Full wwPDB X-ray Structure Validation Report ⓘ

Jun 17, 2024 – 05:44 AM EDT

PDB ID	:	3B5H
Title	:	Crystal structure of the extracellular portion of HAb18G/CD147
Authors	:	Yu, X.-L.; Chen, Z.-N.
Deposited on	:	2007-10-26
Resolution	:	2.80 Å(reported)

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

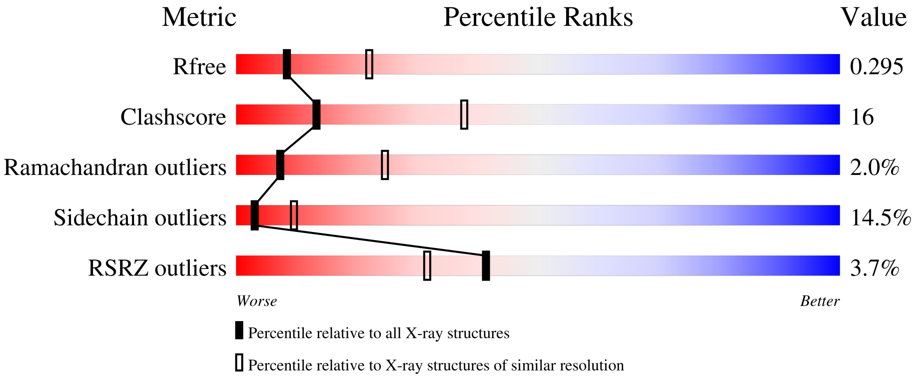
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

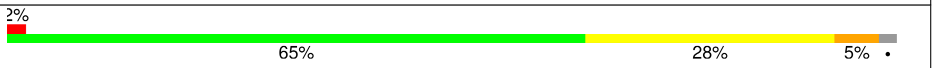
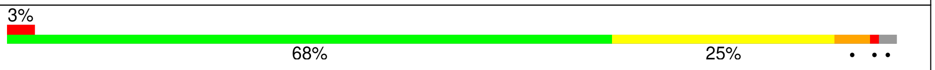
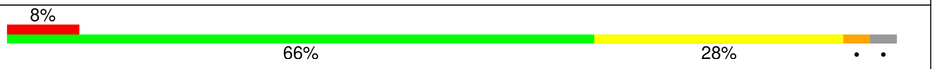
The reported resolution of this entry is 2.80 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3140 (2.80-2.80)
Clashscore	141614	3569 (2.80-2.80)
Ramachandran outliers	138981	3498 (2.80-2.80)
Sidechain outliers	138945	3500 (2.80-2.80)
RSRZ outliers	127900	3078 (2.80-2.80)

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	184	
1	B	184	
1	C	184	
1	D	184	

2 Entry composition ⓘ

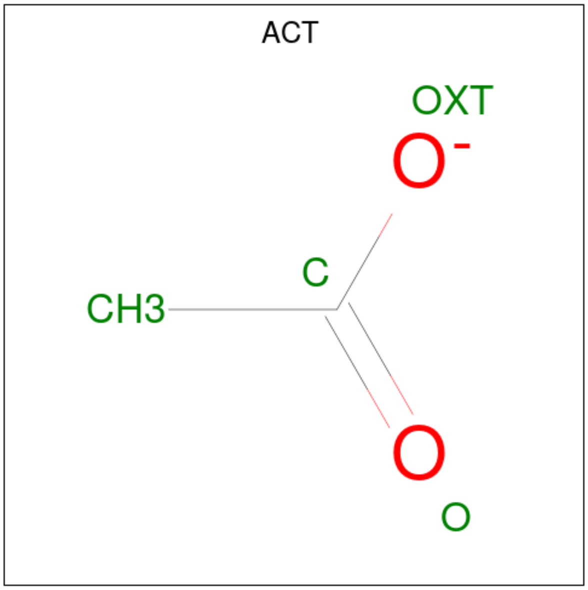
There are 3 unique types of molecules in this entry. The entry contains 5561 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Cervical EMMPRIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	181	Total 1389	C 862	N 238	O 281	S 8	0	0	0
1	B	181	Total 1389	C 862	N 238	O 281	S 8	0	0	0
1	C	180	Total 1378	C 856	N 234	O 280	S 8	0	0	0
1	D	179	Total 1371	C 851	N 233	O 279	S 8	0	0	0

- Molecule 2 is ACETATE ION (three-letter code: ACT) (formula: $C_2H_3O_2$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	D	1	Total 4	C 2	O 2	0	0

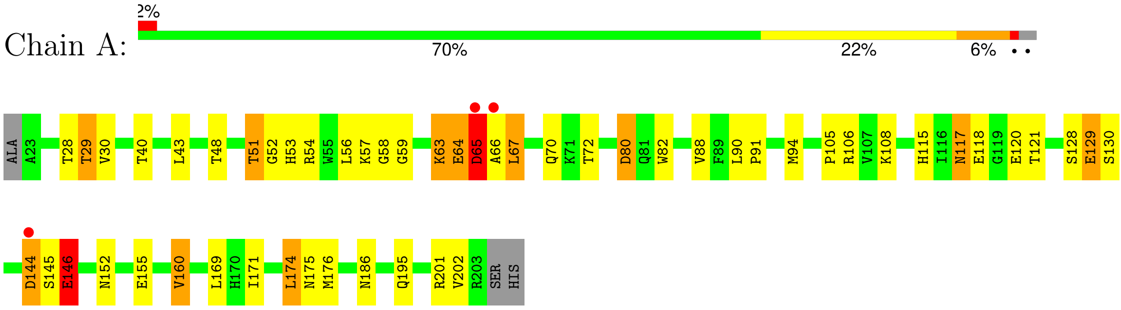
- Molecule 3 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	5	Total O 5 5	0	0
3	B	9	Total O 9 9	0	0
3	C	9	Total O 9 9	0	0
3	D	7	Total O 7 7	0	0

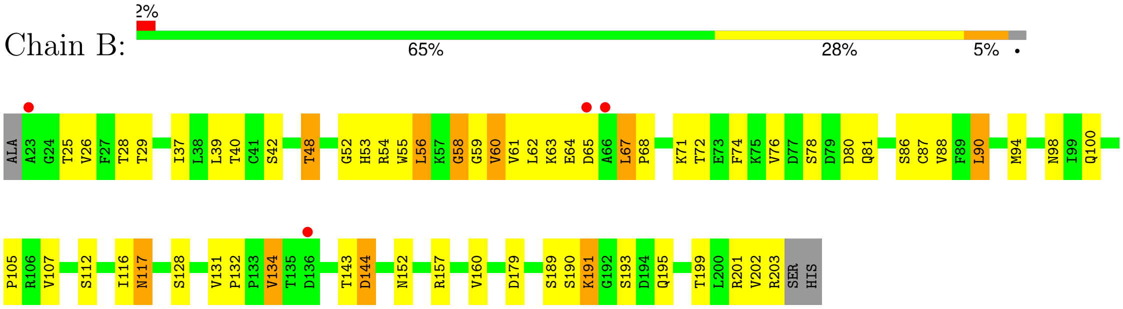
3 Residue-property plots ⓘ

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.

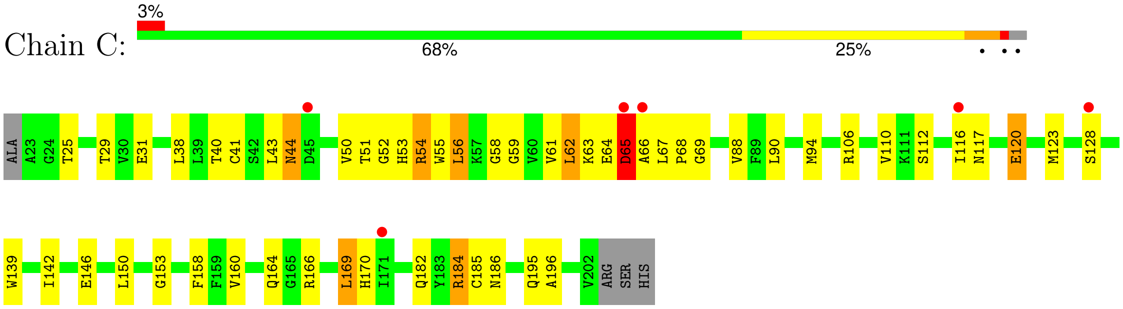
- Molecule 1: Cervical EMMPRIN



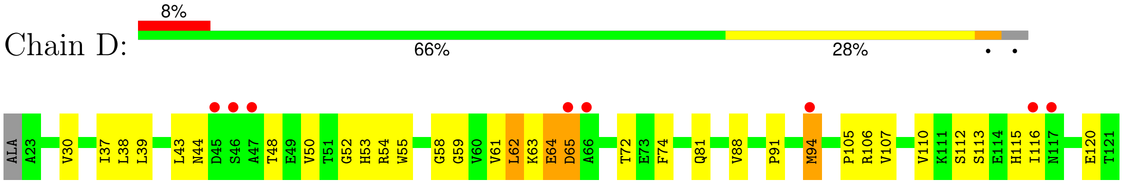
- Molecule 1: Cervical EMMPRIN

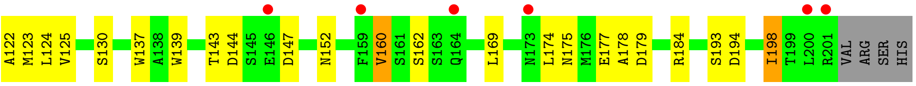


- Molecule 1: Cervical EMMPRIN



- Molecule 1: Cervical EMMPRIN




A122
M123
L124
V125
S130
W137
A138
W139
T143
D144
S145
E146
D147
N152
F159
V160
S161
S162
S163
Q164
L169
N173
L174
N175
M176
E177
A178
D179
R184
S193
D194
I198
T199
L200
R201
VAL
ARG
SER
HIS

4 Data and refinement statistics ⓘ

Property	**Value**	**Source**
Space group	P 41 21 2	Depositor
Cell constants a, b, c, α, β, γ	126.48Å 126.48Å 169.93Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	39.60 – 2.80 42.16 – 2.80	Depositor EDS
% Data completeness (in resolution range)	98.8 (39.60-2.80) 98.9 (42.16-2.80)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.12 (at 2.81Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.243 , 0.294 0.249 , 0.295	Depositor DCC
R_{free} test set	1728 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å^2)	78.6	Xtriage
Anisotropy	0.075	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.28 , 71.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	5561	wwPDB-VP
Average B, all atoms (Å^2)	46.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.52% 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: ACT

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	0.53	0/1416	0.65	0/1918
1	B	0.55	1/1416 (0.1%)	0.67	1/1918 (0.1%)
1	C	0.58	1/1405 (0.1%)	0.69	1/1904 (0.1%)
1	D	0.48	0/1398	0.61	0/1894
All	All	0.54	2/5635 (0.0%)	0.66	2/7634 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	87	CYS	CB-SG	-8.95	1.67	1.82
1	C	41	CYS	CB-SG	-6.51	1.71	1.82

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	87	CYS	CA-CB-SG	-5.38	104.31	114.00
1	C	56	LEU	CA-CB-CG	5.38	127.69	115.30

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	1389	0	1343	53	0
1	B	1389	0	1343	44	0
1	C	1378	0	1330	37	0
1	D	1371	0	1321	44	0
2	D	4	0	3	0	0
3	A	5	0	0	5	0
3	B	9	0	0	3	0
3	C	9	0	0	7	0
3	D	7	0	0	5	0
All	All	5561	0	5340	176	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 (176) 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:D:62:LEU:HD12	1:D:63:LYS:N	1.49	1.25
1:D:59:GLY:HA2	3:D:1007:HOH:O	1.39	1.21
1:D:58:GLY:HA3	3:D:1008:HOH:O	1.44	1.15
1:C:62:LEU:HD11	3:C:213:HOH:O	1.47	1.14
1:A:29:THR:HG22	1:A:40:THR:HB	1.13	1.12
1:A:52:GLY:CA	1:A:65:ASP:HA	1.79	1.11
1:C:58:GLY:HA3	3:C:206:HOH:O	1.49	1.11
1:B:59:GLY:HA3	3:B:206:HOH:O	1.54	1.08
1:D:62:LEU:HD12	1:D:62:LEU:C	1.74	1.07
1:B:56:LEU:HD23	1:B:56:LEU:N	1.71	1.06
1:A:52:GLY:HA3	1:A:65:ASP:HA	1.05	1.03
1:A:54:ARG:NH1	1:A:63:LYS:HZ1	1.57	1.02
1:B:58:GLY:HA3	3:B:214:HOH:O	1.60	0.99
1:A:54:ARG:HD3	1:A:63:LYS:HZ3	1.23	0.99
1:A:54:ARG:HH11	1:A:63:LYS:NZ	1.58	0.98
1:A:54:ARG:HD3	1:A:63:LYS:NZ	1.79	0.98
1:A:58:GLY:HA3	3:A:208:HOH:O	1.64	0.98
1:A:52:GLY:HA3	1:A:65:ASP:CA	1.93	0.97
1:B:56:LEU:N	1:B:56:LEU:CD2	2.30	0.93
1:A:65:ASP:HB3	1:A:90:LEU:HD12	1.51	0.93
1:A:59:GLY:HA3	3:A:209:HOH:O	1.70	0.92
1:A:29:THR:CG2	1:A:40:THR:HB	2.00	0.91
1:D:62:LEU:CD1	1:D:63:LYS:N	2.36	0.86
1:D:152:ASN:HD22	1:D:160:VAL:H	1.17	0.86
1:C:52:GLY:HA3	1:C:65:ASP:HA	1.59	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:64:GLU:O	1:A:64:GLU:HG2	1.79	0.82
1:B:55:TRP:C	1:B:56:LEU:CD2	2.48	0.81
1:B:55:TRP:C	1:B:56:LEU:HD23	2.02	0.79
1:C:29:THR:OG1	1:C:40:THR:HB	1.84	0.77
1:A:64:GLU:O	1:A:64:GLU:CG	2.32	0.77
1:B:117:ASN:ND2	1:B:117:ASN:H	1.82	0.76
1:B:62:LEU:HD13	1:C:64:GLU:HB3	1.66	0.76
1:D:72:THR:HG23	3:D:1002:HOH:O	1.86	0.75
1:D:62:LEU:C	1:D:62:LEU:CD1	2.50	0.75
1:A:65:ASP:CB	1:A:90:LEU:HD12	2.17	0.75
1:B:117:ASN:H	1:B:117:ASN:HD22	1.33	0.75
1:A:129:GLU:OE2	1:A:129:GLU:N	2.16	0.73
1:C:59:GLY:HA3	3:C:212:HOH:O	1.88	0.73
1:A:152:ASN:HD22	1:A:160:VAL:H	1.35	0.72
1:A:29:THR:HG22	1:A:40:THR:CB	2.08	0.72
1:D:152:ASN:ND2	1:D:160:VAL:H	1.88	0.69
1:A:80:ASP:HA	1:A:82:TRP:NE1	2.08	0.69
1:C:54:ARG:HE	1:C:63:LYS:HD2	1.57	0.69
1:B:55:TRP:C	1:B:56:LEU:HD22	2.13	0.68
1:D:175:ASN:O	1:D:179:ASP:HB3	1.93	0.67
1:B:134:VAL:HA	1:B:189:SER:HB2	1.77	0.67
1:D:61:VAL:CG1	1:D:74:PHE:CZ	2.79	0.66
1:C:184:ARG:HE	1:C:186:ASN:HD21	1.44	0.66
1:B:52:GLY:HA2	1:B:65:ASP:O	1.94	0.65
1:B:117:ASN:HD22	1:B:117:ASN:N	1.93	0.65
1:C:52:GLY:CA	1:C:65:ASP:HA	2.27	0.65
1:B:65:ASP:O	1:B:67:LEU:N	2.30	0.64
1:B:105:PRO:HG2	1:B:193:SER:HA	1.79	0.64
1:A:65:ASP:OD1	1:A:65:ASP:N	2.30	0.64
1:B:59:GLY:CA	3:B:206:HOH:O	2.25	0.63
1:C:65:ASP:O	1:C:67:LEU:N	2.30	0.63
1:D:112:SER:HA	1:D:198:ILE:HG22	1.79	0.63
1:A:65:ASP:HB3	1:A:90:LEU:CD1	2.27	0.63
1:A:117:ASN:HD22	1:A:117:ASN:H	1.47	0.63
1:C:63:LYS:HZ3	1:C:65:ASP:HB2	1.63	0.63
1:B:63:LYS:HE3	1:B:90:LEU:HD21	1.81	0.63
1:A:186:ASN:HD22	1:A:195:GLN:HG3	1.63	0.62
1:A:64:GLU:O	1:A:66:ALA:N	2.28	0.62
1:C:63:LYS:NZ	1:C:65:ASP:HB2	2.15	0.62
1:B:37:ILE:HD12	1:B:81:GLN:HG2	1.83	0.61
1:D:53:HIS:ND1	1:D:64:GLU:OE1	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:54:ARG:HG2	1:B:56:LEU:HD21	1.85	0.59
1:A:171:ILE:HG22	1:A:174:LEU:HD13	1.83	0.58
1:A:117:ASN:HD22	1:A:117:ASN:N	2.01	0.58
1:D:54:ARG:HH21	1:D:63:LYS:HE3	1.68	0.58
1:A:115:HIS:HD2	1:A:201:ARG:HB3	1.70	0.57
1:C:184:ARG:NE	1:C:186:ASN:HD21	2.03	0.56
1:A:120:GLU:O	1:A:174:LEU:HB2	2.05	0.56
1:B:152:ASN:ND2	1:B:160:VAL:H	2.04	0.56
1:C:53:HIS:HE1	1:C:69:GLY:O	1.88	0.56
1:D:52:GLY:HA3	1:D:65:ASP:HA	1.87	0.56
1:D:62:LEU:HD12	1:D:63:LYS:CA	2.31	0.56
1:D:55:TRP:HE1	1:D:72:THR:CG2	2.18	0.55
1:D:105:PRO:HA	1:D:130:SER:CB	2.37	0.55
1:A:63:LYS:HG3	1:A:65:ASP:OD1	2.07	0.55
1:B:86:SER:HB3	1:B:98:ASN:OD1	2.07	0.55
1:C:150:LEU:HD13	1:C:169:LEU:HD11	1.89	0.55
1:A:57:LYS:C	3:A:210:HOH:O	2.44	0.54
1:A:186:ASN:HD22	1:A:195:GLN:CG	2.19	0.54
1:A:51:THR:CG2	1:A:51:THR:O	2.56	0.54
1:D:124:LEU:HD12	1:D:169:LEU:HD23	1.89	0.54
1:D:59:GLY:HA3	3:D:1006:HOH:O	2.09	0.53
1:A:57:LYS:CB	3:A:210:HOH:O	2.56	0.53
1:B:54:ARG:HH21	1:B:63:LYS:HE3	1.74	0.53
1:C:185:CYS:SG	1:C:196:ALA:HB3	2.48	0.53
1:B:54:ARG:HB3	1:B:88:VAL:HB	1.90	0.52
1:D:37:ILE:HG13	1:D:81:GLN:HG3	1.90	0.52
1:B:56:LEU:HD13	1:B:60:VAL:HG12	1.90	0.52
1:B:117:ASN:HA	1:B:203:ARG:HA	1.90	0.52
1:D:106:ARG:H	1:D:130:SER:HB3	1.75	0.52
1:B:100:GLN:HG2	1:B:131:VAL:HG21	1.92	0.51
1:B:61:VAL:HG11	1:B:74:PHE:HZ	1.74	0.51
1:C:123:MET:HG3	1:C:170:HIS:NE2	2.26	0.51
1:C:64:GLU:O	1:C:64:GLU:CG	2.58	0.51
1:D:55:TRP:HE1	1:D:72:THR:HG22	1.76	0.51
1:C:55:TRP:HB2	1:C:62:LEU:CD2	2.41	0.50
1:B:152:ASN:HD22	1:B:160:VAL:H	1.59	0.50
1:A:64:GLU:C	1:A:66:ALA:H	2.15	0.50
1:D:54:ARG:HE	1:D:63:LYS:HD2	1.77	0.50
1:D:124:LEU:HB3	1:D:198:ILE:HD12	1.94	0.50
1:B:143:THR:HG22	1:B:144:ASP:N	2.27	0.49
1:A:145:SER:O	1:A:146:GLU:HB3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:131:VAL:HA	1:B:132:PRO:C	2.33	0.49
1:A:117:ASN:N	1:A:117:ASN:ND2	2.60	0.49
1:C:120:GLU:CG	3:C:207:HOH:O	2.61	0.49
1:D:64:GLU:O	1:D:65:ASP:O	2.30	0.49
1:A:115:HIS:CD2	1:A:201:ARG:HB3	2.48	0.49
1:D:147:ASP:OD2	1:D:184:ARG:NH1	2.46	0.49
1:A:65:ASP:CG	1:A:90:LEU:CD1	2.80	0.49
1:D:64:GLU:O	1:D:64:GLU:CD	2.52	0.49
1:C:55:TRP:HB2	1:C:62:LEU:HD23	1.95	0.48
1:D:91:PRO:O	1:D:94:MET:HG2	2.14	0.48
1:A:59:GLY:CA	3:A:209:HOH:O	2.44	0.48
1:A:53:HIS:ND1	1:A:64:GLU:OE1	2.40	0.48
1:C:59:GLY:CA	3:C:212:HOH:O	2.55	0.48
1:D:64:GLU:C	1:D:65:ASP:O	2.52	0.48
1:D:112:SER:HA	1:D:198:ILE:CG2	2.44	0.48
1:C:139:TRP:CD2	1:C:169:LEU:HB2	2.50	0.47
1:A:80:ASP:HA	1:A:82:TRP:HE1	1.77	0.47
1:A:54:ARG:HH11	1:A:63:LYS:HZ1	0.73	0.47
1:C:50:VAL:HG22	1:C:94:MET:HE3	1.96	0.47
1:C:120:GLU:HG3	3:C:207:HOH:O	2.15	0.47
1:B:76:VAL:HG13	1:B:80:ASP:HB2	1.96	0.47
1:B:116:ILE:O	1:B:202:VAL:HA	2.15	0.46
1:C:160:VAL:HG12	1:C:169:LEU:HD23	1.97	0.46
1:B:157:ARG:HH12	1:B:179:ASP:CG	2.17	0.46
1:A:54:ARG:HD3	1:A:63:LYS:CE	2.45	0.46
1:C:106:ARG:O	1:C:128:SER:HB3	2.16	0.46
1:C:184:ARG:HD3	1:C:195:GLN:NE2	2.31	0.45
1:A:54:ARG:HB3	1:A:88:VAL:HB	1.98	0.45
1:A:146:GLU:O	1:A:146:GLU:HG2	2.16	0.45
1:D:122:ALA:HB2	1:D:174:LEU:HD11	1.99	0.45
1:A:65:ASP:CG	1:A:90:LEU:HD12	2.37	0.45
1:D:61:VAL:CG1	1:D:74:PHE:CE1	3.00	0.45
1:D:139:TRP:CZ3	1:D:198:ILE:HD11	2.52	0.45
1:D:107:VAL:HG23	1:D:194:ASP:HB3	1.98	0.44
1:B:64:GLU:O	1:C:61:VAL:O	2.34	0.44
1:C:139:TRP:CE2	1:C:169:LEU:HB2	2.52	0.44
1:D:152:ASN:HD22	1:D:160:VAL:N	1.98	0.44
1:A:64:GLU:C	1:A:66:ALA:N	2.70	0.44
1:B:53:HIS:HB2	1:B:64:GLU:HG2	2.00	0.44
1:C:90:LEU:C	1:C:94:MET:HE2	2.38	0.44
1:A:51:THR:O	1:A:51:THR:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:55:TRP:CA	1:B:56:LEU:HD23	2.49	0.43
1:D:48:THR:HB	1:D:94:MET:HE3	2.01	0.43
1:D:61:VAL:HG12	1:D:74:PHE:CE1	2.52	0.43
1:B:54:ARG:HH21	1:B:63:LYS:CE	2.32	0.43
1:D:137:TRP:CD1	1:D:162:SER:HB3	2.54	0.43
1:D:105:PRO:HA	1:D:130:SER:HB2	1.99	0.42
1:B:61:VAL:HG11	1:B:74:PHE:CZ	2.53	0.42
1:C:31:GLU:HG2	1:C:38:LEU:HB3	2.02	0.42
1:B:202:VAL:O	1:B:203:ARG:HB2	2.20	0.42
1:D:110:VAL:HB	1:D:125:VAL:HG13	2.02	0.42
1:A:54:ARG:HG2	1:A:56:LEU:HD11	2.01	0.42
1:B:54:ARG:HG2	1:B:56:LEU:CD2	2.50	0.42
1:A:64:GLU:O	1:A:64:GLU:CD	2.58	0.42
1:C:153:GLY:N	1:C:158:PHE:O	2.50	0.41
1:A:53:HIS:CD2	1:A:72:THR:HB	2.55	0.41
1:C:67:LEU:HA	1:C:68:PRO:HD2	1.72	0.41
1:D:120:GLU:O	1:D:174:LEU:HG	2.21	0.41
1:C:142:ILE:HB	1:C:182:GLN:HB2	2.01	0.41
1:B:128:SER:HB3	1:B:134:VAL:HG21	2.02	0.41
1:B:189:SER:O	1:B:191:LYS:N	2.54	0.41
1:C:64:GLU:O	1:C:64:GLU:HG3	2.20	0.41
1:D:177:GLU:C	1:D:179:ASP:H	2.23	0.41
1:D:59:GLY:CA	3:D:1006:HOH:O	2.68	0.41
1:A:51:THR:HB	1:A:91:PRO:HD3	2.02	0.41
1:A:64:GLU:HG2	1:A:67:LEU:HB2	2.03	0.41
1:B:48:THR:OG1	1:B:94:MET:HE2	2.21	0.41
1:B:157:ARG:NH1	1:B:179:ASP:OD1	2.51	0.41
1:C:120:GLU:HG2	3:C:207:HOH:O	2.21	0.41

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	179/184 (97%)	161 (90%)	14 (8%)	4 (2%)	6	22
1	B	179/184 (97%)	158 (88%)	17 (10%)	4 (2%)	6	22
1	C	178/184 (97%)	158 (89%)	17 (10%)	3 (2%)	9	29
1	D	177/184 (96%)	152 (86%)	22 (12%)	3 (2%)	9	29
All	All	713/736 (97%)	629 (88%)	70 (10%)	14 (2%)	7	24

All (14) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	190	SER
1	C	65	ASP
1	D	65	ASP
1	A	144	ASP
1	A	146	GLU
1	A	155	GLU
1	B	191	LYS
1	C	44	ASN
1	C	66	ALA
1	D	116	ILE
1	B	58	GLY
1	A	65	ASP
1	D	178	ALA
1	B	68	PRO

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	156/158 (99%)	126 (81%)	30 (19%)	1	4
1	B	156/158 (99%)	133 (85%)	23 (15%)	3	9
1	C	155/158 (98%)	136 (88%)	19 (12%)	4	15
1	D	154/158 (98%)	136 (88%)	18 (12%)	5	16
All	All	621/632 (98%)	531 (86%)	90 (14%)	3	9

All (90) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	28	THR
1	A	29	THR
1	A	30	VAL
1	A	43	LEU
1	A	48	THR
1	A	51	THR
1	A	63	LYS
1	A	64	GLU
1	A	65	ASP
1	A	67	LEU
1	A	70	GLN
1	A	80	ASP
1	A	94	MET
1	A	105	PRO
1	A	106	ARG
1	A	108	LYS
1	A	117	ASN
1	A	118	GLU
1	A	121	THR
1	A	128	SER
1	A	129	GLU
1	A	130	SER
1	A	144	ASP
1	A	146	GLU
1	A	160	VAL
1	A	169	LEU
1	A	174	LEU
1	A	175	ASN
1	A	176	MET
1	A	202	VAL
1	B	25	THR
1	B	26	VAL
1	B	28	THR
1	B	29	THR
1	B	39	LEU
1	B	40	THR
1	B	42	SER
1	B	48	THR
1	B	56	LEU
1	B	60	VAL
1	B	67	LEU
1	B	71	LYS

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Mol	Chain	Res	Type
1	B	72	THR
1	B	78	SER
1	B	90	LEU
1	B	107	VAL
1	B	112	SER
1	B	117	ASN
1	B	134	VAL
1	B	144	ASP
1	B	195	GLN
1	B	199	THR
1	B	201	ARG
1	C	25	THR
1	C	43	LEU
1	C	44	ASN
1	C	51	THR
1	C	54	ARG
1	C	56	LEU
1	C	62	LEU
1	C	65	ASP
1	C	88	VAL
1	C	110	VAL
1	C	112	SER
1	C	116	ILE
1	C	117	ASN
1	C	120	GLU
1	C	146	GLU
1	C	164	GLN
1	C	166	ARG
1	C	169	LEU
1	C	184	ARG
1	D	30	VAL
1	D	38	LEU
1	D	39	LEU
1	D	43	LEU
1	D	44	ASN
1	D	50	VAL
1	D	62	LEU
1	D	64	GLU
1	D	88	VAL
1	D	94	MET
1	D	113	SER
1	D	115	HIS

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Mol	Chain	Res	Type
1	D	123	MET
1	D	143	THR
1	D	144	ASP
1	D	160	VAL
1	D	193	SER
1	D	198	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	81	GLN
1	A	102	HIS
1	A	115	HIS
1	A	117	ASN
1	A	152	ASN
1	A	173	ASN
1	A	186	ASN
1	B	117	ASN
1	B	152	ASN
1	C	44	ASN
1	C	53	HIS
1	C	70	GLN
1	C	117	ASN
1	C	186	ASN
1	D	98	ASN
1	D	152	ASN
1	D	170	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 ⓘ

1 ligand is 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	ACT	D	1001	-	3,3,3	0.91	0	3,3,3	1.14	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers ⓘ

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	181/184 (98%)	0.34	3 (1%)	70	63	39, 46, 51, 53	0
1	B	181/184 (98%)	0.27	4 (2%)	62	52	39, 47, 52, 56	0
1	C	180/184 (97%)	0.39	6 (3%)	46	36	39, 46, 51, 53	0
1	D	179/184 (97%)	0.62	14 (7%)	13	7	41, 46, 52, 55	0
All	All	721/736 (97%)	0.40	27 (3%)	41	31	39, 46, 51, 56	0

All (27) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	65	ASP	5.2
1	D	66	ALA	4.9
1	D	116	ILE	4.3
1	C	65	ASP	4.1
1	B	65	ASP	4.0
1	C	128	SER	3.9
1	D	146	GLU	3.6
1	D	173	ASN	3.5
1	D	65	ASP	3.5
1	B	23	ALA	3.3
1	D	201	ARG	3.1
1	C	116	ILE	3.1
1	C	66	ALA	2.9
1	A	66	ALA	2.9
1	D	45	ASP	2.7
1	D	117	ASN	2.7
1	C	171	ILE	2.4
1	D	159	PHE	2.4
1	D	47	ALA	2.3
1	A	144	ASP	2.3
1	D	46	SER	2.3

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Mol	Chain	Res	Type	RSRZ
1	D	164	GLN	2.2
1	C	45	ASP	2.1
1	D	200	LEU	2.1
1	B	66	ALA	2.1
1	B	136	ASP	2.1
1	D	94	MET	2.1

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, 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
2	ACT	D	1001	4/4	0.92	0.18	50,50,50,50	0

6.5 Other polymers ⓘ

There are no such residues in this entry.