



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 01:34 PM UTC

PDB ID : 4OYF / pdb_00004oyf
Title : Crystal structure of GLTPH R397A IN Sodium-bound state
Authors : Boudker, O.; Oh, S.; Verdon, G.; Serio, R.
Deposited on : 2014-02-11
Resolution : 3.41 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

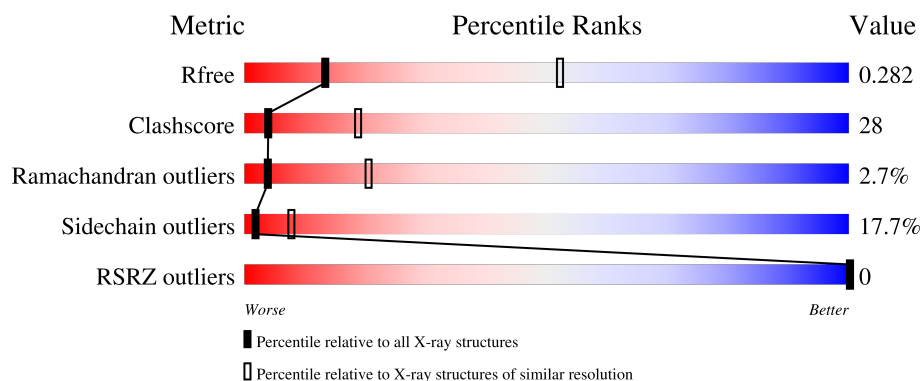
1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.41 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	1210 (3.48-3.36)
Clashscore	190562	1234 (3.48-3.36)
Ramachandran outliers	187476	1222 (3.48-3.36)
Sidechain outliers	187428	1222 (3.48-3.36)
RSRZ outliers	180081	1210 (3.48-3.36)

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	422	
1	B	422	
1	C	422	
1	D	422	
1	E	422	

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Mol	Chain	Length	Quality of chain
1	F	422	46% 39% 9% • 5%

2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 17592 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 GLUTAMATE SYMPORT PROTEIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	399	Total	C	N	O	S	0	0	0
			2930	1926	470	517	17			
1	B	399	Total	C	N	O	S	0	0	0
			2930	1926	470	517	17			
1	C	399	Total	C	N	O	S	0	0	0
			2930	1926	470	517	17			
1	D	399	Total	C	N	O	S	0	0	0
			2930	1926	470	517	17			
1	E	399	Total	C	N	O	S	0	0	0
			2930	1926	470	517	17			
1	F	399	Total	C	N	O	S	0	0	0
			2930	1926	470	517	17			

- Molecule 2 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Na	0	0
			1	1		
2	B	1	Total	Na	0	0
			1	1		
2	C	1	Total	Na	0	0
			1	1		
2	D	1	Total	Na	0	0
			1	1		
2	E	1	Total	Na	0	0
			1	1		
2	F	1	Total	Na	0	0
			1	1		

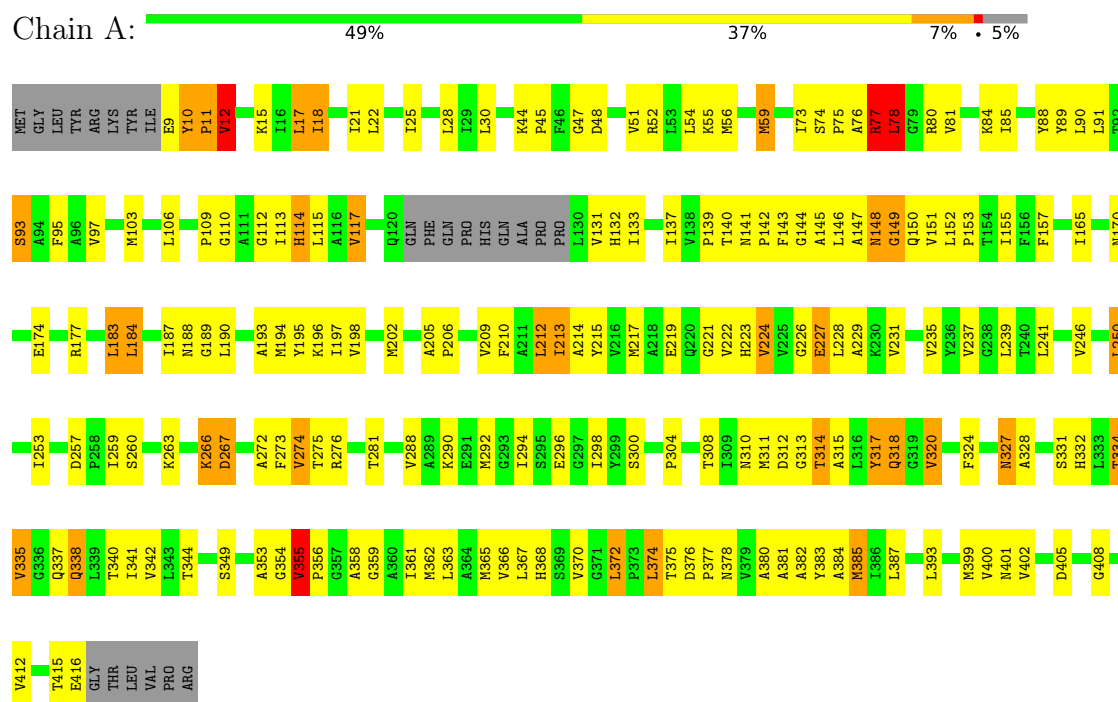
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total 1	O 1	0	0
3	B	1	Total 1	O 1	0	0
3	C	1	Total 1	O 1	0	0
3	D	1	Total 1	O 1	0	0
3	E	1	Total 1	O 1	0	0
3	F	1	Total 1	O 1	0	0

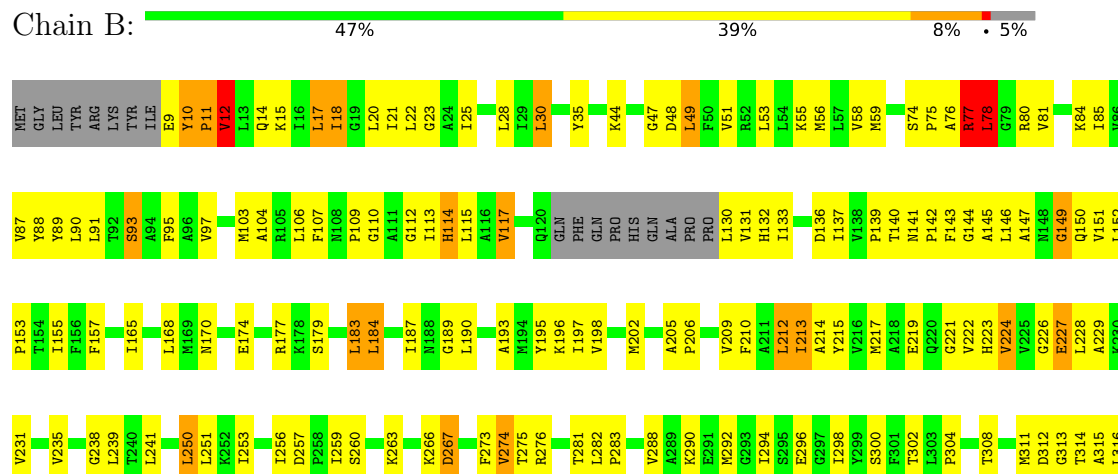
3 Residue-property plots

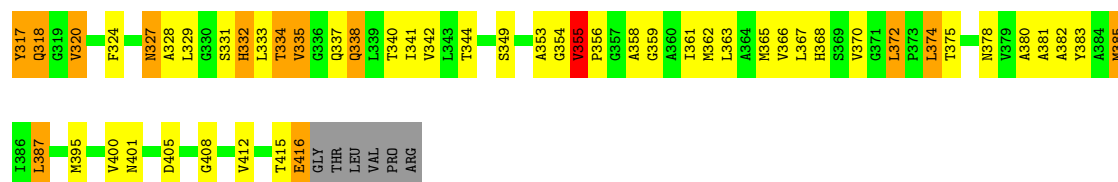
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density.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

• Molecule 1: GLUTAMATE SYMPORT PROTEIN



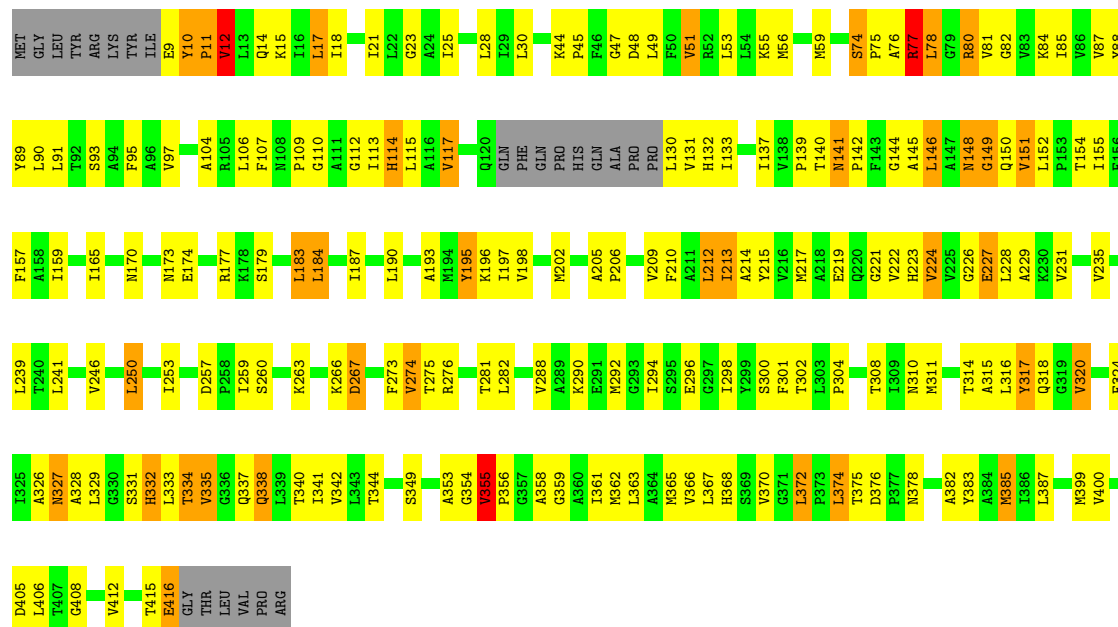
• Molecule 1: GLUTAMATE SYMPORT PROTEIN





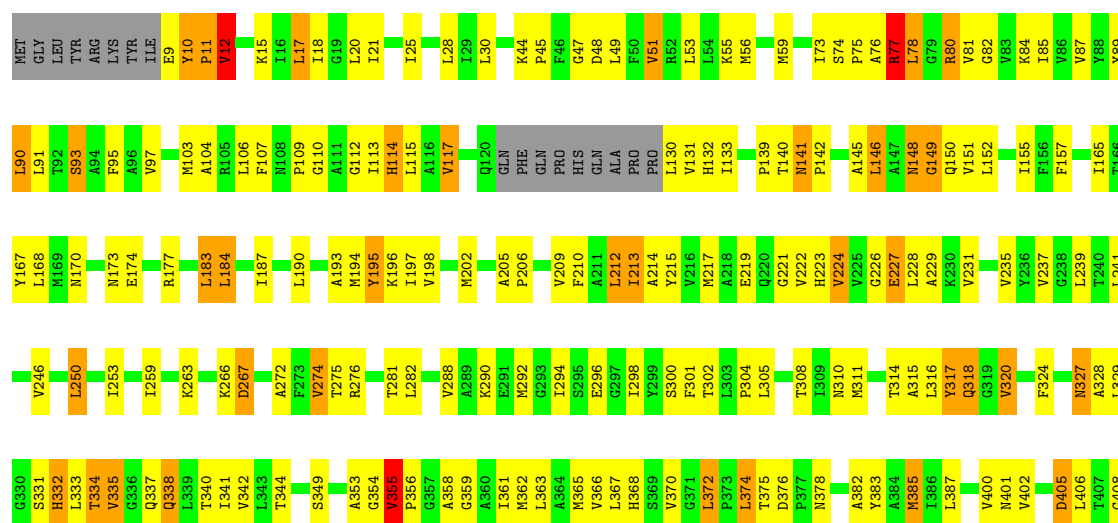
• Molecule 1: GLUTAMATE SYMPORT PROTEIN

Chain C: 49% 36% 8% 5%



• Molecule 1: GLUTAMATE SYMPORT PROTEIN

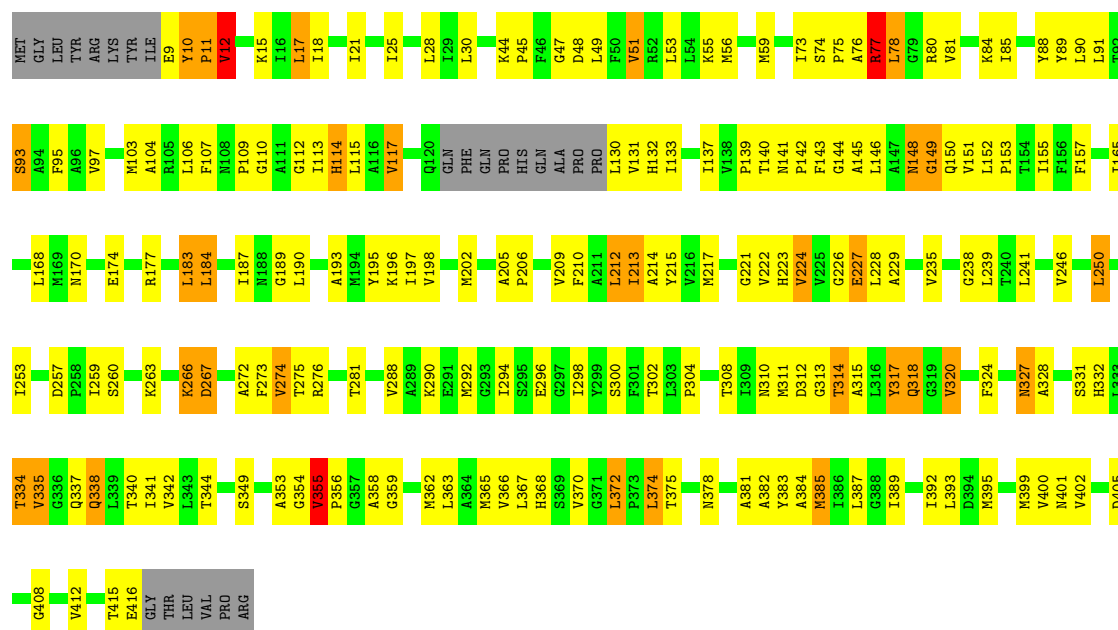
Chain D: 50% 36% 9% 5%





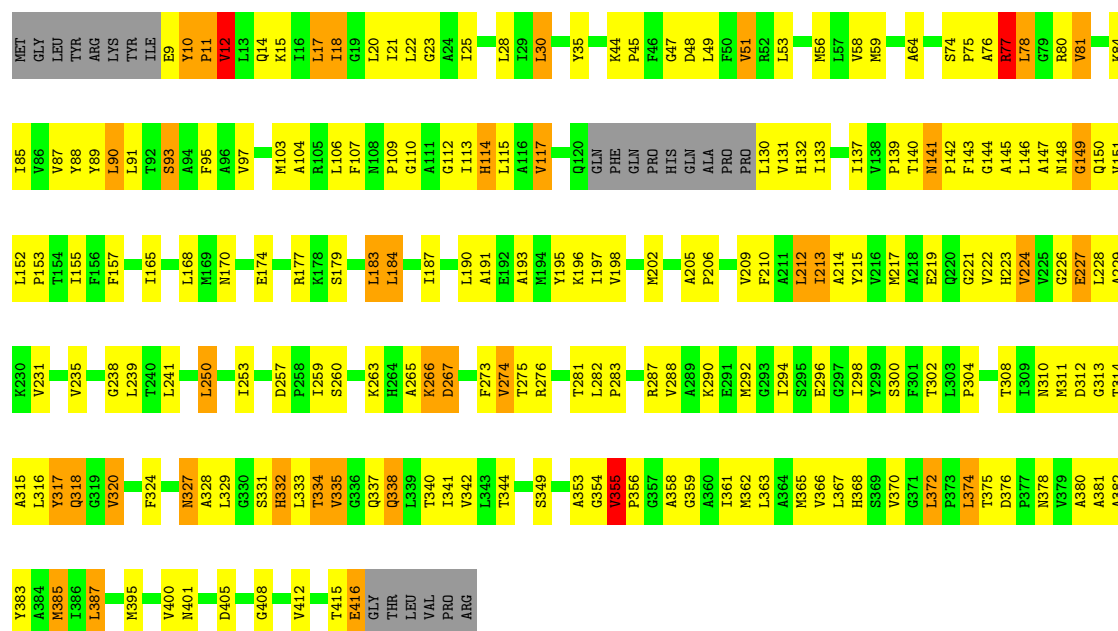
• Molecule 1: GLUTAMATE SYMPORT PROTEIN

Chain E: 49% 37% 7% 5%



• Molecule 1: GLUTAMATE SYMPORT PROTEIN

Chain F: 46% 39% 9% 5%



4 Data and refinement statistics

Property	Value	Source
Space group	P 31	Depositor
Cell constants a, b, c, α , β , γ	110.58Å 110.58Å 306.92Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	12.00 – 3.41 12.00 – 3.41	Depositor EDS
% Data completeness (in resolution range)	88.7 (12.00-3.41) 88.8 (12.00-3.41)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.75 (at 3.43Å)	Xtriage
Refinement program	REFMAC 5.7.0029	Depositor
R, R_{free}	0.284 , 0.293 0.272 , 0.282	Depositor DCC
R_{free} test set	2506 reflections (4.47%)	wwPDB-VP
Wilson B-factor (Å ²)	69.2	Xtriage
Anisotropy	0.609	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 79.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.29$	Xtriage
Estimated twinning fraction	0.064 for -h,-k,l 0.359 for h,-h-k,-l 0.064 for -k,-h,-l	Xtriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	17592	wwPDB-VP
Average B, all atoms (Å ²)	152.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.51% 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: NA

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	0.69	1/2983 (0.0%)	1.08	3/4067 (0.1%)
1	B	0.76	1/2983 (0.0%)	1.08	1/4067 (0.0%)
1	C	0.77	2/2983 (0.1%)	1.09	4/4067 (0.1%)
1	D	0.76	2/2983 (0.1%)	1.09	3/4067 (0.1%)
1	E	0.67	1/2983 (0.0%)	1.06	1/4067 (0.0%)
1	F	0.79	2/2983 (0.1%)	1.08	1/4067 (0.0%)
All	All	0.74	9/17898 (0.1%)	1.08	13/24402 (0.1%)

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	141	ASN	CA-C	-7.80	1.46	1.52
1	A	355	VAL	CA-C	5.75	1.58	1.52
1	C	141	ASN	C-O	-5.70	1.20	1.25
1	C	355	VAL	CA-C	5.66	1.58	1.52
1	D	141	ASN	C-O	-5.37	1.20	1.25
1	D	355	VAL	CA-C	5.32	1.58	1.52
1	F	355	VAL	CA-C	5.24	1.58	1.52
1	B	355	VAL	CA-C	5.23	1.58	1.52
1	E	355	VAL	CA-C	5.06	1.58	1.52

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	195	TYR	N-CA-C	-5.78	104.90	111.14
1	B	78	LEU	N-CA-C	-5.66	105.01	111.07
1	C	137	ILE	CA-C-N	-5.58	118.81	122.60
1	C	137	ILE	C-N-CA	-5.58	118.81	122.60
1	C	195	TYR	N-CA-C	-5.50	105.19	111.07
1	D	51	VAL	CB-CA-C	-5.44	105.01	111.97

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	F	51	VAL	CB-CA-C	-5.41	104.94	112.02
1	A	59	MET	CA-C-N	-5.36	113.10	119.05
1	A	59	MET	C-N-CA	-5.36	113.10	119.05
1	D	305	LEU	N-CA-C	-5.26	105.62	111.36
1	C	51	VAL	CB-CA-C	-5.21	105.30	111.97
1	E	51	VAL	CB-CA-C	-5.17	105.17	112.14
1	A	78	LEU	N-CA-C	-5.06	105.04	111.11

There are no chirality outliers.

There are no planarity outliers.

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	2930	0	3077	180	0
1	B	2930	0	3077	175	0
1	C	2930	0	3077	182	0
1	D	2930	0	3077	180	0
1	E	2930	0	3077	175	0
1	F	2930	0	3077	185	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	F	1	0	0	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	E	1	0	0	0	0
3	F	1	0	0	0	0
All	All	17592	0	18462	1017	0

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 28.

All (1017) 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:D:113:ILE:HG21	1:D:328:ALA:CA	1.63	1.28
1:C:113:ILE:HG21	1:C:328:ALA:CA	1.65	1.25
1:B:113:ILE:HG21	1:B:328:ALA:CA	1.64	1.24
1:A:113:ILE:HG21	1:A:328:ALA:CA	1.67	1.24
1:F:113:ILE:HG21	1:F:328:ALA:CA	1.65	1.23
1:E:113:ILE:HG21	1:E:328:ALA:CA	1.67	1.23
1:D:113:ILE:CG2	1:D:328:ALA:HA	1.70	1.22
1:C:113:ILE:CG2	1:C:328:ALA:HA	1.72	1.20
1:E:165:ILE:HG21	1:E:184:LEU:HD23	1.23	1.20
1:B:113:ILE:CG2	1:B:328:ALA:HA	1.72	1.18
1:A:113:ILE:CG2	1:A:328:ALA:HA	1.73	1.17
1:F:113:ILE:CG2	1:F:328:ALA:HA	1.73	1.17
1:E:113:ILE:CG2	1:E:328:ALA:HA	1.75	1.15
1:B:165:ILE:HG21	1:B:184:LEU:HD23	1.19	1.14
1:A:165:ILE:HG21	1:A:184:LEU:HD23	1.28	1.13
1:C:165:ILE:HG21	1:C:184:LEU:HD23	1.22	1.09
1:F:165:ILE:HG21	1:F:184:LEU:HD23	1.20	1.08
1:D:165:ILE:HG21	1:D:184:LEU:HD23	1.14	1.06
1:A:209:VAL:HG13	1:A:274:VAL:HG21	1.49	0.95
1:E:209:VAL:HG13	1:E:274:VAL:HG21	1.49	0.94
1:F:209:VAL:HG13	1:F:274:VAL:HG21	1.51	0.92
1:B:209:VAL:HG13	1:B:274:VAL:HG21	1.53	0.90
1:D:209:VAL:HG13	1:D:274:VAL:HG21	1.54	0.89
1:C:209:VAL:HG13	1:C:274:VAL:HG21	1.54	0.88
1:E:113:ILE:HG21	1:E:328:ALA:HA	0.91	0.87
1:C:112:GLY:O	1:F:114:HIS:NE2	2.08	0.87
1:D:288:VAL:O	1:D:292:MET:HG3	1.76	0.86
1:A:113:ILE:HG21	1:A:328:ALA:HA	0.89	0.85
1:B:114:HIS:NE2	1:D:112:GLY:O	2.09	0.85
1:E:114:HIS:CD2	1:E:114:HIS:H	1.96	0.84
1:A:114:HIS:H	1:A:114:HIS:CD2	1.96	0.84
1:F:113:ILE:HG21	1:F:328:ALA:HA	0.88	0.82
1:C:288:VAL:O	1:C:292:MET:HG3	1.80	0.82
1:B:113:ILE:HG21	1:B:328:ALA:HA	0.87	0.81
1:C:354:GLY:O	1:C:356:PRO:HD2	1.80	0.81
1:B:113:ILE:CG2	1:B:328:ALA:CA	2.45	0.81
1:F:81:VAL:HG21	1:F:298:ILE:HD12	1.62	0.81
1:D:114:HIS:H	1:D:114:HIS:CD2	1.96	0.81
1:D:113:ILE:HG21	1:D:328:ALA:HA	0.86	0.80
1:F:113:ILE:CG2	1:F:328:ALA:CA	2.46	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:81:VAL:HG21	1:B:298:ILE:HD12	1.62	0.80
1:B:239:LEU:HB3	1:B:400:VAL:HG21	1.63	0.80
1:C:113:ILE:HG21	1:C:328:ALA:HA	0.87	0.80
1:B:114:HIS:CD2	1:B:114:HIS:H	1.97	0.80
1:F:114:HIS:H	1:F:114:HIS:CD2	1.98	0.80
1:F:239:LEU:HB3	1:F:400:VAL:HG21	1.63	0.80
1:C:114:HIS:H	1:C:114:HIS:CD2	1.97	0.80
1:C:114:HIS:NE2	1:F:112:GLY:O	2.14	0.79
1:B:288:VAL:O	1:B:292:MET:HG3	1.83	0.79
1:A:112:GLY:O	1:E:114:HIS:NE2	2.15	0.79
1:D:113:ILE:CG2	1:D:328:ALA:CA	2.43	0.78
1:B:112:GLY:O	1:D:114:HIS:NE2	2.15	0.78
1:E:56:MET:HE3	1:F:157:PHE:HD1	1.48	0.78
1:A:114:HIS:NE2	1:E:112:GLY:O	2.17	0.77
1:D:354:GLY:O	1:D:356:PRO:HD2	1.84	0.77
1:E:9:GLU:HG3	1:E:10:TYR:CD1	2.20	0.77
1:B:112:GLY:HA2	1:B:113:ILE:C	2.09	0.76
1:D:165:ILE:HG21	1:D:184:LEU:CD2	2.07	0.76
1:D:354:GLY:C	1:D:356:PRO:HD2	2.11	0.76
1:F:112:GLY:HA2	1:F:113:ILE:C	2.09	0.76
1:A:113:ILE:CG2	1:A:328:ALA:CA	2.47	0.76
1:C:354:GLY:C	1:C:356:PRO:HD2	2.11	0.76
1:A:9:GLU:HG3	1:A:10:TYR:CD1	2.21	0.76
1:A:81:VAL:HG21	1:A:298:ILE:HD12	1.68	0.76
1:F:288:VAL:O	1:F:292:MET:HG3	1.86	0.76
1:C:113:ILE:CG2	1:C:328:ALA:CA	2.46	0.76
1:E:81:VAL:HG21	1:E:298:ILE:HD12	1.68	0.76
1:A:112:GLY:HA2	1:A:113:ILE:C	2.12	0.75
1:E:239:LEU:HB3	1:E:400:VAL:HG21	1.67	0.75
1:B:354:GLY:O	1:B:356:PRO:HD2	1.86	0.75
1:D:84:LYS:HZ2	1:D:415:THR:HG21	1.51	0.75
1:E:113:ILE:CG2	1:E:328:ALA:CA	2.48	0.75
1:C:239:LEU:HB3	1:C:400:VAL:HG21	1.68	0.75
1:C:84:LYS:HZ2	1:C:415:THR:HG21	1.52	0.75
1:E:112:GLY:HA2	1:E:113:ILE:C	2.12	0.75
1:B:165:ILE:HG21	1:B:184:LEU:CD2	2.11	0.74
1:C:112:GLY:HA2	1:C:113:ILE:C	2.12	0.74
1:B:195:TYR:O	1:B:198:VAL:HG12	1.87	0.74
1:C:81:VAL:HG21	1:C:298:ILE:HD12	1.69	0.74
1:D:113:ILE:HG21	1:D:328:ALA:CB	2.17	0.74
1:D:239:LEU:HB3	1:D:400:VAL:HG21	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:113:ILE:HG21	1:B:328:ALA:CB	2.18	0.74
1:B:354:GLY:C	1:B:356:PRO:HD2	2.13	0.74
1:F:113:ILE:HG21	1:F:328:ALA:CB	2.18	0.73
1:E:56:MET:HE3	1:F:157:PHE:CD1	2.22	0.73
1:D:81:VAL:HG21	1:D:298:ILE:HD12	1.71	0.73
1:A:56:MET:HE3	1:B:157:PHE:HD1	1.53	0.73
1:A:195:TYR:O	1:A:198:VAL:HG12	1.88	0.73
1:D:9:GLU:HG3	1:D:10:TYR:CD1	2.23	0.73
1:A:354:GLY:C	1:A:356:PRO:HD2	2.14	0.72
1:D:12:VAL:H	1:D:15:LYS:HB2	1.54	0.72
1:D:195:TYR:O	1:D:198:VAL:HG12	1.88	0.72
1:C:9:GLU:HG3	1:C:10:TYR:CD1	2.23	0.72
1:E:354:GLY:C	1:E:356:PRO:HD2	2.15	0.72
1:F:12:VAL:H	1:F:15:LYS:HB2	1.53	0.72
1:F:354:GLY:C	1:F:356:PRO:HD2	2.15	0.72
1:B:9:GLU:HG3	1:B:10:TYR:CD1	2.23	0.72
1:B:12:VAL:H	1:B:15:LYS:HB2	1.53	0.72
1:C:113:ILE:HG21	1:C:328:ALA:CB	2.20	0.72
1:D:113:ILE:HG22	1:D:113:ILE:O	1.88	0.72
1:C:113:ILE:O	1:C:113:ILE:HG22	1.89	0.71
1:D:112:GLY:HA2	1:D:113:ILE:C	2.15	0.71
1:A:239:LEU:HB3	1:A:400:VAL:HG21	1.71	0.71
1:E:113:ILE:HG21	1:E:328:ALA:CB	2.19	0.71
1:E:195:TYR:O	1:E:198:VAL:HG12	1.90	0.71
1:B:110:GLY:HA3	1:B:327:ASN:HB3	1.72	0.71
1:C:12:VAL:H	1:C:15:LYS:HB2	1.55	0.71
1:F:110:GLY:HA3	1:F:327:ASN:HB3	1.72	0.71
1:B:77:ARG:HE	1:B:416:GLU:HG2	1.56	0.71
1:A:157:PHE:HD1	1:C:56:MET:HE3	1.57	0.70
1:A:113:ILE:HG21	1:A:328:ALA:CB	2.20	0.70
1:F:354:GLY:O	1:F:356:PRO:HD2	1.91	0.70
1:E:78:LEU:HA	1:E:81:VAL:HG12	1.72	0.70
1:F:9:GLU:HG3	1:F:10:TYR:CD1	2.25	0.70
1:A:12:VAL:H	1:A:15:LYS:HB2	1.55	0.70
1:A:56:MET:HE3	1:B:157:PHE:CD1	2.26	0.69
1:C:81:VAL:HG23	1:C:412:VAL:CG1	2.22	0.69
1:D:56:MET:HE3	1:E:157:PHE:HD1	1.57	0.69
1:E:12:VAL:H	1:E:15:LYS:HB2	1.56	0.69
1:A:224:VAL:O	1:A:229:ALA:HB2	1.93	0.69
1:B:81:VAL:HG23	1:B:412:VAL:CG1	2.23	0.69
1:C:131:VAL:HG13	1:C:132:HIS:N	2.06	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:113:ILE:HG22	1:B:113:ILE:O	1.91	0.69
1:A:78:LEU:HA	1:A:81:VAL:HG12	1.73	0.69
1:E:113:ILE:O	1:E:113:ILE:HG22	1.93	0.69
1:B:78:LEU:HA	1:B:81:VAL:HG12	1.75	0.69
1:B:110:GLY:HA3	1:B:327:ASN:CB	2.24	0.68
1:F:113:ILE:HG22	1:F:113:ILE:O	1.92	0.68
1:C:84:LYS:NZ	1:C:415:THR:CG2	2.56	0.68
1:E:288:VAL:O	1:E:292:MET:HG3	1.92	0.68
1:A:354:GLY:O	1:A:356:PRO:HD2	1.93	0.68
1:B:76:ALA:O	1:B:77:ARG:HB2	1.92	0.68
1:E:81:VAL:HG23	1:E:412:VAL:CG1	2.23	0.68
1:E:250:LEU:HA	1:E:253:ILE:HG22	1.74	0.68
1:F:77:ARG:HE	1:F:416:GLU:HG2	1.59	0.68
1:F:81:VAL:HG23	1:F:412:VAL:CG1	2.24	0.68
1:A:317:TYR:C	1:A:317:TYR:HD1	2.02	0.68
1:E:224:VAL:O	1:E:229:ALA:HB2	1.94	0.68
1:E:317:TYR:C	1:E:317:TYR:HD1	2.01	0.68
1:A:81:VAL:HG23	1:A:412:VAL:CG1	2.23	0.68
1:A:113:ILE:HG22	1:A:113:ILE:O	1.93	0.68
1:D:193:ALA:O	1:D:197:ILE:HG13	1.93	0.68
1:F:110:GLY:HA3	1:F:327:ASN:CB	2.24	0.68
1:F:76:ALA:O	1:F:77:ARG:HB2	1.92	0.68
1:E:47:GLY:HA3	1:E:212:LEU:HD23	1.77	0.67
1:E:354:GLY:O	1:E:356:PRO:HD2	1.94	0.67
1:D:84:LYS:NZ	1:D:415:THR:CG2	2.58	0.67
1:B:250:LEU:HA	1:B:253:ILE:HG22	1.75	0.67
1:A:84:LYS:HZ1	1:A:415:THR:CG2	2.07	0.67
1:B:131:VAL:HG13	1:B:132:HIS:N	2.10	0.67
1:D:131:VAL:HG13	1:D:132:HIS:N	2.08	0.67
1:C:317:TYR:C	1:C:317:TYR:HD1	2.03	0.67
1:D:81:VAL:HG23	1:D:412:VAL:CG1	2.26	0.66
1:F:131:VAL:HG13	1:F:132:HIS:N	2.11	0.66
1:A:250:LEU:HA	1:A:253:ILE:HG22	1.76	0.66
1:F:165:ILE:HG21	1:F:184:LEU:CD2	2.13	0.66
1:A:141:ASN:HD22	1:A:144:GLY:H	1.44	0.65
1:C:195:TYR:O	1:C:198:VAL:HG12	1.95	0.65
1:E:317:TYR:C	1:E:317:TYR:CD1	2.75	0.65
1:A:317:TYR:C	1:A:317:TYR:CD1	2.75	0.65
1:D:77:ARG:HE	1:D:416:GLU:HG2	1.60	0.65
1:A:157:PHE:CD1	1:C:56:MET:HE3	2.31	0.65
1:C:193:ALA:O	1:C:197:ILE:HG13	1.95	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:56:MET:HE3	1:E:157:PHE:CD1	2.31	0.65
1:B:56:MET:HE3	1:C:157:PHE:HD1	1.59	0.65
1:C:250:LEU:HA	1:C:253:ILE:HG22	1.78	0.65
1:D:250:LEU:HA	1:D:253:ILE:HG22	1.78	0.65
1:D:317:TYR:HD1	1:D:317:TYR:C	2.05	0.65
1:F:47:GLY:HA3	1:F:212:LEU:HD23	1.79	0.65
1:B:47:GLY:HA3	1:B:212:LEU:HD23	1.78	0.64
1:C:110:GLY:HA3	1:C:327:ASN:CB	2.27	0.64
1:F:193:ALA:O	1:F:197:ILE:HG13	1.97	0.64
1:B:183:LEU:O	1:B:187:ILE:HG13	1.97	0.64
1:E:110:GLY:HA3	1:E:327:ASN:HB3	1.78	0.64
1:F:250:LEU:HA	1:F:253:ILE:HG22	1.78	0.64
1:B:317:TYR:HD1	1:B:317:TYR:C	2.05	0.64
1:B:358:ALA:O	1:B:362:MET:HG3	1.96	0.64
1:B:193:ALA:O	1:B:197:ILE:HG13	1.97	0.64
1:A:288:VAL:O	1:A:292:MET:HG3	1.97	0.64
1:C:76:ALA:O	1:C:77:ARG:HB2	1.96	0.64
1:C:317:TYR:C	1:C:317:TYR:CD1	2.76	0.64
1:E:110:GLY:HA3	1:E:327:ASN:CB	2.28	0.64
1:F:195:TYR:O	1:F:198:VAL:HG12	1.98	0.64
1:D:110:GLY:HA3	1:D:327:ASN:HB3	1.78	0.64
1:E:131:VAL:HG13	1:E:132:HIS:N	2.13	0.64
1:F:78:LEU:HA	1:F:81:VAL:HG12	1.78	0.64
1:E:213:ILE:HD12	1:E:214:ALA:H	1.63	0.64
1:C:110:GLY:HA3	1:C:327:ASN:HB3	1.78	0.64
1:F:317:TYR:C	1:F:317:TYR:HD1	2.06	0.63
1:C:47:GLY:HA3	1:C:212:LEU:HD23	1.79	0.63
1:D:110:GLY:HA3	1:D:327:ASN:CB	2.28	0.63
1:F:183:LEU:O	1:F:187:ILE:HG13	1.98	0.63
1:C:84:LYS:NZ	1:C:415:THR:HG21	2.11	0.63
1:D:84:LYS:NZ	1:D:415:THR:HG21	2.12	0.63
1:A:110:GLY:HA3	1:A:327:ASN:HB3	1.80	0.63
1:C:77:ARG:HE	1:C:416:GLU:HG2	1.62	0.63
1:D:198:VAL:O	1:D:202:MET:HG2	1.98	0.63
1:F:141:ASN:HD22	1:F:144:GLY:H	1.47	0.63
1:A:77:ARG:HE	1:A:416:GLU:HG2	1.64	0.62
1:F:358:ALA:O	1:F:362:MET:HG3	1.98	0.62
1:A:47:GLY:HA3	1:A:212:LEU:HD23	1.81	0.62
1:B:275:THR:O	1:B:276:ARG:HB2	1.99	0.62
1:D:317:TYR:C	1:D:317:TYR:CD1	2.77	0.62
1:F:275:THR:O	1:F:276:ARG:HB2	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:131:VAL:HG13	1:A:132:HIS:N	2.15	0.62
1:B:317:TYR:C	1:B:317:TYR:CD1	2.78	0.62
1:C:78:LEU:HA	1:C:81:VAL:HG12	1.81	0.62
1:B:56:MET:HE3	1:C:157:PHE:CD1	2.34	0.62
1:B:382:ALA:HA	1:B:385:MET:HE3	1.82	0.62
1:C:221:GLY:O	1:C:224:VAL:HG23	1.99	0.62
1:D:76:ALA:O	1:D:77:ARG:HB2	1.98	0.62
1:A:110:GLY:HA3	1:A:327:ASN:CB	2.30	0.62
1:D:56:MET:HB2	1:E:139:PRO:O	1.99	0.62
1:C:84:LYS:HZ1	1:C:415:THR:CG2	2.13	0.62
1:C:77:ARG:HH21	1:C:416:GLU:HG3	1.65	0.61
1:F:382:ALA:HA	1:F:385:MET:HE3	1.82	0.61
1:A:221:GLY:O	1:A:223:HIS:N	2.34	0.61
1:B:84:LYS:HZ1	1:B:415:THR:CG2	2.13	0.61
1:F:317:TYR:C	1:F:317:TYR:CD1	2.79	0.61
1:D:47:GLY:HA3	1:D:212:LEU:HD23	1.82	0.61
1:D:78:LEU:HA	1:D:81:VAL:HG12	1.82	0.61
1:E:358:ALA:O	1:E:362:MET:HG3	1.99	0.61
1:F:224:VAL:O	1:F:229:ALA:HB2	2.00	0.60
1:E:221:GLY:O	1:E:223:HIS:N	2.35	0.60
1:C:114:HIS:CD2	1:F:112:GLY:O	2.54	0.60
1:D:224:VAL:O	1:D:229:ALA:HB2	2.00	0.60
1:B:221:GLY:O	1:B:223:HIS:N	2.35	0.60
1:C:224:VAL:O	1:C:229:ALA:HB2	2.00	0.60
1:A:44:LYS:HD2	1:A:215:TYR:CE1	2.37	0.60
1:A:141:ASN:ND2	1:A:144:GLY:H	2.00	0.60
1:C:165:ILE:HG21	1:C:184:LEU:CD2	2.15	0.60
1:E:77:ARG:HE	1:E:416:GLU:HG2	1.67	0.60
1:F:84:LYS:HZ1	1:F:415:THR:CG2	2.15	0.60
1:D:44:LYS:HD2	1:D:215:TYR:CE1	2.37	0.60
1:F:81:VAL:HG23	1:F:412:VAL:HG12	1.83	0.60
1:B:224:VAL:O	1:B:229:ALA:HB2	2.01	0.59
1:C:81:VAL:HG23	1:C:412:VAL:HG12	1.82	0.59
1:C:131:VAL:CG1	1:C:132:HIS:N	2.65	0.59
1:D:157:PHE:HD1	1:F:56:MET:HE3	1.65	0.59
1:E:275:THR:O	1:E:276:ARG:HB2	2.02	0.59
1:A:213:ILE:HD12	1:A:214:ALA:H	1.67	0.59
1:A:317:TYR:OH	1:A:359:GLY:HA3	2.02	0.59
1:D:213:ILE:HD12	1:D:214:ALA:H	1.67	0.59
1:A:81:VAL:HG23	1:A:412:VAL:HG11	1.85	0.59
1:C:198:VAL:O	1:C:202:MET:HG2	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:84:LYS:NZ	1:B:415:THR:CG2	2.66	0.59
1:D:221:GLY:O	1:D:224:VAL:HG23	2.02	0.59
1:D:77:ARG:HH21	1:D:416:GLU:HG3	1.67	0.59
1:D:84:LYS:HZ1	1:D:415:THR:CG2	2.16	0.59
1:B:317:TYR:OH	1:B:359:GLY:HA3	2.03	0.59
1:E:76:ALA:O	1:E:77:ARG:HB2	2.00	0.59
1:E:81:VAL:HG23	1:E:412:VAL:HG11	1.85	0.59
1:F:84:LYS:NZ	1:F:415:THR:CG2	2.66	0.58
1:B:81:VAL:HG23	1:B:412:VAL:HG11	1.85	0.58
1:B:334:THR:OG1	1:B:337:GLN:HB2	2.03	0.58
1:A:76:ALA:O	1:A:77:ARG:HB2	2.01	0.58
1:B:48:ASP:O	1:B:51:VAL:N	2.37	0.58
1:B:112:GLY:O	1:D:114:HIS:CD2	2.56	0.58
1:C:44:LYS:HD2	1:C:215:TYR:CE1	2.39	0.58
1:C:81:VAL:HG23	1:C:412:VAL:HG11	1.85	0.58
1:D:408:GLY:O	1:D:412:VAL:HG23	2.02	0.58
1:E:81:VAL:HG23	1:E:412:VAL:HG12	1.85	0.58
1:B:213:ILE:HD12	1:B:214:ALA:H	1.67	0.58
1:C:382:ALA:HA	1:C:385:MET:HE3	1.85	0.58
1:B:221:GLY:O	1:B:224:VAL:HG23	2.04	0.58
1:A:81:VAL:HG23	1:A:412:VAL:HG12	1.85	0.58
1:B:81:VAL:HG23	1:B:412:VAL:HG12	1.85	0.58
1:D:157:PHE:CD1	1:F:56:MET:HE3	2.38	0.58
1:D:382:ALA:HA	1:D:385:MET:HE3	1.86	0.58
1:A:358:ALA:O	1:A:362:MET:HG3	2.02	0.58
1:D:131:VAL:CG1	1:D:132:HIS:N	2.67	0.58
1:B:198:VAL:O	1:B:202:MET:HG2	2.02	0.58
1:E:15:LYS:HE3	1:E:206:PRO:HG3	1.85	0.58
1:F:221:GLY:O	1:F:224:VAL:HG23	2.04	0.58
1:A:275:THR:O	1:A:276:ARG:HB2	2.03	0.58
1:C:354:GLY:C	1:C:356:PRO:CD	2.75	0.57
1:A:408:GLY:O	1:A:412:VAL:HG23	2.04	0.57
1:E:84:LYS:HZ1	1:E:415:THR:CG2	2.16	0.57
1:B:80:ARG:NH1	1:B:416:GLU:OE2	2.38	0.57
1:C:115:LEU:HD12	1:C:115:LEU:C	2.28	0.57
1:E:198:VAL:O	1:E:202:MET:HG2	2.04	0.57
1:F:141:ASN:ND2	1:F:144:GLY:H	2.02	0.57
1:B:408:GLY:O	1:B:412:VAL:HG23	2.04	0.57
1:F:221:GLY:O	1:F:223:HIS:N	2.38	0.57
1:F:317:TYR:OH	1:F:359:GLY:HA3	2.04	0.57
1:E:317:TYR:OH	1:E:359:GLY:HA3	2.03	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:112:GLY:O	1:F:114:HIS:CD2	2.57	0.57
1:C:213:ILE:HD12	1:C:214:ALA:H	1.70	0.57
1:F:48:ASP:O	1:F:51:VAL:N	2.38	0.57
1:C:334:THR:OG1	1:C:337:GLN:HB2	2.04	0.57
1:C:275:THR:O	1:C:276:ARG:HB2	2.04	0.57
1:D:115:LEU:C	1:D:115:LEU:HD12	2.29	0.56
1:E:408:GLY:O	1:E:412:VAL:HG23	2.05	0.56
1:E:80:ARG:NH1	1:E:416:GLU:OE2	2.38	0.56
1:E:56:MET:HB2	1:F:139:PRO:O	2.04	0.56
1:D:354:GLY:C	1:D:356:PRO:CD	2.77	0.56
1:F:84:LYS:HZ2	1:F:415:THR:HG21	1.70	0.56
1:B:131:VAL:CG1	1:B:132:HIS:N	2.68	0.56
1:D:275:THR:O	1:D:276:ARG:HB2	2.04	0.56
1:E:44:LYS:HD2	1:E:215:TYR:CE1	2.40	0.56
1:B:239:LEU:HB3	1:B:400:VAL:CG2	2.33	0.56
1:D:334:THR:OG1	1:D:337:GLN:HB2	2.05	0.56
1:E:239:LEU:HB3	1:E:400:VAL:CG2	2.36	0.56
1:B:114:HIS:CD2	1:D:112:GLY:O	2.59	0.56
1:C:296:GLU:O	1:C:300:SER:HB2	2.05	0.56
1:D:358:ALA:O	1:D:362:MET:HG3	2.05	0.56
1:E:84:LYS:NZ	1:E:415:THR:CG2	2.69	0.56
1:F:239:LEU:HB3	1:F:400:VAL:CG2	2.33	0.56
1:D:205:ALA:N	1:D:206:PRO:HD2	2.20	0.56
1:F:334:THR:OG1	1:F:337:GLN:HB2	2.06	0.56
1:B:115:LEU:C	1:B:115:LEU:HD12	2.30	0.56
1:D:221:GLY:O	1:D:223:HIS:N	2.39	0.56
1:E:221:GLY:C	1:E:223:HIS:H	2.14	0.56
1:B:354:GLY:C	1:B:356:PRO:CD	2.79	0.56
1:F:84:LYS:NZ	1:F:415:THR:HG21	2.21	0.56
1:B:221:GLY:C	1:B:223:HIS:H	2.15	0.55
1:E:334:THR:OG1	1:E:337:GLN:HB2	2.06	0.55
1:F:59:MET:HE2	1:F:146:LEU:HA	1.88	0.55
1:D:80:ARG:NH1	1:D:416:GLU:OE2	2.39	0.55
1:A:84:LYS:NZ	1:A:415:THR:CG2	2.70	0.55
1:C:221:GLY:O	1:C:223:HIS:N	2.39	0.55
1:D:174:GLU:OE1	1:D:177:ARG:NE	2.40	0.55
1:F:131:VAL:CG1	1:F:132:HIS:N	2.69	0.55
1:A:141:ASN:HD22	1:A:144:GLY:N	2.04	0.55
1:D:81:VAL:HG23	1:D:412:VAL:HG11	1.86	0.55
1:D:85:ILE:HG13	1:D:89:TYR:CE1	2.41	0.55
1:F:81:VAL:HG23	1:F:412:VAL:HG11	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:155:ILE:HD11	1:E:304:PRO:HB2	1.89	0.55
1:A:221:GLY:C	1:A:223:HIS:H	2.14	0.55
1:A:139:PRO:O	1:C:56:MET:HB2	2.07	0.55
1:A:334:THR:OG1	1:A:337:GLN:HB2	2.07	0.55
1:A:15:LYS:HE3	1:A:206:PRO:HG3	1.89	0.55
1:B:141:ASN:ND2	1:B:144:GLY:H	2.05	0.55
1:F:115:LEU:HD12	1:F:115:LEU:C	2.31	0.55
1:B:84:LYS:NZ	1:B:415:THR:HG21	2.22	0.55
1:B:141:ASN:HD22	1:B:144:GLY:H	1.55	0.55
1:C:59:MET:CE	1:C:146:LEU:HD23	2.37	0.55
1:F:205:ALA:N	1:F:206:PRO:HD2	2.22	0.55
1:A:77:ARG:HH21	1:A:416:GLU:HG3	1.72	0.54
1:B:84:LYS:HZ2	1:B:415:THR:HG21	1.72	0.54
1:C:226:GLY:O	1:C:228:LEU:N	2.40	0.54
1:F:80:ARG:NH1	1:F:416:GLU:OE2	2.40	0.54
1:B:205:ALA:N	1:B:206:PRO:HD2	2.22	0.54
1:E:115:LEU:C	1:E:115:LEU:HD12	2.32	0.54
1:F:97:VAL:HB	1:F:342:VAL:HG13	1.88	0.54
1:F:198:VAL:O	1:F:202:MET:HG2	2.07	0.54
1:C:281:THR:HG22	1:C:281:THR:O	2.06	0.54
1:C:358:ALA:O	1:C:362:MET:HG3	2.07	0.54
1:D:81:VAL:HG23	1:D:412:VAL:HG12	1.88	0.54
1:E:109:PRO:O	1:E:227:GLU:OE1	2.26	0.54
1:E:221:GLY:O	1:E:224:VAL:HG23	2.08	0.54
1:A:221:GLY:O	1:A:224:VAL:HG23	2.07	0.54
1:D:49:LEU:O	1:D:53:LEU:HD12	2.08	0.54
1:F:213:ILE:HD12	1:F:214:ALA:H	1.71	0.54
1:F:354:GLY:C	1:F:356:PRO:CD	2.81	0.54
1:A:80:ARG:NH1	1:A:416:GLU:OE2	2.41	0.54
1:C:174:GLU:OE1	1:C:177:ARG:NE	2.41	0.54
1:D:308:THR:HB	1:D:353:ALA:HB1	1.89	0.54
1:A:354:GLY:C	1:A:356:PRO:CD	2.81	0.53
1:C:80:ARG:NH1	1:C:416:GLU:OE2	2.40	0.53
1:C:84:LYS:HZ1	1:C:415:THR:HG22	1.73	0.53
1:B:95:PHE:C	1:B:95:PHE:CD2	2.86	0.53
1:F:95:PHE:C	1:F:95:PHE:CD2	2.86	0.53
1:A:56:MET:HB2	1:B:139:PRO:O	2.08	0.53
1:B:97:VAL:HB	1:B:342:VAL:HG13	1.90	0.53
1:D:281:THR:O	1:D:281:THR:HG22	2.07	0.53
1:E:354:GLY:C	1:E:356:PRO:CD	2.82	0.53
1:F:317:TYR:HA	1:F:320:VAL:HG12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:226:GLY:O	1:D:228:LEU:N	2.41	0.53
1:D:317:TYR:OH	1:D:359:GLY:HA3	2.09	0.53
1:E:131:VAL:CG1	1:E:132:HIS:N	2.72	0.53
1:A:281:THR:HG22	1:A:281:THR:O	2.09	0.53
1:C:155:ILE:HD11	1:C:304:PRO:HB2	1.90	0.53
1:D:165:ILE:HD11	1:D:183:LEU:CD2	2.39	0.53
1:A:115:LEU:HD12	1:A:115:LEU:C	2.34	0.53
1:D:9:GLU:HB3	1:D:15:LYS:NZ	2.24	0.53
1:C:85:ILE:HG13	1:C:89:TYR:CE1	2.44	0.52
1:C:335:VAL:HA	1:C:338:GLN:NE2	2.24	0.52
1:A:165:ILE:HD11	1:A:183:LEU:CD2	2.38	0.52
1:F:221:GLY:C	1:F:223:HIS:H	2.18	0.52
1:B:56:MET:HB2	1:C:139:PRO:O	2.09	0.52
1:B:213:ILE:HD12	1:B:214:ALA:N	2.23	0.52
1:A:198:VAL:O	1:A:202:MET:HG2	2.09	0.52
1:A:205:ALA:N	1:A:206:PRO:HD2	2.25	0.52
1:B:81:VAL:CG2	1:B:298:ILE:HD12	2.37	0.52
1:B:226:GLY:O	1:B:228:LEU:N	2.42	0.52
1:C:49:LEU:O	1:C:53:LEU:HD12	2.10	0.52
1:E:338:GLN:O	1:E:341:ILE:HB	2.09	0.52
1:A:131:VAL:CG1	1:A:132:HIS:N	2.73	0.52
1:A:239:LEU:HB3	1:A:400:VAL:CG2	2.40	0.52
1:D:89:TYR:CD2	1:D:310:ASN:HB2	2.44	0.52
1:C:77:ARG:HE	1:C:416:GLU:CG	2.22	0.52
1:D:213:ILE:HD12	1:D:214:ALA:N	2.25	0.52
1:D:146:LEU:HD22	1:E:143:PHE:CE1	2.45	0.52
1:E:141:ASN:HD22	1:E:144:GLY:H	1.57	0.52
1:C:317:TYR:OH	1:C:359:GLY:HA3	2.10	0.52
1:D:318:GLN:OE1	1:D:363:LEU:N	2.43	0.52
1:F:81:VAL:CG2	1:F:298:ILE:HD12	2.38	0.52
1:B:113:ILE:HG22	1:B:328:ALA:O	2.11	0.51
1:B:109:PRO:O	1:B:227:GLU:OE1	2.27	0.51
1:C:174:GLU:OE1	1:C:177:ARG:CZ	2.58	0.51
1:E:84:LYS:HZ2	1:E:415:THR:HG21	1.75	0.51
1:F:142:PRO:O	1:F:145:ALA:HB3	2.10	0.51
1:A:10:TYR:HB3	1:A:11:PRO:CD	2.40	0.51
1:B:44:LYS:HD2	1:B:215:TYR:CE1	2.46	0.51
1:C:183:LEU:O	1:C:187:ILE:HG13	2.10	0.51
1:A:59:MET:CE	1:A:146:LEU:HD23	2.40	0.51
1:A:382:ALA:HA	1:A:385:MET:HG3	1.92	0.51
1:B:317:TYR:HA	1:B:320:VAL:HG12	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:15:LYS:HE3	1:C:206:PRO:HG3	1.91	0.51
1:C:317:TYR:HA	1:C:320:VAL:HG12	1.93	0.51
1:E:281:THR:HG22	1:E:281:THR:O	2.11	0.51
1:F:113:ILE:HG22	1:F:328:ALA:O	2.11	0.51
1:F:226:GLY:O	1:F:228:LEU:N	2.43	0.51
1:C:205:ALA:N	1:C:206:PRO:HD2	2.25	0.51
1:D:174:GLU:OE1	1:D:177:ARG:CZ	2.58	0.51
1:E:165:ILE:HD11	1:E:183:LEU:CD2	2.40	0.51
1:F:155:ILE:HD11	1:F:304:PRO:HB2	1.93	0.51
1:F:281:THR:HG22	1:F:281:THR:O	2.08	0.51
1:A:48:ASP:O	1:A:51:VAL:N	2.44	0.51
1:A:109:PRO:O	1:A:227:GLU:OE1	2.29	0.51
1:B:338:GLN:O	1:B:341:ILE:HB	2.10	0.51
1:D:142:PRO:O	1:D:145:ALA:HB3	2.11	0.51
1:D:183:LEU:O	1:D:187:ILE:HG13	2.10	0.51
1:B:15:LYS:HE3	1:B:206:PRO:HG3	1.92	0.51
1:C:10:TYR:HB3	1:C:11:PRO:CD	2.41	0.51
1:C:89:TYR:CD2	1:C:310:ASN:HB2	2.45	0.51
1:C:221:GLY:C	1:C:223:HIS:H	2.18	0.51
1:D:296:GLU:O	1:D:300:SER:HB2	2.10	0.51
1:F:382:ALA:HA	1:F:385:MET:HG3	1.93	0.51
1:C:213:ILE:HD12	1:C:214:ALA:N	2.26	0.51
1:B:281:THR:O	1:B:281:THR:HG22	2.09	0.51
1:D:335:VAL:HA	1:D:338:GLN:NE2	2.26	0.51
1:F:213:ILE:HD12	1:F:214:ALA:N	2.25	0.51
1:D:10:TYR:HB3	1:D:11:PRO:CD	2.41	0.51
1:E:77:ARG:HH21	1:E:416:GLU:HG3	1.76	0.51
1:E:146:LEU:HD22	1:F:143:PHE:CE1	2.46	0.51
1:F:298:ILE:O	1:F:302:THR:HG23	2.11	0.51
1:B:113:ILE:CG2	1:B:328:ALA:O	2.59	0.50
1:C:9:GLU:HB3	1:C:15:LYS:NZ	2.26	0.50
1:E:10:TYR:HB3	1:E:11:PRO:CD	2.41	0.50
1:C:97:VAL:HB	1:C:342:VAL:HG13	1.93	0.50
1:F:408:GLY:O	1:F:412:VAL:HG23	2.11	0.50
1:A:338:GLN:O	1:A:341:ILE:HB	2.11	0.50
1:D:84:LYS:HZ1	1:D:415:THR:HG22	1.76	0.50
1:D:113:ILE:HG22	1:D:328:ALA:O	2.11	0.50
1:D:266:LYS:HG2	1:D:267:ASP:N	2.26	0.50
1:E:205:ALA:N	1:E:206:PRO:HD2	2.27	0.50
1:E:273:PHE:HB2	1:E:399:MET:HB2	1.94	0.50
1:F:10:TYR:HB3	1:F:11:PRO:CD	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:193:ALA:O	1:A:197:ILE:HG13	2.11	0.50
1:D:77:ARG:HE	1:D:416:GLU:CG	2.23	0.50
1:F:15:LYS:HE3	1:F:206:PRO:HG3	1.93	0.50
1:F:109:PRO:O	1:F:227:GLU:OE1	2.28	0.50
1:F:113:ILE:CG2	1:F:328:ALA:O	2.60	0.50
1:B:266:LYS:HG2	1:B:267:ASP:N	2.26	0.50
1:C:239:LEU:HB3	1:C:400:VAL:CG2	2.38	0.50
1:C:318:GLN:OE1	1:C:363:LEU:N	2.44	0.50
1:D:15:LYS:HE3	1:D:206:PRO:HG3	1.92	0.50
1:E:84:LYS:NZ	1:E:415:THR:HG21	2.25	0.50
1:A:133:ILE:HD12	1:A:133:ILE:N	2.27	0.50
1:B:335:VAL:HA	1:B:338:GLN:NE2	2.27	0.50
1:D:338:GLN:O	1:D:341:ILE:HB	2.11	0.50
1:F:76:ALA:O	1:F:77:ARG:CB	2.58	0.50
1:A:362:MET:O	1:A:365:MET:HB2	2.11	0.50
1:D:239:LEU:HB3	1:D:400:VAL:CG2	2.38	0.50
1:A:10:TYR:HB3	1:A:11:PRO:HD2	1.94	0.50
1:A:226:GLY:O	1:A:228:LEU:N	2.45	0.50
1:D:317:TYR:HA	1:D:320:VAL:HG12	1.94	0.50
1:A:84:LYS:NZ	1:A:415:THR:HG21	2.26	0.50
1:D:221:GLY:C	1:D:223:HIS:H	2.19	0.50
1:A:143:PHE:CE1	1:C:146:LEU:HD22	2.47	0.49
1:D:97:VAL:HB	1:D:342:VAL:HG13	1.94	0.49
1:D:113:ILE:CG2	1:D:328:ALA:O	2.60	0.49
1:E:382:ALA:HA	1:E:385:MET:HG3	1.93	0.49
1:A:273:PHE:HB2	1:A:399:MET:HB2	1.95	0.49
1:B:77:ARG:HH21	1:B:416:GLU:HG3	1.77	0.49
1:B:298:ILE:O	1:B:302:THR:HG23	2.12	0.49
1:C:308:THR:HB	1:C:353:ALA:HB1	1.94	0.49
1:E:59:MET:HE2	1:E:146:LEU:HA	1.94	0.49
1:E:97:VAL:HB	1:E:342:VAL:HG13	1.92	0.49
1:E:382:ALA:HA	1:E:385:MET:HE3	1.92	0.49
1:A:59:MET:HE2	1:A:146:LEU:HA	1.92	0.49
1:D:109:PRO:O	1:D:227:GLU:OE1	2.30	0.49
1:E:272:ALA:HB2	1:E:402:VAL:HG21	1.92	0.49
1:A:374:LEU:HD11	1:A:383:TYR:CD1	2.48	0.49
1:B:10:TYR:HB3	1:B:11:PRO:CD	2.42	0.49
1:B:209:VAL:HG22	1:B:274:VAL:HG11	1.94	0.49
1:C:235:VAL:O	1:C:239:LEU:HG	2.13	0.49
1:E:213:ILE:HD12	1:E:214:ALA:N	2.27	0.49
1:C:59:MET:HE2	1:C:146:LEU:HA	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:165:ILE:HD11	1:C:183:LEU:CD2	2.42	0.49
1:C:266:LYS:HG2	1:C:267:ASP:N	2.28	0.49
1:E:292:MET:CE	1:E:294:ILE:HD11	2.43	0.49
1:A:381:ALA:O	1:A:384:ALA:HB3	2.12	0.49
1:A:84:LYS:HZ1	1:A:415:THR:HG22	1.76	0.49
1:B:366:VAL:O	1:B:370:VAL:N	2.45	0.49
1:C:95:PHE:CD2	1:C:95:PHE:C	2.90	0.49
1:C:226:GLY:C	1:C:228:LEU:N	2.71	0.49
1:D:292:MET:HE2	1:D:294:ILE:HD11	1.95	0.49
1:D:219:GLU:HA	1:D:219:GLU:OE2	2.13	0.49
1:D:235:VAL:O	1:D:239:LEU:HG	2.13	0.49
1:E:48:ASP:O	1:E:51:VAL:N	2.46	0.49
1:F:77:ARG:HH21	1:F:416:GLU:HG3	1.77	0.49
1:F:174:GLU:OE1	1:F:177:ARG:NE	2.46	0.49
1:A:155:ILE:HD11	1:A:304:PRO:HB2	1.95	0.49
1:E:141:ASN:ND2	1:E:144:GLY:H	2.11	0.49
1:F:59:MET:CE	1:F:146:LEU:HD23	2.43	0.49
1:C:44:LYS:N	1:C:45:PRO:HD2	2.28	0.49
1:E:10:TYR:HB3	1:E:11:PRO:HD2	1.95	0.49
1:C:113:ILE:HG22	1:C:328:ALA:O	2.13	0.48
1:A:114:HIS:CD2	1:A:114:HIS:N	2.73	0.48
1:B:85:ILE:HG13	1:B:89:TYR:CE1	2.48	0.48
1:E:174:GLU:OE1	1:E:177:ARG:NE	2.45	0.48
1:E:226:GLY:O	1:E:228:LEU:N	2.46	0.48
1:E:259:ILE:N	1:E:259:ILE:HD12	2.28	0.48
1:E:317:TYR:HA	1:E:320:VAL:HG12	1.95	0.48
1:B:59:MET:CE	1:B:146:LEU:HD23	2.44	0.48
1:B:137:ILE:O	1:B:153:PRO:HA	2.13	0.48
1:B:165:ILE:HD11	1:B:183:LEU:CD2	2.43	0.48
1:C:77:ARG:HG2	1:C:80:ARG:NH2	2.29	0.48
1:B:210:PHE:O	1:B:213:ILE:HD12	2.13	0.48
1:C:10:TYR:HB3	1:C:11:PRO:HD2	1.96	0.48
1:C:109:PRO:O	1:C:227:GLU:OE1	2.31	0.48
1:D:10:TYR:HB3	1:D:11:PRO:HD2	1.96	0.48
1:D:173:ASN:C	1:D:173:ASN:OD1	2.56	0.48
1:E:17:LEU:O	1:E:21:ILE:HG12	2.13	0.48
1:A:112:GLY:O	1:E:114:HIS:CD2	2.67	0.48
1:D:17:LEU:O	1:D:21:ILE:HG12	2.13	0.48
1:F:110:GLY:CA	1:F:327:ASN:HB3	2.41	0.48
1:F:335:VAL:HA	1:F:338:GLN:NE2	2.29	0.48
1:B:17:LEU:O	1:B:21:ILE:HG12	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:282:LEU:HD21	1:D:304:PRO:HA	1.96	0.48
1:A:213:ILE:HD12	1:A:214:ALA:N	2.28	0.48
1:B:367:LEU:HD22	1:B:372:LEU:HD12	1.96	0.48
1:D:95:PHE:C	1:D:95:PHE:CD2	2.91	0.48
1:D:226:GLY:C	1:D:228:LEU:N	2.72	0.48
1:E:296:GLU:O	1:E:300:SER:HB2	2.14	0.48
1:F:209:VAL:HG22	1:F:274:VAL:HG11	1.96	0.48
1:F:266:LYS:HG2	1:F:267:ASP:N	2.28	0.48
1:A:113:ILE:HG22	1:A:328:ALA:O	2.14	0.48
1:B:374:LEU:HD11	1:B:383:TYR:CD1	2.49	0.48
1:F:165:ILE:HD11	1:F:183:LEU:CD2	2.43	0.48
1:B:324:PHE:C	1:B:324:PHE:CD2	2.91	0.48
1:B:382:ALA:HA	1:B:385:MET:HG3	1.96	0.48
1:C:113:ILE:CG2	1:C:328:ALA:O	2.62	0.48
1:E:174:GLU:OE1	1:E:177:ARG:CZ	2.61	0.48
1:A:81:VAL:CG2	1:A:298:ILE:HD12	2.42	0.48
1:E:311:MET:HB2	1:E:349:SER:HB2	1.95	0.48
1:F:174:GLU:OE1	1:F:177:ARG:CZ	2.62	0.48
1:F:317:TYR:HA	1:F:320:VAL:CG1	2.44	0.48
1:C:74:SER:HB3	1:C:77:ARG:HG3	1.96	0.47
1:D:374:LEU:HD11	1:D:383:TYR:CD1	2.49	0.47
1:E:81:VAL:CG2	1:E:298:ILE:HD12	2.42	0.47
1:A:17:LEU:O	1:A:21:ILE:HG12	2.13	0.47
1:A:95:PHE:C	1:A:95:PHE:CD2	2.91	0.47
1:A:183:LEU:O	1:A:187:ILE:HG13	2.14	0.47
1:B:110:GLY:CA	1:B:327:ASN:HB3	2.41	0.47
1:B:221:GLY:C	1:B:223:HIS:N	2.73	0.47
1:E:193:ALA:O	1:E:197:ILE:HG13	2.14	0.47
1:F:366:VAL:O	1:F:370:VAL:N	2.46	0.47
1:A:311:MET:HB2	1:A:349:SER:HB2	1.96	0.47
1:B:59:MET:HE2	1:B:146:LEU:HA	1.96	0.47
1:B:155:ILE:HD11	1:B:304:PRO:HB2	1.96	0.47
1:B:308:THR:HB	1:B:353:ALA:HB1	1.96	0.47
1:C:374:LEU:HD11	1:C:383:TYR:CD1	2.50	0.47
1:E:113:ILE:HG22	1:E:328:ALA:O	2.14	0.47
1:F:17:LEU:O	1:F:21:ILE:HG12	2.14	0.47
1:F:44:LYS:HD2	1:F:215:TYR:CE1	2.50	0.47
1:A:77:ARG:HE	1:A:416:GLU:CG	2.26	0.47
1:A:221:GLY:C	1:A:223:HIS:N	2.73	0.47
1:B:89:TYR:O	1:B:93:SER:HB2	2.15	0.47
1:D:130:LEU:CB	1:D:133:ILE:HD13	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:110:GLY:HA3	1:E:327:ASN:HB2	1.96	0.47
1:A:131:VAL:HG21	1:C:45:PRO:HB3	1.96	0.47
1:A:335:VAL:HA	1:A:338:GLN:NE2	2.30	0.47
1:A:382:ALA:HA	1:A:385:MET:HE3	1.95	0.47
1:B:226:GLY:C	1:B:228:LEU:N	2.72	0.47
1:C:142:PRO:O	1:C:145:ALA:HB3	2.15	0.47
1:E:113:ILE:CG2	1:E:328:ALA:CB	2.89	0.47
1:E:221:GLY:C	1:E:223:HIS:N	2.73	0.47
1:F:85:ILE:HG13	1:F:89:TYR:CE1	2.49	0.47
1:F:324:PHE:C	1:F:324:PHE:CD2	2.92	0.47
1:F:367:LEU:HD22	1:F:372:LEU:HD12	1.97	0.47
1:A:9:GLU:HB3	1:A:15:LYS:NZ	2.30	0.47
1:A:113:ILE:CG2	1:A:328:ALA:CB	2.89	0.47
1:A:114:HIS:CD2	1:E:112:GLY:O	2.68	0.47
1:A:141:ASN:ND2	1:A:143:PHE:HB2	2.30	0.47
1:A:174:GLU:OE1	1:A:177:ARG:NE	2.47	0.47
1:A:174:GLU:OE1	1:A:177:ARG:CZ	2.62	0.47
1:B:263:LYS:O	1:B:266:LYS:HD3	2.15	0.47
1:C:81:VAL:CG2	1:C:298:ILE:HD12	2.43	0.47
1:C:363:LEU:O	1:C:366:VAL:HG22	2.15	0.47
1:C:366:VAL:O	1:C:370:VAL:N	2.46	0.47
1:D:155:ILE:HD11	1:D:304:PRO:HB2	1.96	0.47
1:D:382:ALA:HA	1:D:385:MET:HG3	1.95	0.47
1:E:59:MET:CE	1:E:146:LEU:HD23	2.45	0.47
1:F:59:MET:SD	1:F:149:GLY:O	2.72	0.47
1:F:374:LEU:HD11	1:F:383:TYR:CD1	2.50	0.47
1:B:77:ARG:HE	1:B:416:GLU:CG	2.25	0.47
1:B:113:ILE:CG2	1:B:328:ALA:CB	2.88	0.47
1:E:133:ILE:N	1:E:133:ILE:HD12	2.30	0.47
1:F:362:MET:O	1:F:365:MET:HB2	2.15	0.47
1:B:117:VAL:HG21	1:B:378:ASN:HB2	1.97	0.47
1:B:117:VAL:HG23	1:B:378:ASN:HD22	1.79	0.47
1:B:174:GLU:OE1	1:B:177:ARG:NE	2.48	0.47
1:B:317:TYR:HA	1:B:320:VAL:CG1	2.45	0.47
1:D:77:ARG:HG2	1:D:80:ARG:NH2	2.30	0.47
1:E:95:PHE:C	1:E:95:PHE:CD2	2.92	0.47
1:E:235:VAL:O	1:E:239:LEU:HG	2.15	0.47
1:F:81:VAL:CG2	1:F:412:VAL:HG11	2.45	0.47
1:F:308:THR:HB	1:F:353:ALA:HB1	1.97	0.47
1:C:110:GLY:HA3	1:C:327:ASN:HB2	1.97	0.47
1:F:88:TYR:CD1	1:F:88:TYR:C	2.92	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:361:ILE:HG22	1:C:365:MET:HE3	1.96	0.46
1:F:9:GLU:HB3	1:F:15:LYS:NZ	2.31	0.46
1:A:93:SER:HA	1:A:312:ASP:OD1	2.16	0.46
1:D:139:PRO:O	1:F:56:MET:HB2	2.15	0.46
1:D:324:PHE:CD2	1:D:324:PHE:C	2.93	0.46
1:D:383:TYR:CE2	1:D:387:LEU:CD1	2.99	0.46
1:C:17:LEU:O	1:C:21:ILE:HG12	2.15	0.46
1:C:81:VAL:CG2	1:C:412:VAL:HG11	2.45	0.46
1:F:77:ARG:HE	1:F:416:GLU:CG	2.25	0.46
1:F:113:ILE:CG2	1:F:328:ALA:CB	2.88	0.46
1:A:113:ILE:CG2	1:A:328:ALA:O	2.63	0.46
1:C:361:ILE:CG2	1:C:365:MET:HE3	2.46	0.46
1:E:257:ASP:OD2	1:E:260:SER:N	2.43	0.46
1:F:273:PHE:CE1	1:F:395:MET:HB3	2.50	0.46
1:A:148:ASN:O	1:A:149:GLY:C	2.57	0.46
1:A:383:TYR:CE2	1:A:387:LEU:CD1	2.98	0.46
1:B:88:TYR:CD1	1:B:88:TYR:C	2.93	0.46
1:D:113:ILE:CG2	1:D:328:ALA:C	2.89	0.46
1:D:113:ILE:CG2	1:D:328:ALA:CB	2.86	0.46
1:E:113:ILE:CG2	1:E:328:ALA:O	2.63	0.46
1:E:324:PHE:C	1:E:324:PHE:CD2	2.93	0.46
1:A:308:THR:HB	1:A:353:ALA:HB1	1.96	0.46
1:A:324:PHE:C	1:A:324:PHE:CD2	2.93	0.46
1:B:47:GLY:HA3	1:B:212:LEU:CD2	2.43	0.46
1:C:130:LEU:CB	1:C:133:ILE:HD13	2.45	0.46
1:D:263:LYS:O	1:D:266:LYS:HD3	2.16	0.46
1:E:148:ASN:O	1:E:149:GLY:C	2.57	0.46
1:E:374:LEU:HD11	1:E:383:TYR:CD1	2.51	0.46
1:B:231:VAL:O	1:B:235:VAL:HG23	2.15	0.46
1:C:76:ALA:O	1:C:77:ARG:CB	2.63	0.46
1:D:190:LEU:CD1	1:D:194:MET:HE3	2.45	0.46
1:A:97:VAL:HB	1:A:342:VAL:HG13	1.96	0.46
1:A:142:PRO:O	1:A:145:ALA:HB3	2.16	0.46
1:A:296:GLU:O	1:A:300:SER:HB2	2.16	0.46
1:B:20:LEU:HD23	1:B:20:LEU:C	2.41	0.46
1:C:415:THR:HG22	1:C:415:THR:O	2.15	0.46
1:F:117:VAL:HG23	1:F:378:ASN:HD22	1.79	0.46
1:A:257:ASP:OD2	1:A:260:SER:N	2.44	0.46
1:B:318:GLN:OE1	1:B:363:LEU:N	2.49	0.46
1:F:93:SER:HA	1:F:312:ASP:OD1	2.16	0.46
1:A:73:ILE:HD12	1:A:73:ILE:HA	1.86	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:317:TYR:HA	1:A:320:VAL:HG12	1.98	0.46
1:B:81:VAL:CG2	1:B:412:VAL:HG11	2.46	0.46
1:C:338:GLN:O	1:C:341:ILE:HB	2.16	0.46
1:D:148:ASN:O	1:D:149:GLY:C	2.58	0.46
1:E:335:VAL:HA	1:E:338:GLN:NE2	2.31	0.46
1:F:226:GLY:C	1:F:228:LEU:N	2.74	0.46
1:B:78:LEU:CA	1:B:81:VAL:HG12	2.44	0.45
1:C:47:GLY:HA3	1:C:212:LEU:CD2	2.46	0.45
1:C:324:PHE:C	1:C:324:PHE:CD2	2.94	0.45
1:E:89:TYR:CD2	1:E:310:ASN:HB2	2.51	0.45
1:D:183:LEU:HD13	1:F:190:LEU:N	2.32	0.45
1:E:130:LEU:CB	1:E:133:ILE:HD13	2.46	0.45
1:A:131:VAL:HG21	1:C:45:PRO:CB	2.46	0.45
1:B:110:GLY:HA3	1:B:327:ASN:HB2	1.95	0.45
1:C:110:GLY:CA	1:C:327:ASN:HB3	2.46	0.45
1:E:318:GLN:OE1	1:E:363:LEU:N	2.49	0.45
1:B:259:ILE:N	1:B:259:ILE:HD12	2.30	0.45
1:C:97:VAL:HG22	1:C:315:ALA:O	2.16	0.45
1:D:168:LEU:HD11	1:F:193:ALA:N	2.31	0.45
1:F:221:GLY:C	1:F:223:HIS:N	2.75	0.45
1:B:104:ALA:O	1:B:107:PHE:O	2.33	0.45
1:D:117:VAL:HG21	1:D:378:ASN:HB2	1.97	0.45
1:D:209:VAL:HG22	1:D:274:VAL:HG11	1.98	0.45
1:D:317:TYR:HA	1:D:320:VAL:CG1	2.47	0.45
1:E:317:TYR:CD2	1:E:393:LEU:HB3	2.52	0.45
1:F:10:TYR:HB3	1:F:11:PRO:HD2	1.97	0.45
1:A:190:LEU:CD1	1:A:194:MET:HE3	2.47	0.45
1:B:9:GLU:HB3	1:B:15:LYS:NZ	2.32	0.45
1:B:10:TYR:HB3	1:B:11:PRO:HD2	1.97	0.45
1:B:142:PRO:O	1:B:145:ALA:HB3	2.17	0.45
1:B:257:ASP:OD2	1:B:260:SER:N	2.44	0.45
1:C:408:GLY:O	1:C:412:VAL:HG23	2.16	0.45
1:D:81:VAL:CG2	1:D:298:ILE:HD12	2.45	0.45
1:D:110:GLY:CA	1:D:327:ASN:HB3	2.47	0.45
1:E:314:THR:HG21	1:E:362:MET:HE1	1.98	0.45
1:F:231:VAL:O	1:F:235:VAL:HG23	2.16	0.45
1:F:259:ILE:HD12	1:F:259:ILE:N	2.30	0.45
1:F:383:TYR:CE2	1:F:387:LEU:CD1	3.00	0.45
1:A:89:TYR:CD2	1:A:310:ASN:HB2	2.52	0.45
1:A:110:GLY:HA3	1:A:327:ASN:HB2	1.99	0.45
1:A:327:ASN:HD22	1:A:327:ASN:HA	1.63	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:296:GLU:O	1:B:300:SER:HB2	2.17	0.45
1:C:173:ASN:OD1	1:C:173:ASN:C	2.60	0.45
1:E:141:ASN:HD22	1:E:144:GLY:N	2.15	0.45
1:E:266:LYS:HG2	1:E:267:ASP:N	2.32	0.45
1:D:45:PRO:HB3	1:E:131:VAL:HG21	1.98	0.45
1:D:59:MET:CE	1:D:146:LEU:HD23	2.46	0.45
1:D:110:GLY:HA3	1:D:327:ASN:HB2	1.98	0.45
1:E:84:LYS:HZ1	1:E:415:THR:HG22	1.82	0.45
1:C:219:GLU:OE2	1:C:219:GLU:HA	2.17	0.45
1:E:383:TYR:CE2	1:E:387:LEU:CD1	2.99	0.45
1:F:131:VAL:O	1:F:132:HIS:C	2.60	0.45
1:F:338:GLN:O	1:F:341:ILE:HB	2.17	0.45
1:B:174:GLU:OE1	1:B:177:ARG:CZ	2.65	0.45
1:D:97:VAL:HG22	1:D:315:ALA:O	2.17	0.45
1:D:366:VAL:O	1:D:370:VAL:N	2.48	0.45
1:D:367:LEU:HD22	1:D:372:LEU:HD12	1.97	0.45
1:E:9:GLU:HB3	1:E:15:LYS:NZ	2.32	0.45
1:E:88:TYR:CD1	1:E:88:TYR:C	2.95	0.45
1:E:130:LEU:HB2	1:E:133:ILE:HD13	1.98	0.45
1:F:104:ALA:O	1:F:107:PHE:O	2.34	0.45
1:F:117:VAL:HG21	1:F:378:ASN:HB2	1.98	0.45
1:F:235:VAL:O	1:F:239:LEU:HG	2.17	0.45
1:B:113:ILE:CG2	1:B:328:ALA:C	2.90	0.44
1:B:147:ALA:O	1:C:141:ASN:ND2	2.50	0.44
1:C:382:ALA:HA	1:C:385:MET:HG3	1.98	0.44
1:D:209:VAL:O	1:D:213:ILE:HG13	2.16	0.44
1:E:77:ARG:HE	1:E:416:GLU:CG	2.28	0.44
1:E:183:LEU:O	1:E:187:ILE:HG13	2.17	0.44
1:F:296:GLU:O	1:F:300:SER:HB2	2.18	0.44
1:E:308:THR:HB	1:E:353:ALA:HB1	1.98	0.44
1:B:93:SER:HA	1:B:312:ASP:OD1	2.18	0.44
1:C:246:VAL:O	1:C:250:LEU:HB2	2.18	0.44
1:C:263:LYS:O	1:C:266:LYS:HD3	2.17	0.44
1:D:415:THR:HG22	1:D:415:THR:O	2.16	0.44
1:F:47:GLY:HA3	1:F:212:LEU:CD2	2.44	0.44
1:A:146:LEU:HD22	1:B:143:PHE:CE1	2.52	0.44
1:C:48:ASP:O	1:C:51:VAL:N	2.50	0.44
1:D:17:LEU:HD13	1:D:17:LEU:HA	1.80	0.44
1:E:314:THR:HG21	1:E:362:MET:CE	2.47	0.44
1:E:389:ILE:HD12	1:E:389:ILE:HA	1.91	0.44
1:A:193:ALA:N	1:B:168:LEU:HD11	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:367:LEU:HD22	1:A:372:LEU:HD12	1.99	0.44
1:B:18:ILE:O	1:B:22:LEU:HB3	2.17	0.44
1:C:104:ALA:O	1:C:107:PHE:O	2.36	0.44
1:C:296:GLU:O	1:C:300:SER:CB	2.65	0.44
1:D:363:LEU:O	1:D:366:VAL:HG22	2.18	0.44
1:E:327:ASN:HD22	1:E:327:ASN:HA	1.63	0.44
1:E:367:LEU:HD22	1:E:372:LEU:HD12	1.99	0.44
1:F:18:ILE:O	1:F:22:LEU:HB3	2.18	0.44
1:F:333:LEU:HD23	1:F:333:LEU:HA	1.89	0.44
1:C:113:ILE:CG2	1:C:328:ALA:C	2.91	0.44
1:C:113:ILE:CG2	1:C:328:ALA:CB	2.88	0.44
1:C:367:LEU:HD22	1:C:372:LEU:HD12	1.98	0.44
1:D:130:LEU:HB2	1:D:133:ILE:HD13	2.00	0.44
1:E:45:PRO:CB	1:F:131:VAL:HG21	2.47	0.44
1:E:93:SER:HA	1:E:312:ASP:OD1	2.18	0.44
1:F:137:ILE:O	1:F:153:PRO:HA	2.18	0.44
1:F:332:HIS:CD2	1:F:332:HIS:H	2.36	0.44
1:A:76:ALA:O	1:A:77:ARG:CB	2.66	0.44
1:A:272:ALA:HB2	1:A:402:VAL:HG21	1.98	0.44
1:B:103:MET:HG3	1:B:238:GLY:HA2	2.00	0.44
1:B:190:LEU:N	1:C:183:LEU:HD13	2.33	0.44
1:B:362:MET:O	1:B:365:MET:HB2	2.18	0.44
1:C:117:VAL:HG21	1:C:378:ASN:HB2	1.98	0.44
1:D:76:ALA:O	1:D:77:ARG:CB	2.65	0.44
1:D:272:ALA:HB2	1:D:402:VAL:HG21	1.99	0.44
1:E:73:ILE:HD12	1:E:73:ILE:HA	1.88	0.44
1:F:282:LEU:HD21	1:F:304:PRO:HA	1.99	0.44
1:A:44:LYS:N	1:A:45:PRO:HD2	2.33	0.44
1:B:84:LYS:HZ1	1:B:415:THR:HG22	1.81	0.44
1:C:55:LYS:O	1:C:56:MET:C	2.61	0.44
1:D:361:ILE:CG2	1:D:365:MET:HE3	2.48	0.44
1:E:193:ALA:N	1:F:168:LEU:HD11	2.32	0.44
1:E:298:ILE:O	1:E:302:THR:HG23	2.17	0.44
1:F:113:ILE:CG2	1:F:328:ALA:C	2.91	0.44
1:F:213:ILE:H	1:F:213:ILE:HG13	1.62	0.44
1:A:209:VAL:O	1:A:213:ILE:HG13	2.17	0.43
1:B:131:VAL:O	1:B:132:HIS:C	2.58	0.43
1:C:117:VAL:HG23	1:C:378:ASN:HD22	1.82	0.43
1:C:141:ASN:ND2	1:C:144:GLY:H	2.16	0.43
1:C:215:TYR:O	1:C:219:GLU:HG2	2.18	0.43
1:C:298:ILE:O	1:C:302:THR:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:210:PHE:HA	1:D:213:ILE:HD11	2.00	0.43
1:E:110:GLY:CA	1:E:327:ASN:HB3	2.47	0.43
1:F:89:TYR:CD2	1:F:310:ASN:HB2	2.53	0.43
1:A:235:VAL:O	1:A:239:LEU:HG	2.18	0.43
1:A:266:LYS:HG2	1:A:267:ASP:N	2.33	0.43
1:A:366:VAL:O	1:A:370:VAL:N	2.50	0.43
1:C:210:PHE:HA	1:C:213:ILE:HD11	2.00	0.43
1:C:221:GLY:C	1:C:223:HIS:N	2.77	0.43
1:C:282:LEU:HD21	1:C:304:PRO:HA	2.00	0.43
1:D:44:LYS:N	1:D:45:PRO:HD2	2.33	0.43
1:D:104:ALA:O	1:D:107:PHE:O	2.36	0.43
1:D:117:VAL:HG23	1:D:378:ASN:HD22	1.82	0.43
1:D:215:TYR:O	1:D:219:GLU:HG2	2.18	0.43
1:E:366:VAL:O	1:E:370:VAL:N	2.50	0.43
1:F:20:LEU:C	1:F:20:LEU:HD23	2.43	0.43
1:A:88:TYR:CD1	1:A:88:TYR:C	2.96	0.43
1:B:332:HIS:CD2	1:B:332:HIS:H	2.37	0.43
1:C:17:LEU:HD13	1:C:17:LEU:HA	1.80	0.43
1:C:317:TYR:HA	1:C:320:VAL:CG1	2.49	0.43
1:D:59:MET:HE2	1:D:146:LEU:HA	1.99	0.43
1:E:292:MET:HE2	1:E:294:ILE:HD11	2.00	0.43
1:F:110:GLY:HA3	1:F:327:ASN:HB2	1.97	0.43
1:F:263:LYS:O	1:F:266:LYS:HD3	2.19	0.43
1:B:59:MET:SD	1:B:149:GLY:O	2.76	0.43
1:C:88:TYR:CD1	1:C:88:TYR:C	2.96	0.43
1:E:209:VAL:O	1:E:213:ILE:HG13	2.18	0.43
1:F:318:GLN:OE1	1:F:363:LEU:N	2.51	0.43
1:A:97:VAL:HG22	1:A:315:ALA:O	2.18	0.43
1:B:95:PHE:C	1:B:95:PHE:HD2	2.27	0.43
1:C:141:ASN:HD22	1:C:144:GLY:H	1.65	0.43
1:D:47:GLY:HA3	1:D:212:LEU:CD2	2.49	0.43
1:D:73:ILE:HG13	1:D:77:ARG:HD2	2.01	0.43
1:E:45:PRO:HB3	1:F:131:VAL:HG21	1.99	0.43
1:F:95:PHE:C	1:F:95:PHE:HD2	2.27	0.43
1:B:210:PHE:HA	1:B:213:ILE:HD11	2.00	0.43
1:D:318:GLN:OE1	1:D:363:LEU:CA	2.66	0.43
1:B:49:LEU:O	1:B:53:LEU:HD12	2.18	0.43
1:F:311:MET:HB2	1:F:349:SER:HB2	2.00	0.43
1:A:263:LYS:O	1:A:266:LYS:HD3	2.19	0.43
1:B:316:LEU:C	1:B:316:LEU:HD23	2.43	0.43
1:D:316:LEU:HD23	1:D:316:LEU:C	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:49:LEU:O	1:F:53:LEU:HD12	2.17	0.43
1:F:53:LEU:O	1:F:56:MET:HB3	2.19	0.43
1:A:77:ARG:NE	1:A:416:GLU:HG2	2.33	0.43
1:B:213:ILE:H	1:B:213:ILE:HG13	1.64	0.43
1:B:383:TYR:CE2	1:B:387:LEU:CD1	3.02	0.43
1:D:193:ALA:N	1:E:168:LEU:HD11	2.34	0.43
1:E:47:GLY:HA3	1:E:212:LEU:CD2	2.46	0.43
1:E:226:GLY:C	1:E:228:LEU:N	2.77	0.43
1:E:381:ALA:O	1:E:384:ALA:HB3	2.19	0.43
1:F:380:ALA:O	1:F:381:ALA:C	2.62	0.43
1:A:361:ILE:CG2	1:A:365:MET:HE3	2.49	0.42
1:B:209:VAL:O	1:B:213:ILE:HG13	2.19	0.42
1:C:292:MET:HE2	1:C:294:ILE:HD11	2.01	0.42
1:D:221:GLY:C	1:D:223:HIS:N	2.77	0.42
1:D:259:ILE:HD12	1:D:259:ILE:N	2.34	0.42
1:E:55:LYS:O	1:E:56:MET:C	2.62	0.42
1:F:103:MET:HG3	1:F:238:GLY:HA2	2.01	0.42
1:A:317:TYR:CD2	1:A:393:LEU:HB3	2.54	0.42
1:B:333:LEU:HD23	1:B:333:LEU:HA	1.92	0.42
1:D:20:LEU:C	1:D:20:LEU:HD23	2.44	0.42
1:F:130:LEU:CB	1:F:133:ILE:HD13	2.49	0.42
1:F:313:GLY:N	1:F:401:ASN:OD1	2.52	0.42
1:A:259:ILE:HD12	1:A:259:ILE:N	2.35	0.42
1:C:318:GLN:OE1	1:C:363:LEU:CA	2.67	0.42
1:D:246:VAL:O	1:D:250:LEU:HB2	2.20	0.42
1:E:392:ILE:HA	1:E:395:MET:HE2	2.01	0.42
1:A:110:GLY:CA	1:A:327:ASN:HB3	2.48	0.42
1:A:226:GLY:C	1:A:228:LEU:N	2.78	0.42
1:B:97:VAL:HG22	1:B:315:ALA:O	2.18	0.42
1:C:88:TYR:CD1	1:C:89:TYR:N	2.87	0.42
1:C:209:VAL:O	1:C:213:ILE:HG13	2.18	0.42
1:F:30:LEU:O	1:F:35:TYR:HB2	2.19	0.42
1:F:257:ASP:OD2	1:F:260:SER:N	2.47	0.42
1:A:380:ALA:O	1:A:381:ALA:C	2.62	0.42
1:B:77:ARG:NE	1:B:416:GLU:HG2	2.29	0.42
1:D:112:GLY:O	1:D:227:GLU:HG3	2.20	0.42
1:E:263:LYS:O	1:E:266:LYS:HD3	2.20	0.42
1:E:313:GLY:N	1:E:401:ASN:OD1	2.52	0.42
1:E:318:GLN:OE1	1:E:363:LEU:CA	2.68	0.42
1:F:74:SER:HB3	1:F:77:ARG:HG3	2.02	0.42
1:A:314:THR:HG21	1:A:362:MET:CE	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:235:VAL:O	1:B:239:LEU:HG	2.20	0.42
1:E:78:LEU:CA	1:E:81:VAL:HG12	2.43	0.42
1:F:219:GLU:OE2	1:F:219:GLU:HA	2.20	0.42
1:E:49:LEU:O	1:E:53:LEU:HD12	2.20	0.42
1:A:54:LEU:HD23	1:A:54:LEU:HA	1.86	0.42
1:A:137:ILE:O	1:A:153:PRO:HA	2.20	0.42
1:B:157:PHE:CD2	1:B:157:PHE:C	2.98	0.42
1:C:148:ASN:O	1:C:149:GLY:C	2.62	0.42
1:C:333:LEU:HD23	1:C:333:LEU:HA	1.88	0.42
1:C:406:LEU:HD23	1:C:406:LEU:HA	1.88	0.42
1:D:212:LEU:HD12	1:D:274:VAL:HG13	2.00	0.42
1:E:81:VAL:CG2	1:E:412:VAL:HG11	2.48	0.42
1:E:85:ILE:HG13	1:E:89:TYR:CE1	2.55	0.42
1:A:81:VAL:CG2	1:A:412:VAL:HG11	2.49	0.42
1:A:114:HIS:O	1:E:226:GLY:HA3	2.19	0.42
1:A:183:LEU:HD13	1:C:190:LEU:N	2.35	0.42
1:A:231:VAL:O	1:A:235:VAL:HG23	2.20	0.42
1:D:141:ASN:ND2	1:F:147:ALA:O	2.52	0.42
1:D:174:GLU:OE1	1:D:177:ARG:HD2	2.20	0.42
1:D:311:MET:HB2	1:D:349:SER:HB2	2.00	0.42
1:E:117:VAL:HG21	1:E:378:ASN:HB2	2.01	0.42
1:A:45:PRO:CB	1:B:131:VAL:HG21	2.49	0.42
1:A:141:ASN:HD21	1:A:143:PHE:HB2	1.84	0.42
1:B:292:MET:HE2	1:B:294:ILE:HD11	2.01	0.42
1:C:117:VAL:HG21	1:C:376:ASP:OD2	2.19	0.42
1:D:12:VAL:N	1:D:15:LYS:HB2	2.30	0.42
1:D:210:PHE:O	1:D:213:ILE:HD12	2.18	0.42
1:E:189:GLY:N	1:F:179:SER:HB3	2.35	0.42
1:F:117:VAL:HG21	1:F:376:ASP:OD2	2.20	0.42
1:A:17:LEU:HD13	1:A:17:LEU:HA	1.76	0.41
1:A:205:ALA:O	1:A:209:VAL:HG23	2.20	0.41
1:B:361:ILE:CG2	1:B:365:MET:HE3	2.50	0.41
1:C:212:LEU:HD12	1:C:274:VAL:HG13	2.00	0.41
1:C:231:VAL:O	1:C:235:VAL:HG23	2.19	0.41
1:D:45:PRO:CB	1:E:131:VAL:HG21	2.50	0.41
1:D:117:VAL:HG21	1:D:376:ASP:OD2	2.20	0.41
1:D:333:LEU:HD23	1:D:333:LEU:HA	1.88	0.41
1:E:142:PRO:O	1:E:145:ALA:HB3	2.20	0.41
1:A:55:LYS:O	1:A:56:MET:C	2.63	0.41
1:B:23:GLY:HA2	1:B:210:PHE:CE2	2.55	0.41
1:C:259:ILE:N	1:C:259:ILE:HD12	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:361:ILE:HG22	1:D:365:MET:HE3	2.01	0.41
1:F:97:VAL:HG22	1:F:315:ALA:O	2.19	0.41
1:F:361:ILE:CG2	1:F:365:MET:HE3	2.50	0.41
1:A:85:ILE:HD13	1:A:412:VAL:HG21	2.02	0.41
1:A:133:ILE:N	1:A:133:ILE:CD1	2.84	0.41
1:A:292:MET:CE	1:A:294:ILE:HD11	2.51	0.41
1:B:30:LEU:O	1:B:35:TYR:HB2	2.19	0.41
1:B:282:LEU:HD21	1:B:304:PRO:HA	2.01	0.41
1:D:82:GLY:HA2	1:D:301:PHE:HE2	1.85	0.41
1:D:90:LEU:HD12	1:D:90:LEU:HA	1.89	0.41
1:D:103:MET:CE	1:D:237:VAL:HB	2.50	0.41
1:D:296:GLU:O	1:D:300:SER:CB	2.68	0.41
1:D:401:ASN:O	1:D:405:ASP:OD1	2.38	0.41
1:E:141:ASN:ND2	1:E:143:PHE:HB2	2.36	0.41
1:E:210:PHE:HA	1:E:213:ILE:HD11	2.02	0.41
1:F:58:VAL:HG22	1:F:283:PRO:HD3	2.02	0.41
1:F:292:MET:HE2	1:F:294:ILE:HD11	2.01	0.41
1:A:85:ILE:HG13	1:A:89:TYR:CE1	2.56	0.41
1:B:311:MET:HB2	1:B:349:SER:HB2	2.02	0.41
1:C:84:LYS:NZ	1:C:415:THR:HG22	2.30	0.41
1:C:311:MET:HB2	1:C:349:SER:HB2	2.01	0.41
1:C:316:LEU:C	1:C:316:LEU:HD23	2.45	0.41
1:E:190:LEU:N	1:F:183:LEU:HD13	2.34	0.41
1:E:205:ALA:O	1:E:209:VAL:HG23	2.20	0.41
1:E:210:PHE:O	1:E:213:ILE:HD12	2.20	0.41
1:F:85:ILE:HD13	1:F:412:VAL:HG21	2.02	0.41
1:F:316:LEU:HD23	1:F:316:LEU:C	2.45	0.41
1:A:318:GLN:OE1	1:A:363:LEU:N	2.53	0.41
1:B:380:ALA:O	1:B:381:ALA:C	2.62	0.41
1:C:130:LEU:HB2	1:C:133:ILE:HD13	2.02	0.41
1:C:133:ILE:N	1:C:133:ILE:HD12	2.34	0.41
1:C:326:ALA:HB1	1:C:333:LEU:HG	2.01	0.41
1:D:48:ASP:O	1:D:51:VAL:N	2.53	0.41
1:D:55:LYS:O	1:D:56:MET:C	2.64	0.41
1:A:117:VAL:HG21	1:A:378:ASN:HB2	2.02	0.41
1:A:147:ALA:O	1:B:141:ASN:ND2	2.54	0.41
1:A:189:GLY:N	1:B:179:SER:HB3	2.36	0.41
1:B:58:VAL:HG22	1:B:283:PRO:HD3	2.02	0.41
1:C:23:GLY:HA2	1:C:210:PHE:CE2	2.56	0.41
1:C:131:VAL:CG1	1:C:132:HIS:H	2.33	0.41
1:C:151:VAL:O	1:C:154:THR:HB	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:292:MET:CE	1:D:294:ILE:HD11	2.50	0.41
1:D:298:ILE:O	1:D:302:THR:HG23	2.20	0.41
1:E:78:LEU:HA	1:E:81:VAL:CG1	2.48	0.41
1:E:104:ALA:O	1:E:107:PHE:O	2.39	0.41
1:E:363:LEU:O	1:E:366:VAL:HG22	2.21	0.41
1:F:84:LYS:HZ1	1:F:415:THR:HG22	1.83	0.41
1:A:188:ASN:O	1:A:189:GLY:C	2.63	0.41
1:A:383:TYR:CE2	1:A:387:LEU:HD13	2.56	0.41
1:B:251:LEU:HD22	1:B:256:ILE:HG23	2.01	0.41
1:D:406:LEU:HD23	1:D:406:LEU:HA	1.91	0.41
1:E:97:VAL:HG22	1:E:315:ALA:O	2.21	0.41
1:E:246:VAL:O	1:E:250:LEU:HB2	2.20	0.41
1:E:362:MET:O	1:E:365:MET:HB2	2.20	0.41
1:F:210:PHE:O	1:F:213:ILE:HD12	2.20	0.41
1:A:113:ILE:CG2	1:A:328:ALA:C	2.93	0.41
1:A:246:VAL:O	1:A:250:LEU:HB2	2.20	0.41
1:C:332:HIS:CD2	1:C:332:HIS:H	2.38	0.41
1:E:103:MET:HG3	1:E:238:GLY:HA2	2.01	0.41
1:A:78:LEU:CA	1:A:81:VAL:HG12	2.45	0.41
1:A:103:MET:CE	1:A:237:VAL:HB	2.51	0.41
1:A:117:VAL:HG21	1:A:376:ASP:OD2	2.20	0.41
1:A:193:ALA:CA	1:B:168:LEU:HD11	2.50	0.41
1:B:273:PHE:CE1	1:B:395:MET:HB3	2.56	0.41
1:B:313:GLY:N	1:B:401:ASN:OD1	2.54	0.41
1:D:89:TYR:O	1:D:93:SER:HB2	2.21	0.41
1:D:231:VAL:O	1:D:235:VAL:HG23	2.20	0.41
1:F:14:GLN:O	1:F:17:LEU:N	2.54	0.41
1:F:210:PHE:HA	1:F:213:ILE:HD11	2.02	0.41
1:F:239:LEU:HD23	1:F:316:LEU:HD13	2.03	0.41
1:A:52:ARG:NH2	1:B:136:ASP:HA	2.36	0.41
1:A:209:VAL:HG22	1:A:274:VAL:HG11	2.03	0.41
1:A:210:PHE:O	1:A:213:ILE:HD12	2.20	0.41
1:B:55:LYS:O	1:B:56:MET:C	2.64	0.41
1:D:131:VAL:O	1:D:132:HIS:C	2.63	0.41
1:E:137:ILE:O	1:E:153:PRO:HA	2.21	0.41
1:F:89:TYR:O	1:F:93:SER:HB2	2.21	0.41
1:F:90:LEU:HD12	1:F:90:LEU:HA	1.95	0.41
1:F:198:VAL:CG1	1:F:287:ARG:HD3	2.50	0.41
1:A:226:GLY:HA3	1:E:114:HIS:O	2.21	0.40
1:A:376:ASP:HA	1:A:377:PRO:HD3	1.95	0.40
1:B:130:LEU:CB	1:B:133:ILE:HD13	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:88:TYR:HD1	1:C:89:TYR:N	2.20	0.40
1:C:112:GLY:O	1:C:227:GLU:HG3	2.22	0.40
1:C:383:TYR:CE2	1:C:387:LEU:CD1	3.05	0.40
1:F:64:ALA:HB1	1:F:191:ALA:HB2	2.03	0.40
1:F:130:LEU:HB2	1:F:133:ILE:HD13	2.03	0.40
1:F:209:VAL:O	1:F:213:ILE:HG13	2.22	0.40
1:F:265:ALA:HA	1:F:288:VAL:HG11	2.03	0.40
1:A:361:ILE:HG22	1:A:365:MET:HE3	2.03	0.40
1:B:14:GLN:O	1:B:15:LYS:C	2.63	0.40
1:C:14:GLN:O	1:C:17:LEU:N	2.54	0.40
1:C:82:GLY:HA2	1:C:301:PHE:HE2	1.86	0.40
1:C:257:ASP:OD2	1:C:260:SER:N	2.42	0.40
1:F:235:VAL:HG22	1:F:320:VAL:HG11	2.04	0.40
1:F:259:ILE:HD12	1:F:259:ILE:H	1.86	0.40
1:C:141:ASN:HD22	1:C:144:GLY:N	2.18	0.40
1:C:273:PHE:HB2	1:C:399:MET:HB2	2.02	0.40
1:D:332:HIS:CD2	1:D:332:HIS:H	2.39	0.40
1:E:383:TYR:CE2	1:E:387:LEU:HD13	2.56	0.40
1:F:23:GLY:HA2	1:F:210:PHE:CE2	2.56	0.40
1:F:44:LYS:N	1:F:45:PRO:HD2	2.37	0.40
1:A:18:ILE:O	1:A:22:LEU:HB3	2.21	0.40
1:A:190:LEU:HD11	1:A:194:MET:HE3	2.04	0.40
1:A:313:GLY:N	1:A:401:ASN:OD1	2.54	0.40
1:B:189:GLY:N	1:C:179:SER:HB3	2.37	0.40
1:A:219:GLU:HA	1:A:219:GLU:OE2	2.22	0.40
1:B:219:GLU:HA	1:B:219:GLU:OE2	2.22	0.40
1:C:226:GLY:O	1:C:229:ALA:N	2.40	0.40
1:C:226:GLY:C	1:C:228:LEU:H	2.28	0.40
1:D:44:LYS:HD2	1:D:215:TYR:CD1	2.57	0.40
1:D:167:TYR:N	1:D:167:TYR:CD1	2.89	0.40
1:D:190:LEU:N	1:E:183:LEU:HD13	2.37	0.40
1:E:113:ILE:CG2	1:E:328:ALA:C	2.94	0.40
1:E:317:TYR:HA	1:E:320:VAL:CG1	2.51	0.40
1:F:14:GLN:O	1:F:15:LYS:C	2.64	0.40

There are no symmetry-related clashes.

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	395/422 (94%)	352 (89%)	33 (8%)	10 (2%)	4	21
1	B	395/422 (94%)	353 (89%)	31 (8%)	11 (3%)	4	19
1	C	395/422 (94%)	356 (90%)	27 (7%)	12 (3%)	3	18
1	D	395/422 (94%)	356 (90%)	27 (7%)	12 (3%)	3	18
1	E	395/422 (94%)	358 (91%)	27 (7%)	10 (2%)	4	21
1	F	395/422 (94%)	355 (90%)	30 (8%)	10 (2%)	4	21
All	All	2370/2532 (94%)	2130 (90%)	175 (7%)	65 (3%)	4	20

All (65) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	10	TYR
1	A	12	VAL
1	A	77	ARG
1	B	10	TYR
1	B	12	VAL
1	B	77	ARG
1	C	10	TYR
1	C	12	VAL
1	C	77	ARG
1	C	355	VAL
1	D	10	TYR
1	D	12	VAL
1	D	77	ARG
1	D	355	VAL
1	E	10	TYR
1	E	12	VAL
1	E	77	ARG
1	F	10	TYR
1	F	12	VAL
1	F	77	ARG

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Mol	Chain	Res	Type
1	A	149	GLY
1	A	222	VAL
1	A	227	GLU
1	A	355	VAL
1	B	149	GLY
1	B	222	VAL
1	B	227	GLU
1	B	355	VAL
1	C	149	GLY
1	C	222	VAL
1	C	227	GLU
1	D	149	GLY
1	D	222	VAL
1	D	227	GLU
1	E	149	GLY
1	E	222	VAL
1	E	227	GLU
1	E	355	VAL
1	F	149	GLY
1	F	222	VAL
1	F	227	GLU
1	F	355	VAL
1	A	150	GLN
1	B	150	GLN
1	E	150	GLN
1	A	75	PRO
1	C	80	ARG
1	C	150	GLN
1	D	146	LEU
1	E	75	PRO
1	B	49	LEU
1	C	146	LEU
1	D	80	ARG
1	F	150	GLN
1	A	11	PRO
1	B	11	PRO
1	B	75	PRO
1	C	75	PRO
1	D	75	PRO
1	D	150	GLN
1	F	75	PRO
1	C	11	PRO

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Mol	Chain	Res	Type
1	D	11	PRO
1	E	11	PRO
1	F	11	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	304/330 (92%)	252 (83%)	52 (17%)	2	9
1	B	304/330 (92%)	250 (82%)	54 (18%)	2	7
1	C	304/330 (92%)	250 (82%)	54 (18%)	2	7
1	D	304/330 (92%)	250 (82%)	54 (18%)	2	7
1	E	304/330 (92%)	252 (83%)	52 (17%)	2	9
1	F	304/330 (92%)	248 (82%)	56 (18%)	1	7
All	All	1824/1980 (92%)	1502 (82%)	322 (18%)	2	8

All (322) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	12	VAL
1	A	17	LEU
1	A	18	ILE
1	A	25	ILE
1	A	28	LEU
1	A	30	LEU
1	A	74	SER
1	A	77	ARG
1	A	78	LEU
1	A	90	LEU
1	A	91	LEU
1	A	93	SER
1	A	106	LEU
1	A	114	HIS
1	A	117	VAL

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Mol	Chain	Res	Type
1	A	140	THR
1	A	148	ASN
1	A	151	VAL
1	A	152	LEU
1	A	170	ASN
1	A	183	LEU
1	A	184	LEU
1	A	196	LYS
1	A	212	LEU
1	A	213	ILE
1	A	217	MET
1	A	224	VAL
1	A	241	LEU
1	A	250	LEU
1	A	266	LYS
1	A	267	ASP
1	A	274	VAL
1	A	290	LYS
1	A	314	THR
1	A	317	TYR
1	A	318	GLN
1	A	320	VAL
1	A	327	ASN
1	A	331	SER
1	A	332	HIS
1	A	334	THR
1	A	335	VAL
1	A	338	GLN
1	A	340	THR
1	A	344	THR
1	A	355	VAL
1	A	368	HIS
1	A	372	LEU
1	A	374	LEU
1	A	375	THR
1	A	385	MET
1	A	405	ASP
1	B	12	VAL
1	B	17	LEU
1	B	18	ILE
1	B	25	ILE
1	B	28	LEU

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Mol	Chain	Res	Type
1	B	30	LEU
1	B	74	SER
1	B	77	ARG
1	B	78	LEU
1	B	87	VAL
1	B	90	LEU
1	B	91	LEU
1	B	93	SER
1	B	106	LEU
1	B	114	HIS
1	B	117	VAL
1	B	140	THR
1	B	151	VAL
1	B	152	LEU
1	B	170	ASN
1	B	183	LEU
1	B	184	LEU
1	B	196	LYS
1	B	212	LEU
1	B	213	ILE
1	B	217	MET
1	B	224	VAL
1	B	241	LEU
1	B	250	LEU
1	B	267	ASP
1	B	274	VAL
1	B	290	LYS
1	B	314	THR
1	B	317	TYR
1	B	318	GLN
1	B	320	VAL
1	B	327	ASN
1	B	329	LEU
1	B	331	SER
1	B	332	HIS
1	B	334	THR
1	B	335	VAL
1	B	338	GLN
1	B	340	THR
1	B	344	THR
1	B	355	VAL
1	B	368	HIS

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Mol	Chain	Res	Type
1	B	372	LEU
1	B	374	LEU
1	B	375	THR
1	B	385	MET
1	B	387	LEU
1	B	405	ASP
1	B	416	GLU
1	C	12	VAL
1	C	17	LEU
1	C	18	ILE
1	C	25	ILE
1	C	28	LEU
1	C	30	LEU
1	C	74	SER
1	C	77	ARG
1	C	78	LEU
1	C	87	VAL
1	C	90	LEU
1	C	91	LEU
1	C	93	SER
1	C	106	LEU
1	C	114	HIS
1	C	117	VAL
1	C	140	THR
1	C	148	ASN
1	C	151	VAL
1	C	152	LEU
1	C	159	ILE
1	C	170	ASN
1	C	183	LEU
1	C	184	LEU
1	C	196	LYS
1	C	212	LEU
1	C	213	ILE
1	C	217	MET
1	C	224	VAL
1	C	241	LEU
1	C	250	LEU
1	C	267	ASP
1	C	274	VAL
1	C	290	LYS
1	C	314	THR

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Mol	Chain	Res	Type
1	C	317	TYR
1	C	320	VAL
1	C	327	ASN
1	C	329	LEU
1	C	331	SER
1	C	332	HIS
1	C	334	THR
1	C	335	VAL
1	C	338	GLN
1	C	340	THR
1	C	344	THR
1	C	355	VAL
1	C	368	HIS
1	C	372	LEU
1	C	374	LEU
1	C	375	THR
1	C	385	MET
1	C	405	ASP
1	C	416	GLU
1	D	12	VAL
1	D	17	LEU
1	D	18	ILE
1	D	25	ILE
1	D	28	LEU
1	D	30	LEU
1	D	74	SER
1	D	77	ARG
1	D	78	LEU
1	D	87	VAL
1	D	90	LEU
1	D	91	LEU
1	D	93	SER
1	D	106	LEU
1	D	114	HIS
1	D	117	VAL
1	D	140	THR
1	D	148	ASN
1	D	151	VAL
1	D	152	LEU
1	D	170	ASN
1	D	183	LEU
1	D	184	LEU

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Mol	Chain	Res	Type
1	D	196	LYS
1	D	212	LEU
1	D	213	ILE
1	D	217	MET
1	D	224	VAL
1	D	241	LEU
1	D	250	LEU
1	D	267	ASP
1	D	274	VAL
1	D	290	LYS
1	D	314	THR
1	D	317	TYR
1	D	318	GLN
1	D	320	VAL
1	D	327	ASN
1	D	329	LEU
1	D	331	SER
1	D	332	HIS
1	D	334	THR
1	D	335	VAL
1	D	338	GLN
1	D	340	THR
1	D	344	THR
1	D	355	VAL
1	D	368	HIS
1	D	372	LEU
1	D	374	LEU
1	D	375	THR
1	D	385	MET
1	D	405	ASP
1	D	416	GLU
1	E	12	VAL
1	E	17	LEU
1	E	18	ILE
1	E	25	ILE
1	E	28	LEU
1	E	30	LEU
1	E	74	SER
1	E	77	ARG
1	E	78	LEU
1	E	90	LEU
1	E	91	LEU

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Mol	Chain	Res	Type
1	E	93	SER
1	E	106	LEU
1	E	114	HIS
1	E	117	VAL
1	E	140	THR
1	E	148	ASN
1	E	151	VAL
1	E	152	LEU
1	E	170	ASN
1	E	183	LEU
1	E	184	LEU
1	E	196	LYS
1	E	212	LEU
1	E	213	ILE
1	E	217	MET
1	E	224	VAL
1	E	241	LEU
1	E	250	LEU
1	E	266	LYS
1	E	267	ASP
1	E	274	VAL
1	E	290	LYS
1	E	314	THR
1	E	317	TYR
1	E	318	GLN
1	E	320	VAL
1	E	327	ASN
1	E	331	SER
1	E	332	HIS
1	E	334	THR
1	E	335	VAL
1	E	338	GLN
1	E	340	THR
1	E	344	THR
1	E	355	VAL
1	E	368	HIS
1	E	372	LEU
1	E	374	LEU
1	E	375	THR
1	E	385	MET
1	E	405	ASP
1	F	12	VAL

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Mol	Chain	Res	Type
1	F	17	LEU
1	F	18	ILE
1	F	25	ILE
1	F	28	LEU
1	F	30	LEU
1	F	77	ARG
1	F	78	LEU
1	F	81	VAL
1	F	87	VAL
1	F	90	LEU
1	F	91	LEU
1	F	93	SER
1	F	106	LEU
1	F	114	HIS
1	F	117	VAL
1	F	140	THR
1	F	148	ASN
1	F	151	VAL
1	F	152	LEU
1	F	170	ASN
1	F	183	LEU
1	F	184	LEU
1	F	196	LYS
1	F	212	LEU
1	F	213	ILE
1	F	217	MET
1	F	224	VAL
1	F	241	LEU
1	F	250	LEU
1	F	266	LYS
1	F	267	ASP
1	F	274	VAL
1	F	290	LYS
1	F	314	THR
1	F	317	TYR
1	F	318	GLN
1	F	320	VAL
1	F	327	ASN
1	F	329	LEU
1	F	331	SER
1	F	332	HIS
1	F	334	THR

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Mol	Chain	Res	Type
1	F	335	VAL
1	F	338	GLN
1	F	340	THR
1	F	344	THR
1	F	355	VAL
1	F	368	HIS
1	F	372	LEU
1	F	374	LEU
1	F	375	THR
1	F	385	MET
1	F	387	LEU
1	F	405	ASP
1	F	416	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (53) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	40	HIS
1	A	114	HIS
1	A	141	ASN
1	A	148	ASN
1	A	203	GLN
1	A	310	ASN
1	A	327	ASN
1	A	332	HIS
1	B	40	HIS
1	B	114	HIS
1	B	141	ASN
1	B	148	ASN
1	B	203	GLN
1	B	242	GLN
1	B	310	ASN
1	B	327	ASN
1	B	332	HIS
1	B	378	ASN
1	C	40	HIS
1	C	114	HIS
1	C	141	ASN
1	C	150	GLN
1	C	203	GLN
1	C	242	GLN
1	C	310	ASN

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Mol	Chain	Res	Type
1	C	327	ASN
1	C	332	HIS
1	C	378	ASN
1	D	40	HIS
1	D	141	ASN
1	D	150	GLN
1	D	203	GLN
1	D	242	GLN
1	D	310	ASN
1	D	327	ASN
1	D	332	HIS
1	D	378	ASN
1	E	40	HIS
1	E	114	HIS
1	E	148	ASN
1	E	203	GLN
1	E	327	ASN
1	E	332	HIS
1	E	378	ASN
1	F	40	HIS
1	F	141	ASN
1	F	148	ASN
1	F	188	ASN
1	F	203	GLN
1	F	310	ASN
1	F	327	ASN
1	F	332	HIS
1	F	378	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 6 ligands modelled in this entry, 6 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

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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	399/422 (94%)	-1.72	0 100 100	98, 159, 220, 284	0
1	B	399/422 (94%)	-1.68	0 100 100	85, 144, 207, 267	0
1	C	399/422 (94%)	-1.67	0 100 100	90, 146, 205, 266	0
1	D	399/422 (94%)	-1.68	0 100 100	85, 144, 205, 262	0
1	E	399/422 (94%)	-1.71	0 100 100	101, 163, 222, 286	0
1	F	399/422 (94%)	-1.67	0 100 100	84, 144, 207, 266	0
All	All	2394/2532 (94%)	-1.69	0 100 100	84, 151, 212, 286	0

There are no RSRZ outliers to report.

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(Å ²)	Q<0.9
2	NA	C	501	1/1	0.99	0.09	97,97,97,97	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	NA	F	501	1/1	0.99	0.04	92,92,92,92	0
2	NA	A	501	1/1	1.00	0.06	247,247,247,247	0
2	NA	D	501	1/1	1.00	0.05	114,114,114,114	0
2	NA	E	501	1/1	1.00	0.05	226,226,226,226	0
2	NA	B	501	1/1	1.00	0.05	91,91,91,91	0

6.5 Other polymers [i](#)

There are no such residues in this entry.