



Full wwPDB EM Validation Report ⓘ

Jul 19, 2023 – 08:27 pm BST

PDB ID : 8BD7
EMDB ID : EMD-15977
Title : IFTB1 subcomplex of anterograde Intraflagellar transport trains (*Chlamydomonas reinhardtii*)
Authors : Lacey, S.E.; Foster, H.E.; Pigino, G.
Deposited on : 2022-10-18
Resolution : 9.90 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:

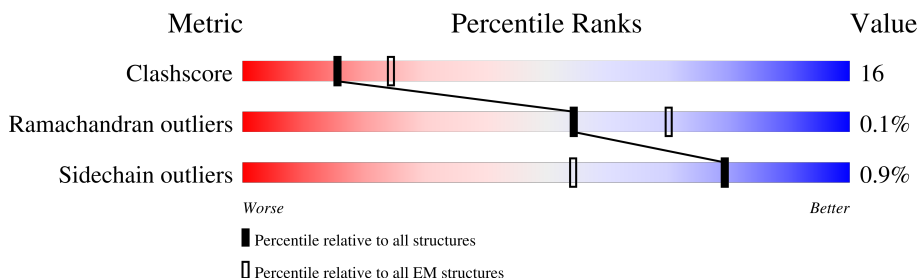
EMDB validation analysis : 0.0.1.dev50
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.34

1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 9.90 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	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	782	
1	H	782	
2	B	454	
2	J	454	
3	C	647	
3	K	647	
4	D	344	
4	N	344	

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Mol	Chain	Length	Quality of chain
5	E	555	
5	O	555	
6	F	683	
6	P	683	
7	G	641	
7	Q	641	
8	I	765	
8	R	765	
9	L	443	
9	T	443	
10	M	469	
10	U	469	
11	W	135	
11	Y	135	
12	X	510	
12	Z	510	
13	S	1755	
13	V	1755	

2 Entry composition [i](#)

There are 13 unique types of molecules in this entry. The entry contains 86268 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 IFT88.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	539	Total	C	N	O	S	0	0
			4337	2747	762	795	33		
1	H	539	Total	C	N	O	S	0	0
			4337	2747	762	795	33		

- Molecule 2 is a protein called Osm-6-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	454	Total	C	N	O	S	0	0
			3553	2269	591	680	13		
2	J	454	Total	C	N	O	S	0	0
			3553	2269	591	680	13		

- Molecule 3 is a protein called IFT70.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	619	Total	C	N	O	S	0	0
			4978	3171	826	948	33		
3	K	619	Total	C	N	O	S	0	0
			4978	3171	826	948	33		

- Molecule 4 is a protein called Intraflagellar transport protein 46.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	133	Total	C	N	O	S	0	0
			1045	666	172	197	10		
4	N	133	Total	C	N	O	S	0	0
			1045	666	172	197	10		

- Molecule 5 is a protein called Intraflagellar transport protein 56.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	555	Total	C	N	O	S	0	0
			4465	2855	763	820	27		
5	O	555	Total	C	N	O	S	0	0
			4465	2855	763	820	27		

- Molecule 6 is a protein called Intraflagellar transport protein 81.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	335	Total	C	N	O	S	0	0
			2701	1692	476	526	7		
6	P	335	Total	C	N	O	S	0	0
			2701	1692	476	526	7		

- Molecule 7 is a protein called Intraflagellar transport protein 74.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	205	Total	C	N	O	S	0	0
			1674	1023	302	342	7		
7	Q	205	Total	C	N	O	S	0	0
			1674	1023	302	342	7		

- Molecule 8 is a protein called Intraflagellar transport protein 80.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	765	Total	C	N	O	S	0	0
			6025	3807	1053	1132	33		
8	R	765	Total	C	N	O	S	0	0
			6025	3807	1053	1132	33		

- Molecule 9 is a protein called Clusterin-associated protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	L	303	Total	C	N	O	S	0	0
			2472	1547	439	476	10		
9	T	303	Total	C	N	O	S	0	0
			2472	1547	439	476	10		

- Molecule 10 is a protein called Intraflagellar transport protein 57.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	M	164	Total	C	N	O	S	0	0
			1328	812	247	264	5		

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Mol	Chain	Residues	Atoms					AltConf	Trace
10	U	164	Total	C	N	O	S	0	0
			1328	812	247	264	5		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	356	ALA	PHE	conflict	UNP Q2XQY7
U	356	ALA	PHE	conflict	UNP Q2XQY7

- Molecule 11 is a protein called Intraflagellar transport particle protein IFT20.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	W	114	Total	C	N	O	S	0	0
			919	562	166	187	4		
11	Y	114	Total	C	N	O	S	0	0
			919	562	166	187	4		

- Molecule 12 is a protein called IFT54.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	X	106	Total	C	N	O	S	0	0
			849	524	155	164	6		
12	Z	106	Total	C	N	O	S	0	0
			849	524	155	164	6		

- Molecule 13 is a protein called Intraflagellar transport protein 172.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	S	1104	Total	C	N	O	S	0	0
			8788	5556	1532	1656	44		
13	V	1104	Total	C	N	O	S	0	0
			8788	5556	1532	1656	44		

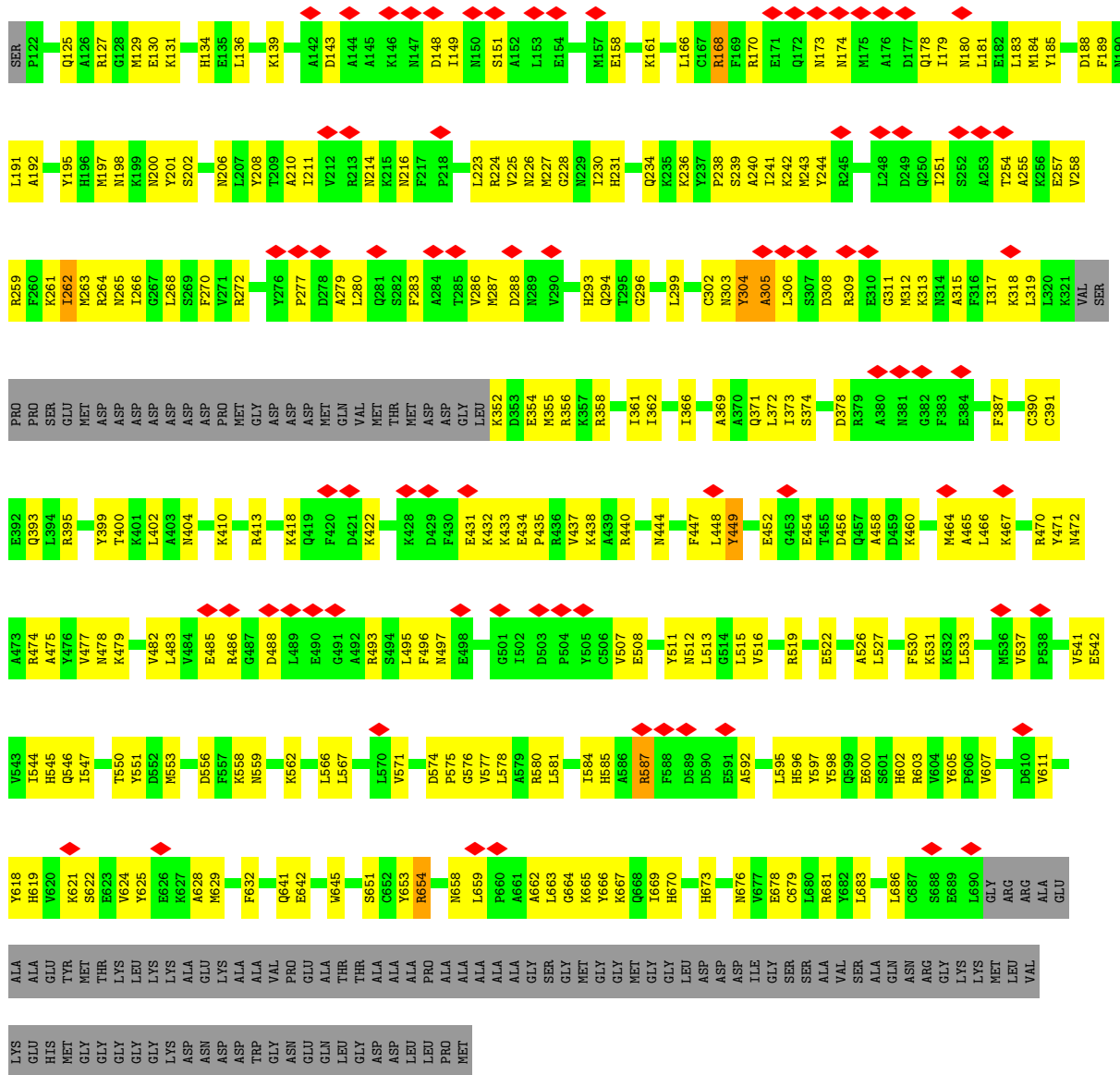
THR	LYS	LEU	GLY	LYS	LYS	ALA	GLU	LYS	ASP	ASN	ASP	ASP	ASP	TRP	LEU	VAL	PRO	GLU	GLU	ALA
GLY	GLY	GLY	GLY	GLY	LYS	ASP	LYS	ASN	ASP	ASP	ASP	ASP	TRP	LEU	VAL	PRO	GLU	GLU	GLN	ALA

• Molecule 1: IFT88

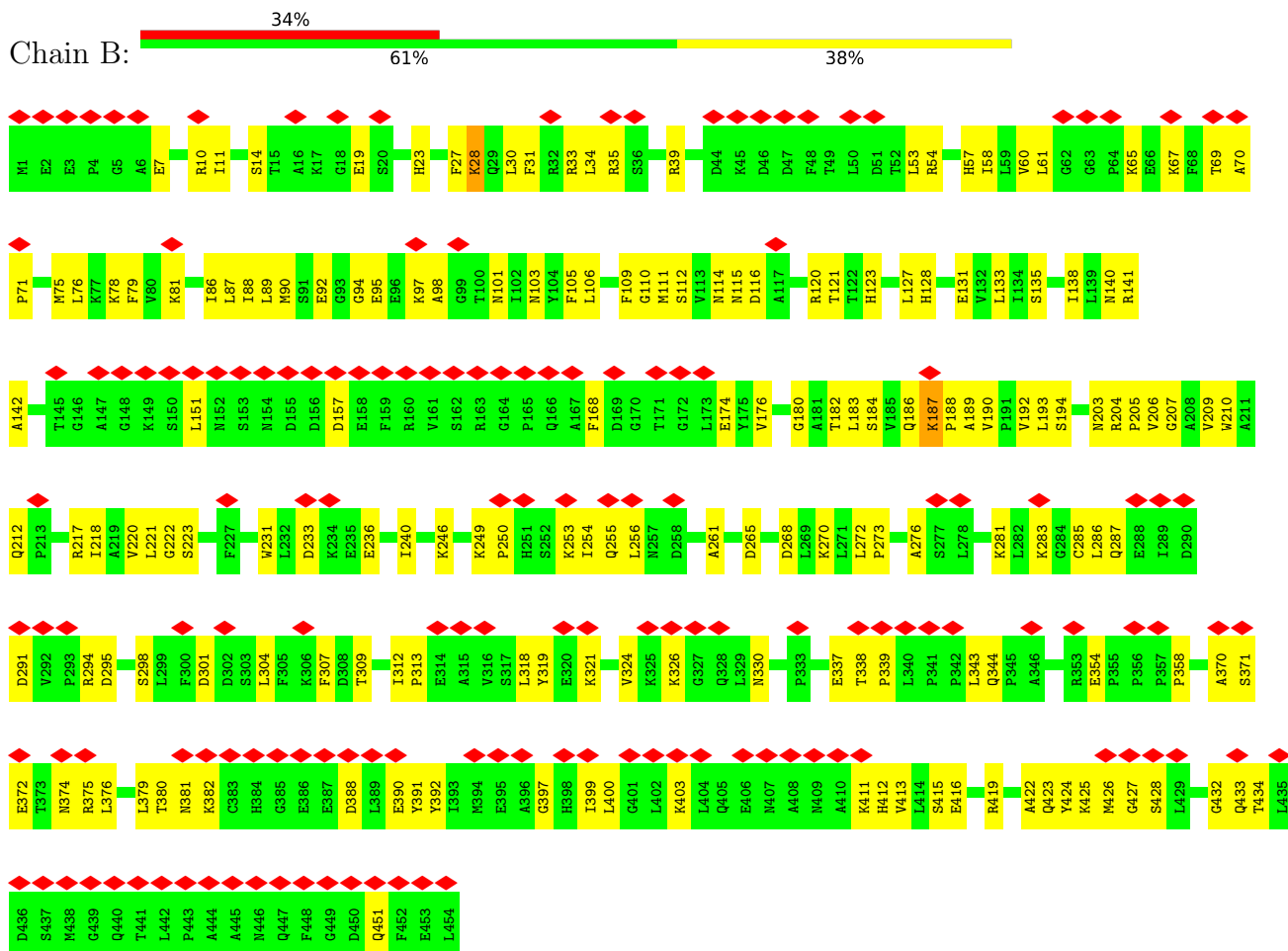


MET	SER	TYR	GLY	THR	GLY	THR	GLU	GLY	THR	GLY	THR	GLY	THR	GLY	THR	GLY	THR	GLY	THR	GLY
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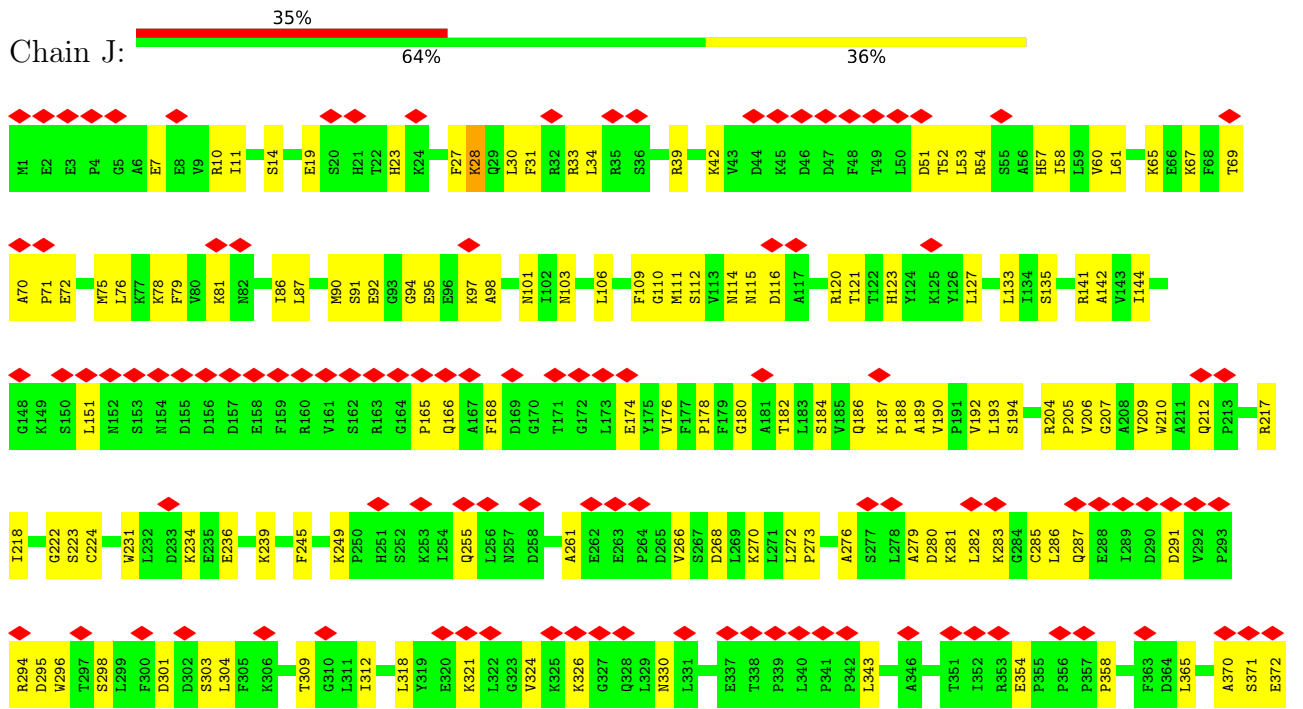
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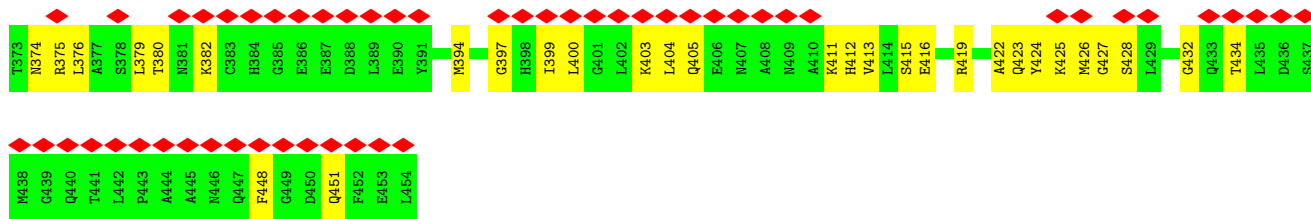


• Molecule 2: Osm-6-like protein

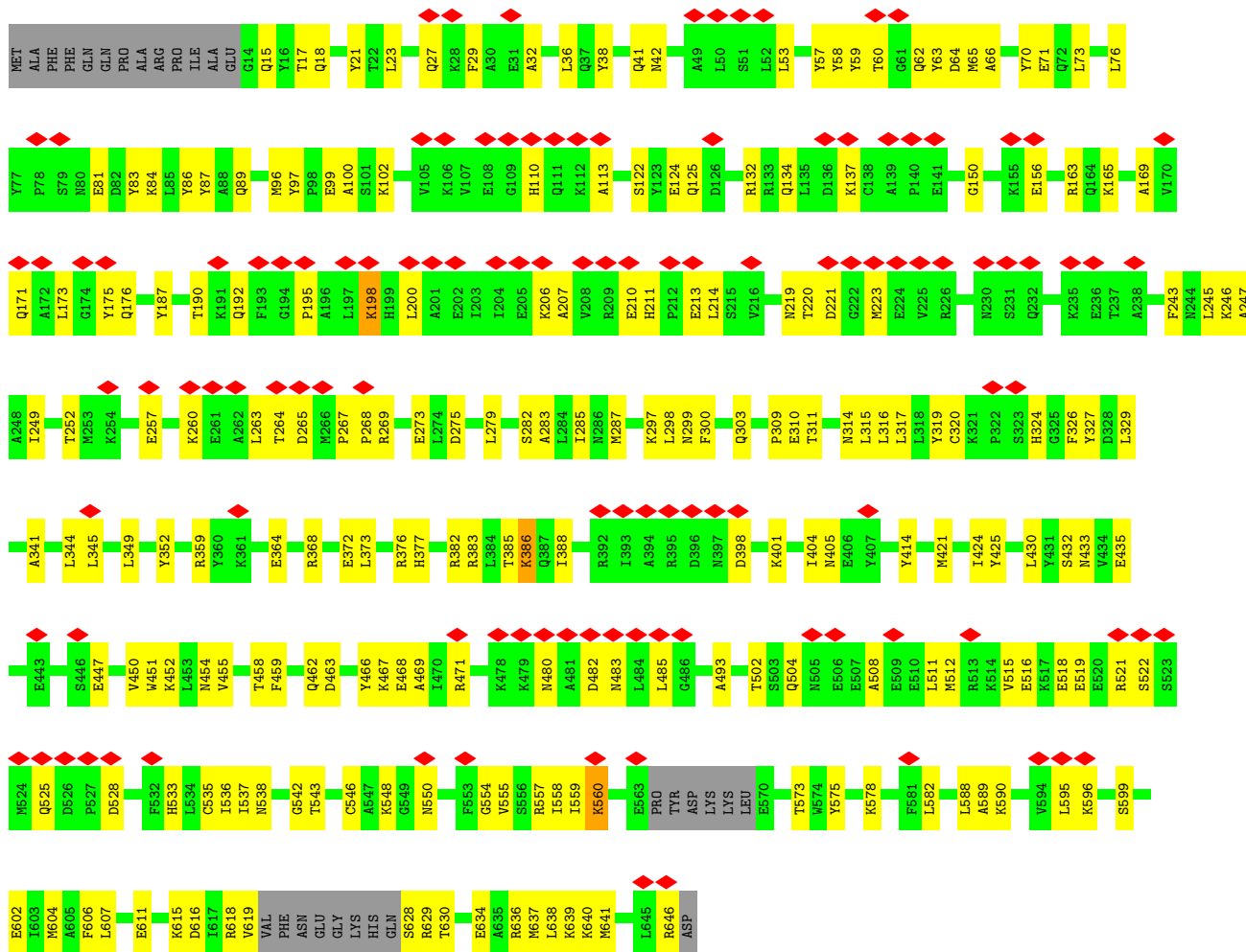


• Molecule 2: Osm-6-like protein

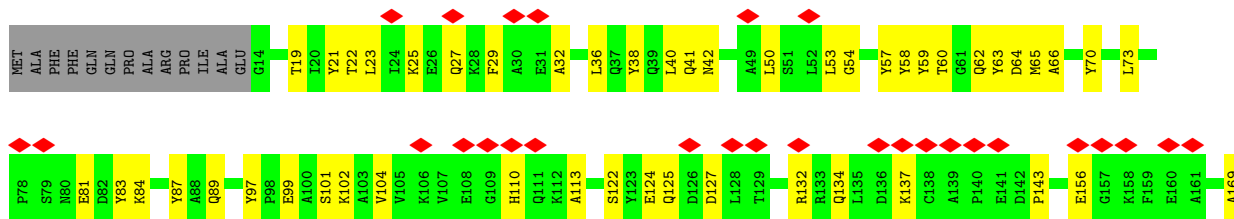


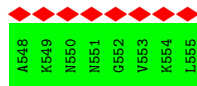
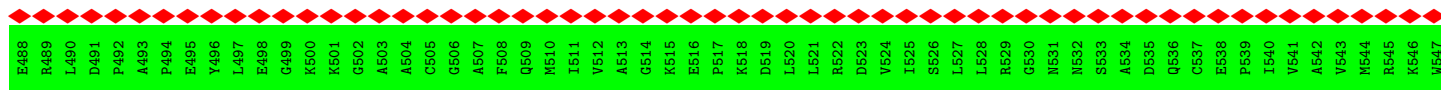


• Molecule 3: IFT70

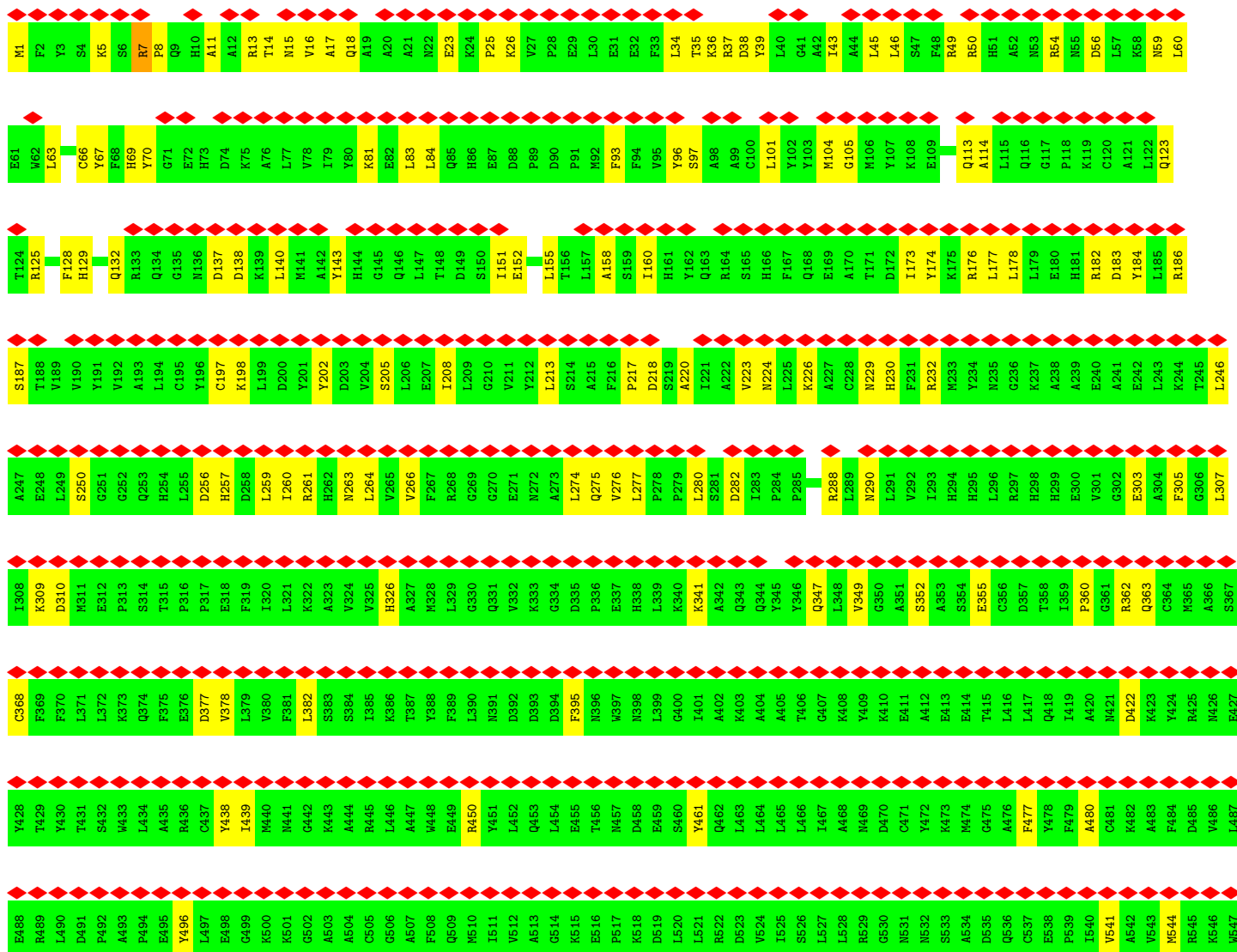
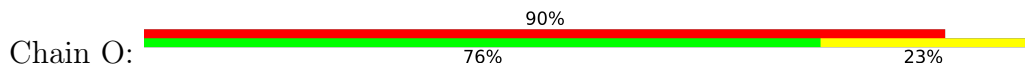


• Molecule 3: IFT70

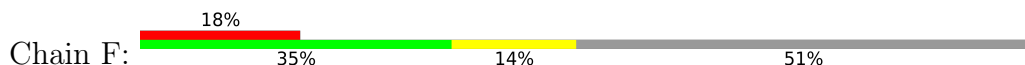


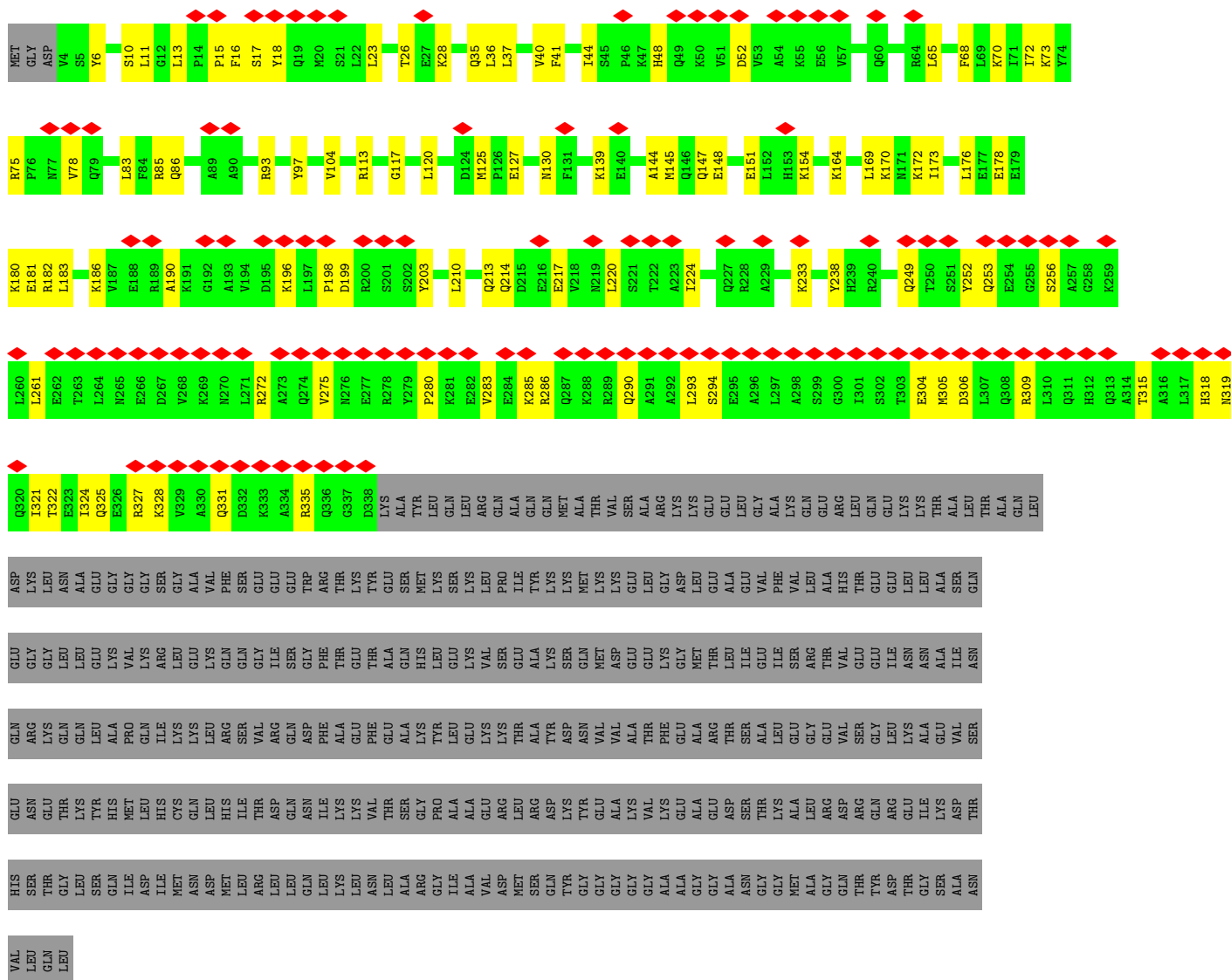


• Molecule 5: Intraflagellar transport protein 56

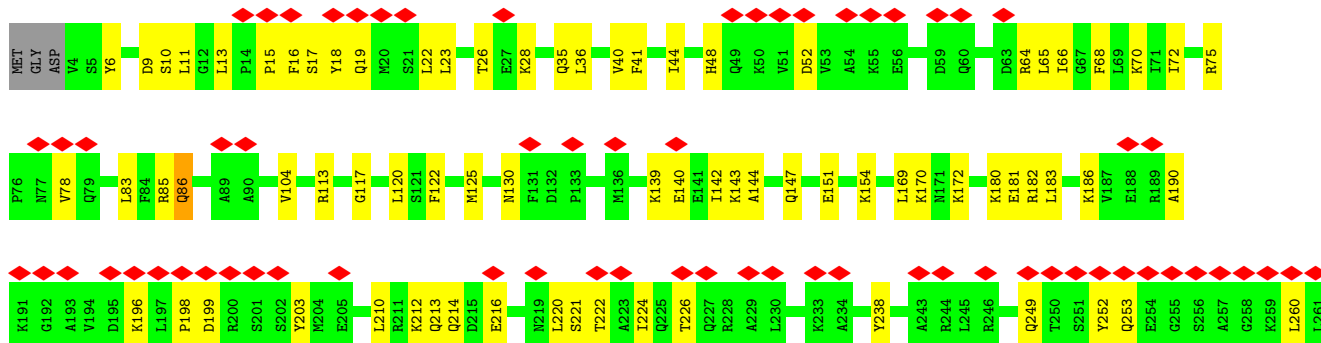
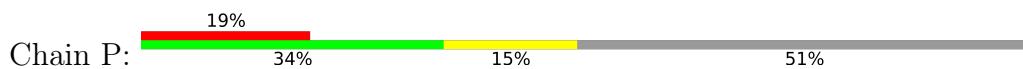


• Molecule 6: Intraflagellar transport protein 81





- Molecule 6: Intraflagellar transport protein 81

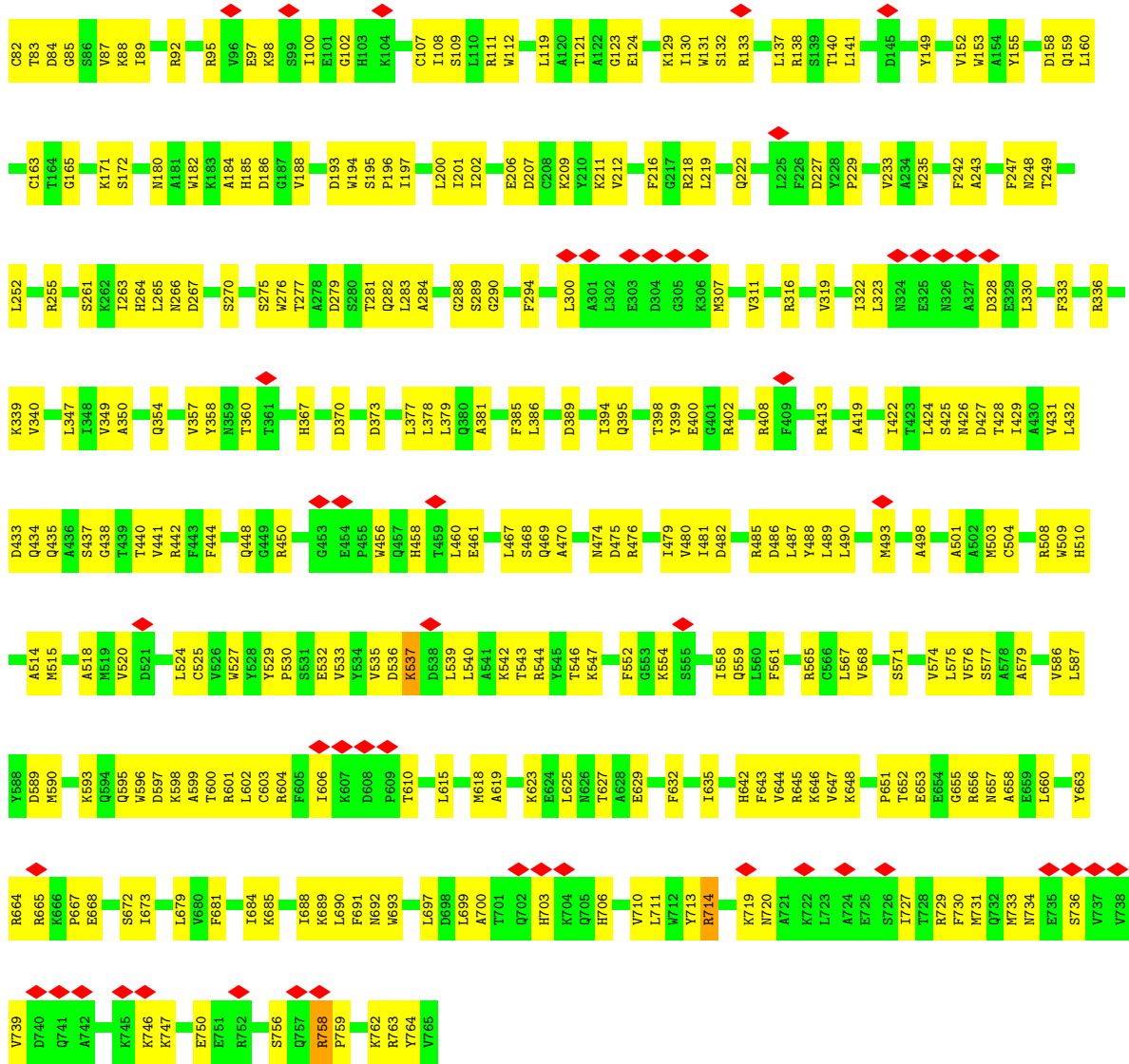


Horizontal bar chart showing residue distribution by color (yellow, green, red) and amino acid types (e.g., LEU, ASP, MET, THR, VAL, etc.).

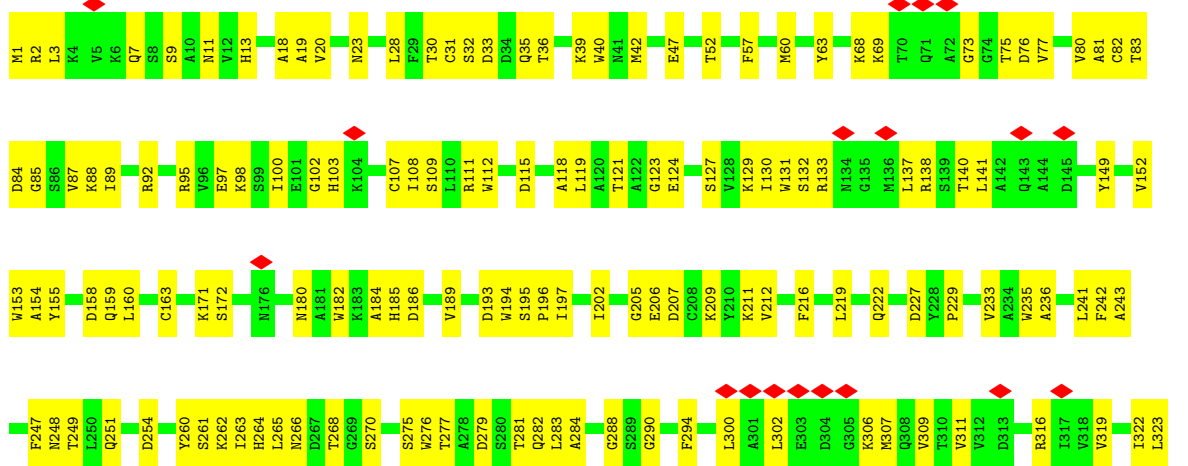
• Molecule 7: Intraflagellar transport protein 74

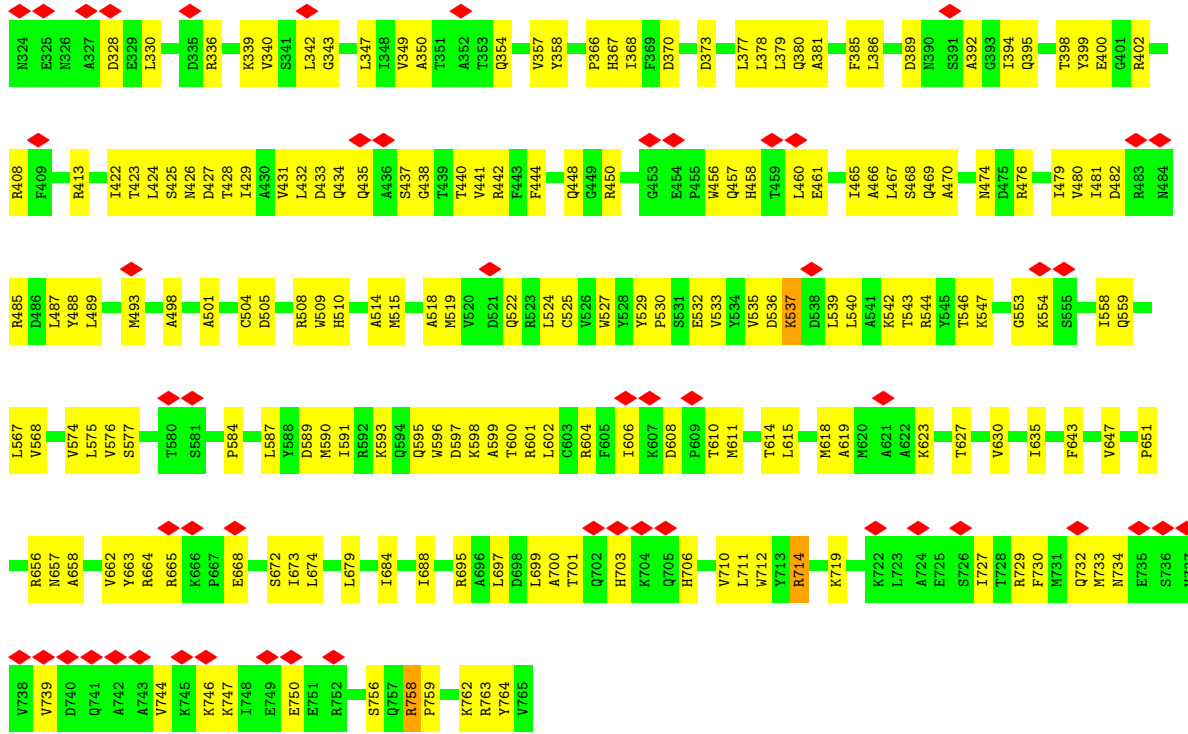


Vertical bar chart showing amino acid types and residue numbers for Chain G, with colored markers (red diamonds) above certain residues.

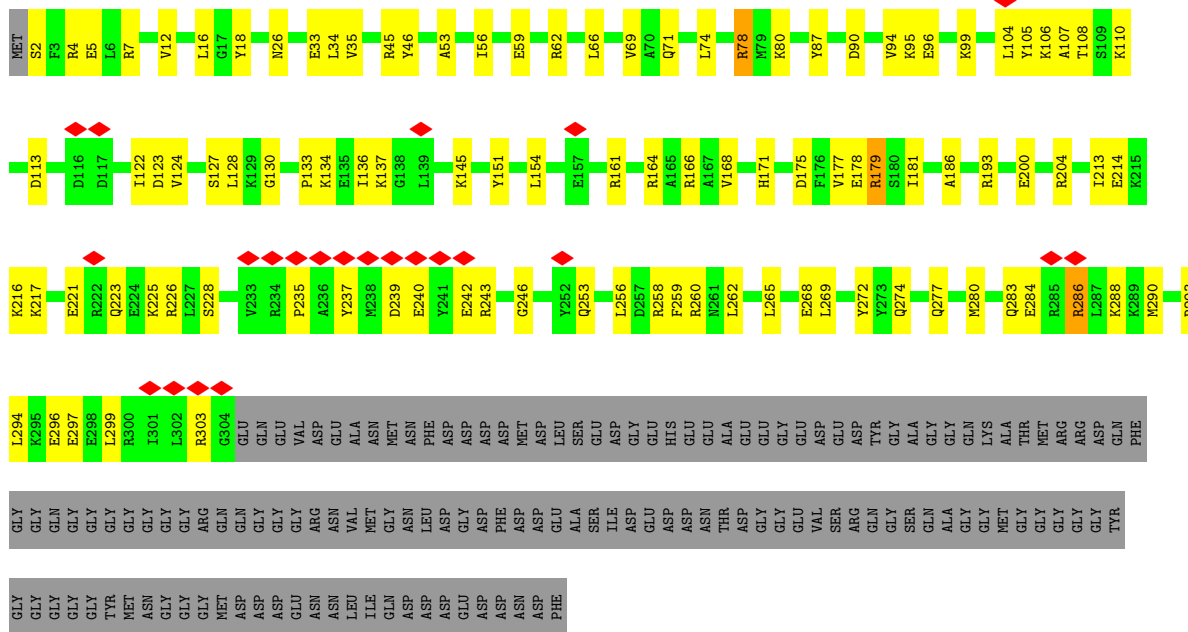


● Molecule 8: Intraflagellar transport protein 80



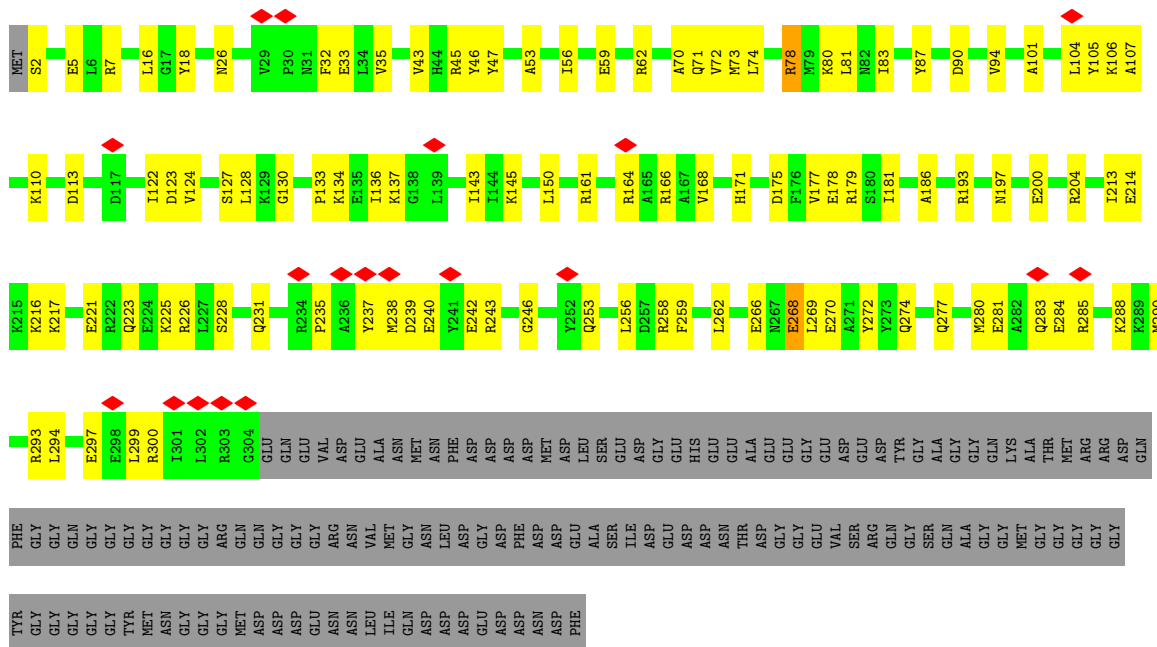


• Molecule 9: Clusterin-associated protein 1

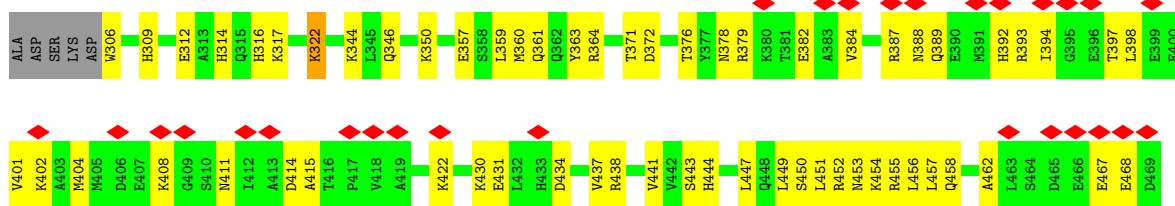


• Molecule 9: Clusterin-associated protein 1

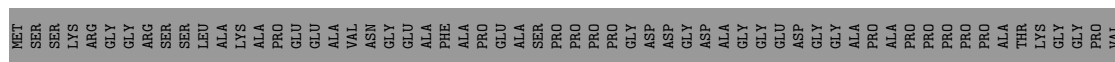




• Molecule 10: Intraflagellar transport protein 57



• Molecule 10: Intraflagellar transport protein 57



A987	A988	B989	K990	E993	A994	E995	K996	A997	Y998	L999	A1000	G1001	D1002	D1004	D1005	Y1006	Y1007	K1008	A1011	M1012	Y1013	K1014	R1015	M1016	K1017	M1018	Y1019	D1020	Q1021	M1022	I1023	R1024	L1025	V1026	T1027	Q1028	K1031	E1032	K1033	Y1034	P1035	E1036	H1038	T1041	A1042	Q1043	Q1044	E1046	E1048	L1051									
M916	F917	Y918	F919	R920	R921	A922	R923	R924	R925	Y926	E927	F928	T929	G930	L931	E932	E933	E934	R937	Y938	Y939	A942	A945	R946	D947	E950	R954	A955	G956	K957	Y958	E959	A960	A961	Q962	R963	Y964	A965	R966	G967	Y968	L969	T970	E971	E972	Y973	M974	K981	A982	A983	E984	F985	E986						
G780	G781	L782	R785	Q788	V789	W790	M791	S792	V793	H794	M795	V796	M797	W798	D799	P800	A801	L802	L803	D804	L807	A808	S809	L810	A811	K812	A813	C814	L815	Y816	E817	Y823	M826	S827	R828	S829	S830	Q834	S835	Y836	R837	R838	G839	H840	A841	Y842	R843	K844	A845	T846	D847	L848	A849						
R850	R851	A855	E856	M857	L858	L860	E861	E862	E863	W864	W867	L868	Y869	Y870	K871	Q873	M874	D875	A876	A877	L878	R879	H880	F881	L882	E883	S884	G885	A886	T887	L888	K889	K892	T895	D896	C897	R898	Q899	F900	A901	K902	A903	A904	G905	I906	I907	E908	Y909	L910	D911	A912	T846	D847	L848	A849				
M916	F917	Y918	F919	R920	R921	A922	R923	R924	R925	Y926	E927	F928	T929	G930	L931	E932	E933	E934	R937	Y938	Y939	A942	A945	R946	D947	E950	R954	A955	G956	K957	Y958	E959	A960	A961	Q962	R963	Y964	A965	R966	G967	Y968	L969	T970	E971	E972	Y973	M974	K981	A982	A983	E984	F985	E986						
N241	N242	D243	E244	R245	R246	E247	F248	T249	T250	C251	A252	F253	N254	P255	S256	G257	D258	T259	V260	V261	H262	S263	C264	Y265	P266	R267	F268	Y269	M270	Y271	G272	T273	F274	I275	Q276	R277	N278	D279	W280	E281	E282	A283	G284	V285	H286	Q287	D288	L289	N290	F291	Y292	A293	V294	S295	A296	A297	S298	W299	K300
L181	W182	K183	F184	M185	F186	P187	A188	E189	E190	G191	G192	T193	P194	T195	S196	S197	Q198	L199	V200	V201	H202	S203	C204	Y205	P206	Y207	S208	L209	G210	W211	G212	S213	C214	I215	A216	A217	A218	G219	N220	D221	N222	R223	Y224	V225	F226	Y227	D228	L229	N230	G231	R232	E233	L234	R235	S236	F237	D238	Y239	S240
P301	M306	T307	V308	G309	S310	M311	T312	G313	A314	V315	D316	M317	Y318	D319	A320	C321	V322	K323	R324	H325	G329	E332	T334	Y335	V336	S337	K338	S339	A340	V341	I342	V343	K344	K347	T348	G349	M350	R351	I352	V353	L354	K355	S356	V357	Y358	G359	Y360	E361	I362	E363	K364	R371	Y372						
L373	I374	A375	R376	Y379	T380	L381	M382	G384	D385	L386	D387	T388	C389	K390	L391	S392	P395	M396	D397	S398	D399	G400	S401	E402	H405	F406	E407	M408	E409	R410	V411	C412	M413	V414	H415	Y416	L420	H421	I422	V423	G426	R427	M428	L431	R435	M440	P441	Y442	L443	I444									
S445	V448	Q449	E450	A451	R452	G453	L454	S458	D466	L467	Q468	T469	V470	R471	L472	Q473	D474	L475	M476	A477	P478	T482	L483	A484	M487	H488	D489	T490	D493	W494	L495	M498	Q499	E500	G501	T502	H503	E507	D508	H511	H512	L513	H514	L515	S519	G520	R523												
L527	C530	D531	V536	P537	V541	Q545	S546	R547	N548	N549	L550	V554	S555	M564	F565	P566	I567	K568	V571	R576	H577	N578	H579	R580	T581	E582	D586	E587	G588	L589	N590	L596	D597	E598	A599	L600	L601	Q610	Q611	L612	E613	V616	Q617	T618	L619	E620													
F621	L624	T625	P626	E627	D631	M632	L635	A636	E637	D638	A639	T642	N643	Q644	L645	V646	T647	A648	E649	R650	C651	V652	L655	L658	F663	L664	V667	Q673	L676	E677	F678	G679	D680	G682	T683	D684	A685	A690	M691	M692	A693	Q694	K697	G698	M699														
S702	L707	A708	Q709	G710	K711	W712	D713	I716	T717	L718	Y719	Q720	D721	N722	W725	E726	A728	I729	R730	W731	S734	T735	H736	H737	A738	W739	A740	A741	A742	L743	R744	Y747	W750	E758	A762	R766	E767	G768	D769	Y770	L771	A772	A773	L774	G775	L776	Y777	K779											
G780	G781	L782	R785	Q788	V789	W790	M791	S792	V793	H794	M795	V796	M797	W798	D799	P800	A801	L802	L803	D804	L807	A808	S809	L810	A811	K812	A813	C814	L815	Y816	E817	Y823	M826	S827	R828	S829	S830	Q834	S835	Y836	R837	R838	G839	H840	A841	Y842	R843	K844	A845	T846	D847	L848	A849						
R850	R851	A855	E856	M857	L858	L860	E861	E862	E863	W864	W867	L868	Y869	Y870	K871	Q873	M874	D875	A876	A877	L878	R879	H880	F881	L882	E883	S884	G885	A886	T887	L888	K889	K892	T895	D896	C897	R898	Q899	F900	A901	K902	A903	A904	G905	I906	I907	E908	Y909	L910	D911	A912	T846	D847	L848	A849				
M916	F917	Y918	F919	R920	R921	A922	R923	R924	R925	Y926	E927	F928	T929	G930	L931	E932	E933	E934	R937	Y938	Y939	A942	A945	R946	D947	E950	R954	A955	G956	K957	Y958	E959	A960	A961	Q962	R963	Y964	A965	R966	G967	Y968	L969	T970	E971	E972	Y973	M974	K981	A982	A983	E984	F985	E986						

TYR	N241	S304	R371	L443	R523	E608	T683	T764	Y823	I896	A960	Y1029	K1094
ALA	N242	S304	T372	I444	R523	D609	D684	G755	E824	D896	A961	R1030	Q1095
MET	N243	S304	L373	A445	L527	D609	A685	Q756	H825	C897	Q962	K1031	Q1096
PHE	E244	T307	I374	A446	C530	Y612	V688	E757	R828	R898	R963	E1032	R963
LEU	V245	V308	A375	V447	Q531	E613	R689	E758	R829	Q899	V964	K1033	A1097
GLU	V246	G309	R376	Q449	V536	E614	R690	Q759	S829	F900	A965	K1033	A1098
ASP	E247	S310	M311	E450	A451	R614	A691	V763	Q834	A901	R966	V1034	Y1099
GLY	F248	M311	L381	A451	A615	A616	M691	R766	Y836	K902	G967	P1035	W1100
ARG	T249	M311	L382	A452	V617	V617	M692	E767	R837	A903	Y968	P1035	A1101
PHE	T250	G313	M383	G453	T618	L619	A694	E768	R838	A904	R970	H1038	L1102
ALA	C251	A314	G384	I454	I542	L620	M696	Q769	R839	I906	E971	I1041	T1103
GLU	A252	V315	D385	A455	Q545	P621	K697	D769	H840	I907	S972	A1042	L1104
GLU	A252	D316	L386	S456	S546	L624	Q698	Y770	A841	V909	Y978	Q1043	GLY
ASP	F253	M317	D387	E457	R547	L624	L774	L774	H842	L910	R979	Q1044	GLY
PHE	N254	M317	T388	A458	N548	E627	R843	L776	R843	D911	R979	Q1044	ASP
P255	P255	Y318	T388	S458	N548	E627	R844	L777	K844	P912	A980	L1045	ASP
S256	S256	D319	C389	K459	L550	E627	A845	Y777	A845	P912	K881	E1046	GLY
G257	G257	A320	K390	L467	C551	Q631	L707	K779	Y846	A915	A982	V1047	ALA
D258	D258	K323	L391	R471	V552	Q632	A708	L778	D847	M916	A983	V1047	GLN
T259	T259	H325	L391	D474	V553	Q632	Q709	K779	L848	F917	E984	E1048	LEU
V260	V260	R324	L391	Q474	V554	L635	G710	G780	R850	Y918	F985	E1053	LEU
V261	V261	H325	L391	D474	V555	L635	G710	L782	R851	F919	E986	E1054	LEU
F262	F262	K328	L391	L475	S555	Q638	D713	P783	R854	R920	A987	E1055	LEU
G263	G263	G329	L391	L476	D560	L640	A716	A787	V857	Q924	H988	K1056	LEU
T264	T264	F331	L391	A477	N561	A641	L717	Q788	R857	R925	R988	F1058	LEU
Y265	Y265	F332	L391	P478	M564	T642	L718	V789	I858	Y926	E994	V1059	ALA
N266	N266	F333	L391	V479	F665	N643	Y719	V790	I859	Y926	A995	V1059	ILE
R267	R267	F334	L391	V479	F666	N643	Y720	M791	R860	T928	E995	A1060	ASN
F268	F268	Y335	L391	V479	F668	N643	H722	S792	E861	T929	K996	K1062	GLU
Y269	Y269	V336	L391	V479	F668	N643	H722	V793	E962	Q930	E997	D1063	VAL
M270	M270	K338	L391	V479	F668	N643	H722	H794	E964	A931	Y998	W1064	GLU
Y271	Y271	S339	L391	V479	F668	N643	H722	N795	V867	L932	L999	K1065	SER
T272	T272	A340	L391	V479	F668	N643	H722	N796	L868	A1000	A1000	S1066	ALA
F273	F273	V341	L391	V479	F668	N643	H722	V798	V870	A1001	A1001	A1067	ALA
N274	N274	I342	L391	V479	F668	N643	H722	D799	T870	E994	E994	A1067	ALA
L275	L275	V343	L391	V479	F668	N643	H722	R800	K872	R937	Q871	V1068	ALA
Q276	Q276	K344	L391	V479	F668	N643	H722	A801	M874	Y938	Y938	Q1069	GLU
R277	R277	T345	L391	V479	F668	N643	H722	V800	M874	D942	K1008	M1070	ALA
N278	N278	L346	L391	V479	F668	N643	H722	V800	M874	A942	A942	Y1071	TYR
D279	D279	K347	L391	V479	F668	N643	H722	V800	M874	D943	D943	R1072	THR
V280	V280	T348	L391	V479	F668	N643	H722	V800	M874	M944	M944	R1072	ARG
E281	E281	G349	L391	V479	F668	N643	H722	V800	M874	A945	A945	V1074	VAL
E282	E282	R351	L391	V479	F668	N643	H722	V800	M874	R946	R946	Q1075	VAL
A283	A283	I352	L391	V479	F668	N643	H722	V800	M874	D947	D947	Q1076	SER
G284	G284	V353	L391	V479	F668	N643	H722	V800	M874	E950	E950	W1077	GLY
H285	H285	L354	L391	V479	F668	N643	H722	V800	M874	F881	F881	D1078	LEU
K286	K286	K355	L391	V479	F668	N643	H722	V800	M874	Y953	Y953	A1080	LEU
Q287	Q287	V357	L391	V479	F668	N643	H722	V800	M874	R954	R954	A1080	PRO
I288	I288	Y358	L391	V479	F668	N643	H722	V800	M874	E955	E955	L1081	GLU
N289	N289	G359	L391	V479	F668	N643	H722	V800	M874	R818	R818	R1082	VAL
F291	F291	Y360	L391	V479	F668	N643	H722	V800	M874	K892	K892	Y1083	HIS
Y292	Y292	I367	L391	V479	F668	N643	H722	V800	M874	A958	A958	A1084	VAL
A293	A293	Y368	L391	V479	F668	N643	H722	V800	M874	K892	K892	A1084	VAL
V294	V294	H369	L391	V479	F668	N643	H722	V800	M874	A958	A958	K1085	GLU
S295	S295	D370	L391	V479	F668	N643	H722	V800	M874	A958	A958	V1086	LEU
A296	A296		L391	V479	F668	N643	H722	V800	M874	A958	A958	Y1087	LEU
A297	A297		L391	V479	F668	N643	H722	V800	M874	A958	A958	G1088	LEU
S298	S298		L391	V479	F668	N643	H722	V800	M874	A958	A958	G1088	LEU
P301	P301		L391	V479	F668	N643	H722	V800	M874	A958	A958	G1089	LEU
			L391	V479	F668	N643	H722	V800	M874	A958	A958	V1090	LEU
			L391	V479	F668	N643	H722	V800	M874	A958	A958	A1092	LEU
			L391	V479	F668	N643	H722	V800	M874	A958	A958	S1093	LEU

4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	18216	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION; Warp/Relion/M - CTF Refinement in M	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	104	Depositor
Minimum defocus (nm)	2500	Depositor
Maximum defocus (nm)	5000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	1.372	Depositor
Minimum map value	-0.388	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.045	Depositor
Recommended contour level	0.466	Depositor
Map size (Å)	775.68, 775.68, 775.68	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	3.03, 3.03, 3.03	Depositor

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	0.30	0/4423	0.60	0/5956
1	H	0.32	1/4423 (0.0%)	0.62	0/5956
2	B	0.28	0/3635	0.57	0/4918
2	J	0.28	0/3635	0.59	0/4918
3	C	0.28	0/5080	0.56	0/6863
3	K	0.27	0/5080	0.57	0/6863
4	D	0.29	0/1068	0.61	0/1441
4	N	0.29	0/1068	0.62	0/1441
5	E	0.26	0/4570	0.52	0/6180
5	O	0.25	0/4570	0.51	0/6180
6	F	0.29	0/2740	0.62	0/3688
6	P	0.29	0/2740	0.64	0/3688
7	G	0.30	0/1687	0.65	0/2257
7	Q	0.33	0/1687	0.66	0/2257
8	I	0.28	0/6147	0.57	0/8333
8	R	0.27	0/6147	0.58	0/8333
9	L	0.28	0/2504	0.63	0/3356
9	T	0.35	2/2504 (0.1%)	0.65	0/3356
10	M	0.25	0/1343	0.59	0/1804
10	U	0.27	0/1343	0.60	0/1804
11	W	0.42	1/922 (0.1%)	0.64	0/1226
11	Y	0.33	0/922	0.62	0/1226
12	X	0.32	0/857	0.66	0/1144
12	Z	0.32	0/857	0.65	0/1144
13	S	0.27	0/8979	0.55	0/12160
13	V	0.28	0/8979	0.55	0/12160
All	All	0.29	4/87910 (0.0%)	0.58	0/118652

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	W	56	ASP	C-N	8.35	1.53	1.34
9	T	72	VAL	C-N	6.69	1.49	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	T	268	GLU	C-N	-5.12	1.22	1.34
1	H	262	ILE	C-N	5.06	1.45	1.34

There are no bond angle outliers.

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	4337	0	4306	191	0
1	H	4337	0	4306	201	0
2	B	3553	0	3523	158	0
2	J	3553	0	3523	146	0
3	C	4978	0	4912	161	0
3	K	4978	0	4912	154	0
4	D	1045	0	1039	44	0
4	N	1045	0	1039	44	0
5	E	4465	0	4396	109	0
5	O	4465	0	4396	93	0
6	F	2701	0	2731	81	0
6	P	2701	0	2731	80	0
7	G	1674	0	1673	46	0
7	Q	1674	0	1673	52	0
8	I	6025	0	5988	279	0
8	R	6025	0	5988	255	0
9	L	2472	0	2484	109	0
9	T	2472	0	2484	100	0
10	M	1328	0	1322	50	0
10	U	1328	0	1322	50	0
11	W	919	0	936	67	0
11	Y	919	0	936	52	0
12	X	849	0	863	49	0
12	Z	849	0	863	40	0
13	S	8788	0	8605	238	0
13	V	8788	0	8605	287	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	86268	0	85556	2793	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 16.

All (2793) 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)
9:L:136:ILE:HG21	12:X:410:GLU:CD	1.18	1.45
9:L:136:ILE:CG2	12:X:410:GLU:CD	1.98	1.30
9:L:136:ILE:HG21	12:X:410:GLU:OE2	1.21	1.27
9:L:136:ILE:CG2	12:X:410:GLU:OE1	2.02	1.07
9:T:133:PRO:HA	9:T:136:ILE:HG22	1.32	1.06
2:J:110:GLY:HA3	2:J:188:PRO:HG3	1.39	1.03
2:B:110:GLY:HA3	2:B:188:PRO:HG3	1.43	1.00
9:L:136:ILE:CG2	12:X:410:GLU:OE2	2.04	0.99
11:W:117:GLU:HA	13:V:781:GLY:HA3	1.45	0.98
9:L:136:ILE:HG23	12:X:410:GLU:OE1	1.60	0.96
2:J:189:ALA:HB2	2:J:210:TRP:HD1	1.35	0.89
9:L:106:LYS:HA	11:W:56:ASP:CB	2.04	0.87
2:J:189:ALA:HB2	2:J:210:TRP:CD1	2.09	0.85
13:V:756:GLN:HA	13:V:780:GLY:HA2	1.58	0.84
1:A:449:TYR:CD1	1:A:458:ALA:HB2	2.12	0.84
8:I:688:ILE:HD12	13:V:662:ARG:HH22	1.41	0.83
2:B:189:ALA:HB2	2:B:210:TRP:HD1	1.41	0.83
13:V:847:ASP:HB2	13:V:860:ILE:HA	1.59	0.82
2:J:106:LEU:HB3	2:J:111:MET:HB2	1.62	0.81
11:W:117:GLU:CA	13:V:781:GLY:HA3	2.10	0.80
2:B:428:SER:H	4:D:254:PRO:HD2	1.45	0.80
13:V:668:VAL:O	13:V:672:GLN:HB2	1.81	0.80
2:B:106:LEU:HB3	2:B:111:MET:HB2	1.64	0.80
2:J:428:SER:H	4:N:254:PRO:HD2	1.46	0.80
2:B:189:ALA:HB2	2:B:210:TRP:CD1	2.16	0.80
6:P:199:ASP:HB2	6:P:203:TYR:HB2	1.63	0.79
2:J:273:PRO:HA	9:T:269:LEU:HD13	1.65	0.79
1:H:449:TYR:CD1	1:H:458:ALA:HB2	2.18	0.78
11:W:120:LEU:HB3	13:V:781:GLY:HA2	1.64	0.78
8:I:596:TRP:HE1	8:I:627:THR:HG1	1.29	0.78
9:L:106:LYS:HA	11:W:56:ASP:HB3	1.64	0.78
11:W:56:ASP:HA	11:W:59:VAL:HG22	1.63	0.77
5:E:1:MET:HB3	5:E:194:LEU:HD22	1.65	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:199:ASP:HB2	6:F:203:TYR:HB2	1.65	0.77
1:A:449:TYR:CE2	1:A:454:GLU:HG3	2.19	0.77
8:I:651:PRO:HB2	8:I:764:TYR:H	1.50	0.77
12:Z:406:SER:HB2	12:Z:409:ARG:HH21	1.50	0.76
1:H:449:TYR:CE2	1:H:454:GLU:HG3	2.20	0.76
10:M:360:MET:SD	10:M:364:ARG:NH1	2.58	0.76
5:E:224:ASN:HD21	5:E:259:LEU:HD11	1.50	0.76
5:O:224:ASN:HD21	5:O:259:LEU:HD11	1.51	0.76
9:L:106:LYS:HA	11:W:56:ASP:HB2	1.68	0.75
9:T:136:ILE:CG1	12:Z:410:GLU:HG3	2.16	0.75
1:A:388:MET:SD	1:A:410:LYS:NZ	2.60	0.75
10:U:360:MET:SD	10:U:364:ARG:NH1	2.60	0.75
13:V:787:ALA:O	13:V:791:MET:HB2	1.87	0.75
11:W:124:LYS:HD3	13:V:779:LYS:HG2	1.68	0.75
9:T:133:PRO:CA	9:T:136:ILE:HG22	2.16	0.75
9:T:136:ILE:HG12	12:Z:410:GLU:HG3	1.69	0.74
8:I:3:LEU:HB2	8:I:263:ILE:HG13	1.70	0.74
8:R:651:PRO:HG2	8:R:763:ARG:HE	1.52	0.74
1:A:263:MET:HG2	1:A:286:VAL:HG21	1.67	0.74
1:H:449:TYR:CE1	1:H:458:ALA:HB2	2.23	0.74
5:O:277:LEU:HD11	5:O:280:LEU:HB2	1.68	0.74
8:R:688:ILE:HG12	8:R:710:VAL:HA	1.70	0.74
13:V:758:GLU:CD	13:V:782:LEU:HB2	2.09	0.74
11:W:117:GLU:HA	13:V:781:GLY:CA	2.16	0.73
8:I:629:GLU:O	13:V:724:ARG:NH1	2.20	0.73
13:V:332:GLU:HG3	13:V:344:LYS:HB2	1.71	0.73
8:I:651:PRO:HG2	8:I:763:ARG:HE	1.52	0.73
3:K:23:LEU:HB3	3:K:29:PHE:HB3	1.71	0.72
13:S:413:MET:HB3	13:S:420:LEU:HD11	1.72	0.72
13:S:440:ASN:HB3	13:S:443:LEU:HD23	1.71	0.72
3:K:459:PHE:HA	3:K:462:GLN:HB2	1.71	0.72
6:P:286:ARG:HD2	7:Q:296:LEU:HB2	1.70	0.72
3:C:23:LEU:HB3	3:C:29:PHE:HB3	1.69	0.72
13:V:413:MET:HB3	13:V:420:LEU:HD11	1.72	0.72
4:D:242:ARG:HH22	4:D:246:ILE:HG12	1.52	0.72
6:P:249:GLN:O	6:P:253:GLN:HB2	1.89	0.72
8:I:688:ILE:O	13:V:665:HIS:NE2	2.23	0.72
10:M:452:ARG:HH22	10:M:455:ARG:HH11	1.35	0.72
13:V:990:LYS:HD3	13:V:993:GLU:HB2	1.72	0.71
13:S:990:LYS:HD3	13:S:993:GLU:HB2	1.72	0.71
5:E:80:TYR:O	5:E:84:LEU:HB2	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:S:413:MET:HG3	13:S:422:ILE:HG22	1.72	0.71
3:C:171:GLN:HG2	5:E:303:GLU:HB3	1.72	0.71
13:S:179:GLY:HA2	13:S:206:PRO:HD3	1.73	0.71
3:C:29:PHE:HB2	3:C:32:ALA:HB3	1.73	0.71
8:I:354:GLN:HA	8:I:370:ASP:HA	1.73	0.71
11:W:124:LYS:HG2	13:V:779:LYS:HA	1.73	0.71
3:C:163:ARG:NH2	3:C:190:THR:OG1	2.19	0.71
1:H:418:LYS:HG2	9:T:274:GLN:HE21	1.55	0.70
2:J:270:LYS:NZ	9:T:268:GLU:OE1	2.20	0.70
8:I:759:PRO:HA	8:I:762:LYS:HB2	1.74	0.70
1:A:581:LEU:O	1:A:585:HIS:ND1	2.25	0.70
13:S:410:ARG:HE	13:S:448:VAL:HB	1.56	0.69
13:V:413:MET:HG3	13:V:422:ILE:HG22	1.73	0.69
8:R:433:ASP:HB3	8:R:440:THR:HB	1.74	0.69
13:V:841:ALA:HB1	13:V:844:LYS:HB3	1.74	0.69
8:I:645:ARG:HG2	13:V:722:ASN:HA	1.73	0.69
8:R:152:VAL:HG21	8:R:193:ASP:HA	1.73	0.69
3:C:459:PHE:HA	3:C:462:GLN:HB2	1.74	0.69
1:A:456:ASP:OD1	1:A:460:LYS:NZ	2.24	0.69
11:W:81:GLU:HA	11:W:84:LYS:HE2	1.74	0.69
8:I:152:VAL:HG21	8:I:193:ASP:HA	1.73	0.69
11:W:94:LEU:HD13	12:X:471:LEU:HG	1.75	0.69
8:R:354:GLN:HA	8:R:370:ASP:HA	1.75	0.69
8:R:759:PRO:HA	8:R:762:LYS:HB2	1.75	0.69
1:H:472:ASN:O	1:H:474:ARG:NH1	2.26	0.69
5:O:275:GLN:HG3	5:O:276:VAL:HG23	1.74	0.69
1:A:449:TYR:CE1	1:A:458:ALA:HB2	2.28	0.69
9:L:18:TYR:HB3	9:L:45:ARG:HH11	1.58	0.69
1:H:581:LEU:O	1:H:585:HIS:ND1	2.26	0.68
8:R:235:TRP:HA	8:R:242:PHE:HA	1.75	0.68
2:B:273:PRO:O	9:L:269:LEU:HD13	1.94	0.68
8:I:642:HIS:HB3	13:V:694:GLN:HA	1.76	0.68
11:W:117:GLU:HB3	13:V:780:GLY:O	1.93	0.68
8:R:155:TYR:OH	8:R:413:ARG:NH2	2.26	0.68
8:R:651:PRO:HB2	8:R:764:TYR:H	1.58	0.68
13:S:412:CYS:HB3	13:S:423:VAL:HB	1.76	0.68
13:S:847:ASP:OD2	13:S:864:TRP:NE1	2.26	0.68
8:I:85:GLY:HA2	8:I:107:CYS:HB2	1.74	0.68
13:V:440:ASN:HB3	13:V:443:LEU:HD23	1.74	0.68
9:T:204:ARG:HE	10:U:378:ASN:HB3	1.58	0.68
13:V:6:PHE:HB3	13:V:317:MET:HG3	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:81:GLU:HA	3:K:84:LYS:HE2	1.76	0.68
13:V:503:HIS:HB3	13:V:515:LEU:HD11	1.76	0.68
1:H:642:GLU:HB3	1:H:645:TRP:HB3	1.76	0.68
6:P:305:MET:O	6:P:309:ARG:NH1	2.27	0.68
12:X:419:SER:HA	12:X:422:LEU:HD12	1.74	0.67
8:R:536:ASP:HA	8:R:665:ARG:HB2	1.76	0.67
13:V:410:ARG:HE	13:V:448:VAL:HB	1.60	0.67
2:B:381:ASN:HD21	4:D:234:ALA:H	1.40	0.67
3:K:616:ASP:HA	3:K:630:THR:HA	1.75	0.67
3:C:96:MET:HB3	3:C:99:GLU:HB2	1.75	0.67
13:V:224:VAL:HB	13:V:237:PHE:HB2	1.76	0.67
1:H:512:ASN:HA	1:H:515:LEU:HD12	1.76	0.67
8:I:235:TRP:HA	8:I:242:PHE:HA	1.75	0.67
8:I:679:LEU:HB2	8:I:758:ARG:HH22	1.60	0.67
13:V:412:CYS:HB3	13:V:423:VAL:HB	1.77	0.67
8:I:111:ARG:NH1	8:I:112:TRP:O	2.27	0.67
3:C:81:GLU:HA	3:C:84:LYS:HE2	1.75	0.67
3:K:29:PHE:HB2	3:K:32:ALA:HB3	1.75	0.67
13:V:443:LEU:HA	13:V:495:LEU:HD21	1.75	0.67
3:K:542:GLY:O	3:K:546:CYS:N	2.27	0.67
13:V:668:VAL:HA	13:V:691:MET:HE2	1.75	0.67
5:E:183:ASP:H	5:E:186:ARG:HB2	1.60	0.67
8:I:589:ASP:O	8:I:593:LYS:NZ	2.26	0.67
12:X:406:SER:HB2	12:X:409:ARG:HH21	1.59	0.67
4:N:221:TRP:O	4:N:225:ILE:HB	1.95	0.67
9:T:18:TYR:HB3	9:T:45:ARG:HH11	1.59	0.67
5:O:261:ARG:HE	5:O:264:LEU:HD21	1.60	0.67
10:U:411:ASN:HA	10:U:415:ALA:HB3	1.77	0.66
8:I:155:TYR:OH	8:I:413:ARG:NH2	2.28	0.66
8:I:386:LEU:HB2	8:I:424:LEU:HD22	1.76	0.66
13:S:841:ALA:HB1	13:S:844:LYS:HB3	1.77	0.66
1:H:279:ALA:HB3	1:H:302:CYS:SG	2.34	0.66
8:I:632:PHE:HB2	13:V:724:ARG:HH12	1.60	0.66
8:R:155:TYR:HB2	8:R:196:PRO:HB2	1.77	0.66
6:F:70:LYS:HG3	6:F:75:ARG:HH21	1.61	0.66
8:I:1:MET:O	8:I:261:SER:OG	2.14	0.66
13:V:757:GLU:HG3	13:V:779:LYS:HE2	1.76	0.66
1:A:544:ILE:HG21	1:A:566:LEU:HD22	1.76	0.66
8:R:85:GLY:HA2	8:R:107:CYS:HB2	1.76	0.66
4:D:249:LEU:HD23	4:D:251:GLN:HE21	1.61	0.66
13:S:874:MET:HA	13:S:877:ALA:HB3	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:T:193:ARG:HD3	10:U:371:THR:HA	1.77	0.66
12:Z:433:ILE:HG22	12:Z:437:ARG:HE	1.60	0.66
13:V:823:TYR:HB3	13:V:828:ARG:HB3	1.77	0.66
1:A:418:LYS:HG2	9:L:274:GLN:HE21	1.60	0.66
3:C:616:ASP:HA	3:C:630:THR:HA	1.76	0.66
5:O:114:ALA:O	5:O:123:GLN:NE2	2.29	0.66
1:A:508:GLU:HG2	2:B:283:LYS:HB3	1.76	0.66
1:A:294:GLN:NE2	2:B:301:ASP:OD1	2.29	0.66
2:B:390:GLU:HG3	2:B:391:TYR:HD1	1.60	0.66
8:I:697:LEU:HD11	8:I:729:ARG:HB3	1.78	0.66
8:R:3:LEU:HB2	8:R:263:ILE:HG13	1.77	0.66
13:V:652:TYR:HB3	13:V:663:PHE:HB3	1.77	0.66
1:A:202:SER:O	1:A:206:ASN:ND2	2.29	0.66
1:A:642:GLU:HB3	1:A:645:TRP:HB3	1.77	0.66
3:C:383:ARG:NH2	3:K:25:LYS:O	2.28	0.66
8:I:731:MET:HA	8:I:734:ASN:HB2	1.76	0.66
13:S:990:LYS:HB3	13:S:994:ALA:HB2	1.78	0.66
1:H:508:GLU:HG2	2:J:283:LYS:HB3	1.76	0.65
5:O:36:LYS:NZ	5:O:38:ASP:O	2.27	0.65
13:V:179:GLY:HA2	13:V:206:PRO:HD3	1.76	0.65
1:A:472:ASN:O	1:A:474:ARG:NH1	2.29	0.65
4:D:341:VAL:HB	4:D:344:LEU:HD12	1.79	0.65
11:W:61:ARG:HB3	12:X:440:TYR:HE2	1.61	0.65
2:J:133:LEU:HD22	2:J:176:VAL:HA	1.79	0.65
4:N:341:VAL:HB	4:N:344:LEU:HD12	1.78	0.65
11:Y:125:LEU:HD22	12:Z:502:LEU:HD13	1.79	0.65
1:H:456:ASP:OD1	1:H:460:LYS:NZ	2.29	0.65
13:V:990:LYS:HB3	13:V:994:ALA:HB2	1.79	0.65
8:I:524:LEU:HB3	8:I:547:LYS:HB3	1.79	0.65
1:H:170:ARG:HE	1:H:173:ASN:HB2	1.61	0.65
1:H:294:GLN:NE2	2:J:301:ASP:OD1	2.30	0.65
6:P:72:ILE:O	6:P:113:ARG:NH1	2.30	0.65
8:R:558:ILE:HA	8:R:568:VAL:HG12	1.79	0.65
2:B:65:LYS:HA	2:B:98:ALA:HB1	1.78	0.65
5:E:277:LEU:HD11	5:E:280:LEU:HB2	1.78	0.65
8:I:433:ASP:HB3	8:I:440:THR:HB	1.77	0.65
12:X:413:GLN:HB3	10:U:348:ARG:HD3	1.77	0.65
9:T:33:GLU:HB3	9:T:56:ILE:HG21	1.79	0.65
1:A:565:GLU:OE1	9:T:231:GLN:NE2	2.30	0.65
7:G:167:LYS:O	7:G:171:TYR:HB3	1.97	0.65
5:O:152:GLU:HA	5:O:155:LEU:HB2	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:R:111:ARG:NH1	8:R:112:TRP:O	2.29	0.65
1:A:641:GLN:NE2	1:A:642:GLU:OE2	2.30	0.64
5:E:94:PHE:HD1	5:E:113:GLN:HE21	1.43	0.64
8:I:601:ARG:NH2	13:V:754:THR:OG1	2.30	0.64
1:H:202:SER:O	1:H:206:ASN:ND2	2.29	0.64
11:Y:124:LYS:HG3	11:Y:125:LEU:HD12	1.77	0.64
5:E:114:ALA:O	5:E:123:GLN:NE2	2.30	0.64
8:I:693:TRP:HE3	13:V:662:ARG:HG3	1.63	0.64
8:R:282:GLN:HB2	8:R:336:ARG:HH22	1.63	0.64
10:U:309:HIS:HE1	11:Y:38:ILE:HG12	1.62	0.64
13:V:690:ALA:O	13:V:722:ASN:ND2	2.30	0.64
6:F:72:ILE:O	6:F:113:ARG:NH1	2.29	0.64
9:L:130:GLY:O	9:L:134:LYS:N	2.30	0.64
13:S:405:HIS:HB2	13:S:413:MET:HB2	1.79	0.64
6:P:210:LEU:HG	6:P:214:GLN:HE22	1.63	0.64
6:F:238:TYR:HE2	7:G:239:LEU:HB3	1.62	0.64
13:V:266:ASN:HA	13:V:291:PHE:HB3	1.80	0.64
8:R:576:VAL:HG22	11:Y:92:ARG:HH12	1.62	0.64
5:E:125:ARG:NE	5:E:152:GLU:OE1	2.30	0.64
8:I:711:LEU:HD12	8:I:733:MET:HG3	1.78	0.64
1:H:227:MET:SD	1:H:243:MET:SD	2.95	0.64
8:R:219:LEU:HD21	8:R:222:GLN:HB2	1.80	0.64
8:R:688:ILE:HG21	8:R:706:HIS:HE1	1.61	0.64
1:A:184:MET:HG2	1:A:216:ASN:HD21	1.63	0.64
3:C:299:ASN:O	3:C:303:GLN:NE2	2.31	0.64
6:F:181:GLU:OE2	6:F:182:ARG:NH1	2.31	0.64
9:L:193:ARG:HD3	10:M:371:THR:HA	1.80	0.64
9:L:293:ARG:HH22	9:L:294:LEU:HG	1.62	0.64
13:S:847:ASP:HB2	13:S:860:ILE:HA	1.79	0.64
13:S:995:GLU:HB2	13:S:1006:VAL:HG13	1.80	0.64
1:H:537:VAL:HG21	10:U:460:GLN:HG2	1.80	0.64
13:V:133:LEU:HB2	13:V:139:ARG:HH12	1.62	0.64
3:C:383:ARG:NH2	3:K:27:GLN:OE1	2.31	0.63
13:V:667:VAL:HG12	13:V:691:MET:HG2	1.80	0.63
1:A:512:ASN:HA	1:A:515:LEU:HD12	1.79	0.63
9:L:290:MET:HG2	9:L:293:ARG:HH21	1.64	0.63
13:S:1052:ARG:HH22	10:U:359:LEU:HG	1.63	0.63
4:N:273:LEU:HB3	4:N:277:THR:HB	1.81	0.63
8:I:713:TYR:HB3	13:V:665:HIS:HD2	1.62	0.63
1:H:231:HIS:CD2	1:H:243:MET:SD	2.91	0.63
8:R:357:VAL:HB	8:R:367:HIS:HB2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:689:LYS:HG3	13:V:666:LYS:HD3	1.81	0.63
2:J:419:ARG:HH11	4:N:344:LEU:HB3	1.63	0.63
6:P:315:THR:HA	6:P:318:HIS:CD2	2.33	0.63
8:R:679:LEU:HB2	8:R:758:ARG:HH22	1.62	0.63
9:T:130:GLY:O	9:T:134:LYS:N	2.32	0.63
9:T:133:PRO:HA	9:T:136:ILE:CG2	2.21	0.63
6:F:285:LYS:HD2	6:F:286:ARG:HH21	1.63	0.63
3:K:171:GLN:HG2	5:O:303:GLU:HB3	1.79	0.63
4:N:252:GLU:HG2	4:N:254:PRO:HD3	1.81	0.63
8:R:598:LYS:HE2	12:Z:496:ASP:HB3	1.79	0.63
8:I:598:LYS:HB2	12:X:499:LEU:HD23	1.81	0.63
13:S:811:ALA:O	13:S:838:ARG:NH1	2.31	0.63
1:H:447:PHE:CE2	2:J:286:LEU:HB2	2.33	0.63
2:J:343:LEU:HD21	3:K:317:LEU:HD21	1.80	0.63
6:P:70:LYS:HG3	6:P:75:ARG:HH21	1.63	0.63
8:I:536:ASP:HA	8:I:665:ARG:HB2	1.81	0.63
1:H:170:ARG:HD2	1:H:179:ILE:HG21	1.81	0.63
1:H:251:ILE:HG21	1:H:255:ALA:HB3	1.79	0.63
8:R:141:LEU:O	8:R:171:LYS:NZ	2.31	0.63
13:V:874:MET:HA	13:V:877:ALA:HB3	1.79	0.63
8:R:302:LEU:HD22	8:R:342:LEU:HD23	1.80	0.63
8:R:524:LEU:HB3	8:R:547:LYS:HB3	1.80	0.63
10:U:462:ALA:O	10:U:467:GLU:N	2.32	0.63
13:S:781:GLY:O	13:S:782:LEU:HD22	1.99	0.62
1:H:418:LYS:HD2	9:T:277:GLN:HE22	1.64	0.62
8:R:180:ASN:ND2	8:R:216:PHE:O	2.31	0.62
13:V:267:ARG:HD2	13:V:269:TYR:HE1	1.64	0.62
3:C:522:SER:O	3:C:525:GLN:NE2	2.32	0.62
8:I:756:SER:O	8:I:763:ARG:NH1	2.32	0.62
11:W:114:VAL:O	11:W:118:GLN:NE2	2.31	0.62
1:H:312:MET:HB3	1:H:373:ILE:HD11	1.81	0.62
1:H:485:GLU:OE1	1:H:486:ARG:NH1	2.33	0.62
9:T:259:PHE:HA	9:T:262:LEU:HD12	1.82	0.62
1:A:447:PHE:HB2	1:A:478:ASN:HD21	1.63	0.62
2:B:419:ARG:HH11	4:D:344:LEU:HB3	1.65	0.62
13:S:133:LEU:HB2	13:S:139:ARG:HH12	1.64	0.62
8:R:276:TRP:HA	8:R:283:LEU:HA	1.81	0.62
7:G:199:LEU:HD12	7:G:203:GLY:HA3	1.82	0.62
13:S:375:ALA:HB3	13:S:382:LEU:HB2	1.81	0.62
8:R:266:ASN:HA	11:Y:75:ARG:HH21	1.64	0.62
11:Y:94:LEU:HD13	12:Z:471:LEU:HG	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:210:LEU:HD11	7:G:218:LEU:HD21	1.80	0.62
8:I:714:ARG:HE	8:I:727:ILE:HD11	1.65	0.62
7:Q:199:LEU:HD12	7:Q:203:GLY:HA3	1.81	0.62
2:B:54:ARG:HE	2:B:79:PHE:HB2	1.64	0.62
2:J:189:ALA:HB1	2:J:209:VAL:O	2.00	0.62
4:N:321:GLU:O	4:N:325:ASP:N	2.30	0.62
8:R:379:LEU:HB2	8:R:386:LEU:HB3	1.79	0.62
13:V:896:ASP:OD1	13:V:921:ARG:NH1	2.32	0.62
5:E:151:ILE:HG12	5:E:177:LEU:HB3	1.80	0.62
6:F:196:LYS:NZ	7:G:203:GLY:O	2.33	0.62
10:M:411:ASN:HA	10:M:415:ALA:HB3	1.80	0.62
11:W:25:ASN:HA	11:W:28:LYS:HE2	1.81	0.62
13:S:503:HIS:HB3	13:S:515:LEU:HD11	1.79	0.62
5:E:26:LYS:HA	5:E:45:LEU:HB3	1.81	0.62
8:I:574:VAL:HG21	11:W:92:ARG:HD2	1.82	0.62
9:L:259:PHE:HA	9:L:262:LEU:HD12	1.82	0.62
11:W:56:ASP:OD1	11:W:57:GLN:N	2.33	0.62
3:K:247:ALA:HB2	3:K:263:LEU:HD21	1.82	0.62
3:K:502:THR:O	3:K:504:GLN:NE2	2.32	0.62
6:P:35:GLN:NE2	6:P:52:ASP:OD1	2.33	0.62
8:R:11:ASN:ND2	8:R:290:GLY:O	2.32	0.62
1:A:669:ILE:O	1:A:673:HIS:N	2.27	0.62
8:I:525:CYS:HA	8:I:546:THR:HA	1.81	0.62
10:M:462:ALA:O	10:M:467:GLU:N	2.33	0.62
13:S:443:LEU:HA	13:S:495:LEU:HD21	1.81	0.62
5:O:125:ARG:NE	5:O:152:GLU:OE1	2.31	0.62
3:C:134:GLN:HA	3:C:137:LYS:HE2	1.82	0.62
3:C:247:ALA:HB2	3:C:263:LEU:HD21	1.80	0.62
2:J:419:ARG:O	2:J:423:GLN:NE2	2.30	0.62
1:A:449:TYR:HD1	1:A:458:ALA:HB2	1.61	0.61
6:F:315:THR:HA	6:F:318:HIS:CD2	2.35	0.61
13:S:309:GLY:HA2	13:S:315:VAL:HA	1.81	0.61
1:H:447:PHE:HB2	1:H:478:ASN:HD21	1.65	0.61
1:A:625:TYR:HA	1:A:628:ALA:HB3	1.81	0.61
2:B:189:ALA:HB1	2:B:209:VAL:O	2.00	0.61
8:I:138:ARG:NH1	8:I:138:ARG:O	2.33	0.61
8:I:379:LEU:HB2	8:I:386:LEU:HB3	1.80	0.61
13:S:896:ASP:OD1	13:S:921:ARG:NH1	2.33	0.61
2:J:189:ALA:HB1	2:J:210:TRP:HA	1.82	0.61
2:B:419:ARG:O	2:B:423:GLN:NE2	2.32	0.61
2:B:434:THR:HG21	4:D:344:LEU:HD23	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:L:204:ARG:HE	10:M:378:ASN:HB3	1.66	0.61
13:S:697:LYS:HG3	13:S:698:GLN:HG2	1.83	0.61
3:K:134:GLN:HA	3:K:137:LYS:HE2	1.83	0.61
5:O:220:ALA:O	5:O:224:ASN:HB2	2.00	0.61
7:Q:183:LYS:O	7:Q:186:LYS:NZ	2.33	0.61
2:B:210:TRP:NE1	2:B:212:GLN:OE1	2.33	0.61
1:H:567:LEU:O	1:H:571:VAL:N	2.31	0.61
3:C:542:GLY:O	3:C:546:CYS:N	2.32	0.61
6:F:210:LEU:HG	6:F:214:GLN:HE22	1.64	0.61
8:I:339:LYS:HE3	8:I:377:LEU:HA	1.82	0.61
8:I:535:VAL:HG12	8:I:539:LEU:HD23	1.81	0.61
8:I:647:VAL:HG11	8:I:656:ARG:HA	1.82	0.61
2:J:65:LYS:HA	2:J:98:ALA:HB1	1.82	0.61
6:P:196:LYS:NZ	7:Q:203:GLY:O	2.33	0.61
8:R:309:VAL:HG12	8:R:319:VAL:HG22	1.82	0.61
9:L:213:ILE:HD13	9:L:216:LYS:HZ3	1.65	0.61
3:K:195:PRO:O	3:K:199:HIS:ND1	2.24	0.61
13:V:1077:TRP:HA	13:V:1081:LEU:HD23	1.83	0.61
2:B:90:MET:HB2	2:B:222:GLY:HA2	1.81	0.61
2:B:189:ALA:HB1	2:B:210:TRP:HA	1.83	0.61
13:S:823:TYR:HB3	13:S:828:ARG:HB3	1.82	0.61
3:K:455:VAL:HA	3:K:458:THR:HG22	1.83	0.61
8:R:470:ALA:H	8:R:509:TRP:HE1	1.48	0.61
8:R:535:VAL:HG12	8:R:539:LEU:HD23	1.82	0.61
8:R:711:LEU:HD12	8:R:733:MET:HG3	1.80	0.61
6:F:35:GLN:NE2	6:F:52:ASP:OD1	2.33	0.61
2:J:192:VAL:HG13	2:J:193:LEU:HG	1.82	0.61
6:P:70:LYS:HD2	6:P:75:ARG:HE	1.65	0.61
8:R:373:ASP:HB3	8:R:389:ASP:HB2	1.82	0.61
2:B:270:LYS:NZ	9:L:268:GLU:OE1	2.25	0.61
4:D:252:GLU:HG2	4:D:254:PRO:HD3	1.82	0.61
5:E:261:ARG:HE	5:E:264:LEU:HD21	1.66	0.61
8:I:711:LEU:HD22	8:I:739:VAL:HB	1.82	0.61
13:S:507:ARG:NH1	13:S:531:GLN:O	2.34	0.61
1:H:522:GLU:HB3	1:H:526:ALA:H	1.66	0.61
3:K:445:CYS:SG	3:K:446:SER:N	2.73	0.61
1:A:463:GLU:HB3	1:A:467:LYS:HZ3	1.65	0.60
8:I:141:LEU:O	8:I:171:LYS:NZ	2.32	0.60
13:V:375:ALA:HB3	13:V:382:LEU:HB2	1.83	0.60
13:V:758:GLU:HB2	13:V:780:GLY:HA3	1.83	0.60
1:A:522:GLU:HB3	1:A:526:ALA:H	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:11:ILE:HD12	2:B:34:LEU:HD21	1.82	0.60
3:C:455:VAL:HA	3:C:458:THR:HG22	1.82	0.60
6:F:6:TYR:HB2	7:G:334:THR:HG21	1.83	0.60
13:S:926:TYR:HA	13:S:929:THR:HG22	1.83	0.60
1:A:231:HIS:CD2	1:A:243:MET:SD	2.94	0.60
11:Y:61:ARG:HB3	12:Z:440:TYR:HE2	1.66	0.60
13:V:668:VAL:O	13:V:672:GLN:CB	2.48	0.60
8:I:155:TYR:HB2	8:I:196:PRO:HB2	1.83	0.60
1:H:296:GLY:HA2	1:H:299:LEU:HD12	1.84	0.60
2:J:90:MET:HB2	2:J:222:GLY:HA2	1.82	0.60
13:V:737:HIS:NE2	13:V:747:TYR:OH	2.33	0.60
5:O:26:LYS:HA	5:O:45:LEU:HB3	1.81	0.60
8:R:386:LEU:HB2	8:R:424:LEU:HD22	1.82	0.60
12:X:433:ILE:HG22	12:X:437:ARG:HE	1.67	0.60
8:R:498:ALA:HB1	8:R:533:VAL:HG21	1.83	0.60
13:V:550:LEU:HB2	13:V:565:PHE:HB3	1.83	0.60
8:I:282:GLN:HB2	8:I:336:ARG:HH22	1.67	0.60
9:L:136:ILE:HD11	12:X:409:ARG:HH22	1.66	0.60
8:R:1:MET:O	8:R:261:SER:OG	2.15	0.60
8:R:756:SER:O	8:R:763:ARG:NH1	2.35	0.60
13:V:405:HIS:HB2	13:V:413:MET:HB2	1.83	0.60
1:A:181:LEU:HA	1:A:184:MET:HG3	1.83	0.60
3:C:220:THR:O	3:C:264:THR:OG1	2.19	0.60
2:J:426:MET:HB2	4:N:255:PRO:HA	1.83	0.60
3:C:60:THR:HG23	3:C:62:GLN:H	1.67	0.60
8:I:498:ALA:HB1	8:I:533:VAL:HG21	1.84	0.60
1:H:651:SER:O	1:H:654:ARG:NH1	2.35	0.60
1:H:663:LEU:HD23	1:H:667:LYS:HE2	1.83	0.60
5:O:37:ARG:HE	5:O:69:HIS:HB2	1.66	0.60
2:B:451:GLN:NE2	4:D:312:PRO:O	2.34	0.60
8:I:481:ILE:HG23	8:I:485:ARG:HA	1.84	0.60
13:S:613:GLU:OE1	13:S:650:ARG:NH1	2.34	0.60
2:J:354:GLU:OE2	3:K:89:GLN:NE2	2.35	0.60
3:K:310:GLU:O	3:K:314:ASN:ND2	2.35	0.60
3:K:522:SER:O	3:K:525:GLN:NE2	2.35	0.60
5:O:132:GLN:HB2	5:O:160:ILE:HD11	1.83	0.60
8:I:211:LYS:HG2	8:I:222:GLN:HA	1.83	0.59
13:S:408:ASN:HB2	13:S:411:VAL:HG22	1.83	0.59
5:O:25:PRO:O	5:O:49:ARG:NH1	2.34	0.59
9:T:104:LEU:HA	9:T:106:LYS:HG2	1.84	0.59
9:T:213:ILE:HD13	9:T:216:LYS:HZ3	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:309:GLY:HA2	13:V:315:VAL:HA	1.83	0.59
13:V:776:LEU:HD23	13:V:779:LYS:HD3	1.84	0.59
13:V:912:PRO:HB3	13:V:919:PHE:HE2	1.67	0.59
1:A:283:PHE:HA	1:A:286:VAL:HG22	1.85	0.59
8:I:357:VAL:HB	8:I:367:HIS:HB2	1.84	0.59
9:L:53:ALA:HB3	9:L:62:ARG:HH12	1.68	0.59
12:X:491:GLN:HG2	12:X:494:ARG:HH21	1.67	0.59
13:S:889:LYS:HA	13:S:892:LYS:HE2	1.84	0.59
12:Z:409:ARG:NH1	12:Z:410:GLU:OE1	2.35	0.59
13:V:790:VAL:HG23	13:V:791:MET:HG3	1.84	0.59
1:A:230:ILE:O	1:A:234:GLN:NE2	2.35	0.59
2:B:422:ALA:HB1	2:B:425:LYS:HE2	1.84	0.59
10:M:312:GLU:O	10:M:316:HIS:ND1	2.29	0.59
10:M:384:VAL:O	10:M:388:ASN:ND2	2.35	0.59
13:S:720:GLN:O	13:S:725:TRP:NE1	2.35	0.59
3:K:249:ILE:O	3:K:252:THR:OG1	2.20	0.59
1:A:300:VAL:HA	1:A:303:ASN:HD22	1.68	0.59
1:A:418:LYS:HD2	9:L:277:GLN:HE22	1.67	0.59
11:W:34:THR:HA	11:W:37:PHE:CE2	2.37	0.59
13:S:445:SER:HB2	13:S:495:LEU:O	2.03	0.59
13:S:848:LEU:HD23	13:S:860:ILE:HD11	1.83	0.59
4:N:318:MET:SD	4:N:322:ASN:ND2	2.76	0.59
2:B:10:ARG:HG2	2:B:39:ARG:HD2	1.84	0.59
6:F:321:ILE:HD11	7:G:330:LYS:HB2	1.85	0.59
8:I:699:LEU:O	8:I:703:HIS:HB2	2.03	0.59
9:L:133:PRO:HA	9:L:136:ILE:HB	1.83	0.59
13:S:550:LEU:HB2	13:S:565:PHE:HB3	1.85	0.59
1:H:230:ILE:O	1:H:234:GLN:NE2	2.36	0.59
2:J:451:GLN:NE2	4:N:312:PRO:O	2.35	0.59
8:R:339:LYS:HE3	8:R:377:LEU:HA	1.83	0.59
8:R:485:ARG:O	8:R:504:CYS:N	2.33	0.59
10:U:312:GLU:O	10:U:316:HIS:ND1	2.29	0.59
1:A:485:GLU:OE1	1:A:486:ARG:NH1	2.36	0.59
3:C:557:ARG:HA	3:C:560:LYS:HG3	1.83	0.59
2:J:282:LEU:O	10:U:453:ASN:ND2	2.35	0.59
2:B:190:VAL:HG13	2:B:261:ALA:HB2	1.84	0.59
3:C:163:ARG:HH22	3:C:190:THR:HG1	1.47	0.59
8:I:316:ARG:NH1	8:I:330:LEU:O	2.36	0.59
8:R:597:ASP:HB2	12:Z:503:LEU:HD12	1.83	0.59
13:V:371:ARG:NH1	13:V:385:ASP:OD2	2.36	0.59
13:V:861:GLU:OE1	13:V:880:HIS:ND1	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:354:GLU:OE2	3:C:89:GLN:NE2	2.35	0.59
8:I:729:ARG:NH1	8:I:733:MET:SD	2.76	0.59
13:S:371:ARG:NH1	13:S:385:ASP:OD2	2.36	0.59
2:J:10:ARG:HG2	2:J:39:ARG:HD2	1.84	0.59
2:J:276:ALA:O	2:J:281:LYS:NZ	2.36	0.59
3:K:476:VAL:HA	3:K:479:LYS:HG2	1.84	0.59
1:A:170:ARG:HE	1:A:173:ASN:HB2	1.68	0.59
1:A:542:GLU:OE2	1:A:546:GLN:NE2	2.36	0.59
7:G:183:LYS:O	7:G:186:LYS:NZ	2.35	0.59
8:I:319:VAL:O	8:I:328:ASP:N	2.36	0.59
13:S:737:HIS:NE2	13:S:747:TYR:OH	2.34	0.59
3:K:195:PRO:HA	3:K:198:LYS:HG2	1.84	0.59
9:T:107:ALA:HB1	9:T:110:LYS:HB2	1.84	0.59
9:T:284:GLU:OE1	9:T:288:LYS:NZ	2.35	0.59
8:I:629:GLU:OE2	13:V:724:ARG:NH2	2.35	0.59
8:I:668:GLU:O	8:I:672:SER:HB3	2.03	0.59
13:S:846:ILE:HA	13:S:849:ALA:HB2	1.84	0.59
5:O:81:LYS:NZ	5:O:113:GLN:OE1	2.27	0.59
8:R:525:CYS:HA	8:R:546:THR:HA	1.84	0.59
13:S:788:GLN:O	13:S:792:SER:OG	2.15	0.58
8:R:574:VAL:HG21	11:Y:92:ARG:HD2	1.84	0.58
2:B:121:THR:O	9:L:258:ARG:NH2	2.36	0.58
13:S:137:LYS:O	13:S:139:ARG:NH1	2.37	0.58
1:H:355:MET:SD	1:H:356:ARG:NH1	2.76	0.58
3:K:243:PHE:HD1	3:K:246:LYS:HZ3	1.52	0.58
8:R:35:GLN:OE1	8:R:57:PHE:N	2.30	0.58
13:V:995:GLU:HB2	13:V:1006:VAL:HG13	1.85	0.58
5:E:37:ARG:HE	5:E:69:HIS:HB2	1.68	0.58
8:I:63:TYR:HB3	8:I:75:THR:HA	1.84	0.58
8:I:243:ALA:HB2	8:I:276:TRP:HE1	1.68	0.58
13:S:639:ALA:HB1	13:S:648:ALA:HA	1.86	0.58
2:J:54:ARG:HE	2:J:79:PHE:HB2	1.68	0.58
2:J:182:THR:HG22	2:J:206:VAL:HG12	1.84	0.58
8:R:129:LYS:HB3	8:R:137:LEU:HD11	1.84	0.58
8:R:379:LEU:HD12	8:R:386:LEU:HD22	1.84	0.58
13:V:507:ARG:NH1	13:V:531:GLN:O	2.35	0.58
5:E:39:TYR:O	5:E:43:ILE:N	2.31	0.58
7:G:320:GLN:OE1	7:G:324:ARG:NH1	2.36	0.58
10:M:441:VAL:HA	10:M:444:HIS:CD2	2.38	0.58
13:S:690:ALA:O	13:S:722:ASN:ND2	2.33	0.58
8:R:643:PHE:HE2	8:R:663:TYR:HB3	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:U:379:ARG:NH1	10:U:382:GLU:OE1	2.37	0.58
1:A:663:LEU:HD23	1:A:667:LYS:HE2	1.85	0.58
1:A:678:GLU:HA	1:A:681:ARG:HE	1.68	0.58
8:I:270:SER:O	8:I:288:GLY:N	2.35	0.58
8:I:276:TRP:HA	8:I:283:LEU:HA	1.85	0.58
8:I:576:VAL:HG22	11:W:92:ARG:HH12	1.67	0.58
2:B:426:MET:HB2	4:D:255:PRO:HA	1.85	0.58
3:C:249:ILE:O	3:C:252:THR:OG1	2.21	0.58
8:R:688:ILE:HG21	8:R:706:HIS:CE1	2.38	0.58
9:T:228:SER:OG	10:U:404:MET:SD	2.55	0.58
8:I:379:LEU:HD12	8:I:386:LEU:HD22	1.83	0.58
2:J:190:VAL:HG13	2:J:261:ALA:HB2	1.85	0.58
8:R:270:SER:O	8:R:288:GLY:N	2.36	0.58
13:S:224:VAL:HB	13:S:237:PHE:HB2	1.85	0.58
13:V:821:GLU:O	13:V:825:HIS:ND1	2.28	0.58
13:V:926:TYR:HA	13:V:929:THR:HG22	1.85	0.58
1:A:257:GLU:HB3	3:C:646:ARG:HH22	1.67	0.58
8:I:597:ASP:HB2	12:X:503:LEU:HD12	1.86	0.58
1:H:483:LEU:HA	1:H:486:ARG:HB2	1.86	0.58
2:J:69:THR:HG23	2:J:71:PRO:HD2	1.86	0.58
8:R:138:ARG:NH1	8:R:138:ARG:O	2.37	0.58
8:R:316:ARG:NH1	8:R:330:LEU:O	2.37	0.58
1:A:659:LEU:HA	1:A:662:ALA:HB3	1.85	0.58
8:I:180:ASN:ND2	8:I:216:PHE:O	2.36	0.58
9:L:193:ARG:HH11	10:M:371:THR:HG23	1.69	0.58
1:H:268:LEU:HD22	2:J:304:LEU:HD21	1.86	0.58
9:T:59:GLU:OE1	9:T:87:TYR:OH	2.21	0.58
11:Y:118:GLN:O	11:Y:122:ILE:HG13	2.03	0.58
2:B:192:VAL:HG13	2:B:193:LEU:HG	1.84	0.57
6:F:13:LEU:O	6:F:17:SER:N	2.36	0.57
6:F:70:LYS:HD2	6:F:75:ARG:HE	1.68	0.57
13:S:266:ASN:HA	13:S:291:PHE:HB3	1.85	0.57
13:S:916:MET:HB3	13:S:920:ARG:HH12	1.69	0.57
1:H:625:TYR:HA	1:H:628:ALA:HB3	1.86	0.57
3:C:468:GLU:OE1	3:C:471:ARG:NH1	2.37	0.57
6:F:117:GLY:HA2	6:F:120:LEU:HB2	1.86	0.57
2:J:424:TYR:HA	4:N:255:PRO:HD3	1.86	0.57
6:P:117:GLY:HA2	6:P:120:LEU:HB2	1.86	0.57
8:R:533:VAL:HG23	8:R:537:LYS:HD3	1.86	0.57
2:B:11:ILE:HG12	2:B:58:ILE:HD12	1.87	0.57
2:B:141:ARG:HH22	2:B:151:LEU:HD21	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:S:846:ILE:HB	13:S:863:GLU:HG3	1.85	0.57
1:H:669:ILE:O	1:H:673:HIS:N	2.24	0.57
3:K:23:LEU:O	3:K:27:GLN:N	2.35	0.57
13:V:550:LEU:HD21	13:V:571:VAL:HG21	1.86	0.57
11:W:103:ARG:NH1	11:W:107:GLU:OE1	2.37	0.57
13:S:618:THR:HG23	13:S:619:LEU:HD12	1.86	0.57
1:H:277:PRO:HG3	1:H:303:ASN:HD22	1.69	0.57
1:H:592:ALA:O	1:H:596:HIS:HB2	2.04	0.57
2:J:210:TRP:NE1	2:J:212:GLN:OE1	2.37	0.57
9:T:53:ALA:HB3	9:T:62:ARG:HH12	1.70	0.57
2:B:273:PRO:HA	9:L:269:LEU:HD22	1.86	0.57
3:C:243:PHE:HD1	3:C:246:LYS:HZ3	1.52	0.57
3:C:604:MET:HA	3:C:639:LYS:HZ1	1.70	0.57
7:G:168:GLN:O	7:G:172:ASN:ND2	2.38	0.57
13:S:454:ILE:HD13	13:S:610:GLN:HB3	1.85	0.57
13:S:933:GLU:OE1	13:S:937:ARG:NH1	2.38	0.57
3:K:510:GLU:HA	3:K:513:ARG:HB2	1.86	0.57
10:U:357:GLU:OE2	10:U:361:GLN:NE2	2.37	0.57
10:U:441:VAL:HA	10:U:444:HIS:CD2	2.39	0.57
13:V:683:THR:O	13:V:689:ARG:NH2	2.38	0.57
6:F:249:GLN:O	6:F:253:GLN:HB2	2.04	0.57
10:M:346:GLN:HB2	10:M:350:LYS:HB2	1.87	0.57
13:S:141:GLY:HA2	13:S:148:SER:HA	1.85	0.57
13:S:719:TYR:HB2	13:S:728:ALA:HB2	1.87	0.57
1:H:239:SER:O	1:H:243:MET:HG3	2.04	0.57
3:K:320:CYS:HA	3:K:327:TYR:HE1	1.69	0.57
8:R:428:THR:HG23	8:R:467:LEU:HD13	1.86	0.57
9:T:193:ARG:HH11	10:U:371:THR:HG23	1.69	0.57
6:F:305:MET:O	6:F:309:ARG:NH1	2.37	0.57
13:S:861:GLU:OE1	13:S:880:HIS:ND1	2.37	0.57
3:K:463:ASP:HA	3:K:466:TYR:HE1	1.70	0.57
11:Y:108:GLU:HG3	12:Z:488:MET:HG3	1.86	0.57
13:V:180:ALA:HA	13:V:198:GLN:HE22	1.69	0.57
13:V:945:ALA:HB1	13:V:964:VAL:HB	1.86	0.57
3:C:502:THR:O	3:C:504:GLN:NE2	2.38	0.57
4:D:221:TRP:O	4:D:225:ILE:HB	2.04	0.57
7:G:167:LYS:O	7:G:171:TYR:CB	2.52	0.57
1:H:166:LEU:HD22	1:H:183:LEU:HD12	1.86	0.57
8:R:647:VAL:HG11	8:R:656:ARG:HA	1.87	0.57
9:T:290:MET:HG2	9:T:293:ARG:HH21	1.70	0.57
13:V:933:GLU:OE1	13:V:937:ARG:NH1	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:355:MET:SD	1:A:356:ARG:NH1	2.78	0.57
3:K:493:ALA:HB2	3:K:537:ILE:HA	1.87	0.57
11:Y:121:MET:SD	12:Z:499:LEU:HD13	2.44	0.57
3:C:38:TYR:O	3:C:42:ASN:ND2	2.38	0.57
3:C:607:LEU:HD22	3:C:639:LYS:HZ3	1.70	0.57
8:I:35:GLN:OE1	8:I:57:PHE:N	2.32	0.57
8:I:129:LYS:HB3	8:I:137:LEU:HD11	1.86	0.57
8:I:536:ASP:HB2	8:I:664:ARG:HG2	1.86	0.57
8:I:537:LYS:HD2	8:I:540:LEU:HD13	1.86	0.57
9:L:228:SER:OG	10:M:404:MET:SD	2.59	0.57
1:H:530:PHE:HA	1:H:533:LEU:HB2	1.87	0.57
6:P:13:LEU:O	6:P:17:SER:N	2.36	0.57
9:T:293:ARG:NH1	9:T:297:GLU:OE1	2.37	0.57
13:V:612:TYR:HE2	13:V:638:GLN:HB3	1.70	0.57
1:A:166:LEU:HD21	1:A:179:ILE:HB	1.87	0.56
2:B:69:THR:HG23	2:B:71:PRO:HD2	1.87	0.56
3:C:320:CYS:HA	3:C:327:TYR:HE1	1.70	0.56
5:E:152:GLU:HA	5:E:155:LEU:HB2	1.86	0.56
1:H:148:ASP:H	1:H:197:MET:HG3	1.69	0.56
2:J:121:THR:O	9:T:258:ARG:NH2	2.38	0.56
2:J:324:VAL:HG11	3:K:582:LEU:HD12	1.86	0.56
9:T:56:ILE:HG13	9:T:62:ARG:HH21	1.70	0.56
11:Y:121:MET:HA	11:Y:124:LYS:HG2	1.87	0.56
1:A:210:ALA:HA	1:A:213:ARG:HG2	1.85	0.56
1:A:449:TYR:CD2	1:A:454:GLU:HG3	2.40	0.56
3:C:23:LEU:O	3:C:27:GLN:N	2.36	0.56
3:C:604:MET:HG3	3:C:639:LYS:HZ2	1.69	0.56
8:I:381:ALA:O	8:I:399:TYR:OH	2.22	0.56
8:I:543:THR:HA	8:I:610:THR:HG23	1.87	0.56
13:S:549:ASN:ND2	13:S:564:MET:SD	2.78	0.56
2:J:11:ILE:HG12	2:J:58:ILE:HD12	1.87	0.56
2:J:412:HIS:O	2:J:416:GLU:N	2.38	0.56
6:P:325:GLN:HA	6:P:328:LYS:HG2	1.86	0.56
11:Y:79:LEU:O	12:Z:461:GLN:NE2	2.37	0.56
1:A:531:LYS:HD3	1:A:547:ILE:HD12	1.87	0.56
2:B:276:ALA:O	2:B:281:LYS:NZ	2.37	0.56
8:I:323:LEU:HD22	12:X:479:LYS:HZ1	1.70	0.56
13:S:142:MET:SD	13:S:144:LYS:NZ	2.78	0.56
13:S:380:THR:HA	13:S:395:PRO:HA	1.87	0.56
13:S:912:PRO:HB3	13:S:919:PHE:HE2	1.70	0.56
2:J:204:ARG:HD2	2:J:205:PRO:HD2	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:434:THR:HG21	4:N:344:LEU:HD23	1.86	0.56
3:K:607:LEU:HD21	3:K:638:LEU:HB3	1.88	0.56
5:O:132:GLN:HA	5:O:140:LEU:HD11	1.87	0.56
6:P:6:TYR:HB2	7:Q:334:THR:HG21	1.87	0.56
8:R:33:ASP:OD1	9:T:7:ARG:NH2	2.27	0.56
8:R:306:LYS:HG3	8:R:307:MET:HE3	1.86	0.56
13:V:445:SER:HB2	13:V:495:LEU:O	2.05	0.56
13:V:663:PHE:HE2	13:V:696:ASN:HD21	1.52	0.56
1:A:474:ARG:HA	2:B:285:CYS:HB2	1.86	0.56
2:B:189:ALA:CB	2:B:210:TRP:HA	2.34	0.56
3:C:64:ASP:OD1	3:C:65:MET:N	2.38	0.56
3:C:169:ALA:O	3:C:173:LEU:CB	2.54	0.56
8:I:493:MET:N	8:I:493:MET:SD	2.79	0.56
10:M:458:GLN:NE2	10:M:468:GLU:OE2	2.38	0.56
8:R:468:SER:HB2	8:R:476:ARG:HA	1.86	0.56
13:V:408:ASN:HB2	13:V:411:VAL:HG22	1.87	0.56
3:C:36:LEU:HB3	3:C:53:LEU:HD11	1.87	0.56
3:C:269:ARG:NH2	3:C:273:GLU:O	2.38	0.56
8:I:219:LEU:HD21	8:I:222:GLN:HB2	1.87	0.56
10:M:379:ARG:NH1	10:M:382:GLU:OE1	2.39	0.56
13:S:901:ALA:HA	13:S:904:ALA:HB3	1.86	0.56
8:R:89:ILE:HD13	8:R:98:LYS:HB2	1.88	0.56
3:C:618:ARG:NH1	3:C:619:VAL:O	2.38	0.56
3:C:628:SER:OG	3:C:629:ARG:N	2.39	0.56
8:I:533:VAL:HG23	8:I:537:LYS:HD3	1.87	0.56
1:H:304:TYR:C	1:H:306:LEU:H	2.09	0.56
5:O:198:LYS:HG3	5:O:232:ARG:HH12	1.70	0.56
8:R:32:SER:OG	8:R:33:ASP:N	2.39	0.56
8:R:441:VAL:N	8:R:456:TRP:O	2.37	0.56
11:Y:59:VAL:HA	11:Y:62:LEU:HD12	1.87	0.56
4:D:304:LEU:O	4:D:308:PHE:HB2	2.05	0.56
4:D:321:GLU:O	4:D:325:ASP:N	2.33	0.56
10:M:357:GLU:OE2	10:M:361:GLN:NE2	2.39	0.56
8:R:699:LEU:O	8:R:703:HIS:HB2	2.05	0.56
11:Y:34:THR:HA	11:Y:37:PHE:CE2	2.40	0.56
13:V:139:ARG:HA	13:V:150:THR:HA	1.87	0.56
13:V:187:PRO:HD3	13:V:194:PRO:HB3	1.87	0.56
2:B:204:ARG:HD2	2:B:205:PRO:HD2	1.87	0.56
8:I:651:PRO:O	8:I:763:ARG:NH2	2.39	0.56
9:L:293:ARG:NH1	9:L:297:GLU:OE1	2.38	0.56
2:J:135:SER:HA	2:J:174:GLU:HA	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:318:LEU:HA	2:J:321:LYS:HG2	1.87	0.56
5:O:151:ILE:HG12	5:O:177:LEU:HB3	1.87	0.56
8:I:11:ASN:ND2	8:I:290:GLY:O	2.39	0.56
8:I:525:CYS:SG	8:I:544:ARG:NH2	2.79	0.56
2:J:106:LEU:O	2:J:110:GLY:N	2.38	0.56
8:R:7:GLN:HE22	8:R:9:SER:HB2	1.71	0.56
8:R:23:ASN:ND2	8:R:75:THR:O	2.39	0.56
8:R:668:GLU:O	8:R:672:SER:HB3	2.06	0.56
1:A:268:LEU:HD22	2:B:304:LEU:HD21	1.87	0.56
3:C:385:THR:HA	3:C:388:ILE:HD12	1.88	0.56
5:E:198:LYS:HG3	5:E:232:ARG:HH12	1.69	0.56
8:I:265:LEU:O	11:W:75:ARG:NH2	2.38	0.56
8:I:266:ASN:HA	11:W:75:ARG:HH21	1.70	0.56
9:L:71:GLN:OE1	9:L:80:LYS:NZ	2.40	0.56
13:S:904:ALA:HB1	13:S:922:ILE:HG21	1.88	0.56
8:R:69:LYS:NZ	8:R:155:TYR:OH	2.39	0.56
8:R:138:ARG:HH22	13:V:435:ARG:HD2	1.71	0.56
8:R:587:LEU:HD23	8:R:614:THR:HG23	1.87	0.56
10:U:452:ARG:HH12	10:U:455:ARG:HH21	1.53	0.56
8:I:149:TYR:H	8:I:163:CYS:HB2	1.71	0.55
9:L:56:ILE:HG13	9:L:62:ARG:HH21	1.71	0.55
11:W:122:ILE:HD11	12:X:495:ASN:HA	1.88	0.55
8:R:487:LEU:N	8:R:501:ALA:O	2.38	0.55
3:C:401:LYS:O	3:C:405:ASN:ND2	2.39	0.55
3:C:425:TYR:O	3:C:430:LEU:N	2.35	0.55
13:S:139:ARG:HA	13:S:150:THR:HA	1.88	0.55
13:S:180:ALA:HA	13:S:198:GLN:HE22	1.71	0.55
2:J:370:ALA:O	2:J:375:ARG:NH2	2.39	0.55
3:K:63:TYR:HA	3:K:66:ALA:HB3	1.87	0.55
8:R:429:ILE:HB	8:R:444:PHE:HB2	1.87	0.55
8:R:481:ILE:HG23	8:R:485:ARG:HA	1.87	0.55
10:U:389:GLN:HA	10:U:392:HIS:CE1	2.40	0.55
13:V:697:LYS:HG3	13:V:698:GLN:HG2	1.88	0.55
1:A:565:GLU:O	9:T:231:GLN:NE2	2.39	0.55
2:B:103:ASN:HA	2:B:106:LEU:HB2	1.89	0.55
2:B:135:SER:HA	2:B:174:GLU:HA	1.88	0.55
5:E:60:LEU:HD11	5:E:83:LEU:HD13	1.88	0.55
8:I:23:ASN:ND2	8:I:75:THR:O	2.39	0.55
8:I:379:LEU:HD11	8:I:422:ILE:HG23	1.88	0.55
11:W:49:ASP:HA	11:W:52:VAL:HG22	1.89	0.55
13:S:945:ALA:HB1	13:S:964:VAL:HB	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:220:THR:O	3:K:264:THR:OG1	2.24	0.55
7:Q:168:GLN:O	7:Q:172:ASN:ND2	2.39	0.55
10:U:384:VAL:O	10:U:388:ASN:ND2	2.40	0.55
11:Y:49:ASP:HA	11:Y:52:VAL:HG22	1.88	0.55
1:A:530:PHE:HA	1:A:533:LEU:HB2	1.89	0.55
2:B:60:VAL:HG12	2:B:87:LEU:HB3	1.87	0.55
3:C:364:GLU:OE2	3:C:368:ARG:NH2	2.39	0.55
4:D:282:VAL:HG23	4:D:286:LEU:HD12	1.87	0.55
8:I:32:SER:OG	8:I:33:ASP:N	2.40	0.55
13:S:347:LYS:HG3	13:S:348:THR:HG23	1.87	0.55
8:R:700:ALA:HA	8:R:703:HIS:HB3	1.89	0.55
2:B:324:VAL:HG11	3:C:582:LEU:HD12	1.89	0.55
3:C:480:ASN:HD21	3:C:483:ASN:HB3	1.72	0.55
8:I:468:SER:HB2	8:I:476:ARG:HA	1.88	0.55
8:I:525:CYS:HB2	8:I:544:ARG:HE	1.70	0.55
13:S:554:TYR:HE1	13:S:596:LEU:HD21	1.71	0.55
13:S:874:MET:HB3	13:S:898:ARG:HD2	1.88	0.55
2:B:30:LEU:HA	2:B:33:ARG:HG2	1.87	0.55
3:K:628:SER:OG	3:K:629:ARG:N	2.39	0.55
10:U:346:GLN:HB2	10:U:350:LYS:HB2	1.89	0.55
1:A:584:ILE:HG23	1:A:587:ARG:HH21	1.72	0.55
1:A:632:PHE:O	1:A:645:TRP:NE1	2.37	0.55
3:C:219:ASN:HA	3:C:265:ASP:HA	1.88	0.55
9:L:5:GLU:HG2	9:L:94:VAL:HG21	1.87	0.55
1:H:641:GLN:NE2	1:H:642:GLU:OE2	2.40	0.55
2:J:30:LEU:HA	2:J:33:ARG:HG2	1.88	0.55
2:J:110:GLY:CA	2:J:188:PRO:HG3	2.25	0.55
2:J:268:ASP:OD1	9:T:272:TYR:OH	2.15	0.55
13:V:618:THR:HG23	13:V:619:LEU:HD12	1.88	0.55
13:S:652:TYR:HB3	13:S:663:PHE:HB3	1.87	0.55
2:J:186:GLN:O	2:J:188:PRO:HD2	2.07	0.55
3:K:38:TYR:O	3:K:42:ASN:ND2	2.40	0.55
7:Q:192:LEU:O	7:Q:196:ASN:HB2	2.05	0.55
7:Q:298:LYS:HA	7:Q:301:GLN:HG3	1.89	0.55
8:R:2:ARG:NE	8:R:261:SER:OG	2.36	0.55
13:V:549:ASN:ND2	13:V:564:MET:SD	2.80	0.55
13:V:716:ILE:HA	13:V:728:ALA:HB1	1.89	0.55
1:A:447:PHE:CE2	2:B:286:LEU:HB2	2.42	0.55
2:B:106:LEU:O	2:B:110:GLY:N	2.40	0.55
8:I:664:ARG:HH21	8:I:667:PRO:HA	1.72	0.55
9:T:253:GLN:HA	9:T:256:LEU:HG	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:323:LYS:HG3	13:V:335:TYR:HB2	1.89	0.55
13:V:811:ALA:O	13:V:838:ARG:NH1	2.40	0.55
2:B:133:LEU:HD22	2:B:176:VAL:HA	1.89	0.55
2:B:370:ALA:O	2:B:375:ARG:NH2	2.40	0.55
6:F:180:LYS:HA	6:F:183:LEU:HD12	1.89	0.55
8:I:28:LEU:HD22	8:I:40:TRP:HB2	1.89	0.55
13:S:422:ILE:HD11	13:S:475:LEU:HG	1.89	0.55
2:B:380:THR:OG1	4:D:234:ALA:O	2.22	0.54
3:C:467:LYS:HD3	3:C:502:THR:HG22	1.89	0.54
6:F:210:LEU:HD12	6:F:213:GLN:HE21	1.72	0.54
1:H:449:TYR:CD2	1:H:454:GLU:HG3	2.42	0.54
2:J:189:ALA:CB	2:J:210:TRP:HA	2.37	0.54
8:R:89:ILE:HG22	8:R:97:GLU:HB2	1.89	0.54
2:B:176:VAL:HG11	2:B:231:TRP:HB3	1.87	0.54
2:B:318:LEU:HA	2:B:321:LYS:HG2	1.89	0.54
2:B:434:THR:HA	4:D:262:LYS:HE2	1.89	0.54
3:C:63:TYR:HA	3:C:66:ALA:HB3	1.89	0.54
5:E:25:PRO:O	5:E:49:ARG:NH1	2.38	0.54
10:M:389:GLN:HA	10:M:392:HIS:CE1	2.41	0.54
1:H:358:ARG:HA	1:H:361:ILE:HD12	1.90	0.54
1:H:515:LEU:HD22	1:H:519:ARG:HH22	1.72	0.54
8:R:265:LEU:O	11:Y:75:ARG:NH2	2.39	0.54
10:U:310:LEU:O	10:U:314:HIS:ND1	2.39	0.54
11:Y:52:VAL:HA	11:Y:55:ILE:HG12	1.89	0.54
1:A:143:ASP:HA	1:A:149:ILE:HD11	1.89	0.54
1:A:264:ARG:HD2	2:B:304:LEU:HA	1.89	0.54
1:A:352:LYS:N	1:A:354:GLU:OE1	2.40	0.54
2:B:268:ASP:OD1	9:L:272:TYR:OH	2.19	0.54
2:B:433:GLN:NE2	4:D:258:GLU:OE2	2.39	0.54
5:E:152:GLU:HG3	5:E:155:LEU:HD22	1.88	0.54
5:E:294:HIS:O	5:E:297:ARG:NH1	2.39	0.54
8:I:3:LEU:HD11	8:I:252:LEU:HD22	1.89	0.54
8:I:690:LEU:HD21	13:V:695:LEU:HD11	1.89	0.54
13:S:498:ASN:HD21	13:S:502:THR:H	1.54	0.54
3:K:467:LYS:HD3	3:K:502:THR:HG22	1.89	0.54
8:R:247:PHE:HA	8:R:270:SER:HA	1.89	0.54
11:Y:123:GLN:NE2	11:Y:127:ASP:OD2	2.40	0.54
9:L:33:GLU:HB3	9:L:56:ILE:HG21	1.89	0.54
1:H:482:VAL:O	1:H:486:ARG:N	2.36	0.54
2:J:376:LEU:HD22	2:J:400:LEU:HD21	1.89	0.54
13:V:376:ARG:NH2	13:V:397:ASP:OD1	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:89:ILE:HD13	8:I:98:LYS:HB2	1.90	0.54
13:S:228:ASP:OD1	13:S:232:ARG:N	2.35	0.54
2:J:405:GLN:HG2	2:J:413:VAL:HB	1.89	0.54
5:O:125:ARG:HG3	5:O:152:GLU:HB3	1.89	0.54
7:Q:167:LYS:O	7:Q:171:TYR:CB	2.56	0.54
1:A:371:GLN:O	1:A:374:SER:N	2.40	0.54
2:B:343:LEU:HD21	3:C:317:LEU:HD21	1.88	0.54
2:B:412:HIS:O	2:B:416:GLU:N	2.40	0.54
5:E:77:LEU:HD21	5:E:101:LEU:HG	1.89	0.54
8:I:529:TYR:HE2	8:I:618:MET:HB3	1.70	0.54
9:L:253:GLN:HA	9:L:256:LEU:HG	1.90	0.54
9:L:284:GLU:OE1	9:L:288:LYS:NZ	2.37	0.54
13:S:376:ARG:NH2	13:S:397:ASP:OD1	2.41	0.54
1:H:264:ARG:HD2	2:J:304:LEU:HA	1.90	0.54
1:H:305:ALA:HB3	9:T:299:LEU:HD22	1.90	0.54
1:H:474:ARG:HA	2:J:285:CYS:HB2	1.89	0.54
6:F:11:LEU:HG	6:F:18:TYR:HB2	1.90	0.54
8:I:434:GLN:HA	8:I:438:GLY:HA2	1.90	0.54
1:H:479:LYS:HB3	1:H:495:LEU:HD13	1.90	0.54
2:J:422:ALA:HB1	2:J:425:LYS:HE2	1.90	0.54
2:J:451:GLN:HG2	4:N:316:GLN:HB3	1.88	0.54
11:Y:103:ARG:NH1	11:Y:107:GLU:OE1	2.40	0.54
1:A:236:LYS:O	1:A:239:SER:OG	2.21	0.54
5:E:37:ARG:NH2	5:E:39:TYR:OH	2.40	0.54
5:E:56:ASP:HB3	5:E:59:ASN:HB2	1.90	0.54
9:L:110:LYS:HE3	12:X:436:MET:SD	2.47	0.54
13:S:1025:LEU:O	13:S:1028:GLN:NE2	2.40	0.54
2:J:419:ARG:HD3	4:N:344:LEU:HD13	1.88	0.54
3:K:463:ASP:N	3:K:463:ASP:OD1	2.41	0.54
3:K:480:ASN:HD21	3:K:483:ASN:HB3	1.73	0.54
3:K:518:GLU:HA	3:K:521:ARG:HE	1.73	0.54
8:R:87:VAL:HB	8:R:100:ILE:HG13	1.89	0.54
8:R:185:HIS:ND1	8:R:207:ASP:OD2	2.41	0.54
8:R:434:GLN:HA	8:R:438:GLY:HA2	1.90	0.54
9:T:240:GLU:HA	9:T:243:ARG:HD3	1.89	0.54
9:T:293:ARG:HH22	9:T:294:LEU:HG	1.72	0.54
1:A:305:ALA:HB3	9:L:299:LEU:HD22	1.90	0.54
2:B:57:HIS:HA	2:B:79:PHE:HZ	1.73	0.54
6:F:125:MET:O	6:F:130:ASN:ND2	2.41	0.54
9:L:243:ARG:NH2	10:M:414:ASP:O	2.40	0.54
11:W:66:LYS:HE3	11:W:70:ILE:HD11	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:471:TYR:HB3	6:P:182:ARG:HH22	1.72	0.54
5:O:7:ARG:HH12	5:O:256:ASP:HB3	1.72	0.54
8:R:537:LYS:HD2	8:R:540:LEU:HD13	1.89	0.54
8:R:591:ILE:HG21	8:R:618:MET:HG3	1.89	0.54
11:Y:94:LEU:HG	11:Y:98:GLN:HE22	1.73	0.54
13:V:373:LEU:HD23	13:V:386:LEU:HG	1.90	0.54
13:V:513:LEU:HB2	13:V:527:LEU:HB2	1.90	0.54
4:D:212:GLU:OE1	4:D:214:LYS:NZ	2.40	0.54
11:W:83:ARG:NH2	11:W:87:GLN:OE1	2.38	0.54
13:S:325:HIS:HB3	13:S:333:PHE:HB2	1.89	0.54
3:K:57:TYR:HA	3:K:60:THR:HG22	1.90	0.54
3:K:637:MET:O	3:K:640:LYS:NZ	2.38	0.54
6:P:144:ALA:O	6:P:147:GLN:NE2	2.41	0.54
8:R:729:ARG:HG2	8:R:732:GLN:HE21	1.73	0.54
9:T:214:GLU:HG3	9:T:217:LYS:HE3	1.89	0.54
4:D:246:ILE:HG13	4:D:304:LEU:HD22	1.89	0.53
5:E:13:ARG:HB3	5:E:250:SER:HA	1.89	0.53
5:E:176:ARG:HG3	5:E:177:LEU:HG	1.89	0.53
13:S:82:ILE:HB	13:S:90:PHE:HB2	1.89	0.53
13:S:267:ARG:NH1	13:S:269:TYR:OH	2.42	0.53
1:H:678:GLU:HA	1:H:681:ARG:HE	1.72	0.53
2:J:141:ARG:HH22	2:J:151:LEU:HD21	1.72	0.53
13:V:554:TYR:HE1	13:V:596:LEU:HD21	1.73	0.53
13:V:846:ILE:HB	13:V:863:GLU:HG3	1.90	0.53
1:A:178:GLN:HE21	1:A:181:LEU:HB3	1.73	0.53
1:A:304:TYR:CG	1:A:376:LYS:HE3	2.43	0.53
1:A:527:LEU:O	1:A:531:LYS:HG2	2.09	0.53
2:B:379:LEU:HD23	2:B:399:ILE:HD11	1.90	0.53
8:I:470:ALA:H	8:I:509:TRP:HE1	1.57	0.53
1:H:527:LEU:O	1:H:531:LYS:HG2	2.09	0.53
3:K:364:GLU:OE2	3:K:368:ARG:NH2	2.39	0.53
13:V:546:SER:OG	13:V:547:ARG:N	2.41	0.53
6:F:144:ALA:O	6:F:147:GLN:NE2	2.40	0.53
8:I:730:PHE:O	8:I:734:ASN:ND2	2.32	0.53
6:P:13:LEU:HB3	6:P:15:PRO:HD2	1.90	0.53
7:Q:250:MET:O	7:Q:254:GLN:HB2	2.08	0.53
8:R:536:ASP:HB2	8:R:664:ARG:HG2	1.88	0.53
9:T:175:ASP:HB3	9:T:177:VAL:HG22	1.91	0.53
10:U:453:ASN:HA	10:U:456:LEU:HD12	1.90	0.53
13:V:960:ALA:HA	13:V:963:ARG:HE	1.74	0.53
1:A:293:HIS:HA	1:A:319:LEU:HD21	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:33:ARG:NH2	2:B:233:ASP:OD1	2.41	0.53
9:L:214:GLU:HG3	9:L:217:LYS:HE3	1.89	0.53
1:H:670:HIS:HE1	1:H:676:ASN:HB3	1.73	0.53
5:O:43:ILE:HA	5:O:46:LEU:HB2	1.91	0.53
6:P:151:GLU:HA	6:P:154:LYS:HG2	1.89	0.53
8:R:87:VAL:N	8:R:100:ILE:O	2.40	0.53
13:V:442:TYR:O	13:V:495:LEU:HG	2.09	0.53
13:V:901:ALA:HA	13:V:904:ALA:HB3	1.90	0.53
5:E:220:ALA:HA	5:E:246:LEU:HD11	1.90	0.53
8:I:87:VAL:HB	8:I:100:ILE:HG13	1.89	0.53
12:X:488:MET:O	12:X:492:ILE:HG13	2.09	0.53
13:S:310:SER:HB2	13:S:314:ALA:H	1.73	0.53
1:H:483:LEU:HB3	1:H:488:ASP:HB2	1.90	0.53
1:H:632:PHE:O	1:H:645:TRP:NE1	2.39	0.53
2:J:51:ASP:OD1	2:J:52:THR:N	2.42	0.53
3:K:169:ALA:O	3:K:173:LEU:CB	2.57	0.53
8:R:107:CYS:HA	8:R:123:GLY:HA2	1.91	0.53
8:R:350:ALA:HB2	8:R:378:LEU:HD22	1.91	0.53
11:Y:47:LEU:HA	11:Y:50:LYS:HE3	1.91	0.53
13:V:729:ILE:HG12	13:V:743:LEU:HD11	1.91	0.53
2:B:182:THR:HG22	2:B:206:VAL:HG12	1.90	0.53
2:B:186:GLN:O	2:B:188:PRO:HD2	2.09	0.53
8:I:39:LYS:HG3	8:I:47:GLU:HB2	1.90	0.53
9:L:128:LEU:HD22	12:X:417:HIS:CG	2.43	0.53
1:H:189:PHE:HE2	2:J:309:THR:HG23	1.74	0.53
2:J:114:ASN:OD1	2:J:204:ARG:NH2	2.41	0.53
5:O:63:LEU:O	5:O:67:TYR:N	2.41	0.53
5:O:152:GLU:HG3	5:O:155:LEU:HD22	1.90	0.53
6:P:125:MET:O	6:P:130:ASN:ND2	2.42	0.53
13:V:310:SER:HB2	13:V:314:ALA:H	1.73	0.53
1:A:358:ARG:HA	1:A:361:ILE:HD12	1.91	0.53
1:A:567:LEU:O	1:A:571:VAL:N	2.28	0.53
8:I:485:ARG:O	8:I:504:CYS:N	2.39	0.53
9:L:265:LEU:O	9:L:269:LEU:HD12	2.08	0.53
13:S:89:VAL:HB	13:S:110:PHE:HB2	1.90	0.53
13:S:184:PHE:HD1	13:S:196:SER:HB2	1.73	0.53
13:S:187:PRO:HD3	13:S:194:PRO:HB3	1.90	0.53
13:S:636:ALA:HB2	13:S:655:LEU:HD11	1.89	0.53
1:H:371:GLN:O	1:H:374:SER:N	2.41	0.53
3:K:36:LEU:HB3	3:K:53:LEU:HD11	1.89	0.53
6:P:220:LEU:O	6:P:224:ILE:HG23	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:R:130:ILE:HD11	8:R:141:LEU:HB2	1.91	0.53
13:V:325:HIS:HB3	13:V:333:PHE:HB2	1.91	0.53
1:A:193:HIS:HA	1:A:196:HIS:HD1	1.74	0.53
7:G:166:ARG:HH21	7:G:170:GLN:HE22	1.55	0.53
8:I:87:VAL:N	8:I:100:ILE:O	2.41	0.53
9:L:243:ARG:O	9:L:246:GLY:N	2.42	0.53
10:M:451:LEU:HA	10:M:454:LYS:HG2	1.90	0.53
13:S:223:ARG:NE	13:S:236:SER:OG	2.39	0.53
13:S:546:SER:OG	13:S:547:ARG:N	2.42	0.53
3:K:468:GLU:HA	3:K:471:ARG:HG2	1.91	0.53
4:N:282:VAL:HG23	4:N:286:LEU:HD12	1.91	0.53
8:R:111:ARG:HG3	8:R:153:TRP:HD1	1.73	0.53
8:R:604:ARG:HH22	8:R:635:ILE:HG22	1.74	0.53
2:B:419:ARG:HD3	4:D:344:LEU:HD13	1.89	0.53
8:I:432:LEU:HD23	8:I:434:GLN:HG3	1.90	0.53
1:H:283:PHE:O	1:H:287:MET:HG2	2.08	0.53
3:K:58:TYR:O	3:K:63:TYR:OH	2.26	0.53
3:K:382:ARG:HA	3:K:385:THR:HG22	1.89	0.53
8:R:81:ALA:HA	8:R:87:VAL:HA	1.91	0.53
8:R:394:ILE:O	8:R:408:ARG:NH2	2.41	0.53
9:T:128:LEU:HD22	12:Z:417:HIS:CG	2.44	0.53
3:C:607:LEU:HD21	3:C:638:LEU:HB3	1.91	0.53
3:C:637:MET:O	3:C:640:LYS:NZ	2.38	0.53
6:F:203:TYR:OH	7:G:207:PRO:O	2.25	0.53
9:L:243:ARG:HH22	10:M:415:ALA:HA	1.74	0.53
3:K:599:SER:HA	3:K:602:GLU:HG2	1.91	0.53
2:B:194:SER:HA	2:B:205:PRO:HA	1.91	0.52
3:C:110:HIS:HB3	3:C:113:ALA:HB3	1.90	0.52
5:E:129:HIS:HA	5:E:132:GLN:HE21	1.74	0.52
8:I:598:LYS:HD2	8:I:602:LEU:HD23	1.91	0.52
9:L:240:GLU:HA	9:L:243:ARG:HD3	1.90	0.52
3:K:541:ILE:HG23	3:K:557:ARG:HE	1.74	0.52
5:O:155:LEU:HA	5:O:174:TYR:HE1	1.74	0.52
13:V:719:TYR:HB2	13:V:728:ALA:HB2	1.91	0.52
6:F:13:LEU:HB3	6:F:15:PRO:HD2	1.91	0.52
13:S:849:ALA:O	13:S:850:ARG:HD3	2.09	0.52
1:H:130:GLU:HG3	1:H:134:HIS:CE1	2.44	0.52
6:P:315:THR:O	6:P:319:ASN:ND2	2.42	0.52
8:R:63:TYR:HB3	8:R:75:THR:HA	1.90	0.52
8:R:109:SER:O	8:R:121:THR:OG1	2.26	0.52
9:T:204:ARG:NE	10:U:378:ASN:HB3	2.23	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:399:ASP:N	13:V:399:ASP:OD1	2.42	0.52
1:A:515:LEU:HD22	1:A:519:ARG:HH22	1.75	0.52
6:F:41:PHE:HA	6:F:44:ILE:HG12	1.90	0.52
8:I:111:ARG:HG3	8:I:153:TRP:HD1	1.74	0.52
8:I:373:ASP:HB3	8:I:389:ASP:HB2	1.91	0.52
9:L:277:GLN:HA	9:L:280:MET:HG2	1.91	0.52
13:S:931:ALA:HB1	13:S:934:GLU:HB2	1.90	0.52
1:H:542:GLU:OE2	1:H:546:GLN:NE2	2.42	0.52
3:K:508:ALA:HA	3:K:511:LEU:HB2	1.90	0.52
3:K:618:ARG:NH1	3:K:619:VAL:O	2.41	0.52
4:N:246:ILE:HG23	4:N:249:LEU:HD22	1.90	0.52
5:O:56:ASP:HB3	5:O:59:ASN:HB2	1.92	0.52
8:R:28:LEU:HD22	8:R:40:TRP:HB2	1.91	0.52
8:R:131:TRP:HA	8:R:137:LEU:HA	1.90	0.52
8:R:236:ALA:HB3	8:R:241:LEU:HB3	1.91	0.52
9:T:297:GLU:HA	9:T:300:ARG:HG2	1.91	0.52
10:U:452:ARG:NH1	10:U:455:ARG:HH21	2.06	0.52
13:V:545:GLN:NE2	13:V:546:SER:O	2.42	0.52
13:V:723:HIS:ND1	13:V:723:HIS:O	2.39	0.52
1:A:511:TYR:HD2	2:B:283:LYS:HB2	1.75	0.52
2:B:88:ILE:HB	2:B:220:VAL:HG12	1.91	0.52
3:C:200:LEU:HD11	3:C:245:LEU:HG	1.92	0.52
7:G:192:LEU:O	7:G:196:ASN:HB2	2.10	0.52
8:I:130:ILE:HD11	8:I:141:LEU:HB2	1.92	0.52
13:S:550:LEU:HD21	13:S:571:VAL:HG21	1.92	0.52
13:S:580:ARG:HA	13:S:601:ILE:HD13	1.90	0.52
2:J:372:GLU:HA	2:J:375:ARG:HG2	1.90	0.52
8:R:389:ASP:OD1	8:R:395:GLN:NE2	2.42	0.52
3:C:432:SER:O	3:C:435:GLU:HG2	2.10	0.52
3:C:480:ASN:ND2	3:C:483:ASN:O	2.42	0.52
8:I:487:LEU:N	8:I:501:ALA:O	2.40	0.52
8:I:644:VAL:HG21	13:V:724:ARG:HH21	1.74	0.52
12:X:432:ASP:O	12:X:436:MET:HG2	2.10	0.52
13:S:511:ARG:NH1	13:S:530:CYS:O	2.38	0.52
2:J:11:ILE:HD12	2:J:34:LEU:HD21	1.92	0.52
5:O:11:ALA:HB1	5:O:217:PRO:HB2	1.92	0.52
8:R:195:SER:HB3	8:R:235:TRP:CE2	2.44	0.52
8:R:319:VAL:O	8:R:328:ASP:N	2.36	0.52
9:T:243:ARG:O	9:T:246:GLY:N	2.42	0.52
13:V:141:GLY:HA2	13:V:148:SER:HA	1.90	0.52
13:V:846:ILE:HA	13:V:849:ALA:HB2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:76:LEU:HD11	2:B:86:ILE:HG13	1.91	0.52
3:C:317:LEU:HA	3:C:320:CYS:HB2	1.92	0.52
5:E:274:LEU:HG	5:E:307:LEU:HD13	1.91	0.52
5:E:301:VAL:HA	5:E:304:ALA:HB3	1.91	0.52
13:S:828:ARG:HE	13:S:830:SER:HB3	1.74	0.52
13:S:911:ASP:OD1	13:S:911:ASP:N	2.43	0.52
1:H:280:LEU:CD2	1:H:302:CYS:HB3	2.39	0.52
1:H:474:ARG:NH2	1:H:508:GLU:OE1	2.42	0.52
1:H:493:ARG:O	1:H:497:ASN:ND2	2.43	0.52
5:O:5:LYS:HE2	5:O:257:HIS:CE1	2.45	0.52
6:P:48:HIS:HE2	6:P:65:LEU:HD21	1.73	0.52
8:R:85:GLY:O	8:R:102:GLY:N	2.35	0.52
2:B:112:SER:O	2:B:184:SER:N	2.42	0.52
6:F:315:THR:O	6:F:319:ASN:ND2	2.43	0.52
8:I:18:ALA:HB2	9:L:7:ARG:HH12	1.74	0.52
8:I:394:ILE:O	8:I:408:ARG:NH2	2.42	0.52
8:I:733:MET:HA	8:I:736:SER:HB3	1.91	0.52
11:W:115:LYS:O	12:X:495:ASN:ND2	2.43	0.52
2:J:425:LYS:HD3	4:N:286:LEU:HB3	1.91	0.52
4:N:309:LYS:O	4:N:315:ARG:NH1	2.40	0.52
8:R:589:ASP:O	8:R:593:LYS:NZ	2.43	0.52
1:A:251:ILE:HG21	1:A:255:ALA:HB3	1.91	0.52
2:B:413:VAL:HA	2:B:416:GLU:HB2	1.91	0.52
8:I:89:ILE:HG22	8:I:97:GLU:HB2	1.92	0.52
8:I:485:ARG:NH2	8:I:503:MET:O	2.43	0.52
8:I:706:HIS:HA	8:I:747:LYS:HD3	1.91	0.52
10:M:309:HIS:HE1	11:W:38:ILE:HG12	1.75	0.52
1:H:550:THR:HA	1:H:553:MET:SD	2.50	0.52
5:O:60:LEU:HD11	5:O:83:LEU:HD13	1.91	0.52
6:P:321:ILE:HA	6:P:324:ILE:HG12	1.91	0.52
13:V:187:PRO:HB3	13:V:194:PRO:HD3	1.91	0.52
3:C:482:ASP:OD1	3:C:483:ASN:N	2.43	0.52
5:E:34:LEU:HD12	5:E:35:THR:HG23	1.90	0.52
5:E:63:LEU:O	5:E:67:TYR:N	2.42	0.52
6:F:286:ARG:HD2	7:G:296:LEU:HB2	1.91	0.52
9:L:260:ARG:NH2	10:M:431:GLU:OE1	2.38	0.52
1:H:139:LYS:NZ	1:H:151:SER:O	2.43	0.52
5:O:220:ALA:HA	5:O:246:LEU:HD11	1.92	0.52
9:T:74:LEU:O	10:U:306:TRP:NE1	2.41	0.52
13:V:342:ILE:HG12	13:V:353:VAL:HG13	1.92	0.52
8:I:81:ALA:HA	8:I:87:VAL:HA	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:107:CYS:HA	8:I:123:GLY:HA2	1.92	0.52
8:I:206:GLU:HA	8:I:229:PRO:HB3	1.92	0.52
8:I:714:ARG:O	8:I:714:ARG:NH1	2.41	0.52
13:S:443:LEU:O	13:S:495:LEU:HD11	2.10	0.52
1:H:240:ALA:HA	1:H:243:MET:CE	2.40	0.52
2:J:204:ARG:NH1	2:J:205:PRO:O	2.43	0.52
6:P:41:PHE:HA	6:P:44:ILE:HG12	1.91	0.52
8:R:68:LYS:HG3	8:R:73:GLY:HA2	1.92	0.52
8:R:608:ASP:HB3	8:R:611:MET:HG2	1.92	0.52
12:Z:406:SER:O	12:Z:410:GLU:HG2	2.10	0.52
1:A:636:SER:HB3	1:A:645:TRP:HD1	1.75	0.51
3:C:382:ARG:HA	3:C:385:THR:HG22	1.91	0.51
8:I:124:GLU:HG3	9:L:2:SER:HB2	1.91	0.51
8:I:558:ILE:HA	8:I:568:VAL:HG12	1.92	0.51
9:L:46:TYR:CZ	9:L:104:LEU:HB2	2.45	0.51
13:S:555:SER:N	13:S:627:GLU:OE1	2.30	0.51
7:Q:215:PHE:O	7:Q:219:LYS:HB2	2.10	0.51
9:T:71:GLN:OE1	9:T:80:LYS:NZ	2.43	0.51
13:V:383:MET:O	13:V:392:SER:N	2.39	0.51
2:B:110:GLY:CA	2:B:188:PRO:HG3	2.28	0.51
2:B:397:GLY:HA2	2:B:400:LEU:HD12	1.92	0.51
3:C:401:LYS:HA	3:C:404:ILE:HG12	1.90	0.51
5:E:132:GLN:HB2	5:E:160:ILE:HD11	1.93	0.51
5:E:220:ALA:O	5:E:224:ASN:HB2	2.10	0.51
8:I:109:SER:O	8:I:121:THR:OG1	2.27	0.51
8:I:428:THR:HG23	8:I:467:LEU:HD13	1.91	0.51
8:I:433:ASP:OD1	8:I:435:GLN:NE2	2.43	0.51
3:K:269:ARG:NH2	3:K:273:GLU:O	2.43	0.51
3:K:385:THR:HA	3:K:388:ILE:HD12	1.91	0.51
13:V:443:LEU:O	13:V:495:LEU:HD11	2.09	0.51
13:V:536:VAL:HG11	13:V:541:VAL:HB	1.92	0.51
1:A:312:MET:N	1:A:312:MET:SD	2.83	0.51
3:C:58:TYR:O	3:C:63:TYR:OH	2.22	0.51
3:C:310:GLU:O	3:C:314:ASN:ND2	2.44	0.51
3:C:373:LEU:O	3:C:377:HIS:ND1	2.35	0.51
6:F:324:ILE:HA	6:F:327:ARG:HG2	1.93	0.51
13:S:442:TYR:O	13:S:495:LEU:HG	2.11	0.51
6:P:140:GLU:HA	6:P:143:LYS:HE2	1.92	0.51
6:P:210:LEU:HD12	6:P:213:GLN:HE21	1.76	0.51
8:R:82:CYS:SG	8:R:83:THR:N	2.81	0.51
13:V:889:LYS:HA	13:V:892:LYS:HE2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:911:ASP:OD1	13:V:911:ASP:N	2.42	0.51
3:C:518:GLU:HA	3:C:521:ARG:HE	1.74	0.51
8:I:441:VAL:N	8:I:456:TRP:O	2.42	0.51
13:S:383:MET:O	13:S:392:SER:N	2.42	0.51
13:S:449:GLN:HB3	13:S:458:SER:HB2	1.92	0.51
1:H:511:TYR:HD2	2:J:283:LYS:HB2	1.76	0.51
5:O:223:VAL:HA	5:O:226:LYS:HE2	1.93	0.51
8:R:115:ASP:OD1	8:R:115:ASP:N	2.41	0.51
13:V:228:ASP:OD1	13:V:232:ARG:N	2.38	0.51
1:A:259:ARG:NH1	1:A:288:ASP:OD1	2.43	0.51
2:B:67:LYS:NZ	2:B:101:ASN:OD1	2.44	0.51
6:F:23:LEU:O	6:F:26:THR:OG1	2.28	0.51
7:G:209:TYR:O	7:G:213:GLN:NE2	2.33	0.51
8:I:602:LEU:HB2	8:I:606:ILE:HD13	1.93	0.51
11:W:109:GLN:HA	11:W:112:ILE:HD12	1.92	0.51
11:W:124:LYS:HD2	11:W:125:LEU:HG	1.92	0.51
13:S:799:ASP:HB3	13:S:802:LEU:H	1.76	0.51
1:H:449:TYR:CZ	1:H:454:GLU:HG3	2.46	0.51
1:H:602:HIS:HB2	1:H:611:VAL:HG11	1.91	0.51
6:P:181:GLU:OE2	6:P:182:ARG:NH1	2.43	0.51
3:C:15:GLN:OE1	3:C:18:GLN:NE2	2.40	0.51
5:E:422:ASP:OD1	5:E:422:ASP:N	2.43	0.51
8:I:130:ILE:HG22	8:I:138:ARG:HB3	1.93	0.51
1:H:531:LYS:HD3	1:H:547:ILE:HD12	1.92	0.51
7:Q:167:LYS:O	7:Q:171:TYR:HB3	2.10	0.51
8:R:379:LEU:HD11	8:R:422:ILE:HG23	1.92	0.51
8:R:381:ALA:O	8:R:399:TYR:OH	2.27	0.51
8:R:543:THR:HA	8:R:610:THR:HG23	1.93	0.51
8:R:567:LEU:HD11	8:R:575:LEU:HD12	1.92	0.51
6:F:83:LEU:HA	6:F:86:GLN:HG3	1.93	0.51
1:H:293:HIS:HA	1:H:319:LEU:HD21	1.93	0.51
3:K:341:ALA:HB1	3:K:345:LEU:HD11	1.93	0.51
6:P:11:LEU:HG	6:P:18:TYR:HB2	1.92	0.51
7:Q:143:LEU:O	7:Q:147:ARG:HG2	2.10	0.51
8:R:662:VAL:HG21	8:R:674:LEU:HD22	1.92	0.51
1:A:268:LEU:O	1:A:272:ARG:HG2	2.10	0.51
1:A:449:TYR:CZ	1:A:454:GLU:HG3	2.46	0.51
2:B:376:LEU:HD22	2:B:400:LEU:HD21	1.93	0.51
3:C:132:ARG:NH2	3:C:156:GLU:OE1	2.44	0.51
8:I:559:GLN:HB2	8:I:567:LEU:HG	1.92	0.51
9:L:136:ILE:HD12	12:X:410:GLU:HB2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:S:4:ARG:O	13:S:319:ASP:N	2.40	0.51
13:V:352:ILE:HD11	13:V:391:LEU:HD21	1.93	0.51
13:V:360:TYR:CE2	13:V:379:TYR:HB3	2.46	0.51
3:C:213:GLU:HG2	3:C:214:LEU:HG	1.92	0.51
8:I:539:LEU:HD12	8:I:542:LYS:HD3	1.92	0.51
13:S:719:TYR:HE2	13:S:731:VAL:HG11	1.74	0.51
13:S:837:ARG:HG3	13:S:842:TYR:HB3	1.92	0.51
13:S:881:PHE:HA	13:S:884:SER:HB3	1.93	0.51
1:H:178:GLN:HE21	1:H:181:LEU:HB3	1.75	0.51
1:H:559:ASN:HA	1:H:562:LYS:HE2	1.92	0.51
2:J:403:LYS:HE2	4:N:326:GLY:HA2	1.93	0.51
3:K:231:SER:HB3	3:K:234:LEU:HD13	1.93	0.51
9:T:104:LEU:C	9:T:106:LYS:H	2.13	0.51
2:B:120:ARG:NH1	2:B:128:HIS:O	2.44	0.51
3:C:176:GLN:NE2	5:E:275:GLN:OE1	2.43	0.51
3:C:282:SER:HA	3:C:285:ILE:HG22	1.92	0.51
3:C:463:ASP:HA	3:C:466:TYR:HE1	1.76	0.51
13:S:231:GLY:O	13:S:232:ARG:NH1	2.44	0.51
13:S:513:LEU:HB2	13:S:527:LEU:HB2	1.93	0.51
1:H:304:TYR:O	1:H:304:TYR:HD1	1.94	0.51
1:H:304:TYR:O	1:H:306:LEU:N	2.44	0.51
3:K:401:LYS:O	3:K:405:ASN:ND2	2.44	0.51
5:O:461:TYR:HH	5:O:496:TYR:HH	1.56	0.51
8:R:251:GLN:HG3	8:R:262:LYS:HA	1.93	0.51
10:U:314:HIS:HA	10:U:317:LYS:HG2	1.93	0.51
13:V:493:ASP:OD1	13:V:493:ASP:N	2.44	0.51
1:A:559:ASN:HA	1:A:562:LYS:HE2	1.93	0.50
2:B:27:PHE:HB2	2:B:31:PHE:HE2	1.76	0.50
3:C:450:VAL:HG22	3:C:451:TRP:H	1.76	0.50
6:F:151:GLU:HA	6:F:154:LYS:HG2	1.93	0.50
8:I:2:ARG:NE	8:I:261:SER:OG	2.42	0.50
8:I:131:TRP:HA	8:I:137:LEU:HA	1.93	0.50
8:I:247:PHE:HA	8:I:270:SER:HA	1.93	0.50
13:S:667:VAL:HG12	13:S:691:MET:HG2	1.93	0.50
1:H:437:VAL:HG13	1:H:440:ARG:HH21	1.76	0.50
2:J:397:GLY:HA2	2:J:400:LEU:HD12	1.93	0.50
3:K:19:THR:O	3:K:23:LEU:HB2	2.10	0.50
3:K:480:ASN:ND2	3:K:483:ASN:O	2.44	0.50
3:K:559:ILE:HG21	3:K:602:GLU:HB2	1.93	0.50
5:O:197:CYS:SG	5:O:229:ASN:ND2	2.83	0.50
6:P:169:LEU:HA	6:P:172:LYS:HE2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:7:LYS:HE2	13:V:9:ILE:HG13	1.92	0.50
13:V:142:MET:SD	13:V:144:LYS:NZ	2.85	0.50
13:V:422:ILE:HG13	13:V:431:LEU:HB2	1.93	0.50
3:C:57:TYR:HA	3:C:60:THR:HG22	1.93	0.50
7:G:143:LEU:O	7:G:147:ARG:HG2	2.11	0.50
8:I:80:VAL:O	8:I:88:LYS:N	2.42	0.50
8:I:598:LYS:HE2	12:X:496:ASP:HB3	1.92	0.50
10:M:316:HIS:HB3	11:W:31:GLN:HE22	1.75	0.50
13:S:536:VAL:HG11	13:S:541:VAL:HB	1.93	0.50
1:H:434:GLU:O	1:H:438:LYS:N	2.42	0.50
1:H:508:GLU:OE2	1:H:512:ASN:ND2	2.45	0.50
2:J:60:VAL:HG12	2:J:87:LEU:HB3	1.92	0.50
4:N:266:MET:HE2	4:N:271:VAL:HA	1.91	0.50
6:P:28:LYS:HE2	6:P:36:LEU:HD22	1.92	0.50
8:R:18:ALA:HB2	9:T:7:ARG:HH12	1.76	0.50
8:R:202:ILE:HG22	8:R:212:VAL:HG22	1.92	0.50
8:R:619:ALA:O	8:R:623:LYS:N	2.44	0.50
11:Y:66:LYS:HE3	11:Y:70:ILE:HD11	1.92	0.50
8:I:448:GLN:O	8:I:450:ARG:NH1	2.44	0.50
8:I:460:LEU:HB3	8:I:482:ASP:HB2	1.93	0.50
13:S:292:TYR:HD2	13:S:311:MET:HG3	1.76	0.50
13:S:713:ASP:OD1	13:S:713:ASP:N	2.42	0.50
13:S:729:ILE:HG12	13:S:743:LEU:HD11	1.93	0.50
13:V:292:TYR:HD2	13:V:311:MET:HG3	1.76	0.50
13:V:713:ASP:OD1	13:V:713:ASP:N	2.42	0.50
13:V:758:GLU:H	13:V:780:GLY:HA3	1.76	0.50
2:B:273:PRO:HA	9:L:269:LEU:HD13	1.93	0.50
2:B:403:LYS:HE2	4:D:326:GLY:HA2	1.94	0.50
8:I:567:LEU:HD11	8:I:575:LEU:HD12	1.93	0.50
13:S:817:GLU:HA	13:S:835:SER:HB3	1.94	0.50
13:S:922:ILE:HA	13:S:925:HIS:HB3	1.94	0.50
2:J:165:PRO:O	2:J:166:GLN:NE2	2.45	0.50
2:J:413:VAL:HA	2:J:416:GLU:HB2	1.93	0.50
3:K:202:GLU:HA	3:K:205:GLU:HG3	1.93	0.50
6:P:210:LEU:HD11	7:Q:218:LEU:HD21	1.93	0.50
1:A:568:THR:OG1	9:T:231:GLN:OE1	2.27	0.50
5:E:290:ASN:O	5:E:294:HIS:HB3	2.11	0.50
7:G:271:GLU:HA	7:G:274:THR:HG22	1.93	0.50
8:I:138:ARG:HH22	13:S:435:ARG:HD2	1.76	0.50
8:I:688:ILE:HG12	8:I:710:VAL:HA	1.94	0.50
9:L:136:ILE:HG13	12:X:410:GLU:HG3	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:W:53:SER:HA	11:W:56:ASP:OD2	2.11	0.50
13:S:140:LEU:HD21	13:S:186:PHE:HE1	1.77	0.50
7:Q:268:GLN:HG3	7:Q:271:GLU:OE2	2.12	0.50
12:Z:409:ARG:NH2	12:Z:410:GLU:OE1	2.44	0.50
13:V:1021:GLN:HA	13:V:1024:ARG:HB3	1.94	0.50
1:A:466:LEU:HD12	1:A:470:ARG:HD3	1.94	0.50
6:F:220:LEU:O	6:F:224:ILE:HG23	2.11	0.50
8:I:425:SER:OG	8:I:426:ASN:N	2.45	0.50
13:S:778:LEU:O	13:S:780:GLY:N	2.36	0.50
1:H:231:HIS:HD2	1:H:243:MET:SD	2.33	0.50
6:P:216:GLU:OE2	7:Q:226:ARG:NH2	2.37	0.50
8:R:118:ALA:HA	8:R:132:SER:HA	1.93	0.50
11:Y:101:LEU:HD22	12:Z:478:ILE:HG12	1.93	0.50
1:A:257:GLU:HB3	3:C:646:ARG:HH12	1.76	0.50
5:E:155:LEU:HA	5:E:174:TYR:HE1	1.77	0.50
6:F:169:LEU:HD11	7:G:175:ASP:HB3	1.94	0.50
8:I:429:ILE:HB	8:I:444:PHE:HB2	1.93	0.50
8:I:632:PHE:HA	8:I:635:ILE:HG12	1.93	0.50
9:L:274:GLN:O	9:L:277:GLN:NE2	2.42	0.50
13:S:24:TRP:HH2	13:S:45:GLU:HA	1.77	0.50
8:R:2:ARG:NH2	8:R:260:TYR:O	2.44	0.50
1:A:259:ARG:NH2	1:A:286:VAL:O	2.44	0.50
1:A:550:THR:HA	1:A:553:MET:SD	2.51	0.50
1:A:592:ALA:O	1:A:596:HIS:HB2	2.12	0.50
2:B:295:ASP:OD1	2:B:295:ASP:N	2.45	0.50
4:D:246:ILE:HA	4:D:249:LEU:HD13	1.94	0.50
5:E:36:LYS:NZ	5:E:38:ASP:O	2.29	0.50
6:F:286:ARG:HH11	7:G:296:LEU:HD22	1.77	0.50
8:I:66:SER:HA	8:I:69:LYS:HZ1	1.77	0.50
8:I:600:THR:O	8:I:604:ARG:NH1	2.45	0.50
9:L:175:ASP:HB3	9:L:177:VAL:HG22	1.92	0.50
13:S:1083:VAL:HA	13:S:1086:VAL:HG12	1.94	0.50
3:K:60:THR:HG23	3:K:62:GLN:H	1.76	0.50
3:K:450:VAL:HG22	3:K:451:TRP:H	1.77	0.50
5:O:36:LYS:HE2	5:O:38:ASP:HB3	1.94	0.50
7:Q:225:GLN:OE1	7:Q:228:ARG:NH2	2.44	0.50
8:R:323:LEU:HD22	12:Z:479:LYS:HZ1	1.77	0.50
9:T:166:ARG:HB3	10:U:344:LYS:HG2	1.94	0.50
9:T:281:GLU:HB3	9:T:285:ARG:NH1	2.27	0.50
13:V:586:ASP:HA	13:V:591:THR:HA	1.92	0.50
13:V:698:GLN:O	13:V:702:SER:N	2.38	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:1014:LYS:HB2	13:V:1033:LYS:HZ1	1.76	0.50
3:C:463:ASP:N	3:C:463:ASP:OD1	2.41	0.50
9:L:239:ASP:O	9:L:242:GLU:HG3	2.11	0.50
11:W:117:GLU:HA	13:V:781:GLY:O	2.12	0.50
13:S:471:ARG:HH21	13:S:473:GLN:HG3	1.77	0.50
2:J:194:SER:HA	2:J:205:PRO:HA	1.93	0.50
12:Z:491:GLN:HG2	12:Z:494:ARG:HH21	1.77	0.50
13:V:9:ILE:HD11	13:V:317:MET:HB2	1.93	0.50
13:V:777:TYR:HB3	13:V:786:ALA:HB2	1.94	0.50
5:E:306:GLY:HA2	5:E:309:LYS:HD3	1.93	0.49
8:I:207:ASP:OD1	8:I:207:ASP:N	2.45	0.49
8:I:518:ALA:HB3	8:I:527:TRP:HZ3	1.76	0.49
13:S:360:TYR:CE2	13:S:379:TYR:HB3	2.47	0.49
3:K:282:SER:HA	3:K:285:ILE:HG22	1.94	0.49
4:N:300:VAL:O	4:N:303:THR:OG1	2.25	0.49
5:O:84:LEU:HD21	5:O:93:PHE:HB2	1.94	0.49
12:Z:488:MET:O	12:Z:492:ILE:HG13	2.12	0.49
13:V:799:ASP:HB3	13:V:802:LEU:H	1.77	0.49
6:F:210:LEU:O	6:F:213:GLN:HG2	2.13	0.49
8:I:249:THR:HA	8:I:264:HIS:HA	1.94	0.49
11:W:101:LEU:HD22	12:X:478:ILE:HG12	1.94	0.49
13:S:549:ASN:HA	13:S:566:PRO:HA	1.95	0.49
1:H:304:TYR:CE2	2:J:296:TRP:HZ2	2.29	0.49
1:H:447:PHE:CD2	1:H:448:LEU:HG	2.46	0.49
3:K:317:LEU:HA	3:K:320:CYS:HB2	1.95	0.49
3:K:377:HIS:CD2	3:K:414:TYR:HB2	2.47	0.49
3:K:557:ARG:HA	3:K:560:LYS:HG3	1.93	0.49
8:R:532:GLU:HA	8:R:535:VAL:HB	1.94	0.49
9:T:150:LEU:HD21	11:Y:23:LYS:HG2	1.94	0.49
11:Y:111:LEU:HD21	12:Z:492:ILE:HG12	1.93	0.49
13:V:383:MET:HB3	13:V:392:SER:HB2	1.94	0.49
13:V:664:LEU:HD11	13:V:694:GLN:HE21	1.77	0.49
13:V:688:VAL:HG23	13:V:691:MET:HE3	1.93	0.49
13:V:837:ARG:HG3	13:V:842:TYR:HB3	1.94	0.49
1:A:170:ARG:HD2	1:A:179:ILE:HG21	1.93	0.49
3:C:38:TYR:HD1	3:C:41:GLN:HE21	1.60	0.49
3:C:485:LEU:O	3:C:533:HIS:NE2	2.45	0.49
8:I:586:VAL:HG12	8:I:598:LYS:HZ3	1.78	0.49
13:S:598:GLU:HA	13:S:601:ILE:HD12	1.94	0.49
2:J:14:SER:HB3	2:J:61:LEU:HD13	1.94	0.49
13:V:931:ALA:HB1	13:V:934:GLU:HB2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:L:178:GLU:HA	9:L:181:ILE:HD12	1.94	0.49
13:S:508:ASP:OD1	13:S:512:HIS:N	2.44	0.49
13:S:729:ILE:HB	13:S:750:TRP:HE1	1.77	0.49
1:H:184:MET:HG2	1:H:216:ASN:HD21	1.77	0.49
8:R:425:SER:OG	8:R:426:ASN:N	2.46	0.49
13:V:347:LYS:HG3	13:V:348:THR:HG23	1.94	0.49
1:A:352:LYS:HA	3:C:636:ARG:HD3	1.93	0.49
1:A:508:GLU:OE2	1:A:512:ASN:ND2	2.45	0.49
4:D:217:LYS:HZ3	5:E:248:GLU:HG2	1.77	0.49
6:F:28:LYS:HE2	6:F:36:LEU:HD22	1.92	0.49
6:F:145:MET:HA	6:F:148:GLU:HB3	1.95	0.49
8:I:69:LYS:HE2	8:I:413:ARG:HH22	1.77	0.49
13:S:612:TYR:HE2	13:S:638:GLN:HB3	1.77	0.49
13:S:716:ILE:HA	13:S:728:ALA:HB1	1.94	0.49
13:S:758:GLU:HG3	13:S:782:LEU:H	1.77	0.49
1:H:466:LEU:HD12	1:H:470:ARG:HD3	1.93	0.49
1:H:618:TYR:HA	1:H:621:LYS:HG2	1.94	0.49
3:K:611:GLU:HB3	3:K:615:LYS:HE2	1.94	0.49
8:R:108:ILE:HD11	9:T:2:SER:HB3	1.94	0.49
13:V:218:ALA:HB2	13:V:224:VAL:HG22	1.95	0.49
13:V:847:ASP:OD1	13:V:848:LEU:N	2.45	0.49
3:C:341:ALA:HB1	3:C:345:LEU:HD11	1.95	0.49
8:I:347:LEU:HB3	8:I:358:TYR:HB2	1.94	0.49
13:S:43:PHE:HE1	13:S:49:LYS:HG3	1.77	0.49
1:H:659:LEU:HA	1:H:662:ALA:HB3	1.95	0.49
3:K:512:MET:HA	3:K:515:VAL:HG22	1.94	0.49
5:O:363:GLN:HG3	5:O:395:PHE:HZ	1.77	0.49
8:R:119:LEU:HB2	8:R:131:TRP:HB2	1.94	0.49
8:R:431:VAL:O	8:R:442:ARG:N	2.46	0.49
8:R:600:THR:O	8:R:604:ARG:HG2	2.11	0.49
9:T:124:VAL:HA	9:T:127:SER:HB3	1.94	0.49
13:V:904:ALA:HB1	13:V:922:ILE:HG21	1.94	0.49
3:C:246:LYS:HA	3:C:249:ILE:HG22	1.93	0.49
4:D:213:ASN:HD21	4:D:217:LYS:HE3	1.77	0.49
6:F:28:LYS:O	6:F:93:ARG:NH1	2.46	0.49
11:W:79:LEU:O	12:X:461:GLN:NE2	2.45	0.49
13:S:577:HIS:HE1	13:S:582:GLU:HG2	1.77	0.49
13:S:776:LEU:HD23	13:S:779:LYS:HD2	1.95	0.49
1:H:225:VAL:HG21	1:H:264:ARG:HH22	1.77	0.49
2:J:103:ASN:HA	2:J:106:LEU:HB2	1.95	0.49
2:J:112:SER:O	2:J:184:SER:N	2.38	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:N:212:GLU:OE1	4:N:214:LYS:NZ	2.38	0.49
6:P:10:SER:HB2	6:P:104:VAL:HG21	1.94	0.49
8:R:149:TYR:H	8:R:163:CYS:HB2	1.78	0.49
9:T:266:GLU:HA	9:T:269:LEU:HD12	1.93	0.49
13:V:184:PHE:HD1	13:V:196:SER:HB2	1.78	0.49
13:V:719:TYR:HE2	13:V:731:VAL:HG11	1.78	0.49
3:C:512:MET:HA	3:C:515:VAL:HG22	1.94	0.49
5:E:151:ILE:HA	5:E:177:LEU:HD13	1.94	0.49
13:S:332:GLU:HG3	13:S:344:LYS:HB2	1.95	0.49
13:S:960:ALA:HA	13:S:963:ARG:HE	1.78	0.49
1:H:143:ASP:OD1	1:H:151:SER:OG	2.31	0.49
1:H:584:ILE:HG23	1:H:587:ARG:HH21	1.78	0.49
2:J:106:LEU:HA	2:J:109:PHE:HB2	1.95	0.49
5:O:34:LEU:HD12	5:O:35:THR:HG23	1.94	0.49
8:R:529:TYR:HE2	8:R:618:MET:HB3	1.77	0.49
9:T:26:ASN:HB2	9:T:35:VAL:HG13	1.94	0.49
9:T:270:GLU:HG3	10:U:445:THR:HB	1.93	0.49
1:A:475:ALA:HA	1:A:478:ASN:HB2	1.95	0.49
2:B:114:ASN:OD1	2:B:204:ARG:NH2	2.42	0.49
2:B:120:ARG:HH22	2:B:127:LEU:HA	1.78	0.49
3:C:536:ILE:HG12	3:C:573:THR:HG21	1.95	0.49
8:I:467:LEU:O	8:I:469:GLN:NE2	2.40	0.49
8:I:587:LEU:HD11	8:I:615:LEU:HD13	1.94	0.49
13:S:174:SER:HB2	13:S:182:TRP:HB2	1.95	0.49
1:H:507:VAL:HG13	7:Q:201:LYS:HD3	1.95	0.49
2:J:72:GLU:HA	2:J:75:MET:HG3	1.94	0.49
6:P:9:ASP:OD1	6:P:19:GLN:NE2	2.35	0.49
7:Q:225:GLN:O	7:Q:229:VAL:HG23	2.13	0.49
8:R:39:LYS:HG3	8:R:47:GLU:HB2	1.95	0.49
13:V:422:ILE:HD11	13:V:475:LEU:HG	1.95	0.49
1:A:238:PRO:HA	1:A:241:ILE:HG12	1.95	0.49
2:B:128:HIS:HB3	2:B:131:GLU:HB2	1.95	0.49
3:C:99:GLU:OE1	3:C:102:LYS:NZ	2.37	0.49
8:I:41:ASN:HB3	8:I:45:GLU:HB3	1.95	0.49
8:I:186:ASP:OD1	8:I:186:ASP:N	2.45	0.49
8:I:195:SER:HB3	8:I:235:TRP:CE2	2.48	0.49
8:I:389:ASP:OD1	8:I:395:GLN:NE2	2.46	0.49
8:I:482:ASP:OD1	8:I:486:ASP:N	2.46	0.49
8:I:532:GLU:HA	8:I:535:VAL:HB	1.94	0.49
10:M:309:HIS:CE1	11:W:38:ILE:HG12	2.48	0.49
1:H:236:LYS:O	1:H:239:SER:OG	2.23	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:94:GLY:HA3	2:J:115:ASN:HA	1.95	0.49
4:N:319:GLU:OE1	4:N:323:LYS:NZ	2.39	0.49
5:O:13:ARG:NH2	5:O:16:VAL:O	2.46	0.49
5:O:151:ILE:HA	5:O:177:LEU:HD13	1.94	0.49
5:O:176:ARG:HG3	5:O:177:LEU:HG	1.94	0.49
8:R:243:ALA:HB2	8:R:276:TRP:HE1	1.77	0.49
8:R:489:LEU:N	8:R:498:ALA:O	2.41	0.49
9:T:223:GLN:O	9:T:226:ARG:HG3	2.12	0.49
1:A:449:TYR:HA	1:A:452:GLU:HG3	1.93	0.48
2:B:372:GLU:HA	2:B:375:ARG:HG2	1.94	0.48
2:B:424:TYR:HA	4:D:255:PRO:HD3	1.95	0.48
3:C:373:LEU:HD23	3:C:376:ARG:HH11	1.77	0.48
5:E:63:LEU:HA	5:E:66:CYS:HB2	1.94	0.48
6:F:93:ARG:NH2	6:F:97:TYR:OH	2.46	0.48
6:F:325:GLN:HA	6:F:328:LYS:HG2	1.95	0.48
8:I:333:PHE:HE2	8:I:349:VAL:HG11	1.77	0.48
13:S:924:GLN:OE1	13:S:939:TYR:OH	2.27	0.48
2:J:295:ASP:H	2:J:298:SER:HG	1.61	0.48
3:K:21:TYR:HE2	4:N:226:ASN:HD21	1.58	0.48
3:K:555:VAL:O	3:K:559:ILE:HG12	2.13	0.48
6:P:23:LEU:O	6:P:26:THR:OG1	2.20	0.48
8:R:448:GLN:O	8:R:450:ARG:NH1	2.46	0.48
8:R:559:GLN:HB2	8:R:567:LEU:HG	1.93	0.48
9:T:136:ILE:CD1	12:Z:410:GLU:HG3	2.43	0.48
1:A:143:ASP:OD1	1:A:151:SER:OG	2.31	0.48
3:C:21:TYR:HE2	4:D:226:ASN:HD21	1.60	0.48
3:C:493:ALA:HB2	3:C:537:ILE:HA	1.95	0.48
5:E:223:VAL:HB	5:E:246:LEU:HD22	1.94	0.48
8:I:36:THR:HG22	8:I:52:THR:HG23	1.94	0.48
8:I:370:ASP:OD1	8:I:370:ASP:N	2.46	0.48
8:I:485:ARG:HB2	8:I:503:MET:HA	1.94	0.48
13:S:255:PRO:HG3	13:S:301:PRO:HA	1.95	0.48
2:J:176:VAL:HG11	2:J:231:TRP:HB3	1.94	0.48
2:J:295:ASP:OD1	2:J:295:ASP:N	2.46	0.48
5:O:422:ASP:N	5:O:422:ASP:OD1	2.44	0.48
6:P:180:LYS:HA	6:P:183:LEU:HD12	1.95	0.48
6:P:335:ARG:HH12	7:Q:340:SER:HB3	1.76	0.48
8:R:36:THR:HG22	8:R:52:THR:HG23	1.95	0.48
8:R:206:GLU:HA	8:R:229:PRO:HB3	1.94	0.48
9:T:178:GLU:HA	9:T:181:ILE:HD12	1.94	0.48
13:V:138:VAL:HG23	13:V:151:CYS:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:380:THR:HA	13:V:395:PRO:HA	1.95	0.48
3:C:383:ARG:HG3	3:C:386:LYS:HE3	1.95	0.48
8:I:89:ILE:O	8:I:97:GLU:N	2.46	0.48
13:S:800:PRO:O	13:S:804:ASP:HB2	2.14	0.48
1:H:466:LEU:HD22	1:H:479:LYS:HG2	1.95	0.48
2:J:27:PHE:HB2	2:J:31:PHE:HE2	1.78	0.48
5:O:54:ARG:HH21	5:O:83:LEU:HD11	1.77	0.48
8:R:249:THR:HA	8:R:264:HIS:HA	1.96	0.48
8:R:593:LYS:HB2	8:R:595:GLN:HE21	1.78	0.48
13:V:89:VAL:HB	13:V:110:PHE:HB2	1.94	0.48
13:V:829:SER:H	13:V:852:GLU:HA	1.78	0.48
13:V:867:TRP:O	13:V:870:THR:OG1	2.30	0.48
2:B:19:GLU:HA	2:B:65:LYS:HG3	1.95	0.48
3:C:398:ASP:N	3:C:398:ASP:OD1	2.46	0.48
13:S:581:THR:HG23	13:S:601:ILE:HG12	1.94	0.48
6:P:280:PRO:HA	6:P:283:VAL:HG22	1.94	0.48
8:R:89:ILE:O	8:R:97:GLU:N	2.46	0.48
8:R:480:VAL:HG13	8:R:488:TYR:HD1	1.77	0.48
13:V:447:VAL:HB	13:V:499:GLN:HA	1.94	0.48
13:V:939:TYR:HD1	13:V:944:MET:HG3	1.79	0.48
1:A:309:ARG:NH2	1:A:378:ASP:HB3	2.29	0.48
8:I:350:ALA:HB2	8:I:378:LEU:HD22	1.95	0.48
13:S:7:LYS:HE2	13:S:9:ILE:HG13	1.95	0.48
13:S:499:GLN:HG3	13:S:500:ARG:HD3	1.95	0.48
13:S:514:HIS:HB3	13:S:523:ARG:HG2	1.96	0.48
2:J:19:GLU:HA	2:J:65:LYS:HG3	1.95	0.48
2:J:78:LYS:HD3	2:J:81:LYS:HZ3	1.77	0.48
3:K:398:ASP:N	3:K:398:ASP:OD1	2.47	0.48
8:R:130:ILE:HG22	8:R:138:ARG:HB3	1.96	0.48
8:R:347:LEU:HB3	8:R:358:TYR:HB2	1.95	0.48
13:V:1083:VAL:HA	13:V:1086:VAL:HG12	1.96	0.48
2:B:337:GLU:OE2	3:C:454:ASN:ND2	2.47	0.48
3:C:122:SER:HA	3:C:125:GLN:HG2	1.95	0.48
6:F:78:VAL:HG11	6:F:83:LEU:HD11	1.96	0.48
8:I:431:VAL:HB	8:I:442:ARG:HB2	1.94	0.48
13:S:554:TYR:CZ	13:S:600:LEU:HD13	2.48	0.48
1:H:181:LEU:HA	1:H:184:MET:HG3	1.95	0.48
1:H:670:HIS:NE2	1:H:679:CYS:SG	2.84	0.48
3:K:132:ARG:NH2	3:K:156:GLU:OE1	2.47	0.48
3:K:460:PHE:O	3:K:466:TYR:OH	2.23	0.48
5:O:14:THR:OG1	5:O:17:ALA:O	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:P:44:ILE:HD11	6:P:68:PHE:HZ	1.78	0.48
7:Q:209:TYR:O	7:Q:213:GLN:NE2	2.34	0.48
8:R:505:ASP:OD1	8:R:505:ASP:N	2.46	0.48
12:Z:409:ARG:CZ	12:Z:410:GLU:OE1	2.62	0.48
13:V:471:ARG:HH21	13:V:473:GLN:HG3	1.79	0.48
13:V:508:ASP:OD1	13:V:512:HIS:N	2.46	0.48
1:A:280:LEU:HD11	1:A:303:ASN:OD1	2.14	0.48
2:B:186:GLN:O	2:B:188:PRO:CD	2.61	0.48
5:E:282:ASP:OD1	5:E:288:ARG:NH1	2.46	0.48
6:F:169:LEU:HA	6:F:172:LYS:HE2	1.95	0.48
8:I:437:SER:OG	8:I:461:GLU:OE2	2.30	0.48
8:I:596:TRP:CE2	12:X:503:LEU:HD11	2.49	0.48
9:L:161:ARG:HA	9:L:164:ARG:HE	1.77	0.48
13:S:198:GLN:NE2	13:S:200:VAL:O	2.47	0.48
1:H:268:LEU:O	1:H:272:ARG:HG2	2.13	0.48
1:H:511:TYR:CZ	1:H:515:LEU:HD11	2.48	0.48
3:K:543:THR:HA	3:K:546:CYS:HB2	1.95	0.48
8:R:479:ILE:HB	8:R:487:LEU:HD11	1.95	0.48
11:Y:122:ILE:HD11	12:Z:495:ASN:HA	1.94	0.48
13:V:514:HIS:HB3	13:V:523:ARG:HG2	1.96	0.48
13:V:729:ILE:HB	13:V:750:TRP:HE1	1.78	0.48
1:A:434:GLU:O	1:A:438:LYS:N	2.45	0.48
2:B:53:LEU:HB3	2:B:54:ARG:HH11	1.77	0.48
2:B:427:GLY:N	4:D:254:PRO:O	2.41	0.48
3:C:260:LYS:HA	3:C:285:ILE:HD11	1.95	0.48
5:E:132:GLN:HA	5:E:140:LEU:HD11	1.96	0.48
8:I:700:ALA:HA	8:I:703:HIS:HB3	1.94	0.48
9:L:204:ARG:NE	10:M:378:ASN:HB3	2.28	0.48
2:J:186:GLN:O	2:J:188:PRO:CD	2.61	0.48
3:K:275:ASP:O	3:K:279:LEU:N	2.41	0.48
3:K:474:GLU:HA	3:K:477:VAL:HB	1.96	0.48
5:O:129:HIS:HA	5:O:132:GLN:HG2	1.95	0.48
7:Q:150:ILE:HA	7:Q:153:VAL:HG22	1.96	0.48
8:R:211:LYS:HG2	8:R:222:GLN:HA	1.95	0.48
8:R:518:ALA:HB3	8:R:527:TRP:HZ3	1.78	0.48
13:V:30:ARG:NH1	13:V:77:SER:O	2.47	0.48
1:A:210:ALA:O	1:A:214:ASN:ND2	2.47	0.48
2:B:7:GLU:O	2:B:39:ARG:N	2.47	0.48
2:B:426:MET:HE1	4:D:287:ASP:H	1.78	0.48
4:D:318:MET:O	4:D:322:ASN:ND2	2.47	0.48
8:I:489:LEU:N	8:I:498:ALA:O	2.41	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:S:384:GLY:HA3	13:S:391:LEU:HD23	1.95	0.48
5:O:13:ARG:HH11	5:O:18:GLN:HG2	1.79	0.48
6:P:210:LEU:O	6:P:213:GLN:HG2	2.14	0.48
8:R:587:LEU:HD11	8:R:615:LEU:HD13	1.95	0.48
9:T:235:PRO:HD2	9:T:237:TYR:CZ	2.48	0.48
6:F:48:HIS:HE2	6:F:65:LEU:HD21	1.77	0.48
6:F:127:GLU:HA	6:F:130:ASN:HB2	1.95	0.48
6:F:186:LYS:O	6:F:190:ALA:HB2	2.14	0.48
13:S:867:TRP:O	13:S:870:THR:OG1	2.31	0.48
1:H:542:GLU:OE2	1:H:545:HIS:ND1	2.47	0.48
1:H:658:ASN:O	1:H:662:ALA:N	2.45	0.48
3:K:432:SER:O	3:K:435:GLU:HG2	2.14	0.48
7:Q:271:GLU:HA	7:Q:274:THR:HG22	1.96	0.48
13:V:549:ASN:HA	13:V:566:PRO:HA	1.96	0.48
1:A:228:GLY:HA2	1:A:231:HIS:CD2	2.48	0.47
3:C:96:MET:O	3:C:100:ALA:N	2.34	0.47
13:S:373:LEU:HD23	13:S:386:LEU:HG	1.94	0.47
13:S:664:LEU:HD11	13:S:694:GLN:HE21	1.79	0.47
13:S:874:MET:HG3	13:S:878:ILE:HG23	1.95	0.47
13:S:960:ALA:HB2	13:S:963:ARG:HH21	1.79	0.47
1:H:143:ASP:HA	1:H:149:ILE:HD11	1.96	0.47
13:V:531:GLN:N	13:V:545:GLN:O	2.41	0.47
13:V:560:ASP:OD1	13:V:561:ASN:N	2.47	0.47
13:V:849:ALA:O	13:V:850:ARG:HD3	2.14	0.47
1:A:148:ASP:H	1:A:197:MET:HG3	1.80	0.47
1:A:308:ASP:N	1:A:308:ASP:OD1	2.44	0.47
1:A:483:LEU:HA	1:A:486:ARG:HB2	1.95	0.47
2:B:187:LYS:NZ	2:B:261:ALA:HB1	2.29	0.47
4:D:219:GLN:HA	4:D:222:ILE:HD12	1.96	0.47
5:E:14:THR:OG1	5:E:17:ALA:O	2.33	0.47
8:I:153:TRP:HA	8:I:160:LEU:HG	1.96	0.47
8:I:202:ILE:HG22	8:I:212:VAL:HG22	1.95	0.47
1:H:240:ALA:HA	1:H:243:MET:HE2	1.96	0.47
1:H:259:ARG:O	1:H:263:MET:HG3	2.14	0.47
6:P:78:VAL:HG11	6:P:83:LEU:HD11	1.96	0.47
11:Y:109:GLN:HA	11:Y:112:ILE:HD12	1.95	0.47
13:V:498:ASN:HD21	13:V:502:THR:H	1.60	0.47
1:A:155:ASN:OD1	1:A:156:ALA:N	2.47	0.47
2:B:425:LYS:HZ2	4:D:288:ILE:HB	1.79	0.47
3:C:221:ASP:OD1	3:C:221:ASP:N	2.44	0.47
5:E:43:ILE:HA	5:E:46:LEU:HB2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:335:ARG:HH12	7:G:340:SER:HB3	1.80	0.47
8:I:252:LEU:HA	8:I:252:LEU:HD12	1.74	0.47
8:I:300:LEU:HB2	8:I:311:VAL:HB	1.96	0.47
8:I:322:ILE:HG23	12:X:479:LYS:HZ2	1.80	0.47
8:I:480:VAL:HG13	8:I:488:TYR:HD1	1.79	0.47
1:H:576:GLY:HA3	2:J:272:LEU:HD23	1.95	0.47
2:J:7:GLU:O	2:J:39:ARG:N	2.46	0.47
8:R:211:LYS:HE2	8:R:222:GLN:HG3	1.96	0.47
8:R:275:SER:O	8:R:284:ALA:N	2.48	0.47
9:T:239:ASP:O	9:T:242:GLU:HG3	2.13	0.47
11:Y:108:GLU:O	11:Y:112:ILE:HG13	2.14	0.47
13:V:554:TYR:CZ	13:V:600:LEU:HD13	2.50	0.47
1:A:577:VAL:HA	1:A:580:ARG:HE	1.79	0.47
5:E:223:VAL:HA	5:E:226:LYS:HE2	1.97	0.47
8:I:322:ILE:HG23	12:X:479:LYS:NZ	2.29	0.47
13:S:342:ILE:HG12	13:S:353:VAL:HG22	1.95	0.47
13:S:493:ASP:OD1	13:S:494:TRP:N	2.47	0.47
13:S:899:GLN:HG2	13:S:900:PHE:H	1.80	0.47
1:H:352:LYS:N	1:H:354:GLU:OE1	2.47	0.47
3:K:219:ASN:HA	3:K:265:ASP:HA	1.97	0.47
8:R:366:PRO:HG2	8:R:368:ILE:HD11	1.95	0.47
9:T:277:GLN:HA	9:T:280:MET:HG3	1.96	0.47
1:A:283:PHE:O	1:A:287:MET:HG2	2.13	0.47
1:A:304:TYR:CD2	1:A:376:LYS:HE3	2.48	0.47
8:I:82:CYS:SG	8:I:83:THR:N	2.83	0.47
12:X:409:ARG:HA	12:X:412:VAL:HG22	1.96	0.47
1:H:308:ASP:OD1	1:H:308:ASP:N	2.47	0.47
3:K:298:LEU:HD23	3:K:301:LEU:HD12	1.97	0.47
5:O:183:ASP:H	5:O:186:ARG:HB2	1.80	0.47
6:P:83:LEU:HA	6:P:86:GLN:HG3	1.97	0.47
6:P:224:ILE:HG22	7:Q:229:VAL:HG22	1.97	0.47
7:Q:272:TYR:HA	7:Q:275:LEU:HD12	1.96	0.47
8:R:277:THR:N	8:R:282:GLN:O	2.39	0.47
8:R:389:ASP:OD1	8:R:389:ASP:N	2.46	0.47
8:R:433:ASP:OD1	8:R:435:GLN:NE2	2.47	0.47
13:V:639:ALA:HB1	13:V:648:ALA:HA	1.96	0.47
1:A:437:VAL:HG13	1:A:440:ARG:HH21	1.79	0.47
3:C:207:ALA:HA	3:C:210:GLU:HG3	1.96	0.47
3:C:555:VAL:O	3:C:559:ILE:HG12	2.14	0.47
7:G:146:LYS:HB3	7:G:147:ARG:NH2	2.30	0.47
8:I:182:TRP:HE1	8:I:184:ALA:HB2	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:X:499:LEU:HA	12:X:502:LEU:HG	1.96	0.47
1:H:270:PHE:HD2	1:H:279:ALA:HB2	1.78	0.47
8:R:756:SER:HB3	8:R:763:ARG:HH12	1.79	0.47
13:V:159:TYR:HB3	13:V:177:MET:HB2	1.96	0.47
1:A:576:GLY:HA3	2:B:272:LEU:HD23	1.96	0.47
3:C:169:ALA:O	3:C:173:LEU:HB3	2.14	0.47
3:C:599:SER:HA	3:C:602:GLU:HG2	1.97	0.47
5:E:13:ARG:NH2	5:E:16:VAL:O	2.48	0.47
8:I:95:ARG:NE	8:I:97:GLU:OE2	2.48	0.47
8:I:153:TRP:CE3	8:I:160:LEU:HD11	2.50	0.47
8:I:158:ASP:OD1	8:I:158:ASP:N	2.42	0.47
8:I:568:VAL:HG22	8:I:576:VAL:HB	1.96	0.47
8:I:593:LYS:HE2	8:I:595:GLN:NE2	2.30	0.47
9:L:16:LEU:O	9:L:45:ARG:NE	2.47	0.47
13:S:12:PRO:HG3	13:S:314:ALA:HB2	1.96	0.47
13:S:399:ASP:OD1	13:S:399:ASP:N	2.44	0.47
1:H:136:LEU:HD11	1:H:158:GLU:HG3	1.97	0.47
1:H:304:TYR:C	1:H:306:LEU:N	2.68	0.47
1:H:544:ILE:HG21	1:H:566:LEU:HD22	1.97	0.47
2:J:57:HIS:HA	2:J:79:PHE:HZ	1.79	0.47
5:O:69:HIS:NE2	5:O:187:SER:OG	2.43	0.47
5:O:347:GLN:HG2	5:O:368:CYS:HB2	1.96	0.47
6:P:222:THR:O	6:P:226:THR:HG23	2.15	0.47
8:R:20:VAL:HG12	8:R:30:THR:HG22	1.95	0.47
8:R:460:LEU:HB3	8:R:482:ASP:HB2	1.96	0.47
8:R:474:ASN:HA	8:R:493:MET:HE1	1.95	0.47
8:R:730:PHE:O	8:R:734:ASN:ND2	2.38	0.47
9:T:5:GLU:HG2	9:T:94:VAL:HG21	1.96	0.47
13:V:415:HIS:HA	13:V:420:LEU:HA	1.96	0.47
2:B:92:GLU:O	2:B:97:LYS:NZ	2.41	0.47
3:C:543:THR:HA	3:C:546:CYS:HB2	1.97	0.47
8:I:218:ARG:HH21	8:I:219:LEU:HB3	1.79	0.47
13:S:341:VAL:O	13:S:354:LEU:N	2.40	0.47
13:S:402:GLU:HG2	13:S:414:VAL:HB	1.97	0.47
13:S:836:TYR:HB2	13:S:845:ALA:HB2	1.96	0.47
8:R:207:ASP:OD1	8:R:207:ASP:N	2.43	0.47
13:V:978:TYR:HD2	13:V:1001:ALA:HA	1.80	0.47
13:V:998:TYR:OH	13:V:1008:LYS:NZ	2.46	0.47
1:A:208:TYR:HB3	1:A:223:LEU:HD11	1.96	0.47
3:C:223:MET:N	3:C:223:MET:SD	2.88	0.47
8:I:596:TRP:NE1	8:I:627:THR:OG1	2.31	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:S:698:GLN:O	13:S:702:SER:N	2.39	0.47
13:S:719:TYR:HD2	13:S:728:ALA:HA	1.80	0.47
2:J:92:GLU:O	2:J:97:LYS:NZ	2.41	0.47
2:J:180:GLY:HA2	2:J:223:SER:HB2	1.97	0.47
4:N:333:GLY:O	4:N:334:MET:C	2.53	0.47
5:O:63:LEU:HA	5:O:66:CYS:HB2	1.96	0.47
11:Y:72:LEU:O	11:Y:76:VAL:HG13	2.15	0.47
13:V:324:ARG:HH22	13:V:332:GLU:HB2	1.80	0.47
13:V:459:LYS:HG3	13:V:475:LEU:HB2	1.97	0.47
13:V:577:HIS:HE1	13:V:582:GLU:HG2	1.80	0.47
1:A:227:MET:SD	1:A:243:MET:SD	3.12	0.47
2:B:295:ASP:H	2:B:298:SER:HG	1.63	0.47
8:I:216:PHE:HZ	13:V:547:ARG:HH22	1.63	0.47
8:I:277:THR:N	8:I:282:GLN:O	2.39	0.47
3:K:458:THR:O	3:K:462:GLN:N	2.46	0.47
3:K:559:ILE:HD12	3:K:606:PHE:HB2	1.95	0.47
6:P:186:LYS:O	6:P:190:ALA:HB2	2.15	0.47
7:Q:180:ASP:OD1	7:Q:181:LEU:N	2.48	0.47
7:Q:195:TYR:HA	7:Q:198:VAL:HG22	1.97	0.47
1:A:511:TYR:CZ	1:A:515:LEU:HD11	2.50	0.46
2:B:140:ASN:HD21	2:B:256:LEU:HD12	1.79	0.46
3:C:243:PHE:HA	3:C:246:LYS:HG2	1.96	0.46
5:E:7:ARG:HH12	5:E:256:ASP:HB3	1.81	0.46
5:E:196:TYR:HB3	5:E:204:VAL:HG13	1.96	0.46
6:F:306:ASP:N	6:F:306:ASP:OD1	2.45	0.46
8:I:27:GLU:HB3	8:I:92:ARG:NH2	2.29	0.46
8:I:275:SER:O	8:I:284:ALA:N	2.48	0.46
8:I:692:ASN:H	13:V:662:ARG:H	1.62	0.46
9:L:221:GLU:O	9:L:225:LYS:HG2	2.15	0.46
1:H:311:GLY:O	1:H:315:ALA:HB3	2.15	0.46
3:K:573:THR:HA	3:K:576:TYR:HB2	1.97	0.46
5:O:14:THR:HG23	5:O:18:GLN:HE22	1.80	0.46
5:O:173:ILE:HG13	5:O:176:ARG:HH21	1.80	0.46
8:R:129:LYS:HA	8:R:140:THR:HA	1.96	0.46
8:R:227:ASP:OD1	8:R:227:ASP:N	2.48	0.46
9:T:107:ALA:HA	11:Y:59:VAL:HG21	1.97	0.46
13:V:402:GLU:HG3	13:V:416:TYR:HB2	1.96	0.46
13:V:916:MET:HB3	13:V:920:ARG:HH12	1.80	0.46
1:A:670:HIS:HE1	1:A:676:ASN:HB3	1.80	0.46
2:B:432:GLY:H	4:D:254:PRO:HB3	1.80	0.46
8:I:129:LYS:HA	8:I:140:THR:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:514:ALA:HB1	8:I:530:PRO:HG3	1.96	0.46
13:S:415:HIS:HD2	13:S:420:LEU:HB2	1.80	0.46
2:J:116:ASP:OD1	2:J:116:ASP:N	2.48	0.46
2:J:394:MET:HB2	2:J:404:LEU:HD11	1.96	0.46
2:J:427:GLY:N	4:N:254:PRO:O	2.36	0.46
5:O:349:VAL:O	5:O:352:SER:OG	2.28	0.46
8:R:577:SER:HB2	11:Y:97:LYS:NZ	2.31	0.46
9:T:200:GLU:O	9:T:204:ARG:HG2	2.16	0.46
13:V:8:SER:OG	13:V:316:ASP:OD2	2.32	0.46
13:V:616:VAL:HG12	13:V:632:TRP:HZ3	1.80	0.46
13:V:816:TYR:HE2	13:V:834:GLN:HB3	1.80	0.46
1:A:471:TYR:HB3	6:F:182:ARG:HH22	1.80	0.46
1:A:482:VAL:O	1:A:486:ARG:N	2.43	0.46
2:B:133:LEU:HD22	2:B:176:VAL:HG22	1.98	0.46
7:G:233:LEU:HD22	7:G:236:ARG:HH21	1.80	0.46
8:I:479:ILE:HB	8:I:487:LEU:HD11	1.97	0.46
9:L:96:GLU:OE2	9:L:99:LYS:NZ	2.34	0.46
12:X:485:ILE:O	12:X:489:LYS:HG2	2.15	0.46
2:J:67:LYS:NZ	2:J:101:ASN:OD1	2.48	0.46
2:J:106:LEU:O	2:J:111:MET:N	2.42	0.46
8:R:254:ASP:HB2	8:R:260:TYR:HE1	1.79	0.46
9:T:221:GLU:O	9:T:225:LYS:HG2	2.15	0.46
9:T:240:GLU:HA	9:T:243:ARG:HB2	1.98	0.46
13:V:82:ILE:HB	13:V:90:PHE:HB2	1.96	0.46
13:V:758:GLU:HG2	13:V:777:TYR:HA	1.98	0.46
2:B:106:LEU:O	2:B:111:MET:N	2.47	0.46
2:B:203:ASN:HB2	2:B:265:ASP:HB3	1.98	0.46
5:E:363:GLN:HG3	5:E:395:PHE:HZ	1.80	0.46
7:G:143:LEU:HG	7:G:147:ARG:NH1	2.31	0.46
8:I:200:LEU:HB2	8:I:255:ARG:HH11	1.80	0.46
9:L:166:ARG:HB3	10:M:344:LYS:HG2	1.97	0.46
11:W:115:LYS:HG2	12:X:495:ASN:ND2	2.31	0.46
1:H:228:GLY:HA2	1:H:231:HIS:CD2	2.50	0.46
1:H:304:TYR:CD2	2:J:296:TRP:HZ2	2.33	0.46
2:J:365:LEU:HD22	4:N:225:ILE:HG23	1.96	0.46
3:K:297:LYS:HA	3:K:300:PHE:HD2	1.80	0.46
5:O:128:PHE:CE1	5:O:143:TYR:HB3	2.50	0.46
5:O:178:LEU:HG	5:O:182:ARG:HH21	1.81	0.46
9:T:280:MET:O	9:T:283:GLN:HG3	2.16	0.46
13:V:540:ASP:OD1	13:V:540:ASP:N	2.46	0.46
13:V:795:ASN:OD1	13:V:796:VAL:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:924:GLN:OE1	13:V:939:TYR:OH	2.30	0.46
2:B:94:GLY:HA3	2:B:115:ASN:HA	1.98	0.46
2:B:388:ASP:HA	2:B:392:TYR:HB3	1.98	0.46
3:C:559:ILE:HD12	3:C:606:PHE:HB2	1.97	0.46
7:G:225:GLN:O	7:G:229:VAL:HG23	2.15	0.46
8:I:398:THR:HG22	8:I:402:ARG:H	1.81	0.46
13:S:218:ALA:HB2	13:S:224:VAL:HG22	1.98	0.46
13:S:616:VAL:HG12	13:S:632:TRP:HZ3	1.81	0.46
13:S:781:GLY:C	13:S:782:LEU:HD22	2.35	0.46
13:S:957:LYS:HG2	13:S:960:ALA:HB3	1.98	0.46
2:J:312:ILE:HB	3:K:589:ALA:HB1	1.98	0.46
6:P:196:LYS:HG3	6:P:198:PRO:HD3	1.97	0.46
6:P:272:ARG:HA	6:P:275:VAL:HG12	1.97	0.46
8:R:186:ASP:OD1	8:R:186:ASP:N	2.48	0.46
3:C:458:THR:O	3:C:462:GLN:N	2.47	0.46
8:I:68:LYS:HG3	8:I:73:GLY:HA2	1.96	0.46
11:W:117:GLU:HG2	13:V:756:GLN:HG2	1.97	0.46
13:S:363:GLU:OE1	13:S:376:ARG:NH1	2.48	0.46
13:S:402:GLU:HG3	13:S:416:TYR:HB2	1.97	0.46
6:P:238:TYR:HE2	7:Q:239:LEU:HB3	1.80	0.46
13:V:140:LEU:HD21	13:V:186:PHE:HE1	1.80	0.46
1:A:189:PHE:HE2	2:B:309:THR:HG23	1.81	0.46
2:B:106:LEU:HA	2:B:109:PHE:HB2	1.96	0.46
2:B:291:ASP:N	2:B:291:ASP:OD1	2.43	0.46
5:E:14:THR:HG23	5:E:18:GLN:HE22	1.79	0.46
6:F:328:LYS:HA	6:F:331:GLN:HG3	1.97	0.46
8:I:347:LEU:N	8:I:358:TYR:O	2.38	0.46
11:W:56:ASP:CA	11:W:59:VAL:HG22	2.40	0.46
12:X:407:SER:O	12:X:411:LEU:HG	2.16	0.46
13:S:1069:GLN:NE2	13:S:1073:GLN:OE1	2.49	0.46
1:H:257:GLU:OE1	3:K:646:ARG:NH2	2.45	0.46
2:J:54:ARG:HH21	2:J:76:LEU:HA	1.80	0.46
3:K:428:MET:HG2	3:K:430:LEU:HG	1.97	0.46
8:R:80:VAL:O	8:R:88:LYS:N	2.47	0.46
9:T:16:LEU:O	9:T:45:ARG:NE	2.48	0.46
9:T:110:LYS:HE3	12:Z:436:MET:HG2	1.97	0.46
13:V:945:ALA:HB3	13:V:969:LEU:HD23	1.97	0.46
1:A:231:HIS:HD2	1:A:243:MET:SD	2.37	0.46
2:B:330:ASN:HD21	3:C:548:LYS:HB2	1.80	0.46
5:E:5:LYS:HE2	5:E:257:HIS:CE1	2.51	0.46
7:G:153:VAL:HA	7:G:156:ASN:ND2	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:108:ILE:HD11	9:L:2:SER:HB3	1.97	0.46
9:L:200:GLU:O	9:L:204:ARG:HG2	2.16	0.46
1:H:254:THR:OG1	1:H:255:ALA:N	2.47	0.46
1:H:283:PHE:HA	1:H:286:VAL:HG22	1.98	0.46
2:J:141:ARG:HH21	2:J:168:PHE:HA	1.80	0.46
9:T:70:ALA:HB2	9:T:83:ILE:HD11	1.97	0.46
1:A:454:GLU:OE2	10:M:443:SER:OG	2.25	0.46
2:B:71:PRO:O	2:B:75:MET:HG3	2.16	0.46
2:B:358:PRO:O	3:C:59:TYR:OH	2.33	0.46
3:C:17:THR:OG1	3:C:18:GLN:OE1	2.32	0.46
3:C:559:ILE:HG21	3:C:602:GLU:HB2	1.98	0.46
5:E:125:ARG:HG3	5:E:152:GLU:HB3	1.97	0.46
6:F:210:LEU:O	6:F:214:GLN:NE2	2.49	0.46
9:L:74:LEU:O	10:M:306:TRP:NE1	2.47	0.46
10:M:398:LEU:HB3	10:M:402:LYS:NZ	2.31	0.46
13:S:412:CYS:O	13:S:423:VAL:N	2.46	0.46
13:S:422:ILE:HG13	13:S:431:LEU:HB2	1.97	0.46
13:S:545:GLN:NE2	13:S:546:SER:O	2.44	0.46
13:S:945:ALA:HB3	13:S:969:LEU:HD23	1.98	0.46
1:H:180:ASN:OD1	1:H:181:LEU:N	2.49	0.46
1:H:496:PHE:CE2	1:H:516:VAL:HG21	2.51	0.46
3:K:211:HIS:CE1	3:K:214:LEU:HB2	2.51	0.46
5:O:326:HIS:CD2	5:O:341:LYS:HD2	2.51	0.46
6:P:328:LYS:HA	6:P:331:GLN:HG3	1.98	0.46
8:R:153:TRP:CE3	8:R:160:LEU:HD11	2.50	0.46
8:R:158:ASP:N	8:R:158:ASP:OD1	2.43	0.46
8:R:527:TRP:HA	8:R:544:ARG:HA	1.98	0.46
8:R:539:LEU:HD12	8:R:542:LYS:HD3	1.97	0.46
8:R:729:ARG:HA	8:R:732:GLN:HG3	1.98	0.46
13:V:402:GLU:HG2	13:V:414:VAL:HB	1.98	0.46
13:V:653:ALA:HA	13:V:662:ARG:HA	1.98	0.46
1:A:224:ARG:O	1:A:243:MET:HE1	2.15	0.46
1:A:306:LEU:HG	9:L:296:GLU:OE1	2.16	0.46
5:E:226:LYS:O	5:E:230:HIS:ND1	2.49	0.46
1:H:395:ARG:HG2	1:H:400:THR:HA	1.96	0.46
2:J:178:PRO:O	2:J:223:SER:OG	2.29	0.46
2:J:291:ASP:OD1	2:J:291:ASP:N	2.43	0.46
2:J:358:PRO:O	3:K:59:TYR:OH	2.34	0.46
3:K:64:ASP:OD1	3:K:65:MET:N	2.41	0.46
5:O:37:ARG:NH2	5:O:39:TYR:OH	2.49	0.46
5:O:223:VAL:HB	5:O:246:LEU:HD22	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:R:711:LEU:HD22	8:R:739:VAL:HB	1.98	0.46
13:V:12:PRO:HG3	13:V:314:ALA:HB2	1.97	0.46
13:V:511:ARG:NH1	13:V:530:CYS:O	2.45	0.46
2:B:123:HIS:CG	9:L:258:ARG:HH12	2.34	0.45
8:I:529:TYR:CD1	8:I:532:GLU:HG2	2.50	0.45
8:I:619:ALA:O	8:I:623:LYS:N	2.48	0.45
8:I:688:ILE:HG13	8:I:713:TYR:HD2	1.81	0.45
1:H:239:SER:O	1:H:242:LYS:HG2	2.16	0.45
3:K:326:PHE:HB3	3:K:329:LEU:HD11	1.98	0.45
5:O:274:LEU:HG	5:O:307:LEU:HD13	1.97	0.45
7:Q:166:ARG:HH21	7:Q:170:GLN:HE22	1.62	0.45
8:R:398:THR:HG22	8:R:402:ARG:H	1.81	0.45
8:R:425:SER:HB2	8:R:467:LEU:HB3	1.97	0.45
13:V:26:PRO:HA	13:V:301:PRO:HG3	1.97	0.45
1:A:188:ASP:O	1:A:208:TYR:OH	2.24	0.45
1:A:270:PHE:HD2	1:A:279:ALA:HB2	1.82	0.45
1:A:578:LEU:HD23	1:A:597:TYR:HA	1.99	0.45
8:I:425:SER:OG	8:I:476:ARG:NE	2.48	0.45
8:I:458:HIS:NE2	8:I:480:VAL:HG21	2.31	0.45
8:I:510:HIS:HB2	8:I:515:MET:HB2	1.98	0.45
2:J:28:LYS:HA	2:J:31:PHE:HD2	1.81	0.45
2:J:120:ARG:HH22	2:J:127:LEU:HA	1.81	0.45
2:J:380:THR:OG1	4:N:234:ALA:O	2.21	0.45
3:K:541:ILE:HG23	3:K:557:ARG:NE	2.31	0.45
5:O:1:MET:HE3	5:O:155:LEU:HB3	1.98	0.45
7:Q:137:ASN:N	7:Q:137:ASN:OD1	2.49	0.45
10:U:451:LEU:HA	10:U:454:LYS:HG2	1.98	0.45
13:V:577:HIS:CE1	13:V:582:GLU:HG2	2.51	0.45
2:B:141:ARG:HH21	2:B:168:PHE:HA	1.81	0.45
3:C:175:TYR:H	5:E:275:GLN:HE22	1.64	0.45
3:C:275:ASP:O	3:C:279:LEU:N	2.42	0.45
5:E:13:ARG:HH11	5:E:18:GLN:HG2	1.81	0.45
5:E:54:ARG:HH21	5:E:83:LEU:HD11	1.81	0.45
5:E:326:HIS:CD2	5:E:341:LYS:HD2	2.51	0.45
8:I:76:ASP:O	8:I:92:ARG:N	2.49	0.45
9:L:124:VAL:HA	9:L:127:SER:HB3	1.98	0.45
10:M:453:ASN:HA	10:M:456:LEU:HD12	1.98	0.45
11:W:56:ASP:O	11:W:59:VAL:HG22	2.16	0.45
11:W:119:GLU:HB2	12:X:495:ASN:ND2	2.30	0.45
13:S:1053:GLU:HA	13:S:1056:LYS:HE2	1.98	0.45
1:H:600:GLU:HG2	1:H:603:ARG:HH21	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:659:LEU:HD22	1:H:686:LEU:HD21	1.97	0.45
2:J:76:LEU:HD11	2:J:86:ILE:HG13	1.99	0.45
3:K:187:TYR:O	3:K:192:GLN:N	2.47	0.45
5:O:377:ASP:N	5:O:377:ASP:OD1	2.49	0.45
8:R:467:LEU:O	8:R:469:GLN:NE2	2.43	0.45
13:V:1100:TRP:HA	13:V:1103:THR:HG22	1.98	0.45
1:A:600:GLU:HA	1:A:603:ARG:HG3	1.97	0.45
2:B:283:LYS:HZ1	10:M:457:LEU:HD22	1.82	0.45
2:B:371:SER:OG	2:B:374:ASN:OD1	2.31	0.45
5:E:34:LEU:HA	5:E:39:TYR:HE1	1.82	0.45
7:G:180:ASP:OD1	7:G:181:LEU:N	2.49	0.45
9:L:235:PRO:HD2	9:L:237:TYR:CE1	2.52	0.45
11:W:108:GLU:HG3	12:X:488:MET:HG3	1.97	0.45
13:S:138:VAL:HG23	13:S:151:CYS:HB2	1.97	0.45
13:S:631:GLN:HE22	13:S:635:LEU:HD11	1.81	0.45
1:H:226:ASN:O	1:H:230:ILE:HG12	2.16	0.45
1:H:309:ARG:NH2	1:H:378:ASP:HB3	2.31	0.45
2:J:123:HIS:CG	9:T:258:ARG:HH12	2.34	0.45
3:K:349:LEU:HA	3:K:352:TYR:HB2	1.98	0.45
4:N:312:PRO:HA	4:N:315:ARG:HB2	1.98	0.45
5:O:96:TYR:OH	5:O:184:TYR:OH	2.23	0.45
7:Q:256:SER:HA	7:Q:259:GLN:HE22	1.81	0.45
8:R:182:TRP:HE1	8:R:184:ALA:HB2	1.80	0.45
8:R:701:THR:HG23	8:R:729:ARG:HH21	1.81	0.45
9:T:122:ILE:HD11	11:Y:48:VAL:HG21	1.99	0.45
13:V:228:ASP:HB3	13:V:234:ILE:HD11	1.98	0.45
2:B:78:LYS:HD3	2:B:81:LYS:HZ3	1.81	0.45
3:C:73:LEU:HD22	3:C:83:TYR:CZ	2.52	0.45
3:C:535:CYS:HA	3:C:538:ASN:ND2	2.32	0.45
8:I:685:LYS:HA	8:I:688:ILE:HG22	1.99	0.45
9:L:107:ALA:HB1	9:L:110:LYS:HB2	1.99	0.45
9:L:108:THR:HG23	11:W:59:VAL:HG23	1.98	0.45
9:L:223:GLN:O	9:L:226:ARG:HG3	2.16	0.45
13:S:26:PRO:HA	13:S:301:PRO:HG3	1.97	0.45
13:S:469:THR:HA	13:S:487:ASN:HA	1.98	0.45
5:O:15:ASN:ND2	5:O:250:SER:O	2.48	0.45
5:O:39:TYR:HB3	5:O:43:ILE:HG13	1.99	0.45
8:R:63:TYR:HB2	8:R:77:VAL:O	2.17	0.45
8:R:159:GLN:HA	8:R:172:SER:HA	1.98	0.45
1:A:226:ASN:O	1:A:230:ILE:HG12	2.16	0.45
2:B:210:TRP:HB3	2:B:218:ILE:HG12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:71:GLU:HB2	3:C:87:TYR:CE1	2.51	0.45
5:E:377:ASP:OD1	5:E:377:ASP:N	2.49	0.45
6:F:178:GLU:O	6:F:181:GLU:HG3	2.17	0.45
8:I:63:TYR:HB2	8:I:77:VAL:O	2.16	0.45
8:I:319:VAL:HB	8:I:328:ASP:HB3	1.98	0.45
8:I:536:ASP:O	8:I:539:LEU:N	2.38	0.45
13:S:776:LEU:CD2	13:S:779:LYS:HD2	2.47	0.45
1:H:263:MET:HG2	1:H:286:VAL:HG21	1.99	0.45
1:H:575:PRO:HG3	1:H:605:TYR:HB3	1.99	0.45
1:H:619:HIS:ND1	1:H:624:VAL:HG13	2.32	0.45
8:R:249:THR:OG1	8:R:251:GLN:OE1	2.18	0.45
8:R:601:ARG:HA	8:R:601:ARG:HD3	1.71	0.45
13:V:274:ASN:HD21	13:V:281:GLU:HG2	1.82	0.45
13:V:499:GLN:HG3	13:V:500:ARG:HD3	1.98	0.45
1:A:548:ALA:HB2	1:A:563:TRP:HB2	1.99	0.45
2:B:95:GLU:OE1	2:B:103:ASN:ND2	2.49	0.45
2:B:180:GLY:HA2	2:B:223:SER:HB2	1.98	0.45
3:C:297:LYS:HA	3:C:300:PHE:HD2	1.82	0.45
3:C:425:TYR:HB3	3:C:430:LEU:HB2	1.98	0.45
5:E:304:ALA:HA	5:E:307:LEU:HD12	1.98	0.45
13:S:176:HIS:HB2	13:S:180:ALA:HB3	1.98	0.45
13:S:586:ASP:HA	13:S:591:THR:HA	1.97	0.45
3:K:127:ASP:OD1	3:K:127:ASP:N	2.45	0.45
3:K:143:PRO:HG2	3:K:173:LEU:HD13	1.99	0.45
3:K:367:PHE:CE1	3:K:421:MET:HB2	2.52	0.45
3:K:373:LEU:HD23	3:K:376:ARG:HH11	1.82	0.45
3:K:559:ILE:HG13	3:K:602:GLU:HG3	1.98	0.45
7:Q:233:LEU:HD22	7:Q:236:ARG:HH21	1.82	0.45
8:R:13:HIS:NE2	8:R:30:THR:OG1	2.33	0.45
8:R:282:GLN:HE21	8:R:294:PHE:HB3	1.81	0.45
13:V:892:LYS:HA	13:V:895:ILE:HD12	1.98	0.45
1:A:296:GLY:HA2	1:A:299:LEU:HD12	1.99	0.45
3:C:97:TYR:CZ	3:C:124:GLU:HG2	2.51	0.45
3:C:195:PRO:HA	3:C:198:LYS:HG3	1.99	0.45
3:C:265:ASP:OD1	3:C:265:ASP:N	2.50	0.45
6:F:321:ILE:HA	6:F:324:ILE:HG12	1.98	0.45
1:H:479:LYS:HZ2	1:H:482:VAL:HG11	1.81	0.45
3:K:38:TYR:HD1	3:K:41:GLN:HE21	1.65	0.45
5:O:263:ASN:HA	5:O:266:VAL:HG22	1.99	0.45
6:P:210:LEU:O	6:P:214:GLN:NE2	2.50	0.45
6:P:262:GLU:HA	6:P:265:ASN:HD22	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:P:290:GLN:O	6:P:294:SER:N	2.49	0.45
9:T:46:TYR:CZ	9:T:104:LEU:HB2	2.51	0.45
11:Y:93:MET:O	11:Y:97:LYS:HG2	2.16	0.45
13:V:137:LYS:O	13:V:139:ARG:NH1	2.50	0.45
13:V:449:GLN:HB3	13:V:458:SER:HB2	1.97	0.45
13:V:902:LYS:O	13:V:906:ILE:HG12	2.16	0.45
1:A:477:VAL:HG13	1:A:496:PHE:CE1	2.52	0.45
1:A:489:LEU:HD12	1:A:520:LEU:HD13	1.98	0.45
1:A:493:ARG:O	1:A:497:ASN:ND2	2.50	0.45
5:E:8:PRO:HG2	5:E:69:HIS:CG	2.52	0.45
6:F:139:LYS:HD3	6:F:139:LYS:HA	1.73	0.45
8:I:119:LEU:HB2	8:I:131:TRP:HB2	1.98	0.45
8:I:193:ASP:HB2	8:I:233:VAL:HG23	1.99	0.45
9:L:168:VAL:HA	9:L:171:HIS:CE1	2.52	0.45
10:M:314:HIS:HA	10:M:317:LYS:HG2	1.99	0.45
13:S:274:ASN:HD21	13:S:281:GLU:HG2	1.82	0.45
1:H:257:GLU:HB3	3:K:646:ARG:HH22	1.81	0.45
1:H:478:ASN:O	1:H:482:VAL:HG23	2.17	0.45
2:J:326:LYS:HD2	2:J:326:LYS:HA	1.74	0.45
3:K:634:GLU:O	3:K:638:LEU:N	2.48	0.45
6:P:169:LEU:HD11	7:Q:175:ASP:HB3	1.99	0.45
8:R:42:MET:HE2	8:R:42:MET:N	2.32	0.45
8:R:510:HIS:HB2	8:R:515:MET:HB2	1.99	0.45
9:T:73:MET:SD	9:T:81:LEU:HB2	2.56	0.45
11:Y:81:GLU:HA	11:Y:84:LYS:HE2	1.98	0.45
12:Z:457:GLU:O	12:Z:461:GLN:HG2	2.17	0.45
13:V:774:ILE:HA	13:V:777:TYR:HB2	1.98	0.45
13:V:848:LEU:HD23	13:V:860:ILE:HD11	1.97	0.45
1:A:444:ASN:ND2	2:B:287:GLN:OE1	2.50	0.45
3:C:634:GLU:O	3:C:638:LEU:N	2.49	0.45
5:E:159:SER:OG	5:E:195:CYS:SG	2.72	0.45
6:F:290:GLN:O	6:F:294:SER:N	2.50	0.45
8:I:69:LYS:NZ	8:I:155:TYR:OH	2.35	0.45
13:S:77:SER:O	13:S:77:SER:OG	2.33	0.45
13:S:693:ALA:HB1	13:S:699:TRP:HB2	1.98	0.45
1:H:435:PRO:HA	1:H:438:LYS:HB2	1.99	0.45
2:J:54:ARG:NH2	2:J:75:MET:SD	2.90	0.45
2:J:427:GLY:HA2	4:N:253:TRP:HA	1.98	0.45
4:N:219:GLN:HA	4:N:222:ILE:HD12	1.99	0.45
8:R:522:GLN:HE22	8:R:554:LYS:HA	1.81	0.45
8:R:536:ASP:O	8:R:539:LEU:N	2.38	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:922:ILE:HA	13:V:925:HIS:HB3	1.99	0.45
3:C:150:GLY:HA2	3:C:165:LYS:HD3	1.99	0.44
5:E:4:SER:HB3	5:E:133:ARG:HE	1.81	0.44
13:S:160:VAL:HA	13:S:176:HIS:HA	1.99	0.44
1:H:258:VAL:HA	1:H:261:LYS:HD2	1.99	0.44
3:K:298:LEU:HD22	3:K:315:LEU:HD13	1.99	0.44
8:R:482:ASP:OD1	8:R:482:ASP:N	2.49	0.44
9:T:123:ASP:HA	10:U:306:TRP:N	2.32	0.44
12:Z:485:ILE:O	12:Z:489:LYS:HG2	2.17	0.44
13:V:330:LYS:O	13:V:346:LEU:N	2.43	0.44
1:A:496:PHE:CE2	1:A:516:VAL:HG21	2.52	0.44
2:B:69:THR:OG1	2:B:70:ALA:N	2.48	0.44
2:B:391:TYR:OH	5:E:26:LYS:NZ	2.33	0.44
3:C:326:PHE:HB3	3:C:329:LEU:HD11	1.99	0.44
4:D:309:LYS:O	4:D:315:ARG:NH1	2.48	0.44
6:F:44:ILE:HD11	6:F:68:PHE:HZ	1.82	0.44
9:L:283:GLN:O	9:L:286:ARG:NH1	2.50	0.44
13:S:375:ALA:O	13:S:382:LEU:N	2.44	0.44
1:H:387:PHE:HB2	1:H:410:LYS:HZ2	1.82	0.44
1:H:399:TYR:HB3	1:H:402:LEU:HD13	1.98	0.44
5:O:138:ASP:OD1	5:O:138:ASP:N	2.51	0.44
8:R:427:ASP:N	8:R:427:ASP:OD1	2.49	0.44
9:T:243:ARG:HH22	10:U:415:ALA:HA	1.82	0.44
13:V:67:ILE:H	13:V:85:SER:HB3	1.82	0.44
13:V:873:GLN:NE2	13:V:875:ASP:OD1	2.51	0.44
1:A:430:PHE:O	1:A:432:LYS:N	2.51	0.44
1:A:474:ARG:NH2	1:A:508:GLU:OE1	2.50	0.44
1:A:602:HIS:HB2	1:A:611:VAL:HG11	1.98	0.44
3:C:298:LEU:HD22	3:C:315:LEU:HD13	1.99	0.44
5:E:349:VAL:O	5:E:352:SER:OG	2.30	0.44
8:I:652:THR:O	8:I:656:ARG:NH1	2.50	0.44
13:S:677:GLU:HB2	13:S:685:ALA:HA	1.98	0.44
8:R:19:ALA:HB3	8:R:31:CYS:HB2	1.98	0.44
8:R:76:ASP:O	8:R:92:ARG:N	2.49	0.44
8:R:695:ARG:HA	8:R:695:ARG:HD2	1.70	0.44
13:V:374:ILE:HG12	13:V:383:MET:SD	2.58	0.44
13:V:1080:ALA:HA	13:V:1083:VAL:HG12	2.00	0.44
1:A:254:THR:OG1	1:A:255:ALA:N	2.49	0.44
1:A:467:LYS:HZ2	6:F:304:GLU:CD	2.21	0.44
3:C:377:HIS:CD2	3:C:414:TYR:HB2	2.53	0.44
3:C:575:TYR:HA	3:C:578:LYS:HB2	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:273:LEU:HB3	4:D:277:THR:HB	2.00	0.44
8:I:85:GLY:O	8:I:102:GLY:N	2.34	0.44
8:I:196:PRO:HD2	8:I:197:ILE:HD12	1.99	0.44
13:S:902:LYS:O	13:S:906:ILE:HG12	2.17	0.44
1:H:449:TYR:CD1	1:H:449:TYR:C	2.91	0.44
5:O:26:LYS:HB3	5:O:26:LYS:HE2	1.80	0.44
5:O:282:ASP:OD1	5:O:288:ARG:NH1	2.50	0.44
8:R:69:LYS:HE2	8:R:413:ARG:HH22	1.83	0.44
8:R:153:TRP:HA	8:R:160:LEU:HG	1.99	0.44
8:R:340:VAL:HG22	8:R:349:VAL:HG23	1.99	0.44
8:R:596:TRP:CE2	12:Z:503:LEU:HD11	2.53	0.44
13:V:106:ILE:HB	13:V:109:LYS:HZ1	1.82	0.44
13:V:568:LYS:HD2	13:V:568:LYS:HA	1.76	0.44
13:V:868:LEU:HB2	13:V:877:ALA:HB2	1.98	0.44
2:B:14:SER:HB3	2:B:61:LEU:HD13	2.00	0.44
3:C:554:GLY:O	3:C:558:ILE:HG12	2.18	0.44
8:I:501:ALA:HB1	8:I:520:VAL:HG21	1.99	0.44
8:I:554:LYS:O	8:I:571:SER:OG	2.26	0.44
9:L:280:MET:O	9:L:283:GLN:HG3	2.18	0.44
13:S:790:VAL:HG23	13:S:791:MET:SD	2.57	0.44
13:S:1052:ARG:NH1	10:U:362:GLN:OE1	2.50	0.44
1:H:161:LYS:HZ1	1:H:168:ARG:HH22	1.65	0.44
1:H:244:TYR:CZ	1:H:265:ASN:HB3	2.53	0.44
1:H:369:ALA:HA	1:H:372:LEU:HG	1.99	0.44
3:K:243:PHE:HA	3:K:246:LYS:HG2	1.99	0.44
5:O:5:LYS:HG2	5:O:105:GLY:HA2	2.00	0.44
7:Q:294:ASP:C	7:Q:298:LYS:HZ1	2.20	0.44
8:R:432:LEU:HD23	8:R:434:GLN:HG3	2.00	0.44
8:R:456:TRP:HE1	8:R:458:HIS:CE1	2.36	0.44
9:T:101:ALA:O	9:T:105:TYR:HB2	2.17	0.44
9:T:134:LYS:NZ	10:U:311:ASP:OD2	2.34	0.44
11:Y:119:GLU:HB2	12:Z:495:ASN:HD21	1.81	0.44
13:V:412:CYS:O	13:V:423:VAL:N	2.49	0.44
13:V:748:LEU:O	13:V:752:LEU:HB3	2.17	0.44
5:E:1:MET:HB2	5:E:191:TYR:HD1	1.83	0.44
6:F:170:LYS:HD2	6:F:170:LYS:HA	1.80	0.44
8:I:340:VAL:HG22	8:I:349:VAL:HG23	2.00	0.44
9:L:299:LEU:O	9:L:303:ARG:N	2.51	0.44
12:X:455:ALA:HA	12:X:458:LEU:HG	2.00	0.44
13:S:106:ILE:HB	13:S:109:LYS:HZ1	1.82	0.44
1:H:208:TYR:HB3	1:H:223:LEU:HD11	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:519:ARG:HE	2:J:279:ALA:HB1	1.83	0.44
2:J:53:LEU:HB3	2:J:54:ARG:HH11	1.82	0.44
3:K:50:LEU:HB3	3:K:73:LEU:HD21	1.98	0.44
3:K:73:LEU:HD22	3:K:83:TYR:CZ	2.52	0.44
5:O:36:LYS:HA	5:O:217:PRO:HD2	2.00	0.44
5:O:310:ASP:N	5:O:310:ASP:OD1	2.50	0.44
8:R:196:PRO:HD2	8:R:197:ILE:HD12	2.00	0.44
8:R:525:CYS:HB2	8:R:544:ARG:HE	1.83	0.44
10:U:434:ASP:HA	10:U:437:VAL:HG22	1.99	0.44
1:A:273:MET:SD	1:A:273:MET:N	2.87	0.44
1:A:399:TYR:HB3	1:A:402:LEU:HD13	1.99	0.44
3:C:169:ALA:O	3:C:173:LEU:HB2	2.17	0.44
3:C:211:HIS:CE1	3:C:214:LEU:HB2	2.52	0.44
5:E:266:VAL:HG21	5:E:290:ASN:HD21	1.82	0.44
6:F:213:GLN:HE21	7:G:218:LEU:HD11	1.83	0.44
12:X:457:GLU:O	12:X:461:GLN:HG2	2.18	0.44
12:X:501:LYS:O	12:X:505:MET:HG2	2.18	0.44
1:H:181:LEU:HG	1:H:185:TYR:HD2	1.83	0.44
1:H:410:LYS:HE3	1:H:413:ARG:NH2	2.33	0.44
1:H:592:ALA:HA	1:H:595:LEU:HG	2.00	0.44
3:K:169:ALA:O	3:K:173:LEU:HB2	2.18	0.44
3:K:169:ALA:O	3:K:173:LEU:HB3	2.17	0.44
3:K:283:ALA:O	3:K:287:MET:HG2	2.18	0.44
3:K:447:GLU:HB3	3:K:452:LYS:HG3	2.00	0.44
5:O:8:PRO:HG2	5:O:69:HIS:CG	2.53	0.44
8:R:343:GLY:HA3	8:R:380:GLN:NE2	2.33	0.44
8:R:440:THR:HA	8:R:457:GLN:HA	2.00	0.44
11:Y:65:GLU:HB3	12:Z:443:TRP:HB3	1.98	0.44
13:V:174:SER:HB2	13:V:182:TRP:HB2	2.00	0.44
2:B:236:GLU:O	2:B:240:ILE:N	2.49	0.44
3:C:309:PRO:HB3	3:C:344:LEU:HG	1.99	0.44
5:E:39:TYR:HB3	5:E:43:ILE:HG13	2.00	0.44
6:F:280:PRO:HA	6:F:283:VAL:HG22	2.00	0.44
7:G:315:ARG:O	7:G:319:LEU:HB2	2.17	0.44
8:I:132:SER:HB3	8:I:138:ARG:HB2	2.00	0.44
8:I:474:ASN:OD1	8:I:475:ASP:N	2.50	0.44
8:I:508:ARG:NH1	8:I:561:PHE:HB3	2.33	0.44
9:L:59:GLU:OE1	9:L:87:TYR:OH	2.29	0.44
9:L:186:ALA:HB1	10:M:363:TYR:HD2	1.83	0.44
1:H:304:TYR:O	1:H:304:TYR:CD1	2.70	0.44
4:N:242:ARG:NH2	4:N:245:GLU:HA	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:O:226:LYS:O	5:O:230:HIS:ND1	2.51	0.44
6:P:186:LYS:HZ3	7:Q:192:LEU:HB3	1.83	0.44
7:Q:153:VAL:HA	7:Q:156:ASN:ND2	2.33	0.44
8:R:425:SER:OG	8:R:476:ARG:NE	2.51	0.44
10:U:342:LEU:HA	10:U:345:LEU:HB2	2.00	0.44
12:Z:410:GLU:O	12:Z:414:LYS:N	2.43	0.44
13:V:819:ALA:O	13:V:822:LEU:HB3	2.18	0.44
1:A:180:ASN:OD1	1:A:181:LEU:N	2.51	0.44
1:A:369:ALA:HA	1:A:372:LEU:HG	2.00	0.44
1:A:422:LYS:HD2	1:A:422:LYS:HA	1.79	0.44
2:B:427:GLY:HA2	4:D:253:TRP:HA	2.00	0.44
6:F:275:VAL:HG22	7:G:289:PHE:CZ	2.53	0.44
13:S:1100:TRP:HA	13:S:1103:THR:HG22	1.99	0.44
2:J:188:PRO:O	2:J:210:TRP:CD1	2.71	0.44
2:J:210:TRP:HB3	2:J:218:ILE:HG12	1.99	0.44
5:O:101:LEU:HA	5:O:104:MET:SD	2.58	0.44
8:R:347:LEU:N	8:R:358:TYR:O	2.41	0.44
8:R:395:GLN:OE1	8:R:408:ARG:NH2	2.51	0.44
8:R:627:THR:HA	8:R:630:VAL:HG12	1.99	0.44
11:Y:83:ARG:NH2	11:Y:87:GLN:OE1	2.40	0.44
13:V:489:ASP:OD1	13:V:490:THR:N	2.50	0.44
13:V:790:VAL:HG12	13:V:798:TRP:CE2	2.53	0.44
13:V:817:GLU:HA	13:V:835:SER:HB3	1.99	0.44
13:V:848:LEU:HD22	13:V:854:PRO:HA	2.00	0.44
13:V:864:TRP:HE3	13:V:880:HIS:CE1	2.36	0.44
1:A:653:TYR:HE2	1:A:665:LYS:HG2	1.83	0.43
2:B:411:LYS:HD3	2:B:415:SER:HB3	2.00	0.43
3:C:190:THR:HG1	3:C:192:GLN:CD	2.15	0.43
3:C:257:GLU:O	3:C:260:LYS:HB2	2.18	0.43
3:C:349:LEU:HA	3:C:352:TYR:HB2	2.00	0.43
5:E:97:SER:HB2	5:E:113:GLN:NE2	2.33	0.43
8:I:282:GLN:HE21	8:I:294:PHE:HB3	1.84	0.43
1:H:304:TYR:HB2	1:H:308:ASP:OD1	2.18	0.43
2:J:426:MET:HE1	4:N:287:ASP:H	1.82	0.43
6:P:322:THR:O	6:P:325:GLN:HG3	2.18	0.43
8:R:248:ASN:O	8:R:265:LEU:N	2.51	0.43
8:R:370:ASP:N	8:R:370:ASP:OD1	2.47	0.43
1:A:193:HIS:ND1	2:B:309:THR:OG1	2.51	0.43
1:A:311:GLY:O	1:A:315:ALA:HB3	2.18	0.43
1:A:677:VAL:HA	1:A:680:LEU:HD12	2.00	0.43
2:B:183:LEU:O	2:B:204:ARG:NH1	2.42	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:238:TYR:CE2	7:G:239:LEU:HB3	2.50	0.43
8:I:227:ASP:OD1	8:I:227:ASP:N	2.51	0.43
8:I:720:ASN:ND2	13:V:649:GLU:HG3	2.32	0.43
9:L:123:ASP:HA	10:M:306:TRP:N	2.33	0.43
11:W:83:ARG:NH1	11:W:87:GLN:HG2	2.34	0.43
1:H:198:ASN:O	1:H:200:ASN:N	2.47	0.43
3:K:517:LYS:HA	3:K:517:LYS:HD2	1.78	0.43
5:O:97:SER:HB2	5:O:113:GLN:HE22	1.83	0.43
6:P:324:ILE:HA	6:P:327:ARG:HE	1.83	0.43
8:R:398:THR:HG23	8:R:400:GLU:H	1.82	0.43
8:R:602:LEU:HB2	8:R:606:ILE:HD13	2.00	0.43
9:T:90:ASP:N	9:T:90:ASP:OD1	2.51	0.43
13:V:367:ILE:HG13	13:V:373:LEU:HA	2.00	0.43
13:V:580:ARG:HA	13:V:601:ILE:HD13	1.99	0.43
2:B:28:LYS:HA	2:B:31:PHE:HD2	1.83	0.43
2:B:186:GLN:C	2:B:188:PRO:HD3	2.38	0.43
5:E:7:ARG:HE	5:E:71:GLY:HA2	1.83	0.43
5:E:166:HIS:ND1	5:E:169:GLU:OE1	2.51	0.43
5:E:174:TYR:HH	5:E:195:CYS:HG	1.62	0.43
5:E:438:TYR:OH	5:E:450:ARG:NH1	2.52	0.43
7:G:195:TYR:HA	7:G:198:VAL:HG22	2.00	0.43
8:I:307:MET:HE3	8:I:360:THR:HB	2.00	0.43
13:S:568:LYS:HD2	13:S:568:LYS:HA	1.76	0.43
1:H:304:TYR:CE2	2:J:296:TRP:CZ2	3.07	0.43
1:H:551:TYR:OH	1:H:559:ASN:ND2	2.46	0.43
2:J:69:THR:OG1	2:J:70:ALA:N	2.49	0.43
8:R:47:GLU:HG3	13:V:900:PHE:CE2	2.53	0.43
8:R:505:ASP:OD1	8:R:519:MET:HB3	2.19	0.43
10:U:452:ARG:NE	10:U:456:LEU:HG	2.34	0.43
1:A:312:MET:HG3	1:A:376:LYS:HZ2	1.83	0.43
1:A:390:CYS:HA	1:A:393:GLN:HE21	1.83	0.43
1:A:605:TYR:CZ	1:A:607:VAL:HB	2.53	0.43
4:D:308:PHE:CE2	4:D:314:PHE:HB3	2.53	0.43
8:I:60:MET:HG2	8:I:80:VAL:HG22	1.99	0.43
13:S:841:ALA:O	13:S:845:ALA:N	2.51	0.43
1:H:470:ARG:HB2	1:H:475:ALA:HB3	2.00	0.43
3:K:70:TYR:HB3	3:K:87:TYR:HB2	2.00	0.43
3:K:101:SER:HA	3:K:104:VAL:HG12	2.00	0.43
3:K:418:LEU:HD12	3:K:421:MET:SD	2.59	0.43
4:N:318:MET:O	4:N:322:ASN:ND2	2.51	0.43
6:P:170:LYS:HD2	6:P:170:LYS:HA	1.80	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:P:213:GLN:HE21	7:Q:218:LEU:HD11	1.83	0.43
9:T:166:ARG:HD3	9:T:166:ARG:HA	1.66	0.43
13:V:836:TYR:HB2	13:V:845:ALA:HB2	2.01	0.43
2:B:89:LEU:HD13	2:B:221:LEU:HB2	2.00	0.43
3:C:641:MET:SD	3:C:641:MET:N	2.89	0.43
4:D:226:ASN:O	4:D:229:HIS:NE2	2.51	0.43
6:F:224:ILE:HG22	7:G:229:VAL:HG22	2.00	0.43
6:F:272:ARG:HA	6:F:275:VAL:HG12	1.99	0.43
8:I:460:LEU:HD12	8:I:460:LEU:HA	1.92	0.43
8:I:600:THR:O	8:I:604:ARG:HG2	2.17	0.43
8:I:601:ARG:HD3	8:I:601:ARG:HA	1.56	0.43
8:I:646:LYS:HD3	8:I:646:LYS:HA	1.59	0.43
9:L:53:ALA:O	9:L:62:ARG:NH2	2.47	0.43
11:W:94:LEU:HD12	11:W:94:LEU:HA	1.79	0.43
13:S:762:ALA:HB2	13:S:785:ARG:HH11	1.83	0.43
13:S:775:GLY:O	13:S:779:LYS:HG3	2.18	0.43
13:S:962:GLN:HB2	13:S:966:ARG:NH2	2.33	0.43
13:S:1021:GLN:HA	13:S:1024:ARG:HB3	2.00	0.43
1:H:131:LYS:HA	1:H:131:LYS:HD3	1.83	0.43
1:H:288:ASP:OD1	1:H:288:ASP:N	2.46	0.43
7:Q:143:LEU:HG	7:Q:147:ARG:NH1	2.33	0.43
8:R:322:ILE:HG23	12:Z:479:LYS:NZ	2.33	0.43
9:T:136:ILE:HD13	12:Z:410:GLU:HG3	1.99	0.43
13:V:368:TYR:CD1	13:V:374:ILE:HD12	2.52	0.43
13:V:471:ARG:CZ	13:V:482:THR:HB	2.48	0.43
1:A:449:TYR:O	1:A:452:GLU:HG2	2.19	0.43
5:E:310:ASP:OD1	5:E:310:ASP:N	2.51	0.43
8:I:248:ASN:O	8:I:265:LEU:N	2.52	0.43
13:S:531:GLN:N	13:S:545:GLN:O	2.47	0.43
1:H:125:GLN:O	1:H:129:MET:HG2	2.19	0.43
1:H:161:LYS:HD2	1:H:161:LYS:HA	1.85	0.43
1:H:238:PRO:HA	1:H:241:ILE:HG12	2.01	0.43
3:K:309:PRO:HB3	3:K:344:LEU:HG	2.00	0.43
3:K:368:ARG:O	3:K:372:GLU:HG3	2.19	0.43
6:P:290:GLN:HA	6:P:293:LEU:HB2	2.00	0.43
7:Q:158:LYS:HA	7:Q:158:LYS:HD2	1.72	0.43
7:Q:174:MET:SD	7:Q:177:ARG:NH2	2.89	0.43
8:R:476:ARG:HA	8:R:476:ARG:HD3	1.85	0.43
2:B:188:PRO:O	2:B:210:TRP:CD1	2.71	0.43
2:B:326:LYS:HD2	2:B:326:LYS:HA	1.79	0.43
3:C:187:TYR:CD2	3:C:195:PRO:HB2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:10:SER:HB2	6:F:104:VAL:HG21	2.00	0.43
8:I:643:PHE:HA	13:V:695:LEU:HD23	2.01	0.43
9:L:134:LYS:HD3	9:L:134:LYS:HA	1.88	0.43
3:K:97:TYR:CZ	3:K:124:GLU:HG2	2.54	0.43
3:K:535:CYS:HA	3:K:538:ASN:ND2	2.33	0.43
5:O:355:GLU:HG2	5:O:360:PRO:HG2	2.01	0.43
8:R:60:MET:HG2	8:R:80:VAL:HG22	2.01	0.43
8:R:300:LEU:HB3	8:R:311:VAL:HB	2.00	0.43
8:R:596:TRP:HA	8:R:599:ALA:HB3	2.00	0.43
8:R:658:ALA:HB2	8:R:673:ILE:HG13	2.01	0.43
9:T:214:GLU:HA	9:T:217:LYS:HG2	2.00	0.43
11:Y:115:LYS:HG2	12:Z:495:ASN:ND2	2.34	0.43
13:V:25:ALA:HA	13:V:73:PHE:HD2	1.83	0.43
13:V:609:ASP:OD2	13:V:614:ARG:NH1	2.52	0.43
1:A:130:GLU:O	1:A:134:HIS:ND1	2.51	0.43
1:A:531:LYS:NZ	1:A:547:ILE:HG23	2.34	0.43
5:E:26:LYS:HE2	5:E:26:LYS:HB3	1.83	0.43
5:E:62:TRP:HD1	5:E:63:LEU:HD22	1.84	0.43
8:I:691:PHE:N	13:V:665:HIS:HE1	2.16	0.43
13:S:489:ASP:OD1	13:S:490:THR:N	2.50	0.43
13:S:816:TYR:HE2	13:S:834:GLN:HB3	1.84	0.43
1:H:507:VAL:O	1:H:511:TYR:HB3	2.19	0.43
1:H:541:VAL:HA	1:H:544:ILE:HD13	1.99	0.43
1:H:574:ASP:OD2	1:H:577:VAL:N	2.46	0.43
1:H:595:LEU:HA	1:H:598:TYR:CD2	2.53	0.43
2:J:95:GLU:OE1	2:J:103:ASN:ND2	2.52	0.43
2:J:133:LEU:HD22	2:J:176:VAL:HG22	2.01	0.43
8:R:522:GLN:NE2	8:R:553:GLY:O	2.51	0.43
10:U:417:PRO:HA	10:U:420:ARG:NE	2.34	0.43
13:V:9:ILE:HG21	13:V:43:PHE:CE2	2.54	0.43
13:V:176:HIS:HB2	13:V:180:ALA:HB3	2.00	0.43
13:V:555:SER:N	13:V:627:GLU:OE1	2.31	0.43
1:A:130:GLU:HG3	1:A:134:HIS:CE1	2.54	0.43
1:A:192:ALA:N	1:A:208:TYR:OH	2.52	0.43
1:A:395:ARG:HG2	1:A:400:THR:HA	2.00	0.43
1:A:435:PRO:HA	1:A:438:LYS:HB2	2.00	0.43
2:B:116:ASP:OD1	2:B:116:ASP:N	2.51	0.43
3:C:485:LEU:HD21	3:C:519:GLU:HA	2.01	0.43
3:C:528:ASP:OD1	3:C:528:ASP:N	2.49	0.43
3:C:596:LYS:HD2	3:C:596:LYS:HA	1.88	0.43
7:G:150:ILE:HA	7:G:153:VAL:HG22	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:29:PHE:CZ	8:I:39:LYS:HE2	2.54	0.43
8:I:377:LEU:HD12	8:I:419:ALA:HB2	2.01	0.43
9:L:122:ILE:HD11	11:W:48:VAL:HG21	2.00	0.43
11:W:66:LYS:NZ	11:W:73:ARG:HH22	2.17	0.43
1:H:475:ALA:HA	1:H:478:ASN:HB2	2.01	0.43
1:H:577:VAL:HA	1:H:580:ARG:HE	1.84	0.43
2:J:318:LEU:HA	2:J:321:LYS:HZ2	1.84	0.43
3:K:554:GLY:O	3:K:558:ILE:HG12	2.19	0.43
5:O:50:ARG:HG2	5:O:54:ARG:HD3	2.01	0.43
8:R:130:ILE:O	8:R:138:ARG:N	2.52	0.43
9:T:186:ALA:HB2	10:U:364:ARG:NH1	2.34	0.43
9:T:204:ARG:HA	9:T:204:ARG:HD3	1.88	0.43
1:A:206:ASN:OD1	1:A:207:LEU:N	2.52	0.43
1:A:225:VAL:HG21	1:A:264:ARG:HH22	1.84	0.43
1:A:447:PHE:HE2	2:B:286:LEU:HB2	1.82	0.43
1:A:449:TYR:CD1	1:A:449:TYR:C	2.91	0.43
6:F:16:PHE:HE1	6:F:40:VAL:HA	1.84	0.43
8:I:565:ARG:HA	8:I:579:ALA:HA	2.00	0.43
8:I:601:ARG:HG3	13:V:755:GLY:HA3	2.00	0.43
8:I:643:PHE:HB3	8:I:660:LEU:HA	2.00	0.43
8:I:655:GLY:HA2	8:I:658:ALA:HB3	2.01	0.43
9:L:26:ASN:HB2	9:L:35:VAL:HG13	2.01	0.43
11:W:79:LEU:HB3	12:X:461:GLN:HE21	1.84	0.43
11:W:121:MET:SD	12:X:499:LEU:HD13	2.59	0.43
13:S:154:HIS:CE1	13:S:156:GLU:HB2	2.54	0.43
1:H:444:ASN:ND2	2:J:287:GLN:OE1	2.51	0.43
1:H:619:HIS:CG	1:H:628:ALA:HB2	2.54	0.43
8:R:103:HIS:NE2	8:R:127:SER:O	2.51	0.43
8:R:124:GLU:HG3	9:T:2:SER:HB2	2.00	0.43
8:R:385:PHE:HE2	8:R:399:TYR:HA	1.84	0.43
13:V:878:ILE:O	13:V:882:ILE:HG12	2.19	0.43
1:A:161:LYS:HA	1:A:161:LYS:HD2	1.79	0.42
1:A:241:ILE:HG13	1:A:245:ARG:HH12	1.83	0.42
3:C:267:PRO:HA	3:C:268:PRO:HD3	1.88	0.42
3:C:550:ASN:OD1	3:C:550:ASN:N	2.52	0.42
5:E:260:ILE:HA	5:E:263:ASN:HD21	1.84	0.42
8:I:587:LEU:HA	8:I:590:MET:HG2	2.01	0.42
9:L:105:TYR:CE1	11:W:60:GLU:HG2	2.54	0.42
3:K:181:TYR:OH	3:K:241:GLU:HG2	2.18	0.42
5:O:438:TYR:OH	5:O:450:ARG:NH1	2.52	0.42
8:R:688:ILE:CG2	8:R:706:HIS:HE1	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:T:243:ARG:NH2	10:U:414:ASP:O	2.52	0.42
13:V:198:GLN:NE2	13:V:200:VAL:O	2.52	0.42
13:V:1076:GLN:HG3	13:V:1079:ASP:H	1.84	0.42
1:A:239:SER:O	1:A:243:MET:HG3	2.20	0.42
1:A:261:LYS:HG2	1:A:264:ARG:HH21	1.84	0.42
2:B:204:ARG:NH1	2:B:205:PRO:O	2.52	0.42
5:E:266:VAL:HG21	5:E:290:ASN:ND2	2.34	0.42
11:W:125:LEU:HA	11:W:125:LEU:HD23	1.70	0.42
13:S:235:ARG:NH1	13:S:280:TRP:O	2.52	0.42
13:S:471:ARG:CZ	13:S:482:THR:HB	2.49	0.42
13:S:892:LYS:HG3	13:S:918:TYR:CE2	2.54	0.42
13:S:898:ARG:NH2	13:S:899:GLN:OE1	2.52	0.42
1:H:262:ILE:O	1:H:266:ILE:HG12	2.19	0.42
3:K:246:LYS:HA	3:K:249:ILE:HG22	2.01	0.42
3:K:265:ASP:OD1	3:K:265:ASP:N	2.52	0.42
3:K:452:LYS:NZ	3:K:472:TYR:O	2.33	0.42
5:O:213:LEU:HD11	5:O:226:LYS:HE3	2.01	0.42
6:P:139:LYS:HD3	6:P:139:LYS:HA	1.71	0.42
6:P:320:GLN:O	6:P:323:GLU:HG2	2.18	0.42
8:R:458:HIS:NE2	8:R:480:VAL:HG21	2.34	0.42
9:T:186:ALA:HB1	10:U:363:TYR:HD2	1.83	0.42
3:C:368:ARG:O	3:C:372:GLU:HG3	2.20	0.42
6:F:37:LEU:HD13	6:F:37:LEU:HA	1.90	0.42
6:F:322:THR:O	6:F:325:GLN:HG3	2.19	0.42
7:G:233:LEU:HD23	7:G:236:ARG:HE	1.85	0.42
7:G:256:SER:HA	7:G:259:GLN:HE22	1.84	0.42
8:I:33:ASP:OD1	9:L:7:ARG:NH2	2.29	0.42
8:I:84:ASP:OD1	8:I:84:ASP:N	2.48	0.42
8:I:130:ILE:O	8:I:138:ARG:N	2.52	0.42
8:I:398:THR:HG23	8:I:400:GLU:H	1.83	0.42
8:I:651:PRO:HB3	8:I:656:ARG:HH22	1.84	0.42
9:L:12:VAL:HG12	9:L:16:LEU:HD12	2.01	0.42
10:M:434:ASP:HA	10:M:437:VAL:HG22	2.00	0.42
13:S:919:PHE:HD2	13:S:942:ALA:HB2	1.83	0.42
1:H:210:ALA:O	1:H:214:ASN:ND2	2.52	0.42
1:H:264:ARG:HB2	2:J:303:SER:O	2.19	0.42
1:H:391:CYS:O	1:H:395:ARG:HG3	2.20	0.42
6:P:66:ILE:HD13	6:P:66:ILE:HA	1.94	0.42
6:P:122:PHE:CE2	6:P:142:ILE:HD11	2.54	0.42
8:R:248:ASN:OD1	8:R:268:THR:N	2.48	0.42
13:V:864:TRP:HE3	13:V:880:HIS:HE1	1.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:214:ASN:OD1	1:A:215:LYS:N	2.49	0.42
2:B:424:TYR:HD2	4:D:308:PHE:HE1	1.68	0.42
3:C:430:LEU:HD13	3:C:433:ASN:HD21	1.84	0.42
3:C:459:PHE:HB2	3:C:469:ALA:HB2	2.00	0.42
8:I:209:LYS:HE2	8:I:209:LYS:HB3	1.85	0.42
8:I:604:ARG:CZ	8:I:635:ILE:HA	2.50	0.42
8:I:646:LYS:HB3	8:I:689:LYS:HD3	2.00	0.42
8:I:648:LYS:HA	8:I:656:ARG:HH21	1.85	0.42
13:S:410:ARG:HH21	13:S:448:VAL:H	1.66	0.42
1:H:619:HIS:HD1	1:H:624:VAL:HG13	1.85	0.42
3:K:450:VAL:O	3:K:453:LEU:HG	2.19	0.42
6:P:186:LYS:HB3	6:P:186:LYS:HE3	1.77	0.42
8:R:593:LYS:HE2	8:R:595:GLN:NE2	2.34	0.42
9:T:161:ARG:HA	9:T:164:ARG:HE	1.84	0.42
13:V:962:GLN:HB2	13:V:966:ARG:NH2	2.34	0.42
1:A:387:PHE:HE2	1:A:413:ARG:HH12	1.67	0.42
2:B:23:HIS:CD2	2:B:23:HIS:H	2.36	0.42
2:B:157:ASP:N	2:B:157:ASP:OD1	2.53	0.42
2:B:382:LYS:HE3	5:E:23:GLU:HB3	2.00	0.42
3:C:421:MET:HA	3:C:424:ILE:HB	2.02	0.42
3:C:559:ILE:HG13	3:C:602:GLU:HG3	2.00	0.42
3:C:588:LEU:HD21	3:C:595:LEU:HD23	2.01	0.42
5:E:8:PRO:O	5:E:69:HIS:HB3	2.20	0.42
5:E:187:SER:HB3	5:E:191:TYR:CE2	2.55	0.42
5:E:263:ASN:HA	5:E:266:VAL:HG22	2.02	0.42
8:I:658:ALA:HB2	8:I:673:ILE:HG13	2.01	0.42
10:M:444:HIS:O	10:M:447:LEU:HB3	2.19	0.42
11:W:87:GLN:O	11:W:91:GLU:HG2	2.20	0.42
13:S:577:HIS:CE1	13:S:582:GLU:HG2	2.53	0.42
13:S:709:GLN:OE1	13:S:711:LYS:NZ	2.46	0.42
13:S:1080:ALA:HA	13:S:1083:VAL:HG12	2.01	0.42
2:J:411:LYS:HB3	2:J:415:SER:HB3	2.02	0.42
8:R:710:VAL:HG12	8:R:730:PHE:CE1	2.55	0.42
9:T:5:GLU:HG2	9:T:94:VAL:HG11	2.01	0.42
13:V:18:LYS:NZ	13:V:20:THR:HG22	2.34	0.42
13:V:1025:LEU:O	13:V:1028:GLN:NE2	2.49	0.42
1:A:522:GLU:HG2	1:A:525:TYR:HD2	1.84	0.42
1:A:546:GLN:NE2	2:B:276:ALA:HB3	2.35	0.42
2:B:294:ARG:HE	2:B:298:SER:HB2	1.85	0.42
3:C:467:LYS:HB2	3:C:467:LYS:HE2	1.83	0.42
5:E:197:CYS:SG	5:E:229:ASN:ND2	2.86	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:252:TYR:O	6:F:256:SER:OG	2.30	0.42
9:L:151:TYR:HA	9:L:154:LEU:HG	2.01	0.42
10:M:372:ASP:O	10:M:376:THR:OG1	2.25	0.42
10:M:398:LEU:HB3	10:M:402:LYS:HZ3	1.84	0.42
1:H:148:ASP:N	1:H:197:MET:HG3	2.35	0.42
1:H:390:CYS:HA	1:H:393:GLN:HE21	1.84	0.42
2:J:91:SER:HB2	2:J:224:CYS:HB3	2.01	0.42
8:R:84:ASP:N	8:R:84:ASP:OD1	2.49	0.42
13:V:631:GLN:HE22	13:V:635:LEU:HD11	1.84	0.42
13:V:783:PRO:HB2	13:V:810:LEU:HD23	2.00	0.42
13:V:960:ALA:HB2	13:V:963:ARG:HH21	1.84	0.42
1:A:479:LYS:HB3	1:A:495:LEU:HD13	2.01	0.42
1:A:595:LEU:HA	1:A:598:TYR:CD2	2.55	0.42
1:A:644:LYS:HB3	1:A:644:LYS:HE2	1.86	0.42
1:A:658:ASN:O	1:A:662:ALA:N	2.42	0.42
2:B:105:PHE:HB3	2:B:109:PHE:CD2	2.54	0.42
2:B:358:PRO:HB3	3:C:86:TYR:CZ	2.54	0.42
4:D:274:ASP:H	4:D:277:THR:HB	1.84	0.42
5:E:218:ASP:OD1	5:E:218:ASP:N	2.53	0.42
8:I:643:PHE:CE2	8:I:663:TYR:HB3	2.54	0.42
9:L:90:ASP:N	9:L:90:ASP:OD1	2.51	0.42
13:S:847:ASP:OD1	13:S:848:LEU:N	2.52	0.42
13:S:915:ALA:HA	13:S:918:TYR:CD2	2.55	0.42
1:H:558:LYS:HE2	1:H:558:LYS:HB2	1.90	0.42
3:K:459:PHE:HB2	3:K:469:ALA:HB2	2.01	0.42
8:R:466:ALA:HB3	8:R:479:ILE:HD11	2.01	0.42
11:Y:113:LYS:H	11:Y:113:LYS:HD2	1.84	0.42
13:V:947:ASP:O	13:V:950:GLU:HG3	2.20	0.42
1:A:226:ASN:HA	2:B:307:PHE:CE1	2.55	0.42
2:B:400:LEU:HD21	4:D:305:TYR:HE2	1.85	0.42
5:E:33:PHE:HA	5:E:36:LYS:HD3	2.00	0.42
8:I:747:LYS:O	8:I:750:GLU:HG3	2.19	0.42
1:H:174:ASN:N	1:H:174:ASN:OD1	2.53	0.42
1:H:192:ALA:N	1:H:208:TYR:OH	2.53	0.42
1:H:464:MET:HG2	1:H:467:LYS:HZ3	1.85	0.42
5:O:266:VAL:HG21	5:O:290:ASN:HD21	1.84	0.42
7:Q:146:LYS:HB3	7:Q:147:ARG:NH2	2.34	0.42
8:R:47:GLU:O	13:V:929:THR:OG1	2.38	0.42
8:R:121:THR:HG22	8:R:131:TRP:CZ3	2.55	0.42
8:R:423:THR:OG1	8:R:465:ILE:O	2.32	0.42
11:Y:62:LEU:HD11	12:Z:436:MET:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:919:PHE:HD2	13:V:942:ALA:HB2	1.82	0.42
1:A:124:GLU:O	1:A:127:ARG:HD3	2.20	0.42
1:A:551:TYR:CE2	1:A:556:ASP:HB3	2.55	0.42
3:C:283:ALA:O	3:C:287:MET:HG2	2.20	0.42
3:C:316:LEU:HD13	3:C:319:TYR:HD2	1.85	0.42
5:E:295:HIS:HA	5:E:298:HIS:HD2	1.84	0.42
6:F:217:GLU:HG3	7:G:222:ASN:CG	2.39	0.42
8:I:129:LYS:HB2	8:I:131:TRP:CZ3	2.55	0.42
8:I:185:HIS:ND1	8:I:207:ASP:OD2	2.52	0.42
8:I:456:TRP:HE1	8:I:458:HIS:CE1	2.37	0.42
10:M:398:LEU:HA	10:M:401:VAL:HG12	2.01	0.42
13:S:137:LYS:HB3	13:S:153:ALA:HA	2.01	0.42
13:S:159:TYR:O	13:S:177:MET:N	2.53	0.42
13:S:727:ASP:N	13:S:727:ASP:OD1	2.53	0.42
13:S:908:GLU:HB2	13:S:938:TYR:CZ	2.55	0.42
1:H:422:LYS:HD2	1:H:422:LYS:HA	1.81	0.42
2:J:186:GLN:C	2:J:188:PRO:HD3	2.39	0.42
2:J:205:PRO:HD2	2:J:266:VAL:HG23	2.01	0.42
3:K:40:LEU:HD21	3:K:50:LEU:HG	2.02	0.42
6:P:260:LEU:O	6:P:263:THR:OG1	2.30	0.42
8:R:437:SER:OG	8:R:461:GLU:OE2	2.38	0.42
9:T:145:LYS:HG2	10:U:322:LYS:NZ	2.35	0.42
11:Y:66:LYS:NZ	11:Y:73:ARG:HH22	2.18	0.42
13:V:631:GLN:O	13:V:635:LEU:HG	2.20	0.42
13:V:677:GLU:HB2	13:V:685:ALA:HA	2.01	0.42
13:V:981:LYS:HE3	13:V:985:PHE:CZ	2.55	0.42
1:A:507:VAL:HG13	7:G:201:LYS:HD3	2.02	0.42
3:C:383:ARG:O	3:C:386:LYS:HG3	2.20	0.42
3:C:447:GLU:HB3	3:C:452:LYS:HG3	2.01	0.42
5:E:347:GLN:HG2	5:E:368:CYS:HB2	2.01	0.42
6:F:290:GLN:HA	6:F:293:LEU:HD12	2.01	0.42
8:I:81:ALA:HB1	8:I:107:CYS:HB3	2.01	0.42
8:I:211:LYS:HE2	8:I:222:GLN:HG3	2.01	0.42
8:I:218:ARG:HE	8:I:219:LEU:N	2.17	0.42
8:I:267:ASP:O	8:I:289:SER:OG	2.32	0.42
8:I:385:PHE:HE2	8:I:399:TYR:HA	1.84	0.42
8:I:598:LYS:HE2	12:X:496:ASP:CG	2.40	0.42
13:S:323:LYS:HG3	13:S:335:TYR:HB2	2.02	0.42
13:S:487:ASN:OD1	13:S:487:ASN:N	2.53	0.42
13:S:868:LEU:HD22	13:S:873:GLN:HB3	2.00	0.42
13:S:974:MET:N	13:S:974:MET:SD	2.93	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:188:ASP:O	1:H:208:TYR:OH	2.28	0.42
1:H:477:VAL:HG13	1:H:496:PHE:CE1	2.55	0.42
1:H:531:LYS:NZ	1:H:547:ILE:HG23	2.34	0.42
4:N:246:ILE:HA	4:N:249:LEU:HD13	2.02	0.42
5:O:439:ILE:HD12	5:O:439:ILE:HA	1.96	0.42
8:R:684:ILE:HD11	8:R:700:ALA:HB2	2.01	0.42
8:R:714:ARG:HE	8:R:727:ILE:HD11	1.85	0.42
9:T:134:LYS:HD3	9:T:134:LYS:HA	1.87	0.42
9:T:193:ARG:NH2	9:T:197:ASN:OD1	2.53	0.42
13:V:37:ASP:OD1	13:V:37:ASP:N	2.52	0.42
13:V:356:SER:OG	13:V:360:TYR:N	2.53	0.42
13:V:774:ILE:O	13:V:778:LEU:HG	2.20	0.42
1:A:496:PHE:HB3	1:A:513:LEU:HB2	2.01	0.41
3:C:508:ALA:HA	3:C:511:LEU:HB2	2.01	0.41
6:F:252:TYR:CE2	7:G:253:ILE:HD12	2.55	0.41
7:G:250:MET:O	7:G:254:GLN:HB2	2.20	0.41
8:I:121:THR:HG22	8:I:131:TRP:CZ3	2.55	0.41
8:I:159:GLN:HA	8:I:172:SER:HA	2.02	0.41
8:I:347:LEU:O	8:I:358:TYR:N	2.51	0.41
8:I:625:LEU:HD11	8:I:653:GLU:HA	2.02	0.41
2:J:432:GLY:H	4:N:254:PRO:HB3	1.85	0.41
3:K:99:GLU:OE1	3:K:102:LYS:NZ	2.37	0.41
3:K:102:LYS:HE2	3:K:102:LYS:HB3	1.90	0.41
5:O:260:ILE:HA	5:O:263:ASN:HD21	1.86	0.41
5:O:477:PHE:HA	5:O:480:ALA:HB3	2.01	0.41
6:P:64:ARG:HD2	6:P:64:ARG:HA	1.73	0.41
7:Q:143:LEU:HG	7:Q:147:ARG:HH11	1.84	0.41
7:Q:288:ARG:O	7:Q:291:GLU:HG2	2.20	0.41
10:U:452:ARG:HE	10:U:456:LEU:HG	1.85	0.41
12:Z:406:SER:HB2	12:Z:409:ARG:NH2	2.27	0.41
1:A:574:ASP:OD2	1:A:577:VAL:N	2.47	0.41
1:A:639:GLN:NE2	1:A:641:GLN:HE21	2.18	0.41
1:A:651:SER:O	1:A:654:ARG:NH1	2.53	0.41
2:B:343:LEU:HB3	2:B:344:GLN:H	1.79	0.41
5:E:477:PHE:HA	5:E:480:ALA:HB3	2.01	0.41
6:F:176:LEU:HD12	7:G:182:SER:HB3	2.02	0.41
7:G:158:LYS:HD2	7:G:158:LYS:HA	1.73	0.41
7:G:288:ARG:O	7:G:291:GLU:HG2	2.20	0.41
9:L:145:LYS:HG2	10:M:322:LYS:NZ	2.35	0.41
10:M:449:LEU:O	10:M:453:ASN:ND2	2.53	0.41
10:M:450:SER:HA	10:M:453:ASN:HD21	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:W:111:LEU:HD21	12:X:492:ILE:HG12	2.01	0.41
13:S:807:LEU:HD11	13:S:823:TYR:HE1	1.85	0.41
1:H:318:LYS:HB3	1:H:318:LYS:HE3	1.94	0.41
2:J:141:ARG:HA	2:J:144:ILE:HD12	2.02	0.41
2:J:330:ASN:HD21	3:K:548:LYS:HB2	1.84	0.41
2:J:371:SER:OG	2:J:374:ASN:OD1	2.33	0.41
3:K:227:SER:HA	3:K:267:PRO:HB2	2.02	0.41
3:K:383:ARG:O	3:K:386:LYS:HG3	2.21	0.41
3:K:383:ARG:HG3	3:K:386:LYS:HE3	2.02	0.41
6:P:221:SER:O	6:P:224:ILE:HG12	2.20	0.41
8:R:279:ASP:HB2	8:R:281:THR:HG22	2.01	0.41
9:T:32:PHE:HB3	9:T:62:ARG:HG2	2.00	0.41
9:T:168:VAL:HA	9:T:171:HIS:CE1	2.55	0.41
11:Y:66:LYS:HD3	12:Z:443:TRP:CZ3	2.55	0.41
11:Y:83:ARG:NH1	11:Y:87:GLN:HG2	2.35	0.41
13:V:215:ILE:HG23	13:V:227:TYR:HB2	2.02	0.41
13:V:231:GLY:O	13:V:232:ARG:NH1	2.53	0.41
13:V:731:VAL:HA	13:V:734:SER:HB3	2.01	0.41
5:E:11:ALA:HB1	5:E:217:PRO:HB2	2.02	0.41
5:E:197:CYS:SG	5:E:225:LEU:HB3	2.61	0.41
5:E:202:TYR:HE2	5:E:232:ARG:HD2	1.83	0.41
7:G:215:PHE:O	7:G:219:LYS:HB2	2.20	0.41
9:L:4:ARG:HG3	9:L:95:LYS:HZ2	1.84	0.41
9:L:186:ALA:HB2	10:M:364:ARG:NH1	2.35	0.41
11:W:83:ARG:CZ	12:X:464:ALA:HB2	2.51	0.41
11:W:113:LYS:H	11:W:113:LYS:HD2	1.85	0.41
13:S:37:ASP:OD1	13:S:37:ASP:N	2.52	0.41
13:S:878:ILE:O	13:S:882:ILE:HG12	2.20	0.41
1:H:183:LEU:HD23	1:H:183:LEU:HA	1.86	0.41
1:H:280:LEU:HD13	1:H:280:LEU:HA	1.91	0.41
1:H:465:ALA:O	1:H:470:ARG:HB3	2.21	0.41
5:O:13:ARG:HB3	5:O:250:SER:HA	2.01	0.41
6:P:203:TYR:OH	7:Q:207:PRO:O	2.26	0.41
8:R:590:MET:HA	8:R:593:LYS:HZ3	1.85	0.41
9:T:43:VAL:O	9:T:47:TYR:N	2.48	0.41
10:U:309:HIS:CE1	11:Y:38:ILE:HG12	2.50	0.41
10:U:312:GLU:HG2	10:U:316:HIS:HE1	1.85	0.41
11:Y:44:MET:O	11:Y:47:LEU:HG	2.19	0.41
13:V:853:PHE:CD1	13:V:854:PRO:HD2	2.56	0.41
1:A:122:PRO:HB2	1:A:123:GLU:H	1.66	0.41
1:A:362:ILE:O	1:A:366:ILE:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:58:TYR:HA	3:C:63:TYR:HE1	1.84	0.41
5:E:283:ILE:HB	5:E:284:PRO:HD3	2.03	0.41
5:E:316:PRO:HA	5:E:319:PHE:HB2	2.01	0.41
6:F:186:LYS:HB3	6:F:186:LYS:HE3	1.82	0.41
8:I:20:VAL:HG12	8:I:30:THR:HG22	2.01	0.41
9:L:78:ARG:HH21	11:W:49:ASP:HB2	1.84	0.41
11:W:117:GLU:HG3	13:V:782:LEU:HD22	2.02	0.41
13:S:415:HIS:HA	13:S:420:LEU:HA	2.02	0.41
1:H:404:ASN:HD21	1:H:433:LYS:HD3	1.85	0.41
1:H:666:TYR:HD2	1:H:683:LEU:HD22	1.85	0.41
2:J:448:PHE:CD1	4:N:312:PRO:HG2	2.55	0.41
3:K:297:LYS:HA	3:K:300:PHE:CD2	2.55	0.41
9:T:74:LEU:O	9:T:78:ARG:HA	2.21	0.41
13:V:154:HIS:CE1	13:V:156:GLU:HB2	2.56	0.41
13:V:752:LEU:HA	13:V:757:GLU:HB3	2.02	0.41
13:V:993:GLU:HA	13:V:996:LYS:HB2	2.03	0.41
13:V:1046:GLU:HA	13:V:1054:ALA:HB2	2.00	0.41
1:A:250:GLN:OE1	1:A:250:GLN:N	2.43	0.41
1:A:288:ASP:OD1	1:A:288:ASP:N	2.48	0.41
3:C:512:MET:O	3:C:516:GLU:N	2.54	0.41
5:E:15:ASN:ND2	5:E:250:SER:O	2.53	0.41
5:E:34:LEU:HA	5:E:39:TYR:CE1	2.55	0.41
9:L:137:LYS:HE2	10:M:316:HIS:HA	2.01	0.41
11:W:72:LEU:O	11:W:76:VAL:HG13	2.21	0.41
11:W:83:ARG:HA	11:W:83:ARG:HD2	1.89	0.41
1:H:313:LYS:O	1:H:317:ILE:HG12	2.21	0.41
1:H:452:GLU:OE1	10:U:443:SER:HA	2.21	0.41
2:J:23:HIS:H	2:J:23:HIS:CD2	2.38	0.41
2:J:236:GLU:HB2	2:J:239:LYS:HE3	2.01	0.41
2:J:379:LEU:HD23	2:J:399:ILE:HD11	2.02	0.41
3:K:58:TYR:HA	3:K:63:TYR:HE1	1.86	0.41
4:N:214:LYS:HA	4:N:217:LYS:HD3	2.02	0.41
4:N:328:SER:O	4:N:328:SER:OG	2.37	0.41
7:Q:304:GLU:HA	7:Q:307:LEU:HG	2.01	0.41
13:V:579:HIS:CE1	13:V:601:ILE:HG22	2.56	0.41
13:V:868:LEU:HD22	13:V:873:GLN:HB3	2.01	0.41
2:B:309:THR:HG22	2:B:313:PRO:HG2	2.03	0.41
2:B:428:SER:N	4:D:254:PRO:HD2	2.24	0.41
3:C:73:LEU:HA	3:C:76:LEU:HG	2.01	0.41
5:E:138:ASP:OD1	5:E:138:ASP:N	2.52	0.41
6:F:196:LYS:HG3	6:F:198:PRO:HD3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:L:240:GLU:HA	9:L:243:ARG:HB2	2.03	0.41
10:M:394:ILE:HA	10:M:397:THR:HG22	2.03	0.41
13:S:537:PRO:HB2	13:S:576:ARG:HD3	2.01	0.41
13:S:993:GLU:HA	13:S:996:LYS:HB2	2.03	0.41
1:H:546:GLN:NE2	2:J:276:ALA:HB3	2.35	0.41
1:H:578:LEU:HD23	1:H:597:TYR:HA	2.02	0.41
2:J:142:ALA:HB1	2:J:255:GLN:HG2	2.03	0.41
3:K:199:HIS:O	3:K:202:GLU:HG3	2.20	0.41
3:K:473:TYR:HB3	3:K:495:LEU:HD11	2.02	0.41
3:K:538:ASN:HA	3:K:541:ILE:HG22	2.02	0.41
5:O:137:ASP:HA	5:O:140:LEU:HD12	2.02	0.41
5:O:202:TYR:HE2	5:O:232:ARG:HD2	1.85	0.41
5:O:305:PHE:O	5:O:309:LYS:HG2	2.20	0.41
5:O:378:VAL:HG12	5:O:382:LEU:HD23	2.03	0.41
6:P:16:PHE:HE1	6:P:40:VAL:HA	1.85	0.41
6:P:321:ILE:HD11	7:Q:330:LYS:HB2	2.01	0.41
13:V:598:GLU:HA	13:V:601:ILE:HD12	2.03	0.41
13:V:706:LEU:HD21	13:V:719:TYR:HE1	1.86	0.41
13:V:915:ALA:HA	13:V:918:TYR:CD2	2.56	0.41
1:A:191:LEU:HD12	1:A:195:TYR:CZ	2.56	0.41
1:A:444:ASN:OD1	2:B:286:LEU:HD12	2.21	0.41
1:A:618:TYR:O	1:A:622:SER:OG	2.26	0.41
5:E:305:PHE:HA	5:E:308:ILE:HG22	2.01	0.41
8:I:604:ARG:NH2	8:I:635:ILE:HA	2.36	0.41
9:L:26:ASN:HD22	9:L:34:LEU:HB3	1.85	0.41
13:S:183:LYS:HE3	13:S:197:SER:HB2	2.02	0.41
13:S:254:ASN:OD1	13:S:255:PRO:HD2	2.20	0.41
1:H:496:PHE:HB3	1:H:513:LEU:HB2	2.02	0.41
1:H:618:TYR:O	1:H:622:SER:OG	2.25	0.41
2:J:245:PHE:O	2:J:249:LYS:HB2	2.19	0.41
3:K:73:LEU:HD13	3:K:83:TYR:CE1	2.56	0.41
3:K:200:LEU:HD11	3:K:245:LEU:HG	2.03	0.41
3:K:260:LYS:HA	3:K:285:ILE:HD11	2.02	0.41
3:K:551:TYR:HB2	3:K:595:LEU:HD21	2.03	0.41
4:N:242:ARG:NH1	4:N:243:MET:HG2	2.35	0.41
6:P:212:LYS:HD3	6:P:212:LYS:HA	1.58	0.41
6:P:277:GLU:O	6:P:281:LYS:NZ	2.47	0.41
8:R:651:PRO:O	8:R:763:ARG:NH2	2.51	0.41
8:R:697:LEU:HG	8:R:729:ARG:HD3	2.03	0.41
9:T:110:LYS:HA	9:T:113:ASP:HB2	2.03	0.41
11:Y:83:ARG:CZ	12:Z:464:ALA:HB2	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:770:TYR:HA	13:V:773:ALA:HB3	2.02	0.41
2:B:249:LYS:NZ	2:B:250:PRO:O	2.36	0.41
2:B:338:THR:HA	2:B:339:PRO:HD3	1.95	0.41
3:C:324:HIS:HB3	3:C:326:PHE:CD2	2.56	0.41
8:I:389:ASP:OD1	8:I:389:ASP:N	2.52	0.41
13:S:443:LEU:HD13	13:S:495:LEU:HD21	2.02	0.41
13:S:731:VAL:HA	13:S:734:SER:HB3	2.02	0.41
2:J:448:PHE:HB3	4:N:316:GLN:HG2	2.03	0.41
3:K:176:GLN:HB2	3:K:179:LEU:HB2	2.03	0.41
3:K:468:GLU:OE1	3:K:471:ARG:NE	2.41	0.41
3:K:550:ASN:OD1	3:K:550:ASN:N	2.53	0.41
3:K:575:TYR:HA	3:K:578:LYS:HB2	2.02	0.41
6:P:16:PHE:HB3	6:P:18:TYR:HD2	1.86	0.41
8:R:95:ARG:NE	8:R:97:GLU:OE2	2.54	0.41
8:R:431:VAL:HB	8:R:442:ARG:HB2	2.01	0.41
10:U:389:GLN:HG3	10:U:393:ARG:NH1	2.36	0.41
13:V:759:GLN:O	13:V:763:VAL:HG23	2.21	0.41
13:V:895:ILE:O	13:V:898:ARG:HG2	2.21	0.41
1:A:297:TYR:HD2	2:B:301:ASP:HB2	1.86	0.41
1:A:575:PRO:HG3	1:A:605:TYR:HB3	2.02	0.41
3:C:70:TYR:HB3	3:C:87:TYR:HB2	2.03	0.41
3:C:364:GLU:O	3:C:368:ARG:HG2	2.21	0.41
4:D:300:VAL:O	4:D:303:THR:OG1	2.29	0.41
5:E:123:GLN:HE22	5:E:127:LEU:HD22	1.85	0.41
5:E:355:GLU:HG2	5:E:360:PRO:HG2	2.03	0.41
6:F:73:LYS:HA	6:F:75:ARG:HH22	1.85	0.41
6:F:261:LEU:HD12	6:F:261:LEU:HA	1.85	0.41
7:G:236:ARG:NH2	6:P:22:LEU:HB3	2.36	0.41
8:I:5:VAL:HG11	8:I:265:LEU:HD22	2.03	0.41
8:I:165:GLY:HA2	8:I:188:VAL:HG13	2.02	0.41
8:I:458:HIS:NE2	8:I:490:LEU:HD11	2.35	0.41
8:I:679:LEU:HG	8:I:681:PHE:H	1.84	0.41
9:L:106:LYS:CA	11:W:56:ASP:HB3	2.44	0.41
9:L:122:ILE:HD13	9:L:122:ILE:HA	1.88	0.41
9:L:179:ARG:NH2	10:M:359:LEU:HD13	2.36	0.41
10:M:389:GLN:HG3	10:M:393:ARG:NH1	2.36	0.41
13:S:67:ILE:H	13:S:85:SER:HB3	1.85	0.41
13:S:712:VAL:HG11	13:S:738:ALA:H	1.85	0.41
13:S:737:HIS:CG	13:S:740:ALA:HB2	2.56	0.41
13:S:1056:LYS:HA	13:S:1059:VAL:HG12	2.03	0.41
1:H:464:MET:HA	1:H:467:LYS:HZ3	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:551:TYR:CE2	1:H:556:ASP:HB3	2.56	0.41
1:H:605:TYR:CE1	1:H:607:VAL:HB	2.55	0.41
2:J:280:ASP:OD1	2:J:280:ASP:N	2.44	0.41
2:J:419:ARG:HB3	4:N:344:LEU:HD13	2.02	0.41
3:K:110:HIS:HB3	3:K:113:ALA:HB3	2.02	0.41
3:K:122:SER:HA	3:K:125:GLN:HG2	2.03	0.41
3:K:430:LEU:HD23	3:K:430:LEU:HA	1.94	0.41
3:K:590:LYS:HD2	3:K:590:LYS:HA	1.72	0.41
5:O:39:TYR:HB2	5:O:70:TYR:CD1	2.56	0.41
6:P:279:TYR:HB2	7:Q:289:PHE:CZ	2.56	0.41
8:R:193:ASP:HB2	8:R:233:VAL:HG23	2.02	0.41
8:R:508:ARG:HH12	8:R:510:HIS:HA	1.85	0.41
8:R:596:TRP:HE1	8:R:627:THR:HB	1.86	0.41
8:R:600:THR:HG22	8:R:635:ILE:HG23	2.02	0.41
8:R:614:THR:O	8:R:618:MET:HG2	2.21	0.41
11:Y:115:LYS:O	12:Z:495:ASN:ND2	2.54	0.41
13:V:267:ARG:HD3	13:V:285:HIS:ND1	2.36	0.41
13:V:500:ARG:NH2	13:V:539:SER:O	2.54	0.41
13:V:581:THR:HG23	13:V:601:ILE:HG12	2.03	0.41
13:V:664:LEU:HG	13:V:692:MET:HE3	2.03	0.41
1:A:466:LEU:HD22	1:A:479:LYS:HG2	2.02	0.41
2:B:138:ILE:HG13	2:B:193:LEU:HD23	2.02	0.41
2:B:142:ALA:HB1	2:B:255:GLN:HG2	2.03	0.41
3:C:557:ARG:HB2	3:C:560:LYS:HE3	2.03	0.41
5:E:45:LEU:HA	5:E:48:PHE:CD2	2.57	0.41
5:E:457:ASN:H	5:E:460:SER:HB3	1.86	0.41
6:F:324:ILE:HG22	6:F:327:ARG:CZ	2.51	0.41
11:W:58:GLN:O	11:W:62:LEU:HG	2.21	0.41
13:S:495:LEU:N	13:S:495:LEU:HD23	2.35	0.41
13:S:778:LEU:C	13:S:780:GLY:H	2.21	0.41
1:H:574:ASP:OD1	2:J:272:LEU:N	2.54	0.41
1:H:653:TYR:HE2	1:H:665:LYS:HG2	1.86	0.41
2:J:23:HIS:CD2	2:J:42:LYS:HG2	2.56	0.41
4:N:226:ASN:O	4:N:229:HIS:NE2	2.54	0.41
5:O:125:ARG:O	5:O:129:HIS:ND1	2.34	0.41
5:O:205:SER:HA	5:O:208:ILE:HG22	2.03	0.41
7:Q:147:ARG:HA	7:Q:150:ILE:HG12	2.02	0.41
7:Q:199:LEU:HA	7:Q:203:GLY:HA3	2.02	0.41
8:R:514:ALA:HB1	8:R:530:PRO:HG3	2.02	0.41
13:V:338:LYS:HA	13:V:338:LYS:HD3	1.88	0.41
13:V:727:ASP:N	13:V:727:ASP:OD1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:V:847:ASP:CG	13:V:860:ILE:HD13	2.41	0.41
2:B:318:LEU:HA	2:B:321:LYS:HZ2	1.86	0.40
4:D:225:ILE:HD13	4:D:225:ILE:HA	1.96	0.40
5:E:213:LEU:HD11	5:E:226:LYS:HE3	2.03	0.40
8:I:599:ALA:O	8:I:602:LEU:HG	2.20	0.40
9:L:110:LYS:HA	9:L:113:ASP:HB2	2.02	0.40
9:L:145:LYS:HG2	10:M:322:LYS:HZ3	1.86	0.40
13:S:778:LEU:C	13:S:780:GLY:N	2.74	0.40
13:S:981:LYS:HE3	13:S:985:PHE:CZ	2.56	0.40
1:H:224:ARG:NH1	1:H:243:MET:O	2.46	0.40
1:H:664:GLY:HA2	1:H:667:LYS:HE3	2.02	0.40
2:J:193:LEU:HB2	2:J:207:GLY:HA3	2.03	0.40
3:K:54:GLY:O	3:K:70:TYR:OH	2.34	0.40
3:K:311:THR:HA	3:K:314:ASN:HD22	1.86	0.40
6:P:324:ILE:HA	6:P:327:ARG:HG2	2.02	0.40
7:Q:186:LYS:HZ1	7:Q:187:ILE:HD11	1.85	0.40
8:R:576:VAL:HG22	11:Y:92:ARG:NH1	2.33	0.40
9:T:5:GLU:H	9:T:5:GLU:HG3	1.68	0.40
13:V:582:GLU:HA	13:V:595:ALA:HA	2.04	0.40
13:V:1028:GLN:H	13:V:1028:GLN:HG2	1.77	0.40
1:A:127:ARG:O	1:A:131:LYS:HG2	2.21	0.40
1:A:181:LEU:HG	1:A:185:TYR:CD2	2.56	0.40
1:A:479:LYS:HD2	1:A:479:LYS:HA	1.79	0.40
2:B:337:GLU:H	2:B:337:GLU:HG3	1.74	0.40
3:C:611:GLU:HB3	3:C:615:LYS:HE2	2.03	0.40
6:F:164:LYS:HD3	6:F:294:SER:HA	2.02	0.40
7:G:199:LEU:HA	7:G:203:GLY:HA3	2.04	0.40
13:S:407:GLU:HB2	13:S:441:PRO:HB3	2.03	0.40
1:H:211:ILE:HA	1:H:214:ASN:HD21	1.86	0.40
1:H:362:ILE:O	1:H:366:ILE:HG23	2.22	0.40
6:P:252:TYR:CE2	7:Q:253:ILE:HD12	2.56	0.40
8:R:138:ARG:HH12	13:V:435:ARG:NH1	2.19	0.40
8:R:154:ALA:HB2	8:R:194:TRP:CZ3	2.55	0.40
8:R:347:LEU:O	8:R:358:TYR:N	2.50	0.40
13:V:56:LYS:H	13:V:56:LYS:HG2	1.73	0.40
13:V:401:SER:HB3	13:V:416:TYR:HD1	1.87	0.40
13:V:542:ILE:O	13:V:552:VAL:HA	2.20	0.40
1:A:131:LYS:HA	1:A:131:LYS:HD3	1.85	0.40
1:A:391:CYS:O	1:A:395:ARG:HG3	2.22	0.40
1:A:600:GLU:HG2	1:A:603:ARG:HH21	1.85	0.40
1:A:619:HIS:CG	1:A:628:ALA:HB2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:358:PRO:HD2	3:C:59:TYR:HE1	1.86	0.40
4:D:242:ARG:NH2	4:D:245:GLU:HA	2.35	0.40
8:I:7:GLN:HE21	8:I:7:GLN:HB2	1.68	0.40
8:I:64:PRO:HG2	8:I:67:SER:HB3	2.04	0.40
8:I:527:TRP:HA	8:I:544:ARG:HA	2.04	0.40
9:L:74:LEU:O	9:L:78:ARG:HA	2.21	0.40
9:L:137:LYS:HD2	9:L:137:LYS:HA	1.78	0.40
9:L:214:GLU:HA	9:L:217:LYS:HG2	2.03	0.40
9:L:256:LEU:O	9:L:260:ARG:HG3	2.21	0.40
11:W:24:TYR:CZ	11:W:28:LYS:HD3	2.56	0.40
11:W:122:ILE:HG12	12:X:498:THR:OG1	2.21	0.40
13:S:25:ALA:HB2	13:S:30:ARG:HB3	2.04	0.40
13:S:892:LYS:HA	13:S:895:ILE:HD12	2.02	0.40
1:H:303:ASN:OD1	9:T:299:LEU:CD1	2.70	0.40
2:J:382:LYS:HE3	5:O:23:GLU:HB3	2.04	0.40
3:K:324:HIS:HB3	3:K:326:PHE:CD2	2.57	0.40
5:O:218:ASP:OD1	5:O:218:ASP:N	2.53	0.40
6:P:86:GLN:HE21	6:P:86:GLN:HB2	1.76	0.40
7:Q:172:ASN:HA	7:Q:175:ASP:OD2	2.21	0.40
8:R:129:LYS:HB2	8:R:131:TRP:CZ3	2.56	0.40
8:R:392:ALA:O	8:R:408:ARG:NH1	2.36	0.40
8:R:596:TRP:NE1	12:Z:503:LEU:HD11	2.36	0.40
8:R:712:TRP:HB2	8:R:744:VAL:HG11	2.03	0.40
9:T:137:LYS:HE2	10:U:316:HIS:HA	2.02	0.40
9:T:143:ILE:HG23	11:Y:23:LYS:NZ	2.37	0.40
11:Y:24:TYR:O	11:Y:28:LYS:HG2	2.22	0.40
13:V:80:LEU:HD13	13:V:94:LEU:HB3	2.03	0.40
13:V:161:VAL:HG11	13:V:207:TYR:HA	2.04	0.40
1:A:134:HIS:HA	1:A:137:LEU:HG	2.03	0.40
1:A:161:LYS:HG3	1:A:165:LYS:HE3	2.03	0.40
1:A:306:LEU:HD21	9:L:296:GLU:HG2	2.02	0.40
1:A:468:SER:OG	1:A:469:ASP:N	2.52	0.40
1:A:483:LEU:HD13	1:A:488:ASP:HB3	2.03	0.40
2:B:193:LEU:HB2	2:B:207:GLY:HA3	2.03	0.40
2:B:246:LYS:HB3	2:B:254:ILE:HD11	2.02	0.40
3:C:430:LEU:HD23	3:C:430:LEU:HA	1.94	0.40
3:C:518:GLU:HG2	3:C:521:ARG:CZ	2.52	0.40
5:E:54:ARG:HA	5:E:54:ARG:HD2	1.92	0.40
5:E:94:PHE:HD1	5:E:113:GLN:NE2	2.15	0.40
5:E:134:GLN:OE1	5:E:139:LYS:NZ	2.34	0.40
6:F:328:LYS:O	6:F:331:GLN:NE2	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:38:HIS:CE1	8:I:46:PRO:HB2	2.56	0.40
8:I:194:TRP:HA	8:I:201:ILE:HA	2.04	0.40
8:I:279:ASP:HB2	8:I:281:THR:HG22	2.02	0.40
8:I:427:ASP:OD1	8:I:427:ASP:N	2.53	0.40
8:I:552:PHE:CD1	8:I:568:VAL:HG21	2.56	0.40
8:I:600:THR:HA	8:I:603:CYS:HB2	2.03	0.40
8:I:684:ILE:HD11	8:I:700:ALA:HB2	2.04	0.40
9:L:128:LEU:HD22	12:X:417:HIS:CD2	2.56	0.40
9:L:134:LYS:HZ3	10:M:312:GLU:HA	1.86	0.40
10:M:434:ASP:O	10:M:438:ARG:HD3	2.22	0.40
11:W:117:GLU:O	11:W:121:MET:HG3	2.22	0.40
12:X:412:VAL:HG23	12:X:413:GLN:N	2.36	0.40
13:S:56:LYS:H	13:S:56:LYS:HG2	1.73	0.40
13:S:306:MET:SD	13:S:318:TYR:HB2	2.61	0.40
13:S:337:SER:OG	13:S:338:LYS:N	2.55	0.40
13:S:1051:LEU:HD21	10:U:362:GLN:OE1	2.21	0.40
1:H:201:TYR:CE1	1:H:230:ILE:HD12	2.56	0.40
1:H:352:LYS:HA	3:K:636:ARG:HD3	2.04	0.40
2:J:54:ARG:HD2	2:J:79:PHE:CD1	2.56	0.40
2:J:176:VAL:HG21	2:J:234:LYS:HB3	2.03	0.40
2:J:294:ARG:NH2	2:J:298:SER:O	2.42	0.40
5:O:541:VAL:HA	5:O:544:MET:HG2	2.03	0.40
6:P:139:LYS:HD3	6:P:142:ILE:HD12	2.03	0.40
11:Y:104:LEU:O	11:Y:107:GLU:HG2	2.21	0.40
13:V:145:ASN:OD1	13:V:145:ASN:N	2.55	0.40
13:V:248:PHE:CD1	13:V:262:PHE:HB3	2.57	0.40
13:V:343:VAL:HB	13:V:352:ILE:HG23	2.04	0.40
2:B:312:ILE:HB	3:C:589:ALA:HB1	2.04	0.40
2:B:319:TYR:OH	3:C:582:LEU:O	2.35	0.40
3:C:311:THR:HA	3:C:314:ASN:HD22	1.85	0.40
3:C:590:LYS:HD2	3:C:590:LYS:HA	1.79	0.40
5:E:258:ASP:HB3	5:E:261:ARG:HB2	2.04	0.40
6:F:173:ILE:HD13	6:F:173:ILE:HA	1.96	0.40
8:I:577:SER:HB2	11:W:97:LYS:NZ	2.36	0.40
9:L:66:LEU:HA	9:L:69:VAL:HG22	2.02	0.40
10:M:452:ARG:HE	10:M:456:LEU:HG	1.87	0.40
11:W:118:GLN:O	11:W:122:ILE:HG13	2.21	0.40
13:S:770:TYR:O	13:S:774:ILE:HG12	2.22	0.40
13:S:851:ARG:HB3	13:S:855:ALA:HB2	2.03	0.40
13:S:947:ASP:O	13:S:950:GLU:HG3	2.22	0.40
1:H:191:LEU:HD12	1:H:195:TYR:CZ	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:22:THR:HA	3:K:25:LYS:HB2	2.03	0.40
3:K:358:GLY:HA3	3:K:366:ALA:HB2	2.03	0.40
3:K:485:LEU:HD21	3:K:519:GLU:HA	2.03	0.40
4:N:283:CYS:SG	4:N:289:PRO:HB3	2.61	0.40
5:O:158:ALA:HB2	5:O:173:ILE:HG21	2.04	0.40
8:R:189:VAL:HA	8:R:205:GLY:HA2	2.04	0.40
8:R:209:LYS:HE2	8:R:209:LYS:HB3	1.85	0.40
8:R:515:MET:SD	8:R:584:PRO:HB2	2.61	0.40
8:R:747:LYS:O	8:R:750:GLU:HG3	2.21	0.40
10:U:367:ARG:HH22	10:U:370:PHE:HD2	1.68	0.40
10:U:372:ASP:O	10:U:376:THR:OG1	2.23	0.40
13:V:900:PHE:O	13:V:903:ALA:N	2.54	0.40
13:V:908:GLU:HB2	13:V:938:TYR:CZ	2.57	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	535/782 (68%)	472 (88%)	61 (11%)	2 (0%)	34	72
1	H	535/782 (68%)	474 (89%)	57 (11%)	4 (1%)	22	63
2	B	452/454 (100%)	391 (86%)	60 (13%)	1 (0%)	47	81
2	J	452/454 (100%)	393 (87%)	58 (13%)	1 (0%)	47	81
3	C	613/647 (95%)	580 (95%)	33 (5%)	0	100	100
3	K	613/647 (95%)	582 (95%)	31 (5%)	0	100	100
4	D	131/344 (38%)	116 (88%)	15 (12%)	0	100	100
4	N	131/344 (38%)	117 (89%)	14 (11%)	0	100	100
5	E	553/555 (100%)	508 (92%)	45 (8%)	0	100	100
5	O	553/555 (100%)	513 (93%)	40 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	F	333/683 (49%)	324 (97%)	9 (3%)	0	100	100
6	P	333/683 (49%)	323 (97%)	10 (3%)	0	100	100
7	G	203/641 (32%)	192 (95%)	11 (5%)	0	100	100
7	Q	203/641 (32%)	191 (94%)	12 (6%)	0	100	100
8	I	763/765 (100%)	697 (91%)	65 (8%)	1 (0%)	51	86
8	R	763/765 (100%)	704 (92%)	58 (8%)	1 (0%)	51	86
9	L	301/443 (68%)	279 (93%)	22 (7%)	0	100	100
9	T	301/443 (68%)	276 (92%)	25 (8%)	0	100	100
10	M	162/469 (34%)	158 (98%)	4 (2%)	0	100	100
10	U	162/469 (34%)	158 (98%)	4 (2%)	0	100	100
11	W	112/135 (83%)	112 (100%)	0	0	100	100
11	Y	112/135 (83%)	112 (100%)	0	0	100	100
12	X	104/510 (20%)	104 (100%)	0	0	100	100
12	Z	104/510 (20%)	102 (98%)	2 (2%)	0	100	100
13	S	1102/1755 (63%)	1034 (94%)	67 (6%)	1 (0%)	51	86
13	V	1102/1755 (63%)	1030 (94%)	72 (6%)	0	100	100
All	All	10728/16366 (66%)	9942 (93%)	775 (7%)	11 (0%)	54	86

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	629	MET
1	H	629	MET
1	A	431	GLU
1	H	304	TYR
1	H	305	ALA
1	H	431	GLU
2	B	187	LYS
13	S	779	LYS
2	J	187	LYS
8	I	537	LYS
8	R	537	LYS

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	457/627 (73%)	451 (99%)	6 (1%)	69	81
1	H	457/627 (73%)	451 (99%)	6 (1%)	69	81
2	B	388/388 (100%)	384 (99%)	4 (1%)	76	86
2	J	388/388 (100%)	386 (100%)	2 (0%)	88	93
3	C	534/558 (96%)	529 (99%)	5 (1%)	78	87
3	K	534/558 (96%)	530 (99%)	4 (1%)	84	90
4	D	114/288 (40%)	114 (100%)	0	100	100
4	N	114/288 (40%)	114 (100%)	0	100	100
5	E	469/469 (100%)	467 (100%)	2 (0%)	91	94
5	O	469/469 (100%)	467 (100%)	2 (0%)	91	94
6	F	296/581 (51%)	294 (99%)	2 (1%)	84	90
6	P	296/581 (51%)	294 (99%)	2 (1%)	84	90
7	G	185/526 (35%)	185 (100%)	0	100	100
7	Q	185/526 (35%)	185 (100%)	0	100	100
8	I	648/648 (100%)	641 (99%)	7 (1%)	73	84
8	R	648/648 (100%)	642 (99%)	6 (1%)	78	87
9	L	261/358 (73%)	258 (99%)	3 (1%)	73	84
9	T	261/358 (73%)	258 (99%)	3 (1%)	73	84
10	M	144/380 (38%)	139 (96%)	5 (4%)	36	59
10	U	144/380 (38%)	139 (96%)	5 (4%)	36	59
11	W	101/120 (84%)	100 (99%)	1 (1%)	76	86
11	Y	101/120 (84%)	101 (100%)	0	100	100
12	X	90/401 (22%)	89 (99%)	1 (1%)	73	84
12	Z	90/401 (22%)	89 (99%)	1 (1%)	73	84
13	S	915/1431 (64%)	905 (99%)	10 (1%)	73	84
13	V	915/1431 (64%)	906 (99%)	9 (1%)	76	86

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
All	All	9204/13550 (68%)	9118 (99%)	86 (1%)	79	87

All (86) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	127	ARG
1	A	168	ARG
1	A	432	LYS
1	A	449	TYR
1	A	587	ARG
1	A	654	ARG
2	B	28	LYS
2	B	35	ARG
2	B	217	ARG
2	B	253	LYS
3	C	198	LYS
3	C	206	LYS
3	C	359	ARG
3	C	386	LYS
3	C	560	LYS
5	E	7	ARG
5	E	362	ARG
6	F	85	ARG
6	F	233	LYS
8	I	7	GLN
8	I	133	ARG
8	I	657	ASN
8	I	714	ARG
8	I	719	LYS
8	I	746	LYS
8	I	758	ARG
9	L	78	ARG
9	L	179	ARG
9	L	286	ARG
10	M	322	LYS
10	M	387	ARG
10	M	408	LYS
10	M	422	LYS
10	M	430	LYS
11	W	124	LYS
12	X	484	ARG
13	S	18	LYS

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Mol	Chain	Res	Type
13	S	139	ARG
13	S	147	LYS
13	S	183	LYS
13	S	351	ARG
13	S	410	ARG
13	S	495	LEU
13	S	500	ARG
13	S	812	LYS
13	S	850	ARG
1	H	127	ARG
1	H	168	ARG
1	H	432	LYS
1	H	449	TYR
1	H	587	ARG
1	H	654	ARG
2	J	28	LYS
2	J	217	ARG
3	K	206	LYS
3	K	359	ARG
3	K	386	LYS
3	K	560	LYS
5	O	7	ARG
5	O	362	ARG
6	P	85	ARG
6	P	86	GLN
8	R	133	ARG
8	R	657	ASN
8	R	714	ARG
8	R	719	LYS
8	R	746	LYS
8	R	758	ARG
9	T	78	ARG
9	T	179	ARG
9	T	238	MET
10	U	322	LYS
10	U	387	ARG
10	U	408	LYS
10	U	422	LYS
10	U	430	LYS
12	Z	484	ARG
13	V	18	LYS
13	V	139	ARG

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Mol	Chain	Res	Type
13	V	147	LYS
13	V	183	LYS
13	V	410	ARG
13	V	495	LEU
13	V	500	ARG
13	V	812	LYS
13	V	850	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (43) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	234	GLN
1	A	303	ASN
1	A	641	GLN
2	B	23	HIS
2	B	381	ASN
2	B	405	GLN
3	C	176	GLN
3	C	314	ASN
5	E	113	GLN
5	E	132	GLN
5	E	224	ASN
5	E	275	GLN
6	F	214	GLN
8	I	38	HIS
8	I	594	GLN
9	L	274	GLN
9	L	277	GLN
10	M	453	ASN
10	M	458	GLN
13	S	198	GLN
13	S	549	ASN
13	S	631	GLN
1	H	231	HIS
1	H	234	GLN
2	J	23	HIS
3	K	280	HIS
3	K	314	ASN
4	N	226	ASN
4	N	322	ASN
5	O	224	ASN
5	O	290	ASN

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Mol	Chain	Res	Type
6	P	86	GLN
6	P	214	GLN
8	R	7	GLN
8	R	198	ASN
8	R	595	GLN
8	R	732	GLN
9	T	274	GLN
9	T	277	GLN
13	V	198	GLN
13	V	549	ASN
13	V	631	GLN
13	V	694	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.

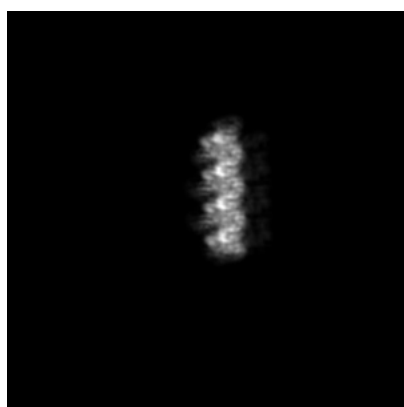
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-15977. These allow visual inspection of the internal detail of the map and identification of artifacts.

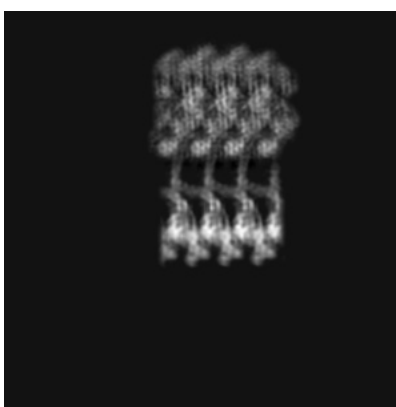
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

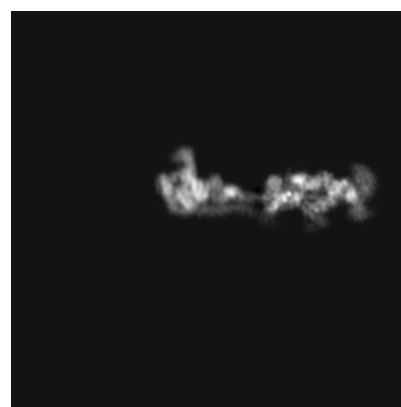
6.1.1 Primary map



X



Y

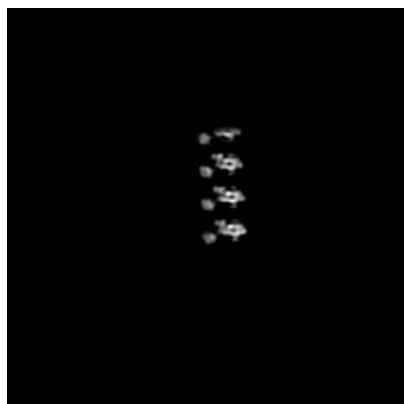


Z

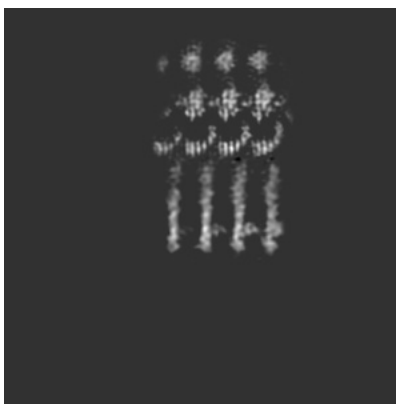
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

6.2.1 Primary map



X Index: 128



Y Index: 128

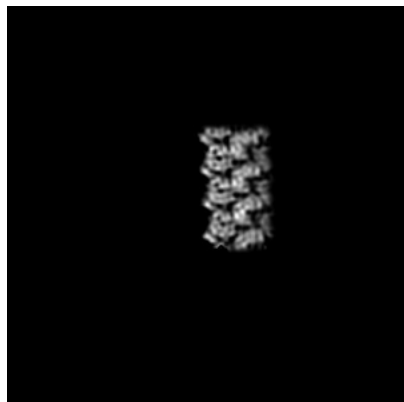


Z Index: 128

The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 113



Y Index: 138

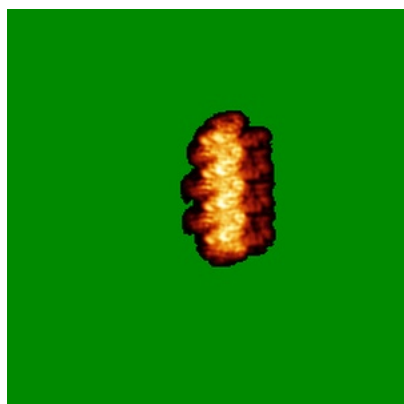


Z Index: 130

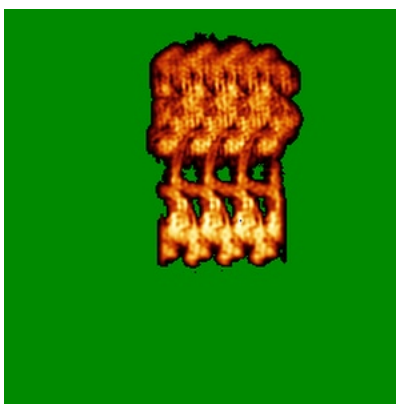
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

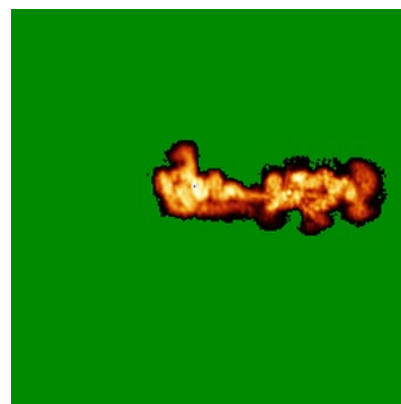
6.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.466. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

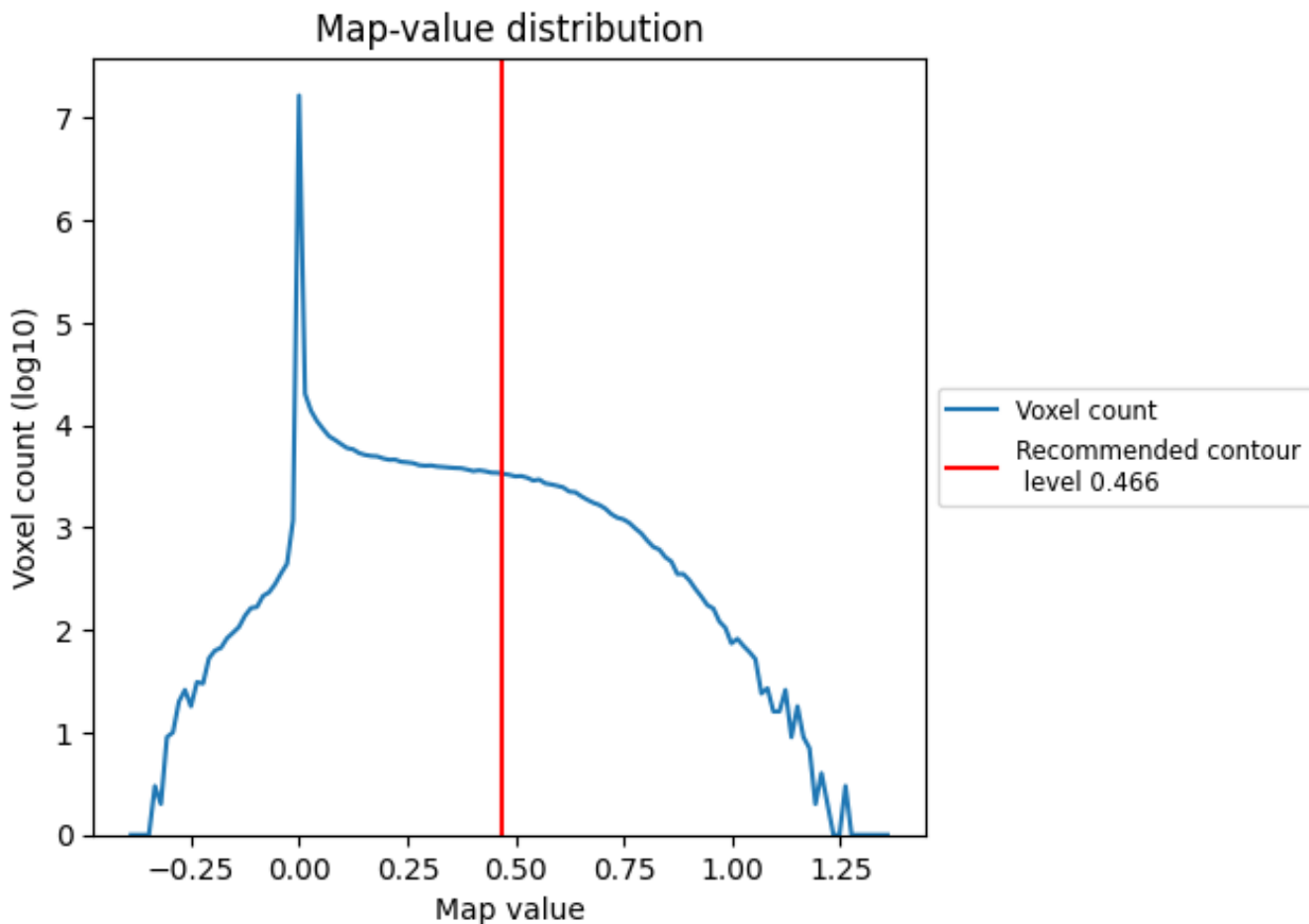
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

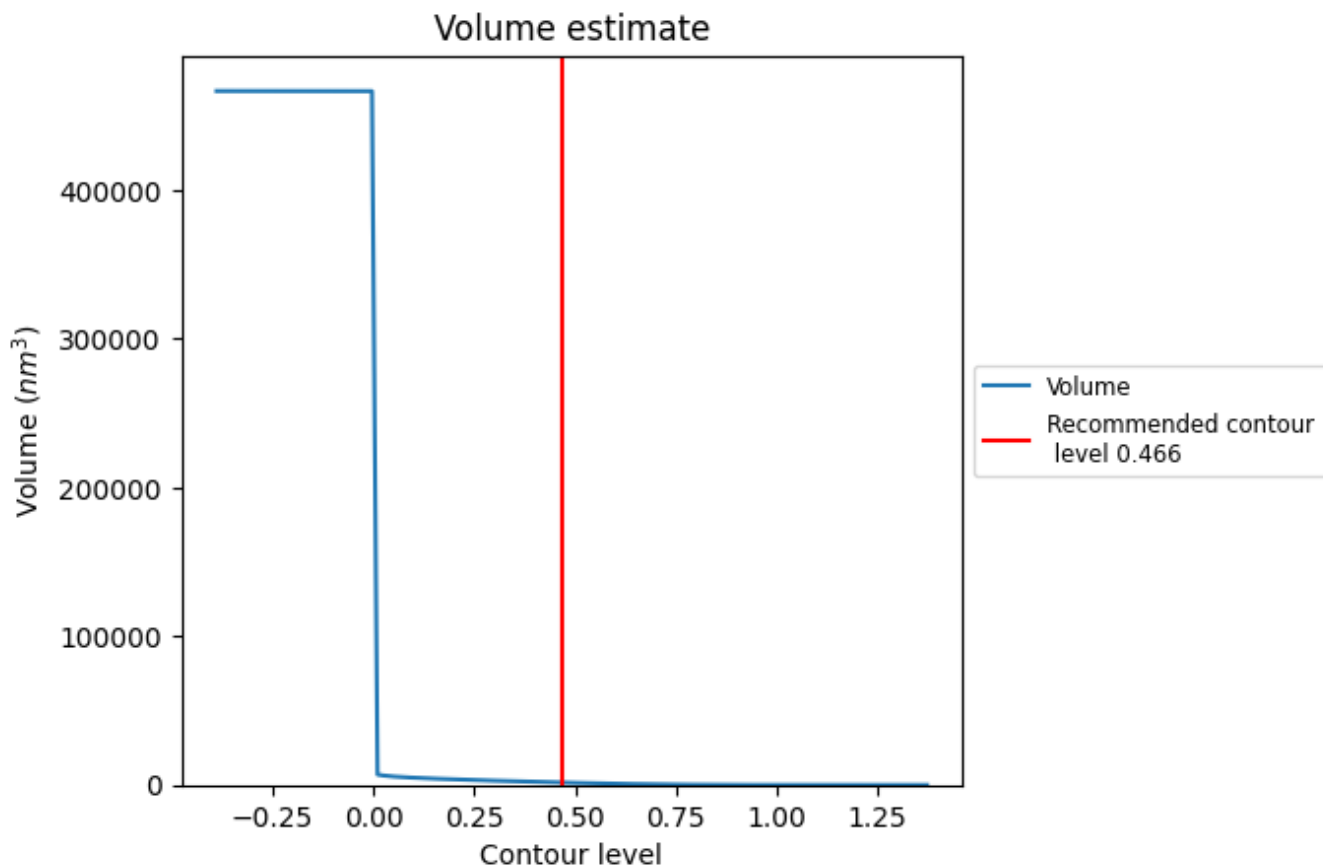
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

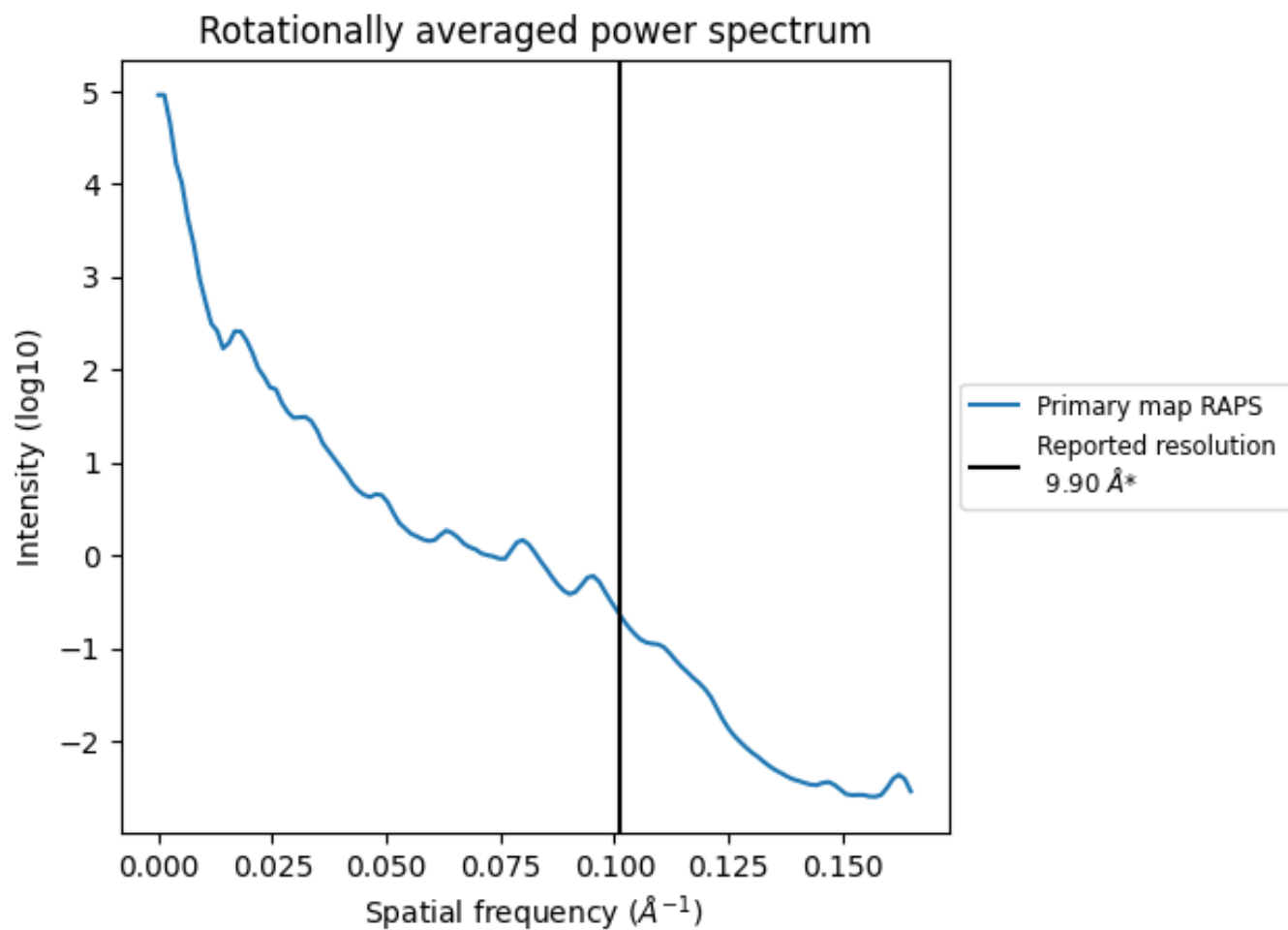
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 1645 nm³; this corresponds to an approximate mass of 1486 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.101 Å⁻¹

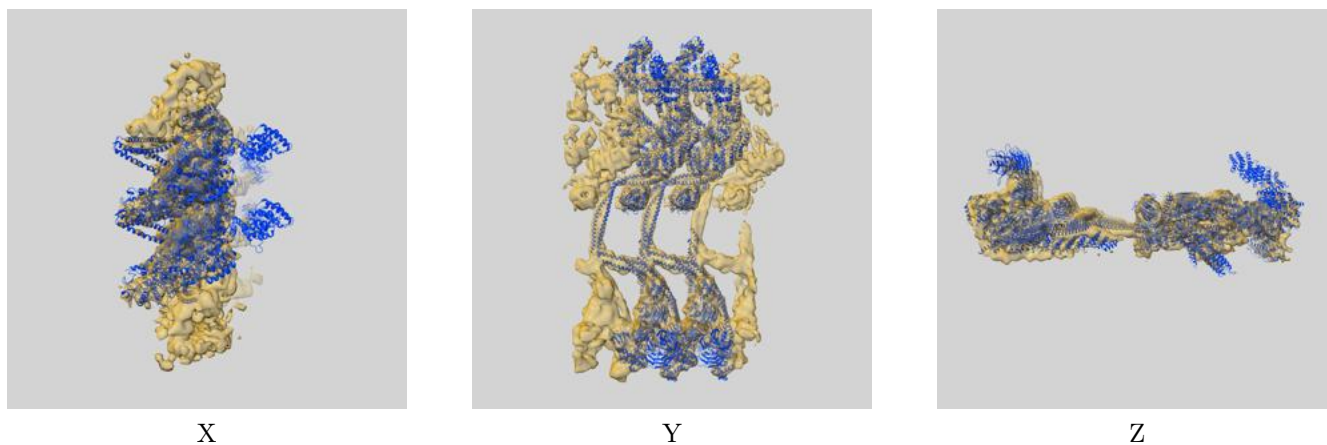
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

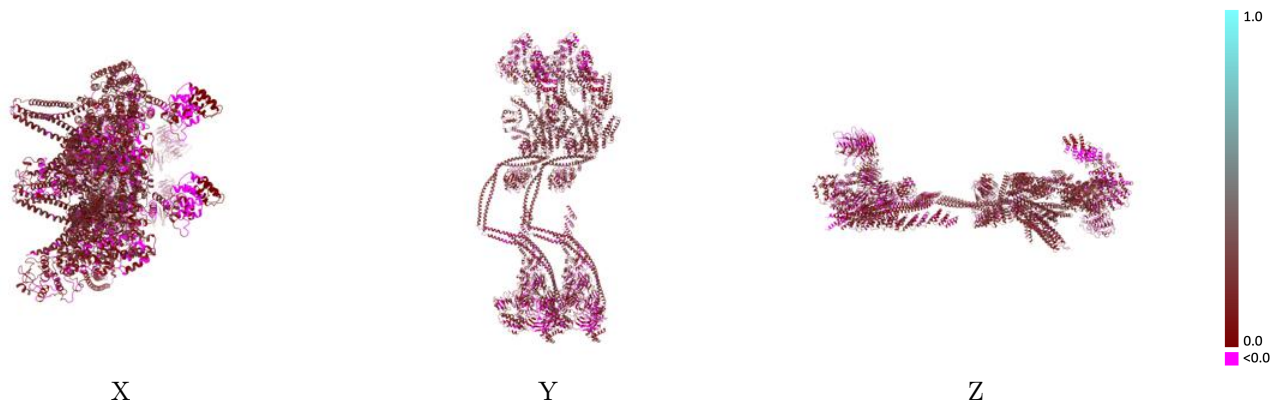
This section contains information regarding the fit between EMDB map EMD-15977 and PDB model 8BD7. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay [i](#)



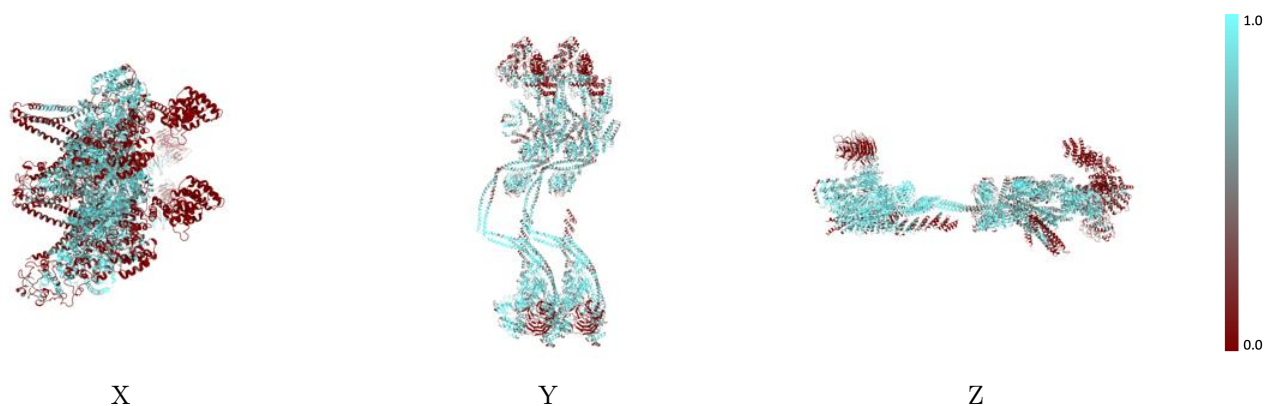
The images above show the 3D surface view of the map at the recommended contour level 0.466 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [\(i\)](#)



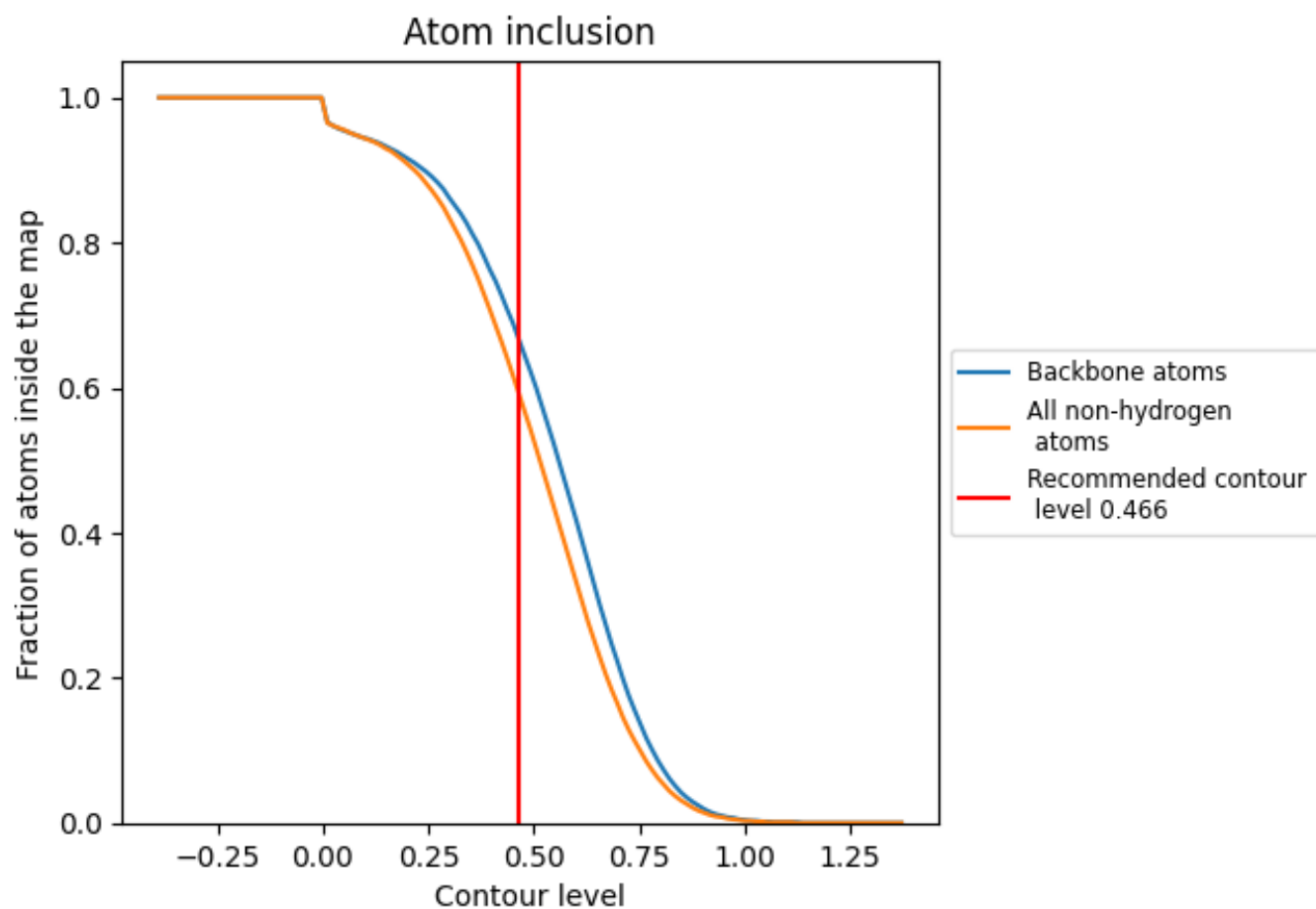
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [\(i\)](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.466).























































9.4 Atom inclusion [i](#)



At the recommended contour level, 66% of all backbone atoms, 59% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.466) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5900	 0.1160
A	 0.7580	 0.1590
B	 0.5930	 0.1360
C	 0.7070	 0.1610
D	 0.2980	 0.0960
E	 0.1130	 0.0420
F	 0.5210	 0.1690
G	 0.4670	 0.1840
H	 0.7500	 0.1580
I	 0.8760	 0.1030
J	 0.5710	 0.1220
K	 0.6770	 0.1590
L	 0.8300	 0.1370
M	 0.7730	 0.1540
N	 0.2730	 0.0760
O	 0.0990	 0.0410
P	 0.5200	 0.1620
Q	 0.4430	 0.1720
R	 0.8590	 0.0980
S	 0.4670	 0.0810
T	 0.8340	 0.1350
U	 0.7860	 0.1600
V	 0.4690	 0.0790
W	 0.7630	 0.1070
X	 0.6990	 0.1260
Y	 0.7600	 0.1010
Z	 0.7260	 0.1260

