Full wwPDB X-ray Structure Validation Report ⓘ

Oct 17, 2023 – 09:53 AM EDT

PDB ID	:	2DU7
Title	:	Crystal structure of Methanococcus jannacshii O-phosphoseryl-tRNA synthetase
Authors	:	Fukunaga, R.; RIKEN Structural Genomics/Proteomics Initiative (RSGI)
Deposited on	:	2006-07-20
Resolution	:	3.60 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

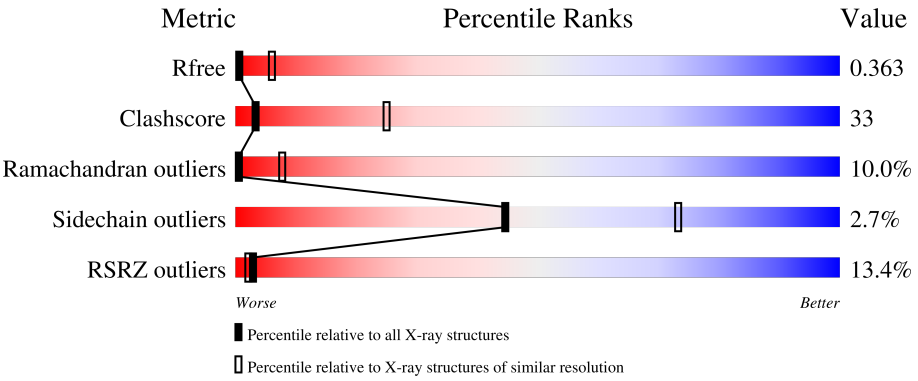
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 3.60 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	1257 (3.70-3.50)
Clashscore	141614	1353 (3.70-3.50)
Ramachandran outliers	138981	1307 (3.70-3.50)
Sidechain outliers	138945	1307 (3.70-3.50)
RSRZ outliers	127900	1161 (3.70-3.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	549	15% 45% 45% 7% .
1	B	549	12% 46% 46% 7% .
1	C	549	12% 45% 46% 7% .
1	D	549	14% 46% 46% 7% .

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 17516 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 O-phosphoseryl-tRNA synthetase.

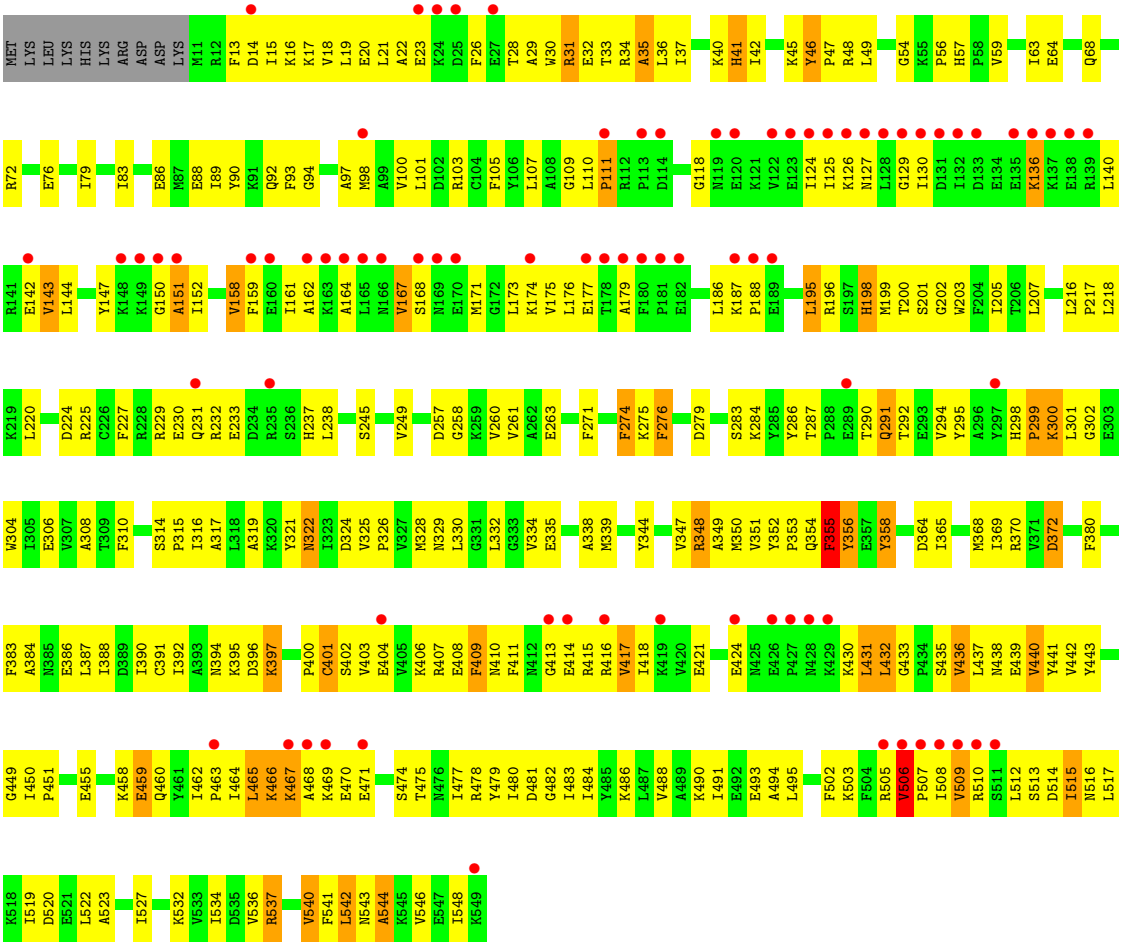
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	539	Total	C	N	O	S	0	0	0
			4379	2826	727	807	19			
1	B	539	Total	C	N	O	S	0	0	0
			4379	2826	727	807	19			
1	C	539	Total	C	N	O	S	0	0	0
			4379	2826	727	807	19			
1	D	539	Total	C	N	O	S	0	0	0
			4379	2826	727	807	19			

3 Residue-property plots (i)

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

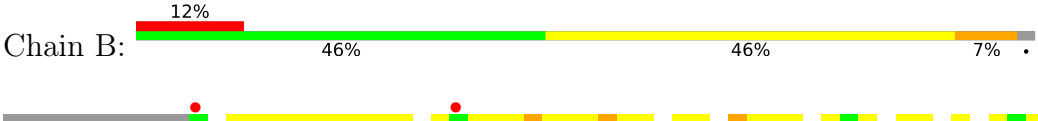
• Molecule 1: O-phosphoseryl-tRNA synthetase

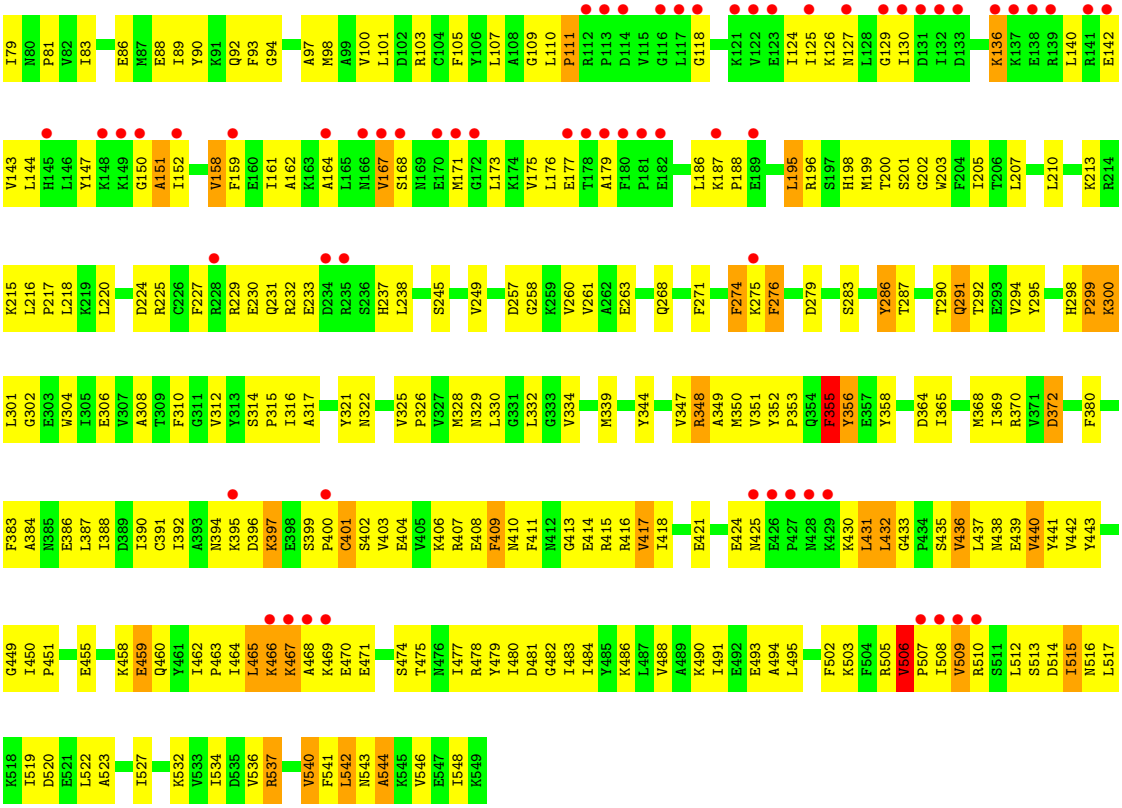
Chain A:



• Molecule 1: O-phosphoseryl-tRNA synthetase

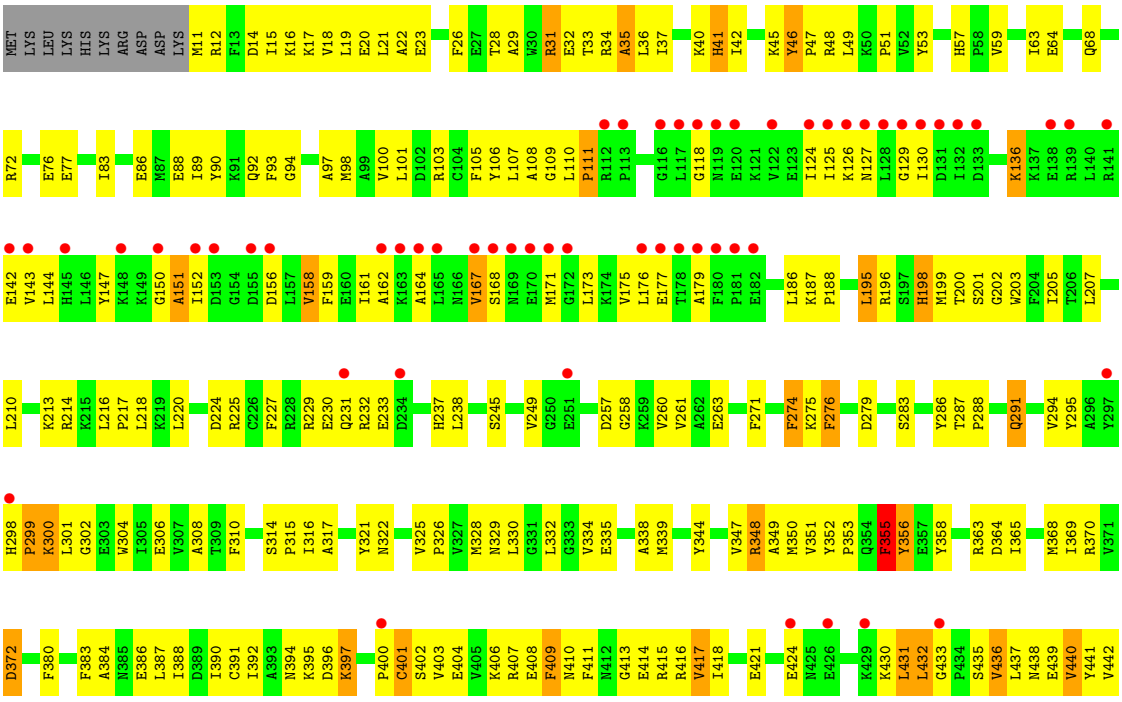
Chain B:

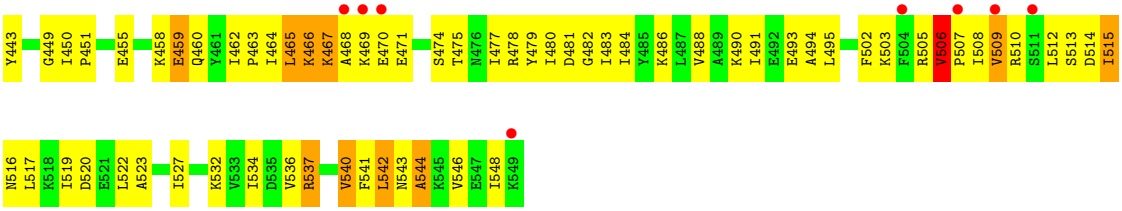




• Molecule 1: O-phosphoseryl-tRNA synthetase

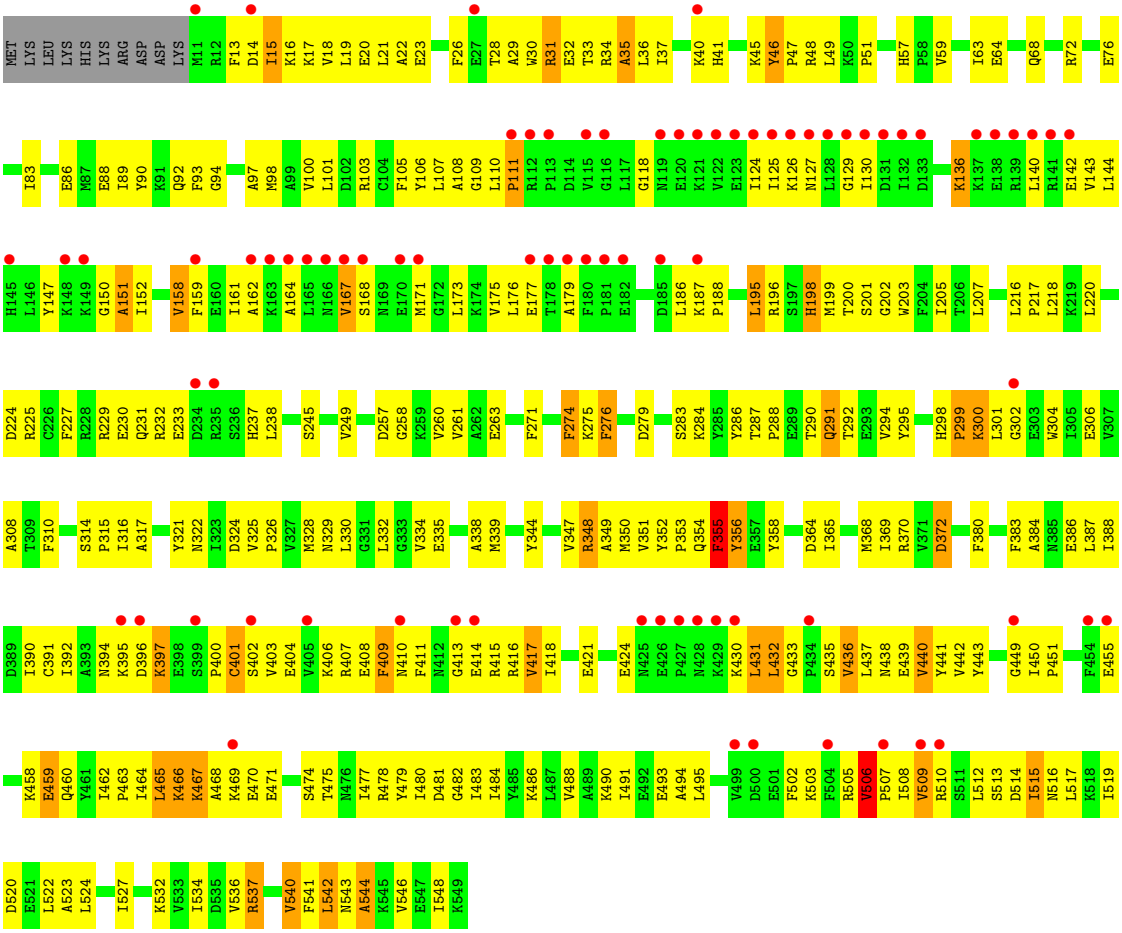
Chain C:





• Molecule 1: O-phosphoseryl-tRNA synthetase

Chain D:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	196.35Å 299.45Å 125.88Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	19.79 – 3.60 19.79 – 3.60	Depositor EDS
% Data completeness (in resolution range)	97.5 (19.79-3.60) 97.6 (19.79-3.60)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.48 (at 3.61Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.330 , 0.387 0.314 , 0.363	Depositor DCC
R_{free} test set	4236 reflections (10.08%)	wwPDB-VP
Wilson B-factor (Å^2)	118.1	Xtriage
Anisotropy	0.142	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.25 , 101.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.41$, $< L^2 > = 0.24$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.84	EDS
Total number of atoms	17516	wwPDB-VP
Average B, all atoms (Å^2)	129.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.27% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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	0.26	0/4468	0.48	0/6023
1	B	0.27	0/4468	0.48	0/6023
1	C	0.27	0/4468	0.48	0/6023
1	D	0.26	0/4468	0.48	0/6023
All	All	0.27	0/17872	0.48	0/24092

There are no bond length outliers.

There are no bond angle outliers.

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	4379	0	4462	326	2
1	B	4379	0	4462	318	0
1	C	4379	0	4462	299	0
1	D	4379	0	4462	311	0
All	All	17516	0	17848	1161	2

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 33.

All (1161) 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:A:28:THR:HA	1:A:31:ARG:HE	1.06	1.17
1:B:28:THR:HA	1:B:31:ARG:HE	1.06	1.11
1:C:28:THR:HA	1:C:31:ARG:HE	1.06	1.10
1:D:28:THR:HA	1:D:31:ARG:HE	1.06	1.07
1:D:31:ARG:H	1:D:31:ARG:HD3	1.18	1.07
1:D:506:VAL:HG23	1:D:507:PRO:HD3	1.38	1.06
1:C:31:ARG:H	1:C:31:ARG:HD3	1.18	1.05
1:A:506:VAL:HG23	1:A:507:PRO:HD3	1.39	1.04
1:B:31:ARG:HD3	1:B:31:ARG:H	1.19	1.03
1:A:31:ARG:H	1:A:31:ARG:HD3	1.18	1.02
1:C:506:VAL:HG23	1:C:507:PRO:HD3	1.40	1.01
1:B:506:VAL:HG23	1:B:507:PRO:HD3	1.39	0.98
1:A:283:SER:H	1:A:291:GLN:HE22	1.11	0.95
1:A:158:VAL:HG13	1:A:159:PHE:H	1.33	0.94
1:C:283:SER:H	1:C:291:GLN:HE22	1.12	0.93
1:D:28:THR:HA	1:D:31:ARG:NE	1.85	0.92
1:B:68:GLN:HE22	1:D:72:ARG:HH11	1.16	0.92
1:A:28:THR:HA	1:A:31:ARG:NE	1.85	0.92
1:C:28:THR:HA	1:C:31:ARG:NE	1.85	0.92
1:D:158:VAL:HG13	1:D:159:PHE:H	1.33	0.92
1:A:354:GLN:HB3	1:B:210:LEU:HD13	1.50	0.91
1:B:28:THR:HA	1:B:31:ARG:NE	1.85	0.91
1:C:158:VAL:HG13	1:C:159:PHE:H	1.33	0.91
1:B:283:SER:H	1:B:291:GLN:HE22	1.12	0.90
1:B:158:VAL:HG13	1:B:159:PHE:H	1.33	0.90
1:A:161:ILE:HG12	1:A:167:VAL:HG11	1.55	0.89
1:B:161:ILE:HG12	1:B:167:VAL:HG11	1.55	0.89
1:D:283:SER:H	1:D:291:GLN:HE22	1.12	0.89
1:B:274:PHE:HD1	1:B:275:LYS:H	1.22	0.88
1:C:161:ILE:HG12	1:C:167:VAL:HG11	1.56	0.88
1:C:210:LEU:HD13	1:D:354:GLN:HB3	1.56	0.87
1:D:161:ILE:HG12	1:D:167:VAL:HG11	1.56	0.87
1:C:274:PHE:HD1	1:C:275:LYS:H	1.22	0.86
1:C:395:LYS:HG2	1:C:396:ASP:H	1.41	0.86
1:A:395:LYS:HG2	1:A:396:ASP:H	1.40	0.86
1:B:395:LYS:HG2	1:B:396:ASP:H	1.40	0.85
1:A:30:TRP:CZ2	1:D:288:PRO:HG3	2.11	0.85
1:A:274:PHE:HD1	1:A:275:LYS:H	1.23	0.84
1:D:436:VAL:HB	1:D:480:ILE:HG23	1.59	0.84
1:C:436:VAL:HB	1:C:480:ILE:HG23	1.60	0.84
1:D:395:LYS:HG2	1:D:396:ASP:H	1.40	0.84
1:B:436:VAL:HB	1:B:480:ILE:HG23	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:274:PHE:HD1	1:D:275:LYS:H	1.23	0.83
1:A:97:ALA:HA	1:A:100:VAL:HG12	1.60	0.83
1:D:89:ILE:HG21	1:D:101:LEU:HD21	1.61	0.83
1:B:97:ALA:HA	1:B:100:VAL:HG12	1.61	0.83
1:A:436:VAL:HB	1:A:480:ILE:HG23	1.59	0.82
1:C:89:ILE:HG21	1:C:101:LEU:HD21	1.61	0.82
1:D:97:ALA:HA	1:D:100:VAL:HG12	1.60	0.82
1:B:300:LYS:HG2	1:B:301:LEU:H	1.45	0.81
1:C:97:ALA:HA	1:C:100:VAL:HG12	1.61	0.81
1:A:89:ILE:HG21	1:A:101:LEU:HD21	1.62	0.81
1:C:503:LYS:HB3	1:C:543:ASN:HB3	1.63	0.81
1:A:300:LYS:HG2	1:A:301:LEU:H	1.45	0.81
1:B:89:ILE:HG21	1:B:101:LEU:HD21	1.62	0.81
1:D:111:PRO:HD3	1:D:188:PRO:HA	1.63	0.80
1:C:111:PRO:HD3	1:C:188:PRO:HA	1.63	0.80
1:A:503:LYS:HB3	1:A:543:ASN:HB3	1.64	0.80
1:C:283:SER:H	1:C:291:GLN:NE2	1.80	0.80
1:C:300:LYS:HG2	1:C:301:LEU:H	1.45	0.80
1:D:283:SER:H	1:D:291:GLN:NE2	1.80	0.80
1:B:72:ARG:HH11	1:D:68:GLN:HE22	1.27	0.79
1:D:300:LYS:HG2	1:D:301:LEU:H	1.45	0.79
1:B:111:PRO:HD3	1:B:188:PRO:HA	1.63	0.79
1:A:111:PRO:HD3	1:A:188:PRO:HA	1.63	0.79
1:A:68:GLN:HE22	1:C:72:ARG:HH11	1.27	0.79
1:A:22:ALA:HA	1:A:26:PHE:HD1	1.48	0.79
1:B:418:ILE:HG12	1:B:548:ILE:HG23	1.65	0.79
1:B:503:LYS:HB3	1:B:543:ASN:HB3	1.64	0.78
1:D:503:LYS:HB3	1:D:543:ASN:HB3	1.64	0.78
1:A:326:PRO:HB3	1:D:37:ILE:HG21	1.64	0.78
1:A:418:ILE:HG12	1:A:548:ILE:HG23	1.64	0.78
1:B:22:ALA:HA	1:B:26:PHE:HD1	1.48	0.78
1:B:283:SER:H	1:B:291:GLN:NE2	1.81	0.78
1:A:283:SER:H	1:A:291:GLN:NE2	1.80	0.78
1:A:72:ARG:HH11	1:C:68:GLN:HE22	1.28	0.78
1:B:30:TRP:CE2	1:C:288:PRO:HG3	2.19	0.78
1:C:22:ALA:HA	1:C:26:PHE:HD1	1.48	0.77
1:C:418:ILE:HG12	1:C:548:ILE:HG23	1.65	0.77
1:D:22:ALA:HA	1:D:26:PHE:HD1	1.48	0.77
1:D:418:ILE:HG12	1:D:548:ILE:HG23	1.65	0.77
1:A:404:GLU:O	1:A:406:LYS:HG2	1.85	0.76
1:B:404:GLU:O	1:B:406:LYS:HG2	1.84	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:218:LEU:HB3	1:B:249:VAL:HB	1.68	0.76
1:C:404:GLU:O	1:C:406:LYS:HG2	1.85	0.76
1:D:404:GLU:O	1:D:406:LYS:HG2	1.85	0.76
1:A:98:MET:SD	1:B:176:LEU:HD12	2.25	0.75
1:C:370:ARG:O	1:C:517:LEU:HA	1.86	0.75
1:D:86:GLU:O	1:D:89:ILE:HG22	1.87	0.75
1:D:218:LEU:HB3	1:D:249:VAL:HB	1.68	0.75
1:A:86:GLU:O	1:A:89:ILE:HG22	1.86	0.75
1:C:86:GLU:O	1:C:89:ILE:HG22	1.86	0.74
1:A:218:LEU:HB3	1:A:249:VAL:HB	1.68	0.74
1:D:370:ARG:O	1:D:517:LEU:HA	1.87	0.74
1:A:523:ALA:O	1:A:527:ILE:HG12	1.88	0.74
1:B:86:GLU:O	1:B:89:ILE:HG22	1.87	0.74
1:C:218:LEU:HB3	1:C:249:VAL:HB	1.68	0.74
1:C:439:GLU:HB2	1:C:441:TYR:CE1	2.23	0.74
1:C:76:GLU:HB3	1:C:220:LEU:HD23	1.70	0.73
1:B:370:ARG:O	1:B:517:LEU:HA	1.87	0.73
1:C:31:ARG:H	1:C:31:ARG:CD	1.96	0.73
1:B:523:ALA:O	1:B:527:ILE:HG12	1.88	0.73
1:D:523:ALA:O	1:D:527:ILE:HG12	1.88	0.73
1:A:76:GLU:HB3	1:A:220:LEU:HD23	1.71	0.73
1:A:370:ARG:O	1:A:517:LEU:HA	1.87	0.73
1:D:439:GLU:HB2	1:D:441:TYR:CE1	2.24	0.73
1:A:439:GLU:HB2	1:A:441:TYR:CE1	2.24	0.72
1:B:439:GLU:HB2	1:B:441:TYR:CE1	2.25	0.72
1:C:462:ILE:HB	1:C:463:PRO:HD3	1.72	0.72
1:C:348:ARG:HH11	1:C:349:ALA:HA	1.55	0.71
1:C:523:ALA:O	1:C:527:ILE:HG12	1.89	0.71
1:D:462:ILE:HB	1:D:463:PRO:HD3	1.72	0.71
1:A:46:TYR:HA	1:A:49:LEU:H	1.55	0.71
1:B:46:TYR:HA	1:B:49:LEU:H	1.55	0.71
1:D:46:TYR:HA	1:D:49:LEU:H	1.55	0.71
1:D:76:GLU:HB3	1:D:220:LEU:HD23	1.71	0.70
1:B:76:GLU:HB3	1:B:220:LEU:HD23	1.71	0.70
1:B:462:ILE:HB	1:B:463:PRO:HD3	1.72	0.70
1:C:205:ILE:HD13	1:C:321:TYR:HE2	1.56	0.70
1:A:205:ILE:HD13	1:A:321:TYR:HE2	1.57	0.70
1:A:462:ILE:HB	1:A:463:PRO:HD3	1.72	0.70
1:C:46:TYR:HA	1:C:49:LEU:H	1.56	0.70
1:A:326:PRO:HB3	1:D:37:ILE:CG2	2.22	0.70
1:A:348:ARG:HH11	1:A:349:ALA:HA	1.56	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:83:ILE:HD13	1:B:107:LEU:HD21	1.74	0.69
1:D:348:ARG:HH11	1:D:349:ALA:HA	1.56	0.69
1:A:354:GLN:CB	1:B:210:LEU:HD13	2.22	0.69
1:B:31:ARG:H	1:B:31:ARG:CD	1.97	0.69
1:D:205:ILE:HD13	1:D:321:TYR:HE2	1.56	0.69
1:B:348:ARG:HH11	1:B:349:ALA:HA	1.56	0.69
1:C:348:ARG:HH22	1:C:356:TYR:HB2	1.58	0.69
1:A:229:ARG:NE	1:B:109:GLY:HA3	2.07	0.69
1:B:536:VAL:HG23	1:B:537:ARG:H	1.58	0.68
1:B:205:ILE:HD13	1:B:321:TYR:HE2	1.56	0.68
1:A:64:GLU:HG3	1:B:64:GLU:OE1	1.94	0.68
1:A:348:ARG:HH22	1:A:356:TYR:HB2	1.58	0.68
1:C:83:ILE:HD13	1:C:107:LEU:HD21	1.74	0.68
1:D:83:ILE:HD13	1:D:107:LEU:HD21	1.74	0.68
1:B:372:ASP:HB3	1:B:516:ASN:OD1	1.94	0.68
1:B:348:ARG:HH22	1:B:356:TYR:HB2	1.59	0.68
1:A:507:PRO:HG2	1:A:514:ASP:HB2	1.74	0.68
1:A:83:ILE:HD13	1:A:107:LEU:HD21	1.74	0.68
1:A:372:ASP:HB3	1:A:516:ASN:OD1	1.94	0.68
1:A:438:ASN:ND2	1:A:451:PRO:HD3	2.09	0.68
1:B:507:PRO:HG2	1:B:514:ASP:HB2	1.75	0.68
1:A:536:VAL:HG23	1:A:537:ARG:H	1.59	0.67
1:C:507:PRO:HG2	1:C:514:ASP:HB2	1.75	0.67
1:B:68:GLN:HE22	1:D:72:ARG:NH1	1.90	0.67
1:D:348:ARG:HH22	1:D:356:TYR:HB2	1.58	0.67
1:D:507:PRO:HG2	1:D:514:ASP:HB2	1.74	0.67
1:B:369:ILE:HD12	1:B:475:THR:HG21	1.77	0.67
1:A:64:GLU:OE1	1:B:64:GLU:HG3	1.95	0.67
1:C:438:ASN:ND2	1:C:451:PRO:HD3	2.10	0.67
1:C:369:ILE:HD12	1:C:475:THR:HG21	1.77	0.67
1:A:57:HIS:CE1	1:B:79:ILE:HD12	2.30	0.66
1:D:536:VAL:HG23	1:D:537:ARG:H	1.59	0.66
1:C:536:VAL:HG23	1:C:537:ARG:H	1.58	0.66
1:D:438:ASN:ND2	1:D:451:PRO:HD3	2.10	0.66
1:D:512:LEU:HA	1:D:536:VAL:HG21	1.77	0.66
1:C:512:LEU:HA	1:C:536:VAL:HG21	1.78	0.66
1:C:372:ASP:HB3	1:C:516:ASN:OD1	1.96	0.66
1:A:339:MET:SD	1:A:347:VAL:HG22	2.35	0.66
1:B:158:VAL:HG13	1:B:159:PHE:N	2.10	0.66
1:C:158:VAL:HG13	1:C:159:PHE:N	2.10	0.66
1:D:372:ASP:HB3	1:D:516:ASN:OD1	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:512:LEU:HA	1:A:536:VAL:HG21	1.77	0.65
1:B:438:ASN:ND2	1:B:451:PRO:HD3	2.10	0.65
1:D:287:THR:HG22	1:D:314:SER:HA	1.77	0.65
1:A:260:VAL:HG22	1:D:51:PRO:HB3	1.76	0.65
1:D:369:ILE:HD12	1:D:475:THR:HG21	1.78	0.65
1:A:435:SER:HB2	1:A:438:ASN:OD1	1.97	0.65
1:A:287:THR:HG22	1:A:314:SER:HA	1.78	0.65
1:C:108:ALA:HB3	1:D:106:TYR:HB2	1.79	0.65
1:C:287:THR:HG22	1:C:314:SER:HA	1.77	0.65
1:D:158:VAL:HG13	1:D:159:PHE:N	2.10	0.65
1:B:287:THR:HG22	1:B:314:SER:HA	1.79	0.65
1:A:506:VAL:CG2	1:A:507:PRO:HD3	2.23	0.64
1:D:339:MET:SD	1:D:347:VAL:HG22	2.36	0.64
1:B:512:LEU:HA	1:B:536:VAL:HG21	1.78	0.64
1:B:506:VAL:CG2	1:B:507:PRO:HD3	2.23	0.64
1:A:158:VAL:HG13	1:A:159:PHE:N	2.09	0.64
1:A:369:ILE:HD12	1:A:475:THR:HG21	1.78	0.64
1:C:339:MET:SD	1:C:347:VAL:HG22	2.38	0.64
1:A:344:TYR:CD2	1:A:350:MET:HB2	2.33	0.64
1:B:344:TYR:CD2	1:B:350:MET:HB2	2.33	0.64
1:A:31:ARG:H	1:A:31:ARG:CD	1.96	0.63
1:D:435:SER:HB2	1:D:438:ASN:OD1	1.98	0.63
1:B:435:SER:HB2	1:B:438:ASN:OD1	1.98	0.63
1:A:477:ILE:HG21	1:A:517:LEU:HD21	1.81	0.63
1:C:435:SER:HB2	1:C:438:ASN:OD1	1.98	0.63
1:B:339:MET:SD	1:B:347:VAL:HG22	2.38	0.63
1:B:536:VAL:HG23	1:B:537:ARG:N	2.14	0.63
1:C:344:TYR:CD2	1:C:350:MET:HB2	2.34	0.63
1:C:395:LYS:HG3	1:C:430:LYS:HG2	1.81	0.63
1:C:430:LYS:HD2	1:C:433:GLY:O	1.99	0.63
1:D:31:ARG:H	1:D:31:ARG:CD	1.96	0.62
1:C:98:MET:SD	1:D:176:LEU:HD12	2.38	0.62
1:C:477:ILE:HG21	1:C:517:LEU:HD21	1.80	0.62
1:D:536:VAL:HG23	1:D:537:ARG:N	2.15	0.62
1:A:352:TYR:HE2	1:B:81:PRO:N	1.97	0.62
1:A:395:LYS:HG3	1:A:430:LYS:HG2	1.81	0.62
1:B:430:LYS:HD2	1:B:433:GLY:O	1.99	0.62
1:B:477:ILE:HG21	1:B:517:LEU:HD21	1.81	0.62
1:D:430:LYS:HD2	1:D:433:GLY:O	2.00	0.62
1:D:477:ILE:HG21	1:D:517:LEU:HD21	1.81	0.62
1:C:536:VAL:HG23	1:C:537:ARG:N	2.14	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:508:ILE:O	1:D:510:ARG:HG3	1.99	0.62
1:C:508:ILE:O	1:C:510:ARG:HG3	2.00	0.62
1:B:195:LEU:HD13	1:B:227:PHE:CG	2.35	0.61
1:C:506:VAL:CG2	1:C:507:PRO:HD3	2.24	0.61
1:D:344:TYR:CD2	1:D:350:MET:HB2	2.34	0.61
1:A:230:GLU:HB3	1:A:233:GLU:HG3	1.82	0.61
1:A:287:THR:CG2	1:A:314:SER:HA	2.30	0.61
1:C:432:LEU:N	1:C:432:LEU:HD12	2.16	0.61
1:A:322:ASN:ND2	1:D:15:ILE:HD11	2.16	0.61
1:B:230:GLU:HB3	1:B:233:GLU:HG3	1.82	0.61
1:B:395:LYS:HG3	1:B:430:LYS:HG2	1.81	0.61
1:C:287:THR:CG2	1:C:314:SER:HA	2.31	0.61
1:D:195:LEU:HD13	1:D:227:PHE:CG	2.35	0.61
1:A:322:ASN:HD21	1:D:15:ILE:HD11	1.66	0.61
1:C:230:GLU:HB3	1:C:233:GLU:HG3	1.82	0.61
1:A:430:LYS:HD2	1:A:433:GLY:O	2.00	0.61
1:C:186:LEU:HD23	1:C:187:LYS:N	2.16	0.61
1:A:195:LEU:HD13	1:A:227:PHE:CG	2.36	0.61
1:A:508:ILE:O	1:A:510:ARG:HG3	2.00	0.60
1:B:287:THR:CG2	1:B:314:SER:HA	2.31	0.60
1:C:283:SER:N	1:C:291:GLN:HE22	1.93	0.60
1:D:287:THR:CG2	1:D:314:SER:HA	2.31	0.60
1:C:109:GLY:O	1:C:111:PRO:HD3	2.01	0.60
1:D:230:GLU:HB3	1:D:233:GLU:HG3	1.82	0.60
1:A:57:HIS:CD2	1:B:79:ILE:HG13	2.36	0.60
1:A:229:ARG:HE	1:B:109:GLY:HA3	1.65	0.60
1:B:508:ILE:O	1:B:510:ARG:HG3	2.01	0.60
1:A:284:LYS:HA	1:D:30:TRP:CZ2	2.36	0.60
1:B:72:ARG:NH1	1:D:68:GLN:HE22	1.98	0.60
1:D:46:TYR:CD1	1:D:47:PRO:HA	2.37	0.60
1:C:195:LEU:HD13	1:C:227:PHE:CG	2.36	0.60
1:D:186:LEU:HD23	1:D:187:LYS:N	2.16	0.60
1:A:536:VAL:HG23	1:A:537:ARG:N	2.15	0.60
1:D:395:LYS:HG3	1:D:430:LYS:HG2	1.82	0.60
1:A:196:ARG:NH1	1:A:199:MET:HE1	2.17	0.60
1:A:109:GLY:O	1:A:111:PRO:HD3	2.01	0.59
1:A:440:VAL:HA	1:A:449:GLY:HA3	1.84	0.59
1:B:440:VAL:HA	1:B:449:GLY:HA3	1.84	0.59
1:A:46:TYR:CD1	1:A:47:PRO:HA	2.37	0.59
1:B:432:LEU:HD12	1:B:432:LEU:N	2.17	0.59
1:B:186:LEU:HD23	1:B:187:LYS:N	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:387:LEU:HD13	1:B:387:LEU:O	2.03	0.59
1:C:401:CYS:SG	1:C:402:SER:N	2.74	0.59
1:D:506:VAL:CG2	1:D:507:PRO:HD3	2.23	0.59
1:B:46:TYR:CD1	1:B:47:PRO:HA	2.37	0.59
1:B:68:GLN:NE2	1:D:72:ARG:HH11	1.95	0.59
1:D:109:GLY:O	1:D:111:PRO:HD3	2.01	0.59
1:B:196:ARG:NH1	1:B:199:MET:HE1	2.18	0.59
1:C:46:TYR:CD1	1:C:47:PRO:HA	2.38	0.59
1:A:186:LEU:HD23	1:A:187:LYS:N	2.16	0.59
1:A:432:LEU:N	1:A:432:LEU:HD12	2.18	0.59
1:D:325:VAL:HG23	1:D:326:PRO:HD2	1.85	0.59
1:C:440:VAL:HA	1:C:449:GLY:HA3	1.85	0.59
1:C:522:LEU:O	1:C:523:ALA:HB3	2.03	0.59
1:B:109:GLY:O	1:B:111:PRO:HD3	2.01	0.59
1:C:210:LEU:HD13	1:D:354:GLN:CB	2.31	0.59
1:C:325:VAL:HG23	1:C:326:PRO:HD2	1.85	0.59
1:D:432:LEU:HD12	1:D:432:LEU:N	2.17	0.59
1:D:440:VAL:HA	1:D:449:GLY:HA3	1.84	0.59
1:A:30:TRP:CH2	1:D:288:PRO:HG3	2.38	0.59
1:A:294:VAL:HB	1:A:308:ALA:HB3	1.85	0.59
1:C:271:PHE:CZ	1:C:298:HIS:HB2	2.38	0.59
1:B:502:PHE:HD2	1:B:546:VAL:HG13	1.68	0.58
1:D:271:PHE:CZ	1:D:298:HIS:HB2	2.38	0.58
1:B:294:VAL:HB	1:B:308:ALA:HB3	1.85	0.58
1:A:271:PHE:CZ	1:A:298:HIS:HB2	2.38	0.58
1:B:401:CYS:SG	1:B:402:SER:N	2.76	0.58
1:C:502:PHE:HD2	1:C:546:VAL:HG13	1.68	0.58
1:A:322:ASN:ND2	1:D:15:ILE:CD1	2.67	0.58
1:D:508:ILE:O	1:D:508:ILE:HD12	2.04	0.58
1:B:271:PHE:CZ	1:B:298:HIS:HB2	2.39	0.58
1:D:384:ALA:HA	1:D:488:VAL:HG21	1.86	0.58
1:C:294:VAL:HB	1:C:308:ALA:HB3	1.85	0.58
1:A:401:CYS:SG	1:A:402:SER:N	2.77	0.57
1:B:93:PHE:HB2	1:B:97:ALA:HB2	1.86	0.57
1:D:387:LEU:O	1:D:387:LEU:HD13	2.03	0.57
1:D:502:PHE:HD2	1:D:546:VAL:HG13	1.69	0.57
1:C:93:PHE:HB2	1:C:97:ALA:HB2	1.87	0.57
1:D:37:ILE:O	1:D:37:ILE:HG13	2.04	0.57
1:A:161:ILE:HG12	1:A:167:VAL:CG1	2.33	0.57
1:B:275:LYS:HG3	1:C:363:ARG:HH12	1.70	0.57
1:C:37:ILE:HG13	1:C:37:ILE:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:93:PHE:HB2	1:D:97:ALA:HB2	1.86	0.57
1:D:387:LEU:HD12	1:D:484:ILE:HG23	1.86	0.57
1:A:37:ILE:HG13	1:A:37:ILE:O	2.05	0.57
1:A:384:ALA:HA	1:A:488:VAL:HG21	1.86	0.57
1:B:527:ILE:O	1:B:532:LYS:HB2	2.04	0.57
1:A:64:GLU:CD	1:B:64:GLU:HG3	2.24	0.57
1:C:387:LEU:HD12	1:C:484:ILE:HG23	1.87	0.57
1:A:325:VAL:HG23	1:A:326:PRO:HD2	1.86	0.57
1:A:387:LEU:HD13	1:A:387:LEU:O	2.04	0.57
1:A:527:ILE:O	1:A:532:LYS:HB2	2.04	0.57
1:B:414:GLU:O	1:B:416:ARG:HG2	2.05	0.57
1:D:103:ARG:HA	1:D:229:ARG:HB3	1.87	0.57
1:D:514:ASP:C	1:D:516:ASN:N	2.58	0.57
1:A:527:ILE:HG21	1:A:534:ILE:HD11	1.86	0.57
1:B:527:ILE:HG21	1:B:534:ILE:HD11	1.86	0.57
1:A:395:LYS:HG2	1:A:396:ASP:N	2.17	0.56
1:B:37:ILE:HG13	1:B:37:ILE:O	2.05	0.56
1:C:384:ALA:HA	1:C:488:VAL:HG21	1.86	0.56
1:C:527:ILE:O	1:C:532:LYS:HB2	2.05	0.56
1:A:37:ILE:HG21	1:D:326:PRO:HB3	1.88	0.56
1:A:387:LEU:HD12	1:A:484:ILE:HG23	1.86	0.56
1:B:387:LEU:HD12	1:B:484:ILE:HG23	1.87	0.56
1:C:161:ILE:HG12	1:C:167:VAL:CG1	2.34	0.56
1:B:325:VAL:HG23	1:B:326:PRO:HD2	1.86	0.56
1:C:31:ARG:HD3	1:C:31:ARG:N	2.04	0.56
1:C:64:GLU:OE1	1:D:64:GLU:HG3	2.04	0.56
1:C:64:GLU:HG3	1:D:64:GLU:OE1	2.04	0.56
1:D:294:VAL:HB	1:D:308:ALA:HB3	1.86	0.56
1:D:527:ILE:O	1:D:532:LYS:HB2	2.05	0.56
1:A:502:PHE:HD2	1:A:546:VAL:HG13	1.69	0.56
1:A:512:LEU:HB3	1:A:536:VAL:HG11	1.87	0.56
1:C:387:LEU:HD13	1:C:387:LEU:O	2.05	0.56
1:D:196:ARG:NH1	1:D:199:MET:HE1	2.21	0.56
1:D:512:LEU:HB3	1:D:536:VAL:HG11	1.87	0.56
1:A:414:GLU:O	1:A:416:ARG:HG2	2.06	0.56
1:A:522:LEU:O	1:A:523:ALA:HB3	2.06	0.56
1:A:540:VAL:O	1:A:541:PHE:HB2	2.05	0.56
1:D:31:ARG:HD3	1:D:31:ARG:N	2.04	0.56
1:D:522:LEU:O	1:D:523:ALA:HB3	2.06	0.56
1:A:93:PHE:HB2	1:A:97:ALA:HB2	1.86	0.56
1:A:103:ARG:HA	1:A:229:ARG:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:514:ASP:C	1:B:516:ASN:N	2.59	0.56
1:C:103:ARG:HA	1:C:229:ARG:HB3	1.88	0.56
1:D:395:LYS:HG2	1:D:396:ASP:N	2.17	0.56
1:D:527:ILE:HG21	1:D:534:ILE:HD11	1.87	0.56
1:A:30:TRP:CE2	1:D:288:PRO:HG3	2.41	0.56
1:B:384:ALA:HA	1:B:488:VAL:HG21	1.87	0.56
1:B:508:ILE:O	1:B:508:ILE:HD12	2.06	0.56
1:D:401:CYS:SG	1:D:402:SER:N	2.78	0.56
1:D:414:GLU:O	1:D:416:ARG:HG2	2.06	0.56
1:B:283:SER:N	1:B:291:GLN:HE22	1.94	0.56
1:A:260:VAL:CG2	1:D:51:PRO:HB3	2.35	0.55
1:B:103:ARG:HA	1:B:229:ARG:HB3	1.87	0.55
1:B:540:VAL:O	1:B:541:PHE:HB2	2.05	0.55
1:C:508:ILE:HD12	1:C:510:ARG:HG3	1.88	0.55
1:C:527:ILE:HG21	1:C:534:ILE:HD11	1.87	0.55
1:D:508:ILE:HD12	1:D:510:ARG:HG3	1.88	0.55
1:C:540:VAL:O	1:C:541:PHE:HB2	2.05	0.55
1:D:540:VAL:O	1:D:541:PHE:HB2	2.05	0.55
1:A:227:PHE:HZ	1:B:227:PHE:HZ	1.55	0.55
1:C:508:ILE:O	1:C:508:ILE:HD12	2.06	0.55
1:D:161:ILE:HG12	1:D:167:VAL:CG1	2.33	0.55
1:D:396:ASP:O	1:D:397:LYS:HB2	2.07	0.55
1:A:372:ASP:H	1:A:517:LEU:H	1.55	0.55
1:C:409:PHE:H	1:C:409:PHE:HD1	1.54	0.55
1:B:258:GLY:HA3	1:B:310:PHE:CD2	2.42	0.55
1:C:396:ASP:O	1:C:397:LYS:HB2	2.06	0.55
1:A:409:PHE:H	1:A:409:PHE:HD1	1.53	0.55
1:C:258:GLY:HA3	1:C:310:PHE:CD2	2.41	0.55
1:A:109:GLY:HA3	1:B:229:ARG:NH1	2.21	0.55
1:B:508:ILE:HD12	1:B:510:ARG:HG3	1.88	0.55
1:C:512:LEU:HB3	1:C:536:VAL:HG11	1.88	0.55
1:A:298:HIS:O	1:A:300:LYS:N	2.40	0.55
1:A:316:ILE:HG23	1:A:317:ALA:H	1.72	0.55
1:B:466:LYS:HD3	1:B:470:GLU:OE2	2.07	0.55
1:D:35:ALA:C	1:D:37:ILE:H	2.10	0.55
1:A:508:ILE:O	1:A:508:ILE:HD12	2.07	0.54
1:B:372:ASP:H	1:B:517:LEU:H	1.56	0.54
1:C:35:ALA:C	1:C:37:ILE:H	2.09	0.54
1:C:298:HIS:O	1:C:300:LYS:N	2.40	0.54
1:C:414:GLU:O	1:C:416:ARG:HG2	2.06	0.54
1:A:396:ASP:O	1:A:397:LYS:HB2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:512:LEU:HB3	1:B:536:VAL:HG11	1.87	0.54
1:C:156:ASP:OD2	1:D:284:LYS:HE3	2.07	0.54
1:D:283:SER:N	1:D:291:GLN:HE22	1.93	0.54
1:B:505:ARG:O	1:B:506:VAL:HG13	2.07	0.54
1:C:395:LYS:HG2	1:C:396:ASP:N	2.17	0.54
1:A:35:ALA:C	1:A:37:ILE:H	2.09	0.54
1:B:522:LEU:O	1:B:523:ALA:HB3	2.07	0.54
1:C:466:LYS:HD3	1:C:470:GLU:OE2	2.07	0.54
1:B:386:GLU:O	1:B:390:ILE:HG13	2.08	0.54
1:C:505:ARG:O	1:C:506:VAL:HG13	2.08	0.54
1:D:258:GLY:HA3	1:D:310:PHE:CD2	2.42	0.54
1:D:466:LYS:HD3	1:D:470:GLU:OE2	2.07	0.54
1:A:258:GLY:HA3	1:A:310:PHE:CD2	2.41	0.54
1:A:283:SER:N	1:A:291:GLN:HE22	1.93	0.54
1:B:35:ALA:C	1:B:37:ILE:H	2.10	0.54
1:B:257:ASP:O	1:B:261:VAL:HG23	2.07	0.54
1:B:396:ASP:O	1:B:397:LYS:HB2	2.06	0.54
1:C:513:SER:O	1:C:514:ASP:HB3	2.08	0.54
1:A:466:LYS:HD3	1:A:470:GLU:OE2	2.08	0.54
1:A:508:ILE:HD12	1:A:510:ARG:HG3	1.88	0.54
1:B:395:LYS:HG2	1:B:396:ASP:N	2.16	0.54
1:D:505:ARG:O	1:D:506:VAL:HG13	2.08	0.54
1:B:161:ILE:HG12	1:B:167:VAL:CG1	2.33	0.54
1:C:372:ASP:H	1:C:517:LEU:H	1.56	0.54
1:D:386:GLU:O	1:D:390:ILE:HG13	2.08	0.54
1:A:386:GLU:O	1:A:390:ILE:HG13	2.08	0.54
1:D:494:ALA:HB2	1:D:502:PHE:HZ	1.73	0.54
1:A:257:ASP:O	1:A:261:VAL:HG23	2.08	0.53
1:C:16:LYS:HA	1:C:19:LEU:HB3	1.90	0.53
1:D:92:GLN:HE22	1:D:201:SER:HA	1.73	0.53
1:D:372:ASP:H	1:D:517:LEU:H	1.55	0.53
1:A:505:ARG:O	1:A:506:VAL:HG13	2.08	0.53
1:B:16:LYS:HA	1:B:19:LEU:HB3	1.90	0.53
1:A:494:ALA:HB2	1:A:502:PHE:HZ	1.73	0.53
1:B:92:GLN:HE22	1:B:201:SER:HA	1.73	0.53
1:D:513:SER:O	1:D:514:ASP:HB3	2.09	0.53
1:A:514:ASP:C	1:A:516:ASN:N	2.58	0.53
1:D:316:ILE:HG23	1:D:317:ALA:H	1.74	0.53
1:D:105:PHE:CE1	1:D:229:ARG:HG3	2.44	0.53
1:A:72:ARG:NH1	1:C:68:GLN:HE22	2.02	0.53
1:A:92:GLN:HE22	1:A:201:SER:HA	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:158:VAL:CG1	1:A:159:PHE:H	2.16	0.53
1:B:298:HIS:O	1:B:300:LYS:N	2.41	0.53
1:B:494:ALA:HB2	1:B:502:PHE:HZ	1.74	0.53
1:C:386:GLU:O	1:C:390:ILE:HG13	2.09	0.53
1:C:494:ALA:HB2	1:C:502:PHE:HZ	1.74	0.53
1:B:105:PHE:CE1	1:B:229:ARG:HG3	2.44	0.53
1:C:106:TYR:HB2	1:D:108:ALA:HB3	1.88	0.53
1:D:298:HIS:O	1:D:300:LYS:N	2.41	0.53
1:C:92:GLN:HE22	1:C:201:SER:HA	1.73	0.53
1:C:105:PHE:CE1	1:C:229:ARG:HG3	2.44	0.53
1:D:16:LYS:HA	1:D:19:LEU:HB3	1.91	0.53
1:D:150:GLY:O	1:D:152:ILE:HG13	2.09	0.53
1:D:310:PHE:HB3	1:D:330:LEU:HD13	1.91	0.53
1:D:502:PHE:CD2	1:D:546:VAL:HG13	2.44	0.53
1:C:316:ILE:HG23	1:C:317:ALA:H	1.73	0.52
1:C:514:ASP:O	1:C:515:ILE:HB	2.09	0.52
1:A:16:LYS:HA	1:A:19:LEU:HB3	1.90	0.52
1:A:105:PHE:CE1	1:A:229:ARG:HG3	2.44	0.52
1:B:513:SER:O	1:B:514:ASP:HB3	2.09	0.52
1:C:502:PHE:CD2	1:C:546:VAL:HG13	2.44	0.52
1:A:503:LYS:CB	1:A:543:ASN:HB3	2.38	0.52
1:B:150:GLY:O	1:B:152:ILE:HG13	2.09	0.52
1:B:502:PHE:CD2	1:B:546:VAL:HG13	2.44	0.52
1:C:48:ARG:HH21	1:C:48:ARG:HG3	1.73	0.52
1:C:229:ARG:HG2	1:C:229:ARG:HH21	1.74	0.52
1:D:257:ASP:O	1:D:261:VAL:HG23	2.09	0.52
1:A:37:ILE:HG22	1:D:326:PRO:HG3	1.92	0.52
1:A:109:GLY:HA3	1:B:229:ARG:NE	2.24	0.52
1:A:515:ILE:O	1:A:515:ILE:HG22	2.10	0.52
1:C:150:GLY:O	1:C:152:ILE:HG13	2.09	0.52
1:D:229:ARG:HG2	1:D:229:ARG:HH21	1.75	0.52
1:A:310:PHE:HB3	1:A:330:LEU:HD13	1.91	0.52
1:C:199:MET:HE1	1:C:224:ASP:HB3	1.92	0.52
1:C:257:ASP:O	1:C:261:VAL:HG23	2.09	0.52
1:D:32:GLU:O	1:D:34:ARG:N	2.43	0.52
1:D:48:ARG:HH21	1:D:48:ARG:HG3	1.75	0.52
1:D:301:LEU:HG	1:D:302:GLY:N	2.25	0.52
1:A:111:PRO:CD	1:A:188:PRO:HA	2.39	0.52
1:B:48:ARG:HH21	1:B:48:ARG:HG3	1.74	0.52
1:B:332:LEU:HD23	1:B:332:LEU:C	2.31	0.52
1:B:450:ILE:HD11	1:B:465:LEU:HD11	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:515:ILE:O	1:C:515:ILE:HG22	2.10	0.52
1:B:316:ILE:HG23	1:B:317:ALA:H	1.73	0.52
1:A:324:ASP:HA	1:D:13:PHE:CE1	2.44	0.51
1:A:513:SER:O	1:A:514:ASP:HB3	2.09	0.51
1:B:514:ASP:O	1:B:515:ILE:HB	2.11	0.51
1:D:310:PHE:HB3	1:D:330:LEU:CD1	2.40	0.51
1:A:150:GLY:O	1:A:152:ILE:HG13	2.09	0.51
1:A:301:LEU:HG	1:A:302:GLY:N	2.26	0.51
1:A:458:LYS:C	1:A:460:GLN:H	2.14	0.51
1:C:32:GLU:O	1:C:34:ARG:N	2.44	0.51
1:C:519:ILE:HG22	1:C:520:ASP:O	2.10	0.51
1:A:502:PHE:CD2	1:A:546:VAL:HG13	2.45	0.51
1:C:396:ASP:N	1:C:430:LYS:HA	2.26	0.51
1:C:450:ILE:HD11	1:C:465:LEU:HD11	1.92	0.51
1:A:229:ARG:HG2	1:A:229:ARG:HH21	1.75	0.51
1:B:391:CYS:HB3	1:B:432:LEU:HD21	1.93	0.51
1:D:126:LYS:HG3	1:D:127:ASN:ND2	2.25	0.51
1:D:515:ILE:HG22	1:D:515:ILE:O	2.10	0.51
1:A:32:GLU:O	1:A:34:ARG:N	2.44	0.51
1:A:126:LYS:HG3	1:A:127:ASN:ND2	2.25	0.51
1:A:332:LEU:C	1:A:332:LEU:HD23	2.31	0.51
1:C:176:LEU:HD12	1:D:98:MET:SD	2.50	0.51
1:C:310:PHE:HB3	1:C:330:LEU:HD13	1.91	0.51
1:A:198:HIS:CE1	1:A:329:ASN:HD21	2.29	0.51
1:B:310:PHE:HB3	1:B:330:LEU:CD1	2.40	0.51
1:B:421:GLU:O	1:B:544:ALA:HB1	2.11	0.51
1:C:276:PHE:HD2	1:C:294:VAL:HG22	1.76	0.51
1:A:396:ASP:N	1:A:430:LYS:HA	2.26	0.51
1:A:450:ILE:HD11	1:A:465:LEU:HD11	1.93	0.51
1:A:514:ASP:O	1:A:515:ILE:HB	2.10	0.51
1:B:310:PHE:HB3	1:B:330:LEU:HD13	1.92	0.51
1:B:519:ILE:HG22	1:B:520:ASP:O	2.11	0.51
1:C:310:PHE:HB3	1:C:330:LEU:CD1	2.41	0.51
1:D:450:ILE:HD11	1:D:465:LEU:HD11	1.92	0.51
1:D:494:ALA:HB2	1:D:502:PHE:CZ	2.46	0.51
1:A:68:GLN:HE22	1:C:72:ARG:NH1	2.00	0.51
1:B:126:LYS:HG3	1:B:127:ASN:ND2	2.25	0.51
1:B:458:LYS:C	1:B:460:GLN:H	2.13	0.51
1:B:515:ILE:HG22	1:B:515:ILE:O	2.10	0.51
1:C:126:LYS:HG3	1:C:127:ASN:ND2	2.25	0.51
1:D:409:PHE:HD1	1:D:409:PHE:H	1.53	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:421:GLU:O	1:D:544:ALA:HB1	2.11	0.51
1:A:391:CYS:HB3	1:A:432:LEU:HD21	1.93	0.51
1:B:540:VAL:HG12	1:B:541:PHE:N	2.25	0.51
1:C:214:ARG:HD3	1:D:354:GLN:OE1	2.10	0.51
1:C:421:GLU:O	1:C:544:ALA:HB1	2.10	0.51
1:D:519:ILE:HG22	1:D:520:ASP:O	2.11	0.51
1:A:14:ASP:HB2	1:A:17:LYS:CB	2.41	0.51
1:A:310:PHE:HB3	1:A:330:LEU:CD1	2.41	0.51
1:C:107:LEU:HD23	1:D:105:PHE:CG	2.46	0.51
1:C:299:PRO:O	1:C:300:LYS:HB2	2.11	0.51
1:D:57:HIS:HE1	1:D:59:VAL:HG23	1.76	0.51
1:D:276:PHE:HD2	1:D:294:VAL:HG22	1.76	0.51
1:A:494:ALA:HB2	1:A:502:PHE:CZ	2.46	0.50
1:B:14:ASP:HB2	1:B:17:LYS:CB	2.42	0.50
1:B:396:ASP:N	1:B:430:LYS:HA	2.26	0.50
1:C:503:LYS:CB	1:C:543:ASN:HB3	2.38	0.50
1:B:224:ASP:CG	1:B:225:ARG:H	2.15	0.50
1:B:301:LEU:HG	1:B:302:GLY:N	2.25	0.50
1:C:380:PHE:HZ	1:C:495:LEU:HD12	1.76	0.50
1:C:540:VAL:HG12	1:C:541:PHE:N	2.25	0.50
1:D:380:PHE:HZ	1:D:495:LEU:HD12	1.76	0.50
1:D:503:LYS:CB	1:D:543:ASN:HB3	2.38	0.50
1:A:48:ARG:HH21	1:A:48:ARG:HG3	1.75	0.50
1:B:369:ILE:HD12	1:B:475:THR:CG2	2.41	0.50
1:A:299:PRO:O	1:A:300:LYS:HB2	2.11	0.50
1:A:486:LYS:HB2	1:A:516:ASN:ND2	2.27	0.50
1:B:229:ARG:HG2	1:B:229:ARG:HH21	1.75	0.50
1:B:260:VAL:HG22	1:C:51:PRO:HB3	1.93	0.50
1:C:14:ASP:HB2	1:C:17:LYS:CB	2.42	0.50
1:C:391:CYS:HB3	1:C:432:LEU:HD21	1.94	0.50
1:C:514:ASP:C	1:C:516:ASN:N	2.60	0.50
1:D:458:LYS:C	1:D:460:GLN:H	2.14	0.50
1:D:514:ASP:O	1:D:515:ILE:HB	2.12	0.50
1:A:316:ILE:HG23	1:A:317:ALA:N	2.27	0.50
1:A:380:PHE:HZ	1:A:495:LEU:HD12	1.76	0.50
1:B:380:PHE:HZ	1:B:495:LEU:HD12	1.77	0.50
1:C:57:HIS:HE1	1:C:59:VAL:HG23	1.76	0.50
1:C:301:LEU:HG	1:C:302:GLY:N	2.25	0.50
1:C:522:LEU:HD12	1:C:522:LEU:H	1.76	0.50
1:D:14:ASP:HB2	1:D:17:LYS:CB	2.41	0.50
1:D:522:LEU:H	1:D:522:LEU:HD12	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:369:ILE:HD12	1:A:475:THR:CG2	2.42	0.50
1:A:540:VAL:HG12	1:A:541:PHE:N	2.26	0.50
1:B:32:GLU:O	1:B:34:ARG:N	2.44	0.50
1:B:299:PRO:O	1:B:300:LYS:HB2	2.11	0.50
1:B:409:PHE:HD1	1:B:409:PHE:H	1.54	0.50
1:C:198:HIS:CE1	1:C:329:ASN:HD21	2.30	0.50
1:C:216:LEU:HB3	1:C:217:PRO:HA	1.93	0.50
1:C:494:ALA:HB2	1:C:502:PHE:CZ	2.47	0.50
1:D:540:VAL:HG12	1:D:541:PHE:N	2.26	0.50
1:A:56:PRO:HA	1:B:77:GLU:HB3	1.94	0.50
1:A:514:ASP:C	1:A:516:ASN:H	2.15	0.50
1:B:503:LYS:CB	1:B:543:ASN:HB3	2.38	0.50
1:D:310:PHE:HB3	1:D:330:LEU:HA	1.94	0.50
1:A:109:GLY:HA3	1:B:229:ARG:CZ	2.42	0.50
1:A:216:LEU:HB3	1:A:217:PRO:HA	1.92	0.50
1:A:519:ILE:HG22	1:A:520:ASP:O	2.11	0.50
1:C:111:PRO:CD	1:C:188:PRO:HA	2.39	0.50
1:D:216:LEU:HB3	1:D:217:PRO:HA	1.94	0.50
1:D:486:LYS:HB2	1:D:516:ASN:ND2	2.27	0.50
1:A:421:GLU:O	1:A:544:ALA:HB1	2.12	0.50
1:B:486:LYS:HB2	1:B:516:ASN:ND2	2.26	0.50
1:D:332:LEU:HD23	1:D:332:LEU:C	2.31	0.50
1:A:64:GLU:HG3	1:B:64:GLU:CD	2.33	0.49
1:C:196:ARG:NH1	1:C:199:MET:HE1	2.26	0.49
1:D:416:ARG:HG3	1:D:417:VAL:HG23	1.94	0.49
1:A:310:PHE:HB3	1:A:330:LEU:HA	1.94	0.49
1:D:316:ILE:HG23	1:D:317:ALA:N	2.27	0.49
1:D:391:CYS:HB3	1:D:432:LEU:HD21	1.93	0.49
1:A:57:HIS:HE1	1:A:59:VAL:HG23	1.77	0.49
1:B:47:PRO:HG2	1:B:474:SER:O	2.12	0.49
1:D:410:ASN:HA	1:D:415:ARG:O	2.13	0.49
1:B:522:LEU:HD12	1:B:522:LEU:H	1.76	0.49
1:C:369:ILE:HD12	1:C:475:THR:CG2	2.42	0.49
1:D:14:ASP:HB2	1:D:17:LYS:HB3	1.95	0.49
1:D:396:ASP:N	1:D:430:LYS:HA	2.26	0.49
1:B:198:HIS:CE1	1:B:329:ASN:HD21	2.31	0.49
1:C:224:ASP:CG	1:C:225:ARG:H	2.16	0.49
1:C:310:PHE:HB3	1:C:330:LEU:HA	1.94	0.49
1:D:111:PRO:CD	1:D:188:PRO:HA	2.39	0.49
1:A:522:LEU:H	1:A:522:LEU:HD12	1.78	0.49
1:C:332:LEU:C	1:C:332:LEU:HD23	2.32	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:410:ASN:HA	1:C:415:ARG:O	2.13	0.49
1:C:458:LYS:C	1:C:460:GLN:H	2.14	0.49
1:D:47:PRO:HG2	1:D:474:SER:O	2.13	0.49
1:D:299:PRO:O	1:D:300:LYS:HB2	2.11	0.49
1:A:144:LEU:HG	1:A:159:PHE:CE1	2.48	0.49
1:A:224:ASP:CG	1:A:225:ARG:H	2.15	0.49
1:B:14:ASP:HB2	1:B:17:LYS:HB3	1.94	0.49
1:C:28:THR:O	1:C:31:ARG:HG2	2.12	0.49
1:C:83:ILE:HD13	1:C:107:LEU:CD2	2.43	0.49
1:D:28:THR:O	1:D:31:ARG:HG2	2.13	0.49
1:A:28:THR:O	1:A:31:ARG:HG2	2.13	0.49
1:A:276:PHE:HD2	1:A:294:VAL:HG22	1.77	0.49
1:B:216:LEU:HB3	1:B:217:PRO:HA	1.93	0.49
1:B:238:LEU:N	1:B:238:LEU:HD22	2.28	0.49
1:D:175:VAL:O	1:D:176:LEU:HD23	2.13	0.49
1:B:310:PHE:HB3	1:B:330:LEU:HA	1.94	0.49
1:C:350:MET:O	1:C:353:PRO:HD3	2.13	0.49
1:D:198:HIS:CE1	1:D:329:ASN:HD21	2.30	0.49
1:A:14:ASP:HB2	1:A:17:LYS:HB3	1.94	0.49
1:A:387:LEU:CD1	1:A:484:ILE:HD12	2.43	0.49
1:A:410:ASN:HA	1:A:415:ARG:O	2.13	0.49
1:A:416:ARG:HG3	1:A:417:VAL:HG23	1.94	0.49
1:B:21:LEU:N	1:B:21:LEU:HD12	2.28	0.49
1:B:57:HIS:HE1	1:B:59:VAL:HG23	1.78	0.49
1:B:83:ILE:HD13	1:B:107:LEU:CD2	2.43	0.49
1:B:199:MET:HB2	1:B:245:SER:HB2	1.95	0.49
1:B:416:ARG:HG3	1:B:417:VAL:HG23	1.95	0.49
1:C:295:TYR:HA	1:C:306:GLU:HA	1.95	0.49
1:C:486:LYS:HB2	1:C:516:ASN:ND2	2.28	0.49
1:D:224:ASP:CG	1:D:225:ARG:H	2.16	0.49
1:D:514:ASP:C	1:D:516:ASN:H	2.15	0.49
1:A:198:HIS:CE1	1:A:245:SER:HG	2.31	0.48
1:A:238:LEU:N	1:A:238:LEU:HD22	2.28	0.48
1:A:356:TYR:N	1:B:213:LYS:HZ3	2.11	0.48
1:D:541:PHE:O	1:D:542:LEU:C	2.52	0.48
1:A:175:VAL:O	1:A:176:LEU:HD23	2.13	0.48
1:A:364:ASP:O	1:A:368:MET:HG3	2.13	0.48
1:B:276:PHE:HD2	1:B:294:VAL:HG22	1.78	0.48
1:B:364:ASP:O	1:B:368:MET:HG3	2.13	0.48
1:B:410:ASN:HA	1:B:415:ARG:O	2.13	0.48
1:B:494:ALA:HB2	1:B:502:PHE:CZ	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:59:VAL:O	1:C:63:ILE:HG13	2.13	0.48
1:C:316:ILE:HG23	1:C:317:ALA:N	2.27	0.48
1:C:401:CYS:SG	1:C:403:VAL:HG23	2.53	0.48
1:B:31:ARG:HD3	1:B:31:ARG:N	2.04	0.48
1:B:316:ILE:HG23	1:B:317:ALA:N	2.27	0.48
1:B:370:ARG:HG2	1:B:370:ARG:HH21	1.78	0.48
1:D:350:MET:O	1:D:353:PRO:HD3	2.13	0.48
1:A:68:GLN:NE2	1:C:72:ARG:HH11	2.06	0.48
1:A:111:PRO:HD2	1:A:186:LEU:HD21	1.95	0.48
1:A:199:MET:HB2	1:A:245:SER:HB2	1.95	0.48
1:B:175:VAL:O	1:B:176:LEU:HD23	2.14	0.48
1:B:350:MET:O	1:B:353:PRO:HD3	2.13	0.48
1:B:387:LEU:CD1	1:B:484:ILE:HD12	2.43	0.48
1:C:238:LEU:HD22	1:C:238:LEU:N	2.28	0.48
1:D:238:LEU:N	1:D:238:LEU:HD22	2.28	0.48
1:D:295:TYR:HA	1:D:306:GLU:HA	1.95	0.48
1:D:369:ILE:HD12	1:D:475:THR:CG2	2.42	0.48
1:D:431:LEU:HD13	1:D:431:LEU:O	2.14	0.48
1:A:431:LEU:HB3	1:A:432:LEU:HD12	1.95	0.48
1:D:21:LEU:N	1:D:21:LEU:HD12	2.29	0.48
1:D:482:GLY:O	1:D:516:ASN:ND2	2.44	0.48
1:C:541:PHE:O	1:C:542:LEU:C	2.52	0.48
1:D:387:LEU:CD1	1:D:484:ILE:HD12	2.43	0.48
1:A:295:TYR:HA	1:A:306:GLU:HA	1.95	0.48
1:B:111:PRO:HD2	1:B:186:LEU:HD21	1.95	0.48
1:B:195:LEU:HD13	1:B:227:PHE:CD1	2.49	0.48
1:C:14:ASP:HB2	1:C:17:LYS:HB3	1.95	0.48
1:C:47:PRO:HG2	1:C:474:SER:O	2.13	0.48
1:C:175:VAL:O	1:C:176:LEU:HD23	2.13	0.48
1:D:59:VAL:O	1:D:63:ILE:HG13	2.13	0.48
1:D:508:ILE:O	1:D:509:VAL:C	2.52	0.48
1:A:176:LEU:HD12	1:B:98:MET:SD	2.53	0.48
1:A:431:LEU:HD13	1:A:431:LEU:O	2.14	0.48
1:B:28:THR:O	1:B:31:ARG:HG2	2.13	0.48
1:C:48:ARG:HG3	1:C:48:ARG:NH2	2.29	0.48
1:D:195:LEU:HD13	1:D:227:PHE:CD1	2.49	0.48
1:D:380:PHE:CZ	1:D:495:LEU:HD12	2.49	0.48
1:B:431:LEU:HB3	1:B:432:LEU:HD12	1.96	0.48
1:C:144:LEU:HG	1:C:159:PHE:CE1	2.49	0.48
1:D:364:ASP:O	1:D:368:MET:HG3	2.13	0.48
1:D:507:PRO:CG	1:D:514:ASP:HB2	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:350:MET:O	1:A:353:PRO:HD3	2.13	0.47
1:B:30:TRP:CZ2	1:C:288:PRO:HG3	2.49	0.47
1:B:216:LEU:N	1:B:216:LEU:HD12	2.29	0.47
1:B:260:VAL:CG2	1:C:51:PRO:HB3	2.43	0.47
1:C:21:LEU:HD12	1:C:21:LEU:N	2.29	0.47
1:C:199:MET:HB2	1:C:245:SER:HB2	1.96	0.47
1:C:364:ASP:O	1:C:368:MET:HG3	2.13	0.47
1:C:416:ARG:HG3	1:C:417:VAL:HG23	1.95	0.47
1:C:508:ILE:O	1:C:509:VAL:C	2.52	0.47
1:C:516:ASN:O	1:C:517:LEU:HB2	2.14	0.47
1:D:20:GLU:C	1:D:22:ALA:H	2.17	0.47
1:D:136:LYS:HE3	1:D:167:VAL:HG23	1.96	0.47
1:A:352:TYR:HE2	1:B:81:PRO:CA	2.27	0.47
1:A:479:TYR:O	1:A:483:ILE:HG13	2.14	0.47
1:B:59:VAL:O	1:B:63:ILE:HG13	2.14	0.47
1:B:144:LEU:HG	1:B:159:PHE:CE1	2.49	0.47
1:D:508:ILE:HD12	1:D:508:ILE:C	2.34	0.47
1:A:21:LEU:N	1:A:21:LEU:HD12	2.29	0.47
1:A:380:PHE:CZ	1:A:495:LEU:HD12	2.48	0.47
1:A:512:LEU:CA	1:A:536:VAL:HG21	2.44	0.47
1:C:352:TYR:HB3	1:C:355:PHE:HD2	1.79	0.47
1:D:199:MET:HE1	1:D:224:ASP:HB3	1.95	0.47
1:A:541:PHE:O	1:A:542:LEU:C	2.52	0.47
1:A:83:ILE:HD13	1:A:107:LEU:CD2	2.43	0.47
1:A:548:ILE:O	1:A:548:ILE:HG22	2.15	0.47
1:B:136:LYS:HE3	1:B:167:VAL:HG23	1.97	0.47
1:C:380:PHE:CZ	1:C:495:LEU:HD12	2.49	0.47
1:A:47:PRO:HG2	1:A:474:SER:O	2.13	0.47
1:A:195:LEU:HD13	1:A:227:PHE:CD1	2.49	0.47
1:A:436:VAL:HA	1:A:479:TYR:HB2	1.97	0.47
1:A:508:ILE:O	1:A:509:VAL:C	2.53	0.47
1:B:508:ILE:HD12	1:B:508:ILE:C	2.35	0.47
1:C:136:LYS:HE3	1:C:167:VAL:HG23	1.97	0.47
1:C:548:ILE:HG22	1:C:548:ILE:O	2.15	0.47
1:D:111:PRO:HD2	1:D:186:LEU:HD21	1.95	0.47
1:D:216:LEU:N	1:D:216:LEU:HD12	2.30	0.47
1:D:548:ILE:O	1:D:548:ILE:HG22	2.15	0.47
1:A:260:VAL:HG23	1:D:51:PRO:HD3	1.95	0.47
1:C:514:ASP:C	1:C:516:ASN:H	2.17	0.47
1:D:144:LEU:HG	1:D:159:PHE:CE1	2.50	0.47
1:A:161:ILE:HG13	1:A:162:ALA:N	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:171:MET:H	1:B:173:LEU:CD1	2.28	0.47
1:C:176:LEU:HD12	1:D:98:MET:HE1	1.97	0.47
1:C:195:LEU:HD13	1:C:227:PHE:CD1	2.50	0.47
1:C:436:VAL:HA	1:C:479:TYR:HB2	1.97	0.47
1:D:199:MET:HB2	1:D:245:SER:HB2	1.95	0.47
1:A:352:TYR:HB3	1:A:355:PHE:HD2	1.80	0.47
1:A:508:ILE:HD12	1:A:508:ILE:C	2.36	0.47
1:C:161:ILE:HG13	1:C:162:ALA:N	2.30	0.47
1:C:387:LEU:CD1	1:C:484:ILE:HD12	2.44	0.47
1:A:20:GLU:C	1:A:22:ALA:H	2.18	0.46
1:A:216:LEU:N	1:A:216:LEU:HD12	2.30	0.46
1:A:229:ARG:CZ	1:B:109:GLY:HA3	2.45	0.46
1:C:301:LEU:HG	1:C:302:GLY:H	1.80	0.46
1:C:508:ILE:HD12	1:C:508:ILE:C	2.36	0.46
1:D:352:TYR:HB3	1:D:355:PHE:HD2	1.80	0.46
1:B:431:LEU:HD13	1:B:431:LEU:O	2.15	0.46
1:B:436:VAL:HA	1:B:479:TYR:HB2	1.97	0.46
1:B:508:ILE:O	1:B:509:VAL:C	2.53	0.46
1:C:370:ARG:HG2	1:C:370:ARG:HH21	1.80	0.46
1:D:436:VAL:HA	1:D:479:TYR:HB2	1.97	0.46
1:D:455:GLU:H	1:D:459:GLU:HG3	1.81	0.46
1:B:72:ARG:HH11	1:D:68:GLN:NE2	2.04	0.46
1:B:301:LEU:HG	1:B:302:GLY:H	1.80	0.46
1:B:502:PHE:HB2	1:B:546:VAL:CG1	2.45	0.46
1:B:541:PHE:O	1:B:542:LEU:C	2.53	0.46
1:B:548:ILE:HG22	1:B:548:ILE:O	2.15	0.46
1:C:216:LEU:HD12	1:C:216:LEU:N	2.31	0.46
1:C:438:ASN:O	1:C:478:ARG:HA	2.15	0.46
1:D:48:ARG:HG3	1:D:48:ARG:NH2	2.30	0.46
1:A:443:TYR:CG	1:A:464:ILE:HG23	2.50	0.46
1:B:295:TYR:HA	1:B:306:GLU:HA	1.95	0.46
1:B:300:LYS:CG	1:B:301:LEU:H	2.20	0.46
1:C:171:MET:H	1:C:173:LEU:CD1	2.28	0.46
1:D:502:PHE:HB2	1:D:546:VAL:CG1	2.45	0.46
1:A:59:VAL:O	1:A:63:ILE:HG13	2.14	0.46
1:A:358:TYR:HD2	1:B:213:LYS:HD3	1.80	0.46
1:A:370:ARG:HG2	1:A:370:ARG:HH21	1.80	0.46
1:A:516:ASN:O	1:A:517:LEU:HB2	2.16	0.46
1:C:455:GLU:H	1:C:459:GLU:HG3	1.80	0.46
1:D:370:ARG:HG2	1:D:370:ARG:HH21	1.79	0.46
1:D:431:LEU:HB3	1:D:432:LEU:HD12	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:57:HIS:H	1:B:77:GLU:HB3	1.80	0.46
1:A:411:PHE:HB3	1:A:415:ARG:HB2	1.98	0.46
1:B:443:TYR:CG	1:B:464:ILE:HG23	2.51	0.46
1:D:301:LEU:HG	1:D:302:GLY:H	1.79	0.46
1:A:387:LEU:HD12	1:A:484:ILE:HD12	1.98	0.46
1:A:455:GLU:H	1:A:459:GLU:HG3	1.80	0.46
1:B:20:GLU:C	1:B:22:ALA:H	2.18	0.46
1:B:111:PRO:CD	1:B:188:PRO:HA	2.39	0.46
1:B:161:ILE:HG13	1:B:162:ALA:N	2.30	0.46
1:B:283:SER:N	1:B:291:GLN:NE2	2.59	0.46
1:B:380:PHE:CZ	1:B:495:LEU:HD12	2.50	0.46
1:B:514:ASP:C	1:B:516:ASN:H	2.16	0.46
1:C:111:PRO:HD2	1:C:186:LEU:HD21	1.96	0.46
1:C:431:LEU:HB3	1:C:432:LEU:HD12	1.98	0.46
1:D:161:ILE:HG13	1:D:162:ALA:N	2.30	0.46
1:A:171:MET:H	1:A:173:LEU:CD1	2.28	0.46
1:B:167:VAL:HG13	1:B:168:SER:N	2.31	0.46
1:C:213:LYS:NZ	1:D:355:PHE:C	2.69	0.46
1:C:502:PHE:HB2	1:C:546:VAL:CG1	2.45	0.46
1:A:136:LYS:HE3	1:A:167:VAL:HG23	1.97	0.46
1:B:48:ARG:HG3	1:B:48:ARG:NH2	2.30	0.46
1:B:411:PHE:HB3	1:B:415:ARG:HB2	1.98	0.46
1:A:18:VAL:HA	1:A:21:LEU:HD13	1.98	0.46
1:B:352:TYR:HB3	1:B:355:PHE:HD2	1.80	0.46
1:A:13:PHE:CE1	1:D:324:ASP:HA	2.51	0.45
1:A:167:VAL:HG13	1:A:168:SER:N	2.31	0.45
1:A:301:LEU:CG	1:A:302:GLY:H	2.30	0.45
1:B:401:CYS:SG	1:B:403:VAL:HG23	2.56	0.45
1:D:103:ARG:CA	1:D:229:ARG:HB3	2.46	0.45
1:D:438:ASN:O	1:D:478:ARG:HA	2.16	0.45
1:A:348:ARG:HH12	1:A:356:TYR:HB3	1.81	0.45
1:A:351:VAL:O	1:B:79:ILE:HB	2.16	0.45
1:A:368:MET:CE	1:B:215:LYS:HD2	2.46	0.45
1:B:167:VAL:HG13	1:B:168:SER:H	1.81	0.45
1:C:479:TYR:O	1:C:483:ILE:HG13	2.16	0.45
1:D:171:MET:H	1:D:173:LEU:CD1	2.29	0.45
1:D:301:LEU:CG	1:D:302:GLY:H	2.29	0.45
1:C:20:GLU:C	1:C:22:ALA:H	2.17	0.45
1:C:443:TYR:CG	1:C:464:ILE:HG23	2.52	0.45
1:D:147:TYR:O	1:D:151:ALA:HB2	2.17	0.45
1:D:411:PHE:HB3	1:D:415:ARG:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:443:TYR:CG	1:D:464:ILE:HG23	2.51	0.45
1:A:90:TYR:O	1:A:94:GLY:HA2	2.17	0.45
1:A:103:ARG:CA	1:A:229:ARG:HB3	2.46	0.45
1:A:167:VAL:HG13	1:A:168:SER:H	1.81	0.45
1:A:424:GLU:OE1	1:A:542:LEU:HD23	2.17	0.45
1:A:502:PHE:HB2	1:A:546:VAL:CG1	2.46	0.45
1:B:103:ARG:CA	1:B:229:ARG:HB3	2.46	0.45
1:D:300:LYS:CG	1:D:301:LEU:H	2.20	0.45
1:B:274:PHE:HD1	1:B:275:LYS:N	2.03	0.45
1:B:387:LEU:HD12	1:B:484:ILE:HD12	1.97	0.45
1:C:64:GLU:HG3	1:D:64:GLU:CD	2.35	0.45
1:C:167:VAL:HG13	1:C:168:SER:N	2.32	0.45
1:C:431:LEU:HD13	1:C:431:LEU:O	2.16	0.45
1:B:348:ARG:HH12	1:B:356:TYR:HB3	1.82	0.45
1:B:507:PRO:CG	1:B:514:ASP:HB2	2.44	0.45
1:C:301:LEU:CG	1:C:302:GLY:H	2.29	0.45
1:C:411:PHE:HB3	1:C:415:ARG:HB2	1.98	0.45
1:A:90:TYR:HD2	1:A:97:ALA:HB3	1.82	0.45
1:B:424:GLU:OE1	1:B:542:LEU:HD23	2.17	0.45
1:C:18:VAL:HA	1:C:21:LEU:HD13	1.99	0.45
1:C:41:HIS:ND1	1:C:42:ILE:N	2.52	0.45
1:C:103:ARG:CA	1:C:229:ARG:HB3	2.47	0.45
1:C:167:VAL:HG13	1:C:168:SER:H	1.82	0.45
1:C:325:VAL:CG2	1:C:326:PRO:HD2	2.47	0.45
1:D:18:VAL:HA	1:D:21:LEU:HD13	1.98	0.45
1:B:512:LEU:CA	1:B:536:VAL:HG21	2.46	0.45
1:C:424:GLU:OE1	1:C:542:LEU:HD23	2.16	0.45
1:D:387:LEU:HD12	1:D:484:ILE:HD12	1.98	0.45
1:A:31:ARG:HD3	1:A:31:ARG:N	2.03	0.45
1:A:48:ARG:HG3	1:A:48:ARG:NH2	2.31	0.45
1:D:110:LEU:C	1:D:110:LEU:HD13	2.37	0.45
1:D:167:VAL:HG13	1:D:168:SER:H	1.82	0.45
1:D:424:GLU:OE1	1:D:542:LEU:HD23	2.17	0.45
1:D:516:ASN:O	1:D:517:LEU:HB2	2.16	0.45
1:A:300:LYS:CG	1:A:301:LEU:H	2.20	0.45
1:B:90:TYR:O	1:B:94:GLY:HA2	2.17	0.45
1:B:90:TYR:HD2	1:B:97:ALA:HB3	1.82	0.45
1:B:455:GLU:H	1:B:459:GLU:HG3	1.81	0.45
1:D:167:VAL:HG13	1:D:168:SER:N	2.31	0.45
1:D:401:CYS:SG	1:D:403:VAL:HG23	2.57	0.45
1:A:301:LEU:HG	1:A:302:GLY:H	1.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:516:ASN:O	1:B:517:LEU:HB2	2.16	0.44
1:C:90:TYR:HD2	1:C:97:ALA:HB3	1.81	0.44
1:C:387:LEU:HD12	1:C:484:ILE:HD12	1.99	0.44
1:D:395:LYS:CG	1:D:430:LYS:HG2	2.47	0.44
1:D:479:TYR:O	1:D:483:ILE:HG13	2.17	0.44
1:A:57:HIS:N	1:B:77:GLU:HB3	2.31	0.44
1:C:90:TYR:O	1:C:94:GLY:HA2	2.17	0.44
1:C:512:LEU:CA	1:C:536:VAL:HG21	2.45	0.44
1:D:512:LEU:CA	1:D:536:VAL:HG21	2.45	0.44
1:A:97:ALA:HA	1:A:100:VAL:CG1	2.41	0.44
1:A:199:MET:HE1	1:A:224:ASP:HB3	1.99	0.44
1:C:435:SER:O	1:C:437:LEU:N	2.51	0.44
1:D:263:GLU:HG3	1:D:274:PHE:HZ	1.83	0.44
1:D:348:ARG:HH12	1:D:356:TYR:HB3	1.81	0.44
1:D:395:LYS:CG	1:D:396:ASP:H	2.14	0.44
1:A:502:PHE:HB3	1:A:503:LYS:H	1.48	0.44
1:B:97:ALA:HA	1:B:100:VAL:CG1	2.41	0.44
1:B:301:LEU:CG	1:B:302:GLY:H	2.30	0.44
1:C:36:LEU:N	1:C:36:LEU:HD22	2.33	0.44
1:C:348:ARG:HH12	1:C:356:TYR:HB3	1.82	0.44
1:A:110:LEU:HD13	1:A:110:LEU:C	2.38	0.44
1:A:158:VAL:HG22	1:A:159:PHE:CD2	2.52	0.44
1:A:395:LYS:CG	1:A:430:LYS:HG2	2.47	0.44
1:A:507:PRO:CG	1:A:514:ASP:HB2	2.43	0.44
1:B:260:VAL:HG13	1:B:261:VAL:N	2.32	0.44
1:B:438:ASN:O	1:B:478:ARG:HA	2.17	0.44
1:C:301:LEU:CG	1:C:302:GLY:N	2.81	0.44
1:A:227:PHE:HZ	1:B:227:PHE:CZ	2.34	0.44
1:A:438:ASN:O	1:A:478:ARG:HA	2.18	0.44
1:B:479:TYR:O	1:B:483:ILE:HG13	2.18	0.44
1:C:31:ARG:CD	1:C:31:ARG:N	2.74	0.44
1:C:63:ILE:HG12	1:C:334:VAL:HG11	1.99	0.44
1:C:110:LEU:HD13	1:C:110:LEU:C	2.38	0.44
1:C:147:TYR:O	1:C:151:ALA:HB2	2.18	0.44
1:C:396:ASP:CA	1:C:430:LYS:HA	2.48	0.44
1:D:90:TYR:O	1:D:94:GLY:HA2	2.17	0.44
1:A:401:CYS:SG	1:A:403:VAL:HG23	2.58	0.44
1:B:147:TYR:O	1:B:151:ALA:HB2	2.18	0.44
1:B:482:GLY:HA3	1:B:515:ILE:O	2.18	0.44
1:C:522:LEU:HD12	1:C:522:LEU:N	2.33	0.44
1:D:63:ILE:HG12	1:D:334:VAL:HG11	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:130:ILE:CD1	1:D:179:ALA:HB1	2.48	0.44
1:B:263:GLU:HG3	1:B:274:PHE:HZ	1.83	0.44
1:C:227:PHE:CD1	1:C:227:PHE:N	2.86	0.44
1:C:230:GLU:HB3	1:C:233:GLU:CG	2.48	0.44
1:C:490:LYS:O	1:C:491:ILE:C	2.57	0.44
1:D:35:ALA:O	1:D:36:LEU:HB2	2.18	0.44
1:D:230:GLU:HB3	1:D:233:GLU:CG	2.48	0.44
1:A:147:TYR:O	1:A:151:ALA:HB2	2.17	0.44
1:B:199:MET:HE1	1:B:224:ASP:HB3	1.99	0.44
1:B:230:GLU:HB3	1:B:233:GLU:CG	2.48	0.44
1:B:522:LEU:HD12	1:B:522:LEU:N	2.33	0.44
1:C:507:PRO:CG	1:C:514:ASP:HB2	2.44	0.44
1:D:36:LEU:HD22	1:D:36:LEU:N	2.33	0.44
1:D:90:TYR:HD2	1:D:97:ALA:HB3	1.82	0.44
1:D:301:LEU:CG	1:D:302:GLY:N	2.81	0.44
1:D:483:ILE:O	1:D:486:LYS:HB3	2.18	0.44
1:A:301:LEU:CG	1:A:302:GLY:N	2.81	0.43
1:B:36:LEU:N	1:B:36:LEU:HD22	2.32	0.43
1:B:72:ARG:HE	1:D:68:GLN:NE2	2.15	0.43
1:B:325:VAL:CG2	1:B:326:PRO:HD2	2.48	0.43
1:B:435:SER:O	1:B:437:LEU:N	2.51	0.43
1:C:130:ILE:CD1	1:C:179:ALA:HB1	2.48	0.43
1:C:200:THR:C	1:C:202:GLY:N	2.72	0.43
1:C:469:LYS:O	1:C:469:LYS:HG2	2.18	0.43
1:B:388:ILE:HG12	1:B:484:ILE:HG13	2.00	0.43
1:C:107:LEU:HD23	1:D:105:PHE:CD1	2.53	0.43
1:C:158:VAL:HG22	1:C:159:PHE:CD2	2.53	0.43
1:A:41:HIS:ND1	1:A:42:ILE:N	2.53	0.43
1:A:130:ILE:CD1	1:A:179:ALA:HB1	2.49	0.43
1:A:395:LYS:CG	1:A:396:ASP:N	2.80	0.43
1:A:541:PHE:O	1:A:543:ASN:N	2.52	0.43
1:B:18:VAL:HA	1:B:21:LEU:HD13	1.99	0.43
1:B:110:LEU:C	1:B:110:LEU:HD13	2.38	0.43
1:B:301:LEU:CG	1:B:302:GLY:N	2.81	0.43
1:C:35:ALA:O	1:C:36:LEU:HB2	2.18	0.43
1:C:287:THR:HG22	1:C:315:PRO:HD3	2.01	0.43
1:C:365:ILE:O	1:C:369:ILE:HG13	2.18	0.43
1:C:380:PHE:O	1:C:383:PHE:HB3	2.18	0.43
1:D:158:VAL:HG22	1:D:159:PHE:CD2	2.53	0.43
1:D:469:LYS:O	1:D:469:LYS:HG2	2.18	0.43
1:A:35:ALA:O	1:A:36:LEU:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:54:GLY:N	1:B:74:GLY:HA2	2.33	0.43
1:A:109:GLY:HA3	1:B:229:ARG:HH11	1.83	0.43
1:B:158:VAL:HG22	1:B:159:PHE:CD2	2.54	0.43
1:B:396:ASP:OD2	1:B:397:LYS:N	2.51	0.43
1:D:159:PHE:HB3	1:D:171:MET:SD	2.59	0.43
1:D:203:TRP:HA	1:D:203:TRP:CE3	2.54	0.43
1:D:396:ASP:CA	1:D:430:LYS:HA	2.49	0.43
1:A:230:GLU:HB3	1:A:233:GLU:CG	2.48	0.43
1:A:335:GLU:O	1:A:338:ALA:HB3	2.19	0.43
1:A:380:PHE:O	1:A:383:PHE:HB3	2.18	0.43
1:A:435:SER:O	1:A:437:LEU:N	2.51	0.43
1:A:441:TYR:CG	1:A:465:LEU:HB2	2.54	0.43
1:D:35:ALA:C	1:D:37:ILE:N	2.72	0.43
1:D:83:ILE:HD13	1:D:107:LEU:CD2	2.43	0.43
1:D:387:LEU:HD12	1:D:484:ILE:CG2	2.49	0.43
1:A:36:LEU:N	1:A:36:LEU:HD22	2.33	0.43
1:A:483:ILE:O	1:A:486:LYS:HB3	2.18	0.43
1:B:35:ALA:O	1:B:36:LEU:HB2	2.18	0.43
1:B:130:ILE:CD1	1:B:179:ALA:HB1	2.48	0.43
1:B:224:ASP:CG	1:B:225:ARG:N	2.72	0.43
1:C:441:TYR:CG	1:C:465:LEU:HB2	2.54	0.43
1:C:541:PHE:O	1:C:543:ASN:N	2.51	0.43
1:D:89:ILE:HD13	1:D:101:LEU:CD2	2.49	0.43
1:A:203:TRP:O	1:A:207:LEU:N	2.51	0.43
1:A:287:THR:HG22	1:A:315:PRO:HD3	2.00	0.43
1:A:325:VAL:CG2	1:A:326:PRO:HD2	2.48	0.43
1:A:396:ASP:OD2	1:A:397:LYS:N	2.50	0.43
1:B:35:ALA:C	1:B:37:ILE:N	2.72	0.43
1:B:72:ARG:HE	1:D:68:GLN:HE22	1.67	0.43
1:B:158:VAL:CG1	1:B:159:PHE:H	2.16	0.43
1:A:205:ILE:HD13	1:A:321:TYR:CE2	2.46	0.43
1:A:365:ILE:HB	1:A:442:VAL:HG11	2.01	0.43
1:B:380:PHE:O	1:B:383:PHE:HB3	2.18	0.43
1:B:396:ASP:CA	1:B:430:LYS:HA	2.49	0.43
1:D:274:PHE:HD1	1:D:275:LYS:N	2.04	0.43
1:D:328:MET:SD	1:D:328:MET:C	2.97	0.43
1:D:365:ILE:O	1:D:369:ILE:HG13	2.19	0.43
1:D:435:SER:O	1:D:437:LEU:N	2.52	0.43
1:A:79:ILE:HD12	1:B:57:HIS:CE1	2.54	0.43
1:A:88:GLU:OE1	1:A:88:GLU:HA	2.19	0.43
1:A:396:ASP:CA	1:A:430:LYS:HA	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:441:TYR:CG	1:B:465:LEU:HB2	2.54	0.43
1:B:513:SER:C	1:B:514:ASP:O	2.57	0.43
1:B:543:ASN:O	1:B:544:ALA:O	2.37	0.43
1:C:203:TRP:HA	1:C:203:TRP:CE3	2.54	0.43
1:C:203:TRP:O	1:C:207:LEU:N	2.52	0.43
1:C:260:VAL:HG13	1:C:261:VAL:N	2.34	0.43
1:C:516:ASN:HB3	1:C:517:LEU:H	1.68	0.43
1:D:173:LEU:HD12	1:D:173:LEU:N	2.34	0.43
1:D:260:VAL:HG13	1:D:261:VAL:N	2.33	0.43
1:D:325:VAL:CG2	1:D:326:PRO:HD2	2.47	0.43
1:D:502:PHE:HB2	1:D:546:VAL:HG13	2.01	0.43
1:D:522:LEU:HD12	1:D:522:LEU:N	2.33	0.43
1:A:260:VAL:HG13	1:A:261:VAL:N	2.34	0.43
1:B:205:ILE:HD13	1:B:321:TYR:CE2	2.46	0.43
1:B:380:PHE:CE1	1:B:409:PHE:HE2	2.37	0.43
1:C:213:LYS:HZ2	1:D:355:PHE:C	2.23	0.43
1:D:97:ALA:HA	1:D:100:VAL:CG1	2.40	0.43
1:D:380:PHE:O	1:D:383:PHE:HB3	2.19	0.43
1:A:203:TRP:HA	1:A:203:TRP:CE3	2.54	0.42
1:A:224:ASP:CG	1:A:225:ARG:N	2.73	0.42
1:A:469:LYS:HG2	1:A:469:LYS:O	2.18	0.42
1:B:63:ILE:HG12	1:B:334:VAL:HG11	2.00	0.42
1:B:365:ILE:HB	1:B:442:VAL:HG11	2.01	0.42
1:A:105:PHE:CD1	1:B:107:LEU:HB3	2.54	0.42
1:A:435:SER:OG	1:A:436:VAL:N	2.52	0.42
1:B:203:TRP:HA	1:B:203:TRP:CE3	2.54	0.42
1:B:203:TRP:O	1:B:207:LEU:N	2.51	0.42
1:B:387:LEU:HD12	1:B:484:ILE:CG2	2.49	0.42
1:B:483:ILE:O	1:B:486:LYS:HB3	2.19	0.42
1:B:490:LYS:O	1:B:491:ILE:C	2.57	0.42
1:B:541:PHE:O	1:B:543:ASN:N	2.52	0.42
1:D:287:THR:HG22	1:D:315:PRO:HD3	2.01	0.42
1:D:365:ILE:HB	1:D:442:VAL:HG11	2.01	0.42
1:D:482:GLY:HA3	1:D:515:ILE:O	2.19	0.42
1:D:541:PHE:O	1:D:543:ASN:N	2.52	0.42
1:A:26:PHE:CE1	1:A:29:ALA:HB3	2.55	0.42
1:A:35:ALA:C	1:A:37:ILE:N	2.71	0.42
1:A:387:LEU:HD12	1:A:484:ILE:CG2	2.49	0.42
1:A:388:ILE:HG12	1:A:484:ILE:HG13	2.02	0.42
1:B:365:ILE:O	1:B:369:ILE:HG13	2.19	0.42
1:B:469:LYS:O	1:B:469:LYS:HG2	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:108:ALA:H	1:D:106:TYR:H	1.66	0.42
1:C:205:ILE:HD13	1:C:321:TYR:CE2	2.45	0.42
1:C:224:ASP:CG	1:C:225:ARG:N	2.73	0.42
1:C:482:GLY:O	1:C:516:ASN:ND2	2.46	0.42
1:C:482:GLY:HA3	1:C:515:ILE:O	2.18	0.42
1:D:203:TRP:O	1:D:207:LEU:N	2.51	0.42
1:D:388:ILE:HG12	1:D:484:ILE:HG13	2.01	0.42
1:A:279:ASP:HB3	1:A:291:GLN:HG2	2.01	0.42
1:B:173:LEU:N	1:B:173:LEU:HD12	2.34	0.42
1:D:490:LYS:O	1:D:491:ILE:C	2.58	0.42
1:A:200:THR:C	1:A:202:GLY:N	2.72	0.42
1:A:227:PHE:CD1	1:A:227:PHE:N	2.88	0.42
1:C:395:LYS:CG	1:C:430:LYS:HG2	2.47	0.42
1:C:502:PHE:HB2	1:C:546:VAL:HG13	2.02	0.42
1:D:26:PHE:CE1	1:D:29:ALA:HB3	2.54	0.42
1:D:395:LYS:CG	1:D:396:ASP:N	2.80	0.42
1:D:441:TYR:CG	1:D:465:LEU:HB2	2.54	0.42
1:D:502:PHE:HB3	1:D:503:LYS:H	1.48	0.42
1:A:46:TYR:HA	1:A:48:ARG:N	2.35	0.42
1:A:173:LEU:HD12	1:A:173:LEU:N	2.34	0.42
1:C:35:ALA:C	1:C:37:ILE:N	2.71	0.42
1:C:77:GLU:HB3	1:D:57:HIS:H	1.84	0.42
1:C:263:GLU:HG3	1:C:274:PHE:HZ	1.83	0.42
1:C:543:ASN:O	1:C:544:ALA:O	2.38	0.42
1:D:200:THR:C	1:D:202:GLY:H	2.23	0.42
1:D:224:ASP:CG	1:D:225:ARG:N	2.73	0.42
1:A:263:GLU:HG3	1:A:274:PHE:HZ	1.84	0.42
1:B:287:THR:HG22	1:B:315:PRO:HD3	2.01	0.42
1:B:502:PHE:HB2	1:B:546:VAL:HG13	2.02	0.42
1:C:26:PHE:CE1	1:C:29:ALA:HB3	2.55	0.42
1:C:396:ASP:OD2	1:C:397:LYS:N	2.51	0.42
1:C:413:GLY:C	1:C:415:ARG:H	2.23	0.42
1:D:200:THR:C	1:D:202:GLY:N	2.73	0.42
1:D:290:THR:O	1:D:292:THR:HG23	2.20	0.42
1:D:543:ASN:O	1:D:544:ALA:O	2.38	0.42
1:A:380:PHE:CE1	1:A:409:PHE:HE2	2.38	0.42
1:A:490:LYS:O	1:A:491:ILE:C	2.58	0.42
1:A:522:LEU:HD12	1:A:522:LEU:N	2.34	0.42
1:C:395:LYS:CG	1:C:396:ASP:N	2.80	0.42
1:D:263:GLU:HG3	1:D:274:PHE:CZ	2.55	0.42
1:A:63:ILE:HG12	1:A:334:VAL:HG11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:263:GLU:HG3	1:A:274:PHE:CZ	2.55	0.42
1:B:26:PHE:CE1	1:B:29:ALA:HB3	2.55	0.42
1:B:227:PHE:CD1	1:B:227:PHE:N	2.88	0.42
1:D:227:PHE:CD1	1:D:227:PHE:N	2.88	0.42
1:D:279:ASP:HB3	1:D:291:GLN:HG2	2.02	0.42
1:A:413:GLY:C	1:A:415:ARG:H	2.24	0.42
1:A:506:VAL:H	1:A:507:PRO:CD	2.33	0.42
1:A:512:LEU:HD12	1:A:512:LEU:C	2.40	0.42
1:B:88:GLU:HA	1:B:88:GLU:OE1	2.20	0.42
1:B:159:PHE:HB3	1:B:171:MET:SD	2.60	0.42
1:B:328:MET:C	1:B:328:MET:SD	2.99	0.42
1:C:107:LEU:HD12	1:C:107:LEU:N	2.35	0.42
1:D:392:ILE:HD11	1:D:480:ILE:CD1	2.50	0.42
1:A:290:THR:O	1:A:292:THR:HG23	2.20	0.41
1:B:263:GLU:HG3	1:B:274:PHE:CZ	2.55	0.41
1:B:370:ARG:HG2	1:B:370:ARG:NH2	2.35	0.41
1:B:392:ILE:HD11	1:B:480:ILE:CD1	2.50	0.41
1:C:89:ILE:HD13	1:C:101:LEU:CD2	2.50	0.41
1:C:173:LEU:HD12	1:C:173:LEU:N	2.34	0.41
1:C:380:PHE:CE1	1:C:409:PHE:HE2	2.38	0.41
1:C:388:ILE:HG12	1:C:484:ILE:HG13	2.01	0.41
1:C:467:LYS:O	1:C:468:ALA:HB3	2.20	0.41
1:C:506:VAL:H	1:C:507:PRO:CD	2.33	0.41
1:D:88:GLU:HA	1:D:88:GLU:OE1	2.20	0.41
1:D:380:PHE:CE1	1:D:409:PHE:HE2	2.38	0.41
1:D:413:GLY:C	1:D:415:ARG:H	2.23	0.41
1:D:467:LYS:O	1:D:468:ALA:HB3	2.20	0.41
1:D:512:LEU:HD12	1:D:512:LEU:C	2.41	0.41
1:A:328:MET:SD	1:A:328:MET:C	2.98	0.41
1:A:467:LYS:O	1:A:468:ALA:HB3	2.20	0.41
1:B:482:GLY:O	1:B:516:ASN:ND2	2.46	0.41
1:C:156:ASP:CG	1:D:284:LYS:HE3	2.40	0.41
1:C:483:ILE:O	1:C:486:LYS:HB3	2.19	0.41
1:D:46:TYR:HA	1:D:48:ARG:N	2.35	0.41
1:A:57:HIS:H	1:B:77:GLU:CG	2.33	0.41
1:A:513:SER:C	1:A:514:ASP:O	2.57	0.41
1:A:543:ASN:O	1:A:544:ALA:O	2.38	0.41
1:B:46:TYR:HA	1:B:48:ARG:N	2.35	0.41
1:C:200:THR:C	1:C:202:GLY:H	2.22	0.41
1:D:516:ASN:HB3	1:D:517:LEU:H	1.67	0.41
1:D:522:LEU:O	1:D:524:LEU:N	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:482:GLY:O	1:A:516:ASN:ND2	2.44	0.41
1:B:89:ILE:HD13	1:B:101:LEU:CD2	2.50	0.41
1:B:200:THR:C	1:B:202:GLY:H	2.24	0.41
1:B:467:LYS:O	1:B:468:ALA:HB3	2.20	0.41
1:C:88:GLU:OE1	1:C:88:GLU:HA	2.20	0.41
1:C:159:PHE:HB3	1:C:171:MET:SD	2.61	0.41
1:A:109:GLY:HA3	1:B:229:ARG:HE	1.85	0.41
1:A:308:ALA:HB1	1:A:330:LEU:HD11	2.02	0.41
1:A:352:TYR:CE2	1:B:81:PRO:HA	2.55	0.41
1:A:441:TYR:CE2	1:A:474:SER:HB2	2.55	0.41
1:A:482:GLY:HA3	1:A:515:ILE:O	2.20	0.41
1:A:502:PHE:HB2	1:A:546:VAL:HG13	2.02	0.41
1:B:20:GLU:C	1:B:22:ALA:N	2.74	0.41
1:B:290:THR:O	1:B:292:THR:HG23	2.21	0.41
1:B:395:LYS:CG	1:B:396:ASP:N	2.80	0.41
1:B:502:PHE:O	1:B:503:LYS:HB2	2.20	0.41
1:C:263:GLU:HG3	1:C:274:PHE:CZ	2.55	0.41
1:C:365:ILE:HB	1:C:442:VAL:HG11	2.02	0.41
1:C:395:LYS:CG	1:C:396:ASP:H	2.14	0.41
1:D:513:SER:C	1:D:514:ASP:O	2.57	0.41
1:B:89:ILE:HD11	1:B:100:VAL:CG1	2.51	0.41
1:B:458:LYS:O	1:B:460:GLN:N	2.49	0.41
1:B:512:LEU:HD12	1:B:512:LEU:C	2.41	0.41
1:C:335:GLU:O	1:C:338:ALA:HB3	2.20	0.41
1:C:441:TYR:CE2	1:C:474:SER:HB2	2.55	0.41
1:C:513:SER:C	1:C:514:ASP:O	2.58	0.41
1:C:522:LEU:O	1:C:523:ALA:CB	2.68	0.41
1:D:32:GLU:C	1:D:34:ARG:N	2.74	0.41
1:D:506:VAL:H	1:D:507:PRO:CD	2.34	0.41
1:C:387:LEU:HD12	1:C:484:ILE:CG2	2.50	0.41
1:C:502:PHE:O	1:C:503:LYS:HB2	2.20	0.41
1:A:57:HIS:HB2	1:B:77:GLU:HG2	2.01	0.41
1:A:200:THR:C	1:A:202:GLY:H	2.23	0.41
1:A:365:ILE:O	1:A:369:ILE:HG13	2.20	0.41
1:A:502:PHE:O	1:A:503:LYS:HB2	2.21	0.41
1:B:279:ASP:HB3	1:B:291:GLN:HG2	2.02	0.41
1:B:441:TYR:CE2	1:B:474:SER:HB2	2.56	0.41
1:C:45:LYS:O	1:C:46:TYR:HB3	2.21	0.41
1:D:20:GLU:C	1:D:22:ALA:N	2.74	0.41
1:D:107:LEU:N	1:D:107:LEU:HD12	2.36	0.41
1:D:351:VAL:HB	1:D:352:TYR:CD1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:441:TYR:CE2	1:D:474:SER:HB2	2.56	0.41
1:A:20:GLU:C	1:A:22:ALA:N	2.74	0.41
1:B:387:LEU:HD13	1:B:387:LEU:C	2.41	0.41
1:B:395:LYS:CG	1:B:430:LYS:HG2	2.48	0.41
1:B:399:SER:HB3	1:B:425:ASN:HA	2.03	0.41
1:B:506:VAL:H	1:B:507:PRO:CD	2.33	0.41
1:C:88:GLU:OE2	1:C:205:ILE:HD12	2.21	0.41
1:C:89:ILE:HD11	1:C:100:VAL:CG1	2.51	0.41
1:C:108:ALA:O	1:D:105:PHE:HA	2.21	0.41
1:C:351:VAL:HB	1:C:352:TYR:CD1	2.56	0.41
1:C:392:ILE:HD11	1:C:480:ILE:CD1	2.51	0.41
1:D:308:ALA:HB1	1:D:330:LEU:HD11	2.03	0.41
1:D:396:ASP:OD2	1:D:397:LYS:N	2.51	0.41
1:D:502:PHE:O	1:D:503:LYS:HB2	2.20	0.41
1:A:45:LYS:O	1:A:46:TYR:HB3	2.21	0.41
1:A:89:ILE:HD13	1:A:101:LEU:CD2	2.51	0.41
1:A:370:ARG:HG2	1:A:370:ARG:NH2	2.36	0.41
1:C:20:GLU:C	1:C:22:ALA:N	2.74	0.41
1:C:200:THR:O	1:C:202:GLY:N	2.54	0.41
1:C:279:ASP:HB3	1:C:291:GLN:HG2	2.03	0.41
1:C:512:LEU:C	1:C:512:LEU:HD12	2.42	0.41
1:D:140:LEU:N	1:D:140:LEU:HD12	2.36	0.41
1:A:89:ILE:HD11	1:A:100:VAL:CG1	2.50	0.40
1:A:316:ILE:O	1:A:319:ALA:HB3	2.20	0.40
1:C:11:MET:HE3	1:C:12:ARG:H	1.86	0.40
1:A:57:HIS:NE2	1:B:79:ILE:HD12	2.36	0.40
1:A:140:LEU:HD12	1:A:140:LEU:N	2.36	0.40
1:A:159:PHE:HB3	1:A:171:MET:SD	2.61	0.40
1:A:261:VAL:HG12	1:A:330:LEU:HD23	2.03	0.40
1:A:392:ILE:HD11	1:A:480:ILE:CD1	2.50	0.40
1:B:32:GLU:C	1:B:34:ARG:N	2.75	0.40
1:B:413:GLY:C	1:B:415:ARG:H	2.24	0.40
1:C:90:TYR:CD2	1:C:97:ALA:HB3	2.56	0.40
1:C:301:LEU:HD12	1:C:302:GLY:H	1.86	0.40
1:C:328:MET:SD	1:C:328:MET:C	2.99	0.40
1:D:45:LYS:O	1:D:46:TYR:HB3	2.22	0.40
1:D:335:GLU:O	1:D:338:ALA:HB3	2.21	0.40
1:A:352:TYR:CE2	1:B:81:PRO:CA	3.05	0.40
1:B:268:GLN:HG2	1:C:53:TYR:CE2	2.57	0.40
1:B:286:TYR:HA	1:B:312:VAL:O	2.22	0.40
1:B:301:LEU:HD12	1:B:302:GLY:H	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:298:HIS:ND1	1:D:299:PRO:HD2	2.37	0.40
1:D:387:LEU:HD13	1:D:387:LEU:C	2.42	0.40
1:A:32:GLU:C	1:A:34:ARG:N	2.74	0.40
1:B:107:LEU:HD12	1:B:107:LEU:N	2.36	0.40
1:B:396:ASP:HA	1:B:430:LYS:HA	2.04	0.40
1:C:32:GLU:C	1:C:34:ARG:N	2.74	0.40
1:C:298:HIS:ND1	1:C:299:PRO:HD2	2.37	0.40
1:A:396:ASP:HA	1:A:430:LYS:HA	2.03	0.40
1:B:140:LEU:N	1:B:140:LEU:HD12	2.36	0.40
1:B:351:VAL:HB	1:B:352:TYR:CD1	2.57	0.40
1:C:105:PHE:CD1	1:D:107:LEU:HD23	2.57	0.40
1:C:513:SER:O	1:C:514:ASP:CB	2.69	0.40

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:174:LYS:CB	1:A:174:LYS:CB[3_655]	2.14	0.06
1:A:143:VAL:CG1	1:A:143:VAL:CG1[3_655]	2.16	0.04

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	537/549 (98%)	345 (64%)	138 (26%)	54 (10%)	0 7
1	B	537/549 (98%)	346 (64%)	138 (26%)	53 (10%)	0 8
1	C	537/549 (98%)	344 (64%)	139 (26%)	54 (10%)	0 7
1	D	537/549 (98%)	345 (64%)	138 (26%)	54 (10%)	0 7
All	All	2148/2196 (98%)	1380 (64%)	553 (26%)	215 (10%)	0 8

All (215) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	33	THR
1	A	124	ILE
1	A	151	ALA
1	A	167	VAL
1	A	195	LEU
1	A	358	TYR
1	A	397	LYS
1	A	407	ARG
1	A	471	GLU
1	A	506	VAL
1	A	509	VAL
1	A	540	VAL
1	A	544	ALA
1	B	33	THR
1	B	124	ILE
1	B	151	ALA
1	B	167	VAL
1	B	195	LEU
1	B	358	TYR
1	B	397	LYS
1	B	407	ARG
1	B	471	GLU
1	B	506	VAL
1	B	509	VAL
1	B	540	VAL
1	B	544	ALA
1	C	33	THR
1	C	124	ILE
1	C	151	ALA
1	C	167	VAL
1	C	195	LEU
1	C	358	TYR
1	C	397	LYS
1	C	407	ARG
1	C	471	GLU
1	C	506	VAL
1	C	509	VAL
1	C	540	VAL
1	C	544	ALA
1	D	33	THR
1	D	124	ILE
1	D	151	ALA
1	D	167	VAL

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Mol	Chain	Res	Type
1	D	195	LEU
1	D	358	TYR
1	D	397	LYS
1	D	407	ARG
1	D	471	GLU
1	D	506	VAL
1	D	509	VAL
1	D	540	VAL
1	D	544	ALA
1	A	15	ILE
1	A	35	ALA
1	A	40	LYS
1	A	232	ARG
1	A	300	LYS
1	A	394	ASN
1	A	400	PRO
1	A	466	LYS
1	A	542	LEU
1	B	15	ILE
1	B	35	ALA
1	B	158	VAL
1	B	232	ARG
1	B	300	LYS
1	B	394	ASN
1	B	400	PRO
1	B	466	LYS
1	B	542	LEU
1	C	15	ILE
1	C	35	ALA
1	C	40	LYS
1	C	158	VAL
1	C	232	ARG
1	C	300	LYS
1	C	394	ASN
1	C	400	PRO
1	C	466	LYS
1	C	542	LEU
1	D	15	ILE
1	D	35	ALA
1	D	158	VAL
1	D	232	ARG
1	D	300	LYS

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Mol	Chain	Res	Type
1	D	394	ASN
1	D	400	PRO
1	D	466	LYS
1	D	542	LEU
1	A	41	HIS
1	A	136	LYS
1	A	158	VAL
1	A	231	GLN
1	A	299	PRO
1	A	304	TRP
1	A	356	TYR
1	A	372	ASP
1	A	465	LEU
1	A	467	LYS
1	A	537	ARG
1	B	40	LYS
1	B	41	HIS
1	B	136	LYS
1	B	231	GLN
1	B	299	PRO
1	B	304	TRP
1	B	356	TYR
1	B	372	ASP
1	B	465	LEU
1	B	467	LYS
1	B	537	ARG
1	C	41	HIS
1	C	136	LYS
1	C	231	GLN
1	C	299	PRO
1	C	304	TRP
1	C	356	TYR
1	C	372	ASP
1	C	465	LEU
1	C	467	LYS
1	C	537	ARG
1	D	40	LYS
1	D	41	HIS
1	D	136	LYS
1	D	231	GLN
1	D	299	PRO
1	D	304	TRP

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Mol	Chain	Res	Type
1	D	356	TYR
1	D	372	ASP
1	D	465	LEU
1	D	467	LYS
1	D	537	ARG
1	A	142	GLU
1	A	177	GLU
1	A	237	HIS
1	A	291	GLN
1	A	355	PHE
1	A	401	CYS
1	A	459	GLU
1	A	481	ASP
1	B	142	GLU
1	B	177	GLU
1	B	237	HIS
1	B	291	GLN
1	B	355	PHE
1	B	401	CYS
1	B	459	GLU
1	C	142	GLU
1	C	177	GLU
1	C	237	HIS
1	C	291	GLN
1	C	355	PHE
1	C	401	CYS
1	C	459	GLU
1	D	142	GLU
1	D	177	GLU
1	D	237	HIS
1	D	291	GLN
1	D	355	PHE
1	D	401	CYS
1	D	459	GLU
1	A	23	GLU
1	A	46	TYR
1	A	111	PRO
1	A	164	ALA
1	B	23	GLU
1	B	46	TYR
1	B	111	PRO
1	B	164	ALA

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Mol	Chain	Res	Type
1	B	481	ASP
1	C	23	GLU
1	C	46	TYR
1	C	111	PRO
1	C	164	ALA
1	C	481	ASP
1	D	46	TYR
1	D	111	PRO
1	D	164	ALA
1	D	481	ASP
1	A	118	GLY
1	A	198	HIS
1	A	436	VAL
1	A	515	ILE
1	B	118	GLY
1	B	436	VAL
1	B	515	ILE
1	C	118	GLY
1	C	198	HIS
1	C	436	VAL
1	C	515	ILE
1	D	23	GLU
1	D	118	GLY
1	D	198	HIS
1	D	436	VAL
1	D	515	ILE
1	A	417	VAL
1	B	417	VAL
1	C	417	VAL
1	D	417	VAL
1	A	125	ILE
1	A	129	GLY
1	A	440	VAL
1	B	125	ILE
1	B	129	GLY
1	B	440	VAL
1	C	125	ILE
1	C	129	GLY
1	C	440	VAL
1	D	125	ILE
1	D	129	GLY
1	D	440	VAL

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Mol	Chain	Res	Type
1	A	143	VAL
1	B	143	VAL
1	C	143	VAL
1	D	143	VAL

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	481/491 (98%)	468 (97%)	13 (3%)	44	73
1	B	481/491 (98%)	468 (97%)	13 (3%)	44	73
1	C	481/491 (98%)	468 (97%)	13 (3%)	44	73
1	D	481/491 (98%)	468 (97%)	13 (3%)	44	73
All	All	1924/1964 (98%)	1872 (97%)	52 (3%)	44	73

All (52) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	31	ARG
1	A	274	PHE
1	A	276	PHE
1	A	286	TYR
1	A	322	ASN
1	A	348	ARG
1	A	355	PHE
1	A	408	GLU
1	A	409	PHE
1	A	431	LEU
1	A	432	LEU
1	A	493	GLU
1	A	506	VAL
1	B	31	ARG
1	B	274	PHE
1	B	276	PHE
1	B	286	TYR

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Mol	Chain	Res	Type
1	B	322	ASN
1	B	348	ARG
1	B	355	PHE
1	B	408	GLU
1	B	409	PHE
1	B	431	LEU
1	B	432	LEU
1	B	493	GLU
1	B	506	VAL
1	C	31	ARG
1	C	274	PHE
1	C	276	PHE
1	C	286	TYR
1	C	322	ASN
1	C	348	ARG
1	C	355	PHE
1	C	408	GLU
1	C	409	PHE
1	C	431	LEU
1	C	432	LEU
1	C	493	GLU
1	C	506	VAL
1	D	31	ARG
1	D	274	PHE
1	D	276	PHE
1	D	286	TYR
1	D	322	ASN
1	D	348	ARG
1	D	355	PHE
1	D	408	GLU
1	D	409	PHE
1	D	431	LEU
1	D	432	LEU
1	D	493	GLU
1	D	506	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (40) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	68	GLN
1	A	127	ASN
1	A	231	GLN

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Mol	Chain	Res	Type
1	A	242	HIS
1	A	291	GLN
1	A	322	ASN
1	A	329	ASN
1	A	382	ASN
1	A	412	ASN
1	A	476	ASN
1	B	68	GLN
1	B	127	ASN
1	B	231	GLN
1	B	242	HIS
1	B	291	GLN
1	B	322	ASN
1	B	329	ASN
1	B	382	ASN
1	B	412	ASN
1	B	476	ASN
1	C	68	GLN
1	C	127	ASN
1	C	231	GLN
1	C	242	HIS
1	C	291	GLN
1	C	322	ASN
1	C	329	ASN
1	C	382	ASN
1	C	412	ASN
1	C	476	ASN
1	D	68	GLN
1	D	127	ASN
1	D	231	GLN
1	D	242	HIS
1	D	291	GLN
1	D	322	ASN
1	D	329	ASN
1	D	382	ASN
1	D	412	ASN
1	D	476	ASN

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 monosaccharides 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^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å^2)	Q<0.9
1	A	539/549 (98%)	0.49	80 (14%)	2 1	37, 149, 203, 203	0
1	B	539/549 (98%)	0.23	64 (11%)	4 3	15, 116, 203, 203	0
1	C	539/549 (98%)	0.22	65 (12%)	4 3	13, 104, 203, 203	0
1	D	539/549 (98%)	0.51	79 (14%)	2 1	26, 150, 203, 203	0
All	All	2156/2196 (98%)	0.36	288 (13%)	3 2	13, 131, 203, 203	0

All (288) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	133	ASP	10.7
1	D	171	MET	10.0
1	A	508	ILE	9.8
1	B	130	ILE	9.7
1	D	179	ALA	9.5
1	C	138	GLU	9.5
1	D	425	ASN	9.3
1	D	128	LEU	8.9
1	D	162	ALA	8.8
1	A	181	PRO	8.5
1	A	179	ALA	8.3
1	B	132	ILE	8.3
1	A	148	LYS	8.3
1	A	180	PHE	8.2
1	B	508	ILE	8.1
1	D	131	ASP	7.7
1	D	500	ASP	7.7
1	A	164	ALA	7.6
1	C	133	ASP	7.5
1	C	118	GLY	7.3
1	B	509	VAL	7.2

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Mol	Chain	Res	Type	RSRZ
1	D	426	GLU	7.0
1	C	128	LEU	6.9
1	C	125	ILE	6.9
1	B	178	THR	6.8
1	C	171	MET	6.8
1	B	131	ASP	6.8
1	A	429	LYS	6.7
1	D	138	GLU	6.7
1	D	402	SER	6.6
1	D	127	ASN	6.6
1	C	177	GLU	6.3
1	A	163	LYS	6.3
1	D	434	PRO	6.3
1	B	507	PRO	6.3
1	D	177	GLU	6.3
1	D	181	PRO	6.2
1	D	129	GLY	6.1
1	B	127	ASN	6.1
1	A	149	LYS	6.1
1	A	27	GLU	6.0
1	A	426	GLU	6.0
1	D	132	ILE	5.9
1	D	125	ILE	5.7
1	D	413	GLY	5.7
1	B	145	HIS	5.6
1	A	427	PRO	5.6
1	A	177	GLU	5.6
1	A	162	ALA	5.4
1	D	165	LEU	5.4
1	A	165	LEU	5.3
1	D	166	ASN	5.3
1	A	126	LYS	5.3
1	C	168	SER	5.3
1	B	133	ASP	5.3
1	B	150	GLY	5.2
1	D	430	LYS	5.2
1	C	127	ASN	5.2
1	D	509	VAL	5.2
1	A	127	ASN	5.2
1	D	145	HIS	5.1
1	C	129	GLY	5.1
1	A	150	GLY	5.1

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Mol	Chain	Res	Type	RSRZ
1	C	132	ILE	5.1
1	A	133	ASP	5.0
1	B	428	ASN	5.0
1	D	142	GLU	5.0
1	D	302	GLY	5.0
1	D	427	PRO	4.9
1	A	510	ARG	4.9
1	B	429	LYS	4.8
1	C	504	PHE	4.8
1	A	469	LYS	4.8
1	A	187	LYS	4.8
1	A	111	PRO	4.8
1	B	112	ARG	4.8
1	C	507	PRO	4.7
1	C	131	ASP	4.7
1	D	428	ASN	4.7
1	D	170	GLU	4.7
1	C	469	LYS	4.7
1	D	119	ASN	4.6
1	A	178	THR	4.6
1	B	467	LYS	4.6
1	B	427	PRO	4.6
1	D	163	LYS	4.5
1	C	234	ASP	4.5
1	A	169	ASN	4.5
1	C	145	HIS	4.4
1	B	234	ASP	4.4
1	A	135	GLU	4.4
1	A	189	GLU	4.4
1	C	164	ALA	4.4
1	A	166	ASN	4.3
1	B	113	PRO	4.3
1	C	116	GLY	4.3
1	D	113	PRO	4.3
1	A	24	LYS	4.3
1	C	509	VAL	4.3
1	B	469	LYS	4.3
1	C	163	LYS	4.3
1	B	179	ALA	4.2
1	D	126	LYS	4.2
1	C	170	GLU	4.2
1	C	176	LEU	4.2

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Mol	Chain	Res	Type	RSRZ
1	C	112	ARG	4.1
1	A	231	GLN	4.1
1	A	549	LYS	4.1
1	B	172	GLY	4.1
1	B	129	GLY	4.1
1	A	509	VAL	4.1
1	D	168	SER	4.0
1	D	137	LYS	4.0
1	B	123	GLU	4.0
1	B	170	GLU	4.0
1	B	166	ASN	4.0
1	C	178	THR	4.0
1	B	187	LYS	4.0
1	B	118	GLY	3.9
1	D	182	GLU	3.9
1	C	152	ILE	3.9
1	D	178	THR	3.9
1	A	507	PRO	3.9
1	C	120	GLU	3.9
1	C	126	LYS	3.9
1	D	410	ASN	3.9
1	B	167	VAL	3.8
1	A	414	GLU	3.8
1	C	179	ALA	3.8
1	C	180	PHE	3.8
1	B	171	MET	3.7
1	C	468	ALA	3.7
1	D	116	GLY	3.7
1	D	124	ILE	3.7
1	D	507	PRO	3.7
1	A	468	ALA	3.7
1	D	449	GLY	3.7
1	A	182	GLU	3.7
1	D	111	PRO	3.7
1	C	117	LEU	3.7
1	A	14	ASP	3.7
1	B	148	LYS	3.7
1	C	298	HIS	3.7
1	C	156	ASP	3.6
1	D	187	LYS	3.6
1	B	466	LYS	3.6
1	A	129	GLY	3.6

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Mol	Chain	Res	Type	RSRZ
1	B	142	GLU	3.6
1	D	185	ASP	3.6
1	C	297	TYR	3.6
1	A	23	GLU	3.6
1	A	136	LYS	3.6
1	A	404	GLU	3.6
1	D	148	LYS	3.5
1	D	130	ILE	3.5
1	D	455	GLU	3.5
1	C	122	VAL	3.5
1	C	155	ASP	3.5
1	D	121	LYS	3.5
1	B	149	LYS	3.5
1	D	469	LYS	3.4
1	C	424	GLU	3.4
1	D	405	VAL	3.4
1	D	499	VAL	3.4
1	C	181	PRO	3.4
1	A	137	LYS	3.4
1	D	27	GLU	3.4
1	A	235	ARG	3.4
1	D	510	ARG	3.4
1	D	149	LYS	3.3
1	A	511	SER	3.3
1	B	177	GLU	3.3
1	B	189	GLU	3.3
1	A	151	ALA	3.3
1	C	124	ILE	3.3
1	B	122	VAL	3.2
1	D	429	LYS	3.2
1	C	130	ILE	3.2
1	C	167	VAL	3.2
1	D	159	PHE	3.2
1	A	289	GLU	3.2
1	A	113	PRO	3.1
1	C	429	LYS	3.1
1	D	140	LEU	3.1
1	C	142	GLU	3.0
1	C	549	LYS	3.0
1	D	123	GLU	3.0
1	C	113	PRO	3.0
1	C	119	ASN	3.0

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Mol	Chain	Res	Type	RSRZ
1	C	150	GLY	2.9
1	A	505	ARG	2.9
1	B	181	PRO	2.9
1	A	416	ARG	2.9
1	C	148	LYS	2.9
1	A	174	LYS	2.9
1	A	188	PRO	2.8
1	B	168	SER	2.8
1	B	426	GLU	2.8
1	C	169	ASN	2.8
1	C	511	SER	2.8
1	A	413	GLY	2.8
1	B	400	PRO	2.8
1	B	228	ARG	2.7
1	A	124	ILE	2.7
1	A	125	ILE	2.7
1	A	25	ASP	2.7
1	D	141	ARG	2.7
1	C	433	GLY	2.7
1	C	141	ARG	2.7
1	D	11	MET	2.6
1	C	165	LEU	2.6
1	A	119	ASN	2.6
1	A	139	ARG	2.6
1	B	27	GLU	2.6
1	D	112	ARG	2.6
1	B	11	MET	2.6
1	A	297	TYR	2.6
1	A	463	PRO	2.5
1	D	164	ALA	2.5
1	A	120	GLU	2.5
1	A	123	GLU	2.5
1	D	120	GLU	2.5
1	B	164	ALA	2.5
1	B	117	LEU	2.5
1	A	122	VAL	2.5
1	B	468	ALA	2.5
1	B	125	ILE	2.4
1	B	141	ARG	2.4
1	C	231	GLN	2.4
1	C	426	GLU	2.4
1	D	414	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	138	GLU	2.4
1	A	419	LYS	2.4
1	C	143	VAL	2.4
1	B	510	ARG	2.3
1	C	470	GLU	2.3
1	D	399	SER	2.3
1	B	180	PHE	2.3
1	A	132	ILE	2.3
1	C	251	GLU	2.3
1	D	395	LYS	2.3
1	C	139	ARG	2.3
1	A	98	MET	2.3
1	B	121	LYS	2.3
1	B	395	LYS	2.3
1	A	428	ASN	2.3
1	A	128	LEU	2.3
1	A	506	VAL	2.3
1	B	116	GLY	2.3
1	A	467	LYS	2.3
1	C	182	GLU	2.2
1	A	159	PHE	2.2
1	C	400	PRO	2.2
1	B	425	ASN	2.2
1	A	130	ILE	2.2
1	D	167	VAL	2.2
1	D	396	ASP	2.2
1	D	40	LYS	2.2
1	D	504	PHE	2.2
1	B	114	ASP	2.2
1	B	138	GLU	2.2
1	A	170	GLU	2.2
1	A	142	GLU	2.2
1	B	152	ILE	2.2
1	D	454	PHE	2.2
1	D	235	ARG	2.1
1	D	180	PHE	2.1
1	B	182	GLU	2.1
1	D	14	ASP	2.1
1	A	131	ASP	2.1
1	A	114	ASP	2.1
1	D	139	ARG	2.1
1	A	160	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	137	LYS	2.1
1	B	235	ARG	2.1
1	D	122	VAL	2.1
1	D	234	ASP	2.1
1	A	424	GLU	2.1
1	D	115	VAL	2.1
1	C	162	ALA	2.1
1	A	471	GLU	2.1
1	B	159	PHE	2.0
1	C	153	ASP	2.0
1	B	136	LYS	2.0
1	C	172	GLY	2.0
1	A	168	SER	2.0
1	B	139	ARG	2.0
1	B	275	LYS	2.0

6.2 Non-standard residues in protein, DNA, RNA chains (i)

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.