



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 11:36 AM UTC

PDB ID : 5OKF / pdb_00005okf
Title : CH1 chimera of human 14-3-3 sigma with the HSPB6 phosphopeptide in a conformation with self-bound phosphopeptides
Authors : Sluchanko, N.N.; Tugaeva, K.V.; Greive, S.J.; Antson, A.A.
Deposited on : 2017-07-25
Resolution : 3.20 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

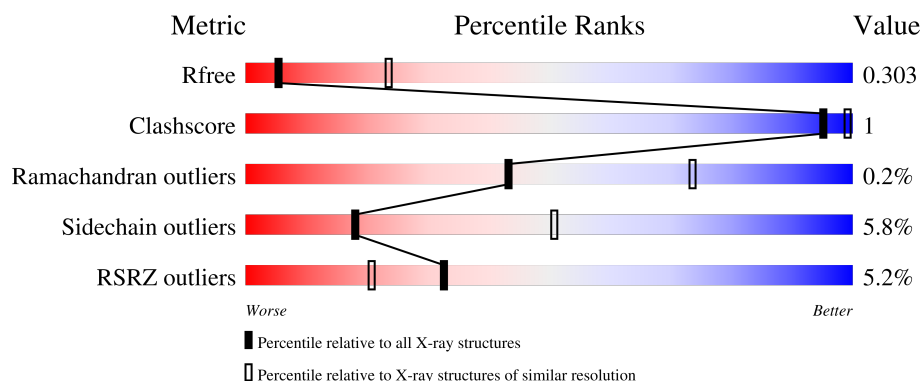
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.20 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	1466 (3.20-3.20)
Clashscore	190562	1573 (3.20-3.20)
Ramachandran outliers	187476	1548 (3.20-3.20)
Sidechain outliers	187428	1547 (3.20-3.20)
RSRZ outliers	180081	1466 (3.20-3.20)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	246	4% 87% 6% • 6%
1	B	246	5% 86% 7% 7%
1	C	246	4% 83% 9% • 6%
1	D	246	6% 85% 7% • 7%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 14370 atoms, of which 7043 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 protein sigma,Heat shock protein beta-6.

Mol	Chain	Residues	Atoms								ZeroOcc	AltConf	Trace
1	A	231	Total	C	H	N	O	P	S		0	0	0
			3568	1137	1744	314	362	1	10				
1	B	228	Total	C	H	N	O	P	S		0	0	0
			3569	1129	1759	313	357	1	10				
1	C	231	Total	C	H	N	O	P	S		0	0	0
			3608	1143	1777	316	361	1	10				
1	D	230	Total	C	H	N	O	P	S		0	0	0
			3586	1139	1763	315	358	1	10				

There are 40 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	GLY	-	expression tag	UNP P31947
A	-1	PRO	-	expression tag	UNP P31947
A	0	HIS	-	expression tag	UNP P31947
A	75	ALA	GLU	engineered mutation	UNP P31947
A	76	ALA	GLU	engineered mutation	UNP P31947
A	77	ALA	LYS	engineered mutation	UNP P31947
A	232	GLY	-	linker	UNP P31947
A	233	SER	-	linker	UNP P31947
A	234	GLY	-	linker	UNP P31947
A	235	SER	-	linker	UNP P31947
B	-2	GLY	-	expression tag	UNP P31947
B	-1	PRO	-	expression tag	UNP P31947
B	0	HIS	-	expression tag	UNP P31947
B	75	ALA	GLU	engineered mutation	UNP P31947
B	76	ALA	GLU	engineered mutation	UNP P31947
B	77	ALA	LYS	engineered mutation	UNP P31947
B	232	GLY	-	linker	UNP P31947
B	233	SER	-	linker	UNP P31947
B	234	GLY	-	linker	UNP P31947
B	235	SER	-	linker	UNP P31947
C	-2	GLY	-	expression tag	UNP P31947

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-1	PRO	-	expression tag	UNP P31947
C	0	HIS	-	expression tag	UNP P31947
C	75	ALA	GLU	engineered mutation	UNP P31947
C	76	ALA	GLU	engineered mutation	UNP P31947
C	77	ALA	LYS	engineered mutation	UNP P31947
C	232	GLY	-	linker	UNP P31947
C	233	SER	-	linker	UNP P31947
C	234	GLY	-	linker	UNP P31947
C	235	SER	-	linker	UNP P31947
D	-2	GLY	-	expression tag	UNP P31947
D	-1	PRO	-	expression tag	UNP P31947
D	0	HIS	-	expression tag	UNP P31947
D	75	ALA	GLU	engineered mutation	UNP P31947
D	76	ALA	GLU	engineered mutation	UNP P31947
D	77	ALA	LYS	engineered mutation	UNP P31947
D	232	GLY	-	linker	UNP P31947
D	233	SER	-	linker	UNP P31947
D	234	GLY	-	linker	UNP P31947
D	235	SER	-	linker	UNP P31947

- Molecule 2 is CADMIUM ION (CCD ID: CD) (formula: Cd).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	5	Total Cd 5 5	0	0
2	B	6	Total Cd 6 6	0	0
2	C	2	Total Cd 2 2	0	0
2	D	4	Total Cd 4 4	0	0

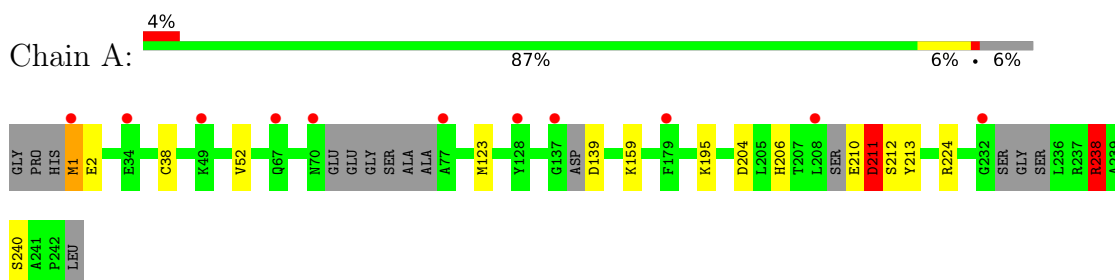
- Molecule 3 is water.

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	6	Total O 6 6	0	0
3	D	2	Total O 2 2	0	0

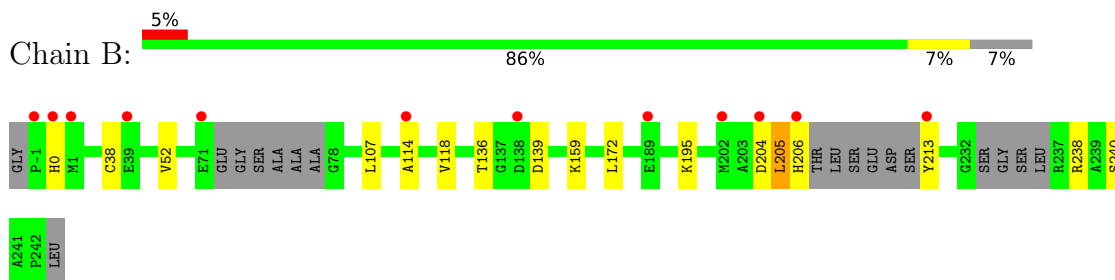
3 Residue-property plots [i](#)

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.

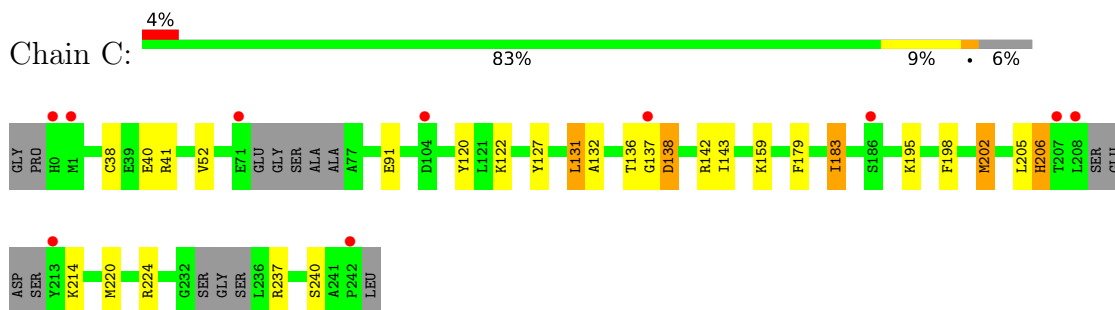
- Molecule 1: 14-3-3 protein sigma,Heat shock protein beta-6



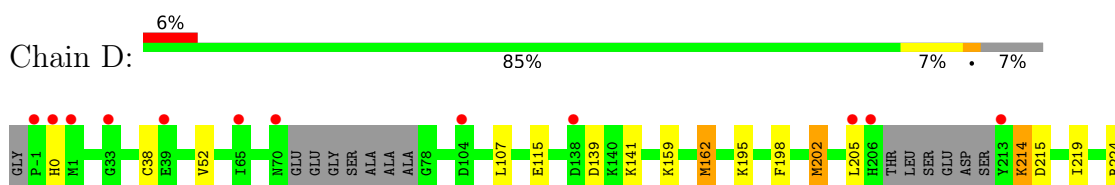
- Molecule 1: 14-3-3 protein sigma,Heat shock protein beta-6

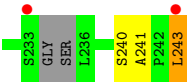


- Molecule 1: 14-3-3 protein sigma,Heat shock protein beta-6



- Molecule 1: 14-3-3 protein sigma,Heat shock protein beta-6





4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	77.40Å 97.76Å 158.83Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.00 – 3.20 48.00 – 3.20	Depositor EDS
% Data completeness (in resolution range)	100.0 (48.00-3.20) 99.9 (48.00-3.20)	Depositor EDS
R_{merge}	0.46	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.38 (at 3.12Å)	Xtriage
Refinement program	BUSTER 2.10.3	Depositor
R, R_{free}	0.247 , 0.279 (Not available) , 0.303	Depositor DCC
R_{free} test set	1075 reflections (4.92%)	wwPDB-VP
Wilson B-factor (Å ²)	51.7	Xtriage
Anisotropy	0.477	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 68.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	14370	wwPDB-VP
Average B, all atoms (Å ²)	67.0	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 55.44 % 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 3.1636e-05. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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: CD, CSO, 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	0.73	0/1828	1.06	1/2451 (0.0%)
1	B	0.84	1/1817 (0.1%)	1.19	5/2437 (0.2%)
1	C	0.84	1/1837 (0.1%)	1.18	6/2465 (0.2%)
1	D	0.91	2/1830 (0.1%)	1.19	8/2455 (0.3%)
All	All	0.83	4/7312 (0.1%)	1.16	20/9808 (0.2%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	202	MET	SD-CE	-8.65	1.57	1.79
1	D	162	MET	SD-CE	-6.97	1.62	1.79
1	C	202	MET	SD-CE	-6.92	1.62	1.79
1	B	205	LEU	CA-C	6.59	1.60	1.52

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	215	ASP	N-CA-C	-7.03	103.97	112.54
1	C	206	HIS	CA-CB-CG	6.79	120.59	113.80
1	B	0	HIS	N-CA-C	-6.70	103.79	112.23
1	D	214	LYS	N-CA-C	-6.66	104.72	112.92
1	A	211	ASP	CA-CB-CG	6.17	118.77	112.60
1	B	205	LEU	CA-C-N	6.06	132.61	121.70
1	B	205	LEU	C-N-CA	6.06	132.61	121.70
1	C	138	ASP	N-CA-C	-5.89	102.56	111.34
1	B	204	ASP	CA-CB-CG	5.77	118.37	112.60
1	D	0	HIS	N-CA-C	-5.68	104.70	111.69
1	C	136	THR	CA-C-N	5.54	132.26	121.41
1	C	136	THR	C-N-CA	5.54	132.26	121.41
1	D	215	ASP	CA-C-N	5.27	127.78	120.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	215	ASP	C-N-CA	5.27	127.78	120.29
1	D	224	ARG	CA-C-N	5.12	127.40	120.44
1	D	224	ARG	C-N-CA	5.12	127.40	120.44
1	B	107	LEU	N-CA-C	5.11	117.64	111.40
1	D	107	LEU	N-CA-C	5.04	117.55	111.40
1	C	91	GLU	CA-C-N	5.02	126.97	120.44
1	C	91	GLU	C-N-CA	5.02	126.97	120.44

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	1824	1744	1804	7	0
1	B	1810	1759	1789	1	0
1	C	1831	1777	1816	6	1
1	D	1823	1763	1809	3	1
2	A	5	0	0	0	0
2	B	6	0	0	0	0
2	C	2	0	0	0	0
2	D	4	0	0	0	0
3	A	5	0	0	0	0
3	B	9	0	0	1	0
3	C	6	0	0	0	0
3	D	2	0	0	0	0
All	All	7327	7043	7218	17	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 1.

All (17) 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:A:1:MET:HG3	1:A:2:GLU:H	1.03	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1:MET:HG3	1:A:2:GLU:N	1.79	0.89
1:A:1:MET:CG	1:A:2:GLU:N	2.57	0.62
1:A:1:MET:CG	1:A:2:GLU:H	1.93	0.54
1:D:115:GLU:HA	1:D:162:MET:CE	2.38	0.54
1:B:114:ALA:O	1:B:118:VAL:HG23	2.12	0.50
3:B:404:HOH:O	1:C:142:ARG:HB3	2.15	0.47
1:C:132:ALA:HB2	1:C:143:ILE:HG22	1.97	0.46
1:D:241:ALA:HB1	1:D:243:LEU:HB2	1.98	0.46
1:A:238:ARG:HD2	1:A:238:ARG:C	2.42	0.45
1:D:198:PHE:CE1	1:D:202:MET:CE	3.00	0.45
1:C:198:PHE:CE1	1:C:202:MET:CE	3.00	0.44
1:C:127:TYR:O	1:C:131:LEU:HD12	2.18	0.43
1:A:210:GLU:HG3	1:A:211:ASP:H	1.84	0.42
1:A:1:MET:HE2	1:A:1:MET:HB2	1.75	0.42
1:C:179:PHE:CE2	1:C:183:ILE:HG21	2.55	0.41
1:C:41:ARG:HD2	1:C:120:TYR:CE1	2.55	0.41

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:C:40:GLU:OE2	1:D:141:LYS:NZ[3_444]	1.95	0.25

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	219/246 (89%)	211 (96%)	7 (3%)	1 (0%)	24	59
1	B	218/246 (89%)	211 (97%)	7 (3%)	0	100	100
1	C	221/246 (90%)	210 (95%)	10 (4%)	1 (0%)	24	59
1	D	220/246 (89%)	210 (96%)	10 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	878/984 (89%)	842 (96%)	34 (4%)	2 (0%)	43 73

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	137	GLY
1	A	238	ARG

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	190/201 (94%)	177 (93%)	13 (7%)	14 46
1	B	189/201 (94%)	179 (95%)	10 (5%)	20 53
1	C	191/201 (95%)	178 (93%)	13 (7%)	14 46
1	D	191/201 (95%)	183 (96%)	8 (4%)	26 60
All	All	761/804 (95%)	717 (94%)	44 (6%)	18 51

All (44) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	MET
1	A	52	VAL
1	A	123	MET
1	A	139	ASP
1	A	159	LYS
1	A	195	LYS
1	A	204	ASP
1	A	206	HIS
1	A	211	ASP
1	A	212	SER
1	A	213	TYR
1	A	224	ARG
1	A	238	ARG

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Mol	Chain	Res	Type
1	B	52	VAL
1	B	136	THR
1	B	139	ASP
1	B	159	LYS
1	B	172	LEU
1	B	195	LYS
1	B	205	LEU
1	B	206	HIS
1	B	213	TYR
1	B	238	ARG
1	C	52	VAL
1	C	122	LYS
1	C	131	LEU
1	C	138	ASP
1	C	159	LYS
1	C	183	ILE
1	C	195	LYS
1	C	205	LEU
1	C	206	HIS
1	C	214	LYS
1	C	220	MET
1	C	224	ARG
1	C	237	ARG
1	D	52	VAL
1	D	139	ASP
1	D	159	LYS
1	D	195	LYS
1	D	205	LEU
1	D	214	LYS
1	D	219	ILE
1	D	243	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	67	GLN
1	A	70	ASN
1	B	15	GLN
1	B	67	GLN
1	B	106	HIS
1	C	70	ASN
1	C	206	HIS

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Mol	Chain	Res	Type
1	D	67	GLN
1	D	106	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

8 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	B	240	1	8,9,10	1.26	1 (12%)	7,12,14	1.93	2 (28%)
1	CSO	A	38	1	3,6,7	1.99	1 (33%)	1,6,8	0.87	0
1	CSO	B	38	1	3,6,7	4.44	1 (33%)	1,6,8	4.22	1 (100%)
1	SEP	D	240	1	8,9,10	1.12	1 (12%)	7,12,14	1.97	2 (28%)
1	SEP	C	240	1	8,9,10	1.33	2 (25%)	7,12,14	1.27	1 (14%)
1	CSO	D	38	1,2	3,6,7	3.55	1 (33%)	1,6,8	0.81	0
1	CSO	C	38	1	3,6,7	1.77	1 (33%)	1,6,8	2.29	1 (100%)
1	SEP	A	240	1	8,9,10	0.79	0	7,12,14	2.22	2 (28%)

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	B	240	1	-	1/6/8/10	-
1	CSO	A	38	1	-	1/1/5/7	-
1	CSO	B	38	1	-	0/1/5/7	-
1	SEP	D	240	1	-	0/6/8/10	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	SEP	C	240	1	-	0/6/8/10	-
1	CSO	D	38	1,2	-	1/1/5/7	-
1	CSO	C	38	1	-	1/1/5/7	-
1	SEP	A	240	1	-	1/6/8/10	-

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	38	CSO	CB-CA	7.58	1.72	1.53
1	D	38	CSO	CB-CA	6.03	1.68	1.53
1	A	38	CSO	CB-CA	3.24	1.61	1.53
1	C	38	CSO	CB-CA	2.88	1.60	1.53
1	B	240	SEP	P-OG	-2.59	1.52	1.60
1	C	240	SEP	P-O1P	2.32	1.57	1.50
1	D	240	SEP	P-O3P	-2.26	1.46	1.54
1	C	240	SEP	P-OG	-2.17	1.53	1.60

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	38	CSO	CB-CA-C	4.22	122.25	110.80
1	D	240	SEP	O2P-P-OG	3.79	116.55	106.67
1	A	240	SEP	O3P-P-OG	3.73	116.40	106.67
1	B	240	SEP	O3P-P-OG	3.17	114.93	106.67
1	B	240	SEP	O3P-P-O2P	3.08	119.34	107.80
1	D	240	SEP	O3P-P-O1P	-3.05	98.95	110.83
1	A	240	SEP	O3P-P-O2P	2.90	118.67	107.80
1	C	240	SEP	O3P-P-O2P	2.53	117.29	107.80
1	C	38	CSO	CB-CA-C	2.29	117.02	110.80

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	38	CSO	N-CA-CB-SG
1	C	38	CSO	N-CA-CB-SG
1	D	38	CSO	N-CA-CB-SG
1	A	240	SEP	CB-OG-P-O1P
1	B	240	SEP	CB-OG-P-O1P

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 17 ligands modelled in this entry, 17 are monoatomic - leaving 0 for Mogul analysis.

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	229/246 (93%)	0.65	11 (4%) 35 22	40, 72, 102, 117	0
1	B	226/246 (91%)	0.51	12 (5%) 32 20	38, 65, 103, 124	0
1	C	229/246 (93%)	0.35	10 (4%) 39 24	27, 63, 99, 130	0
1	D	228/246 (92%)	0.39	14 (6%) 27 17	23, 59, 101, 116	0
All	All	912/984 (92%)	0.48	47 (5%) 33 21	23, 66, 102, 130	0

All (47) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	208	LEU	4.8
1	A	208	LEU	3.9
1	B	39	GLU	3.8
1	C	0	HIS	3.6
1	A	34	GLU	3.5
1	D	-1	PRO	3.4
1	D	1	MET	3.1
1	A	232	GLY	3.0
1	A	137	GLY	3.0
1	D	39	GLU	2.9
1	C	186	SER	2.8
1	B	1	MET	2.7
1	B	-1	PRO	2.7
1	B	213	TYR	2.6
1	D	206	HIS	2.6
1	B	204	ASP	2.6
1	D	243	LEU	2.5
1	C	1	MET	2.5
1	D	138	ASP	2.5
1	D	233	SER	2.4
1	B	71	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	138	ASP	2.4
1	B	0	HIS	2.4
1	A	77	ALA	2.4
1	C	207	THR	2.4
1	B	189	GLU	2.4
1	D	70	ASN	2.3
1	D	205	LEU	2.3
1	C	137	GLY	2.3
1	D	65	ILE	2.3
1	A	49	LYS	2.2
1	B	114	ALA	2.2
1	B	206	HIS	2.2
1	D	213	TYR	2.2
1	A	179	PHE	2.2
1	C	104	ASP	2.2
1	A	128	TYR	2.1
1	C	213	TYR	2.1
1	A	1	MET	2.1
1	B	202	MET	2.1
1	C	71	GLU	2.1
1	D	33	GLY	2.1
1	D	0	HIS	2.1
1	C	242	PRO	2.1
1	A	70	ASN	2.1
1	D	104	ASP	2.0
1	A	67	GLN	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [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(Å ²)	Q<0.9
1	CSO	A	38	7/8	0.80	0.12	81,83,84,84	0
1	CSO	C	38	7/8	0.87	0.10	60,61,68,70	0
1	CSO	B	38	7/8	0.92	0.14	46,49,58,61	0
1	SEP	A	240	10/11	0.92	0.10	49,52,55,55	0
1	SEP	B	240	10/11	0.93	0.10	45,49,52,52	0
1	SEP	C	240	10/11	0.95	0.09	36,39,47,47	0
1	CSO	D	38	7/8	0.95	0.08	55,57,60,61	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
1	SEP	D	240	10/11	0.95	0.10	50,51,54,54	0

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
2	CD	B	305	1/1	0.47	0.17	182,182,182,182	0
2	CD	D	304	1/1	0.76	0.22	189,189,189,189	0
2	CD	C	302	1/1	0.78	0.14	186,186,186,186	0
2	CD	C	301	1/1	0.83	0.17	167,167,167,167	0
2	CD	A	304	1/1	0.85	0.09	161,161,161,161	0
2	CD	D	301	1/1	0.86	0.14	152,152,152,152	0
2	CD	A	303	1/1	0.86	0.08	178,178,178,178	0
2	CD	D	303	1/1	0.90	0.07	170,170,170,170	0
2	CD	B	303	1/1	0.93	0.10	157,157,157,157	0
2	CD	D	302	1/1	0.94	0.07	109,109,109,109	0
2	CD	B	302	1/1	0.95	0.14	110,110,110,110	0
2	CD	A	301	1/1	0.96	0.04	134,134,134,134	0
2	CD	A	305	1/1	0.96	0.06	115,115,115,115	0
2	CD	B	301	1/1	0.96	0.06	149,149,149,149	0
2	CD	B	304	1/1	0.98	0.10	107,107,107,107	0
2	CD	A	302	1/1	0.98	0.04	97,97,97,97	0
2	CD	B	306	1/1	0.99	0.03	87,87,87,87	0

6.5 Other polymers [i](#)

There are no such residues in this entry.