



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 17, 2018 – 11:34 PM EST

PDB ID : 6EOQ  
Title : DPP9 - Apo  
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Deposited on : 2017-10-10  
Resolution : 3.00 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](mailto: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.

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

MolProbity : 4.02b-467  
Xtriage (Phenix) : 1.9-1692  
EDS : rb-20030736  
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)  
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) : rb-20030736



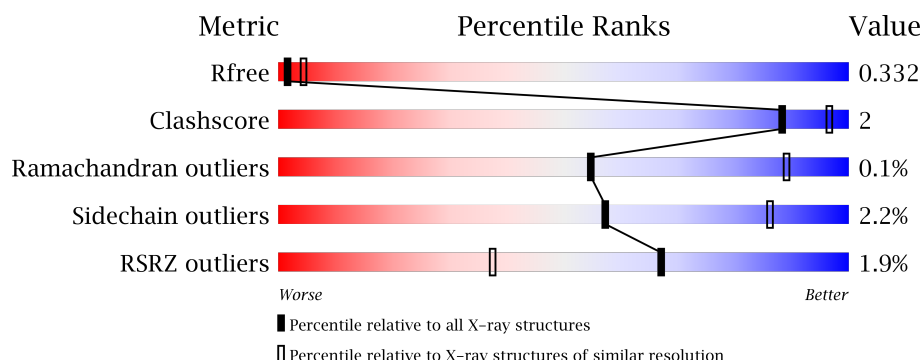
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 3.00 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))
$R_{free}$	100719	1692 (3.00-3.00)
Clashscore	112137	2037 (3.00-3.00)
Ramachandran outliers	110173	1973 (3.00-3.00)
Sidechain outliers	110143	1976 (3.00-3.00)
RSRZ outliers	101464	1716 (3.00-3.00)

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  $\geq 3$ , 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	869	<div> <div>0.1%</div> <div>80%</div> <div>8%</div> <div>12%</div> </div>
1	B	869	<div> <div>0.1%</div> <div>82%</div> <div>6%</div> <div>12%</div> </div>
1	C	869	<div> <div>2%</div> <div>81%</div> <div>7%</div> <div>12%</div> </div>
1	D	869	<div> <div>2%</div> <div>82%</div> <div>6%</div> <div>12%</div> </div>



## 2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 24962 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 Dipeptidyl peptidase 9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	767	Total	C	N	O	S	0	0	0
			6229	4020	1053	1128	28			
1	B	766	Total	C	N	O	S	0	0	0
			6220	4016	1052	1124	28			
1	C	766	Total	C	N	O	S	0	0	0
			6217	4012	1052	1126	27			
1	D	765	Total	C	N	O	S	0	0	0
			6214	4012	1053	1121	28			

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	864	HIS	-	expression tag	UNP Q86TI2
A	865	HIS	-	expression tag	UNP Q86TI2
A	866	HIS	-	expression tag	UNP Q86TI2
A	867	HIS	-	expression tag	UNP Q86TI2
A	868	HIS	-	expression tag	UNP Q86TI2
A	869	HIS	-	expression tag	UNP Q86TI2
B	864	HIS	-	expression tag	UNP Q86TI2
B	865	HIS	-	expression tag	UNP Q86TI2
B	866	HIS	-	expression tag	UNP Q86TI2
B	867	HIS	-	expression tag	UNP Q86TI2
B	868	HIS	-	expression tag	UNP Q86TI2
B	869	HIS	-	expression tag	UNP Q86TI2
C	864	HIS	-	expression tag	UNP Q86TI2
C	865	HIS	-	expression tag	UNP Q86TI2
C	866	HIS	-	expression tag	UNP Q86TI2
C	867	HIS	-	expression tag	UNP Q86TI2
C	868	HIS	-	expression tag	UNP Q86TI2
C	869	HIS	-	expression tag	UNP Q86TI2
D	864	HIS	-	expression tag	UNP Q86TI2
D	865	HIS	-	expression tag	UNP Q86TI2
D	866	HIS	-	expression tag	UNP Q86TI2

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Chain	Residue	Modelled	Actual	Comment	Reference
D	867	HIS	-	expression tag	UNP Q86TI2
D	868	HIS	-	expression tag	UNP Q86TI2
D	869	HIS	-	expression tag	UNP Q86TI2

- Molecule 2 is water.

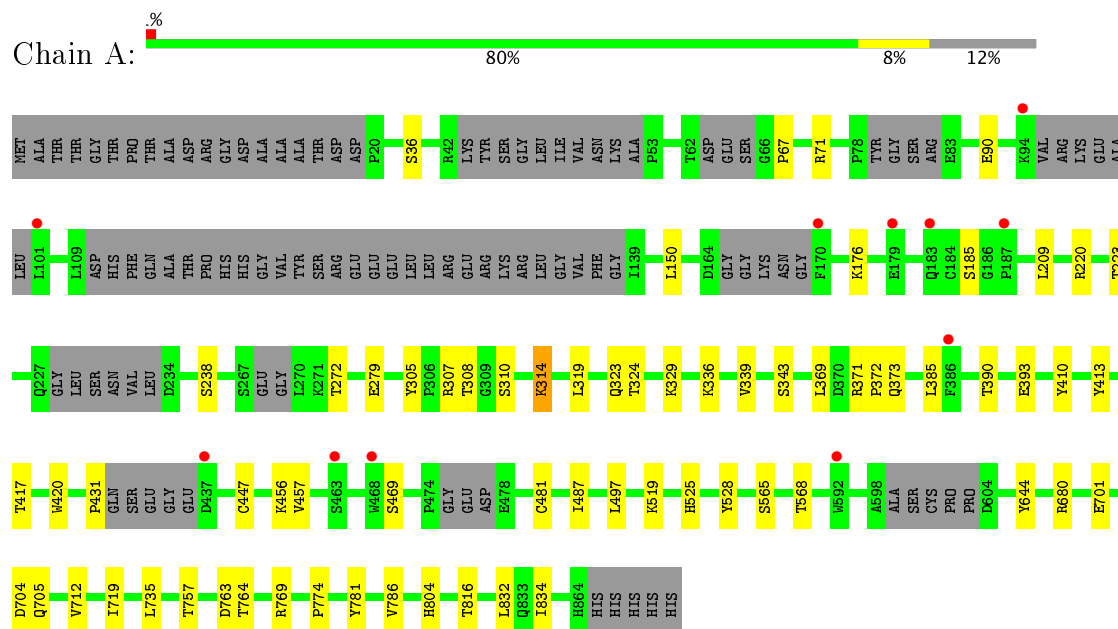
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	15	Total 15	O 15	0	0
2	B	22	Total 22	O 22	0	0
2	C	19	Total 19	O 19	0	0
2	D	26	Total 26	O 26	0	0



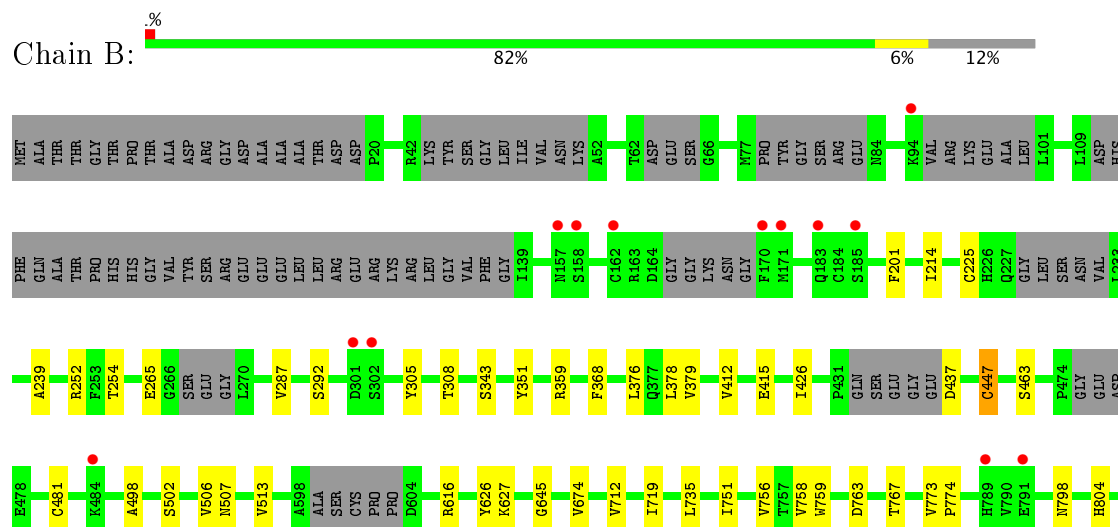
### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA 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.

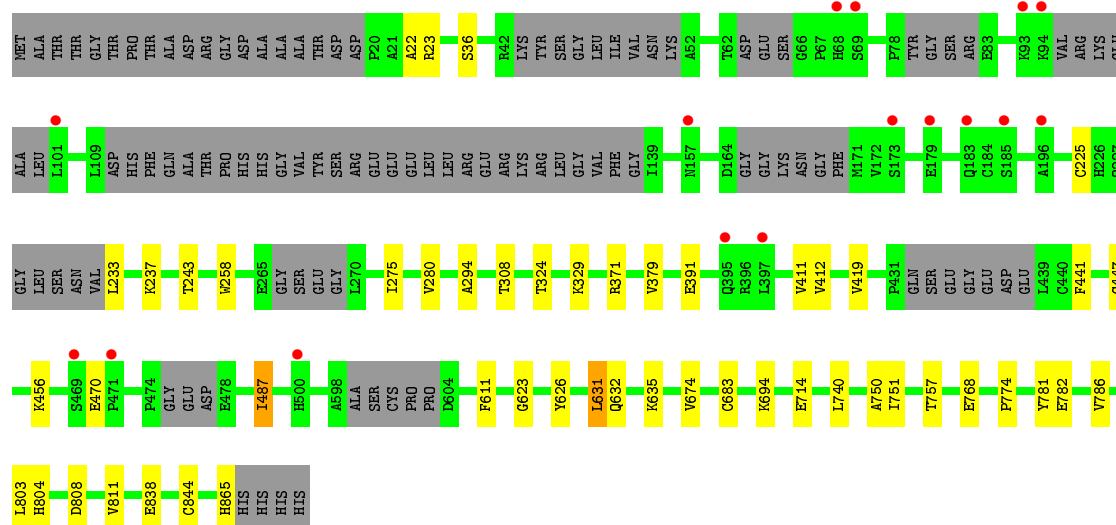
#### • Molecule 1: Dipeptidyl peptidase 9



#### • Molecule 1: Dipeptidyl peptidase 9









## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	120.37Å 118.02Å 164.46Å 90.00° 105.49° 90.00°	Depositor
Resolution (Å)	49.26 – 3.00 49.26 – 3.00	Depositor EDS
% Data completeness (in resolution range)	99.8 (49.26-3.00) 99.9 (49.26-3.00)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	0.55	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.82 (at 3.01Å)	Xtriage
Refinement program	REFMAC 5.8.0155	Depositor
R, $R_{free}$	0.273 , 0.334 0.276 , 0.332	Depositor DCC
$R_{free}$ test set	4443 reflections (5.26%)	DCC
Wilson B-factor (Å <sup>2</sup> )	54.1	Xtriage
Anisotropy	0.741	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.33 , 53.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.51$ , $\langle L^2 \rangle = 0.35$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.91	EDS
Total number of atoms	24962	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	55.0	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 63.14 % 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 1.0125e-05. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

<sup>1</sup> Intensities estimated from amplitudes.

<sup>2</sup> Theoretical 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](#)

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	0.50	0/6414	0.69	0/8698
1	B	0.50	0/6404	0.68	0/8685
1	C	0.50	0/6401	0.70	0/8683
1	D	0.50	0/6399	0.69	0/8680
All	All	0.50	0/25618	0.69	0/34746

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	6229	0	6029	32	0
1	B	6220	0	6026	24	0
1	C	6217	0	6021	33	0
1	D	6214	0	6024	23	0
2	A	15	0	0	0	0
2	B	22	0	0	2	0
2	C	19	0	0	1	0
2	D	26	0	0	0	0
All	All	24962	0	24100	110	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 2.



All (110) 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:314:LYS:HE3	1:A:314:LYS:HA	1.64	0.78
1:C:314:LYS:HE2	1:C:314:LYS:HA	1.74	0.70
1:C:565:SER:HG	1:C:568:THR:HG1	1.43	0.65
1:B:368:PHE:CE2	1:B:379:VAL:HG11	2.31	0.64
1:A:308:THR:HG21	1:A:781:TYR:OH	1.97	0.63
1:B:815:HIS:CD2	2:B:902:HOH:O	2.51	0.62
1:A:310:SER:O	1:A:371:ARG:NH2	2.33	0.61
1:D:308:THR:HG21	1:D:781:TYR:OH	2.01	0.60
1:A:712:VAL:HG12	1:A:719:ILE:HD12	1.84	0.59
1:D:308:THR:HG22	1:D:774:PRO:HD3	1.84	0.59
1:A:373:GLN:OE1	1:A:769:ARG:NH1	2.40	0.55
1:A:410:TYR:HB3	1:A:481:CYS:SG	2.47	0.54
1:A:565:SER:OG	1:A:568:THR:HG22	2.08	0.54
1:B:415:GLU:HB3	1:B:447:CYS:SG	2.48	0.53
1:C:308:THR:HG21	1:C:767:THR:HB	1.90	0.53
1:B:426:ILE:HD12	1:B:498:ALA:HB2	1.90	0.53
1:B:758:VAL:HB	2:B:902:HOH:O	2.09	0.53
1:A:832:LEU:HD21	1:C:834:ILE:HD12	1.91	0.53
1:C:812:HIS:HB3	2:C:901:HOH:O	2.09	0.53
1:D:225:CYS:O	1:D:237:LYS:NZ	2.38	0.52
1:C:58:PHE:CE2	1:C:72:LEU:HD11	2.45	0.52
1:A:456:LYS:HB3	1:A:487:ILE:CG2	2.39	0.52
1:D:419:VAL:O	1:D:694:LYS:HE2	2.10	0.51
1:B:809:GLU:OE2	1:B:809:GLU:N	2.42	0.51
1:B:804:HIS:CD2	1:B:816:THR:OG1	2.63	0.51
1:C:210:TRP:NE1	1:C:221:ARG:HD2	2.25	0.51
1:A:834:ILE:HD11	1:C:834:ILE:HD11	1.92	0.51
1:D:808:ASP:OD1	1:D:811:VAL:N	2.42	0.50
1:A:272:THR:HG22	1:A:323:GLN:HG2	1.94	0.49
1:B:308:THR:HG21	1:B:767:THR:HB	1.93	0.49
1:C:644:TYR:O	1:C:735:LEU:HD12	2.11	0.49
1:D:626:TYR:HB2	1:D:674:VAL:HB	1.93	0.49
1:B:626:TYR:HB2	1:B:674:VAL:HB	1.94	0.49
1:D:838:GLU:OE2	1:D:844:CYS:HB3	2.13	0.49
1:C:369:LEU:HD23	1:C:375:TRP:O	2.13	0.49
1:D:22:ALA:O	1:D:635:LYS:HA	2.12	0.49
1:C:308:THR:CG2	1:C:767:THR:HB	2.43	0.49
1:C:426:ILE:HD12	1:C:498:ALA:HB2	1.95	0.49
1:C:252:ARG:NH1	1:C:352:ILE:O	2.44	0.48
1:A:804:HIS:HD2	1:A:816:THR:OG1	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:644:TYR:CE2	1:C:649:VAL:HG21	2.47	0.48
1:A:519:LYS:HB3	1:A:528:TYR:CZ	2.48	0.48
1:A:339:VAL:HG23	1:A:385:LEU:O	2.14	0.47
1:D:243:THR:CG2	1:D:280:VAL:HG11	2.44	0.47
1:B:252:ARG:NE	1:B:254:THR:O	2.46	0.46
1:C:371:ARG:NH1	1:C:768:GLU:OE2	2.46	0.46
1:D:243:THR:HG21	1:D:280:VAL:HG11	1.97	0.46
1:B:798:ASN:HB3	1:B:862:TYR:CG	2.51	0.46
1:A:324:THR:HA	1:A:329:LYS:O	2.16	0.46
1:C:307:ARG:HA	1:C:763:ASP:HA	1.98	0.46
1:B:814:PHE:CE1	1:B:818:PHE:HB2	2.51	0.46
1:C:369:LEU:HG	1:C:376:LEU:HD12	1.97	0.45
1:B:756:VAL:HG11	1:B:759:TRP:CZ3	2.51	0.45
1:A:209:LEU:N	1:A:223:THR:OG1	2.47	0.45
1:C:740:LEU:HD22	1:C:750:ALA:HB3	1.99	0.45
1:D:740:LEU:HD22	1:D:750:ALA:HB3	1.98	0.45
1:A:456:LYS:HB3	1:A:487:ILE:HG23	1.97	0.45
1:C:371:ARG:HB3	1:C:372:PRO:HD3	1.98	0.45
1:C:56:PHE:HA	1:C:73:TYR:O	2.17	0.45
1:A:307:ARG:O	1:A:764:THR:HG23	2.17	0.45
1:C:849:GLU:O	1:C:853:VAL:HG23	2.17	0.44
1:C:520:ASP:OD2	1:C:540:ARG:NE	2.51	0.44
1:D:412:VAL:CG1	1:D:441:PHE:CE1	3.00	0.44
1:C:712:VAL:HG12	1:C:719:ILE:HG13	1.99	0.44
1:A:413:TYR:CE1	1:A:457:VAL:HG21	2.53	0.43
1:B:645:GLY:HA3	1:B:735:LEU:CD1	2.48	0.43
1:D:631:LEU:HD13	1:D:632:GLN:N	2.32	0.43
1:C:237:LYS:HA	1:C:280:VAL:O	2.17	0.43
1:B:368:PHE:CE2	1:B:379:VAL:CG1	3.01	0.43
1:C:411:VAL:HG23	1:C:479:PHE:HB2	1.99	0.43
1:D:237:LYS:HB2	1:D:237:LYS:NZ	2.34	0.43
1:D:379:VAL:HG12	1:D:411:VAL:HG22	2.01	0.43
1:D:456:LYS:HB3	1:D:487:ILE:HG23	2.00	0.43
1:B:201:PHE:CD1	1:B:214:ILE:HG23	2.53	0.43
1:A:319:LEU:O	1:A:336:LYS:N	2.52	0.43
1:C:58:PHE:HZ	1:C:560:VAL:HG23	1.83	0.43
1:A:712:VAL:HG12	1:A:719:ILE:CD1	2.46	0.43
1:C:511:LYS:HA	1:C:532:TYR:CE2	2.54	0.43
1:C:804:HIS:HD2	1:C:816:THR:OG1	2.02	0.43
1:A:371:ARG:HB3	1:A:372:PRO:HD3	2.00	0.42
1:A:644:TYR:O	1:A:735:LEU:HD12	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:324:THR:HA	1:D:329:LYS:O	2.18	0.42
1:B:712:VAL:HG12	1:B:719:ILE:HG13	2.02	0.42
1:C:506:VAL:HG22	1:C:513:VAL:HG23	2.00	0.42
1:D:258:TRP:CH2	1:D:275:ILE:HD11	2.54	0.42
1:D:225:CYS:O	1:D:237:LYS:HB2	2.20	0.42
1:A:71:ARG:NE	1:A:90:GLU:OE1	2.52	0.41
1:B:308:THR:CG2	1:B:767:THR:HB	2.51	0.41
1:D:757:THR:HA	1:D:786:VAL:HG22	2.03	0.41
1:B:506:VAL:HG22	1:B:513:VAL:HG23	2.03	0.41
1:C:626:TYR:HB2	1:C:674:VAL:HB	2.02	0.41
1:A:305:TYR:CZ	1:A:763:ASP:HB3	2.56	0.41
1:A:804:HIS:CD2	1:A:816:THR:OG1	2.73	0.41
1:B:773:VAL:HG22	1:B:774:PRO:HD2	2.03	0.41
1:C:252:ARG:NE	1:C:254:THR:O	2.52	0.41
1:C:519:LYS:HB3	1:C:528:TYR:CZ	2.55	0.41
1:D:308:THR:HG23	1:D:768:GLU:HG3	2.02	0.41
1:A:680:ARG:HG3	1:A:704:ASP:OD2	2.21	0.41
1:B:305:TYR:CZ	1:B:763:ASP:HB3	2.56	0.41
1:A:497:LEU:HD11	1:A:525:HIS:ND1	2.36	0.41
1:A:757:THR:HA	1:A:786:VAL:HG22	2.03	0.41
1:B:225:CYS:SG	1:B:239:ALA:HB2	2.61	0.41
1:C:804:HIS:CD2	1:C:816:THR:OG1	2.74	0.41
1:A:701:GLU:O	1:A:705:GLN:HG2	2.20	0.40
1:B:751:ILE:HD13	1:B:855:LEU:HD12	2.03	0.40
1:D:751:ILE:CG2	1:D:803:LEU:HD11	2.51	0.40
1:A:417:THR:HG21	1:A:420:TRP:C	2.42	0.40
1:D:611:PHE:CZ	1:D:623:GLY:HA3	2.56	0.40
1:A:308:THR:HG22	1:A:774:PRO:HD3	2.04	0.40
1:B:751:ILE:HG21	1:B:855:LEU:HD12	2.04	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles ⓘ

### 5.3.1 Protein backbone ⓘ

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

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



Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	743/869 (86%)	692 (93%)	50 (7%)	1 (0%)	55	89
1	B	742/869 (85%)	700 (94%)	42 (6%)	0	100	100
1	C	742/869 (85%)	697 (94%)	44 (6%)	1 (0%)	55	89
1	D	741/869 (85%)	691 (93%)	49 (7%)	1 (0%)	55	89
All	All	2968/3476 (85%)	2780 (94%)	185 (6%)	3 (0%)	55	89

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	294	ALA
1	C	462	LYS
1	A	67	PRO

### 5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	680/759 (90%)	665 (98%)	15 (2%)	57	86
1	B	678/759 (89%)	660 (97%)	18 (3%)	50	82
1	C	678/759 (89%)	665 (98%)	13 (2%)	62	88
1	D	678/759 (89%)	664 (98%)	14 (2%)	59	87
All	All	2714/3036 (89%)	2654 (98%)	60 (2%)	57	86

All (60) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	36	SER
1	A	150	LEU
1	A	176	LYS
1	A	185	SER
1	A	220	ARG
1	A	238	SER
1	A	279	GLU
1	A	314	LYS

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Mol	Chain	Res	Type
1	A	343	SER
1	A	369	LEU
1	A	390	THR
1	A	393	GLU
1	A	431	PRO
1	A	447	CYS
1	A	469	SER
1	B	265	GLU
1	B	287	VAL
1	B	292	SER
1	B	343	SER
1	B	351	TYR
1	B	359	ARG
1	B	376	LEU
1	B	378	LEU
1	B	412	VAL
1	B	437	ASP
1	B	447	CYS
1	B	463	SER
1	B	481	CYS
1	B	502	SER
1	B	507	ASN
1	B	616	ARG
1	B	627	LYS
1	B	810	ASN
1	C	156	SER
1	C	221	ARG
1	C	226	HIS
1	C	288	ILE
1	C	292	SER
1	C	314	LYS
1	C	336	LYS
1	C	343	SER
1	C	447	CYS
1	C	566	VAL
1	C	573	HIS
1	C	758	VAL
1	C	767	THR
1	D	23	ARG
1	D	36	SER
1	D	233	LEU
1	D	371	ARG

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Mol	Chain	Res	Type
1	D	391	GLU
1	D	447	CYS
1	D	470	GLU
1	D	487	ILE
1	D	631	LEU
1	D	683	CYS
1	D	714	GLU
1	D	782	GLU
1	D	804	HIS
1	D	865	HIS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	648	GLN
1	A	804	HIS
1	B	804	HIS
1	C	804	HIS
1	D	632	GLN
1	D	742	HIS

### 5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

## 5.6 Ligand geometry ⓘ

There are no ligands in this entry.



## 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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	767/869 (88%)	-0.07	11 (1%)	75 49	29, 52, 83, 103	0
1	B	766/869 (88%)	-0.06	13 (1%)	70 42	30, 53, 83, 125	0
1	C	766/869 (88%)	-0.04	17 (2%)	62 33	28, 52, 83, 122	0
1	D	765/869 (88%)	0.01	16 (2%)	64 34	29, 53, 84, 112	0
All	All	3064/3476 (88%)	-0.04	57 (1%)	67 37	28, 52, 84, 125	0

All (57) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	469	SER	5.2
1	D	185	SER	4.9
1	B	302	SER	4.4
1	C	183	GLN	4.2
1	A	179	GLU	3.9
1	A	101	LEU	3.8
1	D	101	LEU	3.8
1	C	94	LYS	3.6
1	A	437	ASP	3.5
1	D	93	LYS	3.5
1	C	386	PHE	3.3
1	A	170	PHE	3.3
1	A	386	PHE	3.2
1	B	185	SER	3.1
1	B	170	PHE	3.1
1	B	791	GLU	3.1
1	A	94	LYS	2.9
1	B	484	LYS	2.8
1	B	158	SER	2.8
1	B	171	MET	2.7
1	C	172	VAL	2.7

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Mol	Chain	Res	Type	RSRZ
1	D	68	HIS	2.7
1	C	399	SER	2.7
1	C	104	SER	2.6
1	D	183	GLN	2.6
1	C	92	PRO	2.6
1	D	94	LYS	2.6
1	C	467	ASP	2.5
1	D	500	HIS	2.5
1	B	157	ASN	2.5
1	A	463	SER	2.5
1	A	183	GLN	2.4
1	D	157	ASN	2.4
1	D	471	PRO	2.4
1	A	187	PRO	2.4
1	C	462	LYS	2.4
1	B	94	LYS	2.3
1	C	264	TRP	2.3
1	B	301	ASP	2.3
1	A	592	TRP	2.3
1	B	162	CYS	2.3
1	C	160	PHE	2.3
1	B	183	GLN	2.3
1	C	473	SER	2.3
1	C	391	GLU	2.3
1	C	85	SER	2.3
1	D	397	LEU	2.2
1	D	69	SER	2.2
1	D	395	GLN	2.2
1	D	196	ALA	2.1
1	C	478	GLU	2.1
1	C	179	GLU	2.1
1	D	173	SER	2.1
1	C	463	SER	2.1
1	B	789	HIS	2.1
1	D	179	GLU	2.0
1	A	468	TRP	2.0

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

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



### 6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

### 6.4 Ligands [i](#)

There are no ligands in this entry.

### 6.5 Other polymers [i](#)

There are no such residues in this entry.