



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 15, 2024 – 02:00 AM EST

PDB ID : 3P03
Title : Crystal structure of BetP-G153D with choline bound
Authors : Perez, C.; Ressler, S.; Ziegler, Z.
Deposited on : 2010-09-27
Resolution : 3.35 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

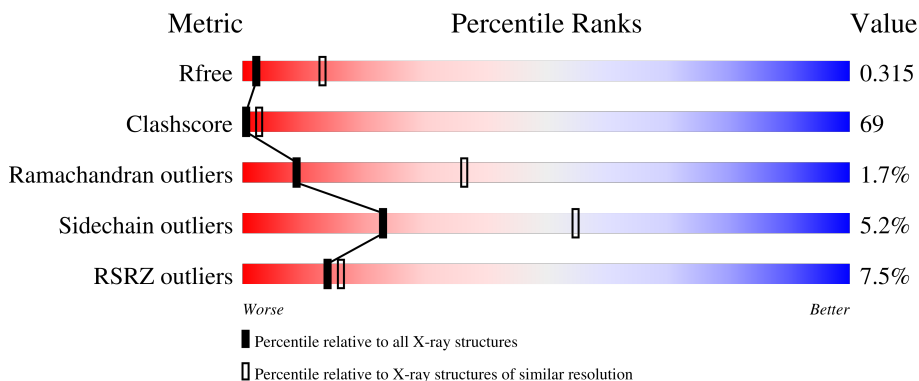
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.35 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1558 (3.42-3.30)
Clashscore	141614	1627 (3.42-3.30)
Ramachandran outliers	138981	1599 (3.42-3.30)
Sidechain outliers	138945	1598 (3.42-3.30)
RSRZ outliers	127900	1507 (3.42-3.30)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	566	
1	B	566	
1	C	566	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	CHT	C	2486	-	-	X	X

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 11349 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

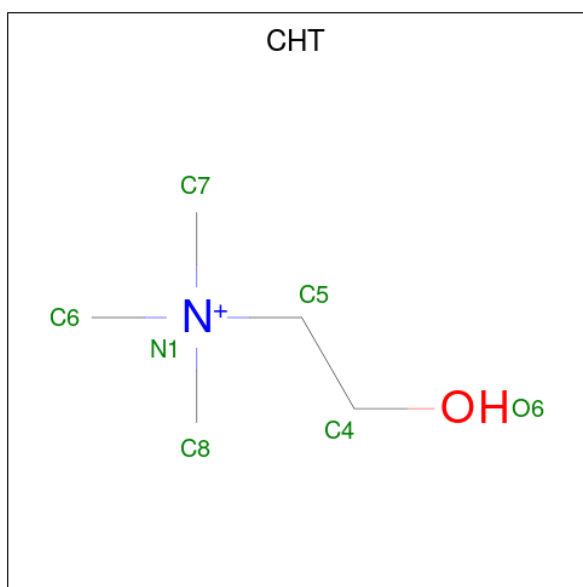
- Molecule 1 is a protein called Glycine betaine transporter BetP.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	504	3868	2542	641	669	16	0	0	0
1	B	476	3612	2391	577	628	16	0	0	0
1	C	508	3862	2545	627	674	16	0	0	0

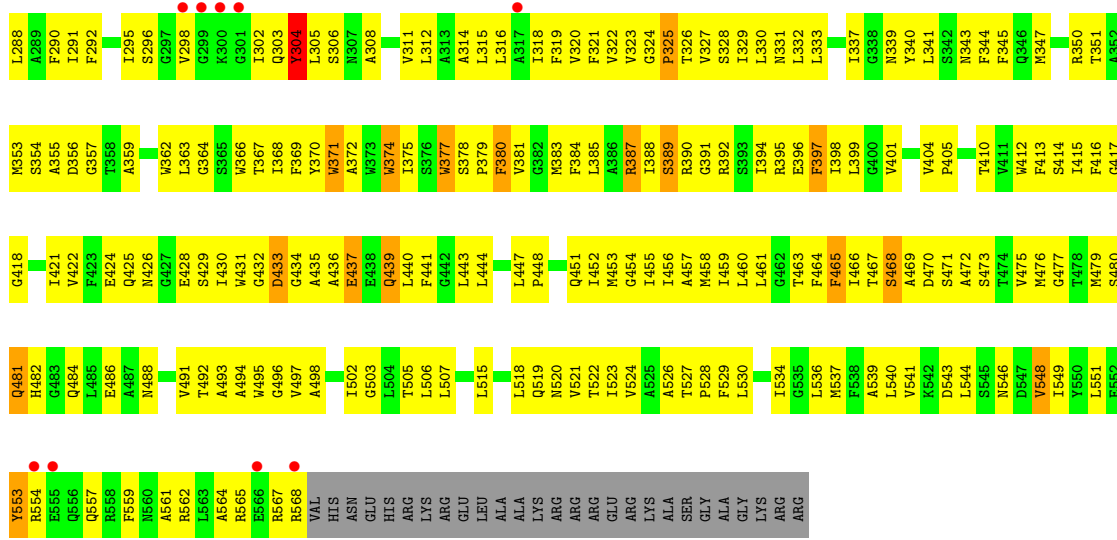
There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	44	ALA	GLU	engineered mutation	UNP P54582
A	45	ALA	GLU	engineered mutation	UNP P54582
A	46	ALA	GLU	engineered mutation	UNP P54582
A	153	ASP	GLY	engineered mutation	UNP P54582
B	44	ALA	GLU	engineered mutation	UNP P54582
B	45	ALA	GLU	engineered mutation	UNP P54582
B	46	ALA	GLU	engineered mutation	UNP P54582
B	153	ASP	GLY	engineered mutation	UNP P54582
C	44	ALA	GLU	engineered mutation	UNP P54582
C	45	ALA	GLU	engineered mutation	UNP P54582
C	46	ALA	GLU	engineered mutation	UNP P54582
C	153	ASP	GLY	engineered mutation	UNP P54582

- Molecule 2 is CHOLINE ION (three-letter code: CHT) (formula: C₅H₁₄NO).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
2	C	1	7	5	1	1	0	0



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	117.56Å 129.31Å 183.14Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	46.20 – 3.35 48.18 – 3.30	Depositor EDS
% Data completeness (in resolution range)	91.2 (46.20-3.35) 87.6 (48.18-3.30)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	15.91 (at 3.33Å)	Xtrriage
Refinement program	PHENIX 1.6.2_432	Depositor
R, R_{free}	0.245 , 0.300 0.276 , 0.315	Depositor DCC
R_{free} test set	3712 reflections (9.95%)	wwPDB-VP
Wilson B-factor (Å ²)	70.2	Xtrriage
Anisotropy	0.012	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.27 , 105.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.28$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.83	EDS
Total number of atoms	11349	wwPDB-VP
Average B, all atoms (Å ²)	107.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.96% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: CHT

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.33	0/3967	0.56	1/5397 (0.0%)
1	B	0.37	0/3706	0.59	0/5051
1	C	0.44	0/3960	0.64	0/5396
All	All	0.38	0/11633	0.59	1/15844 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	367	THR	C-N-CA	-5.06	109.06	121.70

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3868	0	3897	495	0
1	B	3612	0	3647	542	0
1	C	3862	0	3899	579	0
2	C	7	0	14	6	0
All	All	11349	0	11457	1576	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 69.

All (1576) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:170:VAL:CG1	1:C:171:PRO:HD2	1.50	1.41
1:C:226:GLY:HA2	1:C:227:GLU:CB	1.47	1.40
1:C:247:VAL:HG12	1:C:502:ILE:CD1	1.54	1.35
1:B:69:ILE:O	1:B:73:THR:HG23	1.33	1.29
1:B:208:THR:HG22	1:B:213:ARG:O	1.32	1.27
1:C:173:HIS:HD2	1:C:180:VAL:CG1	1.47	1.25
1:C:363:LEU:CD2	1:C:367:THR:HG21	1.66	1.24
1:A:369:PHE:CE1	1:A:519:GLN:HB2	1.72	1.24
1:C:64:VAL:CG1	1:C:65:PRO:HD3	1.67	1.23
1:C:173:HIS:CD2	1:C:180:VAL:HG11	1.72	1.23
1:C:247:VAL:CG1	1:C:502:ILE:HD11	1.68	1.22
1:C:148:ALA:O	2:C:2486:CHT:H62	1.26	1.22
1:A:153:ASP:HA	1:A:156:PHE:CE2	1.79	1.17
1:C:64:VAL:HG13	1:C:65:PRO:HD3	1.22	1.17
1:B:309:ASN:ND2	1:B:464:PHE:HD2	1.41	1.16
1:A:418:GLY:O	1:A:422:VAL:HG23	1.41	1.15
1:C:173:HIS:CD2	1:C:180:VAL:CG1	2.27	1.15
1:C:170:VAL:HG12	1:C:171:PRO:CD	1.76	1.15
1:A:559:PHE:CE2	1:A:563:LEU:HD12	1.82	1.15
1:C:247:VAL:CG1	1:C:502:ILE:CD1	2.24	1.15
1:C:304:TYR:HD1	1:C:305:LEU:N	1.45	1.14
1:C:134:PRO:HA	1:C:391:GLY:HA3	1.31	1.12
1:A:343:ASN:O	1:A:347:MET:HG3	1.46	1.12
1:B:398:ILE:O	1:B:402:LEU:HD13	1.49	1.12
1:C:261:ILE:HD11	1:C:461:LEU:HB2	1.25	1.12
1:A:369:PHE:CZ	1:A:519:GLN:HB2	1.85	1.11
1:B:201:GLY:HA3	1:B:385:LEU:HD11	1.26	1.11
1:C:105:LEU:O	1:C:109:VAL:HG23	1.51	1.11
1:B:343:ASN:O	1:B:347:MET:HG2	1.51	1.10
1:C:226:GLY:CA	1:C:227:GLU:HB3	1.82	1.10
1:C:363:LEU:HD22	1:C:367:THR:HG21	1.09	1.09
1:C:144:MET:HG2	1:C:388:ILE:HD11	1.19	1.09
1:A:60:TRP:HA	1:A:63:ILE:HG22	1.27	1.09
1:B:92:LEU:HD11	1:B:523:ILE:HB	1.33	1.08
1:B:190:THR:O	1:B:194:TRP:HD1	1.34	1.08
1:B:196:ILE:HD11	1:B:374:TRP:HB3	1.34	1.07
1:C:237:LEU:O	1:C:240:ILE:HG22	1.55	1.07
1:B:312:LEU:HB3	1:B:460:LEU:HD21	1.12	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:570:HIS:O	1:A:574:ARG:HD3	1.55	1.06
1:C:173:HIS:HD2	1:C:180:VAL:HG11	0.99	1.06
1:A:351:THR:CG2	1:C:331:ASN:HB3	1.85	1.06
1:B:309:ASN:OD1	1:B:463:THR:HG21	1.56	1.06
1:C:226:GLY:CA	1:C:227:GLU:CB	2.31	1.06
1:A:89:SER:HA	1:A:520:ASN:HD21	1.20	1.05
1:B:208:THR:O	1:B:212:GLY:HA2	1.57	1.04
1:C:226:GLY:HA2	1:C:227:GLU:HB3	1.10	1.04
1:B:200:VAL:HG21	1:B:378:SER:HB3	1.04	1.04
1:C:224:LEU:HD11	1:C:539:ALA:N	1.71	1.03
1:C:304:TYR:CE1	1:C:305:LEU:HG	1.93	1.03
1:B:312:LEU:HB3	1:B:460:LEU:CD2	1.87	1.03
1:A:123:GLY:HA2	1:A:394:ILE:HB	1.37	1.03
1:B:114:ILE:O	1:B:117:ILE:HG22	1.58	1.03
1:C:144:MET:HG2	1:C:388:ILE:CD1	1.88	1.03
1:C:375:ILE:HD13	1:C:530:LEU:HA	1.39	1.02
1:A:478:THR:HA	1:A:481:GLN:NE2	1.72	1.02
1:A:329:ILE:HD11	1:A:419:THR:CG2	1.89	1.02
1:B:369:PHE:CD1	1:B:523:ILE:HD11	1.95	1.02
1:C:363:LEU:HA	1:C:367:THR:HG22	1.40	1.01
1:A:412:TRP:CE2	1:A:416:PHE:CE2	2.48	1.01
1:C:188:HIS:CG	1:C:370:TYR:CD2	2.49	1.01
1:C:224:LEU:HD11	1:C:539:ALA:CA	1.89	1.01
1:C:126:ARG:HD3	1:C:132:GLU:O	1.61	1.01
1:C:226:GLY:HA2	1:C:227:GLU:HB2	1.32	1.01
1:C:163:LEU:HG	1:C:431:TRP:HZ3	1.22	1.00
1:C:343:ASN:O	1:C:347:MET:HG2	1.60	1.00
1:A:64:VAL:HG23	1:A:65:PRO:HD3	1.44	1.00
1:C:295:ILE:HD11	1:C:493:ALA:HB2	1.38	1.00
1:C:76:TRP:HE1	1:C:85:THR:CB	1.73	1.00
1:A:412:TRP:CZ2	1:A:416:PHE:CE2	2.50	0.99
1:C:91:ALA:O	1:C:94:ALA:HB3	1.61	0.99
1:C:108:THR:HA	1:C:192:HIS:CE1	1.97	0.99
1:A:310:MET:O	1:A:314:ALA:HB3	1.63	0.99
1:A:481:GLN:O	1:A:482:HIS:HB2	1.62	0.98
1:B:200:VAL:HG11	1:B:378:SER:O	1.64	0.98
1:C:121:LYS:H	1:C:121:LYS:HD3	1.28	0.98
1:B:366:TRP:O	1:B:370:TYR:HB2	1.63	0.98
1:A:559:PHE:HE2	1:A:563:LEU:HD12	1.12	0.98
1:C:76:TRP:HE1	1:C:85:THR:CA	1.76	0.97
1:A:351:THR:HG21	1:C:331:ASN:HB3	1.43	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:81:LYS:HB2	1:A:84:PHE:HB2	1.46	0.97
1:B:473:SER:HB2	1:B:492:THR:O	1.63	0.97
1:C:188:HIS:CD2	1:C:370:TYR:CD2	2.53	0.97
1:C:61:SER:O	1:C:65:PRO:HG2	1.64	0.97
1:B:110:PHE:CD1	1:B:196:ILE:HG22	2.01	0.96
1:A:215:GLN:HB3	1:A:483:GLY:O	1.65	0.96
1:A:60:TRP:HA	1:A:63:ILE:CG2	1.95	0.96
1:C:81:LYS:HB3	1:C:84:PHE:HD2	1.29	0.96
1:C:92:LEU:HD13	1:C:520:ASN:HA	1.48	0.95
1:C:188:HIS:CD2	1:C:370:TYR:HD2	1.84	0.95
1:C:304:TYR:CD1	1:C:305:LEU:N	2.35	0.95
1:A:113:PHE:CE1	1:A:117:ILE:HD11	2.02	0.95
1:A:153:ASP:HA	1:A:156:PHE:HE2	1.16	0.94
1:B:320:VAL:HG23	1:B:415:ILE:CG2	1.98	0.94
1:B:114:ILE:HA	1:B:117:ILE:HG22	1.48	0.94
1:B:129:ARG:H	1:B:390:ARG:HH12	1.03	0.94
1:C:329:ILE:HD13	1:C:415:ILE:HG23	1.47	0.94
1:C:210:ARG:HH22	1:C:549:ILE:HD12	1.30	0.94
1:B:327:VAL:HG23	1:B:328:SER:H	1.30	0.94
1:B:488:ASN:OD1	1:B:490:TRP:HZ3	1.47	0.94
1:C:170:VAL:CG1	1:C:171:PRO:CD	2.41	0.93
1:A:344:PHE:C	1:A:344:PHE:HD2	1.70	0.93
1:A:445:HIS:HA	1:A:450:GLY:HA3	1.50	0.93
1:B:327:VAL:HG23	1:B:328:SER:N	1.82	0.93
1:B:411:VAL:O	1:B:415:ILE:HD12	1.68	0.93
1:A:309:ASN:CG	1:A:464:PHE:HE1	1.70	0.93
1:C:260:GLN:CD	1:C:461:LEU:HD21	1.89	0.92
1:A:305:LEU:HD22	1:A:467:THR:HG22	1.52	0.92
1:B:200:VAL:CG2	1:B:378:SER:HB3	1.99	0.92
1:B:186:MET:O	1:B:190:THR:HG23	1.69	0.92
1:B:411:VAL:HG13	1:B:415:ILE:CD1	2.00	0.92
1:C:144:MET:CG	1:C:388:ILE:CD1	2.46	0.92
1:B:92:LEU:CD1	1:B:523:ILE:HB	1.99	0.92
1:C:170:VAL:HG12	1:C:171:PRO:HD2	0.92	0.92
1:C:81:LYS:HB3	1:C:84:PHE:CD2	2.05	0.92
1:C:76:TRP:HE1	1:C:85:THR:HA	1.32	0.91
1:B:125:ILE:HG21	1:B:210:ARG:NH2	1.85	0.91
1:C:363:LEU:HD22	1:C:367:THR:CG2	1.97	0.91
1:B:186:MET:HG2	1:B:190:THR:HG21	1.52	0.91
1:C:64:VAL:HG13	1:C:65:PRO:CD	2.00	0.91
1:C:261:ILE:HD11	1:C:461:LEU:CB	2.01	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:144:MET:CG	1:C:388:ILE:HD11	2.00	0.90
1:A:344:PHE:C	1:A:344:PHE:CD2	2.40	0.90
1:C:381:VAL:HG12	1:C:385:LEU:HD12	1.54	0.90
1:A:527:THR:N	1:A:528:PRO:HD2	1.87	0.89
1:C:209:PHE:CZ	1:C:390:ARG:HB2	2.07	0.89
1:B:370:TYR:O	1:B:374:TRP:CD1	2.25	0.89
1:C:76:TRP:NE1	1:C:85:THR:HA	1.86	0.89
1:B:74:VAL:O	1:B:78:ILE:HG12	1.73	0.89
1:B:114:ILE:CA	1:B:117:ILE:HG22	2.03	0.89
1:B:316:LEU:HD22	1:B:460:LEU:CD1	2.01	0.89
1:C:103:PHE:CE2	1:C:530:LEU:CD2	2.56	0.89
1:B:161:GLU:HG2	1:B:185:THR:OG1	1.74	0.88
1:B:524:VAL:HA	1:B:527:THR:OG1	1.72	0.88
1:C:170:VAL:HG13	1:C:171:PRO:HD2	1.55	0.88
1:B:460:LEU:O	1:B:463:THR:HG22	1.72	0.88
1:C:188:HIS:CG	1:C:370:TYR:CE2	2.62	0.88
1:C:103:PHE:CE2	1:C:530:LEU:HD22	2.08	0.88
1:B:196:ILE:CD1	1:B:374:TRP:HB3	2.04	0.88
1:A:310:MET:O	1:A:314:ALA:CB	2.21	0.87
1:C:247:VAL:CG1	1:C:502:ILE:HD13	2.04	0.87
1:B:69:ILE:O	1:B:73:THR:CG2	2.21	0.87
1:C:114:ILE:HD12	1:C:117:ILE:HD11	1.55	0.87
1:C:250:THR:HG22	1:C:377:TRP:HE1	1.37	0.87
1:B:158:GLY:HA2	1:B:413:PHE:CE1	2.09	0.87
1:C:363:LEU:CD2	1:C:367:THR:CG2	2.53	0.86
1:A:292:PHE:O	1:A:296:SER:HB3	1.76	0.86
1:A:156:PHE:CE1	1:A:157:TYR:CD2	2.64	0.86
1:C:247:VAL:HG12	1:C:502:ILE:HD11	0.88	0.86
1:A:209:PHE:CD2	1:A:390:ARG:HG2	2.10	0.86
1:B:78:ILE:HG22	1:B:79:GLY:N	1.90	0.85
1:A:574:ARG:N	1:A:574:ARG:CD	2.39	0.85
1:B:101:TRP:HA	1:B:104:ILE:HD11	1.57	0.85
1:B:92:LEU:CD1	1:B:524:VAL:HG13	2.06	0.85
1:C:228:LYS:O	1:C:228:LYS:HG2	1.77	0.85
1:B:317:ALA:O	1:B:320:VAL:HG22	1.77	0.85
1:B:320:VAL:CG2	1:B:415:ILE:CG2	2.53	0.85
1:C:64:VAL:HG12	1:C:65:PRO:HD3	1.55	0.85
1:B:78:ILE:HG22	1:B:79:GLY:H	1.41	0.85
1:C:148:ALA:O	2:C:2486:CHT:C6	2.21	0.85
1:A:527:THR:HG22	1:A:528:PRO:HD3	1.55	0.84
1:B:95:VAL:HG21	1:B:527:THR:CG2	2.08	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:260:GLN:HA	1:A:437:GLU:HG2	1.57	0.84
1:A:215:GLN:CB	1:A:483:GLY:O	2.24	0.84
1:A:222:VAL:HB	1:A:227:GLU:HA	1.59	0.84
1:C:311:VAL:HG23	1:C:312:LEU:HD12	1.60	0.84
1:B:146:PHE:HB3	1:B:310:MET:SD	2.18	0.84
1:B:372:ALA:CB	1:B:523:ILE:HG23	2.07	0.84
1:C:167:ARG:HG3	1:C:168:ASN:OD1	1.78	0.84
1:B:319:PHE:O	1:B:323:VAL:HG22	1.77	0.84
1:B:205:ALA:HB2	1:B:386:ALA:HB1	1.60	0.84
1:B:183:SER:OG	1:B:339:ASN:HB3	1.78	0.83
1:B:411:VAL:HG13	1:B:415:ILE:HD11	1.57	0.83
1:B:190:THR:O	1:B:194:TRP:CD1	2.26	0.83
1:C:173:HIS:HD2	1:C:180:VAL:HG13	1.43	0.83
1:C:397:PHE:O	1:C:401:VAL:HG23	1.77	0.83
1:A:369:PHE:HE1	1:A:519:GLN:HB2	1.33	0.83
1:C:224:LEU:HD12	1:C:539:ALA:HB2	1.59	0.83
1:A:123:GLY:HA2	1:A:394:ILE:CB	2.08	0.83
1:C:267:ALA:HB1	1:C:451:GLN:OE1	1.77	0.83
1:B:211:VAL:HG11	1:B:213:ARG:HE	1.44	0.83
1:C:337:ILE:HD11	1:C:410:THR:HG21	1.60	0.83
1:B:488:ASN:OD1	1:B:490:TRP:CZ3	2.30	0.83
1:C:329:ILE:HG21	1:C:415:ILE:HG12	1.61	0.83
1:C:103:PHE:CD2	1:C:530:LEU:HD22	2.13	0.83
1:C:126:ARG:CD	1:C:132:GLU:O	2.26	0.83
1:C:163:LEU:HG	1:C:431:TRP:CZ3	2.11	0.83
1:A:331:ASN:O	1:A:334:PRO:HD2	1.78	0.82
1:C:120:SER:HG	1:C:122:PHE:HD2	1.26	0.82
1:A:559:PHE:HE2	1:A:563:LEU:CD1	1.91	0.82
1:C:121:LYS:H	1:C:121:LYS:CD	1.88	0.82
1:C:134:PRO:HG3	1:C:391:GLY:O	1.79	0.82
1:C:173:HIS:CD2	1:C:180:VAL:CG2	2.62	0.82
1:A:89:SER:HA	1:A:520:ASN:ND2	1.93	0.82
1:C:192:HIS:N	1:C:193:PRO:HD2	1.95	0.82
1:B:153:ASP:OD1	1:B:154:LEU:N	2.12	0.81
1:A:352:ALA:O	1:A:357:GLY:HA2	1.79	0.81
1:B:309:ASN:OD1	1:B:463:THR:CG2	2.27	0.81
1:C:204:ILE:HD13	1:C:383:MET:HG2	1.59	0.81
1:C:252:CYS:SG	1:C:522:THR:HG21	2.20	0.81
1:C:298:VAL:HG23	1:C:302:ILE:HD13	1.60	0.81
1:C:74:VAL:HA	1:C:505:THR:HG21	1.62	0.81
1:C:319:PHE:CE2	1:C:453:MET:HG3	2.15	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:295:ILE:CD1	1:C:493:ALA:HB2	2.10	0.81
1:A:302:ILE:CG1	1:A:303:GLN:N	2.42	0.81
1:A:490:TRP:HD1	1:A:491:VAL:HG13	1.44	0.81
1:A:101:TRP:CE2	1:C:330:LEU:HD13	2.16	0.81
1:A:299:GLY:O	1:A:300:LYS:HB2	1.81	0.81
1:B:464:PHE:HA	1:B:467:THR:HG23	1.62	0.81
1:B:305:LEU:HD23	1:B:467:THR:HG22	1.61	0.81
1:C:116:VAL:O	1:C:120:SER:HB3	1.80	0.80
1:B:114:ILE:C	1:B:117:ILE:HG22	2.01	0.80
1:C:103:PHE:HZ	1:C:527:THR:HA	1.46	0.80
1:A:92:LEU:O	1:A:95:VAL:HG22	1.81	0.80
1:A:343:ASN:O	1:A:347:MET:CG	2.29	0.80
1:B:373:TRP:CD1	1:B:373:TRP:C	2.55	0.80
1:A:113:PHE:CE1	1:A:117:ILE:CD1	2.66	0.80
1:B:366:TRP:O	1:B:370:TYR:CB	2.30	0.80
1:C:228:LYS:O	1:C:228:LYS:CG	2.30	0.80
1:A:137:ARG:HD2	1:A:139:VAL:HG22	1.64	0.79
1:B:103:PHE:HD1	1:B:371:TRP:CB	1.95	0.79
1:C:190:THR:O	1:C:193:PRO:HG2	1.82	0.79
1:C:524:VAL:O	1:C:528:PRO:HD3	1.82	0.79
1:C:173:HIS:CD2	1:C:180:VAL:HG21	2.17	0.79
1:C:81:LYS:HD3	1:C:84:PHE:CD2	2.17	0.79
1:C:92:LEU:HD13	1:C:520:ASN:CA	2.13	0.79
1:C:163:LEU:HD11	1:C:424:GLU:HG3	1.63	0.79
1:B:103:PHE:HD1	1:B:371:TRP:HB3	1.46	0.79
1:B:106:PHE:CD1	1:B:534:ILE:HD12	2.17	0.79
1:C:144:MET:CG	1:C:388:ILE:HD13	2.13	0.79
1:C:205:ALA:O	1:C:209:PHE:HB2	1.83	0.79
1:B:123:GLY:HA2	1:B:394:ILE:HD11	1.65	0.79
1:B:206:TYR:CE2	1:B:543:ASP:OD2	2.36	0.79
1:B:366:TRP:O	1:B:370:TYR:CD2	2.36	0.79
1:C:173:HIS:CD2	1:C:180:VAL:HG13	2.17	0.79
1:A:350:ARG:HG2	1:A:363:LEU:HD11	1.66	0.79
1:B:475:VAL:O	1:B:479:MET:HG2	1.83	0.79
1:A:574:ARG:N	1:A:574:ARG:HD2	1.98	0.78
1:C:292:PHE:O	1:C:296:SER:HB3	1.83	0.78
1:A:261:ILE:HD11	1:A:461:LEU:HD21	1.65	0.78
1:B:200:VAL:HG21	1:B:378:SER:CB	2.01	0.78
1:A:64:VAL:CG2	1:A:65:PRO:HD3	2.14	0.78
1:B:128:GLY:HA2	1:B:209:PHE:O	1.84	0.78
1:A:327:VAL:HG11	1:B:97:ASP:O	1.82	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:215:GLN:HE22	1:C:387:ARG:HE	1.28	0.78
1:B:320:VAL:CG2	1:B:415:ILE:HG21	2.13	0.78
1:A:156:PHE:CE1	1:A:157:TYR:CG	2.72	0.78
1:A:285:VAL:HA	1:A:288:LEU:HG	1.66	0.78
1:A:422:VAL:HA	1:A:425:GLN:HG3	1.65	0.78
1:B:114:ILE:HA	1:B:117:ILE:CG2	2.13	0.78
1:A:59:ASN:OD1	1:A:482:HIS:CD2	2.36	0.78
1:A:295:ILE:HD13	1:A:492:THR:HG21	1.64	0.78
1:B:380:PHE:CE1	1:B:384:PHE:CE1	2.72	0.78
1:A:202:LEU:HD11	1:A:394:ILE:HG23	1.66	0.77
1:A:251:ALA:HA	1:A:254:LEU:HB2	1.66	0.77
1:B:201:GLY:CA	1:B:385:LEU:HD11	2.12	0.77
1:C:134:PRO:CD	1:C:391:GLY:O	2.32	0.77
1:C:264:GLY:HA3	1:C:441:PHE:CE1	2.19	0.77
1:C:269:ASN:O	1:C:270:ILE:HG13	1.84	0.77
1:B:309:ASN:ND2	1:B:464:PHE:CD2	2.30	0.77
1:C:363:LEU:HD23	1:C:367:THR:HG21	1.62	0.77
1:C:76:TRP:HD1	1:C:77:GLY:N	1.83	0.77
1:A:123:GLY:CA	1:A:394:ILE:HB	2.14	0.77
1:A:412:TRP:CZ2	1:A:416:PHE:CZ	2.72	0.77
1:B:457:ALA:HA	1:B:460:LEU:HD12	1.66	0.77
1:C:562:ARG:HA	1:C:565:ARG:HD2	1.67	0.77
1:B:129:ARG:N	1:B:390:ARG:HH12	1.82	0.76
1:A:92:LEU:HD23	1:A:520:ASN:OD1	1.86	0.76
1:A:156:PHE:HE1	1:A:157:TYR:CD2	2.03	0.76
1:B:127:LEU:HD11	1:B:205:ALA:HB1	1.67	0.76
1:B:379:PRO:HG3	1:B:529:PHE:CZ	2.20	0.76
1:C:59:ASN:O	1:C:63:ILE:HG13	1.84	0.76
1:B:259:LEU:HD12	1:B:260:GLN:N	2.01	0.76
1:B:453:MET:HE3	1:B:456:ILE:HD11	1.67	0.76
1:C:76:TRP:CD1	1:C:77:GLY:N	2.53	0.76
1:C:260:GLN:OE1	1:C:461:LEU:HD21	1.86	0.76
1:C:304:TYR:CD1	1:C:305:LEU:HG	2.20	0.76
1:C:471:SER:O	1:C:475:VAL:HG23	1.85	0.76
1:B:92:LEU:HD13	1:B:524:VAL:HG13	1.66	0.76
1:B:380:PHE:HE1	1:B:384:PHE:CE1	2.03	0.76
1:A:345:PHE:CE1	1:C:341:LEU:HD13	2.21	0.76
1:B:121:LYS:HZ1	1:B:550:TYR:HD1	1.32	0.76
1:B:152:ILE:HB	1:B:464:PHE:HE1	1.50	0.76
1:B:366:TRP:N	1:B:366:TRP:CD1	2.53	0.76
1:C:312:LEU:HD12	1:C:312:LEU:H	1.49	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:329:ILE:CD1	1:B:415:ILE:HG23	2.15	0.76
1:B:370:TYR:O	1:B:374:TRP:HD1	1.69	0.76
1:C:559:PHE:HA	1:C:562:ARG:HG2	1.67	0.75
1:C:363:LEU:HA	1:C:367:THR:CG2	2.17	0.75
1:B:114:ILE:O	1:B:117:ILE:CG2	2.33	0.75
1:A:92:LEU:HD13	1:A:96:VAL:HG21	1.67	0.75
1:B:211:VAL:HG11	1:B:213:ARG:NE	2.01	0.75
1:A:527:THR:N	1:A:528:PRO:CD	2.49	0.75
1:B:329:ILE:HD13	1:B:415:ILE:HG23	1.69	0.75
1:C:231:GLU:O	1:C:236:LYS:HG2	1.87	0.75
1:C:363:LEU:O	1:C:368:ILE:HG22	1.87	0.75
1:C:76:TRP:NE1	1:C:85:THR:CA	2.47	0.75
1:B:208:THR:CG2	1:B:213:ARG:O	2.25	0.75
1:C:108:THR:CA	1:C:192:HIS:HE1	1.99	0.74
1:B:128:GLY:HA2	1:B:209:PHE:C	2.08	0.74
1:B:452:ILE:O	1:B:455:ILE:HG12	1.87	0.74
1:C:247:VAL:HG11	1:C:502:ILE:HD13	1.69	0.74
1:C:193:PRO:HB3	1:C:374:TRP:CD1	2.21	0.74
1:C:308:ALA:O	1:C:312:LEU:HD13	1.87	0.74
1:A:329:ILE:HG21	1:A:415:ILE:HG22	1.69	0.74
1:C:224:LEU:HD11	1:C:539:ALA:HA	1.70	0.74
1:A:81:LYS:CB	1:A:84:PHE:HB2	2.17	0.74
1:A:329:ILE:HD11	1:A:419:THR:HG22	1.70	0.74
1:B:404:VAL:O	1:B:408:VAL:HG22	1.88	0.74
1:A:295:ILE:HD11	1:A:470:ASP:HA	1.69	0.74
1:B:161:GLU:HB3	1:B:162:PRO:HD3	1.70	0.74
1:B:300:LYS:O	1:B:300:LYS:HG2	1.87	0.74
1:C:64:VAL:CG1	1:C:65:PRO:CD	2.58	0.74
1:B:96:VAL:HG13	1:B:368:ILE:HG21	1.67	0.74
1:B:327:VAL:CG2	1:B:328:SER:H	1.99	0.74
1:C:231:GLU:HG3	1:C:236:LYS:HE2	1.70	0.74
1:B:64:VAL:HB	1:B:65:PRO:HD3	1.68	0.74
1:B:401:VAL:O	1:B:405:PRO:HG2	1.88	0.74
1:B:527:THR:HB	1:B:528:PRO:HD3	1.70	0.74
1:A:309:ASN:OD1	1:A:464:PHE:CE1	2.41	0.74
1:C:120:SER:OG	1:C:122:PHE:HD2	1.69	0.74
1:A:301:GLY:O	1:A:302:ILE:HG12	1.88	0.73
1:A:530:LEU:O	1:A:534:ILE:HG12	1.88	0.73
1:B:92:LEU:HD11	1:B:523:ILE:CB	2.13	0.73
1:C:108:THR:HA	1:C:192:HIS:HE1	1.49	0.73
1:C:134:PRO:HG3	1:C:392:ARG:HD3	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:264:GLY:HA3	1:C:441:PHE:CZ	2.23	0.73
1:A:68:VAL:O	1:A:72:ALA:HB2	1.88	0.73
1:C:288:LEU:O	1:C:291:ILE:HG22	1.88	0.73
1:B:92:LEU:O	1:B:95:VAL:HG12	1.88	0.73
1:C:61:SER:O	1:C:65:PRO:CG	2.36	0.73
1:C:124:THR:HG23	1:C:395:ARG:HH21	1.51	0.73
1:A:527:THR:CG2	1:A:528:PRO:HD3	2.18	0.73
1:B:121:LYS:NZ	1:B:550:TYR:HD1	1.86	0.73
1:B:186:MET:HG2	1:B:190:THR:CG2	2.19	0.73
1:B:128:GLY:HA3	1:B:390:ARG:NH1	2.03	0.73
1:B:142:ILE:HA	1:B:145:MET:SD	2.27	0.73
1:B:237:LEU:O	1:B:241:LEU:HG	1.89	0.73
1:C:144:MET:SD	1:C:388:ILE:HG12	2.29	0.73
1:B:316:LEU:HD22	1:B:460:LEU:HD12	1.70	0.73
1:B:346:GLN:HG3	1:B:347:MET:N	2.04	0.73
1:C:209:PHE:CE1	1:C:390:ARG:HB2	2.24	0.73
1:A:302:ILE:CG1	1:A:303:GLN:H	2.00	0.73
1:A:309:ASN:OD1	1:A:464:PHE:HE1	1.70	0.73
1:B:470:ASP:O	1:B:474:THR:HG23	1.89	0.73
1:B:539:ALA:O	1:B:543:ASP:HB3	1.88	0.73
1:C:144:MET:SD	1:C:388:ILE:CD1	2.77	0.73
1:A:112:PHE:O	1:A:116:VAL:CG1	2.36	0.72
1:B:175:GLU:O	1:B:176:HIS:HB2	1.87	0.72
1:B:197:TYR:HH	1:B:374:TRP:HE3	1.36	0.72
1:C:248:PHE:HB3	1:C:522:THR:HG22	1.70	0.72
1:B:104:ILE:HD12	1:B:105:LEU:N	2.04	0.72
1:B:456:ILE:O	1:B:460:LEU:HG	1.88	0.72
1:C:76:TRP:CE2	1:C:85:THR:HA	2.23	0.72
1:C:264:GLY:CA	1:C:441:PHE:CZ	2.72	0.72
1:A:66:ALA:O	1:A:70:VAL:HG23	1.89	0.72
1:A:183:SER:OG	1:A:339:ASN:HB3	1.88	0.72
1:C:134:PRO:CG	1:C:391:GLY:O	2.37	0.72
1:B:95:VAL:HG21	1:B:527:THR:HG21	1.70	0.72
1:A:197:TYR:CE1	1:A:381:VAL:HG21	2.25	0.72
1:B:78:ILE:CG2	1:B:79:GLY:H	2.02	0.72
1:C:122:PHE:CD1	1:C:544:LEU:HB3	2.25	0.72
1:C:416:PHE:CE1	1:C:440:LEU:HD11	2.25	0.72
1:B:135:GLU:HG2	1:B:136:PHE:CD2	2.25	0.71
1:C:230:ALA:O	1:C:231:GLU:CB	2.38	0.71
1:A:387:ARG:HB3	1:A:387:ARG:HH11	1.54	0.71
1:A:154:LEU:O	1:A:158:GLY:HA3	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:312:LEU:CB	1:B:460:LEU:HD21	2.07	0.71
1:C:108:THR:CA	1:C:192:HIS:CE1	2.72	0.71
1:C:148:ALA:HB2	1:C:384:PHE:CE2	2.26	0.71
1:A:161:GLU:HG3	1:A:366:TRP:HZ3	1.56	0.71
1:B:343:ASN:O	1:B:347:MET:CG	2.36	0.71
1:B:110:PHE:CD1	1:B:196:ILE:CG2	2.73	0.71
1:C:76:TRP:CD1	1:C:76:TRP:C	2.63	0.71
1:A:106:PHE:HB3	1:A:534:ILE:HD11	1.73	0.70
1:A:72:ALA:O	1:A:76:TRP:HB2	1.91	0.70
1:A:245:ALA:HB2	1:A:526:ALA:HB2	1.73	0.70
1:B:110:PHE:HD1	1:B:196:ILE:CG2	2.04	0.70
1:B:283:VAL:HA	1:B:286:LEU:HG	1.71	0.70
1:B:464:PHE:O	1:B:468:SER:N	2.23	0.70
1:C:305:LEU:HA	1:C:308:ALA:HB3	1.73	0.70
1:A:302:ILE:HG13	1:A:303:GLN:H	1.54	0.70
1:A:329:ILE:HG23	1:A:414:SER:O	1.91	0.70
1:B:177:ASN:HD21	1:B:180:VAL:HG23	1.56	0.70
1:C:224:LEU:CD1	1:C:539:ALA:HB2	2.20	0.70
1:B:365:SER:CB	1:B:366:TRP:CD1	2.73	0.70
1:A:235:GLY:H	1:A:238:ILE:HD13	1.56	0.70
1:B:476:MET:HB3	1:B:495:TRP:CE3	2.27	0.70
1:C:281:GLY:O	1:C:285:VAL:HG22	1.91	0.70
1:C:379:PRO:HD3	1:C:529:PHE:CE2	2.26	0.70
1:A:209:PHE:CE2	1:A:390:ARG:HG2	2.26	0.70
1:C:414:SER:O	1:C:418:GLY:HA3	1.90	0.70
1:C:456:ILE:O	1:C:459:ILE:HG22	1.90	0.70
1:B:451:GLN:CD	1:B:451:GLN:H	1.95	0.70
1:C:303:GLN:O	1:C:304:TYR:HB3	1.92	0.70
1:B:114:ILE:HD12	1:B:402:LEU:HD21	1.74	0.70
1:A:353:MET:HE2	1:A:353:MET:HA	1.72	0.69
1:B:92:LEU:HD12	1:B:524:VAL:HG13	1.74	0.69
1:B:95:VAL:HG21	1:B:527:THR:HG23	1.74	0.69
1:C:389:SER:O	1:C:390:ARG:C	2.30	0.69
1:A:63:ILE:O	1:A:66:ALA:HB3	1.93	0.69
1:A:412:TRP:CD2	1:A:416:PHE:HE2	2.09	0.69
1:B:435:ALA:O	1:B:438:GLU:HG2	1.92	0.69
1:A:112:PHE:O	1:A:116:VAL:HG13	1.93	0.69
1:A:344:PHE:CD2	1:A:344:PHE:O	2.44	0.69
1:B:270:ILE:HD12	1:B:270:ILE:H	1.57	0.69
1:C:186:MET:HE3	1:C:190:THR:HG21	1.74	0.69
1:A:114:ILE:HD13	1:A:195:ALA:CB	2.22	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:412:TRP:CH2	1:A:416:PHE:CZ	2.81	0.69
1:C:134:PRO:HD3	1:C:391:GLY:O	1.93	0.69
1:A:473:SER:HA	1:A:476:MET:HG2	1.75	0.69
1:B:225:ILE:HG21	1:B:230:ALA:HA	1.73	0.69
1:C:401:VAL:O	1:C:405:PRO:HD2	1.91	0.69
1:A:101:TRP:CZ2	1:C:330:LEU:HD13	2.27	0.69
1:A:444:LEU:CD1	1:A:450:GLY:O	2.41	0.69
1:B:189:TRP:CH2	1:B:370:TYR:OH	2.44	0.69
1:C:76:TRP:CZ2	1:C:85:THR:HA	2.28	0.69
1:A:309:ASN:CG	1:A:464:PHE:CE1	2.62	0.69
1:B:464:PHE:HA	1:B:467:THR:CG2	2.22	0.68
1:A:222:VAL:HA	1:A:226:GLY:O	1.93	0.68
1:C:416:PHE:HE1	1:C:440:LEU:HD11	1.58	0.68
1:B:320:VAL:HG11	1:B:416:PHE:CE1	2.28	0.68
1:C:64:VAL:O	1:C:68:VAL:HG23	1.93	0.68
1:C:354:SER:O	1:C:359:ALA:HB3	1.93	0.68
1:C:66:ALA:N	1:C:240:ILE:HD11	2.09	0.68
1:C:224:LEU:CD1	1:C:539:ALA:CA	2.67	0.68
1:A:369:PHE:CE1	1:A:519:GLN:CB	2.65	0.68
1:B:177:ASN:C	1:B:177:ASN:OD1	2.30	0.68
1:B:369:PHE:HA	1:B:523:ILE:HD12	1.76	0.68
1:A:243:ILE:HD12	1:A:244:ILE:N	2.09	0.68
1:B:540:LEU:O	1:B:544:LEU:HG	1.93	0.68
1:C:121:LYS:HD3	1:C:121:LYS:N	2.05	0.68
1:A:412:TRP:CD2	1:A:416:PHE:CE2	2.82	0.68
1:A:114:ILE:HD13	1:A:195:ALA:HB1	1.76	0.68
1:A:309:ASN:ND2	1:A:464:PHE:HE1	1.91	0.68
1:A:379:PRO:HG3	1:A:529:PHE:CE2	2.29	0.68
1:C:103:PHE:CE2	1:C:530:LEU:HD23	2.28	0.68
1:C:520:ASN:O	1:C:524:VAL:HG23	1.93	0.67
1:A:199:ILE:HG22	1:A:536:LEU:HD23	1.76	0.67
1:A:412:TRP:CH2	1:A:416:PHE:CE2	2.81	0.67
1:B:373:TRP:C	1:B:373:TRP:HD1	1.97	0.67
1:C:506:LEU:HD23	1:C:518:LEU:HD12	1.74	0.67
1:A:327:VAL:HG21	1:B:98:ASN:OD1	1.94	0.67
1:A:404:VAL:O	1:A:408:VAL:HG13	1.94	0.67
1:C:156:PHE:CE1	1:C:256:LEU:HB2	2.29	0.67
1:C:270:ILE:HA	1:C:271:ILE:HG12	1.75	0.67
1:C:371:TRP:HE3	1:C:371:TRP:N	1.91	0.67
1:B:213:ARG:NH1	1:B:222:VAL:HB	2.10	0.67
1:B:398:ILE:O	1:B:402:LEU:CD1	2.35	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:76:TRP:NE1	1:C:85:THR:CB	2.54	0.67
1:A:476:MET:SD	1:A:495:TRP:HB3	2.35	0.67
1:C:304:TYR:CE1	1:C:305:LEU:CG	2.76	0.67
1:B:186:MET:CE	1:B:336:SER:HB3	2.25	0.67
1:A:71:LEU:HA	1:A:74:VAL:HB	1.77	0.67
1:A:351:THR:HG22	1:C:331:ASN:HB3	1.76	0.67
1:C:134:PRO:CA	1:C:391:GLY:HA3	2.18	0.67
1:A:478:THR:HA	1:A:481:GLN:HE21	1.60	0.67
1:C:103:PHE:CD2	1:C:530:LEU:CD2	2.76	0.67
1:C:329:ILE:CG2	1:C:415:ILE:HG12	2.25	0.67
1:A:158:GLY:HA2	1:A:413:PHE:HE1	1.60	0.66
1:C:193:PRO:HB3	1:C:374:TRP:NE1	2.11	0.66
1:C:433:ASP:C	1:C:433:ASP:OD1	2.31	0.66
1:C:230:ALA:O	1:C:231:GLU:HB3	1.95	0.66
1:C:431:TRP:NE1	1:C:434:GLY:HA2	2.09	0.66
1:B:423:PHE:HB3	1:B:428:GLU:O	1.95	0.66
1:C:264:GLY:CA	1:C:441:PHE:CE1	2.77	0.66
1:C:389:SER:OG	1:C:397:PHE:CD1	2.48	0.66
1:B:327:VAL:O	1:B:331:ASN:N	2.29	0.66
1:C:95:VAL:HG21	1:C:527:THR:CG2	2.25	0.66
1:C:163:LEU:CG	1:C:431:TRP:HZ3	2.04	0.66
1:C:561:ALA:O	1:C:565:ARG:HG3	1.94	0.66
1:A:136:PHE:HE2	1:A:388:ILE:HG23	1.59	0.66
1:B:341:LEU:HB3	1:C:345:PHE:CD2	2.30	0.66
1:C:473:SER:HA	1:C:476:MET:HE2	1.78	0.66
1:B:158:GLY:HA2	1:B:413:PHE:HE1	1.54	0.66
1:B:329:ILE:HG21	1:B:415:ILE:HG13	1.77	0.66
1:C:67:LEU:O	1:C:70:VAL:HG12	1.94	0.66
1:C:106:PHE:HA	1:C:109:VAL:CG2	2.26	0.66
1:C:144:MET:CB	1:C:388:ILE:HD13	2.26	0.66
1:A:137:ARG:HD3	1:A:138:THR:N	2.10	0.66
1:C:164:THR:HG21	1:C:366:TRP:HZ2	1.60	0.66
1:C:208:THR:HG21	1:C:215:GLN:HG3	1.78	0.66
1:C:194:TRP:HZ3	1:C:385:LEU:HD11	1.61	0.66
1:C:253:SER:OG	1:C:377:TRP:CH2	2.47	0.66
1:B:79:GLY:O	1:B:80:PHE:HB3	1.96	0.66
1:B:384:PHE:CZ	1:B:471:SER:HB2	2.31	0.66
1:C:76:TRP:HZ2	1:C:84:PHE:O	1.79	0.66
1:C:353:MET:O	1:C:357:GLY:N	2.29	0.66
1:A:449:GLY:O	1:A:452:ILE:HG12	1.95	0.65
1:B:59:ASN:HB3	1:B:480:SER:O	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:192:HIS:N	1:C:193:PRO:CD	2.59	0.65
1:B:200:VAL:HG12	1:B:382:GLY:HA3	1.79	0.65
1:B:372:ALA:HB3	1:B:523:ILE:HG23	1.77	0.65
1:A:152:ILE:HD12	1:A:152:ILE:H	1.61	0.65
1:B:279:ILE:HA	1:B:282:ILE:HG23	1.78	0.65
1:B:305:LEU:HB3	1:B:467:THR:CG2	2.27	0.65
1:A:113:PHE:CZ	1:A:117:ILE:HD12	2.31	0.65
1:A:92:LEU:O	1:A:95:VAL:CG2	2.44	0.65
1:C:225:ILE:HG22	1:C:226:GLY:O	1.96	0.65
1:C:226:GLY:CA	1:C:227:GLU:HB2	2.17	0.65
1:B:157:TYR:HA	1:B:160:THR:HG22	1.79	0.65
1:B:117:ILE:HG23	1:B:398:ILE:CD1	2.27	0.64
1:A:150:MET:SD	1:A:309:ASN:HB3	2.36	0.64
1:B:185:THR:O	1:B:189:TRP:HE3	1.80	0.64
1:B:404:VAL:HB	1:B:405:PRO:HD3	1.79	0.64
1:C:173:HIS:CG	1:C:180:VAL:HG21	2.32	0.64
1:C:426:ASN:HB2	1:C:428:GLU:OE1	1.98	0.64
1:A:329:ILE:HD11	1:A:419:THR:HG23	1.78	0.64
1:A:206:TYR:HE2	1:A:543:ASP:CG	2.00	0.64
1:B:418:GLY:O	1:B:422:VAL:HG23	1.98	0.64
1:C:113:PHE:CD2	1:C:199:ILE:HD11	2.32	0.64
1:C:312:LEU:HD12	1:C:312:LEU:N	2.12	0.64
1:A:163:LEU:HD21	1:A:424:GLU:OE2	1.97	0.64
1:A:283:VAL:HA	1:A:286:LEU:HD12	1.79	0.64
1:A:453:MET:O	1:A:456:ILE:HG12	1.98	0.64
1:A:246:THR:O	1:A:250:THR:HG23	1.97	0.64
1:B:291:ILE:HA	1:B:466:ILE:CD1	2.27	0.64
1:C:404:VAL:HB	1:C:405:PRO:HD3	1.78	0.64
1:A:222:VAL:CG2	1:A:227:GLU:HG2	2.28	0.64
1:A:223:PRO:CG	1:A:543:ASP:HB2	2.28	0.64
1:B:231:GLU:HG3	1:B:236:LYS:HE3	1.80	0.64
1:B:267:ALA:HB1	1:B:445:HIS:HE1	1.62	0.64
1:C:76:TRP:HE1	1:C:85:THR:HB	1.58	0.64
1:A:369:PHE:CZ	1:A:519:GLN:CB	2.74	0.64
1:B:208:THR:O	1:B:212:GLY:CA	2.41	0.64
1:A:295:ILE:HG21	1:A:492:THR:HG21	1.80	0.63
1:B:312:LEU:CB	1:B:460:LEU:CD2	2.70	0.63
1:C:464:PHE:O	1:C:468:SER:HB2	1.97	0.63
1:B:455:ILE:HG13	1:B:456:ILE:N	2.13	0.63
1:C:292:PHE:O	1:C:296:SER:N	2.30	0.63
1:C:319:PHE:O	1:C:323:VAL:HG12	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:267:ALA:HB1	1:B:445:HIS:CE1	2.33	0.63
1:C:380:PHE:C	1:C:380:PHE:CD1	2.70	0.63
1:C:503:GLY:O	1:C:507:LEU:HD13	1.99	0.63
1:B:135:GLU:HG2	1:B:136:PHE:CE2	2.33	0.63
1:B:197:TYR:OH	1:B:374:TRP:CE3	2.51	0.63
1:B:243:ILE:O	1:B:246:THR:HG22	1.99	0.63
1:B:320:VAL:CG2	1:B:415:ILE:HG22	2.29	0.63
1:C:60:TRP:O	1:C:64:VAL:HG12	1.99	0.63
1:C:202:LEU:HD23	1:C:540:LEU:HD21	1.80	0.63
1:B:365:SER:CB	1:B:366:TRP:HD1	2.12	0.63
1:C:267:ALA:HB1	1:C:451:GLN:CD	2.19	0.63
1:C:488:ASN:O	1:C:491:VAL:HG12	1.99	0.63
1:C:95:VAL:HG21	1:C:527:THR:HG21	1.80	0.62
1:A:404:VAL:HB	1:A:405:PRO:HD3	1.81	0.62
1:B:380:PHE:HE1	1:B:384:PHE:CZ	2.16	0.62
1:C:164:THR:HG21	1:C:366:TRP:CZ2	2.34	0.62
1:C:371:TRP:N	1:C:371:TRP:CE3	2.67	0.62
1:C:431:TRP:CD1	1:C:434:GLY:HA2	2.34	0.62
1:B:366:TRP:O	1:B:370:TYR:HD2	1.80	0.62
1:A:318:ILE:O	1:A:322:VAL:HG22	1.98	0.62
1:C:155:MET:HB3	1:C:260:GLN:HE22	1.64	0.62
1:C:267:ALA:HB1	1:C:451:GLN:NE2	2.14	0.62
1:A:97:ASP:O	1:C:327:VAL:HG11	1.99	0.62
1:A:129:ARG:NH2	1:A:212:GLY:HA3	2.14	0.62
1:A:579:ALA:O	1:A:582:ARG:HG2	2.00	0.62
1:B:192:HIS:HB2	1:B:193:PRO:HD3	1.82	0.62
1:A:378:SER:HA	1:A:381:VAL:CG2	2.30	0.62
1:C:259:LEU:HD23	1:C:507:LEU:HG	1.81	0.62
1:C:304:TYR:HE1	1:C:305:LEU:HG	1.57	0.62
1:A:170:VAL:HG13	1:A:171:PRO:HD2	1.80	0.62
1:A:175:GLU:O	1:A:176:HIS:HB2	1.99	0.62
1:A:323:VAL:HG12	1:A:447:LEU:HD22	1.82	0.62
1:A:295:ILE:HD13	1:A:492:THR:CG2	2.30	0.62
1:A:478:THR:O	1:A:481:GLN:HG2	2.00	0.62
1:B:103:PHE:HB3	1:B:371:TRP:CD1	2.35	0.62
1:B:203:ALA:HB2	1:B:540:LEU:HD22	1.82	0.62
1:C:65:PRO:O	1:C:69:ILE:HD13	1.99	0.62
1:C:105:LEU:O	1:C:109:VAL:CG2	2.40	0.62
1:C:279:ILE:O	1:C:283:VAL:HG23	2.00	0.62
1:C:333:LEU:O	1:C:337:ILE:HG12	1.99	0.62
1:A:137:ARG:HH11	1:A:139:VAL:HG22	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:451:GLN:O	1:A:455:ILE:HG13	2.00	0.61
1:B:366:TRP:N	1:B:366:TRP:HD1	1.97	0.61
1:B:78:ILE:CG2	1:B:79:GLY:N	2.57	0.61
1:C:188:HIS:HB3	1:C:370:TYR:CD2	2.35	0.61
1:A:225:ILE:HG22	1:A:225:ILE:O	2.00	0.61
1:A:562:ARG:O	1:A:565:ARG:HB2	2.00	0.61
1:B:144:MET:HB2	1:B:388:ILE:HD11	1.82	0.61
1:B:323:VAL:HG23	1:B:447:LEU:HD22	1.82	0.61
1:B:365:SER:C	1:B:366:TRP:CD1	2.74	0.61
1:A:490:TRP:CD1	1:A:491:VAL:HG13	2.31	0.61
1:B:172:GLY:O	1:B:173:HIS:CD2	2.54	0.61
1:B:533:VAL:O	1:B:536:LEU:HB3	2.01	0.61
1:C:473:SER:HB3	1:C:492:THR:O	2.00	0.61
1:A:122:PHE:HE1	1:A:545:SER:HA	1.66	0.61
1:B:194:TRP:CE2	1:B:405:PRO:HB3	2.36	0.61
1:B:282:ILE:O	1:B:285:VAL:HG12	2.01	0.61
1:A:170:VAL:HG22	1:A:362:TRP:CZ2	2.36	0.61
1:A:223:PRO:HG2	1:A:543:ASP:HB2	1.82	0.61
1:A:392:ARG:HD2	1:A:396:GLU:HG3	1.83	0.61
1:A:481:GLN:O	1:A:482:HIS:CB	2.41	0.61
1:C:88:ALA:O	1:C:91:ALA:HB3	2.01	0.61
1:A:97:ASP:O	1:C:327:VAL:CG1	2.48	0.61
1:A:167:ARG:HG2	1:A:168:ASN:OD1	2.00	0.61
1:B:223:PRO:HG3	1:B:543:ASP:HB2	1.83	0.61
1:B:372:ALA:HB2	1:B:523:ILE:HG23	1.83	0.61
1:A:327:VAL:CG1	1:B:97:ASP:O	2.46	0.60
1:B:476:MET:HB3	1:B:495:TRP:HE3	1.64	0.60
1:C:165:PHE:CE1	1:C:362:TRP:HZ2	2.19	0.60
1:B:110:PHE:CE1	1:B:196:ILE:HG22	2.35	0.60
1:B:365:SER:HB2	1:B:366:TRP:CD1	2.36	0.60
1:B:375:ILE:HG23	1:B:526:ALA:HB1	1.82	0.60
1:A:64:VAL:HG23	1:A:65:PRO:CD	2.28	0.60
1:C:325:PRO:O	1:C:329:ILE:HG13	2.01	0.60
1:C:375:ILE:HD12	1:C:530:LEU:HB2	1.83	0.60
1:C:488:ASN:HB3	1:C:491:VAL:HG12	1.83	0.60
1:C:524:VAL:HA	1:C:527:THR:HG23	1.84	0.60
1:A:311:VAL:O	1:A:315:LEU:HB2	2.02	0.60
1:B:312:LEU:HD13	1:B:460:LEU:HD23	1.82	0.60
1:C:148:ALA:C	2:C:2486:CHT:H62	2.18	0.60
1:C:375:ILE:HD13	1:C:530:LEU:CA	2.23	0.60
1:A:222:VAL:HB	1:A:227:GLU:HG2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:144:MET:HB3	1:C:388:ILE:HD13	1.84	0.60
1:C:163:LEU:CD1	1:C:424:GLU:HG3	2.31	0.60
1:A:369:PHE:HZ	1:A:519:GLN:HB2	1.60	0.60
1:B:186:MET:HE1	1:B:336:SER:HB3	1.83	0.60
1:B:197:TYR:OH	1:B:374:TRP:HE3	1.84	0.60
1:B:417:GLY:O	1:B:421:ILE:HG12	2.02	0.60
1:C:152:ILE:HG12	1:C:464:PHE:HB3	1.84	0.60
1:A:88:ALA:HA	1:A:91:ALA:HB3	1.84	0.60
1:A:215:GLN:CD	1:A:387:ARG:NH2	2.54	0.60
1:A:243:ILE:HD12	1:A:244:ILE:HG13	1.84	0.60
1:A:309:ASN:O	1:A:313:ALA:HB3	2.01	0.60
1:C:91:ALA:O	1:C:94:ALA:CB	2.46	0.60
1:A:149:GLY:HA2	1:A:194:TRP:HH2	1.66	0.60
1:B:114:ILE:CD1	1:B:402:LEU:HD21	2.32	0.60
1:B:365:SER:HB2	1:B:366:TRP:HD1	1.67	0.60
1:C:230:ALA:O	1:C:231:GLU:CG	2.49	0.60
1:C:375:ILE:CD1	1:C:530:LEU:HA	2.25	0.60
1:A:161:GLU:HG3	1:A:366:TRP:CZ3	2.34	0.60
1:B:208:THR:HG1	1:B:209:PHE:HD1	1.50	0.60
1:B:411:VAL:CG1	1:B:415:ILE:CD1	2.76	0.60
1:B:453:MET:CE	1:B:456:ILE:HD11	2.31	0.60
1:C:114:ILE:CG1	1:C:398:ILE:HG12	2.32	0.60
1:A:412:TRP:CE3	1:A:416:PHE:HE2	2.20	0.60
1:C:114:ILE:CD1	1:C:117:ILE:HD11	2.29	0.60
1:A:329:ILE:HG21	1:A:415:ILE:CG2	2.31	0.59
1:B:321:PHE:HA	1:B:329:ILE:HD12	1.84	0.59
1:C:454:GLY:O	1:C:457:ALA:HB3	2.01	0.59
1:A:380:PHE:HA	1:A:475:VAL:HG11	1.85	0.59
1:B:117:ILE:HG23	1:B:118:ALA:N	2.17	0.59
1:B:123:GLY:HA2	1:B:394:ILE:CD1	2.31	0.59
1:C:78:ILE:HG13	1:C:79:GLY:N	2.17	0.59
1:C:128:GLY:HA2	1:C:209:PHE:O	2.02	0.59
1:C:312:LEU:H	1:C:312:LEU:CD1	2.14	0.59
1:C:161:GLU:HG3	1:C:185:THR:HG22	1.83	0.59
1:C:188:HIS:CB	1:C:370:TYR:CD2	2.85	0.59
1:C:380:PHE:CE2	2:C:2486:CHT:H82	2.38	0.59
1:A:331:ASN:OD1	1:B:101:TRP:HB3	2.02	0.59
1:A:463:THR:O	1:A:466:ILE:HG13	2.02	0.59
1:C:323:VAL:HG13	1:C:324:GLY:N	2.16	0.59
1:B:100:GLY:O	1:B:104:ILE:HG13	2.02	0.59
1:B:167:ARG:HH11	1:B:424:GLU:CD	2.05	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:113:PHE:CZ	1:A:117:ILE:CD1	2.85	0.59
1:A:166:TYR:CE2	1:A:176:HIS:CD2	2.90	0.59
1:A:550:TYR:CE1	1:A:554:ARG:NH1	2.71	0.59
1:B:463:THR:O	1:B:464:PHE:CG	2.56	0.59
1:C:65:PRO:HB2	1:C:240:ILE:CD1	2.33	0.59
1:A:101:TRP:CG	1:A:102:ALA:N	2.71	0.59
1:A:370:TYR:HB3	1:A:374:TRP:NE1	2.18	0.59
1:C:432:GLY:O	1:C:433:ASP:CG	2.41	0.59
1:A:388:ILE:HG22	1:A:388:ILE:O	2.02	0.59
1:B:463:THR:HG23	1:B:464:PHE:CD2	2.37	0.59
1:C:363:LEU:CA	1:C:367:THR:HG22	2.26	0.59
1:A:484:GLN:HB2	1:A:486:GLU:OE1	2.02	0.59
1:A:542:LYS:O	1:A:545:SER:OG	2.20	0.59
1:B:74:VAL:O	1:B:78:ILE:CG1	2.49	0.59
1:B:401:VAL:O	1:B:401:VAL:HG22	2.03	0.59
1:A:379:PRO:HG3	1:A:529:PHE:CZ	2.38	0.58
1:B:257:GLY:O	1:B:261:ILE:HG12	2.03	0.58
1:C:106:PHE:HA	1:C:109:VAL:HG23	1.85	0.58
1:C:159:THR:HA	1:C:417:GLY:HA2	1.85	0.58
1:A:222:VAL:CA	1:A:226:GLY:O	2.50	0.58
1:B:75:VAL:O	1:B:78:ILE:N	2.35	0.58
1:B:202:LEU:HD23	1:B:540:LEU:HD21	1.84	0.58
1:B:365:SER:HB3	1:B:366:TRP:CD1	2.37	0.58
1:B:372:ALA:HB1	1:B:523:ILE:HA	1.85	0.58
1:C:184:THR:O	1:C:187:PHE:HB3	2.03	0.58
1:C:481:GLN:O	1:C:482:HIS:HB2	2.03	0.58
1:B:207:SER:O	1:B:213:ARG:N	2.35	0.58
1:B:300:LYS:O	1:B:300:LYS:CG	2.51	0.58
1:B:471:SER:HA	1:B:474:THR:HG23	1.84	0.58
1:B:213:ARG:HH11	1:B:222:VAL:HB	1.68	0.58
1:C:430:ILE:HD13	1:C:443:LEU:HB3	1.84	0.58
1:C:564:ALA:O	1:C:568:ARG:HG2	2.03	0.58
1:A:568:ARG:HE	1:C:548:VAL:CG1	2.16	0.58
1:B:334:PRO:HG2	1:C:351:THR:HG21	1.85	0.58
1:C:148:ALA:HB2	1:C:384:PHE:HE2	1.69	0.58
1:A:330:LEU:HG	1:B:101:TRP:CD2	2.38	0.58
1:A:458:MET:O	1:A:461:LEU:HG	2.02	0.58
1:B:161:GLU:CD	1:B:189:TRP:HZ3	2.07	0.58
1:C:304:TYR:HE1	1:C:305:LEU:CG	2.15	0.58
1:C:370:TYR:C	1:C:371:TRP:HE3	2.07	0.58
1:B:316:LEU:O	1:B:320:VAL:HG13	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:302:ILE:HG12	1:A:303:GLN:N	2.16	0.58
1:A:378:SER:HA	1:A:381:VAL:HG22	1.86	0.58
1:B:152:ILE:HB	1:B:464:PHE:CE1	2.35	0.58
1:C:141:TRP:HA	1:C:144:MET:HE3	1.85	0.58
1:C:465:PHE:C	1:C:465:PHE:CD2	2.76	0.58
1:C:76:TRP:CZ2	1:C:84:PHE:O	2.56	0.57
1:C:138:THR:HA	1:C:392:ARG:HH22	1.68	0.57
1:C:389:SER:OG	1:C:397:PHE:HD1	1.87	0.57
1:A:222:VAL:HG23	1:A:227:GLU:HG2	1.86	0.57
1:A:258:ALA:HB1	1:A:280:VAL:HG23	1.86	0.57
1:B:283:VAL:HA	1:B:286:LEU:CG	2.34	0.57
1:C:114:ILE:HD11	1:C:398:ILE:CG1	2.35	0.57
1:B:95:VAL:CG2	1:B:527:THR:HG21	2.34	0.57
1:B:320:VAL:HG23	1:B:415:ILE:HG21	1.75	0.57
1:C:188:HIS:ND1	1:C:370:TYR:CE2	2.72	0.57
1:A:402:LEU:O	1:A:404:VAL:N	2.37	0.57
1:A:526:ALA:C	1:A:528:PRO:HD2	2.23	0.57
1:C:164:THR:HA	1:C:431:TRP:HH2	1.69	0.57
1:C:298:VAL:HG23	1:C:302:ILE:CD1	2.30	0.57
1:A:305:LEU:HD12	1:A:306:SER:N	2.19	0.57
1:A:477:GLY:O	1:A:481:GLN:NE2	2.32	0.57
1:A:568:ARG:HE	1:C:548:VAL:HG13	1.68	0.57
1:B:191:LEU:HD12	1:B:191:LEU:N	2.20	0.57
1:B:369:PHE:HD1	1:B:523:ILE:HD11	1.59	0.57
1:B:384:PHE:CE2	1:B:471:SER:HB2	2.39	0.57
1:C:112:PHE:O	1:C:116:VAL:HG13	2.05	0.57
1:C:267:ALA:HB1	1:C:451:GLN:HE22	1.69	0.57
1:B:544:LEU:O	1:B:547:ASP:HB2	2.05	0.57
1:C:224:LEU:CD1	1:C:539:ALA:CB	2.83	0.57
1:A:424:GLU:OE1	1:A:424:GLU:N	2.38	0.57
1:A:449:GLY:HA2	1:A:452:ILE:HG23	1.86	0.57
1:B:161:GLU:CD	1:B:189:TRP:CZ3	2.78	0.57
1:B:399:LEU:HB2	1:B:403:LEU:HD13	1.87	0.57
1:C:144:MET:SD	1:C:388:ILE:CG1	2.93	0.57
1:A:449:GLY:CA	1:A:452:ILE:HG23	2.34	0.57
1:B:108:THR:OG1	1:B:192:HIS:HE1	1.87	0.57
1:C:76:TRP:NE1	1:C:85:THR:HB	2.17	0.57
1:C:114:ILE:HD11	1:C:398:ILE:HG12	1.85	0.57
1:C:303:GLN:OE1	1:C:306:SER:HB3	2.05	0.57
1:A:235:GLY:N	1:A:238:ILE:HD13	2.20	0.56
1:A:519:GLN:O	1:A:519:GLN:HG3	2.04	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:327:VAL:CG2	1:B:328:SER:N	2.53	0.56
1:C:144:MET:SD	1:C:388:ILE:HD13	2.45	0.56
1:C:304:TYR:HD1	1:C:305:LEU:H	1.33	0.56
1:B:103:PHE:CD1	1:B:371:TRP:CB	2.85	0.56
1:C:69:ILE:HD12	1:C:69:ILE:N	2.20	0.56
1:C:380:PHE:CZ	2:C:2486:CHT:H82	2.40	0.56
1:A:330:LEU:HD21	1:B:101:TRP:CE2	2.40	0.56
1:A:527:THR:CG2	1:A:528:PRO:CD	2.83	0.56
1:A:574:ARG:HD3	1:A:574:ARG:N	2.17	0.56
1:B:156:PHE:O	1:B:160:THR:HG22	2.05	0.56
1:B:217:LEU:HD12	1:B:217:LEU:H	1.68	0.56
1:C:465:PHE:C	1:C:465:PHE:HD2	2.09	0.56
1:C:475:VAL:HG12	1:C:479:MET:HE2	1.87	0.56
1:A:204:ILE:HD11	1:A:217:LEU:HD12	1.86	0.56
1:A:460:LEU:HD11	1:A:464:PHE:CZ	2.40	0.56
1:B:141:TRP:HA	1:B:144:MET:CE	2.36	0.56
1:B:320:VAL:HG21	1:B:415:ILE:HG22	1.86	0.56
1:B:352:ALA:HB2	1:B:363:LEU:HD12	1.87	0.56
1:B:544:LEU:C	1:B:546:ASN:H	2.07	0.56
1:C:394:ILE:HG22	1:C:398:ILE:HD12	1.87	0.56
1:A:106:PHE:CD1	1:A:534:ILE:HD12	2.40	0.56
1:A:309:ASN:O	1:A:313:ALA:CB	2.54	0.56
1:C:530:LEU:O	1:C:534:ILE:HG13	2.06	0.56
1:C:92:LEU:HD13	1:C:520:ASN:CB	2.36	0.56
1:C:197:TYR:HE1	1:C:374:TRP:O	1.88	0.56
1:C:250:THR:CG2	1:C:377:TRP:HE1	2.13	0.56
1:C:260:GLN:CD	1:C:461:LEU:CD2	2.71	0.56
1:A:215:GLN:HB2	1:A:483:GLY:O	2.04	0.56
1:B:161:GLU:HG3	1:B:165:PHE:CE2	2.40	0.56
1:B:288:LEU:O	1:B:291:ILE:HG22	2.06	0.56
1:A:161:GLU:HA	1:A:164:THR:HG22	1.88	0.56
1:A:227:GLU:O	1:A:228:LYS:HB2	2.06	0.56
1:A:261:ILE:CD1	1:A:461:LEU:HD21	2.34	0.56
1:B:309:ASN:HD21	1:B:464:PHE:HD2	0.67	0.56
1:C:163:LEU:HD21	1:C:431:TRP:HE3	1.71	0.56
1:A:159:THR:HG21	1:A:440:LEU:HA	1.88	0.56
1:C:152:ILE:HD13	1:C:461:LEU:HG	1.87	0.56
1:A:206:TYR:CE2	1:A:543:ASP:OD2	2.59	0.55
1:A:548:VAL:HG23	1:A:549:ILE:N	2.20	0.55
1:C:321:PHE:CE1	1:C:326:THR:HG23	2.41	0.55
1:C:430:ILE:CD1	1:C:443:LEU:HB3	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:94:ALA:O	1:A:98:ASN:ND2	2.37	0.55
1:A:344:PHE:HD2	1:A:344:PHE:O	1.86	0.55
1:B:95:VAL:CG2	1:B:527:THR:CG2	2.84	0.55
1:B:309:ASN:ND2	1:B:464:PHE:HB3	2.20	0.55
1:C:92:LEU:O	1:C:95:VAL:HG12	2.06	0.55
1:A:246:THR:HG21	1:A:476:MET:HB3	1.89	0.55
1:B:103:PHE:HB3	1:B:371:TRP:HD1	1.72	0.55
1:B:251:ALA:HA	1:B:254:LEU:HG	1.88	0.55
1:A:92:LEU:HD13	1:A:96:VAL:CG2	2.35	0.55
1:A:106:PHE:CB	1:A:534:ILE:HD11	2.35	0.55
1:A:121:LYS:HD2	1:A:553:TYR:CZ	2.41	0.55
1:A:408:VAL:HG23	1:A:409:SER:N	2.21	0.55
1:B:202:LEU:HD23	1:B:540:LEU:CD2	2.35	0.55
1:B:373:TRP:CD1	1:B:374:TRP:N	2.74	0.55
1:C:304:TYR:CD1	1:C:304:TYR:C	2.80	0.55
1:C:224:LEU:CD1	1:C:539:ALA:HA	2.34	0.55
1:C:291:ILE:HD12	1:C:469:ALA:CB	2.36	0.55
1:A:265:LEU:HA	1:A:458:MET:HE1	1.89	0.55
1:B:305:LEU:HB3	1:B:467:THR:HG22	1.89	0.55
1:B:92:LEU:HD21	1:B:523:ILE:HG13	1.87	0.55
1:B:167:ARG:NH1	1:B:424:GLU:OE2	2.40	0.55
1:C:156:PHE:CD1	1:C:256:LEU:HD13	2.41	0.55
1:A:60:TRP:CA	1:A:63:ILE:HG22	2.19	0.55
1:A:70:VAL:O	1:A:74:VAL:HG23	2.07	0.55
1:A:114:ILE:HG13	1:A:115:VAL:N	2.22	0.55
1:C:270:ILE:HA	1:C:271:ILE:CG1	2.36	0.55
1:A:113:PHE:HE1	1:A:117:ILE:HD11	1.67	0.55
1:C:292:PHE:O	1:C:296:SER:CB	2.53	0.55
1:C:435:ALA:O	1:C:439:GLN:OE1	2.24	0.55
1:C:477:GLY:O	1:C:481:GLN:HG3	2.07	0.55
1:A:112:PHE:O	1:A:116:VAL:HG12	2.06	0.55
1:C:63:ILE:HG12	1:C:480:SER:HB2	1.88	0.55
1:A:463:THR:O	1:A:467:THR:HG23	2.07	0.54
1:A:574:ARG:HD3	1:A:574:ARG:H	1.72	0.54
1:B:286:LEU:HD12	1:B:287:THR:HG23	1.88	0.54
1:C:114:ILE:HG13	1:C:398:ILE:HG12	1.89	0.54
1:C:398:ILE:HG22	1:C:399:LEU:N	2.21	0.54
1:C:491:VAL:O	1:C:494:ALA:HB3	2.07	0.54
1:B:167:ARG:NH1	1:B:424:GLU:OE1	2.36	0.54
1:B:186:MET:CG	1:B:190:THR:HG21	2.32	0.54
1:B:463:THR:O	1:B:465:PHE:N	2.33	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:72:ALA:O	1:C:76:TRP:HB3	2.07	0.54
1:A:149:GLY:HA2	1:A:194:TRP:CH2	2.41	0.54
1:A:183:SER:C	1:A:347:MET:HE1	2.27	0.54
1:B:426:ASN:HB3	1:B:428:GLU:OE1	2.06	0.54
1:C:375:ILE:CD1	1:C:530:LEU:HB2	2.36	0.54
1:A:460:LEU:HD12	1:A:460:LEU:O	2.07	0.54
1:C:166:TYR:CE2	1:C:176:HIS:HD2	2.25	0.54
1:C:230:ALA:O	1:C:231:GLU:HG2	2.06	0.54
1:A:123:GLY:HA2	1:A:394:ILE:CG2	2.37	0.54
1:A:222:VAL:O	1:A:226:GLY:C	2.46	0.54
1:B:162:PRO:HG3	1:B:185:THR:HG21	1.90	0.54
1:B:359:ALA:O	1:B:360:GLY:C	2.46	0.54
1:C:298:VAL:CG2	1:C:302:ILE:HD13	2.34	0.54
1:B:103:PHE:HE1	1:B:372:ALA:HA	1.72	0.54
1:B:138:THR:O	1:B:142:ILE:HG23	2.07	0.54
1:B:200:VAL:CG1	1:B:382:GLY:HA3	2.37	0.54
1:B:261:ILE:HG23	1:B:458:MET:HE1	1.89	0.54
1:B:327:VAL:O	1:B:330:LEU:N	2.41	0.54
1:C:190:THR:O	1:C:193:PRO:CG	2.56	0.54
1:C:428:GLU:OE1	1:C:428:GLU:N	2.41	0.54
1:A:159:THR:OG1	1:A:443:LEU:HD21	2.08	0.54
1:B:191:LEU:N	1:B:191:LEU:CD1	2.71	0.54
1:B:305:LEU:HB3	1:B:467:THR:HG21	1.89	0.54
1:C:65:PRO:HB2	1:C:240:ILE:HD11	1.90	0.54
1:C:163:LEU:HD21	1:C:431:TRP:CE3	2.42	0.54
1:C:526:ALA:C	1:C:528:PRO:HD2	2.27	0.54
1:A:73:THR:HA	1:A:76:TRP:HB3	1.88	0.54
1:A:92:LEU:HD22	1:A:523:ILE:HD11	1.88	0.54
1:C:92:LEU:CD1	1:C:520:ASN:HA	2.32	0.54
1:C:430:ILE:HG21	1:C:443:LEU:HA	1.90	0.54
1:A:66:ALA:HB3	1:A:67:LEU:HD12	1.90	0.53
1:A:351:THR:C	1:A:353:MET:N	2.60	0.53
1:B:366:TRP:O	1:B:370:TYR:CG	2.61	0.53
1:B:411:VAL:O	1:B:414:SER:HB2	2.07	0.53
1:A:123:GLY:O	1:A:394:ILE:HB	2.08	0.53
1:A:344:PHE:HD2	1:A:345:PHE:N	2.05	0.53
1:B:279:ILE:O	1:B:282:ILE:HG12	2.07	0.53
1:B:401:VAL:HG13	1:B:402:LEU:HD12	1.90	0.53
1:C:81:LYS:HD3	1:C:84:PHE:CE2	2.44	0.53
1:C:82:ASP:O	1:C:85:THR:HG22	2.07	0.53
1:A:206:TYR:CD2	1:A:544:LEU:CD1	2.92	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:156:PHE:HB3	1:B:260:GLN:OE1	2.09	0.53
1:C:106:PHE:CD1	1:C:534:ILE:HD13	2.43	0.53
1:A:538:PHE:HA	1:A:541:VAL:HG12	1.91	0.53
1:C:112:PHE:O	1:C:113:PHE:C	2.47	0.53
1:C:264:GLY:O	1:C:458:MET:HE1	2.09	0.53
1:C:363:LEU:HD23	1:C:367:THR:CG2	2.30	0.53
1:A:101:TRP:CD2	1:A:102:ALA:N	2.76	0.53
1:A:377:TRP:O	1:A:381:VAL:HG22	2.08	0.53
1:B:103:PHE:CD1	1:B:371:TRP:HB2	2.43	0.53
1:C:208:THR:HG21	1:C:215:GLN:CG	2.37	0.53
1:A:105:LEU:O	1:A:109:VAL:HG23	2.09	0.53
1:A:345:PHE:CZ	1:C:341:LEU:HD13	2.44	0.53
1:A:412:TRP:CE2	1:A:416:PHE:CD2	2.97	0.53
1:B:103:PHE:HD1	1:B:371:TRP:HB2	1.71	0.53
1:B:186:MET:CG	1:B:190:THR:CG2	2.87	0.53
1:B:395:ARG:O	1:B:399:LEU:HG	2.07	0.53
1:B:103:PHE:H	1:B:103:PHE:HD2	1.57	0.53
1:A:95:VAL:O	1:A:99:LEU:HB2	2.08	0.53
1:B:545:SER:O	1:B:550:TYR:HD2	1.91	0.53
1:C:339:ASN:O	1:C:343:ASN:N	2.35	0.53
1:A:178:VAL:O	1:A:182:MET:HG2	2.08	0.53
1:B:83:SER:O	1:B:86:ASN:HB2	2.09	0.53
1:C:314:ALA:O	1:C:318:ILE:HG13	2.09	0.53
1:C:323:VAL:HG13	1:C:324:GLY:H	1.74	0.53
1:A:369:PHE:HE1	1:A:519:GLN:CB	2.11	0.52
1:A:370:TYR:HB3	1:A:374:TRP:HE1	1.74	0.52
1:C:188:HIS:HB3	1:C:370:TYR:CG	2.44	0.52
1:C:527:THR:N	1:C:528:PRO:CD	2.72	0.52
1:A:202:LEU:HD21	1:A:394:ILE:HD13	1.90	0.52
1:B:201:GLY:HA2	1:B:382:GLY:O	2.09	0.52
1:B:208:THR:HG21	1:B:215:GLN:CA	2.39	0.52
1:B:464:PHE:CA	1:B:467:THR:HG23	2.36	0.52
1:C:134:PRO:CG	1:C:392:ARG:HD3	2.38	0.52
1:C:156:PHE:CG	1:C:256:LEU:HD13	2.44	0.52
1:A:165:PHE:CE1	1:A:362:TRP:HZ2	2.28	0.52
1:A:188:HIS:HA	1:A:371:TRP:CH2	2.44	0.52
1:A:222:VAL:O	1:A:226:GLY:O	2.27	0.52
1:A:222:VAL:N	1:A:223:PRO:CD	2.72	0.52
1:A:437:GLU:O	1:A:441:PHE:CE1	2.63	0.52
1:B:299:GLY:O	1:B:300:LYS:HB3	2.08	0.52
1:C:286:LEU:O	1:C:290:PHE:HD2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:291:ILE:HG13	1:C:470:ASP:OD1	2.10	0.52
1:A:332:LEU:O	1:A:332:LEU:HD23	2.09	0.52
1:C:209:PHE:CE2	1:C:390:ARG:HB2	2.43	0.52
1:A:248:PHE:N	1:A:248:PHE:CD2	2.77	0.52
1:B:186:MET:HE2	1:B:336:SER:HB3	1.91	0.52
1:A:330:LEU:HD21	1:B:101:TRP:CZ2	2.45	0.52
1:B:375:ILE:CG2	1:B:526:ALA:HB1	2.38	0.52
1:B:426:ASN:CB	1:B:428:GLU:OE1	2.57	0.52
1:C:77:GLY:O	1:C:82:ASP:HA	2.09	0.52
1:C:553:TYR:CD2	1:C:554:ARG:N	2.77	0.52
1:A:81:LYS:HB2	1:A:84:PHE:CB	2.31	0.52
1:A:351:THR:CG2	1:C:331:ASN:CB	2.75	0.52
1:B:307:ASN:HA	1:B:310:MET:HE2	1.90	0.52
1:C:231:GLU:HA	1:C:235:GLY:HA3	1.92	0.52
1:C:451:GLN:O	1:C:455:ILE:HG13	2.10	0.52
1:C:475:VAL:HG12	1:C:479:MET:CE	2.40	0.52
1:A:572:GLU:HA	1:A:575:LYS:HG2	1.92	0.52
1:B:116:VAL:HG12	1:B:116:VAL:O	2.09	0.52
1:C:231:GLU:HA	1:C:234:LEU:O	2.10	0.52
1:A:80:PHE:CG	1:A:81:LYS:N	2.78	0.52
1:A:176:HIS:HB3	1:B:356:ASP:OD1	2.09	0.52
1:B:123:GLY:HA2	1:B:394:ILE:CG1	2.40	0.52
1:B:127:LEU:HD11	1:B:205:ALA:CB	2.38	0.52
1:B:145:MET:HG3	1:B:404:VAL:HG11	1.91	0.52
1:C:70:VAL:CG1	1:C:71:LEU:N	2.73	0.52
1:A:188:HIS:HA	1:A:371:TRP:HH2	1.76	0.51
1:A:485:LEU:O	1:A:486:GLU:C	2.48	0.51
1:B:157:TYR:HA	1:B:160:THR:CG2	2.40	0.51
1:C:114:ILE:CD1	1:C:398:ILE:HG12	2.40	0.51
1:A:154:LEU:O	1:A:158:GLY:CA	2.57	0.51
1:A:334:PRO:HG3	1:B:104:ILE:CD1	2.39	0.51
1:C:184:THR:HG22	1:C:188:HIS:CE1	2.44	0.51
1:C:320:VAL:HA	1:C:323:VAL:CG1	2.41	0.51
1:B:530:LEU:C	1:B:530:LEU:HD23	2.30	0.51
1:C:153:ASP:OD2	2:C:2486:CHT:O6	2.26	0.51
1:A:392:ARG:HD2	1:A:396:GLU:CG	2.40	0.51
1:B:291:ILE:HA	1:B:466:ILE:HD11	1.92	0.51
1:A:110:PHE:CE1	1:A:534:ILE:HD13	2.46	0.51
1:A:309:ASN:ND2	1:A:464:PHE:CE1	2.76	0.51
1:A:423:PHE:HB3	1:A:428:GLU:O	2.10	0.51
1:B:230:ALA:O	1:B:232:GLY:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:231:GLU:HG3	1:B:236:LYS:CE	2.40	0.51
1:B:463:THR:C	1:B:465:PHE:H	2.14	0.51
1:C:183:SER:HB3	1:C:339:ASN:HB3	1.92	0.51
1:A:80:PHE:CE2	1:A:81:LYS:HG2	2.45	0.51
1:A:160:THR:HG22	1:A:439:GLN:HB2	1.92	0.51
1:B:329:ILE:HD11	1:B:415:ILE:HG23	1.91	0.51
1:B:352:ALA:C	1:B:354:SER:H	2.14	0.51
1:C:121:LYS:CD	1:C:121:LYS:N	2.56	0.51
1:C:253:SER:OG	1:C:377:TRP:HH2	1.92	0.51
1:C:320:VAL:HA	1:C:323:VAL:HG12	1.93	0.51
1:A:282:ILE:O	1:A:285:VAL:HG22	2.10	0.51
1:B:265:LEU:HB3	1:B:269:ASN:HD21	1.76	0.51
1:B:320:VAL:HG21	1:B:415:ILE:CG2	2.39	0.51
1:B:352:ALA:C	1:B:354:SER:N	2.64	0.51
1:B:372:ALA:O	1:B:375:ILE:HG22	2.11	0.51
1:A:206:TYR:CD2	1:A:544:LEU:HD12	2.46	0.51
1:A:351:THR:HG21	1:C:331:ASN:CB	2.30	0.51
1:B:431:TRP:O	1:B:432:GLY:O	2.28	0.51
1:C:523:ILE:O	1:C:527:THR:HG23	2.10	0.51
1:A:351:THR:O	1:A:354:SER:N	2.32	0.51
1:A:379:PRO:O	1:A:383:MET:HG2	2.10	0.51
1:B:136:PHE:CE2	1:B:144:MET:SD	3.04	0.51
1:B:153:ASP:HA	1:B:156:PHE:CE2	2.46	0.51
1:B:206:TYR:HE2	1:B:543:ASP:OD2	1.91	0.51
1:C:364:GLY:HA2	1:C:368:ILE:HG21	1.93	0.51
1:A:164:THR:HG21	1:A:366:TRP:CH2	2.46	0.51
1:A:350:ARG:CD	1:A:363:LEU:HD21	2.40	0.51
1:A:430:ILE:HG21	1:A:443:LEU:HB3	1.92	0.51
1:A:443:LEU:HD12	1:A:443:LEU:C	2.31	0.51
1:A:197:TYR:CD1	1:A:381:VAL:HG21	2.46	0.50
1:A:252:CYS:HB2	1:A:522:THR:HG21	1.93	0.50
1:A:415:ILE:O	1:A:419:THR:HG23	2.11	0.50
1:B:92:LEU:HD12	1:B:524:VAL:CG1	2.40	0.50
1:B:153:ASP:CG	1:B:154:LEU:HD23	2.31	0.50
1:B:208:THR:OG1	1:B:209:PHE:HD1	1.94	0.50
1:C:252:CYS:HA	1:C:518:LEU:HD11	1.92	0.50
1:B:177:ASN:OD1	1:B:177:ASN:O	2.29	0.50
1:B:206:TYR:CE1	1:B:210:ARG:HG2	2.46	0.50
1:A:222:VAL:CB	1:A:227:GLU:HG2	2.41	0.50
1:A:293:SER:O	1:A:298:VAL:N	2.42	0.50
1:C:161:GLU:HG3	1:C:185:THR:CG2	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:167:ARG:NH1	1:C:431:TRP:CG	2.78	0.50
1:A:206:TYR:HE2	1:A:543:ASP:OD1	1.93	0.50
1:A:334:PRO:HB3	1:B:105:LEU:HD13	1.93	0.50
1:B:126:ARG:HA	1:B:393:SER:HA	1.92	0.50
1:B:136:PHE:CZ	1:B:144:MET:SD	3.05	0.50
1:B:216:LEU:HD23	1:B:218:SER:H	1.77	0.50
1:B:404:VAL:N	1:B:405:PRO:CD	2.74	0.50
1:A:351:THR:HG21	1:C:331:ASN:O	2.12	0.50
1:A:381:VAL:O	1:A:385:LEU:HD12	2.11	0.50
1:B:283:VAL:HG13	1:B:286:LEU:HD11	1.93	0.50
1:C:165:PHE:CE1	1:C:362:TRP:CZ2	2.99	0.50
1:A:260:GLN:HA	1:A:437:GLU:CG	2.35	0.50
1:B:341:LEU:HD23	1:C:345:PHE:CZ	2.47	0.50
1:C:141:TRP:HD1	1:C:388:ILE:CG2	2.25	0.50
1:C:159:THR:HG21	1:C:443:LEU:CD2	2.41	0.50
1:A:321:PHE:CZ	1:A:326:THR:CG2	2.95	0.50
1:B:106:PHE:HB3	1:B:110:PHE:CZ	2.47	0.50
1:B:141:TRP:HA	1:B:144:MET:HE2	1.94	0.50
1:B:329:ILE:CG2	1:B:415:ILE:HG13	2.41	0.50
1:C:116:VAL:HA	1:C:119:ALA:HB3	1.94	0.50
1:A:92:LEU:HD23	1:A:520:ASN:CG	2.32	0.50
1:A:206:TYR:HE2	1:A:543:ASP:OD2	1.93	0.50
1:A:380:PHE:CD1	1:A:472:ALA:HA	2.46	0.50
1:B:67:LEU:O	1:B:70:VAL:HG12	2.11	0.50
1:C:92:LEU:HA	1:C:95:VAL:HG12	1.93	0.50
1:C:163:LEU:CD2	1:C:431:TRP:CZ3	2.95	0.50
1:C:186:MET:HE3	1:C:190:THR:CG2	2.40	0.50
1:C:282:ILE:O	1:C:286:LEU:HD23	2.12	0.50
1:A:137:ARG:HD3	1:A:138:THR:H	1.76	0.50
1:A:207:SER:O	1:A:213:ARG:HG2	2.12	0.50
1:A:548:VAL:HG23	1:A:549:ILE:H	1.75	0.50
1:B:366:TRP:C	1:B:370:TYR:HD2	2.14	0.50
1:B:538:PHE:HA	1:B:541:VAL:HG12	1.94	0.50
1:C:218:SER:C	1:C:220:ALA:H	2.15	0.50
1:B:318:ILE:O	1:B:322:VAL:HG22	2.12	0.49
1:A:276:ASP:N	1:A:279:ILE:HG13	2.27	0.49
1:B:103:PHE:N	1:B:103:PHE:CD2	2.79	0.49
1:B:379:PRO:O	1:B:383:MET:SD	2.71	0.49
1:B:210:ARG:NH2	1:B:547:ASP:OD1	2.45	0.49
1:B:323:VAL:HG23	1:B:324:GLY:N	2.26	0.49
1:A:412:TRP:O	1:A:416:PHE:HD2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:574:ARG:CD	1:A:574:ARG:H	2.22	0.49
1:A:577:GLU:HG3	1:A:578:LEU:N	2.27	0.49
1:B:213:ARG:HH12	1:B:223:PRO:HD3	1.78	0.49
1:B:544:LEU:O	1:B:547:ASP:N	2.39	0.49
1:C:103:PHE:CZ	1:C:530:LEU:HD22	2.47	0.49
1:C:173:HIS:CD2	1:C:180:VAL:CB	2.95	0.49
1:C:181:ALA:O	1:C:185:THR:HG23	2.12	0.49
1:C:337:ILE:CD1	1:C:410:THR:HG21	2.36	0.49
1:A:194:TRP:CE3	1:A:401:VAL:HG13	2.47	0.49
1:A:206:TYR:CE1	1:A:210:ARG:HG2	2.47	0.49
1:A:378:SER:N	1:A:379:PRO:CD	2.76	0.49
1:B:117:ILE:HG23	1:B:398:ILE:HD13	1.94	0.49
1:B:193:PRO:HB3	1:B:374:TRP:CD2	2.48	0.49
1:B:352:ALA:O	1:B:354:SER:N	2.46	0.49
1:A:466:ILE:HD12	1:A:467:THR:N	2.28	0.49
1:B:77:GLY:O	1:B:82:ASP:OD1	2.30	0.49
1:B:112:PHE:O	1:B:116:VAL:HG23	2.13	0.49
1:B:163:LEU:HD11	1:B:167:ARG:HD2	1.94	0.49
1:B:205:ALA:HB2	1:B:386:ALA:CB	2.37	0.49
1:C:67:LEU:HD23	1:C:70:VAL:HG11	1.94	0.49
1:C:304:TYR:HD1	1:C:304:TYR:C	2.08	0.49
1:C:401:VAL:O	1:C:405:PRO:CD	2.58	0.49
1:C:452:ILE:HA	1:C:455:ILE:HD12	1.95	0.49
1:A:562:ARG:O	1:A:565:ARG:CB	2.60	0.49
1:C:67:LEU:HA	1:C:70:VAL:HG12	1.94	0.49
1:A:432:GLY:H	1:A:439:GLN:HE21	1.59	0.49
1:B:103:PHE:CE2	1:B:530:LEU:HD12	2.47	0.49
1:C:114:ILE:HD12	1:C:117:ILE:CD1	2.37	0.49
1:C:161:GLU:HB3	1:C:162:PRO:CD	2.43	0.49
1:A:345:PHE:CE1	1:C:341:LEU:CD1	2.93	0.49
1:A:558:ARG:O	1:A:562:ARG:HG2	2.12	0.49
1:A:563:LEU:HD23	1:A:563:LEU:C	2.33	0.49
1:B:307:ASN:O	1:B:311:VAL:HG23	2.12	0.49
1:C:141:TRP:CD1	1:C:388:ILE:CG2	2.96	0.49
1:A:215:GLN:NE2	1:A:387:ARG:NH2	2.61	0.48
1:A:562:ARG:O	1:A:565:ARG:N	2.44	0.48
1:B:106:PHE:O	1:B:107:GLY:C	2.51	0.48
1:C:163:LEU:CD2	1:C:431:TRP:CE3	2.96	0.48
1:C:251:ALA:O	1:C:255:GLY:N	2.37	0.48
1:C:311:VAL:O	1:C:315:LEU:HD13	2.13	0.48
1:A:114:ILE:HD11	1:A:402:LEU:HD11	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:408:VAL:CG2	1:A:409:SER:N	2.76	0.48
1:B:167:ARG:NH1	1:B:424:GLU:CD	2.67	0.48
1:B:541:VAL:HG13	1:B:542:LYS:N	2.28	0.48
1:C:64:VAL:N	1:C:65:PRO:CD	2.76	0.48
1:C:167:ARG:HH21	1:C:424:GLU:CD	2.16	0.48
1:B:132:GLU:OE1	1:B:390:ARG:CZ	2.61	0.48
1:C:155:MET:SD	1:C:461:LEU:HD11	2.54	0.48
1:C:459:ILE:O	1:C:463:THR:HG23	2.13	0.48
1:A:60:TRP:CE3	1:A:63:ILE:HG21	2.48	0.48
1:A:219:SER:O	1:A:222:VAL:HG13	2.14	0.48
1:A:565:ARG:HG2	1:C:130:ILE:HG21	1.95	0.48
1:B:309:ASN:HD22	1:B:464:PHE:HB3	1.79	0.48
1:B:463:THR:O	1:B:464:PHE:CD1	2.67	0.48
1:B:464:PHE:CD1	1:B:465:PHE:N	2.81	0.48
1:C:167:ARG:HH22	1:C:431:TRP:HB2	1.78	0.48
1:C:291:ILE:HD12	1:C:469:ALA:HB3	1.95	0.48
1:C:466:ILE:H	1:C:466:ILE:HD12	1.79	0.48
1:A:137:ARG:CD	1:A:139:VAL:HG22	2.40	0.48
1:B:58:LEU:O	1:B:60:TRP:HD1	1.96	0.48
1:B:453:MET:O	1:B:456:ILE:CG1	2.61	0.48
1:C:546:ASN:O	1:C:551:LEU:HD12	2.13	0.48
1:A:355:ALA:O	1:A:356:ASP:CB	2.61	0.48
1:B:80:PHE:CG	1:B:80:PHE:O	2.67	0.48
1:B:186:MET:HE1	1:B:336:SER:CB	2.43	0.48
1:B:333:LEU:HB2	1:B:334:PRO:CD	2.43	0.48
1:B:372:ALA:CB	1:B:523:ILE:CG2	2.88	0.48
1:C:178:VAL:HG23	1:C:179:GLY:N	2.28	0.48
1:C:443:LEU:HG	1:C:444:LEU:N	2.29	0.48
1:A:172:GLY:C	1:A:173:HIS:CG	2.86	0.48
1:B:118:ALA:HB2	1:B:398:ILE:HD12	1.96	0.48
1:C:58:LEU:HD12	1:C:58:LEU:H	1.79	0.48
1:C:70:VAL:HG13	1:C:71:LEU:N	2.27	0.48
1:C:74:VAL:HG23	1:C:75:VAL:N	2.29	0.48
1:C:76:TRP:CZ2	1:C:84:PHE:C	2.87	0.48
1:C:123:GLY:HA3	1:C:395:ARG:HB2	1.95	0.48
1:C:132:GLU:OE2	1:C:390:ARG:NE	2.45	0.48
1:C:264:GLY:HA2	1:C:441:PHE:CE1	2.48	0.48
1:C:303:GLN:O	1:C:304:TYR:CB	2.59	0.48
1:C:497:VAL:HG23	1:C:498:ALA:N	2.29	0.48
1:A:184:THR:N	1:A:347:MET:HE1	2.29	0.48
1:A:371:TRP:CE3	1:A:371:TRP:CA	2.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:321:PHE:HA	1:B:329:ILE:CD1	2.43	0.48
1:B:544:LEU:C	1:B:546:ASN:N	2.67	0.48
1:B:114:ILE:HG13	1:B:115:VAL:H	1.78	0.48
1:B:125:ILE:CG2	1:B:210:ARG:NH2	2.67	0.48
1:C:305:LEU:HA	1:C:308:ALA:CB	2.43	0.48
1:C:379:PRO:HD3	1:C:529:PHE:HE2	1.77	0.48
1:A:106:PHE:HB3	1:A:534:ILE:CD1	2.44	0.47
1:A:544:LEU:O	1:A:547:ASP:N	2.31	0.47
1:B:77:GLY:O	1:B:78:ILE:HD13	2.14	0.47
1:B:145:MET:CE	1:B:404:VAL:HG21	2.43	0.47
1:C:172:GLY:O	1:C:173:HIS:ND1	2.42	0.47
1:C:259:LEU:HD13	1:C:437:GLU:OE1	2.14	0.47
1:A:121:LYS:HD2	1:A:553:TYR:CE2	2.49	0.47
1:A:136:PHE:CE2	1:A:388:ILE:HG23	2.46	0.47
1:A:343:ASN:C	1:A:347:MET:HG3	2.29	0.47
1:A:405:PRO:O	1:A:408:VAL:HG22	2.14	0.47
1:B:58:LEU:HA	1:B:481:GLN:HG2	1.96	0.47
1:B:192:HIS:CB	1:B:193:PRO:HD3	2.44	0.47
1:B:208:THR:HG21	1:B:215:GLN:HB2	1.96	0.47
1:B:305:LEU:HD12	1:B:305:LEU:HA	1.72	0.47
1:B:379:PRO:HD3	1:B:529:PHE:CE2	2.48	0.47
1:C:75:VAL:HG12	1:C:76:TRP:N	2.29	0.47
1:C:186:MET:CE	1:C:190:THR:HG21	2.42	0.47
1:A:72:ALA:O	1:A:76:TRP:CB	2.61	0.47
1:A:158:GLY:HA2	1:A:413:PHE:CE1	2.46	0.47
1:A:473:SER:HA	1:A:476:MET:CG	2.43	0.47
1:A:565:ARG:HG2	1:C:130:ILE:CG2	2.44	0.47
1:B:224:LEU:HD11	1:B:538:PHE:HB2	1.97	0.47
1:B:259:LEU:CD1	1:B:437:GLU:HG2	2.43	0.47
1:B:316:LEU:HD22	1:B:460:LEU:HD11	1.93	0.47
1:B:545:SER:O	1:B:550:TYR:CD2	2.67	0.47
1:C:267:ALA:CB	1:C:451:GLN:HE22	2.27	0.47
1:C:378:SER:N	1:C:379:PRO:HD2	2.28	0.47
1:B:145:MET:HE3	1:B:404:VAL:CG2	2.43	0.47
1:B:371:TRP:HE3	1:B:371:TRP:HA	1.80	0.47
1:B:464:PHE:HA	1:B:467:THR:OG1	2.15	0.47
1:A:423:PHE:HD2	1:A:430:ILE:HD11	1.80	0.47
1:A:562:ARG:HA	1:A:565:ARG:HB2	1.96	0.47
1:A:574:ARG:HA	1:A:577:GLU:HG2	1.96	0.47
1:C:123:GLY:CA	1:C:395:ARG:HB2	2.44	0.47
1:C:325:PRO:HB2	1:C:328:SER:HB2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:213:ARG:NH1	1:A:219:SER:HB3	2.29	0.47
1:A:478:THR:CA	1:A:481:GLN:NE2	2.62	0.47
1:C:252:CYS:SG	1:C:518:LEU:HG	2.54	0.47
1:A:317:ALA:O	1:A:320:VAL:HG22	2.14	0.47
1:A:392:ARG:HD3	1:A:392:ARG:HA	1.52	0.47
1:B:132:GLU:OE2	1:B:390:ARG:HG3	2.15	0.47
1:B:191:LEU:CD1	1:B:191:LEU:H	2.27	0.47
1:B:247:VAL:HG12	1:B:248:PHE:HD1	1.80	0.47
1:B:378:SER:HB2	1:B:379:PRO:HD3	1.96	0.47
1:B:411:VAL:HG13	1:B:415:ILE:HD12	1.91	0.47
1:B:430:ILE:C	1:B:430:ILE:HD12	2.35	0.47
1:C:209:PHE:CD2	1:C:390:ARG:HD2	2.50	0.47
1:C:318:ILE:O	1:C:322:VAL:HG22	2.15	0.47
1:C:340:TYR:O	1:C:344:PHE:N	2.48	0.47
1:C:418:GLY:O	1:C:422:VAL:HG23	2.14	0.47
1:A:519:GLN:O	1:A:520:ASN:HB2	2.14	0.47
1:B:135:GLU:OE2	1:B:136:PHE:HD2	1.98	0.47
1:B:159:THR:HG23	1:B:443:LEU:HD23	1.97	0.47
1:B:189:TRP:CE3	1:B:413:PHE:CZ	3.03	0.47
1:B:379:PRO:CG	1:B:529:PHE:CZ	2.94	0.47
1:B:453:MET:O	1:B:456:ILE:HG12	2.15	0.47
1:C:316:LEU:HB3	1:C:416:PHE:HZ	1.79	0.47
1:A:76:TRP:HZ2	1:A:84:PHE:CD2	2.32	0.47
1:B:309:ASN:CG	1:B:463:THR:CG2	2.82	0.47
1:B:371:TRP:HA	1:B:371:TRP:CE3	2.50	0.47
1:C:492:THR:HG22	1:C:493:ALA:N	2.30	0.47
1:A:148:ALA:HB2	1:A:384:PHE:CE2	2.50	0.47
1:A:243:ILE:HD12	1:A:244:ILE:H	1.80	0.47
1:A:371:TRP:CE3	1:A:371:TRP:N	2.82	0.47
1:A:543:ASP:OD1	1:A:543:ASP:C	2.53	0.47
1:B:295:ILE:N	1:B:295:ILE:HD12	2.30	0.47
1:B:322:VAL:HG23	1:B:323:VAL:N	2.29	0.47
1:B:401:VAL:C	1:B:402:LEU:HD12	2.35	0.47
1:B:474:THR:O	1:B:478:THR:HG23	2.14	0.47
1:C:152:ILE:HG21	1:C:257:GLY:HA3	1.97	0.47
1:C:161:GLU:HB3	1:C:162:PRO:HD3	1.97	0.47
1:C:163:LEU:CG	1:C:431:TRP:CZ3	2.89	0.47
1:C:269:ASN:C	1:C:270:ILE:HD12	2.35	0.47
1:C:316:LEU:HB3	1:C:416:PHE:CZ	2.50	0.47
1:A:145:MET:SD	1:A:405:PRO:HD3	2.55	0.46
1:B:128:GLY:HA3	1:B:390:ARG:HH11	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:256:LEU:HD12	1:C:257:GLY:N	2.29	0.46
1:A:551:LEU:HD23	1:A:551:LEU:HA	1.75	0.46
1:B:269:ASN:OD1	1:B:269:ASN:O	2.32	0.46
1:C:142:ILE:O	1:C:145:MET:N	2.47	0.46
1:C:374:TRP:HA	1:C:374:TRP:CE3	2.50	0.46
1:C:526:ALA:C	1:C:528:PRO:CD	2.84	0.46
1:A:353:MET:HG2	1:C:332:LEU:HD21	1.97	0.46
1:B:146:PHE:CB	1:B:310:MET:SD	2.99	0.46
1:C:159:THR:HG22	1:C:416:PHE:O	2.16	0.46
1:C:374:TRP:CE3	1:C:374:TRP:CA	2.99	0.46
1:A:93:SER:O	1:A:97:ASP:OD1	2.34	0.46
1:A:204:ILE:O	1:A:208:THR:HG23	2.15	0.46
1:B:399:LEU:O	1:B:400:GLY:C	2.53	0.46
1:B:411:VAL:HA	1:B:414:SER:HB2	1.98	0.46
1:C:559:PHE:HA	1:C:562:ARG:CG	2.43	0.46
1:A:302:ILE:HG13	1:A:303:GLN:N	2.18	0.46
1:C:367:THR:HG23	1:C:368:ILE:N	2.30	0.46
1:A:404:VAL:HB	1:A:405:PRO:CD	2.45	0.46
1:A:412:TRP:CZ3	1:A:416:PHE:HE2	2.33	0.46
1:B:105:LEU:HD23	1:B:106:PHE:CE2	2.51	0.46
1:C:81:LYS:O	1:C:82:ASP:HB3	2.15	0.46
1:C:222:VAL:N	1:C:223:PRO:CD	2.79	0.46
1:A:64:VAL:O	1:A:68:VAL:HG12	2.16	0.46
1:A:302:ILE:O	1:A:303:GLN:HB2	2.16	0.46
1:A:540:LEU:HD23	1:A:540:LEU:C	2.35	0.46
1:B:346:GLN:HG3	1:B:347:MET:H	1.80	0.46
1:C:473:SER:CA	1:C:476:MET:HE2	2.45	0.46
1:A:355:ALA:O	1:A:356:ASP:HB2	2.16	0.46
1:B:95:VAL:HG13	1:B:96:VAL:N	2.31	0.46
1:B:132:GLU:OE1	1:B:390:ARG:NH1	2.49	0.46
1:A:371:TRP:CE3	1:A:371:TRP:HA	2.50	0.45
1:A:407:GLY:HA2	1:A:410:THR:HG22	1.98	0.45
1:B:58:LEU:HG	1:B:481:GLN:HE21	1.81	0.45
1:B:238:ILE:HG22	1:B:239:ASP:N	2.30	0.45
1:B:372:ALA:O	1:B:375:ILE:N	2.49	0.45
1:C:121:LYS:O	1:C:122:PHE:C	2.54	0.45
1:C:554:ARG:NH1	1:C:557:GLN:NE2	2.64	0.45
1:A:302:ILE:HG12	1:A:303:GLN:HG3	1.98	0.45
1:B:145:MET:SD	1:B:404:VAL:HG21	2.57	0.45
1:C:141:TRP:CD1	1:C:388:ILE:HG22	2.51	0.45
1:C:145:MET:SD	1:C:404:VAL:HB	2.56	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:224:LEU:HD11	1:C:539:ALA:CB	2.44	0.45
1:C:506:LEU:HD21	1:C:521:VAL:HG21	1.97	0.45
1:A:101:TRP:HB3	1:C:331:ASN:OD1	2.16	0.45
1:B:172:GLY:C	1:B:173:HIS:CD2	2.89	0.45
1:B:231:GLU:O	1:B:236:LYS:HG2	2.16	0.45
1:A:59:ASN:OD1	1:A:482:HIS:NE2	2.49	0.45
1:A:67:LEU:HD12	1:A:67:LEU:N	2.32	0.45
1:A:252:CYS:HB2	1:A:522:THR:CG2	2.46	0.45
1:B:117:ILE:CG2	1:B:118:ALA:N	2.80	0.45
1:B:187:PHE:CD1	1:B:347:MET:SD	3.09	0.45
1:B:211:VAL:CG1	1:B:213:ARG:HE	2.23	0.45
1:C:125:ILE:HD12	1:C:544:LEU:HD22	1.99	0.45
1:A:163:LEU:HD11	1:A:420:ALA:O	2.17	0.45
1:A:208:THR:O	1:A:212:GLY:HA2	2.16	0.45
1:A:543:ASP:OD1	1:A:543:ASP:O	2.33	0.45
1:C:316:LEU:N	1:C:316:LEU:CD1	2.78	0.45
1:A:542:LYS:HD2	1:A:542:LYS:HA	1.65	0.45
1:B:113:PHE:CZ	1:B:537:MET:HG3	2.52	0.45
1:B:118:ALA:HB2	1:B:398:ILE:HG21	1.98	0.45
1:B:234:LEU:N	1:B:234:LEU:HD12	2.32	0.45
1:C:167:ARG:NH1	1:C:431:TRP:CD2	2.84	0.45
1:C:213:ARG:HD2	1:C:219:SER:O	2.15	0.45
1:C:243:ILE:HG21	1:C:495:TRP:CH2	2.52	0.45
1:C:488:ASN:HB3	1:C:491:VAL:CG1	2.44	0.45
1:A:113:PHE:HA	1:A:116:VAL:HG13	1.98	0.45
1:A:189:TRP:CH2	1:A:370:TYR:OH	2.70	0.45
1:A:215:GLN:NE2	1:A:387:ARG:HH21	2.14	0.45
1:A:288:LEU:HD12	1:A:289:ALA:N	2.31	0.45
1:A:376:SER:O	1:A:377:TRP:HB2	2.17	0.45
1:A:387:ARG:HB3	1:A:387:ARG:NH1	2.29	0.45
1:B:216:LEU:HD21	1:B:239:ASP:OD1	2.17	0.45
1:B:331:ASN:O	1:C:351:THR:HG21	2.17	0.45
1:B:455:ILE:O	1:B:458:MET:HB2	2.17	0.45
1:C:204:ILE:HD13	1:C:383:MET:CG	2.39	0.45
1:C:537:MET:O	1:C:541:VAL:HG23	2.15	0.45
1:A:204:ILE:HD13	1:A:383:MET:SD	2.56	0.45
1:A:329:ILE:HG23	1:A:414:SER:C	2.36	0.45
1:A:94:ALA:O	1:A:98:ASN:HB2	2.17	0.45
1:A:99:LEU:O	1:A:100:GLY:C	2.55	0.45
1:B:355:ALA:O	1:B:356:ASP:CB	2.63	0.45
1:C:191:LEU:O	1:C:195:ALA:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:193:PRO:CB	1:C:374:TRP:CD1	2.96	0.45
1:A:330:LEU:HG	1:B:101:TRP:CG	2.52	0.45
1:A:330:LEU:CD2	1:B:101:TRP:CE2	2.99	0.45
1:A:402:LEU:O	1:A:403:LEU:C	2.56	0.45
1:A:478:THR:CA	1:A:481:GLN:HE21	2.29	0.45
1:B:358:THR:O	1:B:360:GLY:N	2.50	0.45
1:B:373:TRP:HD1	1:B:373:TRP:O	2.00	0.45
1:A:110:PHE:CZ	1:A:534:ILE:HD13	2.52	0.44
1:A:352:ALA:O	1:A:357:GLY:CA	2.58	0.44
1:B:103:PHE:HE1	1:B:372:ALA:CA	2.31	0.44
1:B:145:MET:HG2	1:B:146:PHE:N	2.32	0.44
1:B:216:LEU:HD23	1:B:218:SER:N	2.32	0.44
1:B:270:ILE:HA	1:B:271:ILE:HA	1.72	0.44
1:B:320:VAL:HG23	1:B:321:PHE:N	2.32	0.44
1:B:326:THR:O	1:B:330:LEU:HB2	2.17	0.44
1:C:170:VAL:HG11	1:C:350:ARG:NH2	2.33	0.44
1:C:187:PHE:CD1	1:C:347:MET:HG3	2.52	0.44
1:C:211:VAL:HG12	1:C:211:VAL:O	2.17	0.44
1:C:523:ILE:O	1:C:527:THR:CG2	2.66	0.44
1:A:182:MET:SD	1:A:332:LEU:HD11	2.57	0.44
1:A:285:VAL:HA	1:A:288:LEU:CG	2.40	0.44
1:A:578:LEU:O	1:A:581:LYS:HB3	2.17	0.44
1:B:70:VAL:HG13	1:B:71:LEU:N	2.31	0.44
1:B:152:ILE:HD11	1:B:257:GLY:HA3	1.99	0.44
1:B:188:HIS:NE2	1:B:367:THR:OG1	2.33	0.44
1:B:362:TRP:HZ3	1:B:367:THR:HG1	1.63	0.44
1:B:365:SER:C	1:B:366:TRP:HD1	2.18	0.44
1:B:468:SER:O	1:B:472:ALA:HB2	2.17	0.44
1:B:534:ILE:O	1:B:537:MET:HB3	2.16	0.44
1:A:222:VAL:HB	1:A:227:GLU:CA	2.37	0.44
1:C:152:ILE:CD1	1:C:461:LEU:HG	2.45	0.44
1:C:191:LEU:C	1:C:193:PRO:HD2	2.38	0.44
1:C:392:ARG:NH1	1:C:396:GLU:OE2	2.44	0.44
1:C:452:ILE:HG13	1:C:453:MET:N	2.33	0.44
1:A:154:LEU:O	1:A:158:GLY:N	2.50	0.44
1:A:402:LEU:O	1:A:405:PRO:HD2	2.16	0.44
1:A:571:ASN:HB3	1:A:575:LYS:HE3	2.00	0.44
1:B:131:ASP:OD2	1:C:565:ARG:CZ	2.64	0.44
1:B:378:SER:HB2	1:B:529:PHE:HE2	1.82	0.44
1:B:455:ILE:CG1	1:B:456:ILE:N	2.80	0.44
1:A:559:PHE:C	1:A:559:PHE:CD2	2.91	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:65:PRO:HB2	1:B:240:ILE:HD13	2.00	0.44
1:B:152:ILE:HD13	1:B:253:SER:O	2.17	0.44
1:B:158:GLY:O	1:B:162:PRO:HD2	2.17	0.44
1:C:154:LEU:O	1:C:155:MET:C	2.55	0.44
1:C:374:TRP:HA	1:C:374:TRP:HE3	1.82	0.44
1:C:472:ALA:C	1:C:476:MET:HE2	2.38	0.44
1:A:88:ALA:HA	1:A:91:ALA:CB	2.47	0.44
1:A:155:MET:HB3	1:A:440:LEU:HD11	2.00	0.44
1:A:219:SER:C	1:A:221:PHE:H	2.21	0.44
1:A:370:TYR:O	1:A:374:TRP:CD1	2.71	0.44
1:B:86:ASN:O	1:B:89:SER:HB2	2.17	0.44
1:B:159:THR:HG23	1:B:443:LEU:CD2	2.48	0.44
1:B:354:SER:HA	1:B:355:ALA:HA	1.51	0.44
1:C:156:PHE:CD1	1:C:256:LEU:HB2	2.52	0.44
1:C:319:PHE:CD2	1:C:453:MET:HG3	2.53	0.44
1:C:493:ALA:O	1:C:496:GLY:N	2.51	0.44
1:B:79:GLY:O	1:B:80:PHE:CB	2.65	0.44
1:B:305:LEU:CD2	1:B:467:THR:HG22	2.40	0.44
1:C:341:LEU:HD23	1:C:341:LEU:HA	1.72	0.44
1:A:65:PRO:HA	1:A:68:VAL:CG1	2.48	0.44
1:A:146:PHE:HB3	1:A:150:MET:HE3	1.99	0.44
1:A:410:THR:HG23	1:A:411:VAL:N	2.32	0.44
1:A:444:LEU:HD13	1:A:450:GLY:O	2.17	0.44
1:B:322:VAL:HG23	1:B:323:VAL:H	1.82	0.44
1:C:187:PHE:HA	1:C:340:TYR:HE1	1.83	0.44
1:C:260:GLN:OE1	1:C:461:LEU:CD2	2.59	0.44
1:C:452:ILE:O	1:C:456:ILE:HG13	2.18	0.44
1:A:187:PHE:CE1	1:A:347:MET:HB2	2.53	0.44
1:A:444:LEU:C	1:A:446:ALA:H	2.19	0.44
1:B:82:ASP:O	1:B:86:ASN:OD1	2.35	0.44
1:C:502:ILE:O	1:C:506:LEU:HD13	2.18	0.44
1:B:188:HIS:CD2	1:B:367:THR:HA	2.53	0.43
1:B:399:LEU:HD12	1:B:400:GLY:N	2.33	0.43
1:C:271:ILE:HD13	1:C:276:ASP:OD2	2.18	0.43
1:C:491:VAL:HG13	1:C:492:THR:N	2.33	0.43
1:B:99:LEU:O	1:B:102:ALA:HB3	2.19	0.43
1:B:222:VAL:O	1:B:223:PRO:C	2.54	0.43
1:B:248:PHE:HA	1:B:251:ALA:HB3	2.00	0.43
1:C:70:VAL:HG13	1:C:71:LEU:HD23	1.99	0.43
1:C:232:GLY:O	1:C:233:TRP:C	2.55	0.43
1:A:214:LYS:HG3	1:A:219:SER:OG	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:110:PHE:O	1:B:114:ILE:HG12	2.17	0.43
1:B:166:TYR:CD1	1:B:421:ILE:HG23	2.54	0.43
1:B:222:VAL:HB	1:B:223:PRO:HD3	2.00	0.43
1:B:284:SER:O	1:B:288:LEU:HB2	2.18	0.43
1:A:353:MET:HE1	1:C:328:SER:OG	2.18	0.43
1:B:127:LEU:HD23	1:B:127:LEU:C	2.39	0.43
1:B:189:TRP:CZ2	1:B:370:TYR:OH	2.68	0.43
1:B:432:GLY:O	1:B:434:GLY:N	2.47	0.43
1:C:154:LEU:HB3	1:C:412:TRP:CD1	2.54	0.43
1:C:159:THR:HG21	1:C:443:LEU:HD21	1.99	0.43
1:C:174:ASP:O	1:C:174:ASP:OD1	2.37	0.43
1:C:189:TRP:CD2	1:C:413:PHE:CZ	3.06	0.43
1:A:92:LEU:CD1	1:A:96:VAL:HG21	2.44	0.43
1:A:130:ILE:O	1:A:131:ASP:HB3	2.17	0.43
1:A:137:ARG:HD2	1:A:139:VAL:CG2	2.40	0.43
1:A:209:PHE:HZ	1:A:387:ARG:HH12	1.64	0.43
1:A:243:ILE:H	1:A:243:ILE:HG13	1.71	0.43
1:A:288:LEU:HD12	1:A:288:LEU:C	2.39	0.43
1:B:463:THR:C	1:B:465:PHE:N	2.72	0.43
1:C:96:VAL:O	1:C:100:GLY:HA3	2.18	0.43
1:C:157:TYR:OH	1:C:519:GLN:NE2	2.51	0.43
1:C:187:PHE:CE1	1:C:347:MET:HG3	2.53	0.43
1:C:484:GLN:HB3	1:C:486:GLU:HG2	2.00	0.43
1:A:124:THR:O	1:A:125:ILE:C	2.57	0.43
1:A:155:MET:SD	1:A:460:LEU:HG	2.59	0.43
1:A:163:LEU:HD12	1:A:163:LEU:HA	1.75	0.43
1:B:106:PHE:O	1:B:109:VAL:N	2.49	0.43
1:B:125:ILE:H	1:B:125:ILE:HG13	1.69	0.43
1:B:159:THR:CG2	1:B:443:LEU:HD23	2.49	0.43
1:B:554:ARG:HD2	1:B:558:ARG:NH2	2.34	0.43
1:C:564:ALA:HA	1:C:567:ARG:HH11	1.83	0.43
1:A:163:LEU:HD22	1:A:420:ALA:HB1	2.00	0.43
1:A:190:THR:OG1	1:A:191:LEU:N	2.50	0.43
1:A:375:ILE:CG2	1:A:529:PHE:HB3	2.49	0.43
1:A:393:SER:OG	1:A:394:ILE:N	2.52	0.43
1:A:558:ARG:HH11	1:A:558:ARG:HA	1.84	0.43
1:B:208:THR:HG21	1:B:215:GLN:HA	2.01	0.43
1:B:220:ALA:O	1:B:223:PRO:HD2	2.18	0.43
1:B:320:VAL:CG2	1:B:321:PHE:N	2.81	0.43
1:C:92:LEU:O	1:C:95:VAL:CG1	2.67	0.43
1:C:189:TRP:C	1:C:193:PRO:HG3	2.39	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:257:GLY:O	1:C:261:ILE:HG12	2.18	0.43
1:C:389:SER:O	1:C:390:ARG:O	2.36	0.43
1:A:141:TRP:O	1:A:144:MET:HB2	2.19	0.43
1:A:153:ASP:CA	1:A:156:PHE:CE2	2.74	0.43
1:A:481:GLN:HG3	1:A:484:GLN:HG3	2.00	0.43
1:A:485:LEU:O	1:A:486:GLU:O	2.36	0.43
1:B:375:ILE:CG2	1:B:526:ALA:CB	2.96	0.43
1:B:411:VAL:HG12	1:B:412:TRP:N	2.33	0.43
1:C:69:ILE:N	1:C:69:ILE:CD1	2.82	0.43
1:C:154:LEU:HB3	1:C:412:TRP:NE1	2.33	0.43
1:C:178:VAL:HG23	1:C:179:GLY:H	1.84	0.43
1:A:182:MET:O	1:A:186:MET:HG3	2.19	0.43
1:A:442:GLY:HA2	1:A:445:HIS:CD2	2.54	0.43
1:A:442:GLY:HA2	1:A:445:HIS:NE2	2.34	0.43
1:A:527:THR:HG23	1:A:528:PRO:N	2.33	0.43
1:A:532:VAL:O	1:A:536:LEU:HB2	2.19	0.43
1:B:319:PHE:CE2	1:B:453:MET:HG3	2.54	0.43
1:C:167:ARG:NH2	1:C:424:GLU:OE2	2.52	0.43
1:A:92:LEU:HA	1:A:95:VAL:HG22	1.99	0.43
1:A:453:MET:O	1:A:456:ILE:N	2.52	0.43
1:A:544:LEU:C	1:A:546:ASN:N	2.73	0.43
1:B:145:MET:HE3	1:B:404:VAL:HG21	2.01	0.43
1:B:309:ASN:CG	1:B:463:THR:HG23	2.39	0.43
1:C:186:MET:CE	1:C:410:THR:HG1	2.31	0.43
1:C:190:THR:C	1:C:193:PRO:HD2	2.40	0.43
1:A:59:ASN:HD21	1:A:482:HIS:HA	1.84	0.42
1:A:170:VAL:HG13	1:A:171:PRO:CD	2.49	0.42
1:A:209:PHE:HE2	1:A:386:ALA:O	2.02	0.42
1:B:123:GLY:O	1:B:394:ILE:HG13	2.18	0.42
1:B:291:ILE:HA	1:B:466:ILE:HD13	1.99	0.42
1:B:385:LEU:C	1:B:385:LEU:HD12	2.39	0.42
1:C:153:ASP:OD1	1:C:253:SER:OG	2.37	0.42
1:C:291:ILE:HD12	1:C:469:ALA:HB1	2.00	0.42
1:C:559:PHE:C	1:C:561:ALA:H	2.23	0.42
1:A:97:ASP:O	1:C:327:VAL:HG13	2.18	0.42
1:A:333:LEU:HB3	1:A:334:PRO:HD3	2.01	0.42
1:A:353:MET:O	1:A:357:GLY:N	2.52	0.42
1:A:371:TRP:N	1:A:371:TRP:HE3	2.18	0.42
1:B:96:VAL:HG12	1:B:96:VAL:O	2.19	0.42
1:B:321:PHE:CZ	1:B:326:THR:HG23	2.54	0.42
1:C:170:VAL:HG13	1:C:171:PRO:CD	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:392:ARG:HD2	1:C:396:GLU:CD	2.39	0.42
1:C:414:SER:O	1:C:418:GLY:CA	2.63	0.42
1:C:417:GLY:O	1:C:421:ILE:HG12	2.19	0.42
1:A:202:LEU:HD23	1:A:202:LEU:HA	1.85	0.42
1:A:232:GLY:O	1:A:233:TRP:C	2.57	0.42
1:A:563:LEU:HD23	1:A:563:LEU:O	2.18	0.42
1:C:78:ILE:HG13	1:C:79:GLY:H	1.84	0.42
1:A:122:PHE:O	1:A:125:ILE:HB	2.19	0.42
1:A:353:MET:O	1:C:178:VAL:HG21	2.20	0.42
1:C:193:PRO:HA	1:C:374:TRP:CD1	2.54	0.42
1:C:323:VAL:CG1	1:C:324:GLY:N	2.81	0.42
1:C:371:TRP:CE3	1:C:371:TRP:CA	3.01	0.42
1:C:383:MET:SD	1:C:475:VAL:HG13	2.59	0.42
1:A:152:ILE:CD1	1:A:464:PHE:HB3	2.49	0.42
1:A:157:TYR:HB3	1:A:189:TRP:CH2	2.53	0.42
1:A:194:TRP:CZ2	1:A:405:PRO:HB3	2.54	0.42
1:B:92:LEU:O	1:B:93:SER:C	2.57	0.42
1:B:437:GLU:CD	1:B:437:GLU:H	2.21	0.42
1:C:154:LEU:N	1:C:154:LEU:HD12	2.34	0.42
1:C:160:THR:HG21	1:C:436:ALA:HB1	2.00	0.42
1:C:166:TYR:OH	1:C:425:GLN:HG2	2.19	0.42
1:A:152:ILE:HD12	1:A:152:ILE:N	2.33	0.42
1:B:122:PHE:CD1	1:B:544:LEU:HD13	2.55	0.42
1:B:204:ILE:HD11	1:B:217:LEU:HA	2.02	0.42
1:C:77:GLY:HA2	1:C:85:THR:HB	2.01	0.42
1:C:122:PHE:O	1:C:124:THR:N	2.53	0.42
1:C:210:ARG:NH2	1:C:549:ILE:HD12	2.14	0.42
1:C:134:PRO:HA	1:C:391:GLY:CA	2.22	0.42
1:C:337:ILE:O	1:C:340:TYR:HB3	2.20	0.42
1:A:206:TYR:CE2	1:A:544:LEU:HD12	2.54	0.42
1:A:380:PHE:CD2	1:A:381:VAL:HG13	2.55	0.42
1:B:152:ILE:HG21	1:B:253:SER:O	2.19	0.42
1:B:265:LEU:HB3	1:B:269:ASN:ND2	2.35	0.42
1:B:323:VAL:CG2	1:B:324:GLY:N	2.83	0.42
1:B:441:PHE:HA	1:B:444:LEU:HB2	2.01	0.42
1:C:227:GLU:O	1:C:228:LYS:C	2.58	0.42
1:A:186:MET:HE3	1:A:190:THR:HG21	2.02	0.42
1:A:219:SER:O	1:A:221:PHE:N	2.53	0.42
1:A:544:LEU:C	1:A:546:ASN:H	2.23	0.42
1:B:380:PHE:CE1	1:B:471:SER:O	2.73	0.42
1:C:258:ALA:O	1:C:261:ILE:HB	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:447:LEU:HB3	1:C:448:PRO:HD2	2.02	0.42
1:A:123:GLY:O	1:A:393:SER:OG	2.38	0.42
1:A:213:ARG:HH12	1:A:219:SER:C	2.23	0.42
1:A:354:SER:HA	1:A:355:ALA:HA	1.59	0.42
1:A:461:LEU:O	1:A:461:LEU:HD12	2.20	0.42
1:C:92:LEU:HD12	1:C:523:ILE:HG21	2.02	0.42
1:C:312:LEU:N	1:C:312:LEU:CD1	2.80	0.42
1:C:332:LEU:HA	1:C:332:LEU:HD23	1.81	0.42
1:A:99:LEU:O	1:A:102:ALA:N	2.54	0.41
1:A:110:PHE:HD2	1:A:196:ILE:CD1	2.33	0.41
1:A:256:LEU:HD12	1:A:518:LEU:HD21	2.02	0.41
1:B:352:ALA:HB1	1:B:360:GLY:HA2	2.02	0.41
1:C:521:VAL:O	1:C:524:VAL:N	2.53	0.41
1:A:206:TYR:CE2	1:A:543:ASP:CG	2.89	0.41
1:B:109:VAL:O	1:B:110:PHE:C	2.59	0.41
1:B:114:ILE:HG13	1:B:115:VAL:N	2.36	0.41
1:B:209:PHE:CD2	1:B:390:ARG:HD3	2.55	0.41
1:B:406:ALA:O	1:B:410:THR:HB	2.18	0.41
1:C:372:ALA:CB	1:C:523:ILE:HG12	2.50	0.41
1:A:216:LEU:HD11	1:A:239:ASP:OD2	2.21	0.41
1:B:137:ARG:HG3	1:B:138:THR:H	1.85	0.41
1:B:371:TRP:O	1:B:375:ILE:N	2.46	0.41
1:B:385:LEU:HD13	1:B:397:PHE:CE1	2.56	0.41
1:B:557:GLN:HG2	1:B:558:ARG:N	2.35	0.41
1:C:368:ILE:HG23	1:C:369:PHE:N	2.36	0.41
1:A:423:PHE:O	1:A:428:GLU:N	2.53	0.41
1:C:76:TRP:O	1:C:80:PHE:O	2.39	0.41
1:C:234:LEU:HA	1:C:234:LEU:HD23	1.87	0.41
1:C:312:LEU:HB3	1:C:460:LEU:HD22	2.02	0.41
1:C:401:VAL:O	1:C:405:PRO:HG2	2.19	0.41
1:C:559:PHE:HB2	1:C:562:ARG:HE	1.84	0.41
1:A:239:ASP:O	1:A:242:ALA:HB3	2.20	0.41
1:B:152:ILE:HG23	1:B:153:ASP:N	2.35	0.41
1:B:216:LEU:HD23	1:B:216:LEU:C	2.40	0.41
1:C:76:TRP:HD1	1:C:77:GLY:CA	2.33	0.41
1:C:202:LEU:HA	1:C:202:LEU:HD12	1.77	0.41
1:C:203:ALA:HB1	1:C:536:LEU:HD11	2.03	0.41
1:C:302:ILE:HG23	1:C:303:GLN:N	2.35	0.41
1:A:156:PHE:CD1	1:A:157:TYR:N	2.89	0.41
1:B:92:LEU:HD11	1:B:523:ILE:CG2	2.51	0.41
1:B:117:ILE:CG2	1:B:398:ILE:HD13	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:132:GLU:HG2	1:B:133:ALA:N	2.34	0.41
1:B:145:MET:CE	1:B:404:VAL:CG2	2.99	0.41
1:B:444:LEU:HA	1:B:444:LEU:HD23	1.38	0.41
1:C:134:PRO:HG3	1:C:391:GLY:C	2.39	0.41
1:C:354:SER:HA	1:C:355:ALA:HA	1.73	0.41
1:C:453:MET:SD	1:C:456:ILE:HD12	2.61	0.41
1:A:122:PHE:CE1	1:A:545:SER:HA	2.50	0.41
1:A:353:MET:HE2	1:A:353:MET:CA	2.40	0.41
1:B:305:LEU:HD23	1:B:467:THR:CG2	2.42	0.41
1:B:491:VAL:HG13	1:B:492:THR:N	2.35	0.41
1:C:108:THR:N	1:C:192:HIS:HE1	2.19	0.41
1:A:98:ASN:O	1:A:101:TRP:NE1	2.49	0.41
1:A:114:ILE:CD1	1:A:402:LEU:HD11	2.51	0.41
1:A:353:MET:C	1:A:357:GLY:HA2	2.40	0.41
1:B:372:ALA:CB	1:B:523:ILE:HA	2.50	0.41
1:B:410:THR:HG22	1:B:411:VAL:N	2.35	0.41
1:A:116:VAL:HG22	1:A:117:ILE:N	2.36	0.41
1:A:135:GLU:OE1	1:A:136:PHE:CE2	2.74	0.41
1:A:331:ASN:C	1:A:333:LEU:H	2.24	0.41
1:A:437:GLU:O	1:A:441:PHE:CD1	2.74	0.41
1:B:189:TRP:CD2	1:B:413:PHE:CZ	3.09	0.41
1:B:209:PHE:N	1:B:209:PHE:CD1	2.89	0.41
1:B:254:LEU:HD12	1:B:255:GLY:N	2.35	0.41
1:C:59:ASN:ND2	1:C:62:VAL:CG2	2.84	0.41
1:C:74:VAL:HG13	1:C:502:ILE:HG22	2.02	0.41
1:C:81:LYS:CD	1:C:84:PHE:CD2	2.98	0.41
1:C:209:PHE:CE1	1:C:390:ARG:CB	3.01	0.41
1:C:463:THR:O	1:C:467:THR:HG23	2.21	0.41
1:A:383:MET:O	1:A:387:ARG:NE	2.54	0.41
1:A:449:GLY:O	1:A:452:ILE:N	2.54	0.41
1:A:559:PHE:CE2	1:A:563:LEU:CD1	2.72	0.41
1:B:74:VAL:HG13	1:B:75:VAL:N	2.36	0.41
1:B:352:ALA:CB	1:B:363:LEU:HD12	2.51	0.41
1:A:334:PRO:HB3	1:B:105:LEU:CD1	2.51	0.40
1:B:142:ILE:HB	1:B:145:MET:HE2	2.02	0.40
1:B:154:LEU:N	1:B:154:LEU:HD23	2.35	0.40
1:B:372:ALA:O	1:B:373:TRP:C	2.57	0.40
1:B:460:LEU:HA	1:B:463:THR:HG22	2.03	0.40
1:C:281:GLY:O	1:C:285:VAL:CG2	2.64	0.40
1:A:200:VAL:HG12	1:A:382:GLY:HA3	2.03	0.40
1:A:307:ASN:O	1:A:311:VAL:HG23	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:95:VAL:CG2	1:B:527:THR:HG23	2.48	0.40
1:B:173:HIS:ND1	1:B:180:VAL:HG21	2.37	0.40
1:A:581:LYS:O	1:A:581:LYS:HG2	2.22	0.40
1:B:92:LEU:HD13	1:B:523:ILE:HB	1.95	0.40
1:B:103:PHE:CD1	1:B:371:TRP:HB3	2.38	0.40
1:B:170:VAL:HG11	1:B:184:THR:HG21	2.02	0.40
1:B:190:THR:O	1:B:193:PRO:HD2	2.21	0.40
1:B:471:SER:HA	1:B:474:THR:CG2	2.52	0.40
1:C:139:VAL:HG13	1:C:140:SER:N	2.37	0.40
1:C:264:GLY:HA2	1:C:441:PHE:CD1	2.57	0.40
1:C:515:LEU:O	1:C:518:LEU:HB3	2.21	0.40
1:A:191:LEU:HD12	1:A:191:LEU:HA	1.73	0.40
1:B:167:ARG:NH2	1:B:431:TRP:CD1	2.90	0.40
1:B:214:LYS:HB3	1:B:214:LYS:HE2	1.82	0.40
1:B:282:ILE:HG13	1:B:283:VAL:N	2.36	0.40
1:C:173:HIS:NE2	1:C:180:VAL:HG22	2.36	0.40
1:C:295:ILE:C	1:C:295:ILE:HD12	2.42	0.40
1:A:316:LEU:CD1	1:A:416:PHE:HZ	2.34	0.40
1:A:544:LEU:O	1:A:547:ASP:CB	2.70	0.40
1:B:385:LEU:O	1:B:388:ILE:HG22	2.22	0.40
1:C:366:TRP:O	1:C:369:PHE:N	2.54	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	498/566 (88%)	426 (86%)	62 (12%)	10 (2%)	7	33
1	B	470/566 (83%)	403 (86%)	61 (13%)	6 (1%)	12	42
1	C	504/566 (89%)	435 (86%)	60 (12%)	9 (2%)	8	35
All	All	1472/1698 (87%)	1264 (86%)	183 (12%)	25 (2%)	9	36

All (25) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	377	TRP
1	A	403	LEU
1	B	231	GLU
1	B	432	GLY
1	C	231	GLU
1	C	304	TYR
1	A	431	TRP
1	A	486	GLU
1	A	520	ASN
1	C	227	GLU
1	C	232	GLY
1	C	270	ILE
1	A	220	ALA
1	A	302	ILE
1	B	232	GLY
1	B	464	PHE
1	C	429	SER
1	A	388	ILE
1	B	154	LEU
1	C	164	THR
1	A	482	HIS
1	B	545	SER
1	C	325	PRO
1	C	548	VAL
1	A	125	ILE

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	396/440 (90%)	378 (96%)	18 (4%)	27 59
1	B	371/440 (84%)	356 (96%)	15 (4%)	31 62
1	C	396/440 (90%)	369 (93%)	27 (7%)	16 46
All	All	1163/1320 (88%)	1103 (95%)	60 (5%)	23 55

All (60) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	113	PHE
1	A	157	TYR
1	A	189	TRP
1	A	192	HIS
1	A	302	ILE
1	A	344	PHE
1	A	345	PHE
1	A	356	ASP
1	A	371	TRP
1	A	387	ARG
1	A	392	ARG
1	A	424	GLU
1	A	484	GLN
1	A	529	PHE
1	A	542	LYS
1	A	565	ARG
1	A	573	HIS
1	A	574	ARG
1	B	82	ASP
1	B	157	TYR
1	B	177	ASN
1	B	319	PHE
1	B	347	MET
1	B	356	ASP
1	B	366	TRP
1	B	369	PHE
1	B	370	TYR
1	B	371	TRP
1	B	373	TRP
1	B	383	MET
1	B	397	PHE
1	B	444	LEU
1	B	543	ASP
1	C	76	TRP
1	C	92	LEU
1	C	121	LYS
1	C	136	PHE
1	C	144	MET
1	C	153	ASP
1	C	186	MET
1	C	189	TRP
1	C	215	GLN

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Mol	Chain	Res	Type
1	C	218	SER
1	C	304	TYR
1	C	356	ASP
1	C	371	TRP
1	C	374	TRP
1	C	377	TRP
1	C	380	PHE
1	C	387	ARG
1	C	389	SER
1	C	397	PHE
1	C	433	ASP
1	C	437	GLU
1	C	439	GLN
1	C	465	PHE
1	C	468	SER
1	C	481	GLN
1	C	543	ASP
1	C	553	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	176	HIS
1	A	439	GLN
1	A	484	GLN
1	A	520	ASN
1	B	192	HIS
1	B	215	GLN
1	B	269	ASN
1	B	343	ASN
1	B	426	ASN
1	B	445	HIS
1	C	173	HIS
1	C	176	HIS
1	C	192	HIS
1	C	260	GLN
1	C	339	ASN
1	C	484	GLN
1	C	517	ASN
1	C	519	GLN
1	C	520	ASN
1	C	557	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

1 ligand is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	CHT	C	2486	-	6,6,6	0.78	0	8,8,8	0.26	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	CHT	C	2486	-	-	4/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	C	2486	CHT	C4-C5-N1-C6
2	C	2486	CHT	C4-C5-N1-C8
2	C	2486	CHT	C4-C5-N1-C7
2	C	2486	CHT	O6-C4-C5-N1

There are no ring outliers.

1 monomer is involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	2486	CHT	6	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	504/566 (89%)	0.37	44 (8%) 10 12	28, 107, 309, 534	0
1	B	476/566 (84%)	0.40	47 (9%) 7 8	14, 97, 292, 557	0
1	C	508/566 (89%)	-0.02	20 (3%) 39 41	7, 62, 194, 353	0
All	All	1488/1698 (87%)	0.25	111 (7%) 14 16	7, 86, 284, 557	0

All (111) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	296	SER	15.2
1	B	296	SER	8.9
1	A	297	GLY	8.3
1	A	299	GLY	7.1
1	C	299	GLY	7.0
1	B	500	ALA	6.4
1	B	234	LEU	6.2
1	B	231	GLU	5.8
1	B	499	THR	5.6
1	C	228	LYS	5.5
1	C	300	LYS	5.3
1	A	295	ILE	5.0
1	B	393	SER	5.0
1	C	301	GLY	4.9
1	A	516	SER	4.9
1	A	150	MET	4.8
1	A	519	GLN	4.7
1	A	490	TRP	4.7
1	A	83	SER	4.7
1	B	80	PHE	4.6
1	B	495	TRP	4.6
1	C	568	ARG	4.6
1	B	551	LEU	4.5

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Mol	Chain	Res	Type	RSRZ
1	A	140	SER	4.4
1	B	492	THR	4.3
1	B	298	VAL	4.2
1	A	141	TRP	4.1
1	A	133	ALA	4.1
1	A	300	LYS	4.1
1	C	267	ALA	4.1
1	B	297	GLY	4.0
1	B	496	GLY	4.0
1	A	84	PHE	4.0
1	A	80	PHE	4.0
1	B	249	GLY	4.0
1	B	550	TYR	3.9
1	B	228	LYS	3.9
1	B	71	LEU	3.7
1	B	79	GLY	3.7
1	C	566	GLU	3.7
1	B	150	MET	3.6
1	B	227	GLU	3.6
1	B	232	GLY	3.6
1	B	85	THR	3.5
1	A	301	GLY	3.5
1	A	142	ILE	3.5
1	A	136	PHE	3.5
1	C	270	ILE	3.4
1	A	388	ILE	3.3
1	B	557	GLN	3.3
1	B	125	ILE	3.3
1	B	558	ARG	3.3
1	A	252	CYS	3.2
1	B	130	ILE	3.2
1	B	252	CYS	3.2
1	C	555	GLU	3.2
1	B	292	PHE	3.2
1	A	228	LYS	3.0
1	C	298	VAL	3.0
1	B	153	ASP	3.0
1	B	62	VAL	3.0
1	B	236	LYS	2.9
1	B	76	TRP	2.9
1	B	255	GLY	2.9
1	B	482	HIS	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	323	VAL	2.8
1	B	82	ASP	2.8
1	A	227	GLU	2.7
1	A	82	ASP	2.7
1	C	81	LYS	2.7
1	A	292	PHE	2.7
1	A	393	SER	2.6
1	C	84	PHE	2.6
1	A	447	LEU	2.6
1	B	61	SER	2.6
1	C	268	ALA	2.5
1	A	391	GLY	2.5
1	A	280	VAL	2.5
1	A	294	ALA	2.5
1	A	256	LEU	2.5
1	A	253	SER	2.5
1	B	556	GLN	2.5
1	A	298	VAL	2.5
1	A	145	MET	2.4
1	B	396	GLU	2.4
1	C	554	ARG	2.4
1	C	278	THR	2.4
1	B	386	ALA	2.4
1	A	278	THR	2.3
1	A	85	THR	2.3
1	A	582	ARG	2.3
1	A	459	ILE	2.3
1	B	391	GLY	2.3
1	B	523	ILE	2.3
1	B	493	ALA	2.2
1	B	295	ILE	2.2
1	C	173	HIS	2.2
1	C	317	ALA	2.2
1	B	226	GLY	2.2
1	C	79	GLY	2.2
1	C	229	GLY	2.2
1	B	138	THR	2.2
1	A	287	THR	2.1
1	A	230	ALA	2.1
1	A	78	ILE	2.1
1	C	280	VAL	2.1
1	A	60	TRP	2.0

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Mol	Chain	Res	Type	RSRZ
1	B	146	PHE	2.0
1	B	373	TRP	2.0
1	A	130	ILE	2.0
1	A	448	PRO	2.0

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

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

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q < 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	CHT	C	2486	7/7	0.70	0.46	85,89,97,97	0

6.5 Other polymers [i](#)

There are no such residues in this entry.