



Full wwPDB X-ray Structure Validation Report ⓘ

Sep 27, 2023 – 05:54 PM EDT

PDB ID : 1M1C
Title : Structure of the L-A virus
Authors : Naitow, H.; Tang, J.; Canady, M.; Wickner, R.B.; Johnson, J.E.
Deposited on : 2002-06-18
Resolution : 3.50 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.35.1
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) : 2.35.1

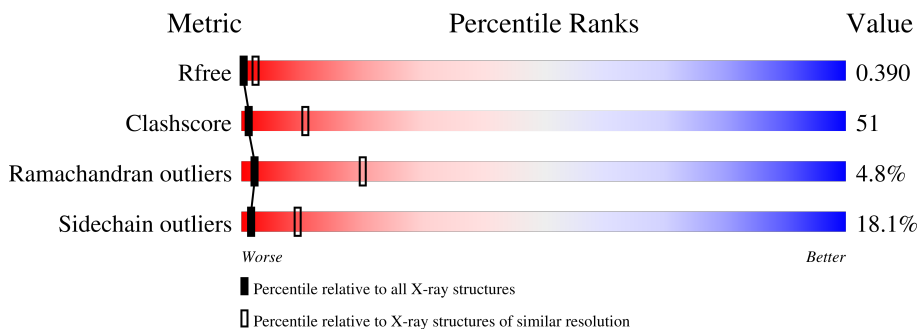
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.50 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	1659 (3.60-3.40)
Clashscore	141614	1036 (3.58-3.42)
Ramachandran outliers	138981	1005 (3.58-3.42)
Sidechain outliers	138945	1006 (3.58-3.42)

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 $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	A	680	 34% 52% 10% .
1	B	680	 26% 53% 15% . .

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 10302 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.

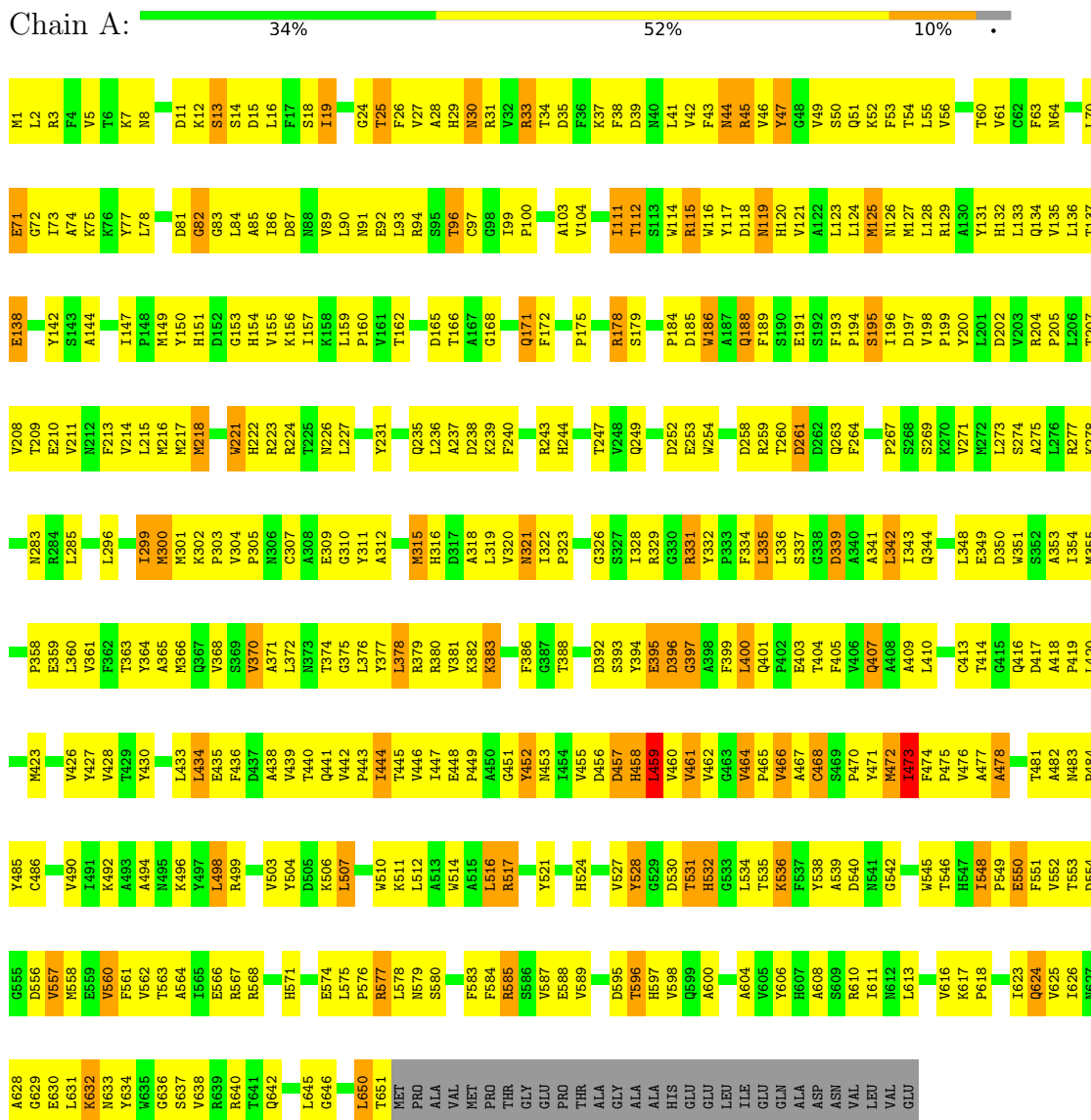
- Molecule 1 is a protein called Major coat protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	651	5151	3302	871	955	23	0	0	0
1	B	651	5151	3302	871	955	23	0	0	0

3 Residue-property plots

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

- Molecule 1: Major coat protein



- Molecule 1: Major coat protein



GLU	Y594	H594	Y394	S327	F284	L201	L133	E65	M1
PRO	D595	F525	E395	I328	R285	D202	Q134	G66	L2
THR	T596	K526	D396	R399	P286	V203	V135	S67	R3
ALA	H597	V464	G397	G330	R204	R204	L136	S68	F4
GLY	V598	V466	L400	R331	K270	P205	T137	V69	T5
ALA	D599	A467	L400	Y332	V271	L206	E138	L70	T6
ALA	A600	C468	Q461	F333	M272	T207	Q139	E71	K7
HIS	G601	S469	P402	F334	L273	V208	G140	G72	M8
GLU	A602	P470	E403	L335	S274	T209	Q141	I73	S9
GLU	H603	Y471	L336	A275	L276	E210	S143	K75	D11
LEU	A604	M472	V406	S337	R277	V211	A142	A74	Q10
ILE	V605	I473	Q407	G338	R278	M212	A144	K76	K12
GLU	Y606	F474	A408	D339	K278	F213	G145	Y77	S13
GLN	H607	P475	A409	A340	Y279	V214	D146	L78	S14
ALA	A608	V476	L410	A341	V280	L215	I147	L84	D15
ASP	S609	A477	A477	L342	N281	M216	P148	L84	L16
ASN	R610	T544	C413	I343	H282	M217	M149	D87	F17
VAL	I611	W545	T414	T414	N283	M218	Y150	V88	S18
LEU	H612	T546	G415	G415	R284	S219	H151	V89	I19
VAL	L613	H547	Q416	L348	L285	K220	D152	V89	I19
D614	D614	I548	D417	W351	Y286	W221	G153	L90	D22
Y615	Y615	N483	A418	A351	N287	H222	H154	L90	R23
Y616	Y616	P484	P419	S352	Q288	R223	V155	E92	G24
Y617	Y617	Y485	L420	A353	Q288	R224	K156	R93	R24
Y618	Y618	C486	L420	I354	T291	T225	I157	R94	T25
Y618	Y618	C486	L420	M855	A292	N226	K158	S95	F26
Y618	Y618	C486	L420	M855	A292	N226	K158	S95	V27
G622	G622	G487	M423	A292	A293	L227	L159	T96	A28
I623	I623	N488	S424	A293	A293	L227	L159	T96	A28
E559	E559	F489	D425	P358	P358	A228	P160	C97	H29
V625	V625	V490	V426	E359	E359	I229	V161	G98	N30
I626	I626	I491	Y427	L296	L296	D230	T162	I99	R31
H627	H627	K492	V428	V361	A297	Y231	I163	P100	V32
A628	A628	A493	T429	F362	Q298	Y231	D164	P100	V32
A628	A628	A494	Y430	F363	I299	P234	D165	V104	R33
E630	E630	N495	P431	Y364	M300	Q235	T170	A105	K37
L631	L631	Y497	L434	A365	M301	L236	Q171	S106	F38
K632	K632	L498	E435	M366	K302	A237	F172	A106	D39
H633	H633	R489	F436	Q367	F303	D238	A173	Y109	V42
V634	V634	K500	D437	V368	V304	K239	W174	M110	F43
W635	W635	G501	A438	S389	P305	F240	P175	I111	M44
G636	G636	A502	A438	L371	C307	A241	W174	T112	F43
V638	V638	Y504	V442	A371	A308	R243	R178	W114	R45
R639	R639	D505	P443	L372	E309	R243	S179	W114	V46
T641	T641	L507	I444	G375	G310	T247	T180	R115	Y47
Q642	Q642	L578	V446	L376	Y311	V248	D181	Y117	G48
Q643	Q643	N508	E448	Y377	A312	Q249	D118	Y117	V49
G644	G644	A509	P449	R379	W313	D250	P184	D118	S50
G644	G644	W510	R380	R380	L314	A251	D185	N119	Q51
L650	L650	A513	A450	V381	M315	D252	W186	H120	K52
T651	T651	W514	G451	K382	H316	E253	A187	W121	F53
PRO	PRO	F584	N453	K382	D317	W254	Q188	A122	L55
ALA	ALA	I454	I454	K382	A318	I255	P189	L123	L55
VAL	VAL	S586	V455	T384	L319	E256	S190	L124	V56
MET	MET	A519	D456	F386	V320	G257	S195	M125	G57
PRO	PRO	G520	D457	I322	N321	D258	S195	N126	N58
THR	THR	Y521	H488	V456	I322	R259	I196	M127	P59
THR	THR	D522	L459	D522	P323	T280	D197	L128	T60
GLY	GLY	I593	T523	T523	K324	D261	V198	R129	V61
GLY	GLY	I593	T523	T523	D392	D262	P199	A130	G62
GLY	GLY	I593	T523	T523	F325	Q263	Y131	Y131	F63
GLY	GLY	I593	T523	T523	S393	Q263	Y200	H132	M64

4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	407.00Å 403.20Å 572.00Å 90.00° 90.46° 90.00°	Depositor
Resolution (Å)	30.00 – 3.50 47.85 – 3.28	Depositor EDS
% Data completeness (in resolution range)	(Not available) (30.00-3.50) 22.6 (47.85-3.28)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.31 (at 3.25Å)	Xtriage
Refinement program	X-PLOR 3.851	Depositor
R, R_{free}	0.266 , 0.268 0.390 , 0.390	Depositor DCC
R_{free} test set	96853 reflections (9.99%)	wwPDB-VP
Wilson B-factor (Å ²)	57.0	Xtriage
Anisotropy	0.158	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.27 , -17.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.41$, $\langle L^2 \rangle = 0.23$	Xtriage
Estimated twinning fraction	0.064 for k,h,-l 0.065 for -k,-h,-l 0.067 for h,-k,-l	Xtriage
F_o, F_c correlation	0.59	EDS
Total number of atoms	10302	wwPDB-VP
Average B, all atoms (Å ²)	62.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.47% 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	0.29	0/5289	0.57	4/7212 (0.1%)
1	B	0.29	0/5289	0.60	4/7212 (0.1%)
All	All	0.29	0/10578	0.59	8/14424 (0.1%)

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	532	HIS	N-CA-C	-8.36	88.42	111.00
1	A	452	TYR	N-CA-C	-7.01	92.06	111.00
1	B	492	LYS	N-CA-C	-5.83	95.27	111.00
1	B	474	PHE	N-CA-C	5.65	126.25	111.00
1	B	613	LEU	N-CA-C	5.56	126.02	111.00
1	B	447	ILE	N-CA-C	-5.13	97.14	111.00
1	A	459	LEU	CA-CB-CG	5.12	127.09	115.30
1	A	557	VAL	N-CA-C	-5.10	97.22	111.00

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	5151	0	5012	470	0
1	B	5151	0	5012	579	0
All	All	10302	0	10024	1036	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 51.

All (1036) 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:B:16:LEU:HB2	1:B:363:THR:HG21	1.23	1.14
1:B:445:THR:HG23	1:B:446:VAL:H	1.05	1.14
1:A:15:ASP:HB2	1:A:608:ALA:HB1	1.25	1.13
1:A:144:ALA:HB3	1:A:165:ASP:HA	1.26	1.10
1:B:376:LEU:HB3	1:B:464:VAL:HG21	1.31	1.10
1:A:506:LYS:HE3	1:A:552:VAL:HG23	1.31	1.08
1:B:109:TYR:HA	1:B:113:SER:HB2	1.35	1.08
1:A:310:GLY:HA2	1:A:465:PRO:HB2	1.35	1.08
1:B:502:ALA:HB1	1:B:562:VAL:H	1.13	1.07
1:B:506:LYS:HB3	1:B:552:VAL:HG13	1.37	1.07
1:A:154:HIS:HA	1:A:448:GLU:HG3	1.38	1.05
1:B:198:VAL:HG22	1:B:199:PRO:HD2	1.33	1.05
1:B:445:THR:HG23	1:B:446:VAL:N	1.71	1.05
1:A:154:HIS:HA	1:A:448:GLU:CG	1.88	1.04
1:B:390:ILE:HD12	1:B:390:ILE:H	1.21	1.01
1:B:310:GLY:HA2	1:B:465:PRO:HB2	1.43	1.01
1:A:506:LYS:HD2	1:A:558:MET:HA	1.41	1.00
1:B:10:GLN:C	1:B:12:LYS:H	1.64	0.98
1:B:14:SER:O	1:B:610:ARG:HA	1.63	0.97
1:B:450:ALA:O	1:B:452:TYR:N	1.97	0.97
1:B:299:ILE:HG22	1:B:428:VAL:HG21	1.44	0.96
1:B:154:HIS:HA	1:B:447:ILE:CG2	1.96	0.96
1:A:198:VAL:CG1	1:A:240:PHE:HA	1.95	0.94
1:B:451:GLY:HA2	1:B:532:HIS:O	1.69	0.93
1:B:99:ILE:HG21	1:B:104:VAL:HA	1.51	0.92
1:B:280:VAL:HA	1:B:285:LEU:HD12	1.48	0.92
1:B:613:LEU:O	1:B:616:VAL:HG12	1.69	0.91
1:A:15:ASP:HB3	1:A:610:ARG:CZ	2.00	0.91
1:B:99:ILE:HG21	1:B:104:VAL:CA	2.01	0.91
1:B:509:ALA:HB2	1:B:560:VAL:HG11	1.51	0.91
1:A:395:GLU:HG3	1:A:396:ASP:N	1.84	0.90
1:B:154:HIS:HA	1:B:447:ILE:HG21	1.52	0.89
1:B:394:TYR:O	1:B:644:GLY:HA3	1.72	0.89
1:A:123:LEU:HD13	1:A:218:MET:HE3	1.53	0.89
1:B:310:GLY:HA2	1:B:465:PRO:CB	2.04	0.88
1:A:260:THR:HG23	1:A:263:GLN:H	1.38	0.88
1:B:72:GLY:HA3	1:B:329:ARG:HH12	1.39	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:473:ILE:O	1:A:476:VAL:HG22	1.74	0.87
1:A:15:ASP:HB2	1:A:608:ALA:CB	2.06	0.86
1:B:630:GLU:HG2	1:B:632:LYS:H	1.40	0.86
1:A:332:TYR:HB2	1:A:335:LEU:HD13	1.57	0.86
1:B:507:LEU:HD22	1:B:507:LEU:H	1.40	0.86
1:B:573:VAL:HG12	1:B:574:GLU:H	1.40	0.85
1:A:396:ASP:OD2	1:B:277:ARG:HD3	1.75	0.85
1:B:526:LYS:O	1:B:561:PHE:HB2	1.77	0.85
1:B:498:LEU:H	1:B:501:GLY:HA2	1.40	0.84
1:B:420:LEU:HD13	1:B:637:SER:HA	1.58	0.83
1:B:531:THR:HG22	1:B:534:LEU:HB2	1.57	0.83
1:A:440:THR:HB	1:A:461:VAL:HG23	1.60	0.83
1:B:474:PHE:C	1:B:476:VAL:H	1.82	0.83
1:B:570:ARG:HG2	1:B:570:ARG:HH11	1.43	0.83
1:B:22:ASP:HB2	1:B:601:GLY:HA2	1.60	0.82
1:A:200:TYR:HB2	1:A:331:ARG:HG2	1.62	0.82
1:B:445:THR:CG2	1:B:446:VAL:N	2.40	0.82
1:A:73:ILE:HB	1:A:78:LEU:HD21	1.62	0.82
1:A:236:LEU:HD22	1:A:236:LEU:H	1.43	0.82
1:A:52:LYS:HG3	1:A:304:VAL:HB	1.61	0.81
1:A:147:ILE:HG21	1:A:159:LEU:HB2	1.63	0.81
1:B:72:GLY:HA3	1:B:329:ARG:NH1	1.95	0.81
1:B:128:LEU:HD22	1:B:296:LEU:HD23	1.62	0.81
1:A:198:VAL:HG11	1:A:240:PHE:HA	1.64	0.80
1:B:446:VAL:O	1:B:447:ILE:HG12	1.81	0.80
1:B:496:LYS:HG2	1:B:503:VAL:HG11	1.63	0.80
1:B:22:ASP:HB2	1:B:601:GLY:CA	2.11	0.80
1:B:199:PRO:HG2	1:B:240:PHE:HB3	1.63	0.80
1:A:312:ALA:HB2	1:A:461:VAL:HG21	1.65	0.78
1:B:277:ARG:HA	1:B:351:TRP:HH2	1.48	0.78
1:B:126:ASN:HA	1:B:129:ARG:HD3	1.65	0.78
1:B:353:ALA:HA	1:B:616:VAL:CG2	2.14	0.78
1:B:418:ALA:HB3	1:B:638:VAL:HG12	1.66	0.78
1:B:5:VAL:HG11	1:B:360:LEU:HD11	1.63	0.78
1:A:577:ARG:HD2	1:A:579:ASN:OD1	1.84	0.77
1:A:285:LEU:HD21	1:A:329:ARG:HD2	1.67	0.77
1:A:506:LYS:CE	1:A:552:VAL:HG23	2.14	0.77
1:B:1:MET:HE3	1:B:361:VAL:HA	1.66	0.77
1:A:260:THR:CG2	1:A:263:GLN:H	1.98	0.77
1:B:471:TYR:HA	1:B:474:PHE:HB2	1.68	0.77
1:A:381:VAL:HG22	1:A:553:THR:HG22	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:121:VAL:HG13	1:B:292:ALA:HB2	1.65	0.76
1:B:153:GLY:O	1:B:447:ILE:HG21	1.84	0.76
1:B:502:ALA:HB1	1:B:562:VAL:N	1.97	0.76
1:B:496:LYS:O	1:B:503:VAL:HB	1.86	0.75
1:A:202:ASP:OD2	1:A:204:ARG:HD3	1.86	0.75
1:B:318:ALA:HB2	1:B:430:TYR:CZ	2.22	0.75
1:A:443:PRO:HA	1:A:458:HIS:HB3	1.69	0.74
1:B:144:ALA:HB3	1:B:165:ASP:HA	1.69	0.74
1:B:156:LYS:HG3	1:B:445:THR:HG21	1.69	0.74
1:A:137:THR:HG21	1:A:172:PHE:H	1.52	0.74
1:A:393:SER:OG	1:A:395:GLU:HG2	1.88	0.74
1:B:14:SER:HB2	1:B:611:ILE:O	1.87	0.74
1:B:14:SER:O	1:B:610:ARG:CA	2.36	0.74
1:B:223:ARG:NH1	1:B:231:TYR:HA	2.01	0.74
1:B:423:MET:HB2	1:B:426:VAL:HG21	1.70	0.74
1:A:249:GLN:O	1:A:253:GLU:HG3	1.88	0.73
1:B:150:TYR:CE2	1:B:308:ALA:HB2	2.23	0.73
1:A:70:LEU:HD22	1:A:328:ILE:HD11	1.68	0.73
1:A:267:PRO:HB2	1:A:271:VAL:CG1	2.18	0.73
1:A:576:PRO:O	1:A:578:LEU:HG	1.88	0.73
1:B:526:LYS:HA	1:B:526:LYS:HZ3	1.51	0.73
1:A:574:GLU:O	1:A:575:LEU:HD23	1.87	0.73
1:B:22:ASP:CB	1:B:601:GLY:HA2	2.18	0.73
1:B:630:GLU:HG2	1:B:632:LYS:N	2.03	0.73
1:B:65:GLU:HG3	1:B:117:TYR:CE1	2.23	0.73
1:B:526:LYS:HZ2	1:B:527:VAL:H	1.37	0.73
1:A:55:LEU:HB2	1:A:227:LEU:HD12	1.70	0.73
1:B:120:HIS:O	1:B:124:LEU:HG	1.88	0.72
1:A:75:LYS:HG2	1:A:341:ALA:HB2	1.71	0.72
1:B:283:ASN:O	1:B:284:ARG:HB2	1.90	0.72
1:B:284:ARG:HD3	1:B:340:ALA:HB2	1.71	0.72
1:A:632:LYS:HG3	1:B:334:PHE:HB2	1.71	0.72
1:A:198:VAL:HG13	1:A:199:PRO:HD2	1.72	0.72
1:A:155:VAL:HA	1:A:447:ILE:HG12	1.70	0.71
1:A:444:ILE:HD13	1:A:457:ASP:O	1.90	0.71
1:B:390:ILE:H	1:B:390:ILE:CD1	1.94	0.71
1:A:531:THR:HG23	1:A:531:THR:O	1.89	0.71
1:A:423:MET:HB3	1:A:426:VAL:HG21	1.72	0.71
1:B:328:ILE:HG22	1:B:328:ILE:O	1.89	0.71
1:A:189:PHE:CZ	1:A:191:GLU:HB2	2.26	0.71
1:B:469:SER:HB2	1:B:470:PRO:HD2	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:493:ALA:HB2	1:B:584:PHE:CD1	2.26	0.71
1:B:368:VAL:HG13	1:B:410:LEU:HD21	1.72	0.71
1:B:410:LEU:O	1:B:414:THR:HG22	1.91	0.71
1:A:299:ILE:HG22	1:A:428:VAL:HG11	1.74	0.70
1:B:348:LEU:HD12	1:B:618:PRO:HB3	1.71	0.70
1:A:549:PRO:O	1:A:552:VAL:HG12	1.91	0.70
1:A:395:GLU:CB	1:A:436:PHE:HE1	2.04	0.70
1:A:557:VAL:HG13	1:A:557:VAL:O	1.91	0.70
1:A:15:ASP:HB3	1:A:610:ARG:NH2	2.06	0.70
1:A:157:ILE:HG22	1:A:444:ILE:HA	1.74	0.70
1:B:548:ILE:HD12	1:B:548:ILE:H	1.57	0.70
1:A:150:TYR:HB3	1:A:157:ILE:HG13	1.72	0.70
1:A:267:PRO:HB2	1:A:271:VAL:HG11	1.74	0.70
1:B:259:ARG:HG3	1:B:263:GLN:OE1	1.91	0.70
1:A:5:VAL:HG11	1:A:360:LEU:HD11	1.74	0.69
1:B:630:GLU:HG2	1:B:631:LEU:N	2.06	0.69
1:A:441:GLN:HE22	1:A:460:VAL:HG12	1.57	0.69
1:B:380:ARG:HA	1:B:436:PHE:CD2	2.27	0.69
1:B:91:ASN:HA	1:B:94:ARG:HD2	1.74	0.69
1:B:156:LYS:HE3	1:B:445:THR:HB	1.75	0.69
1:B:55:LEU:HA	1:B:301:MET:HB2	1.75	0.69
1:A:3:ARG:O	1:A:7:LYS:HG2	1.93	0.69
1:A:199:PRO:HG2	1:A:240:PHE:HB3	1.74	0.69
1:A:260:THR:HG22	1:A:263:GLN:HB2	1.74	0.69
1:B:131:TYR:O	1:B:135:VAL:HG23	1.92	0.69
1:A:154:HIS:HA	1:A:448:GLU:HG2	1.71	0.69
1:B:526:LYS:HA	1:B:526:LYS:NZ	2.07	0.69
1:A:629:GLY:H	1:A:650:LEU:HD11	1.58	0.69
1:B:523:THR:HB	1:B:565:ILE:HG22	1.74	0.69
1:A:378:LEU:HG	1:A:478:ALA:HB1	1.75	0.69
1:B:299:ILE:HG22	1:B:428:VAL:CG2	2.22	0.69
1:B:70:LEU:O	1:B:73:ILE:HG23	1.93	0.68
1:B:175:PRO:O	1:B:222:HIS:HB2	1.94	0.68
1:B:198:VAL:CG2	1:B:199:PRO:HD2	2.19	0.68
1:A:452:TYR:HB3	1:A:459:LEU:HD22	1.74	0.68
1:A:494:ALA:HB2	1:A:504:TYR:CZ	2.27	0.68
1:B:277:ARG:HA	1:B:351:TRP:CH2	2.28	0.68
1:A:472:MET:HE3	1:A:472:MET:HA	1.76	0.68
1:B:598:VAL:O	1:B:606:TYR:HB2	1.93	0.68
1:A:320:VAL:HG12	1:A:428:VAL:HG22	1.73	0.68
1:B:474:PHE:O	1:B:476:VAL:HG23	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:10:GLN:C	1:B:12:LYS:N	2.39	0.68
1:B:211:VAL:O	1:B:215:LEU:HD12	1.94	0.68
1:A:342:LEU:N	1:A:342:LEU:HD23	2.09	0.67
1:A:395:GLU:HB2	1:A:436:PHE:CE1	2.30	0.67
1:A:576:PRO:HG2	1:A:578:LEU:HD21	1.74	0.67
1:B:137:THR:HG23	1:B:171:GLN:HA	1.76	0.67
1:A:532:HIS:ND1	1:A:532:HIS:O	2.27	0.67
1:A:210:GLU:HG2	1:A:275:ALA:HB2	1.76	0.67
1:B:602:ALA:O	1:B:603:HIS:HB3	1.93	0.67
1:A:73:ILE:HG23	1:A:335:LEU:O	1.94	0.67
1:A:379:ARG:NH2	1:A:395:GLU:O	2.22	0.67
1:B:499:ARG:HB2	1:B:500:LYS:HD2	1.77	0.67
1:A:49:VAL:HA	1:A:542:GLY:O	1.95	0.67
1:A:277:ARG:HB2	1:A:355:MET:HE1	1.75	0.67
1:B:154:HIS:HD2	1:B:448:GLU:HG3	1.59	0.67
1:A:254:TRP:HA	1:A:259:ARG:HB3	1.77	0.67
1:B:525:PHE:HB2	1:B:561:PHE:O	1.94	0.67
1:A:94:ARG:HE	1:A:104:VAL:HG21	1.60	0.67
1:A:496:LYS:HB3	1:A:503:VAL:HG22	1.77	0.67
1:B:22:ASP:CG	1:B:601:GLY:HA2	2.16	0.66
1:A:490:VAL:HG22	1:A:588:GLU:HB2	1.76	0.66
1:B:513:ALA:HA	1:B:523:THR:HG21	1.77	0.66
1:A:37:LYS:HA	1:A:41:LEU:O	1.95	0.66
1:A:70:LEU:HB3	1:A:73:ILE:HD12	1.76	0.66
1:A:184:PRO:HB3	1:A:237:ALA:O	1.95	0.66
1:A:482:ALA:O	1:A:511:LYS:HD2	1.95	0.66
1:B:291:THR:HG21	1:B:423:MET:CG	2.27	0.65
1:A:375:GLY:HA2	1:A:413:CYS:HB2	1.78	0.65
1:B:490:VAL:HG22	1:B:491:ILE:N	2.12	0.65
1:A:35:ASP:O	1:A:589:VAL:HA	1.96	0.65
1:A:383:LYS:HG2	1:A:383:LYS:O	1.97	0.65
1:A:472:MET:HA	1:A:472:MET:CE	2.27	0.65
1:A:535:THR:O	1:A:536:LYS:CB	2.44	0.65
1:B:1:MET:CE	1:B:361:VAL:HA	2.26	0.65
1:A:348:LEU:HD11	1:A:623:ILE:HG21	1.79	0.65
1:A:354:ILE:HD13	1:A:360:LEU:HB3	1.77	0.65
1:B:526:LYS:HD3	1:B:527:VAL:N	2.12	0.65
1:A:535:THR:O	1:A:536:LYS:HB2	1.95	0.64
1:A:403:GLU:HG3	1:A:634:TYR:CZ	2.33	0.64
1:B:254:TRP:HE1	1:B:261:ASP:HA	1.59	0.64
1:B:10:GLN:O	1:B:12:LYS:N	2.28	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:117:TYR:O	1:B:118:ASP:O	2.14	0.64
1:B:351:TRP:O	1:B:355:MET:HB2	1.98	0.64
1:A:395:GLU:CB	1:A:436:PHE:CE1	2.81	0.64
1:B:291:THR:HG21	1:B:423:MET:HG2	1.78	0.64
1:B:400:LEU:HD23	1:B:434:LEU:HD11	1.78	0.64
1:B:565:ILE:HD13	1:B:565:ILE:H	1.61	0.64
1:B:57:GLY:O	1:B:59:PRO:HD3	1.97	0.64
1:B:407:GLN:HB3	1:B:638:VAL:HG12	1.79	0.64
1:B:527:VAL:CG1	1:B:531:THR:HG23	2.28	0.64
1:A:149:MET:SD	1:A:151:HIS:HB3	2.38	0.64
1:B:379:ARG:CZ	1:B:436:PHE:HB3	2.28	0.64
1:B:123:LEU:HD13	1:B:218:MET:HE2	1.80	0.63
1:B:284:ARG:NH2	1:B:336:LEU:O	2.31	0.63
1:A:358:PRO:HD2	1:A:359:GLU:OE2	1.98	0.63
1:A:420:LEU:HG	1:A:636:GLY:O	1.99	0.63
1:B:531:THR:HG22	1:B:534:LEU:CB	2.25	0.63
1:B:593:ILE:HD12	1:B:593:ILE:H	1.64	0.63
1:A:379:ARG:HD2	1:A:399:PHE:CE1	2.33	0.63
1:B:375:GLY:HA3	1:B:409:ALA:O	1.98	0.63
1:A:82:GLY:HA3	1:B:95:SER:HB3	1.80	0.63
1:A:186:TRP:HD1	1:A:215:LEU:HD12	1.64	0.63
1:A:307:CYS:HB2	1:A:309:GLU:OE1	1.98	0.63
1:B:476:VAL:O	1:B:477:ALA:HB3	1.99	0.63
1:B:72:GLY:H	1:B:329:ARG:HH22	1.45	0.62
1:B:353:ALA:HA	1:B:616:VAL:HG21	1.79	0.62
1:B:438:ALA:O	1:B:463:GLY:N	2.33	0.62
1:A:377:TYR:CE1	1:A:466:VAL:HG22	2.34	0.62
1:B:150:TYR:HB2	1:B:311:TYR:CE1	2.35	0.62
1:B:156:LYS:HG3	1:B:445:THR:CG2	2.29	0.62
1:A:218:MET:HA	1:A:218:MET:HE2	1.81	0.62
1:B:327:SER:O	1:B:328:ILE:HD12	2.00	0.62
1:A:8:ASN:O	1:A:475:PRO:HG2	2.00	0.62
1:A:650:LEU:CD1	1:A:651:THR:H	2.13	0.62
1:B:22:ASP:HB2	1:B:601:GLY:N	2.15	0.62
1:A:29:HIS:HB2	1:A:597:HIS:CE1	2.35	0.62
1:B:75:LYS:HA	1:B:341:ALA:HB2	1.81	0.62
1:B:294:GLN:HE22	1:B:419:PRO:HB2	1.65	0.62
1:B:418:ALA:HB3	1:B:638:VAL:CG1	2.29	0.62
1:A:126:ASN:HB3	1:A:217:MET:CE	2.30	0.61
1:A:483:ASN:O	1:A:486:CYS:HB2	1.99	0.61
1:B:117:TYR:O	1:B:117:TYR:CD1	2.53	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:332:TYR:HB2	1:B:335:LEU:HD13	1.82	0.61
1:A:235:GLN:HE21	1:A:238:ASP:HA	1.64	0.61
1:A:371:ALA:HB3	1:A:410:LEU:HD23	1.82	0.61
1:B:506:LYS:CB	1:B:552:VAL:HG13	2.22	0.61
1:B:73:ILE:HG13	1:B:74:ALA:N	2.16	0.61
1:B:453:ASN:OD1	1:B:453:ASN:O	2.18	0.61
1:A:186:TRP:CD1	1:A:215:LEU:HD12	2.35	0.61
1:B:493:ALA:HB2	1:B:584:PHE:CE1	2.34	0.61
1:B:155:VAL:N	1:B:447:ILE:HB	2.15	0.61
1:A:28:ALA:O	1:A:50:SER:HA	2.00	0.61
1:A:379:ARG:HG3	1:A:394:TYR:HB3	1.81	0.61
1:A:439:VAL:HG12	1:A:462:VAL:HG22	1.83	0.61
1:B:348:LEU:HD12	1:B:618:PRO:CB	2.30	0.61
1:B:109:TYR:O	1:B:114:TRP:HD1	1.84	0.61
1:B:283:ASN:HA	1:B:336:LEU:HD13	1.83	0.61
1:B:359:GLU:O	1:B:363:THR:HG23	2.01	0.61
1:A:310:GLY:HA2	1:A:465:PRO:CB	2.21	0.61
1:B:476:VAL:HG12	1:B:477:ALA:N	2.16	0.61
1:B:7:LYS:HD2	1:B:10:GLN:NE2	2.15	0.60
1:B:112:THR:CG2	1:B:197:ASP:HA	2.31	0.60
1:B:358:PRO:HD2	1:B:359:GLU:OE2	2.01	0.60
1:A:194:PRO:HD3	1:A:331:ARG:O	2.01	0.60
1:A:204:ARG:HD2	1:A:243:ARG:HG2	1.82	0.60
1:B:381:VAL:HG22	1:B:553:THR:CG2	2.31	0.60
1:A:506:LYS:HE3	1:A:552:VAL:CG2	2.21	0.60
1:A:401:GLN:HB3	1:A:404:THR:OG1	2.01	0.60
1:B:15:ASP:HB3	1:B:610:ARG:HG2	1.82	0.60
1:A:8:ASN:O	1:A:475:PRO:CG	2.50	0.60
1:A:524:HIS:HB2	1:A:563:THR:O	2.01	0.60
1:B:455:VAL:HG12	1:B:456:ASP:OD1	2.02	0.60
1:A:37:LYS:HG2	1:A:42:VAL:HG22	1.84	0.60
1:A:75:LYS:HD3	1:A:624:GLN:NE2	2.16	0.60
1:A:56:VAL:HA	1:A:227:LEU:HA	1.82	0.60
1:B:277:ARG:HB2	1:B:355:MET:SD	2.42	0.60
1:A:35:ASP:OD2	1:A:44:ASN:HB3	2.02	0.60
1:A:129:ARG:O	1:A:133:LEU:HD23	2.00	0.60
1:B:58:ASN:O	1:B:317:ASP:HB3	2.01	0.60
1:B:509:ALA:CB	1:B:560:VAL:HG11	2.27	0.60
1:A:100:PRO:HG2	1:A:103:ALA:HB2	1.83	0.60
1:B:68:SER:HB2	1:B:117:TYR:O	2.02	0.60
1:B:341:ALA:HA	1:B:624:GLN:HB3	1.81	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:123:LEU:HB2	1:A:218:MET:HE3	1.82	0.59
1:A:197:ASP:HA	1:A:331:ARG:HH12	1.67	0.59
1:A:549:PRO:O	1:A:552:VAL:CG1	2.50	0.59
1:A:236:LEU:H	1:A:236:LEU:CD2	2.15	0.59
1:A:150:TYR:HB2	1:A:311:TYR:CZ	2.37	0.59
1:A:223:ARG:HE	1:A:231:TYR:HA	1.67	0.59
1:A:227:LEU:HD22	1:A:227:LEU:H	1.66	0.59
1:A:366:MET:O	1:A:370:VAL:HG12	2.02	0.59
1:B:470:PRO:O	1:B:473:ILE:HD13	2.01	0.59
1:B:55:LEU:HD12	1:B:55:LEU:H	1.67	0.59
1:B:444:ILE:HG22	1:B:445:THR:N	2.17	0.59
1:B:577:ARG:HG3	1:B:579:ASN:OD1	2.02	0.59
1:B:394:TYR:CE1	1:B:644:GLY:HA2	2.37	0.59
1:A:55:LEU:H	1:A:55:LEU:HD22	1.67	0.59
1:A:74:ALA:HB2	1:A:337:SER:O	2.02	0.59
1:A:111:ILE:HG23	1:A:111:ILE:O	2.00	0.59
1:B:38:PHE:O	1:B:39:ASP:HB2	2.02	0.59
1:B:381:VAL:HG11	1:B:386:PHE:CZ	2.38	0.59
1:A:441:GLN:NE2	1:A:460:VAL:HG12	2.18	0.59
1:B:17:PHE:O	1:B:359:GLU:HB3	2.03	0.59
1:B:199:PRO:HG2	1:B:240:PHE:CB	2.32	0.59
1:A:417:ASP:HB3	1:A:637:SER:OG	2.03	0.59
1:B:52:LYS:HB2	1:B:304:VAL:HB	1.82	0.59
1:A:443:PRO:CA	1:A:458:HIS:HB3	2.33	0.59
1:A:150:TYR:HB3	1:A:157:ILE:CG1	2.33	0.58
1:B:474:PHE:O	1:B:476:VAL:N	2.36	0.58
1:A:126:ASN:HB3	1:A:217:MET:HE3	1.84	0.58
1:B:235:GLN:HE21	1:B:238:ASP:HA	1.68	0.58
1:A:56:VAL:HG13	1:A:226:ASN:HB3	1.85	0.58
1:B:174:TRP:CE3	1:B:216:MET:HE2	2.38	0.58
1:A:27:VAL:HG23	1:A:51:GLN:C	2.23	0.58
1:A:33:ARG:HB2	1:A:46:VAL:HG12	1.84	0.58
1:A:198:VAL:HG13	1:A:240:PHE:HA	1.83	0.58
1:A:414:THR:HB	1:A:416:GLN:HE21	1.69	0.58
1:A:610:ARG:HH11	1:A:610:ARG:HG2	1.68	0.58
1:B:13:SER:O	1:B:14:SER:OG	2.12	0.58
1:B:364:TYR:O	1:B:368:VAL:HG23	2.04	0.58
1:B:23:ARG:HH11	1:B:23:ARG:HB2	1.69	0.58
1:B:376:LEU:HD23	1:B:464:VAL:HG11	1.86	0.58
1:A:199:PRO:O	1:A:240:PHE:HB2	2.03	0.58
1:A:323:PRO:HD3	1:A:426:VAL:HG12	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:68:SER:HB2	1:B:117:TYR:C	2.24	0.58
1:B:201:LEU:N	1:B:201:LEU:HD23	2.19	0.58
1:A:277:ARG:HD3	1:A:355:MET:HE2	1.85	0.58
1:A:632:LYS:HG3	1:B:334:PHE:CB	2.33	0.58
1:B:59:PRO:HD2	1:B:223:ARG:HH22	1.66	0.58
1:A:119:ASN:HD21	1:A:323:PRO:HG2	1.69	0.58
1:A:650:LEU:HD12	1:A:651:THR:H	1.69	0.58
1:B:15:ASP:HB2	1:B:608:ALA:HB1	1.85	0.58
1:A:371:ALA:CB	1:A:410:LEU:HD23	2.34	0.57
1:B:154:HIS:HA	1:B:447:ILE:CB	2.34	0.57
1:A:149:MET:SD	1:A:156:LYS:HG3	2.45	0.57
1:B:476:VAL:O	1:B:477:ALA:CB	2.51	0.57
1:A:483:ASN:HB2	1:A:484:PRO:HD2	1.86	0.57
1:B:491:ILE:O	1:B:586:SER:HB2	2.04	0.57
1:B:498:LEU:N	1:B:501:GLY:HA2	2.17	0.57
1:B:117:TYR:CD2	1:B:326:GLY:HA3	2.40	0.57
1:B:15:ASP:HB2	1:B:608:ALA:CB	2.34	0.57
1:B:249:GLN:O	1:B:253:GLU:HG3	2.04	0.57
1:A:120:HIS:O	1:A:124:LEU:HG	2.04	0.57
1:A:386:PHE:CE2	1:A:507:LEU:HG	2.39	0.57
1:B:207:THR:O	1:B:211:VAL:HG23	2.05	0.57
1:A:92:GLU:O	1:A:96:THR:HG22	2.03	0.57
1:B:517:ARG:NE	1:B:539:ALA:HB3	2.19	0.57
1:A:218:MET:HG2	1:A:240:PHE:CE2	2.40	0.57
1:A:577:ARG:NH2	1:A:580:SER:HB2	2.19	0.57
1:B:125:MET:HE1	1:B:292:ALA:HA	1.86	0.57
1:A:178:ARG:HG3	1:A:254:TRP:CH2	2.39	0.57
1:B:380:ARG:NH1	1:B:380:ARG:HG3	2.19	0.57
1:B:483:ASN:HB2	1:B:484:PRO:CD	2.35	0.57
1:B:490:VAL:HG22	1:B:491:ILE:H	1.69	0.56
1:B:126:ASN:HA	1:B:129:ARG:CD	2.34	0.56
1:B:381:VAL:HG22	1:B:553:THR:HG23	1.85	0.56
1:B:506:LYS:HE2	1:B:552:VAL:O	2.05	0.56
1:A:375:GLY:HA3	1:A:409:ALA:O	2.04	0.56
1:A:440:THR:HB	1:A:461:VAL:CG2	2.32	0.56
1:A:645:LEU:HD23	1:A:645:LEU:H	1.70	0.56
1:B:155:VAL:HG13	1:B:444:ILE:HG23	1.87	0.56
1:B:305:PRO:HA	1:B:467:ALA:O	2.05	0.56
1:B:117:TYR:O	1:B:117:TYR:CG	2.58	0.56
1:B:423:MET:HB2	1:B:426:VAL:CG2	2.35	0.56
1:B:552:VAL:O	1:B:552:VAL:HG12	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:442:VAL:O	1:A:458:HIS:CB	2.53	0.56
1:B:253:GLU:CB	1:B:259:ARG:HB2	2.36	0.56
1:B:283:ASN:O	1:B:284:ARG:CB	2.53	0.56
1:B:380:ARG:HG3	1:B:380:ARG:HH11	1.69	0.56
1:B:428:VAL:HG13	1:B:428:VAL:O	2.04	0.56
1:A:403:GLU:HG3	1:A:634:TYR:CE2	2.40	0.56
1:B:69:TYR:HB2	1:B:288:GLN:HE21	1.71	0.56
1:B:355:MET:HA	1:B:355:MET:CE	2.36	0.56
1:B:453:ASN:OD1	1:B:453:ASN:C	2.43	0.56
1:B:473:ILE:HG12	1:B:473:ILE:O	2.05	0.56
1:B:473:ILE:HD13	1:B:473:ILE:H	1.71	0.56
1:A:131:TYR:O	1:A:135:VAL:HG23	2.06	0.56
1:A:133:LEU:HB3	1:A:172:PHE:CD1	2.40	0.56
1:A:476:VAL:O	1:A:485:TYR:O	2.24	0.56
1:B:150:TYR:O	1:B:156:LYS:HA	2.05	0.56
1:B:19:ILE:HB	1:B:136:LEU:HD11	1.88	0.56
1:A:305:PRO:HG2	1:A:311:TYR:CD1	2.41	0.55
1:A:470:PRO:HG2	1:A:545:TRP:CH2	2.40	0.55
1:A:484:PRO:HD2	1:A:510:TRP:CZ3	2.41	0.55
1:B:55:LEU:HD12	1:B:55:LEU:N	2.22	0.55
1:A:254:TRP:HE1	1:A:261:ASP:HA	1.71	0.55
1:A:423:MET:HB3	1:A:426:VAL:CG2	2.35	0.55
1:B:328:ILE:O	1:B:328:ILE:CG2	2.55	0.55
1:A:123:LEU:CD1	1:A:218:MET:HE3	2.33	0.55
1:A:557:VAL:O	1:A:557:VAL:CG1	2.55	0.55
1:B:510:TRP:CE2	1:B:548:ILE:HG13	2.42	0.55
1:B:2:LEU:HD23	1:B:360:LEU:HD22	1.89	0.55
1:B:150:TYR:CE2	1:B:152:ASP:HB3	2.40	0.55
1:B:628:ALA:HA	1:B:651:THR:O	2.07	0.55
1:B:16:LEU:HD13	1:B:359:GLU:HB2	1.88	0.55
1:B:151:HIS:ND1	1:B:156:LYS:HB3	2.21	0.55
1:B:283:ASN:N	1:B:283:ASN:HD22	2.03	0.55
1:A:386:PHE:CE1	1:A:552:VAL:HG21	2.41	0.55
1:A:419:PRO:HA	1:A:637:SER:HB3	1.87	0.55
1:B:14:SER:O	1:B:611:ILE:N	2.39	0.55
1:A:577:ARG:HH21	1:A:580:SER:HB2	1.72	0.55
1:B:93:LEU:HA	1:B:96:THR:OG1	2.06	0.55
1:B:295:LEU:O	1:B:299:ILE:HG23	2.07	0.55
1:B:446:VAL:HG22	1:B:447:ILE:N	2.21	0.55
1:A:259:ARG:HD2	1:A:263:GLN:HB3	1.88	0.54
1:A:516:LEU:CD1	1:A:521:TYR:HB2	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:483:ASN:HB2	1:B:484:PRO:HD2	1.88	0.54
1:B:514:TRP:O	1:B:518:VAL:HG23	2.06	0.54
1:A:7:LYS:HD3	1:A:11:ASP:OD1	2.07	0.54
1:A:55:LEU:HD22	1:A:55:LEU:N	2.22	0.54
1:B:507:LEU:HD22	1:B:507:LEU:N	2.18	0.54
1:A:277:ARG:HB2	1:A:355:MET:CE	2.37	0.54
1:B:104:VAL:HG22	1:B:105:ALA:N	2.23	0.54
1:A:188:GLN:HG2	1:A:247:THR:OG1	2.07	0.54
1:B:57:GLY:O	1:B:228:ALA:HA	2.06	0.54
1:A:604:ALA:HB1	1:A:606:TYR:CE1	2.42	0.54
1:A:638:VAL:HG23	1:A:646:GLY:C	2.28	0.54
1:B:442:VAL:HG23	1:B:459:LEU:O	2.07	0.54
1:A:55:LEU:CB	1:A:227:LEU:HD12	2.37	0.54
1:A:70:LEU:CD2	1:A:328:ILE:HD11	2.38	0.54
1:B:210:GLU:O	1:B:214:VAL:HG23	2.08	0.54
1:B:611:ILE:O	1:B:611:ILE:HG23	2.07	0.54
1:A:61:VAL:HA	1:A:320:VAL:HG22	1.90	0.54
1:A:300:MET:HE3	1:A:365:ALA:CB	2.37	0.54
1:A:442:VAL:C	1:A:458:HIS:HB3	2.28	0.54
1:A:477:ALA:HA	1:A:485:TYR:HB3	1.89	0.54
1:B:454:ILE:N	1:B:454:ILE:HD12	2.22	0.54
1:B:527:VAL:HG13	1:B:531:THR:HG23	1.90	0.54
1:B:204:ARG:HG3	1:B:243:ARG:O	2.08	0.53
1:B:571:HIS:CE1	1:B:573:VAL:O	2.61	0.53
1:A:200:TYR:CD1	1:A:331:ARG:HD3	2.43	0.53
1:B:126:ASN:HA	1:B:129:ARG:HG2	1.91	0.53
1:B:260:THR:OG1	1:B:263:GLN:HG3	2.07	0.53
1:B:544:THR:HG22	1:B:544:THR:O	2.09	0.53
1:B:603:HIS:O	1:B:604:ALA:HB3	2.07	0.53
1:B:71:GLU:HG2	1:B:287:ASN:HD22	1.73	0.53
1:B:521:TYR:HA	1:B:568:ARG:HG3	1.90	0.53
1:A:260:THR:HG22	1:A:263:GLN:CB	2.37	0.53
1:B:99:ILE:CG2	1:B:104:VAL:HB	2.38	0.53
1:B:99:ILE:HB	1:B:104:VAL:HB	1.90	0.53
1:A:490:VAL:HG22	1:A:588:GLU:CB	2.37	0.53
1:A:86:ILE:HG13	1:B:100:PRO:HB3	1.91	0.53
1:A:368:VAL:HG13	1:A:410:LEU:HD11	1.91	0.53
1:A:512:LEU:O	1:A:516:LEU:HB2	2.08	0.53
1:B:402:PRO:CB	1:B:429:THR:HG21	2.39	0.53
1:B:469:SER:CB	1:B:470:PRO:HD2	2.39	0.53
1:B:500:LYS:HD2	1:B:500:LYS:N	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:178:ARG:HG3	1:A:254:TRP:CZ2	2.43	0.53
1:B:130:ALA:C	1:B:272:MET:HE1	2.29	0.53
1:B:513:ALA:HA	1:B:523:THR:CG2	2.38	0.53
1:B:147:ILE:HD12	1:B:147:ILE:H	1.74	0.53
1:B:307:CYS:HB3	1:B:538:TYR:CE2	2.43	0.53
1:B:382:LYS:HB3	1:B:394:TYR:CZ	2.44	0.53
1:A:459:LEU:C	1:A:459:LEU:HD12	2.29	0.53
1:B:113:SER:O	1:B:116:TRP:NE1	2.42	0.53
1:B:490:VAL:HG23	1:B:587:VAL:O	2.09	0.53
1:B:56:VAL:HG22	1:B:145:GLY:HA3	1.91	0.52
1:B:493:ALA:HB1	1:B:497:TYR:OH	2.08	0.52
1:A:64:ASN:O	1:A:323:PRO:HA	2.10	0.52
1:A:207:THR:HG22	1:A:210:GLU:CG	2.39	0.52
1:B:622:GLY:O	1:B:623:ILE:HG13	2.09	0.52
1:B:630:GLU:HG2	1:B:631:LEU:H	1.71	0.52
1:A:364:TYR:O	1:A:368:VAL:HG23	2.10	0.52
1:B:254:TRP:HA	1:B:259:ARG:HB3	1.91	0.52
1:B:310:GLY:CA	1:B:465:PRO:HB2	2.28	0.52
1:B:614:ASP:HB3	1:B:617:LYS:HE3	1.90	0.52
1:A:312:ALA:CB	1:A:461:VAL:HG21	2.37	0.52
1:B:283:ASN:HA	1:B:336:LEU:CD1	2.40	0.52
1:B:568:ARG:HH11	1:B:568:ARG:HB3	1.74	0.52
1:A:16:LEU:HA	1:A:363:THR:HG21	1.92	0.52
1:A:227:LEU:HD22	1:A:227:LEU:N	2.24	0.52
1:A:375:GLY:CA	1:A:413:CYS:HB2	2.38	0.52
1:A:483:ASN:ND2	1:A:486:CYS:SG	2.82	0.52
1:B:155:VAL:CG1	1:B:444:ILE:HG23	2.40	0.52
1:B:406:VAL:O	1:B:410:LEU:HD13	2.10	0.52
1:B:442:VAL:O	1:B:458:HIS:HA	2.09	0.52
1:A:111:ILE:O	1:A:111:ILE:CG2	2.58	0.52
1:A:527:VAL:HG12	1:A:560:VAL:HA	1.90	0.52
1:A:638:VAL:HG23	1:A:646:GLY:O	2.10	0.52
1:B:17:PHE:H	1:B:363:THR:CG2	2.22	0.52
1:B:175:PRO:HB2	1:B:221:TRP:HA	1.91	0.52
1:A:441:GLN:HE22	1:A:460:VAL:CG1	2.21	0.52
1:B:149:MET:HE2	1:B:156:LYS:HD3	1.91	0.52
1:B:280:VAL:HB	1:B:351:TRP:CH2	2.45	0.52
1:B:570:ARG:HG2	1:B:570:ARG:NH1	2.14	0.52
1:A:342:LEU:HD23	1:A:342:LEU:H	1.74	0.52
1:B:493:ALA:HB2	1:B:584:PHE:CG	2.44	0.52
1:B:601:GLY:O	1:B:602:ALA:HB2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:273:LEU:HD23	1:A:277:ARG:NH1	2.25	0.52
1:A:459:LEU:HD12	1:A:459:LEU:O	2.10	0.52
1:B:573:VAL:HG12	1:B:574:GLU:N	2.19	0.52
1:A:154:HIS:HB3	1:A:448:GLU:HB2	1.91	0.52
1:A:610:ARG:HG2	1:A:610:ARG:NH1	2.25	0.52
1:B:134:GLN:HG3	1:B:272:MET:SD	2.50	0.52
1:B:394:TYR:HA	1:B:643:GLN:O	2.09	0.52
1:B:650:LEU:HD23	1:B:650:LEU:H	1.76	0.51
1:A:377:TYR:HD1	1:A:464:VAL:O	1.93	0.51
1:A:386:PHE:CD1	1:A:552:VAL:HG21	2.46	0.51
1:A:575:LEU:HB3	1:A:576:PRO:CD	2.40	0.51
1:B:61:VAL:HG11	1:B:231:TYR:HD1	1.75	0.51
1:B:156:LYS:H	1:B:445:THR:HG22	1.74	0.51
1:B:402:PRO:HB3	1:B:429:THR:HG21	1.92	0.51
1:A:41:LEU:HB3	1:A:43:PHE:HE2	1.75	0.51
1:A:115:ARG:H	1:A:115:ARG:HD2	1.75	0.51
1:B:147:ILE:HD12	1:B:147:ILE:N	2.26	0.51
1:B:184:PRO:HG3	1:B:235:GLN:HB2	1.92	0.51
1:B:593:ILE:HD12	1:B:593:ILE:N	2.25	0.51
1:B:629:GLY:O	1:B:630:GLU:O	2.29	0.51
1:A:29:HIS:HA	1:A:49:VAL:O	2.11	0.51
1:A:218:MET:HG2	1:A:240:PHE:CZ	2.45	0.51
1:A:457:ASP:OD1	1:A:457:ASP:N	2.44	0.51
1:B:116:TRP:HE3	1:B:328:ILE:HG12	1.75	0.51
1:B:161:VAL:HG22	1:B:226:ASN:CG	2.30	0.51
1:B:218:MET:SD	1:B:236:LEU:HD12	2.51	0.51
1:B:285:LEU:O	1:B:288:GLN:N	2.43	0.51
1:A:81:ASP:HB2	1:B:95:SER:OG	2.11	0.51
1:B:10:GLN:O	1:B:11:ASP:CG	2.49	0.51
1:B:318:ALA:HB2	1:B:430:TYR:CE1	2.46	0.51
1:B:78:LEU:HD12	1:B:342:LEU:HD12	1.93	0.51
1:B:99:ILE:HG21	1:B:104:VAL:CB	2.41	0.51
1:B:254:TRP:CA	1:B:259:ARG:HB3	2.41	0.51
1:B:498:LEU:H	1:B:501:GLY:CA	2.20	0.51
1:A:407:GLN:HG3	1:A:420:LEU:CD2	2.40	0.51
1:B:61:VAL:HB	1:B:320:VAL:HG13	1.93	0.51
1:B:112:THR:HG23	1:B:197:ASP:HA	1.93	0.51
1:B:353:ALA:CA	1:B:616:VAL:CG2	2.89	0.51
1:B:407:GLN:HB3	1:B:638:VAL:CG1	2.39	0.51
1:A:16:LEU:HD13	1:A:359:GLU:HB2	1.93	0.51
1:A:123:LEU:O	1:A:127:MET:HG3	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:137:THR:CG2	1:A:171:GLN:HA	2.41	0.51
1:A:532:HIS:ND1	1:A:532:HIS:C	2.65	0.51
1:B:251:ALA:O	1:B:255:ILE:HG12	2.11	0.51
1:A:399:PHE:HB3	1:A:405:PHE:CD1	2.46	0.50
1:A:640:ARG:HA	1:A:645:LEU:HA	1.93	0.50
1:B:185:ASP:HB3	1:B:239:LYS:HG3	1.93	0.50
1:B:383:LYS:NZ	1:B:392:ASP:HB3	2.26	0.50
1:B:599:GLN:HG3	1:B:599:GLN:O	2.10	0.50
1:A:30:ASN:HD22	1:A:596:THR:HB	1.77	0.50
1:A:613:LEU:HD12	1:A:613:LEU:H	1.75	0.50
1:B:61:VAL:HG11	1:B:231:TYR:CD1	2.47	0.50
1:B:97:CYS:O	1:B:99:ILE:N	2.41	0.50
1:A:123:LEU:HB2	1:A:218:MET:CE	2.42	0.50
1:A:254:TRP:CD1	1:A:264:PHE:HB3	2.46	0.50
1:B:218:MET:HA	1:B:236:LEU:HD12	1.93	0.50
1:A:96:THR:CG2	1:A:97:CYS:N	2.75	0.50
1:A:399:PHE:CB	1:A:434:LEU:HD21	2.41	0.50
1:B:15:ASP:HA	1:B:610:ARG:HA	1.93	0.50
1:B:63:PHE:HA	1:B:322:ILE:O	2.12	0.50
1:B:354:ILE:HG12	1:B:361:VAL:CG2	2.42	0.50
1:B:502:ALA:O	1:B:503:VAL:HG23	2.12	0.50
1:A:26:PHE:CE2	1:A:53:PHE:HB2	2.47	0.50
1:A:61:VAL:HG13	1:A:320:VAL:CG2	2.42	0.50
1:B:152:ASP:C	1:B:154:HIS:H	2.14	0.50
1:B:453:ASN:OD1	1:B:460:VAL:HG22	2.12	0.50
1:B:474:PHE:C	1:B:476:VAL:N	2.54	0.50
1:B:549:PRO:HB2	1:B:551:PHE:CD2	2.47	0.50
1:A:378:LEU:O	1:A:382:LYS:HB2	2.11	0.50
1:A:442:VAL:O	1:A:458:HIS:HB3	2.12	0.50
1:B:157:ILE:HD11	1:B:308:ALA:HB1	1.92	0.50
1:B:307:CYS:HB3	1:B:538:TYR:HE2	1.76	0.50
1:A:49:VAL:HG11	1:A:471:TYR:CD1	2.46	0.50
1:A:194:PRO:HD2	1:A:332:TYR:CE2	2.46	0.50
1:A:453:ASN:HB3	1:A:460:VAL:HG22	1.93	0.50
1:A:483:ASN:HB2	1:A:484:PRO:CD	2.41	0.50
1:A:496:LYS:HB3	1:A:503:VAL:CG2	2.41	0.50
1:B:378:LEU:HD11	1:B:478:ALA:HB1	1.94	0.50
1:A:118:ASP:OD2	1:A:328:ILE:HG12	2.12	0.50
1:A:598:VAL:HG13	1:A:606:TYR:HB2	1.94	0.50
1:B:5:VAL:HG11	1:B:360:LEU:CD1	2.36	0.50
1:B:45:ARG:HG2	1:B:46:VAL:N	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:218:MET:HG2	1:B:240:PHE:CE2	2.46	0.50
1:A:198:VAL:HG13	1:A:199:PRO:CD	2.40	0.49
1:A:315:MET:HG3	1:A:442:VAL:HG12	1.94	0.49
1:A:548:ILE:HD11	1:A:552:VAL:HG11	1.93	0.49
1:A:549:PRO:HB2	1:A:551:PHE:CE2	2.47	0.49
1:B:208:VAL:HG23	1:B:248:VAL:HG23	1.94	0.49
1:A:350:ASP:O	1:A:354:ILE:HG12	2.12	0.49
1:B:576:PRO:O	1:B:578:LEU:HD23	2.12	0.49
1:B:634:TYR:N	1:B:634:TYR:CD1	2.80	0.49
1:A:89:VAL:HG13	1:A:334:PHE:CZ	2.48	0.49
1:A:453:ASN:O	1:A:459:LEU:HB2	2.11	0.49
1:B:6:THR:O	1:B:7:LYS:HB2	2.12	0.49
1:B:27:VAL:HG12	1:B:599:GLN:O	2.12	0.49
1:A:516:LEU:HD12	1:A:521:TYR:HB2	1.94	0.49
1:B:22:ASP:O	1:B:23:ARG:HB2	2.13	0.49
1:B:161:VAL:HG22	1:B:226:ASN:OD1	2.13	0.49
1:B:353:ALA:CA	1:B:616:VAL:HG21	2.42	0.49
1:A:45:ARG:C	1:A:45:ARG:HD2	2.33	0.49
1:A:73:ILE:HG13	1:A:329:ARG:HH21	1.76	0.49
1:A:207:THR:CG2	1:A:210:GLU:H	2.26	0.49
1:A:299:ILE:HG22	1:A:428:VAL:CG1	2.42	0.49
1:B:527:VAL:HG13	1:B:531:THR:CG2	2.42	0.49
1:A:186:TRP:HE3	1:A:186:TRP:O	1.95	0.49
1:A:531:THR:O	1:A:531:THR:CG2	2.60	0.49
1:B:6:THR:O	1:B:7:LYS:CB	2.60	0.49
1:B:378:LEU:HD12	1:B:413:CYS:HA	1.95	0.49
1:A:73:ILE:HB	1:A:78:LEU:CD2	2.39	0.49
1:B:22:ASP:HB2	1:B:601:GLY:H	1.78	0.49
1:B:491:ILE:O	1:B:584:PHE:HZ	1.95	0.49
1:A:41:LEU:HB3	1:A:43:PHE:CE2	2.47	0.49
1:A:210:GLU:OE2	1:A:278:LYS:HD2	2.13	0.49
1:A:305:PRO:HB3	1:A:467:ALA:CB	2.43	0.49
1:A:27:VAL:HA	1:A:52:LYS:HA	1.95	0.49
1:A:37:LYS:O	1:A:587:VAL:HA	2.12	0.49
1:A:64:ASN:HD22	1:A:321:ASN:HD21	1.60	0.49
1:A:382:LYS:HB3	1:A:394:TYR:CE2	2.48	0.49
1:B:37:LYS:HB3	1:B:588:GLU:HB2	1.95	0.49
1:B:150:TYR:CD2	1:B:308:ALA:HB2	2.47	0.49
1:A:54:THR:HG22	1:A:302:LYS:O	2.13	0.49
1:A:354:ILE:HD12	1:A:361:VAL:CG2	2.43	0.49
1:A:571:HIS:CE1	1:A:574:GLU:HA	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:99:ILE:HG21	1:B:104:VAL:N	2.28	0.49
1:B:121:VAL:HG12	1:B:125:MET:HE2	1.94	0.49
1:B:208:VAL:HG13	1:B:209:THR:N	2.28	0.49
1:A:175:PRO:HB2	1:A:221:TRP:HA	1.95	0.48
1:B:142:TYR:CE1	1:B:172:PHE:HB2	2.48	0.48
1:B:155:VAL:H	1:B:447:ILE:HB	1.76	0.48
1:B:370:VAL:HG23	1:B:468:CYS:SG	2.53	0.48
1:A:332:TYR:CB	1:A:335:LEU:HD13	2.37	0.48
1:A:378:LEU:HG	1:A:478:ALA:CB	2.43	0.48
1:A:407:GLN:HB2	1:A:638:VAL:HG11	1.95	0.48
1:B:126:ASN:HA	1:B:129:ARG:CG	2.43	0.48
1:A:38:PHE:HB3	1:A:587:VAL:HG22	1.94	0.48
1:A:349:GLU:HA	1:A:618:PRO:HG3	1.96	0.48
1:A:399:PHE:O	1:A:434:LEU:HD21	2.13	0.48
1:B:505:ASP:HB2	1:B:508:GLU:HG2	1.96	0.48
1:A:19:ILE:H	1:A:19:ILE:HG13	1.39	0.48
1:A:213:PHE:O	1:A:217:MET:HG2	2.13	0.48
1:A:534:LEU:HG	1:A:535:THR:N	2.28	0.48
1:A:613:LEU:HD12	1:A:613:LEU:N	2.29	0.48
1:B:429:THR:O	1:B:431:PRO:HD3	2.13	0.48
1:B:342:LEU:HA	1:B:626:ILE:HG12	1.94	0.48
1:B:568:ARG:HB3	1:B:568:ARG:NH1	2.29	0.48
1:A:395:GLU:HG3	1:A:396:ASP:H	1.70	0.48
1:A:528:TYR:CE2	1:A:557:VAL:HG23	2.49	0.48
1:A:195:SER:C	1:A:196:ILE:HG13	2.34	0.48
1:B:13:SER:OG	1:B:610:ARG:NH1	2.46	0.48
1:B:152:ASP:C	1:B:154:HIS:N	2.67	0.48
1:B:163:ILE:HG23	1:B:226:ASN:ND2	2.29	0.48
1:B:284:ARG:HD3	1:B:340:ALA:CB	2.40	0.48
1:A:29:HIS:ND1	1:A:50:SER:HB3	2.28	0.48
1:A:30:ASN:HA	1:A:595:ASP:O	2.14	0.48
1:A:47:TYR:CD2	1:A:47:TYR:N	2.81	0.48
1:B:174:TRP:CD2	1:B:216:MET:HE2	2.49	0.48
1:A:27:VAL:HG13	1:A:29:HIS:NE2	2.29	0.48
1:B:129:ARG:O	1:B:133:LEU:HD22	2.13	0.48
1:B:142:TYR:O	1:B:170:THR:HA	2.13	0.48
1:B:149:MET:CE	1:B:156:LYS:HD3	2.43	0.48
1:B:384:THR:HG23	1:B:386:PHE:H	1.78	0.48
1:B:517:ARG:HE	1:B:539:ALA:HB3	1.78	0.48
1:B:639:ARG:HG3	1:B:640:ARG:N	2.28	0.48
1:A:82:GLY:CA	1:B:95:SER:HB3	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:271:VAL:HA	1:A:274:SER:OG	2.14	0.48
1:A:283:ASN:HA	1:A:336:LEU:HD22	1.96	0.48
1:B:57:GLY:O	1:B:223:ARG:NH2	2.47	0.48
1:B:301:MET:SD	1:B:366:MET:HA	2.53	0.48
1:B:634:TYR:N	1:B:634:TYR:HD1	2.12	0.48
1:A:550:GLU:C	1:A:550:GLU:CD	2.72	0.47
1:B:162:THR:HG22	1:B:162:THR:O	2.14	0.47
1:B:204:ARG:HB2	1:B:205:PRO:HD3	1.95	0.47
1:B:291:THR:HG21	1:B:423:MET:HG3	1.97	0.47
1:B:493:ALA:CB	1:B:497:TYR:OH	2.62	0.47
1:B:390:ILE:HD12	1:B:390:ILE:N	2.06	0.47
1:B:631:LEU:HD13	1:B:631:LEU:O	2.15	0.47
1:A:625:VAL:HG13	1:A:625:VAL:O	2.14	0.47
1:B:1:MET:HG3	1:B:364:TYR:CD1	2.50	0.47
1:B:1:MET:O	1:B:5:VAL:HG12	2.14	0.47
1:B:64:ASN:HA	1:B:324:LYS:NZ	2.30	0.47
1:B:220:LYS:HG3	1:B:234:PRO:HA	1.95	0.47
1:B:284:ARG:NH2	1:B:338:GLY:O	2.48	0.47
1:B:630:GLU:CG	1:B:631:LEU:N	2.71	0.47
1:A:296:LEU:O	1:A:299:ILE:HD13	2.15	0.47
1:B:154:HIS:O	1:B:155:VAL:O	2.33	0.47
1:B:444:ILE:HG22	1:B:445:THR:H	1.79	0.47
1:A:99:ILE:HG22	1:A:104:VAL:HG13	1.96	0.47
1:A:1:MET:HG3	1:A:364:TYR:CE1	2.50	0.47
1:A:29:HIS:HD1	1:A:50:SER:HB3	1.80	0.47
1:A:73:ILE:HG22	1:A:74:ALA:N	2.29	0.47
1:A:254:TRP:CA	1:A:259:ARG:HB3	2.45	0.47
1:A:354:ILE:HD12	1:A:361:VAL:HG23	1.96	0.47
1:A:371:ALA:HB3	1:A:410:LEU:CD2	2.45	0.47
1:A:399:PHE:HB3	1:A:434:LEU:HD21	1.96	0.47
1:A:400:LEU:CD1	1:B:281:ASN:HB3	2.45	0.47
1:B:38:PHE:HB3	1:B:587:VAL:HG22	1.97	0.47
1:B:56:VAL:HA	1:B:227:LEU:HA	1.96	0.47
1:B:353:ALA:HA	1:B:616:VAL:HG23	1.93	0.47
1:B:506:LYS:HG3	1:B:558:MET:O	2.15	0.47
1:B:527:VAL:HG11	1:B:531:THR:HG23	1.96	0.47
1:A:96:THR:HG23	1:A:97:CYS:N	2.30	0.47
1:A:236:LEU:HD22	1:A:236:LEU:N	2.23	0.47
1:A:315:MET:SD	1:A:442:VAL:HG12	2.55	0.47
1:B:61:VAL:HA	1:B:320:VAL:HG13	1.96	0.47
1:B:129:ARG:NH2	1:B:231:TYR:O	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:284:ARG:CZ	1:B:336:LEU:O	2.63	0.47
1:B:331:ARG:HB3	1:B:332:TYR:CE1	2.49	0.47
1:B:531:THR:O	1:B:534:LEU:HB2	2.15	0.47
1:A:216:MET:HA	1:A:216:MET:CE	2.44	0.47
1:B:372:LEU:HD12	1:B:409:ALA:HB3	1.96	0.47
1:A:61:VAL:HG21	1:A:231:TYR:CG	2.50	0.47
1:A:211:VAL:O	1:A:215:LEU:HD23	2.14	0.47
1:B:14:SER:HB2	1:B:611:ILE:HG23	1.96	0.47
1:B:297:ALA:O	1:B:365:ALA:HB1	2.15	0.47
1:B:302:LYS:HE2	1:B:313:TRP:CZ2	2.49	0.47
1:B:650:LEU:HD23	1:B:650:LEU:N	2.30	0.47
1:A:194:PRO:HB3	1:A:331:ARG:HD2	1.97	0.46
1:A:283:ASN:HB3	1:A:329:ARG:HD3	1.97	0.46
1:A:353:ALA:HA	1:A:616:VAL:HG21	1.96	0.46
1:A:396:ASP:O	1:A:397:GLY:O	2.34	0.46
1:B:116:TRP:CE3	1:B:328:ILE:HG12	2.50	0.46
1:B:378:LEU:CD1	1:B:413:CYS:HA	2.45	0.46
1:A:414:THR:HB	1:A:416:GLN:NE2	2.30	0.46
1:A:446:VAL:O	1:A:447:ILE:HD13	2.14	0.46
1:B:253:GLU:HB3	1:B:259:ARG:HB2	1.95	0.46
1:B:66:GLY:O	1:B:117:TYR:HE1	1.99	0.46
1:B:490:VAL:HG23	1:B:587:VAL:C	2.36	0.46
1:B:493:ALA:N	1:B:584:PHE:CZ	2.83	0.46
1:B:519:ALA:O	1:B:572:PHE:O	2.32	0.46
1:A:115:ARG:HD2	1:A:115:ARG:N	2.31	0.46
1:A:210:GLU:O	1:A:214:VAL:HG23	2.15	0.46
1:A:342:LEU:N	1:A:342:LEU:CD2	2.79	0.46
1:B:7:LYS:HB2	1:B:10:GLN:HG2	1.97	0.46
1:B:344:GLN:HG3	1:B:635:TRP:CZ3	2.51	0.46
1:B:381:VAL:O	1:B:384:THR:N	2.48	0.46
1:B:420:LEU:HD13	1:B:637:SER:CA	2.39	0.46
1:A:316:HIS:CD2	1:A:433:LEU:HD11	2.50	0.46
1:A:318:ALA:HB2	1:A:430:TYR:CZ	2.50	0.46
1:B:59:PRO:CD	1:B:223:ARG:HH22	2.28	0.46
1:B:331:ARG:HB3	1:B:332:TYR:CD1	2.51	0.46
1:B:497:TYR:CG	1:B:581:PRO:HG3	2.50	0.46
1:A:584:PHE:C	1:A:585:ARG:HG2	2.36	0.46
1:B:64:ASN:O	1:B:323:PRO:HA	2.15	0.46
1:B:380:ARG:HH11	1:B:380:ARG:CG	2.28	0.46
1:B:424:SER:O	1:B:425:ASP:HB2	2.16	0.46
1:B:531:THR:HG21	1:B:534:LEU:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:300:MET:HG2	1:A:301:MET:CE	2.46	0.46
1:A:355:MET:CE	1:A:355:MET:HA	2.46	0.46
1:B:1:MET:HG3	1:B:364:TYR:CE1	2.50	0.46
1:B:363:THR:O	1:B:367:GLN:HG3	2.16	0.46
1:B:570:ARG:NH1	1:B:570:ARG:CG	2.79	0.46
1:B:611:ILE:O	1:B:611:ILE:HD13	2.15	0.46
1:A:18:SER:HB3	1:A:359:GLU:CG	2.45	0.46
1:A:154:HIS:C	1:A:447:ILE:HB	2.36	0.46
1:A:204:ARG:HD2	1:A:243:ARG:CD	2.46	0.46
1:B:32:VAL:HG12	1:B:593:ILE:HG13	1.98	0.46
1:B:74:ALA:HB2	1:B:337:SER:O	2.15	0.46
1:B:156:LYS:C	1:B:156:LYS:HD2	2.35	0.46
1:B:514:TRP:HD1	1:B:546:THR:H	1.63	0.46
1:B:650:LEU:H	1:B:650:LEU:CD2	2.29	0.46
1:A:133:LEU:HD12	1:A:142:TYR:HE2	1.81	0.46
1:A:445:THR:HG22	1:A:445:THR:O	2.16	0.46
1:B:154:HIS:CD2	1:B:448:GLU:HG3	2.46	0.46
1:B:603:HIS:O	1:B:604:ALA:O	2.33	0.46
1:B:76:LYS:HD2	1:B:77:TYR:CE2	2.51	0.45
1:B:118:ASP:O	1:B:119:ASN:HB2	2.17	0.45
1:B:319:LEU:O	1:B:319:LEU:HD23	2.17	0.45
1:A:175:PRO:O	1:A:222:HIS:HB2	2.15	0.45
1:A:198:VAL:O	1:A:200:TYR:CD1	2.68	0.45
1:A:613:LEU:HA	1:A:616:VAL:HG12	1.98	0.45
1:B:99:ILE:HG21	1:B:104:VAL:HB	1.99	0.45
1:B:563:THR:O	1:B:564:ALA:HB2	2.16	0.45
1:A:137:THR:HG23	1:A:171:GLN:HA	1.98	0.45
1:B:16:LEU:HD13	1:B:359:GLU:CB	2.47	0.45
1:B:283:ASN:N	1:B:283:ASN:ND2	2.64	0.45
1:B:581:PRO:O	1:B:582:ALA:HB3	2.17	0.45
1:B:616:VAL:O	1:B:617:LYS:C	2.54	0.45
1:A:562:VAL:O	1:A:562:VAL:HG13	2.17	0.45
1:B:17:PHE:O	1:B:363:THR:HG22	2.15	0.45
1:B:154:HIS:HA	1:B:447:ILE:HB	1.99	0.45
1:B:220:LYS:CG	1:B:234:PRO:HA	2.46	0.45
1:B:294:GLN:NE2	1:B:419:PRO:HB2	2.29	0.45
1:B:454:ILE:HD12	1:B:454:ILE:H	1.80	0.45
1:A:312:ALA:HA	1:A:315:MET:HG3	1.97	0.45
1:A:376:LEU:HB3	1:A:464:VAL:HG21	1.98	0.45
1:B:476:VAL:HB	1:B:485:TYR:O	2.16	0.45
1:A:198:VAL:O	1:A:200:TYR:HD1	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:300:MET:HB3	1:A:365:ALA:HB1	1.99	0.45
1:B:59:PRO:HD2	1:B:223:ARG:NH2	2.32	0.45
1:B:638:VAL:HG13	1:B:638:VAL:O	2.17	0.45
1:A:207:THR:HG23	1:A:210:GLU:H	1.82	0.45
1:A:157:ILE:HG22	1:A:443:PRO:O	2.17	0.45
1:A:583:PHE:CD1	1:A:583:PHE:N	2.84	0.45
1:B:19:ILE:HG23	1:B:362:PHE:CD1	2.52	0.45
1:B:42:VAL:O	1:B:42:VAL:HG13	2.17	0.45
1:B:499:ARG:H	1:B:499:ARG:HG3	1.42	0.45
1:A:117:TYR:CD2	1:A:326:GLY:HA3	2.52	0.45
1:A:300:MET:HE3	1:A:365:ALA:HB3	1.98	0.45
1:B:29:HIS:HE1	1:B:48:GLY:HA3	1.81	0.45
1:B:99:ILE:CB	1:B:104:VAL:HB	2.46	0.45
1:B:163:ILE:HG23	1:B:226:ASN:HD21	1.82	0.45
1:B:418:ALA:O	1:B:637:SER:HB2	2.17	0.45
1:A:185:ASP:HB3	1:A:239:LYS:CG	2.47	0.45
1:A:204:ARG:HA	1:A:244:HIS:HA	1.99	0.45
1:A:435:GLU:HB2	1:A:438:ALA:HB2	1.99	0.45
1:A:448:GLU:HA	1:A:449:PRO:HD3	1.63	0.45
1:A:470:PRO:HG2	1:A:545:TRP:CZ3	2.52	0.45
1:A:473:ILE:HD12	1:A:476:VAL:HG21	1.98	0.45
1:B:61:VAL:CB	1:B:320:VAL:HG13	2.47	0.45
1:B:455:VAL:O	1:B:458:HIS:HB2	2.17	0.45
1:A:73:ILE:HG13	1:A:329:ARG:NH2	2.32	0.44
1:A:78:LEU:HD13	1:A:84:LEU:HA	1.98	0.44
1:B:470:PRO:HG2	1:B:471:TYR:H	1.82	0.44
1:A:81:ASP:N	1:A:81:ASP:OD1	2.49	0.44
1:A:204:ARG:HD2	1:A:243:ARG:CG	2.46	0.44
1:B:223:ARG:HH11	1:B:231:TYR:HA	1.79	0.44
1:B:344:GLN:HG3	1:B:635:TRP:CH2	2.52	0.44
1:A:320:VAL:CG1	1:A:428:VAL:HG22	2.43	0.44
1:A:631:LEU:O	1:A:634:TYR:N	2.47	0.44
1:B:123:LEU:HB2	1:B:236:LEU:HD13	1.98	0.44
1:A:137:THR:HA	1:A:142:TYR:HB2	2.00	0.44
1:A:521:TYR:CA	1:A:568:ARG:HG3	2.47	0.44
1:B:7:LYS:HD2	1:B:10:GLN:CD	2.37	0.44
1:B:23:ARG:HB2	1:B:23:ARG:NH1	2.32	0.44
1:B:30:ASN:OD1	1:B:596:THR:HB	2.17	0.44
1:B:130:ALA:HB2	1:B:221:TRP:CH2	2.52	0.44
1:B:442:VAL:O	1:B:444:ILE:HG12	2.17	0.44
1:A:303:PRO:HB2	1:A:468:CYS:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:115:ARG:HH11	1:B:115:ARG:CG	2.31	0.44
1:A:207:THR:HG22	1:A:210:GLU:HB2	2.00	0.44
1:A:370:VAL:HA	1:A:468:CYS:SG	2.57	0.44
1:A:407:GLN:H	1:A:407:GLN:HG2	1.58	0.44
1:B:115:ARG:HA	1:B:115:ARG:HD2	1.61	0.44
1:B:127:MET:HB2	1:B:276:LEU:HD13	2.00	0.44
1:B:435:GLU:O	1:B:438:ALA:N	2.48	0.44
1:A:204:ARG:N	1:A:205:PRO:CD	2.81	0.44
1:B:118:ASP:HB2	1:B:328:ILE:HB	2.00	0.44
1:B:126:ASN:O	1:B:129:ARG:HG2	2.18	0.44
1:B:547:HIS:O	1:B:549:PRO:HD3	2.18	0.44
1:A:283:ASN:N	1:A:283:ASN:HD22	2.15	0.44
1:A:328:ILE:HA	1:A:331:ARG:HG3	1.99	0.44
1:A:332:TYR:HB2	1:A:335:LEU:CD1	2.39	0.44
1:A:481:THR:HG22	1:A:482:ALA:N	2.33	0.44
1:B:91:ASN:HD22	1:B:94:ARG:HD2	1.82	0.44
1:B:129:ARG:HG3	1:B:221:TRP:CH2	2.52	0.44
1:A:131:TYR:CE1	1:A:269:SER:HB2	2.53	0.44
1:A:399:PHE:HB3	1:A:405:PHE:HD1	1.82	0.44
1:A:506:LYS:NZ	1:A:557:VAL:O	2.39	0.44
1:B:252:ASP:O	1:B:255:ILE:HB	2.18	0.44
1:B:380:ARG:HA	1:B:436:PHE:HD2	1.78	0.44
1:B:306:ASN:HD21	1:B:547:HIS:HE1	1.66	0.43
1:B:470:PRO:O	1:B:472:MET:N	2.50	0.43
1:A:395:GLU:HB3	1:A:436:PHE:HE1	1.80	0.43
1:B:61:VAL:CA	1:B:320:VAL:HG13	2.48	0.43
1:B:99:ILE:HA	1:B:100:PRO:HD3	1.77	0.43
1:B:195:SER:C	1:B:196:ILE:HG13	2.39	0.43
1:B:223:ARG:HG3	1:B:230:ASP:O	2.18	0.43
1:B:479:PHE:C	1:B:481:THR:H	2.19	0.43
1:A:442:VAL:HA	1:A:443:PRO:HD3	1.85	0.43
1:B:58:ASN:HA	1:B:223:ARG:NH2	2.34	0.43
1:B:111:ILE:O	1:B:197:ASP:HB2	2.18	0.43
1:A:194:PRO:HD2	1:A:332:TYR:CZ	2.52	0.43
1:A:207:THR:HG22	1:A:210:GLU:HG3	1.99	0.43
1:B:43:PHE:HB3	1:B:573:VAL:HG13	2.00	0.43
1:B:312:ALA:O	1:B:315:MET:HG2	2.19	0.43
1:B:495:ASN:HB2	1:B:496:LYS:HE3	1.99	0.43
1:A:116:TRP:H	1:B:98:GLY:HA3	1.84	0.43
1:A:207:THR:HG22	1:A:210:GLU:CB	2.49	0.43
1:A:354:ILE:HD13	1:A:360:LEU:HD23	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:539:ALA:HB2	1:A:546:THR:HA	2.00	0.43
1:A:24:GLY:C	1:A:25:THR:HG22	2.38	0.43
1:A:85:ALA:O	1:A:89:VAL:HG23	2.19	0.43
1:A:283:ASN:HA	1:A:336:LEU:HD13	2.00	0.43
1:A:320:VAL:HA	1:A:427:TYR:O	2.19	0.43
1:A:616:VAL:HG22	1:A:616:VAL:O	2.19	0.43
1:B:75:LYS:CA	1:B:341:ALA:HB2	2.47	0.43
1:A:380:ARG:O	1:A:383:LYS:HE3	2.19	0.43
1:A:434:LEU:HD22	1:A:434:LEU:HA	1.84	0.43
1:B:71:GLU:OE1	1:B:71:GLU:N	2.51	0.43
1:B:211:VAL:HG12	1:B:215:LEU:HD11	1.99	0.43
1:A:89:VAL:O	1:A:93:LEU:HD13	2.19	0.43
1:A:137:THR:CG2	1:A:172:PHE:H	2.27	0.43
1:A:204:ARG:HB2	1:A:205:PRO:HD3	2.01	0.43
1:B:14:SER:CB	1:B:611:ILE:HG23	2.48	0.43
1:B:112:THR:O	1:B:114:TRP:N	2.51	0.43
1:B:188:GLN:HG2	1:B:247:THR:OG1	2.18	0.43
1:B:309:GLU:CD	1:B:309:GLU:H	2.21	0.43
1:B:562:VAL:HG22	1:B:562:VAL:O	2.18	0.43
1:A:82:GLY:N	1:B:95:SER:HB3	2.34	0.43
1:A:157:ILE:HG21	1:A:444:ILE:HG22	2.01	0.43
1:A:532:HIS:O	1:A:532:HIS:CG	2.72	0.43
1:B:112:THR:HG22	1:B:197:ASP:HA	2.01	0.43
1:B:200:TYR:CD1	1:B:241:ALA:HB3	2.54	0.43
1:B:210:GLU:HG2	1:B:275:ALA:HB2	2.00	0.43
1:B:474:PHE:CD2	1:B:593:ILE:HD11	2.54	0.43
1:A:154:HIS:CA	1:A:448:GLU:HG3	2.27	0.43
1:B:186:TRP:HA	1:B:240:PHE:O	2.19	0.43
1:B:510:TRP:NE1	1:B:546:THR:O	2.47	0.43
1:A:134:GLN:O	1:A:138:GLU:HB2	2.19	0.42
1:B:25:THR:HA	1:B:53:PHE:O	2.19	0.42
1:B:372:LEU:HD13	1:B:406:VAL:HG13	2.01	0.42
1:B:407:GLN:C	1:B:638:VAL:HG11	2.40	0.42
1:B:491:ILE:O	1:B:586:SER:HA	2.18	0.42
1:B:507:LEU:N	1:B:507:LEU:HD13	2.34	0.42
1:A:155:VAL:CG2	1:A:156:LYS:N	2.81	0.42
1:A:376:LEU:C	1:A:464:VAL:HG21	2.39	0.42
1:A:443:PRO:N	1:A:458:HIS:HB3	2.34	0.42
1:A:617:LYS:HA	1:A:618:PRO:HD3	1.87	0.42
1:B:150:TYR:CZ	1:B:152:ASP:HB3	2.54	0.42
1:A:74:ALA:O	1:A:78:LEU:HD23	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:93:LEU:HD21	1:A:193:PHE:HB3	2.01	0.42
1:A:344:GLN:OE1	1:A:626:ILE:HD11	2.19	0.42
1:A:396:ASP:OD2	1:B:277:ARG:CD	2.60	0.42
1:B:112:THR:HB	1:B:331:ARG:CZ	2.49	0.42
1:B:202:ASP:OD1	1:B:204:ARG:HD3	2.18	0.42
1:B:229:ILE:HB	1:B:296:LEU:HD11	2.01	0.42
1:A:517:ARG:HD3	1:A:517:ARG:O	2.20	0.42
1:A:575:LEU:HB3	1:A:576:PRO:HD2	2.00	0.42
1:B:119:ASN:N	1:B:326:GLY:O	2.51	0.42
1:B:156:LYS:CG	1:B:445:THR:HG21	2.46	0.42
1:B:372:LEU:HD12	1:B:409:ALA:CB	2.49	0.42
1:A:150:TYR:HB2	1:A:311:TYR:CE1	2.54	0.42
1:B:43:PHE:CD1	1:B:43:PHE:N	2.87	0.42
1:B:342:LEU:H	1:B:624:GLN:HG2	1.85	0.42
1:B:560:VAL:HG22	1:B:561:PHE:N	2.34	0.42
1:B:64:ASN:HA	1:B:324:LYS:HG3	2.02	0.42
1:B:93:LEU:H	1:B:93:LEU:HG	1.53	0.42
1:B:403:GLU:HB2	1:B:634:TYR:HE2	1.83	0.42
1:A:159:LEU:HA	1:A:160:PRO:HD3	1.88	0.42
1:B:16:LEU:HD22	1:B:360:LEU:HA	2.01	0.42
1:B:19:ILE:HG12	1:B:132:HIS:HD2	1.85	0.42
1:B:305:PRO:HB2	1:B:311:TYR:CD1	2.54	0.42
1:B:504:TYR:O	1:B:560:VAL:HG12	2.20	0.42
1:A:208:VAL:HG13	1:A:209:THR:N	2.33	0.42
1:A:498:LEU:HD11	1:A:561:PHE:CZ	2.55	0.42
1:A:610:ARG:HD3	1:A:610:ARG:HA	1.89	0.42
1:B:32:VAL:HG12	1:B:593:ILE:HA	2.01	0.42
1:B:33:ARG:NH1	1:B:594:TYR:HE1	2.18	0.42
1:B:442:VAL:HB	1:B:459:LEU:HB3	2.01	0.42
1:B:217:MET:HA	1:B:217:MET:CE	2.50	0.42
1:B:504:TYR:HB2	1:B:560:VAL:CG1	2.50	0.42
1:B:526:LYS:HB3	1:B:561:PHE:CD2	2.54	0.42
1:A:33:ARG:HG2	1:A:34:THR:N	2.35	0.42
1:A:91:ASN:HA	1:A:94:ARG:NH1	2.35	0.42
1:A:128:LEU:O	1:A:131:TYR:HB3	2.20	0.42
1:A:178:ARG:NH1	1:A:254:TRP:O	2.53	0.42
1:A:435:GLU:OE2	1:B:278:LYS:HE3	2.19	0.42
1:A:470:PRO:O	1:A:474:PHE:HA	2.20	0.42
1:A:554:ASP:O	1:A:557:VAL:HG12	2.20	0.42
1:B:562:VAL:O	1:B:562:VAL:HG13	2.20	0.42
1:B:611:ILE:HD13	1:B:611:ILE:C	2.41	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:641:THR:HB	1:B:643:GLN:OE1	2.20	0.42
1:A:63:PHE:HA	1:A:322:ILE:O	2.20	0.41
1:A:121:VAL:O	1:A:125:MET:HB2	2.20	0.41
1:A:442:VAL:O	1:A:444:ILE:HG23	2.20	0.41
1:A:451:GLY:C	1:A:452:TYR:HD1	2.23	0.41
1:B:188:GLN:O	1:B:188:GLN:HG3	2.19	0.41
1:B:474:PHE:HB3	1:B:475:PRO:HD3	2.01	0.41
1:B:643:GLN:HE21	1:B:643:GLN:HB2	1.69	0.41
1:A:61:VAL:HG13	1:A:320:VAL:HG23	2.02	0.41
1:A:343:ILE:CG2	1:A:348:LEU:HG	2.50	0.41
1:A:354:ILE:CD1	1:A:360:LEU:HD23	2.51	0.41
1:A:413:CYS:SG	1:A:478:ALA:HB2	2.61	0.41
1:B:12:LYS:HB3	1:B:12:LYS:HE2	1.91	0.41
1:B:218:MET:HG2	1:B:240:PHE:CZ	2.55	0.41
1:B:403:GLU:HG3	1:B:427:TYR:HD2	1.85	0.41
1:A:71:GLU:H	1:A:71:GLU:HG2	1.58	0.41
1:A:442:VAL:C	1:A:458:HIS:CB	2.88	0.41
1:A:514:TRP:HA	1:A:546:THR:CB	2.51	0.41
1:B:19:ILE:HG12	1:B:132:HIS:CD2	2.56	0.41
1:B:437:ASP:O	1:B:437:ASP:CG	2.59	0.41
1:B:505:ASP:O	1:B:508:GLU:N	2.52	0.41
1:B:526:LYS:HB3	1:B:561:PHE:HD2	1.85	0.41
1:A:132:HIS:O	1:A:136:LEU:HD23	2.20	0.41
1:A:426:VAL:HG23	1:A:426:VAL:O	2.20	0.41
1:A:512:LEU:C	1:A:512:LEU:HD23	2.41	0.41
1:A:528:TYR:CZ	1:A:557:VAL:HG23	2.55	0.41
1:A:600:ALA:O	1:A:604:ALA:HB3	2.19	0.41
1:B:394:TYR:CD1	1:B:644:GLY:HA2	2.54	0.41
1:B:488:ASN:HA	1:B:589:VAL:O	2.20	0.41
1:A:78:LEU:HD12	1:A:82:GLY:O	2.20	0.41
1:B:2:LEU:HD23	1:B:360:LEU:CD2	2.50	0.41
1:B:139:GLN:HB3	1:B:141:GLN:NE2	2.35	0.41
1:B:294:GLN:O	1:B:298:GLN:HG3	2.20	0.41
1:B:446:VAL:C	1:B:447:ILE:HG12	2.41	0.41
1:A:77:TYR:C	1:A:78:LEU:HD22	2.40	0.41
1:A:407:GLN:HB2	1:A:638:VAL:CG1	2.50	0.41
1:A:423:MET:N	1:A:633:ASN:O	2.54	0.41
1:B:54:THR:HG23	1:B:54:THR:O	2.20	0.41
1:B:117:TYR:O	1:B:118:ASP:C	2.57	0.41
1:B:159:LEU:HA	1:B:160:PRO:HD3	1.79	0.41
1:B:213:PHE:CE2	1:B:272:MET:HE3	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:372:LEU:O	1:A:376:LEU:HG	2.20	0.41
1:A:374:THR:O	1:A:378:LEU:HD23	2.21	0.41
1:B:354:ILE:HG13	1:B:360:LEU:HD23	2.02	0.41
1:A:99:ILE:CG2	1:A:104:VAL:HG13	2.51	0.41
1:A:123:LEU:HD13	1:A:218:MET:CE	2.39	0.41
1:A:221:TRP:HZ3	1:A:223:ARG:HA	1.86	0.41
1:A:305:PRO:HB3	1:A:467:ALA:HB1	2.03	0.41
1:A:403:GLU:CD	1:A:403:GLU:H	2.23	0.41
1:A:589:VAL:O	1:A:589:VAL:HG23	2.20	0.41
1:B:4:PHE:HB2	1:B:419:PRO:HG3	2.03	0.41
1:B:172:PHE:O	1:B:266:PRO:HG2	2.20	0.41
1:B:203:VAL:HB	1:B:206:LEU:HD12	2.03	0.41
1:B:470:PRO:HG3	1:B:545:TRP:CZ2	2.56	0.41
1:B:493:ALA:HB1	1:B:494:ALA:H	1.61	0.41
1:A:12:LYS:HB3	1:A:12:LYS:HE2	1.87	0.41
1:A:100:PRO:HG2	1:A:103:ALA:CB	2.48	0.41
1:A:386:PHE:C	1:A:388:THR:H	2.24	0.41
1:A:645:LEU:H	1:A:645:LEU:CD2	2.34	0.41
1:B:33:ARG:HA	1:B:45:ARG:O	2.20	0.41
1:B:61:VAL:HG23	1:B:320:VAL:HG22	2.02	0.41
1:B:130:ALA:O	1:B:272:MET:HE1	2.21	0.41
1:B:150:TYR:HB2	1:B:311:TYR:CZ	2.56	0.41
1:B:273:LEU:HD11	1:B:358:PRO:HG3	2.03	0.41
1:B:442:VAL:HA	1:B:443:PRO:HD3	1.95	0.41
1:B:525:PHE:CB	1:B:561:PHE:O	2.65	0.41
1:B:577:ARG:HH11	1:B:577:ARG:HG2	1.86	0.41
1:B:597:HIS:HD2	1:B:605:VAL:HG12	1.86	0.41
1:B:630:GLU:OE1	1:B:635:TRP:HD1	2.04	0.41
1:A:376:LEU:O	1:A:379:ARG:HB3	2.20	0.41
1:A:388:THR:O	1:A:388:THR:HG23	2.20	0.41
1:A:434:LEU:O	1:A:434:LEU:HD13	2.21	0.41
1:A:442:VAL:HG22	1:A:459:LEU:O	2.20	0.41
1:A:538:TYR:OH	1:A:540:ASP:HB2	2.21	0.41
1:A:632:LYS:HE3	1:A:632:LYS:HB3	1.86	0.41
1:B:491:ILE:HG22	1:B:584:PHE:HE1	1.86	0.41
1:B:59:PRO:HD2	1:B:223:ARG:HH12	1.86	0.40
1:B:277:ARG:O	1:B:281:ASN:HB2	2.21	0.40
1:B:299:ILE:C	1:B:299:ILE:HD12	2.41	0.40
1:A:142:TYR:CE2	1:A:172:PHE:HB2	2.56	0.40
1:B:64:ASN:HA	1:B:324:LYS:HZ2	1.87	0.40
1:B:89:VAL:HG13	1:B:334:PHE:CZ	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:473:ILE:HD13	1:B:473:ILE:N	2.36	0.40
1:B:483:ASN:CB	1:B:484:PRO:CD	2.98	0.40
1:A:474:PHE:N	1:A:475:PRO:CD	2.84	0.40
1:A:626:ILE:HD13	1:A:628:ALA:O	2.22	0.40
1:B:87:ASP:O	1:B:91:ASN:HB2	2.21	0.40
1:B:315:MET:HG2	1:B:315:MET:H	1.58	0.40
1:A:7:LYS:HD3	1:A:7:LYS:HA	1.87	0.40
1:A:315:MET:CG	1:A:442:VAL:HG12	2.51	0.40
1:A:64:ASN:HB3	1:B:190:SER:CB	2.52	0.40
1:A:74:ALA:HA	1:A:339:ASP:O	2.21	0.40
1:A:86:ILE:HG22	1:A:90:LEU:HD11	2.04	0.40
1:A:273:LEU:HD11	1:A:358:PRO:HG3	2.03	0.40
1:A:418:ALA:HA	1:A:419:PRO:HD2	1.87	0.40
1:B:201:LEU:HD23	1:B:201:LEU:H	1.83	0.40
1:B:526:LYS:NZ	1:B:527:VAL:H	2.13	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	649/680 (95%)	597 (92%)	36 (6%)	16 (2%)	5	34
1	B	649/680 (95%)	540 (83%)	63 (10%)	46 (7%)	1	12
All	All	1298/1360 (95%)	1137 (88%)	99 (8%)	62 (5%)	2	20

All (62) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	13	SER
1	A	397	GLY
1	A	473	ILE

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Mol	Chain	Res	Type
1	A	531	THR
1	A	536	LYS
1	B	7	LYS
1	B	118	ASP
1	B	155	VAL
1	B	284	ARG
1	B	300	MET
1	B	451	GLY
1	B	454	ILE
1	B	471	TYR
1	B	476	VAL
1	B	477	ALA
1	B	573	VAL
1	B	602	ALA
1	B	630	GLU
1	A	83	GLY
1	A	168	GLY
1	A	556	ASP
1	A	564	ALA
1	B	12	LYS
1	B	14	SER
1	B	98	GLY
1	B	113	SER
1	B	119	ASN
1	B	329	ARG
1	B	453	ASN
1	B	544	THR
1	B	603	HIS
1	A	72	GLY
1	A	114	TRP
1	B	13	SER
1	B	115	ARG
1	B	117	TYR
1	B	286	TYR
1	B	397	GLY
1	B	470	PRO
1	B	563	THR
1	B	604	ALA
1	B	608	ALA
1	B	634	TYR
1	A	112	THR
1	B	8	ASN

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Mol	Chain	Res	Type
1	B	11	ASP
1	B	263	GLN
1	B	265	ARG
1	B	447	ILE
1	B	448	GLU
1	B	236	LEU
1	B	382	LYS
1	B	493	ALA
1	A	82	GLY
1	A	478	ALA
1	B	475	PRO
1	B	644	GLY
1	A	153	GLY
1	B	328	ILE
1	A	455	VAL
1	B	104	VAL
1	B	503	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	550/573 (96%)	462 (84%)	88 (16%)	2 14
1	B	550/573 (96%)	439 (80%)	111 (20%)	1 6
All	All	1100/1146 (96%)	901 (82%)	199 (18%)	1 9

All (199) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2	LEU
1	A	13	SER
1	A	14	SER
1	A	19	ILE
1	A	25	THR
1	A	30	ASN

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Mol	Chain	Res	Type
1	A	31	ARG
1	A	33	ARG
1	A	39	ASP
1	A	44	ASN
1	A	45	ARG
1	A	47	TYR
1	A	60	THR
1	A	71	GLU
1	A	87	ASP
1	A	96	THR
1	A	111	ILE
1	A	112	THR
1	A	115	ARG
1	A	119	ASN
1	A	125	MET
1	A	138	GLU
1	A	162	THR
1	A	166	THR
1	A	171	GLN
1	A	178	ARG
1	A	179	SER
1	A	186	TRP
1	A	188	GLN
1	A	195	SER
1	A	218	MET
1	A	221	TRP
1	A	224	ARG
1	A	252	ASP
1	A	258	ASP
1	A	261	ASP
1	A	299	ILE
1	A	300	MET
1	A	315	MET
1	A	319	LEU
1	A	321	ASN
1	A	331	ARG
1	A	335	LEU
1	A	339	ASP
1	A	342	LEU
1	A	351	TRP
1	A	370	VAL
1	A	378	LEU

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Mol	Chain	Res	Type
1	A	383	LYS
1	A	392	ASP
1	A	395	GLU
1	A	396	ASP
1	A	400	LEU
1	A	407	GLN
1	A	434	LEU
1	A	444	ILE
1	A	456	ASP
1	A	457	ASP
1	A	458	HIS
1	A	459	LEU
1	A	461	VAL
1	A	464	VAL
1	A	466	VAL
1	A	468	CYS
1	A	472	MET
1	A	473	ILE
1	A	492	LYS
1	A	498	LEU
1	A	499	ARG
1	A	507	LEU
1	A	516	LEU
1	A	517	ARG
1	A	528	TYR
1	A	530	ASP
1	A	548	ILE
1	A	550	GLU
1	A	560	VAL
1	A	566	GLU
1	A	567	ARG
1	A	577	ARG
1	A	585	ARG
1	A	596	THR
1	A	611	ILE
1	A	624	GLN
1	A	630	GLU
1	A	632	LYS
1	A	642	GLN
1	A	650	LEU
1	B	5	VAL
1	B	8	ASN

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Mol	Chain	Res	Type
1	B	11	ASP
1	B	12	LYS
1	B	15	ASP
1	B	19	ILE
1	B	31	ARG
1	B	49	VAL
1	B	50	SER
1	B	64	ASN
1	B	67	SER
1	B	68	SER
1	B	73	ILE
1	B	78	LEU
1	B	84	LEU
1	B	87	ASP
1	B	93	LEU
1	B	104	VAL
1	B	106	SER
1	B	112	THR
1	B	115	ARG
1	B	133	LEU
1	B	134	GLN
1	B	156	LYS
1	B	161	VAL
1	B	164	ASP
1	B	170	THR
1	B	178	ARG
1	B	179	SER
1	B	181	ASP
1	B	188	GLN
1	B	196	ILE
1	B	198	VAL
1	B	201	LEU
1	B	224	ARG
1	B	249	GLN
1	B	250	ASP
1	B	256	GLU
1	B	258	ASP
1	B	263	GLN
1	B	270	LYS
1	B	285	LEU
1	B	301	MET
1	B	311	TYR

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Mol	Chain	Res	Type
1	B	314	LEU
1	B	315	MET
1	B	317	ASP
1	B	319	LEU
1	B	320	VAL
1	B	328	ILE
1	B	329	ARG
1	B	332	TYR
1	B	339	ASP
1	B	348	LEU
1	B	355	MET
1	B	363	THR
1	B	376	LEU
1	B	379	ARG
1	B	380	ARG
1	B	390	ILE
1	B	393	SER
1	B	395	GLU
1	B	407	GLN
1	B	416	GLN
1	B	429	THR
1	B	437	ASP
1	B	445	THR
1	B	453	ASN
1	B	454	ILE
1	B	458	HIS
1	B	464	VAL
1	B	473	ILE
1	B	483	ASN
1	B	486	CYS
1	B	488	ASN
1	B	492	LYS
1	B	499	ARG
1	B	500	LYS
1	B	507	LEU
1	B	521	TYR
1	B	522	ASP
1	B	523	THR
1	B	526	LYS
1	B	527	VAL
1	B	530	ASP
1	B	531	THR

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Mol	Chain	Res	Type
1	B	532	HIS
1	B	536	LYS
1	B	545	TRP
1	B	550	GLU
1	B	558	MET
1	B	561	PHE
1	B	565	ILE
1	B	578	LEU
1	B	585	ARG
1	B	586	SER
1	B	595	ASP
1	B	599	GLN
1	B	605	VAL
1	B	609	SER
1	B	610	ARG
1	B	611	ILE
1	B	613	LEU
1	B	616	VAL
1	B	630	GLU
1	B	631	LEU
1	B	634	TYR
1	B	639	ARG
1	B	641	THR
1	B	642	GLN
1	B	643	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (39) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	8	ASN
1	A	30	ASN
1	A	51	GLN
1	A	58	ASN
1	A	119	ASN
1	A	212	ASN
1	A	235	GLN
1	A	281	ASN
1	A	283	ASN
1	A	298	GLN
1	A	316	HIS
1	A	321	ASN
1	A	344	GLN

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Mol	Chain	Res	Type
1	A	407	GLN
1	A	416	GLN
1	A	441	GLN
1	A	483	ASN
1	A	571	HIS
1	A	597	HIS
1	A	624	GLN
1	B	8	ASN
1	B	10	GLN
1	B	29	HIS
1	B	58	ASN
1	B	64	ASN
1	B	91	ASN
1	B	102	ASN
1	B	107	HIS
1	B	154	HIS
1	B	235	GLN
1	B	283	ASN
1	B	344	GLN
1	B	416	GLN
1	B	495	ASN
1	B	547	HIS
1	B	597	HIS
1	B	599	GLN
1	B	642	GLN
1	B	643	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](#)

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 [i](#)

6.1 Protein, DNA and RNA chains [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

6.3 Carbohydrates [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.

6.4 Ligands [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.

6.5 Other polymers [i](#)

Unable to reproduce the depositors R factor - this section is therefore empty.