Full wwPDB NMR Structure Validation Report (i)

Jun 12, 2024 – 04:17 PM EDT

PDB ID	:	2L5C
Title	:	Solution structures of human PIWI-like 1 PAZ domain
Authors	:	Zeng, L.; Zhang, Q.; Yan, K.; Zhou, M.
Deposited on	:	2010-10-29

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 (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 (i)) were used in the production of this report:

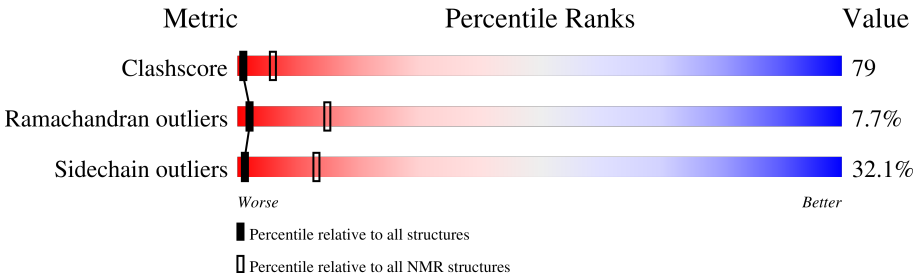
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

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	158937	12864
Ramachandran outliers	154571	11451
Sidechain outliers	154315	11428

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 <=5%

Mol	Chain	Length	Quality of chain
1	A	134	10% 41% 25% . 24%

2 Ensemble composition and analysis

This entry contains 20 models. Model 6 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	A:277-A:364, A:379-A:392 (102)	0.27	6

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. No single-model clusters were found.

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

3 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 2195 atoms, of which 1093 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Piwi-like protein 1.

Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	134	2195	698	1093	188	211	5	0

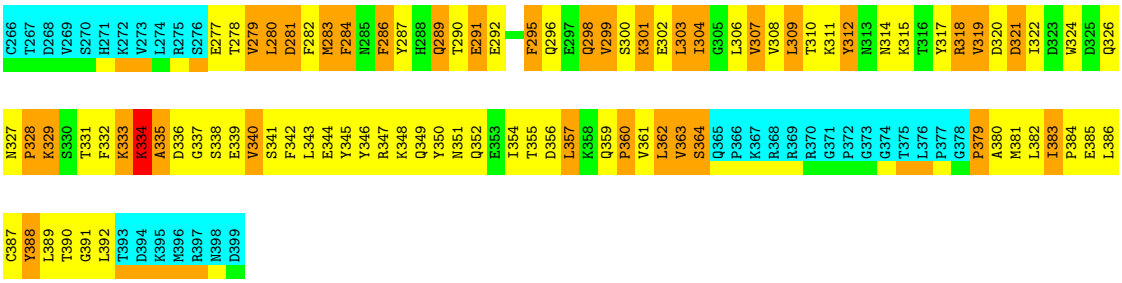
4 Residue-property plots

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: Piwi-like protein 1

Chain A:



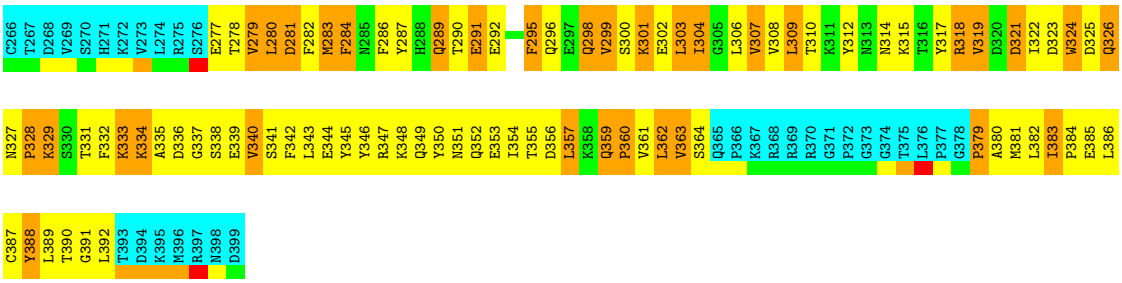
4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

• Molecule 1: Piwi-like protein 1

Chain A:



4.2.2 Score per residue for model 2

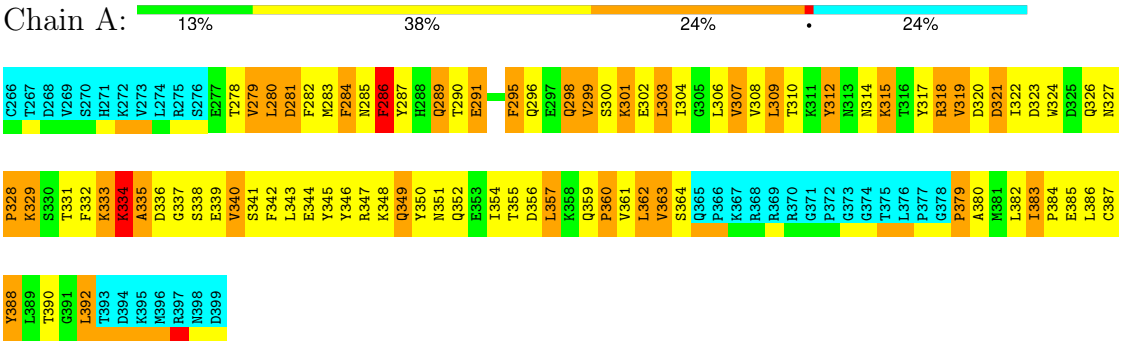
• Molecule 1: Piwi-like protein 1

Chain A:

4.2.3 Score per residue for model 3

• Molecule 1: Piwi-like protein 1

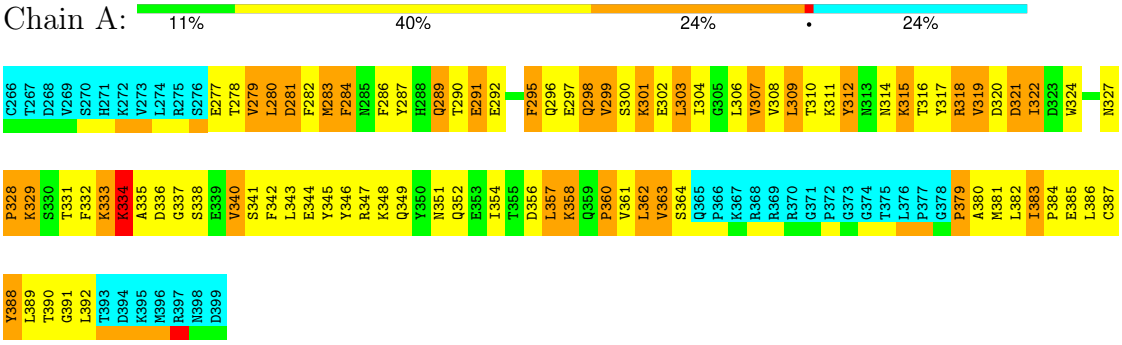
Chain A:



4.2.4 Score per residue for model 4

• Molecule 1: Piwi-like protein 1

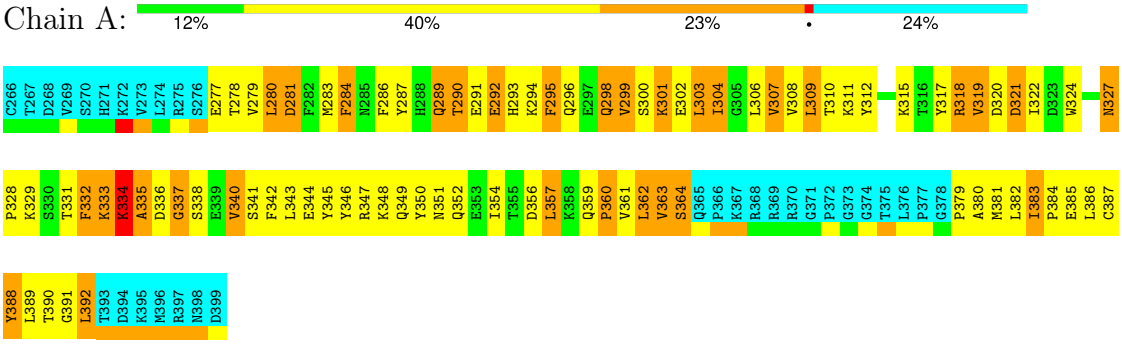
Chain A:



4.2.5 Score per residue for model 5

• Molecule 1: Piwi-like protein 1

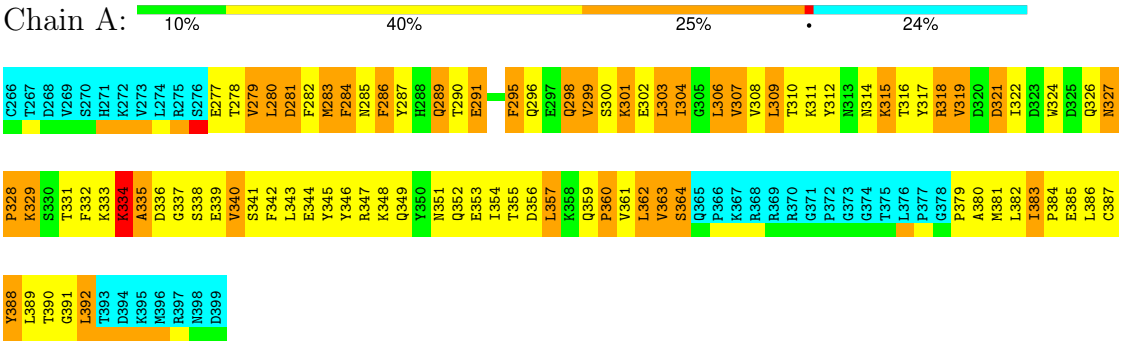
Chain A:



4.2.6 Score per residue for model 6 (medoid)

• Molecule 1: Piwi-like protein 1

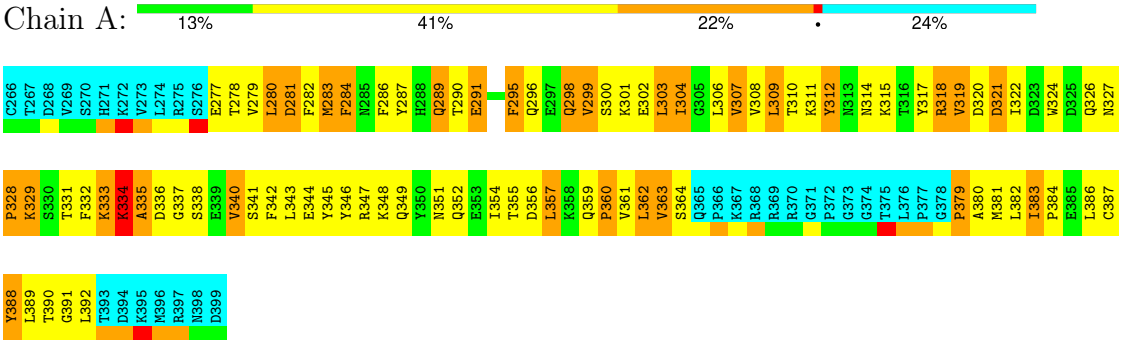
Chain A:



4.2.7 Score per residue for model 7

• Molecule 1: Piwi-like protein 1

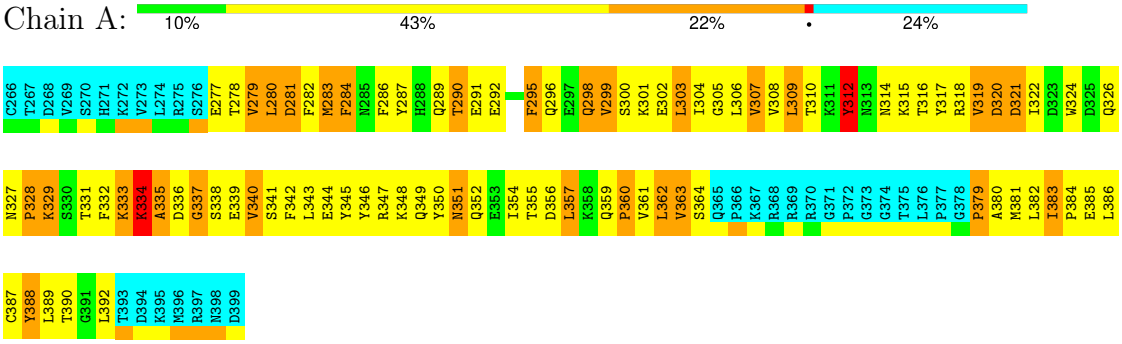
Chain A:



4.2.8 Score per residue for model 8

• Molecule 1: Piwi-like protein 1

Chain A:



4.2.9 Score per residue for model 9

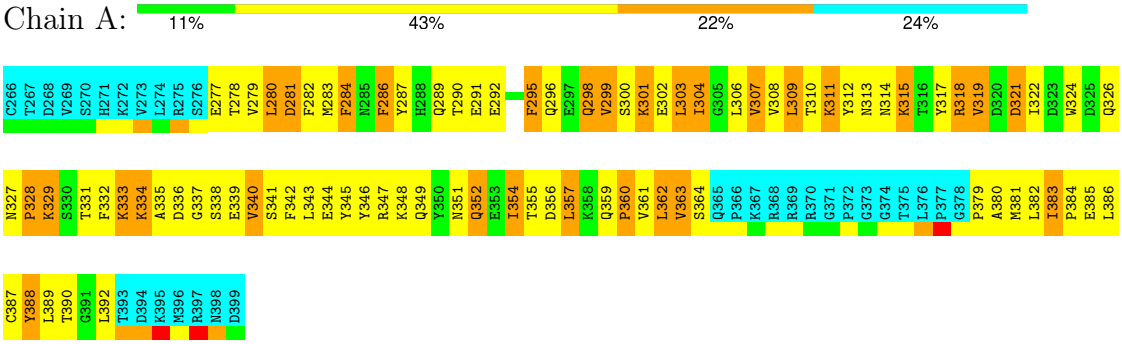
• Molecule 1: Piwi-like protein 1

Chain A:

4.2.10 Score per residue for model 10

• Molecule 1: Piwi-like protein 1

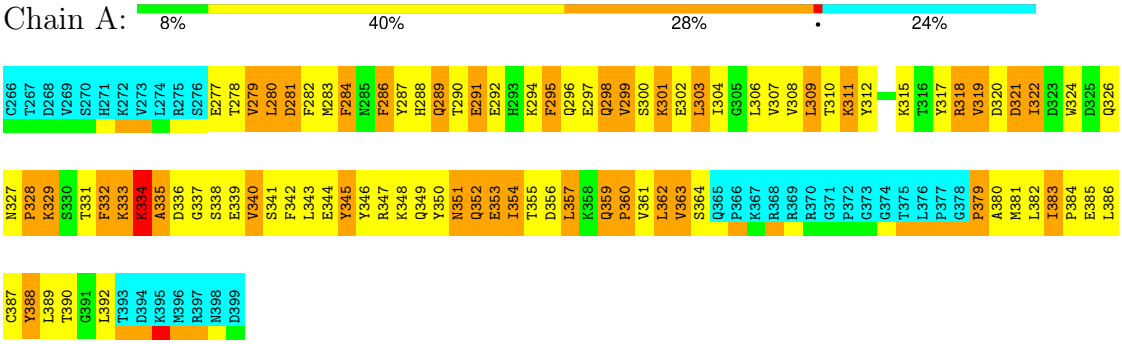
Chain A:



4.2.11 Score per residue for model 11

• Molecule 1: Piwi-like protein 1

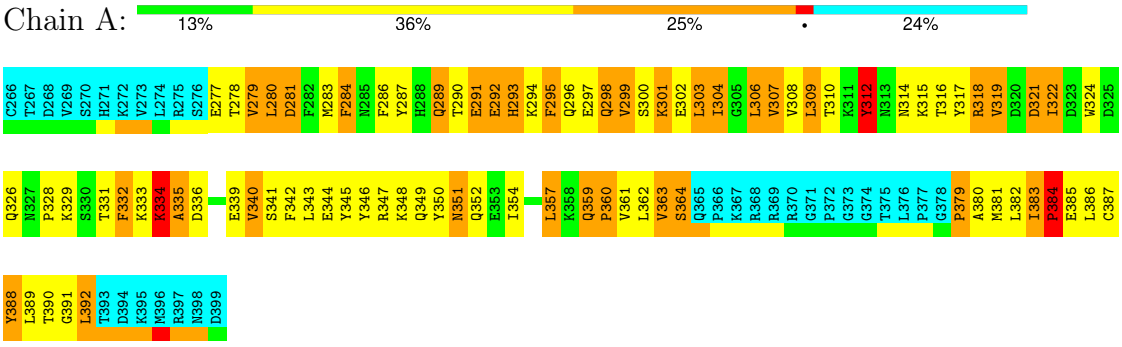
Chain A:



4.2.12 Score per residue for model 12

• Molecule 1: Piwi-like protein 1

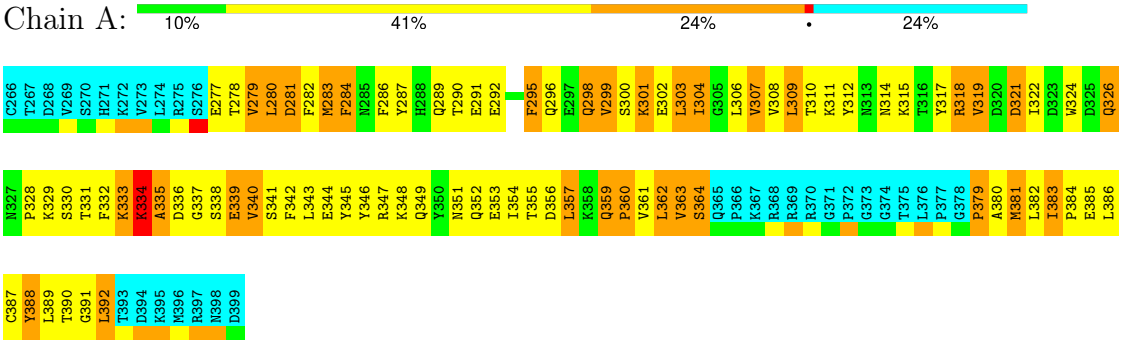
Chain A:



4.2.13 Score per residue for model 13

• Molecule 1: Piwi-like protein 1

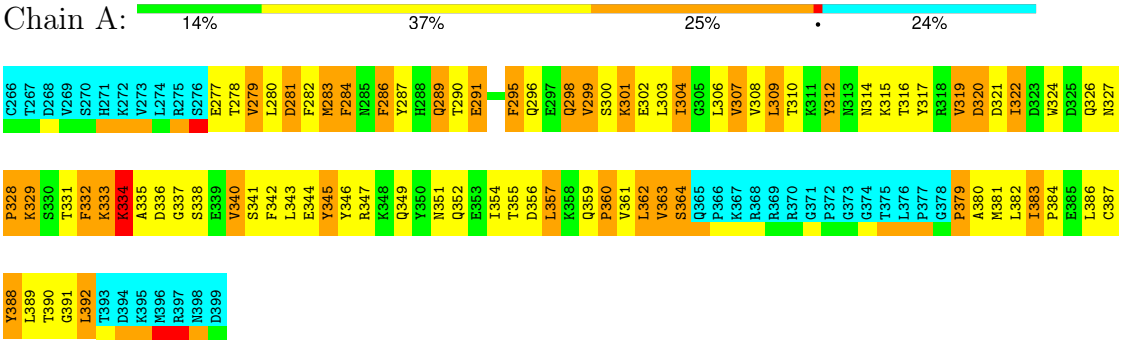
Chain A:



4.2.14 Score per residue for model 14

• Molecule 1: Piwi-like protein 1

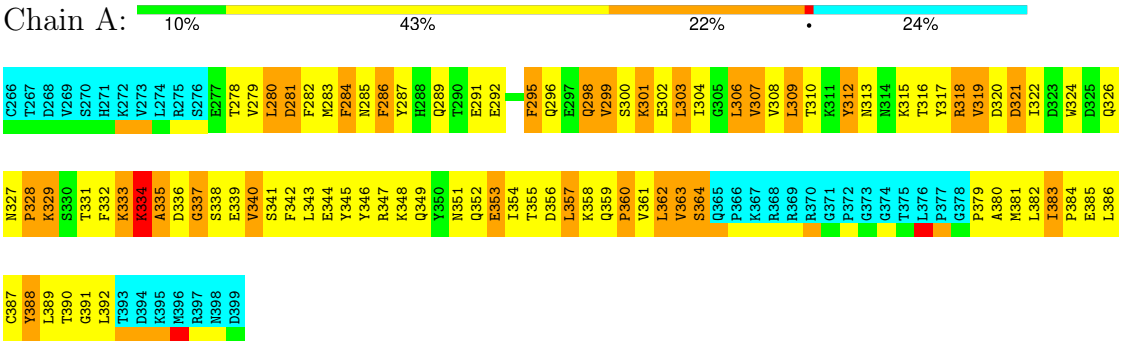
Chain A:



4.2.15 Score per residue for model 15

• Molecule 1: Piwi-like protein 1

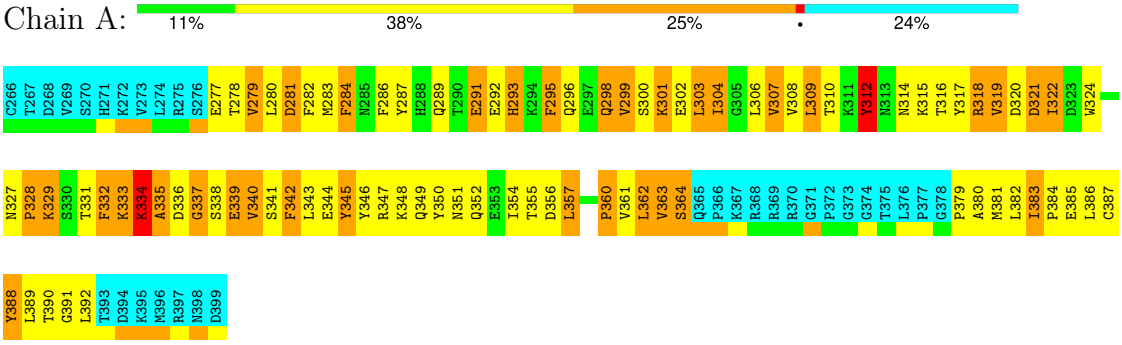
Chain A:



4.2.16 Score per residue for model 16

• Molecule 1: Piwi-like protein 1

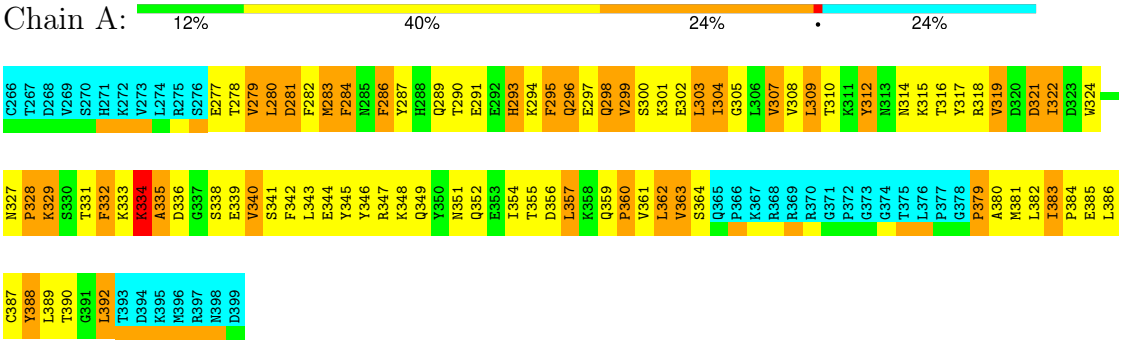
Chain A:



4.2.17 Score per residue for model 17

• Molecule 1: Piwi-like protein 1

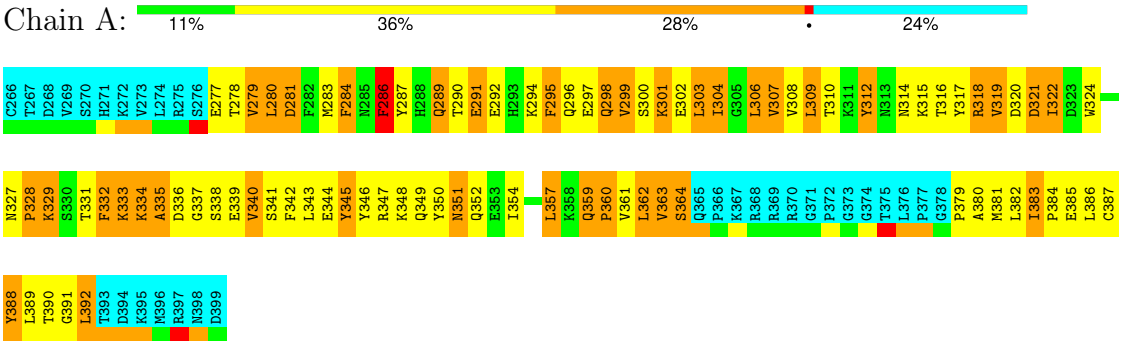
Chain A:



4.2.18 Score per residue for model 18

• Molecule 1: Piwi-like protein 1

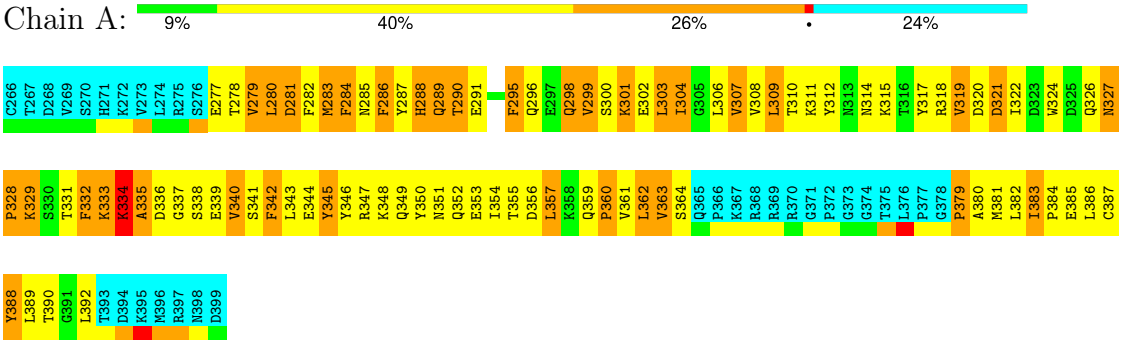
Chain A:



4.2.19 Score per residue for model 19

• Molecule 1: Piwi-like protein 1

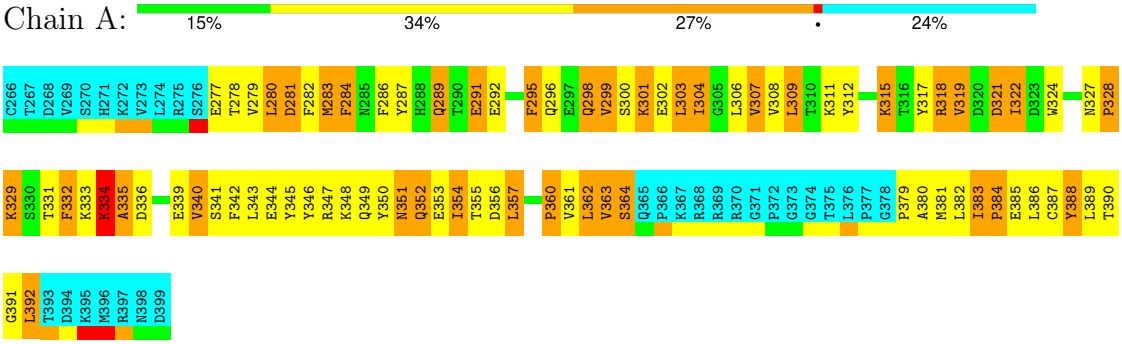
Chain A:



4.2.20 Score per residue for model 20

• Molecule 1: Piwi-like protein 1

Chain A:



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

6.1 Standard geometry

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	A	0.53±0.02	0±0/875 (0.0± 0.0%)	0.70±0.01	0±1/1185 (0.0± 0.0%)
All	All	0.53	0/17500 (0.0%)	0.70	8/23700 (0.0%)

There are no bond-length outliers.

All unique angle outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
1	A	286	PHE	CB-CG-CD2	-6.14	116.50	120.80	3	3
1	A	345	TYR	CB-CG-CD1	-5.36	117.78	121.00	18	5

There are no chirality outliers.

There are no planarity outliers.

6.2 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 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	A	854	835	833	133±6
All	All	17080	16700	16660	2666

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 79.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:303:LEU:HD12	1:A:322:ILE:HD13	0.99	1.30	12	6
1:A:340:VAL:HG23	1:A:344:GLU:HB2	0.94	1.40	8	20
1:A:303:LEU:HD12	1:A:322:ILE:CD1	0.86	2.01	18	13
1:A:317:TYR:HB2	1:A:382:LEU:HD11	0.86	1.45	8	17
1:A:279:VAL:HG23	1:A:283:MET:SD	0.85	2.12	14	15
1:A:299:VAL:HG23	1:A:303:LEU:HD21	0.82	1.50	15	19
1:A:343:LEU:HD13	1:A:354:ILE:HB	0.80	1.54	18	20
1:A:383:ILE:HG22	1:A:386:LEU:H	0.79	1.35	15	20
1:A:279:VAL:HG13	1:A:387:CYS:SG	0.79	2.17	7	5
1:A:309:LEU:HD22	1:A:309:LEU:O	0.79	1.77	2	18
1:A:334:LYS:HD2	1:A:340:VAL:HG11	0.78	1.53	2	4
1:A:317:TYR:CB	1:A:382:LEU:HD11	0.78	2.09	17	17
1:A:328:PRO:HA	1:A:342:PHE:HB2	0.77	1.56	12	17
1:A:334:LYS:HD2	1:A:340:VAL:CG1	0.77	2.08	18	13
1:A:333:LYS:O	1:A:335:ALA:N	0.76	2.18	13	20
1:A:382:LEU:HB3	1:A:387:CYS:SG	0.76	2.21	18	15
1:A:343:LEU:HA	1:A:354:ILE:HD12	0.74	1.59	12	20
1:A:303:LEU:HD23	1:A:322:ILE:HD13	0.74	1.59	14	1
1:A:279:VAL:HG21	1:A:362:LEU:HD21	0.74	1.58	9	20
1:A:307:VAL:HB	1:A:318:ARG:HD2	0.73	1.61	3	6
1:A:300:SER:HA	1:A:322:ILE:HD12	0.72	1.61	14	7
1:A:317:TYR:CD2	1:A:382:LEU:HD21	0.72	2.19	17	20
1:A:304:ILE:HD12	1:A:320:ASP:C	0.72	2.04	8	5
1:A:340:VAL:HG23	1:A:344:GLU:CB	0.72	2.15	14	1
1:A:307:VAL:HA	1:A:318:ARG:HA	0.71	1.62	7	15
1:A:278:THR:HG22	1:A:388:TYR:N	0.71	2.01	17	20
1:A:364:SER:HB3	1:A:380:ALA:HB3	0.70	1.61	6	19
1:A:304:ILE:HD12	1:A:322:ILE:HD11	0.70	1.62	16	3
1:A:279:VAL:HB	1:A:303:LEU:HD22	0.70	1.63	15	19
1:A:364:SER:O	1:A:379:PRO:HA	0.70	1.86	18	10
1:A:309:LEU:HD22	1:A:309:LEU:C	0.69	2.07	10	18
1:A:333:LYS:HE2	1:A:333:LYS:H	0.69	1.48	13	1
1:A:328:PRO:HB2	1:A:357:LEU:HB3	0.68	1.65	18	20
1:A:328:PRO:HB3	1:A:354:ILE:HD13	0.68	1.64	16	16
1:A:384:PRO:HA	1:A:387:CYS:SG	0.68	2.29	7	5
1:A:352:GLN:HE21	1:A:386:LEU:HD22	0.67	1.49	3	3
1:A:334:LYS:HG2	1:A:338:SER:O	0.67	1.89	14	1
1:A:340:VAL:HG23	1:A:344:GLU:HB3	0.67	1.65	14	1
1:A:334:LYS:HG3	1:A:338:SER:HB2	0.66	1.64	14	1
1:A:364:SER:OG	1:A:382:LEU:HD12	0.66	1.90	8	1
1:A:334:LYS:HD3	1:A:340:VAL:CG1	0.66	2.21	14	1
1:A:359:GLN:HG3	1:A:384:PRO:HB2	0.65	1.68	7	2

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:279:VAL:HG22	1:A:387:CYS:SG	0.65	2.32	15	4
1:A:280:LEU:HD21	1:A:359:GLN:OE1	0.65	1.91	19	2
1:A:283:MET:SD	1:A:384:PRO:HB3	0.65	2.32	7	15
1:A:283:MET:O	1:A:286:PHE:HB2	0.65	1.91	3	14
1:A:280:LEU:HB2	1:A:384:PRO:C	0.64	2.12	20	19
1:A:318:ARG:HD3	1:A:318:ARG:H	0.64	1.51	1	6
1:A:328:PRO:HG2	1:A:357:LEU:HA	0.64	1.70	5	20
1:A:318:ARG:HD3	1:A:318:ARG:N	0.64	2.07	1	6
1:A:279:VAL:O	1:A:282:PHE:N	0.63	2.31	7	15
1:A:346:TYR:CE2	1:A:383:ILE:HG12	0.63	2.28	4	20
1:A:344:GLU:HB3	1:A:348:LYS:HE3	0.63	1.71	11	14
1:A:324:TRP:HA	1:A:360:PRO:HB3	0.63	1.70	14	20
1:A:334:LYS:C	1:A:336:ASP:H	0.63	1.97	14	14
1:A:329:LYS:HD2	1:A:357:LEU:HD13	0.63	1.70	18	16
1:A:312:TYR:HB3	1:A:350:TYR:HB3	0.63	1.70	18	1
1:A:279:VAL:O	1:A:283:MET:HG3	0.62	1.93	2	15
1:A:333:LYS:HB3	1:A:337:GLY:C	0.62	2.15	11	17
1:A:318:ARG:H	1:A:318:ARG:HE	0.62	1.37	12	1
1:A:329:LYS:HG3	1:A:357:LEU:HD13	0.62	1.71	13	2
1:A:362:LEU:HB2	1:A:382:LEU:HB2	0.62	1.71	1	20
1:A:312:TYR:CE1	1:A:386:LEU:HD13	0.62	2.29	18	1
1:A:300:SER:O	1:A:304:ILE:HG12	0.62	1.94	8	13
1:A:329:LYS:HE3	1:A:357:LEU:HD13	0.62	1.71	5	3
1:A:279:VAL:HG22	1:A:384:PRO:HA	0.61	1.72	10	20
1:A:306:LEU:HD21	1:A:391:GLY:HA2	0.61	1.72	12	13
1:A:316:THR:HG22	1:A:390:THR:HG21	0.61	1.72	17	2
1:A:308:VAL:CG2	1:A:382:LEU:HD13	0.61	2.25	20	16
1:A:346:TYR:HB3	1:A:352:GLN:NE2	0.61	2.11	20	2
1:A:299:VAL:O	1:A:303:LEU:HG	0.61	1.95	10	19
1:A:329:LYS:CG	1:A:357:LEU:HD22	0.61	2.26	13	2
1:A:340:VAL:CG2	1:A:344:GLU:HB2	0.60	2.25	1	16
1:A:354:ILE:HG12	1:A:386:LEU:HD11	0.60	1.71	18	3
1:A:383:ILE:HG22	1:A:386:LEU:N	0.60	2.10	15	20
1:A:362:LEU:HD11	1:A:384:PRO:HA	0.60	1.74	5	20
1:A:280:LEU:HD23	1:A:359:GLN:HG2	0.60	1.74	3	1
1:A:277:GLU:O	1:A:389:LEU:HD12	0.60	1.97	2	17
1:A:383:ILE:O	1:A:387:CYS:SG	0.60	2.56	1	15
1:A:300:SER:HA	1:A:322:ILE:CD1	0.59	2.27	18	7
1:A:361:VAL:HG12	1:A:362:LEU:N	0.59	2.12	5	20
1:A:317:TYR:HD2	1:A:382:LEU:HD21	0.59	1.57	16	20
1:A:328:PRO:O	1:A:343:LEU:HB2	0.59	1.97	5	18

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:304:ILE:CD1	1:A:322:ILE:HD11	0.59	2.27	9	9
1:A:321:ASP:HB3	1:A:363:VAL:HG13	0.59	1.73	5	20
1:A:331:THR:HA	1:A:341:SER:HA	0.59	1.73	12	20
1:A:308:VAL:HG22	1:A:317:TYR:O	0.59	1.98	7	16
1:A:334:LYS:O	1:A:336:ASP:N	0.58	2.35	16	20
1:A:312:TYR:HE1	1:A:346:TYR:HB3	0.58	1.58	18	1
1:A:280:LEU:HB2	1:A:384:PRO:O	0.58	1.98	10	3
1:A:280:LEU:HD12	1:A:385:GLU:HB2	0.58	1.75	18	12
1:A:356:ASP:O	1:A:359:GLN:NE2	0.58	2.36	15	1
1:A:318:ARG:CD	1:A:318:ARG:N	0.58	2.64	3	1
1:A:345:TYR:O	1:A:349:GLN:HB3	0.58	1.99	16	20
1:A:286:PHE:CE2	1:A:298:GLN:HB2	0.58	2.33	18	20
1:A:310:THR:O	1:A:314:ASN:HA	0.58	1.99	16	14
1:A:280:LEU:HD13	1:A:359:GLN:HG2	0.58	1.76	14	1
1:A:318:ARG:NE	1:A:318:ARG:H	0.57	1.97	6	2
1:A:333:LYS:HD2	1:A:333:LYS:N	0.57	2.14	6	15
1:A:309:LEU:O	1:A:309:LEU:HG	0.57	1.97	3	2
1:A:328:PRO:HB3	1:A:383:ILE:HG13	0.57	1.76	4	16
1:A:329:LYS:HG3	1:A:357:LEU:HD22	0.57	1.77	13	2
1:A:354:ILE:HG23	1:A:385:GLU:OE1	0.57	1.99	12	1
1:A:347:ARG:HA	1:A:352:GLN:N	0.57	2.15	16	17
1:A:322:ILE:HD12	1:A:362:LEU:HD23	0.57	1.74	9	13
1:A:280:LEU:O	1:A:284:PHE:HB2	0.57	2.00	10	18
1:A:304:ILE:HD13	1:A:322:ILE:HD11	0.57	1.77	6	7
1:A:334:LYS:HE3	1:A:340:VAL:HG11	0.56	1.77	10	1
1:A:354:ILE:HG22	1:A:356:ASP:H	0.56	1.60	11	16
1:A:364:SER:HB2	1:A:380:ALA:HB3	0.56	1.77	8	1
1:A:302:GLU:O	1:A:306:LEU:HG	0.56	2.00	9	1
1:A:279:VAL:HG23	1:A:283:MET:CG	0.56	2.31	3	13
1:A:347:ARG:O	1:A:351:ASN:HA	0.56	2.01	20	20
1:A:361:VAL:CG1	1:A:362:LEU:N	0.56	2.68	9	16
1:A:358:LYS:HD2	1:A:358:LYS:N	0.56	2.16	4	1
1:A:361:VAL:HG13	1:A:382:LEU:O	0.56	2.00	8	16
1:A:310:THR:HA	1:A:386:LEU:O	0.55	2.02	15	19
1:A:283:MET:HG3	1:A:299:VAL:HG21	0.55	1.78	15	3
1:A:303:LEU:HD12	1:A:322:ILE:HD12	0.55	1.79	15	13
1:A:312:TYR:HA	1:A:352:GLN:NE2	0.55	2.17	10	1
1:A:286:PHE:O	1:A:289:GLN:HG3	0.55	2.01	19	2
1:A:319:VAL:HA	1:A:364:SER:HA	0.55	1.79	18	10
1:A:284:PHE:C	1:A:286:PHE:N	0.55	2.59	19	14
1:A:307:VAL:CG1	1:A:392:LEU:HB3	0.55	2.32	17	3

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:312:TYR:CE1	1:A:346:TYR:HB3	0.55	2.36	18	1
1:A:280:LEU:HB2	1:A:385:GLU:HA	0.54	1.79	5	2
1:A:387:CYS:SG	1:A:387:CYS:O	0.54	2.65	7	5
1:A:356:ASP:O	1:A:359:GLN:OE1	0.54	2.25	15	2
1:A:309:LEU:HA	1:A:315:LYS:O	0.54	2.02	11	17
1:A:310:THR:HG21	1:A:312:TYR:OH	0.54	2.02	16	4
1:A:280:LEU:HD21	1:A:359:GLN:NE2	0.54	2.18	11	2
1:A:310:THR:HB	1:A:312:TYR:CD2	0.54	2.37	18	1
1:A:312:TYR:CE1	1:A:352:GLN:HB2	0.54	2.38	18	1
1:A:307:VAL:HG11	1:A:392:LEU:HB3	0.54	1.79	17	5
1:A:346:TYR:CB	1:A:352:GLN:HE22	0.54	2.15	20	2
1:A:352:GLN:O	1:A:353:GLU:C	0.54	2.46	11	1
1:A:280:LEU:HB2	1:A:384:PRO:HB2	0.54	1.80	14	8
1:A:359:GLN:HB3	1:A:384:PRO:HG2	0.53	1.80	14	7
1:A:359:GLN:CG	1:A:384:PRO:HG2	0.53	2.33	15	1
1:A:321:ASP:HB2	1:A:363:VAL:HG22	0.53	1.80	8	19
1:A:312:TYR:CB	1:A:350:TYR:HB3	0.53	2.33	12	4
1:A:352:GLN:NE2	1:A:352:GLN:H	0.53	2.01	11	1
1:A:304:ILE:HA	1:A:319:VAL:O	0.53	2.04	18	17
1:A:309:LEU:C	1:A:309:LEU:CD2	0.53	2.77	10	14
1:A:307:VAL:HG22	1:A:318:ARG:HD2	0.53	1.80	11	1
1:A:356:ASP:HB2	1:A:385:GLU:HG3	0.53	1.81	15	7
1:A:303:LEU:O	1:A:319:VAL:HG13	0.53	2.03	18	19
1:A:333:LYS:HA	1:A:338:SER:O	0.52	2.04	8	18
1:A:319:VAL:HB	1:A:362:LEU:HB3	0.52	1.80	7	7
1:A:307:VAL:HG22	1:A:390:THR:OG1	0.52	2.05	3	15
1:A:280:LEU:HD21	1:A:359:GLN:CD	0.52	2.25	18	2
1:A:284:PHE:C	1:A:286:PHE:H	0.52	2.06	19	1
1:A:310:THR:HG21	1:A:382:LEU:HD22	0.52	1.81	4	9
1:A:317:TYR:HB3	1:A:364:SER:OG	0.52	2.05	11	5
1:A:346:TYR:CD2	1:A:383:ILE:HG12	0.52	2.40	4	17
1:A:281:ASP:O	1:A:285:ASN:HB2	0.52	2.05	3	2
1:A:328:PRO:HA	1:A:342:PHE:CB	0.52	2.32	12	12
1:A:334:LYS:HE2	1:A:345:TYR:CD1	0.52	2.40	11	4
1:A:321:ASP:C	1:A:322:ILE:HG12	0.52	2.25	12	7
1:A:307:VAL:HB	1:A:318:ARG:HD3	0.52	1.82	15	3
1:A:295:PHE:O	1:A:299:VAL:HG12	0.52	2.06	2	12
1:A:344:GLU:HA	1:A:348:LYS:HG3	0.52	1.82	12	19
1:A:303:LEU:HD23	1:A:322:ILE:CD1	0.51	2.35	14	1
1:A:283:MET:HB3	1:A:299:VAL:HG21	0.51	1.81	7	11
1:A:328:PRO:CG	1:A:357:LEU:HA	0.51	2.35	16	17

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:359:GLN:HB2	1:A:360:PRO:HD2	0.51	1.81	15	2
1:A:312:TYR:CD1	1:A:352:GLN:HB2	0.51	2.41	18	1
1:A:279:VAL:C	1:A:283:MET:HG3	0.51	2.25	7	14
1:A:383:ILE:HG22	1:A:383:ILE:O	0.51	2.05	12	5
1:A:350:TYR:HB2	1:A:352:GLN:OE1	0.51	2.06	20	2
1:A:308:VAL:HA	1:A:390:THR:HG23	0.51	1.83	8	11
1:A:311:LYS:O	1:A:352:GLN:NE2	0.51	2.44	4	3
1:A:333:LYS:HD2	1:A:333:LYS:H	0.51	1.65	2	15
1:A:354:ILE:HA	1:A:385:GLU:OE1	0.51	2.06	17	5
1:A:291:GLU:O	1:A:295:PHE:HB3	0.51	2.06	12	7
1:A:307:VAL:HB	1:A:390:THR:OG1	0.51	2.06	11	1
1:A:310:THR:HG21	1:A:312:TYR:CZ	0.50	2.41	4	10
1:A:297:GLU:HB2	1:A:298:GLN:HE21	0.50	1.66	18	3
1:A:334:LYS:CG	1:A:338:SER:HB2	0.50	2.36	14	1
1:A:308:VAL:HB	1:A:387:CYS:HB2	0.50	1.83	15	4
1:A:358:LYS:HD2	1:A:358:LYS:H	0.50	1.66	4	1
1:A:278:THR:HG21	1:A:385:GLU:O	0.50	2.07	15	2
1:A:302:GLU:O	1:A:306:LEU:HB2	0.49	2.08	11	8
1:A:334:LYS:C	1:A:336:ASP:N	0.49	2.65	14	12
1:A:346:TYR:OH	1:A:381:MET:O	0.49	2.30	18	13
1:A:352:GLN:H	1:A:352:GLN:CD	0.49	2.11	20	1
1:A:308:VAL:CG2	1:A:387:CYS:HB3	0.49	2.38	8	14
1:A:308:VAL:HB	1:A:387:CYS:HB3	0.49	1.85	9	13
1:A:329:LYS:HB3	1:A:357:LEU:HD22	0.49	1.83	5	3
1:A:280:LEU:HD13	1:A:385:GLU:OE1	0.49	2.08	20	3
1:A:354:ILE:CG1	1:A:386:LEU:HD11	0.49	2.37	20	7
1:A:279:VAL:CG2	1:A:283:MET:SD	0.49	2.98	3	10
1:A:341:SER:OG	1:A:344:GLU:HG3	0.49	2.08	13	6
1:A:309:LEU:O	1:A:388:TYR:HB2	0.49	2.08	7	2
1:A:310:THR:HB	1:A:312:TYR:CE1	0.49	2.43	9	4
1:A:341:SER:O	1:A:344:GLU:HB2	0.49	2.08	14	1
1:A:279:VAL:CG1	1:A:387:CYS:SG	0.49	2.99	10	4
1:A:278:THR:N	1:A:281:ASP:HB3	0.49	2.23	4	1
1:A:328:PRO:O	1:A:342:PHE:HB2	0.49	2.07	13	2
1:A:385:GLU:HA	1:A:385:GLU:OE1	0.48	2.07	5	1
1:A:306:LEU:HD13	1:A:307:VAL:O	0.48	2.07	14	15
1:A:278:THR:HA	1:A:388:TYR:HA	0.48	1.84	9	12
1:A:341:SER:O	1:A:344:GLU:N	0.48	2.47	8	16
1:A:317:TYR:HB3	1:A:364:SER:CB	0.48	2.38	11	8
1:A:354:ILE:HG23	1:A:385:GLU:HG2	0.48	1.85	4	1
1:A:298:GLN:HE21	1:A:298:GLN:H	0.48	1.52	12	4

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:293:HIS:N	1:A:293:HIS:ND1	0.48	2.60	16	3
1:A:359:GLN:HG2	1:A:384:PRO:HG2	0.48	1.86	15	1
1:A:322:ILE:HA	1:A:361:VAL:O	0.48	2.09	17	17
1:A:280:LEU:O	1:A:284:PHE:CD2	0.48	2.66	15	2
1:A:363:VAL:HG23	1:A:379:PRO:HB3	0.48	1.86	8	2
1:A:329:LYS:O	1:A:341:SER:HB2	0.48	2.09	13	4
1:A:280:LEU:HD23	1:A:384:PRO:HB2	0.48	1.84	10	1
1:A:324:TRP:HA	1:A:360:PRO:CB	0.48	2.39	1	11
1:A:343:LEU:HD12	1:A:354:ILE:HD12	0.48	1.85	2	4
1:A:278:THR:HG22	1:A:388:TYR:CA	0.48	2.38	5	6
1:A:303:LEU:O	1:A:319:VAL:O	0.48	2.32	18	4
1:A:359:GLN:NE2	1:A:383:ILE:HG23	0.48	2.24	7	1
1:A:331:THR:HG22	1:A:341:SER:N	0.48	2.24	12	19
1:A:346:TYR:CB	1:A:352:GLN:NE2	0.48	2.77	20	2
1:A:299:VAL:O	1:A:300:SER:C	0.48	2.50	3	17
1:A:301:LYS:HG3	1:A:302:GLU:N	0.48	2.23	14	20
1:A:318:ARG:N	1:A:318:ARG:HD3	0.48	2.23	3	1
1:A:295:PHE:CG	1:A:296:GLN:N	0.48	2.82	18	19
1:A:302:GLU:O	1:A:306:LEU:CG	0.48	2.61	9	1
1:A:286:PHE:HA	1:A:289:GLN:HG3	0.47	1.85	12	11
1:A:311:LYS:HE3	1:A:386:LEU:HA	0.47	1.86	20	2
1:A:354:ILE:HG22	1:A:356:ASP:N	0.47	2.24	11	9
1:A:352:GLN:HG3	1:A:386:LEU:HD22	0.47	1.87	15	5
1:A:315:LYS:HD2	1:A:317:TYR:CZ	0.47	2.44	15	1
1:A:321:ASP:C	1:A:322:ILE:HD13	0.47	2.30	15	5
1:A:353:GLU:HG2	1:A:355:THR:HG23	0.47	1.85	15	1
1:A:339:GLU:OE1	1:A:340:VAL:N	0.47	2.47	16	1
1:A:352:GLN:NE2	1:A:386:LEU:HD22	0.47	2.24	3	1
1:A:343:LEU:HD22	1:A:357:LEU:CD2	0.47	2.40	13	2
1:A:279:VAL:HG22	1:A:384:PRO:CA	0.47	2.39	4	15
1:A:310:THR:CG2	1:A:382:LEU:HD22	0.47	2.39	4	11
1:A:334:LYS:HG2	1:A:345:TYR:CE1	0.47	2.44	18	4
1:A:304:ILE:HD12	1:A:320:ASP:O	0.47	2.09	8	4
1:A:279:VAL:HA	1:A:389:LEU:HD21	0.47	1.87	4	2
1:A:303:LEU:HD13	1:A:362:LEU:CD2	0.47	2.40	10	3
1:A:340:VAL:HG21	1:A:345:TYR:N	0.47	2.24	16	2
1:A:333:LYS:HA	1:A:339:GLU:HA	0.47	1.87	11	6
1:A:361:VAL:HG11	1:A:381:MET:HB3	0.47	1.87	12	19
1:A:309:LEU:HD12	1:A:390:THR:HG22	0.47	1.87	17	5
1:A:354:ILE:C	1:A:355:THR:HG23	0.47	2.31	13	14
1:A:312:TYR:HB2	1:A:350:TYR:HB3	0.47	1.85	9	2

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:295:PHE:CE1	1:A:299:VAL:HG11	0.46	2.45	12	17
1:A:334:LYS:HD3	1:A:338:SER:HB3	0.46	1.86	13	4
1:A:332:PHE:N	1:A:339:GLU:OE1	0.46	2.48	16	1
1:A:285:ASN:O	1:A:288:HIS:CD2	0.46	2.69	19	1
1:A:278:THR:OG1	1:A:384:PRO:O	0.46	2.33	2	1
1:A:279:VAL:HG21	1:A:362:LEU:CD2	0.46	2.37	18	2
1:A:344:GLU:HB3	1:A:348:LYS:HE2	0.46	1.87	15	3
1:A:309:LEU:HA	1:A:316:THR:HA	0.46	1.88	8	4
1:A:341:SER:O	1:A:342:PHE:C	0.46	2.54	3	19
1:A:328:PRO:HD2	1:A:357:LEU:O	0.46	2.11	4	1
1:A:293:HIS:HD1	1:A:293:HIS:H	0.46	1.52	9	1
1:A:331:THR:HB	1:A:339:GLU:OE1	0.46	2.11	16	1
1:A:310:THR:HB	1:A:312:TYR:CE2	0.46	2.46	18	1
1:A:280:LEU:HB2	1:A:385:GLU:N	0.46	2.26	16	2
1:A:359:GLN:HG3	1:A:360:PRO:HD2	0.46	1.87	3	2
1:A:280:LEU:CD1	1:A:359:GLN:HG2	0.46	2.40	14	1
1:A:318:ARG:HH11	1:A:318:ARG:HB2	0.46	1.70	5	1
1:A:300:SER:O	1:A:304:ILE:CG1	0.46	2.64	6	1
1:A:343:LEU:CD1	1:A:354:ILE:HD12	0.46	2.40	16	5
1:A:350:TYR:O	1:A:351:ASN:CB	0.46	2.64	20	5
1:A:280:LEU:CD1	1:A:385:GLU:HB2	0.46	2.40	20	7
1:A:352:GLN:HB3	1:A:386:LEU:HD13	0.46	1.87	1	3
1:A:311:LYS:HB3	1:A:352:GLN:NE2	0.46	2.25	7	1
1:A:346:TYR:HD2	1:A:354:ILE:HD11	0.45	1.71	2	7
1:A:356:ASP:C	1:A:358:LYS:H	0.45	2.14	4	2
1:A:356:ASP:HB2	1:A:385:GLU:CD	0.45	2.31	4	1
1:A:340:VAL:CG2	1:A:344:GLU:HB3	0.45	2.41	14	1
1:A:318:ARG:N	1:A:318:ARG:CD	0.45	2.78	1	1
1:A:328:PRO:HA	1:A:383:ILE:HD11	0.45	1.88	11	2
1:A:280:LEU:CB	1:A:385:GLU:HA	0.45	2.41	5	2
1:A:304:ILE:HG13	1:A:320:ASP:C	0.45	2.32	19	3
1:A:280:LEU:HG	1:A:359:GLN:CD	0.45	2.32	15	1
1:A:363:VAL:HG22	1:A:363:VAL:O	0.45	2.12	1	13
1:A:327:ASN:C	1:A:329:LYS:H	0.45	2.14	4	16
1:A:354:ILE:C	1:A:356:ASP:H	0.45	2.15	9	10
1:A:383:ILE:CG2	1:A:385:GLU:HB3	0.45	2.42	4	2
1:A:358:LYS:NZ	1:A:358:LYS:HB3	0.45	2.27	9	1
1:A:334:LYS:HD3	1:A:340:VAL:HG11	0.45	1.85	14	1
1:A:328:PRO:HD3	1:A:359:GLN:O	0.45	2.10	3	7
1:A:329:LYS:HE2	1:A:357:LEU:HD13	0.45	1.87	6	1
1:A:343:LEU:CD1	1:A:354:ILE:HB	0.45	2.40	4	4

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:356:ASP:O	1:A:359:GLN:CD	0.45	2.55	15	1
1:A:286:PHE:HA	1:A:289:GLN:HG2	0.45	1.89	20	1
1:A:292:GLU:HG2	1:A:293:HIS:N	0.44	2.27	5	1
1:A:309:LEU:HB3	1:A:316:THR:HG23	0.44	1.89	17	2
1:A:319:VAL:HG21	1:A:362:LEU:HD22	0.44	1.88	12	1
1:A:342:PHE:O	1:A:346:TYR:CD2	0.44	2.69	14	2
1:A:309:LEU:HB3	1:A:316:THR:CG2	0.44	2.41	6	10
1:A:332:PHE:CZ	1:A:334:LYS:HG3	0.44	2.47	12	2
1:A:359:GLN:HB3	1:A:360:PRO:HD2	0.44	1.87	10	2
1:A:362:LEU:HD11	1:A:384:PRO:CA	0.44	2.43	7	1
1:A:352:GLN:CG	1:A:386:LEU:HD22	0.44	2.42	16	6
1:A:295:PHE:O	1:A:298:GLN:HG2	0.44	2.11	15	2
1:A:286:PHE:HE2	1:A:298:GLN:HB2	0.44	1.72	8	13
1:A:294:LYS:O	1:A:298:GLN:NE2	0.44	2.51	12	4
1:A:332:PHE:O	1:A:339:GLU:HA	0.44	2.12	12	6
1:A:304:ILE:HD11	1:A:322:ILE:CG1	0.44	2.42	17	1
1:A:303:LEU:O	1:A:319:VAL:HG22	0.44	2.11	2	8
1:A:312:TYR:HB3	1:A:350:TYR:CG	0.44	2.48	19	7
1:A:334:LYS:HD2	1:A:340:VAL:HG13	0.44	1.88	17	6
1:A:286:PHE:HB3	1:A:295:PHE:CD1	0.44	2.48	10	19
1:A:304:ILE:C	1:A:306:LEU:N	0.44	2.71	8	3
1:A:307:VAL:O	1:A:390:THR:OG1	0.44	2.33	20	2
1:A:280:LEU:HB3	1:A:385:GLU:HA	0.44	1.89	3	1
1:A:356:ASP:HB2	1:A:385:GLU:HG2	0.44	1.89	13	1
1:A:332:PHE:CZ	1:A:334:LYS:HA	0.44	2.48	14	2
1:A:312:TYR:HA	1:A:352:GLN:HG2	0.44	1.90	16	2
1:A:279:VAL:CG2	1:A:384:PRO:HB3	0.44	2.43	17	1
1:A:312:TYR:CZ	1:A:346:TYR:CD1	0.44	3.06	18	1
1:A:323:ASP:C	1:A:325:ASP:H	0.44	2.16	1	1
1:A:334:LYS:HD3	1:A:338:SER:O	0.44	2.13	16	3
1:A:306:LEU:O	1:A:318:ARG:HA	0.44	2.12	9	1
1:A:304:ILE:HD12	1:A:322:ILE:CD1	0.44	2.40	16	1
1:A:279:VAL:O	1:A:280:LEU:C	0.43	2.55	3	14
1:A:308:VAL:CB	1:A:387:CYS:HB2	0.43	2.43	15	2
1:A:304:ILE:HD13	1:A:304:ILE:N	0.43	2.28	9	1
1:A:279:VAL:HG22	1:A:384:PRO:HB3	0.43	1.90	17	2
1:A:304:ILE:HD11	1:A:322:ILE:HG12	0.43	1.90	17	1
1:A:311:LYS:HB2	1:A:352:GLN:NE2	0.43	2.28	2	1
1:A:311:LYS:HE2	1:A:388:TYR:CD1	0.43	2.49	5	3
1:A:347:ARG:N	1:A:352:GLN:HE22	0.43	2.12	20	2
1:A:353:GLU:HG2	1:A:355:THR:CG2	0.43	2.44	15	1

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:352:GLN:OE1	1:A:386:LEU:HD22	0.43	2.12	14	2
1:A:280:LEU:HD12	1:A:385:GLU:OE1	0.43	2.14	5	2
1:A:284:PHE:C	1:A:284:PHE:CD1	0.43	2.92	3	1
1:A:278:THR:HG22	1:A:388:TYR:HA	0.43	1.91	5	2
1:A:352:GLN:O	1:A:354:ILE:HG13	0.43	2.13	5	1
1:A:327:ASN:O	1:A:329:LYS:N	0.43	2.51	6	7
1:A:333:LYS:HG3	1:A:339:GLU:HB2	0.43	1.91	3	10
1:A:282:PHE:O	1:A:285:ASN:HB3	0.43	2.14	3	1
1:A:295:PHE:O	1:A:297:GLU:N	0.43	2.52	4	3
1:A:359:GLN:OE1	1:A:359:GLN:N	0.43	2.48	7	1
1:A:333:LYS:HB3	1:A:337:GLY:O	0.43	2.13	6	1
1:A:299:VAL:CG2	1:A:303:LEU:HD11	0.43	2.44	10	1
1:A:290:THR:OG1	1:A:295:PHE:N	0.43	2.51	12	1
1:A:303:LEU:CD1	1:A:322:ILE:HD13	0.43	2.28	16	1
1:A:312:TYR:HB3	1:A:350:TYR:CD2	0.43	2.48	18	1
1:A:289:GLN:HE21	1:A:289:GLN:N	0.43	2.11	20	1
1:A:345:TYR:O	1:A:349:GLN:CB	0.43	2.66	3	1
1:A:311:LYS:O	1:A:312:TYR:C	0.43	2.57	10	3
1:A:363:VAL:HG23	1:A:379:PRO:CB	0.43	2.44	8	2
1:A:343:LEU:HD22	1:A:357:LEU:HD23	0.43	1.91	5	3
1:A:282:PHE:CZ	1:A:302:GLU:HG3	0.43	2.48	11	11
1:A:304:ILE:C	1:A:306:LEU:H	0.43	2.16	8	2
1:A:315:LYS:HD2	1:A:317:TYR:OH	0.43	2.14	8	3
1:A:380:ALA:O	1:A:382:LEU:HG	0.43	2.14	5	2
1:A:325:ASP:HB3	1:A:326:GLN:HE21	0.42	1.73	1	1
1:A:334:LYS:CD	1:A:340:VAL:CG1	0.42	2.97	15	5
1:A:306:LEU:HD13	1:A:307:VAL:N	0.42	2.29	8	2
1:A:326:GLN:O	1:A:360:PRO:HA	0.42	2.13	13	3
1:A:328:PRO:CA	1:A:342:PHE:HB2	0.42	2.36	12	1
1:A:321:ASP:HB2	1:A:363:VAL:O	0.42	2.14	16	3
1:A:313:ASN:O	1:A:314:ASN:OD1	0.42	2.36	10	1
1:A:318:ARG:HH11	1:A:318:ARG:CB	0.42	2.27	18	1
1:A:352:GLN:CD	1:A:352:GLN:N	0.42	2.73	20	1
1:A:301:LYS:O	1:A:304:ILE:N	0.42	2.52	3	1
1:A:312:TYR:HA	1:A:352:GLN:OE1	0.42	2.14	13	2
1:A:354:ILE:HG12	1:A:386:LEU:CD1	0.42	2.43	18	1
1:A:299:VAL:O	1:A:302:GLU:N	0.42	2.53	3	1
1:A:321:ASP:O	1:A:322:ILE:HD13	0.42	2.14	10	5
1:A:334:LYS:NZ	1:A:349:GLN:NE2	0.42	2.67	6	1
1:A:343:LEU:HD21	1:A:347:ARG:NH1	0.42	2.30	15	1
1:A:286:PHE:O	1:A:289:GLN:N	0.42	2.52	20	6

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:318:ARG:NE	1:A:318:ARG:N	0.42	2.68	6	1
1:A:334:LYS:NZ	1:A:349:GLN:HE22	0.42	2.13	6	1
1:A:308:VAL:CG2	1:A:387:CYS:HB2	0.42	2.44	7	1
1:A:298:GLN:O	1:A:301:LYS:HB3	0.42	2.14	16	2
1:A:334:LYS:O	1:A:335:ALA:HB3	0.42	2.14	14	1
1:A:291:GLU:O	1:A:295:PHE:CB	0.42	2.68	7	11
1:A:362:LEU:O	1:A:380:ALA:O	0.42	2.36	6	1
1:A:289:GLN:HG3	1:A:290:THR:N	0.42	2.29	8	1
1:A:280:LEU:HD21	1:A:356:ASP:HB3	0.42	1.91	14	1
1:A:286:PHE:CD2	1:A:299:VAL:HG12	0.42	2.50	10	2
1:A:279:VAL:O	1:A:283:MET:N	0.42	2.53	16	5
1:A:284:PHE:O	1:A:286:PHE:N	0.42	2.53	19	1
1:A:346:TYR:C	1:A:352:GLN:HE22	0.42	2.18	20	1
1:A:280:LEU:HG	1:A:359:GLN:HG2	0.42	1.92	2	2
1:A:311:LYS:HE2	1:A:388:TYR:CE1	0.42	2.50	9	1
1:A:286:PHE:HB3	1:A:295:PHE:HD1	0.42	1.75	12	1
1:A:353:GLU:CG	1:A:355:THR:CG2	0.41	2.98	20	5
1:A:364:SER:O	1:A:379:PRO:CA	0.41	2.68	5	1
1:A:385:GLU:OE1	1:A:386:LEU:HG	0.41	2.15	17	2
1:A:328:PRO:CD	1:A:359:GLN:OE1	0.41	2.68	12	1
1:A:283:MET:CG	1:A:299:VAL:HG21	0.41	2.45	15	1
1:A:295:PHE:O	1:A:296:GLN:C	0.41	2.58	7	3
1:A:290:THR:HG23	1:A:295:PHE:HB2	0.41	1.92	19	3
1:A:352:GLN:HB2	1:A:386:LEU:HD22	0.41	1.92	20	1
1:A:334:LYS:CE	1:A:340:VAL:HG11	0.41	2.46	1	3
1:A:333:LYS:HB2	1:A:337:GLY:HA2	0.41	1.91	13	1
1:A:289:GLN:CG	1:A:290:THR:N	0.41	2.83	8	1
1:A:352:GLN:NE2	1:A:352:GLN:N	0.41	2.67	11	1
1:A:312:TYR:CZ	1:A:386:LEU:HD13	0.41	2.49	18	1
1:A:278:THR:HG22	1:A:387:CYS:C	0.41	2.35	15	1
1:A:327:ASN:HB3	1:A:359:GLN:O	0.41	2.16	5	1
1:A:334:LYS:CD	1:A:338:SER:HB3	0.41	2.45	10	2
1:A:334:LYS:CD	1:A:338:SER:HB2	0.41	2.46	11	1
1:A:293:HIS:NE2	1:A:294:LYS:HE3	0.41	2.30	17	1
1:A:333:LYS:HB3	1:A:337:GLY:CA	0.41	2.45	19	1
1:A:278:THR:O	1:A:281:ASP:HB2	0.41	2.15	2	1
1:A:324:TRP:CD2	1:A:360:PRO:HG3	0.41	2.51	5	1
1:A:362:LEU:O	1:A:382:LEU:HD12	0.41	2.16	5	1
1:A:383:ILE:HG22	1:A:385:GLU:N	0.41	2.31	5	1
1:A:347:ARG:HH21	1:A:353:GLU:HG3	0.41	1.76	13	1
1:A:279:VAL:HG12	1:A:389:LEU:HD23	0.41	1.93	15	1

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:333:LYS:HE2	1:A:339:GLU:OE2	0.41	2.16	16	1
1:A:306:LEU:O	1:A:319:VAL:HG13	0.41	2.16	19	2
1:A:330:SER:O	1:A:341:SER:HA	0.41	2.16	13	1
1:A:332:PHE:CE2	1:A:334:LYS:HA	0.40	2.51	5	1
1:A:286:PHE:C	1:A:288:HIS:N	0.40	2.75	11	1
1:A:334:LYS:HD3	1:A:338:SER:HB2	0.40	1.93	11	2
1:A:329:LYS:CE	1:A:357:LEU:HD13	0.40	2.46	13	1
1:A:359:GLN:HG3	1:A:384:PRO:CB	0.40	2.45	15	1
1:A:280:LEU:HD22	1:A:284:PHE:CD2	0.40	2.51	4	1
1:A:307:VAL:HA	1:A:318:ARG:CA	0.40	2.41	7	1
1:A:303:LEU:CD2	1:A:322:ILE:CD1	0.40	2.99	14	1
1:A:279:VAL:O	1:A:283:MET:CB	0.40	2.69	15	1
1:A:285:ASN:O	1:A:289:GLN:HG2	0.40	2.17	6	1
1:A:288:HIS:CD2	1:A:289:GLN:HG2	0.40	2.52	19	1
1:A:293:HIS:HE2	1:A:294:LYS:HE2	0.40	1.75	2	1
1:A:326:GLN:HB2	1:A:361:VAL:CG2	0.40	2.46	7	1
1:A:303:LEU:O	1:A:306:LEU:HB3	0.40	2.16	14	1
1:A:346:TYR:O	1:A:350:TYR:HB2	0.40	2.16	16	1
1:A:343:LEU:HD13	1:A:354:ILE:CB	0.40	2.38	18	1

6.3 Torsion angles (i)

6.3.1 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 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	A	102/134 (76%)	71±3 (70±2%)	23±3 (23±3%)	8±2 (8±1%)	2	15
All	All	2040/2680 (76%)	1422 (70%)	461 (23%)	157 (8%)	2	15

All 20 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
1	A	295	PHE	20
1	A	334	LYS	20
1	A	360	PRO	20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Models (Total)
1	A	328	PRO	17
1	A	291	GLU	16
1	A	335	ALA	16
1	A	379	PRO	14
1	A	351	ASN	6
1	A	312	TYR	5
1	A	337	GLY	4
1	A	342	PHE	3
1	A	384	PRO	3
1	A	296	GLN	3
1	A	354	ILE	3
1	A	292	GLU	2
1	A	324	TRP	1
1	A	277	GLU	1
1	A	353	GLU	1
1	A	313	ASN	1
1	A	314	ASN	1

6.3.2 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 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	A	97/125 (78%)	66±2 (68±2%)	31±2 (32±2%)	1 13
All	All	1940/2500 (78%)	1317 (68%)	623 (32%)	1 13

All 53 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	A	284	PHE	20
1	A	287	TYR	20
1	A	298	GLN	20
1	A	299	VAL	20
1	A	309	LEU	20
1	A	319	VAL	20
1	A	332	PHE	20
1	A	340	VAL	20

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Models (Total)
1	A	357	LEU	20
1	A	363	VAL	20
1	A	383	ILE	20
1	A	388	TYR	20
1	A	281	ASP	19
1	A	289	GLN	19
1	A	303	LEU	19
1	A	307	VAL	19
1	A	321	ASP	19
1	A	362	LEU	19
1	A	280	LEU	18
1	A	329	LYS	17
1	A	334	LYS	17
1	A	290	THR	16
1	A	279	VAL	15
1	A	301	LYS	15
1	A	304	ILE	15
1	A	318	ARG	15
1	A	333	LYS	15
1	A	283	MET	12
1	A	292	GLU	12
1	A	326	GLN	10
1	A	312	TYR	10
1	A	364	SER	10
1	A	286	PHE	9
1	A	392	LEU	9
1	A	315	LYS	8
1	A	322	ILE	8
1	A	359	GLN	6
1	A	327	ASN	6
1	A	306	LEU	4
1	A	352	GLN	3
1	A	293	HIS	3
1	A	358	LYS	2
1	A	320	ASP	2
1	A	311	LYS	2
1	A	339	GLU	2
1	A	323	ASP	1
1	A	349	GLN	1
1	A	356	ASP	1
1	A	291	GLU	1
1	A	384	PRO	1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Models (Total)
1	A	381	MET	1
1	A	353	GLU	1
1	A	288	HIS	1

6.3.3 RNA

There are no RNA molecules in this entry.

6.4 Non-standard residues in protein, DNA, RNA chains

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

6.5 Carbohydrates

There are no monosaccharides in this entry.

6.6 Ligand geometry

There are no ligands in this entry.

6.7 Other polymers

There are no such molecules in this entry.

6.8 Polymer linkage issues

There are no chain breaks in this entry.

7 Chemical shift validation (i)

No chemical shift data were provided