



Full wwPDB EM Validation Report ⓘ

Jul 8, 2025 – 02:54 PM JST

PDB ID : 8YGA / pdb_00008yga
EMDB ID : EMD-39240
Title : The tetramer Structure of DSR2 alone
Authors : Gao, X.; Zhu, H.; Cui, S.
Deposited on : 2024-02-26
Resolution : 4.53 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>

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:

EMDB validation analysis : **FAILED**
MolProbity : 4-5-2 with Phenix2.0rc1
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : **FAILED**
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.44

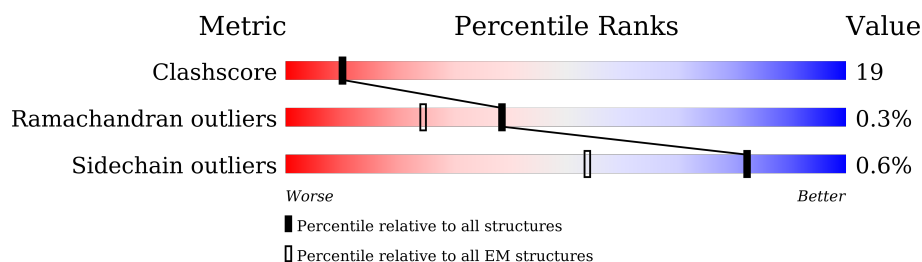
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.53 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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	1005	
1	B	1005	
1	C	1005	
1	D	1005	

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 33140 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called SIR2-like domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	995	Total	C	N	O	S	0	0
			8285	5362	1336	1555	32		
1	B	995	Total	C	N	O	S	0	0
			8285	5362	1336	1555	32		
1	C	995	Total	C	N	O	S	0	0
			8285	5362	1336	1555	32		
1	D	995	Total	C	N	O	S	0	0
			8285	5362	1336	1555	32		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	171	ALA	HIS	engineered mutation	UNP D4G637
B	171	ALA	HIS	engineered mutation	UNP D4G637
C	171	ALA	HIS	engineered mutation	UNP D4G637
D	171	ALA	HIS	engineered mutation	UNP D4G637

Chain B:



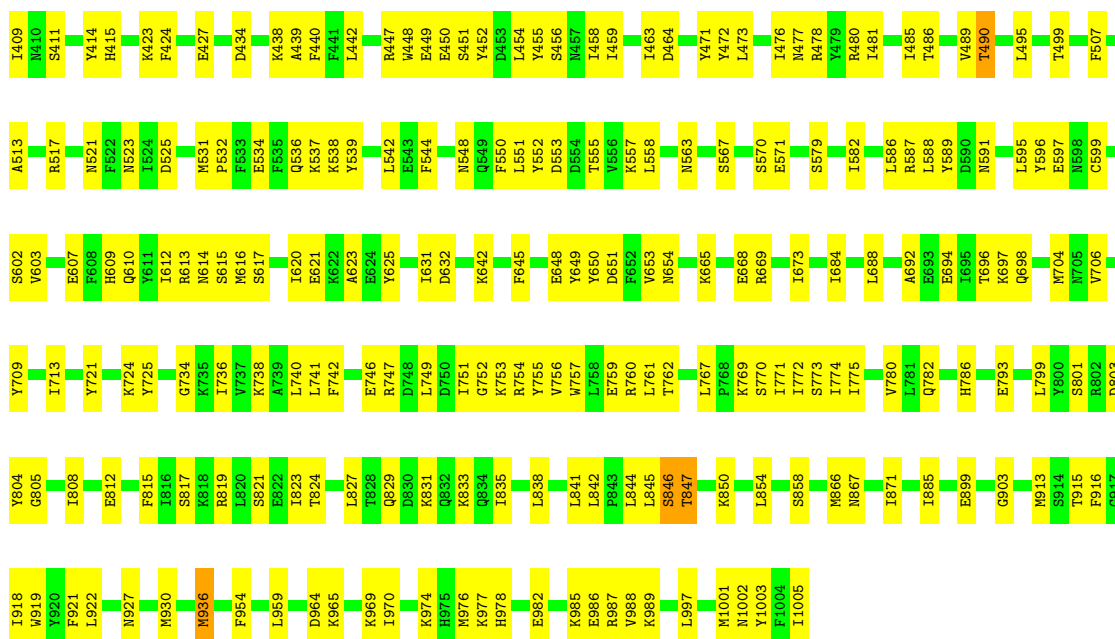
MET	VAL	LYS	VAL	ASP	LEU	GLU	SER	LYS	ARG	Y11	G12	E13	K14	V18	V26	E28	C29	I30	K31	T34	E35	R38	V43	G47	T52	L53	Y56	P57	Q58	W59	R61	L62	V63	D64	K65	Y66	E69	K75	Y79	D82	F83	Y84	L85	R86	I87																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
P88	Q89	I90	F91	Y92	N93	Y94	K95	A99	F100	G12	I103	F107	D111	T114	H118	H128	Y134	L137	K144	R145	E156	F174	R175	K179	G180	E181	N182	L185	K186	E187	D188	D189	K65	Y190	L191	N192	F198	L199	I200	S201	N202	K205	T206	I207	I208																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
A209	T210	H211	T212	T213	G217	Y218	D222	Y223	N224	I225	L228	L229	N230	W231	V232	R233	K234	F245	I246	Y280	N283	R267	L268	L289	D270	A271	L274	S277	N278	E279	R285	Y286	S287	A288	V289	N290	D291	I294	E295	Q296	Q297	E298	N299	I302	T303	K304																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
E307	V308	I309	I312	Y313	I316	S317	F320	K327	L330	V333	E341	V342	N343	R348	N351	R359	F360	F361	E362	L363	K364	E365	S366	E369	L373	S374	Q377	F385	F387	F388	V393	I394	C395	K396	A397	K398	E398	A400	L403	I407																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
N410	Y414	H415	Y418	D419	Y420	N421	K422	I425	E433	Y436	K437	K438	A439	F440	N448	E449	F450	E451	Y452	D453	L454	Y455	S456	N457	L458	L459	L460	N461	S462	I463	D464	E465	S466	N467	Q468	C469	V470	S474	N477	N478	Y479	R480	I481	Y482	Q483	S484	I485	V489	L495																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
T499	K505	D509	L512	A513	R514	L515	E516	R517	E518	N519	T520	K437	F522	F528		M531	P532	F533	E534	F535	Q536	K538	Y539	K540	F544	L545	S546	D547	N548	Q549	F550	L551	Y552	D553	D554	T555	V556	K557	L558	L561	T562	I563	K564	D565	F566	K567	L568	E569	M569	S578	S579																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
S580	V583	V584	L585	L586	E587	L588	Y589	L592	Y596	E597	N598	F605	F608	I612		M616	S617	L618	L619	E620	E621	K622	A623	E624	Y625	E626	T627	L545	T628	R629	D630	E648	Y649	V650	D651	F652	I655	S656	R657	H658	F659	K660	I661	D662	D663	L664	K665	N666	L667	E668	R669	S670																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
C671	S672	L758	D674	K675	L676	T684	E685	Y687	L688	V689	A692	T696	K697	Q698	F699	S700	G703	N704	N705	V706	V707	Y709	T710	Q711	F712	I713	S714	E715	Y721	F722	A723	L744	Y725	V726	G734	V737	K738	A739	L740	L741	F742	Y743	F744	L749	G752	K753	R754	Y755																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
V756	W757	E759	R760	L761	T762	K763	L767	P768	K769	S770	I771	S773	F778	L799	T800	S801	Y804	K809	T824	T828	Q829	Q832	L835	L838	P843	L844	L845	L853	F856	K857	S858	V859	L865	K866	F877	E899	G903	I904	Y912																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
M913	S914	Y920	E924	N930	D937	Y940	V944	I970	N973	N976	K977	H978	E982	E988	M1001	I1005																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

• Molecule 1: SIR2-like domain-containing protein

Chain C:

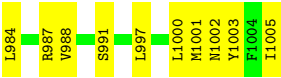
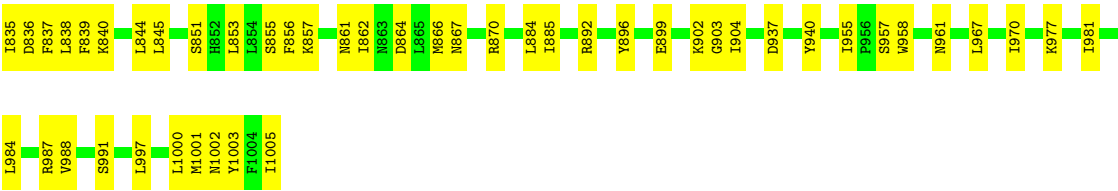


MET	VAL	LYS	VAL	ASP	LEU	GLU	SER	LYS	ARG	Y11	L15	K16	E17	V18	F19	L20	M21	L22	N25	V26	V27	E28	C29	I30	K31	E32	I33	T34	E35	N39	G40	K41	G47	A48	G49	T52	L53	Y56	P57	D64	K65	N78	Y79	S80	S81	D82	E83	Y84	L85	R86	I87
	I90	K95	F107	F108	T114	N115	P116	I117	H118	M124	V128	W129	I130	N133	N136	D139	R145	G146	K147	S150	V151	I152	D157	S163	S164	R165	Y166	L167	L168	D173	F174	R175	Y190	L199	N202	T206	T210	H211	T212	F215											
G219	L220	G221	D222	Y223	N224	L225	N226	N227	L228	L229	R233	Q236	F245	T246	R247	T248	I253	E256	L258	T259	E262	N263	T264	R267	S277	N278	D281	T282	L283	E284	R285	Y286	V289	N290	L292	L293	L294	E295	S296	Q297	E298	N299	K300	F301	I302	T303					
K304	E307	D310	Y311	I312	I316	L322	I325	R326	K327	L330	Y338	E341	V342	N351	G355	Y356	K357	E358	R359	F360	F361	E362	K363	K364	E365	S366	E369	R370	S371	K372	Q377	R380	F387	F388	N391	G392	V393	N396	K397	K398	I407	E408									



• Molecule 1: SIR2-like domain-containing protein





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	64553	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	66	Depositor
Minimum defocus (nm)	1800	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.19	0/8478	0.49	1/11418 (0.0%)
1	B	0.19	0/8478	0.49	1/11418 (0.0%)
1	C	0.18	0/8478	0.46	1/11418 (0.0%)
1	D	0.20	0/8478	0.52	1/11418 (0.0%)
All	All	0.19	0/33912	0.49	4/45672 (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	B	0	1
1	D	0	2
All	All	0	3

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	299	ASN	N-CA-C	-7.26	102.91	112.34
1	D	532	PRO	CA-N-CD	-6.28	103.22	112.00
1	A	616	MET	CB-CG-SD	-5.38	96.57	112.70
1	B	565	VAL	N-CA-C	-5.35	108.06	113.20

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	297	GLN	Peptide
1	D	297	GLN	Peptide
1	D	58	GLN	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	8285	0	8120	306	0
1	B	8285	0	8120	313	0
1	C	8285	0	8120	293	0
1	D	8285	0	8120	356	0
All	All	33140	0	32480	1238	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 19.

All (1238) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:866:MET:HE3	1:C:866:MET:H	1.42	0.84
1:B:627:ARG:HH12	1:B:675:LYS:HG2	1.43	0.82
1:D:425:ILE:HD11	1:D:442:LEU:HG	1.59	0.82
1:C:588:LEU:HD11	1:C:612:ILE:HD12	1.61	0.82
1:D:45:PHE:HB2	1:D:213:ILE:HD11	1.61	0.82
1:B:360:PHE:HA	1:B:363:LEU:HD12	1.61	0.81
1:A:693:GLU:OE1	1:A:697:LYS:NZ	2.13	0.81
1:D:83:GLU:HA	1:D:86:ARG:HE	1.45	0.80
1:A:439:ALA:HB2	1:A:454:LEU:HD22	1.63	0.79
1:C:295:GLU:C	1:C:297:GLN:H	1.91	0.79
1:D:626:GLU:HB2	1:D:629:ARG:HB3	1.64	0.79
1:D:98:MET:HE3	1:D:98:MET:H	1.48	0.79
1:B:422:LYS:HA	1:B:425:ILE:HD12	1.64	0.79
1:B:38:ARG:HH12	1:B:297:GLN:HB2	1.47	0.78
1:B:297:GLN:HG2	1:B:298:GLU:H	1.49	0.78
1:D:75:LYS:HG2	1:D:79:TYR:HA	1.66	0.78
1:D:800:TYR:HB2	1:D:802:ARG:HE	1.48	0.78
1:A:750:ASP:H	1:A:753:LYS:HZ2	1.32	0.77
1:A:610:GLN:HA	1:A:613:ARG:HG2	1.67	0.77
1:D:130:ILE:HG13	1:D:168:LEU:HB3	1.65	0.77
1:B:578:MET:HE3	1:B:583:VAL:HG11	1.65	0.77
1:B:455:TYR:HA	1:B:458:ILE:HD12	1.65	0.77
1:C:302:ILE:HG23	1:C:307:GLU:HB3	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:70:LEU:HD11	1:D:256:GLU:HG2	1.64	0.77
1:A:661:ILE:HD11	1:A:717:LYS:HD2	1.65	0.76
1:C:749:LEU:O	1:C:754:ARG:NH1	2.19	0.76
1:B:692:ALA:O	1:B:696:THR:HG23	1.84	0.76
1:A:842:LEU:O	1:A:850:LYS:NZ	2.15	0.76
1:B:767:LEU:HB2	1:B:771:ILE:HB	1.67	0.75
1:C:414:TYR:OH	1:C:654:ASN:ND2	2.20	0.75
1:B:374:SER:O	1:B:377:GLN:NE2	2.15	0.75
1:A:613:ARG:HH21	1:A:659:PHE:HD1	1.33	0.74
1:D:244:PHE:HE1	1:D:267:ARG:HD3	1.52	0.74
1:B:533:PHE:HA	1:B:536:GLN:HE21	1.52	0.74
1:B:234:LYS:HA	1:B:234:LYS:HE2	1.70	0.74
1:A:312:ILE:O	1:A:316:ILE:HG22	1.88	0.74
1:A:824:THR:HG23	1:A:838:LEU:HD13	1.70	0.73
1:B:327:LYS:HA	1:B:330:LEU:HD13	1.69	0.73
1:B:551:LEU:HD21	1:B:608:PHE:HD1	1.54	0.73
1:A:488:ALA:HA	1:A:491:GLN:HE21	1.52	0.73
1:C:842:LEU:O	1:C:850:LYS:NZ	2.20	0.73
1:D:187:GLU:OE1	1:D:187:GLU:N	2.21	0.73
1:A:596:TYR:OH	1:A:657:ARG:NH1	2.21	0.73
1:D:198:PRO:HG2	1:D:199:LEU:HD22	1.71	0.73
1:A:297:GLN:HE22	1:A:299:ASN:HB2	1.53	0.72
1:B:364:LYS:NZ	1:B:394:ILE:O	2.22	0.72
1:A:518:GLU:HG3	1:A:519:MET:SD	2.29	0.72
1:B:555:THR:HA	1:B:558:LEU:HG	1.70	0.72
1:B:359:ARG:O	1:B:359:ARG:NH1	2.22	0.72
1:C:248:THR:O	1:C:285:ARG:NH2	2.23	0.72
1:A:531:MET:HE3	1:A:532:PRO:HD2	1.69	0.72
1:A:842:LEU:HD22	1:A:871:ILE:HD12	1.71	0.72
1:D:421:MET:HG3	1:D:441:PHE:HD1	1.52	0.72
1:A:657:ARG:HA	1:A:715:GLU:HG3	1.71	0.72
1:C:544:PHE:HB2	1:C:550:PHE:HB3	1.70	0.71
1:C:471:TYR:OH	1:D:146:GLY:O	2.06	0.71
1:D:105:LYS:HA	1:D:105:LYS:HE2	1.72	0.71
1:D:322:LEU:HD11	1:D:542:LEU:HD11	1.72	0.71
1:A:41:LYS:O	1:A:212:THR:OG1	2.08	0.71
1:C:145:ARG:NH2	1:D:521:ASN:OD1	2.23	0.71
1:B:627:ARG:NH1	1:B:675:LYS:HG2	2.05	0.71
1:D:327:LYS:NZ	1:D:342:VAL:O	2.24	0.71
1:B:291:ASP:HA	1:B:294:ILE:HG22	1.70	0.71
1:A:509:ASP:HA	1:A:512:LEU:HD12	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:41:LYS:O	1:C:212:THR:OG1	2.09	0.71
1:B:62:LEU:HB2	1:B:107:PHE:CE2	2.26	0.71
1:C:439:ALA:HB2	1:C:454:LEU:HD22	1.73	0.71
1:A:19:PHE:HA	1:A:22:LEU:HG	1.73	0.70
1:A:749:LEU:HD12	1:A:753:LYS:HG3	1.73	0.70
1:D:516:GLU:OE1	1:D:520:THR:OG1	2.07	0.70
1:C:824:THR:HG21	1:C:845:LEU:HD21	1.72	0.70
1:B:519:MET:O	1:B:521:ASN:N	2.24	0.70
1:C:19:PHE:HA	1:C:22:LEU:HG	1.73	0.70
1:D:337:ASP:OD2	1:D:356:TYR:OH	2.07	0.70
1:A:583:VAL:HG12	1:A:587:ARG:HH12	1.56	0.70
1:D:740:LEU:HA	1:D:744:PHE:HE2	1.55	0.70
1:D:730:GLU:HA	1:D:733:LEU:HD12	1.74	0.69
1:A:544:PHE:HB2	1:A:550:PHE:HB3	1.74	0.69
1:A:73:SER:OG	1:A:76:LYS:NZ	2.25	0.69
1:D:984:LEU:HB3	1:D:1000:LEU:HD11	1.74	0.69
1:D:13:GLU:HG2	1:D:14:LYS:HD3	1.74	0.69
1:D:329:ASP:HB2	1:D:541:ILE:HD11	1.73	0.69
1:B:278:ASN:O	1:B:285:ARG:NH2	2.26	0.69
1:B:279:GLU:O	1:B:285:ARG:NH1	2.22	0.69
1:B:749:LEU:O	1:B:754:ARG:NH2	2.24	0.69
1:C:210:THR:O	1:C:211:HIS:ND1	2.26	0.69
1:B:400:ALA:HB1	1:B:403:LEU:HD11	1.74	0.69
1:D:376:LYS:HB2	1:D:380:ARG:HH21	1.57	0.68
1:A:245:PHE:HB2	1:A:266:LEU:HD11	1.74	0.68
1:C:724:LYS:HD3	1:C:760:ARG:HG3	1.75	0.68
1:A:75:LYS:NZ	1:A:78:ASN:O	2.26	0.68
1:B:512:LEU:O	1:B:516:GLU:HG2	1.92	0.68
1:D:749:LEU:HD11	1:D:757:TRP:HE1	1.58	0.68
1:B:538:LYS:HG3	1:B:539:TYR:CD1	2.28	0.68
1:C:780:VAL:HG21	1:C:819:ARG:HD3	1.76	0.68
1:B:330:LEU:O	1:B:333:VAL:HB	1.93	0.67
1:C:616:MET:O	1:C:620:ILE:HG12	1.94	0.67
1:A:782:GLN:OE1	1:A:801:SER:OG	2.13	0.67
1:D:425:ILE:O	1:D:438:LYS:NZ	2.26	0.67
1:A:827:LEU:HD13	1:A:835:ILE:HG22	1.77	0.67
1:D:222:ASP:O	1:D:224:ASN:N	2.28	0.67
1:A:704:MET:HE1	1:A:709:TYR:HB2	1.76	0.67
1:B:449:GLU:OE1	1:B:449:GLU:N	2.22	0.67
1:B:218:TYR:HD2	1:B:225:ILE:HD11	1.60	0.67
1:A:609:HIS:O	1:A:613:ARG:HD2	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:473:LEU:O	1:C:477:ASN:ND2	2.28	0.66
1:B:809:LYS:HE2	1:B:843:PRO:HB2	1.77	0.66
1:C:531:MET:HG3	1:C:532:PRO:HD2	1.78	0.66
1:C:866:MET:SD	1:C:867:ASN:ND2	2.68	0.66
1:D:755:TYR:HB2	1:D:804:TYR:CZ	2.30	0.66
1:B:436:TYR:OH	1:B:598:ASN:O	2.14	0.66
1:B:190:TYR:HD2	1:B:223:TYR:HE2	1.43	0.66
1:B:291:ASP:O	1:B:295:GLU:HG3	1.96	0.66
1:C:298:GLU:C	1:C:300:LYS:N	2.52	0.66
1:C:913:MET:HE1	1:C:936:MET:HB3	1.77	0.66
1:D:89:GLN:CD	1:D:89:GLN:H	2.04	0.66
1:A:921:PHE:O	1:A:969:LYS:NZ	2.29	0.66
1:B:47:GLY:HA3	1:B:218:TYR:HE1	1.61	0.66
1:A:751:ILE:HA	1:A:754:ARG:HG3	1.78	0.65
1:B:457:ASN:OD1	1:B:461:ASN:ND2	2.27	0.65
1:D:519:MET:HA	1:D:519:MET:HE2	1.79	0.65
1:D:648:GLU:N	1:D:651:ASP:OD2	2.30	0.65
1:C:80:SER:OG	1:C:82:ASP:OD1	2.15	0.65
1:C:312:ILE:O	1:C:316:ILE:HG22	1.97	0.65
1:B:233:ARG:NH1	1:B:263:ASN:O	2.30	0.65
1:C:570:SER:OG	1:D:669:ARG:NH1	2.30	0.65
1:C:614:ASN:OD1	1:C:615:SER:N	2.30	0.65
1:D:120:LYS:HZ1	1:D:294:ILE:HG21	1.61	0.65
1:D:610:GLN:OE1	1:D:613:ARG:NH2	2.30	0.65
1:A:48:ALA:O	1:A:51:SER:OG	2.13	0.64
1:D:122:LEU:HD11	1:D:142:CYS:HA	1.79	0.64
1:D:453:ASP:O	1:D:456:SER:OG	2.11	0.64
1:D:835:ILE:HA	1:D:838:LEU:HD12	1.79	0.64
1:B:673:ILE:HG23	1:B:676:ILE:HD12	1.79	0.64
1:C:286:TYR:O	1:C:290:MET:HG2	1.97	0.64
1:C:480:ARG:NH1	1:C:602:SER:OG	2.30	0.64
1:C:552:TYR:CZ	1:D:556:VAL:HG13	2.32	0.64
1:D:782:GLN:OE1	1:D:786:HIS:ND1	2.23	0.64
1:A:616:MET:HE2	1:A:659:PHE:HE1	1.61	0.64
1:B:588:LEU:O	1:B:592:LEU:HG	1.97	0.64
1:A:396:MET:HE3	1:A:396:MET:HA	1.79	0.64
1:B:477:ASN:O	1:B:481:ILE:HG12	1.97	0.64
1:C:233:ARG:NH2	1:C:263:ASN:O	2.29	0.64
1:D:374:SER:O	1:D:377:GLN:NE2	2.31	0.64
1:B:419:ASP:HA	1:B:422:LYS:HE2	1.80	0.64
1:D:54:SER:OG	1:D:115:ASN:ND2	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:844:LEU:O	1:C:850:LYS:NZ	2.26	0.63
1:B:533:PHE:HA	1:B:536:GLN:NE2	2.13	0.63
1:D:201:SER:O	1:D:205:LYS:HG2	1.98	0.63
1:A:36:SER:OG	1:A:212:THR:OG1	2.11	0.63
1:B:28:GLU:HA	1:B:31:LYS:HE2	1.79	0.63
1:D:326:ARG:NH1	1:D:329:ASP:OD2	2.31	0.63
1:A:488:ALA:HA	1:A:491:GLN:NE2	2.13	0.63
1:D:997:LEU:O	1:D:1001:MET:HG3	1.98	0.63
1:A:427:GLU:O	1:A:438:LYS:NZ	2.30	0.63
1:C:537:LYS:HE3	1:C:537:LYS:HA	1.80	0.63
1:C:824:THR:HG23	1:C:838:LEU:HD13	1.79	0.63
1:B:734:GLY:HA2	1:B:738:LYS:HZ3	1.64	0.63
1:D:89:GLN:HG3	1:D:187:GLU:CD	2.24	0.63
1:A:486:THR:O	1:A:490:THR:OG1	2.17	0.63
1:D:740:LEU:HA	1:D:744:PHE:CE2	2.34	0.63
1:D:366:SER:HB2	1:D:369:GLU:HG2	1.80	0.62
1:B:303:THR:N	1:B:307:GLU:OE2	2.29	0.62
1:C:295:GLU:C	1:C:297:GLN:N	2.52	0.62
1:D:987:ARG:NH2	1:D:991:SER:HB3	2.15	0.62
1:A:417:LYS:NZ	1:A:419:ASP:HB3	2.13	0.62
1:D:105:LYS:HZ3	1:D:109:GLN:HB2	1.65	0.62
1:A:877:PHE:CE1	1:A:882:GLU:HG3	2.35	0.62
1:D:421:MET:HG3	1:D:441:PHE:CD1	2.33	0.62
1:A:83:GLU:HA	1:A:86:ARG:HB2	1.81	0.62
1:A:135:ASP:OD1	1:A:135:ASP:N	2.30	0.62
1:A:716:ALA:O	1:A:720:LEU:HG	1.99	0.62
1:B:596:TYR:OH	1:B:657:ARG:NH2	2.32	0.62
1:D:408:GLU:O	1:D:593:ARG:NH1	2.31	0.62
1:A:53:LEU:HD21	1:A:286:TYR:HD2	1.65	0.62
1:D:420:VAL:HA	1:D:423:LYS:HE2	1.80	0.62
1:B:94:VAL:HG13	1:B:95:LYS:HD2	1.82	0.62
1:B:495:LEU:HD23	1:B:499:THR:HG23	1.82	0.62
1:C:145:ARG:HH22	1:D:522:PHE:HB2	1.64	0.62
1:C:982:GLU:HA	1:C:985:LYS:HD2	1.82	0.62
1:A:613:ARG:NH1	1:A:658:HIS:HB2	2.15	0.62
1:B:425:ILE:HG23	1:B:438:LYS:HD2	1.80	0.62
1:A:913:MET:HA	1:A:916:PHE:HD2	1.64	0.61
1:B:290:MET:HE3	1:B:290:MET:O	2.00	0.61
1:C:684:ILE:O	1:C:688:LEU:HG	2.00	0.61
1:C:899:GLU:O	1:C:903:GLY:N	2.32	0.61
1:D:755:TYR:HD2	1:D:799:LEU:HD11	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:220:LEU:HD23	1:C:247:ARG:HE	1.65	0.61
1:C:17:GLU:HA	1:C:20:LEU:HD12	1.82	0.61
1:C:987:ARG:NH1	1:D:628:THR:O	2.34	0.61
1:D:899:GLU:O	1:D:903:GLY:N	2.34	0.61
1:A:976:MET:HE1	1:A:1004:PHE:HE2	1.66	0.61
1:C:83:GLU:O	1:C:87:ILE:HG13	2.00	0.61
1:C:448:TRP:HE3	1:C:485:ILE:HG22	1.66	0.61
1:C:913:MET:HA	1:C:916:PHE:HD2	1.66	0.61
1:A:613:ARG:CZ	1:A:658:HIS:HB2	2.31	0.61
1:D:721:TYR:HD1	1:D:757:TRP:CZ3	2.19	0.61
1:A:613:ARG:HD2	1:A:613:ARG:H	1.66	0.61
1:B:566:ARG:O	1:B:569:MET:HE3	2.01	0.61
1:B:970:ILE:O	1:B:976:MET:HE2	2.00	0.61
1:C:767:LEU:HG	1:C:771:ILE:HB	1.82	0.61
1:A:27:VAL:HA	1:A:30:ILE:HD12	1.83	0.61
1:A:50:VAL:HA	1:A:53:LEU:HD12	1.83	0.61
1:A:210:THR:O	1:A:211:HIS:ND1	2.34	0.61
1:C:801:SER:HA	1:C:804:TYR:HD1	1.66	0.61
1:C:15:LEU:HD22	1:C:292:LEU:HD13	1.82	0.60
1:D:651:ASP:HA	1:D:654:ASN:HD21	1.66	0.60
1:D:708:PHE:CZ	1:D:712:PHE:HE2	2.19	0.60
1:A:899:GLU:O	1:A:903:GLY:N	2.34	0.60
1:B:579:SER:O	1:B:583:VAL:HG13	2.00	0.60
1:C:589:TYR:OH	1:C:651:ASP:OD1	2.20	0.60
1:D:242:LYS:HZ3	1:D:267:ARG:HD2	1.65	0.60
1:A:357:MET:HE3	1:A:357:MET:O	2.02	0.60
1:A:877:PHE:HE1	1:A:882:GLU:HG3	1.66	0.60
1:B:302:ILE:HG23	1:B:307:GLU:HB2	1.83	0.60
1:D:14:LYS:HD3	1:D:14:LYS:H	1.66	0.60
1:D:495:LEU:HD23	1:D:499:THR:HG23	1.83	0.60
1:A:651:ASP:O	1:A:655:ILE:HG12	2.02	0.60
1:C:760:ARG:HG2	1:C:761:LEU:HD23	1.81	0.60
1:D:862:ILE:HD13	1:D:884:LEU:HB3	1.84	0.60
1:B:457:ASN:O	1:B:461:ASN:ND2	2.35	0.60
1:D:733:LEU:O	1:D:737:VAL:HG23	2.00	0.60
1:D:205:LYS:HA	1:D:231:TRP:HH2	1.66	0.60
1:C:463:ILE:HD13	1:D:143:TRP:HB3	1.83	0.60
1:A:549:GLN:NE2	1:B:552:TYR:O	2.35	0.60
1:C:464:ASP:OD1	1:C:464:ASP:N	2.33	0.60
1:D:561:LEU:HB2	1:D:618:LEU:HD21	1.84	0.60
1:D:609:HIS:CE1	1:D:658:HIS:HA	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:656:SER:HB2	1:A:719:ALA:HB2	1.84	0.59
1:A:824:THR:HG21	1:A:845:LEU:HD21	1.83	0.59
1:B:721:TYR:O	1:B:760:ARG:NE	2.33	0.59
1:C:297:GLN:HB3	1:C:300:LYS:HG2	1.83	0.59
1:C:927:ASN:HB3	1:C:930:MET:HE3	1.83	0.59
1:B:62:LEU:HB2	1:B:107:PHE:HE2	1.65	0.59
1:D:175:ARG:HG2	1:D:176:LYS:HD2	1.84	0.59
1:D:456:SER:HB3	1:D:478:ARG:HH22	1.65	0.59
1:D:721:TYR:HA	1:D:757:TRP:HZ3	1.67	0.59
1:A:717:LYS:HG3	1:A:718:ALA:N	2.17	0.59
1:A:844:LEU:HD12	1:A:845:LEU:HB2	1.84	0.59
1:B:327:LYS:HD2	1:B:342:VAL:HA	1.83	0.59
1:A:454:LEU:HA	1:A:457:ASN:ND2	2.17	0.59
1:C:351:ASN:HD21	1:C:355:GLY:HA2	1.68	0.59
1:D:96:GLY:HA3	1:D:98:MET:HE1	1.84	0.59
1:D:231:TRP:CD1	1:D:231:TRP:C	2.81	0.59
1:D:531:MET:HE2	1:D:531:MET:HA	1.85	0.59
1:B:304:LYS:HD3	1:B:304:LYS:H	1.67	0.59
1:B:824:THR:HG23	1:B:838:LEU:HD13	1.83	0.59
1:C:553:ASP:HA	1:D:552:TYR:HE2	1.67	0.59
1:C:854:LEU:O	1:C:858:SER:OG	2.18	0.59
1:D:471:TYR:O	1:D:475:GLN:HG2	2.03	0.59
1:A:512:LEU:O	1:A:516:GLU:HG3	2.03	0.59
1:C:130:ILE:HD12	1:C:168:LEU:HB3	1.84	0.59
1:C:145:ARG:HG3	1:C:147:LYS:NZ	2.18	0.59
1:D:479:TYR:CG	1:D:524:ILE:HD11	2.38	0.59
1:D:551:LEU:HD21	1:D:608:PHE:HD1	1.66	0.59
1:D:579:SER:OG	1:D:581:ASP:OD1	2.14	0.59
1:A:482:TYR:CE1	1:A:515:ILE:HD12	2.37	0.59
1:D:649:TYR:N	1:D:680:GLU:OE1	2.36	0.59
1:A:64:ASP:OD1	1:A:65:LYS:N	2.36	0.58
1:C:846:SER:O	1:C:847:THR:OG1	2.14	0.58
1:D:112:LYS:HA	1:D:112:LYS:HE3	1.84	0.58
1:A:247:ARG:NH1	1:A:251:SER:O	2.24	0.58
1:A:555:THR:O	1:A:558:LEU:HB3	2.03	0.58
1:A:659:PHE:CD2	1:A:664:ILE:HG23	2.39	0.58
1:C:64:ASP:OD1	1:C:65:LYS:N	2.37	0.58
1:C:596:TYR:CE1	1:C:603:VAL:HG21	2.38	0.58
1:D:419:ASP:O	1:D:423:LYS:HD3	2.02	0.58
1:A:184:VAL:HG23	1:A:189:ASP:HB3	1.84	0.58
1:D:242:LYS:NZ	1:D:267:ARG:HD2	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:620:ILE:HD11	1:D:667:LEU:HD22	1.86	0.58
1:D:569:MET:HE2	1:D:622:LYS:HD3	1.85	0.58
1:A:83:GLU:O	1:A:87:ILE:HG13	2.03	0.58
1:D:14:LYS:HD3	1:D:14:LYS:N	2.18	0.58
1:D:306:ASP:O	1:D:309:ILE:HG13	2.04	0.58
1:A:46:VAL:HG23	1:A:50:VAL:HG21	1.84	0.58
1:B:90:ILE:O	1:B:94:VAL:HG12	2.03	0.58
1:B:674:ASP:OD1	1:B:674:ASP:N	2.36	0.58
1:B:53:LEU:HD11	1:B:286:TYR:HD2	1.68	0.58
1:B:156:GLU:CD	1:B:156:GLU:H	2.12	0.58
1:B:913:MET:SD	1:B:937:ASP:HB2	2.44	0.58
1:C:978:HIS:O	1:C:982:GLU:HG2	2.03	0.58
1:D:278:ASN:OD1	1:D:279:GLU:N	2.37	0.58
1:D:738:LYS:HZ2	1:D:742:PHE:HD2	1.52	0.58
1:A:361:PHE:HA	1:A:364:LYS:HD3	1.85	0.58
1:A:405:THR:HG21	1:A:586:LEU:HD11	1.86	0.58
1:C:407:ILE:HG12	1:C:589:TYR:CD2	2.38	0.58
1:D:337:ASP:HB2	1:D:351:ASN:HB2	1.84	0.58
1:B:308:VAL:O	1:B:312:ILE:HG22	2.03	0.57
1:C:455:TYR:O	1:C:459:ILE:HG12	2.04	0.57
1:C:770:SER:O	1:C:773:SER:OG	2.22	0.57
1:B:179:LYS:NZ	1:B:181:GLU:OE1	2.35	0.57
1:B:341:GLU:N	1:B:341:GLU:OE1	2.36	0.57
1:B:737:VAL:HG11	1:B:771:ILE:HG23	1.85	0.57
1:C:224:ASN:O	1:C:227:MET:HG3	2.04	0.57
1:C:985:LYS:HZ1	1:D:1005:ILE:C	2.10	0.57
1:A:152:ILE:HD11	1:A:158:VAL:HG22	1.85	0.57
1:D:205:LYS:HA	1:D:231:TRP:CH2	2.39	0.57
1:A:772:ILE:HD11	1:A:808:ILE:HG23	1.85	0.57
1:A:570:SER:OG	1:B:669:ARG:NH1	2.38	0.57
1:A:989:LYS:HE3	1:A:989:LYS:HA	1.87	0.57
1:C:222:ASP:HB2	1:C:225:ILE:HG12	1.86	0.57
1:C:236:GLN:HG2	1:D:199:LEU:HD21	1.86	0.57
1:B:225:ILE:O	1:B:229:LEU:HG	2.05	0.57
1:D:357:MET:HE2	1:D:357:MET:HA	1.86	0.57
1:B:608:PHE:O	1:B:612:ILE:HG13	2.05	0.57
1:C:692:ALA:O	1:C:696:THR:HG23	2.05	0.57
1:D:659:PHE:HB3	1:D:664:ILE:HD11	1.86	0.57
1:D:801:SER:HA	1:D:804:TYR:CD1	2.40	0.57
1:B:187:GLU:HA	1:B:190:TYR:HB2	1.87	0.57
1:B:298:GLU:HG3	1:B:302:ILE:HD11	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:739:ALA:HA	1:A:743:TYR:HD1	1.70	0.57
1:B:899:GLU:O	1:B:903:GLY:N	2.38	0.57
1:D:324:TYR:HE1	1:D:391:ASN:HA	1.70	0.57
1:D:555:THR:HA	1:D:558:LEU:HG	1.86	0.57
1:D:967:LEU:O	1:D:970:ILE:HG22	2.04	0.57
1:D:650:TYR:O	1:D:654:ASN:ND2	2.37	0.56
1:D:657:ARG:HA	1:D:715:GLU:HG3	1.85	0.56
1:A:697:LYS:HD3	1:A:697:LYS:N	2.20	0.56
1:B:26:VAL:O	1:B:30:ILE:HG12	2.05	0.56
1:C:997:LEU:O	1:C:1001:MET:HG2	2.05	0.56
1:A:507:PHE:CE1	1:A:511:PHE:HB3	2.41	0.56
1:A:657:ARG:HG2	1:A:658:HIS:NE2	2.20	0.56
1:B:474:SER:HA	1:B:477:ASN:ND2	2.20	0.56
1:B:724:LYS:HD3	1:B:760:ARG:NE	2.20	0.56
1:C:844:LEU:HD12	1:C:845:LEU:HB2	1.86	0.56
1:D:733:LEU:HD23	1:D:736:ILE:HD11	1.87	0.56
1:A:507:PHE:HE1	1:A:511:PHE:HB3	1.70	0.56
1:C:229:LEU:HD21	1:C:264:LYS:HD2	1.86	0.56
1:C:513:ALA:HB1	1:C:517:ARG:HH22	1.69	0.56
1:A:135:ASP:HB2	1:A:137:LEU:HD23	1.86	0.56
1:B:224:ASN:O	1:B:228:LEU:HD22	2.05	0.56
1:B:845:LEU:HD23	1:B:853:LEU:HD21	1.86	0.56
1:D:455:TYR:HA	1:D:458:ILE:HD12	1.87	0.56
1:B:531:MET:SD	1:B:532:PRO:HD2	2.46	0.56
1:C:769:LYS:HA	1:C:772:ILE:HD11	1.86	0.56
1:C:827:LEU:HD13	1:C:835:ILE:HG22	1.88	0.56
1:D:585:LEU:HD13	1:D:619:LEU:HD11	1.88	0.56
1:D:647:MET:HB3	1:D:651:ASP:HB2	1.88	0.56
1:A:616:MET:O	1:A:620:ILE:HG12	2.06	0.56
1:A:801:SER:HA	1:A:804:TYR:HD2	1.71	0.56
1:A:915:THR:HA	1:A:918:ILE:HD12	1.88	0.56
1:B:684:ILE:HG21	1:B:726:VAL:HG21	1.87	0.56
1:D:75:LYS:NZ	1:D:76:LYS:O	2.34	0.56
1:C:396:MET:HG3	1:C:398:LYS:HG2	1.88	0.56
1:C:964:ASP:OD2	1:C:965:LYS:NZ	2.39	0.56
1:D:845:LEU:HD23	1:D:853:LEU:HD21	1.88	0.56
1:C:87:ILE:HA	1:C:90:ILE:HD12	1.87	0.56
1:D:767:LEU:H	1:D:811:PHE:HE2	1.54	0.56
1:A:128:HIS:CE1	1:A:166:TYR:HD2	2.24	0.55
1:D:396:MET:N	1:D:396:MET:HE2	2.21	0.55
1:B:144:LYS:HG3	1:B:145:ARG:HD2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:187:GLU:OE1	1:B:187:GLU:N	2.38	0.55
1:B:433:GLU:H	1:B:433:GLU:CD	2.13	0.55
1:A:295:GLU:O	1:A:297:GLN:N	2.32	0.55
1:B:297:GLN:HG2	1:B:298:GLU:N	2.20	0.55
1:B:299:ASN:OD1	1:B:299:ASN:N	2.38	0.55
1:B:722:PHE:HA	1:B:760:ARG:HH21	1.71	0.55
1:B:756:VAL:HA	1:B:759:GLU:OE1	2.05	0.55
1:A:297:GLN:NE2	1:A:299:ASN:H	2.05	0.55
1:A:608:PHE:O	1:A:612:ILE:HG13	2.07	0.55
1:A:973:ASN:HB3	1:A:976:MET:HG3	1.88	0.55
1:A:87:ILE:HA	1:A:90:ILE:HG12	1.89	0.55
1:B:534:GLU:N	1:B:534:GLU:OE1	2.38	0.55
1:D:479:TYR:CD1	1:D:524:ILE:HD11	2.42	0.55
1:A:588:LEU:O	1:A:592:LEU:HG	2.07	0.55
1:B:770:SER:O	1:B:773:SER:OG	2.23	0.55
1:C:246:ILE:HG21	1:C:289:VAL:HG11	1.88	0.55
1:C:477:ASN:O	1:C:481:ILE:HG22	2.05	0.55
1:A:516:GLU:O	1:A:520:THR:OG1	2.06	0.55
1:D:161:ALA:O	1:D:163:SER:N	2.39	0.55
1:C:415:HIS:ND1	1:C:649:TYR:OH	2.39	0.55
1:A:795:SER:HB3	1:A:798:GLY:HA2	1.88	0.55
1:C:721:TYR:O	1:C:760:ARG:NH1	2.38	0.55
1:D:26:VAL:O	1:D:30:ILE:HG12	2.07	0.55
1:D:324:TYR:HE2	1:D:593:ARG:HE	1.55	0.55
1:D:706:VAL:O	1:D:710:THR:HG23	2.07	0.55
1:A:337:ASP:HA	1:A:350:LYS:HB2	1.89	0.55
1:A:418:TYR:HA	1:A:421:MET:HB3	1.89	0.55
1:A:423:LYS:HA	1:A:426:GLU:OE2	2.07	0.55
1:B:415:HIS:ND1	1:B:649:TYR:OH	2.39	0.55
1:C:563:ASN:OD1	1:C:563:ASN:N	2.38	0.55
1:D:535:PHE:HE1	1:D:539:TYR:HD2	1.54	0.55
1:B:685:GLU:O	1:B:689:VAL:HG22	2.07	0.54
1:B:758:LEU:O	1:B:761:LEU:HG	2.07	0.54
1:C:49:GLY:O	1:C:53:LEU:HG	2.07	0.54
1:D:380:ARG:O	1:D:384:LEU:HG	2.07	0.54
1:D:704:MET:HE2	1:D:704:MET:N	2.21	0.54
1:A:495:LEU:HD23	1:A:499:THR:HG23	1.89	0.54
1:A:511:PHE:HD1	1:A:514:ARG:HH12	1.52	0.54
1:B:313:TYR:CE1	1:B:317:SER:HB3	2.42	0.54
1:B:452:TYR:HA	1:B:455:TYR:CD2	2.41	0.54
1:B:740:LEU:HA	1:B:744:PHE:CD1	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:327:LYS:HA	1:C:330:LEU:HD23	1.88	0.54
1:D:422:LYS:O	1:D:425:ILE:HG22	2.07	0.54
1:A:221:GLY:O	1:A:226:ASN:ND2	2.35	0.54
1:A:455:TYR:OH	1:A:477:ASN:ND2	2.41	0.54
1:B:13:GLU:HG2	1:B:14:LYS:HD2	1.89	0.54
1:D:322:LEU:HB3	1:D:598:ASN:HD21	1.73	0.54
1:D:535:PHE:CE1	1:D:539:TYR:HD2	2.25	0.54
1:A:454:LEU:O	1:A:458:ILE:HG12	2.07	0.54
1:A:665:LYS:HA	1:A:668:GLU:OE1	2.08	0.54
1:B:31:LYS:O	1:B:35:GLU:HG2	2.07	0.54
1:C:542:LEU:HD12	1:C:542:LEU:H	1.71	0.54
1:B:515:ILE:O	1:B:519:MET:CB	2.55	0.54
1:C:206:THR:HG21	1:D:206:THR:HG21	1.89	0.54
1:D:749:LEU:HD11	1:D:757:TRP:NE1	2.22	0.54
1:A:55:ASP:OD1	1:A:55:ASP:O	2.24	0.54
1:C:296:SER:O	1:C:297:GLN:C	2.51	0.54
1:D:630:ASP:OD1	1:D:630:ASP:N	2.41	0.54
1:D:757:TRP:O	1:D:761:LEU:HD12	2.07	0.54
1:A:98:MET:SD	1:A:99:ALA:N	2.81	0.54
1:A:428:GLN:NE2	1:A:429:SER:O	2.40	0.54
1:D:324:TYR:CE1	1:D:391:ASN:HA	2.43	0.54
1:D:699:PHE:HZ	1:D:713:ILE:HD11	1.72	0.54
1:B:190:TYR:HD2	1:B:223:TYR:CE2	2.24	0.54
1:B:561:LEU:HA	1:B:565:VAL:HB	1.89	0.54
1:C:915:THR:HA	1:C:918:ILE:HD12	1.90	0.54
1:A:247:ARG:NE	1:A:253:ILE:HD13	2.23	0.54
1:A:660:LYS:NZ	1:A:717:LYS:HE2	2.22	0.54
1:C:623:ALA:HB2	1:C:645:PHE:HB3	1.90	0.54
1:D:758:LEU:O	1:D:762:THR:HG23	2.08	0.54
1:C:596:TYR:HE1	1:C:603:VAL:HG21	1.71	0.53
1:A:49:GLY:O	1:A:52:THR:OG1	2.19	0.53
1:C:80:SER:OG	1:C:81:SER:N	2.41	0.53
1:D:510:GLU:O	1:D:514:ARG:HG2	2.09	0.53
1:A:623:ALA:HB2	1:A:645:PHE:HB3	1.88	0.53
1:A:667:LEU:O	1:A:671:CYS:N	2.38	0.53
1:B:709:TYR:CE1	1:B:713:ILE:HG13	2.43	0.53
1:A:414:TYR:HB2	1:A:596:TYR:CD2	2.44	0.53
1:A:578:MET:HA	1:A:582:ILE:HD11	1.89	0.53
1:A:690:GLY:O	1:A:694:GLU:HG3	2.09	0.53
1:C:28:GLU:OE2	1:C:267:ARG:NH2	2.42	0.53
1:C:358:GLU:CD	1:C:358:GLU:H	2.16	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:424:PHE:HD1	1:C:424:PHE:O	1.91	0.53
1:D:684:ILE:O	1:D:688:LEU:HG	2.09	0.53
1:D:835:ILE:HD12	1:D:857:LYS:HE3	1.90	0.53
1:B:82:ASP:O	1:B:86:ARG:NH1	2.42	0.53
1:C:613:ARG:NE	1:D:563:ASN:OD1	2.38	0.53
1:C:819:ARG:O	1:C:823:ILE:HG12	2.08	0.53
1:D:566:ARG:HA	1:D:569:MET:HB2	1.91	0.53
1:D:686:GLU:HA	1:D:686:GLU:OE1	2.08	0.53
1:B:515:ILE:O	1:B:519:MET:HB2	2.08	0.53
1:B:937:ASP:OD2	1:B:940:TYR:N	2.40	0.53
1:C:534:GLU:O	1:C:538:LYS:HG2	2.08	0.53
1:C:808:ILE:HD12	1:C:815:PHE:CD2	2.44	0.53
1:A:681:GLN:N	1:A:681:GLN:OE1	2.41	0.53
1:B:698:GLN:NE2	1:B:705:ASN:OD1	2.40	0.53
1:B:648:GLU:HG2	1:B:650:TYR:H	1.74	0.53
1:C:26:VAL:HA	1:C:29:CYS:SG	2.49	0.53
1:C:290:MET:O	1:C:294:ILE:HG23	2.08	0.53
1:C:567:SER:OG	1:C:571:GLU:OE2	2.26	0.53
1:C:579:SER:H	1:C:582:ILE:HD12	1.73	0.53
1:C:755:TYR:CZ	1:C:803:ASP:HB3	2.44	0.53
1:D:856:PHE:CD2	1:D:857:LYS:HG2	2.43	0.53
1:A:612:ILE:HG22	1:A:616:MET:SD	2.48	0.53
1:B:741:LEU:HD11	1:B:778:PHE:CG	2.44	0.53
1:C:78:ASN:N	1:C:78:ASN:OD1	2.42	0.53
1:C:114:THR:OG1	1:C:118:HIS:ND1	2.39	0.53
1:A:476:ILE:HD13	1:A:524:ILE:HD11	1.92	0.52
1:C:56:TYR:CG	1:C:57:PRO:HD2	2.44	0.52
1:C:80:SER:OG	1:C:82:ASP:N	2.35	0.52
1:C:548:ASN:HB2	1:C:552:TYR:HE2	1.74	0.52
1:D:240:PHE:HD1	1:D:241:HIS:N	2.08	0.52
1:D:716:ALA:O	1:D:720:LEU:HG	2.09	0.52
1:D:731:GLU:O	1:D:735:LYS:HD3	2.09	0.52
1:D:977:LYS:O	1:D:981:ILE:HG12	2.09	0.52
1:A:472:TYR:CZ	1:A:476:ILE:HG13	2.45	0.52
1:A:531:MET:CE	1:A:532:PRO:HD2	2.39	0.52
1:C:341:GLU:OE1	1:C:342:VAL:HG12	2.10	0.52
1:D:709:TYR:OH	1:D:748:ASP:OD2	2.20	0.52
1:A:120:LYS:HE3	1:A:290:MET:HB3	1.89	0.52
1:A:749:LEU:HG	1:A:754:ARG:HG2	1.90	0.52
1:C:215:PHE:HB2	1:C:245:PHE:HA	1.91	0.52
1:C:256:GLU:H	1:C:256:GLU:CD	2.16	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:562:THR:C	1:D:566:ARG:HB3	2.35	0.52
1:B:480:ARG:HG3	1:B:605:PHE:CZ	2.44	0.52
1:B:734:GLY:O	1:B:737:VAL:HG12	2.09	0.52
1:D:242:LYS:HZ3	1:D:242:LYS:HB2	1.74	0.52
1:D:482:TYR:O	1:D:486:THR:HG22	2.09	0.52
1:A:417:LYS:HG3	1:A:420:VAL:HG12	1.91	0.52
1:A:502:ARG:HD2	1:A:504:TYR:HB2	1.91	0.52
1:A:660:LYS:HZ3	1:A:717:LYS:HE2	1.73	0.52
1:A:867:ASN:O	1:A:871:ILE:HG12	2.10	0.52
1:B:856:PHE:CD2	1:B:857:LYS:HG2	2.45	0.52
1:C:281:ASP:HB3	1:C:284:GLU:HB2	1.91	0.52
1:D:562:THR:O	1:D:566:ARG:HB3	2.09	0.52
1:A:151:VAL:HG21	1:A:175:ARG:HH22	1.75	0.52
1:A:297:GLN:NE2	1:A:299:ASN:HB2	2.25	0.52
1:A:455:TYR:O	1:A:459:ILE:HG22	2.09	0.52
1:A:964:ASP:OD2	1:A:965:LYS:NZ	2.42	0.52
1:B:52:THR:HG23	1:B:58:GLN:NE2	2.24	0.52
1:B:309:ILE:HD12	1:B:377:GLN:HB2	1.92	0.52
1:C:668:GLU:OE2	1:C:760:ARG:NH2	2.43	0.52
1:D:244:PHE:CE1	1:D:267:ARG:HD3	2.39	0.52
1:D:560:GLU:O	1:D:565:VAL:HG23	2.09	0.52
1:B:534:GLU:O	1:B:538:LYS:HB3	2.09	0.52
1:C:759:GLU:O	1:C:762:THR:OG1	2.28	0.52
1:D:254:GLU:HB3	1:D:256:GLU:OE1	2.10	0.52
1:D:767:LEU:HD22	1:D:771:ILE:HG21	1.91	0.52
1:A:18:VAL:HG12	1:A:22:LEU:HD21	1.92	0.52
1:B:661:ILE:HA	1:B:664:ILE:HG12	1.92	0.52
1:A:664:ILE:HA	1:A:667:LEU:HG	1.92	0.51
1:A:728:LEU:HB2	1:A:733:LEU:HD12	1.91	0.51
1:C:366:SER:O	1:C:370:ARG:NH1	2.37	0.51
1:B:448:TRP:HE3	1:B:485:ILE:HD13	1.76	0.51
1:C:145:ARG:HG3	1:C:147:LYS:HZ2	1.75	0.51
1:C:805:GLY:O	1:C:808:ILE:HG12	2.10	0.51
1:D:21:MET:HA	1:D:21:MET:HE2	1.92	0.51
1:B:835:ILE:HD12	1:B:857:LYS:HE3	1.93	0.51
1:C:617:SER:O	1:C:621:GLU:HG2	2.10	0.51
1:C:985:LYS:NZ	1:D:1005:ILE:O	2.34	0.51
1:D:120:LYS:NZ	1:D:294:ILE:HG21	2.25	0.51
1:B:664:ILE:HA	1:B:667:LEU:HG	1.92	0.51
1:C:867:ASN:O	1:C:871:ILE:HG12	2.11	0.51
1:D:678:PHE:CE2	1:D:725:TYR:HB2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:984:LEU:O	1:D:988:VAL:HG13	2.10	0.51
1:A:220:LEU:O	1:A:261:TYR:OH	2.29	0.51
1:A:361:PHE:HD2	1:A:396:MET:SD	2.34	0.51
1:A:616:MET:HE3	1:A:655:ILE:HA	1.92	0.51
1:B:756:VAL:O	1:B:759:GLU:HG2	2.10	0.51
1:C:82:ASP:OD1	1:C:82:ASP:N	2.37	0.51
1:A:331:LYS:HD3	1:A:331:LYS:C	2.36	0.51
1:A:360:PHE:HE2	1:A:384:LEU:HD23	1.75	0.51
1:B:410:ASN:N	1:B:597:GLU:OE1	2.43	0.51
1:B:624:GLU:O	1:B:626:GLU:N	2.42	0.51
1:C:455:TYR:O	1:C:458:ILE:HG22	2.10	0.51
1:D:732:GLY:O	1:D:736:ILE:HG12	2.11	0.51
1:B:28:GLU:HA	1:B:31:LYS:CE	2.41	0.51
1:C:486:THR:O	1:C:490:THR:OG1	2.26	0.51
1:D:174:PHE:HE1	1:D:183:VAL:HG21	1.76	0.51
1:B:89:GLN:HE22	1:B:186:LYS:HZ3	1.58	0.51
1:C:694:GLU:O	1:C:698:GLN:NE2	2.44	0.51
1:C:841:LEU:HD22	1:C:844:LEU:HD21	1.92	0.51
1:A:301:PHE:CD1	1:A:302:ILE:HD12	2.44	0.51
1:B:663:ASP:HA	1:B:666:ASN:OD1	2.11	0.51
1:D:89:GLN:HG3	1:D:187:GLU:OE1	2.10	0.51
1:A:89:GLN:OE1	1:A:187:GLU:HG3	2.11	0.51
1:A:436:TYR:OH	1:A:599:CYS:O	2.24	0.51
1:B:31:LYS:HA	1:B:34:THR:HG22	1.92	0.51
1:B:245:PHE:HB3	1:B:268:ILE:HD13	1.93	0.51
1:B:414:TYR:HB2	1:B:596:TYR:CD2	2.46	0.51
1:B:672:SER:OG	1:B:672:SER:O	2.28	0.51
1:C:751:ILE:HA	1:C:754:ARG:HG3	1.92	0.51
1:D:514:ARG:O	1:D:518:GLU:HG2	2.11	0.51
1:D:837:PHE:HA	1:D:840:LYS:HE2	1.93	0.51
1:A:130:ILE:HG23	1:A:168:LEU:HD23	1.92	0.50
1:A:179:LYS:HD2	1:A:180:GLY:H	1.76	0.50
1:C:411:SER:N	1:C:597:GLU:OE1	2.44	0.50
1:D:281:ASP:HB2	1:D:284:GLU:OE1	2.11	0.50
1:D:324:TYR:HE2	1:D:593:ARG:NE	2.09	0.50
1:A:205:LYS:HG2	1:A:231:TRP:CH2	2.46	0.50
1:A:417:LYS:HE3	1:A:420:VAL:HB	1.93	0.50
1:A:617:SER:O	1:A:620:ILE:HG13	2.11	0.50
1:C:297:GLN:C	1:C:299:ASN:H	2.19	0.50
1:D:297:GLN:HG2	1:D:298:GLU:H	1.76	0.50
1:A:552:TYR:CZ	1:B:556:VAL:HG13	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:615:SER:O	1:A:619:LEU:HD23	2.11	0.50
1:A:649:TYR:CD2	1:A:683:LYS:HD3	2.47	0.50
1:A:854:LEU:O	1:A:858:SER:OG	2.26	0.50
1:B:11:TYR:HA	1:B:14:LYS:HD3	1.93	0.50
1:B:536:GLN:O	1:B:540:LYS:HB2	2.11	0.50
1:C:359:ARG:O	1:C:362:GLU:HG3	2.11	0.50
1:D:158:VAL:HG23	1:D:203:LEU:HD11	1.93	0.50
1:D:801:SER:HA	1:D:804:TYR:HD1	1.74	0.50
1:A:585:LEU:HB2	1:A:619:LEU:HD11	1.94	0.50
1:B:522:PHE:CG	1:B:522:PHE:O	2.65	0.50
1:C:423:LYS:HD3	1:C:424:PHE:N	2.26	0.50
1:C:523:ASN:OD1	1:C:525:ASP:N	2.37	0.50
1:C:974:LYS:HA	1:C:977:LYS:HD3	1.93	0.50
1:D:242:LYS:NZ	1:D:242:LYS:HB2	2.26	0.50
1:D:569:MET:SD	1:D:625:TYR:HA	2.52	0.50
1:D:753:LYS:HA	1:D:756:VAL:HG22	1.93	0.50
1:B:218:TYR:CD2	1:B:225:ILE:HD11	2.44	0.50
1:B:469:CYS:HB3	1:B:539:TYR:HE2	1.75	0.50
1:C:115:ASN:H	1:C:118:HIS:CE1	2.30	0.50
1:C:786:HIS:NE2	1:C:793:GLU:OE2	2.39	0.50
1:A:684:ILE:O	1:A:688:LEU:HG	2.12	0.50
1:A:866:MET:SD	1:A:866:MET:N	2.85	0.50
1:B:14:LYS:O	1:B:18:VAL:HG22	2.11	0.50
1:C:513:ALA:HB1	1:C:517:ARG:NH2	2.26	0.50
1:D:213:ILE:HG23	1:D:243:PRO:HB3	1.94	0.50
1:A:70:LEU:HG	1:A:71:TYR:CD1	2.47	0.50
1:B:415:HIS:HD1	1:B:649:TYR:HH	1.59	0.50
1:B:547:ASP:OD1	1:B:548:ASN:N	2.45	0.50
1:C:610:GLN:HA	1:C:613:ARG:NH2	2.26	0.50
1:C:665:LYS:N	1:C:665:LYS:HD3	2.26	0.50
1:C:782:GLN:O	1:C:786:HIS:ND1	2.45	0.50
1:D:318:PRO:HB2	1:D:539:TYR:CE1	2.47	0.50
1:A:587:ARG:NH1	1:A:587:ARG:HB2	2.27	0.50
1:A:844:LEU:O	1:A:850:LYS:NZ	2.41	0.50
1:B:287:SER:O	1:B:291:ASP:HB2	2.11	0.50
1:B:583:VAL:O	1:B:587:ARG:HG2	2.11	0.50
1:C:697:LYS:HG3	1:C:698:GLN:NE2	2.27	0.50
1:D:312:ILE:HG23	1:D:316:ILE:HD12	1.94	0.50
1:D:425:ILE:HD12	1:D:438:LYS:HD2	1.93	0.50
1:A:511:PHE:O	1:A:515:ILE:HG12	2.12	0.49
1:A:720:LEU:HB2	1:A:757:TRP:CZ3	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:739:ALA:HA	1:A:743:TYR:CD1	2.46	0.49
1:C:448:TRP:O	1:C:451:SER:OG	2.28	0.49
1:D:313:TYR:CE1	1:D:317:SER:HB3	2.47	0.49
1:A:360:PHE:O	1:A:363:LEU:HD12	2.12	0.49
1:C:322:LEU:HD11	1:C:542:LEU:HD21	1.94	0.49
1:D:654:ASN:O	1:D:658:HIS:ND1	2.45	0.49
1:A:60:TRP:HA	1:A:63:VAL:HG22	1.94	0.49
1:B:369:GLU:OE1	1:B:369:GLU:N	2.30	0.49
1:C:79:TYR:CE2	1:C:84:TYR:HB2	2.47	0.49
1:C:808:ILE:HD12	1:C:815:PHE:CE2	2.48	0.49
1:D:580:SER:O	1:D:584:VAL:HG23	2.12	0.49
1:D:647:MET:N	1:D:647:MET:HE2	2.27	0.49
1:A:47:GLY:HA3	1:A:218:TYR:HE1	1.77	0.49
1:A:866:MET:HG3	1:A:912:TYR:CZ	2.48	0.49
1:C:409:ILE:HD12	1:C:409:ILE:H	1.78	0.49
1:D:362:GLU:OE1	1:D:363:LEU:HD23	2.12	0.49
1:D:462:SER:O	1:D:465:GLU:HG2	2.12	0.49
1:B:61:ARG:O	1:B:65:LYS:HG2	2.12	0.49
1:B:550:PHE:HD1	1:B:550:PHE:H	1.59	0.49
1:B:684:ILE:O	1:B:688:LEU:HG	2.13	0.49
1:C:356:TYR:CD2	1:C:357:MET:HG2	2.47	0.49
1:D:565:VAL:HG21	1:D:580:SER:HB2	1.94	0.49
1:A:370:ARG:HD3	1:A:381:PHE:CE2	2.48	0.49
1:A:613:ARG:HD2	1:A:613:ARG:N	2.27	0.49
1:D:709:TYR:O	1:D:713:ILE:HG12	2.13	0.49
1:D:755:TYR:CE2	1:D:803:ASP:HB3	2.47	0.49
1:B:660:LYS:HB2	1:B:662:ASP:OD1	2.13	0.49
1:C:427:GLU:O	1:C:438:LYS:NZ	2.45	0.49
1:C:438:LYS:O	1:C:442:LEU:HG	2.13	0.49
1:D:651:ASP:HA	1:D:654:ASN:ND2	2.27	0.49
1:D:124:MET:HE2	1:D:124:MET:HA	1.95	0.49
1:B:198:PRO:O	1:B:201:SER:OG	2.23	0.49
1:B:630:ASP:OD1	1:B:630:ASP:N	2.43	0.49
1:C:25:ASN:O	1:C:28:GLU:HG3	2.11	0.49
1:C:128:HIS:CE1	1:C:165:ARG:HA	2.48	0.49
1:D:385:PHE:O	1:D:389:GLU:HG3	2.13	0.49
1:D:531:MET:SD	1:D:532:PRO:HD3	2.53	0.49
1:A:657:ARG:HG2	1:A:658:HIS:CD2	2.48	0.49
1:A:713:ILE:HG23	1:A:744:PHE:HZ	1.78	0.49
1:A:717:LYS:HG3	1:A:718:ALA:H	1.77	0.49
1:C:665:LYS:HB2	1:C:669:ARG:HH12	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:755:TYR:HB2	1:D:804:TYR:CE2	2.48	0.49
1:B:474:SER:HA	1:B:477:ASN:HD21	1.77	0.48
1:C:360:PHE:O	1:C:363:LEU:HG	2.13	0.48
1:D:646:PHE:C	1:D:647:MET:HE2	2.37	0.48
1:B:652:PHE:CE2	1:B:687:TYR:HD2	2.30	0.48
1:D:59:TRP:CH2	1:D:185:LEU:HG	2.48	0.48
1:D:145:ARG:HA	1:D:145:ARG:NE	2.27	0.48
1:D:291:ASP:O	1:D:295:GLU:HB2	2.12	0.48
1:D:557:LYS:HE3	1:D:587:ARG:HH12	1.78	0.48
1:A:344:GLY:HA3	1:A:394:ILE:HG22	1.95	0.48
1:B:29:CYS:SG	1:B:267:ARG:NH2	2.87	0.48
1:B:608:PHE:CE2	1:B:612:ILE:HD11	2.49	0.48
1:C:649:TYR:O	1:C:653:VAL:HG23	2.12	0.48
1:C:734:GLY:O	1:C:738:LYS:HG3	2.13	0.48
1:C:752:GLY:O	1:C:756:VAL:HG23	2.13	0.48
1:B:69:GLU:OE2	1:B:95:LYS:HG3	2.14	0.48
1:C:448:TRP:CE3	1:C:485:ILE:HG22	2.45	0.48
1:D:66:TYR:CE2	1:D:88:PRO:HG3	2.48	0.48
1:D:359:ARG:O	1:D:359:ARG:HD3	2.14	0.48
1:D:685:GLU:OE1	1:D:728:LEU:HA	2.13	0.48
1:A:452:TYR:CG	1:A:511:PHE:HZ	2.31	0.48
1:B:758:LEU:O	1:B:762:THR:HG23	2.13	0.48
1:C:80:SER:CB	1:C:83:GLU:HG2	2.43	0.48
1:C:297:GLN:C	1:C:299:ASN:N	2.72	0.48
1:C:449:GLU:HG2	1:C:507:PHE:CE1	2.49	0.48
1:D:626:GLU:CB	1:D:629:ARG:HB3	2.40	0.48
1:A:23:ASP:OD1	1:A:24:ASN:N	2.46	0.48
1:B:450:GLU:HA	1:B:453:ASP:OD2	2.13	0.48
1:C:294:ILE:O	1:C:296:SER:N	2.37	0.48
1:D:50:VAL:HA	1:D:53:LEU:HD12	1.96	0.48
1:A:377:GLN:OE1	1:A:377:GLN:N	2.33	0.48
1:B:79:TYR:HB2	1:B:84:TYR:HE1	1.79	0.48
1:C:755:TYR:HD2	1:C:799:LEU:HD13	1.78	0.48
1:A:75:LYS:HG2	1:A:79:TYR:HA	1.96	0.48
1:A:89:GLN:OE1	1:A:188:ASP:N	2.42	0.48
1:A:485:ILE:O	1:A:489:VAL:HG13	2.14	0.48
1:B:182:ASN:OD1	1:B:182:ASN:N	2.46	0.48
1:B:467:ASN:OD1	1:B:467:ASN:N	2.47	0.48
1:B:707:VAL:O	1:B:710:THR:OG1	2.30	0.48
1:C:21:MET:N	1:C:21:MET:SD	2.86	0.48
1:C:804:TYR:O	1:C:808:ILE:HG23	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:120:LYS:HE2	1:D:120:LYS:HA	1.94	0.48
1:D:532:PRO:HD2	1:D:535:PHE:HB2	1.96	0.48
1:D:560:GLU:O	1:D:564:LYS:HB3	2.13	0.48
1:A:455:TYR:CD1	1:A:458:ILE:HD11	2.49	0.48
1:A:827:LEU:C	1:A:828:THR:HG1	2.22	0.48
1:B:509:ASP:OD1	1:B:509:ASP:N	2.46	0.48
1:D:414:TYR:OH	1:D:654:ASN:HB3	2.13	0.48
1:D:456:SER:O	1:D:459:ILE:HG12	2.14	0.48
1:A:533:PHE:HA	1:A:536:GLN:HG3	1.96	0.48
1:A:548:ASN:HB2	1:A:552:TYR:HE2	1.78	0.48
1:B:440:PHE:CD1	1:B:440:PHE:C	2.91	0.48
1:B:551:LEU:O	1:B:553:ASP:N	2.41	0.48
1:B:696:THR:HG22	1:B:743:TYR:HD2	1.79	0.48
1:C:631:ILE:HD11	1:C:642:LYS:HE3	1.96	0.48
1:D:832:GLN:HA	1:D:835:ILE:HD11	1.96	0.48
1:D:958:TRP:HA	1:D:961:ASN:OD1	2.14	0.48
1:B:832:GLN:HA	1:B:835:ILE:HD11	1.96	0.47
1:C:298:GLU:C	1:C:300:LYS:H	2.21	0.47
1:D:386:ASN:HA	1:D:389:GLU:OE2	2.14	0.47
1:D:469:CYS:HB3	1:D:539:TYR:HE2	1.78	0.47
1:D:693:GLU:HB3	1:D:697:LYS:NZ	2.28	0.47
1:D:698:GLN:HE22	1:D:704:MET:HA	1.79	0.47
1:B:755:TYR:HD2	1:B:799:LEU:HD11	1.79	0.47
1:C:304:LYS:HZ3	1:C:307:GLU:N	2.12	0.47
1:C:921:PHE:O	1:C:969:LYS:NZ	2.47	0.47
1:D:809:LYS:HZ2	1:D:844:LEU:HD23	1.79	0.47
1:D:851:SER:O	1:D:855:SER:HB3	2.14	0.47
1:A:522:PHE:CE2	1:A:524:ILE:HD12	2.49	0.47
1:A:631:ILE:HD11	1:A:642:LYS:HE3	1.96	0.47
1:B:703:GLY:C	1:B:704:MET:HE2	2.39	0.47
1:A:246:ILE:HD13	1:A:269:ILE:HB	1.95	0.47
1:A:850:LYS:HG2	1:A:854:LEU:HD23	1.96	0.47
1:B:199:LEU:HD12	1:B:199:LEU:HA	1.75	0.47
1:B:260:TYR:HB2	1:C:90:ILE:HG23	1.97	0.47
1:B:569:MET:HG2	1:B:625:TYR:HD1	1.78	0.47
1:C:48:ALA:O	1:C:52:THR:HG23	2.14	0.47
1:C:256:GLU:OE1	1:C:256:GLU:N	2.43	0.47
1:C:582:ILE:O	1:C:586:LEU:HD23	2.14	0.47
1:A:817:SER:O	1:A:821:SER:OG	2.26	0.47
1:B:186:LYS:HZ3	1:B:188:ASP:HB2	1.77	0.47
1:A:831:LYS:HB2	1:A:835:ILE:HG23	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:47:GLY:HA3	1:B:218:TYR:CE1	2.45	0.47
1:B:217:GLY:HA2	1:B:286:TYR:OH	2.15	0.47
1:B:544:PHE:CD2	1:B:550:PHE:HB2	2.50	0.47
1:B:662:ASP:HA	1:B:665:LYS:HG2	1.97	0.47
1:B:976:MET:SD	1:B:976:MET:N	2.87	0.47
1:A:233:ARG:NH2	1:A:263:ASN:O	2.48	0.47
1:A:448:TRP:CD1	1:A:448:TRP:N	2.83	0.47
1:A:492:PHE:CZ	1:A:505:LYS:HA	2.50	0.47
1:A:673:ILE:HD12	1:A:673:ILE:H	1.80	0.47
1:A:687:TYR:HD1	1:A:688:LEU:HD23	1.79	0.47
1:B:561:LEU:HD11	1:B:584:VAL:HG21	1.97	0.47
1:B:562:THR:O	1:B:566:ARG:HB3	2.15	0.47
1:B:930:MET:SD	1:B:940:TYR:OH	2.73	0.47
1:C:447:ARG:HD2	1:C:450:GLU:OE2	2.14	0.47
1:D:27:VAL:O	1:D:30:ILE:HG13	2.15	0.47
1:B:53:LEU:HD11	1:B:286:TYR:CD2	2.50	0.47
1:B:59:TRP:HH2	1:B:185:LEU:HA	1.80	0.47
1:B:92:TYR:CD2	1:B:186:LYS:HE3	2.50	0.47
1:C:555:THR:HG21	1:D:559:PHE:CZ	2.50	0.47
1:D:362:GLU:HA	1:D:365:GLU:OE1	2.15	0.47
1:A:16:LYS:O	1:A:20:LEU:HG	2.14	0.47
1:A:202:ASN:ND2	1:B:202:ASN:OD1	2.47	0.47
1:C:325:ILE:HD13	1:C:387:PHE:HZ	1.79	0.47
1:D:771:ILE:O	1:D:774:ILE:HG12	2.14	0.47
1:D:809:LYS:NZ	1:D:844:LEU:HD23	2.30	0.47
1:D:987:ARG:HE	1:D:987:ARG:C	2.20	0.47
1:C:388:PHE:HD1	1:C:393:VAL:HB	1.79	0.47
1:D:151:VAL:HG23	1:D:167:LEU:HD22	1.96	0.47
1:D:866:MET:HE1	1:D:885:ILE:HG12	1.97	0.47
1:A:316:ILE:HD11	1:A:387:PHE:CD1	2.50	0.46
1:A:950:ASP:HB3	1:A:953:LYS:HZ3	1.80	0.46
1:B:667:LEU:HD12	1:B:668:GLU:HG3	1.97	0.46
1:C:985:LYS:NZ	1:D:1005:ILE:HG22	2.30	0.46
1:D:83:GLU:OE2	1:D:86:ARG:NE	2.48	0.46
1:D:89:GLN:CD	1:D:89:GLN:N	2.72	0.46
1:A:65:LYS:O	1:A:69:GLU:HG2	2.14	0.46
1:C:986:GLU:HG3	1:C:989:LYS:HZ1	1.80	0.46
1:D:213:ILE:HD12	1:D:214:VAL:H	1.80	0.46
1:A:417:LYS:HZ2	1:A:419:ASP:HB3	1.78	0.46
1:A:522:PHE:HE2	1:A:524:ILE:HD12	1.81	0.46
1:B:652:PHE:HE2	1:B:687:TYR:HD2	1.62	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:607:GLU:N	1:D:607:GLU:OE1	2.47	0.46
1:A:145:ARG:NH1	1:A:145:ARG:HA	2.31	0.46
1:A:559:PHE:HA	1:A:562:THR:HG22	1.96	0.46
1:A:682:GLU:H	1:A:682:GLU:CD	2.21	0.46
1:C:277:SER:OG	1:C:278:ASN:N	2.49	0.46
1:A:359:ARG:O	1:A:363:LEU:HG	2.16	0.46
1:C:95:LYS:HA	1:C:95:LYS:HD2	1.75	0.46
1:C:411:SER:HB2	1:C:597:GLU:HA	1.98	0.46
1:C:552:TYR:OH	1:C:607:GLU:HG3	2.15	0.46
1:D:228:LEU:O	1:D:232:VAL:HG23	2.16	0.46
1:A:151:VAL:HG11	1:A:175:ARG:NH2	2.31	0.46
1:B:622:LYS:HD2	1:B:623:ALA:N	2.31	0.46
1:C:555:THR:HG21	1:D:559:PHE:CE2	2.51	0.46
1:C:742:PHE:HZ	1:C:774:ILE:HG23	1.80	0.46
1:D:755:TYR:CZ	1:D:803:ASP:HB3	2.51	0.46
1:B:89:GLN:HE22	1:B:186:LYS:NZ	2.13	0.46
1:C:327:LYS:NZ	1:C:391:ASN:O	2.49	0.46
1:D:899:GLU:HB3	1:D:904:ILE:O	2.16	0.46
1:A:417:LYS:HZ3	1:A:419:ASP:HB3	1.77	0.46
1:A:479:TYR:CD2	1:A:524:ILE:HD13	2.50	0.46
1:A:616:MET:HE2	1:A:659:PHE:CE1	2.47	0.46
1:B:208:ILE:HD13	1:B:213:ILE:HG13	1.98	0.46
1:B:316:ILE:HG22	1:B:320:PHE:HE1	1.80	0.46
1:B:1001:MET:HA	1:B:1005:ILE:HB	1.97	0.46
1:D:552:TYR:HA	1:D:555:THR:HG22	1.98	0.46
1:A:364:LYS:HA	1:A:370:ARG:HH12	1.81	0.46
1:C:472:TYR:O	1:C:476:ILE:HG12	2.16	0.46
1:C:772:ILE:HD13	1:C:812:GLU:HG3	1.97	0.46
1:C:986:GLU:HA	1:C:989:LYS:NZ	2.31	0.46
1:D:625:TYR:HB3	1:D:626:GLU:H	1.56	0.46
1:A:48:ALA:O	1:A:52:THR:HG23	2.16	0.46
1:A:360:PHE:HZ	1:A:384:LEU:HB3	1.81	0.46
1:A:514:ARG:O	1:A:517:ARG:HG2	2.15	0.46
1:B:118:HIS:NE2	1:B:137:LEU:HD21	2.31	0.46
1:B:859:VAL:HG13	1:B:865:LEU:HD12	1.97	0.46
1:C:115:ASN:OD1	1:C:115:ASN:C	2.59	0.46
1:D:277:SER:HB3	1:D:281:ASP:OD2	2.16	0.46
1:D:442:LEU:HD22	1:D:447:ARG:HB2	1.98	0.46
1:A:47:GLY:HA3	1:A:218:TYR:CE1	2.52	0.45
1:A:689:VAL:O	1:A:693:GLU:HG2	2.16	0.45
1:B:179:LYS:HE2	1:B:180:GLY:H	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:373:LEU:HB3	1:B:377:GLN:NE2	2.30	0.45
1:B:759:GLU:HA	1:B:762:THR:OG1	2.16	0.45
1:B:899:GLU:HB3	1:B:904:ILE:O	2.16	0.45
1:C:219:GLY:N	1:C:222:ASP:OD2	2.48	0.45
1:C:532:PRO:HB3	1:D:162:THR:O	2.16	0.45
1:C:536:GLN:OE1	1:C:537:LYS:HD2	2.15	0.45
1:C:595:LEU:HD23	1:C:595:LEU:HA	1.76	0.45
1:A:544:PHE:O	1:A:550:PHE:HD2	2.00	0.45
1:C:151:VAL:HG22	1:C:167:LEU:HD23	1.97	0.45
1:C:307:GLU:HA	1:C:310:ASP:OD2	2.16	0.45
1:C:704:MET:HE1	1:C:706:VAL:HA	1.98	0.45
1:C:772:ILE:HA	1:C:775:ILE:HD12	1.98	0.45
1:D:326:ARG:HH11	1:D:329:ASP:HB3	1.82	0.45
1:C:407:ILE:N	1:C:407:ILE:HD12	2.31	0.45
1:C:452:TYR:HE1	1:C:478:ARG:HD2	1.80	0.45
1:D:544:PHE:CD1	1:D:544:PHE:C	2.95	0.45
1:A:143:TRP:CD1	1:B:463:ILE:HG12	2.51	0.45
1:A:519:MET:SD	1:A:519:MET:N	2.89	0.45
1:B:462:SER:O	1:B:465:GLU:HG2	2.17	0.45
1:C:56:TYR:CD1	1:C:57:PRO:HD2	2.51	0.45
1:C:152:ILE:HG23	1:C:157:ASP:HB3	1.98	0.45
1:C:456:SER:O	1:C:459:ILE:HG13	2.16	0.45
1:D:144:LYS:HG2	1:D:145:ARG:HH22	1.81	0.45
1:A:697:LYS:HD3	1:A:697:LYS:H	1.82	0.45
1:A:737:VAL:HG21	1:A:771:ILE:HG23	1.98	0.45
1:B:277:SER:OG	1:B:278:ASN:N	2.49	0.45
1:B:418:TYR:HA	1:B:421:MET:HG2	1.98	0.45
1:B:469:CYS:SG	1:B:470:VAL:N	2.89	0.45
1:B:752:GLY:O	1:B:756:VAL:HG23	2.17	0.45
1:D:291:ASP:O	1:D:295:GLU:CB	2.64	0.45
1:A:56:TYR:CD1	1:A:57:PRO:HD2	2.52	0.45
1:A:602:SER:HA	1:A:605:PHE:CE1	2.51	0.45
1:A:738:LYS:HG3	1:A:743:TYR:HE1	1.82	0.45
1:A:874:ILE:HD13	1:A:881:HIS:CE1	2.52	0.45
1:B:43:VAL:HG22	1:B:128:HIS:H	1.81	0.45
1:B:485:ILE:HD12	1:B:485:ILE:HA	1.87	0.45
1:B:586:LEU:HA	1:B:589:TYR:CD2	2.51	0.45
1:B:755:TYR:HB2	1:B:804:TYR:CZ	2.52	0.45
1:C:229:LEU:HD21	1:C:264:LYS:CG	2.46	0.45
1:C:769:LYS:HA	1:C:772:ILE:CG1	2.47	0.45
1:C:831:LYS:O	1:C:833:LYS:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:844:LEU:HD12	1:D:845:LEU:HB2	1.98	0.45
1:A:782:GLN:O	1:A:786:HIS:ND1	2.49	0.45
1:B:64:ASP:HB2	1:B:65:LYS:NZ	2.31	0.45
1:B:373:LEU:HB3	1:B:377:GLN:CD	2.42	0.45
1:C:247:ARG:HD3	1:C:253:ILE:CD1	2.46	0.45
1:D:673:ILE:HA	1:D:676:ILE:HD12	1.98	0.45
1:D:756:VAL:HA	1:D:759:GLU:OE2	2.16	0.45
1:A:330:LEU:HD12	1:A:330:LEU:O	2.16	0.45
1:B:973:ASN:HB3	1:B:976:MET:CE	2.47	0.45
1:C:434:ASP:O	1:C:438:LYS:HG3	2.16	0.45
1:A:492:PHE:HZ	1:A:505:LYS:HA	1.82	0.45
1:A:878:THR:OG1	1:A:881:HIS:ND1	2.49	0.45
1:B:469:CYS:HB3	1:B:539:TYR:CE2	2.52	0.45
1:B:768:PRO:O	1:B:770:SER:N	2.50	0.45
1:C:35:GLU:OE2	1:C:39:ASN:ND2	2.50	0.45
1:C:128:HIS:CD2	1:C:166:TYR:HD2	2.35	0.45
1:C:258:LEU:O	1:C:262:GLU:HG3	2.17	0.45
1:D:118:HIS:HA	1:D:121:ILE:HG22	1.98	0.45
1:D:291:ASP:HA	1:D:294:ILE:HG22	1.98	0.45
1:D:408:GLU:H	1:D:593:ARG:HH12	1.64	0.45
1:D:469:CYS:HB3	1:D:539:TYR:CE2	2.52	0.45
1:D:627:ARG:HH22	1:D:675:LYS:NZ	2.14	0.45
1:D:648:GLU:HG3	1:D:650:TYR:HD2	1.81	0.45
1:D:724:LYS:HD3	1:D:760:ARG:NE	2.32	0.45
1:B:92:TYR:CD1	1:B:92:TYR:C	2.94	0.45
1:B:205:LYS:HG2	1:B:231:TRP:CZ3	2.52	0.45
1:B:605:PHE:N	1:B:605:PHE:CD1	2.85	0.45
1:D:242:LYS:HA	1:D:243:PRO:HD3	1.82	0.45
1:D:595:LEU:HD23	1:D:595:LEU:HA	1.76	0.45
1:D:733:LEU:HA	1:D:736:ILE:CG1	2.47	0.45
1:D:746:GLU:OE2	1:D:751:ILE:N	2.50	0.45
1:D:770:SER:O	1:D:774:ILE:HG23	2.17	0.45
1:A:594:PHE:CE1	1:A:598:ASN:ND2	2.85	0.44
1:A:613:ARG:O	1:A:617:SER:HB3	2.18	0.44
1:A:683:LYS:HA	1:A:686:GLU:OE1	2.18	0.44
1:A:713:ILE:HG23	1:A:744:PHE:CZ	2.52	0.44
1:B:186:LYS:O	1:B:190:TYR:HD1	2.00	0.44
1:B:359:ARG:HA	1:B:362:GLU:OE1	2.16	0.44
1:B:479:TYR:O	1:B:483:GLN:HG2	2.17	0.44
1:C:742:PHE:CZ	1:C:774:ILE:HG23	2.52	0.44
1:C:885:ILE:HG12	1:C:916:PHE:CE1	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:861:ASN:HD21	1:D:864:ASP:HB2	1.81	0.44
1:D:892:ARG:NH2	1:D:896:TYR:OH	2.50	0.44
1:B:312:ILE:HD11	1:B:316:ILE:HD12	1.98	0.44
1:C:625:TYR:O	1:C:625:TYR:HD1	2.00	0.44
1:D:414:TYR:HD1	1:D:596:TYR:CE2	2.35	0.44
1:D:987:ARG:O	1:D:987:ARG:NE	2.38	0.44
1:A:151:VAL:HG11	1:A:175:ARG:HH22	1.83	0.44
1:B:482:TYR:CZ	1:B:519:MET:HG3	2.52	0.44
1:B:612:ILE:HG13	1:B:612:ILE:H	1.66	0.44
1:B:978:HIS:O	1:B:982:GLU:HG2	2.17	0.44
1:C:325:ILE:HD13	1:C:387:PHE:CZ	2.52	0.44
1:C:607:GLU:H	1:C:607:GLU:CD	2.22	0.44
1:D:59:TRP:HH2	1:D:185:LEU:HG	1.82	0.44
1:D:440:PHE:CG	1:D:599:CYS:HB3	2.52	0.44
1:B:75:LYS:HB2	1:B:79:TYR:HD1	1.82	0.44
1:B:363:LEU:O	1:B:366:SER:OG	2.36	0.44
1:B:616:MET:HB3	1:B:659:PHE:HZ	1.83	0.44
1:C:424:PHE:C	1:C:424:PHE:CD1	2.96	0.44
1:C:755:TYR:HB2	1:C:804:TYR:CZ	2.53	0.44
1:D:83:GLU:OE1	1:D:87:ILE:HG12	2.18	0.44
1:A:363:LEU:O	1:A:370:ARG:NH1	2.51	0.44
1:A:479:TYR:CG	1:A:524:ILE:HD13	2.52	0.44
1:A:709:TYR:CZ	1:A:713:ILE:HG13	2.53	0.44
1:A:721:TYR:HE1	1:A:760:ARG:HD2	1.83	0.44
1:B:482:TYR:O	1:B:485:ILE:HG22	2.17	0.44
1:C:199:LEU:HD21	1:D:236:GLN:HG2	1.98	0.44
1:C:285:ARG:H	1:C:285:ARG:HG3	1.52	0.44
1:D:661:ILE:O	1:D:665:LYS:HG2	2.18	0.44
1:A:145:ARG:NH1	1:B:518:GLU:OE2	2.49	0.44
1:B:528:PHE:HZ	1:B:540:LYS:HA	1.82	0.44
1:B:913:MET:HG3	1:B:914:SER:N	2.33	0.44
1:C:841:LEU:HB3	1:C:844:LEU:HD11	1.99	0.44
1:C:850:LYS:HG2	1:C:854:LEU:HD23	2.00	0.44
1:D:620:ILE:HD11	1:D:667:LEU:HD13	1.99	0.44
1:B:186:LYS:HG3	1:B:188:ASP:HB2	2.00	0.44
1:B:425:ILE:HA	1:B:438:LYS:CE	2.48	0.44
1:C:83:GLU:HA	1:C:86:ARG:HB2	2.00	0.44
1:C:338:TYR:HE1	1:C:356:TYR:CZ	2.36	0.44
1:C:369:GLU:HA	1:C:372:LYS:HE2	1.99	0.44
1:A:831:LYS:O	1:A:833:LYS:N	2.47	0.44
1:B:210:THR:HB	1:B:211:HIS:CE1	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:407:ILE:HG13	1:B:589:TYR:CG	2.52	0.44
1:B:566:ARG:O	1:B:569:MET:HB3	2.18	0.44
1:C:199:LEU:HA	1:C:202:ASN:OD1	2.18	0.44
1:D:149:PHE:CE1	1:D:165:ARG:HD3	2.53	0.44
1:D:280:TYR:HA	1:D:282:TYR:CE1	2.53	0.44
1:D:751:ILE:HA	1:D:754:ARG:HG2	2.00	0.44
1:D:828:THR:OG1	1:D:829:GLN:N	2.48	0.44
1:D:867:ASN:HA	1:D:870:ARG:HG2	1.99	0.44
1:A:687:TYR:CD1	1:A:688:LEU:HD23	2.53	0.44
1:B:100:PHE:CZ	1:B:185:LEU:HD23	2.53	0.44
1:B:304:LYS:HD3	1:B:304:LYS:N	2.32	0.44
1:C:25:ASN:OD1	1:C:26:VAL:N	2.51	0.44
1:C:124:MET:HA	1:C:124:MET:HE2	2.00	0.44
1:C:150:SER:HB3	1:C:163:SER:OG	2.18	0.44
1:C:614:ASN:OD1	1:C:614:ASN:C	2.60	0.44
1:C:801:SER:HA	1:C:804:TYR:CD1	2.49	0.44
1:A:62:LEU:HD22	1:A:108:PHE:HE2	1.83	0.43
1:A:354:PHE:HZ	1:A:359:ARG:NH1	2.15	0.43
1:A:480:ARG:HB3	1:A:605:PHE:HZ	1.83	0.43
1:A:950:ASP:HB3	1:A:953:LYS:NZ	2.32	0.43
1:B:223:TYR:CD1	1:B:223:TYR:C	2.96	0.43
1:C:831:LYS:HB2	1:C:835:ILE:HG23	2.00	0.43
1:A:469:CYS:O	1:A:473:LEU:HG	2.17	0.43
1:A:919:TRP:HA	1:A:922:LEU:HD12	2.01	0.43
1:B:393:VAL:C	1:B:394:ILE:HD13	2.43	0.43
1:B:481:ILE:HA	1:B:484:SER:OG	2.18	0.43
1:B:657:ARG:HA	1:B:715:GLU:OE2	2.17	0.43
1:B:759:GLU:C	1:B:763:LYS:HZ2	2.25	0.43
1:C:721:TYR:HB2	1:C:757:TRP:CH2	2.53	0.43
1:D:151:VAL:HG21	1:D:175:ARG:HH12	1.83	0.43
1:D:207:ILE:HD12	1:D:207:ILE:HA	1.80	0.43
1:D:727:LYS:HD2	1:D:728:LEU:N	2.33	0.43
1:D:827:LEU:HD11	1:D:838:LEU:HD13	1.99	0.43
1:A:264:LYS:H	1:A:264:LYS:HG2	1.66	0.43
1:A:579:SER:O	1:A:583:VAL:HG23	2.18	0.43
1:B:61:ARG:HA	1:B:64:ASP:OD2	2.18	0.43
1:B:222:ASP:HB2	1:B:225:ILE:HD13	1.99	0.43
1:B:246:ILE:HD13	1:B:269:ILE:HB	2.01	0.43
1:B:662:ASP:OD1	1:B:662:ASP:N	2.51	0.43
1:C:609:HIS:HA	1:C:612:ILE:HG22	2.00	0.43
1:C:613:ARG:HE	1:D:563:ASN:CG	2.23	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:753:LYS:O	1:C:757:TRP:HD1	2.01	0.43
1:D:297:GLN:CG	1:D:298:GLU:H	2.32	0.43
1:D:589:TYR:OH	1:D:651:ASP:OD1	2.22	0.43
1:B:565:VAL:HG21	1:B:580:SER:HB2	2.00	0.43
1:C:117:ILE:HD11	1:C:283:LEU:HD12	1.99	0.43
1:D:678:PHE:HE2	1:D:725:TYR:HB2	1.83	0.43
1:A:14:LYS:O	1:A:18:VAL:HG23	2.19	0.43
1:A:80:SER:OG	1:A:81:SER:N	2.50	0.43
1:A:746:GLU:OE2	1:A:750:ASP:HA	2.18	0.43
1:B:348:ARG:NE	1:B:351:ASN:O	2.40	0.43
1:B:569:MET:HG2	1:B:625:TYR:CD1	2.53	0.43
1:B:625:TYR:CG	1:B:626:GLU:N	2.84	0.43
1:C:316:ILE:HD11	1:C:387:PHE:CZ	2.53	0.43
1:C:424:PHE:HD1	1:C:424:PHE:C	2.27	0.43
1:C:648:GLU:OE2	1:C:650:TYR:HB2	2.18	0.43
1:C:1002:ASN:OD1	1:C:1003:TYR:N	2.50	0.43
1:D:278:ASN:CG	1:D:279:GLU:N	2.77	0.43
1:D:408:GLU:N	1:D:593:ARG:HH12	2.16	0.43
1:D:612:ILE:HD11	1:D:654:ASN:HB2	2.00	0.43
1:D:662:ASP:HA	1:D:665:LYS:HG2	2.01	0.43
1:D:955:ILE:HG22	1:D:957:SER:H	1.83	0.43
1:A:65:LYS:HA	1:A:68:GLU:OE1	2.18	0.43
1:A:681:GLN:O	1:A:685:GLU:HG3	2.19	0.43
1:A:816:ILE:HD13	1:A:846:SER:HA	2.00	0.43
1:B:192:ASN:OD1	1:B:192:ASN:N	2.51	0.43
1:D:33:ILE:HD13	1:D:33:ILE:HA	1.85	0.43
1:D:62:LEU:HG	1:D:66:TYR:CZ	2.54	0.43
1:D:98:MET:SD	1:D:99:ALA:N	2.91	0.43
1:D:723:ALA:O	1:D:726:VAL:HG12	2.19	0.43
1:A:292:LEU:O	1:A:292:LEU:HD23	2.18	0.43
1:A:313:TYR:CD1	1:A:317:SER:HB3	2.54	0.43
1:A:877:PHE:CD1	1:A:878:THR:N	2.87	0.43
1:B:617:SER:O	1:B:620:ILE:HG22	2.19	0.43
1:C:970:ILE:HA	1:C:976:MET:HE3	2.00	0.43
1:D:703:GLY:C	1:D:704:MET:HE2	2.43	0.43
1:B:563:ASN:HA	1:B:567:SER:H	1.83	0.43
1:B:920:TYR:CD2	1:B:944:VAL:HG22	2.54	0.43
1:C:256:GLU:HA	1:C:259:ILE:HD12	2.01	0.43
1:C:557:LYS:HD2	1:C:587:ARG:NH1	2.33	0.43
1:C:985:LYS:HZ2	1:D:1005:ILE:HG22	1.84	0.43
1:D:609:HIS:HE1	1:D:658:HIS:HA	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:142:CYS:O	1:A:146:GLY:N	2.52	0.43
1:A:502:ARG:CD	1:A:504:TYR:HB2	2.49	0.43
1:C:146:GLY:C	1:C:147:LYS:HD3	2.43	0.43
1:C:440:PHE:CG	1:C:599:CYS:HB3	2.54	0.43
1:C:495:LEU:HD23	1:C:499:THR:HG23	2.01	0.43
1:C:709:TYR:O	1:C:713:ILE:HG22	2.19	0.43
1:D:260:TYR:CD1	1:D:260:TYR:C	2.96	0.43
1:D:455:TYR:O	1:D:459:ILE:HG23	2.19	0.43
1:A:477:ASN:O	1:A:481:ILE:HG23	2.18	0.43
1:B:114:THR:HG22	1:B:137:LEU:HD12	2.00	0.43
1:B:479:TYR:O	1:B:483:GLN:NE2	2.45	0.43
1:A:308:VAL:HG13	1:A:356:TYR:HB2	2.00	0.42
1:A:317:SER:HB2	1:A:320:PHE:CZ	2.54	0.42
1:A:536:GLN:OE1	1:A:537:LYS:HD2	2.18	0.42
1:A:660:LYS:O	1:A:664:ILE:HG12	2.19	0.42
1:B:455:TYR:O	1:B:459:ILE:HG12	2.19	0.42
1:B:973:ASN:HB3	1:B:976:MET:HE1	2.01	0.42
1:C:551:LEU:HD13	1:C:607:GLU:HG2	2.01	0.42
1:D:902:LYS:HD3	1:D:904:ILE:HD12	2.00	0.42
1:B:111:ASP:OD1	1:B:111:ASP:C	2.62	0.42
1:B:605:PHE:N	1:B:605:PHE:HD1	2.16	0.42
1:C:449:GLU:HG2	1:C:507:PHE:HE1	1.83	0.42
1:C:985:LYS:O	1:C:988:VAL:HG12	2.19	0.42
1:D:32:GLU:OE1	1:D:32:GLU:HA	2.19	0.42
1:D:152:ILE:HD11	1:D:168:LEU:HD12	2.01	0.42
1:D:248:THR:HG21	1:D:286:TYR:CE1	2.54	0.42
1:D:668:GLU:OE2	1:D:725:TYR:OH	2.36	0.42
1:A:56:TYR:CE1	1:A:135:ASP:HB3	2.55	0.42
1:B:14:LYS:HD2	1:B:14:LYS:H	1.83	0.42
1:B:59:TRP:O	1:B:63:VAL:HG23	2.20	0.42
1:B:99:ALA:O	1:B:103:ILE:HG12	2.19	0.42
1:B:271:ALA:HA	1:B:274:LEU:HD12	2.01	0.42
1:B:438:LYS:HB2	1:B:438:LYS:HE3	1.89	0.42
1:B:453:ASP:O	1:B:456:SER:OG	2.33	0.42
1:C:173:ASP:OD1	1:C:175:ARG:HB2	2.19	0.42
1:C:190:TYR:CD1	1:C:223:TYR:HE2	2.38	0.42
1:D:213:ILE:HD12	1:D:214:VAL:N	2.34	0.42
1:D:304:LYS:HA	1:D:304:LYS:HD2	1.79	0.42
1:D:361:PHE:HD1	1:D:364:LYS:HD3	1.84	0.42
1:A:91:PHE:CE1	1:A:95:LYS:HB3	2.55	0.42
1:A:327:LYS:HE3	1:A:342:VAL:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:174:PHE:CD1	1:B:174:PHE:N	2.83	0.42
1:C:548:ASN:HB2	1:C:552:TYR:CE2	2.54	0.42
1:C:579:SER:N	1:C:582:ILE:HD12	2.34	0.42
1:D:67:HIS:ND1	1:D:74:PRO:HA	2.34	0.42
1:A:104:LEU:O	1:A:108:PHE:HB2	2.20	0.42
1:C:326:ARG:NH1	1:C:591:ASN:OD1	2.44	0.42
1:C:753:LYS:O	1:C:757:TRP:CD1	2.73	0.42
1:D:118:HIS:O	1:D:121:ILE:HG22	2.19	0.42
1:D:240:PHE:CD1	1:D:241:HIS:N	2.86	0.42
1:D:647:MET:HG2	1:D:678:PHE:CE1	2.55	0.42
1:D:717:LYS:HE2	1:D:717:LYS:HB3	1.47	0.42
1:B:222:ASP:HB3	1:B:223:TYR:H	1.73	0.42
1:B:627:ARG:HA	1:B:627:ARG:HD2	1.87	0.42
1:C:28:GLU:HA	1:C:31:LYS:HG2	2.01	0.42
1:D:299:ASN:CG	1:D:300:LYS:HG3	2.44	0.42
1:D:663:ASP:O	1:D:667:LEU:HG	2.20	0.42
1:A:254:GLU:HB3	1:A:257:THR:HG23	2.01	0.42
1:A:374:SER:HB3	1:A:377:GLN:OE1	2.19	0.42
1:A:566:ARG:NH2	1:B:670:SER:HA	2.35	0.42
1:A:611:TYR:HA	1:A:614:ASN:OD1	2.19	0.42
1:B:246:ILE:HG23	1:B:289:VAL:HG11	2.00	0.42
1:D:193:TYR:HE1	1:D:197:TYR:HD2	1.67	0.42
1:D:258:LEU:O	1:D:262:GLU:HG3	2.19	0.42
1:D:387:PHE:O	1:D:391:ASN:HB2	2.19	0.42
1:D:695:ILE:HG23	1:D:699:PHE:CD2	2.54	0.42
1:A:481:ILE:HG22	1:A:601:TRP:CD1	2.54	0.42
1:A:550:PHE:CE1	1:A:551:LEU:HG	2.54	0.42
1:A:609:HIS:O	1:A:612:ILE:N	2.53	0.42
1:B:65:LYS:HA	1:B:65:LYS:HD3	1.91	0.42
1:C:740:LEU:HD12	1:C:741:LEU:N	2.34	0.42
1:D:742:PHE:N	1:D:742:PHE:CD1	2.87	0.42
1:D:783:ALA:HA	1:D:837:PHE:HE2	1.84	0.42
1:B:260:TYR:CD1	1:B:260:TYR:C	2.98	0.42
1:B:360:PHE:HE2	1:B:388:PHE:CD2	2.37	0.42
1:D:221:GLY:O	1:D:225:ILE:HG22	2.20	0.42
1:D:554:ASP:HB3	1:D:611:TYR:HE1	1.85	0.42
1:D:614:ASN:OD1	1:D:614:ASN:N	2.52	0.42
1:A:772:ILE:HD12	1:A:775:ILE:HD12	2.02	0.42
1:A:939:GLN:HE21	1:A:943:PHE:HE2	1.68	0.42
1:B:59:TRP:O	1:B:62:LEU:HB3	2.20	0.42
1:B:998:GLU:HA	1:B:1001:MET:SD	2.60	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:919:TRP:HA	1:C:922:LEU:HD12	2.01	0.42
1:D:377:GLN:H	1:D:377:GLN:HG3	1.70	0.42
1:D:937:ASP:OD2	1:D:940:TYR:N	2.52	0.42
1:A:50:VAL:HA	1:A:53:LEU:CD1	2.49	0.41
1:B:316:ILE:HD13	1:B:387:PHE:HE2	1.85	0.41
1:C:407:ILE:HG12	1:C:589:TYR:CG	2.55	0.41
1:D:334:PHE:HE2	1:D:357:MET:HE3	1.85	0.41
1:D:522:PHE:CD1	1:D:522:PHE:C	2.98	0.41
1:D:741:LEU:C	1:D:742:PHE:HD1	2.28	0.41
1:A:916:PHE:CD1	1:A:919:TRP:HZ3	2.38	0.41
1:B:229:LEU:HD12	1:B:230:ASN:N	2.35	0.41
1:B:361:PHE:CD2	1:B:396:MET:HB2	2.55	0.41
1:B:616:MET:HG2	1:B:655:ILE:HG12	2.02	0.41
1:B:801:SER:HA	1:B:804:TYR:HD2	1.85	0.41
1:C:408:GLU:OE1	1:C:408:GLU:O	2.38	0.41
1:C:471:TYR:CD1	1:C:471:TYR:C	2.98	0.41
1:C:746:GLU:HG3	1:C:754:ARG:HH22	1.86	0.41
1:D:709:TYR:OH	1:D:747:ARG:NH1	2.52	0.41
1:A:89:GLN:NE2	1:A:186:LYS:HB3	2.35	0.41
1:C:90:ILE:H	1:C:90:ILE:HG13	1.61	0.41
1:C:485:ILE:O	1:C:489:VAL:HG22	2.20	0.41
1:D:268:ILE:O	1:D:269:ILE:HD13	2.20	0.41
1:A:17:GLU:O	1:A:21:MET:HG2	2.20	0.41
1:A:53:LEU:HD21	1:A:286:TYR:CD2	2.50	0.41
1:A:587:ARG:O	1:A:591:ASN:ND2	2.54	0.41
1:B:59:TRP:HZ3	1:B:134:TYR:CZ	2.38	0.41
1:B:626:GLU:CB	1:B:629:ARG:HB3	2.51	0.41
1:C:47:GLY:O	1:C:133:ASN:ND2	2.37	0.41
1:C:310:ASP:HA	1:C:380:ARG:NH2	2.35	0.41
1:C:407:ILE:HG21	1:C:589:TYR:CD1	2.55	0.41
1:C:736:ILE:O	1:C:740:LEU:HG	2.20	0.41
1:D:83:GLU:HA	1:D:86:ARG:NE	2.26	0.41
1:D:210:THR:HB	1:D:211:HIS:ND1	2.35	0.41
1:D:449:GLU:OE1	1:D:449:GLU:N	2.50	0.41
1:A:424:PHE:CZ	1:A:438:LYS:HG2	2.56	0.41
1:A:974:LYS:HA	1:A:977:LYS:HD3	2.02	0.41
1:C:364:LYS:HD2	1:C:364:LYS:O	2.21	0.41
1:D:88:PRO:HD2	1:D:89:GLN:OE1	2.21	0.41
1:D:824:THR:HG23	1:D:838:LEU:HD13	2.02	0.41
1:D:827:LEU:C	1:D:828:THR:HG1	2.25	0.41
1:A:136:ASN:OD1	1:A:136:ASN:N	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:288:ALA:HA	1:A:291:ASP:OD2	2.19	0.41
1:A:578:MET:HE2	1:A:578:MET:HB2	1.98	0.41
1:B:175:ARG:NH1	1:B:175:ARG:HB3	2.36	0.41
1:B:866:MET:HG3	1:B:912:TYR:CE2	2.55	0.41
1:B:973:ASN:N	1:B:976:MET:HE1	2.36	0.41
1:C:377:GLN:OE1	1:C:377:GLN:N	2.53	0.41
1:C:954:PHE:HZ	1:C:959:LEU:HD21	1.86	0.41
1:D:652:PHE:CD2	1:D:684:ILE:HG23	2.55	0.41
1:A:60:TRP:O	1:A:63:VAL:HG22	2.21	0.41
1:A:316:ILE:HD11	1:A:387:PHE:CE1	2.55	0.41
1:A:720:LEU:HB2	1:A:757:TRP:CH2	2.56	0.41
1:B:233:ARG:HA	1:B:233:ARG:HD2	1.87	0.41
1:B:304:LYS:N	1:B:307:GLU:OE2	2.53	0.41
1:B:544:PHE:CE1	1:B:545:LEU:HG	2.55	0.41
1:B:738:LYS:HD3	1:B:738:LYS:N	2.35	0.41
1:C:555:THR:HG23	1:C:558:LEU:HD23	2.02	0.41
1:C:747:ARG:HE	1:C:747:ARG:HB3	1.74	0.41
1:C:866:MET:H	1:C:866:MET:CE	2.21	0.41
1:C:1001:MET:HA	1:C:1005:ILE:HD12	2.02	0.41
1:D:19:PHE:HA	1:D:22:LEU:HG	2.03	0.41
1:D:683:LYS:H	1:D:683:LYS:HE2	1.85	0.41
1:D:767:LEU:HB2	1:D:771:ILE:HB	2.02	0.41
1:A:428:GLN:HE22	1:A:430:VAL:HG12	1.85	0.41
1:A:545:LEU:HA	1:A:550:PHE:CD2	2.56	0.41
1:A:795:SER:HB3	1:A:799:LEU:H	1.86	0.41
1:B:62:LEU:HD11	1:B:66:TYR:CZ	2.55	0.41
1:B:696:THR:O	1:B:700:SER:HB3	2.20	0.41
1:B:713:ILE:HD13	1:B:713:ILE:HA	1.88	0.41
1:C:472:TYR:CE1	1:C:476:ILE:HD11	2.56	0.41
1:D:799:LEU:HA	1:D:799:LEU:HD23	1.77	0.41
1:D:836:ASP:HA	1:D:839:PHE:CD2	2.56	0.41
1:A:47:GLY:O	1:A:133:ASN:ND2	2.51	0.41
1:A:54:SER:HA	1:A:115:ASN:HD21	1.86	0.41
1:A:457:ASN:OD1	1:A:458:ILE:N	2.54	0.41
1:A:954:PHE:CD2	1:A:983:VAL:HG11	2.56	0.41
1:B:75:LYS:HB2	1:B:79:TYR:CD1	2.55	0.41
1:B:364:LYS:HG3	1:B:385:PHE:CE2	2.56	0.41
1:B:396:MET:HE1	1:B:398:LYS:HG2	2.03	0.41
1:B:514:ARG:HA	1:B:517:ARG:CZ	2.51	0.41
1:B:514:ARG:HA	1:B:517:ARG:NH2	2.35	0.41
1:B:557:LYS:N	1:B:557:LYS:HD3	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:711:GLN:O	1:B:715:GLU:HG2	2.21	0.41
1:B:970:ILE:C	1:B:976:MET:HE2	2.44	0.41
1:C:136:ASN:HB2	1:C:139:ASP:HB3	2.02	0.41
1:C:302:ILE:HA	1:C:307:GLU:CD	2.46	0.41
1:C:817:SER:O	1:C:821:SER:OG	2.32	0.41
1:D:361:PHE:CD2	1:D:396:MET:HE1	2.54	0.41
1:D:395:CYS:C	1:D:396:MET:HE2	2.45	0.41
1:D:469:CYS:SG	1:D:470:VAL:N	2.94	0.41
1:D:695:ILE:HG23	1:D:699:PHE:HD2	1.86	0.41
1:D:724:LYS:HD3	1:D:760:ARG:HG3	2.03	0.41
1:D:753:LYS:O	1:D:757:TRP:CD1	2.74	0.41
1:D:1002:ASN:OD1	1:D:1003:TYR:N	2.53	0.41
1:A:618:LEU:HA	1:A:621:GLU:HG3	2.02	0.41
1:B:87:ILE:HA	1:B:90:ILE:HD12	2.03	0.41
1:B:91:PHE:O	1:B:95:LYS:HG2	2.20	0.41
1:B:482:TYR:OH	1:B:519:MET:HE2	2.21	0.41
1:B:828:THR:OG1	1:B:829:GLN:N	2.49	0.41
1:C:33:ILE:HD12	1:C:33:ILE:HA	1.85	0.41
1:C:673:ILE:HB	1:C:725:TYR:CE2	2.55	0.41
1:D:199:LEU:HD22	1:D:199:LEU:H	1.85	0.41
1:B:56:TYR:HA	1:B:57:PRO:HD3	1.98	0.40
1:B:343:ASN:OD1	1:B:343:ASN:C	2.64	0.40
1:B:661:ILE:HG13	1:B:665:LYS:NZ	2.36	0.40
1:C:536:GLN:HE22	1:C:537:LYS:NZ	2.19	0.40
1:C:538:LYS:HB2	1:C:539:TYR:HD1	1.86	0.40
1:C:632:ASP:OD1	1:C:632:ASP:N	2.55	0.40
1:D:149:PHE:HE1	1:D:165:ARG:HD3	1.85	0.40
1:A:247:ARG:CZ	1:A:249:ASP:HB3	2.51	0.40
1:A:324:TYR:OH	1:A:391:ASN:O	2.36	0.40
1:A:330:LEU:HA	1:A:333:VAL:HG23	2.03	0.40
1:A:605:PHE:CD1	1:A:605:PHE:N	2.88	0.40
1:B:485:ILE:O	1:B:489:VAL:HG12	2.21	0.40
1:B:877:PHE:CE1	1:B:924:GLU:HB3	2.57	0.40
1:C:553:ASP:O	1:C:557:LYS:HE2	2.21	0.40
1:C:829:GLN:O	1:C:831:LYS:HG2	2.21	0.40
1:D:661:ILE:HG13	1:D:665:LYS:HD3	2.02	0.40
1:A:304:LYS:HD2	1:A:306:ASP:H	1.86	0.40
1:B:505:LYS:NZ	1:B:512:LEU:HD11	2.36	0.40
1:B:515:ILE:O	1:B:519:MET:HB3	2.21	0.40
1:B:586:LEU:HD13	1:B:589:TYR:HD2	1.85	0.40
1:B:706:VAL:O	1:B:709:TYR:HB3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:706:VAL:O	1:B:710:THR:HG23	2.22	0.40
1:C:281:ASP:O	1:C:285:ARG:HG3	2.20	0.40
1:D:63:VAL:HA	1:D:66:TYR:CD2	2.56	0.40
1:D:63:VAL:HG13	1:D:87:ILE:HD12	2.03	0.40
1:D:481:ILE:HA	1:D:484:SER:OG	2.21	0.40
1:D:737:VAL:HB	1:D:774:ILE:HD11	2.02	0.40
1:D:780:VAL:HG22	1:D:820:LEU:HG	2.04	0.40
1:D:1001:MET:HG3	1:D:1001:MET:H	1.77	0.40
1:A:174:PHE:HD2	1:A:178:PHE:CD2	2.40	0.40
1:A:346:VAL:HB	1:A:396:MET:HE1	2.03	0.40
1:D:322:LEU:HB3	1:D:598:ASN:ND2	2.35	0.40
1:D:329:ASP:CB	1:D:541:ILE:HD11	2.46	0.40
1:D:334:PHE:CE2	1:D:357:MET:HE3	2.55	0.40
1:D:373:LEU:HB3	1:D:377:GLN:NE2	2.36	0.40
1:D:408:GLU:HA	1:D:650:TYR:OH	2.21	0.40
1:D:749:LEU:HD12	1:D:749:LEU:HA	1.92	0.40
1:A:17:GLU:HA	1:A:20:LEU:HG	2.03	0.40
1:A:216:ILE:HG13	1:A:217:GLY:N	2.37	0.40
1:A:627:ARG:NH1	1:A:675:LYS:HD2	2.37	0.40
1:B:661:ILE:O	1:B:665:LYS:HG2	2.21	0.40
1:C:302:ILE:O	1:C:304:LYS:HG2	2.21	0.40
1:C:552:TYR:CD2	1:D:556:VAL:HG22	2.56	0.40
1:D:208:ILE:HD11	1:D:213:ILE:HG21	2.04	0.40
1:D:231:TRP:CD2	1:D:232:VAL:HG22	2.56	0.40
1:D:408:GLU:O	1:D:408:GLU:HG2	2.22	0.40
1:D:608:PHE:O	1:D:612:ILE:HG22	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	993/1005 (99%)	927 (93%)	65 (6%)	1 (0%)	48	83
1	B	993/1005 (99%)	919 (92%)	73 (7%)	1 (0%)	48	83
1	C	993/1005 (99%)	932 (94%)	56 (6%)	5 (0%)	25	64
1	D	993/1005 (99%)	906 (91%)	81 (8%)	6 (1%)	22	59
All	All	3972/4020 (99%)	3684 (93%)	275 (7%)	13 (0%)	38	72

All (13) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	521	ASN
1	C	846	SER
1	C	847	THR
1	D	223	TYR
1	D	521	ASN
1	B	625	TYR
1	C	302	ILE
1	D	817	SER
1	C	296	SER
1	D	162	THR
1	A	302	ILE
1	D	769	LYS
1	D	816	ILE

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	912/922 (99%)	906 (99%)	6 (1%)	81	87
1	B	912/922 (99%)	903 (99%)	9 (1%)	73	81
1	C	912/922 (99%)	906 (99%)	6 (1%)	81	87
1	D	912/922 (99%)	910 (100%)	2 (0%)	92	93
All	All	3648/3688 (99%)	3625 (99%)	23 (1%)	82	88

All (23) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	152	ILE
1	A	192	ASN
1	A	426	GLU
1	A	528	PHE
1	A	558	LEU
1	A	646	PHE
1	B	182	ASN
1	B	206	THR
1	B	518	GLU
1	B	551	LEU
1	B	619	LEU
1	B	660	LYS
1	B	674	ASP
1	B	705	ASN
1	B	866	MET
1	C	82	ASP
1	C	107	PHE
1	C	108	PHE
1	C	173	ASP
1	C	490	THR
1	C	936	MET
1	D	58	GLN
1	D	200	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	25	ASN
1	A	195	GLN
1	A	297	GLN
1	A	548	ASN
1	A	705	ASN
1	A	939	GLN
1	B	89	GLN
1	B	226	ASN
1	B	483	GLN
1	B	536	GLN
1	B	606	HIS
1	B	609	HIS
1	B	782	GLN
1	B	848	ASN
1	B	895	ASN
1	C	323	GLN

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Mol	Chain	Res	Type
1	C	332	HIS
1	C	536	GLN
1	C	548	ASN
1	C	654	ASN
1	C	698	GLN
1	C	765	ASN
1	C	829	GLN
1	C	867	ASN
1	D	25	ASN
1	D	115	ASN
1	D	118	HIS
1	D	136	ASN
1	D	609	HIS
1	D	895	ASN
1	D	973	ASN
1	D	978	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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.