



Full wwPDB X-ray Structure Validation Report ⓘ

May 27, 2020 – 12:52 am BST

PDB ID : 3LRB
Title : Structure of E. coli AdiC
Authors : Gao, X.; Lu, F.; Zhou, L.; Shi, Y.
Deposited on : 2010-02-10
Resolution : 3.61 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 following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Xtrriage (Phenix) : 1.13
EDS : 2.11
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

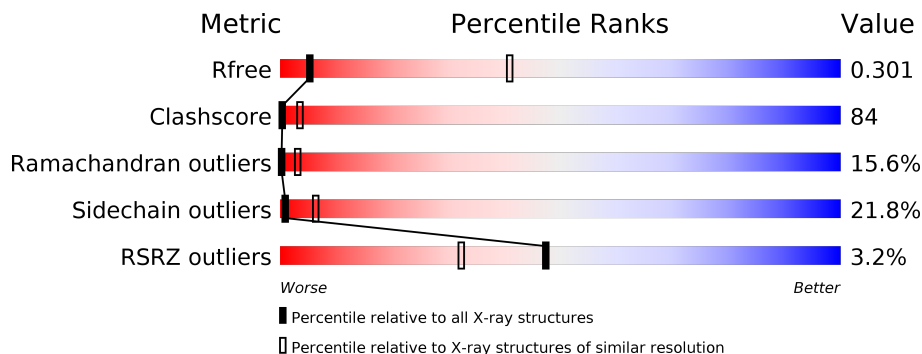
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.61 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	1290 (3.74-3.50)
Clashscore	141614	1387 (3.74-3.50)
Ramachandran outliers	138981	1339 (3.74-3.50)
Sidechain outliers	138945	1339 (3.74-3.50)
RSRZ outliers	127900	1191 (3.74-3.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on 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	445	
1	B	445	

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 6072 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 Arginine/agmatine antiporter.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	410	Total 3036	C 2020	N 481	O 514	S 21	0	0	0
1	B	410	Total 3036	C 2020	N 481	O 514	S 21	0	0	0

PRO	L375	L313	W252	S185	V124	M63
LEU	G376	F314	ALA	G186	L125	S64
ASP	B377	ALA	ALA	L187	T126	D67
ALA	R316	LEU	LEU	G188	I127	P68
PRO	H379	ARG	ARG	T189	C129	S69
ILE	F380	V317	VAL	F190	V130	P70
SER	G381	K319	SER	I193	V131	G71
LYS	A320	ALA	ALA	Q194	V132	G72
ASP	G321	SER	SER	S195	L133	S73
	T322	PRO	PHE	T196	W134	Y74
	P385	P323	GLY	L197	I135	A75
	A386	V324	ASP	M198	F136	Y76
	L388	A325	ALA	V199	V137	A77
	A389	G326	ALA	T200	L138	R78
	V390	L327	ALA	L201	L139	R79
	T391	I328	ARG	L202	N140	F80
	T392	I329	MET	W203	S203	G81
	F395	V330	ALA	S204	I141	G82
	L396	G331	LEU	F204	V142	P83
	Y397	I332	GLY	L205	G143	F84
	C398	L333	ASP	G206	P144	L85
	I399	M334	ASP	V207	K145	G86
	W400	T335	T273	E208	M146	Y87
	A401	I336	A276	S209	I147	Q88
	V402	F337	T277	A210	T148	T89
	V403	Q338	V278	S211	R149	N90
	G404	L339	S279	V212	V150	N91
	S405	I342	F280	A213	Q151	L92
	A406	S343	C281	A214	A154	Y93
	A407	P344	A282	G215	T155	W94
	K408	N345	A283	V216	V156	L96
	E409	A346	G284	V217	L157	A96
	V410	T347	G285	K218	A158	C97
	M411	K348	L287	M219	L159	W98
	W412	E349	G288	P220	I160	I99
	F413	F350	S289	N223	P161	G100
	F414	G351	L290	V224	I162	N101
	V415	L352	G291	P225	V163	I102
	T416	V353	G292	I226	G164	A103
	M418	S354	W293	A227	I165	M104
	V419	S355	T294	T228	A166	V105
	I420	V356	L295	V232	V167	V106
	T421	V357	L296	L233	F168	I107
	A422	V358	A297	L233	G169	G108
	M423	I359	G298	A236	W170	V109
	A425	F360	Q299	V237	F171	G110
	L426	T361	T300	W172	W173	Y111
	N427	L362	A301	C238	F174	L112
	Y428	V363	K302	Y239	R174	S113
	N429	P364	A303	T243	G175	Y114
	R430	Y365	A304	T244	E176	F115
	L431	L366	A305	T245	T177	F116
	H432	V367	D306	A245	Y178	P417
	K433	T368	D307	I246	M179	I118
	N434	A371	G308	W247	A180	L119
	P435	L372	L309	G248	A181	K420
	TYR	L373	F310	R249	W182	D121
		L374	P311	I250	M183	P422
			P312	P251	V184	L123

4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	92.81Å 108.30Å 138.11Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.32 – 3.61 49.32 – 3.61	Depositor EDS
% Data completeness (in resolution range)	99.6 (49.32-3.61) 99.8 (49.32-3.61)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.50 (at 3.57Å)	Xtrriage
Refinement program	PHENIX (phenix.refine)	Depositor
R, R_{free}	0.295 , 0.318 0.275 , 0.301	Depositor DCC
R_{free} test set	876 reflections (5.29%)	wwPDB-VP
Wilson B-factor (Å ²)	152.4	Xtrriage
Anisotropy	0.452	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.25 , 132.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	6072	wwPDB-VP
Average B, all atoms (Å ²)	188.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.85% 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](#)

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	0.48	0/3115	0.74	2/4264 (0.0%)
1	B	0.48	0/3115	0.74	2/4264 (0.0%)
All	All	0.48	0/6230	0.74	4/8528 (0.0%)

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
1	A	0	3
1	B	0	3
All	All	0	6

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	A	311	PRO	C-N-CD	-6.25	106.85	120.60
1	B	311	PRO	C-N-CD	-5.78	107.89	120.60
1	A	432	HIS	N-CA-C	5.72	126.45	111.00
1	B	432	HIS	N-CA-C	5.38	125.52	111.00

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	116	PHE	Peptide
1	A	377	HIS	Peptide
1	A	424	TYR	Peptide
1	B	116	PHE	Peptide
1	B	377	HIS	Peptide

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Mol	Chain	Res	Type	Group
1	B	424	TYR	Peptide

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	3036	0	3141	537	0
1	B	3036	0	3141	538	0
All	All	6072	0	6282	1040	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 84.

All (1040) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:315:ALA:HB1	1:A:316:ARG:HA	1.19	1.16
1:A:430:ARG:HG2	1:B:374:LEU:HD23	1.28	1.15
1:B:38:THR:HB	1:B:39:GLY:HA3	1.18	1.14
1:B:315:ALA:HB1	1:B:316:ARG:HA	1.15	1.14
1:A:38:THR:HB	1:A:39:GLY:HA3	1.19	1.12
1:B:342:ILE:HB	1:B:343:SER:HB2	1.37	1.06
1:B:425:ALA:HA	1:B:428:TYR:CZ	1.90	1.05
1:A:105:VAL:HB	1:A:129:CYS:SG	1.97	1.03
1:A:425:ALA:HA	1:A:428:TYR:CZ	1.91	1.03
1:A:374:LEU:HD23	1:B:430:ARG:HG2	1.36	1.02
1:A:342:ILE:HB	1:A:343:SER:HB2	1.38	1.02
1:B:105:VAL:HB	1:B:129:CYS:SG	2.00	1.00
1:B:327:LEU:H	1:B:327:LEU:HD12	1.27	0.99
1:A:327:LEU:HD12	1:A:327:LEU:H	1.27	0.99
1:A:173:PHE:HA	1:A:174:ARG:HB2	1.44	0.98
1:B:173:PHE:HA	1:B:174:ARG:HB2	1.44	0.98
1:A:164:GLY:O	1:A:168:PHE:HB2	1.62	0.98
1:B:38:THR:CB	1:B:39:GLY:HA3	1.93	0.97
1:B:164:GLY:O	1:B:168:PHE:HB2	1.64	0.96
1:A:116:PHE:O	1:A:118:ILE:HG22	1.67	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:38:THR:CB	1:A:39:GLY:HA3	1.94	0.94
1:B:91:VAL:O	1:B:95:LEU:HB2	1.67	0.93
1:A:424:TYR:HD1	1:A:430:ARG:NH2	1.66	0.93
1:A:107:ILE:HG23	1:A:111:TYR:HE1	1.34	0.92
1:B:210:ALA:HB3	1:B:228:THR:HG22	1.49	0.92
1:A:422:ALA:HA	1:B:395:PHE:CE1	2.04	0.92
1:B:79:ARG:HB2	1:B:375:LEU:HD11	1.51	0.92
1:A:24:MET:HB3	1:A:25:GLY:HA2	1.52	0.91
1:A:91:VAL:O	1:A:95:LEU:HB2	1.69	0.91
1:A:210:ALA:HB3	1:A:228:THR:HG22	1.49	0.91
1:B:116:PHE:O	1:B:118:ILE:HG22	1.70	0.91
1:B:424:TYR:HD1	1:B:430:ARG:NH2	1.67	0.91
1:A:93:TYR:HD2	1:A:300:THR:HG21	1.33	0.91
1:A:428:TYR:OH	1:B:373:LEU:HD13	1.71	0.90
1:B:302:LYS:HG3	1:B:314:PHE:HB2	1.50	0.90
1:B:346:ALA:HB3	1:B:351:GLY:HA2	1.51	0.90
1:B:102:ILE:HD13	1:B:337:PHE:HD2	1.37	0.90
1:B:24:MET:HB3	1:B:25:GLY:HA2	1.54	0.90
1:B:107:ILE:HG23	1:B:111:TYR:HE1	1.36	0.89
1:B:10:VAL:HG12	1:B:11:GLY:H	1.36	0.89
1:A:10:VAL:HG12	1:A:11:GLY:H	1.37	0.88
1:A:302:LYS:HG3	1:A:314:PHE:HB2	1.54	0.88
1:B:342:ILE:CB	1:B:343:SER:HB2	2.03	0.88
1:A:16:THR:HG22	1:A:227:ALA:HA	1.53	0.88
1:A:342:ILE:CB	1:A:343:SER:HB2	2.04	0.87
1:B:93:TYR:HD2	1:B:300:THR:HG21	1.37	0.87
1:A:384:ARG:HE	1:A:388:LEU:HD12	1.39	0.87
1:B:16:THR:HG22	1:B:227:ALA:HA	1.55	0.87
1:A:374:LEU:O	1:A:375:LEU:HD23	1.74	0.87
1:A:346:ALA:HB3	1:A:351:GLY:HA2	1.53	0.86
1:A:315:ALA:CB	1:A:316:ARG:HA	2.05	0.86
1:A:102:ILE:HD13	1:A:337:PHE:HD2	1.38	0.86
1:A:57:SER:HB2	1:A:232:VAL:HG21	1.58	0.85
1:B:374:LEU:O	1:B:375:LEU:HD23	1.76	0.85
1:B:315:ALA:CB	1:B:316:ARG:HA	2.01	0.85
1:A:425:ALA:HA	1:A:428:TYR:CE1	2.11	0.85
1:A:424:TYR:CD1	1:A:430:ARG:NH2	2.45	0.85
1:B:384:ARG:HE	1:B:388:LEU:HD12	1.41	0.85
1:A:28:VAL:HG11	1:A:162:ILE:HD11	1.56	0.85
1:B:315:ALA:HB1	1:B:316:ARG:CA	2.03	0.85
1:B:425:ALA:HA	1:B:428:TYR:CE1	2.12	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:428:TYR:O	1:A:429:ASN:ND2	2.10	0.85
1:A:313:ILE:HG22	1:A:314:PHE:H	1.40	0.84
1:A:79:ARG:HB2	1:A:375:LEU:HD11	1.57	0.84
1:B:330:VAL:O	1:B:334:MET:HB2	1.77	0.84
1:A:118:ILE:HA	1:A:119:LEU:O	1.78	0.84
1:A:228:THR:O	1:A:232:VAL:HG23	1.78	0.84
1:B:22:ASN:HB3	1:B:293:TRP:NE1	1.93	0.83
1:A:139:LEU:HD13	1:A:150:VAL:HG21	1.59	0.83
1:B:139:LEU:HD13	1:B:150:VAL:HG21	1.59	0.83
1:B:290:LEU:O	1:B:294:THR:HG23	1.79	0.83
1:A:315:ALA:HB1	1:A:316:ARG:CA	2.07	0.83
1:B:228:THR:O	1:B:232:VAL:HG23	1.79	0.83
1:A:160:ILE:HB	1:A:161:PRO:HD3	1.61	0.82
1:B:342:ILE:HB	1:B:343:SER:CB	2.09	0.82
1:A:330:VAL:O	1:A:334:MET:HB2	1.79	0.82
1:A:138:LEU:HA	1:A:141:ILE:HG13	1.59	0.82
1:B:160:ILE:HB	1:B:161:PRO:HD3	1.62	0.82
1:A:342:ILE:HB	1:A:343:SER:CB	2.09	0.82
1:B:424:TYR:CD1	1:B:430:ARG:NH2	2.48	0.82
1:A:290:LEU:O	1:A:294:THR:HG23	1.79	0.82
1:B:138:LEU:HA	1:B:141:ILE:HG13	1.60	0.82
1:B:28:VAL:HG11	1:B:162:ILE:HD11	1.62	0.81
1:B:104:MET:HE3	1:B:286:CYS:SG	2.21	0.81
1:A:118:ILE:HA	1:A:119:LEU:C	2.01	0.81
1:A:19:VAL:O	1:A:23:ILE:HD13	1.81	0.81
1:A:102:ILE:HD13	1:A:337:PHE:CD2	2.16	0.81
1:A:130:VAL:HG21	1:A:339:LEU:HD23	1.61	0.81
1:B:57:SER:HB2	1:B:232:VAL:HG21	1.62	0.81
1:B:44:TYR:HD2	1:B:193:ILE:HD11	1.46	0.81
1:B:130:VAL:HG21	1:B:339:LEU:HD23	1.62	0.80
1:A:41:ILE:HG13	1:A:43:ILE:HG13	1.64	0.80
1:B:102:ILE:HD13	1:B:337:PHE:CD2	2.17	0.79
1:B:311:PRO:HD3	1:B:426:LEU:HD21	1.64	0.79
1:B:41:ILE:HG13	1:B:43:ILE:HG13	1.65	0.79
1:A:104:MET:HE3	1:A:286:CYS:SG	2.22	0.79
1:B:67:ASP:CG	1:B:79:ARG:HH12	1.86	0.79
1:A:219:ASN:H	1:A:223:ASN:HD22	1.31	0.79
1:A:22:ASN:HB3	1:A:293:TRP:NE1	1.98	0.79
1:B:313:ILE:HG22	1:B:314:PHE:H	1.46	0.79
1:A:327:LEU:HD12	1:A:327:LEU:N	1.98	0.79
1:B:118:ILE:HA	1:B:119:LEU:C	2.03	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:118:ILE:HA	1:B:119:LEU:O	1.81	0.79
1:B:10:VAL:HG12	1:B:11:GLY:N	1.97	0.78
1:B:428:TYR:O	1:B:429:ASN:ND2	2.16	0.78
1:B:327:LEU:N	1:B:327:LEU:HD12	1.98	0.78
1:B:219:ASN:H	1:B:223:ASN:HD22	1.30	0.78
1:B:323:PRO:HD2	1:B:327:LEU:HD11	1.64	0.78
1:B:372:LEU:O	1:B:372:LEU:HG	1.83	0.78
1:A:207:VAL:HG12	1:A:232:VAL:HG22	1.65	0.77
1:B:312:PRO:HA	1:B:313:ILE:HB	1.64	0.77
1:A:312:PRO:HA	1:A:313:ILE:HB	1.66	0.77
1:B:121:ASP:HB2	1:B:122:PRO:HD3	1.67	0.77
1:A:86:GLY:O	1:A:89:THR:HG22	1.84	0.77
1:A:313:ILE:O	1:A:315:ALA:HB3	1.85	0.76
1:A:107:ILE:HG23	1:A:111:TYR:CE1	2.20	0.76
1:A:126:THR:HG21	1:A:342:ILE:HG23	1.66	0.76
1:A:323:PRO:HD2	1:A:327:LEU:HD11	1.66	0.76
1:A:311:PRO:HD3	1:A:426:LEU:HD21	1.65	0.76
1:A:374:LEU:HD12	1:A:374:LEU:H	1.51	0.76
1:B:126:THR:HG21	1:B:342:ILE:HG23	1.65	0.76
1:A:430:ARG:HG2	1:B:374:LEU:CD2	2.14	0.76
1:A:32:PRO:HG3	1:A:243:THR:HG22	1.68	0.76
1:B:72:GLY:H	1:B:212:VAL:HA	1.50	0.76
1:A:10:VAL:HG12	1:A:11:GLY:N	2.00	0.75
1:A:140:ASN:HB3	1:A:327:LEU:CD2	2.16	0.75
1:A:44:TYR:HD2	1:A:193:ILE:HD11	1.50	0.75
1:A:67:ASP:CG	1:A:79:ARG:HH12	1.89	0.75
1:B:19:VAL:O	1:B:23:ILE:HD13	1.87	0.75
1:A:395:PHE:CE1	1:B:422:ALA:HA	2.21	0.75
1:A:314:PHE:HA	1:A:315:ALA:C	2.07	0.75
1:A:302:LYS:N	1:A:302:LYS:HD3	2.01	0.75
1:A:219:ASN:HD22	1:A:223:ASN:ND2	1.85	0.74
1:B:140:ASN:HB3	1:B:327:LEU:CD2	2.17	0.74
1:B:376:GLY:HA3	1:B:379:HIS:CD2	2.22	0.74
1:B:44:TYR:CD2	1:B:193:ILE:HD11	2.22	0.74
1:B:64:SER:O	1:B:68:PRO:HG3	1.88	0.74
1:B:374:LEU:HD12	1:B:374:LEU:H	1.52	0.74
1:B:313:ILE:O	1:B:315:ALA:HB3	1.87	0.74
1:B:207:VAL:HG12	1:B:232:VAL:HG22	1.68	0.74
1:B:219:ASN:HD22	1:B:223:ASN:ND2	1.85	0.73
1:B:379:HIS:C	1:B:381:GLY:H	1.91	0.73
1:A:376:GLY:HA3	1:A:379:HIS:CD2	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:342:ILE:CA	1:B:343:SER:HB2	2.18	0.73
1:B:22:ASN:HB3	1:B:293:TRP:HE1	1.53	0.73
1:B:32:PRO:HG3	1:B:243:THR:HG22	1.70	0.73
1:A:72:GLY:H	1:A:212:VAL:HA	1.53	0.73
1:A:372:LEU:HG	1:A:372:LEU:O	1.88	0.73
1:B:107:ILE:HG23	1:B:111:TYR:CE1	2.22	0.72
1:A:302:LYS:HD3	1:A:302:LYS:H	1.54	0.72
1:A:50:ILE:HD13	1:A:236:ALA:HB1	1.71	0.72
1:A:209:SER:HB3	1:A:296:LEU:HD11	1.71	0.72
1:A:342:ILE:CA	1:A:343:SER:HB2	2.18	0.72
1:A:121:ASP:HB2	1:A:122:PRO:HD3	1.71	0.72
1:A:102:ILE:HD13	1:A:337:PHE:HB3	1.72	0.72
1:A:184:VAL:HG12	1:A:185:SER:H	1.54	0.72
1:A:379:HIS:C	1:A:381:GLY:H	1.93	0.72
1:A:44:TYR:CD2	1:A:193:ILE:HD11	2.24	0.72
1:B:302:LYS:N	1:B:302:LYS:HD3	2.03	0.72
1:B:72:GLY:N	1:B:212:VAL:HA	2.05	0.71
1:B:184:VAL:HG12	1:B:185:SER:H	1.56	0.71
1:B:302:LYS:H	1:B:302:LYS:HD3	1.56	0.71
1:A:105:VAL:HG13	1:A:290:LEU:HD11	1.72	0.71
1:A:64:SER:O	1:A:68:PRO:HG3	1.90	0.70
1:B:23:ILE:HD11	1:B:206:GLY:C	2.12	0.70
1:A:424:TYR:HD1	1:A:430:ARG:HH21	1.39	0.70
1:B:38:THR:HB	1:B:39:GLY:CA	2.11	0.70
1:B:90:ASN:OD1	1:B:300:THR:O	2.08	0.70
1:A:428:TYR:HE2	1:B:388:LEU:HD21	1.56	0.70
1:B:209:SER:HB3	1:B:296:LEU:HD11	1.74	0.70
1:A:310:PHE:HB3	1:A:311:PRO:O	1.92	0.70
1:B:335:THR:O	1:B:338:GLN:N	2.25	0.70
1:B:424:TYR:HD1	1:B:430:ARG:HH21	1.38	0.69
1:B:104:MET:O	1:B:104:MET:HE2	1.93	0.69
1:B:86:GLY:O	1:B:89:THR:HG22	1.92	0.69
1:B:305:ALA:HB1	1:B:312:PRO:HB3	1.74	0.69
1:B:327:LEU:H	1:B:327:LEU:CD1	2.04	0.69
1:B:38:THR:CB	1:B:39:GLY:CA	2.70	0.69
1:A:388:LEU:HD21	1:B:428:TYR:HE2	1.58	0.69
1:A:101:ASN:O	1:A:104:MET:N	2.26	0.69
1:A:22:ASN:HB3	1:A:293:TRP:HE1	1.57	0.69
1:B:34:ASN:HB3	1:B:199:VAL:HG11	1.75	0.69
1:A:72:GLY:N	1:A:212:VAL:HA	2.08	0.69
1:A:250:ILE:H	1:A:251:PRO:HD2	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:327:LEU:CD1	1:A:327:LEU:H	2.04	0.68
1:A:344:PRO:HA	1:A:347:THR:HG22	1.75	0.68
1:B:138:LEU:O	1:B:142:VAL:HG23	1.94	0.68
1:B:314:PHE:HA	1:B:315:ALA:C	2.11	0.68
1:B:347:THR:O	1:B:348:LYS:HG3	1.94	0.68
1:A:428:TYR:CZ	1:B:373:LEU:HD13	2.28	0.68
1:B:139:LEU:HD22	1:B:146:MET:HE1	1.75	0.68
1:B:323:PRO:HD2	1:B:327:LEU:CD1	2.23	0.68
1:B:102:ILE:HD13	1:B:337:PHE:HB3	1.76	0.68
1:A:34:ASN:HB3	1:A:199:VAL:HG11	1.74	0.68
1:A:250:ILE:H	1:A:251:PRO:CD	2.07	0.68
1:B:379:HIS:HD1	1:B:387:TYR:HD2	1.41	0.68
1:A:374:LEU:CD2	1:B:430:ARG:HG2	2.19	0.68
1:A:143:GLY:HA2	1:A:146:MET:H	1.57	0.68
1:B:93:TYR:CD2	1:B:300:THR:HG21	2.26	0.68
1:B:81:PHE:HB3	1:B:82:GLY:HA2	1.74	0.68
1:B:205:ILE:HD11	1:B:358:VAL:HG13	1.75	0.68
1:B:72:GLY:C	1:B:74:TYR:H	1.97	0.68
1:A:300:THR:HG22	1:A:300:THR:O	1.93	0.67
1:B:250:ILE:H	1:B:251:PRO:HD2	1.59	0.67
1:A:44:TYR:HB2	1:A:193:ILE:HD11	1.77	0.67
1:B:250:ILE:H	1:B:251:PRO:CD	2.08	0.67
1:B:379:HIS:ND1	1:B:387:TYR:HD2	1.93	0.67
1:B:120:LYS:HE3	1:B:120:LYS:HA	1.76	0.67
1:B:144:PRO:HB2	1:B:216:VAL:HG11	1.77	0.67
1:A:178:TYR:HD2	1:A:247:MET:HA	1.59	0.67
1:A:95:LEU:HD23	1:A:95:LEU:O	1.95	0.67
1:B:424:TYR:N	1:B:424:TYR:HD2	1.93	0.67
1:B:50:ILE:HD13	1:B:236:ALA:HB1	1.76	0.67
1:A:90:ASN:OD1	1:A:300:THR:O	2.12	0.66
1:A:424:TYR:CD2	1:A:424:TYR:N	2.63	0.66
1:B:105:VAL:HG13	1:B:290:LEU:HD11	1.76	0.66
1:A:104:MET:HE2	1:A:104:MET:O	1.95	0.66
1:A:93:TYR:CD2	1:A:300:THR:HG21	2.23	0.66
1:B:41:ILE:O	1:B:183:ASN:HA	1.96	0.66
1:B:424:TYR:N	1:B:424:TYR:CD2	2.64	0.66
1:A:347:THR:O	1:A:348:LYS:HG3	1.94	0.66
1:A:78:ARG:HA	1:A:82:GLY:HA3	1.77	0.66
1:B:69:SER:OG	1:B:70:PRO:HA	1.95	0.66
1:A:342:ILE:N	1:A:343:SER:HB2	2.10	0.66
1:A:84:PHE:HZ	1:A:421:THR:HG1	1.41	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:83:PRO:HB3	1:B:430:ARG:NH1	2.11	0.66
1:A:72:GLY:C	1:A:74:TYR:H	1.98	0.66
1:B:126:THR:CG2	1:B:342:ILE:HG23	2.25	0.66
1:B:300:THR:O	1:B:300:THR:HG22	1.95	0.66
1:B:81:PHE:HB3	1:B:82:GLY:CA	2.26	0.66
1:A:23:ILE:HD11	1:A:206:GLY:C	2.16	0.66
1:B:325:ALA:O	1:B:329:ILE:HG13	1.95	0.66
1:A:379:HIS:ND1	1:A:387:TYR:HD2	1.94	0.66
1:A:81:PHE:HB3	1:A:82:GLY:HA2	1.77	0.65
1:B:105:VAL:HG21	1:B:133:LEU:HD21	1.78	0.65
1:A:128:THR:O	1:A:132:VAL:HG23	1.96	0.65
1:A:126:THR:CG2	1:A:342:ILE:HG23	2.25	0.65
1:A:311:PRO:CD	1:A:426:LEU:HD21	2.26	0.65
1:A:98:TRP:CD1	1:A:98:TRP:C	2.69	0.65
1:B:178:TYR:HD2	1:B:247:MET:HA	1.58	0.65
1:A:120:LYS:HE3	1:A:120:LYS:HA	1.78	0.65
1:A:8:HIS:HA	1:A:145:LYS:HD2	1.78	0.65
1:A:305:ALA:HB1	1:A:312:PRO:HB3	1.77	0.65
1:A:373:LEU:HD13	1:B:428:TYR:OH	1.95	0.65
1:B:312:PRO:HA	1:B:313:ILE:CB	2.27	0.65
1:B:128:THR:O	1:B:132:VAL:HG23	1.96	0.65
1:B:143:GLY:HA2	1:B:146:MET:H	1.61	0.65
1:B:342:ILE:N	1:B:343:SER:HB2	2.10	0.65
1:A:144:PRO:HB2	1:A:216:VAL:HG11	1.78	0.65
1:A:38:THR:CB	1:A:39:GLY:CA	2.71	0.65
1:B:344:PRO:HA	1:B:347:THR:HG22	1.78	0.65
1:A:41:ILE:O	1:A:183:ASN:HA	1.97	0.65
1:B:72:GLY:O	1:B:74:TYR:N	2.30	0.65
1:B:95:LEU:O	1:B:95:LEU:HD23	1.97	0.65
1:A:105:VAL:HG21	1:A:133:LEU:HD21	1.78	0.65
1:A:19:VAL:HG11	1:A:228:THR:HA	1.77	0.65
1:A:69:SER:OG	1:A:70:PRO:HA	1.97	0.64
1:A:249:MET:SD	1:A:251:PRO:HD2	2.37	0.64
1:A:97:CYS:HB2	1:A:297:ALA:HB2	1.79	0.64
1:A:323:PRO:HD2	1:A:327:LEU:CD1	2.27	0.64
1:A:424:TYR:HD2	1:A:424:TYR:N	1.95	0.64
1:A:59:VAL:HG22	1:A:391:THR:HG22	1.79	0.64
1:A:325:ALA:O	1:A:329:ILE:HG13	1.98	0.64
1:A:312:PRO:HA	1:A:313:ILE:CB	2.27	0.63
1:B:140:ASN:ND2	1:B:147:ILE:HG12	2.12	0.63
1:B:19:VAL:HG11	1:B:228:THR:HA	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:207:VAL:HG12	1:A:232:VAL:CG2	2.27	0.63
1:A:430:ARG:HG3	1:A:431:LEU:H	1.63	0.63
1:B:311:PRO:CD	1:B:426:LEU:HD21	2.26	0.63
1:A:298:GLY:HA2	1:A:302:LYS:HE2	1.79	0.63
1:B:78:ARG:HA	1:B:82:GLY:HA3	1.78	0.63
1:B:207:VAL:HG12	1:B:232:VAL:CG2	2.29	0.63
1:B:302:LYS:CG	1:B:314:PHE:HB2	2.27	0.63
1:B:97:CYS:HB2	1:B:297:ALA:HB2	1.81	0.63
1:A:371:ALA:C	1:A:373:LEU:H	2.02	0.63
1:B:101:ASN:O	1:B:104:MET:N	2.30	0.63
1:A:84:PHE:CD1	1:B:85:LEU:HD11	2.34	0.63
1:B:133:LEU:HD11	1:B:338:GLN:HG3	1.81	0.63
1:B:376:GLY:HA3	1:B:379:HIS:HD2	1.62	0.63
1:A:81:PHE:HB3	1:A:82:GLY:CA	2.29	0.62
1:B:372:LEU:CG	1:B:372:LEU:O	2.47	0.62
1:B:120:LYS:CA	1:B:120:LYS:HE3	2.29	0.62
1:B:59:VAL:HG22	1:B:391:THR:HG22	1.82	0.62
1:A:310:PHE:HB3	1:A:311:PRO:C	2.20	0.62
1:A:376:GLY:HA3	1:A:379:HIS:HD2	1.62	0.62
1:B:173:PHE:CA	1:B:174:ARG:HB2	2.25	0.62
1:B:301:ALA:HB1	1:B:310:PHE:HE1	1.65	0.62
1:A:306:ASP:O	1:A:308:GLY:N	2.33	0.62
1:B:249:MET:SD	1:B:251:PRO:HD2	2.38	0.62
1:B:98:TRP:CD1	1:B:98:TRP:C	2.72	0.62
1:A:173:PHE:CA	1:A:174:ARG:HB2	2.25	0.62
1:B:44:TYR:HB2	1:B:193:ILE:HD11	1.81	0.62
1:B:306:ASP:O	1:B:308:GLY:N	2.33	0.62
1:B:379:HIS:CE1	1:B:387:TYR:CD2	2.88	0.61
1:B:50:ILE:O	1:B:54:LEU:HB2	2.00	0.61
1:B:8:HIS:HA	1:B:145:LYS:HD2	1.81	0.61
1:A:24:MET:HB3	1:A:25:GLY:CA	2.29	0.61
1:A:379:HIS:CE1	1:A:387:TYR:CD2	2.88	0.61
1:A:114:TYR:CD1	1:A:118:ILE:HG12	2.35	0.61
1:A:173:PHE:HA	1:A:174:ARG:CB	2.18	0.61
1:B:430:ARG:HG3	1:B:431:LEU:H	1.64	0.61
1:A:205:ILE:HD11	1:A:358:VAL:HG13	1.83	0.61
1:A:50:ILE:O	1:A:54:LEU:HB2	2.01	0.61
1:A:72:GLY:O	1:A:74:TYR:N	2.34	0.61
1:A:139:LEU:HD22	1:A:146:MET:HE1	1.83	0.60
1:B:298:GLY:HA2	1:B:302:LYS:HE2	1.81	0.60
1:B:24:MET:HB3	1:B:25:GLY:CA	2.30	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:371:ALA:C	1:B:373:LEU:H	2.03	0.60
1:A:140:ASN:ND2	1:A:147:ILE:HG12	2.16	0.60
1:B:142:VAL:CG1	1:B:146:MET:HG3	2.31	0.60
1:B:280:PHE:C	1:B:282:ALA:H	2.04	0.60
1:B:71:GLY:O	1:B:212:VAL:HG13	2.01	0.60
1:A:301:ALA:HB1	1:A:310:PHE:HE1	1.66	0.60
1:A:422:ALA:HA	1:B:395:PHE:CD1	2.37	0.60
1:B:310:PHE:HB3	1:B:311:PRO:O	2.01	0.60
1:A:406:GLY:HA3	1:A:409:GLU:OE1	2.02	0.60
1:B:19:VAL:HG21	1:B:210:ALA:HB2	1.84	0.60
1:B:427:ASN:O	1:B:429:ASN:N	2.30	0.60
1:B:314:PHE:N	1:B:314:PHE:CD2	2.67	0.60
1:B:406:GLY:HA3	1:B:409:GLU:OE1	2.00	0.60
1:B:173:PHE:HA	1:B:174:ARG:CB	2.18	0.60
1:B:376:GLY:O	1:B:377:HIS:C	2.40	0.59
1:B:94:TRP:CZ3	1:B:98:TRP:HZ3	2.18	0.59
1:B:99:ILE:HG21	1:B:357:SER:HB3	1.82	0.59
1:A:142:VAL:CG1	1:A:146:MET:HG3	2.31	0.59
1:A:376:GLY:O	1:A:377:HIS:C	2.39	0.59
1:A:138:LEU:O	1:A:142:VAL:HG23	2.02	0.59
1:A:78:ARG:HA	1:A:82:GLY:CA	2.32	0.59
1:B:310:PHE:HB3	1:B:311:PRO:C	2.22	0.59
1:A:120:LYS:HE3	1:A:120:LYS:CA	2.32	0.59
1:B:139:LEU:HD22	1:B:146:MET:CE	2.32	0.59
1:A:19:VAL:HG21	1:A:210:ALA:HB2	1.85	0.59
1:B:204:PHE:HE1	1:B:232:VAL:HG13	1.67	0.59
1:B:114:TYR:CD1	1:B:118:ILE:HG12	2.37	0.59
1:A:105:VAL:HG13	1:A:290:LEU:CD1	2.33	0.59
1:A:335:THR:O	1:A:338:GLN:N	2.35	0.59
1:A:94:TRP:CZ3	1:A:98:TRP:HZ3	2.21	0.59
1:B:15:VAL:HG21	1:B:217:VAL:HG13	1.85	0.59
1:B:118:ILE:O	1:B:118:ILE:HG13	2.03	0.59
1:A:280:PHE:C	1:A:282:ALA:H	2.06	0.59
1:A:72:GLY:C	1:A:74:TYR:N	2.57	0.58
1:A:83:PRO:HB3	1:A:430:ARG:NH1	2.17	0.58
1:A:355:SER:O	1:A:358:VAL:HB	2.03	0.58
1:B:286:CYS:HA	1:B:289:SER:HB3	1.85	0.58
1:A:139:LEU:CD1	1:A:150:VAL:HG21	2.31	0.58
1:A:133:LEU:HD11	1:A:338:GLN:HG3	1.85	0.58
1:B:113:SER:O	1:B:118:ILE:HB	2.02	0.58
1:B:79:ARG:CB	1:B:375:LEU:HD11	2.29	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:15:VAL:HG21	1:A:217:VAL:HG13	1.85	0.58
1:B:78:ARG:HA	1:B:82:GLY:CA	2.32	0.58
1:B:96:ALA:HB1	1:B:357:SER:O	2.04	0.58
1:A:314:PHE:HA	1:A:315:ALA:O	2.03	0.58
1:B:379:HIS:CE1	1:B:387:TYR:HD2	2.21	0.58
1:B:360:PHE:CE1	1:B:416:THR:HG21	2.39	0.58
1:B:81:PHE:HB2	1:B:85:LEU:HB2	1.85	0.58
1:B:411:MET:HG3	1:B:412:TRP:N	2.19	0.58
1:A:125:LEU:O	1:A:125:LEU:HD23	2.03	0.58
1:A:96:ALA:HB1	1:A:357:SER:O	2.04	0.58
1:A:85:LEU:HD11	1:B:84:PHE:CD1	2.39	0.58
1:A:302:LYS:CG	1:A:314:PHE:HB2	2.33	0.57
1:A:38:THR:HB	1:A:39:GLY:CA	2.12	0.57
1:B:139:LEU:CD1	1:B:150:VAL:HG21	2.32	0.57
1:A:286:CYS:HA	1:A:289:SER:HB3	1.87	0.57
1:B:116:PHE:O	1:B:117:PRO:C	2.42	0.57
1:B:137:VAL:O	1:B:141:ILE:HG12	2.03	0.57
1:B:105:VAL:HG13	1:B:290:LEU:CD1	2.35	0.57
1:A:411:MET:HA	1:B:410:VAL:HG12	1.87	0.57
1:B:379:HIS:C	1:B:381:GLY:N	2.58	0.57
1:B:120:LYS:CE	1:B:120:LYS:HA	2.34	0.57
1:B:72:GLY:C	1:B:74:TYR:N	2.57	0.57
1:A:133:LEU:HD13	1:A:334:MET:HG2	1.87	0.57
1:B:384:ARG:O	1:B:386:ALA:N	2.38	0.57
1:A:379:HIS:CE1	1:A:387:TYR:HD2	2.22	0.57
1:A:165:ILE:HA	1:A:169:GLY:H	1.70	0.56
1:A:212:VAL:HG11	1:A:296:LEU:HB3	1.87	0.56
1:A:113:SER:O	1:A:118:ILE:HB	2.05	0.56
1:A:384:ARG:O	1:A:386:ALA:N	2.38	0.56
1:A:48:VAL:HG11	1:A:197:LEU:HD11	1.87	0.56
1:A:414:PHE:HD1	1:B:414:PHE:HD1	1.53	0.56
1:A:102:ILE:CD1	1:A:337:PHE:HD2	2.13	0.56
1:B:48:VAL:HG11	1:B:197:LEU:HD11	1.86	0.56
1:A:386:ALA:O	1:A:389:ALA:HB3	2.06	0.56
1:B:342:ILE:CB	1:B:343:SER:CB	2.78	0.56
1:B:22:ASN:HB3	1:B:293:TRP:CD1	2.39	0.56
1:A:114:TYR:O	1:A:115:PHE:HB2	2.06	0.56
1:A:118:ILE:HD12	1:A:119:LEU:N	2.20	0.56
1:A:372:LEU:O	1:A:372:LEU:CG	2.53	0.56
1:A:118:ILE:HG13	1:A:118:ILE:O	2.06	0.56
1:A:99:ILE:HG21	1:A:357:SER:HB3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:12:LEU:O	1:B:16:THR:HG23	2.06	0.56
1:B:373:LEU:HD11	1:B:391:THR:OG1	2.05	0.56
1:B:94:TRP:CZ3	1:B:98:TRP:CZ3	2.92	0.56
1:A:44:TYR:O	1:A:47:LEU:N	2.39	0.56
1:A:78:ARG:CA	1:A:82:GLY:HA3	2.36	0.56
1:B:165:ILE:HA	1:B:169:GLY:H	1.71	0.56
1:A:120:LYS:HA	1:A:120:LYS:CE	2.35	0.55
1:B:216:VAL:HG23	1:B:299:GLN:NE2	2.22	0.55
1:A:105:VAL:CG2	1:A:133:LEU:HD21	2.37	0.55
1:A:216:VAL:O	1:A:216:VAL:HG12	2.06	0.55
1:A:351:GLY:C	1:A:353:VAL:H	2.10	0.55
1:A:54:LEU:HD11	1:A:233:LEU:HD23	1.88	0.55
1:B:102:ILE:CD1	1:B:337:PHE:HD2	2.14	0.55
1:B:44:TYR:O	1:B:47:LEU:N	2.39	0.55
1:A:216:VAL:HG23	1:A:299:GLN:NE2	2.22	0.55
1:A:302:LYS:HA	1:A:314:PHE:O	2.06	0.55
1:A:306:ASP:O	1:A:307:ASP:C	2.45	0.55
1:A:316:ARG:C	1:A:317:VAL:HG23	2.27	0.55
1:A:116:PHE:O	1:A:117:PRO:C	2.42	0.55
1:A:379:HIS:C	1:A:381:GLY:N	2.59	0.55
1:B:83:PRO:HB3	1:B:430:ARG:HH11	1.71	0.55
1:B:181:ALA:O	1:B:182:TRP:O	2.25	0.55
1:B:317:VAL:HG13	1:B:322:THR:O	2.07	0.55
1:A:81:PHE:CZ	1:B:81:PHE:HA	2.42	0.55
1:B:82:GLY:N	1:B:83:PRO:HD2	2.22	0.55
1:A:137:VAL:O	1:A:141:ILE:HG12	2.06	0.55
1:A:181:ALA:O	1:A:182:TRP:O	2.24	0.55
1:A:280:PHE:CD2	1:A:281:CYS:N	2.75	0.55
1:B:45:GLY:HA3	1:B:196:THR:OG1	2.06	0.55
1:B:355:SER:O	1:B:358:VAL:HB	2.06	0.55
1:B:205:ILE:CD1	1:B:358:VAL:HG13	2.36	0.55
1:B:386:ALA:O	1:B:389:ALA:HB3	2.06	0.55
1:B:97:CYS:HB3	1:B:293:TRP:HE3	1.71	0.55
1:A:119:LEU:HD13	1:A:124:VAL:HG21	1.88	0.55
1:A:78:ARG:O	1:A:82:GLY:HA3	2.07	0.55
1:B:302:LYS:HA	1:B:314:PHE:O	2.07	0.55
1:B:408:LYS:HD2	1:B:408:LYS:H	1.72	0.55
1:B:140:ASN:OD1	1:B:147:ILE:HG21	2.07	0.55
1:B:236:ALA:O	1:B:239:TYR:HB2	2.07	0.55
1:B:78:ARG:CA	1:B:82:GLY:HA3	2.36	0.55
1:B:81:PHE:CD2	1:B:81:PHE:C	2.80	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:129:CYS:SG	1:A:338:GLN:NE2	2.80	0.55
1:A:314:PHE:CD2	1:A:314:PHE:N	2.74	0.55
1:A:410:VAL:HG12	1:B:411:MET:HA	1.89	0.55
1:A:81:PHE:HB2	1:A:85:LEU:HB2	1.87	0.55
1:B:306:ASP:O	1:B:307:ASP:C	2.44	0.54
1:B:54:LEU:HD11	1:B:233:LEU:HD23	1.89	0.54
1:A:11:GLY:O	1:A:15:VAL:HG23	2.07	0.54
1:A:360:PHE:CE1	1:A:416:THR:HG21	2.42	0.54
1:A:76:TYR:HH	1:A:211:SER:HG	1.53	0.54
1:B:177:THR:O	1:B:180:ALA:HB3	2.08	0.54
1:A:204:PHE:HE1	1:A:232:VAL:HG13	1.71	0.54
1:A:114:TYR:C	1:A:115:PHE:HD2	2.11	0.54
1:A:82:GLY:N	1:A:83:PRO:HD2	2.23	0.54
1:B:280:PHE:CD2	1:B:281:CYS:N	2.75	0.54
1:A:318:ASN:O	1:A:319:LYS:O	2.26	0.54
1:A:408:LYS:HD2	1:A:408:LYS:H	1.73	0.54
1:B:314:PHE:HA	1:B:315:ALA:O	2.06	0.54
1:A:9:LYS:C	1:A:10:VAL:HG23	2.28	0.54
1:A:97:CYS:HB3	1:A:293:TRP:HE3	1.73	0.54
1:B:102:ILE:HG21	1:B:337:PHE:CD2	2.43	0.54
1:B:114:TYR:C	1:B:115:PHE:HD2	2.11	0.54
1:A:15:VAL:O	1:A:19:VAL:HG23	2.08	0.54
1:B:114:TYR:O	1:B:115:PHE:HB2	2.08	0.54
1:A:31:LEU:HD21	1:A:203:SER:OG	2.08	0.54
1:B:338:GLN:OE1	1:B:338:GLN:O	2.26	0.54
1:B:79:ARG:HB3	1:B:375:LEU:HD21	1.88	0.54
1:A:177:THR:O	1:A:180:ALA:HB3	2.08	0.53
1:A:337:PHE:HZ	1:A:345:ASN:ND2	2.05	0.53
1:B:118:ILE:HD12	1:B:119:LEU:N	2.22	0.53
1:B:144:PRO:HD3	1:B:322:THR:HG23	1.90	0.53
1:B:77:ALA:HB3	1:B:89:THR:HG21	1.90	0.53
1:A:139:LEU:HD22	1:A:146:MET:CE	2.38	0.53
1:A:338:GLN:OE1	1:A:338:GLN:O	2.26	0.53
1:A:94:TRP:CZ3	1:A:98:TRP:CZ3	2.95	0.53
1:A:45:GLY:HA3	1:A:196:THR:OG1	2.08	0.53
1:A:41:ILE:HG13	1:A:43:ILE:CG1	2.36	0.53
1:A:41:ILE:HA	1:A:42:ALA:C	2.28	0.53
1:A:79:ARG:HB3	1:A:375:LEU:HD21	1.90	0.53
1:B:329:ILE:O	1:B:333:LEU:HB2	2.08	0.53
1:B:376:GLY:O	1:B:379:HIS:N	2.42	0.53
1:B:86:GLY:HA2	1:B:89:THR:HG22	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:102:ILE:HG21	1:A:337:PHE:CD2	2.44	0.53
1:B:11:GLY:O	1:B:15:VAL:HG23	2.07	0.53
1:A:225:PRO:O	1:A:226:ILE:C	2.46	0.53
1:A:8:HIS:O	1:A:9:LYS:HD3	2.09	0.53
1:B:316:ARG:C	1:B:317:VAL:HG23	2.28	0.53
1:A:408:LYS:H	1:A:408:LYS:CD	2.22	0.53
1:A:411:MET:HG3	1:A:412:TRP:N	2.24	0.53
1:A:428:TYR:CE1	1:B:373:LEU:HB3	2.44	0.53
1:B:9:LYS:C	1:B:10:VAL:HG23	2.29	0.53
1:B:161:PRO:HB3	1:B:278:VAL:HG22	1.90	0.53
1:B:52:GLY:HA3	1:B:397:TYR:HD2	1.74	0.53
1:B:82:GLY:H	1:B:83:PRO:HD2	1.74	0.53
1:A:12:LEU:O	1:A:16:THR:HG23	2.09	0.53
1:A:101:ASN:CG	1:A:290:LEU:HD22	2.29	0.53
1:A:427:ASN:O	1:A:429:ASN:N	2.34	0.53
1:B:172:TRP:HE3	1:B:173:PHE:N	2.06	0.53
1:A:143:GLY:HA2	1:A:146:MET:HB2	1.90	0.53
1:A:154:ALA:HB1	1:A:284:ALA:O	2.09	0.53
1:A:323:PRO:O	1:A:324:VAL:C	2.47	0.52
1:B:11:GLY:O	1:B:14:PRO:HD2	2.09	0.52
1:B:154:ALA:HB1	1:B:284:ALA:O	2.09	0.52
1:A:107:ILE:O	1:A:111:TYR:HD1	1.92	0.52
1:B:105:VAL:O	1:B:107:ILE:N	2.42	0.52
1:B:31:LEU:HD21	1:B:203:SER:OG	2.09	0.52
1:A:118:ILE:HD12	1:A:118:ILE:C	2.29	0.52
1:A:124:VAL:O	1:A:128:THR:HB	2.09	0.52
1:A:373:LEU:HD11	1:A:391:THR:OG1	2.09	0.52
1:A:22:ASN:HB3	1:A:293:TRP:CD1	2.43	0.52
1:B:143:GLY:HA2	1:B:146:MET:HB2	1.91	0.52
1:B:351:GLY:C	1:B:353:VAL:H	2.13	0.52
1:A:105:VAL:O	1:A:107:ILE:N	2.42	0.52
1:A:172:TRP:HE3	1:A:173:PHE:N	2.08	0.52
1:A:209:SER:CB	1:A:296:LEU:HD11	2.40	0.52
1:A:302:LYS:N	1:A:302:LYS:CD	2.72	0.52
1:A:303:ALA:O	1:A:306:ASP:N	2.26	0.52
1:A:337:PHE:HZ	1:A:345:ASN:HD21	1.58	0.52
1:B:125:LEU:HD23	1:B:125:LEU:O	2.08	0.52
1:B:337:PHE:HZ	1:B:345:ASN:ND2	2.07	0.52
1:A:71:GLY:O	1:A:212:VAL:HG13	2.10	0.52
1:A:78:ARG:C	1:A:82:GLY:HA3	2.30	0.52
1:B:116:PHE:HB3	1:B:117:PRO:HD2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:216:VAL:HG12	1:B:216:VAL:O	2.09	0.52
1:B:408:LYS:CD	1:B:408:LYS:H	2.21	0.52
1:B:92:LEU:HD21	1:B:363:VAL:HB	1.91	0.52
1:A:144:PRO:HD3	1:A:322:THR:HG23	1.92	0.52
1:A:205:ILE:CD1	1:A:358:VAL:HG13	2.39	0.52
1:B:173:PHE:CE1	1:B:247:MET:HB3	2.44	0.52
1:B:318:ASN:O	1:B:319:LYS:O	2.28	0.52
1:A:373:LEU:O	1:A:375:LEU:N	2.43	0.52
1:A:411:MET:HA	1:B:410:VAL:CG1	2.40	0.52
1:B:69:SER:OG	1:B:214:ALA:HB2	2.10	0.52
1:B:78:ARG:O	1:B:82:GLY:HA3	2.10	0.52
1:B:41:ILE:HA	1:B:42:ALA:C	2.30	0.52
1:A:317:VAL:HG13	1:A:322:THR:O	2.10	0.51
1:A:8:HIS:HB3	1:A:9:LYS:HE2	1.92	0.51
1:B:225:PRO:O	1:B:226:ILE:C	2.48	0.51
1:B:301:ALA:HB1	1:B:310:PHE:CE1	2.44	0.51
1:A:79:ARG:CB	1:A:375:LEU:HD11	2.37	0.51
1:A:81:PHE:CD2	1:A:81:PHE:C	2.82	0.51
1:B:28:VAL:O	1:B:30:LEU:N	2.40	0.51
1:B:371:ALA:O	1:B:373:LEU:N	2.43	0.51
1:B:384:ARG:NE	1:B:388:LEU:HD12	2.20	0.51
1:A:236:ALA:O	1:A:239:TYR:HB2	2.09	0.51
1:A:136:PHE:CZ	1:A:287:LEU:O	2.63	0.51
1:B:237:VAL:HG12	1:B:238:CYS:N	2.25	0.51
1:A:430:ARG:CG	1:B:374:LEU:HD23	2.20	0.51
1:A:344:PRO:O	1:A:345:ASN:HB2	2.11	0.51
1:A:391:THR:O	1:A:395:PHE:HD2	1.93	0.51
1:A:46:TRP:HA	1:A:49:THR:HG22	1.93	0.51
1:B:136:PHE:CZ	1:B:287:LEU:O	2.64	0.51
1:B:22:ASN:N	1:B:22:ASN:HD22	2.06	0.51
1:B:305:ALA:HB1	1:B:312:PRO:CB	2.40	0.51
1:A:173:PHE:CE1	1:A:247:MET:HB3	2.45	0.51
1:A:418:MET:SD	1:B:402:VAL:HG21	2.50	0.51
1:A:416:THR:O	1:A:419:VAL:HG12	2.10	0.51
1:B:173:PHE:CG	1:B:174:ARG:O	2.64	0.51
1:A:173:PHE:CG	1:A:174:ARG:O	2.63	0.51
1:A:376:GLY:O	1:A:379:HIS:N	2.44	0.51
1:A:342:ILE:CB	1:A:343:SER:CB	2.78	0.51
1:A:371:ALA:O	1:A:373:LEU:N	2.43	0.51
1:B:118:ILE:HD12	1:B:118:ILE:C	2.32	0.51
1:A:165:ILE:HG23	1:A:169:GLY:HA3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:107:ILE:O	1:B:111:TYR:HD1	1.94	0.51
1:B:178:TYR:CD2	1:B:247:MET:HA	2.44	0.51
1:B:280:PHE:C	1:B:282:ALA:N	2.64	0.51
1:B:67:ASP:OD2	1:B:79:ARG:NH1	2.36	0.51
1:A:92:LEU:HD21	1:A:363:VAL:HB	1.93	0.51
1:A:52:GLY:HA3	1:A:397:TYR:HD2	1.75	0.51
1:B:247:MET:HG2	1:B:248:GLY:N	2.26	0.51
1:B:344:PRO:O	1:B:345:ASN:HB2	2.11	0.51
1:B:371:ALA:C	1:B:373:LEU:N	2.65	0.51
1:A:94:TRP:C	1:A:96:ALA:H	2.15	0.50
1:B:112:LEU:O	1:B:113:SER:C	2.50	0.50
1:B:24:MET:HE3	1:B:238:CYS:HB3	1.93	0.50
1:B:78:ARG:C	1:B:82:GLY:HA3	2.31	0.50
1:A:280:PHE:C	1:A:282:ALA:N	2.65	0.50
1:B:119:LEU:HD13	1:B:124:VAL:HG21	1.92	0.50
1:B:363:VAL:HB	1:B:364:PRO:HD3	1.93	0.50
1:B:365:TYR:HB3	1:B:398:CYS:SG	2.51	0.50
1:B:8:HIS:O	1:B:9:LYS:HD3	2.10	0.50
1:B:313:ILE:HG22	1:B:314:PHE:N	2.23	0.50
1:B:416:THR:O	1:B:419:VAL:HG12	2.12	0.50
1:B:96:ALA:HA	1:B:357:SER:HB2	1.92	0.50
1:A:116:PHE:HB3	1:A:117:PRO:HD2	1.91	0.50
1:A:161:PRO:HB3	1:A:278:VAL:HG22	1.92	0.50
1:A:216:VAL:CG2	1:A:299:GLN:NE2	2.74	0.50
1:A:94:TRP:O	1:A:96:ALA:N	2.40	0.50
1:A:22:ASN:N	1:A:22:ASN:HD22	2.08	0.50
1:B:165:ILE:HG23	1:B:169:GLY:HA3	1.92	0.50
1:B:57:SER:CB	1:B:232:VAL:HG21	2.39	0.50
1:B:101:ASN:CG	1:B:290:LEU:HD22	2.31	0.50
1:B:187:LEU:N	1:B:187:LEU:HD23	2.27	0.50
1:B:219:ASN:H	1:B:223:ASN:ND2	2.04	0.50
1:B:8:HIS:HB3	1:B:9:LYS:HE2	1.93	0.50
1:A:371:ALA:C	1:A:373:LEU:N	2.65	0.50
1:B:133:LEU:HD13	1:B:334:MET:HG2	1.94	0.50
1:A:102:ILE:CD1	1:A:337:PHE:HB3	2.42	0.50
1:B:27:GLY:O	1:B:30:LEU:HB2	2.12	0.50
1:A:178:TYR:CD2	1:A:247:MET:HA	2.46	0.49
1:B:105:VAL:CG2	1:B:133:LEU:HD21	2.40	0.49
1:B:71:GLY:C	1:B:212:VAL:HA	2.33	0.49
1:A:44:TYR:CB	1:A:193:ILE:HD11	2.42	0.49
1:A:81:PHE:CE2	1:A:83:PRO:HB2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:83:PRO:O	1:A:84:PHE:C	2.49	0.49
1:B:125:LEU:O	1:B:128:THR:HG22	2.11	0.49
1:B:22:ASN:N	1:B:22:ASN:ND2	2.60	0.49
1:A:71:GLY:O	1:A:212:VAL:HA	2.12	0.49
1:B:403:VAL:CG1	1:B:404:GLY:N	2.75	0.49
1:A:403:VAL:CG1	1:A:404:GLY:N	2.75	0.49
1:B:302:LYS:N	1:B:302:LYS:CD	2.73	0.49
1:A:101:ASN:ND2	1:A:290:LEU:HD22	2.27	0.49
1:A:27:GLY:O	1:A:30:LEU:HB2	2.12	0.49
1:B:122:PRO:C	1:B:124:VAL:H	2.15	0.49
1:B:212:VAL:HG13	1:B:300:THR:OG1	2.13	0.49
1:B:81:PHE:C	1:B:81:PHE:HD2	2.16	0.49
1:A:82:GLY:H	1:A:83:PRO:HD2	1.78	0.49
1:B:151:GLN:HE21	1:B:155:THR:CG2	2.26	0.49
1:A:54:LEU:O	1:A:58:MET:HE2	2.13	0.49
1:B:384:ARG:C	1:B:386:ALA:N	2.66	0.49
1:B:67:ASP:CG	1:B:79:ARG:NH1	2.61	0.49
1:A:104:MET:CE	1:A:286:CYS:HB3	2.42	0.49
1:A:58:MET:HA	1:A:61:ALA:HB3	1.94	0.49
1:B:140:ASN:HB3	1:B:327:LEU:HD22	1.94	0.49
1:B:302:LYS:HE3	1:B:326:GLY:HA3	1.94	0.49
1:B:74:TYR:OH	1:B:87:TYR:CE1	2.66	0.49
1:A:247:MET:HG2	1:A:248:GLY:N	2.28	0.48
1:B:323:PRO:O	1:B:324:VAL:C	2.51	0.48
1:A:302:LYS:HE3	1:A:326:GLY:HA3	1.95	0.48
1:B:10:VAL:CG1	1:B:11:GLY:H	2.06	0.48
1:B:104:MET:CE	1:B:286:CYS:HB3	2.43	0.48
1:A:305:ALA:HB1	1:A:312:PRO:CB	2.42	0.48
1:B:101:ASN:ND2	1:B:294:THR:HG22	2.28	0.48
1:A:373:LEU:HD13	1:B:428:TYR:CZ	2.48	0.48
1:A:373:LEU:C	1:A:375:LEU:H	2.16	0.48
1:B:209:SER:CB	1:B:296:LEU:HD11	2.44	0.48
1:B:323:PRO:CD	1:B:327:LEU:HD11	2.40	0.48
1:B:384:ARG:HH21	1:B:388:LEU:HD11	1.78	0.48
1:A:112:LEU:O	1:A:113:SER:C	2.51	0.48
1:A:140:ASN:OD1	1:A:147:ILE:HG21	2.14	0.48
1:A:196:THR:O	1:A:200:THR:HG23	2.13	0.48
1:A:83:PRO:HB3	1:A:430:ARG:HH11	1.79	0.48
1:A:301:ALA:HB1	1:A:310:PHE:CE1	2.46	0.48
1:B:142:VAL:HG11	1:B:146:MET:HG3	1.96	0.48
1:A:11:GLY:O	1:A:14:PRO:HD2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:154:ALA:HA	1:A:157:LEU:HD12	1.94	0.48
1:A:410:VAL:CG1	1:B:411:MET:HA	2.43	0.48
1:A:42:ALA:O	1:A:196:THR:HG21	2.14	0.48
1:B:41:ILE:HG13	1:B:43:ILE:CG1	2.37	0.48
1:A:151:GLN:HE21	1:A:155:THR:CG2	2.26	0.48
1:A:71:GLY:C	1:A:212:VAL:HA	2.34	0.48
1:B:19:VAL:CG2	1:B:210:ALA:HB2	2.44	0.48
1:B:216:VAL:CG2	1:B:299:GLN:NE2	2.76	0.48
1:B:46:TRP:HA	1:B:49:THR:HG22	1.96	0.48
1:A:187:LEU:N	1:A:187:LEU:HD23	2.29	0.48
1:A:28:VAL:HG11	1:A:162:ILE:CD1	2.36	0.48
1:A:365:TYR:HB3	1:A:398:CYS:SG	2.53	0.48
1:A:98:TRP:CD1	1:A:99:ILE:N	2.82	0.48
1:B:124:VAL:O	1:B:128:THR:HB	2.13	0.48
1:B:280:PHE:O	1:B:282:ALA:N	2.47	0.48
1:B:324:VAL:HG12	1:B:325:ALA:N	2.28	0.48
1:B:129:CYS:SG	1:B:338:GLN:NE2	2.87	0.48
1:B:93:TYR:HD2	1:B:300:THR:CG2	2.18	0.48
1:A:44:TYR:O	1:A:45:GLY:C	2.50	0.48
1:A:83:PRO:O	1:A:86:GLY:N	2.44	0.48
1:B:126:THR:HG21	1:B:342:ILE:CG2	2.40	0.48
1:B:333:LEU:HA	1:B:336:ILE:HD12	1.96	0.48
1:B:92:LEU:CD2	1:B:364:PRO:HD3	2.44	0.48
1:B:408:LYS:O	1:B:411:MET:HG2	2.14	0.48
1:A:375:LEU:C	1:A:377:HIS:H	2.17	0.47
1:A:402:VAL:HG21	1:B:418:MET:SD	2.54	0.47
1:A:93:TYR:HD2	1:A:300:THR:CG2	2.17	0.47
1:A:219:ASN:H	1:A:223:ASN:ND2	2.06	0.47
1:A:57:SER:CB	1:A:232:VAL:HG21	2.36	0.47
1:A:96:ALA:HA	1:A:357:SER:HB2	1.96	0.47
1:B:120:LYS:O	1:B:121:ASP:OD1	2.32	0.47
1:B:337:PHE:HZ	1:B:345:ASN:HD21	1.61	0.47
1:B:71:GLY:O	1:B:212:VAL:HA	2.14	0.47
1:A:384:ARG:C	1:A:386:ALA:N	2.67	0.47
1:A:81:PHE:HD2	1:A:81:PHE:C	2.18	0.47
1:A:74:TYR:OH	1:A:87:TYR:CE1	2.67	0.47
1:A:92:LEU:CD2	1:A:364:PRO:HD3	2.44	0.47
1:B:15:VAL:O	1:B:19:VAL:HG23	2.14	0.47
1:B:328:ILE:O	1:B:332:ILE:HG13	2.15	0.47
1:B:99:ILE:CG2	1:B:357:SER:HB3	2.45	0.47
1:A:206:GLY:C	1:A:208:GLU:N	2.68	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:24:MET:HE3	1:A:238:CYS:HB3	1.96	0.47
1:A:41:ILE:N	1:A:42:ALA:HB3	2.29	0.47
1:B:101:ASN:ND2	1:B:290:LEU:HD22	2.29	0.47
1:B:83:PRO:O	1:B:84:PHE:C	2.52	0.47
1:A:120:LYS:O	1:A:121:ASP:OD1	2.33	0.47
1:A:126:THR:HG21	1:A:342:ILE:CG2	2.40	0.47
1:B:41:ILE:N	1:B:42:ALA:HB3	2.29	0.47
1:A:54:LEU:HD11	1:A:233:LEU:CD2	2.45	0.47
1:A:86:GLY:HA2	1:A:89:THR:HG22	1.97	0.47
1:B:391:THR:O	1:B:395:PHE:HD2	1.97	0.47
1:B:412:TRP:HA	1:B:412:TRP:CE3	2.49	0.47
1:A:105:VAL:CB	1:A:129:CYS:SG	2.86	0.47
1:A:212:VAL:HG13	1:A:300:THR:OG1	2.15	0.47
1:A:384:ARG:HH21	1:A:388:LEU:HD11	1.79	0.47
1:A:71:GLY:O	1:A:212:VAL:O	2.33	0.47
1:B:16:THR:HG22	1:B:227:ALA:CA	2.37	0.47
1:A:114:TYR:CE1	1:A:118:ILE:HG12	2.49	0.47
1:A:142:VAL:HG11	1:A:146:MET:HG3	1.96	0.47
1:A:351:GLY:C	1:A:353:VAL:N	2.68	0.47
1:B:115:PHE:O	1:B:116:PHE:O	2.33	0.47
1:B:208:GLU:O	1:B:212:VAL:HG23	2.15	0.47
1:A:19:VAL:CG2	1:A:210:ALA:HB2	2.44	0.47
1:A:74:TYR:HE1	1:A:86:GLY:C	2.18	0.47
1:B:421:THR:O	1:B:422:ALA:C	2.53	0.47
1:A:361:THR:C	1:A:364:PRO:HD2	2.35	0.47
1:A:63:MET:CE	1:A:375:LEU:HD12	2.45	0.47
1:A:421:THR:O	1:A:422:ALA:C	2.54	0.47
1:B:116:PHE:HB3	1:B:117:PRO:CD	2.45	0.47
1:B:94:TRP:C	1:B:96:ALA:H	2.18	0.47
1:A:428:TYR:CD1	1:B:373:LEU:HB3	2.50	0.46
1:B:42:ALA:O	1:B:196:THR:HG21	2.15	0.46
1:B:58:MET:HA	1:B:61:ALA:HB3	1.97	0.46
1:A:329:ILE:O	1:A:333:LEU:HB2	2.15	0.46
1:B:93:TYR:OH	1:B:208:GLU:CD	2.53	0.46
1:A:160:ILE:CB	1:A:161:PRO:HD3	2.41	0.46
1:A:173:PHE:HB3	1:A:178:TYR:OH	2.16	0.46
1:A:342:ILE:H	1:A:343:SER:HB2	1.78	0.46
1:A:69:SER:OG	1:A:214:ALA:HB2	2.15	0.46
1:B:116:PHE:O	1:B:118:ILE:CG2	2.55	0.46
1:B:323:PRO:O	1:B:326:GLY:N	2.48	0.46
1:B:85:LEU:HD23	1:B:85:LEU:HA	1.70	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:119:LEU:HB3	1:A:120:LYS:H	1.51	0.46
1:A:147:ILE:HD12	1:A:147:ILE:O	2.15	0.46
1:B:31:LEU:HB2	1:B:32:PRO:HD3	1.98	0.46
1:A:317:VAL:O	1:A:318:ASN:C	2.52	0.46
1:B:72:GLY:N	1:B:211:SER:O	2.49	0.46
1:A:22:ASN:N	1:A:22:ASN:ND2	2.62	0.46
1:A:92:LEU:CD2	1:A:363:VAL:HB	2.46	0.46
1:A:412:TRP:CE3	1:A:412:TRP:HA	2.51	0.46
1:B:196:THR:O	1:B:200:THR:HG23	2.16	0.46
1:B:305:ALA:HA	1:B:312:PRO:HG3	1.97	0.46
1:B:310:PHE:H	1:B:312:PRO:HD3	1.80	0.46
1:A:116:PHE:HB3	1:A:117:PRO:CD	2.46	0.46
1:A:77:ALA:HB3	1:A:89:THR:HG21	1.96	0.46
1:A:237:VAL:HG12	1:A:238:CYS:N	2.31	0.46
1:A:332:ILE:HG22	1:A:336:ILE:HD11	1.97	0.46
1:A:408:LYS:O	1:A:411:MET:HG2	2.16	0.46
1:A:428:TYR:CE1	1:B:373:LEU:CB	2.99	0.46
1:B:173:PHE:HB3	1:B:178:TYR:OH	2.16	0.46
1:B:302:LYS:HE3	1:B:326:GLY:CA	2.46	0.46
1:B:102:ILE:CD1	1:B:337:PHE:HB3	2.46	0.46
1:B:357:SER:HA	1:B:360:PHE:HD2	1.80	0.46
1:B:425:ALA:CA	1:B:428:TYR:CZ	2.82	0.46
1:A:177:THR:CG2	1:A:247:MET:HB2	2.46	0.46
1:B:177:THR:CG2	1:B:247:MET:HB2	2.44	0.46
1:A:92:LEU:HD21	1:A:360:PHE:O	2.15	0.46
1:B:54:LEU:HD11	1:B:233:LEU:CD2	2.46	0.46
1:B:342:ILE:H	1:B:343:SER:HB2	1.79	0.46
1:B:389:ALA:O	1:B:392:THR:N	2.49	0.46
1:A:206:GLY:O	1:A:208:GLU:N	2.50	0.45
1:A:102:ILE:O	1:A:106:VAL:HG23	2.16	0.45
1:A:305:ALA:HA	1:A:312:PRO:HG3	1.97	0.45
1:B:376:GLY:CA	1:B:379:HIS:HA	2.46	0.45
1:B:81:PHE:HD2	1:B:82:GLY:N	2.14	0.45
1:B:126:THR:O	1:B:130:VAL:HG23	2.16	0.45
1:B:140:ASN:HD21	1:B:147:ILE:HG12	1.78	0.45
1:A:28:VAL:O	1:A:30:LEU:N	2.42	0.45
1:A:31:LEU:HB2	1:A:32:PRO:HD3	1.98	0.45
1:B:305:ALA:HA	1:B:312:PRO:CG	2.46	0.45
1:B:345:ASN:O	1:B:346:ALA:HB3	2.17	0.45
1:A:324:VAL:HG12	1:A:325:ALA:N	2.31	0.45
1:A:349:GLU:O	1:A:350:PHE:HB2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:376:GLY:CA	1:A:379:HIS:HA	2.47	0.45
1:A:84:PHE:CZ	1:A:421:THR:OG1	2.65	0.45
1:B:101:ASN:HD21	1:B:294:THR:HG22	1.81	0.45
1:B:142:VAL:O	1:B:143:GLY:O	2.35	0.45
1:B:209:SER:HB3	1:B:296:LEU:CD1	2.46	0.45
1:A:305:ALA:HA	1:A:312:PRO:CG	2.47	0.45
1:A:68:PRO:HA	1:A:69:SER:CB	2.46	0.45
1:B:296:LEU:HD23	1:B:296:LEU:N	2.31	0.45
1:A:10:VAL:CG1	1:A:11:GLY:H	2.07	0.45
1:A:314:PHE:CA	1:A:315:ALA:O	2.65	0.45
1:A:339:LEU:HA	1:A:342:ILE:HG13	1.98	0.45
1:B:8:HIS:HA	1:B:145:LYS:CD	2.46	0.45
1:B:247:MET:CE	1:B:249:MET:HB2	2.47	0.45
1:B:84:PHE:CZ	1:B:421:THR:OG1	2.68	0.45
1:A:122:PRO:C	1:A:124:VAL:H	2.19	0.45
1:A:81:PHE:HA	1:B:81:PHE:CZ	2.52	0.45
1:B:81:PHE:CE1	1:B:84:PHE:HB3	2.52	0.45
1:B:29:PHE:CD2	1:B:111:TYR:HE2	2.35	0.45
1:B:114:TYR:CE1	1:B:118:ILE:HG12	2.52	0.45
1:B:147:ILE:O	1:B:147:ILE:HD12	2.17	0.45
1:B:311:PRO:HG2	1:B:426:LEU:HD11	1.97	0.45
1:B:310:PHE:HB2	1:B:312:PRO:HG3	1.98	0.45
1:A:184:VAL:C	1:A:186:GLY:H	2.20	0.45
1:A:337:PHE:CZ	1:A:345:ASN:ND2	2.85	0.45
1:A:60:TYR:CE2	1:A:368:THR:HG21	2.52	0.45
1:B:104:MET:C	1:B:104:MET:HE2	2.36	0.45
1:B:120:LYS:CA	1:B:120:LYS:CE	2.95	0.45
1:B:194:GLN:O	1:B:198:ASN:HB2	2.17	0.45
1:B:105:VAL:C	1:B:107:ILE:N	2.69	0.44
1:B:311:PRO:HA	1:B:312:PRO:HD3	1.36	0.44
1:B:44:TYR:CB	1:B:193:ILE:HD11	2.45	0.44
1:B:44:TYR:O	1:B:45:GLY:C	2.54	0.44
1:B:56:LEU:HD23	1:B:56:LEU:HA	1.71	0.44
1:A:139:LEU:HA	1:A:139:LEU:HD23	1.71	0.44
1:A:173:PHE:HE1	1:A:247:MET:HB3	1.82	0.44
1:A:247:MET:CE	1:A:249:MET:HB2	2.47	0.44
1:A:323:PRO:CD	1:A:327:LEU:HD11	2.43	0.44
1:A:333:LEU:HA	1:A:336:ILE:HD12	1.99	0.44
1:A:93:TYR:O	1:A:94:TRP:C	2.56	0.44
1:B:114:TYR:C	1:B:115:PHE:CD2	2.91	0.44
1:B:154:ALA:HA	1:B:157:LEU:HD12	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:361:THR:C	1:B:364:PRO:HD2	2.37	0.44
1:B:60:TYR:HD1	1:B:211:SER:CB	2.30	0.44
1:A:384:ARG:N	1:A:385:PRO:CD	2.81	0.44
1:B:374:LEU:N	1:B:374:LEU:HD12	2.26	0.44
1:A:422:ALA:CB	1:B:395:PHE:CD1	3.00	0.44
1:B:219:ASN:O	1:B:223:ASN:HB2	2.18	0.44
1:A:125:LEU:O	1:A:128:THR:HG22	2.17	0.44
1:A:72:GLY:N	1:A:211:SER:O	2.50	0.44
1:A:310:PHE:HB2	1:A:312:PRO:HG3	1.99	0.44
1:A:346:ALA:O	1:A:348:LYS:N	2.45	0.44
1:B:102:ILE:O	1:B:106:VAL:HG23	2.17	0.44
1:B:133:LEU:HD11	1:B:338:GLN:CG	2.47	0.44
1:B:212:VAL:HG11	1:B:296:LEU:HB3	1.98	0.44
1:B:317:VAL:O	1:B:318:ASN:C	2.55	0.44
1:A:114:TYR:C	1:A:115:PHE:CD2	2.91	0.44
1:A:345:ASN:O	1:A:346:ALA:HB3	2.16	0.44
1:A:428:TYR:HH	1:B:373:LEU:HD13	1.76	0.44
1:A:119:LEU:HD22	1:A:124:VAL:HG11	1.99	0.44
1:A:290:LEU:HD23	1:A:290:LEU:HA	1.77	0.44
1:A:84:PHE:HZ	1:A:421:THR:OG1	1.98	0.44
1:B:322:THR:HA	1:B:323:PRO:HD3	1.83	0.44
1:B:360:PHE:CZ	1:B:416:THR:HG21	2.52	0.44
1:B:74:TYR:HE1	1:B:86:GLY:C	2.21	0.44
1:B:98:TRP:CD1	1:B:99:ILE:N	2.85	0.44
1:A:114:TYR:O	1:A:115:PHE:CB	2.65	0.44
1:A:374:LEU:HD23	1:B:430:ARG:CG	2.27	0.44
1:A:81:PHE:CB	1:A:85:LEU:HB2	2.48	0.44
1:B:107:ILE:HG22	1:B:108:GLY:N	2.33	0.44
1:B:133:LEU:CD1	1:B:338:GLN:HG3	2.46	0.44
1:B:350:PHE:C	1:B:352:LEU:H	2.22	0.44
1:A:399:ILE:HG12	1:B:418:MET:HE2	1.99	0.44
1:B:54:LEU:O	1:B:58:MET:HE2	2.17	0.44
1:A:193:ILE:HG23	1:A:197:LEU:HG	1.99	0.44
1:A:280:PHE:C	1:A:280:PHE:CD2	2.92	0.44
1:A:299:GLN:C	1:A:301:ALA:H	2.21	0.44
1:A:363:VAL:HB	1:A:364:PRO:HD3	2.00	0.44
1:A:384:ARG:NE	1:A:388:LEU:HD12	2.20	0.44
1:B:142:VAL:HG12	1:B:146:MET:HG3	1.98	0.44
1:B:60:TYR:CE2	1:B:368:THR:HG21	2.53	0.44
1:B:69:SER:CB	1:B:70:PRO:HA	2.48	0.44
1:B:97:CYS:HB3	1:B:293:TRP:CE3	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:188:GLY:O	1:A:189:THR:C	2.56	0.43
1:A:194:GLN:O	1:A:198:ASN:HB2	2.18	0.43
1:B:71:GLY:O	1:B:212:VAL:O	2.36	0.43
1:A:303:ALA:O	1:A:305:ALA:N	2.51	0.43
1:B:68:PRO:HG2	1:B:220:PRO:HB2	2.01	0.43
1:B:59:VAL:HG13	1:B:372:LEU:CD2	2.47	0.43
1:B:92:LEU:CD2	1:B:363:VAL:HB	2.47	0.43
1:A:101:ASN:ND2	1:A:294:THR:HG22	2.33	0.43
1:A:16:THR:HG22	1:A:227:ALA:CA	2.35	0.43
1:A:276:ALA:HA	1:A:279:SER:OG	2.18	0.43
1:A:319:LYS:H	1:A:319:LYS:HG3	1.65	0.43
1:A:76:TYR:CD2	1:A:76:TYR:N	2.86	0.43
1:B:17:LEU:HA	1:B:17:LEU:HD23	1.76	0.43
1:B:375:LEU:C	1:B:377:HIS:H	2.21	0.43
1:A:395:PHE:CD1	1:B:422:ALA:HA	2.53	0.43
1:B:98:TRP:HB2	1:B:330:VAL:HG13	2.00	0.43
1:A:350:PHE:C	1:A:352:LEU:H	2.22	0.43
1:A:360:PHE:CZ	1:A:416:THR:HG21	2.54	0.43
1:A:59:VAL:HG13	1:A:372:LEU:CD2	2.49	0.43
1:A:389:ALA:O	1:A:392:THR:N	2.51	0.43
1:A:421:THR:C	1:A:423:MET:N	2.71	0.43
1:B:250:ILE:N	1:B:251:PRO:CD	2.75	0.43
1:B:349:GLU:O	1:B:350:PHE:HB2	2.18	0.43
1:B:63:MET:CE	1:B:375:LEU:HD12	2.48	0.43
1:A:143:GLY:HA2	1:A:146:MET:CB	2.49	0.43
1:A:302:LYS:HE3	1:A:326:GLY:CA	2.49	0.43
1:B:114:TYR:O	1:B:115:PHE:CB	2.67	0.43
1:B:74:TYR:OH	1:B:87:TYR:HE1	2.02	0.43
1:B:83:PRO:O	1:B:86:GLY:N	2.52	0.43
1:A:115:PHE:O	1:A:116:PHE:O	2.37	0.43
1:A:142:VAL:O	1:A:143:GLY:O	2.36	0.43
1:A:280:PHE:O	1:A:282:ALA:N	2.51	0.43
1:A:74:TYR:OH	1:A:87:TYR:HE1	2.02	0.43
1:A:8:HIS:HA	1:A:145:LYS:CD	2.45	0.43
1:B:105:VAL:CB	1:B:129:CYS:SG	2.91	0.43
1:B:430:ARG:HG3	1:B:431:LEU:N	2.32	0.43
1:A:102:ILE:HG23	1:A:338:GLN:HA	1.99	0.43
1:A:357:SER:HA	1:A:360:PHE:HD2	1.82	0.43
1:B:174:ARG:HA	1:B:175:GLY:HA3	1.83	0.43
1:B:193:ILE:HG23	1:B:197:LEU:HG	2.00	0.43
1:B:219:ASN:HD22	1:B:223:ASN:HD21	1.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:219:ASN:ND2	1:B:219:ASN:N	2.66	0.43
1:B:276:ALA:HA	1:B:279:SER:OG	2.18	0.43
1:B:319:LYS:O	1:B:320:ALA:HB3	2.18	0.43
1:B:339:LEU:HA	1:B:342:ILE:HG13	2.01	0.43
1:B:357:SER:HA	1:B:360:PHE:CD2	2.53	0.43
1:A:219:ASN:HD22	1:A:223:ASN:HD21	1.64	0.43
1:A:357:SER:HA	1:A:360:PHE:CD2	2.53	0.43
1:B:173:PHE:HE1	1:B:247:MET:HB3	1.82	0.43
1:A:322:THR:HA	1:A:323:PRO:HD3	1.82	0.43
1:A:323:PRO:O	1:A:326:GLY:N	2.51	0.43
1:B:303:ALA:O	1:B:306:ASP:N	2.28	0.43
1:B:303:ALA:O	1:B:305:ALA:N	2.52	0.43
1:B:76:TYR:CD2	1:B:76:TYR:N	2.86	0.43
1:A:140:ASN:CB	1:A:327:LEU:CD2	2.94	0.43
1:B:332:ILE:HG22	1:B:336:ILE:HD11	2.01	0.43
1:B:373:LEU:C	1:B:375:LEU:H	2.22	0.43
1:A:29:PHE:CD2	1:A:111:TYR:HE2	2.37	0.42
1:A:219:ASN:O	1:A:223:ASN:HB2	2.19	0.42
1:A:250:ILE:N	1:A:251:PRO:CD	2.74	0.42
1:B:102:ILE:HG23	1:B:338:GLN:HA	2.00	0.42
1:B:87:TYR:HE2	1:B:430:ARG:HH12	1.66	0.42
1:B:81:PHE:CE2	1:B:83:PRO:HB2	2.53	0.42
1:A:311:PRO:HG2	1:A:426:LEU:HD11	2.00	0.42
1:A:311:PRO:HA	1:A:312:PRO:HD3	1.35	0.42
1:A:35:LEU:HA	1:A:38:THR:OG1	2.19	0.42
1:A:105:VAL:C	1:A:107:ILE:N	2.70	0.42
1:A:142:VAL:HG12	1:A:146:MET:HG3	2.00	0.42
1:A:147:ILE:HG23	1:A:148:THR:N	2.34	0.42
1:A:250:ILE:HB	1:A:251:PRO:HD3	2.01	0.42
1:A:319:LYS:O	1:A:320:ALA:HB3	2.18	0.42
1:B:10:VAL:O	1:B:218:LYS:HG3	2.18	0.42
1:B:119:LEU:HD22	1:B:124:VAL:HG11	1.99	0.42
1:B:180:ALA:C	1:B:182:TRP:H	2.21	0.42
1:B:295:LEU:O	1:B:295:LEU:HD22	2.18	0.42
1:B:314:PHE:CA	1:B:315:ALA:O	2.67	0.42
1:B:346:ALA:O	1:B:348:LYS:N	2.45	0.42
1:A:313:ILE:HG22	1:A:314:PHE:N	2.19	0.42
1:A:99:ILE:CG2	1:A:357:SER:HB3	2.49	0.42
1:A:89:THR:HG23	1:A:90:ASN:N	2.34	0.42
1:B:104:MET:HE1	1:B:286:CYS:HB3	2.00	0.42
1:B:147:ILE:HD11	1:B:291:GLY:HA3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:351:GLY:C	1:B:353:VAL:N	2.70	0.42
1:A:67:ASP:OD2	1:A:79:ARG:NH1	2.44	0.42
1:A:81:PHE:CE1	1:A:84:PHE:HB3	2.54	0.42
1:B:144:PRO:CB	1:B:216:VAL:HG11	2.49	0.42
1:B:332:ILE:H	1:B:332:ILE:HG13	1.61	0.42
1:B:87:TYR:CB	1:B:424:TYR:OH	2.68	0.42
1:A:174:ARG:HA	1:A:175:GLY:HA3	1.85	0.42
1:A:310:PHE:H	1:A:312:PRO:HD3	1.83	0.42
1:A:379:HIS:ND1	1:A:387:TYR:CD2	2.82	0.42
1:B:84:PHE:HZ	1:B:421:THR:OG1	2.01	0.42
1:B:93:TYR:O	1:B:96:ALA:HB3	2.20	0.42
1:A:126:THR:O	1:A:130:VAL:HG23	2.19	0.42
1:A:140:ASN:HB3	1:A:327:LEU:HD22	1.96	0.42
1:A:60:TYR:HD1	1:A:211:SER:CB	2.33	0.42
1:B:119:LEU:HB3	1:B:120:LYS:H	1.50	0.42
1:B:177:THR:HB	1:B:247:MET:HB2	2.00	0.42
1:B:299:GLN:C	1:B:301:ALA:H	2.21	0.42
1:A:180:ALA:C	1:A:182:TRP:H	2.22	0.42
1:A:208:GLU:O	1:A:212:VAL:HG23	2.20	0.42
1:A:87:TYR:CB	1:A:424:TYR:OH	2.68	0.42
1:A:98:TRP:CG	1:A:99:ILE:N	2.87	0.42
1:B:101:ASN:O	1:B:102:ILE:C	2.58	0.42
1:B:188:GLY:O	1:B:189:THR:C	2.57	0.42
1:B:34:ASN:CB	1:B:199:VAL:HG11	2.48	0.42
1:A:84:PHE:HD1	1:B:85:LEU:HD11	1.82	0.42
1:A:105:VAL:O	1:A:106:VAL:C	2.57	0.42
1:A:134:TRP:CH2	1:A:331:GLY:HA3	2.55	0.42
1:A:296:LEU:HD23	1:A:296:LEU:N	2.34	0.42
1:A:63:MET:HE1	1:A:375:LEU:HD12	2.02	0.42
1:A:400:TRP:O	1:A:403:VAL:HG12	2.20	0.42
1:B:183:ASN:O	1:B:184:VAL:O	2.37	0.42
1:B:184:VAL:C	1:B:186:GLY:H	2.22	0.42
1:A:104:MET:C	1:A:104:MET:HE2	2.39	0.42
1:A:411:MET:O	1:A:415:VAL:HG23	2.20	0.42
1:A:81:PHE:HD2	1:A:82:GLY:N	2.17	0.42
1:A:93:TYR:O	1:A:96:ALA:HB3	2.19	0.42
1:B:280:PHE:CD2	1:B:280:PHE:C	2.94	0.42
1:A:31:LEU:CB	1:A:32:PRO:HD3	2.50	0.41
1:B:173:PHE:HE1	1:B:247:MET:CG	2.33	0.41
1:B:98:TRP:CG	1:B:99:ILE:N	2.88	0.41
1:A:428:TYR:CE2	1:B:373:LEU:HD22	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:97:CYS:HB3	1:A:293:TRP:CE3	2.53	0.41
1:B:225:PRO:O	1:B:228:THR:N	2.54	0.41
1:B:35:LEU:HA	1:B:38:THR:OG1	2.20	0.41
1:A:172:TRP:HB3	1:A:173:PHE:H	1.64	0.41
1:A:209:SER:HB3	1:A:296:LEU:CD1	2.43	0.41
1:A:430:ARG:HG3	1:A:431:LEU:N	2.32	0.41
1:B:105:VAL:O	1:B:106:VAL:C	2.58	0.41
1:B:206:GLY:O	1:B:208:GLU:N	2.54	0.41
1:B:244:THR:C	1:B:246:ILE:HG22	2.40	0.41
1:B:104:MET:O	1:B:104:MET:CE	2.65	0.41
1:B:24:MET:HE3	1:B:238:CYS:CB	2.49	0.41
1:B:81:PHE:CB	1:B:85:LEU:HB2	2.48	0.41
1:A:183:ASN:O	1:A:184:VAL:O	2.38	0.41
1:A:133:LEU:CD1	1:A:338:GLN:HG3	2.48	0.41
1:B:143:GLY:HA2	1:B:146:MET:CB	2.50	0.41
1:B:384:ARG:N	1:B:385:PRO:CD	2.83	0.41
1:B:93:TYR:O	1:B:94:TRP:C	2.57	0.41
1:A:105:VAL:O	1:A:108:GLY:N	2.54	0.41
1:A:374:LEU:N	1:A:374:LEU:HD12	2.26	0.41
1:A:44:TYR:HB2	1:A:193:ILE:CD1	2.49	0.41
1:B:411:MET:O	1:B:415:VAL:HG23	2.20	0.41
1:A:10:VAL:CG1	1:A:11:GLY:N	2.69	0.41
1:A:129:CYS:HB3	1:A:338:GLN:NE2	2.36	0.41
1:B:172:TRP:CE3	1:B:173:PHE:N	2.88	0.41
1:B:206:GLY:C	1:B:208:GLU:N	2.73	0.41
1:B:335:THR:O	1:B:336:ILE:C	2.59	0.41
1:A:120:LYS:CE	1:A:120:LYS:CA	2.97	0.41
1:A:132:VAL:O	1:A:133:LEU:C	2.59	0.41
1:A:328:ILE:O	1:A:332:ILE:HG13	2.20	0.41
1:A:68:PRO:HA	1:A:69:SER:HB3	2.03	0.41
1:B:109:VAL:HB	1:B:125:LEU:HD21	2.02	0.41
1:B:122:PRO:C	1:B:124:VAL:N	2.74	0.41
1:B:301:ALA:C	1:B:303:ALA:N	2.74	0.41
1:B:362:LEU:O	1:B:365:TYR:N	2.54	0.41
1:B:423:MET:C	1:B:424:TYR:HD2	2.24	0.41
1:B:90:ASN:O	1:B:93:TYR:N	2.53	0.41
1:A:107:ILE:O	1:A:111:TYR:CD1	2.74	0.41
1:A:119:LEU:HB3	1:A:124:VAL:HG11	2.02	0.41
1:A:219:ASN:N	1:A:219:ASN:ND2	2.68	0.41
1:A:68:PRO:HG2	1:A:220:PRO:HB2	2.03	0.41
1:B:134:TRP:CH2	1:B:331:GLY:HA3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:172:TRP:HB3	1:B:173:PHE:H	1.65	0.41
1:B:250:ILE:HB	1:B:251:PRO:HD3	2.02	0.41
1:B:28:VAL:HG11	1:B:162:ILE:CD1	2.40	0.41
1:B:310:PHE:CB	1:B:312:PRO:HG3	2.51	0.41
1:B:60:TYR:CD2	1:B:368:THR:HG21	2.56	0.41
1:A:109:VAL:HB	1:A:125:LEU:HD21	2.03	0.41
1:A:173:PHE:HE1	1:A:247:MET:CG	2.34	0.41
1:A:244:THR:C	1:A:246:ILE:HG22	2.42	0.41
1:A:301:ALA:C	1:A:303:ALA:N	2.73	0.41
1:A:87:TYR:HE2	1:A:430:ARG:HH12	1.69	0.41
1:B:160:ILE:CB	1:B:161:PRO:HD3	2.42	0.41
1:B:321:GLY:O	1:B:322:THR:O	2.39	0.41
1:A:299:GLN:HA	1:A:299:GLN:OE1	2.21	0.40
1:A:29:PHE:O	1:A:30:LEU:HG	2.21	0.40
1:A:374:LEU:CD1	1:A:374:LEU:H	2.27	0.40
1:B:400:TRP:O	1:B:403:VAL:HG12	2.21	0.40
1:A:224:VAL:HB	1:A:225:PRO:HD3	2.02	0.40
1:A:224:VAL:O	1:A:227:ALA:HB3	2.21	0.40
1:A:177:THR:HB	1:A:247:MET:HB2	2.03	0.40
1:A:47:LEU:HA	1:A:47:LEU:HD22	1.90	0.40
1:B:423:MET:C	1:B:424:TYR:CD2	2.95	0.40
1:A:144:PRO:C	1:A:146:MET:N	2.75	0.40
1:A:289:SER:O	1:A:290:LEU:C	2.59	0.40
1:A:391:THR:O	1:A:395:PHE:CD2	2.74	0.40
1:B:10:VAL:CG1	1:B:11:GLY:N	2.66	0.40
1:B:154:ALA:O	1:B:157:LEU:HB2	2.22	0.40
1:B:384:ARG:O	1:B:385:PRO:C	2.59	0.40
1:A:321:GLY:O	1:A:322:THR:O	2.39	0.40
1:A:81:PHE:CB	1:A:82:GLY:CA	2.95	0.40
1:B:337:PHE:CZ	1:B:345:ASN:ND2	2.88	0.40
1:B:374:LEU:CD1	1:B:374:LEU:H	2.30	0.40
1:A:141:ILE:CG2	1:A:324:VAL:HG22	2.50	0.40
1:A:104:MET:HE1	1:A:286:CYS:HB3	2.02	0.40
1:A:101:ASN:HD21	1:A:294:THR:HG22	1.87	0.40
1:A:85:LEU:HA	1:A:85:LEU:HD23	1.70	0.40
1:B:379:HIS:ND1	1:B:387:TYR:CD2	2.81	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	406/445 (91%)	261 (64%)	82 (20%)	63 (16%)	0	3
1	B	406/445 (91%)	262 (64%)	80 (20%)	64 (16%)	0	3
All	All	812/890 (91%)	523 (64%)	162 (20%)	127 (16%)	0	3

All (127) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	10	VAL
1	A	68	PRO
1	A	83	PRO
1	A	116	PHE
1	A	117	PRO
1	A	118	ILE
1	A	182	TRP
1	A	183	ASN
1	A	184	VAL
1	A	218	LYS
1	A	312	PRO
1	A	313	ILE
1	A	319	LYS
1	A	323	PRO
1	A	345	ASN
1	A	377	HIS
1	A	428	TYR
1	A	431	LEU
1	A	432	HIS
1	B	10	VAL
1	B	68	PRO
1	B	83	PRO
1	B	116	PHE
1	B	117	PRO
1	B	118	ILE

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Mol	Chain	Res	Type
1	B	182	TRP
1	B	184	VAL
1	B	218	LYS
1	B	312	PRO
1	B	313	ILE
1	B	319	LYS
1	B	345	ASN
1	B	377	HIS
1	B	428	TYR
1	B	431	LEU
1	B	432	HIS
1	A	30	LEU
1	A	95	LEU
1	A	119	LEU
1	A	122	PRO
1	A	143	GLY
1	A	172	TRP
1	A	250	ILE
1	A	304	ALA
1	A	307	ASP
1	A	315	ALA
1	A	374	LEU
1	B	30	LEU
1	B	95	LEU
1	B	119	LEU
1	B	122	PRO
1	B	143	GLY
1	B	172	TRP
1	B	183	ASN
1	B	250	ILE
1	B	304	ALA
1	B	307	ASP
1	B	315	ALA
1	B	323	PRO
1	B	336	ILE
1	B	374	LEU
1	A	41	ILE
1	A	69	SER
1	A	121	ASP
1	A	303	ALA
1	A	310	PHE
1	A	314	PHE

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Mol	Chain	Res	Type
1	A	349	GLU
1	A	380	PHE
1	A	433	LYS
1	B	69	SER
1	B	121	ASP
1	B	310	PHE
1	B	347	THR
1	B	349	GLU
1	B	372	LEU
1	B	380	PHE
1	A	84	PHE
1	A	96	ALA
1	A	120	LYS
1	A	190	PHE
1	A	214	ALA
1	A	248	GLY
1	A	289	SER
1	A	343	SER
1	A	347	THR
1	A	372	LEU
1	B	41	ILE
1	B	73	SER
1	B	96	ALA
1	B	120	LYS
1	B	214	ALA
1	B	248	GLY
1	B	281	CYS
1	B	289	SER
1	B	303	ALA
1	B	314	PHE
1	B	335	THR
1	B	343	SER
1	B	433	LYS
1	A	322	THR
1	B	84	PHE
1	B	190	PHE
1	B	301	ALA
1	B	322	THR
1	A	73	SER
1	A	281	CYS
1	A	301	ALA
1	B	91	VAL

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Mol	Chain	Res	Type
1	B	246	ILE
1	A	25	GLY
1	A	246	ILE
1	A	336	ILE
1	A	317	VAL
1	B	25	GLY
1	B	161	PRO
1	B	317	VAL
1	A	161	PRO
1	A	324	VAL
1	A	353	VAL
1	B	353	VAL
1	A	71	GLY
1	A	91	VAL
1	A	175	GLY
1	B	175	GLY
1	B	71	GLY
1	B	106	VAL

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	314/343 (92%)	246 (78%)	68 (22%)	1 6
1	B	314/343 (92%)	245 (78%)	69 (22%)	1 6
All	All	628/686 (92%)	491 (78%)	137 (22%)	1 6

All (137) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	22	ASN
1	A	26	SER
1	A	29	PHE
1	A	35	LEU
1	A	56	LEU

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Mol	Chain	Res	Type
1	A	57	SER
1	A	69	SER
1	A	81	PHE
1	A	88	GLN
1	A	95	LEU
1	A	97	CYS
1	A	98	TRP
1	A	104	MET
1	A	105	VAL
1	A	107	ILE
1	A	116	PHE
1	A	117	PRO
1	A	118	ILE
1	A	120	LYS
1	A	124	VAL
1	A	126	THR
1	A	127	ILE
1	A	128	THR
1	A	129	CYS
1	A	141	ILE
1	A	147	ILE
1	A	148	THR
1	A	149	ARG
1	A	159	LEU
1	A	171	PHE
1	A	172	TRP
1	A	173	PHE
1	A	178	TYR
1	A	182	TRP
1	A	187	LEU
1	A	194	GLN
1	A	199	VAL
1	A	202	TRP
1	A	204	PHE
1	A	219	ASN
1	A	237	VAL
1	A	247	MET
1	A	279	SER
1	A	280	PHE
1	A	295	LEU
1	A	302	LYS
1	A	309	LEU

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Mol	Chain	Res	Type
1	A	310	PHE
1	A	314	PHE
1	A	329	ILE
1	A	333	LEU
1	A	334	MET
1	A	338	GLN
1	A	339	LEU
1	A	354	SER
1	A	361	THR
1	A	362	LEU
1	A	366	LEU
1	A	377	HIS
1	A	384	ARG
1	A	388	LEU
1	A	390	VAL
1	A	396	LEU
1	A	403	VAL
1	A	408	LYS
1	A	410	VAL
1	A	419	VAL
1	A	424	TYR
1	B	22	ASN
1	B	26	SER
1	B	29	PHE
1	B	35	LEU
1	B	47	LEU
1	B	56	LEU
1	B	57	SER
1	B	69	SER
1	B	81	PHE
1	B	88	GLN
1	B	95	LEU
1	B	97	CYS
1	B	98	TRP
1	B	104	MET
1	B	105	VAL
1	B	107	ILE
1	B	116	PHE
1	B	117	PRO
1	B	118	ILE
1	B	120	LYS
1	B	124	VAL

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Mol	Chain	Res	Type
1	B	126	THR
1	B	127	ILE
1	B	128	THR
1	B	129	CYS
1	B	141	ILE
1	B	147	ILE
1	B	148	THR
1	B	149	ARG
1	B	159	LEU
1	B	171	PHE
1	B	172	TRP
1	B	173	PHE
1	B	178	TYR
1	B	182	TRP
1	B	185	SER
1	B	187	LEU
1	B	194	GLN
1	B	199	VAL
1	B	202	TRP
1	B	204	PHE
1	B	219	ASN
1	B	237	VAL
1	B	247	MET
1	B	279	SER
1	B	280	PHE
1	B	295	LEU
1	B	302	LYS
1	B	309	LEU
1	B	310	PHE
1	B	314	PHE
1	B	329	ILE
1	B	333	LEU
1	B	334	MET
1	B	338	GLN
1	B	339	LEU
1	B	347	THR
1	B	354	SER
1	B	362	LEU
1	B	366	LEU
1	B	377	HIS
1	B	384	ARG
1	B	388	LEU

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Mol	Chain	Res	Type
1	B	390	VAL
1	B	396	LEU
1	B	403	VAL
1	B	408	LYS
1	B	419	VAL
1	B	424	TYR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	22	ASN
1	A	151	GLN
1	A	223	ASN
1	A	338	GLN
1	A	379	HIS
1	B	22	ASN
1	B	151	GLN
1	B	223	ASN
1	B	379	HIS

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 carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	410/445 (92%)	-0.08	15 (3%) 41 27	109, 173, 311, 406	0
1	B	410/445 (92%)	-0.20	11 (2%) 54 39	108, 172, 311, 406	0
All	All	820/890 (92%)	-0.14	26 (3%) 47 32	108, 172, 313, 406	0

All (26) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	166	ALA	7.2
1	A	248	GLY	4.1
1	A	37	SER	4.0
1	B	170	TRP	3.8
1	A	287	LEU	3.4
1	B	167	VAL	3.4
1	A	343	SER	3.3
1	B	287	LEU	3.1
1	A	204	PHE	3.1
1	B	168	PHE	3.0
1	A	182	TRP	2.8
1	B	288	GLY	2.8
1	B	171	PHE	2.6
1	B	190	PHE	2.5
1	A	218	LYS	2.5
1	B	202	TRP	2.5
1	A	183	ASN	2.4
1	A	39	GLY	2.4
1	B	349	GLU	2.3
1	A	10	VAL	2.3
1	A	434	ASN	2.2
1	B	204	PHE	2.1
1	A	29	PHE	2.1
1	A	203	SER	2.0

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Mol	Chain	Res	Type	RSRZ
1	A	202	TRP	2.0
1	A	316	ARG	2.0

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

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

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.