WORLDWIDE PDB PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Oct 19, 2023 – 07:16 pm BST

PDB ID	:	8QT5
Title	:	Crystal structure of Arabidopsis thaliana 14-3-3 isoform lambda in complex with a phosphopeptide from the transcription factor BZR1.
Authors	:	Hothorn, M.; Obergfell, E.
Deposited on	:	2023-10-12
Resolution	:	2.69 Å(reported)

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

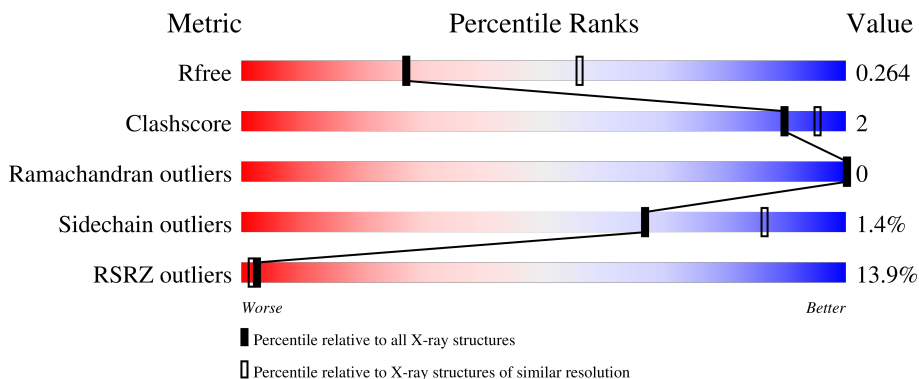|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1　Overall quality at a glance　ⓘ

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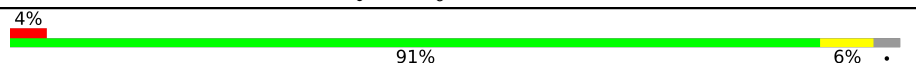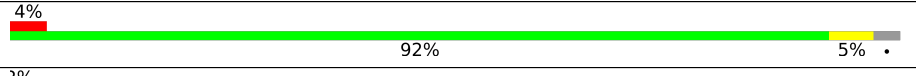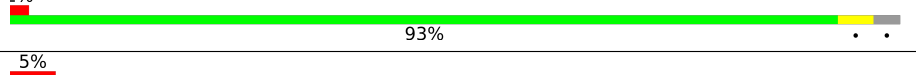*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.69 Å.

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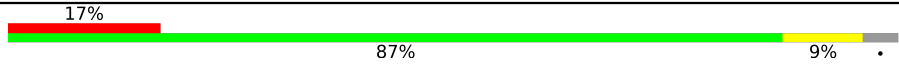

	Metric	Percentile Ranks	Value
Rfree			0.264
Clashscore			2
Ramachandran outliers			0
Sidechain outliers			1.4%
RSRZ outliers			13.9%

Worse　　　　　*Better*

■ Percentile relative to all X-ray structures
▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	2808 (2.70-2.70)
Clashscore	141614	3122 (2.70-2.70)
Ramachandran outliers	138981	3069 (2.70-2.70)
Sidechain outliers	138945	3069 (2.70-2.70)
RSRZ outliers	127900	2737 (2.70-2.70)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments 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	255	4% ... 91% ... 6% ·
1	B	255	4% ... 92% ... 5% ·
1	C	255	2% ... 93% ... · ·
1	D	255	2% ... 93% ... · ·
1	E	255	5% ... 91% ... 5% ·

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Mol	Chain	Length	Quality of chain
1	F	255	17% / 87% / 9% / ·
1	G	255	60% / 86% / 9% / 5%

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 27061 atoms, of which 13407 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 14-3-3-like protein G-BOX factor 14 lambda,Protein BRASSI NAZOLE-RESISTANT 1.

Mol	Chain	Residues	Atoms							ZeroOcc	AltConf	Trace
1	A	248	Total	C	H	N	O	P	S	0	1	0
			3900	1230	1933	326	397	1	13			
1	B	247	Total	C	H	N	O	P	S	0	0	0
			3877	1222	1922	326	394	1	12			
1	C	246	Total	C	H	N	O	P	S	0	0	0
			3862	1217	1916	325	391	1	12			
1	D	247	Total	C	H	N	O	P	S	0	0	0
			3870	1221	1917	324	395	1	12			
1	E	247	Total	C	H	N	O	P	S	0	1	0
			3885	1226	1927	324	395	1	12			
1	F	245	Total	C	H	N	O	P	S	0	0	0
			3839	1211	1904	321	390	1	12			
1	G	242	Total	C	H	N	O	P	S	0	0	0
			3792	1197	1882	317	384	1	11			

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1174	ALA	CYS	engineered mutation	UNP Q8S307
B	1174	ALA	CYS	engineered mutation	UNP Q8S307
C	1174	ALA	CYS	engineered mutation	UNP Q8S307
D	1174	ALA	CYS	engineered mutation	UNP Q8S307
E	1174	ALA	CYS	engineered mutation	UNP Q8S307
F	1174	ALA	CYS	engineered mutation	UNP Q8S307
G	1174	ALA	CYS	engineered mutation	UNP Q8S307

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

ACT

OXT

O⁻

C

CH3

O

O

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total 7	C 2	H 3	O 2	0	0
2	F	1	Total 7	C 2	H 3	O 2	0	0

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	7	Total 7	O 7	0	0
3	B	6	Total 6	O 6	0	0
3	C	2	Total 2	O 2	0	0
3	D	1	Total 1	O 1	0	0
3	E	6	Total 6	O 6	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 ele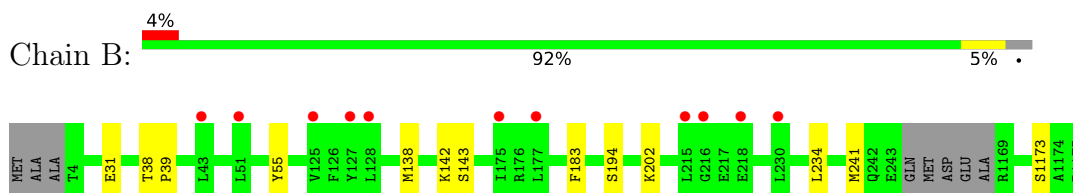ctron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: 14-3-3-like protein G-BOX factor 14 lambda,Protein BRASSINAZOLE-RESISTANT 1
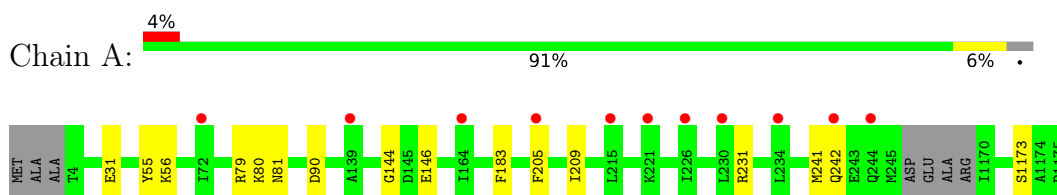
• Molecule 1: 14-3-3-like protein G-BOX factor 14 lambda,Protein BRASSINAZOLE-RESISTANT 1

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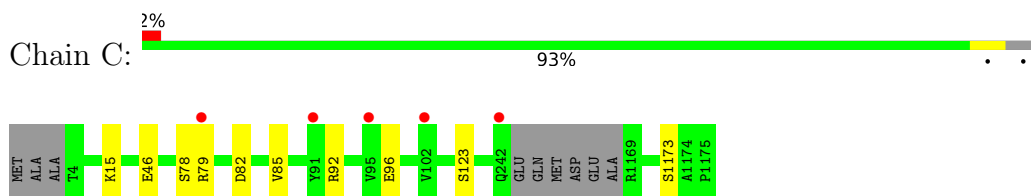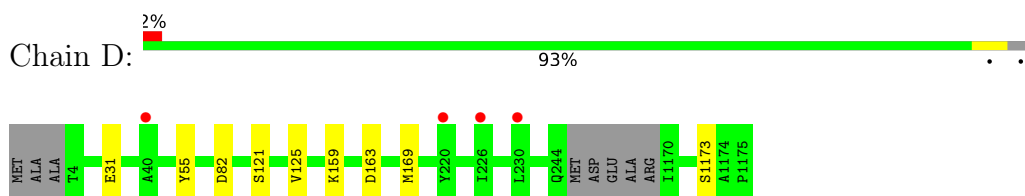

• Molecule 1: 14-3-3-like protein G-BOX factor 14 lambda,Protein BRASSINAZOLE-RESISTANT 1

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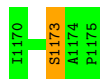
Chain F:

• Molecule 1: 14-3-3-like protein G-BOX factor 14 lambda,Protein BRASSINAZOLE-RESISTANT 1

Chain G:
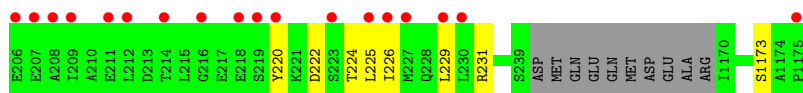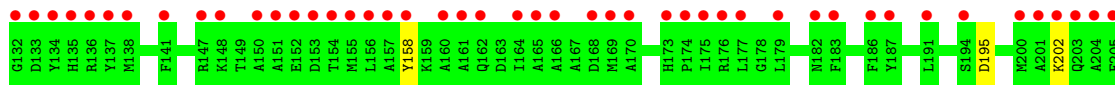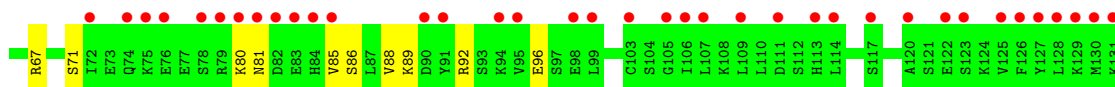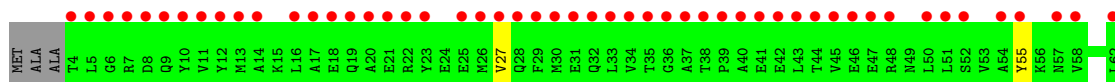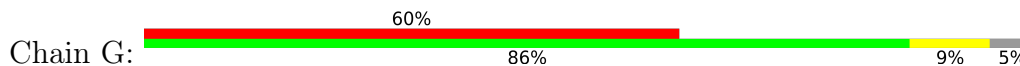
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 31 2 1	Depositor
Cell constants a, b, c, α, β, γ	176.05Å　　176.05Å　　172.03Å 90.00°　　90.00°　　120.00°	Depositor
Resolution (Å)	74.92　–　2.69 78.36　–　2.69	Depositor EDS
% Data completeness (in resolution range)	98.3 (74.92-2.69) 98.5 (78.36-2.69)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.18 (at 2.69Å)	Xtriage
Refinement program	PHENIX 1.20.1_4487	Depositor
R, R_{free}	0.241　,　0.262 0.243　,　0.264	Depositor DCC
R_{free} test set	4235 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	86.3	Xtriage
Anisotropy	0.268	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 57.4	EDS
L-test for twinning[2]	$< \|L\| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.018 for -h,-k,l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	27061	wwPDB-VP
Average B, all atoms (Å^2)	128.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.73% 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, SEP

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	0.25	0/1988	0.43	0/2676
1	B	0.24	0/1973	0.43	0/2656
1	C	0.24	0/1964	0.42	0/2644
1	D	0.24	0/1971	0.42	0/2654
1	E	0.25	0/1979	0.43	0/2665
1	F	0.25	0/1953	0.44	0/2630
1	G	0.24	0/1928	0.42	0/2597
All	All	0.25	0/13756	0.43	0/18522

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1967	1933	1933	4	1
1	B	1955	1922	1921	6	0
1	C	1946	1916	1914	5	0
1	D	1953	1917	1916	5	0
1	E	1958	1927	1927	6	1
1	F	1935	1904	1901	13	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	G	1910	1882	1880	12	0
2	A	4	3	3	0	0
2	F	4	3	3	0	0
3	A	7	0	0	1	0
3	B	6	0	0	0	0
3	C	2	0	0	0	0
3	D	1	0	0	0	0
3	E	6	0	0	0	0
All	All	13654	13407	13398	48	1

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 2.

All (48) 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:125:VAL:HG21	1:D:169:MET:SD	2.16	0.85
1:F:236:LEU:O	1:G:231:ARG:NH1	2.25	0.69
1:G:92:ARG:NH1	1:G:96:GLU:OE2	2.25	0.69
1:E:125:VAL:HG21	1:E:169:MET:SD	2.36	0.65
1:A:146:GLU:HB2	3:A:1302:HOH:O	1.99	0.62
1:D:121:SER:O	1:D:125:VAL:HG22	2.00	0.60
1:A:31:GLU:OE2	1:A:55:TYR:OH	2.23	0.56
1:C:92:ARG:NH1	1:C:96:GLU:OE2	2.40	0.55
1:E:31:GLU:OE2	1:E:55:TYR:OH	2.25	0.55
1:G:67:ARG:O	1:G:71:SER:N	2.34	0.54
1:D:31:GLU:OE2	1:D:55:TYR:OH	2.26	0.54
1:D:159:LYS:NZ	1:D:163:ASP:OD1	2.40	0.53
1:A:144:GLY:O	1:A:146:GLU:N	2.43	0.52
1:F:201:ALA:HB3	1:F:234:LEU:HD21	1.93	0.51
1:G:85:VAL:HA	1:G:88:VAL:HG12	1.94	0.50
1:F:139:ALA:O	1:F:147:ARG:NH1	2.44	0.49
1:F:38:THR:HB	1:F:39:PRO:HA	1.95	0.49
1:E:75:LYS:HE2	1:E:79:ARG:CZ	2.44	0.48
1:C:15:LYS:NZ	1:C:46:GLU:OE2	2.35	0.48
1:G:222:ASP:O	1:G:226:ILE:HD12	2.14	0.47
1:B:38:THR:HB	1:B:39:PRO:HA	1.97	0.47
1:E:139:ALA:O	1:E:147:ARG:NH1	2.46	0.47
1:F:218:GLU:OE1	1:F:218:GLU:N	2.42	0.47
1:G:89:LYS:CE	1:G:89:LYS:HA	2.45	0.47
1:B:202:LYS:CG	1:B:234:LEU:HD21	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:38:THR:HB	1:E:39:PRO:HA	1.97	0.46
1:C:82:ASP:HA	1:C:85:VAL:HG22	1.97	0.46
1:B:194:SER:OG	1:B:241:MET:SD	2.75	0.45
1:B:31:GLU:OE2	1:B:55:TYR:OH	2.34	0.45
1:G:225:LEU:O	1:G:229:LEU:HD23	2.16	0.45
1:F:225:LEU:O	1:F:229:LEU:HD23	2.16	0.45
1:G:89:LYS:HA	1:G:89:LYS:HE2	2.00	0.44
1:B:202:LYS:HG2	1:B:234:LEU:HD21	1.98	0.44
1:C:78:SER:O	1:C:79:ARG:HB3	2.18	0.44
1:F:44:THR:HG23	1:F:47:GLU:H	1.84	0.43
1:C:78:SER:O	1:C:79:ARG:CB	2.67	0.43
1:F:67:ARG:NE	1:G:195:ASP:OD2	2.46	0.43
1:F:165:ALA:HA	1:F:169:MET:HG2	2.02	0.42
1:F:222:ASP:O	1:F:226:ILE:HD12	2.19	0.42
1:A:205:PHE:CE2	1:A:209:ILE:HD11	2.55	0.42
1:G:220:TYR:CZ	1:G:224:THR:HG21	2.55	0.42
1:D:82:ASP:N	1:D:82:ASP:OD1	2.54	0.41
1:F:169:MET:O	1:F:176:ARG:NH1	2.54	0.41
1:F:236:LEU:HD11	1:G:202:LYS:HG3	2.03	0.41
1:B:138:MET:O	1:B:142:LYS:HG2	2.22	0.40
1:F:27:VAL:HG13	1:F:55:TYR:CE1	2.56	0.40
1:E:63:ARG:HH12	1:E:1173:SEP:P	2.44	0.40
1:G:27:VAL:HG13	1:G:55:TYR:CZ	2.56	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:90:ASP:OD1	1:E:79:ARG:NH1[3_454]	2.11	0.09

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	244/255 (96%)	237 (97%)	7 (3%)	0	100	100
1	B	242/255 (95%)	239 (99%)	3 (1%)	0	100	100
1	C	241/255 (94%)	236 (98%)	5 (2%)	0	100	100
1	D	242/255 (95%)	239 (99%)	3 (1%)	0	100	100
1	E	243/255 (95%)	239 (98%)	4 (2%)	0	100	100
1	F	240/255 (94%)	235 (98%)	5 (2%)	0	100	100
1	G	237/255 (93%)	233 (98%)	4 (2%)	0	100	100
All	All	1689/1785 (95%)	1658 (98%)	31 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	212/215 (99%)	204 (96%)	8 (4%)	33	62
1	B	210/215 (98%)	208 (99%)	2 (1%)	76	91
1	C	209/215 (97%)	208 (100%)	1 (0%)	88	96
1	D	210/215 (98%)	210 (100%)	0	100	100
1	E	211/215 (98%)	208 (99%)	3 (1%)	67	86
1	F	208/215 (97%)	206 (99%)	2 (1%)	76	91
1	G	205/215 (95%)	201 (98%)	4 (2%)	55	81
All	All	1465/1505 (97%)	1445 (99%)	20 (1%)	67	86

All (20) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	56	LYS
1	A	79	ARG
1	A	80	LYS
1	A	81	ASN

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Mol	Chain	Res	Type
1	A	183	PHE
1	A	231	ARG
1	A	241	MET
1	A	242	GLN
1	B	143	SER
1	B	183	PHE
1	C	123	SER
1	E	86	SER
1	E	183	PHE
1	E	215	LEU
1	F	196	LYS
1	F	239	SER
1	G	80	LYS
1	G	81	ASN
1	G	86	SER
1	G	158	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	81	ASN
1	A	244	GLN
1	B	81	ASN
1	G	81	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

7 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
1	SEP	E	1173	1	8,9,10	1.54	2 (25%)	8,12,14	2.19	2 (25%)
1	SEP	G	1173	1	8,9,10	1.56	1 (12%)	8,12,14	1.59	2 (25%)
1	SEP	A	1173	1	8,9,10	1.64	1 (12%)	8,12,14	2.02	2 (25%)
1	SEP	C	1173	1	8,9,10	1.55	1 (12%)	8,12,14	1.98	2 (25%)
1	SEP	F	1173	1	8,9,10	1.59	1 (12%)	8,12,14	1.73	2 (25%)
1	SEP	D	1173	1	8,9,10	1.60	1 (12%)	8,12,14	2.06	2 (25%)
1	SEP	B	1173	1	8,9,10	1.63	1 (12%)	8,12,14	1.99	2 (25%)

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
1	SEP	E	1173	1	-	0/5/8/10	-
1	SEP	G	1173	1	-	0/5/8/10	-
1	SEP	A	1173	1	-	0/5/8/10	-
1	SEP	C	1173	1	-	0/5/8/10	-
1	SEP	F	1173	1	-	0/5/8/10	-
1	SEP	D	1173	1	-	0/5/8/10	-
1	SEP	B	1173	1	-	0/5/8/10	-

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	1173	SEP	P-O1P	3.68	1.62	1.50
1	A	1173	SEP	P-O1P	3.61	1.62	1.50
1	D	1173	SEP	P-O1P	3.52	1.61	1.50
1	F	1173	SEP	P-O1P	3.49	1.61	1.50
1	G	1173	SEP	P-O1P	3.40	1.61	1.50
1	C	1173	SEP	P-O1P	3.21	1.60	1.50
1	E	1173	SEP	P-O1P	3.16	1.60	1.50
1	E	1173	SEP	P-O2P	2.01	1.62	1.54

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	1173	SEP	OG-CB-CA	4.40	112.43	108.14
1	E	1173	SEP	OG-CB-CA	4.22	112.25	108.14
1	D	1173	SEP	OG-CB-CA	4.19	112.22	108.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	1173	SEP	P-OG-CB	-4.19	106.75	118.30
1	A	1173	SEP	OG-CB-CA	3.90	111.94	108.14
1	E	1173	SEP	P-OG-CB	-3.87	107.63	118.30
1	A	1173	SEP	P-OG-CB	-3.73	108.03	118.30
1	F	1173	SEP	OG-CB-CA	3.72	111.77	108.14
1	D	1173	SEP	P-OG-CB	-3.53	108.56	118.30
1	B	1173	SEP	OG-CB-CA	3.42	111.48	108.14
1	G	1173	SEP	OG-CB-CA	2.88	110.94	108.14
1	G	1173	SEP	P-OG-CB	-2.84	110.47	118.30
1	C	1173	SEP	P-OG-CB	-2.67	110.93	118.30
1	F	1173	SEP	P-OG-CB	-2.54	111.30	118.30

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	E	1173	SEP	1	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

2 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
2	ACT	A	1201	-	3,3,3	1.16	0	3,3,3	1.41	0
2	ACT	F	1201	-	3,3,3	1.15	0	3,3,3	1.47	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	247/255 (96%)	0.77	11 (4%)	33	31	64, 84, 130, 160	0
1	B	246/255 (96%)	0.63	11 (4%)	33	31	70, 93, 146, 221	0
1	C	245/255 (96%)	0.53	5 (2%)	65	67	74, 91, 148, 187	0
1	D	246/255 (96%)	0.49	4 (1%)	72	74	82, 104, 147, 176	0
1	E	246/255 (96%)	0.83	13 (5%)	26	25	69, 91, 135, 195	0
1	F	244/255 (95%)	1.01	43 (17%)	1	1	68, 120, 166, 220	0
1	G	241/255 (94%)	3.31	152 (63%)	0	0	143, 213, 253, 294	0
All	All	1715/1785 (96%)	1.07	239 (13%)	2	2	64, 101, 221, 294	0

All (239) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	79	ARG	15.5
1	G	80	LYS	11.1
1	G	91	TYR	10.8
1	G	127	TYR	10.8
1	G	204	ALA	10.5
1	G	43	LEU	10.3
1	G	47	GLU	10.1
1	G	218	GLU	9.8
1	G	164	ILE	9.2
1	G	207	GLU	8.9
1	G	130	MET	8.8
1	G	44	THR	8.7
1	G	37	ALA	8.6
1	G	179	LEU	8.5
1	G	75	LYS	8.4
1	G	13	MET	8.3
1	G	12	TYR	8.2

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Mol	Chain	Res	Type	RSRZ
1	G	169	MET	7.9
1	G	14	ALA	7.8
1	G	39	PRO	7.8
1	G	175	ILE	7.7
1	G	208	ALA	7.3
1	G	48	ARG	7.3
1	G	168	ASP	7.2
1	G	203	GLN	7.0
1	G	154	THR	6.9
1	G	26	MET	6.8
1	G	126	PHE	6.8
1	G	113	HIS	6.8
1	G	17	ALA	6.6
1	G	55	TYR	6.4
1	G	158	TYR	6.3
1	G	34	VAL	6.3
1	G	165	ALA	6.1
1	G	32	GLN	6.1
1	G	35	THR	6.1
1	G	131	LYS	5.9
1	G	30	MET	5.8
1	G	114	LEU	5.8
1	G	33	LEU	5.7
1	G	84	HIS	5.7
1	G	23	TYR	5.7
1	G	200	MET	5.6
1	G	52	SER	5.6
1	G	20	ALA	5.6
1	G	21	GLU	5.5
1	G	50	LEU	5.5
1	G	160	ALA	5.4
1	F	187	TYR	5.4
1	G	78	SER	5.4
1	G	205	PHE	5.4
1	G	211	GLU	5.3
1	G	226	ILE	5.3
1	G	219	SER	5.3
1	G	157	ALA	5.3
1	G	202	LYS	5.3
1	G	36	GLY	5.3
1	G	76	GLU	5.2
1	G	98	GLU	5.2

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Mol	Chain	Res	Type	RSRZ
1	F	237	TRP	5.2
1	G	16	LEU	5.2
1	G	137	TYR	5.1
1	G	174	PRO	5.1
1	G	138	MET	5.1
1	G	29	PHE	5.0
1	F	227	MET	4.9
1	G	111	ASP	4.9
1	G	120	ALA	4.7
1	F	238	THR	4.6
1	G	7	ARG	4.5
1	G	187	TYR	4.5
1	G	176	ARG	4.5
1	G	11	VAL	4.5
1	G	122	GLU	4.5
1	G	153	ASP	4.4
1	G	41	GLU	4.2
1	G	38	THR	4.2
1	G	51	LEU	4.2
1	G	9	GLN	4.2
1	G	212	LEU	4.1
1	G	201	ALA	4.1
1	G	81	ASN	4.1
1	G	54	ALA	4.1
1	F	214	THR	4.0
1	G	58	VAL	4.0
1	G	133	ASP	4.0
1	F	205	PHE	3.9
1	G	150	ALA	3.9
1	G	147	ARG	3.9
1	G	4	THR	3.9
1	G	40	ALA	3.9
1	G	5	LEU	3.8
1	G	151	ALA	3.8
1	G	105	GLY	3.8
1	F	230	LEU	3.7
1	A	234	LEU	3.7
1	G	83	GLU	3.7
1	G	1175	PRO	3.7
1	F	119	GLY	3.7
1	A	244	GLN	3.7
1	G	230	LEU	3.6

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Mol	Chain	Res	Type	RSRZ
1	G	220	TYR	3.6
1	G	10	TYR	3.6
1	G	109	LEU	3.6
1	F	215	LEU	3.5
1	F	212	LEU	3.5
1	G	25	GLU	3.5
1	G	206	GLU	3.5
1	G	128	LEU	3.5
1	D	230	LEU	3.5
1	F	128	LEU	3.5
1	F	197	ALA	3.4
1	G	132	GLY	3.4
1	G	125	VAL	3.4
1	G	191	LEU	3.3
1	F	229	LEU	3.3
1	F	231	ARG	3.3
1	E	109[A]	LEU	3.3
1	G	72	ILE	3.3
1	G	209	ILE	3.3
1	G	134	TYR	3.2
1	G	99	LEU	3.2
1	G	74	GLN	3.2
1	G	156	LEU	3.2
1	G	135	HIS	3.2
1	B	218	GLU	3.1
1	G	31	GLU	3.1
1	G	173	HIS	3.1
1	A	230	LEU	3.1
1	B	216	GLY	3.1
1	G	136	ARG	3.1
1	F	190	ILE	3.1
1	F	43	LEU	3.0
1	E	226	ILE	3.0
1	G	186	PHE	3.0
1	G	216	GLY	3.0
1	G	183	PHE	2.9
1	G	27	VAL	2.9
1	F	177	LEU	2.9
1	G	45	VAL	2.9
1	F	239	SER	2.9
1	F	5	LEU	2.9
1	G	223	SER	2.9

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Mol	Chain	Res	Type	RSRZ
1	G	95	VAL	2.9
1	G	141	PHE	2.9
1	E	230	LEU	2.9
1	A	72	ILE	2.9
1	G	129	LYS	2.8
1	B	125	VAL	2.8
1	F	130	MET	2.8
1	F	183	PHE	2.8
1	F	191	LEU	2.8
1	F	107	LEU	2.8
1	A	205	PHE	2.8
1	G	85	VAL	2.8
1	E	205	PHE	2.7
1	G	177	LEU	2.7
1	G	18	GLU	2.7
1	G	19	GLN	2.7
1	D	40	ALA	2.7
1	G	6	GLY	2.7
1	G	152	GLU	2.7
1	G	225	LEU	2.7
1	G	161	ALA	2.7
1	A	221	LYS	2.7
1	G	170	ALA	2.6
1	F	7	ARG	2.6
1	E	212	LEU	2.6
1	F	195	ASP	2.6
1	G	42	GLU	2.6
1	G	166	ALA	2.6
1	G	62	LEU	2.6
1	F	220	TYR	2.5
1	B	215	LEU	2.5
1	B	230	LEU	2.5
1	G	148	LYS	2.5
1	F	51	LEU	2.5
1	F	234	LEU	2.5
1	G	107	LEU	2.5
1	G	46	GLU	2.5
1	G	155	MET	2.5
1	G	214	THR	2.5
1	B	175	ILE	2.5
1	E	68	ILE	2.5
1	B	177	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
1	F	1175	PRO	2.4
1	G	103	CYS	2.4
1	F	225	LEU	2.4
1	G	229	LEU	2.4
1	G	94	LYS	2.4
1	F	171	PRO	2.4
1	E	179	LEU	2.4
1	G	22	ARG	2.4
1	D	226	ILE	2.3
1	G	162	GLN	2.3
1	B	51	LEU	2.3
1	E	139	ALA	2.3
1	G	117	SER	2.3
1	F	108	LYS	2.3
1	E	118	ALA	2.3
1	B	128	LEU	2.3
1	F	110	LEU	2.3
1	E	4	THR	2.3
1	A	242	GLN	2.3
1	F	118	ALA	2.2
1	E	175	ILE	2.2
1	G	8	ASP	2.2
1	G	28	GLN	2.2
1	E	51	LEU	2.2
1	F	199	ASN	2.2
1	G	82	ASP	2.2
1	F	200	MET	2.2
1	C	91	TYR	2.2
1	F	34	VAL	2.2
1	A	215	LEU	2.2
1	G	227	MET	2.2
1	E	209	ILE	2.2
1	F	155	MET	2.2
1	C	79	ARG	2.2
1	B	127	TYR	2.1
1	C	95	VAL	2.1
1	F	95	VAL	2.1
1	C	242	GLN	2.1
1	A	139	ALA	2.1
1	F	210	ALA	2.1
1	G	123	SER	2.1
1	A	164	ILE	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	220	TYR	2.1
1	G	90	ASP	2.1
1	F	186	PHE	2.1
1	G	57	ASN	2.1
1	C	102	VAL	2.0
1	A	226	ILE	2.0
1	G	194	SER	2.0
1	G	182	ASN	2.0
1	F	235	THR	2.0
1	B	43	LEU	2.0
1	G	106	ILE	2.0
1	F	181	LEU	2.0

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

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	SEP	G	1173	10/11	0.86	0.15	173,186,215,215	0
1	SEP	D	1173	10/11	0.89	0.21	80,87,106,108	0
1	SEP	E	1173	10/11	0.91	0.25	75,82,99,104	0
1	SEP	F	1173	10/11	0.93	0.19	81,94,115,120	0
1	SEP	A	1173	10/11	0.93	0.26	62,76,93,99	0
1	SEP	B	1173	10/11	0.94	0.20	79,81,100,102	0
1	SEP	C	1173	10/11	0.94	0.18	75,78,97,98	0

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	ACT	F	1201	4/4	0.82	0.53	103,112,136,136	0
2	ACT	A	1201	4/4	0.85	0.38	89,91,108,108	0

6.5 Other polymers ⓘ

There are no such residues in this entry.