



wwPDB EM Map/Model Validation Report ⓘ

Apr 10, 2016 – 01:35 PM BST

PDB ID : 1OED
EMDB ID: : EMD-1044
Title : STRUCTURE OF ACETYLCHOLINE RECEPTOR PORE FROM ELECTRON IMAGES
Authors : Miyazawa, A.; Fujiyoshi, Y.; Unwin, N.
Deposited on : 2003-03-24
Resolution : 4.00 Å(reported)

This is a wwPDB EM Map/Model Validation Report for a publicly released PDB/EMDB entry.
For rigid body fitted models, validation errors reported here could stem from errors in the original structure(s) used in the fitting.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/EMValidationReportHelp>

MolProbity : 4.02b-467
Mogul : unknown
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : trunk27241

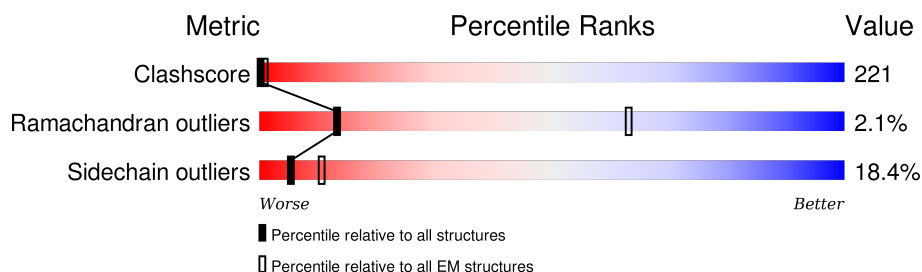
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.00 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)	EM structures (#Entries)
Clashscore	114402	924
Ramachandran outliers	111179	726
Sidechain outliers	111093	686

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. 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 $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	A	227	5% 40% 10% 44%
1	D	227	5% 41% 9% 44%
2	B	250	• 34% 11% • 49%
3	C	260	6% 33% 8% • 51%
4	E	260	7% 30% 12% 51%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 4926 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 ACETYLCHOLINE RECEPTOR PROTEIN, ALPHA CHAIN.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	127	Total	C	N	O	S	0	0
			978	659	144	167	8		
1	D	127	Total	C	N	O	S	0	0
			978	659	144	167	8		

- Molecule 2 is a protein called ACETYLCHOLINE RECEPTOR PROTEIN, BETA CHAIN.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	127	Total	C	N	O	S	0	0
			995	677	147	165	6		

- Molecule 3 is a protein called ACETYLCHOLINE RECEPTOR PROTEIN, DELTA CHAIN.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	127	Total	C	N	O	S	0	0
			982	660	151	163	8		

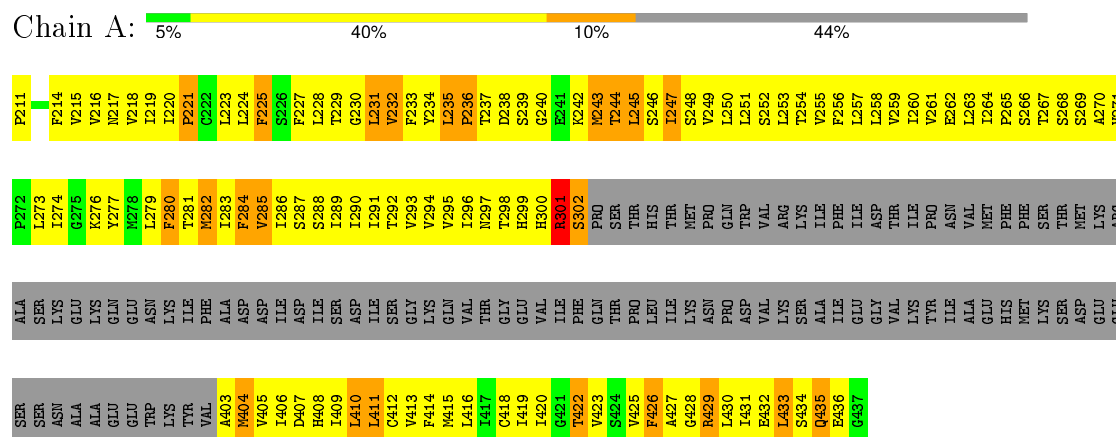
- Molecule 4 is a protein called ACETYLCHOLINE RECEPTOR PROTEIN, GAMMA CHAIN.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	E	128	Total	C	N	O	S	0	0
			993	676	149	161	7		

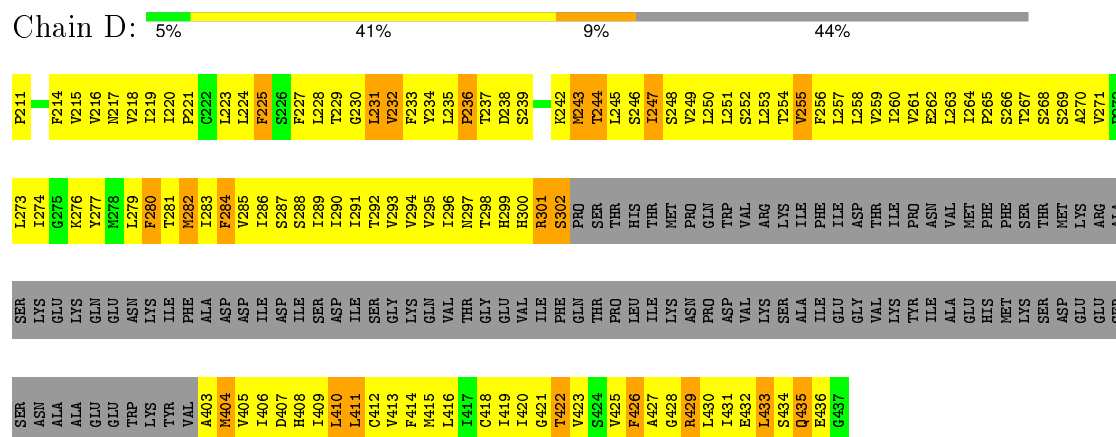
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. 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. 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.

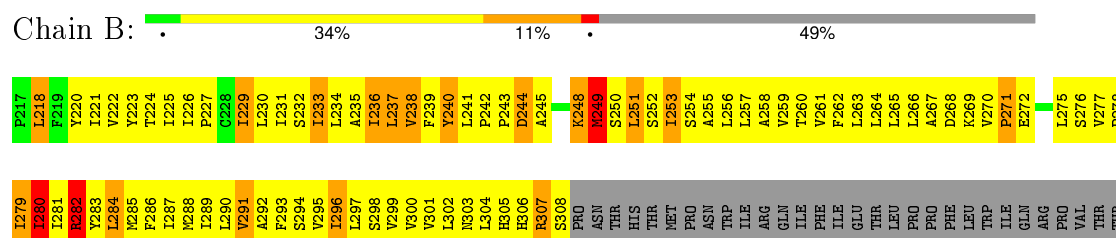
- Molecule 1: ACETYLCHOLINE RECEPTOR PROTEIN, ALPHA CHAIN



- Molecule 1: ACETYLCHOLINE RECEPTOR PROTEIN, ALPHA CHAIN



- Molecule 2: ACETYLCHOLINE RECEPTOR PROTEIN, BETA CHAIN



4 Experimental information

Property	Value	Source
Reconstruction method	HELICAL	Depositor
Imposed symmetry	POINT, Not provided	Depositor
Number of images	Not provided	Depositor
Resolution determination method	Not provided	Depositor
CTF correction method	Not provided	Depositor
Microscope	JEOL JEM 300SFF	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	Not provided	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	40000	Depositor
Image detector	KODAK SO-163 FILM	Depositor

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	$\# Z > 2$	RMSZ	$\# Z > 2$
1	A	0.70	1/996 (0.1%)	1.11	8/1357 (0.6%)
1	D	0.71	1/996 (0.1%)	1.11	7/1357 (0.5%)
2	B	0.99	4/1019 (0.4%)	1.16	7/1393 (0.5%)
3	C	0.75	0/1005	1.16	6/1367 (0.4%)
4	E	0.72	0/1014	1.17	5/1381 (0.4%)
All	All	0.78	6/5030 (0.1%)	1.14	33/6855 (0.5%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
4	E	0	1

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	271	PRO	N-CD	-18.04	1.22	1.47
2	B	445	VAL	CB-CG1	9.40	1.72	1.52
1	A	403	ALA	C-O	8.17	1.38	1.23
1	D	403	ALA	C-O	8.16	1.38	1.23
2	B	448	SER	CB-OG	-6.73	1.33	1.42
2	B	464	PRO	N-CD	5.33	1.55	1.47

All (33) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	445	VAL	CG1-CB-CG2	-8.62	97.11	110.90
3	C	315	ARG	NE-CZ-NH2	7.83	124.21	120.30
3	C	455	ARG	NE-CZ-NH2	7.74	124.17	120.30
2	B	307	ARG	NE-CZ-NH2	7.61	124.10	120.30
4	E	310	ARG	NE-CZ-NH2	7.35	123.98	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	277	ARG	NE-CZ-NH2	7.26	123.93	120.30
1	D	429	ARG	NE-CZ-NH2	7.15	123.87	120.30
1	A	429	ARG	NE-CZ-NH2	7.07	123.83	120.30
1	A	301	ARG	NE-CZ-NH2	6.99	123.80	120.30
1	A	403	ALA	O-C-N	-6.80	111.82	122.70
1	D	403	ALA	O-C-N	-6.77	111.86	122.70
4	E	219	PRO	O-C-N	6.50	133.10	122.70
2	B	437	ARG	NE-CZ-NH2	6.20	123.40	120.30
3	C	458	MET	CG-SD-CE	6.16	110.05	100.20
2	B	445	VAL	CA-CB-CG1	-6.10	101.75	110.90
1	A	282	MET	CG-SD-CE	6.07	109.91	100.20
1	D	282	MET	CG-SD-CE	6.05	109.88	100.20
2	B	433	MET	CG-SD-CE	5.83	109.53	100.20
4	E	295	MET	CG-SD-CE	5.83	109.53	100.20
4	E	291	MET	CG-SD-CE	5.82	109.51	100.20
1	A	404	MET	CG-SD-CE	5.81	109.50	100.20
3	C	475	MET	CG-SD-CE	5.79	109.46	100.20
1	D	404	MET	CG-SD-CE	5.78	109.45	100.20
1	A	243	MET	CG-SD-CE	5.70	109.32	100.20
1	D	243	MET	CG-SD-CE	5.70	109.32	100.20
1	D	403	ALA	CA-C-N	5.69	129.71	117.20
1	A	403	ALA	CA-C-N	5.68	129.69	117.20
4	E	299	MET	CG-SD-CE	5.65	109.24	100.20
2	B	271	PRO	N-CD-CG	5.48	111.42	103.20
3	C	296	MET	CG-SD-CE	5.44	108.91	100.20
2	B	432	ALA	CB-CA-C	-5.41	101.99	110.10
1	D	211	PRO	N-CA-C	-5.14	98.73	112.10
1	A	211	PRO	N-CA-C	-5.14	98.73	112.10

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	E	476	PRO	Mainchain

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	978	0	1059	510	0
1	D	978	0	1059	528	0
2	B	995	0	1064	503	0
3	C	982	0	1040	441	0
4	E	993	0	1077	513	0
All	All	4926	0	5299	2261	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 221.

All (2261) 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)
2:B:286:PHE:CE1	2:B:456:LEU:HB3	1.31	1.64
2:B:463:PRO:CG	2:B:464:PRO:HD3	1.26	1.59
3:C:285:VAL:CG1	3:C:286:PRO:HD2	1.33	1.52
1:A:296:ILE:HD11	4:E:239:LEU:CD1	1.38	1.51
2:B:463:PRO:HG2	2:B:464:PRO:CD	1.43	1.48
2:B:268:ASP:HA	2:B:271:PRO:CG	1.45	1.44
2:B:268:ASP:CA	2:B:271:PRO:CG	1.95	1.44
3:C:459:PHE:O	3:C:463:PRO:CD	1.64	1.41
2:B:268:ASP:CA	2:B:271:PRO:HG2	1.48	1.38
2:B:286:PHE:CZ	2:B:456:LEU:HD22	1.56	1.37
1:A:262:GLU:O	1:A:265:PRO:CD	1.72	1.37
3:C:275:SER:O	3:C:279:PRO:HD3	1.18	1.36
1:D:262:GLU:O	1:D:265:PRO:CD	1.72	1.34
2:B:268:ASP:C	2:B:271:PRO:HG2	1.47	1.32
4:E:270:ALA:O	4:E:274:PRO:CD	1.77	1.31
1:D:262:GLU:C	1:D:265:PRO:HD2	1.51	1.31
4:E:248:GLY:N	4:E:251:LYS:HG3	1.44	1.31
1:D:298:THR:O	1:D:302:SER:HB2	1.14	1.30
1:A:262:GLU:C	1:A:265:PRO:HD2	1.51	1.30
1:A:292:THR:O	1:A:296:ILE:HG23	1.27	1.30
1:D:217:ASN:O	1:D:221:PRO:HD3	1.11	1.29
1:A:242:LYS:NZ	2:B:306:HIS:HA	1.47	1.28
3:C:247:PHE:O	3:C:250:PRO:CG	1.80	1.28
4:E:225:ASN:O	4:E:229:PRO:HD3	1.13	1.27
2:B:459:SER:O	2:B:463:PRO:HD3	1.10	1.27
3:C:231:ASN:O	3:C:235:PRO:HD3	1.22	1.27
1:D:292:THR:O	1:D:296:ILE:HG23	1.25	1.27
3:C:247:PHE:O	3:C:250:PRO:HG2	1.18	1.27
1:A:296:ILE:CD1	4:E:239:LEU:HD13	1.63	1.27

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:242:LYS:CB	1:A:245:LEU:HD13	1.64	1.26
2:B:237:LEU:O	2:B:241:LEU:HB2	1.23	1.26
3:C:275:SER:O	3:C:279:PRO:CD	1.80	1.26
3:C:277:ARG:NH2	1:D:262:GLU:HB3	1.50	1.25
1:D:245:LEU:HD22	4:E:253:THR:CB	1.65	1.25
3:C:245:LEU:O	3:C:249:LEU:HB2	1.31	1.25
4:E:270:ALA:O	4:E:274:PRO:HD3	1.14	1.25
1:A:217:ASN:O	1:A:221:PRO:HD3	1.10	1.25
1:D:262:GLU:O	1:D:265:PRO:HD2	1.07	1.24
1:D:231:LEU:HD12	4:E:305:LEU:CD2	1.67	1.24
2:B:459:SER:O	2:B:463:PRO:CD	1.83	1.24
3:C:246:ALA:O	3:C:250:PRO:CD	1.84	1.23
1:D:245:LEU:HD11	4:E:256:ILE:CB	1.68	1.23
1:A:292:THR:HA	1:A:295:VAL:CG2	1.66	1.23
1:A:262:GLU:O	1:A:265:PRO:HD2	1.07	1.22
1:D:233:PHE:O	1:D:236:PRO:CG	1.89	1.21
2:B:268:ASP:C	2:B:271:PRO:CG	2.04	1.21
2:B:223:TYR:O	2:B:227:PRO:CD	1.88	1.21
2:B:249:MET:HA	2:B:249:MET:CE	1.70	1.20
1:D:233:PHE:O	1:D:236:PRO:HG2	1.41	1.20
3:C:285:VAL:CG1	3:C:286:PRO:CD	2.17	1.20
4:E:243:LEU:O	4:E:247:ALA:CB	1.90	1.20
2:B:239:PHE:CE2	2:B:301:VAL:HG11	1.75	1.20
2:B:237:LEU:O	2:B:241:LEU:CB	1.89	1.20
1:D:409:ILE:HG13	1:D:410:LEU:HD23	1.23	1.20
1:D:217:ASN:O	1:D:221:PRO:CD	1.89	1.20
1:A:233:PHE:O	1:A:236:PRO:CG	1.88	1.19
1:A:264:ILE:HD12	1:A:265:PRO:N	1.56	1.19
2:B:286:PHE:CE1	2:B:456:LEU:CB	2.25	1.19
4:E:242:PHE:C	4:E:244:PRO:HD2	1.61	1.19
1:D:291:ILE:HG22	1:D:295:VAL:CG1	1.73	1.19
4:E:226:ILE:C	4:E:229:PRO:HD2	1.62	1.18
1:A:233:PHE:O	1:A:236:PRO:HG2	1.40	1.18
1:D:414:PHE:CE2	1:D:418:CYS:SG	2.36	1.18
2:B:251:LEU:O	2:B:251:LEU:HD23	1.42	1.18
1:D:291:ILE:HG22	1:D:295:VAL:HG11	1.21	1.18
4:E:243:LEU:O	4:E:247:ALA:HB2	1.39	1.18
3:C:241:PHE:CE2	3:C:245:LEU:HG	1.79	1.18
1:A:414:PHE:CE2	1:A:418:CYS:SG	2.36	1.18
1:D:264:ILE:HD12	1:D:265:PRO:N	1.57	1.17
2:B:267:ALA:O	2:B:271:PRO:HG3	1.44	1.17

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:217:ASN:O	1:A:221:PRO:CD	1.91	1.17
1:A:242:LYS:HB2	1:A:245:LEU:CD1	1.74	1.17
1:A:234:TYR:O	2:B:306:HIS:CE1	1.98	1.17
3:C:299:VAL:O	3:C:303:ILE:HG13	1.45	1.17
1:D:243:MET:O	1:D:246:SER:HB3	1.45	1.17
1:A:238:ASP:HB3	2:B:306:HIS:NE2	1.59	1.17
2:B:223:TYR:O	2:B:227:PRO:HD3	1.01	1.16
2:B:239:PHE:HE2	2:B:301:VAL:HG11	1.02	1.16
1:D:291:ILE:O	1:D:295:VAL:HG13	1.43	1.16
1:A:233:PHE:O	1:A:236:PRO:CD	1.93	1.16
4:E:226:ILE:O	4:E:229:PRO:HD2	1.40	1.16
2:B:286:PHE:CD2	2:B:456:LEU:HD13	1.79	1.16
4:E:266:LEU:HA	4:E:269:ILE:CD1	1.76	1.15
1:A:245:LEU:HD12	2:B:250:SER:CB	1.75	1.15
1:D:245:LEU:HD11	4:E:256:ILE:HB	1.18	1.15
4:E:298:VAL:HG12	4:E:299:MET:HE3	1.16	1.15
2:B:268:ASP:C	2:B:271:PRO:HD2	1.65	1.15
1:D:233:PHE:O	1:D:236:PRO:CD	1.93	1.15
1:A:243:MET:O	1:A:246:SER:HB3	1.44	1.15
2:B:446:ILE:HA	2:B:449:ILE:CD1	1.75	1.15
1:D:293:VAL:O	1:D:296:ILE:HG12	1.46	1.14
2:B:268:ASP:C	2:B:271:PRO:CD	2.15	1.14
2:B:268:ASP:O	2:B:271:PRO:HG2	1.44	1.14
3:C:246:ALA:O	3:C:250:PRO:HD3	0.96	1.14
3:C:282:ALA:HB1	3:C:287:LEU:HD13	1.21	1.14
1:D:227:PHE:O	1:D:231:LEU:HB2	1.48	1.14
1:D:237:THR:HB	1:D:406:ILE:HG21	1.26	1.14
1:A:227:PHE:O	1:A:231:LEU:HB2	1.46	1.13
1:A:261:VAL:O	1:A:265:PRO:HD3	1.49	1.13
1:A:233:PHE:HB3	1:A:410:LEU:HD22	1.22	1.13
2:B:224:THR:C	2:B:227:PRO:HD2	1.68	1.13
1:D:242:LYS:CB	1:D:245:LEU:HD23	1.78	1.13
2:B:241:LEU:HD13	3:C:310:LEU:HD11	1.27	1.13
1:A:218:VAL:C	1:A:221:PRO:HD2	1.68	1.12
2:B:267:ALA:O	2:B:271:PRO:CG	1.97	1.13
3:C:231:ASN:O	3:C:235:PRO:CD	1.96	1.12
3:C:232:PHE:C	3:C:235:PRO:HD2	1.69	1.12
1:D:292:THR:HA	1:D:295:VAL:HG22	1.31	1.12
2:B:284:LEU:CA	2:B:287:ILE:HG12	1.80	1.12
1:D:218:VAL:C	1:D:221:PRO:HD2	1.69	1.12
1:D:233:PHE:HB3	1:D:410:LEU:HD22	1.22	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:409:ILE:HG13	1:A:410:LEU:HD23	1.23	1.12
1:D:261:VAL:O	1:D:265:PRO:HD3	1.49	1.12
4:E:247:ALA:HB1	4:E:251:LYS:CB	1.79	1.12
3:C:227:PHE:HD2	3:C:230:ILE:HD11	1.13	1.11
2:B:239:PHE:CD1	2:B:442:VAL:HG11	1.86	1.11
1:D:242:LYS:HB2	1:D:245:LEU:HD23	1.19	1.11
1:D:292:THR:HA	1:D:295:VAL:CG2	1.80	1.11
2:B:268:ASP:HA	2:B:271:PRO:HG3	1.26	1.11
1:A:228:LEU:HD12	1:A:253:LEU:HD13	1.27	1.11
3:C:285:VAL:HG12	3:C:286:PRO:CD	1.75	1.11
3:C:285:VAL:HG13	3:C:286:PRO:HD2	1.17	1.11
1:D:235:LEU:HD21	4:E:305:LEU:HD11	1.30	1.10
1:D:287:SER:HA	1:D:290:ILE:HG12	1.20	1.10
4:E:225:ASN:O	4:E:229:PRO:CD	1.98	1.10
3:C:459:PHE:O	3:C:463:PRO:HD3	0.94	1.10
1:D:228:LEU:HD12	1:D:253:LEU:HD13	1.27	1.10
2:B:284:LEU:HA	2:B:287:ILE:CG1	1.82	1.10
1:A:231:LEU:O	1:A:235:LEU:HB2	1.48	1.10
1:A:287:SER:HA	1:A:290:ILE:HG12	1.23	1.10
4:E:271:GLN:O	4:E:274:PRO:HG2	1.51	1.10
2:B:283:TYR:O	2:B:287:ILE:N	1.84	1.10
2:B:297:LEU:O	2:B:301:VAL:HG13	1.51	1.10
1:D:426:PHE:HE2	1:D:430:LEU:CB	1.64	1.10
1:A:426:PHE:HE2	1:A:430:LEU:CB	1.64	1.09
2:B:240:TYR:O	2:B:243:PRO:HD2	1.52	1.09
1:A:261:VAL:O	1:A:265:PRO:HG3	1.52	1.09
3:C:289:GLY:HA2	3:C:292:LEU:HD12	1.31	1.09
1:A:231:LEU:O	1:A:235:LEU:CB	1.99	1.09
1:A:292:THR:CA	1:A:295:VAL:HG22	1.83	1.09
1:D:231:LEU:O	1:D:235:LEU:HB2	1.50	1.09
1:A:296:ILE:HD11	4:E:239:LEU:HD11	1.26	1.09
1:A:418:CYS:O	1:A:422:THR:HB	1.52	1.09
2:B:249:MET:HE3	2:B:249:MET:CA	1.83	1.08
1:D:292:THR:CA	1:D:295:VAL:HG22	1.83	1.08
1:D:231:LEU:HD12	4:E:305:LEU:HD21	1.27	1.08
1:D:426:PHE:O	1:D:426:PHE:HD2	1.33	1.08
1:D:235:LEU:HD23	4:E:309:LEU:HG	1.36	1.08
3:C:227:PHE:HA	3:C:230:ILE:HD12	1.30	1.08
1:A:237:THR:HB	1:A:406:ILE:HG21	1.26	1.08
1:A:426:PHE:HD2	1:A:426:PHE:O	1.33	1.08
2:B:233:ILE:O	2:B:237:LEU:HB2	1.54	1.08

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:314:PHE:CE1	3:C:315:ARG:HG2	1.89	1.08
2:B:447:CYS:O	2:B:451:THR:HB	1.54	1.07
1:A:233:PHE:O	1:A:236:PRO:HD2	1.53	1.07
1:A:298:THR:O	1:A:302:SER:HB2	1.51	1.07
4:E:266:LEU:HA	4:E:269:ILE:HD13	1.10	1.07
2:B:241:LEU:CD2	2:B:248:LYS:HD3	1.83	1.07
1:D:261:VAL:O	1:D:265:PRO:HG3	1.52	1.07
4:E:270:ALA:O	4:E:274:PRO:CG	2.02	1.07
4:E:247:ALA:HB1	4:E:251:LYS:HB3	1.36	1.07
2:B:267:ALA:O	2:B:271:PRO:CD	2.03	1.07
1:A:233:PHE:CE2	1:A:295:VAL:HG11	1.90	1.07
1:A:234:TYR:O	2:B:306:HIS:HE1	1.34	1.07
1:D:235:LEU:HD23	4:E:309:LEU:CG	1.85	1.07
2:B:284:LEU:HD22	2:B:287:ILE:CD1	1.84	1.06
2:B:279:ILE:HG12	2:B:280:ILE:HD12	1.27	1.06
3:C:245:LEU:O	3:C:249:LEU:N	1.87	1.06
1:D:414:PHE:CD2	1:D:418:CYS:SG	2.49	1.06
4:E:293:VAL:O	4:E:297:ILE:HG23	1.55	1.06
1:A:414:PHE:CD2	1:A:418:CYS:SG	2.49	1.06
1:A:252:SER:CB	2:B:257:LEU:HD22	1.85	1.06
3:C:275:SER:O	3:C:279:PRO:CG	2.01	1.06
1:D:231:LEU:O	1:D:235:LEU:CB	2.02	1.06
1:D:284:PHE:C	1:D:284:PHE:HD2	1.57	1.06
3:C:241:PHE:O	3:C:245:LEU:HB2	1.53	1.06
1:D:298:THR:O	1:D:302:SER:CB	2.03	1.05
4:E:280:VAL:HB	4:E:281:PRO:HD2	1.37	1.05
2:B:453:SER:HA	2:B:456:LEU:HD12	1.38	1.05
1:D:418:CYS:O	1:D:422:THR:HB	1.57	1.05
3:C:459:PHE:O	3:C:463:PRO:CG	2.04	1.05
3:C:247:PHE:C	3:C:250:PRO:CD	2.25	1.05
3:C:248:TYR:CE1	3:C:252:GLU:HG3	1.90	1.05
2:B:267:ALA:O	2:B:271:PRO:HD3	1.55	1.05
2:B:224:THR:O	2:B:227:PRO:HD2	1.56	1.04
1:A:296:ILE:CD1	4:E:239:LEU:CD1	2.28	1.04
2:B:284:LEU:CD2	2:B:287:ILE:HD11	1.86	1.04
2:B:434:VAL:O	2:B:438:LEU:N	1.90	1.04
3:C:227:PHE:HA	3:C:230:ILE:CD1	1.85	1.04
1:A:242:LYS:HB2	1:A:245:LEU:HD13	1.10	1.04
4:E:266:LEU:O	4:E:269:ILE:HG12	1.56	1.04
1:A:291:ILE:O	1:A:295:VAL:HG22	1.55	1.04
2:B:463:PRO:CG	2:B:464:PRO:CD	2.16	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:245:LEU:O	3:C:249:LEU:CB	2.05	1.04
3:C:453:ILE:O	3:C:453:ILE:HD12	1.54	1.04
3:C:256:LYS:HZ1	1:D:300:HIS:CD2	1.76	1.04
4:E:226:ILE:O	4:E:229:PRO:CD	2.04	1.04
1:D:262:GLU:O	1:D:265:PRO:CG	2.04	1.04
4:E:299:MET:HE2	4:E:299:MET:HA	1.37	1.04
4:E:449:LYS:HB3	4:E:453:TRP:CE2	1.93	1.04
3:C:248:TYR:C	3:C:250:PRO:HD2	1.78	1.03
4:E:472:PHE:O	4:E:476:PRO:HG3	1.58	1.03
3:C:232:PHE:HA	3:C:235:PRO:CG	1.88	1.03
4:E:247:ALA:HA	4:E:251:LYS:HZ2	1.20	1.03
1:A:262:GLU:O	1:A:265:PRO:CG	2.05	1.03
4:E:458:LEU:HD12	4:E:461:ILE:HD11	1.39	1.03
2:B:286:PHE:CD1	2:B:456:LEU:HB3	1.93	1.03
1:D:233:PHE:O	1:D:236:PRO:HD2	1.53	1.03
2:B:268:ASP:O	2:B:271:PRO:CG	2.00	1.03
1:D:228:LEU:CD1	1:D:253:LEU:HD13	1.89	1.02
3:C:460:ILE:C	3:C:463:PRO:HD2	1.79	1.02
3:C:459:PHE:C	3:C:463:PRO:HD3	1.76	1.02
1:A:228:LEU:CD1	1:A:253:LEU:HD13	1.89	1.02
1:A:261:VAL:O	1:A:265:PRO:CD	2.06	1.02
1:D:245:LEU:CD2	4:E:253:THR:HB	1.87	1.02
1:D:225:PHE:CE2	1:D:253:LEU:HD21	1.95	1.02
3:C:276:GLN:C	3:C:279:PRO:HD2	1.79	1.02
1:A:225:PHE:CE2	1:A:253:LEU:HD21	1.94	1.02
2:B:283:TYR:O	2:B:287:ILE:HG23	1.59	1.02
3:C:232:PHE:O	3:C:235:PRO:HG2	1.60	1.02
3:C:282:ALA:CB	3:C:287:LEU:HD13	1.89	1.02
1:A:229:THR:O	1:A:232:VAL:HG12	1.59	1.01
3:C:247:PHE:O	3:C:250:PRO:CD	2.08	1.01
3:C:455:ARG:HH11	3:C:455:ARG:HG2	1.20	1.01
1:D:295:VAL:HA	1:D:298:THR:HB	1.41	1.01
2:B:241:LEU:HD23	2:B:248:LYS:HD3	1.37	1.01
1:D:261:VAL:O	1:D:265:PRO:CD	2.06	1.01
1:A:261:VAL:O	1:A:265:PRO:CG	2.09	1.01
1:A:235:LEU:HA	2:B:306:HIS:NE2	1.74	1.01
3:C:241:PHE:CD2	3:C:245:LEU:HG	1.94	1.01
1:A:262:GLU:C	1:A:265:PRO:CD	2.22	1.01
2:B:242:PRO:HD2	2:B:243:PRO:HD3	1.40	1.01
1:A:242:LYS:HZ1	2:B:306:HIS:HA	1.24	1.01
2:B:304:LEU:HD13	2:B:438:LEU:HD22	1.39	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:284:PHE:C	1:D:284:PHE:CD2	2.27	1.01
1:A:296:ILE:HD11	4:E:239:LEU:HD13	1.04	1.01
1:A:406:ILE:HG22	1:A:410:LEU:HG	1.43	1.01
1:A:274:ILE:HG21	1:A:276:LYS:NZ	1.76	1.01
2:B:290:LEU:HD21	2:B:453:SER:HB3	1.39	1.01
1:D:252:SER:OG	4:E:260:LEU:HD22	1.59	1.00
3:C:285:VAL:HG12	3:C:286:PRO:HD2	1.04	1.00
3:C:479:ASN:O	3:C:482:PRO:HG2	1.61	1.00
1:A:256:PHE:CE2	2:B:261:VAL:HG22	1.96	1.00
1:A:426:PHE:C	1:A:426:PHE:CD2	2.34	1.00
2:B:286:PHE:CZ	2:B:456:LEU:CD2	2.44	1.00
3:C:299:VAL:HG12	3:C:303:ILE:HD11	1.41	1.00
3:C:256:LYS:HD2	3:C:259:THR:HG21	1.42	1.00
3:C:275:SER:O	3:C:279:PRO:HG3	1.59	1.00
4:E:280:VAL:HB	4:E:281:PRO:CD	1.90	1.00
1:A:232:VAL:O	1:A:236:PRO:HD3	1.62	1.00
1:A:406:ILE:HA	1:A:409:ILE:HG12	1.43	1.00
2:B:238:VAL:O	2:B:242:PRO:HD3	1.62	1.00
1:A:225:PHE:CZ	1:A:288:SER:HB2	1.97	1.00
1:D:406:ILE:HA	1:D:409:ILE:HG12	1.43	1.00
1:D:245:LEU:CD1	4:E:256:ILE:HB	1.92	0.99
1:D:261:VAL:O	1:D:265:PRO:CG	2.09	0.99
1:D:406:ILE:HG22	1:D:410:LEU:HG	1.43	0.99
1:D:412:CYS:O	1:D:416:LEU:HG	1.61	0.99
1:A:284:PHE:C	1:A:284:PHE:HD2	1.64	0.99
1:A:291:ILE:HG22	1:A:295:VAL:HG11	1.42	0.99
4:E:277:SER:HB2	4:E:282:LEU:CD2	1.91	0.99
2:B:237:LEU:HD12	3:C:310:LEU:CD2	1.93	0.99
1:D:262:GLU:C	1:D:265:PRO:CD	2.22	0.99
2:B:248:LYS:HZ2	2:B:252:SER:HB2	1.27	0.99
2:B:285:MET:HA	2:B:288:MET:SD	2.02	0.99
1:D:288:SER:O	1:D:292:THR:HG23	1.63	0.99
3:C:309:VAL:O	3:C:313:HIS:N	1.95	0.99
1:A:287:SER:HA	1:A:290:ILE:CG1	1.91	0.99
1:A:218:VAL:O	1:A:221:PRO:HD2	1.61	0.98
1:A:412:CYS:O	1:A:416:LEU:HG	1.61	0.98
4:E:243:LEU:N	4:E:244:PRO:CD	2.26	0.98
2:B:242:PRO:CD	2:B:243:PRO:HD3	1.92	0.98
1:A:234:TYR:CD2	1:A:410:LEU:HD13	1.98	0.98
2:B:446:ILE:HA	2:B:449:ILE:HD11	1.41	0.98
1:D:228:LEU:O	1:D:232:VAL:HB	1.63	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:274:ILE:HG21	1:D:276:LYS:NZ	1.77	0.98
1:A:292:THR:HA	1:A:295:VAL:HG22	1.39	0.98
1:D:239:SER:HB3	1:D:242:LYS:HE2	1.46	0.98
1:A:252:SER:OG	2:B:257:LEU:HD22	1.63	0.98
1:A:225:PHE:CD2	1:A:253:LEU:HD21	1.99	0.98
4:E:270:ALA:O	4:E:274:PRO:HG3	1.61	0.97
1:D:426:PHE:CE2	1:D:430:LEU:CB	2.47	0.97
3:C:241:PHE:CE2	1:D:293:VAL:HG13	1.99	0.97
1:D:214:PHE:HZ	1:D:264:ILE:HG22	1.25	0.97
1:D:232:VAL:O	1:D:236:PRO:HD3	1.62	0.97
2:B:286:PHE:CE2	2:B:456:LEU:HD13	1.98	0.97
2:B:241:LEU:CD1	3:C:310:LEU:HD11	1.94	0.97
3:C:453:ILE:HA	3:C:456:LEU:HD12	1.45	0.97
3:C:305:ASN:O	3:C:309:VAL:HG23	1.64	0.97
1:D:218:VAL:O	1:D:221:PRO:HD2	1.63	0.97
4:E:243:LEU:O	4:E:247:ALA:N	1.98	0.97
1:D:235:LEU:HD11	4:E:305:LEU:HD11	1.47	0.97
1:A:300:HIS:ND1	4:E:243:LEU:HB2	1.79	0.97
1:D:225:PHE:CZ	1:D:288:SER:HB2	2.00	0.97
2:B:220:TYR:OH	3:C:283:LEU:HD11	1.64	0.97
1:A:298:THR:O	1:A:302:SER:N	1.97	0.97
1:D:284:PHE:O	1:D:284:PHE:HD2	1.47	0.97
1:D:225:PHE:CD2	1:D:253:LEU:HD21	2.00	0.97
1:D:297:ASN:O	1:D:301:ARG:HB3	1.63	0.97
1:A:242:LYS:O	1:A:245:LEU:HD22	1.64	0.96
2:B:286:PHE:HE1	2:B:456:LEU:HB3	1.30	0.96
3:C:277:ARG:HH22	1:D:262:GLU:HB3	1.14	0.96
1:A:214:PHE:HZ	1:A:264:ILE:HG22	1.26	0.96
2:B:224:THR:O	2:B:227:PRO:HG2	1.65	0.96
3:C:247:PHE:CE2	3:C:309:VAL:HG21	2.01	0.96
4:E:472:PHE:O	4:E:476:PRO:CG	2.14	0.96
1:A:293:VAL:O	1:A:296:ILE:HG12	1.64	0.96
2:B:230:LEU:HD13	3:C:303:ILE:HG21	1.47	0.96
2:B:268:ASP:O	2:B:271:PRO:CD	2.13	0.96
1:A:426:PHE:CE2	1:A:430:LEU:CB	2.47	0.95
3:C:256:LYS:O	3:C:259:THR:HG22	1.65	0.95
4:E:254:LEU:C	4:E:254:LEU:HD23	1.86	0.95
2:B:298:SER:O	2:B:301:VAL:HG22	1.66	0.95
3:C:232:PHE:O	3:C:235:PRO:HD2	1.65	0.95
1:A:291:ILE:HG22	1:A:295:VAL:CG1	1.96	0.95
2:B:224:THR:C	2:B:227:PRO:CD	2.34	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:426:PHE:C	1:D:426:PHE:CD2	2.34	0.95
1:A:228:LEU:O	1:A:232:VAL:HB	1.66	0.95
3:C:465:MET:HE3	3:C:465:MET:HA	1.46	0.95
1:A:284:PHE:CD2	1:A:284:PHE:C	2.35	0.95
1:A:235:LEU:HA	2:B:306:HIS:CE1	2.00	0.95
1:A:238:ASP:HB3	2:B:306:HIS:CE1	2.01	0.95
1:D:242:LYS:HB2	1:D:245:LEU:CD2	1.95	0.95
1:D:287:SER:O	1:D:291:ILE:HG13	1.66	0.95
2:B:267:ALA:C	2:B:271:PRO:HG3	1.86	0.95
2:B:256:LEU:HD22	2:B:298:SER:HB2	1.46	0.95
3:C:232:PHE:C	3:C:235:PRO:CD	2.33	0.95
1:A:219:ILE:O	1:A:223:LEU:HG	1.66	0.95
2:B:251:LEU:C	2:B:251:LEU:HD23	1.87	0.95
4:E:297:ILE:O	4:E:301:CYS:SG	2.23	0.95
1:A:293:VAL:HG13	4:E:239:LEU:HD11	1.49	0.95
4:E:226:ILE:C	4:E:229:PRO:CD	2.35	0.95
4:E:292:PHE:HA	4:E:295:MET:HE3	1.47	0.95
4:E:449:LYS:O	4:E:453:TRP:N	1.98	0.94
2:B:268:ASP:HA	2:B:271:PRO:HG2	1.08	0.94
2:B:460:HIS:CE1	2:B:464:PRO:HG2	2.02	0.94
1:D:235:LEU:HD21	4:E:305:LEU:CD1	1.97	0.94
1:A:300:HIS:HE1	4:E:243:LEU:HD22	1.32	0.94
2:B:269:LYS:C	2:B:271:PRO:HD2	1.88	0.94
2:B:253:ILE:HD13	2:B:256:LEU:HD12	1.50	0.94
3:C:478:PHE:O	3:C:482:PRO:CD	2.14	0.94
2:B:304:LEU:HD22	2:B:438:LEU:HD22	1.47	0.94
4:E:303:ILE:O	4:E:307:VAL:N	2.00	0.94
2:B:236:ILE:O	2:B:240:TYR:HB2	1.66	0.94
3:C:474:VAL:HA	3:C:477:ASN:ND2	1.80	0.93
3:C:246:ALA:C	3:C:250:PRO:HD3	1.88	0.93
1:D:225:PHE:HZ	1:D:288:SER:HB2	1.32	0.93
4:E:241:TYR:CE2	4:E:304:VAL:HB	2.04	0.93
1:D:274:ILE:HG21	1:D:276:LYS:HZ2	1.32	0.93
1:A:288:SER:O	1:A:292:THR:HG23	1.67	0.93
3:C:460:ILE:O	3:C:463:PRO:HG2	1.69	0.93
1:D:245:LEU:HD22	4:E:253:THR:HB	0.93	0.93
4:E:303:ILE:O	4:E:307:VAL:HG23	1.69	0.93
1:A:292:THR:O	1:A:296:ILE:CG2	2.16	0.93
4:E:248:GLY:H	4:E:251:LYS:HG3	1.06	0.93
1:A:233:PHE:C	1:A:236:PRO:CD	2.37	0.93
3:C:247:PHE:C	3:C:250:PRO:HD2	1.88	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:301:CYS:O	4:E:304:VAL:CG1	2.17	0.93
1:A:293:VAL:HG21	4:E:232:LEU:HD21	1.50	0.93
4:E:241:TYR:CG	4:E:454:ILE:HG21	2.04	0.93
1:A:251:LEU:HD22	4:E:261:ALA:CB	1.99	0.93
1:A:289:ILE:CG2	4:E:232:LEU:HG	1.99	0.93
1:A:292:THR:CA	1:A:295:VAL:CG2	2.44	0.93
2:B:452:PHE:O	2:B:456:LEU:HG	1.69	0.93
2:B:284:LEU:HA	2:B:287:ILE:HG12	0.95	0.92
2:B:460:HIS:CE1	2:B:464:PRO:CG	2.51	0.92
2:B:460:HIS:O	2:B:463:PRO:HD2	1.69	0.92
3:C:277:ARG:HH22	1:D:262:GLU:CB	1.83	0.92
1:D:214:PHE:CZ	1:D:264:ILE:HG22	2.05	0.92
2:B:270:VAL:N	2:B:271:PRO:HD2	1.85	0.92
1:A:239:SER:HB3	1:A:242:LYS:HE2	1.49	0.92
1:A:251:LEU:O	1:A:255:VAL:HG23	1.69	0.92
2:B:236:ILE:O	2:B:240:TYR:N	2.03	0.92
2:B:237:LEU:O	2:B:241:LEU:N	2.02	0.92
1:D:229:THR:O	1:D:232:VAL:HG12	1.68	0.92
2:B:241:LEU:CG	2:B:248:LYS:HD3	1.98	0.92
1:A:256:PHE:CZ	2:B:261:VAL:HG22	2.05	0.92
1:A:426:PHE:HD2	1:A:426:PHE:C	1.71	0.92
3:C:227:PHE:CD2	3:C:230:ILE:HD11	2.04	0.92
1:A:426:PHE:O	1:A:426:PHE:CD2	2.23	0.92
2:B:305:HIS:O	2:B:308:SER:HB3	1.70	0.92
2:B:268:ASP:O	2:B:271:PRO:HD2	1.67	0.92
1:A:225:PHE:HZ	1:A:288:SER:HB2	1.28	0.92
2:B:239:PHE:O	2:B:243:PRO:HD3	1.69	0.92
2:B:460:HIS:C	2:B:463:PRO:HD2	1.89	0.92
1:D:219:ILE:O	1:D:223:LEU:HG	1.69	0.92
4:E:453:TRP:O	4:E:457:LEU:HG	1.69	0.92
1:A:267:THR:O	1:A:271:VAL:HG22	1.69	0.91
1:D:233:PHE:C	1:D:236:PRO:CD	2.37	0.91
1:D:426:PHE:O	1:D:426:PHE:CD2	2.23	0.91
1:A:426:PHE:CE2	1:A:430:LEU:HB3	2.06	0.91
2:B:248:LYS:NZ	2:B:252:SER:HB2	1.86	0.91
4:E:233:ILE:HD13	4:E:233:ILE:O	1.70	0.91
4:E:235:SER:O	4:E:239:LEU:HB2	1.69	0.91
2:B:304:LEU:HD13	2:B:438:LEU:HD13	1.49	0.91
4:E:226:ILE:O	4:E:229:PRO:HG2	1.70	0.91
1:D:235:LEU:CD2	4:E:309:LEU:HB2	2.00	0.91
2:B:236:ILE:O	2:B:240:TYR:CB	2.19	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:462:THR:O	3:C:466:VAL:HG23	1.71	0.91
1:D:267:THR:O	1:D:271:VAL:HG22	1.69	0.91
1:D:292:THR:O	1:D:296:ILE:CG2	2.17	0.91
1:D:426:PHE:CE2	1:D:430:LEU:HB3	2.06	0.91
1:A:247:ILE:HG13	4:E:254:LEU:HG	1.53	0.90
1:A:214:PHE:CZ	1:A:264:ILE:HG22	2.05	0.90
3:C:230:ILE:O	3:C:233:ILE:HG22	1.71	0.90
3:C:227:PHE:HD2	3:C:230:ILE:CD1	1.83	0.90
4:E:241:TYR:CD1	4:E:454:ILE:HG21	2.06	0.90
4:E:450:ALA:O	4:E:454:ILE:HG12	1.70	0.90
1:A:426:PHE:HE2	1:A:430:LEU:HB3	1.37	0.90
1:D:293:VAL:O	1:D:296:ILE:CG1	2.18	0.90
3:C:479:ASN:O	3:C:482:PRO:CG	2.18	0.90
2:B:224:THR:O	2:B:227:PRO:CD	2.18	0.90
1:D:254:THR:O	1:D:258:LEU:HG	1.72	0.90
4:E:240:VAL:HA	4:E:243:LEU:CD2	2.01	0.90
1:A:238:ASP:OD1	2:B:307:ARG:HA	1.72	0.90
1:D:276:LYS:HG3	1:D:277:TYR:CD2	2.07	0.90
1:A:262:GLU:O	1:A:265:PRO:HG2	1.70	0.90
2:B:249:MET:HE3	2:B:249:MET:HA	0.90	0.90
2:B:304:LEU:CD1	2:B:438:LEU:HD22	2.01	0.90
2:B:230:LEU:O	2:B:233:ILE:HG22	1.72	0.90
2:B:295:VAL:HG12	2:B:296:ILE:HD13	1.51	0.90
1:D:295:VAL:CA	1:D:298:THR:HB	2.02	0.90
1:A:255:VAL:HG22	4:E:265:PHE:CE2	2.05	0.90
3:C:481:PRO:N	3:C:482:PRO:HD2	1.87	0.90
1:A:245:LEU:HD12	2:B:250:SER:HB3	1.51	0.89
2:B:257:LEU:O	2:B:261:VAL:HG23	1.73	0.89
3:C:239:ILE:HG13	3:C:242:LEU:HD12	1.54	0.89
1:D:287:SER:HA	1:D:290:ILE:CG1	2.02	0.89
4:E:226:ILE:O	4:E:229:PRO:CG	2.20	0.89
4:E:449:LYS:HB3	4:E:453:TRP:CZ2	2.05	0.89
3:C:453:ILE:C	3:C:453:ILE:HD12	1.90	0.89
1:D:426:PHE:HE2	1:D:430:LEU:HB3	1.37	0.89
2:B:463:PRO:CD	2:B:464:PRO:HD3	2.03	0.89
4:E:301:CYS:O	4:E:304:VAL:HG12	1.71	0.89
1:D:252:SER:CB	4:E:260:LEU:HD22	2.02	0.89
3:C:232:PHE:O	3:C:235:PRO:CG	2.21	0.89
3:C:239:ILE:HA	3:C:242:LEU:HG	1.50	0.89
1:D:235:LEU:CD2	4:E:305:LEU:HD11	2.02	0.89
1:A:218:VAL:C	1:A:221:PRO:CD	2.40	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:232:PHE:HA	3:C:235:PRO:HG2	1.52	0.89
1:D:426:PHE:C	1:D:426:PHE:HD2	1.71	0.89
3:C:277:ARG:NH2	1:D:262:GLU:CB	2.32	0.89
1:D:286:ILE:O	1:D:290:ILE:HG23	1.73	0.89
1:A:276:LYS:HG3	1:A:277:TYR:CD2	2.08	0.88
4:E:243:LEU:C	4:E:243:LEU:HD12	1.94	0.88
1:D:233:PHE:CE2	1:D:295:VAL:HG11	2.08	0.88
1:A:293:VAL:CG2	4:E:232:LEU:HD21	2.03	0.88
2:B:248:LYS:O	2:B:251:LEU:N	2.05	0.88
3:C:285:VAL:HG13	3:C:286:PRO:CD	1.89	0.88
1:A:264:ILE:O	1:A:267:THR:HG22	1.73	0.88
1:D:264:ILE:O	1:D:267:THR:HG22	1.73	0.88
4:E:247:ALA:HA	4:E:251:LYS:NZ	1.88	0.88
4:E:271:GLN:C	4:E:274:PRO:HD2	1.94	0.88
3:C:478:PHE:O	3:C:482:PRO:CG	2.21	0.88
4:E:264:ILE:HD13	4:E:264:ILE:O	1.71	0.88
2:B:270:VAL:N	2:B:271:PRO:CD	2.34	0.88
1:A:293:VAL:HG21	4:E:232:LEU:CD2	2.03	0.88
1:D:233:PHE:HB3	1:D:410:LEU:CD2	2.03	0.88
1:D:237:THR:HB	1:D:406:ILE:CG2	2.03	0.88
3:C:256:LYS:CD	3:C:259:THR:HG21	2.03	0.88
2:B:241:LEU:HD13	3:C:310:LEU:CD1	2.03	0.88
1:A:284:PHE:O	1:A:284:PHE:HD2	1.56	0.87
3:C:478:PHE:O	3:C:482:PRO:HD3	1.72	0.87
1:A:233:PHE:HB3	1:A:410:LEU:CD2	2.03	0.87
1:A:235:LEU:CD2	2:B:306:HIS:HB2	2.04	0.87
2:B:463:PRO:CD	2:B:464:PRO:CD	2.52	0.87
1:D:262:GLU:O	1:D:265:PRO:HG2	1.70	0.87
1:A:227:PHE:CE2	1:A:231:LEU:HG	2.10	0.87
1:A:235:LEU:HD21	2:B:306:HIS:HB2	1.56	0.87
2:B:286:PHE:HZ	2:B:456:LEU:HD22	1.36	0.87
3:C:282:ALA:O	3:C:285:VAL:O	1.91	0.87
1:A:237:THR:HB	1:A:406:ILE:CG2	2.03	0.87
2:B:460:HIS:ND1	2:B:464:PRO:HG2	1.89	0.87
3:C:452:THR:HG22	3:C:456:LEU:HG	1.56	0.87
1:D:225:PHE:CD2	1:D:253:LEU:HD11	2.10	0.87
1:D:233:PHE:CD1	1:D:413:VAL:HG11	2.10	0.87
4:E:301:CYS:C	4:E:304:VAL:HG12	1.95	0.87
2:B:435:ALA:O	2:B:439:PHE:N	2.07	0.87
3:C:267:GLN:NE2	3:C:306:CYS:SG	2.47	0.87
4:E:265:PHE:O	4:E:269:ILE:HG23	1.75	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:479:ASN:O	3:C:482:PRO:HD2	1.73	0.87
3:C:298:LEU:HD11	3:C:471:PHE:CD1	2.10	0.87
2:B:302:LEU:O	2:B:306:HIS:N	2.08	0.87
3:C:247:PHE:O	3:C:250:PRO:HD2	1.75	0.87
3:C:309:VAL:HG12	3:C:313:HIS:CD2	2.09	0.87
3:C:453:ILE:CA	3:C:456:LEU:HD12	2.04	0.87
1:D:291:ILE:O	1:D:295:VAL:CG1	2.23	0.87
4:E:242:PHE:C	4:E:244:PRO:CD	2.44	0.87
2:B:235:ALA:O	2:B:239:PHE:CG	2.28	0.86
4:E:273:VAL:N	4:E:274:PRO:CD	2.37	0.86
4:E:273:VAL:N	4:E:274:PRO:HD2	1.89	0.86
3:C:268:ALA:O	3:C:272:LEU:HG	1.76	0.86
2:B:268:ASP:CA	2:B:271:PRO:HG3	1.79	0.86
4:E:272:LYS:C	4:E:274:PRO:HD2	1.95	0.86
1:D:231:LEU:O	1:D:235:LEU:N	2.09	0.86
2:B:244:ASP:CG	3:C:314:PHE:CZ	2.48	0.86
2:B:283:TYR:CE2	2:B:457:ASP:HA	2.10	0.86
1:D:233:PHE:C	1:D:236:PRO:HD2	1.96	0.86
1:D:287:SER:CA	1:D:290:ILE:HG12	2.03	0.86
3:C:247:PHE:HE2	3:C:309:VAL:HG21	1.37	0.86
1:D:218:VAL:C	1:D:221:PRO:CD	2.44	0.86
4:E:283:ILE:O	4:E:283:ILE:HG13	1.76	0.86
3:C:481:PRO:CD	3:C:482:PRO:HD2	2.06	0.86
3:C:232:PHE:O	3:C:235:PRO:CD	2.23	0.85
3:C:299:VAL:O	3:C:303:ILE:CG1	2.23	0.85
2:B:248:LYS:O	2:B:251:LEU:HB3	1.76	0.85
1:D:294:VAL:O	1:D:298:THR:N	2.08	0.85
3:C:304:VAL:O	3:C:308:ILE:HG12	1.75	0.85
4:E:299:MET:CE	4:E:299:MET:HA	2.06	0.85
3:C:473:PHE:O	3:C:477:ASN:N	2.07	0.85
1:A:233:PHE:C	1:A:236:PRO:HD2	1.95	0.85
3:C:232:PHE:CA	3:C:235:PRO:CG	2.55	0.85
1:D:283:ILE:HG13	1:D:284:PHE:H	1.42	0.85
3:C:479:ASN:O	3:C:482:PRO:CD	2.24	0.85
3:C:465:MET:CE	3:C:465:MET:HA	2.06	0.85
1:A:218:VAL:O	1:A:221:PRO:HG2	1.77	0.85
2:B:224:THR:O	2:B:227:PRO:CG	2.23	0.85
1:A:273:LEU:HG	1:A:274:ILE:H	1.42	0.85
2:B:295:VAL:O	2:B:299:VAL:HG13	1.76	0.85
4:E:237:VAL:O	4:E:240:VAL:HG12	1.77	0.85
4:E:247:ALA:HB1	4:E:251:LYS:CG	2.06	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:452:PHE:HB3	4:E:453:TRP:CE3	2.10	0.85
3:C:481:PRO:N	3:C:482:PRO:CD	2.40	0.85
1:A:233:PHE:CE1	1:A:413:VAL:HG11	2.11	0.85
3:C:227:PHE:CA	3:C:230:ILE:HD12	2.06	0.85
1:A:231:LEU:O	1:A:235:LEU:N	2.09	0.84
1:A:242:LYS:HZ2	2:B:306:HIS:HA	1.36	0.84
1:A:426:PHE:CE2	1:A:430:LEU:HB2	2.12	0.84
2:B:304:LEU:CD2	2:B:438:LEU:HD22	2.06	0.84
1:D:233:PHE:CE1	1:D:413:VAL:HG11	2.11	0.84
2:B:258:ALA:CB	3:C:265:LEU:HD22	2.07	0.84
3:C:249:LEU:HD11	1:D:300:HIS:CE1	2.11	0.84
4:E:243:LEU:N	4:E:244:PRO:HD2	1.90	0.84
1:D:291:ILE:O	1:D:295:VAL:N	2.09	0.84
4:E:310:ARG:O	4:E:310:ARG:NE	2.09	0.84
3:C:234:THR:HA	3:C:237:VAL:CG2	2.07	0.84
3:C:302:VAL:O	3:C:306:CYS:SG	2.34	0.84
2:B:282:ARG:HD2	2:B:460:HIS:CG	2.12	0.84
3:C:239:ILE:CD1	3:C:271:LEU:HD21	2.06	0.84
3:C:459:PHE:O	3:C:463:PRO:HG3	1.77	0.84
1:D:297:ASN:O	1:D:301:ARG:N	2.11	0.84
1:A:291:ILE:O	1:A:295:VAL:N	2.09	0.84
1:A:235:LEU:HA	2:B:306:HIS:CD2	2.11	0.84
2:B:304:LEU:HD13	2:B:438:LEU:CD2	2.06	0.84
4:E:235:SER:O	4:E:239:LEU:N	2.10	0.84
1:A:234:TYR:HD2	1:A:410:LEU:HD13	1.32	0.84
1:A:296:ILE:HA	1:A:299:HIS:HB2	1.59	0.84
1:D:227:PHE:CD1	1:D:231:LEU:HG	2.13	0.84
1:D:239:SER:HB3	1:D:242:LYS:CE	2.07	0.84
1:D:291:ILE:CG2	1:D:295:VAL:CG1	2.54	0.84
4:E:294:SER:O	4:E:297:ILE:HG13	1.77	0.84
2:B:262:PHE:CE2	3:C:269:VAL:HG22	2.13	0.84
3:C:275:SER:C	3:C:279:PRO:HD3	1.98	0.84
1:D:264:ILE:HD12	1:D:264:ILE:C	1.97	0.84
4:E:254:LEU:HD23	4:E:255:SER:N	1.93	0.84
1:D:426:PHE:CE2	1:D:430:LEU:HB2	2.12	0.84
1:A:291:ILE:O	1:A:295:VAL:HG13	1.78	0.83
2:B:459:SER:O	2:B:463:PRO:CG	2.25	0.83
4:E:234:SER:O	4:E:238:VAL:HB	1.78	0.83
4:E:271:GLN:O	4:E:274:PRO:CG	2.25	0.83
1:A:225:PHE:CD2	1:A:253:LEU:HD11	2.14	0.83
1:A:283:ILE:HG13	1:A:284:PHE:H	1.42	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:419:ILE:O	1:D:422:THR:HG22	1.79	0.83
1:A:245:LEU:HD12	2:B:250:SER:HB2	1.61	0.83
4:E:239:LEU:O	4:E:243:LEU:HB3	1.77	0.83
1:D:273:LEU:HG	1:D:274:ILE:H	1.42	0.83
1:A:218:VAL:O	1:A:221:PRO:CD	2.26	0.83
1:A:264:ILE:HD12	1:A:264:ILE:C	1.97	0.83
1:D:227:PHE:HD1	1:D:231:LEU:HG	1.42	0.83
1:A:293:VAL:O	1:A:296:ILE:CG1	2.26	0.83
2:B:241:LEU:N	2:B:242:PRO:CD	2.42	0.83
2:B:304:LEU:HD22	2:B:438:LEU:CD2	2.08	0.83
1:D:234:TYR:CD2	1:D:410:LEU:HD13	2.14	0.83
2:B:445:VAL:O	2:B:449:ILE:HG23	1.79	0.83
4:E:233:ILE:HG12	4:E:236:LEU:HD12	1.60	0.83
1:A:419:ILE:O	1:A:422:THR:HG22	1.78	0.83
4:E:247:ALA:CB	4:E:251:LYS:HD2	2.08	0.83
1:D:227:PHE:CE1	1:D:231:LEU:HD21	2.14	0.83
4:E:267:PHE:O	4:E:267:PHE:HD2	1.61	0.83
4:E:262:GLN:NE2	4:E:301:CYS:SG	2.52	0.83
1:D:235:LEU:N	1:D:236:PRO:CD	2.42	0.82
4:E:241:TYR:CB	4:E:454:ILE:HD13	2.09	0.82
4:E:470:GLY:O	4:E:474:GLN:HG2	1.78	0.82
1:A:242:LYS:NZ	2:B:306:HIS:CA	2.39	0.82
2:B:267:ALA:C	2:B:271:PRO:HD3	1.99	0.82
2:B:281:ILE:HG22	2:B:285:MET:N	1.95	0.82
3:C:276:GLN:HA	3:C:279:PRO:HG2	1.60	0.82
3:C:477:ASN:O	3:C:481:PRO:CD	2.27	0.82
1:D:293:VAL:C	1:D:296:ILE:HG12	2.00	0.82
1:A:243:MET:O	1:A:246:SER:CB	2.27	0.82
1:A:245:LEU:C	1:A:245:LEU:HD23	1.98	0.82
3:C:262:SER:O	1:D:251:LEU:HD13	1.79	0.82
1:D:228:LEU:HD12	1:D:253:LEU:CD1	2.09	0.82
1:D:296:ILE:O	1:D:300:HIS:N	2.10	0.82
2:B:286:PHE:CG	2:B:456:LEU:HD13	2.14	0.82
1:A:262:GLU:HA	1:A:265:PRO:HG2	1.61	0.82
3:C:231:ASN:C	3:C:235:PRO:HD3	2.00	0.82
4:E:238:VAL:O	4:E:242:PHE:N	2.13	0.82
3:C:276:GLN:C	3:C:279:PRO:CD	2.47	0.82
1:A:239:SER:HB3	1:A:242:LYS:CE	2.09	0.82
1:A:268:SER:O	1:A:271:VAL:O	1.98	0.82
1:A:293:VAL:C	1:A:296:ILE:HG12	2.00	0.82
3:C:479:ASN:C	3:C:482:PRO:HD2	1.99	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:262:GLU:HA	1:A:265:PRO:CG	2.10	0.81
4:E:454:ILE:HG13	4:E:455:ALA:H	1.44	0.81
1:A:235:LEU:N	1:A:236:PRO:CD	2.43	0.81
2:B:233:ILE:O	2:B:237:LEU:CB	2.29	0.81
1:A:229:THR:O	1:A:233:PHE:N	2.11	0.81
1:A:291:ILE:C	1:A:295:VAL:HG22	1.99	0.81
2:B:237:LEU:HD12	3:C:310:LEU:HD21	1.61	0.81
3:C:234:THR:HA	3:C:237:VAL:HG22	1.63	0.81
3:C:452:THR:HG22	3:C:456:LEU:CG	2.10	0.81
1:D:227:PHE:O	1:D:231:LEU:CB	2.28	0.81
1:D:262:GLU:HA	1:D:265:PRO:CG	2.10	0.81
2:B:296:ILE:O	2:B:300:VAL:HG23	1.80	0.81
2:B:279:ILE:CG1	2:B:280:ILE:HD12	2.10	0.81
1:A:228:LEU:HD12	1:A:253:LEU:CD1	2.09	0.81
4:E:235:SER:O	4:E:239:LEU:CB	2.28	0.81
4:E:243:LEU:O	4:E:247:ALA:CA	2.28	0.81
1:A:227:PHE:O	1:A:231:LEU:CB	2.27	0.81
1:A:242:LYS:HB3	1:A:245:LEU:HD13	1.60	0.81
2:B:281:ILE:HG22	2:B:285:MET:H	1.44	0.81
3:C:481:PRO:CD	3:C:482:PRO:CD	2.58	0.81
3:C:460:ILE:C	3:C:463:PRO:CD	2.49	0.80
2:B:446:ILE:HA	2:B:449:ILE:CG1	2.11	0.80
2:B:241:LEU:CD1	3:C:310:LEU:CD1	2.60	0.80
4:E:230:CYS:HA	4:E:233:ILE:HG22	1.61	0.80
1:A:274:ILE:HG21	1:A:276:LYS:HZ2	1.43	0.80
2:B:286:PHE:CE2	2:B:456:LEU:HD22	2.16	0.80
3:C:247:PHE:C	3:C:250:PRO:CG	2.47	0.80
3:C:312:PHE:CZ	3:C:456:LEU:HD13	2.15	0.80
3:C:232:PHE:HA	3:C:235:PRO:HG3	1.62	0.80
4:E:301:CYS:CA	4:E:304:VAL:HG12	2.11	0.80
3:C:477:ASN:O	3:C:481:PRO:HD3	1.80	0.80
2:B:460:HIS:ND1	2:B:464:PRO:CG	2.43	0.80
1:D:262:GLU:HA	1:D:265:PRO:HG2	1.61	0.80
4:E:271:GLN:C	4:E:274:PRO:CD	2.50	0.80
3:C:471:PHE:HD2	3:C:471:PHE:O	1.64	0.80
1:A:296:ILE:O	1:A:300:HIS:CD2	2.34	0.80
3:C:231:ASN:O	3:C:235:PRO:CG	2.30	0.80
4:E:239:LEU:O	4:E:243:LEU:N	2.11	0.80
1:D:239:SER:CB	1:D:242:LYS:HE2	2.12	0.80
3:C:277:ARG:HH21	1:D:262:GLU:HB3	1.46	0.80
4:E:458:LEU:HA	4:E:461:ILE:HG12	1.63	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:256:LYS:CG	3:C:259:THR:HG21	2.12	0.79
1:D:243:MET:O	1:D:246:SER:CB	2.27	0.79
1:D:268:SER:O	1:D:271:VAL:O	1.98	0.79
3:C:294:PHE:HB3	3:C:471:PHE:CE1	2.18	0.79
1:A:233:PHE:CE2	1:A:295:VAL:CG1	2.64	0.79
1:A:233:PHE:CD1	1:A:413:VAL:HG11	2.17	0.79
2:B:260:THR:O	2:B:264:LEU:HG	1.82	0.79
3:C:236:CYS:O	3:C:239:ILE:HG22	1.81	0.79
1:D:245:LEU:HD11	4:E:256:ILE:CG1	2.12	0.79
2:B:269:LYS:HG3	2:B:270:VAL:N	1.96	0.79
2:B:461:ASN:O	2:B:465:ASP:HB2	1.82	0.79
2:B:241:LEU:HG	2:B:248:LYS:HD3	1.63	0.79
3:C:243:ALA:O	3:C:247:PHE:CG	2.35	0.79
1:D:230:GLY:O	1:D:234:TYR:N	2.14	0.79
4:E:236:LEU:O	4:E:240:VAL:N	2.14	0.79
4:E:271:GLN:C	4:E:274:PRO:HG2	2.02	0.79
2:B:453:SER:HA	2:B:456:LEU:CD1	2.12	0.79
4:E:240:VAL:O	4:E:244:PRO:HD3	1.82	0.79
1:A:300:HIS:CE1	4:E:243:LEU:HD22	2.17	0.79
1:A:230:GLY:O	1:A:234:TYR:HB2	1.82	0.79
1:D:229:THR:HA	1:D:232:VAL:CG1	2.12	0.79
1:A:291:ILE:CG2	1:A:295:VAL:CG1	2.61	0.79
2:B:245:ALA:O	2:B:248:LYS:HG2	1.82	0.79
3:C:234:THR:N	3:C:235:PRO:CD	2.46	0.79
1:A:240:GLY:O	1:A:243:MET:HG3	1.82	0.79
3:C:241:PHE:O	3:C:245:LEU:CB	2.30	0.79
3:C:248:TYR:CZ	3:C:252:GLU:HG3	2.18	0.79
2:B:293:PHE:O	2:B:297:LEU:HG	1.81	0.79
4:E:270:ALA:C	4:E:274:PRO:HD3	2.03	0.79
2:B:279:ILE:HG23	2:B:280:ILE:CD1	2.13	0.79
1:D:235:LEU:HD11	4:E:305:LEU:CD1	2.12	0.79
1:D:295:VAL:HA	1:D:298:THR:CB	2.13	0.79
1:D:245:LEU:HD22	4:E:253:THR:CA	2.13	0.79
1:A:256:PHE:HE2	2:B:261:VAL:HG22	1.48	0.78
3:C:249:LEU:N	3:C:250:PRO:CD	2.46	0.78
1:D:264:ILE:HG13	1:D:265:PRO:HD3	1.65	0.78
4:E:239:LEU:O	4:E:243:LEU:CB	2.30	0.78
1:A:291:ILE:O	1:A:295:VAL:CG2	2.31	0.78
2:B:241:LEU:HD23	2:B:248:LYS:CD	2.12	0.78
3:C:236:CYS:HA	3:C:239:ILE:HG22	1.64	0.78
3:C:276:GLN:HA	3:C:279:PRO:CG	2.13	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:295:VAL:HG12	2:B:296:ILE:CD1	2.12	0.78
3:C:455:ARG:NH1	3:C:455:ARG:HG2	1.93	0.78
2:B:462:VAL:N	2:B:463:PRO:HD2	1.99	0.78
4:E:451:CYS:O	4:E:454:ILE:HG13	1.83	0.78
3:C:289:GLY:HA2	3:C:292:LEU:CD1	2.13	0.78
2:B:448:SER:O	2:B:451:THR:HG22	1.83	0.78
1:D:261:VAL:C	1:D:265:PRO:HD3	2.04	0.78
2:B:280:ILE:O	2:B:280:ILE:HD13	1.84	0.78
2:B:225:ILE:O	2:B:229:ILE:HD13	1.84	0.78
1:D:235:LEU:CD1	4:E:305:LEU:HD11	2.14	0.78
2:B:249:MET:SD	2:B:305:HIS:CD2	2.76	0.78
2:B:304:LEU:HD13	2:B:438:LEU:CD1	2.13	0.78
3:C:309:VAL:HG12	3:C:313:HIS:NE2	1.99	0.78
1:D:218:VAL:O	1:D:221:PRO:CD	2.31	0.78
1:D:405:VAL:O	1:D:408:HIS:HB2	1.84	0.78
4:E:452:PHE:HB3	4:E:453:TRP:CZ3	2.18	0.78
1:A:256:PHE:CE1	2:B:260:THR:HG22	2.18	0.78
1:D:264:ILE:HD12	1:D:265:PRO:CD	2.14	0.78
4:E:298:VAL:CG1	4:E:299:MET:HE3	2.08	0.77
2:B:268:ASP:N	2:B:271:PRO:HG3	1.99	0.77
1:A:264:ILE:HD12	1:A:265:PRO:CD	2.13	0.77
3:C:460:ILE:O	3:C:463:PRO:HD2	1.83	0.77
3:C:232:PHE:C	3:C:235:PRO:CG	2.53	0.77
1:D:296:ILE:HG13	1:D:297:ASN:N	1.98	0.77
4:E:233:ILE:HA	4:E:236:LEU:HG	1.66	0.77
2:B:242:PRO:HD2	2:B:243:PRO:CD	2.15	0.77
1:D:238:ASP:HB2	4:E:309:LEU:HD21	1.67	0.77
1:A:264:ILE:HG13	1:A:265:PRO:HD3	1.66	0.77
2:B:281:ILE:O	2:B:284:LEU:N	2.17	0.77
3:C:239:ILE:HA	3:C:242:LEU:CG	2.14	0.77
2:B:251:LEU:C	2:B:251:LEU:CD2	2.52	0.77
2:B:300:VAL:O	2:B:304:LEU:N	2.13	0.77
1:A:229:THR:HA	1:A:232:VAL:CG1	2.15	0.77
1:A:282:MET:O	1:A:285:VAL:HG12	1.85	0.77
2:B:240:TYR:O	2:B:243:PRO:CD	2.32	0.77
3:C:239:ILE:HD12	3:C:271:LEU:HD21	1.67	0.77
4:E:247:ALA:HB1	4:E:251:LYS:HD2	1.67	0.77
2:B:279:ILE:HG23	2:B:280:ILE:HD13	1.67	0.77
3:C:478:PHE:O	3:C:482:PRO:HG3	1.83	0.77
2:B:235:ALA:O	2:B:239:PHE:CD1	2.38	0.77
2:B:237:LEU:O	2:B:241:LEU:CA	2.32	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:261:VAL:C	1:A:265:PRO:HD3	2.04	0.76
2:B:248:LYS:HZ2	2:B:252:SER:CB	1.98	0.76
3:C:236:CYS:CA	3:C:239:ILE:HG22	2.15	0.76
3:C:245:LEU:O	3:C:249:LEU:CA	2.32	0.76
1:D:426:PHE:HE2	1:D:430:LEU:HB2	1.47	0.76
1:A:238:ASP:CB	2:B:306:HIS:CE1	2.67	0.76
3:C:234:THR:N	3:C:235:PRO:HD2	1.99	0.76
4:E:277:SER:HB2	4:E:282:LEU:HD21	1.68	0.76
1:A:242:LYS:HB2	1:A:245:LEU:CD2	2.16	0.76
2:B:282:ARG:HD2	2:B:460:HIS:ND1	2.01	0.76
3:C:460:ILE:O	3:C:463:PRO:CG	2.34	0.76
1:D:277:TYR:CE2	1:D:431:ILE:HD13	2.21	0.76
1:A:227:PHE:CD2	1:A:231:LEU:HG	2.19	0.76
3:C:239:ILE:HD11	3:C:271:LEU:HD11	1.68	0.76
3:C:247:PHE:HD1	3:C:460:ILE:HG21	1.51	0.76
1:D:229:THR:O	1:D:233:PHE:CG	2.39	0.76
1:A:279:LEU:O	1:A:282:MET:HG2	1.85	0.76
2:B:221:ILE:O	2:B:225:ILE:HG13	1.84	0.76
2:B:460:HIS:CE1	2:B:464:PRO:HG3	2.21	0.76
3:C:314:PHE:CD1	3:C:314:PHE:C	2.58	0.76
1:A:298:THR:O	1:A:302:SER:CB	2.30	0.76
2:B:232:SER:O	2:B:236:ILE:HB	1.84	0.76
3:C:226:LEU:O	3:C:230:ILE:HG13	1.85	0.76
3:C:232:PHE:C	3:C:235:PRO:HG2	2.05	0.76
1:D:283:ILE:HG13	1:D:284:PHE:N	2.01	0.76
2:B:223:TYR:C	2:B:227:PRO:HD3	2.04	0.76
2:B:255:ALA:O	2:B:259:VAL:HG23	1.86	0.76
3:C:232:PHE:CA	3:C:235:PRO:HG2	2.15	0.76
3:C:236:CYS:HA	3:C:239:ILE:CG2	2.16	0.76
1:D:282:MET:O	1:D:285:VAL:HG12	1.86	0.76
4:E:301:CYS:HA	4:E:304:VAL:CG1	2.16	0.76
1:D:419:ILE:O	1:D:423:VAL:N	2.18	0.76
3:C:299:VAL:HG12	3:C:303:ILE:CD1	2.14	0.76
3:C:256:LYS:NZ	1:D:300:HIS:CD2	2.53	0.76
4:E:241:TYR:CD2	4:E:454:ILE:HG21	2.21	0.76
4:E:248:GLY:H	4:E:251:LYS:CG	1.94	0.76
1:A:239:SER:CB	1:A:242:LYS:HE2	2.15	0.75
1:A:405:VAL:O	1:A:408:HIS:HB2	1.85	0.75
4:E:271:GLN:C	4:E:274:PRO:CG	2.55	0.75
2:B:262:PHE:O	2:B:266:LEU:HG	1.86	0.75
1:A:277:TYR:CE2	1:A:431:ILE:HD13	2.22	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:433:LEU:HD23	1:D:434:SER:N	2.01	0.75
2:B:284:LEU:HD22	2:B:287:ILE:HD11	0.91	0.75
1:D:225:PHE:HE2	1:D:253:LEU:HD21	1.51	0.75
1:A:218:VAL:HA	1:A:221:PRO:CG	2.16	0.75
1:D:407:ASP:O	1:D:411:LEU:HB2	1.87	0.75
1:A:217:ASN:C	1:A:221:PRO:HD3	2.06	0.75
1:A:296:ILE:O	1:A:300:HIS:N	2.19	0.75
2:B:304:LEU:CD1	2:B:438:LEU:HD13	2.17	0.75
1:A:242:LYS:HB2	1:A:245:LEU:HD22	1.68	0.75
1:A:406:ILE:O	1:A:410:LEU:HG	1.87	0.75
2:B:224:THR:HA	2:B:227:PRO:CG	2.15	0.75
1:D:217:ASN:O	1:D:221:PRO:CG	2.34	0.75
1:D:404:MET:O	1:D:408:HIS:CG	2.39	0.75
1:D:407:ASP:O	1:D:411:LEU:N	2.20	0.75
1:D:260:ILE:O	1:D:264:ILE:HG23	1.87	0.75
1:D:292:THR:C	1:D:296:ILE:HG23	2.08	0.75
3:C:231:ASN:O	3:C:235:PRO:HG3	1.87	0.74
1:A:407:ASP:O	1:A:411:LEU:N	2.20	0.74
1:A:260:ILE:O	1:A:264:ILE:HG23	1.87	0.74
1:D:229:THR:O	1:D:233:PHE:CD1	2.41	0.74
1:D:291:ILE:C	1:D:295:VAL:HG13	2.07	0.74
3:C:481:PRO:HD2	3:C:482:PRO:HD2	1.66	0.74
1:A:230:GLY:O	1:A:234:TYR:CB	2.36	0.74
3:C:241:PHE:HZ	1:D:296:ILE:CD1	2.00	0.74
1:A:283:ILE:HG13	1:A:284:PHE:N	2.01	0.74
1:A:301:ARG:HE	1:A:302:SER:HA	1.51	0.74
3:C:243:ALA:HB1	3:C:247:PHE:CZ	2.21	0.74
1:D:218:VAL:O	1:D:221:PRO:HG2	1.87	0.74
1:A:274:ILE:HG21	1:A:276:LYS:HZ1	1.52	0.74
1:A:296:ILE:O	1:A:300:HIS:HD2	1.71	0.74
2:B:240:TYR:C	2:B:243:PRO:HD2	2.07	0.74
1:A:235:LEU:HD23	2:B:306:HIS:CG	2.23	0.74
2:B:460:HIS:O	2:B:463:PRO:CD	2.36	0.74
3:C:247:PHE:CE2	3:C:309:VAL:CG2	2.71	0.74
4:E:251:LYS:HD3	4:E:254:LEU:HD13	1.70	0.74
3:C:481:PRO:CG	3:C:482:PRO:HD3	2.18	0.74
4:E:243:LEU:CD1	4:E:247:ALA:HB2	2.17	0.74
1:D:426:PHE:HA	1:D:429:ARG:HB2	1.70	0.74
4:E:472:PHE:O	4:E:476:PRO:CD	2.36	0.74
3:C:241:PHE:CZ	1:D:296:ILE:HD11	2.22	0.73
1:A:247:ILE:HG13	4:E:254:LEU:CG	2.17	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:280:VAL:CB	4:E:281:PRO:HD2	2.14	0.73
2:B:235:ALA:HA	2:B:238:VAL:HB	1.68	0.73
3:C:233:ILE:C	3:C:235:PRO:HD2	2.09	0.73
3:C:234:THR:O	3:C:238:LEU:HG	1.88	0.73
3:C:276:GLN:O	3:C:279:PRO:HG2	1.88	0.73
1:A:407:ASP:O	1:A:411:LEU:HB2	1.86	0.73
1:D:291:ILE:HG22	1:D:295:VAL:HG13	1.68	0.73
4:E:238:VAL:HG22	4:E:242:PHE:CZ	2.23	0.73
4:E:473:ASN:O	4:E:477:GLU:HG3	1.88	0.73
1:A:218:VAL:O	1:A:221:PRO:CG	2.35	0.73
1:D:262:GLU:CA	1:D:265:PRO:CG	2.66	0.73
1:D:218:VAL:HA	1:D:221:PRO:CG	2.18	0.73
1:D:406:ILE:O	1:D:410:LEU:HG	1.87	0.73
1:D:231:LEU:HD12	4:E:305:LEU:CG	2.18	0.73
4:E:446:VAL:O	4:E:450:ALA:HB2	1.87	0.73
2:B:240:TYR:C	2:B:242:PRO:HD2	2.09	0.73
3:C:278:LEU:N	3:C:279:PRO:CD	2.50	0.73
3:C:276:GLN:CA	3:C:279:PRO:HG2	2.19	0.73
2:B:230:LEU:HD13	3:C:303:ILE:CG2	2.17	0.73
3:C:300:THR:HA	3:C:303:ILE:HD12	1.69	0.73
2:B:460:HIS:O	2:B:463:PRO:HG2	1.87	0.73
1:A:409:ILE:CG1	1:A:410:LEU:HD23	2.13	0.73
2:B:235:ALA:HB1	2:B:239:PHE:CZ	2.23	0.73
3:C:236:CYS:C	3:C:239:ILE:HG22	2.08	0.73
1:A:231:LEU:O	1:A:235:LEU:CG	2.37	0.73
1:A:292:THR:C	1:A:296:ILE:HG23	2.09	0.73
1:A:425:VAL:O	1:A:429:ARG:HG2	1.89	0.73
3:C:295:ILE:O	3:C:299:VAL:HG23	1.88	0.73
1:D:235:LEU:HD21	4:E:309:LEU:HB2	1.71	0.73
1:D:252:SER:OG	4:E:260:LEU:CD2	2.36	0.73
1:A:262:GLU:CA	1:A:265:PRO:CG	2.66	0.72
2:B:231:ILE:HA	2:B:234:LEU:HG	1.71	0.72
2:B:286:PHE:O	2:B:290:LEU:HG	1.89	0.72
3:C:248:TYR:C	3:C:250:PRO:CD	2.55	0.72
4:E:453:TRP:CE3	4:E:453:TRP:N	2.57	0.72
4:E:241:TYR:CE1	4:E:454:ILE:HG21	2.23	0.72
1:A:282:MET:HG2	1:A:283:ILE:N	2.02	0.72
3:C:266:ALA:HB3	1:D:251:LEU:HD22	1.71	0.72
3:C:276:GLN:O	3:C:279:PRO:HD2	1.89	0.72
2:B:256:LEU:CD2	2:B:298:SER:HB2	2.19	0.72
1:D:217:ASN:C	1:D:221:PRO:HD3	2.07	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:265:LEU:O	3:C:269:VAL:HG23	1.90	0.72
4:E:460:SER:O	4:E:464:LEU:HG	1.89	0.72
2:B:444:PHE:CD2	2:B:444:PHE:O	2.42	0.72
1:A:234:TYR:C	1:A:236:PRO:HD2	2.10	0.72
1:A:264:ILE:N	1:A:265:PRO:CD	2.53	0.72
2:B:251:LEU:HD21	3:C:261:ILE:HG13	1.70	0.72
1:A:419:ILE:O	1:A:423:VAL:N	2.18	0.72
1:D:276:LYS:HG3	1:D:277:TYR:HD2	1.54	0.72
1:A:426:PHE:HA	1:A:429:ARG:HB2	1.72	0.72
2:B:303:ASN:O	2:B:307:ARG:N	2.20	0.72
2:B:437:ARG:NH2	2:B:440:LEU:HD12	2.04	0.72
3:C:276:GLN:CA	3:C:279:PRO:CG	2.68	0.72
1:A:220:ILE:N	1:A:221:PRO:CD	2.53	0.72
2:B:462:VAL:N	2:B:463:PRO:CD	2.53	0.72
3:C:248:TYR:CA	3:C:250:PRO:HD2	2.20	0.72
1:D:238:ASP:CB	4:E:309:LEU:HD21	2.19	0.72
3:C:227:PHE:CD2	3:C:230:ILE:CD1	2.68	0.71
4:E:299:MET:O	4:E:302:VAL:HG22	1.89	0.71
2:B:269:LYS:N	2:B:271:PRO:HD2	2.03	0.71
1:A:225:PHE:HE2	1:A:253:LEU:HD21	1.52	0.71
1:A:234:TYR:CD2	1:A:410:LEU:CD1	2.72	0.71
4:E:236:LEU:O	4:E:240:VAL:HB	1.90	0.71
1:D:231:LEU:CD1	4:E:305:LEU:HD21	2.16	0.71
4:E:277:SER:O	4:E:280:VAL:O	2.06	0.71
2:B:226:ILE:N	2:B:227:PRO:CD	2.52	0.71
3:C:245:LEU:C	3:C:249:LEU:HB2	2.09	0.71
3:C:453:ILE:N	3:C:456:LEU:HD12	2.05	0.71
1:D:245:LEU:HD11	4:E:256:ILE:CG2	2.19	0.71
2:B:258:ALA:O	2:B:262:PHE:CD2	2.43	0.71
1:A:276:LYS:HG3	1:A:277:TYR:HD2	1.56	0.71
2:B:286:PHE:CD1	2:B:456:LEU:CB	2.64	0.71
4:E:228:ALA:N	4:E:229:PRO:CD	2.53	0.71
4:E:266:LEU:CA	4:E:269:ILE:CD1	2.65	0.71
4:E:301:CYS:HA	4:E:304:VAL:HG12	1.69	0.71
1:A:242:LYS:HZ1	2:B:306:HIS:CA	2.01	0.71
1:A:285:VAL:O	1:A:289:ILE:HG12	1.89	0.71
2:B:281:ILE:CG2	2:B:284:LEU:HB3	2.20	0.71
1:A:220:ILE:N	1:A:221:PRO:HD2	2.06	0.71
1:A:233:PHE:HE2	1:A:295:VAL:CB	2.04	0.71
2:B:231:ILE:HD13	2:B:263:LEU:HD21	1.71	0.71
1:D:234:TYR:C	1:D:236:PRO:HD2	2.11	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:296:ILE:HD12	4:E:239:LEU:HD13	1.70	0.71
2:B:236:ILE:CG2	2:B:237:LEU:HD23	2.21	0.71
4:E:225:ASN:C	4:E:229:PRO:HD3	2.11	0.71
2:B:290:LEU:CD2	2:B:453:SER:HB3	2.19	0.71
4:E:267:PHE:O	4:E:267:PHE:CD2	2.43	0.71
4:E:301:CYS:O	4:E:304:VAL:HG13	1.90	0.71
3:C:292:LEU:O	3:C:296:MET:HG2	1.91	0.71
1:A:252:SER:OG	2:B:257:LEU:CD2	2.38	0.71
2:B:249:MET:SD	2:B:305:HIS:CG	2.84	0.71
1:D:233:PHE:HE2	1:D:295:VAL:CB	2.04	0.70
4:E:226:ILE:HA	4:E:229:PRO:CG	2.21	0.70
4:E:240:VAL:O	4:E:243:LEU:HG	1.91	0.70
2:B:242:PRO:CD	2:B:243:PRO:CD	2.67	0.70
2:B:459:SER:O	2:B:463:PRO:HG3	1.90	0.70
1:D:412:CYS:O	1:D:416:LEU:CG	2.38	0.70
4:E:232:LEU:O	4:E:235:SER:HB2	1.91	0.70
2:B:437:ARG:HH21	2:B:440:LEU:HD12	1.56	0.70
1:D:264:ILE:N	1:D:265:PRO:CD	2.53	0.70
4:E:247:ALA:HB1	4:E:251:LYS:CD	2.20	0.70
1:A:235:LEU:HD23	2:B:306:HIS:CD2	2.26	0.70
4:E:461:ILE:HG13	4:E:462:GLY:N	2.06	0.70
1:A:231:LEU:HB3	1:A:235:LEU:HD12	1.73	0.70
2:B:239:PHE:CE1	2:B:442:VAL:HG11	2.25	0.70
1:D:409:ILE:CG1	1:D:410:LEU:HD23	2.13	0.70
3:C:477:ASN:O	3:C:481:PRO:CG	2.40	0.70
1:A:289:ILE:HG21	4:E:232:LEU:HG	1.71	0.70
1:A:412:CYS:O	1:A:416:LEU:CG	2.38	0.70
3:C:247:PHE:CD1	3:C:460:ILE:HG21	2.26	0.70
4:E:230:CYS:O	4:E:230:CYS:SG	2.48	0.70
4:E:295:MET:O	4:E:299:MET:HG2	1.92	0.70
3:C:294:PHE:HB3	3:C:471:PHE:CZ	2.27	0.70
1:A:406:ILE:O	1:A:410:LEU:N	2.20	0.70
2:B:301:VAL:O	2:B:305:HIS:CB	2.39	0.70
1:D:220:ILE:N	1:D:221:PRO:CD	2.54	0.70
1:D:282:MET:HG2	1:D:283:ILE:N	2.06	0.70
1:D:404:MET:O	1:D:408:HIS:CD2	2.45	0.70
4:E:247:ALA:C	4:E:251:LYS:HG3	2.12	0.70
4:E:450:ALA:O	4:E:454:ILE:HG23	1.91	0.70
2:B:268:ASP:N	2:B:271:PRO:CG	2.55	0.69
1:A:293:VAL:HG13	4:E:239:LEU:CD1	2.20	0.69
4:E:264:ILE:HG23	4:E:265:PHE:HD2	1.54	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:235:LEU:HD23	4:E:309:LEU:CB	2.22	0.69
2:B:463:PRO:HD2	2:B:464:PRO:HD2	1.72	0.69
3:C:270:PHE:CE2	1:D:255:VAL:HG23	2.28	0.69
1:D:406:ILE:CG2	1:D:410:LEU:HG	2.19	0.69
1:D:245:LEU:CD1	4:E:256:ILE:CB	2.57	0.69
1:D:273:LEU:HG	1:D:274:ILE:N	2.07	0.69
1:A:217:ASN:O	1:A:221:PRO:CG	2.40	0.69
2:B:437:ARG:HA	2:B:437:ARG:CZ	2.23	0.69
4:E:471:HIS:O	4:E:475:VAL:HG23	1.93	0.69
1:A:273:LEU:HG	1:A:274:ILE:N	2.07	0.69
2:B:301:VAL:O	2:B:305:HIS:HB2	1.92	0.69
1:D:292:THR:O	1:D:296:ILE:N	2.26	0.69
1:D:406:ILE:HG22	1:D:410:LEU:CG	2.21	0.69
1:D:406:ILE:O	1:D:410:LEU:N	2.20	0.69
3:C:474:VAL:HA	3:C:477:ASN:HD22	1.53	0.69
3:C:481:PRO:O	3:C:484:LYS:HG3	1.92	0.69
1:A:286:ILE:O	1:A:290:ILE:HG23	1.91	0.69
1:A:295:VAL:HA	1:A:298:THR:HB	1.74	0.69
1:D:279:LEU:O	1:D:282:MET:HG2	1.91	0.69
2:B:283:TYR:C	2:B:287:ILE:HG23	2.12	0.69
3:C:278:LEU:N	3:C:279:PRO:HD2	2.08	0.69
2:B:237:LEU:HD12	3:C:310:LEU:HD23	1.72	0.69
1:D:235:LEU:N	1:D:236:PRO:HD2	2.07	0.69
4:E:309:LEU:HD13	4:E:310:ARG:N	2.08	0.69
3:C:293:MET:HA	3:C:293:MET:CE	2.23	0.69
1:A:406:ILE:HG22	1:A:410:LEU:CG	2.21	0.69
2:B:446:ILE:HA	2:B:449:ILE:HG12	1.75	0.69
4:E:303:ILE:HG22	4:E:307:VAL:HG23	1.75	0.69
1:A:264:ILE:HD12	1:A:265:PRO:CA	2.23	0.69
3:C:241:PHE:HE2	3:C:245:LEU:HG	1.56	0.69
1:D:218:VAL:HA	1:D:221:PRO:HG2	1.75	0.69
1:D:245:LEU:CD2	4:E:253:THR:HA	2.23	0.69
1:A:220:ILE:O	1:A:224:LEU:HG	1.93	0.68
1:A:235:LEU:N	1:A:236:PRO:HD2	2.07	0.68
2:B:301:VAL:O	2:B:305:HIS:CG	2.46	0.68
3:C:266:ALA:HB2	1:D:251:LEU:HB3	1.75	0.68
1:A:292:THR:HA	1:A:295:VAL:HG21	1.73	0.68
2:B:236:ILE:HG22	2:B:237:LEU:HD23	1.74	0.68
3:C:234:THR:CA	3:C:237:VAL:HG22	2.21	0.68
4:E:238:VAL:O	4:E:242:PHE:HB2	1.94	0.68
4:E:457:LEU:O	4:E:461:ILE:HG23	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:256:LYS:HZ1	1:D:300:HIS:CG	2.11	0.68
4:E:228:ALA:N	4:E:229:PRO:HD2	2.07	0.68
4:E:262:GLN:NE2	4:E:301:CYS:HB3	2.07	0.68
4:E:242:PHE:CA	4:E:244:PRO:HD2	2.18	0.68
4:E:254:LEU:CD2	4:E:254:LEU:C	2.61	0.68
4:E:271:GLN:O	4:E:274:PRO:HD2	1.93	0.68
1:A:230:GLY:O	1:A:234:TYR:N	2.22	0.68
1:A:233:PHE:CZ	1:A:295:VAL:HG11	2.27	0.68
1:D:242:LYS:HZ1	4:E:309:LEU:HA	1.57	0.68
1:D:428:GLY:O	1:D:432:GLU:HB2	1.93	0.68
2:B:279:ILE:HG12	2:B:280:ILE:H	1.59	0.68
2:B:248:LYS:NZ	2:B:252:SER:CB	2.55	0.68
1:A:264:ILE:N	1:A:265:PRO:HD2	2.09	0.68
3:C:262:SER:O	1:D:251:LEU:CD1	2.41	0.68
1:A:406:ILE:CG2	1:A:410:LEU:HG	2.20	0.68
2:B:435:ALA:O	2:B:439:PHE:HB2	1.94	0.68
2:B:239:PHE:HD1	2:B:442:VAL:HG11	1.53	0.68
1:D:235:LEU:CD2	4:E:309:LEU:CB	2.72	0.68
1:A:292:THR:O	1:A:296:ILE:N	2.26	0.67
1:A:428:GLY:O	1:A:432:GLU:HB2	1.93	0.67
2:B:226:ILE:N	2:B:227:PRO:HD2	2.09	0.67
1:D:294:VAL:O	1:D:298:THR:CB	2.42	0.67
4:E:250:GLN:O	4:E:253:THR:HG23	1.93	0.67
3:C:471:PHE:HD2	3:C:471:PHE:C	1.97	0.67
1:A:242:LYS:CB	1:A:245:LEU:CD1	2.49	0.67
2:B:284:LEU:O	2:B:288:MET:N	2.22	0.67
2:B:460:HIS:C	2:B:463:PRO:CD	2.61	0.67
1:D:250:LEU:HD11	1:D:296:ILE:HG22	1.76	0.67
4:E:474:GLN:C	4:E:476:PRO:HD2	2.13	0.67
1:A:280:PHE:HA	1:A:283:ILE:HG12	1.76	0.67
2:B:281:ILE:HG22	2:B:284:LEU:HB3	1.77	0.67
1:A:235:LEU:CA	2:B:306:HIS:NE2	2.55	0.67
3:C:300:THR:O	3:C:304:VAL:HG23	1.94	0.67
1:A:252:SER:HB3	2:B:257:LEU:HD22	1.75	0.67
4:E:475:VAL:N	4:E:476:PRO:CD	2.58	0.67
1:A:262:GLU:CA	1:A:265:PRO:HG2	2.24	0.67
1:A:301:ARG:HE	1:A:302:SER:CA	2.06	0.67
3:C:460:ILE:O	3:C:463:PRO:CD	2.42	0.67
1:D:264:ILE:N	1:D:265:PRO:HD2	2.09	0.67
1:D:280:PHE:HA	1:D:283:ILE:HG12	1.76	0.67
1:A:267:THR:CG2	1:A:268:SER:N	2.57	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:452:THR:HG22	3:C:456:LEU:CD1	2.24	0.67
1:D:230:GLY:O	1:D:234:TYR:CD2	2.48	0.67
1:D:262:GLU:CA	1:D:265:PRO:HG2	2.24	0.67
1:D:267:THR:CG2	1:D:268:SER:N	2.57	0.67
1:A:294:VAL:O	1:A:298:THR:N	2.21	0.67
2:B:286:PHE:CZ	2:B:456:LEU:HB3	2.21	0.67
3:C:239:ILE:HA	3:C:242:LEU:CD1	2.25	0.67
1:D:231:LEU:O	1:D:235:LEU:CG	2.42	0.67
1:D:233:PHE:CE2	1:D:295:VAL:CG1	2.78	0.67
4:E:277:SER:HB2	4:E:282:LEU:HD23	1.75	0.67
1:A:231:LEU:C	1:A:235:LEU:HD12	2.15	0.67
3:C:277:ARG:O	3:C:280:GLU:HG2	1.93	0.67
4:E:248:GLY:N	4:E:251:LYS:CG	2.41	0.67
4:E:309:LEU:C	4:E:309:LEU:HD13	2.14	0.67
3:C:293:MET:HE3	3:C:293:MET:HA	1.76	0.67
1:D:291:ILE:O	1:D:295:VAL:HG22	1.94	0.67
1:A:255:VAL:HG22	4:E:265:PHE:CZ	2.29	0.67
4:E:453:TRP:HE3	4:E:453:TRP:N	1.93	0.67
3:C:480:HIS:HB3	3:C:481:PRO:HD3	1.77	0.67
3:C:249:LEU:N	3:C:250:PRO:HD2	2.10	0.66
2:B:283:TYR:HA	2:B:286:PHE:HB2	1.77	0.66
3:C:266:ALA:CB	1:D:251:LEU:HD22	2.25	0.66
1:A:245:LEU:HD12	2:B:250:SER:CA	2.25	0.66
3:C:462:THR:N	3:C:463:PRO:HD2	2.09	0.66
1:D:264:ILE:HD12	1:D:265:PRO:CA	2.24	0.66
4:E:248:GLY:O	4:E:251:LYS:HB2	1.94	0.66
2:B:303:ASN:HA	2:B:306:HIS:HB3	1.78	0.66
1:D:227:PHE:CE1	1:D:231:LEU:CD2	2.78	0.66
2:B:266:LEU:HA	2:B:269:LYS:HG2	1.77	0.66
1:A:291:ILE:CG2	1:A:295:VAL:HG11	2.18	0.66
1:A:292:THR:N	1:A:295:VAL:HG22	2.11	0.66
1:A:244:THR:O	1:A:247:ILE:HG22	1.96	0.66
4:E:233:ILE:HA	4:E:236:LEU:CD1	2.26	0.66
4:E:451:CYS:HA	4:E:454:ILE:HG12	1.77	0.66
3:C:240:SER:O	3:C:244:SER:HB2	1.95	0.66
1:D:220:ILE:O	1:D:224:LEU:HG	1.96	0.66
1:D:262:GLU:C	1:D:265:PRO:CG	2.60	0.66
4:E:233:ILE:O	4:E:233:ILE:CD1	2.41	0.66
4:E:233:ILE:CG1	4:E:236:LEU:HD12	2.26	0.66
1:A:228:LEU:O	1:A:232:VAL:N	2.29	0.66
3:C:239:ILE:CA	3:C:242:LEU:HG	2.25	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:218:VAL:O	1:D:221:PRO:CG	2.44	0.66
1:D:229:THR:HA	1:D:232:VAL:HG12	1.78	0.66
1:D:264:ILE:CG1	1:D:265:PRO:HD3	2.25	0.66
4:E:233:ILE:HA	4:E:236:LEU:CG	2.26	0.66
2:B:267:ALA:C	2:B:271:PRO:CG	2.54	0.66
3:C:481:PRO:HD2	3:C:482:PRO:CD	2.25	0.66
1:A:262:GLU:C	1:A:265:PRO:CG	2.60	0.65
4:E:457:LEU:O	4:E:461:ILE:HG12	1.95	0.65
3:C:248:TYR:N	3:C:250:PRO:HD2	2.11	0.65
3:C:289:GLY:O	3:C:292:LEU:HB2	1.97	0.65
2:B:279:ILE:HG12	2:B:280:ILE:CD1	2.17	0.65
4:E:475:VAL:N	4:E:476:PRO:HD2	2.11	0.65
1:A:264:ILE:CG1	1:A:265:PRO:HD3	2.25	0.65
3:C:276:GLN:C	3:C:279:PRO:HG2	2.17	0.65
1:D:235:LEU:HD23	4:E:309:LEU:CD2	2.25	0.65
1:D:292:THR:C	1:D:295:VAL:HG22	2.15	0.65
1:D:238:ASP:HB3	4:E:309:LEU:CD2	2.26	0.65
3:C:285:VAL:HG12	3:C:286:PRO:N	2.10	0.65
1:A:406:ILE:CA	1:A:409:ILE:HG12	2.25	0.65
1:D:291:ILE:CG2	1:D:295:VAL:HG11	2.13	0.65
1:A:297:ASN:O	1:A:301:ARG:N	2.22	0.65
2:B:224:THR:CA	2:B:227:PRO:CG	2.75	0.65
1:A:256:PHE:CE1	2:B:260:THR:CG2	2.80	0.65
3:C:241:PHE:CD2	3:C:245:LEU:CG	2.77	0.65
4:E:254:LEU:CD2	4:E:255:SER:N	2.59	0.65
2:B:258:ALA:HB2	3:C:265:LEU:HD22	1.79	0.65
1:A:287:SER:O	1:A:291:ILE:HG13	1.97	0.65
1:D:220:ILE:N	1:D:221:PRO:HD2	2.11	0.65
1:A:225:PHE:CZ	1:A:288:SER:CB	2.77	0.65
1:A:231:LEU:O	1:A:235:LEU:CA	2.44	0.65
3:C:462:THR:N	3:C:463:PRO:CD	2.59	0.65
4:E:240:VAL:HA	4:E:243:LEU:HD21	1.77	0.65
1:D:225:PHE:CZ	1:D:288:SER:CB	2.78	0.65
2:B:269:LYS:HG3	2:B:270:VAL:H	1.60	0.65
1:A:250:LEU:HD11	1:A:296:ILE:HG22	1.79	0.64
1:A:250:LEU:HD13	1:A:296:ILE:HG21	1.79	0.64
1:A:292:THR:HA	1:A:295:VAL:HG23	1.74	0.64
1:A:416:LEU:O	1:A:420:ILE:HG12	1.97	0.64
1:D:244:THR:O	1:D:247:ILE:HG22	1.96	0.64
4:E:305:LEU:O	4:E:309:LEU:N	2.29	0.64
2:B:240:TYR:HD2	2:B:243:PRO:HG2	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:242:LYS:HB3	1:D:245:LEU:HD23	1.72	0.64
4:E:271:GLN:O	4:E:274:PRO:CD	2.45	0.64
4:E:297:ILE:C	4:E:297:ILE:HD12	2.17	0.64
1:D:407:ASP:O	1:D:411:LEU:CB	2.45	0.64
1:A:430:LEU:HD12	1:A:433:LEU:HD22	1.80	0.64
2:B:241:LEU:N	2:B:242:PRO:HD2	2.12	0.64
1:A:256:PHE:HE1	2:B:260:THR:CG2	2.11	0.64
1:A:238:ASP:CB	2:B:306:HIS:NE2	2.51	0.64
3:C:277:ARG:N	3:C:279:PRO:HD2	2.12	0.64
1:A:291:ILE:HG22	1:A:295:VAL:HG13	1.80	0.64
1:A:426:PHE:CE2	1:A:430:LEU:HD22	2.33	0.64
2:B:230:LEU:CD1	3:C:303:ILE:HG21	2.24	0.64
1:A:233:PHE:HE2	1:A:295:VAL:CG1	2.10	0.64
2:B:234:LEU:O	2:B:238:VAL:HB	1.98	0.64
3:C:242:LEU:O	3:C:246:ALA:N	2.30	0.64
1:D:243:MET:C	1:D:246:SER:HB3	2.17	0.64
1:D:426:PHE:CE2	1:D:430:LEU:HD22	2.32	0.64
2:B:242:PRO:N	2:B:243:PRO:CD	2.60	0.64
1:D:217:ASN:O	1:D:221:PRO:HG3	1.98	0.64
1:D:264:ILE:CD1	1:D:264:ILE:C	2.66	0.64
4:E:243:LEU:CD1	4:E:243:LEU:C	2.66	0.64
4:E:243:LEU:N	4:E:244:PRO:HD3	2.11	0.64
1:A:264:ILE:CD1	1:A:264:ILE:C	2.66	0.64
2:B:248:LYS:O	2:B:251:LEU:CB	2.45	0.64
1:D:416:LEU:O	1:D:420:ILE:HG12	1.97	0.64
1:A:407:ASP:O	1:A:411:LEU:CB	2.45	0.64
1:A:225:PHE:CD2	1:A:225:PHE:O	2.51	0.64
1:A:291:ILE:CG2	1:A:295:VAL:HG13	2.27	0.64
2:B:224:THR:C	2:B:227:PRO:CG	2.64	0.64
4:E:271:GLN:CA	4:E:274:PRO:CG	2.76	0.64
2:B:296:ILE:O	2:B:299:VAL:HG22	1.97	0.64
2:B:460:HIS:O	2:B:463:PRO:CG	2.45	0.64
1:D:242:LYS:NZ	4:E:309:LEU:HA	2.13	0.64
2:B:443:PHE:C	2:B:443:PHE:CD2	2.71	0.64
3:C:241:PHE:CZ	1:D:296:ILE:CD1	2.80	0.64
3:C:277:ARG:C	3:C:279:PRO:HD2	2.19	0.64
1:D:228:LEU:O	1:D:232:VAL:N	2.30	0.64
4:E:266:LEU:CD1	4:E:297:ILE:HD11	2.28	0.64
1:A:233:PHE:HE2	1:A:295:VAL:HG11	1.57	0.63
2:B:241:LEU:HB3	2:B:248:LYS:HE2	1.80	0.63
3:C:241:PHE:CD1	3:C:242:LEU:HD23	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:241:TYR:HB2	4:E:454:ILE:HD13	1.79	0.63
1:A:235:LEU:HD22	1:A:242:LYS:HD2	1.78	0.63
3:C:453:ILE:HA	3:C:456:LEU:CD1	2.22	0.63
4:E:276:THR:O	4:E:280:VAL:HG22	1.97	0.63
2:B:235:ALA:HB1	2:B:239:PHE:CE1	2.32	0.63
1:D:292:THR:HA	1:D:295:VAL:HG21	1.77	0.63
4:E:243:LEU:HD12	4:E:247:ALA:HB2	1.79	0.63
3:C:298:LEU:HD11	3:C:471:PHE:HD1	1.63	0.63
3:C:471:PHE:CD2	3:C:471:PHE:C	2.70	0.63
1:A:293:VAL:CA	1:A:296:ILE:HG12	2.28	0.63
2:B:239:PHE:CE2	2:B:301:VAL:CG1	2.67	0.63
1:A:216:VAL:O	1:A:220:ILE:HG13	1.98	0.63
2:B:463:PRO:HD2	2:B:464:PRO:CD	2.25	0.63
4:E:264:ILE:HG23	4:E:265:PHE:CD2	2.33	0.63
4:E:241:TYR:CE1	4:E:454:ILE:CG2	2.82	0.63
2:B:446:ILE:CA	2:B:449:ILE:HD11	2.25	0.63
3:C:241:PHE:CE2	1:D:296:ILE:HD11	2.33	0.63
1:D:231:LEU:O	1:D:235:LEU:CA	2.46	0.63
1:D:245:LEU:CD1	4:E:256:ILE:CG2	2.76	0.63
1:A:287:SER:O	1:A:290:ILE:HG13	1.98	0.63
1:A:406:ILE:O	1:A:410:LEU:CG	2.47	0.63
1:D:243:MET:O	1:D:247:ILE:N	2.31	0.63
4:E:228:ALA:HA	4:E:231:VAL:CG2	2.28	0.63
1:A:235:LEU:HD23	1:A:242:LYS:HZ2	1.63	0.63
2:B:245:ALA:O	2:B:248:LYS:CG	2.47	0.63
4:E:291:MET:C	4:E:295:MET:HE2	2.20	0.63
1:A:243:MET:C	1:A:246:SER:HB3	2.17	0.62
3:C:459:PHE:HD2	3:C:459:PHE:O	1.82	0.62
1:A:428:GLY:O	1:A:432:GLU:N	2.32	0.62
4:E:235:SER:O	4:E:238:VAL:HG12	1.98	0.62
4:E:264:ILE:HD13	4:E:268:LEU:HG	1.80	0.62
1:A:225:PHE:CE2	1:A:229:THR:HG23	2.33	0.62
1:A:291:ILE:O	1:A:295:VAL:CG1	2.47	0.62
3:C:314:PHE:CD1	3:C:315:ARG:N	2.67	0.62
1:D:298:THR:O	1:D:302:SER:N	2.32	0.62
3:C:481:PRO:CD	3:C:482:PRO:HD3	2.29	0.62
1:D:406:ILE:O	1:D:410:LEU:CG	2.47	0.62
1:D:242:LYS:O	1:D:246:SER:N	2.33	0.62
4:E:238:VAL:O	4:E:242:PHE:CB	2.46	0.62
4:E:297:ILE:HD12	4:E:298:VAL:N	2.15	0.62
1:D:238:ASP:CB	4:E:309:LEU:HD11	2.29	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:218:VAL:HA	1:A:221:PRO:HG2	1.80	0.62
1:A:235:LEU:HD23	2:B:306:HIS:CB	2.30	0.62
3:C:239:ILE:CD1	3:C:271:LEU:HD11	2.29	0.62
1:D:231:LEU:HD12	4:E:305:LEU:HD23	1.75	0.62
1:D:428:GLY:O	1:D:432:GLU:N	2.32	0.62
3:C:233:ILE:N	3:C:235:PRO:HD2	2.14	0.62
1:D:232:VAL:O	1:D:236:PRO:CD	2.44	0.62
1:D:231:LEU:O	1:D:235:LEU:HG	1.98	0.62
1:D:281:THR:O	1:D:285:VAL:HG12	2.00	0.62
4:E:259:LEU:HA	4:E:262:GLN:HG2	1.80	0.62
1:A:282:MET:CG	1:A:283:ILE:N	2.63	0.62
2:B:223:TYR:O	2:B:227:PRO:CG	2.48	0.62
3:C:241:PHE:CZ	1:D:293:VAL:HG13	2.35	0.62
3:C:264:LEU:HA	3:C:267:GLN:HG2	1.80	0.62
4:E:230:CYS:HA	4:E:233:ILE:CG2	2.30	0.62
4:E:244:PRO:HB2	4:E:447:ILE:CG2	2.29	0.62
1:A:242:LYS:O	1:A:246:SER:N	2.33	0.62
2:B:301:VAL:O	2:B:305:HIS:N	2.33	0.62
4:E:264:ILE:CD1	4:E:268:LEU:HG	2.29	0.62
3:C:477:ASN:O	3:C:481:PRO:HG3	1.98	0.62
1:A:264:ILE:CD1	1:A:265:PRO:N	2.50	0.61
1:A:282:MET:HG2	1:A:283:ILE:H	1.64	0.61
3:C:241:PHE:CE1	1:D:293:VAL:HG22	2.34	0.61
3:C:276:GLN:C	3:C:279:PRO:CG	2.69	0.61
1:D:262:GLU:C	1:D:265:PRO:HG2	2.20	0.61
2:B:267:ALA:C	2:B:271:PRO:CD	2.62	0.61
1:D:280:PHE:N	1:D:280:PHE:CD2	2.66	0.61
3:C:480:HIS:C	3:C:482:PRO:HD2	2.20	0.61
1:A:225:PHE:HD2	1:A:253:LEU:HD21	1.63	0.61
4:E:237:VAL:HA	4:E:240:VAL:CG1	2.29	0.61
4:E:264:ILE:O	4:E:264:ILE:CD1	2.46	0.61
4:E:458:LEU:HA	4:E:461:ILE:CG1	2.28	0.61
2:B:262:PHE:CD1	3:C:272:LEU:CD1	2.83	0.61
1:A:243:MET:O	1:A:247:ILE:N	2.31	0.61
1:A:255:VAL:HG22	4:E:265:PHE:HE2	1.63	0.61
3:C:455:ARG:O	3:C:459:PHE:N	2.29	0.61
1:D:258:LEU:O	1:D:262:GLU:HG3	2.00	0.61
1:D:232:VAL:CG1	1:D:233:PHE:N	2.64	0.61
2:B:249:MET:O	2:B:252:SER:HB3	2.01	0.61
3:C:311:ASN:O	3:C:314:PHE:CD2	2.53	0.61
4:E:224:ILE:O	4:E:227:ILE:HG22	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:236:CYS:O	3:C:239:ILE:CG2	2.49	0.61
1:D:245:LEU:HD21	4:E:256:ILE:HG13	1.83	0.61
1:A:254:THR:O	1:A:258:LEU:HG	2.01	0.61
3:C:459:PHE:CD2	3:C:459:PHE:O	2.54	0.61
1:A:262:GLU:C	1:A:265:PRO:HG2	2.20	0.61
4:E:222:TYR:O	4:E:226:ILE:N	2.30	0.61
3:C:474:VAL:HG12	3:C:475:MET:N	2.15	0.61
1:D:230:GLY:O	1:D:234:TYR:CB	2.49	0.61
1:D:282:MET:CG	1:D:283:ILE:N	2.63	0.61
4:E:244:PRO:HB2	4:E:447:ILE:HG23	1.83	0.61
4:E:243:LEU:HD12	4:E:244:PRO:N	2.15	0.60
1:A:227:PHE:CZ	1:A:231:LEU:HD21	2.36	0.60
1:D:255:VAL:HG12	1:D:256:PHE:CD2	2.36	0.60
4:E:241:TYR:CE2	4:E:304:VAL:CB	2.82	0.60
1:A:229:THR:C	1:A:232:VAL:HG12	2.20	0.60
1:A:235:LEU:HD23	2:B:306:HIS:HB2	1.84	0.60
2:B:441:TYR:O	2:B:445:VAL:HG23	2.00	0.60
4:E:228:ALA:HA	4:E:231:VAL:HG22	1.82	0.60
4:E:241:TYR:HE2	4:E:304:VAL:HB	1.63	0.60
1:A:231:LEU:HB3	1:A:235:LEU:CD1	2.31	0.60
2:B:224:THR:HA	2:B:227:PRO:HG3	1.83	0.60
3:C:256:LYS:CG	3:C:259:THR:CG2	2.79	0.60
4:E:292:PHE:O	4:E:296:LEU:HG	2.01	0.60
1:D:225:PHE:O	1:D:225:PHE:CD2	2.54	0.60
4:E:277:SER:CB	4:E:282:LEU:HD21	2.31	0.60
3:C:479:ASN:C	3:C:482:PRO:HG2	2.21	0.60
2:B:224:THR:C	2:B:227:PRO:HG2	2.21	0.60
2:B:463:PRO:CB	2:B:464:PRO:HD3	2.24	0.60
3:C:234:THR:HG22	3:C:238:LEU:HD11	1.82	0.60
1:D:260:ILE:HG12	4:E:267:PHE:HZ	1.65	0.60
4:E:298:VAL:O	4:E:302:VAL:HG13	2.01	0.60
2:B:286:PHE:CE2	2:B:456:LEU:CD1	2.81	0.60
1:D:245:LEU:HD11	4:E:256:ILE:HG13	1.82	0.60
3:C:460:ILE:HA	3:C:463:PRO:HG3	1.82	0.60
4:E:303:ILE:HG22	4:E:307:VAL:CG2	2.32	0.60
1:A:280:PHE:N	1:A:280:PHE:CD2	2.67	0.60
2:B:283:TYR:CA	2:B:286:PHE:HB2	2.32	0.60
2:B:444:PHE:C	2:B:444:PHE:CD2	2.71	0.60
1:D:238:ASP:CB	4:E:309:LEU:CD2	2.80	0.60
4:E:271:GLN:HA	4:E:274:PRO:CG	2.31	0.60
1:A:229:THR:HB	1:A:233:PHE:CE1	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:232:VAL:CG1	1:A:233:PHE:N	2.64	0.60
2:B:240:TYR:C	2:B:243:PRO:CD	2.69	0.60
4:E:238:VAL:CG1	4:E:239:LEU:N	2.65	0.60
4:E:241:TYR:CE2	4:E:454:ILE:HG21	2.37	0.60
4:E:303:ILE:O	4:E:307:VAL:CG2	2.48	0.60
2:B:262:PHE:CZ	3:C:269:VAL:HG22	2.37	0.60
3:C:478:PHE:C	3:C:481:PRO:HD2	2.23	0.60
2:B:225:ILE:C	2:B:227:PRO:HD2	2.22	0.59
4:E:223:ILE:HG23	4:E:224:ILE:N	2.17	0.59
1:A:227:PHE:CE2	1:A:231:LEU:CG	2.84	0.59
1:A:242:LYS:HB2	1:A:245:LEU:CG	2.30	0.59
3:C:312:PHE:CE1	3:C:456:LEU:HD13	2.38	0.59
1:D:264:ILE:CD1	1:D:265:PRO:N	2.50	0.59
4:E:225:ASN:O	4:E:229:PRO:CG	2.50	0.59
1:D:245:LEU:CD1	4:E:256:ILE:HG21	2.32	0.59
1:A:256:PHE:O	1:A:260:ILE:HG13	2.02	0.59
1:A:218:VAL:CA	1:A:221:PRO:CG	2.80	0.59
1:A:251:LEU:HD22	4:E:261:ALA:HB3	1.84	0.59
3:C:310:LEU:HG	3:C:311:ASN:N	2.17	0.59
4:E:237:VAL:O	4:E:241:TYR:CD1	2.56	0.59
4:E:243:LEU:C	4:E:247:ALA:HB2	2.19	0.59
3:C:314:PHE:CE1	3:C:315:ARG:CG	2.78	0.59
3:C:454:ASP:O	3:C:458:MET:N	2.33	0.59
3:C:241:PHE:O	3:C:245:LEU:N	2.33	0.59
3:C:314:PHE:CZ	3:C:315:ARG:HG2	2.35	0.59
4:E:241:TYR:CZ	4:E:304:VAL:HB	2.38	0.59
4:E:305:LEU:HG	4:E:306:ASN:N	2.16	0.59
4:E:458:LEU:CA	4:E:461:ILE:HG12	2.33	0.59
1:A:229:THR:HA	1:A:232:VAL:HG12	1.82	0.59
1:A:267:THR:HG23	1:A:268:SER:N	2.17	0.59
1:A:426:PHE:HE2	1:A:430:LEU:CD2	2.16	0.59
3:C:274:THR:O	3:C:278:LEU:HG	2.03	0.59
1:D:287:SER:O	1:D:291:ILE:CG1	2.46	0.59
4:E:262:GLN:NE2	4:E:301:CYS:CB	2.66	0.59
4:E:241:TYR:CZ	4:E:454:ILE:CG2	2.85	0.59
2:B:231:ILE:HA	2:B:234:LEU:CG	2.32	0.59
3:C:460:ILE:C	3:C:463:PRO:CG	2.71	0.59
2:B:296:ILE:C	2:B:299:VAL:HG22	2.23	0.59
4:E:243:LEU:HD13	4:E:247:ALA:HB2	1.82	0.59
1:D:245:LEU:HD22	4:E:253:THR:HA	1.82	0.59
4:E:292:PHE:CA	4:E:295:MET:HE3	2.28	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:231:ILE:HA	2:B:234:LEU:CD1	2.33	0.59
2:B:284:LEU:CD1	2:B:284:LEU:C	2.71	0.59
3:C:300:THR:O	3:C:303:ILE:HB	2.03	0.59
1:D:406:ILE:CA	1:D:409:ILE:HG12	2.25	0.59
4:E:272:LYS:N	4:E:274:PRO:HD2	2.17	0.59
1:A:249:VAL:O	1:A:253:LEU:N	2.28	0.58
1:A:264:ILE:CD1	1:A:265:PRO:CD	2.81	0.58
2:B:460:HIS:CG	2:B:464:PRO:HG2	2.38	0.58
1:D:232:VAL:C	1:D:236:PRO:HD3	2.23	0.58
4:E:240:VAL:CG1	4:E:241:TYR:N	2.66	0.58
4:E:264:ILE:CG2	4:E:265:PHE:CD2	2.86	0.58
4:E:241:TYR:CZ	4:E:454:ILE:HG21	2.38	0.58
1:D:426:PHE:HE2	1:D:430:LEU:CD2	2.16	0.58
2:B:222:VAL:O	2:B:226:ILE:HG13	2.02	0.58
2:B:451:THR:HG22	2:B:452:PHE:CD2	2.38	0.58
1:D:253:LEU:O	1:D:257:LEU:HG	2.03	0.58
1:D:295:VAL:C	1:D:298:THR:HB	2.22	0.58
1:A:289:ILE:CG2	4:E:232:LEU:CG	2.79	0.58
1:A:426:PHE:CE2	1:A:430:LEU:CD2	2.86	0.58
1:D:298:THR:C	1:D:302:SER:HB2	2.14	0.58
4:E:227:ILE:O	4:E:231:VAL:HG22	2.02	0.58
2:B:435:ALA:O	2:B:439:PHE:CB	2.52	0.58
4:E:234:SER:HA	4:E:237:VAL:HG22	1.85	0.58
1:A:414:PHE:O	1:A:418:CYS:SG	2.61	0.58
1:A:232:VAL:O	1:A:236:PRO:CD	2.44	0.58
1:A:232:VAL:C	1:A:236:PRO:HD3	2.23	0.58
2:B:251:LEU:CD2	3:C:261:ILE:HG13	2.33	0.58
3:C:258:SER:O	3:C:261:ILE:HG22	2.02	0.58
1:D:282:MET:C	1:D:285:VAL:HG12	2.24	0.58
1:D:233:PHE:CZ	1:D:295:VAL:HG11	2.38	0.58
4:E:310:ARG:C	4:E:310:ARG:HE	2.05	0.58
1:A:227:PHE:CE1	1:A:231:LEU:HD21	2.39	0.58
1:A:281:THR:O	1:A:285:VAL:HB	2.03	0.58
1:D:229:THR:C	1:D:232:VAL:HG12	2.23	0.58
1:D:230:GLY:O	1:D:234:TYR:HB2	2.03	0.58
1:D:256:PHE:O	1:D:260:ILE:HG13	2.02	0.58
4:E:472:PHE:O	4:E:476:PRO:HD3	2.02	0.58
3:C:481:PRO:HG2	3:C:482:PRO:HD3	1.86	0.58
1:D:227:PHE:CD1	1:D:231:LEU:CG	2.87	0.58
2:B:262:PHE:CD1	3:C:272:LEU:HD11	2.38	0.58
2:B:238:VAL:C	2:B:242:PRO:HD3	2.23	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:460:HIS:HA	2:B:463:PRO:CG	2.34	0.58
4:E:240:VAL:C	4:E:243:LEU:HG	2.23	0.58
4:E:294:SER:O	4:E:298:VAL:HG23	2.04	0.58
2:B:279:ILE:HG12	2:B:280:ILE:N	2.18	0.58
3:C:474:VAL:CA	3:C:477:ASN:ND2	2.63	0.58
1:A:296:ILE:HG13	1:A:297:ASN:N	2.19	0.58
2:B:237:LEU:CD1	3:C:310:LEU:HD21	2.34	0.58
2:B:438:LEU:O	2:B:442:VAL:HG23	2.03	0.58
3:C:264:LEU:HA	3:C:267:GLN:CD	2.23	0.58
1:D:426:PHE:CE2	1:D:430:LEU:CD2	2.86	0.58
2:B:292:ALA:O	2:B:296:ILE:HD13	2.04	0.58
4:E:253:THR:O	4:E:256:ILE:HB	2.03	0.58
1:D:276:LYS:HD2	1:D:277:TYR:HE2	1.68	0.58
2:B:292:ALA:O	2:B:295:VAL:HB	2.04	0.57
2:B:434:VAL:O	2:B:437:ARG:HB3	2.03	0.57
2:B:460:HIS:HA	2:B:463:PRO:HG3	1.86	0.57
4:E:238:VAL:HG22	4:E:242:PHE:CE2	2.39	0.57
3:C:296:MET:HA	3:C:296:MET:HE2	1.86	0.57
3:C:480:HIS:N	3:C:481:PRO:HD2	2.19	0.57
2:B:242:PRO:CG	2:B:243:PRO:HD3	2.34	0.57
3:C:311:ASN:ND2	3:C:314:PHE:HE2	2.02	0.57
1:D:229:THR:CA	1:D:232:VAL:HG12	2.34	0.57
3:C:277:ARG:NH2	1:D:262:GLU:CG	2.66	0.57
1:D:294:VAL:O	1:D:298:THR:HB	2.02	0.57
1:A:259:VAL:O	1:A:262:GLU:HB2	2.04	0.57
1:A:293:VAL:HA	1:A:296:ILE:CD1	2.34	0.57
2:B:224:THR:HA	2:B:227:PRO:HG2	1.84	0.57
2:B:446:ILE:O	2:B:446:ILE:CD1	2.52	0.57
3:C:309:VAL:CG1	3:C:313:HIS:NE2	2.68	0.57
3:C:452:THR:C	3:C:456:LEU:HD12	2.23	0.57
3:C:460:ILE:HA	3:C:463:PRO:CG	2.34	0.57
3:C:241:PHE:HZ	1:D:296:ILE:HD13	1.70	0.57
3:C:264:LEU:HD23	3:C:267:GLN:NE2	2.19	0.57
1:D:267:THR:HG23	1:D:268:SER:N	2.17	0.57
1:A:253:LEU:O	1:A:257:LEU:HG	2.03	0.57
1:A:426:PHE:CZ	1:A:430:LEU:HD22	2.39	0.57
1:D:414:PHE:O	1:D:418:CYS:SG	2.61	0.57
1:A:405:VAL:O	1:A:409:ILE:HG23	2.04	0.57
4:E:240:VAL:C	4:E:244:PRO:HD3	2.24	0.57
1:A:274:ILE:HG22	1:A:276:LYS:HG2	1.87	0.57
1:D:235:LEU:HD22	1:D:242:LYS:NZ	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:282:MET:O	1:D:285:VAL:CG1	2.51	0.57
4:E:449:LYS:HD2	4:E:453:TRP:CH2	2.40	0.57
1:D:276:LYS:HD2	1:D:277:TYR:CE2	2.39	0.57
2:B:460:HIS:ND1	2:B:464:PRO:HG3	2.19	0.57
1:D:296:ILE:CG1	1:D:297:ASN:N	2.67	0.57
4:E:226:ILE:CA	4:E:229:PRO:CG	2.83	0.57
1:D:426:PHE:CZ	1:D:430:LEU:HD22	2.39	0.57
3:C:474:VAL:CG1	3:C:475:MET:N	2.67	0.57
1:A:263:LEU:C	1:A:265:PRO:HD2	2.24	0.57
2:B:256:LEU:CD1	2:B:302:LEU:HB2	2.34	0.57
2:B:286:PHE:CZ	2:B:456:LEU:CG	2.88	0.57
3:C:262:SER:C	1:D:251:LEU:HD11	2.25	0.57
3:C:460:ILE:O	3:C:464:VAL:HG23	2.05	0.57
1:A:300:HIS:CE1	4:E:243:LEU:HB2	2.38	0.57
1:A:289:ILE:O	1:A:293:VAL:HG23	2.05	0.56
2:B:281:ILE:O	2:B:282:ARG:C	2.43	0.56
4:E:299:MET:CE	4:E:299:MET:CA	2.81	0.56
3:C:239:ILE:HD13	3:C:271:LEU:HD21	1.86	0.56
3:C:261:ILE:HG22	3:C:262:SER:N	2.20	0.56
1:D:225:PHE:CE2	1:D:229:THR:HG23	2.41	0.56
1:D:263:LEU:C	1:D:265:PRO:HD2	2.24	0.56
1:D:289:ILE:O	1:D:293:VAL:HG23	2.05	0.56
1:D:405:VAL:O	1:D:409:ILE:HG23	2.04	0.56
3:C:293:MET:CE	3:C:296:MET:HB2	2.35	0.56
1:D:237:THR:CB	1:D:406:ILE:HG21	2.18	0.56
1:A:292:THR:C	1:A:295:VAL:HG22	2.25	0.56
1:D:225:PHE:HD2	1:D:253:LEU:HD21	1.63	0.56
4:E:240:VAL:HA	4:E:243:LEU:HD23	1.86	0.56
2:B:241:LEU:N	2:B:242:PRO:HD3	2.21	0.56
2:B:304:LEU:CG	2:B:438:LEU:HD22	2.36	0.56
3:C:256:LYS:HG3	3:C:259:THR:CG2	2.35	0.56
3:C:461:ILE:N	3:C:463:PRO:HD2	2.20	0.56
1:D:229:THR:HB	1:D:233:PHE:CE1	2.41	0.56
4:E:451:CYS:CA	4:E:454:ILE:HG12	2.35	0.56
4:E:451:CYS:HA	4:E:454:ILE:CG1	2.35	0.56
1:D:218:VAL:CA	1:D:221:PRO:CG	2.83	0.56
1:D:410:LEU:HD23	1:D:410:LEU:N	2.21	0.56
1:D:430:LEU:HD12	1:D:433:LEU:HD22	1.88	0.56
2:B:280:ILE:N	2:B:280:ILE:CD1	2.68	0.56
1:A:217:ASN:O	1:A:221:PRO:HG3	2.05	0.56
2:B:251:LEU:CG	3:C:261:ILE:HG13	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:236:ILE:CD1	2:B:439:PHE:HE2	2.19	0.56
3:C:264:LEU:CD2	3:C:267:GLN:NE2	2.68	0.56
1:A:264:ILE:CD1	1:A:265:PRO:HD3	2.36	0.56
1:A:301:ARG:HE	1:A:302:SER:N	2.04	0.56
3:C:460:ILE:CA	3:C:463:PRO:CG	2.83	0.56
1:A:235:LEU:CD2	2:B:306:HIS:CB	2.79	0.56
4:E:226:ILE:C	4:E:229:PRO:CG	2.73	0.56
1:D:274:ILE:HG22	1:D:276:LYS:HG2	1.87	0.56
3:C:264:LEU:O	3:C:267:GLN:HG2	2.06	0.56
1:D:235:LEU:HD22	1:D:242:LYS:CE	2.35	0.56
4:E:271:GLN:CA	4:E:274:PRO:HG2	2.36	0.56
4:E:301:CYS:HA	4:E:304:VAL:HG11	1.88	0.56
1:A:233:PHE:CE2	1:A:295:VAL:CB	2.89	0.55
1:A:237:THR:CB	1:A:406:ILE:HG21	2.18	0.55
2:B:239:PHE:CE1	2:B:442:VAL:CG1	2.89	0.55
3:C:309:VAL:O	3:C:313:HIS:CB	2.54	0.55
3:C:262:SER:OG	1:D:251:LEU:HD11	2.05	0.55
4:E:226:ILE:HA	4:E:229:PRO:HG2	1.86	0.55
4:E:259:LEU:HD22	4:E:301:CYS:HB3	1.88	0.55
4:E:264:ILE:HD13	4:E:264:ILE:C	2.26	0.55
4:E:454:ILE:HG13	4:E:455:ALA:N	2.18	0.55
2:B:253:ILE:HD11	2:B:302:LEU:HD13	1.86	0.55
3:C:311:ASN:HA	3:C:314:PHE:CD2	2.42	0.55
1:D:264:ILE:CD1	1:D:265:PRO:HD3	2.36	0.55
1:A:295:VAL:CA	1:A:298:THR:HB	2.36	0.55
1:D:264:ILE:CD1	1:D:265:PRO:CD	2.82	0.55
1:D:297:ASN:O	1:D:301:ARG:CB	2.45	0.55
1:D:274:ILE:HG21	1:D:276:LYS:HZ1	1.66	0.55
2:B:284:LEU:O	2:B:284:LEU:HD13	2.07	0.55
4:E:259:LEU:CD1	4:E:305:LEU:HB2	2.37	0.55
3:C:287:LEU:HD11	3:C:292:LEU:HD11	1.88	0.55
1:A:276:LYS:HD2	1:A:277:TYR:HE2	1.71	0.55
3:C:246:ALA:O	3:C:250:PRO:CG	2.55	0.55
4:E:237:VAL:HA	4:E:240:VAL:HG12	1.87	0.55
1:D:427:ALA:O	1:D:431:ILE:HB	2.06	0.55
1:A:229:THR:CA	1:A:232:VAL:HG12	2.37	0.55
1:A:276:LYS:HD2	1:A:277:TYR:CE2	2.41	0.55
2:B:448:SER:O	2:B:452:PHE:N	2.32	0.55
3:C:276:GLN:O	3:C:279:PRO:CG	2.54	0.55
1:D:250:LEU:CD1	1:D:296:ILE:HG22	2.37	0.55
1:D:296:ILE:HG13	1:D:297:ASN:H	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:269:LYS:CA	2:B:271:PRO:HD2	2.36	0.55
1:A:234:TYR:C	2:B:306:HIS:CE1	2.79	0.55
1:D:301:ARG:NE	1:D:301:ARG:O	2.39	0.55
3:C:267:GLN:NE2	3:C:306:CYS:HB3	2.22	0.55
1:D:225:PHE:HZ	1:D:288:SER:CB	2.12	0.55
4:E:240:VAL:O	4:E:244:PRO:CD	2.52	0.55
4:E:267:PHE:C	4:E:267:PHE:CD2	2.80	0.55
1:A:235:LEU:CD2	1:A:242:LYS:HZ2	2.20	0.55
1:A:405:VAL:O	1:A:409:ILE:N	2.33	0.55
1:D:282:MET:HG2	1:D:283:ILE:H	1.71	0.55
4:E:241:TYR:HB3	4:E:454:ILE:HD13	1.88	0.55
1:A:230:GLY:O	1:A:234:TYR:CG	2.59	0.54
3:C:263:VAL:HG22	1:D:251:LEU:HD21	1.89	0.54
4:E:228:ALA:CA	4:E:231:VAL:HG22	2.38	0.54
4:E:269:ILE:HA	4:E:272:LYS:HG2	1.87	0.54
1:D:235:LEU:CD2	4:E:309:LEU:HG	2.24	0.54
2:B:262:PHE:N	2:B:262:PHE:HD2	2.05	0.54
2:B:279:ILE:CG1	2:B:280:ILE:H	2.18	0.54
1:D:411:LEU:O	1:D:415:MET:HG3	2.07	0.54
1:A:218:VAL:C	1:A:221:PRO:CG	2.74	0.54
3:C:229:VAL:O	3:C:233:ILE:HB	2.07	0.54
1:D:249:VAL:O	1:D:253:LEU:N	2.28	0.54
1:A:233:PHE:HE2	1:A:295:VAL:HG21	1.72	0.54
1:A:245:LEU:HB2	2:B:250:SER:HB2	1.90	0.54
3:C:247:PHE:CD2	3:C:309:VAL:HG21	2.43	0.54
1:D:249:VAL:HA	1:D:252:SER:OG	2.07	0.54
1:A:233:PHE:C	1:A:236:PRO:CG	2.72	0.54
1:A:245:LEU:C	1:A:245:LEU:CD2	2.71	0.54
2:B:248:LYS:O	2:B:251:LEU:CA	2.54	0.54
1:A:242:LYS:HE3	2:B:306:HIS:HD2	1.72	0.54
3:C:243:ALA:HA	3:C:246:ALA:HB3	1.87	0.54
1:D:409:ILE:O	1:D:413:VAL:HG23	2.08	0.54
1:A:411:LEU:O	1:A:415:MET:HG3	2.07	0.54
1:A:256:PHE:HZ	2:B:261:VAL:HG22	1.67	0.54
4:E:229:PRO:O	4:E:233:ILE:HB	2.07	0.54
3:C:470:ILE:CG2	3:C:470:ILE:O	2.55	0.54
1:A:404:MET:O	1:A:408:HIS:CG	2.61	0.54
1:A:410:LEU:HD23	1:A:410:LEU:N	2.21	0.54
3:C:266:ALA:O	3:C:270:PHE:CD2	2.61	0.54
4:E:291:MET:HB3	4:E:295:MET:HE2	1.88	0.54
1:A:291:ILE:O	1:A:295:VAL:CB	2.56	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:268:ASP:CA	2:B:271:PRO:CD	2.73	0.54
4:E:285:LYS:O	4:E:289:PHE:CD2	2.61	0.54
1:A:427:ALA:O	1:A:431:ILE:HD12	2.08	0.54
2:B:283:TYR:O	2:B:287:ILE:CG2	2.46	0.54
2:B:304:LEU:HD13	2:B:438:LEU:CG	2.37	0.54
2:B:446:ILE:HD13	2:B:446:ILE:O	2.06	0.54
3:C:264:LEU:HA	3:C:267:GLN:CG	2.37	0.54
1:D:216:VAL:O	1:D:220:ILE:HG13	2.08	0.54
1:D:233:PHE:CE2	1:D:295:VAL:CB	2.89	0.54
1:D:405:VAL:O	1:D:409:ILE:N	2.33	0.54
4:E:240:VAL:HA	4:E:243:LEU:CG	2.38	0.54
1:A:293:VAL:HA	1:A:296:ILE:HG12	1.89	0.54
2:B:281:ILE:HG23	2:B:284:LEU:HB3	1.90	0.54
2:B:296:ILE:HA	2:B:299:VAL:HG22	1.88	0.54
1:D:284:PHE:O	1:D:284:PHE:CD2	2.39	0.54
4:E:303:ILE:C	4:E:307:VAL:HG23	2.27	0.54
4:E:452:PHE:CD1	4:E:453:TRP:HZ3	2.26	0.54
2:B:234:LEU:O	2:B:238:VAL:N	2.42	0.53
3:C:311:ASN:HA	3:C:314:PHE:HD2	1.73	0.53
1:D:233:PHE:HE2	1:D:295:VAL:CG1	2.20	0.53
1:D:235:LEU:O	1:D:239:SER:O	2.26	0.53
1:D:250:LEU:HD13	1:D:296:ILE:HG21	1.90	0.53
4:E:451:CYS:O	4:E:454:ILE:CG1	2.55	0.53
3:C:480:HIS:N	3:C:481:PRO:CD	2.70	0.53
2:B:236:ILE:CG2	2:B:237:LEU:N	2.71	0.53
2:B:253:ILE:CD1	2:B:256:LEU:HD12	2.30	0.53
1:D:291:ILE:O	1:D:295:VAL:CB	2.56	0.53
4:E:264:ILE:C	4:E:264:ILE:CD1	2.77	0.53
1:D:238:ASP:HB3	4:E:309:LEU:HD22	1.91	0.53
2:B:241:LEU:HG	2:B:248:LYS:CD	2.36	0.53
1:D:233:PHE:CE1	1:D:413:VAL:CG1	2.89	0.53
1:D:409:ILE:HG13	1:D:410:LEU:CD2	2.17	0.53
1:A:289:ILE:HG23	4:E:232:LEU:HD11	1.90	0.53
1:A:250:LEU:CD1	1:A:296:ILE:CG2	2.86	0.53
3:C:264:LEU:HD22	3:C:306:CYS:HB3	1.90	0.53
1:D:262:GLU:CA	1:D:265:PRO:CD	2.87	0.53
1:A:409:ILE:HG13	1:A:410:LEU:N	2.22	0.53
2:B:234:LEU:O	2:B:238:VAL:CB	2.56	0.53
3:C:244:SER:O	3:C:248:TYR:HB3	2.08	0.53
3:C:310:LEU:HA	3:C:313:HIS:HB2	1.88	0.53
3:C:465:MET:CA	3:C:465:MET:CE	2.83	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:409:ILE:HG13	1:D:410:LEU:N	2.22	0.53
4:E:227:ILE:C	4:E:229:PRO:HD2	2.29	0.53
3:C:296:MET:HA	3:C:296:MET:CE	2.39	0.53
3:C:475:MET:SD	3:C:476:GLY:N	2.81	0.53
3:C:233:ILE:O	3:C:237:VAL:HG22	2.09	0.53
3:C:266:ALA:CB	1:D:251:LEU:HB3	2.38	0.53
1:D:291:ILE:CG2	1:D:295:VAL:HG13	2.32	0.53
4:E:271:GLN:HA	4:E:274:PRO:HG2	1.90	0.53
2:B:236:ILE:HG22	2:B:237:LEU:N	2.24	0.53
3:C:227:PHE:HA	3:C:230:ILE:HD11	1.83	0.53
1:A:242:LYS:HZ2	2:B:306:HIS:CA	2.13	0.53
3:C:275:SER:C	3:C:279:PRO:CD	2.67	0.53
3:C:259:THR:OG1	1:D:247:ILE:HG21	2.07	0.53
1:D:282:MET:CA	1:D:285:VAL:HG12	2.39	0.53
4:E:264:ILE:CD1	4:E:268:LEU:HD11	2.39	0.53
1:A:249:VAL:HA	1:A:252:SER:OG	2.07	0.53
2:B:290:LEU:HD11	2:B:453:SER:HB2	1.91	0.53
3:C:243:ALA:O	3:C:247:PHE:CD2	2.61	0.53
1:A:227:PHE:O	1:A:231:LEU:N	2.40	0.53
1:D:284:PHE:CD2	1:D:285:VAL:N	2.76	0.53
4:E:238:VAL:HG12	4:E:239:LEU:N	2.23	0.53
1:A:225:PHE:CE2	1:A:229:THR:CG2	2.91	0.52
2:B:237:LEU:HA	2:B:240:TYR:HB3	1.90	0.52
4:E:264:ILE:CD1	4:E:268:LEU:CD1	2.87	0.52
1:A:426:PHE:CD2	1:A:430:LEU:HB3	2.44	0.52
2:B:284:LEU:HD13	2:B:284:LEU:C	2.28	0.52
4:E:254:LEU:O	4:E:257:SER:CB	2.58	0.52
1:A:235:LEU:O	1:A:239:SER:O	2.27	0.52
1:A:262:GLU:CA	1:A:265:PRO:CD	2.87	0.52
3:C:259:THR:CG2	3:C:260:ALA:N	2.72	0.52
3:C:309:VAL:HG12	3:C:313:HIS:CE1	2.44	0.52
4:E:238:VAL:HG22	4:E:242:PHE:CE1	2.44	0.52
2:B:262:PHE:N	2:B:262:PHE:CD2	2.76	0.52
3:C:471:PHE:O	3:C:471:PHE:CD2	2.52	0.52
2:B:276:SER:O	2:B:277:VAL:HG23	2.08	0.52
2:B:218:LEU:HB3	2:B:221:ILE:HD11	1.91	0.52
2:B:225:ILE:N	2:B:227:PRO:HD2	2.19	0.52
3:C:259:THR:OG1	1:D:247:ILE:HB	2.10	0.52
4:E:220:LEU:O	4:E:223:ILE:HG22	2.10	0.52
4:E:446:VAL:O	4:E:450:ALA:CB	2.56	0.52
2:B:236:ILE:O	2:B:240:TYR:CA	2.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:426:PHE:CD2	1:D:430:LEU:HB3	2.44	0.52
3:C:242:LEU:O	3:C:246:ALA:HB2	2.09	0.52
3:C:276:GLN:O	3:C:279:PRO:CD	2.54	0.52
3:C:465:MET:HE2	3:C:465:MET:O	2.08	0.52
1:D:233:PHE:HE2	1:D:295:VAL:HG21	1.74	0.52
2:B:449:ILE:CG1	2:B:450:GLY:N	2.72	0.52
1:D:422:THR:CG2	1:D:423:VAL:N	2.72	0.52
1:A:406:ILE:O	1:A:410:LEU:CB	2.58	0.52
2:B:221:ILE:HG13	2:B:222:VAL:N	2.24	0.52
1:A:218:VAL:C	1:A:221:PRO:HG2	2.30	0.52
3:C:264:LEU:HD23	3:C:267:GLN:CD	2.30	0.52
1:D:406:ILE:O	1:D:410:LEU:CB	2.58	0.52
4:E:272:LYS:HG3	4:E:273:VAL:N	2.24	0.52
4:E:283:ILE:O	4:E:283:ILE:CG1	2.55	0.52
2:B:244:ASP:OD1	3:C:314:PHE:CZ	2.63	0.52
2:B:435:ALA:HA	2:B:438:LEU:HB3	1.92	0.52
1:A:218:VAL:HA	1:A:221:PRO:HG3	1.91	0.51
1:A:280:PHE:CA	1:A:283:ILE:HG12	2.39	0.51
1:A:409:ILE:O	1:A:413:VAL:HG23	2.10	0.51
2:B:253:ILE:HG22	2:B:254:SER:N	2.25	0.51
1:D:238:ASP:CB	4:E:309:LEU:CD1	2.88	0.51
4:E:299:MET:O	4:E:303:ILE:HG13	2.11	0.51
1:D:235:LEU:HD23	4:E:309:LEU:HD23	1.92	0.51
4:E:458:LEU:CD1	4:E:461:ILE:HD11	2.25	0.51
2:B:286:PHE:CE1	2:B:456:LEU:CG	2.92	0.51
1:D:406:ILE:CG2	1:D:410:LEU:CG	2.86	0.51
1:A:280:PHE:HA	1:A:283:ILE:CG1	2.39	0.51
2:B:244:ASP:OD2	3:C:314:PHE:CZ	2.64	0.51
1:D:282:MET:O	1:D:286:ILE:HG13	2.10	0.51
1:D:245:LEU:HD21	4:E:253:THR:HA	1.92	0.51
4:E:259:LEU:HA	4:E:262:GLN:CG	2.40	0.51
4:E:295:MET:O	4:E:298:VAL:HB	2.10	0.51
1:A:225:PHE:HZ	1:A:288:SER:CB	2.11	0.51
1:A:427:ALA:O	1:A:431:ILE:HB	2.10	0.51
1:A:256:PHE:HE1	2:B:260:THR:HG21	1.75	0.51
1:D:280:PHE:HA	1:D:283:ILE:CG1	2.39	0.51
4:E:304:VAL:O	4:E:308:SER:HB3	2.11	0.51
4:E:286:TYR:HD2	4:E:289:PHE:CD1	2.29	0.51
2:B:284:LEU:HA	2:B:287:ILE:CD1	2.38	0.51
1:D:227:PHE:O	1:D:231:LEU:N	2.40	0.51
4:E:243:LEU:CD1	4:E:247:ALA:CB	2.88	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:247:ALA:CB	4:E:251:LYS:CB	2.72	0.51
4:E:459:PHE:O	4:E:463:THR:HB	2.09	0.51
1:A:242:LYS:CB	1:A:245:LEU:HD22	2.39	0.51
1:A:432:GLU:OE1	1:A:435:GLN:NE2	2.43	0.51
2:B:224:THR:CA	2:B:227:PRO:HG2	2.39	0.51
1:D:296:ILE:HA	1:D:299:HIS:HB2	1.91	0.51
1:D:235:LEU:CG	4:E:305:LEU:HD11	2.40	0.51
1:A:218:VAL:CA	1:A:221:PRO:HG2	2.41	0.51
1:A:233:PHE:HE2	1:A:295:VAL:CG2	2.22	0.51
1:A:245:LEU:HD12	2:B:250:SER:HA	1.91	0.51
2:B:290:LEU:HD21	2:B:453:SER:CB	2.26	0.51
2:B:244:ASP:CG	3:C:314:PHE:CE1	2.83	0.51
1:D:227:PHE:CD1	1:D:231:LEU:CD2	2.94	0.51
1:A:233:PHE:O	1:A:410:LEU:HD11	2.11	0.51
2:B:241:LEU:C	2:B:248:LYS:HE2	2.31	0.51
3:C:256:LYS:HB2	3:C:259:THR:CG2	2.40	0.51
3:C:314:PHE:HD1	3:C:314:PHE:C	2.11	0.51
3:C:455:ARG:O	3:C:459:PHE:CB	2.59	0.51
4:E:259:LEU:HD11	4:E:305:LEU:HB2	1.92	0.51
1:A:225:PHE:CD2	1:A:253:LEU:CD2	2.85	0.51
2:B:248:LYS:HB2	2:B:251:LEU:HD13	1.93	0.51
2:B:252:SER:O	2:B:255:ALA:HB3	2.10	0.51
1:D:291:ILE:O	1:D:295:VAL:CG2	2.58	0.51
4:E:233:ILE:CA	4:E:236:LEU:HG	2.40	0.51
4:E:462:GLY:O	4:E:466:ILE:HG13	2.10	0.51
4:E:473:ASN:C	4:E:476:PRO:HD2	2.32	0.51
1:A:242:LYS:O	1:A:245:LEU:CD2	2.48	0.50
1:A:245:LEU:HD23	1:A:246:SER:N	2.24	0.50
1:A:228:LEU:CB	1:A:253:LEU:HD22	2.41	0.50
3:C:232:PHE:CA	3:C:235:PRO:CD	2.87	0.50
4:E:259:LEU:CA	4:E:262:GLN:HG2	2.42	0.50
4:E:297:ILE:CG1	4:E:298:VAL:N	2.74	0.50
1:A:287:SER:CA	1:A:290:ILE:HG12	2.16	0.50
2:B:446:ILE:HA	2:B:449:ILE:HD13	1.83	0.50
2:B:286:PHE:CZ	2:B:456:LEU:HD13	2.44	0.50
1:D:225:PHE:CE2	1:D:229:THR:CG2	2.95	0.50
2:B:238:VAL:O	2:B:242:PRO:CD	2.47	0.50
2:B:249:MET:CA	2:B:249:MET:CE	2.59	0.50
2:B:296:ILE:CA	2:B:299:VAL:HG22	2.41	0.50
3:C:263:VAL:CG2	1:D:247:ILE:CD1	2.90	0.50
3:C:270:PHE:CD2	3:C:270:PHE:N	2.78	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:225:PHE:CD2	1:D:253:LEU:CD2	2.86	0.50
1:D:233:PHE:HE2	1:D:295:VAL:CG2	2.23	0.50
4:E:266:LEU:HD11	4:E:297:ILE:HD11	1.93	0.50
3:C:282:ALA:HB1	3:C:287:LEU:CD1	2.15	0.50
2:B:284:LEU:C	2:B:286:PHE:N	2.65	0.50
3:C:247:PHE:C	3:C:250:PRO:HD3	2.26	0.50
1:D:256:PHE:CE2	4:E:264:ILE:HG12	2.46	0.50
1:D:280:PHE:CA	1:D:283:ILE:HG12	2.39	0.50
1:A:289:ILE:HG23	4:E:232:LEU:CD1	2.41	0.50
4:E:234:SER:OG	4:E:458:LEU:HD21	2.10	0.50
4:E:264:ILE:HD11	4:E:268:LEU:HD11	1.93	0.50
1:A:301:ARG:HG3	1:A:302:SER:N	2.26	0.50
2:B:444:PHE:HD2	2:B:444:PHE:O	1.94	0.50
3:C:270:PHE:CE1	1:D:254:THR:HG22	2.47	0.50
1:D:282:MET:HA	1:D:285:VAL:CG1	2.42	0.50
4:E:240:VAL:CA	4:E:243:LEU:HG	2.42	0.50
4:E:308:SER:HA	4:E:311:THR:HB	1.92	0.50
3:C:470:ILE:O	3:C:470:ILE:HG22	2.09	0.50
1:A:406:ILE:CG2	1:A:410:LEU:CG	2.86	0.50
4:E:292:PHE:CE1	4:E:296:LEU:HD11	2.47	0.50
4:E:286:TYR:HD2	4:E:289:PHE:HD1	1.59	0.50
3:C:314:PHE:CZ	3:C:315:ARG:CG	2.95	0.50
3:C:459:PHE:C	3:C:463:PRO:CD	2.53	0.50
1:D:218:VAL:CA	1:D:221:PRO:HG2	2.40	0.50
1:D:242:LYS:HZ1	4:E:309:LEU:CA	2.24	0.50
1:D:259:VAL:O	1:D:262:GLU:HB2	2.11	0.50
4:E:223:ILE:CG2	4:E:224:ILE:N	2.75	0.50
3:C:481:PRO:O	3:C:484:LYS:CG	2.58	0.50
1:D:276:LYS:HG3	1:D:277:TYR:CE2	2.47	0.50
1:A:429:ARG:O	1:A:433:LEU:N	2.45	0.50
1:A:433:LEU:HD23	1:A:434:SER:N	2.27	0.50
3:C:245:LEU:HD13	3:C:248:TYR:CD2	2.46	0.50
3:C:299:VAL:CG1	3:C:303:ILE:HD11	2.29	0.50
3:C:453:ILE:O	3:C:457:SER:HB2	2.12	0.50
1:D:228:LEU:CB	1:D:253:LEU:HD22	2.42	0.50
4:E:291:MET:C	4:E:295:MET:CE	2.79	0.50
1:A:231:LEU:O	1:A:235:LEU:HD12	2.11	0.50
1:A:242:LYS:CE	2:B:306:HIS:HD2	2.24	0.50
2:B:244:ASP:OD2	3:C:314:PHE:CE1	2.65	0.50
3:C:240:SER:O	3:C:244:SER:CB	2.59	0.50
1:D:404:MET:HB3	1:D:408:HIS:CE1	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:449:LYS:O	4:E:452:PHE:N	2.45	0.50
3:C:479:ASN:C	3:C:482:PRO:CD	2.73	0.50
1:A:258:LEU:O	1:A:262:GLU:HG3	2.11	0.49
2:B:259:VAL:O	2:B:263:LEU:HG	2.13	0.49
1:D:244:THR:O	1:D:247:ILE:N	2.45	0.49
2:B:305:HIS:C	2:B:308:SER:HB3	2.32	0.49
1:A:250:LEU:HD11	1:A:296:ILE:CG2	2.42	0.49
1:D:233:PHE:O	1:D:410:LEU:HD11	2.11	0.49
4:E:262:GLN:HE21	4:E:301:CYS:HB3	1.76	0.49
1:D:432:GLU:O	1:D:436:GLU:HG3	2.12	0.49
2:B:218:LEU:HD22	2:B:221:ILE:CD1	2.43	0.49
3:C:267:GLN:NE2	3:C:306:CYS:CB	2.75	0.49
1:D:250:LEU:CD1	1:D:296:ILE:CG2	2.90	0.49
4:E:259:LEU:HA	4:E:262:GLN:CD	2.32	0.49
1:A:279:LEU:HA	1:A:282:MET:SD	2.53	0.49
1:A:432:GLU:O	1:A:436:GLU:HG3	2.12	0.49
3:C:259:THR:OG1	1:D:244:THR:HA	2.13	0.49
1:D:218:VAL:C	1:D:221:PRO:CG	2.81	0.49
4:E:262:GLN:O	4:E:266:LEU:HG	2.12	0.49
2:B:441:TYR:O	2:B:445:VAL:CG2	2.61	0.49
4:E:280:VAL:HB	4:E:281:PRO:HD3	1.86	0.49
1:A:219:ILE:N	1:A:221:PRO:HD2	2.25	0.49
1:A:247:ILE:CG2	1:A:248:SER:N	2.75	0.49
2:B:283:TYR:O	2:B:286:PHE:HB2	2.12	0.49
4:E:247:ALA:CB	4:E:251:LYS:HB3	2.25	0.49
1:A:232:VAL:HG22	1:A:299:HIS:CE1	2.48	0.49
1:A:298:THR:O	1:A:302:SER:CA	2.60	0.49
3:C:264:LEU:CA	3:C:267:GLN:HG2	2.42	0.49
4:E:262:GLN:HE21	4:E:301:CYS:CB	2.26	0.49
1:A:301:ARG:C	1:A:301:ARG:CD	2.80	0.49
2:B:283:TYR:C	2:B:286:PHE:HB2	2.33	0.49
2:B:282:ARG:O	2:B:286:PHE:CG	2.66	0.49
4:E:247:ALA:CB	4:E:251:LYS:CD	2.81	0.49
4:E:295:MET:O	4:E:299:MET:N	2.43	0.49
3:C:293:MET:HE3	3:C:296:MET:HB2	1.95	0.49
2:B:266:LEU:O	2:B:269:LYS:HG2	2.13	0.48
3:C:474:VAL:HA	3:C:477:ASN:HD21	1.72	0.48
1:A:242:LYS:HE3	2:B:306:HIS:CD2	2.47	0.48
1:A:235:LEU:CD2	2:B:306:HIS:CG	2.95	0.48
3:C:455:ARG:NH1	3:C:455:ARG:CG	2.66	0.48
1:D:293:VAL:CA	1:D:296:ILE:HG12	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:239:LEU:O	4:E:243:LEU:CG	2.60	0.48
4:E:251:LYS:HA	4:E:254:LEU:HB3	1.95	0.48
4:E:450:ALA:O	4:E:454:ILE:CG1	2.54	0.48
1:A:280:PHE:HA	1:A:283:ILE:CD1	2.44	0.48
3:C:256:LYS:HB2	3:C:259:THR:HG21	1.95	0.48
1:D:261:VAL:C	1:D:264:ILE:HG13	2.34	0.48
4:E:282:LEU:O	4:E:283:ILE:CG2	2.62	0.48
2:B:249:MET:CE	2:B:305:HIS:CG	2.96	0.48
2:B:249:MET:HE1	2:B:305:HIS:CE1	2.48	0.48
2:B:434:VAL:HA	2:B:437:ARG:HB3	1.96	0.48
1:D:247:ILE:CG2	1:D:248:SER:N	2.76	0.48
1:A:293:VAL:O	1:A:296:ILE:HG13	2.11	0.48
1:D:280:PHE:HA	1:D:283:ILE:CD1	2.44	0.48
1:D:301:ARG:C	1:D:301:ARG:HE	2.16	0.48
4:E:269:ILE:O	4:E:273:VAL:HG23	2.13	0.48
4:E:453:TRP:CE3	4:E:453:TRP:CA	2.96	0.48
1:A:251:LEU:HD22	4:E:261:ALA:HB2	1.90	0.48
1:A:261:VAL:C	1:A:264:ILE:HG13	2.34	0.48
1:A:235:LEU:CA	2:B:306:HIS:CE1	2.86	0.48
2:B:460:HIS:CA	2:B:463:PRO:CG	2.92	0.48
3:C:310:LEU:O	3:C:310:LEU:HD12	2.13	0.48
1:D:219:ILE:N	1:D:221:PRO:HD2	2.23	0.48
1:D:242:LYS:HZ1	4:E:309:LEU:CB	2.25	0.48
3:C:468:GLY:O	3:C:472:ILE:HG13	2.13	0.48
1:A:232:VAL:HG12	1:A:233:PHE:H	1.78	0.48
2:B:250:SER:O	2:B:253:ILE:HB	2.14	0.48
2:B:251:LEU:HD21	3:C:261:ILE:CG1	2.42	0.48
2:B:449:ILE:HG12	2:B:450:GLY:H	1.78	0.48
2:B:451:THR:CG2	2:B:452:PHE:CD2	2.97	0.48
3:C:234:THR:HA	3:C:237:VAL:HG21	1.94	0.48
3:C:247:PHE:HA	3:C:250:PRO:HG3	1.95	0.48
1:D:230:GLY:O	1:D:234:TYR:CG	2.67	0.48
1:D:281:THR:O	1:D:285:VAL:CG1	2.62	0.48
1:D:427:ALA:O	1:D:431:ILE:HD12	2.13	0.48
2:B:276:SER:O	2:B:277:VAL:CG2	2.62	0.48
2:B:272:GLU:O	2:B:275:LEU:HB2	2.13	0.48
2:B:306:HIS:O	2:B:307:ARG:C	2.52	0.48
2:B:446:ILE:CA	2:B:449:ILE:HG12	2.41	0.48
3:C:259:THR:OG1	1:D:247:ILE:CG2	2.62	0.48
4:E:227:ILE:O	4:E:231:VAL:HG13	2.14	0.48
4:E:241:TYR:CD1	4:E:454:ILE:CG2	2.89	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:271:GLN:HA	4:E:274:PRO:HG3	1.94	0.48
3:C:479:ASN:C	3:C:481:PRO:HD2	2.34	0.48
1:A:233:PHE:CZ	1:A:291:ILE:HG22	2.49	0.48
2:B:455:PHE:O	2:B:459:SER:N	2.33	0.48
1:A:238:ASP:OD2	2:B:307:ARG:O	2.31	0.48
1:A:276:LYS:O	1:A:280:PHE:CE2	2.66	0.48
3:C:461:ILE:O	3:C:465:MET:HB2	2.14	0.48
1:D:232:VAL:HG12	1:D:233:PHE:H	1.79	0.48
4:E:473:ASN:O	4:E:476:PRO:HG2	2.14	0.48
1:D:277:TYR:CD2	1:D:277:TYR:N	2.82	0.48
1:A:244:THR:O	1:A:247:ILE:N	2.47	0.47
1:D:242:LYS:HE3	4:E:309:LEU:HD23	1.95	0.47
1:D:235:LEU:HA	4:E:309:LEU:CD2	2.44	0.47
1:A:418:CYS:O	1:A:422:THR:CB	2.44	0.47
2:B:451:THR:CG2	2:B:452:PHE:N	2.77	0.47
2:B:463:PRO:CB	2:B:464:PRO:CD	2.88	0.47
3:C:461:ILE:C	3:C:463:PRO:HD2	2.33	0.47
3:C:266:ALA:HB2	1:D:251:LEU:HD13	1.95	0.47
1:D:261:VAL:O	1:D:264:ILE:CD1	2.62	0.47
4:E:233:ILE:CD1	4:E:236:LEU:HD12	2.44	0.47
4:E:304:VAL:O	4:E:308:SER:N	2.33	0.47
4:E:241:TYR:CE2	4:E:454:ILE:CG2	2.97	0.47
2:B:270:VAL:N	2:B:271:PRO:HD3	2.26	0.47
1:A:422:THR:CG2	1:A:423:VAL:N	2.77	0.47
1:A:409:ILE:HG13	1:A:410:LEU:CD2	2.17	0.47
3:C:310:LEU:C	3:C:310:LEU:HD12	2.34	0.47
1:D:233:PHE:C	1:D:236:PRO:CG	2.72	0.47
2:B:280:ILE:N	2:B:280:ILE:HD13	2.29	0.47
1:A:300:HIS:HA	4:E:251:LYS:HZ1	1.79	0.47
2:B:221:ILE:CG1	2:B:222:VAL:N	2.77	0.47
2:B:284:LEU:C	2:B:286:PHE:H	2.18	0.47
2:B:304:LEU:HD11	2:B:434:VAL:CG1	2.44	0.47
1:D:250:LEU:HD13	1:D:296:ILE:CG2	2.45	0.47
1:A:261:VAL:O	1:A:264:ILE:CD1	2.62	0.47
3:C:236:CYS:HA	3:C:239:ILE:HG21	1.95	0.47
1:D:220:ILE:HG22	1:D:224:LEU:HD11	1.95	0.47
1:D:298:THR:O	1:D:302:SER:CA	2.62	0.47
2:B:279:ILE:CG1	2:B:280:ILE:N	2.77	0.47
1:A:276:LYS:HG3	1:A:277:TYR:CE2	2.48	0.47
3:C:256:LYS:CB	3:C:259:THR:HG21	2.44	0.47
1:D:233:PHE:CE2	1:D:295:VAL:HB	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:226:ILE:C	4:E:229:PRO:HG2	2.31	0.47
4:E:264:ILE:CD1	4:E:268:LEU:CG	2.93	0.47
4:E:286:TYR:HA	4:E:289:PHE:CD1	2.50	0.47
1:A:225:PHE:CE1	1:A:288:SER:CB	2.97	0.47
1:A:297:ASN:O	1:A:301:ARG:HB3	2.14	0.47
3:C:246:ALA:CA	3:C:249:LEU:HB2	2.45	0.47
3:C:311:ASN:ND2	3:C:314:PHE:CE2	2.81	0.47
4:E:226:ILE:CA	4:E:229:PRO:HG2	2.45	0.47
1:A:251:LEU:HD13	4:E:261:ALA:HB2	1.96	0.47
2:B:440:LEU:O	2:B:444:PHE:HB3	2.15	0.47
3:C:453:ILE:C	3:C:453:ILE:CD1	2.61	0.47
1:D:225:PHE:CE2	1:D:253:LEU:CD2	2.83	0.47
1:D:422:THR:HG22	1:D:423:VAL:N	2.29	0.47
3:C:481:PRO:CB	3:C:482:PRO:HD3	2.45	0.47
1:A:240:GLY:O	1:A:243:MET:CG	2.59	0.47
1:A:262:GLU:HA	1:A:265:PRO:HG3	1.94	0.47
2:B:455:PHE:HD2	2:B:455:PHE:O	1.98	0.47
3:C:452:THR:HG22	3:C:456:LEU:HD11	1.94	0.47
1:D:242:LYS:HB2	1:D:245:LEU:CG	2.45	0.47
1:D:245:LEU:HD13	4:E:253:THR:O	2.14	0.47
3:C:249:LEU:HD11	1:D:300:HIS:HE1	1.76	0.47
1:D:282:MET:HA	1:D:285:VAL:HG12	1.96	0.47
1:D:406:ILE:HG23	1:D:410:LEU:HD21	1.97	0.47
1:D:426:PHE:HE2	1:D:430:LEU:CG	2.26	0.47
1:A:296:ILE:CA	1:A:299:HIS:HB2	2.40	0.47
2:B:282:ARG:O	2:B:286:PHE:HB2	2.15	0.47
1:D:228:LEU:HD13	1:D:253:LEU:HD13	1.90	0.47
1:D:292:THR:O	1:D:295:VAL:HG22	2.15	0.47
4:E:272:LYS:CA	4:E:274:PRO:HD2	2.45	0.47
4:E:285:LYS:O	4:E:289:PHE:CE2	2.68	0.47
1:A:231:LEU:O	1:A:235:LEU:CD1	2.64	0.46
3:C:262:SER:C	1:D:251:LEU:CD1	2.84	0.46
3:C:459:PHE:CD2	3:C:459:PHE:C	2.87	0.46
1:D:255:VAL:CG1	1:D:256:PHE:HD2	2.28	0.46
1:D:279:LEU:O	1:D:283:ILE:HG23	2.15	0.46
4:E:226:ILE:HA	4:E:229:PRO:HG3	1.96	0.46
4:E:256:ILE:HD11	4:E:305:LEU:HD13	1.97	0.46
1:A:218:VAL:CA	1:A:221:PRO:CD	2.93	0.46
1:A:294:VAL:O	1:A:298:THR:CB	2.63	0.46
2:B:236:ILE:HD11	2:B:439:PHE:HE2	1.81	0.46
4:E:226:ILE:CA	4:E:229:PRO:CD	2.92	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:235:SER:HA	4:E:238:VAL:HG12	1.97	0.46
4:E:247:ALA:CB	4:E:251:LYS:CG	2.86	0.46
4:E:451:CYS:HA	4:E:454:ILE:CD1	2.45	0.46
1:D:232:VAL:HG22	1:D:299:HIS:CE1	2.51	0.46
3:C:259:THR:OG1	1:D:247:ILE:CB	2.64	0.46
1:D:262:GLU:HA	1:D:265:PRO:HG3	1.94	0.46
1:D:267:THR:CG2	1:D:268:SER:H	2.29	0.46
1:D:296:ILE:CG1	1:D:297:ASN:H	2.27	0.46
1:A:248:SER:OG	2:B:257:LEU:HD11	2.15	0.46
1:A:238:ASP:HB2	2:B:306:HIS:CE1	2.49	0.46
2:B:251:LEU:HD11	3:C:261:ILE:HG13	1.98	0.46
3:C:277:ARG:HD2	3:C:280:GLU:OE2	2.15	0.46
4:E:240:VAL:HG12	4:E:241:TYR:H	1.80	0.46
4:E:461:ILE:HG13	4:E:462:GLY:H	1.79	0.46
1:A:406:ILE:HG23	1:A:410:LEU:HD21	1.97	0.46
4:E:225:ASN:O	4:E:229:PRO:HG3	2.15	0.46
4:E:237:VAL:C	4:E:240:VAL:HG12	2.36	0.46
4:E:240:VAL:HG22	4:E:255:SER:HB2	1.98	0.46
4:E:258:VAL:O	4:E:262:GLN:HG2	2.15	0.46
1:A:293:VAL:CG2	4:E:232:LEU:CD2	2.76	0.46
1:A:298:THR:C	1:A:302:SER:HB2	2.28	0.46
4:E:239:LEU:O	4:E:243:LEU:HG	2.15	0.46
4:E:450:ALA:O	4:E:454:ILE:CG2	2.63	0.46
3:C:455:ARG:O	3:C:459:PHE:HB2	2.16	0.46
1:D:233:PHE:C	1:D:236:PRO:HD3	2.31	0.46
1:D:235:LEU:N	1:D:236:PRO:HD3	2.30	0.46
4:E:291:MET:O	4:E:295:MET:CE	2.64	0.46
4:E:234:SER:CB	4:E:458:LEU:HD21	2.46	0.46
3:C:479:ASN:HA	3:C:482:PRO:HG2	1.98	0.46
1:D:225:PHE:CD2	1:D:253:LEU:CD1	2.93	0.46
4:E:243:LEU:HD13	4:E:247:ALA:CB	2.46	0.46
4:E:267:PHE:O	4:E:271:GLN:HG3	2.16	0.46
4:E:446:VAL:O	4:E:446:VAL:HG12	2.15	0.46
4:E:461:ILE:CG1	4:E:462:GLY:N	2.77	0.46
1:D:429:ARG:O	1:D:433:LEU:N	2.45	0.46
2:B:304:LEU:HD11	2:B:434:VAL:HG12	1.97	0.46
2:B:240:TYR:CD2	2:B:439:PHE:CE1	3.04	0.46
1:D:247:ILE:HG22	1:D:248:SER:N	2.31	0.46
1:D:245:LEU:CD2	4:E:253:THR:CA	2.84	0.46
1:A:279:LEU:O	1:A:283:ILE:HG23	2.15	0.45
1:A:233:PHE:CE2	1:A:295:VAL:HG21	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:261:ILE:CG2	3:C:262:SER:N	2.78	0.45
1:D:215:VAL:HA	1:D:218:VAL:HG12	1.98	0.45
1:D:225:PHE:CE1	1:D:288:SER:CB	2.99	0.45
4:E:297:ILE:CD1	4:E:298:VAL:N	2.78	0.45
1:D:238:ASP:HB3	4:E:309:LEU:CD1	2.45	0.45
1:D:411:LEU:HA	1:D:411:LEU:HD22	1.83	0.45
1:A:291:ILE:HG23	1:A:295:VAL:CG1	2.46	0.45
1:A:426:PHE:HE2	1:A:430:LEU:CG	2.26	0.45
2:B:441:TYR:CD2	2:B:441:TYR:C	2.88	0.45
4:E:235:SER:O	4:E:239:LEU:CA	2.64	0.45
4:E:264:ILE:O	4:E:268:LEU:HG	2.16	0.45
3:C:269:VAL:O	3:C:273:LEU:HG	2.16	0.45
2:B:279:ILE:CG2	2:B:280:ILE:CD1	2.91	0.45
1:A:267:THR:CG2	1:A:268:SER:H	2.29	0.45
2:B:455:PHE:CD2	2:B:455:PHE:C	2.88	0.45
3:C:270:PHE:HD2	3:C:270:PHE:N	2.14	0.45
1:D:260:ILE:HG12	4:E:267:PHE:CZ	2.49	0.45
4:E:222:TYR:O	4:E:225:ASN:N	2.50	0.45
4:E:240:VAL:HA	4:E:243:LEU:HG	1.98	0.45
1:D:426:PHE:O	1:D:430:LEU:N	2.31	0.45
1:A:219:ILE:C	1:A:221:PRO:HD2	2.35	0.45
1:A:232:VAL:HG12	1:A:233:PHE:N	2.32	0.45
1:A:235:LEU:HD23	1:A:242:LYS:NZ	2.28	0.45
2:B:282:ARG:HD2	2:B:460:HIS:CB	2.46	0.45
1:D:221:PRO:O	1:D:225:PHE:HB3	2.16	0.45
3:C:263:VAL:CG2	1:D:247:ILE:HD11	2.46	0.45
1:D:228:LEU:HB3	1:D:253:LEU:HD22	1.98	0.45
4:E:247:ALA:CA	4:E:251:LYS:HG3	2.47	0.45
1:A:228:LEU:HB3	1:A:253:LEU:HD22	1.97	0.45
2:B:440:LEU:HA	2:B:440:LEU:HD23	1.80	0.45
1:D:261:VAL:C	1:D:265:PRO:CD	2.76	0.45
4:E:238:VAL:HG12	4:E:239:LEU:H	1.82	0.45
1:A:232:VAL:HG22	1:A:299:HIS:HE1	1.81	0.45
1:A:287:SER:CA	1:A:290:ILE:CG1	2.80	0.45
2:B:306:HIS:C	2:B:308:SER:N	2.67	0.45
1:D:244:THR:C	1:D:246:SER:N	2.69	0.45
1:D:287:SER:HA	1:D:290:ILE:CD1	2.46	0.45
4:E:464:LEU:O	4:E:468:LEU:HG	2.17	0.45
2:B:233:ILE:O	2:B:237:LEU:CG	2.64	0.45
2:B:248:LYS:O	2:B:249:MET:C	2.55	0.45
4:E:220:LEU:HB3	4:E:223:ILE:HB	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:425:VAL:O	1:D:429:ARG:HG2	2.17	0.45
3:C:479:ASN:CA	3:C:482:PRO:HG2	2.46	0.45
1:A:243:MET:O	1:A:246:SER:CA	2.65	0.45
3:C:247:PHE:HB3	3:C:460:ILE:HD13	1.99	0.45
1:D:232:VAL:HG22	1:D:299:HIS:HE1	1.81	0.45
4:E:448:ASP:O	4:E:451:CYS:HB2	2.16	0.45
4:E:452:PHE:CD1	4:E:453:TRP:CZ3	3.04	0.45
4:E:280:VAL:CB	4:E:281:PRO:CD	2.67	0.45
3:C:473:PHE:CE2	3:C:477:ASN:HB3	2.51	0.45
2:B:224:THR:CA	2:B:227:PRO:CD	2.94	0.45
3:C:276:GLN:HA	3:C:279:PRO:HG3	1.96	0.45
1:D:219:ILE:C	1:D:221:PRO:HD2	2.37	0.45
1:D:255:VAL:CG1	1:D:256:PHE:CD2	2.99	0.45
4:E:227:ILE:N	4:E:229:PRO:HD2	2.27	0.45
1:A:243:MET:HA	1:A:246:SER:HB3	1.99	0.45
1:A:228:LEU:HD13	1:A:253:LEU:HD13	1.90	0.45
1:A:256:PHE:CZ	2:B:261:VAL:CG2	2.89	0.45
2:B:236:ILE:HD12	2:B:439:PHE:CE2	2.52	0.45
4:E:297:ILE:HG13	4:E:298:VAL:N	2.32	0.45
2:B:227:PRO:O	2:B:231:ILE:HG13	2.17	0.44
2:B:296:ILE:O	2:B:296:ILE:CG2	2.64	0.44
3:C:259:THR:HG1	1:D:247:ILE:HB	1.82	0.44
1:A:229:THR:HA	1:A:232:VAL:HG11	1.98	0.44
1:A:235:LEU:N	1:A:236:PRO:HD3	2.30	0.44
1:A:247:ILE:HG22	1:A:248:SER:N	2.31	0.44
2:B:292:ALA:C	2:B:295:VAL:HB	2.37	0.44
1:D:233:PHE:HE2	1:D:295:VAL:HB	1.77	0.44
4:E:266:LEU:HA	4:E:269:ILE:HD11	1.84	0.44
4:E:449:LYS:CB	4:E:453:TRP:CZ2	2.89	0.44
1:D:421:GLY:O	1:D:425:VAL:HG23	2.17	0.44
2:B:282:ARG:O	2:B:286:PHE:CB	2.65	0.44
2:B:296:ILE:O	2:B:296:ILE:HG22	2.16	0.44
3:C:246:ALA:HA	3:C:249:LEU:HB2	1.98	0.44
1:D:255:VAL:CG1	1:D:256:PHE:N	2.80	0.44
3:C:480:HIS:HB3	3:C:481:PRO:CD	2.46	0.44
3:C:232:PHE:N	3:C:232:PHE:CD2	2.85	0.44
3:C:242:LEU:O	3:C:246:ALA:CB	2.66	0.44
3:C:267:GLN:HE22	3:C:306:CYS:HB3	1.82	0.44
3:C:456:LEU:O	3:C:460:ILE:N	2.44	0.44
1:D:243:MET:HA	1:D:246:SER:HB3	1.99	0.44
1:D:245:LEU:HD13	4:E:253:THR:OG1	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:463:THR:HG23	4:E:467:PHE:CE1	2.51	0.44
2:B:248:LYS:HD2	2:B:252:SER:HB2	2.00	0.44
2:B:438:LEU:HG	2:B:438:LEU:O	2.17	0.44
3:C:256:LYS:HG3	3:C:259:THR:HG22	1.98	0.44
1:D:218:VAL:CA	1:D:221:PRO:CD	2.95	0.44
1:D:260:ILE:O	1:D:264:ILE:HG13	2.18	0.44
4:E:241:TYR:CE2	4:E:304:VAL:CG2	3.01	0.44
1:D:218:VAL:C	1:D:221:PRO:HG2	2.36	0.44
1:D:301:ARG:C	1:D:301:ARG:CD	2.85	0.44
4:E:243:LEU:HD12	4:E:247:ALA:CB	2.45	0.44
2:B:450:GLY:O	2:B:454:ILE:HD12	2.16	0.44
3:C:241:PHE:CE1	3:C:242:LEU:HD23	2.53	0.44
3:C:256:LYS:O	3:C:256:LYS:HG3	2.17	0.44
4:E:237:VAL:O	4:E:241:TYR:HB2	2.18	0.44
3:C:291:TYR:OH	3:C:478:PHE:CD1	2.71	0.44
3:C:255:GLU:HG2	3:C:255:GLU:O	2.17	0.44
1:D:244:THR:HA	1:D:247:ILE:HB	1.98	0.44
3:C:263:VAL:CG2	1:D:247:ILE:HD12	2.48	0.44
4:E:297:ILE:HG13	4:E:298:VAL:H	1.82	0.44
1:A:405:VAL:HA	1:A:408:HIS:HB2	2.00	0.44
2:B:460:HIS:C	2:B:463:PRO:CG	2.86	0.44
3:C:300:THR:O	3:C:304:VAL:N	2.45	0.44
4:E:237:VAL:CA	4:E:240:VAL:HG12	2.48	0.44
1:D:238:ASP:HB2	4:E:309:LEU:HD11	1.99	0.44
2:B:262:PHE:CZ	3:C:269:VAL:CG2	3.01	0.44
2:B:266:LEU:O	2:B:269:LYS:CG	2.66	0.44
4:E:282:LEU:C	4:E:283:ILE:HG23	2.37	0.44
3:C:467:LEU:O	3:C:471:PHE:N	2.51	0.44
1:A:251:LEU:HD22	4:E:261:ALA:HB1	1.95	0.43
2:B:292:ALA:O	2:B:296:ILE:N	2.46	0.43
2:B:283:TYR:CZ	2:B:457:ASP:HA	2.50	0.43
1:D:234:TYR:CA	1:D:236:PRO:HD2	2.48	0.43
1:D:267:THR:HG22	1:D:268:SER:H	1.82	0.43
1:A:411:LEU:HB3	1:A:415:MET:HE2	2.00	0.43
1:A:229:THR:O	1:A:232:VAL:CG1	2.48	0.43
1:A:260:ILE:O	1:A:264:ILE:HG13	2.18	0.43
1:A:245:LEU:CD1	2:B:250:SER:HB2	2.37	0.43
2:B:296:ILE:HA	2:B:299:VAL:CG2	2.48	0.43
1:D:243:MET:O	1:D:246:SER:CA	2.64	0.43
1:D:249:VAL:HA	4:E:260:LEU:HD21	1.99	0.43
4:E:240:VAL:HG12	4:E:241:TYR:N	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:296:LEU:O	4:E:300:ASN:ND2	2.51	0.43
1:D:411:LEU:HB3	1:D:415:MET:HE2	1.99	0.43
2:B:230:LEU:O	2:B:234:LEU:HG	2.18	0.43
2:B:284:LEU:C	2:B:287:ILE:HG12	2.35	0.43
1:D:231:LEU:HD12	4:E:305:LEU:HG	1.96	0.43
1:D:232:VAL:HG12	1:D:233:PHE:N	2.32	0.43
4:E:254:LEU:O	4:E:257:SER:OG	2.29	0.43
4:E:310:ARG:CA	4:E:310:ARG:NE	2.81	0.43
4:E:458:LEU:O	4:E:462:GLY:N	2.42	0.43
1:A:267:THR:HG22	1:A:268:SER:H	1.82	0.43
1:A:293:VAL:HA	1:A:296:ILE:CG1	2.49	0.43
2:B:236:ILE:HD12	2:B:439:PHE:HE2	1.83	0.43
3:C:234:THR:C	3:C:237:VAL:HG22	2.38	0.43
3:C:309:VAL:O	3:C:313:HIS:CG	2.71	0.43
1:D:244:THR:HG23	1:D:245:LEU:H	1.83	0.43
4:E:451:CYS:HA	4:E:454:ILE:HD11	1.99	0.43
2:B:256:LEU:HD11	2:B:302:LEU:HB2	2.01	0.43
2:B:451:THR:HG22	2:B:452:PHE:N	2.33	0.43
1:D:234:TYR:N	1:D:236:PRO:HD2	2.33	0.43
1:D:296:ILE:O	1:D:300:HIS:CG	2.71	0.43
4:E:264:ILE:HD12	4:E:268:LEU:CD1	2.48	0.43
4:E:454:ILE:CG1	4:E:455:ALA:H	2.24	0.43
1:A:414:PHE:HE2	1:A:418:CYS:SG	2.27	0.43
3:C:478:PHE:O	3:C:481:PRO:HD2	2.19	0.43
1:A:225:PHE:C	1:A:225:PHE:CD2	2.92	0.43
2:B:446:ILE:CG1	2:B:449:ILE:HD11	2.48	0.43
2:B:455:PHE:CD2	2:B:455:PHE:O	2.72	0.43
4:E:233:ILE:C	4:E:233:ILE:HD13	2.34	0.43
4:E:270:ALA:C	4:E:274:PRO:HG3	2.36	0.43
4:E:296:LEU:N	4:E:296:LEU:HD23	2.33	0.43
4:E:241:TYR:OH	4:E:300:ASN:HB3	2.19	0.43
4:E:289:PHE:CD2	4:E:289:PHE:N	2.87	0.43
1:A:244:THR:HG23	1:A:245:LEU:N	2.34	0.43
1:A:292:THR:O	1:A:296:ILE:HG12	2.18	0.43
1:A:406:ILE:HA	1:A:409:ILE:CG1	2.31	0.43
1:A:429:ARG:O	1:A:432:GLU:CB	2.66	0.43
2:B:223:TYR:O	2:B:227:PRO:HG3	2.18	0.43
1:D:229:THR:HB	1:D:233:PHE:CZ	2.53	0.43
1:D:299:HIS:O	1:D:302:SER:C	2.56	0.43
4:E:233:ILE:C	4:E:233:ILE:CD1	2.87	0.43
4:E:265:PHE:N	4:E:265:PHE:CD2	2.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:451:CYS:CA	4:E:454:ILE:CG1	2.97	0.43
3:C:473:PHE:CD2	3:C:477:ASN:HB3	2.53	0.43
2:B:432:ALA:O	2:B:436:ASP:CG	2.56	0.43
1:A:244:THR:HA	1:A:247:ILE:HB	1.99	0.43
2:B:248:LYS:CA	2:B:251:LEU:HB3	2.49	0.43
3:C:460:ILE:C	3:C:463:PRO:HG2	2.36	0.43
1:D:228:LEU:O	1:D:232:VAL:CB	2.51	0.43
1:D:237:THR:HG23	1:D:238:ASP:N	2.34	0.43
1:D:256:PHE:CD2	1:D:256:PHE:N	2.87	0.43
4:E:241:TYR:HA	4:E:244:PRO:HG3	1.60	0.43
4:E:305:LEU:O	4:E:309:LEU:HB3	2.19	0.43
1:D:429:ARG:O	1:D:432:GLU:CB	2.66	0.43
1:D:239:SER:OG	1:D:242:LYS:HE2	2.19	0.43
4:E:458:LEU:HA	4:E:461:ILE:CD1	2.48	0.43
1:D:418:CYS:O	1:D:422:THR:N	2.52	0.43
1:A:230:GLY:O	1:A:234:TYR:CD2	2.72	0.43
1:A:261:VAL:C	1:A:265:PRO:CD	2.76	0.43
1:A:277:TYR:N	1:A:277:TYR:CD2	2.83	0.43
1:D:225:PHE:CE1	1:D:288:SER:HB2	2.52	0.43
3:C:285:VAL:HG13	3:C:286:PRO:HD3	1.93	0.43
1:A:215:VAL:HA	1:A:218:VAL:HG12	2.01	0.42
1:A:243:MET:HA	1:A:246:SER:CB	2.49	0.42
1:D:242:LYS:HZ1	4:E:309:LEU:HB2	1.84	0.42
4:E:234:SER:O	4:E:238:VAL:CB	2.60	0.42
4:E:259:LEU:HD22	4:E:262:GLN:NE2	2.34	0.42
4:E:234:SER:HB3	4:E:458:LEU:HD21	2.00	0.42
1:D:418:CYS:O	1:D:422:THR:CB	2.47	0.42
1:A:422:THR:HG22	1:A:423:VAL:N	2.34	0.42
2:B:220:TYR:HH	3:C:283:LEU:HD11	1.77	0.42
1:A:234:TYR:CA	1:A:236:PRO:HD2	2.48	0.42
2:B:248:LYS:O	2:B:252:SER:N	2.52	0.42
3:C:263:VAL:O	3:C:267:GLN:N	2.35	0.42
1:D:215:VAL:O	1:D:219:ILE:HG13	2.19	0.42
4:E:300:ASN:O	4:E:304:VAL:HG12	2.20	0.42
1:A:238:ASP:HB3	2:B:306:HIS:CD2	2.45	0.42
1:A:284:PHE:CD2	1:A:285:VAL:N	2.84	0.42
1:D:406:ILE:HA	1:D:409:ILE:CG1	2.31	0.42
4:E:233:ILE:HG12	4:E:236:LEU:CD1	2.39	0.42
4:E:304:VAL:HG13	4:E:305:LEU:N	2.34	0.42
1:A:283:ILE:CG1	1:A:284:PHE:N	2.79	0.42
3:C:267:GLN:HE22	3:C:306:CYS:CB	2.32	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:219:PRO:HB2	4:E:220:LEU:H	1.30	0.42
4:E:237:VAL:HG23	4:E:238:VAL:N	2.34	0.42
2:B:446:ILE:CA	2:B:449:ILE:CD1	2.70	0.42
1:D:280:PHE:O	1:D:283:ILE:CG1	2.68	0.42
4:E:254:LEU:O	4:E:257:SER:N	2.52	0.42
4:E:452:PHE:C	4:E:453:TRP:HE3	2.22	0.42
4:E:284:GLY:O	4:E:285:LYS:HD2	2.19	0.42
1:A:237:THR:HG23	1:A:238:ASP:N	2.33	0.42
1:A:243:MET:CA	1:A:246:SER:HB3	2.50	0.42
1:A:285:VAL:O	1:A:289:ILE:CG1	2.65	0.42
2:B:261:VAL:O	2:B:265:LEU:HG	2.18	0.42
2:B:302:LEU:O	2:B:306:HIS:CB	2.67	0.42
2:B:450:GLY:HA2	2:B:453:SER:OG	2.19	0.42
3:C:247:PHE:HE2	3:C:309:VAL:CG2	2.16	0.42
3:C:253:SER:HB2	3:C:256:LYS:HG2	2.01	0.42
4:E:258:VAL:HG12	4:E:262:GLN:OE1	2.19	0.42
1:D:238:ASP:OD2	4:E:309:LEU:HD11	2.20	0.42
4:E:238:VAL:CG2	4:E:242:PHE:CZ	2.98	0.42
4:E:256:ILE:CD1	4:E:305:LEU:HD13	2.50	0.42
1:D:414:PHE:HE2	1:D:418:CYS:SG	2.27	0.42
1:A:280:PHE:O	1:A:283:ILE:CG1	2.68	0.42
2:B:238:VAL:HG12	2:B:239:PHE:N	2.34	0.42
3:C:241:PHE:HD2	3:C:245:LEU:CD2	2.31	0.42
1:D:243:MET:HA	1:D:246:SER:CB	2.49	0.42
3:C:287:LEU:CD1	3:C:292:LEU:HD11	2.48	0.42
1:A:235:LEU:HA	2:B:306:HIS:CG	2.51	0.42
2:B:450:GLY:O	2:B:454:ILE:HB	2.19	0.42
3:C:241:PHE:CZ	1:D:293:VAL:HG22	2.55	0.42
4:E:247:ALA:HB2	4:E:251:LYS:HD2	1.99	0.42
4:E:266:LEU:HD23	4:E:269:ILE:CD1	2.50	0.42
4:E:294:SER:O	4:E:298:VAL:CG2	2.68	0.42
3:C:474:VAL:HG12	3:C:475:MET:H	1.84	0.42
1:A:234:TYR:N	1:A:236:PRO:HD2	2.33	0.42
1:A:256:PHE:HZ	2:B:261:VAL:CG2	2.30	0.42
1:A:294:VAL:O	1:A:298:THR:HB	2.20	0.42
2:B:241:LEU:CB	2:B:248:LYS:HE2	2.48	0.42
2:B:455:PHE:CE2	2:B:459:SER:HB2	2.55	0.42
1:D:229:THR:HA	1:D:232:VAL:HG11	1.99	0.42
1:D:406:ILE:CD1	1:D:409:ILE:HD11	2.50	0.42
4:E:254:LEU:HD23	4:E:255:SER:CA	2.48	0.42
1:A:233:PHE:CZ	1:A:291:ILE:CG2	3.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:234:TYR:CE2	1:A:410:LEU:HD13	2.50	0.41
3:C:452:THR:CG2	3:C:456:LEU:HD11	2.50	0.41
4:E:301:CYS:CA	4:E:304:VAL:CG1	2.82	0.41
2:B:269:LYS:HE3	2:B:270:VAL:HG23	2.02	0.41
1:D:426:PHE:CA	1:D:429:ARG:HB2	2.45	0.41
3:C:481:PRO:HA	3:C:484:LYS:HG2	2.02	0.41
2:B:291:VAL:O	2:B:295:VAL:HG23	2.20	0.41
2:B:301:VAL:CG2	2:B:302:LEU:N	2.83	0.41
2:B:443:PHE:O	2:B:447:CYS:HB3	2.20	0.41
2:B:447:CYS:O	2:B:451:THR:CB	2.46	0.41
1:D:215:VAL:O	1:D:219:ILE:HD12	2.21	0.41
1:D:243:MET:CA	1:D:246:SER:HB3	2.50	0.41
1:D:406:ILE:HD12	1:D:409:ILE:HD11	2.02	0.41
1:D:408:HIS:O	1:D:412:CYS:SG	2.77	0.41
1:A:418:CYS:O	1:A:422:THR:N	2.52	0.41
1:A:419:ILE:O	1:A:422:THR:N	2.54	0.41
1:A:426:PHE:CA	1:A:429:ARG:HB2	2.48	0.41
1:A:431:ILE:O	1:A:435:GLN:HB2	2.20	0.41
1:A:235:LEU:HD21	2:B:302:LEU:HD11	2.02	0.41
1:D:234:TYR:HD2	1:D:410:LEU:HD13	1.76	0.41
4:E:292:PHE:CE1	4:E:296:LEU:CD1	3.03	0.41
4:E:468:LEU:O	4:E:472:PHE:N	2.47	0.41
1:D:266:SER:O	1:D:270:ALA:HB2	2.20	0.41
1:A:274:ILE:CG2	1:A:276:LYS:HG2	2.50	0.41
2:B:231:ILE:HG12	2:B:234:LEU:HD12	2.02	0.41
2:B:297:LEU:HD22	2:B:441:TYR:HE2	1.86	0.41
1:D:280:PHE:N	1:D:280:PHE:HD2	2.14	0.41
1:D:291:ILE:C	1:D:295:VAL:HG22	2.41	0.41
3:C:282:ALA:HB2	3:C:287:LEU:HD13	1.92	0.41
1:A:215:VAL:O	1:A:219:ILE:HG13	2.21	0.41
1:A:239:SER:OG	1:A:242:LYS:HE2	2.20	0.41
1:A:244:THR:HG23	1:A:245:LEU:H	1.85	0.41
3:C:238:LEU:O	3:C:242:LEU:HG	2.21	0.41
1:D:233:PHE:CE2	1:D:295:VAL:HG21	2.54	0.41
4:E:241:TYR:HH	4:E:304:VAL:HB	1.86	0.41
4:E:308:SER:CA	4:E:311:THR:HB	2.50	0.41
1:D:419:ILE:O	1:D:422:THR:N	2.54	0.41
1:A:244:THR:C	1:A:246:SER:N	2.69	0.41
1:A:295:VAL:C	1:A:298:THR:HB	2.41	0.41
1:A:406:ILE:CD1	1:A:409:ILE:HD11	2.50	0.41
4:E:237:VAL:O	4:E:241:TYR:N	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:245:LEU:HD11	4:E:256:ILE:HG21	1.96	0.41
1:A:250:LEU:CD1	1:A:296:ILE:HG21	2.47	0.41
1:A:406:ILE:HD12	1:A:409:ILE:HD11	2.02	0.41
2:B:462:VAL:H	2:B:463:PRO:CD	2.29	0.41
1:D:294:VAL:O	1:D:298:THR:CA	2.69	0.41
2:B:262:PHE:CE2	3:C:269:VAL:CG2	2.95	0.41
2:B:303:ASN:O	2:B:307:ARG:HB3	2.20	0.41
2:B:463:PRO:HG2	2:B:464:PRO:HD3	0.47	0.41
3:C:233:ILE:CG2	3:C:234:THR:N	2.84	0.41
1:D:295:VAL:O	1:D:299:HIS:N	2.54	0.41
4:E:259:LEU:O	4:E:262:GLN:HG2	2.21	0.41
4:E:241:TYR:CG	4:E:454:ILE:HD13	2.53	0.41
1:D:431:ILE:O	1:D:435:GLN:HB2	2.21	0.41
1:A:266:SER:O	1:A:270:ALA:HB2	2.20	0.41
1:A:276:LYS:CG	1:A:277:TYR:CD2	2.92	0.41
2:B:248:LYS:C	2:B:251:LEU:HB3	2.38	0.41
2:B:297:LEU:C	2:B:301:VAL:HG13	2.33	0.41
2:B:434:VAL:O	2:B:438:LEU:CB	2.69	0.41
1:D:244:THR:HG23	1:D:245:LEU:N	2.36	0.41
1:D:245:LEU:HD12	4:E:256:ILE:HG21	2.03	0.41
1:A:256:PHE:N	1:A:256:PHE:CD2	2.89	0.41
2:B:286:PHE:CG	2:B:456:LEU:CD1	2.96	0.41
2:B:446:ILE:CG2	2:B:447:CYS:N	2.83	0.41
1:A:411:LEU:HD22	1:A:411:LEU:HA	1.83	0.41
1:A:215:VAL:O	1:A:219:ILE:HD12	2.21	0.41
1:A:225:PHE:CE2	1:A:253:LEU:CD2	2.84	0.41
2:B:295:VAL:CG1	2:B:296:ILE:HD13	2.38	0.41
3:C:253:SER:CB	3:C:256:LYS:HZ3	2.34	0.41
1:D:245:LEU:HD12	4:E:256:ILE:CG2	2.51	0.41
4:E:454:ILE:CG1	4:E:455:ALA:N	2.84	0.41
2:B:220:TYR:N	2:B:220:TYR:CD2	2.88	0.41
1:A:234:TYR:HD2	1:A:410:LEU:CD1	2.15	0.40
2:B:237:LEU:HB3	3:C:310:LEU:HD21	2.04	0.40
2:B:298:SER:C	2:B:301:VAL:HG22	2.38	0.40
1:D:231:LEU:CD1	4:E:305:LEU:HG	2.51	0.40
4:E:474:GLN:OE1	4:E:474:GLN:HA	2.21	0.40
3:C:247:PHE:CA	3:C:250:PRO:CG	2.99	0.40
3:C:258:SER:O	3:C:261:ILE:CG2	2.68	0.40
3:C:264:LEU:C	3:C:267:GLN:HG2	2.41	0.40
1:D:259:VAL:HA	1:D:262:GLU:CD	2.42	0.40
4:E:234:SER:HB3	4:E:458:LEU:CD2	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:225:PHE:CD2	1:A:253:LEU:CD1	2.96	0.40
1:A:221:PRO:O	1:A:225:PHE:HB3	2.22	0.40
1:A:406:ILE:HD13	1:A:409:ILE:CD1	2.51	0.40
1:D:290:ILE:HG13	1:D:291:ILE:N	2.36	0.40
2:B:235:ALA:O	2:B:239:PHE:N	2.35	0.40
2:B:282:ARG:O	2:B:286:PHE:N	2.54	0.40
3:C:247:PHE:CD2	3:C:247:PHE:N	2.87	0.40
1:D:293:VAL:HA	1:D:296:ILE:CD1	2.51	0.40
4:E:238:VAL:O	4:E:242:PHE:CG	2.74	0.40
4:E:239:LEU:O	4:E:243:LEU:CA	2.69	0.40
1:A:408:HIS:O	1:A:412:CYS:SG	2.77	0.40
2:B:238:VAL:HG12	2:B:239:PHE:CD2	2.56	0.40
2:B:448:SER:O	2:B:452:PHE:CG	2.74	0.40
3:C:263:VAL:HG23	1:D:247:ILE:HD12	2.04	0.40
1:D:254:THR:O	1:D:258:LEU:CG	2.54	0.40
1:D:406:ILE:HD13	1:D:409:ILE:CD1	2.51	0.40
1:D:233:PHE:C	1:D:410:LEU:HD11	2.42	0.40
4:E:270:ALA:C	4:E:274:PRO:CD	2.74	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	123/227 (54%)	118 (96%)	4 (3%)	1 (1%)	24	69
1	D	123/227 (54%)	117 (95%)	5 (4%)	1 (1%)	24	69
2	B	123/250 (49%)	108 (88%)	10 (8%)	5 (4%)	3	37
3	C	123/260 (47%)	114 (93%)	6 (5%)	3 (2%)	7	50
4	E	124/260 (48%)	114 (92%)	7 (6%)	3 (2%)	7	50
All	All	616/1224 (50%)	571 (93%)	32 (5%)	13 (2%)	13	53

All (13) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	218	LEU
2	B	282	ARG
2	B	249	MET
3	C	289	GLY
3	C	451	GLN
4	E	220	LEU
2	B	279	ILE
3	C	230	ILE
4	E	285	LYS
2	B	280	ILE
4	E	283	ILE
1	A	236	PRO
1	D	236	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	118/209 (56%)	98 (83%)	20 (17%)	2	20
1	D	118/209 (56%)	101 (86%)	17 (14%)	4	27
2	B	116/229 (51%)	89 (77%)	27 (23%)	1	8
3	C	111/233 (48%)	93 (84%)	18 (16%)	3	22
4	E	114/235 (48%)	90 (79%)	24 (21%)	1	11
All	All	577/1115 (52%)	471 (82%)	106 (18%)	5	15

All (106) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	221	PRO
1	A	225	PHE
1	A	231	LEU
1	A	232	VAL
1	A	235	LEU

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Mol	Chain	Res	Type
1	A	244	THR
1	A	245	LEU
1	A	247	ILE
1	A	269	SER
1	A	280	PHE
1	A	284	PHE
1	A	285	VAL
1	A	301	ARG
1	A	302	SER
1	A	410	LEU
1	A	411	LEU
1	A	422	THR
1	A	426	PHE
1	A	433	LEU
1	A	435	GLN
2	B	229	ILE
2	B	233	ILE
2	B	236	ILE
2	B	237	LEU
2	B	238	VAL
2	B	240	TYR
2	B	244	ASP
2	B	248	LYS
2	B	249	MET
2	B	251	LEU
2	B	253	ILE
2	B	278	PRO
2	B	280	ILE
2	B	282	ARG
2	B	284	LEU
2	B	289	ILE
2	B	291	VAL
2	B	294	SER
2	B	296	ILE
2	B	437	ARG
2	B	441	TYR
2	B	443	PHE
2	B	444	PHE
2	B	446	ILE
2	B	447	CYS
2	B	451	THR
2	B	455	PHE

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Mol	Chain	Res	Type
3	C	226	LEU
3	C	233	ILE
3	C	241	PHE
3	C	248	TYR
3	C	259	THR
3	C	261	ILE
3	C	310	LEU
3	C	314	PHE
3	C	453	ILE
3	C	455	ARG
3	C	457	SER
3	C	459	PHE
3	C	465	MET
3	C	471	PHE
3	C	474	VAL
3	C	475	MET
3	C	479	ASN
3	C	484	LYS
1	D	225	PHE
1	D	231	LEU
1	D	232	VAL
1	D	244	THR
1	D	247	ILE
1	D	255	VAL
1	D	269	SER
1	D	280	PHE
1	D	284	PHE
1	D	301	ARG
1	D	302	SER
1	D	410	LEU
1	D	411	LEU
1	D	422	THR
1	D	426	PHE
1	D	433	LEU
1	D	435	GLN
4	E	232	LEU
4	E	233	ILE
4	E	238	VAL
4	E	240	VAL
4	E	243	LEU
4	E	253	THR
4	E	254	LEU

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Mol	Chain	Res	Type
4	E	264	ILE
4	E	267	PHE
4	E	269	ILE
4	E	272	LYS
4	E	274	PRO
4	E	286	TYR
4	E	292	PHE
4	E	299	MET
4	E	305	LEU
4	E	308	SER
4	E	309	LEU
4	E	452	PHE
4	E	453	TRP
4	E	459	PHE
4	E	463	THR
4	E	473	ASN
4	E	475	VAL

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (12) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	300	HIS
1	A	435	GLN
2	B	306	HIS
3	C	267	GLN
3	C	305	ASN
3	C	480	HIS
1	D	217	ASN
1	D	300	HIS
1	D	408	HIS
1	D	435	GLN
4	E	262	GLN
4	E	473	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.