



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 14, 2023 – 11:37 AM EDT

PDB ID : 8E1U
Title : Propionibacterium freudenreichii PPI-dependent PEPCK in complex with malate
Authors : McLeod, M.J.; Holyoak, T.
Deposited on : 2022-08-11
Resolution : 2.65 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 : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.35
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) : 2.35

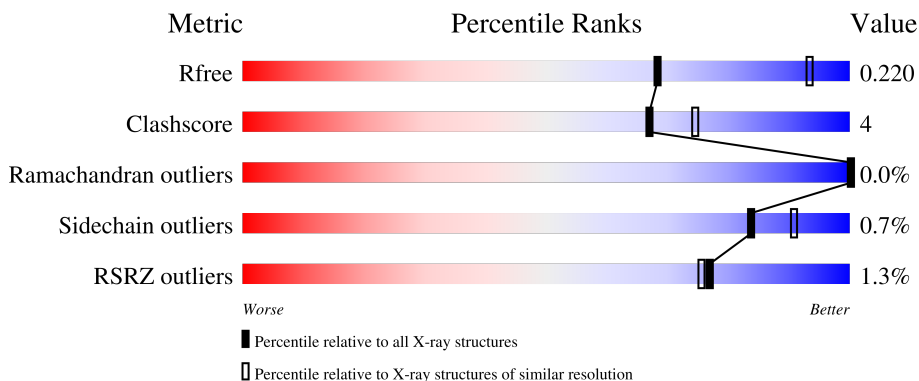
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.65 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}	130704	1332 (2.68-2.64)
Clashscore	141614	1374 (2.68-2.64)
Ramachandran outliers	138981	1349 (2.68-2.64)
Sidechain outliers	138945	1349 (2.68-2.64)
RSRZ outliers	127900	1318 (2.68-2.64)

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 $\leq 5\%$. 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	1131	 89% 11%
1	B	1131	 5% 88% 11%
1	C	1131	 0% 90% 10%
1	D	1131	 0% 88% 11%
1	E	1131	 0% 88% 11%

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Mol	Chain	Length	Quality of chain
1	F	1131	 88% 10%
1	G	1131	 87% 12%
1	H	1131	 88% 11%

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
3	MLT	C	1202	-	-	-	X

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 72470 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called PPI-dependent PEPCK.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	1126	8928	5615	1574	1706	33	0	0	0
1	B	1125	8921	5612	1573	1704	32	0	0	0
1	C	1125	8922	5612	1573	1704	33	0	0	0
1	D	1124	8914	5608	1572	1701	33	0	0	0
1	E	1120	8881	5589	1567	1693	32	0	0	0
1	F	1117	8868	5581	1564	1690	33	0	0	0
1	G	1115	8859	5576	1562	1688	33	0	0	0
1	H	1122	8895	5598	1567	1697	33	0	0	0

- Molecule 2 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

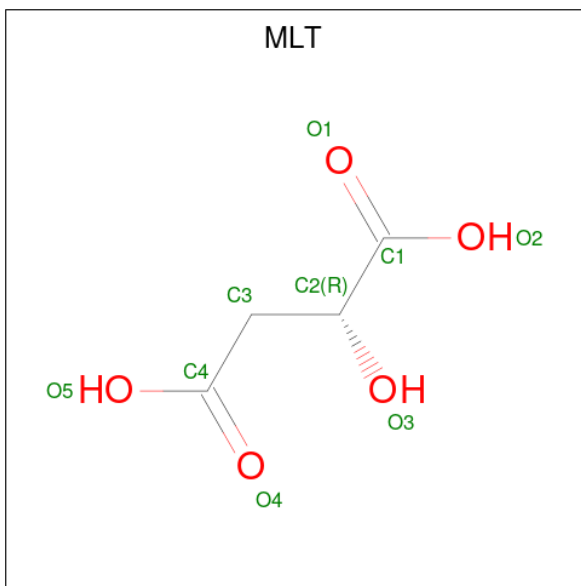
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total 1	Mg 1	0	0
2	B	1	Total 1	Mg 1	0	0
2	C	1	Total 1	Mg 1	0	0
2	D	1	Total 1	Mg 1	0	0
2	E	1	Total 1	Mg 1	0	0
2	F	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	G	1	Total Mg 1 1	0	0
2	H	1	Total Mg 1 1	0	0

- Molecule 3 is D-MALATE (three-letter code: MLT) (formula: C₄H₆O₅) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 9 4 5	0	0
3	B	1	Total C O 9 4 5	0	0
3	C	1	Total C O 9 4 5	0	0
3	F	1	Total C O 9 4 5	0	0
3	G	1	Total C O 9 4 5	0	0
3	H	1	Total C O 9 4 5	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	193	Total O 193 193	0	0

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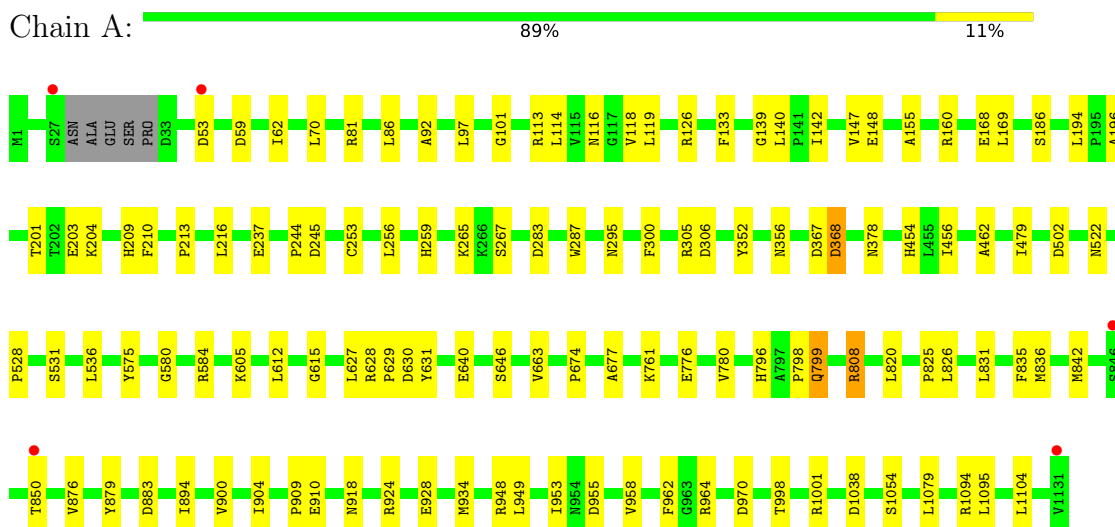
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	B	122	Total 122	O 122	0	0
4	C	141	Total 141	O 141	0	0
4	D	156	Total 156	O 156	0	0
4	E	144	Total 144	O 144	0	0
4	F	173	Total 173	O 173	0	0
4	G	137	Total 137	O 137	0	0
4	H	154	Total 154	O 154	0	0

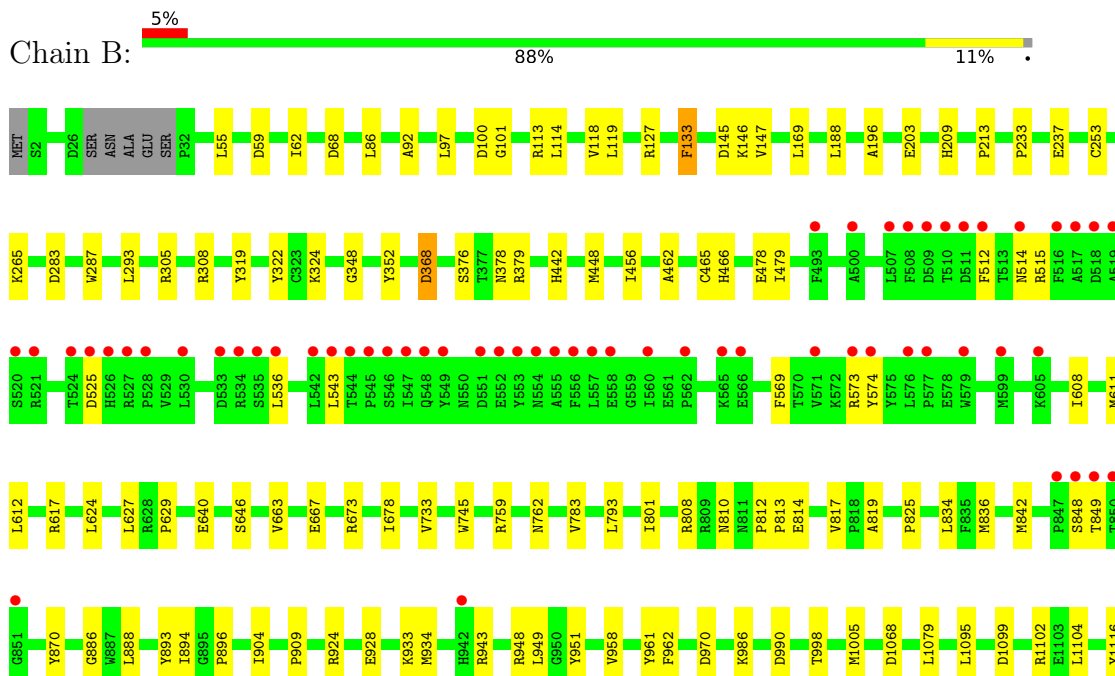
3 Residue-property plots [i](#)

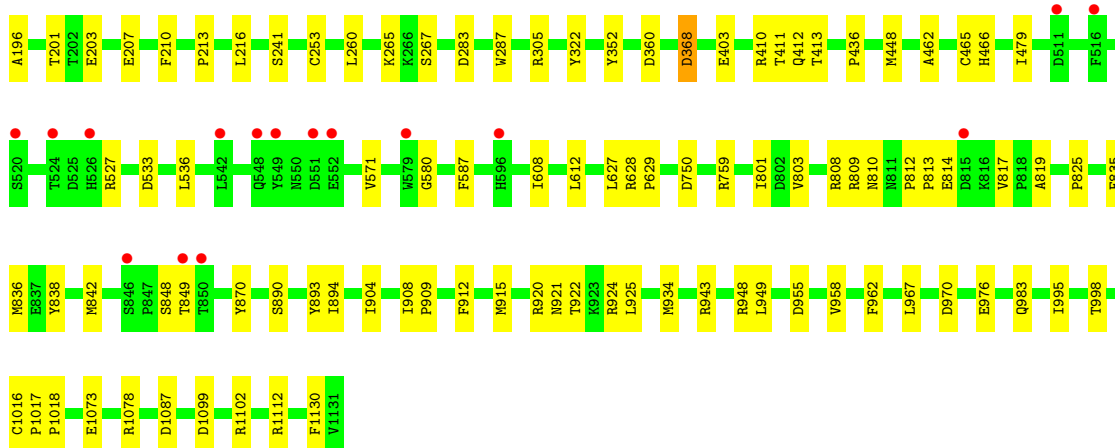
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: PPI-dependent PEPCK



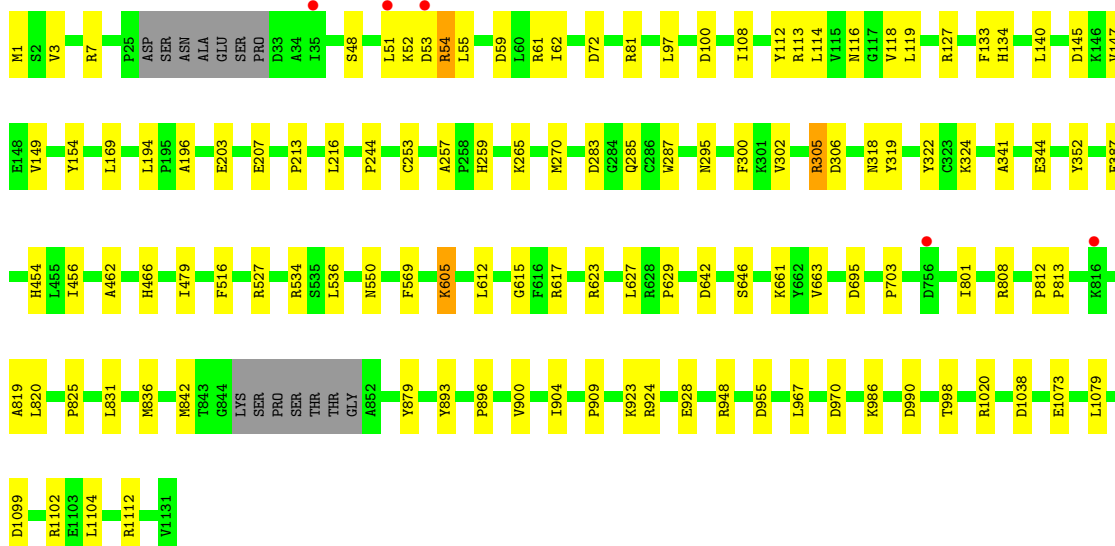
- Molecule 1: PPI-dependent PEPCK





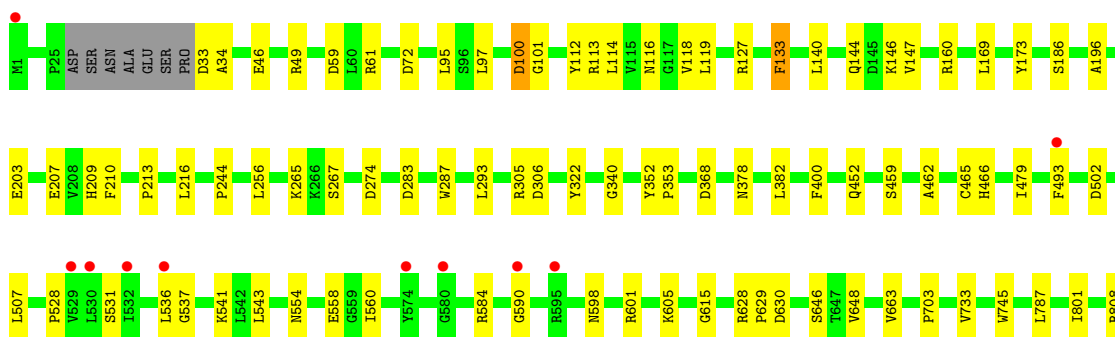
- Molecule 1: PPI-dependent PEPCK

Chain F: 88% 10%



- Molecule 1: PPI-dependent PEPCK

Chain G: 87% 12%



4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	134.13Å 146.95Å 151.09Å 82.70° 84.00° 70.80°	Depositor
Resolution (Å)	74.77 – 2.65 74.77 – 2.65	Depositor EDS
% Data completeness (in resolution range)	97.0 (74.77-2.65) 96.9 (74.77-2.65)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.93 (at 2.65Å)	Xtrriage
Refinement program	PHENIX 1.20.1_4487, REFMAC 8.0.006	Depositor
R, R_{free}	0.181 , 0.223 0.181 , 0.220	Depositor DCC
R_{free} test set	2000 reflections (0.66%)	wwPDB-VP
Wilson B-factor (Å ²)	45.2	Xtrriage
Anisotropy	0.483	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 37.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	72470	wwPDB-VP
Average B, all atoms (Å ²)	55.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.84% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

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: MG, MLT

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	0.25	0/9149	0.49	0/12433
1	B	0.24	0/9143	0.49	0/12426
1	C	0.25	0/9143	0.49	0/12425
1	D	0.25	0/9135	0.49	0/12414
1	E	0.25	0/9101	0.49	0/12368
1	F	0.25	0/9087	0.49	0/12347
1	G	0.25	0/9078	0.49	0/12335
1	H	0.25	0/9115	0.49	0/12385
All	All	0.25	0/72951	0.49	0/99133

There are no bond length outliers.

There are no bond angle outliers.

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	8928	0	8656	69	0
1	B	8921	0	8647	68	0
1	C	8922	0	8651	61	0
1	D	8914	0	8647	68	0
1	E	8881	0	8613	69	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	F	8868	0	8599	70	0
1	G	8859	0	8591	80	0
1	H	8895	0	8630	69	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	F	1	0	0	0	0
2	G	1	0	0	0	0
2	H	1	0	0	0	0
3	A	9	0	4	0	0
3	B	9	0	4	0	0
3	C	9	0	4	0	0
3	F	9	0	4	0	0
3	G	9	0	4	0	0
3	H	9	0	4	1	0
4	A	193	0	0	1	0
4	B	122	0	0	0	0
4	C	141	0	0	0	0
4	D	156	0	0	1	0
4	E	144	0	0	2	0
4	F	173	0	0	0	0
4	G	137	0	0	1	0
4	H	154	0	0	1	0
All	All	72470	0	69058	547	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 4.

All (547) 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:F:53:ASP:HA	1:F:81:ARG:HB3	1.67	0.76
1:H:53:ASP:HA	1:H:81:ARG:HB3	1.69	0.74
1:B:169:LEU:HD23	1:B:213:PRO:HB3	1.71	0.72
1:A:53:ASP:HA	1:A:81:ARG:HB3	1.70	0.72
1:D:479:ILE:HG13	1:D:909:PRO:HG3	1.72	0.71
1:G:466:HIS:HB2	1:G:801:ILE:HD12	1.73	0.70
1:H:147:VAL:HG13	1:H:283:ASP:HB3	1.74	0.70
1:E:147:VAL:HG13	1:E:283:ASP:HB3	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:265:LYS:HB2	1:C:287:TRP:HB3	1.73	0.69
1:A:237:GLU:OE2	1:A:1094:ARG:NH1	2.26	0.69
1:D:265:LYS:HB2	1:D:287:TRP:HB3	1.73	0.69
1:A:114:LEU:HD11	1:A:119:LEU:HB2	1.75	0.68
1:B:324:LYS:NZ	1:B:667:GLU:OE2	2.26	0.68
1:H:466:HIS:HB2	1:H:801:ILE:HD12	1.75	0.68
1:B:479:ILE:HG13	1:B:909:PRO:HG3	1.76	0.68
1:E:114:LEU:HD11	1:E:119:LEU:HB2	1.74	0.67
1:H:114:LEU:HD11	1:H:119:LEU:HB2	1.77	0.67
1:C:1094:ARG:HH21	1:H:49:ARG:HH12	1.42	0.67
1:B:825:PRO:HB3	1:B:904:ILE:HD13	1.76	0.67
1:G:479:ILE:HG13	1:G:909:PRO:HG3	1.75	0.67
1:A:367:ASP:OD2	1:D:1096:HIS:NE2	2.23	0.66
1:A:924:ARG:NH2	1:A:928:GLU:OE1	2.28	0.66
1:C:237:GLU:HG3	1:C:1095:LEU:HD21	1.78	0.66
1:B:536:LEU:HD21	1:B:629:PRO:HB2	1.77	0.65
1:A:479:ILE:HD12	1:A:909:PRO:HG3	1.77	0.65
1:F:114:LEU:HD11	1:F:119:LEU:HB2	1.78	0.65
1:G:536:LEU:HD21	1:G:629:PRO:HB2	1.78	0.65
1:E:836:MET:HE1	1:E:948:ARG:HD3	1.80	0.64
1:B:147:VAL:HG13	1:B:283:ASP:HB3	1.78	0.64
1:B:265:LYS:HB2	1:B:287:TRP:HB3	1.80	0.64
1:D:237:GLU:HG3	1:D:1095:LEU:HD21	1.80	0.64
1:G:169:LEU:HD23	1:G:213:PRO:HB3	1.80	0.64
1:C:466:HIS:HB2	1:C:801:ILE:HD12	1.80	0.63
1:H:324:LYS:NZ	1:H:642:ASP:OD2	2.31	0.63
1:C:101:GLY:O	1:C:113:ARG:NH1	2.30	0.63
1:E:127:ARG:HG3	1:E:322:TYR:CE1	2.33	0.63
1:F:479:ILE:HG13	1:F:909:PRO:HG3	1.80	0.63
1:B:196:ALA:HB2	1:B:203:GLU:HB2	1.80	0.63
1:F:536:LEU:HD21	1:F:629:PRO:HB2	1.79	0.63
1:F:924:ARG:NH1	1:F:928:GLU:OE1	2.32	0.62
1:D:836:MET:O	1:D:840:SER:OG	2.17	0.62
1:B:1099:ASP:OD1	1:B:1102:ARG:NH2	2.32	0.62
1:C:147:VAL:HG13	1:C:283:ASP:HB3	1.82	0.62
1:F:1099:ASP:OD1	1:F:1102:ARG:NH2	2.32	0.62
1:H:265:LYS:HB2	1:H:287:TRP:HB3	1.81	0.62
1:D:842:MET:HG2	1:D:998:THR:HG21	1.82	0.62
1:H:842:MET:HG2	1:H:998:THR:HG21	1.81	0.62
1:A:169:LEU:HD23	1:A:213:PRO:HB3	1.83	0.61
1:B:237:GLU:HG3	1:B:1095:LEU:HD21	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:114:LEU:HD11	1:D:119:LEU:HB2	1.81	0.61
1:H:617:ARG:NH2	4:H:1302:HOH:O	2.33	0.61
1:B:114:LEU:HD11	1:B:119:LEU:HB2	1.81	0.60
1:B:466:HIS:HB2	1:B:801:ILE:HD12	1.81	0.60
1:F:808:ARG:NH1	1:F:842:MET:O	2.34	0.60
1:A:502:ASP:OD1	1:A:584:ARG:NH2	2.34	0.60
1:E:101:GLY:O	1:E:113:ARG:NH1	2.34	0.60
1:E:466:HIS:HB2	1:E:801:ILE:HD12	1.82	0.60
1:E:810:ASN:OD1	1:E:890:SER:OG	2.19	0.60
1:F:100:ASP:OD1	1:F:100:ASP:N	2.34	0.60
1:F:836:MET:HE1	1:F:948:ARG:HD3	1.84	0.60
1:A:213:PRO:HD2	1:A:216:LEU:HD12	1.84	0.60
1:E:479:ILE:HG13	1:E:909:PRO:HG3	1.84	0.60
1:E:368:ASP:OD1	1:E:368:ASP:N	2.35	0.60
1:E:842:MET:HG2	1:E:998:THR:HG21	1.83	0.60
1:G:114:LEU:HD11	1:G:119:LEU:HB2	1.84	0.59
1:E:265:LYS:HB2	1:E:287:TRP:HB3	1.84	0.59
1:G:147:VAL:HG13	1:G:283:ASP:HB3	1.85	0.59
1:A:836:MET:HE1	1:A:948:ARG:HD3	1.83	0.59
1:D:169:LEU:HD23	1:D:213:PRO:HB3	1.84	0.59
1:H:213:PRO:HD2	1:H:216:LEU:HD13	1.85	0.59
1:B:808:ARG:HG3	1:B:888:LEU:HD11	1.84	0.59
1:F:169:LEU:HD23	1:F:213:PRO:HB3	1.85	0.58
1:A:147:VAL:HG13	1:A:283:ASP:HB3	1.85	0.58
1:C:324:LYS:NZ	1:C:667:GLU:OE2	2.33	0.58
1:C:518:ASP:HB3	1:C:521:ARG:HG2	1.85	0.58
1:D:196:ALA:HB2	1:D:203:GLU:HB2	1.86	0.58
1:G:196:ALA:HB2	1:G:203:GLU:HB2	1.84	0.58
1:A:528:PRO:HG2	1:A:531:SER:HB2	1.84	0.58
1:F:466:HIS:HB2	1:F:801:ILE:HD12	1.86	0.58
1:G:537:GLY:O	1:G:541:LYS:HG2	2.04	0.58
1:C:114:LEU:HD11	1:C:119:LEU:HB2	1.86	0.58
1:A:842:MET:HG2	1:A:998:THR:HG21	1.85	0.57
1:G:265:LYS:HB2	1:G:287:TRP:HB3	1.85	0.57
1:D:523:GLY:O	1:D:526:HIS:NE2	2.37	0.57
1:A:799:GLN:NE2	4:A:1307:HOH:O	2.38	0.57
1:F:527:ARG:HB2	1:F:534:ARG:HH11	1.69	0.57
1:H:62:ILE:HD13	1:H:253:CYS:HB2	1.87	0.57
1:H:196:ALA:HB2	1:H:203:GLU:HB2	1.87	0.57
1:B:68:ASP:OD2	1:B:308:ARG:NH1	2.38	0.57
1:F:324:LYS:NZ	1:F:642:ASP:OD2	2.29	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:479:ILE:HG13	1:H:909:PRO:HG3	1.85	0.57
1:C:479:ILE:HG13	1:C:909:PRO:HG3	1.86	0.56
1:H:368:ASP:OD1	1:H:368:ASP:N	2.38	0.56
1:C:168:GLU:OE1	1:C:259:HIS:ND1	2.34	0.56
1:B:836:MET:HE1	1:B:948:ARG:HD3	1.86	0.56
1:D:465:CYS:HB3	1:D:479:ILE:HD11	1.86	0.56
1:G:528:PRO:HG2	1:G:531:SER:HB2	1.87	0.56
1:H:169:LEU:HD23	1:H:213:PRO:HB3	1.87	0.56
1:E:915:MET:O	1:E:920:ARG:NH1	2.38	0.56
1:A:59:ASP:OD1	1:A:209:HIS:ND1	2.35	0.56
1:G:340:GLY:N	1:G:1125:GLY:O	2.38	0.56
1:A:101:GLY:O	1:A:113:ARG:NH1	2.37	0.56
1:C:169:LEU:HD23	1:C:213:PRO:HB3	1.88	0.56
1:F:147:VAL:HG13	1:F:283:ASP:HB3	1.87	0.56
1:F:615:GLY:HA2	1:F:900:VAL:HA	1.88	0.56
1:G:213:PRO:HD2	1:G:216:LEU:HD13	1.88	0.56
1:A:160:ARG:HH22	1:A:267:SER:HB2	1.70	0.55
1:A:1079:LEU:HD12	1:A:1104:LEU:HD12	1.87	0.55
1:H:554:ASN:O	1:H:558:GLU:HG2	2.06	0.55
1:D:161:ALA:HB2	1:D:260:LEU:HD11	1.88	0.55
1:A:126:ARG:HH22	1:A:761:LYS:HB2	1.70	0.55
1:A:168:GLU:OE1	1:A:259:HIS:ND1	2.40	0.55
1:C:842:MET:HG2	1:C:998:THR:HG21	1.88	0.55
1:E:97:LEU:HD11	1:E:118:VAL:HG23	1.88	0.55
1:A:796:HIS:NE2	1:A:798:PRO:HG3	2.22	0.55
1:A:831:LEU:HD11	1:A:879:TYR:HB3	1.89	0.55
1:D:707:GLU:HG2	1:D:710:ARG:NH2	2.22	0.55
1:G:1099:ASP:OD1	1:G:1102:ARG:NH2	2.38	0.55
1:D:528:PRO:HG2	1:D:531:SER:HB2	1.87	0.55
1:E:196:ALA:HB2	1:E:203:GLU:HB2	1.87	0.55
1:H:454:HIS:HE1	1:H:456:ILE:HD11	1.72	0.55
1:B:145:ASP:HB3	1:B:1005:MET:HE1	1.89	0.55
1:B:617:ARG:HD2	1:H:591:ILE:HD13	1.89	0.55
1:H:615:GLY:HA2	1:H:900:VAL:HA	1.88	0.55
1:A:265:LYS:HB2	1:A:287:TRP:HB3	1.89	0.54
1:F:454:HIS:HE1	1:F:456:ILE:HD11	1.71	0.54
1:G:646:SER:HB3	1:G:663:VAL:HG12	1.89	0.54
1:A:244:PRO:HG2	1:A:1104:LEU:HD21	1.88	0.54
1:D:466:HIS:HB2	1:D:801:ILE:HD12	1.88	0.54
1:B:127:ARG:HG3	1:B:322:TYR:CE1	2.42	0.54
1:F:986:LYS:NZ	1:F:990:ASP:OD2	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:842:MET:HG2	1:F:998:THR:HG21	1.90	0.54
1:H:168:GLU:OE1	1:H:259:HIS:ND1	2.36	0.54
1:E:448:MET:HB2	1:E:608:ILE:HD13	1.90	0.54
1:E:360:ASP:OD2	1:E:410:ARG:NH2	2.40	0.54
1:G:934:MET:HG3	1:G:949:LEU:HB2	1.90	0.54
1:B:368:ASP:OD1	1:B:368:ASP:N	2.41	0.54
1:D:646:SER:HB3	1:D:663:VAL:HG12	1.90	0.54
1:G:133:PHE:HB3	1:G:146:LYS:HD2	1.90	0.54
1:B:100:ASP:OD1	1:B:100:ASP:N	2.36	0.53
1:A:368:ASP:OD1	1:A:368:ASP:N	2.37	0.53
1:C:97:LEU:HD11	1:C:118:VAL:HG23	1.90	0.53
1:E:169:LEU:HD23	1:E:213:PRO:HB3	1.91	0.53
1:G:502:ASP:OD1	1:G:584:ARG:NH2	2.42	0.53
1:G:536:LEU:HD23	1:G:630:ASP:HB3	1.90	0.53
1:A:615:GLY:HA2	1:A:900:VAL:HA	1.91	0.53
1:G:894:ILE:HD11	1:G:904:ILE:HD12	1.90	0.53
1:H:74:ASP:OD2	1:H:156:ARG:NH2	2.42	0.53
1:B:611:MET:HE2	1:B:624:LEU:HB3	1.91	0.53
1:D:127:ARG:HB2	1:D:319:TYR:CE2	2.44	0.53
1:E:133:PHE:HB3	1:E:146:LYS:HD2	1.91	0.53
1:H:986:LYS:NZ	1:H:990:ASP:OD2	2.41	0.53
1:B:834:LEU:HD22	1:B:886:GLY:HA3	1.90	0.53
1:B:934:MET:HG3	1:B:949:LEU:HB2	1.90	0.53
1:D:502:ASP:OD1	1:D:584:ARG:NH1	2.41	0.53
1:E:536:LEU:HD21	1:E:629:PRO:HD2	1.89	0.53
1:G:400:PHE:HE1	1:G:787:LEU:HD11	1.73	0.53
1:G:998:THR:HG23	1:G:1001:ARG:HH12	1.74	0.53
1:C:1082:TYR:O	1:C:1088:SER:OG	2.19	0.53
1:D:213:PRO:HD2	1:D:216:LEU:HD13	1.91	0.53
1:A:850:THR:O	1:A:1001:ARG:NH1	2.42	0.52
1:E:612:LEU:HG	1:E:627:LEU:HD11	1.92	0.52
1:D:536:LEU:HD21	1:D:629:PRO:HD2	1.91	0.52
1:C:97:LEU:HD13	1:C:113:ARG:HB2	1.90	0.52
1:F:1079:LEU:HD12	1:F:1104:LEU:HD12	1.92	0.52
1:B:870:TYR:OH	1:B:1130:PHE:O	2.26	0.52
1:H:783:VAL:HG13	1:H:793:LEU:HD22	1.92	0.52
1:B:188:LEU:HD22	1:B:233:PRO:HB3	1.90	0.52
1:B:97:LEU:HD11	1:B:118:VAL:HG23	1.92	0.52
1:C:970:ASP:OD1	1:C:970:ASP:N	2.42	0.52
1:A:204:LYS:NZ	1:A:245:ASP:O	2.37	0.52
1:B:812:PRO:HB3	1:B:896:PRO:HA	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:60:LEU:HB3	1:D:64:ARG:NH1	2.24	0.52
1:B:848:SER:OG	1:B:849:THR:N	2.43	0.51
1:A:237:GLU:HG2	1:A:1095:LEU:HD21	1.92	0.51
1:D:101:GLY:O	1:D:113:ARG:NH1	2.43	0.51
1:F:265:LYS:HB2	1:F:287:TRP:HB3	1.91	0.51
1:F:270:MET:HE3	1:F:285:GLN:HA	1.92	0.51
1:C:213:PRO:HD2	1:C:216:LEU:HD13	1.92	0.51
1:B:970:ASP:N	1:B:970:ASP:OD1	2.41	0.51
1:F:646:SER:HB3	1:F:663:VAL:HG12	1.91	0.51
1:B:924:ARG:NH2	1:B:961:TYR:OH	2.37	0.51
1:D:1068:ASP:OD2	1:D:1116:TYR:OH	2.28	0.51
1:F:134:HIS:HB3	1:F:149:VAL:HG21	1.91	0.51
1:C:133:PHE:HB3	1:C:146:LYS:HD2	1.93	0.51
1:D:133:PHE:HB3	1:D:146:LYS:HD2	1.92	0.51
1:D:324:LYS:NZ	1:D:642:ASP:OD2	2.44	0.51
1:H:569:PHE:HB3	1:H:629:PRO:HG2	1.93	0.51
1:B:814:GLU:HB2	1:B:817:VAL:HB	1.93	0.50
1:D:948:ARG:NH2	4:D:1305:HOH:O	2.41	0.50
1:H:955:ASP:OD1	1:H:955:ASP:N	2.44	0.50
1:B:646:SER:HB3	1:B:663:VAL:HG12	1.93	0.50
1:D:1037:LEU:O	1:D:1043:ARG:NH1	2.36	0.50
1:D:142:ILE:HD12	1:D:148:GLU:HG3	1.94	0.50
1:E:970:ASP:OD1	1:E:970:ASP:N	2.45	0.50
1:G:507:LEU:HD21	1:G:543:LEU:HD21	1.94	0.50
1:H:825:PRO:HB3	1:H:904:ILE:HD13	1.93	0.50
1:A:454:HIS:HE1	1:A:456:ILE:HD11	1.76	0.50
1:F:1073:GLU:OE2	1:F:1112:ARG:NH2	2.36	0.50
1:E:160:ARG:HH22	1:E:267:SER:HB2	1.76	0.50
1:E:934:MET:HG3	1:E:949:LEU:HB2	1.94	0.49
1:E:825:PRO:HB3	1:E:904:ILE:HD13	1.93	0.49
1:F:1038:ASP:OD1	1:F:1038:ASP:N	2.40	0.49
1:G:116:ASN:OD1	1:G:116:ASN:N	2.44	0.49
1:G:842:MET:HG2	1:G:998:THR:HG21	1.94	0.49
1:G:813:PRO:HB3	1:G:819:ALA:HB2	1.93	0.49
1:F:213:PRO:HD2	1:F:216:LEU:HD13	1.93	0.49
1:G:160:ARG:HH22	1:G:267:SER:HB2	1.77	0.49
1:A:142:ILE:HD12	1:A:148:GLU:HG3	1.95	0.49
1:E:1099:ASP:OD1	1:E:1102:ARG:NH2	2.46	0.49
1:E:352:TYR:CE2	1:E:462:ALA:HB2	2.48	0.49
1:E:412:GLN:OE1	4:E:1301:HOH:O	2.20	0.49
1:H:360:ASP:OD2	1:H:410:ARG:NH1	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:352:TYR:CE2	1:A:462:ALA:HB2	2.48	0.49
1:B:842:MET:HG2	1:B:998:THR:HG21	1.93	0.49
1:E:922:THR:HA	1:E:925:LEU:HB2	1.94	0.49
1:F:97:LEU:HD13	1:F:113:ARG:HB2	1.95	0.49
1:F:194:LEU:HD13	1:F:341:ALA:HB2	1.93	0.49
1:H:193:VAL:HG22	1:H:331:ILE:HG23	1.94	0.49
1:H:646:SER:HB3	1:H:663:VAL:HG12	1.95	0.49
1:H:934:MET:HG3	1:H:949:LEU:HB2	1.93	0.49
1:D:803:VAL:HG11	1:D:912:PHE:CD2	2.48	0.49
1:D:921:ASN:HB3	1:D:924:ARG:HG2	1.94	0.48
1:G:615:GLY:HA2	1:G:900:VAL:HA	1.95	0.48
1:H:612:LEU:HD12	1:H:627:LEU:HD21	1.96	0.48
1:B:673:ARG:HD3	1:B:762:ASN:OD1	2.13	0.48
1:H:352:TYR:CE2	1:H:462:ALA:HB2	2.48	0.48
1:B:1068:ASP:OD2	1:B:1116:TYR:OH	2.31	0.48
1:F:127:ARG:HG3	1:F:322:TYR:CE1	2.48	0.48
1:F:516:PHE:O	1:F:550:ASN:ND2	2.46	0.48
1:F:831:LEU:HD11	1:F:879:TYR:HB3	1.95	0.48
1:A:850:THR:OG1	1:A:1001:ARG:HD3	2.13	0.48
1:G:825:PRO:HB3	1:G:904:ILE:HD13	1.96	0.48
1:D:352:TYR:CE2	1:D:462:ALA:HB2	2.48	0.48
1:E:97:LEU:HD13	1:E:113:ARG:HB2	1.96	0.48
1:A:628:ARG:HH11	1:A:964:ARG:HA	1.78	0.48
1:E:403:GLU:HB3	1:E:436:PRO:HG2	1.96	0.48
1:F:295:ASN:ND2	1:F:300:PHE:HB3	2.29	0.48
1:F:352:TYR:CE2	1:F:462:ALA:HB2	2.49	0.48
1:F:48:SER:O	1:F:52:LYS:N	2.47	0.48
1:C:55:LEU:HB3	1:C:59:ASP:HB2	1.95	0.48
1:C:86:LEU:HD13	1:C:92:ALA:HB2	1.96	0.48
1:F:1:MET:N	1:F:695:ASP:OD1	2.38	0.48
1:C:825:PRO:HB3	1:C:904:ILE:HD13	1.95	0.47
1:B:813:PRO:HB3	1:B:819:ALA:HB2	1.96	0.47
1:D:97:LEU:HD11	1:D:118:VAL:HG23	1.96	0.47
1:F:97:LEU:HD11	1:F:118:VAL:HG23	1.95	0.47
1:H:358:ASN:OD1	1:H:573:ARG:NH1	2.47	0.47
1:F:116:ASN:OD1	1:F:116:ASN:N	2.47	0.47
1:F:454:HIS:CE1	1:F:456:ILE:HD11	2.50	0.47
1:F:617:ARG:NH1	1:F:623:ARG:HE	2.11	0.47
1:G:101:GLY:O	1:G:113:ARG:NH1	2.46	0.47
1:C:311:ILE:HD13	1:C:330:GLN:HG2	1.97	0.47
1:C:836:MET:HE1	1:C:948:ARG:HD3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:400:PHE:HE1	1:D:787:LEU:HD11	1.80	0.47
1:G:33:ASP:OD1	1:G:34:ALA:N	2.47	0.47
1:G:836:MET:HE1	1:G:948:ARG:HD3	1.96	0.47
1:G:986:LYS:NZ	1:G:990:ASP:OD2	2.47	0.47
1:H:808:ARG:HE	1:H:810:ASN:HD21	1.63	0.47
1:E:808:ARG:HE	1:E:810:ASN:HD21	1.62	0.47
1:H:127:ARG:HG3	1:H:322:TYR:CE1	2.49	0.47
1:H:1079:LEU:HD22	1:H:1104:LEU:HD12	1.97	0.47
1:E:213:PRO:HG2	1:E:216:LEU:HD13	1.97	0.47
1:G:100:ASP:OD1	1:G:101:GLY:N	2.46	0.47
1:G:216:LEU:HD22	1:G:256:LEU:HB3	1.97	0.47
1:G:265:LYS:HE3	1:G:293:LEU:O	2.15	0.47
1:H:454:HIS:CE1	1:H:456:ILE:HD11	2.50	0.47
1:E:527:ARG:NH1	1:E:533:ASP:O	2.45	0.47
1:G:368:ASP:OD1	1:G:368:ASP:N	2.46	0.47
1:A:62:ILE:HD13	1:A:253:CYS:HB2	1.96	0.47
1:A:356:ASN:HB3	1:A:630:ASP:HA	1.96	0.47
1:A:955:ASP:OD1	1:A:955:ASP:N	2.47	0.47
1:F:55:LEU:HB3	1:F:59:ASP:HB2	1.97	0.47
1:F:808:ARG:HH2	1:F:820:LEU:HD13	1.80	0.47
1:G:808:ARG:HG2	1:G:888:LEU:HD11	1.97	0.47
1:A:825:PRO:HB3	1:A:904:ILE:HD13	1.97	0.47
1:E:814:GLU:HB2	1:E:817:VAL:HB	1.96	0.47
1:H:418:ALA:HB3	1:H:423:GLN:HG3	1.97	0.47
1:B:825:PRO:HD3	1:B:894:ILE:HD13	1.96	0.46
1:C:232:ASP:HB3	1:C:235:LEU:HG	1.96	0.46
1:D:660:ARG:NH2	1:D:882:THR:O	2.48	0.46
1:D:976:GLU:HB3	1:D:983:GLN:HG2	1.98	0.46
1:E:161:ALA:HB2	1:E:260:LEU:HD11	1.97	0.46
1:E:976:GLU:HB3	1:E:983:GLN:HG2	1.97	0.46
1:F:812:PRO:HD3	1:F:893:TYR:CG	2.49	0.46
1:B:376:SER:HA	1:B:379:ARG:HG3	1.97	0.46
1:E:628:ARG:HA	1:E:967:LEU:HD13	1.97	0.46
1:F:140:LEU:HG	1:F:306:ASP:HA	1.96	0.46
1:G:95:LEU:HA	1:G:173:TYR:HB2	1.96	0.46
1:H:918:ASN:O	1:H:924:ARG:HD3	2.16	0.46
1:B:986:LYS:NZ	1:B:990:ASP:OD2	2.47	0.46
1:H:870:TYR:OH	1:H:1130:PHE:O	2.32	0.46
1:C:933:LYS:HB2	1:C:951:TYR:CE2	2.51	0.46
1:E:186:SER:HA	1:E:210:PHE:O	2.16	0.46
1:G:46:GLU:OE1	1:G:49:ARG:NH2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:814:GLU:HB2	1:G:817:VAL:HB	1.97	0.46
1:C:127:ARG:HG3	1:C:319:TYR:HE2	1.81	0.46
1:C:812:PRO:HB3	1:C:896:PRO:HA	1.97	0.46
1:D:612:LEU:HD12	1:D:627:LEU:HD21	1.98	0.46
1:F:127:ARG:HB2	1:F:319:TYR:CE2	2.51	0.46
1:G:452:GLN:HE21	1:G:605:LYS:HD3	1.81	0.46
1:G:878:SER:O	1:G:882:THR:OG1	2.24	0.46
1:A:295:ASN:ND2	1:A:300:PHE:HB3	2.30	0.46
1:B:133:PHE:HB3	1:B:146:LYS:HD2	1.98	0.46
1:B:448:MET:HB2	1:B:608:ILE:HD13	1.97	0.46
1:F:61:ARG:NE	1:F:207:GLU:OE2	2.44	0.46
1:G:59:ASP:OD1	1:G:209:HIS:ND1	2.48	0.46
1:C:400:PHE:HE1	1:C:787:LEU:HD11	1.81	0.46
1:C:487:PHE:CZ	1:C:633:PRO:HG3	2.51	0.46
1:C:116:ASN:OD1	1:C:116:ASN:N	2.45	0.45
1:C:127:ARG:HG3	1:C:319:TYR:CE2	2.51	0.45
1:F:569:PHE:CD2	1:F:967:LEU:HD11	2.51	0.45
1:A:970:ASP:OD1	1:A:970:ASP:N	2.48	0.45
1:D:440:ARG:HH21	1:D:442:HIS:CE1	2.34	0.45
1:D:448:MET:HB2	1:D:608:ILE:HD13	1.98	0.45
1:E:809:ARG:NH2	4:E:1313:HOH:O	2.44	0.45
1:F:51:LEU:O	1:F:54:ARG:HB2	2.15	0.45
1:G:541:LYS:NZ	1:G:628:ARG:HH12	2.13	0.45
1:A:116:ASN:OD1	1:A:116:ASN:N	2.46	0.45
1:F:527:ARG:HB2	1:F:534:ARG:NH1	2.30	0.45
1:A:575:TYR:OH	1:A:580:GLY:O	2.22	0.45
1:B:352:TYR:CE2	1:B:462:ALA:HB2	2.52	0.45
1:C:976:GLU:HB3	1:C:983:GLN:HG2	1.99	0.45
1:F:825:PRO:HB3	1:F:904:ILE:HD13	1.98	0.45
1:G:72:ASP:OD1	1:G:72:ASP:N	2.49	0.45
1:D:918:ASN:O	1:D:924:ARG:HD3	2.17	0.45
1:G:958:VAL:HA	1:G:962:PHE:HD2	1.82	0.45
1:A:196:ALA:HB2	1:A:203:GLU:HB2	1.99	0.45
1:B:512:PHE:O	1:B:515:ARG:HG2	2.17	0.45
1:C:112:TYR:CZ	1:C:703:PRO:HG3	2.52	0.45
1:C:803:VAL:HG11	1:C:912:PHE:CD2	2.52	0.45
1:E:870:TYR:OH	1:E:1130:PHE:O	2.33	0.45
1:E:955:ASP:N	1:E:955:ASP:OD1	2.49	0.45
1:E:958:VAL:O	1:E:962:PHE:HB2	2.15	0.45
1:A:97:LEU:HD11	1:A:118:VAL:HG23	1.98	0.45
1:A:627:LEU:HD13	1:A:631:TYR:CD2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:127:ARG:HG3	1:D:322:TYR:CE1	2.51	0.45
1:G:808:ARG:NH1	1:G:842:MET:O	2.47	0.45
1:H:465:CYS:HB3	1:H:479:ILE:HD11	1.98	0.45
1:H:674:PRO:HB2	1:H:677:ALA:HB2	1.99	0.45
1:B:1079:LEU:HD12	1:B:1104:LEU:HD12	1.99	0.45
1:E:894:ILE:HD11	1:E:904:ILE:HD12	1.98	0.45
1:H:102:ASP:HB3	1:H:113:ARG:HB3	1.99	0.45
1:H:257:ALA:HB1	1:H:259:HIS:CE1	2.52	0.45
1:A:646:SER:HB3	1:A:663:VAL:HG12	1.99	0.45
1:B:478:GLU:OE1	1:B:478:GLU:N	2.50	0.45
1:C:904:ILE:O	1:C:908:ILE:HG12	2.17	0.45
1:D:671:PHE:CE1	1:D:764:ARG:HB3	2.52	0.45
1:D:870:TYR:OH	1:D:1130:PHE:O	2.30	0.45
1:B:612:LEU:HG	1:B:627:LEU:HD11	2.00	0.44
1:C:237:GLU:OE2	1:C:1094:ARG:NH1	2.50	0.44
1:F:145:ASP:OD1	1:F:145:ASP:N	2.49	0.44
1:B:62:ILE:HD13	1:B:253:CYS:HB2	1.99	0.44
1:E:813:PRO:HB3	1:E:819:ALA:HB2	1.99	0.44
1:F:244:PRO:HG2	1:F:1104:LEU:HD11	1.98	0.44
1:G:933:LYS:HB2	1:G:951:TYR:CE2	2.51	0.44
1:A:216:LEU:HD13	1:A:256:LEU:HB2	2.00	0.44
1:D:958:VAL:O	1:D:962:PHE:HB2	2.17	0.44
1:B:265:LYS:HE3	1:B:293:LEU:O	2.17	0.44
1:F:134:HIS:HB3	1:F:149:VAL:CG2	2.48	0.44
1:G:507:LEU:HD11	1:G:560:ILE:HD13	1.98	0.44
1:C:142:ILE:HD12	1:C:148:GLU:HG3	2.00	0.44
1:F:154:TYR:HD1	1:F:302:VAL:HG22	1.81	0.44
1:G:186:SER:HA	1:G:210:PHE:O	2.18	0.44
1:F:257:ALA:HB1	1:F:259:HIS:CE1	2.53	0.44
1:H:186:SER:HA	1:H:210:PHE:O	2.18	0.44
1:H:244:PRO:HG2	1:H:1104:LEU:HD21	1.98	0.44
1:A:454:HIS:CE1	1:A:456:ILE:HD11	2.53	0.44
1:D:194:LEU:HB3	1:D:204:LYS:HB2	2.00	0.44
1:E:1073:GLU:OE2	1:E:1112:ARG:NH2	2.46	0.44
1:G:870:TYR:OH	1:G:1130:PHE:O	2.34	0.44
1:H:834:LEU:HD22	1:H:886:GLY:HA3	1.98	0.44
1:F:62:ILE:HD13	1:F:253:CYS:HB2	2.00	0.44
1:G:144:GLN:HB2	1:G:1009:ASP:HB3	2.00	0.44
1:G:914:HIS:O	1:G:964:ARG:NH1	2.44	0.44
1:B:808:ARG:HE	1:B:810:ASN:HD21	1.65	0.44
1:C:196:ALA:HB2	1:C:203:GLU:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:357:LEU:HD13	1:C:361:PHE:CD1	2.53	0.44
1:D:53:ASP:HA	1:D:81:ARG:HB3	2.00	0.44
1:D:674:PRO:HB2	1:D:677:ALA:HB2	2.00	0.44
1:H:958:VAL:O	1:H:962:PHE:HB2	2.18	0.44
1:C:352:TYR:CE2	1:C:462:ALA:HB2	2.53	0.43
1:E:116:ASN:OD1	1:E:116:ASN:N	2.50	0.43
1:E:958:VAL:HA	1:E:962:PHE:HD2	1.83	0.43
1:G:97:LEU:HD11	1:G:118:VAL:HG23	2.00	0.43
1:H:207:GLU:HG3	1:H:251:THR:HG23	1.99	0.43
1:H:976:GLU:HB3	1:H:983:GLN:HG2	1.99	0.43
1:H:813:PRO:HB3	1:H:819:ALA:HB2	1.99	0.43
1:H:894:ILE:HD11	1:H:904:ILE:HD12	2.00	0.43
1:A:522:ASN:O	1:D:199:GLY:HA2	2.18	0.43
1:B:812:PRO:HD3	1:B:893:TYR:CG	2.53	0.43
1:G:127:ARG:HG3	1:G:322:TYR:CE1	2.54	0.43
1:C:348:GLY:N	1:C:640:GLU:HG3	2.34	0.43
1:E:61:ARG:NE	1:E:207:GLU:OE2	2.46	0.43
1:C:277:THR:O	1:C:281:ARG:HG3	2.19	0.43
1:E:62:ILE:HD13	1:E:253:CYS:HB2	2.00	0.43
1:G:554:ASN:O	1:G:558:GLU:HG2	2.18	0.43
1:G:733:VAL:HG11	1:G:745:TRP:CD1	2.53	0.43
1:B:101:GLY:O	1:B:113:ARG:NH1	2.52	0.43
1:G:465:CYS:HB3	1:G:479:ILE:HD11	1.99	0.43
1:H:446:ARG:NE	3:H:1202:MLT:O5	2.49	0.43
1:B:733:VAL:HG11	1:B:745:TRP:CD1	2.53	0.43
1:C:915:MET:O	1:C:920:ARG:NH1	2.52	0.43
1:D:97:LEU:HD13	1:D:113:ARG:HB2	2.00	0.43
1:D:812:PRO:HD3	1:D:893:TYR:CD1	2.53	0.43
1:F:112:TYR:CZ	1:F:703:PRO:HG3	2.54	0.43
1:A:918:ASN:O	1:A:924:ARG:HD3	2.19	0.43
1:C:615:GLY:HA2	1:C:900:VAL:HA	2.00	0.43
1:E:100:ASP:OD1	1:E:100:ASP:N	2.48	0.43
1:H:676:ASP:N	1:H:676:ASP:OD1	2.52	0.43
1:B:442:HIS:CE1	1:B:456:ILE:HB	2.54	0.43
1:B:465:CYS:HB3	1:B:479:ILE:HD11	2.00	0.43
1:C:319:TYR:OH	1:C:762:ASN:ND2	2.42	0.43
1:H:161:ALA:HB2	1:H:260:LEU:HD11	2.01	0.43
1:A:140:LEU:HG	1:A:306:ASP:HA	2.01	0.43
1:A:776:GLU:O	1:A:780:VAL:HG23	2.19	0.43
1:D:257:ALA:HB1	1:D:259:HIS:CE1	2.53	0.43
1:D:850:THR:OG1	1:D:1001:ARG:HD3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:244:PRO:HG2	1:G:1104:LEU:HD21	2.00	0.43
1:A:612:LEU:HD12	1:A:627:LEU:HD21	2.01	0.42
1:A:958:VAL:O	1:A:962:PHE:HB2	2.18	0.42
1:D:707:GLU:HG2	1:D:710:ARG:HH22	1.83	0.42
1:D:1085:ARG:HG3	1:D:1086:PRO:HD2	2.01	0.42
1:E:241:SER:HB2	1:E:1078:ARG:HH11	1.84	0.42
1:F:812:PRO:HB3	1:F:896:PRO:HA	2.01	0.42
1:C:823:TYR:HE2	1:C:829:MET:HE3	1.85	0.42
1:E:812:PRO:HD3	1:E:893:TYR:CD1	2.54	0.42
1:E:921:ASN:HB3	1:E:924:ARG:HG2	2.01	0.42
1:F:196:ALA:HB2	1:F:203:GLU:HB2	2.00	0.42
1:F:344:GLU:OE2	1:F:661:LYS:NZ	2.37	0.42
1:D:134:HIS:HB3	1:D:149:VAL:CG2	2.50	0.42
1:E:35:ILE:HD12	1:E:35:ILE:H	1.84	0.42
1:G:979:ARG:CZ	1:G:982:LEU:HD11	2.50	0.42
1:E:571:VAL:HG12	1:E:587:PHE:CE2	2.55	0.42
1:E:750:ASP:HA	1:E:759:ARG:NH1	2.35	0.42
1:F:970:ASP:OD1	1:F:970:ASP:N	2.45	0.42
1:H:72:ASP:OD1	1:H:72:ASP:N	2.50	0.42
1:A:934:MET:HG3	1:A:949:LEU:HB2	2.01	0.42
1:D:363:ASP:OD2	1:D:435:SER:OG	2.22	0.42
1:D:385:ARG:HD2	1:D:385:ARG:HA	1.79	0.42
1:G:590:GLY:H	1:G:601:ARG:NH1	2.17	0.42
1:A:139:GLY:O	1:F:72:ASP:HB3	2.20	0.42
1:A:194:LEU:HD21	1:A:201:THR:HB	2.01	0.42
1:A:536:LEU:HD21	1:A:629:PRO:HB2	2.00	0.42
1:F:305:ARG:HD3	1:F:305:ARG:N	2.34	0.42
1:G:112:TYR:CZ	1:G:703:PRO:HG3	2.55	0.42
1:B:958:VAL:O	1:B:962:PHE:HB2	2.20	0.42
1:D:147:VAL:HG13	1:D:283:ASP:HB3	2.02	0.42
1:E:465:CYS:HB3	1:E:479:ILE:HD11	2.00	0.42
1:E:848:SER:OG	1:E:849:THR:N	2.53	0.42
1:F:108:ILE:HG22	1:F:318:ASN:CG	2.40	0.42
1:H:232:ASP:HB3	1:H:235:LEU:HG	2.00	0.42
1:H:445:HIS:HB3	1:H:453:TRP:CE2	2.55	0.42
1:H:733:VAL:HG11	1:H:745:TRP:CD1	2.55	0.42
1:B:783:VAL:HG13	1:B:793:LEU:HD22	2.01	0.42
1:C:255:ILE:HB	1:C:314:VAL:HG22	2.00	0.42
1:C:678:ILE:HD11	1:C:759:ARG:HH21	1.85	0.42
1:C:808:ARG:HH22	1:C:820:LEU:HD13	1.85	0.42
1:D:95:LEU:HA	1:D:173:TYR:HB2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:550:ASN:HB2	1:D:553:TYR:H	1.85	0.42
1:E:803:VAL:HG11	1:E:912:PHE:CD2	2.55	0.42
1:E:835:PHE:HA	1:E:838:TYR:HB2	2.02	0.42
1:F:813:PRO:HB3	1:F:819:ALA:HB2	2.01	0.42
1:B:573:ARG:HD3	1:B:574:TYR:CE2	2.55	0.42
1:B:924:ARG:NH1	1:B:928:GLU:OE1	2.53	0.42
1:C:186:SER:HB2	1:C:209:HIS:CE1	2.55	0.42
1:D:116:ASN:OD1	1:D:116:ASN:N	2.49	0.42
1:D:216:LEU:HD22	1:D:256:LEU:HB3	2.02	0.42
1:G:72:ASP:OD2	4:G:1301:HOH:O	2.22	0.42
1:B:678:ILE:HD11	1:B:759:ARG:HH21	1.85	0.41
1:D:904:ILE:O	1:D:908:ILE:HG12	2.19	0.41
1:F:3:VAL:O	1:F:7:ARG:HG3	2.20	0.41
1:C:850:THR:OG1	1:C:851:GLY:N	2.45	0.41
1:E:72:ASP:OD1	1:E:72:ASP:N	2.52	0.41
1:F:612:LEU:HG	1:F:627:LEU:HD11	2.02	0.41
1:H:97:LEU:HD11	1:H:118:VAL:HG23	2.02	0.41
1:A:70:LEU:HD22	1:A:155:ALA:HB2	2.02	0.41
1:A:826:LEU:HB3	1:A:953:ILE:HD13	2.02	0.41
1:B:86:LEU:HD13	1:B:92:ALA:HB2	2.02	0.41
1:D:61:ARG:NE	1:D:207:GLU:OE2	2.42	0.41
1:A:86:LEU:HD13	1:A:92:ALA:HB2	2.03	0.41
1:C:244:PRO:HG2	1:C:1104:LEU:HD11	2.01	0.41
1:C:575:TYR:HA	1:C:579:TRP:CZ3	2.55	0.41
1:D:62:ILE:HD13	1:D:253:CYS:HB2	2.03	0.41
1:D:434:LEU:HD12	1:D:440:ARG:HG3	2.01	0.41
1:D:808:ARG:HH21	1:D:820:LEU:HD22	1.85	0.41
1:H:808:ARG:HE	1:H:810:ASN:ND2	2.17	0.41
1:C:62:ILE:HD13	1:C:253:CYS:HB2	2.03	0.41
1:C:497:ILE:HD12	1:C:600:VAL:HG22	2.02	0.41
1:F:605:LYS:HD2	1:F:605:LYS:N	2.36	0.41
1:F:955:ASP:OD1	1:F:955:ASP:N	2.54	0.41
1:A:894:ILE:HD11	1:A:904:ILE:HD12	2.03	0.41
1:B:55:LEU:HB3	1:B:59:ASP:HB2	2.03	0.41
1:C:1094:ARG:NH2	1:H:49:ARG:HH12	2.13	0.41
1:E:904:ILE:O	1:E:908:ILE:HG12	2.20	0.41
1:G:352:TYR:CE2	1:G:462:ALA:HB2	2.55	0.41
1:G:493:PHE:CE1	1:G:598:ASN:HB3	2.55	0.41
1:G:648:VAL:O	1:G:1123:THR:HA	2.20	0.41
1:G:958:VAL:O	1:G:962:PHE:HB2	2.20	0.41
1:G:1024:GLU:HB3	1:G:1031:SER:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:540:ILE:HA	1:H:569:PHE:CZ	2.55	0.41
1:H:1022:LEU:O	1:H:1026:MET:HG3	2.21	0.41
1:A:186:SER:HA	1:A:210:PHE:O	2.20	0.41
1:A:894:ILE:HD11	1:A:904:ILE:CD1	2.51	0.41
1:C:108:ILE:O	1:C:318:ASN:ND2	2.47	0.41
1:C:461:ARG:HH21	1:C:917:PRO:HG3	1.86	0.41
1:C:869:VAL:HG21	1:C:1014:LEU:HB2	2.03	0.41
1:D:194:LEU:HD13	1:D:341:ALA:HB2	2.03	0.41
1:G:823:TYR:CE2	1:G:949:LEU:HD22	2.55	0.41
1:G:894:ILE:O	1:G:898:ALA:HB3	2.21	0.41
1:H:812:PRO:HD3	1:H:893:TYR:CD1	2.56	0.41
1:A:835:PHE:CZ	1:A:876:VAL:HA	2.55	0.41
1:B:127:ARG:HB2	1:B:319:TYR:CE2	2.55	0.41
1:B:543:LEU:HD12	1:B:569:PHE:CE1	2.55	0.41
1:C:630:ASP:OD1	1:C:630:ASP:N	2.53	0.41
1:G:140:LEU:HG	1:G:306:ASP:HA	2.03	0.41
1:A:631:TYR:OH	1:A:910:GLU:OE1	2.33	0.41
1:A:674:PRO:HB2	1:A:677:ALA:HB2	2.03	0.41
1:A:808:ARG:NH2	1:A:820:LEU:HD13	2.36	0.41
1:B:59:ASP:OD1	1:B:209:HIS:ND1	2.40	0.41
1:E:842:MET:SD	1:E:995:ILE:HA	2.61	0.41
1:F:387:GLU:OE1	1:F:387:GLU:N	2.54	0.41
1:F:923:LYS:HD3	1:F:923:LYS:HA	1.88	0.41
1:G:628:ARG:HA	1:G:967:LEU:HD13	2.02	0.41
1:G:904:ILE:O	1:G:908:ILE:HG12	2.21	0.41
1:E:411:THR:O	1:E:413:THR:HG23	2.21	0.41
1:E:1017:PRO:HD3	1:G:1129:ARG:NH2	2.36	0.41
1:G:61:ARG:NE	1:G:207:GLU:OE2	2.47	0.41
1:G:970:ASP:OD1	1:G:970:ASP:N	2.54	0.41
1:H:998:THR:HG23	1:H:1001:ARG:HH12	1.86	0.41
1:B:97:LEU:HD13	1:B:113:ARG:HB2	2.03	0.40
1:D:615:GLY:HA2	1:D:900:VAL:HA	2.02	0.40
1:H:691:ALA:HA	1:H:729:LEU:HD22	2.03	0.40
1:H:55:LEU:HD22	1:H:59:ASP:HB3	2.03	0.40
1:B:933:LYS:HB2	1:B:951:TYR:CE2	2.57	0.40
1:E:194:LEU:HD21	1:E:201:THR:HB	2.03	0.40
1:G:353:PRO:HG2	1:G:459:SER:HB3	2.02	0.40
1:G:378:ASN:O	1:G:382:LEU:HG	2.22	0.40
1:G:400:PHE:CE1	1:G:787:LEU:HD11	2.53	0.40
1:H:251:THR:O	1:H:310:VAL:HA	2.21	0.40
1:B:348:GLY:N	1:B:640:GLU:HG3	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:629:PRO:HD3	1:G:967:LEU:HD13	2.04	0.40
1:A:160:ARG:HH22	1:A:267:SER:CB	2.34	0.40
1:B:515:ARG:NH2	1:B:525:ASP:OD2	2.54	0.40
1:E:104:PHE:HB3	1:E:111:SER:HB2	2.04	0.40
1:E:812:PRO:HD3	1:E:893:TYR:CG	2.57	0.40
1:E:1016:CYS:SG	1:E:1018:PRO:HD2	2.61	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	1122/1131 (99%)	1094 (98%)	28 (2%)	0	100	100
1	B	1121/1131 (99%)	1075 (96%)	46 (4%)	0	100	100
1	C	1121/1131 (99%)	1090 (97%)	31 (3%)	0	100	100
1	D	1120/1131 (99%)	1084 (97%)	36 (3%)	0	100	100
1	E	1114/1131 (98%)	1084 (97%)	29 (3%)	1 (0%)	51	69
1	F	1111/1131 (98%)	1073 (97%)	38 (3%)	0	100	100
1	G	1109/1131 (98%)	1075 (97%)	34 (3%)	0	100	100
1	H	1116/1131 (99%)	1086 (97%)	29 (3%)	1 (0%)	51	69
All	All	8934/9048 (99%)	8661 (97%)	271 (3%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	H	849	THR
1	E	580	GLY

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	964/968 (100%)	953 (99%)	11 (1%)	73	85
1	B	963/968 (100%)	956 (99%)	7 (1%)	84	91
1	C	963/968 (100%)	959 (100%)	4 (0%)	91	95
1	D	962/968 (99%)	955 (99%)	7 (1%)	84	91
1	E	958/968 (99%)	952 (99%)	6 (1%)	86	92
1	F	956/968 (99%)	951 (100%)	5 (0%)	88	94
1	G	956/968 (99%)	951 (100%)	5 (0%)	88	94
1	H	960/968 (99%)	948 (99%)	12 (1%)	69	82
All	All	7682/7744 (99%)	7625 (99%)	57 (1%)	84	91

All (57) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	133	PHE
1	A	305	ARG
1	A	368	ASP
1	A	378	ASN
1	A	605	LYS
1	A	640	GLU
1	A	799	GLN
1	A	808	ARG
1	A	883	ASP
1	A	1038	ASP
1	A	1054	SER
1	B	133	PHE
1	B	305	ARG
1	B	368	ASP
1	B	378	ASN
1	B	514	ASN
1	B	943	ARG
1	B	1129	ARG
1	C	133	PHE

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Mol	Chain	Res	Type
1	C	305	ARG
1	C	378	ASN
1	C	533	ASP
1	D	133	PHE
1	D	305	ARG
1	D	640	GLU
1	D	808	ARG
1	D	824	ASN
1	D	840	SER
1	D	869	VAL
1	E	133	PHE
1	E	166	ASP
1	E	305	ARG
1	E	368	ASP
1	E	943	ARG
1	E	1087	ASP
1	F	54	ARG
1	F	133	PHE
1	F	305	ARG
1	F	605	LYS
1	F	1020	ARG
1	G	100	ASP
1	G	133	PHE
1	G	274	ASP
1	G	305	ARG
1	G	1131	VAL
1	H	20	LEU
1	H	100	ASP
1	H	133	PHE
1	H	305	ARG
1	H	368	ASP
1	H	573	ARG
1	H	605	LYS
1	H	676	ASP
1	H	849	THR
1	H	940	ASP
1	H	1020	ARG
1	H	1079	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	F	717	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 14 ligands modelled in this entry, 8 are monoatomic - leaving 6 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	$\# Z > 2$
3	MLT	B	1202	-	8,8,8	1.04	0	10,10,10	1.54	2 (20%)
3	MLT	A	1202	-	8,8,8	1.03	0	10,10,10	1.62	2 (20%)
3	MLT	F	1202	-	8,8,8	1.04	0	10,10,10	1.56	2 (20%)
3	MLT	G	1202	-	8,8,8	1.03	0	10,10,10	1.69	2 (20%)
3	MLT	H	1202	-	8,8,8	1.04	0	10,10,10	1.66	1 (10%)
3	MLT	C	1202	-	8,8,8	1.03	0	10,10,10	1.58	1 (10%)

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. '2' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	MLT	B	1202	-	-	5/8/8/8	-
3	MLT	A	1202	-	-	6/8/8/8	-
3	MLT	F	1202	-	-	4/8/8/8	-
3	MLT	G	1202	-	-	3/8/8/8	-
3	MLT	H	1202	-	-	5/8/8/8	-
3	MLT	C	1202	-	-	6/8/8/8	-

There are no bond length outliers.

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	1202	MLT	O2-C1-C2	3.65	120.73	112.72
3	G	1202	MLT	O2-C1-C2	3.60	120.62	112.72
3	C	1202	MLT	O2-C1-C2	3.48	120.36	112.72
3	A	1202	MLT	O2-C1-C2	3.32	120.01	112.72
3	F	1202	MLT	O2-C1-C2	3.17	119.69	112.72
3	B	1202	MLT	O2-C1-C2	3.17	119.68	112.72
3	B	1202	MLT	O5-C4-C3	2.17	121.02	114.07
3	A	1202	MLT	O5-C4-C3	2.09	120.77	114.07
3	F	1202	MLT	O2-C1-O1	-2.09	119.35	124.09
3	G	1202	MLT	O5-C4-C3	2.08	120.75	114.07

There are no chirality outliers.

All (29) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	B	1202	MLT	O3-C2-C3-C4
3	C	1202	MLT	O1-C1-C2-O3
3	C	1202	MLT	O2-C1-C2-O3
3	F	1202	MLT	O1-C1-C2-O3
3	F	1202	MLT	O2-C1-C2-O3
3	G	1202	MLT	O1-C1-C2-O3
3	G	1202	MLT	O2-C1-C2-O3
3	H	1202	MLT	O1-C1-C2-O3
3	H	1202	MLT	O2-C1-C2-O3
3	H	1202	MLT	O3-C2-C3-C4
3	B	1202	MLT	C1-C2-C3-C4
3	H	1202	MLT	C1-C2-C3-C4
3	A	1202	MLT	O1-C1-C2-O3
3	A	1202	MLT	O2-C1-C2-O3
3	A	1202	MLT	O1-C1-C2-C3

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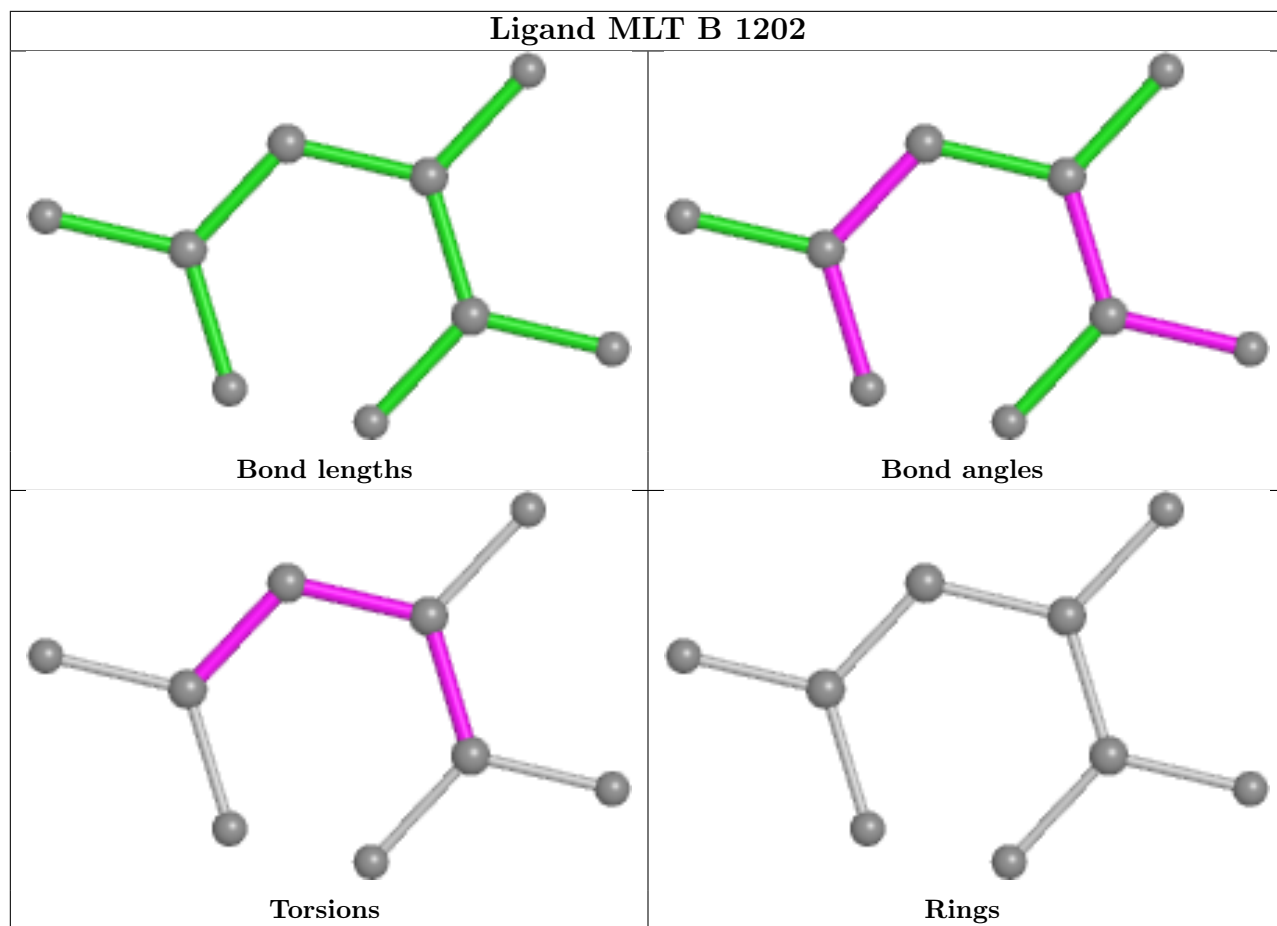
Mol	Chain	Res	Type	Atoms
3	C	1202	MLT	C1-C2-C3-C4
3	A	1202	MLT	O2-C1-C2-C3
3	F	1202	MLT	O2-C1-C2-C3
3	G	1202	MLT	O2-C1-C2-C3
3	H	1202	MLT	C2-C3-C4-O5
3	C	1202	MLT	O3-C2-C3-C4
3	A	1202	MLT	C2-C3-C4-O5
3	B	1202	MLT	C2-C3-C4-O5
3	A	1202	MLT	C2-C3-C4-O4
3	B	1202	MLT	O1-C1-C2-C3
3	B	1202	MLT	O2-C1-C2-C3
3	C	1202	MLT	O1-C1-C2-C3
3	C	1202	MLT	O2-C1-C2-C3
3	F	1202	MLT	O1-C1-C2-C3

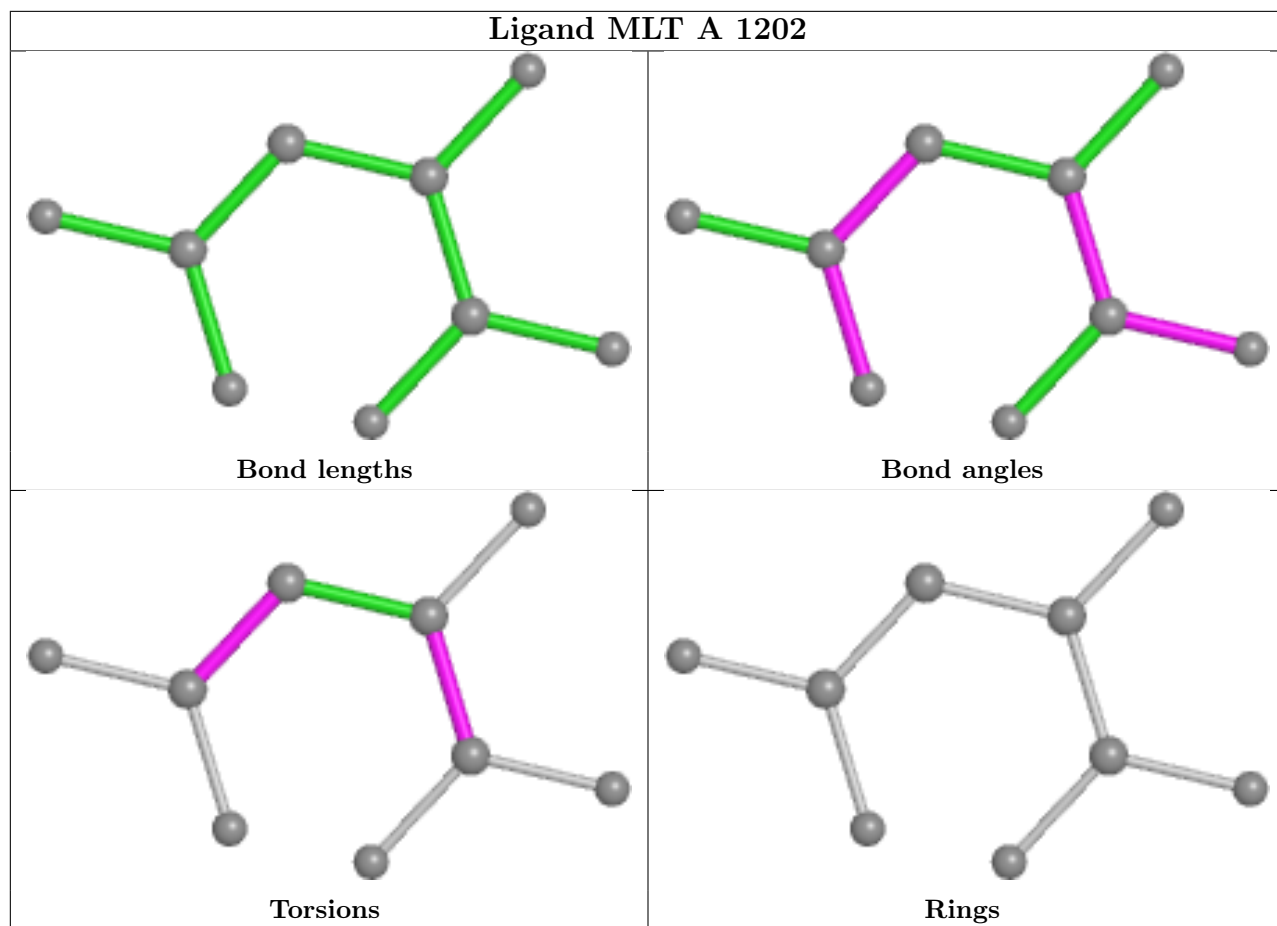
There are no ring outliers.

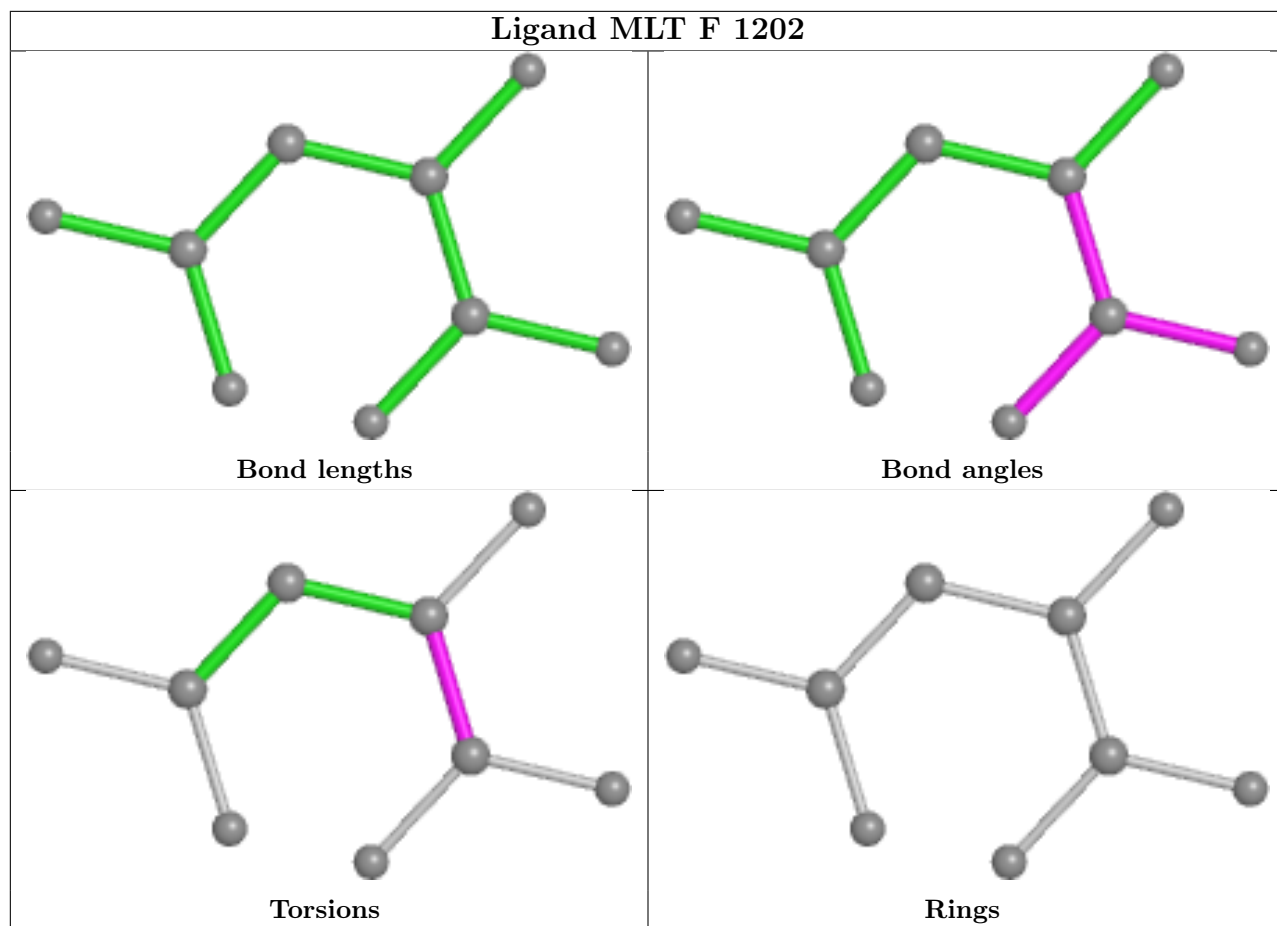
1 monomer is involved in 1 short contact:

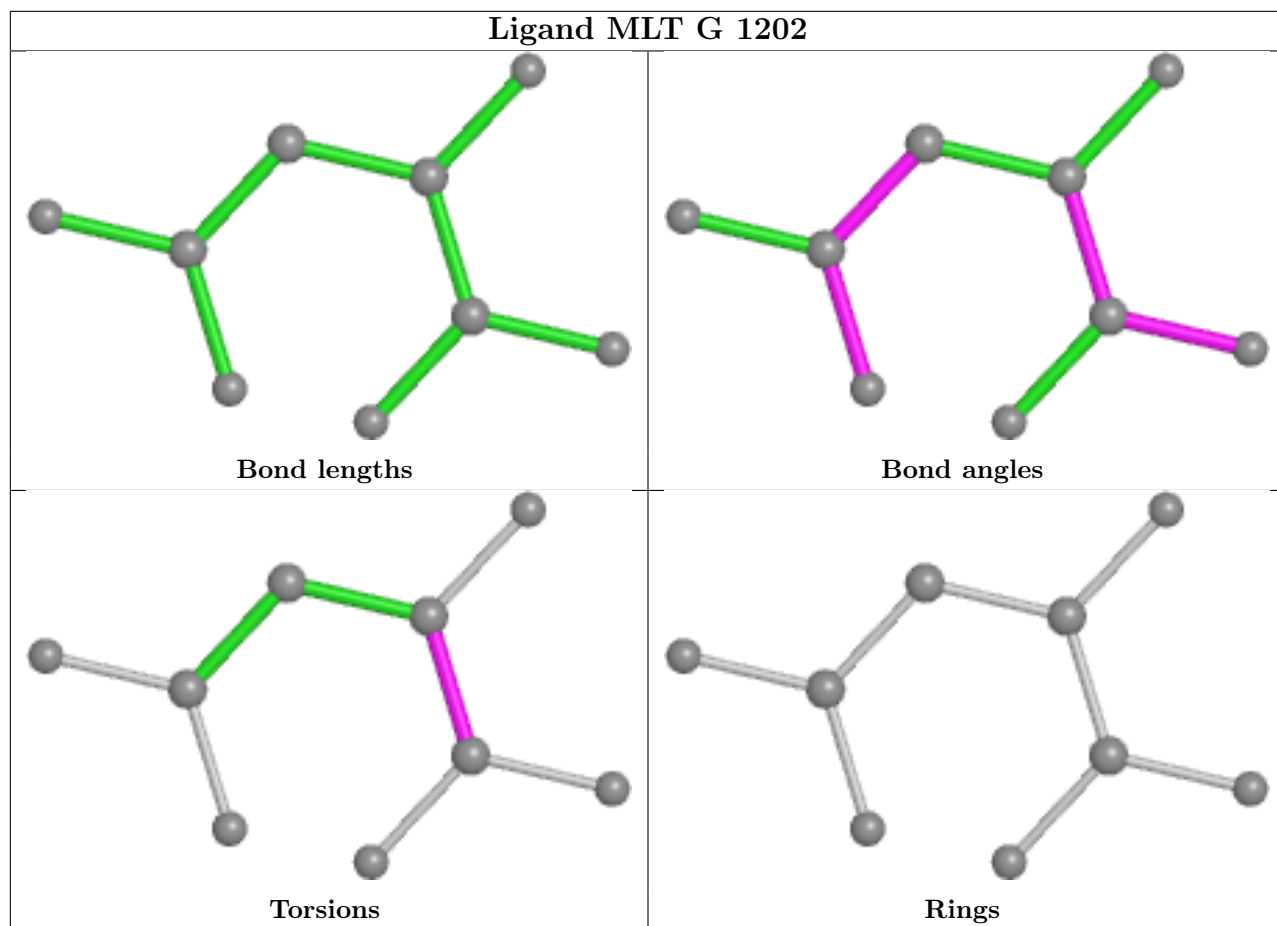
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	H	1202	MLT	1	0

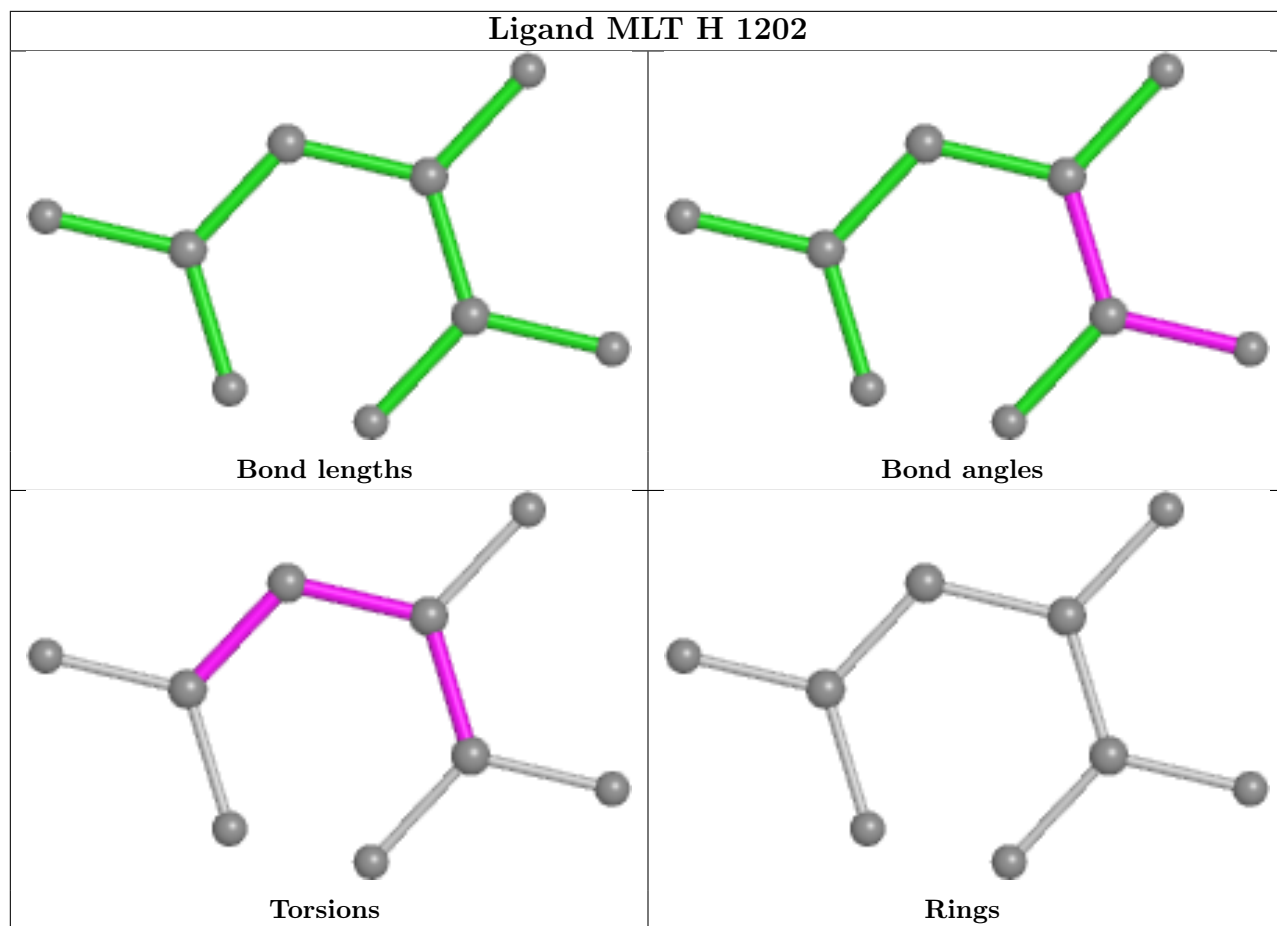
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 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.

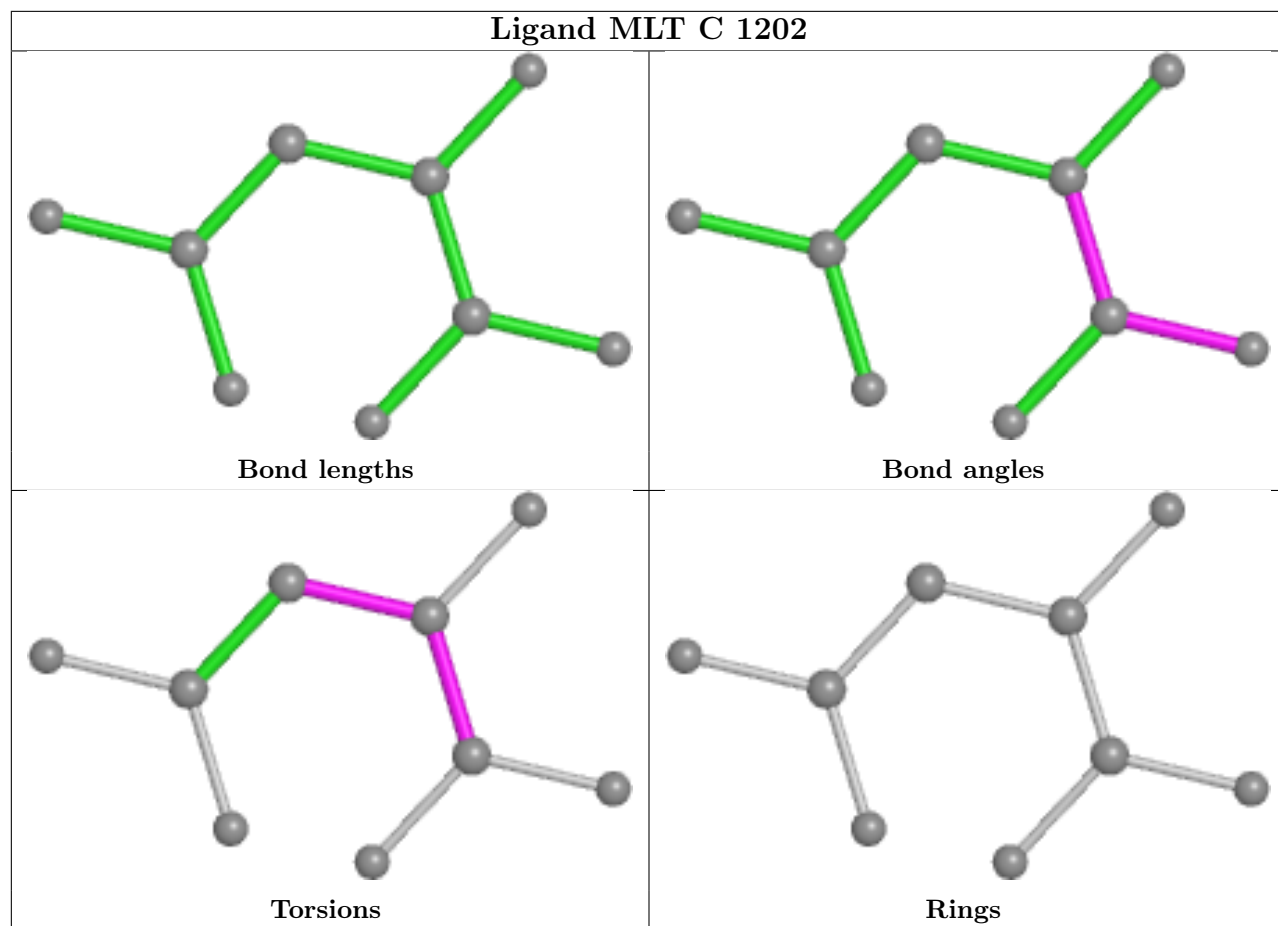












5.7 Other polymers [i](#)

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, 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(Å ²)	Q<0.9
1	A	1126/1131 (99%)	-0.08	5 (0%) 92 93	31, 49, 78, 145	0
1	B	1125/1131 (99%)	0.18	59 (5%) 27 24	33, 53, 121, 185	0
1	C	1125/1131 (99%)	-0.01	10 (0%) 84 83	31, 49, 94, 161	0
1	D	1124/1131 (99%)	-0.05	6 (0%) 91 91	32, 48, 86, 138	0
1	E	1120/1131 (99%)	0.04	16 (1%) 75 73	30, 52, 101, 175	0
1	F	1117/1131 (98%)	-0.01	5 (0%) 92 93	28, 52, 78, 145	0
1	G	1115/1131 (98%)	0.03	11 (0%) 82 81	32, 54, 84, 121	0
1	H	1122/1131 (99%)	-0.04	6 (0%) 91 91	34, 48, 78, 141	0
All	All	8974/9048 (99%)	0.01	118 (1%) 77 75	28, 51, 88, 185	0

All (118) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	512	PHE	12.0
1	B	526	HIS	6.9
1	B	546	SER	5.9
1	B	551	ASP	5.5
1	C	850	THR	5.4
1	E	849	THR	5.4
1	B	554	ASN	5.3
1	B	560	ILE	5.2
1	B	516	PHE	5.1
1	D	848	SER	5.0
1	B	547	ILE	4.8
1	B	552	GLU	4.7
1	B	525	ASP	4.7
1	B	521	ARG	4.7
1	B	533	ASP	4.7
1	B	558	GLU	4.6

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Mol	Chain	Res	Type	RSRZ
1	B	528	PRO	4.5
1	B	850	THR	4.5
1	B	517	ALA	4.3
1	B	511	ASP	4.3
1	B	549	TYR	4.2
1	E	511	ASP	4.0
1	B	555	ALA	4.0
1	B	577	PRO	3.9
1	D	547	ILE	3.8
1	B	520	SER	3.7
1	B	507	LEU	3.7
1	B	579	TRP	3.6
1	H	850	THR	3.6
1	B	535	SER	3.6
1	A	850	THR	3.6
1	B	548	GLN	3.5
1	B	536	LEU	3.5
1	B	942	HIS	3.5
1	E	526	HIS	3.4
1	B	565	LYS	3.4
1	H	848	SER	3.4
1	B	518	ASP	3.4
1	B	508	PHE	3.3
1	D	850	THR	3.3
1	B	849	THR	3.2
1	G	536	LEU	3.2
1	E	850	THR	3.2
1	C	547	ILE	3.2
1	F	816	LYS	3.2
1	E	520	SER	3.2
1	G	595	ARG	3.2
1	B	545	PRO	3.2
1	G	580	GLY	3.2
1	B	562	PRO	3.1
1	E	579	TRP	3.1
1	B	524	THR	3.0
1	C	846	SER	3.0
1	C	521	ARG	3.0
1	B	553	TYR	3.0
1	E	846	SER	3.0
1	E	549	TYR	3.0
1	B	527	ARG	3.0

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Mol	Chain	Res	Type	RSRZ
1	B	544	THR	2.9
1	B	514	ASN	2.9
1	C	517	ALA	2.9
1	B	556	PHE	2.9
1	B	493	PHE	2.9
1	B	530	LEU	2.9
1	D	558	GLU	2.9
1	G	532	ILE	2.8
1	B	519	ALA	2.8
1	C	849	THR	2.8
1	B	851	GLY	2.7
1	B	557	LEU	2.7
1	B	847	PRO	2.7
1	B	573	ARG	2.7
1	B	543	LEU	2.6
1	H	1095	LEU	2.6
1	E	551	ASP	2.6
1	E	596	HIS	2.6
1	B	509	ASP	2.6
1	D	1102	ARG	2.5
1	B	571	VAL	2.5
1	A	27	SER	2.5
1	B	576	LEU	2.5
1	C	552	GLU	2.4
1	A	846	SER	2.4
1	A	1131	VAL	2.4
1	H	942	HIS	2.3
1	H	846	SER	2.3
1	B	542	LEU	2.3
1	C	34	ALA	2.3
1	G	1	MET	2.3
1	E	516	PHE	2.3
1	B	574	TYR	2.3
1	F	35	ILE	2.3
1	G	574	TYR	2.2
1	G	493	PHE	2.2
1	B	566	GLU	2.2
1	A	53	ASP	2.2
1	G	590	GLY	2.2
1	F	53	ASP	2.1
1	B	599	MET	2.1
1	E	548	GLN	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	534	ARG	2.1
1	G	529	VAL	2.1
1	D	851	GLY	2.1
1	E	542	LEU	2.1
1	B	510	THR	2.1
1	E	552	GLU	2.1
1	C	516	PHE	2.1
1	B	500	ALA	2.0
1	E	524	THR	2.0
1	F	51	LEU	2.0
1	B	848	SER	2.0
1	F	756	ASP	2.0
1	G	816	LYS	2.0
1	H	493	PHE	2.0
1	G	530	LEU	2.0
1	B	605	LYS	2.0
1	C	554	ASN	2.0
1	E	815	ASP	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 monosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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.

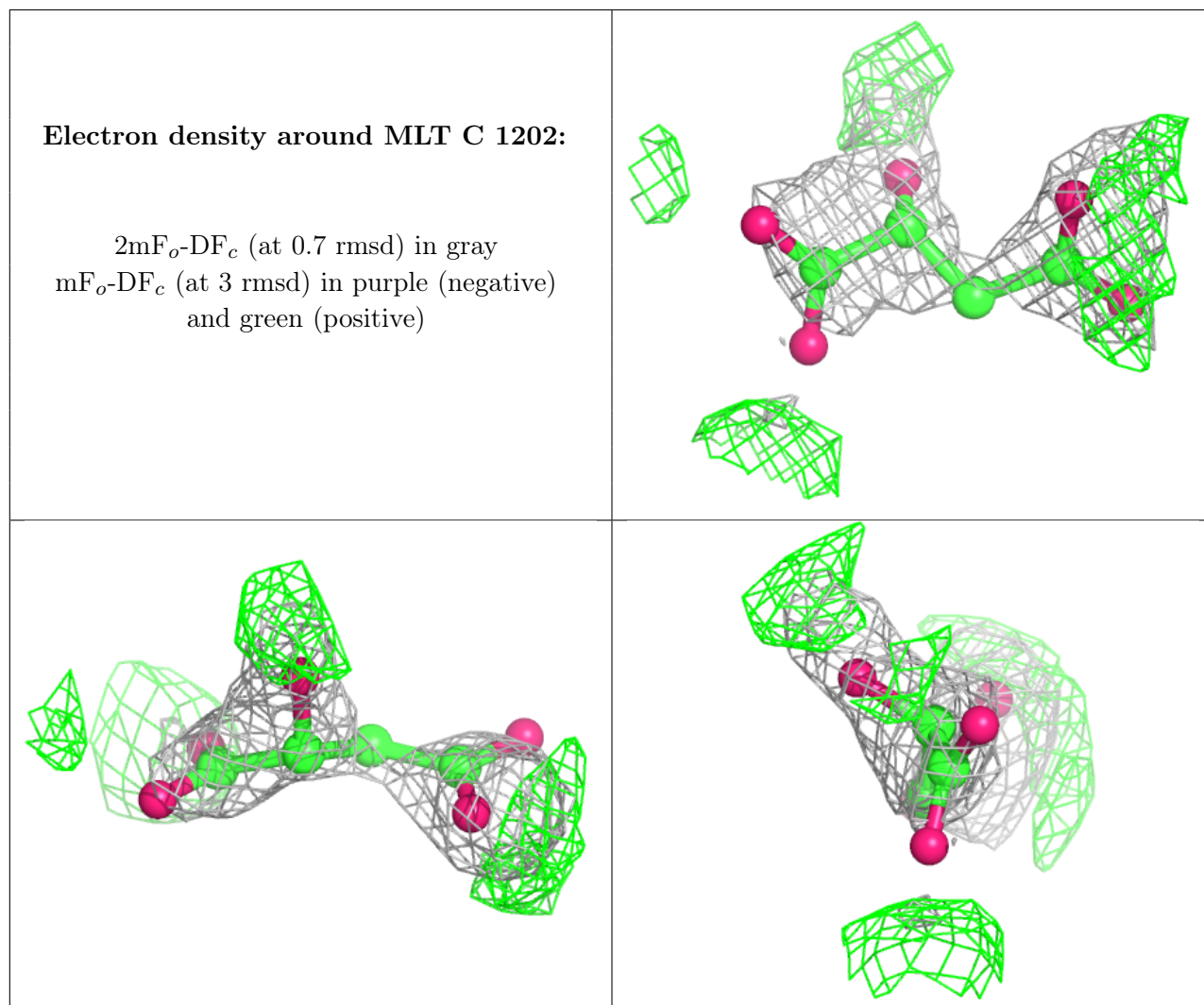
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	MLT	C	1202	9/9	0.67	0.40	43,48,54,56	9
3	MLT	B	1202	9/9	0.87	0.33	52,54,56,56	9
3	MLT	G	1202	9/9	0.88	0.26	43,48,50,51	9
3	MLT	F	1202	9/9	0.91	0.24	35,38,40,42	9
3	MLT	A	1202	9/9	0.92	0.21	37,41,42,42	9

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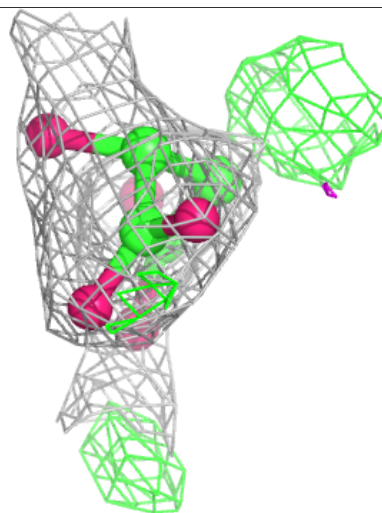
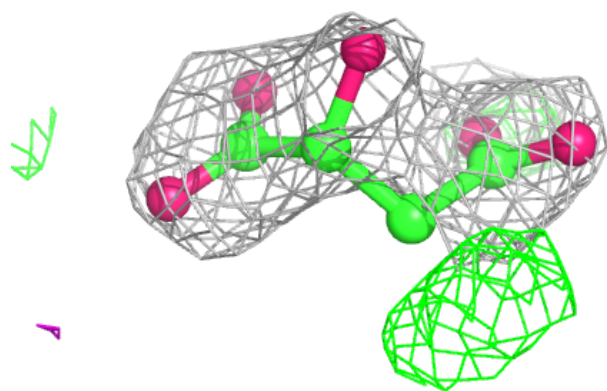
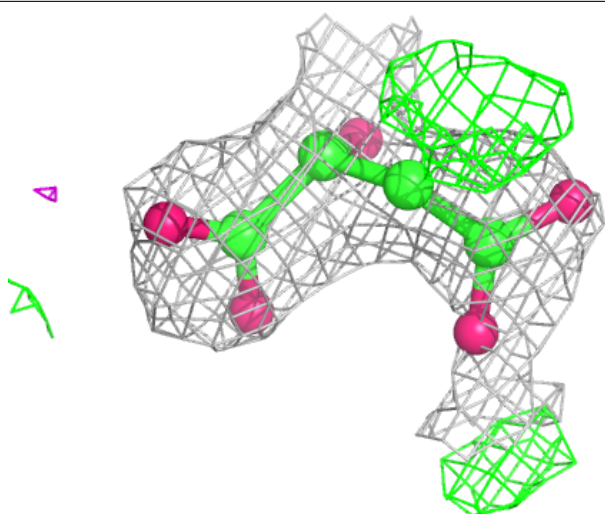
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	MLT	H	1202	9/9	0.93	0.19	42,43,46,46	9
2	MG	C	1201	1/1	0.94	0.28	42,42,42,42	0
2	MG	F	1201	1/1	0.94	0.15	32,32,32,32	0
2	MG	B	1201	1/1	0.96	0.19	33,33,33,33	0
2	MG	E	1201	1/1	0.97	0.19	29,29,29,29	0
2	MG	A	1201	1/1	0.97	0.18	31,31,31,31	0
2	MG	H	1201	1/1	0.98	0.19	32,32,32,32	0
2	MG	G	1201	1/1	0.99	0.22	31,31,31,31	0
2	MG	D	1201	1/1	0.99	0.19	33,33,33,33	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.



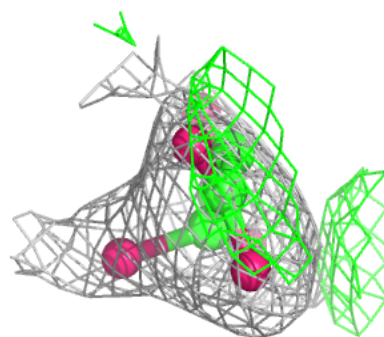
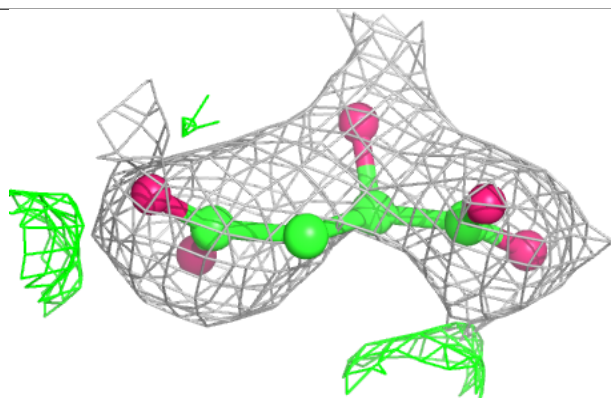
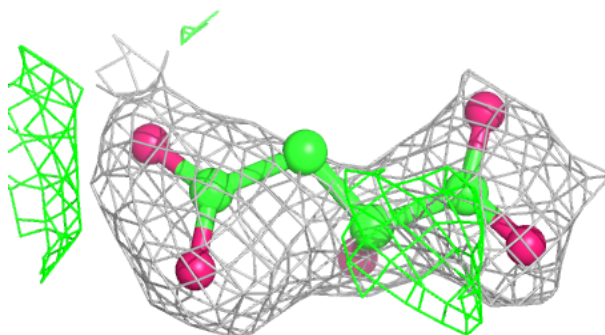
Electron density around MLT B 1202:

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

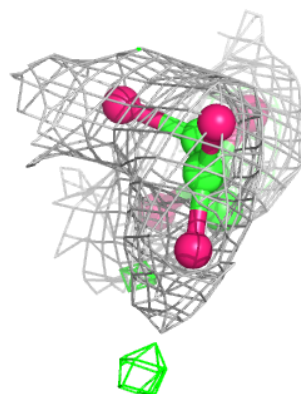
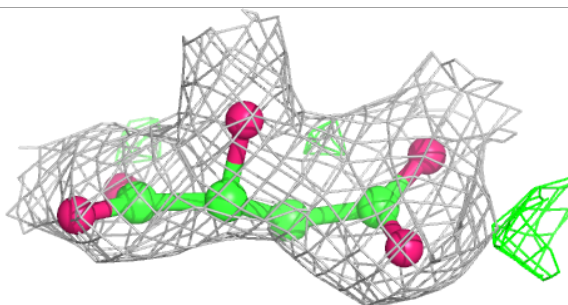
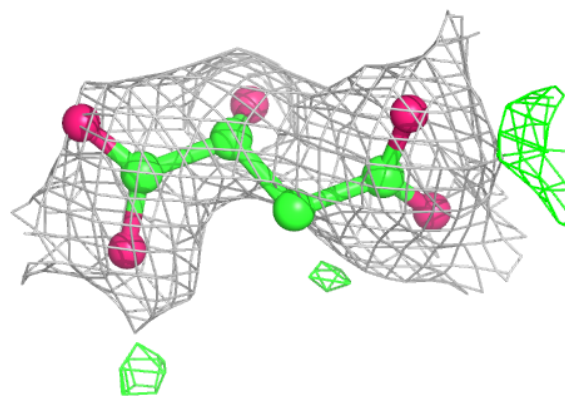


Electron density around MLT G 1202:

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

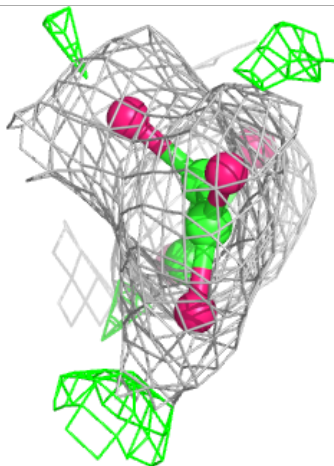
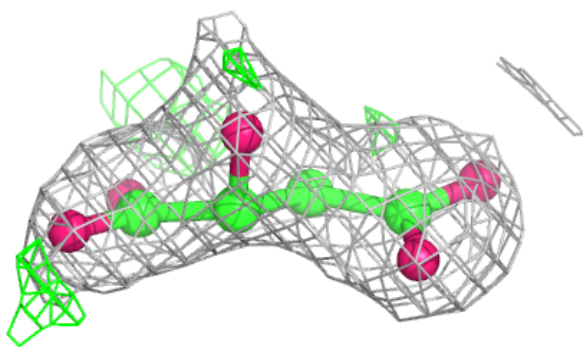
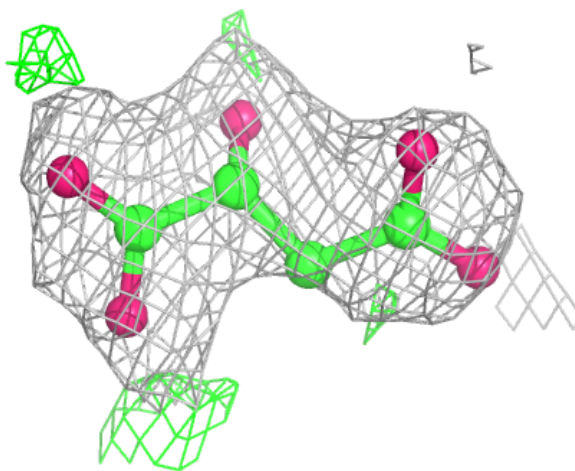
**Electron density around MLT F 1202:**

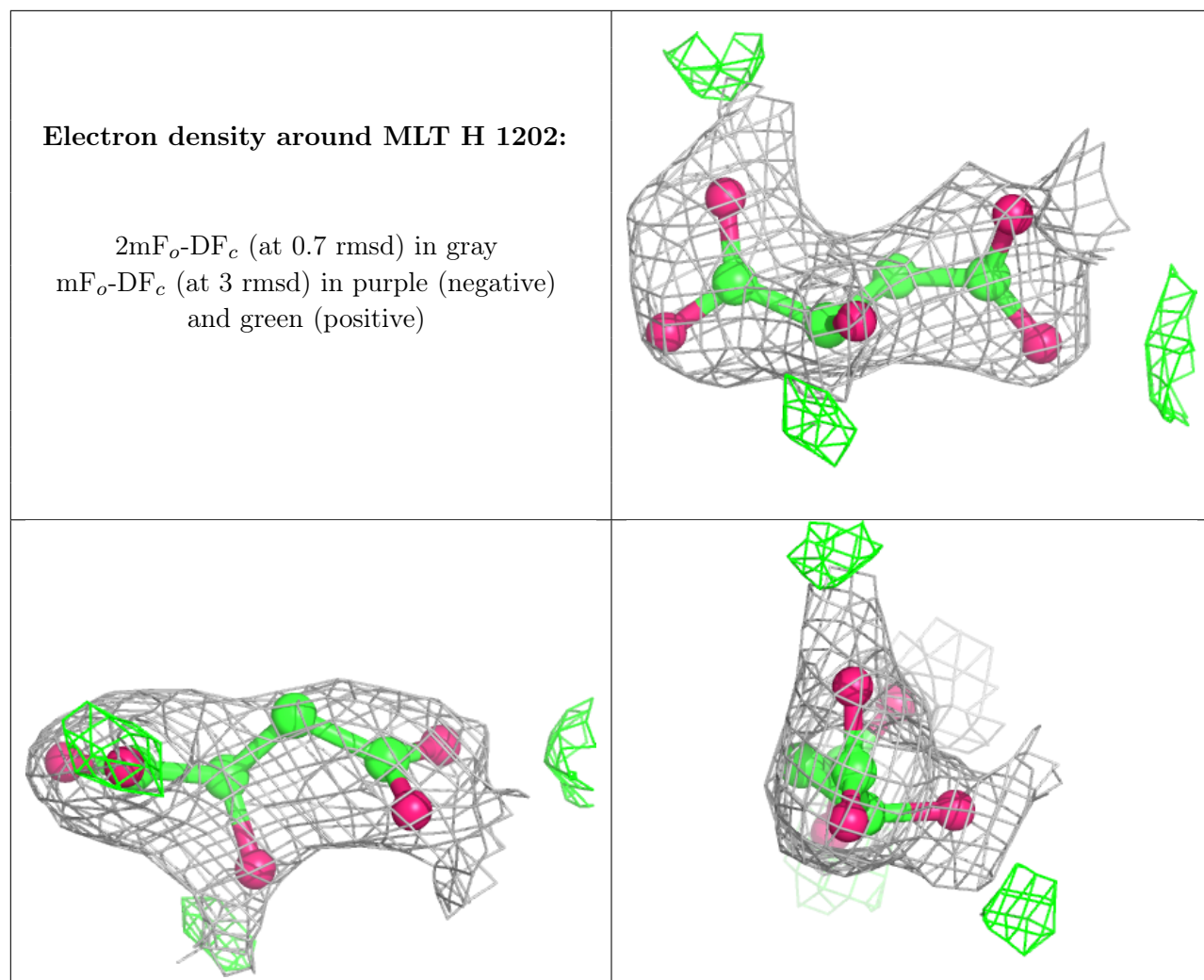
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around MLT A 1202:

$2mF_o-DF_c$ (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.