Full wwPDB X-ray Structure Validation Report ⓘ

Dec 16, 2023 – 08:26 AM EST

PDB ID : 2OAS
Title : Crystal Structure of 4-hydroxybutyrate coenzyme A transferase (AtoA) in complex with CoA from Shewanella oneidensis, Northeast Structural Genomics Target SoR119.
Authors : Forouhar, F.; Neely, H.; Hussain, M.; Benach, J.; Seetharaman, J.; Cunningham, K.; Ma, L.C.; Owen, L.; Fang, Y.; Xiao, R.; Liu, J.; Baran, M.C.; Acton, T.B.; Montelione, G.T.; Hunt, J.F.; Tong, L.; Northeast Structural Genomics Consortium (NESG)
Deposited on : 2006-12-17
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*
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	:	2.36
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)

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.
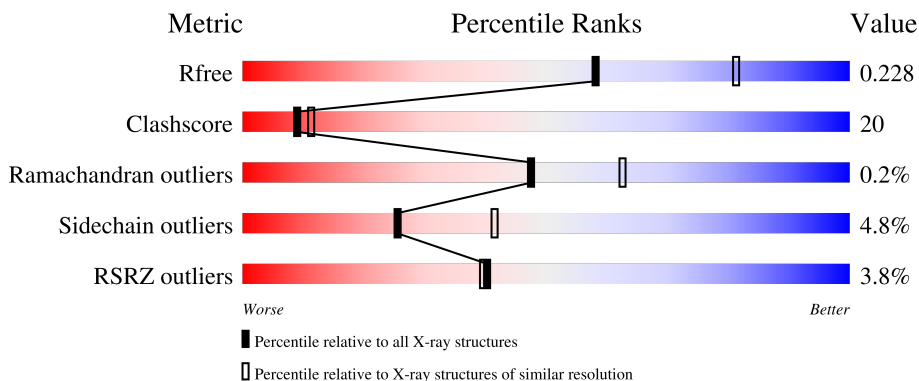
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3907 (2.40-2.40)
Clashscore	141614	4398 (2.40-2.40)
Ramachandran outliers	138981	4318 (2.40-2.40)
Sidechain outliers	138945	4319 (2.40-2.40)
RSRZ outliers	127900	3811 (2.40-2.40)

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 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	436	
1	B	436	

Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 6655 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 4-hydroxybutyrate coenzyme A transferase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	427	Total	C	N	O	S	Se	0	0	0
			3204	2022	568	600	7	7			
1	B	427	Total	C	N	O	S	Se	0	0	0
			3204	2022	568	600	7	7			

There are 32 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1	MSE	MET	modified residue	UNP Q8EG98
A	27	MSE	MET	modified residue	UNP Q8EG98
A	126	MSE	MET	modified residue	UNP Q8EG98
A	154	MSE	MET	modified residue	UNP Q8EG98
A	209	MSE	MET	modified residue	UNP Q8EG98
A	284	MSE	MET	modified residue	UNP Q8EG98
A	302	MSE	MET	modified residue	UNP Q8EG98
A	333	MSE	MET	modified residue	UNP Q8EG98
A	429	LEU	-	cloning artifact	UNP Q8EG98
A	430	GLU	-	cloning artifact	UNP Q8EG98
A	431	HIS	-	cloning artifact	UNP Q8EG98
A	432	HIS	-	cloning artifact	UNP Q8EG98
A	433	HIS	-	cloning artifact	UNP Q8EG98
A	434	HIS	-	cloning artifact	UNP Q8EG98
A	435	HIS	-	cloning artifact	UNP Q8EG98
A	436	HIS	-	cloning artifact	UNP Q8EG98
B	1	MSE	MET	modified residue	UNP Q8EG98
B	27	MSE	MET	modified residue	UNP Q8EG98
B	126	MSE	MET	modified residue	UNP Q8EG98
B	154	MSE	MET	modified residue	UNP Q8EG98
B	209	MSE	MET	modified residue	UNP Q8EG98
B	284	MSE	MET	modified residue	UNP Q8EG98
B	302	MSE	MET	modified residue	UNP Q8EG98
B	333	MSE	MET	modified residue	UNP Q8EG98
B	429	LEU	-	cloning artifact	UNP Q8EG98

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Chain	Residue	Modelled	Actual	Comment	Reference
B	430	GLU	-	cloning artifact	UNP Q8EG98
B	431	HIS	-	cloning artifact	UNP Q8EG98
B	432	HIS	-	cloning artifact	UNP Q8EG98
B	433	HIS	-	cloning artifact	UNP Q8EG98
B	434	HIS	-	cloning artifact	UNP Q8EG98
B	435	HIS	-	cloning artifact	UNP Q8EG98
B	436	HIS	-	cloning artifact	UNP Q8EG98

- Molecule 2 is COENZYME A (three-letter code: COA) (formula: $C_{21}H_{36}N_7O_{16}P_3S$).
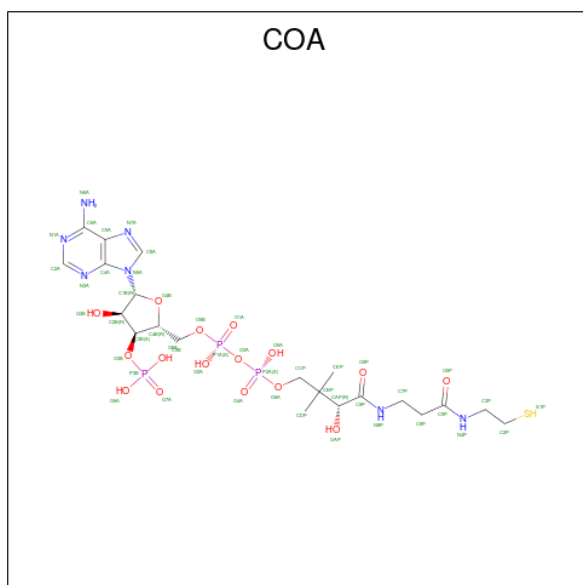
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	A	1	Total	C	N	O	P	S	0	0
			48	21	7	16	3	1		
2	B	1	Total	C	N	O	P	S	0	0
			48	21	7	16	3	1		

- Molecule 3 is water.

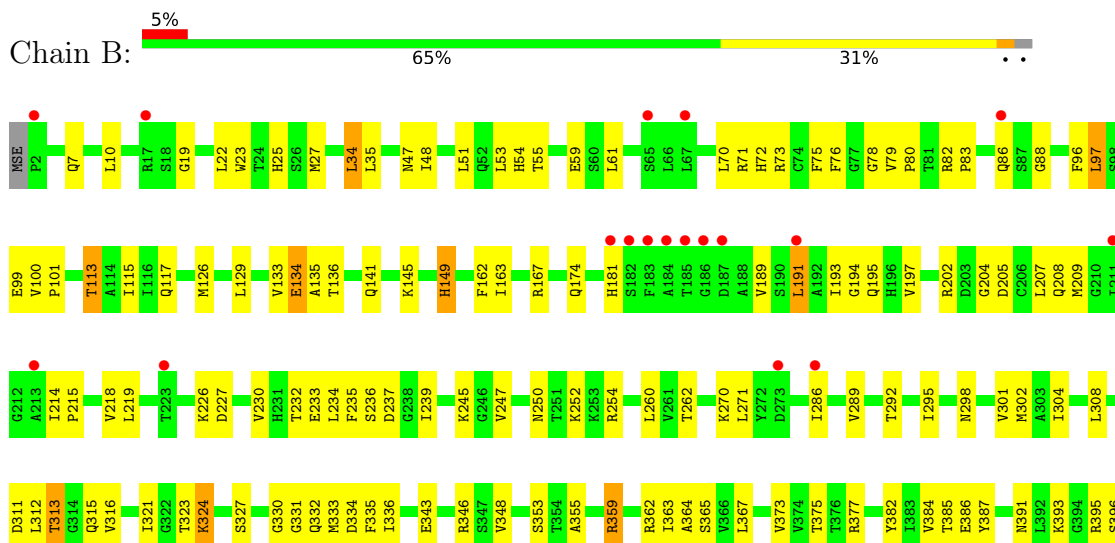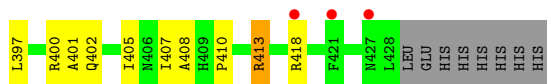| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	91	Total	O	0	0
			91	91		
3	B	60	Total	O	0	0
			60	60		

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: 4-hydroxybutyrate coenzyme A transferase

- Molecule 1: 4-hydroxybutyrate coenzyme A transferase

L397 R400 A401 Q402 I405 N406 I407 A408 H409 P410 R413 R418 F421 N427 L428 LEU GLU HIS HIS HIS HIS HIS HIS

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	80.16Å 111.34Å 179.43Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	19.92 – 2.40 29.89 – 2.40	Depositor EDS
% Data completeness (in resolution range)	85.4 (19.92-2.40) 97.2 (29.89-2.40)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	0.10	Depositor
$< I/\sigma(I) >$ [1]	3.36 (at 2.42Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.225 , 0.266 0.235 , 0.228	Depositor DCC
R_{free} test set	5903 reflections (9.86%)	wwPDB-VP
Wilson B-factor (Å^2)	35.8	Xtriage
Anisotropy	0.684	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 40.6	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	6655	wwPDB-VP
Average B, all atoms (Å^2)	39.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.42% of the height of the origin peak. No significant pseudotranslation is detected.*

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

5   Model quality ⓘ

5.1   Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: COA

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	0.41	0/3258	0.62	1/4410 (0.0%)
1	B	0.41	0/3258	0.62	1/4410 (0.0%)
All	All	0.41	0/6516	0.62	2/8820 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	233	GLU	CB-CA-C	-6.44	97.52	110.40
1	B	233	GLU	CB-CA-C	-6.43	97.53	110.40

There are no chirality outliers.

There are no planarity outliers.

5.2   Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3204	0	3230	127	0
1	B	3204	0	3230	137	0
2	A	48	0	31	1	0
2	B	48	0	31	2	0
3	A	91	0	0	2	0
3	B	60	0	0	11	0
All	All	6655	0	6522	263	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 20.

All (263) 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:B:232:THR:HG23	1:B:262:THR:HG22	1.49	0.94
1:A:232:THR:HG23	1:A:262:THR:HG22	1.51	0.93
1:A:126:MSE:HE2	1:A:162:PHE:HB3	1.52	0.89
1:B:250:ASN:HD21	1:B:260:LEU:HD23	1.40	0.87
1:B:126:MSE:HE2	1:B:162:PHE:HB3	1.55	0.87
1:A:250:ASN:HD21	1:A:260:LEU:HD23	1.43	0.82
1:A:286:ILE:HA	1:A:289:VAL:HG12	1.63	0.81
1:A:135:ALA:HB2	1:A:286:ILE:HD11	1.62	0.79
1:B:70:LEU:HD12	1:B:71:ARG:N	1.98	0.79
1:A:214:ILE:HB	1:A:215:PRO:HD3	1.62	0.78
1:B:135:ALA:HB2	1:B:286:ILE:HD11	1.63	0.78
1:A:70:LEU:HD12	1:A:71:ARG:H	1.48	0.78
1:A:126:MSE:CE	1:A:162:PHE:HB3	2.14	0.78
1:B:70:LEU:HD12	1:B:71:ARG:H	1.47	0.77
1:B:214:ILE:HB	1:B:215:PRO:HD3	1.66	0.77
1:B:126:MSE:CE	1:B:162:PHE:HB3	2.15	0.76
1:B:286:ILE:HA	1:B:289:VAL:HG12	1.65	0.75
1:B:410:PRO:HA	1:B:413:ARG:HE	1.52	0.75
1:A:70:LEU:HD12	1:A:71:ARG:N	2.01	0.75
1:B:55:THR:HG22	3:B:518:HOH:O	1.87	0.74
1:B:27:MSE:HA	1:B:27:MSE:HE2	1.71	0.72
1:A:48:ILE:HG22	1:A:70:LEU:HD13	1.72	0.72
1:A:410:PRO:HA	1:A:413:ARG:HE	1.52	0.72
1:A:27:MSE:HE2	1:A:27:MSE:HA	1.73	0.71
1:B:418:ARG:HG3	1:B:418:ARG:HH11	1.57	0.69
1:B:48:ILE:HG22	1:B:70:LEU:HD13	1.74	0.69
1:B:97:LEU:HD12	1:B:330:GLY:HA2	1.74	0.69
1:A:232:THR:HG23	1:A:262:THR:CG2	2.22	0.69
1:B:308:LEU:HD21	2:B:501:COA:H133	1.75	0.68
1:A:286:ILE:HA	1:A:289:VAL:CG1	2.24	0.68
1:B:232:THR:HG23	1:B:262:THR:CG2	2.21	0.67
1:A:163:ILE:HD11	1:A:167:ARG:HE	1.59	0.67
1:B:321:ILE:O	1:B:324:LYS:HG2	1.95	0.67
1:A:235:PHE:HD2	1:A:262:THR:HG21	1.59	0.67
1:B:208:GLN:HG3	1:B:335:PHE:CD1	2.31	0.66
1:A:97:LEU:HD12	1:A:330:GLY:HA2	1.76	0.66
1:A:250:ASN:HD21	1:A:260:LEU:CD2	2.09	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:286:ILE:HA	1:B:289:VAL:CG1	2.25	0.66
1:B:163:ILE:HD11	1:B:167:ARG:HE	1.59	0.66
1:A:321:ILE:O	1:A:324:LYS:HG2	1.96	0.65
1:B:133:VAL:O	1:B:136:THR:HG22	1.96	0.65
1:A:191:LEU:O	1:A:195:GLN:HG3	1.95	0.65
1:A:134:GLU:HA	1:A:286:ILE:HG23	1.78	0.65
1:B:235:PHE:HD2	1:B:262:THR:HG21	1.60	0.65
1:A:208:GLN:HG3	1:A:335:PHE:CD1	2.33	0.64
1:A:418:ARG:HG3	1:A:418:ARG:HH11	1.62	0.64
1:B:250:ASN:HD21	1:B:260:LEU:CD2	2.10	0.64
1:B:86:GLN:HE21	1:B:324:LYS:HB2	1.62	0.64
1:B:134:GLU:HA	1:B:286:ILE:HG23	1.78	0.64
1:A:348:VAL:HG22	1:A:382:TYR:HB2	1.78	0.64
1:B:191:LEU:O	1:B:195:GLN:HG3	1.98	0.64
1:A:133:VAL:O	1:A:136:THR:HG22	1.98	0.63
1:B:359:ARG:HH21	1:B:359:ARG:HG3	1.64	0.63
1:A:86:GLN:HE21	1:A:324:LYS:HB2	1.62	0.63
1:A:96:PHE:HB2	1:A:99:GLU:HG2	1.81	0.63
1:B:348:VAL:HG22	1:B:382:TYR:HB2	1.79	0.63
1:A:308:LEU:HD21	2:A:501:COA:H133	1.80	0.63
1:B:234:LEU:HD23	3:B:561:HOH:O	1.99	0.62
1:B:312:LEU:HG	1:B:365:SER:HA	1.81	0.62
1:B:96:PHE:HB2	1:B:99:GLU:HG2	1.82	0.62
1:B:391:ASN:HB3	1:B:395:ARG:HH22	1.64	0.62
1:A:391:ASN:HB3	1:A:395:ARG:HH22	1.65	0.61
1:B:51:LEU:HD21	1:B:73:ARG:HD3	1.82	0.61
1:A:410:PRO:CA	1:A:413:ARG:HE	2.13	0.61
1:A:205:ASP:CG	1:A:346:ARG:HH22	2.04	0.61
1:B:205:ASP:CG	1:B:346:ARG:HH22	2.04	0.61
1:B:410:PRO:CA	1:B:413:ARG:HE	2.12	0.61
1:B:353:SER:HB3	1:B:385:THR:HG21	1.83	0.60
1:A:312:LEU:HG	1:A:365:SER:HA	1.83	0.60
1:A:353:SER:HB3	1:A:385:THR:HG21	1.84	0.60
1:A:51:LEU:HD21	1:A:73:ARG:HD3	1.82	0.60
1:A:97:LEU:HD23	1:A:286:ILE:CD1	2.32	0.60
1:B:27:MSE:HA	1:B:27:MSE:CE	2.32	0.59
1:B:97:LEU:HD23	1:B:286:ILE:CD1	2.31	0.59
1:A:359:ARG:HH21	1:A:359:ARG:HG3	1.66	0.59
1:A:385:THR:HG22	1:A:386:GLU:N	2.17	0.59
1:B:97:LEU:HD23	1:B:286:ILE:HD13	1.85	0.59
1:B:385:THR:HG22	1:B:386:GLU:N	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:35:LEU:HD22	1:B:61:LEU:HD11	1.83	0.58
1:A:232:THR:O	1:A:262:THR:HA	2.02	0.58
1:B:163:ILE:CD1	1:B:167:ARG:HE	2.17	0.58
1:A:254:ARG:HG2	1:A:254:ARG:HH21	1.69	0.58
1:A:97:LEU:HD23	1:A:286:ILE:HD13	1.86	0.58
1:A:27:MSE:HA	1:A:27:MSE:CE	2.35	0.57
1:A:311:ASP:OD1	1:A:313:THR:HG22	2.04	0.57
1:B:311:ASP:OD1	1:B:313:THR:HG22	2.04	0.57
1:A:209:MSE:HE1	1:A:219:LEU:HD21	1.85	0.57
1:B:78:GLY:HA3	3:B:518:HOH:O	2.04	0.57
1:A:189:VAL:HG13	1:A:386:GLU:HB3	1.87	0.57
1:B:410:PRO:HA	1:B:413:ARG:NE	2.20	0.56
1:A:235:PHE:HB2	1:A:239:ILE:HG13	1.88	0.56
1:B:189:VAL:HG13	1:B:386:GLU:HB3	1.86	0.56
1:B:232:THR:O	1:B:262:THR:HA	2.06	0.56
1:A:410:PRO:HA	1:A:413:ARG:NE	2.21	0.55
1:B:235:PHE:HB2	1:B:239:ILE:HG13	1.88	0.55
1:A:35:LEU:HD22	1:A:61:LEU:HD11	1.88	0.55
1:A:197:VAL:HG22	1:A:384:VAL:HG21	1.88	0.55
1:A:385:THR:CG2	1:A:386:GLU:N	2.69	0.55
1:B:236:SER:OG	1:B:237:ASP:N	2.40	0.55
1:B:254:ARG:NH2	3:B:555:HOH:O	2.40	0.55
1:A:163:ILE:CD1	1:A:167:ARG:HE	2.18	0.55
1:B:209:MSE:HE1	1:B:219:LEU:HD21	1.89	0.55
1:A:311:ASP:HB3	1:A:367:LEU:HD13	1.89	0.55
1:B:385:THR:CG2	1:B:386:GLU:N	2.69	0.55
1:A:208:GLN:HA	1:A:232:THR:HB	1.89	0.54
1:B:193:ILE:O	1:B:197:VAL:HG23	2.07	0.54
1:B:311:ASP:HB3	1:B:367:LEU:HD13	1.89	0.54
1:B:353:SER:HB3	1:B:385:THR:CG2	2.38	0.54
1:B:25:HIS:CD2	1:B:136:THR:HG21	2.43	0.54
1:B:209:MSE:HG2	1:B:304:ILE:HB	1.90	0.53
1:A:113:THR:HB	1:A:145:LYS:HG3	1.91	0.53
1:B:254:ARG:HG2	1:B:254:ARG:HH21	1.74	0.53
1:B:311:ASP:HA	1:B:364:ALA:O	2.09	0.53
1:A:353:SER:HB3	1:A:385:THR:CG2	2.38	0.53
1:B:311:ASP:CG	1:B:313:THR:HG22	2.28	0.53
1:A:53:LEU:HD12	1:A:75:PHE:HB2	1.90	0.53
1:A:82:ARG:N	1:A:83:PRO:HD2	2.24	0.53
1:A:311:ASP:CG	1:A:313:THR:HG22	2.29	0.53
1:A:25:HIS:CD2	1:A:136:THR:HG21	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:313:THR:HG21	1:A:377:ARG:HE	1.73	0.52
1:B:359:ARG:HG3	1:B:359:ARG:NH2	2.23	0.52
1:A:27:MSE:HE3	1:A:54:HIS:ND1	2.25	0.52
1:B:80:PRO:HA	3:B:541:HOH:O	2.09	0.52
1:B:332:GLN:O	1:B:336:ILE:HG13	2.10	0.52
1:B:343:GLU:HG3	3:B:554:HOH:O	2.10	0.52
1:B:53:LEU:HD12	1:B:75:PHE:HB2	1.92	0.52
1:B:230:VAL:HB	1:B:260:LEU:HD22	1.91	0.52
1:A:385:THR:HG22	1:A:387:TYR:H	1.74	0.52
1:B:23:TRP:HH2	1:B:53:LEU:HD13	1.75	0.52
1:B:113:THR:HB	1:B:145:LYS:HG3	1.92	0.52
1:A:359:ARG:HG3	1:A:359:ARG:NH2	2.24	0.52
1:A:235:PHE:CE1	1:A:271:LEU:HD11	2.45	0.52
1:A:313:THR:OG1	1:A:397:LEU:HD22	2.10	0.52
1:B:197:VAL:HG22	1:B:384:VAL:HG21	1.91	0.52
1:A:311:ASP:HA	1:A:364:ALA:O	2.10	0.52
1:B:27:MSE:HE3	1:B:54:HIS:ND1	2.24	0.52
1:B:82:ARG:N	1:B:83:PRO:HD2	2.25	0.52
1:A:313:THR:CG2	1:A:377:ARG:HE	2.23	0.51
1:B:88:GLY:HA2	3:B:533:HOH:O	2.11	0.51
1:A:193:ILE:O	1:A:197:VAL:HG23	2.10	0.51
1:A:311:ASP:OD2	1:A:313:THR:HG22	2.11	0.51
1:A:332:GLN:O	1:A:336:ILE:HG13	2.10	0.51
1:B:235:PHE:CE1	1:B:271:LEU:HD11	2.45	0.51
1:A:51:LEU:CD2	1:A:73:ARG:HD3	2.41	0.51
1:A:245:LYS:HB3	1:A:247:VAL:HG23	1.92	0.51
1:B:391:ASN:HB3	1:B:395:ARG:NH2	2.26	0.51
1:A:209:MSE:HG2	1:A:304:ILE:HB	1.92	0.51
1:A:230:VAL:HB	1:A:260:LEU:HD22	1.92	0.51
1:A:23:TRP:HH2	1:A:53:LEU:HD13	1.75	0.51
1:A:27:MSE:CE	1:A:54:HIS:ND1	2.74	0.50
1:B:208:GLN:HA	1:B:232:THR:HB	1.92	0.50
1:B:311:ASP:OD2	1:B:313:THR:HG22	2.12	0.50
1:B:235:PHE:HE1	1:B:271:LEU:HD11	1.77	0.50
1:B:51:LEU:CD2	1:B:73:ARG:HD3	2.42	0.49
1:B:245:LYS:HB3	1:B:247:VAL:HG23	1.94	0.49
1:A:209:MSE:HE1	1:A:219:LEU:CD2	2.42	0.49
1:B:313:THR:OG1	1:B:397:LEU:HD22	2.12	0.49
1:A:348:VAL:HG22	1:A:382:TYR:CB	2.41	0.49
1:B:313:THR:CG2	1:B:377:ARG:HE	2.25	0.49
1:A:208:GLN:HG3	1:A:335:PHE:CE1	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:236:SER:OG	1:A:237:ASP:N	2.43	0.49
1:A:418:ARG:HG3	1:A:418:ARG:NH1	2.26	0.49
1:B:214:ILE:O	1:B:218:VAL:HG23	2.13	0.49
1:B:348:VAL:HG22	1:B:382:TYR:CB	2.42	0.49
1:A:129:LEU:HD13	1:A:136:THR:HG23	1.95	0.48
1:B:135:ALA:HA	3:B:544:HOH:O	2.13	0.48
1:B:395:ARG:HD3	3:B:528:HOH:O	2.13	0.48
1:B:313:THR:HG21	1:B:377:ARG:HE	1.77	0.48
1:B:402:GLN:O	1:B:405:ILE:HG12	2.13	0.48
1:A:391:ASN:HB3	1:A:395:ARG:NH2	2.27	0.48
1:B:27:MSE:CE	1:B:54:HIS:ND1	2.76	0.48
1:B:208:GLN:HG3	1:B:335:PHE:CE1	2.48	0.48
1:B:418:ARG:HG3	1:B:418:ARG:NH1	2.24	0.48
1:A:214:ILE:O	1:A:218:VAL:HG23	2.14	0.48
1:B:239:ILE:HG12	3:B:515:HOH:O	2.13	0.48
1:B:316:VAL:HB	1:B:375:THR:HB	1.95	0.48
1:B:295:ILE:HD13	1:B:335:PHE:CD1	2.49	0.48
1:A:402:GLN:O	1:A:405:ILE:HG12	2.14	0.47
1:A:204:GLY:HA2	1:A:227:ASP:O	2.14	0.47
1:B:250:ASN:ND2	1:B:260:LEU:HD23	2.19	0.47
1:A:80:PRO:HG3	3:A:535:HOH:O	2.14	0.47
1:B:79:VAL:N	1:B:80:PRO:HD2	2.29	0.47
1:A:235:PHE:HE1	1:A:271:LEU:HD11	1.79	0.47
1:A:59:GLU:CD	1:A:59:GLU:H	2.19	0.47
1:B:59:GLU:H	1:B:59:GLU:CD	2.19	0.47
1:B:129:LEU:HD13	1:B:136:THR:HG23	1.98	0.46
1:A:401:ALA:O	1:A:405:ILE:HG23	2.16	0.46
1:A:22:LEU:HD23	1:A:113:THR:HG23	1.97	0.46
1:B:385:THR:HG22	1:B:387:TYR:H	1.80	0.46
1:A:27:MSE:HE3	1:A:54:HIS:HB3	1.97	0.46
1:A:295:ILE:HD13	1:A:335:PHE:CD1	2.51	0.46
1:A:302:MSE:HE1	1:A:348:VAL:HG23	1.96	0.46
1:A:250:ASN:ND2	1:A:260:LEU:HD23	2.20	0.46
1:B:117:GLN:HG3	1:B:149:HIS:CD2	2.51	0.46
1:B:313:THR:CG2	1:B:315:GLN:HG3	2.46	0.45
1:B:401:ALA:O	1:B:405:ILE:HG23	2.16	0.45
1:B:209:MSE:HE1	1:B:219:LEU:CD2	2.46	0.45
1:A:34:LEU:HD23	1:A:115:ILE:HG23	1.99	0.45
1:A:79:VAL:N	1:A:80:PRO:HD2	2.32	0.45
1:A:100:VAL:HB	1:A:101:PRO:HD3	1.98	0.45
1:B:355:ALA:HB2	1:B:362:ARG:HE	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:302:MSE:HE1	1:B:348:VAL:HG23	1.98	0.45
1:A:292:THR:HG22	1:A:334:ASP:O	2.17	0.45
1:A:316:VAL:HB	1:A:375:THR:HB	1.97	0.44
1:A:385:THR:HG23	1:A:386:GLU:OE1	2.18	0.44
1:B:100:VAL:HB	1:B:101:PRO:HD3	1.98	0.44
1:B:332:GLN:HG3	1:B:333:MSE:N	2.32	0.44
1:A:298:ASN:O	1:A:301:VAL:HG23	2.18	0.44
1:B:22:LEU:HD23	1:B:113:THR:HG23	1.98	0.44
1:B:363:ILE:HD12	1:B:408:ALA:HA	2.00	0.44
1:A:323:THR:OG1	1:A:324:LYS:HE3	2.18	0.44
1:A:126:MSE:HE1	1:A:163:ILE:N	2.32	0.44
1:A:235:PHE:HA	3:A:570:HOH:O	2.18	0.44
1:B:126:MSE:HE1	1:B:163:ILE:N	2.33	0.44
1:B:385:THR:HG23	1:B:386:GLU:OE1	2.17	0.44
1:B:315:GLN:HG2	1:B:377:ARG:HG3	2.00	0.43
1:A:117:GLN:HG3	1:A:149:HIS:CD2	2.53	0.43
1:B:194:GLY:HA2	1:B:218:VAL:HG22	2.00	0.43
1:B:97:LEU:HD23	1:B:286:ILE:HD12	2.00	0.43
1:A:97:LEU:HD23	1:A:286:ILE:HD12	2.01	0.43
1:B:292:THR:HG22	1:B:334:ASP:O	2.17	0.43
1:A:10:LEU:O	1:A:10:LEU:HD23	2.19	0.43
1:A:194:GLY:HA2	1:A:218:VAL:HG22	2.01	0.43
1:A:313:THR:CG2	1:A:315:GLN:HG3	2.49	0.43
1:A:373:VAL:HG21	1:B:373:VAL:HG21	2.00	0.43
1:B:133:VAL:C	1:B:134:GLU:HG3	2.38	0.43
1:A:51:LEU:HD23	1:A:73:ARG:HB3	2.00	0.42
1:A:355:ALA:HB2	1:A:362:ARG:HE	1.84	0.42
1:B:61:LEU:O	1:B:72:HIS:HE1	2.02	0.42
1:A:50:LEU:HD23	1:A:50:LEU:C	2.40	0.42
1:B:323:THR:OG1	1:B:324:LYS:HE3	2.19	0.42
1:A:61:LEU:O	1:A:72:HIS:HE1	2.02	0.42
1:B:34:LEU:HD23	1:B:115:ILE:HG23	2.01	0.42
1:B:331:GLY:HA2	3:B:503:HOH:O	2.19	0.42
1:A:332:GLN:HG3	1:A:333:MSE:N	2.34	0.42
1:B:51:LEU:HD23	1:B:73:ARG:HB3	2.02	0.42
1:A:202:ARG:HH12	1:A:346:ARG:HD3	1.85	0.41
1:A:78:GLY:O	1:A:82:ARG:HG3	2.20	0.41
1:B:202:ARG:HH12	1:B:346:ARG:HD3	1.86	0.41
1:B:396:SER:O	1:B:400:ARG:HG3	2.21	0.41
1:B:113:THR:HA	1:B:145:LYS:O	2.21	0.41
1:B:76:PHE:CE2	1:B:327:SER:HB2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:197:VAL:CG2	1:A:384:VAL:HG21	2.51	0.41
1:B:27:MSE:HE3	1:B:54:HIS:HB3	2.02	0.41
1:B:298:ASN:O	1:B:301:VAL:HG23	2.20	0.41
1:A:227:ASP:HA	1:A:249:ASN:ND2	2.36	0.41
1:A:385:THR:HG21	1:A:407:ILE:O	2.21	0.41
1:A:19:GLY:HA2	1:A:47:ASN:O	2.21	0.41
1:A:291:ASP:OD1	1:A:293:SER:HB3	2.21	0.41
1:B:23:TRP:CH2	1:B:53:LEU:HD13	2.53	0.41
1:B:204:GLY:HA2	1:B:227:ASP:O	2.20	0.41
1:B:19:GLY:HA2	1:B:47:ASN:O	2.21	0.41
1:B:133:VAL:O	1:B:134:GLU:C	2.60	0.41
1:B:308:LEU:CD2	2:B:501:COA:H133	2.49	0.41
1:B:10:LEU:HD23	1:B:10:LEU:O	2.21	0.40
1:A:48:ILE:O	1:A:70:LEU:HD12	2.21	0.40
1:A:207:LEU:HD13	1:A:209:MSE:CE	2.51	0.40
1:A:30:THR:HA	1:A:31:PRO:HD3	1.88	0.40
1:A:380:VAL:HG11	1:A:392:LEU:HD12	2.03	0.40
1:B:207:LEU:HD13	1:B:209:MSE:CE	2.52	0.40
1:A:133:VAL:O	1:A:134:GLU:C	2.60	0.40
1:B:252:LYS:HA	1:B:252:LYS:HD3	1.88	0.40
1:B:385:THR:HG21	1:B:407:ILE:O	2.21	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	425/436 (98%)	406 (96%)	18 (4%)	1 (0%)	47	62
1	B	425/436 (98%)	404 (95%)	20 (5%)	1 (0%)	47	62
All	All	850/872 (98%)	810 (95%)	38 (4%)	2 (0%)	47	62

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	181	HIS
1	B	181	HIS

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	344/345 (100%)	327 (95%)	17 (5%)	25	40
1	B	344/345 (100%)	328 (95%)	16 (5%)	26	42
All	All	688/690 (100%)	655 (95%)	33 (5%)	25	41

All (33) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	7	GLN
1	A	34	LEU
1	A	97	LEU
1	A	113	THR
1	A	134	GLU
1	A	141	GLN
1	A	149	HIS
1	A	174	GLN
1	A	191	LEU
1	A	226	LYS
1	A	233	GLU
1	A	270	LYS
1	A	313	THR
1	A	324	LYS
1	A	359	ARG
1	A	393	LYS
1	A	413	ARG
1	B	7	GLN
1	B	34	LEU
1	B	97	LEU
1	B	113	THR

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Mol	Chain	Res	Type
1	B	134	GLU
1	B	141	GLN
1	B	149	HIS
1	B	174	GLN
1	B	191	LEU
1	B	226	LYS
1	B	270	LYS
1	B	313	THR
1	B	324	LYS
1	B	359	ARG
1	B	393	LYS
1	B	413	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (15) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	7	GLN
1	A	72	HIS
1	A	86	GLN
1	A	149	HIS
1	A	250	ASN
1	B	7	GLN
1	B	69	HIS
1	B	72	HIS
1	B	86	GLN
1	B	149	HIS
1	B	153	GLN
1	B	208	GLN
1	B	250	ASN
1	B	305	ASN
1	B	427	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 ⓘ

2 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	COA	B	501	1	41,50,50	3.05	15 (36%)	52,75,75	2.66	16 (30%)
2	COA	A	501	1	41,50,50	3.06	15 (36%)	52,75,75	2.66	16 (30%)

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
2	COA	B	501	1	-	5/44/64/64	0/3/3/3
2	COA	A	501	1	-	9/44/64/64	0/3/3/3

All (30) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	501	COA	C2A-N3A	9.94	1.48	1.32
2	B	501	COA	C2A-N3A	9.65	1.47	1.32
2	B	501	COA	C4A-N3A	8.90	1.47	1.35
2	A	501	COA	C4A-N3A	8.83	1.47	1.35
2	A	501	COA	C2A-N1A	6.82	1.46	1.33
2	B	501	COA	C2A-N1A	6.66	1.46	1.33
2	B	501	COA	C5P-N4P	5.43	1.45	1.33
2	A	501	COA	O4B-C1B	4.97	1.48	1.41
2	A	501	COA	C5P-N4P	4.88	1.44	1.33
2	B	501	COA	O4B-C1B	4.50	1.47	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	501	COA	C9P-N8P	4.11	1.42	1.33
2	A	501	COA	C9P-N8P	3.96	1.42	1.33
2	B	501	COA	C8A-N7A	3.75	1.41	1.34
2	B	501	COA	P2A-O6A	-3.57	1.44	1.59
2	A	501	COA	C8A-N7A	3.54	1.41	1.34
2	A	501	COA	P2A-O6A	-2.95	1.47	1.59
2	B	501	COA	CEP-CBP	2.67	1.59	1.53
2	A	501	COA	CEP-CBP	2.61	1.59	1.53
2	B	501	COA	OAP-CAP	2.47	1.46	1.42
2	A	501	COA	C5B-C4B	2.44	1.59	1.51
2	A	501	COA	C6A-N1A	2.42	1.47	1.37
2	B	501	COA	C6A-N1A	2.40	1.47	1.37
2	A	501	COA	OAP-CAP	2.32	1.46	1.42
2	A	501	COA	P3B-O9A	-2.28	1.46	1.54
2	B	501	COA	C5B-C4B	2.25	1.58	1.51
2	B	501	COA	C2B-C1B	2.22	1.57	1.53
2	A	501	COA	C6A-N6A	2.20	1.42	1.34
2	A	501	COA	P2A-O5A	-2.07	1.45	1.55
2	B	501	COA	C6A-N6A	2.04	1.41	1.34
2	B	501	COA	P3B-O9A	-2.03	1.47	1.54

All (32) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	501	COA	CDP-CBP-CCP	-9.52	92.70	108.23
2	B	501	COA	N3A-C2A-N1A	-9.38	114.02	128.68
2	A	501	COA	N3A-C2A-N1A	-9.27	114.19	128.68
2	A	501	COA	CDP-CBP-CCP	-9.18	93.25	108.23
2	A	501	COA	C7P-N8P-C9P	5.61	132.59	122.59
2	B	501	COA	OAP-CAP-CBP	-4.86	98.80	110.25
2	A	501	COA	C3P-N4P-C5P	4.83	131.80	122.84
2	B	501	COA	C7P-N8P-C9P	4.79	131.13	122.59
2	B	501	COA	C3P-N4P-C5P	4.47	131.14	122.84
2	A	501	COA	C5B-C4B-C3B	-4.34	100.02	114.40
2	A	501	COA	OAP-CAP-CBP	-4.28	100.17	110.25
2	A	501	COA	CEP-CBP-CAP	3.97	115.70	108.82
2	B	501	COA	C5B-C4B-C3B	-3.97	101.26	114.40
2	B	501	COA	CEP-CBP-CAP	3.78	115.38	108.82
2	B	501	COA	C6P-C7P-N8P	3.20	118.35	111.90
2	A	501	COA	C3B-C2B-C1B	3.09	106.73	99.89
2	B	501	COA	C3B-C2B-C1B	3.06	106.67	99.89
2	A	501	COA	O4B-C4B-C5B	2.99	119.20	109.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	501	COA	O4B-C4B-C5B	2.98	119.17	109.37
2	A	501	COA	C2A-N1A-C6A	2.90	123.71	118.75
2	B	501	COA	P2A-O6A-CCP	2.89	138.21	121.56
2	B	501	COA	C2A-N1A-C6A	2.87	123.66	118.75
2	A	501	COA	P2A-O6A-CCP	2.73	137.27	121.56
2	A	501	COA	C6P-C7P-N8P	2.72	117.39	111.90
2	A	501	COA	P2A-O3A-P1A	-2.63	123.78	132.83
2	B	501	COA	CEP-CBP-CCP	2.48	112.28	108.23
2	B	501	COA	P2A-O3A-P1A	-2.30	124.92	132.83
2	B	501	COA	O4B-C4B-C3B	2.24	109.67	104.87
2	A	501	COA	C2B-C3B-C4B	2.18	107.09	103.22
2	B	501	COA	C7P-C6P-C5P	2.13	115.91	112.36
2	A	501	COA	O4B-C4B-C3B	2.07	109.30	104.87
2	A	501	COA	C7P-C6P-C5P	2.03	115.73	112.36

There are no chirality outliers.

All (14) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	501	COA	C4B-C3B-O3B-P3B
2	A	501	COA	C2P-C3P-N4P-C5P
2	A	501	COA	S1P-C2P-C3P-N4P
2	B	501	COA	S1P-C2P-C3P-N4P
2	B	501	COA	C4B-C3B-O3B-P3B
2	A	501	COA	C2B-C3B-O3B-P3B
2	B	501	COA	C2B-C3B-O3B-P3B
2	A	501	COA	P1A-O3A-P2A-O5A
2	B	501	COA	P1A-O3A-P2A-O5A
2	B	501	COA	C2P-C3P-N4P-C5P
2	A	501	COA	O9P-C9P-CAP-OAP
2	A	501	COA	O5P-C5P-C6P-C7P
2	A	501	COA	O9P-C9P-CAP-CBP
2	A	501	COA	N4P-C5P-C6P-C7P

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	501	COA	2	0
2	A	501	COA	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 COA B 501

Bond lengths

Bond angles

Torsions

Rings

Ligand COA A 501

Bond lengths

Bond angles

Torsions

Rings
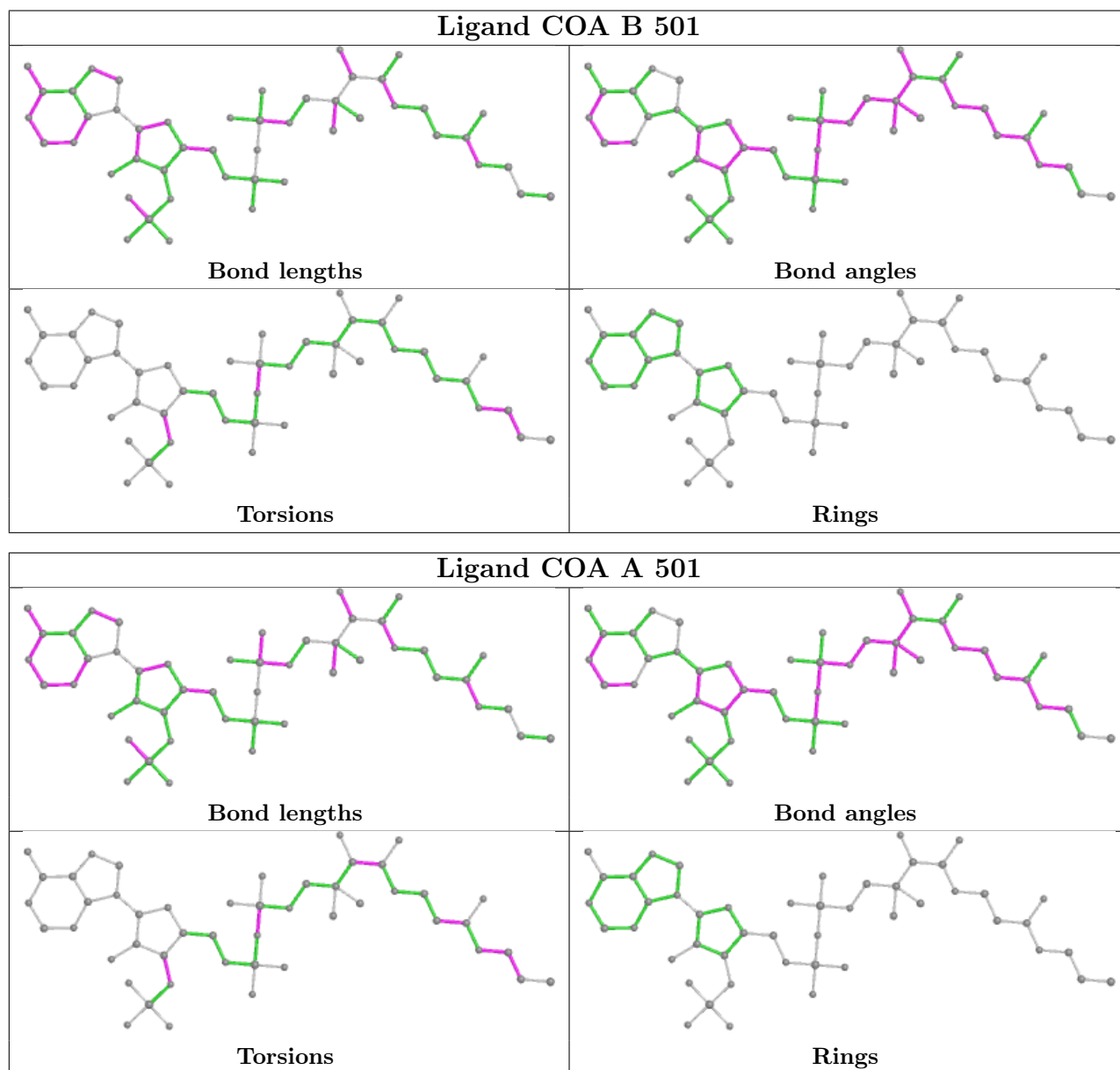
5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	420/436 (96%)	0.21	11 (2%)	56	54	17, 38, 51, 87	0
1	B	420/436 (96%)	0.31	21 (5%)	28	27	17, 38, 51, 88	0
All	All	840/872 (96%)	0.26	32 (3%)	40	39	17, 38, 51, 88	0

All (32) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	182	SER	6.3
1	A	184	ALA	5.5
1	B	183	PHE	5.5
1	B	185	THR	4.4
1	A	183	PHE	4.2
1	A	213	ALA	3.8
1	A	428	LEU	3.6
1	B	181	HIS	3.6
1	A	185	THR	3.3
1	B	184	ALA	3.2
1	B	418	ARG	3.2
1	B	427	ASN	2.9
1	A	254	ARG	2.7
1	B	186	GLY	2.7
1	B	187	ASP	2.6
1	B	286	ILE	2.5
1	A	2	PRO	2.5
1	B	2	PRO	2.5
1	B	86	GLN	2.5
1	B	17	ARG	2.5
1	B	67	LEU	2.4
1	B	213	ALA	2.3
1	A	182	SER	2.3
1	A	180	ILE	2.2

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Mol	Chain	Res	Type	RSRZ
1	B	421	PHE	2.2
1	B	65	SER	2.2
1	B	191	LEU	2.2
1	B	273	ASP	2.2
1	B	223	THR	2.1
1	B	211	ILE	2.1
1	A	30	THR	2.1
1	A	108	GLU	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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

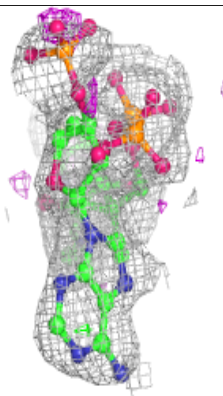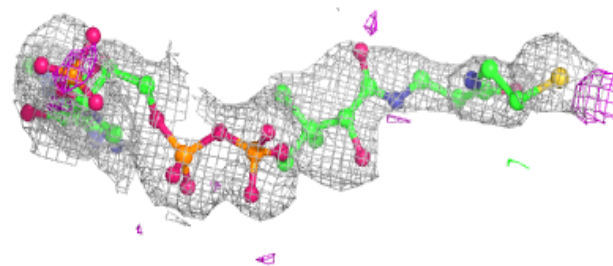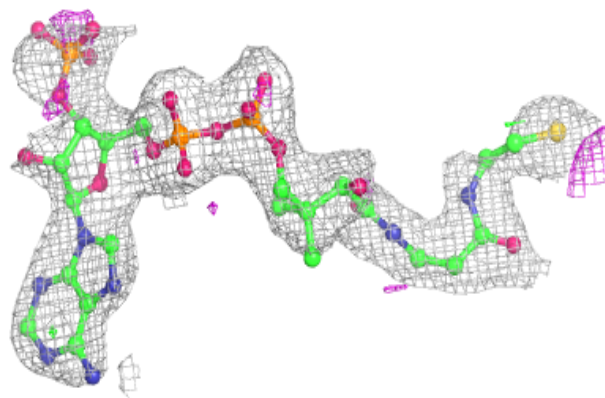| Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($Å^2$)	Q<0.9
2	COA	A	501	48/48	0.79	0.21	54,60,72,73	0
2	COA	B	501	48/48	0.83	0.20	55,60,82,82	0

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 COA A 501:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
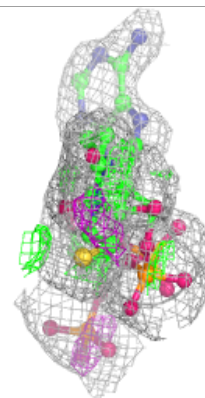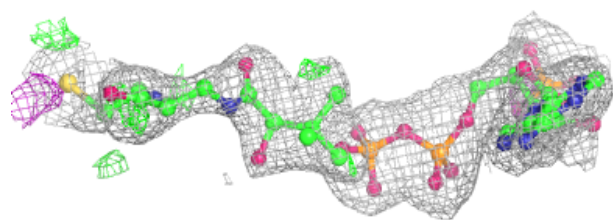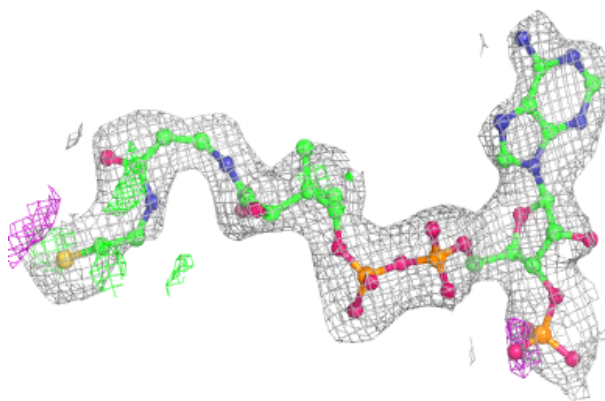
Electron density around COA B 501:

$2mF_o$-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.