WORLDWIDE PDB
PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Jun 24, 2024 – 11:57 PM EDT

PDB ID	:	6ZOD
Title	:	Fusidic acid binding to the allosteric deep transmembrane domain binding pocket, TM7/TM8 groove, and TM1/TM2 groove of the fully induced AcrB T protomer
Authors	:	Oswald, C.; Tam, H.K.; Pos, K.M.
Deposited on	:	2020-07-07
Resolution	:	2.85 Å(reported)

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

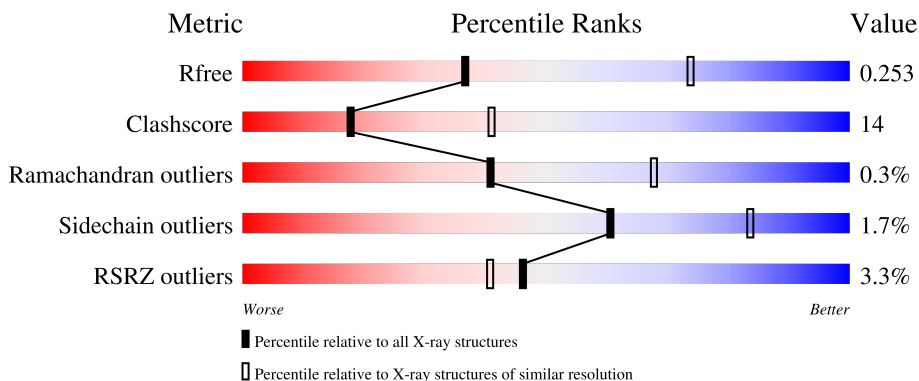|		
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	2.37.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1   Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.85 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.
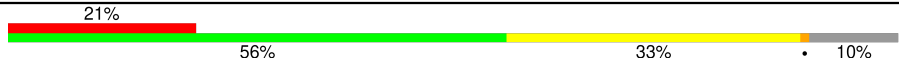
Metric	Percentile Ranks	Value
Rfree		0.253
Clashscore		14
Ramachandran outliers		0.3%
Sidechain outliers		1.7%
RSRZ outliers		3.3%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3168 (2.90-2.82)
Clashscore	141614	3438 (2.90-2.82)
Ramachandran outliers	138981	3348 (2.90-2.82)
Sidechain outliers	138945	3351 (2.90-2.82)
RSRZ outliers	127900	3103 (2.90-2.82)

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	1057	2% / 70% / 28% / ·
1	B	1057	2% / 71% / 25% / · ·
1	C	1057	2% / 71% / 26% / ·
2	D	169	10% / 72% / 18% / · / 9%

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Mol	Chain	Length	Quality of chain
2	E	169	

2 Entry composition ⓘ

There are 14 unique types of molecules in this entry. The entry contains 26706 atoms, of which 126 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 Multidrug efflux pump subunit AcrB.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1033	Total 7849	C 5052	N 1295	O 1458	S 44	0	0	0
1	B	1020	Total 7771	C 5007	N 1280	O 1440	S 44	0	0	0
1	C	1032	Total 7838	C 5043	N 1294	O 1457	S 44	0	0	0

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1050	LEU	-	expression tag	UNP P31224
A	1051	GLU	-	expression tag	UNP P31224
A	1052	HIS	-	expression tag	UNP P31224
A	1053	HIS	-	expression tag	UNP P31224
A	1054	HIS	-	expression tag	UNP P31224
A	1055	HIS	-	expression tag	UNP P31224
A	1056	HIS	-	expression tag	UNP P31224
A	1057	HIS	-	expression tag	UNP P31224
B	1050	LEU	-	expression tag	UNP P31224
B	1051	GLU	-	expression tag	UNP P31224
B	1052	HIS	-	expression tag	UNP P31224
B	1053	HIS	-	expression tag	UNP P31224
B	1054	HIS	-	expression tag	UNP P31224
B	1055	HIS	-	expression tag	UNP P31224
B	1056	HIS	-	expression tag	UNP P31224
B	1057	HIS	-	expression tag	UNP P31224
C	1050	LEU	-	expression tag	UNP P31224
C	1051	GLU	-	expression tag	UNP P31224
C	1052	HIS	-	expression tag	UNP P31224
C	1053	HIS	-	expression tag	UNP P31224
C	1054	HIS	-	expression tag	UNP P31224
C	1055	HIS	-	expression tag	UNP P31224
C	1056	HIS	-	expression tag	UNP P31224

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1057	HIS	-	expression tag	UNP P31224

• Molecule 2 is a protein called DARPIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	D	154	Total 1167	C 736	N 204	O 226	S 1	0	0	0
2	E	152	Total 1150	C 727	N 201	O 221	S 1	0	0	0

• Molecule 3 is DODECYL-BETA-D-MALTOSIDE (three-letter code: LMT) (formula: $C_{24}H_{46}O_{11}$).

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total 35	C 24	O 11	0	0
3	A	1	Total 35	C 24	O 11	0	0
3	A	1	Total 35	C 24	O 11	0	0
3	A	1	Total 35	C 24	O 11	0	0
3	C	1	Total 35	C 24	O 11	0	0
3	C	1	Total 35	C 24	O 11	0	0

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

- Molecule 4 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: $C_2H_6O_2$).

EDO

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total 4	C 2	O 2		0	0
4	A	1	Total 4	C 2	O 2		0	0
4	A	1	Total 10	C 2	H 6	O 2	0	0
4	A	1	Total 10	C 2	H 6	O 2	0	0
4	A	1	Total 10	C 2	H 6	O 2	0	0
4	A	1	Total 10	C 2	H 6	O 2	0	0
4	B	1	Total 4	C 2	O 2		0	0
4	B	1	Total 4	C 2	O 2		0	0
4	B	1	Total 10	C 2	H 6	O 2	0	0
4	B	1	Total 10	C 2	H 6	O 2	0	0

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	B	1	Total 10	C 2	H 6	O 2	0	0
4	C	1	Total 4	C 2	O 2		0	0
4	C	1	Total 4	C 2	O 2		0	0
4	D	1	Total 4	C 2	O 2		0	0
4	D	1	Total 4	C 2	O 2		0	0

- Molecule 5 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).
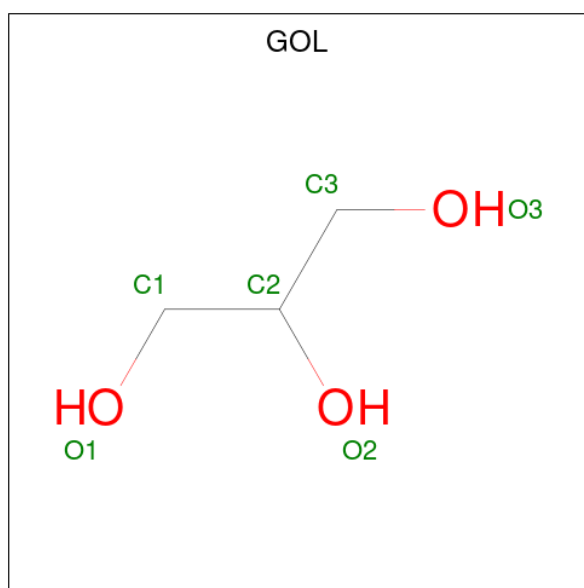
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total 6	C 3	O 3	0	0
5	B	1	Total 6	C 3	O 3	0	0

- Molecule 6 is DECANE (three-letter code: D10) (formula: $C_{10}H_{22}$).

D10
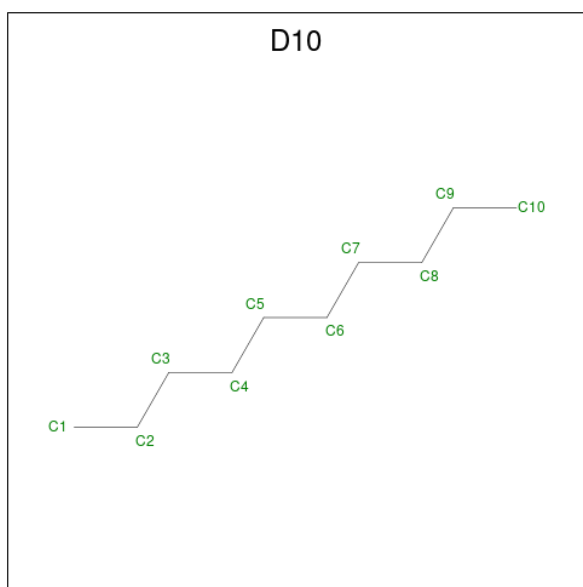
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total 32	C 10	H 22	0	0
6	B	1	Total 32	C 10	H 22	0	0

- Molecule 7 is FUSIDIC ACID (three-letter code: FUA) (formula: $C_{31}H_{48}O_6$) (labeled as "Ligand of Interest" by depositor).
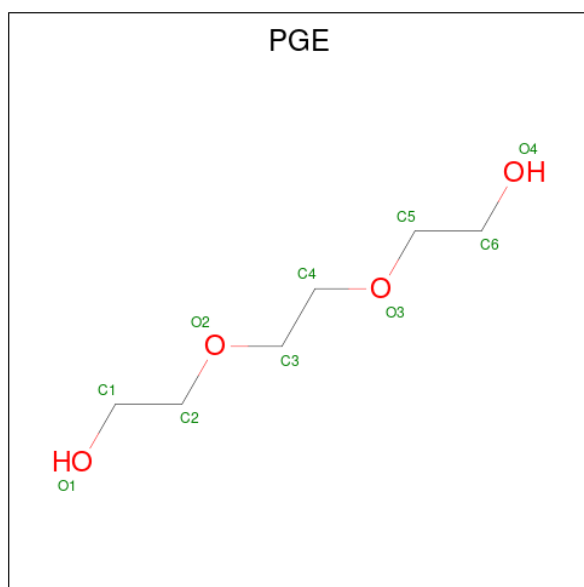

FUA
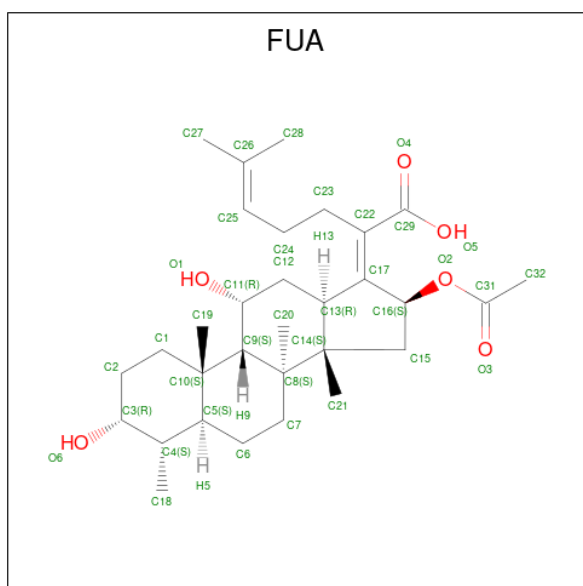
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	A	1	Total 37	C 31	O 6	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	B	1	Total 37	C 31	O 6	0	0
7	B	1	Total 37	C 31	O 6	0	0
7	B	1	Total 37	C 31	O 6	0	0

- Molecule 8 is TRIETHYLENE GLYCOL (three-letter code: PGE) (formula: $C_6H_{14}O_4$).

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
8	B	1	Total 10	C 6	O 4	0	0

- Molecule 9 is Octadecane (three-letter code: 8K6) (formula: $C_{18}H_{38}$).

8K6
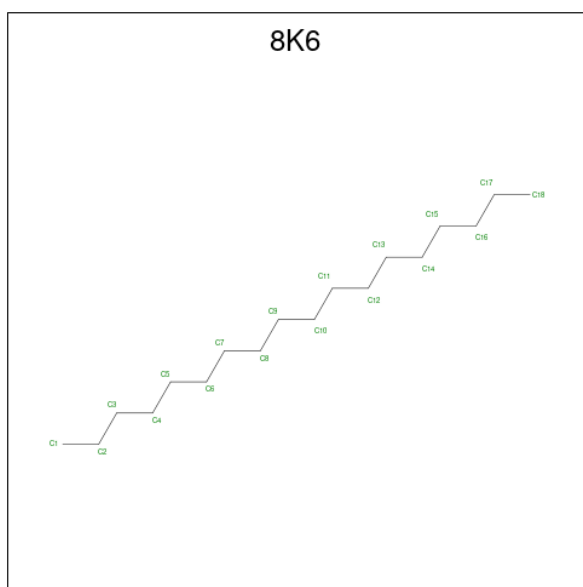
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
9	B	1	Total 18	C 18	0	0

- Molecule 10 is SULFATE ION (three-letter code: SO4) (formula: O_4S).
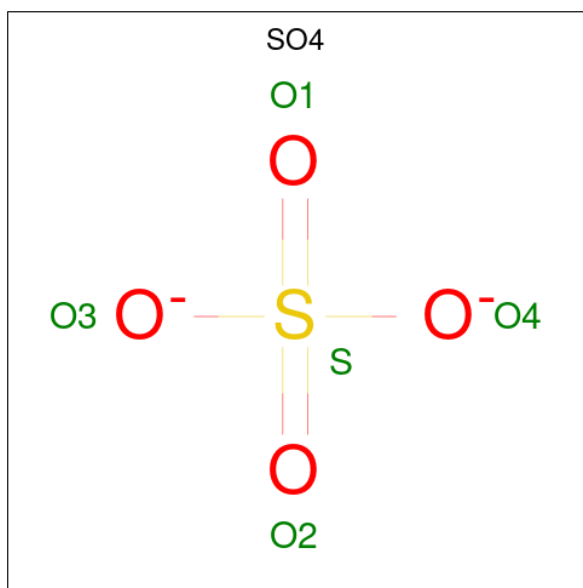
SO4

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
10	B	1	Total 5	O 4	S 1	0	0
10	B	1	Total 5	O 4	S 1	0	0
10	B	1	Total 5	O 4	S 1	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
10	B	1	Total	O	S	0	0
			5	4	1		
10	C	1	Total	O	S	0	0
			5	4	1		

- Molecule 11 is PHOSPHATIDYLETHANOLAMINE (three-letter code: PTY) (formula: $C_{40}H_{80}NO_8P$).

PTY
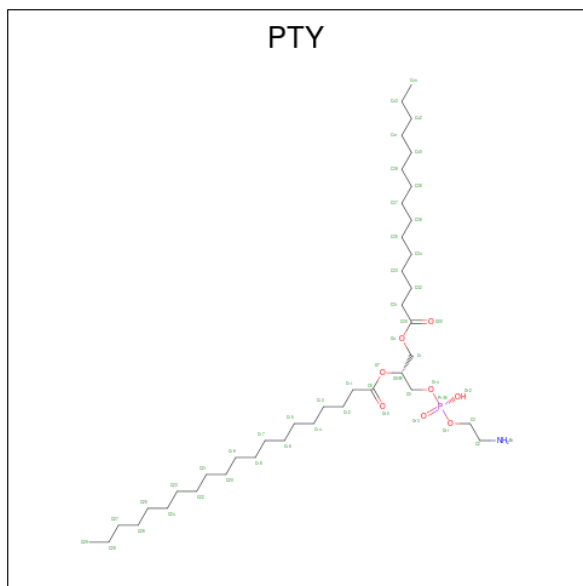
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
11	C	1	Total	C	N	O	P	0	0
			50	40	1	8	1		
11	C	1	Total	C	N	O	P	0	0
			50	40	1	8	1		

- Molecule 12 is DODECANE (three-letter code: D12) (formula: $C_{12}H_{26}$).

D12
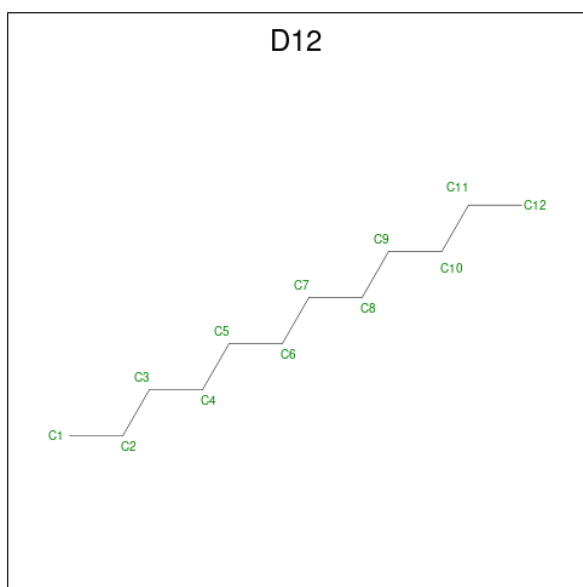
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
12	C	1	Total 38	C 12	H 26	0	0

- Molecule 13 is HEXANE (three-letter code: HEX) (formula: C_6H_{14}).

HEX
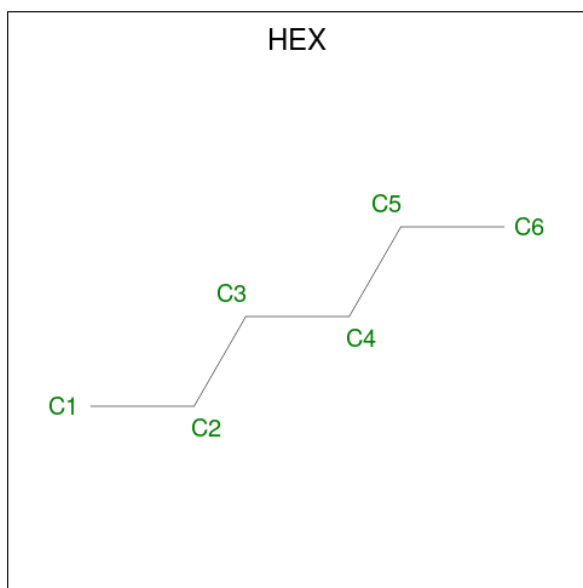
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
13	C	1	Total 20	C 6	H 14	0	0

- Molecule 14 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
14	A	54	Total 54	O 54	0	0
14	B	45	Total 45	O 45	0	0
14	C	45	Total 45	O 45	0	0
14	D	3	Total 3	O 3	0	0
14	E	2	Total 2	O 2	0	0

3 Residue-property plots ⓘ

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: Multidrug efflux pump subunit AcrB

• Molecule 1: Multidrug efflux pump subunit AcrB

• Molecule 1: Multidrug efflux pump subunit AcrB

Chain C:

• Molecule 2: DARPIN

Chain D:

• Molecule 2: DARPIN

Chain E:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	145.99Å 166.13Å 243.68Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.12 – 2.85 49.12 – 2.85	Depositor EDS
% Data completeness (in resolution range)	97.3 (49.12-2.85) 97.4 (49.12-2.85)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.62 (at 2.86Å)	Xtriage
Refinement program	PHENIX 3707	Depositor
R, R_{free}	0.205 , 0.247 0.210 , 0.253	Depositor DCC
R_{free} test set	6708 reflections (4.97%)	wwPDB-VP
Wilson B-factor (Å^2)	69.8	Xtriage
Anisotropy	0.517	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 62.2	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	26706	wwPDB-VP
Average B, all atoms (Å^2)	78.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.05% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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 (i)

5.1   Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: D12, D10, PGE, FUA, 8K6, EDO, LMT, GOL, PTY, SO4, HEX

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	0.32	0/7999	0.50	1/10863 (0.0%)
1	B	0.31	0/7920	0.48	0/10754
1	C	0.34	0/7987	0.50	0/10847
2	D	0.32	0/1186	0.49	0/1613
2	E	0.29	0/1169	0.47	0/1590
All	All	0.32	0/26261	0.49	1/35667 (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	A	881	LEU	CA-CB-CG	5.72	128.46	115.30

There are no chirality outliers.

There are no planarity outliers.

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	A	7849	0	8001	228	0
1	B	7771	0	7925	217	0
1	C	7838	0	7992	209	0
2	D	1167	0	1151	25	0
2	E	1150	0	1139	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	A	140	0	184	18	0
3	C	105	0	138	6	0
4	A	24	24	36	0	0
4	B	20	18	30	2	0
4	C	8	0	12	0	0
4	D	8	0	12	0	0
5	A	6	0	8	1	0
5	B	6	0	8	1	0
6	A	10	22	22	1	0
6	B	10	22	22	0	0
7	A	37	0	47	8	0
7	B	111	0	141	27	0
8	B	10	0	14	1	0
9	B	18	0	38	3	0
10	B	20	0	0	0	0
10	C	5	0	0	0	0
11	C	100	0	158	7	0
12	C	12	26	26	0	0
13	C	6	14	14	0	0
14	A	54	0	0	0	0
14	B	45	0	0	0	0
14	C	45	0	0	0	0
14	D	3	0	0	0	0
14	E	2	0	0	0	0
All	All	26580	126	27118	727	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 14.

All (727) 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:C:356:TYR:HA	1:C:365:THR:HG21	1.41	1.01
3:C:1305:LMT:H3O2	3:C:1305:LMT:H2O1	1.10	0.99
1:A:356:TYR:HA	1:A:365:THR:HG21	1.52	0.90
1:A:376:LEU:HD11	1:A:402:ILE:HD11	1.54	0.89
1:B:1013:THR:HA	1:B:1016:VAL:HG22	1.55	0.88
1:C:671:ILE:HG13	1:C:674:LEU:HD23	1.55	0.87
3:A:1103:LMT:H62	1:B:447:MET:HG3	1.58	0.83
1:C:463:THR:HG21	1:C:869:SER:HB3	1.63	0.80
1:C:544:LEU:HD21	3:C:1306:LMT:H91	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:359:LEU:HB2	1:C:365:THR:HG23	1.63	0.79
1:B:881:LEU:HD21	7:B:1213:FUA:H121	1.64	0.79
1:A:14:VAL:HG13	1:B:886:LEU:HB3	1.64	0.79
7:B:1215:FUA:H122	7:B:1215:FUA:H232	1.66	0.78
1:A:909:VAL:HG22	1:A:931:LEU:HD11	1.64	0.78
1:C:941:ASN:HA	1:C:944:LEU:HD12	1.65	0.78
1:C:876:LEU:HD21	1:C:932:LEU:HD11	1.66	0.77
9:B:1208:8K6:H132	7:B:1214:FUA:H193	1.66	0.77
1:B:669:PRO:HG3	1:B:675:GLY:HA2	1.68	0.76
1:A:445:ILE:HA	1:A:448:VAL:HG12	1.68	0.75
1:B:375:VAL:HG23	1:B:405:LEU:HD13	1.69	0.75
2:E:74:ASN:HD21	2:E:104:ALA:HA	1.52	0.75
3:A:1112:LMT:H6D	1:B:872:GLN:HG2	1.69	0.74
1:A:535:LEU:HD22	1:A:1027:VAL:HG11	1.69	0.73
1:C:528:THR:HG21	1:C:969:ARG:HB2	1.70	0.73
7:B:1214:FUA:H122	7:B:1214:FUA:H232	1.71	0.73
1:B:241:THR:HG22	1:B:763:ILE:HG13	1.71	0.72
1:C:534:ILE:HD11	3:C:1306:LMT:H11	1.71	0.72
1:A:359:LEU:HB2	1:A:365:THR:HG23	1.72	0.72
1:B:404:LEU:HD23	1:B:937:LEU:HD12	1.70	0.72
1:B:429:GLU:HG3	1:B:432:ARG:HH21	1.54	0.71
1:A:418:ARG:HD2	1:A:970:MET:HG2	1.70	0.71
1:B:32:VAL:HG22	1:B:390:ILE:HB	1.72	0.71
2:D:51:LEU:HD11	2:D:63:VAL:HG13	1.72	0.70
1:B:202:ASP:OD2	1:B:792:ARG:NH2	2.24	0.70
1:A:979:SER:HB3	1:A:1015:THR:HG21	1.73	0.69
1:A:343:THR:HG21	1:A:989:LEU:HD21	1.73	0.69
1:A:546:LEU:HD12	1:A:547:ILE:HD13	1.73	0.69
1:A:905:VAL:HG22	1:A:906:PRO:HD3	1.75	0.69
1:A:38:ILE:HD11	1:A:671:ILE:HG21	1.75	0.69
1:C:64:VAL:HG12	1:C:114:ALA:HB1	1.74	0.69
1:C:507:GLU:HG2	1:C:518:ARG:HG2	1.75	0.68
1:A:1:MET:HB2	1:A:2:PRO:HD3	1.75	0.68
1:C:463:THR:HG21	1:C:869:SER:CB	2.23	0.67
1:C:1011:MET:O	1:C:1015:THR:HG22	1.95	0.67
1:A:367:ILE:HB	1:A:368:PRO:HD3	1.77	0.67
1:C:428:LYS:HE3	1:C:432:ARG:HE	1.59	0.67
1:B:669:PRO:HB3	1:B:676:THR:H	1.59	0.66
1:A:446:ALA:HB2	1:A:482:VAL:HG21	1.77	0.66
7:A:1113:FUA:H122	7:A:1113:FUA:H231	1.77	0.66
1:B:313:MET:HB2	1:B:317:PHE:CE1	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:375:VAL:CG2	1:B:405:LEU:HD13	2.25	0.66
1:A:356:TYR:CA	1:A:365:THR:HG21	2.26	0.66
1:C:696:THR:HG22	1:C:825:MET:CE	2.26	0.66
1:C:150:THR:HG23	1:C:153:ASP:H	1.61	0.66
1:A:101:ASP:O	1:A:105:VAL:HG23	1.97	0.65
1:C:1027:VAL:O	1:C:1031:ARG:HG3	1.96	0.65
2:E:50:PRO:HB2	2:E:66:LEU:HD11	1.77	0.65
1:C:528:THR:HG22	1:C:968:VAL:HG23	1.77	0.65
1:B:562:SER:HB3	1:B:565:PRO:HG3	1.79	0.65
1:C:454:VAL:HG22	1:C:455:PRO:HD3	1.77	0.65
1:C:420:MET:HE1	1:C:499:PRO:HA	1.78	0.65
1:B:347:ALA:HA	7:B:1215:FUA:H321	1.78	0.64
2:E:93:LEU:HD11	2:E:131:VAL:HG21	1.79	0.64
1:C:252:LYS:HG2	1:C:260:VAL:HG12	1.80	0.64
1:B:659:LYS:H	1:B:659:LYS:HD3	1.63	0.63
1:C:252:LYS:HG2	1:C:260:VAL:CG1	2.27	0.63
1:A:742:SER:O	1:A:746:ILE:HG13	1.99	0.63
1:B:451:ALA:HB1	1:B:883:VAL:HG23	1.79	0.63
1:C:901:VAL:O	1:C:904:VAL:HG12	1.98	0.63
1:B:74:ASN:HB3	1:B:98:THR:HG21	1.80	0.62
1:C:880:SER:O	1:C:884:VAL:HG12	1.99	0.62
1:A:420:MET:HE2	1:A:500:ILE:H	1.64	0.62
1:A:435:MET:HA	1:A:438:ILE:HD11	1.80	0.62
1:C:692:HIS:O	1:C:696:THR:HG23	1.99	0.62
1:A:983:ILE:HD13	1:A:1012:VAL:HG12	1.82	0.62
1:B:30:LEU:HD13	1:B:384:ALA:HB2	1.81	0.62
1:C:987:MET:HA	1:C:990:VAL:HG22	1.81	0.62
2:D:16:LYS:H	2:D:16:LYS:HD2	1.64	0.62
1:B:549:VAL:O	1:B:552:MET:HG3	1.99	0.61
1:C:2:PRO:O	1:C:6:ILE:HG13	2.01	0.61
1:C:520:PHE:O	1:C:524:THR:HG23	1.99	0.61
1:B:310:LEU:HD22	1:B:323:ILE:HD13	1.81	0.61
1:B:467:TYR:HE1	1:B:925:VAL:HG23	1.66	0.61
1:C:34:GLN:HB2	1:C:333:VAL:HG13	1.81	0.61
1:A:101:ASP:OD1	1:A:131:LYS:HE2	1.99	0.61
1:A:376:LEU:HD11	1:A:402:ILE:CD1	2.28	0.61
1:C:1022:VAL:HG12	1:C:1023:PRO:HD3	1.81	0.61
1:A:363:ARG:HG3	1:A:496:MET:O	2.01	0.61
1:C:986:VAL:HG21	1:C:1008:MET:HB3	1.83	0.61
2:E:61:GLU:O	2:E:65:VAL:HG23	2.01	0.61
1:A:507:GLU:HG2	1:A:518:ARG:HG2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:535:LEU:HD13	1:A:965:LEU:HD21	1.83	0.60
1:B:26:ALA:O	1:B:30:LEU:HB2	2.01	0.60
2:E:153:SER:OG	2:E:161:LEU:HD23	2.01	0.60
1:A:965:LEU:HA	1:A:968:VAL:HG22	1.82	0.60
1:C:372:VAL:HB	1:C:373:PRO:HD3	1.83	0.60
1:A:879:ILE:HA	1:A:882:ILE:HG12	1.82	0.60
1:A:944:LEU:HB3	1:A:971:ARG:HD2	1.83	0.60
1:C:314:GLU:HG2	1:C:317:PHE:CE2	2.36	0.60
1:A:1012:VAL:O	1:A:1016:VAL:HG22	2.01	0.60
1:B:278:ILE:HB	1:B:613:ASN:HB3	1.83	0.60
1:B:595:THR:HG22	1:B:609:VAL:HG11	1.83	0.60
1:B:1012:VAL:O	1:B:1016:VAL:HG13	2.02	0.60
2:E:46:VAL:O	2:E:78:THR:HG23	2.01	0.60
1:A:469:GLN:O	1:A:473:THR:HG22	2.02	0.60
1:C:49:TYR:HE1	1:C:119:PRO:HG2	1.66	0.60
1:A:10:ILE:O	1:A:14:VAL:HG23	2.02	0.60
2:E:129:VAL:HG11	2:E:161:LEU:HD11	1.84	0.60
1:A:18:ILE:HD11	3:A:1103:LMT:H121	1.84	0.59
1:C:142:VAL:HG22	1:C:323:ILE:HD13	1.84	0.59
1:A:979:SER:CB	1:A:1015:THR:HG21	2.32	0.59
1:B:964:THR:O	1:B:968:VAL:HG22	2.02	0.59
1:C:447:MET:SD	1:C:887:CYS:HB3	2.42	0.59
1:C:986:VAL:CG2	1:C:1008:MET:HB3	2.32	0.59
1:A:456:MET:HB3	1:A:467:TYR:HB3	1.84	0.59
1:B:402:ILE:O	1:B:406:VAL:HG13	2.02	0.59
1:B:539:GLY:O	1:B:543:VAL:HG23	2.03	0.59
1:A:843:LEU:O	1:A:847:LEU:HG	2.03	0.59
1:A:543:VAL:O	1:A:547:ILE:HG12	2.02	0.59
1:A:537:SER:O	1:A:539:GLY:N	2.36	0.59
1:A:444:GLY:CA	3:A:1111:LMT:H22	2.33	0.58
1:A:879:ILE:HA	1:A:882:ILE:CG1	2.33	0.58
1:C:48:SER:O	1:C:122:VAL:HG22	2.03	0.58
1:C:365:THR:O	1:C:368:PRO:HD2	2.03	0.58
1:C:378:GLY:O	1:C:382:VAL:HG23	2.03	0.58
1:C:438:ILE:HG22	1:C:971:ARG:HH22	1.69	0.58
2:D:60:LEU:HD11	2:D:98:VAL:HG21	1.85	0.58
1:A:168:ARG:HG2	1:B:69:MET:O	2.04	0.58
1:B:375:VAL:HG11	1:B:481:SER:HA	1.85	0.58
1:A:456:MET:HB2	1:A:471:SER:OG	2.03	0.58
1:A:555:LEU:HD21	1:A:914:LEU:HD23	1.85	0.58
3:A:1101:LMT:H22	7:A:1113:FUA:H272	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:291:ILE:HD13	1:B:306:ILE:HD13	1.84	0.58
1:B:934:THR:OG1	7:B:1215:FUA:H183	2.04	0.58
2:E:114:ILE:HG23	2:E:118:HIS:HB2	1.86	0.58
1:B:30:LEU:HD23	1:B:390:ILE:HG13	1.85	0.58
1:B:251:LEU:HD11	1:B:262:LEU:HA	1.85	0.58
1:C:543:VAL:O	1:C:547:ILE:HG12	2.03	0.58
1:C:961:ILE:HG22	1:C:965:LEU:HD11	1.86	0.58
1:C:376:LEU:HD11	1:C:402:ILE:HD11	1.85	0.58
1:C:989:LEU:HD13	1:C:1003:VAL:HG23	1.85	0.58
1:A:70:ASN:O	1:A:110:LYS:HE3	2.04	0.58
1:A:445:ILE:HA	1:A:448:VAL:CG1	2.32	0.58
1:B:904:VAL:HG22	1:B:1025:PHE:CD2	2.38	0.58
1:A:953:MET:SD	1:A:960:LEU:HD12	2.44	0.58
1:C:1:MET:HB3	1:C:2:PRO:HD3	1.86	0.58
1:C:359:LEU:HB2	1:C:365:THR:CG2	2.33	0.57
1:C:480:LEU:O	1:C:484:VAL:HG23	2.04	0.57
1:C:965:LEU:HA	1:C:968:VAL:HG22	1.86	0.57
1:A:199:THR:OG1	1:A:201:VAL:HG22	2.04	0.57
1:B:102:ILE:O	1:B:106:GLN:HG3	2.04	0.57
1:B:331:PRO:O	1:B:335:ILE:HG12	2.03	0.57
1:C:546:LEU:O	1:C:550:VAL:HG22	2.03	0.57
1:A:444:GLY:HA2	3:A:1111:LMT:H22	1.86	0.57
1:A:699:ARG:HG3	1:A:827:ILE:HD11	1.86	0.57
1:C:365:THR:O	1:C:369:THR:HG23	2.05	0.57
1:A:2:PRO:O	1:A:6:ILE:HG13	2.04	0.57
1:A:445:ILE:HD13	1:A:940:LYS:HG3	1.86	0.57
1:A:973:ARG:O	1:A:977:MET:HG3	2.04	0.57
1:A:662:MET:CE	1:A:664:PHE:HB2	2.35	0.57
1:B:1017:LEU:HD22	1:B:1021:PHE:HE2	1.69	0.57
1:C:545:TYR:HB2	1:C:1021:PHE:HE2	1.70	0.57
1:A:427:PRO:HD3	1:A:499:PRO:HG3	1.87	0.57
1:A:961:ILE:HD11	1:A:1031:ARG:NH1	2.19	0.57
2:E:59:HIS:O	2:E:63:VAL:HG23	2.04	0.57
1:C:151:GLN:HE21	1:C:285:PRO:HB3	1.69	0.56
1:A:358:PHE:CD2	1:A:977:MET:HG2	2.40	0.56
1:A:488:LEU:O	1:A:492:LEU:HG	2.05	0.56
1:A:514:GLY:O	1:A:518:ARG:HG3	2.04	0.56
1:B:158:VAL:CG1	1:B:289:LEU:HD21	2.36	0.56
1:B:412:VAL:HG13	1:B:435:MET:SD	2.46	0.56
1:C:114:ALA:O	1:C:118:LEU:HG	2.05	0.56
1:A:553:ALA:O	1:A:557:VAL:HG22	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:248:LYS:HE2	4:B:1205:EDO:H12	1.88	0.56
1:C:406:VAL:O	1:C:410:ILE:HG13	2.06	0.56
2:E:96:VAL:HG11	2:E:128:ILE:HG23	1.86	0.56
1:A:1015:THR:O	1:A:1019:ILE:HG23	2.05	0.56
1:B:572:PHE:HE1	1:B:631:LEU:HD21	1.70	0.56
1:C:291:ILE:HD13	1:C:306:ILE:HD13	1.86	0.56
1:A:398:MET:O	1:A:402:ILE:HG12	2.06	0.56
1:A:416:VAL:O	1:A:420:MET:HG2	2.06	0.56
1:B:446:ALA:HA	1:B:478:MET:SD	2.46	0.56
1:A:244:GLU:O	1:A:248:LYS:HG3	2.06	0.55
1:B:313:MET:O	1:B:317:PHE:HD1	1.88	0.55
1:C:65:ILE:O	1:C:69:MET:HG2	2.06	0.55
1:B:809:TRP:CD1	2:D:79:LEU:HD12	2.42	0.55
1:B:900:SER:O	1:B:904:VAL:HG23	2.07	0.55
1:B:545:TYR:O	1:B:549:VAL:HG13	2.07	0.55
1:A:600:THR:O	1:A:603:LYS:HG3	2.07	0.55
1:A:1027:VAL:O	1:A:1031:ARG:HB2	2.06	0.55
7:A:1113:FUA:H202	7:A:1113:FUA:H5	1.88	0.55
1:B:658:ILE:HD12	1:B:663:VAL:HG21	1.87	0.55
1:C:111:LEU:HD21	1:C:127:VAL:HG11	1.89	0.55
2:E:127:GLU:O	2:E:130:GLU:HB3	2.07	0.55
1:B:184:MET:HB3	1:B:771:VAL:HG22	1.87	0.55
1:B:414:GLU:HG3	1:B:977:MET:HE1	1.88	0.55
2:E:125:HIS:O	2:E:129:VAL:HG23	2.07	0.55
1:A:934:THR:HG22	1:A:1011:MET:HG2	1.89	0.55
1:A:347:ALA:O	1:A:351:VAL:HG13	2.06	0.55
1:B:313:MET:HB2	1:B:317:PHE:HE1	1.72	0.55
1:C:452:VAL:HG11	1:C:932:LEU:O	2.06	0.55
1:A:359:LEU:HD12	1:A:365:THR:HG22	1.88	0.54
1:B:5:PHE:CE2	1:B:487:ILE:HG12	2.42	0.54
1:B:777:ALA:O	1:B:781:MET:HG2	2.06	0.54
1:C:888:LEU:HD13	1:C:901:VAL:HG21	1.89	0.54
1:A:891:LEU:HA	3:A:1111:LMT:H6E	1.89	0.54
1:B:11:PHE:CD1	1:C:890:ALA:HB1	2.41	0.54
1:B:979:SER:O	1:B:983:ILE:HG13	2.07	0.54
1:A:878:ALA:O	1:A:881:LEU:HG	2.07	0.54
1:B:372:VAL:HB	1:B:373:PRO:HD3	1.88	0.54
1:A:614:GLY:HA2	1:A:621:GLY:O	2.07	0.54
1:B:143:ILE:HD13	1:B:281:PHE:CD2	2.42	0.54
2:D:142:GLN:HB3	2:D:146:GLY:HA2	1.89	0.54
2:E:126:LEU:HD23	2:E:164:ILE:HD12	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:905:VAL:CG2	1:A:906:PRO:HD3	2.38	0.54
1:B:906:PRO:HG3	7:B:1213:FUA:C20	2.37	0.54
2:E:97:GLU:O	2:E:101:LYS:HG3	2.08	0.54
1:A:375:VAL:HB	1:A:405:LEU:HD13	1.88	0.54
1:B:560:PRO:HB2	1:B:922:THR:HG23	1.90	0.54
1:A:960:LEU:O	1:A:964:THR:HG23	2.07	0.54
1:B:241:THR:HG22	1:B:763:ILE:CG1	2.36	0.54
1:B:676:THR:OG1	1:B:677:ALA:N	2.41	0.54
1:B:836:SER:OG	1:B:839:GLU:HG3	2.08	0.54
1:C:453:PHE:CE2	1:C:474:ILE:HG21	2.42	0.54
1:C:888:LEU:HD21	1:C:943:ILE:HD11	1.89	0.54
1:A:535:LEU:HD23	1:A:1027:VAL:HG21	1.89	0.54
1:B:197:GLN:O	1:B:198:LEU:HD23	2.08	0.54
1:B:756:GLY:CA	1:B:774:MET:HG3	2.38	0.54
1:C:818:ARG:NH2	1:C:821:GLY:O	2.34	0.54
1:A:183:ALA:N	1:A:271:GLY:O	2.35	0.54
1:A:509:LYS:O	1:A:514:GLY:HA3	2.08	0.54
1:B:637:ARG:HH12	1:B:643:LYS:HA	1.72	0.54
1:B:881:LEU:CD2	7:B:1213:FUA:H121	2.38	0.54
1:C:183:ALA:N	1:C:271:GLY:O	2.40	0.53
1:C:638:PRO:O	1:C:642:ASN:ND2	2.39	0.53
1:C:888:LEU:CD1	1:C:901:VAL:HG21	2.38	0.53
2:D:29:GLU:HG2	2:D:33:LEU:CD1	2.38	0.53
1:A:925:VAL:O	1:A:929:VAL:HG22	2.08	0.53
1:B:903:LEU:HD23	7:B:1213:FUA:H21	1.91	0.53
1:A:350:LEU:HD22	1:A:984:LEU:CD2	2.39	0.53
1:C:903:LEU:HD12	1:C:1025:PHE:HB3	1.91	0.53
1:A:559:LEU:HD12	1:A:917:THR:HG23	1.91	0.53
1:C:423:GLU:HB2	1:C:425:LEU:HD12	1.90	0.53
1:A:354:VAL:HG11	1:A:981:ALA:HA	1.91	0.53
1:B:603:LYS:HD3	1:B:604:ASN:H	1.73	0.53
3:C:1306:LMT:H5B	3:C:1306:LMT:H6D	1.90	0.53
1:A:116:PRO:HG3	1:C:124:GLN:O	2.09	0.53
1:B:905:VAL:HG22	1:B:906:PRO:HD3	1.91	0.53
1:C:631:LEU:HD11	1:C:644:VAL:HG22	1.89	0.53
1:B:881:LEU:HD21	7:B:1213:FUA:H213	1.91	0.53
2:E:94:GLU:O	2:E:98:VAL:HG23	2.08	0.53
1:A:1024:VAL:O	1:A:1028:VAL:HG12	2.09	0.53
1:C:1023:PRO:O	1:C:1027:VAL:HG22	2.09	0.53
1:A:326:PRO:O	1:A:630:SER:HB2	2.09	0.52
1:A:222:THR:HG22	1:A:224:PRO:HD3	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:544:LEU:O	1:B:548:ILE:HG13	2.10	0.52
2:D:150:PHE:O	2:D:154:ILE:HG12	2.09	0.52
1:A:351:VAL:HA	1:A:354:VAL:HG12	1.91	0.52
1:A:472:ILE:O	1:A:476:SER:OG	2.22	0.52
1:A:987:MET:HA	1:A:990:VAL:HG23	1.91	0.52
1:B:901:VAL:HG13	1:B:942:ALA:HB3	1.91	0.52
1:C:423:GLU:OE1	1:C:425:LEU:HD11	2.09	0.52
3:A:1101:LMT:O2B	3:A:1101:LMT:O3'	2.00	0.52
1:B:669:PRO:CB	1:B:676:THR:H	2.21	0.52
5:B:1202:GOL:O1	5:B:1202:GOL:O3	2.17	0.52
1:C:38:ILE:HG23	1:C:462:SER:HB3	1.92	0.52
1:C:57:VAL:HG21	1:C:86:GLY:HA2	1.90	0.52
1:C:572:PHE:HE1	1:C:631:LEU:HD21	1.75	0.52
2:E:75:ALA:O	2:E:82:THR:HG22	2.09	0.52
1:B:38:ILE:HG23	1:B:465:ALA:HB3	1.92	0.52
1:C:544:LEU:HD21	3:C:1306:LMT:C9	2.38	0.52
2:D:51:LEU:CD1	2:D:63:VAL:HG13	2.38	0.52
1:B:334:LYS:HG2	7:B:1214:FUA:H272	1.91	0.52
1:B:350:LEU:HD12	7:B:1215:FUA:H322	1.91	0.52
1:C:544:LEU:HD23	1:C:1021:PHE:HZ	1.75	0.52
1:C:743:ILE:HD12	1:C:743:ILE:H	1.75	0.52
1:B:313:MET:CB	1:B:317:PHE:HE1	2.22	0.52
1:C:565:PRO:O	1:C:670:ALA:HB2	2.10	0.52
1:A:28:LEU:HD21	7:A:1113:FUA:C1	2.40	0.52
1:A:482:VAL:O	1:A:486:LEU:HD13	2.10	0.52
1:A:968:VAL:HG11	1:A:1023:PRO:HG3	1.92	0.52
2:E:84:LEU:HD11	2:E:96:VAL:HG13	1.92	0.51
1:A:242:SER:OG	1:A:245:GLU:HG3	2.10	0.51
1:A:445:ILE:HG21	1:A:940:LYS:HG3	1.93	0.51
1:A:567:GLU:OE2	1:A:999:ALA:N	2.40	0.51
1:B:36:PRO:HG2	1:B:38:ILE:HD11	1.92	0.51
1:B:401:ALA:O	1:B:405:LEU:HG	2.10	0.51
1:A:355:MET:HE1	1:A:368:PRO:HB2	1.91	0.51
1:A:359:LEU:HB2	1:A:365:THR:CG2	2.39	0.51
1:A:535:LEU:CD1	1:A:965:LEU:HD21	2.41	0.51
1:A:662:MET:HE2	1:A:664:PHE:HB2	1.91	0.51
1:B:215:ALA:HB1	1:C:51:GLY:HA3	1.90	0.51
1:B:553:ALA:O	1:B:557:VAL:HG22	2.10	0.51
1:C:139:VAL:O	1:C:326:PRO:HD2	2.11	0.51
1:A:1021:PHE:O	1:A:1024:VAL:HG22	2.11	0.51
1:B:344:LEU:HD22	1:B:376:LEU:HD23	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:901:VAL:O	1:B:905:VAL:HG13	2.10	0.51
1:C:151:GLN:OE1	1:C:278:ILE:HG23	2.11	0.51
1:C:159:ALA:CB	1:C:181:GLN:HB3	2.40	0.51
1:C:358:PHE:CD1	1:C:977:MET:HB3	2.46	0.51
1:C:684:LEU:O	1:C:824:SER:HA	2.10	0.51
1:B:224:PRO:HA	1:C:781:MET:CE	2.41	0.51
1:A:154:ILE:HG22	1:A:287:SER:HB3	1.93	0.51
1:B:906:PRO:HG3	7:B:1213:FUA:H202	1.92	0.51
2:E:74:ASN:ND2	2:E:104:ALA:HA	2.22	0.51
1:A:435:MET:HA	1:A:438:ILE:CD1	2.41	0.51
1:B:1:MET:HB3	1:B:2:PRO:HD3	1.92	0.51
1:B:971:ARG:O	1:B:975:ILE:HG13	2.10	0.51
7:B:1215:FUA:H232	7:B:1215:FUA:C12	2.38	0.51
1:C:38:ILE:CG2	1:C:462:SER:HB3	2.41	0.51
1:B:158:VAL:HG11	1:B:289:LEU:HD21	1.92	0.51
1:B:603:LYS:HE2	1:B:604:ASN:ND2	2.26	0.51
2:D:29:GLU:O	2:D:33:LEU:HD12	2.11	0.51
1:C:1022:VAL:HA	1:C:1025:PHE:CD2	2.46	0.51
1:A:746:ILE:HD13	1:A:804:PHE:CE2	2.45	0.50
1:B:309:GLU:O	1:B:313:MET:HG3	2.12	0.50
1:C:398:MET:O	1:C:402:ILE:HG12	2.10	0.50
1:C:527:TYR:CE2	1:C:968:VAL:HB	2.46	0.50
1:C:741:VAL:HG23	1:C:746:ILE:HD11	1.93	0.50
1:B:143:ILE:HG21	1:B:281:PHE:HB3	1.93	0.50
1:B:423:GLU:HB2	1:B:425:LEU:HD13	1.92	0.50
1:B:763:ILE:HG13	1:B:763:ILE:O	2.10	0.50
1:C:535:LEU:HD23	1:C:1027:VAL:HG11	1.93	0.50
1:C:696:THR:HG22	1:C:825:MET:HE2	1.93	0.50
1:B:119:PRO:O	1:B:123:GLN:HG3	2.11	0.50
1:A:111:LEU:HD13	1:A:115:MET:HG2	1.92	0.50
1:A:342:LYS:O	1:A:346:GLU:HG3	2.12	0.50
1:A:365:THR:O	1:A:368:PRO:HD2	2.12	0.50
1:B:713:LEU:HG	1:B:843:LEU:HD23	1.92	0.50
7:B:1213:FUA:H232	7:B:1213:FUA:H122	1.93	0.50
1:C:448:VAL:O	1:C:452:VAL:HG23	2.12	0.50
1:A:878:ALA:O	1:A:882:ILE:HG12	2.12	0.50
1:B:83:ASP:OD2	1:B:85:THR:OG1	2.21	0.50
1:C:4:PHE:O	1:C:8:ARG:NH1	2.45	0.50
2:E:148:THR:HG23	2:E:151:ASP:H	1.77	0.50
1:A:563:PHE:O	1:A:924:ASP:HB2	2.12	0.50
1:B:312:LYS:O	1:B:314:GLU:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:441:ALA:O	1:C:445:ILE:HG13	2.12	0.50
2:E:89:HIS:HB2	2:E:119:LEU:HD13	1.94	0.50
1:B:405:LEU:HD22	1:B:481:SER:HB2	1.94	0.50
1:B:619:GLY:HA3	1:B:721:LEU:HD11	1.94	0.50
1:A:29:LYS:CE	3:A:1112:LMT:H1'	2.42	0.49
1:B:466:ILE:HD13	1:B:564:LEU:HD11	1.94	0.49
1:B:546:LEU:HA	1:B:549:VAL:HG22	1.93	0.49
1:C:714:THR:HG23	1:C:830:GLN:HB2	1.93	0.49
1:C:728:LYS:HE3	1:C:810:GLU:OE1	2.12	0.49
2:D:77:ASP:OD1	2:D:80:GLY:N	2.45	0.49
2:E:40:VAL:HG23	2:E:41:ASN:OD1	2.12	0.49
1:A:420:MET:HE1	1:A:499:PRO:HA	1.93	0.49
1:B:435:MET:HE3	1:B:490:PRO:HG3	1.93	0.49
1:C:332:PHE:HA	1:C:335:ILE:HG22	1.94	0.49
1:C:393:LEU:HD13	1:C:466:ILE:HG23	1.94	0.49
1:B:531:VAL:O	1:B:535:LEU:HG	2.12	0.49
1:C:904:VAL:HG11	1:C:942:ALA:HB2	1.93	0.49
2:E:148:THR:OG1	2:E:149:ALA:N	2.45	0.49
1:A:33:ALA:O	1:A:391:ASN:HA	2.12	0.49
1:A:573:MET:CE	1:A:668:LEU:HD21	2.43	0.49
1:A:953:MET:O	1:A:957:GLY:HA2	2.12	0.49
1:B:484:VAL:HG13	1:B:488:LEU:HB3	1.94	0.49
1:B:310:LEU:HB3	1:B:323:ILE:HD12	1.94	0.49
1:B:818:ARG:NH1	1:B:821:GLY:O	2.43	0.49
2:E:126:LEU:HD21	2:E:161:LEU:HB2	1.94	0.49
1:A:8:ARG:HH11	3:A:1103:LMT:H1B	1.78	0.49
1:A:684:LEU:HD23	1:A:695:LEU:HD11	1.94	0.49
1:A:836:SER:HG	1:A:839:GLU:H	1.61	0.49
1:C:966:ASP:O	1:C:970:MET:HG3	2.12	0.49
1:A:545:TYR:HB2	1:A:1021:PHE:HE2	1.76	0.49
1:B:239:ARG:NH1	1:B:761:ASP:HB2	2.28	0.49
1:C:150:THR:O	1:C:154:ILE:HG13	2.13	0.49
1:C:448:VAL:HG11	1:C:943:ILE:HD11	1.94	0.49
1:C:899:PHE:O	1:C:903:LEU:HG	2.12	0.49
1:A:230:LEU:HB3	2:D:45:VAL:CG2	2.44	0.48
1:B:185:ARG:HD3	1:B:272:GLY:O	2.13	0.48
1:B:637:ARG:NH1	1:B:642:ASN:O	2.44	0.48
1:B:167:SER:HB3	1:C:70:ASN:HD22	1.78	0.48
1:A:573:MET:HE2	1:A:668:LEU:HD21	1.95	0.48
1:B:95:GLU:O	1:B:98:THR:HG23	2.13	0.48
1:B:435:MET:HA	1:B:438:ILE:HG12	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1017:LEU:HD22	1:B:1021:PHE:CE2	2.48	0.48
1:C:434:SER:O	1:C:438:ILE:HG12	2.12	0.48
2:E:50:PRO:HB2	2:E:66:LEU:CD1	2.43	0.48
1:B:310:LEU:HD22	1:B:323:ILE:CD1	2.43	0.48
1:B:313:MET:CB	1:B:317:PHE:CE1	2.96	0.48
1:B:936:GLY:O	1:B:940:LYS:HG3	2.13	0.48
1:B:591:LEU:O	1:B:595:THR:HG23	2.13	0.48
1:B:756:GLY:HA2	1:B:774:MET:HG3	1.94	0.48
1:C:506:GLY:O	1:C:509:LYS:HB2	2.12	0.48
1:A:144:ASN:ND2	1:A:149:MET:HG3	2.29	0.48
1:B:404:LEU:CD2	1:B:937:LEU:HD12	2.41	0.48
1:B:203:VAL:O	1:B:207:ILE:HG13	2.14	0.48
1:C:555:LEU:HD12	1:C:910:ILE:HD12	1.94	0.48
1:B:414:GLU:HG3	1:B:977:MET:CE	2.44	0.47
1:C:261:LEU:HD11	2:E:155:ASN:OD1	2.13	0.47
1:A:355:MET:CE	1:A:368:PRO:HB2	2.43	0.47
1:A:359:LEU:HD12	1:A:365:THR:HA	1.96	0.47
1:A:450:SER:O	1:A:454:VAL:HG23	2.14	0.47
1:B:33:ALA:O	1:B:391:ASN:HA	2.15	0.47
1:B:213:GLN:NE2	1:C:121:GLU:OE2	2.46	0.47
1:B:552:MET:HB3	1:B:910:ILE:CD1	2.44	0.47
1:B:614:GLY:HA2	1:B:621:GLY:O	2.14	0.47
1:C:454:VAL:CG2	1:C:455:PRO:HD3	2.43	0.47
1:A:845:GLU:HG2	1:A:857:TYR:CE2	2.50	0.47
1:C:531:VAL:HA	1:C:534:ILE:HB	1.96	0.47
1:C:580:ALA:HB1	1:C:724:THR:HA	1.96	0.47
1:B:63:GLN:O	1:B:67:GLN:HG3	2.15	0.47
1:B:137:LEU:HD11	1:B:299:ALA:HB1	1.96	0.47
7:B:1213:FUA:H202	7:B:1213:FUA:H5	1.97	0.47
1:C:905:VAL:HB	1:C:906:PRO:HD3	1.96	0.47
2:E:112:ASN:HB2	2:E:114:ILE:HD12	1.97	0.47
1:A:57:VAL:CG1	1:A:88:VAL:HG22	2.45	0.47
7:B:1214:FUA:H232	7:B:1214:FUA:C12	2.43	0.47
1:C:667:ASN:OD1	1:C:668:LEU:N	2.48	0.47
2:E:133:LEU:HD11	2:E:165:LEU:HD23	1.97	0.47
1:A:226:LYS:HA	1:A:226:LYS:HD3	1.55	0.47
1:A:370:ILE:O	1:A:374:VAL:HG23	2.14	0.47
1:A:412:VAL:O	1:A:416:VAL:HG23	2.15	0.47
1:A:527:TYR:O	1:A:531:VAL:HG22	2.14	0.47
1:C:453:PHE:O	1:C:456:MET:HG2	2.14	0.47
1:C:941:ASN:ND2	1:C:1015:THR:HB	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:960:LEU:HG	1:C:1027:VAL:HG12	1.97	0.47
1:A:777:ALA:O	1:A:781:MET:HG2	2.14	0.47
1:C:741:VAL:CG2	1:C:746:ILE:HD11	2.45	0.47
1:A:372:VAL:HG21	1:A:406:VAL:HG12	1.97	0.47
1:A:972:LEU:HA	1:A:975:ILE:HG22	1.96	0.47
1:C:1022:VAL:CG1	1:C:1023:PRO:HD3	2.45	0.47
1:A:668:LEU:HD12	1:A:668:LEU:H	1.80	0.47
1:C:545:TYR:HB2	1:C:1021:PHE:CE2	2.49	0.47
1:C:159:ALA:HB3	1:C:181:GLN:HB3	1.97	0.46
1:C:979:SER:O	1:C:983:ILE:HG13	2.15	0.46
1:A:781:MET:HB3	1:C:228:GLN:OE1	2.14	0.46
1:A:27:ILE:HD13	3:A:1101:LMT:H81	1.96	0.46
1:A:580:ALA:HB1	5:A:1105:GOL:H12	1.96	0.46
1:A:714:THR:HG23	1:A:830:GLN:HG3	1.98	0.46
1:A:983:ILE:HG23	1:A:1008:MET:HG3	1.98	0.46
1:B:190:PRO:HB3	1:B:789:TRP:CE3	2.51	0.46
1:C:349:ILE:O	1:C:353:LEU:HG	2.16	0.46
1:C:359:LEU:O	1:C:361:ASN:N	2.43	0.46
1:B:126:GLY:HA3	1:C:116:PRO:HB3	1.96	0.46
1:B:655:PHE:CD1	1:B:658:ILE:HD11	2.50	0.46
2:D:127:GLU:O	2:D:131:VAL:HG23	2.15	0.46
1:A:531:VAL:O	1:A:535:LEU:HD12	2.14	0.46
1:A:891:LEU:HD13	3:A:1111:LMT:H21	1.96	0.46
1:A:946:VAL:HG13	1:A:1026:PHE:CE1	2.51	0.46
1:B:568:ASP:OD2	1:B:643:LYS:HG3	2.15	0.46
2:E:73:VAL:HG13	2:E:74:ASN:HD22	1.80	0.46
1:B:430:ALA:O	1:B:433:LYS:HB3	2.16	0.46
1:A:527:TYR:CE2	1:A:972:LEU:HG	2.50	0.46
1:B:219:LEU:HD21	1:C:783:PRO:HG3	1.98	0.46
1:C:445:ILE:HD11	1:C:944:LEU:HD21	1.98	0.46
1:A:491:ALA:O	1:A:495:THR:HG23	2.16	0.46
1:A:735:LYS:O	1:A:739:LEU:HG	2.16	0.46
1:B:1013:THR:CA	1:B:1016:VAL:HG22	2.37	0.46
1:C:990:VAL:HG12	1:C:1005:THR:OG1	2.16	0.46
1:A:354:VAL:HG11	1:A:981:ALA:CB	2.46	0.45
1:B:76:MET:HG3	1:B:95:GLU:HG2	1.97	0.45
1:B:143:ILE:HG22	1:B:286:ALA:CB	2.46	0.45
1:C:423:GLU:HB2	1:C:425:LEU:CD1	2.47	0.45
2:D:29:GLU:HG2	2:D:33:LEU:HD12	1.98	0.45
1:B:413:VAL:O	1:B:416:VAL:HG12	2.17	0.45
1:B:388:PHE:CE2	1:B:472:ILE:HG21	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:951:ASP:O	1:C:955:LYS:HB2	2.16	0.45
2:D:126:LEU:O	2:D:130:GLU:HG3	2.15	0.45
1:A:423:GLU:OE2	1:A:425:LEU:HD11	2.17	0.45
1:B:27:ILE:HG23	9:B:1208:8K6:H121	1.98	0.45
1:C:189:ASN:O	1:C:193:LEU:HB2	2.16	0.45
2:E:27:ASP:N	2:E:27:ASP:OD2	2.50	0.45
2:E:27:ASP:OD2	2:E:62:ILE:HD11	2.17	0.45
1:A:350:LEU:HD22	1:A:984:LEU:HD23	1.99	0.45
1:A:459:PHE:HB2	1:A:464:GLY:HA2	1.98	0.45
1:A:754:TRP:HZ3	1:C:219:LEU:HD23	1.82	0.45
1:C:342:LYS:O	1:C:346:GLU:HG3	2.17	0.45
1:C:895:TRP:CG	11:C:1303:PTY:H132	2.52	0.45
1:A:404:LEU:HD23	1:A:937:LEU:CD2	2.47	0.45
1:A:401:ALA:O	1:A:405:LEU:HG	2.16	0.45
1:B:70:ASN:O	1:B:110:LYS:HE3	2.17	0.45
1:B:881:LEU:HG	7:B:1213:FUA:H232	1.97	0.45
1:C:103:ALA:O	1:C:107:VAL:HG23	2.17	0.45
1:C:428:LYS:HE3	1:C:432:ARG:HH21	1.82	0.45
1:C:514:GLY:O	1:C:518:ARG:HG3	2.16	0.45
1:C:973:ARG:HB3	1:C:974:PRO:HD3	1.97	0.45
1:A:684:LEU:HD23	1:A:695:LEU:CD1	2.47	0.45
1:B:224:PRO:HA	1:C:781:MET:HE1	1.98	0.45
1:B:615:PHE:CE1	1:B:620:ARG:HD3	2.52	0.45
1:C:444:GLY:O	1:C:448:VAL:HG22	2.17	0.45
1:A:1032:ARG:O	1:A:1032:ARG:HG3	2.17	0.45
1:B:310:LEU:HD13	1:B:323:ILE:HG21	1.98	0.45
1:A:455:PRO:HG2	1:A:880:SER:HB2	1.97	0.45
1:B:347:ALA:HA	7:B:1215:FUA:C32	2.46	0.45
1:A:444:GLY:HA3	3:A:1111:LMT:H22	1.99	0.44
1:B:542:LEU:O	1:B:546:LEU:HD13	2.17	0.44
1:B:555:LEU:HD11	1:B:917:THR:OG1	2.17	0.44
1:C:327:TYR:CD1	1:C:628:PHE:HB3	2.52	0.44
1:A:410:ILE:HD12	1:A:978:THR:HG22	1.98	0.44
1:A:506:GLY:HA3	1:A:517:ASN:ND2	2.33	0.44
1:B:488:LEU:O	1:B:492:LEU:HG	2.17	0.44
2:D:29:GLU:HG2	2:D:33:LEU:HD11	1.99	0.44
1:A:427:PRO:CD	1:A:499:PRO:HG3	2.47	0.44
1:A:982:PHE:O	1:A:986:VAL:HG22	2.17	0.44
1:B:104:GLN:O	1:B:108:GLN:HG2	2.17	0.44
1:C:568:ASP:CG	1:C:644:VAL:HG23	2.38	0.44
1:C:889:ALA:HB2	1:C:898:PRO:HG2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:200:PRO:HG2	1:A:749:THR:HG23	1.99	0.44
3:A:1111:LMT:H3'	3:A:1111:LMT:H6'1	1.98	0.44
1:C:248:LYS:HA	1:C:261:LEU:HD13	1.98	0.44
1:C:897:ILE:HB	1:C:898:PRO:HD3	1.98	0.44
1:C:961:ILE:HG22	1:C:965:LEU:CD1	2.47	0.44
1:A:186:ILE:HB	1:A:773:VAL:HG22	1.98	0.44
1:C:951:ASP:OD2	1:C:955:LYS:HE2	2.16	0.44
1:A:489:THR:OG1	1:A:490:PRO:HD3	2.17	0.44
1:B:448:VAL:O	1:B:452:VAL:HG23	2.18	0.44
1:C:244:GLU:O	1:C:248:LYS:HG2	2.18	0.44
1:B:438:ILE:O	1:B:442:LEU:HG	2.18	0.44
1:B:451:ALA:CB	1:B:883:VAL:HG23	2.45	0.44
1:B:906:PRO:O	1:B:909:VAL:HG12	2.18	0.44
9:B:1208:8K6:H132	7:B:1214:FUA:C19	2.43	0.44
1:C:245:GLU:O	1:C:248:LYS:HG3	2.17	0.44
1:A:27:ILE:HG23	3:A:1101:LMT:H41	2.00	0.44
1:A:379:THR:HA	1:A:382:VAL:HG12	1.99	0.44
1:A:948:PHE:O	1:A:952:LEU:HD13	2.18	0.44
1:B:464:GLY:O	1:B:468:ARG:HG3	2.18	0.44
1:B:545:TYR:CD2	1:B:546:LEU:HD12	2.52	0.44
2:D:60:LEU:CD1	2:D:98:VAL:HG21	2.48	0.44
1:A:247:GLY:HA2	1:A:268:ILE:CD1	2.48	0.44
1:B:219:LEU:HD12	1:C:754:TRP:HZ3	1.82	0.43
1:B:411:VAL:HG22	1:B:971:ARG:HH22	1.83	0.43
1:B:545:TYR:HD2	1:B:546:LEU:HD12	1.83	0.43
1:C:53:ASP:OD1	1:C:53:ASP:N	2.51	0.43
1:C:373:PRO:O	1:C:377:LEU:HG	2.18	0.43
1:A:275:TYR:CD2	1:C:223:PRO:HD3	2.53	0.43
1:A:934:THR:HG22	1:A:1011:MET:SD	2.58	0.43
1:C:31:PRO:HG2	1:C:389:SER:HB3	1.99	0.43
1:C:456:MET:HG3	1:C:467:TYR:HB3	2.00	0.43
1:A:451:ALA:O	1:A:880:SER:HB2	2.18	0.43
7:A:1113:FUA:H231	7:A:1113:FUA:C12	2.46	0.43
1:B:287:SER:OG	1:B:288:GLY:N	2.51	0.43
1:A:8:ARG:NE	3:A:1103:LMT:O3'	2.44	0.43
1:B:398:MET:O	1:B:402:ILE:HG12	2.19	0.43
1:B:485:ALA:HA	1:B:489:THR:OG1	2.19	0.43
1:C:354:VAL:HG11	1:C:981:ALA:HA	1.99	0.43
1:C:739:LEU:HD13	1:C:799:VAL:HG11	2.00	0.43
2:D:30:VAL:O	2:D:34:MET:HG2	2.19	0.43
1:A:180:SER:HB2	1:A:274:ASN:OD1	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:330:THR:OG1	1:A:331:PRO:HD3	2.19	0.43
1:A:1024:VAL:HA	1:A:1027:VAL:HG22	2.00	0.43
1:B:38:ILE:HD12	1:B:466:ILE:HG13	1.99	0.43
1:B:961:ILE:H	1:B:961:ILE:HD12	1.83	0.43
1:B:1032:ARG:HD2	1:B:1032:ARG:HA	1.60	0.43
7:B:1214:FUA:H212	7:B:1214:FUA:H72	1.67	0.43
1:C:33:ALA:O	1:C:391:ASN:HA	2.18	0.43
1:C:775:SER:HG	1:C:789:TRP:HZ2	1.67	0.43
2:D:13:ASP:N	2:D:16:LYS:HZ2	2.15	0.43
1:A:131:LYS:C	1:A:295:THR:HG23	2.38	0.43
1:B:310:LEU:HB3	1:B:323:ILE:CD1	2.48	0.43
1:C:428:LYS:O	1:C:432:ARG:HG3	2.19	0.43
1:A:312:LYS:HE3	4:B:1206:EDO:H22	2.01	0.43
1:A:643:LYS:O	1:A:647:ILE:HG13	2.18	0.43
1:A:662:MET:HE1	1:A:664:PHE:HB2	2.01	0.43
1:B:495:THR:HG21	11:C:1303:PTY:H332	2.00	0.43
1:C:790:TYR:CE2	1:C:800:PRO:HB3	2.54	0.43
1:C:898:PRO:O	1:C:902:MET:HG2	2.18	0.43
11:C:1307:PTY:H191	11:C:1307:PTY:H222	1.84	0.43
1:A:359:LEU:HD12	1:A:365:THR:CG2	2.48	0.43
1:C:376:LEU:HD11	1:C:402:ILE:CD1	2.49	0.43
1:C:1015:THR:O	1:C:1019:ILE:HG23	2.19	0.43
2:E:100:LEU:HD13	2:E:135:TYR:CD2	2.54	0.43
2:E:142:GLN:HB3	2:E:146:GLY:HA2	1.99	0.43
1:A:131:LYS:O	1:A:295:THR:HG23	2.18	0.43
1:A:176:GLN:HG2	1:A:615:PHE:CE1	2.53	0.43
1:A:559:LEU:HD21	1:A:923:ASN:N	2.33	0.43
1:A:961:ILE:O	1:A:965:LEU:HG	2.19	0.43
1:B:343:THR:HG23	7:B:1215:FUA:H16	2.00	0.43
1:B:437:GLN:HB3	1:B:948:PHE:HE1	1.83	0.43
1:B:492:LEU:O	1:B:496:MET:HB2	2.18	0.43
1:B:940:LYS:HB3	1:B:940:LYS:HE3	1.61	0.43
7:B:1215:FUA:H9	7:B:1215:FUA:H213	1.40	0.43
1:A:375:VAL:CG1	1:A:405:LEU:HD13	2.49	0.43
1:B:143:ILE:HG21	1:B:281:PHE:CB	2.48	0.43
1:C:973:ARG:O	1:C:977:MET:HG2	2.19	0.43
1:B:139:VAL:O	1:B:326:PRO:HD2	2.18	0.42
1:B:619:GLY:O	1:B:624:THR:HG21	2.17	0.42
1:B:684:LEU:O	1:B:824:SER:HA	2.19	0.42
1:C:925:VAL:O	1:C:929:VAL:HG23	2.19	0.42
11:C:1303:PTY:H312	11:C:1303:PTY:H342	1.62	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:872:GLN:HG3	1:A:872:GLN:O	2.19	0.42
1:B:57:VAL:CG1	1:B:88:VAL:HB	2.49	0.42
1:B:326:PRO:HG3	1:B:610:PHE:CE2	2.54	0.42
1:B:655:PHE:O	1:B:658:ILE:HG13	2.19	0.42
1:C:49:TYR:CE1	1:C:119:PRO:HG2	2.51	0.42
1:C:1003:VAL:O	1:C:1007:VAL:HG22	2.19	0.42
1:B:435:MET:CE	1:B:490:PRO:HG3	2.49	0.42
2:D:97:GLU:O	2:D:101:LYS:HG3	2.20	0.42
1:A:373:PRO:O	1:A:377:LEU:HD13	2.19	0.42
1:A:426:PRO:HB2	1:A:429:GLU:OE2	2.19	0.42
1:A:684:LEU:O	1:A:824:SER:HA	2.19	0.42
1:C:944:LEU:O	1:C:971:ARG:HG3	2.18	0.42
1:A:174:ASP:HB3	1:A:292:LYS:HB2	2.01	0.42
1:A:230:LEU:HB3	2:D:45:VAL:HG22	2.01	0.42
1:A:372:VAL:HB	1:A:373:PRO:HD3	2.00	0.42
1:B:10:ILE:HG23	1:C:895:TRP:CZ2	2.54	0.42
1:B:312:LYS:O	1:B:315:PRO:HD2	2.19	0.42
1:B:467:TYR:CE1	1:B:925:VAL:HG23	2.50	0.42
1:C:527:TYR:HE2	1:C:968:VAL:HB	1.83	0.42
1:C:708:LYS:C	1:C:710:PRO:HD3	2.40	0.42
2:E:34:MET:HB2	2:E:34:MET:HE2	1.74	0.42
1:A:905:VAL:HG12	1:A:935:ILE:HG23	2.02	0.42
1:B:200:PRO:HD2	1:B:749:THR:HG23	2.02	0.42
1:B:555:LEU:O	1:B:555:LEU:HD12	2.20	0.42
1:B:910:ILE:HG12	1:B:913:LEU:HD12	2.02	0.42
1:C:53:ASP:O	1:C:57:VAL:HG23	2.19	0.42
1:C:892:TYR:CE1	1:C:947:GLU:HG3	2.54	0.42
11:C:1307:PTY:H322	11:C:1307:PTY:H352	1.25	0.42
1:A:1:MET:CE	1:A:439:GLN:HE22	2.33	0.42
1:B:200:PRO:O	1:B:204:ILE:HG13	2.20	0.42
2:E:42:ALA:O	2:E:49:THR:HA	2.19	0.42
2:E:79:LEU:HA	2:E:111:ASP:OD2	2.19	0.42
1:A:274:ASN:HD22	1:A:620:ARG:CZ	2.33	0.42
1:A:276:ASP:O	1:A:614:GLY:HA3	2.20	0.42
1:A:476:SER:HB3	6:A:1107:D10:H81	2.01	0.42
1:A:546:LEU:O	1:A:550:VAL:HG22	2.20	0.42
7:A:1113:FUA:H213	7:A:1113:FUA:H9	1.77	0.42
1:B:157:TYR:CZ	1:B:318:PRO:HD3	2.55	0.42
1:B:361:ASN:HD22	1:B:498:LYS:HD3	1.84	0.42
7:B:1214:FUA:H192	7:B:1214:FUA:H4	1.78	0.42
2:E:127:GLU:C	2:E:130:GLU:HB3	2.39	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:134:SER:O	1:A:292:LYS:HE2	2.20	0.42
1:A:441:ALA:O	1:A:445:ILE:HG13	2.20	0.42
1:A:923:ASN:ND2	1:A:928:GLN:HE21	2.18	0.42
1:B:129:VAL:HB	1:C:112:GLN:HG2	2.01	0.42
1:B:277:ILE:HA	1:B:613:ASN:O	2.20	0.42
3:C:1305:LMT:H81	3:C:1305:LMT:H111	1.44	0.42
1:A:470:PHE:CD2	1:A:929:VAL:HG11	2.55	0.41
1:A:470:PHE:CZ	1:A:929:VAL:HG21	2.55	0.41
1:A:764:ASP:HB3	1:A:769:LYS:HD2	2.01	0.41
1:A:880:SER:O	1:A:884:VAL:HG23	2.19	0.41
1:C:944:LEU:HD13	1:C:975:ILE:HG12	2.02	0.41
2:D:89:HIS:HB3	2:D:90:PHE:CD2	2.55	0.41
2:D:164:ILE:HG22	2:D:165:LEU:HD23	2.01	0.41
1:C:104:GLN:HE21	1:C:104:GLN:HB3	1.68	0.41
1:C:388:PHE:CE2	1:C:472:ILE:HD12	2.54	0.41
1:C:555:LEU:HD12	1:C:910:ILE:CD1	2.50	0.41
1:B:354:VAL:HG13	1:B:980:LEU:HD23	2.03	0.41
7:B:1213:FUA:H72	7:B:1213:FUA:H212	1.79	0.41
1:C:252:LYS:HG2	1:C:260:VAL:HG11	2.02	0.41
1:C:455:PRO:HA	11:C:1307:PTY:H152	2.01	0.41
1:A:363:ARG:HB2	1:A:496:MET:HE3	2.01	0.41
1:A:459:PHE:HB3	1:A:463:THR:HG23	2.03	0.41
1:A:951:ASP:O	1:A:955:LYS:N	2.39	0.41
1:A:1008:MET:O	1:A:1012:VAL:HG13	2.21	0.41
3:A:1103:LMT:H1B	3:A:1103:LMT:O3'	2.19	0.41
1:B:200:PRO:CD	1:B:749:THR:HG23	2.50	0.41
1:C:924:ASP:O	1:C:928:GLN:HG3	2.20	0.41
1:A:923:ASN:HD21	1:A:928:GLN:HE21	1.69	0.41
1:A:972:LEU:HA	1:A:972:LEU:HD22	1.66	0.41
7:A:1113:FUA:H212	7:A:1113:FUA:H72	1.88	0.41
1:B:575:MET:HE1	1:B:662:MET:SD	2.60	0.41
1:B:776:GLU:HB2	1:B:779:TYR:HD2	1.85	0.41
1:B:880:SER:O	1:B:884:VAL:HG23	2.21	0.41
1:C:154:ILE:O	1:C:158:VAL:HG23	2.20	0.41
1:C:391:ASN:O	1:C:395:MET:HG2	2.20	0.41
1:A:137:LEU:HD11	1:A:299:ALA:HB1	2.03	0.41
1:A:842:GLU:O	1:A:846:GLN:HG3	2.21	0.41
1:B:215:ALA:CB	1:C:51:GLY:HA3	2.51	0.41
1:C:226:LYS:HB2	1:C:226:LYS:HE3	1.69	0.41
1:C:535:LEU:CD2	1:C:1027:VAL:HG11	2.51	0.41
1:A:281:PHE:O	1:A:284:GLN:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:60:LEU:HD11	2:E:98:VAL:HG21	2.03	0.41
2:E:89:HIS:ND1	2:E:119:LEU:HB3	2.36	0.41
2:E:127:GLU:O	2:E:131:VAL:HG23	2.20	0.41
3:A:1111:LMT:O1B	3:A:1111:LMT:O6'	2.31	0.41
1:B:498:LYS:HB2	1:B:498:LYS:HE2	1.79	0.41
1:C:343:THR:HG23	1:C:988:PRO:HB2	2.02	0.41
1:C:420:MET:HB3	1:C:500:ILE:HB	2.03	0.41
11:C:1307:PTY:H261	11:C:1307:PTY:H232	1.69	0.41
2:D:93:LEU:O	2:D:97:GLU:HG3	2.21	0.41
1:A:213:GLN:HG3	1:B:56:THR:HG23	2.03	0.41
1:A:470:PHE:CG	1:A:929:VAL:HG11	2.55	0.41
1:B:214:VAL:HB	1:B:237:GLN:H	1.85	0.41
1:B:775:SER:HB2	1:B:789:TRP:CZ2	2.55	0.41
1:B:881:LEU:HD21	7:B:1213:FUA:C21	2.51	0.41
1:B:914:LEU:HD13	1:B:918:PHE:CE2	2.55	0.41
1:B:980:LEU:HG	1:B:984:LEU:CD1	2.51	0.41
1:B:1013:THR:O	1:B:1017:LEU:HG	2.21	0.41
1:C:211:ASN:O	1:C:239:ARG:NH1	2.54	0.41
1:C:293:LEU:HD11	1:C:297:ALA:HB3	2.02	0.41
1:C:404:LEU:HD21	1:C:937:LEU:CD2	2.51	0.41
1:C:762:PHE:CE2	1:C:764:ASP:HB2	2.55	0.41
1:A:729:ILE:HG23	1:A:729:ILE:O	2.21	0.41
1:A:911:GLY:HA3	1:A:1013:THR:HG21	2.02	0.41
7:A:1113:FUA:H203	7:A:1113:FUA:H151	1.76	0.41
1:B:348:ILE:HD12	1:B:349:ILE:N	2.36	0.41
1:B:617:PHE:CE2	8:B:1204:PGE:H1	2.56	0.41
7:B:1214:FUA:H213	7:B:1214:FUA:H9	1.90	0.41
1:C:360:GLN:OE1	1:C:513:PHE:HB3	2.21	0.41
2:D:161:LEU:O	2:D:165:LEU:HG	2.21	0.41
1:A:372:VAL:CG2	1:A:406:VAL:HG12	2.51	0.40
1:A:452:VAL:HG12	1:A:932:LEU:HD22	2.04	0.40
1:A:455:PRO:HG2	1:A:880:SER:CB	2.51	0.40
1:A:934:THR:CG2	1:A:1011:MET:HG2	2.51	0.40
1:B:313:MET:O	1:B:317:PHE:CD1	2.72	0.40
1:B:1029:VAL:O	1:B:1033:PHE:HD2	2.04	0.40
1:C:485:ALA:O	1:C:490:PRO:HD3	2.21	0.40
1:C:777:ALA:O	1:C:781:MET:HG2	2.21	0.40
1:A:6:ILE:HG23	1:A:494:ALA:CB	2.51	0.40
1:B:190:PRO:HB3	1:B:789:TRP:CD2	2.56	0.40
1:B:809:TRP:HE1	2:D:78:THR:HB	1.86	0.40
1:C:56:THR:O	1:C:60:THR:HG23	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:310:LEU:O	1:C:314:GLU:HG3	2.21	0.40
1:C:492:LEU:HA	1:C:495:THR:OG1	2.22	0.40
1:C:696:THR:HG22	1:C:825:MET:HE1	2.01	0.40
1:C:703:LEU:HD11	1:C:718:PRO:HG3	2.01	0.40
1:A:348:ILE:O	1:A:351:VAL:HG22	2.21	0.40
1:A:675:GLY:HA2	1:A:862:MET:SD	2.61	0.40
1:B:563:PHE:CE1	1:B:925:VAL:HB	2.57	0.40
1:B:905:VAL:CG2	1:B:906:PRO:HD3	2.51	0.40
1:C:414:GLU:OE2	1:C:974:PRO:HG3	2.20	0.40
1:C:644:VAL:O	1:C:648:THR:HG23	2.22	0.40
2:E:114:ILE:HG23	2:E:118:HIS:CB	2.51	0.40
1:A:287:SER:OG	1:A:288:GLY:N	2.55	0.40
1:A:303:ALA:O	1:A:307:ARG:HG3	2.22	0.40
1:B:684:LEU:HD11	1:B:851:LEU:HD13	2.04	0.40
1:C:945:ILE:HG13	1:C:975:ILE:HD11	2.03	0.40
1:A:354:VAL:HG11	1:A:981:ALA:HB2	2.03	0.40
1:A:528:THR:HA	1:A:531:VAL:HG22	2.04	0.40
1:A:987:MET:HA	1:A:990:VAL:CG2	2.51	0.40
1:B:317:PHE:HA	1:B:318:PRO:HD3	1.96	0.40
1:B:776:GLU:O	1:B:780:ARG:HG2	2.21	0.40
1:C:1024:VAL:O	1:C:1028:VAL:HG23	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	1031/1057 (98%)	996 (97%)	30 (3%)	5 (0%)	29	57
1	B	1016/1057 (96%)	988 (97%)	24 (2%)	4 (0%)	34	62
1	C	1030/1057 (97%)	1002 (97%)	28 (3%)	0	100	100
2	D	152/169 (90%)	147 (97%)	5 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	E	150/169 (89%)	142 (95%)	8 (5%)	0	100	100
All	All	3379/3509 (96%)	3275 (97%)	95 (3%)	9 (0%)	41	68

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	538	THR
1	A	869	SER
1	B	313	MET
1	B	216	ALA
1	A	677	ALA
1	B	676	THR
1	A	461	GLY
1	B	603	LYS
1	A	126	GLY

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	839/863 (97%)	827 (99%)	12 (1%)	67	86
1	B	832/863 (96%)	814 (98%)	18 (2%)	52	79
1	C	838/863 (97%)	828 (99%)	10 (1%)	71	89
2	D	119/132 (90%)	117 (98%)	2 (2%)	60	83
2	E	117/132 (89%)	113 (97%)	4 (3%)	37	67
All	All	2745/2853 (96%)	2699 (98%)	46 (2%)	60	83

All (46) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	11	PHE
1	A	80	SER
1	A	89	GLN

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Mol	Chain	Res	Type
1	A	128	SER
1	A	510	LYS
1	A	519	MET
1	A	522	LYS
1	A	659	LYS
1	A	757	SER
1	A	815	ARG
1	A	869	SER
1	A	972	LEU
1	B	49	TYR
1	B	79	SER
1	B	128	SER
1	B	239	ARG
1	B	263	ARG
1	B	317	PHE
1	B	334	LYS
1	B	428	LYS
1	B	522	LYS
1	B	552	MET
1	B	575	MET
1	B	603	LYS
1	B	610	PHE
1	B	636	ASP
1	B	653	ARG
1	B	659	LYS
1	B	938	SER
1	B	1032	ARG
1	C	11	PHE
1	C	83	ASP
1	C	104	GLN
1	C	125	GLN
1	C	170	SER
1	C	180	SER
1	C	433	LYS
1	C	510	LYS
1	C	717	ARG
1	C	1032	ARG
2	D	16	LYS
2	D	57	TRP
2	E	27	ASP
2	E	76	TYR
2	E	81	SER

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Mol	Chain	Res	Type
2	E	148	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	109	ASN
1	A	439	GLN
1	A	923	ASN
1	B	604	ASN
1	C	104	GLN
1	C	697	GLN
1	C	726	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

41 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
9	8K6	B	1208	-	17,17,17	0.14	0	16,16,16	0.10	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
4	EDO	A	1110	-	3,3,3	0.46	0	2,2,2	0.45	0
4	EDO	A	1106	-	3,3,3	0.48	0	2,2,2	0.46	0
7	FUA	B	1213	-	39,40,40	1.29	2 (5%)	50,64,64	1.99	13 (26%)
10	SO4	B	1209	-	4,4,4	0.24	0	6,6,6	0.12	0
6	D10	A	1107	-	9,9,9	0.10	0	8,8,8	0.38	0
10	SO4	B	1212	-	4,4,4	0.28	0	6,6,6	0.17	0
3	LMT	C	1306	-	36,36,36	0.42	0	47,47,47	0.74	0
3	LMT	A	1101	-	36,36,36	0.40	0	47,47,47	1.39	7 (14%)
5	GOL	A	1105	-	5,5,5	1.03	0	5,5,5	0.88	0
6	D10	B	1207	-	9,9,9	0.13	0	8,8,8	0.26	0
4	EDO	D	202	-	3,3,3	0.49	0	2,2,2	0.20	0
4	EDO	B	1205	-	3,3,3	0.44	0	2,2,2	0.44	0
4	EDO	A	1108	-	3,3,3	0.48	0	2,2,2	0.34	0
11	PTY	C	1307	-	49,49,49	0.95	2 (4%)	52,54,54	1.03	3 (5%)
10	SO4	B	1210	-	4,4,4	0.26	0	6,6,6	0.07	0
5	GOL	B	1202	-	5,5,5	0.91	0	5,5,5	1.13	0
4	EDO	A	1109	-	3,3,3	0.48	0	2,2,2	0.31	0
8	PGE	B	1204	-	9,9,9	0.33	0	8,8,8	0.25	0
4	EDO	B	1203	-	3,3,3	0.43	0	2,2,2	0.41	0
3	LMT	A	1103	-	36,36,36	0.48	1 (2%)	47,47,47	0.96	1 (2%)
7	FUA	B	1214	-	39,40,40	1.24	3 (7%)	50,64,64	1.91	8 (16%)
4	EDO	C	1301	-	3,3,3	0.46	0	2,2,2	0.25	0
4	EDO	A	1102	-	3,3,3	0.49	0	2,2,2	0.32	0
4	EDO	A	1104	-	3,3,3	0.43	0	2,2,2	0.45	0
3	LMT	C	1302	-	36,36,36	0.48	0	47,47,47	1.06	4 (8%)
4	EDO	D	201	-	3,3,3	0.41	0	2,2,2	0.50	0
13	HEX	C	1309	-	5,5,5	0.14	0	4,4,4	0.33	0
3	LMT	C	1305	-	36,36,36	0.45	0	47,47,47	0.78	1 (2%)
11	PTY	C	1303	-	49,49,49	0.93	2 (4%)	52,54,54	1.04	4 (7%)
3	LMT	A	1111	-	36,36,36	0.51	0	47,47,47	1.16	5 (10%)
7	FUA	B	1215	-	39,40,40	1.35	4 (10%)	50,64,64	2.13	12 (24%)
4	EDO	B	1216	-	3,3,3	0.47	0	2,2,2	0.47	0
12	D12	C	1308	-	11,11,11	0.23	0	10,10,10	0.64	0
10	SO4	C	1310	-	4,4,4	0.25	0	6,6,6	0.10	0
4	EDO	C	1304	-	3,3,3	0.47	0	2,2,2	0.35	0
3	LMT	A	1112	-	36,36,36	0.52	0	47,47,47	1.15	5 (10%)
7	FUA	A	1113	-	39,40,40	1.28	2 (5%)	50,64,64	1.79	9 (18%)
4	EDO	B	1206	-	3,3,3	0.49	0	2,2,2	0.38	0
4	EDO	B	1201	-	3,3,3	0.44	0	2,2,2	0.41	0
10	SO4	B	1211	-	4,4,4	0.26	0	6,6,6	0.08	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
9	8K6	B	1208	-	-	4/15/15/15	-
4	EDO	A	1110	-	-	0/1/1/1	-
4	EDO	A	1106	-	-	1/1/1/1	-
7	FUA	B	1213	-	-	4/16/92/92	0/4/4/4
6	D10	A	1107	-	-	2/7/7/7	-
3	LMT	C	1306	-	-	9/21/61/61	0/2/2/2
3	LMT	A	1101	-	-	12/21/61/61	0/2/2/2
5	GOL	A	1105	-	-	0/4/4/4	-
6	D10	B	1207	-	-	0/7/7/7	-
4	EDO	D	202	-	-	0/1/1/1	-
4	EDO	B	1205	-	-	0/1/1/1	-
4	EDO	A	1108	-	-	0/1/1/1	-
11	PTY	C	1307	-	-	29/53/53/53	-
5	GOL	B	1202	-	-	2/4/4/4	-
4	EDO	A	1109	-	-	0/1/1/1	-
8	PGE	B	1204	-	-	2/7/7/7	-
4	EDO	B	1203	-	-	1/1/1/1	-
3	LMT	A	1103	-	-	8/21/61/61	0/2/2/2
7	FUA	B	1214	-	-	6/16/92/92	0/4/4/4
4	EDO	C	1301	-	-	0/1/1/1	-
4	EDO	A	1102	-	-	0/1/1/1	-
4	EDO	A	1104	-	-	0/1/1/1	-
3	LMT	C	1302	-	-	6/21/61/61	0/2/2/2
4	EDO	D	201	-	-	0/1/1/1	-
13	HEX	C	1309	-	-	1/3/3/3	-
3	LMT	C	1305	-	-	10/21/61/61	0/2/2/2
11	PTY	C	1303	-	-	19/53/53/53	-
3	LMT	A	1111	-	-	14/21/61/61	0/2/2/2
7	FUA	B	1215	-	-	5/16/92/92	0/4/4/4
4	EDO	B	1216	-	-	1/1/1/1	-
12	D12	C	1308	-	-	4/9/9/9	-
4	EDO	C	1304	-	-	0/1/1/1	-
3	LMT	A	1112	-	-	5/21/61/61	0/2/2/2
7	FUA	A	1113	-	-	6/16/92/92	0/4/4/4
4	EDO	B	1206	-	-	0/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	EDO	B	1201	-	-	0/1/1/1	-

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	B	1214	FUA	O2-C31	5.29	1.46	1.35
7	A	1113	FUA	O2-C31	5.12	1.46	1.35
7	B	1215	FUA	O2-C31	5.06	1.46	1.35
7	B	1213	FUA	O2-C31	4.98	1.46	1.35
11	C	1307	PTY	O4-C30	4.33	1.46	1.33
11	C	1303	PTY	O4-C30	4.29	1.45	1.33
7	B	1215	FUA	C14-C8	-4.15	1.52	1.59
11	C	1307	PTY	O7-C8	4.15	1.46	1.34
7	B	1213	FUA	C14-C8	-4.11	1.52	1.59
11	C	1303	PTY	O7-C8	3.95	1.45	1.34
7	A	1113	FUA	C14-C8	-3.85	1.52	1.59
7	B	1214	FUA	C14-C8	-2.84	1.54	1.59
7	B	1215	FUA	C10-C9	-2.52	1.53	1.57
7	B	1215	FUA	C10-C5	-2.29	1.52	1.56
7	B	1214	FUA	C10-C5	-2.13	1.52	1.56
3	A	1103	LMT	O1'-C1'	2.01	1.43	1.40

All (72) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	B	1215	FUA	C21-C14-C8	-6.22	107.07	112.23
7	B	1214	FUA	O2-C31-C32	5.57	121.03	111.09
7	A	1113	FUA	O2-C31-C32	5.48	120.86	111.09
7	B	1214	FUA	C21-C14-C8	-5.38	107.77	112.23
7	B	1213	FUA	C16-O2-C31	-5.35	109.06	117.00
7	B	1213	FUA	O2-C31-C32	5.19	120.35	111.09
7	B	1215	FUA	C14-C8-C9	-4.94	100.62	109.30
7	A	1113	FUA	C20-C8-C14	-4.89	104.04	110.83
7	B	1215	FUA	C19-C10-C9	-4.89	101.08	113.19
7	B	1214	FUA	C10-C5-C4	-4.60	107.62	113.20
7	B	1213	FUA	C21-C14-C8	-4.55	108.46	112.23
7	B	1214	FUA	C13-C12-C11	-4.47	105.41	111.90
3	A	1101	LMT	C3'-C4'-C5'	-4.24	101.53	110.93
7	B	1215	FUA	O2-C31-C32	4.14	118.47	111.09
7	A	1113	FUA	C13-C12-C11	-4.11	105.94	111.90
11	C	1303	PTY	O7-C8-C11	4.02	120.18	111.48
7	B	1213	FUA	C24-C23-C22	-3.95	104.30	112.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	B	1214	FUA	C19-C10-C9	-3.79	103.79	113.19
7	B	1215	FUA	C12-C11-C9	-3.71	103.44	112.30
7	B	1215	FUA	C13-C12-C11	-3.64	106.61	111.90
7	A	1113	FUA	C21-C14-C8	-3.55	109.29	112.23
11	C	1307	PTY	O7-C8-C11	3.47	118.99	111.48
7	B	1213	FUA	C20-C8-C14	-3.46	106.02	110.83
3	A	1111	LMT	O5'-C1'-C2'	3.46	117.47	110.37
3	A	1112	LMT	C1B-C2B-C3B	3.43	117.24	110.01
3	A	1111	LMT	C1'-C2'-C3'	3.32	116.99	110.01
7	B	1215	FUA	C18-C4-C5	-3.20	107.77	112.95
3	A	1101	LMT	C1B-O5B-C5B	-3.14	107.58	113.72
11	C	1303	PTY	C6-O7-C8	-3.10	110.37	117.80
3	C	1302	LMT	O1'-C1'-C2'	3.09	112.97	108.27
11	C	1307	PTY	O4-C30-C31	3.02	121.05	111.83
7	B	1214	FUA	C1-C10-C9	2.98	115.85	109.16
7	A	1113	FUA	O2-C31-O3	-2.90	117.40	122.99
7	B	1215	FUA	C8-C9-C11	2.89	116.92	110.65
7	B	1214	FUA	O2-C31-O3	-2.89	117.42	122.99
7	B	1213	FUA	C24-C25-C26	-2.86	118.11	127.64
7	B	1215	FUA	C16-O2-C31	-2.74	112.93	117.00
7	B	1215	FUA	C8-C9-C10	2.72	119.33	116.42
3	A	1101	LMT	C1-O1'-C1'	-2.68	109.10	113.68
7	B	1213	FUA	O2-C31-O3	-2.67	117.84	122.99
7	A	1113	FUA	C28-C26-C27	2.67	120.73	114.59
7	B	1214	FUA	C12-C11-C9	-2.57	106.14	112.30
3	A	1111	LMT	O1B-C4'-C3'	2.56	113.75	107.23
3	A	1101	LMT	O2B-C2B-C3B	-2.56	104.35	110.38
7	B	1213	FUA	C14-C8-C9	-2.53	104.86	109.30
7	B	1213	FUA	O2-C16-C17	2.47	115.55	108.30
7	B	1213	FUA	C13-C12-C11	-2.46	108.33	111.90
7	B	1215	FUA	C7-C8-C9	2.43	114.42	108.91
3	A	1112	LMT	C1B-O1B-C4'	-2.42	112.23	117.98
11	C	1307	PTY	C6-O7-C8	-2.42	112.00	117.80
3	A	1112	LMT	C4B-C3B-C2B	2.41	115.07	110.83
3	C	1305	LMT	C1B-O1B-C4'	-2.41	112.27	117.98
3	A	1112	LMT	O5B-C5B-C4B	-2.40	105.37	109.70
11	C	1303	PTY	O4-C30-C31	2.34	118.96	111.83
3	C	1302	LMT	C1-O1'-C1'	-2.32	109.71	113.68
7	B	1215	FUA	C28-C26-C27	2.31	119.90	114.59
7	B	1213	FUA	C6-C5-C4	-2.26	110.75	114.27
3	C	1302	LMT	C1B-O1B-C4'	-2.23	112.70	117.98
7	B	1213	FUA	C19-C10-C9	-2.22	107.70	113.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A	1113	FUA	C12-C11-C9	-2.21	107.00	112.30
7	B	1213	FUA	C28-C26-C27	2.21	119.67	114.59
7	A	1113	FUA	C19-C10-C9	-2.20	107.73	113.19
3	A	1101	LMT	O5B-C5B-C6B	2.18	111.85	106.44
3	A	1101	LMT	O1B-C4'-C5'	2.15	115.11	109.48
7	A	1113	FUA	C19-C10-C5	-2.14	108.30	111.18
3	A	1101	LMT	C4B-C3B-C2B	-2.14	107.07	110.83
3	A	1111	LMT	C1-O1'-C1'	-2.11	110.07	113.68
11	C	1303	PTY	O7-C8-O10	-2.11	118.76	123.70
3	A	1112	LMT	C3'-C4'-C5'	-2.11	106.25	110.93
3	A	1103	LMT	C1B-C2B-C3B	-2.06	105.68	110.01
3	C	1302	LMT	C1B-C2B-C3B	2.05	114.33	110.01
3	A	1111	LMT	C1'-O5'-C5'	2.05	117.72	113.72

There are no chirality outliers.

All (151) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	1112	LMT	C2'-C1'-O1'-C1
3	C	1305	LMT	C2-C1-O1'-C1'
7	A	1113	FUA	C17-C22-C23-C24
7	A	1113	FUA	C29-C22-C23-C24
7	A	1113	FUA	C23-C22-C29-O4
7	A	1113	FUA	C23-C22-C29-O5
7	A	1113	FUA	O3-C31-O2-C16
7	B	1213	FUA	C23-C22-C29-O4
7	B	1213	FUA	C23-C22-C29-O5
7	B	1213	FUA	C32-C31-O2-C16
7	B	1214	FUA	C23-C22-C29-O4
7	B	1214	FUA	C23-C22-C29-O5
7	B	1214	FUA	O3-C31-O2-C16
7	B	1215	FUA	C32-C31-O2-C16
11	C	1303	PTY	N1-C2-C3-O11
11	C	1303	PTY	C11-C8-O7-C6
11	C	1303	PTY	C3-O11-P1-O12
11	C	1303	PTY	C3-O11-P1-O14
11	C	1303	PTY	C5-O14-P1-O11
11	C	1303	PTY	C5-O14-P1-O12
11	C	1303	PTY	C5-O14-P1-O13
11	C	1307	PTY	N1-C2-C3-O11
11	C	1307	PTY	C11-C8-O7-C6
11	C	1307	PTY	C5-O14-P1-O11

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Mol	Chain	Res	Type	Atoms
11	C	1307	PTY	C5-O14-P1-O12
3	A	1111	LMT	C3'-C4'-O1B-C1B
7	A	1113	FUA	C32-C31-O2-C16
7	B	1213	FUA	O3-C31-O2-C16
7	B	1214	FUA	C32-C31-O2-C16
7	B	1215	FUA	O3-C31-O2-C16
11	C	1307	PTY	O30-C30-O4-C1
3	A	1101	LMT	O5B-C1B-O1B-C4'
11	C	1307	PTY	C31-C30-O4-C1
3	A	1101	LMT	C2B-C1B-O1B-C4'
11	C	1303	PTY	O10-C8-O7-C6
11	C	1307	PTY	O10-C8-O7-C6
11	C	1303	PTY	C31-C30-O4-C1
3	C	1302	LMT	O5'-C5'-C6'-O6'
3	C	1306	LMT	C4B-C5B-C6B-O6B
3	A	1103	LMT	O5B-C5B-C6B-O6B
3	C	1306	LMT	O5B-C5B-C6B-O6B
3	C	1302	LMT	C4'-C5'-C6'-O6'
3	C	1305	LMT	C1-C2-C3-C4
11	C	1303	PTY	O30-C30-O4-C1
3	C	1305	LMT	C11-C10-C9-C8
3	A	1101	LMT	O5B-C5B-C6B-O6B
11	C	1307	PTY	C32-C33-C34-C35
3	A	1101	LMT	C4B-C5B-C6B-O6B
3	A	1103	LMT	C5'-C4'-O1B-C1B
3	C	1305	LMT	C6-C7-C8-C9
7	B	1214	FUA	C22-C23-C24-C25
11	C	1307	PTY	C8-C11-C12-C13
3	A	1103	LMT	C4B-C5B-C6B-O6B
3	A	1112	LMT	O5'-C1'-O1'-C1
3	A	1103	LMT	C3'-C4'-O1B-C1B
3	A	1101	LMT	O1'-C1-C2-C3
3	C	1302	LMT	O1'-C1-C2-C3
3	A	1111	LMT	O1'-C1-C2-C3
11	C	1307	PTY	C6-C5-O14-P1
5	B	1202	GOL	O1-C1-C2-C3
11	C	1303	PTY	C31-C32-C33-C34
11	C	1307	PTY	C22-C23-C24-C25
11	C	1303	PTY	C13-C14-C15-C16
12	C	1308	D12	C5-C6-C7-C8
3	A	1101	LMT	C2-C1-O1'-C1'
3	C	1302	LMT	C2-C1-O1'-C1'

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Mol	Chain	Res	Type	Atoms
11	C	1303	PTY	C8-C11-C12-C13
3	A	1101	LMT	C6-C7-C8-C9
3	A	1111	LMT	O5'-C5'-C6'-O6'
8	B	1204	PGE	O1-C1-C2-O2
11	C	1303	PTY	C32-C33-C34-C35
11	C	1307	PTY	C24-C25-C26-C27
11	C	1307	PTY	C25-C26-C27-C28
3	A	1112	LMT	O1'-C1-C2-C3
3	A	1103	LMT	C5-C6-C7-C8
3	A	1111	LMT	C5-C6-C7-C8
3	A	1111	LMT	C3-C4-C5-C6
3	C	1302	LMT	O5B-C5B-C6B-O6B
11	C	1307	PTY	C33-C34-C35-C36
11	C	1307	PTY	C39-C40-C41-C42
11	C	1303	PTY	C33-C34-C35-C36
11	C	1307	PTY	C20-C21-C22-C23
7	B	1215	FUA	C22-C23-C24-C25
3	A	1111	LMT	C2-C3-C4-C5
3	C	1306	LMT	C7-C8-C9-C10
3	A	1111	LMT	O5B-C5B-C6B-O6B
3	C	1305	LMT	C4-C5-C6-C7
11	C	1307	PTY	C21-C22-C23-C24
5	B	1202	GOL	O1-C1-C2-O2
3	C	1306	LMT	O5'-C1'-O1'-C1
3	A	1103	LMT	O5'-C5'-C6'-O6'
12	C	1308	D12	C9-C10-C11-C12
11	C	1303	PTY	C11-C12-C13-C14
3	C	1305	LMT	O5'-C5'-C6'-O6'
3	A	1101	LMT	C4-C5-C6-C7
11	C	1307	PTY	C23-C24-C25-C26
9	B	1208	8K6	C10-C11-C12-C13
11	C	1307	PTY	C35-C36-C37-C38
6	A	1107	D10	C3-C4-C5-C6
3	C	1306	LMT	C1-C2-C3-C4
7	B	1215	FUA	C23-C22-C29-O4
7	B	1215	FUA	C23-C22-C29-O5
11	C	1307	PTY	C11-C12-C13-C14
11	C	1303	PTY	C41-C42-C43-C44
11	C	1307	PTY	C17-C18-C19-C20
3	A	1111	LMT	C1-C2-C3-C4
11	C	1307	PTY	C40-C41-C42-C43
11	C	1307	PTY	O4-C1-C6-O7

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Mol	Chain	Res	Type	Atoms
3	C	1302	LMT	C11-C10-C9-C8
11	C	1307	PTY	C19-C20-C21-C22
3	C	1305	LMT	C5-C6-C7-C8
3	C	1305	LMT	C7-C8-C9-C10
11	C	1307	PTY	C41-C42-C43-C44
3	A	1111	LMT	C4-C5-C6-C7
3	A	1103	LMT	C6-C7-C8-C9
3	C	1306	LMT	C4'-C5'-C6'-O6'
11	C	1307	PTY	O4-C1-C6-C5
13	C	1309	HEX	C3-C4-C5-C6
6	A	1107	D10	C2-C3-C4-C5
11	C	1307	PTY	C5-O14-P1-O13
3	A	1111	LMT	C6-C7-C8-C9
3	A	1112	LMT	C11-C10-C9-C8
7	B	1214	FUA	C23-C24-C25-C26
4	A	1106	EDO	O1-C1-C2-O2
11	C	1307	PTY	C31-C32-C33-C34
3	A	1111	LMT	C2-C1-O1'-C1'
3	A	1101	LMT	C3-C4-C5-C6
3	A	1111	LMT	C9-C10-C11-C12
3	A	1101	LMT	C2-C3-C4-C5
3	C	1306	LMT	C2-C3-C4-C5
8	B	1204	PGE	C1-C2-O2-C3
9	B	1208	8K6	C4-C5-C6-C7
3	A	1101	LMT	C1-C2-C3-C4
11	C	1303	PTY	C35-C36-C37-C38
3	A	1111	LMT	C11-C10-C9-C8
9	B	1208	8K6	C5-C6-C7-C8
3	A	1101	LMT	C11-C10-C9-C8
12	C	1308	D12	C4-C5-C6-C7
3	A	1103	LMT	O1'-C1-C2-C3
3	C	1306	LMT	O1'-C1-C2-C3
4	B	1216	EDO	O1-C1-C2-O2
3	C	1305	LMT	C3-C4-C5-C6
3	A	1111	LMT	C7-C8-C9-C10
3	C	1306	LMT	C4-C5-C6-C7
3	A	1112	LMT	C4'-C5'-C6'-O6'
11	C	1307	PTY	C15-C16-C17-C18
3	C	1305	LMT	C9-C10-C11-C12
4	B	1203	EDO	O1-C1-C2-O2
11	C	1303	PTY	C14-C15-C16-C17
12	C	1308	D12	C3-C4-C5-C6

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Mol	Chain	Res	Type	Atoms
9	B	1208	8K6	C3-C4-C5-C6

There are no ring outliers.

19 monomers are involved in 72 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
9	B	1208	8K6	3	0
7	B	1213	FUA	11	0
6	A	1107	D10	1	0
3	C	1306	LMT	4	0
3	A	1101	LMT	4	0
5	A	1105	GOL	1	0
4	B	1205	EDO	1	0
11	C	1307	PTY	4	0
5	B	1202	GOL	1	0
8	B	1204	PGE	1	0
3	A	1103	LMT	5	0
7	B	1214	FUA	8	0
3	C	1305	LMT	2	0
11	C	1303	PTY	3	0
3	A	1111	LMT	7	0
7	B	1215	FUA	8	0
3	A	1112	LMT	2	0
7	A	1113	FUA	8	0
4	B	1206	EDO	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.
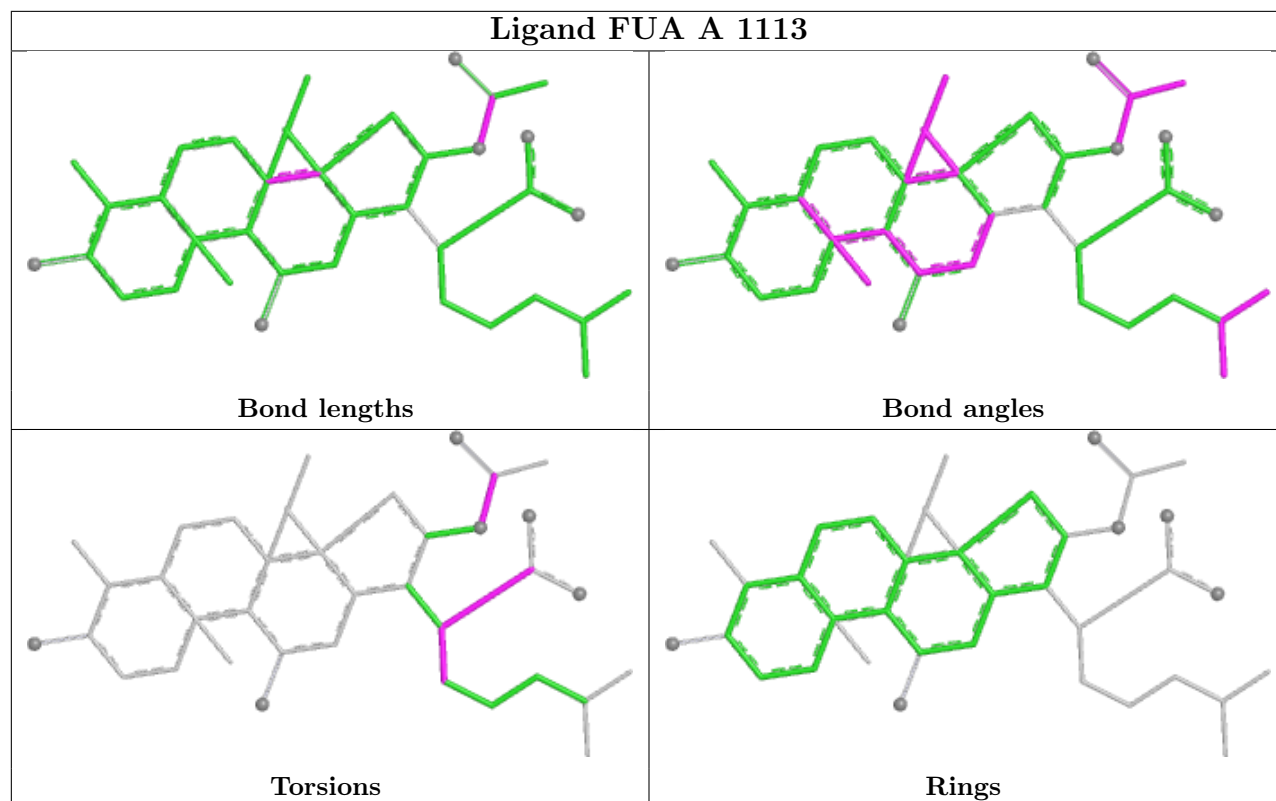
Ligand 8K6 B 1208

Bond lengths

Bond angles

Torsions

Rings

Ligand FUA B 1213

Bond lengths

Bond angles

Torsions

Rings

Ligand LMT C 1306

Bond lengths

Bond angles

Torsions

Rings

Ligand LMT A 1101

Bond lengths

Bond angles

Torsions

Rings

Ligand PTY C 1307

Bond lengths

Bond angles

Torsions

Rings

Ligand LMT A 1103

Bond lengths

Bond angles

Torsions

Rings

Ligand FUA B 1214	
Bond lengths	Bond angles
Torsions	Rings

Ligand LMT C 1302	
Bond lengths	Bond angles
Torsions	Rings

Ligand LMT C 1305

Bond lengths

Bond angles

Torsions

Rings

Ligand PTY C 1303

Bond lengths

Bond angles

Torsions

Rings

Ligand LMT A 1111

Bond lengths

Bond angles

Torsions

Rings

Ligand FUA B 1215	
Bond lengths	Bond angles
Torsions	Rings

Ligand LMT A 1112	
Bond lengths	Bond angles
Torsions	Rings

Ligand FUA A 1113

Bond lengths

Bond angles

Torsions

Rings

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 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, 95th 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(Å²)	Q<0.9
1	A	1033/1057 (97%)	-0.10	18 (1%)	70	68	35, 72, 122, 157	0
1	B	1020/1057 (96%)	-0.10	18 (1%)	68	66	37, 77, 113, 180	0
1	C	1032/1057 (97%)	-0.11	23 (2%)	62	59	36, 69, 109, 144	0
2	D	154/169 (91%)	0.31	17 (11%)	5	4	62, 78, 114, 146	0
2	E	152/169 (89%)	1.10	36 (23%)	0	0	57, 91, 122, 167	0
All	All	3391/3509 (96%)	-0.03	112 (3%)	46	41	35, 74, 115, 180	0

All (112) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	E	34	MET	6.3
1	B	316	PHE	5.2
2	E	66	LEU	5.0
1	B	1005	THR	4.8
2	E	35	ALA	4.2
2	E	31	ARG	3.9
1	B	510	LYS	3.9
2	E	67	LEU	3.8
2	E	37	GLY	3.8
2	E	165	LEU	3.6
1	A	868	LEU	3.6
2	E	36	ASN	3.6
2	D	135	TYR	3.6
2	E	70	GLY	3.5
1	B	918	PHE	3.5
2	E	101	LYS	3.5
2	E	161	LEU	3.4
1	A	833	PRO	3.4
2	E	99	LEU	3.2
1	C	501	ALA	3.1

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Mol	Chain	Res	Type	RSRZ
1	B	315	PRO	3.1
1	B	636	ASP	3.1
2	E	100	LEU	3.1
2	D	139	VAL	3.1
1	A	488	LEU	3.1
1	C	804	PHE	3.1
2	E	27	ASP	3.0
1	A	867	ARG	3.0
2	D	133	LEU	3.0
2	E	38	ALA	2.9
2	E	150	PHE	2.9
1	B	990	VAL	2.9
2	E	30	VAL	2.8
1	A	512	PHE	2.8
1	C	846	GLN	2.8
2	D	164	ILE	2.8
1	B	511	GLY	2.8
2	D	117	LEU	2.8
2	E	33	LEU	2.7
1	A	254	ASN	2.7
1	B	635	ALA	2.7
1	C	850	LYS	2.7
2	D	150	PHE	2.7
2	E	121	ALA	2.7
2	D	165	LEU	2.7
1	C	497	LEU	2.6
2	E	69	ASN	2.6
1	A	918	PHE	2.6
2	D	134	LYS	2.6
2	E	29	GLU	2.5
1	A	503	GLY	2.5
1	A	834	GLY	2.5
1	C	513	PHE	2.5
1	B	596	HIS	2.5
1	B	1008	MET	2.5
1	C	918	PHE	2.5
1	C	797	GLN	2.5
1	C	786	ILE	2.5
1	A	362	PHE	2.5
2	E	68	LYS	2.5
2	E	139	VAL	2.5
1	A	518	ARG	2.4

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Mol	Chain	Res	Type	RSRZ
1	C	253	VAL	2.4
2	E	142	GLN	2.4
2	E	106	VAL	2.4
1	B	254	ASN	2.4
1	A	536	ARG	2.4
1	C	806	SER	2.4
1	B	255	GLN	2.4
2	E	164	ILE	2.4
2	E	63	VAL	2.3
1	C	509	LYS	2.3
2	E	88	ALA	2.3
2	D	153	SER	2.3
1	C	811	TYR	2.3
2	E	65	VAL	2.3
2	D	137	ALA	2.3
1	A	259	ARG	2.3
1	B	664	PHE	2.2
1	B	831	ALA	2.2
1	C	503	GLY	2.2
2	E	64	GLU	2.2
1	A	711	ASP	2.2
2	D	163	GLU	2.2
2	D	154	ILE	2.2
1	C	496	MET	2.2
1	B	1007	VAL	2.2
2	E	73	VAL	2.2
1	C	799	VAL	2.2
2	E	26	ARG	2.2
2	D	138	ASP	2.2
2	E	102	ASN	2.2
2	D	166	GLN	2.1
2	D	148	THR	2.1
1	A	873	ALA	2.1
1	C	803	ALA	2.1
1	A	257	GLY	2.1
1	C	733	GLN	2.1
2	E	32	ILE	2.1
1	A	461	GLY	2.1
1	C	498	LYS	2.1
1	B	256	ASP	2.1
2	D	152	ILE	2.1
1	A	424	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	809	TRP	2.1
2	D	149	ALA	2.1
1	C	512	PHE	2.1
1	C	502	LYS	2.0
2	E	60	LEU	2.0
1	C	510	LYS	2.0
1	B	259	ARG	2.0
2	E	132	LEU	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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, 95th 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
4	EDO	A	1108	4/4	0.68	0.19	111,133,148,148	0
3	LMT	C	1305	35/35	0.72	0.26	102,136,145,147	0
13	HEX	C	1309	6/6	0.75	0.34	80,99,112,112	0
7	FUA	B	1215	37/37	0.77	0.40	136,166,177,183	0
3	LMT	C	1302	35/35	0.77	0.37	91,138,155,156	0
11	PTY	C	1307	50/50	0.79	0.32	88,123,167,172	0
6	D10	A	1107	10/10	0.79	0.31	88,112,127,131	0
7	FUA	B	1214	37/37	0.81	0.34	134,158,168,171	0
3	LMT	C	1306	35/35	0.81	0.29	109,119,140,140	0
5	GOL	B	1202	6/6	0.82	0.32	82,86,92,94	0
12	D12	C	1308	12/12	0.82	0.31	72,105,126,127	0
4	EDO	C	1304	4/4	0.82	0.20	78,80,81,84	0
4	EDO	A	1110	4/4	0.83	0.30	95,114,135,135	0
3	LMT	A	1103	35/35	0.84	0.32	72,128,151,154	0
4	EDO	A	1106	4/4	0.84	0.13	88,106,114,114	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	LMT	A	1112	35/35	0.84	0.36	85,126,147,153	0
11	PTY	C	1303	50/50	0.86	0.35	79,107,141,156	0
3	LMT	A	1101	35/35	0.86	0.24	70,118,148,150	0
3	LMT	A	1111	35/35	0.86	0.27	81,123,137,145	0
10	SO4	B	1212	5/5	0.86	0.26	107,110,115,122	0
6	D10	B	1207	10/10	0.87	0.37	65,88,106,106	0
4	EDO	D	202	4/4	0.87	0.18	80,82,83,84	0
4	EDO	C	1301	4/4	0.87	0.40	82,86,87,89	0
4	EDO	B	1216	4/4	0.87	0.40	112,135,140,140	0
8	PGE	B	1204	10/10	0.88	0.20	83,95,105,107	0
7	FUA	A	1113	37/37	0.88	0.38	87,122,131,132	37
9	8K6	B	1208	18/18	0.90	0.21	64,89,102,104	0
7	FUA	B	1213	37/37	0.90	0.43	104,134,156,164	0
4	EDO	A	1109	4/4	0.92	0.11	67,87,96,106	0
4	EDO	A	1104	4/4	0.92	0.28	70,70,73,75	0
4	EDO	B	1201	4/4	0.93	0.32	72,74,75,80	0
10	SO4	C	1310	5/5	0.93	0.14	111,112,115,124	0
10	SO4	B	1211	5/5	0.93	0.19	121,127,135,137	0
10	SO4	B	1210	5/5	0.94	0.14	113,114,127,128	0
5	GOL	A	1105	6/6	0.94	0.36	71,83,89,90	0
4	EDO	B	1205	4/4	0.94	0.22	94,113,114,115	0
10	SO4	B	1209	5/5	0.94	0.20	121,133,135,141	0
4	EDO	D	201	4/4	0.95	0.21	74,75,78,82	0
4	EDO	A	1102	4/4	0.95	0.23	62,63,64,68	0
4	EDO	B	1203	4/4	0.95	0.23	80,80,90,95	0
4	EDO	B	1206	4/4	0.97	0.27	56,85,98,102	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 LMT C 1305:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
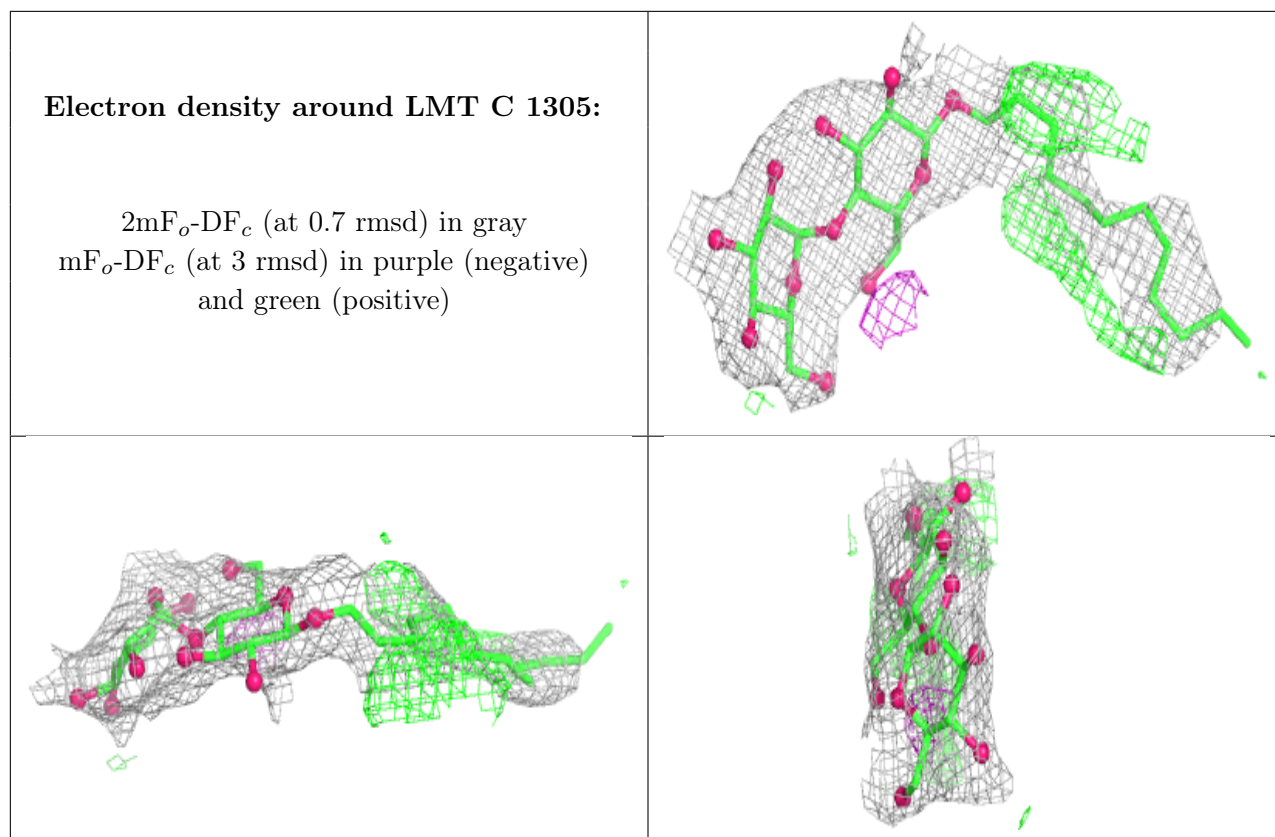
Electron density around FUA B 1215:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
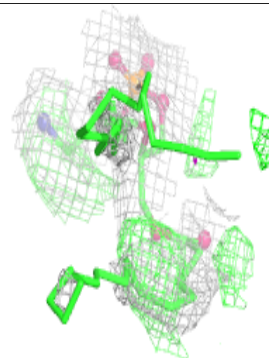mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
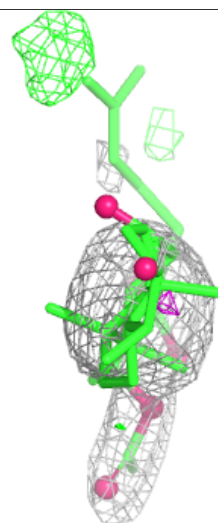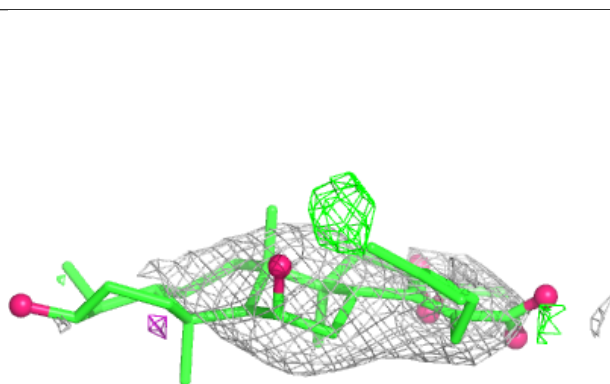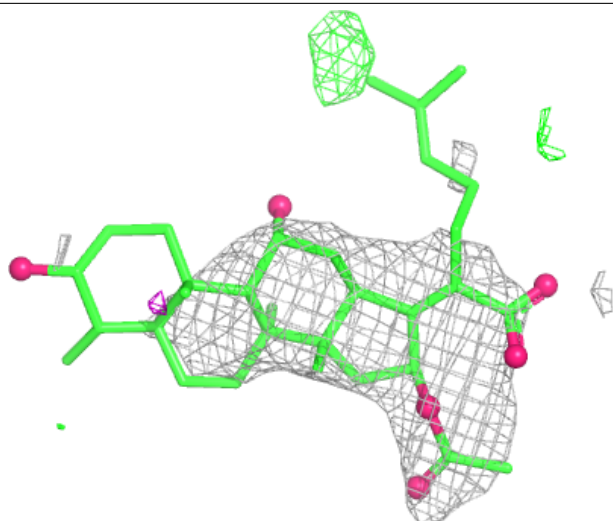
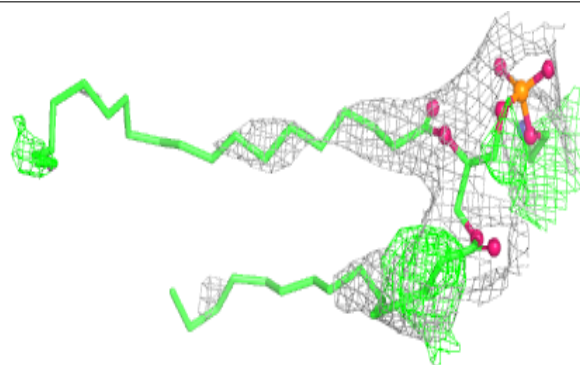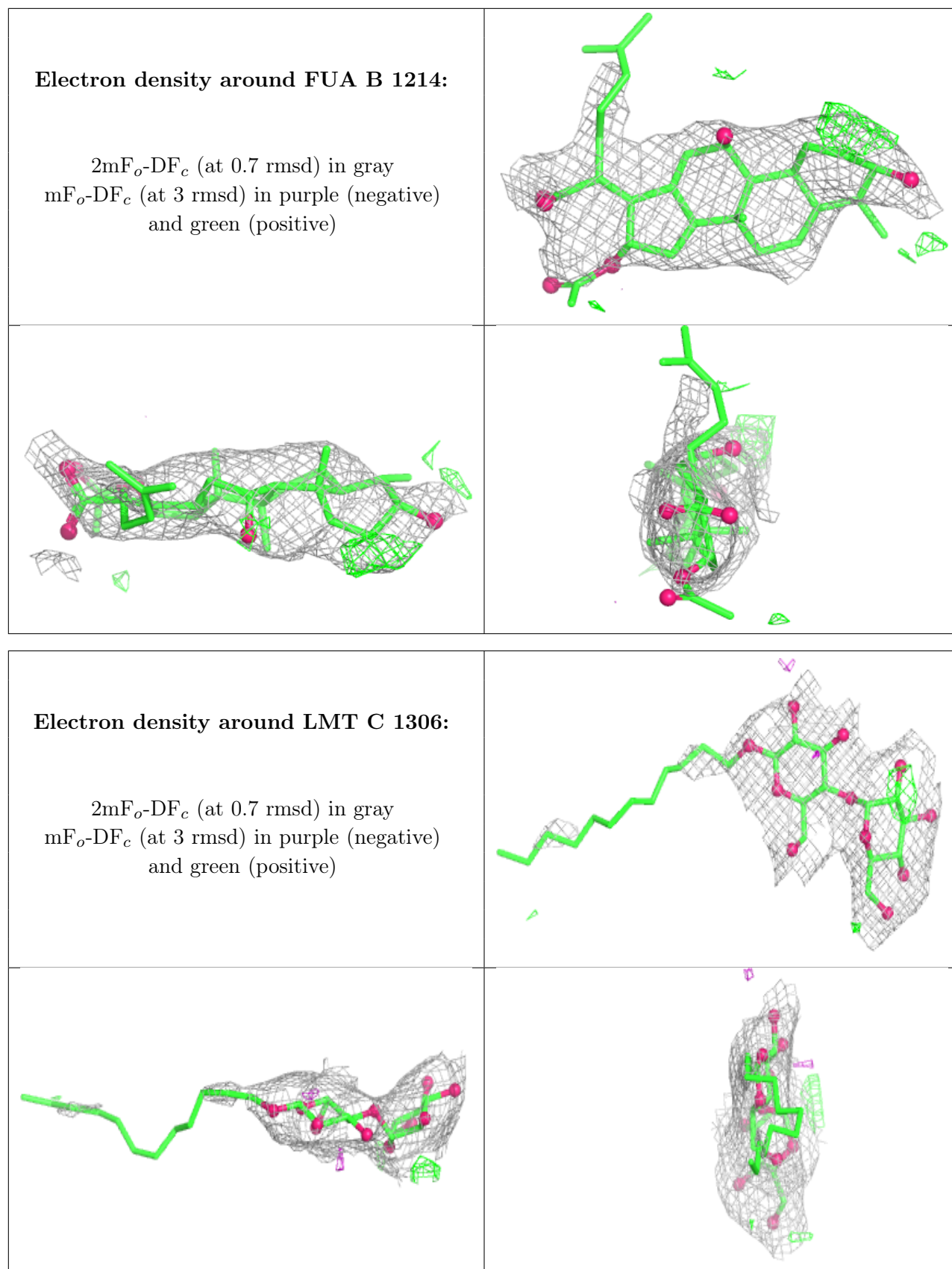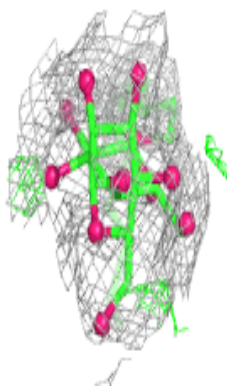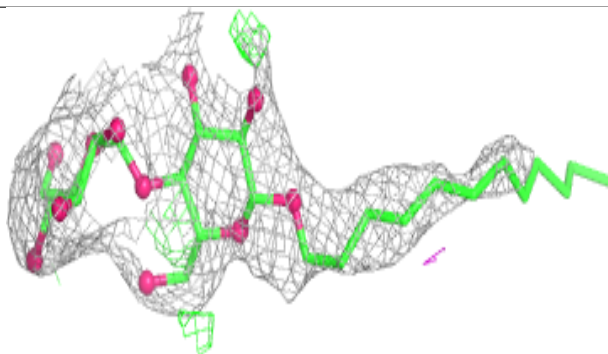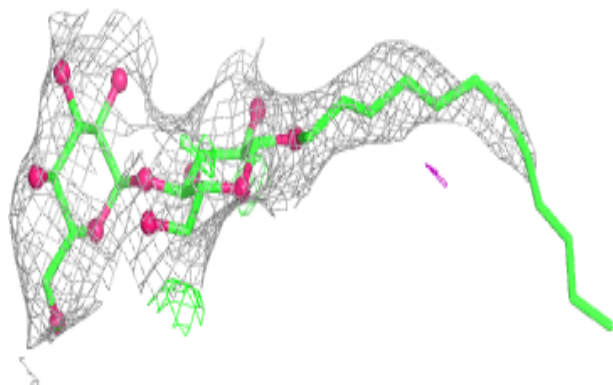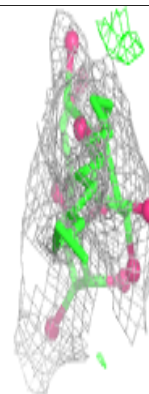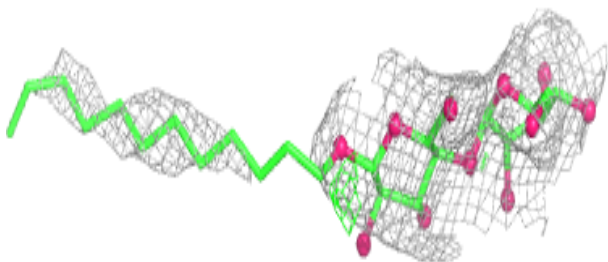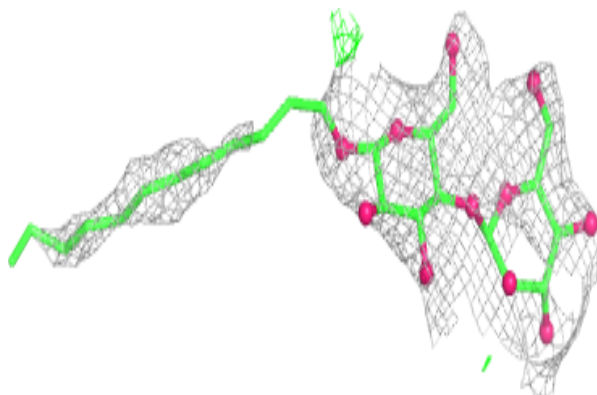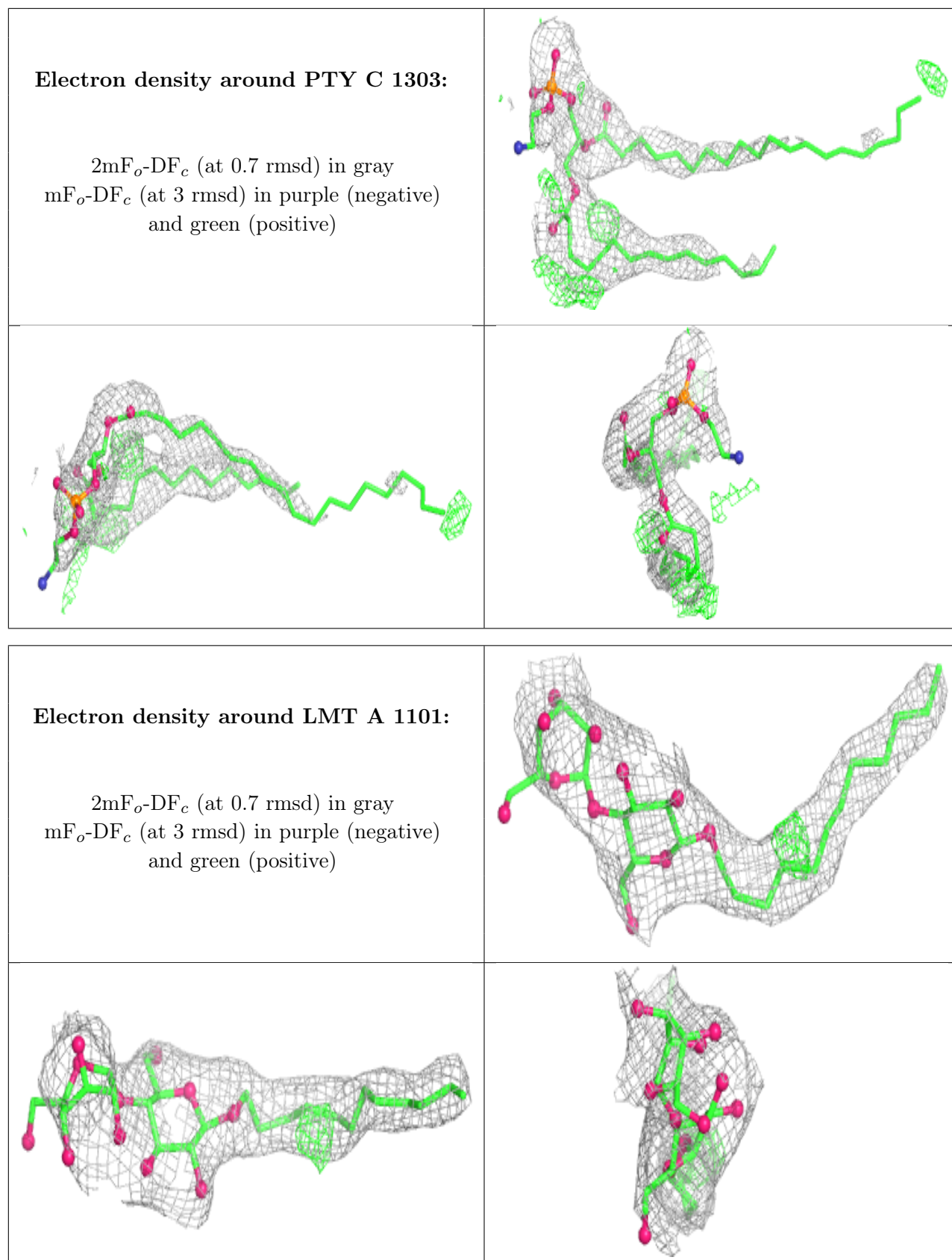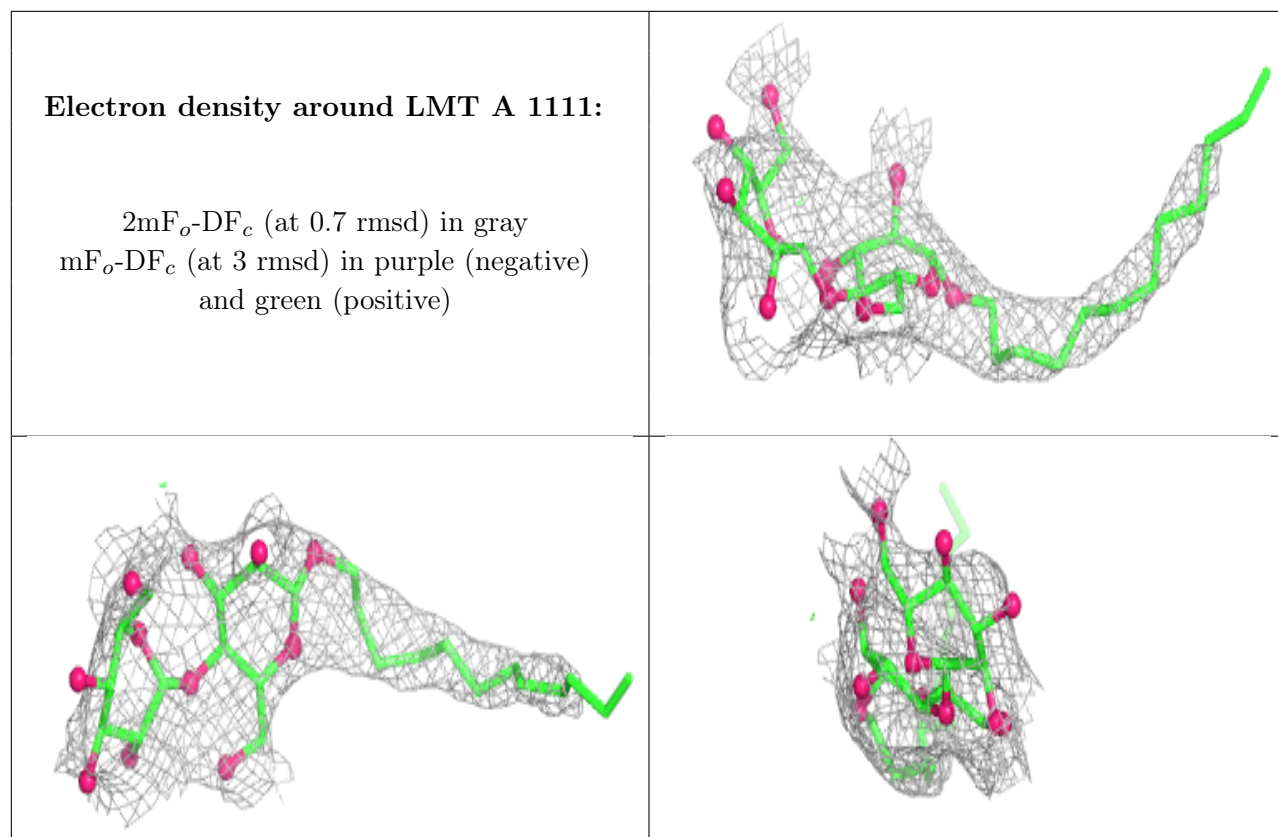**Electron density around LMT C 1302:**

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
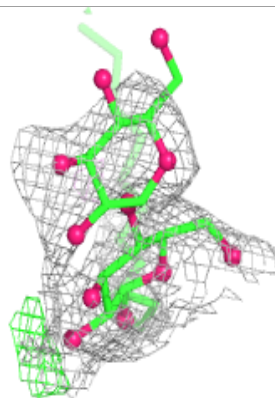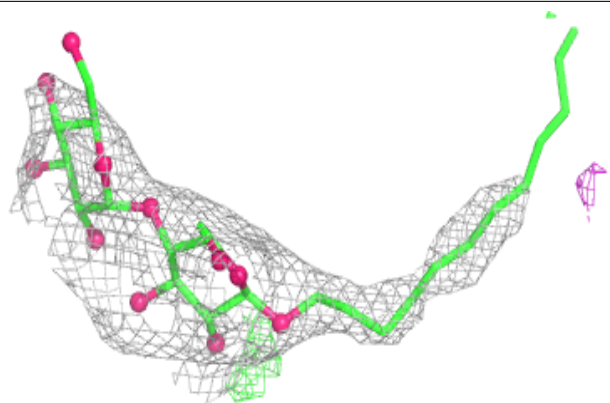
Electron density around PTY C 1307:

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

Electron density around FUA B 1214:

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

Electron density around LMT C 1306:

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

Electron density around LMT A 1103:

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

Electron density around LMT A 1112:

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

Electron density around PTY C 1303:

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

Electron density around LMT A 1101:

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

Electron density around LMT A 1111:

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

Electron density around FUA A 1113:

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

Electron density around 8K6 B 1208:

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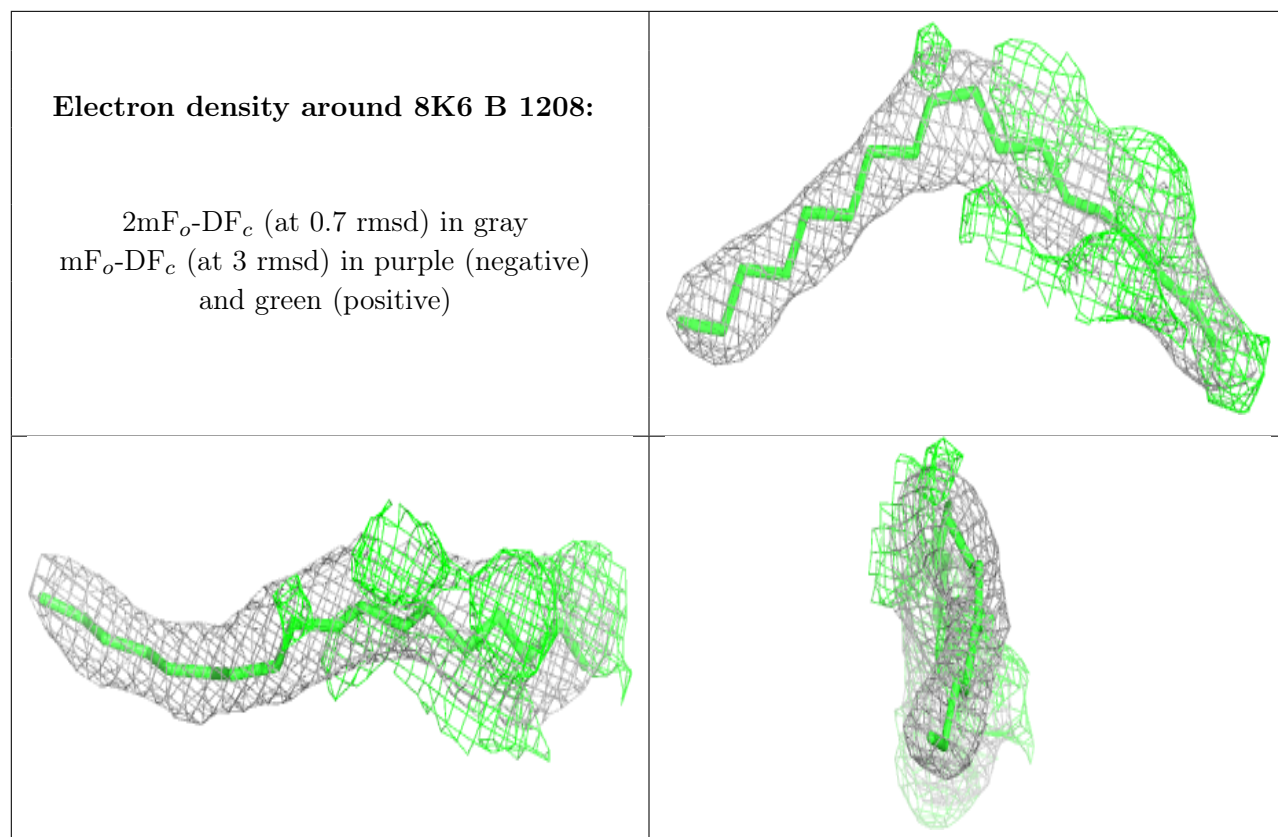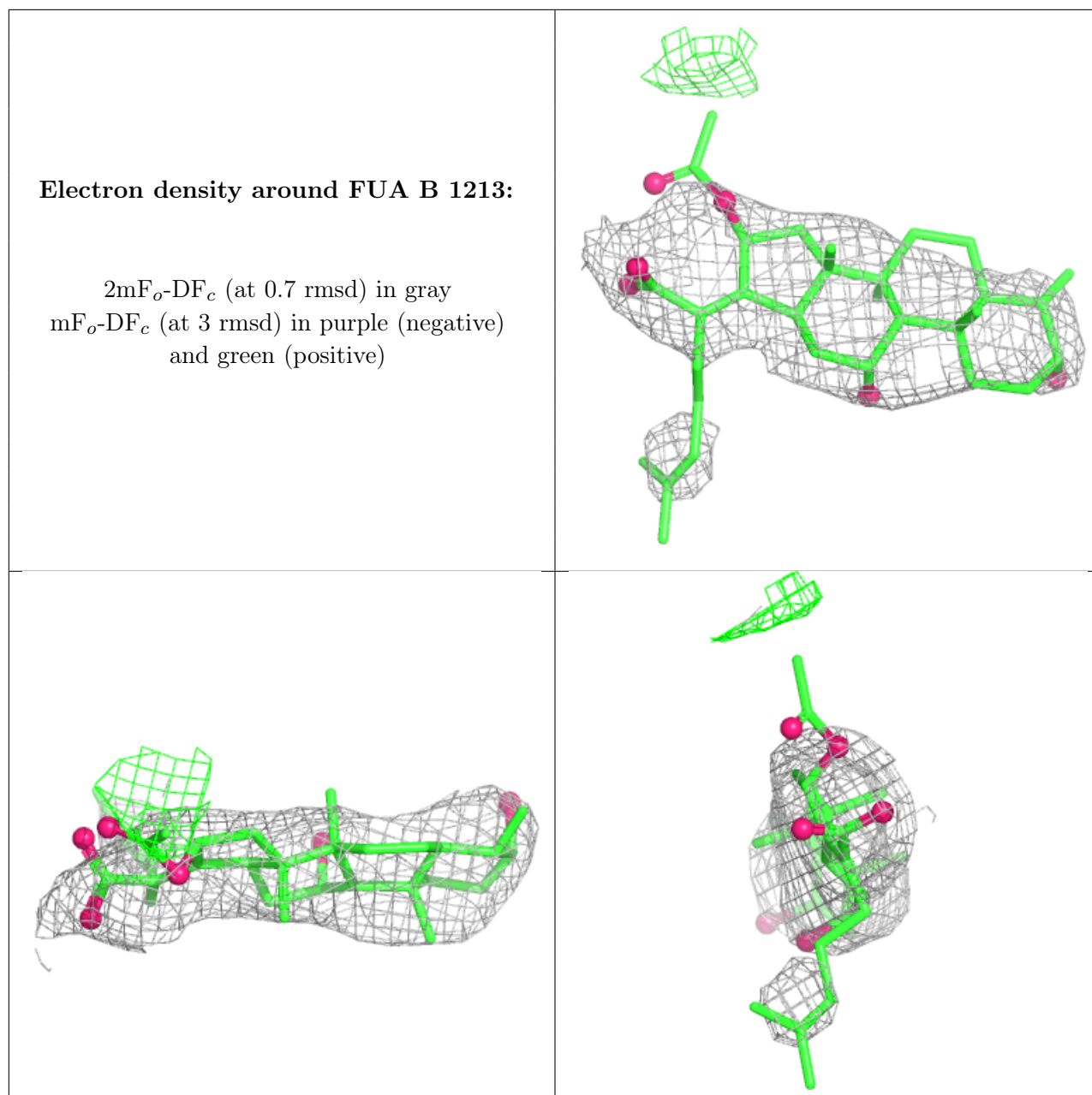mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around FUA B 1213:

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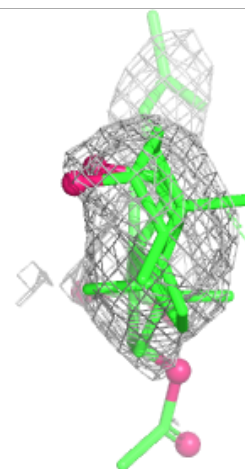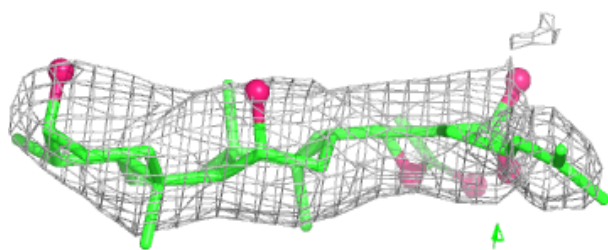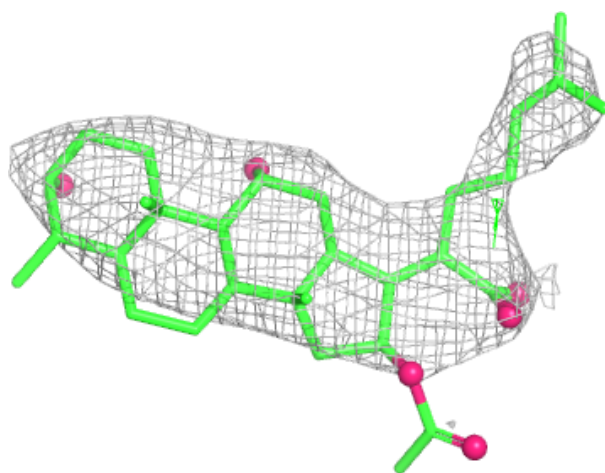
6.5 Other polymers (i)

There are no such residues in this entry.