WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Jan 8, 2024 – 07:51 am GMT

PDB ID	:	6GRU
Title	:	Crystal structure of human NUDT5
Authors	:	Dubianok, Y.; Collins, P.; Krojer, T.; Fairhead, M.; MacLean, E.; Diaz Saez, L.; Strain-Damerell, C.; Elkins, J.; Burgess-Brown, N.; Bountra, C.; Arrowsmith, C.H.; Edwards, A.; Huber, K.; von Delft, F.; Structural Genomics Consortium (SGC)
Deposited on	:	2018-06-12
Resolution	:	1.93 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	:	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

Full wwPDB X-ray Structure Validation Report

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 1.93 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		0.281
Clashscore		3
Ramachandran outliers		0.4%
Sidechain outliers		1.5%
RSRZ outliers		14.4%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
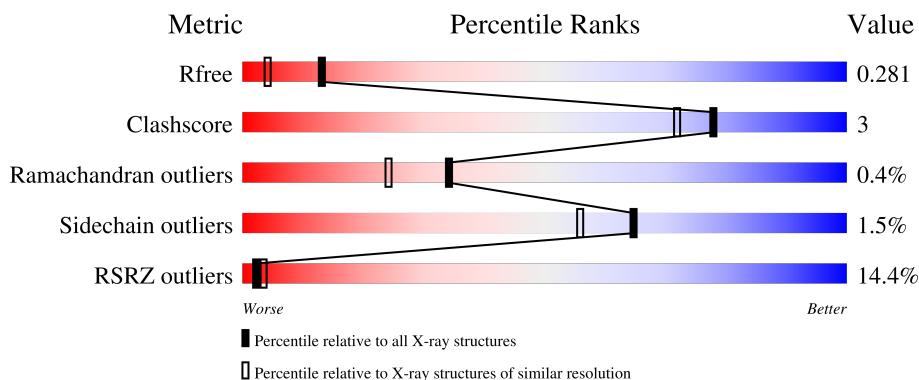
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	4310 (1.96-1.92)
Clashscore	141614	1023 (1.94-1.94)
Ramachandran outliers	138981	1007 (1.94-1.94)
Sidechain outliers	138945	1007 (1.94-1.94)
RSRZ outliers	127900	4250 (1.96-1.92)

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	209	10% 87% 5% · 7%
1	B	209	8% 87% 5% · 7%
1	C	209	16% 82% 10% 8%
1	D	209	20% 80% 9% · 10%

2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 5953 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 ADP-sugar pyrophosphatase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	194	Total 1450	C 917	N 242	O 283	S 8	0	0	0
1	B	194	Total 1464	C 924	N 244	O 288	S 8	0	0	0
1	C	192	Total 1402	C 884	N 234	O 277	S 7	0	0	0
1	D	189	Total 1395	C 882	N 234	O 271	S 8	0	1	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	0	SER	-	expression tag	UNP Q9UKK9
B	0	SER	-	expression tag	UNP Q9UKK9
C	0	SER	-	expression tag	UNP Q9UKK9
D	0	SER	-	expression tag	UNP Q9UKK9

- Molecule 2 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	2	Total 2	Mg 2	0	0
2	B	2	Total 2	Mg 2	0	0
2	C	2	Total 2	Mg 2	0	0
2	D	2	Total 2	Mg 2	0	0

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total 1	Cl 1	0	0

- Molecule 4 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: $C_2H_6O_2$).

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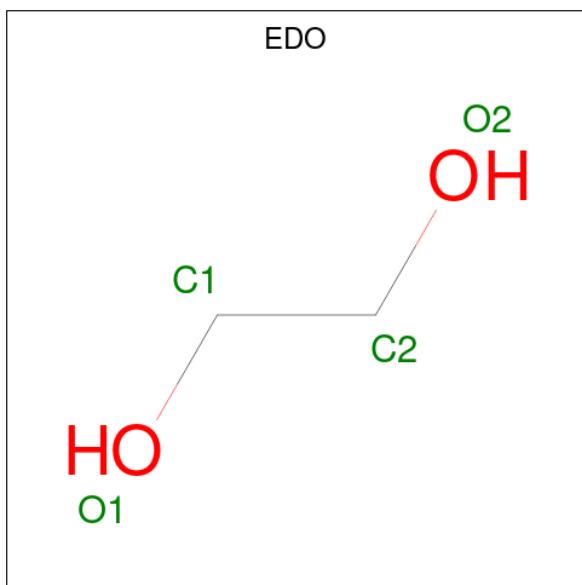
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	B	1	Total 4	C 2	O 2	0	0
4	C	1	Total 4	C 2	O 2	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	69	Total 69	O 69	0	0
5	B	64	Total 64	O 64	0	0
5	C	65	Total 65	O 65	0	0
5	D	27	Total 27	O 27	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: ADP-sugar pyrophosphatase
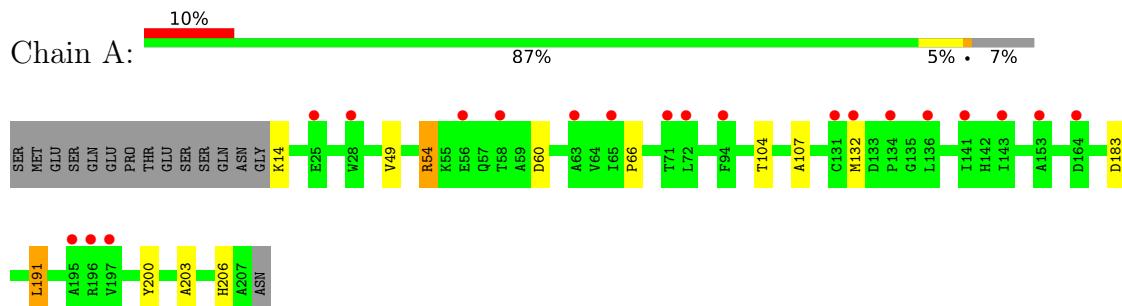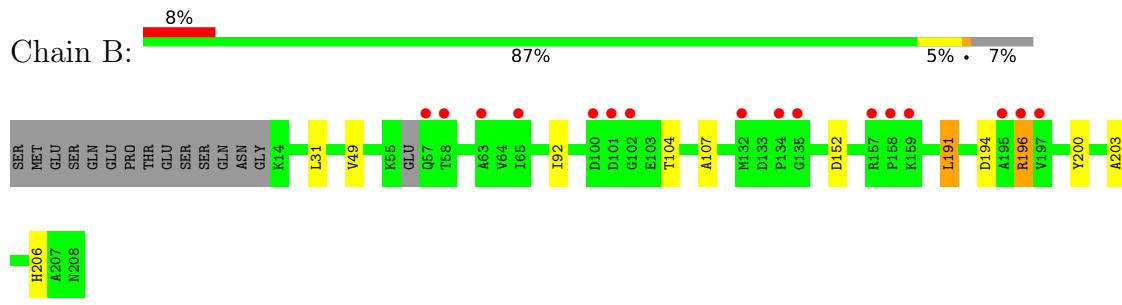
Chain A:

• Molecule 1: ADP-sugar pyrophosphatase

Chain B:

• Molecule 1: ADP-sugar pyrophosphatase

Chain C:

• Molecule 1: ADP-sugar pyrophosphatase

Chain D:

SER MET GLU SER GLN GLU PRO THR GLU SER SER GLN ASN GLY K14 K27 W28 T40 T53 ARG LYS GLU GLN THR A59 A63 P66 T71 L72 H73 Y74 P86 M87 G88 G89 Y90 C91 I92 E93 F94 G97 L98 I99 D100 D101 G102 E103 T104 A107 E116

T117 G118 Y119 K120 C131 M132 D133 P134 G135 L136 I148 N149 G150 D151 D152 ALA E154 N155 A156 R157 P158 G165 E166 F167 V168 S172 L173 Q180 R181 E188 E189 H190 L191 A195 R196 V197 Y200 A201 L202 A203 H206 A207 N208
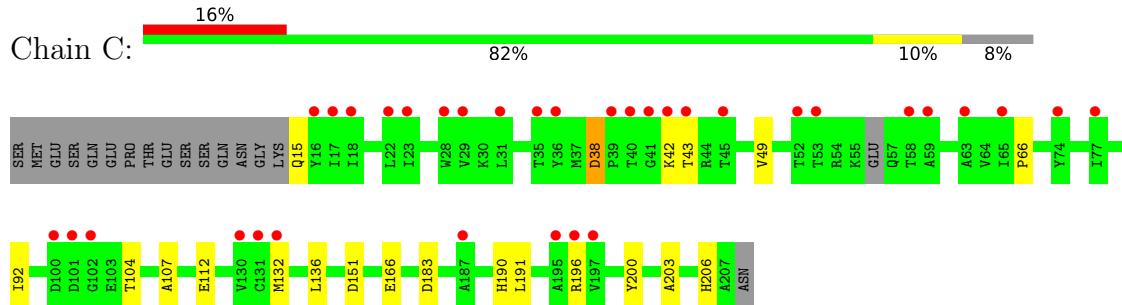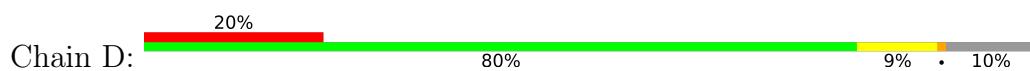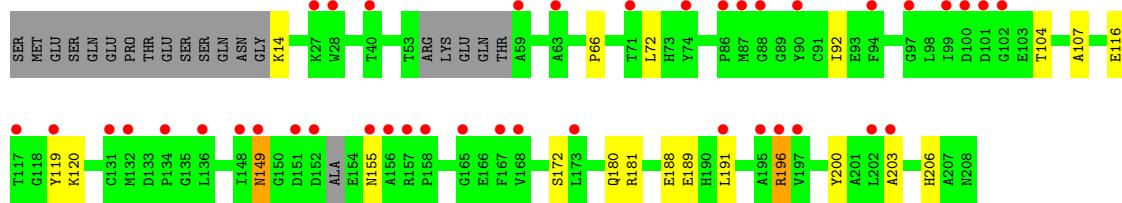
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	49.60Å 60.14Å 80.01Å 79.92° 81.52° 75.49°	Depositor
Resolution (Å)	32.03 – 1.93 32.03 – 1.93	Depositor EDS
% Data completeness (in resolution range)	97.5 (32.03-1.93) 97.5 (32.03-1.93)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.63 (at 1.94Å)	Xtriage
Refinement program	REFMAC 5.8.0158	Depositor
R, R_{free}	0.231 , 0.270 0.243 , 0.281	Depositor DCC
R_{free} test set	3176 reflections (4.95%)	wwPDB-VP
Wilson B-factor (Å^2)	36.9	Xtriage
Anisotropy	0.135	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 42.6	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	5953	wwPDB-VP
Average B, all atoms (Å^2)	46.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.26% 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: MG, EDO, CL

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	0.75	0/1478	0.87	4/2019 (0.2%)
1	B	0.70	0/1492	0.88	4/2035 (0.2%)
1	C	0.72	0/1429	0.93	7/1958 (0.4%)
1	D	0.74	0/1420	0.91	7/1939 (0.4%)
All	All	0.72	0/5819	0.90	22/7951 (0.3%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	D	0	1

There are no bond length outliers.

All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	38	ASP	CB-CG-OD2	10.46	127.72	118.30
1	B	196	ARG	NE-CZ-NH1	8.31	124.45	120.30
1	C	151	ASP	CB-CG-OD1	8.06	125.55	118.30
1	D	196[A]	ARG	NE-CZ-NH1	7.79	124.19	120.30
1	D	196[B]	ARG	NE-CZ-NH1	7.79	124.19	120.30
1	A	183	ASP	CB-CG-OD1	6.70	124.33	118.30
1	C	151	ASP	CB-CG-OD2	-6.33	112.61	118.30
1	B	152	ASP	CB-CG-OD1	6.27	123.94	118.30
1	C	196	ARG	NE-CZ-NH1	6.21	123.41	120.30
1	B	194	ASP	CB-CG-OD2	-6.13	112.79	118.30
1	D	196[A]	ARG	NE-CZ-NH2	-6.08	117.26	120.30
1	D	196[B]	ARG	NE-CZ-NH2	-6.08	117.26	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	183	ASP	CB-CG-OD1	6.06	123.75	118.30
1	C	190	HIS	N-CA-CB	6.06	121.50	110.60
1	A	54	ARG	NE-CZ-NH1	5.92	123.26	120.30
1	C	38	ASP	CB-CG-OD1	-5.87	113.02	118.30
1	D	116	GLU	OE1-CD-OE2	-5.84	116.29	123.30
1	D	189	GLU	N-CA-C	5.84	126.76	111.00
1	D	181	ARG	NE-CZ-NH1	5.59	123.10	120.30
1	A	191	LEU	CA-CB-CG	5.50	127.96	115.30
1	A	54	ARG	NE-CZ-NH2	-5.28	117.66	120.30
1	B	191	LEU	CA-CB-CG	5.05	126.91	115.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	D	188	GLU	Peptide

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	1450	0	1405	9	0
1	B	1464	0	1414	10	0
1	C	1402	0	1298	13	0
1	D	1395	0	1328	12	0
2	A	2	0	0	0	0
2	B	2	0	0	0	0
2	C	2	0	0	0	0
2	D	2	0	0	0	0
3	A	1	0	0	0	0
4	B	4	0	6	0	0
4	C	4	0	6	0	0
5	A	69	0	0	0	0
5	B	64	0	0	0	0
5	C	65	0	0	4	0
5	D	27	0	0	1	0
All	All	5953	0	5457	32	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 3.

All (32) 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:120:LYS:H	1:D:155:ASN:HD21	1.21	0.87
1:B:92:ILE:HD11	1:B:191:LEU:HD13	1.58	0.83
1:C:166:GLU:OE2	5:C:401:HOH:O	2.11	0.67
1:C:203:ALA:HB2	1:D:200:TYR:CD1	2.36	0.61
1:B:92:ILE:CD1	1:B:191:LEU:HD13	2.30	0.60
1:C:200:TYR:CD1	1:D:203:ALA:HB2	2.38	0.59
1:A:203:ALA:HB3	1:B:203:ALA:HB3	1.86	0.57
1:A:200:TYR:CD1	1:B:203:ALA:HB2	2.40	0.56
1:C:104:THR:HG23	1:C:107:ALA:H	1.71	0.55
1:D:104:THR:HG23	1:D:107:ALA:H	1.72	0.54
1:A:104:THR:HG23	1:A:107:ALA:H	1.73	0.54
1:B:104:THR:HG23	1:B:107:ALA:H	1.73	0.54
1:C:132:MET:O	1:D:196[B]:ARG:NH1	2.40	0.54
1:C:203:ALA:HB3	1:D:203:ALA:HB3	1.92	0.52
1:C:15:GLN:N	5:C:404:HOH:O	2.43	0.50
1:C:38:ASP:OD1	1:C:42:LYS:O	2.30	0.49
5:C:403:HOH:O	1:D:206:HIS:HE1	1.97	0.47
1:A:49:VAL:HG11	1:B:49:VAL:HG21	1.98	0.46
1:D:149:ASN:C	1:D:149:ASN:HD22	2.18	0.46
1:C:136:LEU:C	1:C:136:LEU:HD13	2.36	0.45
1:A:203:ALA:HB2	1:B:200:TYR:CD1	2.52	0.45
1:D:180:GLN:CB	5:D:420:HOH:O	2.64	0.44
1:C:206:HIS:HD2	1:D:200:TYR:OH	2.00	0.44
1:A:132:MET:O	1:B:196:ARG:NH2	2.51	0.43
1:A:206:HIS:HD2	1:B:200:TYR:OH	2.03	0.41
1:D:119:TYR:HD1	1:D:155:ASN:HD22	1.67	0.41
1:A:200:TYR:OH	1:B:206:HIS:HD2	2.03	0.41
1:C:49:VAL:HG21	1:C:136:LEU:HD11	2.03	0.41
1:C:92:ILE:HD12	1:C:191:LEU:HD11	2.03	0.41
1:C:112:GLU:OE2	5:C:401:HOH:O	2.22	0.41
1:D:191:LEU:HD12	1:D:191:LEU:C	2.41	0.41
1:A:54:ARG:HD3	1:A:60:ASP:OD1	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	192/209 (92%)	185 (96%)	6 (3%)	1 (0%)	29	17
1	B	190/209 (91%)	184 (97%)	6 (3%)	0	100	100
1	C	188/209 (90%)	184 (98%)	3 (2%)	1 (0%)	29	17
1	D	184/209 (88%)	177 (96%)	6 (3%)	1 (0%)	29	17
All	All	754/836 (90%)	730 (97%)	21 (3%)	3 (0%)	34	24

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	66	PRO
1	C	66	PRO
1	D	66	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	151/179 (84%)	149 (99%)	2 (1%)	69	62
1	B	154/179 (86%)	153 (99%)	1 (1%)	86	85
1	C	139/179 (78%)	138 (99%)	1 (1%)	84	81
1	D	142/179 (79%)	137 (96%)	5 (4%)	36	21
All	All	586/716 (82%)	577 (98%)	9 (2%)	65	56

All (9) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	14	LYS
1	A	191	LEU
1	B	31	LEU
1	C	43	THR
1	D	14	LYS
1	D	72	LEU
1	D	92	ILE
1	D	149	ASN
1	D	172	SER

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	73	HIS
1	A	206	HIS
1	B	73	HIS
1	B	206	HIS
1	C	206	HIS
1	D	69	GLN
1	D	149	ASN
1	D	155	ASN
1	D	206	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 11 ligands modelled in this entry, 9 are monoatomic - leaving 2 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	#$|Z| > 2$
4	EDO	C	301	-	3,3,3	0.63	0	2,2,2	0.41	0
4	EDO	B	301	-	3,3,3	0.62	0	2,2,2	0.70	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
4	EDO	C	301	-	-	0/1/1/1	-
4	EDO	B	301	-	-	0/1/1/1	-

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	194/209 (92%)	0.53	20 (10%)	6	10	24, 37, 59, 69	0
1	B	194/209 (92%)	0.54	16 (8%)	11	17	25, 41, 65, 85	0
1	C	192/209 (91%)	1.00	34 (17%)	1	1	26, 44, 83, 94	0
1	D	189/209 (90%)	1.19	41 (21%)	0	0	29, 54, 78, 85	0
All	All	769/836 (91%)	0.81	111 (14%)	2	3	24, 44, 76, 94	0

All (111) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	53	THR	7.6
1	D	28	TRP	6.2
1	D	100	ASP	6.0
1	C	18	ILE	5.6
1	C	40	THR	5.2
1	C	35	THR	5.0
1	D	74	TYR	4.5
1	C	16	TYR	4.4
1	B	58	THR	4.4
1	B	157	ARG	4.3
1	C	197	VAL	4.2
1	D	196[A]	ARG	4.2
1	C	39	PRO	4.2
1	A	58	THR	4.1
1	A	195	ALA	4.1
1	C	187	ALA	4.0
1	D	152	ASP	4.0
1	C	195	ALA	3.8
1	D	119	TYR	3.8
1	D	195	ALA	3.8
1	C	22	LEU	3.7

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Mol	Chain	Res	Type	RSRZ
1	C	41	GLY	3.7
1	C	65	ILE	3.7
1	A	153	ALA	3.7
1	D	59	ALA	3.6
1	D	40	THR	3.6
1	D	90	TYR	3.5
1	D	99	ILE	3.4
1	A	56	GLU	3.4
1	C	58	THR	3.4
1	C	36	TYR	3.4
1	D	168	VAL	3.4
1	B	158	PRO	3.3
1	C	102	GLY	3.3
1	D	156	ALA	3.3
1	B	102	GLY	3.3
1	C	28	TRP	3.2
1	D	151	ASP	3.2
1	A	131	CYS	3.2
1	D	88	GLY	3.1
1	C	23	ILE	3.1
1	C	43	THR	3.1
1	D	191	LEU	3.1
1	B	63	ALA	3.1
1	D	97	GLY	3.1
1	C	196	ARG	3.0
1	D	149	ASN	3.0
1	C	132	MET	3.0
1	B	132	MET	2.9
1	A	63	ALA	2.9
1	B	195	ALA	2.9
1	A	196	ARG	2.8
1	D	101	ASP	2.8
1	B	159	LYS	2.8
1	A	132	MET	2.8
1	C	29	VAL	2.8
1	D	155	ASN	2.8
1	D	167	PHE	2.7
1	C	101	ASP	2.7
1	C	52	THR	2.7
1	D	202	LEU	2.7
1	D	158	PRO	2.7
1	A	25	GLU	2.7

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Mol	Chain	Res	Type	RSRZ
1	D	94	PHE	2.7
1	B	196	ARG	2.7
1	C	17	ILE	2.6
1	D	173	LEU	2.6
1	B	100	ASP	2.6
1	D	203	ALA	2.6
1	A	134	PRO	2.6
1	C	31	LEU	2.6
1	A	72	LEU	2.5
1	D	102	GLY	2.5
1	D	134	PRO	2.5
1	B	101	ASP	2.5
1	B	197	VAL	2.5
1	D	148	ILE	2.5
1	D	197	VAL	2.4
1	D	157	ARG	2.4
1	A	141	ILE	2.4
1	D	136	LEU	2.4
1	A	65	ILE	2.4
1	C	63	ALA	2.4
1	A	136	LEU	2.3
1	B	65	ILE	2.3
1	D	87	MET	2.3
1	A	197	VAL	2.3
1	D	86	PRO	2.3
1	D	63	ALA	2.3
1	D	71	THR	2.3
1	C	74	TYR	2.3
1	C	100	ASP	2.3
1	C	42	LYS	2.3
1	A	164	ASP	2.3
1	D	131	CYS	2.2
1	B	57	GLN	2.2
1	B	134	PRO	2.2
1	A	94	PHE	2.2
1	C	130	VAL	2.2
1	A	71	THR	2.1
1	A	143	ILE	2.1
1	D	165	GLY	2.1
1	C	45	THR	2.1
1	C	77	ILE	2.1
1	B	135	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	28	TRP	2.0
1	C	131	CYS	2.0
1	D	117	THR	2.0
1	D	27	LYS	2.0
1	C	59	ALA	2.0
1	D	132	MET	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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
4	EDO	C	301	4/4	0.88	0.09	45,57,58,62	0
2	MG	C	302	1/1	0.91	0.08	43,43,43,43	0
4	EDO	B	301	4/4	0.93	0.09	42,45,49,51	0
3	CL	A	303	1/1	0.93	0.09	70,70,70,70	0
2	MG	D	301	1/1	0.95	0.06	46,46,46,46	0
2	MG	C	303	1/1	0.97	0.06	32,32,32,32	0
2	MG	B	303	1/1	0.97	0.04	49,49,49,49	0
2	MG	D	302	1/1	0.97	0.04	48,48,48,48	0
2	MG	A	301	1/1	0.98	0.09	31,31,31,31	0
2	MG	B	302	1/1	0.98	0.09	35,35,35,35	0
2	MG	A	302	1/1	0.99	0.03	35,35,35,35	0

6.5 Other polymers ⓘ

There are no such residues in this entry.