



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 28, 2023 – 10:51 PM EDT

PDB ID : 3PVN
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 : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.35
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.35

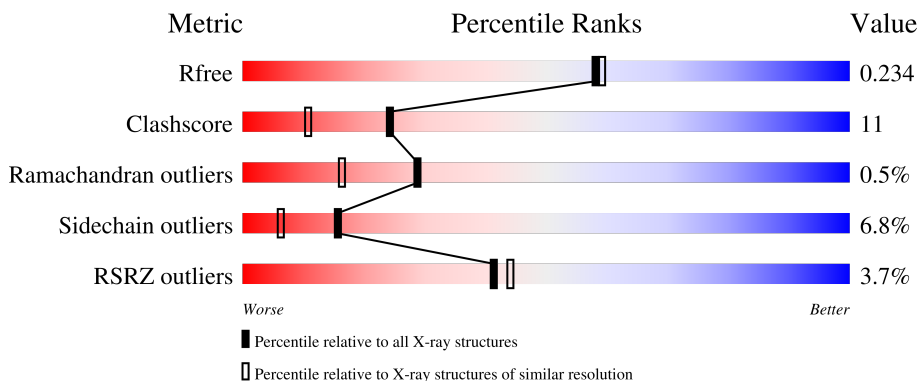
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION


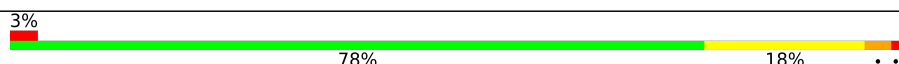
The reported resolution of this entry is 1.98 Å.

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}	130704	11647 (2.00-1.96)
Clashscore	141614	1014 (1.98-1.98)
Ramachandran outliers	138981	1006 (1.98-1.98)
Sidechain outliers	138945	1006 (1.98-1.98)
RSRZ outliers	127900	11410 (2.00-1.96)

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	 3% 79% 18% .
1	B	206	 87% 11% .
1	C	206	 4% 74% 20% 6%
1	D	206	 77% 17% 5%
1	E	206	 3% 78% 18% . .

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Mol	Chain	Length	Quality of chain
1	F	206	
1	G	206	
1	H	206	
1	I	206	
1	J	206	
1	K	206	
1	L	206	
1	M	206	
1	N	206	
1	O	206	
1	P	206	
1	Q	206	
1	R	206	
1	S	206	
1	T	206	

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
			Total	C	N	O	S			
1	A	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	B	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	C	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	D	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	E	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	F	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	G	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	H	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	I	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	J	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	K	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	L	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	M	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	N	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	O	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0
1	P	206	Total 1632	C 1058	N 261	O 309	S 4	0	0	0

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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 (three-letter code: 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 (three-letter code: 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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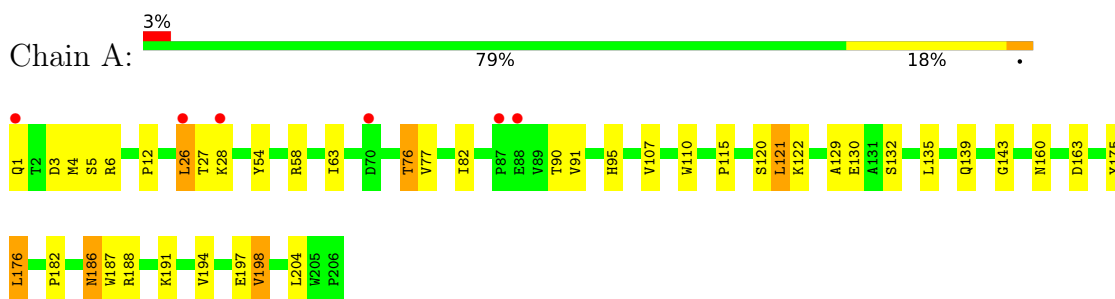
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	H	177	Total 177	O 177	0	0
4	I	139	Total 139	O 139	0	0
4	J	134	Total 134	O 134	0	0
4	K	153	Total 153	O 153	0	0
4	L	133	Total 133	O 133	0	0
4	M	165	Total 165	O 165	0	0
4	N	124	Total 124	O 124	0	0
4	O	178	Total 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

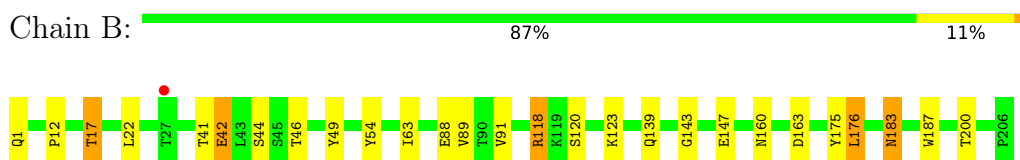
3 Residue-property plots [i](#)

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.

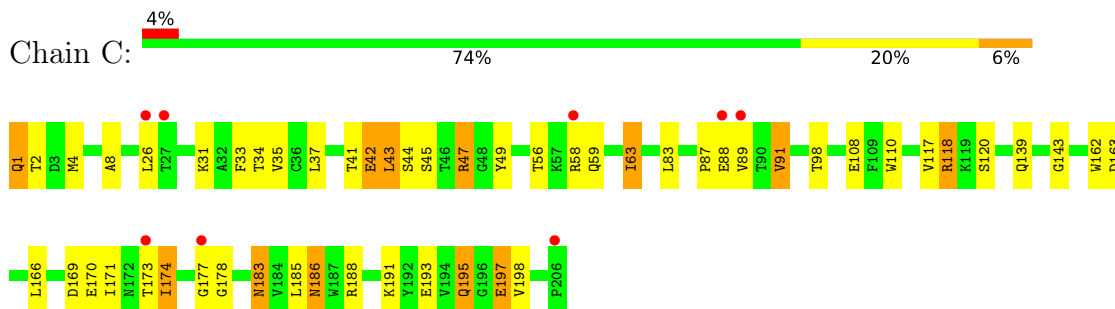
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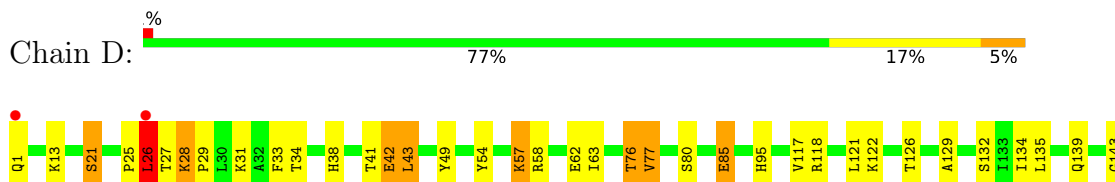
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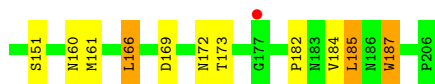


- Molecule 1: C-reactive protein

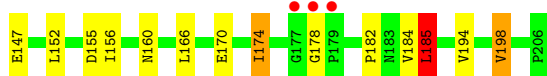
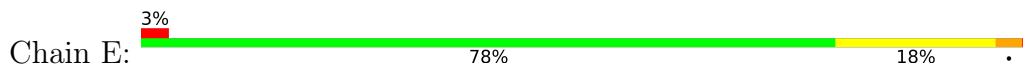


- Molecule 1: C-reactive protein

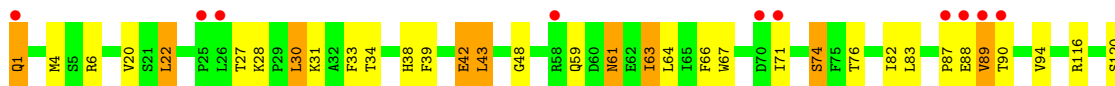
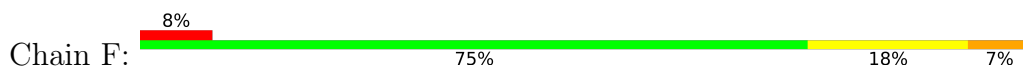




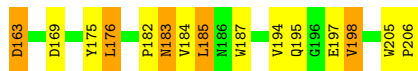
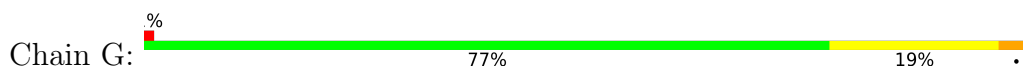
- Molecule 1: C-reactive protein



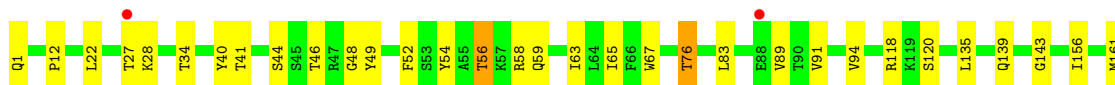
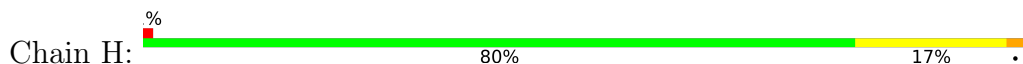
- Molecule 1: C-reactive protein



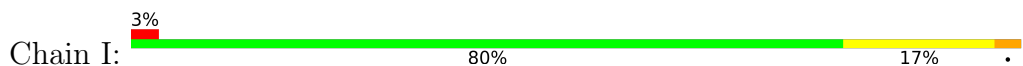
- Molecule 1: C-reactive protein

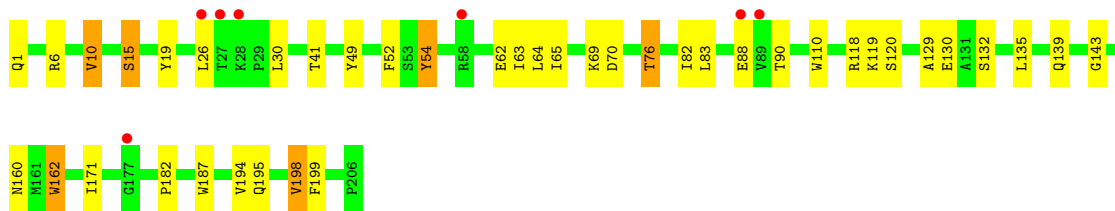


- Molecule 1: C-reactive protein

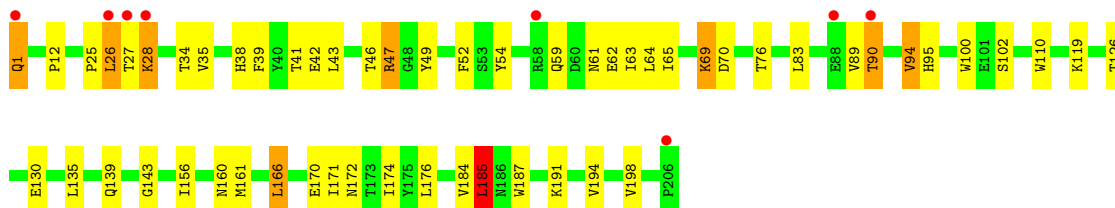
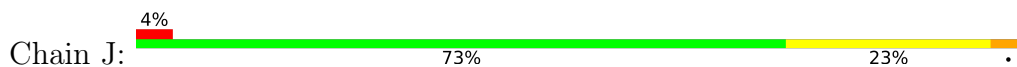


- Molecule 1: C-reactive protein

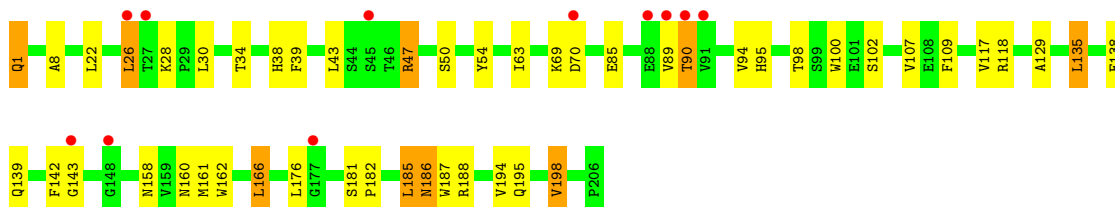
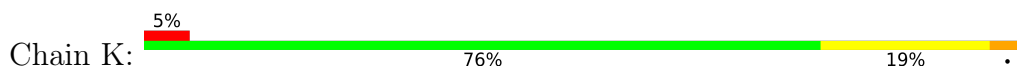




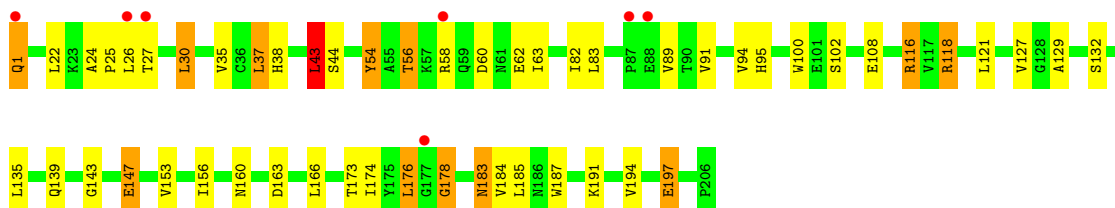
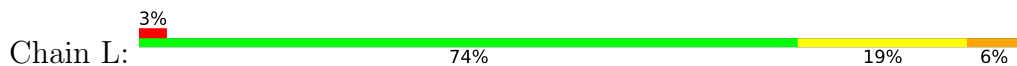
- Molecule 1: C-reactive protein



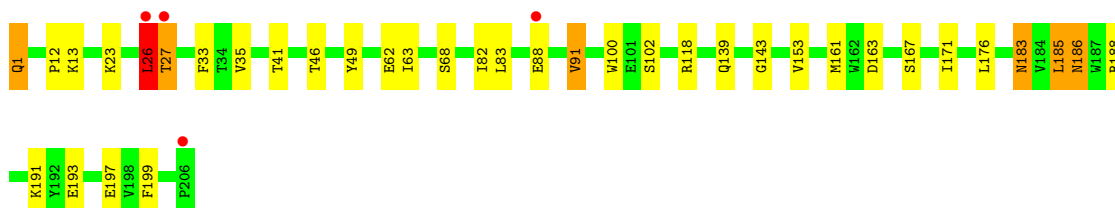
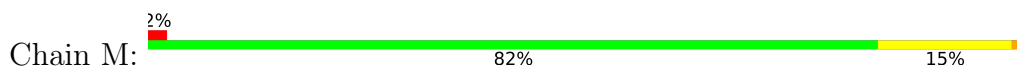
- Molecule 1: C-reactive protein



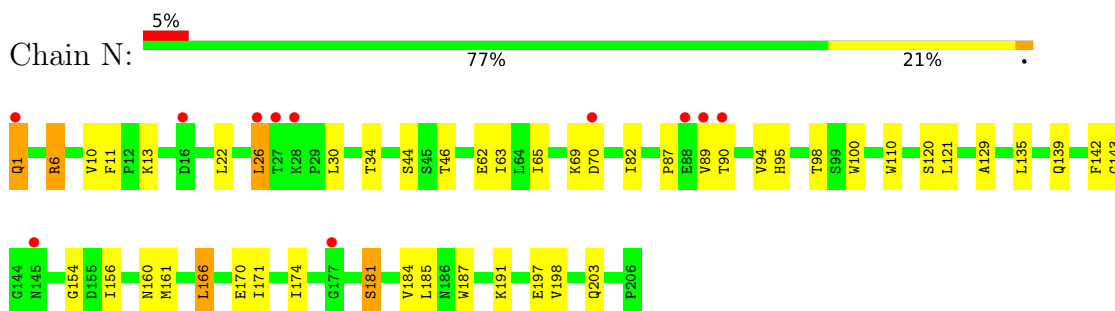
- Molecule 1: C-reactive protein



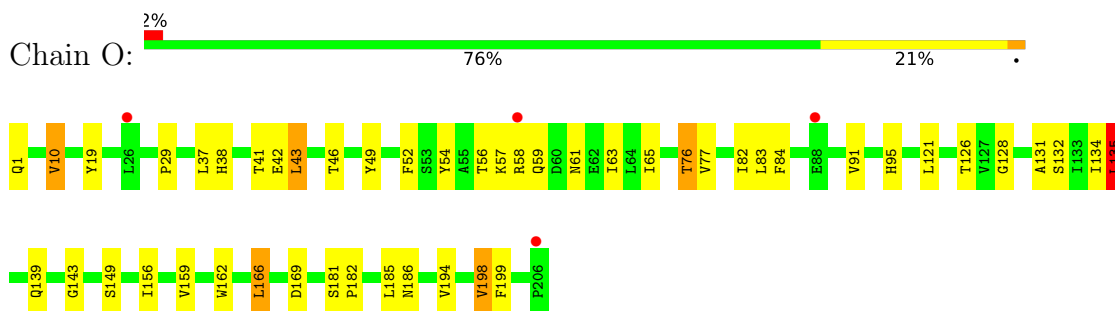
- Molecule 1: C-reactive protein



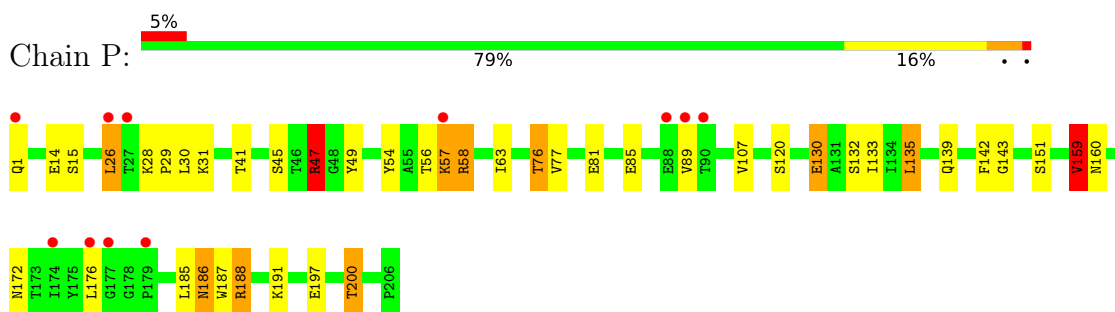
- Molecule 1: C-reactive protein



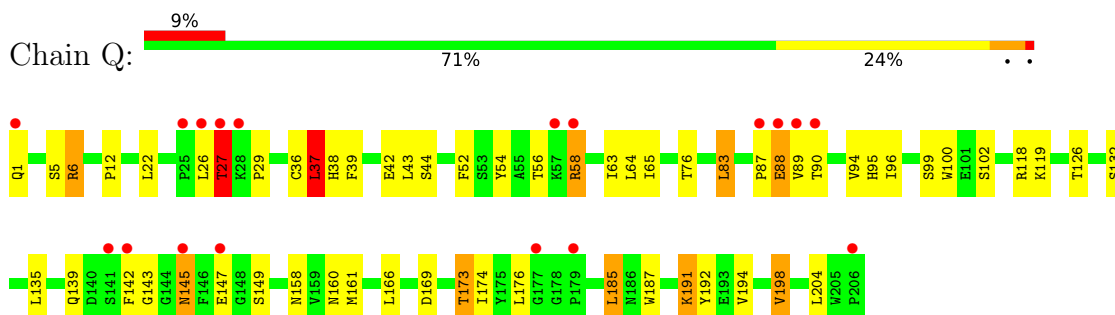
- Molecule 1: C-reactive protein



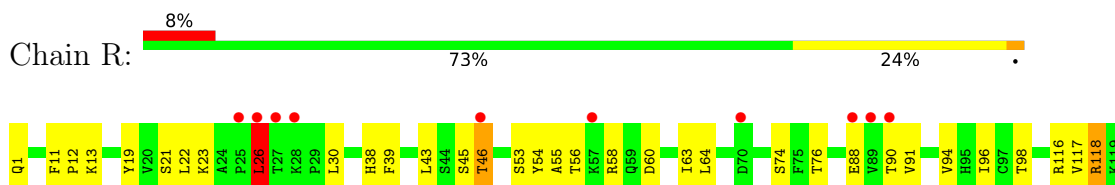
- Molecule 1: C-reactive protein

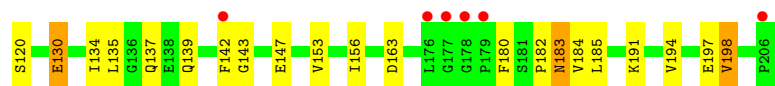


- Molecule 1: C-reactive protein

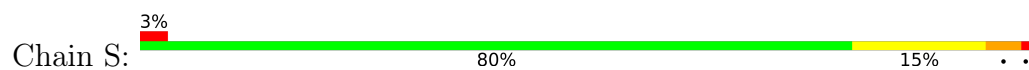


- Molecule 1: C-reactive protein

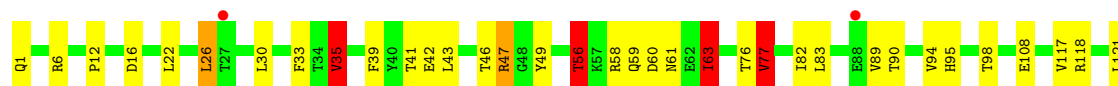
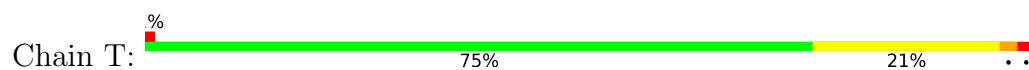




- Molecule 1: C-reactive protein



- 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) 92.0 (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)	Xtrriage
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	Xtrriage
Anisotropy	0.131	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 52.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
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

Xtrriage'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 [i](#)

5.1 Standard geometry [i](#)

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	1.17	1/1678 (0.1%)	0.92	2/2279 (0.1%)
1	B	1.20	1/1678 (0.1%)	1.05	2/2279 (0.1%)
1	C	1.15	5/1678 (0.3%)	1.10	7/2279 (0.3%)
1	D	1.21	4/1678 (0.2%)	1.02	3/2279 (0.1%)
1	E	1.18	3/1678 (0.2%)	1.12	7/2279 (0.3%)
1	F	1.11	2/1678 (0.1%)	0.95	5/2279 (0.2%)
1	G	1.14	2/1678 (0.1%)	1.02	6/2279 (0.3%)
1	H	1.14	3/1678 (0.2%)	0.93	3/2279 (0.1%)
1	I	1.10	3/1678 (0.2%)	1.02	3/2279 (0.1%)
1	J	1.10	5/1678 (0.3%)	1.02	4/2279 (0.2%)
1	K	1.12	2/1678 (0.1%)	1.00	5/2279 (0.2%)
1	L	1.09	2/1678 (0.1%)	0.99	5/2279 (0.2%)
1	M	1.13	2/1678 (0.1%)	1.07	4/2279 (0.2%)
1	N	1.00	1/1678 (0.1%)	0.88	2/2279 (0.1%)
1	O	1.13	1/1678 (0.1%)	0.95	4/2279 (0.2%)
1	P	1.18	2/1678 (0.1%)	1.01	6/2279 (0.3%)
1	Q	0.96	1/1678 (0.1%)	0.88	3/2279 (0.1%)
1	R	0.93	0/1678	0.87	3/2279 (0.1%)
1	S	1.15	5/1678 (0.3%)	1.00	7/2279 (0.3%)
1	T	1.33	8/1678 (0.5%)	1.17	12/2279 (0.5%)
All	All	1.13	53/33560 (0.2%)	1.00	93/45580 (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 (53) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	S	42	GLU	CD-OE2	8.40	1.34	1.25
1	T	35	VAL	CB-CG1	-7.68	1.36	1.52
1	S	195	GLN	CB-CG	7.43	1.72	1.52
1	J	69	LYS	CE-NZ	6.90	1.66	1.49
1	P	85	GLU	CG-CD	6.77	1.62	1.51
1	T	42	GLU	CD-OE2	6.63	1.32	1.25
1	T	77	VAL	CB-CG1	-6.61	1.39	1.52
1	F	42	GLU	CB-CG	6.04	1.63	1.52
1	L	35	VAL	CB-CG1	6.01	1.65	1.52
1	D	42	GLU	CD-OE2	5.98	1.32	1.25
1	M	153	VAL	CB-CG2	5.97	1.65	1.52
1	J	42	GLU	CB-CG	5.97	1.63	1.52
1	K	85	GLU	CG-CD	5.94	1.60	1.51
1	J	42	GLU	CD-OE2	5.91	1.32	1.25
1	D	77	VAL	CB-CG2	5.88	1.65	1.52
1	J	69	LYS	CD-CE	5.82	1.65	1.51
1	C	44	SER	CB-OG	5.78	1.49	1.42
1	T	16	ASP	CB-CG	-5.75	1.39	1.51
1	F	42	GLU	CD-OE2	5.74	1.31	1.25
1	N	100	TRP	CB-CG	5.67	1.60	1.50
1	I	162	TRP	CE3-CZ3	5.66	1.48	1.38
1	D	21	SER	CB-OG	-5.65	1.34	1.42
1	K	85	GLU	CD-OE1	5.58	1.31	1.25
1	G	62	GLU	CG-CD	5.58	1.60	1.51
1	T	199	PHE	CE1-CZ	5.57	1.48	1.37
1	I	10	VAL	CB-CG1	-5.55	1.41	1.52
1	C	197	GLU	CB-CG	5.49	1.62	1.52
1	T	47	ARG	CZ-NH2	-5.49	1.25	1.33
1	J	94	VAL	CB-CG1	-5.47	1.41	1.52
1	C	197	GLU	CG-CD	5.46	1.60	1.51
1	T	42	GLU	CG-CD	5.45	1.60	1.51
1	E	184	VAL	CB-CG2	5.44	1.64	1.52
1	O	10	VAL	CB-CG1	-5.44	1.41	1.52
1	B	42	GLU	CB-CG	5.44	1.62	1.52
1	C	42	GLU	CD-OE2	5.41	1.31	1.25
1	H	40	TYR	CE2-CZ	5.40	1.45	1.38
1	T	42	GLU	CB-CG	5.40	1.62	1.52
1	C	35	VAL	CB-CG1	5.35	1.64	1.52
1	S	42	GLU	CB-CG	5.35	1.62	1.52
1	I	15	SER	CB-OG	5.34	1.49	1.42
1	S	195	GLN	CG-CD	5.33	1.63	1.51
1	E	130	GLU	CD-OE2	5.29	1.31	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	G	42	GLU	CD-OE2	5.28	1.31	1.25
1	E	54	TYR	CD1-CE1	-5.28	1.31	1.39
1	S	178	GLY	N-CA	5.28	1.53	1.46
1	A	130	GLU	CG-CD	5.26	1.59	1.51
1	L	54	TYR	CD2-CE2	5.24	1.47	1.39
1	H	91	VAL	CB-CG2	5.23	1.63	1.52
1	P	77	VAL	CB-CG1	-5.17	1.42	1.52
1	Q	36	CYS	CB-SG	-5.09	1.73	1.81
1	D	187	TRP	CE3-CZ3	5.08	1.47	1.38
1	H	164	PHE	CE2-CZ	5.06	1.47	1.37
1	M	199	PHE	CE1-CZ	5.05	1.47	1.37

All (93) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	47	ARG	NE-CZ-NH2	-21.64	109.48	120.30
1	M	118	ARG	NE-CZ-NH1	19.47	130.03	120.30
1	E	47	ARG	NE-CZ-NH1	18.89	129.75	120.30
1	T	47	ARG	NE-CZ-NH2	-18.30	111.15	120.30
1	M	118	ARG	NE-CZ-NH2	-17.28	111.66	120.30
1	J	47	ARG	NE-CZ-NH2	-16.52	112.04	120.30
1	C	47	ARG	NE-CZ-NH2	-15.93	112.33	120.30
1	B	118	ARG	NE-CZ-NH1	15.78	128.19	120.30
1	B	118	ARG	NE-CZ-NH2	-15.53	112.54	120.30
1	T	47	ARG	NE-CZ-NH1	15.46	128.03	120.30
1	G	118	ARG	NE-CZ-NH1	14.21	127.40	120.30
1	I	118	ARG	NE-CZ-NH1	14.12	127.36	120.30
1	I	118	ARG	NE-CZ-NH2	-13.71	113.44	120.30
1	P	47	ARG	NE-CZ-NH2	-13.44	113.58	120.30
1	C	47	ARG	NE-CZ-NH1	12.84	126.72	120.30
1	C	118	ARG	NE-CZ-NH1	12.73	126.67	120.30
1	G	118	ARG	NE-CZ-NH2	-12.61	113.99	120.30
1	P	47	ARG	NE-CZ-NH1	11.24	125.92	120.30
1	L	118	ARG	NE-CZ-NH1	10.93	125.76	120.30
1	L	118	ARG	NE-CZ-NH2	-9.86	115.37	120.30
1	C	118	ARG	NE-CZ-NH2	-9.71	115.44	120.30
1	K	47	ARG	NE-CZ-NH1	9.58	125.09	120.30
1	T	16	ASP	CB-CG-OD2	-9.56	109.70	118.30
1	J	47	ARG	NE-CZ-NH1	9.52	125.06	120.30
1	Q	118	ARG	NE-CZ-NH1	9.21	124.90	120.30
1	K	47	ARG	NE-CZ-NH2	-9.13	115.74	120.30
1	D	26	LEU	CA-CB-CG	8.68	135.26	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	L	178	GLY	N-CA-C	7.84	132.69	113.10
1	H	118	ARG	NE-CZ-NH1	7.63	124.12	120.30
1	S	178	GLY	N-CA-C	7.61	132.13	113.10
1	J	47	ARG	CG-CD-NE	-7.32	96.42	111.80
1	Q	37	LEU	CA-CB-CG	7.31	132.11	115.30
1	K	118	ARG	NE-CZ-NH2	-7.29	116.65	120.30
1	F	43	LEU	CA-CB-CG	7.22	131.90	115.30
1	R	118	ARG	NE-CZ-NH1	7.19	123.89	120.30
1	E	185	LEU	CB-CG-CD1	7.16	123.17	111.00
1	E	47	ARG	CD-NE-CZ	7.00	133.40	123.60
1	S	26	LEU	CA-CB-CG	6.91	131.20	115.30
1	T	60	ASP	CB-CG-OD2	6.88	124.50	118.30
1	S	174	ILE	CG1-CB-CG2	-6.67	96.74	111.40
1	D	43	LEU	CB-CG-CD1	6.49	122.03	111.00
1	E	185	LEU	CA-CB-CG	6.39	129.99	115.30
1	O	135	LEU	CB-CG-CD1	6.38	121.86	111.00
1	R	118	ARG	NE-CZ-NH2	-6.35	117.12	120.30
1	C	43	LEU	CB-CG-CD1	6.22	121.58	111.00
1	T	159	VAL	CG1-CB-CG2	6.21	120.84	110.90
1	G	163	ASP	CB-CG-OD1	6.08	123.78	118.30
1	S	54	TYR	CB-CG-CD1	-6.02	117.39	121.00
1	F	147	GLU	CA-CB-CG	6.00	126.60	113.40
1	T	185	LEU	CB-CG-CD1	5.95	121.12	111.00
1	S	43	LEU	CB-CG-CD1	5.92	121.06	111.00
1	K	135	LEU	CB-CG-CD1	5.91	121.05	111.00
1	G	37	LEU	CA-CB-CG	5.90	128.88	115.30
1	H	118	ARG	NE-CZ-NH2	-5.82	117.39	120.30
1	M	118	ARG	CD-NE-CZ	5.79	131.70	123.60
1	N	121	LEU	CA-CB-CG	5.78	128.60	115.30
1	F	30	LEU	CA-CB-CG	5.77	128.56	115.30
1	P	159	VAL	CG1-CB-CG2	5.75	120.09	110.90
1	E	47	ARG	CG-CD-NE	-5.71	99.81	111.80
1	T	169	ASP	CB-CG-OD2	5.69	123.42	118.30
1	H	169	ASP	CB-CG-OD1	-5.68	113.19	118.30
1	I	118	ARG	CD-NE-CZ	5.63	131.49	123.60
1	L	37	LEU	CA-CB-CG	5.63	128.24	115.30
1	T	47	ARG	CG-CD-NE	-5.62	100.01	111.80
1	S	22	LEU	CB-CG-CD1	5.61	120.54	111.00
1	R	116	ARG	NE-CZ-NH1	5.61	123.10	120.30
1	L	43	LEU	CA-CB-CG	5.60	128.17	115.30
1	O	166	LEU	CB-CG-CD1	5.59	120.50	111.00
1	P	47	ARG	CD-NE-CZ	5.55	131.37	123.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	T	56	THR	N-CA-CB	-5.48	99.89	110.30
1	N	26	LEU	CA-CB-CG	5.46	127.85	115.30
1	C	47	ARG	CD-NE-CZ	5.45	131.23	123.60
1	G	37	LEU	CB-CG-CD1	5.44	120.25	111.00
1	Q	118	ARG	NE-CZ-NH2	-5.39	117.60	120.30
1	T	176	LEU	CB-CG-CD1	5.33	120.06	111.00
1	M	26	LEU	CA-CB-CG	5.30	127.50	115.30
1	G	118	ARG	CD-NE-CZ	5.28	131.00	123.60
1	O	43	LEU	CB-CG-CD1	5.27	119.96	111.00
1	D	43	LEU	CA-CB-CG	5.23	127.32	115.30
1	T	63	ILE	CA-CB-CG2	5.23	121.35	110.90
1	K	118	ARG	NE-CZ-NH1	5.18	122.89	120.30
1	J	185	LEU	CA-CB-CG	5.17	127.19	115.30
1	O	169	ASP	CB-CG-OD2	5.13	122.92	118.30
1	P	135	LEU	CB-CG-CD1	5.11	119.68	111.00
1	P	188	ARG	NE-CZ-NH2	-5.10	117.75	120.30
1	T	135	LEU	CB-CG-CD1	5.08	119.63	111.00
1	C	43	LEU	CA-CB-CG	5.07	126.95	115.30
1	A	163	ASP	CB-CG-OD1	5.05	122.84	118.30
1	E	116	ARG	NE-CZ-NH2	-5.04	117.78	120.30
1	F	4	MET	CG-SD-CE	5.04	108.26	100.20
1	S	43	LEU	CA-CB-CG	5.04	126.89	115.30
1	A	6	ARG	NE-CZ-NH1	-5.03	117.79	120.30
1	F	6	ARG	NE-CZ-NH1	5.02	122.81	120.30

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 [i](#)

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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	1632	0	1593	22	0
1	C	1632	0	1593	49	0
1	D	1632	0	1593	50	0
1	E	1632	0	1593	33	0
1	F	1632	0	1593	54	0
1	G	1632	0	1593	41	0
1	H	1632	0	1593	33	0
1	I	1632	0	1593	27	0
1	J	1632	0	1593	38	0
1	K	1632	0	1593	31	0
1	L	1632	0	1593	48	0
1	M	1632	0	1593	31	0
1	N	1632	0	1593	29	0
1	O	1632	0	1593	37	0
1	P	1632	0	1593	33	0
1	Q	1632	0	1593	41	0
1	R	1632	0	1593	47	0
1	S	1632	0	1593	29	0
1	T	1632	0	1593	33	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
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

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
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	13	2
4	D	192	0	0	16	2
4	E	146	0	0	10	0
4	F	141	0	0	16	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	710	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 (710) 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:N	1:G:1:GLN:NE2	1.70	1.38
1:G:1:GLN:NE2	1:G:1:GLN:H1	1.18	1.37
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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	1.60	0.91
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:M:1:GLN:H3	1:M:1:GLN:NE2	1.72	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:M:1:GLN:H3	1:M:1:GLN:HE21	1.21	0.84
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: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: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:1:GLN:CD	1:C:1:GLN:N	2.30	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:D:85:GLU:CD	1:D:85:GLU:H	1.90	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: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
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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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: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: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:C:1:GLN:CD	1:C:1:GLN:H3	1.97	0.66
1:C:4:MET:HE3	4:C:2994:HOH:O	1.95	0.66
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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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: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:Q:1:GLN:CD	1:Q:1:GLN:N	2.52	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: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: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:F:1:GLN:N	1:F:1:GLN:CD	2.51	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:Q:1:GLN:CD	1:Q:1:GLN:H3	2.04	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1:GLN:CD	1:C:1:GLN:H1	2.04	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
1:D:31:LYS:HZ3	1:D:126:THR:HG21	1.67	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: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: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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
1:L:24:ALA:C	1:L:26:LEU:H	2.09	0.55
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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: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:G:85:GLU:HG3	4:G:214:HOH:O	2.07	0.53
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: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:D:31:LYS:HZ3	1:D:126:THR:CG2	2.23	0.52
1:F:59:GLN:OE1	1:F:61:ASN:ND2	2.42	0.52
1:M:1:GLN:HE21	1:M:1:GLN:N	1.96	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:13:LYS:HZ1	1:G:197:GLU:HG2	1.75	0.51
1:Q:83:LEU:O	1:Q:119:LYS:NZ	2.44	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: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: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
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: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: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:F:1:GLN:CD	1:F:1:GLN:H3	2.15	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:K:186:ASN:HD22	1:K:186:ASN:C	2.16	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
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:G:54:TYR:HB3	1:G:63:ILE:HB	1.95	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:M:82:ILE:C	1:M:83:LEU:HD12	2.34	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: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: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:S:1:GLN:H2	1:S:191:LYS:HG2	1.80	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:C:177:GLY:C	1:C:178:GLY:O	2.52	0.46
1:C:186:ASN:C	1:C:186:ASN:HD22	2.18	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: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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:B:17:THR:HG23	4:B:2266:HOH:O	2.16	0.45
1:L:24:ALA:C	1:L:26:LEU:N	2.69	0.45
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: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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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: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:S:1:GLN:N	1:S:191:LYS:HG2	2.34	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:76:THR:HG22	4:J:455:HOH:O	2.18	0.43
1:O:37:LEU:C	1:O:37:LEU:HD12	2.39	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: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
1:M:1:GLN:N	1:M:1:GLN:CD	2.73	0.42
1:P:76:THR:HG22	1:P:81:GLU:HB2	2.01	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:C:37:LEU:C	1:C:37:LEU:HD12	2.40	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:F:143:GLY:C	1:F:144:GLY:O	2.57	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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:P:54:TYR:CD2	1:P:133:ILE:HG12	2.56	0.41
1:A:186:ASN:HD22	1:A:186:ASN:C	2.24	0.40
1:B:22:LEU:N	1:B:22:LEU:CD1	2.83	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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 [i](#)

5.3.1 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 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%)	29	16
1	F	204/206 (99%)	191 (94%)	9 (4%)	4 (2%)	7	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%)	29	16
1	K	204/206 (99%)	198 (97%)	4 (2%)	2 (1%)	15	6

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	L	204/206 (99%)	195 (96%)	7 (3%)	2 (1%)	15	6
1	M	204/206 (99%)	195 (96%)	8 (4%)	1 (0%)	29	16
1	N	204/206 (99%)	195 (96%)	8 (4%)	1 (0%)	29	16
1	O	204/206 (99%)	197 (97%)	7 (3%)	0	100	100
1	P	204/206 (99%)	197 (97%)	6 (3%)	1 (0%)	29	16
1	Q	204/206 (99%)	188 (92%)	14 (7%)	2 (1%)	15	6
1	R	204/206 (99%)	196 (96%)	6 (3%)	2 (1%)	15	6
1	S	204/206 (99%)	198 (97%)	4 (2%)	2 (1%)	15	6
1	T	204/206 (99%)	198 (97%)	6 (3%)	0	100	100
All	All	4080/4120 (99%)	3920 (96%)	141 (4%)	19 (0%)	29	16

All (19) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	F	87	PRO
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 [i](#)

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%)	21	9
1	B	180/180 (100%)	176 (98%)	4 (2%)	52	46
1	C	180/180 (100%)	166 (92%)	14 (8%)	12	4
1	D	180/180 (100%)	167 (93%)	13 (7%)	14	5
1	E	180/180 (100%)	169 (94%)	11 (6%)	18	8
1	F	180/180 (100%)	167 (93%)	13 (7%)	14	5
1	G	180/180 (100%)	168 (93%)	12 (7%)	16	6
1	H	180/180 (100%)	168 (93%)	12 (7%)	16	6
1	I	180/180 (100%)	174 (97%)	6 (3%)	38	26
1	J	180/180 (100%)	167 (93%)	13 (7%)	14	5
1	K	180/180 (100%)	167 (93%)	13 (7%)	14	5
1	L	180/180 (100%)	166 (92%)	14 (8%)	12	4
1	M	180/180 (100%)	169 (94%)	11 (6%)	18	8
1	N	180/180 (100%)	170 (94%)	10 (6%)	21	9
1	O	180/180 (100%)	169 (94%)	11 (6%)	18	8
1	P	180/180 (100%)	162 (90%)	18 (10%)	7	1
1	Q	180/180 (100%)	164 (91%)	16 (9%)	9	2
1	R	180/180 (100%)	171 (95%)	9 (5%)	24	12
1	S	180/180 (100%)	164 (91%)	16 (9%)	9	2
1	T	180/180 (100%)	161 (89%)	19 (11%)	6	1
All	All	3600/3600 (100%)	3355 (93%)	245 (7%)	16	6

All (245) 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	121	LEU
1	A	135	LEU
1	A	176	LEU
1	A	186	ASN

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Mol	Chain	Res	Type
1	A	191	LYS
1	A	198	VAL
1	B	17	THR
1	B	88	GLU
1	B	176	LEU
1	B	183	ASN
1	C	1	GLN
1	C	26	LEU
1	C	43	LEU
1	C	47	ARG
1	C	63	ILE
1	C	88	GLU
1	C	91	VAL
1	C	174	ILE
1	C	183	ASN
1	C	185	LEU
1	C	186	ASN
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	85	GLU
1	D	134	ILE
1	D	135	LEU
1	D	151	SER
1	D	166	LEU
1	D	185	LEU
1	E	22	LEU
1	E	26	LEU
1	E	38	HIS
1	E	43	LEU
1	E	47	ARG
1	E	82	ILE
1	E	88	GLU
1	E	130	GLU
1	E	174	ILE

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Mol	Chain	Res	Type
1	E	185	LEU
1	E	198	VAL
1	F	1	GLN
1	F	22	LEU
1	F	30	LEU
1	F	31	LYS
1	F	43	LEU
1	F	61	ASN
1	F	63	ILE
1	F	74	SER
1	F	82	ILE
1	F	89	VAL
1	F	135	LEU
1	F	147	GLU
1	F	186	ASN
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	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	56	THR
1	H	76	THR
1	H	83	LEU
1	H	135	LEU
1	H	156	ILE
1	H	166	LEU
1	H	183	ASN
1	H	185	LEU
1	H	186	ASN
1	I	15	SER
1	I	54	TYR
1	I	76	THR

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Mol	Chain	Res	Type
1	I	83	LEU
1	I	135	LEU
1	I	198	VAL
1	J	1	GLN
1	J	26	LEU
1	J	28	LYS
1	J	35	VAL
1	J	38	HIS
1	J	43	LEU
1	J	47	ARG
1	J	83	LEU
1	J	89	VAL
1	J	90	THR
1	J	135	LEU
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	47	ARG
1	K	90	THR
1	K	135	LEU
1	K	166	LEU
1	K	176	LEU
1	K	185	LEU
1	K	186	ASN
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	183	ASN
1	L	194	VAL

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Mol	Chain	Res	Type
1	L	197	GLU
1	M	1	GLN
1	M	13	LYS
1	M	27	THR
1	M	35	VAL
1	M	68	SER
1	M	91	VAL
1	M	176	LEU
1	M	183	ASN
1	M	185	LEU
1	M	186	ASN
1	M	197	GLU
1	N	1	GLN
1	N	6	ARG
1	N	10	VAL
1	N	13	LYS
1	N	22	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
1	O	43	LEU
1	O	76	THR
1	O	82	ILE
1	O	83	LEU
1	O	91	VAL
1	O	135	LEU
1	O	166	LEU
1	O	181	SER
1	O	185	LEU
1	O	198	VAL
1	P	14	GLU
1	P	15	SER
1	P	26	LEU
1	P	31	LYS
1	P	47	ARG
1	P	57	LYS
1	P	58	ARG
1	P	63	ILE
1	P	76	THR

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Mol	Chain	Res	Type
1	P	89	VAL
1	P	107	VAL
1	P	130	GLU
1	P	135	LEU
1	P	159	VAL
1	P	185	LEU
1	P	186	ASN
1	P	197	GLU
1	P	200	THR
1	Q	6	ARG
1	Q	27	THR
1	Q	37	LEU
1	Q	38	HIS
1	Q	43	LEU
1	Q	58	ARG
1	Q	83	LEU
1	Q	88	GLU
1	Q	90	THR
1	Q	99	SER
1	Q	145	ASN
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	46	THR
1	R	74	SER
1	R	90	THR
1	R	91	VAL
1	R	130	GLU
1	R	183	ASN
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

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Mol	Chain	Res	Type
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	S	206	PRO
1	T	6	ARG
1	T	22	LEU
1	T	26	LEU
1	T	35	VAL
1	T	43	LEU
1	T	47	ARG
1	T	56	THR
1	T	63	ILE
1	T	77	VAL
1	T	82	ILE
1	T	83	LEU
1	T	89	VAL
1	T	90	THR
1	T	126	THR
1	T	135	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 (136) such sidechains are listed below:

Mol	Chain	Res	Type
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

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Mol	Chain	Res	Type
1	C	139	GLN
1	C	158	ASN
1	C	183	ASN
1	C	186	ASN
1	C	203	GLN
1	D	95	HIS
1	D	137	GLN
1	D	139	GLN
1	D	160	ASN
1	D	172	ASN
1	E	59	GLN
1	E	95	HIS
1	E	137	GLN
1	E	139	GLN
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	139	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	137	GLN
1	G	139	GLN
1	G	160	ASN
1	G	172	ASN
1	G	183	ASN
1	G	203	GLN
1	H	137	GLN
1	H	139	GLN
1	H	158	ASN
1	H	183	ASN
1	H	186	ASN
1	H	195	GLN
1	H	203	GLN
1	I	95	HIS

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Mol	Chain	Res	Type
1	I	137	GLN
1	I	139	GLN
1	I	160	ASN
1	I	195	GLN
1	J	1	GLN
1	J	59	GLN
1	J	95	HIS
1	J	137	GLN
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
1	K	137	GLN
1	K	139	GLN
1	K	160	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	145	ASN
1	L	160	ASN
1	L	172	ASN
1	L	183	ASN
1	L	203	GLN
1	M	1	GLN
1	M	137	GLN
1	M	139	GLN
1	M	172	ASN
1	M	183	ASN
1	M	186	ASN
1	M	203	GLN
1	N	95	HIS
1	N	137	GLN
1	N	139	GLN
1	N	160	ASN
1	O	59	GLN
1	O	95	HIS

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Mol	Chain	Res	Type
1	O	137	GLN
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	137	GLN
1	P	139	GLN
1	P	158	ASN
1	P	160	ASN
1	P	186	ASN
1	Q	95	HIS
1	Q	137	GLN
1	Q	139	GLN
1	Q	145	ASN
1	Q	158	ASN
1	Q	160	ASN
1	Q	203	GLN
1	R	137	GLN
1	R	139	GLN
1	R	158	ASN
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	59	GLN
1	T	95	HIS
1	T	137	GLN
1	T	139	GLN
1	T	145	ASN
1	T	158	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 monosaccharides 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%)	-0.12	6 (2%) 51 54	10, 18, 35, 49	0
1	B	206/206 (100%)	-0.28	1 (0%) 91 91	9, 16, 29, 41	0
1	C	206/206 (100%)	0.01	8 (3%) 39 42	12, 21, 40, 50	0
1	D	206/206 (100%)	-0.22	3 (1%) 73 75	9, 16, 32, 49	0
1	E	206/206 (100%)	-0.07	7 (3%) 45 48	12, 19, 38, 48	0
1	F	206/206 (100%)	0.10	17 (8%) 11 12	11, 21, 43, 63	0
1	G	206/206 (100%)	-0.13	3 (1%) 73 75	11, 20, 33, 45	0
1	H	206/206 (100%)	-0.25	2 (0%) 82 83	11, 18, 32, 41	0
1	I	206/206 (100%)	-0.07	7 (3%) 45 48	11, 21, 35, 45	0
1	J	206/206 (100%)	0.05	8 (3%) 39 42	15, 23, 37, 52	0
1	K	206/206 (100%)	0.05	11 (5%) 26 28	10, 19, 36, 50	0
1	L	206/206 (100%)	-0.00	7 (3%) 45 48	13, 22, 39, 47	0
1	M	206/206 (100%)	-0.15	4 (1%) 66 68	13, 20, 33, 51	0
1	N	206/206 (100%)	0.12	11 (5%) 26 28	16, 25, 41, 51	0
1	O	206/206 (100%)	-0.20	4 (1%) 66 68	12, 19, 33, 45	0
1	P	206/206 (100%)	0.18	11 (5%) 26 28	14, 23, 42, 48	0
1	Q	206/206 (100%)	0.41	18 (8%) 10 11	19, 31, 52, 60	0
1	R	206/206 (100%)	0.42	16 (7%) 13 14	16, 31, 46, 55	0
1	S	206/206 (100%)	-0.03	7 (3%) 45 48	12, 19, 38, 54	0
1	T	206/206 (100%)	-0.26	2 (0%) 82 83	8, 15, 29, 43	0
All	All	4120/4120 (100%)	-0.02	153 (3%) 41 44	8, 21, 41, 63	0

All (153) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	M	26	LEU	13.2
1	S	26	LEU	11.2
1	J	26	LEU	9.2
1	A	26	LEU	7.6
1	N	27	THR	6.4
1	Q	27	THR	5.8
1	C	27	THR	5.6
1	K	26	LEU	5.5
1	R	27	THR	5.5
1	P	26	LEU	5.2
1	N	26	LEU	5.1
1	Q	142	PHE	5.1
1	D	26	LEU	4.9
1	I	27	THR	4.8
1	F	178	GLY	4.8
1	P	89	VAL	4.8
1	Q	26	LEU	4.7
1	F	88	GLU	4.7
1	K	27	THR	4.4
1	R	178	GLY	4.4
1	O	26	LEU	4.4
1	Q	25	PRO	4.4
1	F	144	GLY	4.3
1	E	27	THR	4.3
1	F	90	THR	4.3
1	R	90	THR	4.2
1	M	27	THR	4.1
1	Q	1	GLN	4.0
1	J	90	THR	3.9
1	P	90	THR	3.8
1	S	54	TYR	3.8
1	F	26	LEU	3.8
1	E	179	PRO	3.7
1	K	90	THR	3.7
1	R	57	LYS	3.6
1	E	26	LEU	3.6
1	Q	177	GLY	3.5
1	O	88	GLU	3.5
1	R	26	LEU	3.5
1	C	26	LEU	3.4
1	A	87	PRO	3.4
1	P	88	GLU	3.3
1	O	58	ARG	3.3

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Mol	Chain	Res	Type	RSRZ
1	L	87	PRO	3.3
1	F	177	GLY	3.2
1	Q	88	GLU	3.2
1	D	1	GLN	3.2
1	P	27	THR	3.2
1	L	26	LEU	3.2
1	I	26	LEU	3.1
1	L	58	ARG	3.1
1	L	1	GLN	3.1
1	I	177	GLY	3.0
1	L	88	GLU	3.0
1	R	179	PRO	3.0
1	N	90	THR	3.0
1	F	1	GLN	3.0
1	T	27	THR	3.0
1	Q	206	PRO	3.0
1	Q	87	PRO	2.9
1	S	1	GLN	2.9
1	R	206	PRO	2.9
1	J	27	THR	2.8
1	G	45	SER	2.8
1	M	206	PRO	2.8
1	N	177	GLY	2.8
1	Q	141	SER	2.8
1	S	27	THR	2.8
1	F	179	PRO	2.8
1	C	89	VAL	2.8
1	B	27	THR	2.8
1	G	90	THR	2.8
1	N	28	LYS	2.8
1	C	88	GLU	2.8
1	T	88	GLU	2.8
1	M	88	GLU	2.7
1	E	90	THR	2.7
1	R	89	VAL	2.7
1	P	176	LEU	2.7
1	E	178	GLY	2.7
1	C	206	PRO	2.7
1	Q	147	GLU	2.7
1	F	148	GLY	2.7
1	J	58	ARG	2.7
1	F	89	VAL	2.6

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Mol	Chain	Res	Type	RSRZ
1	O	206	PRO	2.6
1	K	89	VAL	2.6
1	F	143	GLY	2.6
1	P	174	ILE	2.6
1	I	89	VAL	2.6
1	H	88	GLU	2.5
1	J	88	GLU	2.5
1	K	88	GLU	2.5
1	K	177	GLY	2.5
1	K	70	ASP	2.5
1	P	179	PRO	2.5
1	F	58	ARG	2.5
1	P	177	GLY	2.5
1	J	1	GLN	2.5
1	A	88	GLU	2.5
1	Q	90	THR	2.4
1	E	1	GLN	2.4
1	F	70	ASP	2.4
1	K	148	GLY	2.4
1	Q	58	ARG	2.4
1	R	142	PHE	2.4
1	A	1	GLN	2.4
1	R	177	GLY	2.4
1	K	91	VAL	2.4
1	A	28	LYS	2.3
1	R	46	THR	2.3
1	N	1	GLN	2.3
1	E	177	GLY	2.3
1	L	27	THR	2.3
1	R	176	LEU	2.3
1	Q	28	LYS	2.3
1	D	177	GLY	2.3
1	K	143	GLY	2.3
1	N	16	ASP	2.3
1	C	173	THR	2.2
1	Q	179	PRO	2.2
1	N	89	VAL	2.2
1	A	70	ASP	2.2
1	S	58	ARG	2.2
1	F	71	ILE	2.2
1	G	88	GLU	2.2
1	S	25	PRO	2.2

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Mol	Chain	Res	Type	RSRZ
1	Q	89	VAL	2.2
1	R	28	LYS	2.2
1	R	25	PRO	2.2
1	I	58	ARG	2.2
1	R	70	ASP	2.2
1	J	28	LYS	2.2
1	K	45	SER	2.2
1	S	177	GLY	2.2
1	P	1	GLN	2.2
1	I	88	GLU	2.1
1	P	57	LYS	2.1
1	R	88	GLU	2.1
1	I	28	LYS	2.1
1	N	145	ASN	2.1
1	L	177	GLY	2.1
1	H	27	THR	2.1
1	C	58	ARG	2.1
1	F	25	PRO	2.1
1	N	88	GLU	2.1
1	Q	57	LYS	2.1
1	J	206	PRO	2.1
1	C	177	GLY	2.1
1	Q	145	ASN	2.0
1	F	87	PRO	2.0
1	N	70	ASP	2.0
1	F	145	ASN	2.0

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

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

6.3 Carbohydrates [\(i\)](#)

There are no monosaccharides 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(\AA^2)	Q<0.9
2	CA	Q	5033	1/1	0.50	0.27	89,89,89,89	0
2	CA	J	5019	1/1	0.85	0.10	76,76,76,76	0
2	CA	F	5012	1/1	0.86	0.10	56,56,56,56	0
2	CA	I	5018	1/1	0.88	0.07	68,68,68,68	0
2	CA	L	5024	1/1	0.90	0.09	49,49,49,49	0
2	CA	G	5014	1/1	0.90	0.09	36,36,36,36	0
2	CA	N	5027	1/1	0.91	0.06	40,40,40,40	0
2	CA	K	5022	1/1	0.91	0.10	72,72,72,72	0
2	CA	R	5036	1/1	0.91	0.10	50,50,50,50	0
2	CA	R	5035	1/1	0.92	0.15	52,52,52,52	0
2	CA	N	5028	1/1	0.93	0.07	51,51,51,51	0
2	CA	A	5002	1/1	0.94	0.06	43,43,43,43	0
2	CA	D	5008	1/1	0.95	0.07	56,56,56,56	0
2	CA	G	5013	1/1	0.95	0.05	29,29,29,29	0
2	CA	F	5011	1/1	0.95	0.04	55,55,55,55	0
2	CA	A	5001	1/1	0.96	0.07	32,32,32,32	0
2	CA	Q	5034	1/1	0.96	0.05	54,54,54,54	0
2	CA	S	5038	1/1	0.96	0.17	40,40,40,40	0
2	CA	L	5023	1/1	0.97	0.08	39,39,39,39	0
2	CA	B	5003	1/1	0.97	0.04	22,22,22,22	0
2	CA	C	5005	1/1	0.97	0.05	66,66,66,66	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	I	5017	1/1	0.98	0.07	31,31,31,31	0
3	ZN	G	6002	1/1	0.98	0.05	57,57,57,57	0
2	CA	E	5010	1/1	0.99	0.03	28,28,28,28	0
2	CA	C	5006	1/1	0.99	0.05	32,32,32,32	0
2	CA	O	5029	1/1	0.99	0.04	25,25,25,25	0
2	CA	O	5030	1/1	0.99	0.03	29,29,29,29	0
2	CA	P	5031	1/1	0.99	0.07	19,19,19,19	0
2	CA	D	5007	1/1	0.99	0.04	15,15,15,15	0
2	CA	J	5020	1/1	0.99	0.04	25,25,25,25	0
2	CA	B	5004	1/1	0.99	0.04	29,29,29,29	0
2	CA	E	5009	1/1	0.99	0.05	25,25,25,25	0
2	CA	H	5015	1/1	0.99	0.08	28,28,28,28	0
2	CA	S	5037	1/1	0.99	0.13	38,38,38,38	0
2	CA	H	5016	1/1	0.99	0.04	33,33,33,33	0
2	CA	T	5040	1/1	0.99	0.06	13,13,13,13	0
2	CA	M	5025	1/1	0.99	0.04	21,21,21,21	0
3	ZN	L	6003	1/1	0.99	0.04	43,43,43,43	0
3	ZN	S	6004	1/1	0.99	0.06	44,44,44,44	0
2	CA	T	5039	1/1	1.00	0.05	10,10,10,10	0
2	CA	M	5026	1/1	1.00	0.07	21,21,21,21	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	ZN	A	6001	1/1	1.00	0.06	39,39,39,39	0
3	ZN	T	6005	1/1	1.00	0.03	26,26,26,26	0

6.5 Other polymers [i](#)

There are no such residues in this entry.