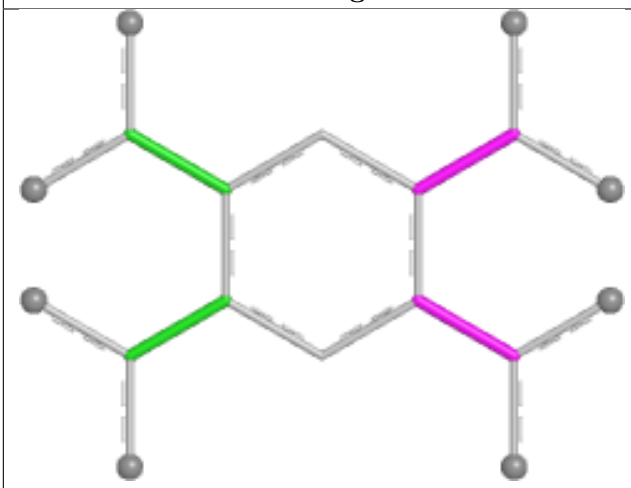
Ligand PMA B 302



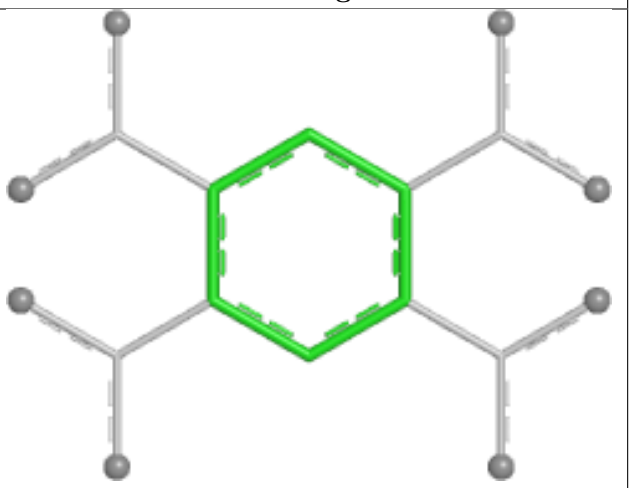
Bond lengths



Bond angles

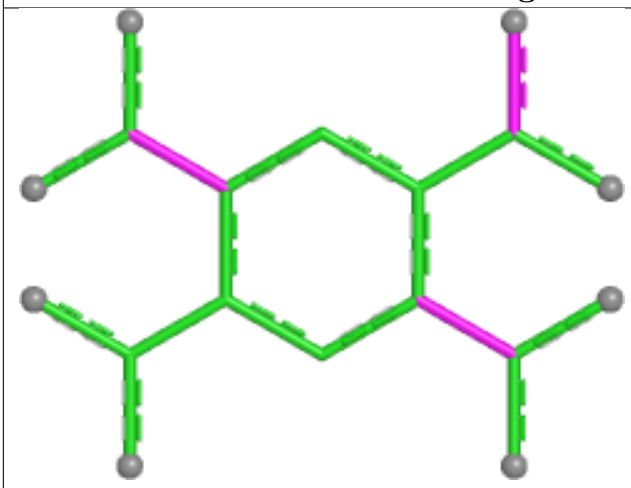


Torsions

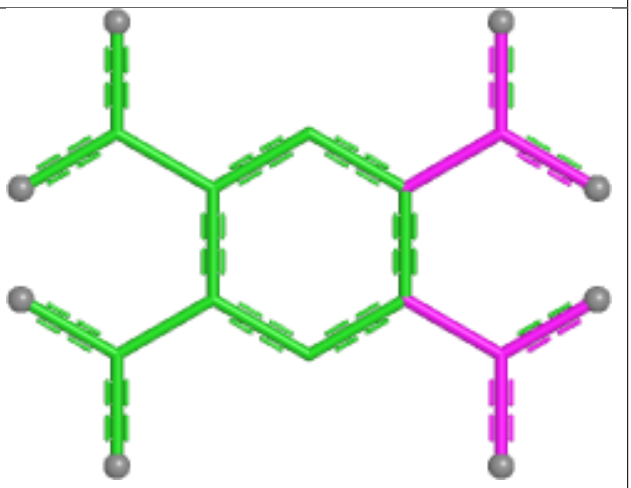


Rings

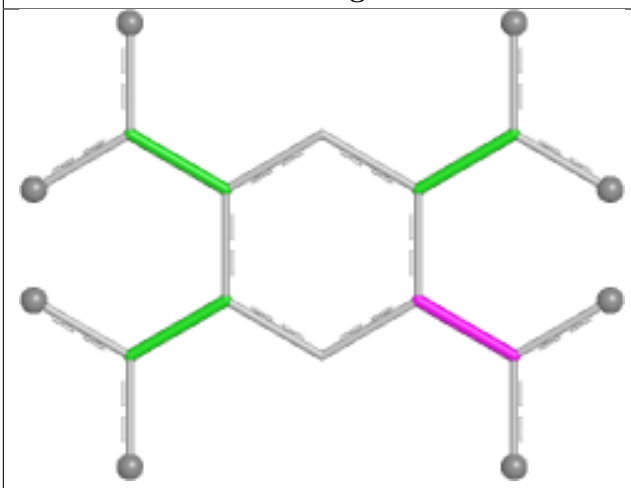
Ligand PMA D 302



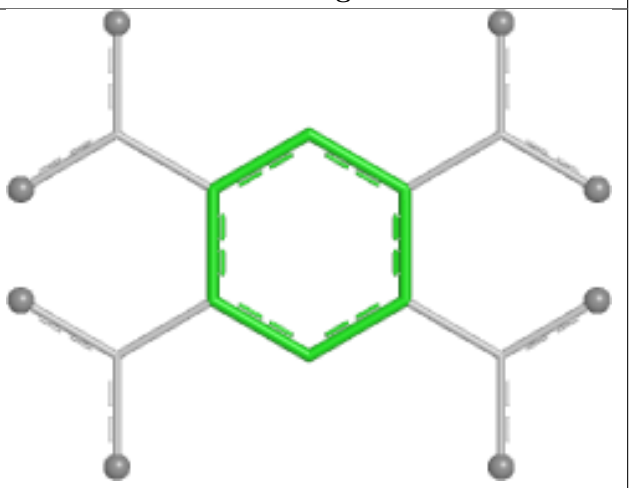
Bond lengths



Bond angles



Torsions



Rings

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

6.1 Protein, DNA and RNA chains

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	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	223/231 (96%)	1.04	27 (12%) 10 11	15, 21, 31, 38	3 (1%)
1	B	223/231 (96%)	1.31	43 (19%) 4 4	18, 29, 47, 51	2 (0%)
1	C	223/231 (96%)	1.06	30 (13%) 8 8	14, 19, 27, 34	1 (0%)
1	D	223/231 (96%)	0.74	9 (4%) 43 45	10, 18, 32, 47	6 (2%)
All	All	892/924 (96%)	1.04	109 (12%) 10 11	10, 21, 38, 51	12 (1%)

All (109) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	163	CYS	6.1
1	B	212	CYS	4.9
1	B	73	LEU	4.8
1	C	218	PRO	3.9
1	B	114	ARG	3.9
1	C	208	TRP	3.7
1	B	75	GLY	3.6
1	B	157	VAL	3.5
1	D	212	CYS	3.5
1	B	188	CYS	3.5
1	B	142	SER	3.4
1	B	143	GLY	3.4
1	A	198	CYS	3.3
1	A	169	GLY	3.2
1	B	76	ASN	3.2
1	B	144	SER	3.2
1	B	198	CYS	3.2
1	C	210	TYR	3.1
1	A	149	LEU	3.1
1	C	131	CYS	3.1
1	B	63	VAL	3.0

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Mol	Chain	Res	Type	RSRZ
1	B	155	ALA	3.0
1	D	25[A]	ASN	3.0
1	B	22	CYS	2.9
1	C	228	VAL	2.9
1	A	183	GLY	2.9
1	B	16	ILE	2.9
1	C	20	TYR	2.9
1	A	225	CYS	2.9
1	A	133	ILE	2.8
1	D	27	ILE	2.8
1	A	199	ASN	2.8
1	B	60	ARG	2.8
1	C	183	GLY	2.8
1	A	73	LEU	2.7
1	B	27	ILE	2.7
1	C	221	TYR	2.7
1	A	153	LEU	2.7
1	A	94	ASN	2.6
1	A	210	TYR	2.6
1	C	96	LEU	2.6
1	C	177	CYS	2.6
1	D	188	CYS	2.6
1	C	126	ALA	2.6
1	B	196	VAL	2.6
1	A	161	SER	2.6
1	C	179	GLY	2.6
1	B	113	SER	2.5
1	A	168	PRO	2.5
1	B	65	LEU	2.5
1	B	200	GLY	2.5
1	B	225	CYS	2.5
1	C	176	ILE	2.5
1	A	118	VAL	2.4
1	B	112	ASN	2.4
1	A	163	CYS	2.4
1	C	124	CYS	2.4
1	B	122	ARG	2.4
1	A	126	ALA	2.4
1	B	236	ALA	2.4
1	C	24	ALA	2.4
1	A	177	CYS	2.4
1	D	152	CYS	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	70	ILE	2.4
1	C	171	ILE	2.4
1	B	115	VAL	2.4
1	C	197	VAL	2.4
1	A	144	SER	2.4
1	D	142	SER	2.3
1	D	68	HIS	2.3
1	B	111	LEU	2.3
1	B	132	LEU	2.3
1	C	60	ARG	2.3
1	B	210	TYR	2.3
1	B	208	TRP	2.3
1	C	188	CYS	2.3
1	A	131	CYS	2.2
1	B	24	ALA	2.2
1	C	212	CYS	2.2
1	A	18	GLY	2.2
1	C	105	LEU	2.2
1	B	68	HIS	2.2
1	C	167	TYR	2.2
1	B	119	SER	2.2
1	D	24	ALA	2.2
1	B	28	PRO	2.2
1	B	158	LEU	2.2
1	B	20	TYR	2.2
1	C	230	TRP	2.2
1	D	144	SER	2.2
1	A	27	ILE	2.1
1	C	133	ILE	2.1
1	A	20	TYR	2.1
1	C	172	THR	2.1
1	B	66	GLY	2.1
1	B	25	ASN	2.1
1	B	46	ASN	2.1
1	B	229	ASN	2.1
1	C	153	LEU	2.1
1	C	202	LEU	2.1
1	C	16	ILE	2.1
1	A	208	TRP	2.0
1	A	150	LEU	2.0
1	B	59	SER	2.0
1	A	212	CYS	2.0

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Mol	Chain	Res	Type	RSRZ
1	B	70	ILE	2.0
1	A	216	ASN	2.0
1	B	146	TYR	2.0
1	C	125	ALA	2.0

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 oligosaccharides 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	B-factors(Å^2)	Q<0.9
7	MLI	A	311	7/7	0.39	0.15	48,72,86,91	0
5	PEG	D	322	7/7	0.40	0.17	52,63,71,71	17
5	PEG	D	318[A]	7/7	0.45	0.20	30,55,66,66	17
5	PEG	D	318[B]	7/7	0.45	0.20	37,53,67,72	17
5	PEG	C	328[A]	7/7	0.45	0.24	42,57,69,69	17
5	PEG	C	328[B]	7/7	0.45	0.24	46,60,72,74	17
8	PG4	B	330	13/13	0.47	0.21	35,57,74,77	31
5	PEG	D	319	7/7	0.50	0.21	46,57,69,71	16
5	PEG	D	327	7/7	0.51	0.13	52,65,81,84	0
5	PEG	B	317[A]	7/7	0.51	0.15	38,60,72,72	17
5	PEG	B	317[B]	7/7	0.51	0.15	49,59,69,69	17
5	PEG	C	309	7/7	0.53	0.20	25,57,68,78	17
5	PEG	B	322	7/7	0.55	0.18	42,59,67,77	17
8	PG4	C	325	13/13	0.55	0.20	32,57,68,71	31
5	PEG	C	320	7/7	0.56	0.18	34,54,65,65	17
7	MLI	C	315	7/7	0.56	0.19	30,62,71,73	9
8	PG4	A	317	13/13	0.56	0.20	25,59,77,78	31
5	PEG	D	326	7/7	0.56	0.20	44,57,69,69	17
3	PG5	D	304	12/12	0.56	0.16	38,64,73,78	30

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
8	PG4	C	323	13/13	0.58	0.17	47,60,66,68	31
3	PG5	B	327	12/12	0.58	0.19	48,60,66,66	30
3	PG5	B	307	12/12	0.59	0.21	22,46,66,66	30
5	PEG	C	308	7/7	0.59	0.19	31,62,79,91	0
2	BEN	C	307	9/9	0.60	0.15	45,63,87,87	0
5	PEG	D	308	7/7	0.60	0.24	26,54,64,67	17
8	PG4	D	331	13/13	0.60	0.18	42,56,69,71	31
8	PG4	D	332	13/13	0.60	0.17	44,54,64,64	31
7	MLI	B	321	7/7	0.61	0.11	55,64,74,75	0
5	PEG	B	324	7/7	0.61	0.20	28,53,77,77	17
5	PEG	D	324	7/7	0.62	0.25	21,56,69,75	17
5	PEG	A	308	7/7	0.62	0.16	53,64,71,75	0
7	MLI	D	315	7/7	0.62	0.15	37,47,49,59	9
3	PG5	C	306	12/12	0.63	0.24	41,52,63,63	30
8	PG4	C	322	13/13	0.63	0.17	45,55,67,67	31
8	PG4	B	328	13/13	0.63	0.18	43,58,66,68	31
3	PG5	B	311	12/12	0.64	0.16	30,52,60,60	30
5	PEG	D	321	7/7	0.64	0.17	29,49,68,68	17
3	PG5	D	303	12/12	0.64	0.26	21,36,59,59	29
5	PEG	D	316	7/7	0.65	0.16	48,58,70,70	17
5	PEG	B	325	7/7	0.66	0.23	36,58,67,67	17
8	PG4	D	330	13/13	0.66	0.22	35,59,71,74	31
4	PG6	A	303	18/18	0.66	0.18	23,54,67,74	44
5	PEG	D	337	7/7	0.66	0.21	45,54,61,61	17
5	PEG	B	318	7/7	0.67	0.21	33,51,62,62	17
5	PEG	B	308	7/7	0.67	0.18	34,56,78,78	17
3	PG5	C	305	12/12	0.67	0.18	33,60,73,84	30
5	PEG	C	321	7/7	0.67	0.12	47,56,67,69	17
3	PG5	A	304	12/12	0.67	0.20	32,56,63,72	30
5	PEG	C	317	7/7	0.68	0.19	32,50,60,60	17
5	PEG	D	335	7/7	0.68	0.18	28,46,66,79	17
5	PEG	C	318	7/7	0.68	0.15	47,56,68,68	17
3	PG5	A	302	12/12	0.68	0.18	29,52,66,70	30
10	EPE	C	303	15/15	0.68	0.17	27,49,61,64	31
5	PEG	D	310	7/7	0.69	0.20	29,47,60,60	17
5	PEG	A	307	7/7	0.69	0.24	38,59,71,75	17
5	PEG	B	331	7/7	0.69	0.12	48,57,61,63	17
5	PEG	C	327	7/7	0.69	0.18	34,53,64,64	17
8	PG4	A	316	13/13	0.69	0.16	37,57,68,79	30
5	PEG	B	314	7/7	0.70	0.15	53,63,66,67	17
5	PEG	B	316	7/7	0.70	0.14	49,63,76,79	17
3	PG5	D	312	12/12	0.71	0.27	23,53,73,76	30

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
8	PG4	D	329	13/13	0.71	0.20	20,53,65,67	31
3	PG5	A	305	12/12	0.71	0.17	28,51,62,68	30
8	PG4	C	326	13/13	0.72	0.24	34,53,62,63	31
5	PEG	B	319	7/7	0.72	0.21	26,48,60,60	17
5	PEG	C	304	7/7	0.72	0.22	27,58,70,71	17
2	BEN	D	309	9/9	0.72	0.16	27,63,80,81	0
5	PEG	A	306	7/7	0.72	0.17	40,55,66,66	17
5	PEG	A	314	7/7	0.72	0.15	32,51,76,76	0
5	PEG	B	326	7/7	0.73	0.17	40,50,65,67	16
5	PEG	B	312	7/7	0.73	0.14	31,49,67,67	17
5	PEG	D	323	7/7	0.73	0.16	31,58,66,67	17
5	PEG	C	310	7/7	0.73	0.15	27,60,73,73	17
5	PEG	A	309	7/7	0.73	0.16	38,50,62,65	17
5	PEG	B	313	7/7	0.74	0.14	35,58,70,70	17
5	PEG	D	311	7/7	0.75	0.22	19,48,66,66	17
8	PG4	A	318	13/13	0.75	0.21	24,53,65,76	31
5	PEG	D	320	7/7	0.75	0.16	47,58,65,72	15
5	PEG	C	319	7/7	0.75	0.22	22,52,63,63	17
8	PG4	D	328	13/13	0.75	0.22	35,55,65,74	31
8	PG4	A	315	12/13	0.76	0.28	27,52,59,64	29
5	PEG	D	317	7/7	0.76	0.13	29,50,70,70	0
5	PEG	A	312	7/7	0.77	0.14	42,56,64,64	17
8	PG4	B	329	13/13	0.78	0.25	17,48,67,68	31
5	PEG	B	306	7/7	0.78	0.17	29,45,73,73	17
2	BEN	D	306[A]	9/9	0.78	0.17	37,52,66,73	17
2	BEN	D	306[B]	9/9	0.78	0.17	34,49,74,74	17
5	PEG	D	307	7/7	0.78	0.21	41,57,76,76	17
3	PG5	B	305	12/12	0.78	0.22	23,45,70,78	30
8	PG4	C	324	13/13	0.79	0.15	27,57,73,77	31
5	PEG	C	312	7/7	0.79	0.15	30,58,70,78	17
5	PEG	B	310	7/7	0.79	0.12	37,57,69,78	17
10	EPE	D	305	15/15	0.79	0.16	27,54,80,83	32
8	PG4	D	333	13/13	0.80	0.26	24,53,64,70	31
5	PEG	D	325	7/7	0.80	0.14	25,51,83,83	17
5	PEG	B	323	7/7	0.80	0.16	17,55,69,70	17
2	BEN	B	304	9/9	0.81	0.28	37,54,73,80	17
5	PEG	A	319	7/7	0.81	0.17	31,50,77,77	17
5	PEG	D	334	7/7	0.81	0.16	25,54,69,69	17
5	PEG	B	315	7/7	0.81	0.12	46,56,67,68	17
5	PEG	D	336	7/7	0.81	0.17	23,46,64,64	17
5	PEG	C	311	7/7	0.83	0.18	20,50,67,67	17
5	PEG	A	313	7/7	0.84	0.19	22,39,58,58	17

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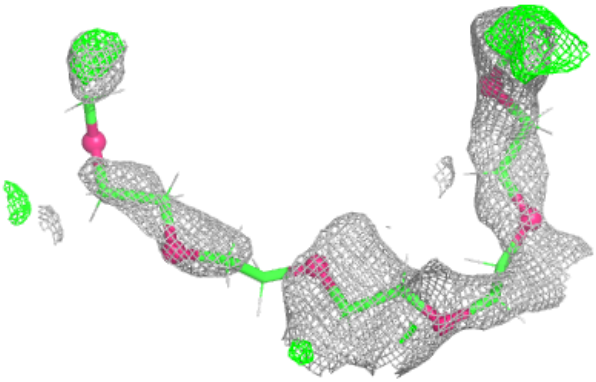
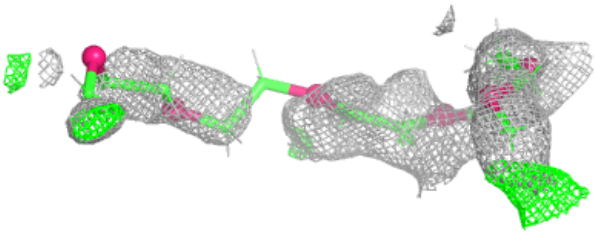
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	BEN	C	301	9/9	0.84	0.11	17,22,26,28	0
5	PEG	C	316	7/7	0.85	0.16	32,54,64,65	17
5	PEG	B	309	7/7	0.85	0.20	22,33,50,60	17
5	PEG	C	313	7/7	0.85	0.12	23,52,66,66	17
2	BEN	A	301	9/9	0.88	0.09	18,23,29,30	0
9	PMA	B	302	18/18	0.90	0.09	23,29,50,74	0
2	BEN	B	301	9/9	0.93	0.10	20,25,30,33	0
2	BEN	B	303	9/9	0.93	0.08	19,24,32,32	0
2	BEN	D	301	9/9	0.94	0.08	17,22,26,26	0
9	PMA	D	302	18/18	0.94	0.07	15,16,23,25	0
6	CA	B	320	1/1	0.94	0.07	37,37,37,37	0
2	BEN	C	302	9/9	0.94	0.08	15,19,26,27	0
11	CL	D	338	1/1	0.94	0.15	25,25,25,25	0
6	CA	D	314	1/1	0.96	0.21	32,32,32,32	0
6	CA	D	313	1/1	0.96	0.05	20,20,20,20	0
6	CA	C	314	1/1	0.97	0.05	15,15,15,15	0
6	CA	A	310	1/1	0.97	0.05	19,19,19,19	0

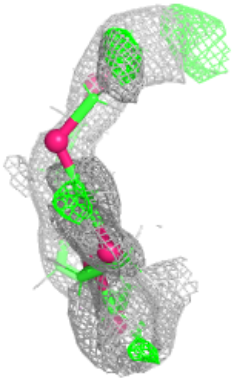
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around PG6 A 303:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

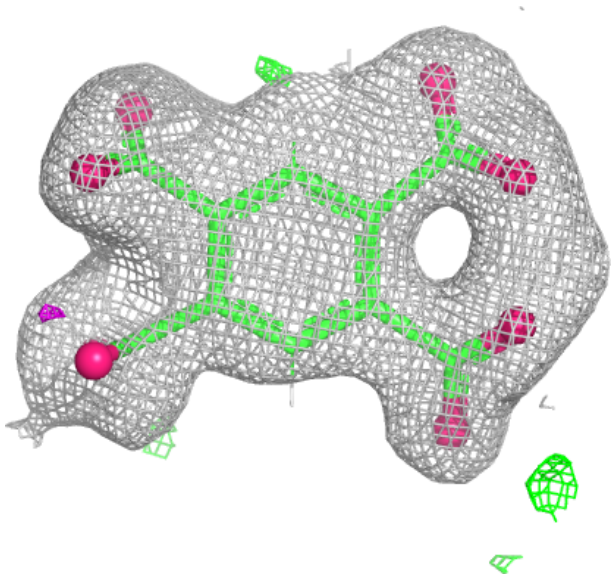


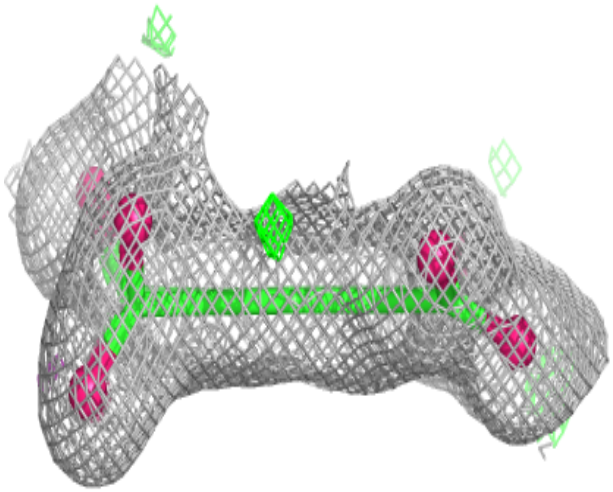


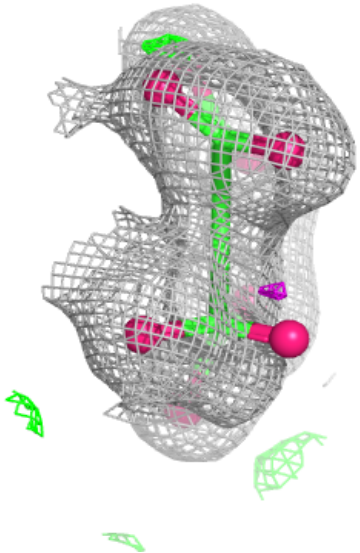


Electron density around PMA B 302:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

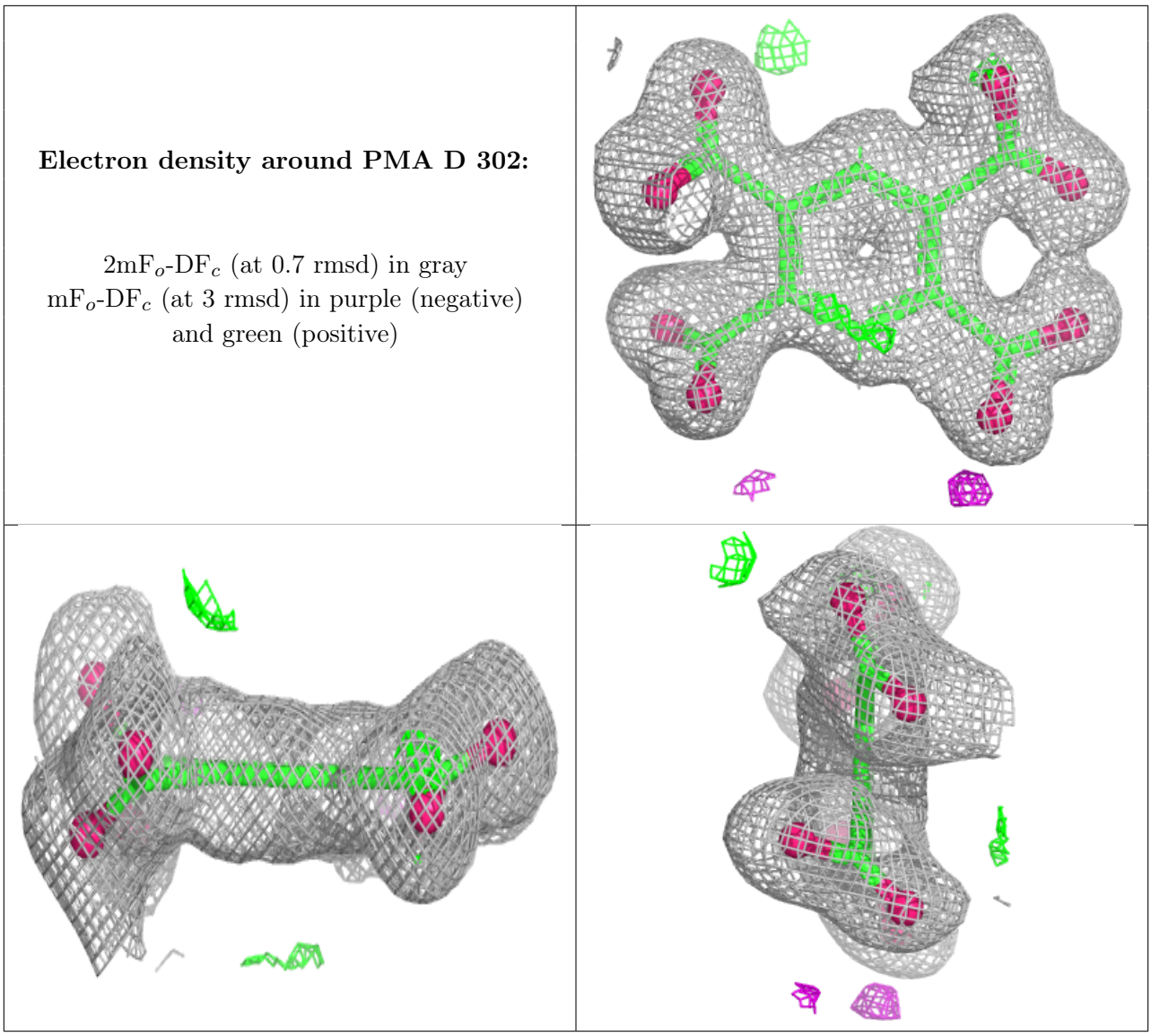






Electron density around PMA D 302:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



6.5 Other polymers (i)

There are no such residues in this entry.