W O R L D W I D E

wwPDB

P R O T E I N   D A T A   B A N K

wwPDB X-ray Structure Validation Summary Report (i)

Jan 3, 2023 – 06:12 am GMT

PDB ID	:	7PWX
Title	:	dUTPase from M. tuberculosis in complex with Stl
Authors	:	Marina, A.; Sanz-Frasquet, C.
Deposited on	:	2021-10-07
Resolution	:	2.75 Å(reported)

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

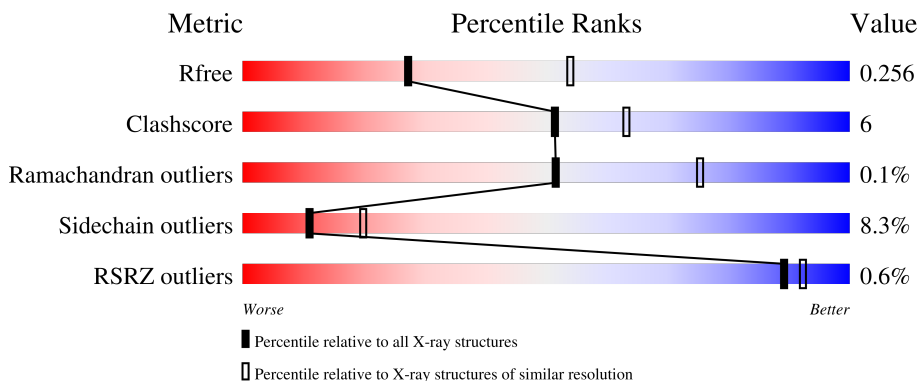|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.31.3
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

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 2.75 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		0.256
Clashscore		6
Ramachandran outliers		0.1%
Sidechain outliers		8.3%
RSRZ outliers		0.6%

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	1235 (2.78-2.74)
Clashscore	141614	1277 (2.78-2.74)
Ramachandran outliers	138981	1257 (2.78-2.74)
Sidechain outliers	138945	1257 (2.78-2.74)
RSRZ outliers	127900	1207 (2.78-2.74)

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	HHH	136	85% 12% ••
1	III	136	74% 20% • •
1	JJJ	136	83% 12% • •
1	KKK	136	% 79% 18% ••
1	LLL	136	87% 12% •

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Mol	Chain	Length	Quality of chain
1	MMM	136	77% 17%
2	AAA	147	4% 72% 7% 20%
2	CCC	147	82% 16%
2	DDD	147	% 84% 14%
2	EEE	147	% 89% 10%
2	FFF	147	% 81% 17%
2	GGG	147	71% 14% 13%

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 12287 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 Deoxyuridine 5'-triphosphate nucleotidohydrolase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	HHH	134	Total	C	N	O	S	0	0	0
			946	602	167	176	1			
1	III	131	Total	C	N	O	S	0	0	0
			950	606	167	176	1			
1	JJJ	131	Total	C	N	O	S	0	0	0
			952	604	168	179	1			
1	KKK	135	Total	C	N	O	S	0	0	0
			946	604	172	169	1			
1	LLL	136	Total	C	N	O	S	0	0	0
			977	620	178	177	2			
1	MMM	131	Total	C	N	O	S	0	0	0
			950	603	172	174	1			

- Molecule 2 is a protein called Orf20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	CCC	146	Total	C	N	O	S	0	0	0
			1174	757	186	229	2			
2	DDD	145	Total	C	N	O	S	0	0	0
			1167	757	180	228	2			
2	EEE	146	Total	C	N	O	S	0	0	0
			1148	742	178	226	2			
2	FFF	146	Total	C	N	O	S	0	2	0
			1184	768	186	228	2			
2	GGG	128	Total	C	N	O	S	0	0	0
			919	588	145	184	2			
2	AAA	118	Total	C	N	O	S	0	0	0
			787	499	130	156	2			

- Molecule 3 is 2-AMINO-2-HYDROXYMETHYL-PROPANE-1,3-DIOL (three-letter code: TRS) (formula: $C_4H_{12}NO_3$).

TRS

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	HHH	1	Total 8	C 4	N 1	O 3	0	0
3	JJJ	1	Total 8	C 4	N 1	O 3	0	0
3	LLL	1	Total 8	C 4	N 1	O 3	0	0
3	LLL	1	Total 8	C 4	N 1	O 3	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	III	1	Total 4	C 2	O 2	0	0
4	JJJ	1	Total 4	C 2	O 2	0	0
4	JJJ	1	Total 4	C 2	O 2	0	0
4	JJJ	1	Total 4	C 2	O 2	0	0
4	DDD	1	Total 4	C 2	O 2	0	0
4	DDD	1	Total 4	C 2	O 2	0	0
4	FFF	1	Total 4	C 2	O 2	0	0
4	GGG	1	Total 4	C 2	O 2	0	0

- Molecule 5 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: $C_4H_{10}O_3$).
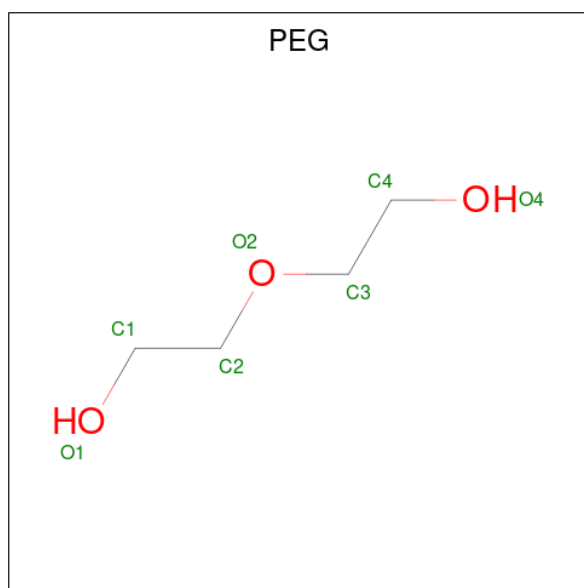
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	JJJ	1	Total 7	C 4	O 3	0	0
5	KKK	1	Total 7	C 4	O 3	0	0
5	MMM	1	Total 7	C 4	O 3	0	0
5	FFF	1	Total 7	C 4	O 3	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	HHH	7	Total 7	O 7	0	0
6	III	8	Total 8	O 8	0	0
6	JJJ	9	Total 9	O 9	0	0
6	KKK	2	Total 2	O 2	0	0
6	LLL	8	Total 8	O 8	0	0
6	MMM	7	Total 7	O 7	0	0
6	CCC	7	Total 7	O 7	0	0
6	DDD	12	Total 12	O 12	0	0
6	EEE	4	Total 4	O 4	0	0
6	FFF	17	Total 17	O 17	0	0
6	GGG	8	Total 8	O 8	0	0
6	AAA	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 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: Deoxyuridine 5'-triphosphate nucleotidohydrolase

Chain HHH:

- Molecule 1: Deoxyuridine 5'-triphosphate nucleotidohydrolase

Chain III:

- Molecule 1: Deoxyuridine 5'-triphosphate nucleotidohydrolase

Chain JJJ:

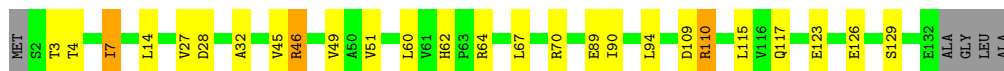- Molecule 1: Deoxyuridine 5'-triphosphate nucleotidohydrolase

Chain KKK:

- Molecule 1: Deoxyuridine 5'-triphosphate nucleotidohydrolase

Chain LLL:

- Molecule 1: Deoxyuridine 5'-triphosphate nucleotidohydrolase

Chain MMM:

MET S2 T3 T4 I7 L14 V27 D28 A32 V45 R46 V49 A50 V51 L60 V61 H62 P63 R64 L67 R70 E89 I90 L94 D109 R110 L115 V116 Q117 E123 E126 S129 E132 ALA GLY LEU ALA

- Molecule 2: Orf20

Chain CCC:

82%   16%   ∙∙

A8 E9 L10 P11 T12 I18 R22 L32 Q40 N45 N48 G49 N50 N56 E57 I58 Y61 Y70 I71 L72 S76 S99 D117 L118 K129 K130 E131 L147 Y148 K149 Q150 I151 L152 S153 THR

- Molecule 2: Orf20

Chain DDD:

%

84%   14%   ∙∙

ALA E9 T12 I17 L21 R22 K31 L32 N48 G49 I58 S69 L72 V101 A104 I111 L118 K130 V136 N137 D138 I139 Y143 L147 Y148 L152 S153 THR

- Molecule 2: Orf20

Chain EEE:

%

89%   10%   ∙

A8 I18 R22 K23 Y24 Q29 S30 K31 L32 T42 E47 N48 G49 N56 E57 I58 S76 F79 F94 Y116 S153 THR
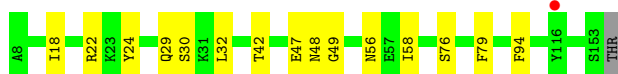
- Molecule 2: Orf20

Chain FFF:

%

81%   17%   ∙∙

A8 E9 L10 P11 T12 H13 R22 L27 R35 N48 R51 V55 N56 E57 I58 G64 K82 D90 F94 Y100 D110 S115 L118 T122 L126 S132 D142 Y143 V144 L147 Y148 K149 S153 THR

- Molecule 2: Orf20

Chain GGG:

71%   14%   ∙   13%

ALA GLU LEU P11 L21 R22 M25 K26 L27 T28 Q29 L32 S33 T36 G37 PHE SER Q40 S44 N45 H46 GLU ASN GLY ASN ARG ASN ILE GLY VAL ASN GLU ILE GLU I60 L65 R74 Y84 F94 A104 I111 S114 S115 Y116 D117 L118 Y119

L126 D142 L147 Y148 S153 THR
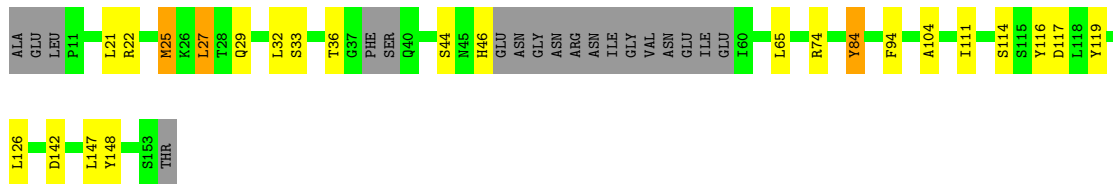
- Molecule 2: Orf20

Chain AAA:

4%

72%   7%   ∙   20%

A8 E9 L10 H13 TYR G15 R22 S30 K31 L32 SER GLU ARG THR GLY PHE SER GLN ASN THR ILE SER ASN HIS GLU ASN GLY ASN ARG ASN ILE G54 V55 N56 E57 I58 GLU ILE TYR G62 I67 P68 S69 Y70 ILE L72 H73 ARG I75 S76 D77 K80 S99
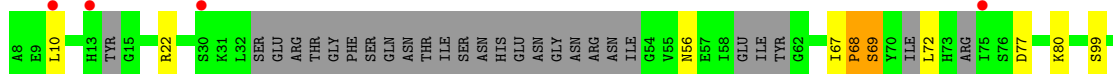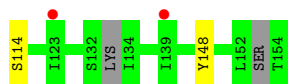
4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	79.41Å 150.43Å 107.37Å 90.00° 98.85° 90.00°	Depositor
Resolution (Å)	75.33 – 2.75 75.21 – 2.75	Depositor EDS
% Data completeness (in resolution range)	95.1 (75.33-2.75) 95.1 (75.21-2.75)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.88 (at 2.73Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.201 , 0.259 0.203 , 0.256	Depositor DCC
R_{free} test set	3102 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	63.7	Xtriage
Anisotropy	0.113	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 40.6	EDS
L-test for twinning[2]	$< \lvert L \rvert > = 0.48, < L^2 > = 0.30$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	12287	wwPDB-VP
Average B, all atoms (Å^2)	63.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.72% 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 $< \lvert L \rvert >$, $< L^2 >$ 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: PEG, EDO, TRS

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	HHH	0.70	0/960	0.83	0/1311
1	III	0.65	0/964	0.86	0/1314
1	JJJ	0.65	0/967	0.85	0/1322
1	KKK	0.69	0/960	0.86	0/1312
1	LLL	0.68	0/992	0.87	0/1354
1	MMM	0.68	0/965	0.87	0/1319
2	AAA	0.78	0/795	0.82	0/1076
2	CCC	0.68	0/1199	0.78	0/1622
2	DDD	0.68	0/1192	0.78	0/1611
2	EEE	0.69	0/1173	0.76	0/1590
2	FFF	0.67	0/1214	0.84	2/1640 (0.1%)
2	GGG	0.79	0/937	0.81	0/1273
All	All	0.69	0/12318	0.83	2/16744 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	FFF	48[A]	ASN	CB-CA-C	-8.13	94.14	110.40
2	FFF	48[B]	ASN	CB-CA-C	-8.13	94.14	110.40

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	HHH	946	0	934	13	0
1	III	950	0	964	17	0
1	JJJ	952	0	968	13	0
1	KKK	946	0	960	14	0
1	LLL	977	0	1002	17	0
1	MMM	950	0	979	18	0
2	AAA	787	0	572	3	0
2	CCC	1174	0	1112	13	0
2	DDD	1167	0	1088	12	0
2	EEE	1148	0	1046	7	0
2	FFF	1184	0	1119	12	0
2	GGG	919	0	735	15	0
3	HHH	8	0	12	5	0
3	JJJ	8	0	12	0	0
3	LLL	16	0	24	5	0
4	DDD	8	0	12	0	0
4	FFF	4	0	6	0	0
4	GGG	4	0	6	0	0
4	III	4	0	6	0	0
4	JJJ	12	0	18	0	0
5	FFF	7	0	10	0	0
5	JJJ	7	0	10	0	0
5	KKK	7	0	10	0	0
5	MMM	7	0	10	2	0
6	AAA	6	0	0	0	0
6	CCC	7	0	0	0	0
6	DDD	12	0	0	0	0
6	EEE	4	0	0	0	0
6	FFF	17	0	0	0	0
6	GGG	8	0	0	1	0
6	HHH	7	0	0	0	0
6	III	8	0	0	0	0
6	JJJ	9	0	0	0	0
6	KKK	2	0	0	0	0
6	LLL	8	0	0	0	0
6	MMM	7	0	0	0	0
All	All	12287	0	11615	134	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

The worst 5 of 134 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:LLL:122:VAL:HG12	1:MMM:3:THR:HG22	1.30	1.08
1:LLL:122:VAL:CG1	1:MMM:3:THR:HG22	1.99	0.92
2:FFF:10:LEU:HD21	2:FFF:55:VAL:HA	1.61	0.82
2:GGG:27:LEU:HD13	2:GGG:27:LEU:O	1.87	0.74
3:LLL:202:TRS:H12	1:MMM:60:LEU:HD13	1.70	0.73

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	HHH	132/136 (97%)	127 (96%)	5 (4%)	0	100	100
1	III	129/136 (95%)	122 (95%)	7 (5%)	0	100	100
1	JJJ	129/136 (95%)	125 (97%)	4 (3%)	0	100	100
1	KKK	133/136 (98%)	131 (98%)	2 (2%)	0	100	100
1	LLL	134/136 (98%)	128 (96%)	6 (4%)	0	100	100
1	MMM	129/136 (95%)	116 (90%)	13 (10%)	0	100	100
2	AAA	102/147 (69%)	90 (88%)	11 (11%)	1 (1%)	15	27
2	CCC	144/147 (98%)	138 (96%)	6 (4%)	0	100	100
2	DDD	143/147 (97%)	136 (95%)	7 (5%)	0	100	100
2	EEE	144/147 (98%)	138 (96%)	6 (4%)	0	100	100
2	FFF	146/147 (99%)	142 (97%)	4 (3%)	0	100	100
2	GGG	122/147 (83%)	110 (90%)	12 (10%)	0	100	100
All	All	1587/1698 (94%)	1503 (95%)	83 (5%)	1 (0%)	51	75

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AAA	68	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	HHH	92/106 (87%)	87 (95%)	5 (5%)	22	38
1	III	98/106 (92%)	84 (86%)	14 (14%)	3	4
1	JJJ	98/106 (92%)	93 (95%)	5 (5%)	24	41
1	KKK	90/106 (85%)	81 (90%)	9 (10%)	7	13
1	LLL	98/106 (92%)	94 (96%)	4 (4%)	30	50
1	MMM	99/106 (93%)	90 (91%)	9 (9%)	9	16
2	AAA	51/135 (38%)	43 (84%)	8 (16%)	2	3
2	CCC	122/135 (90%)	109 (89%)	13 (11%)	6	11
2	DDD	117/135 (87%)	110 (94%)	7 (6%)	19	33
2	EEE	111/135 (82%)	107 (96%)	4 (4%)	35	55
2	FFF	121/135 (90%)	110 (91%)	11 (9%)	9	16
2	GGG	75/135 (56%)	67 (89%)	8 (11%)	6	11
All	All	1172/1446 (81%)	1075 (92%)	97 (8%)	11	20

5 of 97 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	CCC	150	GLN
2	FFF	57	GLU
2	DDD	12	THR
2	DDD	147	LEU
2	FFF	115	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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 ⓘ

16 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	$\#|Z| > 2$
3	TRS	HHH	201	-	7,7,7	0.16	0	9,9,9	0.34	0
4	EDO	III	201	-	3,3,3	0.10	0	2,2,2	0.27	0
4	EDO	JJJ	204	-	3,3,3	0.13	0	2,2,2	0.14	0
4	EDO	FFF	202	-	3,3,3	0.11	0	2,2,2	0.26	0
3	TRS	LLL	202	-	7,7,7	0.19	0	9,9,9	0.27	0
5	PEG	FFF	201	-	6,6,6	0.17	0	5,5,5	0.08	0
4	EDO	JJJ	203	-	3,3,3	0.20	0	2,2,2	0.33	0
4	EDO	DDD	201	-	3,3,3	0.09	0	2,2,2	0.31	0
5	PEG	JJJ	202	-	6,6,6	0.20	0	5,5,5	0.14	0
4	EDO	JJJ	205	-	3,3,3	0.11	0	2,2,2	0.32	0
5	PEG	KKK	201	-	6,6,6	0.15	0	5,5,5	0.12	0
5	PEG	MMM	201	-	6,6,6	0.22	0	5,5,5	0.19	0
3	TRS	LLL	201	-	7,7,7	0.18	0	9,9,9	0.28	0
4	EDO	DDD	202	-	3,3,3	0.16	0	2,2,2	0.38	0
3	TRS	JJJ	201	-	7,7,7	0.24	0	9,9,9	0.32	0
4	EDO	GGG	201	-	3,3,3	0.12	0	2,2,2	0.30	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
3	TRS	HHH	201	-	-	4/9/9/9	-
4	EDO	III	201	-	-	1/1/1/1	-
4	EDO	JJJ	204	-	-	0/1/1/1	-
4	EDO	FFF	202	-	-	1/1/1/1	-
3	TRS	LLL	202	-	-	3/9/9/9	-
5	PEG	FFF	201	-	-	1/4/4/4	-
4	EDO	JJJ	203	-	-	1/1/1/1	-
4	EDO	DDD	201	-	-	1/1/1/1	-
5	PEG	JJJ	202	-	-	1/4/4/4	-
4	EDO	JJJ	205	-	-	1/1/1/1	-
5	PEG	KKK	201	-	-	2/4/4/4	-
5	PEG	MMM	201	-	-	3/4/4/4	-
3	TRS	LLL	201	-	-	1/9/9/9	-
4	EDO	DDD	202	-	-	1/1/1/1	-
3	TRS	JJJ	201	-	-	6/9/9/9	-
4	EDO	GGG	201	-	-	1/1/1/1	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

5 of 28 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	LLL	201	TRS	N-C-C2-O2
5	MMM	201	PEG	C4-C3-O2-C2
5	KKK	201	PEG	O1-C1-C2-O2
5	KKK	201	PEG	O2-C3-C4-O4
4	III	201	EDO	O1-C1-C2-O2

There are no ring outliers.

4 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	HHH	201	TRS	5	0
3	LLL	202	TRS	4	0
5	MMM	201	PEG	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	LLL	201	TRS	1	0

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	HHH	134/136 (98%)	0.06	0	100	100	39, 52, 70, 118	0
1	III	131/136 (96%)	0.04	0	100	100	37, 52, 90, 115	0
1	JJJ	131/136 (96%)	0.03	0	100	100	40, 58, 80, 113	0
1	KKK	135/136 (99%)	0.05	1 (0%)	87	91	41, 68, 94, 106	0
1	LLL	136/136 (100%)	-0.11	0	100	100	32, 51, 77, 123	0
1	MMM	131/136 (96%)	-0.09	0	100	100	34, 56, 86, 110	0
2	AAA	118/147 (80%)	0.19	6 (5%)	28	34	58, 94, 136, 160	1 (0%)
2	CCC	146/147 (99%)	-0.17	0	100	100	35, 51, 81, 104	0
2	DDD	145/147 (98%)	-0.14	1 (0%)	87	91	40, 61, 91, 105	0
2	EEE	146/147 (99%)	-0.11	1 (0%)	87	91	44, 63, 98, 116	0
2	FFF	146/147 (99%)	0.00	1 (0%)	87	91	38, 54, 90, 116	0
2	GGG	128/147 (87%)	-0.13	0	100	100	50, 81, 124, 140	0
All	All	1627/1698 (95%)	-0.04	10 (0%)	89	92	32, 59, 103, 160	1 (0%)

The worst 5 of 10 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	AAA	139	ILE	4.5
2	AAA	75	ILE	3.7
2	FFF	12	THR	3.2
2	AAA	10	LEU	3.1
2	AAA	30	SER	3.0

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	DDD	202	4/4	0.57	0.25	93,96,96,96	0
4	EDO	JJJ	203	4/4	0.69	0.25	75,85,88,89	0
4	EDO	GGG	201	4/4	0.76	0.18	94,95,96,98	0
5	PEG	MMM	201	7/7	0.80	0.28	98,108,115,119	0
5	PEG	KKK	201	7/7	0.82	0.19	76,87,104,105	0
4	EDO	JJJ	205	4/4	0.82	0.11	93,98,99,100	0
5	PEG	FFF	201	7/7	0.87	0.26	86,97,101,103	0
5	PEG	JJJ	202	7/7	0.89	0.10	98,104,108,111	0
4	EDO	JJJ	204	4/4	0.89	0.12	95,102,104,106	0
4	EDO	FFF	202	4/4	0.92	0.13	71,76,79,82	0
4	EDO	III	201	4/4	0.92	0.24	76,80,82,82	0
3	TRS	HHH	201	8/8	0.95	0.25	63,65,68,73	0
4	EDO	DDD	201	4/4	0.96	0.22	65,68,71,72	0
3	TRS	LLL	201	8/8	0.96	0.25	70,76,81,85	0
3	TRS	LLL	202	8/8	0.96	0.25	55,59,61,62	0
3	TRS	JJJ	201	8/8	0.96	0.28	62,70,78,78	0

6.5 Other polymers ⓘ

There are no such residues in this entry.