



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 06:54 AM UTC

PDB ID : 2DU7 / pdb\_00002du7  
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](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.

The types of validation reports are described at

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

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

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

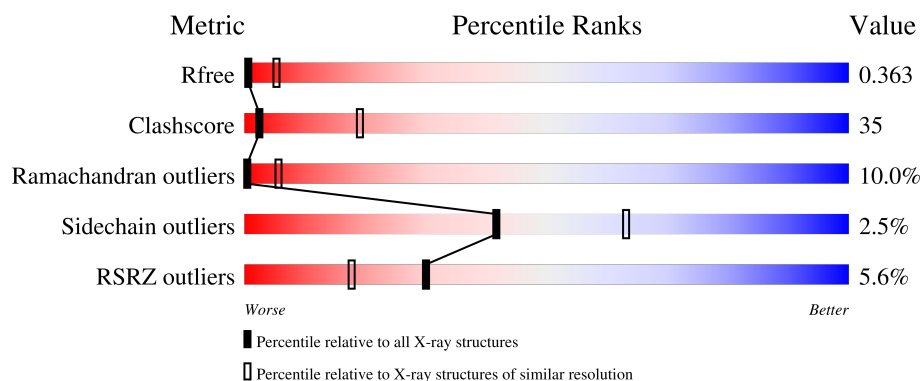
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.60 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))
$R_{free}$	180053	1747 (3.70-3.50)
Clashscore	190562	1827 (3.70-3.50)
Ramachandran outliers	187476	1773 (3.70-3.50)
Sidechain outliers	187428	1772 (3.70-3.50)
RSRZ outliers	180081	1745 (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  $\geq 3$ , 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	549	<div> <div>7%</div> <div>44%</div> <div>46%</div> <div>8%</div> </div>
1	B	549	<div> <div>5%</div> <div>44%</div> <div>47%</div> <div>7%</div> </div>
1	C	549	<div> <div>4%</div> <div>44%</div> <div>46%</div> <div>7%</div> </div>
1	D	549	<div> <div>6%</div> <div>44%</div> <div>46%</div> <div>7%</div> </div>

## 2 Entry composition

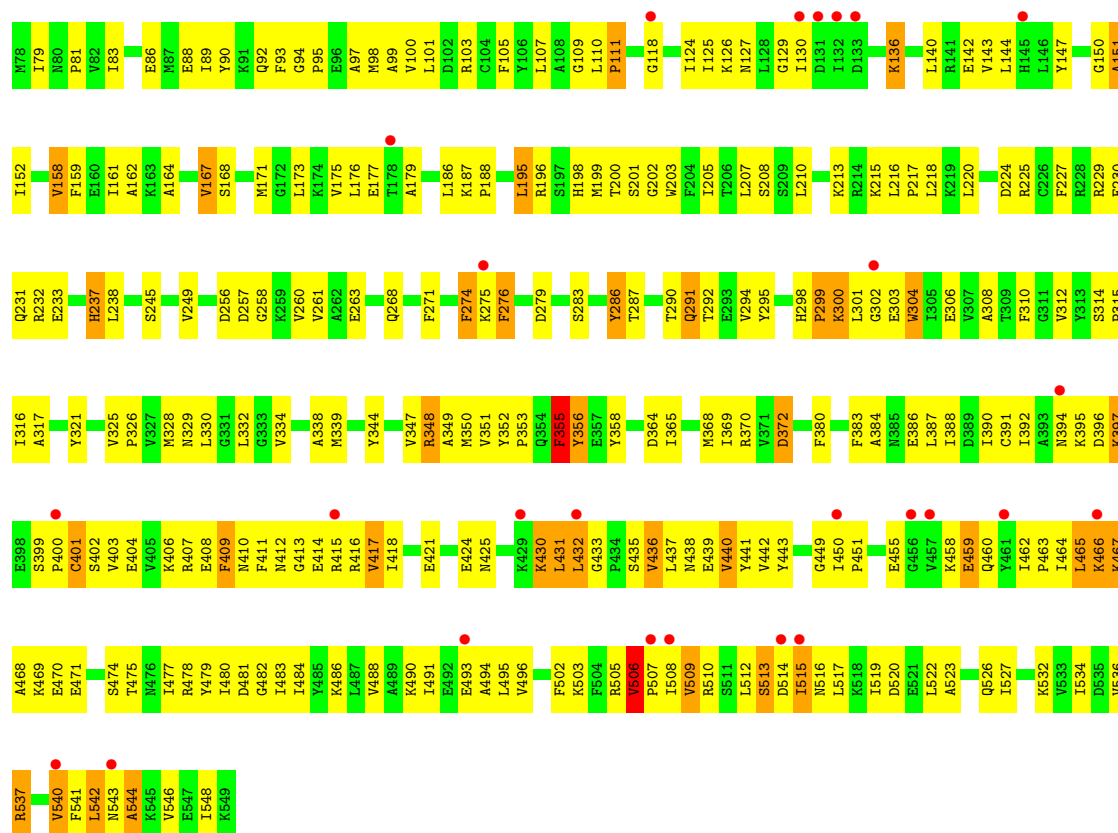
There is only 1 type of molecule in this entry. The entry contains 17516 atoms, of which 0 are hydrogens and 0 are deuteriums.

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.

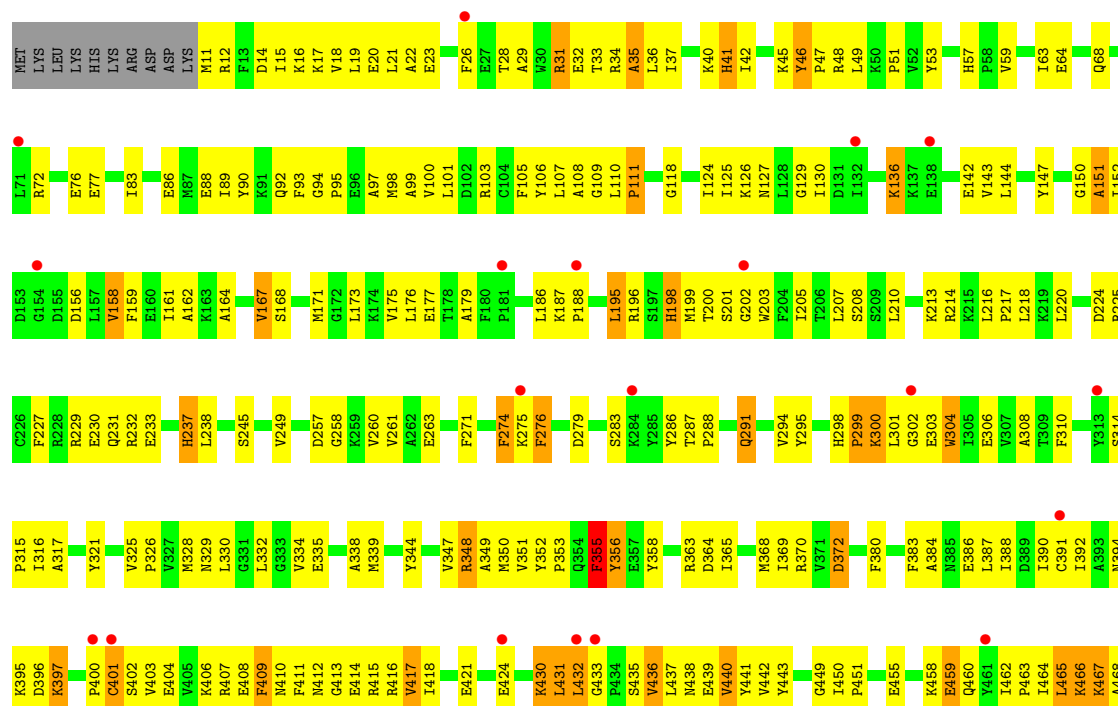
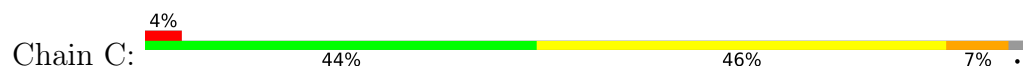
- Molecule 1 is a protein called O-phosphoseryl-tRNA synthetase.

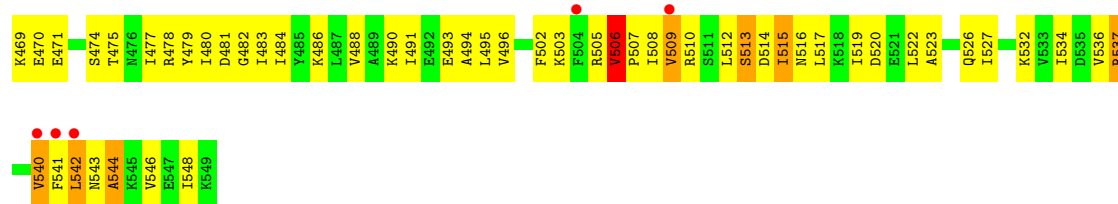
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	539	Total	C	N	O	S	0	0	0
			4379	2826	727	807	19			
1	B	539	Total	C	N	O	S	0	0	0
			4379	2826	727	807	19			
1	C	539	Total	C	N	O	S	0	0	0
			4379	2826	727	807	19			
1	D	539	Total	C	N	O	S	0	0	0
			4379	2826	727	807	19			



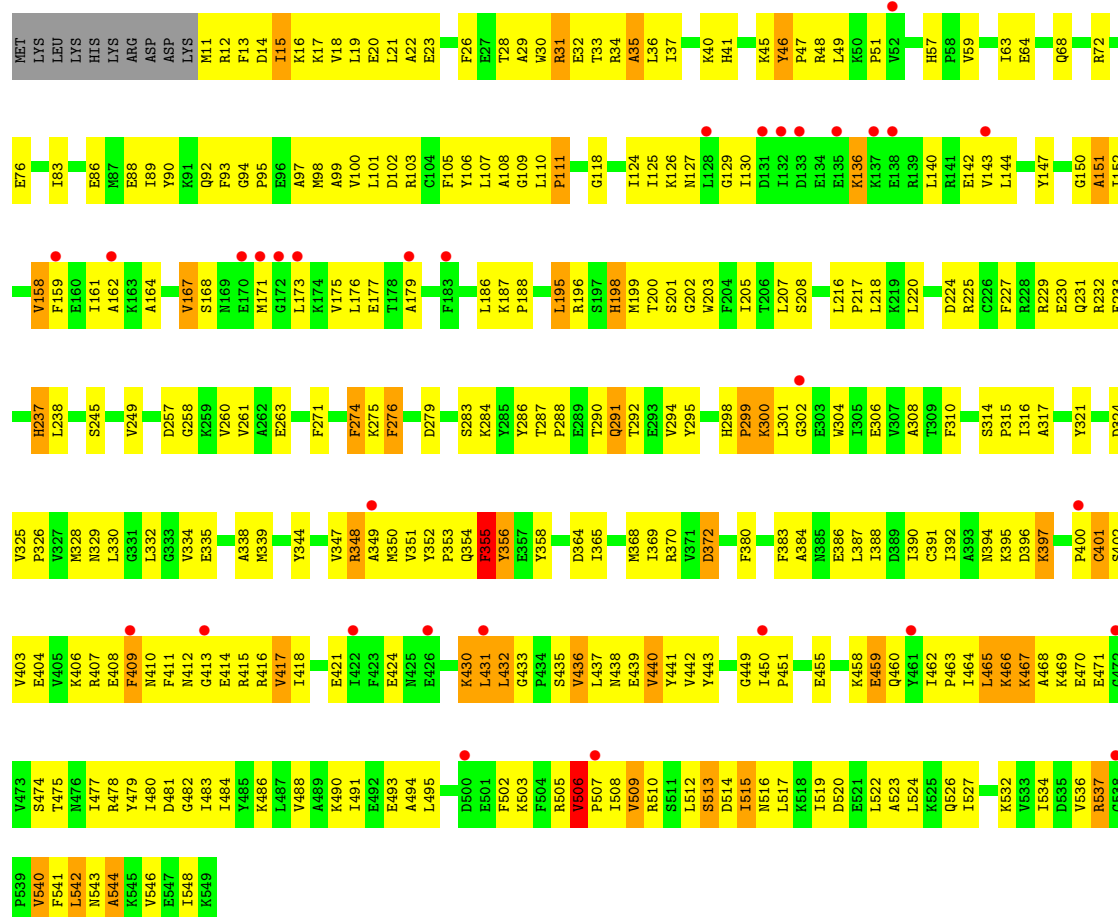
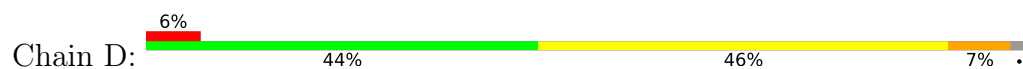


• Molecule 1: O-phosphoseryl-tRNA synthetase





• Molecule 1: O-phosphoseryl-tRNA synthetase



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	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) 96.9 (19.79-3.60)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	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 <sup>2</sup> )	118.1	Xtriage
Anisotropy	0.142	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.29 , 125.3	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.41$ , $\langle L^2 \rangle = 0.24$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.86	EDS
Total number of atoms	17516	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	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.*

<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	0.29	0/4468	0.76	2/6023 (0.0%)
1	B	0.31	0/4468	0.77	2/6023 (0.0%)
1	C	0.31	0/4468	0.77	2/6023 (0.0%)
1	D	0.30	0/4468	0.76	2/6023 (0.0%)
All	All	0.30	0/17872	0.76	8/24092 (0.0%)

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	513	SER	N-CA-C	-6.13	102.43	110.33
1	B	513	SER	N-CA-C	-6.12	102.44	110.33
1	A	513	SER	N-CA-C	-6.08	102.49	110.33
1	D	513	SER	N-CA-C	-5.99	102.60	110.33
1	C	430	LYS	CB-CA-C	-5.14	109.68	115.79
1	B	430	LYS	CB-CA-C	-5.06	109.76	115.79
1	A	430	LYS	CB-CA-C	-5.06	109.77	115.79
1	D	430	LYS	CB-CA-C	-5.03	109.81	115.79

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4379	0	4462	345	2

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	4379	0	4462	340	0
1	C	4379	0	4462	316	0
1	D	4379	0	4462	326	0
All	All	17516	0	17848	1233	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 35.

All (1233) 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

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:B:11:MET:HE3	1:B:12:ARG:H	1.51	0.75
1:C:11:MET:HE3	1:C:12:ARG:H	1.51	0.75
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:A:11:MET:HE3	1:A:12:ARG:H	1.51	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:C:196:ARG:NH1	1:C:199:MET:HE1	2.02	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:D:196:ARG:NH1	1:D:199:MET:HE1	2.03	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:A:196:ARG:NH1	1:A:199:MET:HE1	2.04	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:439:GLU:HB2	1:A:441:TYR:CE1	2.24	0.72
1:D:11:MET:HE3	1:D:12:ARG:H	1.51	0.72
1:B:196:ARG:NH1	1:B:199:MET:HE1	2.03	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
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

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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
1:D:508:ILE:O	1:D:510:ARG:HG3	1.99	0.62
1:A:64:GLU:CD	1:B:64:GLU:HG3	2.24	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
1:B:387:LEU:HD13	1:B:387:LEU:O	2.03	0.59
1:C:35:ALA:C	1:C:37:ILE:H	2.09	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:C:46:TYR:CD1	1:C:47:PRO:HA	2.38	0.59
1:D:35:ALA:C	1:D:37:ILE:H	2.10	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:A:35:ALA:C	1:A:37:ILE:H	2.09	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:294:VAL:HB	1:A:308:ALA:HB3	1.85	0.59
1:B:35:ALA:C	1:B:37:ILE:H	2.10	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
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: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:A:527:ILE:HG21	1:A:534:ILE:HD11	1.86	0.57
1:B:514:ASP:C	1:B:516:ASN:N	2.59	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:A:514:ASP:C	1:A:516:ASN:N	2.58	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:B:332:LEU:HD23	1:B:332:LEU:C	2.31	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:514:ASP:C	1:D:516:ASN:N	2.58	0.56
1:D:527:ILE:O	1:D:532:LYS:HB2	2.05	0.56
1:A:458:LYS:C	1:A:460:GLN:H	2.14	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: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: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
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:458:LYS:C	1:B:460:GLN:H	2.13	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:A:11:MET:HE3	1:A:12:ARG:N	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:522:LEU:O	1:A:523:ALA:HB3	2.06	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:B:11:MET:HE3	1:B:12:ARG:N	2.21	0.55
1:B:540:VAL:O	1:B:541:PHE:HB2	2.05	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:B:224:ASP:CG	1:B:225:ARG:H	2.15	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:D:458:LYS:C	1:D:460:GLN:H	2.14	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:A:332:LEU:C	1:A:332:LEU:HD23	2.31	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:A:514:ASP:C	1:A:516:ASN:H	2.15	0.55
1:B:466:LYS:HD3	1:B:470:GLU:OE2	2.07	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: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:C:514:ASP:C	1:C:516:ASN:N	2.60	0.54
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:A:64:GLU:HG3	1:B:64:GLU:CD	2.33	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:D:332:LEU:HD23	1:D:332:LEU:C	2.31	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:D:11:MET:HE3	1:D:12:ARG:N	2.21	0.54
1:A:396:ASP:O	1:A:397:LYS:HB2	2.07	0.54
1:B:386:GLU:O	1:B:390:ILE:HG13	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:257:ASP:O	1:B:261:VAL:HG23	2.07	0.54
1:C:458:LYS:C	1:C:460:GLN:H	2.14	0.54
1:D:514:ASP:C	1:D:516:ASN:H	2.15	0.54
1:B:396:ASP:O	1:B:397:LYS:HB2	2.06	0.54
1:C:224:ASP:CG	1:C:225:ARG:H	2.16	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:A:224:ASP:CG	1:A:225:ARG:H	2.15	0.54
1:B:161:ILE:HG12	1:B:167:VAL:CG1	2.33	0.54
1:C:332:LEU:C	1:C:332:LEU:HD23	2.32	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:224:ASP:CG	1:D:225:ARG:H	2.16	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:338:ALA:HB3	1:D:350:MET:HE1	1.90	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:D:541:PHE:O	1:D:542:LEU:C	2.52	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:C:338:ALA:HB3	1:C:350:MET:HE1	1.90	0.53
1:D:513:SER:O	1:D:514:ASP:HB3	2.09	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
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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:C:541:PHE:O	1:C:542:LEU:C	2.52	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:D:508:ILE:O	1:D:509:VAL:C	2.52	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:C:508:ILE:O	1:C:509:VAL:C	2.52	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:11:MET:HE3	1:C:12:ARG:N	2.21	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:D:508:ILE:HD12	1:D:508:ILE:C	2.34	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:B:514:ASP:C	1:B:516:ASN:H	2.16	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:541:PHE:O	1:A:542:LEU:C	2.52	0.52
1:A:310:PHE:HB3	1:A:330:LEU:HD13	1.91	0.52
1:A:338:ALA:HB3	1:A:350:MET:HE1	1.90	0.52
1:A:508:ILE:O	1:A:509:VAL:C	2.53	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:450:ILE:HD11	1:B:465:LEU:HD11	1.92	0.52
1:C:515:ILE:O	1:C:515:ILE:HG22	2.10	0.52
1:D:20:GLU:C	1:D:22:ALA:H	2.17	0.52
1:B:316:ILE:HG23	1:B:317:ALA:H	1.73	0.52
1:B:508:ILE:HD12	1:B:508:ILE:C	2.35	0.52
1:C:514:ASP:C	1:C:516:ASN:H	2.17	0.52
1:A:324:ASP:HA	1:D:13:PHE:CE1	2.44	0.51
1:A:356:TYR:CA	1:B:213:LYS:HZ3	2.23	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:20:GLU:C	1:A:22:ALA:H	2.18	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: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:A:508:ILE:HD12	1:A:508:ILE:C	2.36	0.51
1:C:20:GLU:C	1:C:22:ALA:H	2.17	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:B:508:ILE:O	1:B:509:VAL:C	2.53	0.51
1:D:126:LYS:HG3	1:D:127:ASN:ND2	2.25	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:B:338:ALA:HB3	1:B:350:MET:HE1	1.92	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:B:541:PHE:O	1:B:542:LEU:C	2.53	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
1:D:421:GLU:O	1:D:544:ALA:HB1	2.11	0.51
1:A:368:MET:HE3	1:B:215:LYS:HD2	1.93	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:B:515:ILE:HG22	1:B:515:ILE:O	2.10	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:C:508:ILE:HD12	1:C:508:ILE:C	2.36	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:20:GLU:C	1:B:22:ALA:H	2.18	0.50
1:B:396:ASP:N	1:B:430:LYS:HA	2.26	0.50
1:C:64:GLU:HG3	1:D:64:GLU:CD	2.35	0.50
1:C:503:LYS:CB	1:C:543:ASN:HB3	2.38	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:A:514:ASP:O	1:A:515:ILE:HB	2.10	0.50
1:B:229:ARG:HG2	1:B:229:ARG:HH21	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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
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:A:56:PRO:HA	1:B:77:GLU:HB3	1.94	0.50
1:B:503:LYS:CB	1:B:543:ASN:HB3	2.38	0.50
1:C:213:LYS:NZ	1:D:355:PHE:C	2.69	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:515:ILE:HG22	1:D:515:ILE:O	2.10	0.50
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:D:540:VAL:HG12	1:D:541:PHE:N	2.26	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:110:LEU:C	1:D:110:LEU:HD13	2.37	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:410:ASN:HA	1:C:415:ARG:O	2.13	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: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:A:110:LEU:HD13	1:A:110:LEU:C	2.38	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:A:238:LEU:N	1:A:238:LEU:HD22	2.28	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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
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:C:490:LYS:O	1:C:491:ILE:C	2.57	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:200:THR:C	1:C:202:GLY:N	2.72	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:B:35:ALA:C	1:B:37:ILE:N	2.72	0.48
1:C:110:LEU:HD13	1:C:110:LEU:C	2.38	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:B:110:LEU:C	1:B:110:LEU:HD13	2.38	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:35:ALA:C	1:C:37:ILE:N	2.71	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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:224:ASP:CG	1:B:225:ARG:N	2.72	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
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:516:ASN:O	1:C:517:LEU:HB2	2.14	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:D:328:MET:SD	1:D:328:MET:C	2.97	0.47
1:B:144:LEU:HG	1:B:159:PHE:CE1	2.49	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:B:490:LYS:O	1:B:491:ILE:C	2.57	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:224:ASP:CG	1:C:225:ARG:N	2.73	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:200:THR:C	1:A:202:GLY:N	2.72	0.47
1:A:436:VAL:HA	1:A:479:TYR:HB2	1.97	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:490:LYS:O	1:D:491:ILE:C	2.58	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:D:144:LEU:HG	1:D:159:PHE:CE1	2.50	0.47
1:D:200:THR:C	1:D:202:GLY:H	2.23	0.47
1:A:161:ILE:HG13	1:A:162:ALA:N	2.30	0.47
1:A:490:LYS:O	1:A:491:ILE:C	2.58	0.47
1:B:171:MET:H	1:B:173:LEU:CD1	2.28	0.47
1:C:195:LEU:HD13	1:C:227:PHE:CD1	2.50	0.47
1:C:200:THR:C	1:C:202:GLY:H	2.22	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:224:ASP:CG	1:A:225:ARG:N	2.73	0.47
1:A:352:TYR:HB3	1:A:355:PHE:HD2	1.80	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:D:224:ASP:CG	1:D:225:ARG:N	2.73	0.47
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:B:513:SER:C	1:B:514:ASP:O	2.57	0.46
1:C:301:LEU:HG	1:C:302:GLY:H	1.80	0.46
1:D:352:TYR:HB3	1:D:355:PHE:HD2	1.80	0.46
1:A:413:GLY:C	1:A:415:ARG:H	2.24	0.46
1:A:512:LEU:HD12	1:A:512:LEU:C	2.40	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: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: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:D:512:LEU:HD12	1:D:512:LEU:C	2.41	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:328:MET:SD	1:A:328:MET:C	2.98	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:156:ASP:CG	1:D:284:LYS:HE3	2.40	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
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:A:513:SER:C	1:A:514:ASP:O	2.57	0.46
1:B:20:GLU:C	1:B:22:ALA:N	2.74	0.46
1:B:328:MET:C	1:B:328:MET:SD	2.99	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: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: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:C:513:SER:C	1:C:514:ASP:O	2.58	0.46
1:D:161:ILE:HG13	1:D:162:ALA:N	2.30	0.46
1:A:35:ALA:C	1:A:37:ILE:N	2.71	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:B:512:LEU:HD12	1:B:512:LEU:C	2.41	0.46
1:C:413:GLY:C	1:C:415:ARG:H	2.23	0.46
1:C:502:PHE:HB2	1:C:546:VAL:CG1	2.45	0.46
1:D:32:GLU:C	1:D:34:ARG:N	2.74	0.46
1:A:136:LYS:HE3	1:A:167:VAL:HG23	1.97	0.46
1:A:200:THR:C	1:A:202:GLY:H	2.23	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:C:32:GLU:C	1:C:34:ARG:N	2.74	0.46
1:D:413:GLY:C	1:D:415:ARG:H	2.23	0.46
1:D:513:SER:C	1:D:514:ASP:O	2.57	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:C:64:GLU:CD	1:D:64:GLU:HG3	2.41	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:387:LEU:HD13	1:B:387:LEU:C	2.41	0.45
1:B:401:CYS:SG	1:B:403:VAL:HG23	2.56	0.45
1:D:20:GLU:C	1:D:22:ALA:N	2.74	0.45
1:D:103:ARG:CA	1:D:229:ARG:HB3	2.46	0.45
1:D:200:THR:C	1:D:202:GLY:N	2.73	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: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
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:B:413:GLY:C	1:B:415:ARG:H	2.24	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:20:GLU:C	1:C:22:ALA:N	2.74	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:D:387:LEU:HD13	1:D:387:LEU:C	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:32:GLU:C	1:A:34:ARG:N	2.74	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:C:328:MET:SD	1:C:328:MET:C	2.99	0.45
1:D:18:VAL:HA	1:D:21:LEU:HD13	1.98	0.45
1:B:200:THR:C	1:B:202:GLY:H	2.24	0.45
1:B:207:LEU:O	1:B:208:SER:C	2.60	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:A:387:LEU:HD13	1:A:387:LEU:C	2.42	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:A:356:TYR:N	1:B:213:LYS:HZ3	2.14	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
1:B:200:THR:C	1:B:202:GLY:N	2.73	0.44
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:C:512:LEU:C	1:C:512:LEU:HD12	2.42	0.44
1:D:32:GLU:C	1:D:34:ARG:H	2.25	0.44
1:D:46:TYR:HA	1:D:47:PRO:C	2.43	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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: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:46:TYR:HA	1:B:47:PRO:C	2.43	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:32:GLU:C	1:C:34:ARG:H	2.26	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: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:C:387:LEU:HD13	1:C:387:LEU:C	2.43	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:147:TYR:O	1:C:151:ALA:HB2	2.18	0.44
1:C:207:LEU:O	1:C:208:SER:C	2.60	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
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: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:46:TYR:HA	1:A:47:PRO:C	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:147:TYR:O	1:A:151:ALA:HB2	2.17	0.44
1:B:32:GLU:C	1:B:34:ARG:H	2.26	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:435:SER:C	1:C:437:LEU:N	2.75	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:207:LEU:O	1:D:208:SER:C	2.60	0.44
1:D:465:LEU:C	1:D:465:LEU:HD12	2.43	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:A:512:LEU:C	1:A:513:SER:O	2.59	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:46:TYR:HA	1:C:47:PRO:C	2.43	0.43
1:C:130:ILE:CD1	1:C:179:ALA:HB1	2.48	0.43
1:C:469:LYS:O	1:C:469:LYS:HG2	2.18	0.43
1:A:32:GLU:C	1:A:34:ARG:H	2.26	0.43
1:B:388:ILE:HG12	1:B:484:ILE:HG13	2.00	0.43
1:B:465:LEU:C	1:B:465:LEU:HD12	2.44	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:207:LEU:O	1:A:208:SER:C	2.62	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: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:301:LEU:CG	1:D:302:GLY:N	2.81	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
1:A:54:GLY:N	1:B:74:GLY:HA2	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:109:GLY:HA3	1:B:229:ARG:HH11	1.83	0.43
1:A:465:LEU:C	1:A:465:LEU:HD12	2.43	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: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:130:ILE:CD1	1:B:179:ALA:HB1	2.48	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: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:C:465:LEU:HD12	1:C:465:LEU:C	2.44	0.43
1:D:274:PHE:HD1	1:D:275:LYS:N	2.04	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
1:B:35:ALA:O	1:B:36:LEU:HB2	2.18	0.43
1:B:441:TYR:CG	1:B:465:LEU:HB2	2.54	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:20:GLU:C	1:A:22:ALA:N	2.74	0.43
1:A:260:VAL:HG13	1:A:261:VAL:N	2.34	0.43
1:A:526:GLN:O	1:A:527:ILE:C	2.62	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:237:HIS:C	1:C:238:LEU:HD22	2.44	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:303:GLU:O	1:A:304:TRP:C	2.62	0.42
1:A:435:SER:C	1:A:437:LEU:N	2.76	0.42
1:A:469:LYS:HG2	1:A:469:LYS:O	2.18	0.42
1:B:32:GLU:C	1:B:34:ARG:N	2.75	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:237:HIS:C	1:B:238:LEU:HD22	2.44	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:541:PHE:O	1:B:543:ASN:N	2.52	0.42
1:C:526:GLN:O	1:C:527:ILE:C	2.61	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:237:HIS:C	1:A:238:LEU:HD22	2.44	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:469:LYS:O	1:B:469:LYS:HG2	2.18	0.42
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: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:237:HIS:C	1:D:238:LEU:HD22	2.44	0.42
1:D:388:ILE:HG12	1:D:484:ILE:HG13	2.01	0.42
1:D:526:GLN:O	1:D:527:ILE:C	2.62	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:C:95:PRO:HA	1:C:98:MET:HE3	2.02	0.42
1:A:95:PRO:HA	1:A:98:MET:HE3	2.01	0.42
1:A:227:PHE:CD1	1:A:227:PHE:N	2.88	0.42
1:A:458:LYS:C	1:A:460:GLN:N	2.78	0.42
1:B:435:SER:C	1:B:437:LEU:N	2.76	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:95:PRO:HA	1:D:98:MET:HE3	2.01	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: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:458:LYS:C	1:C:460:GLN:N	2.78	0.42
1:C:543:ASN:O	1:C:544:ALA:O	2.38	0.42
1:D:435:SER:C	1:D:437:LEU:N	2.76	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: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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:63:ILE:HG12	1:A:334:VAL:HG11	2.01	0.42
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:100:VAL:C	1:A:102:ASP:N	2.78	0.42
1:A:506:VAL:H	1:A:507:PRO:CD	2.33	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: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:97:ALA:C	1:D:99:ALA:H	2.28	0.41
1:D:380:PHE:CE1	1:D:409:PHE:HE2	2.38	0.41
1:D:467:LYS:O	1:D:468:ALA:HB3	2.20	0.41
1:B:482:GLY:O	1:B:516:ASN:ND2	2.46	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:D:458:LYS:C	1:D:460:GLN:N	2.78	0.41
1:A:57:HIS:H	1:B:77:GLU:CG	2.33	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:494:ALA:C	1:C:496:VAL:N	2.78	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
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: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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:186:LEU:HD23	1:D:186:LEU:C	2.45	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:290:THR:O	1:B:292:THR:HG23	2.21	0.41
1:B:303:GLU:O	1:B:304:TRP:C	2.62	0.41
1:B:395:LYS:CG	1:B:396:ASP:N	2.80	0.41
1:B:458:LYS:C	1:B:460:GLN:N	2.77	0.41
1:B:494:ALA:C	1:B:496:VAL:N	2.78	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: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:526:GLN:O	1:B:527:ILE:C	2.62	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:522:LEU:O	1:C:523:ALA:CB	2.68	0.41
1:D:35:ALA:C	1:D:37:ILE:N	2.72	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:C:512:LEU:C	1:C:513:SER:O	2.60	0.41
1:A:57:HIS:HB2	1:B:77:GLU:HG2	2.01	0.41
1:A:186:LEU:HD23	1:A:186:LEU:C	2.46	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:100:VAL:C	1:D:102:ASP:N	2.78	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
1:D:441:TYR:CE2	1:D:474:SER:HB2	2.56	0.41
1:A:467:LYS:O	1:A:468:ALA:HB3	2.20	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

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:404:GLU:C	1:B:406:LYS:HZ3	2.28	0.41
1:B:435:SER:C	1:B:437:LEU:H	2.29	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: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:303:GLU:O	1:C:304:TRP:C	2.62	0.41
1:D:140:LEU:N	1:D:140:LEU:HD12	2.36	0.41
1:D:512:LEU:C	1:D:513:SER:O	2.60	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:435:SER:C	1:C:437:LEU:H	2.28	0.40
1:A:57:HIS:NE2	1:B:79:ILE:HD12	2.36	0.40
1:A:97:ALA:C	1:A:99:ALA:H	2.28	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:C:90:TYR:CD2	1:C:97:ALA:HB3	2.56	0.40
1:C:97:ALA:C	1:C:99:ALA:H	2.28	0.40
1:C:301:LEU:HD12	1:C:302:GLY:H	1.86	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:59:VAL:HG22	1:B:350:MET:HE3	2.03	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
1:D:298:HIS:ND1	1:D:299:PRO:HD2	2.37	0.40
1:B:95:PRO:HA	1:B:98:MET:HE3	2.02	0.40
1:B:97:ALA:C	1:B:99:ALA:H	2.28	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
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:186:LEU:HD23	1:C:186:LEU:C	2.46	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:A:435:SER:C	1:A:437:LEU:H	2.30	0.40
1:B:140:LEU:N	1:B:140:LEU:HD12	2.36	0.40
1:B:256:ASP:C	1:B:258:GLY:N	2.79	0.40
1:B:351:VAL:HB	1:B:352:TYR:CD1	2.57	0.40
1:B:411:PHE:C	1:B:412:ASN:HD22	2.30	0.40
1:C:105:PHE:CD1	1:D:107:LEU:HD23	2.57	0.40
1:C:411:PHE:C	1:C:412:ASN:HD22	2.29	0.40
1:C:513:SER:O	1:C:514:ASP:CB	2.69	0.40
1:D:411:PHE:C	1:D:412:ASN:HD22	2.30	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	5
1	B	537/549 (98%)	346 (64%)	138 (26%)	53 (10%)	0	6
1	C	537/549 (98%)	344 (64%)	139 (26%)	54 (10%)	0	5
1	D	537/549 (98%)	345 (64%)	138 (26%)	54 (10%)	0	5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	2148/2196 (98%)	1380 (64%)	553 (26%)	215 (10%)	<b>0</b> <b>5</b>

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

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Mol	Chain	Res	Type
1	C	540	VAL
1	C	544	ALA
1	D	33	THR
1	D	124	ILE
1	D	151	ALA
1	D	167	VAL
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

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Mol	Chain	Res	Type
1	C	542	LEU
1	D	15	ILE
1	D	35	ALA
1	D	158	VAL
1	D	232	ARG
1	D	300	LYS
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

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Mol	Chain	Res	Type
1	D	40	LYS
1	D	41	HIS
1	D	136	LYS
1	D	231	GLN
1	D	299	PRO
1	D	304	TRP
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

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Mol	Chain	Res	Type
1	A	111	PRO
1	A	164	ALA
1	B	23	GLU
1	B	46	TYR
1	B	111	PRO
1	B	164	ALA
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

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Mol	Chain	Res	Type
1	C	125	ILE
1	C	129	GLY
1	C	440	VAL
1	D	125	ILE
1	D	129	GLY
1	D	440	VAL
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%)	469 (98%)	12 (2%)	42	63
1	B	481/491 (98%)	469 (98%)	12 (2%)	42	63
1	C	481/491 (98%)	469 (98%)	12 (2%)	42	63
1	D	481/491 (98%)	469 (98%)	12 (2%)	42	63
All	All	1924/1964 (98%)	1876 (98%)	48 (2%)	42	63

All (48) 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	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

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Mol	Chain	Res	Type
1	A	506	VAL
1	B	31	ARG
1	B	274	PHE
1	B	276	PHE
1	B	286	TYR
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	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	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 (50) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	44	ASN

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Mol	Chain	Res	Type
1	A	68	GLN
1	A	127	ASN
1	A	169	ASN
1	A	231	GLN
1	A	242	HIS
1	A	268	GLN
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	44	ASN
1	B	68	GLN
1	B	127	ASN
1	B	169	ASN
1	B	231	GLN
1	B	242	HIS
1	B	268	GLN
1	B	291	GLN
1	B	322	ASN
1	B	329	ASN
1	B	354	GLN
1	B	382	ASN
1	B	412	ASN
1	B	476	ASN
1	C	44	ASN
1	C	68	GLN
1	C	127	ASN
1	C	169	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	169	ASN
1	D	231	GLN

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Mol	Chain	Res	Type
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 [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

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	539/549 (98%)	0.47	39 (7%) 21 14	37, 149, 203, 203	0
1	B	539/549 (98%)	0.25	26 (4%) 35 20	15, 116, 203, 203	0
1	C	539/549 (98%)	0.25	24 (4%) 38 21	13, 104, 203, 203	0
1	D	539/549 (98%)	0.32	31 (5%) 29 17	26, 150, 203, 203	0
All	All	2156/2196 (98%)	0.32	120 (5%) 30 18	13, 131, 203, 203	0

All (120) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	540	VAL	5.7
1	A	491	ILE	5.3
1	D	179	ALA	5.1
1	D	171	MET	4.9
1	A	136	LYS	4.8
1	C	284	LYS	4.3
1	C	400	PRO	4.3
1	A	509	VAL	4.2
1	C	461	TYR	4.2
1	D	426	GLU	4.2
1	C	302	GLY	3.8
1	D	162	ALA	3.7
1	A	422	ILE	3.7
1	B	400	PRO	3.7
1	C	138	GLU	3.6
1	A	135	GLU	3.6
1	A	159	PHE	3.6
1	B	540	VAL	3.5
1	D	133	ASP	3.4
1	A	429	LYS	3.4
1	A	426	GLU	3.3

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Mol	Chain	Res	Type	RSRZ
1	D	422	ILE	3.3
1	A	180	PHE	3.2
1	A	92	GLN	3.2
1	A	14	ASP	3.1
1	B	515	ILE	3.1
1	B	450	ILE	3.1
1	D	137	LYS	3.0
1	B	275	LYS	3.0
1	D	409	PHE	3.0
1	C	71	LEU	3.0
1	B	302	GLY	2.9
1	B	394	ASN	2.9
1	A	171	MET	2.9
1	A	129	GLY	2.8
1	B	508	ILE	2.8
1	B	429	LYS	2.8
1	D	173	LEU	2.8
1	B	133	ASP	2.8
1	C	181	PRO	2.7
1	D	349	ALA	2.7
1	B	130	ILE	2.7
1	A	137	LYS	2.7
1	A	15	ILE	2.7
1	B	461	TYR	2.7
1	B	432	LEU	2.6
1	A	487	LEU	2.6
1	B	514	ASP	2.6
1	D	538	GLY	2.6
1	D	135	GLU	2.6
1	A	431	LEU	2.6
1	D	413	GLY	2.6
1	A	539	PRO	2.5
1	B	507	PRO	2.5
1	D	302	GLY	2.5
1	A	33	THR	2.4
1	A	461	TYR	2.4
1	C	432	LEU	2.4
1	D	431	LEU	2.4
1	C	504	PHE	2.4
1	A	515	ILE	2.4
1	D	172	GLY	2.4
1	B	466	LYS	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	128	LEU	2.4
1	D	450	ILE	2.4
1	D	131	ASP	2.4
1	A	430	LYS	2.4
1	C	433	GLY	2.4
1	A	540	VAL	2.4
1	B	457	VAL	2.4
1	C	188	PRO	2.3
1	D	132	ILE	2.3
1	C	313	TYR	2.3
1	A	289	GLU	2.3
1	A	37	ILE	2.3
1	D	400	PRO	2.3
1	C	391	CYS	2.3
1	A	231	GLN	2.3
1	A	354	GLN	2.3
1	C	541	PHE	2.3
1	B	145	HIS	2.3
1	C	424	GLU	2.3
1	D	138	GLU	2.3
1	A	150	GLY	2.3
1	B	456	GLY	2.3
1	C	275	LYS	2.3
1	A	238	LEU	2.2
1	C	542	LEU	2.2
1	D	128	LEU	2.2
1	A	471	GLU	2.2
1	C	202	GLY	2.2
1	B	132	ILE	2.2
1	B	178	THR	2.2
1	B	131	ASP	2.2
1	D	461	TYR	2.2
1	D	143	VAL	2.2
1	A	450	ILE	2.2
1	D	159	PHE	2.2
1	A	488	VAL	2.2
1	A	158	VAL	2.1
1	B	493	GLU	2.1
1	B	415	ARG	2.1
1	B	543	ASN	2.1
1	C	401	CYS	2.1
1	D	472	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	508	ILE	2.1
1	C	132	ILE	2.1
1	C	26	PHE	2.1
1	B	118	GLY	2.1
1	D	507	PRO	2.1
1	D	183	PHE	2.1
1	A	144	LEU	2.1
1	D	170	GLU	2.1
1	A	265	LEU	2.0
1	C	509	VAL	2.0
1	A	64	GLU	2.0
1	D	500	ASP	2.0
1	D	52	VAL	2.0
1	C	154	GLY	2.0
1	A	197	SER	2.0

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

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

## 6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 6.4 Ligands [i](#)

There are no ligands in this entry.

## 6.5 Other polymers [i](#)

There are no such residues in this entry.