



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 08:52 PM GMT

PDB ID : 4U6B
Title : Zg3597, a family 117 glycoside hydrolase, produced by the marine bacterium
Zobellia galactanivorans
Authors : Ficko-Blean, E.
Deposited on : 2014-07-28
Resolution : 2.30 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
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.7 (RC4), CSD as536be (2015)
Xtriage (Phenix) : 1.9-1692
EDS : rb-20026688
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : trunk26865

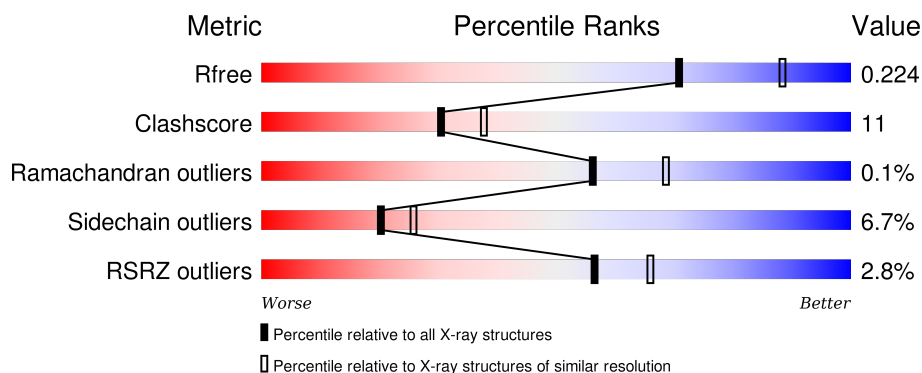
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.30 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}	91344	3852 (2.30-2.30)
Clashscore	102246	4452 (2.30-2.30)
Ramachandran outliers	100387	4410 (2.30-2.30)
Sidechain outliers	100360	4409 (2.30-2.30)
RSRZ outliers	91569	3857 (2.30-2.30)

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 on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. 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	433	<div> <div>2%</div> <div> <div></div> <div>61%</div> <div>14%</div> <div>•</div> <div>21%</div> </div> </div>
1	B	433	<div> <div>2%</div> <div> <div></div> <div>63%</div> <div>13%</div> <div>•</div> <div>21%</div> </div> </div>
1	C	433	<div> <div>3%</div> <div> <div></div> <div>61%</div> <div>14%</div> <div>• •</div> <div>21%</div> </div> </div>
1	D	433	<div> <div>2%</div> <div> <div></div> <div>62%</div> <div>15%</div> <div>•</div> <div>21%</div> </div> </div>

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard

residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	PEG	A	503	-	-	-	X
3	PEG	A	504	-	-	-	X
4	EDO	A	505	-	-	-	X
4	EDO	B	504	-	-	-	X
4	EDO	B	505	-	-	-	X
4	EDO	C	505	-	-	-	X
6	ACY	B	503	-	-	X	X

2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 11568 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 Conserved hypothetical lipoprotein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	343	Total	C	N	O	S	0	2	0
			2686	1720	447	513	6			
1	B	343	Total	C	N	O	S	0	4	0
			2705	1734	447	518	6			
1	C	342	Total	C	N	O	S	0	3	0
			2693	1729	447	511	6			
1	D	343	Total	C	N	O	S	0	1	0
			2680	1717	442	515	6			

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca).

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

- Molecule 3 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: C₄H₁₀O₃).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			7	4	3		
3	A	1	Total	C	O	0	0
			7	4	3		

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



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

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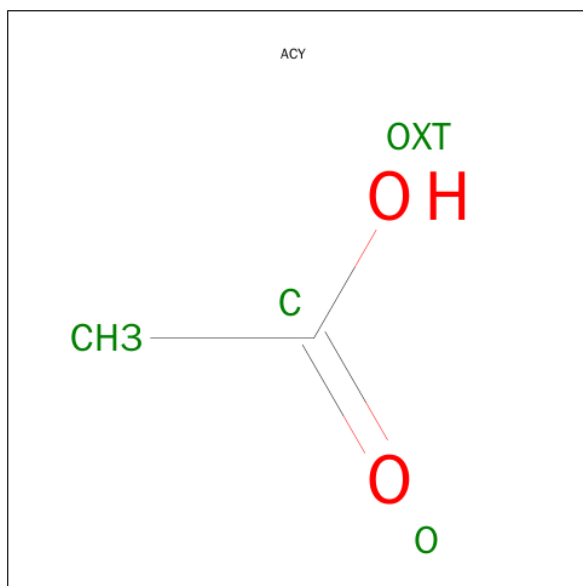
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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	B	1	Total	C	O	0	0
			4	2	2		
4	B	1	Total	C	O	0	0
			4	2	2		
4	C	1	Total	C	O	0	0
			4	2	2		
4	C	1	Total	C	O	0	0
			4	2	2		
4	C	1	Total	C	O	0	0
			4	2	2		
4	D	1	Total	C	O	0	0
			4	2	2		
4	D	1	Total	C	O	0	0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

- Molecule 5 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	1	Total	Na	0	0
			1	1		

- Molecule 6 is ACETIC ACID (three-letter code: ACY) (formula: C₂H₄O₂).



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

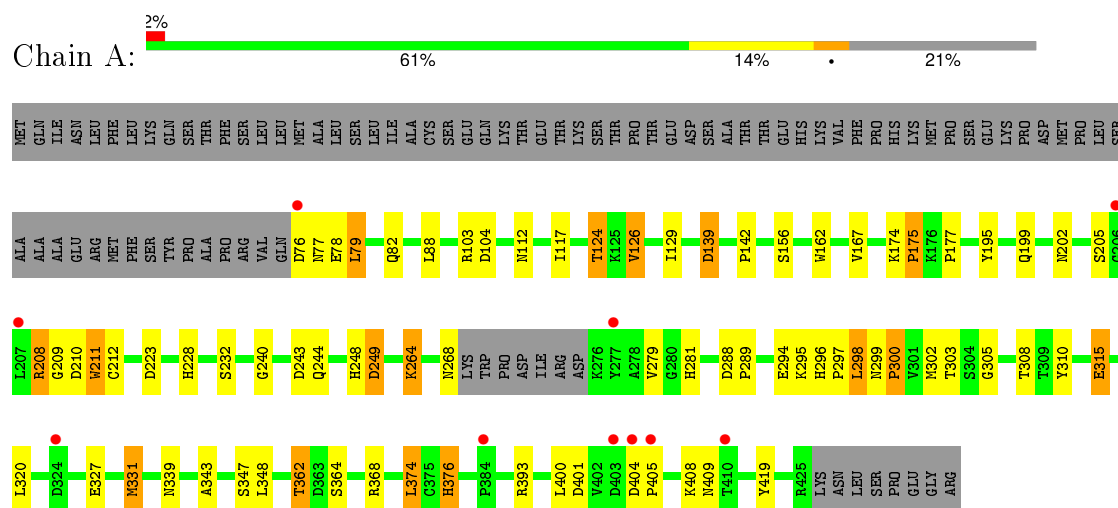
- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	168	Total	O	0	7
			175	175		
7	B	173	Total	O	0	7
			180	180		
7	C	185	Total	O	0	10
			195	195		
7	D	175	Total	O	0	12
			187	187		

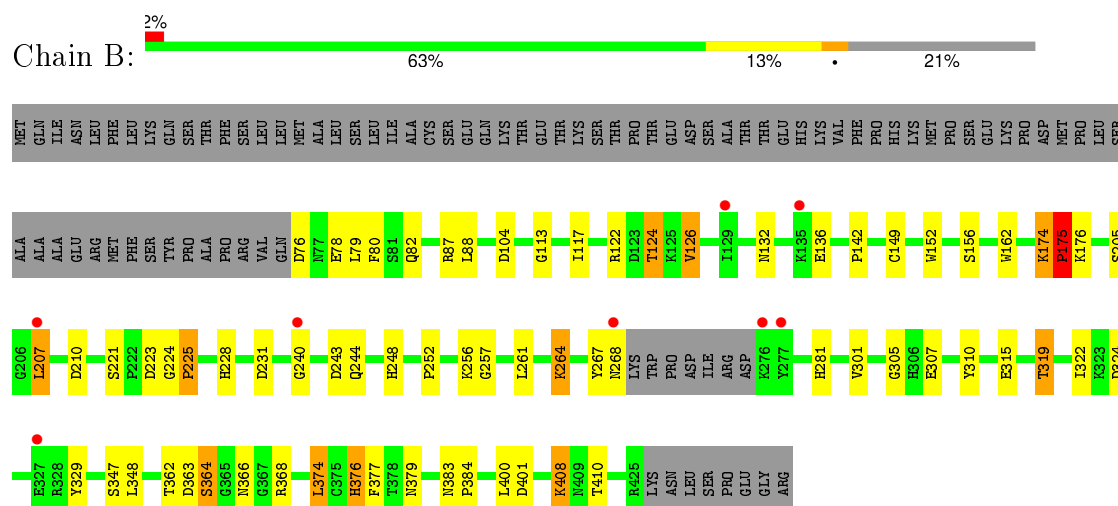
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

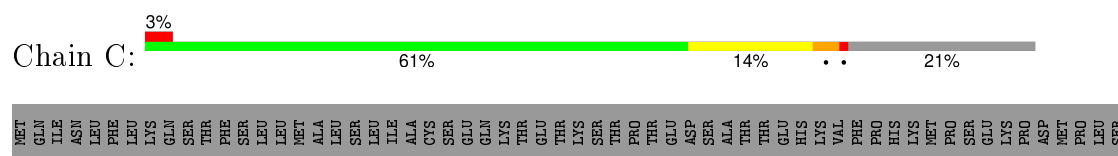
• Molecule 1: Conserved hypothetical lipoprotein

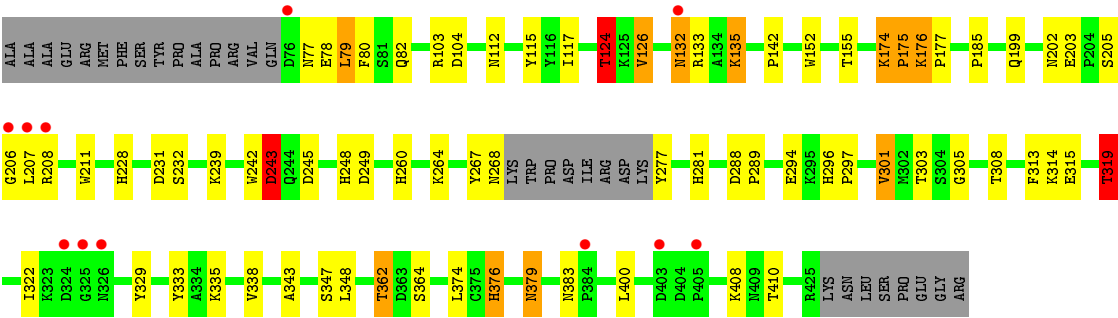


• Molecule 1: Conserved hypothetical lipoprotein

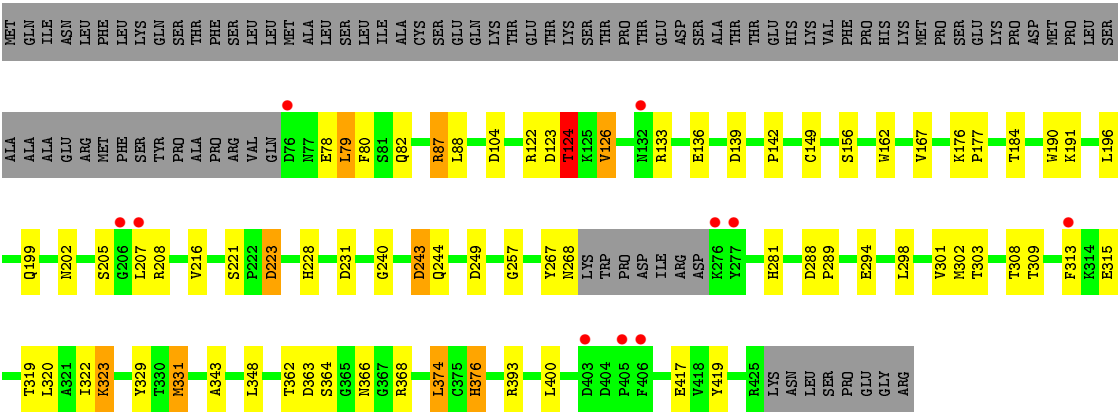


• Molecule 1: Conserved hypothetical lipoprotein





● Molecule 1: Conserved hypothetical lipoprotein



4 Data and refinement statistics

Property	Value	Source
Space group	F 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	187.79Å 223.52Å 225.22Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 2.30 47.00 – 2.30	Depositor EDS
% Data completeness (in resolution range)	99.7 (30.00-2.30) 99.7 (47.00-2.30)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.76 (at 2.29Å)	Xtriage
Refinement program	REFMAC 5.7.0032	Depositor
R, R_{free}	0.178 , 0.225 0.177 , 0.224	Depositor DCC
R_{free} test set	5188 reflections (5.26%)	DCC
Wilson B-factor (Å ²)	36.3	Xtriage
Anisotropy	0.441	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 52.1	EDS
Estimated twinning fraction	0.043 for -h,l,k	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Outliers	5 of 103894 reflections (0.005%)	Xtriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	11568	wwPDB-VP
Average B, all atoms (Å ²)	39.0	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 46.02 % 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 1.2163e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

¹ Intensities estimated from amplitudes.

² Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.375 respectively for untwinned datasets, and 0.333, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ACY, NA, CA, PEG, EDO

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	0.93	1/2782 (0.0%)	0.93	9/3805 (0.2%)
1	B	0.93	3/2801 (0.1%)	0.96	8/3829 (0.2%)
1	C	0.93	1/2792 (0.0%)	0.92	8/3813 (0.2%)
1	D	0.92	1/2773 (0.0%)	0.94	8/3793 (0.2%)
All	All	0.93	6/11148 (0.1%)	0.94	33/15240 (0.2%)

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	152	TRP	CE3-CZ3	7.47	1.51	1.38
1	D	243	ASP	CB-CG	-6.61	1.37	1.51
1	B	243	ASP	CB-CG	-5.57	1.40	1.51
1	B	152	TRP	CE3-CZ3	5.53	1.47	1.38
1	B	225	PRO	N-CD	5.20	1.55	1.47
1	A	300	PRO	N-CD	5.04	1.54	1.47

All (33) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	243	ASP	CB-CG-OD1	-13.99	105.71	118.30
1	D	243	ASP	CB-CG-OD1	-10.78	108.60	118.30
1	D	331	MET	CG-SD-CE	-10.15	83.95	100.20
1	B	243	ASP	CB-CG-OD2	9.71	127.04	118.30
1	A	331	MET	CG-SD-CE	-7.46	88.27	100.20
1	A	223	ASP	C-N-CA	-7.22	107.15	122.30
1	B	374	LEU	CB-CG-CD1	-6.62	99.75	111.00
1	D	243	ASP	CB-CG-OD2	6.05	123.74	118.30
1	C	175	PRO	CA-N-CD	-6.02	103.07	111.50
1	B	175	PRO	CA-N-CD	-5.92	103.21	111.50
1	B	319	THR	CB-CA-C	-5.90	95.67	111.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	223	ASP	C-N-CA	-5.83	110.05	122.30
1	A	212	CYS	C-N-CD	5.76	140.50	128.40
1	C	203	GLU	C-N-CD	5.75	140.48	128.40
1	C	319	THR	CB-CA-C	-5.69	96.23	111.60
1	C	243	ASP	CB-CG-OD1	-5.65	113.22	118.30
1	C	124	THR	N-CA-CB	-5.58	99.71	110.30
1	C	174	LYS	C-N-CD	5.57	140.10	128.40
1	B	174	LYS	C-N-CD	5.56	140.08	128.40
1	A	175	PRO	CA-N-CD	-5.52	103.77	111.50
1	D	124	THR	N-CA-CB	-5.46	99.93	110.30
1	A	249	ASP	CB-CG-OD1	5.45	123.20	118.30
1	D	243	ASP	N-CA-CB	-5.43	100.82	110.60
1	D	176	LYS	C-N-CD	5.39	139.73	128.40
1	B	176	LYS	C-N-CD	5.39	139.71	128.40
1	A	174	LYS	C-N-CD	5.37	139.67	128.40
1	C	176	LYS	C-N-CD	5.34	139.61	128.40
1	A	288	ASP	CB-CG-OD1	5.34	123.10	118.30
1	D	374	LEU	CB-CG-CD1	-5.27	102.04	111.00
1	B	207	LEU	CA-CB-CG	5.12	127.07	115.30
1	A	299	ASN	C-N-CD	5.04	138.98	128.40
1	C	243	ASP	N-CA-CB	-5.03	101.54	110.60
1	A	167	VAL	CB-CA-C	-5.02	101.86	111.40

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	A	2686	0	2478	61	0
1	B	2705	0	2502	49	0
1	C	2693	0	2515	73	0
1	D	2680	0	2469	54	0
2	A	2	0	0	0	0
2	B	2	0	0	0	0
2	C	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	D	2	0	0	0	0
3	A	14	0	20	1	0
4	A	4	0	6	3	0
4	B	12	0	18	3	0
4	C	12	0	18	1	0
4	D	12	0	18	4	0
5	A	1	0	0	0	0
6	B	4	0	3	3	0
7	A	175	0	0	8	0
7	B	180	0	0	7	0
7	C	195	0	0	8	0
7	D	187	0	0	2	1
All	All	11568	0	10047	229	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 11.

All (229) 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:308:THR:O	4:A:505:EDO:H12	1.47	1.12
1:A:78:GLU:HG2	1:A:400:LEU:HD23	1.36	1.02
1:D:78:GLU:HG2	1:D:400:LEU:HD23	1.40	1.01
1:A:104:ASP:H	1:A:376:HIS:HD2	1.06	0.96
1:C:314[B]:LYS:HG2	1:C:315:GLU:H	1.30	0.95
3:A:504:PEG:H22	1:C:239:LYS:HG2	1.48	0.95
1:A:320:LEU:HD13	1:A:331:MET:HE1	1.44	0.95
1:C:132:ASN:HD22	1:C:133:ARG:HG3	1.31	0.94
1:C:104:ASP:H	1:C:376:HIS:HD2	0.98	0.93
1:D:104:ASP:H	1:D:376:HIS:HD2	1.05	0.91
1:B:104:ASP:H	1:B:376:HIS:HD2	1.04	0.91
1:C:104:ASP:H	1:C:376:HIS:CD2	1.88	0.91
1:D:133:ARG:NH2	1:D:136:GLU:OE1	2.03	0.90
1:C:314[B]:LYS:CG	1:C:315:GLU:H	1.81	0.89
1:B:210:ASP:HB3	7:B:750:HOH:O	1.73	0.89
1:A:320:LEU:HD13	1:A:331:MET:CE	2.03	0.87
1:D:320:LEU:HA	1:D:331:MET:HE2	1.57	0.87
1:A:104:ASP:H	1:A:376:HIS:CD2	1.92	0.86
1:C:379:ASN:HD22	1:C:379:ASN:H	1.23	0.85
1:C:249:ASP:O	4:C:505:EDO:H22	1.76	0.85
1:B:379:ASN:OD1	6:B:503:ACY:H1	1.75	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:320:LEU:CD1	1:D:331:MET:HE1	2.06	0.85
1:D:320:LEU:HD13	1:D:331:MET:HE1	1.59	0.84
1:B:78:GLU:HG2	1:B:400:LEU:HD23	1.60	0.83
1:D:133:ARG:HH21	1:D:136:GLU:CD	1.81	0.83
1:C:132:ASN:ND2	1:C:133:ARG:HG3	1.93	0.82
1:A:296:HIS:ND1	1:A:297:PRO:O	2.13	0.81
1:C:362:THR:HG21	7:C:620:HOH:O	1.80	0.81
1:B:364:SER:HB3	1:B:366:ASN:H	1.47	0.80
1:C:80:PHE:O	1:C:408:LYS:HE3	1.81	0.80
1:D:104:ASP:H	1:D:376:HIS:CD2	1.95	0.80
1:A:78:GLU:HG2	1:A:400:LEU:CD2	2.11	0.79
1:C:78:GLU:HG2	1:C:400:LEU:HD23	1.64	0.79
1:D:87:ARG:HH21	4:D:503:EDO:H21	1.48	0.79
1:B:104:ASP:H	1:B:376:HIS:CD2	1.96	0.78
1:C:314[B]:LYS:CG	1:C:315:GLU:N	2.48	0.77
1:D:78:GLU:HG2	1:D:400:LEU:CD2	2.13	0.76
1:A:199:GLN:NE2	1:A:249:ASP:H	1.86	0.74
1:A:199:GLN:HE21	1:A:249:ASP:H	1.33	0.74
1:C:124:THR:HG23	1:C:126:VAL:O	1.87	0.73
1:D:331:MET:HA	1:D:331:MET:HE2	1.70	0.73
1:C:199:GLN:NE2	1:C:249:ASP:H	1.85	0.73
1:D:124:THR:HG23	1:D:126:VAL:O	1.90	0.71
1:C:82:GLN:NE2	7:C:749:HOH:O	2.24	0.71
1:A:124:THR:HG23	1:A:126:VAL:O	1.91	0.71
1:B:117:ILE:HD13	1:B:374:LEU:HD11	1.70	0.70
1:A:308:THR:O	4:A:505:EDO:C1	2.35	0.70
1:D:207:LEU:N	1:D:208:ARG:HA	2.05	0.70
1:C:228:HIS:HE1	1:C:231:ASP:OD1	1.75	0.69
1:D:104:ASP:N	1:D:376:HIS:HD2	1.86	0.69
1:A:232:SER:HB3	1:C:175:PRO:HD2	1.76	0.68
1:A:347:SER:HB2	7:A:684:HOH:O	1.94	0.68
1:D:320:LEU:HA	1:D:331:MET:CE	2.24	0.67
1:C:117:ILE:HD13	1:C:374:LEU:HD11	1.76	0.67
1:C:199:GLN:HE21	1:C:249:ASP:H	1.40	0.67
1:C:322:ILE:HD12	1:C:329:TYR:CD1	2.29	0.67
1:C:379:ASN:N	1:C:379:ASN:HD22	1.94	0.66
1:C:207:LEU:N	1:C:208:ARG:HA	2.10	0.66
1:C:315:GLU:OE2	1:C:335[B]:LYS:HD2	1.95	0.65
1:C:124:THR:CG2	1:C:126:VAL:O	2.45	0.65
1:A:408:LYS:NZ	7:A:729:HOH:O	2.30	0.64
1:B:221:SER:O	1:B:223:ASP:O	2.16	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:240:GLY:H	1:A:244:GLN:NE2	1.95	0.64
1:D:82[B]:GLN:NE2	7:D:655:HOH:O	2.30	0.63
1:D:331:MET:CE	1:D:331:MET:HA	2.29	0.63
1:B:124:THR:HG23	1:B:126:VAL:O	1.98	0.63
1:A:104:ASP:N	1:A:376:HIS:HD2	1.88	0.62
1:A:228:HIS:HD2	7:A:739:HOH:O	1.83	0.62
1:C:78:GLU:HG2	1:C:400:LEU:CD2	2.30	0.62
1:C:314[B]:LYS:HD3	1:C:335[B]:LYS:NZ	2.15	0.62
1:A:175:PRO:HD2	1:C:232:SER:HB3	1.81	0.61
1:A:320:LEU:CD1	1:A:331:MET:CE	2.79	0.61
1:B:78:GLU:HG2	1:B:400:LEU:CD2	2.29	0.61
1:C:104:ASP:N	1:C:376:HIS:HD2	1.83	0.60
1:D:124:THR:HG21	1:D:142:PRO:HG3	1.84	0.60
1:B:80:PHE:O	1:B:408:LYS:HE3	2.02	0.60
1:C:347:SER:HB2	7:C:679:HOH:O	2.01	0.60
1:A:117:ILE:HD13	1:A:374:LEU:HD11	1.84	0.59
1:D:78:GLU:CG	1:D:400:LEU:HD23	2.24	0.59
1:C:348:LEU:CD1	1:D:419:TYR:CE2	2.87	0.58
1:A:281:HIS:HE1	1:A:305:GLY:O	1.87	0.57
1:A:368:ARG:HD3	1:A:401:ASP:OD2	2.04	0.57
1:A:320:LEU:CD1	1:A:331:MET:HE1	2.28	0.57
1:A:243:ASP:OD2	1:A:295:LYS:NZ	2.35	0.57
1:D:322:ILE:HD12	1:D:329:TYR:CD1	2.40	0.56
1:A:124:THR:CG2	1:A:126:VAL:O	2.52	0.56
1:A:298:LEU:HD22	1:A:298:LEU:O	2.06	0.56
1:D:199:GLN:NE2	1:D:249:ASP:H	2.04	0.56
1:A:77:ASN:ND2	1:A:343:ALA:O	2.35	0.56
1:B:113:GLY:O	4:B:506:EDO:H12	2.06	0.55
1:B:368:ARG:HD3	1:B:401:ASP:OD2	2.06	0.55
1:D:221:SER:O	1:D:223:ASP:O	2.24	0.55
1:B:368:ARG:NH2	1:B:401:ASP:OD1	2.37	0.54
1:D:124:THR:CG2	1:D:126:VAL:O	2.56	0.54
1:C:362:THR:HG23	1:C:364:SER:HB3	1.90	0.54
1:C:228:HIS:CE1	1:C:231:ASP:OD1	2.60	0.54
1:B:122:ARG:HB2	1:B:149:CYS:SG	2.47	0.54
1:A:362:THR:CG2	1:A:364:SER:HB3	2.38	0.54
1:A:76:ASP:HA	7:A:683[A]:HOH:O	2.08	0.53
1:B:322:ILE:HD12	1:B:329:TYR:CD1	2.44	0.53
1:B:87[B]:ARG:NH1	7:B:603:HOH:O	2.41	0.53
1:D:320:LEU:CB	1:D:331:MET:HE1	2.39	0.52
1:B:310:TYR:HE1	4:B:504:EDO:H11	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:124:THR:CG2	1:B:126:VAL:O	2.57	0.52
1:C:348:LEU:HD13	1:D:419:TYR:CE2	2.44	0.51
1:A:362:THR:HG23	1:A:364:SER:HB3	1.92	0.51
1:C:79:LEU:CD1	1:C:313:PHE:CZ	2.93	0.51
1:D:257:GLY:HA2	1:D:363:ASP:OD2	2.10	0.51
1:A:296:HIS:CG	1:A:297:PRO:HD2	2.46	0.51
1:A:296:HIS:CE1	1:A:297:PRO:O	2.64	0.50
1:B:364:SER:HB2	7:B:698:HOH:O	2.11	0.50
1:C:79:LEU:HD11	1:C:313:PHE:CZ	2.47	0.50
1:D:320:LEU:HB2	1:D:331:MET:HE1	1.92	0.50
4:B:504:EDO:H12	7:B:733:HOH:O	2.10	0.50
1:D:240:GLY:H	1:D:244:GLN:NE2	2.09	0.50
1:A:232:SER:HB2	1:C:176:LYS:HG3	1.94	0.50
1:B:82:GLN:NE2	7:B:727:HOH:O	2.43	0.50
1:C:383:ASN:C	1:C:383:ASN:OD1	2.50	0.50
1:C:408:LYS:NZ	7:C:683:HOH:O	2.45	0.49
1:D:281:HIS:CD2	1:D:308:THR:OG1	2.65	0.49
1:C:77:ASN:ND2	1:C:343:ALA:O	2.39	0.49
1:C:103:ARG:HB2	1:C:376:HIS:CD2	2.48	0.49
1:D:87:ARG:HE	4:D:503:EDO:C2	2.26	0.49
1:C:288:ASP:OD1	1:C:289:PRO:HD2	2.12	0.49
1:C:379:ASN:H	1:C:379:ASN:ND2	2.03	0.49
1:A:362:THR:HG21	7:A:709:HOH:O	2.12	0.49
1:D:267:TYR:O	1:D:268:ASN:HB2	2.13	0.48
1:B:257:GLY:HA2	1:B:363:ASP:OD2	2.13	0.48
1:D:87:ARG:NH2	4:D:503:EDO:H21	2.24	0.48
1:D:190:TRP:NE1	1:D:191:LYS:HD2	2.28	0.48
1:C:314[B]:LYS:HG3	1:C:315:GLU:N	2.28	0.48
1:C:132:ASN:HD22	1:C:133:ARG:CG	2.15	0.48
1:B:240:GLY:H	1:B:244:GLN:NE2	2.11	0.48
1:A:195:TYR:CZ	1:A:289:PRO:HG3	2.49	0.48
1:A:78:GLU:CG	1:A:400:LEU:HD23	2.25	0.48
1:D:167:VAL:HG23	7:D:682:HOH:O	2.13	0.48
1:C:135:LYS:HE3	7:C:682:HOH:O	2.13	0.48
1:A:327:GLU:OE1	1:B:347:SER:HB2	2.14	0.47
1:D:309:THR:O	1:D:319:THR:HG23	2.14	0.47
1:B:78:GLU:CG	1:B:400:LEU:HD23	2.40	0.47
1:C:294:GLU:HB3	7:C:717:HOH:O	2.14	0.47
1:B:267:TYR:O	1:B:268:ASN:HB2	2.15	0.47
1:C:301:VAL:HG22	1:C:338:VAL:O	2.15	0.47
1:A:82[A]:GLN:NE2	1:A:409:ASN:HB2	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:122:ARG:HB2	1:D:149:CYS:SG	2.54	0.47
1:B:364:SER:CB	1:B:366:ASN:H	2.24	0.47
1:A:310:TYR:HE1	4:A:505:EDO:H21	1.79	0.47
1:C:314[B]:LYS:HD3	1:C:335[B]:LYS:HZ3	1.78	0.47
1:B:364:SER:HB3	1:B:366:ASN:N	2.22	0.47
1:C:281:HIS:HE1	1:C:305:GLY:O	1.97	0.46
1:A:177:PRO:HA	1:A:202:ASN:OD1	2.16	0.46
1:C:104:ASP:O	1:C:185:PRO:HD2	2.16	0.46
1:B:117:ILE:HD13	1:B:374:LEU:CD1	2.44	0.46
1:B:379:ASN:OD1	6:B:503:ACY:CH3	2.58	0.46
1:D:331:MET:CE	1:D:331:MET:CA	2.93	0.46
1:A:315:GLU:HG3	1:A:315:GLU:H	1.51	0.46
1:C:78:GLU:CG	1:C:400:LEU:HD23	2.43	0.45
1:C:115:TYR:O	1:C:155:THR:HA	2.16	0.45
1:C:174:LYS:HA	1:C:175:PRO:HA	1.70	0.45
1:C:124:THR:HG21	1:C:142:PRO:HG3	1.99	0.45
1:C:248:HIS:HB2	1:C:264:LYS:HG2	1.99	0.45
1:B:156:SER:HB2	1:B:162:TRP:CD2	2.52	0.45
1:B:377:PHE:HD1	6:B:503:ACY:H2	1.82	0.45
1:C:206:GLY:C	1:C:208:ARG:CB	2.85	0.45
1:B:224:GLY:HA3	1:B:225:PRO:HA	1.85	0.45
1:B:117:ILE:HG12	1:B:162:TRP:CZ3	2.52	0.44
1:A:339:ASN:HA	7:A:741:HOH:O	2.17	0.44
1:A:139:ASP:N	1:A:139:ASP:OD1	2.41	0.44
1:C:308:THR:HB	1:C:319:THR:CG2	2.46	0.44
1:D:228:HIS:HE1	1:D:231:ASP:OD1	2.00	0.44
1:C:333:TYR:OH	1:C:335[B]:LYS:HD3	2.17	0.44
1:B:87[B]:ARG:HD2	7:B:603:HOH:O	2.17	0.44
1:B:268:ASN:HA	1:B:268:ASN:HD22	1.61	0.44
1:B:281:HIS:HE1	1:B:305:GLY:O	2.00	0.44
1:B:88:LEU:HD23	1:B:88:LEU:HA	1.84	0.44
1:D:364:SER:HB3	1:D:366:ASN:H	1.83	0.44
1:D:288:ASP:OD1	1:D:289:PRO:HD2	2.19	0.43
1:A:88:LEU:HD21	1:A:393:ARG:HB2	1.99	0.43
1:A:79:LEU:HA	1:A:79:LEU:HD12	1.75	0.43
1:B:228:HIS:HE1	1:B:231:ASP:OD1	2.01	0.43
1:B:408:LYS:NZ	7:B:675:HOH:O	2.50	0.43
1:C:308:THR:HB	1:C:319:THR:HG21	1.99	0.43
1:D:88:LEU:HD21	1:D:393:ARG:HB2	1.99	0.43
1:C:117:ILE:HD13	1:C:374:LEU:CD1	2.46	0.43
1:C:348:LEU:HD12	1:D:419:TYR:CE2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:383:ASN:HA	1:B:384:PRO:HD3	1.77	0.43
1:D:80:PHE:CD2	1:D:80:PHE:C	2.91	0.43
1:A:103:ARG:HB2	1:A:376:HIS:CD2	2.53	0.43
1:A:124:THR:HG21	1:A:142:PRO:HG3	2.00	0.43
1:A:248:HIS:HB2	1:A:264:LYS:HG2	2.01	0.43
1:A:117:ILE:CD1	1:A:374:LEU:HD11	2.49	0.43
1:D:156:SER:HB2	1:D:162:TRP:CD2	2.54	0.43
1:C:177:PRO:HA	1:C:202:ASN:OD1	2.18	0.43
1:C:79:LEU:HD11	1:C:313:PHE:CE2	2.53	0.43
1:D:79:LEU:HD13	1:D:313:PHE:CZ	2.54	0.42
1:B:174:LYS:HA	1:B:175:PRO:HA	1.68	0.42
1:C:362:THR:CG2	1:C:364:SER:HB3	2.49	0.42
1:C:207:LEU:N	1:C:208:ARG:CA	2.81	0.42
1:B:248:HIS:HB2	1:B:264:LYS:HG2	2.01	0.42
1:C:379:ASN:N	1:C:379:ASN:ND2	2.64	0.42
1:A:300:PRO:HB2	1:A:302:MET:O	2.19	0.42
1:A:296:HIS:CG	1:A:297:PRO:CD	3.03	0.42
1:B:124:THR:HG21	1:B:142:PRO:HG3	2.01	0.42
1:C:242:TRP:CG	1:C:243:ASP:N	2.88	0.42
1:D:320:LEU:CD1	1:D:331:MET:CE	2.89	0.42
1:D:177:PRO:HA	1:D:202:ASN:OD1	2.20	0.42
1:A:320:LEU:CD1	1:A:331:MET:HE2	2.48	0.42
1:A:77:ASN:HA	7:A:738:HOH:O	2.19	0.42
1:D:196:LEU:O	1:D:216:VAL:HA	2.20	0.42
1:B:76:ASP:OD1	1:B:76:ASP:N	2.53	0.41
1:C:211:TRP:HZ3	1:C:245:ASP:OD1	2.02	0.41
1:B:329:TYR:HD2	1:B:347:SER:HA	1.85	0.41
1:D:123:ASP:O	4:D:505:EDO:C1	2.68	0.41
1:B:104:ASP:N	1:B:376:HIS:HD2	1.89	0.41
7:C:767:HOH:O	1:D:417:GLU:HG3	2.19	0.41
1:D:323:LYS:N	1:D:323:LYS:HD2	2.36	0.41
1:D:79:LEU:HD23	1:D:343:ALA:CB	2.50	0.41
1:A:156:SER:HB2	1:A:162:TRP:CD2	2.55	0.41
1:A:208:ARG:HB2	1:A:209:GLY:H	1.74	0.41
1:A:210:ASP:O	1:A:211:TRP:HB2	2.21	0.41
1:B:252:PRO:HA	1:B:261:LEU:HA	2.02	0.41
1:C:267:TYR:O	1:C:277:TYR:HA	2.20	0.41
1:C:296:HIS:CG	1:C:297:PRO:HD2	2.56	0.41
1:A:302:MET:HG2	7:A:697:HOH:O	2.19	0.40
1:A:419:TYR:CE2	1:B:348:LEU:HD12	2.55	0.40
1:C:260:HIS:HE1	7:C:766:HOH:O	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:268:ASN:HD22	1:A:268:ASN:HA	1.62	0.40
1:C:348:LEU:HD12	1:D:419:TYR:CD2	2.56	0.40
1:A:404:ASP:HA	1:A:405:PRO:HD2	1.92	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)
7:D:601:HOH:O	7:D:601:HOH:O[2_555]	2.02	0.18

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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	341/433 (79%)	322 (94%)	18 (5%)	1 (0%)	46	57
1	B	343/433 (79%)	327 (95%)	15 (4%)	1 (0%)	46	57
1	C	341/433 (79%)	327 (96%)	14 (4%)	0	100	100
1	D	340/433 (78%)	328 (96%)	12 (4%)	0	100	100
All	All	1365/1732 (79%)	1304 (96%)	59 (4%)	2 (0%)	56	68

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	211	TRP
1	B	132	ASN

5.3.2 Protein sidechains [i](#)

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	274/366 (75%)	256 (93%)	18 (7%)	21	27
1	B	277/366 (76%)	258 (93%)	19 (7%)	19	24
1	C	277/366 (76%)	261 (94%)	16 (6%)	25	33
1	D	274/366 (75%)	254 (93%)	20 (7%)	17	22
All	All	1102/1464 (75%)	1029 (93%)	73 (7%)	20	27

All (73) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	79	LEU
1	A	112	ASN
1	A	124	THR
1	A	126	VAL
1	A	129	ILE
1	A	139	ASP
1	A	205	SER
1	A	208	ARG
1	A	264	LYS
1	A	279	VAL
1	A	294	GLU
1	A	298	LEU
1	A	303	THR
1	A	315	GLU
1	A	348	LEU
1	A	362	THR
1	A	374	LEU
1	A	376	HIS
1	B	79	LEU
1	B	124	THR
1	B	126	VAL
1	B	136	GLU
1	B	175	PRO
1	B	205	SER
1	B	207	LEU
1	B	256	LYS
1	B	264	LYS
1	B	301	VAL

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Mol	Chain	Res	Type
1	B	307	GLU
1	B	315	GLU
1	B	319	THR
1	B	324	ASP
1	B	362	THR
1	B	364	SER
1	B	376	HIS
1	B	408	LYS
1	B	410	THR
1	C	79	LEU
1	C	112	ASN
1	C	124	THR
1	C	126	VAL
1	C	132	ASN
1	C	135	LYS
1	C	205	SER
1	C	243	ASP
1	C	268	ASN
1	C	301	VAL
1	C	303	THR
1	C	319	THR
1	C	362	THR
1	C	376	HIS
1	C	379	ASN
1	C	410	THR
1	D	79	LEU
1	D	87	ARG
1	D	124	THR
1	D	126	VAL
1	D	139	ASP
1	D	184	THR
1	D	205	SER
1	D	243	ASP
1	D	294	GLU
1	D	298	LEU
1	D	301	VAL
1	D	302	MET
1	D	303	THR
1	D	315	GLU
1	D	323	LYS
1	D	348	LEU
1	D	362	THR

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Mol	Chain	Res	Type
1	D	368	ARG
1	D	374	LEU
1	D	376	HIS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (39) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	94	ASN
1	A	95	ASN
1	A	199	GLN
1	A	244	GLN
1	A	260	HIS
1	A	268	ASN
1	A	281	HIS
1	A	376	HIS
1	A	422	GLN
1	B	82	GLN
1	B	94	ASN
1	B	95	ASN
1	B	228	HIS
1	B	244	GLN
1	B	268	ASN
1	B	281	HIS
1	B	376	HIS
1	C	82	GLN
1	C	94	ASN
1	C	95	ASN
1	C	132	ASN
1	C	199	GLN
1	C	228	HIS
1	C	260	HIS
1	C	281	HIS
1	C	306	HIS
1	C	339	ASN
1	C	376	HIS
1	C	379	ASN
1	C	422	GLN
1	D	94	ASN
1	D	95	ASN
1	D	199	GLN
1	D	228	HIS
1	D	244	GLN

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Mol	Chain	Res	Type
1	D	268	ASN
1	D	281	HIS
1	D	376	HIS
1	D	422	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 22 ligands modelled in this entry, 9 are monoatomic - leaving 13 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	$\# Z > 2$
3	PEG	A	503	-	6,6,6	0.50	0	5,5,5	0.61	0
3	PEG	A	504	-	6,6,6	0.48	0	5,5,5	0.65	0
4	EDO	A	505	-	3,3,3	0.31	0	2,2,2	0.89	0
6	ACY	B	503	-	1,3,3	0.88	0	0,3,3	0.00	-
4	EDO	B	504	-	3,3,3	0.31	0	2,2,2	0.72	0
4	EDO	B	505	-	3,3,3	0.65	0	2,2,2	0.37	0
4	EDO	B	506	-	3,3,3	0.54	0	2,2,2	0.79	0
4	EDO	C	503	-	3,3,3	0.70	0	2,2,2	0.05	0
4	EDO	C	504	-	3,3,3	0.59	0	2,2,2	0.41	0
4	EDO	C	505	-	3,3,3	0.40	0	2,2,2	0.30	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	EDO	D	503	-	3,3,3	0.55	0	2,2,2	0.48	0
4	EDO	D	504	-	3,3,3	0.58	0	2,2,2	0.52	0
4	EDO	D	505	-	3,3,3	0.66	0	2,2,2	0.26	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	PEG	A	503	-	-	0/4/4/4	0/0/0/0
3	PEG	A	504	-	-	0/4/4/4	0/0/0/0
4	EDO	A	505	-	-	0/1/1/1	0/0/0/0
6	ACY	B	503	-	-	0/0/0/0	0/0/0/0
4	EDO	B	504	-	-	0/1/1/1	0/0/0/0
4	EDO	B	505	-	-	0/1/1/1	0/0/0/0
4	EDO	B	506	-	-	0/1/1/1	0/0/0/0
4	EDO	C	503	-	-	0/1/1/1	0/0/0/0
4	EDO	C	504	-	-	0/1/1/1	0/0/0/0
4	EDO	C	505	-	-	0/1/1/1	0/0/0/0
4	EDO	D	503	-	-	0/1/1/1	0/0/0/0
4	EDO	D	504	-	-	0/1/1/1	0/0/0/0
4	EDO	D	505	-	-	0/1/1/1	0/0/0/0

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.

8 monomers are involved in 15 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	504	PEG	1	0
4	A	505	EDO	3	0
6	B	503	ACY	3	0
4	B	504	EDO	2	0
4	B	506	EDO	1	0
4	C	505	EDO	1	0
4	D	503	EDO	3	0
4	D	505	EDO	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	A	343/433 (79%)	-0.12	10 (2%) 55 64	17, 36, 70, 101	0
1	B	343/433 (79%)	-0.13	8 (2%) 64 72	17, 35, 74, 122	0
1	C	342/433 (78%)	-0.19	11 (3%) 51 60	16, 35, 70, 114	0
1	D	343/433 (79%)	-0.09	10 (2%) 55 64	18, 36, 71, 111	0
All	All	1371/1732 (79%)	-0.13	39 (2%) 56 66	16, 36, 73, 122	0

All (39) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	207	LEU	5.6
1	D	206	GLY	4.9
1	C	208	ARG	4.8
1	C	207	LEU	4.4
1	A	76	ASP	3.6
1	B	135	LYS	3.6
1	C	76	ASP	3.5
1	C	324	ASP	3.4
1	B	276	LYS	3.3
1	D	276	LYS	3.2
1	D	405	PRO	3.1
1	C	325	GLY	3.0
1	C	206	GLY	2.9
1	B	207	LEU	2.8
1	C	326	ASN	2.7
1	D	403	ASP	2.7
1	A	206	GLY	2.6
1	A	207	LEU	2.6
1	A	410	THR	2.5
1	B	277	TYR	2.5
1	A	277	TYR	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	405	PRO	2.3
1	D	277	TYR	2.3
1	A	384	PRO	2.3
1	A	403	ASP	2.3
1	D	132	ASN	2.3
1	A	324	ASP	2.2
1	B	240	GLY	2.2
1	C	405	PRO	2.2
1	C	403	ASP	2.2
1	C	132	ASN	2.1
1	D	406	PHE	2.1
1	C	384	PRO	2.1
1	A	404	ASP	2.1
1	D	313	PHE	2.1
1	B	327	GLU	2.1
1	D	76	ASP	2.1
1	B	129	ILE	2.0
1	B	268	ASN	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

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

6.3 Carbohydrates [i](#)

There are no carbohydrates 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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(Å ²)	Q<0.9
4	EDO	B	505	4/4	0.76	0.30	20.65	54,55,66,71	0
3	PEG	A	503	7/7	0.83	0.21	7.16	62,72,84,87	0
4	EDO	C	505	4/4	0.94	0.19	5.80	41,43,46,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(\AA^2)	Q<0.9
6	ACY	B	503	4/4	0.80	0.20	5.33	57,66,69,70	0
4	EDO	A	505	4/4	0.97	0.18	5.10	48,50,53,54	0
4	EDO	B	504	4/4	0.98	0.17	4.14	38,44,45,52	0
3	PEG	A	504	7/7	0.85	0.28	3.70	63,81,92,93	0
2	CA	B	502	1/1	1.00	0.14	1.91	27,27,27,27	0
2	CA	C	502	1/1	1.00	0.12	1.18	25,25,25,25	0
2	CA	D	502	1/1	1.00	0.13	0.82	29,29,29,29	0
2	CA	A	502	1/1	1.00	0.12	0.08	27,27,27,27	0
2	CA	A	501	1/1	0.96	0.03	-2.24	49,49,49,49	0
2	CA	B	501	1/1	0.99	0.03	-2.41	40,40,40,40	0
2	CA	D	501	1/1	0.98	0.04	-2.46	46,46,46,46	0
2	CA	C	501	1/1	0.99	0.03	-2.69	45,45,45,45	0
4	EDO	D	504	4/4	0.84	0.23	-	69,72,77,77	0
5	NA	A	506	1/1	0.86	0.18	-	66,66,66,66	0
4	EDO	C	503	4/4	0.67	0.27	-	66,66,74,83	0
4	EDO	D	505	4/4	0.72	0.29	-	68,69,70,78	0
4	EDO	D	503	4/4	0.83	0.21	-	70,72,79,80	0
4	EDO	B	506	4/4	0.62	0.27	-	66,73,74,78	0
4	EDO	C	504	4/4	0.72	0.29	-	73,76,79,80	0

6.5 Other polymers [i](#)

There are no such residues in this entry.