



# Full wwPDB X-ray Structure Validation Report ⓘ

Jun 14, 2020 – 04:39 am BST

PDB ID : 1O9L  
Title : Succinate:Coenzyme-A Transferase (pig heart)  
Authors : Mitchell, E.P.; Lloyd, A.J.; Lewis, G.; Shoolingin-Jordan, P.  
Deposited on : 2002-12-17  
Resolution : 2.40 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](mailto: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.

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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 : 2.11  
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) : 2.11

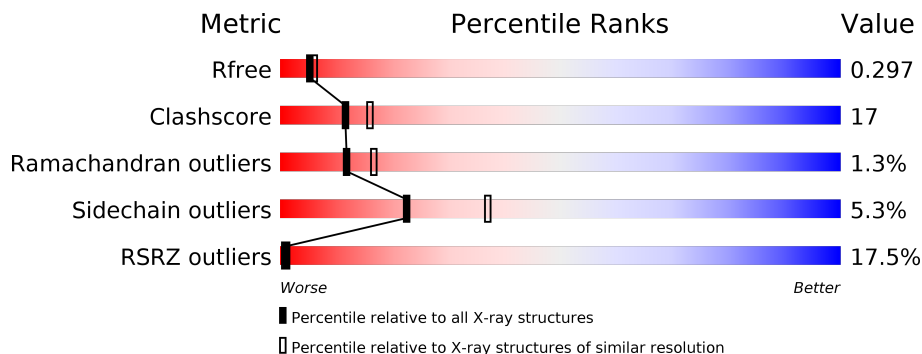
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## X-RAY DIFFRACTION

The reported resolution of this entry is 2.40 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	3907 (2.40-2.40)
Clashscore	141614	4398 (2.40-2.40)
Ramachandran outliers	138981	4318 (2.40-2.40)
Sidechain outliers	138945	4319 (2.40-2.40)
RSRZ outliers	127900	3811 (2.40-2.40)

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 on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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	481	 19% 66% 28% . .
1	B	481	 16% 65% 21% . 12%
1	C	481	 15% 60% 25% . 12%
1	D	481	 15% 66% 26% . .

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 crite-

ria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	EMC	C	9005	-	-	-	X
2	EMC	C	9006	-	-	-	X
2	EMC	D	9000	-	-	-	X
2	EMC	D	9001	-	-	-	X
2	EMC	D	9002	-	-	-	X
3	EMT	A	9007	-	-	X	X
3	EMT	B	9008	-	-	X	X

## 2 Entry composition [i](#)

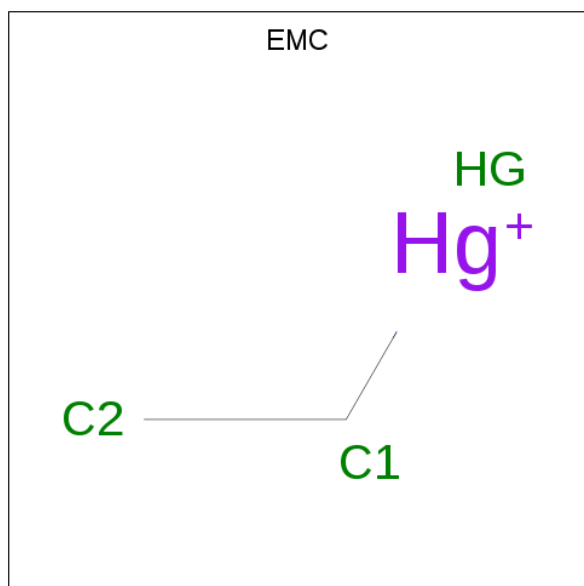
There are 4 unique types of molecules in this entry. The entry contains 14135 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 SUCCINYL-COA\;3-KETOACID-COENZYME A TRANSFERASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	468	Total 3568	C 2264	N 612	O 674	S 18	0	0	0
1	B	425	Total 3239	C 2056	N 554	O 616	S 13	0	0	0
1	C	425	Total 3234	C 2053	N 553	O 614	S 14	0	0	0
1	D	464	Total 3535	C 2244	N 604	O 669	S 18	0	0	0

- Molecule 2 is ETHYL MERCURY ION (three-letter code: EMC) (formula: C<sub>2</sub>H<sub>5</sub>Hg).



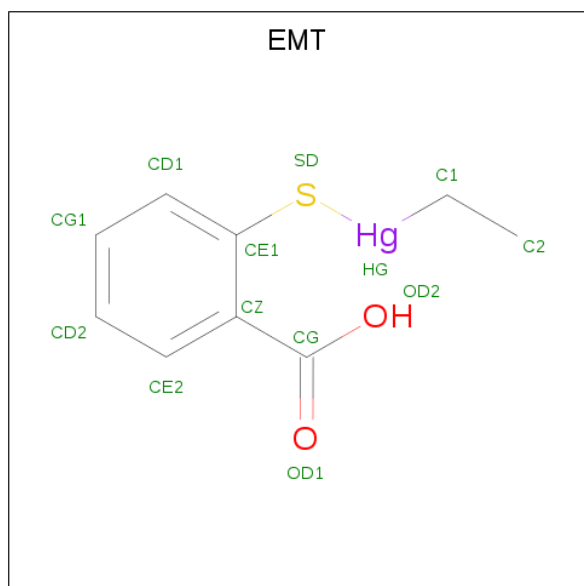
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	Hg		
2	A	1	Total 3	C 2	Hg 1	0	0
2	B	1	Total 3	C 2	Hg 1	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	C	1	Total	C	Hg	0	0
			3	2	1		
2	C	1	Total	C	Hg	0	0
			3	2	1		
2	D	1	Total	C	Hg	0	0
			3	2	1		
2	D	1	Total	C	Hg	0	0
			3	2	1		

- Molecule 3 is 2-(ETHYLMERCURI-THIO)-BENZOIC ACID (three-letter code: EMT) (formula:  $C_9H_{10}HgO_2S$ ).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	Hg	O	S	0	0
			13	9	1	2	1		
3	B	1	Total	C	Hg	O	S	0	0
			13	9	1	2	1		

- Molecule 4 is water.

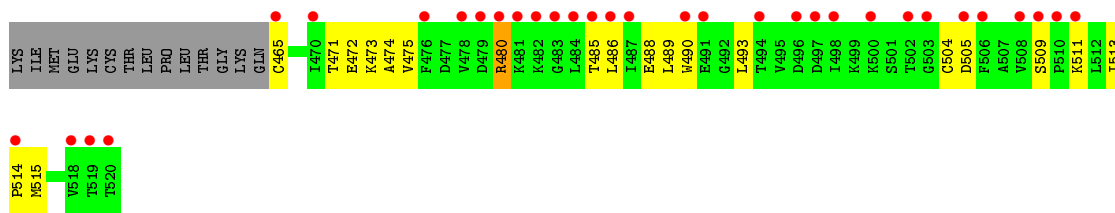
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	107	Total	O	0	0
			107	107		
4	B	86	Total	O	0	0
			86	86		

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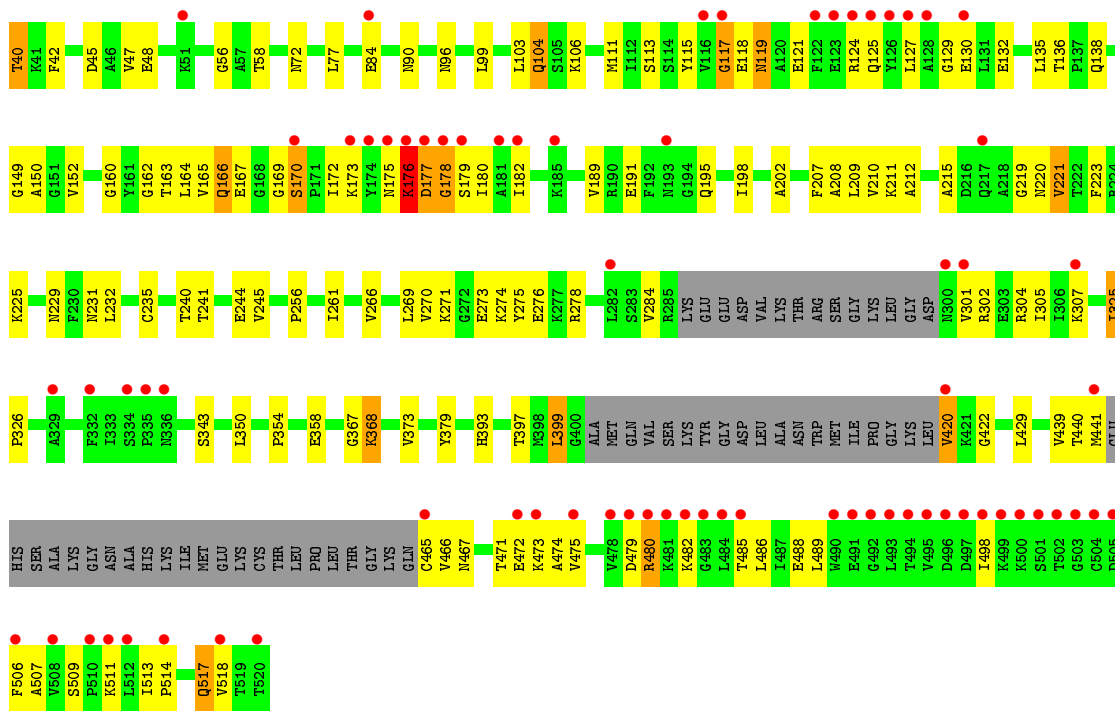
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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>		<b>ZeroOcc</b>	<b>AltConf</b>
4	C	139	Total 139	O 139	0	0
4	D	180	Total 180	O 180	0	0

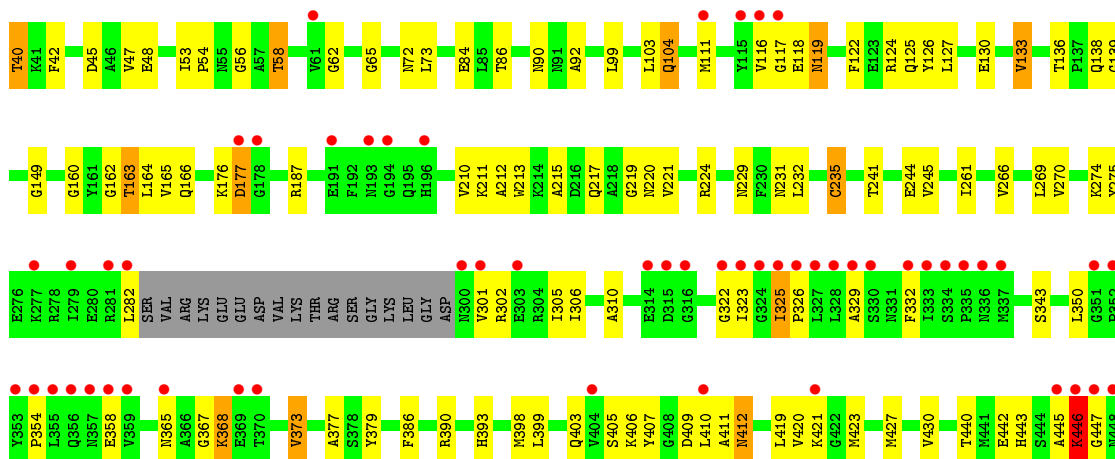




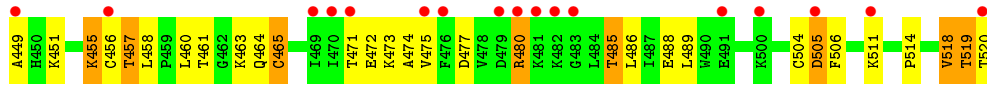
● Molecule 1: SUCCINYL-COA\3-KETOACID-COENZYME A TRANSFERASE



● Molecule 1: SUCCINYL-COA\3-KETOACID-COENZYME A TRANSFERASE







## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	74.80Å 133.80Å 101.90Å 90.00° 104.40° 90.00°	Depositor
Resolution (Å)	29.76 – 2.40 29.76 – 2.40	Depositor EDS
% Data completeness (in resolution range)	99.7 (29.76-2.40) 99.8 (29.76-2.40)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	0.05	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	4.06 (at 2.39Å)	Xtrriage
Refinement program	CNS 1.0	Depositor
R, $R_{free}$	0.240 , 0.270 0.277 , 0.297	Depositor DCC
$R_{free}$ test set	1506 reflections (1.99%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	36.8	Xtrriage
Anisotropy	0.459	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.36 , 69.1	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.89	EDS
Total number of atoms	14135	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	44.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.08% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: EMT, EMC

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	0.38	0/3626	0.63	0/4894
1	B	0.36	0/3288	0.61	0/4438
1	C	0.40	0/3283	0.64	1/4431 (0.0%)
1	D	0.42	0/3593	0.66	1/4851 (0.0%)
All	All	0.39	0/13790	0.64	2/18614 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	465	CYS	CA-CB-SG	6.20	125.17	114.00
1	D	505	ASP	N-CA-C	-5.21	96.93	111.00

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	3568	0	3639	137	0
1	B	3239	0	3296	87	0
1	C	3234	0	3281	119	0
1	D	3535	0	3597	133	0
2	A	3	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	3	0	0	0	0
2	C	6	0	0	0	0
2	D	9	0	0	1	0
3	A	13	0	4	9	0
3	B	13	0	4	8	0
4	A	107	0	0	6	0
4	B	86	0	0	6	0
4	C	139	0	0	10	0
4	D	180	0	0	5	0
All	All	14135	0	13821	480	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 17.

All (480) 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)
3:B:9008:EMT:HE2	3:B:9008:EMT:CZ	2.07	1.23
3:B:9008:EMT:HE2	3:B:9008:EMT:CD2	2.06	1.23
3:A:9007:EMT:HE2	3:A:9007:EMT:CD2	2.06	1.21
3:A:9007:EMT:HE2	3:A:9007:EMT:CZ	2.06	1.21
1:B:163:THR:HG22	1:B:165:VAL:H	1.13	1.10
1:A:163:THR:HG22	1:A:165:VAL:H	1.17	1.10
3:A:9007:EMT:HE2	3:A:9007:EMT:CE2	0.97	1.06
1:C:163:THR:HG22	1:C:165:VAL:H	1.12	1.06
3:B:9008:EMT:HE2	3:B:9008:EMT:CE2	0.97	1.06
1:C:96:ASN:HB3	4:C:2018:HOH:O	1.59	1.02
1:D:163:THR:HG22	1:D:165:VAL:H	1.25	1.01
1:D:325:ILE:HD13	1:D:440:THR:HB	1.41	1.00
1:B:96:ASN:HB3	4:B:2011:HOH:O	1.60	0.99
1:D:446:LYS:HG2	1:D:447:GLY:H	1.26	0.99
1:C:307:LYS:HE3	1:C:517:GLN:HG3	1.50	0.94
1:B:40:THR:HG21	1:B:219:GLY:HA3	1.53	0.90
1:A:445:ALA:HB3	1:A:449:ALA:HB3	1.54	0.90
1:A:325:ILE:HG23	1:A:326:PRO:HD3	1.54	0.88
1:A:450:HIS:ND1	1:A:503:GLY:HA2	1.88	0.88
1:D:306:ILE:HA	1:D:325:ILE:HG13	1.57	0.87
1:D:40:THR:HB	1:D:266:VAL:O	1.75	0.86
1:B:325:ILE:HG23	1:B:326:PRO:HD3	1.57	0.85
1:D:403:GLN:HE22	1:D:457:THR:H	1.23	0.85
1:D:40:THR:HG21	1:D:219:GLY:HA3	1.58	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:40:THR:HB	1:C:266:VAL:O	1.76	0.84
1:A:162:GLY:H	1:A:166:GLN:NE2	1.76	0.84
1:A:40:THR:HG21	1:A:219:GLY:HA3	1.59	0.84
1:A:406:LYS:HE3	1:C:273:GLU:HG2	1.60	0.83
1:B:40:THR:HB	1:B:266:VAL:O	1.78	0.83
1:C:325:ILE:HG23	1:C:326:PRO:HD3	1.61	0.82
1:D:116:VAL:HG11	1:D:122:PHE:CZ	2.15	0.82
1:D:471:THR:CG2	1:D:474:ALA:H	1.92	0.81
1:D:445:ALA:HB3	1:D:449:ALA:HB3	1.61	0.81
1:B:221:VAL:HG22	1:B:261:ILE:HB	1.62	0.80
1:A:40:THR:HB	1:A:266:VAL:O	1.81	0.80
1:A:410:LEU:HG	1:A:461:THR:HB	1.63	0.80
1:C:221:VAL:HG22	1:C:261:ILE:HB	1.64	0.79
1:C:40:THR:HG21	1:C:219:GLY:HA3	1.62	0.79
1:C:325:ILE:HG22	4:C:2091:HOH:O	1.82	0.78
1:D:221:VAL:HG22	1:D:261:ILE:HB	1.64	0.77
1:A:221:VAL:HG22	1:A:261:ILE:HB	1.67	0.76
1:A:446:LYS:HG2	1:A:447:GLY:H	1.49	0.76
1:D:305:ILE:HB	1:D:325:ILE:HD12	1.67	0.76
1:C:162:GLY:H	1:C:166:GLN:NE2	1.85	0.75
1:A:471:THR:HG23	1:A:474:ALA:H	1.53	0.73
1:A:443:HIS:ND1	1:A:471:THR:HG21	2.02	0.73
1:A:401:ALA:HA	1:A:412:ASN:HB3	1.71	0.72
1:C:56:GLY:HA2	1:C:84:GLU:O	1.89	0.72
1:B:325:ILE:HD13	1:B:440:THR:HB	1.72	0.72
1:D:305:ILE:HG22	1:D:325:ILE:CD1	2.19	0.71
1:D:464:GLN:NE2	1:D:480:ARG:HB2	2.06	0.71
1:C:164:LEU:O	1:C:167:GLU:O	2.09	0.71
1:C:132:GLU:HG2	1:C:173:LYS:HB2	1.73	0.70
1:A:511:LYS:N	1:A:511:LYS:HD2	2.07	0.70
1:A:162:GLY:H	1:A:166:GLN:HE21	1.38	0.69
1:A:456:CYS:SG	1:A:460:LEU:HG	2.33	0.69
1:D:475:VAL:HB	1:D:488:GLU:HB2	1.73	0.69
1:C:511:LYS:HD2	1:C:511:LYS:N	2.09	0.68
1:A:475:VAL:HB	1:A:488:GLU:HB2	1.74	0.68
1:B:475:VAL:HB	1:B:488:GLU:HB2	1.74	0.68
1:D:305:ILE:CB	1:D:325:ILE:HD12	2.23	0.68
1:C:96:ASN:ND2	4:C:2019:HOH:O	2.27	0.68
1:A:42:PHE:CE2	1:A:269:LEU:HD23	2.29	0.68
1:A:56:GLY:HA2	1:A:84:GLU:O	1.94	0.68
3:B:9008:EMT:HD1	4:B:2075:HOH:O	1.92	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:403:GLN:NE2	1:D:457:THR:H	1.93	0.67
1:A:445:ALA:HB1	1:A:446:LYS:HD3	1.77	0.66
1:D:325:ILE:HG23	1:D:326:PRO:HD3	1.76	0.66
1:B:163:THR:HG22	1:B:165:VAL:N	1.98	0.66
1:B:472:GLU:HG3	1:B:473:LYS:HG3	1.77	0.66
1:D:455:LYS:H	1:D:455:LYS:HD3	1.60	0.66
1:B:42:PHE:CE2	1:B:269:LEU:HD23	2.30	0.66
1:C:475:VAL:HB	1:C:488:GLU:HB2	1.78	0.66
1:C:479:ASP:HB3	1:C:482:LYS:HB2	1.78	0.65
1:D:446:LYS:HG2	1:D:447:GLY:N	2.05	0.65
1:A:172:ILE:HG12	3:A:9007:EMT:HD1	1.77	0.65
1:B:489:LEU:O	1:B:514:PRO:HA	1.95	0.65
1:A:414:MET:CE	1:A:459:PRO:HG2	2.27	0.65
1:D:471:THR:HG22	1:D:474:ALA:H	1.62	0.65
1:A:471:THR:CG2	1:A:474:ALA:H	2.10	0.64
1:A:511:LYS:O	1:A:513:ILE:HG23	1.97	0.64
1:A:403:GLN:HE22	1:A:457:THR:N	1.95	0.64
1:A:450:HIS:CG	1:A:503:GLY:HA2	2.31	0.64
1:D:117:GLY:O	1:D:118:GLU:HB2	1.95	0.64
1:C:471:THR:HG22	1:C:474:ALA:O	1.97	0.64
1:A:160:GLY:O	1:A:163:THR:HB	1.98	0.64
1:A:455:LYS:HE2	1:A:455:LYS:O	1.98	0.64
1:B:511:LYS:N	1:B:511:LYS:HD2	2.12	0.64
1:C:211:LYS:HE2	1:C:275:TYR:CE1	2.33	0.64
1:C:354:PRO:HB2	1:C:358:GLU:HB2	1.79	0.64
1:D:410:LEU:HD12	1:D:411:ALA:N	2.13	0.63
1:A:119:ASN:HD22	1:A:119:ASN:C	2.02	0.63
1:D:116:VAL:HG22	1:D:421:LYS:O	1.99	0.63
1:A:472:GLU:HG3	1:A:473:LYS:HG3	1.80	0.63
3:A:9007:EMT:HE2	3:A:9007:EMT:CG	2.67	0.63
1:D:45:ASP:OD2	1:D:48:GLU:HG2	1.99	0.63
3:B:9008:EMT:HE2	3:B:9008:EMT:CG	2.67	0.62
1:C:471:THR:HG23	1:C:474:ALA:H	1.64	0.62
1:D:403:GLN:HE22	1:D:457:THR:N	1.97	0.62
1:D:511:LYS:HD2	1:D:511:LYS:N	2.14	0.62
1:A:104:GLN:NE2	1:A:121:GLU:HG2	2.15	0.62
1:B:116:VAL:HG21	1:B:122:PHE:CE2	2.35	0.62
1:A:79:LYS:HE3	4:A:2010:HOH:O	1.98	0.62
1:C:472:GLU:HG3	1:C:473:LYS:HG3	1.80	0.62
1:C:163:THR:HG22	1:C:165:VAL:N	1.98	0.62
1:D:163:THR:HG22	1:D:165:VAL:N	2.08	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:406:LYS:HE3	1:D:407:TYR:CE2	2.35	0.61
1:D:471:THR:HG23	1:D:474:ALA:H	1.65	0.61
1:D:119:ASN:HD22	1:D:119:ASN:C	2.02	0.61
1:C:511:LYS:O	1:C:513:ILE:HG23	2.01	0.61
1:D:406:LYS:HE3	1:D:407:TYR:CZ	2.35	0.61
1:C:441:MET:HE1	4:C:2135:HOH:O	2.00	0.61
1:C:45:ASP:OD2	1:C:48:GLU:HG2	2.00	0.60
1:A:446:LYS:HD3	1:A:446:LYS:N	2.15	0.60
1:A:104:GLN:HG2	4:A:2015:HOH:O	2.01	0.60
1:C:42:PHE:CE2	1:C:269:LEU:HD23	2.35	0.60
1:B:302:ARG:HG2	4:B:2050:HOH:O	2.01	0.60
1:D:126:TYR:CE1	1:D:133:VAL:HG13	2.37	0.60
1:B:471:THR:HG22	1:B:474:ALA:O	2.02	0.60
1:D:301:VAL:HG13	1:D:472:GLU:HB3	1.84	0.60
1:A:163:THR:HG22	1:A:165:VAL:N	2.02	0.60
1:C:115:TYR:CZ	1:C:117:GLY:HA3	2.37	0.60
1:B:56:GLY:HA2	1:B:84:GLU:O	2.01	0.59
1:A:401:ALA:HA	1:A:412:ASN:CB	2.33	0.59
1:B:160:GLY:O	1:B:163:THR:HB	2.02	0.59
1:C:45:ASP:OD1	1:C:47:VAL:HG12	2.02	0.59
1:D:354:PRO:HB2	1:D:358:GLU:HB2	1.85	0.59
1:C:106:LYS:HG2	1:C:125:GLN:HE22	1.67	0.59
1:C:471:THR:CG2	1:C:474:ALA:H	2.16	0.59
1:A:452:ILE:HG22	1:A:484:LEU:HD11	1.85	0.59
1:B:119:ASN:HD22	1:B:119:ASN:C	2.05	0.59
1:C:90:ASN:ND2	1:C:138:GLN:HG3	2.18	0.59
1:C:307:LYS:HE3	1:C:517:GLN:CG	2.29	0.59
1:D:116:VAL:HG21	1:D:122:PHE:CE1	2.37	0.58
1:D:446:LYS:CG	1:D:447:GLY:H	2.05	0.58
1:A:413:TRP:CE3	1:A:414:MET:HB2	2.38	0.58
1:A:454:GLU:HB2	1:A:504:CYS:SG	2.43	0.58
1:A:474:ALA:HB1	1:A:486:LEU:CD1	2.33	0.58
1:B:471:THR:CG2	1:B:474:ALA:H	2.17	0.58
1:D:211:LYS:HE2	1:D:275:TYR:CE1	2.39	0.58
1:D:443:HIS:ND1	1:D:471:THR:HG21	2.19	0.58
1:C:160:GLY:O	1:C:163:THR:HB	2.04	0.57
1:B:211:LYS:HE3	4:B:2006:HOH:O	2.05	0.57
1:A:132:GLU:CG	1:A:173:LYS:HD2	2.35	0.57
1:A:489:LEU:O	1:A:514:PRO:HA	2.03	0.57
1:D:480:ARG:H	1:D:480:ARG:CZ	2.18	0.57
1:C:474:ALA:HB1	1:C:486:LEU:CD1	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:126:TYR:CD1	1:D:133:VAL:CG1	2.88	0.57
1:B:354:PRO:HB2	1:B:358:GLU:HB2	1.85	0.57
1:D:310:ALA:HA	1:D:329:ALA:HB1	1.86	0.57
1:C:90:ASN:HD21	1:C:138:GLN:HG3	1.70	0.56
1:A:45:ASP:OD1	1:A:47:VAL:HG12	2.05	0.56
1:B:104:GLN:NE2	1:B:121:GLU:HG2	2.20	0.56
1:C:325:ILE:HD13	1:C:440:THR:HB	1.87	0.56
1:D:99:LEU:HD23	1:D:111:MET:CE	2.35	0.56
1:D:124:ARG:HH12	1:D:125:GLN:HG2	1.70	0.56
1:A:45:ASP:OD2	1:A:48:GLU:HG2	2.06	0.56
1:C:118:GLU:O	1:C:119:ASN:HB2	2.05	0.56
1:B:471:THR:HG23	1:B:474:ALA:H	1.70	0.56
1:D:472:GLU:HG3	1:D:473:LYS:HG3	1.87	0.56
1:C:367:GLY:O	1:C:368:LYS:HB2	2.06	0.55
1:C:106:LYS:HG2	1:C:125:GLN:NE2	2.21	0.55
1:C:99:LEU:HD23	1:C:111:MET:CE	2.36	0.55
3:A:9007:EMT:SD	3:A:9007:EMT:OD1	2.65	0.55
1:A:99:LEU:HD23	1:A:111:MET:CE	2.37	0.55
1:D:471:THR:HG23	1:D:473:LYS:H	1.71	0.55
1:A:446:LYS:HD3	1:A:446:LYS:H	1.72	0.55
1:A:455:LYS:H	1:A:455:LYS:HZ3	1.54	0.55
1:A:455:LYS:H	1:A:455:LYS:NZ	2.04	0.54
1:A:509:SER:C	1:A:511:LYS:H	2.10	0.54
1:D:305:ILE:CG2	1:D:325:ILE:HD12	2.37	0.54
1:D:310:ALA:CA	1:D:329:ALA:HB1	2.37	0.54
1:D:471:THR:HG22	1:D:474:ALA:O	2.08	0.54
1:A:408:GLY:HA3	1:A:464:GLN:HA	1.89	0.54
1:A:232:LEU:HG	1:A:261:ILE:HD11	1.89	0.54
1:C:343:SER:HB2	1:C:350:LEU:HD11	1.89	0.54
1:B:490:TRP:HB3	1:B:493:LEU:HD12	1.89	0.54
1:C:397:THR:HG21	1:C:429:LEU:HB3	1.89	0.54
1:C:489:LEU:O	1:C:514:PRO:HA	2.08	0.54
1:A:164:LEU:HA	1:A:167:GLU:HB2	1.89	0.54
1:A:413:TRP:HD1	1:A:461:THR:HG1	1.54	0.54
1:B:325:ILE:CD1	1:B:440:THR:HB	2.36	0.53
1:D:90:ASN:ND2	1:D:138:GLN:HG3	2.23	0.53
1:D:305:ILE:CG2	1:D:325:ILE:CD1	2.87	0.53
1:D:90:ASN:HD21	1:D:138:GLN:HG3	1.74	0.53
1:A:72:ASN:HD21	1:A:274:LYS:H	1.54	0.53
1:D:211:LYS:HE3	4:D:2015:HOH:O	2.08	0.53
1:D:343:SER:HB2	1:D:350:LEU:HD11	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:176:LYS:N	1:C:176:LYS:HD3	2.23	0.53
1:D:412:ASN:HD22	1:D:412:ASN:C	2.11	0.53
1:A:456:CYS:SG	1:A:456:CYS:O	2.66	0.53
1:D:405:SER:OG	1:D:409:ASP:HB2	2.09	0.53
1:A:406:LYS:NZ	1:A:454:GLU:HG3	2.24	0.53
1:A:414:MET:HE2	1:A:459:PRO:HG2	1.88	0.53
1:A:90:ASN:HD21	1:A:138:GLN:HG3	1.73	0.53
1:D:446:LYS:NZ	1:D:449:ALA:HB2	2.24	0.53
1:D:489:LEU:O	1:D:514:PRO:HA	2.09	0.52
1:D:42:PHE:CE2	1:D:269:LEU:HD23	2.44	0.52
1:B:474:ALA:HB1	1:B:486:LEU:CD1	2.40	0.52
1:A:474:ALA:HB1	1:A:486:LEU:HD11	1.91	0.52
1:B:99:LEU:HD23	1:B:111:MET:HE1	1.91	0.52
1:C:176:LYS:HG2	1:C:177:ASP:N	2.24	0.52
1:D:72:ASN:HD21	1:D:274:LYS:H	1.56	0.52
3:A:9007:EMT:OD2	3:A:9007:EMT:HE2	2.48	0.52
1:B:511:LYS:O	1:B:513:ILE:HG23	2.08	0.52
1:C:180:ILE:HD12	1:C:180:ILE:N	2.23	0.52
1:D:306:ILE:HG12	1:D:325:ILE:HA	1.92	0.52
1:D:367:GLY:O	1:D:368:LYS:HB2	2.09	0.52
1:B:176:LYS:N	1:B:176:LYS:HD3	2.25	0.52
1:A:479:ASP:OD2	1:A:482:LYS:HG3	2.09	0.52
1:C:480:ARG:HH11	1:C:480:ARG:HG3	1.74	0.52
1:D:471:THR:HG23	1:D:473:LYS:N	2.25	0.52
1:A:354:PRO:HB2	1:A:358:GLU:HB2	1.92	0.51
1:C:301:VAL:HG13	1:C:472:GLU:HB3	1.93	0.51
1:D:455:LYS:HD3	1:D:455:LYS:N	2.25	0.51
3:B:9008:EMT:HE2	3:B:9008:EMT:OD2	2.48	0.51
1:C:135:LEU:HD13	1:C:422:GLY:HA2	1.91	0.51
1:D:326:PRO:HA	1:D:398:MET:CE	2.40	0.51
1:C:99:LEU:HD23	1:C:111:MET:HE1	1.91	0.51
1:A:414:MET:HE1	1:A:459:PRO:HG2	1.92	0.51
1:B:72:ASN:HD21	1:B:274:LYS:H	1.59	0.51
1:C:393:HIS:HE1	1:D:149:GLY:O	1.93	0.51
1:A:166:GLN:OE1	1:A:189:VAL:HG21	2.11	0.51
1:C:169:GLY:O	1:C:170:SER:C	2.49	0.51
1:C:302:ARG:HG2	4:C:2084:HOH:O	2.10	0.51
1:D:235:CYS:O	1:D:241:THR:HG21	2.11	0.51
1:A:132:GLU:HG2	1:A:173:LYS:HB2	1.93	0.51
1:A:406:LYS:HZ1	1:A:454:GLU:HG3	1.76	0.51
1:B:119:ASN:HD21	1:B:121:GLU:HB3	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:163:THR:CG2	1:A:164:LEU:N	2.73	0.51
1:B:232:LEU:HG	1:B:261:ILE:HD11	1.92	0.50
1:C:163:THR:CG2	1:C:164:LEU:N	2.74	0.50
1:D:160:GLY:O	1:D:163:THR:HB	2.11	0.50
1:B:45:ASP:OD2	1:B:48:GLU:HG2	2.11	0.50
1:B:504:CYS:SG	1:B:505:ASP:N	2.84	0.50
1:A:472:GLU:HG3	1:A:473:LYS:N	2.27	0.50
1:B:163:THR:CG2	1:B:164:LEU:N	2.75	0.50
1:A:446:LYS:HG2	1:A:447:GLY:N	2.24	0.50
1:C:474:ALA:HB1	1:C:486:LEU:HD11	1.94	0.50
1:A:518:VAL:O	1:A:519:THR:HG23	2.12	0.50
1:A:65:GLY:HA3	1:A:368:LYS:HD2	1.94	0.50
1:B:302:ARG:NH1	4:B:2049:HOH:O	2.43	0.50
1:D:163:THR:HG21	1:D:427:MET:CE	2.41	0.50
1:C:149:GLY:O	1:D:393:HIS:HE1	1.94	0.49
1:D:430:VAL:HB	1:D:465:CYS:HB3	1.94	0.49
1:A:402:MET:HE2	1:A:412:ASN:HA	1.93	0.49
1:A:410:LEU:HD11	1:A:430:VAL:HG11	1.94	0.49
1:D:124:ARG:NH2	1:D:130:GLU:OE2	2.43	0.49
1:B:45:ASP:OD1	1:B:47:VAL:HG12	2.13	0.49
1:A:415:ILE:HB	1:A:419:LEU:HB2	1.95	0.49
1:C:276:GLU:O	1:C:278:ARG:N	2.44	0.49
1:D:176:LYS:O	1:D:177:ASP:HB3	2.11	0.49
1:A:406:LYS:HA	1:A:484:LEU:HG	1.94	0.49
1:A:149:GLY:O	1:B:393:HIS:HE1	1.96	0.49
1:B:180:ILE:HD12	1:B:180:ILE:N	2.27	0.49
1:B:244:GLU:HA	1:B:270:VAL:O	2.12	0.49
1:D:176:LYS:O	1:D:177:ASP:CB	2.61	0.49
1:C:121:GLU:O	1:C:125:GLN:HG3	2.13	0.49
1:C:420:VAL:HB	4:C:2121:HOH:O	2.13	0.49
1:C:479:ASP:OD2	1:C:482:LYS:HG3	2.12	0.49
1:D:45:ASP:OD2	1:D:47:VAL:HG13	2.12	0.49
1:A:302:ARG:O	1:A:306:ILE:HG13	2.12	0.49
1:C:368:LYS:HG3	4:C:2010:HOH:O	2.13	0.49
1:A:325:ILE:CG2	1:A:326:PRO:HD3	2.35	0.49
1:C:175:ASN:HB2	1:C:179:SER:OG	2.12	0.49
1:C:480:ARG:NH1	1:C:480:ARG:HG3	2.28	0.49
1:D:213:TRP:CE2	1:D:224:ARG:HD2	2.47	0.49
1:A:319:ALA:HA	1:A:396:LEU:O	2.12	0.48
1:C:176:LYS:HZ2	1:C:178:GLY:N	2.12	0.48
1:C:215:ALA:HA	1:C:220:ASN:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:504:CYS:SG	1:D:505:ASP:N	2.86	0.48
1:D:65:GLY:HA2	4:D:2123:HOH:O	2.14	0.48
1:A:480:ARG:CZ	1:A:480:ARG:H	2.26	0.48
1:D:325:ILE:HD13	1:D:440:THR:CB	2.29	0.48
1:A:90:ASN:ND2	1:A:138:GLN:HG3	2.28	0.48
1:A:343:SER:HB2	1:A:350:LEU:HD11	1.95	0.48
1:B:509:SER:C	1:B:511:LYS:H	2.16	0.48
1:A:215:ALA:HA	1:A:220:ASN:O	2.13	0.48
1:A:471:THR:HG22	1:A:474:ALA:O	2.14	0.48
1:D:163:THR:CG2	1:D:164:LEU:N	2.76	0.48
1:A:213:TRP:CE2	1:A:224:ARG:HD2	2.48	0.48
1:B:175:ASN:O	1:B:177:ASP:N	2.47	0.48
1:C:393:HIS:HD2	4:D:2121:HOH:O	1.97	0.48
1:D:323:ILE:HG21	1:D:367:GLY:HA3	1.95	0.48
1:D:104:GLN:CA	1:D:104:GLN:HE21	2.27	0.48
1:A:450:HIS:HB3	1:A:503:GLY:CA	2.44	0.48
1:B:480:ARG:H	1:B:480:ARG:CZ	2.26	0.48
1:C:176:LYS:HE3	1:C:179:SER:OG	2.13	0.47
1:C:304:ARG:HA	1:C:517:GLN:OE1	2.14	0.47
1:D:412:ASN:ND2	1:D:412:ASN:C	2.66	0.47
1:D:56:GLY:HA2	1:D:84:GLU:O	2.13	0.47
1:C:284:VAL:HG13	1:C:354:PRO:O	2.14	0.47
1:C:325:ILE:CG2	1:C:326:PRO:HD3	2.41	0.47
1:D:162:GLY:HA3	1:D:463:LYS:HD3	1.97	0.47
1:D:456:CYS:SG	1:D:460:LEU:HD21	2.55	0.47
1:A:170:SER:HB3	3:A:9007:EMT:SD	2.54	0.47
1:A:161:TYR:CE2	1:A:463:LYS:HE2	2.50	0.47
1:A:410:LEU:O	1:A:461:THR:N	2.41	0.47
1:B:177:ASP:CG	1:B:178:GLY:H	2.18	0.47
1:C:176:LYS:O	1:C:177:ASP:HB2	2.14	0.47
1:C:72:ASN:HD21	1:C:274:LYS:H	1.63	0.47
1:A:403:GLN:HE22	1:A:457:THR:H	1.59	0.47
1:D:480:ARG:HB3	1:D:480:ARG:HH11	1.80	0.47
1:B:215:ALA:CB	1:B:269:LEU:HD21	2.44	0.47
1:D:215:ALA:HA	1:D:220:ASN:O	2.15	0.47
1:C:166:GLN:OE1	1:C:189:VAL:HG21	2.15	0.46
1:A:302:ARG:HG2	4:A:2067:HOH:O	2.13	0.46
1:B:465:CYS:SG	3:B:9008:EMT:CE2	3.03	0.46
1:A:406:LYS:O	1:A:483:GLY:HA2	2.15	0.46
1:C:212:ALA:HB3	1:C:245:VAL:HG12	1.97	0.46
1:C:399:LEU:HD12	1:C:439:VAL:HG22	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:477:ASP:HB2	1:D:485:THR:HG23	1.97	0.46
1:D:163:THR:HG21	1:D:427:MET:SD	2.56	0.46
1:A:419:LEU:HD22	1:A:421:LYS:HE3	1.96	0.46
1:D:325:ILE:N	1:D:326:PRO:CD	2.78	0.46
1:A:244:GLU:HA	1:A:270:VAL:O	2.16	0.46
1:B:215:ALA:HA	1:B:220:ASN:O	2.15	0.46
1:D:302:ARG:O	1:D:306:ILE:HG13	2.15	0.46
1:B:152:VAL:O	1:B:202:ALA:HB2	2.16	0.46
1:B:301:VAL:HG13	1:B:472:GLU:HB3	1.98	0.46
1:A:368:LYS:HG3	4:A:2006:HOH:O	2.15	0.46
1:B:175:ASN:N	1:B:179:SER:O	2.42	0.46
1:D:122:PHE:C	1:D:122:PHE:CD1	2.89	0.46
1:D:322:GLY:O	1:D:326:PRO:HB2	2.15	0.46
1:B:45:ASP:OD2	1:B:47:VAL:HG13	2.16	0.45
1:B:90:ASN:HD21	1:B:138:GLN:HG3	1.81	0.45
1:C:466:VAL:HG12	1:C:467:ASN:N	2.30	0.45
1:D:111:MET:HE2	1:D:122:PHE:HE2	1.81	0.45
1:B:99:LEU:HD23	1:B:111:MET:CE	2.46	0.45
1:A:259:ILE:HD12	1:B:378:SER:HB3	1.98	0.45
1:C:124:ARG:C	1:C:124:ARG:HD3	2.36	0.45
1:D:511:LYS:H	1:D:511:LYS:HD2	1.82	0.45
1:D:519:THR:OG1	1:D:520:THR:N	2.49	0.45
1:D:58:THR:HA	1:D:86:THR:O	2.16	0.45
1:A:225:LYS:HA	1:A:379:TYR:CD2	2.51	0.45
1:A:485:THR:O	1:A:487:ILE:HG23	2.16	0.45
1:B:301:VAL:HG13	1:B:472:GLU:CB	2.47	0.45
1:C:150:ALA:O	1:D:390:ARG:HD2	2.17	0.45
1:D:212:ALA:HB3	1:D:245:VAL:HG12	1.99	0.45
1:A:323:ILE:HG21	1:A:367:GLY:HA3	1.98	0.45
1:B:104:GLN:HE22	1:B:121:GLU:HG2	1.82	0.45
1:D:244:GLU:HA	1:D:270:VAL:O	2.16	0.45
1:D:326:PRO:HB3	1:D:398:MET:HG2	1.98	0.45
1:A:510:PRO:C	1:A:511:LYS:HD2	2.37	0.45
1:C:472:GLU:HG3	1:C:473:LYS:N	2.32	0.45
1:A:235:CYS:O	1:A:241:THR:HG21	2.17	0.45
1:C:191:GLU:HA	1:C:195:GLN:O	2.17	0.45
1:C:232:LEU:HG	1:C:261:ILE:HD11	1.98	0.45
1:C:127:LEU:C	1:C:129:GLY:H	2.19	0.44
1:C:244:GLU:HA	1:C:270:VAL:O	2.17	0.44
1:C:486:LEU:HD11	1:C:488:GLU:O	2.17	0.44
1:D:119:ASN:ND2	1:D:119:ASN:C	2.69	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:152:VAL:O	1:C:202:ALA:HB2	2.17	0.44
1:D:472:GLU:HG3	1:D:473:LYS:N	2.32	0.44
1:B:90:ASN:ND2	1:B:138:GLN:HG3	2.32	0.44
1:D:474:ALA:HB1	1:D:486:LEU:CD1	2.48	0.44
1:A:308:ARG:HD3	1:A:516:GLN:O	2.17	0.44
1:C:399:LEU:CD1	1:C:439:VAL:HG22	2.47	0.44
1:A:311:LEU:HG	1:A:518:VAL:HG13	1.99	0.44
1:B:40:THR:CG2	1:B:219:GLY:HA3	2.35	0.44
1:B:228:ARG:HB3	4:B:2065:HOH:O	2.16	0.44
1:B:465:CYS:SG	3:B:9008:EMT:CZ	3.06	0.44
1:A:223:PHE:HE1	1:A:261:ILE:HG12	1.82	0.44
1:B:343:SER:HB2	1:B:350:LEU:HD11	1.99	0.44
1:D:332:PHE:CG	1:D:518:VAL:HG21	2.53	0.44
1:B:489:LEU:O	1:B:515:MET:N	2.51	0.44
1:D:373:VAL:HG22	1:D:377:ALA:CB	2.48	0.44
1:C:180:ILE:N	1:C:180:ILE:CD1	2.80	0.44
1:A:408:GLY:CA	1:A:464:GLN:HA	2.47	0.43
3:A:9007:EMT:HE2	4:A:2025:HOH:O	2.55	0.43
1:D:127:LEU:HD21	1:D:420:VAL:HG21	1.99	0.43
1:D:163:THR:CG2	1:D:165:VAL:H	2.13	0.43
1:C:132:GLU:HA	1:C:172:ILE:O	2.18	0.43
1:A:236:LYS:NZ	1:B:384:GLU:OE1	2.50	0.43
1:A:410:LEU:HD23	1:A:462:GLY:O	2.18	0.43
1:B:217:GLN:HE21	1:B:217:GLN:HB2	1.66	0.43
1:B:304:ARG:HG2	1:B:490:TRP:CH2	2.54	0.43
1:C:210:VAL:HG13	1:C:231:ASN:HB3	2.00	0.43
1:D:92:ALA:HB2	1:D:111:MET:HE1	1.99	0.43
1:D:365:ASN:HB2	4:D:2139:HOH:O	2.19	0.43
1:D:73:LEU:HG	1:D:244:GLU:OE1	2.18	0.43
1:D:442:GLU:HG2	1:D:451:LYS:HZ2	1.84	0.43
1:D:511:LYS:CD	1:D:511:LYS:N	2.81	0.43
1:A:405:SER:HB3	1:A:409:ASP:HB2	2.00	0.43
1:A:414:MET:HG2	1:A:415:ILE:N	2.34	0.43
1:A:401:ALA:HB3	1:A:439:VAL:HG11	2.01	0.43
1:B:126:TYR:CE1	1:B:133:VAL:CG1	3.01	0.43
1:C:301:VAL:HG13	1:C:472:GLU:CB	2.48	0.43
1:D:139:GLY:HA2	1:D:386:PHE:CG	2.54	0.43
1:A:410:LEU:N	1:A:410:LEU:HD23	2.34	0.43
1:A:99:LEU:HD23	1:A:111:MET:HE1	2.00	0.43
1:B:210:VAL:HG13	1:B:231:ASN:HB3	2.00	0.43
1:B:474:ALA:HB1	1:B:486:LEU:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:305:ILE:HG22	1:C:325:ILE:HD11	1.99	0.43
1:D:104:GLN:HE21	1:D:104:GLN:N	2.17	0.43
1:D:232:LEU:HG	1:D:261:ILE:HD11	2.00	0.43
1:A:232:LEU:HB3	1:A:233:PRO:CD	2.49	0.43
1:C:45:ASP:OD2	1:C:47:VAL:CG1	2.67	0.43
1:C:354:PRO:CB	1:C:358:GLU:HB2	2.48	0.42
1:B:323:ILE:HG21	1:B:367:GLY:HA3	2.01	0.42
1:A:482:LYS:O	1:C:271:LYS:HE3	2.20	0.42
1:A:480:ARG:HB3	1:A:480:ARG:HH11	1.84	0.42
1:B:92:ALA:HB2	1:B:111:MET:HE1	2.01	0.42
1:C:173:LYS:HE2	1:C:182:ILE:HG13	2.01	0.42
1:C:225:LYS:HA	1:C:379:TYR:CD2	2.53	0.42
1:A:325:ILE:N	1:A:326:PRO:CD	2.83	0.42
1:A:506:PHE:HD1	1:A:507:ALA:O	2.02	0.42
1:D:301:VAL:HG13	1:D:472:GLU:CB	2.48	0.42
1:D:506:PHE:HA	2:D:9000:EMC:C1	2.49	0.42
1:A:45:ASP:OD2	1:A:47:VAL:HG13	2.18	0.42
1:B:104:GLN:HE21	1:B:104:GLN:CA	2.31	0.42
1:B:141:LEU:O	1:B:145:ILE:HG13	2.19	0.42
1:C:130:GLU:OE1	1:C:130:GLU:HA	2.20	0.42
1:C:189:VAL:HG22	1:C:198:ILE:HG22	2.02	0.42
1:D:210:VAL:HG13	1:D:231:ASN:HB3	2.01	0.42
1:A:509:SER:C	1:A:511:LYS:N	2.73	0.42
1:B:471:THR:HG23	1:B:473:LYS:H	1.84	0.42
1:C:480:ARG:H	1:C:480:ARG:NE	2.17	0.42
1:A:207:PHE:HA	1:A:240:THR:O	2.20	0.42
1:A:450:HIS:O	1:A:453:MET:HE2	2.19	0.42
1:B:176:LYS:O	1:B:177:ASP:HB3	2.20	0.42
1:B:139:GLY:HA2	1:B:386:PHE:CG	2.55	0.42
1:B:84:GLU:HA	1:B:109:LYS:HB2	2.02	0.42
1:C:420:VAL:CB	4:C:2121:HOH:O	2.68	0.42
1:C:45:ASP:OD2	1:C:47:VAL:HG13	2.19	0.42
1:D:166:GLN:HA	1:D:187:ARG:HB2	2.02	0.42
1:D:472:GLU:HG3	1:D:473:LYS:H	1.83	0.42
1:A:152:VAL:O	1:A:202:ALA:HB2	2.19	0.42
1:A:215:ALA:CB	1:A:269:LEU:HD21	2.49	0.42
1:B:45:ASP:OD2	1:B:47:VAL:CG1	2.68	0.42
1:A:283:SER:O	1:A:354:PRO:HD2	2.20	0.41
1:B:472:GLU:HG3	1:B:473:LYS:N	2.35	0.41
1:B:53:ILE:HA	1:B:54:PRO:HD3	1.85	0.41
1:C:208:ALA:HB3	1:C:241:THR:HG22	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:489:LEU:CD1	1:C:498:ILE:HD11	2.50	0.41
1:A:210:VAL:HG13	1:A:231:ASN:HB3	2.03	0.41
1:A:511:LYS:CD	1:A:511:LYS:N	2.80	0.41
1:B:77:LEU:HD11	1:B:209:LEU:HD11	2.02	0.41
1:C:121:GLU:HA	1:C:121:GLU:OE1	2.19	0.41
1:C:138:GLN:NE2	4:C:2111:HOH:O	2.53	0.41
1:A:311:LEU:CD2	1:A:518:VAL:HG12	2.50	0.41
1:A:409:ASP:HB3	1:A:460:LEU:CD2	2.50	0.41
1:A:413:TRP:CZ3	1:A:414:MET:HB2	2.55	0.41
1:A:58:THR:HA	1:A:86:THR:O	2.20	0.41
1:C:325:ILE:N	1:C:326:PRO:CD	2.84	0.41
1:C:441:MET:HA	4:C:2130:HOH:O	2.20	0.41
1:D:446:LYS:HZ2	1:D:449:ALA:HB2	1.85	0.41
1:B:207:PHE:HA	1:B:240:THR:O	2.21	0.41
1:B:354:PRO:HD3	1:B:371:VAL:HA	2.03	0.41
1:C:163:THR:CG2	1:C:165:VAL:HG23	2.51	0.41
1:C:367:GLY:O	1:C:368:LYS:CB	2.68	0.41
1:D:367:GLY:O	1:D:368:LYS:CB	2.69	0.41
1:D:412:ASN:ND2	1:D:461:THR:OG1	2.54	0.41
1:C:127:LEU:C	1:C:129:GLY:N	2.74	0.41
1:D:99:LEU:HD23	1:D:111:MET:HE3	2.02	0.41
1:A:420:VAL:HG23	4:A:2093:HOH:O	2.19	0.41
1:C:77:LEU:HD11	1:C:209:LEU:HD11	2.03	0.41
1:D:53:ILE:HA	1:D:54:PRO:HD3	1.86	0.41
1:C:223:PHE:HE1	1:C:261:ILE:HG12	1.86	0.41
1:D:217:GLN:HB2	1:D:217:GLN:HE21	1.62	0.41
1:D:47:VAL:HG13	4:D:2003:HOH:O	2.21	0.41
1:D:65:GLY:HA3	1:D:368:LYS:HD2	2.02	0.41
1:A:116:VAL:HG21	1:A:122:PHE:CZ	2.56	0.41
1:A:40:THR:CG2	1:A:219:GLY:HA3	2.39	0.41
1:A:217:GLN:HB2	1:A:251:ILE:HG13	2.03	0.40
1:A:453:MET:HA	1:A:504:CYS:H	1.86	0.40
1:B:354:PRO:CB	1:B:358:GLU:HB2	2.50	0.40
1:C:256:PRO:HB2	1:D:379:TYR:CE2	2.57	0.40
1:D:403:GLN:NE2	1:D:458:LEU:H	2.19	0.40
1:A:285:ARG:HG2	1:A:353:TYR:O	2.21	0.40
1:B:324:GLY:O	1:B:328:LEU:HG	2.22	0.40
1:C:104:GLN:HE21	1:C:104:GLN:CA	2.35	0.40
1:C:207:PHE:HA	1:C:240:THR:O	2.21	0.40
1:C:509:SER:C	1:C:511:LYS:H	2.24	0.40
1:D:62:GLY:HA3	1:D:231:ASN:OD1	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:42:PHE:CD1	1:A:42:PHE:N	2.90	0.40
1:B:225:LYS:HA	1:B:379:TYR:CD2	2.56	0.40
1:C:90:ASN:O	1:C:113:SER:HB3	2.21	0.40
1:C:506:PHE:HD1	1:C:507:ALA:O	2.03	0.40
1:B:212:ALA:HB3	1:B:245:VAL:HG12	2.02	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	464/481 (96%)	438 (94%)	18 (4%)	8 (2%)	9	11
1	B	417/481 (87%)	397 (95%)	16 (4%)	4 (1%)	15	23
1	C	417/481 (87%)	397 (95%)	13 (3%)	7 (2%)	9	11
1	D	460/481 (96%)	438 (95%)	18 (4%)	4 (1%)	17	25
All	All	1758/1924 (91%)	1670 (95%)	65 (4%)	23 (1%)	12	17

All (23) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	413	TRP
1	A	416	PRO
1	A	519	THR
1	B	177	ASP
1	C	177	ASP
1	D	177	ASP
1	D	446	LYS
1	D	519	THR
1	A	419	LEU
1	A	505	ASP

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Mol	Chain	Res	Type
1	B	176	LYS
1	C	119	ASN
1	A	229	ASN
1	A	446	LYS
1	C	176	LYS
1	C	229	ASN
1	D	229	ASN
1	A	412	ASN
1	B	178	GLY
1	B	229	ASN
1	C	170	SER
1	C	178	GLY
1	C	117	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	382/393 (97%)	363 (95%)	19 (5%)	24	40
1	B	347/393 (88%)	331 (95%)	16 (5%)	27	43
1	C	345/393 (88%)	327 (95%)	18 (5%)	23	38
1	D	378/393 (96%)	354 (94%)	24 (6%)	18	28
All	All	1452/1572 (92%)	1375 (95%)	77 (5%)	22	37

All (77) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	40	THR
1	A	58	THR
1	A	103	LEU
1	A	104	GLN
1	A	119	ASN
1	A	136	THR
1	A	282	LEU
1	A	325	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	368	LYS
1	A	373	VAL
1	A	399	LEU
1	A	416	PRO
1	A	420	VAL
1	A	446	LYS
1	A	455	LYS
1	A	480	ARG
1	A	485	THR
1	A	504	CYS
1	A	519	THR
1	B	40	THR
1	B	58	THR
1	B	103	LEU
1	B	104	GLN
1	B	119	ASN
1	B	124	ARG
1	B	136	THR
1	B	175	ASN
1	B	176	LYS
1	B	221	VAL
1	B	325	ILE
1	B	368	LYS
1	B	373	VAL
1	B	399	LEU
1	B	480	ARG
1	B	485	THR
1	C	40	THR
1	C	58	THR
1	C	103	LEU
1	C	104	GLN
1	C	136	THR
1	C	166	GLN
1	C	176	LYS
1	C	221	VAL
1	C	235	CYS
1	C	325	ILE
1	C	368	LYS
1	C	373	VAL
1	C	399	LEU
1	C	420	VAL
1	C	480	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	485	THR
1	C	517	GLN
1	C	518	VAL
1	D	40	THR
1	D	58	THR
1	D	103	LEU
1	D	104	GLN
1	D	119	ASN
1	D	133	VAL
1	D	136	THR
1	D	163	THR
1	D	235	CYS
1	D	282	LEU
1	D	325	ILE
1	D	368	LYS
1	D	373	VAL
1	D	399	LEU
1	D	412	ASN
1	D	419	LEU
1	D	423	MET
1	D	446	LYS
1	D	455	LYS
1	D	457	THR
1	D	465	CYS
1	D	480	ARG
1	D	485	THR
1	D	518	VAL

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (40) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	72	ASN
1	A	90	ASN
1	A	104	GLN
1	A	119	ASN
1	A	125	GLN
1	A	166	GLN
1	A	175	ASN
1	A	217	GLN
1	A	393	HIS
1	A	403	GLN
1	B	72	ASN

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Mol	Chain	Res	Type
1	B	90	ASN
1	B	104	GLN
1	B	119	ASN
1	B	125	GLN
1	B	175	ASN
1	B	217	GLN
1	B	393	HIS
1	C	72	ASN
1	C	90	ASN
1	C	104	GLN
1	C	125	GLN
1	C	138	GLN
1	C	166	GLN
1	C	217	GLN
1	C	393	HIS
1	C	516	GLN
1	D	72	ASN
1	D	90	ASN
1	D	104	GLN
1	D	119	ASN
1	D	125	GLN
1	D	138	GLN
1	D	175	ASN
1	D	217	GLN
1	D	393	HIS
1	D	403	GLN
1	D	412	ASN
1	D	464	GLN
1	D	516	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 carbohydrates in this entry.

## 5.6 Ligand geometry

9 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
2	EMC	C	9005	1,4	1,2,2	1.54	0	-		
3	EMT	A	9007	-	10,13,13	2.14	2 (20%)	9,16,16	0.95	1 (11%)
2	EMC	C	9006	1	1,2,2	0.52	0	-		
2	EMC	D	9002	1	1,2,2	0.42	0	-		
2	EMC	A	9003	1	1,2,2	0.38	0	-		
2	EMC	D	9001	1	1,2,2	3.63	1 (100%)	-		
2	EMC	B	9004	1	1,2,2	0.49	0	-		
3	EMT	B	9008	-	10,13,13	2.40	1 (10%)	9,16,16	0.65	0
2	EMC	D	9000	1	1,2,2	0.55	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
3	EMT	A	9007	-	-	0/0/8/8	0/1/1/1
3	EMT	B	9008	-	-	0/0/8/8	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	9008	EMT	CZ-CG	7.22	1.54	1.47
3	A	9007	EMT	CZ-CG	6.17	1.53	1.47
2	D	9001	EMC	C2-C1	-3.63	1.30	1.49
3	A	9007	EMT	CE1-SD	2.14	1.82	1.78

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
3	A	9007	EMT	CZ-CE1-SD	-2.33	120.34	124.18

There are no chirality outliers.

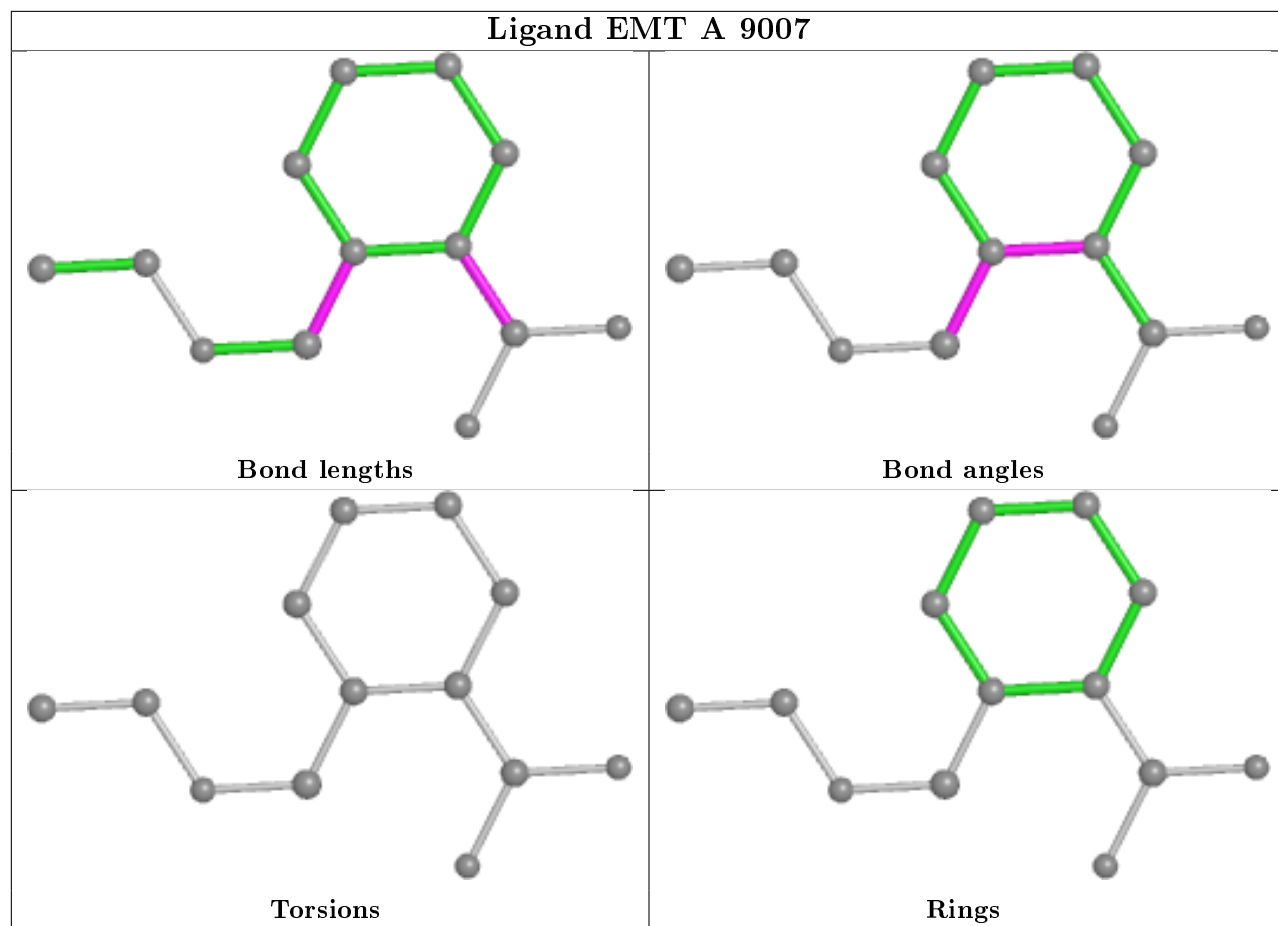
There are no torsion outliers.

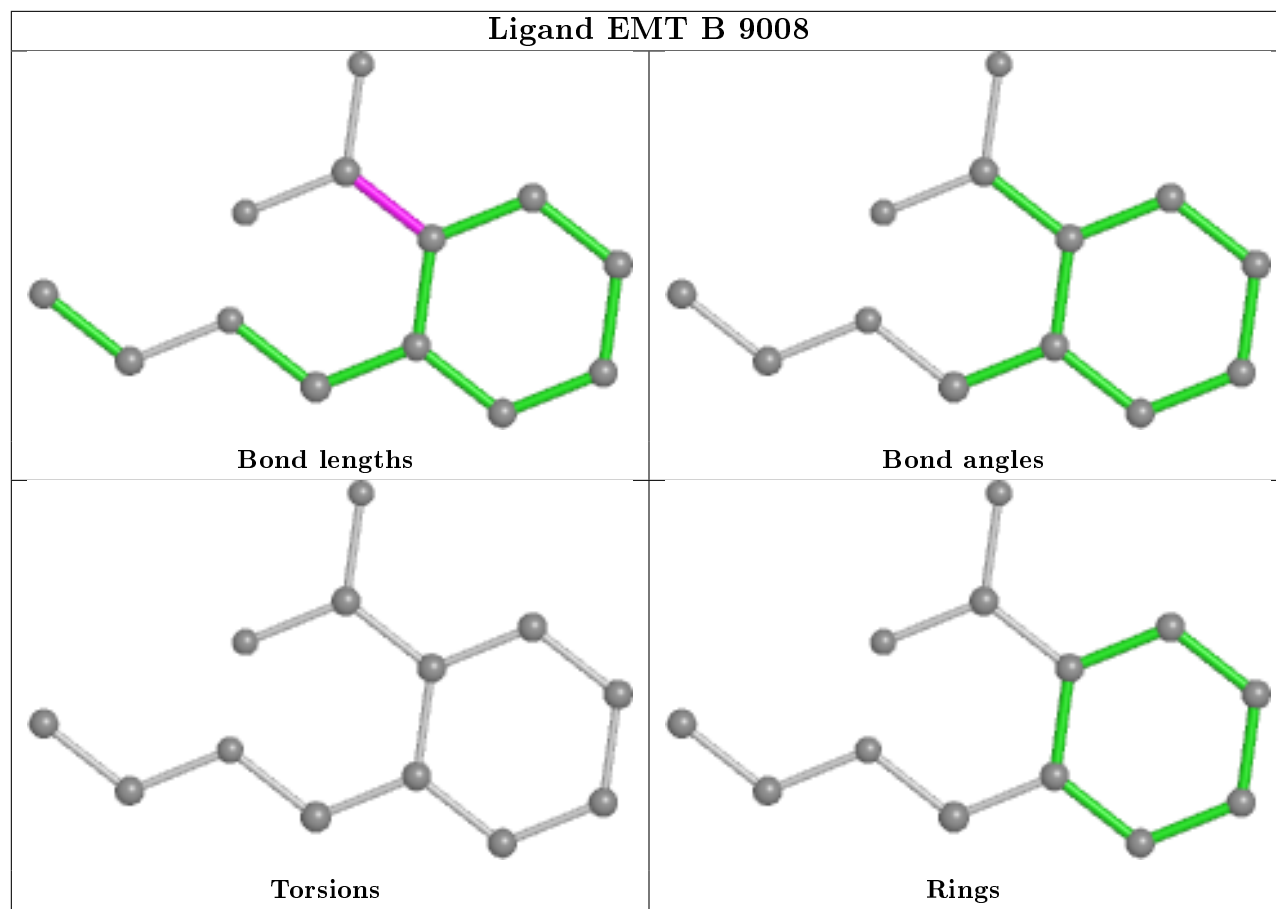
There are no ring outliers.

3 monomers are involved in 18 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	9007	EMT	9	0
3	B	9008	EMT	8	0
2	D	9000	EMC	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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	468/481 (97%)	1.14	91 (19%) <b>1</b> <b>0</b>	23, 41, 73, 83	0
1	B	425/481 (88%)	1.10	77 (18%) <b>1</b> <b>1</b>	24, 44, 76, 82	0
1	C	425/481 (88%)	1.04	72 (16%) <b>1</b> <b>1</b>	19, 40, 77, 86	0
1	D	464/481 (96%)	1.01	72 (15%) <b>2</b> <b>1</b>	18, 36, 62, 80	0
All	All	1782/1924 (92%)	1.07	312 (17%) <b>1</b> <b>1</b>	18, 40, 75, 86	0

All (312) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	520	THR	13.3
1	A	510	PRO	8.2
1	B	481	LYS	8.0
1	A	419	LEU	7.7
1	C	480	ARG	7.6
1	A	417	GLY	7.1
1	D	352	PRO	7.0
1	A	457	THR	6.9
1	B	480	ARG	6.8
1	D	356	GLN	6.5
1	B	300	ASN	6.3
1	C	179	SER	6.2
1	C	177	ASP	6.1
1	D	334	SER	6.1
1	A	445	ALA	6.1
1	C	503	GLY	6.0
1	B	178	GLY	5.9
1	A	446	LYS	5.8
1	D	282	LEU	5.8
1	C	481	LYS	5.8
1	A	458	LEU	5.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	A	449	ALA	5.6
1	A	336	ASN	5.6
1	A	286	LYS	5.6
1	A	416	PRO	5.5
1	A	511	LYS	5.4
1	C	494	THR	5.4
1	B	336	ASN	5.3
1	A	519	THR	5.2
1	D	281	ARG	5.2
1	C	479	ASP	5.2
1	C	336	ASN	5.2
1	A	450	HIS	5.2
1	D	520	THR	5.1
1	A	335	PRO	5.1
1	B	500	LYS	5.1
1	A	455	LYS	5.1
1	B	482	LYS	5.1
1	D	332	PHE	4.8
1	D	353	TYR	4.8
1	B	335	PRO	4.7
1	C	504	CYS	4.7
1	D	446	LYS	4.6
1	A	454	GLU	4.6
1	B	491	GLU	4.6
1	B	478	VAL	4.6
1	D	279	ILE	4.6
1	C	127	LEU	4.6
1	A	512	LEU	4.5
1	A	334	SER	4.5
1	A	480	ARG	4.4
1	C	502	THR	4.4
1	D	355	LEU	4.4
1	B	177	ASP	4.4
1	C	126	TYR	4.4
1	D	327	LEU	4.4
1	B	520	THR	4.4
1	D	357	ASN	4.4
1	B	511	LYS	4.3
1	B	301	VAL	4.3
1	A	496	ASP	4.3
1	C	505	ASP	4.3
1	A	514	PRO	4.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	497	ASP	4.3
1	A	448	ASN	4.2
1	A	470	ILE	4.2
1	A	420	VAL	4.2
1	C	499	LYS	4.2
1	B	510	PRO	4.2
1	A	301	VAL	4.1
1	D	277	LYS	4.1
1	B	487	ILE	4.1
1	A	447	GLY	4.1
1	C	492	GLY	4.1
1	D	300	ASN	4.1
1	D	482	LYS	4.0
1	A	337	MET	4.0
1	B	490	TRP	4.0
1	A	459	PRO	4.0
1	A	283	SER	4.0
1	A	415	ILE	3.9
1	C	301	VAL	3.9
1	A	315	ASP	3.9
1	C	498	ILE	3.9
1	B	479	ASP	3.9
1	D	480	ARG	3.8
1	D	325	ILE	3.8
1	D	445	ALA	3.8
1	A	333	ILE	3.8
1	C	175	ASN	3.7
1	A	490	TRP	3.7
1	C	482	LYS	3.7
1	C	500	LYS	3.7
1	C	490	TRP	3.7
1	C	483	GLY	3.7
1	B	519	THR	3.7
1	C	178	GLY	3.7
1	D	329	ALA	3.7
1	A	481	LYS	3.6
1	A	421	LYS	3.6
1	B	420	VAL	3.6
1	C	335	PRO	3.5
1	C	300	ASN	3.5
1	D	328	LEU	3.5
1	C	122	PHE	3.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	D	178	GLY	3.5
1	B	433	ALA	3.5
1	B	302	ARG	3.5
1	D	359	VAL	3.5
1	D	336	ASN	3.5
1	A	277	LYS	3.5
1	B	180	ILE	3.5
1	D	303	GLU	3.5
1	A	99	LEU	3.4
1	C	493	LEU	3.4
1	A	250	ASP	3.4
1	C	123	GLU	3.4
1	A	491	GLU	3.4
1	C	510	PRO	3.4
1	A	357	ASN	3.4
1	C	124	ARG	3.4
1	D	316	GLY	3.4
1	A	466	VAL	3.4
1	C	484	LEU	3.3
1	C	501	SER	3.3
1	C	465	CYS	3.3
1	A	284	VAL	3.3
1	D	324	GLY	3.3
1	C	473	LYS	3.3
1	A	504	CYS	3.3
1	D	449	ALA	3.3
1	C	506	PHE	3.3
1	A	492	GLY	3.3
1	A	475	VAL	3.3
1	B	315	ASP	3.3
1	D	354	PRO	3.3
1	B	505	ASP	3.3
1	A	328	LEU	3.2
1	A	456	CYS	3.2
1	C	478	VAL	3.2
1	D	315	ASP	3.2
1	A	508	VAL	3.2
1	C	117	GLY	3.1
1	D	448	ASN	3.1
1	B	483	GLY	3.1
1	B	421	LYS	3.1
1	B	328	LEU	3.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	A	513	ILE	3.1
1	C	514	PRO	3.1
1	D	326	PRO	3.1
1	D	447	GLY	3.1
1	B	518	VAL	3.1
1	D	410	LEU	3.0
1	B	337	MET	3.0
1	C	176	LYS	3.0
1	C	217	GLN	3.0
1	C	497	ASP	3.0
1	A	485	THR	3.0
1	A	493	LEU	3.0
1	C	420	VAL	2.9
1	D	483	GLY	2.9
1	A	356	GLN	2.9
1	A	413	TRP	2.9
1	A	282	LEU	2.9
1	C	181	ALA	2.9
1	C	511	LYS	2.9
1	C	334	SER	2.8
1	D	469	ILE	2.8
1	A	465	CYS	2.8
1	B	494	THR	2.8
1	D	177	ASP	2.8
1	C	441	MET	2.8
1	D	476	PHE	2.8
1	B	508	VAL	2.8
1	C	495	VAL	2.8
1	B	142	ALA	2.8
1	D	475	VAL	2.8
1	B	496	ASP	2.8
1	A	332	PHE	2.7
1	D	322	GLY	2.7
1	D	365	ASN	2.7
1	A	355	LEU	2.7
1	B	169	GLY	2.7
1	B	503	GLY	2.7
1	A	409	ASP	2.7
1	A	516	GLN	2.7
1	A	353	TYR	2.7
1	B	176	LYS	2.7
1	C	518	VAL	2.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	A	399	LEU	2.7
1	C	130	GLU	2.7
1	D	117	GLY	2.7
1	B	104	GLN	2.7
1	A	506	PHE	2.7
1	B	286	LYS	2.7
1	B	195	GLN	2.7
1	B	484	LEU	2.6
1	D	323	ILE	2.6
1	D	479	ASP	2.6
1	B	485	THR	2.6
1	A	444	SER	2.6
1	C	485	THR	2.6
1	C	491	GLU	2.6
1	C	193	ASN	2.6
1	C	496	ASP	2.6
1	B	96	ASN	2.6
1	D	470	ILE	2.6
1	C	472	GLU	2.6
1	D	481	LYS	2.6
1	D	301	VAL	2.6
1	D	335	PRO	2.6
1	C	125	GLN	2.6
1	A	453	MET	2.6
1	B	179	SER	2.6
1	B	514	PRO	2.5
1	D	116	VAL	2.5
1	B	333	ILE	2.5
1	C	84	GLU	2.5
1	B	277	LYS	2.5
1	C	307	LYS	2.5
1	B	181	ALA	2.5
1	A	476	PHE	2.5
1	B	465	CYS	2.5
1	D	337	MET	2.5
1	D	115	TYR	2.5
1	D	471	THR	2.5
1	C	282	LEU	2.5
1	A	439	VAL	2.5
1	A	253	SER	2.5
1	B	184	SER	2.5
1	C	173	LYS	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	283	SER	2.4
1	A	438	VAL	2.4
1	A	324	GLY	2.4
1	D	511	LYS	2.4
1	A	321	LEU	2.4
1	D	333	ILE	2.4
1	C	512	LEU	2.4
1	D	330	SER	2.4
1	B	165	VAL	2.4
1	A	161	TYR	2.4
1	A	402	MET	2.4
1	B	250	ASP	2.4
1	C	128	ALA	2.4
1	A	302	ARG	2.4
1	A	460	LEU	2.4
1	B	47	VAL	2.4
1	C	475	VAL	2.4
1	D	193	ASN	2.4
1	B	434	LYS	2.4
1	B	498	ILE	2.3
1	B	161	TYR	2.3
1	C	332	PHE	2.3
1	A	405	SER	2.3
1	D	421	LYS	2.3
1	D	358	GLU	2.3
1	C	174	TYR	2.3
1	A	501	SER	2.3
1	C	170	SER	2.3
1	C	182	ILE	2.3
1	A	503	GLY	2.3
1	B	129	GLY	2.3
1	B	502	THR	2.3
1	B	355	LEU	2.3
1	A	285	ARG	2.3
1	C	329	ALA	2.3
1	D	351	GLY	2.3
1	A	418	LYS	2.3
1	B	44	THR	2.3
1	D	370	THR	2.3
1	D	456	CYS	2.3
1	D	194	GLY	2.3
1	B	470	ILE	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	375	PRO	2.2
1	A	249	VAL	2.2
1	B	506	PHE	2.2
1	C	51	LYS	2.2
1	D	196	HIS	2.2
1	A	352	PRO	2.2
1	B	233	PRO	2.2
1	B	381	SER	2.2
1	A	326	PRO	2.2
1	A	437	VAL	2.2
1	A	518	VAL	2.2
1	C	508	VAL	2.2
1	D	404	VAL	2.2
1	A	498	ILE	2.2
1	D	491	GLU	2.2
1	B	486	LEU	2.2
1	D	369	GLU	2.2
1	B	193	ASN	2.2
1	A	462	GLY	2.2
1	A	111	MET	2.2
1	C	116	VAL	2.1
1	D	500	LYS	2.1
1	A	351	GLY	2.1
1	B	182	ILE	2.1
1	B	476	PHE	2.1
1	D	191	GLU	2.1
1	D	314	GLU	2.1
1	B	84	GLU	2.1
1	B	509	SER	2.1
1	B	162	GLY	2.1
1	B	400	GLY	2.1
1	B	276	GLU	2.1
1	B	61	VAL	2.1
1	D	111	MET	2.0
1	D	61	VAL	2.0
1	A	83	LYS	2.0
1	C	185	LYS	2.0
1	C	520	THR	2.0
1	D	505	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 carbohydrates in this entry.

## 6.4 Ligands [i](#)

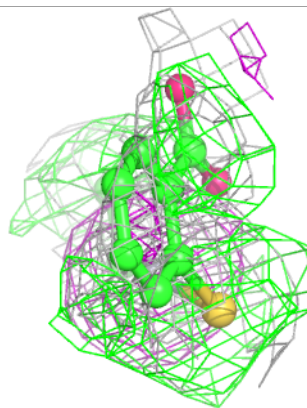
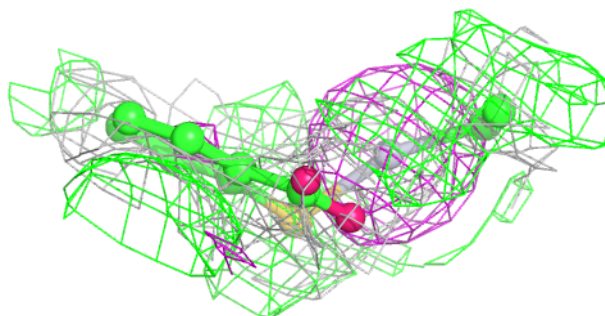
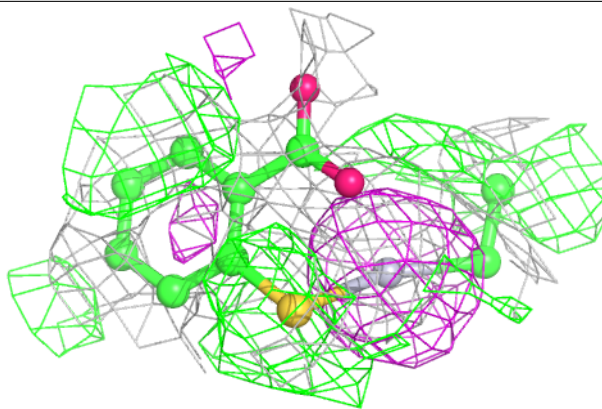
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
2	EMC	D	9001	3/3	-0.05	0.71	2,2,2,11	3
3	EMT	B	9008	13/13	0.28	0.61	32,41,45,47	13
2	EMC	C	9006	3/3	0.54	0.50	65,65,65,69	3
3	EMT	A	9007	13/13	0.58	0.65	5,11,12,13	13
2	EMC	C	9005	3/3	0.65	0.58	2,2,2,5	3
2	EMC	D	9000	3/3	0.67	0.59	46,46,47,48	3
2	EMC	D	9002	3/3	0.78	0.70	25,25,25,27	3
2	EMC	A	9003	3/3	0.82	0.66	23,23,23,25	3
2	EMC	B	9004	3/3	0.82	0.60	42,42,44,45	3

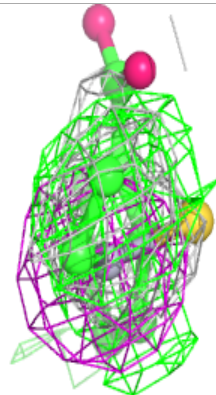
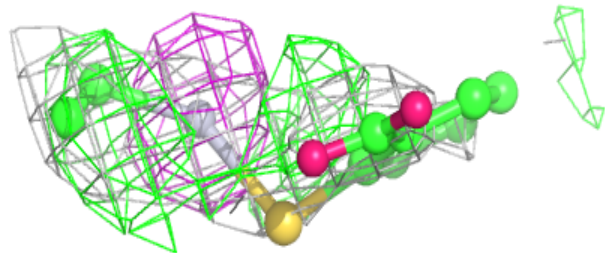
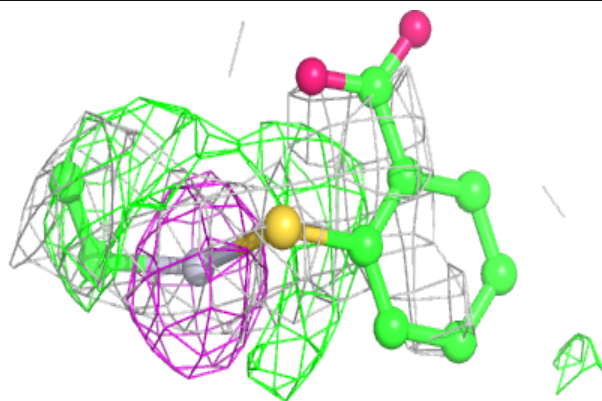
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

**Electron density around EMT B 9008:**

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

**Electron density around EMT A 9007:**

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



## 6.5 Other polymers

There are no such residues in this entry.