



Full wwPDB NMR Structure Validation Report ⓘ

Mar 9, 2026 – 08:31 AM UTC

PDB ID : 2KWK / pdb_00002kwk
Title : Solution structures of the double PHD fingers of human transcriptional protein DPF3b bound to a H3 peptide wild type
Authors : Zeng, L.; Zhang, Q.; Li, S.; Plotnikov, A.N.; Walsh, M.J.; Zhou, M.
Deposited on : 2010-04-12

This is a Full wwPDB NMR 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/NMRValidationReportHelp>

with specific help available everywhere you see the ⓘ 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 ⓘ](#)) were used in the production of this report:

MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

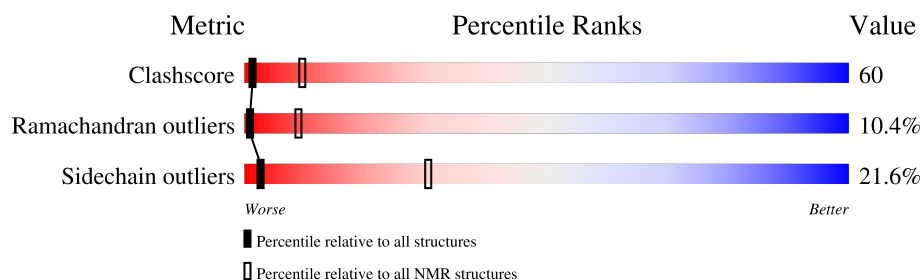
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

SOLUTION NMR

The overall completeness of chemical shifts assignment was not calculated.

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)	NMR archive (#Entries)
Clashscore	229148	14424
Ramachandran outliers	224038	12848
Sidechain outliers	223484	12823

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and 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 $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	B	20	
2	A	114	

2 Ensemble composition and analysis

This entry contains 20 models. Model 7 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *lowest energy*.

The following residues are included in the computation of the global validation metrics.

Well-defined (core) protein residues			
Well-defined core	Residue range (total)	Backbone RMSD (Å)	Medoid model
1	B:1-B:4, A:260-A:274, A:278-A:363 (105)	0.45	7

Ill-defined regions of proteins are excluded from the global statistics.

Ligands and non-protein polymers are included in the analysis.

The models can be grouped into 2 clusters and 1 single-model cluster was found.

Cluster number	Models
1	1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18, 19, 20
2	2, 13
Single-model clusters	17

3 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 2021 atoms, of which 984 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Histone peptide.

Mol	Chain	Residues	Atoms					Trace
1	B	20	Total	C	H	N	O	0
			327	91	174	35	27	

- Molecule 2 is a protein called Zinc finger protein DPF3.

Mol	Chain	Residues	Atoms						Trace
2	A	114	Total	C	H	N	O	S	0
			1690	542	810	147	174	17	

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	259	GLY	-	expression tag	UNP Q92784
A	260	SER	-	expression tag	UNP Q92784

- Molecule 3 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	
3	A	4	Total	Zn
			4	4

4 Residue-property plots

4.1 Average score per residue in the NMR ensemble

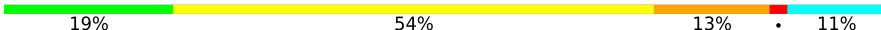
These plots are provided for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outliers are shown as green connectors. Residues which are classified as ill-defined in the NMR ensemble, are shown in cyan with an underline colour-coded according to the previous scheme. Residues which were present in the experimental sample, but not modelled in the final structure are shown in grey.

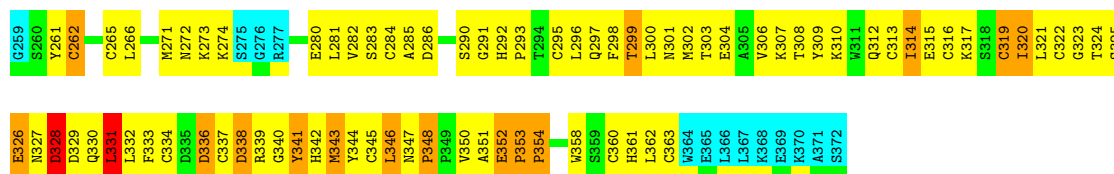
- Molecule 1: Histone peptide

Chain B: 



- Molecule 2: Zinc finger protein DPF3

Chain A: 



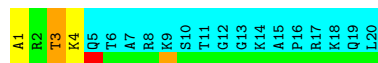
4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

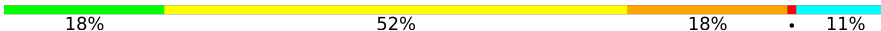
4.2.1 Score per residue for model 1

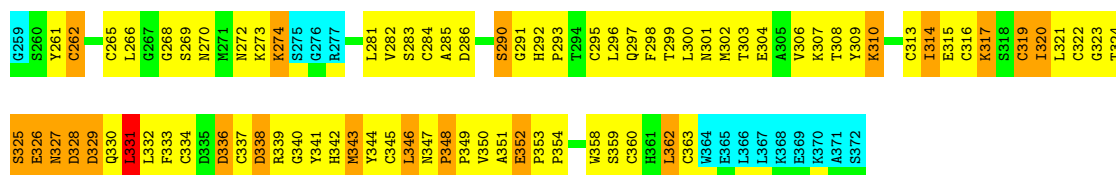
- Molecule 1: Histone peptide

Chain B: 



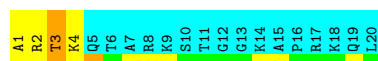
- Molecule 2: Zinc finger protein DPF3

Chain A: 

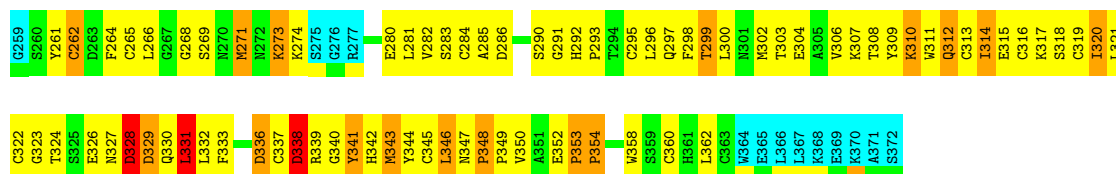


4.2.2 Score per residue for model 2

- Molecule 1: Histone peptide



- Molecule 2: Zinc finger protein DPF3

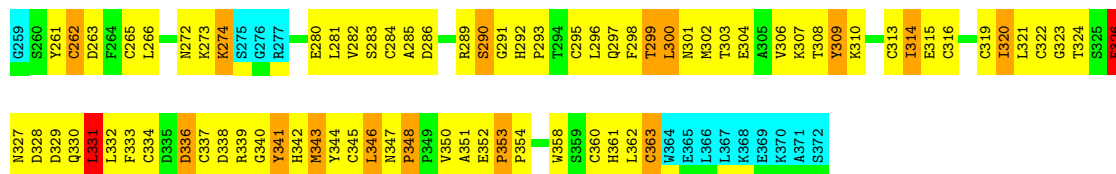


4.2.3 Score per residue for model 3

- Molecule 1: Histone peptide



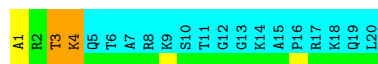
- Molecule 2: Zinc finger protein DPF3



4.2.4 Score per residue for model 4

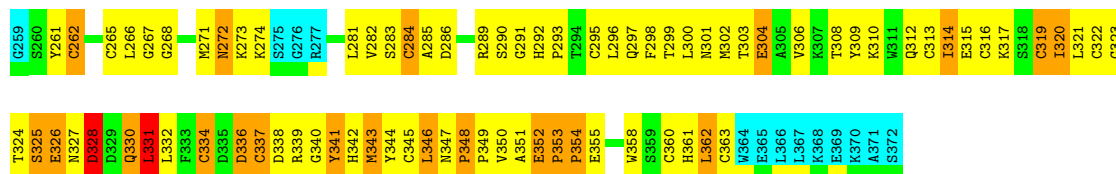
- Molecule 1: Histone peptide

Chain B: 5% 5% 10% 80%



- Molecule 2: Zinc finger protein DPF3

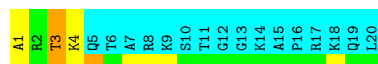
Chain A: 18% 50% 18% 11%



4.2.5 Score per residue for model 5

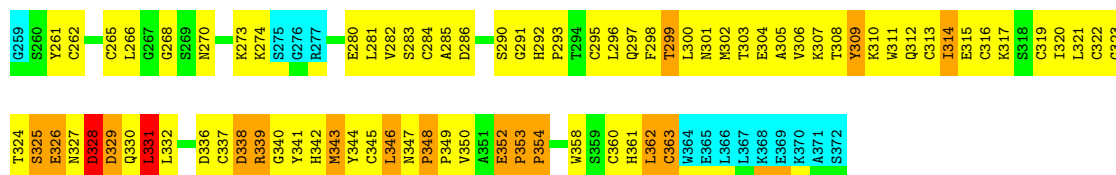
- Molecule 1: Histone peptide

Chain B: 5% 10% 5% 80%



- Molecule 2: Zinc finger protein DPF3

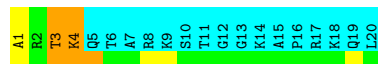
Chain A: 19% 54% 14% 11%



4.2.6 Score per residue for model 6

- Molecule 1: Histone peptide

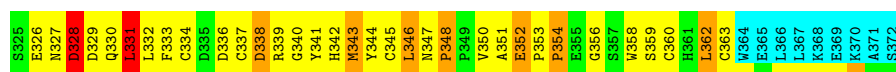
Chain B: 5% 5% 10% 80%



- Molecule 2: Zinc finger protein DPF3

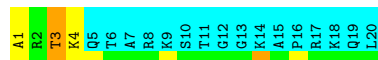
Chain A: 19% 57% 11% 11%



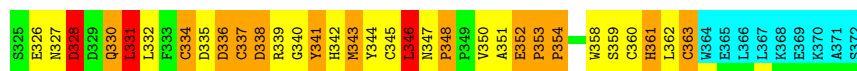
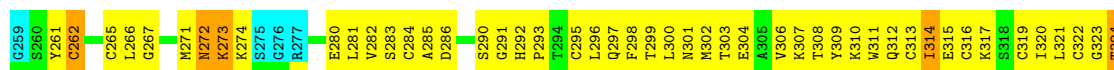
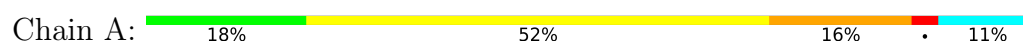


4.2.7 Score per residue for model 7 (medoid)

- Molecule 1: Histone peptide

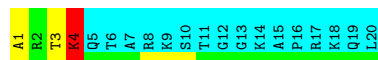


- Molecule 2: Zinc finger protein DPF3



4.2.8 Score per residue for model 8

- Molecule 1: Histone peptide



- Molecule 2: Zinc finger protein DPF3



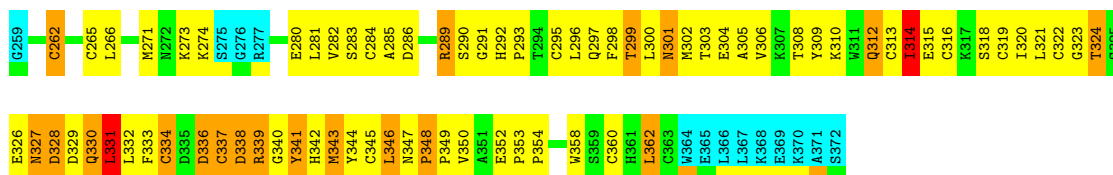
4.2.9 Score per residue for model 9

- Molecule 1: Histone peptide



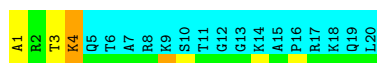


- Molecule 2: Zinc finger protein DPF3

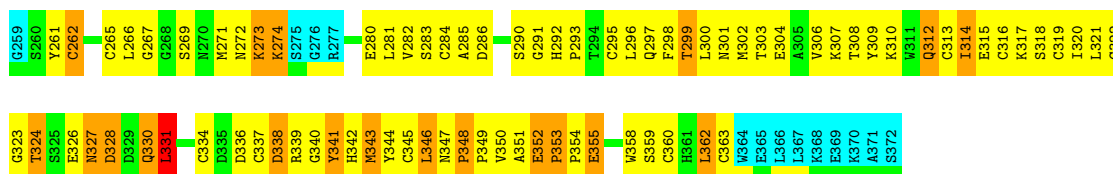
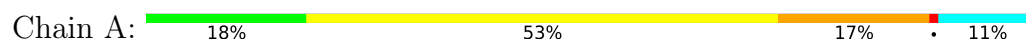


4.2.10 Score per residue for model 10

- Molecule 1: Histone peptide

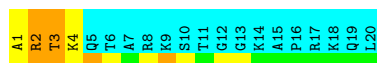


- Molecule 2: Zinc finger protein DPF3

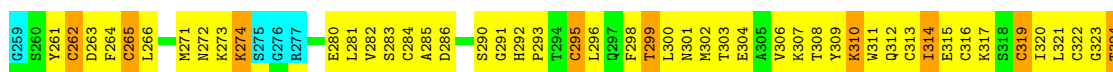
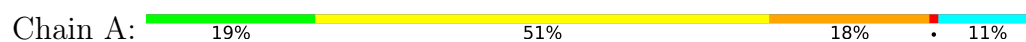


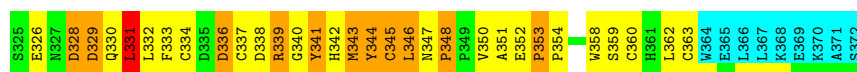
4.2.11 Score per residue for model 11

- Molecule 1: Histone peptide



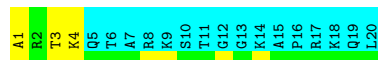
- Molecule 2: Zinc finger protein DPF3





4.2.12 Score per residue for model 12

- Molecule 1: Histone peptide

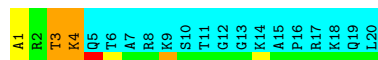


- Molecule 2: Zinc finger protein DPF3

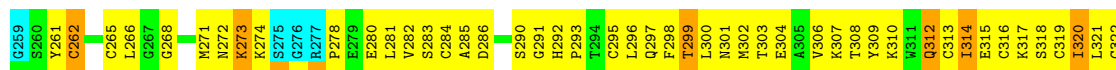


4.2.13 Score per residue for model 13

- Molecule 1: Histone peptide



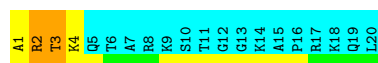
- Molecule 2: Zinc finger protein DPF3



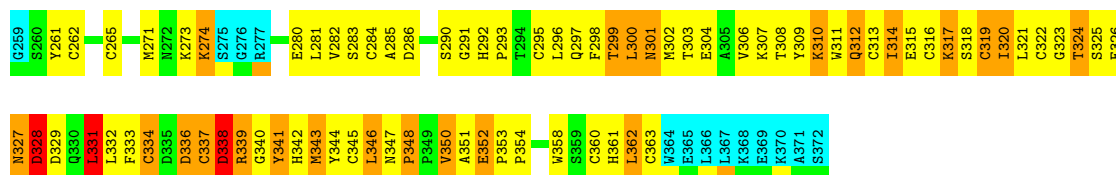
4.2.14 Score per residue for model 14

- Molecule 1: Histone peptide





- Molecule 2: Zinc finger protein DPF3

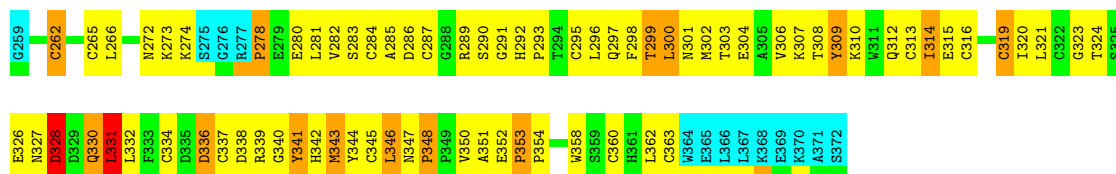


4.2.15 Score per residue for model 15

- Molecule 1: Histone peptide

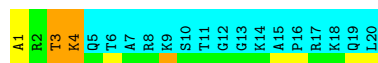


- Molecule 2: Zinc finger protein DPF3

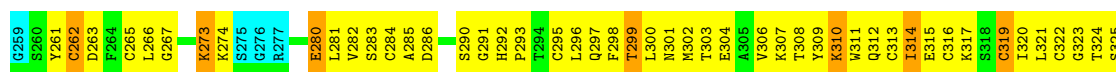
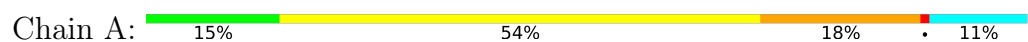


4.2.16 Score per residue for model 16

- Molecule 1: Histone peptide



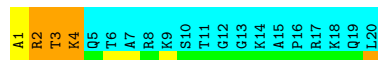
- Molecule 2: Zinc finger protein DPF3



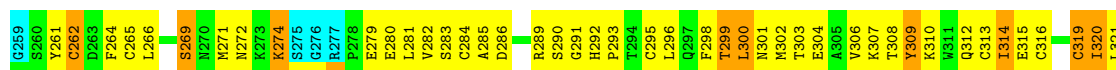
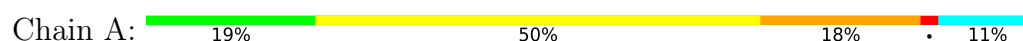


4.2.17 Score per residue for model 17

- Molecule 1: Histone peptide

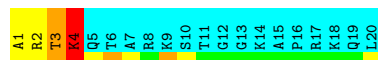


- Molecule 2: Zinc finger protein DPF3

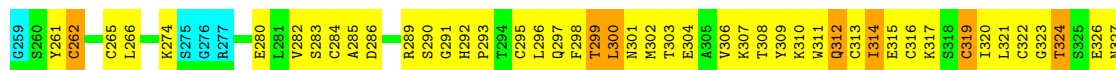


4.2.18 Score per residue for model 18

- Molecule 1: Histone peptide



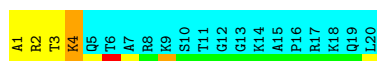
- Molecule 2: Zinc finger protein DPF3



4.2.19 Score per residue for model 19

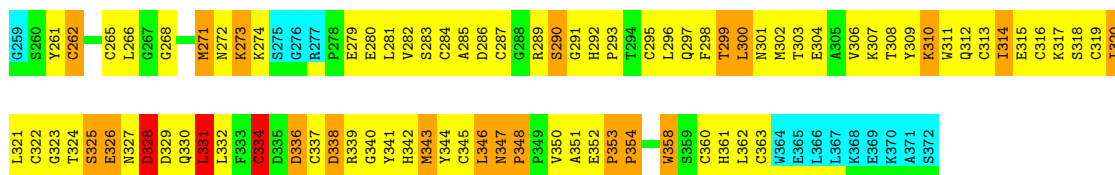
- Molecule 1: Histone peptide





- Molecule 2: Zinc finger protein DPF3

Chain A: 15% 54% 18% • 11%



4.2.20 Score per residue for model 20

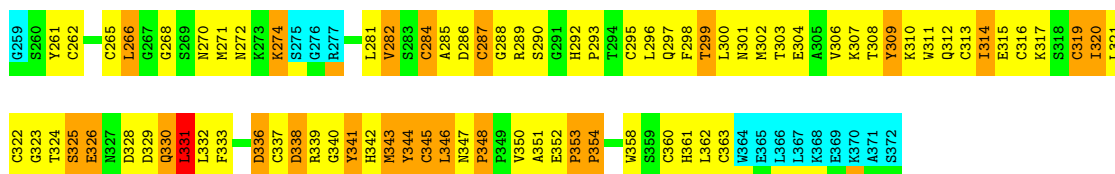
- Molecule 1: Histone peptide

Chain B: 5% 5% 10% 80%



- Molecule 2: Zinc finger protein DPF3

Chain A: 19% 48% 20% • 11%



5 Refinement protocol and experimental data overview

The models were refined using the following method: *DGSA-distance geometry simulated annealing, torsion angle dynamics*.

Of the 200 calculated structures, 20 were deposited, based on the following criterion: *structures with the lowest energy*.

The following table shows the software used for structure solution, optimisation and refinement.

Software name	Classification	Version
ARIA	refinement	2.2
CNS	structure solution	1.2

No chemical shift data was provided.

6 Model quality [i](#)

6.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: ZN

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 (average) 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	B	0.50±0.07	0±0/32 (0.0± 0.0%)	0.59±0.06	0±0/42 (0.0± 0.0%)
2	A	0.54±0.01	0±0/797 (0.0± 0.0%)	0.90±0.02	0±0/1080 (0.0± 0.0%)
All	All	0.54	0/16580 (0.0%)	0.89	2/22440 (0.0%)

There are no bond-length outliers.

All unique angle outliers are listed below.

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)	Models	
								Worst	Total
2	A	345	CYS	N-CA-C	-5.86	107.94	114.62	20	2

There are no chirality outliers.

There are no planarity outliers.

6.2 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 each 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 averaged over the ensemble.

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	B	32	40	40	8±3
2	A	777	704	703	94±9
All	All	16260	14880	14860	1881

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 60.

All unique clashes are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:A:346:LEU:HD12	2:A:350:VAL:HG23	0.82	1.48	2	19
2:A:322:CYS:SG	2:A:324:THR:HG22	0.79	2.18	8	1
2:A:298:PHE:CE2	2:A:306:VAL:HG11	0.78	2.13	14	20
2:A:284:CYS:HB2	2:A:313:CYS:N	0.77	1.94	4	2
2:A:314:ILE:HG22	2:A:315:GLU:N	0.77	1.94	9	18
2:A:346:LEU:HD23	2:A:346:LEU:N	0.74	1.98	5	19
2:A:265:CYS:HB3	2:A:274:LYS:HG3	0.74	1.59	20	10
1:B:4:LYS:HG2	2:A:333:PHE:CZ	0.74	2.17	9	4
2:A:302:MET:HA	2:A:337:CYS:HA	0.71	1.62	12	20
2:A:321:LEU:HD11	2:A:341:TYR:CD2	0.70	2.21	17	20
2:A:341:TYR:HB3	2:A:346:LEU:HD22	0.70	1.64	5	5
2:A:303:THR:O	2:A:306:VAL:HG22	0.70	1.86	6	20
2:A:342:HIS:HB2	2:A:345:CYS:SG	0.70	2.26	1	20
2:A:292:HIS:HB2	2:A:295:CYS:SG	0.70	2.26	11	2
2:A:265:CYS:HB3	2:A:274:LYS:HG2	0.69	1.62	16	7
2:A:284:CYS:HB2	2:A:313:CYS:HB3	0.69	1.63	10	18
2:A:337:CYS:SG	2:A:339:ARG:HG3	0.69	2.27	17	4
2:A:302:MET:O	2:A:306:VAL:HG13	0.68	1.89	8	20
1:B:1:ALA:H3	2:A:355:GLU:N	0.68	1.86	17	1
1:B:1:ALA:HB3	2:A:354:PRO:HD2	0.67	1.67	5	17
2:A:350:VAL:HG11	2:A:354:PRO:HD3	0.67	1.65	8	20
2:A:317:LYS:HZ1	2:A:331:LEU:HD11	0.66	1.49	12	1
2:A:284:CYS:SG	2:A:285:ALA:N	0.66	2.67	13	20
2:A:317:LYS:HZ1	2:A:340:GLY:HA3	0.66	1.50	12	1
2:A:313:CYS:O	2:A:315:GLU:N	0.66	2.29	20	20
2:A:321:LEU:HD12	2:A:345:CYS:CB	0.66	2.20	17	13
1:B:1:ALA:HB2	2:A:358:TRP:HB3	0.65	1.67	17	8
2:A:336:ASP:HB3	2:A:363:CYS:SG	0.65	2.31	12	4
1:B:4:LYS:HD3	2:A:328:ASP:HB2	0.64	1.69	16	4
1:B:1:ALA:HB2	2:A:358:TRP:CB	0.64	2.22	17	17
2:A:319:CYS:HA	2:A:340:GLY:O	0.64	1.92	14	20
2:A:321:LEU:HD12	2:A:345:CYS:HB2	0.64	1.67	2	13
2:A:282:VAL:HG23	2:A:293:PRO:HD3	0.63	1.70	18	18
2:A:346:LEU:CD1	2:A:350:VAL:HG23	0.62	2.24	8	19
2:A:317:LYS:NZ	2:A:340:GLY:HA3	0.62	2.09	12	1
2:A:317:LYS:NZ	2:A:333:PHE:CD2	0.62	2.64	18	2
2:A:346:LEU:CD1	2:A:346:LEU:H	0.62	2.08	7	1
1:B:4:LYS:HE2	2:A:314:ILE:HG22	0.62	1.71	20	1
2:A:314:ILE:HD13	2:A:333:PHE:CE1	0.61	2.31	16	3
2:A:337:CYS:O	2:A:338:ASP:HB3	0.61	1.95	18	3
2:A:319:CYS:SG	2:A:321:LEU:HB2	0.61	2.36	1	20
2:A:347:ASN:HB2	2:A:348:PRO:HD3	0.60	1.73	1	19

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:4:LYS:HB3	2:A:328:ASP:O	0.60	1.95	11	11
2:A:314:ILE:CG2	2:A:315:GLU:N	0.60	2.63	9	12
2:A:321:LEU:HD21	2:A:341:TYR:CZ	0.60	2.32	6	10
2:A:341:TYR:HB3	2:A:346:LEU:CD2	0.60	2.26	5	19
2:A:265:CYS:SG	2:A:274:LYS:HG3	0.60	2.36	11	2
2:A:285:ALA:HB2	2:A:310:LYS:HD2	0.59	1.72	5	6
2:A:346:LEU:CD1	2:A:346:LEU:N	0.59	2.65	7	1
2:A:346:LEU:HD23	2:A:346:LEU:H	0.59	1.58	14	18
2:A:286:ASP:HB3	2:A:316:CYS:SG	0.59	2.37	4	9
2:A:317:LYS:HD3	2:A:331:LEU:HD11	0.59	1.75	14	1
2:A:282:VAL:O	2:A:290:SER:HA	0.59	1.98	12	17
2:A:320:ILE:HG23	2:A:321:LEU:HD23	0.59	1.75	3	5
2:A:262:CYS:O	2:A:266:LEU:HG	0.58	1.98	11	12
2:A:324:THR:HB	2:A:326:GLU:HG2	0.58	1.75	16	6
2:A:286:ASP:HB2	2:A:316:CYS:SG	0.58	2.39	20	11
2:A:346:LEU:N	2:A:346:LEU:CD2	0.58	2.66	5	10
1:B:1:ALA:HB3	2:A:354:PRO:CD	0.58	2.29	17	2
2:A:355:GLU:CD	2:A:355:GLU:N	0.58	2.62	16	4
2:A:304:GLU:O	2:A:308:THR:HG23	0.57	1.99	20	20
2:A:292:HIS:C	2:A:296:LEU:HD12	0.57	2.25	3	20
2:A:285:ALA:HB2	2:A:310:LYS:HD3	0.57	1.76	3	3
2:A:342:HIS:O	2:A:344:TYR:N	0.57	2.37	7	20
2:A:283:SER:HA	2:A:289:ARG:O	0.57	2.00	9	2
2:A:293:PRO:HG2	2:A:303:THR:HG23	0.57	1.76	11	17
2:A:341:TYR:CZ	2:A:360:CYS:HB2	0.57	2.34	15	18
2:A:346:LEU:CD2	2:A:350:VAL:HG23	0.57	2.29	7	1
1:B:4:LYS:HD3	2:A:328:ASP:CB	0.56	2.30	3	12
2:A:322:CYS:O	2:A:324:THR:HG23	0.56	2.00	3	15
2:A:262:CYS:SG	2:A:264:PHE:HB2	0.56	2.41	17	3
2:A:261:TYR:C	2:A:290:SER:HG	0.56	2.09	1	3
2:A:292:HIS:O	2:A:295:CYS:SG	0.56	2.63	11	1
2:A:298:PHE:HA	2:A:302:MET:SD	0.55	2.42	10	20
2:A:339:ARG:HD2	2:A:362:LEU:HB2	0.55	1.76	9	6
2:A:337:CYS:O	2:A:338:ASP:CB	0.55	2.54	18	7
2:A:340:GLY:C	2:A:341:TYR:HD1	0.55	2.09	9	20
2:A:311:TRP:CD1	2:A:317:LYS:HZ2	0.55	2.19	11	3
2:A:319:CYS:O	2:A:323:GLY:N	0.55	2.40	19	20
2:A:303:THR:HG22	2:A:307:LYS:HE3	0.55	1.77	11	12
2:A:331:LEU:HD12	2:A:331:LEU:C	0.55	2.26	14	20
2:A:343:MET:HA	2:A:346:LEU:HD11	0.55	1.79	19	19
2:A:261:TYR:O	2:A:290:SER:HB2	0.55	2.02	11	10

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:A:286:ASP:HB2	2:A:316:CYS:HB3	0.55	1.79	17	3
2:A:282:VAL:HG12	2:A:293:PRO:HD3	0.55	1.77	8	2
1:B:4:LYS:NZ	2:A:315:GLU:HA	0.54	2.17	18	3
2:A:299:THR:HG23	2:A:302:MET:SD	0.54	2.41	14	14
2:A:265:CYS:HB2	2:A:273:LYS:HB2	0.54	1.78	19	1
2:A:354:PRO:HG2	2:A:358:TRP:CD1	0.54	2.37	9	4
1:B:3:THR:HG21	2:A:343:MET:SD	0.54	2.42	17	2
2:A:311:TRP:NE1	2:A:338:ASP:OD2	0.54	2.40	14	2
2:A:261:TYR:CD1	2:A:266:LEU:HB3	0.54	2.38	20	1
2:A:334:CYS:HB2	2:A:360:CYS:HB3	0.54	1.80	3	14
2:A:271:MET:HE3	2:A:271:MET:HA	0.54	1.78	10	5
2:A:322:CYS:SG	2:A:324:THR:HG23	0.54	2.43	18	4
2:A:314:ILE:C	2:A:316:CYS:H	0.53	2.11	10	9
1:B:4:LYS:HG3	2:A:331:LEU:HB3	0.53	1.80	16	4
2:A:267:GLY:HA2	2:A:273:LYS:HE3	0.53	1.81	10	2
1:B:3:THR:HG22	2:A:332:LEU:CD2	0.53	2.34	20	14
2:A:317:LYS:NZ	2:A:317:LYS:O	0.53	2.41	14	1
2:A:282:VAL:HG12	2:A:283:SER:H	0.53	1.62	9	18
1:B:1:ALA:CB	2:A:332:LEU:HD22	0.53	2.34	3	6
2:A:313:CYS:O	2:A:313:CYS:SG	0.53	2.67	20	19
1:B:1:ALA:HB2	2:A:354:PRO:CD	0.53	2.33	14	1
2:A:339:ARG:HD2	2:A:360:CYS:SG	0.52	2.44	7	5
2:A:328:ASP:HA	2:A:331:LEU:CB	0.52	2.34	14	12
2:A:341:TYR:CB	2:A:346:LEU:HD22	0.52	2.34	2	14
2:A:284:CYS:HB3	2:A:289:ARG:N	0.52	2.19	18	2
1:B:1:ALA:HB3	2:A:332:LEU:HD22	0.52	1.80	3	4
1:B:1:ALA:HB2	2:A:358:TRP:HB2	0.52	1.81	18	10
2:A:346:LEU:H	2:A:346:LEU:CD2	0.52	2.18	10	8
2:A:299:THR:HG23	2:A:302:MET:HG3	0.52	1.82	18	10
2:A:314:ILE:HG22	2:A:315:GLU:CD	0.52	2.29	16	2
1:B:1:ALA:CB	2:A:354:PRO:HD2	0.51	2.35	14	3
2:A:336:ASP:CB	2:A:363:CYS:SG	0.51	2.98	19	2
1:B:2:ARG:O	2:A:332:LEU:HA	0.51	2.05	14	1
2:A:300:LEU:HD13	2:A:300:LEU:O	0.51	2.06	4	20
2:A:293:PRO:CG	2:A:307:LYS:HZ1	0.51	2.18	2	4
2:A:309:TYR:OH	2:A:337:CYS:HB2	0.51	2.05	20	4
2:A:321:LEU:HD21	2:A:341:TYR:CE2	0.51	2.41	15	12
2:A:333:PHE:HA	2:A:339:ARG:O	0.51	2.05	13	3
1:B:4:LYS:HE3	2:A:314:ILE:O	0.51	2.04	2	6
1:B:4:LYS:HB3	1:B:4:LYS:NZ	0.51	2.21	3	1
2:A:282:VAL:HG12	2:A:283:SER:N	0.51	2.20	9	18

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:A:347:ASN:N	2:A:348:PRO:CD	0.51	2.74	17	17
2:A:314:ILE:HG23	2:A:333:PHE:CE2	0.51	2.41	20	2
2:A:341:TYR:CB	2:A:346:LEU:CD2	0.51	2.89	17	14
2:A:285:ALA:HB3	2:A:312:GLN:HG2	0.50	1.83	16	12
2:A:342:HIS:O	2:A:345:CYS:N	0.50	2.45	15	19
2:A:350:VAL:CG1	2:A:354:PRO:HD3	0.50	2.37	12	11
2:A:262:CYS:O	2:A:266:LEU:N	0.50	2.44	17	1
2:A:284:CYS:SG	2:A:288:GLY:N	0.50	2.83	20	1
2:A:281:LEU:HD22	2:A:290:SER:OG	0.50	2.07	12	4
2:A:306:VAL:HG12	2:A:338:ASP:CG	0.50	2.32	19	2
2:A:346:LEU:CD2	2:A:346:LEU:H	0.50	2.20	2	8
2:A:296:LEU:O	2:A:297:GLN:HB2	0.50	2.07	15	18
2:A:320:ILE:HG22	2:A:340:GLY:O	0.50	2.07	2	8
2:A:341:TYR:HB3	2:A:346:LEU:HD12	0.50	1.83	7	1
1:B:4:LYS:HE3	2:A:315:GLU:HA	0.50	1.84	9	1
2:A:302:MET:HG2	2:A:336:ASP:C	0.49	2.32	17	10
2:A:336:ASP:HB2	2:A:363:CYS:SG	0.49	2.47	19	2
2:A:347:ASN:CG	2:A:348:PRO:HD3	0.49	2.32	19	1
2:A:354:PRO:HG2	2:A:358:TRP:HB2	0.49	1.85	20	17
2:A:284:CYS:CB	2:A:313:CYS:HB3	0.49	2.37	20	2
1:B:1:ALA:HA	1:B:2:ARG:HH21	0.49	1.67	17	1
2:A:267:GLY:HA2	2:A:273:LYS:CE	0.49	2.38	4	1
1:B:1:ALA:HB3	2:A:354:PRO:CG	0.49	2.38	17	1
1:B:1:ALA:N	2:A:356:GLY:N	0.49	2.61	17	1
2:A:285:ALA:HB2	2:A:310:LYS:CD	0.49	2.37	4	8
2:A:324:THR:O	2:A:325:SER:CB	0.49	2.61	4	7
2:A:346:LEU:HD13	2:A:358:TRP:CZ2	0.49	2.43	17	4
2:A:330:GLN:HE21	2:A:330:GLN:HA	0.49	1.68	10	5
2:A:317:LYS:CD	2:A:331:LEU:HD11	0.49	2.38	14	1
2:A:353:PRO:O	2:A:355:GLU:N	0.49	2.46	17	1
2:A:306:VAL:HG12	2:A:338:ASP:OD2	0.48	2.08	2	1
2:A:341:TYR:CE1	2:A:360:CYS:HB2	0.48	2.43	7	1
2:A:285:ALA:HB2	2:A:310:LYS:HB3	0.48	1.84	18	1
2:A:282:VAL:HG23	2:A:291:GLY:O	0.48	2.08	2	18
2:A:273:LYS:N	2:A:273:LYS:HD3	0.48	2.22	10	1
1:B:4:LYS:HE2	2:A:314:ILE:O	0.48	2.08	18	3
2:A:355:GLU:CD	2:A:355:GLU:H	0.48	2.17	18	3
2:A:314:ILE:HG23	2:A:333:PHE:CZ	0.48	2.43	18	2
2:A:281:LEU:HB3	2:A:290:SER:HB3	0.48	1.86	8	9
2:A:318:SER:HB2	2:A:324:THR:C	0.48	2.33	2	5
1:B:1:ALA:HB1	2:A:354:PRO:HD2	0.48	1.84	12	1

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:A:317:LYS:O	2:A:331:LEU:HD21	0.48	2.09	7	5
2:A:328:ASP:C	2:A:330:GLN:N	0.48	2.70	11	18
1:B:3:THR:HG22	2:A:332:LEU:HD21	0.48	1.86	20	4
2:A:280:GLU:HG3	2:A:281:LEU:N	0.48	2.24	10	3
1:B:4:LYS:HZ3	2:A:315:GLU:HG3	0.48	1.69	9	1
2:A:347:ASN:O	2:A:349:PRO:HD3	0.48	2.09	2	10
2:A:262:CYS:HA	2:A:290:SER:HG	0.47	1.69	1	2
2:A:296:LEU:HD13	2:A:298:PHE:CE2	0.47	2.44	3	4
2:A:350:VAL:O	2:A:351:ALA:HB3	0.47	2.09	12	15
2:A:322:CYS:SG	2:A:324:THR:CG2	0.47	2.98	8	1
2:A:327:ASN:ND2	2:A:344:TYR:OH	0.47	2.47	15	8
2:A:268:GLY:O	2:A:292:HIS:NE2	0.47	2.47	2	6
2:A:330:GLN:HA	2:A:343:MET:SD	0.47	2.50	15	5
2:A:341:TYR:HB3	2:A:346:LEU:CD1	0.47	2.39	7	1
2:A:343:MET:O	2:A:346:LEU:HG	0.47	2.10	12	17
1:B:1:ALA:N	2:A:354:PRO:HB2	0.47	2.24	8	3
2:A:317:LYS:HZ3	2:A:333:PHE:HD2	0.47	1.44	2	1
2:A:334:CYS:SG	2:A:337:CYS:N	0.47	2.87	9	2
2:A:287:CYS:HB2	2:A:289:ARG:HG3	0.47	1.87	20	3
2:A:352:GLU:O	2:A:353:PRO:C	0.47	2.57	8	17
2:A:328:ASP:C	2:A:330:GLN:H	0.47	2.18	20	7
2:A:346:LEU:N	2:A:346:LEU:HD12	0.47	2.24	7	1
2:A:312:GLN:NE2	2:A:317:LYS:HA	0.47	2.25	16	1
2:A:292:HIS:HB2	2:A:295:CYS:HB2	0.47	1.87	15	18
2:A:327:ASN:C	2:A:329:ASP:N	0.47	2.72	8	10
2:A:324:THR:OG1	2:A:326:GLU:HG3	0.47	2.10	3	2
2:A:328:ASP:O	2:A:330:GLN:N	0.47	2.48	11	2
1:B:4:LYS:HB3	2:A:328:ASP:HB2	0.47	1.87	12	4
2:A:303:THR:O	2:A:307:LYS:HD2	0.46	2.10	14	1
2:A:346:LEU:H	2:A:346:LEU:HD13	0.46	1.70	7	1
2:A:317:LYS:HD3	2:A:338:ASP:O	0.46	2.10	11	9
2:A:265:CYS:SG	2:A:273:LYS:HB2	0.46	2.50	4	1
2:A:293:PRO:CG	2:A:303:THR:HG23	0.46	2.41	14	11
2:A:328:ASP:HA	2:A:331:LEU:HB2	0.46	1.87	8	5
2:A:334:CYS:SG	2:A:338:ASP:N	0.46	2.89	9	1
2:A:311:TRP:HE1	2:A:317:LYS:NZ	0.46	2.09	19	1
2:A:314:ILE:C	2:A:316:CYS:N	0.46	2.73	19	9
2:A:353:PRO:C	2:A:355:GLU:H	0.46	2.19	17	1
2:A:265:CYS:C	2:A:266:LEU:HD12	0.46	2.35	17	6
1:B:4:LYS:HB2	2:A:328:ASP:O	0.46	2.11	16	3
2:A:265:CYS:O	2:A:273:LYS:NZ	0.45	2.46	12	3

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:A:303:THR:CG2	2:A:307:LYS:HE3	0.45	2.42	18	11
2:A:361:HIS:CD2	2:A:361:HIS:C	0.45	2.94	20	9
2:A:322:CYS:SG	2:A:324:THR:OG1	0.45	2.68	16	2
2:A:271:MET:HG2	2:A:273:LYS:NZ	0.45	2.26	19	1
2:A:319:CYS:HA	2:A:340:GLY:C	0.45	2.36	19	3
2:A:354:PRO:C	2:A:356:GLY:H	0.45	2.19	17	1
2:A:311:TRP:O	2:A:317:LYS:NZ	0.45	2.50	16	1
2:A:353:PRO:C	2:A:355:GLU:N	0.45	2.74	17	1
2:A:268:GLY:C	2:A:281:LEU:HD11	0.45	2.36	6	2
2:A:301:ASN:HB3	2:A:336:ASP:O	0.45	2.12	20	1
2:A:334:CYS:SG	2:A:336:ASP:N	0.45	2.89	3	6
2:A:267:GLY:CA	2:A:273:LYS:HG3	0.45	2.42	4	3
2:A:342:HIS:O	2:A:343:MET:C	0.45	2.60	7	1
2:A:320:ILE:N	2:A:340:GLY:O	0.45	2.49	19	4
2:A:305:ALA:CB	2:A:337:CYS:HB3	0.45	2.42	9	1
2:A:266:LEU:HD12	2:A:266:LEU:N	0.45	2.27	10	7
2:A:327:ASN:O	2:A:329:ASP:N	0.45	2.49	8	3
2:A:268:GLY:HA2	2:A:281:LEU:HD11	0.45	1.89	19	2
2:A:317:LYS:HZ2	2:A:317:LYS:C	0.45	2.20	14	1
2:A:272:ASN:OD1	2:A:279:GLU:HB3	0.45	2.12	17	2
2:A:281:LEU:HD23	2:A:292:HIS:CD2	0.45	2.46	15	9
2:A:305:ALA:HB1	2:A:309:TYR:OH	0.45	2.12	5	1
2:A:324:THR:OG1	2:A:326:GLU:HG2	0.45	2.12	8	1
2:A:330:GLN:HB3	2:A:343:MET:SD	0.45	2.51	11	3
2:A:350:VAL:HG13	2:A:352:GLU:O	0.45	2.12	14	1
2:A:360:CYS:O	2:A:363:CYS:SG	0.44	2.75	7	4
2:A:354:PRO:O	2:A:356:GLY:N	0.44	2.50	17	1
2:A:317:LYS:HE3	2:A:340:GLY:HA3	0.44	1.89	18	1
2:A:267:GLY:HA2	2:A:273:LYS:HG3	0.44	1.88	4	1
2:A:293:PRO:HG3	2:A:307:LYS:HZ1	0.44	1.71	2	3
2:A:293:PRO:O	2:A:298:PHE:N	0.44	2.50	11	4
2:A:341:TYR:HH	2:A:361:HIS:CG	0.44	2.29	5	2
1:B:1:ALA:HB1	2:A:332:LEU:HD22	0.44	1.88	9	1
2:A:341:TYR:HH	2:A:361:HIS:CE1	0.44	2.30	19	1
2:A:306:VAL:HB	2:A:311:TRP:HB2	0.44	1.89	2	3
2:A:344:TYR:N	2:A:344:TYR:CD1	0.44	2.86	20	2
2:A:339:ARG:HE	2:A:362:LEU:HB2	0.44	1.73	15	1
2:A:262:CYS:O	2:A:266:LEU:HA	0.44	2.13	4	4
1:B:1:ALA:H3	2:A:354:PRO:C	0.44	2.20	17	1
2:A:261:TYR:HD1	2:A:262:CYS:O	0.44	1.96	11	1
2:A:328:ASP:HA	2:A:331:LEU:HB3	0.44	1.89	14	1

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:A:324:THR:OG1	2:A:325:SER:N	0.44	2.51	20	3
2:A:332:LEU:HG	2:A:343:MET:HG3	0.43	1.88	7	6
2:A:302:MET:HA	2:A:337:CYS:CA	0.43	2.43	2	3
2:A:334:CYS:SG	2:A:335:ASP:N	0.43	2.91	16	2
1:B:4:LYS:NZ	2:A:315:GLU:HG3	0.43	2.28	9	2
2:A:292:HIS:N	2:A:295:CYS:SG	0.43	2.91	11	1
2:A:261:TYR:CE1	2:A:266:LEU:HD23	0.43	2.49	3	9
2:A:274:LYS:HD3	2:A:295:CYS:SG	0.43	2.53	4	1
2:A:271:MET:HE3	2:A:278:PRO:HD3	0.43	1.89	13	1
2:A:319:CYS:HB3	2:A:324:THR:O	0.43	2.13	15	1
2:A:314:ILE:HD13	2:A:333:PHE:CE2	0.43	2.48	2	1
1:B:4:LYS:HG3	2:A:331:LEU:HG	0.43	1.91	3	1
2:A:328:ASP:N	2:A:328:ASP:OD1	0.43	2.51	16	1
1:B:1:ALA:N	2:A:355:GLU:N	0.43	2.65	17	1
2:A:344:TYR:CD1	2:A:344:TYR:N	0.43	2.87	11	1
2:A:320:ILE:HD13	2:A:339:ARG:HE	0.43	1.73	17	1
2:A:293:PRO:N	2:A:296:LEU:HD12	0.43	2.29	11	5
2:A:339:ARG:HH11	2:A:362:LEU:HG	0.43	1.72	5	1
2:A:303:THR:CG2	2:A:307:LYS:NZ	0.43	2.82	14	1
2:A:337:CYS:O	2:A:338:ASP:OD1	0.43	2.36	19	1
1:B:1:ALA:CB	2:A:354:PRO:CD	0.43	2.96	9	1
2:A:317:LYS:NZ	2:A:317:LYS:C	0.43	2.76	14	1
2:A:261:TYR:HB2	2:A:266:LEU:C	0.43	2.39	17	2
2:A:289:ARG:HD2	2:A:313:CYS:SG	0.42	2.54	17	2
2:A:301:ASN:ND2	2:A:336:ASP:O	0.42	2.52	9	6
2:A:262:CYS:SG	2:A:265:CYS:N	0.42	2.90	11	1
2:A:317:LYS:HE3	2:A:333:PHE:CE2	0.42	2.49	12	1
1:B:1:ALA:HB2	2:A:354:PRO:CB	0.42	2.44	14	1
2:A:337:CYS:O	2:A:338:ASP:HB2	0.42	2.14	14	1
2:A:318:SER:HA	2:A:325:SER:HB3	0.42	1.91	19	1
2:A:325:SER:C	2:A:342:HIS:HE2	0.42	2.23	19	1
2:A:291:GLY:C	2:A:296:LEU:HD11	0.42	2.40	17	2
2:A:362:LEU:HD13	2:A:362:LEU:C	0.42	2.39	20	2
2:A:314:ILE:HA	2:A:317:LYS:HE3	0.42	1.91	19	1
2:A:314:ILE:HG22	2:A:315:GLU:HG2	0.42	1.89	1	3
1:B:4:LYS:HD2	2:A:331:LEU:HD23	0.42	1.92	17	1
2:A:337:CYS:O	2:A:338:ASP:OD2	0.42	2.37	2	1
2:A:312:GLN:NE2	2:A:316:CYS:O	0.42	2.52	8	1
2:A:262:CYS:SG	2:A:264:PHE:N	0.42	2.91	11	1
2:A:265:CYS:HB3	2:A:274:LYS:CG	0.42	2.42	1	2
2:A:298:PHE:HB3	2:A:302:MET:HB2	0.42	1.91	8	2

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:A:360:CYS:O	2:A:363:CYS:HB2	0.42	2.14	19	2
2:A:320:ILE:HG13	2:A:339:ARG:NH2	0.42	2.29	14	1
2:A:274:LYS:HB3	2:A:274:LYS:NZ	0.42	2.30	1	1
2:A:269:SER:HA	2:A:281:LEU:HG	0.42	1.91	10	2
1:B:1:ALA:HB2	2:A:354:PRO:CG	0.42	2.45	14	1
2:A:292:HIS:CB	2:A:295:CYS:SG	0.42	3.04	11	1
2:A:334:CYS:O	2:A:338:ASP:HA	0.42	2.14	6	2
2:A:362:LEU:HD13	2:A:362:LEU:O	0.42	2.15	9	3
2:A:302:MET:CE	2:A:338:ASP:OD1	0.42	2.68	14	1
1:B:4:LYS:HD2	2:A:331:LEU:CD2	0.42	2.44	3	1
2:A:320:ILE:CG2	2:A:341:TYR:CE1	0.42	3.03	14	2
2:A:267:GLY:HA3	2:A:273:LYS:HG2	0.42	1.92	6	1
2:A:342:HIS:C	2:A:344:TYR:N	0.41	2.78	12	10
2:A:269:SER:HB2	2:A:281:LEU:H	0.41	1.74	12	1
2:A:314:ILE:O	2:A:317:LYS:N	0.41	2.52	20	1
2:A:300:LEU:O	2:A:304:GLU:HB2	0.41	2.15	11	2
2:A:262:CYS:SG	2:A:263:ASP:N	0.41	2.93	11	1
2:A:317:LYS:HG2	2:A:318:SER:N	0.41	2.30	14	1
1:B:2:ARG:HD3	1:B:2:ARG:H	0.41	1.75	11	1
2:A:347:ASN:OD1	2:A:348:PRO:HD3	0.41	2.16	19	1
2:A:317:LYS:NZ	2:A:331:LEU:HD11	0.41	2.27	12	1
2:A:272:ASN:OD1	2:A:295:CYS:SG	0.41	2.78	10	1
2:A:362:LEU:C	2:A:362:LEU:HD13	0.41	2.41	15	1
2:A:330:GLN:HB3	2:A:343:MET:HB2	0.41	1.91	18	1
2:A:320:ILE:HD13	2:A:339:ARG:CZ	0.41	2.46	6	1
1:B:4:LYS:CE	2:A:315:GLU:HA	0.41	2.46	16	1
2:A:271:MET:HB3	2:A:273:LYS:HE2	0.41	1.93	10	1
2:A:266:LEU:HD23	2:A:266:LEU:N	0.41	2.31	20	1
2:A:347:ASN:C	2:A:349:PRO:HD3	0.41	2.41	9	1
2:A:327:ASN:OD1	2:A:327:ASN:N	0.41	2.54	10	1
2:A:330:GLN:HA	2:A:330:GLN:HE21	0.41	1.74	15	1
2:A:341:TYR:OH	2:A:361:HIS:CG	0.41	2.74	16	1
2:A:325:SER:O	2:A:326:GLU:C	0.41	2.64	19	1
2:A:270:ASN:O	2:A:270:ASN:CG	0.41	2.64	5	2
2:A:330:GLN:HG3	2:A:344:TYR:CZ	0.41	2.51	11	1
2:A:269:SER:OG	2:A:281:LEU:N	0.41	2.52	17	1
2:A:347:ASN:ND2	2:A:347:ASN:H	0.41	2.14	19	1
2:A:330:GLN:NE2	2:A:343:MET:HE2	0.41	2.31	20	1
2:A:317:LYS:HZ1	2:A:340:GLY:HA2	0.40	1.76	2	1
2:A:331:LEU:HD11	2:A:340:GLY:CA	0.40	2.46	6	1
2:A:286:ASP:HB2	2:A:316:CYS:CB	0.40	2.44	17	1

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:4:LYS:HD3	2:A:328:ASP:HB3	0.40	1.94	7	1
2:A:346:LEU:HD23	2:A:358:TRP:HE1	0.40	1.77	7	1
2:A:346:LEU:HD13	2:A:358:TRP:NE1	0.40	2.32	9	1
2:A:262:CYS:O	2:A:266:LEU:CA	0.40	2.70	10	1
2:A:269:SER:N	2:A:281:LEU:CD1	0.40	2.85	1	1
2:A:341:TYR:HB2	2:A:358:TRP:CH2	0.40	2.50	6	1
2:A:332:LEU:O	2:A:340:GLY:HA2	0.40	2.16	16	1
2:A:284:CYS:SG	2:A:286:ASP:N	0.40	2.94	19	1
2:A:265:CYS:SG	2:A:274:LYS:CG	0.40	3.08	11	1
2:A:341:TYR:OH	2:A:361:HIS:ND1	0.40	2.55	14	1
2:A:269:SER:N	2:A:281:LEU:HD11	0.40	2.32	1	1
2:A:309:TYR:HB2	2:A:310:LYS:H	0.40	1.57	3	1
2:A:309:TYR:OH	2:A:337:CYS:HB3	0.40	2.16	5	1
2:A:354:PRO:HG2	2:A:358:TRP:CG	0.40	2.52	6	1
2:A:311:TRP:HE1	2:A:317:LYS:HZ3	0.40	1.59	7	1
2:A:285:ALA:CB	2:A:310:LYS:HD2	0.40	2.47	16	1

6.3 Torsion angles ⓘ

6.3.1 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 PDB entries followed by that with respect to all NMR entries. 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	B	3/20 (15%)	2±0 (72±16%)	0±1 (10±19%)	1±0 (18±17%)	0	3
2	A	101/114 (89%)	69±2 (69±2%)	22±3 (21±3%)	10±1 (10±1%)	1	9
All	All	2080/2680 (78%)	1428 (69%)	436 (21%)	216 (10%)	1	9

All 23 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
2	A	314	ILE	20
2	A	326	GLU	20
2	A	331	LEU	20
2	A	343	MET	20
2	A	348	PRO	20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Models (Total)
2	A	353	PRO	18
2	A	338	ASP	17
2	A	328	ASP	16
2	A	312	GLN	14
1	B	4	LYS	11
2	A	354	PRO	10
2	A	325	SER	6
2	A	339	ARG	6
2	A	319	CYS	4
2	A	334	CYS	4
2	A	317	LYS	2
2	A	358	TRP	2
2	A	356	GLY	1
2	A	346	LEU	1
2	A	289	ARG	1
2	A	271	MET	1
2	A	278	PRO	1
2	A	263	ASP	1

6.3.2 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 PDB entries followed by that with respect to all NMR entries. 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	B	3/15 (20%)	1±1 (48±20%)	2±1 (52±20%)	0	1
2	A	91/101 (90%)	72±3 (79±3%)	19±3 (21±3%)	3	32
All	All	1880/2320 (81%)	1473 (78%)	407 (22%)	3	30

All 55 unique residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
1	B	3	THR	20
2	A	262	CYS	20
2	A	299	THR	20
2	A	309	TYR	20
2	A	320	ILE	20
2	A	331	LEU	20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Models (Total)
2	A	336	ASP	20
2	A	346	LEU	20
2	A	301	ASN	16
2	A	362	LEU	15
2	A	280	GLU	15
2	A	328	ASP	15
2	A	341	TYR	15
2	A	273	LYS	14
2	A	310	LYS	12
2	A	352	GLU	12
2	A	363	CYS	10
2	A	359	SER	9
2	A	271	MET	8
2	A	324	THR	8
2	A	274	LYS	7
2	A	327	ASN	7
1	B	2	ARG	7
2	A	330	GLN	7
2	A	329	ASP	6
2	A	300	LEU	6
2	A	319	CYS	6
2	A	290	SER	4
2	A	337	CYS	4
1	B	4	LYS	4
2	A	338	ASP	3
2	A	317	LYS	3
2	A	339	ARG	3
2	A	334	CYS	3
2	A	344	TYR	3
2	A	272	ASN	2
2	A	284	CYS	2
2	A	361	HIS	2
2	A	282	VAL	2
2	A	350	VAL	2
2	A	270	ASN	1
2	A	263	ASP	1
2	A	326	GLU	1
2	A	289	ARG	1
2	A	304	GLU	1
2	A	314	ILE	1
2	A	355	GLU	1
2	A	265	CYS	1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Models (Total)
2	A	295	CYS	1
2	A	325	SER	1
2	A	269	SER	1
2	A	354	PRO	1
2	A	347	ASN	1
2	A	266	LEU	1
2	A	287	CYS	1

6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

6.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.6 Ligand geometry [i](#)

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

6.7 Other polymers [i](#)

There are no such molecules in this entry.

6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

7 Chemical shift validation

No chemical shift data were provided