Full wwPDB X-ray Structure Validation Report (i)

Mar 9, 2024 – 07:27 PM EST

PDB ID	:	3VW1
Title	:	Crystal Strucuture of the Crystal Violet-Bound Form of RamR (Transcriptional Regurator of TetR Family) from Salmonella Typhimurium
Authors	:	Sakurai, K.; Yamasaki, S.; Nakashima, R.; Nikaido, E.; Yamaguchi, A.; Nishino, K.
Deposited on	:	2012-07-30
Resolution	:	2.21 Å(reported)

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

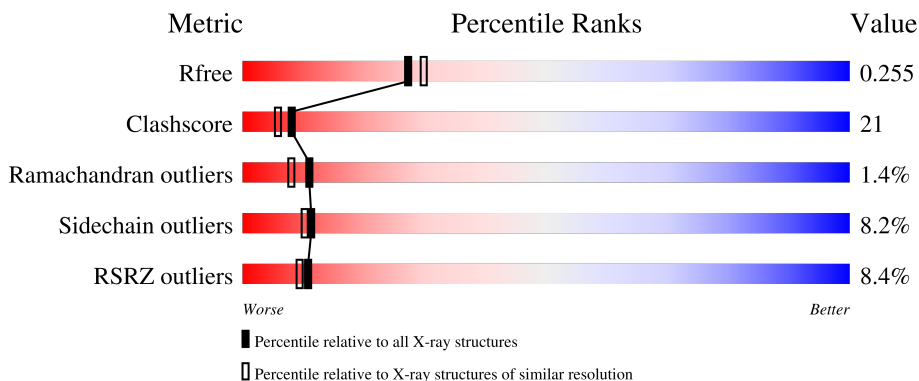|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 2.21 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	Percentile Ranks	Value
Rfree		0.255
Clashscore		21
Ramachandran outliers		1.4%
Sidechain outliers		8.2%
RSRZ outliers		8.4%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	5912 (2.24-2.20)
Clashscore	141614	6646 (2.24-2.20)
Ramachandran outliers	138981	6543 (2.24-2.20)
Sidechain outliers	138945	6544 (2.24-2.20)
RSRZ outliers	127900	5797 (2.24-2.20)

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	194	4% / 69% 23% · 5%
1	B	194	15% / 52% 37% 6% · 5%
1	C	194	6% / 60% 28% 7% 5%
1	D	194	7% / 66% 25% · 6%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	CVI	B	301	-	-	X	-
4	CVI	D	301	-	-	X	-

2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 6032 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 Putative regulatory protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	184	Total	C	N	O	S	0	0	0
			1462	922	258	271	11			
1	B	184	Total	C	N	O	S	0	0	0
			1462	922	258	271	11			
1	C	184	Total	C	N	O	S	0	0	0
			1462	922	258	271	11			
1	D	183	Total	C	N	O	S	0	0	0
			1453	917	257	268	11			

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	0	MET	-	expression tag	UNP D0ZP76
A	1	VAL	-	expression tag	UNP D0ZP76
B	0	MET	-	expression tag	UNP D0ZP76
B	1	VAL	-	expression tag	UNP D0ZP76
C	0	MET	-	expression tag	UNP D0ZP76
C	1	VAL	-	expression tag	UNP D0ZP76
D	0	MET	-	expression tag	UNP D0ZP76
D	1	VAL	-	expression tag	UNP D0ZP76

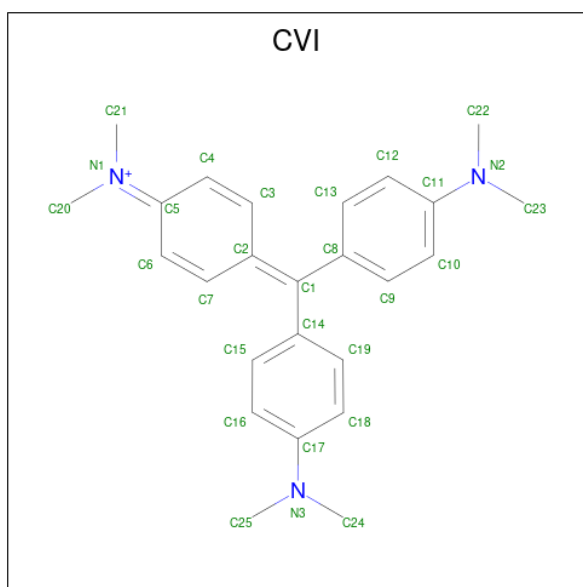- Molecule 2 is SULFATE ION (three-letter code: SO4) (formula: O_4S).

WORLDWIDE
PDB
PROTEIN DATA BANK

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

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total 1	Cl 1	0	0

- Molecule 4 is CRYSTAL VIOLET (three-letter code: CVI) (formula: $C_{25}H_{30}N_3$).

CVI

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	B	1	Total 28	C 25	N 3	0	0
4	D	1	Total 28	C 25	N 3	0	0

- Molecule 5 is water.

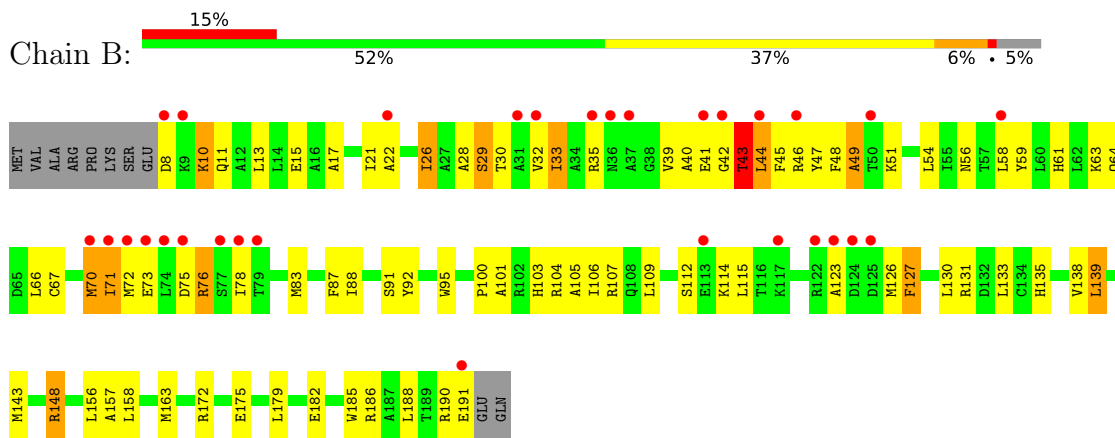| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	43	Total 43	O 43	0	0
5	B	15	Total 15	O 15	0	0
5	C	29	Total 29	O 29	0	0
5	D	29	Total 29	O 29	0	0

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.
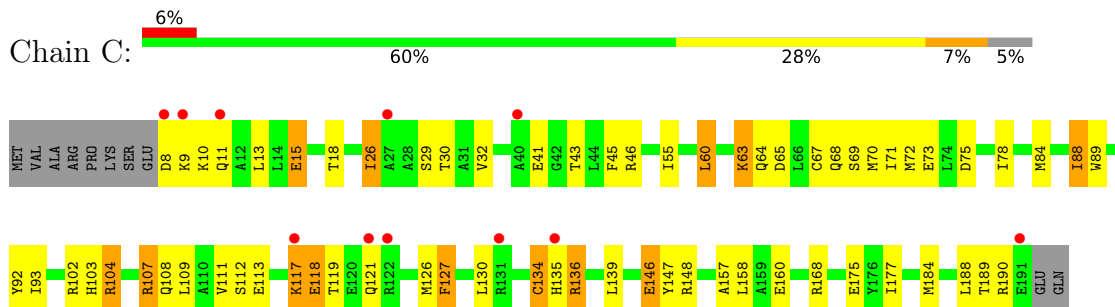
- Molecule 1: Putative regulatory protein

Chain A:

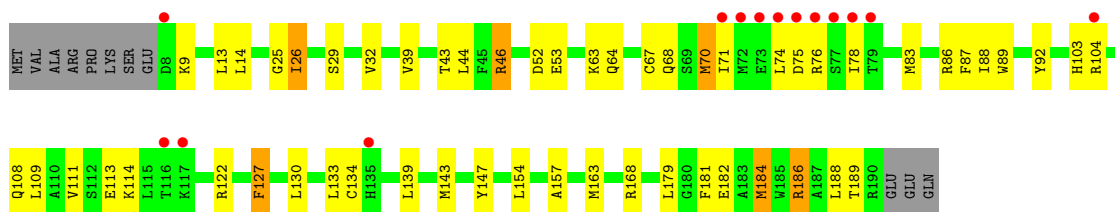- Molecule 1: Putative regulatory protein

Chain B:

- Molecule 1: Putative regulatory protein

Chain C:

- Molecule 1: Putative regulatory protein

Chain D:

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	43.59Å 54.74Å 92.71Å 104.45° 97.25° 89.93°	Depositor
Resolution (Å)	22.28 – 2.21 22.28 – 2.21	Depositor EDS
% Data completeness (in resolution range)	96.8 (22.28-2.21) 96.8 (22.28-2.21)	Depositor EDS
R_{merge}	0.03	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	6.00 (at 2.21Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.220 , 0.254 0.220 , 0.255	Depositor DCC
R_{free} test set	2014 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å^2)	40.1	Xtriage
Anisotropy	0.072	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.39 , 57.1	EDS
L-test for twinning [2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.017 for -h,k,-k-l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	6032	wwPDB-VP
Average B, all atoms (Å^2)	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.56% 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: CVI, SO4, CL

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	1.16	1/1488 (0.1%)	0.83	1/2006 (0.0%)
1	B	1.04	1/1488 (0.1%)	0.81	2/2006 (0.1%)
1	C	1.15	1/1488 (0.1%)	0.84	1/2006 (0.0%)
1	D	1.08	0/1479	0.79	1/1994 (0.1%)
All	All	1.11	3/5943 (0.1%)	0.82	5/8012 (0.1%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	134	CYS	CB-SG	-5.90	1.72	1.81
1	A	35	ARG	CZ-NH1	5.20	1.39	1.33
1	B	185	TRP	CG-CD1	5.02	1.43	1.36

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	172	ARG	NE-CZ-NH1	5.81	123.21	120.30
1	D	186	ARG	NE-CZ-NH2	5.69	123.14	120.30
1	B	107	ARG	NE-CZ-NH2	-5.61	117.49	120.30
1	B	172	ARG	NE-CZ-NH1	5.53	123.07	120.30
1	C	104	ARG	NE-CZ-NH2	-5.21	117.70	120.30

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	1462	0	1450	38	0
1	B	1462	0	1450	105	0
1	C	1462	0	1450	56	0
1	D	1453	0	1444	54	0
2	A	5	0	0	0	0
2	B	5	0	0	0	0
2	C	5	0	0	0	0
2	D	5	0	0	0	0
3	A	1	0	0	0	0
4	B	28	0	30	11	0
4	D	28	0	30	13	0
5	A	43	0	0	2	0
5	B	15	0	0	9	0
5	C	29	0	0	2	0
5	D	29	0	0	4	0
All	All	6032	0	5854	251	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 21.

All (251) 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:10:LYS:HB2	1:B:47:TYR:CD1	1.66	1.28
1:B:10:LYS:HB2	1:B:47:TYR:HD1	0.94	1.10
1:B:15:GLU:HG3	5:B:414:HOH:O	1.54	1.05
1:C:26:ILE:H	1:C:26:ILE:HD13	1.19	1.03
1:B:70:MET:HB2	4:B:301:CVI:H221	1.42	1.01
1:B:45:PHE:HD1	1:B:49:ALA:O	1.42	1.00
1:B:70:MET:HB3	4:B:301:CVI:H231	1.44	0.98
1:B:10:LYS:CB	1:B:47:TYR:HD1	1.77	0.97
1:A:46:ARG:HG2	1:A:46:ARG:HH11	1.29	0.96
1:B:138:VAL:HB	1:B:143:MET:CE	1.96	0.94
1:B:45:PHE:HA	1:B:48:PHE:O	1.66	0.94
1:B:163:MET:CE	5:B:409:HOH:O	2.20	0.89
1:D:88:ILE:HD13	1:D:130:LEU:HD13	1.57	0.87
1:B:70:MET:CB	4:B:301:CVI:H231	2.04	0.86
1:A:172:ARG:HA	1:A:175:GLU:OE2	1.77	0.84
1:B:44:LEU:C	1:B:46:ARG:H	1.77	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:42:GLY:C	1:B:44:LEU:H	1.81	0.83
1:D:70:MET:CB	4:D:301:CVI:H231	2.10	0.82
1:A:30:THR:HG23	1:A:41:GLU:OE2	1.80	0.82
1:B:138:VAL:HB	1:B:143:MET:HE2	1.61	0.82
1:B:44:LEU:C	1:B:46:ARG:N	2.32	0.81
1:B:91:SER:HB2	4:B:301:CVI:C22	2.11	0.81
1:D:122:ARG:HG3	5:D:406:HOH:O	1.80	0.80
1:B:10:LYS:CB	1:B:47:TYR:CD1	2.55	0.80
1:B:10:LYS:HA	1:B:13:LEU:HD13	1.64	0.79
1:D:70:MET:HB2	4:D:301:CVI:H231	1.63	0.79
1:D:78:ILE:HG12	1:D:83:MET:HG2	1.65	0.79
1:C:111:VAL:HG12	1:C:111:VAL:O	1.81	0.79
1:B:45:PHE:CA	1:B:48:PHE:O	2.30	0.79
1:C:26:ILE:H	1:C:26:ILE:CD1	1.96	0.78
1:A:60:LEU:CD1	1:A:119:THR:HG23	2.14	0.78
1:B:138:VAL:HB	1:B:143:MET:HE1	1.64	0.78
1:B:39:VAL:CG2	1:B:43:THR:HG21	2.13	0.78
1:B:10:LYS:HB2	1:B:47:TYR:CE1	2.19	0.77
1:B:39:VAL:HB	1:B:43:THR:HG21	1.68	0.76
1:C:146:GLU:HG3	1:C:147:TYR:CE2	2.19	0.76
1:B:175:GLU:HB2	5:B:408:HOH:O	1.85	0.74
1:B:163:MET:HE3	5:B:409:HOH:O	1.84	0.74
1:B:40:ALA:O	1:B:43:THR:CG2	2.36	0.74
1:B:59:TYR:HB2	1:B:109:LEU:HD23	1.70	0.72
1:C:29:SER:HB3	1:C:32:VAL:HG23	1.72	0.72
1:B:76:ARG:HB2	1:B:76:ARG:CZ	2.20	0.72
1:D:70:MET:HG2	4:D:301:CVI:H221	1.72	0.71
1:B:39:VAL:CB	1:B:43:THR:HG21	2.22	0.70
1:C:127:PHE:CD1	1:C:130:LEU:HB2	2.26	0.70
1:B:43:THR:HG23	1:B:43:THR:O	1.92	0.70
1:A:46:ARG:HG2	1:A:46:ARG:NH1	2.06	0.70
1:C:8:ASP:OD2	1:C:10:LYS:HB3	1.91	0.70
1:B:28:ALA:HB3	1:B:51:LYS:NZ	2.07	0.69
1:C:55:ILE:HG23	1:C:109:LEU:HD22	1.74	0.69
1:B:39:VAL:HG23	1:B:43:THR:HG21	1.74	0.69
1:B:45:PHE:CD1	1:B:49:ALA:O	2.35	0.69
1:B:70:MET:HG2	1:B:127:PHE:HE2	1.58	0.69
1:D:88:ILE:CD1	1:D:130:LEU:HD13	2.22	0.69
1:D:78:ILE:HG21	1:D:87:PHE:HE2	1.58	0.69
1:B:13:LEU:HD23	1:B:44:LEU:HG	1.74	0.68
1:B:42:GLY:C	1:B:44:LEU:N	2.47	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:131:ARG:HD2	1:B:135:HIS:CE1	2.29	0.67
1:A:46:ARG:HH11	1:A:46:ARG:CG	2.06	0.67
1:C:30:THR:HG21	1:C:45:PHE:HZ	1.59	0.67
1:B:15:GLU:CG	5:B:414:HOH:O	2.26	0.67
1:A:63:LYS:NZ	1:A:67:CYS:SG	2.68	0.67
1:C:92:TYR:OH	1:C:103:HIS:CD2	2.47	0.67
1:A:60:LEU:HD13	1:A:119:THR:HG23	1.75	0.66
1:A:77:SER:O	1:A:79:THR:HG23	1.95	0.66
1:B:182:GLU:HG3	1:B:186:ARG:NH1	2.10	0.66
1:B:83:MET:HB3	5:B:403:HOH:O	1.97	0.65
1:C:104:ARG:O	1:C:108:GLN:HG2	1.97	0.65
1:B:91:SER:HB2	4:B:301:CVI:H222	1.78	0.65
1:B:76:ARG:CZ	1:B:76:ARG:CB	2.75	0.64
1:D:9:LYS:O	1:D:13:LEU:HD23	1.97	0.64
1:B:39:VAL:CG2	1:B:43:THR:CG2	2.77	0.62
1:B:44:LEU:O	1:B:46:ARG:N	2.31	0.62
1:B:70:MET:HG3	1:B:71:ILE:N	2.14	0.62
1:A:133:LEU:C	1:A:133:LEU:HD23	2.19	0.62
1:B:42:GLY:O	1:B:44:LEU:N	2.32	0.62
1:C:26:ILE:HD13	1:C:26:ILE:N	2.03	0.62
1:D:67:CYS:HA	4:D:301:CVI:H222	1.82	0.61
1:A:127:PHE:N	1:A:128:PRO:HD3	2.15	0.61
1:B:29:SER:OG	1:B:32:VAL:HB	2.00	0.61
1:D:70:MET:HG2	4:D:301:CVI:C22	2.31	0.61
1:C:46:ARG:HG2	1:C:46:ARG:HH11	1.64	0.61
1:B:100:PRO:O	1:B:104:ARG:HG2	2.01	0.60
1:C:107:ARG:CZ	1:C:160:GLU:OE1	2.49	0.60
1:C:107:ARG:NH2	1:C:160:GLU:OE1	2.35	0.60
1:B:70:MET:O	1:B:73:GLU:N	2.35	0.59
1:B:78:ILE:HG12	1:B:87:PHE:HE2	1.67	0.59
1:A:92:TYR:OH	1:A:103:HIS:NE2	2.30	0.59
1:A:64:GLN:HB2	1:A:126:MET:HE1	1.84	0.59
1:D:83:MET:HE3	1:D:86:ARG:HD3	1.82	0.59
1:D:67:CYS:O	1:D:71:ILE:HG12	2.03	0.59
1:D:74:LEU:HG	1:D:75:ASP:N	2.18	0.59
1:A:191:GLU:OE2	1:A:191:GLU:HA	2.04	0.58
1:C:67:CYS:O	1:C:71:ILE:HG12	2.04	0.58
1:C:9:LYS:HE2	5:C:405:HOH:O	2.03	0.58
1:B:28:ALA:HB3	1:B:51:LYS:HZ2	1.69	0.58
1:C:10:LYS:O	1:C:13:LEU:N	2.36	0.57
1:B:39:VAL:HB	1:B:43:THR:CG2	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:190:ARG:NH2	5:A:430:HOH:O	2.38	0.57
1:D:67:CYS:HA	4:D:301:CVI:C22	2.34	0.57
1:C:92:TYR:HH	1:C:103:HIS:CD2	2.23	0.56
1:D:25:GLY:HA2	1:D:108:GLN:HG2	1.87	0.56
1:B:75:ASP:HA	5:B:406:HOH:O	2.05	0.56
1:C:92:TYR:OH	1:C:103:HIS:NE2	2.35	0.56
1:B:101:ALA:HA	1:B:104:ARG:HE	1.72	0.55
1:C:148:ARG:HG2	1:C:148:ARG:HH21	1.71	0.55
1:D:92:TYR:OH	1:D:103:HIS:HD2	1.89	0.55
1:B:70:MET:HB2	4:B:301:CVI:C22	2.29	0.55
1:B:105:ALA:O	1:B:109:LEU:HD13	2.06	0.55
1:B:40:ALA:O	1:B:43:THR:HG22	2.07	0.55
1:C:63:LYS:HE2	1:C:67:CYS:SG	2.46	0.54
1:C:146:GLU:HG3	1:C:147:TYR:CD2	2.41	0.54
1:A:51:LYS:O	1:A:55:ILE:HG12	2.07	0.54
1:B:22:ALA:HB1	1:B:104:ARG:HG3	1.89	0.54
1:D:184:MET:CE	1:D:188:LEU:HB2	2.37	0.54
1:B:59:TYR:CB	1:B:109:LEU:HD23	2.37	0.54
1:D:52:ASP:OD1	1:D:114:LYS:HD2	2.08	0.54
1:B:135:HIS:CE1	1:D:46:ARG:HH12	2.25	0.53
1:C:75:ASP:HB3	1:C:78:ILE:HD13	1.90	0.53
1:B:45:PHE:C	1:B:48:PHE:O	2.46	0.53
1:D:64:GLN:NE2	1:D:68:GLN:OE1	2.41	0.53
1:A:92:TYR:HH	1:A:103:HIS:CD2	2.25	0.53
1:A:127:PHE:CE1	1:A:130:LEU:HB2	2.43	0.53
1:B:17:ALA:O	1:B:21:ILE:HG12	2.08	0.53
1:C:65:ASP:OD2	1:C:102:ARG:NH1	2.41	0.53
1:C:175:GLU:OE2	1:D:147:TYR:OH	2.27	0.52
1:D:43:THR:O	1:D:46:ARG:HB3	2.09	0.52
1:C:134:CYS:O	1:C:136:ARG:N	2.37	0.52
1:B:78:ILE:HG12	1:B:87:PHE:CE2	2.43	0.52
1:D:29:SER:OG	1:D:32:VAL:HG23	2.10	0.52
1:D:134:CYS:O	1:D:143:MET:HE1	2.10	0.51
1:D:184:MET:CE	1:D:188:LEU:HD12	2.40	0.51
1:A:66:LEU:HD13	1:A:95:TRP:CE3	2.46	0.51
1:C:107:ARG:HH21	1:C:157:ALA:HA	1.76	0.51
1:D:163:MET:CE	5:D:419:HOH:O	2.58	0.51
1:A:46:ARG:NH1	1:A:46:ARG:CG	2.66	0.51
1:B:21:ILE:HD12	1:B:26:ILE:HA	1.92	0.51
1:B:30:THR:HA	1:B:33:ILE:HG13	1.92	0.51
4:B:301:CVI:H151	4:B:301:CVI:C3	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:158:LEU:HD13	1:B:158:LEU:HD21	1.92	0.50
1:D:44:LEU:HD23	1:D:44:LEU:C	2.32	0.50
1:B:67:CYS:O	1:B:71:ILE:HG12	2.10	0.50
1:C:30:THR:HG21	1:C:45:PHE:CZ	2.45	0.49
1:B:63:LYS:C	1:B:126:MET:HE1	2.33	0.49
1:B:63:LYS:NZ	5:B:412:HOH:O	2.44	0.49
1:A:118:GLU:H	1:A:118:GLU:CD	2.15	0.49
1:D:70:MET:CG	4:D:301:CVI:H221	2.41	0.49
1:A:30:THR:CG2	1:A:41:GLU:OE2	2.58	0.49
1:A:184:MET:HG2	1:A:188:LEU:HD23	1.94	0.49
1:B:92:TYR:OH	1:B:103:HIS:HD2	1.96	0.49
1:B:45:PHE:O	1:B:48:PHE:O	2.30	0.49
1:B:88:ILE:HD12	1:B:133:LEU:HD23	1.95	0.49
1:B:138:VAL:CB	1:B:143:MET:HE1	2.39	0.49
1:B:163:MET:HE2	5:B:409:HOH:O	2.01	0.49
1:B:35:ARG:HE	1:B:35:ARG:C	2.16	0.48
1:D:88:ILE:HD12	1:D:133:LEU:HD23	1.95	0.48
1:B:70:MET:O	1:B:72:MET:N	2.46	0.48
1:B:70:MET:C	1:B:72:MET:N	2.65	0.48
1:C:157:ALA:HB1	1:D:157:ALA:HB1	1.96	0.48
1:B:58:LEU:O	1:B:61:HIS:HB3	2.13	0.48
1:C:30:THR:HG23	1:C:41:GLU:OE1	2.13	0.48
1:C:60:LEU:HD13	1:C:119:THR:HG23	1.96	0.47
1:C:78:ILE:N	1:C:78:ILE:HD12	2.29	0.47
1:C:78:ILE:HD12	1:C:78:ILE:H	1.80	0.47
1:C:64:GLN:HB2	1:C:126:MET:HE1	1.94	0.47
1:D:89:TRP:CD1	1:D:181:PHE:HB2	2.49	0.47
1:D:163:MET:HE3	5:D:419:HOH:O	2.15	0.47
4:B:301:CVI:C3	4:B:301:CVI:C15	2.90	0.47
1:A:127:PHE:N	1:A:128:PRO:CD	2.77	0.47
1:D:76:ARG:HG3	1:D:76:ARG:O	2.14	0.47
1:B:40:ALA:O	1:B:43:THR:HB	2.15	0.47
1:D:70:MET:HB3	4:D:301:CVI:H221	1.96	0.47
1:D:184:MET:HE2	1:D:188:LEU:HB2	1.97	0.47
1:B:148:ARG:HG3	1:B:148:ARG:HH11	1.80	0.46
1:D:104:ARG:NH1	5:D:424:HOH:O	2.48	0.46
1:A:92:TYR:OH	1:A:103:HIS:CD2	2.69	0.46
1:A:44:LEU:HD23	1:A:44:LEU:C	2.36	0.46
1:D:130:LEU:HD21	4:D:301:CVI:C9	2.45	0.46
1:B:91:SER:CB	4:B:301:CVI:C22	2.87	0.46
1:C:111:VAL:O	1:C:111:VAL:CG1	2.56	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:89:TRP:CD1	1:A:181:PHE:HB2	2.51	0.46
1:A:187:ALA:HB3	1:A:188:LEU:HD22	1.98	0.46
1:B:76:ARG:HB2	1:B:76:ARG:NH1	2.31	0.46
1:C:168:ARG:CZ	1:D:111:VAL:HG13	2.46	0.45
1:D:127:PHE:CE1	4:D:301:CVI:H223	2.51	0.45
1:C:112:SER:O	1:C:113:GLU:HB2	2.16	0.45
1:D:127:PHE:CD1	4:D:301:CVI:H223	2.52	0.45
1:C:184:MET:HG2	1:C:188:LEU:HD22	1.99	0.45
1:A:93:ILE:HG22	1:A:97:LEU:HD22	1.99	0.45
1:C:70:MET:CE	1:C:88:ILE:HG23	2.47	0.45
1:C:84:MET:HE3	1:C:84:MET:HA	1.98	0.45
1:D:184:MET:HE2	1:D:184:MET:O	2.17	0.45
1:B:59:TYR:CA	1:B:109:LEU:HD23	2.47	0.44
1:D:26:ILE:O	1:D:26:ILE:HG13	2.08	0.44
1:A:128:PRO:HB3	1:A:131:ARG:NH2	2.32	0.44
1:C:69:SER:O	1:C:73:GLU:HG3	2.17	0.44
1:B:39:VAL:HG23	1:B:43:THR:CG2	2.43	0.44
4:B:301:CVI:C15	4:B:301:CVI:H31	2.47	0.44
1:B:42:GLY:O	1:B:46:ARG:HG3	2.18	0.43
1:B:44:LEU:O	1:B:45:PHE:C	2.54	0.43
1:C:15:GLU:O	1:C:18:THR:HB	2.19	0.43
1:D:111:VAL:O	1:D:111:VAL:CG1	2.65	0.43
1:D:139:LEU:HD13	1:D:189:THR:C	2.39	0.43
1:A:157:ALA:HB1	1:B:157:ALA:HB1	2.01	0.43
1:C:78:ILE:H	1:C:78:ILE:CD1	2.31	0.43
1:B:48:PHE:CD2	1:B:54:LEU:HD13	2.53	0.43
1:B:70:MET:HB2	4:B:301:CVI:H231	1.97	0.43
1:D:74:LEU:HD12	1:D:75:ASP:H	1.84	0.43
1:B:112:SER:O	1:B:114:LYS:HG3	2.19	0.43
1:C:46:ARG:HG2	1:C:46:ARG:NH1	2.31	0.43
1:B:123:ALA:O	1:B:126:MET:HB2	2.19	0.42
1:D:70:MET:HG3	1:D:71:ILE:N	2.34	0.42
1:A:107:ARG:NH1	1:A:160:GLU:OE2	2.39	0.42
1:B:88:ILE:CD1	1:B:133:LEU:HD23	2.49	0.42
1:A:100:PRO:HB2	1:A:104:ARG:HH12	1.85	0.42
1:C:127:PHE:CG	1:C:130:LEU:HB2	2.55	0.42
1:C:88:ILE:HG22	1:C:89:TRP:N	2.34	0.42
1:B:66:LEU:HD13	1:B:95:TRP:CE3	2.54	0.42
1:C:117:LYS:NZ	1:C:117:LYS:HB2	2.34	0.42
1:C:139:LEU:HD22	1:C:189:THR:C	2.40	0.42
1:A:66:LEU:HD21	1:A:92:TYR:HE1	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:29:SER:HG	1:B:32:VAL:HB	1.84	0.42
1:D:184:MET:HE2	1:D:188:LEU:HD12	2.01	0.42
1:B:40:ALA:O	1:B:43:THR:CB	2.68	0.41
1:B:56:ASN:OD1	1:B:115:LEU:HA	2.20	0.41
1:B:64:GLN:HA	1:B:126:MET:CE	2.50	0.41
1:D:74:LEU:CG	1:D:75:ASP:N	2.82	0.41
1:D:182:GLU:HB3	1:D:186:ARG:HH12	1.85	0.41
1:A:89:TRP:O	1:A:93:ILE:HG12	2.20	0.41
1:B:64:GLN:HA	1:B:126:MET:HE1	2.02	0.41
1:B:103:HIS:O	1:B:106:ILE:HG22	2.20	0.41
1:D:111:VAL:O	1:D:113:GLU:HG3	2.20	0.41
1:B:139:LEU:HD22	1:B:188:LEU:C	2.41	0.41
1:C:134:CYS:C	1:C:136:ARG:H	2.20	0.41
1:C:136:ARG:O	1:C:190:ARG:HD3	2.20	0.41
1:C:9:LYS:CE	5:C:405:HOH:O	2.65	0.41
1:C:68:GLN:O	1:C:72:MET:HG3	2.19	0.41
1:C:93:ILE:HG21	1:C:177:ILE:HG12	2.03	0.41
1:A:78:ILE:HG13	1:A:87:PHE:CD1	2.55	0.41
1:C:127:PHE:CE1	1:C:130:LEU:HB2	2.55	0.41
1:B:17:ALA:O	1:B:21:ILE:CG1	2.69	0.41
1:B:40:ALA:O	1:B:43:THR:HG21	2.16	0.41
1:D:13:LEU:HD21	1:D:39:VAL:HG21	2.02	0.41
1:D:182:GLU:HB3	1:D:186:ARG:NH1	2.35	0.41
4:D:301:CVI:C15	4:D:301:CVI:H31	2.51	0.41
1:B:64:GLN:N	1:B:126:MET:HE1	2.35	0.40
1:D:130:LEU:HD11	4:D:301:CVI:C7	2.50	0.40
1:B:10:LYS:CG	1:B:47:TYR:HD1	2.32	0.40
1:A:8:ASP:N	5:A:434:HOH:O	2.54	0.40
1:B:70:MET:HG2	1:B:127:PHE:CE2	2.46	0.40
1:C:118:GLU:CD	1:C:118:GLU:H	2.25	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	182/194 (94%)	177 (97%)	5 (3%)	0	100	100
1	B	182/194 (94%)	167 (92%)	8 (4%)	7 (4%)	3	1
1	C	182/194 (94%)	176 (97%)	3 (2%)	3 (2%)	9	6
1	D	181/194 (93%)	177 (98%)	4 (2%)	0	100	100
All	All	727/776 (94%)	697 (96%)	20 (3%)	10 (1%)	11	8

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	43	THR
1	C	135	HIS
1	B	41	GLU
1	B	71	ILE
1	B	26	ILE
1	B	29	SER
1	B	49	ALA
1	C	11	GLN
1	C	136	ARG
1	B	33	ILE

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	149/158 (94%)	140 (94%)	9 (6%)	19	21
1	B	149/158 (94%)	134 (90%)	15 (10%)	7	6
1	C	149/158 (94%)	136 (91%)	13 (9%)	10	9
1	D	148/158 (94%)	136 (92%)	12 (8%)	11	11
All	All	595/632 (94%)	546 (92%)	49 (8%)	11	10

All (49) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	13	LEU
1	A	97	LEU
1	A	109	LEU
1	A	115	LEU
1	A	127	PHE
1	A	139	LEU
1	A	158	LEU
1	A	175	GLU
1	A	179	LEU
1	B	8	ASP
1	B	10	LYS
1	B	11	GLN
1	B	43	THR
1	B	44	LEU
1	B	70	MET
1	B	76	ARG
1	B	127	PHE
1	B	130	LEU
1	B	139	LEU
1	B	148	ARG
1	B	156	LEU
1	B	179	LEU
1	B	190	ARG
1	B	191	GLU
1	C	15	GLU
1	C	26	ILE
1	C	43	THR
1	C	60	LEU
1	C	63	LYS
1	C	88	ILE
1	C	107	ARG
1	C	117	LYS
1	C	118	GLU
1	C	121	GLN
1	C	127	PHE
1	C	146	GLU
1	C	158	LEU
1	D	14	LEU
1	D	26	ILE
1	D	46	ARG
1	D	53	GLU
1	D	63	LYS
1	D	70	MET

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Mol	Chain	Res	Type
1	D	109	LEU
1	D	127	PHE
1	D	154	LEU
1	D	168	ARG
1	D	179	LEU
1	D	184	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	64	GLN
1	A	90	ASN
1	A	98	ASN
1	B	11	GLN
1	B	19	GLN
1	B	36	ASN
1	B	61	HIS
1	B	68	GLN
1	B	90	ASN
1	B	103	HIS
1	B	135	HIS
1	C	36	ASN
1	C	64	GLN
1	D	23	GLN
1	D	90	ASN
1	D	103	HIS

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 7 ligands modelled in this entry, 1 is monoatomic - leaving 6 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	$\#|Z| > 2$
2	SO4	D	302	-	4,4,4	0.34	0	6,6,6	0.52	0
2	SO4	C	201	-	4,4,4	0.33	0	6,6,6	0.33	0
4	CVI	D	301	-	30,30,30	2.00	9 (30%)	42,42,42	2.21	17 (40%)
2	SO4	A	201	-	4,4,4	0.51	0	6,6,6	0.66	0
4	CVI	B	301	-	30,30,30	1.66	8 (26%)	42,42,42	1.85	15 (35%)
2	SO4	B	302	-	4,4,4	0.19	0	6,6,6	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
4	CVI	B	301	-	-	4/24/34/34	0/3/3/3
4	CVI	D	301	-	-	0/24/34/34	0/3/3/3

All (17) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	301	CVI	C5-N1	6.36	1.43	1.34
4	B	301	CVI	C5-N1	4.77	1.40	1.34
4	D	301	CVI	C13-C12	3.60	1.45	1.38
4	D	301	CVI	C16-C15	3.18	1.44	1.38
4	B	301	CVI	C4-C3	2.88	1.42	1.35
4	B	301	CVI	C1-C2	2.62	1.47	1.39
4	B	301	CVI	C17-N3	2.59	1.43	1.37
4	B	301	CVI	C3-C2	-2.57	1.38	1.43
4	D	301	CVI	C3-C2	-2.55	1.38	1.43
4	B	301	CVI	C7-C2	-2.53	1.38	1.43
4	B	301	CVI	C10-C9	2.33	1.43	1.38
4	D	301	CVI	C1-C2	2.28	1.46	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	301	CVI	C15-C14	2.28	1.43	1.39
4	D	301	CVI	C14-C1	-2.20	1.45	1.49
4	B	301	CVI	C13-C8	2.06	1.42	1.39
4	D	301	CVI	C16-C17	2.04	1.43	1.39
4	D	301	CVI	C7-C6	2.02	1.40	1.35

All (32) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	301	CVI	C4-C5-N1	-5.71	116.74	121.77
4	D	301	CVI	C23-N2-C11	-4.81	112.29	120.54
4	D	301	CVI	C20-N1-C5	-4.68	115.34	121.53
4	B	301	CVI	C14-C1-C8	3.86	123.10	115.43
4	B	301	CVI	C7-C2-C3	3.70	122.98	117.22
4	D	301	CVI	C19-C14-C1	-3.62	115.17	120.91
4	D	301	CVI	C21-N1-C20	3.29	121.84	115.29
4	B	301	CVI	C23-N2-C11	-3.26	114.95	120.54
4	D	301	CVI	C19-C14-C15	3.11	123.02	118.59
4	B	301	CVI	C16-C15-C14	-3.10	117.17	120.78
4	B	301	CVI	C25-N3-C17	2.85	125.42	120.54
4	D	301	CVI	C10-C9-C8	-2.73	117.60	120.78
4	D	301	CVI	C9-C10-C11	2.73	123.91	120.32
4	B	301	CVI	C4-C5-N1	-2.71	119.38	121.77
4	B	301	CVI	C7-C2-C1	-2.71	118.00	122.16
4	D	301	CVI	C23-N2-C22	2.62	124.58	116.12
4	D	301	CVI	C18-C19-C14	-2.58	117.78	120.78
4	B	301	CVI	C6-C5-C4	2.58	120.99	116.55
4	B	301	CVI	C23-N2-C22	2.58	124.43	116.12
4	D	301	CVI	C12-C13-C8	-2.56	117.80	120.78
4	D	301	CVI	C6-C5-C4	2.46	120.79	116.55
4	B	301	CVI	C6-C5-N1	-2.43	119.63	121.77
4	D	301	CVI	C7-C6-C5	-2.40	117.88	120.93
4	B	301	CVI	C19-C14-C1	-2.38	117.14	120.91
4	D	301	CVI	C13-C8-C9	2.36	121.95	118.59
4	B	301	CVI	C3-C4-C5	-2.31	118.00	120.93
4	B	301	CVI	C12-C11-N2	-2.23	118.61	121.63
4	D	301	CVI	C7-C2-C3	2.21	120.67	117.22
4	D	301	CVI	C16-C17-N3	-2.14	118.74	121.63
4	B	301	CVI	C8-C1-C2	-2.10	118.12	121.71
4	B	301	CVI	C3-C2-C1	-2.05	119.01	122.16
4	D	301	CVI	C15-C16-C17	-2.04	117.64	120.32

There are no chirality outliers.
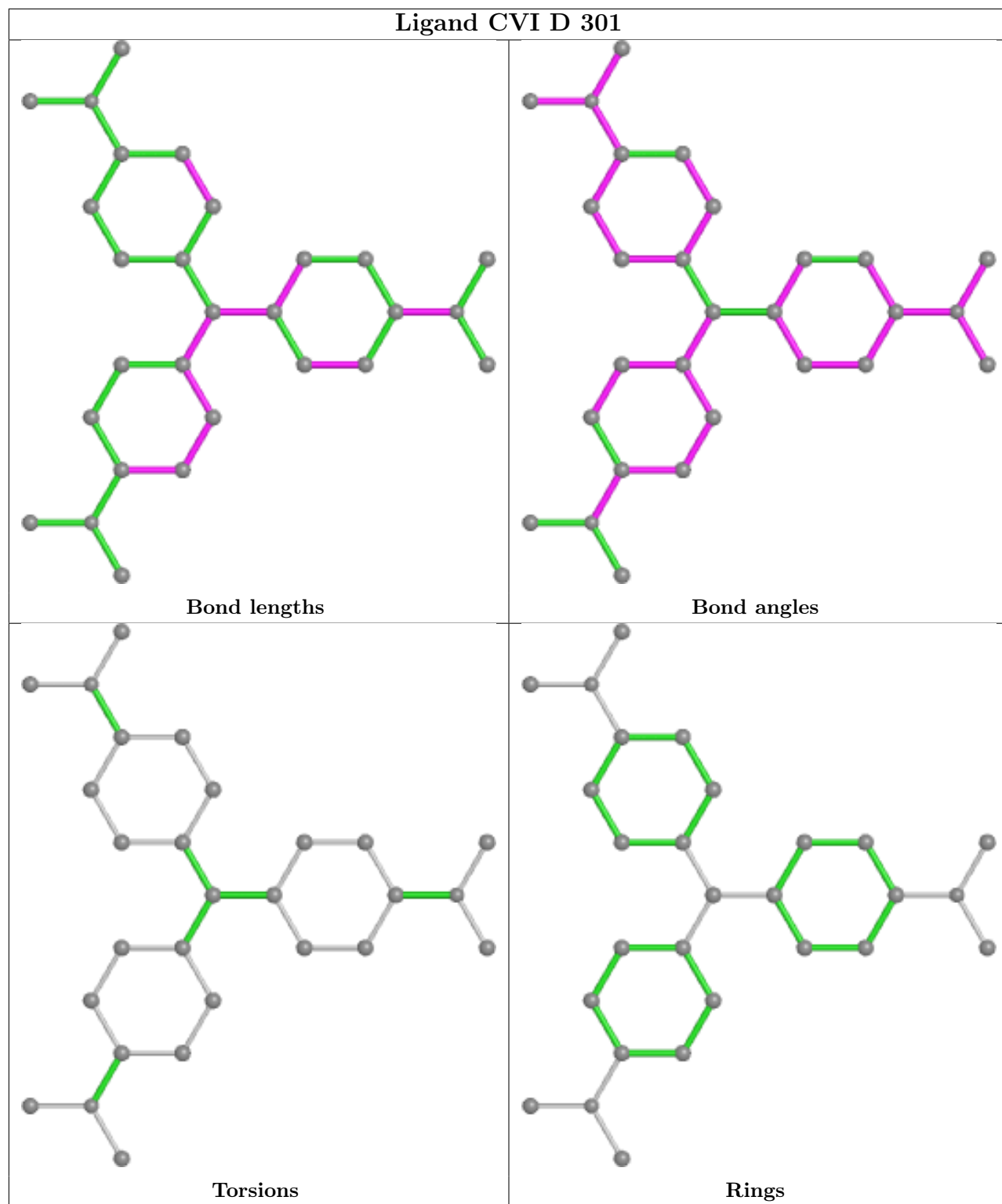
All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	B	301	CVI	C2-C1-C14-C15
4	B	301	CVI	C2-C1-C14-C19
4	B	301	CVI	C8-C1-C14-C15
4	B	301	CVI	C8-C1-C14-C19

There are no ring outliers.

2 monomers are involved in 24 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	D	301	CVI	13	0
4	B	301	CVI	11	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 CVI D 301

Bond lengths

Bond angles

Torsions

Rings

Ligand CVI B 301

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	184/194 (94%)	0.04	7 (3%)	40	38	21, 37, 65, 75	12 (6%)
1	B	184/194 (94%)	0.77	30 (16%)	1	1	22, 55, 96, 107	4 (2%)
1	C	184/194 (94%)	0.35	11 (5%)	21	20	25, 49, 74, 94	5 (2%)
1	D	183/194 (94%)	0.30	14 (7%)	13	12	23, 43, 72, 104	4 (2%)
All	All	735/776 (94%)	0.36	62 (8%)	11	9	21, 44, 87, 107	25 (3%)

All (62) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	77	SER	6.6
1	D	77	SER	6.5
1	D	78	ILE	5.9
1	B	78	ILE	5.2
1	B	122	ARG	4.9
1	B	32	VAL	4.8
1	D	74	LEU	4.6
1	B	8	ASP	4.1
1	C	8	ASP	3.9
1	D	71	ILE	3.9
1	D	72	MET	3.6
1	C	117	LYS	3.6
1	B	36	ASN	3.5
1	B	71	ILE	3.5
1	B	74	LEU	3.4
1	D	76	ARG	3.3
1	B	72	MET	3.3
1	B	35	ARG	3.2
1	D	75	ASP	3.2
1	B	79	THR	3.1
1	B	46	ARG	3.1

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Mol	Chain	Res	Type	RSRZ
1	B	31	ALA	3.1
1	D	8	ASP	3.0
1	A	131	ARG	3.0
1	B	191	GLU	3.0
1	C	121	GLN	3.0
1	B	42	GLY	3.0
1	C	131	ARG	2.9
1	B	41	GLU	2.9
1	B	75	ASP	2.8
1	D	79	THR	2.7
1	B	44	LEU	2.7
1	B	125	ASP	2.6
1	C	40	ALA	2.6
1	B	22	ALA	2.5
1	B	58	LEU	2.5
1	B	37	ALA	2.4
1	B	9	LYS	2.4
1	D	117	LYS	2.4
1	C	122	ARG	2.4
1	B	70	MET	2.4
1	C	27	ALA	2.4
1	D	73	GLU	2.3
1	B	123	ALA	2.3
1	B	117	LYS	2.3
1	B	50	THR	2.3
1	A	145	ASP	2.2
1	B	124	ASP	2.2
1	A	8	ASP	2.1
1	D	116	THR	2.1
1	A	134	CYS	2.1
1	C	11	GLN	2.1
1	C	135	HIS	2.1
1	A	130	LEU	2.1
1	C	9	LYS	2.1
1	D	135	HIS	2.1
1	A	117	LYS	2.1
1	A	191	GLU	2.0
1	B	113	GLU	2.0
1	C	191	GLU	2.0
1	B	73	GLU	2.0
1	D	104	ARG	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 ⓘ

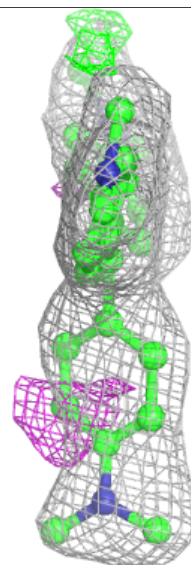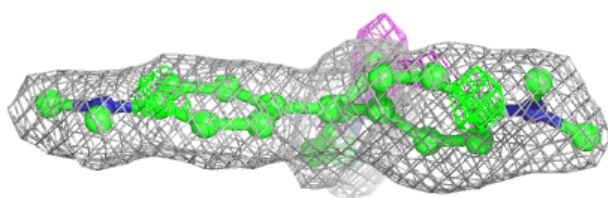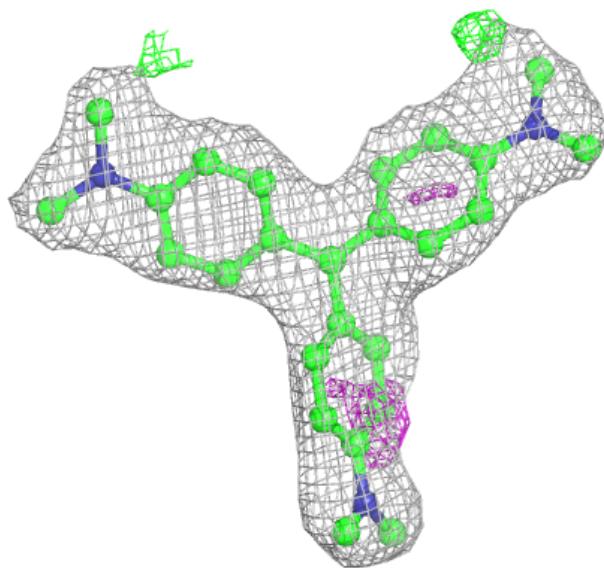There are no monosaccharides in this entry.

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.
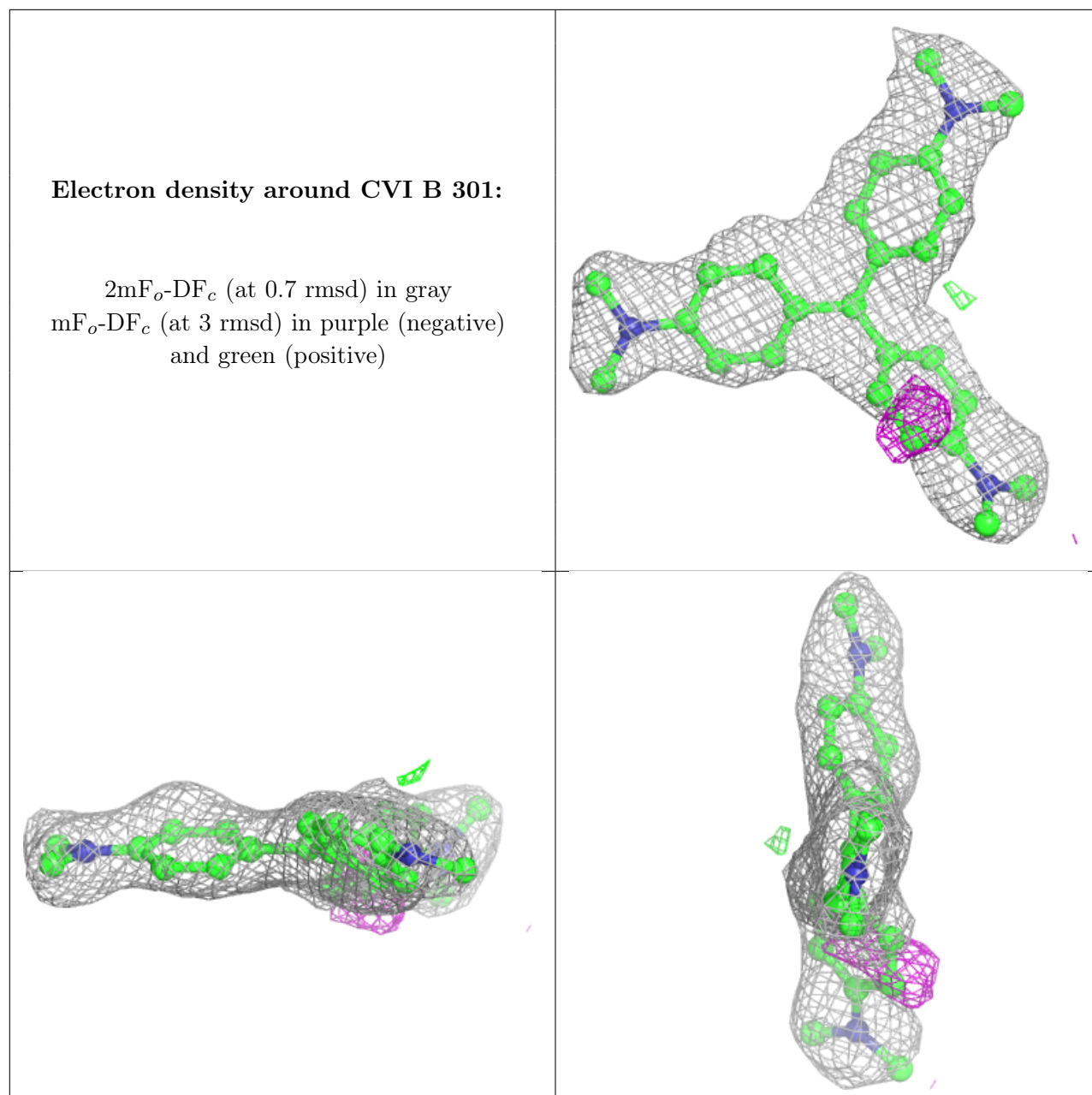
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	CVI	D	301	28/28	0.84	0.18	38,43,48,50	0
3	CL	A	202	1/1	0.85	0.10	43,43,43,43	0
4	CVI	B	301	28/28	0.89	0.18	46,49,52,55	0
2	SO4	C	201	5/5	0.97	0.11	59,61,64,65	0
2	SO4	B	302	5/5	0.97	0.08	64,64,66,67	0
2	SO4	D	302	5/5	0.99	0.06	49,49,51,53	0
2	SO4	A	201	5/5	0.99	0.09	42,43,48,48	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 CVI D 301:

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

Electron density around CVI B 301:

$2mF_o$-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.