Full wwPDB X-ray Structure Validation Report ⓘ

Oct 10, 2023 – 07:36 AM EDT

PDB ID	:	7JRF
Title	:	CO-CO-BOUND NITROGENASE MOFE-PROTEIN FROM A. VINELANDII
Authors	:	Spatzal, T.; Perez, K.A.; Buscagan, T.M.; Maggiolo, A.O.; Rees, D.C.
Deposited on	:	2020-08-12
Resolution	:	1.33 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:

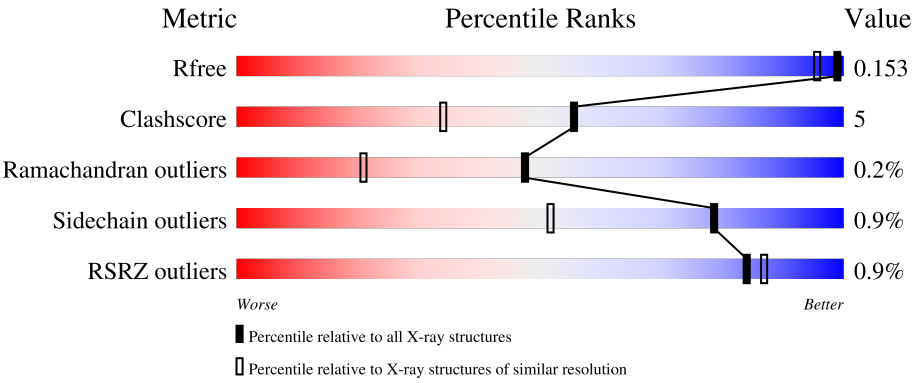
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 1.33 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	1385 (1.36-1.32)
Clashscore	141614	1417 (1.36-1.32)
Ramachandran outliers	138981	1397 (1.36-1.32)
Sidechain outliers	138945	1397 (1.36-1.32)
RSRZ outliers	127900	1369 (1.36-1.32)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	492	85% 11%
1	C	492	87% 10%
2	B	523	89% 11%
2	D	523	92% 7%

2 Entry composition

There are 11 unique types of molecules in this entry. The entry contains 18215 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.

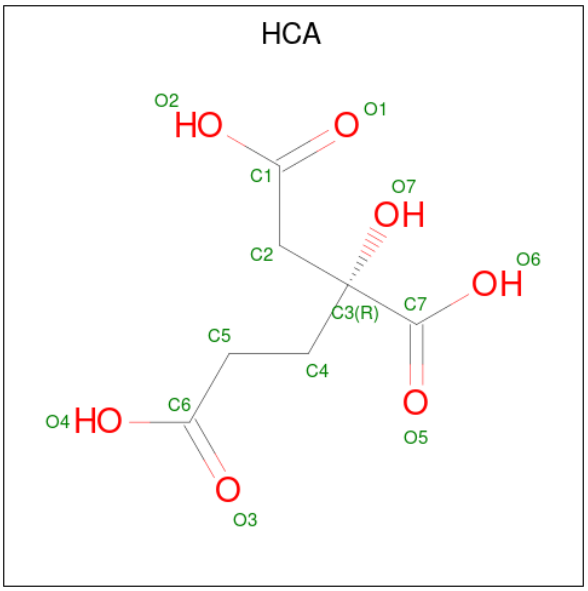
- Molecule 1 is a protein called Nitrogenase molybdenum-iron protein alpha chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	477	Total	C	N	O	S	0	6	0
			3816	2429	647	712	28			
1	C	477	Total	C	N	O	S	0	9	0
			3798	2422	641	707	28			

- Molecule 2 is a protein called Nitrogenase molybdenum-iron protein beta chain.

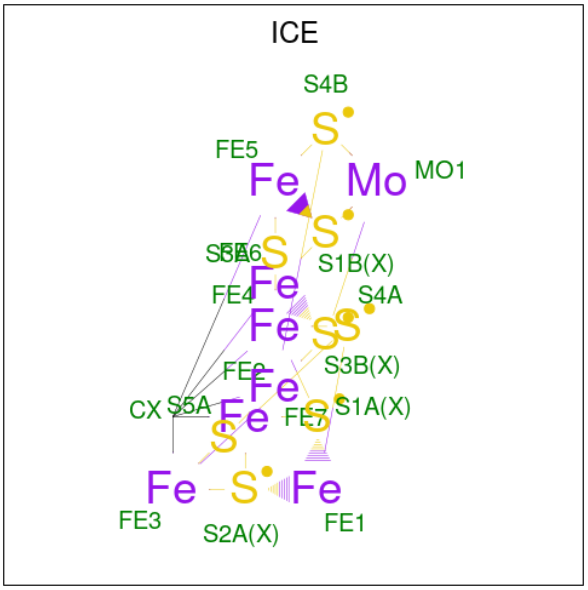
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	522	Total	C	N	O	S	0	14	0
			4229	2711	702	783	33			
2	D	522	Total	C	N	O	S	0	9	0
			4200	2689	701	779	31			

- Molecule 3 is 3-HYDROXY-3-CARBOXY-ADIPIC ACID (three-letter code: HCA) (formula: $C_7H_{10}O_7$).



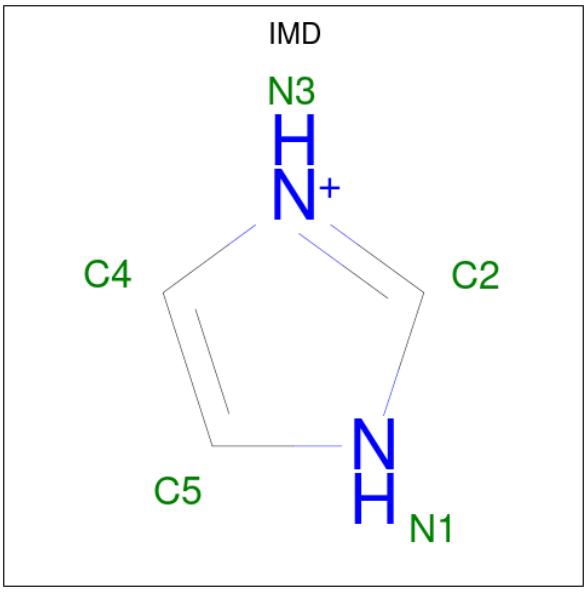
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 14 7 7	0	0
3	C	1	Total C O 14 7 7	0	0

- Molecule 4 is iron-sulfur-molybdenum cluster with interstitial carbon (three-letter code: ICE) (formula: CFe_7MoS_8) (labeled as "Ligand of Interest" by depositor).



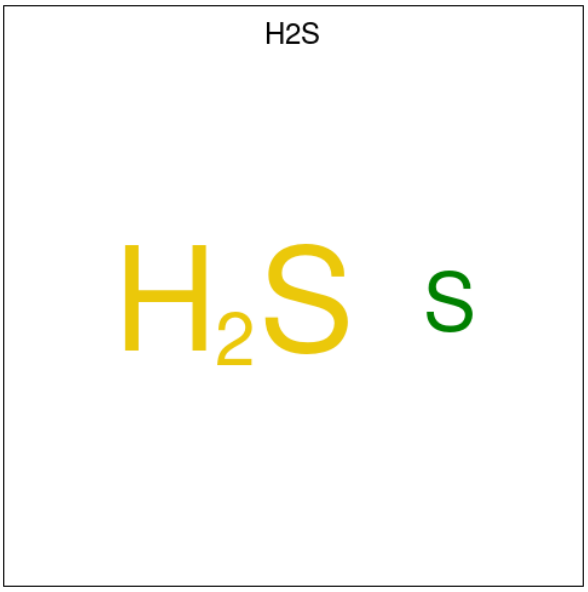
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C Fe Mo S 17 1 7 1 8	0	0
4	C	1	Total C Fe Mo S 17 1 7 1 8	0	0

- Molecule 5 is IMIDAZOLE (three-letter code: IMD) (formula: $C_3H_5N_2$).



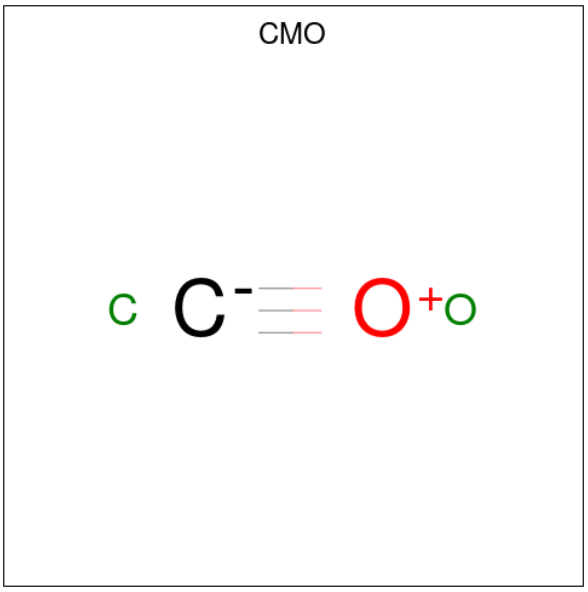
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C N 5 3 2	0	0
5	A	1	Total C N 5 3 2	0	0
5	A	1	Total C N 5 3 2	0	0
5	B	1	Total C N 5 3 2	0	0
5	C	1	Total C N 5 3 2	0	0
5	D	1	Total C N 5 3 2	0	0
5	D	1	Total C N 5 3 2	0	0
5	D	1	Total C N 5 3 2	0	0

- Molecule 6 is HYDROSULFURIC ACID (three-letter code: H2S) (formula: H_2S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total S 1 1	0	0
6	C	1	Total S 1 1	0	0

- Molecule 7 is CARBON MONOXIDE (three-letter code: CMO) (formula: CO) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	1	Total C O 2 1 1	0	0

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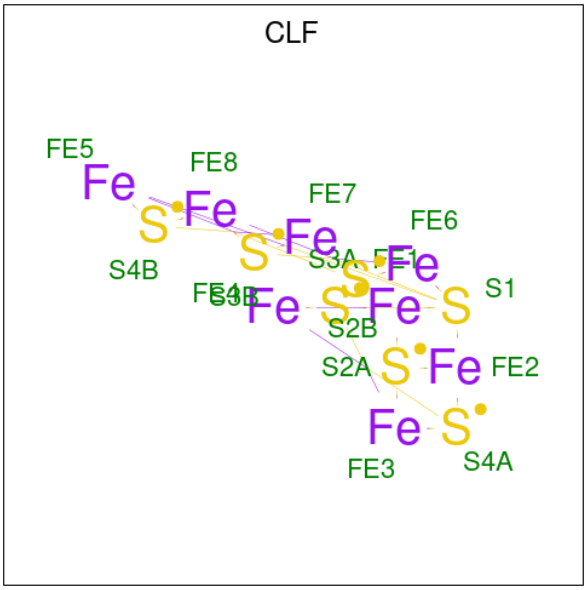
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	1	Total C O 2 1 1	0	0
7	C	1	Total C O 2 1 1	0	0
7	C	1	Total C O 2 1 1	0	0

- Molecule 8 is FE(8)-S(7) CLUSTER (three-letter code: CLF) (formula: Fe_8S_7).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	B	1	Total Fe S 15 8 7	0	0
8	D	1	Total Fe S 15 8 7	0	0

- Molecule 9 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	B	1	Total Ca 1 1	0	0
9	D	1	Total Ca 1 1	0	0

- Molecule 10 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
10	B	1	Total Mg 1 1	0	0
10	D	1	Total Mg 1 1	0	0

- Molecule 11 is water.

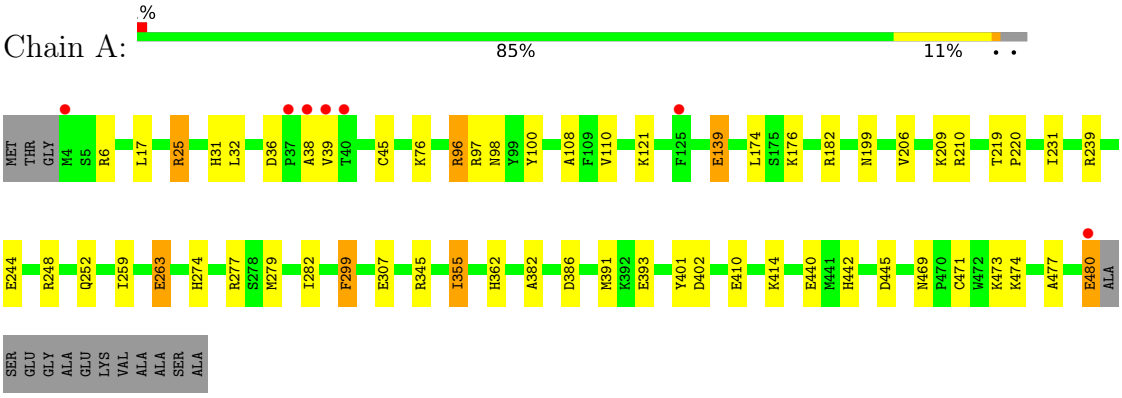
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
11	A	450	Total O 450 450	0	0
11	B	576	Total O 576 576	0	0
11	C	413	Total O 413 413	0	0
11	D	587	Total O 587 587	0	0

3 Residue-property plots

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

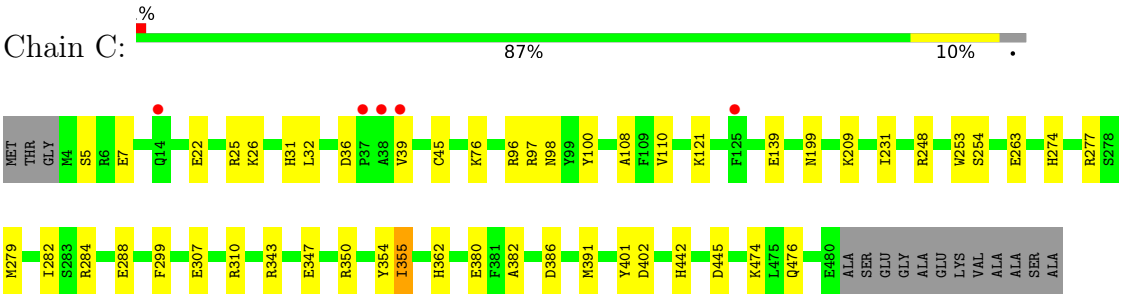
• Molecule 1: Nitrogenase molybdenum-iron protein alpha chain

Chain A:



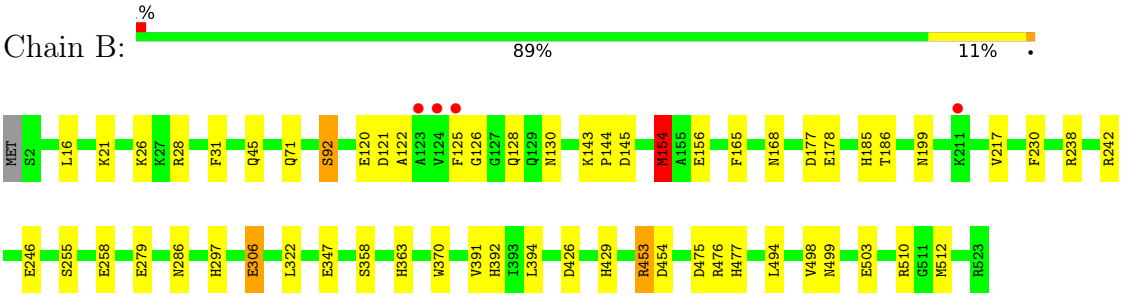
• Molecule 1: Nitrogenase molybdenum-iron protein alpha chain

Chain C:



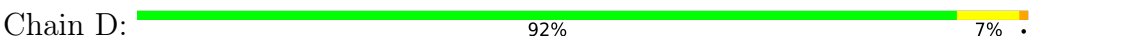
• Molecule 2: Nitrogenase molybdenum-iron protein beta chain

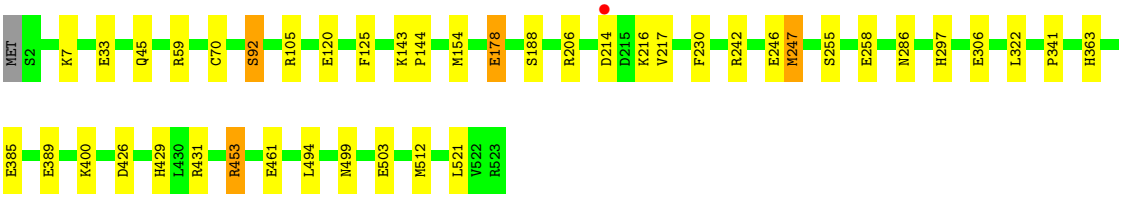
Chain B:



• Molecule 2: Nitrogenase molybdenum-iron protein beta chain

Chain D:




MET
S2
K7
E33
Q45
R59
C70
S92
R105
E120
F125
K143
P144
M154
E178
S188
R206
D214
D215
K216
V217
F230
R242
E246
M247
S255
E258
N286
H297
E306
L322
P341
H363
E385
E389
K400
D426
H429
L430
R431
R453
E461
L494
N499
E503
M512
L521
V522
R523

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	77.05Å 129.97Å 107.22Å 90.00° 109.11° 90.00°	Depositor
Resolution (Å)	39.63 – 1.33 39.60 – 1.33	Depositor EDS
% Data completeness (in resolution range)	98.3 (39.63-1.33) 98.3 (39.60-1.33)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.02 (at 1.33Å)	Xtriage
Refinement program	REFMAC 5.8.0258	Depositor
R, R_{free}	0.116 , 0.150 0.119 , 0.153	Depositor DCC
R_{free} test set	22350 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	11.3	Xtriage
Anisotropy	0.740	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 48.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	0.017 for h,-k,-h-l	Xtriage
F_o,F_c correlation	0.98	EDS
Total number of atoms	18215	wwPDB-VP
Average B, all atoms (Å^2)	16.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.38% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: ICE, HCA, CMO, IMD, CA, CLF, MG, H2S

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	0.86	6/3922 (0.2%)	0.99	11/5286 (0.2%)
1	C	0.89	6/3908 (0.2%)	0.99	6/5270 (0.1%)
2	B	0.88	7/4376 (0.2%)	0.97	8/5915 (0.1%)
2	D	0.88	10/4331 (0.2%)	0.97	7/5856 (0.1%)
All	All	0.88	29/16537 (0.2%)	0.98	32/22327 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	C	0	1
2	D	0	1
All	All	0	3

All (29) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	385	GLU	CD-OE2	-11.81	1.12	1.25
1	C	139	GLU	CD-OE2	-9.10	1.15	1.25
2	D	385	GLU	CD-OE1	-9.07	1.15	1.25
2	D	178	GLU	CD-OE1	9.05	1.35	1.25
2	B	178	GLU	CD-OE2	8.65	1.35	1.25
1	A	440	GLU	CD-OE2	8.46	1.34	1.25
2	D	92	SER	CB-OG	-7.19	1.32	1.42
2	D	389	GLU	CD-OE2	-6.97	1.18	1.25
2	B	306	GLU	CD-OE1	-6.83	1.18	1.25
2	D	33	GLU	CD-OE2	6.52	1.32	1.25
2	D	178	GLU	CD-OE2	6.36	1.32	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	244	GLU	CD-OE2	-6.24	1.18	1.25
1	A	263	GLU	CD-OE2	-6.22	1.18	1.25
1	C	307	GLU	CD-OE2	-5.97	1.19	1.25
2	B	92	SER	CB-OG	-5.91	1.34	1.42
2	B	178	GLU	CD-OE1	5.86	1.32	1.25
2	D	453	ARG	NE-CZ	5.62	1.40	1.33
1	C	139	GLU	CD-OE1	-5.61	1.19	1.25
1	A	480	GLU	CD-OE2	5.58	1.31	1.25
2	B	347	GLU	CD-OE1	-5.52	1.19	1.25
2	D	306	GLU	CD-OE2	5.47	1.31	1.25
2	B	279	GLU	CD-OE1	5.38	1.31	1.25
1	C	347	GLU	CD-OE2	-5.38	1.19	1.25
1	A	307	GLU	CD-OE2	-5.30	1.19	1.25
2	B	453	ARG	NE-CZ	5.29	1.40	1.33
1	C	380	GLU	CD-OE2	5.21	1.31	1.25
1	C	307	GLU	CD-OE1	-5.20	1.20	1.25
2	D	389	GLU	CD-OE1	-5.11	1.20	1.25
1	A	139	GLU	CD-OE1	-5.04	1.20	1.25

All (32) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	248	ARG	NE-CZ-NH1	9.31	124.96	120.30
1	A	96	ARG	NE-CZ-NH2	-8.83	115.89	120.30
2	B	154[A]	MET	CG-SD-CE	-7.71	87.87	100.20
2	B	154[B]	MET	CG-SD-CE	-7.71	87.87	100.20
1	A	345	ARG	NE-CZ-NH2	-7.64	116.48	120.30
1	A	182	ARG	NE-CZ-NH2	-7.46	116.57	120.30
1	C	343	ARG	NE-CZ-NH2	-7.45	116.58	120.30
1	C	248	ARG	NE-CZ-NH1	7.34	123.97	120.30
1	C	310	ARG	NE-CZ-NH2	-7.27	116.67	120.30
1	C	277	ARG	NE-CZ-NH2	-7.07	116.76	120.30
2	B	510	ARG	NE-CZ-NH1	7.03	123.82	120.30
1	A	277	ARG	NE-CZ-NH2	-6.97	116.82	120.30
2	B	238	ARG	NE-CZ-NH2	-6.73	116.93	120.30
2	B	28	ARG	NE-CZ-NH2	-6.64	116.98	120.30
2	D	206	ARG	NE-CZ-NH2	-6.47	117.06	120.30
2	D	214	ASP	CB-CA-C	6.46	123.33	110.40
1	A	248	ARG	NE-CZ-NH2	-6.39	117.11	120.30
2	D	206	ARG	CG-CD-NE	-6.08	99.04	111.80
1	C	248	ARG	NE-CZ-NH2	-6.04	117.28	120.30
1	A	6	ARG	NE-CZ-NH2	-5.91	117.34	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	D	247	MET	CG-SD-CE	-5.88	90.79	100.20
2	B	476	ARG	NE-CZ-NH1	5.87	123.24	120.30
1	A	299	PHE	CB-CG-CD1	5.80	124.86	120.80
2	B	31	PHE	CB-CG-CD1	-5.75	116.77	120.80
1	A	25	ARG	NE-CZ-NH1	5.69	123.15	120.30
2	D	105	ARG	NE-CZ-NH2	-5.54	117.53	120.30
2	D	431	ARG	NE-CZ-NH2	-5.49	117.56	120.30
1	A	96	ARG	NE-CZ-NH1	5.35	122.97	120.30
2	D	453	ARG	CG-CD-NE	5.35	123.03	111.80
1	C	354	TYR	CB-CG-CD2	5.24	124.14	121.00
1	A	210	ARG	NE-CZ-NH1	5.12	122.86	120.30
2	B	453	ARG	CG-CD-NE	5.04	122.39	111.80

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	96	ARG	Sidechain
1	C	96	ARG	Sidechain
2	D	59	ARG	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3816	0	3772	51	0
1	C	3798	0	3718	31	1
2	B	4229	0	4150	48	0
2	D	4200	0	4111	43	1
3	A	14	0	6	1	0
3	C	14	0	6	2	0
4	A	17	0	0	0	0
4	C	17	0	0	0	0
5	A	15	0	15	4	0
5	B	5	0	5	0	0
5	C	5	0	5	2	0
5	D	15	0	15	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	A	1	0	0	0	0
6	C	1	0	0	0	0
7	A	4	0	0	1	0
7	C	4	0	0	1	0
8	B	15	0	0	0	0
8	D	15	0	0	0	0
9	B	1	0	0	0	0
9	D	1	0	0	0	0
10	B	1	0	0	0	0
10	D	1	0	0	0	0
11	A	450	0	0	13	1
11	B	576	0	0	9	2
11	C	413	0	0	10	1
11	D	587	0	0	12	0
All	All	18215	0	15803	164	3

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 5.

All (164) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:22:GLU:OE1	1:C:25:ARG:NH2	1.71	1.23
1:A:473[A]:LYS:HG2	11:A:729:HOH:O	1.41	1.19
1:C:7:GLU:OE2	1:C:7:GLU:OE1	1.61	1.19
2:D:503:GLU:HB3	11:D:705:HOH:O	1.03	1.18
5:A:505:IMD:H5	11:D:761:HOH:O	1.01	1.15
2:B:454:ASP:OD1	2:D:512[B]:MET:HE1	1.47	1.11
5:C:503:IMD:H4	11:C:622:HOH:O	1.52	1.09
2:B:454:ASP:OD1	2:D:512[B]:MET:CE	2.05	1.03
2:B:453:ARG:HE	2:D:512[B]:MET:CE	1.77	0.96
2:B:477:HIS:H	2:D:499:ASN:HD21	1.13	0.96
2:D:45[A]:GLN:HG2	11:D:947:HOH:O	1.69	0.93
1:A:477:ALA:HB3	1:A:480:GLU:OE2	1.72	0.90
1:A:474:LYS:HB3	2:D:322[A]:LEU:HD21	1.58	0.85
2:D:426:ASP:H	2:D:429:HIS:HD2	1.25	0.84
2:B:426:ASP:H	2:B:429:HIS:HD2	1.24	0.83
5:D:603:IMD:H4	11:D:742:HOH:O	1.78	0.83
2:B:230:PHE:H	2:B:297:HIS:HE1	1.26	0.82
2:D:230:PHE:H	2:D:297:HIS:HE1	1.26	0.80
1:A:274:HIS:HE1	1:A:299:PHE:H	1.28	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:306:GLU:OE1	11:B:701:HOH:O	2.00	0.79
2:B:92:SER:OG	2:B:154[B]:MET:HE1	1.82	0.79
2:B:453:ARG:HE	2:D:512[B]:MET:HE2	1.47	0.78
2:B:453:ARG:HE	2:D:512[B]:MET:HE3	1.46	0.78
1:A:473[B]:LYS:HG3	1:A:474:LYS:HE2	1.65	0.78
1:A:393:GLU:OE1	11:A:601:HOH:O	2.01	0.77
1:A:45[A]:CYS:SG	1:A:391:MET:CE	2.73	0.77
2:B:92:SER:OG	2:B:154[B]:MET:CE	2.32	0.77
1:A:45[A]:CYS:SG	1:A:391:MET:HE1	2.25	0.75
1:C:274:HIS:HE1	1:C:299:PHE:H	1.31	0.75
2:D:120:GLU:OE2	5:D:605:IMD:H4	1.86	0.75
2:D:230:PHE:H	2:D:297:HIS:CE1	2.04	0.74
2:B:453:ARG:NE	2:D:512[B]:MET:HE2	2.02	0.74
2:B:230:PHE:H	2:B:297:HIS:CE1	2.06	0.73
2:B:71:GLN:HE22	2:B:199:ASN:HD22	1.37	0.72
2:B:512[B]:MET:HG2	2:D:453:ARG:HD2	1.73	0.70
1:A:474:LYS:HE3	11:A:858:HOH:O	1.94	0.68
1:C:32:LEU:O	11:C:601:HOH:O	2.12	0.68
2:B:145:ASP:OD2	11:B:702:HOH:O	2.12	0.67
1:A:274:HIS:CE1	1:A:299:PHE:H	2.11	0.66
1:C:31:HIS:HE1	11:C:611:HOH:O	1.78	0.66
2:B:453:ARG:NE	2:D:512[B]:MET:CE	2.53	0.65
1:A:469:ASN:HD22	1:A:471:CYS:H	1.42	0.65
1:A:473[B]:LYS:CG	1:A:474:LYS:HE2	2.27	0.64
2:B:322:LEU:HD21	1:C:474:LYS:HB3	1.79	0.64
1:A:31:HIS:HE1	11:A:614:HOH:O	1.79	0.63
1:A:474:LYS:HD2	2:D:322[B]:LEU:HD22	1.79	0.63
2:D:92:SER:OG	2:D:154[A]:MET:HG2	1.98	0.63
1:C:199:ASN:HD21	1:C:279[B]:MET:HA	1.64	0.63
1:A:239:ARG:HH11	1:A:252:GLN:HE21	1.44	0.62
1:C:31:HIS:HD2	1:C:402:ASP:OD2	1.82	0.62
1:C:45[A]:CYS:SG	1:C:391:MET:CE	2.89	0.61
1:A:199:ASN:HD22	1:A:282:ILE:H	1.48	0.61
5:A:504:IMD:H2	2:B:120:GLU:OE2	2.01	0.61
2:B:45[A]:GLN:HG2	11:B:983:HOH:O	1.99	0.61
1:A:206:VAL:HA	1:A:209:LYS:HE2	1.83	0.61
1:A:474:LYS:CE	11:A:858:HOH:O	2.49	0.60
1:A:209:LYS:HZ1	1:A:259:ILE:HD11	1.65	0.60
2:D:297:HIS:HD2	11:D:732:HOH:O	1.85	0.60
1:A:31:HIS:HD2	1:A:402:ASP:OD2	1.83	0.60
2:D:503:GLU:CG	2:D:503:GLU:OE2	2.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:242:ARG:HD3	2:B:246:GLU:OE2	2.02	0.59
1:A:199:ASN:HD21	1:A:279[B]:MET:HA	1.67	0.59
1:A:477:ALA:HB3	1:A:480:GLU:CD	2.23	0.58
1:A:209:LYS:NZ	11:A:604:HOH:O	2.28	0.58
1:C:45[A]:CYS:SG	1:C:391:MET:HE1	2.44	0.57
2:D:125:PHE:HA	11:D:987:HOH:O	2.03	0.57
1:A:38:ALA:HB3	11:A:607:HOH:O	2.03	0.57
2:B:297:HIS:HD2	11:B:736:HOH:O	1.87	0.57
2:B:358:SER:HB3	2:B:498[B]:VAL:HG21	1.86	0.57
1:C:36:ASP:OD1	1:C:36:ASP:C	2.39	0.57
5:C:503:IMD:H2	11:C:894:HOH:O	2.04	0.57
2:D:217:VAL:H	2:D:286:ASN:ND2	2.04	0.56
1:C:25:ARG:HD3	11:C:680:HOH:O	2.06	0.56
2:B:92:SER:OG	2:B:154[B]:MET:HE2	2.06	0.55
1:C:274:HIS:CE1	1:C:299:PHE:H	2.18	0.55
2:B:426:ASP:H	2:B:429:HIS:CD2	2.16	0.55
2:B:185:HIS:HE1	11:B:866:HOH:O	1.89	0.55
7:C:505:CMO:O	7:C:506:CMO:C	2.33	0.55
2:D:503:GLU:CG	11:D:705:HOH:O	2.40	0.54
2:B:503[B]:GLU:CG	11:B:706:HOH:O	2.55	0.54
1:A:209:LYS:NZ	1:A:259:ILE:HD11	2.23	0.54
1:A:209:LYS:NZ	1:A:263:GLU:OE2	2.34	0.54
2:B:217:VAL:H	2:B:286:ASN:ND2	2.06	0.54
7:A:507:CMO:O	7:A:508:CMO:C	2.30	0.53
1:A:45[A]:CYS:SG	1:A:391:MET:HE2	2.48	0.53
2:D:503:GLU:CB	11:D:705:HOH:O	1.89	0.52
5:A:505:IMD:H4	11:A:724:HOH:O	2.10	0.51
1:C:442:HIS:HB3	3:C:501:HCA:O5	2.11	0.51
2:B:16:LEU:O	2:B:21:LYS:HE3	2.11	0.51
1:A:38:ALA:CB	11:A:607:HOH:O	2.59	0.50
1:A:473[B]:LYS:HE3	1:A:474:LYS:HE3	1.94	0.50
1:C:22:GLU:OE1	1:C:25:ARG:CZ	2.50	0.49
2:D:242:ARG:HD3	2:D:246:GLU:OE2	2.12	0.49
1:C:350:ARG:HD3	11:C:647:HOH:O	2.13	0.49
2:B:156:GLU:OE2	2:B:185:HIS:HD2	1.95	0.49
1:A:239:ARG:HD2	1:A:252:GLN:NE2	2.27	0.49
2:D:426:ASP:H	2:D:429:HIS:CD2	2.16	0.49
1:C:199:ASN:HD22	1:C:282:ILE:H	1.59	0.49
1:A:139:GLU:HG3	1:A:174:LEU:HD13	1.94	0.48
1:A:474:LYS:HB3	2:D:322[A]:LEU:CD2	2.36	0.48
2:B:26:LYS:NZ	11:B:709:HOH:O	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:121:LYS:HE3	11:C:633:HOH:O	2.14	0.47
1:A:100:TYR:CE1	1:A:110:VAL:HB	2.48	0.47
2:B:477:HIS:H	2:D:499:ASN:ND2	1.96	0.47
1:C:442:HIS:CG	3:C:501:HCA:H52	2.49	0.47
2:B:499:ASN:O	2:B:503[B]:GLU:HG3	2.14	0.46
2:D:247:MET:HG3	2:D:341:PRO:HD3	1.97	0.45
1:C:199:ASN:HD21	1:C:279[A]:MET:HA	1.79	0.45
1:A:32:LEU:O	11:A:602:HOH:O	2.20	0.45
1:A:477:ALA:CB	1:A:480:GLU:OE2	2.56	0.45
2:D:217:VAL:H	2:D:286:ASN:HD22	1.64	0.45
2:B:128:GLN:NE2	2:B:168:ASN:HD22	2.13	0.45
2:B:391[B]:VAL:HG12	2:B:392:HIS:CE1	2.51	0.45
1:C:39:VAL:HG11	1:C:45[B]:CYS:SG	2.57	0.45
2:B:494:LEU:C	2:B:494:LEU:HD23	2.37	0.44
2:B:453:ARG:NE	2:D:512[B]:MET:HE3	2.22	0.44
1:A:473[B]:LYS:HD3	11:A:729:HOH:O	2.16	0.44
2:B:122:ALA:O	2:B:126:GLY:N	2.48	0.44
1:C:284:ARG:NH1	11:C:608:HOH:O	2.50	0.44
1:C:76:LYS:O	1:C:108:ALA:HA	2.17	0.44
2:D:400:LYS:HG3	11:D:821:HOH:O	2.17	0.44
2:D:230:PHE:N	2:D:297:HIS:HE1	2.05	0.44
1:A:139:GLU:OE2	1:A:176:LYS:HE3	2.17	0.43
2:B:71:GLN:NE2	2:B:186:THR:HA	2.32	0.43
1:C:100:TYR:CE1	1:C:110:VAL:HB	2.53	0.43
1:A:76:LYS:O	1:A:108:ALA:HA	2.19	0.43
2:B:128:GLN:HE22	2:B:165:PHE:HA	1.84	0.43
1:C:382:ALA:HB1	1:C:386:ASP:HB2	2.00	0.43
1:A:410:GLU:HG2	1:A:414:LYS:HE3	1.98	0.43
1:A:442:HIS:HB3	3:A:501:HCA:O6	2.18	0.43
2:B:230:PHE:N	2:B:297:HIS:HE1	2.06	0.43
2:D:216:LYS:HA	2:D:286:ASN:HD21	1.83	0.43
1:C:209:LYS:NZ	1:C:263:GLU:OE2	2.49	0.43
2:D:363:HIS:HD2	11:D:1181:HOH:O	2.02	0.43
2:B:363:HIS:HD2	11:B:1172:HOH:O	2.02	0.43
1:A:97:ARG:O	1:A:231:ILE:HA	2.19	0.43
1:A:382:ALA:HB1	1:A:386:ASP:HB2	2.01	0.42
2:D:461:GLU:HG2	11:D:836:HOH:O	2.19	0.42
1:A:25:ARG:HD3	11:A:634:HOH:O	2.19	0.42
1:A:199:ASN:HD22	1:A:282:ILE:N	2.16	0.42
2:D:7:LYS:HD2	2:D:7:LYS:HA	1.92	0.42
1:A:199:ASN:HD21	1:A:279[A]:MET:HA	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:5:SER:OG	1:C:5:SER:N	2.45	0.42
2:B:370:TRP:HA	2:B:394:LEU:O	2.20	0.42
2:D:494:LEU:HD23	2:D:494:LEU:C	2.39	0.42
2:D:503:GLU:OE2	2:D:503:GLU:CB	2.68	0.42
2:D:70:CYS:HB2	2:D:188:SER:HB2	2.02	0.41
1:C:288[A]:GLU:HG3	11:C:752:HOH:O	2.20	0.41
1:A:206:VAL:HA	1:A:209:LYS:CE	2.50	0.41
1:A:219:THR:HB	1:A:220:PRO:HD2	2.02	0.41
5:A:505:IMD:C4	11:D:1046:HOH:O	2.68	0.41
1:C:36:ASP:HB2	11:C:609:HOH:O	2.20	0.41
2:B:475:ASP:HB3	2:D:521:LEU:O	2.21	0.41
1:C:97:ARG:O	1:C:231:ILE:HA	2.21	0.41
2:D:143:LYS:N	2:D:144:PRO:CD	2.83	0.41
1:A:36:ASP:C	1:A:36:ASP:OD1	2.59	0.41
1:A:121:LYS:HE2	11:A:659:HOH:O	2.21	0.41
2:B:121:ASP:O	2:B:125:PHE:CE1	2.74	0.41
2:B:130:ASN:ND2	11:B:713:HOH:O	2.53	0.41
2:B:143:LYS:N	2:B:144:PRO:CD	2.84	0.41
2:B:454:ASP:HA	2:D:512[B]:MET:CE	2.51	0.40
1:A:199:ASN:ND2	1:A:282:ILE:H	2.18	0.40
1:A:39:VAL:HG11	1:A:45[B]:CYS:SG	2.61	0.40
1:C:253:TRP:HA	1:C:254:SER:HA	1.88	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:178:GLU:OE2	11:A:641:HOH:O[1_454]	2.01	0.19
1:C:26:LYS:CD	11:B:915:HOH:O[1_554]	2.16	0.04
11:B:707:HOH:O	11:C:945:HOH:O[1_455]	2.18	0.02

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	481/492 (98%)	461 (96%)	19 (4%)	1 (0%)	47	21
1	C	484/492 (98%)	464 (96%)	19 (4%)	1 (0%)	47	21
2	B	535/523 (102%)	525 (98%)	9 (2%)	1 (0%)	47	21
2	D	529/523 (101%)	519 (98%)	9 (2%)	1 (0%)	47	21
All	All	2029/2030 (100%)	1969 (97%)	56 (3%)	4 (0%)	47	21

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	255	SER
2	D	255	SER
1	A	355	ILE
1	C	355	ILE

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	413/415 (100%)	407 (98%)	6 (2%)	65	32
1	C	402/415 (97%)	396 (98%)	6 (2%)	65	32
2	B	463/455 (102%)	459 (99%)	4 (1%)	78	52
2	D	456/455 (100%)	455 (100%)	1 (0%)	93	82
All	All	1734/1740 (100%)	1717 (99%)	17 (1%)	78	47

All (17) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	17	LEU
1	A	98	ASN
1	A	355	ILE
1	A	362	HIS
1	A	401	TYR

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Mol	Chain	Res	Type
1	A	445	ASP
2	B	154[A]	MET
2	B	154[B]	MET
2	B	177	ASP
2	B	258	GLU
1	C	98	ASN
1	C	355	ILE
1	C	362	HIS
1	C	401	TYR
1	C	445	ASP
1	C	476	GLN
2	D	258	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (37) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	31	HIS
1	A	199	ASN
1	A	252	GLN
1	A	271	ASN
1	A	274	HIS
1	A	384	ASN
1	A	468	ASN
1	A	469	ASN
2	B	71	GLN
2	B	128	GLN
2	B	130	ASN
2	B	185	HIS
2	B	225	ASN
2	B	286	ASN
2	B	294	GLN
2	B	297	HIS
2	B	363	HIS
2	B	418	ASN
2	B	429	HIS
2	B	518	ASN
1	C	31	HIS
1	C	119	GLN
1	C	199	ASN
1	C	271	ASN
1	C	274	HIS
1	C	384	ASN

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Mol	Chain	Res	Type
1	C	468	ASN
2	D	130	ASN
2	D	225	ASN
2	D	286	ASN
2	D	294	GLN
2	D	297	HIS
2	D	363	HIS
2	D	418	ASN
2	D	429	HIS
2	D	499	ASN
2	D	518	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 24 ligands modelled in this entry, 2 are modelled with single atom and 4 are monoatomic - leaving 18 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	HCA	C	501	-	13,13,13	1.25	2 (15%)	14,18,18	1.73	3 (21%)
5	IMD	B	603	-	3,5,5	0.71	0	4,5,5	0.69	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
5	IMD	A	504	-	3,5,5	0.28	0	4,5,5	0.70	0
5	IMD	A	505	-	3,5,5	0.73	0	4,5,5	0.89	0
7	CMO	A	508	-	0,1,1	-	-	-		
4	ICE	C	502	1,7	12,28,28	2.24	5 (41%)	-		
8	CLF	B	601	1,2	0,24,24	-	-	-		
5	IMD	D	604	-	3,5,5	0.30	0	4,5,5	0.55	0
7	CMO	C	506	-	0,1,1	-	-	-		
5	IMD	C	503	-	3,5,5	0.38	0	4,5,5	0.83	0
5	IMD	D	605	-	3,5,5	0.30	0	4,5,5	0.77	0
8	CLF	D	602	1,2	0,24,24	-	-	-		
4	ICE	A	502	1,7	12,28,28	2.20	6 (50%)	-		
3	HCA	A	501	-	13,13,13	0.75	0	14,18,18	1.87	4 (28%)
7	CMO	A	507	4	0,1,1	-	-	-		
5	IMD	D	603	-	3,5,5	0.71	0	4,5,5	0.79	0
7	CMO	C	505	4	0,1,1	-	-	-		
5	IMD	A	503	-	3,5,5	0.23	0	4,5,5	0.65	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	HCA	C	501	-	-	0/17/17/17	-
5	IMD	B	603	-	-	-	0/1/1/1
5	IMD	A	505	-	-	-	0/1/1/1
5	IMD	A	504	-	-	-	0/1/1/1
8	CLF	B	601	1,2	-	-	0/12/10/10
5	IMD	D	604	-	-	-	0/1/1/1
5	IMD	C	503	-	-	-	0/1/1/1
5	IMD	D	605	-	-	-	0/1/1/1
8	CLF	D	602	1,2	-	-	0/12/10/10
3	HCA	A	501	-	-	3/17/17/17	-
5	IMD	D	603	-	-	-	0/1/1/1
5	IMD	A	503	-	-	-	0/1/1/1

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	502	ICE	S4B-FE7	-4.44	2.21	2.32
4	A	502	ICE	S3B-FE7	-3.17	2.24	2.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	502	ICE	S4B-FE7	-3.06	2.24	2.32
4	A	502	ICE	S4B-FE5	-2.92	2.25	2.32
4	A	502	ICE	S1B-FE5	-2.90	2.25	2.32
4	C	502	ICE	S4A-FE3	-2.85	2.25	2.32
4	C	502	ICE	S4B-FE5	-2.83	2.25	2.32
4	A	502	ICE	S4A-FE3	-2.78	2.25	2.32
4	C	502	ICE	S3B-FE7	-2.65	2.25	2.32
3	C	501	HCA	O2-C1	-2.32	1.22	1.30
4	C	502	ICE	S1B-FE5	-2.20	2.26	2.32
3	C	501	HCA	O5-C7	2.17	1.29	1.22
4	A	502	ICE	S5A-FE7	-2.16	2.19	2.24

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	A	501	HCA	O5-C7-C3	-4.63	115.69	122.25
3	C	501	HCA	C4-C5-C6	3.58	120.86	112.75
3	C	501	HCA	O5-C7-C3	-3.47	117.34	122.25
3	A	501	HCA	C4-C5-C6	2.86	119.21	112.75
3	A	501	HCA	O6-C7-C3	2.44	117.29	113.05
3	C	501	HCA	O1-C1-C2	-2.10	116.81	122.94
3	A	501	HCA	O3-C6-C5	-2.05	116.48	123.08

There are no chirality outliers.

All (3) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	501	HCA	C4-C3-C7-O6
3	A	501	HCA	O2-C1-C2-C3
3	A	501	HCA	O1-C1-C2-C3

There are no ring outliers.

11 monomers are involved in 13 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	501	HCA	2	0
5	A	504	IMD	1	0
5	A	505	IMD	3	0
7	A	508	CMO	1	0
7	C	506	CMO	1	0
5	C	503	IMD	2	0

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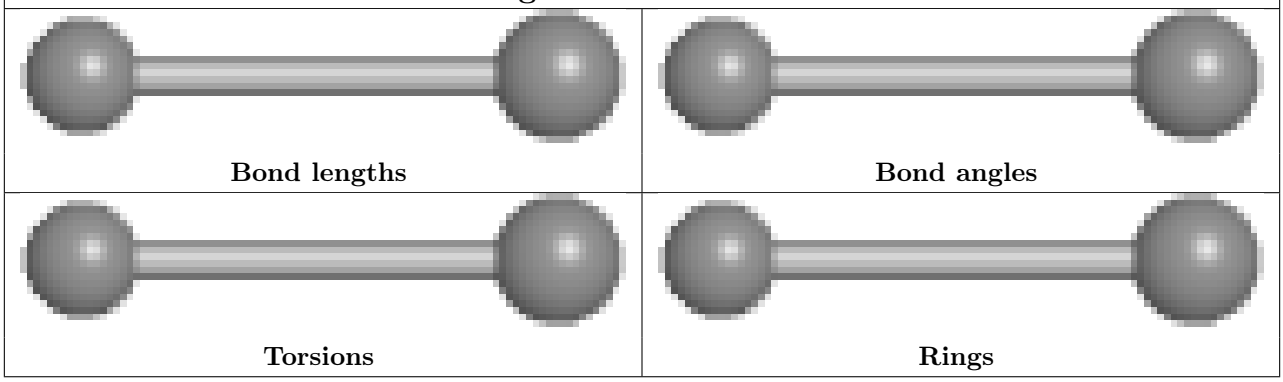
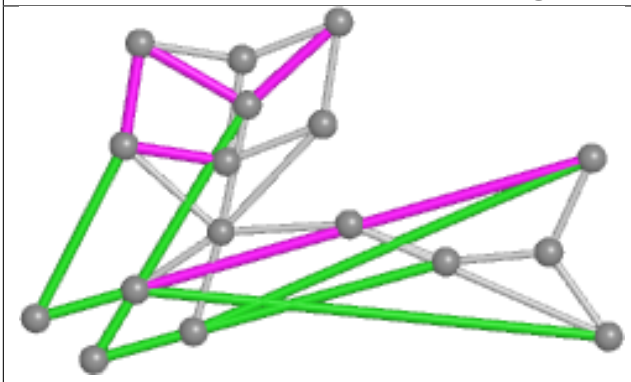
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	D	605	IMD	1	0
3	A	501	HCA	1	0
7	A	507	CMO	1	0
5	D	603	IMD	1	0
7	C	505	CMO	1	0

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

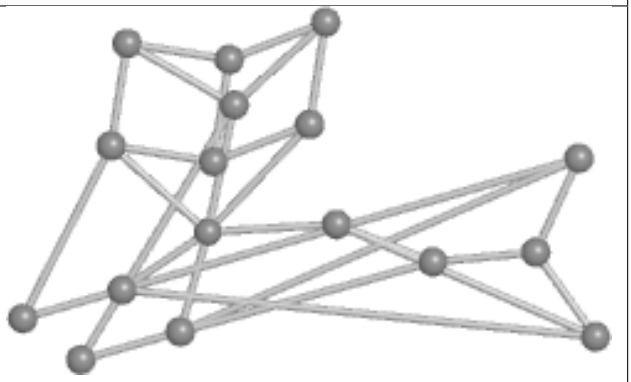
Ligand CMO A 508



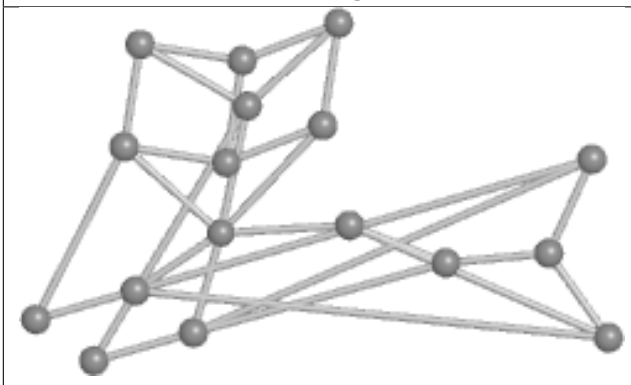
Ligand ICE C 502



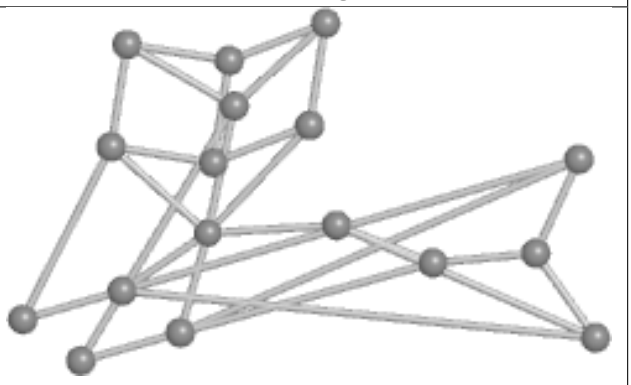
Bond lengths



Bond angles

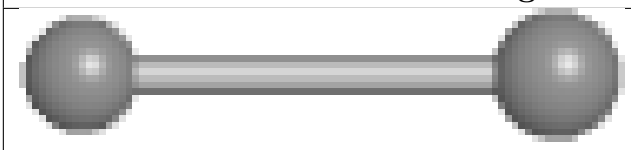


Torsions

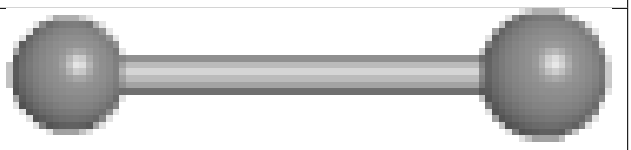


Rings

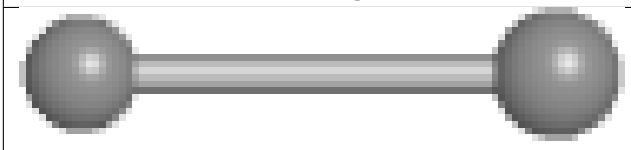
Ligand CMO C 506



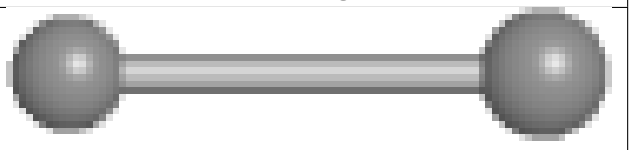
Bond lengths



Bond angles

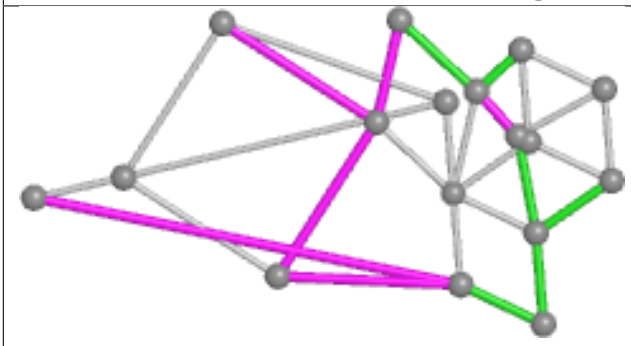


Torsions

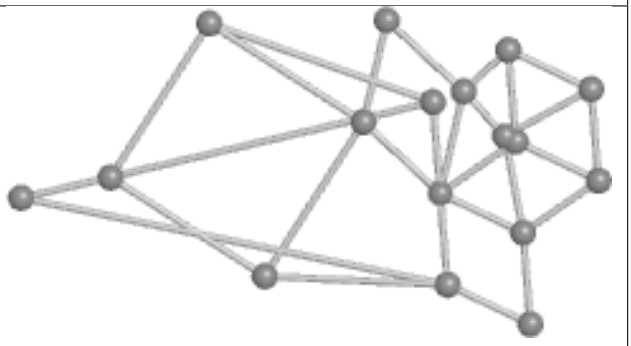


Rings

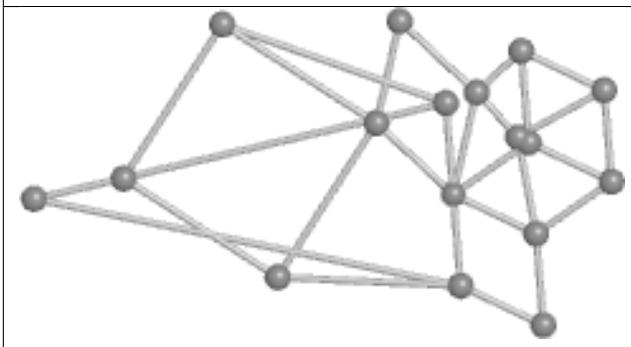
Ligand ICE A 502



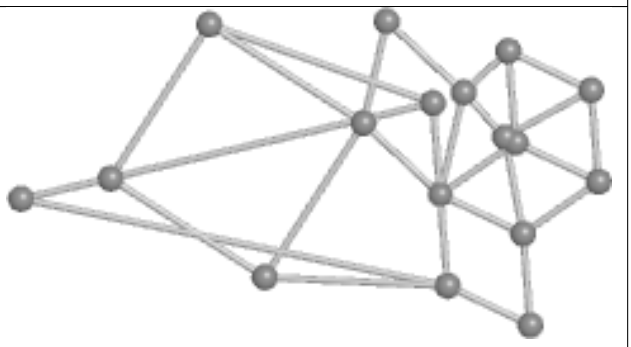
Bond lengths



Bond angles



Torsions



Rings

Ligand CMO A 507

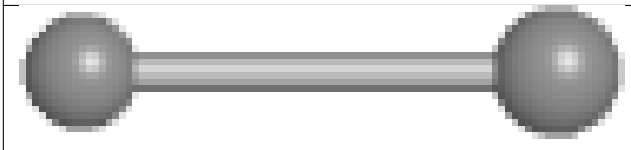
Bond lengths

Bond angles

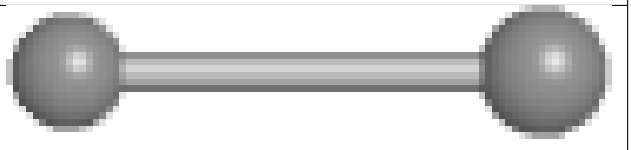
Torsions

Rings

Ligand CMO C 505



Bond lengths



Bond angles

Torsions

Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	477/492 (96%)	-0.26	7 (1%)	73	77	9, 13, 27, 54	10 (2%)
1	C	477/492 (96%)	-0.29	5 (1%)	82	85	9, 14, 28, 47	11 (2%)
2	B	522/523 (99%)	-0.41	4 (0%)	86	88	9, 13, 24, 39	6 (1%)
2	D	522/523 (99%)	-0.51	1 (0%)	95	95	9, 12, 22, 42	2 (0%)
All	All	1998/2030 (98%)	-0.37	17 (0%)	84	87	9, 13, 25, 54	29 (1%)

All (17) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	38	ALA	6.6
1	C	38	ALA	6.4
1	A	40	THR	4.7
1	A	480	GLU	4.4
2	B	125	PHE	4.3
1	A	39	VAL	4.3
1	C	39	VAL	3.8
2	B	124	VAL	3.8
1	C	125	PHE	2.6
1	A	37	PRO	2.5
2	D	214	ASP	2.4
2	B	123	ALA	2.3
1	C	37	PRO	2.3
1	A	125	PHE	2.2
1	C	14	GLN	2.2
2	B	211	LYS	2.0
1	A	4	MET	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

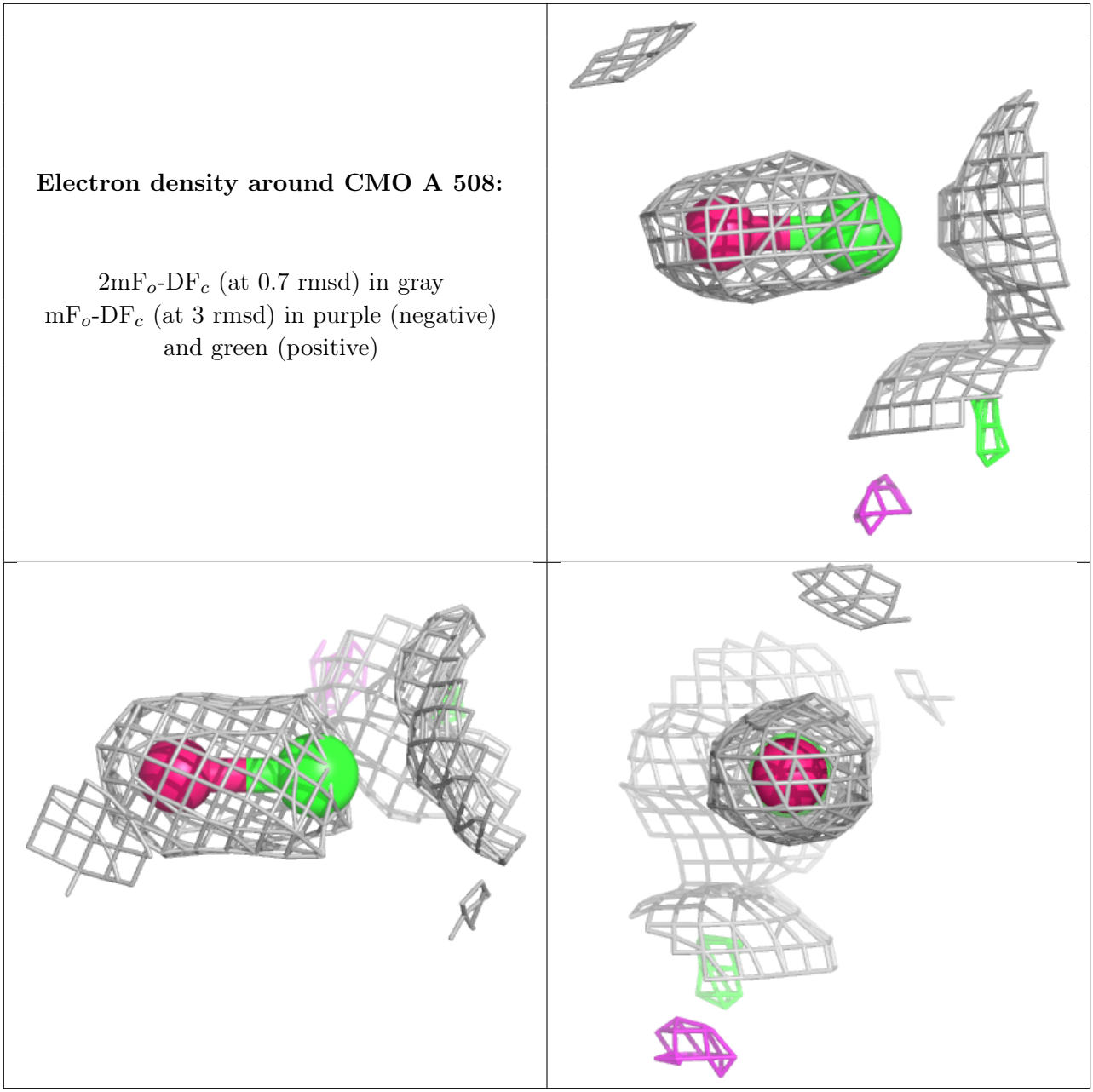
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	IMD	A	505	5/5	0.85	0.11	18,23,25,27	0
5	IMD	A	504	5/5	0.86	0.14	30,35,40,41	0
5	IMD	D	604	5/5	0.94	0.11	22,23,28,31	0
10	MG	D	606	1/1	0.94	0.22	47,47,47,47	0
5	IMD	B	603	5/5	0.96	0.07	13,15,16,19	0
5	IMD	D	605	5/5	0.96	0.10	26,27,32,35	0
10	MG	B	604	1/1	0.96	0.13	51,51,51,51	0
5	IMD	D	603	5/5	0.96	0.07	10,14,16,17	0
7	CMO	A	508	2/2	0.97	0.15	17,17,17,20	2
7	CMO	C	506	2/2	0.97	0.16	17,17,17,24	2
5	IMD	C	503	5/5	0.97	0.09	22,22,23,29	0
5	IMD	A	503	5/5	0.97	0.06	19,20,22,24	0
3	HCA	C	501	14/14	0.98	0.07	9,10,13,14	0
7	CMO	A	507	2/2	0.98	0.10	6,6,6,12	0
7	CMO	C	505	2/2	0.99	0.08	5,5,5,13	0
3	HCA	A	501	14/14	0.99	0.08	9,10,13,13	0
6	H2S	A	506	1/1	1.00	0.04	15,15,15,15	0
6	H2S	C	504	1/1	1.00	0.05	14,14,14,14	0
8	CLF	B	601	15/15	1.00	0.04	11,11,12,12	0
8	CLF	D	602	15/15	1.00	0.04	10,10,10,10	0
9	CA	B	602	1/1	1.00	0.09	9,9,9,9	1
9	CA	D	601	1/1	1.00	0.05	11,11,11,11	1
4	ICE	A	502	17/17	1.00	0.05	9,10,10,10	0
4	ICE	C	502	17/17	1.00	0.04	9,10,11,11	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.

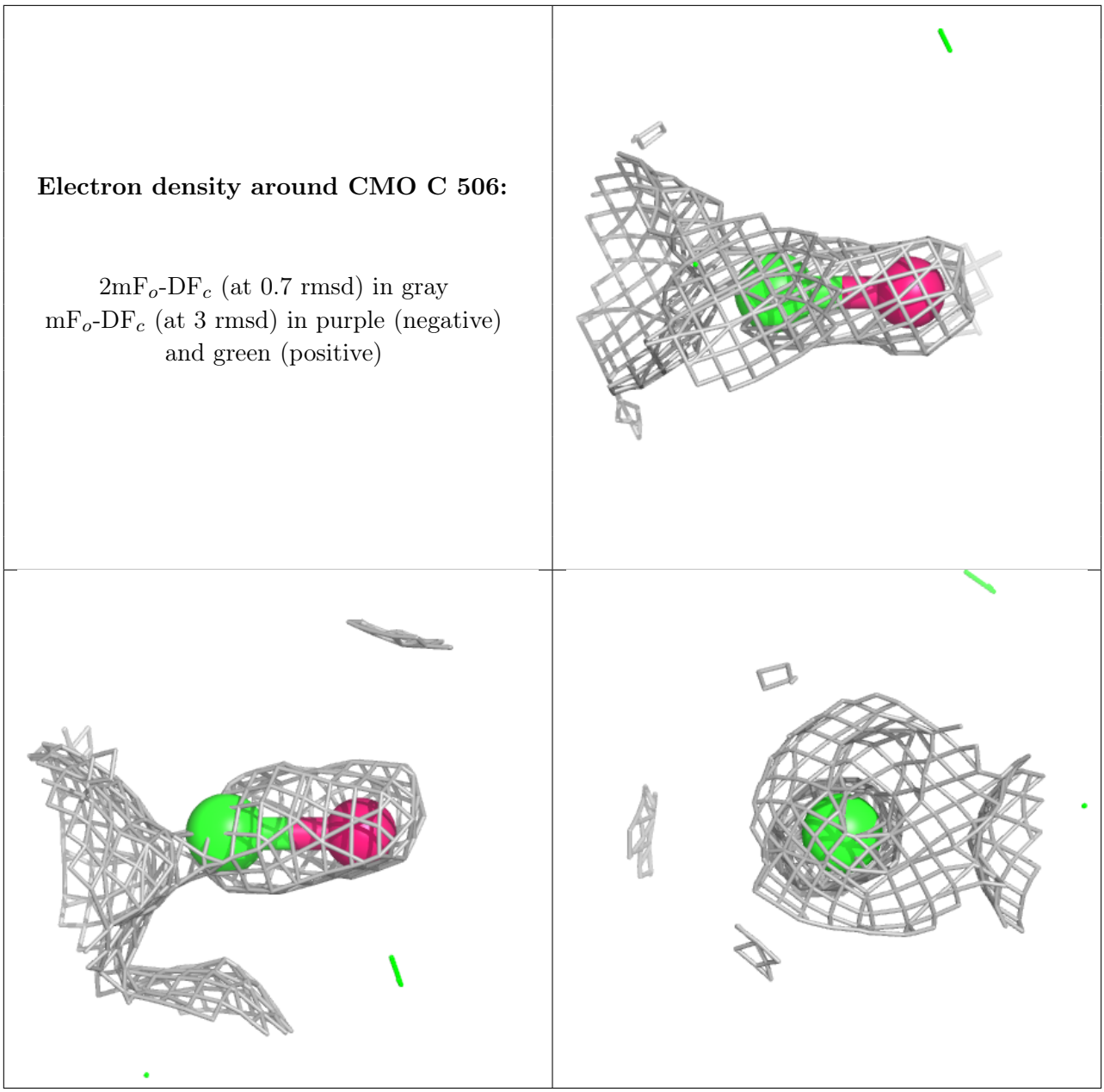
Electron density around CMO A 508:

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



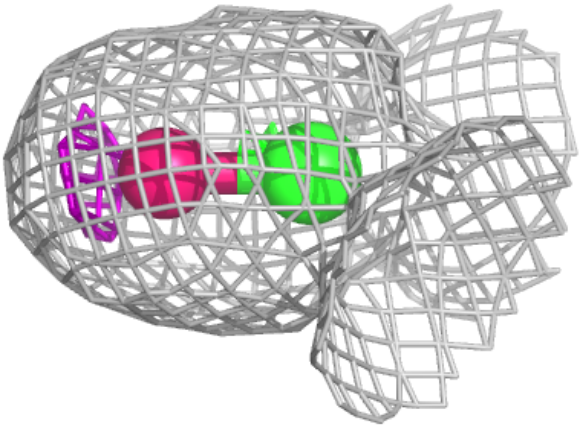
Electron density around CMO C 506:

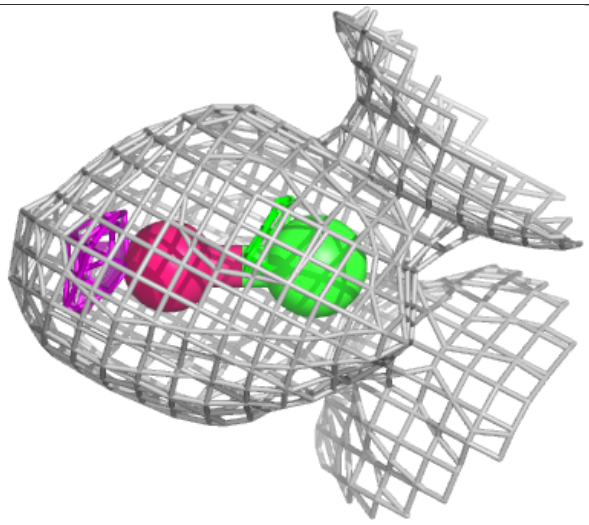
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

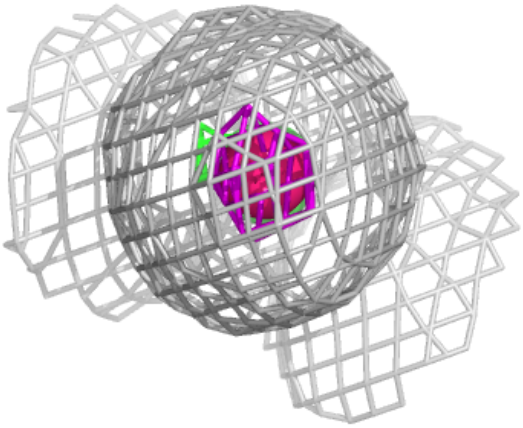


Electron density around CMO A 507:

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

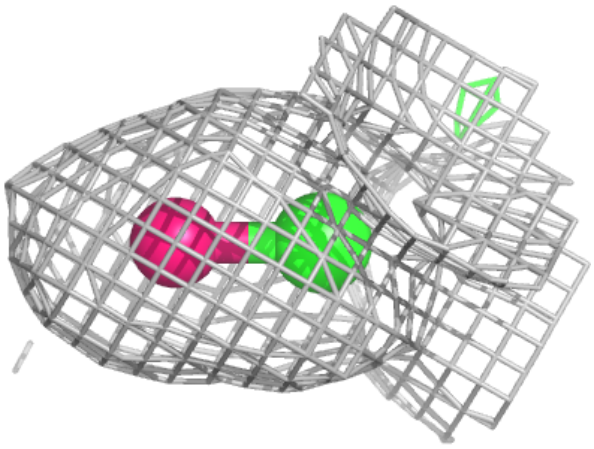


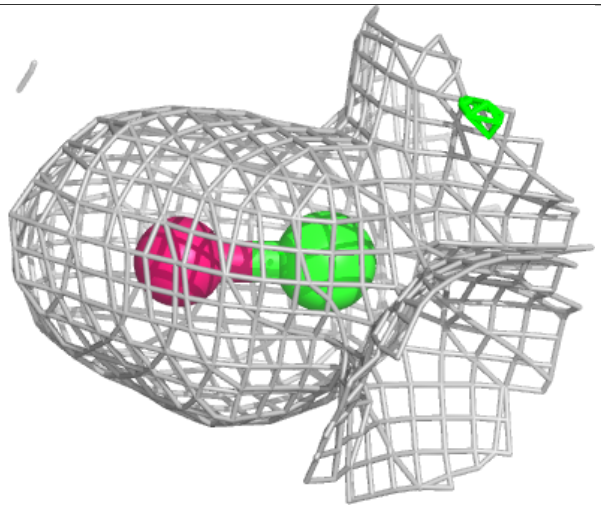


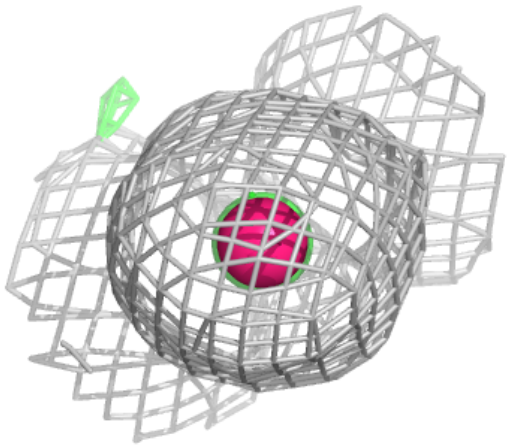


Electron density around CMO C 505:

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

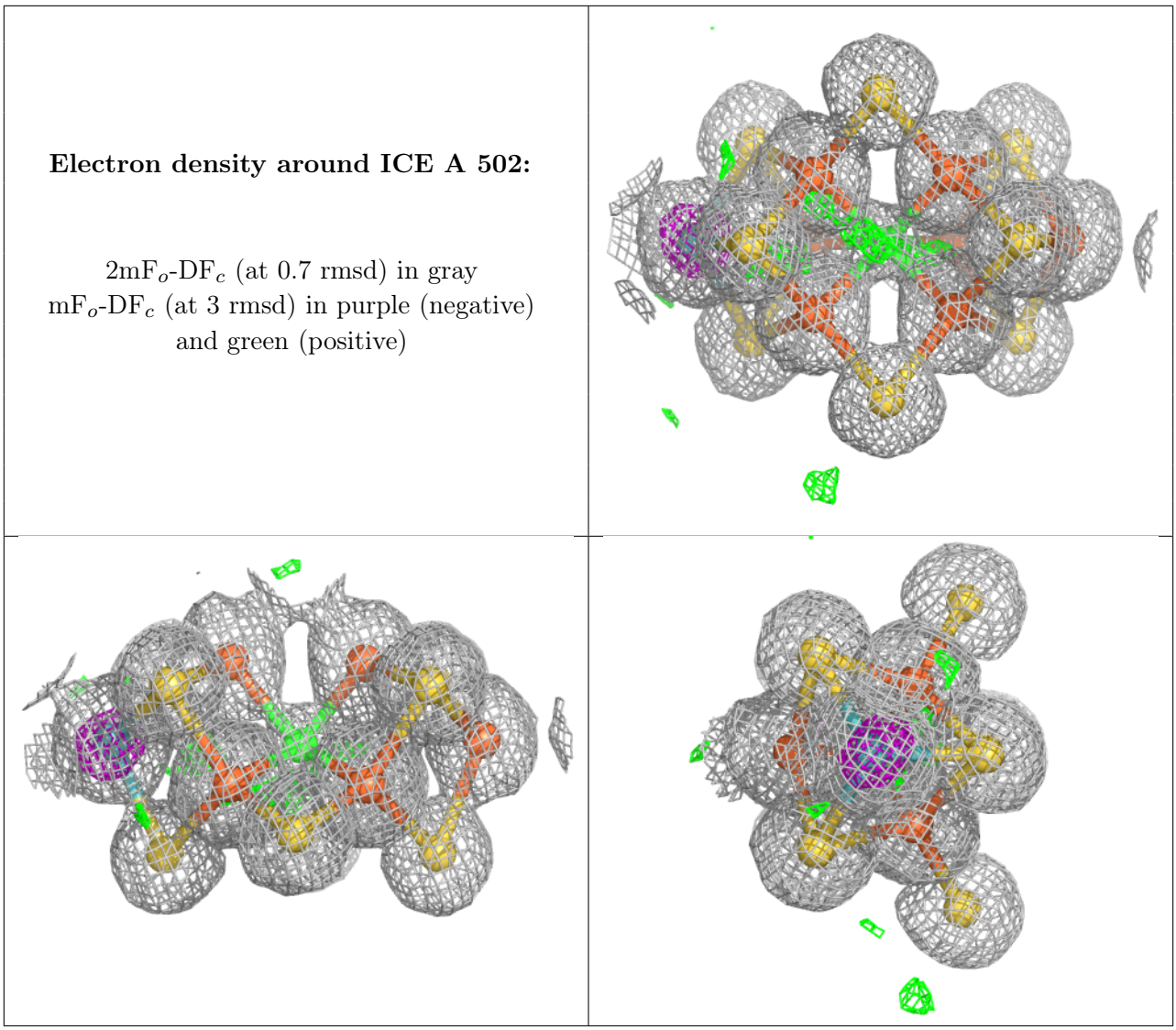






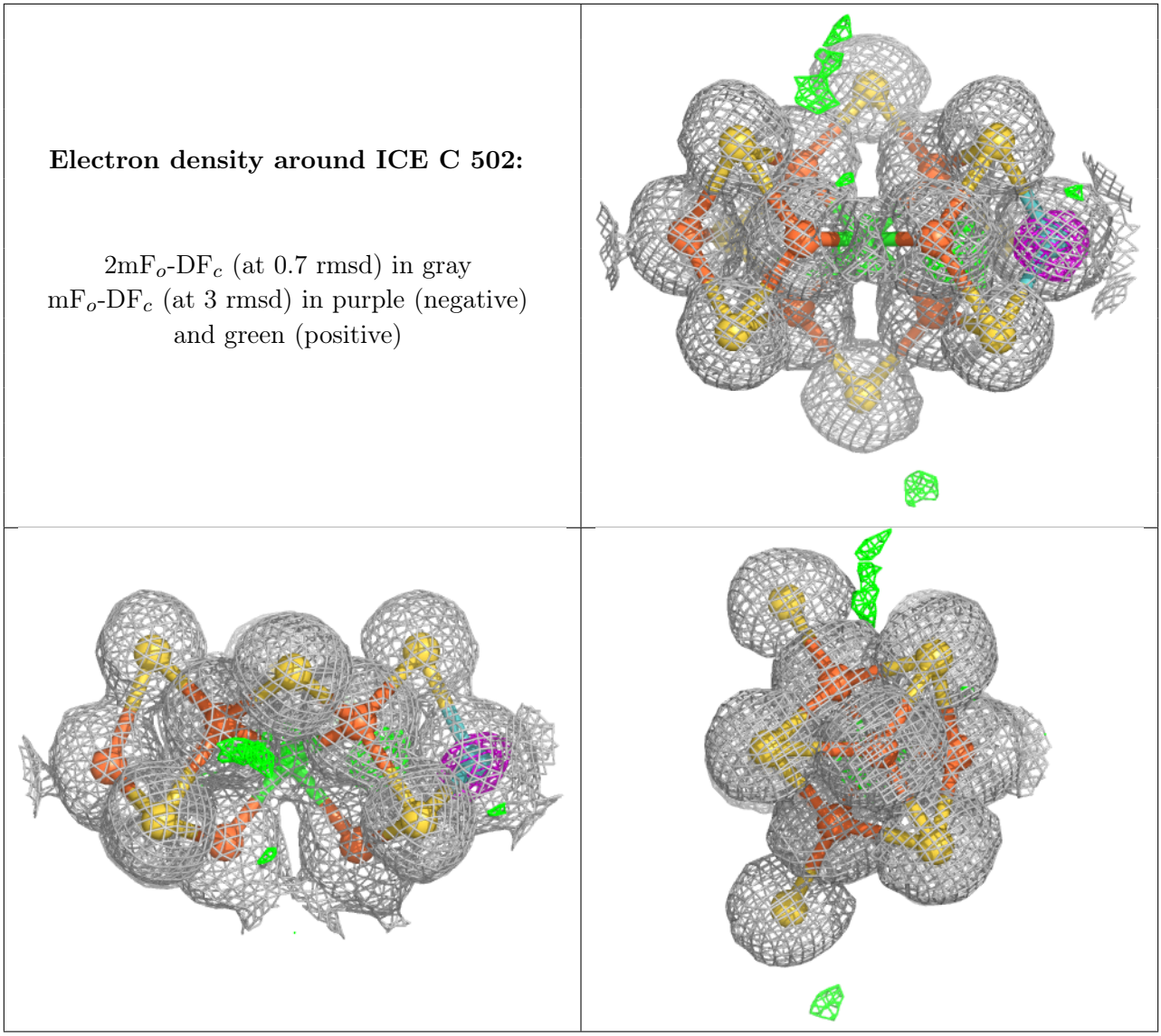
Electron density around ICE A 502:

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



Electron density around ICE C 502:

$2mF_o$-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.