wwPDB X-ray Structure Validation Summary Report (i)

Jun 12, 2024 – 05:20 PM EDT

PDB ID	:	4A0K
Title	:	STRUCTURE OF DDB1-DDB2-CUL4A-RBX1 BOUND TO A 12 BP ABASIC SITE CONTAINING DNA-DUPLEX
Authors	:	Fischer, E.S.; Scrima, A.; Gut, H.; Thoma, N.H.
Deposited on	:	2011-09-09
Resolution	:	5.93 Å(reported)

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

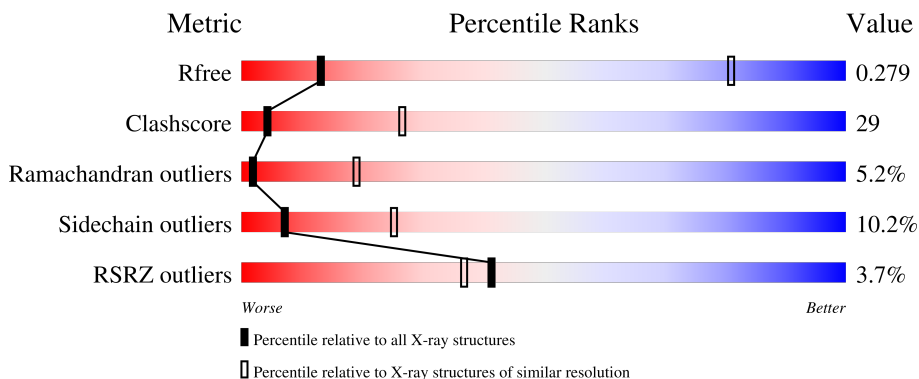|		
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	2.36.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

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 5.93 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		0.279
Clashscore		29
Ramachandran outliers		5.2%
Sidechain outliers		10.2%
RSRZ outliers		3.7%

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	1000 (8.00-3.88)
Clashscore	141614	1043 (7.94-3.90)
Ramachandran outliers	138981	1016 (8.00-3.86)
Sidechain outliers	138945	1017 (8.00-3.82)
RSRZ outliers	127900	1014 (8.00-3.78)

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	742	4% / 35% 47% 13% • •
2	B	117	2% / 7% 6% • • 82%
3	C	1159	3% / 64% 25% 6% • 5%
4	D	382	2% / 75% 15% • • 7%
5	E	12	25% / 75% 25%

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Mol	Chain	Length	Quality of chain
6	F	12	

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 17885 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 CULLIN-4A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	719	Total 5809	C 3692	N 1007	O 1076	S 34	0	0	0

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	18	MET	-	expression tag	UNP Q13619
A	19	HIS	-	expression tag	UNP Q13619
A	20	HIS	-	expression tag	UNP Q13619
A	21	HIS	-	expression tag	UNP Q13619
A	22	HIS	-	expression tag	UNP Q13619
A	23	HIS	-	expression tag	UNP Q13619
A	24	HIS	-	expression tag	UNP Q13619
A	25	VAL	-	expression tag	UNP Q13619
A	26	ASP	-	expression tag	UNP Q13619
A	27	GLU	-	expression tag	UNP Q13619
A	28	GLU	-	expression tag	UNP Q13619
A	29	ASN	-	expression tag	UNP Q13619
A	30	LEU	-	expression tag	UNP Q13619
A	31	TYR	-	expression tag	UNP Q13619
A	32	PHE	-	expression tag	UNP Q13619
A	33	GLN	-	expression tag	UNP Q13619
A	34	GLY	-	expression tag	UNP Q13619
A	35	GLY	-	expression tag	UNP Q13619
A	36	GLY	-	expression tag	UNP Q13619
A	37	ARG	-	expression tag	UNP Q13619

- Molecule 2 is a protein called E3 UBIQUITIN-PROTEIN LIGASE RBX1.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	B	21	Total 184	C 126	N 32	O 26	0	0	0

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-8	MET	-	expression tag	UNP P62877
B	-7	HIS	-	expression tag	UNP P62877
B	-6	HIS	-	expression tag	UNP P62877
B	-5	HIS	-	expression tag	UNP P62877
B	-4	HIS	-	expression tag	UNP P62877
B	-3	HIS	-	expression tag	UNP P62877
B	-2	HIS	-	expression tag	UNP P62877
B	-1	VAL	-	expression tag	UNP P62877
B	0	ASP	-	expression tag	UNP P62877
B	1	GLU	-	expression tag	UNP P62877
B	2	GLU	-	expression tag	UNP P62877
B	3	ASN	-	expression tag	UNP P62877
B	4	LEU	-	expression tag	UNP P62877
B	5	TYR	-	expression tag	UNP P62877
B	6	PHE	-	expression tag	UNP P62877
B	7	GLN	-	expression tag	UNP P62877
B	8	GLY	-	expression tag	UNP P62877
B	9	GLY	-	expression tag	UNP P62877
B	10	GLY	-	expression tag	UNP P62877
B	11	ARG	-	expression tag	UNP P62877

- Molecule 3 is a protein called DNA DAMAGE-BINDING PROTEIN 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	1105	8605	5460	1442	1657	46	0	0	0

There are 19 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	-18	MET	-	expression tag	UNP Q16531
C	-17	HIS	-	expression tag	UNP Q16531
C	-16	HIS	-	expression tag	UNP Q16531
C	-15	HIS	-	expression tag	UNP Q16531
C	-14	HIS	-	expression tag	UNP Q16531
C	-13	HIS	-	expression tag	UNP Q16531
C	-12	HIS	-	expression tag	UNP Q16531
C	-11	VAL	-	expression tag	UNP Q16531
C	-10	ASP	-	expression tag	UNP Q16531
C	-9	GLU	-	expression tag	UNP Q16531
C	-8	ASN	-	expression tag	UNP Q16531

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-7	LEU	-	expression tag	UNP Q16531
C	-6	TYR	-	expression tag	UNP Q16531
C	-5	PHE	-	expression tag	UNP Q16531
C	-4	GLN	-	expression tag	UNP Q16531
C	-3	GLY	-	expression tag	UNP Q16531
C	-2	GLY	-	expression tag	UNP Q16531
C	-1	GLY	-	expression tag	UNP Q16531
C	0	ARG	-	expression tag	UNP Q16531

- Molecule 4 is a protein called DNA DAMAGE-BINDING PROTEIN 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	D	355	2804	1781	491	521	11	0	0	0

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	76	MET	-	expression tag	UNP Q2YDS1
D	77	HIS	-	expression tag	UNP Q2YDS1
D	78	HIS	-	expression tag	UNP Q2YDS1
D	79	HIS	-	expression tag	UNP Q2YDS1
D	80	HIS	-	expression tag	UNP Q2YDS1
D	81	HIS	-	expression tag	UNP Q2YDS1
D	82	HIS	-	expression tag	UNP Q2YDS1
D	83	ARG	-	expression tag	UNP Q2YDS1
D	84	ARG	-	expression tag	UNP Q2YDS1
D	85	LEU	-	expression tag	UNP Q2YDS1
D	86	VAL	-	expression tag	UNP Q2YDS1
D	87	PRO	-	expression tag	UNP Q2YDS1
D	88	ARG	-	expression tag	UNP Q2YDS1
D	89	GLY	-	expression tag	UNP Q2YDS1
D	90	SER	-	expression tag	UNP Q2YDS1
D	91	GLY	-	expression tag	UNP Q2YDS1
D	92	GLY	-	expression tag	UNP Q2YDS1
D	93	ARG	-	expression tag	UNP Q2YDS1
D	180	GLN	LEU	variant	UNP Q2YDS1
D	214	ARG	TRP	variant	UNP Q2YDS1

- Molecule 5 is a DNA chain called 12 BP THF CONTAINING DNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	12	Total 234	C 111	N 41	O 70	P 12	0	0	0

- Molecule 6 is a DNA chain called 12 BP DNA.

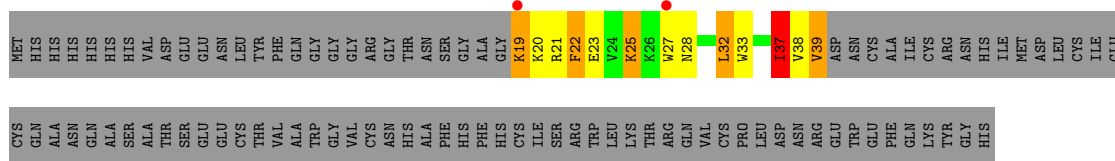| Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	12	Total 249	C 118	N 47	O 72	P 12	0	0	0

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.
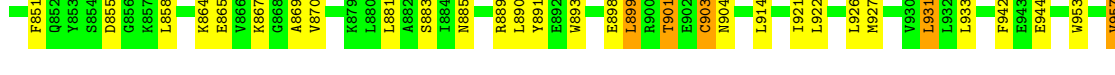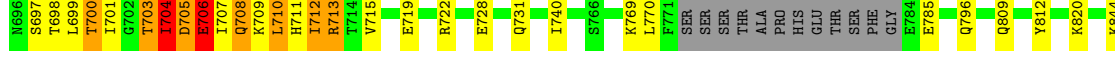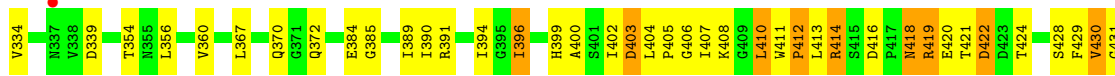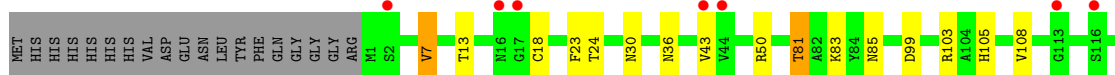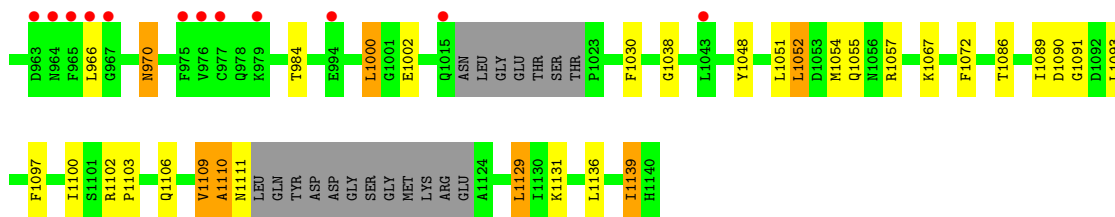
• Molecule 1: CULLIN-4A

Chain A:
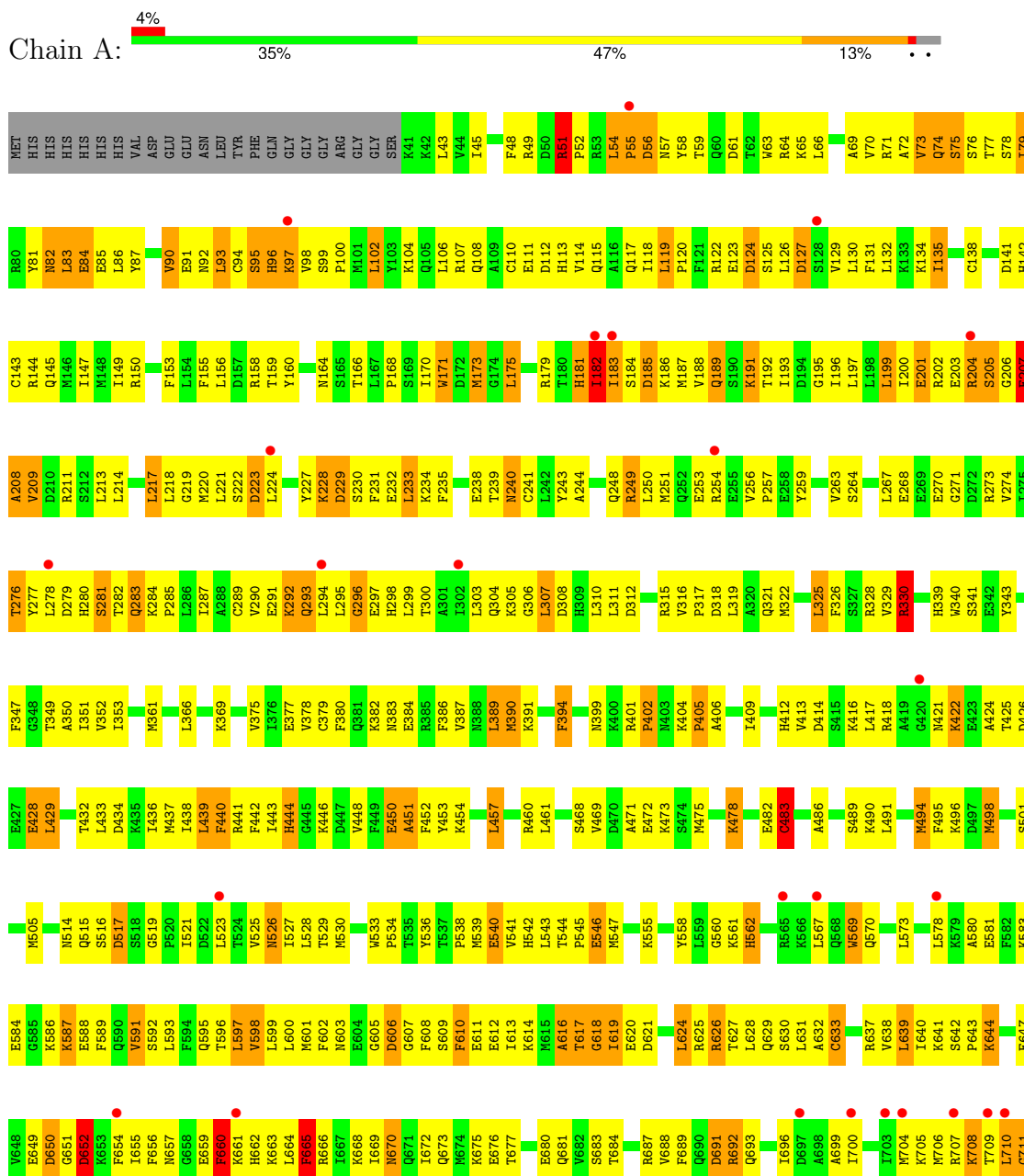
• Molecule 2: E3 UBIQUITIN-PROTEIN LIGASE RBX1

Chain B:

• Molecule 3: DNA DAMAGE-BINDING PROTEIN 1

Chain C:

D963 N964 F965 L966 G967 N970 F975 V976 C977 Q978 K979 T984 E994 L1000 G1001 E1002 Q1015 ASN LEU GLY GLU THR SER THR P1023 F1030 G1038 L1043 Y1048 L1051 L1052 D1053 M1054 Q1055 N1056 R1057 K1067 F1072 T1086 I1089 D1090 G1091 D1092 L1093

F1097 I1100 S1101 R1102 P1103 Q1106 V1109 A1110 N1111 LEU GLN TYR ASP ASP GLY SER GLY MET LYS ARG GLU A1124 L1129 L1130 K1131 L1136 I1139 H1140

• Molecule 4: DNA DAMAGE-BINDING PROTEIN 2

Chain D:

MET HIS HIS HIS HIS HIS ARG ARG LEU VAL PRO ARG GLY SER GLY GLY ARG THR GLY GLY GLN LYS LYS VAL G101 Y110 K111 L114 G115 Q116 S117 I118 H119 A120 Q121 L122 R123 Q124 C125 L126 Q127 E128 P129 L134 H140 R148 L174 V179 G190 S211

T217 T218 L219 V226 C242 V243 R249 T254 G255 D256 R260 L261 L262 L263 F272 K273 E274 A279 R289 C290 D291 W292 L293 V299 L308 K312 M321 P322 H323 P326 T335 T342 N347 E348 I349 I364 I365 H366 P367 L374

I377 K378 A379 H382 P383 I388 V389 A390 G391 R392 Y393 P394 L400 N401 D402 I408 R421 T429 S435 P436 T437 S443 L450 N453 R454 E455 ASP THR

• Molecule 5: 12 BP THF CONTAINING DNA

Chain E:

G1 C2 T3 A4 C9 G10 C11 A12

• Molecule 6: 12 BP DNA

Chain F:

T1 G2 C3 G4 T5 A6 A7 A10 G11 C12
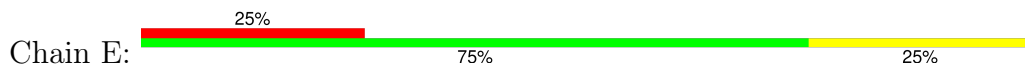
4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	210.65Å 78.02Å 276.62Å 90.00° 108.50° 90.00°	Depositor
Resolution (Å)	19.98 – 5.93 47.64 – 5.93	Depositor EDS
% Data completeness (in resolution range)	99.3 (19.98-5.93) 98.9 (47.64-5.93)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.08 (at 6.15Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, R_{free}	0.269 , 0.270 0.283 , 0.279	Depositor DCC
R_{free} test set	565 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	261.2	Xtriage
Anisotropy	0.597	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 302.1	EDS
L-test for twinning[2]	$< |L| > = 0.46$, $< L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.85	EDS
Total number of atoms	17885	wwPDB-VP
Average B, all atoms (Å^2)	326.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.23% 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: 3DR

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	0.44	0/5915	0.74	11/7954 (0.1%)
2	B	0.40	0/190	0.48	0/257
3	C	0.46	5/8762 (0.1%)	0.67	9/11875 (0.1%)
4	D	0.37	0/2877	0.58	0/3912
5	E	0.93	1/248 (0.4%)	1.12	0/377
6	F	0.89	0/279	1.36	1/429 (0.2%)
All	All	0.46	6/18271 (0.0%)	0.70	21/24804 (0.1%)

The worst 5 of 6 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	354	THR	C-N	-11.77	1.06	1.34
3	C	582	LEU	C-N	6.64	1.45	1.33
3	C	13	THR	C-N	6.59	1.49	1.34
3	C	706	GLU	C-N	-5.68	1.21	1.34
5	E	9	DC	C1'-N1	5.59	1.56	1.49

The worst 5 of 21 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	298	HIS	CB-CA-C	-10.74	88.92	110.40
1	A	182	ILE	N-CA-C	9.33	136.18	111.00
1	A	181	HIS	CB-CA-C	7.11	124.62	110.40
3	C	624	SER	N-CA-C	7.02	129.96	111.00
1	A	48	PHE	N-CA-C	-6.88	92.43	111.00

There are no chirality outliers.

There are no planarity outliers.

WORLDWIDE
wwPDB
PROTEIN DATA BANK

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	5809	0	5796	617	0
2	B	184	0	192	29	0
3	C	8605	0	8542	369	1
4	D	2804	0	2720	45	0
5	E	234	0	132	3	0
6	F	249	0	136	7	0
All	All	17885	0	17518	1034	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 29.

The worst 5 of 1034 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:131:PHE:CZ	1:A:188:VAL:HA	1.63	1.33
1:A:696:ILE:CD1	1:A:723:LEU:HG	1.57	1.33
1:A:118:ILE:CD1	1:A:181:HIS:HB3	1.60	1.29
1:A:135:ILE:HD11	1:A:188:VAL:CG1	1.63	1.26
1:A:696:ILE:HD13	1:A:723:LEU:CD1	1.69	1.21

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)
3:C:103:ARG:NH1	3:C:769:LYS:NZ[1_565]	2.04	0.16

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	717/742 (97%)	512 (71%)	132 (18%)	73 (10%)	0	8
2	B	19/117 (16%)	14 (74%)	4 (21%)	1 (5%)	2	19
3	C	1095/1159 (94%)	963 (88%)	97 (9%)	35 (3%)	4	26
4	D	353/382 (92%)	326 (92%)	22 (6%)	5 (1%)	11	46
All	All	2184/2400 (91%)	1815 (83%)	255 (12%)	114 (5%)	2	19

5 of 114 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	56	ASP
1	A	58	TYR
1	A	76	SER
1	A	83	LEU
1	A	84	GLU

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	631/674 (94%)	562 (89%)	69 (11%)	6	23
2	B	18/99 (18%)	11 (61%)	7 (39%)	0	0
3	C	957/1015 (94%)	865 (90%)	92 (10%)	8	27
4	D	304/335 (91%)	278 (91%)	26 (9%)	10	33
All	All	1910/2123 (90%)	1716 (90%)	194 (10%)	7	25

5 of 194 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	C	561	TRP
3	C	706	GLU
3	C	582	LEU

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Mol	Chain	Res	Type
3	C	618	ILE
3	C	864	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 57 such sidechains are listed below:

Mol	Chain	Res	Type
3	C	186	GLN
4	D	370	GLN
3	C	467	GLN
4	D	269	HIS
3	C	904	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

1 non-standard protein/DNA/RNA residue 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	$\#|Z| > 2$
5	3DR	E	7	5	8,11,12	0.36	0	7,14,17	1.18	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
5	3DR	E	7	5	-	1/3/15/16	0/1/1/1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	E	7	3DR	C3'-C4'-C5'-O5'

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
3	C	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	C	354:THR	C	355:ASN	N	1.07

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	719/742 (96%)	0.36	33 (4%)	32	30	288, 322, 371, 414	0
2	B	21/117 (17%)	1.00	2 (9%)	8	10	312, 322, 356, 365	0
3	C	1105/1159 (95%)	0.33	37 (3%)	46	40	185, 326, 367, 403	0
4	D	355/382 (92%)	0.29	7 (1%)	65	58	275, 310, 352, 367	0
5	E	11/12 (91%)	1.81	3 (27%)	0	2	342, 359, 437, 441	0
6	F	12/12 (100%)	0.67	1 (8%)	11	13	363, 379, 420, 442	0
All	All	2223/2424 (91%)	0.35	83 (3%)	41	37	185, 322, 367, 442	0

The worst 5 of 83 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
5	E	1	DG	6.0
4	D	377	ILE	4.8
1	A	709	THR	4.7
3	C	1015	GLN	4.5
1	A	183	ILE	4.3

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
5	3DR	E	7	11/12	0.81	0.25	357,362,366,367	0

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.