



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 04:47 AM UTC

PDB ID : 5NXN / pdb_00005nxn
Title : Structure of a L5-deletion mutant of Providencia stuartii Omp-Pst1
Authors : El Khatib, M.; Colletier, J.P.
Deposited on : 2017-05-10
Resolution : 3.12 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ 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
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

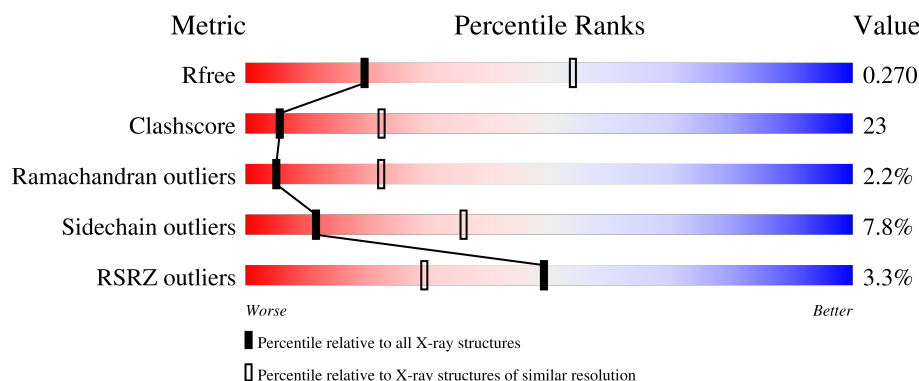
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.12 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1816 (3.14-3.10)
Clashscore	190562	1906 (3.14-3.10)
Ramachandran outliers	187476	1802 (3.14-3.10)
Sidechain outliers	187428	1802 (3.14-3.10)
RSRZ outliers	180081	1816 (3.14-3.10)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	342	2% 51% 43% 6%
1	B	342	6% 62% 32% 6%
1	C	342	2% 60% 32% 7%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 8654 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 Porin 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	342	Total	C	N	O	S	0	4	0
			2711	1698	465	543	5			
1	B	342	Total	C	N	O	S	0	3	0
			2705	1696	462	542	5			
1	C	342	Total	C	N	O	S	0	5	0
			2717	1702	466	544	5			

There are 33 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	VAL	deletion	UNP E3U904
A	?	-	VAL	deletion	UNP E3U904
A	?	-	THR	deletion	UNP E3U904
A	?	-	SER	deletion	UNP E3U904
A	?	-	GLU	deletion	UNP E3U904
A	?	-	GLY	deletion	UNP E3U904
A	?	-	ASP	deletion	UNP E3U904
A	?	-	SER	deletion	UNP E3U904
A	?	-	TYR	deletion	UNP E3U904
A	?	-	TYR	deletion	UNP E3U904
A	293	GLY	ASN	conflict	UNP E3U904
B	?	-	VAL	deletion	UNP E3U904
B	?	-	VAL	deletion	UNP E3U904
B	?	-	THR	deletion	UNP E3U904
B	?	-	SER	deletion	UNP E3U904
B	?	-	GLU	deletion	UNP E3U904
B	?	-	GLY	deletion	UNP E3U904
B	?	-	ASP	deletion	UNP E3U904
B	?	-	SER	deletion	UNP E3U904
B	?	-	TYR	deletion	UNP E3U904
B	?	-	TYR	deletion	UNP E3U904
B	293	GLY	ASN	conflict	UNP E3U904
C	?	-	VAL	deletion	UNP E3U904

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
C	?	-	VAL	deletion	UNP E3U904
C	?	-	THR	deletion	UNP E3U904
C	?	-	SER	deletion	UNP E3U904
C	?	-	GLU	deletion	UNP E3U904
C	?	-	GLY	deletion	UNP E3U904
C	?	-	ASP	deletion	UNP E3U904
C	?	-	SER	deletion	UNP E3U904
C	?	-	TYR	deletion	UNP E3U904
C	?	-	TYR	deletion	UNP E3U904
C	293	GLY	ASN	conflict	UNP E3U904

- Molecule 2 is CALCIUM ION (CCD ID: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Ca 1 1	0	0

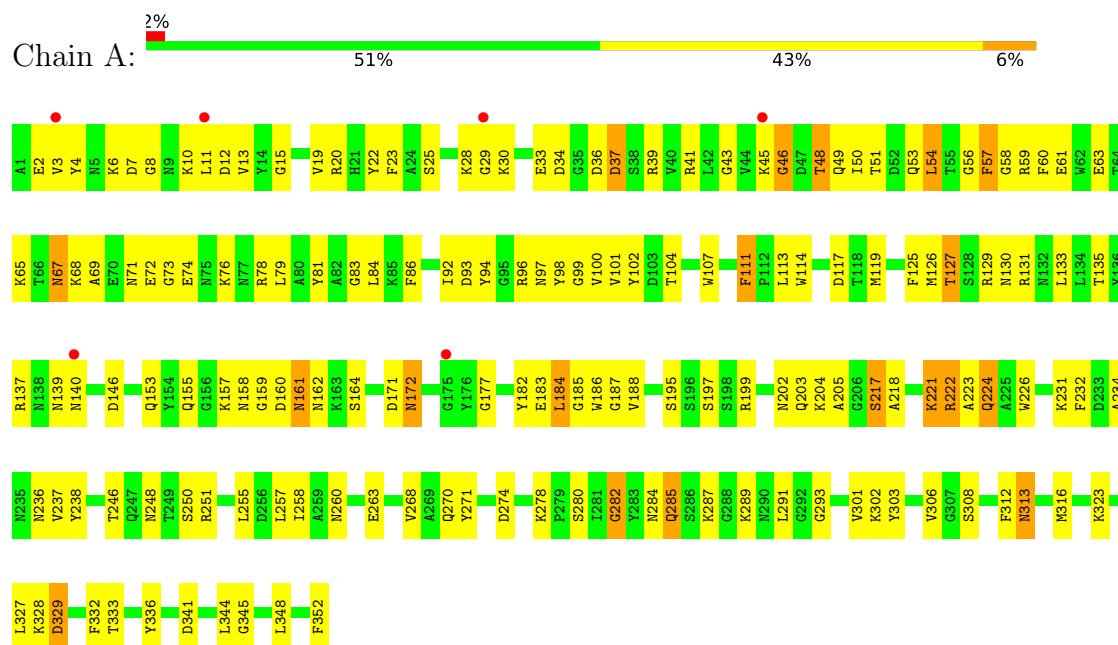
- Molecule 3 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	203	Total O 203 203	0	0
3	B	168	Total O 168 168	0	0
3	C	149	Total O 149 149	0	0

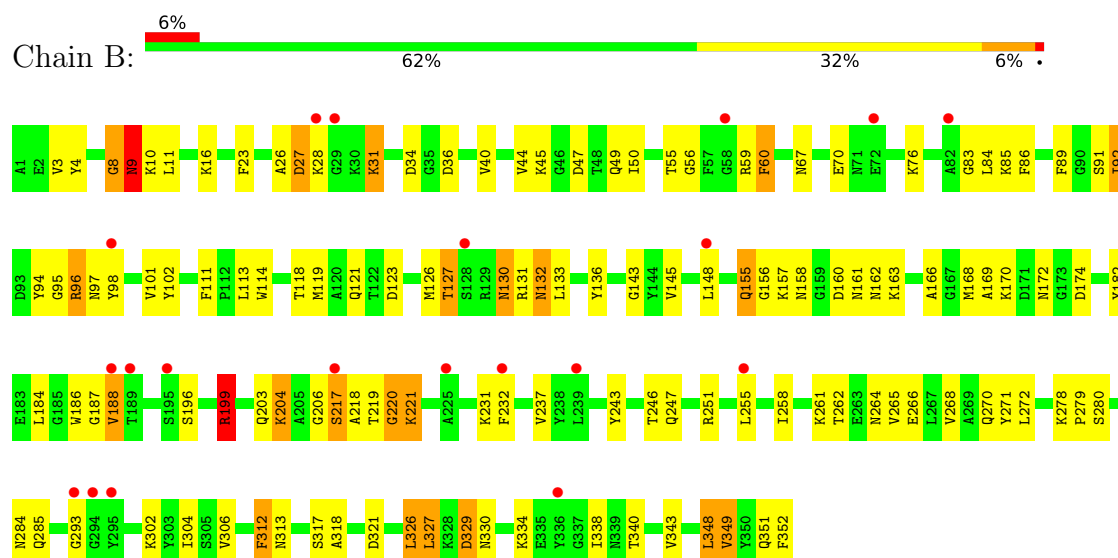
3 Residue-property plots [i](#)

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

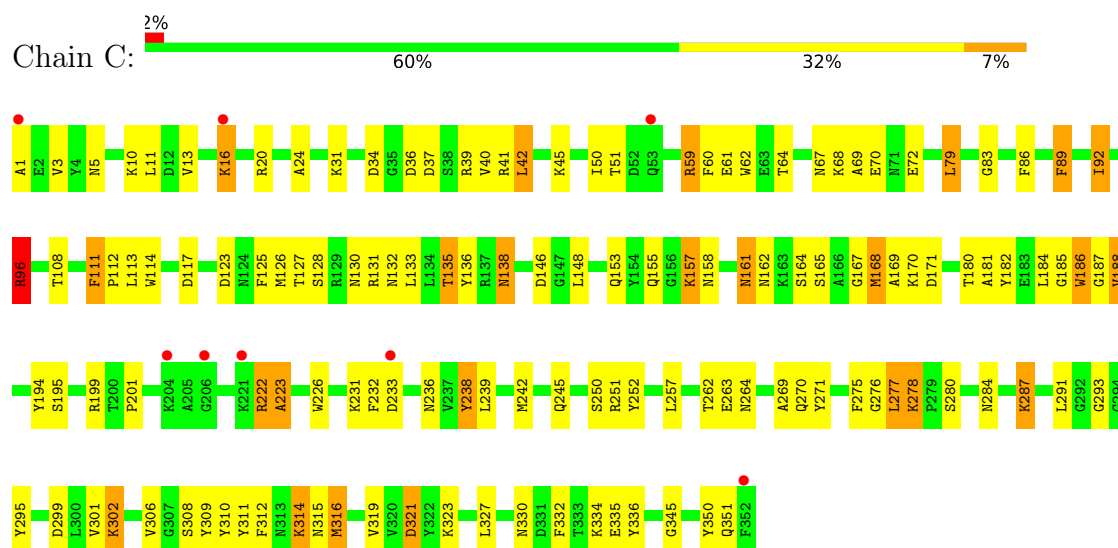
• Molecule 1: Porin 1



• Molecule 1: Porin 1



• Molecule 1: Porin 1



4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	126.32Å 158.99Å 101.33Å 90.00° 124.65° 90.00°	Depositor
Resolution (Å)	50.00 – 3.12 50.00 – 3.12	Depositor EDS
% Data completeness (in resolution range)	98.7 (50.00-3.12) 99.1 (50.00-3.12)	Depositor EDS
R_{merge}	0.20	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.41 (at 3.12Å)	Xtriage
Refinement program	REFMAC 5.8.0155	Depositor
R, R_{free}	0.246 , 0.268 0.250 , 0.270	Depositor DCC
R_{free} test set	1482 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å ²)	76.4	Xtriage
Anisotropy	0.715	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.26 , 60.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.90	EDS
Total number of atoms	8654	wwPDB-VP
Average B, all atoms (Å ²)	97.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.53% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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

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	1.26	15/2766 (0.5%)	1.24	10/3729 (0.3%)
1	B	1.32	19/2761 (0.7%)	1.33	23/3724 (0.6%)
1	C	1.25	8/2772 (0.3%)	1.19	10/3736 (0.3%)
All	All	1.28	42/8299 (0.5%)	1.26	43/11189 (0.4%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	B	0	5
1	C	0	1
All	All	0	7

All (42) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	313	ASN	C-O	-9.69	1.17	1.24
1	B	9	ASN	N-CA	-8.93	1.35	1.45
1	B	8	GLY	C-O	-8.41	1.12	1.23
1	B	96	ARG	C-O	-7.91	1.14	1.23
1	B	313	ASN	C-O	-7.91	1.16	1.24
1	B	76	LYS	C-O	7.20	1.32	1.24
1	B	258	ILE	C-O	-7.16	1.16	1.24
1	B	9	ASN	C-N	-7.08	1.24	1.33
1	C	181	ALA	C-O	-7.00	1.15	1.23
1	B	221	LYS	CA-C	6.96	1.62	1.52
1	C	128	SER	C-O	-6.85	1.15	1.24
1	A	56	GLY	C-O	-6.70	1.14	1.23

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	138	ASN	C-O	-6.51	1.16	1.24
1	B	188	VAL	C-O	-6.47	1.17	1.24
1	B	318	ALA	C-O	-6.47	1.15	1.23
1	B	95	GLY	C-O	-6.46	1.19	1.23
1	B	247	GLN	C-O	-6.43	1.16	1.24
1	A	15	GLY	C-O	-6.38	1.15	1.23
1	A	161	ASN	C-O	6.35	1.30	1.23
1	A	312	PHE	C-O	-6.29	1.16	1.24
1	B	306	VAL	C-O	-6.22	1.17	1.24
1	C	238	TYR	C-O	-6.19	1.17	1.24
1	B	130	ASN	C-O	-5.99	1.16	1.23
1	A	313	ASN	CA-C	-5.93	1.46	1.53
1	B	196	SER	C-O	-5.75	1.17	1.24
1	C	262	THR	C-O	-5.69	1.17	1.23
1	B	221	LYS	C-O	5.61	1.31	1.24
1	A	37	ASP	C-O	-5.53	1.17	1.24
1	A	34	ASP	C-O	-5.52	1.16	1.23
1	B	312	PHE	C-O	-5.49	1.17	1.24
1	C	223	ALA	C-O	-5.38	1.18	1.24
1	A	157	LYS	C-O	-5.37	1.17	1.23
1	A	251	ARG	C-O	5.31	1.30	1.23
1	A	22	TYR	C-O	-5.25	1.17	1.23
1	C	188	VAL	C-O	-5.22	1.18	1.24
1	B	262	THR	C-O	-5.18	1.17	1.23
1	A	282	GLY	N-CA	5.14	1.50	1.45
1	C	321	ASP	CA-C	5.11	1.58	1.52
1	A	46	GLY	C-O	-5.10	1.16	1.23
1	A	172	ASN	C-O	-5.08	1.17	1.24
1	A	126	MET	C-O	-5.06	1.17	1.24
1	B	343	VAL	C-O	-5.05	1.18	1.24

All (43) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	26	ALA	N-CA-C	11.44	123.44	110.97
1	B	206	GLY	CA-C-N	10.43	141.46	121.54
1	B	206	GLY	C-N-CA	10.43	141.46	121.54
1	A	223	ALA	N-CA-C	10.22	127.14	107.71
1	B	199	ARG	NE-CZ-NH1	-8.16	113.34	121.50
1	A	159	GLY	N-CA-C	7.76	121.86	110.38
1	C	264	ASN	N-CA-C	7.71	121.46	108.90
1	B	199	ARG	CD-NE-CZ	7.60	135.04	124.40

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	9	ASN	N-CA-CB	-7.35	99.54	110.85
1	B	60	PHE	CB-CA-C	7.19	123.50	109.33
1	B	264	ASN	N-CA-C	7.17	120.60	108.90
1	A	223	ALA	CB-CA-C	-7.15	101.24	111.76
1	B	8	GLY	CA-C-N	6.89	135.05	122.92
1	B	8	GLY	C-N-CA	6.89	135.05	122.92
1	A	313	ASN	N-CA-C	6.84	117.67	108.23
1	B	8	GLY	O-C-N	-6.69	111.78	122.42
1	B	313	ASN	N-CA-C	6.48	116.55	108.19
1	B	221	LYS	N-CA-C	6.45	124.53	110.80
1	B	199	ARG	NE-CZ-NH2	6.43	124.99	119.20
1	A	164	SER	N-CA-C	6.28	119.67	112.57
1	B	206	GLY	O-C-N	-6.22	116.15	123.18
1	B	330	ASN	N-CA-C	6.08	116.30	108.34
1	B	9	ASN	CA-C-N	-6.02	112.25	121.40
1	B	9	ASN	C-N-CA	-6.02	112.25	121.40
1	A	139	ASN	N-CA-C	6.01	120.94	113.06
1	B	217	SER	N-CA-C	6.00	123.59	110.80
1	C	161	ASN	N-CA-C	5.97	117.72	109.54
1	B	23	PHE	N-CA-C	-5.85	99.70	109.24
1	C	96	ARG	N-CA-C	-5.60	98.21	108.02
1	B	161	ASN	N-CA-C	5.59	120.98	112.54
1	A	285	GLN	N-CA-C	5.58	117.72	108.13
1	C	250	SER	N-CA-C	5.55	118.27	110.23
1	A	250	SER	N-CA-C	5.33	117.60	110.35
1	C	89	PHE	CB-CA-C	-5.33	99.82	110.42
1	A	184	LEU	N-CA-C	-5.31	105.07	112.45
1	C	222	ARG	N-CA-C	5.28	117.70	109.52
1	C	306	VAL	O-C-N	-5.27	116.94	123.10
1	C	315	ASN	N-CA-CB	-5.26	103.90	110.90
1	B	348	LEU	CA-C-N	-5.26	116.10	123.10
1	B	348	LEU	C-N-CA	-5.26	116.10	123.10
1	C	164	SER	N-CA-C	5.25	118.50	112.57
1	A	306	VAL	O-C-N	-5.11	117.12	123.10
1	C	135	THR	N-CA-C	5.09	116.68	108.34

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	41	ARG	Sidechain
1	B	199	ARG	Sidechain

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Group
1	B	59	ARG	Sidechain
1	B	60	PHE	Mainchain
1	B	8	GLY	Mainchain
1	B	9	ASN	Mainchain
1	C	41	ARG	Sidechain

5.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2711	0	2556	151	0
1	B	2705	0	2545	110	0
1	C	2717	0	2565	142	0
2	A	1	0	0	0	0
3	A	203	0	0	9	0
3	B	168	0	0	4	1
3	C	149	0	0	5	0
All	All	8654	0	7666	371	1

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 23.

All (371) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:199:ARG:NH1	1:B:203:GLN:HB3	1.58	1.17
1:B:220:GLY:O	1:B:221:LYS:HG2	1.46	1.16
1:A:111:PHE:CE1	1:A:268:VAL:CG1	2.35	1.09
1:C:257:LEU:CD1	1:C:336:TYR:CE1	2.37	1.08
1:C:257:LEU:CD1	1:C:336:TYR:HE1	1.67	1.07
1:B:119:MET:O	1:B:127:THR:HG21	1.55	1.04
1:C:275:PHE:HE2	1:C:277:LEU:HB2	1.25	0.98
1:B:96:ARG:NH1	1:B:123:ASP:OD1	1.96	0.98
1:C:295:TYR:OH	1:C:335:GLU:OE1	1.80	0.98
1:C:257:LEU:HD11	1:C:336:TYR:HE1	1.28	0.97
1:C:236:ASN:O	1:C:271:TYR:CD1	2.19	0.96

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:275:PHE:CE2	1:C:277:LEU:HB2	2.01	0.95
1:A:111:PHE:CE1	1:A:268:VAL:HG11	2.01	0.95
1:C:236:ASN:O	1:C:271:TYR:HD1	1.51	0.93
1:C:302:LYS:N	1:C:327:LEU:HD11	1.84	0.92
1:A:316:MET:HE2	1:B:56:GLY:HA3	1.51	0.92
1:A:111:PHE:HE1	1:A:268:VAL:CG1	1.80	0.90
1:C:257:LEU:HD12	1:C:336:TYR:CE1	2.06	0.90
1:A:54:LEU:HD12	1:A:86:PHE:HD1	1.35	0.90
1:B:34:ASP:O	1:C:162:ASN:HB2	1.72	0.89
1:B:113:LEU:HD12	1:B:321:ASP:HB2	1.56	0.86
1:B:155:GLN:NE2	1:B:172:ASN:ND2	2.23	0.85
1:B:155:GLN:HG2	3:B:413:HOH:O	1.75	0.84
1:A:257:LEU:CD1	1:A:336:TYR:HE2	1.91	0.83
1:A:285:GLN:HG3	1:A:302:LYS:HG3	1.60	0.82
1:B:243:TYR:HD1	1:B:265:VAL:HG22	1.43	0.82
1:B:98[B]:TYR:CD2	1:B:102:TYR:HD2	1.97	0.82
1:B:98[B]:TYR:CD2	1:B:102:TYR:CD2	2.68	0.81
1:B:155:GLN:NE2	1:B:172:ASN:HD22	1.77	0.81
1:A:111:PHE:CE1	1:A:268:VAL:HG12	2.16	0.79
1:A:270:GLN:HG2	1:A:280:SER:HB2	1.63	0.79
1:A:224:GLN:NE2	3:A:501:HOH:O	2.14	0.79
1:C:126:MET:CE	1:C:195:SER:HB2	2.13	0.79
1:B:157:LYS:O	1:B:162:ASN:ND2	2.16	0.78
1:B:119:MET:O	1:B:127:THR:CG2	2.32	0.78
1:C:257:LEU:HD11	1:C:336:TYR:CE1	2.14	0.77
1:B:98[B]:TYR:HD2	1:B:102:TYR:CD2	2.04	0.76
1:B:199:ARG:HH11	1:B:203:GLN:HB3	1.49	0.76
1:C:16[B]:LYS:HB3	1:C:351:GLN:HG2	1.67	0.76
1:C:112:PRO:HA	1:C:309:TYR:CE1	2.22	0.74
1:C:132:ASN:CB	1:C:158:ASN:HD21	2.01	0.74
1:C:187:GLY:O	1:C:232:PHE:HA	1.87	0.74
1:A:140[A]:ASN:OD1	1:A:146:ASP:HA	1.88	0.73
1:C:10[B]:LYS:NZ	1:C:10[B]:LYS:HB3	2.04	0.73
1:A:232:PHE:HE2	1:A:237:VAL:CG2	2.02	0.72
1:C:45[B]:LYS:HE2	1:C:59:ARG:NH1	2.04	0.72
1:B:270:GLN:HG2	1:B:280:SER:HB2	1.71	0.72
1:A:184:LEU:HB2	1:A:188:VAL:HG13	1.70	0.72
1:B:131:ARG:NH2	1:B:170:LYS:O	2.22	0.72
1:A:237:VAL:HG12	1:A:271:TYR:HD1	1.55	0.71
1:B:188:VAL:CG1	1:B:232:PHE:HD1	2.03	0.71
1:C:126:MET:HE1	1:C:195:SER:HB2	1.72	0.70

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:312:PHE:HB3	1:C:50:ILE:HG12	1.73	0.69
1:C:184:LEU:HB2	1:C:188:VAL:HG13	1.73	0.69
1:B:157:LYS:HB2	1:B:174:ASP:OD1	1.92	0.69
1:A:221:LYS:HG3	1:A:222:ARG:HG3	1.74	0.68
1:C:199:ARG:HD3	1:C:223:ALA:HB2	1.73	0.68
1:A:54:LEU:HD12	1:A:86:PHE:CD1	2.25	0.68
1:C:302:LYS:N	1:C:327:LEU:CD1	2.56	0.68
1:A:263:GLU:HG3	1:A:289[A]:LYS:HE3	1.76	0.67
1:B:130:ASN:O	1:B:133:LEU:HD12	1.95	0.67
1:A:135:THR:OG1	1:A:153:GLN:NE2	2.27	0.67
1:A:232:PHE:CE2	1:A:237:VAL:CG2	2.78	0.66
1:A:217:SER:HB2	1:A:258:ILE:HB	1.78	0.66
1:C:16[A]:LYS:HB3	1:C:351:GLN:HG2	1.77	0.65
1:A:96:ARG:NH1	1:C:70:GLU:HB2	2.10	0.65
1:A:33:GLU:HA	1:B:163:LYS:HG3	1.79	0.65
1:C:132:ASN:HB3	1:C:158:ASN:HD21	1.61	0.65
1:C:252:TYR:CE1	1:C:332:PHE:HZ	2.14	0.65
1:B:111:PHE:HE1	1:B:268:VAL:HB	1.62	0.65
1:B:148:LEU:HB2	1:B:182:TYR:CD1	2.31	0.64
1:A:197:SER:C	1:A:222:ARG:HH12	2.05	0.64
1:C:10[B]:LYS:NZ	1:C:10[B]:LYS:CB	2.61	0.64
1:A:171:ASP:C	1:A:203:GLN:HE22	2.05	0.64
1:A:25:SER:HB2	1:A:341:ASP:OD1	1.98	0.64
1:A:46:GLY:N	1:A:58:GLY:O	2.22	0.64
1:A:57:PHE:HE1	1:A:84:LEU:C	2.06	0.64
1:A:316:MET:HE2	1:B:56:GLY:CA	2.25	0.63
1:B:130:ASN:OD1	1:B:131:ARG:NH1	2.29	0.63
1:B:199:ARG:NH2	1:B:218:ALA:O	2.32	0.63
1:A:4:TYR:CE1	1:A:6:LYS:HG3	2.33	0.63
1:A:237:VAL:HG12	1:A:271:TYR:CD1	2.33	0.63
1:A:39:ARG:HD3	1:A:63:GLU:OE1	1.98	0.62
1:A:45[B]:LYS:NZ	3:A:503:HOH:O	2.33	0.62
1:B:148:LEU:HB2	1:B:182:TYR:HD1	1.63	0.62
1:A:111:PHE:HE1	1:A:268:VAL:HG11	1.45	0.62
1:B:220:GLY:C	1:B:221:LYS:HG2	2.23	0.62
1:A:234:ALA:O	1:A:237:VAL:HG22	2.00	0.62
1:C:24:ALA:H	1:C:34:ASP:HB2	1.63	0.62
1:C:187:GLY:O	1:C:233[A]:ASP:N	2.32	0.62
1:C:69:ALA:HB3	1:C:72:GLU:OE1	1.99	0.62
1:B:199:ARG:HH12	1:B:203:GLN:HB3	1.57	0.61
1:A:199:ARG:NH1	1:A:218:ALA:O	2.34	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:126:MET:HE3	1:C:195:SER:HB2	1.81	0.61
1:C:132:ASN:HB2	1:C:158:ASN:HD21	1.65	0.61
1:A:67:ASN:OD1	1:A:67:ASN:N	2.33	0.61
1:C:20:ARG:HD2	1:C:39:ARG:NH1	2.15	0.61
1:B:329[B]:ASP:OD2	1:B:329[B]:ASP:N	2.31	0.61
1:C:157:LYS:NZ	1:C:157:LYS:HB3	2.14	0.61
1:B:204[A]:LYS:HD3	1:B:221:LYS:HA	1.82	0.61
1:A:352:PHE:CD2	1:B:11:LEU:HD21	2.36	0.60
1:B:113:LEU:HD12	1:B:321:ASP:CB	2.29	0.60
1:C:168:MET:N	1:C:171:ASP:OD1	2.33	0.60
1:B:169:ALA:HB1	1:B:251:ARG:HD3	1.82	0.60
1:C:252:TYR:CE1	1:C:332:PHE:CZ	2.89	0.60
1:C:169:ALA:HB1	1:C:251:ARG:HD3	1.82	0.60
1:A:171:ASP:C	1:A:203:GLN:NE2	2.59	0.60
1:A:59:ARG:HB3	1:A:81:TYR:CE1	2.37	0.60
1:A:263:GLU:HG3	1:A:289[A]:LYS:CE	2.31	0.59
1:B:28:LYS:HE3	1:C:201:PRO:HG2	1.84	0.59
1:A:74[A]:GLU:HA	1:A:74[A]:GLU:OE1	2.03	0.59
1:A:257:LEU:HD13	1:A:336:TYR:HE2	1.66	0.59
1:B:70:GLU:HB2	1:C:96:ARG:NH1	2.18	0.59
1:C:302:LYS:HB3	1:C:327:LEU:HD12	1.85	0.59
1:A:327:LEU:O	3:A:502:HOH:O	2.15	0.59
1:C:112:PRO:CA	1:C:309:TYR:CE1	2.86	0.59
1:B:49:GLN:NE2	1:B:55:THR:HG22	2.17	0.58
1:B:67:ASN:O	1:C:131:ARG:HD2	2.03	0.58
1:B:327:LEU:HB3	1:B:340:THR:HG22	1.84	0.58
1:A:131:ARG:NH2	1:A:158:ASN:HB3	2.19	0.57
1:C:117:ASP:O	1:C:301:VAL:HG21	2.05	0.57
1:A:197:SER:C	1:A:222:ARG:NH1	2.63	0.57
1:A:36:ASP:N	1:B:132:ASN:ND2	2.52	0.57
1:C:36:ASP:O	1:C:67:ASN:HB2	2.04	0.57
1:C:309:TYR:HB3	1:C:311:TYR:CE1	2.39	0.57
1:A:308:SER:HA	3:A:521:HOH:O	2.05	0.57
1:C:113:LEU:CD1	1:C:345:GLY:HA3	2.35	0.57
1:A:257:LEU:CD1	1:A:336:TYR:CE2	2.80	0.57
1:A:46:GLY:O	1:A:57:PHE:HA	2.05	0.56
1:A:50:ILE:HD12	1:A:54:LEU:HD23	1.87	0.56
1:C:302:LYS:CB	1:C:327:LEU:HD12	2.35	0.56
1:A:59:ARG:NH2	1:A:61:GLU:OE2	2.38	0.56
1:A:316:MET:CE	1:B:56:GLY:HA3	2.32	0.56
1:A:79:LEU:HD23	1:A:97:ASN:OD1	2.05	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:270:GLN:HG2	1:A:280:SER:CB	2.34	0.56
1:A:50:ILE:HD13	1:C:312:PHE:HB3	1.88	0.56
1:C:309:TYR:HD2	1:C:311:TYR:HH	1.53	0.56
1:A:352:PHE:HB2	1:B:11:LEU:HD11	1.87	0.56
1:A:280:SER:HB3	3:A:521:HOH:O	2.06	0.56
1:A:107:TRP:CD1	1:A:231:LYS:HE2	2.41	0.55
1:B:118:THR:OG1	1:B:266:GLU:OE2	2.25	0.55
1:C:316:MET:CE	1:C:350:TYR:HB2	2.36	0.55
1:A:232:PHE:CE2	1:A:237:VAL:HG23	2.42	0.55
1:A:36:ASP:N	1:B:132:ASN:HD21	2.05	0.55
1:A:119:MET:HE3	1:A:246:THR:HG22	1.89	0.55
1:C:50:ILE:HG22	1:C:51:THR:HG23	1.89	0.55
1:A:263:GLU:CG	1:A:289[A]:LYS:HE3	2.36	0.55
1:B:158:ASN:HD22	1:B:172:ASN:HD21	1.55	0.54
1:A:57:PHE:CE1	1:A:83:GLY:C	2.85	0.54
1:C:10[B]:LYS:HB3	1:C:10[B]:LYS:HZ2	1.70	0.54
1:C:126:MET:HE3	1:C:195:SER:CB	2.37	0.54
1:C:287:LYS:HD2	1:C:299:ASP:OD1	2.07	0.54
1:B:121:GLN:OE1	1:B:251:ARG:HB2	2.08	0.54
1:B:187:GLY:O	1:B:232:PHE:HA	2.07	0.54
1:A:316:MET:HE3	1:B:84:LEU:HD23	1.89	0.54
1:C:131:ARG:HE	1:C:158:ASN:HB3	1.72	0.54
1:C:114:TRP:NE1	1:C:323:LYS:HB2	2.22	0.54
1:C:72:GLU:HB3	3:C:437:HOH:O	2.08	0.53
1:C:62:TRP:CZ3	1:C:64:THR:HG22	2.43	0.53
1:A:53:GLN:O	1:A:86:PHE:HA	2.08	0.53
1:A:97:ASN:O	1:A:133:LEU:HD12	2.08	0.53
1:C:37:ASP:O	1:C:39:ARG:NH1	2.40	0.53
1:B:102:TYR:HB2	1:B:127:THR:O	2.08	0.53
1:C:233[B]:ASP:OD1	1:C:233[B]:ASP:N	2.42	0.53
1:C:309:TYR:HD2	1:C:311:TYR:OH	1.92	0.53
1:A:232:PHE:HE2	1:A:237:VAL:HG21	1.72	0.53
1:A:287:LYS:O	1:A:289[A]:LYS:NZ	2.42	0.53
1:A:257:LEU:HD13	1:A:336:TYR:CE2	2.43	0.53
1:A:125:PHE:HA	1:A:155:GLN:HE22	1.74	0.53
1:A:199:ARG:NH2	1:A:218:ALA:O	2.42	0.53
1:B:246:THR:O	1:B:261:LYS:HD2	2.08	0.53
1:A:36:ASP:H	1:B:132:ASN:ND2	2.06	0.52
1:C:310:TYR:C	1:C:310:TYR:CD2	2.88	0.52
1:A:313:ASN:ND2	1:B:50:ILE:HG12	2.24	0.52
1:C:245:GLN:OE1	1:C:263:GLU:HG2	2.09	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:270:GLN:HG2	1:C:280:SER:CB	2.39	0.52
1:A:65:LYS:HG3	1:A:74[A]:GLU:HG2	1.91	0.52
1:A:101:VAL:HG12	1:A:101:VAL:O	2.09	0.52
1:A:162:ASN:HB2	1:C:34:ASP:O	2.10	0.52
1:C:270:GLN:HG2	1:C:280:SER:HB2	1.91	0.52
1:C:187:GLY:O	1:C:232:PHE:CD1	2.62	0.52
1:A:217:SER:HB2	1:A:258:ILE:CB	2.40	0.52
1:A:171:ASP:O	1:A:203:GLN:NE2	2.42	0.52
1:B:204[A]:LYS:CD	1:B:221:LYS:HA	2.40	0.52
1:B:188:VAL:HG13	1:B:232:PHE:HD1	1.70	0.52
1:C:187:GLY:O	1:C:233[B]:ASP:N	2.35	0.52
1:C:62:TRP:CH2	1:C:64:THR:CG2	2.93	0.52
1:A:102:TYR:CD1	1:A:102:TYR:C	2.87	0.51
1:B:148:LEU:HD23	1:B:148:LEU:C	2.35	0.51
1:C:236:ASN:O	1:C:271:TYR:CE1	2.62	0.51
1:C:277:LEU:CD2	1:C:308:SER:OG	2.58	0.51
1:A:202:ASN:N	1:A:202:ASN:HD22	2.07	0.51
1:B:4:TYR:HB3	1:B:11:LEU:HB2	1.90	0.51
1:C:199:ARG:CD	1:C:223:ALA:HB2	2.40	0.51
1:B:111:PHE:CE1	1:B:268:VAL:HB	2.44	0.51
1:C:20:ARG:HD2	1:C:39:ARG:HH11	1.75	0.51
1:C:168:MET:O	1:C:171:ASP:N	2.33	0.51
1:B:101:VAL:HB	1:B:126:MET:O	2.11	0.51
1:C:112:PRO:CA	1:C:309:TYR:HE1	2.24	0.51
1:B:243:TYR:CD1	1:B:265:VAL:HG22	2.34	0.51
1:C:278:LYS:O	1:C:278:LYS:HG2	2.11	0.51
1:B:272:LEU:HB2	1:B:278:LYS:HG3	1.93	0.51
1:A:4:TYR:O	1:A:10:LYS:HA	2.10	0.50
1:C:301:VAL:C	1:C:327:LEU:HD11	2.34	0.50
1:C:275:PHE:HE2	1:C:277:LEU:CB	2.12	0.50
1:A:3:VAL:HG22	1:A:3:VAL:O	2.12	0.50
1:C:239:LEU:CD2	1:C:269:ALA:CB	2.89	0.50
1:C:252:TYR:CD1	1:C:332:PHE:HZ	2.30	0.50
1:A:76:LYS:HB3	1:C:70:GLU:HG2	1.94	0.50
1:B:155:GLN:HE21	1:B:172:ASN:HD22	1.59	0.50
1:B:220:GLY:O	1:B:221:LYS:CG	2.39	0.50
1:C:135:THR:OG1	1:C:153:GLN:NE2	2.38	0.50
1:B:271:TYR:O	1:B:279:PRO:HD2	2.12	0.50
1:C:112:PRO:HD2	1:C:321:ASP:OD2	2.12	0.50
1:C:3:VAL:HG12	1:C:3:VAL:O	2.12	0.49
1:C:108:THR:HG21	1:C:242:MET:CB	2.42	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:226:TRP:CE3	1:A:226:TRP:C	2.90	0.49
1:C:131:ARG:NH2	1:C:170:LYS:O	2.36	0.49
1:A:102:TYR:HB2	1:A:127:THR:O	2.12	0.49
1:B:182:TYR:HE2	1:B:184:LEU:HD13	1.77	0.49
1:B:302:LYS:NZ	3:B:404:HOH:O	2.45	0.49
1:B:168:MET:HE2	3:B:511:HOH:O	2.13	0.49
1:A:20:ARG:O	1:B:94:TYR:CE2	2.66	0.49
1:A:98:TYR:CE1	1:A:129:ARG:HG3	2.48	0.49
1:C:1:ALA:N	3:C:401:HOH:O	2.32	0.49
1:C:5:ASN:ND2	1:C:10[B]:LYS:HE3	2.28	0.49
1:C:108:THR:HG21	1:C:242:MET:HB3	1.94	0.49
1:A:291:LEU:CD1	1:A:332:PHE:CZ	2.96	0.48
1:B:40:VAL:HG11	1:C:60:PHE:CG	2.47	0.48
1:A:65:LYS:HB2	1:A:74[B]:GLU:HB2	1.96	0.48
1:A:119:MET:HE3	1:A:246:THR:CG2	2.43	0.48
1:A:199:ARG:CZ	1:A:248:ASN:HB3	2.44	0.48
1:B:348:LEU:HD21	1:C:83:GLY:HA2	1.95	0.48
1:C:188:VAL:HA	1:C:231:LYS:O	2.14	0.48
1:B:352:PHE:CD2	1:C:11:LEU:HD11	2.49	0.48
1:A:238:TYR:HB3	1:A:270:GLN:HB2	1.96	0.48
1:C:133:LEU:CD2	1:C:155:GLN:HB2	2.44	0.48
1:C:194:TYR:HD2	1:C:226:TRP:HB3	1.78	0.48
1:A:57:PHE:CE2	1:A:93:ASP:HB3	2.48	0.48
1:A:187:GLY:O	1:A:232:PHE:HA	2.14	0.48
1:A:316:MET:CE	1:B:56:GLY:CA	2.92	0.48
1:A:73:GLY:N	3:A:508:HOH:O	2.44	0.47
1:A:50:ILE:HG22	1:A:51:THR:HG23	1.96	0.47
1:A:4:TYR:HB3	1:A:11:LEU:HB2	1.95	0.47
1:C:316:MET:HE3	1:C:350:TYR:HB2	1.95	0.47
1:A:117:ASP:O	1:A:301:VAL:HG21	2.13	0.47
1:B:270:GLN:HG2	1:B:280:SER:CB	2.41	0.47
1:A:222:ARG:HH11	1:A:222:ARG:HB3	1.80	0.47
1:C:45[B]:LYS:HG3	1:C:59:ARG:HD2	1.96	0.47
1:C:131:ARG:NE	1:C:158:ASN:HB3	2.29	0.47
1:C:302:LYS:CB	1:C:327:LEU:CD1	2.92	0.47
1:A:57:PHE:HE2	1:A:93:ASP:HB3	1.79	0.47
1:A:185:GLY:C	1:A:187:GLY:H	2.23	0.47
1:B:126:MET:HE2	1:B:155:GLN:CB	2.45	0.47
1:C:126:MET:HE3	1:C:126:MET:HB2	1.53	0.47
1:C:1:ALA:O	1:C:3:VAL:HG23	2.15	0.47
1:C:148:LEU:HB2	1:C:182:TYR:CD1	2.50	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:12:ASP:HB3	1:A:45[B]:LYS:HB2	1.97	0.46
1:A:23:PHE:HB2	1:A:344:LEU:HB3	1.97	0.46
1:A:161:ASN:HB2	3:A:580:HOH:O	2.15	0.46
1:B:111:PHE:HB2	1:B:114:TRP:O	2.16	0.46
1:C:111:PHE:HB2	1:C:114:TRP:O	2.14	0.46
1:B:132:ASN:OD1	1:B:156:GLY:HA3	2.16	0.46
1:C:287:LYS:HB3	1:C:287:LYS:HE3	1.37	0.46
1:C:239:LEU:HD23	1:C:269:ALA:HA	1.98	0.46
1:C:302:LYS:H	1:C:327:LEU:CD1	2.28	0.46
1:A:111:PHE:HB2	1:A:114:TRP:O	2.16	0.46
1:B:36:ASP:O	1:B:67:ASN:HB2	2.16	0.46
1:C:167:GLY:O	1:C:169:ALA:N	2.49	0.46
1:B:3:VAL:HG22	1:B:3:VAL:O	2.15	0.46
1:B:98[B]:TYR:CE2	1:B:102:TYR:HD2	2.33	0.46
1:C:86:PHE:HB3	1:C:89:PHE:HB2	1.98	0.46
1:A:37:ASP:OD2	1:A:39:ARG:NH1	2.43	0.46
1:B:326:LEU:HD23	1:B:326:LEU:N	2.31	0.45
1:C:61:GLU:HB3	1:C:79:LEU:HD12	1.98	0.45
1:A:78:ARG:HB3	1:A:79:LEU:HD12	1.99	0.45
1:A:202:ASN:N	1:A:202:ASN:ND2	2.61	0.45
1:B:158:ASN:HD22	1:B:172:ASN:ND2	2.13	0.45
1:A:135:THR:HG21	1:A:137:ARG:HH21	1.82	0.45
1:A:182:TYR:CE1	1:A:183:GLU:O	2.69	0.45
1:B:9:ASN:O	1:B:10:LYS:HB2	2.17	0.45
1:C:238:TYR:HB3	1:C:270:GLN:HB2	1.98	0.45
1:B:27:ASP:HB3	1:B:28:LYS:H	1.64	0.45
1:B:40:VAL:HG21	1:C:60:PHE:CD1	2.52	0.45
1:B:317:SER:OG	1:B:349:VAL:HG22	2.16	0.45
1:C:186:TRP:CD1	1:C:186:TRP:N	2.84	0.45
1:A:60:PHE:CD1	1:C:40:VAL:HG21	2.51	0.45
1:B:86:PHE:HD2	1:B:89:PHE:HD1	1.63	0.45
1:B:182:TYR:CE2	1:B:184:LEU:HD13	2.51	0.45
1:C:123:ASP:HB3	1:C:170:LYS:HB3	1.99	0.45
1:C:132:ASN:HB2	1:C:158:ASN:ND2	2.29	0.45
1:C:187:GLY:C	1:C:232:PHE:HD1	2.25	0.44
1:A:96:ARG:HA	1:A:130:ASN:O	2.18	0.44
1:A:104:THR:HG23	1:A:107:TRP:CZ3	2.52	0.44
1:A:182:TYR:CD1	1:A:183:GLU:N	2.86	0.44
1:A:289[B]:LYS:HE2	1:A:289[B]:LYS:HB3	1.61	0.44
1:A:217:SER:HB2	1:A:258:ILE:CG1	2.47	0.44
1:B:92:ILE:HD12	1:B:136:TYR:HB2	2.00	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:277:LEU:HD23	1:C:308:SER:OG	2.18	0.44
1:A:57:PHE:CD1	1:A:57:PHE:N	2.86	0.44
1:A:39:ARG:HG3	1:A:39:ARG:HH11	1.83	0.43
1:B:131:ARG:O	1:B:133:LEU:HG	2.18	0.43
1:B:188:VAL:HA	1:B:231:LYS:O	2.18	0.43
1:C:10[B]:LYS:CB	1:C:10[B]:LYS:HZ1	2.30	0.43
1:C:123:ASP:HB2	1:C:170:LYS:HG2	2.00	0.43
1:A:99:GLY:HA2	1:A:153:GLN:OE1	2.18	0.43
1:B:293:GLY:HA3	3:B:518:HOH:O	2.17	0.43
1:C:42:LEU:HB3	3:C:514:HOH:O	2.17	0.43
1:A:291:LEU:HD13	1:A:332:PHE:CZ	2.53	0.43
1:A:113:LEU:HD12	1:A:345:GLY:HA3	2.00	0.43
1:B:270:GLN:HB3	1:B:278:LYS:HD3	2.01	0.43
1:C:125:PHE:O	1:C:130:ASN:ND2	2.23	0.43
1:A:57:PHE:CE1	1:A:84:LEU:N	2.86	0.43
1:A:328:LYS:HG3	1:A:328:LYS:O	2.19	0.43
1:B:155:GLN:CD	1:B:172:ASN:ND2	2.75	0.43
1:C:40:VAL:HG12	1:C:42:LEU:HD12	2.01	0.43
1:B:85:LYS:HB2	1:B:91:SER:HB3	2.01	0.43
1:B:182:TYR:HD2	1:B:184:LEU:HD22	1.84	0.43
1:A:111:PHE:CZ	1:A:268:VAL:HG12	2.52	0.42
1:A:329:ASP:OD1	1:A:329:ASP:N	2.50	0.42
1:B:188:VAL:HG23	1:B:188:VAL:O	2.19	0.42
1:C:10[B]:LYS:HB3	1:C:10[B]:LYS:HZ1	1.83	0.42
1:A:36:ASP:HB2	1:B:132:ASN:ND2	2.33	0.42
1:A:68:LYS:HB3	1:A:72:GLU:OE1	2.19	0.42
1:C:123:ASP:O	1:C:170:LYS:HA	2.20	0.42
1:C:187:GLY:O	1:C:232:PHE:HD1	2.01	0.42
1:C:111:PHE:O	1:C:309:TYR:OH	2.36	0.42
1:A:182:TYR:HD1	1:A:183:GLU:N	2.18	0.42
1:C:10[A]:LYS:NZ	3:C:405:HOH:O	2.52	0.42
1:A:8:GLY:O	1:A:48:THR:HA	2.19	0.42
1:B:188:VAL:HG12	1:B:232:PHE:HD1	1.82	0.42
1:C:187:GLY:O	1:C:232:PHE:CA	2.64	0.42
1:A:199:ARG:CZ	1:A:218:ALA:O	2.68	0.42
1:A:287:LYS:CG	1:A:289[A]:LYS:NZ	2.83	0.42
1:B:199:ARG:NH1	1:B:203:GLN:CB	2.52	0.42
1:A:65:LYS:HB2	1:A:74[A]:GLU:HB3	2.02	0.41
1:A:69:ALA:HB2	1:B:166:ALA:HB1	2.02	0.41
1:A:303:TYR:CD2	1:A:323:LYS:HG3	2.55	0.41
1:A:348:LEU:HD21	1:B:83:GLY:HA2	2.01	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:309:TYR:CB	1:C:311:TYR:CE1	3.03	0.41
1:A:101:VAL:CG2	1:A:195:SER:HB3	2.50	0.41
1:C:92:ILE:HD12	1:C:136:TYR:HB2	2.02	0.41
1:C:186:TRP:O	1:C:232:PHE:CE1	2.73	0.41
1:C:187:GLY:C	1:C:232:PHE:CD1	2.99	0.41
1:A:102:TYR:CD1	1:A:102:TYR:O	2.73	0.41
1:C:68:LYS:HB3	1:C:69:ALA:H	1.69	0.41
1:A:111:PHE:CZ	1:A:282:GLY:HA3	2.55	0.41
1:A:236:ASN:ND2	3:A:515:HOH:O	2.53	0.41
1:A:92:ILE:HD12	1:A:135:THR:O	2.21	0.41
1:B:237:VAL:HG22	1:B:271:TYR:HD1	1.86	0.41
1:C:270:GLN:HE21	1:C:280:SER:CB	2.32	0.41
1:A:278:LYS:O	1:A:278:LYS:HG2	2.19	0.41
1:B:31:LYS:HA	1:C:161:ASN:HB3	2.03	0.41
1:C:334:LYS:HA	1:C:334:LYS:HD2	1.82	0.41
1:A:8:GLY:O	1:A:49:GLN:N	2.51	0.41
1:A:20:ARG:O	1:B:94:TYR:HE2	2.02	0.41
1:A:111:PHE:N	1:A:111:PHE:HD1	2.19	0.41
1:A:274:ASP:HB3	3:A:515:HOH:O	2.20	0.41
1:A:100:VAL:HG21	1:A:177:GLY:C	2.46	0.41
1:A:329:ASP:HA	1:A:333:THR:OG1	2.21	0.41
1:B:97:ASN:CG	1:B:98[A]:TYR:H	2.29	0.41
1:C:330:ASN:HB2	3:C:505:HOH:O	2.20	0.41
1:C:123:ASP:CB	1:C:170:LYS:HG2	2.51	0.41
1:A:43:GLY:HA2	1:A:60:PHE:O	2.20	0.40
1:B:98[B]:TYR:CE2	1:B:102:TYR:CD2	3.07	0.40
1:C:314:LYS:HE3	1:C:314:LYS:HB3	1.79	0.40
1:B:204[A]:LYS:HA	1:B:219:THR:HG23	2.03	0.40
1:B:204[B]:LYS:HA	1:B:219:THR:HG23	2.03	0.40
1:C:186:TRP:O	1:C:232:PHE:HE1	2.04	0.40
1:A:94:TYR:HA	1:A:133:LEU:O	2.21	0.40
1:A:111:PHE:N	1:A:111:PHE:CD1	2.90	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:528:HOH:O	3:B:528:HOH:O[2_655]	1.55	0.65

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	344/342 (101%)	303 (88%)	31 (9%)	10 (3%)	3	18
1	B	343/342 (100%)	307 (90%)	30 (9%)	6 (2%)	7	28
1	C	345/342 (101%)	303 (88%)	36 (10%)	6 (2%)	7	28
All	All	1032/1026 (101%)	913 (88%)	97 (9%)	22 (2%)	5	23

All (22) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	27	ASP
1	B	217	SER
1	A	28	LYS
1	A	160	ASP
1	C	168	MET
1	A	29	GLY
1	A	217	SER
1	A	221	LYS
1	A	293	GLY
1	B	186	TRP
1	C	186	TRP
1	C	276	GLY
1	C	293	GLY
1	A	205	ALA
1	A	329	ASP
1	B	160	ASP
1	C	291	LEU
1	A	7	ASP
1	A	186	TRP
1	B	220	GLY
1	B	143	GLY
1	C	185	GLY

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	278/274 (102%)	260 (94%)	18 (6%)	15	42
1	B	277/274 (101%)	253 (91%)	24 (9%)	9	32
1	C	279/274 (102%)	254 (91%)	25 (9%)	9	31
All	All	834/822 (102%)	767 (92%)	67 (8%)	11	35

All (67) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2	GLU
1	A	13	VAL
1	A	19	VAL
1	A	30	LYS
1	A	48	THR
1	A	54	LEU
1	A	57	PHE
1	A	67	ASN
1	A	71	ASN
1	A	111	PHE
1	A	127	THR
1	A	172	ASN
1	A	204	LYS
1	A	222	ARG
1	A	224	GLN
1	A	255	LEU
1	A	260	ASN
1	A	284	ASN
1	B	16	LYS
1	B	31	LYS
1	B	44	VAL
1	B	45	LYS
1	B	47	ASP
1	B	92	ILE
1	B	127	THR
1	B	132	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	145	VAL
1	B	155	GLN
1	B	204[A]	LYS
1	B	204[B]	LYS
1	B	255	LEU
1	B	284	ASN
1	B	285	GLN
1	B	304	ILE
1	B	326	LEU
1	B	327	LEU
1	B	329[A]	ASP
1	B	329[B]	ASP
1	B	334	LYS
1	B	338	ILE
1	B	349	VAL
1	B	351	GLN
1	C	13	VAL
1	C	16[A]	LYS
1	C	16[B]	LYS
1	C	31	LYS
1	C	42	LEU
1	C	59	ARG
1	C	79	LEU
1	C	92	ILE
1	C	96	ARG
1	C	111	PHE
1	C	127	THR
1	C	138	ASN
1	C	146	ASP
1	C	157	LYS
1	C	165	SER
1	C	180	THR
1	C	222	ARG
1	C	277	LEU
1	C	278	LYS
1	C	284	ASN
1	C	287	LYS
1	C	302	LYS
1	C	314	LYS
1	C	316	MET
1	C	319	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (28)

such sidechains are listed below:

Mol	Chain	Res	Type
1	A	9	ASN
1	A	71	ASN
1	A	105	ASN
1	A	124	ASN
1	A	155	GLN
1	A	202	ASN
1	A	235	ASN
1	A	297	ASN
1	A	315	ASN
1	B	49	GLN
1	B	124	ASN
1	B	132	ASN
1	B	155	GLN
1	B	248	ASN
1	B	264	ASN
1	B	290	ASN
1	B	297	ASN
1	B	339	ASN
1	B	351	GLN
1	C	5	ASN
1	C	9	ASN
1	C	49	GLN
1	C	77	ASN
1	C	140	ASN
1	C	248	ASN
1	C	260	ASN
1	C	270	GLN
1	C	290	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 1 ligands modelled in this entry, 1 is monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	342/342 (100%)	0.11	6 (1%) 67 46	39, 98, 143, 163	4 (1%)
1	B	342/342 (100%)	0.37	20 (5%) 29 15	36, 91, 129, 188	3 (0%)
1	C	342/342 (100%)	0.06	8 (2%) 61 39	35, 94, 135, 176	5 (1%)
All	All	1026/1026 (100%)	0.18	34 (3%) 49 29	35, 94, 138, 188	12 (1%)

All (34) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	293	GLY	5.0
1	B	336	TYR	4.0
1	B	232	PHE	4.0
1	C	352	PHE	3.7
1	B	294	GLY	3.5
1	B	98[A]	TYR	3.5
1	C	221	LYS	3.4
1	A	3	VAL	3.2
1	B	29	GLY	3.0
1	A	11	LEU	2.9
1	B	82	ALA	2.9
1	C	204	LYS	2.9
1	B	239	LEU	2.7
1	C	53	GLN	2.7
1	B	28	LYS	2.7
1	B	58	GLY	2.7
1	A	29	GLY	2.5
1	A	175	GLY	2.5
1	C	16[A]	LYS	2.5
1	C	206	GLY	2.5
1	B	295	TYR	2.5
1	B	217	SER	2.4
1	B	72	GLU	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	C	233[A]	ASP	2.3
1	B	195	SER	2.3
1	B	255	LEU	2.3
1	B	128	SER	2.3
1	C	1	ALA	2.2
1	B	189	THR	2.2
1	B	225	ALA	2.2
1	B	188	VAL	2.2
1	A	45[A]	LYS	2.1
1	B	148	LEU	2.1
1	A	140[A]	ASN	2.0

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	CA	A	401	1/1	0.99	0.06	79,79,79,79	0

6.5 Other polymers [i](#)

There are no such residues in this entry.