



# Full wwPDB X-ray Structure Validation Report ⓘ

May 21, 2020 – 08:52 am BST

PDB ID : 4EQV  
Title : Structure of *Saccharomyces cerevisiae* invertase  
Authors : Sainz-Polo, M.A.; Sanz-Aparicio, J.  
Deposited on : 2012-04-19  
Resolution : 3.40 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](mailto: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.

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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 : 2.11  
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) : 2.11

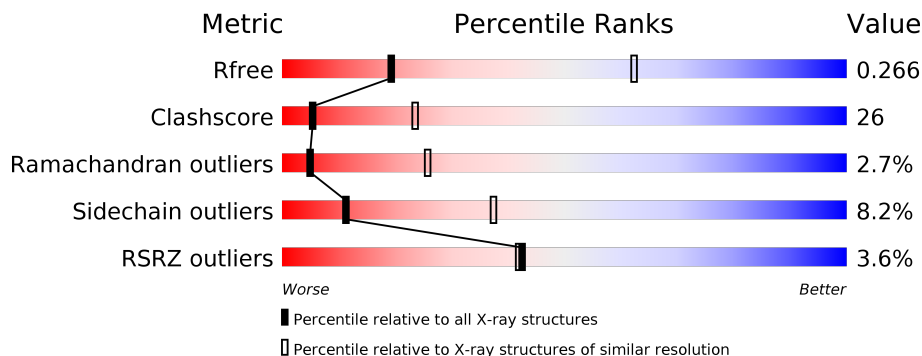
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.40 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.



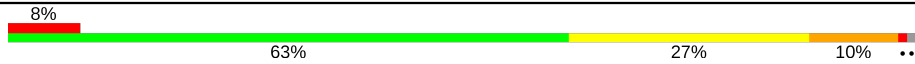

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	1026 (3.48-3.32)
Clashscore	141614	1055 (3.48-3.32)
Ramachandran outliers	138981	1038 (3.48-3.32)
Sidechain outliers	138945	1038 (3.48-3.32)
RSRZ outliers	127900	2173 (3.50-3.30)

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 on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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	512	 71% 22% 6% .
1	B	512	 70% 24% 5% ..
1	C	512	 2% 68% 25% 6% ..
1	D	512	 3% 70% 22% 7% .
1	E	512	 3% 64% 27% 8% ..
1	F	512	 3% 66% 26% 7% ..

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Mol	Chain	Length	Quality of chain
1	G	512	
1	H	512	

## 2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 33016 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 Invertase 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	509	4124	2646	658	809	11	0	0	0
1	B	509	4124	2646	658	809	11	0	0	0
1	C	509	4124	2646	658	809	11	0	0	0
1	D	509	4124	2646	658	809	11	0	0	0
1	E	509	4124	2646	658	809	11	0	0	0
1	F	509	4124	2646	658	809	11	0	0	0
1	G	509	4124	2646	658	809	11	0	0	0
1	H	509	4124	2646	658	809	11	0	0	0

- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	6	Total	O	0	0
			6	6		
2	B	2	Total	O	0	0
			2	2		
2	C	4	Total	O	0	0
			4	4		
2	D	2	Total	O	0	0
			2	2		
2	E	1	Total	O	0	0
			1	1		
2	F	4	Total	O	0	0
			4	4		

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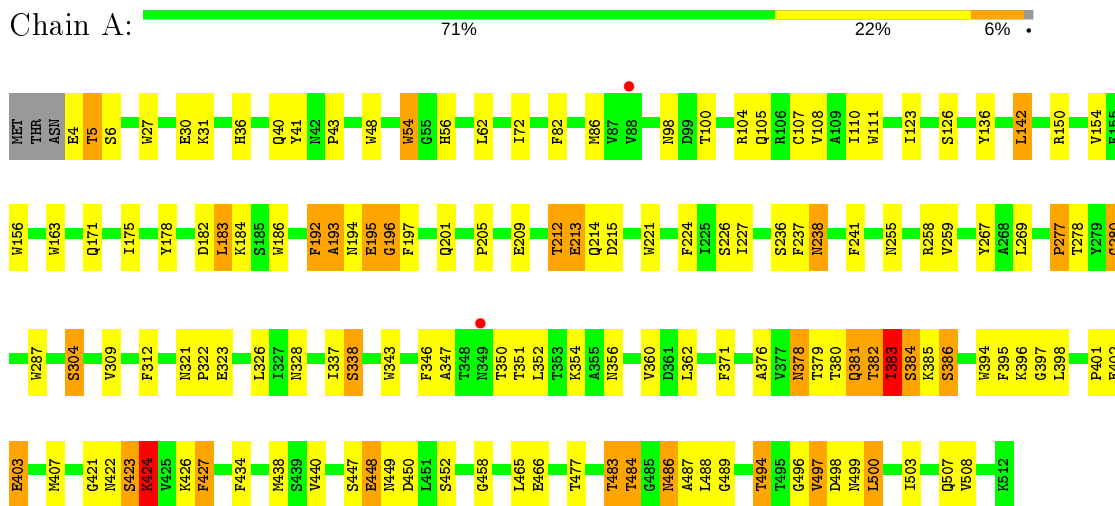
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<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>	<b>ZeroOcc</b>	<b>AltConf</b>
2	G	2	Total O 2 2	0	0
2	H	3	Total O 3 3	0	0

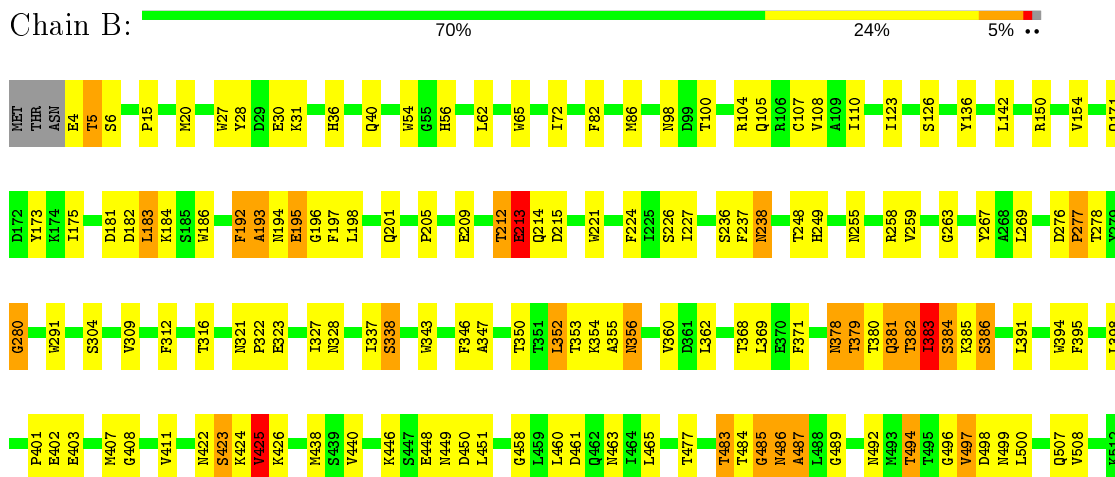
### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA 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: Invertase 2

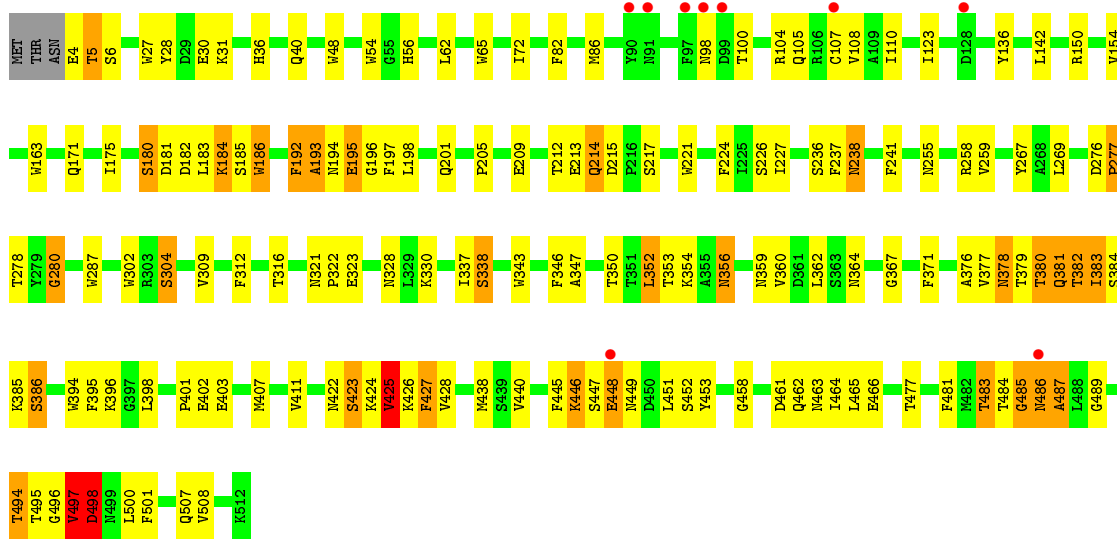


- Molecule 1: Invertase 2

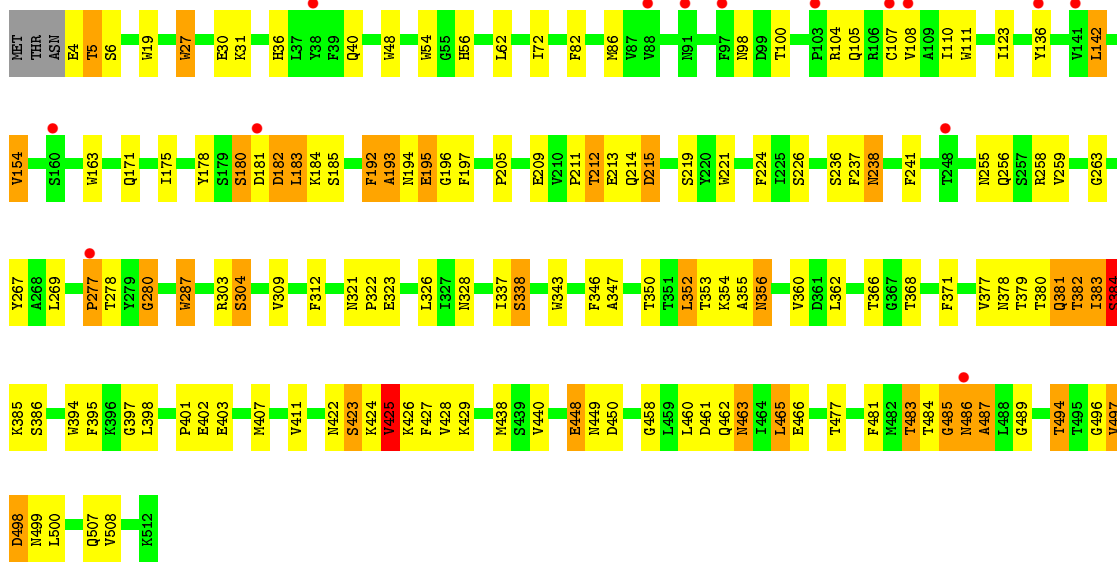


- Molecule 1: Invertase 2

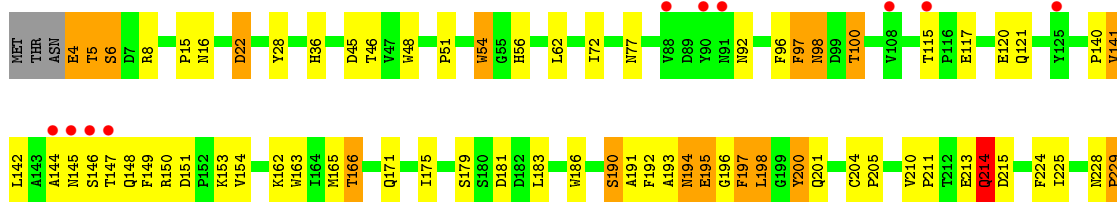


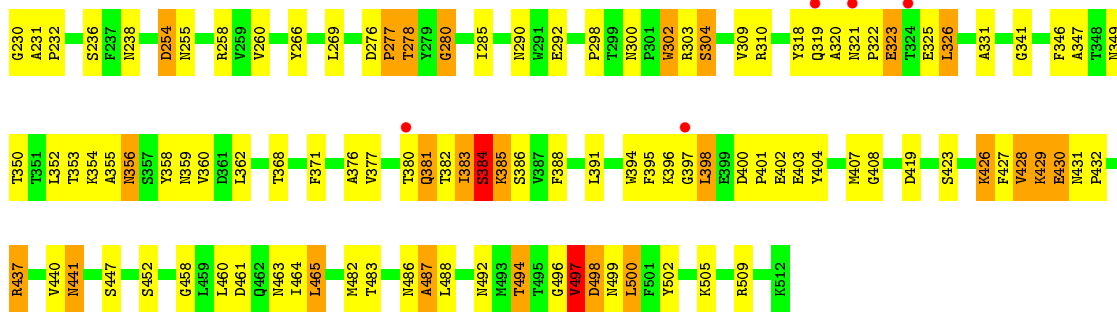


• Molecule 1: Invertase 2

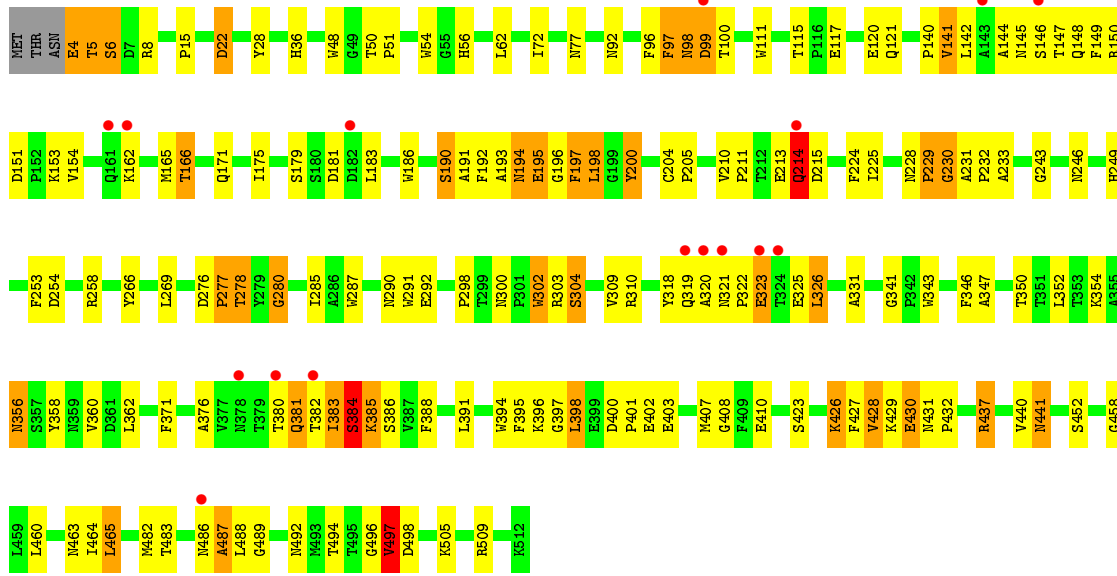


• Molecule 1: Invertase 2

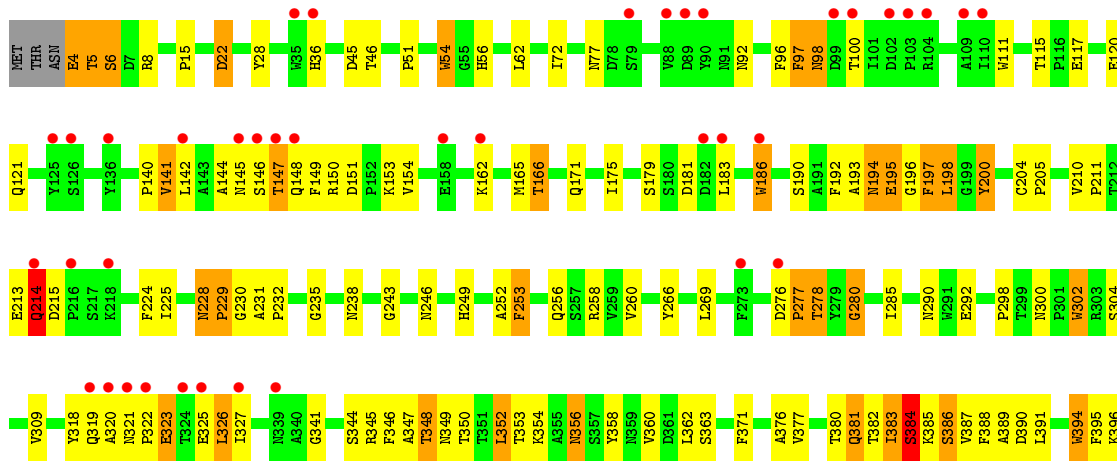




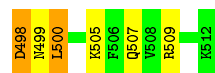
● Molecule 1: Invertase 2



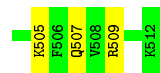
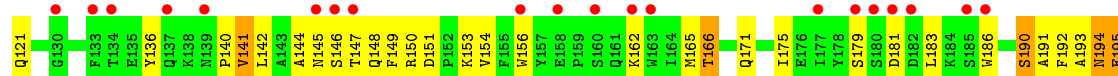
● Molecule 1: Invertase 2







● Molecule 1: Invertase 2



## 4 Data and refinement statistics i

Property	Value	Source
Space group	P 31 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	268.66Å 268.66Å 224.45Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	56.31 – 3.40 56.31 – 3.40	Depositor EDS
% Data completeness (in resolution range)	98.8 (56.31-3.40) 99.3 (56.31-3.40)	Depositor EDS
$R_{merge}$	0.10	Depositor
$R_{sym}$	0.10	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.92 (at 3.40Å)	Xtriage
Refinement program	REFMAC 5.6.0117	Depositor
R, $R_{free}$	0.221 , 0.239 0.247 , 0.266	Depositor DCC
$R_{free}$ test set	6395 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	57.1	Xtriage
Anisotropy	0.047	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.34 , 49.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.30$	Xtriage
Estimated twinning fraction	0.000 for -h,-k,l	Xtriage
Reported twinning fraction	0.730 for H, K, L 0.270 for -h,-k,l	Depositor
Outliers	1 of 127516 reflections (0.001%)	Xtriage
$F_o, F_c$ correlation	0.84	EDS
Total number of atoms	33016	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	51.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 21.37 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 7.1077e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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

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	0.60	6/4252 (0.1%)	0.61	0/5798
1	B	0.58	2/4252 (0.0%)	0.62	2/5798 (0.0%)
1	C	0.56	4/4252 (0.1%)	0.59	1/5798 (0.0%)
1	D	0.57	7/4252 (0.2%)	0.60	2/5798 (0.0%)
1	E	0.55	5/4252 (0.1%)	0.59	0/5798
1	F	0.55	6/4252 (0.1%)	0.59	0/5798
1	G	0.58	7/4252 (0.2%)	0.59	1/5798 (0.0%)
1	H	0.60	6/4252 (0.1%)	0.59	0/5798
All	All	0.57	43/34016 (0.1%)	0.60	6/46384 (0.0%)

All (43) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	403	GLU	CD-OE1	10.25	1.36	1.25
1	H	385	LYS	CD-CE	9.87	1.75	1.51
1	H	385	LYS	CE-NZ	-9.31	1.25	1.49
1	G	4	GLU	CD-OE1	-7.78	1.17	1.25
1	G	4	GLU	CD-OE2	-7.65	1.17	1.25
1	E	302	TRP	CD2-CE2	5.36	1.47	1.41
1	F	287	TRP	CD2-CE2	5.33	1.47	1.41
1	B	65	TRP	CD2-CE2	5.32	1.47	1.41
1	D	111	TRP	CD2-CE2	5.28	1.47	1.41
1	C	186	TRP	CD2-CE2	5.27	1.47	1.41
1	A	48	TRP	CD2-CE2	5.20	1.47	1.41
1	D	27	TRP	CD2-CE2	5.18	1.47	1.41
1	H	48	TRP	CD2-CE2	5.18	1.47	1.41
1	A	54	TRP	CD2-CE2	5.18	1.47	1.41
1	D	353	THR	CB-CG2	-5.18	1.35	1.52
1	E	54	TRP	CD2-CE2	5.17	1.47	1.41
1	H	156	TRP	CD2-CE2	5.17	1.47	1.41
1	A	156	TRP	CD2-CE2	5.16	1.47	1.41
1	G	394	TRP	CD2-CE2	5.15	1.47	1.41
1	D	287	TRP	CD2-CE2	5.14	1.47	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	291	TRP	CD2-CE2	5.13	1.47	1.41
1	D	163	TRP	CD2-CE2	5.12	1.47	1.41
1	E	48	TRP	CD2-CE2	5.12	1.47	1.41
1	C	65	TRP	CD2-CE2	5.11	1.47	1.41
1	F	111	TRP	CD2-CE2	5.11	1.47	1.41
1	C	302	TRP	CD2-CE2	5.10	1.47	1.41
1	H	19	TRP	CD2-CE2	5.09	1.47	1.41
1	E	163	TRP	CD2-CE2	5.09	1.47	1.41
1	F	291	TRP	CD2-CE2	5.07	1.47	1.41
1	F	48	TRP	CD2-CE2	5.07	1.47	1.41
1	A	111	TRP	CD2-CE2	5.06	1.47	1.41
1	G	186	TRP	CD2-CE2	5.06	1.47	1.41
1	F	343	TRP	CD2-CE2	5.05	1.47	1.41
1	H	111	TRP	CD2-CE2	5.05	1.47	1.41
1	C	48	TRP	CD2-CE2	5.05	1.47	1.41
1	D	48	TRP	CD2-CE2	5.05	1.47	1.41
1	A	163	TRP	CD2-CE2	5.04	1.47	1.41
1	G	54	TRP	CD2-CE2	5.03	1.47	1.41
1	F	302	TRP	CD2-CE2	5.03	1.47	1.41
1	G	111	TRP	CD2-CE2	5.01	1.47	1.41
1	E	4	GLU	CD-OE2	-5.01	1.20	1.25
1	D	19	TRP	CD2-CE2	5.01	1.47	1.41
1	G	302	TRP	CD2-CE2	5.01	1.47	1.41

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	352	LEU	CA-CB-CG	5.84	128.74	115.30
1	D	352	LEU	CA-CB-CG	5.65	128.31	115.30
1	C	498	ASP	CB-CG-OD1	5.17	122.96	118.30
1	G	228	ASN	C-N-CD	-5.08	109.43	120.60
1	B	213	GLU	N-CA-C	-5.05	97.35	111.00
1	D	215	ASP	N-CA-CB	5.04	119.68	110.60

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	4124	0	3831	176	0
1	B	4124	0	3831	156	0
1	C	4124	0	3831	187	0
1	D	4124	0	3831	178	0
1	E	4124	0	3831	243	0
1	F	4124	0	3831	232	0
1	G	4124	0	3831	282	0
1	H	4124	0	3831	271	0
2	A	6	0	0	1	0
2	B	2	0	0	0	0
2	C	4	0	0	1	0
2	D	2	0	0	0	0
2	E	1	0	0	0	0
2	F	4	0	0	0	0
2	G	2	0	0	0	0
2	H	3	0	0	0	0
All	All	33016	0	30648	1670	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 26.

All (1670) 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:H:385:LYS:CE	1:H:385:LYS:CD	1.75	1.58
1:E:228:ASN:ND2	1:E:229:PRO:HB3	1.35	1.40
1:F:228:ASN:ND2	1:F:229:PRO:HB3	1.35	1.37
1:H:486:ASN:HA	1:H:487:ALA:CB	1.41	1.35
1:H:97:PHE:CE2	1:H:106:ARG:HB3	1.62	1.34
1:E:228:ASN:CG	1:E:229:PRO:HB3	1.47	1.33
1:E:192:PHE:CG	1:E:193:ALA:HB2	1.68	1.28
1:D:496:GLY:O	1:D:497:VAL:HG22	1.12	1.28
1:F:194:ASN:HA	1:F:195:GLU:CB	1.63	1.28
1:G:98:ASN:CB	1:G:100:THR:HG22	1.61	1.28
1:F:192:PHE:CG	1:F:193:ALA:HB2	1.70	1.27
1:G:256:GLN:OE1	1:G:327:ILE:HD12	1.17	1.27
1:H:194:ASN:HA	1:H:195:GLU:CB	1.62	1.27
1:G:423:SER:OG	1:G:425:VAL:HG23	1.35	1.27
1:G:192:PHE:CG	1:G:193:ALA:HB2	1.69	1.26

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:192:PHE:CG	1:H:193:ALA:HB2	1.70	1.25
1:E:194:ASN:HA	1:E:195:GLU:CB	1.63	1.24
1:G:194:ASN:HA	1:G:195:GLU:CB	1.63	1.22
1:E:500:LEU:O	1:E:500:LEU:HD12	1.39	1.22
1:E:486:ASN:HA	1:E:487:ALA:CB	1.65	1.21
1:F:486:ASN:HA	1:F:487:ALA:CB	1.63	1.20
1:G:486:ASN:HA	1:G:487:ALA:CB	1.66	1.20
1:G:98:ASN:HB2	1:G:100:THR:CG2	1.69	1.19
1:G:385:LYS:HG3	1:G:386:SER:H	1.09	1.18
1:H:228:ASN:CG	1:H:229:PRO:HG3	1.61	1.18
1:D:213:GLU:O	1:D:214:GLN:CD	1.82	1.18
1:C:378:ASN:O	1:C:379:THR:HG22	1.43	1.18
1:D:378:ASN:O	1:D:379:THR:HG22	1.43	1.17
1:H:383:ILE:HD12	1:H:383:ILE:N	1.57	1.15
1:A:398:LEU:CB	1:A:487:ALA:HB3	1.77	1.15
1:D:496:GLY:O	1:D:497:VAL:CG2	1.95	1.15
1:H:97:PHE:HE2	1:H:106:ARG:CB	1.59	1.14
1:A:378:ASN:O	1:A:379:THR:HG22	1.45	1.14
1:F:228:ASN:CG	1:F:229:PRO:HB3	1.67	1.14
1:E:98:ASN:HB2	1:E:100:THR:HG23	1.14	1.13
1:B:424:LYS:C	1:B:425:VAL:HG23	1.63	1.13
1:H:98:ASN:HB2	1:H:100:THR:HG22	1.13	1.13
1:C:496:GLY:O	1:C:497:VAL:HG22	1.46	1.13
1:H:97:PHE:CE2	1:H:106:ARG:CB	2.30	1.12
1:G:243:GLY:HA2	1:G:253:PHE:CE1	1.84	1.12
1:D:180:SER:HB2	1:D:185:SER:O	1.46	1.12
1:E:194:ASN:CA	1:E:195:GLU:HB3	1.79	1.12
1:F:194:ASN:CA	1:F:195:GLU:HB3	1.80	1.12
1:H:194:ASN:CA	1:H:195:GLU:HB3	1.79	1.11
1:G:243:GLY:HA2	1:G:253:PHE:CD1	1.85	1.11
1:G:194:ASN:CA	1:G:195:GLU:HB3	1.80	1.10
1:A:213:GLU:O	1:A:214:GLN:CD	1.90	1.10
1:G:228:ASN:CG	1:G:229:PRO:HG3	1.71	1.10
1:G:423:SER:OG	1:G:425:VAL:CG2	1.99	1.10
1:H:228:ASN:OD1	1:H:229:PRO:HG3	1.52	1.10
1:E:144:ALA:HB1	1:E:145:ASN:HA	1.32	1.10
1:E:398:LEU:CD1	1:E:487:ALA:O	2.00	1.10
1:A:449:ASN:ND2	1:A:450:ASP:H	1.48	1.09
1:F:144:ALA:HB1	1:F:145:ASN:HA	1.30	1.09
1:A:398:LEU:HB2	1:A:487:ALA:HB3	1.11	1.09
1:B:496:GLY:O	1:B:497:VAL:HG22	1.50	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:398:LEU:HD13	1:F:398:LEU:H	1.12	1.09
1:F:5:THR:O	1:F:6:SER:HB2	1.47	1.09
1:B:449:ASN:ND2	1:B:450:ASP:H	1.50	1.08
1:H:228:ASN:ND2	1:H:229:PRO:HB3	1.68	1.08
1:C:192:PHE:CE2	1:C:195:GLU:HG2	1.89	1.08
1:G:486:ASN:HA	1:G:487:ALA:HB2	1.34	1.07
1:C:352:LEU:CD1	1:C:352:LEU:H	1.67	1.07
1:H:486:ASN:CA	1:H:487:ALA:CB	2.30	1.07
1:C:352:LEU:HD12	1:C:352:LEU:N	1.66	1.07
1:E:398:LEU:HD12	1:E:487:ALA:O	1.55	1.07
1:H:383:ILE:H	1:H:383:ILE:HD12	1.07	1.07
1:H:228:ASN:ND2	1:H:229:PRO:HG3	1.71	1.06
1:H:486:ASN:HA	1:H:487:ALA:HB2	1.37	1.06
1:D:379:THR:HG22	1:D:450:ASP:O	1.56	1.05
1:F:486:ASN:HA	1:F:487:ALA:HB2	1.29	1.05
1:A:423:SER:O	1:A:424:LYS:HB2	1.52	1.05
1:C:362:LEU:HA	1:E:356:ASN:HB3	1.34	1.05
1:E:486:ASN:HA	1:E:487:ALA:HB2	1.33	1.05
1:H:144:ALA:HB1	1:H:145:ASN:HA	1.33	1.05
1:G:228:ASN:ND2	1:G:229:PRO:HG3	1.72	1.05
1:E:398:LEU:CD1	1:E:398:LEU:H	1.70	1.05
1:B:378:ASN:O	1:B:379:THR:HG22	1.54	1.04
1:H:144:ALA:HB1	1:H:145:ASN:CA	1.87	1.04
1:E:398:LEU:N	1:E:398:LEU:HD12	1.72	1.04
1:D:213:GLU:C	1:D:214:GLN:OE1	1.95	1.04
1:D:379:THR:CG2	1:D:450:ASP:O	2.06	1.04
1:G:256:GLN:OE1	1:G:327:ILE:CD1	2.06	1.03
1:F:144:ALA:HB1	1:F:145:ASN:CA	1.89	1.03
1:F:398:LEU:HD13	1:F:398:LEU:N	1.69	1.03
1:A:496:GLY:O	1:A:497:VAL:HG22	1.59	1.03
1:G:385:LYS:HG3	1:G:386:SER:N	1.72	1.03
1:E:144:ALA:HB1	1:E:145:ASN:CA	1.88	1.02
1:H:97:PHE:CD2	1:H:106:ARG:HG2	1.94	1.02
1:B:424:LYS:O	1:B:425:VAL:HG23	1.58	1.02
1:D:403:GLU:OE2	1:D:424:LYS:HG3	1.58	1.02
1:A:422:ASN:HA	1:A:423:SER:HB2	1.40	1.02
1:E:385:LYS:HG3	1:E:386:SER:N	1.74	1.02
1:A:212:THR:HG22	1:A:215:ASP:O	1.60	1.01
1:G:144:ALA:HB1	1:G:145:ASN:CA	1.91	1.01
1:F:147:THR:HB	1:F:171:GLN:NE2	1.75	1.01
1:H:147:THR:HB	1:H:171:GLN:NE2	1.75	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:192:PHE:CD2	1:G:193:ALA:HB2	1.96	1.01
1:E:419:ASP:OD2	1:E:437:ARG:NH1	1.93	1.01
1:G:228:ASN:ND2	1:G:229:PRO:HB3	1.74	1.01
1:A:403:GLU:OE2	1:A:424:LYS:CG	2.09	1.00
1:B:212:THR:HG23	1:B:213:GLU:O	1.57	1.00
1:H:486:ASN:HA	1:H:487:ALA:HB3	1.02	1.00
1:A:213:GLU:C	1:A:214:GLN:OE1	1.99	1.00
1:A:500:LEU:HD12	1:A:500:LEU:O	1.59	1.00
1:E:192:PHE:CD2	1:E:193:ALA:HB2	1.96	1.00
1:G:228:ASN:OD1	1:G:229:PRO:HG3	1.62	1.00
1:E:147:THR:HB	1:E:171:GLN:NE2	1.76	1.00
1:H:192:PHE:CD2	1:H:193:ALA:HB2	1.98	0.99
1:G:98:ASN:N	1:G:98:ASN:HD22	1.58	0.99
1:H:486:ASN:CA	1:H:487:ALA:HB3	1.92	0.99
1:F:147:THR:HB	1:F:171:GLN:HE21	1.28	0.98
1:F:192:PHE:CD2	1:F:193:ALA:HB2	1.98	0.98
1:A:362:LEU:HA	1:F:356:ASN:HB3	1.42	0.98
1:E:228:ASN:CG	1:E:229:PRO:CB	2.31	0.98
1:A:352:LEU:CD1	1:A:503:ILE:HG12	1.94	0.98
1:C:352:LEU:HD12	1:C:352:LEU:H	0.83	0.97
1:C:422:ASN:HA	1:C:423:SER:HB2	1.46	0.97
1:A:496:GLY:O	1:A:497:VAL:HG13	1.64	0.97
1:E:228:ASN:OD1	1:E:229:PRO:HG3	1.63	0.97
1:G:228:ASN:CG	1:G:229:PRO:CG	2.32	0.97
1:H:228:ASN:CG	1:H:229:PRO:CG	2.32	0.97
1:F:385:LYS:HG3	1:F:386:SER:N	1.78	0.97
1:E:98:ASN:HB2	1:E:100:THR:CG2	1.94	0.96
1:H:147:THR:HB	1:H:171:GLN:HE21	1.30	0.96
1:G:98:ASN:HD22	1:G:98:ASN:H	1.03	0.96
1:A:212:THR:HG23	1:A:213:GLU:O	1.66	0.96
1:G:147:THR:HB	1:G:171:GLN:NE2	1.81	0.96
1:B:212:THR:CG2	1:B:213:GLU:O	2.14	0.96
1:D:182:ASP:OD2	1:D:184:LYS:HG3	1.64	0.96
1:G:194:ASN:HA	1:G:195:GLU:HB3	0.96	0.96
1:G:232:PRO:HG2	1:H:441:ASN:HB2	1.47	0.95
1:E:428:VAL:O	1:F:437:ARG:NH2	1.99	0.95
1:B:379:THR:CG2	1:B:380:THR:N	2.28	0.95
1:E:194:ASN:ND2	1:E:196:GLY:H	1.64	0.95
1:H:228:ASN:ND2	1:H:229:PRO:CB	2.29	0.95
1:E:147:THR:HB	1:E:171:GLN:HE21	1.31	0.95
1:G:144:ALA:HB1	1:G:145:ASN:HA	1.45	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:145:ASN:N	1:H:146:SER:HA	1.81	0.95
1:H:194:ASN:ND2	1:H:196:GLY:H	1.65	0.95
1:G:194:ASN:ND2	1:G:196:GLY:H	1.65	0.95
1:F:228:ASN:ND2	1:F:229:PRO:CB	2.29	0.94
1:G:383:ILE:O	1:G:384:SER:HB2	1.65	0.94
1:G:228:ASN:ND2	1:G:229:PRO:CB	2.29	0.94
1:H:194:ASN:HA	1:H:195:GLU:HB3	0.94	0.94
1:F:145:ASN:N	1:F:146:SER:HA	1.80	0.94
1:F:398:LEU:HD13	1:F:487:ALA:O	1.67	0.94
1:E:486:ASN:HA	1:E:487:ALA:HB3	1.50	0.93
1:F:486:ASN:HA	1:F:487:ALA:HB3	1.50	0.93
1:H:98:ASN:CB	1:H:100:THR:HG22	1.98	0.93
1:H:97:PHE:HD2	1:H:106:ARG:HG2	1.29	0.93
1:F:398:LEU:CD1	1:F:398:LEU:N	2.32	0.93
1:E:228:ASN:ND2	1:E:229:PRO:CB	2.29	0.93
1:A:422:ASN:HA	1:A:423:SER:CB	1.99	0.93
1:C:448:GLU:HA	1:C:448:GLU:OE1	1.67	0.93
1:F:194:ASN:ND2	1:F:196:GLY:H	1.65	0.92
1:F:194:ASN:HA	1:F:195:GLU:HB3	0.96	0.92
1:E:145:ASN:N	1:E:146:SER:HA	1.82	0.92
1:G:228:ASN:ND2	1:G:229:PRO:CG	2.32	0.92
1:E:326:LEU:H	1:E:326:LEU:HD12	1.34	0.92
1:A:192:PHE:HD2	1:A:192:PHE:O	1.53	0.92
1:D:385:LYS:O	1:D:386:SER:HB3	1.68	0.92
1:G:144:ALA:HB1	1:G:145:ASN:C	1.90	0.92
1:H:228:ASN:ND2	1:H:229:PRO:CG	2.32	0.92
1:G:437:ARG:NH2	1:H:428:VAL:O	2.03	0.91
1:G:385:LYS:CG	1:G:386:SER:N	2.30	0.91
1:F:400:ASP:OD1	1:F:401:PRO:O	1.89	0.91
1:E:194:ASN:HA	1:E:195:GLU:HB3	0.95	0.90
1:E:437:ARG:NH2	1:F:428:VAL:O	2.04	0.90
1:A:379:THR:CG2	1:A:450:ASP:O	2.20	0.90
1:A:449:ASN:HD22	1:A:450:ASP:H	1.15	0.90
1:G:486:ASN:HA	1:G:487:ALA:HB3	1.50	0.90
1:E:98:ASN:CB	1:E:100:THR:HG23	2.02	0.89
1:G:437:ARG:NH1	1:H:431:ASN:O	2.04	0.89
1:H:352:LEU:HB3	1:H:495:THR:HG21	1.55	0.89
1:D:213:GLU:O	1:D:214:GLN:OE1	1.91	0.89
1:F:496:GLY:O	1:F:497:VAL:HG12	1.72	0.89
1:F:326:LEU:H	1:F:326:LEU:HD12	1.35	0.89
1:H:97:PHE:CD2	1:H:106:ARG:CG	2.55	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:423:SER:O	1:C:425:VAL:HG23	1.73	0.89
1:B:449:ASN:HD22	1:B:450:ASP:H	1.15	0.89
1:F:394:TRP:HE1	1:F:494:THR:HB	1.38	0.89
1:H:326:LEU:H	1:H:326:LEU:HD12	1.36	0.89
1:E:192:PHE:CD1	1:E:193:ALA:HB2	2.09	0.88
1:A:496:GLY:C	1:A:497:VAL:HG13	1.94	0.88
1:H:383:ILE:CD1	1:H:383:ILE:N	2.33	0.88
1:F:98:ASN:HB2	1:F:100:THR:HG22	1.54	0.88
1:F:192:PHE:CD1	1:F:193:ALA:HB2	2.07	0.88
1:C:192:PHE:CZ	1:C:195:GLU:CG	2.57	0.88
1:B:446:LYS:NZ	1:B:448:GLU:OE2	2.04	0.88
1:C:192:PHE:CZ	1:C:195:GLU:HG2	2.09	0.88
1:H:323:GLU:OE2	1:H:323:GLU:HA	1.74	0.88
1:H:192:PHE:CD1	1:H:193:ALA:HB2	2.08	0.88
1:B:424:LYS:C	1:B:425:VAL:CG2	2.38	0.87
1:G:192:PHE:CD1	1:G:193:ALA:HB2	2.09	0.87
1:A:213:GLU:HB3	1:A:214:GLN:OE1	1.74	0.87
1:C:182:ASP:O	1:C:183:LEU:HB2	1.74	0.87
1:F:397:GLY:O	1:F:487:ALA:O	1.92	0.87
1:A:403:GLU:OE2	1:A:424:LYS:CB	2.22	0.87
1:G:5:THR:O	1:G:6:SER:HB2	1.75	0.86
1:B:422:ASN:HA	1:B:423:SER:HB2	1.56	0.86
1:D:403:GLU:OE2	1:D:424:LYS:CG	2.24	0.86
1:E:323:GLU:OE2	1:E:323:GLU:HA	1.74	0.86
1:F:323:GLU:HA	1:F:323:GLU:OE2	1.74	0.86
1:G:326:LEU:HD12	1:G:326:LEU:H	1.37	0.86
1:H:346:PHE:CE1	1:H:360:VAL:HG23	2.10	0.86
1:F:228:ASN:CG	1:F:229:PRO:CB	2.43	0.86
1:G:147:THR:HB	1:G:171:GLN:HE21	1.36	0.86
1:G:323:GLU:HA	1:G:323:GLU:OE2	1.75	0.86
1:E:194:ASN:HD22	1:E:196:GLY:H	1.24	0.86
1:H:92:ASN:OD1	1:H:96:PHE:O	1.93	0.86
1:D:212:THR:HG22	1:D:215:ASP:O	1.76	0.86
1:G:194:ASN:CA	1:G:195:GLU:CB	2.49	0.85
1:H:427:PHE:O	1:H:427:PHE:CD2	2.29	0.85
1:E:398:LEU:HD12	1:E:398:LEU:H	1.28	0.85
1:A:379:THR:CG2	1:A:380:THR:N	2.40	0.85
1:C:380:THR:HG22	1:C:380:THR:O	1.75	0.85
1:B:192:PHE:O	1:B:192:PHE:CD2	2.30	0.85
1:G:441:ASN:HB2	1:H:232:PRO:HG2	1.59	0.85
1:A:379:THR:HG23	1:A:380:THR:N	1.91	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:398:LEU:N	1:E:398:LEU:CD1	2.35	0.84
1:B:379:THR:HG22	1:B:380:THR:H	1.41	0.84
1:E:427:PHE:CD2	1:E:427:PHE:O	2.30	0.84
1:E:394:TRP:HE1	1:E:494:THR:HB	1.42	0.84
1:F:194:ASN:CA	1:F:195:GLU:CB	2.48	0.84
1:G:396:LYS:HG2	1:G:404:TYR:HB3	1.60	0.84
1:H:385:LYS:NZ	1:H:385:LYS:CD	2.41	0.84
1:A:192:PHE:CD2	1:A:192:PHE:O	2.31	0.84
1:E:497:VAL:O	1:E:497:VAL:HG12	1.78	0.84
1:B:238:ASN:HD21	1:B:269:LEU:H	1.25	0.84
1:D:422:ASN:HA	1:D:423:SER:HB2	1.59	0.84
1:D:195:GLU:OE2	1:D:195:GLU:HA	1.76	0.83
1:F:427:PHE:CD2	1:F:427:PHE:O	2.31	0.83
1:F:194:ASN:HD22	1:F:196:GLY:H	1.25	0.83
1:D:238:ASN:HD21	1:D:269:LEU:H	1.26	0.83
1:G:243:GLY:CA	1:G:253:PHE:CE1	2.60	0.83
1:G:394:TRP:HE1	1:G:494:THR:HB	1.41	0.83
1:C:378:ASN:C	1:C:378:ASN:HD22	1.81	0.83
1:C:238:ASN:HD21	1:C:269:LEU:H	1.26	0.82
1:H:198:LEU:HD12	1:H:198:LEU:C	1.99	0.82
1:E:194:ASN:CA	1:E:195:GLU:CB	2.48	0.82
1:B:379:THR:HG22	1:B:380:THR:N	1.93	0.82
1:H:353:THR:HB	1:H:498:ASP:OD1	1.79	0.82
1:B:382:THR:C	1:B:383:ILE:HG12	2.00	0.82
1:G:318:TYR:HD2	1:G:319:GLN:O	1.63	0.82
1:F:398:LEU:HD11	1:F:489:GLY:HA3	1.62	0.82
1:E:198:LEU:HD12	1:E:198:LEU:C	2.00	0.81
1:H:194:ASN:HD22	1:H:196:GLY:H	1.25	0.81
1:C:496:GLY:O	1:C:497:VAL:CG2	2.28	0.81
1:F:198:LEU:HD12	1:F:198:LEU:C	2.01	0.81
1:F:326:LEU:N	1:F:326:LEU:HD12	1.96	0.81
1:A:496:GLY:O	1:A:497:VAL:CG2	2.28	0.81
1:F:318:TYR:HD2	1:F:319:GLN:O	1.63	0.81
1:A:238:ASN:HD21	1:A:269:LEU:H	1.26	0.81
1:E:318:TYR:HD2	1:E:319:GLN:O	1.63	0.81
1:B:356:ASN:HB3	1:G:362:LEU:HA	1.62	0.81
1:C:323:GLU:HG2	1:D:171:GLN:HE21	1.46	0.81
1:E:326:LEU:N	1:E:326:LEU:HD12	1.95	0.81
1:H:318:TYR:HD2	1:H:319:GLN:O	1.62	0.81
1:H:97:PHE:HE2	1:H:106:ARG:CA	1.93	0.81
1:D:379:THR:HG23	1:D:380:THR:N	1.95	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:347:ALA:HB1	1:E:350:THR:HG21	1.63	0.81
1:H:383:ILE:H	1:H:383:ILE:CD1	1.78	0.80
1:E:5:THR:O	1:E:300:ASN:O	2.00	0.80
1:A:192:PHE:CZ	1:A:195:GLU:HG2	2.16	0.80
1:H:231:ALA:H	1:H:232:PRO:HD2	1.46	0.80
1:A:403:GLU:OE2	1:A:424:LYS:HG3	1.80	0.80
1:F:496:GLY:O	1:F:497:VAL:CB	2.30	0.80
1:G:198:LEU:HD12	1:G:198:LEU:C	2.01	0.80
1:C:213:GLU:O	1:C:214:GLN:CG	2.30	0.80
1:G:346:PHE:CE1	1:G:360:VAL:HG23	2.17	0.80
1:H:228:ASN:OD1	1:H:229:PRO:CG	2.30	0.80
1:B:497:VAL:HG23	1:B:497:VAL:O	1.82	0.80
1:D:195:GLU:CA	1:D:195:GLU:OE2	2.30	0.80
1:F:228:ASN:OD1	1:F:229:PRO:CG	2.30	0.80
1:G:92:ASN:OD1	1:G:96:PHE:O	1.98	0.80
1:H:385:LYS:CG	1:H:385:LYS:CE	2.60	0.79
1:D:497:VAL:HG23	1:D:497:VAL:O	1.82	0.79
1:F:347:ALA:HB1	1:F:350:THR:HG21	1.62	0.79
1:F:427:PHE:O	1:F:428:VAL:HG23	1.82	0.79
1:A:500:LEU:HD12	1:A:500:LEU:C	1.99	0.79
1:H:144:ALA:CB	1:H:145:ASN:HA	2.13	0.79
1:H:144:ALA:HB1	1:H:145:ASN:C	2.01	0.79
1:A:378:ASN:C	1:A:378:ASN:HD22	1.84	0.79
1:C:379:THR:CG2	1:C:380:THR:N	2.46	0.79
1:H:98:ASN:ND2	1:H:98:ASN:N	2.31	0.79
1:A:379:THR:HG22	1:A:450:ASP:O	1.81	0.79
1:B:192:PHE:HD2	1:B:192:PHE:O	1.65	0.79
1:B:362:LEU:HA	1:G:356:ASN:HB3	1.65	0.79
1:B:449:ASN:ND2	1:B:450:ASP:N	2.31	0.79
1:G:194:ASN:HD22	1:G:196:GLY:H	1.26	0.79
1:E:228:ASN:OD1	1:E:229:PRO:CG	2.30	0.79
1:E:96:PHE:O	1:E:97:PHE:CD1	2.36	0.79
1:G:145:ASN:N	1:G:146:SER:HA	1.97	0.79
1:C:445:PHE:CE1	1:C:446:LYS:HD3	2.18	0.79
1:D:394:TRP:HE1	1:D:494:THR:HB	1.48	0.79
1:E:497:VAL:O	1:E:497:VAL:CG1	2.30	0.79
1:E:353:THR:HA	1:E:498:ASP:O	1.83	0.79
1:F:290:ASN:OD1	1:F:292:GLU:HG2	1.83	0.79
1:E:144:ALA:HB1	1:E:145:ASN:C	2.03	0.78
1:H:147:THR:CB	1:H:171:GLN:NE2	2.47	0.78
1:C:180:SER:HB2	1:C:185:SER:O	1.83	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:228:ASN:OD1	1:F:229:PRO:HD3	1.83	0.78
1:G:228:ASN:OD1	1:G:229:PRO:CG	2.31	0.78
1:H:326:LEU:N	1:H:326:LEU:HD12	1.97	0.78
1:E:427:PHE:O	1:E:427:PHE:CG	2.34	0.78
1:E:98:ASN:CB	1:E:100:THR:CG2	2.61	0.78
1:G:486:ASN:CA	1:G:487:ALA:CB	2.58	0.78
1:H:98:ASN:N	1:H:98:ASN:HD22	1.79	0.78
1:B:496:GLY:O	1:B:497:VAL:CG2	2.30	0.78
1:C:192:PHE:O	1:C:192:PHE:HD2	1.67	0.78
1:G:326:LEU:N	1:G:326:LEU:HD12	1.97	0.78
1:B:212:THR:HG22	1:B:215:ASP:O	1.84	0.78
1:D:385:LYS:HG3	1:D:386:SER:H	1.48	0.78
1:E:5:THR:O	1:E:6:SER:CB	2.30	0.78
1:F:228:ASN:OD1	1:F:229:PRO:CD	2.32	0.78
1:G:423:SER:HG	1:G:425:VAL:CG2	1.92	0.78
1:G:5:THR:HG22	1:G:6:SER:O	1.83	0.78
1:E:192:PHE:CD2	1:E:193:ALA:CB	2.67	0.78
1:E:92:ASN:OD1	1:E:96:PHE:O	2.02	0.78
1:A:449:ASN:ND2	1:A:450:ASP:N	2.30	0.78
1:F:144:ALA:CB	1:F:145:ASN:HA	2.11	0.78
1:A:394:TRP:HE1	1:A:494:THR:HB	1.47	0.78
1:C:394:TRP:HE1	1:C:494:THR:HB	1.48	0.78
1:A:171:GLN:HE21	1:B:323:GLU:HG2	1.49	0.77
1:F:147:THR:CB	1:F:171:GLN:NE2	2.47	0.77
1:F:496:GLY:O	1:F:497:VAL:CG1	2.31	0.77
1:A:403:GLU:OE2	1:A:483:THR:HB	1.84	0.77
1:E:290:ASN:OD1	1:E:292:GLU:HG2	1.83	0.77
1:H:97:PHE:HD2	1:H:106:ARG:CG	1.94	0.77
1:A:496:GLY:O	1:A:497:VAL:CG1	2.32	0.77
1:C:497:VAL:CG2	1:C:497:VAL:O	2.31	0.77
1:E:144:ALA:CB	1:E:145:ASN:HA	2.12	0.77
1:G:232:PRO:CG	1:H:441:ASN:HB2	2.14	0.77
1:D:379:THR:HG21	1:D:450:ASP:O	1.84	0.77
1:G:192:PHE:CD2	1:G:193:ALA:CB	2.67	0.77
1:G:427:PHE:O	1:G:428:VAL:HG23	1.84	0.77
1:C:485:GLY:O	1:C:486:ASN:HB2	1.85	0.77
1:H:290:ASN:OD1	1:H:292:GLU:HG2	1.84	0.77
1:B:394:TRP:HE1	1:B:494:THR:HB	1.48	0.77
1:E:147:THR:CB	1:E:171:GLN:NE2	2.47	0.77
1:E:298:PRO:HD3	1:E:427:PHE:CD2	2.19	0.77
1:G:290:ASN:OD1	1:G:292:GLU:HG2	1.85	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:496:GLY:C	1:D:497:VAL:HG22	2.03	0.76
1:H:427:PHE:O	1:H:428:VAL:HG23	1.84	0.76
1:F:347:ALA:CB	1:F:350:THR:HG21	2.15	0.76
1:G:5:THR:O	1:G:300:ASN:O	2.04	0.76
1:H:96:PHE:C	1:H:97:PHE:HD1	1.87	0.76
1:C:379:THR:HG23	1:C:380:THR:N	1.98	0.76
1:G:231:ALA:H	1:G:232:PRO:HD2	1.49	0.76
1:B:403:GLU:OE2	1:B:483:THR:HB	1.85	0.76
1:D:485:GLY:O	1:D:486:ASN:HB2	1.84	0.76
1:G:428:VAL:HG12	1:G:429:LYS:N	1.99	0.76
1:D:356:ASN:HB3	1:H:362:LEU:HA	1.67	0.76
1:G:381:GLN:O	1:G:382:THR:C	2.23	0.76
1:D:378:ASN:O	1:D:379:THR:CG2	2.31	0.76
1:D:379:THR:CG2	1:D:380:THR:N	2.48	0.76
1:G:147:THR:HA	1:G:171:GLN:HE22	1.51	0.76
1:C:403:GLU:OE2	1:C:483:THR:HB	1.86	0.76
1:F:4:GLU:CD	1:F:4:GLU:N	2.37	0.76
1:C:214:GLN:HG2	1:C:215:ASP:H	1.51	0.75
1:B:277:PRO:HB3	1:B:280:GLY:HA2	1.67	0.75
1:H:192:PHE:CD2	1:H:193:ALA:CB	2.69	0.75
1:G:388:PHE:CE2	1:G:390:ASP:HB3	2.21	0.75
1:A:378:ASN:O	1:A:379:THR:CG2	2.31	0.75
1:B:378:ASN:O	1:B:379:THR:CG2	2.34	0.75
1:C:403:GLU:OE2	1:C:424:LYS:HG3	1.86	0.75
1:H:231:ALA:HB3	1:H:232:PRO:HD3	1.68	0.75
1:C:192:PHE:CZ	1:C:195:GLU:HG3	2.21	0.75
1:G:121:GLN:HG3	1:G:149:PHE:HE2	1.52	0.75
1:H:488:LEU:N	1:H:488:LEU:HD23	2.01	0.75
1:C:352:LEU:CD1	1:C:501:PHE:O	2.35	0.75
1:G:496:GLY:O	1:G:497:VAL:HG22	1.85	0.75
1:B:424:LYS:O	1:B:425:VAL:CG2	2.32	0.75
1:E:347:ALA:CB	1:E:350:THR:HG21	2.16	0.74
1:C:496:GLY:C	1:C:497:VAL:HG13	2.05	0.74
1:F:460:LEU:HG	1:F:465:LEU:HD12	1.68	0.74
1:G:383:ILE:O	1:G:384:SER:CB	2.35	0.74
1:C:380:THR:O	1:C:380:THR:CG2	2.35	0.74
1:D:277:PRO:HB3	1:D:280:GLY:HA2	1.67	0.74
1:D:403:GLU:OE2	1:D:483:THR:HB	1.87	0.74
1:G:231:ALA:HB3	1:G:232:PRO:HD3	1.70	0.74
1:B:485:GLY:O	1:B:486:ASN:HB2	1.85	0.74
1:D:362:LEU:HA	1:H:356:ASN:HB3	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:147:THR:HA	1:F:171:GLN:HE22	1.53	0.74
1:F:96:PHE:O	1:F:97:PHE:HB2	1.87	0.74
1:F:144:ALA:HB1	1:F:145:ASN:C	2.08	0.74
1:G:397:GLY:O	1:G:487:ALA:O	2.05	0.74
1:B:379:THR:HG23	1:B:380:THR:N	2.01	0.74
1:F:148:GLN:HE21	1:F:150:ARG:CZ	2.01	0.74
1:G:147:THR:CB	1:G:171:GLN:NE2	2.50	0.74
1:C:277:PRO:HB3	1:C:280:GLY:HA2	1.69	0.74
1:G:194:ASN:HD22	1:G:196:GLY:N	1.86	0.74
1:C:192:PHE:C	1:C:192:PHE:CD2	2.60	0.74
1:G:144:ALA:HB1	1:G:145:ASN:O	1.88	0.73
1:H:194:ASN:HD22	1:H:196:GLY:N	1.85	0.73
1:G:496:GLY:C	1:G:497:VAL:HG13	2.07	0.73
1:B:98:ASN:HB2	1:B:100:THR:HG22	1.69	0.73
1:C:378:ASN:O	1:C:379:THR:CG2	2.29	0.73
1:E:194:ASN:HD22	1:E:196:GLY:N	1.85	0.73
1:H:121:GLN:HG3	1:H:149:PHE:HE2	1.52	0.73
1:B:136:TYR:CE1	1:B:184:LYS:HD3	2.24	0.73
1:F:192:PHE:CD2	1:F:193:ALA:CB	2.69	0.73
1:G:228:ASN:CG	1:G:229:PRO:HB3	2.09	0.73
1:H:97:PHE:CE2	1:H:106:ARG:CG	2.69	0.73
1:A:277:PRO:HB3	1:A:280:GLY:HA2	1.69	0.73
1:D:98:ASN:HB2	1:D:100:THR:HG22	1.71	0.73
1:F:194:ASN:HD22	1:F:196:GLY:N	1.85	0.73
1:A:422:ASN:CA	1:A:423:SER:HB2	2.17	0.73
1:G:395:PHE:HE2	1:G:407:MET:HE2	1.53	0.73
1:H:486:ASN:CA	1:H:487:ALA:HB2	2.08	0.73
1:F:147:THR:CB	1:F:171:GLN:HE21	2.01	0.73
1:A:31:LYS:HB3	1:A:104:ARG:HE	1.54	0.73
1:A:192:PHE:CD2	1:A:192:PHE:C	2.62	0.72
1:G:497:VAL:CG2	1:G:497:VAL:O	2.36	0.72
1:A:212:THR:CG2	1:A:215:ASP:O	2.36	0.72
1:A:379:THR:HG21	1:A:450:ASP:O	1.87	0.72
1:A:352:LEU:CD1	1:A:503:ILE:CG1	2.66	0.72
1:H:147:THR:HA	1:H:171:GLN:HE22	1.53	0.72
1:A:378:ASN:C	1:A:378:ASN:ND2	2.42	0.72
1:B:353:THR:HB	1:B:498:ASP:OD2	1.88	0.72
1:E:231:ALA:HB3	1:E:232:PRO:HD3	1.70	0.72
1:F:229:PRO:HG2	1:F:230:GLY:H	1.53	0.72
1:F:395:PHE:HE2	1:F:407:MET:HE2	1.54	0.72
1:H:400:ASP:O	1:H:401:PRO:O	2.07	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:213:GLU:O	1:C:214:GLN:HG2	1.88	0.72
1:E:147:THR:HA	1:E:171:GLN:HE22	1.53	0.72
1:F:497:VAL:O	1:F:497:VAL:CG1	2.38	0.72
1:H:400:ASP:OD1	1:H:401:PRO:O	2.08	0.72
1:A:98:ASN:HB2	1:A:100:THR:HG22	1.71	0.72
1:D:321:ASN:HB2	1:D:322:PRO:HD2	1.72	0.72
1:H:98:ASN:ND2	1:H:98:ASN:H	1.88	0.72
1:B:31:LYS:HB3	1:B:104:ARG:HE	1.55	0.72
1:D:212:THR:HG23	1:D:213:GLU:O	1.90	0.72
1:H:383:ILE:O	1:H:384:SER:HB2	1.88	0.72
1:C:255:ASN:O	1:D:194:ASN:O	2.08	0.72
1:D:192:PHE:O	1:D:192:PHE:CD2	2.43	0.72
1:E:232:PRO:HG2	1:F:441:ASN:HB2	1.71	0.71
1:D:192:PHE:HA	1:D:193:ALA:HB2	1.71	0.71
1:D:180:SER:CB	1:D:185:SER:O	2.32	0.71
1:G:346:PHE:CE1	1:G:360:VAL:CG2	2.73	0.71
1:G:353:THR:HA	1:G:498:ASP:O	1.91	0.71
1:E:228:ASN:OD1	1:E:229:PRO:HB3	1.90	0.71
1:A:422:ASN:CA	1:A:423:SER:CB	2.68	0.71
1:E:147:THR:CB	1:E:171:GLN:HE21	2.01	0.71
1:E:5:THR:O	1:E:6:SER:HB2	1.91	0.71
1:G:398:LEU:N	1:G:487:ALA:O	2.24	0.71
1:A:195:GLU:CA	1:A:195:GLU:OE2	2.38	0.71
1:G:148:GLN:HE21	1:G:150:ARG:CZ	2.03	0.71
1:H:147:THR:CB	1:H:171:GLN:HE21	2.01	0.71
1:H:423:SER:OG	1:H:425:VAL:HG23	1.91	0.71
1:C:171:GLN:HE21	1:D:323:GLU:HG2	1.55	0.71
1:E:228:ASN:HD21	1:E:229:PRO:HB3	1.49	0.71
1:G:229:PRO:CG	1:G:230:GLY:H	2.02	0.70
1:F:121:GLN:HG3	1:F:149:PHE:HE2	1.54	0.70
1:G:147:THR:CB	1:G:171:GLN:HE21	2.04	0.70
1:G:401:PRO:O	1:G:402:GLU:CB	2.38	0.70
1:H:96:PHE:CB	1:H:97:PHE:HD1	2.04	0.70
1:A:352:LEU:HD11	1:A:503:ILE:CG1	2.22	0.70
1:F:144:ALA:CB	1:F:145:ASN:CA	2.67	0.70
1:F:5:THR:O	1:F:300:ASN:O	2.10	0.70
1:G:228:ASN:CG	1:G:229:PRO:CB	2.57	0.70
1:D:31:LYS:HB3	1:D:104:ARG:HE	1.56	0.70
1:F:231:ALA:HB3	1:F:232:PRO:HD3	1.73	0.70
1:B:378:ASN:ND2	1:B:380:THR:O	2.23	0.70
1:E:121:GLN:HG3	1:E:149:PHE:HE2	1.54	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:318:TYR:CD2	1:G:319:GLN:O	2.45	0.70
1:H:148:GLN:HE21	1:H:150:ARG:CZ	2.03	0.70
1:C:31:LYS:HB3	1:C:104:ARG:HE	1.55	0.70
1:H:96:PHE:C	1:H:97:PHE:CD1	2.64	0.70
1:F:298:PRO:HD3	1:F:427:PHE:CD2	2.26	0.70
1:B:346:PHE:CE1	1:B:360:VAL:HG23	2.26	0.70
1:E:419:ASP:CG	1:E:437:ARG:HH11	1.93	0.70
1:G:144:ALA:CB	1:G:145:ASN:CA	2.67	0.70
1:F:318:TYR:CD2	1:F:319:GLN:O	2.45	0.69
1:F:397:GLY:HA2	1:F:400:ASP:O	1.91	0.69
1:F:4:GLU:OE2	1:F:4:GLU:N	2.25	0.69
1:A:381:GLN:O	1:A:382:THR:OG1	2.09	0.69
1:D:195:GLU:HB3	1:D:241:PHE:CZ	2.27	0.69
1:D:385:LYS:HG3	1:D:386:SER:N	2.05	0.69
1:H:318:TYR:CD2	1:H:319:GLN:O	2.45	0.69
1:A:195:GLU:OE2	1:A:195:GLU:HA	1.91	0.69
1:C:213:GLU:O	1:C:214:GLN:CD	2.30	0.69
1:B:403:GLU:OE2	1:B:424:LYS:HG3	1.92	0.69
1:G:62:LEU:HD22	1:G:309:VAL:HG21	1.74	0.69
1:A:213:GLU:O	1:A:214:GLN:OE1	2.02	0.69
1:B:383:ILE:O	1:B:384:SER:CB	2.41	0.69
1:F:486:ASN:CA	1:F:487:ALA:CB	2.55	0.69
1:G:229:PRO:HG2	1:G:230:GLY:H	1.58	0.69
1:G:400:ASP:OD1	1:G:400:ASP:C	2.30	0.69
1:C:215:ASP:OD1	1:C:215:ASP:C	2.31	0.69
1:D:182:ASP:OD2	1:D:182:ASP:C	2.30	0.69
1:F:96:PHE:O	1:F:97:PHE:CB	2.41	0.69
1:G:256:GLN:NE2	1:G:326:LEU:HB2	2.07	0.69
1:G:5:THR:O	1:G:6:SER:CB	2.40	0.69
1:A:195:GLU:HB3	1:A:241:PHE:CZ	2.28	0.69
1:A:381:GLN:C	1:A:382:THR:OG1	2.30	0.69
1:C:346:PHE:CE1	1:C:360:VAL:HG23	2.28	0.69
1:F:4:GLU:OE2	1:F:4:GLU:C	2.31	0.69
1:G:243:GLY:C	1:G:253:PHE:HE1	1.95	0.69
1:C:98:ASN:HB2	1:C:100:THR:HG22	1.73	0.69
1:A:212:THR:HG22	1:A:215:ASP:C	2.14	0.69
1:H:194:ASN:CA	1:H:195:GLU:CB	2.48	0.69
1:D:346:PHE:CE1	1:D:360:VAL:HG23	2.28	0.68
1:E:194:ASN:ND2	1:E:196:GLY:N	2.41	0.68
1:F:62:LEU:HD22	1:F:309:VAL:HG21	1.73	0.68
1:D:192:PHE:CE1	1:D:195:GLU:CG	2.77	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:144:ALA:CB	1:G:145:ASN:HA	2.22	0.68
1:G:411:VAL:HG21	1:G:500:LEU:CD2	2.23	0.68
1:G:427:PHE:CD2	1:G:427:PHE:O	2.45	0.68
1:H:497:VAL:CG1	1:H:497:VAL:O	2.42	0.68
1:C:321:ASN:HB2	1:C:322:PRO:HD2	1.76	0.68
1:E:318:TYR:CD2	1:E:319:GLN:O	2.45	0.68
1:A:346:PHE:CE1	1:A:360:VAL:HG23	2.29	0.68
1:C:192:PHE:HA	1:C:193:ALA:HB2	1.76	0.68
1:D:192:PHE:CZ	1:D:195:GLU:CG	2.77	0.68
1:D:423:SER:O	1:D:425:VAL:HG23	1.94	0.68
1:E:4:GLU:O	1:E:4:GLU:CG	2.42	0.68
1:A:323:GLU:HG2	1:B:171:GLN:HE21	1.56	0.68
1:B:183:LEU:HD23	1:B:186:TRP:HZ2	1.59	0.68
1:F:98:ASN:ND2	1:F:98:ASN:N	2.41	0.68
1:F:496:GLY:O	1:F:497:VAL:HB	1.92	0.68
1:G:228:ASN:HD21	1:G:229:PRO:HG3	1.53	0.68
1:H:346:PHE:HE1	1:H:360:VAL:HG23	1.58	0.68
1:A:352:LEU:HD13	1:A:503:ILE:HG12	1.73	0.68
1:C:214:GLN:HG2	1:C:215:ASP:N	2.06	0.68
1:C:195:GLU:HB3	1:C:241:PHE:CZ	2.28	0.68
1:E:298:PRO:HD3	1:E:427:PHE:HD2	1.58	0.68
1:F:141:VAL:HG23	1:F:186:TRP:CD1	2.29	0.68
1:A:398:LEU:CB	1:A:487:ALA:CB	2.65	0.67
1:D:175:ILE:HD13	1:D:205:PRO:HB3	1.75	0.67
1:D:213:GLU:O	1:D:214:GLN:CG	2.42	0.67
1:E:395:PHE:HB3	1:E:488:LEU:HB3	1.75	0.67
1:H:198:LEU:O	1:H:198:LEU:HD12	1.93	0.67
1:E:62:LEU:HD22	1:E:309:VAL:HG21	1.76	0.67
1:G:441:ASN:HB2	1:H:232:PRO:CG	2.23	0.67
1:G:96:PHE:O	1:G:97:PHE:CD1	2.47	0.67
1:G:98:ASN:ND2	1:G:98:ASN:N	2.30	0.67
1:H:62:LEU:HD22	1:H:309:VAL:HG21	1.75	0.67
1:E:98:ASN:HD22	1:E:98:ASN:N	1.91	0.67
1:F:228:ASN:OD1	1:F:229:PRO:HG3	1.94	0.67
1:H:141:VAL:HG23	1:H:186:TRP:CD1	2.29	0.67
1:H:228:ASN:HD22	1:H:229:PRO:HB3	1.54	0.67
1:B:448:GLU:O	1:B:449:ASN:CG	2.32	0.67
1:C:497:VAL:HG23	1:C:497:VAL:O	1.94	0.67
1:D:423:SER:OG	1:D:424:LYS:N	2.27	0.67
1:E:198:LEU:O	1:E:198:LEU:HD12	1.95	0.67
1:H:96:PHE:CB	1:H:97:PHE:CD1	2.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:97:PHE:CE2	1:H:106:ARG:HG2	2.30	0.67
1:A:182:ASP:O	1:A:183:LEU:HB2	1.93	0.67
1:A:321:ASN:HB2	1:A:322:PRO:HD2	1.75	0.67
1:A:421:GLY:O	1:A:422:ASN:HB2	1.94	0.67
1:H:346:PHE:CE1	1:H:360:VAL:CG2	2.78	0.67
1:A:213:GLU:O	1:A:214:GLN:CG	2.43	0.67
1:C:212:THR:HG22	1:C:213:GLU:O	1.95	0.67
1:D:449:ASN:O	1:D:449:ASN:ND2	2.28	0.67
1:F:141:VAL:HG21	1:F:186:TRP:HE1	1.60	0.67
1:C:183:LEU:HD23	1:C:186:TRP:CZ2	2.30	0.67
1:C:378:ASN:HA	1:C:451:LEU:CD2	2.25	0.67
1:E:96:PHE:O	1:E:97:PHE:HB2	1.94	0.67
1:E:141:VAL:HG23	1:E:186:TRP:CD1	2.30	0.66
1:F:427:PHE:O	1:F:427:PHE:CG	2.48	0.66
1:A:496:GLY:O	1:A:497:VAL:CB	2.43	0.66
1:A:192:PHE:HA	1:A:193:ALA:HB2	1.76	0.66
1:F:148:GLN:NE2	1:F:150:ARG:CZ	2.58	0.66
1:F:92:ASN:OD1	1:F:96:PHE:O	2.14	0.66
1:G:141:VAL:HG23	1:G:186:TRP:CD1	2.30	0.66
1:G:231:ALA:N	1:G:232:PRO:HD2	2.10	0.66
1:B:321:ASN:HB2	1:B:322:PRO:HD2	1.76	0.66
1:C:175:ILE:HD13	1:C:205:PRO:HB3	1.76	0.66
1:C:378:ASN:C	1:C:378:ASN:ND2	2.46	0.66
1:D:422:ASN:HA	1:D:423:SER:CB	2.26	0.66
1:H:464:ILE:HG13	1:H:479:THR:HG22	1.76	0.66
1:B:175:ILE:HD13	1:B:205:PRO:HB3	1.77	0.66
1:D:424:LYS:C	1:D:425:VAL:HG23	2.15	0.66
1:E:254:ASP:O	1:E:255:ASN:HB2	1.95	0.66
1:F:198:LEU:HD12	1:F:198:LEU:O	1.96	0.66
1:G:380:THR:HG23	1:G:381:GLN:N	2.11	0.66
1:A:378:ASN:O	1:A:378:ASN:ND2	2.29	0.66
1:F:194:ASN:ND2	1:F:196:GLY:N	2.41	0.66
1:G:194:ASN:HA	1:G:195:GLU:HB2	1.75	0.66
1:D:136:TYR:CE1	1:D:184:LYS:HD3	2.31	0.65
1:B:182:ASP:O	1:B:183:LEU:HB2	1.94	0.65
1:B:213:GLU:HB3	1:B:214:GLN:OE1	1.96	0.65
1:D:192:PHE:CZ	1:D:195:GLU:HG2	2.31	0.65
1:G:198:LEU:O	1:G:198:LEU:HD12	1.96	0.65
1:D:398:LEU:HB2	1:D:487:ALA:HB3	1.79	0.65
1:D:449:ASN:O	1:D:450:ASP:HB2	1.95	0.65
1:F:5:THR:HG22	1:F:6:SER:O	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:175:ILE:HD13	1:A:205:PRO:HB3	1.79	0.65
1:C:194:ASN:O	1:D:255:ASN:O	2.14	0.65
1:D:496:GLY:O	1:D:497:VAL:CB	2.43	0.65
1:E:441:ASN:HB2	1:F:232:PRO:HG2	1.78	0.65
1:G:194:ASN:ND2	1:G:196:GLY:N	2.41	0.65
1:G:401:PRO:O	1:G:402:GLU:HB3	1.96	0.65
1:D:195:GLU:N	1:D:195:GLU:OE2	2.30	0.65
1:G:345:ARG:NH1	1:G:507:GLN:NE2	2.45	0.65
1:G:98:ASN:ND2	1:G:98:ASN:H	1.82	0.65
1:B:195:GLU:N	1:B:195:GLU:OE2	2.30	0.65
1:F:486:ASN:CA	1:F:487:ALA:HB2	2.17	0.65
1:H:401:PRO:C	1:H:403:GLU:H	2.01	0.65
1:A:497:VAL:CG2	1:A:497:VAL:O	2.44	0.65
1:B:183:LEU:HD23	1:B:186:TRP:CZ2	2.31	0.65
1:E:141:VAL:HG21	1:E:186:TRP:HE1	1.61	0.65
1:E:96:PHE:O	1:E:97:PHE:HD1	1.78	0.64
1:F:398:LEU:HD11	1:F:489:GLY:CA	2.27	0.64
1:D:366:THR:O	1:D:462:GLN:NE2	2.18	0.64
1:E:228:ASN:OD1	1:E:229:PRO:CB	2.45	0.64
1:E:398:LEU:HD13	1:E:398:LEU:H	1.60	0.64
1:H:96:PHE:O	1:H:97:PHE:HB2	1.98	0.64
1:A:403:GLU:OE2	1:A:424:LYS:HB2	1.96	0.64
1:G:141:VAL:HG21	1:G:186:TRP:HE1	1.62	0.64
1:A:398:LEU:HD13	1:A:487:ALA:CB	2.28	0.64
1:D:62:LEU:HD22	1:D:309:VAL:HG21	1.79	0.64
1:F:383:ILE:O	1:F:384:SER:HB2	1.95	0.64
1:H:148:GLN:NE2	1:H:150:ARG:CZ	2.61	0.64
1:A:195:GLU:OE2	1:A:195:GLU:N	2.31	0.64
1:A:277:PRO:HA	1:A:278:THR:C	2.19	0.64
1:C:195:GLU:N	1:C:195:GLU:OE2	2.30	0.64
1:G:231:ALA:N	1:G:232:PRO:CD	2.60	0.64
1:A:192:PHE:CZ	1:A:195:GLU:CG	2.81	0.64
1:C:62:LEU:HD22	1:C:309:VAL:HG21	1.78	0.64
1:E:380:THR:HG23	1:E:381:GLN:N	2.13	0.64
1:G:411:VAL:HG21	1:G:500:LEU:HD21	1.79	0.64
1:C:352:LEU:CD1	1:C:352:LEU:N	2.42	0.63
1:E:96:PHE:O	1:E:97:PHE:CB	2.43	0.63
1:F:397:GLY:O	1:F:487:ALA:C	2.35	0.63
1:G:243:GLY:C	1:G:253:PHE:CE1	2.70	0.63
1:G:148:GLN:NE2	1:G:150:ARG:CZ	2.60	0.63
1:H:194:ASN:HA	1:H:195:GLU:HB2	1.74	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:243:GLY:HA2	1:H:253:PHE:CE1	2.34	0.63
1:H:353:THR:HA	1:H:498:ASP:O	1.98	0.63
1:H:96:PHE:HB2	1:H:97:PHE:CD1	2.33	0.63
1:C:193:ALA:HB3	1:C:195:GLU:OE2	1.98	0.63
1:F:397:GLY:C	1:F:487:ALA:O	2.36	0.63
1:B:192:PHE:C	1:B:192:PHE:CD2	2.71	0.63
1:C:398:LEU:HB2	1:C:487:ALA:HB3	1.79	0.63
1:G:147:THR:CA	1:G:171:GLN:NE2	2.62	0.63
1:G:175:ILE:N	1:G:192:PHE:O	2.31	0.63
1:G:326:LEU:HD13	1:G:326:LEU:O	1.98	0.63
1:B:212:THR:HG22	1:B:213:GLU:O	1.99	0.63
1:D:182:ASP:OD2	1:D:184:LYS:N	2.31	0.63
1:G:397:GLY:C	1:G:487:ALA:O	2.37	0.63
1:H:228:ASN:ND2	1:H:236:SER:OG	2.31	0.63
1:C:378:ASN:O	1:C:378:ASN:ND2	2.31	0.63
1:E:147:THR:CA	1:E:171:GLN:NE2	2.61	0.63
1:H:141:VAL:HG21	1:H:186:TRP:HE1	1.61	0.63
1:F:380:THR:HG23	1:F:381:GLN:N	2.13	0.63
1:D:4:GLU:OE1	1:D:4:GLU:HA	1.99	0.63
1:E:147:THR:CA	1:E:171:GLN:HE22	2.12	0.63
1:E:277:PRO:HB3	1:E:280:GLY:HA2	1.81	0.63
1:F:277:PRO:HA	1:F:278:THR:C	2.19	0.63
1:B:277:PRO:HA	1:B:278:THR:C	2.19	0.62
1:H:147:THR:CA	1:H:171:GLN:NE2	2.62	0.62
1:H:326:LEU:HD13	1:H:326:LEU:O	1.99	0.62
1:A:62:LEU:HD22	1:A:309:VAL:HG21	1.80	0.62
1:D:180:SER:OG	1:D:183:LEU:N	2.30	0.62
1:F:147:THR:CA	1:F:171:GLN:NE2	2.61	0.62
1:H:426:LYS:CD	1:H:430:GLU:OE2	2.47	0.62
1:E:500:LEU:C	1:E:500:LEU:HD12	2.06	0.62
1:H:231:ALA:N	1:H:232:PRO:HD2	2.13	0.62
1:D:238:ASN:ND2	1:D:269:LEU:H	1.98	0.62
1:D:425:VAL:HG21	1:D:481:PHE:O	2.00	0.62
1:E:385:LYS:HG3	1:E:386:SER:H	1.64	0.62
1:E:401:PRO:C	1:E:403:GLU:H	2.02	0.62
1:A:4:GLU:HA	1:A:4:GLU:OE1	2.00	0.62
1:B:62:LEU:HD22	1:B:309:VAL:HG21	1.81	0.62
1:B:4:GLU:HA	1:B:4:GLU:OE1	1.98	0.62
1:F:229:PRO:CG	1:F:230:GLY:H	2.11	0.62
1:A:379:THR:CG2	1:A:380:THR:H	2.11	0.62
1:A:383:ILE:O	1:A:384:SER:CB	2.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:424:LYS:O	1:D:425:VAL:C	2.37	0.62
1:E:326:LEU:HD13	1:E:326:LEU:O	2.00	0.62
1:F:326:LEU:HD13	1:F:326:LEU:O	2.00	0.62
1:G:228:ASN:OD1	1:G:229:PRO:CD	2.48	0.62
1:E:277:PRO:HA	1:E:278:THR:C	2.19	0.62
1:A:343:TRP:CE3	1:A:507:GLN:HB3	2.34	0.62
1:G:398:LEU:HD21	1:G:489:GLY:HA3	1.81	0.62
1:G:253:PHE:HD1	1:G:253:PHE:N	1.98	0.62
1:A:396:LYS:HE2	2:A:602:HOH:O	1.99	0.62
1:B:497:VAL:CG2	1:B:497:VAL:O	2.48	0.62
1:F:228:ASN:HD21	1:F:229:PRO:HB3	1.55	0.62
1:F:277:PRO:HB3	1:F:280:GLY:HA2	1.82	0.62
1:G:323:GLU:OE2	1:G:323:GLU:CA	2.48	0.62
1:H:496:GLY:O	1:H:497:VAL:HG12	2.00	0.62
1:B:195:GLU:CA	1:B:195:GLU:OE2	2.48	0.61
1:B:343:TRP:CE3	1:B:507:GLN:HB3	2.36	0.61
1:C:192:PHE:CD2	1:C:192:PHE:O	2.51	0.61
1:C:238:ASN:ND2	1:C:269:LEU:H	1.96	0.61
1:C:277:PRO:HA	1:C:278:THR:C	2.20	0.61
1:C:323:GLU:HG2	1:D:171:GLN:NE2	2.15	0.61
1:E:323:GLU:OE2	1:E:323:GLU:CA	2.48	0.61
1:H:354:LYS:HA	1:H:495:THR:O	2.00	0.61
1:F:147:THR:CA	1:F:171:GLN:HE22	2.13	0.61
1:F:326:LEU:N	1:F:326:LEU:CD1	2.63	0.61
1:A:497:VAL:HG23	1:A:497:VAL:O	2.00	0.61
1:A:352:LEU:HD11	1:A:503:ILE:HG13	1.80	0.61
1:C:4:GLU:OE1	1:C:4:GLU:HA	1.99	0.61
1:D:463:ASN:C	1:D:463:ASN:OD1	2.39	0.61
1:E:326:LEU:N	1:E:326:LEU:CD1	2.62	0.61
1:F:401:PRO:C	1:F:403:GLU:H	2.02	0.61
1:G:228:ASN:HD22	1:G:229:PRO:HB3	1.64	0.61
1:B:192:PHE:HA	1:B:193:ALA:HB2	1.82	0.61
1:D:499:ASN:OD1	1:D:499:ASN:C	2.37	0.61
1:F:383:ILE:O	1:F:384:SER:CB	2.47	0.61
1:H:326:LEU:N	1:H:326:LEU:CD1	2.64	0.61
1:F:497:VAL:O	1:F:497:VAL:HG13	1.99	0.61
1:G:147:THR:CA	1:G:171:GLN:HE22	2.13	0.61
1:C:383:ILE:N	1:C:383:ILE:HD13	2.16	0.61
1:F:194:ASN:HA	1:F:195:GLU:HB2	1.73	0.61
1:H:194:ASN:ND2	1:H:196:GLY:N	2.41	0.61
1:C:448:GLU:OE1	1:C:448:GLU:CA	2.42	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:99:ASP:N	1:F:99:ASP:OD1	2.30	0.61
1:E:231:ALA:N	1:E:232:PRO:CD	2.64	0.61
1:G:277:PRO:HA	1:G:278:THR:C	2.21	0.61
1:H:380:THR:HG23	1:H:381:GLN:N	2.15	0.61
1:D:381:GLN:C	1:D:382:THR:OG1	2.38	0.61
1:G:115:THR:HG22	1:G:117:GLU:H	1.66	0.61
1:G:326:LEU:N	1:G:326:LEU:CD1	2.64	0.61
1:A:194:ASN:O	1:B:255:ASN:O	2.19	0.60
1:D:379:THR:CG2	1:D:380:THR:H	2.12	0.60
1:E:395:PHE:HE2	1:E:407:MET:HE2	1.66	0.60
1:F:4:GLU:OE2	1:F:4:GLU:CA	2.48	0.60
1:H:147:THR:CA	1:H:171:GLN:HE22	2.14	0.60
1:A:36:HIS:HD2	1:A:56:HIS:NE2	1.98	0.60
1:B:238:ASN:ND2	1:B:269:LEU:H	1.96	0.60
1:F:98:ASN:HD22	1:F:98:ASN:N	1.99	0.60
1:A:192:PHE:CE2	1:A:195:GLU:HG2	2.36	0.60
1:A:238:ASN:ND2	1:A:269:LEU:H	1.98	0.60
1:F:398:LEU:CD1	1:F:489:GLY:H	2.14	0.60
1:G:228:ASN:OD1	1:G:229:PRO:HD3	2.00	0.60
1:G:400:ASP:OD2	1:G:424:LYS:NZ	2.35	0.60
1:H:346:PHE:HE1	1:H:360:VAL:CG2	2.14	0.60
1:F:115:THR:HG22	1:F:117:GLU:H	1.67	0.60
1:F:381:GLN:O	1:F:382:THR:C	2.40	0.60
1:A:171:GLN:NE2	1:B:323:GLU:HG2	2.15	0.60
1:E:326:LEU:H	1:E:326:LEU:CD1	2.12	0.60
1:G:398:LEU:CD2	1:G:489:GLY:HA3	2.32	0.60
1:B:401:PRO:C	1:B:403:GLU:H	2.04	0.60
1:H:277:PRO:HB3	1:H:280:GLY:HA2	1.82	0.60
1:C:36:HIS:HD2	1:C:56:HIS:NE2	1.99	0.60
1:D:277:PRO:HA	1:D:278:THR:C	2.22	0.60
1:G:371:PHE:CZ	1:G:407:MET:HE3	2.36	0.60
1:B:182:ASP:C	1:B:182:ASP:OD2	2.40	0.60
1:A:401:PRO:C	1:A:403:GLU:H	2.04	0.60
1:B:36:HIS:HD2	1:B:56:HIS:NE2	2.00	0.60
1:D:192:PHE:CZ	1:D:195:GLU:HG3	2.35	0.60
1:E:441:ASN:HB2	1:F:232:PRO:CG	2.32	0.60
1:H:141:VAL:HG23	1:H:186:TRP:HD1	1.67	0.60
1:H:277:PRO:HA	1:H:278:THR:C	2.22	0.60
1:A:398:LEU:HB3	1:A:487:ALA:HB3	1.80	0.59
1:C:343:TRP:CE3	1:C:507:GLN:HB3	2.36	0.59
1:C:401:PRO:C	1:C:403:GLU:H	2.04	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:343:TRP:CE3	1:D:507:GLN:HB3	2.37	0.59
1:E:115:THR:HG22	1:E:117:GLU:H	1.67	0.59
1:F:398:LEU:N	1:F:487:ALA:O	2.34	0.59
1:E:175:ILE:N	1:E:192:PHE:O	2.33	0.59
1:H:198:LEU:CD1	1:H:198:LEU:C	2.70	0.59
1:D:401:PRO:C	1:D:403:GLU:H	2.05	0.59
1:E:381:GLN:O	1:E:382:THR:C	2.40	0.59
1:H:115:THR:HG22	1:H:117:GLU:H	1.67	0.59
1:F:141:VAL:HG23	1:F:186:TRP:HD1	1.67	0.59
1:H:323:GLU:OE2	1:H:323:GLU:CA	2.48	0.59
1:F:385:LYS:CG	1:F:386:SER:N	2.62	0.59
1:G:277:PRO:HB3	1:G:280:GLY:HA2	1.83	0.59
1:F:231:ALA:N	1:F:232:PRO:HD2	2.17	0.59
1:F:346:PHE:CE1	1:F:360:VAL:HG23	2.38	0.59
1:G:253:PHE:CD1	1:G:253:PHE:N	2.70	0.59
1:F:98:ASN:H	1:F:98:ASN:ND2	2.00	0.59
1:A:183:LEU:HD23	1:A:186:TRP:HZ2	1.68	0.59
1:D:460:LEU:HG	1:D:465:LEU:HD12	1.85	0.59
1:F:463:ASN:C	1:F:463:ASN:OD1	2.41	0.58
1:B:398:LEU:HB2	1:B:487:ALA:HB3	1.84	0.58
1:D:36:HIS:HD2	1:D:56:HIS:NE2	2.00	0.58
1:A:213:GLU:CB	1:A:214:GLN:OE1	2.50	0.58
1:A:423:SER:OG	1:A:424:LYS:N	2.36	0.58
1:E:194:ASN:HA	1:E:195:GLU:HB2	1.74	0.58
1:F:148:GLN:HE21	1:F:150:ARG:NE	2.00	0.58
1:H:427:PHE:CG	1:H:427:PHE:O	2.55	0.58
1:A:398:LEU:HD12	1:A:489:GLY:HA3	1.86	0.58
1:E:395:PHE:O	1:E:404:TYR:HB2	2.04	0.58
1:G:231:ALA:H	1:G:232:PRO:CD	2.16	0.58
1:G:347:ALA:HB2	1:G:358:TYR:CE1	2.38	0.58
1:H:97:PHE:CD2	1:H:106:ARG:HD3	2.38	0.58
1:H:228:ASN:HD21	1:H:229:PRO:HG3	1.59	0.58
1:D:354:LYS:HB3	1:D:498:ASP:OD2	2.04	0.58
1:E:231:ALA:N	1:E:232:PRO:HD2	2.18	0.58
1:A:423:SER:O	1:A:424:LYS:CB	2.36	0.58
1:E:141:VAL:HG23	1:E:186:TRP:HD1	1.68	0.58
1:E:228:ASN:ND2	1:E:236:SER:OG	2.36	0.58
1:F:323:GLU:OE2	1:F:323:GLU:CA	2.48	0.58
1:F:5:THR:O	1:F:6:SER:CB	2.30	0.58
1:H:400:ASP:C	1:H:401:PRO:O	2.41	0.58
1:B:424:LYS:O	1:B:425:VAL:CB	2.49	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:148:GLN:HE21	1:E:150:ARG:CZ	2.16	0.58
1:F:403:GLU:HG2	1:F:482:MET:HG3	1.86	0.58
1:G:401:PRO:C	1:G:403:GLU:H	2.05	0.58
1:A:212:THR:O	1:A:212:THR:HG22	2.02	0.58
1:B:209:GLU:HG3	1:B:221:TRP:CE2	2.39	0.58
1:A:197:PHE:CE1	1:B:258:ARG:HA	2.39	0.58
1:C:258:ARG:HA	1:D:197:PHE:CE1	2.39	0.58
1:E:486:ASN:CA	1:E:487:ALA:HB2	2.20	0.58
1:C:398:LEU:HD12	1:C:489:GLY:HA3	1.85	0.57
1:D:425:VAL:O	1:D:426:LYS:C	2.43	0.57
1:G:298:PRO:HD3	1:G:427:PHE:CD2	2.39	0.57
1:C:427:PHE:CD2	1:C:427:PHE:C	2.77	0.57
1:E:346:PHE:CE1	1:E:360:VAL:HG23	2.39	0.57
1:C:381:GLN:C	1:C:382:THR:OG1	2.41	0.57
1:F:198:LEU:C	1:F:198:LEU:CD1	2.73	0.57
1:A:381:GLN:C	1:A:383:ILE:H	2.07	0.57
1:C:379:THR:CG2	1:C:380:THR:H	2.16	0.57
1:E:96:PHE:C	1:E:97:PHE:CD1	2.78	0.57
1:G:148:GLN:HE21	1:G:150:ARG:NE	2.02	0.57
1:G:486:ASN:CA	1:G:487:ALA:HB2	2.21	0.57
1:G:497:VAL:HG22	1:G:497:VAL:O	2.04	0.57
1:A:379:THR:HG22	1:A:380:THR:H	1.69	0.57
1:B:381:GLN:O	1:B:383:ILE:N	2.31	0.57
1:F:175:ILE:N	1:F:192:PHE:O	2.34	0.57
1:G:426:LYS:O	1:G:430:GLU:HB2	2.05	0.57
1:H:175:ILE:N	1:H:192:PHE:O	2.32	0.57
1:E:403:GLU:HG2	1:E:482:MET:HG3	1.85	0.57
1:G:144:ALA:CB	1:G:145:ASN:C	2.69	0.57
1:H:228:ASN:CG	1:H:229:PRO:CB	2.71	0.57
1:H:426:LYS:HD2	1:H:430:GLU:OE2	2.03	0.57
1:A:500:LEU:CD1	1:A:500:LEU:C	2.72	0.57
1:H:148:GLN:HE21	1:H:150:ARG:NE	2.03	0.57
1:D:497:VAL:CG2	1:D:497:VAL:O	2.52	0.57
1:F:145:ASN:N	1:F:146:SER:CA	2.63	0.57
1:F:482:MET:HG2	1:F:488:LEU:HD21	1.87	0.57
1:G:141:VAL:HG23	1:G:186:TRP:HD1	1.69	0.57
1:G:96:PHE:O	1:G:97:PHE:CB	2.52	0.57
1:E:497:VAL:HG11	1:E:500:LEU:CB	2.34	0.56
1:A:209:GLU:HG3	1:A:221:TRP:CE2	2.39	0.56
1:G:387:VAL:HG13	1:G:388:PHE:N	2.19	0.56
1:H:145:ASN:N	1:H:146:SER:CA	2.63	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:400:ASP:OD1	1:E:401:PRO:O	2.23	0.56
1:G:285:ILE:HD12	1:G:309:VAL:HG22	1.87	0.56
1:C:258:ARG:NH2	1:C:328:ASN:OD1	2.39	0.56
1:C:378:ASN:HD22	1:C:380:THR:N	2.02	0.56
1:C:395:PHE:CE2	1:C:407:MET:HE2	2.40	0.56
1:C:424:LYS:O	1:C:425:VAL:C	2.42	0.56
1:C:448:GLU:HB2	1:C:453:TYR:HE2	1.70	0.56
1:E:148:GLN:H	1:E:171:GLN:NE2	2.02	0.56
1:G:395:PHE:CE2	1:G:407:MET:HE2	2.39	0.56
1:G:98:ASN:HB2	1:G:100:THR:HG22	0.73	0.56
1:G:121:GLN:CG	1:G:149:PHE:HE2	2.18	0.56
1:H:497:VAL:O	1:H:497:VAL:HG12	2.05	0.56
1:A:448:GLU:O	1:A:449:ASN:CG	2.44	0.56
1:C:182:ASP:OD2	1:C:184:LYS:HG3	2.05	0.56
1:G:403:GLU:HG2	1:G:482:MET:HG3	1.87	0.56
1:B:496:GLY:C	1:B:497:VAL:HG22	2.25	0.56
1:G:96:PHE:O	1:G:97:PHE:HB2	2.06	0.56
1:H:285:ILE:HD12	1:H:309:VAL:HG22	1.88	0.56
1:B:195:GLU:HA	1:B:195:GLU:OE2	2.05	0.56
1:E:383:ILE:O	1:E:384:SER:CB	2.54	0.56
1:H:97:PHE:CD2	1:H:106:ARG:CD	2.89	0.56
1:A:212:THR:CG2	1:A:215:ASP:H	2.19	0.56
1:C:378:ASN:HD22	1:C:380:THR:H	1.54	0.56
1:H:98:ASN:HB2	1:H:100:THR:CG2	2.09	0.56
1:B:395:PHE:CE2	1:B:407:MET:HE2	2.40	0.56
1:H:383:ILE:O	1:H:384:SER:CB	2.52	0.56
1:A:362:LEU:HD23	1:F:356:ASN:ND2	2.20	0.55
1:H:253:PHE:CD1	1:H:253:PHE:N	2.73	0.55
1:H:96:PHE:O	1:H:97:PHE:CB	2.54	0.55
1:A:110:ILE:HG13	1:A:123:ILE:HG22	1.88	0.55
1:B:258:ARG:NH2	1:B:328:ASN:OD1	2.40	0.55
1:C:182:ASP:O	1:C:183:LEU:CB	2.52	0.55
1:F:229:PRO:HG2	1:F:230:GLY:N	2.21	0.55
1:G:496:GLY:C	1:G:497:VAL:CG1	2.74	0.55
1:D:377:VAL:HG12	1:D:379:THR:N	2.22	0.55
1:D:496:GLY:O	1:D:497:VAL:HG13	2.06	0.55
1:G:396:LYS:HG2	1:G:404:TYR:CB	2.33	0.55
1:H:96:PHE:HB2	1:H:97:PHE:CE1	2.41	0.55
1:E:486:ASN:CA	1:E:487:ALA:CB	2.57	0.55
1:F:398:LEU:CD1	1:F:489:GLY:N	2.70	0.55
1:G:198:LEU:CD1	1:G:198:LEU:C	2.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:326:LEU:H	1:G:326:LEU:CD1	2.14	0.55
1:B:499:ASN:OD1	1:B:499:ASN:C	2.45	0.55
1:C:209:GLU:HG3	1:C:221:TRP:CE2	2.41	0.55
1:E:198:LEU:CD1	1:E:198:LEU:C	2.72	0.55
1:G:98:ASN:C	1:G:100:THR:H	2.08	0.55
1:H:231:ALA:N	1:H:232:PRO:CD	2.68	0.55
1:C:396:LYS:HE2	2:C:601:HOH:O	2.06	0.55
1:G:341:GLY:HA2	1:G:509:ARG:HD2	1.89	0.55
1:H:400:ASP:OD1	1:H:400:ASP:C	2.45	0.55
1:D:209:GLU:HG3	1:D:221:TRP:CE2	2.42	0.55
1:D:398:LEU:HD12	1:D:489:GLY:HA3	1.88	0.55
1:G:148:GLN:H	1:G:171:GLN:NE2	2.05	0.55
1:H:321:ASN:C	1:H:323:GLU:N	2.61	0.55
1:B:398:LEU:HD12	1:B:489:GLY:HA3	1.87	0.55
1:F:141:VAL:HG21	1:F:186:TRP:NE1	2.21	0.55
1:F:285:ILE:HD12	1:F:309:VAL:HG22	1.89	0.55
1:H:121:GLN:CG	1:H:149:PHE:HE2	2.18	0.55
1:A:395:PHE:HE2	1:A:407:MET:HE2	1.72	0.54
1:E:285:ILE:HD12	1:E:309:VAL:HG22	1.88	0.54
1:G:497:VAL:HG23	1:G:497:VAL:O	2.06	0.54
1:H:99:ASP:O	1:H:101:ILE:N	2.40	0.54
1:A:213:GLU:C	1:A:214:GLN:CD	2.50	0.54
1:E:460:LEU:HG	1:E:465:LEU:HD12	1.88	0.54
1:A:27:TRP:CZ2	1:A:107:CYS:SG	3.00	0.54
1:A:196:GLY:HA2	1:A:197:PHE:C	2.28	0.54
1:C:383:ILE:HG22	1:C:384:SER:N	2.22	0.54
1:E:141:VAL:HG21	1:E:186:TRP:NE1	2.22	0.54
1:H:141:VAL:HG21	1:H:186:TRP:NE1	2.22	0.54
1:A:398:LEU:CD1	1:A:487:ALA:CB	2.85	0.54
1:B:27:TRP:CZ2	1:B:107:CYS:SG	3.00	0.54
1:B:381:GLN:C	1:B:382:THR:OG1	2.46	0.54
1:C:425:VAL:HG21	1:C:481:PHE:O	2.07	0.54
1:C:398:LEU:CB	1:C:487:ALA:HB3	2.38	0.54
1:C:379:THR:HG22	1:C:380:THR:H	1.73	0.54
1:E:482:MET:HG2	1:E:488:LEU:HD21	1.90	0.54
1:E:96:PHE:HB2	1:E:97:PHE:CE1	2.42	0.54
1:F:15:PRO:HG2	1:F:302:TRP:HB2	1.89	0.54
1:F:398:LEU:CD1	1:F:487:ALA:O	2.50	0.54
1:H:399:GLU:CG	1:H:486:ASN:HD22	2.21	0.54
1:F:200:TYR:N	1:F:200:TYR:CD2	2.76	0.54
1:F:229:PRO:CG	1:F:230:GLY:N	2.69	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:321:ASN:C	1:F:323:GLU:N	2.60	0.54
1:G:321:ASN:C	1:G:323:GLU:N	2.60	0.54
1:H:15:PRO:HG2	1:H:302:TRP:HB2	1.90	0.54
1:E:401:PRO:O	1:E:402:GLU:HB3	2.08	0.54
1:H:254:ASP:OD1	1:H:254:ASP:N	2.40	0.54
1:H:381:GLN:NE2	1:H:381:GLN:HA	2.23	0.54
1:H:380:THR:CG2	1:H:381:GLN:N	2.70	0.54
1:H:341:GLY:HA2	1:H:509:ARG:HD2	1.89	0.54
1:H:97:PHE:HE2	1:H:106:ARG:HA	1.73	0.54
1:E:98:ASN:N	1:E:98:ASN:ND2	2.54	0.54
1:C:110:ILE:HG13	1:C:123:ILE:HG22	1.89	0.54
1:G:120:GLU:HB3	1:G:140:PRO:HB3	1.90	0.54
1:A:395:PHE:CE2	1:A:407:MET:HE2	2.43	0.53
1:D:196:GLY:HA2	1:D:197:PHE:C	2.28	0.53
1:E:321:ASN:C	1:E:323:GLU:N	2.62	0.53
1:G:380:THR:CG2	1:G:381:GLN:N	2.71	0.53
1:H:96:PHE:HZ	1:H:136:TYR:CD1	2.26	0.53
1:B:110:ILE:HG13	1:B:123:ILE:HG22	1.89	0.53
1:C:445:PHE:CE1	1:C:446:LYS:CD	2.92	0.53
1:D:182:ASP:O	1:D:183:LEU:CB	2.56	0.53
1:G:482:MET:HG2	1:G:488:LEU:HD21	1.89	0.53
1:H:98:ASN:OD1	1:H:100:THR:HG21	2.07	0.53
1:H:148:GLN:H	1:H:171:GLN:NE2	2.07	0.53
1:H:426:LYS:O	1:H:430:GLU:HB2	2.08	0.53
1:E:149:PHE:HZ	1:E:165:MET:HE1	1.74	0.53
1:G:397:GLY:O	1:G:487:ALA:C	2.45	0.53
1:H:399:GLU:HG2	1:H:486:ASN:HD22	1.73	0.53
1:B:196:GLY:HA2	1:B:197:PHE:C	2.28	0.53
1:B:411:VAL:HG21	1:B:500:LEU:HD21	1.90	0.53
1:D:212:THR:CG2	1:D:213:GLU:O	2.55	0.53
1:C:197:PHE:CE1	1:D:258:ARG:HA	2.43	0.53
1:D:385:LYS:CG	1:D:386:SER:N	2.71	0.53
1:G:394:TRP:HB2	1:G:492:ASN:HB2	1.90	0.53
1:H:399:GLU:HG3	1:H:486:ASN:ND2	2.24	0.53
1:C:352:LEU:HD12	1:C:501:PHE:O	2.08	0.53
1:D:213:GLU:HG2	1:D:214:GLN:N	2.23	0.53
1:G:354:LYS:H	1:G:498:ASP:HA	1.74	0.53
1:B:182:ASP:O	1:B:183:LEU:CB	2.56	0.53
1:C:214:GLN:NE2	1:C:316:THR:OG1	2.40	0.53
1:C:497:VAL:HG22	1:C:497:VAL:O	2.08	0.53
1:E:15:PRO:HG2	1:E:302:TRP:HB2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:98:ASN:C	1:G:100:THR:N	2.62	0.53
1:H:482:MET:HG2	1:H:488:LEU:HD21	1.90	0.53
1:A:136:TYR:CE1	1:A:184:LYS:HD3	2.43	0.53
1:A:212:THR:CG2	1:A:213:GLU:O	2.50	0.53
1:D:110:ILE:HG13	1:D:123:ILE:HG22	1.89	0.53
1:E:380:THR:CG2	1:E:381:GLN:N	2.72	0.53
1:H:231:ALA:HB3	1:H:232:PRO:CD	2.35	0.53
1:C:196:GLY:HA2	1:C:197:PHE:C	2.28	0.53
1:F:141:VAL:CG2	1:F:186:TRP:CD1	2.91	0.53
1:H:231:ALA:H	1:H:232:PRO:CD	2.21	0.53
1:H:345:ARG:NH1	1:H:507:GLN:NE2	2.57	0.53
1:A:183:LEU:HD23	1:A:186:TRP:CZ2	2.43	0.53
1:D:383:ILE:O	1:D:384:SER:CB	2.56	0.53
1:D:192:PHE:CD2	1:D:192:PHE:C	2.82	0.52
1:B:40:GLN:HE22	1:B:82:PHE:HA	1.74	0.52
1:E:121:GLN:CG	1:E:149:PHE:HE2	2.20	0.52
1:H:380:THR:HB	1:H:450:ASP:HB3	1.90	0.52
1:C:448:GLU:HB2	1:C:453:TYR:CE2	2.43	0.52
1:D:383:ILE:C	1:D:384:SER:OG	2.47	0.52
1:E:341:GLY:HA2	1:E:509:ARG:HD2	1.91	0.52
1:F:121:GLN:CG	1:F:149:PHE:HE2	2.21	0.52
1:G:400:ASP:OD1	1:G:401:PRO:O	2.27	0.52
1:G:54:TRP:HB2	1:G:72:ILE:HB	1.92	0.52
1:H:141:VAL:CG2	1:H:186:TRP:CD1	2.92	0.52
1:H:326:LEU:H	1:H:326:LEU:CD1	2.13	0.52
1:H:383:ILE:HD13	1:H:384:SER:H	1.74	0.52
1:A:86:MET:HG3	1:A:108:VAL:O	2.10	0.52
1:E:497:VAL:HG11	1:E:500:LEU:HB3	1.91	0.52
1:F:394:TRP:HB2	1:F:492:ASN:HB2	1.91	0.52
1:G:141:VAL:HG21	1:G:186:TRP:NE1	2.23	0.52
1:H:120:GLU:HB3	1:H:140:PRO:HB3	1.92	0.52
1:A:382:THR:C	1:A:383:ILE:HG12	2.30	0.52
1:B:192:PHE:CZ	1:B:195:GLU:HG3	2.44	0.52
1:C:136:TYR:CE1	1:C:184:LYS:HD3	2.44	0.52
1:F:148:GLN:H	1:F:171:GLN:NE2	2.08	0.52
1:F:380:THR:CG2	1:F:381:GLN:N	2.72	0.52
1:F:376:ALA:HA	1:F:452:SER:O	2.09	0.52
1:G:200:TYR:N	1:G:200:TYR:CD2	2.77	0.52
1:H:200:TYR:CD2	1:H:200:TYR:N	2.78	0.52
1:B:401:PRO:O	1:B:402:GLU:HB3	2.10	0.52
1:B:449:ASN:CG	1:B:450:ASP:H	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:486:ASN:CB	1:B:487:ALA:HB2	2.39	0.52
1:C:347:ALA:HB1	1:C:350:THR:OG1	2.10	0.52
1:H:394:TRP:HE1	1:H:494:THR:HB	1.75	0.52
1:D:381:GLN:O	1:D:382:THR:OG1	2.27	0.52
1:G:229:PRO:CG	1:G:230:GLY:N	2.71	0.52
1:C:486:ASN:CB	1:C:487:ALA:HB2	2.40	0.52
1:F:401:PRO:O	1:F:402:GLU:HB3	2.10	0.52
1:G:15:PRO:HG2	1:G:302:TRP:HB2	1.90	0.52
1:G:256:GLN:NE2	1:G:326:LEU:CB	2.71	0.52
1:H:394:TRP:HB2	1:H:492:ASN:HB2	1.90	0.52
1:D:395:PHE:HE2	1:D:407:MET:HE2	1.75	0.52
1:E:354:LYS:H	1:E:498:ASP:HA	1.75	0.52
1:H:228:ASN:OD1	1:H:229:PRO:CD	2.58	0.52
1:A:258:ARG:NH2	1:A:328:ASN:OD1	2.40	0.52
1:A:356:ASN:HB3	1:F:362:LEU:HA	1.91	0.52
1:A:449:ASN:CG	1:A:450:ASP:H	2.08	0.52
1:D:398:LEU:CB	1:D:487:ALA:HB3	2.39	0.52
1:E:120:GLU:HB3	1:E:140:PRO:HB3	1.90	0.52
1:E:148:GLN:NE2	1:E:150:ARG:CZ	2.72	0.52
1:G:200:TYR:HD2	1:G:200:TYR:N	2.08	0.52
1:F:120:GLU:HB3	1:F:140:PRO:HB3	1.91	0.51
1:B:424:LYS:O	1:B:425:VAL:O	2.27	0.51
1:C:171:GLN:NE2	1:D:323:GLU:HG2	2.24	0.51
1:D:378:ASN:O	1:D:450:ASP:O	2.29	0.51
1:F:175:ILE:HG13	1:F:225:ILE:HD12	1.92	0.51
1:F:326:LEU:H	1:F:326:LEU:CD1	2.13	0.51
1:F:341:GLY:HA2	1:F:509:ARG:HD2	1.91	0.51
1:F:347:ALA:HB2	1:F:358:TYR:CZ	2.45	0.51
1:G:145:ASN:HB3	1:G:147:THR:H	1.75	0.51
1:C:377:VAL:HG12	1:C:379:THR:H	1.75	0.51
1:C:381:GLN:O	1:C:382:THR:OG1	2.29	0.51
1:D:347:ALA:HB1	1:D:350:THR:OG1	2.10	0.51
1:E:347:ALA:HB2	1:E:358:TYR:CZ	2.46	0.51
1:F:371:PHE:CZ	1:F:407:MET:HE3	2.45	0.51
1:B:448:GLU:O	1:B:449:ASN:C	2.46	0.51
1:C:383:ILE:H	1:C:383:ILE:HD13	1.74	0.51
1:G:141:VAL:CG2	1:G:186:TRP:CD1	2.93	0.51
1:H:98:ASN:OD1	1:H:100:THR:CG2	2.59	0.51
1:A:182:ASP:O	1:A:183:LEU:CB	2.58	0.51
1:D:192:PHE:O	1:D:192:PHE:HD2	1.94	0.51
1:E:141:VAL:CG2	1:E:186:TRP:CD1	2.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:144:ALA:HB1	1:H:145:ASN:O	2.11	0.51
1:H:243:GLY:HA2	1:H:253:PHE:CD1	2.45	0.51
1:D:182:ASP:O	1:D:183:LEU:HB2	2.11	0.51
1:D:27:TRP:CZ2	1:D:107:CYS:SG	3.03	0.51
1:E:376:ALA:HA	1:E:452:SER:O	2.10	0.51
1:H:500:LEU:HD12	1:H:500:LEU:O	2.10	0.51
1:D:40:GLN:HE22	1:D:82:PHE:HA	1.75	0.51
1:D:486:ASN:CB	1:D:487:ALA:HB2	2.41	0.51
1:F:54:TRP:HB2	1:F:72:ILE:HB	1.92	0.51
1:D:321:ASN:HB2	1:D:322:PRO:CD	2.40	0.51
1:C:27:TRP:CZ2	1:C:107:CYS:SG	3.04	0.51
1:E:4:GLU:HG3	1:E:4:GLU:O	2.11	0.51
1:B:381:GLN:O	1:B:382:THR:OG1	2.28	0.51
1:D:395:PHE:CE2	1:D:407:MET:HE2	2.45	0.51
1:D:411:VAL:HG21	1:D:500:LEU:HD21	1.93	0.51
1:H:54:TRP:HB2	1:H:72:ILE:HB	1.93	0.51
1:B:395:PHE:HE2	1:B:407:MET:HE2	1.74	0.50
1:D:192:PHE:CE1	1:D:195:GLU:HG3	2.45	0.50
1:F:200:TYR:N	1:F:200:TYR:HD2	2.08	0.50
1:F:398:LEU:CD1	1:F:489:GLY:HA3	2.39	0.50
1:G:230:GLY:O	1:G:235:GLY:HA2	2.10	0.50
1:C:192:PHE:C	1:C:192:PHE:HD2	2.06	0.50
1:H:175:ILE:HG13	1:H:225:ILE:HD12	1.93	0.50
1:H:97:PHE:HD2	1:H:106:ARG:CD	2.22	0.50
1:A:258:ARG:HA	1:B:197:PHE:CE1	2.46	0.50
1:B:347:ALA:HB1	1:B:350:THR:OG1	2.12	0.50
1:B:378:ASN:O	1:B:379:THR:CB	2.60	0.50
1:B:369:LEU:HD12	1:B:460:LEU:HD13	1.94	0.50
1:C:377:VAL:O	1:C:451:LEU:HD22	2.11	0.50
1:E:368:THR:HG23	1:E:461:ASP:OD1	2.11	0.50
1:E:391:LEU:O	1:E:408:GLY:HA3	2.11	0.50
1:D:496:GLY:O	1:D:497:VAL:CG1	2.59	0.50
1:E:145:ASN:N	1:E:146:SER:CA	2.64	0.50
1:E:371:PHE:CZ	1:E:407:MET:HE3	2.47	0.50
1:F:231:ALA:N	1:F:232:PRO:CD	2.72	0.50
1:G:391:LEU:O	1:G:408:GLY:HA3	2.12	0.50
1:C:395:PHE:HE2	1:C:407:MET:HE2	1.75	0.50
1:C:367:GLY:C	1:C:462:GLN:NE2	2.65	0.50
1:D:401:PRO:O	1:D:402:GLU:HB3	2.11	0.50
1:E:175:ILE:HG13	1:E:225:ILE:HD12	1.93	0.50
1:H:401:PRO:O	1:H:402:GLU:HB3	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:193:ALA:O	1:A:194:ASN:OD1	2.30	0.50
1:B:193:ALA:O	1:B:194:ASN:OD1	2.30	0.50
1:B:383:ILE:O	1:B:384:SER:HB2	2.11	0.50
1:C:212:THR:CG2	1:C:213:GLU:O	2.59	0.50
1:F:231:ALA:HB3	1:F:232:PRO:CD	2.41	0.50
1:B:182:ASP:O	1:B:182:ASP:OD2	2.30	0.50
1:C:193:ALA:O	1:C:194:ASN:OD1	2.30	0.50
1:E:154:VAL:HG22	1:E:165:MET:HB2	1.93	0.50
1:E:54:TRP:HB2	1:E:72:ILE:HB	1.94	0.50
1:G:175:ILE:HG13	1:G:225:ILE:HD12	1.93	0.50
1:A:362:LEU:HD23	1:F:356:ASN:HD22	1.76	0.50
1:C:496:GLY:O	1:C:497:VAL:HG13	2.11	0.50
1:F:347:ALA:HB2	1:F:358:TYR:CE1	2.47	0.50
1:H:391:LEU:O	1:H:408:GLY:HA3	2.12	0.50
1:H:488:LEU:N	1:H:488:LEU:CD2	2.73	0.50
1:B:499:ASN:O	1:B:499:ASN:OD1	2.30	0.49
1:E:200:TYR:N	1:E:200:TYR:CD2	2.77	0.49
1:E:394:TRP:HB2	1:E:492:ASN:HB2	1.94	0.49
1:C:182:ASP:OD2	1:C:182:ASP:O	2.30	0.49
1:D:192:PHE:CE1	1:D:195:GLU:HG2	2.46	0.49
1:D:258:ARG:NH2	1:D:328:ASN:OD1	2.45	0.49
1:F:192:PHE:CD1	1:F:193:ALA:CB	2.91	0.49
1:G:192:PHE:CE2	1:G:193:ALA:CB	2.95	0.49
1:G:376:ALA:HA	1:G:452:SER:O	2.12	0.49
1:H:371:PHE:CZ	1:H:407:MET:HE3	2.46	0.49
1:H:36:HIS:HD2	1:H:56:HIS:NE2	2.10	0.49
1:A:269:LEU:HD11	1:A:312:PHE:CZ	2.48	0.49
1:H:381:GLN:HE21	1:H:381:GLN:HA	1.77	0.49
1:B:483:THR:HG23	1:B:483:THR:O	2.11	0.49
1:C:195:GLU:CA	1:C:195:GLU:OE2	2.60	0.49
1:D:193:ALA:O	1:D:194:ASN:OD1	2.29	0.49
1:D:424:LYS:C	1:D:425:VAL:CG2	2.81	0.49
1:D:499:ASN:OD1	1:D:499:ASN:O	2.29	0.49
1:F:154:VAL:HG22	1:F:165:MET:HB2	1.94	0.49
1:A:40:GLN:HE22	1:A:82:PHE:HA	1.76	0.49
1:C:215:ASP:OD1	1:C:217:SER:N	2.45	0.49
1:C:353:THR:HA	1:C:498:ASP:O	2.12	0.49
1:E:192:PHE:CE2	1:E:193:ALA:CB	2.95	0.49
1:E:200:TYR:N	1:E:200:TYR:HD2	2.09	0.49
1:H:347:ALA:HB2	1:H:358:TYR:CE1	2.47	0.49
1:A:394:TRP:HE1	1:A:494:THR:CB	2.23	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:354:LYS:HA	1:C:495:THR:HG23	1.95	0.49
1:D:355:ALA:O	1:H:363:SER:HB2	2.12	0.49
1:H:97:PHE:CD1	1:H:97:PHE:N	2.81	0.49
1:B:398:LEU:CB	1:B:487:ALA:HB3	2.42	0.49
1:E:398:LEU:HD13	1:E:487:ALA:O	2.05	0.49
1:F:213:GLU:O	1:F:214:GLN:HG2	2.13	0.49
1:G:213:GLU:O	1:G:214:GLN:HG2	2.13	0.49
1:H:200:TYR:HD2	1:H:200:TYR:N	2.10	0.49
1:H:395:PHE:HE2	1:H:407:MET:HE2	1.77	0.49
1:A:269:LEU:HD11	1:A:312:PHE:HZ	1.77	0.49
1:C:378:ASN:ND2	1:C:380:THR:N	2.61	0.49
1:D:424:LYS:O	1:D:425:VAL:O	2.31	0.49
1:E:499:ASN:OD1	1:E:499:ASN:O	2.30	0.49
1:H:192:PHE:CE2	1:H:193:ALA:CB	2.96	0.49
1:H:499:ASN:O	1:H:499:ASN:OD1	2.30	0.49
1:E:213:GLU:O	1:E:214:GLN:HG2	2.12	0.49
1:E:398:LEU:N	1:E:487:ALA:O	2.46	0.49
1:G:499:ASN:C	1:G:499:ASN:OD1	2.51	0.49
1:G:499:ASN:O	1:G:499:ASN:OD1	2.30	0.49
1:E:144:ALA:CB	1:E:145:ASN:CA	2.66	0.49
1:F:192:PHE:CE2	1:F:193:ALA:CB	2.96	0.49
1:F:426:LYS:O	1:F:430:GLU:HB2	2.12	0.49
1:G:256:GLN:HE22	1:G:326:LEU:CB	2.25	0.49
1:G:389:ALA:O	1:G:410:GLU:HA	2.13	0.49
1:B:422:ASN:CA	1:B:423:SER:HB2	2.35	0.48
1:D:346:PHE:HE1	1:D:360:VAL:HG23	1.78	0.48
1:D:382:THR:O	1:D:384:SER:OG	2.30	0.48
1:E:148:GLN:HE21	1:E:150:ARG:NE	2.11	0.48
1:F:395:PHE:CE2	1:F:407:MET:HE2	2.42	0.48
1:F:388:PHE:CE1	1:F:410:GLU:HG3	2.48	0.48
1:F:440:VAL:O	1:F:441:ASN:HB3	2.13	0.48
1:G:253:PHE:HD1	1:G:253:PHE:H	1.59	0.48
1:C:401:PRO:O	1:C:402:GLU:HB3	2.13	0.48
1:C:461:ASP:HB3	1:C:464:ILE:HG22	1.94	0.48
1:A:383:ILE:O	1:A:384:SER:OG	2.30	0.48
1:D:368:THR:CG2	1:D:461:ASP:OD1	2.62	0.48
1:D:383:ILE:O	1:D:384:SER:OG	2.31	0.48
1:E:395:PHE:O	1:E:404:TYR:CB	2.61	0.48
1:G:36:HIS:HD2	1:G:56:HIS:NE2	2.11	0.48
1:H:213:GLU:C	1:H:215:ASP:H	2.17	0.48
1:D:483:THR:O	1:D:483:THR:HG23	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:364:ASN:OD1	1:E:355:ALA:HB1	2.12	0.48
1:F:213:GLU:C	1:F:215:ASP:H	2.17	0.48
1:G:149:PHE:HZ	1:G:165:MET:CE	2.27	0.48
1:H:213:GLU:O	1:H:214:GLN:HG2	2.13	0.48
1:H:400:ASP:OD1	1:H:400:ASP:O	2.31	0.48
1:H:401:PRO:C	1:H:403:GLU:N	2.67	0.48
1:H:96:PHE:HB3	1:H:97:PHE:HD1	1.79	0.48
1:E:149:PHE:HZ	1:E:165:MET:CE	2.27	0.48
1:E:36:HIS:HD2	1:E:56:HIS:NE2	2.12	0.48
1:G:427:PHE:O	1:G:428:VAL:CG2	2.59	0.48
1:A:401:PRO:O	1:A:402:GLU:HB3	2.13	0.48
1:C:483:THR:HG23	1:C:483:THR:O	2.13	0.48
1:F:228:ASN:CG	1:F:229:PRO:CG	2.79	0.48
1:F:398:LEU:HD11	1:F:489:GLY:N	2.28	0.48
1:G:154:VAL:HG22	1:G:165:MET:HB2	1.95	0.48
1:A:255:ASN:O	1:B:194:ASN:O	2.32	0.48
1:B:213:GLU:C	1:B:214:GLN:OE1	2.52	0.48
1:B:425:VAL:O	1:B:426:LYS:C	2.50	0.48
1:E:144:ALA:HB1	1:E:145:ASN:O	2.12	0.48
1:E:432:PRO:O	1:F:437:ARG:HB3	2.13	0.48
1:G:352:LEU:HB3	1:G:495:THR:HG21	1.96	0.48
1:B:269:LEU:HD11	1:B:312:PHE:HZ	1.78	0.48
1:B:378:ASN:O	1:B:380:THR:N	2.39	0.48
1:C:163:TRP:CD1	1:C:183:LEU:HG	2.49	0.48
1:E:347:ALA:HB2	1:E:358:TYR:CE1	2.48	0.48
1:A:397:GLY:O	1:A:486:ASN:ND2	2.47	0.48
1:B:346:PHE:HE1	1:B:360:VAL:HG23	1.77	0.48
1:C:496:GLY:O	1:C:497:VAL:CB	2.61	0.48
1:E:383:ILE:O	1:E:384:SER:HB2	2.14	0.48
1:E:500:LEU:CD1	1:E:500:LEU:O	2.33	0.48
1:H:376:ALA:HA	1:H:452:SER:O	2.13	0.48
1:H:499:ASN:OD1	1:H:499:ASN:C	2.51	0.48
1:A:448:GLU:O	1:A:449:ASN:OD1	2.32	0.48
1:E:403:GLU:HG3	1:E:423:SER:HA	1.96	0.48
1:E:440:VAL:O	1:E:441:ASN:HB3	2.14	0.48
1:F:391:LEU:O	1:F:408:GLY:HA3	2.14	0.48
1:F:394:TRP:NE1	1:F:494:THR:HB	2.18	0.48
1:F:5:THR:HG22	1:F:6:SER:N	2.29	0.48
1:H:354:LYS:H	1:H:498:ASP:HA	1.78	0.48
1:H:96:PHE:HB3	1:H:97:PHE:CD1	2.48	0.48
1:A:403:GLU:OE2	1:A:424:LYS:HG2	2.08	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:449:ASN:O	1:C:449:ASN:OD1	2.30	0.47
1:D:377:VAL:CG1	1:D:379:THR:H	2.26	0.47
1:E:96:PHE:C	1:E:97:PHE:CG	2.86	0.47
1:F:486:ASN:CA	1:F:487:ALA:HB3	2.35	0.47
1:F:36:HIS:HD2	1:F:56:HIS:NE2	2.11	0.47
1:G:347:ALA:CB	1:G:350:THR:HG21	2.44	0.47
1:H:464:ILE:CG2	1:H:464:ILE:O	2.61	0.47
1:B:383:ILE:O	1:B:384:SER:OG	2.31	0.47
1:C:411:VAL:HG21	1:C:500:LEU:HD21	1.96	0.47
1:D:269:LEU:HD11	1:D:312:PHE:CZ	2.49	0.47
1:E:213:GLU:C	1:E:215:ASP:H	2.18	0.47
1:G:397:GLY:HA2	1:G:400:ASP:O	2.14	0.47
1:G:352:LEU:O	1:G:498:ASP:O	2.32	0.47
1:B:269:LEU:HD11	1:B:312:PHE:CZ	2.49	0.47
1:B:86:MET:HG3	1:B:108:VAL:O	2.14	0.47
1:C:269:LEU:HD11	1:C:312:PHE:HZ	1.79	0.47
1:C:377:VAL:HG12	1:C:379:THR:N	2.29	0.47
1:D:269:LEU:HD11	1:D:312:PHE:HZ	1.79	0.47
1:G:213:GLU:C	1:G:215:ASP:H	2.17	0.47
1:G:387:VAL:CG1	1:G:388:PHE:N	2.75	0.47
1:B:226:SER:HB2	1:B:267:TYR:CE1	2.50	0.47
1:C:183:LEU:CD2	1:C:186:TRP:HZ2	2.27	0.47
1:D:379:THR:HG21	1:D:450:ASP:C	2.34	0.47
1:D:86:MET:HG3	1:D:108:VAL:O	2.13	0.47
1:E:96:PHE:O	1:E:97:PHE:CG	2.67	0.47
1:G:381:GLN:C	1:G:382:THR:OG1	2.51	0.47
1:H:440:VAL:O	1:H:441:ASN:HB3	2.14	0.47
1:H:97:PHE:HD1	1:H:97:PHE:N	2.13	0.47
1:C:321:ASN:HB2	1:C:322:PRO:CD	2.43	0.47
1:C:463:ASN:C	1:C:463:ASN:OD1	2.53	0.47
1:F:149:PHE:HZ	1:F:165:MET:CE	2.27	0.47
1:G:348:THR:O	1:G:349:ASN:C	2.52	0.47
1:G:346:PHE:CE1	1:G:360:VAL:HG22	2.48	0.47
1:H:154:VAL:HG22	1:H:165:MET:HB2	1.96	0.47
1:B:54:TRP:HB2	1:B:72:ILE:HB	1.97	0.47
1:C:378:ASN:HA	1:C:451:LEU:HD21	1.97	0.47
1:E:5:THR:O	1:E:6:SER:OG	2.31	0.47
1:B:369:LEU:CD1	1:B:460:LEU:HD13	2.44	0.47
1:C:205:PRO:HA	1:C:224:PHE:O	2.14	0.47
1:E:258:ARG:HH21	1:E:326:LEU:HD21	1.79	0.47
1:G:256:GLN:OE1	1:G:327:ILE:CG1	2.61	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:436:ASN:OD1	1:H:437:ARG:NH1	2.47	0.47
1:H:396:LYS:O	1:H:490:SER:HB3	2.14	0.47
1:C:378:ASN:ND2	1:C:380:THR:H	2.12	0.47
1:E:192:PHE:CD1	1:E:193:ALA:CB	2.91	0.47
1:G:440:VAL:O	1:G:441:ASN:HB3	2.14	0.47
1:H:400:ASP:CG	1:H:400:ASP:O	2.53	0.47
1:A:347:ALA:HB1	1:A:350:THR:OG1	2.15	0.47
1:B:448:GLU:O	1:B:449:ASN:OD1	2.32	0.47
1:C:360:VAL:HG22	1:E:358:TYR:CD1	2.50	0.47
1:C:394:TRP:HE1	1:C:494:THR:CB	2.25	0.47
1:F:383:ILE:H	1:F:383:ILE:HG13	1.44	0.47
1:H:144:ALA:CB	1:H:145:ASN:C	2.80	0.47
1:A:323:GLU:HG2	1:B:171:GLN:NE2	2.25	0.47
1:E:464:ILE:O	1:E:464:ILE:HG23	2.15	0.47
1:H:399:GLU:CG	1:H:486:ASN:ND2	2.78	0.47
1:C:226:SER:HB2	1:C:267:TYR:CE1	2.50	0.47
1:E:437:ARG:HD2	1:F:432:PRO:HA	1.96	0.47
1:G:258:ARG:HH21	1:G:326:LEU:HD21	1.79	0.47
1:A:496:GLY:C	1:A:497:VAL:CG1	2.66	0.46
1:E:96:PHE:HB2	1:E:97:PHE:CD1	2.50	0.46
1:G:347:ALA:HB1	1:G:350:THR:HG21	1.96	0.46
1:H:228:ASN:OD1	1:H:229:PRO:HD3	2.14	0.46
1:C:269:LEU:HD11	1:C:312:PHE:CZ	2.50	0.46
1:C:40:GLN:HE22	1:C:82:PHE:HA	1.80	0.46
1:G:321:ASN:C	1:G:323:GLU:H	2.18	0.46
1:G:346:PHE:HE1	1:G:360:VAL:CG2	2.24	0.46
1:G:388:PHE:CE1	1:G:410:GLU:HG3	2.50	0.46
1:G:400:ASP:OD1	1:G:400:ASP:O	2.32	0.46
1:H:149:PHE:HZ	1:H:165:MET:CE	2.28	0.46
1:H:192:PHE:CD1	1:H:193:ALA:CB	2.92	0.46
1:B:316:THR:HA	1:B:327:ILE:HA	1.96	0.46
1:E:497:VAL:CG1	1:E:500:LEU:HB3	2.45	0.46
1:G:149:PHE:HZ	1:G:165:MET:HE1	1.80	0.46
1:G:395:PHE:CE2	1:G:407:MET:CE	2.98	0.46
1:E:228:ASN:HA	1:E:229:PRO:HA	1.58	0.46
1:E:368:THR:CG2	1:E:461:ASP:OD1	2.63	0.46
1:F:397:GLY:HA2	1:F:400:ASP:C	2.36	0.46
1:A:226:SER:HB2	1:A:267:TYR:CE1	2.51	0.46
1:B:394:TRP:HE1	1:B:494:THR:CB	2.26	0.46
1:C:385:LYS:CG	1:C:386:SER:H	2.29	0.46
1:D:213:GLU:CB	1:D:214:GLN:OE1	2.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:403:GLU:HG3	1:G:423:SER:HA	1.97	0.46
1:G:496:GLY:O	1:G:497:VAL:O	2.33	0.46
1:B:385:LYS:CG	1:B:386:SER:H	2.29	0.46
1:D:463:ASN:O	1:D:463:ASN:OD1	2.34	0.46
1:F:258:ARG:HH21	1:F:326:LEU:HD21	1.81	0.46
1:G:192:PHE:CD1	1:G:193:ALA:CB	2.92	0.46
1:G:389:ALA:HA	1:G:497:VAL:CG1	2.45	0.46
1:H:348:THR:O	1:H:349:ASN:C	2.54	0.46
1:H:403:GLU:HG3	1:H:423:SER:HA	1.97	0.46
1:A:205:PRO:HA	1:A:224:PHE:O	2.16	0.46
1:E:428:VAL:HG12	1:E:429:LYS:N	2.30	0.46
1:F:231:ALA:O	1:F:233:ALA:O	2.32	0.46
1:F:321:ASN:C	1:F:323:GLU:H	2.18	0.46
1:F:401:PRO:C	1:F:403:GLU:N	2.69	0.46
1:H:371:PHE:CE2	1:H:458:GLY:HA3	2.51	0.46
1:A:385:LYS:CG	1:A:386:SER:H	2.29	0.46
1:B:182:ASP:OD2	1:B:184:LYS:HG3	2.16	0.46
1:D:379:THR:HG22	1:D:380:THR:H	1.79	0.46
1:D:425:VAL:O	1:D:428:VAL:N	2.48	0.46
1:G:194:ASN:CB	1:G:195:GLU:HB3	2.45	0.46
1:G:98:ASN:CB	1:G:100:THR:CG2	2.55	0.46
1:A:371:PHE:CE2	1:A:458:GLY:HA3	2.51	0.46
1:C:422:ASN:CA	1:C:423:SER:HB2	2.32	0.46
1:C:451:LEU:HD23	1:C:451:LEU:HA	1.80	0.46
1:E:232:PRO:HG2	1:F:441:ASN:CB	2.45	0.46
1:G:377:VAL:HG13	1:G:500:LEU:CD2	2.46	0.46
1:A:382:THR:O	1:A:384:SER:OG	2.31	0.46
1:B:205:PRO:HA	1:B:224:PHE:O	2.16	0.46
1:C:195:GLU:HB3	1:C:241:PHE:CE1	2.51	0.46
1:E:463:ASN:C	1:E:463:ASN:OD1	2.53	0.46
1:F:386:SER:OG	1:F:386:SER:O	2.32	0.46
1:F:403:GLU:HG3	1:F:423:SER:HA	1.97	0.46
1:G:162:LYS:HD3	1:G:179:SER:HB2	1.98	0.46
1:G:96:PHE:C	1:G:97:PHE:CG	2.88	0.46
1:D:448:GLU:O	1:D:449:ASN:OD1	2.33	0.45
1:C:346:PHE:HB3	1:C:347:ALA:H	1.40	0.45
1:G:145:ASN:HB3	1:G:147:THR:N	2.31	0.45
1:G:429:LYS:HB3	1:G:429:LYS:HE2	1.68	0.45
1:G:496:GLY:O	1:G:497:VAL:HG13	2.16	0.45
1:A:150:ARG:HH22	1:A:201:GLN:NE2	2.14	0.45
1:A:427:PHE:CZ	1:A:434:PHE:CD1	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:211:PRO:HA	1:D:219:SER:HB3	1.99	0.45
1:H:321:ASN:C	1:H:323:GLU:H	2.19	0.45
1:A:351:THR:HG21	1:A:499:ASN:OD1	2.16	0.45
1:C:383:ILE:HG22	1:C:384:SER:H	1.80	0.45
1:D:183:LEU:O	1:D:183:LEU:HD23	2.17	0.45
1:D:226:SER:HB2	1:D:267:TYR:CE1	2.51	0.45
1:E:321:ASN:HB3	1:E:322:PRO:HD2	1.98	0.45
1:E:321:ASN:C	1:E:323:GLU:H	2.20	0.45
1:F:398:LEU:HD12	1:F:489:GLY:H	1.82	0.45
1:A:378:ASN:HD22	1:A:380:THR:N	2.15	0.45
1:A:383:ILE:C	1:A:384:SER:OG	2.55	0.45
1:C:183:LEU:CD2	1:C:186:TRP:CZ2	2.99	0.45
1:C:382:THR:O	1:C:383:ILE:C	2.55	0.45
1:E:205:PRO:HA	1:E:224:PHE:O	2.17	0.45
1:F:22:ASP:N	1:F:22:ASP:OD1	2.50	0.45
1:F:497:VAL:HG12	1:F:497:VAL:O	2.16	0.45
1:H:321:ASN:HB3	1:H:322:PRO:HD2	1.99	0.45
1:C:427:PHE:CD2	1:C:428:VAL:N	2.85	0.45
1:E:395:PHE:O	1:E:404:TYR:HA	2.17	0.45
1:E:397:GLY:HA2	1:E:400:ASP:C	2.37	0.45
1:F:397:GLY:HA3	1:F:398:LEU:HA	1.81	0.45
1:H:403:GLU:HG2	1:H:482:MET:HG3	1.99	0.45
1:D:195:GLU:HB3	1:D:241:PHE:CE1	2.52	0.45
1:E:162:LYS:HD3	1:E:179:SER:HB2	1.99	0.45
1:E:401:PRO:C	1:E:403:GLU:N	2.69	0.45
1:F:398:LEU:CD1	1:F:489:GLY:CA	2.94	0.45
1:C:54:TRP:HB2	1:C:72:ILE:HB	1.99	0.45
1:E:8:ARG:NH2	1:E:16:ASN:O	2.50	0.45
1:F:96:PHE:O	1:F:97:PHE:CD1	2.69	0.45
1:G:228:ASN:CB	1:G:229:PRO:HB3	2.47	0.45
1:H:229:PRO:CD	1:H:230:GLY:H	2.30	0.45
1:H:487:ALA:C	1:H:488:LEU:HD23	2.37	0.45
1:H:89:ASP:OD2	1:H:94:SER:OG	2.25	0.45
1:D:426:LYS:O	1:D:427:PHE:C	2.55	0.44
1:E:148:GLN:N	1:E:171:GLN:NE2	2.65	0.44
1:E:497:VAL:CG1	1:E:500:LEU:CB	2.94	0.44
1:F:195:GLU:C	1:F:195:GLU:OE1	2.55	0.44
1:H:121:GLN:CG	1:H:149:PHE:CE2	3.00	0.44
1:A:346:PHE:HE1	1:A:360:VAL:HG23	1.81	0.44
1:G:121:GLN:CG	1:G:149:PHE:CE2	3.00	0.44
1:G:28:TYR:CE2	1:G:276:ASP:HB2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:162:LYS:HD3	1:H:179:SER:HB2	1.99	0.44
1:H:22:ASP:OD1	1:H:22:ASP:N	2.50	0.44
1:H:380:THR:HB	1:H:450:ASP:CB	2.47	0.44
1:C:86:MET:HG3	1:C:108:VAL:O	2.17	0.44
1:D:205:PRO:HA	1:D:224:PHE:O	2.17	0.44
1:E:346:PHE:CE1	1:E:360:VAL:CG2	3.01	0.44
1:F:145:ASN:O	1:F:145:ASN:OD1	2.36	0.44
1:F:321:ASN:HB3	1:F:322:PRO:HD2	1.99	0.44
1:G:389:ALA:O	1:G:410:GLU:HG2	2.18	0.44
1:H:253:PHE:N	1:H:253:PHE:HD1	2.13	0.44
1:A:30:GLU:HB3	1:A:104:ARG:HD2	1.99	0.44
1:A:321:ASN:HB2	1:A:322:PRO:CD	2.43	0.44
1:B:213:GLU:O	1:B:215:ASP:N	2.50	0.44
1:C:378:ASN:HD21	1:C:380:THR:C	2.18	0.44
1:C:422:ASN:HA	1:C:423:SER:CB	2.28	0.44
1:C:354:LYS:HA	1:C:495:THR:CG2	2.48	0.44
1:C:496:GLY:O	1:C:497:VAL:O	2.35	0.44
1:F:147:THR:O	1:F:148:GLN:C	2.56	0.44
1:F:303:ARG:O	1:F:304:SER:HB2	2.18	0.44
1:G:371:PHE:CE2	1:G:458:GLY:HA3	2.52	0.44
1:H:51:PRO:HB3	1:H:77:ASN:HA	1.99	0.44
1:A:41:TYR:CE2	1:A:43:PRO:HB3	2.53	0.44
1:A:483:THR:O	1:A:483:THR:HG23	2.18	0.44
1:D:213:GLU:O	1:D:214:GLN:NE2	2.46	0.44
1:F:28:TYR:CE2	1:F:276:ASP:HB2	2.52	0.44
1:F:346:PHE:CE1	1:F:360:VAL:CG2	3.00	0.44
1:C:258:ARG:HA	1:D:197:PHE:HE1	1.83	0.44
1:C:378:ASN:ND2	1:C:380:THR:O	2.41	0.44
1:C:424:LYS:C	1:C:425:VAL:HG23	2.37	0.44
1:G:460:LEU:HG	1:G:465:LEU:HD12	2.00	0.44
1:A:484:THR:HG22	1:A:484:THR:O	2.18	0.44
1:C:182:ASP:C	1:C:182:ASP:OD2	2.54	0.44
1:C:381:GLN:C	1:C:383:ILE:H	2.21	0.44
1:E:228:ASN:CG	1:E:229:PRO:CG	2.81	0.44
1:E:461:ASP:HB3	1:E:464:ILE:HG22	2.00	0.44
1:G:192:PHE:HZ	1:G:252:ALA:HB2	1.82	0.44
1:E:394:TRP:NE1	1:E:494:THR:HB	2.21	0.44
1:G:45:ASP:OD1	1:G:46:THR:N	2.47	0.44
1:H:28:TYR:CE2	1:H:276:ASP:HB2	2.52	0.44
1:D:5:THR:OG1	1:D:6:SER:N	2.51	0.44
1:E:28:TYR:CE2	1:E:276:ASP:HB2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:371:PHE:CE2	1:E:458:GLY:HA3	2.52	0.44
1:E:98:ASN:HB3	1:E:100:THR:CG2	2.48	0.43
1:E:401:PRO:O	1:E:402:GLU:CB	2.65	0.43
1:F:246:ASN:HD21	1:F:249:HIS:HB2	1.83	0.43
1:G:321:ASN:HB3	1:G:322:PRO:HD2	1.99	0.43
1:H:147:THR:O	1:H:148:GLN:C	2.56	0.43
1:A:54:TRP:HB2	1:A:72:ILE:HB	2.00	0.43
1:B:382:THR:O	1:B:383:ILE:HG12	2.17	0.43
1:C:346:PHE:HE1	1:C:360:VAL:HG23	1.81	0.43
1:C:425:VAL:O	1:C:426:LYS:C	2.57	0.43
1:D:377:VAL:CG1	1:D:378:ASN:N	2.76	0.43
1:D:394:TRP:HE1	1:D:494:THR:CB	2.24	0.43
1:D:371:PHE:CE2	1:D:458:GLY:HA3	2.52	0.43
1:E:194:ASN:CB	1:E:195:GLU:HB3	2.44	0.43
1:E:197:PHE:HB2	1:E:200:TYR:CG	2.53	0.43
1:E:386:SER:OG	1:E:386:SER:O	2.32	0.43
1:G:432:PRO:HA	1:H:437:ARG:HE	1.81	0.43
1:H:145:ASN:HB3	1:H:147:THR:H	1.83	0.43
1:H:403:GLU:OE1	1:H:483:THR:OG1	2.33	0.43
1:A:401:PRO:C	1:A:403:GLU:N	2.71	0.43
1:B:378:ASN:HA	1:B:451:LEU:HD23	2.00	0.43
1:C:359:ASN:HB3	1:E:359:ASN:HB3	2.00	0.43
1:G:151:ASP:HB3	1:G:204:CYS:HA	2.00	0.43
1:G:246:ASN:HD21	1:G:249:HIS:HB2	1.83	0.43
1:G:423:SER:CB	1:G:425:VAL:HG23	2.40	0.43
1:G:96:PHE:O	1:G:97:PHE:CG	2.71	0.43
1:H:423:SER:HG	1:H:425:VAL:HG23	1.83	0.43
1:B:173:TYR:O	1:B:193:ALA:O	2.36	0.43
1:B:192:PHE:CZ	1:B:195:GLU:CG	3.01	0.43
1:B:486:ASN:CA	1:B:487:ALA:HB2	2.48	0.43
1:F:151:ASP:HB3	1:F:204:CYS:HA	2.00	0.43
1:G:426:LYS:HB2	1:G:426:LYS:HE3	1.94	0.43
1:H:388:PHE:CD2	1:H:390:ASP:HB3	2.53	0.43
1:C:424:LYS:O	1:C:425:VAL:O	2.37	0.43
1:C:5:THR:OG1	1:C:6:SER:N	2.52	0.43
1:G:22:ASP:N	1:G:22:ASP:OD1	2.51	0.43
1:H:151:ASP:HB3	1:H:204:CYS:HA	2.00	0.43
1:H:258:ARG:HH21	1:H:326:LEU:HD21	1.84	0.43
1:D:213:GLU:C	1:D:214:GLN:CD	2.49	0.43
1:D:448:GLU:O	1:D:449:ASN:C	2.56	0.43
1:E:151:ASP:HB3	1:E:204:CYS:HA	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:238:ASN:HD22	1:E:260:VAL:HG21	1.84	0.43
1:F:354:LYS:HD2	1:F:497:VAL:H	1.82	0.43
1:H:403:GLU:OE2	1:H:483:THR:OG1	2.36	0.43
1:B:463:ASN:C	1:B:463:ASN:OD1	2.57	0.43
1:D:54:TRP:HB2	1:D:72:ILE:HB	2.00	0.43
1:E:195:GLU:OE1	1:E:195:GLU:C	2.57	0.43
1:E:22:ASP:N	1:E:22:ASP:OD1	2.52	0.43
1:E:497:VAL:HG11	1:E:500:LEU:HB2	2.01	0.43
1:F:162:LYS:HD3	1:F:179:SER:HB2	1.99	0.43
1:F:253:PHE:CD1	1:F:253:PHE:N	2.85	0.43
1:G:210:VAL:HA	1:G:211:PRO:HD2	1.89	0.43
1:H:197:PHE:HB2	1:H:200:TYR:CG	2.54	0.43
1:C:371:PHE:CE2	1:C:458:GLY:HA3	2.54	0.43
1:G:147:THR:O	1:G:148:GLN:C	2.57	0.43
1:G:228:ASN:CA	1:G:229:PRO:CB	2.97	0.43
1:H:99:ASP:C	1:H:101:ILE:N	2.72	0.43
1:B:30:GLU:HB3	1:B:104:ARG:HD2	2.01	0.43
1:D:449:ASN:O	1:D:449:ASN:CG	2.52	0.43
1:E:383:ILE:HG13	1:E:383:ILE:H	1.46	0.43
1:G:205:PRO:HA	1:G:224:PHE:O	2.19	0.43
1:G:51:PRO:HB3	1:G:77:ASN:HA	2.00	0.43
1:H:386:SER:OG	1:H:386:SER:O	2.30	0.43
1:B:5:THR:OG1	1:B:6:SER:N	2.51	0.43
1:D:422:ASN:CA	1:D:423:SER:CB	2.96	0.43
1:D:449:ASN:O	1:D:450:ASP:CB	2.63	0.43
1:E:153:LYS:HB3	1:E:166:THR:HG23	2.01	0.43
1:E:349:ASN:HA	1:E:502:TYR:OH	2.19	0.43
1:E:51:PRO:HB3	1:E:77:ASN:HA	2.01	0.43
1:F:371:PHE:CE2	1:F:458:GLY:HA3	2.54	0.43
1:G:8:ARG:NH2	1:G:15:PRO:O	2.49	0.43
1:G:346:PHE:HE1	1:G:360:VAL:HG22	1.84	0.43
1:G:397:GLY:HA3	1:G:398:LEU:HA	1.78	0.43
1:G:394:TRP:NE1	1:G:494:THR:HB	2.19	0.43
1:H:497:VAL:HG13	1:H:497:VAL:O	2.18	0.43
1:B:15:PRO:HD3	1:B:20:MET:SD	2.59	0.42
1:D:30:GLU:HB3	1:D:104:ARG:HD2	2.00	0.42
1:E:321:ASN:CB	1:E:322:PRO:HD2	2.50	0.42
1:C:356:ASN:HB3	1:E:362:LEU:HA	2.02	0.42
1:F:194:ASN:CB	1:F:195:GLU:HB3	2.44	0.42
1:G:256:GLN:HE22	1:G:326:LEU:HB2	1.76	0.42
1:G:428:VAL:HG12	1:G:429:LYS:H	1.81	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:389:ALA:HA	1:G:497:VAL:HG11	2.01	0.42
1:A:424:LYS:HA	1:A:424:LYS:HD3	1.51	0.42
1:B:383:ILE:HB	1:B:384:SER:H	1.60	0.42
1:D:401:PRO:C	1:D:403:GLU:N	2.72	0.42
1:D:395:PHE:CE2	1:D:407:MET:CE	3.01	0.42
1:E:266:TYR:HE2	1:E:269:LEU:HD12	1.84	0.42
1:F:121:GLN:CG	1:F:149:PHE:CE2	3.02	0.42
1:F:464:ILE:O	1:F:464:ILE:HG23	2.17	0.42
1:F:96:PHE:C	1:F:97:PHE:CG	2.92	0.42
1:G:148:GLN:N	1:G:171:GLN:NE2	2.67	0.42
1:C:383:ILE:CG2	1:C:384:SER:H	2.32	0.42
1:D:371:PHE:CZ	1:D:407:MET:HE3	2.55	0.42
1:D:425:VAL:O	1:D:427:PHE:N	2.51	0.42
1:D:466:GLU:HG2	1:D:477:THR:HG23	2.01	0.42
1:F:205:PRO:HA	1:F:224:PHE:O	2.19	0.42
1:G:377:VAL:HG13	1:G:500:LEU:HD23	2.00	0.42
1:H:210:VAL:HA	1:H:211:PRO:HD2	1.89	0.42
1:H:429:LYS:HB3	1:H:429:LYS:HE3	1.45	0.42
1:A:380:THR:HG22	1:A:380:THR:O	2.19	0.42
1:A:395:PHE:CE2	1:A:407:MET:CE	3.01	0.42
1:D:426:LYS:O	1:D:429:LYS:N	2.52	0.42
1:E:190:SER:OG	1:E:191:ALA:N	2.51	0.42
1:E:210:VAL:HA	1:E:211:PRO:HD2	1.88	0.42
1:G:383:ILE:H	1:G:383:ILE:HG13	1.46	0.42
1:H:228:ASN:CG	1:H:229:PRO:HB3	2.31	0.42
1:C:213:GLU:OE1	1:C:330:LYS:CD	2.68	0.42
1:E:377:VAL:HG13	1:E:500:LEU:HD11	2.00	0.42
1:H:205:PRO:HA	1:H:224:PHE:O	2.19	0.42
1:H:229:PRO:HD2	1:H:230:GLY:H	1.85	0.42
1:H:303:ARG:O	1:H:304:SER:HB2	2.19	0.42
1:A:197:PHE:HE1	1:B:258:ARG:HA	1.81	0.42
1:B:394:TRP:HB2	1:B:492:ASN:HB2	2.01	0.42
1:E:201:GLN:HB2	1:E:228:ASN:O	2.20	0.42
1:F:197:PHE:HB2	1:F:200:TYR:CG	2.54	0.42
1:G:347:ALA:HB2	1:G:358:TYR:CZ	2.55	0.42
1:B:321:ASN:HB2	1:B:322:PRO:CD	2.44	0.42
1:B:423:SER:C	1:B:424:LYS:HG2	2.40	0.42
1:C:236:SER:HB2	1:C:267:TYR:CD1	2.55	0.42
1:D:212:THR:O	1:D:212:THR:HG22	2.19	0.42
1:E:441:ASN:CB	1:F:232:PRO:HG2	2.49	0.42
1:F:401:PRO:O	1:F:402:GLU:CB	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:401:PRO:C	1:G:403:GLU:N	2.67	0.42
1:H:195:GLU:OE1	1:H:195:GLU:C	2.58	0.42
1:H:246:ASN:HD21	1:H:249:HIS:HB2	1.84	0.42
1:H:5:THR:O	1:H:5:THR:HG22	2.19	0.42
1:B:380:THR:HA	1:B:381:GLN:HA	1.36	0.42
1:C:287:TRP:HE1	1:C:304:SER:HB3	1.84	0.42
1:D:394:TRP:NE1	1:D:494:THR:HB	2.27	0.42
1:E:145:ASN:HB3	1:E:147:THR:H	1.84	0.42
1:F:51:PRO:HB3	1:F:77:ASN:HA	2.02	0.42
1:H:266:TYR:HE2	1:H:269:LEU:HD12	1.84	0.42
1:H:397:GLY:H	1:H:401:PRO:HA	1.83	0.42
1:H:395:PHE:CE2	1:H:407:MET:HE2	2.55	0.42
1:B:337:ILE:O	1:B:338:SER:HB3	2.20	0.42
1:C:425:VAL:O	1:C:428:VAL:N	2.53	0.42
1:D:337:ILE:O	1:D:338:SER:HB3	2.20	0.42
1:A:466:GLU:HG2	1:A:477:THR:HG23	2.01	0.42
1:E:385:LYS:CG	1:E:386:SER:N	2.61	0.42
1:F:200:TYR:H	1:F:200:TYR:HD2	1.67	0.42
1:F:266:TYR:HE2	1:F:269:LEU:HD12	1.85	0.42
1:G:425:VAL:HG21	1:G:481:PHE:O	2.20	0.42
1:H:153:LYS:HB3	1:H:166:THR:HG23	2.02	0.42
1:A:378:ASN:O	1:A:450:ASP:O	2.38	0.41
1:A:378:ASN:H	1:A:500:LEU:CD1	2.32	0.41
1:B:28:TYR:CZ	1:B:276:ASP:HB2	2.54	0.41
1:B:355:ALA:O	1:G:363:SER:HB2	2.19	0.41
1:C:30:GLU:HB3	1:C:104:ARG:HD2	2.01	0.41
1:C:378:ASN:HA	1:C:451:LEU:HD23	2.01	0.41
1:D:256:GLN:OE1	1:D:258:ARG:HD2	2.19	0.41
1:G:231:ALA:HB3	1:G:232:PRO:CD	2.46	0.41
1:G:388:PHE:HE2	1:G:390:ASP:HB3	1.79	0.41
1:H:200:TYR:HD2	1:H:200:TYR:H	1.68	0.41
1:H:381:GLN:O	1:H:382:THR:C	2.58	0.41
1:A:227:ILE:O	1:A:227:ILE:HG13	2.19	0.41
1:A:337:ILE:O	1:A:338:SER:HB3	2.20	0.41
1:A:380:THR:HA	1:A:381:GLN:HA	1.37	0.41
1:B:248:THR:OG1	1:B:249:HIS:HD2	2.04	0.41
1:B:449:ASN:CG	1:B:450:ASP:N	2.66	0.41
1:C:337:ILE:O	1:C:338:SER:HB3	2.20	0.41
1:C:362:LEU:HD23	1:E:356:ASN:ND2	2.35	0.41
1:E:368:THR:HA	1:E:460:LEU:O	2.20	0.41
1:G:449:ASN:HB3	1:G:450:ASP:H	1.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:448:GLU:O	1:B:450:ASP:N	2.53	0.41
1:C:486:ASN:CA	1:C:487:ALA:HB2	2.50	0.41
1:D:303:ARG:O	1:D:304:SER:HB2	2.20	0.41
1:D:496:GLY:C	1:D:497:VAL:HG13	2.41	0.41
1:G:228:ASN:HA	1:G:229:PRO:HB3	2.02	0.41
1:H:310:ARG:HB3	1:H:331:ALA:HB1	2.01	0.41
1:B:192:PHE:HA	1:B:193:ALA:CB	2.47	0.41
1:B:401:PRO:C	1:B:403:GLU:N	2.72	0.41
1:C:376:ALA:HA	1:C:452:SER:O	2.20	0.41
1:E:147:THR:O	1:E:148:GLN:C	2.58	0.41
1:G:399:GLU:HG3	1:G:486:ASN:ND2	2.35	0.41
1:H:190:SER:OG	1:H:191:ALA:N	2.52	0.41
1:A:142:LEU:HD11	1:A:178:TYR:CD1	2.56	0.41
1:A:394:TRP:NE1	1:A:494:THR:HB	2.26	0.41
1:E:266:TYR:CE2	1:E:269:LEU:HD12	2.55	0.41
1:G:321:ASN:CB	1:G:322:PRO:HD2	2.50	0.41
1:A:376:ALA:HA	1:A:452:SER:O	2.20	0.41
1:D:287:TRP:HE1	1:D:304:SER:HB3	1.86	0.41
1:E:45:ASP:OD1	1:E:46:THR:N	2.48	0.41
1:G:197:PHE:HB2	1:G:200:TYR:CG	2.56	0.41
1:H:321:ASN:CB	1:H:322:PRO:HD2	2.50	0.41
1:A:287:TRP:HE1	1:A:304:SER:HB3	1.86	0.41
1:B:150:ARG:HH22	1:B:201:GLN:NE2	2.18	0.41
1:E:426:LYS:HG2	1:E:430:GLU:OE2	2.20	0.41
1:F:153:LYS:HB3	1:F:166:THR:HG23	2.02	0.41
1:F:321:ASN:CB	1:F:322:PRO:HD2	2.50	0.41
1:F:395:PHE:HB3	1:F:488:LEU:HB3	2.03	0.41
1:F:96:PHE:O	1:F:97:PHE:CG	2.73	0.41
1:G:228:ASN:CA	1:G:229:PRO:HB3	2.51	0.41
1:E:4:GLU:O	1:E:4:GLU:HG2	2.21	0.41
1:F:50:THR:HA	1:F:51:PRO:C	2.41	0.41
1:G:200:TYR:HD2	1:G:200:TYR:H	1.69	0.41
1:G:345:ARG:HH11	1:G:507:GLN:NE2	2.19	0.41
1:A:213:GLU:CA	1:A:214:GLN:OE1	2.68	0.41
1:C:378:ASN:ND2	1:C:380:THR:C	2.73	0.41
1:C:394:TRP:NE1	1:C:494:THR:HB	2.26	0.41
1:H:426:LYS:HG2	1:H:430:GLU:OE2	2.20	0.41
1:B:354:LYS:H	1:B:498:ASP:HA	1.86	0.41
1:B:368:THR:CG2	1:B:461:ASP:OD1	2.69	0.41
1:C:150:ARG:HH22	1:C:201:GLN:NE2	2.19	0.41
1:C:227:ILE:HG13	1:C:227:ILE:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:401:PRO:O	1:D:402:GLU:CB	2.68	0.41
1:E:437:ARG:HB3	1:F:432:PRO:O	2.21	0.41
1:G:195:GLU:OE1	1:G:195:GLU:C	2.59	0.41
1:G:238:ASN:HD22	1:G:260:VAL:HG21	1.85	0.41
1:H:396:LYS:C	1:H:490:SER:HB3	2.41	0.41
1:A:107:CYS:HB2	1:A:126:SER:HB3	2.02	0.41
1:B:391:LEU:O	1:B:408:GLY:HA3	2.21	0.41
1:B:401:PRO:O	1:B:402:GLU:CB	2.68	0.41
1:C:198:LEU:HD23	1:D:326:LEU:HD11	2.03	0.41
1:C:28:TYR:CZ	1:C:276:ASP:HB2	2.56	0.41
1:E:496:GLY:O	1:E:497:VAL:O	2.39	0.41
1:F:210:VAL:HA	1:F:211:PRO:HD2	1.88	0.41
1:F:310:ARG:HB3	1:F:331:ALA:HB1	2.03	0.41
1:G:153:LYS:HB3	1:G:166:THR:HG23	2.03	0.41
1:H:461:ASP:O	1:H:463:ASN:N	2.51	0.41
1:B:371:PHE:CE2	1:B:458:GLY:HA3	2.56	0.40
1:G:144:ALA:CB	1:G:145:ASN:O	2.65	0.40
1:H:8:ARG:NH2	1:H:16:ASN:O	2.50	0.40
1:H:381:GLN:HE21	1:H:381:GLN:CA	2.33	0.40
1:A:337:ILE:H	1:A:337:ILE:HD12	1.86	0.40
1:A:398:LEU:HB3	1:A:487:ALA:CB	2.46	0.40
1:A:448:GLU:O	1:A:449:ASN:C	2.59	0.40
1:A:5:THR:OG1	1:A:6:SER:N	2.53	0.40
1:E:303:ARG:O	1:E:304:SER:HB2	2.21	0.40
1:E:397:GLY:HA3	1:E:398:LEU:HA	1.83	0.40
1:F:190:SER:OG	1:F:191:ALA:N	2.53	0.40
1:F:243:GLY:HA2	1:F:253:PHE:CD1	2.55	0.40
1:F:266:TYR:CE2	1:F:269:LEU:HD12	2.56	0.40
1:F:318:TYR:HE2	1:F:320:ALA:O	2.04	0.40
1:G:266:TYR:HE2	1:G:269:LEU:HD12	1.86	0.40
1:G:381:GLN:C	1:G:382:THR:HG1	2.25	0.40
1:B:227:ILE:HG13	1:B:227:ILE:O	2.21	0.40
1:B:236:SER:HB2	1:B:267:TYR:CD1	2.55	0.40
1:B:383:ILE:C	1:B:384:SER:OG	2.59	0.40
1:D:142:LEU:HD11	1:D:178:TYR:CD1	2.56	0.40
1:D:263:GLY:HA3	1:D:477:THR:H	1.87	0.40
1:D:377:VAL:HG12	1:D:379:THR:H	1.85	0.40
1:E:319:GLN:HB3	1:E:320:ALA:H	1.74	0.40
1:E:232:PRO:CG	1:F:441:ASN:HB2	2.44	0.40
1:H:228:ASN:HA	1:H:229:PRO:HA	1.80	0.40
1:H:266:TYR:CE2	1:H:269:LEU:HD12	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:397:GLY:HA3	1:H:398:LEU:HA	1.82	0.40
1:A:326:LEU:HD11	1:B:198:LEU:HD23	2.03	0.40
1:B:263:GLY:HA3	1:B:477:THR:H	1.87	0.40
1:C:466:GLU:HG2	1:C:477:THR:HG23	2.04	0.40
1:D:236:SER:HB2	1:D:267:TYR:CD1	2.56	0.40
1:D:397:GLY:HA3	1:D:398:LEU:HA	1.91	0.40
1:E:310:ARG:HB3	1:E:331:ALA:HB1	2.03	0.40
1:H:115:THR:HB	1:H:118:SER:H	1.87	0.40
1:A:236:SER:HB2	1:A:267:TYR:CD1	2.57	0.40
1:B:107:CYS:HB2	1:B:126:SER:HB3	2.04	0.40
1:C:180:SER:HG	1:C:183:LEU:H	1.62	0.40
1:D:110:ILE:HD13	1:D:154:VAL:CG1	2.51	0.40
1:D:380:THR:HA	1:D:381:GLN:HA	1.30	0.40
1:G:318:TYR:HE2	1:G:320:ALA:O	2.05	0.40
1:G:96:PHE:C	1:G:97:PHE:CD1	2.95	0.40

There are no symmetry-related clashes.

## 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	507/512 (99%)	452 (89%)	44 (9%)	11 (2%)	6	29
1	B	507/512 (99%)	448 (88%)	46 (9%)	13 (3%)	5	26
1	C	507/512 (99%)	448 (88%)	47 (9%)	12 (2%)	6	28
1	D	507/512 (99%)	446 (88%)	48 (10%)	13 (3%)	5	26
1	E	507/512 (99%)	446 (88%)	46 (9%)	15 (3%)	4	23
1	F	507/512 (99%)	447 (88%)	45 (9%)	15 (3%)	4	23
1	G	507/512 (99%)	452 (89%)	41 (8%)	14 (3%)	5	24
1	H	507/512 (99%)	448 (88%)	44 (9%)	15 (3%)	4	23

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
All	All	4056/4096 (99%)	3587 (88%)	361 (9%)	108 (3%)	5	26

All (108) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	423	SER
1	A	424	LYS
1	D	423	SER
1	E	229	PRO
1	E	487	ALA
1	F	229	PRO
1	F	487	ALA
1	G	229	PRO
1	G	428	VAL
1	G	487	ALA
1	H	100	THR
1	H	229	PRO
1	H	401	PRO
1	H	487	ALA
1	A	497	VAL
1	C	423	SER
1	D	497	VAL
1	E	6	SER
1	E	97	PHE
1	E	195	GLU
1	E	230	GLY
1	E	277	PRO
1	E	384	SER
1	E	428	VAL
1	F	6	SER
1	F	97	PHE
1	F	195	GLU
1	F	230	GLY
1	F	428	VAL
1	F	497	VAL
1	G	6	SER
1	G	97	PHE
1	G	195	GLU
1	H	97	PHE
1	H	195	GLU
1	H	428	VAL
1	A	193	ALA

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	277	PRO
1	A	384	SER
1	B	193	ALA
1	B	277	PRO
1	B	383	ILE
1	B	384	SER
1	B	486	ASN
1	B	487	ALA
1	C	193	ALA
1	C	277	PRO
1	C	486	ASN
1	C	487	ALA
1	D	193	ALA
1	D	277	PRO
1	D	384	SER
1	D	486	ASN
1	E	214	GLN
1	E	280	GLY
1	F	214	GLN
1	F	277	PRO
1	F	280	GLY
1	F	384	SER
1	G	214	GLN
1	G	277	PRO
1	G	280	GLY
1	G	384	SER
1	H	214	GLN
1	H	277	PRO
1	H	280	GLY
1	H	441	ASN
1	H	486	ASN
1	A	383	ILE
1	B	338	SER
1	B	423	SER
1	B	497	VAL
1	C	383	ILE
1	C	497	VAL
1	D	383	ILE
1	D	487	ALA
1	E	381	GLN
1	E	441	ASN
1	E	497	VAL

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Mol	Chain	Res	Type
1	F	381	GLN
1	F	441	ASN
1	G	381	GLN
1	G	441	ASN
1	G	497	VAL
1	H	384	SER
1	H	497	VAL
1	A	338	SER
1	B	425	VAL
1	C	338	SER
1	C	425	VAL
1	C	485	GLY
1	D	338	SER
1	D	485	GLY
1	A	304	SER
1	B	304	SER
1	B	485	GLY
1	C	304	SER
1	D	304	SER
1	E	304	SER
1	F	304	SER
1	G	304	SER
1	H	304	SER
1	C	280	GLY
1	D	425	VAL
1	A	196	GLY
1	A	280	GLY
1	B	280	GLY
1	D	280	GLY

### 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	450/453 (99%)	416 (92%)	34 (8%)	13 41
1	B	450/453 (99%)	421 (94%)	29 (6%)	17 47

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	450/453 (99%)	416 (92%)	34 (8%)	13	41
1	D	450/453 (99%)	420 (93%)	30 (7%)	16	46
1	E	450/453 (99%)	409 (91%)	41 (9%)	9	32
1	F	450/453 (99%)	411 (91%)	39 (9%)	10	34
1	G	450/453 (99%)	403 (90%)	47 (10%)	7	25
1	H	450/453 (99%)	409 (91%)	41 (9%)	9	32
All	All	3600/3624 (99%)	3305 (92%)	295 (8%)	11	37

All (295) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	5	THR
1	A	105	GLN
1	A	142	LEU
1	A	154	VAL
1	A	183	LEU
1	A	192	PHE
1	A	195	GLU
1	A	212	THR
1	A	213	GLU
1	A	237	PHE
1	A	238	ASN
1	A	259	VAL
1	A	354	LYS
1	A	378	ASN
1	A	381	GLN
1	A	382	THR
1	A	383	ILE
1	A	386	SER
1	A	424	LYS
1	A	426	LYS
1	A	427	PHE
1	A	438	MET
1	A	440	VAL
1	A	447	SER
1	A	448	GLU
1	A	465	LEU
1	A	483	THR
1	A	484	THR
1	A	486	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	488	LEU
1	A	494	THR
1	A	498	ASP
1	A	500	LEU
1	A	508	VAL
1	B	5	THR
1	B	105	GLN
1	B	142	LEU
1	B	154	VAL
1	B	181	ASP
1	B	183	LEU
1	B	192	PHE
1	B	195	GLU
1	B	212	THR
1	B	213	GLU
1	B	237	PHE
1	B	238	ASN
1	B	259	VAL
1	B	352	LEU
1	B	356	ASN
1	B	378	ASN
1	B	379	THR
1	B	381	GLN
1	B	382	THR
1	B	383	ILE
1	B	386	SER
1	B	425	VAL
1	B	438	MET
1	B	440	VAL
1	B	465	LEU
1	B	483	THR
1	B	484	THR
1	B	494	THR
1	B	508	VAL
1	C	5	THR
1	C	105	GLN
1	C	142	LEU
1	C	154	VAL
1	C	180	SER
1	C	181	ASP
1	C	184	LYS
1	C	192	PHE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	195	GLU
1	C	214	GLN
1	C	237	PHE
1	C	238	ASN
1	C	259	VAL
1	C	352	LEU
1	C	356	ASN
1	C	378	ASN
1	C	380	THR
1	C	381	GLN
1	C	382	THR
1	C	386	SER
1	C	425	VAL
1	C	427	PHE
1	C	438	MET
1	C	440	VAL
1	C	446	LYS
1	C	447	SER
1	C	448	GLU
1	C	465	LEU
1	C	483	THR
1	C	484	THR
1	C	494	THR
1	C	497	VAL
1	C	498	ASP
1	C	508	VAL
1	D	5	THR
1	D	105	GLN
1	D	142	LEU
1	D	154	VAL
1	D	180	SER
1	D	181	ASP
1	D	182	ASP
1	D	183	LEU
1	D	192	PHE
1	D	195	GLU
1	D	212	THR
1	D	237	PHE
1	D	238	ASN
1	D	259	VAL
1	D	352	LEU
1	D	356	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	D	381	GLN
1	D	382	THR
1	D	384	SER
1	D	425	VAL
1	D	438	MET
1	D	440	VAL
1	D	448	GLU
1	D	463	ASN
1	D	465	LEU
1	D	483	THR
1	D	484	THR
1	D	494	THR
1	D	498	ASP
1	D	508	VAL
1	E	5	THR
1	E	22	ASP
1	E	98	ASN
1	E	100	THR
1	E	141	VAL
1	E	142	LEU
1	E	166	THR
1	E	181	ASP
1	E	183	LEU
1	E	190	SER
1	E	194	ASN
1	E	197	PHE
1	E	198	LEU
1	E	200	TYR
1	E	214	GLN
1	E	254	ASP
1	E	278	THR
1	E	323	GLU
1	E	325	GLU
1	E	326	LEU
1	E	352	LEU
1	E	356	ASN
1	E	383	ILE
1	E	384	SER
1	E	385	LYS
1	E	388	PHE
1	E	396	LYS
1	E	398	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	E	426	LYS
1	E	429	LYS
1	E	430	GLU
1	E	431	ASN
1	E	437	ARG
1	E	447	SER
1	E	465	LEU
1	E	483	THR
1	E	494	THR
1	E	497	VAL
1	E	498	ASP
1	E	500	LEU
1	E	505	LYS
1	F	4	GLU
1	F	5	THR
1	F	8	ARG
1	F	22	ASP
1	F	98	ASN
1	F	99	ASP
1	F	141	VAL
1	F	142	LEU
1	F	166	THR
1	F	181	ASP
1	F	183	LEU
1	F	190	SER
1	F	194	ASN
1	F	197	PHE
1	F	198	LEU
1	F	200	TYR
1	F	214	GLN
1	F	254	ASP
1	F	278	THR
1	F	323	GLU
1	F	325	GLU
1	F	326	LEU
1	F	352	LEU
1	F	356	ASN
1	F	383	ILE
1	F	384	SER
1	F	385	LYS
1	F	396	LYS
1	F	398	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	F	426	LYS
1	F	429	LYS
1	F	430	GLU
1	F	431	ASN
1	F	437	ARG
1	F	465	LEU
1	F	483	THR
1	F	497	VAL
1	F	498	ASP
1	F	505	LYS
1	G	4	GLU
1	G	5	THR
1	G	22	ASP
1	G	98	ASN
1	G	141	VAL
1	G	142	LEU
1	G	147	THR
1	G	166	THR
1	G	181	ASP
1	G	183	LEU
1	G	190	SER
1	G	194	ASN
1	G	197	PHE
1	G	198	LEU
1	G	200	TYR
1	G	214	GLN
1	G	253	PHE
1	G	278	THR
1	G	323	GLU
1	G	325	GLU
1	G	326	LEU
1	G	344	SER
1	G	348	THR
1	G	352	LEU
1	G	356	ASN
1	G	383	ILE
1	G	384	SER
1	G	386	SER
1	G	398	LEU
1	G	399	GLU
1	G	400	ASP
1	G	424	LYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	G	425	VAL
1	G	426	LYS
1	G	427	PHE
1	G	428	VAL
1	G	429	LYS
1	G	430	GLU
1	G	431	ASN
1	G	437	ARG
1	G	447	SER
1	G	465	LEU
1	G	483	THR
1	G	494	THR
1	G	498	ASP
1	G	500	LEU
1	G	505	LYS
1	H	4	GLU
1	H	5	THR
1	H	22	ASP
1	H	94	SER
1	H	97	PHE
1	H	98	ASN
1	H	141	VAL
1	H	142	LEU
1	H	166	THR
1	H	181	ASP
1	H	183	LEU
1	H	190	SER
1	H	194	ASN
1	H	197	PHE
1	H	198	LEU
1	H	200	TYR
1	H	214	GLN
1	H	254	ASP
1	H	278	THR
1	H	323	GLU
1	H	325	GLU
1	H	326	LEU
1	H	345	ARG
1	H	352	LEU
1	H	356	ASN
1	H	383	ILE
1	H	384	SER

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Mol	Chain	Res	Type
1	H	396	LYS
1	H	398	LEU
1	H	426	LYS
1	H	430	GLU
1	H	464	ILE
1	H	465	LEU
1	H	482	MET
1	H	483	THR
1	H	494	THR
1	H	495	THR
1	H	497	VAL
1	H	498	ASP
1	H	500	LEU
1	H	505	LYS

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (101) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	24	ASN
1	A	36	HIS
1	A	40	GLN
1	A	105	GLN
1	A	171	GLN
1	A	194	ASN
1	A	201	GLN
1	A	238	ASN
1	A	249	HIS
1	A	270	GLN
1	A	319	GLN
1	A	378	ASN
1	A	422	ASN
1	A	431	ASN
1	A	449	ASN
1	A	486	ASN
1	B	24	ASN
1	B	36	HIS
1	B	40	GLN
1	B	105	GLN
1	B	171	GLN
1	B	238	ASN
1	B	249	HIS
1	B	270	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	319	GLN
1	B	378	ASN
1	B	431	ASN
1	B	449	ASN
1	C	24	ASN
1	C	36	HIS
1	C	40	GLN
1	C	105	GLN
1	C	171	GLN
1	C	194	ASN
1	C	214	GLN
1	C	238	ASN
1	C	249	HIS
1	C	270	GLN
1	C	319	GLN
1	C	359	ASN
1	C	378	ASN
1	C	431	ASN
1	C	462	GLN
1	D	24	ASN
1	D	36	HIS
1	D	40	GLN
1	D	171	GLN
1	D	194	ASN
1	D	238	ASN
1	D	249	HIS
1	D	270	GLN
1	D	319	GLN
1	D	431	ASN
1	E	36	HIS
1	E	98	ASN
1	E	121	GLN
1	E	148	GLN
1	E	171	GLN
1	E	194	ASN
1	E	228	ASN
1	E	249	HIS
1	E	270	GLN
1	E	349	ASN
1	E	356	ASN
1	E	431	ASN
1	E	507	GLN

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Mol	Chain	Res	Type
1	F	36	HIS
1	F	98	ASN
1	F	121	GLN
1	F	148	GLN
1	F	171	GLN
1	F	194	ASN
1	F	249	HIS
1	F	270	GLN
1	F	356	ASN
1	F	431	ASN
1	F	507	GLN
1	G	36	HIS
1	G	92	ASN
1	G	98	ASN
1	G	121	GLN
1	G	148	GLN
1	G	171	GLN
1	G	194	ASN
1	G	249	HIS
1	G	270	GLN
1	G	431	ASN
1	G	507	GLN
1	H	36	HIS
1	H	92	ASN
1	H	98	ASN
1	H	121	GLN
1	H	148	GLN
1	H	171	GLN
1	H	194	ASN
1	H	228	ASN
1	H	249	HIS
1	H	270	GLN
1	H	349	ASN
1	H	381	GLN
1	H	507	GLN

### 5.3.3 RNA

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 carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	509/512 (99%)	-0.01	2 (0%) 92   92	29, 37, 51, 70	0
1	B	509/512 (99%)	-0.07	0 100   100	29, 38, 49, 72	0
1	C	509/512 (99%)	0.14	9 (1%) 68   67	38, 50, 66, 79	0
1	D	509/512 (99%)	0.14	14 (2%) 53   51	37, 51, 68, 78	0
1	E	509/512 (99%)	0.17	15 (2%) 51   50	33, 47, 71, 114	0
1	F	509/512 (99%)	0.22	16 (3%) 49   48	31, 48, 75, 132	0
1	G	509/512 (99%)	0.55	40 (7%) 12   14	39, 59, 89, 130	0
1	H	509/512 (99%)	0.53	52 (10%) 6   8	40, 62, 93, 140	0
All	All	4072/4096 (99%)	0.21	148 (3%) 42   42	29, 48, 81, 140	0

All (148) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	146	SER	5.2
1	F	324	THR	5.1
1	H	145	ASN	4.4
1	H	98	ASN	4.3
1	H	162	LYS	4.2
1	H	146	SER	4.2
1	G	162	LYS	4.0
1	H	107	CYS	4.0
1	E	145	ASN	4.0
1	H	216	PRO	4.0
1	G	324	THR	3.8
1	G	88	VAL	3.7
1	H	486	ASN	3.7
1	H	321	ASN	3.7
1	F	146	SER	3.6
1	E	321	ASN	3.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	E	146	SER	3.6
1	H	182	ASP	3.5
1	G	99	ASP	3.5
1	G	319	GLN	3.5
1	F	99	ASP	3.5
1	D	97	PHE	3.4
1	H	325	GLU	3.4
1	D	103	PRO	3.3
1	G	35	TRP	3.3
1	H	101	ILE	3.2
1	H	163	TRP	3.2
1	F	486	ASN	3.2
1	H	156	TRP	3.2
1	E	319	GLN	3.2
1	G	216	PRO	3.2
1	G	320	ALA	3.2
1	G	36	HIS	3.2
1	F	320	ALA	3.2
1	F	382	THR	3.2
1	F	319	GLN	3.1
1	H	130	GLY	3.1
1	G	147	THR	3.1
1	A	88	VAL	3.1
1	F	378	ASN	3.0
1	H	93	THR	3.0
1	F	321	ASN	3.0
1	G	145	ASN	2.9
1	H	91	ASN	2.9
1	H	214	GLN	2.9
1	G	100	THR	2.9
1	G	110	ILE	2.8
1	G	339	ASN	2.8
1	E	88	VAL	2.8
1	G	158	GLU	2.8
1	G	90	TYR	2.7
1	G	325	GLU	2.7
1	F	162	LYS	2.7
1	H	385	LYS	2.7
1	G	102	ASP	2.7
1	H	324	THR	2.7
1	C	486	ASN	2.7
1	G	486	ASN	2.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	F	380	THR	2.7
1	D	136	TYR	2.7
1	H	89	ASP	2.7
1	G	89	ASP	2.7
1	H	147	THR	2.7
1	H	179	SER	2.6
1	H	340	ALA	2.6
1	G	321	ASN	2.6
1	H	181	ASP	2.6
1	H	97	PHE	2.6
1	C	91	ASN	2.6
1	C	97	PHE	2.6
1	F	214	GLN	2.6
1	H	380	THR	2.6
1	G	214	GLN	2.5
1	D	141	VAL	2.5
1	G	183	LEU	2.5
1	G	142	LEU	2.5
1	G	109	ALA	2.5
1	H	322	PRO	2.5
1	E	144	ALA	2.5
1	G	327	ILE	2.5
1	E	90	TYR	2.5
1	G	182	ASP	2.5
1	C	128	ASP	2.5
1	E	91	ASN	2.4
1	G	322	PRO	2.4
1	F	182	ASP	2.4
1	H	92	ASN	2.4
1	H	134	THR	2.4
1	H	381	GLN	2.4
1	E	324	THR	2.4
1	C	448	GLU	2.4
1	G	126	SER	2.4
1	H	158	GLU	2.4
1	D	181	ASP	2.4
1	G	104	ARG	2.4
1	H	320	ALA	2.4
1	E	397	GLY	2.4
1	C	99	ASP	2.4
1	H	180	SER	2.4
1	H	90	TYR	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	H	382	THR	2.4
1	H	106	ARG	2.3
1	E	115	THR	2.3
1	E	147	THR	2.3
1	H	278	THR	2.3
1	D	277	PRO	2.3
1	D	160	SER	2.3
1	F	143	ALA	2.3
1	H	245	PHE	2.3
1	D	486	ASN	2.3
1	D	88	VAL	2.3
1	G	148	GLN	2.3
1	G	186	TRP	2.2
1	H	185	SER	2.2
1	G	276	ASP	2.2
1	D	91	ASN	2.2
1	A	349	ASN	2.2
1	G	79	SER	2.2
1	G	136	TYR	2.2
1	H	317	GLU	2.2
1	G	273	PHE	2.2
1	H	88	VAL	2.2
1	C	107	CYS	2.2
1	E	108	VAL	2.1
1	D	107	CYS	2.1
1	E	380	THR	2.1
1	F	161	GLN	2.1
1	D	248	THR	2.1
1	H	485	GLY	2.1
1	H	133	PHE	2.1
1	H	139	ASN	2.1
1	H	498	ASP	2.1
1	H	105	GLN	2.1
1	F	323	GLU	2.1
1	G	218	LYS	2.0
1	E	125	TYR	2.0
1	C	98	ASN	2.0
1	G	103	PRO	2.0
1	H	186	TRP	2.0
1	H	219	SER	2.0
1	H	177	ILE	2.0
1	H	160	SER	2.0

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Mol	Chain	Res	Type	RSRZ
1	D	38	TYR	2.0
1	D	108	VAL	2.0
1	G	125	TYR	2.0
1	H	218	LYS	2.0
1	C	90	TYR	2.0
1	H	137	GLN	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 carbohydrates in this entry.

## 6.4 Ligands [i](#)

There are no ligands in this entry.

## 6.5 Other polymers [i](#)

There are no such residues in this entry.