



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 20, 2026 – 01:35 AM UTC

PDB ID : 3PVN / pdb_00003pvn
Title : Triclinic form of Human C-Reactive Protein in complex with Zinc
Authors : Guillon, C.; Mavoungou Bigouagou, U.; Jeannin, P.; Delneste, Y.; Gouet, P.
Deposited on : 2010-12-07
Resolution : 1.98 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

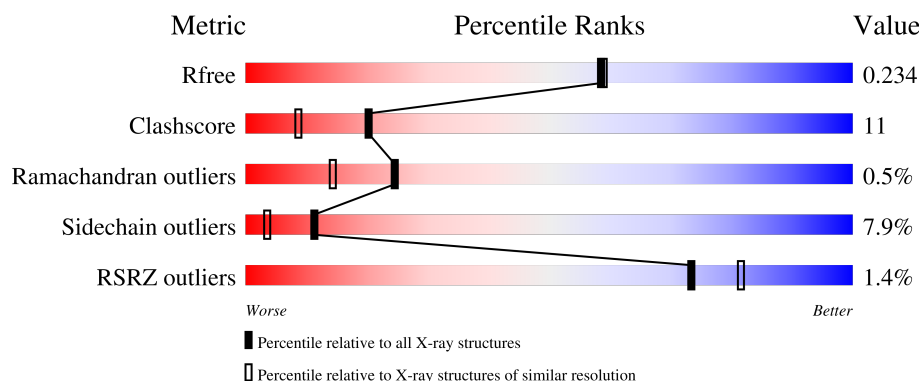
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.98 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	1506 (1.98-1.98)
Clashscore	190562	1534 (1.98-1.98)
Ramachandran outliers	187476	1518 (1.98-1.98)
Sidechain outliers	187428	1518 (1.98-1.98)
RSRZ outliers	180081	1506 (1.98-1.98)

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	206	0% 78% 19% •
1	B	206	85% 13% •
1	C	206	2% 72% 23% 5%
1	D	206	0% 74% 21% • •
1	E	206	2% 76% 20% •

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Mol	Chain	Length	Quality of chain
1	F	206	 3% 73% 20% 6%
1	G	206	 % 76% 19% 5%
1	H	206	 79% 17% •
1	I	206	 2% 76% 22% •
1	J	206	 % 68% 27% 5%
1	K	206	 % 73% 24% •
1	L	206	 74% 21% 5%
1	M	206	 % 80% 16% 5%
1	N	206	 % 75% 23% •
1	O	206	 74% 23% •
1	P	206	 2% 78% 17% •
1	Q	206	 3% 71% 21% 7% •
1	R	206	 2% 72% 23% •
1	S	206	 2% 78% 17% •
1	T	206	 75% 20% • •

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 35696 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 C-reactive protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	B	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	C	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	D	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	E	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	F	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	G	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	H	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	I	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	J	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	K	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	L	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	M	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	N	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	O	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			
1	P	206	Total	C	N	O	S	0	0	0
			1632	1058	261	309	4			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	Q	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	R	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	S	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	T	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	2	Total 2	Ca 2	0	0
2	B	2	Total 2	Ca 2	0	0
2	C	2	Total 2	Ca 2	0	0
2	D	2	Total 2	Ca 2	0	0
2	E	2	Total 2	Ca 2	0	0
2	F	2	Total 2	Ca 2	0	0
2	G	2	Total 2	Ca 2	0	0
2	H	2	Total 2	Ca 2	0	0
2	I	2	Total 2	Ca 2	0	0
2	J	2	Total 2	Ca 2	0	0
2	K	2	Total 2	Ca 2	0	0
2	L	2	Total 2	Ca 2	0	0
2	M	2	Total 2	Ca 2	0	0
2	N	2	Total 2	Ca 2	0	0
2	O	2	Total 2	Ca 2	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	P	2	Total 2	Ca 2	0	0
2	Q	2	Total 2	Ca 2	0	0
2	R	2	Total 2	Ca 2	0	0
2	S	2	Total 2	Ca 2	0	0
2	T	2	Total 2	Ca 2	0	0

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total 1	Zn 1	0	0
3	G	1	Total 1	Zn 1	0	0
3	L	1	Total 1	Zn 1	0	0
3	S	1	Total 1	Zn 1	0	0
3	T	1	Total 1	Zn 1	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	173	Total 173	O 173	0	0
4	B	181	Total 181	O 181	0	0
4	C	163	Total 163	O 163	0	0
4	D	192	Total 192	O 192	0	0
4	E	146	Total 146	O 146	0	0
4	F	141	Total 141	O 141	0	0
4	G	165	Total 165	O 165	0	0

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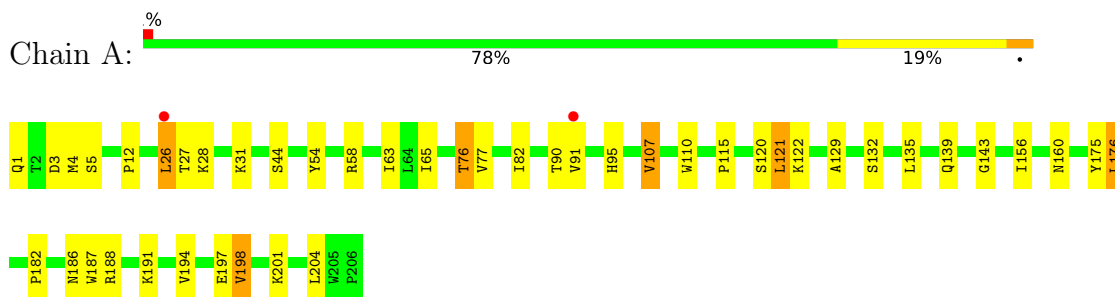
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	H	177	Total 177	O 177	0	0
4	I	139	Total 139	O 139	0	0
4	J	134	Total 134	O 134	0	0
4	K	153	Total 153	O 153	0	0
4	L	133	Total 133	O 133	0	0
4	M	165	Total 165	O 165	0	0
4	N	124	Total 124	O 124	0	0
4	O	178	Total 178	O 178	0	0
4	P	122	Total 122	O 122	0	0
4	Q	94	Total 94	O 94	0	0
4	R	89	Total 89	O 89	0	0
4	S	155	Total 155	O 155	0	0
4	T	187	Total 187	O 187	0	0

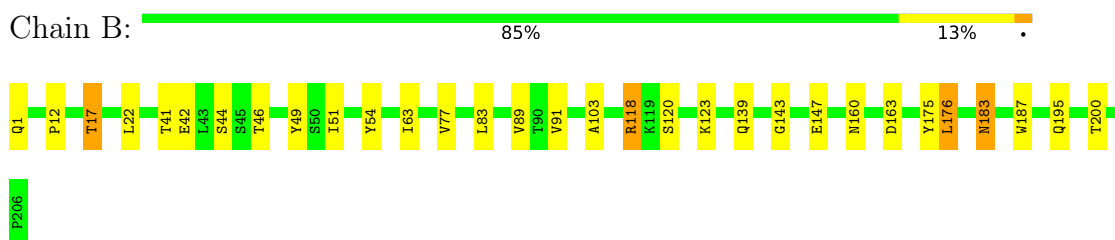
3 Residue-property plots [i](#)

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.

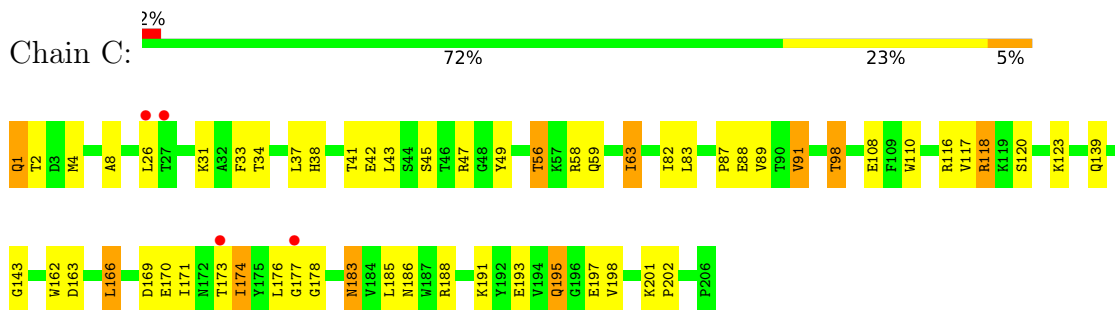
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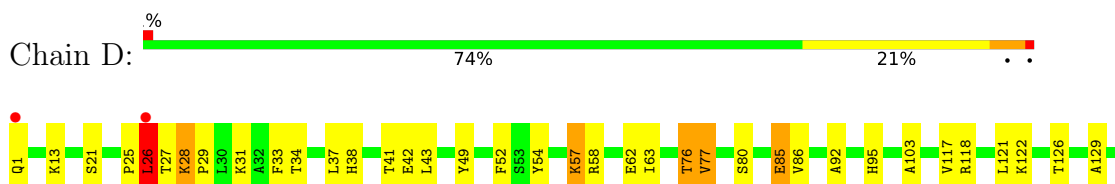
- Molecule 1: C-reactive protein



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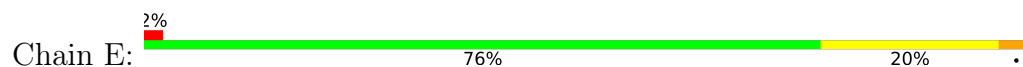


- Molecule 1: C-reactive protein

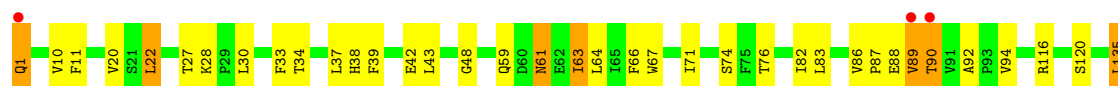
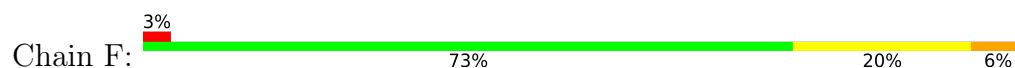




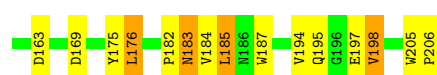
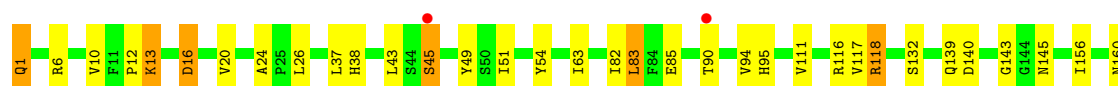
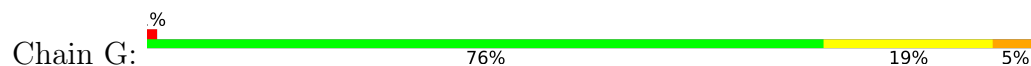
• Molecule 1: C-reactive protein



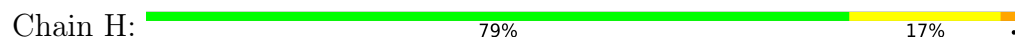
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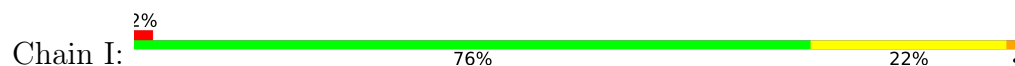
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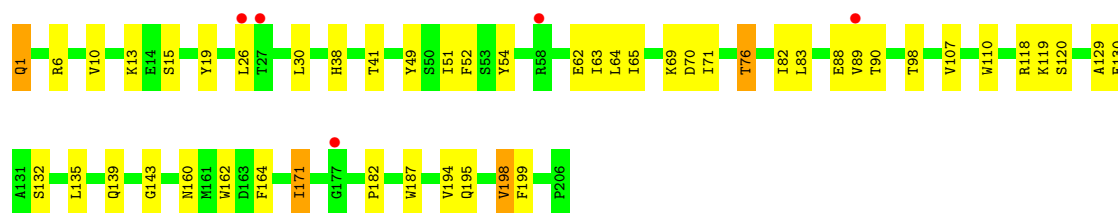


• Molecule 1: C-reactive protein

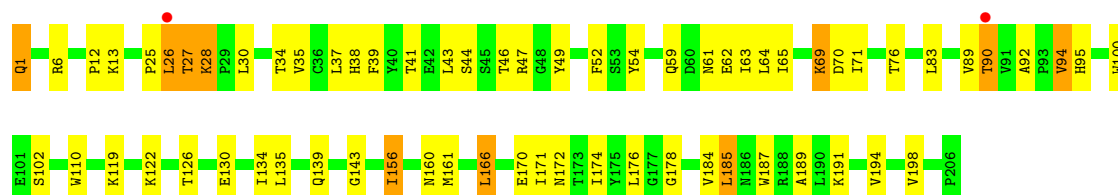


• Molecule 1: C-reactive protein

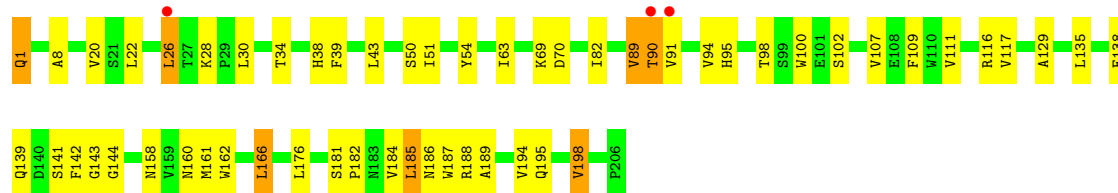
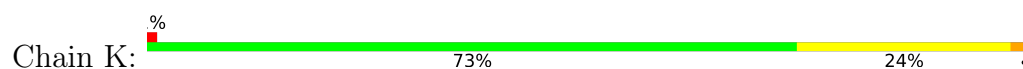




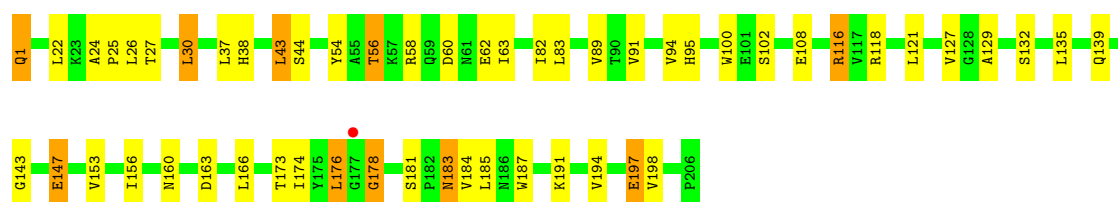
- Molecule 1: C-reactive protein



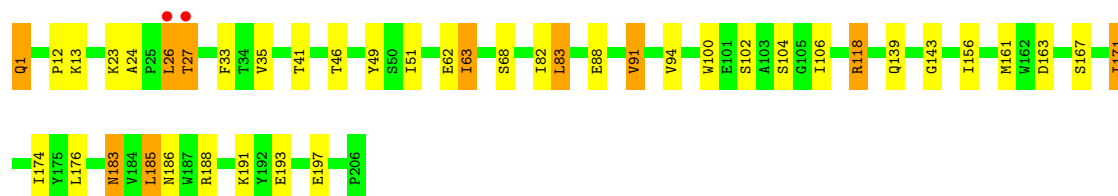
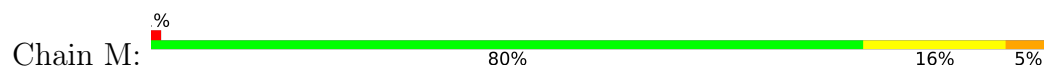
- Molecule 1: C-reactive protein



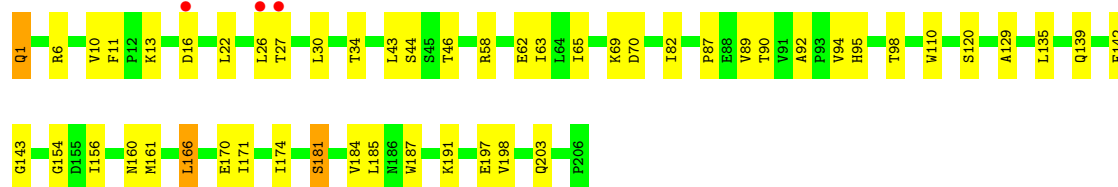
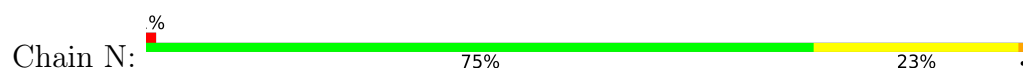
- Molecule 1: C-reactive protein



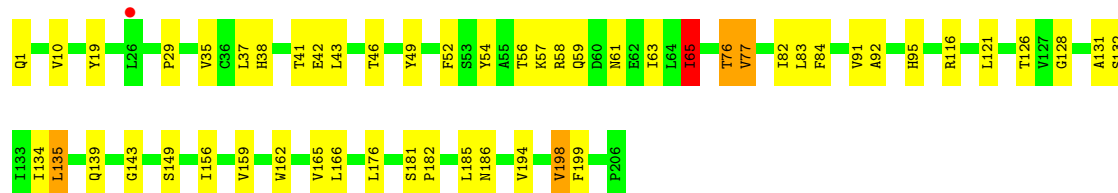
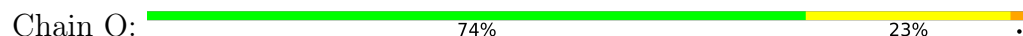
- Molecule 1: C-reactive protein



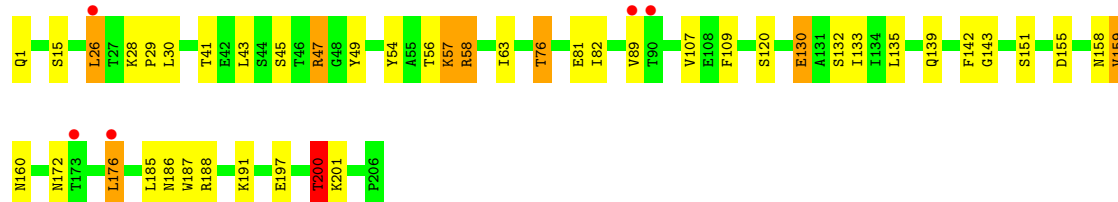
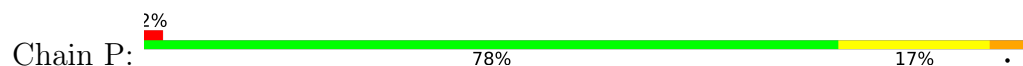
- Molecule 1: C-reactive protein



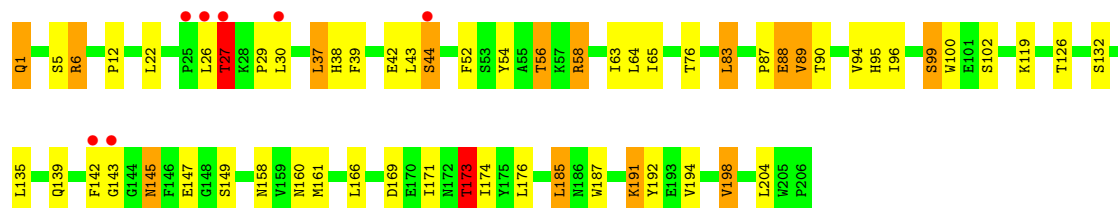
• Molecule 1: C-reactive protein



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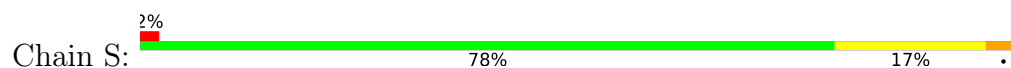


• Molecule 1: C-reactive protein

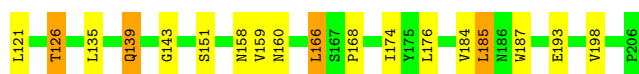




• Molecule 1: C-reactive protein



• Molecule 1: C-reactive protein



4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	79.30Å 96.40Å 160.40Å 79.90° 77.10° 69.40°	Depositor
Resolution (Å)	19.92 – 1.98 19.92 – 1.98	Depositor EDS
% Data completeness (in resolution range)	100.0 (19.92-1.98) 91.9 (19.92-1.98)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.06	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.46 (at 1.97Å)	Xtriage
Refinement program	REFMAC 5.5.0109	Depositor
R, R_{free}	0.176 , 0.236 0.175 , 0.234	Depositor DCC
R_{free} test set	13541 reflections (4.92%)	wwPDB-VP
Wilson B-factor (Å ²)	21.9	Xtriage
Anisotropy	0.131	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 45.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	35696	wwPDB-VP
Average B, all atoms (Å ²)	23.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.33% 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, ZN

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the 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	1.34	4/1678 (0.2%)	1.12	2/2279 (0.1%)
1	B	1.41	3/1678 (0.2%)	1.16	2/2279 (0.1%)
1	C	1.28	3/1678 (0.2%)	1.15	4/2279 (0.2%)
1	D	1.40	5/1678 (0.3%)	1.21	4/2279 (0.2%)
1	E	1.31	2/1678 (0.1%)	1.14	9/2279 (0.4%)
1	F	1.26	1/1678 (0.1%)	1.16	7/2279 (0.3%)
1	G	1.33	3/1678 (0.2%)	1.14	3/2279 (0.1%)
1	H	1.35	3/1678 (0.2%)	1.06	0/2279
1	I	1.30	4/1678 (0.2%)	1.12	4/2279 (0.2%)
1	J	1.27	3/1678 (0.2%)	1.17	8/2279 (0.4%)
1	K	1.29	5/1678 (0.3%)	1.16	4/2279 (0.2%)
1	L	1.25	0/1678	1.16	1/2279 (0.0%)
1	M	1.30	3/1678 (0.2%)	1.14	8/2279 (0.4%)
1	N	1.17	3/1678 (0.2%)	1.10	2/2279 (0.1%)
1	O	1.31	2/1678 (0.1%)	1.13	3/2279 (0.1%)
1	P	1.34	4/1678 (0.2%)	1.20	6/2279 (0.3%)
1	Q	1.12	1/1678 (0.1%)	1.08	4/2279 (0.2%)
1	R	1.10	1/1678 (0.1%)	1.08	2/2279 (0.1%)
1	S	1.34	8/1678 (0.5%)	1.19	7/2279 (0.3%)
1	T	1.48	6/1678 (0.4%)	1.25	12/2279 (0.5%)
All	All	1.30	64/33560 (0.2%)	1.15	92/45580 (0.2%)

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	D	0	1
1	K	0	1
All	All	0	2

All (64) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	J	189	ALA	CA-CB	8.93	1.62	1.53
1	K	189	ALA	CA-CB	7.95	1.61	1.53
1	S	174	ILE	CA-CB	7.43	1.63	1.54
1	H	117	VAL	CA-CB	7.06	1.61	1.54
1	C	201	LYS	C-O	-6.93	1.17	1.24
1	T	117	VAL	CA-CB	6.87	1.61	1.54
1	O	35	VAL	CA-CB	6.84	1.63	1.54
1	S	178	GLY	N-CA	6.75	1.53	1.44
1	P	158	ASN	CA-C	-6.75	1.44	1.53
1	N	27	THR	CA-CB	6.74	1.64	1.53
1	S	195	GLN	CB-CG	6.72	1.72	1.52
1	B	77	VAL	CA-CB	6.57	1.62	1.54
1	G	10	VAL	CA-CB	6.54	1.62	1.54
1	G	94	VAL	CA-CB	6.51	1.64	1.54
1	H	144	GLY	C-O	6.47	1.29	1.23
1	S	189	ALA	CA-CB	6.37	1.59	1.53
1	A	201	LYS	N-CA	6.26	1.50	1.45
1	H	161	MET	C-O	6.17	1.31	1.23
1	K	91	VAL	CA-CB	6.09	1.61	1.53
1	T	139	GLN	CD-NE2	-6.00	1.20	1.33
1	A	65	ILE	CA-CB	5.85	1.61	1.54
1	K	20	VAL	CA-CB	5.82	1.61	1.54
1	T	47	ARG	CZ-NH2	-5.79	1.25	1.33
1	A	31	LYS	CA-C	5.70	1.60	1.52
1	O	165	VAL	C-O	5.69	1.29	1.24
1	R	96	ILE	C-O	-5.67	1.18	1.24
1	D	103	ALA	CA-CB	5.66	1.62	1.53
1	N	92	ALA	CA-CB	-5.65	1.46	1.53
1	J	69	LYS	CE-NZ	5.65	1.66	1.49
1	B	51	ILE	CA-CB	-5.63	1.49	1.55
1	I	164	PHE	C-O	5.60	1.30	1.23
1	I	107	VAL	CA-CB	5.53	1.61	1.54
1	T	151	SER	N-CA	5.53	1.53	1.45
1	N	27	THR	CA-C	5.40	1.58	1.53
1	P	82	ILE	CA-CB	5.40	1.64	1.55
1	D	37	LEU	C-O	-5.35	1.17	1.23
1	P	155	ASP	N-CA	5.33	1.52	1.45
1	D	52	PHE	C-O	-5.33	1.17	1.23
1	M	94	VAL	C-O	5.28	1.29	1.24
1	Q	89	VAL	CA-CB	5.25	1.61	1.54
1	C	98	THR	N-CA	-5.24	1.39	1.46
1	T	63	ILE	CA-CB	5.24	1.61	1.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	202	PRO	C-O	5.22	1.29	1.23
1	D	173	THR	CA-CB	5.21	1.61	1.53
1	F	10	VAL	CA-CB	5.20	1.60	1.54
1	K	111	VAL	CA-CB	5.20	1.60	1.54
1	S	175	TYR	CA-C	5.18	1.59	1.52
1	J	27	THR	CA-CB	5.18	1.60	1.53
1	E	33	PHE	CA-C	-5.18	1.46	1.52
1	E	90	THR	CA-CB	5.18	1.60	1.53
1	I	98	THR	N-CA	-5.10	1.39	1.45
1	S	198	VAL	CA-CB	5.10	1.61	1.54
1	K	51	ILE	CA-CB	5.10	1.60	1.55
1	S	86	VAL	CA-CB	5.08	1.58	1.54
1	D	86	VAL	CA-CB	5.07	1.60	1.54
1	P	109	PHE	C-O	5.07	1.29	1.23
1	G	111	VAL	CA-CB	5.04	1.60	1.54
1	I	51	ILE	CA-CB	5.03	1.60	1.54
1	T	67	TRP	C-O	-5.03	1.18	1.24
1	A	156	ILE	CA-CB	5.02	1.62	1.54
1	S	42	GLU	CD-OE2	5.02	1.34	1.25
1	B	103	ALA	CA-CB	5.02	1.61	1.53
1	M	156	ILE	CA-CB	5.02	1.61	1.54
1	M	104	SER	N-CA	5.01	1.52	1.45

All (92) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	47	ARG	NE-CZ-NH2	-10.80	109.48	119.20
1	L	178	GLY	N-CA-C	9.97	132.69	112.34
1	S	178	GLY	N-CA-C	9.70	132.13	112.34
1	T	47	ARG	NE-CZ-NH2	-8.94	111.15	119.20
1	M	118	ARG	NE-CZ-NH1	8.54	130.03	121.50
1	M	118	ARG	NE-CZ-NH2	-8.38	111.66	119.20
1	J	178	GLY	CA-C-N	8.32	128.08	119.76
1	J	178	GLY	C-N-CA	8.32	128.08	119.76
1	E	47	ARG	NE-CZ-NH1	8.25	129.75	121.50
1	M	24	ALA	CA-C-N	8.03	129.88	119.84
1	M	24	ALA	C-N-CA	8.03	129.88	119.84
1	J	47	ARG	NE-CZ-NH2	-7.96	112.04	119.20
1	S	11	PHE	CA-C-N	-7.95	111.78	121.00
1	S	11	PHE	C-N-CA	-7.95	111.78	121.00
1	C	47	ARG	NE-CZ-NH2	-7.63	112.33	119.20
1	T	51	ILE	N-CA-C	-7.54	105.79	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	T	56	THR	N-CA-CB	-7.44	99.89	111.05
1	B	118	ARG	NE-CZ-NH2	-7.40	112.54	119.20
1	J	13	LYS	N-CA-C	7.31	120.27	109.24
1	J	47	ARG	CG-CD-NE	-7.08	96.42	112.00
1	Q	171	ILE	N-CA-C	-6.72	104.21	110.53
1	R	91	VAL	N-CA-C	6.72	113.40	106.21
1	B	118	ARG	NE-CZ-NH1	6.69	128.19	121.50
1	T	47	ARG	NE-CZ-NH1	6.53	128.03	121.50
1	E	47	ARG	CD-NE-CZ	6.43	133.40	124.40
1	I	118	ARG	NE-CZ-NH2	-6.39	113.44	119.20
1	D	92	ALA	N-CA-C	-6.39	102.38	108.13
1	T	63	ILE	CA-CB-CG2	6.38	121.35	110.50
1	C	116	ARG	N-CA-C	-6.38	102.30	110.53
1	Q	44	SER	N-CA-C	6.30	118.95	111.71
1	O	92	ALA	N-CA-C	-6.29	102.47	108.13
1	A	44	SER	N-CA-C	6.25	118.90	111.71
1	F	147	GLU	CA-CB-CG	6.25	126.60	114.10
1	P	47	ARG	NE-CZ-NH2	-6.24	113.58	119.20
1	P	201	LYS	CA-C-N	-6.24	113.34	119.76
1	P	201	LYS	C-N-CA	-6.24	113.34	119.76
1	E	90	THR	CA-C-N	-6.11	115.87	122.59
1	E	90	THR	C-N-CA	-6.11	115.87	122.59
1	K	144	GLY	N-CA-C	6.09	121.52	111.59
1	M	51	ILE	N-CA-C	-6.05	107.00	111.90
1	O	65	ILE	N-CA-C	-6.05	99.70	108.17
1	S	173	THR	N-CA-CB	5.92	118.82	110.12
1	G	118	ARG	NE-CZ-NH1	5.90	127.40	121.50
1	I	118	ARG	NE-CZ-NH1	5.86	127.36	121.50
1	T	56	THR	OG1-CB-CG2	5.80	120.91	109.30
1	G	118	ARG	NE-CZ-NH2	-5.79	113.99	119.20
1	I	118	ARG	CB-CG-CD	5.77	124.56	111.30
1	N	58	ARG	N-CA-C	5.65	117.44	111.28
1	E	44	SER	N-CA-C	5.62	117.41	111.28
1	F	145	ASN	N-CA-C	5.57	122.67	110.80
1	E	47	ARG	CG-CD-NE	-5.54	99.81	112.00
1	K	116	ARG	N-CA-C	-5.51	103.42	110.53
1	O	116	ARG	N-CA-C	-5.50	103.43	110.53
1	N	16	ASP	N-CA-C	-5.50	104.50	113.19
1	T	126	THR	CB-CA-C	5.46	119.58	109.70
1	T	47	ARG	CG-CD-NE	-5.45	100.01	112.00
1	A	31	LYS	N-CA-CB	-5.43	102.44	110.53
1	F	92	ALA	N-CA-C	-5.43	103.33	108.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	26	LEU	CA-CB-CG	5.42	135.26	116.30
1	M	63	ILE	CB-CA-C	-5.40	102.78	110.12
1	F	178	GLY	CA-C-N	5.39	125.32	119.76
1	F	178	GLY	C-N-CA	5.39	125.32	119.76
1	J	44	SER	N-CA-C	5.35	117.80	111.33
1	J	27	THR	N-CA-C	5.32	115.31	108.34
1	Q	173	THR	N-CA-CB	5.32	118.03	110.16
1	S	86	VAL	CA-C-N	-5.32	113.55	119.19
1	S	86	VAL	C-N-CA	-5.32	113.55	119.19
1	D	173	THR	N-CA-CB	5.31	117.93	110.12
1	T	16	ASP	N-CA-CB	-5.27	102.67	110.53
1	P	82	ILE	CB-CA-C	5.24	119.08	110.69
1	K	184	VAL	CB-CA-C	-5.22	106.40	111.05
1	C	47	ARG	NE-CZ-NH1	5.22	126.72	121.50
1	M	118	ARG	CD-NE-CZ	5.21	131.70	124.40
1	E	183	ASN	CA-C-N	-5.21	117.82	123.08
1	E	183	ASN	C-N-CA	-5.21	117.82	123.08
1	F	11	PHE	CA-C-N	-5.19	114.61	120.89
1	F	11	PHE	C-N-CA	-5.19	114.61	120.89
1	J	92	ALA	N-CA-C	-5.18	103.47	108.13
1	R	92	ALA	N-CA-C	-5.17	103.57	108.22
1	C	118	ARG	NE-CZ-NH1	5.17	126.67	121.50
1	M	106	ILE	CB-CA-C	-5.16	103.64	111.33
1	P	200	THR	CB-CA-C	5.13	118.60	110.19
1	D	151	SER	CA-CB-OG	-5.12	100.86	111.10
1	P	43	LEU	N-CA-C	5.12	118.62	112.38
1	S	177	GLY	N-CA-C	5.11	125.29	113.18
1	T	82	ILE	CB-CA-C	5.09	118.84	110.69
1	T	158	ASN	CA-C-N	-5.09	115.81	122.37
1	T	158	ASN	C-N-CA	-5.09	115.81	122.37
1	Q	99	SER	CA-CB-OG	-5.07	100.97	111.10
1	I	118	ARG	CD-NE-CZ	5.06	131.49	124.40
1	G	45	SER	N-CA-C	-5.06	107.28	113.50
1	K	141	SER	N-CA-C	-5.02	101.66	109.14

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	D	25	PRO	Peptide
1	K	89	VAL	Peptide

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	1632	0	1593	37	0
1	B	1632	0	1593	23	0
1	C	1632	0	1593	50	0
1	D	1632	0	1593	51	0
1	E	1632	0	1593	33	0
1	F	1632	0	1593	57	0
1	G	1632	0	1593	41	0
1	H	1632	0	1593	35	0
1	I	1632	0	1593	28	0
1	J	1632	0	1593	41	0
1	K	1632	0	1593	31	0
1	L	1632	0	1593	49	0
1	M	1632	0	1593	33	0
1	N	1632	0	1593	31	0
1	O	1632	0	1593	37	0
1	P	1632	0	1593	34	0
1	Q	1632	0	1593	41	0
1	R	1632	0	1593	47	0
1	S	1632	0	1593	30	0
1	T	1632	0	1593	34	0
2	A	2	0	0	0	0
2	B	2	0	0	0	0
2	C	2	0	0	0	0
2	D	2	0	0	0	0
2	E	2	0	0	0	0
2	F	2	0	0	0	0
2	G	2	0	0	0	0
2	H	2	0	0	0	0
2	I	2	0	0	0	0
2	J	2	0	0	0	0
2	K	2	0	0	0	0
2	L	2	0	0	0	0
2	M	2	0	0	0	0
2	N	2	0	0	0	0
2	O	2	0	0	0	0
2	P	2	0	0	0	0
2	Q	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	R	2	0	0	0	0
2	S	2	0	0	0	0
2	T	2	0	0	0	0
3	A	1	0	0	0	0
3	G	1	0	0	0	0
3	L	1	0	0	0	0
3	S	1	0	0	0	0
3	T	1	0	0	0	0
4	A	173	0	0	10	0
4	B	181	0	0	4	0
4	C	163	0	0	14	2
4	D	192	0	0	16	2
4	E	146	0	0	10	0
4	F	141	0	0	17	1
4	G	165	0	0	5	1
4	H	177	0	0	13	0
4	I	139	0	0	6	0
4	J	134	0	0	9	0
4	K	153	0	0	7	0
4	L	133	0	0	12	0
4	M	165	0	0	8	0
4	N	124	0	0	6	0
4	O	178	0	0	13	0
4	P	122	0	0	5	1
4	Q	94	0	0	2	0
4	R	89	0	0	9	0
4	S	155	0	0	7	1
4	T	187	0	0	11	2
All	All	35696	0	31860	730	5

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 11.

All (730) 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:G:1:GLN:HE21	1:G:1:GLN:N	1.01	1.45
1:G:1:GLN:H1	1:G:1:GLN:NE2	1.17	1.38
1:G:1:GLN:N	1:G:1:GLN:NE2	1.70	1.38
1:D:117:VAL:HB	4:D:3011:HOH:O	1.28	1.28
1:H:94:VAL:HB	4:H:2848:HOH:O	1.34	1.23

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:117:VAL:HB	4:T:2966:HOH:O	0.99	1.16
1:L:56:THR:HG21	4:L:644:HOH:O	1.44	1.16
1:P:76:THR:HG23	4:P:372:HOH:O	1.43	1.14
1:A:107:VAL:HB	4:A:3018:HOH:O	0.95	1.12
1:L:156:ILE:HG21	4:L:3039:HOH:O	1.51	1.10
1:D:58:ARG:HG3	4:D:664:HOH:O	1.51	1.09
1:A:77:VAL:HG22	1:A:121:LEU:HD13	1.42	1.01
1:N:184:VAL:HG12	1:N:185:LEU:HD12	1.40	1.01
1:N:62:GLU:O	1:N:63:ILE:HD13	1.64	0.98
1:F:20:VAL:HG13	1:F:135:LEU:HB2	1.45	0.97
1:T:76:THR:HG23	4:T:211:HOH:O	1.64	0.96
1:F:20:VAL:CG1	1:F:135:LEU:HB2	1.96	0.95
1:I:76:THR:HG22	4:I:207:HOH:O	1.67	0.95
1:J:194:VAL:HG13	1:J:198:VAL:HG13	1.48	0.95
1:I:1:GLN:N	1:I:1:GLN:OE1	2.01	0.94
1:M:46:THR:HG23	4:M:529:HOH:O	1.67	0.94
1:T:56:THR:HG21	4:T:478:HOH:O	1.68	0.93
1:R:76:THR:HG22	4:R:391:HOH:O	1.70	0.92
1:N:184:VAL:HG12	1:N:185:LEU:CD1	1.99	0.91
1:G:1:GLN:NE2	1:G:1:GLN:H3	1.61	0.90
1:H:56:THR:HG21	4:H:454:HOH:O	1.73	0.89
1:A:76:THR:HG21	4:A:2263:HOH:O	1.73	0.88
1:J:194:VAL:HG13	1:J:198:VAL:CG1	2.04	0.88
1:P:1:GLN:HE21	1:P:191:LYS:HD3	1.39	0.88
1:P:45:SER:OG	4:P:920:HOH:O	1.93	0.86
1:C:1:GLN:CD	1:C:1:GLN:N	2.30	0.85
1:D:126:THR:HG23	4:D:213:HOH:O	1.78	0.83
1:J:62:GLU:O	1:J:63:ILE:HD13	1.78	0.83
1:M:1:GLN:H3	1:M:1:GLN:HE21	1.26	0.82
1:F:74:SER:HB3	4:F:1098:HOH:O	1.77	0.82
1:F:61:ASN:HD22	1:F:61:ASN:H	1.24	0.82
1:G:49:TYR:HE1	1:G:51:ILE:HD11	1.45	0.82
1:M:1:GLN:H3	1:M:1:GLN:NE2	1.78	0.82
1:F:63:ILE:HG13	4:F:2977:HOH:O	1.78	0.81
1:S:158:ASN:HD21	1:S:205:TRP:HE1	1.28	0.81
1:R:38:HIS:HE1	4:R:1911:HOH:O	1.62	0.81
1:C:163:ASP:H	1:C:183:ASN:HD21	1.29	0.81
1:F:71:ILE:HG21	1:F:83:LEU:HD13	1.62	0.81
1:F:145:ASN:ND2	4:F:1971:HOH:O	2.07	0.81
1:J:156:ILE:HG21	4:J:3060:HOH:O	1.80	0.80
1:M:1:GLN:NE2	1:M:1:GLN:N	2.29	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:117:VAL:CG1	1:O:42:GLU:HG3	2.11	0.80
1:J:69:LYS:NZ	1:J:70:ASP:OD2	2.14	0.79
1:Q:52:PHE:HB3	1:Q:65:ILE:HD13	1.65	0.79
1:J:64:LEU:HB3	1:J:76:THR:CG2	2.12	0.79
1:B:1:GLN:N	1:B:1:GLN:OE1	2.15	0.78
1:D:28:LYS:HD3	1:D:29:PRO:HD2	1.65	0.78
1:D:85:GLU:CD	1:D:85:GLU:H	1.90	0.78
1:T:59:GLN:HE21	1:T:61:ASN:H	1.32	0.78
1:E:59:GLN:HE21	1:E:61:ASN:H	1.32	0.77
1:B:163:ASP:H	1:B:183:ASN:HD21	1.32	0.77
1:J:194:VAL:CG1	1:J:198:VAL:HG13	2.15	0.76
1:T:56:THR:HG22	1:T:59:GLN:H	1.51	0.76
1:H:163:ASP:H	1:H:183:ASN:HD21	1.34	0.76
1:N:161:MET:HB3	1:N:185:LEU:HD13	1.66	0.76
1:T:76:THR:HG21	4:T:1172:HOH:O	1.86	0.76
1:S:46:THR:HG23	4:S:3082:HOH:O	1.86	0.76
1:F:66:PHE:HD2	4:F:1098:HOH:O	1.69	0.76
1:K:117:VAL:HG13	1:O:42:GLU:HG3	1.67	0.76
1:M:23:LYS:HE3	1:M:193:GLU:HG3	1.68	0.75
1:R:58:ARG:HH11	1:R:58:ARG:HB2	1.50	0.75
1:L:26:LEU:HG	1:L:129:ALA:HB1	1.67	0.75
1:A:194:VAL:HG13	1:A:198:VAL:HG22	1.69	0.74
1:P:56:THR:HG21	4:P:939:HOH:O	1.88	0.74
1:Q:194:VAL:HG13	1:Q:198:VAL:HG13	1.70	0.73
1:O:59:GLN:HE21	1:O:61:ASN:H	1.35	0.73
1:S:158:ASN:ND2	1:S:205:TRP:HE1	1.86	0.73
1:P:200:THR:HG22	4:P:1369:HOH:O	1.88	0.73
1:J:59:GLN:HE21	1:J:61:ASN:H	1.35	0.73
1:H:76:THR:HG21	4:H:2760:HOH:O	1.87	0.73
1:Q:26:LEU:O	1:Q:27:THR:HG23	1.89	0.73
1:O:76:THR:HG22	4:O:207:HOH:O	1.89	0.72
1:M:163:ASP:H	1:M:183:ASN:HD21	1.35	0.72
1:F:61:ASN:H	1:F:61:ASN:ND2	1.87	0.72
1:C:4:MET:HE3	4:C:2994:HOH:O	1.90	0.72
1:T:1:GLN:OE1	1:T:1:GLN:N	2.21	0.71
1:C:2:THR:HG22	4:C:1602:HOH:O	1.90	0.71
1:R:197:GLU:OE1	1:S:123:LYS:NZ	2.24	0.71
1:H:56:THR:HG22	1:H:59:GLN:H	1.54	0.71
1:N:197:GLU:OE1	4:N:3056:HOH:O	2.07	0.71
1:M:27:THR:HG22	4:M:1967:HOH:O	1.91	0.70
1:H:76:THR:HG23	4:H:271:HOH:O	1.90	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:135:LEU:HB3	4:L:3039:HOH:O	1.90	0.70
1:L:43:LEU:HD11	1:L:153:VAL:HB	1.74	0.70
1:C:1:GLN:CD	1:C:1:GLN:H3	1.97	0.70
1:M:27:THR:CG2	4:M:1967:HOH:O	2.38	0.70
1:Q:139:GLN:HE21	1:Q:143:GLY:H	1.37	0.70
1:F:33:PHE:CZ	1:F:63:ILE:HD12	2.27	0.69
1:R:23:LYS:HB2	1:R:191:LYS:HG3	1.74	0.69
1:E:89:VAL:HG12	4:E:2144:HOH:O	1.92	0.69
1:F:148:GLY:O	4:F:384:HOH:O	2.09	0.69
1:F:27:THR:HG22	4:F:2877:HOH:O	1.91	0.69
1:S:34:THR:HG21	1:S:166:LEU:HD22	1.74	0.69
1:A:194:VAL:CG1	1:A:198:VAL:HG22	2.22	0.68
1:C:4:MET:CE	4:C:2994:HOH:O	2.42	0.68
1:P:28:LYS:HB2	1:P:29:PRO:HD2	1.75	0.68
1:R:13:LYS:HE2	4:R:3026:HOH:O	1.92	0.68
1:L:116:ARG:NH1	1:L:116:ARG:HB3	2.08	0.68
1:L:163:ASP:H	1:L:183:ASN:HD21	1.41	0.68
1:I:194:VAL:HG13	1:I:198:VAL:HG13	1.74	0.68
4:F:3070:HOH:O	1:G:117:VAL:HG22	1.95	0.67
1:N:154:GLY:HA2	4:O:2411:HOH:O	1.95	0.67
1:Q:1:GLN:CD	1:Q:1:GLN:N	2.52	0.67
1:I:90:THR:HG21	4:I:1193:HOH:O	1.93	0.67
1:O:57:LYS:HD2	4:O:1525:HOH:O	1.94	0.67
1:E:155:ASP:OD1	4:E:1532:HOH:O	2.13	0.67
1:H:46:THR:HG23	4:H:597:HOH:O	1.95	0.67
1:Q:1:GLN:CD	1:Q:1:GLN:H3	2.02	0.67
1:O:156:ILE:HG21	4:O:2847:HOH:O	1.95	0.66
1:S:54:TYR:CZ	1:S:63:ILE:HG23	2.29	0.66
1:P:139:GLN:HE21	1:P:143:GLY:H	1.40	0.66
1:C:1:GLN:CD	1:C:1:GLN:H1	2.04	0.66
1:O:139:GLN:HE21	1:O:143:GLY:H	1.44	0.66
1:R:22:LEU:CD1	1:R:135:LEU:HD21	2.26	0.66
1:G:163:ASP:H	1:G:183:ASN:HD21	1.43	0.66
1:F:1:GLN:N	1:F:1:GLN:CD	2.51	0.65
1:S:46:THR:HG22	4:S:1724:HOH:O	1.96	0.65
1:D:42:GLU:HG3	1:E:117:VAL:CG1	2.26	0.65
1:R:180:PHE:HD1	1:R:182:PRO:HD3	1.62	0.65
4:S:1117:HOH:O	1:T:117:VAL:HG13	1.97	0.65
1:P:139:GLN:NE2	1:P:143:GLY:H	1.94	0.65
1:C:34:THR:HG21	1:C:166:LEU:HD22	1.78	0.65
1:R:64:LEU:HB3	1:R:76:THR:HG23	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:42:GLU:HG3	1:E:117:VAL:HG13	1.79	0.65
1:D:160:ASN:HD22	1:D:182:PRO:HG2	1.60	0.65
1:C:33:PHE:CZ	1:C:63:ILE:HD12	2.32	0.64
1:K:186:ASN:ND2	1:K:188:ARG:H	1.95	0.64
1:H:27:THR:OG1	4:H:2196:HOH:O	2.15	0.64
1:O:76:THR:CG2	4:O:207:HOH:O	2.45	0.64
1:R:184:VAL:HG12	1:R:185:LEU:CD1	2.27	0.64
1:S:194:VAL:HG13	1:S:198:VAL:HG13	1.80	0.64
1:E:26:LEU:HD23	4:E:2071:HOH:O	1.97	0.64
1:I:64:LEU:HB3	1:I:76:THR:HG23	1.80	0.64
1:O:131:ALA:HB2	4:O:3024:HOH:O	1.96	0.64
1:D:62:GLU:O	1:D:63:ILE:HD13	1.97	0.63
1:K:90:THR:O	4:K:2345:HOH:O	2.15	0.63
1:L:54:TYR:HB3	1:L:63:ILE:HB	1.81	0.63
1:S:54:TYR:HE1	1:S:161:MET:HE1	1.64	0.63
1:T:56:THR:HG22	1:T:59:GLN:N	2.13	0.63
1:C:33:PHE:CE2	1:C:63:ILE:HD12	2.34	0.63
1:Q:42:GLU:HG3	1:R:117:VAL:CG2	2.29	0.63
1:G:169:ASP:HB3	4:G:3006:HOH:O	1.98	0.63
1:F:194:VAL:CG2	1:F:198:VAL:CG1	2.77	0.62
1:H:189:ALA:HB2	1:L:176:LEU:HD23	1.81	0.62
1:L:44:SER:HB2	1:L:89:VAL:HG21	1.80	0.62
1:S:28:LYS:HG3	4:S:2294:HOH:O	1.98	0.62
1:J:172:ASN:HD21	1:J:176:LEU:HD22	1.63	0.62
1:N:139:GLN:HE21	1:N:143:GLY:H	1.47	0.62
1:G:49:TYR:CE1	1:G:51:ILE:HD11	2.31	0.62
1:J:156:ILE:CG2	4:J:3060:HOH:O	2.44	0.62
1:R:163:ASP:H	1:R:183:ASN:HD21	1.47	0.62
1:S:54:TYR:CE1	1:S:161:MET:HE1	2.35	0.62
1:F:1:GLN:N	1:F:1:GLN:OE1	2.31	0.62
1:L:91:VAL:O	1:L:91:VAL:HG13	2.00	0.62
1:A:12:PRO:HB2	1:B:120:SER:HB2	1.82	0.62
1:P:56:THR:HG23	1:P:130:GLU:OE1	2.00	0.62
1:M:1:GLN:HE21	1:M:1:GLN:N	1.96	0.62
1:O:46:THR:HG23	4:O:915:HOH:O	1.97	0.62
1:A:4:MET:CE	4:A:2937:HOH:O	2.47	0.62
1:K:139:GLN:HE21	1:K:143:GLY:H	1.47	0.62
1:F:194:VAL:CG2	1:F:198:VAL:HG11	2.29	0.61
1:M:26:LEU:HD23	1:M:26:LEU:O	1.99	0.61
1:D:1:GLN:HB3	4:D:1018:HOH:O	1.99	0.61
1:D:31:LYS:HZ3	1:D:126:THR:HG21	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:160:ASN:ND2	1:P:187:TRP:H	1.99	0.61
1:L:197:GLU:HG3	4:M:2436:HOH:O	2.00	0.61
1:C:139:GLN:HE21	1:C:143:GLY:H	1.47	0.61
1:H:161:MET:HB3	1:H:185:LEU:HB2	1.81	0.61
1:K:117:VAL:HG11	1:O:42:GLU:HG3	1.82	0.61
1:G:13:LYS:NZ	1:G:197:GLU:HG2	2.16	0.61
1:J:172:ASN:ND2	1:J:176:LEU:HD22	2.16	0.61
1:T:193:GLU:HG2	4:T:1307:HOH:O	2.00	0.61
1:G:194:VAL:HG13	1:G:198:VAL:HG13	1.81	0.61
1:S:25:PRO:O	1:S:27:THR:HG22	2.01	0.61
1:M:139:GLN:HE21	1:M:143:GLY:H	1.49	0.60
1:F:194:VAL:HG22	1:F:198:VAL:CG1	2.32	0.60
1:B:200:THR:HG23	4:B:3022:HOH:O	2.01	0.60
4:N:3008:HOH:O	1:O:84:PHE:HA	2.00	0.60
1:H:56:THR:HG22	1:H:59:GLN:N	2.17	0.60
1:H:56:THR:CG2	1:H:59:GLN:H	2.12	0.60
1:L:24:ALA:C	1:L:26:LEU:H	2.09	0.60
1:K:129:ALA:HA	4:K:3019:HOH:O	2.01	0.60
1:Q:132:SER:CB	1:Q:139:GLN:HE22	2.15	0.60
1:R:22:LEU:HD11	1:R:135:LEU:HD21	1.84	0.60
1:H:44:SER:HB2	1:H:89:VAL:HG21	1.84	0.60
1:J:95:HIS:HD2	4:J:233:HOH:O	1.84	0.60
1:S:1:GLN:H2	1:S:191:LYS:HG2	1.67	0.59
1:G:156:ILE:HD12	4:G:2930:HOH:O	2.01	0.59
1:F:1:GLN:HG3	1:F:191:LYS:HE3	1.84	0.59
1:H:34:THR:HG21	1:H:166:LEU:HD22	1.84	0.59
1:D:13:LYS:HB2	1:D:13:LYS:NZ	2.17	0.59
1:S:54:TYR:OH	1:S:127:VAL:HG11	2.03	0.59
1:Q:191:LYS:HD3	1:Q:192:TYR:H	1.68	0.59
1:D:76:THR:HG21	4:D:1985:HOH:O	2.03	0.59
1:M:83:LEU:HD12	1:M:83:LEU:N	2.17	0.59
1:O:139:GLN:NE2	1:O:143:GLY:H	2.00	0.59
1:R:54:TYR:HB3	1:R:63:ILE:HB	1.85	0.59
4:F:3070:HOH:O	1:G:116:ARG:HB3	2.03	0.59
1:H:65:ILE:HD12	1:H:65:ILE:N	2.18	0.59
1:I:62:GLU:O	1:I:63:ILE:HD13	2.03	0.59
1:J:64:LEU:HB3	1:J:76:THR:HG23	1.85	0.59
1:P:172:ASN:O	1:P:176:LEU:HB2	2.03	0.59
1:R:180:PHE:CD1	1:R:182:PRO:HD3	2.37	0.59
1:J:1:GLN:HG3	1:J:191:LYS:HG2	1.85	0.58
1:T:26:LEU:HD11	1:T:184:VAL:HG13	1.83	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:42:GLU:HG3	1:D:117:VAL:CG2	2.33	0.58
1:L:60:ASP:OD1	4:L:2215:HOH:O	2.17	0.58
1:M:91:VAL:HG23	4:M:1687:HOH:O	2.03	0.58
1:A:77:VAL:HG23	1:A:122:LYS:HG3	1.85	0.58
1:F:42:GLU:HG3	1:G:117:VAL:HG13	1.85	0.58
1:Q:132:SER:HB3	1:Q:139:GLN:HE22	1.68	0.58
1:F:61:ASN:HD22	1:F:61:ASN:N	1.95	0.58
1:R:184:VAL:HG12	1:R:185:LEU:HD12	1.86	0.58
1:F:33:PHE:CE1	1:F:63:ILE:HD12	2.39	0.58
1:Q:5:SER:O	1:Q:6:ARG:HB2	2.03	0.58
1:M:139:GLN:NE2	1:M:143:GLY:H	2.01	0.57
1:A:186:ASN:ND2	1:A:188:ARG:H	2.02	0.57
1:G:90:THR:HG23	1:G:90:THR:O	2.03	0.57
1:H:139:GLN:HE21	1:H:143:GLY:H	1.50	0.57
1:D:77:VAL:HG13	1:D:121:LEU:HD23	1.86	0.57
1:G:95:HIS:HD2	4:G:207:HOH:O	1.86	0.57
1:J:52:PHE:HB3	1:J:65:ILE:HD12	1.85	0.57
1:B:91:VAL:HG23	1:B:91:VAL:O	2.05	0.57
1:D:169:ASP:O	1:D:173:THR:HG23	2.05	0.57
1:E:130:GLU:HG3	4:E:1332:HOH:O	2.04	0.57
1:N:46:THR:HG23	4:N:825:HOH:O	2.05	0.57
1:Q:191:LYS:HD3	1:Q:192:TYR:N	2.20	0.57
1:K:95:HIS:HD2	4:K:210:HOH:O	1.87	0.57
1:D:54:TYR:HB3	1:D:63:ILE:HB	1.87	0.56
1:M:191:LYS:HD2	4:M:361:HOH:O	2.05	0.56
1:Q:22:LEU:HD11	1:Q:135:LEU:HD11	1.87	0.56
1:A:194:VAL:HG13	1:A:198:VAL:CG2	2.34	0.56
1:S:160:ASN:ND2	1:S:187:TRP:H	2.04	0.56
1:P:186:ASN:ND2	1:P:188:ARG:H	2.04	0.56
1:K:161:MET:HB3	1:K:185:LEU:HB2	1.85	0.56
1:L:166:LEU:HD13	1:L:174:ILE:CD1	2.35	0.56
1:R:43:LEU:HD11	1:R:153:VAL:HB	1.87	0.56
1:T:1:GLN:H3	1:T:1:GLN:CD	2.13	0.56
1:D:184:VAL:HG21	4:D:2289:HOH:O	2.04	0.56
1:O:77:VAL:HG12	1:O:121:LEU:CD2	2.36	0.56
1:S:54:TYR:CE2	1:S:63:ILE:HG23	2.41	0.56
1:D:95:HIS:HD2	4:D:221:HOH:O	1.89	0.56
1:I:6:ARG:HD3	4:N:1589:HOH:O	2.05	0.56
1:C:31:LYS:HG3	4:C:1456:HOH:O	2.06	0.56
1:O:1:GLN:OE1	1:O:1:GLN:N	2.36	0.56
1:A:3:ASP:OD1	1:A:5:SER:OG	2.19	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:139:GLN:HE21	1:E:143:GLY:H	1.53	0.55
1:L:62:GLU:O	1:L:63:ILE:HD13	2.06	0.55
1:P:159:VAL:HG13	1:P:187:TRP:CZ3	2.41	0.55
1:I:130:GLU:HG3	4:I:210:HOH:O	2.06	0.55
1:E:11:PHE:HE2	1:E:156:ILE:HG22	1.71	0.55
1:G:12:PRO:HB2	1:H:120:SER:HB2	1.88	0.55
1:O:76:THR:HG21	4:O:2203:HOH:O	2.06	0.55
1:P:26:LEU:HD22	1:P:26:LEU:H	1.69	0.55
1:C:1:GLN:N	1:C:1:GLN:OE1	2.39	0.55
1:G:139:GLN:HE21	1:G:143:GLY:H	1.53	0.55
1:L:139:GLN:HE21	1:L:143:GLY:H	1.55	0.55
1:J:130:GLU:O	1:J:130:GLU:HG3	2.07	0.55
1:K:54:TYR:HB3	1:K:63:ILE:HB	1.88	0.55
1:N:30:LEU:HD12	1:N:30:LEU:N	2.21	0.55
1:R:98:THR:HB	4:R:3083:HOH:O	2.06	0.55
1:D:31:LYS:HZ3	1:D:126:THR:CG2	2.21	0.54
1:R:26:LEU:HD11	1:R:30:LEU:HD11	1.89	0.54
1:C:139:GLN:NE2	1:C:143:GLY:H	2.04	0.54
1:E:160:ASN:HD22	1:E:182:PRO:HG2	1.72	0.54
1:F:34:THR:HG21	1:F:166:LEU:HD22	1.89	0.54
1:B:17:THR:O	1:B:17:THR:OG1	2.25	0.54
1:C:83:LEU:N	1:C:83:LEU:HD22	2.22	0.54
1:E:39:PHE:CE1	1:E:94:VAL:CG2	2.91	0.54
1:R:21:SER:OG	1:R:23:LYS:HE3	2.07	0.54
1:C:89:VAL:HG12	4:C:1563:HOH:O	2.06	0.54
1:I:52:PHE:HB3	1:I:65:ILE:HD13	1.89	0.54
1:Q:39:PHE:CE1	1:Q:94:VAL:CG1	2.90	0.54
1:L:95:HIS:HD2	4:L:319:HOH:O	1.91	0.54
1:E:95:HIS:HD2	4:E:207:HOH:O	1.91	0.53
1:J:172:ASN:ND2	1:N:181:SER:HB2	2.22	0.53
1:L:91:VAL:CG2	4:L:3057:HOH:O	2.56	0.53
1:B:1:GLN:H3	1:B:1:GLN:CD	2.15	0.53
1:D:80:SER:OG	1:D:122:LYS:HE2	2.08	0.53
1:K:100:TRP:CH2	1:K:102:SER:HB2	2.43	0.53
1:L:116:ARG:HB3	1:L:116:ARG:HH11	1.73	0.53
1:O:52:PHE:HB3	1:O:65:ILE:HD13	1.89	0.53
1:C:91:VAL:HG12	4:C:2190:HOH:O	2.09	0.53
1:A:204:LEU:HD11	1:B:118:ARG:HG3	1.90	0.53
1:D:33:PHE:CZ	1:D:63:ILE:HD12	2.44	0.53
1:F:1:GLN:CD	1:F:1:GLN:H3	2.15	0.53
1:G:85:GLU:HG3	4:G:214:HOH:O	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:34:THR:HG21	1:J:166:LEU:HD22	1.90	0.53
1:D:28:LYS:HD3	1:D:29:PRO:CD	2.38	0.53
1:E:194:VAL:HG13	1:E:198:VAL:HG13	1.91	0.53
1:K:186:ASN:C	1:K:186:ASN:HD22	2.16	0.53
1:T:139:GLN:HE21	1:T:143:GLY:H	1.55	0.53
1:P:160:ASN:HD21	1:P:187:TRP:H	1.55	0.53
1:L:27:THR:O	1:L:129:ALA:HB3	2.09	0.53
1:Q:64:LEU:HB3	1:Q:76:THR:HB	1.90	0.53
1:F:59:GLN:OE1	1:F:61:ASN:ND2	2.42	0.52
1:A:76:THR:CG2	4:A:210:HOH:O	2.56	0.52
1:A:76:THR:HG23	4:A:210:HOH:O	2.08	0.52
1:K:139:GLN:NE2	1:K:143:GLY:H	2.07	0.52
1:Q:145:ASN:N	1:Q:145:ASN:HD22	2.07	0.52
1:B:160:ASN:ND2	1:B:187:TRP:H	2.07	0.52
1:D:76:THR:CG2	4:D:217:HOH:O	2.57	0.52
1:T:56:THR:HG23	1:T:58:ARG:H	1.73	0.52
1:D:31:LYS:NZ	1:D:126:THR:CG2	2.73	0.52
1:F:188:ARG:HD3	4:F:1783:HOH:O	2.08	0.52
1:H:52:PHE:HE2	4:H:2934:HOH:O	1.91	0.52
1:B:44:SER:HB2	1:B:89:VAL:HG21	1.92	0.52
1:F:188:ARG:CZ	4:F:1522:HOH:O	2.58	0.52
1:M:82:ILE:C	1:M:83:LEU:HD12	2.34	0.52
1:Q:12:PRO:HB2	1:R:120:SER:HB2	1.91	0.52
1:R:45:SER:HB2	4:R:876:HOH:O	2.09	0.52
1:T:139:GLN:NE2	1:T:143:GLY:H	2.08	0.52
1:L:1:GLN:HE21	1:L:1:GLN:N	2.08	0.52
1:N:26:LEU:HD11	1:N:30:LEU:HD11	1.91	0.52
1:T:184:VAL:HG12	1:T:185:LEU:HD13	1.91	0.52
1:E:26:LEU:CG	4:E:2071:HOH:O	2.56	0.52
1:J:100:TRP:CH2	1:J:102:SER:HB2	2.44	0.52
1:Q:42:GLU:HG3	1:R:117:VAL:HG21	1.91	0.52
1:A:95:HIS:HD2	4:A:209:HOH:O	1.92	0.52
1:C:195:GLN:HG2	4:C:1826:HOH:O	2.09	0.52
1:A:27:THR:HG23	1:A:28:LYS:O	2.09	0.52
1:Q:54:TYR:HB3	1:Q:63:ILE:HB	1.92	0.52
1:R:58:ARG:HB2	1:R:58:ARG:NH1	2.19	0.52
1:I:76:THR:CG2	4:I:207:HOH:O	2.40	0.51
1:C:56:THR:HG23	1:C:58:ARG:H	1.75	0.51
1:K:160:ASN:HD22	1:K:182:PRO:HG2	1.75	0.51
1:N:139:GLN:HE21	1:N:143:GLY:N	2.08	0.51
1:O:156:ILE:CG2	4:O:2847:HOH:O	2.56	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:39:PHE:CE1	1:Q:94:VAL:HG13	2.44	0.51
1:B:54:TYR:HB3	1:B:63:ILE:HB	1.93	0.51
1:D:139:GLN:NE2	1:D:143:GLY:H	2.09	0.51
1:E:147:GLU:HG3	4:E:399:HOH:O	2.11	0.51
1:H:44:SER:CB	1:H:89:VAL:HG21	2.40	0.51
1:R:11:PHE:HE1	1:R:156:ILE:HG22	1.75	0.51
1:E:26:LEU:HG	4:E:2071:HOH:O	2.09	0.51
1:I:26:LEU:HB3	1:I:129:ALA:HB1	1.92	0.51
1:K:34:THR:HG21	1:K:166:LEU:HD22	1.91	0.51
1:T:41:THR:HG21	1:T:49:TYR:CZ	2.45	0.51
1:G:140:ASP:HB2	1:G:145:ASN:HB3	1.92	0.51
1:R:96:ILE:HD12	4:R:3083:HOH:O	2.11	0.51
1:R:135:LEU:N	1:R:135:LEU:HD22	2.24	0.51
1:E:54:TYR:HB3	1:E:63:ILE:HB	1.93	0.51
1:G:13:LYS:HZ1	1:G:197:GLU:HG2	1.75	0.51
1:F:120:SER:HB2	1:J:12:PRO:HB2	1.93	0.51
1:Q:204:LEU:HD11	1:R:118:ARG:HG3	1.92	0.51
1:C:163:ASP:N	1:C:183:ASN:HD21	2.04	0.51
1:F:194:VAL:CG2	1:F:198:VAL:HG13	2.41	0.51
1:L:1:GLN:HE21	1:L:1:GLN:H3	1.59	0.51
1:C:186:ASN:C	1:C:186:ASN:HD22	2.18	0.50
1:I:10:VAL:CG1	1:I:199:PHE:HB2	2.42	0.50
1:I:160:ASN:ND2	1:I:187:TRP:H	2.09	0.50
1:Q:42:GLU:HG3	1:R:117:VAL:HG23	1.91	0.50
1:J:139:GLN:NE2	1:J:143:GLY:H	2.10	0.50
1:J:172:ASN:HD21	1:N:181:SER:HB2	1.76	0.50
1:C:8:ALA:HB3	4:D:3023:HOH:O	2.10	0.50
1:C:177:GLY:C	1:C:178:GLY:O	2.52	0.50
1:F:188:ARG:NH2	4:F:1522:HOH:O	2.44	0.50
1:R:46:THR:HG22	4:R:876:HOH:O	2.11	0.50
1:T:117:VAL:CB	4:T:2966:HOH:O	1.86	0.50
1:J:27:THR:HG22	4:J:2899:HOH:O	2.10	0.50
1:P:1:GLN:NE2	1:P:191:LYS:HD3	2.19	0.50
1:T:160:ASN:ND2	1:T:187:TRP:H	2.10	0.50
1:B:12:PRO:HB2	1:C:120:SER:HB2	1.93	0.50
1:C:56:THR:HG22	1:C:59:GLN:H	1.77	0.50
1:D:132:SER:OG	1:D:139:GLN:NE2	2.44	0.50
1:E:88:GLU:HG2	1:E:88:GLU:O	2.12	0.50
1:N:90:THR:HG21	1:N:94:VAL:CG2	2.41	0.50
1:J:170:GLU:O	1:J:174:ILE:HG12	2.11	0.50
1:Q:29:PRO:HB2	1:Q:126:THR:CG2	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:22:LEU:HG	1:R:135:LEU:CD2	2.41	0.50
1:R:53:SER:OG	1:R:139:GLN:HG2	2.11	0.50
1:C:169:ASP:O	1:C:173:THR:HG23	2.12	0.50
1:K:98:THR:HG22	1:K:109:PHE:CD2	2.47	0.50
1:C:56:THR:CG2	1:C:59:GLN:H	2.24	0.50
1:D:13:LYS:HB2	1:D:13:LYS:HZ2	1.75	0.50
1:J:126:THR:HG22	4:J:963:HOH:O	2.10	0.50
1:K:181:SER:N	4:K:2758:HOH:O	2.45	0.50
1:N:26:LEU:HG	1:N:129:ALA:HB1	1.94	0.50
1:C:123:LYS:NZ	4:C:2152:HOH:O	2.45	0.49
1:C:170:GLU:O	1:C:174:ILE:HD13	2.12	0.49
1:K:195:GLN:HG3	4:K:1169:HOH:O	2.11	0.49
1:C:31:LYS:HE3	4:C:1456:HOH:O	2.13	0.49
1:I:139:GLN:HE21	1:I:143:GLY:H	1.58	0.49
1:M:88:GLU:HB3	4:M:2984:HOH:O	2.12	0.49
1:A:121:LEU:HD22	1:A:122:LYS:HG2	1.94	0.49
1:D:76:THR:HG23	4:D:217:HOH:O	2.12	0.49
1:H:139:GLN:NE2	1:H:143:GLY:H	2.10	0.49
1:O:29:PRO:HB2	1:O:126:THR:CG2	2.42	0.49
1:L:38:HIS:CE1	1:L:95:HIS:HB2	2.48	0.49
1:L:156:ILE:HD13	4:L:3039:HOH:O	2.12	0.49
1:T:33:PHE:CZ	1:T:63:ILE:HD13	2.48	0.49
1:D:57:LYS:HG2	4:D:1093:HOH:O	2.12	0.49
1:I:88:GLU:HG2	4:I:1915:HOH:O	2.12	0.49
1:L:30:LEU:HB2	1:L:127:VAL:HB	1.94	0.49
1:R:147:GLU:HB3	4:R:3054:HOH:O	2.12	0.49
1:G:38:HIS:CE1	1:G:95:HIS:HB2	2.48	0.49
1:J:130:GLU:HG3	4:J:254:HOH:O	2.12	0.49
1:K:186:ASN:HD22	1:K:188:ARG:H	1.58	0.49
1:P:41:THR:HG21	1:P:49:TYR:CZ	2.47	0.49
1:Q:166:LEU:HD13	1:Q:174:ILE:CD1	2.42	0.49
1:M:26:LEU:O	1:M:26:LEU:CD2	2.60	0.49
1:H:52:PHE:HB3	1:H:65:ILE:HD13	1.95	0.49
1:L:56:THR:HG23	1:L:58:ARG:H	1.77	0.49
1:B:46:THR:HG23	4:B:505:HOH:O	2.12	0.49
1:D:118:ARG:NH1	4:D:3023:HOH:O	2.32	0.49
1:F:194:VAL:HG22	1:F:198:VAL:HG13	1.95	0.49
1:I:41:THR:HG21	1:I:49:TYR:CZ	2.48	0.49
1:M:12:PRO:HB2	1:N:120:SER:HB2	1.95	0.48
1:D:58:ARG:CG	4:D:664:HOH:O	2.30	0.48
1:F:38:HIS:CD2	1:F:158:ASN:HD22	2.31	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:42:GLU:HG3	1:G:117:VAL:CG1	2.42	0.48
1:I:82:ILE:HD11	1:I:119:LYS:HD3	1.95	0.48
1:M:161:MET:HB3	1:M:185:LEU:HB2	1.96	0.48
1:R:88:GLU:O	1:R:88:GLU:HG3	2.13	0.48
1:T:56:THR:CG2	1:T:58:ARG:H	2.27	0.48
1:B:175:TYR:CD2	1:B:176:LEU:HD13	2.49	0.48
1:C:41:THR:HG21	1:C:49:TYR:CZ	2.48	0.48
1:J:54:TYR:HB3	1:J:63:ILE:HB	1.96	0.48
1:O:10:VAL:CG1	1:O:199:PHE:HB2	2.43	0.48
1:F:38:HIS:HD2	1:F:158:ASN:HD22	1.61	0.48
1:O:135:LEU:HD21	1:O:159:VAL:HG21	1.94	0.48
1:Q:83:LEU:O	1:Q:119:LYS:NZ	2.44	0.48
1:G:54:TYR:HB3	1:G:63:ILE:HB	1.95	0.48
1:L:24:ALA:C	1:L:26:LEU:N	2.69	0.48
1:A:186:ASN:HD22	1:A:187:TRP:N	2.12	0.48
1:G:160:ASN:HD22	1:G:182:PRO:HG2	1.78	0.48
1:K:30:LEU:HG	4:K:3019:HOH:O	2.14	0.48
1:Q:158:ASN:ND2	4:Q:261:HOH:O	2.45	0.48
1:S:95:HIS:HD2	4:S:207:HOH:O	1.96	0.48
1:C:42:GLU:HG3	1:D:117:VAL:HG23	1.95	0.48
1:O:162:TRP:CD1	1:O:182:PRO:HA	2.48	0.48
1:G:13:LYS:CD	4:H:2159:HOH:O	2.62	0.48
1:N:170:GLU:O	1:N:174:ILE:HD13	2.12	0.48
1:S:54:TYR:CZ	1:S:63:ILE:CG2	2.97	0.48
1:F:39:PHE:CE1	1:F:94:VAL:CG1	2.97	0.48
1:Q:87:PRO:HG2	1:Q:88:GLU:H	1.79	0.48
1:E:132:SER:CB	1:E:139:GLN:HE22	2.27	0.47
1:I:10:VAL:HG13	1:I:199:PHE:HB2	1.95	0.47
1:J:160:ASN:ND2	1:J:187:TRP:H	2.12	0.47
1:T:35:VAL:HG13	1:T:98:THR:HG22	1.95	0.47
1:T:46:THR:HG23	4:T:1314:HOH:O	2.14	0.47
1:I:26:LEU:HD13	1:I:30:LEU:HD11	1.96	0.47
1:M:33:PHE:CZ	1:M:63:ILE:HD12	2.49	0.47
1:O:41:THR:HG21	1:O:49:TYR:CZ	2.49	0.47
1:P:139:GLN:HE21	1:P:143:GLY:N	2.09	0.47
1:A:91:VAL:HG13	1:A:91:VAL:O	2.13	0.47
1:A:175:TYR:CD2	1:A:176:LEU:HD13	2.49	0.47
1:D:31:LYS:NZ	1:D:126:THR:HG21	2.29	0.47
1:L:82:ILE:HG12	1:L:121:LEU:HD22	1.96	0.47
1:L:139:GLN:NE2	1:L:143:GLY:H	2.12	0.47
1:O:37:LEU:C	1:O:37:LEU:HD12	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:132:SER:HB3	1:P:139:GLN:HE22	1.80	0.47
1:L:1:GLN:HB2	1:L:191:LYS:HG2	1.94	0.47
1:B:41:THR:HG21	1:B:49:TYR:CZ	2.49	0.47
1:D:27:THR:HA	1:D:129:ALA:HB1	1.95	0.47
1:M:1:GLN:N	1:M:1:GLN:CD	2.73	0.47
1:H:12:PRO:HB2	1:I:120:SER:HB2	1.96	0.47
1:A:107:VAL:CB	4:A:3018:HOH:O	1.85	0.47
1:C:37:LEU:C	1:C:37:LEU:HD12	2.40	0.47
1:M:33:PHE:CE1	1:M:63:ILE:HD12	2.50	0.47
1:Q:44:SER:HB2	1:Q:89:VAL:HG21	1.97	0.47
1:R:55:ALA:HB1	1:R:60:ASP:HA	1.97	0.47
1:E:5:SER:O	1:E:6:ARG:HB2	2.15	0.47
1:S:139:GLN:HE21	1:S:143:GLY:H	1.63	0.47
1:A:120:SER:HB2	1:E:12:PRO:HB2	1.96	0.47
1:J:161:MET:HB3	1:J:185:LEU:HB2	1.96	0.47
1:P:28:LYS:HB2	1:P:29:PRO:CD	2.42	0.47
1:M:186:ASN:ND2	1:M:188:ARG:H	2.13	0.46
1:B:22:LEU:HD12	1:B:22:LEU:N	2.30	0.46
1:F:20:VAL:CG1	1:F:135:LEU:CB	2.84	0.46
1:F:61:ASN:HB3	4:F:604:HOH:O	2.14	0.46
1:G:184:VAL:HG12	1:G:185:LEU:HD13	1.97	0.46
1:R:64:LEU:HB3	1:R:76:THR:CG2	2.43	0.46
1:H:89:VAL:HG23	4:H:553:HOH:O	2.15	0.46
1:K:186:ASN:HD22	1:K:187:TRP:N	2.12	0.46
1:F:143:GLY:C	1:F:144:GLY:O	2.57	0.46
1:G:82:ILE:HG13	1:G:83:LEU:H	1.80	0.46
1:L:166:LEU:CD1	1:L:174:ILE:CD1	2.94	0.46
1:M:41:THR:HG21	1:M:49:TYR:CZ	2.50	0.46
1:D:33:PHE:CE2	1:D:63:ILE:CD1	2.99	0.46
1:A:77:VAL:HG23	1:A:122:LYS:CG	2.46	0.46
1:K:8:ALA:HB3	4:L:2932:HOH:O	2.15	0.46
1:K:69:LYS:HE2	1:K:70:ASP:OD2	2.16	0.46
1:M:62:GLU:O	1:M:63:ILE:HD13	2.15	0.46
1:J:41:THR:HG21	1:J:49:TYR:CZ	2.51	0.46
1:L:108:GLU:HG2	1:L:118:ARG:HG2	1.98	0.46
1:Q:100:TRP:CH2	1:Q:102:SER:HB2	2.51	0.46
1:E:64:LEU:HB3	1:E:76:THR:HB	1.98	0.46
1:E:66:PHE:HB3	1:E:74:SER:HB3	1.98	0.46
1:N:62:GLU:C	1:N:63:ILE:HD13	2.40	0.46
1:R:22:LEU:HG	1:R:135:LEU:HD21	1.97	0.46
1:O:149:SER:HB2	4:O:1065:HOH:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:39:PHE:CE2	1:R:94:VAL:HG11	2.51	0.46
1:S:28:LYS:HB3	1:S:28:LYS:HE2	1.51	0.46
1:A:132:SER:OG	1:A:139:GLN:NE2	2.49	0.46
1:E:39:PHE:CE1	1:E:94:VAL:HG21	2.51	0.46
1:L:91:VAL:HG22	4:L:3057:HOH:O	2.14	0.46
1:A:77:VAL:CG2	1:A:121:LEU:HD13	2.31	0.45
1:D:34:THR:HG21	1:D:166:LEU:HD22	1.97	0.45
1:O:194:VAL:HG13	1:O:198:VAL:HG13	1.98	0.45
1:T:30:LEU:N	1:T:30:LEU:HD12	2.31	0.45
1:T:108:GLU:HA	4:T:219:HOH:O	2.15	0.45
1:A:139:GLN:HE21	1:A:143:GLY:H	1.63	0.45
1:B:42:GLU:HG3	1:C:117:VAL:CG2	2.46	0.45
1:K:39:PHE:CE1	1:K:94:VAL:HG13	2.52	0.45
1:N:110:TRP:CE2	1:N:171:ILE:HD13	2.51	0.45
1:N:160:ASN:ND2	1:N:187:TRP:H	2.13	0.45
1:S:12:PRO:HD2	4:S:1696:HOH:O	2.16	0.45
1:N:95:HIS:HE1	4:N:952:HOH:O	1.98	0.45
1:R:137:GLN:NE2	4:R:752:HOH:O	2.40	0.45
1:H:94:VAL:CG1	4:H:2848:HOH:O	2.57	0.45
1:M:27:THR:HG21	4:M:1967:HOH:O	2.12	0.45
1:I:110:TRP:CD2	1:I:171:ILE:HG21	2.51	0.45
1:D:172:ASN:HB2	4:D:1659:HOH:O	2.16	0.45
1:F:20:VAL:HG22	1:F:22:LEU:HD13	1.98	0.45
1:F:83:LEU:HD22	4:F:1221:HOH:O	2.16	0.45
4:I:2969:HOH:O	1:J:119:LYS:HE3	2.17	0.45
1:N:87:PRO:HD2	4:N:2414:HOH:O	2.15	0.45
1:O:56:THR:HG22	4:O:3024:HOH:O	2.17	0.45
1:Q:160:ASN:ND2	1:Q:187:TRP:H	2.14	0.45
1:R:39:PHE:CE2	1:R:94:VAL:CG1	3.00	0.45
1:B:139:GLN:HE21	1:B:143:GLY:H	1.64	0.45
1:E:34:THR:HG21	1:E:166:LEU:HD22	1.98	0.45
1:P:186:ASN:HD21	1:P:188:ARG:HB2	1.82	0.45
1:C:98:THR:HB	4:C:3051:HOH:O	2.16	0.45
1:D:41:THR:HG21	1:D:49:TYR:CZ	2.52	0.45
1:D:160:ASN:ND2	1:D:182:PRO:HG2	2.30	0.45
1:G:20:VAL:HG22	1:G:194:VAL:HG22	1.99	0.45
1:I:139:GLN:NE2	1:I:143:GLY:H	2.15	0.45
1:L:147:GLU:HB3	4:L:2552:HOH:O	2.16	0.45
1:T:39:PHE:CE1	1:T:94:VAL:CG1	3.00	0.45
1:O:65:ILE:HD12	1:O:65:ILE:N	2.32	0.45
1:S:158:ASN:ND2	1:S:205:TRP:NE1	2.60	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:17:THR:HG23	4:B:2266:HOH:O	2.16	0.45
1:A:186:ASN:HD22	1:A:186:ASN:C	2.24	0.44
1:C:139:GLN:HE21	1:C:143:GLY:N	2.14	0.44
1:O:54:TYR:HB3	1:O:63:ILE:HB	1.99	0.44
1:C:110:TRP:CE2	1:C:171:ILE:HD13	2.52	0.44
1:S:38:HIS:CE1	1:S:95:HIS:HB2	2.52	0.44
1:A:139:GLN:NE2	1:A:143:GLY:H	2.15	0.44
1:H:56:THR:HG23	1:H:58:ARG:H	1.83	0.44
1:I:69:LYS:O	1:I:70:ASP:HB2	2.17	0.44
1:M:1:GLN:CD	1:M:1:GLN:H1	2.25	0.44
1:N:1:GLN:HG3	1:N:191:LYS:HE3	1.98	0.44
1:D:1:GLN:CB	4:D:1018:HOH:O	2.62	0.44
1:D:31:LYS:NZ	1:D:126:THR:HG22	2.32	0.44
1:E:139:GLN:NE2	1:E:143:GLY:H	2.16	0.44
1:F:64:LEU:C	4:F:2977:HOH:O	2.60	0.44
1:M:186:ASN:HD22	1:M:188:ARG:H	1.64	0.44
1:C:56:THR:HG22	1:C:59:GLN:N	2.32	0.44
1:F:39:PHE:CZ	1:F:94:VAL:HG11	2.52	0.44
1:N:6:ARG:HD3	1:N:203:GLN:HG2	1.99	0.44
1:Q:166:LEU:CD1	1:Q:174:ILE:CD1	2.96	0.44
1:R:194:VAL:HG13	1:R:198:VAL:HG13	2.00	0.44
1:C:162:TRP:HA	1:C:183:ASN:ND2	2.33	0.44
1:G:132:SER:OG	1:G:139:GLN:NE2	2.51	0.44
1:K:107:VAL:HG23	1:K:107:VAL:O	2.18	0.44
1:R:12:PRO:HB2	1:S:120:SER:HB2	1.99	0.44
1:D:26:LEU:HB3	1:D:27:THR:H	1.36	0.44
1:S:170:GLU:O	1:S:174:ILE:HD13	2.18	0.44
1:L:166:LEU:HD13	1:L:174:ILE:HD11	2.00	0.44
1:P:47:ARG:NH2	1:P:151:SER:O	2.48	0.44
1:S:204:LEU:HD11	1:T:118:ARG:HG3	2.00	0.44
1:K:194:VAL:HG13	1:K:198:VAL:HG13	2.00	0.43
1:D:160:ASN:ND2	1:D:187:TRP:H	2.16	0.43
1:G:132:SER:CB	1:G:139:GLN:HE22	2.30	0.43
1:H:206:PRO:HG2	4:H:768:HOH:O	2.18	0.43
1:J:110:TRP:CE2	1:J:171:ILE:HD13	2.53	0.43
1:K:162:TRP:CD1	1:K:182:PRO:HA	2.53	0.43
1:O:95:HIS:HD2	4:O:209:HOH:O	2.01	0.43
1:D:161:MET:HE2	4:D:2289:HOH:O	2.18	0.43
1:F:37:LEU:C	1:F:37:LEU:HD12	2.43	0.43
1:L:1:GLN:NE2	1:L:191:LYS:HD3	2.33	0.43
1:L:132:SER:CB	1:L:139:GLN:HE22	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:186:ASN:ND2	1:F:188:ARG:H	2.15	0.43
1:G:24:ALA:HB2	1:G:185:LEU:HD11	2.00	0.43
1:L:184:VAL:HG12	1:L:185:LEU:CD1	2.48	0.43
1:M:83:LEU:N	1:M:83:LEU:CD1	2.81	0.43
1:O:77:VAL:CG1	1:O:121:LEU:HG	2.49	0.43
1:C:183:ASN:HD22	1:C:183:ASN:H	1.66	0.43
1:G:205:TRP:HB2	1:G:206:PRO:HD2	2.00	0.43
1:K:50:SER:HB2	1:K:138:GLU:HB2	1.99	0.43
1:M:1:GLN:NE2	1:M:1:GLN:H1	2.12	0.43
1:N:184:VAL:C	1:N:185:LEU:HD12	2.43	0.43
1:P:47:ARG:HH22	1:P:151:SER:N	2.16	0.43
1:P:58:ARG:HG3	1:P:58:ARG:HH21	1.84	0.43
1:D:139:GLN:HE21	1:D:143:GLY:H	1.65	0.43
1:E:26:LEU:CD2	4:E:2071:HOH:O	2.59	0.43
1:L:160:ASN:ND2	4:L:601:HOH:O	2.49	0.43
1:C:56:THR:HG23	1:C:58:ARG:N	2.33	0.43
1:F:88:GLU:O	1:F:90:THR:HG23	2.19	0.43
1:P:120:SER:HB2	1:T:12:PRO:HB2	1.99	0.43
1:R:22:LEU:CG	1:R:135:LEU:HD21	2.48	0.43
1:F:186:ASN:HD22	1:F:187:TRP:N	2.17	0.43
1:G:6:ARG:NE	4:G:360:HOH:O	2.47	0.43
1:G:13:LYS:HD2	4:H:2159:HOH:O	2.19	0.43
1:H:65:ILE:N	1:H:65:ILE:CD1	2.82	0.43
1:J:76:THR:HG22	4:J:455:HOH:O	2.18	0.43
1:A:194:VAL:HG11	1:A:198:VAL:HG22	1.99	0.43
1:C:42:GLU:HG3	1:D:117:VAL:HG21	2.00	0.43
1:C:191:LYS:HD2	4:C:701:HOH:O	2.19	0.43
4:C:472:HOH:O	1:D:117:VAL:HG13	2.19	0.43
1:I:132:SER:OG	1:I:139:GLN:NE2	2.50	0.43
1:N:110:TRP:NE1	1:N:171:ILE:HD13	2.33	0.43
1:I:1:GLN:N	1:I:1:GLN:CD	2.69	0.42
1:T:95:HIS:HD2	4:T:210:HOH:O	2.02	0.42
1:A:107:VAL:CG1	4:A:3018:HOH:O	2.47	0.42
1:I:54:TYR:HB3	1:I:63:ILE:HB	2.01	0.42
1:J:46:THR:HG23	4:J:647:HOH:O	2.18	0.42
1:L:100:TRP:CH2	1:L:102:SER:HB2	2.54	0.42
1:A:90:THR:HG21	4:A:2448:HOH:O	2.18	0.42
1:C:33:PHE:CE2	1:C:63:ILE:CD1	3.00	0.42
1:C:87:PRO:HD2	4:C:1053:HOH:O	2.19	0.42
1:D:161:MET:HB3	1:D:185:LEU:HB2	2.02	0.42
1:F:64:LEU:HB3	1:F:76:THR:HB	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:76:THR:HG22	1:P:81:GLU:HB2	2.01	0.42
1:P:130:GLU:CD	1:P:130:GLU:H	2.27	0.42
1:P:186:ASN:ND2	1:P:188:ARG:HB2	2.34	0.42
1:Q:95:HIS:HE1	4:Q:673:HOH:O	2.03	0.42
1:Q:132:SER:OG	1:Q:139:GLN:NE2	2.52	0.42
1:T:56:THR:HG23	4:T:209:HOH:O	2.19	0.42
1:C:186:ASN:ND2	1:C:188:ARG:H	2.18	0.42
1:R:19:TYR:CD2	1:R:134:ILE:HD12	2.54	0.42
1:A:54:TYR:HB3	1:A:63:ILE:HB	2.02	0.42
1:P:56:THR:HG22	1:P:58:ARG:H	1.85	0.42
1:T:77:VAL:HG12	1:T:121:LEU:HD23	2.01	0.42
1:E:39:PHE:CZ	1:E:94:VAL:HG21	2.54	0.42
1:F:194:VAL:HG22	1:F:198:VAL:HG11	1.95	0.42
1:G:16:ASP:N	1:G:16:ASP:OD1	2.51	0.42
1:J:37:LEU:C	1:J:37:LEU:HD12	2.45	0.42
1:J:62:GLU:C	1:J:63:ILE:HD13	2.43	0.42
1:J:90:THR:HG23	4:J:708:HOH:O	2.19	0.42
1:O:58:ARG:HD3	1:O:58:ARG:HA	1.85	0.42
1:O:132:SER:CB	1:O:139:GLN:HE22	2.32	0.42
1:Q:37:LEU:HD22	1:Q:96:ILE:HG12	2.02	0.42
1:Q:169:ASP:O	1:Q:173:THR:HG23	2.20	0.42
1:S:160:ASN:HD21	1:S:187:TRP:H	1.68	0.42
1:C:198:VAL:O	1:C:198:VAL:HG13	2.20	0.42
1:I:162:TRP:CD1	1:I:182:PRO:HA	2.55	0.42
1:J:69:LYS:NZ	1:J:70:ASP:CG	2.78	0.42
1:N:65:ILE:HD11	1:N:98:THR:HG21	2.01	0.42
1:P:56:THR:CG2	4:P:939:HOH:O	2.58	0.42
1:P:57:LYS:NZ	1:P:58:ARG:HB3	2.35	0.42
1:Q:147:GLU:HG2	1:Q:149:SER:OG	2.20	0.42
1:Q:161:MET:HB3	1:Q:185:LEU:HB2	2.02	0.42
1:T:166:LEU:CD2	1:T:174:ILE:CD1	2.97	0.42
1:A:26:LEU:HD12	1:A:129:ALA:O	2.20	0.42
1:G:24:ALA:HB2	1:G:185:LEU:CD1	2.50	0.42
1:L:1:GLN:NE2	1:L:191:LYS:CG	2.82	0.42
1:A:197:GLU:OE2	1:B:123:LYS:NZ	2.33	0.42
1:J:39:PHE:CE1	1:J:94:VAL:HG13	2.54	0.42
1:K:1:GLN:N	1:K:1:GLN:OE1	2.52	0.42
1:L:160:ASN:ND2	1:L:187:TRP:H	2.17	0.42
1:A:110:TRP:CZ3	1:A:115:PRO:HD3	2.54	0.42
1:F:48:GLY:HA2	1:F:67:TRP:O	2.20	0.42
1:H:41:THR:HG21	1:H:49:TYR:CZ	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:28:LYS:HE3	1:J:28:LYS:HB3	1.70	0.42
1:M:100:TRP:CH2	1:M:102:SER:HB2	2.55	0.42
1:S:160:ASN:HD22	1:S:182:PRO:HG2	1.84	0.42
1:F:39:PHE:CE1	1:F:94:VAL:HG11	2.55	0.41
1:I:19:TYR:CZ	1:I:195:GLN:HG3	2.55	0.41
1:S:139:GLN:NE2	1:S:143:GLY:H	2.17	0.41
1:F:27:THR:HG23	1:F:28:LYS:O	2.20	0.41
1:G:175:TYR:CD2	1:G:176:LEU:HD13	2.55	0.41
1:K:38:HIS:HD2	1:K:158:ASN:HD22	1.68	0.41
1:L:1:GLN:NE2	1:L:191:LYS:HG2	2.34	0.41
1:C:108:GLU:HG2	1:C:118:ARG:HG2	2.01	0.41
1:D:42:GLU:HG3	1:E:117:VAL:HG11	2.01	0.41
1:M:167:SER:O	1:M:171:ILE:HG12	2.21	0.41
1:S:95:HIS:HE1	4:S:209:HOH:O	2.03	0.41
1:E:13:LYS:HB3	1:E:13:LYS:HE2	1.90	0.41
1:E:152:LEU:HD22	4:E:1824:HOH:O	2.20	0.41
1:F:38:HIS:HE1	4:F:2985:HOH:O	2.02	0.41
1:H:76:THR:CG2	4:H:271:HOH:O	2.60	0.41
1:L:108:GLU:HA	4:L:330:HOH:O	2.21	0.41
1:F:61:ASN:ND2	1:F:61:ASN:N	2.54	0.41
1:K:1:GLN:NE2	4:K:1704:HOH:O	2.52	0.41
1:N:44:SER:HB2	1:N:89:VAL:HG21	2.02	0.41
1:Q:44:SER:CB	1:Q:89:VAL:HG21	2.50	0.41
1:C:45:SER:HB2	4:C:2908:HOH:O	2.18	0.41
1:N:34:THR:HG21	1:N:166:LEU:HD22	2.02	0.41
1:O:182:PRO:HG2	1:O:186:ASN:HA	2.03	0.41
1:A:58:ARG:HG2	4:A:2379:HOH:O	2.21	0.41
1:O:77:VAL:HG12	1:O:121:LEU:HD23	2.01	0.41
1:B:147:GLU:HG3	4:B:208:HOH:O	2.20	0.41
1:F:116:ARG:CD	4:F:2360:HOH:O	2.68	0.41
1:G:82:ILE:HG13	1:G:83:LEU:N	2.35	0.41
1:P:132:SER:CB	1:P:139:GLN:HE22	2.33	0.41
1:B:139:GLN:NE2	1:B:143:GLY:H	2.18	0.41
1:E:170:GLU:O	1:E:174:ILE:HD13	2.21	0.41
1:F:83:LEU:HB3	4:F:1221:HOH:O	2.20	0.41
1:F:136:GLY:HA2	1:F:152:LEU:HB3	2.03	0.41
1:G:160:ASN:ND2	1:G:187:TRP:H	2.19	0.41
1:H:56:THR:CG2	1:H:59:GLN:N	2.80	0.41
1:H:64:LEU:C	1:H:65:ILE:HD12	2.46	0.41
1:L:91:VAL:O	1:L:91:VAL:CG1	2.66	0.41
1:O:128:GLY:O	4:O:3024:HOH:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:30:LEU:HD23	1:P:30:LEU:HA	1.87	0.41
1:Q:166:LEU:HD13	1:Q:174:ILE:HD11	2.02	0.41
1:T:166:LEU:HD21	1:T:174:ILE:HD11	2.02	0.41
1:H:186:ASN:C	1:H:186:ASN:HD22	2.29	0.41
1:P:54:TYR:CD2	1:P:133:ILE:HG12	2.56	0.41
1:B:22:LEU:N	1:B:22:LEU:CD1	2.83	0.40
1:F:186:ASN:HD22	1:F:186:ASN:C	2.29	0.40
1:G:139:GLN:HE21	1:G:143:GLY:N	2.17	0.40
1:H:48:GLY:HA2	1:H:67:TRP:O	2.21	0.40
1:L:116:ARG:HH11	1:L:116:ARG:CB	2.33	0.40
1:O:19:TYR:CD2	1:O:134:ILE:HD12	2.57	0.40
1:Q:56:THR:HG22	1:Q:58:ARG:H	1.85	0.40
1:H:54:TYR:HB3	1:H:63:ILE:HB	2.03	0.40
1:L:24:ALA:HB1	1:L:26:LEU:HB2	2.03	0.40
1:Q:194:VAL:CG1	1:Q:198:VAL:HG13	2.46	0.40
1:R:19:TYR:HD2	1:R:134:ILE:HD12	1.85	0.40
1:A:160:ASN:HD22	1:A:182:PRO:HG2	1.85	0.40
1:F:160:ASN:ND2	1:F:187:TRP:H	2.20	0.40
1:R:139:GLN:NE2	1:R:143:GLY:H	2.19	0.40
1:T:95:HIS:HE1	4:T:340:HOH:O	2.04	0.40
1:D:33:PHE:CE2	1:D:63:ILE:HD12	2.57	0.40
1:E:24:ALA:HB2	1:E:185:LEU:HD13	2.02	0.40
1:N:11:PHE:HE2	1:N:156:ILE:HG22	1.87	0.40
1:N:69:LYS:HG2	1:N:70:ASP:N	2.35	0.40
1:H:139:GLN:HE21	1:H:143:GLY:N	2.19	0.40
1:J:25:PRO:HD2	1:J:184:VAL:O	2.22	0.40
1:L:22:LEU:HD11	1:L:135:LEU:HD11	2.04	0.40
1:R:56:THR:HG22	1:R:130:GLU:O	2.22	0.40

All (5) 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)
4:F:3085:HOH:O	4:P:554:HOH:O[1_565]	2.08	0.12
4:C:2494:HOH:O	4:S:656:HOH:O[1_455]	2.11	0.09
4:D:2992:HOH:O	4:T:374:HOH:O[1_455]	2.16	0.04
4:C:701:HOH:O	4:G:641:HOH:O[1_445]	2.18	0.02
4:D:2992:HOH:O	4:T:1509:HOH:O[1_455]	2.18	0.02

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	204/206 (99%)	197 (97%)	7 (3%)	0	100	100
1	B	204/206 (99%)	197 (97%)	7 (3%)	0	100	100
1	C	204/206 (99%)	197 (97%)	7 (3%)	0	100	100
1	D	204/206 (99%)	197 (97%)	7 (3%)	0	100	100
1	E	204/206 (99%)	195 (96%)	8 (4%)	1 (0%)	24	14
1	F	204/206 (99%)	191 (94%)	9 (4%)	4 (2%)	6	1
1	G	204/206 (99%)	197 (97%)	7 (3%)	0	100	100
1	H	204/206 (99%)	198 (97%)	6 (3%)	0	100	100
1	I	204/206 (99%)	198 (97%)	6 (3%)	0	100	100
1	J	204/206 (99%)	196 (96%)	7 (3%)	1 (0%)	24	14
1	K	204/206 (99%)	198 (97%)	4 (2%)	2 (1%)	12	5
1	L	204/206 (99%)	195 (96%)	7 (3%)	2 (1%)	12	5
1	M	204/206 (99%)	195 (96%)	8 (4%)	1 (0%)	24	14
1	N	204/206 (99%)	195 (96%)	8 (4%)	1 (0%)	24	14
1	O	204/206 (99%)	197 (97%)	7 (3%)	0	100	100
1	P	204/206 (99%)	197 (97%)	6 (3%)	1 (0%)	24	14
1	Q	204/206 (99%)	188 (92%)	14 (7%)	2 (1%)	12	5
1	R	204/206 (99%)	196 (96%)	6 (3%)	2 (1%)	12	5
1	S	204/206 (99%)	198 (97%)	4 (2%)	2 (1%)	12	5
1	T	204/206 (99%)	198 (97%)	6 (3%)	0	100	100
All	All	4080/4120 (99%)	3920 (96%)	141 (4%)	19 (0%)	24	14

All (19) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	F	87	PRO

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Mol	Chain	Res	Type
1	F	145	ASN
1	J	26	LEU
1	L	178	GLY
1	M	26	LEU
1	S	26	LEU
1	F	89	VAL
1	F	148	GLY
1	P	142	PHE
1	Q	27	THR
1	Q	142	PHE
1	S	178	GLY
1	K	26	LEU
1	K	142	PHE
1	N	142	PHE
1	R	26	LEU
1	R	142	PHE
1	E	178	GLY
1	L	25	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	180/180 (100%)	170 (94%)	10 (6%)	19	8
1	B	180/180 (100%)	175 (97%)	5 (3%)	38	29
1	C	180/180 (100%)	163 (91%)	17 (9%)	8	2
1	D	180/180 (100%)	164 (91%)	16 (9%)	9	2
1	E	180/180 (100%)	167 (93%)	13 (7%)	13	5
1	F	180/180 (100%)	164 (91%)	16 (9%)	9	2
1	G	180/180 (100%)	166 (92%)	14 (8%)	11	3
1	H	180/180 (100%)	164 (91%)	16 (9%)	9	2
1	I	180/180 (100%)	169 (94%)	11 (6%)	17	7
1	J	180/180 (100%)	161 (89%)	19 (11%)	6	1

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	K	180/180 (100%)	167 (93%)	13 (7%)	13	5
1	L	180/180 (100%)	164 (91%)	16 (9%)	9	2
1	M	180/180 (100%)	166 (92%)	14 (8%)	11	3
1	N	180/180 (100%)	170 (94%)	10 (6%)	19	8
1	O	180/180 (100%)	166 (92%)	14 (8%)	11	3
1	P	180/180 (100%)	165 (92%)	15 (8%)	10	3
1	Q	180/180 (100%)	161 (89%)	19 (11%)	6	1
1	R	180/180 (100%)	167 (93%)	13 (7%)	13	5
1	S	180/180 (100%)	165 (92%)	15 (8%)	10	3
1	T	180/180 (100%)	160 (89%)	20 (11%)	6	1
All	All	3600/3600 (100%)	3314 (92%)	286 (8%)	11	3

All (286) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	GLN
1	A	26	LEU
1	A	76	THR
1	A	82	ILE
1	A	107	VAL
1	A	121	LEU
1	A	135	LEU
1	A	176	LEU
1	A	191	LYS
1	A	198	VAL
1	B	17	THR
1	B	83	LEU
1	B	176	LEU
1	B	183	ASN
1	B	195	GLN
1	C	1	GLN
1	C	26	LEU
1	C	38	HIS
1	C	43	LEU
1	C	56	THR
1	C	63	ILE
1	C	82	ILE
1	C	88	GLU

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Mol	Chain	Res	Type
1	C	91	VAL
1	C	166	LEU
1	C	174	ILE
1	C	176	LEU
1	C	183	ASN
1	C	185	LEU
1	C	193	GLU
1	C	195	GLN
1	C	197	GLU
1	D	21	SER
1	D	26	LEU
1	D	28	LYS
1	D	38	HIS
1	D	43	LEU
1	D	57	LYS
1	D	76	THR
1	D	77	VAL
1	D	85	GLU
1	D	134	ILE
1	D	135	LEU
1	D	151	SER
1	D	166	LEU
1	D	171	ILE
1	D	173	THR
1	D	185	LEU
1	E	22	LEU
1	E	26	LEU
1	E	38	HIS
1	E	43	LEU
1	E	82	ILE
1	E	88	GLU
1	E	89	VAL
1	E	130	GLU
1	E	134	ILE
1	E	166	LEU
1	E	174	ILE
1	E	185	LEU
1	E	198	VAL
1	F	1	GLN
1	F	22	LEU
1	F	30	LEU
1	F	43	LEU

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Mol	Chain	Res	Type
1	F	61	ASN
1	F	63	ILE
1	F	82	ILE
1	F	86	VAL
1	F	89	VAL
1	F	90	THR
1	F	135	LEU
1	F	147	GLU
1	F	166	LEU
1	F	176	LEU
1	F	186	ASN
1	F	198	VAL
1	G	1	GLN
1	G	13	LYS
1	G	16	ASP
1	G	26	LEU
1	G	37	LEU
1	G	43	LEU
1	G	45	SER
1	G	83	LEU
1	G	118	ARG
1	G	176	LEU
1	G	183	ASN
1	G	185	LEU
1	G	195	GLN
1	G	198	VAL
1	H	1	GLN
1	H	22	LEU
1	H	28	LYS
1	H	38	HIS
1	H	56	THR
1	H	65	ILE
1	H	76	THR
1	H	83	LEU
1	H	90	THR
1	H	91	VAL
1	H	135	LEU
1	H	156	ILE
1	H	166	LEU
1	H	171	ILE
1	H	183	ASN
1	H	185	LEU

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Mol	Chain	Res	Type
1	I	1	GLN
1	I	13	LYS
1	I	15	SER
1	I	38	HIS
1	I	71	ILE
1	I	76	THR
1	I	83	LEU
1	I	89	VAL
1	I	135	LEU
1	I	171	ILE
1	I	198	VAL
1	J	1	GLN
1	J	6	ARG
1	J	26	LEU
1	J	28	LYS
1	J	30	LEU
1	J	35	VAL
1	J	38	HIS
1	J	43	LEU
1	J	71	ILE
1	J	83	LEU
1	J	89	VAL
1	J	90	THR
1	J	94	VAL
1	J	122	LYS
1	J	134	ILE
1	J	135	LEU
1	J	156	ILE
1	J	166	LEU
1	J	185	LEU
1	K	1	GLN
1	K	22	LEU
1	K	26	LEU
1	K	28	LYS
1	K	43	LEU
1	K	82	ILE
1	K	89	VAL
1	K	90	THR
1	K	135	LEU
1	K	166	LEU
1	K	176	LEU
1	K	185	LEU

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Mol	Chain	Res	Type
1	K	198	VAL
1	L	1	GLN
1	L	30	LEU
1	L	37	LEU
1	L	43	LEU
1	L	56	THR
1	L	83	LEU
1	L	94	VAL
1	L	116	ARG
1	L	147	GLU
1	L	173	THR
1	L	176	LEU
1	L	181	SER
1	L	183	ASN
1	L	194	VAL
1	L	197	GLU
1	L	198	VAL
1	M	1	GLN
1	M	13	LYS
1	M	27	THR
1	M	35	VAL
1	M	68	SER
1	M	83	LEU
1	M	91	VAL
1	M	118	ARG
1	M	171	ILE
1	M	174	ILE
1	M	176	LEU
1	M	183	ASN
1	M	185	LEU
1	M	197	GLU
1	N	1	GLN
1	N	10	VAL
1	N	13	LYS
1	N	22	LEU
1	N	43	LEU
1	N	82	ILE
1	N	135	LEU
1	N	166	LEU
1	N	181	SER
1	N	198	VAL
1	O	38	HIS

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Mol	Chain	Res	Type
1	O	43	LEU
1	O	65	ILE
1	O	76	THR
1	O	77	VAL
1	O	82	ILE
1	O	83	LEU
1	O	91	VAL
1	O	135	LEU
1	O	166	LEU
1	O	176	LEU
1	O	181	SER
1	O	185	LEU
1	O	198	VAL
1	P	15	SER
1	P	26	LEU
1	P	57	LYS
1	P	58	ARG
1	P	63	ILE
1	P	76	THR
1	P	89	VAL
1	P	107	VAL
1	P	130	GLU
1	P	135	LEU
1	P	159	VAL
1	P	176	LEU
1	P	185	LEU
1	P	197	GLU
1	P	200	THR
1	Q	1	GLN
1	Q	6	ARG
1	Q	27	THR
1	Q	30	LEU
1	Q	37	LEU
1	Q	38	HIS
1	Q	43	LEU
1	Q	56	THR
1	Q	58	ARG
1	Q	83	LEU
1	Q	88	GLU
1	Q	90	THR
1	Q	99	SER
1	Q	145	ASN

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Mol	Chain	Res	Type
1	Q	173	THR
1	Q	176	LEU
1	Q	185	LEU
1	Q	191	LYS
1	Q	198	VAL
1	R	1	GLN
1	R	26	LEU
1	R	38	HIS
1	R	46	THR
1	R	74	SER
1	R	90	THR
1	R	91	VAL
1	R	130	GLU
1	R	183	ASN
1	R	185	LEU
1	R	193	GLU
1	R	195	GLN
1	R	198	VAL
1	S	1	GLN
1	S	22	LEU
1	S	26	LEU
1	S	28	LYS
1	S	30	LEU
1	S	43	LEU
1	S	54	TYR
1	S	57	LYS
1	S	63	ILE
1	S	70	ASP
1	S	104	SER
1	S	135	LEU
1	S	166	LEU
1	S	173	THR
1	S	198	VAL
1	T	22	LEU
1	T	26	LEU
1	T	35	VAL
1	T	38	HIS
1	T	43	LEU
1	T	56	THR
1	T	63	ILE
1	T	77	VAL
1	T	82	ILE

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Mol	Chain	Res	Type
1	T	83	LEU
1	T	89	VAL
1	T	90	THR
1	T	126	THR
1	T	135	LEU
1	T	159	VAL
1	T	166	LEU
1	T	168	PRO
1	T	176	LEU
1	T	185	LEU
1	T	198	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (133) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1	GLN
1	A	95	HIS
1	A	137	GLN
1	A	139	GLN
1	A	160	ASN
1	A	186	ASN
1	B	95	HIS
1	B	137	GLN
1	B	139	GLN
1	B	160	ASN
1	B	183	ASN
1	C	137	GLN
1	C	139	GLN
1	C	150	GLN
1	C	158	ASN
1	C	183	ASN
1	C	186	ASN
1	C	203	GLN
1	D	95	HIS
1	D	139	GLN
1	D	160	ASN
1	D	172	ASN
1	E	38	HIS
1	E	59	GLN
1	E	95	HIS
1	E	137	GLN
1	E	139	GLN

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Mol	Chain	Res	Type
1	E	158	ASN
1	E	160	ASN
1	E	203	GLN
1	F	38	HIS
1	F	59	GLN
1	F	61	ASN
1	F	95	HIS
1	F	137	GLN
1	F	160	ASN
1	F	172	ASN
1	F	186	ASN
1	G	1	GLN
1	G	38	HIS
1	G	95	HIS
1	G	139	GLN
1	G	145	ASN
1	G	160	ASN
1	G	172	ASN
1	G	183	ASN
1	G	203	GLN
1	H	1	GLN
1	H	137	GLN
1	H	139	GLN
1	H	183	ASN
1	H	186	ASN
1	H	195	GLN
1	H	203	GLN
1	I	95	HIS
1	I	139	GLN
1	I	145	ASN
1	I	160	ASN
1	I	195	GLN
1	I	203	GLN
1	J	59	GLN
1	J	95	HIS
1	J	139	GLN
1	J	158	ASN
1	J	160	ASN
1	J	172	ASN
1	J	203	GLN
1	K	38	HIS
1	K	95	HIS

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Mol	Chain	Res	Type
1	K	137	GLN
1	K	139	GLN
1	K	150	GLN
1	K	160	ASN
1	K	172	ASN
1	K	186	ASN
1	K	195	GLN
1	L	1	GLN
1	L	95	HIS
1	L	137	GLN
1	L	139	GLN
1	L	160	ASN
1	L	172	ASN
1	L	183	ASN
1	L	203	GLN
1	M	1	GLN
1	M	139	GLN
1	M	172	ASN
1	M	183	ASN
1	M	186	ASN
1	N	95	HIS
1	N	137	GLN
1	N	139	GLN
1	N	160	ASN
1	O	59	GLN
1	O	95	HIS
1	O	139	GLN
1	O	158	ASN
1	O	160	ASN
1	O	203	GLN
1	P	1	GLN
1	P	38	HIS
1	P	95	HIS
1	P	139	GLN
1	P	160	ASN
1	P	186	ASN
1	Q	59	GLN
1	Q	95	HIS
1	Q	137	GLN
1	Q	139	GLN
1	Q	145	ASN
1	Q	158	ASN

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Mol	Chain	Res	Type
1	Q	160	ASN
1	Q	203	GLN
1	R	38	HIS
1	R	137	GLN
1	R	139	GLN
1	R	183	ASN
1	R	203	GLN
1	S	1	GLN
1	S	95	HIS
1	S	137	GLN
1	S	139	GLN
1	S	158	ASN
1	S	160	ASN
1	S	172	ASN
1	T	38	HIS
1	T	59	GLN
1	T	95	HIS
1	T	139	GLN
1	T	145	ASN
1	T	160	ASN
1	T	172	ASN
1	T	203	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 45 ligands modelled in this entry, 45 are 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 [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

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	206/206 (100%)	-0.36	2 (0%) 79 86	10, 18, 35, 49	0
1	B	206/206 (100%)	-0.48	0 100 100	9, 16, 29, 41	0
1	C	206/206 (100%)	-0.15	4 (1%) 66 75	12, 21, 40, 50	0
1	D	206/206 (100%)	-0.43	2 (0%) 79 86	9, 16, 32, 49	0
1	E	206/206 (100%)	-0.28	4 (1%) 66 75	12, 19, 38, 48	0
1	F	206/206 (100%)	-0.11	6 (2%) 53 63	11, 21, 43, 63	0
1	G	206/206 (100%)	-0.34	2 (0%) 79 86	11, 20, 33, 45	0
1	H	206/206 (100%)	-0.45	0 100 100	11, 18, 32, 41	0
1	I	206/206 (100%)	-0.24	5 (2%) 59 69	11, 21, 35, 45	0
1	J	206/206 (100%)	-0.17	2 (0%) 79 86	15, 23, 37, 52	0
1	K	206/206 (100%)	-0.22	3 (1%) 72 80	10, 19, 36, 50	0
1	L	206/206 (100%)	-0.17	1 (0%) 87 91	13, 22, 39, 47	0
1	M	206/206 (100%)	-0.33	2 (0%) 79 86	13, 20, 33, 51	0
1	N	206/206 (100%)	-0.11	3 (1%) 72 80	16, 25, 41, 51	0
1	O	206/206 (100%)	-0.41	1 (0%) 87 91	12, 19, 33, 45	0
1	P	206/206 (100%)	0.03	5 (2%) 59 69	14, 23, 42, 48	0
1	Q	206/206 (100%)	0.21	7 (3%) 48 58	19, 31, 52, 60	0
1	R	206/206 (100%)	0.18	4 (1%) 66 75	16, 31, 46, 55	0
1	S	206/206 (100%)	-0.23	4 (1%) 66 75	12, 19, 38, 54	0
1	T	206/206 (100%)	-0.46	0 100 100	8, 15, 29, 43	0
All	All	4120/4120 (100%)	-0.23	57 (1%) 73 81	8, 21, 41, 63	0

All (57) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	M	26	LEU	7.7
1	S	26	LEU	7.7
1	S	54	TYR	5.2
1	D	26	LEU	4.5
1	M	27	THR	4.2
1	O	26	LEU	3.7
1	Q	26	LEU	3.6
1	A	26	LEU	3.6
1	F	89	VAL	3.5
1	J	26	LEU	3.5
1	F	148	GLY	3.4
1	N	27	THR	3.4
1	I	27	THR	3.3
1	Q	27	THR	3.2
1	F	144	GLY	3.1
1	P	26	LEU	3.0
1	P	89	VAL	3.0
1	K	90	THR	3.0
1	K	91	VAL	3.0
1	K	26	LEU	2.9
1	I	177	GLY	2.9
1	F	90	THR	2.8
1	N	26	LEU	2.8
1	L	177	GLY	2.7
1	S	177	GLY	2.7
1	C	27	THR	2.7
1	Q	142	PHE	2.6
1	C	26	LEU	2.6
1	C	177	GLY	2.6
1	Q	143	GLY	2.6
1	J	90	THR	2.5
1	A	91	VAL	2.5
1	C	173	THR	2.5
1	S	27	THR	2.4
1	R	27	THR	2.4
1	E	27	THR	2.4
1	Q	44	SER	2.3
1	D	1	GLN	2.3
1	R	26	LEU	2.3
1	E	26	LEU	2.3
1	P	176	LEU	2.3
1	R	178	GLY	2.3
1	F	1	GLN	2.3

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Mol	Chain	Res	Type	RSRZ
1	F	143	GLY	2.2
1	Q	25	PRO	2.2
1	E	1	GLN	2.2
1	P	173	THR	2.2
1	N	16	ASP	2.2
1	Q	30	LEU	2.2
1	P	90	THR	2.1
1	E	178	GLY	2.1
1	G	45	SER	2.1
1	G	90	THR	2.1
1	R	90	THR	2.1
1	I	26	LEU	2.0
1	I	58	ARG	2.0
1	I	89	VAL	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	Q	5033	1/1	0.66	0.15	89,89,89,89	0
2	CA	K	5022	1/1	0.80	0.12	72,72,72,72	0
2	CA	F	5012	1/1	0.86	0.14	56,56,56,56	0
2	CA	J	5019	1/1	0.86	0.12	76,76,76,76	0
2	CA	R	5035	1/1	0.86	0.14	52,52,52,52	0
2	CA	R	5036	1/1	0.87	0.08	50,50,50,50	0
2	CA	N	5027	1/1	0.88	0.08	40,40,40,40	0
2	CA	G	5014	1/1	0.88	0.08	36,36,36,36	0
2	CA	I	5018	1/1	0.91	0.08	68,68,68,68	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	CA	N	5028	1/1	0.92	0.10	51,51,51,51	0
2	CA	L	5024	1/1	0.93	0.08	49,49,49,49	0
2	CA	F	5011	1/1	0.93	0.07	55,55,55,55	0
2	CA	S	5038	1/1	0.93	0.14	40,40,40,40	0
2	CA	G	5013	1/1	0.94	0.06	29,29,29,29	0
2	CA	A	5002	1/1	0.94	0.05	43,43,43,43	0
2	CA	L	5023	1/1	0.95	0.07	39,39,39,39	0
2	CA	A	5001	1/1	0.95	0.04	32,32,32,32	0
2	CA	B	5004	1/1	0.96	0.04	29,29,29,29	0
2	CA	C	5005	1/1	0.96	0.05	66,66,66,66	0
2	CA	D	5008	1/1	0.96	0.09	56,56,56,56	0
2	CA	I	5017	1/1	0.97	0.07	31,31,31,31	0
2	CA	S	5037	1/1	0.97	0.11	38,38,38,38	0
2	CA	H	5016	1/1	0.97	0.04	33,33,33,33	0
2	CA	P	5031	1/1	0.98	0.03	19,19,19,19	0
2	CA	P	5032	1/1	0.98	0.04	33,33,33,33	0
2	CA	K	5021	1/1	0.98	0.09	39,39,39,39	0
2	CA	Q	5034	1/1	0.98	0.05	54,54,54,54	0
2	CA	C	5006	1/1	0.98	0.06	32,32,32,32	0
2	CA	H	5015	1/1	0.98	0.07	28,28,28,28	0
2	CA	O	5029	1/1	0.98	0.03	25,25,25,25	0
2	CA	O	5030	1/1	0.98	0.03	29,29,29,29	0
3	ZN	G	6002	1/1	0.98	0.06	57,57,57,57	0
2	CA	J	5020	1/1	0.99	0.02	25,25,25,25	0
2	CA	M	5026	1/1	0.99	0.02	21,21,21,21	0
2	CA	B	5003	1/1	0.99	0.05	22,22,22,22	0
2	CA	E	5009	1/1	0.99	0.04	25,25,25,25	0
2	CA	T	5040	1/1	0.99	0.02	13,13,13,13	0
2	CA	E	5010	1/1	0.99	0.03	28,28,28,28	0
3	ZN	L	6003	1/1	0.99	0.05	43,43,43,43	0
3	ZN	S	6004	1/1	0.99	0.09	44,44,44,44	0
3	ZN	A	6001	1/1	1.00	0.07	39,39,39,39	0
2	CA	D	5007	1/1	1.00	0.02	15,15,15,15	0
2	CA	T	5039	1/1	1.00	0.01	10,10,10,10	0
2	CA	M	5025	1/1	1.00	0.03	21,21,21,21	0
3	ZN	T	6005	1/1	1.00	0.06	26,26,26,26	0

6.5 Other polymers

There are no such residues in this entry.