Full wwPDB NMR Structure Validation Report (i)

Mar 6, 2026 – 09:44 AM UTC

PDB ID	:	1BV8 / pdb_00001bv8
Title	:	RECEPTOR DOMAIN FROM ALPHA-2-MACROGLOBULIN
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Deposited on	:	1998-09-22

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:

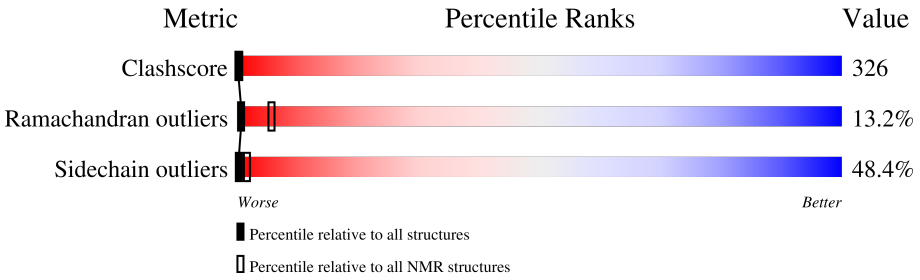
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)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

Mol	Chain	Length	Quality of chain
1	A	138	5% 21% 32% 42%

2 Ensemble composition and analysis (i)

This entry contains 1 models. Identification of well-defined residues and clustering analysis are not possible.

3 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 1986 atoms, of which 908 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called ALPHA-2-MACROGLOBULIN.

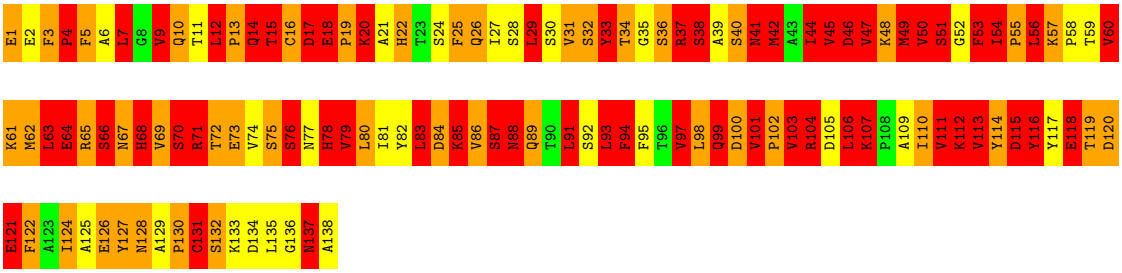
Mol	Chain	Residues	Atoms						Trace
			Total	C	H	N	O	S	
1	A	138	1986	688	908	174	211	5	0

4 Residue-property plots (i)

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: ALPHA-2-MACROGLOBULIN

Chain A: 5% 21% 32% 42%



5 Refinement protocol and experimental data overview

The models were refined using the following method: *distance geometry*.

Of the 20 calculated structures, 1 were deposited, based on the following criterion: *LEAST RESTRAINT VIOLATION*.

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

Software name	Classification	Version
DYANA	structure solution	
DYANA	refinement	

No chemical shift data was provided.

6 Model quality (i)

6.1 Standard geometry (i)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the (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	24.24	624/1101 (56.7%)	13.86	562/1497 (37.5%)
All	All	24.24	624/1101 (56.7%)	13.86	562/1497 (37.5%)

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	Planarity
1	A	19	0
All	All	19	0

All bond outliers are listed below. They are sorted according to the Z-score.

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	68	HIS	CE1-NE2	-111.51	0.21	1.32
1	A	100	ASP	C-N	-85.83	0.53	1.32
1	A	137	ASN	C-O	-85.52	0.16	1.24
1	A	2	GLU	C-O	-81.33	0.19	1.24
1	A	86	VAL	CA-CB	-79.98	0.48	1.53
1	A	22	HIS	CE1-NE2	-79.92	0.52	1.32
1	A	40	SER	C-O	-78.20	0.25	1.24
1	A	134	ASP	C-O	-77.27	0.35	1.23
1	A	39	ALA	C-O	-75.18	0.29	1.23
1	A	68	HIS	CG-ND1	-74.19	0.56	1.38
1	A	37	ARG	CZ-NH2	-74.17	0.37	1.33
1	A	131	CYS	C-O	-73.73	0.31	1.24
1	A	71	ARG	CZ-NH1	-71.82	0.32	1.32
1	A	37	ARG	CD-NE	-70.88	0.47	1.46
1	A	136	GLY	C-O	-70.29	0.29	1.23
1	A	35	GLY	C-O	-69.62	0.75	1.23
1	A	85	LYS	C-O	-67.63	0.38	1.24
1	A	134	ASP	CA-CB	-66.92	0.39	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	65	ARG	CZ-NH1	-64.76	0.42	1.32
1	A	37	ARG	CZ-NH1	-64.40	0.42	1.32
1	A	118	GLU	CA-CB	-64.39	0.44	1.53
1	A	117	TYR	C-O	-63.29	0.44	1.24
1	A	41	ASN	C-O	-62.66	0.45	1.24
1	A	66	SER	C-O	-61.46	0.51	1.24
1	A	22	HIS	CG-CD2	-61.15	0.68	1.35
1	A	85	LYS	C-N	-61.12	0.74	1.33
1	A	40	SER	CA-CB	-61.11	0.50	1.53
1	A	15	THR	CB-OG1	-60.84	0.46	1.43
1	A	71	ARG	CZ-NH2	-60.23	0.55	1.33
1	A	41	ASN	CA-CB	-60.12	0.51	1.53
1	A	3	PHE	CG-CD2	-59.67	0.13	1.38
1	A	117	TYR	CA-CB	-59.42	0.53	1.53
1	A	115	ASP	C-O	-59.17	0.53	1.23
1	A	120	ASP	C-O	-58.51	0.50	1.24
1	A	119	THR	CB-OG1	-58.42	0.50	1.43
1	A	86	VAL	C-O	-58.34	0.29	1.23
1	A	104	ARG	CZ-NH2	-57.83	0.58	1.33
1	A	119	THR	C-O	-57.78	0.44	1.23
1	A	71	ARG	CD-NE	-57.75	0.65	1.46
1	A	71	ARG	NE-CZ	-57.71	0.69	1.33
1	A	137	ASN	CA-C	-57.56	0.75	1.52
1	A	118	GLU	C-O	-57.43	0.51	1.24
1	A	104	ARG	CZ-NH1	-56.83	0.53	1.32
1	A	103	VAL	C-O	-56.59	0.56	1.24
1	A	104	ARG	CD-NE	-56.24	0.67	1.46
1	A	65	ARG	NE-CZ	-56.22	0.71	1.33
1	A	37	ARG	C-O	-55.61	0.55	1.24
1	A	104	ARG	NE-CZ	-54.99	0.72	1.33
1	A	22	HIS	CG-ND1	-54.90	0.77	1.38
1	A	118	GLU	CD-OE1	-54.57	0.21	1.25
1	A	137	ASN	CG-OD1	-54.41	0.20	1.23
1	A	135	LEU	C-O	-54.41	0.60	1.23
1	A	41	ASN	CG-OD1	-54.27	0.20	1.23
1	A	39	ALA	CA-CB	-54.19	0.41	1.54
1	A	135	LEU	C-N	-54.18	0.54	1.33
1	A	78	HIS	CE1-NE2	-54.07	0.78	1.32
1	A	40	SER	CA-C	-53.99	0.80	1.52
1	A	53	PHE	CG-CD2	-53.63	0.26	1.38
1	A	86	VAL	CA-C	-53.62	1.04	1.53
1	A	37	ARG	NE-CZ	-52.80	0.74	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	100	ASP	C-O	-51.86	0.58	1.24
1	A	88	ASN	CG-OD1	-51.40	0.25	1.23
1	A	46	ASP	CG-OD1	-51.08	0.28	1.25
1	A	120	ASP	CG-OD1	-51.06	0.28	1.25
1	A	137	ASN	CA-CB	-50.73	0.67	1.53
1	A	68	HIS	CG-CD2	-50.55	0.80	1.35
1	A	99	GLN	CD-OE1	-50.37	0.27	1.23
1	A	40	SER	CB-OG	-50.20	0.41	1.42
1	A	116	TYR	CG-CD1	-49.95	0.34	1.39
1	A	121	GLU	CD-OE1	-49.68	0.30	1.25
1	A	41	ASN	N-CA	-49.62	0.82	1.46
1	A	105	ASP	CG-OD1	-48.79	0.32	1.25
1	A	2	GLU	CD-OE2	-48.62	0.33	1.25
1	A	116	TYR	C-O	-47.92	0.63	1.24
1	A	135	LEU	CA-CB	-47.73	0.66	1.53
1	A	132	SER	C-O	-47.29	0.67	1.24
1	A	115	ASP	CG-OD2	-46.75	0.36	1.25
1	A	1	GLU	CD-OE1	-46.73	0.36	1.25
1	A	133	LYS	C-O	-46.60	0.65	1.24
1	A	106	LEU	CB-CG	-46.56	0.60	1.53
1	A	117	TYR	CG-CD2	-46.52	0.41	1.39
1	A	134	ASP	C-N	-46.32	0.70	1.33
1	A	135	LEU	CB-CG	-45.99	0.61	1.53
1	A	134	ASP	CB-CG	-45.79	0.37	1.52
1	A	137	ASN	C-N	-45.67	0.69	1.33
1	A	73	GLU	CD-OE1	-45.62	0.38	1.25
1	A	3	PHE	CA-CB	-45.04	0.82	1.53
1	A	116	TYR	CE2-CZ	-44.50	0.31	1.38
1	A	38	SER	CB-OG	-44.43	0.53	1.42
1	A	132	SER	CB-OG	-44.10	0.54	1.42
1	A	134	ASP	CG-OD2	-43.94	0.41	1.25
1	A	1	GLU	C-O	-43.84	0.35	1.23
1	A	115	ASP	C-N	-43.74	0.72	1.33
1	A	102	PRO	CA-CB	-43.68	1.00	1.53
1	A	117	TYR	CA-C	-43.56	0.94	1.52
1	A	120	ASP	CG-OD2	-43.43	0.42	1.25
1	A	84	ASP	CG-OD1	-43.23	0.43	1.25
1	A	118	GLU	CD-OE2	-43.20	0.43	1.25
1	A	87	SER	CA-CB	-42.95	0.94	1.53
1	A	101	VAL	CB-CG2	-42.77	0.11	1.52
1	A	51	SER	CB-OG	-42.46	0.57	1.42
1	A	102	PRO	C-O	-42.32	0.76	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	126	GLU	CD-OE2	-42.13	0.45	1.25
1	A	119	THR	CA-CB	-42.13	0.95	1.52
1	A	3	PHE	CE1-CZ	-41.67	0.13	1.38
1	A	22	HIS	ND1-CE1	-41.65	0.91	1.32
1	A	70	SER	CB-OG	-41.53	0.59	1.42
1	A	87	SER	C-N	-41.47	0.75	1.33
1	A	118	GLU	N-CA	-41.47	0.92	1.46
1	A	105	ASP	CG-OD2	-41.39	0.46	1.25
1	A	5	PHE	CG-CD2	-41.33	0.52	1.38
1	A	99	GLN	CD-NE2	-41.16	0.46	1.33
1	A	134	ASP	CA-C	-41.08	1.03	1.53
1	A	117	TYR	C-N	-41.04	0.76	1.33
1	A	2	GLU	CA-CB	-40.92	0.60	1.53
1	A	4	PRO	N-CA	-40.86	0.95	1.47
1	A	117	TYR	CE1-CZ	-40.80	0.40	1.38
1	A	14	GLN	CD-OE1	-40.63	0.46	1.23
1	A	3	PHE	CA-C	-40.60	1.01	1.52
1	A	117	TYR	CG-CD1	-40.53	0.54	1.39
1	A	103	VAL	CA-CB	-40.41	0.99	1.54
1	A	41	ASN	C-N	-40.36	0.84	1.33
1	A	110	ILE	CB-CG1	-40.20	0.73	1.53
1	A	130	PRO	C-N	-40.18	0.77	1.33
1	A	2	GLU	CD-OE1	-40.01	0.49	1.25
1	A	1	GLU	CD-OE2	-39.92	0.49	1.25
1	A	36	SER	CB-OG	-39.78	0.62	1.42
1	A	120	ASP	CA-CB	-39.66	0.86	1.53
1	A	88	ASN	CA-CB	-39.58	0.86	1.53
1	A	87	SER	CB-OG	-39.56	0.63	1.42
1	A	38	SER	CA-CB	-39.49	0.86	1.53
1	A	119	THR	C-N	-39.47	0.78	1.33
1	A	2	GLU	N-CA	-39.46	0.97	1.46
1	A	138	ALA	CA-CB	-39.39	0.22	1.52
1	A	118	GLU	C-N	-39.17	0.78	1.33
1	A	10	GLN	CD-OE1	-39.12	0.49	1.23
1	A	82	TYR	CG-CD1	-39.12	0.57	1.39
1	A	22	HIS	CD2-NE2	-39.10	0.94	1.37
1	A	89	GLN	CD-OE1	-39.02	0.49	1.23
1	A	137	ASN	CB-CG	-38.88	0.54	1.52
1	A	134	ASP	CG-OD1	-38.88	0.51	1.25
1	A	34	THR	CB-OG1	-38.86	0.81	1.43
1	A	82	TYR	CG-CD2	-38.69	0.58	1.39
1	A	2	GLU	CG-CD	-38.42	0.56	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	122	PHE	CG-CD2	-38.16	0.58	1.38
1	A	25	PHE	CG-CD2	-38.09	0.58	1.38
1	A	136	GLY	CA-C	-37.97	0.98	1.51
1	A	53	PHE	CG-CD1	-37.91	0.59	1.38
1	A	95	PHE	CG-CD2	-37.87	0.59	1.38
1	A	120	ASP	CA-C	-37.49	1.02	1.52
1	A	53	PHE	CE1-CZ	-37.48	0.26	1.38
1	A	133	LYS	CA-CB	-37.45	0.90	1.53
1	A	62	MET	SD-CE	-37.35	0.86	1.79
1	A	41	ASN	CG-ND2	-37.26	0.55	1.33
1	A	64	GLU	CD-OE2	-37.20	0.54	1.25
1	A	138	ALA	N-CA	-36.77	0.76	1.46
1	A	41	ASN	CB-CG	-36.74	0.60	1.52
1	A	40	SER	C-N	-36.68	0.82	1.33
1	A	130	PRO	CA-CB	-36.68	1.07	1.53
1	A	83	LEU	CB-CG	-36.58	0.80	1.53
1	A	2	GLU	CB-CG	-36.22	0.43	1.52
1	A	33	TYR	CG-CD1	-36.12	0.63	1.39
1	A	18	GLU	CD-OE2	-35.94	0.57	1.25
1	A	68	HIS	CD2-NE2	-35.93	0.98	1.37
1	A	94	PHE	CG-CD1	-35.90	0.63	1.38
1	A	5	PHE	CG-CD1	-35.79	0.63	1.38
1	A	4	PRO	CA-CB	-35.74	1.03	1.53
1	A	117	TYR	CE2-CZ	-35.70	0.52	1.38
1	A	78	HIS	CG-CD2	-35.66	0.96	1.35
1	A	3	PHE	CG-CD1	-35.62	0.64	1.38
1	A	34	THR	C-O	-35.51	0.80	1.23
1	A	133	LYS	CE-NZ	-35.51	0.42	1.49
1	A	86	VAL	C-N	-35.49	0.79	1.33
1	A	84	ASP	CG-OD2	-35.14	0.58	1.25
1	A	82	TYR	CE2-CZ	-35.09	0.54	1.38
1	A	64	GLU	CD-OE1	-35.03	0.58	1.25
1	A	118	GLU	CG-CD	-34.82	0.65	1.52
1	A	4	PRO	N-CD	-34.76	0.99	1.47
1	A	137	ASN	N-CA	-34.76	1.01	1.46
1	A	82	TYR	CE1-CZ	-34.70	0.55	1.38
1	A	2	GLU	CA-C	-34.60	1.10	1.52
1	A	88	ASN	CG-ND2	-34.56	0.60	1.33
1	A	122	PHE	CG-CD1	-34.51	0.66	1.38
1	A	126	GLU	CD-OE1	-34.17	0.60	1.25
1	A	65	ARG	CZ-NH2	-34.06	0.89	1.33
1	A	102	PRO	N-CD	-33.85	1.00	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	25	PHE	CG-CD1	-33.78	0.68	1.38
1	A	106	LEU	CG-CD1	-33.73	0.41	1.52
1	A	121	GLU	N-CA	-33.60	1.02	1.46
1	A	117	TYR	CB-CG	-33.55	0.77	1.51
1	A	3	PHE	CB-CG	-33.52	0.73	1.50
1	A	121	GLU	C-O	-33.35	0.81	1.24
1	A	121	GLU	CD-OE2	-33.27	0.62	1.25
1	A	87	SER	N-CA	-33.00	1.03	1.46
1	A	138	ALA	C-O	-32.97	0.57	1.23
1	A	101	VAL	C-O	-32.92	0.85	1.24
1	A	99	GLN	C-O	-32.89	0.82	1.23
1	A	121	GLU	CG-CD	-32.89	0.69	1.52
1	A	117	TYR	CZ-OH	-32.80	0.69	1.38
1	A	37	ARG	CB-CG	-32.70	0.54	1.52
1	A	87	SER	C-O	-32.62	0.75	1.23
1	A	38	SER	C-O	-32.54	0.82	1.24
1	A	101	VAL	CB-CG1	-32.54	0.45	1.52
1	A	114	TYR	CG-CD1	-32.44	0.71	1.39
1	A	89	GLN	CD-NE2	-32.41	0.65	1.33
1	A	14	GLN	CD-NE2	-32.37	0.65	1.33
1	A	33	TYR	CE2-CZ	-32.35	0.60	1.38
1	A	12	LEU	CG-CD2	-32.27	0.46	1.52
1	A	137	ASN	CG-ND2	-32.24	0.65	1.33
1	A	33	TYR	CG-CD2	-32.15	0.71	1.39
1	A	100	ASP	CG-OD1	-32.02	0.64	1.25
1	A	88	ASN	CB-CG	-32.01	0.72	1.52
1	A	39	ALA	C-N	-31.95	0.89	1.33
1	A	114	TYR	CG-CD2	-31.89	0.72	1.39
1	A	115	ASP	CG-OD1	-31.85	0.64	1.25
1	A	65	ARG	CD-NE	-31.80	1.01	1.46
1	A	3	PHE	C-O	-31.51	0.83	1.24
1	A	103	VAL	C-N	-31.45	0.93	1.33
1	A	10	GLN	CD-NE2	-31.32	0.67	1.33
1	A	115	ASP	CB-CG	-31.31	0.73	1.52
1	A	112	LYS	CB-CG	-30.97	0.59	1.52
1	A	50	VAL	C-N	-30.95	0.90	1.33
1	A	121	GLU	C-N	-30.84	0.94	1.33
1	A	118	GLU	CB-CG	-30.77	0.60	1.52
1	A	38	SER	CA-C	-30.73	1.11	1.52
1	A	37	ARG	C-N	-30.71	0.90	1.33
1	A	119	THR	CB-CG2	-30.62	0.51	1.52
1	A	133	LYS	CG-CD	-30.59	0.60	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	17	ASP	CG-OD1	-30.52	0.67	1.25
1	A	39	ALA	N-CA	-30.47	1.06	1.45
1	A	130	PRO	N-CD	-30.29	1.05	1.47
1	A	36	SER	C-O	-30.21	0.85	1.24
1	A	120	ASP	CB-CG	-30.19	0.76	1.52
1	A	116	TYR	CG-CD2	-30.18	0.76	1.39
1	A	135	LEU	N-CA	-30.04	1.01	1.46
1	A	1	GLU	C-N	-30.01	0.90	1.33
1	A	66	SER	C-N	-30.00	0.91	1.33
1	A	46	ASP	CB-CG	-29.92	0.77	1.52
1	A	133	LYS	CD-CE	-29.79	0.63	1.52
1	A	101	VAL	CA-CB	-29.72	1.18	1.54
1	A	135	LEU	CG-CD2	-29.64	0.54	1.52
1	A	18	GLU	CD-OE1	-29.62	0.69	1.25
1	A	78	HIS	CG-ND1	-29.54	1.05	1.38
1	A	17	ASP	CG-OD2	-29.38	0.69	1.25
1	A	22	HIS	CB-CG	-29.32	1.09	1.50
1	A	73	GLU	CD-OE2	-29.28	0.69	1.25
1	A	114	TYR	CE2-CZ	-29.26	0.68	1.38
1	A	106	LEU	CG-CD2	-29.19	0.56	1.52
1	A	38	SER	C-N	-29.12	0.92	1.33
1	A	33	TYR	CE1-CZ	-29.00	0.68	1.38
1	A	5	PHE	CE1-CZ	-28.91	0.52	1.38
1	A	30	SER	CB-OG	-28.85	0.84	1.42
1	A	114	TYR	CE1-CZ	-28.81	0.69	1.38
1	A	94	PHE	CG-CD2	-28.78	0.78	1.38
1	A	1	GLU	CA-CB	-28.56	0.96	1.53
1	A	39	ALA	CA-C	-28.54	1.17	1.52
1	A	91	LEU	CB-CG	-28.50	0.96	1.53
1	A	37	ARG	CA-CB	-28.19	1.04	1.53
1	A	84	ASP	C-O	-28.11	0.92	1.23
1	A	29	LEU	CG-CD2	-27.93	0.60	1.52
1	A	121	GLU	CA-CB	-27.75	1.06	1.53
1	A	100	ASP	CG-OD2	-27.69	0.72	1.25
1	A	85	LYS	CE-NZ	-27.52	0.66	1.49
1	A	103	VAL	CB-CG1	-27.46	0.61	1.52
1	A	116	TYR	CE1-CZ	-27.28	0.72	1.38
1	A	45	VAL	CB-CG2	-27.27	0.62	1.52
1	A	132	SER	CA-CB	-26.96	1.11	1.53
1	A	49	MET	SD-CE	-26.93	1.12	1.79
1	A	131	CYS	C-N	-26.90	0.94	1.33
1	A	45	VAL	CB-CG1	-26.88	0.63	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	60	VAL	CB-CG2	-26.81	0.64	1.52
1	A	110	ILE	CG1-CD1	-26.80	0.47	1.51
1	A	1	GLU	CA-C	-26.70	0.96	1.52
1	A	37	ARG	CA-C	-26.68	1.21	1.52
1	A	122	PHE	CE1-CZ	-26.64	0.58	1.38
1	A	99	GLN	CG-CD	-26.61	0.85	1.52
1	A	25	PHE	CE1-CZ	-26.58	0.58	1.38
1	A	95	PHE	CG-CD1	-26.56	0.83	1.38
1	A	129	ALA	C-O	-26.51	0.89	1.24
1	A	53	PHE	CE2-CZ	-26.48	0.59	1.38
1	A	95	PHE	CE1-CZ	-26.45	0.59	1.38
1	A	50	VAL	CA-CB	-26.30	1.18	1.54
1	A	113	VAL	CB-CG1	-26.29	0.65	1.52
1	A	88	ASN	C-N	-26.26	1.01	1.33
1	A	88	ASN	N-CA	-26.05	1.12	1.46
1	A	53	PHE	CB-CG	-25.93	0.91	1.50
1	A	15	THR	CB-CG2	-25.88	0.67	1.52
1	A	83	LEU	CG-CD2	-25.86	0.67	1.52
1	A	54	ILE	CG1-CD1	-25.83	0.51	1.51
1	A	101	VAL	C-N	-25.66	1.01	1.33
1	A	60	VAL	CB-CG1	-25.64	0.68	1.52
1	A	12	LEU	CG-CD1	-25.63	0.68	1.52
1	A	42	MET	CB-CG	-25.41	0.76	1.52
1	A	49	MET	CG-SD	-25.40	1.17	1.80
1	A	34	THR	C-N	-25.35	0.92	1.32
1	A	15	THR	C-O	-25.30	0.92	1.24
1	A	94	PHE	CE2-CZ	-25.08	0.63	1.38
1	A	119	THR	CA-C	-25.06	1.19	1.52
1	A	127	TYR	CG-CD1	-25.03	0.86	1.39
1	A	5	PHE	CE2-CZ	-24.99	0.63	1.38
1	A	46	ASP	CG-OD2	-24.96	0.78	1.25
1	A	68	HIS	ND1-CE1	-24.94	1.07	1.32
1	A	3	PHE	CE2-CZ	-24.89	0.64	1.38
1	A	83	LEU	CG-CD1	-24.52	0.71	1.52
1	A	128	ASN	CG-OD1	-24.43	0.77	1.23
1	A	110	ILE	CB-CG2	-24.36	0.72	1.52
1	A	138	ALA	CA-C	-24.36	1.01	1.52
1	A	37	ARG	CG-CD	-24.31	0.79	1.52
1	A	20	LYS	CE-NZ	-24.24	0.76	1.49
1	A	113	VAL	CB-CG2	-24.18	0.72	1.52
1	A	122	PHE	CE2-CZ	-24.10	0.66	1.38
1	A	87	SER	CA-C	-24.04	1.19	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	62	MET	CG-SD	-23.88	1.21	1.80
1	A	120	ASP	N-CA	-23.84	1.15	1.46
1	A	104	ARG	CB-CG	-23.83	0.81	1.52
1	A	3	PHE	N-CA	-23.78	1.12	1.46
1	A	97	VAL	CB-CG1	-23.77	0.74	1.52
1	A	99	GLN	CB-CG	-23.75	0.81	1.52
1	A	128	ASN	CG-ND2	-23.72	0.83	1.33
1	A	133	LYS	CA-C	-23.72	1.21	1.52
1	A	120	ASP	C-N	-23.68	1.00	1.33
1	A	107	LYS	CB-CG	-23.64	0.81	1.52
1	A	116	TYR	C-N	-23.54	1.00	1.33
1	A	25	PHE	CE2-CZ	-23.53	0.68	1.38
1	A	1	GLU	CG-CD	-23.50	0.93	1.52
1	A	3	PHE	CD1-CE1	-23.47	0.68	1.38
1	A	3	PHE	CD2-CE2	-23.45	0.68	1.38
1	A	15	THR	C-N	-23.43	1.02	1.33
1	A	28	SER	CB-OG	-23.35	0.95	1.42
1	A	86	VAL	CB-CG2	-23.28	0.75	1.52
1	A	57	LYS	CD-CE	-23.22	0.82	1.52
1	A	107	LYS	CE-NZ	-23.21	0.79	1.49
1	A	40	SER	N-CA	-23.19	1.16	1.46
1	A	50	VAL	C-O	-23.07	0.96	1.24
1	A	121	GLU	CB-CG	-23.04	0.83	1.52
1	A	135	LEU	CG-CD1	-23.03	0.76	1.52
1	A	134	ASP	N-CA	-22.64	1.19	1.46
1	A	97	VAL	CB-CG2	-22.64	0.77	1.52
1	A	104	ARG	C-O	-22.63	0.97	1.23
1	A	132	SER	C-N	-22.61	1.02	1.33
1	A	3	PHE	C-N	-22.61	0.81	1.33
1	A	127	TYR	CE2-CZ	-22.60	0.84	1.38
1	A	67	ASN	CG-OD1	-22.35	0.81	1.23
1	A	103	VAL	CA-C	-22.30	1.24	1.52
1	A	127	TYR	CG-CD2	-22.27	0.92	1.39
1	A	135	LEU	CA-C	-22.07	1.21	1.53
1	A	102	PRO	CA-C	-22.06	1.25	1.52
1	A	26	GLN	CD-NE2	-21.93	0.87	1.33
1	A	31	VAL	CB-CG2	-21.93	0.80	1.52
1	A	29	LEU	CG-CD1	-21.90	0.80	1.52
1	A	105	ASP	CB-CG	-21.84	0.97	1.52
1	A	106	LEU	CA-CB	-21.83	1.20	1.53
1	A	38	SER	N-CA	-21.83	1.18	1.46
1	A	117	TYR	CD1-CE1	-21.79	0.73	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	117	TYR	CD2-CE2	-21.79	0.73	1.38
1	A	57	LYS	CB-CG	-21.75	0.87	1.52
1	A	104	ARG	C-N	-21.69	1.06	1.33
1	A	56	LEU	CG-CD2	-21.68	0.81	1.52
1	A	56	LEU	CG-CD1	-21.65	0.81	1.52
1	A	61	LYS	CE-NZ	-21.53	0.84	1.49
1	A	124	ILE	CG1-CD1	-21.37	0.68	1.51
1	A	14	GLN	CB-CG	-21.29	0.88	1.52
1	A	93	LEU	CB-CG	-21.19	1.11	1.53
1	A	136	GLY	N-CA	-21.12	1.14	1.45
1	A	42	MET	SD-CE	-21.05	1.26	1.79
1	A	69	VAL	CA-CB	-21.04	1.27	1.54
1	A	93	LEU	CG-CD2	-20.77	0.84	1.52
1	A	124	ILE	CB-CG1	-20.74	1.11	1.53
1	A	99	GLN	C-N	-20.71	1.04	1.33
1	A	105	ASP	C-O	-20.66	0.98	1.24
1	A	104	ARG	CG-CD	-20.63	0.90	1.52
1	A	26	GLN	CD-OE1	-20.62	0.84	1.23
1	A	13	PRO	C-N	-20.58	1.04	1.33
1	A	57	LYS	CE-NZ	-20.55	0.87	1.49
1	A	1	GLU	CB-CG	-20.52	0.90	1.52
1	A	89	GLN	N-CA	-20.52	1.20	1.46
1	A	31	VAL	CB-CG1	-20.44	0.85	1.52
1	A	127	TYR	CE1-CZ	-20.27	0.89	1.38
1	A	71	ARG	CA-CB	-20.26	1.18	1.53
1	A	35	GLY	C-N	-20.22	1.00	1.34
1	A	94	PHE	CE1-CZ	-20.09	0.78	1.38
1	A	73	GLU	CG-CD	-19.98	1.02	1.52
1	A	136	GLY	C-N	-19.91	1.05	1.33
1	A	71	ARG	N-CA	-19.72	1.22	1.46
1	A	50	VAL	CB-CG2	-19.59	0.88	1.52
1	A	116	TYR	CA-C	-19.55	1.26	1.52
1	A	48	LYS	CD-CE	-19.49	0.94	1.52
1	A	47	VAL	CB-CG1	-19.45	0.88	1.52
1	A	88	ASN	C-O	-19.34	0.99	1.24
1	A	103	VAL	N-CA	-19.33	1.22	1.46
1	A	112	LYS	CD-CE	-19.30	0.94	1.52
1	A	69	VAL	CA-C	-19.11	1.35	1.52
1	A	89	GLN	CA-CB	-18.99	1.22	1.53
1	A	67	ASN	CG-ND2	-18.81	0.93	1.33
1	A	20	LYS	CG-CD	-18.67	0.96	1.52
1	A	9	VAL	CB-CG1	-18.57	0.91	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	84	ASP	C-N	-18.57	1.07	1.33
1	A	95	PHE	CE2-CZ	-18.53	0.83	1.38
1	A	68	HIS	CB-CG	-18.48	1.24	1.50
1	A	88	ASN	CA-C	-18.47	1.28	1.52
1	A	106	LEU	C-O	-18.45	1.03	1.24
1	A	13	PRO	C-O	-18.39	0.99	1.24
1	A	103	VAL	CB-CG2	-18.35	0.92	1.52
1	A	51	SER	C-O	-18.26	1.00	1.24
1	A	132	SER	CA-C	-18.25	1.26	1.52
1	A	9	VAL	CB-CG2	-18.24	0.92	1.52
1	A	4	PRO	CG-CD	-18.23	0.88	1.50
1	A	133	LYS	C-N	-18.19	1.09	1.33
1	A	85	LYS	CA-C	-18.14	1.28	1.52
1	A	51	SER	C-N	-18.14	1.07	1.33
1	A	104	ARG	N-CA	-18.08	1.21	1.46
1	A	70	SER	CA-C	-18.07	1.28	1.52
1	A	53	PHE	CD1-CE1	-18.07	0.84	1.38
1	A	53	PHE	CD2-CE2	-18.05	0.84	1.38
1	A	32	SER	CB-OG	-17.99	1.06	1.42
1	A	102	PRO	C-N	-17.93	1.09	1.33
1	A	118	GLU	CA-C	-17.88	1.28	1.52
1	A	76	SER	C-O	-17.72	1.01	1.24
1	A	47	VAL	CB-CG2	-17.68	0.94	1.52
1	A	34	THR	CB-CG2	-17.66	0.94	1.52
1	A	133	LYS	N-CA	-17.56	1.23	1.46
1	A	119	THR	N-CA	-17.54	1.24	1.46
1	A	117	TYR	N-CA	-17.52	1.23	1.46
1	A	101	VAL	CA-C	-17.48	1.38	1.52
1	A	112	LYS	CE-NZ	-17.46	0.96	1.49
1	A	76	SER	CB-OG	-17.46	1.07	1.42
1	A	130	PRO	C-O	-17.43	0.89	1.24
1	A	36	SER	C-N	-17.42	1.09	1.33
1	A	77	ASN	CG-OD1	-17.36	0.90	1.23
1	A	77	ASN	CG-ND2	-17.34	0.96	1.33
1	A	51	SER	N-CA	-17.33	1.23	1.46
1	A	66	SER	CB-OG	-17.13	1.07	1.42
1	A	116	TYR	CA-CB	-16.99	1.24	1.53
1	A	133	LYS	CB-CG	-16.66	1.02	1.52
1	A	84	ASP	CB-CG	-16.64	1.10	1.52
1	A	54	ILE	CB-CG1	-16.48	1.20	1.53
1	A	37	ARG	N-CA	-16.42	1.26	1.46
1	A	95	PHE	CB-CG	-16.38	1.12	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	111	VAL	CB-CG1	-16.32	0.98	1.52
1	A	111	VAL	CB-CG2	-16.31	0.98	1.52
1	A	86	VAL	N-CA	-16.28	1.24	1.47
1	A	85	LYS	CD-CE	-16.23	1.03	1.52
1	A	50	VAL	CA-C	-16.22	1.32	1.52
1	A	44	ILE	CB-CG1	-15.87	1.21	1.53
1	A	91	LEU	CG-CD2	-15.86	1.00	1.52
1	A	49	MET	CB-CG	-15.77	1.05	1.52
1	A	42	MET	CG-SD	-15.69	1.41	1.80
1	A	68	HIS	C-O	-15.42	1.01	1.23
1	A	105	ASP	C-N	-15.41	1.13	1.33
1	A	116	TYR	CZ-OH	-15.38	1.05	1.38
1	A	107	LYS	CD-CE	-15.35	1.06	1.52
1	A	14	GLN	CG-CD	-15.30	1.13	1.52
1	A	36	SER	CA-C	-15.16	1.30	1.52
1	A	130	PRO	CA-C	-15.06	1.39	1.52
1	A	131	CYS	CA-C	-15.04	1.32	1.52
1	A	17	ASP	C-O	-14.99	1.05	1.24
1	A	10	GLN	CG-CD	-14.93	1.14	1.52
1	A	116	TYR	CB-CG	-14.91	1.18	1.51
1	A	57	LYS	CG-CD	-14.83	1.07	1.52
1	A	50	VAL	CB-CG1	-14.73	1.03	1.52
1	A	70	SER	CA-CB	-14.61	1.28	1.53
1	A	89	GLN	C-O	-14.45	1.06	1.23
1	A	100	ASP	CA-CB	-14.40	1.29	1.53
1	A	85	LYS	CA-CB	-14.17	1.29	1.53
1	A	82	TYR	CZ-OH	-14.11	1.08	1.38
1	A	16	CYS	CB-SG	-14.04	1.34	1.81
1	A	89	GLN	CG-CD	-14.01	1.17	1.52
1	A	105	ASP	CA-C	-13.91	1.36	1.52
1	A	51	SER	CA-CB	-13.81	1.30	1.53
1	A	129	ALA	CA-C	-13.68	1.35	1.52
1	A	61	LYS	CD-CE	-13.63	1.11	1.52
1	A	64	GLU	CB-CG	-13.55	1.11	1.52
1	A	101	VAL	N-CA	-13.53	1.32	1.46
1	A	82	TYR	CB-CG	-13.53	1.21	1.51
1	A	63	LEU	CG-CD1	-13.48	1.08	1.52
1	A	124	ILE	CB-CG2	-13.42	1.08	1.52
1	A	25	PHE	CB-CG	-13.40	1.19	1.50
1	A	61	LYS	CG-CD	-13.25	1.12	1.52
1	A	106	LEU	N-CA	-13.19	1.30	1.46
1	A	76	SER	C-N	-13.09	1.17	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	107	LYS	N-CA	-13.05	1.32	1.46
1	A	69	VAL	C-O	-13.01	1.07	1.23
1	A	102	PRO	N-CA	-13.01	1.31	1.46
1	A	14	GLN	C-N	-12.94	1.15	1.33
1	A	89	GLN	CB-CG	-12.94	1.13	1.52
1	A	85	LYS	CG-CD	-12.86	1.13	1.52
1	A	2	GLU	C-N	-12.69	1.07	1.33
1	A	20	LYS	CB-CG	-12.63	1.14	1.52
1	A	7	LEU	CG-CD2	-12.60	1.10	1.52
1	A	49	MET	C-O	-12.57	1.07	1.23
1	A	131	CYS	N-CA	-12.47	1.30	1.46
1	A	104	ARG	CA-CB	-12.44	1.12	1.53
1	A	131	CYS	CA-CB	-12.36	1.32	1.53
1	A	106	LEU	CA-C	-12.26	1.38	1.52
1	A	106	LEU	C-N	-12.26	1.19	1.33
1	A	130	PRO	N-CA	-12.24	1.29	1.48
1	A	129	ALA	C-N	-12.18	1.05	1.33
1	A	48	LYS	CE-NZ	-12.17	1.12	1.49
1	A	86	VAL	CB-CG1	-12.12	1.12	1.52
1	A	98	LEU	C-O	-12.03	1.08	1.23
1	A	14	GLN	C-O	-12.03	1.08	1.24
1	A	132	SER	N-CA	-11.97	1.30	1.46
1	A	68	HIS	C-N	-11.96	1.16	1.33
1	A	70	SER	N-CA	-11.84	1.30	1.46
1	A	77	ASN	CB-CG	-11.67	1.22	1.52
1	A	78	HIS	CD2-NE2	-11.55	1.25	1.37
1	A	99	GLN	CA-C	-11.55	1.38	1.52
1	A	71	ARG	CG-CD	-11.48	1.18	1.52
1	A	89	GLN	C-N	-11.45	1.17	1.33
1	A	7	LEU	CG-CD1	-11.37	1.15	1.52
1	A	71	ARG	CB-CG	-11.33	1.18	1.52
1	A	78	HIS	ND1-CE1	-11.28	1.21	1.32
1	A	95	PHE	CD1-CE1	-11.24	1.04	1.38
1	A	95	PHE	CD2-CE2	-11.22	1.05	1.38
1	A	18	GLU	CG-CD	-11.21	1.24	1.52
1	A	105	ASP	CA-CB	-11.21	1.28	1.53
1	A	122	PHE	N-CA	-11.18	1.33	1.46
1	A	67	ASN	C-O	-11.15	1.09	1.24
1	A	100	ASP	CB-CG	-11.11	1.24	1.52
1	A	72	THR	CB-OG1	-11.10	1.25	1.43
1	A	17	ASP	C-N	-10.99	1.17	1.33
1	A	98	LEU	C-N	-10.95	1.17	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	63	LEU	CG-CD2	-10.95	1.16	1.52
1	A	70	SER	C-N	-10.94	1.18	1.33
1	A	36	SER	CA-CB	-10.77	1.33	1.53
1	A	126	GLU	CB-CG	-10.71	1.20	1.52
1	A	112	LYS	CG-CD	-10.63	1.20	1.52
1	A	85	LYS	CB-CG	-10.59	1.20	1.52
1	A	33	TYR	CZ-OH	-10.57	1.15	1.38
1	A	7	LEU	CB-CG	-10.56	1.32	1.53
1	A	24	SER	CB-OG	-10.45	1.21	1.42
1	A	70	SER	C-O	-10.41	1.10	1.24
1	A	65	ARG	CG-CD	-10.37	1.21	1.52
1	A	4	PRO	CB-CG	-10.28	0.98	1.49
1	A	26	GLN	CB-CG	-10.20	1.21	1.52
1	A	131	CYS	CB-SG	-10.13	1.47	1.81
1	A	15	THR	CA-CB	-10.07	1.36	1.53
1	A	107	LYS	CA-CB	-10.06	1.39	1.54
1	A	121	GLU	CA-C	-9.97	1.39	1.52
1	A	44	ILE	CB-CG2	-9.95	1.19	1.52
1	A	100	ASP	N-CA	-9.89	1.33	1.46
1	A	5	PHE	CB-CG	-9.85	1.27	1.50
1	A	33	TYR	CB-CG	-9.72	1.30	1.51
1	A	26	GLN	CG-CD	-9.49	1.28	1.52
1	A	54	ILE	CB-CG2	-9.41	1.21	1.52
1	A	16	CYS	N-CA	-9.41	1.33	1.46
1	A	62	MET	CB-CG	-9.31	1.24	1.52
1	A	80	LEU	CG-CD2	-9.28	1.22	1.52
1	A	100	ASP	CA-C	-9.27	1.40	1.52
1	A	15	THR	CA-C	-9.26	1.40	1.52
1	A	25	PHE	CD1-CE1	-9.17	1.11	1.38
1	A	25	PHE	CD2-CE2	-9.17	1.11	1.38
1	A	126	GLU	CG-CD	-9.04	1.29	1.52
1	A	129	ALA	CA-CB	-8.92	1.37	1.53
1	A	116	TYR	CD2-CE2	-8.91	1.11	1.38
1	A	128	ASN	C-O	-8.90	1.12	1.23
1	A	116	TYR	CD1-CE1	-8.89	1.11	1.38
1	A	77	ASN	C-O	-8.83	1.14	1.24
1	A	102	PRO	CG-CD	-8.33	1.22	1.50
1	A	69	VAL	CB-CG1	-8.32	1.25	1.52
1	A	130	PRO	CG-CD	-8.27	1.22	1.50
1	A	67	ASN	CB-CG	-8.22	1.31	1.52
1	A	82	TYR	CD1-CE1	-7.98	1.14	1.38
1	A	82	TYR	CD2-CE2	-7.96	1.14	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	84	ASP	CA-C	-7.95	1.43	1.52
1	A	105	ASP	N-CA	-7.86	1.37	1.46
1	A	36	SER	N-CA	-7.68	1.36	1.46
1	A	98	LEU	CB-CG	-7.67	1.38	1.53
1	A	64	GLU	CG-CD	-7.56	1.33	1.52
1	A	63	LEU	CB-CG	-7.40	1.38	1.53
1	A	84	ASP	CA-CB	-7.33	1.41	1.53
1	A	77	ASN	C-N	-7.28	1.23	1.33
1	A	85	LYS	N-CA	-7.12	1.37	1.46
1	A	16	CYS	C-N	-7.09	1.23	1.33
1	A	67	ASN	CA-C	-7.08	1.43	1.52
1	A	79	VAL	CB-CG2	-6.87	1.29	1.52
1	A	16	CYS	CA-CB	-6.86	1.41	1.53
1	A	35	GLY	N-CA	-6.84	1.39	1.45
1	A	48	LYS	CB-CG	-6.81	1.32	1.52
1	A	67	ASN	CA-CB	-6.75	1.42	1.53
1	A	5	PHE	CD2-CE2	-6.62	1.18	1.38
1	A	33	TYR	C-O	-6.62	1.15	1.23
1	A	55	PRO	C-O	-6.62	1.15	1.24
1	A	49	MET	CA-CB	-6.61	1.42	1.54
1	A	5	PHE	CD1-CE1	-6.59	1.18	1.38
1	A	48	LYS	CG-CD	-6.55	1.32	1.52
1	A	114	TYR	CZ-OH	-6.53	1.24	1.38
1	A	66	SER	CA-C	-6.43	1.44	1.52
1	A	68	HIS	N-CA	-6.34	1.37	1.46
1	A	79	VAL	CB-CG1	-6.31	1.31	1.52
1	A	34	THR	CA-CB	-6.28	1.40	1.54
1	A	104	ARG	CA-C	-6.23	1.44	1.53
1	A	99	GLN	CA-CB	-6.12	1.38	1.54
1	A	130	PRO	CB-CG	-6.10	1.19	1.49
1	A	75	SER	CB-OG	-6.01	1.30	1.42
1	A	41	ASN	CA-C	-5.99	1.44	1.52
1	A	128	ASN	C-N	-5.99	1.23	1.33
1	A	55	PRO	C-N	-5.98	1.25	1.33
1	A	49	MET	CA-C	-5.97	1.45	1.52
1	A	122	PHE	CB-CG	-5.96	1.36	1.50
1	A	122	PHE	CA-CB	-5.94	1.43	1.53
1	A	22	HIS	C-N	-5.91	1.26	1.33
1	A	12	LEU	CB-CG	-5.87	1.41	1.53
1	A	44	ILE	CG1-CD1	-5.85	1.28	1.51
1	A	80	LEU	CB-CG	-5.84	1.41	1.53
1	A	67	ASN	C-N	-5.83	1.25	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	102	PRO	CB-CG	-5.80	1.20	1.49
1	A	17	ASP	CB-CG	-5.76	1.37	1.52
1	A	50	VAL	N-CA	-5.67	1.39	1.46
1	A	18	GLU	C-O	-5.66	1.18	1.24
1	A	66	SER	CA-CB	-5.65	1.44	1.53
1	A	49	MET	C-N	-5.61	1.26	1.33
1	A	65	ARG	CB-CG	-5.50	1.35	1.52
1	A	92	SER	CB-OG	-5.50	1.31	1.42
1	A	34	THR	CA-C	-5.50	1.46	1.52
1	A	19	PRO	CA-CB	-5.44	1.46	1.53
1	A	114	TYR	CB-CG	-5.41	1.39	1.51
1	A	33	TYR	CD2-CE2	-5.35	1.22	1.38
1	A	33	TYR	CD1-CE1	-5.33	1.22	1.38
1	A	19	PRO	N-CD	-5.28	1.40	1.47
1	A	98	LEU	CG-CD1	-5.22	1.35	1.52
1	A	48	LYS	C-O	-5.14	1.17	1.24
1	A	67	ASN	N-CA	-5.04	1.39	1.46
1	A	107	LYS	CG-CD	-5.02	1.37	1.52

All angle outliers are listed below. They are sorted according to the Z-score.

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	68	HIS	ND1-CG-CD2	-85.62	20.48	106.10
1	A	99	GLN	OE1-CD-NE2	-75.50	47.10	122.60
1	A	115	ASP	O-C-N	-75.29	42.12	121.93
1	A	100	ASP	O-C-N	-73.27	25.14	122.59
1	A	5	PHE	CD1-CG-CD2	-67.74	16.98	118.60
1	A	2	GLU	CA-C-O	-66.89	48.45	120.70
1	A	137	ASN	CA-CB-CG	66.34	178.94	112.60
1	A	122	PHE	CD1-CG-CD2	-63.01	24.09	118.60
1	A	68	HIS	CE1-NE2-CD2	-61.81	47.19	109.00
1	A	68	HIS	CG-CD2-NE2	61.72	168.92	107.20
1	A	116	TYR	CD1-CG-CD2	-60.42	27.47	118.10
1	A	37	ARG	NH1-CZ-NH2	-58.25	43.58	119.30
1	A	5	PHE	CE1-CZ-CE2	-57.25	16.95	120.00
1	A	82	TYR	CD1-CG-CD2	-56.43	33.45	118.10
1	A	53	PHE	CD1-CG-CD2	-53.61	38.19	118.60
1	A	94	PHE	CD1-CG-CD2	-53.36	38.56	118.60
1	A	122	PHE	CE1-CZ-CE2	-53.22	24.20	120.00
1	A	85	LYS	O-C-N	-51.59	53.98	122.59
1	A	14	GLN	OE1-CD-NE2	-50.95	71.65	122.60
1	A	89	GLN	OE1-CD-NE2	-50.91	71.69	122.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	41	ASN	O-C-N	-49.84	56.30	122.59
1	A	100	ASP	CA-C-N	47.42	166.67	123.04
1	A	100	ASP	C-N-CA	47.42	166.67	123.04
1	A	137	ASN	CB-CA-C	-45.47	19.94	110.42
1	A	53	PHE	CE1-CZ-CE2	-45.40	38.27	120.00
1	A	65	ARG	NE-CZ-NH1	-45.35	76.15	121.50
1	A	94	PHE	CE1-CZ-CE2	-45.28	38.50	120.00
1	A	116	TYR	CE1-CZ-CE2	-45.26	29.78	120.30
1	A	10	GLN	OE1-CD-NE2	-44.86	77.74	122.60
1	A	66	SER	O-C-N	-43.08	76.45	122.12
1	A	45	VAL	CG1-CB-CG2	-42.90	16.41	110.80
1	A	82	TYR	CE1-CZ-CE2	-42.43	35.45	120.30
1	A	37	ARG	NE-CZ-NH2	41.60	156.64	119.20
1	A	136	GLY	CA-C-O	-41.54	48.28	120.57
1	A	114	TYR	CD1-CG-CD2	-40.93	56.70	118.10
1	A	135	LEU	O-C-N	-40.23	69.98	122.28
1	A	33	TYR	CD1-CG-CD2	-39.41	58.99	118.10
1	A	46	ASP	CA-CB-CG	39.02	151.62	112.60
1	A	137	ASN	CB-CG-OD1	-38.95	42.89	120.80
1	A	105	ASP	OD1-CG-OD2	-38.94	29.44	122.90
1	A	40	SER	CA-C-O	-38.32	65.71	120.51
1	A	37	ARG	NE-CZ-NH1	38.28	159.78	121.50
1	A	65	ARG	NE-CZ-NH2	37.84	153.25	119.20
1	A	131	CYS	O-C-N	-37.60	72.58	122.59
1	A	71	ARG	NE-CZ-NH2	37.30	152.77	119.20
1	A	22	HIS	ND1-CG-CD2	-35.86	70.24	106.10
1	A	101	VAL	CA-CB-CG1	35.68	171.05	110.40
1	A	45	VAL	CA-CB-CG1	35.43	170.64	110.40
1	A	45	VAL	CA-CB-CG2	35.41	170.60	110.40
1	A	25	PHE	CD1-CG-CD2	-35.40	65.50	118.60
1	A	12	LEU	CD1-CG-CD2	-35.05	33.69	110.80
1	A	101	VAL	CG1-CB-CG2	-34.96	33.88	110.80
1	A	85	LYS	CA-C-N	34.62	162.04	122.22
1	A	85	LYS	C-N-CA	34.62	162.04	122.22
1	A	100	ASP	CA-C-O	33.84	168.90	120.51
1	A	116	TYR	CB-CG-CD2	33.83	171.54	120.80
1	A	137	ASN	N-CA-CB	33.79	167.60	110.49
1	A	116	TYR	CG-CD2-CE2	33.58	171.57	121.20
1	A	118	GLU	O-C-N	-33.56	77.96	122.59
1	A	126	GLU	OE1-CD-OE2	-33.35	42.85	122.90
1	A	137	ASN	CB-CG-ND2	33.14	166.11	116.40
1	A	68	HIS	CG-ND1-CE1	33.10	165.57	109.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	86	VAL	N-CA-C	32.33	153.44	106.55
1	A	128	ASN	OD1-CG-ND2	-31.61	90.99	122.60
1	A	41	ASN	CA-CB-CG	31.54	144.14	112.60
1	A	68	HIS	CB-CG-CD2	31.42	172.04	131.20
1	A	137	ASN	CA-C-O	-31.13	75.99	120.51
1	A	135	LEU	N-CA-C	31.05	152.08	109.54
1	A	86	VAL	O-C-N	-30.97	87.98	122.36
1	A	39	ALA	N-CA-C	30.96	157.50	109.52
1	A	115	ASP	CA-C-O	30.81	156.94	118.43
1	A	5	PHE	CG-CD1-CE1	30.41	172.40	120.70
1	A	5	PHE	CB-CG-CD1	30.40	172.38	120.70
1	A	25	PHE	CE1-CZ-CE2	-30.34	65.39	120.00
1	A	114	TYR	CE1-CZ-CE2	-30.31	59.68	120.30
1	A	71	ARG	NH1-CZ-NH2	-29.94	80.38	119.30
1	A	68	HIS	CB-CG-ND1	29.85	167.48	122.70
1	A	112	LYS	CA-CB-CG	29.81	173.72	114.10
1	A	99	GLN	CG-CD-NE2	29.68	160.92	116.40
1	A	39	ALA	O-C-N	-29.46	84.85	123.15
1	A	68	HIS	ND1-CE1-NE2	29.45	137.85	108.40
1	A	5	PHE	CB-CG-CD2	29.37	170.63	120.70
1	A	5	PHE	CG-CD2-CE2	29.35	170.59	120.70
1	A	64	GLU	OE1-CD-OE2	-29.32	52.54	122.90
1	A	119	THR	O-C-N	-29.21	82.11	122.41
1	A	5	PHE	CZ-CE2-CD2	29.13	172.44	120.00
1	A	33	TYR	CE1-CZ-CE2	-29.05	62.20	120.30
1	A	131	CYS	CA-C-N	29.05	164.01	121.02
1	A	131	CYS	C-N-CA	29.05	164.01	121.02
1	A	78	HIS	ND1-CG-CD2	-28.95	77.15	106.10
1	A	41	ASN	N-CA-CB	-28.67	62.04	110.49
1	A	116	TYR	CD1-CE1-CZ	28.62	171.12	119.60
1	A	82	TYR	CB-CG-CD2	28.41	163.41	120.80
1	A	137	ASN	OD1-CG-ND2	28.39	151.00	122.60
1	A	122	PHE	CG-CD1-CE1	28.25	168.72	120.70
1	A	82	TYR	CB-CG-CD1	28.22	163.13	120.80
1	A	40	SER	CB-CA-C	-28.22	54.27	110.42
1	A	53	PHE	CG-CD1-CE1	28.21	168.67	120.70
1	A	122	PHE	CB-CG-CD1	28.21	168.66	120.70
1	A	53	PHE	CB-CG-CD1	28.21	168.65	120.70
1	A	42	MET	CA-CB-CG	28.14	170.38	114.10
1	A	82	TYR	CG-CD2-CE2	28.14	163.41	121.20
1	A	5	PHE	CD1-CE1-CZ	28.13	170.64	120.00
1	A	3	PHE	CG-CD1-CE1	28.04	168.36	120.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	3	PHE	CB-CG-CD1	28.01	168.32	120.70
1	A	82	TYR	CG-CD1-CE1	27.95	163.13	121.20
1	A	87	SER	CA-CB-OG	27.86	166.82	111.10
1	A	121	GLU	CB-CG-CD	27.72	159.72	112.60
1	A	122	PHE	CB-CG-CD2	27.39	167.25	120.70
1	A	122	PHE	CG-CD2-CE2	27.38	167.25	120.70
1	A	14	GLN	CB-CG-CD	27.34	159.09	112.60
1	A	137	ASN	N-CA-C	27.21	168.76	110.80
1	A	122	PHE	CZ-CE2-CD2	27.00	168.60	120.00
1	A	53	PHE	CZ-CE2-CD2	26.96	168.52	120.00
1	A	95	PHE	CA-CB-CG	26.91	140.71	113.80
1	A	3	PHE	CZ-CE2-CD2	26.87	168.37	120.00
1	A	116	TYR	CB-CG-CD1	26.79	160.99	120.80
1	A	134	ASP	O-C-N	-26.77	82.29	122.99
1	A	115	ASP	CA-CB-CG	26.58	139.18	112.60
1	A	116	TYR	CG-CD1-CE1	26.52	160.98	121.20
1	A	122	PHE	CD1-CE1-CZ	26.19	167.15	120.00
1	A	37	ARG	CD-NE-CZ	25.97	160.76	124.40
1	A	22	HIS	CG-CD2-NE2	25.78	132.98	107.20
1	A	3	PHE	CA-CB-CG	-25.68	88.12	113.80
1	A	99	GLN	CB-CG-CD	25.58	156.08	112.60
1	A	136	GLY	N-CA-C	25.43	173.45	113.18
1	A	60	VAL	CG1-CB-CG2	-25.38	54.96	110.80
1	A	41	ASN	CB-CG-ND2	25.30	154.35	116.40
1	A	137	ASN	CA-C-N	25.24	167.13	121.70
1	A	137	ASN	C-N-CA	25.24	167.13	121.70
1	A	94	PHE	CB-CG-CD2	24.83	162.91	120.70
1	A	84	ASP	OD1-CG-OD2	-24.82	63.32	122.90
1	A	94	PHE	CG-CD2-CE2	24.81	162.88	120.70
1	A	136	GLY	CA-C-N	24.57	168.47	121.54
1	A	136	GLY	C-N-CA	24.57	168.47	121.54
1	A	57	LYS	CG-CD-CE	24.43	167.48	111.30
1	A	101	VAL	CA-CB-CG2	24.40	151.87	110.40
1	A	2	GLU	N-CA-C	24.28	148.97	109.40
1	A	120	ASP	OD1-CG-OD2	-24.19	64.85	122.90
1	A	82	TYR	CD1-CE1-CZ	23.83	162.50	119.60
1	A	94	PHE	CD1-CE1-CZ	23.82	162.87	120.00
1	A	40	SER	N-CA-C	23.81	161.52	110.80
1	A	134	ASP	N-CA-C	23.68	157.19	107.70
1	A	82	TYR	CZ-CE2-CD2	23.59	162.06	119.60
1	A	1	GLU	OE1-CD-OE2	-23.49	66.53	122.90
1	A	88	ASN	CB-CG-ND2	23.33	151.40	116.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	112	LYS	CB-CG-CD	23.10	164.43	111.30
1	A	60	VAL	CA-CB-CG1	22.92	149.37	110.40
1	A	20	LYS	CB-CG-CD	22.69	163.50	111.30
1	A	112	LYS	CG-CD-CE	22.66	163.43	111.30
1	A	71	ARG	CD-NE-CZ	22.47	155.86	124.40
1	A	135	LEU	N-CA-CB	-22.42	57.71	111.74
1	A	1	GLU	CA-C-N	22.38	156.51	122.94
1	A	1	GLU	C-N-CA	22.38	156.51	122.94
1	A	113	VAL	CG1-CB-CG2	-22.32	61.70	110.80
1	A	40	SER	CA-C-N	22.28	164.10	121.54
1	A	40	SER	C-N-CA	22.28	164.10	121.54
1	A	127	TYR	CD1-CG-CD2	-22.26	84.70	118.10
1	A	94	PHE	CG-CD1-CE1	22.25	158.52	120.70
1	A	94	PHE	CB-CG-CD1	22.25	158.52	120.70
1	A	34	THR	O-C-N	-22.20	97.52	123.27
1	A	134	ASP	CA-C-N	22.10	154.70	122.87
1	A	134	ASP	C-N-CA	22.10	154.70	122.87
1	A	65	ARG	CD-NE-CZ	22.04	155.25	124.40
1	A	116	TYR	CZ-CE2-CD2	21.93	159.07	119.60
1	A	86	VAL	CA-C-N	21.79	160.08	123.25
1	A	86	VAL	C-N-CA	21.79	160.08	123.25
1	A	60	VAL	CA-CB-CG2	21.60	147.12	110.40
1	A	78	HIS	CG-CD2-NE2	21.51	128.71	107.20
1	A	94	PHE	CZ-CE2-CD2	21.48	158.66	120.00
1	A	39	ALA	CA-C-N	21.37	162.35	121.54
1	A	39	ALA	C-N-CA	21.37	162.35	121.54
1	A	113	VAL	CA-CB-CG2	21.27	146.57	110.40
1	A	115	ASP	CA-C-N	21.25	162.12	121.54
1	A	115	ASP	C-N-CA	21.25	162.12	121.54
1	A	117	TYR	CD1-CG-CD2	-21.24	86.24	118.10
1	A	105	ASP	CB-CG-OD2	21.18	167.11	118.40
1	A	14	GLN	CG-CD-NE2	21.11	148.06	116.40
1	A	33	TYR	CB-CG-CD2	21.08	152.43	120.80
1	A	119	THR	CA-CB-OG1	20.89	140.94	109.60
1	A	41	ASN	N-CA-C	20.86	155.23	110.80
1	A	33	TYR	CG-CD2-CE2	20.85	152.47	121.20
1	A	120	ASP	CA-CB-CG	20.82	133.42	112.60
1	A	114	TYR	CB-CG-CD2	20.70	151.85	120.80
1	A	2	GLU	CA-C-N	20.67	172.24	121.80
1	A	2	GLU	C-N-CA	20.67	172.24	121.80
1	A	1	GLU	CB-CG-CD	20.65	147.71	112.60
1	A	114	TYR	CG-CD2-CE2	20.44	151.86	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	114	TYR	CB-CG-CD1	20.43	151.45	120.80
1	A	114	TYR	CG-CD1-CE1	20.16	151.44	121.20
1	A	39	ALA	N-CA-CB	-20.13	76.52	111.55
1	A	134	ASP	CA-CB-CG	20.11	132.71	112.60
1	A	89	GLN	CG-CD-NE2	20.10	146.55	116.40
1	A	120	ASP	CA-C-O	-19.97	91.96	120.51
1	A	46	ASP	CB-CG-OD1	-19.87	72.69	118.40
1	A	53	PHE	CA-CB-CG	19.77	133.57	113.80
1	A	105	ASP	CB-CG-OD1	19.59	163.46	118.40
1	A	88	ASN	OD1-CG-ND2	-19.57	103.03	122.60
1	A	3	PHE	CD1-CG-CD2	-19.55	89.28	118.60
1	A	118	GLU	N-CA-C	19.40	152.12	110.80
1	A	106	LEU	CD1-CG-CD2	-19.29	68.36	110.80
1	A	126	GLU	CG-CD-OE1	19.29	162.76	118.40
1	A	41	ASN	CA-C-N	19.22	160.92	121.91
1	A	41	ASN	C-N-CA	19.22	160.92	121.91
1	A	17	ASP	OD1-CG-OD2	-19.18	76.86	122.90
1	A	53	PHE	CG-CD2-CE2	19.12	153.21	120.70
1	A	53	PHE	CB-CG-CD2	19.09	153.16	120.70
1	A	138	ALA	N-CA-C	19.05	164.34	111.00
1	A	10	GLN	CG-CD-NE2	18.90	144.74	116.40
1	A	113	VAL	CA-CB-CG1	18.80	142.37	110.40
1	A	1	GLU	CA-C-O	-18.54	89.28	120.80
1	A	33	TYR	CB-CG-CD1	18.52	148.59	120.80
1	A	53	PHE	CD1-CE1-CZ	18.42	153.15	120.00
1	A	117	TYR	N-CA-C	18.34	149.86	110.80
1	A	33	TYR	CG-CD1-CE1	18.25	148.58	121.20
1	A	49	MET	CG-SD-CE	18.17	140.87	100.90
1	A	97	VAL	CG1-CB-CG2	-18.12	70.94	110.80
1	A	103	VAL	O-C-N	-18.11	99.93	122.57
1	A	40	SER	N-CA-CB	18.08	141.04	110.49
1	A	29	LEU	CD1-CG-CD2	-18.02	71.15	110.80
1	A	95	PHE	CD1-CG-CD2	-18.02	91.57	118.60
1	A	12	LEU	CB-CG-CD1	18.01	164.73	110.70
1	A	110	ILE	CA-CB-CG1	17.98	140.96	110.40
1	A	118	GLU	N-CA-CB	-17.91	80.23	110.49
1	A	2	GLU	N-CA-CB	-17.86	79.75	110.83
1	A	37	ARG	O-C-N	-17.80	100.60	123.21
1	A	110	ILE	CA-CB-CG2	17.62	140.45	110.50
1	A	134	ASP	CB-CG-OD2	-17.60	77.91	118.40
1	A	33	TYR	CD1-CE1-CZ	17.51	151.11	119.60
1	A	85	LYS	CA-C-O	17.46	145.47	120.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	97	VAL	CA-CB-CG2	17.41	139.99	110.40
1	A	118	GLU	OE1-CD-OE2	-17.22	81.56	122.90
1	A	25	PHE	CB-CG-CD1	17.20	149.94	120.70
1	A	25	PHE	CG-CD1-CE1	17.20	149.94	120.70
1	A	46	ASP	CB-CG-OD2	17.17	157.90	118.40
1	A	114	TYR	CD1-CE1-CZ	17.14	150.44	119.60
1	A	136	GLY	O-C-N	17.13	144.97	122.70
1	A	25	PHE	CA-CB-CG	17.12	130.92	113.80
1	A	3	PHE	CE1-CZ-CE2	-17.10	89.22	120.00
1	A	116	TYR	CE1-CZ-OH	17.08	171.15	119.90
1	A	66	SER	CA-C-N	17.00	154.01	121.54
1	A	66	SER	C-N-CA	17.00	154.01	121.54
1	A	48	LYS	CG-CD-CE	16.98	150.35	111.30
1	A	114	TYR	CZ-CE2-CD2	16.82	149.88	119.60
1	A	41	ASN	CA-C-O	16.64	144.30	120.51
1	A	25	PHE	CZ-CE2-CD2	16.63	149.94	120.00
1	A	57	LYS	CD-CE-NZ	16.61	165.04	111.90
1	A	135	LEU	CA-C-O	16.58	149.80	121.94
1	A	134	ASP	N-CA-CB	-16.53	83.92	110.87
1	A	64	GLU	CG-CD-OE1	16.36	156.03	118.40
1	A	22	HIS	CG-ND1-CE1	16.34	137.07	109.30
1	A	18	GLU	OE1-CD-OE2	-16.22	83.96	122.90
1	A	56	LEU	CD1-CG-CD2	-16.21	75.14	110.80
1	A	119	THR	CA-C-N	16.12	152.32	121.54
1	A	119	THR	C-N-CA	16.12	152.32	121.54
1	A	97	VAL	CA-CB-CG1	16.08	137.74	110.40
1	A	1	GLU	CA-CB-CG	16.05	146.21	114.10
1	A	127	TYR	CE1-CZ-CE2	-16.02	88.25	120.30
1	A	22	HIS	ND1-CE1-NE2	-15.91	92.49	108.40
1	A	95	PHE	CE1-CZ-CE2	-15.85	91.47	120.00
1	A	133	LYS	CB-CG-CD	15.85	147.74	111.30
1	A	118	GLU	CA-C-N	15.83	150.17	122.32
1	A	118	GLU	C-N-CA	15.83	150.17	122.32
1	A	126	GLU	CG-CD-OE2	15.65	154.39	118.40
1	A	99	GLN	CG-CD-OE1	15.59	151.98	120.80
1	A	112	LYS	CD-CE-NZ	15.54	161.63	111.90
1	A	117	TYR	CB-CG-CD1	15.50	144.05	120.80
1	A	104	ARG	NE-CZ-NH2	15.49	133.14	119.20
1	A	86	VAL	CG1-CB-CG2	15.39	144.66	110.80
1	A	118	GLU	CG-CD-OE2	15.34	153.68	118.40
1	A	117	TYR	CE1-CZ-CE2	-15.27	89.75	120.30
1	A	120	ASP	CB-CG-OD2	15.24	153.45	118.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	67	ASN	OD1-CG-ND2	-15.23	107.37	122.60
1	A	117	TYR	CG-CD1-CE1	15.19	143.98	121.20
1	A	83	LEU	CA-CB-CG	15.07	169.06	116.30
1	A	33	TYR	CZ-CE2-CD2	15.03	146.65	119.60
1	A	22	HIS	CB-CG-ND1	14.85	144.97	122.70
1	A	133	LYS	CG-CD-CE	14.77	145.27	111.30
1	A	101	VAL	O-C-N	-14.75	108.18	121.61
1	A	120	ASP	CA-C-N	14.74	149.70	121.54
1	A	120	ASP	C-N-CA	14.74	149.70	121.54
1	A	84	ASP	CB-CG-OD2	14.68	152.16	118.40
1	A	104	ARG	NH1-CZ-NH2	-14.60	100.32	119.30
1	A	42	MET	CG-SD-CE	14.56	132.92	100.90
1	A	4	PRO	N-CA-CB	-14.49	88.04	103.25
1	A	12	LEU	CB-CG-CD2	14.49	154.16	110.70
1	A	49	MET	CA-CB-CG	14.38	142.86	114.10
1	A	64	GLU	CG-CD-OE2	14.36	151.43	118.40
1	A	133	LYS	CA-C-N	14.29	143.53	122.95
1	A	133	LYS	C-N-CA	14.29	143.53	122.95
1	A	82	TYR	CE1-CZ-OH	14.19	162.47	119.90
1	A	1	GLU	CG-CD-OE2	14.17	151.00	118.40
1	A	30	SER	CA-CB-OG	14.15	139.41	111.10
1	A	106	LEU	CA-CB-CG	14.11	165.69	116.30
1	A	110	ILE	CG1-CB-CG2	-14.09	68.44	110.70
1	A	82	TYR	OH-CZ-CE2	14.06	162.08	119.90
1	A	106	LEU	CB-CG-CD2	14.05	152.85	110.70
1	A	25	PHE	CG-CD2-CE2	14.04	144.56	120.70
1	A	25	PHE	CB-CG-CD2	14.03	144.55	120.70
1	A	26	GLN	OE1-CD-NE2	-14.02	108.58	122.60
1	A	121	GLU	O-C-N	-13.99	103.99	122.59
1	A	31	VAL	CA-CB-CG1	13.96	134.13	110.40
1	A	73	GLU	OE1-CD-OE2	-13.89	89.57	122.90
1	A	86	VAL	N-CA-CB	-13.77	98.70	112.06
1	A	95	PHE	CB-CG-CD1	13.72	144.03	120.70
1	A	25	PHE	CD1-CE1-CZ	13.71	144.68	120.00
1	A	95	PHE	CG-CD1-CE1	13.70	143.98	120.70
1	A	100	ASP	OD1-CG-OD2	-13.68	90.07	122.90
1	A	103	VAL	CA-C-N	13.67	145.75	123.33
1	A	103	VAL	C-N-CA	13.67	145.75	123.33
1	A	83	LEU	CD1-CG-CD2	-13.65	80.76	110.80
1	A	37	ARG	CA-CB-CG	-13.62	86.85	114.10
1	A	3	PHE	CB-CA-C	-13.60	83.37	110.17
1	A	48	LYS	CD-CE-NZ	13.59	155.39	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	115	ASP	CB-CG-OD1	13.46	149.37	118.40
1	A	41	ASN	CB-CG-OD1	-13.45	93.91	120.80
1	A	73	GLU	CG-CD-OE2	13.37	149.14	118.40
1	A	95	PHE	CZ-CE2-CD2	13.35	144.03	120.00
1	A	138	ALA	CB-CA-C	-13.33	90.51	110.50
1	A	31	VAL	CG1-CB-CG2	-13.21	81.73	110.80
1	A	78	HIS	CG-ND1-CE1	13.21	131.76	109.30
1	A	2	GLU	O-C-N	13.19	140.38	123.23
1	A	115	ASP	CB-CG-OD2	-13.18	88.10	118.40
1	A	87	SER	O-C-N	-13.06	104.32	121.95
1	A	116	TYR	OH-CZ-CE2	13.06	159.07	119.90
1	A	86	VAL	CB-CA-C	-12.96	97.91	112.68
1	A	132	SER	CA-CB-OG	12.95	137.00	111.10
1	A	138	ALA	CA-C-O	12.89	142.71	120.80
1	A	117	TYR	CZ-CE2-CD2	12.87	142.77	119.60
1	A	117	TYR	CA-C-N	12.80	145.98	121.54
1	A	117	TYR	C-N-CA	12.80	145.98	121.54
1	A	44	ILE	CB-CG1-CD1	12.70	140.47	113.80
1	A	1	GLU	CB-CA-C	12.63	134.10	110.10
1	A	121	GLU	CG-CD-OE2	12.63	147.46	118.40
1	A	37	ARG	CA-C-N	12.54	145.48	121.54
1	A	37	ARG	C-N-CA	12.54	145.48	121.54
1	A	71	ARG	CB-CG-CD	12.50	140.05	111.30
1	A	127	TYR	CB-CG-CD2	12.41	139.42	120.80
1	A	54	ILE	CB-CG1-CD1	12.40	139.84	113.80
1	A	87	SER	N-CA-CB	-12.32	93.19	111.43
1	A	35	GLY	O-C-N	-12.31	101.44	123.10
1	A	84	ASP	CA-CB-CG	12.15	124.75	112.60
1	A	127	TYR	CG-CD2-CE2	12.14	139.41	121.20
1	A	78	HIS	ND1-CE1-NE2	-12.12	96.28	108.40
1	A	117	TYR	O-C-N	-12.11	106.49	122.59
1	A	118	GLU	CB-CG-CD	12.04	133.07	112.60
1	A	47	VAL	CA-CB-CG2	12.02	130.84	110.40
1	A	78	HIS	CB-CG-ND1	12.01	140.72	122.70
1	A	135	LEU	CB-CA-C	12.00	139.78	111.83
1	A	133	LYS	CA-C-O	-11.96	103.41	120.51
1	A	9	VAL	CA-CB-CG2	11.90	130.64	110.40
1	A	83	LEU	CB-CG-CD2	11.90	146.40	110.70
1	A	9	VAL	CG1-CB-CG2	-11.89	84.65	110.80
1	A	87	SER	N-CA-C	11.88	128.28	111.30
1	A	29	LEU	CB-CG-CD1	11.76	145.98	110.70
1	A	37	ARG	CG-CD-NE	11.59	137.49	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	18	GLU	CG-CD-OE1	11.56	145.00	118.40
1	A	41	ASN	CB-CA-C	11.52	133.35	110.42
1	A	31	VAL	CA-CB-CG2	11.49	129.93	110.40
1	A	116	TYR	O-C-N	-11.45	107.36	122.59
1	A	34	THR	CA-C-N	11.38	135.38	121.83
1	A	34	THR	C-N-CA	11.38	135.38	121.83
1	A	9	VAL	CA-CB-CG1	11.36	129.72	110.40
1	A	84	ASP	CB-CG-OD1	11.36	144.52	118.40
1	A	99	GLN	O-C-N	-11.35	109.28	123.24
1	A	70	SER	CA-CB-OG	11.33	133.76	111.10
1	A	57	LYS	CB-CG-CD	11.28	137.25	111.30
1	A	117	TYR	CB-CA-C	-11.26	88.00	110.42
1	A	116	TYR	CA-C-N	11.21	142.95	121.54
1	A	116	TYR	C-N-CA	11.21	142.95	121.54
1	A	36	SER	CA-CB-OG	11.19	133.48	111.10
1	A	119	THR	N-CA-C	11.17	128.83	108.17
1	A	3	PHE	N-CA-C	11.16	134.48	109.81
1	A	38	SER	N-CA-C	11.14	134.54	110.80
1	A	121	GLU	N-CA-CB	-10.97	91.95	110.49
1	A	15	THR	CA-CB-CG2	10.94	129.09	110.50
1	A	107	LYS	CB-CG-CD	10.93	136.44	111.30
1	A	41	ASN	OD1-CG-ND2	-10.86	111.74	122.60
1	A	104	ARG	CA-CB-CG	10.85	135.80	114.10
1	A	2	GLU	CG-CD-OE2	-10.83	93.49	118.40
1	A	3	PHE	CG-CD2-CE2	-10.77	102.39	120.70
1	A	3	PHE	CB-CG-CD2	-10.77	102.40	120.70
1	A	17	ASP	CB-CG-OD1	10.74	143.09	118.40
1	A	135	LEU	CA-C-N	10.70	142.38	121.41
1	A	135	LEU	C-N-CA	10.70	142.38	121.41
1	A	22	HIS	CA-CB-CG	10.68	124.48	113.80
1	A	47	VAL	CG1-CB-CG2	-10.54	87.61	110.80
1	A	2	GLU	CG-CD-OE1	10.50	142.56	118.40
1	A	89	GLN	CG-CD-OE1	10.48	141.76	120.80
1	A	134	ASP	OD1-CG-OD2	10.48	148.05	122.90
1	A	1	GLU	CG-CD-OE1	10.47	142.47	118.40
1	A	101	VAL	CA-C-N	10.47	131.24	120.14
1	A	101	VAL	C-N-CA	10.47	131.24	120.14
1	A	22	HIS	CB-CG-CD2	10.45	144.79	131.20
1	A	128	ASN	CB-CG-ND2	10.44	132.05	116.40
1	A	33	TYR	CE1-CZ-OH	10.43	151.18	119.90
1	A	64	GLU	CB-CG-CD	10.42	130.31	112.60
1	A	66	SER	CA-C-O	10.33	131.78	120.63

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	49	MET	CB-CG-SD	10.30	143.60	112.70
1	A	51	SER	CA-CB-OG	10.29	131.68	111.10
1	A	119	THR	OG1-CB-CG2	-10.26	88.78	109.30
1	A	130	PRO	O-C-N	-10.26	100.64	121.58
1	A	34	THR	CA-CB-CG2	10.26	127.94	110.50
1	A	132	SER	O-C-N	-10.26	109.37	123.01
1	A	34	THR	OG1-CB-CG2	-10.26	88.79	109.30
1	A	86	VAL	CA-CB-CG1	-10.24	92.99	110.40
1	A	132	SER	CA-C-N	10.24	141.09	121.54
1	A	132	SER	C-N-CA	10.24	141.09	121.54
1	A	65	ARG	CG-CD-NE	10.19	134.42	112.00
1	A	114	TYR	CE1-CZ-OH	10.18	150.44	119.90
1	A	120	ASP	CB-CG-OD1	10.13	141.70	118.40
1	A	101	VAL	N-CA-C	10.11	119.98	108.05
1	A	127	TYR	CB-CG-CD1	10.05	135.88	120.80
1	A	127	TYR	CD1-CE1-CZ	10.05	137.69	119.60
1	A	110	ILE	CB-CG1-CD1	10.04	134.89	113.80
1	A	114	TYR	OH-CZ-CE2	9.99	149.88	119.90
1	A	121	GLU	CG-CD-OE1	-9.85	95.75	118.40
1	A	118	GLU	CA-CB-CG	9.84	133.78	114.10
1	A	127	TYR	CG-CD1-CE1	9.80	135.91	121.20
1	A	3	PHE	CD1-CE1-CZ	-9.79	102.39	120.00
1	A	14	GLN	CG-CD-OE1	9.74	140.29	120.80
1	A	104	ARG	CD-NE-CZ	9.73	138.03	124.40
1	A	102	PRO	N-CA-C	9.71	127.89	111.68
1	A	88	ASN	N-CA-C	9.68	131.41	110.80
1	A	130	PRO	CA-C-O	9.66	138.76	122.82
1	A	118	GLU	CA-C-O	9.66	134.32	120.51
1	A	42	MET	CB-CG-SD	9.62	141.55	112.70
1	A	17	ASP	CB-CG-OD2	9.41	140.04	118.40
1	A	13	PRO	O-C-N	-9.37	109.23	122.35
1	A	129	ALA	O-C-N	-9.35	113.17	121.31
1	A	99	GLN	CA-CB-CG	9.33	132.76	114.10
1	A	133	LYS	N-CA-C	9.30	130.61	110.80
1	A	47	VAL	CA-CB-CG1	9.29	126.19	110.40
1	A	102	PRO	CA-C-O	-9.29	110.53	121.86
1	A	133	LYS	CD-CE-NZ	9.26	141.52	111.90
1	A	87	SER	CA-C-O	9.24	132.24	121.34
1	A	106	LEU	CB-CG-CD1	9.11	138.02	110.70
1	A	131	CYS	CA-CB-SG	9.07	135.26	114.40
1	A	111	VAL	CA-CB-CG1	8.92	125.56	110.40
1	A	111	VAL	CA-CB-CG2	8.92	125.56	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	33	TYR	OH-CZ-CE2	8.91	146.62	119.90
1	A	37	ARG	N-CA-C	8.90	123.92	109.59
1	A	84	ASP	O-C-N	-8.90	111.89	123.28
1	A	101	VAL	CA-C-O	8.87	124.96	119.19
1	A	4	PRO	CB-CA-C	8.81	126.09	111.56
1	A	61	LYS	CG-CD-CE	8.78	131.50	111.30
1	A	56	LEU	CB-CG-CD2	8.77	137.00	110.70
1	A	35	GLY	CA-C-N	8.76	138.81	121.81
1	A	35	GLY	C-N-CA	8.76	138.81	121.81
1	A	20	LYS	CD-CE-NZ	8.70	139.73	111.90
1	A	65	ARG	NH1-CZ-NH2	8.69	130.59	119.30
1	A	85	LYS	CB-CG-CD	8.64	131.17	111.30
1	A	111	VAL	CG1-CB-CG2	-8.62	91.84	110.80
1	A	107	LYS	CD-CE-NZ	8.59	139.39	111.90
1	A	132	SER	N-CA-C	8.57	122.73	109.96
1	A	40	SER	CA-CB-OG	8.55	128.21	111.10
1	A	56	LEU	CB-CG-CD1	8.53	136.30	110.70
1	A	102	PRO	N-CD-CG	-8.45	90.52	103.20
1	A	16	CYS	CA-CB-SG	8.45	133.83	114.40
1	A	78	HIS	CB-CG-CD2	8.41	142.13	131.20
1	A	50	VAL	CA-C-O	8.40	131.28	120.78
1	A	57	LYS	CA-CB-CG	8.39	130.87	114.10
1	A	10	GLN	CG-CD-OE1	8.36	137.52	120.80
1	A	102	PRO	CA-C-N	8.35	136.99	121.97
1	A	102	PRO	C-N-CA	8.35	136.99	121.97
1	A	15	THR	O-C-N	-8.33	111.52	122.59
1	A	34	THR	CA-C-O	8.31	130.69	121.06
1	A	88	ASN	CA-CB-CG	8.25	120.85	112.60
1	A	28	SER	CA-CB-OG	8.23	127.56	111.10
1	A	128	ASN	CB-CG-OD1	8.08	136.96	120.80
1	A	10	GLN	CB-CG-CD	8.05	126.29	112.60
1	A	127	TYR	CZ-CE2-CD2	8.03	134.05	119.60
1	A	51	SER	O-C-N	-8.02	111.93	122.59
1	A	103	VAL	CA-CB-CG2	7.96	123.94	110.40
1	A	130	PRO	N-CA-C	7.92	127.14	112.33
1	A	15	THR	OG1-CB-CG2	-7.84	93.62	109.30
1	A	104	ARG	N-CA-C	7.81	124.37	107.49
1	A	69	VAL	CA-C-O	-7.78	113.27	121.44
1	A	26	GLN	CB-CG-CD	-7.70	99.51	112.60
1	A	124	ILE	CB-CG1-CD1	7.70	129.96	113.80
1	A	135	LEU	CD1-CG-CD2	-7.67	93.94	110.80
1	A	88	ASN	CB-CG-OD1	-7.61	105.58	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	117	TYR	OH-CZ-CE2	7.59	142.69	119.90
1	A	121	GLU	CA-CB-CG	7.57	129.23	114.10
1	A	2	GLU	CA-CB-CG	7.55	129.20	114.10
1	A	17	ASP	CA-CB-CG	7.54	120.14	112.60
1	A	91	LEU	CD1-CG-CD2	7.52	127.35	110.80
1	A	100	ASP	CB-CG-OD2	7.52	135.69	118.40
1	A	104	ARG	CG-CD-NE	7.47	128.44	112.00
1	A	93	LEU	CB-CG-CD1	7.46	133.07	110.70
1	A	40	SER	O-C-N	7.44	132.48	122.59
1	A	105	ASP	CA-CB-CG	7.39	120.00	112.60
1	A	29	LEU	CB-CG-CD2	7.33	132.69	110.70
1	A	71	ARG	CG-CD-NE	-7.32	95.91	112.00
1	A	117	TYR	CA-CB-CG	7.29	127.03	113.90
1	A	120	ASP	N-CA-C	7.29	126.33	110.80
1	A	34	THR	CA-CB-OG1	7.21	120.42	109.60
1	A	100	ASP	CA-CB-CG	7.20	119.80	112.60
1	A	86	VAL	CA-C-O	-7.17	114.10	121.70
1	A	71	ARG	N-CA-C	7.07	120.97	109.59
1	A	133	LYS	N-CA-CB	-7.04	98.59	110.49
1	A	119	THR	N-CA-CB	-6.93	100.62	110.46
1	A	100	ASP	CB-CG-OD1	6.89	134.25	118.40
1	A	3	PHE	N-CA-CB	6.83	122.52	110.37
1	A	138	ALA	N-CA-CB	-6.82	100.17	110.40
1	A	124	ILE	CA-CB-CG1	6.81	121.98	110.40
1	A	134	ASP	CB-CG-OD1	6.80	134.04	118.40
1	A	91	LEU	CA-CB-CG	6.73	139.87	116.30
1	A	13	PRO	CA-C-O	6.73	128.15	118.86
1	A	99	GLN	CA-C-N	6.71	134.35	121.54
1	A	99	GLN	C-N-CA	6.71	134.35	121.54
1	A	102	PRO	CB-CA-C	-6.67	101.09	110.63
1	A	4	PRO	CA-N-CD	6.64	121.29	112.00
1	A	103	VAL	N-CA-C	6.62	123.12	109.34
1	A	50	VAL	O-C-N	-6.58	114.35	122.57
1	A	2	GLU	CB-CG-CD	6.56	123.75	112.60
1	A	117	TYR	CA-C-O	-6.52	111.19	120.51
1	A	104	ARG	O-C-N	-6.46	113.30	122.87
1	A	61	LYS	CD-CE-NZ	6.43	132.47	111.90
1	A	4	PRO	CA-CB-CG	6.37	116.61	104.50
1	A	36	SER	CA-C-N	6.33	132.10	122.93
1	A	36	SER	C-N-CA	6.33	132.10	122.93
1	A	130	PRO	CB-CA-C	-6.31	104.51	113.09
1	A	121	GLU	N-CA-C	6.30	124.22	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	89	GLN	N-CA-C	6.28	118.40	108.79
1	A	67	ASN	CB-CG-ND2	6.27	125.80	116.40
1	A	50	VAL	CA-CB-CG2	-6.22	99.83	110.40
1	A	132	SER	CA-C-O	-6.17	113.61	120.70
1	A	69	VAL	N-CA-C	6.10	115.97	108.53
1	A	14	GLN	CA-CB-CG	6.07	126.25	114.10
1	A	4	PRO	N-CA-C	6.01	124.85	112.47
1	A	3	PHE	CA-C-O	5.97	128.34	120.16
1	A	117	TYR	CB-CG-CD2	5.94	129.71	120.80
1	A	127	TYR	CE1-CZ-OH	5.93	137.70	119.90
1	A	38	SER	CB-CA-C	-5.87	98.74	110.42
1	A	89	GLN	O-C-N	-5.87	117.14	123.42
1	A	39	ALA	CA-C-O	-5.82	114.63	121.44
1	A	68	HIS	CA-CB-CG	5.76	119.56	113.80
1	A	121	GLU	CA-C-N	5.74	132.76	122.09
1	A	121	GLU	C-N-CA	5.74	132.76	122.09
1	A	121	GLU	CB-CA-C	5.70	121.76	110.42
1	A	117	TYR	CG-CD2-CE2	5.67	129.70	121.20
1	A	38	SER	CA-CB-OG	5.64	122.39	111.10
1	A	18	GLU	CB-CG-CD	5.63	122.17	112.60
1	A	89	GLN	CB-CG-CD	5.53	121.99	112.60
1	A	18	GLU	CG-CD-OE2	5.50	131.04	118.40
1	A	119	THR	CA-C-O	5.47	128.06	121.66
1	A	89	GLN	N-CA-CB	-5.39	103.21	111.56
1	A	71	ARG	NE-CZ-NH1	5.35	126.85	121.50
1	A	73	GLU	CB-CG-CD	5.35	121.69	112.60
1	A	135	LEU	CB-CG-CD2	5.34	126.73	110.70
1	A	2	GLU	CB-CA-C	5.29	119.48	109.37
1	A	82	TYR	CA-CB-CG	5.25	123.35	113.90
1	A	106	LEU	N-CA-C	5.23	116.93	108.41
1	A	104	ARG	N-CA-CB	-5.20	100.14	110.64
1	A	98	LEU	O-C-N	-5.20	116.39	123.15
1	A	87	SER	CB-CA-C	5.19	120.34	111.46
1	A	50	VAL	N-CA-C	5.15	120.05	109.34
1	A	102	PRO	CB-CG-CD	5.14	122.56	106.10
1	A	50	VAL	CA-CB-CG1	5.05	118.99	110.40
1	A	104	ARG	NE-CZ-NH1	5.04	126.54	121.50
1	A	76	SER	O-C-N	-5.01	115.92	122.59

All chiral outliers are listed below.

Mol	Chain	Res	Type	Atoms
1	A	2	GLU	CA

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Mol	Chain	Res	Type	Atoms
1	A	3	PHE	CA
1	A	15	THR	CB
1	A	34	THR	CB
1	A	38	SER	CA
1	A	39	ALA	CA
1	A	40	SER	CA
1	A	41	ASN	CA
1	A	86	VAL	CA
1	A	87	SER	CA
1	A	110	ILE	CB
1	A	117	TYR	CA
1	A	118	GLU	CA
1	A	119	THR	CB
1	A	120	ASP	CA
1	A	134	ASP	CA
1	A	135	LEU	CA
1	A	137	ASN	CA
1	A	138	ALA	CA

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	A	1078	908	1015	682
All	All	1078	908	1015	682

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 326.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:33:TYR:CZ	1:A:33:TYR:CD1	1.64	1.85
1:A:33:TYR:CG	1:A:33:TYR:CE1	1.61	1.79
1:A:33:TYR:CZ	1:A:33:TYR:CD2	1.61	1.76
1:A:1:GLU:CG	1:A:1:GLU:CA	1.59	1.78

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:122:PHE:CZ	1:A:122:PHE:CD1	1.59	1.84
1:A:122:PHE:CG	1:A:122:PHE:CE2	1.59	1.84
1:A:33:TYR:CG	1:A:33:TYR:CE2	1.58	1.88
1:A:106:LEU:HG	1:A:106:LEU:CA	1.58	1.08
1:A:114:TYR:CZ	1:A:114:TYR:CD2	1.57	1.93
1:A:57:LYS:CB	1:A:57:LYS:CD	1.56	1.81
1:A:112:LYS:CB	1:A:112:LYS:CD	1.56	1.78
1:A:104:ARG:CG	1:A:104:ARG:CA	1.56	1.79
1:A:122:PHE:CZ	1:A:122:PHE:CD2	1.55	1.92
1:A:12:LEU:CD2	1:A:12:LEU:CB	1.52	1.83
1:A:33:TYR:CD1	1:A:33:TYR:CB	1.51	1.87
1:A:1:GLU:CD	1:A:1:GLU:CB	1.51	1.76
1:A:10:GLN:NE2	1:A:10:GLN:CG	1.51	1.73
1:A:107:LYS:NZ	1:A:107:LYS:CD	1.51	1.74
1:A:114:TYR:CG	1:A:114:TYR:CE1	1.51	1.96
1:A:94:PHE:CZ	1:A:94:PHE:CD2	1.50	1.99
1:A:114:TYR:CZ	1:A:114:TYR:CD1	1.50	1.94
1:A:57:LYS:CE	1:A:57:LYS:CG	1.49	1.89
1:A:122:PHE:CG	1:A:122:PHE:CE1	1.49	1.92
1:A:14:GLN:NE2	1:A:14:GLN:CG	1.49	1.72
1:A:114:TYR:CG	1:A:114:TYR:CE2	1.49	1.98
1:A:94:PHE:CG	1:A:94:PHE:CE1	1.47	1.99
1:A:122:PHE:CD2	1:A:122:PHE:CB	1.47	1.94
1:A:100:ASP:C	1:A:101:VAL:CA	1.46	1.84
1:A:61:LYS:NZ	1:A:61:LYS:CD	1.45	1.79
1:A:57:LYS:CD	1:A:57:LYS:NZ	1.45	1.68
1:A:89:GLN:NE2	1:A:89:GLN:CG	1.45	1.74
1:A:84:ASP:OD2	1:A:84:ASP:CB	1.44	1.64
1:A:127:TYR:CZ	1:A:127:TYR:CD2	1.43	2.05
1:A:42:MET:CB	1:A:42:MET:SD	1.42	2.06
1:A:107:LYS:CG	1:A:107:LYS:CA	1.42	1.96
1:A:29:LEU:CD2	1:A:29:LEU:CB	1.42	1.93
1:A:102:PRO:O	1:A:102:PRO:CA	1.42	1.67
1:A:18:GLU:OE2	1:A:18:GLU:CG	1.41	1.66
1:A:114:TYR:CD1	1:A:114:TYR:CB	1.41	2.04
1:A:115:ASP:O	1:A:116:TYR:CA	1.39	1.69
1:A:127:TYR:CG	1:A:127:TYR:CE1	1.39	2.09
1:A:118:GLU:O	1:A:118:GLU:CA	1.38	1.68
1:A:49:MET:SD	1:A:49:MET:CB	1.37	2.10
1:A:126:GLU:OE2	1:A:126:GLU:CG	1.37	1.71
1:A:118:GLU:C	1:A:119:THR:CA	1.36	1.95
1:A:99:GLN:CG	1:A:99:GLN:CA	1.36	2.02

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:107:LYS:CD	1:A:107:LYS:CB	1.36	2.04
1:A:114:TYR:CD2	1:A:114:TYR:CB	1.36	2.06
1:A:51:SER:OG	1:A:51:SER:CA	1.35	1.73
1:A:127:TYR:CZ	1:A:127:TYR:CD1	1.35	2.12
1:A:70:SER:OG	1:A:70:SER:CA	1.35	1.74
1:A:94:PHE:CG	1:A:94:PHE:CE2	1.35	2.15
1:A:94:PHE:CD1	1:A:94:PHE:CB	1.35	2.10
1:A:100:ASP:OD1	1:A:100:ASP:CB	1.35	1.75
1:A:94:PHE:CZ	1:A:94:PHE:CD1	1.34	2.15
1:A:14:GLN:CB	1:A:14:GLN:CD	1.34	1.98
1:A:102:PRO:O	1:A:103:VAL:N	1.34	1.59
1:A:60:VAL:CG2	1:A:60:VAL:CA	1.33	2.05
1:A:12:LEU:CB	1:A:12:LEU:CD1	1.33	2.07
1:A:106:LEU:CA	1:A:106:LEU:CG	1.32	1.79
1:A:100:ASP:CA	1:A:101:VAL:N	1.31	1.91
1:A:113:VAL:CG1	1:A:113:VAL:CA	1.31	2.08
1:A:127:TYR:CG	1:A:127:TYR:CE2	1.31	2.16
1:A:62:MET:SD	1:A:62:MET:CB	1.31	2.18
1:A:60:VAL:CA	1:A:60:VAL:CG1	1.28	2.09
1:A:97:VAL:CG1	1:A:97:VAL:CA	1.28	2.12
1:A:41:ASN:O	1:A:41:ASN:CA	1.27	1.82
1:A:31:VAL:CG2	1:A:31:VAL:CA	1.27	2.11
1:A:100:ASP:CB	1:A:100:ASP:OD2	1.27	1.83
1:A:34:THR:CG2	1:A:34:THR:CA	1.26	2.11
1:A:36:SER:OG	1:A:36:SER:CA	1.26	1.82
1:A:112:LYS:CG	1:A:112:LYS:CA	1.26	2.11
1:A:45:VAL:CG2	1:A:45:VAL:CA	1.26	2.13
1:A:49:MET:SD	1:A:49:MET:CG	1.26	1.17
1:A:33:TYR:CE2	1:A:33:TYR:OH	1.25	1.69
1:A:68:HIS:CD2	1:A:68:HIS:CB	1.25	2.03
1:A:127:TYR:CD1	1:A:127:TYR:CB	1.25	2.17
1:A:115:ASP:CG	1:A:115:ASP:CA	1.25	2.10
1:A:33:TYR:CD2	1:A:33:TYR:CB	1.25	1.96
1:A:45:VAL:CA	1:A:45:VAL:CG1	1.25	2.14
1:A:64:GLU:OE2	1:A:64:GLU:CG	1.25	1.82
1:A:14:GLN:CG	1:A:14:GLN:CA	1.24	2.14
1:A:49:MET:CG	1:A:49:MET:CE	1.24	2.15
1:A:47:VAL:CG1	1:A:47:VAL:CA	1.24	2.16
1:A:56:LEU:CD2	1:A:56:LEU:CB	1.24	2.16
1:A:56:LEU:CB	1:A:56:LEU:CD1	1.23	2.16
1:A:113:VAL:CA	1:A:113:VAL:CG2	1.23	2.16
1:A:48:LYS:CD	1:A:48:LYS:NZ	1.22	2.01

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:97:VAL:CA	1:A:97:VAL:CG2	1.22	2.16
1:A:64:GLU:CG	1:A:64:GLU:OE1	1.22	1.88
1:A:57:LYS:CG	1:A:57:LYS:CA	1.22	2.18
1:A:49:MET:SD	1:A:49:MET:CE	1.21	1.12
1:A:126:GLU:CG	1:A:126:GLU:OE1	1.21	1.87
1:A:115:ASP:C	1:A:116:TYR:CA	1.21	2.12
1:A:29:LEU:CB	1:A:29:LEU:CD1	1.20	2.18
1:A:114:TYR:CE2	1:A:114:TYR:OH	1.20	1.85
1:A:42:MET:CG	1:A:42:MET:CA	1.19	2.20
1:A:127:TYR:CD2	1:A:127:TYR:CB	1.19	2.24
1:A:48:LYS:CE	1:A:48:LYS:CG	1.19	2.19
1:A:20:LYS:NZ	1:A:20:LYS:CD	1.18	2.04
1:A:41:ASN:O	1:A:42:MET:CA	1.18	1.91
1:A:9:VAL:CG2	1:A:9:VAL:CA	1.17	2.23
1:A:9:VAL:CA	1:A:9:VAL:CG1	1.16	2.21
1:A:31:VAL:CA	1:A:31:VAL:CG1	1.16	2.19
1:A:128:ASN:ND2	1:A:128:ASN:CB	1.16	2.08
1:A:34:THR:CA	1:A:34:THR:OG1	1.15	1.95
1:A:127:TYR:CE2	1:A:127:TYR:OH	1.14	1.97
1:A:17:ASP:OD2	1:A:17:ASP:CB	1.14	1.95
1:A:47:VAL:CA	1:A:47:VAL:CG2	1.14	2.25
1:A:17:ASP:CB	1:A:17:ASP:OD1	1.13	1.95
1:A:41:ASN:C	1:A:42:MET:CA	1.12	2.20
1:A:18:GLU:CG	1:A:18:GLU:OE1	1.12	1.84
1:A:114:TYR:CE1	1:A:114:TYR:OH	1.12	1.87
1:A:118:GLU:CA	1:A:119:THR:N	1.11	1.99
1:A:62:MET:SD	1:A:62:MET:CG	1.10	1.21
1:A:46:ASP:CG	1:A:46:ASP:CA	1.10	2.22
1:A:83:LEU:CG	1:A:83:LEU:CA	1.10	2.29
1:A:83:LEU:CD1	1:A:91:LEU:CD2	1.09	2.28
1:A:118:GLU:CB	1:A:119:THR:N	1.09	2.15
1:A:115:ASP:O	1:A:115:ASP:CA	1.09	1.99
1:A:62:MET:SD	1:A:62:MET:HG3	1.07	1.74
1:A:29:LEU:CD1	1:A:29:LEU:HD23	1.07	1.74
1:A:49:MET:SD	1:A:49:MET:HE1	1.06	1.71
1:A:29:LEU:CD2	1:A:29:LEU:HD12	1.06	1.73
1:A:49:MET:SD	1:A:49:MET:HE3	1.06	1.71
1:A:127:TYR:CE1	1:A:127:TYR:OH	1.06	2.05
1:A:9:VAL:CG2	1:A:9:VAL:HB	1.05	1.67
1:A:34:THR:CG2	1:A:34:THR:HB	1.05	1.63
1:A:118:GLU:O	1:A:118:GLU:HA	1.05	1.35
1:A:12:LEU:CD1	1:A:12:LEU:HG	1.05	1.60

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:41:ASN:O	1:A:41:ASN:HA	1.05	1.48
1:A:72:THR:HG21	1:A:93:LEU:HD13	1.05	1.07
1:A:56:LEU:CD1	1:A:56:LEU:HG	1.05	1.63
1:A:97:VAL:CG2	1:A:97:VAL:HB	1.05	1.61
1:A:115:ASP:CA	1:A:116:TYR:N	1.05	2.18
1:A:61:LYS:NZ	1:A:61:LYS:HE3	1.04	1.43
1:A:49:MET:SD	1:A:49:MET:HE2	1.04	1.71
1:A:62:MET:SD	1:A:62:MET:HG2	1.04	1.74
1:A:31:VAL:CG1	1:A:31:VAL:HB	1.04	1.61
1:A:99:GLN:HG3	1:A:99:GLN:C	1.04	1.78
1:A:69:VAL:HG22	1:A:70:SER:H	1.03	1.10
1:A:113:VAL:CG1	1:A:113:VAL:HG23	1.03	1.63
1:A:118:GLU:HB3	1:A:119:THR:N	1.03	1.57
1:A:33:TYR:CE1	1:A:33:TYR:OH	1.03	1.78
1:A:113:VAL:CG2	1:A:113:VAL:HG12	1.03	1.63
1:A:97:VAL:CG1	1:A:97:VAL:HB	1.03	1.59
1:A:29:LEU:CD1	1:A:29:LEU:HG	1.02	1.59
1:A:41:ASN:HA	1:A:42:MET:N	1.02	1.63
1:A:113:VAL:CG2	1:A:113:VAL:HB	1.02	1.59
1:A:60:VAL:CG2	1:A:60:VAL:HB	1.01	1.55
1:A:61:LYS:NZ	1:A:61:LYS:HE2	1.01	1.43
1:A:70:SER:OG	1:A:70:SER:HB2	1.01	1.25
1:A:49:MET:SD	1:A:49:MET:HG2	1.01	1.65
1:A:9:VAL:CB	1:A:9:VAL:HG22	1.01	1.54
1:A:83:LEU:HD11	1:A:91:LEU:HD23	1.01	1.27
1:A:97:VAL:CG2	1:A:97:VAL:HG12	1.01	1.80
1:A:128:ASN:CB	1:A:128:ASN:OD1	1.01	2.06
1:A:9:VAL:CG1	1:A:9:VAL:HB	1.00	1.67
1:A:9:VAL:CB	1:A:9:VAL:HG11	1.00	1.53
1:A:33:TYR:CE1	1:A:115:ASP:CG	1.00	2.38
1:A:97:VAL:CG1	1:A:97:VAL:HG23	1.00	1.79
1:A:102:PRO:O	1:A:102:PRO:C	1.00	0.76
1:A:31:VAL:CG2	1:A:31:VAL:HB	1.00	1.60
1:A:49:MET:SD	1:A:49:MET:HG3	1.00	1.65
1:A:83:LEU:HD13	1:A:91:LEU:HD21	1.00	1.28
1:A:34:THR:CB	1:A:34:THR:HG21	0.99	1.56
1:A:47:VAL:CB	1:A:47:VAL:HG23	0.99	1.56
1:A:61:LYS:NZ	1:A:61:LYS:CE	0.99	0.84
1:A:113:VAL:CG1	1:A:113:VAL:HB	0.99	1.55
1:A:9:VAL:CB	1:A:9:VAL:HG23	0.99	1.54
1:A:33:TYR:CZ	1:A:115:ASP:OD1	0.99	2.15
1:A:47:VAL:CB	1:A:47:VAL:HG22	0.99	1.56

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:41:ASN:CA	1:A:42:MET:N	0.99	2.25
1:A:47:VAL:CB	1:A:47:VAL:HG21	0.99	1.56
1:A:122:PHE:CD1	1:A:122:PHE:CB	0.99	2.02
1:A:34:THR:CB	1:A:34:THR:HG22	0.98	1.56
1:A:9:VAL:CB	1:A:9:VAL:HG13	0.98	1.53
1:A:34:THR:CB	1:A:34:THR:HG23	0.98	1.56
1:A:36:SER:OG	1:A:36:SER:HB2	0.98	1.27
1:A:36:SER:OG	1:A:36:SER:HB3	0.98	1.27
1:A:60:VAL:CG1	1:A:60:VAL:HB	0.98	1.57
1:A:9:VAL:CB	1:A:9:VAL:HG12	0.97	1.53
1:A:51:SER:OG	1:A:51:SER:HB2	0.97	1.24
1:A:70:SER:OG	1:A:70:SER:HB3	0.97	1.25
1:A:51:SER:OG	1:A:51:SER:HB3	0.97	1.24
1:A:60:VAL:CG2	1:A:60:VAL:HG12	0.97	1.54
1:A:107:LYS:NZ	1:A:107:LYS:HE3	0.97	1.37
1:A:47:VAL:CB	1:A:47:VAL:HG12	0.97	1.51
1:A:1:GLU:CD	1:A:1:GLU:HG2	0.97	1.45
1:A:102:PRO:O	1:A:102:PRO:CB	0.97	2.12
1:A:1:GLU:CD	1:A:1:GLU:HG3	0.96	1.45
1:A:72:THR:CG2	1:A:93:LEU:HD13	0.96	1.89
1:A:47:VAL:CG2	1:A:47:VAL:HB	0.96	1.65
1:A:56:LEU:CD2	1:A:56:LEU:HG	0.96	1.63
1:A:107:LYS:NZ	1:A:107:LYS:HE2	0.96	1.37
1:A:9:VAL:CB	1:A:9:VAL:HG21	0.96	1.54
1:A:47:VAL:CB	1:A:47:VAL:HG13	0.96	1.51
1:A:60:VAL:CG1	1:A:60:VAL:HG23	0.96	1.54
1:A:20:LYS:NZ	1:A:20:LYS:HE3	0.95	1.35
1:A:20:LYS:NZ	1:A:20:LYS:HE2	0.95	1.35
1:A:81:ILE:HG12	1:A:93:LEU:HD11	0.95	1.36
1:A:47:VAL:CB	1:A:47:VAL:HG11	0.94	1.51
1:A:31:VAL:CB	1:A:31:VAL:HG11	0.94	1.48
1:A:107:LYS:NZ	1:A:107:LYS:CE	0.94	0.79
1:A:14:GLN:CG	1:A:14:GLN:HB3	0.94	1.48
1:A:31:VAL:CB	1:A:31:VAL:HG13	0.94	1.49
1:A:57:LYS:CB	1:A:57:LYS:HD3	0.94	1.88
1:A:41:ASN:C	1:A:42:MET:N	0.93	0.84
1:A:47:VAL:CG2	1:A:47:VAL:CB	0.93	0.94
1:A:48:LYS:CD	1:A:48:LYS:CE	0.93	0.94
1:A:33:TYR:CE1	1:A:115:ASP:OD2	0.93	2.20
1:A:83:LEU:CA	1:A:83:LEU:HG	0.93	1.89
1:A:14:GLN:CG	1:A:14:GLN:HB2	0.93	1.48
1:A:34:THR:CG2	1:A:34:THR:CB	0.93	0.94

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:29:LEU:CD2	1:A:29:LEU:HG	0.93	1.50
1:A:115:ASP:O	1:A:116:TYR:CB	0.93	2.16
1:A:31:VAL:CB	1:A:31:VAL:HG12	0.93	1.49
1:A:50:VAL:O	1:A:52:GLY:N	0.93	2.01
1:A:33:TYR:CE1	1:A:115:ASP:OD1	0.92	2.22
1:A:33:TYR:CE2	1:A:115:ASP:CG	0.92	2.47
1:A:47:VAL:CG1	1:A:47:VAL:HB	0.92	1.65
1:A:56:LEU:CG	1:A:56:LEU:HD22	0.92	1.45
1:A:127:TYR:CD2	1:A:127:TYR:CG	0.92	0.92
1:A:56:LEU:CG	1:A:56:LEU:HD13	0.92	1.45
1:A:36:SER:OG	1:A:36:SER:CB	0.92	0.62
1:A:9:VAL:CG2	1:A:9:VAL:CB	0.92	0.92
1:A:1:GLU:CG	1:A:1:GLU:CD	0.91	0.93
1:A:56:LEU:CG	1:A:56:LEU:HD11	0.91	1.45
1:A:56:LEU:CG	1:A:56:LEU:HD23	0.91	1.45
1:A:81:ILE:CG1	1:A:93:LEU:HD11	0.91	1.94
1:A:31:VAL:CB	1:A:31:VAL:HG23	0.91	1.45
1:A:33:TYR:CZ	1:A:115:ASP:CG	0.91	2.47
1:A:48:LYS:CE	1:A:48:LYS:HD3	0.91	1.45
1:A:29:LEU:CG	1:A:29:LEU:HD11	0.91	1.45
1:A:57:LYS:CG	1:A:57:LYS:HB3	0.91	1.45
1:A:20:LYS:NZ	1:A:20:LYS:CE	0.91	0.76
1:A:31:VAL:CB	1:A:31:VAL:HG22	0.91	1.45
1:A:106:LEU:HG	1:A:106:LEU:C	0.91	1.90
1:A:9:VAL:CG1	1:A:9:VAL:CB	0.91	0.91
1:A:48:LYS:CE	1:A:48:LYS:HD2	0.90	1.45
1:A:9:VAL:HG11	1:A:111:VAL:HG11	0.90	1.41
1:A:29:LEU:HD12	1:A:29:LEU:CG	0.90	1.45
1:A:29:LEU:CG	1:A:29:LEU:HD13	0.90	1.45
1:A:1:GLU:CG	1:A:1:GLU:HB3	0.90	1.44
1:A:56:LEU:CG	1:A:56:LEU:HD21	0.90	1.45
1:A:57:LYS:CG	1:A:57:LYS:HB2	0.90	1.45
1:A:56:LEU:CG	1:A:56:LEU:HD12	0.90	1.45
1:A:1:GLU:CB	1:A:1:GLU:HG2	0.90	1.43
1:A:127:TYR:CZ	1:A:127:TYR:CE1	0.89	0.89
1:A:31:VAL:CB	1:A:31:VAL:HG21	0.89	1.45
1:A:97:VAL:CB	1:A:97:VAL:HG22	0.89	1.43
1:A:1:GLU:CB	1:A:1:GLU:HG3	0.89	1.43
1:A:70:SER:OG	1:A:70:SER:CB	0.89	0.59
1:A:57:LYS:CB	1:A:57:LYS:HG2	0.89	1.44
1:A:97:VAL:CB	1:A:97:VAL:HG21	0.89	1.43
1:A:57:LYS:CB	1:A:57:LYS:HG3	0.88	1.43

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:107:LYS:CG	1:A:107:LYS:HB3	0.88	1.43
1:A:104:ARG:CG	1:A:104:ARG:N	0.88	2.36
1:A:107:LYS:CG	1:A:107:LYS:HB2	0.88	1.43
1:A:48:LYS:CD	1:A:48:LYS:HE2	0.88	1.43
1:A:118:GLU:C	1:A:119:THR:HB	0.88	1.93
1:A:33:TYR:CE2	1:A:115:ASP:OD1	0.88	2.27
1:A:48:LYS:CD	1:A:48:LYS:HE3	0.88	1.43
1:A:47:VAL:CG1	1:A:47:VAL:CB	0.88	0.88
1:A:97:VAL:CG1	1:A:97:VAL:CG2	0.88	0.88
1:A:14:GLN:CG	1:A:14:GLN:CB	0.88	0.88
1:A:1:GLU:CG	1:A:1:GLU:HB2	0.87	1.44
1:A:83:LEU:HD13	1:A:91:LEU:CD2	0.87	1.96
1:A:62:MET:SD	1:A:62:MET:CE	0.87	0.86
1:A:99:GLN:CG	1:A:99:GLN:HB3	0.87	1.40
1:A:104:ARG:CB	1:A:104:ARG:HG2	0.87	1.43
1:A:97:VAL:HG23	1:A:97:VAL:CB	0.86	1.43
1:A:51:SER:OG	1:A:51:SER:CB	0.86	0.57
1:A:57:LYS:CB	1:A:57:LYS:CG	0.86	0.87
1:A:127:TYR:CG	1:A:127:TYR:CD1	0.86	0.86
1:A:99:GLN:CG	1:A:99:GLN:HB2	0.86	1.40
1:A:104:ARG:CB	1:A:104:ARG:HG3	0.86	1.43
1:A:1:GLU:CG	1:A:1:GLU:CB	0.86	0.90
1:A:107:LYS:CB	1:A:107:LYS:HG3	0.86	1.40
1:A:113:VAL:HG23	1:A:113:VAL:CB	0.86	1.39
1:A:104:ARG:CG	1:A:104:ARG:HB3	0.86	1.39
1:A:62:MET:SD	1:A:62:MET:HE2	0.85	1.49
1:A:97:VAL:CB	1:A:97:VAL:HG13	0.85	1.40
1:A:14:GLN:CB	1:A:14:GLN:HG3	0.85	1.38
1:A:31:VAL:CG1	1:A:31:VAL:CB	0.84	0.85
1:A:41:ASN:O	1:A:42:MET:N	0.84	0.70
1:A:62:MET:SD	1:A:62:MET:HE3	0.84	1.49
1:A:83:LEU:CG	1:A:83:LEU:HD12	0.84	1.38
1:A:97:VAL:CG2	1:A:97:VAL:HG13	0.84	1.39
1:A:97:VAL:HG12	1:A:97:VAL:CB	0.84	1.40
1:A:107:LYS:CB	1:A:107:LYS:HG2	0.84	1.39
1:A:14:GLN:O	1:A:15:THR:HB	0.84	1.73
1:A:113:VAL:CB	1:A:113:VAL:HG21	0.84	1.39
1:A:62:MET:SD	1:A:62:MET:HE1	0.84	1.49
1:A:112:LYS:CB	1:A:112:LYS:HD3	0.84	2.02
1:A:115:ASP:CG	1:A:115:ASP:HB2	0.84	1.33
1:A:46:ASP:CG	1:A:46:ASP:HB3	0.84	1.32
1:A:69:VAL:HG22	1:A:70:SER:N	0.84	1.80

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:115:ASP:CG	1:A:115:ASP:HB3	0.84	1.33
1:A:33:TYR:CE2	1:A:115:ASP:OD2	0.83	2.30
1:A:97:VAL:CG1	1:A:97:VAL:HG22	0.83	1.38
1:A:113:VAL:CB	1:A:113:VAL:HG22	0.83	1.39
1:A:127:TYR:CZ	1:A:127:TYR:CE2	0.83	0.84
1:A:14:GLN:CB	1:A:14:GLN:HG2	0.83	1.38
1:A:29:LEU:CD1	1:A:29:LEU:HD22	0.83	1.37
1:A:46:ASP:CG	1:A:46:ASP:HB2	0.83	1.32
1:A:83:LEU:CG	1:A:83:LEU:HD11	0.83	1.38
1:A:118:GLU:C	1:A:119:THR:CB	0.83	2.46
1:A:29:LEU:CD2	1:A:29:LEU:HD13	0.83	1.36
1:A:83:LEU:CG	1:A:83:LEU:HD13	0.83	1.38
1:A:29:LEU:CD2	1:A:29:LEU:CD1	0.82	0.83
1:A:60:VAL:CB	1:A:60:VAL:HG11	0.82	1.35
1:A:12:LEU:CG	1:A:12:LEU:HD11	0.82	1.35
1:A:60:VAL:CB	1:A:60:VAL:HG13	0.82	1.35
1:A:83:LEU:CG	1:A:83:LEU:HD22	0.82	1.35
1:A:60:VAL:HG12	1:A:60:VAL:CB	0.82	1.35
1:A:83:LEU:CD1	1:A:91:LEU:HD23	0.82	1.92
1:A:12:LEU:CG	1:A:12:LEU:HD13	0.81	1.35
1:A:83:LEU:CG	1:A:83:LEU:HD23	0.81	1.35
1:A:34:THR:OG1	1:A:34:THR:CB	0.81	0.81
1:A:104:ARG:CG	1:A:104:ARG:HB2	0.81	1.39
1:A:128:ASN:CG	1:A:128:ASN:HD21	0.81	1.46
1:A:1:GLU:CD	1:A:1:GLU:HB3	0.81	1.97
1:A:60:VAL:HG12	1:A:60:VAL:HG21	0.81	1.18
1:A:107:LYS:CG	1:A:107:LYS:CB	0.81	0.81
1:A:84:ASP:O	1:A:85:LYS:HB2	0.81	1.74
1:A:115:ASP:C	1:A:116:TYR:N	0.81	0.72
1:A:126:GLU:OE1	1:A:126:GLU:CD	0.81	0.60
1:A:42:MET:CB	1:A:42:MET:HG2	0.81	1.34
1:A:46:ASP:CG	1:A:46:ASP:CB	0.81	0.77
1:A:12:LEU:CG	1:A:12:LEU:HD12	0.81	1.35
1:A:83:LEU:CG	1:A:83:LEU:HD21	0.81	1.35
1:A:99:GLN:CG	1:A:99:GLN:CB	0.81	0.81
1:A:14:GLN:NE2	1:A:14:GLN:HG3	0.81	1.89
1:A:42:MET:CB	1:A:42:MET:HG3	0.81	1.34
1:A:56:LEU:CD2	1:A:56:LEU:CG	0.81	0.81
1:A:94:PHE:CD2	1:A:94:PHE:CB	0.81	2.25
1:A:56:LEU:CD1	1:A:56:LEU:CG	0.80	0.81
1:A:113:VAL:CB	1:A:113:VAL:HG11	0.80	1.34
1:A:113:VAL:CB	1:A:113:VAL:HG13	0.80	1.34

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:97:VAL:CB	1:A:97:VAL:HG11	0.80	1.40
1:A:72:THR:HG21	1:A:93:LEU:CD1	0.80	2.01
1:A:29:LEU:CD1	1:A:29:LEU:CG	0.80	0.80
1:A:104:ARG:CG	1:A:104:ARG:CB	0.80	0.81
1:A:106:LEU:CG	1:A:106:LEU:N	0.80	2.43
1:A:31:VAL:CG2	1:A:31:VAL:CB	0.80	0.80
1:A:102:PRO:O	1:A:103:VAL:HG12	0.80	1.77
1:A:60:VAL:CB	1:A:60:VAL:HG22	0.79	1.33
1:A:84:ASP:OD2	1:A:84:ASP:CG	0.79	0.58
1:A:57:LYS:CB	1:A:57:LYS:HD2	0.79	2.01
1:A:100:ASP:C	1:A:101:VAL:CB	0.79	2.51
1:A:45:VAL:CB	1:A:45:VAL:HG13	0.79	1.32
1:A:60:VAL:CB	1:A:60:VAL:HG21	0.79	1.33
1:A:128:ASN:CG	1:A:128:ASN:HD22	0.79	1.46
1:A:45:VAL:CB	1:A:45:VAL:HG11	0.79	1.32
1:A:113:VAL:HG12	1:A:113:VAL:CB	0.79	1.34
1:A:60:VAL:HG23	1:A:60:VAL:CB	0.79	1.33
1:A:64:GLU:OE1	1:A:64:GLU:CD	0.79	0.58
1:A:70:SER:C	1:A:71:ARG:HD3	0.79	2.03
1:A:99:GLN:CG	1:A:99:GLN:C	0.79	2.48
1:A:94:PHE:CE2	1:A:94:PHE:HZ	0.79	1.54
1:A:45:VAL:CB	1:A:45:VAL:HG12	0.78	1.32
1:A:42:MET:SD	1:A:42:MET:HB2	0.78	1.96
1:A:115:ASP:CG	1:A:115:ASP:CB	0.78	0.73
1:A:57:LYS:CD	1:A:57:LYS:HE2	0.78	1.32
1:A:83:LEU:CD1	1:A:91:LEU:HD21	0.78	1.94
1:A:45:VAL:CB	1:A:45:VAL:HG21	0.78	1.31
1:A:57:LYS:CD	1:A:57:LYS:HE3	0.78	1.32
1:A:57:LYS:CE	1:A:57:LYS:HD2	0.78	1.31
1:A:33:TYR:CD1	1:A:115:ASP:OD2	0.78	2.37
1:A:45:VAL:CB	1:A:45:VAL:HG22	0.77	1.32
1:A:88:ASN:O	1:A:89:GLN:HG3	0.77	1.80
1:A:99:GLN:CA	1:A:99:GLN:HG3	0.77	1.88
1:A:64:GLU:OE2	1:A:64:GLU:CD	0.77	0.54
1:A:97:VAL:CG2	1:A:97:VAL:CB	0.77	0.77
1:A:29:LEU:CG	1:A:29:LEU:HD22	0.77	1.30
1:A:57:LYS:CE	1:A:57:LYS:HD3	0.77	1.31
1:A:45:VAL:CB	1:A:45:VAL:HG23	0.77	1.31
1:A:29:LEU:HD23	1:A:29:LEU:CG	0.77	1.30
1:A:7:LEU:HD21	1:A:125:ALA:CB	0.76	2.11
1:A:115:ASP:O	1:A:115:ASP:C	0.76	0.53
1:A:34:THR:OG1	1:A:34:THR:HB	0.76	1.58

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:127:TYR:CZ	1:A:127:TYR:HE1	0.75	1.50
1:A:127:TYR:CG	1:A:127:TYR:HD2	0.75	1.52
1:A:57:LYS:N	1:A:58:PRO:CD	0.75	2.50
1:A:99:GLN:HG3	1:A:99:GLN:CD	0.75	1.37
1:A:83:LEU:CG	1:A:83:LEU:HB3	0.74	1.29
1:A:106:LEU:CG	1:A:106:LEU:HD21	0.74	1.27
1:A:42:MET:CB	1:A:42:MET:CG	0.74	0.76
1:A:83:LEU:CD2	1:A:91:LEU:HD23	0.74	2.12
1:A:102:PRO:O	1:A:103:VAL:CA	0.74	2.33
1:A:97:VAL:CG1	1:A:97:VAL:CB	0.74	0.74
1:A:113:VAL:CG2	1:A:113:VAL:HG13	0.74	1.27
1:A:14:GLN:CA	1:A:14:GLN:HG3	0.73	1.97
1:A:106:LEU:CG	1:A:106:LEU:HD23	0.73	1.27
1:A:12:LEU:CD1	1:A:12:LEU:HD23	0.73	1.26
1:A:29:LEU:CD1	1:A:29:LEU:HD21	0.73	0.80
1:A:69:VAL:C	1:A:71:ARG:HD3	0.73	2.08
1:A:42:MET:CG	1:A:42:MET:HB3	0.73	1.26
1:A:33:TYR:CD2	1:A:115:ASP:OD2	0.73	2.41
1:A:122:PHE:CE1	1:A:122:PHE:HZ	0.73	1.50
1:A:106:LEU:CG	1:A:106:LEU:HD22	0.73	1.27
1:A:128:ASN:ND2	1:A:128:ASN:CG	0.73	0.83
1:A:107:LYS:CA	1:A:107:LYS:HG3	0.73	1.85
1:A:113:VAL:CG1	1:A:113:VAL:HG22	0.72	1.27
1:A:9:VAL:HG21	1:A:111:VAL:HG11	0.72	1.61
1:A:83:LEU:CG	1:A:83:LEU:CB	0.72	0.80
1:A:113:VAL:CG2	1:A:113:VAL:CB	0.72	0.72
1:A:42:MET:CG	1:A:42:MET:HB2	0.72	1.26
1:A:127:TYR:CG	1:A:127:TYR:HD1	0.71	1.49
1:A:10:GLN:NE2	1:A:10:GLN:CD	0.71	0.67
1:A:61:LYS:CE	1:A:61:LYS:HZ1	0.71	1.42
1:A:83:LEU:CG	1:A:83:LEU:CD1	0.71	0.71
1:A:94:PHE:CZ	1:A:94:PHE:CE1	0.71	0.78
1:A:113:VAL:CG1	1:A:113:VAL:CG2	0.71	0.71
1:A:33:TYR:CD1	1:A:115:ASP:CG	0.71	2.67
1:A:88:ASN:O	1:A:89:GLN:CG	0.71	2.38
1:A:57:LYS:CD	1:A:57:LYS:CE	0.70	0.82
1:A:5:PHE:CE2	1:A:122:PHE:O	0.70	2.44
1:A:12:LEU:CD2	1:A:12:LEU:HG	0.70	1.42
1:A:60:VAL:HG23	1:A:60:VAL:HG11	0.70	1.21
1:A:61:LYS:CE	1:A:61:LYS:HZ2	0.70	1.42
1:A:61:LYS:CE	1:A:61:LYS:HZ3	0.70	1.42
1:A:97:VAL:CG2	1:A:97:VAL:HG11	0.70	0.96

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:112:LYS:CB	1:A:112:LYS:HD2	0.70	2.11
1:A:49:MET:SD	1:A:49:MET:HB2	0.70	2.22
1:A:107:LYS:CG	1:A:107:LYS:N	0.70	2.55
1:A:127:TYR:CZ	1:A:127:TYR:HE2	0.70	1.47
1:A:14:GLN:NE2	1:A:14:GLN:CD	0.69	0.65
1:A:69:VAL:CG2	1:A:70:SER:H	0.69	1.95
1:A:12:LEU:HD12	1:A:12:LEU:HD21	0.69	0.69
1:A:83:LEU:HD11	1:A:91:LEU:CD2	0.69	2.00
1:A:89:GLN:NE2	1:A:89:GLN:CD	0.69	0.65
1:A:85:LYS:C	1:A:86:VAL:CA	0.69	1.96
1:A:33:TYR:CD2	1:A:115:ASP:CG	0.69	2.71
1:A:94:PHE:CD2	1:A:94:PHE:CG	0.68	0.78
1:A:57:LYS:HD3	1:A:57:LYS:HE2	0.68	1.03
1:A:99:GLN:CB	1:A:99:GLN:HG2	0.68	1.34
1:A:9:VAL:HG21	1:A:111:VAL:HG21	0.68	1.63
1:A:83:LEU:HG	1:A:83:LEU:HB2	0.68	0.69
1:A:69:VAL:O	1:A:71:ARG:HD3	0.68	1.89
1:A:12:LEU:HD11	1:A:12:LEU:HD23	0.68	0.92
1:A:17:ASP:OD1	1:A:17:ASP:CG	0.68	0.67
1:A:60:VAL:CG1	1:A:60:VAL:CB	0.68	0.68
1:A:12:LEU:CD1	1:A:12:LEU:CG	0.67	0.68
1:A:41:ASN:O	1:A:41:ASN:C	0.67	0.45
1:A:17:ASP:OD2	1:A:17:ASP:CG	0.67	0.69
1:A:114:TYR:CD2	1:A:114:TYR:CG	0.67	0.72
1:A:107:LYS:CE	1:A:107:LYS:HZ1	0.67	1.38
1:A:12:LEU:CG	1:A:12:LEU:HD23	0.67	1.20
1:A:60:VAL:CG1	1:A:60:VAL:HG22	0.67	1.20
1:A:114:TYR:CG	1:A:114:TYR:CD1	0.67	0.71
1:A:12:LEU:CG	1:A:12:LEU:HD22	0.67	1.20
1:A:7:LEU:HB2	1:A:113:VAL:HG21	0.66	1.64
1:A:83:LEU:CG	1:A:83:LEU:CD2	0.66	0.67
1:A:1:GLU:CD	1:A:1:GLU:HB2	0.66	2.07
1:A:10:GLN:CD	1:A:10:GLN:HE21	0.66	1.33
1:A:60:VAL:CG2	1:A:60:VAL:HG13	0.66	1.20
1:A:128:ASN:OD1	1:A:128:ASN:CG	0.66	0.77
1:A:12:LEU:CG	1:A:12:LEU:HD21	0.66	1.20
1:A:83:LEU:HG	1:A:83:LEU:CB	0.66	0.82
1:A:107:LYS:CE	1:A:107:LYS:HZ2	0.66	1.38
1:A:107:LYS:CE	1:A:107:LYS:HZ3	0.65	1.38
1:A:115:ASP:C	1:A:116:TYR:CB	0.65	2.69
1:A:113:VAL:CG1	1:A:113:VAL:CB	0.65	0.65
1:A:41:ASN:O	1:A:41:ASN:HB2	0.65	1.92

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:97:VAL:HG22	1:A:97:VAL:HG13	0.65	1.11
1:A:83:LEU:CG	1:A:83:LEU:HB2	0.65	1.29
1:A:99:GLN:CD	1:A:99:GLN:HG2	0.65	1.37
1:A:14:GLN:CD	1:A:14:GLN:HE21	0.64	1.31
1:A:89:GLN:CD	1:A:89:GLN:HE21	0.64	1.31
1:A:20:LYS:CE	1:A:20:LYS:HZ2	0.64	1.35
1:A:56:LEU:CB	1:A:59:THR:HB	0.64	2.23
1:A:29:LEU:HD13	1:A:29:LEU:HD22	0.64	1.12
1:A:112:LYS:CB	1:A:112:LYS:HG2	0.64	1.18
1:A:91:LEU:CD1	1:A:91:LEU:N	0.64	2.58
1:A:106:LEU:CG	1:A:106:LEU:HD12	0.64	1.17
1:A:106:LEU:CG	1:A:106:LEU:HB2	0.64	1.18
1:A:112:LYS:CB	1:A:112:LYS:HG3	0.64	1.18
1:A:56:LEU:HB3	1:A:59:THR:HB	0.64	1.68
1:A:106:LEU:CG	1:A:106:LEU:HD13	0.64	1.17
1:A:113:VAL:HG22	1:A:113:VAL:HG13	0.64	0.95
1:A:115:ASP:CG	1:A:115:ASP:C	0.64	2.65
1:A:33:TYR:CG	1:A:33:TYR:CD2	0.64	0.71
1:A:20:LYS:CE	1:A:20:LYS:HZ3	0.64	1.35
1:A:45:VAL:CG1	1:A:45:VAL:CB	0.63	0.63
1:A:106:LEU:CG	1:A:106:LEU:HD11	0.63	1.17
1:A:60:VAL:CG2	1:A:60:VAL:CB	0.63	0.64
1:A:60:VAL:HG21	1:A:74:VAL:HG12	0.63	1.71
1:A:70:SER:C	1:A:71:ARG:CD	0.63	2.71
1:A:115:ASP:O	1:A:116:TYR:N	0.63	0.48
1:A:126:GLU:OE2	1:A:126:GLU:CD	0.63	0.45
1:A:113:VAL:HG12	1:A:113:VAL:HG21	0.63	1.38
1:A:34:THR:CB	1:A:34:THR:HG1	0.63	1.35
1:A:113:VAL:HG23	1:A:113:VAL:HG11	0.63	1.33
1:A:114:TYR:CZ	1:A:114:TYR:CE1	0.63	0.69
1:A:5:PHE:CD2	1:A:122:PHE:O	0.63	2.51
1:A:20:LYS:CE	1:A:20:LYS:HZ1	0.63	1.35
1:A:113:VAL:CG2	1:A:113:VAL:HG11	0.63	0.81
1:A:100:ASP:CB	1:A:101:VAL:N	0.62	2.59
1:A:97:VAL:CG1	1:A:97:VAL:HG21	0.62	1.01
1:A:94:PHE:CZ	1:A:94:PHE:CE2	0.62	0.63
1:A:29:LEU:HD11	1:A:47:VAL:HG11	0.62	1.72
1:A:112:LYS:CG	1:A:112:LYS:HB3	0.62	1.15
1:A:60:VAL:HG13	1:A:60:VAL:HG22	0.62	0.83
1:A:45:VAL:CG2	1:A:45:VAL:CB	0.62	0.62
1:A:57:LYS:HD3	1:A:57:LYS:HB3	0.62	1.56
1:A:5:PHE:CD1	1:A:122:PHE:O	0.62	2.52

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:33:TYR:CZ	1:A:33:TYR:CE1	0.62	0.68
1:A:88:ASN:CG	1:A:88:ASN:HD22	0.62	1.27
1:A:13:PRO:O	1:A:15:THR:N	0.61	2.33
1:A:112:LYS:CG	1:A:112:LYS:HB2	0.61	1.15
1:A:100:ASP:OD1	1:A:100:ASP:CA	0.61	2.42
1:A:88:ASN:CG	1:A:88:ASN:HD21	0.61	1.27
1:A:33:TYR:CZ	1:A:115:ASP:OD2	0.61	2.38
1:A:107:LYS:HG3	1:A:107:LYS:HA	0.61	1.72
1:A:12:LEU:CD2	1:A:12:LEU:HD12	0.61	1.32
1:A:114:TYR:CZ	1:A:114:TYR:CE2	0.61	0.68
1:A:115:ASP:O	1:A:116:TYR:HB2	0.60	1.93
1:A:7:LEU:HD21	1:A:125:ALA:HB3	0.60	1.73
1:A:60:VAL:CG2	1:A:60:VAL:CG1	0.60	0.61
1:A:126:GLU:OE1	1:A:126:GLU:CB	0.60	2.45
1:A:107:LYS:NZ	1:A:107:LYS:HD2	0.60	2.01
1:A:29:LEU:CD2	1:A:29:LEU:CG	0.60	0.60
1:A:33:TYR:CD1	1:A:33:TYR:C	0.60	2.79
1:A:34:THR:CG2	1:A:34:THR:C	0.59	2.75
1:A:57:LYS:N	1:A:58:PRO:HD2	0.59	2.11
1:A:69:VAL:C	1:A:71:ARG:CD	0.59	2.76
1:A:106:LEU:HG	1:A:106:LEU:HB3	0.59	0.66
1:A:60:VAL:CG1	1:A:74:VAL:HG12	0.59	2.28
1:A:102:PRO:O	1:A:102:PRO:HB2	0.59	1.95
1:A:10:GLN:NE2	1:A:10:GLN:OE1	0.58	0.74
1:A:51:SER:OG	1:A:51:SER:N	0.58	2.30
1:A:70:SER:O	1:A:71:ARG:HD3	0.58	1.99
1:A:33:TYR:CD1	1:A:33:TYR:CG	0.58	0.63
1:A:69:VAL:HA	1:A:71:ARG:NH1	0.58	2.13
1:A:100:ASP:OD1	1:A:100:ASP:CG	0.57	0.64
1:A:122:PHE:CZ	1:A:122:PHE:CE1	0.57	0.58
1:A:56:LEU:O	1:A:59:THR:HG22	0.57	1.99
1:A:7:LEU:HB2	1:A:113:VAL:HG11	0.57	1.75
1:A:29:LEU:CD2	1:A:29:LEU:CA	0.57	2.79
1:A:59:THR:CG2	1:A:60:VAL:N	0.57	2.67
1:A:60:VAL:CG1	1:A:74:VAL:CG1	0.57	2.82
1:A:83:LEU:CD2	1:A:91:LEU:CD2	0.57	2.73
1:A:11:THR:HG23	1:A:127:TYR:OH	0.57	1.98
1:A:122:PHE:CZ	1:A:122:PHE:CE2	0.57	0.66
1:A:41:ASN:O	1:A:41:ASN:CB	0.57	2.16
1:A:7:LEU:HD21	1:A:125:ALA:HB2	0.57	1.76
1:A:49:MET:O	1:A:51:SER:N	0.56	2.38
1:A:33:TYR:CZ	1:A:33:TYR:CE2	0.56	0.60

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:53:PHE:CG	1:A:53:PHE:N	0.56	2.66
1:A:106:LEU:CG	1:A:106:LEU:CD2	0.56	0.56
1:A:118:GLU:O	1:A:118:GLU:C	0.56	0.51
1:A:61:LYS:NZ	1:A:61:LYS:HD2	0.56	2.05
1:A:60:VAL:HG11	1:A:74:VAL:HG12	0.55	1.79
1:A:94:PHE:CG	1:A:94:PHE:CD1	0.55	0.63
1:A:33:TYR:CG	1:A:33:TYR:HD2	0.55	1.30
1:A:106:LEU:CG	1:A:106:LEU:HB3	0.55	1.18
1:A:10:GLN:CD	1:A:10:GLN:HE22	0.55	1.33
1:A:68:HIS:CD2	1:A:68:HIS:CG	0.55	0.80
1:A:114:TYR:CG	1:A:114:TYR:HD2	0.55	1.31
1:A:94:PHE:CZ	1:A:94:PHE:HE1	0.55	1.30
1:A:94:PHE:CG	1:A:94:PHE:HD2	0.54	1.30
1:A:100:ASP:OD2	1:A:100:ASP:CG	0.54	0.72
1:A:69:VAL:HA	1:A:71:ARG:CZ	0.54	2.29
1:A:83:LEU:HD21	1:A:91:LEU:HD23	0.54	1.46
1:A:112:LYS:HD3	1:A:112:LYS:HB2	0.54	1.71
1:A:122:PHE:CD1	1:A:122:PHE:CA	0.54	2.82
1:A:18:GLU:OE1	1:A:18:GLU:CD	0.54	0.69
1:A:84:ASP:OD2	1:A:84:ASP:OD1	0.54	0.55
1:A:114:TYR:CG	1:A:114:TYR:HD1	0.53	1.30
1:A:48:LYS:HD3	1:A:48:LYS:HE2	0.53	1.24
1:A:18:GLU:OE2	1:A:18:GLU:CD	0.53	0.57
1:A:33:TYR:CZ	1:A:33:TYR:HE1	0.53	1.28
1:A:33:TYR:CD1	1:A:33:TYR:CA	0.53	2.84
1:A:91:LEU:N	1:A:91:LEU:HD12	0.53	2.17
1:A:99:GLN:HG3	1:A:100:ASP:N	0.53	2.12
1:A:29:LEU:CD2	1:A:29:LEU:HD11	0.53	1.10
1:A:100:ASP:C	1:A:101:VAL:N	0.53	0.53
1:A:107:LYS:HB3	1:A:107:LYS:HG2	0.53	1.31
1:A:114:TYR:CZ	1:A:114:TYR:HE1	0.53	1.29
1:A:118:GLU:C	1:A:119:THR:N	0.53	0.78
1:A:60:VAL:HG21	1:A:74:VAL:CG1	0.53	2.33
1:A:71:ARG:CZ	1:A:71:ARG:HH21	0.53	1.23
1:A:89:GLN:NE2	1:A:89:GLN:OE1	0.53	0.68
1:A:42:MET:HG2	1:A:42:MET:HB3	0.52	1.22
1:A:60:VAL:CG1	1:A:60:VAL:HG21	0.52	0.78
1:A:99:GLN:HG3	1:A:99:GLN:CB	0.52	1.34
1:A:46:ASP:CG	1:A:46:ASP:OD2	0.52	0.77
1:A:113:VAL:CG1	1:A:113:VAL:HG21	0.52	0.92
1:A:128:ASN:O	1:A:130:PRO:HD3	0.52	2.05
1:A:114:TYR:CZ	1:A:114:TYR:HE2	0.52	1.28

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:47:VAL:CG1	1:A:47:VAL:N	0.52	2.69
1:A:46:ASP:HB2	1:A:80:LEU:CD1	0.52	2.34
1:A:5:PHE:CE1	1:A:122:PHE:O	0.52	2.51
1:A:106:LEU:C	1:A:107:LYS:CG	0.51	2.83
1:A:106:LEU:O	1:A:107:LYS:HG3	0.51	2.05
1:A:14:GLN:O	1:A:15:THR:CB	0.51	2.46
1:A:118:GLU:CD	1:A:119:THR:N	0.51	2.63
1:A:14:GLN:NE2	1:A:14:GLN:OE1	0.51	0.67
1:A:49:MET:CE	1:A:49:MET:HG3	0.51	2.24
1:A:99:GLN:CD	1:A:99:GLN:HE21	0.51	1.16
1:A:7:LEU:CD2	1:A:125:ALA:HB2	0.50	2.36
1:A:33:TYR:CG	1:A:33:TYR:HD1	0.50	1.26
1:A:9:VAL:HG11	1:A:111:VAL:HG21	0.50	1.73
1:A:54:ILE:O	1:A:54:ILE:HG22	0.50	2.04
1:A:88:ASN:CG	1:A:88:ASN:ND2	0.50	0.60
1:A:60:VAL:CG2	1:A:60:VAL:C	0.50	2.81
1:A:99:GLN:CD	1:A:99:GLN:HE22	0.50	1.16
1:A:36:SER:CB	1:A:36:SER:HG	0.50	1.20
1:A:64:GLU:OE2	1:A:64:GLU:OE1	0.50	0.50
1:A:106:LEU:HG	1:A:106:LEU:HB2	0.50	1.06
1:A:33:TYR:CG	1:A:115:ASP:OD2	0.49	2.64
1:A:86:VAL:C	1:A:87:SER:HB2	0.49	1.48
1:A:36:SER:OG	1:A:36:SER:C	0.49	2.46
1:A:122:PHE:CD1	1:A:122:PHE:CG	0.49	0.66
1:A:33:TYR:CZ	1:A:33:TYR:HE2	0.49	1.24
1:A:51:SER:N	1:A:51:SER:HG	0.49	2.03
1:A:69:VAL:C	1:A:71:ARG:CZ	0.49	2.85
1:A:106:LEU:O	1:A:107:LYS:HD2	0.48	2.08
1:A:68:HIS:CG	1:A:68:HIS:HD2	0.48	1.28
1:A:81:ILE:HG13	1:A:93:LEU:HD11	0.48	1.79
1:A:106:LEU:O	1:A:107:LYS:CG	0.48	2.61
1:A:33:TYR:CD2	1:A:33:TYR:C	0.48	2.90
1:A:112:LYS:HG2	1:A:112:LYS:HB3	0.48	0.98
1:A:60:VAL:CG1	1:A:60:VAL:N	0.48	2.73
1:A:63:LEU:O	1:A:66:SER:HB2	0.48	2.09
1:A:6:ALA:N	1:A:32:SER:O	0.47	2.46
1:A:14:GLN:HB3	1:A:14:GLN:HG2	0.47	1.27
1:A:102:PRO:O	1:A:102:PRO:CG	0.47	2.57
1:A:44:ILE:CD1	1:A:44:ILE:C	0.47	2.88
1:A:69:VAL:O	1:A:70:SER:O	0.47	2.32
1:A:113:VAL:CG1	1:A:113:VAL:C	0.47	2.82
1:A:70:SER:CB	1:A:70:SER:HG	0.46	1.17

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:79:VAL:O	1:A:80:LEU:HD13	0.46	2.11
1:A:9:VAL:CG2	1:A:9:VAL:N	0.46	2.75
1:A:94:PHE:CZ	1:A:94:PHE:HE2	0.46	1.22
1:A:37:ARG:CZ	1:A:37:ARG:HG3	0.46	1.89
1:A:97:VAL:CG2	1:A:97:VAL:N	0.46	2.77
1:A:94:PHE:CG	1:A:94:PHE:HD1	0.46	1.22
1:A:51:SER:CB	1:A:51:SER:HG	0.46	1.16
1:A:12:LEU:CD2	1:A:12:LEU:HD11	0.45	0.99
1:A:29:LEU:HD21	1:A:47:VAL:HG11	0.45	1.89
1:A:99:GLN:HB3	1:A:99:GLN:HG2	0.45	1.25
1:A:106:LEU:O	1:A:107:LYS:CD	0.45	2.65
1:A:112:LYS:CB	1:A:112:LYS:CG	0.45	0.59
1:A:107:LYS:CB	1:A:107:LYS:HD3	0.45	2.27
1:A:12:LEU:CD2	1:A:12:LEU:CG	0.44	0.46
1:A:14:GLN:C	1:A:15:THR:HG22	0.44	2.27
1:A:116:TYR:CG	1:A:116:TYR:HD2	0.44	1.24
1:A:7:LEU:HB2	1:A:113:VAL:CG1	0.44	2.39
1:A:87:SER:O	1:A:87:SER:HB3	0.44	1.70
1:A:122:PHE:CG	1:A:122:PHE:HD1	0.44	1.19
1:A:122:PHE:CZ	1:A:122:PHE:HE2	0.44	1.19
1:A:3:PHE:O	1:A:4:PRO:O	0.44	2.21
1:A:102:PRO:O	1:A:102:PRO:N	0.44	2.38
1:A:48:LYS:HG3	1:A:78:HIS:HB3	0.43	1.90
1:A:69:VAL:HG13	1:A:70:SER:N	0.43	2.24
1:A:27:ILE:HD11	1:A:97:VAL:HG22	0.42	1.90
1:A:60:VAL:CG2	1:A:74:VAL:HG12	0.42	2.41
1:A:13:PRO:O	1:A:14:GLN:CB	0.42	2.52
1:A:49:MET:HA	1:A:109:ALA:CB	0.42	2.45
1:A:19:PRO:C	1:A:21:ALA:N	0.42	2.74
1:A:60:VAL:CG2	1:A:60:VAL:HG11	0.42	0.85
1:A:70:SER:HB3	1:A:70:SER:HG	0.42	1.23
1:A:94:PHE:CD1	1:A:94:PHE:N	0.41	2.88
1:A:122:PHE:CG	1:A:122:PHE:CD2	0.41	0.58
1:A:71:ARG:HE	1:A:71:ARG:N	0.41	1.97
1:A:71:ARG:CD	1:A:71:ARG:N	0.41	2.65
1:A:9:VAL:CG1	1:A:111:VAL:HG11	0.41	2.30
1:A:49:MET:O	1:A:50:VAL:C	0.41	2.55
1:A:126:GLU:OE2	1:A:126:GLU:OE1	0.41	0.41
1:A:5:PHE:CZ	1:A:122:PHE:O	0.41	2.66
1:A:12:LEU:CD2	1:A:12:LEU:HD13	0.41	1.07
1:A:80:LEU:HD22	1:A:80:LEU:N	0.41	2.31
1:A:106:LEU:CG	1:A:106:LEU:CD1	0.41	0.41

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Atom-1	Atom-2	Clash(Å)	Distance(Å)
1:A:47:VAL:CG2	1:A:47:VAL:C	0.41	2.89
1:A:55:PRO:HG2	1:A:76:SER:HA	0.40	1.92
1:A:12:LEU:HD13	1:A:12:LEU:HD22	0.40	0.43
1:A:41:ASN:O	1:A:42:MET:CB	0.40	2.61
1:A:31:VAL:CG1	1:A:31:VAL:C	0.40	2.92
1:A:59:THR:O	1:A:62:MET:HB2	0.40	2.17

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	136/138 (99%)	102 (75%)	16 (12%)	18 (13%)	0 5
All	All	136/138 (99%)	102 (75%)	16 (12%)	18 (13%)	0 5

All 18 Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type
1	A	4	PRO
1	A	15	THR
1	A	17	ASP
1	A	38	SER
1	A	40	SER
1	A	41	ASN
1	A	50	VAL
1	A	51	SER
1	A	67	ASN
1	A	70	SER
1	A	85	LYS
1	A	88	ASN
1	A	116	TYR
1	A	118	GLU
1	A	120	ASP
1	A	121	GLU
1	A	131	CYS

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Mol	Chain	Res	Type
1	A	137	ASN

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	124/125 (99%)	64 (52%)	60 (48%)	0 1
All	All	124/125 (99%)	64 (52%)	60 (48%)	0 1

All 60 residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type
1	A	7	LEU
1	A	9	VAL
1	A	12	LEU
1	A	14	GLN
1	A	15	THR
1	A	16	CYS
1	A	18	GLU
1	A	20	LYS
1	A	22	HIS
1	A	25	PHE
1	A	26	GLN
1	A	29	LEU
1	A	33	TYR
1	A	37	ARG
1	A	38	SER
1	A	42	MET
1	A	44	ILE
1	A	45	VAL
1	A	46	ASP
1	A	47	VAL
1	A	49	MET
1	A	50	VAL
1	A	53	PHE
1	A	54	ILE

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Mol	Chain	Res	Type
1	A	56	LEU
1	A	60	VAL
1	A	63	LEU
1	A	64	GLU
1	A	65	ARG
1	A	66	SER
1	A	68	HIS
1	A	71	ARG
1	A	73	GLU
1	A	75	SER
1	A	76	SER
1	A	78	HIS
1	A	79	VAL
1	A	83	LEU
1	A	87	SER
1	A	91	LEU
1	A	93	LEU
1	A	94	PHE
1	A	97	VAL
1	A	98	LEU
1	A	99	GLN
1	A	101	VAL
1	A	103	VAL
1	A	104	ARG
1	A	106	LEU
1	A	107	LYS
1	A	110	ILE
1	A	111	VAL
1	A	112	LYS
1	A	113	VAL
1	A	115	ASP
1	A	121	GLU
1	A	124	ILE
1	A	131	CYS
1	A	132	SER
1	A	137	ASN

6.3.3 RNA

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)

There are no ligands in this entry.

6.7 Other polymers (i)

There are no such molecules in this entry.

6.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	A	52

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	106:LEU	C	107:LYS	N	1.19
1	A	70:SER	C	71:ARG	N	1.18
1	A	17:ASP	C	18:GLU	N	1.17
1	A	76:SER	C	77:ASN	N	1.17
1	A	89:GLN	C	90:THR	N	1.17
1	A	98:LEU	C	99:GLN	N	1.17
1	A	68:HIS	C	69:VAL	N	1.16
1	A	14:GLN	C	15:THR	N	1.15
1	A	105:ASP	C	106:LEU	N	1.13
1	A	36:SER	C	37:ARG	N	1.09
1	A	102:PRO	C	103:VAL	N	1.09
1	A	133:LYS	C	134:ASP	N	1.09
1	A	2:GLU	C	3:PHE	N	1.07
1	A	51:SER	C	52:GLY	N	1.07
1	A	84:ASP	C	85:LYS	N	1.07
1	A	104:ARG	C	105:ASP	N	1.06

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	129:ALA	C	130:PRO	N	1.05
1	A	136:GLY	C	137:ASN	N	1.05
1	A	13:PRO	C	14:GLN	N	1.04
1	A	99:GLN	C	100:ASP	N	1.04
1	A	15:THR	C	16:CYS	N	1.02
1	A	132:SER	C	133:LYS	N	1.02
1	A	88:ASN	C	89:GLN	N	1.01
1	A	101:VAL	C	102:PRO	N	1.01
1	A	35:GLY	C	36:SER	N	1.00
1	A	116:TYR	C	117:TYR	N	1.00
1	A	120:ASP	C	121:GLU	N	1.00
1	A	121:GLU	C	122:PHE	N	0.94
1	A	131:CYS	C	132:SER	N	0.94
1	A	34:THR	C	35:GLY	N	0.92
1	A	38:SER	C	39:ALA	N	0.92
1	A	103:VAL	C	104:ARG	N	0.92
1	A	66:SER	C	67:ASN	N	0.91
1	A	1:GLU	C	2:GLU	N	0.90
1	A	37:ARG	C	38:SER	N	0.90
1	A	50:VAL	C	51:SER	N	0.90
1	A	39:ALA	C	40:SER	N	0.89
1	A	41:ASN	C	42:MET	N	0.84
1	A	40:SER	C	41:ASN	N	0.82
1	A	3:PHE	C	4:PRO	N	0.80
1	A	86:VAL	C	87:SER	N	0.79
1	A	118:GLU	C	119:THR	N	0.78
1	A	119:THR	C	120:ASP	N	0.78
1	A	130:PRO	C	131:CYS	N	0.77
1	A	117:TYR	C	118:GLU	N	0.76
1	A	87:SER	C	88:ASN	N	0.75
1	A	85:LYS	C	86:VAL	N	0.74
1	A	115:ASP	C	116:TYR	N	0.72
1	A	134:ASP	C	135:LEU	N	0.70
1	A	137:ASN	C	138:ALA	N	0.69
1	A	135:LEU	C	136:GLY	N	0.54
1	A	100:ASP	C	101:VAL	N	0.53

7 Chemical shift validation

No chemical shift data were provided