Full wwPDB X-ray Structure Validation Report (i)

Feb 1, 2016 – 09:24 AM GMT

PDB ID	:	3IAV
Title	:	Propionyl-CoA Carboxylase Beta Subunit, D422V
Authors	:	Diacovich, L.; Arabolaza, A.; Shillito, E.M.; Lin, T.-W.; Mitchell, D.L.; Pham, H.; Melgar, M.M.
Deposited on	:	2009-07-14
Resolution	:	1.75 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
http://wwpdb.org/validation/2016/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The following versions of software and data (see references (1)) were used in the production of this report:

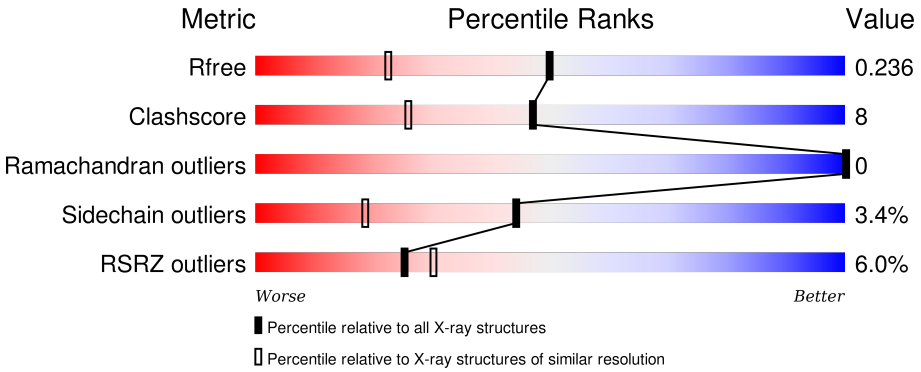
MolProbity	:	4.02b-467
Mogul	:	1.7 (RC4), CSD as536be (2015)
Xtriage (Phenix)	:	1.9-1692
EDS	:	rb-20026688
Percentile statistics	:	20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac	:	5.8.0135
CCP4	:	6.5.0
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	trunk26865

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 1.75 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}	91344	1609 (1.76-1.76)
Clashscore	102246	1730 (1.76-1.76)
Ramachandran outliers	100387	1711 (1.76-1.76)
Sidechain outliers	100360	1711 (1.76-1.76)
RSRZ outliers	91569	1610 (1.76-1.76)

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 >=3, 2, 1 and 0 types of geometric quality criteria. 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	530	6% 83% 14%
1	B	530	6% 84% 13%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 8254 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.

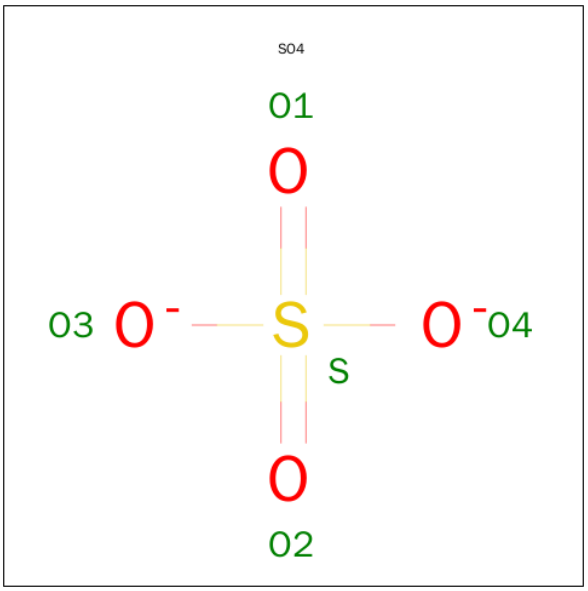
- Molecule 1 is a protein called Propionyl-CoA carboxylase complex B subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	521	Total	C	N	O	S	0	0	0
			3952	2482	698	759	13			
1	B	521	Total	C	N	O	S	0	0	0
			3952	2482	698	759	13			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	422	VAL	ASP	ENGINEERED	UNP Q9X4K7
B	422	VAL	ASP	ENGINEERED	UNP Q9X4K7

- Molecule 2 is SULFATE ION (three-letter code: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	O	S	0	0
			5	4	1		

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

- Molecule 3 is water.

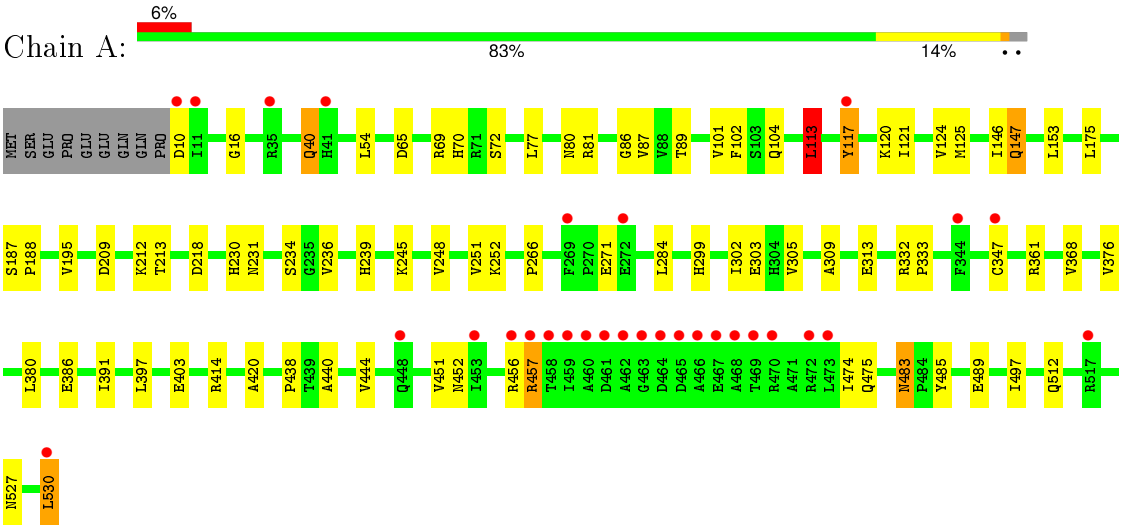
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	162	Total O 162 162	0	0
3	B	158	Total O 158 158	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

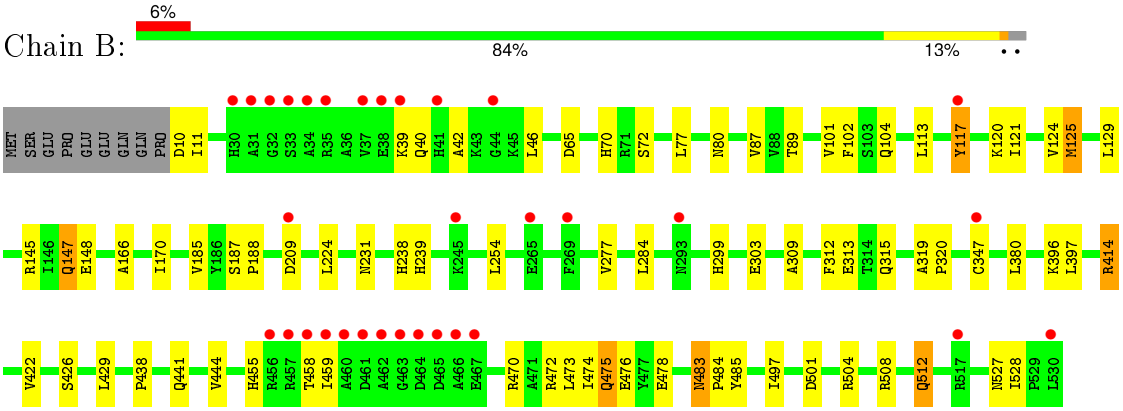
- Molecule 1: Propionyl-CoA carboxylase complex B subunit

Chain A:



- Molecule 1: Propionyl-CoA carboxylase complex B subunit

Chain B:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 63	Depositor
Cell constants a, b, c, α, β, γ	171.53Å 171.53Å 75.07Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	50.00 – 1.75 49.52 – 1.75	Depositor EDS
% Data completeness (in resolution range)	89.2 (50.00-1.75) 89.2 (49.52-1.75)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.21 (at 1.75Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.217 , 0.233 0.221 , 0.236	Depositor DCC
R_{free} test set	5736 reflections (5.07%)	DCC
Wilson B-factor (Å^2)	16.3	Xtriage
Anisotropy	0.134	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 32.1	EDS
Estimated twinning fraction	0.025 for h,-h-k,-l	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.34$	Xtriage
Outliers	1 of 123433 reflections (0.001%)	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	8254	wwPDB-VP
Average B, all atoms (Å^2)	21.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 14.99% 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, 0.375 respectively for untwinned datasets, and 0.333, 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: SO4

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	0.33	0/4032	0.61	1/5477 (0.0%)
1	B	0.34	0/4032	0.62	1/5477 (0.0%)
All	All	0.33	0/8064	0.62	2/10954 (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	113	LEU	CA-CB-CG	5.06	126.93	115.30
1	B	414	ARG	O-C-N	-5.03	114.66	122.70

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	3952	0	3885	63	0
1	B	3952	0	3885	60	0
2	A	25	0	0	0	0
2	B	5	0	0	0	0
3	A	162	0	0	1	0
3	B	158	0	0	0	0
All	All	8254	0	7770	118	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 8.

All (118) 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:A:87:VAL:HB	1:A:117:TYR:CE1	1.69	1.27
1:A:104:GLN:HG2	1:A:117:TYR:OH	1.46	1.13
1:A:104:GLN:HG2	1:A:117:TYR:HH	1.04	1.08
1:B:104:GLN:HG2	1:B:117:TYR:OH	1.60	1.01
1:A:104:GLN:CG	1:A:117:TYR:OH	2.22	0.87
1:B:187:SER:HB3	1:B:188:PRO:HD3	1.58	0.86
1:A:117:TYR:CD2	1:A:117:TYR:O	2.30	0.84
1:B:117:TYR:HE1	1:B:121:ILE:HD11	1.39	0.84
1:A:147:GLN:NE2	1:A:147:GLN:H	1.78	0.81
1:B:104:GLN:CG	1:B:117:TYR:OH	2.28	0.81
1:A:146:ILE:H	1:A:146:ILE:HD12	1.45	0.81
1:B:483:ASN:HD22	1:B:485:TYR:H	1.32	0.77
1:B:117:TYR:C	1:B:117:TYR:HD1	1.89	0.75
1:B:121:ILE:HG22	1:B:125:MET:CE	2.18	0.74
1:B:117:TYR:C	1:B:117:TYR:CD1	2.60	0.74
1:A:147:GLN:H	1:A:147:GLN:HE21	1.35	0.74
1:A:485:TYR:O	1:A:489:GLU:HG3	1.88	0.73
1:B:117:TYR:CE1	1:B:121:ILE:HD11	2.24	0.71
1:A:483:ASN:HD22	1:A:485:TYR:H	1.36	0.71
1:B:117:TYR:O	1:B:117:TYR:HD1	1.74	0.71
1:A:187:SER:HB3	1:A:188:PRO:HD3	1.72	0.70
1:B:121:ILE:HG22	1:B:125:MET:HE3	1.73	0.70
1:A:87:VAL:HB	1:A:117:TYR:CD1	2.24	0.70
1:A:117:TYR:CD2	1:A:117:TYR:C	2.63	0.70
1:B:117:TYR:O	1:B:117:TYR:CD1	2.47	0.67
1:B:70:HIS:HD2	1:B:72:SER:H	1.44	0.65
1:A:451:VAL:HG21	1:A:474:ILE:HG12	1.79	0.65
1:A:248:VAL:O	1:A:251:VAL:HG22	1.96	0.65
1:B:299:HIS:HE1	1:B:313:GLU:OE2	1.79	0.64
1:A:70:HIS:HD2	1:A:72:SER:H	1.47	0.63
1:B:147:GLN:H	1:B:147:GLN:NE2	1.95	0.63
1:A:87:VAL:HB	1:A:117:TYR:CZ	2.32	0.63
1:B:10:ASP:CG	1:B:11:ILE:H	2.02	0.62
1:A:456:ARG:HH21	1:A:457:ARG:HD2	1.65	0.62
1:A:113:LEU:HD22	1:A:117:TYR:CE2	2.35	0.61
1:A:87:VAL:CB	1:A:117:TYR:CE1	2.64	0.60
1:A:113:LEU:HD22	1:A:117:TYR:CD2	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:87:VAL:HB	1:B:117:TYR:CZ	2.37	0.59
1:B:231:ASN:HD21	1:B:239:HIS:N	2.01	0.58
1:A:89:THR:HB	1:A:124:VAL:HG21	1.87	0.56
1:B:65:ASP:HB2	1:B:120:LYS:HE3	1.86	0.56
1:A:299:HIS:HE1	1:A:313:GLU:OE2	1.88	0.56
1:B:147:GLN:H	1:B:147:GLN:HE21	1.52	0.56
1:A:361:ARG:HD2	1:A:403:GLU:OE2	2.05	0.56
1:A:89:THR:HB	1:A:124:VAL:CG2	2.36	0.56
1:A:69:ARG:HD3	1:A:81:ARG:O	2.06	0.56
1:B:70:HIS:HE1	1:B:80:ASN:O	1.90	0.55
1:B:87:VAL:HB	1:B:117:TYR:CE2	2.42	0.54
1:B:125:MET:O	1:B:129:LEU:HD23	2.08	0.54
1:B:455:HIS:HB3	1:B:458:THR:CG2	2.38	0.54
1:A:65:ASP:HB2	1:A:120:LYS:HE3	1.90	0.53
1:B:129:LEU:HD22	1:B:170:ILE:HD11	1.90	0.53
1:B:121:ILE:HG22	1:B:125:MET:HE1	1.88	0.53
1:B:426:SER:OG	1:B:429:LEU:HD13	2.10	0.52
1:A:231:ASN:HD21	1:A:239:HIS:N	2.08	0.52
1:A:209:ASP:O	1:A:213:THR:HG23	2.11	0.51
1:A:391:ILE:HG12	1:B:185:VAL:HG21	1.93	0.51
1:A:86:GLY:O	1:A:117:TYR:HE1	1.95	0.50
1:B:438:PRO:HD3	1:B:497:ILE:O	2.11	0.50
1:A:230:HIS:HB3	1:A:236:VAL:HG22	1.94	0.50
1:B:117:TYR:HE1	1:B:121:ILE:CD1	2.20	0.50
1:A:414:ARG:HA	1:A:440:ALA:HA	1.92	0.49
1:A:153:LEU:HD11	1:B:444:VAL:HA	1.93	0.49
1:A:234:SER:OG	1:A:236:VAL:HG13	2.11	0.49
1:B:121:ILE:CG2	1:B:125:MET:CE	2.89	0.49
1:B:455:HIS:HB3	1:B:458:THR:HG22	1.94	0.48
1:B:347:CYS:SG	1:B:380:LEU:HB2	2.54	0.48
1:B:277:VAL:HG13	1:B:277:VAL:O	2.12	0.48
1:A:117:TYR:HD2	1:A:117:TYR:C	2.12	0.48
1:A:101:VAL:HG22	1:A:102:PHE:N	2.29	0.48
1:B:422:VAL:HG12	1:B:429:LEU:HD11	1.96	0.47
1:B:89:THR:HB	1:B:124:VAL:HG11	1.97	0.47
1:B:187:SER:HB3	1:B:188:PRO:CD	2.39	0.47
1:A:347:CYS:SG	1:A:380:LEU:HD13	2.55	0.47
1:A:530:LEU:HG	1:B:396:LYS:HD3	1.97	0.47
1:A:10:ASP:O	1:A:16:GLY:HA3	2.15	0.46
1:A:146:ILE:CD1	1:A:146:ILE:H	2.20	0.46
1:B:459:ILE:HD13	1:B:470:ARG:HH21	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:474:ILE:O	1:B:478:GLU:HG3	2.15	0.46
1:B:121:ILE:CG2	1:B:125:MET:HE1	2.45	0.46
1:A:302:ILE:O	1:A:305:VAL:HG22	2.16	0.46
1:A:376:VAL:HG21	1:A:420:ALA:HB1	1.98	0.45
1:B:101:VAL:HG22	1:B:102:PHE:N	2.30	0.45
1:A:147:GLN:N	1:A:147:GLN:HE21	2.10	0.45
1:B:472:ARG:O	1:B:476:GLU:HG3	2.17	0.45
1:B:46:LEU:N	1:B:46:LEU:HD12	2.32	0.45
1:B:254:LEU:HD13	1:B:312:PHE:HE2	1.82	0.45
1:A:87:VAL:CB	1:A:117:TYR:CD1	2.97	0.44
1:B:512:GLN:HB3	1:B:512:GLN:HE21	1.62	0.44
1:B:504:ARG:NH1	1:B:508:ARG:HD2	2.32	0.44
1:A:438:PRO:HD3	1:A:497:ILE:O	2.17	0.43
1:A:271:GLU:O	1:A:271:GLU:HG3	2.17	0.43
1:A:248:VAL:HG12	1:A:252:LYS:HE3	2.00	0.43
1:A:54:LEU:HD21	1:A:245:LYS:HA	2.00	0.43
1:A:212:LYS:HD3	1:A:218:ASP:OD1	2.19	0.43
1:B:39:LYS:O	1:B:42:ALA:HB3	2.19	0.43
1:B:319:ALA:N	1:B:320:PRO:HD3	2.34	0.42
1:A:452:ASN:O	1:A:456:ARG:HB2	2.20	0.42
1:B:145:ARG:HD2	1:B:148:GLU:OE2	2.20	0.42
1:B:129:LEU:HD21	1:B:166:ALA:HB2	2.01	0.42
1:A:266:PRO:CG	1:A:368:VAL:HG22	2.49	0.42
1:A:303:GLU:O	1:A:309:ALA:HA	2.20	0.42
1:A:40:GLN:HA	1:A:40:GLN:HE21	1.84	0.42
1:A:101:VAL:CG2	1:A:102:PHE:N	2.83	0.41
1:A:386:GLU:HG3	1:B:224:LEU:HD11	2.02	0.41
1:A:121:ILE:O	1:A:125:MET:HG3	2.20	0.41
1:A:451:VAL:HG21	1:A:474:ILE:CG1	2.49	0.41
1:B:231:ASN:HD21	1:B:239:HIS:CA	2.33	0.41
1:A:332:ARG:HA	1:A:333:PRO:HD3	1.95	0.41
1:B:113:LEU:C	1:B:113:LEU:HD23	2.41	0.41
1:B:238:HIS:HA	1:B:315:GLN:HG2	2.03	0.41
1:B:414:ARG:O	1:B:441:GLN:N	2.52	0.41
1:A:361:ARG:NH2	1:B:528:ILE:HG22	2.36	0.41
1:B:303:GLU:O	1:B:309:ALA:HA	2.21	0.40
1:A:444:VAL:HG22	3:A:618:HOH:O	2.21	0.40
1:A:70:HIS:HE1	1:A:80:ASN:O	2.04	0.40
1:A:175:LEU:HD12	1:A:195:VAL:HG13	2.03	0.40
1:B:475:GLN:HE21	1:B:475:GLN:HB3	1.59	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	519/530 (98%)	502 (97%)	17 (3%)	0	100	100
1	B	519/530 (98%)	503 (97%)	16 (3%)	0	100	100
All	All	1038/1060 (98%)	1005 (97%)	33 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	412/421 (98%)	399 (97%)	13 (3%)	46	20
1	B	412/421 (98%)	397 (96%)	15 (4%)	42	16
All	All	824/842 (98%)	796 (97%)	28 (3%)	44	18

All (28) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	40	GLN
1	A	77	LEU
1	A	113	LEU
1	A	117	TYR
1	A	147	GLN
1	A	284	LEU
1	A	397	LEU
1	A	457	ARG

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Mol	Chain	Res	Type
1	A	475	GLN
1	A	483	ASN
1	A	512	GLN
1	A	527	ASN
1	A	530	LEU
1	B	40	GLN
1	B	77	LEU
1	B	117	TYR
1	B	125	MET
1	B	147	GLN
1	B	209	ASP
1	B	284	LEU
1	B	397	LEU
1	B	473	LEU
1	B	475	GLN
1	B	483	ASN
1	B	484	PRO
1	B	501	ASP
1	B	512	GLN
1	B	527	ASN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (30) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	30	HIS
1	A	40	GLN
1	A	70	HIS
1	A	74	ASN
1	A	80	ASN
1	A	119	GLN
1	A	147	GLN
1	A	199	GLN
1	A	231	ASN
1	A	299	HIS
1	A	387	HIS
1	A	448	GLN
1	A	452	ASN
1	A	475	GLN
1	A	483	ASN
1	A	512	GLN
1	A	527	ASN
1	B	40	GLN

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Mol	Chain	Res	Type
1	B	70	HIS
1	B	74	ASN
1	B	119	GLN
1	B	147	GLN
1	B	199	GLN
1	B	231	ASN
1	B	299	HIS
1	B	387	HIS
1	B	475	GLN
1	B	483	ASN
1	B	512	GLN
1	B	527	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 carbohydrates in this entry.

5.6 Ligand geometry

6 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	SO4	A	531	-	4,4,4	0.37	0	6,6,6	0.07	0
2	SO4	A	532	-	4,4,4	0.40	0	6,6,6	0.10	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	SO4	A	533	-	4,4,4	0.16	0	6,6,6	0.11	0
2	SO4	A	534	-	4,4,4	0.25	0	6,6,6	0.10	0
2	SO4	A	535	-	4,4,4	0.16	0	6,6,6	0.09	0
2	SO4	B	531	-	4,4,4	0.24	0	6,6,6	0.08	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	SO4	A	531	-	-	0/0/0/0	0/0/0/0
2	SO4	A	532	-	-	0/0/0/0	0/0/0/0
2	SO4	A	533	-	-	0/0/0/0	0/0/0/0
2	SO4	A	534	-	-	0/0/0/0	0/0/0/0
2	SO4	A	535	-	-	0/0/0/0	0/0/0/0
2	SO4	B	531	-	-	0/0/0/0	0/0/0/0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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	521/530 (98%)	0.30	30 (5%)	26	31	11, 18, 41, 102	0
1	B	521/530 (98%)	0.14	32 (6%)	25	29	11, 17, 45, 89	0
All	All	1042/1060 (98%)	0.22	62 (5%)	25	30	11, 17, 45, 102	0

All (62) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	462	ALA	18.6
1	A	460	ALA	14.8
1	A	463	GLY	13.8
1	B	44	GLY	10.6
1	A	468	ALA	10.1
1	A	117	TYR	8.4
1	B	462	ALA	8.4
1	A	465	ASP	8.0
1	A	461	ASP	7.5
1	A	459	ILE	7.1
1	A	464	ASP	6.9
1	A	467	GLU	6.7
1	B	117	TYR	6.2
1	B	464	ASP	6.1
1	A	458	THR	6.1
1	A	469	THR	5.8
1	A	457	ARG	5.7
1	A	456	ARG	5.4
1	B	457	ARG	5.3
1	B	459	ILE	5.2
1	B	35	ARG	5.1
1	B	466	ALA	4.7
1	A	10	ASP	4.3
1	A	269	PHE	4.3

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Mol	Chain	Res	Type	RSRZ
1	B	41	HIS	4.1
1	B	269	PHE	4.0
1	A	466	ALA	3.7
1	B	33	SER	3.7
1	B	463	GLY	3.7
1	B	32	GLY	3.6
1	B	467	GLU	3.5
1	B	38	GLU	3.4
1	B	37	VAL	3.4
1	B	465	ASP	3.2
1	B	34	ALA	3.1
1	B	530	LEU	3.0
1	A	347	CYS	3.0
1	A	41	HIS	2.9
1	B	460	ALA	2.7
1	A	272	GLU	2.7
1	A	11	ILE	2.7
1	B	461	ASP	2.7
1	A	530	LEU	2.6
1	B	517	ARG	2.6
1	A	472	ARG	2.6
1	A	35	ARG	2.5
1	B	458	THR	2.4
1	B	39	LYS	2.3
1	A	517	ARG	2.3
1	B	293	ASN	2.3
1	A	453	ILE	2.3
1	B	456	ARG	2.3
1	B	209	ASP	2.3
1	A	470	ARG	2.2
1	A	344	PHE	2.1
1	A	473	LEU	2.1
1	A	448	GLN	2.1
1	B	31	ALA	2.1
1	B	245	LYS	2.1
1	B	30	HIS	2.1
1	B	265	GLU	2.1
1	B	347	CYS	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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(Å^2)	Q<0.9
2	SO4	A	531	5/5	0.95	0.14	1.25	41,42,42,43	0
2	SO4	A	535	5/5	0.98	0.10	0.31	26,28,29,31	0
2	SO4	A	534	5/5	0.96	0.10	0.23	36,37,39,40	0
2	SO4	A	533	5/5	0.95	0.11	0.14	30,31,34,34	0
2	SO4	B	531	5/5	0.98	0.08	-0.59	25,29,30,31	0
2	SO4	A	532	5/5	0.33	0.70	-	63,64,64,66	0

6.5 Other polymers (i)

There are no such residues in this entry.