



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 07:53 PM UTC

PDB ID : 6CQQ / pdb_00006cqq
Title : Crystal structure of F24 TCR -DR15-RQ13 peptide complex
Authors : Farenc, C.; Gras, S.; Rossjohn, J.
Deposited on : 2018-03-16
Resolution : 2.80 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	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

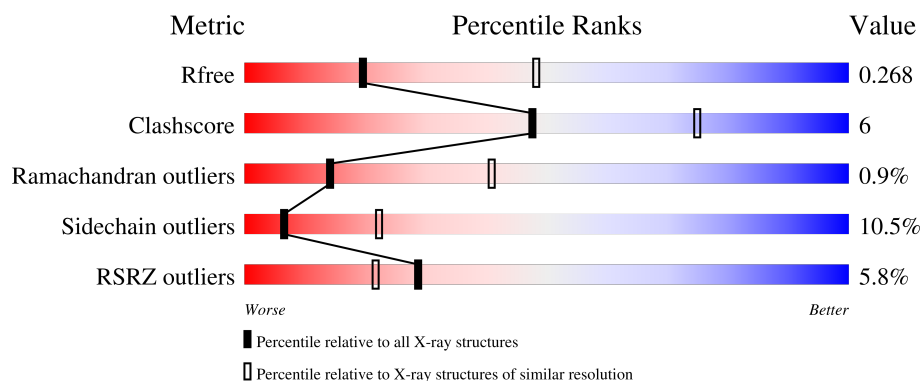
1 Overall quality at a glance

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}	180053	3866 (2.80-2.80)
Clashscore	190562	4276 (2.80-2.80)
Ramachandran outliers	187476	4196 (2.80-2.80)
Sidechain outliers	187428	4198 (2.80-2.80)
RSRZ outliers	180081	3869 (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 $\leq 5\%$. 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	182	2% 70%26%..
1	F	182	5% 77%19%..
2	B	190	9% 67%26%6%.
2	G	190	16% 69%26%..
3	C	13	77%23%

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Mol	Chain	Length	Quality of chain
3	H	13	
4	D	205	
4	I	205	
5	E	245	
5	J	245	

2 Entry composition

There are 10 unique types of molecules in this entry. The entry contains 13785 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 HLA class II histocompatibility antigen, DR alpha chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	178	Total	C	N	O	S	0	0	0
			1464	949	238	272	5			
1	F	178	Total	C	N	O	S	0	0	0
			1464	949	238	272	5			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	182	THR	ALA	conflict	UNP P01903
F	182	THR	ALA	conflict	UNP P01903

- Molecule 2 is a protein called HLA-DRB1 protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	188	Total	C	N	O	S	0	0	0
			1545	976	274	289	6			
2	G	189	Total	C	N	O	S	0	0	0
			1554	981	276	291	6			

- Molecule 3 is a protein called Peptide from Capsid protein p24.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
3	C	13	Total	C	N	O	0	0	0
			113	70	22	21			
3	H	13	Total	C	N	O	0	0	0
			113	70	22	21			

- Molecule 4 is a protein called F24 alpha chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	D	200	Total	C	N	O	S	0	3	0
			1575	990	259	318	8			

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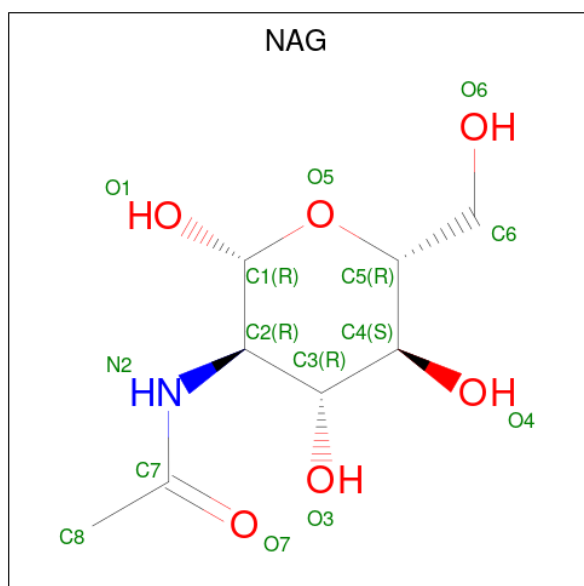
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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	I	200	Total	C	N	O	S	0	3	0
			1575	990	259	318	8			

- Molecule 5 is a protein called F24 beta chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	244	Total	C	N	O	S	0	0	0
			1972	1250	336	378	8			
5	J	244	Total	C	N	O	S	0	0	0
			1972	1250	336	378	8			

- Molecule 6 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
6	A	1	Total	C	N	O	0	0
			14	8	1	5		
6	F	1	Total	C	N	O	0	0
			14	8	1	5		
6	G	1	Total	C	N	O	0	0
			14	8	1	5		

- Molecule 7 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

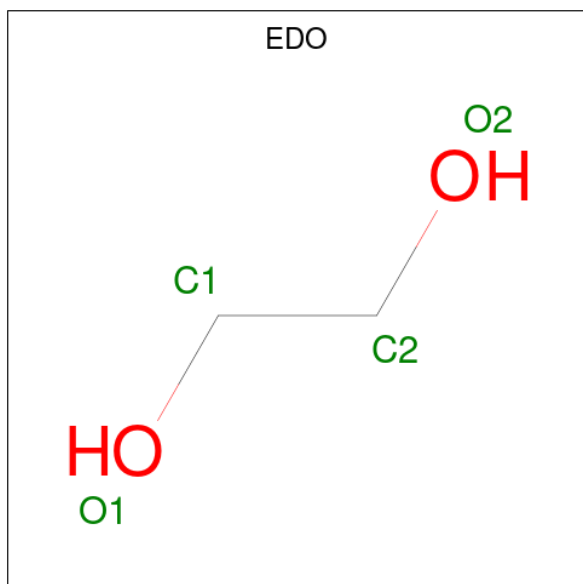
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	B	1	Total	Mg	0	0
			1	1		
7	C	1	Total	Mg	0	0
			1	1		

- Molecule 8 is SULFATE ION (CCD ID: SO4) (formula: O₄S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
8	E	1	Total	O	S	0	0
			5	4	1		

- Molecule 9 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: C₂H₆O₂).



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

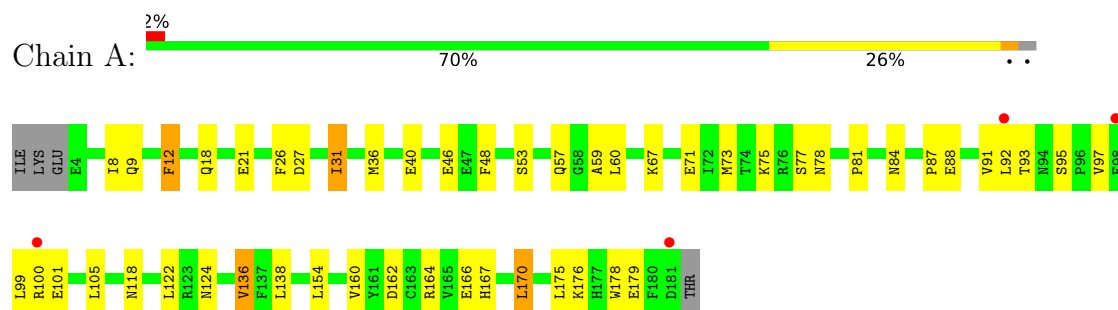
- Molecule 10 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
10	A	39	Total	O	0	0
			39	39		
10	B	23	Total	O	0	0
			23	23		
10	C	2	Total	O	0	0
			2	2		
10	D	45	Total	O	0	0
			45	45		
10	E	72	Total	O	0	0
			72	72		
10	F	30	Total	O	0	0
			30	30		
10	G	24	Total	O	0	0
			24	24		
10	H	6	Total	O	0	0
			6	6		
10	I	59	Total	O	0	0
			59	59		
10	J	85	Total	O	0	0
			85	85		

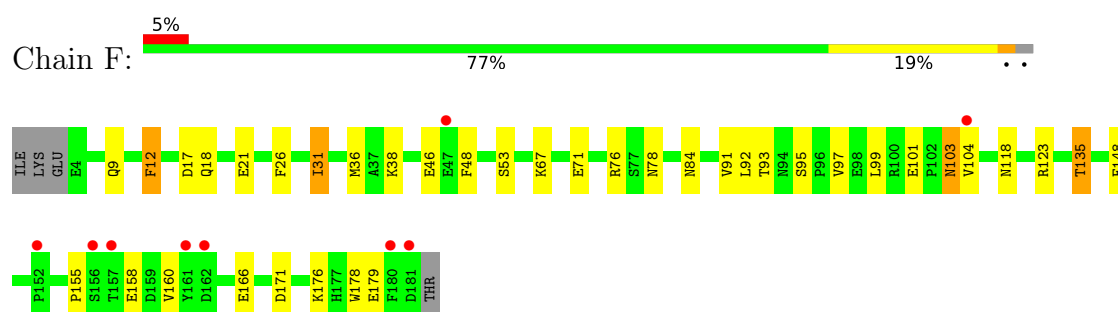
3 Residue-property plots [i](#)

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.

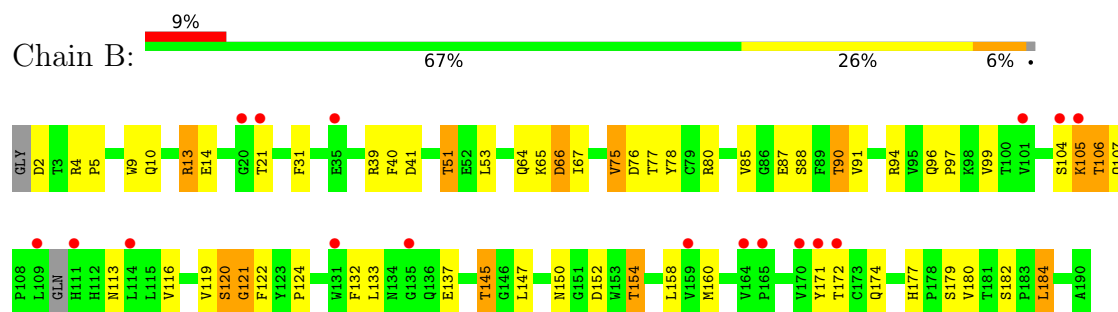
- Molecule 1: HLA class II histocompatibility antigen, DR alpha chain



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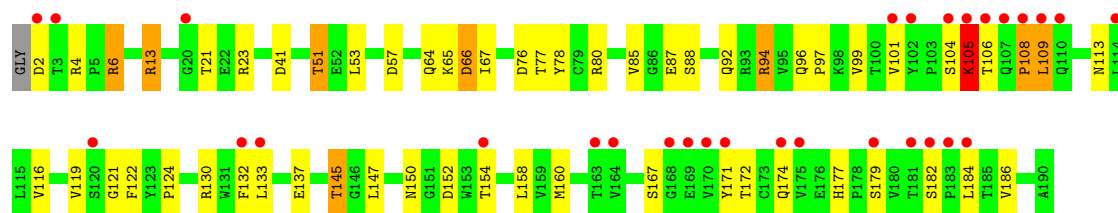


- Molecule 2: HLA-DRB1 protein

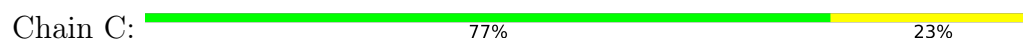


- Molecule 2: HLA-DRB1 protein





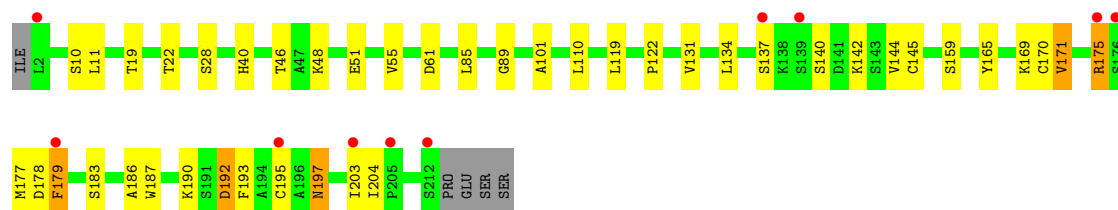
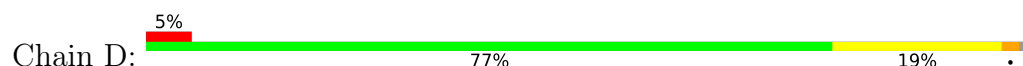
• Molecule 3: Peptide from Capsid protein p24



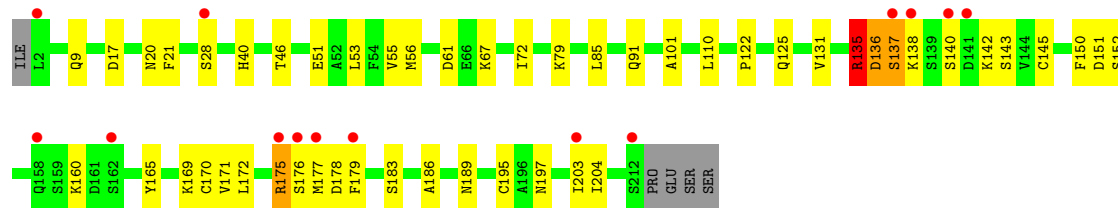
• Molecule 3: Peptide from Capsid protein p24



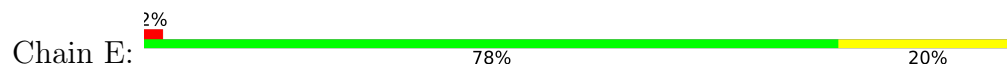
• Molecule 4: F24 alpha chain



• Molecule 4: F24 alpha chain

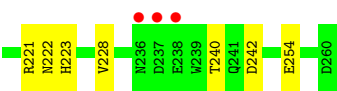
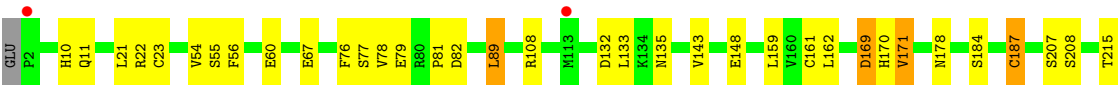
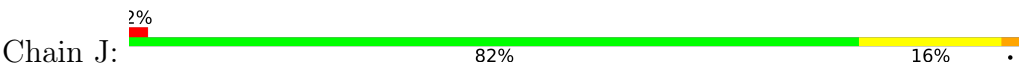


• Molecule 5: F24 beta chain





● Molecule 5: F24 beta chain



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	76.34Å 203.27Å 100.25Å 90.00° 109.16° 90.00°	Depositor
Resolution (Å)	40.99 – 2.80 40.99 – 2.80	Depositor EDS
% Data completeness (in resolution range)	99.0 (40.99-2.80) 99.2 (40.99-2.80)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.33 (at 2.81Å)	Xtriage
Refinement program	BUSTER 2.10.2	Depositor
R, R_{free}	0.207 , 0.254 0.216 , 0.268	Depositor DCC
R_{free} test set	3498 reflections (4.99%)	wwPDB-VP
Wilson B-factor (Å ²)	51.2	Xtriage
Anisotropy	0.356	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 66.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	13785	wwPDB-VP
Average B, all atoms (Å ²)	53.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.76% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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: NAG, MG, EDO, SO4

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.85	0/1509	1.34	9/2058 (0.4%)
1	F	0.83	0/1509	1.32	7/2058 (0.3%)
2	B	0.85	0/1587	1.29	10/2154 (0.5%)
2	G	0.86	0/1597	1.28	11/2169 (0.5%)
3	C	0.72	0/114	1.58	2/149 (1.3%)
3	H	0.81	0/114	1.56	2/149 (1.3%)
4	D	0.90	1/1621 (0.1%)	1.33	14/2197 (0.6%)
4	I	0.90	0/1621	1.30	11/2197 (0.5%)
5	E	0.87	2/2026 (0.1%)	1.30	11/2753 (0.4%)
5	J	0.86	1/2026 (0.0%)	1.29	9/2753 (0.3%)
All	All	0.86	4/13724 (0.0%)	1.31	86/18637 (0.5%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	175	ARG	CA-C	7.54	1.62	1.52
5	E	89	LEU	CA-C	-5.44	1.46	1.52
5	J	89	LEU	CA-C	-5.15	1.46	1.52
5	E	225	ARG	CA-C	-5.10	1.46	1.52

All (86) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	41	ASP	CA-CB-CG	7.93	120.53	112.60
3	C	100	SER	CA-C-N	6.88	134.08	121.70
3	C	100	SER	C-N-CA	6.88	134.08	121.70
5	E	70	GLU	CA-C-N	6.77	131.75	120.64
5	E	70	GLU	C-N-CA	6.77	131.75	120.64
2	B	66	ASP	CA-CB-CG	6.75	119.35	112.60
2	G	41	ASP	CA-CB-CG	6.69	119.29	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	100	SER	CA-C-N	6.63	133.63	121.70
3	H	100	SER	C-N-CA	6.63	133.63	121.70
4	D	177	MET	CA-C-N	6.60	134.14	121.54
4	D	177	MET	C-N-CA	6.60	134.14	121.54
1	F	48	PHE	CA-CB-CG	6.58	120.38	113.80
2	G	66	ASP	CA-CB-CG	6.50	119.11	112.60
2	G	106	THR	CA-C-N	6.48	131.40	121.03
2	G	106	THR	C-N-CA	6.48	131.40	121.03
4	D	55	VAL	N-CA-C	-6.47	98.30	107.75
5	E	72	PHE	N-CA-C	6.44	117.99	110.97
4	I	20	ASN	CA-CB-CG	6.43	119.03	112.60
2	B	105	LYS	CA-C-N	6.29	133.55	121.54
2	B	105	LYS	C-N-CA	6.29	133.55	121.54
5	J	169	ASP	CA-CB-CG	6.28	118.88	112.60
1	F	38	LYS	N-CA-C	-6.25	101.26	110.52
4	D	177	MET	N-CA-C	-6.25	102.94	111.56
1	A	48	PHE	CA-CB-CG	6.11	119.91	113.80
1	F	78	ASN	CA-C-N	6.06	131.19	122.35
1	F	78	ASN	C-N-CA	6.06	131.19	122.35
4	D	192	ASP	CA-C-N	6.02	133.04	121.54
4	D	192	ASP	C-N-CA	6.02	133.04	121.54
1	A	59	ALA	CA-C-N	5.99	128.30	120.28
1	A	59	ALA	C-N-CA	5.99	128.30	120.28
4	I	17	ASP	CA-CB-CG	5.97	118.57	112.60
5	E	76	PHE	CA-CB-CG	5.80	119.60	113.80
5	E	178	ASN	CA-CB-CG	5.80	118.40	112.60
5	J	56	PHE	CA-CB-CG	5.75	119.55	113.80
1	A	84	ASN	CA-CB-CG	5.74	118.34	112.60
2	G	76	ASP	CA-C-N	5.74	127.97	120.28
2	G	76	ASP	C-N-CA	5.74	127.97	120.28
1	A	12	PHE	CA-CB-CG	5.72	119.52	113.80
1	F	31	ILE	N-CA-C	-5.69	105.30	110.82
1	F	12	PHE	CA-CB-CG	5.68	119.48	113.80
2	G	105	LYS	CA-C-N	5.66	132.36	121.54
2	G	105	LYS	C-N-CA	5.66	132.36	121.54
5	J	242	ASP	CA-C-N	5.59	131.75	121.85
5	J	242	ASP	C-N-CA	5.59	131.75	121.85
5	E	54	VAL	CA-C-N	5.57	131.55	122.81
5	E	54	VAL	C-N-CA	5.57	131.55	122.81
2	B	76	ASP	CA-CB-CG	5.55	118.15	112.60
4	D	137	SER	CA-C-N	5.54	131.66	121.70
4	D	137	SER	C-N-CA	5.54	131.66	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	78	ASN	CA-C-N	5.53	130.42	122.35
1	A	78	ASN	C-N-CA	5.53	130.42	122.35
4	D	48	LYS	N-CA-C	5.49	117.92	110.35
5	J	54	VAL	CA-C-N	5.47	131.15	122.94
5	J	54	VAL	C-N-CA	5.47	131.15	122.94
5	E	82	ASP	CA-CB-CG	5.44	118.04	112.60
4	I	189	ASN	CA-C-N	5.40	129.35	121.31
4	I	189	ASN	C-N-CA	5.40	129.35	121.31
5	J	132	ASP	CA-CB-CG	5.38	117.98	112.60
4	I	21	PHE	CA-C-N	5.36	131.50	122.87
4	I	21	PHE	C-N-CA	5.36	131.50	122.87
4	I	150	PHE	CA-C-N	5.36	131.13	121.06
4	I	150	PHE	C-N-CA	5.36	131.13	121.06
4	D	197	ASN	CA-CB-CG	5.35	117.95	112.60
4	D	190	LYS	CA-C-N	5.35	127.45	120.28
4	D	190	LYS	C-N-CA	5.35	127.45	120.28
2	B	104	SER	CA-C-N	5.33	131.73	121.54
2	B	104	SER	C-N-CA	5.33	131.73	121.54
4	D	192	ASP	CA-CB-CG	5.31	117.91	112.60
5	E	166	PHE	CA-CB-CG	5.25	119.05	113.80
4	I	55	VAL	N-CA-CB	5.25	118.51	111.90
5	J	82	ASP	CA-CB-CG	5.25	117.85	112.60
5	E	56	PHE	CA-CB-CG	5.23	119.03	113.80
1	F	84	ASN	CA-CB-CG	5.22	117.82	112.60
1	A	27	ASP	CA-CB-CG	5.21	117.81	112.60
4	D	179	PHE	CA-CB-CG	5.10	118.90	113.80
2	B	120	SER	CA-C-N	5.09	127.79	120.11
2	B	120	SER	C-N-CA	5.09	127.79	120.11
1	A	31	ILE	N-CA-C	-5.08	105.89	110.82
5	E	94	THR	CB-CA-C	5.07	117.44	109.84
2	B	121	GLY	N-CA-C	5.06	120.86	113.48
5	J	76	PHE	CA-CB-CG	5.05	118.85	113.80
2	G	104	SER	CA-C-N	5.05	131.19	121.54
2	G	104	SER	C-N-CA	5.05	131.19	121.54
2	G	113	ASN	CA-CB-CG	5.05	117.65	112.60
4	I	135	ARG	CA-C-N	5.03	131.15	121.54
4	I	135	ARG	C-N-CA	5.03	131.15	121.54

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	1464	0	1400	20	0
1	F	1464	0	1400	15	0
2	B	1545	0	1463	34	0
2	G	1554	0	1471	30	0
3	C	113	0	111	2	0
3	H	113	0	111	2	0
4	D	1575	0	1502	13	0
4	I	1575	0	1502	17	0
5	E	1972	0	1872	17	0
5	J	1972	0	1872	17	0
6	A	14	0	13	1	0
6	F	14	0	13	0	0
6	G	14	0	13	0	0
7	B	1	0	0	0	0
7	C	1	0	0	0	0
8	E	5	0	0	0	0
9	J	4	0	6	0	0
10	A	39	0	0	0	0
10	B	23	0	0	0	0
10	C	2	0	0	0	0
10	D	45	0	0	0	0
10	E	72	0	0	0	0
10	F	30	0	0	0	0
10	G	24	0	0	0	0
10	H	6	0	0	0	0
10	I	59	0	0	2	0
10	J	85	0	0	0	0
All	All	13785	0	12749	145	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 6.

All (145) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:121:GLY:HA2	2:G:154:THR:HG23	1.52	0.91
2:G:150:ASN:HD22	2:G:154:THR:HG22	1.39	0.87
4:I:170:CYS:HG	5:J:187:CYS:HG	0.99	0.87
5:E:150:GLU:O	5:E:154:THR:HG22	1.77	0.84
1:F:135:THR:HG22	1:F:148:PHE:H	1.43	0.83
2:B:150:ASN:HD22	2:B:154:THR:HG22	1.42	0.82
1:F:103:ASN:HD22	1:F:104:VAL:H	1.31	0.78
2:B:121:GLY:HA2	2:B:154:THR:HG23	1.66	0.76
2:B:133:LEU:HD12	2:B:171:TYR:HE1	1.51	0.76
2:G:133:LEU:HD12	2:G:171:TYR:HE1	1.49	0.74
4:I:122:PRO:HG3	4:I:171:VAL:HG21	1.70	0.73
4:I:135:ARG:HD3	4:I:136:ASP:H	1.55	0.71
4:I:145:CYS:SG	4:I:195:CYS:HB3	2.32	0.69
2:G:94:ARG:HG3	2:G:94:ARG:HH11	1.58	0.69
4:D:145:CYS:SG	4:D:195:CYS:HB3	2.32	0.69
2:B:133:LEU:HD12	2:B:171:TYR:CE1	2.31	0.66
4:D:170:CYS:SG	5:E:187:CYS:HB2	2.37	0.63
2:G:152:ASP:OD1	2:G:154:THR:HB	1.99	0.62
2:B:132:PHE:HB2	2:B:172:THR:HG23	1.83	0.60
4:D:122:PRO:HG3	4:D:171:VAL:HG21	1.84	0.60
2:G:133:LEU:HD12	2:G:171:TYR:CE1	2.34	0.60
2:B:51:THR:HG22	2:B:53:LEU:H	1.66	0.59
5:E:134:LYS:HG3	5:E:135:ASN:HD22	1.68	0.59
2:G:101:VAL:HG12	2:G:186:VAL:HG12	1.84	0.59
2:G:51:THR:HG22	2:G:53:LEU:H	1.66	0.59
4:D:144:VAL:HG12	4:D:187:TRP:HB3	1.86	0.58
2:G:13:ARG:HD2	3:H:94:LEU:HD22	1.85	0.58
1:F:118:ASN:HB2	1:F:166:GLU:HB2	1.86	0.58
1:A:93:THR:HG22	1:A:105:LEU:HD12	1.85	0.58
1:A:118:ASN:HB2	1:A:166:GLU:HB2	1.87	0.57
2:B:10:GLN:HG3	2:B:31:PHE:HB2	1.86	0.57
2:G:150:ASN:ND2	2:G:154:THR:HG22	2.15	0.56
5:E:55:SER:HB3	5:E:66:SER:HB3	1.88	0.55
2:G:94:ARG:HG3	2:G:94:ARG:NH1	2.21	0.55
1:F:76:ARG:HH22	2:G:57:ASP:CG	2.13	0.55
1:F:135:THR:CG2	1:F:148:PHE:H	2.19	0.55
5:E:169:ASP:OD2	5:E:192:PRO:HG3	2.07	0.55
4:D:11:LEU:HD21	4:D:19:THR:HG21	1.89	0.55
5:E:233:LEU:HD22	5:E:246:PRO:HD2	1.89	0.54
2:B:13:ARG:HD2	3:C:94:LEU:HD22	1.88	0.54
2:B:21:THR:HG23	2:B:80:ARG:HG2	1.91	0.53
5:J:55:SER:HB3	5:J:67:GLU:H	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:9:GLN:HB2	2:G:78:TYR:OH	2.09	0.53
4:I:56:MET:HG2	4:I:67:LYS:HD2	1.91	0.52
4:I:40:HIS:HB2	4:I:101:ALA:HB3	1.92	0.52
2:B:90:THR:CG2	2:B:91:VAL:H	2.22	0.52
4:D:40:HIS:HB2	4:D:101:ALA:HB3	1.92	0.51
5:J:169:ASP:CG	5:J:170:HIS:H	2.17	0.51
1:A:12:PHE:CE2	1:A:21:GLU:HB2	2.45	0.51
2:G:124:PRO:O	2:G:177:HIS:HE1	1.93	0.51
1:F:12:PHE:CE2	1:F:21:GLU:HB2	2.46	0.51
2:B:152:ASP:OD1	2:B:154:THR:HB	2.11	0.51
4:I:175:ARG:HB3	5:J:184:SER:OG	2.11	0.50
4:I:203:ILE:HG22	10:I:304:HOH:O	2.11	0.50
2:B:124:PRO:O	2:B:177:HIS:HE1	1.94	0.50
2:G:13:ARG:HH11	2:G:13:ARG:HG3	1.76	0.50
2:B:97:PRO:HB3	2:B:122:PHE:HB3	1.93	0.50
4:I:170:CYS:CB	5:J:187:CYS:SG	3.00	0.50
2:G:97:PRO:HB3	2:G:122:PHE:HB3	1.93	0.50
5:E:150:GLU:OE2	5:E:158:THR:HG22	2.11	0.49
5:J:10:HIS:CD2	5:J:170:HIS:HB3	2.47	0.49
1:A:97:VAL:HG21	1:A:178:TRP:HZ2	1.76	0.49
2:B:90:THR:HG23	2:B:91:VAL:N	2.26	0.49
5:J:178:ASN:ND2	5:J:223:HIS:H	2.10	0.49
2:B:85:VAL:HG22	3:C:89:ARG:HB3	1.95	0.48
5:J:187:CYS:O	5:J:208:SER:HA	2.14	0.48
2:B:13:ARG:HG3	2:B:13:ARG:HH11	1.79	0.47
2:B:64:GLN:CB	2:B:67:ILE:HD12	2.44	0.47
1:F:17:ASP:OD1	2:G:6:ARG:HD2	2.15	0.47
1:F:97:VAL:HG21	1:F:178:TRP:HZ2	1.78	0.47
4:D:134:LEU:HB2	4:D:144:VAL:HG23	1.97	0.47
2:G:64:GLN:NE2	5:J:108:ARG:HH21	2.13	0.47
2:G:21:THR:HG23	2:G:80:ARG:HG2	1.97	0.47
2:G:64:GLN:CB	2:G:67:ILE:HD12	2.45	0.47
1:A:124:ASN:HA	1:A:160:VAL:HG23	1.97	0.46
2:B:90:THR:HG23	2:B:91:VAL:H	1.81	0.46
1:A:100:ARG:HA	1:A:154:LEU:HD21	1.97	0.46
2:B:64:GLN:HB2	2:B:67:ILE:HD12	1.98	0.46
5:E:55:SER:HB3	5:E:67:GLU:H	1.81	0.46
4:I:165:TYR:O	4:I:186:ALA:HA	2.16	0.46
1:A:8:ILE:HG12	2:B:14:GLU:HG2	1.97	0.45
1:A:18:GLN:HE21	1:A:67:LYS:NZ	2.15	0.45
1:A:97:VAL:HG21	1:A:178:TRP:CZ2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:90:THR:CG2	2:B:91:VAL:N	2.78	0.45
2:G:99:VAL:HG22	2:G:119:VAL:HG13	1.97	0.45
5:E:154:THR:HG23	5:E:156:LYS:H	1.81	0.45
1:A:81:PRO:HB3	2:B:5:PRO:HB2	1.98	0.45
2:G:64:GLN:HB2	2:G:67:ILE:HD12	1.99	0.45
5:E:17:GLN:H	5:E:94:THR:HG22	1.81	0.45
1:A:21:GLU:OE2	1:A:136:VAL:HG22	2.16	0.45
1:A:87:PRO:HD2	1:A:170:LEU:HD13	1.98	0.45
2:B:75:VAL:HG13	2:B:80:ARG:NH2	2.32	0.45
2:G:94:ARG:HH11	2:G:94:ARG:CG	2.28	0.45
4:D:165:TYR:O	4:D:186:ALA:HA	2.16	0.45
4:I:101:ALA:HB1	4:I:110:LEU:HB3	1.99	0.45
4:I:131:VAL:HG12	4:I:195:CYS:HB2	1.99	0.45
4:D:131:VAL:HG12	4:D:195:CYS:HB2	2.00	0.44
2:B:99:VAL:HG22	2:B:119:VAL:HG13	1.97	0.44
1:F:160:VAL:HG12	1:F:179:GLU:HG3	2.00	0.44
2:G:177:HIS:CD2	2:G:179:SER:H	2.36	0.44
4:D:170:CYS:SG	5:E:187:CYS:SG	3.16	0.43
1:F:97:VAL:HG21	1:F:178:TRP:CZ2	2.53	0.43
5:J:178:ASN:HD21	5:J:222:ASN:HA	1.82	0.43
1:A:73:MET:HG2	2:B:9:TRP:CZ3	2.53	0.43
2:B:177:HIS:CD2	2:B:179:SER:H	2.37	0.43
1:A:160:VAL:HG12	1:A:179:GLU:HG3	2.00	0.43
4:I:170:CYS:HB3	5:J:187:CYS:SG	2.59	0.43
2:G:108:PRO:HB2	2:G:109:LEU:H	1.66	0.42
2:G:132:PHE:HB2	2:G:172:THR:HB	2.01	0.42
4:D:101:ALA:HB1	4:D:110:LEU:HB3	2.01	0.42
5:J:223:HIS:HE1	5:J:254:GLU:OE1	2.02	0.42
2:B:116:VAL:HG22	2:B:160:MET:HG2	2.01	0.42
1:F:99:LEU:HA	1:F:155:PRO:HB2	2.00	0.42
5:E:223:HIS:HE1	5:E:254:GLU:OE1	2.02	0.42
2:G:116:VAL:HG22	2:G:160:MET:HG2	2.02	0.42
2:B:180:VAL:HG11	2:B:184:LEU:HD13	2.00	0.42
5:E:17:GLN:O	5:E:94:THR:HB	2.20	0.42
2:G:101:VAL:HG12	2:G:186:VAL:CG1	2.49	0.42
1:A:26:PHE:HB2	1:A:31:ILE:HD11	2.01	0.42
2:B:39:ARG:HG2	2:B:40:PHE:N	2.35	0.42
1:F:91:VAL:HG23	1:F:176:LYS:HB3	2.01	0.42
4:I:137:SER:HB2	5:J:143:VAL:O	2.20	0.42
4:I:143:SER:HA	10:I:306:HOH:O	2.18	0.42
5:J:21:LEU:HD13	5:J:89:LEU:HD23	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:18:GLN:HE21	1:F:67:LYS:NZ	2.18	0.41
1:F:26:PHE:HB2	1:F:31:ILE:HD11	2.01	0.41
1:A:91:VAL:HG23	1:A:176:LYS:HB3	2.01	0.41
1:A:167:HIS:HA	6:A:201:NAG:H81	2.01	0.41
2:B:145:THR:HG22	2:B:158:LEU:H	1.84	0.41
1:A:162:ASP:OD2	1:A:175:LEU:HD23	2.20	0.41
2:B:106:THR:HB	2:B:107:GLN:H	1.75	0.41
4:D:170:CYS:SG	5:E:187:CYS:CB	3.07	0.41
2:B:64:GLN:NE2	5:E:108:ARG:HH21	2.19	0.41
5:E:5:THR:HB	5:E:24:VAL:HB	2.02	0.41
4:I:172:LEU:HB3	5:J:187:CYS:HB2	2.03	0.41
2:G:145:THR:HG22	2:G:158:LEU:H	1.85	0.41
5:J:161:CYS:O	5:J:207:SER:HA	2.20	0.41
4:D:169:LYS:HA	4:D:183:SER:O	2.21	0.41
1:A:9:GLN:HB2	2:B:78:TYR:OH	2.21	0.41
1:A:122:LEU:HD11	1:A:164:ARG:NH1	2.37	0.40
4:I:169:LYS:HA	4:I:183:SER:O	2.21	0.40
2:G:85:VAL:HG22	3:H:89:ARG:HB3	2.04	0.40
5:J:171:VAL:HG13	5:J:228:VAL:HG13	2.04	0.40
2:B:90:THR:HG23	2:B:91:VAL:HG23	2.03	0.40
5:E:161:CYS:O	5:E:207:SER:HA	2.21	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	176/182 (97%)	173 (98%)	3 (2%)	0	100	100
1	F	176/182 (97%)	170 (97%)	6 (3%)	0	100	100
2	B	184/190 (97%)	171 (93%)	10 (5%)	3 (2%)	7	27
2	G	187/190 (98%)	171 (91%)	13 (7%)	3 (2%)	7	27

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	C	11/13 (85%)	11 (100%)	0	0	100	100
3	H	11/13 (85%)	11 (100%)	0	0	100	100
4	D	201/205 (98%)	188 (94%)	8 (4%)	5 (2%)	4	16
4	I	201/205 (98%)	185 (92%)	14 (7%)	2 (1%)	12	38
5	E	242/245 (99%)	232 (96%)	9 (4%)	1 (0%)	30	60
5	J	242/245 (99%)	230 (95%)	11 (4%)	1 (0%)	30	60
All	All	1631/1670 (98%)	1542 (94%)	74 (4%)	15 (1%)	14	41

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	D	178	ASP
4	D	193	PHE
5	E	81	PRO
4	D	192	ASP
2	G	105	LYS
4	I	136	ASP
5	J	81	PRO
2	B	106	THR
2	G	108	PRO
4	I	160	LYS
2	B	105	LYS
2	B	87	GLU
4	D	175	ARG
2	G	87	GLU
4	D	89	GLY

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	163/167 (98%)	146 (90%)	17 (10%)	7	22
1	F	163/167 (98%)	150 (92%)	13 (8%)	11	34

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	B	169/170 (99%)	148 (88%)	21 (12%)	4	16
2	G	170/170 (100%)	147 (86%)	23 (14%)	4	13
3	C	11/11 (100%)	11 (100%)	0	100	100
3	H	11/11 (100%)	10 (91%)	1 (9%)	9	28
4	D	180/182 (99%)	164 (91%)	16 (9%)	9	29
4	I	180/182 (99%)	155 (86%)	25 (14%)	3	12
5	E	218/219 (100%)	196 (90%)	22 (10%)	7	23
5	J	218/219 (100%)	201 (92%)	17 (8%)	11	35
All	All	1483/1498 (99%)	1328 (90%)	155 (10%)	6	22

All (155) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	36	MET
1	A	40	GLU
1	A	46	GLU
1	A	53	SER
1	A	57	GLN
1	A	60	LEU
1	A	71	GLU
1	A	75	LYS
1	A	77	SER
1	A	88	GLU
1	A	92	LEU
1	A	95	SER
1	A	99	LEU
1	A	101	GLU
1	A	136	VAL
1	A	138	LEU
1	A	170	LEU
2	B	2	ASP
2	B	4	ARG
2	B	13	ARG
2	B	51	THR
2	B	65	LYS
2	B	66	ASP
2	B	75	VAL
2	B	77	THR
2	B	88	SER

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Mol	Chain	Res	Type
2	B	90	THR
2	B	94	ARG
2	B	96	GLN
2	B	113	ASN
2	B	120	SER
2	B	137	GLU
2	B	145	THR
2	B	147	LEU
2	B	154	THR
2	B	174	GLN
2	B	182	SER
2	B	184	LEU
4	D	10	SER
4	D	22	THR
4	D	28	SER
4	D	46	THR
4	D	51	GLU
4	D	61	ASP
4	D	85	LEU
4	D	119	LEU
4	D	140	SER
4	D	142	LYS
4	D	159	SER
4	D	171	VAL
4	D	179	PHE
4	D	197	ASN
4	D	203	ILE
4	D	204	ILE
5	E	3	GLU
5	E	5	THR
5	E	7	THR
5	E	11	GLN
5	E	22	ARG
5	E	55	SER
5	E	60	GLU
5	E	69	SER
5	E	71	ILE
5	E	94	THR
5	E	113	MET
5	E	131	GLU
5	E	133	LEU
5	E	148	GLU

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Mol	Chain	Res	Type
5	E	158	THR
5	E	162	LEU
5	E	171	VAL
5	E	191	GLN
5	E	215	THR
5	E	221	ARG
5	E	242	ASP
5	E	260	ASP
1	F	36	MET
1	F	46	GLU
1	F	53	SER
1	F	71	GLU
1	F	92	LEU
1	F	93	THR
1	F	95	SER
1	F	101	GLU
1	F	103	ASN
1	F	123	ARG
1	F	135	THR
1	F	158	GLU
1	F	171	ASP
2	G	2	ASP
2	G	4	ARG
2	G	6	ARG
2	G	13	ARG
2	G	23	ARG
2	G	51	THR
2	G	65	LYS
2	G	66	ASP
2	G	77	THR
2	G	88	SER
2	G	92	GLN
2	G	94	ARG
2	G	96	GLN
2	G	105	LYS
2	G	109	LEU
2	G	130	ARG
2	G	137	GLU
2	G	145	THR
2	G	147	LEU
2	G	167	SER
2	G	174	GLN

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Mol	Chain	Res	Type
2	G	182	SER
2	G	184	LEU
3	H	101	GLN
4	I	9	GLN
4	I	28	SER
4	I	46	THR
4	I	51	GLU
4	I	53	LEU
4	I	61	ASP
4	I	72	ILE
4	I	79	LYS
4	I	85	LEU
4	I	91	GLN
4	I	125	GLN
4	I	135	ARG
4	I	137	SER
4	I	138	LYS
4	I	140	SER
4	I	142	LYS
4	I	151	ASP
4	I	152	SER
4	I	175	ARG
4	I	176	SER
4	I	177	MET
4	I	178	ASP
4	I	179	PHE
4	I	197	ASN
4	I	204	ILE
5	J	11	GLN
5	J	22	ARG
5	J	23	CYS
5	J	60	GLU
5	J	77	SER
5	J	78	VAL
5	J	79	GLU
5	J	133	LEU
5	J	135	ASN
5	J	148	GLU
5	J	159	LEU
5	J	162	LEU
5	J	171	VAL
5	J	187	CYS

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Mol	Chain	Res	Type
5	J	215	THR
5	J	221	ARG
5	J	240	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (39) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	18	GLN
1	A	78	ASN
2	B	64	GLN
2	B	92	GLN
2	B	113	ASN
2	B	136	GLN
2	B	150	ASN
2	B	177	HIS
3	C	98	GLN
4	D	20	ASN
4	D	40	HIS
5	E	14	GLN
5	E	135	ASN
5	E	155	GLN
5	E	170	HIS
5	E	218	GLN
5	E	219	ASN
5	E	223	HIS
5	E	241	GLN
5	E	249	GLN
1	F	18	GLN
1	F	78	ASN
1	F	103	ASN
2	G	64	GLN
2	G	136	GLN
2	G	150	ASN
2	G	156	GLN
2	G	177	HIS
4	I	12	HIS
4	I	40	HIS
4	I	91	GLN
4	I	155	ASN
4	I	158	GLN
4	I	197	ASN
5	J	178	ASN

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Mol	Chain	Res	Type
5	J	218	GLN
5	J	219	ASN
5	J	223	HIS
5	J	249	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 7 ligands modelled in this entry, 2 are monoatomic - leaving 5 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	$\# Z > 2$
6	NAG	G	201	2	14,14,15	0.31	0	17,19,21	1.03	1 (5%)
9	EDO	J	301	-	3,3,3	0.50	0	2,2,2	0.53	0
6	NAG	F	201	1	14,14,15	0.34	0	17,19,21	1.06	1 (5%)
6	NAG	A	201	1	14,14,15	0.33	0	17,19,21	1.02	1 (5%)
8	SO4	E	301	-	4,4,4	0.22	0	6,6,6	0.20	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
6	NAG	A	201	1	-	0/6/23/26	0/1/1/1
9	EDO	J	301	-	-	0/1/1/1	-
6	NAG	G	201	2	-	1/6/23/26	0/1/1/1
6	NAG	F	201	1	-	2/6/23/26	0/1/1/1

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	F	201	NAG	O5-C1-C2	-3.56	105.78	111.29
6	A	201	NAG	C1-O5-C5	3.49	116.87	112.19
6	G	201	NAG	C1-O5-C5	3.20	116.48	112.19

There are no chirality outliers.

All (3) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	F	201	NAG	O5-C5-C6-O6
6	F	201	NAG	C4-C5-C6-O6
6	G	201	NAG	O5-C5-C6-O6

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	A	201	NAG	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	178/182 (97%)	0.26	4 (2%) 62 52	26, 49, 76, 98	0
1	F	178/182 (97%)	0.63	9 (5%) 33 25	32, 61, 94, 116	0
2	B	188/190 (98%)	0.75	17 (9%) 15 11	27, 60, 97, 122	1 (0%)
2	G	189/190 (99%)	1.00	30 (15%) 5 4	36, 65, 94, 116	1 (0%)
3	C	13/13 (100%)	-0.20	0 100 100	29, 37, 61, 86	0
3	H	13/13 (100%)	0.31	2 (15%) 5 4	33, 44, 75, 87	0
4	D	200/205 (97%)	0.43	10 (5%) 34 26	24, 43, 85, 102	4 (2%)
4	I	200/205 (97%)	0.46	14 (7%) 22 16	25, 45, 82, 94	4 (2%)
5	E	244/245 (99%)	0.24	4 (1%) 70 61	22, 44, 80, 104	4 (1%)
5	J	244/245 (99%)	0.10	5 (2%) 65 56	22, 43, 73, 103	3 (1%)
All	All	1647/1670 (98%)	0.46	95 (5%) 29 22	22, 50, 88, 122	17 (1%)

All (95) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	D	179	PHE	4.9
2	B	109	LEU	4.4
2	G	106	THR	4.1
2	G	109	LEU	4.0
4	D	175	ARG	3.7
5	J	237	ASP	3.7
4	I	176	SER	3.6
4	I	179	PHE	3.6
5	E	238	GLU	3.6
4	D	137	SER	3.5
2	G	154	THR	3.4
2	G	105	LYS	3.3
2	G	101	VAL	3.2

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Mol	Chain	Res	Type	RSRZ
4	I	212	SER	3.2
4	I	175	ARG	3.1
2	G	120	SER	3.0
4	D	176	SER	2.9
4	D	212	SER	2.9
2	G	110	GLN	2.8
2	B	111	HIS	2.8
4	I	28	SER	2.8
2	G	20	GLY	2.8
4	I	2	LEU	2.8
4	D	195	CYS	2.7
2	B	101	VAL	2.7
4	D	2	LEU	2.7
1	F	47	GLU	2.7
2	B	131	TRP	2.7
2	B	20	GLY	2.6
1	F	161	TYR	2.6
5	J	2	PRO	2.5
4	I	162	SER	2.5
2	G	133	LEU	2.5
5	J	238	GLU	2.5
2	G	108	PRO	2.5
2	G	184	LEU	2.5
3	H	101	GLN	2.5
2	G	183	PRO	2.4
2	B	170	VAL	2.4
2	B	105	LYS	2.4
2	G	114	LEU	2.4
2	B	104	SER	2.4
1	A	92	LEU	2.4
1	A	181	ASP	2.4
2	B	135	GLY	2.4
2	G	164	VAL	2.4
1	A	98	GLU	2.4
2	B	171	TYR	2.4
4	I	203	ILE	2.4
2	G	181	THR	2.3
5	J	236	ASN	2.3
2	G	2	ASP	2.3
2	G	182	SER	2.3
4	I	137	SER	2.3
4	D	203	ILE	2.3

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Mol	Chain	Res	Type	RSRZ
2	B	165	PRO	2.3
4	I	158	GLN	2.3
2	B	21	THR	2.3
2	B	164	VAL	2.3
2	G	107	GLN	2.3
2	G	104	SER	2.3
2	G	179	SER	2.3
2	G	174	GLN	2.2
2	G	3	THR	2.2
5	E	154	THR	2.2
1	F	162	ASP	2.2
1	F	181	ASP	2.2
4	I	138	LYS	2.2
4	I	141	ASP	2.2
5	J	113	MET	2.2
4	D	139	SER	2.2
2	G	132	PHE	2.2
3	H	89	ARG	2.2
2	G	170	VAL	2.2
2	G	175	VAL	2.1
5	E	201	ASP	2.1
1	F	156	SER	2.1
1	F	152	PRO	2.1
2	B	159	VAL	2.1
1	F	180	PHE	2.1
1	F	104	VAL	2.1
2	G	169	GLU	2.1
1	F	157	THR	2.1
2	B	172	THR	2.1
2	G	102	TYR	2.1
2	B	114	LEU	2.0
2	G	168	GLY	2.0
5	E	237	ASP	2.0
2	B	35	GLU	2.0
4	I	140	SER	2.0
4	D	205	PRO	2.0
1	A	100	ARG	2.0
2	G	163	THR	2.0
4	I	177	MET	2.0
2	G	171	TYR	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 oligosaccharides 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, 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($\text{\AA}^2$)	Q<0.9
6	NAG	G	201	14/15	0.46	0.19	121,123,125,125	0
6	NAG	F	201	14/15	0.81	0.14	77,88,91,91	0
8	SO4	E	301	5/5	0.84	0.12	97,97,99,100	0
6	NAG	A	201	14/15	0.86	0.12	79,84,88,88	0
9	EDO	J	301	4/4	0.88	0.14	42,44,50,53	0
7	MG	C	201	1/1	0.89	0.34	63,63,63,63	0
7	MG	B	201	1/1	0.90	0.34	50,50,50,50	0

6.5 Other polymers [i](#)

There are no such residues in this entry.