Full wwPDB X-ray Structure Validation Report ⓘ

Nov 25, 2024 – 05:40 PM EST

PDB ID	:	3BYW
Title	:	Crystal structure of an extracellular domain of arabinofuranosyltransferase from Corynebacterium diphtheriae
Authors	:	Tan, K.; Hatzos, C.; Abdullah, J.; Joachimiak, A.; Midwest Center for Structural Genomics (MCSG)
Deposited on	:	2008-01-16
Resolution	:	2.35 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:

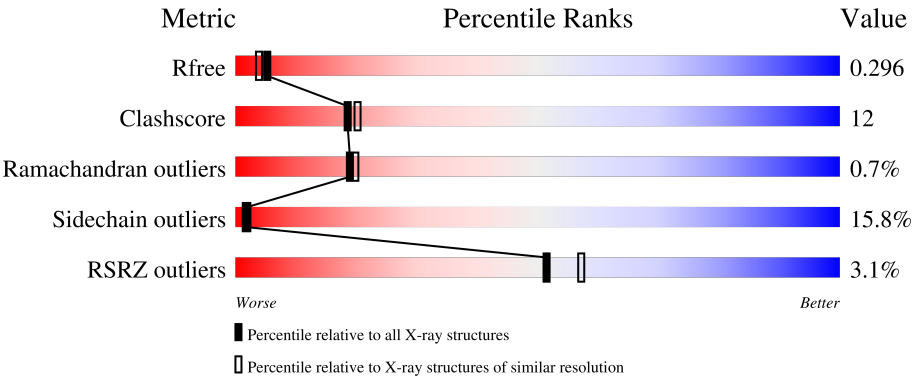
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.21
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.004 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

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 2.35 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}	164625	1460 (2.36-2.36)
Clashscore	180529	1571 (2.36-2.36)
Ramachandran outliers	177936	1559 (2.36-2.36)
Sidechain outliers	177891	1559 (2.36-2.36)
RSRZ outliers	164620	1460 (2.36-2.36)

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%

Mol	Chain	Length	Quality of chain
1	A	177	60% 23% 6% 11%
1	B	177	59% 27% • 10%
1	C	177	3% 63% 23% 5% 10%
1	D	177	68% 18% • 11%
1	E	177	3% 63% 22% 5% 10%
1	F	177	60% 25% 5% 10%

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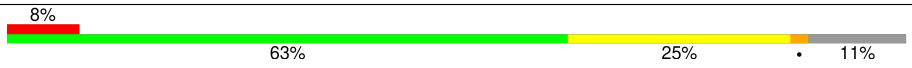
Mol	Chain	Length	Quality of chain
1	G	177	
1	H	177	

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 9635 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 arabinofuranosyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	157	Total	C	N	O	Se	0	0	0
			1168	717	200	249	2			
1	B	159	Total	C	N	O	Se	0	1	0
			1191	734	202	252	3			
1	C	160	Total	C	N	O	Se	0	0	0
			1192	733	203	254	2			
1	D	157	Total	C	N	O	Se	0	0	0
			1164	716	197	249	2			
1	E	159	Total	C	N	O	Se	0	0	0
			1186	730	202	252	2			
1	F	160	Total	C	N	O	Se	0	0	0
			1193	735	203	253	2			
1	G	159	Total	C	N	O	Se	0	0	0
			1186	730	202	252	2			
1	H	158	Total	C	N	O	Se	0	0	0
			1175	722	201	250	2			

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	31	SER	-	expression tag	UNP Q6NK78
A	32	ASN	-	expression tag	UNP Q6NK78
A	33	ALA	-	expression tag	UNP Q6NK78
B	31	SER	-	expression tag	UNP Q6NK78
B	32	ASN	-	expression tag	UNP Q6NK78
B	33	ALA	-	expression tag	UNP Q6NK78
C	31	SER	-	expression tag	UNP Q6NK78
C	32	ASN	-	expression tag	UNP Q6NK78
C	33	ALA	-	expression tag	UNP Q6NK78
D	31	SER	-	expression tag	UNP Q6NK78
D	32	ASN	-	expression tag	UNP Q6NK78
D	33	ALA	-	expression tag	UNP Q6NK78
E	31	SER	-	expression tag	UNP Q6NK78

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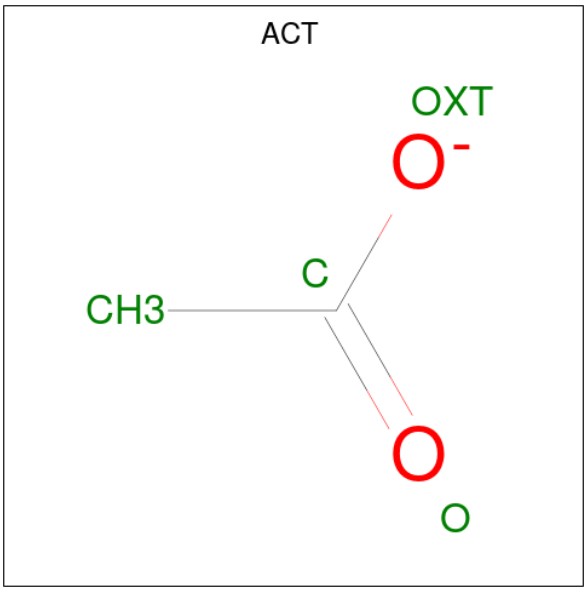
Chain	Residue	Modelled	Actual	Comment	Reference
E	32	ASN	-	expression tag	UNP Q6NK78
E	33	ALA	-	expression tag	UNP Q6NK78
F	31	SER	-	expression tag	UNP Q6NK78
F	32	ASN	-	expression tag	UNP Q6NK78
F	33	ALA	-	expression tag	UNP Q6NK78
G	31	SER	-	expression tag	UNP Q6NK78
G	32	ASN	-	expression tag	UNP Q6NK78
G	33	ALA	-	expression tag	UNP Q6NK78
H	31	SER	-	expression tag	UNP Q6NK78
H	32	ASN	-	expression tag	UNP Q6NK78
H	33	ALA	-	expression tag	UNP Q6NK78

- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	2	Total Zn 2 2	0	0
2	B	3	Total Zn 3 3	0	0
2	C	2	Total Zn 2 2	0	0
2	D	4	Total Zn 4 4	0	0
2	E	4	Total Zn 4 4	0	0
2	F	2	Total Zn 2 2	0	0
2	G	2	Total Zn 2 2	0	0

- Molecule 3 is ACETATE ION (three-letter code: ACT) (formula: $C_2H_3O_2$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	B	1	Total C O 4 2 2	0	0
3	C	1	Total C O 4 2 2	0	0
3	D	1	Total C O 4 2 2	0	0
3	D	1	Total C O 4 2 2	0	0
3	D	1	Total C O 4 2 2	0	0
3	E	1	Total C O 4 2 2	0	0
3	E	1	Total C O 4 2 2	0	0
3	E	1	Total C O 4 2 2	0	0
3	G	1	Total C O 4 2 2	0	0
3	H	1	Total C O 4 2 2	0	0

- Molecule 4 is water.

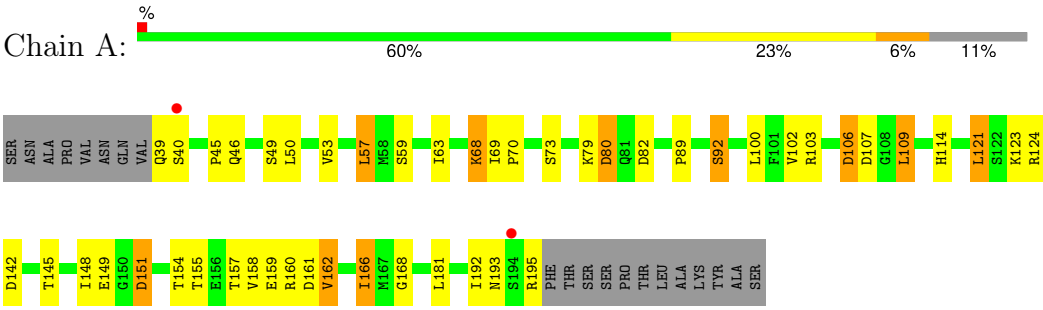
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	4	Total O 4 4	0	0
4	B	14	Total O 14 14	0	0
4	C	8	Total O 8 8	0	0
4	D	18	Total O 18 18	0	0
4	E	27	Total O 27 27	0	0
4	F	13	Total O 13 13	0	0
4	G	15	Total O 15 15	0	0
4	H	10	Total O 10 10	0	0

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. 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. 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.

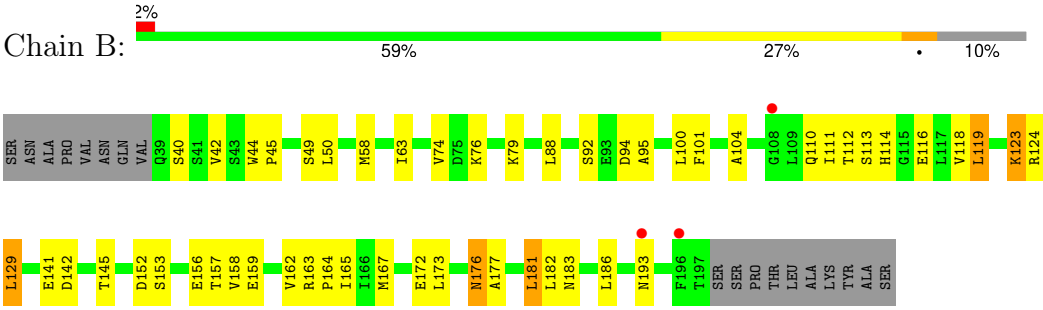
- Molecule 1: Putative arabinofuranosyltransferase

Chain A:



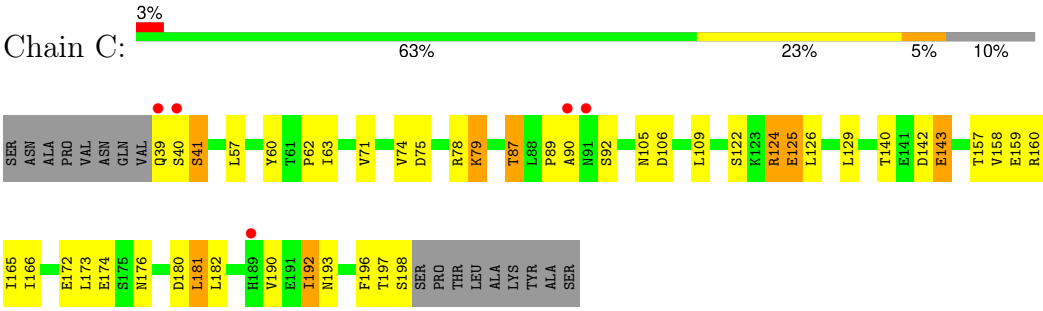
- Molecule 1: Putative arabinofuranosyltransferase

Chain B:



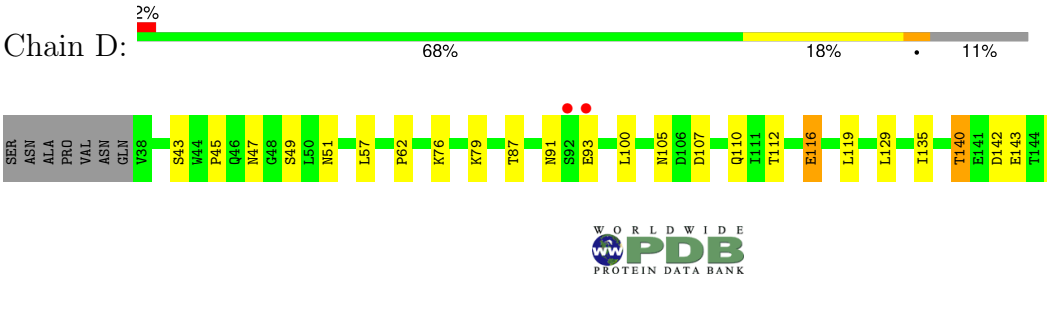
- Molecule 1: Putative arabinofuranosyltransferase

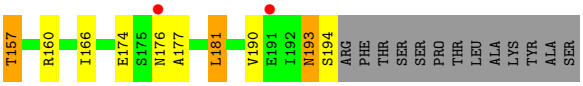
Chain C:



- Molecule 1: Putative arabinofuranosyltransferase

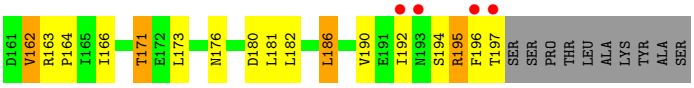
Chain D:





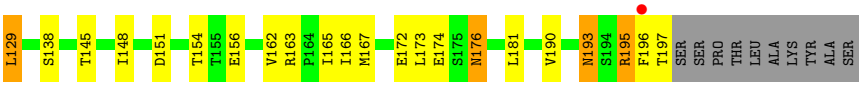
• Molecule 1: Putative arabinofuranosyltransferase

Chain E:



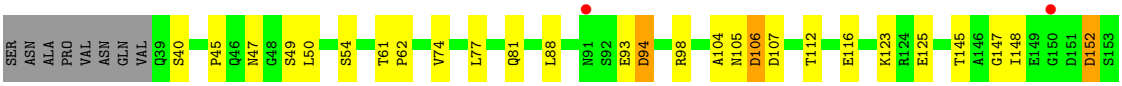
• Molecule 1: Putative arabinofuranosyltransferase

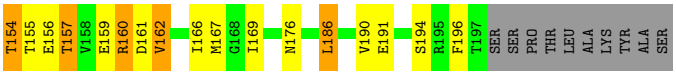
Chain F:



• Molecule 1: Putative arabinofuranosyltransferase

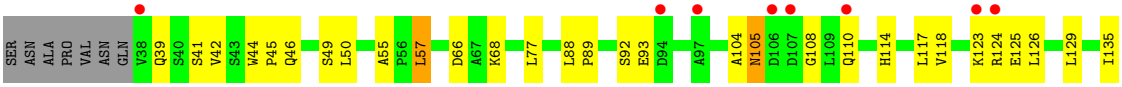
Chain G:

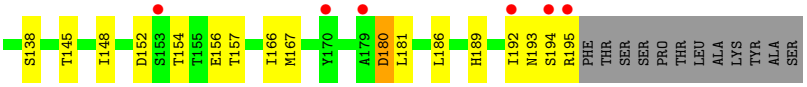




• Molecule 1: Putative arabinofuranosyltransferase

Chain H:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	83.89Å 80.62Å 115.83Å 90.00° 110.91° 90.00°	Depositor
Resolution (Å)	35.25 – 2.35 35.25 – 2.35	Depositor EDS
% Data completeness (in resolution range)	96.6 (35.25-2.35) 96.6 (35.25-2.35)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.36 (at 2.34Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.209 , 0.263 0.256 , 0.296	Depositor DCC
R_{free} test set	2938 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å^2)	44.1	Xtriage
Anisotropy	0.169	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 58.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.000 for h,-k,-h-l	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	9635	wwPDB-VP
Average B, all atoms (Å^2)	37.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 28.42 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.8472e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[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: ACT, ZN

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	0.65	0/1180	0.76	0/1604
1	B	0.68	0/1207	0.82	0/1640
1	C	0.69	0/1205	0.80	0/1638
1	D	0.82	1/1176 (0.1%)	0.88	0/1600
1	E	0.91	0/1199	0.92	2/1630 (0.1%)
1	F	0.72	0/1206	0.87	1/1640 (0.1%)
1	G	0.72	0/1199	0.82	1/1630 (0.1%)
1	H	0.68	2/1187 (0.2%)	0.78	2/1614 (0.1%)
All	All	0.74	3/9559 (0.0%)	0.83	6/12996 (0.0%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	H	125	GLU	CD-OE1	5.98	1.32	1.25
1	D	93	GLU	CG-CD	5.65	1.60	1.51
1	H	125	GLU	CD-OE2	5.35	1.31	1.25

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	180	ASP	CB-CG-OD1	-5.61	113.26	118.30
1	H	117	LEU	CA-CB-CG	5.45	127.84	115.30
1	F	83	LEU	CA-CB-CG	5.28	127.45	115.30
1	E	180	ASP	CB-CG-OD2	5.10	122.89	118.30
1	G	186	LEU	CA-CB-CG	5.09	127.02	115.30
1	H	180	ASP	CB-CG-OD2	-5.01	113.79	118.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1168	0	1145	23	0
1	B	1191	0	1170	33	0
1	C	1192	0	1166	30	0
1	D	1164	0	1141	27	0
1	E	1186	0	1161	48	0
1	F	1193	0	1170	50	0
1	G	1186	0	1161	22	0
1	H	1175	0	1154	20	0
2	A	2	0	0	0	0
2	B	3	0	0	0	0
2	C	2	0	0	0	0
2	D	4	0	0	0	0
2	E	4	0	0	0	0
2	F	2	0	0	0	0
2	G	2	0	0	0	0
3	A	4	0	3	0	0
3	B	12	0	9	0	0
3	C	4	0	3	0	0
3	D	12	0	9	0	0
3	E	12	0	9	0	0
3	G	4	0	3	0	0
3	H	4	0	3	0	0
4	A	4	0	0	0	0
4	B	14	0	0	0	0
4	C	8	0	0	0	0
4	D	18	0	0	0	0
4	E	27	0	0	0	0
4	F	13	0	0	0	0
4	G	15	0	0	0	0
4	H	10	0	0	0	0
All	All	9635	0	9307	223	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 12.

All (223) 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:E:196:PHE:HE1	1:F:196:PHE:CD2	1.54	1.25
1:G:145:THR:HG22	1:G:157:THR:HB	1.22	1.15
1:B:58[A]:MSE:HE2	1:B:167:MSE:HE3	1.16	1.14
1:B:58[A]:MSE:HE2	1:B:167:MSE:CE	1.78	1.13
1:E:84:ILE:O	1:E:171:THR:HG23	1.49	1.10
1:D:79:LYS:HE2	1:D:79:LYS:HA	1.31	1.10
1:E:196:PHE:CE1	1:F:196:PHE:CD2	2.46	1.04
1:E:196:PHE:CE1	1:F:196:PHE:HD2	1.76	1.03
1:E:182:LEU:HD21	1:F:45:PRO:HG2	1.49	0.94
1:D:135:ILE:HD13	1:D:148:ILE:HD13	1.51	0.93
1:F:176:ASN:HD22	1:F:176:ASN:H	1.14	0.92
1:F:176:ASN:H	1:F:176:ASN:ND2	1.64	0.91
1:B:88:LEU:HD21	1:B:165:ILE:HG22	1.52	0.90
1:H:148:ILE:HG12	1:H:154:THR:HG21	1.53	0.90
1:C:122:SER:OG	1:C:125:GLU:HB2	1.72	0.88
1:E:144:THR:HG23	1:E:162:VAL:HG23	1.52	0.88
1:E:196:PHE:HE1	1:F:196:PHE:HD2	0.93	0.87
1:G:62:PRO:HG3	1:G:166:ILE:HD12	1.56	0.86
1:E:84:ILE:O	1:E:171:THR:CG2	2.26	0.84
1:F:151:ASP:O	1:F:154:THR:HG22	1.77	0.84
1:B:58[A]:MSE:CE	1:B:167:MSE:HE3	2.07	0.81
1:H:195:ARG:HH11	1:H:195:ARG:HB3	1.48	0.77
1:A:103:ARG:O	1:A:109:LEU:HD23	1.87	0.75
1:D:62:PRO:HG3	1:D:166:ILE:HD12	1.65	0.75
1:F:76:LYS:O	1:F:174:GLU:HG2	1.88	0.74
1:C:62:PRO:HG3	1:C:166:ILE:HD13	1.70	0.74
1:H:105:ASN:N	1:H:105:ASN:HD22	1.86	0.74
1:G:148:ILE:H	1:G:154:THR:CG2	2.00	0.73
1:H:66:ASP:OD1	1:H:189:HIS:HB3	1.89	0.72
1:A:106:ASP:O	1:A:123:LYS:HG2	1.89	0.72
1:A:121:LEU:HB3	1:A:125:GLU:HB3	1.72	0.72
1:D:79:LYS:HA	1:D:79:LYS:CE	2.14	0.70
1:E:171:THR:HG21	1:E:173:LEU:HD12	1.73	0.69
1:C:39:GLN:HA	1:D:193:ASN:CB	2.23	0.69
1:C:39:GLN:HA	1:D:193:ASN:HB3	1.73	0.68
1:H:105:ASN:HD22	1:H:105:ASN:H	1.41	0.67
1:C:63:ILE:HD11	1:C:193:ASN:HB2	1.77	0.66
1:G:148:ILE:HB	1:G:154:THR:HG21	1.76	0.66
1:E:62:PRO:HA	1:F:196:PHE:CE1	2.32	0.65
1:E:62:PRO:HA	1:F:196:PHE:CZ	2.32	0.64
1:B:124:ARG:H	1:B:124:ARG:HD2	1.62	0.64
1:F:111:ILE:HG12	1:F:119:LEU:HB3	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:63:ILE:HD11	1:A:193:ASN:HB2	1.79	0.64
1:A:151:ASP:O	1:A:154:THR:HG22	1.99	0.63
1:A:57:LEU:HD22	1:A:59:SER:O	1.98	0.63
1:E:61:THR:HB	1:F:195:ARG:HA	1.81	0.63
1:C:162:VAL:CG1	1:C:162:VAL:O	2.47	0.62
1:F:162:VAL:HG12	1:F:162:VAL:O	2.01	0.61
1:B:124:ARG:HD2	1:B:124:ARG:N	2.15	0.61
1:G:62:PRO:HG3	1:G:166:ILE:CD1	2.29	0.61
1:B:45:PRO:HB3	1:B:49:SER:O	2.01	0.61
1:C:78:ARG:HG3	1:C:172:GLU:O	2.01	0.60
1:C:60:TYR:CE2	1:C:192:ILE:HD12	2.37	0.60
1:G:147:GLY:HA3	1:G:155:THR:HG22	1.84	0.59
1:C:89:PRO:HG2	1:C:92:SER:HB3	1.85	0.59
1:C:182:LEU:HD21	1:D:45:PRO:HG2	1.82	0.59
1:C:162:VAL:O	1:C:162:VAL:HG13	2.04	0.58
1:C:87:THR:CG2	1:C:165:ILE:O	2.51	0.58
1:G:116:GLU:OE2	1:G:160:ARG:NH2	2.36	0.58
1:C:122:SER:HG	1:C:125:GLU:HB2	1.68	0.58
1:E:144:THR:CG2	1:E:162:VAL:HG23	2.30	0.57
1:C:140:THR:HG22	1:C:142:ASP:H	1.70	0.57
1:D:135:ILE:HD13	1:D:148:ILE:CD1	2.32	0.57
1:D:135:ILE:CD1	1:D:148:ILE:HD13	2.31	0.57
1:E:190:VAL:HG12	1:E:192:ILE:CD1	2.35	0.57
1:A:57:LEU:CD2	1:A:59:SER:O	2.53	0.56
1:F:162:VAL:O	1:F:162:VAL:CG1	2.53	0.56
1:F:43:SER:O	1:F:46:GLN:NE2	2.35	0.56
1:F:148:ILE:HB	1:F:154:THR:HG21	1.86	0.56
1:E:192:ILE:HA	1:F:196:PHE:CE1	2.40	0.56
1:A:148:ILE:HB	1:A:154:THR:HG21	1.87	0.56
1:G:94:ASP:O	1:G:98:ARG:HG3	2.05	0.56
1:B:58[A]:MSE:HE2	1:B:167:MSE:HE1	1.77	0.56
1:E:190:VAL:CG1	1:E:192:ILE:HD11	2.35	0.56
1:E:171:THR:HG21	1:E:173:LEU:CD1	2.36	0.55
1:F:176:ASN:HD22	1:F:176:ASN:N	1.94	0.55
1:E:182:LEU:CD2	1:F:45:PRO:HG2	2.29	0.55
1:C:143:GLU:HB2	1:C:158:VAL:O	2.07	0.55
1:E:192:ILE:HG23	1:F:196:PHE:CZ	2.42	0.55
1:F:87:THR:HG23	1:F:166:ILE:HG13	1.88	0.55
1:D:177:ALA:HB1	1:D:181:LEU:HD22	1.89	0.54
1:F:87:THR:CG2	1:F:165:ILE:O	2.56	0.54
1:F:44:TRP:HZ2	1:F:50:LEU:O	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:58[A]:MSE:CE	1:B:167:MSE:CE	2.70	0.54
1:F:102:VAL:HG13	1:F:111:ILE:CD1	2.38	0.54
1:G:88:LEU:HD23	1:G:167:MSE:HG3	1.90	0.53
1:A:141:GLU:O	1:A:161:ASP:HB2	2.08	0.53
1:E:68:LYS:O	1:E:186:LEU:HA	2.08	0.53
1:A:89:PRO:O	1:A:92:SER:HB2	2.07	0.53
1:G:191:GLU:OE2	1:H:41:SER:HB3	2.07	0.53
1:F:102:VAL:HG13	1:F:111:ILE:HD12	1.90	0.53
1:G:116:GLU:HG3	1:G:162:VAL:HG11	1.90	0.53
1:B:183:ASN:HD21	1:D:47:ASN:ND2	2.06	0.53
1:H:105:ASN:N	1:H:105:ASN:ND2	2.55	0.52
1:B:119:LEU:HD23	1:B:156:GLU:HG3	1.90	0.52
1:F:87:THR:HG23	1:F:166:ILE:HA	1.92	0.52
1:D:140:THR:HG22	1:D:143:GLU:H	1.75	0.52
1:A:46:GLN:HG3	1:A:53:VAL:HG11	1.92	0.52
1:E:181:LEU:HD12	1:F:50:LEU:HD21	1.91	0.52
1:D:51:ASN:N	1:D:51:ASN:HD22	2.06	0.52
1:G:45:PRO:HB3	1:G:49:SER:O	2.11	0.51
1:G:148:ILE:H	1:G:154:THR:HG21	1.74	0.51
1:E:190:VAL:HG12	1:E:192:ILE:HD11	1.92	0.51
1:G:148:ILE:CB	1:G:154:THR:HG21	2.41	0.51
1:G:116:GLU:HG3	1:G:162:VAL:CG1	2.41	0.51
1:D:76:LYS:O	1:D:174:GLU:HG3	2.10	0.51
1:E:63:ILE:H	1:F:196:PHE:HE1	1.60	0.50
1:D:145:THR:HG22	1:D:157:THR:HB	1.93	0.50
1:E:158:VAL:HG12	1:E:160:ARG:HG2	1.94	0.50
1:G:169:ILE:HG21	1:H:44:TRP:CD2	2.47	0.50
1:A:45:PRO:HG2	1:B:182:LEU:HD21	1.93	0.50
1:E:62:PRO:O	1:E:163:ARG:NH1	2.38	0.50
1:E:144:THR:HG23	1:E:162:VAL:CG2	2.34	0.50
1:F:148:ILE:H	1:F:154:THR:CG2	2.25	0.50
1:E:57:LEU:HD22	1:E:59:SER:O	2.11	0.49
1:H:88:LEU:HD23	1:H:167:MSE:HG2	1.94	0.49
1:D:87:THR:HB	1:D:166:ILE:HG12	1.92	0.49
1:E:171:THR:CG2	1:E:173:LEU:HG	2.43	0.49
1:B:126:LEU:HA	1:B:129:LEU:HD22	1.94	0.49
1:E:63:ILE:HG12	1:F:196:PHE:CE1	2.47	0.49
1:E:195:ARG:HB3	1:E:195:ARG:HH11	1.77	0.49
1:B:74:VAL:HG13	1:B:104:ALA:HB1	1.95	0.49
1:F:62:PRO:HG3	1:F:166:ILE:HD12	1.95	0.49
1:E:62:PRO:HD3	1:E:166:ILE:HG13	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:68:LYS:HE3	1:A:149:GLU:OE2	2.13	0.48
1:F:126:LEU:HA	1:F:129:LEU:HD22	1.95	0.48
1:B:125:GLU:HA	1:B:128:GLN:HE22	1.79	0.48
1:E:60:TYR:CE2	1:E:192:ILE:HD12	2.48	0.47
1:B:76:LYS:HD2	1:B:177:ALA:HB2	1.96	0.47
1:D:140:THR:HG23	1:D:142:ASP:H	1.80	0.47
1:F:78:ARG:HB2	1:F:172:GLU:O	2.14	0.47
1:F:45:PRO:HB3	1:F:49:SER:O	2.15	0.47
1:G:74:VAL:HG13	1:G:104:ALA:HB1	1.95	0.47
1:C:140:THR:HG22	1:C:142:ASP:N	2.29	0.47
1:H:45:PRO:HB3	1:H:49:SER:O	2.13	0.47
1:B:63:ILE:HD11	1:B:193:ASN:HB2	1.96	0.47
1:B:76:LYS:HD2	1:B:177:ALA:CB	2.45	0.47
1:C:196:PHE:CD1	1:D:193:ASN:ND2	2.83	0.47
1:H:89:PRO:HG2	1:H:92:SER:HB2	1.95	0.47
1:A:100:LEU:C	1:A:100:LEU:HD23	2.35	0.47
1:C:39:GLN:HA	1:D:193:ASN:HB2	1.96	0.47
1:B:124:ARG:O	1:B:128:GLN:NE2	2.48	0.46
1:G:196:PHE:CD1	1:H:193:ASN:HB3	2.50	0.46
1:B:124:ARG:H	1:B:124:ARG:CD	2.27	0.46
1:E:87:THR:HB	1:E:166:ILE:HD13	1.96	0.46
1:G:106:ASP:OD1	1:G:106:ASP:N	2.49	0.46
1:B:176:ASN:OD1	1:B:176:ASN:N	2.45	0.46
1:C:71:VAL:O	1:C:74:VAL:HG13	2.15	0.46
1:E:171:THR:HG22	1:E:173:LEU:HG	1.98	0.46
1:E:63:ILE:HG12	1:F:196:PHE:CD1	2.50	0.46
1:E:86:GLY:HA2	1:E:100:LEU:O	2.16	0.46
1:D:135:ILE:CD1	1:D:148:ILE:CD1	2.93	0.46
1:B:141:GLU:HB3	1:B:163:ARG:CZ	2.46	0.45
1:A:69:ILE:HA	1:A:70:PRO:HD2	1.80	0.45
1:D:116:GLU:CD	1:D:160:ARG:HH22	2.20	0.45
1:C:164:PRO:HG2	1:C:166:ILE:HD11	1.98	0.45
1:E:42:VAL:HG21	1:E:55:ALA:HB1	1.99	0.45
1:D:45:PRO:HB3	1:D:49:SER:O	2.16	0.45
1:D:105:ASN:OD1	1:D:107:ASP:HB2	2.16	0.45
1:C:62:PRO:HG3	1:C:166:ILE:CD1	2.42	0.45
1:H:195:ARG:HH11	1:H:195:ARG:CB	2.26	0.44
1:B:100:LEU:HA	1:B:112:THR:O	2.16	0.44
1:E:88:LEU:HD22	1:E:99:GLY:CA	2.47	0.44
1:E:171:THR:HG21	1:E:173:LEU:CG	2.47	0.44
1:B:100:LEU:HB2	1:B:164:PRO:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:44:TRP:CG	1:E:45:PRO:HA	2.52	0.44
1:A:160:ARG:HG2	1:A:161:ASP:N	2.31	0.44
1:E:190:VAL:HG11	1:E:192:ILE:HD11	1.99	0.44
1:E:194:SER:HB3	1:F:57:LEU:HD21	2.00	0.44
1:F:87:THR:CG2	1:F:166:ILE:HG13	2.48	0.44
1:C:87:THR:HG23	1:C:165:ILE:O	2.17	0.43
1:F:138:SER:HB3	1:F:145:THR:HG22	2.00	0.43
1:H:42:VAL:HG21	1:H:55:ALA:HB1	2.00	0.43
1:A:102:VAL:HG12	1:A:109:LEU:HD21	1.99	0.43
1:G:152:ASP:OD2	1:G:152:ASP:N	2.50	0.43
1:F:176:ASN:ND2	1:F:176:ASN:N	2.44	0.43
1:D:62:PRO:HG3	1:D:166:ILE:CD1	2.43	0.42
1:F:59:SER:HB3	1:F:167:MSE:HG2	2.01	0.42
1:B:123:LYS:HG3	1:B:124:ARG:HH21	1.84	0.42
1:F:116:GLU:HG3	1:F:162:VAL:HG22	2.01	0.42
1:A:162:VAL:HG13	1:A:162:VAL:O	2.20	0.42
1:E:100:LEU:HB2	1:E:164:PRO:HB3	2.01	0.42
1:C:176:ASN:ND2	1:C:176:ASN:H	2.17	0.42
1:H:138:SER:HB3	1:H:145:THR:HG22	2.00	0.42
1:A:166:ILE:HD12	1:A:168:GLY:N	2.34	0.42
1:A:82:ASP:O	1:A:103:ARG:HA	2.20	0.42
1:D:107:ASP:HB3	1:D:110:GLN:NE2	2.34	0.42
1:C:174:GLU:HB3	1:C:176:ASN:HD21	1.84	0.42
1:D:100:LEU:HA	1:D:112:THR:O	2.20	0.42
1:E:125:GLU:H	1:E:125:GLU:HG2	1.74	0.42
1:F:63:ILE:HD11	1:F:193:ASN:CB	2.50	0.42
1:B:92:SER:HB2	1:B:95:ALA:HB2	2.01	0.41
1:E:82:ASP:OD1	1:E:103:ARG:NH1	2.53	0.41
1:C:181:LEU:HD12	1:C:181:LEU:HA	1.85	0.41
1:B:116:GLU:HG2	1:B:158:VAL:HG11	2.02	0.41
1:G:194:SER:HB3	1:H:57:LEU:HD21	2.01	0.41
1:H:89:PRO:HD3	1:H:167:MSE:HG3	2.02	0.41
1:C:40:SER:HB2	1:C:41:SER:H	1.69	0.41
1:F:53:VAL:O	1:F:53:VAL:HG23	2.19	0.41
1:A:145:THR:HG22	1:A:157:THR:OG1	2.21	0.41
1:C:79:LYS:H	1:C:79:LYS:HD3	1.85	0.41
1:E:63:ILE:N	1:F:196:PHE:CE1	2.87	0.41
1:F:77:LEU:CD1	1:F:84:ILE:HG13	2.51	0.41
1:B:44:TRP:CG	1:B:45:PRO:HA	2.56	0.41
1:B:100:LEU:HD12	1:B:113:SER:HB3	2.02	0.41
1:B:123:LYS:CG	1:B:124:ARG:NH2	2.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:124:ARG:H	1:C:124:ARG:HG3	1.65	0.41
1:H:195:ARG:HB3	1:H:195:ARG:NH1	2.25	0.41
1:E:45:PRO:HB3	1:E:49:SER:O	2.20	0.41
1:E:196:PHE:O	1:F:163:ARG:NH1	2.43	0.41
1:G:160:ARG:HB2	1:G:161:ASP:H	1.73	0.41
1:C:158:VAL:O	1:C:158:VAL:HG23	2.20	0.41
1:F:63:ILE:HD11	1:F:193:ASN:HB2	2.03	0.40
1:F:148:ILE:H	1:F:154:THR:HG23	1.86	0.40
1:A:45:PRO:HB3	1:A:49:SER:O	2.22	0.40
1:B:101:PHE:O	1:B:111:ILE:HA	2.21	0.40
1:B:181:LEU:HD12	1:B:181:LEU:HA	1.80	0.40
1:C:57:LEU:HB2	1:D:57:LEU:HB3	2.04	0.40
1:F:44:TRP:CD1	1:F:45:PRO:HA	2.56	0.40
1:B:159:GLU:HG3	1:B:159:GLU:O	2.21	0.40
1:H:104:ALA:HA	1:H:108:GLY:O	2.22	0.40
1:A:82:ASP:OD2	1:A:103:ARG:HD3	2.22	0.40
1:H:126:LEU:HD12	1:H:129:LEU:HD12	2.03	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	155/177 (88%)	147 (95%)	7 (4%)	1 (1%)	22 24
1	B	158/177 (89%)	152 (96%)	6 (4%)	0	100 100
1	C	158/177 (89%)	149 (94%)	7 (4%)	2 (1%)	10 8
1	D	155/177 (88%)	147 (95%)	7 (4%)	1 (1%)	22 24
1	E	157/177 (89%)	153 (98%)	3 (2%)	1 (1%)	22 24
1	F	158/177 (89%)	147 (93%)	9 (6%)	2 (1%)	10 8
1	G	157/177 (89%)	145 (92%)	11 (7%)	1 (1%)	22 24

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	H	156/177 (88%)	149 (96%)	6 (4%)	1 (1%)	22 24
All	All	1254/1416 (89%)	1189 (95%)	56 (4%)	9 (1%)	19 20

All (9) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	80	ASP
1	G	93	GLU
1	C	90	ALA
1	D	176	ASN
1	F	92	SER
1	C	159	GLU
1	F	94	ASP
1	E	91	ASN
1	H	118	VAL

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	129/144 (90%)	102 (79%)	27 (21%)	1 0
1	B	132/144 (92%)	108 (82%)	24 (18%)	1 1
1	C	132/144 (92%)	111 (84%)	21 (16%)	2 1
1	D	129/144 (90%)	118 (92%)	11 (8%)	8 8
1	E	131/144 (91%)	116 (88%)	15 (12%)	4 4
1	F	132/144 (92%)	111 (84%)	21 (16%)	2 1
1	G	131/144 (91%)	107 (82%)	24 (18%)	1 1
1	H	130/144 (90%)	108 (83%)	22 (17%)	1 1
All	All	1046/1152 (91%)	881 (84%)	165 (16%)	2 2

All (165) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	39	GLN
1	A	40	SER
1	A	50	LEU
1	A	57	LEU
1	A	68	LYS
1	A	73	SER
1	A	79	LYS
1	A	80	ASP
1	A	92	SER
1	A	106	ASP
1	A	107	ASP
1	A	109	LEU
1	A	114	HIS
1	A	121	LEU
1	A	124	ARG
1	A	125	GLU
1	A	140	THR
1	A	142	ASP
1	A	151	ASP
1	A	155	THR
1	A	158	VAL
1	A	159	GLU
1	A	162	VAL
1	A	166	ILE
1	A	181	LEU
1	A	192	ILE
1	A	195	ARG
1	B	40	SER
1	B	42	VAL
1	B	50	LEU
1	B	79	LYS
1	B	94	ASP
1	B	110	GLN
1	B	114	HIS
1	B	118	VAL
1	B	119	LEU
1	B	123	LYS
1	B	126	LEU
1	B	128	GLN
1	B	129	LEU
1	B	142	ASP
1	B	145	THR
1	B	152	ASP

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Mol	Chain	Res	Type
1	B	153	SER
1	B	157	THR
1	B	162	VAL
1	B	172	GLU
1	B	173	LEU
1	B	176	ASN
1	B	181	LEU
1	B	186	LEU
1	C	41	SER
1	C	75	ASP
1	C	79	LYS
1	C	87	THR
1	C	105	ASN
1	C	106	ASP
1	C	109	LEU
1	C	124	ARG
1	C	125	GLU
1	C	126	LEU
1	C	129	LEU
1	C	143	GLU
1	C	157	THR
1	C	160	ARG
1	C	173	LEU
1	C	180	ASP
1	C	181	LEU
1	C	190	VAL
1	C	192	ILE
1	C	197	THR
1	C	198	SER
1	D	43	SER
1	D	91	ASN
1	D	116	GLU
1	D	119	LEU
1	D	129	LEU
1	D	140	THR
1	D	157	THR
1	D	181	LEU
1	D	190	VAL
1	D	193	ASN
1	D	194	SER
1	E	57	LEU
1	E	64	SER

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Mol	Chain	Res	Type
1	E	75	ASP
1	E	88	LEU
1	E	92	SER
1	E	125	GLU
1	E	128	GLN
1	E	144	THR
1	E	155	THR
1	E	162	VAL
1	E	171	THR
1	E	176	ASN
1	E	186	LEU
1	E	195	ARG
1	E	197	THR
1	F	40	SER
1	F	43	SER
1	F	57	LEU
1	F	77	LEU
1	F	83	LEU
1	F	87	THR
1	F	106	ASP
1	F	112	THR
1	F	118	VAL
1	F	121	LEU
1	F	124	ARG
1	F	128	GLN
1	F	129	LEU
1	F	156	GLU
1	F	173	LEU
1	F	176	ASN
1	F	181	LEU
1	F	190	VAL
1	F	193	ASN
1	F	195	ARG
1	F	197	THR
1	G	40	SER
1	G	47	ASN
1	G	50	LEU
1	G	54	SER
1	G	61	THR
1	G	77	LEU
1	G	81	GLN
1	G	94	ASP

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Mol	Chain	Res	Type
1	G	105	ASN
1	G	106	ASP
1	G	107	ASP
1	G	112	THR
1	G	123	LYS
1	G	125	GLU
1	G	152	ASP
1	G	154	THR
1	G	156	GLU
1	G	157	THR
1	G	159	GLU
1	G	160	ARG
1	G	162	VAL
1	G	176	ASN
1	G	186	LEU
1	G	190	VAL
1	H	39	GLN
1	H	46	GLN
1	H	50	LEU
1	H	57	LEU
1	H	68	LYS
1	H	77	LEU
1	H	93	GLU
1	H	105	ASN
1	H	110	GLN
1	H	114	HIS
1	H	123	LYS
1	H	124	ARG
1	H	135	ILE
1	H	152	ASP
1	H	156	GLU
1	H	157	THR
1	H	166	ILE
1	H	180	ASP
1	H	181	LEU
1	H	186	LEU
1	H	192	ILE
1	H	194	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (29) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	128	GLN
1	B	51	ASN
1	B	110	GLN
1	B	128	GLN
1	C	176	ASN
1	C	193	ASN
1	D	47	ASN
1	D	51	ASN
1	D	91	ASN
1	D	193	ASN
1	E	46	GLN
1	E	51	ASN
1	E	110	GLN
1	E	176	ASN
1	E	193	ASN
1	F	39	GLN
1	F	51	ASN
1	F	91	ASN
1	F	128	GLN
1	F	176	ASN
1	G	47	ASN
1	G	81	GLN
1	G	176	ASN
1	H	39	GLN
1	H	81	GLN
1	H	105	ASN
1	H	110	GLN
1	H	128	GLN
1	H	189	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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 32 ligands modelled in this entry, 19 are monoatomic - leaving 13 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	ACT	E	14	-	3,3,3	0.77	0	3,3,3	1.68	2 (66%)
3	ACT	B	13	-	3,3,3	0.77	0	3,3,3	1.39	0
3	ACT	E	5	-	3,3,3	0.75	0	3,3,3	1.63	1 (33%)
3	ACT	A	12	-	3,3,3	0.84	0	3,3,3	1.37	0
3	ACT	D	8	-	3,3,3	0.94	0	3,3,3	1.62	1 (33%)
3	ACT	C	6	-	3,3,3	0.89	0	3,3,3	1.41	0
3	ACT	H	10	-	3,3,3	0.94	0	3,3,3	1.15	0
3	ACT	B	1	-	3,3,3	0.86	0	3,3,3	1.23	0
3	ACT	G	3	-	3,3,3	0.77	0	3,3,3	1.58	0
3	ACT	D	11	-	3,3,3	0.93	0	3,3,3	1.38	0
3	ACT	D	2	-	3,3,3	0.84	0	3,3,3	1.39	0
3	ACT	B	9	-	3,3,3	0.83	0	3,3,3	1.35	0
3	ACT	E	4	-	3,3,3	0.86	0	3,3,3	1.73	2 (66%)

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	D	8	ACT	OXT-C-O	-2.18	113.95	122.03
3	E	4	ACT	OXT-C-O	-2.17	113.99	122.03
3	E	14	ACT	OXT-C-CH3	2.09	123.81	115.05
3	E	5	ACT	OXT-C-CH3	2.08	123.77	115.05
3	E	4	ACT	OXT-C-CH3	2.08	123.77	115.05
3	E	14	ACT	OXT-C-O	-2.03	114.51	122.03

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

Warning: The R factor obtained from EDS is 0.2782, which does not match the depositor's R factor of 0.20888. Please interpret the results in this section carefully.

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	155/177 (87%)	0.30	2 (1%)	74	79	27, 36, 48, 61	0
1	B	157/177 (88%)	0.39	3 (1%)	66	71	26, 37, 47, 54	0
1	C	158/177 (89%)	0.58	5 (3%)	50	57	28, 37, 47, 60	0
1	D	155/177 (87%)	0.34	4 (2%)	57	63	28, 35, 45, 60	0
1	E	157/177 (88%)	0.42	6 (3%)	44	51	28, 37, 48, 57	0
1	F	158/177 (89%)	0.34	3 (1%)	66	71	29, 37, 46, 64	0
1	G	157/177 (88%)	0.62	2 (1%)	74	79	26, 37, 47, 52	0
1	H	156/177 (88%)	0.83	14 (8%)	17	19	28, 37, 49, 64	0
All	All	1253/1416 (88%)	0.48	39 (3%)	51	57	26, 37, 48, 64	0

All (39) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	197	THR	4.9
1	H	107	ASP	3.8
1	H	97	ALA	3.7
1	B	193	ASN	3.6
1	H	38	VAL	3.5
1	H	106	ASP	3.3
1	B	108	GLY	3.3
1	H	110	GLN	3.2
1	H	194	SER	3.0
1	E	91	ASN	2.9
1	E	196	PHE	2.9
1	E	192	ILE	2.9
1	F	196	PHE	2.8

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Mol	Chain	Res	Type	RSRZ
1	C	90	ALA	2.8
1	D	93	GLU	2.7
1	H	179	ALA	2.7
1	H	192	ILE	2.5
1	H	94	ASP	2.5
1	D	176	ASN	2.5
1	H	123	LYS	2.4
1	H	124	ARG	2.3
1	B	196	PHE	2.3
1	E	193	ASN	2.2
1	E	90	ALA	2.2
1	C	40	SER	2.2
1	D	191	GLU	2.2
1	F	38	VAL	2.2
1	H	153	SER	2.2
1	G	91	ASN	2.2
1	H	195	ARG	2.2
1	C	91	ASN	2.1
1	A	40	SER	2.1
1	G	150	GLY	2.1
1	H	170	TYR	2.1
1	C	39	GLN	2.1
1	F	94	ASP	2.0
1	A	194	SER	2.0
1	D	92	SER	2.0
1	C	189	HIS	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 monosaccharides in this entry.

6.4 Ligands (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	ACT	E	4	4/4	0.62	0.20	60,60,60,61	0
3	ACT	G	3	4/4	0.67	0.19	68,68,68,69	0
3	ACT	E	5	4/4	0.70	0.21	71,72,72,72	0
3	ACT	D	11	4/4	0.72	0.24	64,64,65,65	0
3	ACT	C	6	4/4	0.76	0.23	68,68,68,68	0
3	ACT	D	2	4/4	0.76	0.15	50,50,51,51	0
3	ACT	B	1	4/4	0.76	0.20	72,73,73,73	0
3	ACT	E	14	4/4	0.77	0.18	60,61,61,62	0
3	ACT	B	9	4/4	0.79	0.20	72,72,72,73	0
3	ACT	A	12	4/4	0.80	0.21	58,58,59,59	0
3	ACT	H	10	4/4	0.81	0.17	52,53,53,53	0
3	ACT	D	8	4/4	0.85	0.20	51,51,51,51	0
2	ZN	D	18	1/1	0.86	0.15	61,61,61,61	1
3	ACT	B	13	4/4	0.88	0.15	64,65,65,65	0
2	ZN	F	11	1/1	0.91	0.17	48,48,48,48	1
2	ZN	C	16	1/1	0.92	0.14	68,68,68,68	1
2	ZN	B	15	1/1	0.92	0.19	71,71,71,71	0
2	ZN	B	8	1/1	0.95	0.15	65,65,65,65	0
2	ZN	G	12	1/1	0.95	0.15	57,57,57,57	1
2	ZN	E	10	1/1	0.95	0.18	53,53,53,53	0
2	ZN	D	13	1/1	0.96	0.16	65,65,65,65	0
2	ZN	D	17	1/1	0.96	0.12	59,59,59,59	1
2	ZN	E	19	1/1	0.96	0.20	44,44,44,44	1
2	ZN	E	9	1/1	0.97	0.16	45,45,45,45	1
2	ZN	A	14	1/1	0.97	0.16	61,61,61,61	1
2	ZN	G	5	1/1	0.98	0.17	35,35,35,35	0
2	ZN	C	2	1/1	0.99	0.17	32,32,32,32	0
2	ZN	F	4	1/1	0.99	0.21	35,35,35,35	0
2	ZN	A	7	1/1	0.99	0.18	42,42,42,42	0
2	ZN	E	3	1/1	0.99	0.18	27,27,27,27	0
2	ZN	D	1	1/1	0.99	0.17	29,29,29,29	0
2	ZN	B	6	1/1	0.99	0.18	34,34,34,34	0

6.5 Other polymers (i)

There are no such residues in this entry.