



wwPDB X-ray Structure Validation Summary Report ⓘ

Sep 13, 2020 – 12:27 PM BST

PDB ID : 3PG9
Title : Thermotoga maritima DAH7P synthase in complex with inhibitor
Authors : Cross, P.J.; Dobson, R.C.J.; Patchett, M.L.; Parker, E.J.
Deposited on : 2010-10-31
Resolution : 2.35 Å(reported)

This is a wwPDB X-ray Structure Validation Summary 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 ⓘ symbol.

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.14.4.dev1
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) : 2.14.4.dev1

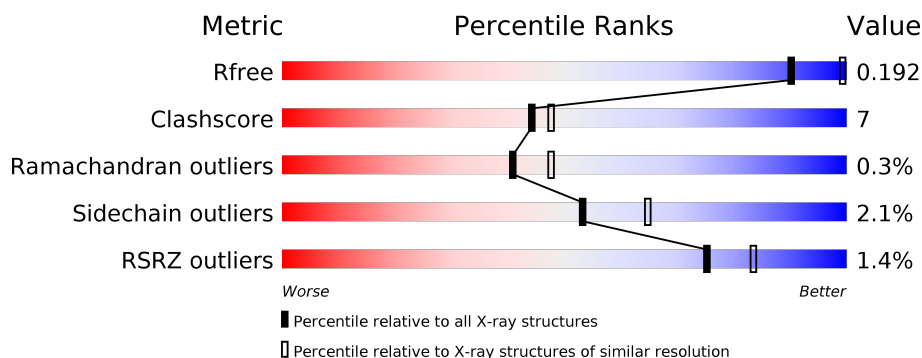
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.35 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}	130704	1164 (2.36-2.36)
Clashscore	141614	1232 (2.36-2.36)
Ramachandran outliers	138981	1211 (2.36-2.36)
Sidechain outliers	138945	1212 (2.36-2.36)
RSRZ outliers	127900	1150 (2.36-2.36)

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 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 $\leq 5\%$. 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	338	<div> <div>2%</div> <div> <div></div> <div>86%</div> <div>14%</div> <div>.</div> </div> </div>
1	B	338	<div> <div>84%</div> <div>16%</div> </div>
1	C	338	<div> <div>2%</div> <div> <div></div> <div>86%</div> <div>14%</div> <div>.</div> </div> </div>
1	D	338	<div> <div>%</div> <div> <div></div> <div>87%</div> <div>12%</div> <div>.</div> </div> </div>
1	E	338	<div> <div>2%</div> <div> <div></div> <div>88%</div> <div>12%</div> <div>.</div> </div> </div>
1	F	338	<div> <div>2%</div> <div> <div></div> <div>85%</div> <div>14%</div> <div>.</div> </div> </div>

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	G	338	<div> <div>%</div> <div> <div></div> <div>83%</div> <div>17%</div> </div> </div>
1	H	338	<div> <div></div> <div>84%</div> <div>15%</div> <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
4	NO3	C	341	-	-	X	-
4	NO3	D	340	-	-	X	-
4	NO3	F	339	-	-	X	-

2 Entry composition

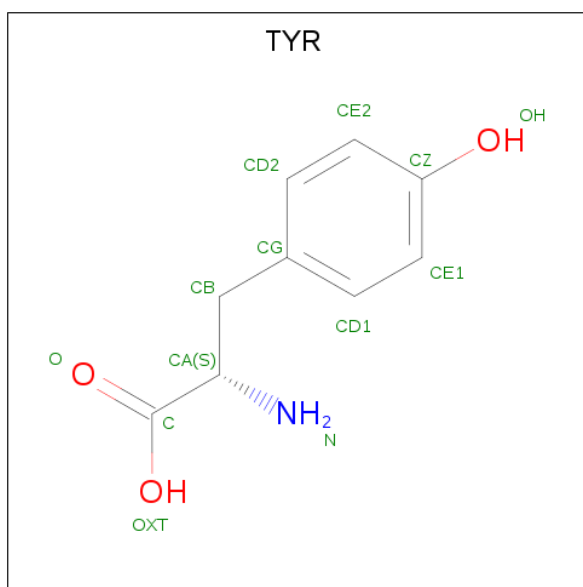
There are 6 unique types of molecules in this entry. The entry contains 21148 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Phospho-2-dehydro-3-deoxyheptonate aldolase.

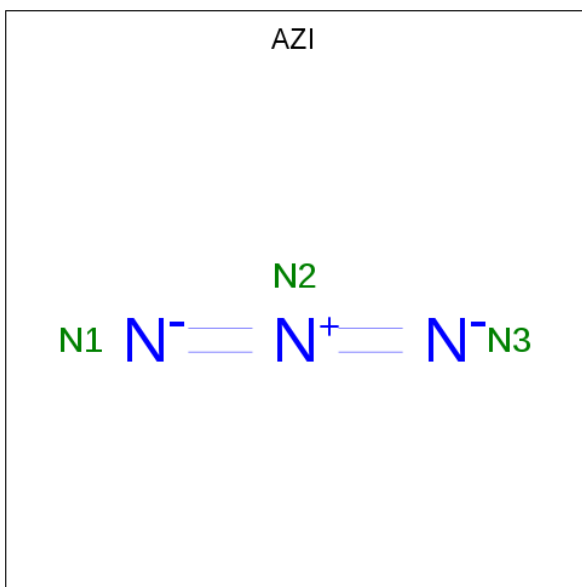
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	338	Total	C	N	O	S	0	0	0
			2540	1627	424	479	10			
1	B	338	Total	C	N	O	S	0	0	0
			2568	1641	431	486	10			
1	C	338	Total	C	N	O	S	0	1	0
			2538	1623	429	476	10			
1	D	338	Total	C	N	O	S	0	0	0
			2526	1613	421	482	10			
1	E	338	Total	C	N	O	S	0	0	0
			2579	1643	436	490	10			
1	F	338	Total	C	N	O	S	0	0	0
			2581	1643	439	489	10			
1	G	338	Total	C	N	O	S	0	1	0
			2587	1652	434	491	10			
1	H	338	Total	C	N	O	S	0	0	0
			2537	1622	431	474	10			

- Molecule 2 is TYROSINE (three-letter code: TYR) (formula: C₉H₁₁NO₃).



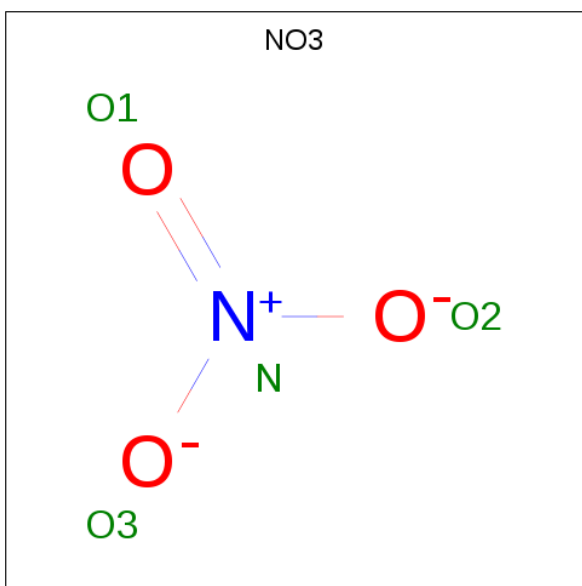
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			13	9	1	3		
2	A	1	Total	C	N	O	0	0
			13	9	1	3		
2	B	1	Total	C	N	O	0	0
			13	9	1	3		
2	B	1	Total	C	N	O	0	0
			13	9	1	3		
2	C	1	Total	C	N	O	0	0
			13	9	1	3		
2	C	1	Total	C	N	O	0	0
			13	9	1	3		
2	D	1	Total	C	N	O	0	0
			13	9	1	3		
2	H	1	Total	C	N	O	0	0
			13	9	1	3		

- Molecule 3 is AZIDE ION (three-letter code: AZI) (formula: N₃).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	N	0	0
			3	3		
3	B	1	Total	N	0	0
			3	3		

- Molecule 4 is NITRATE ION (three-letter code: NO3) (formula: NO₃).



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

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	D	1	Total	N	O	0	0
			4	1	3		
4	F	1	Total	N	O	0	0
			4	1	3		

- Molecule 5 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	B	1	Total	Cl	0	0
			1	1		

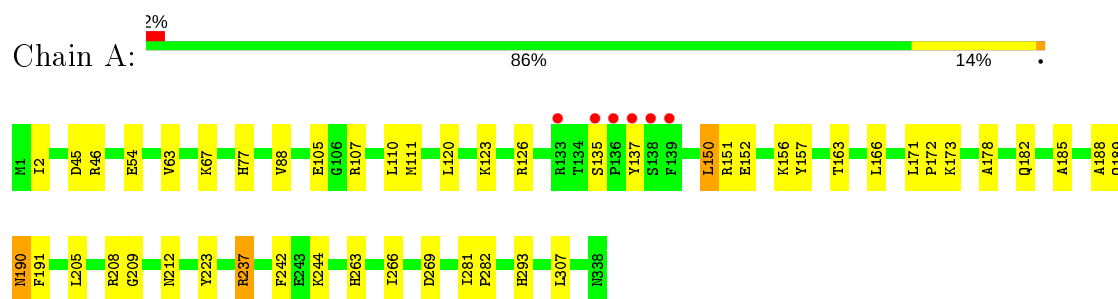
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	78	Total	O	0	0
			78	78		
6	B	81	Total	O	0	0
			81	81		
6	C	77	Total	O	0	0
			77	77		
6	D	61	Total	O	0	0
			61	61		
6	E	64	Total	O	0	0
			64	64		
6	F	65	Total	O	0	0
			65	65		
6	G	87	Total	O	0	0
			87	87		
6	H	52	Total	O	0	0
			52	52		

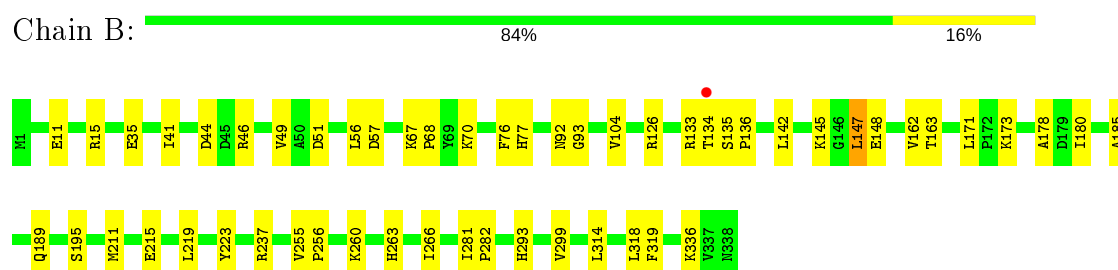
3 Residue-property plots [i](#)

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.

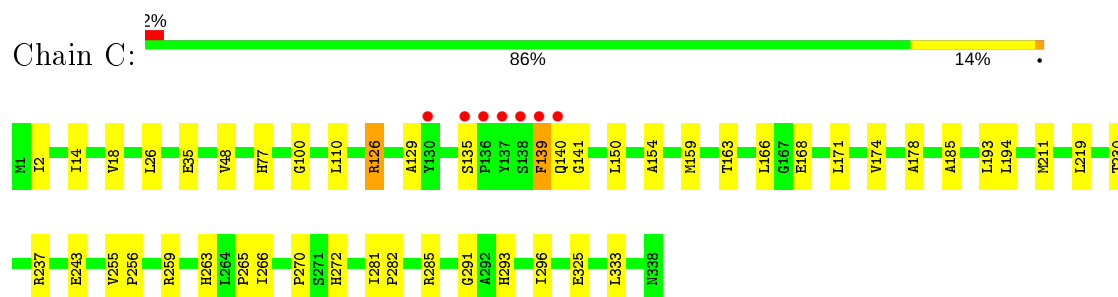
- Molecule 1: Phospho-2-dehydro-3-deoxyheptonate aldolase



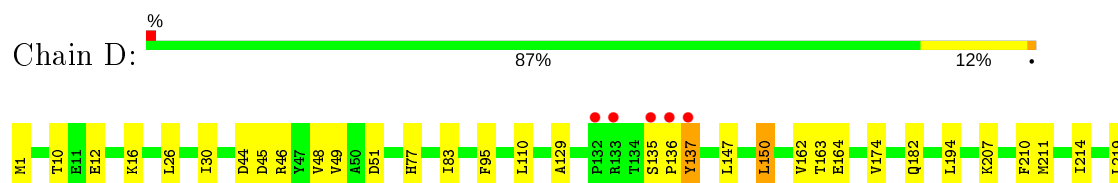
- Molecule 1: Phospho-2-dehydro-3-deoxyheptonate aldolase



- Molecule 1: Phospho-2-dehydro-3-deoxyheptonate aldolase

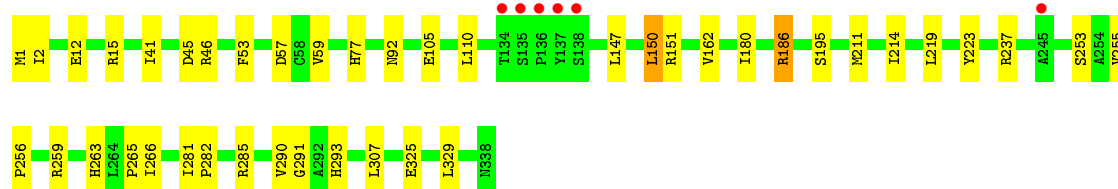
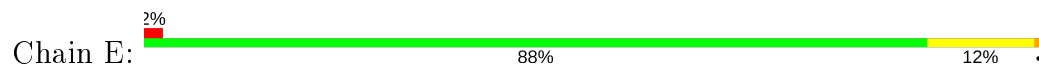


- Molecule 1: Phospho-2-dehydro-3-deoxyheptonate aldolase

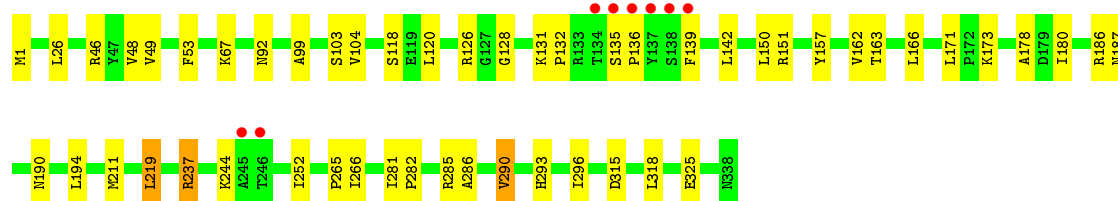
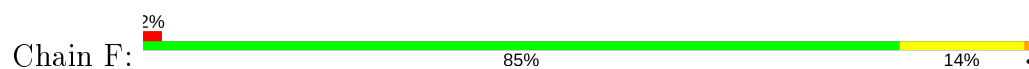




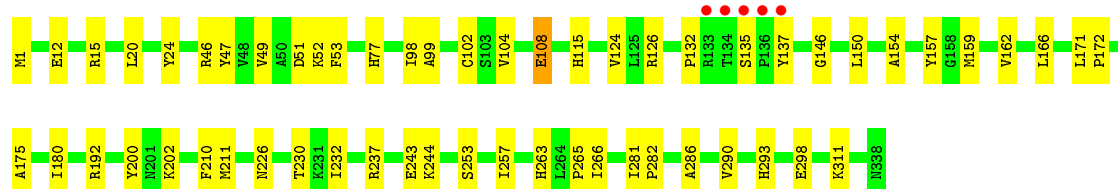
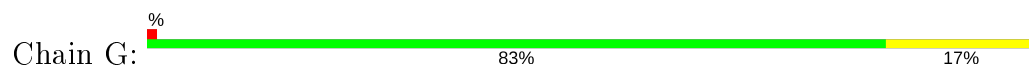
- Molecule 1: Phospho-2-dehydro-3-deoxyheptonate aldolase



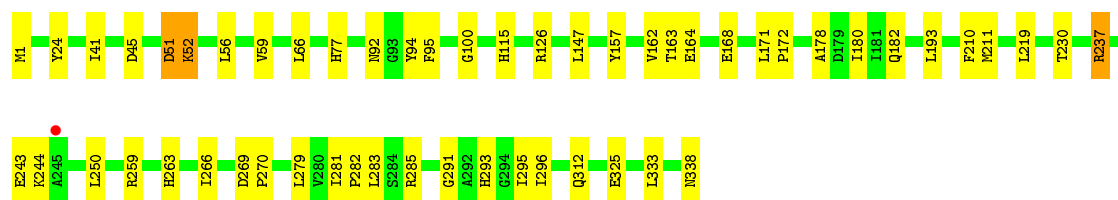
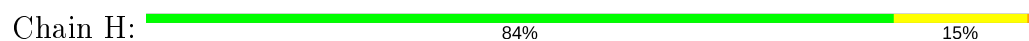
- Molecule 1: Phospho-2-dehydro-3-deoxyheptonate aldolase



- Molecule 1: Phospho-2-dehydro-3-deoxyheptonate aldolase



- Molecule 1: Phospho-2-dehydro-3-deoxyheptonate aldolase



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	81.61Å 121.00Å 133.38Å 90.00° 92.12° 90.00°	Depositor
Resolution (Å)	52.57 – 2.35 52.57 – 2.35	Depositor EDS
% Data completeness (in resolution range)	97.2 (52.57-2.35) 97.2 (52.57-2.35)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.10	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.02 (at 2.34Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.6.1_357)	Depositor
R, R_{free}	0.171 , 0.222 0.190 , 0.192	Depositor DCC
R_{free} test set	5203 reflections (4.97%)	wwPDB-VP
Wilson B-factor (Å ²)	34.2	Xtriage
Anisotropy	0.259	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 46.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	0.026 for h,-k,-l	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	21148	wwPDB-VP
Average B, all atoms (Å ²)	40.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.84% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 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: AZI, CL, NO3

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	0.23	0/2582	0.40	0/3495
1	B	0.23	0/2611	0.40	0/3532
1	C	0.23	0/2583	0.39	0/3496
1	D	0.22	0/2567	0.39	0/3481
1	E	0.22	0/2621	0.40	0/3543
1	F	0.22	0/2623	0.39	0/3543
1	G	0.23	0/2630	0.40	0/3557
1	H	0.22	0/2579	0.39	0/3492
All	All	0.23	0/20796	0.39	0/28139

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 [i](#)

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	2540	0	2525	31	0
1	B	2568	0	2572	37	0
1	C	2538	0	2517	32	0
1	D	2526	0	2469	26	0
1	E	2579	0	2587	33	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	F	2581	0	2603	39	0
1	G	2587	0	2583	41	0
1	H	2537	0	2530	46	0
2	A	26	0	16	0	0
2	B	26	0	16	0	0
2	C	26	0	16	0	0
2	D	13	0	8	1	0
2	H	13	0	8	0	0
3	A	3	0	0	0	0
3	B	3	0	0	1	0
4	A	4	0	0	1	0
4	C	4	0	0	2	0
4	D	4	0	0	2	0
4	F	4	0	0	2	0
5	B	1	0	0	0	0
6	A	78	0	0	1	0
6	B	81	0	0	0	0
6	C	77	0	0	0	0
6	D	61	0	0	1	0
6	E	64	0	0	2	0
6	F	65	0	0	2	0
6	G	87	0	0	1	0
6	H	52	0	0	1	0
All	All	21148	0	20450	271	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 7.

The worst 5 of 271 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:B:68:PRO:HG2	1:B:219:LEU:HD11	1.43	1.01
1:F:266:ILE:H	1:F:293:HIS:HD2	1.05	1.00
1:H:164:GLU:HB2	1:H:182:GLN:HE21	1.27	0.98
1:C:266:ILE:H	1:C:293:HIS:HD2	1.11	0.97
1:F:290:VAL:HG13	1:G:286:ALA:HB2	1.49	0.93

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	336/338 (99%)	324 (96%)	10 (3%)	2 (1%)	25	27
1	B	336/338 (99%)	329 (98%)	6 (2%)	1 (0%)	41	47
1	C	337/338 (100%)	329 (98%)	7 (2%)	1 (0%)	41	47
1	D	336/338 (99%)	325 (97%)	9 (3%)	2 (1%)	25	27
1	E	336/338 (99%)	328 (98%)	8 (2%)	0	100	100
1	F	336/338 (99%)	328 (98%)	8 (2%)	0	100	100
1	G	337/338 (100%)	328 (97%)	9 (3%)	0	100	100
1	H	336/338 (99%)	328 (98%)	7 (2%)	1 (0%)	41	47
All	All	2690/2704 (100%)	2619 (97%)	64 (2%)	7 (0%)	41	47

5 of 7 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	136	PRO
1	D	137	TYR
1	A	190	ASN
1	C	135	SER
1	H	51	ASP

5.3.2 Protein sidechains

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	259/286 (91%)	254 (98%)	5 (2%)	57	68

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	B	268/286 (94%)	261 (97%)	7 (3%)	46	56
1	C	258/286 (90%)	254 (98%)	4 (2%)	62	75
1	D	254/286 (89%)	248 (98%)	6 (2%)	49	59
1	E	271/286 (95%)	265 (98%)	6 (2%)	52	63
1	F	273/286 (96%)	266 (97%)	7 (3%)	46	56
1	G	269/286 (94%)	266 (99%)	3 (1%)	73	84
1	H	260/286 (91%)	254 (98%)	6 (2%)	50	61
All	All	2112/2288 (92%)	2068 (98%)	44 (2%)	53	65

5 of 44 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	207	LYS
1	E	150	LEU
1	H	147	LEU
1	D	219	LEU
1	E	92	ASN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 35 such sidechains are listed below:

Mol	Chain	Res	Type
1	D	187	ASN
1	D	312	GLN
1	H	212	ASN
1	D	201	ASN
1	D	212	ASN

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 [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 15 ligands modelled in this entry, 1 is monoatomic - leaving 14 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	AZI	A	341	-	0,2,2	0.00	-	0,1,1	0.00	-
2	TYR	H	339	-	10,13,13	0.29	0	12,17,17	0.19	0
2	TYR	D	339	-	10,13,13	0.25	0	12,17,17	0.26	0
2	TYR	B	339	-	10,13,13	0.28	0	12,17,17	0.18	0
2	TYR	C	339	-	10,13,13	0.30	0	12,17,17	0.26	0
2	TYR	A	339	-	10,13,13	0.31	0	12,17,17	0.14	0
4	NO3	F	339	-	1,3,3	3.45	1 (100%)	0,3,3	0.00	-
3	AZI	B	341	-	0,2,2	0.00	-	0,1,1	0.00	-
2	TYR	B	340	-	10,13,13	0.27	0	12,17,17	0.21	0
4	NO3	C	341	-	1,3,3	3.44	1 (100%)	0,3,3	0.00	-
2	TYR	C	340	-	10,13,13	0.26	0	12,17,17	0.19	0
2	TYR	A	340	-	10,13,13	0.29	0	12,17,17	0.17	0
4	NO3	A	342	-	1,3,3	3.34	1 (100%)	0,3,3	0.00	-
4	NO3	D	340	-	1,3,3	3.50	1 (100%)	0,3,3	0.00	-

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
2	TYR	H	339	-	-	0/4/8/8	0/1/1/1
2	TYR	D	339	-	-	0/4/8/8	0/1/1/1
2	TYR	B	339	-	-	0/4/8/8	0/1/1/1
2	TYR	C	339	-	-	0/4/8/8	0/1/1/1
2	TYR	A	339	-	-	0/4/8/8	0/1/1/1

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	TYR	B	340	-	-	0/4/8/8	0/1/1/1
2	TYR	C	340	-	-	0/4/8/8	0/1/1/1
2	TYR	A	340	-	-	0/4/8/8	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	340	NO3	O1-N	3.50	1.40	1.24
4	F	339	NO3	O1-N	3.45	1.40	1.24
4	C	341	NO3	O1-N	3.44	1.39	1.24
4	A	342	NO3	O1-N	3.34	1.39	1.24

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

6 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	339	TYR	1	0
4	F	339	NO3	2	0
3	B	341	AZI	1	0
4	C	341	NO3	2	0
4	A	342	NO3	1	0
4	D	340	NO3	2	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, 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	338/338 (100%)	-0.28	6 (1%) 68 77	16, 35, 73, 166	0
1	B	338/338 (100%)	-0.32	1 (0%) 94 97	17, 35, 57, 93	0
1	C	338/338 (100%)	-0.11	7 (2%) 63 74	18, 35, 73, 148	0
1	D	338/338 (100%)	-0.21	5 (1%) 73 81	21, 42, 64, 120	0
1	E	338/338 (100%)	-0.20	6 (1%) 68 77	17, 39, 62, 139	0
1	F	338/338 (100%)	-0.22	8 (2%) 59 68	18, 39, 67, 127	0
1	G	338/338 (100%)	-0.14	5 (1%) 73 81	17, 37, 61, 115	0
1	H	338/338 (100%)	-0.03	1 (0%) 94 97	20, 45, 68, 110	0
All	All	2704/2704 (100%)	-0.19	39 (1%) 75 83	16, 38, 66, 166	0

The worst 5 of 39 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	136	PRO	9.1
1	D	137	TYR	7.2
1	C	136	PRO	7.1
1	E	137	TYR	7.0
1	C	137	TYR	6.7

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 [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, 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
3	AZI	B	341	3/3	0.83	0.17	78,78,79,79	0
5	CL	B	342	1/1	0.87	0.27	66,66,66,66	0
3	AZI	A	341	3/3	0.92	0.12	71,71,72,72	0
2	TYR	B	339	13/13	0.96	0.10	18,25,31,34	0
2	TYR	H	339	13/13	0.96	0.10	25,29,31,32	0
2	TYR	B	340	13/13	0.96	0.12	22,29,35,36	0
2	TYR	A	340	13/13	0.96	0.10	24,27,32,36	0
2	TYR	C	339	13/13	0.97	0.11	17,20,26,27	0
2	TYR	C	340	13/13	0.97	0.09	21,23,26,26	0
2	TYR	D	339	13/13	0.97	0.09	27,30,35,40	0
4	NO3	D	340	4/4	0.97	0.27	37,38,39,42	0
2	TYR	A	339	13/13	0.98	0.09	18,20,23,23	0
4	NO3	F	339	4/4	0.98	0.23	28,29,31,32	0
4	NO3	A	342	4/4	0.98	0.20	29,31,34,35	0
4	NO3	C	341	4/4	0.98	0.28	36,36,38,41	0

6.5 Other polymers [i](#)

There are no such residues in this entry.