Full wwPDB X-ray Structure Validation Report (i)

Mar 6, 2026 – 12:58 AM UTC

PDB ID	:	6P24 / pdb_00006p24
Title	:	Escherichia coli tRNA synthetase
Authors	:	Kahne, D.; Baidin, V.; Owens, T.W.
Deposited on	:	2019-05-20
Resolution	:	2.12 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (1)) were used in the production of this report:

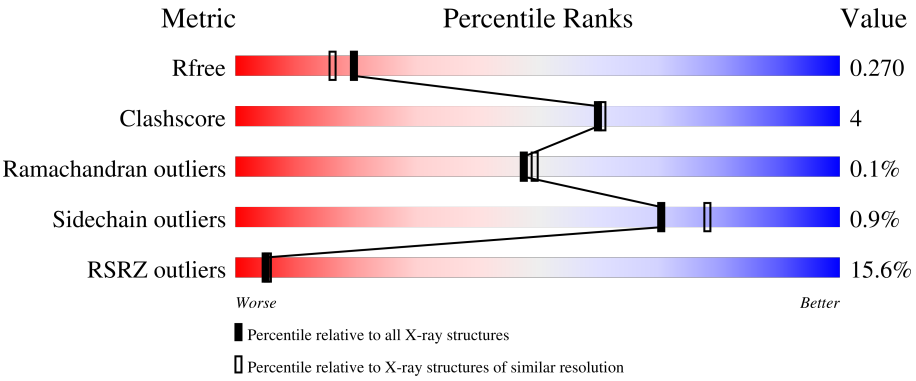
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.12 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	8290 (2.14-2.10)
Clashscore	190562	8817 (2.14-2.10)
Ramachandran outliers	187476	8738 (2.14-2.10)
Sidechain outliers	187428	8739 (2.14-2.10)
RSRZ outliers	180081	8294 (2.14-2.10)

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	332	12% 63% 9% 27%
1	C	332	31% 80% 17% .
2	B	795	16% 90% 10%
2	D	795	9% 90% 9%

2 Entry composition (i)

There are 10 unique types of molecules in this entry. The entry contains 17272 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 Phenylalanine–tRNA ligase alpha subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	241	Total	C	N	O	S	0	1	0
			1925	1227	337	352	9			
1	C	323	Total	C	N	O	S	0	0	0
			2447	1542	441	455	9			

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-4	GLY	-	expression tag	UNP P08312
A	-3	SER	-	expression tag	UNP P08312
A	-2	HIS	-	expression tag	UNP P08312
A	-1	MET	-	expression tag	UNP P08312
A	0	ALA	-	expression tag	UNP P08312
A	1	SER	-	expression tag	UNP P08312
C	-4	GLY	-	expression tag	UNP P08312
C	-3	SER	-	expression tag	UNP P08312
C	-2	HIS	-	expression tag	UNP P08312
C	-1	MET	-	expression tag	UNP P08312
C	0	ALA	-	expression tag	UNP P08312
C	1	SER	-	expression tag	UNP P08312

- Molecule 2 is a protein called Phenylalanine–tRNA ligase beta subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	793	Total	C	N	O	S	0	0	0
			6041	3797	1061	1156	27			
2	D	794	Total	C	N	O	S	0	0	0
			6088	3832	1076	1153	27			

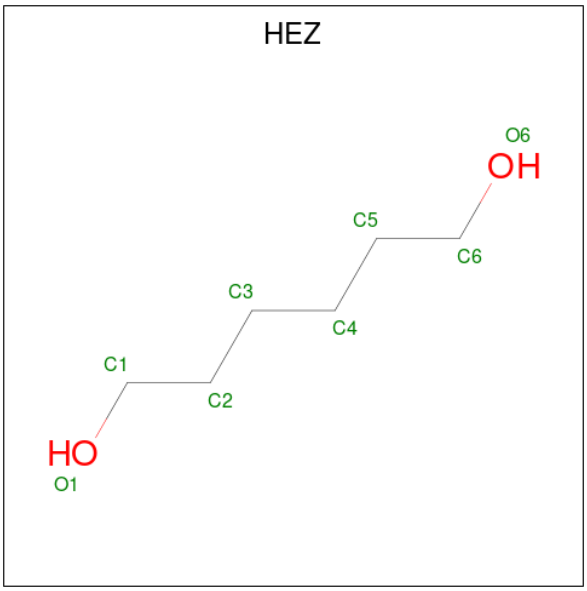
- Molecule 3 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	5	Total Mg 5 5	0	0
3	B	4	Total Mg 4 4	0	0
3	C	2	Total Mg 2 2	0	0
3	D	2	Total Mg 2 2	0	0

- Molecule 4 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

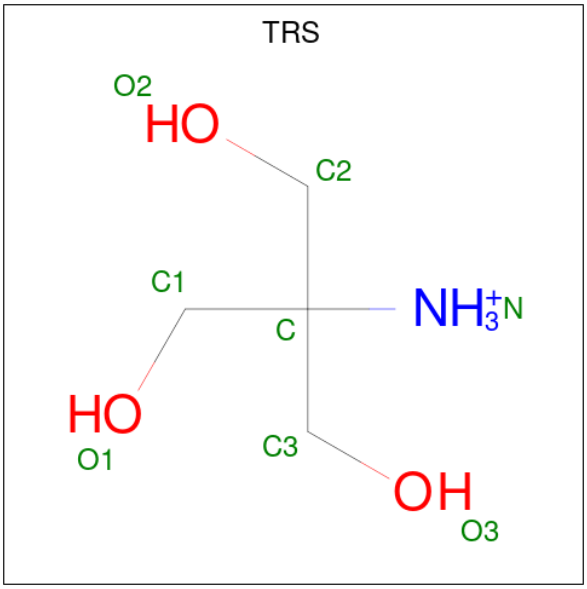
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total Cl 1 1	0	0

- Molecule 5 is HEXANE-1,6-DIOL (CCD ID: HEZ) (formula: $C_6H_{14}O_2$).



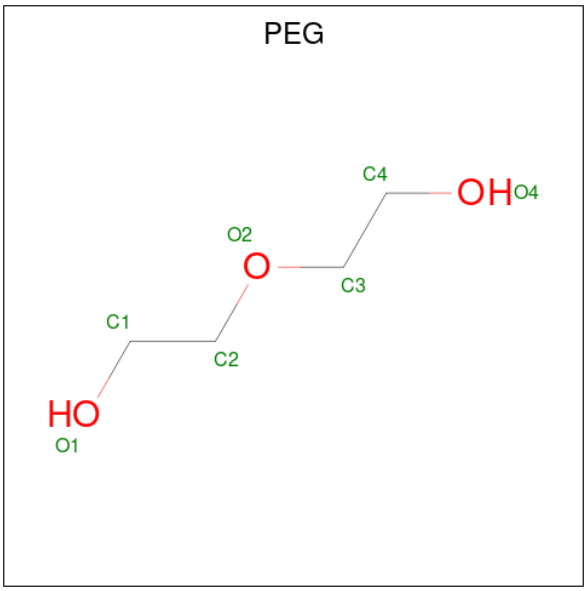
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 8 6 2	0	0
5	D	1	Total C O 8 6 2	0	0
5	D	1	Total C O 8 6 2	0	0
5	D	1	Total C O 8 6 2	0	0
5	D	1	Total C O 8 6 2	0	0

- Molecule 6 is 2-AMINO-2-HYDROXYMETHYL-PROPANE-1,3-DIOL (CCD ID: TRS) (formula: $C_4H_{12}NO_3$).



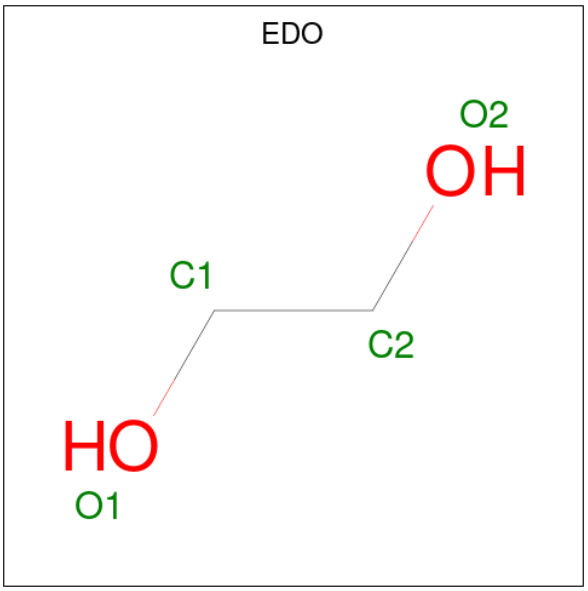
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total C N O 8 4 1 3	0	0
6	A	1	Total C N O 8 4 1 3	0	0
6	C	1	Total C N O 8 4 1 3	0	0
6	D	1	Total C N O 8 4 1 3	0	0

- Molecule 7 is DI(HYDROXYETHYL)ETHER (CCD ID: PEG) (formula: $C_4H_{10}O_3$).



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

- Molecule 8 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: $C_2H_6O_2$).



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

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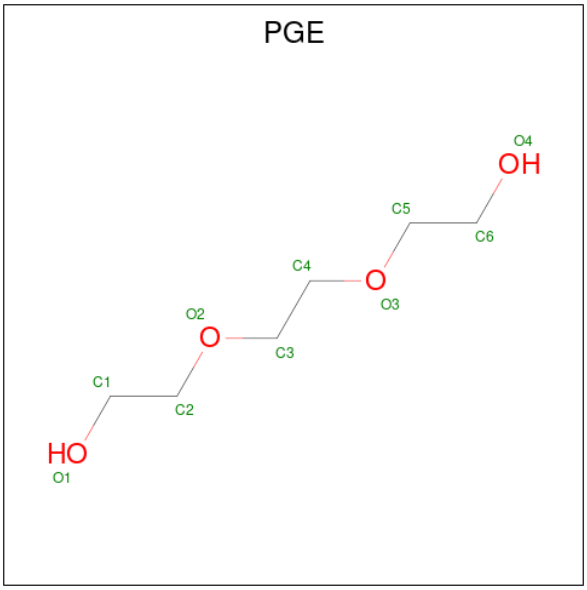
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	D	1	Total C O 4 2 2	0	0
8	D	1	Total C O 4 2 2	0	0
8	D	1	Total C O 4 2 2	0	0

- Molecule 9 is TRIETHYLENE GLYCOL (CCD ID: PGE) (formula: $C_6H_{14}O_4$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	B	1	Total C O 10 6 4	0	0
9	B	1	Total C O 10 6 4	0	0

- Molecule 10 is water.

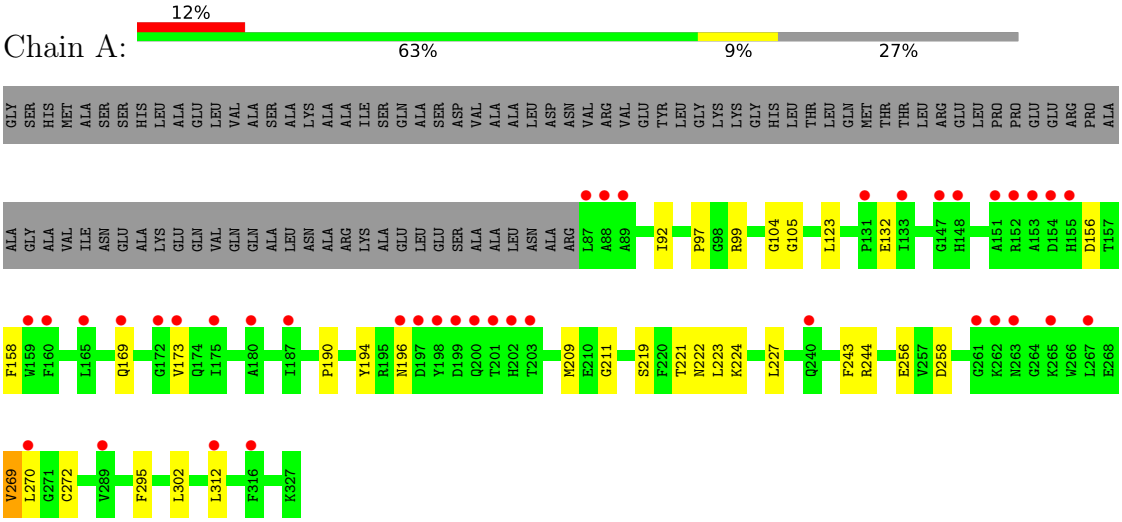
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
10	A	56	Total O 56 56	0	0
10	B	169	Total O 169 169	0	0
10	C	46	Total O 46 46	0	0
10	D	256	Total O 256 256	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Phenylalanine–tRNA ligase alpha subunit

Chain A:

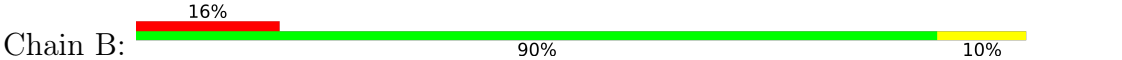


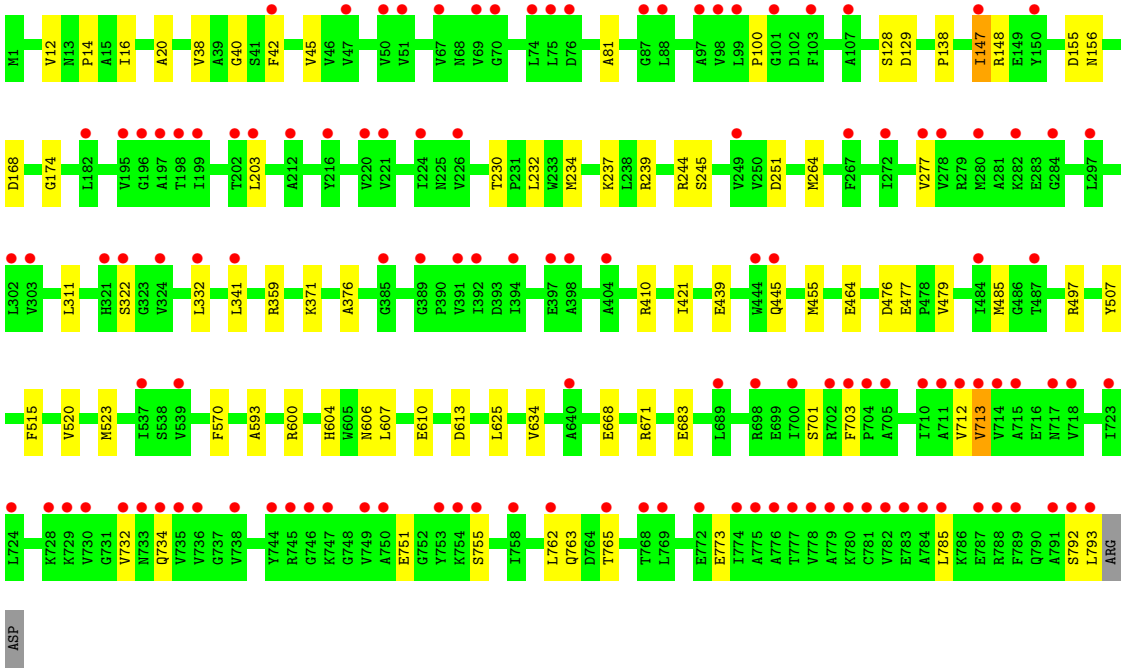
• Molecule 1: Phenylalanine–tRNA ligase alpha subunit

Chain C:

• Molecule 2: Phenylalanine–tRNA ligase beta subunit

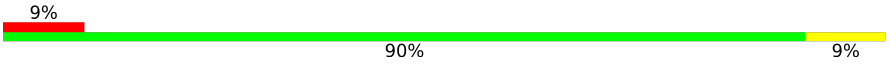
Chain B:

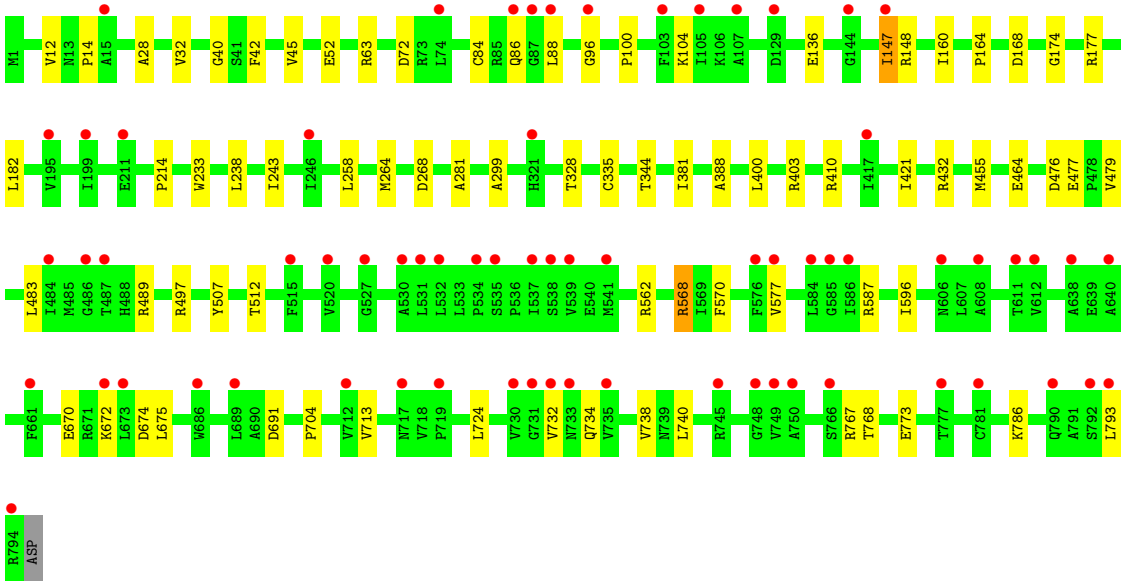




• Molecule 2: Phenylalanine–tRNA ligase beta subunit

Chain D:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	61.27Å 173.58Å 251.47Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	82.04 – 2.12 82.04 – 2.12	Depositor EDS
% Data completeness (in resolution range)	99.1 (82.04-2.12) 99.5 (82.04-2.12)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.09 (at 2.12Å)	Xtriage
Refinement program	PHENIX 1.17.1_3660	Depositor
R, R_{free}	0.229 , 0.265 0.235 , 0.270	Depositor DCC
R_{free} test set	2000 reflections (1.30%)	wwPDB-VP
Wilson B-factor (Å^2)	50.9	Xtriage
Anisotropy	0.148	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 36.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	17272	wwPDB-VP
Average B, all atoms (Å^2)	60.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 10.23% of the height of the origin peak. No significant pseudotranslation is detected.*

[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: TRS, EDO, PEG, HEZ, CL, PGE, MG

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	0.11	0/1979	0.30	0/2684
1	C	0.10	0/2503	0.29	0/3402
2	B	0.09	0/6142	0.27	0/8350
2	D	0.10	0/6190	0.29	0/8408
All	All	0.10	0/16814	0.28	0/22844

There are no bond length outliers.

There are no bond angle outliers.

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	1925	0	1829	23	0
1	C	2447	0	2281	36	0
2	B	6041	0	6019	52	0
2	D	6088	0	6122	48	0
3	A	5	0	0	0	0
3	B	4	0	0	0	0
3	C	2	0	0	0	0
3	D	2	0	0	0	0
4	A	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	A	8	0	14	0	0
5	D	32	0	56	2	0
6	A	16	0	24	3	0
6	C	8	0	12	1	0
6	D	8	0	12	0	0
7	A	7	0	10	0	0
7	B	35	0	50	3	0
7	C	14	0	20	2	0
7	D	14	0	20	1	0
8	A	4	0	6	0	0
8	B	16	0	24	4	0
8	C	12	0	18	0	0
8	D	36	0	54	1	0
9	B	20	0	28	1	0
10	A	56	0	0	1	0
10	B	169	0	0	3	0
10	C	46	0	0	1	0
10	D	256	0	0	4	0
All	All	17272	0	16599	143	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 4.

All (143) 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)
2:D:28:ALA:HB2	2:D:182:LEU:HD11	1.63	0.81
1:C:116:ILE:HD12	1:C:299:MET:HE1	1.64	0.77
2:B:40:GLY:O	2:B:148:ARG:NH2	2.21	0.72
2:B:604:HIS:HA	8:B:814:EDO:H21	1.70	0.71
2:B:497:ARG:HH21	7:C:404:PEG:H32	1.58	0.68
1:C:324:LYS:HG3	1:C:327:LYS:HE2	1.74	0.68
1:C:228:HIS:ND1	2:D:476:ASP:OD2	2.26	0.68
1:A:169:GLN:NE2	10:A:502:HOH:O	2.27	0.68
2:B:129:ASP:OD2	2:B:244:ARG:NH2	2.27	0.68
2:D:455:MET:HE2	2:D:464:GLU:HG3	1.76	0.68
2:B:606:ASN:HD21	8:B:815:EDO:H11	1.58	0.67
1:C:42:MET:HA	1:C:60:ILE:HD13	1.77	0.67
6:A:408:TRS:H31	2:D:497:ARG:HH21	1.60	0.66
2:B:455:MET:HE2	2:B:464:GLU:HG3	1.78	0.64
1:A:227:LEU:HD13	1:A:270:LEU:HD11	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:230:THR:HG23	2:B:234:MET:HE2	1.79	0.63
2:D:177:ARG:NH1	10:D:904:HOH:O	2.30	0.62
1:C:192:ARG:NH2	2:D:512:THR:O	2.34	0.61
1:C:178:MET:HG2	1:C:185:ILE:HD13	1.83	0.59
1:A:190:PRO:HB3	1:A:209:MET:HE2	1.83	0.59
1:A:132:GLU:OE1	1:A:194:TYR:OH	2.19	0.59
2:B:237:LYS:NZ	10:B:910:HOH:O	2.34	0.58
1:A:222:ASN:HB3	2:B:479:VAL:HG22	1.85	0.58
2:D:63:ARG:NH1	2:D:84:CYS:O	2.37	0.58
2:D:40:GLY:O	2:D:148:ARG:NH2	2.38	0.57
1:A:105:GLY:HA2	6:A:408:TRS:H22	1.88	0.56
1:A:269:VAL:HG13	1:A:302:LEU:HD21	1.86	0.56
1:C:222:ASN:HB3	2:D:479:VAL:HG22	1.86	0.56
1:A:97:PRO:HB3	6:A:411:TRS:H12	1.87	0.56
2:D:568:ARG:HB3	2:D:596:ILE:HG22	1.89	0.55
1:C:156:ASP:HB3	1:C:196:ASN:HB3	1.88	0.55
1:C:195:ARG:HE	1:C:206:PHE:HZ	1.53	0.55
2:B:439:GLU:OE1	8:B:807:EDO:O2	2.23	0.55
2:D:489:ARG:NH2	2:D:691:ASP:OD1	2.40	0.55
1:C:257:VAL:HB	1:C:270:LEU:HB2	1.90	0.54
2:B:359:ARG:HH22	9:B:806:PGE:H22	1.73	0.54
1:C:15:ILE:HA	1:C:34:LYS:HE3	1.90	0.53
2:D:734:GLN:NE2	2:D:773:GLU:OE2	2.40	0.53
2:B:12:VAL:HG22	2:B:14:PRO:HD3	1.91	0.53
2:B:668:GLU:OE2	2:B:671:ARG:NH1	2.42	0.53
2:B:38:VAL:HG13	2:B:239:ARG:HH22	1.74	0.52
1:A:211:GLY:HA3	1:A:295:PHE:CZ	2.45	0.52
2:B:734:GLN:HB3	2:B:762:LEU:HD23	1.92	0.52
2:D:264:MET:HE3	2:D:335:CYS:HB2	1.90	0.52
2:B:703:PHE:O	2:B:763:GLN:NE2	2.34	0.52
1:C:113:ILE:HG12	1:C:299:MET:HE2	1.90	0.52
2:D:45:VAL:HB	2:D:147:ILE:HD11	1.91	0.51
1:C:132:GLU:OE1	1:C:194:TYR:OH	2.23	0.51
2:B:138:PRO:HG2	7:B:810:PEG:H11	1.91	0.51
2:B:410:ARG:NH2	2:B:421:ILE:O	2.36	0.51
2:B:81:ALA:HB2	7:B:812:PEG:H41	1.94	0.50
1:C:148:HIS:HB2	2:D:344:THR:HG21	1.91	0.50
2:B:45:VAL:HB	2:B:147:ILE:HD11	1.93	0.50
2:B:445:GLN:NE2	10:B:904:HOH:O	2.45	0.50
2:D:767:ARG:NH2	2:D:773:GLU:OE2	2.42	0.49
2:B:485:MET:HG2	1:C:123:LEU:HD11	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:672:LYS:C	2:D:674:ASP:H	2.21	0.49
2:D:168:ASP:O	2:D:174:GLY:HA3	2.12	0.49
1:A:99:ARG:HG3	2:B:607:LEU:HD21	1.95	0.49
1:A:123:LEU:HG	2:D:483:LEU:HB3	1.94	0.49
2:D:704:PRO:HD2	2:D:768:THR:HG22	1.94	0.49
2:D:52:GLU:HA	2:D:86:GLN:HG3	1.96	0.48
2:D:233:TRP:HB3	5:D:806:HEZ:H52	1.95	0.48
2:D:243:ILE:HD12	2:D:258:LEU:HD11	1.95	0.48
2:D:96:GLY:HA2	2:D:104:LYS:HE2	1.94	0.48
1:C:6:GLU:O	1:C:8:VAL:N	2.41	0.48
1:A:244:ARG:NH1	1:A:256:GLU:OE1	2.47	0.48
1:C:112:THR:HG22	1:C:299:MET:HE3	1.95	0.48
2:D:562:ARG:NH1	10:D:920:HOH:O	2.46	0.48
1:C:137:TYR:HA	1:C:141:ASP:HB2	1.96	0.47
1:C:224:LYS:NZ	2:D:476:ASP:OD1	2.47	0.47
2:D:577:VAL:HG23	2:D:587:ARG:HB3	1.96	0.47
1:A:156:ASP:HB3	1:A:196:ASN:H	1.80	0.47
2:D:42:PHE:HB3	2:D:100:PRO:HD3	1.97	0.47
1:A:92:ILE:HA	5:D:803:HEZ:H51	1.97	0.46
1:C:211:GLY:HA3	1:C:295:PHE:CZ	2.50	0.46
2:B:439:GLU:HB3	8:B:807:EDO:H22	1.97	0.46
1:C:186:ARG:O	6:C:407:TRS:H21	2.15	0.46
2:B:701:SER:HB2	2:B:765:THR:HA	1.97	0.46
1:C:247:TYR:CE2	2:D:164:PRO:HG2	2.50	0.46
1:C:144:ASN:HD21	1:C:278:ASN:HD22	1.64	0.46
1:C:281:ARG:NH1	10:C:510:HOH:O	2.48	0.46
2:B:520:VAL:HA	2:B:523:MET:HE2	1.98	0.46
2:B:604:HIS:HB3	2:B:607:LEU:HB2	1.97	0.46
1:C:104:GLY:HA3	2:D:507:TYR:O	2.16	0.46
1:C:232:ARG:NH1	1:C:238:ASP:OD1	2.48	0.46
2:B:712:VAL:HG11	2:B:785:LEU:HD23	1.97	0.45
1:A:219:SER:HG	1:A:221:THR:HG1	1.65	0.45
2:D:670:GLU:HA	2:D:675:LEU:HD12	1.99	0.44
2:B:155:ASP:OD1	2:B:156:ASN:N	2.50	0.44
2:B:593:ALA:HB2	2:B:683:GLU:HG3	2.00	0.44
2:B:792:SER:OG	2:B:793:LEU:N	2.51	0.44
2:B:600:ARG:NH1	2:B:610:GLU:OE1	2.51	0.44
2:D:12:VAL:HG22	2:D:14:PRO:HD3	2.00	0.44
2:D:738:VAL:H	7:D:815:PEG:H22	1.83	0.44
1:A:269:VAL:HG12	1:A:270:LEU:HD23	2.00	0.44
2:B:128:SER:OG	2:B:129:ASP:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:625:LEU:HD13	2:B:634:VAL:HG11	2.00	0.44
1:C:74:ARG:NH1	1:C:77:GLU:OE1	2.46	0.44
2:D:410:ARG:NH2	2:D:421:ILE:O	2.43	0.44
2:D:72:ASP:N	2:D:72:ASP:OD1	2.50	0.43
2:D:507:TYR:HB3	2:D:570:PHE:HD2	1.83	0.43
1:C:112:THR:HG23	1:C:234:PHE:CE2	2.52	0.43
2:D:268:ASP:OD1	2:D:328:THR:OG1	2.27	0.43
2:B:507:TYR:HB3	2:B:570:PHE:HD2	1.84	0.43
2:B:613:ASP:OD1	1:C:99:ARG:NH1	2.35	0.43
2:B:203:LEU:HD21	2:B:332:LEU:HD13	2.00	0.43
2:B:497:ARG:HE	7:C:404:PEG:H21	1.84	0.43
2:D:32:VAL:HG22	2:D:160:ILE:HG22	2.00	0.43
2:B:341:LEU:HD12	2:B:341:LEU:H	1.83	0.43
2:D:724:LEU:HD21	2:D:740:LEU:HB2	1.99	0.43
1:A:224:LYS:NZ	2:B:476:ASP:OD1	2.50	0.43
2:D:281:ALA:O	2:D:299:ALA:HA	2.19	0.43
2:B:311:LEU:HD22	2:B:322:SER:HB3	2.01	0.43
2:B:371:LYS:NZ	10:B:933:HOH:O	2.52	0.43
2:B:147:ILE:H	2:B:147:ILE:HG13	1.56	0.42
1:C:155:HIS:HB3	1:C:168:THR:HG21	2.01	0.42
1:A:224:LYS:HA	1:A:243:PHE:CZ	2.55	0.42
2:B:245:SER:OG	2:B:251:ASP:OD2	2.33	0.42
1:C:49:PRO:HA	1:C:50:PRO:HD3	1.96	0.42
2:D:704:PRO:HG2	8:D:812:EDO:H11	2.02	0.42
1:A:223:LEU:HD11	1:A:272:CYS:HB2	2.01	0.42
2:B:42:PHE:HB3	2:B:100:PRO:HD3	2.02	0.42
2:B:232:LEU:HB3	7:B:810:PEG:H12	2.02	0.42
1:C:133:ILE:HG12	1:C:166:LEU:HD23	2.02	0.42
2:D:403:ARG:NH2	10:D:915:HOH:O	2.44	0.42
1:A:222:ASN:HA	2:B:477:GLU:O	2.19	0.42
2:B:16:ILE:HB	2:B:20:ALA:HB3	2.01	0.41
2:D:88:LEU:HD21	2:D:136:GLU:HG2	2.01	0.41
2:D:214:PRO:HB2	2:D:400:LEU:HD23	2.03	0.41
2:B:264:MET:HE1	2:B:376:ALA:HB2	2.03	0.41
2:D:432:ARG:NH1	10:D:929:HOH:O	2.53	0.41
1:A:244:ARG:NH2	1:A:258:ASP:OD2	2.44	0.41
2:B:713:VAL:HA	2:B:755:SER:HA	2.03	0.41
2:B:168:ASP:O	2:B:174:GLY:HA3	2.21	0.41
1:A:104:GLY:HA3	2:B:507:TYR:O	2.21	0.41
1:C:222:ASN:HA	2:D:477:GLU:O	2.21	0.41
1:A:158:PHE:CZ	1:A:196:ASN:HA	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:112:THR:HG23	1:C:234:PHE:HE2	1.85	0.40
2:D:381:ILE:HD11	2:D:388:ALA:HB2	2.03	0.40
1:C:322:PHE:HA	1:C:325:GLN:HE21	1.85	0.40
1:C:218:ILE:HG21	1:C:292:GLY:HA2	2.04	0.40
2:D:786:LYS:HB2	2:D:786:LYS:HE3	1.84	0.40

There are no symmetry-related clashes.

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	240/332 (72%)	230 (96%)	10 (4%)	0	100	100
1	C	321/332 (97%)	305 (95%)	15 (5%)	1 (0%)	36	36
2	B	791/795 (100%)	771 (98%)	19 (2%)	1 (0%)	48	49
2	D	792/795 (100%)	773 (98%)	19 (2%)	0	100	100
All	All	2144/2254 (95%)	2079 (97%)	63 (3%)	2 (0%)	48	49

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	732	VAL
1	C	199	ASP

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	202/279 (72%)	199 (98%)	3 (2%)	57	65
1	C	238/279 (85%)	237 (100%)	1 (0%)	84	89
2	B	642/663 (97%)	636 (99%)	6 (1%)	70	78
2	D	651/663 (98%)	645 (99%)	6 (1%)	70	78
All	All	1733/1884 (92%)	1717 (99%)	16 (1%)	70	78

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	173	VAL
1	A	269	VAL
1	A	312	LEU
2	B	147	ILE
2	B	277	VAL
2	B	515	PHE
2	B	713	VAL
2	B	751	GLU
2	B	773	GLU
1	C	201	THR
2	D	147	ILE
2	D	238	LEU
2	D	568	ARG
2	D	713	VAL
2	D	732	VAL
2	D	793	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	282	ASN
2	B	321	HIS
2	B	564	GLN
2	B	565	ASN
1	C	61	ASN
1	C	182	GLN
1	C	278	ASN
2	D	420	HIS
2	D	488	HIS
2	D	503	ASN

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 oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 52 ligands modelled in this entry, 14 are monoatomic - leaving 38 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	$\#\|Z\| > 2$
5	HEZ	D	805	-	7,7,7	0.31	0	6,6,6	0.93	0
8	EDO	C	408	-	3,3,3	0.45	0	2,2,2	0.38	0
9	PGE	B	813	-	9,9,9	0.32	0	8,8,8	0.28	0
5	HEZ	A	407	-	7,7,7	0.32	0	6,6,6	0.91	0
5	HEZ	D	804	-	7,7,7	0.34	0	6,6,6	0.92	0
7	PEG	B	810	-	6,6,6	0.71	0	5,5,5	0.59	0
8	EDO	C	403	-	3,3,3	0.42	0	2,2,2	0.34	0
6	TRS	A	411	-	7,7,7	0.31	0	9,9,9	0.26	0
8	EDO	C	406	3	3,3,3	0.44	0	2,2,2	0.37	0
7	PEG	B	805	-	6,6,6	0.70	0	5,5,5	0.55	0
8	EDO	D	811	-	3,3,3	0.44	0	2,2,2	0.32	0
6	TRS	D	807	-	7,7,7	0.32	0	9,9,9	0.28	0
7	PEG	C	404	-	6,6,6	0.72	0	5,5,5	0.55	0
8	EDO	D	808	-	3,3,3	0.41	0	2,2,2	0.46	0
8	EDO	D	817	-	3,3,3	0.43	0	2,2,2	0.39	0
6	TRS	C	407	-	7,7,7	0.31	0	9,9,9	0.31	0
5	HEZ	D	806	-	7,7,7	0.35	0	6,6,6	0.88	0
7	PEG	B	812	-	6,6,6	0.72	0	5,5,5	0.55	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
7	PEG	C	405	-	6,6,6	0.71	0	5,5,5	0.55	0
5	HEZ	D	803	-	7,7,7	0.31	0	6,6,6	0.90	0
6	TRS	A	408	-	7,7,7	0.29	0	9,9,9	0.24	0
8	EDO	B	815	-	3,3,3	0.42	0	2,2,2	0.40	0
8	EDO	D	809	-	3,3,3	0.42	0	2,2,2	0.42	0
7	PEG	D	815	-	6,6,6	0.72	0	5,5,5	0.56	0
8	EDO	D	812	-	3,3,3	0.43	0	2,2,2	0.36	0
8	EDO	B	808	-	3,3,3	0.42	0	2,2,2	0.40	0
7	PEG	D	813	-	6,6,6	0.72	0	5,5,5	0.54	0
7	PEG	A	409	-	6,6,6	0.71	0	5,5,5	0.58	0
8	EDO	D	810	-	3,3,3	0.43	0	2,2,2	0.36	0
8	EDO	B	807	-	3,3,3	0.41	0	2,2,2	0.41	0
7	PEG	B	811	-	6,6,6	0.70	0	5,5,5	0.59	0
8	EDO	D	816	-	3,3,3	0.43	0	2,2,2	0.33	0
8	EDO	D	818	-	3,3,3	0.42	0	2,2,2	0.41	0
8	EDO	D	814	-	3,3,3	0.43	0	2,2,2	0.38	0
8	EDO	A	410	-	3,3,3	0.42	0	2,2,2	0.41	0
8	EDO	B	814	-	3,3,3	0.43	0	2,2,2	0.28	0
9	PGE	B	806	-	9,9,9	0.33	0	8,8,8	0.25	0
7	PEG	B	809	-	6,6,6	0.72	0	5,5,5	0.57	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	HEZ	D	805	-	-	1/5/5/5	-
8	EDO	C	408	-	-	0/1/1/1	-
9	PGE	B	813	-	-	4/7/7/7	-
5	HEZ	A	407	-	-	4/5/5/5	-
5	HEZ	D	804	-	-	4/5/5/5	-
7	PEG	B	810	-	-	0/4/4/4	-
8	EDO	C	403	-	-	0/1/1/1	-
6	TRS	A	411	-	-	2/9/9/9	-
8	EDO	C	406	3	-	1/1/1/1	-
7	PEG	B	805	-	-	3/4/4/4	-
8	EDO	D	811	-	-	0/1/1/1	-
6	TRS	D	807	-	-	0/9/9/9	-
7	PEG	C	404	-	-	1/4/4/4	-
8	EDO	D	808	-	-	0/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
8	EDO	D	817	-	-	0/1/1/1	-
6	TRS	C	407	-	-	0/9/9/9	-
5	HEZ	D	806	-	-	3/5/5/5	-
7	PEG	B	812	-	-	1/4/4/4	-
7	PEG	C	405	-	-	2/4/4/4	-
5	HEZ	D	803	-	-	0/5/5/5	-
6	TRS	A	408	-	-	2/9/9/9	-
8	EDO	B	815	-	-	0/1/1/1	-
8	EDO	D	809	-	-	0/1/1/1	-
7	PEG	D	815	-	-	0/4/4/4	-
8	EDO	D	812	-	-	0/1/1/1	-
8	EDO	B	808	-	-	0/1/1/1	-
7	PEG	D	813	-	-	1/4/4/4	-
7	PEG	A	409	-	-	1/4/4/4	-
8	EDO	D	810	-	-	0/1/1/1	-
8	EDO	B	807	-	-	0/1/1/1	-
7	PEG	B	811	-	-	1/4/4/4	-
8	EDO	D	816	-	-	0/1/1/1	-
8	EDO	D	818	-	-	0/1/1/1	-
8	EDO	D	814	-	-	0/1/1/1	-
8	EDO	A	410	-	-	0/1/1/1	-
8	EDO	B	814	-	-	0/1/1/1	-
9	PGE	B	806	-	-	1/7/7/7	-
7	PEG	B	809	-	-	2/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (34) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A	408	TRS	N-C-C2-O2
7	C	405	PEG	O2-C3-C4-O4
5	A	407	HEZ	C1-C2-C3-C4
5	D	804	HEZ	C2-C3-C4-C5
5	D	804	HEZ	C1-C2-C3-C4
5	D	806	HEZ	C1-C2-C3-C4
7	B	811	PEG	O2-C3-C4-O4
5	A	407	HEZ	O1-C1-C2-C3
5	D	806	HEZ	O1-C1-C2-C3

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Mol	Chain	Res	Type	Atoms
5	D	804	HEZ	C4-C5-C6-O6
9	B	813	PGE	O1-C1-C2-O2
5	D	804	HEZ	C3-C4-C5-C6
8	C	406	EDO	O1-C1-C2-O2
7	B	809	PEG	O2-C3-C4-O4
7	D	813	PEG	C4-C3-O2-C2
7	B	805	PEG	C1-C2-O2-C3
9	B	806	PGE	O3-C5-C6-O4
7	C	405	PEG	C1-C2-O2-C3
7	B	809	PEG	C4-C3-O2-C2
5	A	407	HEZ	C2-C3-C4-C5
7	C	404	PEG	C1-C2-O2-C3
5	D	805	HEZ	C1-C2-C3-C4
9	B	813	PGE	C6-C5-O3-C4
6	A	408	TRS	C3-C-C2-O2
9	B	813	PGE	C3-C4-O3-C5
9	B	813	PGE	C4-C3-O2-C2
7	A	409	PEG	O2-C3-C4-O4
7	B	812	PEG	O1-C1-C2-O2
7	B	805	PEG	C4-C3-O2-C2
6	A	411	TRS	C2-C-C1-O1
5	A	407	HEZ	C4-C5-C6-O6
5	D	806	HEZ	C3-C4-C5-C6
7	B	805	PEG	O2-C3-C4-O4
6	A	411	TRS	N-C-C1-O1

There are no ring outliers.

14 monomers are involved in 18 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	B	810	PEG	2	0
6	A	411	TRS	1	0
7	C	404	PEG	2	0
6	C	407	TRS	1	0
5	D	806	HEZ	1	0
7	B	812	PEG	1	0
5	D	803	HEZ	1	0
6	A	408	TRS	2	0
8	B	815	EDO	1	0
7	D	815	PEG	1	0
8	D	812	EDO	1	0
8	B	807	EDO	2	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
8	B	814	EDO	1	0
9	B	806	PGE	1	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

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, 95^{th} 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	241/332 (72%)	1.05	39 (16%) 4 5	37, 53, 91, 109	1 (0%)
1	C	323/332 (97%)	1.69	104 (32%) 1 1	39, 63, 146, 157	0
2	B	793/795 (99%)	1.10	124 (15%) 5 5	40, 60, 97, 118	0
2	D	794/795 (99%)	0.83	68 (8%) 16 17	33, 53, 75, 91	0
All	All	2151/2254 (95%)	1.08	335 (15%) 5 5	33, 57, 102, 157	1 (0%)

All (335) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	45	LEU	7.8
1	A	201	THR	6.7
2	B	791	ALA	6.7
1	C	27	VAL	6.5
1	C	60	ILE	6.0
1	C	22	ALA	5.6
1	C	11	ALA	5.5
1	C	7	LEU	5.5
1	C	24	LEU	5.4
1	C	199	ASP	5.3
1	C	23	ALA	5.2
1	A	89	ALA	5.2
2	B	784	ALA	5.2
1	C	40	LEU	5.0
1	C	53	ARG	5.0
1	C	31	TYR	5.0
1	C	38	LEU	5.0
1	A	199	ASP	4.9
1	C	43	THR	4.9
1	A	200	GLN	4.9
1	A	198	TYR	4.9

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Mol	Chain	Res	Type	RSRZ
1	C	21	VAL	4.8
1	A	202	HIS	4.8
2	B	732	VAL	4.8
1	C	5	ALA	4.8
1	C	42	MET	4.7
1	C	18	ALA	4.7
2	B	774	ILE	4.6
1	C	67	VAL	4.6
1	C	56	ALA	4.6
1	C	48	LEU	4.6
1	C	39	THR	4.5
1	C	201	THR	4.5
1	C	32	LEU	4.5
1	C	50	PRO	4.5
1	C	8	VAL	4.3
2	B	744	TYR	4.3
2	B	777	THR	4.3
2	D	733	ASN	4.3
1	A	151	ALA	4.3
1	C	59	VAL	4.3
1	A	88	ALA	4.2
1	C	153	ALA	4.2
1	C	30	GLU	4.2
1	C	49	PRO	4.1
2	B	778	VAL	4.1
2	B	782	VAL	4.1
1	C	25	ASP	4.1
2	B	733	ASN	4.1
2	B	703	PHE	4.1
1	C	58	ALA	4.0
2	B	785	LEU	4.0
1	C	33	GLY	4.0
1	A	155	HIS	4.0
1	C	10	SER	4.0
2	B	792	SER	4.0
1	A	154	ASP	4.0
2	B	385	GLY	4.0
2	B	746	GLY	4.0
1	C	19	SER	3.9
1	C	12	LYS	3.9
2	D	732	VAL	3.9
2	B	203	LEU	3.9

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Mol	Chain	Res	Type	RSRZ
2	B	768	THR	3.9
1	C	200	GLN	3.9
1	C	198	TYR	3.8
1	C	16	SER	3.8
2	D	486	GLY	3.8
1	C	35	LYS	3.8
1	A	147	GLY	3.8
1	C	47	GLU	3.8
2	B	88	LEU	3.8
1	C	151	ALA	3.7
2	D	487	THR	3.7
2	D	731	GLY	3.7
1	C	9	ALA	3.7
2	B	793	LEU	3.7
1	C	36	GLY	3.7
2	D	144	GLY	3.7
1	A	173	VAL	3.7
2	B	324	VAL	3.7
1	C	173	VAL	3.7
2	B	734	GLN	3.7
2	B	730	VAL	3.6
1	C	66	GLN	3.6
2	B	715	ALA	3.6
1	C	148	HIS	3.6
1	C	263	ASN	3.6
2	B	753	TYR	3.6
2	B	749	VAL	3.5
1	A	153	ALA	3.5
1	C	71	LEU	3.5
2	B	221	VAL	3.5
2	B	713	VAL	3.5
1	A	87	LEU	3.5
1	C	228	HIS	3.5
2	B	74	LEU	3.4
1	C	44	THR	3.4
2	B	107	ALA	3.4
1	C	14	ALA	3.4
2	B	711	ALA	3.4
2	D	749	VAL	3.4
2	B	789	PHE	3.4
2	D	515	PHE	3.3
1	C	146	PRO	3.3

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Mol	Chain	Res	Type	RSRZ
1	C	264	GLY	3.3
2	B	755	SER	3.3
1	C	13	ALA	3.3
1	C	144	ASN	3.2
2	D	530	ALA	3.2
2	B	537	ILE	3.2
2	B	196	GLY	3.2
1	C	55	ALA	3.2
2	B	750	ALA	3.2
1	C	241	ILE	3.2
2	D	147	ILE	3.2
2	B	487	THR	3.2
1	A	196	ASN	3.2
2	B	87	GLY	3.1
1	C	150	PRO	3.1
2	D	717	ASN	3.1
2	B	745	ARG	3.1
2	D	88	LEU	3.1
1	C	262	LYS	3.1
1	C	34	LYS	3.1
1	C	250	PHE	3.1
2	D	719	PRO	3.1
1	C	63	ALA	3.1
1	C	73	ALA	3.1
1	C	160	PHE	3.0
1	C	29	VAL	3.0
2	B	724	LEU	3.0
1	C	143	LEU	3.0
2	D	86	GLN	2.9
2	B	735	VAL	2.9
1	C	57	GLY	2.9
1	A	187	ILE	2.9
2	D	74	LEU	2.9
2	B	714	VAL	2.9
1	C	51	GLU	2.9
2	D	576	PHE	2.9
1	C	172	GLY	2.9
2	B	332	LEU	2.9
2	D	87	GLY	2.9
1	C	70	ALA	2.9
1	C	229	ASP	2.8
2	B	280	MET	2.8

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Mol	Chain	Res	Type	RSRZ
2	B	775	ALA	2.8
1	C	52	GLU	2.8
2	B	787	GLU	2.8
2	B	781	CYS	2.8
2	D	577	VAL	2.8
1	C	145	ILE	2.8
2	D	673	LEU	2.8
2	D	541	MET	2.8
2	B	765	THR	2.8
2	B	199	ILE	2.8
1	A	197	ASP	2.7
1	C	180	ALA	2.7
2	B	640	ALA	2.7
2	B	226	VAL	2.7
2	D	484	ILE	2.7
1	C	147	GLY	2.7
2	B	705	ALA	2.7
2	B	783	GLU	2.7
2	D	537	ILE	2.7
1	C	46	ARG	2.7
2	B	202	THR	2.7
2	D	793	LEU	2.7
1	A	148	HIS	2.7
2	B	51	VAL	2.7
1	C	37	HIS	2.6
2	B	788	ARG	2.6
2	D	748	GLY	2.6
2	D	15	ALA	2.6
2	B	689	LEU	2.6
2	B	762	LEU	2.6
2	B	150	TYR	2.6
2	B	101	GLY	2.6
1	C	26	ASN	2.6
1	A	180	ALA	2.6
1	C	76	ALA	2.6
2	D	777	THR	2.6
1	C	78	LEU	2.6
2	B	297	LEU	2.6
1	A	261	GLY	2.6
2	D	750	ALA	2.6
2	B	769	LEU	2.6
2	B	69	VAL	2.5

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Mol	Chain	Res	Type	RSRZ
1	C	137	TYR	2.5
1	C	202	HIS	2.5
2	B	747	LYS	2.5
1	A	152	ARG	2.5
1	C	134	GLU	2.5
2	B	195	VAL	2.5
2	D	608	ALA	2.5
2	D	661	PHE	2.5
1	C	155	HIS	2.5
2	B	728	LYS	2.5
2	B	718	VAL	2.5
2	D	730	VAL	2.5
1	C	6	GLU	2.5
2	D	538	SER	2.5
2	B	341	LEU	2.5
2	B	700	ILE	2.5
2	B	738	VAL	2.4
2	D	535	SER	2.4
1	C	54	PRO	2.4
2	B	212	ALA	2.4
2	B	398	ALA	2.4
2	D	672	LYS	2.4
2	B	103	PHE	2.4
2	B	50	VAL	2.4
2	B	67	VAL	2.4
2	D	195	VAL	2.4
2	D	686	TRP	2.4
1	C	232	ARG	2.4
2	B	754	LYS	2.4
2	D	532	LEU	2.4
1	C	261	GLY	2.4
2	D	527	GLY	2.4
2	D	539	VAL	2.4
1	A	165	LEU	2.4
2	B	75	LEU	2.4
1	A	169	GLN	2.4
2	B	445	GLN	2.4
1	A	133	ILE	2.4
1	A	175	ILE	2.4
2	B	277	VAL	2.4
2	B	758	ILE	2.4
2	D	199	ILE	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	159	TRP	2.4
1	A	172	GLY	2.3
1	C	136	ASP	2.3
2	B	147	ILE	2.3
2	B	322	SER	2.3
1	A	203	THR	2.3
2	D	534	PRO	2.3
2	B	197	ALA	2.3
2	D	638	ALA	2.3
1	C	28	ARG	2.3
1	A	316	PHE	2.3
2	B	224	ILE	2.3
2	B	391	VAL	2.3
2	D	211	GLU	2.3
1	C	17	GLN	2.3
2	B	779	ALA	2.3
2	B	182	LEU	2.3
2	D	531	LEU	2.3
2	D	585	GLY	2.3
1	C	327	LYS	2.3
2	B	397	GLU	2.3
2	D	105	ILE	2.3
2	B	776	ALA	2.3
2	B	284	GLY	2.3
1	C	138	HIS	2.2
2	B	394	ILE	2.2
2	B	723	ILE	2.2
2	D	417	ILE	2.2
2	B	249	VAL	2.2
2	B	303	VAL	2.2
2	D	612	VAL	2.2
2	B	76	ASP	2.2
2	D	129	ASP	2.2
2	D	96	GLY	2.2
2	D	640	ALA	2.2
2	B	710	ILE	2.2
2	D	611	THR	2.2
2	B	539	VAL	2.2
2	B	712	VAL	2.2
2	D	520	VAL	2.2
2	D	735	VAL	2.2
1	A	312	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
2	D	790	GLN	2.2
2	B	729	LYS	2.2
2	B	272	ILE	2.2
2	B	97	ALA	2.2
1	C	312	LEU	2.2
2	D	584	LEU	2.2
2	B	282	LYS	2.2
2	B	704	PRO	2.1
1	C	15	ILE	2.1
2	D	586	ILE	2.1
1	C	259	VAL	2.1
1	C	41	GLN	2.1
2	B	389	GLY	2.1
1	C	239	LEU	2.1
2	B	698	ARG	2.1
2	D	794	ARG	2.1
2	D	781	CYS	2.1
1	C	75	LYS	2.1
2	D	606	ASN	2.1
2	B	772	GLU	2.1
2	B	392	ILE	2.1
2	B	484	ILE	2.1
2	D	103	PHE	2.1
2	D	246	ILE	2.1
2	B	321	HIS	2.1
2	B	717	ASN	2.1
2	B	267	PHE	2.1
2	B	47	VAL	2.1
2	B	278	VAL	2.1
1	A	270	LEU	2.1
1	C	270	LEU	2.1
1	C	65	GLU	2.1
1	A	240	GLN	2.1
1	A	131	PRO	2.1
1	C	177	THR	2.1
2	B	702	ARG	2.1
2	D	321	HIS	2.1
1	A	265	LYS	2.1
1	A	160	PHE	2.1
2	B	42	PHE	2.1
2	B	98	VAL	2.1
2	B	220	VAL	2.1

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Mol	Chain	Res	Type	RSRZ
2	D	766	SER	2.1
2	D	792	SER	2.1
2	B	302	LEU	2.0
2	D	689	LEU	2.0
1	C	282	ASN	2.0
2	D	745	ARG	2.0
1	A	262[A]	LYS	2.0
1	A	289	VAL	2.0
2	B	736	VAL	2.0
2	D	712	VAL	2.0
2	B	404	ALA	2.0
2	B	444	TRP	2.0
2	D	107	ALA	2.0
1	A	263	ASN	2.0
1	A	267	LEU	2.0
2	B	99	LEU	2.0
2	B	780	LYS	2.0
2	B	198	THR	2.0
2	B	70	GLY	2.0
2	B	216	TYR	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 oligosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} 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
8	EDO	D	816	4/4	0.36	0.26	66,68,70,87	0
6	TRS	D	807	8/8	0.41	0.23	64,79,83,84	0
8	EDO	D	818	4/4	0.64	0.20	71,71,71,83	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
6	TRS	C	407	8/8	0.65	0.19	64,74,86,87	0
6	TRS	A	411	8/8	0.67	0.19	75,78,83,83	0
8	EDO	B	815	4/4	0.67	0.26	65,70,73,79	0
7	PEG	D	815	7/7	0.69	0.20	66,76,80,81	0
8	EDO	C	406	4/4	0.70	0.21	67,68,76,77	0
7	PEG	C	404	7/7	0.71	0.23	51,64,78,81	0
7	PEG	B	811	7/7	0.71	0.20	75,79,81,89	0
9	PGE	B	813	10/10	0.72	0.22	62,72,83,92	0
8	EDO	B	807	4/4	0.73	0.18	61,66,71,75	0
3	MG	B	804	1/1	0.74	0.23	78,78,78,78	0
3	MG	D	802	1/1	0.74	0.36	91,91,91,91	0
7	PEG	B	809	7/7	0.75	0.19	54,63,76,78	0
8	EDO	D	814	4/4	0.76	0.21	66,69,71,77	0
7	PEG	B	812	7/7	0.76	0.20	66,68,77,86	0
6	TRS	A	408	8/8	0.77	0.17	50,62,67,68	0
7	PEG	C	405	7/7	0.77	0.20	64,71,81,85	0
5	HEZ	D	804	8/8	0.78	0.20	52,67,76,82	0
8	EDO	B	814	4/4	0.78	0.22	53,63,67,67	0
5	HEZ	D	805	8/8	0.78	0.22	50,61,72,73	0
7	PEG	A	409	7/7	0.78	0.17	67,76,80,88	0
8	EDO	C	408	4/4	0.79	0.19	60,61,64,69	0
8	EDO	D	812	4/4	0.79	0.15	72,73,75,77	0
9	PGE	B	806	10/10	0.80	0.19	57,65,73,84	0
5	HEZ	A	407	8/8	0.82	0.18	46,60,64,66	0
8	EDO	C	403	4/4	0.82	0.17	50,51,69,84	0
7	PEG	B	810	7/7	0.82	0.19	60,68,75,75	0
8	EDO	B	808	4/4	0.82	0.22	57,66,71,73	0
3	MG	A	404	1/1	0.82	0.21	68,68,68,68	0
3	MG	C	401	1/1	0.83	0.14	73,73,73,73	0
5	HEZ	D	803	8/8	0.84	0.21	57,62,68,76	0
8	EDO	D	817	4/4	0.85	0.14	60,65,65,75	0
8	EDO	D	808	4/4	0.85	0.20	54,54,62,71	0
4	CL	A	406	1/1	0.86	0.14	104,104,104,104	0
3	MG	D	801	1/1	0.86	0.15	74,74,74,74	0
3	MG	B	801	1/1	0.88	0.21	69,69,69,69	0
3	MG	C	402	1/1	0.88	0.23	47,47,47,47	0
3	MG	B	803	1/1	0.88	0.12	62,62,62,62	0
3	MG	A	401	1/1	0.88	0.20	48,48,48,48	0
5	HEZ	D	806	8/8	0.89	0.14	45,50,55,59	0
7	PEG	B	805	7/7	0.89	0.13	60,64,71,73	0
8	EDO	D	810	4/4	0.90	0.13	61,61,64,71	0
8	EDO	A	410	4/4	0.90	0.11	54,61,63,64	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
8	EDO	D	811	4/4	0.91	0.14	61,63,66,69	0
7	PEG	D	813	7/7	0.91	0.14	40,55,61,65	0
3	MG	A	402	1/1	0.92	0.20	63,63,63,63	0
3	MG	B	802	1/1	0.93	0.18	58,58,58,58	0
3	MG	A	403	1/1	0.93	0.10	56,56,56,56	0
8	EDO	D	809	4/4	0.93	0.13	48,49,49,52	0
3	MG	A	405	1/1	0.94	0.14	73,73,73,73	0

6.5 Other polymers (i)

There are no such residues in this entry.