Full wwPDB X-ray Structure Validation Report ⓘ

Mar 21, 2016 – 02:20 PM EDT

PDB ID	:	4YJJ
Title	:	Crystal structure of Phycocyanin from marine cyanobacterium Phormidium rubidum sp. A09DM
Authors	:	Gupta, G.D.; Kumar, V.; Sonani, R.R.; Madamwar, D.
Deposited on	:	2015-03-03
Resolution	:	2.70 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 ⓘ symbol.

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

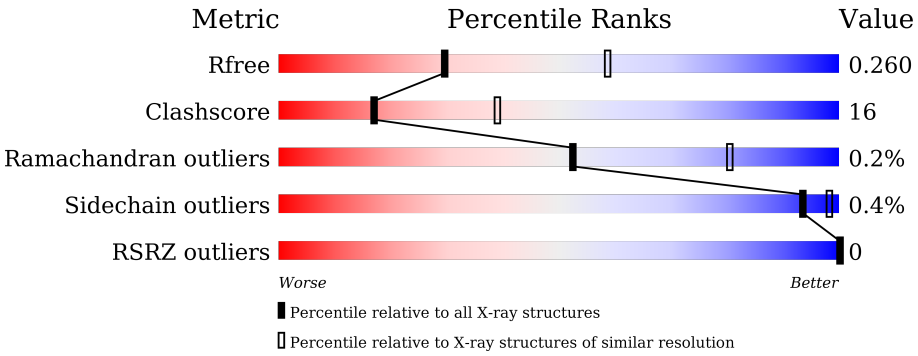
MolProbity	:	4.02b-467
Mogul	:	1.7.1 (RC1), CSD as537be (2016)
Xtriage (Phenix)	:	1.9-1692
EDS	:	rb-20027107
Percentile statistics	:	20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac	:	5.8.0122
CCP4	:	6.5.0
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	rb-20027107

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 2.70 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	2103 (2.70-2.70)
Clashscore	102246	2422 (2.70-2.70)
Ramachandran outliers	100387	2382 (2.70-2.70)
Sidechain outliers	100360	2382 (2.70-2.70)
RSRZ outliers	91569	2107 (2.70-2.70)

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	162	73% 27%
1	C	162	72% 28%
2	B	172	83% 16%
2	D	172	84% 15%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 5296 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.

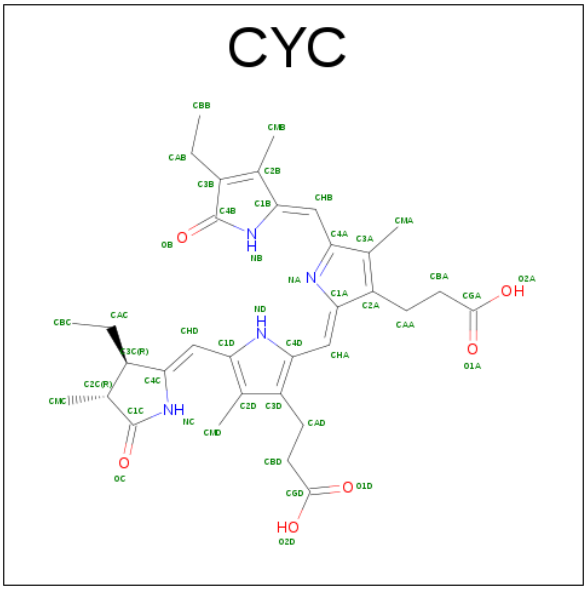
- Molecule 1 is a protein called Alpha Subunit of Cyanobacterial Phycocyanine protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	162	Total	C	N	O	S	0	0	0
			1211	769	201	235	6			
1	C	162	Total	C	N	O	S	0	0	0
			1215	770	201	238	6			

- Molecule 2 is a protein called Beta Subunit of Cyanobacterial Phycocyanine protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	172	Total	C	N	O	S	0	0	0
			1257	781	220	247	9			
2	D	172	Total	C	N	O	S	0	0	0
			1257	781	220	247	9			

- Molecule 3 is PHYCOCYANOBILIN (three-letter code: CYC) (formula: $C_{33}H_{40}N_4O_6$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	0	0
			43	33	4	6		
3	B	1	Total	C	N	O	0	0
			43	33	4	6		
3	B	1	Total	C	N	O	0	0
			43	33	4	6		
3	C	1	Total	C	N	O	0	0
			43	33	4	6		
3	D	1	Total	C	N	O	0	0
			43	33	4	6		
3	D	1	Total	C	N	O	0	0
			43	33	4	6		

- Molecule 4 is water.

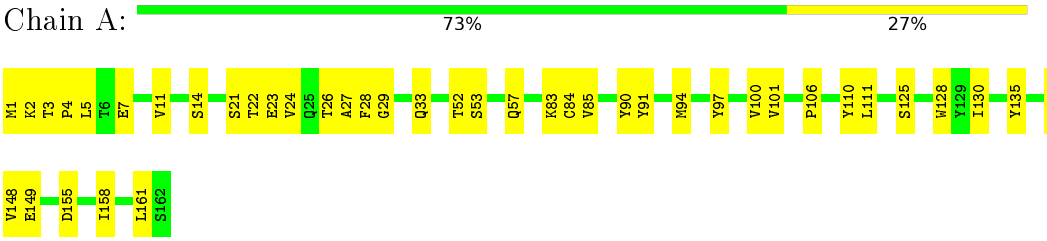
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	28	Total	O	0	0
			28	28		
4	B	23	Total	O	0	0
			23	23		
4	C	31	Total	O	0	0
			31	31		
4	D	16	Total	O	0	0
			16	16		

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.

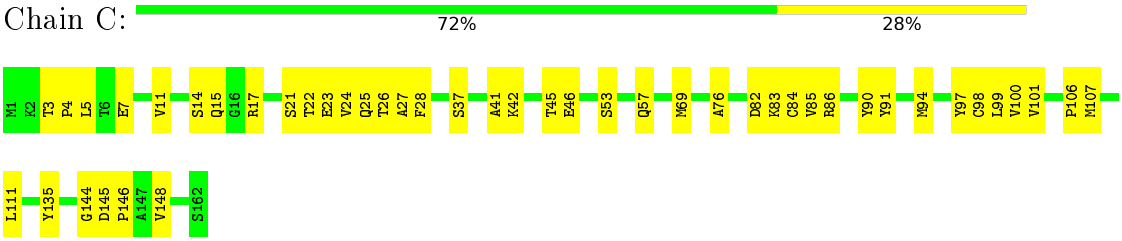
- Molecule 1: Alpha Subunit of Cyanobacterial Phycocyanine protein

Chain A:



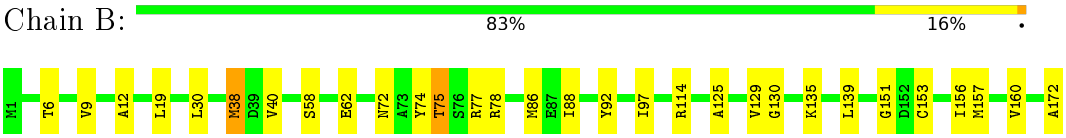
- Molecule 1: Alpha Subunit of Cyanobacterial Phycocyanine protein

Chain C:



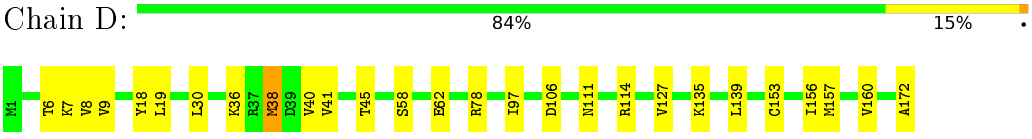
- Molecule 2: Beta Subunit of Cyanobacterial Phycocyanine protein

Chain B:



- Molecule 2: Beta Subunit of Cyanobacterial Phycocyanine protein

Chain D:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 63	Depositor
Cell constants a, b, c, α, β, γ	102.35Å 102.35Å 109.02Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	18.00 – 2.70 19.34 – 2.70	Depositor EDS
% Data completeness (in resolution range)	99.5 (18.00-2.70) 99.8 (19.34-2.70)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.01 (at 2.70Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.207 , 0.258 0.209 , 0.260	Depositor DCC
R_{free} test set	908 reflections (5.38%)	DCC
Wilson B-factor (Å^2)	24.5	Xtriage
Anisotropy	0.633	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , -1.6	EDS
Estimated twinning fraction	0.266 for h,-h-k,-l	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Outliers	0 of 17786 reflections	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	5296	wwPDB-VP
Average B, all atoms (Å^2)	24.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.18% 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: CYC, MEN

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	0.60	0/1235	0.70	0/1676
1	C	0.59	0/1239	0.73	0/1680
2	B	0.55	0/1261	0.72	0/1706
2	D	0.56	0/1261	0.71	0/1706
All	All	0.57	0/4996	0.72	0/6768

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	1211	0	1190	55	0
1	C	1215	0	1192	53	0
2	B	1257	0	1256	30	0
2	D	1257	0	1255	24	0
3	A	43	0	37	8	0
3	B	86	0	75	20	0
3	C	43	0	37	8	0
3	D	86	0	74	14	0
4	A	28	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	B	23	0	0	0	0
4	C	31	0	0	0	0
4	D	16	0	0	0	0
All	All	5296	0	5116	168	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 16.

All (168) 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)
2:B:153:CYS:SG	3:B:202:CYC:HAC1	1.32	1.62
2:B:153:CYS:SG	3:B:202:CYC:CAC	2.25	1.22
2:B:86:MET:HE1	2:B:130:GLY:HA3	1.35	1.05
2:B:153:CYS:HG	3:B:202:CYC:HAC1	1.27	0.91
2:B:114:ARG:NE	2:B:172:ALA:O	2.12	0.83
3:D:202:CYC:HMA1	3:D:202:CYC:HB	1.44	0.82
1:C:41:ALA:O	1:C:45:THR:HG23	1.81	0.80
3:B:202:CYC:HMD2	3:B:202:CYC:HC	1.43	0.80
1:C:3:THR:HG22	1:C:101:VAL:CG1	2.12	0.79
2:D:114:ARG:NE	2:D:172:ALA:O	2.16	0.78
1:A:100:VAL:HG21	2:B:19:LEU:HD12	1.63	0.77
1:A:3:THR:HG22	1:A:101:VAL:CG1	2.14	0.76
3:D:202:CYC:HMD2	3:D:202:CYC:HC	1.48	0.76
1:C:45:THR:HG22	2:D:18:TYR:CD1	2.21	0.76
1:A:155:ASP:HA	1:A:158:ILE:HG12	1.68	0.76
3:B:202:CYC:HMA1	3:B:202:CYC:HB	1.52	0.74
2:D:156:ILE:O	2:D:160:VAL:HG23	1.89	0.73
1:C:53:SER:O	1:C:57:GLN:HG2	1.89	0.73
1:C:100:VAL:HG21	2:D:19:LEU:HD22	1.72	0.71
1:C:21:SER:HA	1:C:24:VAL:HG22	1.72	0.70
1:A:33:GLN:HG2	1:C:25:GLN:HE21	1.56	0.70
1:A:21:SER:HA	1:A:24:VAL:HG22	1.74	0.69
1:C:3:THR:HG22	1:C:101:VAL:HG13	1.74	0.69
3:C:201:CYC:HMD2	3:C:201:CYC:HC	1.59	0.68
1:A:3:THR:HG22	1:A:101:VAL:HG13	1.76	0.68
1:A:52:THR:HG22	1:A:85:VAL:HG23	1.75	0.67
3:B:201:CYC:HC	3:B:201:CYC:HMD2	1.60	0.66
3:D:202:CYC:HMA1	3:D:202:CYC:NB	2.12	0.65
2:B:135:LYS:O	2:B:139:LEU:HD13	1.98	0.64
1:A:155:ASP:O	1:A:158:ILE:HG13	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:97:TYR:O	1:A:101:VAL:HG23	1.98	0.64
1:C:97:TYR:O	1:C:101:VAL:HG23	1.99	0.63
1:A:53:SER:O	1:A:57:GLN:HG2	2.00	0.62
1:C:111:LEU:HD11	3:C:201:CYC:HMB1	1.83	0.61
1:A:101:VAL:HG21	1:A:106:PRO:CG	2.33	0.59
1:C:101:VAL:HG21	1:C:106:PRO:CG	2.32	0.59
1:C:111:LEU:CD1	3:C:201:CYC:HMB1	2.34	0.58
1:A:4:PRO:HG2	1:C:25:GLN:OE1	2.02	0.58
3:C:201:CYC:HMA1	3:C:201:CYC:HB	1.68	0.58
1:A:101:VAL:CG2	2:B:9:VAL:HG21	2.34	0.57
2:B:151:GLY:HA3	3:B:202:CYC:CMD	2.35	0.56
2:B:157:MET:O	2:B:160:VAL:HG12	2.05	0.56
3:D:202:CYC:HMD2	3:D:202:CYC:NC	2.20	0.56
1:C:90:TYR:O	1:C:94:MET:HG2	2.06	0.56
1:A:101:VAL:HG23	2:B:9:VAL:HG21	1.86	0.55
1:A:21:SER:HA	1:A:24:VAL:CG2	2.36	0.55
3:B:202:CYC:HMA1	3:B:202:CYC:NB	2.19	0.55
1:A:83:LYS:HE3	3:A:201:CYC:O2A	2.07	0.55
1:A:33:GLN:NE2	1:A:149:GLU:OE2	2.34	0.54
1:C:21:SER:HA	1:C:24:VAL:CG2	2.36	0.54
1:A:91:TYR:CE1	1:A:111:LEU:HD21	2.43	0.54
3:A:201:CYC:HC	3:A:201:CYC:HMD2	1.72	0.54
3:B:201:CYC:NB	3:B:201:CYC:HMA1	2.22	0.54
1:C:91:TYR:CD2	1:C:111:LEU:HD21	2.43	0.54
1:C:82:ASP:HA	1:C:85:VAL:HG22	1.89	0.54
3:C:201:CYC:HMA1	3:C:201:CYC:NB	2.23	0.54
1:A:100:VAL:HG11	2:B:19:LEU:CD1	2.39	0.53
1:C:42:LYS:O	1:C:46:GLU:HG2	2.09	0.53
3:A:201:CYC:NB	3:A:201:CYC:HMA1	2.23	0.53
1:A:101:VAL:HG21	1:A:106:PRO:HG3	1.89	0.52
3:C:201:CYC:HB	3:C:201:CYC:CMA	2.22	0.52
2:D:106:ASP:O	2:D:111:ASN:HB2	2.09	0.52
3:D:201:CYC:HC	3:D:201:CYC:HMD2	1.75	0.52
3:A:201:CYC:HMA1	3:A:201:CYC:HB	1.75	0.52
3:B:201:CYC:HB	3:B:201:CYC:CMA	2.22	0.52
3:D:202:CYC:HB	3:D:202:CYC:CMA	2.20	0.52
1:A:90:TYR:O	1:A:94:MET:HG2	2.10	0.52
1:A:84:CYS:HA	3:A:201:CYC:HHD	1.92	0.52
3:A:201:CYC:CMA	3:A:201:CYC:HB	2.23	0.51
2:B:157:MET:HA	2:B:160:VAL:HG12	1.92	0.51
2:B:97:ILE:HD11	2:B:156:ILE:HG23	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3:THR:CG2	1:C:101:VAL:HG13	2.40	0.51
1:C:101:VAL:HG21	1:C:106:PRO:HG3	1.92	0.51
1:C:101:VAL:HG23	2:D:9:VAL:HG21	1.92	0.51
1:A:22:THR:CG2	1:C:7:GLU:OE1	2.59	0.51
2:B:86:MET:HE1	2:B:130:GLY:CA	2.25	0.50
1:C:101:VAL:HG13	2:D:6:THR:HG23	1.92	0.50
1:A:3:THR:CG2	1:A:101:VAL:HG13	2.41	0.49
1:A:29:GLY:HA3	1:C:25:GLN:O	2.13	0.48
2:D:97:ILE:HD11	2:D:156:ILE:HG23	1.94	0.48
3:B:201:CYC:HB	3:B:201:CYC:HMA1	1.78	0.48
1:C:37:SER:CB	1:C:99:LEU:O	2.61	0.48
3:B:201:CYC:HC	3:B:201:CYC:CMD	2.25	0.48
3:D:201:CYC:HB	3:D:201:CYC:HMA1	1.79	0.48
1:C:84:CYS:HA	3:C:201:CYC:HAC1	1.91	0.48
1:A:1:MET:HE1	1:A:110:TYR:CZ	2.49	0.47
2:D:8:VAL:HG12	2:D:19:LEU:HD21	1.96	0.47
3:D:201:CYC:HB	3:D:201:CYC:CMA	2.27	0.47
2:D:58:SER:O	2:D:62:GLU:HG3	2.13	0.47
3:D:201:CYC:NB	3:D:201:CYC:HMA1	2.28	0.47
3:B:202:CYC:HB	3:B:202:CYC:CMA	2.23	0.47
1:A:2:LYS:HZ1	1:A:7:GLU:CD	2.19	0.47
2:D:36:LYS:HG2	3:D:202:CYC:C1D	2.45	0.46
3:B:202:CYC:HMD2	3:B:202:CYC:NC	2.20	0.46
1:C:83:LYS:HD3	1:C:86:ARG:HH21	1.80	0.46
2:B:153:CYS:SG	3:B:202:CYC:C3C	3.01	0.46
1:A:4:PRO:CG	1:C:25:GLN:OE1	2.62	0.46
1:A:11:VAL:O	1:A:14:SER:HB2	2.15	0.45
1:C:101:VAL:HG11	1:C:106:PRO:HD3	1.99	0.45
1:C:11:VAL:O	1:C:14:SER:HB2	2.15	0.45
1:C:101:VAL:CG2	2:D:9:VAL:HG21	2.45	0.45
1:C:5:LEU:HD21	1:C:27:ALA:HA	1.99	0.45
2:B:77:ARG:NH1	3:B:201:CYC:O2D	2.43	0.45
1:A:101:VAL:HG13	2:B:6:THR:HG23	1.99	0.45
2:D:36:LYS:HE2	3:D:202:CYC:HBD2	1.99	0.45
2:B:30:LEU:C	2:B:30:LEU:HD23	2.37	0.45
1:A:28:PHE:CE1	2:B:38:MET:HE2	2.52	0.45
2:D:127:VAL:HG22	3:D:201:CYC:H3C	1.97	0.45
2:B:125:ALA:O	2:B:129:VAL:HG23	2.17	0.45
1:A:130:ILE:HD11	1:A:161:LEU:HB2	2.00	0.44
1:A:21:SER:CA	1:A:24:VAL:HG22	2.44	0.44
2:D:41:VAL:O	2:D:45:THR:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:125:SER:HB3	1:A:128:TRP:CE2	2.53	0.44
1:A:5:LEU:HD21	1:A:27:ALA:HA	2.00	0.44
2:B:12:ALA:CB	2:B:19:LEU:CD2	2.96	0.44
1:C:28:PHE:CE1	2:D:38:MET:HE2	2.53	0.44
1:C:3:THR:HG22	1:C:101:VAL:HG12	1.96	0.43
1:A:101:VAL:HG11	1:A:106:PRO:HD3	1.99	0.43
1:A:22:THR:HG23	1:C:4:PRO:HA	1.99	0.43
2:B:58:SER:O	2:B:62:GLU:HG3	2.19	0.43
1:C:69:MET:O	1:C:76:ALA:HB2	2.18	0.43
2:D:40:VAL:HG21	2:D:156:ILE:HG21	2.00	0.43
1:A:11:VAL:HB	1:C:11:VAL:HG11	2.01	0.43
1:A:21:SER:O	1:A:24:VAL:HG22	2.18	0.43
1:A:97:TYR:O	1:A:101:VAL:CG2	2.66	0.43
1:A:100:VAL:HG11	2:B:19:LEU:HD11	2.00	0.43
1:C:7:GLU:O	1:C:11:VAL:HG13	2.19	0.43
3:B:202:CYC:HBC3	3:B:202:CYC:HHD	2.00	0.43
1:A:84:CYS:HA	3:A:201:CYC:HAC1	1.98	0.42
1:A:155:ASP:O	1:A:158:ILE:CG1	2.66	0.42
1:A:52:THR:HG22	1:A:85:VAL:CG2	2.47	0.42
1:C:15:GLN:OE1	1:C:17:ARG:HD3	2.20	0.42
1:A:3:THR:HG22	1:A:101:VAL:HG12	1.97	0.42
1:A:144:GLY:O	1:A:148:VAL:HG23	2.19	0.42
2:B:40:VAL:HG21	2:B:156:ILE:HG21	2.01	0.42
1:C:144:GLY:O	1:C:148:VAL:HG23	2.20	0.42
3:D:201:CYC:HC	3:D:201:CYC:CMD	2.32	0.42
1:A:7:GLU:OE1	1:C:22:THR:CG2	2.67	0.42
2:D:78:ARG:O	3:D:201:CYC:HMD3	2.20	0.42
2:B:72:MEN:HB2	3:B:201:CYC:OC	2.20	0.42
2:B:74:TYR:O	2:B:75:THR:OG1	2.30	0.42
3:B:202:CYC:CMD	3:B:202:CYC:HC	2.22	0.41
1:C:82:ASP:O	1:C:85:VAL:HG22	2.20	0.41
2:B:88:ILE:O	2:B:92:TYR:HD2	2.04	0.41
2:D:153:CYS:O	2:D:157:MET:HG2	2.20	0.41
1:A:145:ASP:N	1:A:146:PRO:HD2	2.35	0.41
1:C:45:THR:HG22	2:D:18:TYR:HD1	1.77	0.41
1:A:2:LYS:NZ	1:A:7:GLU:CD	2.74	0.41
1:C:97:TYR:O	1:C:101:VAL:CG2	2.68	0.41
2:B:12:ALA:HB2	2:B:19:LEU:CD2	2.51	0.41
1:C:101:VAL:HG21	1:C:106:PRO:HG2	2.00	0.41
1:C:98:CYS:SG	1:C:107:MET:HB2	2.60	0.41
1:A:11:VAL:HG21	1:C:11:VAL:CG1	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:78:ARG:HG2	3:B:201:CYC:HAD1	2.03	0.41
1:A:4:PRO:HA	1:C:22:THR:HG23	2.02	0.41
1:C:135:TYR:C	1:C:135:TYR:CD1	2.93	0.41
1:C:23:GLU:O	1:C:26:THR:HB	2.21	0.41
2:D:30:LEU:C	2:D:30:LEU:HD23	2.42	0.41
3:A:201:CYC:HBD1	3:A:201:CYC:HHA	2.02	0.40
1:C:84:CYS:HA	3:C:201:CYC:HHD	2.04	0.40
1:A:135:TYR:C	1:A:135:TYR:CD1	2.94	0.40
1:A:23:GLU:O	1:A:26:THR:HB	2.21	0.40
1:C:145:ASP:N	1:C:146:PRO:HD2	2.37	0.40
1:A:101:VAL:HG21	1:A:106:PRO:HG2	2.03	0.40
1:A:11:VAL:CG2	1:C:11:VAL:CG1	2.99	0.40
2:D:135:LYS:O	2:D:139:LEU:HD12	2.21	0.40
2:D:7:LYS:HD2	2:D:7:LYS:HA	1.78	0.40
2:D:8:VAL:HG12	2:D:19:LEU:CD2	2.52	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	160/162 (99%)	157 (98%)	3 (2%)	0	100 100
1	C	160/162 (99%)	157 (98%)	3 (2%)	0	100 100
2	B	169/172 (98%)	166 (98%)	2 (1%)	1 (1%)	30 59
2	D	169/172 (98%)	166 (98%)	3 (2%)	0	100 100
All	All	658/668 (98%)	646 (98%)	11 (2%)	1 (0%)	52 80

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	75	THR

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	122/125 (98%)	122 (100%)	0	100	100
1	C	123/125 (98%)	123 (100%)	0	100	100
2	B	126/129 (98%)	125 (99%)	1 (1%)	86	96
2	D	126/129 (98%)	125 (99%)	1 (1%)	86	96
All	All	497/508 (98%)	495 (100%)	2 (0%)	93	98

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	38	MET
2	D	38	MET

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

2 non-standard protein/DNA/RNA residues 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	MEN	B	72	2	6,8,9	0.45	0	6,9,11	0.93	0
2	MEN	D	72	2	6,8,9	0.73	0	6,9,11	1.03	1 (16%)

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	MEN	B	72	2	-	0/6/8/10	0/0/0/0
2	MEN	D	72	2	-	0/6/8/10	0/0/0/0

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	D	72	MEN	O-C-CA	-2.26	119.66	125.72

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	72	MEN	1	0

5.5 Carbohydrates (i)

There are no carbohydrates in this entry.

5.6 Ligand geometry (i)

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	$\#\|Z\| > 2$
3	CYC	A	201	1	35,46,46	2.90	14 (40%)	44,67,67	4.00	23 (52%)
3	CYC	B	201	2	35,46,46	3.33	15 (42%)	44,67,67	3.73	19 (43%)
3	CYC	B	202	-	35,46,46	3.27	13 (37%)	44,67,67	3.38	21 (47%)
3	CYC	C	201	1	35,46,46	3.04	10 (28%)	44,67,67	3.79	17 (38%)
3	CYC	D	201	2	35,46,46	3.25	14 (40%)	44,67,67	3.65	19 (43%)
3	CYC	D	202	2	35,46,46	3.35	11 (31%)	44,67,67	3.23	18 (40%)

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	CYC	A	201	1	-	2/21/74/74	0/4/4/4
3	CYC	B	201	2	-	2/21/74/74	0/4/4/4
3	CYC	B	202	-	-	2/21/74/74	0/4/4/4
3	CYC	C	201	1	-	2/21/74/74	0/4/4/4
3	CYC	D	201	2	-	2/21/74/74	0/4/4/4
3	CYC	D	202	2	-	2/21/74/74	0/4/4/4

All (77) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	202	CYC	C1C-NC	-5.95	1.29	1.37
3	B	201	CYC	C1C-NC	-4.59	1.31	1.37
3	C	201	CYC	C1C-NC	-3.99	1.32	1.37
3	B	202	CYC	C1C-NC	-3.96	1.32	1.37
3	D	201	CYC	C2C-C1C	-3.75	1.48	1.52
3	A	201	CYC	C2C-C1C	-3.41	1.48	1.52
3	D	201	CYC	C1C-NC	-3.32	1.33	1.37
3	B	202	CYC	C2C-C1C	-3.25	1.49	1.52
3	C	201	CYC	C1B-NB	-3.04	1.32	1.37
3	B	201	CYC	C2C-C1C	-2.85	1.49	1.52
3	D	201	CYC	C1B-NB	-2.65	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	201	CYC	C1B-NB	-2.57	1.33	1.37
3	A	201	CYC	C1C-NC	-2.46	1.34	1.37
3	A	201	CYC	C4B-NB	-2.30	1.32	1.37
3	A	201	CYC	C1B-NB	-2.00	1.34	1.37
3	A	201	CYC	C4A-C3A	2.00	1.50	1.45
3	B	201	CYC	C4D-CHA	2.04	1.48	1.40
3	D	201	CYC	C4D-CHA	2.11	1.48	1.40
3	B	202	CYC	C1B-C2B	2.17	1.48	1.45
3	B	202	CYC	C1A-C2A	2.18	1.49	1.45
3	B	202	CYC	C3D-C2D	2.27	1.44	1.37
3	D	201	CYC	C4A-C3A	2.28	1.50	1.45
3	B	202	CYC	C1D-CHD	2.30	1.49	1.40
3	D	202	CYC	C1D-CHD	2.36	1.49	1.40
3	D	201	CYC	C3D-C2D	2.37	1.44	1.37
3	B	201	CYC	C4A-C3A	2.41	1.51	1.45
3	A	201	CYC	C1B-C2B	2.41	1.49	1.45
3	C	201	CYC	OB-C4B	2.47	1.28	1.23
3	A	201	CYC	OB-C4B	2.59	1.28	1.23
3	D	202	CYC	C4D-CHA	2.59	1.50	1.40
3	B	201	CYC	C1B-C2B	2.63	1.49	1.45
3	B	202	CYC	C4D-CHA	2.64	1.50	1.40
3	B	201	CYC	C1A-C2A	2.64	1.50	1.45
3	B	201	CYC	C3D-C2D	2.67	1.45	1.37
3	B	201	CYC	C1D-CHD	2.69	1.50	1.40
3	D	202	CYC	C3D-C2D	2.72	1.45	1.37
3	D	201	CYC	C1D-CHD	2.77	1.50	1.40
3	A	201	CYC	C1D-CHD	2.78	1.50	1.40
3	C	201	CYC	C1D-CHD	2.90	1.51	1.40
3	D	202	CYC	OB-C4B	2.90	1.29	1.23
3	D	202	CYC	CHB-C4A	2.95	1.47	1.40
3	B	201	CYC	OB-C4B	2.95	1.29	1.23
3	C	201	CYC	C3D-C2D	2.97	1.46	1.37
3	D	202	CYC	C1B-C2B	2.98	1.50	1.45
3	B	202	CYC	CHB-C4A	2.99	1.47	1.40
3	D	201	CYC	OB-C4B	3.05	1.29	1.23
3	D	201	CYC	C1B-C2B	3.10	1.50	1.45
3	B	202	CYC	OB-C4B	3.23	1.29	1.23
3	A	201	CYC	CHB-C4A	3.32	1.48	1.40
3	C	201	CYC	CHB-C4A	3.39	1.48	1.40
3	A	201	CYC	C3D-C2D	3.41	1.47	1.37
3	D	201	CYC	CHB-C4A	3.44	1.48	1.40
3	B	202	CYC	C2A-C3A	3.72	1.44	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	201	CYC	CHB-C4A	3.87	1.50	1.40
3	C	201	CYC	CHB-C1B	4.09	1.47	1.37
3	D	201	CYC	CHB-C1B	4.28	1.47	1.37
3	B	201	CYC	C2A-C3A	4.43	1.46	1.36
3	A	201	CYC	CHB-C1B	4.66	1.48	1.37
3	D	202	CYC	CHB-C1B	4.81	1.49	1.37
3	B	202	CYC	CHB-C1B	4.86	1.49	1.37
3	A	201	CYC	C2A-C3A	5.08	1.47	1.36
3	D	201	CYC	C2A-C3A	5.10	1.47	1.36
3	B	201	CYC	CHB-C1B	5.13	1.49	1.37
3	D	202	CYC	C3B-C2B	5.14	1.47	1.36
3	D	202	CYC	C2A-C3A	5.26	1.48	1.36
3	A	201	CYC	C3B-C2B	5.29	1.48	1.36
3	B	201	CYC	C3B-C2B	5.44	1.48	1.36
3	C	201	CYC	C2A-C3A	5.49	1.48	1.36
3	D	201	CYC	C3B-C2B	5.71	1.49	1.36
3	C	201	CYC	C3B-C2B	6.04	1.49	1.36
3	B	202	CYC	C3B-C2B	6.47	1.50	1.36
3	A	201	CYC	CHA-C1A	11.60	1.45	1.35
3	C	201	CYC	CHA-C1A	12.71	1.46	1.35
3	D	201	CYC	CHA-C1A	13.82	1.47	1.35
3	B	202	CYC	CHA-C1A	14.17	1.48	1.35
3	B	201	CYC	CHA-C1A	14.30	1.48	1.35
3	D	202	CYC	CHA-C1A	14.77	1.48	1.35

All (117) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	201	CYC	C4B-C3B-C2B	-15.35	99.38	108.04
3	B	201	CYC	C4B-C3B-C2B	-14.50	99.86	108.04
3	D	201	CYC	C4B-C3B-C2B	-13.03	100.69	108.04
3	A	201	CYC	C4B-C3B-C2B	-12.19	101.16	108.04
3	B	202	CYC	C4B-C3B-C2B	-11.39	101.61	108.04
3	D	202	CYC	C4B-C3B-C2B	-8.13	103.45	108.04
3	A	201	CYC	OC-C1C-C2C	-7.33	120.40	126.30
3	D	202	CYC	OB-C4B-C3B	-6.10	120.56	128.11
3	B	202	CYC	CBD-CAD-C3D	-5.77	102.34	112.49
3	D	201	CYC	OC-C1C-C2C	-5.44	121.92	126.30
3	B	202	CYC	CHB-C4A-NA	-5.12	115.33	124.89
3	B	202	CYC	OB-C4B-C3B	-4.74	122.25	128.11
3	D	202	CYC	CHB-C4A-NA	-4.64	116.22	124.89
3	C	201	CYC	CHB-C4A-NA	-4.46	116.56	124.89

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	201	CYC	OB-C4B-C3B	-4.42	122.64	128.11
3	D	201	CYC	OB-C4B-C3B	-4.40	122.66	128.11
3	C	201	CYC	C1A-C2A-C3A	-4.19	102.24	106.80
3	B	201	CYC	CHA-C1A-NA	-4.16	121.34	128.71
3	A	201	CYC	CHB-C4A-NA	-4.15	117.13	124.89
3	D	201	CYC	C1A-C2A-C3A	-4.15	102.28	106.80
3	D	202	CYC	C1B-C2B-C3B	-4.08	103.56	107.82
3	A	201	CYC	C1A-C2A-C3A	-4.02	102.42	106.80
3	A	201	CYC	C1B-C2B-C3B	-3.92	103.72	107.82
3	C	201	CYC	OB-C4B-C3B	-3.84	123.36	128.11
3	B	201	CYC	C1A-C2A-C3A	-3.83	102.63	106.80
3	D	202	CYC	C4A-C3A-C2A	-3.61	102.27	106.43
3	B	202	CYC	OC-C1C-C2C	-3.60	123.40	126.30
3	A	201	CYC	C1B-NB-C4B	-3.59	105.53	110.73
3	D	202	CYC	CBD-CAD-C3D	-3.48	106.36	112.49
3	B	202	CYC	C4A-C3A-C2A	-3.37	102.54	106.43
3	D	201	CYC	CHB-C4A-NA	-3.27	118.78	124.89
3	D	202	CYC	CHB-C1B-C2B	-3.12	120.85	126.92
3	B	201	CYC	CHB-C4A-NA	-3.07	119.15	124.89
3	A	201	CYC	OB-C4B-C3B	-3.05	124.34	128.11
3	A	201	CYC	CBD-CAD-C3D	-3.05	107.13	112.49
3	C	201	CYC	CHA-C1A-NA	-3.04	123.32	128.71
3	D	202	CYC	C1B-NB-C4B	-3.03	106.34	110.73
3	B	202	CYC	C1B-C2B-C3B	-2.95	104.73	107.82
3	A	201	CYC	CHA-C1A-NA	-2.86	123.64	128.71
3	B	201	CYC	C1B-NB-C4B	-2.86	106.59	110.73
3	B	202	CYC	CAC-C3C-C2C	-2.77	107.27	114.17
3	C	201	CYC	CAA-CBA-CGA	-2.72	107.50	112.78
3	D	201	CYC	C1B-NB-C4B	-2.68	106.86	110.73
3	D	201	CYC	C1B-C2B-C3B	-2.67	105.03	107.82
3	C	201	CYC	C4A-C3A-C2A	-2.63	103.40	106.43
3	A	201	CYC	C4A-C3A-C2A	-2.61	103.42	106.43
3	D	201	CYC	CHA-C1A-NA	-2.52	124.24	128.71
3	B	202	CYC	CHA-C1A-NA	-2.50	124.28	128.71
3	C	201	CYC	C1B-NB-C4B	-2.45	107.19	110.73
3	D	202	CYC	C1A-C2A-C3A	-2.44	104.14	106.80
3	B	201	CYC	C4A-C3A-C2A	-2.37	103.69	106.43
3	D	201	CYC	CHA-C1A-C2A	-2.36	120.10	125.48
3	D	201	CYC	CHB-C1B-NB	-2.35	121.11	126.15
3	D	202	CYC	CAC-C3C-C2C	-2.34	108.33	114.17
3	A	201	CYC	CHA-C1A-C2A	-2.31	120.21	125.48
3	D	202	CYC	CHA-C1A-NA	-2.30	124.64	128.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	201	CYC	CAD-CBD-CGD	-2.29	108.32	112.78
3	B	202	CYC	CHB-C1B-C2B	-2.29	122.46	126.92
3	A	201	CYC	CAA-CBA-CGA	-2.28	108.34	112.78
3	A	201	CYC	OB-C4B-NB	-2.27	119.73	125.21
3	B	202	CYC	CBB-CAB-C3B	-2.26	105.52	112.38
3	D	201	CYC	C4A-C3A-C2A	-2.25	103.83	106.43
3	C	201	CYC	CHA-C1A-C2A	-2.25	120.36	125.48
3	A	201	CYC	CHB-C1B-C2B	-2.17	122.69	126.92
3	B	201	CYC	OC-C1C-C2C	-2.16	124.56	126.30
3	B	202	CYC	CAA-C2A-C3A	-2.10	124.13	127.96
3	B	201	CYC	C1B-C2B-C3B	-2.07	105.65	107.82
3	B	201	CYC	C1B-CHB-C4A	-2.05	122.88	128.03
3	B	202	CYC	CBC-CAC-C3C	2.01	118.41	113.43
3	B	201	CYC	C2C-C1C-NC	2.10	110.38	108.31
3	D	202	CYC	CHB-C4A-C3A	2.10	129.73	124.71
3	C	201	CYC	CHB-C4A-C3A	2.12	129.78	124.71
3	A	201	CYC	C2C-C1C-NC	2.23	110.51	108.31
3	B	202	CYC	C2C-C1C-NC	2.33	110.61	108.31
3	B	202	CYC	CHB-C4A-C3A	2.36	130.36	124.71
3	C	201	CYC	CAC-C3C-C4C	2.43	118.90	112.67
3	A	201	CYC	CAC-C3C-C4C	2.50	119.09	112.67
3	B	202	CYC	CAD-CBD-CGD	2.63	117.89	112.78
3	D	202	CYC	C2A-C1A-NA	2.63	114.00	109.98
3	B	201	CYC	CMB-C2B-C1B	2.69	127.71	124.20
3	C	201	CYC	CMC-C2C-C1C	2.86	118.53	112.39
3	D	201	CYC	CAA-C2A-C1A	3.12	130.48	125.00
3	B	201	CYC	CAA-C2A-C1A	3.35	130.88	125.00
3	B	202	CYC	CAA-C2A-C1A	3.38	130.93	125.00
3	B	201	CYC	C2B-C1B-NB	3.39	111.72	106.94
3	B	202	CYC	C2B-C1B-NB	3.39	111.73	106.94
3	A	201	CYC	OC-C1C-NC	3.44	129.05	124.84
3	B	201	CYC	C2A-C1A-NA	3.46	115.25	109.98
3	D	201	CYC	OC-C1C-NC	3.55	129.19	124.84
3	D	201	CYC	C2B-C1B-NB	3.57	111.98	106.94
3	C	201	CYC	C2B-C1B-NB	3.57	111.98	106.94
3	C	201	CYC	CMA-C3A-C4A	3.60	130.82	125.06
3	A	201	CYC	CMB-C2B-C1B	3.67	128.99	124.20
3	D	201	CYC	C2A-C1A-NA	3.72	115.66	109.98
3	B	201	CYC	CMA-C3A-C4A	3.97	131.41	125.06
3	A	201	CYC	C2A-C1A-NA	4.04	116.14	109.98
3	D	202	CYC	C2B-C1B-NB	4.06	112.67	106.94
3	C	201	CYC	C2A-C1A-NA	4.16	116.32	109.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	D	201	CYC	CMB-C2B-C1B	4.34	129.85	124.20
3	A	201	CYC	CMA-C3A-C4A	4.55	132.34	125.06
3	A	201	CYC	C2B-C1B-NB	4.76	113.67	106.94
3	D	202	CYC	CMB-C2B-C1B	4.79	130.44	124.20
3	D	202	CYC	CMA-C3A-C4A	4.88	132.87	125.06
3	D	201	CYC	CMA-C3A-C4A	4.94	132.96	125.06
3	B	202	CYC	CMA-C3A-C4A	6.01	134.68	125.06
3	B	202	CYC	CAB-C3B-C4B	7.57	128.18	121.47
3	B	202	CYC	C3B-C4B-NB	7.86	113.95	106.76
3	D	202	CYC	C3B-C4B-NB	7.88	113.96	106.76
3	D	202	CYC	CAB-C3B-C4B	9.39	129.80	121.47
3	D	201	CYC	C3B-C4B-NB	9.50	115.45	106.76
3	C	201	CYC	C3B-C4B-NB	9.73	115.65	106.76
3	D	201	CYC	CAB-C3B-C4B	9.79	130.15	121.47
3	A	201	CYC	C3B-C4B-NB	10.02	115.93	106.76
3	B	201	CYC	C3B-C4B-NB	10.29	116.17	106.76
3	B	201	CYC	CAB-C3B-C4B	10.92	131.15	121.47
3	C	201	CYC	CAB-C3B-C4B	11.02	131.24	121.47
3	A	201	CYC	CAB-C3B-C4B	12.64	132.67	121.47

There are no chirality outliers.

All (12) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	D	201	CYC	C1B-CHB-C4A-C3A
3	B	201	CYC	C1B-CHB-C4A-C3A
3	A	201	CYC	C1B-CHB-C4A-C3A
3	C	201	CYC	C1B-CHB-C4A-C3A
3	B	201	CYC	C1B-CHB-C4A-NA
3	D	201	CYC	C1B-CHB-C4A-NA
3	C	201	CYC	C1B-CHB-C4A-NA
3	A	201	CYC	C1B-CHB-C4A-NA
3	B	202	CYC	C1B-CHB-C4A-C3A
3	D	202	CYC	C1B-CHB-C4A-C3A
3	B	202	CYC	C1B-CHB-C4A-NA
3	D	202	CYC	C1B-CHB-C4A-NA

There are no ring outliers.

6 monomers are involved in 50 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	201	CYC	8	0
3	B	201	CYC	8	0
3	B	202	CYC	12	0
3	C	201	CYC	8	0
3	D	201	CYC	7	0
3	D	202	CYC	7	0

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, 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	162/162 (100%)	-0.45	0	100	100	14, 24, 35, 45	0
1	C	162/162 (100%)	-0.45	0	100	100	14, 23, 35, 43	0
2	B	171/172 (99%)	-0.45	0	100	100	12, 25, 37, 49	0
2	D	171/172 (99%)	-0.36	0	100	100	16, 25, 37, 43	0
All	All	666/668 (99%)	-0.43	0	100	100	12, 24, 36, 49	0

There are no RSRZ outliers to report.

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

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	MEN	D	72	9/10	0.95	0.13	-	25,25,26,27	0
2	MEN	B	72	9/10	0.97	0.14	-	18,20,20,21	0

6.3 Carbohydrates

There are no carbohydrates 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. 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
3	CYC	B	201	43/43	0.94	0.18	1.33	26,28,32,33	0
3	CYC	D	201	43/43	0.94	0.20	1.25	23,26,32,34	0
3	CYC	C	201	43/43	0.95	0.16	0.69	18,21,24,24	0
3	CYC	A	201	43/43	0.96	0.16	0.49	17,18,22,24	0
3	CYC	B	202	43/43	0.95	0.16	0.31	16,19,25,27	0
3	CYC	D	202	43/43	0.95	0.14	-0.44	16,24,27,29	0

6.5 Other polymers (i)

There are no such residues in this entry.