



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 15, 2017 – 08:01 am GMT

PDB ID : 4ZKT
Title : Crystal structure of the progenitor M complex of Clostridium botulinum type E neurotoxin
Authors : Eswaramoorthy, S.; Swaminathan, S.
Deposited on : 2015-04-30
Resolution : 3.05 Å(reported)

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

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

A user guide is available at

<http://wwpdb.org/validation/2016/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.9-1692
EDS : trunk28620
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : recalc28949

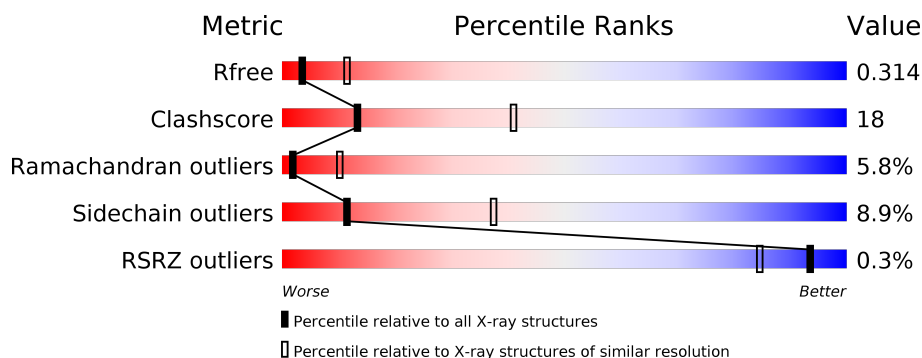
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.05 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	100719	1348 (3.10-3.02)
Clashscore	112137	1462 (3.10-3.02)
Ramachandran outliers	110173	1410 (3.10-3.02)
Sidechain outliers	110143	1410 (3.10-3.02)
RSRZ outliers	101464	1355 (3.10-3.02)

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

Mol	Chain	Length	Quality of chain
1	A	1252	
1	C	1252	
1	E	1252	
2	B	1163	
2	D	1163	
2	F	1163	

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 56952 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Bontoxilysin A.

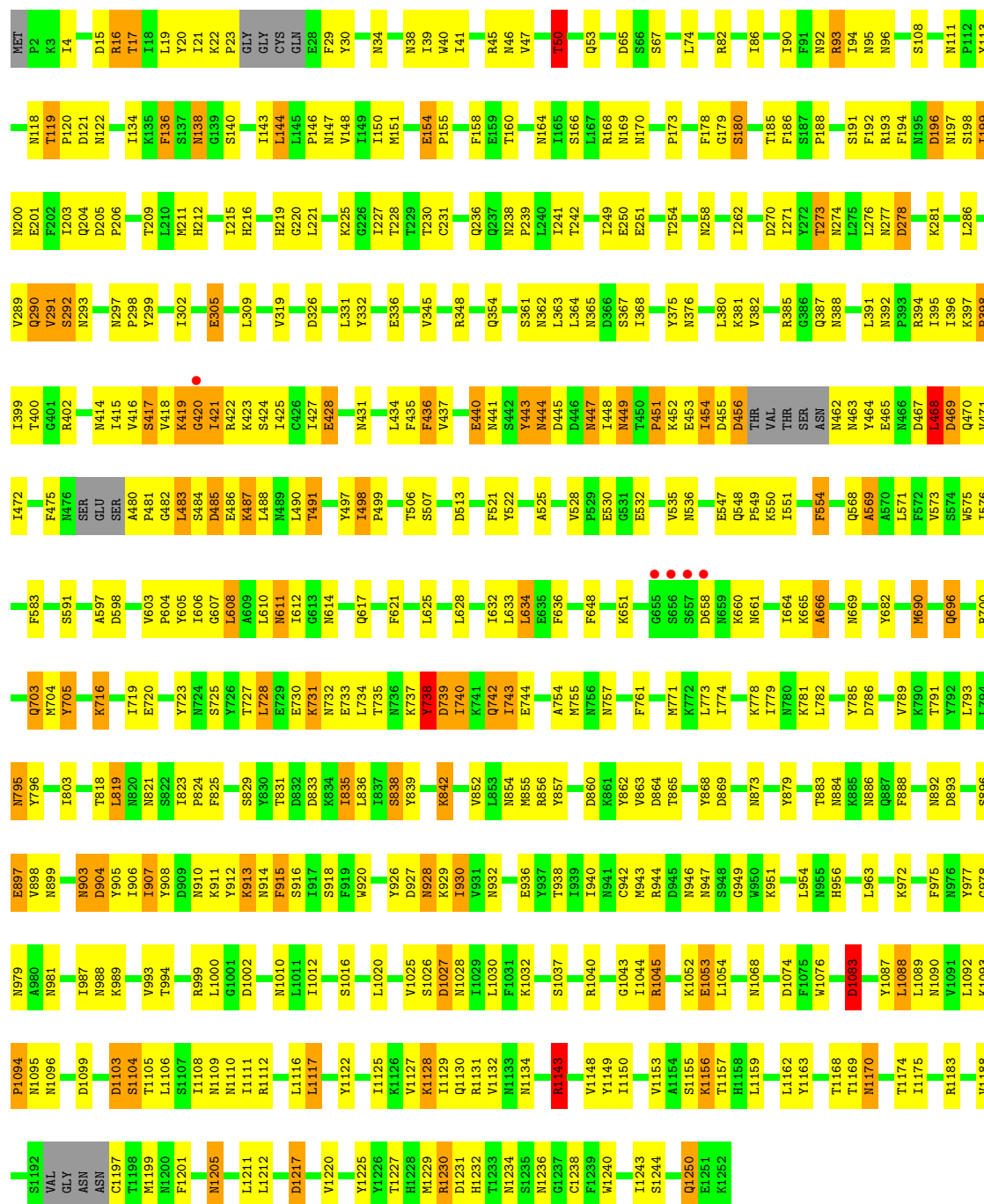
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	1235	Total	C	N	O	S	0	0	0
			9978	6351	1665	1940	22			
1	C	1235	Total	C	N	O	S	0	0	0
			9978	6351	1665	1940	22			
1	E	1235	Total	C	N	O	S	0	0	0
			9978	6351	1665	1940	22			

- Molecule 2 is a protein called Botulinum neurotoxin type E, nontoxic-nonhemagglutinin component, NTNH.

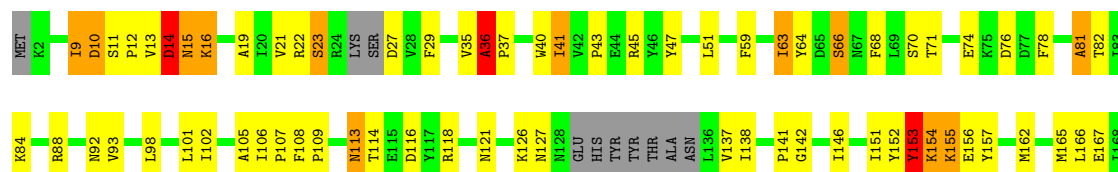
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	1114	Total	C	N	O	S	0	0	0
			9005	5804	1451	1726	24			
2	D	1114	Total	C	N	O	S	0	0	0
			9005	5804	1451	1726	24			
2	F	1114	Total	C	N	O	S	0	0	0
			9005	5804	1451	1726	24			

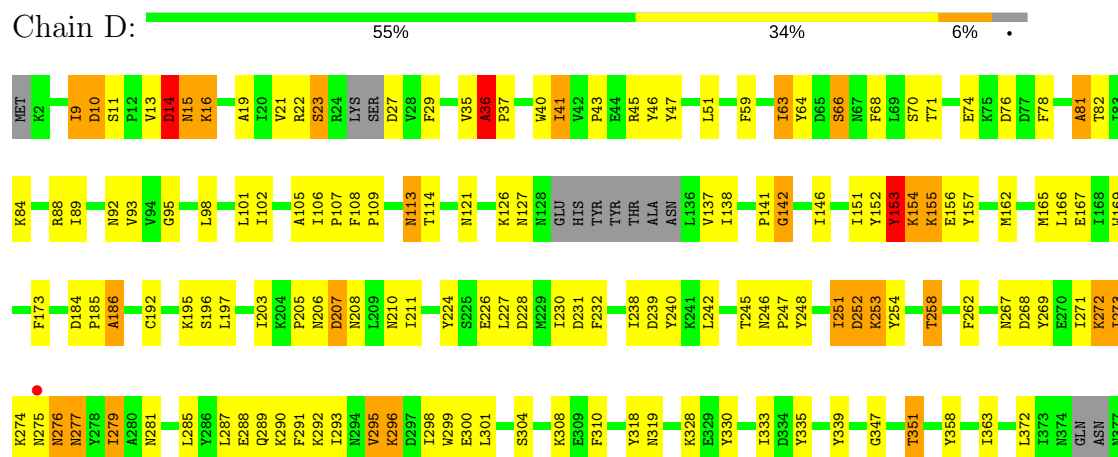
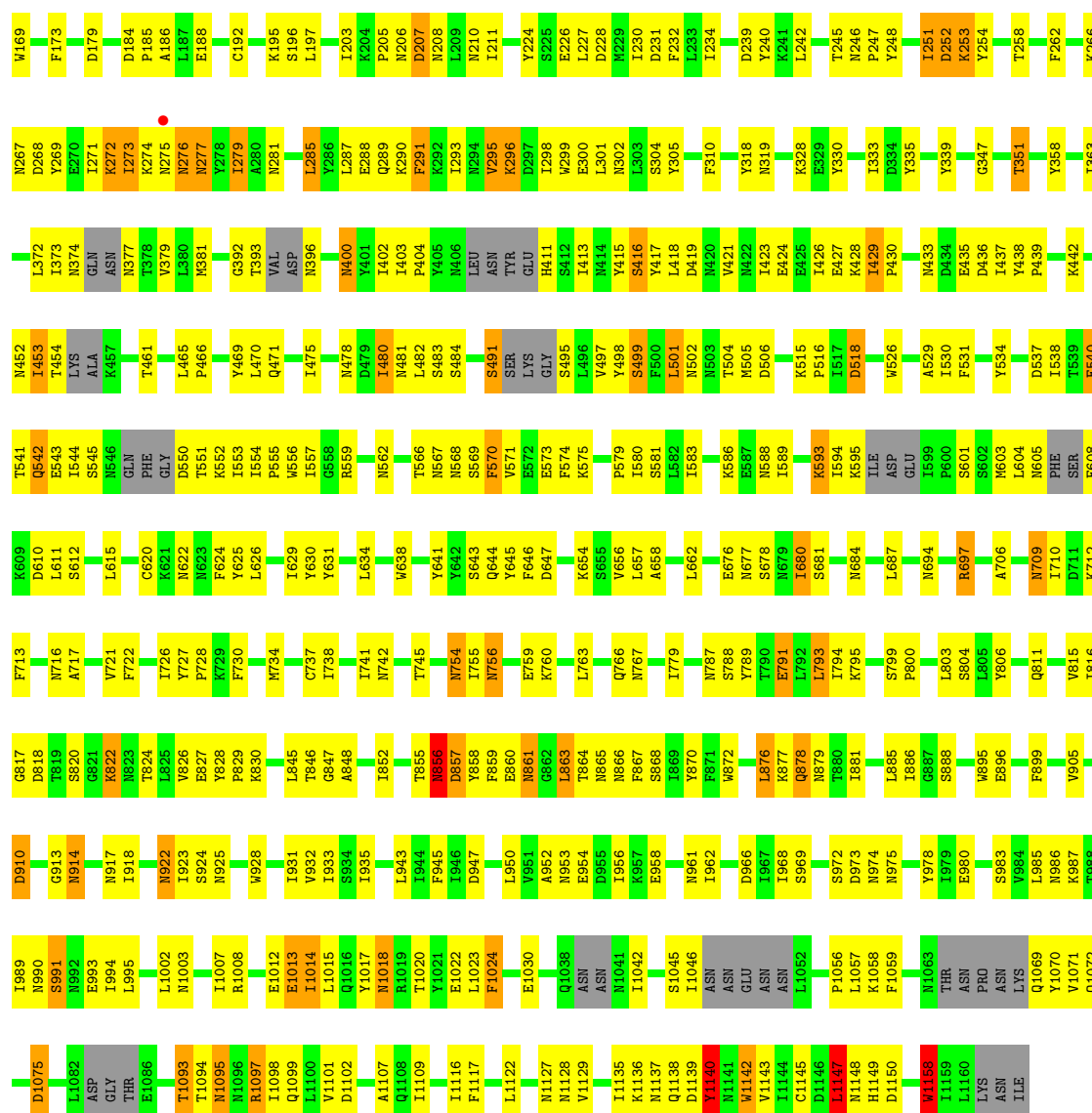
- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	Zn	0	0
			1	1		
3	C	1	Total	Zn	0	0
			1	1		
3	E	1	Total	Zn	0	0
			1	1		

Chain E: 

• Molecule 2: Botulinum neurotoxin type E, nontoxic-nonhemagglutinin component, NTNH

Chain B: 



ASN	LYS	Q1069	Y1070	Y1071	Q1072	D1075	L1082	ASP	GLY	THR	E1086	T1093	T1094	M1095	M1096	R1097	I1098	Q1099	L1100	V1101	D1102	A1107	I1116	F1117	L1122	M1127	M1128	V1129	I1135	K1136	M1137	Q1138	D1139	Y1140	N1141	W1142	V1143	I1144	C1145	D1146	L1147	N1148	H1149	D1150	W1153	I1159	L1160	LYS	ASN	ILE				
L985	N986	K987	T988	I989	N990	S991	R992	E993	I994	L995	L1002	M1003	I1007	R1008	E1012	E1013	I1014	L1015	Q1016	Y1017	N1018	R1019	F1020	Y1021	E1022	L1023	F1024	E1030	I1036	E1037	Q1038	ASN	ASN	N1041	I1042	S1045	I1046	ASN	ASN	GLU	ASN	ASN	L1052	P1056	L1057	K1058	F1059	W1153	I1159	L1160	LYS	ASN	ILE	
F899	E900	N901	D910	N914	N922	I923	S924	N925	W928	I931	V932	I933	S934	I935	K939	L943	I944	F945	I946	D947	N948	I949	L950	V951	A952	N953	E954	I956	K957	E958	N961	I962	D966	I967	I968	S969	L970	N971	S972	D973	N974	N975	Y978	I979	E980	S983	V984							
T819	S820	G821	K822	N823	T824	L825	V826	E827	Y828	P829	K830	I831	I832	I843	H844	L845	T846	G847	A848	I852	K853	F854	T855	R856	D857	Y858	F859	E860	N861	G862	L863	T864	N865	N866	F867	S868	Y869	Y870	F871	W872	L873	L876	K877	Q878	N879	T880	I881	L885	I886	G887	S888	W895	G817	E896
F608	K609	D610	L611	S612	L615	O620	F624	Y625	L626	I629	Y630	Y631	L634	W638	Y641	S643	Q644	Y645	V656	L657	A658	L662	E676	N677	S678	W679	I680	N684	L687	N694	S788	Y789	T790	E791	L792	L793	L794	K795	S799	P800	L803	S804	L805	Y806	Q811	V815	I816	G817	D818					
T539	E540	T541	Q542	E543	I544	S545	H546	GLN	PHE	GLY	D550	T551	K552	L553	I554	P555	W556	I557	G558	R559	N562	T566	I567	N568	S569	F570	V571	E572	E573	F574	K575	P579	T580	S581	L582	I583	K586	E587	N588	K593	I594	K595	ILE	ASP	GLU	I599	P600	S601	G602	L603	L604	N605	PHE	SER

4 Data and refinement statistics

Property	Value	Source
Space group	P 31	Depositor
Cell constants a, b, c, α , β , γ	192.60Å 192.60Å 286.54Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	49.30 – 3.05 49.25 – 3.05	Depositor EDS
% Data completeness (in resolution range)	59.7 (49.30-3.05) 59.8 (49.25-3.05)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.46 (at 3.07Å)	Xtriage
Refinement program	REFMAC 5.7.0032	Depositor
R, R_{free}	0.243 , 0.321 0.247 , 0.314	Depositor DCC
R_{free} test set	1334 reflections (1.00%)	DCC
Wilson B-factor (Å ²)	110.6	Xtriage
Anisotropy	0.154	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.25 , 110.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.36$, $\langle L^2 \rangle = 0.19$	Xtriage
Estimated twinning fraction	0.135 for -h,-k,l 0.196 for h,-h-k,-l 0.137 for -k,-h,-l	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	56952	wwPDB-VP
Average B, all atoms (Å ²)	134.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.18% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	0.58	0/10176	0.74	2/13800 (0.0%)
1	C	0.56	0/10176	0.73	1/13800 (0.0%)
1	E	0.54	0/10176	0.72	2/13800 (0.0%)
2	B	0.64	2/9182 (0.0%)	0.75	0/12454
2	D	0.60	1/9182 (0.0%)	0.74	0/12454
2	F	0.58	1/9182 (0.0%)	0.73	0/12454
All	All	0.58	4/58074 (0.0%)	0.73	5/78762 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
2	B	0	1
2	D	0	1
2	F	0	2
All	All	0	4

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	1158	TRP	CB-CG	-7.00	1.37	1.50
2	D	1158	TRP	CB-CG	-5.84	1.39	1.50
2	F	1158	TRP	CB-CG	-5.69	1.40	1.50
2	B	116	ASP	C-O	5.60	1.33	1.23

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1143	ARG	NE-CZ-NH2	7.34	123.97	120.30
1	E	1143	ARG	NE-CZ-NH2	7.21	123.90	120.30
1	A	394	ARG	NE-CZ-NH2	-6.68	116.96	120.30
1	C	1143	ARG	NE-CZ-NH2	6.28	123.44	120.30
1	E	394	ARG	NE-CZ-NH2	-5.63	117.48	120.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	36	ALA	Peptide
2	D	36	ALA	Peptide
2	F	1138	GLN	Peptide
2	F	36	ALA	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	9978	0	9735	338	1
1	C	9978	0	9735	348	1
1	E	9978	0	9735	352	0
2	B	9005	0	8666	361	0
2	D	9005	0	8666	344	0
2	F	9005	0	8666	356	0
3	A	1	0	0	0	0
3	C	1	0	0	0	0
3	E	1	0	0	0	0
All	All	56952	0	55203	2034	1

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 18.

All (2034) 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)
2:D:885:LEU:HG	2:D:886:ILE:HD12	1.33	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:885:LEU:HG	2:F:886:ILE:HD12	1.32	1.09
2:B:436:ASP:HA	2:B:437:ILE:HB	1.34	1.08
2:B:885:LEU:HG	2:B:886:ILE:HD12	1.29	1.08
2:D:436:ASP:HA	2:D:437:ILE:HB	1.35	1.05
2:F:436:ASP:HA	2:F:437:ILE:HB	1.37	1.03
2:B:818:ASP:OD2	2:B:820:SER:OG	1.79	0.99
2:F:818:ASP:OD2	2:F:820:SER:OG	1.80	0.98
2:D:818:ASP:OD2	2:D:820:SER:OG	1.80	0.98
1:C:1130:GLN:O	1:C:1148:VAL:HG23	1.63	0.98
1:A:1130:GLN:O	1:A:1148:VAL:HG23	1.66	0.96
1:E:1130:GLN:O	1:E:1148:VAL:HG23	1.66	0.95
1:C:628:LEU:HB2	1:E:419:LYS:HE3	1.48	0.95
1:A:289:VAL:HB	1:A:290:GLN:HA	1.49	0.91
2:B:879:ASN:HB3	2:B:881:ILE:HG22	1.54	0.89
1:C:289:VAL:HB	1:C:290:GLN:HA	1.53	0.89
2:D:879:ASN:HB3	2:D:881:ILE:HG22	1.55	0.89
1:E:289:VAL:HB	1:E:290:GLN:HA	1.53	0.88
1:C:227:ILE:HD11	1:C:274:ASN:HB2	1.57	0.86
1:A:289:VAL:HB	1:A:290:GLN:CA	2.06	0.86
2:D:1045:SER:OG	2:D:1046:ILE:N	2.09	0.86
1:C:855:MET:O	1:C:856:ARG:HD3	1.76	0.85
1:E:238:ASN:CG	1:E:239:PRO:HD2	1.96	0.85
2:F:879:ASN:HB3	2:F:881:ILE:HG22	1.58	0.85
1:A:227:ILE:HD11	1:A:274:ASN:HB2	1.59	0.84
1:A:855:MET:O	1:A:856:ARG:HD3	1.77	0.84
1:E:227:ILE:HD11	1:E:274:ASN:HB2	1.58	0.84
1:A:238:ASN:CG	1:A:239:PRO:HD2	1.98	0.84
2:F:1045:SER:OG	2:F:1046:ILE:N	2.07	0.84
1:C:289:VAL:HB	1:C:290:GLN:CA	2.09	0.83
1:E:855:MET:O	1:E:856:ARG:HD3	1.79	0.83
1:E:289:VAL:HB	1:E:290:GLN:CA	2.09	0.83
2:D:1137:ASN:HB3	2:D:1142:TRP:HE1	1.46	0.81
2:B:1045:SER:OG	2:B:1046:ILE:N	2.12	0.81
1:A:1155:SER:O	1:A:1157:THR:N	2.13	0.81
1:A:522:TYR:CE2	1:A:611:ASN:HB2	2.16	0.81
1:A:897:GLU:HG2	1:A:1032:LYS:HB2	1.61	0.81
1:E:1155:SER:O	1:E:1157:THR:N	2.13	0.81
1:E:522:TYR:CE2	1:E:611:ASN:HB2	2.17	0.80
1:C:1155:SER:O	1:C:1157:THR:N	2.14	0.80
1:C:238:ASN:CG	1:C:239:PRO:HD2	2.03	0.80
2:B:1137:ASN:HB3	2:B:1142:TRP:HE1	1.47	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:421:ILE:HD11	2:D:510:PHE:CD1	2.17	0.79
1:E:513:ASP:OD1	2:D:521:LYS:NZ	2.16	0.79
1:C:627:LEU:HB3	1:E:419:LYS:HE2	1.65	0.79
1:C:522:TYR:CE2	1:C:611:ASN:HB2	2.17	0.78
1:E:897:GLU:HG2	1:E:1032:LYS:HB2	1.65	0.77
2:F:1137:ASN:HB3	2:F:1142:TRP:HE1	1.48	0.77
2:F:603:MET:O	2:F:605:ASN:N	2.17	0.76
1:A:199:ILE:HA	1:A:705:TYR:HE2	1.50	0.76
1:C:897:GLU:HG2	1:C:1032:LYS:HB2	1.67	0.76
2:B:815:VAL:O	2:B:816:ILE:HG13	1.87	0.74
2:D:526:TRP:CE2	2:D:530:ILE:HD11	2.23	0.74
1:E:728:LEU:HA	1:E:731:LYS:HB2	1.68	0.74
2:F:108:PHE:HB3	2:F:162:MET:HG3	1.70	0.73
2:B:108:PHE:HB3	2:B:162:MET:HG3	1.69	0.73
1:A:836:LEU:HD11	2:B:945:PHE:CD1	2.24	0.73
2:B:603:MET:O	2:B:605:ASN:N	2.22	0.73
2:B:526:TRP:CE2	2:B:530:ILE:HD11	2.24	0.73
1:C:836:LEU:HB2	2:D:995:LEU:HD11	1.69	0.73
1:A:728:LEU:HA	1:A:731:LYS:HB2	1.70	0.73
1:C:728:LEU:HA	1:C:731:LYS:HB2	1.69	0.73
2:D:603:MET:O	2:D:605:ASN:N	2.21	0.73
2:B:1127:ASN:O	2:B:1129:VAL:N	2.22	0.72
2:F:556:TRP:HA	2:F:559:ARG:HD3	1.71	0.72
1:A:227:ILE:HD12	1:A:271:ILE:HA	1.72	0.72
2:D:815:VAL:O	2:D:816:ILE:HG13	1.89	0.72
2:F:436:ASP:HA	2:F:437:ILE:CB	2.16	0.72
2:D:108:PHE:HB3	2:D:162:MET:HG3	1.72	0.72
2:F:815:VAL:O	2:F:816:ILE:HG13	1.90	0.71
1:C:199:ILE:HA	1:C:705:TYR:HE2	1.53	0.71
2:D:469:TYR:CZ	2:D:562:ASN:HB2	2.25	0.71
2:B:59:PHE:HB2	2:B:452:ASN:ND2	2.06	0.71
2:D:63:ILE:HD12	2:D:358:TYR:HB3	1.72	0.71
2:F:469:TYR:CZ	2:F:562:ASN:HB2	2.26	0.71
1:C:118:ASN:HA	1:C:119:THR:HB	1.74	0.70
1:E:738:TYR:HA	1:E:743:ILE:HG13	1.73	0.70
1:A:238:ASN:ND2	1:A:239:PRO:HD2	2.06	0.70
2:F:626:LEU:HA	2:F:629:ILE:HD12	1.74	0.70
2:B:876:LEU:O	2:B:877:LYS:HB2	1.92	0.70
2:B:63:ILE:HD12	2:B:358:TYR:HB3	1.73	0.70
1:E:199:ILE:HA	1:E:705:TYR:HE2	1.56	0.70
2:F:21:VAL:HG13	2:F:121:ASN:HA	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:436:PHE:HD1	1:C:436:PHE:C	1.96	0.69
2:F:526:TRP:CE2	2:F:530:ILE:HD11	2.27	0.69
1:E:238:ASN:ND2	1:E:239:PRO:HD2	2.07	0.69
2:B:556:TRP:HA	2:B:559:ARG:HD3	1.75	0.69
2:D:121:ASN:CB	2:D:127:ASN:HA	2.22	0.69
2:F:59:PHE:HB2	2:F:452:ASN:ND2	2.08	0.69
1:A:118:ASN:HA	1:A:119:THR:HB	1.74	0.69
1:C:944:ARG:HG2	1:C:1026:SER:HA	1.72	0.69
2:F:224:TYR:O	2:F:392:GLY:HA2	1.93	0.69
2:D:867:PHE:HB2	2:D:985:LEU:O	1.93	0.68
1:C:227:ILE:HD12	1:C:271:ILE:HA	1.75	0.68
2:D:224:TYR:O	2:D:392:GLY:HA2	1.93	0.68
2:F:876:LEU:O	2:F:877:LYS:HB2	1.93	0.68
2:B:21:VAL:HG13	2:B:121:ASN:HA	1.75	0.68
2:D:626:LEU:HA	2:D:629:ILE:HD12	1.76	0.68
1:E:436:PHE:HD1	1:E:436:PHE:C	1.96	0.68
2:B:626:LEU:HA	2:B:629:ILE:HD12	1.74	0.68
2:F:63:ILE:HD12	2:F:358:TYR:HB3	1.76	0.68
1:C:449:ASN:O	1:C:451:PRO:HD3	1.94	0.68
2:D:556:TRP:HA	2:D:559:ARG:HD3	1.76	0.68
2:B:469:TYR:CZ	2:B:562:ASN:HB2	2.28	0.68
2:D:1149:HIS:CG	2:D:1150:ASP:N	2.62	0.67
1:E:944:ARG:HG2	1:E:1026:SER:HA	1.75	0.67
1:E:449:ASN:O	1:E:451:PRO:HD3	1.94	0.67
1:E:836:LEU:HB2	2:F:995:LEU:HD11	1.75	0.67
1:E:227:ILE:HD12	1:E:271:ILE:HA	1.76	0.67
1:E:436:PHE:CD1	1:E:436:PHE:C	2.67	0.67
1:A:738:TYR:HA	1:A:743:ILE:HG13	1.76	0.67
1:C:1207:ASN:OD1	2:D:811:GLN:N	2.28	0.67
2:D:876:LEU:O	2:D:877:LYS:HB2	1.94	0.67
2:D:59:PHE:HB2	2:D:452:ASN:ND2	2.08	0.67
2:D:423:ILE:O	2:D:423:ILE:HG23	1.94	0.67
1:A:436:PHE:C	1:A:436:PHE:HD1	1.97	0.67
2:B:1149:HIS:CG	2:B:1150:ASP:N	2.62	0.67
1:C:436:PHE:CD1	1:C:436:PHE:C	2.66	0.67
1:C:738:TYR:HA	1:C:743:ILE:HG13	1.76	0.67
1:A:449:ASN:O	1:A:451:PRO:HD3	1.94	0.67
2:D:1127:ASN:O	2:D:1129:VAL:N	2.27	0.66
1:A:20:TYR:HB3	1:A:29:PHE:HB3	1.77	0.66
2:B:393:THR:HG1	2:B:396:ASN:N	1.92	0.66
1:E:904:ASP:HA	1:E:907:ILE:HD11	1.75	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1127:ASN:O	2:F:1129:VAL:N	2.27	0.66
2:B:295:VAL:O	2:B:298:ILE:N	2.29	0.66
1:A:436:PHE:C	1:A:436:PHE:CD1	2.68	0.66
2:B:436:ASP:HA	2:B:437:ILE:CB	2.12	0.66
2:F:423:ILE:O	2:F:423:ILE:HG23	1.94	0.66
2:F:867:PHE:HB2	2:F:985:LEU:O	1.95	0.66
2:B:423:ILE:HG23	2:B:423:ILE:O	1.93	0.66
1:A:944:ARG:HG2	1:A:1026:SER:HA	1.76	0.66
2:F:1149:HIS:CG	2:F:1150:ASP:N	2.64	0.66
2:B:877:LYS:HB3	2:B:878:GLN:HB3	1.78	0.66
1:E:154:GLU:HB2	1:E:155:PRO:HD2	1.78	0.66
1:C:154:GLU:HB2	1:C:155:PRO:HD2	1.77	0.65
2:D:21:VAL:HG13	2:D:121:ASN:HA	1.77	0.65
2:F:877:LYS:HB3	2:F:878:GLN:HB3	1.78	0.65
1:C:628:LEU:CB	1:E:419:LYS:HE3	2.25	0.65
2:D:877:LYS:HB3	2:D:878:GLN:HB3	1.78	0.65
2:B:867:PHE:HB2	2:B:985:LEU:O	1.97	0.65
2:D:1013:GLU:O	2:D:1014:ILE:HB	1.97	0.65
1:E:118:ASN:HA	1:E:119:THR:HB	1.77	0.65
1:E:928:ASN:HB3	1:E:930:ILE:HG22	1.77	0.65
2:F:121:ASN:CB	2:F:127:ASN:HA	2.27	0.65
1:C:238:ASN:ND2	1:C:239:PRO:HD2	2.11	0.65
2:B:121:ASN:CB	2:B:127:ASN:HA	2.26	0.65
1:E:771:MET:HA	1:E:774:ILE:HG22	1.79	0.64
1:A:928:ASN:HB3	1:A:930:ILE:HG22	1.79	0.64
1:C:415:ILE:HD12	1:C:425:ILE:HD12	1.78	0.64
1:C:836:LEU:HD11	2:D:945:PHE:CD1	2.32	0.64
1:E:926:TYR:HB3	1:E:1250:GLN:CG	2.28	0.64
1:E:236:GLN:HB3	1:E:241:ILE:HD13	1.79	0.64
1:A:216:HIS:NE2	1:A:251:GLU:OE1	2.30	0.64
1:A:289:VAL:CB	1:A:290:GLN:HA	2.23	0.64
1:A:771:MET:HA	1:A:774:ILE:HG22	1.79	0.64
1:A:926:TYR:HB3	1:A:1250:GLN:CG	2.28	0.64
2:B:1013:GLU:O	2:B:1014:ILE:HB	1.97	0.64
1:E:216:HIS:NE2	1:E:251:GLU:OE1	2.31	0.64
1:A:415:ILE:HD12	1:A:425:ILE:HD12	1.79	0.64
1:A:468:LEU:O	1:A:470:GLN:N	2.31	0.64
2:B:1137:ASN:HB3	2:B:1142:TRP:NE1	2.13	0.64
2:D:552:LYS:O	2:D:713:PHE:HD1	1.81	0.64
1:E:836:LEU:HD11	2:F:945:PHE:CD1	2.33	0.64
2:B:35:VAL:HG12	2:B:36:ALA:H	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:35:VAL:HG12	2:D:36:ALA:H	1.63	0.64
2:F:1013:GLU:O	2:F:1014:ILE:HB	1.98	0.64
1:E:415:ILE:HD12	1:E:425:ILE:HD12	1.79	0.64
1:A:705:TYR:C	1:A:705:TYR:CD1	2.72	0.63
1:E:468:LEU:O	1:E:470:GLN:N	2.30	0.63
1:A:904:ASP:HA	1:A:907:ILE:HD11	1.79	0.63
2:B:1122:LEU:HD21	2:B:1158:TRP:CZ2	2.33	0.63
2:B:13:VAL:HG12	2:B:14:ASP:N	2.14	0.63
2:B:224:TYR:O	2:B:392:GLY:HA2	1.97	0.63
1:C:365:ASN:O	1:C:368:ILE:HG22	1.97	0.63
1:E:454:ILE:HD13	1:E:666:ALA:HA	1.79	0.63
2:B:608:PHE:O	2:B:612:SER:N	2.31	0.63
2:D:1137:ASN:HB3	2:D:1142:TRP:NE1	2.12	0.63
2:D:1122:LEU:HD21	2:D:1158:TRP:CZ2	2.33	0.63
2:F:269:TYR:OH	2:F:288:GLU:HB2	1.98	0.63
1:A:154:GLU:HB2	1:A:155:PRO:HD2	1.79	0.63
2:B:856:ASN:HB3	2:B:859:PHE:CE2	2.34	0.63
1:C:926:TYR:HB3	1:C:1250:GLN:CG	2.29	0.63
1:C:857:TYR:CZ	1:C:860:ASP:HA	2.33	0.63
2:D:608:PHE:O	2:D:612:SER:N	2.32	0.63
2:F:1122:LEU:HD21	2:F:1158:TRP:CZ2	2.33	0.63
1:A:926:TYR:HB3	1:A:1250:GLN:HG3	1.80	0.63
1:C:444:ASN:OD1	1:C:445:ASP:N	2.33	0.62
1:C:928:ASN:HB3	1:C:930:ILE:HG22	1.80	0.62
2:F:961:ASN:OD1	2:F:962:ILE:N	2.33	0.62
2:B:910:ASP:HB3	2:B:914:ASN:HB2	1.81	0.62
2:B:962:ILE:HG22	2:B:962:ILE:O	1.99	0.62
1:C:754:ALA:O	1:C:757:ASN:HB2	1.99	0.62
2:D:295:VAL:O	2:D:298:ILE:N	2.31	0.62
2:F:429:ILE:N	2:F:430:PRO:CD	2.63	0.62
2:B:552:LYS:O	2:B:713:PHE:HD1	1.83	0.62
1:C:216:HIS:NE2	1:C:251:GLU:OE1	2.33	0.62
1:C:771:MET:HA	1:C:774:ILE:HG22	1.82	0.62
2:D:269:TYR:OH	2:D:288:GLU:HB2	1.98	0.62
1:E:219:HIS:ND1	1:E:250:GLU:OE2	2.27	0.62
2:F:295:VAL:O	2:F:298:ILE:N	2.32	0.62
1:A:914:ASN:O	1:A:915:PHE:HB3	1.99	0.62
2:B:268:ASP:HA	2:B:271:ILE:HG22	1.80	0.62
2:B:429:ILE:N	2:B:430:PRO:CD	2.63	0.62
1:C:926:TYR:HB3	1:C:1250:GLN:HG3	1.81	0.62
2:D:268:ASP:HA	2:D:271:ILE:HG22	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:962:ILE:HG22	2:F:962:ILE:O	2.00	0.62
2:D:910:ASP:HB3	2:D:914:ASN:HB2	1.82	0.62
1:E:926:TYR:HB3	1:E:1250:GLN:HG3	1.80	0.62
2:D:962:ILE:O	2:D:962:ILE:HG22	2.00	0.62
2:F:35:VAL:HG12	2:F:36:ALA:H	1.65	0.62
2:F:608:PHE:O	2:F:612:SER:N	2.32	0.62
1:A:365:ASN:O	1:A:368:ILE:HG22	2.00	0.62
1:E:414:ASN:HA	1:E:424:SER:HA	1.81	0.62
1:A:236:GLN:HB3	1:A:241:ILE:HD13	1.82	0.61
1:C:20:TYR:HB3	1:C:29:PHE:HB3	1.81	0.61
1:C:454:ILE:HD13	1:C:666:ALA:HA	1.81	0.61
2:D:1093:THR:HG23	2:D:1095:ASN:H	1.65	0.61
1:E:119:THR:H	1:E:120:PRO:CD	2.14	0.61
2:F:268:ASP:HA	2:F:271:ILE:HG22	1.82	0.61
1:A:380:LEU:HA	1:A:385:ARG:HB3	1.82	0.61
2:B:1149:HIS:CE1	2:B:1150:ASP:HB3	2.35	0.61
2:D:961:ASN:OD1	2:D:962:ILE:N	2.33	0.61
1:E:857:TYR:CZ	1:E:860:ASP:HA	2.36	0.61
2:F:1023:LEU:HD13	2:F:1158:TRP:HZ3	1.66	0.61
2:F:1137:ASN:HB3	2:F:1142:TRP:NE1	2.14	0.61
1:C:414:ASN:HA	1:C:424:SER:HA	1.82	0.61
2:F:184:ASP:OD1	2:F:185:PRO:HD2	2.01	0.61
2:F:910:ASP:HB3	2:F:914:ASN:HB2	1.83	0.61
1:C:1131:ARG:HD2	1:C:1132:VAL:N	2.16	0.61
2:F:393:THR:HG1	2:F:396:ASN:N	1.99	0.61
1:C:236:GLN:HB3	1:C:241:ILE:HD13	1.83	0.61
1:A:454:ILE:HD13	1:A:666:ALA:HA	1.82	0.61
1:C:468:LEU:O	1:C:470:GLN:N	2.33	0.61
1:C:705:TYR:CD1	1:C:705:TYR:C	2.74	0.61
2:D:552:LYS:HB2	2:D:713:PHE:HE1	1.65	0.61
2:D:956:ILE:HG22	2:D:956:ILE:O	2.00	0.61
2:D:856:ASN:HB3	2:D:859:PHE:CE2	2.36	0.61
1:E:981:ASN:HD21	2:F:414:ASN:HB3	1.64	0.61
2:B:184:ASP:OD1	2:B:185:PRO:HD2	2.00	0.60
1:C:289:VAL:CB	1:C:290:GLN:HA	2.27	0.60
1:A:1131:ARG:HD2	1:A:1132:VAL:N	2.15	0.60
1:A:754:ALA:O	1:A:757:ASN:HB2	1.99	0.60
1:A:854:ASN:HB2	1:A:865:THR:HG22	1.82	0.60
1:C:427:ILE:CD1	1:C:521:PHE:HA	2.31	0.60
2:F:956:ILE:HG22	2:F:956:ILE:O	2.00	0.60
1:C:914:ASN:O	1:C:915:PHE:HB3	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:904:ASP:HA	1:C:907:ILE:HD11	1.82	0.60
1:E:365:ASN:O	1:E:368:ILE:HG22	2.00	0.60
2:F:856:ASN:HB3	2:F:859:PHE:CE2	2.36	0.60
1:C:219:HIS:ND1	1:C:250:GLU:OE2	2.28	0.60
2:D:184:ASP:OD1	2:D:185:PRO:HD2	2.02	0.60
1:E:380:LEU:HA	1:E:385:ARG:HB3	1.84	0.60
2:B:269:TYR:OH	2:B:288:GLU:HB2	2.01	0.60
2:B:552:LYS:HB2	2:B:713:PHE:HE1	1.65	0.60
2:D:1023:LEU:HD13	2:D:1158:TRP:HZ3	1.67	0.60
2:D:13:VAL:HG12	2:D:14:ASP:N	2.16	0.60
2:D:246:ASN:ND2	2:D:413:ILE:O	2.34	0.60
2:D:429:ILE:N	2:D:430:PRO:CD	2.65	0.60
1:E:427:ILE:CD1	1:E:521:PHE:HA	2.31	0.60
1:E:914:ASN:O	1:E:915:PHE:HB3	2.01	0.60
2:F:246:ASN:ND2	2:F:413:ILE:O	2.34	0.60
2:F:465:LEU:HB3	2:F:466:PRO:HD2	1.84	0.60
2:F:465:LEU:HB3	2:F:466:PRO:CD	2.32	0.60
2:F:552:LYS:O	2:F:713:PHE:HD1	1.83	0.60
2:B:605:ASN:HA	2:B:754:ASN:HB2	1.83	0.60
2:F:989:ILE:HG22	2:F:994:ILE:HG13	1.82	0.60
1:C:1211:LEU:HD12	1:C:1225:TYR:HB3	1.83	0.60
1:E:754:ALA:O	1:E:757:ASN:HB2	2.01	0.60
1:A:414:ASN:HA	1:A:424:SER:HA	1.84	0.60
2:B:544:ILE:HD12	2:B:553:ILE:HD12	1.83	0.59
1:C:143:ILE:HD13	1:C:491:THR:HG23	1.83	0.59
1:C:779:ILE:HG22	1:C:779:ILE:O	2.02	0.59
1:A:987:ILE:C	1:A:989:LYS:H	2.06	0.59
2:D:544:ILE:HD12	2:D:553:ILE:HD12	1.82	0.59
2:B:411:HIS:HA	2:B:624:PHE:HE1	1.66	0.59
1:C:417:SER:OG	1:C:418:VAL:N	2.33	0.59
1:A:857:TYR:CZ	1:A:860:ASP:HA	2.36	0.59
2:B:498:TYR:OH	2:B:559:ARG:O	2.21	0.59
2:D:989:ILE:HG22	2:D:994:ILE:HG13	1.84	0.59
1:C:836:LEU:CB	2:D:995:LEU:HD11	2.31	0.59
2:F:544:ILE:HD12	2:F:553:ILE:HD12	1.83	0.59
1:A:417:SER:OG	1:A:418:VAL:N	2.34	0.59
2:D:605:ASN:HA	2:D:754:ASN:HB2	1.84	0.59
1:E:705:TYR:CD1	1:E:705:TYR:C	2.75	0.59
1:A:219:HIS:ND1	1:A:250:GLU:OE2	2.28	0.59
2:B:961:ASN:OD1	2:B:962:ILE:N	2.35	0.59
2:D:552:LYS:O	2:D:713:PHE:CD1	2.55	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:427:ILE:CD1	1:A:521:PHE:HA	2.33	0.59
1:E:854:ASN:HB2	1:E:865:THR:HG22	1.85	0.59
2:B:1142:TRP:CD1	2:B:1142:TRP:N	2.70	0.59
2:B:543:GLU:HA	2:B:552:LYS:HA	1.83	0.59
2:B:552:LYS:O	2:B:713:PHE:CD1	2.56	0.59
2:B:956:ILE:O	2:B:956:ILE:HG22	2.03	0.59
1:A:368:ILE:HD11	1:A:395:ILE:HA	1.84	0.59
1:A:462:ASN:HB3	1:A:463:ASN:HA	1.85	0.59
2:B:1093:THR:HG23	2:B:1095:ASN:H	1.66	0.59
2:F:9:ILE:HG23	2:F:10:ASP:H	1.67	0.59
1:A:143:ILE:HD13	1:A:491:THR:HG23	1.83	0.59
2:B:579:PRO:C	2:B:581:SER:H	2.06	0.59
2:F:543:GLU:HA	2:F:552:LYS:HA	1.85	0.59
1:A:454:ILE:HD11	1:A:456:ASP:OD1	2.03	0.58
2:B:1023:LEU:HD12	2:B:1024:PHE:N	2.17	0.58
2:D:1149:HIS:CE1	2:D:1150:ASP:HB3	2.38	0.58
1:E:198:SER:O	1:E:200:ASN:N	2.36	0.58
1:E:444:ASN:OD1	1:E:445:ASP:N	2.36	0.58
1:C:854:ASN:HB2	1:C:865:THR:HG22	1.84	0.58
2:D:469:TYR:CE2	2:D:562:ASN:HB2	2.38	0.58
2:D:526:TRP:CZ2	2:D:530:ILE:HD11	2.38	0.58
1:E:628:LEU:HD23	1:E:632:ILE:HB	1.85	0.58
1:A:453:GLU:O	1:A:454:ILE:HG22	2.03	0.58
2:B:246:ASN:ND2	2:B:413:ILE:O	2.35	0.58
1:E:453:GLU:O	1:E:454:ILE:HG22	2.04	0.58
1:E:943:MET:HB3	1:E:947:ASN:HA	1.85	0.58
2:B:990:ASN:HB3	2:B:993:GLU:CD	2.23	0.58
2:D:245:THR:O	2:D:247:PRO:C	2.42	0.58
2:D:465:LEU:HB3	2:D:466:PRO:HD2	1.86	0.58
2:D:990:ASN:HB3	2:D:993:GLU:CD	2.23	0.58
1:E:454:ILE:HD11	1:E:456:ASP:OD1	2.03	0.58
1:E:779:ILE:O	1:E:779:ILE:HG22	2.03	0.58
2:F:804:SER:O	2:F:818:ASP:HA	2.03	0.58
1:A:1211:LEU:HD12	1:A:1225:TYR:HB3	1.84	0.58
1:A:836:LEU:HB2	2:B:995:LEU:HD11	1.85	0.58
1:C:436:PHE:HD1	1:C:437:VAL:N	2.01	0.58
2:D:436:ASP:HA	2:D:437:ILE:CB	2.14	0.58
1:E:143:ILE:HD13	1:E:491:THR:HG23	1.83	0.58
1:E:417:SER:OG	1:E:418:VAL:N	2.32	0.58
2:F:13:VAL:HG12	2:F:14:ASP:N	2.18	0.58
2:B:427:GLU:C	2:B:430:PRO:HD3	2.24	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:454:ILE:CD1	1:A:456:ASP:OD1	2.51	0.58
1:A:779:ILE:O	1:A:779:ILE:HG22	2.03	0.58
1:C:164:ASN:HB3	1:C:180:SER:OG	2.04	0.58
1:E:1131:ARG:HD2	1:E:1132:VAL:N	2.18	0.58
1:A:164:ASN:HB3	1:A:180:SER:OG	2.03	0.58
1:C:168:ARG:HA	1:C:497:TYR:HB2	1.86	0.58
2:F:469:TYR:CE2	2:F:562:ASN:HB2	2.39	0.58
2:D:427:GLU:C	2:D:430:PRO:HD3	2.24	0.58
1:A:444:ASN:OD1	1:A:445:ASP:N	2.37	0.58
1:C:154:GLU:HB2	1:C:155:PRO:CD	2.34	0.58
2:D:113:ASN:HB3	2:D:279:ILE:CB	2.33	0.58
2:D:465:LEU:HB3	2:D:466:PRO:CD	2.34	0.58
2:F:788:SER:O	2:F:791:GLU:HB3	2.04	0.58
2:F:990:ASN:HB3	2:F:993:GLU:CD	2.24	0.58
1:A:1044:ILE:HG22	1:A:1045:ARG:N	2.19	0.57
1:C:824:PRO:HB3	2:D:952:ALA:HB2	1.86	0.57
2:D:788:SER:O	2:D:791:GLU:HB3	2.04	0.57
2:D:804:SER:O	2:D:818:ASP:HA	2.04	0.57
2:F:227:LEU:HD11	2:F:231:ASP:HB2	1.86	0.57
2:F:411:HIS:HA	2:F:624:PHE:HE1	1.69	0.57
1:A:605:TYR:CD1	1:A:605:TYR:O	2.57	0.57
2:B:856:ASN:HB3	2:B:859:PHE:HE2	1.69	0.57
2:B:989:ILE:HG22	2:B:994:ILE:HG13	1.86	0.57
1:C:1205:ASN:C	1:C:1205:ASN:OD1	2.42	0.57
2:D:1023:LEU:HD12	2:D:1024:PHE:N	2.19	0.57
2:D:498:TYR:OH	2:D:559:ARG:O	2.21	0.57
2:D:756:ASN:OD1	2:D:756:ASN:N	2.37	0.57
2:F:1142:TRP:CD1	2:F:1142:TRP:N	2.72	0.57
2:F:552:LYS:O	2:F:713:PHE:CD1	2.57	0.57
2:B:1023:LEU:HD13	2:B:1158:TRP:HZ3	1.68	0.57
2:B:554:ILE:HG21	2:B:556:TRP:CE2	2.39	0.57
2:D:543:GLU:HA	2:D:552:LYS:HA	1.87	0.57
1:E:236:GLN:HB3	1:E:241:ILE:CD1	2.33	0.57
1:E:20:TYR:HB3	1:E:29:PHE:HB3	1.84	0.57
1:A:168:ARG:HA	1:A:497:TYR:HB2	1.87	0.57
1:C:628:LEU:HD23	1:C:632:ILE:HB	1.86	0.57
1:E:368:ILE:HD11	1:E:395:ILE:HA	1.85	0.57
1:E:168:ARG:HA	1:E:497:TYR:HB2	1.87	0.57
1:E:824:PRO:CB	2:F:952:ALA:HB2	2.35	0.57
2:F:1093:THR:HG23	2:F:1095:ASN:H	1.69	0.57
1:C:416:VAL:HG13	1:C:420:GLY:N	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:154:GLU:HB2	1:E:155:PRO:CD	2.35	0.57
1:E:164:ASN:HB3	1:E:180:SER:OG	2.04	0.57
1:E:454:ILE:CD1	1:E:456:ASP:OD1	2.52	0.57
1:C:380:LEU:HA	1:C:385:ARG:HB3	1.86	0.57
1:C:857:TYR:OH	1:C:860:ASP:HA	2.05	0.57
2:D:552:LYS:HB2	2:D:713:PHE:CE1	2.40	0.57
1:A:309:LEU:CD2	1:A:319:VAL:HG12	2.35	0.57
2:B:166:LEU:HD12	2:B:196:SER:HB2	1.86	0.57
1:C:453:GLU:O	1:C:454:ILE:HG22	2.04	0.57
2:D:742:ASN:HA	2:D:745:THR:HG22	1.87	0.57
2:F:552:LYS:HB2	2:F:713:PHE:HE1	1.69	0.57
1:A:289:VAL:HB	1:A:290:GLN:CB	2.35	0.57
1:C:368:ILE:HD11	1:C:395:ILE:HA	1.86	0.57
1:E:436:PHE:HD1	1:E:437:VAL:N	2.01	0.57
1:E:836:LEU:HD13	2:F:991:SER:HA	1.87	0.57
1:C:943:MET:HB3	1:C:947:ASN:HA	1.86	0.57
2:D:9:ILE:HG23	2:D:10:ASP:H	1.69	0.57
2:F:870:TYR:CE2	2:F:983:SER:OG	2.57	0.57
1:A:198:SER:O	1:A:200:ASN:N	2.38	0.56
1:E:1205:ASN:C	1:E:1205:ASN:OD1	2.43	0.56
1:E:742:GLN:O	1:E:744:GLU:N	2.38	0.56
2:F:605:ASN:HA	2:F:754:ASN:HB2	1.87	0.56
2:B:895:TRP:O	2:B:896:GLU:HG2	2.05	0.56
2:F:1149:HIS:CE1	2:F:1150:ASP:HB3	2.40	0.56
2:F:1023:LEU:HD13	2:F:1158:TRP:CZ3	2.40	0.56
2:F:40:TRP:O	2:F:137:VAL:HA	2.05	0.56
2:F:113:ASN:HB3	2:F:279:ILE:CB	2.34	0.56
2:F:756:ASN:N	2:F:756:ASN:OD1	2.37	0.56
1:A:427:ILE:HG22	1:A:428:GLU:N	2.19	0.56
2:B:756:ASN:N	2:B:756:ASN:OD1	2.39	0.56
2:B:804:SER:O	2:B:818:ASP:HA	2.04	0.56
2:B:943:LEU:HD23	2:B:953:ASN:HA	1.88	0.56
1:E:1149:TYR:CD1	1:E:1183:ARG:HD2	2.40	0.56
1:E:452:LYS:HB2	1:E:651:LYS:HE2	1.88	0.56
2:F:245:THR:O	2:F:247:PRO:C	2.42	0.56
1:A:628:LEU:HD23	1:A:632:ILE:HB	1.86	0.56
1:A:452:LYS:HB2	1:A:651:LYS:HE2	1.87	0.56
2:B:526:TRP:CZ2	2:B:530:ILE:HD11	2.40	0.56
1:C:481:PRO:HG2	1:C:483:LEU:HD21	1.88	0.56
1:A:1205:ASN:OD1	1:A:1205:ASN:C	2.43	0.56
2:B:465:LEU:HB3	2:B:466:PRO:CD	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:788:SER:O	2:B:791:GLU:HB3	2.04	0.56
1:C:454:ILE:HD11	1:C:456:ASP:OD1	2.05	0.56
1:C:824:PRO:CB	2:D:952:ALA:HB2	2.36	0.56
2:D:227:LEU:HD11	2:D:231:ASP:HB2	1.88	0.56
2:D:393:THR:HG1	2:D:396:ASN:N	2.03	0.56
1:A:1150:ILE:HG22	1:A:1162:LEU:HD12	1.86	0.56
1:A:289:VAL:HB	1:A:290:GLN:HB3	1.88	0.56
1:A:436:PHE:HD1	1:A:437:VAL:N	2.03	0.56
2:B:113:ASN:HB3	2:B:279:ILE:CB	2.36	0.56
2:B:465:LEU:HB3	2:B:466:PRO:HD2	1.87	0.56
2:B:822:LYS:O	2:B:824:THR:N	2.39	0.56
1:C:1163:TYR:O	1:C:1175:ILE:HG23	2.05	0.56
2:D:856:ASN:HB3	2:D:859:PHE:HE2	1.71	0.56
1:A:38:ASN:HD21	1:A:484:SER:CB	2.19	0.56
1:C:1083:ASP:N	1:C:1129:ILE:O	2.33	0.56
1:E:462:ASN:HB3	1:E:463:ASN:HA	1.87	0.56
2:F:98:LEU:O	2:F:101:LEU:HB3	2.06	0.56
2:B:552:LYS:HB2	2:B:713:PHE:CE1	2.40	0.56
1:C:198:SER:O	1:C:200:ASN:N	2.39	0.56
1:C:454:ILE:CD1	1:C:456:ASP:OD1	2.53	0.56
1:E:416:VAL:HG13	1:E:420:GLY:N	2.21	0.56
2:F:429:ILE:HG22	2:F:429:ILE:O	2.06	0.56
1:A:154:GLU:HB2	1:A:155:PRO:CD	2.35	0.56
2:B:269:TYR:CE1	2:B:287:LEU:HB3	2.41	0.56
2:B:742:ASN:HA	2:B:745:THR:HG22	1.88	0.56
1:C:1044:ILE:HG22	1:C:1045:ARG:N	2.20	0.56
1:C:857:TYR:HA	1:C:862:TYR:HA	1.88	0.56
1:C:899:ASN:OD1	1:C:1028:ASN:HB3	2.05	0.56
2:D:870:TYR:CE2	2:D:983:SER:OG	2.59	0.56
1:E:289:VAL:CB	1:E:290:GLN:HA	2.27	0.56
2:F:554:ILE:HG21	2:F:556:TRP:CE2	2.41	0.56
1:C:119:THR:H	1:C:120:PRO:CD	2.18	0.55
1:E:1163:TYR:O	1:E:1175:ILE:HG23	2.06	0.55
1:E:1211:LEU:HD12	1:E:1225:TYR:HB3	1.86	0.55
2:F:427:GLU:C	2:F:430:PRO:HD3	2.26	0.55
2:B:1015:LEU:HB2	2:B:1071:VAL:HB	1.89	0.55
2:B:40:TRP:O	2:B:137:VAL:HA	2.06	0.55
1:C:448:ILE:O	1:C:449:ASN:C	2.44	0.55
2:D:943:LEU:HD23	2:D:953:ASN:HA	1.88	0.55
2:F:545:SER:HA	2:F:550:ASP:N	2.21	0.55
2:D:1023:LEU:HD13	2:D:1158:TRP:CZ3	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:92:ASN:HB3	2:D:310:PHE:CZ	2.42	0.55
2:D:545:SER:HA	2:D:550:ASP:N	2.21	0.55
2:D:554:ILE:HG21	2:D:556:TRP:CE2	2.41	0.55
1:E:376:ASN:HB3	1:E:381:LYS:HA	1.89	0.55
2:F:269:TYR:CE1	2:F:287:LEU:HB3	2.41	0.55
1:A:67:SER:HA	1:A:158:PHE:CD2	2.41	0.55
1:C:1092:LEU:O	1:C:1094:PRO:HD3	2.06	0.55
1:C:452:LYS:HB2	1:C:651:LYS:HE2	1.87	0.55
2:F:498:TYR:OH	2:F:559:ARG:O	2.23	0.55
2:F:943:LEU:HD23	2:F:953:ASN:HA	1.89	0.55
1:A:705:TYR:C	1:A:705:TYR:HD1	2.09	0.55
1:A:742:GLN:O	1:A:744:GLU:N	2.40	0.55
2:B:1023:LEU:HD13	2:B:1158:TRP:CZ3	2.42	0.55
2:B:92:ASN:HB3	2:B:310:PHE:CZ	2.42	0.55
1:C:427:ILE:HG22	1:C:428:GLU:N	2.22	0.55
2:D:895:TRP:O	2:D:896:GLU:HG2	2.05	0.55
2:F:1023:LEU:HD12	2:F:1024:PHE:N	2.22	0.55
1:A:1092:LEU:O	1:A:1094:PRO:HD3	2.07	0.55
2:B:98:LEU:O	2:B:101:LEU:HB3	2.07	0.55
2:B:9:ILE:HG23	2:B:10:ASP:H	1.71	0.55
2:B:469:TYR:CE2	2:B:562:ASN:HB2	2.41	0.55
1:C:462:ASN:HB3	1:C:463:ASN:HA	1.88	0.55
1:C:627:LEU:O	1:E:420:GLY:N	2.40	0.55
1:C:738:TYR:O	1:C:739:ASP:C	2.45	0.55
2:D:23:SER:OG	2:D:29:PHE:HB2	2.07	0.55
1:E:111:ASN:HA	1:E:147:ASN:OD1	2.07	0.55
1:A:737:LYS:O	1:A:738:TYR:O	2.24	0.55
2:B:502:ASN:O	2:B:506:ASP:HB2	2.06	0.55
2:F:579:PRO:C	2:F:581:SER:H	2.08	0.55
1:A:1025:VAL:HG12	1:A:1026:SER:N	2.22	0.55
1:A:119:THR:H	1:A:120:PRO:CD	2.19	0.55
1:C:742:GLN:O	1:C:744:GLU:N	2.40	0.55
2:F:727:TYR:N	2:F:728:PRO:HD2	2.22	0.55
2:B:1149:HIS:NE2	2:B:1150:ASP:HB3	2.22	0.55
1:E:392:ASN:O	1:E:395:ILE:HG12	2.07	0.55
2:F:1072:GLN:O	2:F:1075:ASP:HB2	2.07	0.55
1:A:943:MET:HB3	1:A:947:ASN:HA	1.88	0.54
2:B:23:SER:OG	2:B:29:PHE:HB2	2.08	0.54
2:B:544:ILE:HD13	2:B:575:LYS:HG2	1.88	0.54
1:C:606:ILE:HD13	1:C:761:PHE:CE2	2.42	0.54
2:D:98:LEU:O	2:D:101:LEU:HB3	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:1044:ILE:HG22	1:E:1045:ARG:N	2.22	0.54
2:B:88:ARG:NE	2:B:339:TYR:OH	2.41	0.54
2:B:870:TYR:CE2	2:B:983:SER:OG	2.59	0.54
1:C:1053:GLU:O	1:C:1053:GLU:HG3	2.07	0.54
1:C:467:ASP:OD1	1:C:468:LEU:N	2.40	0.54
1:C:67:SER:HA	1:C:158:PHE:CD2	2.43	0.54
2:D:1142:TRP:CD1	2:D:1142:TRP:N	2.75	0.54
2:D:579:PRO:C	2:D:581:SER:H	2.10	0.54
1:E:606:ILE:HD13	1:E:761:PHE:CE2	2.42	0.54
1:E:824:PRO:HB3	2:F:952:ALA:HB2	1.89	0.54
2:F:583:ILE:O	2:F:586:LYS:HE3	2.08	0.54
1:A:448:ILE:O	1:A:449:ASN:C	2.45	0.54
2:B:1072:GLN:O	2:B:1075:ASP:HB2	2.07	0.54
2:B:545:SER:HA	2:B:550:ASP:N	2.21	0.54
1:C:1150:ILE:HG22	1:C:1162:LEU:HD12	1.88	0.54
1:E:480:ALA:N	1:E:481:PRO:HD3	2.23	0.54
2:F:269:TYR:CE2	2:F:288:GLU:HA	2.43	0.54
1:A:1131:ARG:HD2	1:A:1131:ARG:C	2.27	0.54
1:A:1163:TYR:O	1:A:1175:ILE:HG23	2.06	0.54
1:A:236:GLN:HB3	1:A:241:ILE:CD1	2.37	0.54
2:D:429:ILE:HG22	2:D:429:ILE:O	2.08	0.54
1:E:1150:ILE:HG22	1:E:1162:LEU:HD12	1.88	0.54
1:C:1131:ARG:C	1:C:1131:ARG:HD2	2.28	0.54
1:C:309:LEU:CD2	1:C:319:VAL:HG12	2.37	0.54
1:E:899:ASN:OD1	1:E:1028:ASN:HB3	2.07	0.54
1:E:448:ILE:O	1:E:449:ASN:C	2.45	0.54
1:A:416:VAL:HG13	1:A:420:GLY:N	2.23	0.54
2:B:429:ILE:HG22	2:B:429:ILE:O	2.07	0.54
1:E:309:LEU:CD2	1:E:319:VAL:HG12	2.36	0.54
1:E:427:ILE:HG22	1:E:428:GLU:N	2.23	0.54
1:E:987:ILE:C	1:E:989:LYS:H	2.10	0.54
1:A:227:ILE:CD1	1:A:271:ILE:HA	2.38	0.54
1:A:278:ASP:OD1	1:A:278:ASP:N	2.40	0.54
1:A:892:ASN:N	1:A:892:ASN:OD1	2.40	0.54
1:C:568:GLN:O	1:C:569:ALA:CB	2.56	0.54
1:C:737:LYS:O	1:C:738:TYR:O	2.24	0.54
1:E:737:LYS:O	1:E:738:TYR:O	2.25	0.54
2:F:502:ASN:O	2:F:506:ASP:N	2.38	0.54
1:A:1155:SER:O	1:A:1156:LYS:C	2.47	0.54
2:B:14:ASP:OD1	2:B:16:LYS:N	2.41	0.54
2:B:574:PHE:C	2:B:574:PHE:CD2	2.81	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:615:LEU:HB3	2:B:767:ASN:ND2	2.23	0.54
1:C:242:THR:HG22	1:C:435:PHE:O	2.08	0.54
2:D:239:ASP:OD2	2:D:318:TYR:N	2.41	0.54
2:D:755:ILE:CG2	2:D:759:GLU:HB2	2.37	0.54
2:F:526:TRP:CZ2	2:F:530:ILE:HD11	2.42	0.54
2:F:742:ASN:HA	2:F:745:THR:HG22	1.90	0.54
1:A:443:TYR:CD1	1:A:444:ASN:N	2.75	0.54
1:A:857:TYR:OH	1:A:860:ASP:HA	2.08	0.54
2:B:727:TYR:N	2:B:728:PRO:HD2	2.23	0.54
2:B:863:LEU:HD23	2:B:864:THR:HG23	1.90	0.54
1:E:857:TYR:OH	1:E:860:ASP:HA	2.07	0.54
2:F:856:ASN:HB3	2:F:859:PHE:HE2	1.72	0.54
1:A:111:ASN:HA	1:A:147:ASN:OD1	2.08	0.54
2:D:1015:LEU:HB2	2:D:1071:VAL:HB	1.90	0.54
2:F:502:ASN:O	2:F:506:ASP:HB2	2.08	0.54
1:A:610:LEU:HD11	1:A:704:MET:HE2	1.90	0.53
2:B:153:TYR:HD2	2:B:165:MET:HB2	1.73	0.53
2:B:245:THR:O	2:B:247:PRO:C	2.46	0.53
1:C:297:ASN:N	1:C:298:PRO:CD	2.71	0.53
1:C:86:ILE:HG13	1:C:364:LEU:HD21	1.90	0.53
2:D:273:ILE:O	2:D:276:ASN:HB3	2.08	0.53
1:E:605:TYR:CD1	1:E:605:TYR:O	2.61	0.53
1:A:738:TYR:O	1:A:739:ASP:C	2.44	0.53
2:B:859:PHE:CD1	2:B:968:ILE:HD12	2.43	0.53
1:C:289:VAL:HB	1:C:290:GLN:CB	2.38	0.53
1:C:480:ALA:N	1:C:481:PRO:HD3	2.23	0.53
2:D:817:GLY:HA2	2:D:826:VAL:HG21	1.91	0.53
2:F:254:TYR:O	2:F:258:THR:HG22	2.08	0.53
2:F:23:SER:OG	2:F:29:PHE:HB2	2.07	0.53
2:F:755:ILE:CG2	2:F:759:GLU:HB2	2.37	0.53
2:D:101:LEU:HD11	2:D:293:ILE:HD12	1.90	0.53
1:E:1083:ASP:N	1:E:1129:ILE:O	2.32	0.53
1:E:289:VAL:HB	1:E:290:GLN:CB	2.37	0.53
1:E:38:ASN:HD21	1:E:484:SER:CB	2.20	0.53
1:A:1149:TYR:CD1	1:A:1183:ARG:HD2	2.43	0.53
1:A:547:GLU:HB2	1:A:550:LYS:HG3	1.90	0.53
1:A:45:ARG:HG3	1:A:74:LEU:HD23	1.89	0.53
1:A:606:ILE:HD13	1:A:761:PHE:CE2	2.43	0.53
2:B:755:ILE:CG2	2:B:759:GLU:HB2	2.37	0.53
1:A:836:LEU:HD11	2:B:945:PHE:CE1	2.44	0.53
1:C:236:GLN:HB3	1:C:241:ILE:CD1	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:447:ASN:OD1	1:C:447:ASN:N	2.40	0.53
1:E:45:ARG:HG3	1:E:74:LEU:HD23	1.89	0.53
1:E:597:ALA:HB2	2:F:939:LYS:HB3	1.90	0.53
2:F:694:ASN:O	2:F:697:ARG:HD2	2.08	0.53
1:A:297:ASN:N	1:A:298:PRO:CD	2.70	0.53
1:C:111:ASN:HA	1:C:147:ASN:OD1	2.09	0.53
2:D:206:ASN:ND2	2:D:208:ASN:HB2	2.23	0.53
2:D:269:TYR:CE1	2:D:287:LEU:HB3	2.44	0.53
2:D:574:PHE:CD2	2:D:574:PHE:C	2.81	0.53
1:E:382:VAL:O	1:E:382:VAL:HG13	2.08	0.53
2:F:817:GLY:HA2	2:F:826:VAL:HG21	1.91	0.53
2:F:859:PHE:CD1	2:F:968:ILE:HD12	2.43	0.53
1:A:1012:ILE:O	2:B:779:ILE:HD12	2.09	0.53
1:C:227:ILE:CD1	1:C:271:ILE:HA	2.39	0.53
2:D:1072:GLN:O	2:D:1075:ASP:HB2	2.09	0.53
2:D:277:ASN:HB3	2:D:281:ASN:CB	2.39	0.53
2:F:544:ILE:HD13	2:F:575:LYS:HG2	1.91	0.53
2:F:895:TRP:O	2:F:896:GLU:HG2	2.08	0.53
1:A:1083:ASP:N	1:A:1129:ILE:O	2.32	0.53
2:B:254:TYR:O	2:B:258:THR:HG22	2.08	0.53
2:B:554:ILE:CG2	2:B:556:TRP:CE2	2.92	0.53
1:C:382:VAL:O	1:C:382:VAL:HG13	2.08	0.53
2:D:1149:HIS:NE2	2:D:1150:ASP:HB3	2.24	0.53
2:D:166:LEU:HD12	2:D:196:SER:HB2	1.89	0.53
2:D:694:ASN:O	2:D:697:ARG:HD2	2.09	0.53
2:F:14:ASP:O	2:F:15:ASN:HB2	2.09	0.53
2:F:206:ASN:ND2	2:F:208:ASN:HB2	2.24	0.53
1:A:568:GLN:O	1:A:569:ALA:CB	2.56	0.53
2:B:273:ILE:O	2:B:276:ASN:HB3	2.08	0.53
1:C:1174:THR:HA	1:C:1220:VAL:HG12	1.90	0.53
1:C:1149:TYR:CD1	1:C:1183:ARG:HD2	2.44	0.53
2:B:227:LEU:HD11	2:B:231:ASP:HB2	1.91	0.53
2:B:239:ASP:OD2	2:B:318:TYR:N	2.41	0.53
2:B:428:LYS:C	2:B:430:PRO:HD2	2.29	0.53
2:B:534:TYR:CE1	2:B:538:ILE:HD12	2.44	0.53
1:C:605:TYR:O	1:C:605:TYR:CD1	2.61	0.53
2:D:551:THR:HG21	2:D:716:ASN:HB3	1.91	0.53
2:D:822:LYS:O	2:D:824:THR:N	2.41	0.53
2:D:990:ASN:O	2:D:991:SER:C	2.47	0.53
1:E:738:TYR:O	1:E:739:ASP:C	2.47	0.53
2:F:1017:TYR:O	2:F:1018:ASN:CB	2.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:273:ILE:O	2:F:276:ASN:HB3	2.08	0.53
1:A:274:ASN:HA	1:A:277:ASN:ND2	2.25	0.53
1:A:823:ILE:HG23	1:A:824:PRO:HD2	1.91	0.53
2:B:583:ILE:O	2:B:586:LYS:HE3	2.09	0.53
1:C:45:ARG:HG3	1:C:74:LEU:HD23	1.90	0.53
2:D:1093:THR:HG22	2:D:1097:ARG:O	2.08	0.53
2:D:863:LEU:HD23	2:D:864:THR:HG23	1.91	0.53
1:E:467:ASP:OD1	1:E:468:LEU:N	2.42	0.53
1:A:1108:ILE:O	1:A:1110:ASN:N	2.42	0.52
1:A:467:ASP:OD1	1:A:468:LEU:N	2.42	0.52
2:B:101:LEU:HD11	2:B:293:ILE:HD12	1.90	0.52
1:C:682:TYR:CE2	1:C:825:PHE:HA	2.45	0.52
1:E:1053:GLU:HG3	1:E:1053:GLU:O	2.07	0.52
2:F:1015:LEU:HB2	2:F:1071:VAL:HB	1.90	0.52
1:A:209:THR:O	1:A:212:HIS:HB3	2.09	0.52
1:A:38:ASN:HD21	1:A:484:SER:HB2	1.74	0.52
2:B:858:TYR:OH	2:B:866:ASN:O	2.27	0.52
1:C:273:THR:O	1:C:276:LEU:N	2.42	0.52
1:C:38:ASN:HD21	1:C:484:SER:CB	2.23	0.52
2:D:21:VAL:CG1	2:D:22:ARG:N	2.72	0.52
2:D:583:ILE:O	2:D:586:LYS:HE3	2.08	0.52
1:E:289:VAL:HB	1:E:290:GLN:HB3	1.90	0.52
1:E:34:ASN:HB2	1:E:40:TRP:CH2	2.44	0.52
2:B:81:ALA:O	2:B:82:THR:C	2.47	0.52
1:C:1108:ILE:O	1:C:1110:ASN:N	2.43	0.52
1:C:443:TYR:CD1	1:C:444:ASN:N	2.76	0.52
2:D:40:TRP:O	2:D:137:VAL:HA	2.09	0.52
2:D:254:TYR:O	2:D:258:THR:HG22	2.09	0.52
1:E:1174:THR:HA	1:E:1220:VAL:HG12	1.92	0.52
2:F:568:ASN:OD1	2:F:569:SER:N	2.42	0.52
1:A:1053:GLU:O	1:A:1053:GLU:HG3	2.09	0.52
1:A:382:VAL:HG13	1:A:382:VAL:O	2.09	0.52
1:A:632:ILE:HG23	1:A:633:LEU:N	2.24	0.52
1:A:818:THR:O	1:A:819:LEU:HG	2.09	0.52
2:B:421:VAL:HG12	2:B:421:VAL:O	2.09	0.52
2:D:502:ASN:O	2:D:506:ASP:HB2	2.09	0.52
1:E:1092:LEU:O	1:E:1094:PRO:HD3	2.08	0.52
1:E:443:TYR:CD1	1:E:444:ASN:N	2.77	0.52
1:E:480:ALA:N	1:E:481:PRO:CD	2.73	0.52
2:F:14:ASP:OD1	2:F:16:LYS:N	2.42	0.52
2:F:166:LEU:HD12	2:F:196:SER:HB2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:552:LYS:HB2	2:F:713:PHE:CE1	2.44	0.52
2:F:574:PHE:CD2	2:F:574:PHE:C	2.82	0.52
1:A:462:ASN:CB	1:A:463:ASN:HA	2.38	0.52
1:E:242:THR:HG22	1:E:435:PHE:O	2.10	0.52
1:A:273:THR:O	1:A:276:LEU:N	2.42	0.52
1:A:86:ILE:HG13	1:A:364:LEU:HD21	1.92	0.52
1:C:289:VAL:HB	1:C:290:GLN:HB3	1.90	0.52
1:E:836:LEU:CB	2:F:995:LEU:HD11	2.40	0.52
1:C:944:ARG:CG	1:C:1026:SER:HA	2.39	0.52
2:D:727:TYR:N	2:D:728:PRO:HD2	2.25	0.52
1:E:705:TYR:HD1	1:E:705:TYR:C	2.13	0.52
1:E:738:TYR:HA	1:E:743:ILE:CG1	2.38	0.52
2:F:1137:ASN:CB	2:F:1142:TRP:HE1	2.22	0.52
2:F:21:VAL:CG1	2:F:121:ASN:HA	2.39	0.52
1:A:1174:THR:HA	1:A:1220:VAL:HG12	1.90	0.52
1:A:205:ASP:OD1	1:A:206:PRO:HD2	2.10	0.52
1:A:899:ASN:OD1	1:A:1028:ASN:HB3	2.09	0.52
2:B:1093:THR:HG22	2:B:1097:ARG:O	2.09	0.52
2:B:21:VAL:CG1	2:B:22:ARG:N	2.73	0.52
2:D:421:VAL:HG12	2:D:421:VAL:O	2.10	0.52
2:D:411:HIS:HA	2:D:624:PHE:HE1	1.74	0.52
1:E:1131:ARG:C	1:E:1131:ARG:HD2	2.30	0.52
1:A:199:ILE:HA	1:A:705:TYR:CE2	2.39	0.52
2:B:1137:ASN:CB	2:B:1142:TRP:HE1	2.20	0.52
2:B:251:ILE:O	2:B:252:ASP:CB	2.58	0.52
1:C:987:ILE:C	1:C:989:LYS:H	2.13	0.52
2:D:1017:TYR:O	2:D:1018:ASN:CB	2.57	0.52
1:E:481:PRO:HG2	1:E:483:LEU:HD21	1.92	0.52
2:F:863:LEU:HD23	2:F:864:THR:HG23	1.92	0.52
1:A:738:TYR:HA	1:A:743:ILE:CG1	2.40	0.52
1:C:209:THR:O	1:C:212:HIS:HB3	2.10	0.52
1:C:41:ILE:HG22	1:C:150:ILE:HB	1.92	0.52
1:E:209:THR:O	1:E:212:HIS:HB3	2.10	0.52
2:F:1093:THR:HG22	2:F:1097:ARG:O	2.09	0.52
2:F:277:ASN:HB3	2:F:281:ASN:CB	2.39	0.52
1:C:1155:SER:O	1:C:1156:LYS:C	2.49	0.51
1:C:682:TYR:CD2	1:C:825:PHE:HD1	2.28	0.51
2:D:571:VAL:O	2:D:574:PHE:HB3	2.10	0.51
1:E:462:ASN:CB	1:E:463:ASN:HA	2.39	0.51
1:E:82:ARG:HG3	1:E:364:LEU:HD11	1.92	0.51
2:F:41:ILE:HG22	2:F:138:ILE:HB	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:534:TYR:CE1	2:F:538:ILE:HD12	2.45	0.51
2:F:722:PHE:HA	2:F:726:ILE:HD12	1.92	0.51
2:F:822:LYS:O	2:F:824:THR:N	2.42	0.51
1:A:1143:ARG:CG	1:A:1143:ARG:HH21	2.23	0.51
1:A:854:ASN:CB	1:A:865:THR:HG22	2.40	0.51
2:B:1140:TYR:CE2	2:B:1142:TRP:CD2	2.98	0.51
2:B:151:ILE:HD11	2:B:167:GLU:HB2	1.91	0.51
2:D:534:TYR:CE1	2:D:538:ILE:HD12	2.44	0.51
1:E:297:ASN:N	1:E:298:PRO:CD	2.73	0.51
1:E:568:GLN:O	1:E:569:ALA:CB	2.58	0.51
2:F:421:VAL:O	2:F:421:VAL:HG12	2.10	0.51
1:A:1025:VAL:CG1	1:A:1026:SER:N	2.73	0.51
1:A:392:ASN:O	1:A:395:ILE:HG12	2.10	0.51
1:C:205:ASP:OD1	1:C:206:PRO:HD2	2.10	0.51
2:D:14:ASP:OD1	2:D:16:LYS:N	2.43	0.51
2:D:502:ASN:O	2:D:506:ASP:N	2.41	0.51
2:D:88:ARG:NE	2:D:339:TYR:OH	2.43	0.51
1:E:1155:SER:O	1:E:1156:LYS:C	2.48	0.51
2:F:88:ARG:NE	2:F:339:TYR:OH	2.43	0.51
1:A:166:SER:HB3	1:A:498:ILE:HB	1.92	0.51
1:A:376:ASN:HB3	1:A:381:LYS:HA	1.92	0.51
2:B:923:ILE:O	2:B:925:ASN:N	2.33	0.51
1:C:855:MET:C	1:C:856:ARG:HD3	2.31	0.51
1:E:67:SER:HA	1:E:158:PHE:CD2	2.46	0.51
2:B:1017:TYR:O	2:B:1018:ASN:CB	2.59	0.51
2:B:1042:ILE:O	2:B:1099:GLN:HA	2.11	0.51
2:B:262:PHE:CZ	2:B:293:ILE:O	2.63	0.51
1:C:1025:VAL:HG12	1:C:1026:SER:N	2.25	0.51
1:E:227:ILE:CD1	1:E:271:ILE:HA	2.40	0.51
1:E:38:ASN:HD21	1:E:484:SER:HB2	1.76	0.51
1:A:857:TYR:HA	1:A:862:TYR:HA	1.93	0.51
2:B:277:ASN:HB3	2:B:281:ASN:CB	2.39	0.51
2:B:817:GLY:HA2	2:B:826:VAL:HG21	1.92	0.51
1:C:215:ILE:HG22	1:C:219:HIS:CE1	2.45	0.51
1:C:363:LEU:HD21	1:C:375:TYR:OH	2.10	0.51
1:C:376:ASN:HB3	1:C:381:LYS:HA	1.93	0.51
2:F:21:VAL:CG1	2:F:22:ARG:N	2.73	0.51
2:F:858:TYR:OH	2:F:866:ASN:O	2.29	0.51
2:B:14:ASP:O	2:B:15:ASN:HB2	2.11	0.51
1:C:220:GLY:CA	1:C:225:LYS:HE3	2.41	0.51
1:C:462:ASN:CB	1:C:463:ASN:HA	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:251:ILE:O	2:D:252:ASP:CB	2.59	0.51
2:D:872:TRP:HB2	2:D:980:GLU:HB3	1.92	0.51
1:E:273:THR:O	1:E:276:LEU:N	2.44	0.51
1:E:682:TYR:CD2	1:E:825:PHE:HD1	2.29	0.51
1:E:972:LYS:HB2	2:F:772:LEU:HD21	1.93	0.51
1:A:113:TYR:HB3	1:A:178:PHE:HB3	1.93	0.51
2:B:154:LYS:HD3	2:B:157:TYR:CE2	2.45	0.51
2:B:22:ARG:HD2	2:B:27:ASP:O	2.11	0.51
1:C:480:ALA:N	1:C:481:PRO:CD	2.74	0.51
2:D:9:ILE:O	2:D:10:ASP:C	2.49	0.51
1:E:144:LEU:HA	1:E:487:LYS:HA	1.93	0.51
1:E:86:ILE:HG13	1:E:364:LEU:HD21	1.93	0.51
1:E:823:ILE:HG23	1:E:824:PRO:HD2	1.92	0.51
2:F:1022:GLU:HG2	2:F:1023:LEU:N	2.25	0.51
2:F:482:LEU:HD22	2:F:499:SER:HB3	1.93	0.51
1:A:481:PRO:HG2	1:A:483:LEU:HD21	1.93	0.51
1:C:392:ASN:O	1:C:395:ILE:HG12	2.10	0.51
2:D:1122:LEU:HD21	2:D:1158:TRP:HZ2	1.75	0.51
2:D:859:PHE:CD1	2:D:968:ILE:HD12	2.46	0.51
2:F:428:LYS:C	2:F:430:PRO:HD2	2.31	0.51
2:F:763:LEU:HA	2:F:766:GLN:HB2	1.92	0.51
2:B:1007:ILE:HG22	2:B:1015:LEU:HD12	1.93	0.51
2:B:146:ILE:HD13	2:B:330:TYR:CZ	2.46	0.51
1:C:47:VAL:O	1:C:47:VAL:HG12	2.11	0.51
1:C:547:GLU:HB2	1:C:550:LYS:HG3	1.92	0.51
1:C:854:ASN:CB	1:C:865:THR:HG22	2.41	0.51
1:E:363:LEU:HD21	1:E:375:TYR:OH	2.11	0.51
2:F:81:ALA:O	2:F:82:THR:C	2.48	0.51
1:A:1087:TYR:N	1:A:1243:ILE:O	2.45	0.50
1:A:363:LEU:HD21	1:A:375:TYR:OH	2.11	0.50
2:B:153:TYR:CD2	2:B:165:MET:HB2	2.45	0.50
2:B:568:ASN:OD1	2:B:569:SER:N	2.44	0.50
2:B:583:ILE:HG23	2:B:644:GLN:NE2	2.26	0.50
2:B:9:ILE:O	2:B:11:SER:N	2.44	0.50
1:C:1093:LYS:HB3	1:C:1096:ASN:HB2	1.91	0.50
1:C:143:ILE:HG22	1:C:144:LEU:N	2.26	0.50
2:D:568:ASN:OD1	2:D:569:SER:N	2.43	0.50
1:E:1108:ILE:O	1:E:1110:ASN:N	2.44	0.50
2:F:101:LEU:HD11	2:F:293:ILE:HD12	1.93	0.50
2:F:571:VAL:O	2:F:574:PHE:HB3	2.11	0.50
2:F:824:THR:HA	2:F:856:ASN:HB2	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:215:ILE:HG22	1:A:219:HIS:CE1	2.46	0.50
2:B:347:GLY:O	2:B:351:THR:HB	2.11	0.50
2:B:9:ILE:O	2:B:10:ASP:C	2.49	0.50
1:C:154:GLU:CB	1:C:155:PRO:HD2	2.41	0.50
1:C:475:PHE:C	2:D:1136:LYS:HE2	2.31	0.50
1:E:143:ILE:HG22	1:E:144:LEU:N	2.26	0.50
1:E:291:VAL:HA	1:E:292:SER:HB2	1.93	0.50
2:F:154:LYS:HD3	2:F:157:TYR:CE2	2.47	0.50
2:F:9:ILE:O	2:F:10:ASP:C	2.49	0.50
1:A:447:ASN:N	1:A:447:ASN:OD1	2.42	0.50
2:B:1022:GLU:HG2	2:B:1023:LEU:N	2.26	0.50
2:B:372:LEU:O	2:B:379:VAL:HA	2.11	0.50
1:C:632:ILE:HG23	1:C:633:LEU:N	2.26	0.50
1:C:823:ILE:HG23	1:C:824:PRO:HD2	1.92	0.50
2:D:1022:GLU:HG2	2:D:1023:LEU:N	2.26	0.50
2:D:544:ILE:HD13	2:D:575:LYS:HG2	1.92	0.50
2:D:858:TYR:OH	2:D:866:ASN:O	2.30	0.50
1:C:836:LEU:HD21	2:D:945:PHE:HE1	1.75	0.50
2:B:205:PRO:HD3	2:B:230:ILE:HD11	1.94	0.50
2:B:694:ASN:O	2:B:697:ARG:HD2	2.10	0.50
2:D:269:TYR:CE2	2:D:288:GLU:HA	2.47	0.50
2:D:888:SER:HB3	2:D:968:ILE:HG12	1.94	0.50
1:E:857:TYR:HA	1:E:862:TYR:HA	1.93	0.50
2:F:1149:HIS:NE2	2:F:1150:ASP:HB3	2.26	0.50
2:F:151:ILE:HD11	2:F:167:GLU:HB2	1.94	0.50
2:F:262:PHE:CZ	2:F:293:ILE:O	2.64	0.50
2:F:554:ILE:CG2	2:F:556:TRP:CE2	2.94	0.50
1:A:143:ILE:HG22	1:A:144:LEU:N	2.27	0.50
1:A:154:GLU:CB	1:A:155:PRO:HD2	2.42	0.50
1:A:144:LEU:HA	1:A:487:LYS:HA	1.93	0.50
2:B:482:LEU:HD22	2:B:499:SER:HB3	1.94	0.50
1:C:82:ARG:HG3	1:C:364:LEU:HD11	1.94	0.50
2:D:277:ASN:HA	2:D:281:ASN:HA	1.92	0.50
1:E:1093:LYS:HB3	1:E:1096:ASN:HB2	1.93	0.50
1:E:45:ARG:NH1	1:E:154:GLU:O	2.45	0.50
1:E:447:ASN:OD1	1:E:447:ASN:N	2.43	0.50
1:E:944:ARG:CG	1:E:1026:SER:HA	2.41	0.50
2:F:22:ARG:HD2	2:F:27:ASP:O	2.11	0.50
2:F:923:ILE:O	2:F:925:ASN:N	2.37	0.50
1:A:661:ASN:HA	1:A:664:ILE:HG22	1.94	0.50
1:A:829:SER:C	1:A:831:THR:H	2.15	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:795:ASN:OD1	1:C:796:TYR:N	2.44	0.50
2:D:1137:ASN:CB	2:D:1142:TRP:HE1	2.20	0.50
1:E:278:ASP:OD1	1:E:278:ASP:N	2.43	0.50
2:B:251:ILE:O	2:B:252:ASP:HB2	2.12	0.50
1:A:836:LEU:HD21	2:B:945:PHE:HE1	1.75	0.50
2:B:9:ILE:HG13	2:B:10:ASP:N	2.27	0.50
1:C:1143:ARG:CG	1:C:1143:ARG:HH21	2.24	0.50
1:C:34:ASN:HB2	1:C:40:TRP:CH2	2.47	0.50
1:C:45:ARG:NH1	1:C:154:GLU:O	2.44	0.50
1:E:661:ASN:HA	1:E:664:ILE:HG22	1.93	0.50
1:A:45:ARG:NH1	1:A:154:GLU:O	2.45	0.50
1:A:90:ILE:O	1:A:93:ARG:HB3	2.12	0.50
1:C:113:TYR:HB3	1:C:178:PHE:HB3	1.93	0.50
1:C:738:TYR:HA	1:C:743:ILE:CG1	2.42	0.50
2:D:262:PHE:CZ	2:D:293:ILE:O	2.65	0.50
1:E:1025:VAL:HG12	1:E:1026:SER:N	2.27	0.50
1:E:818:THR:O	1:E:819:LEU:HG	2.12	0.50
1:E:989:LYS:HG2	1:E:1076:TRP:HA	1.94	0.50
2:F:1008:ARG:HA	2:F:1014:ILE:HA	1.94	0.50
2:F:92:ASN:HB3	2:F:310:PHE:CZ	2.46	0.50
2:F:551:THR:HG21	2:F:716:ASN:HB3	1.94	0.50
1:E:836:LEU:HD21	2:F:945:PHE:HE1	1.76	0.50
1:A:242:THR:HG22	1:A:435:PHE:O	2.11	0.50
1:A:46:ASN:OD1	1:A:151:MET:HG3	2.12	0.50
1:A:573:VAL:HA	1:A:576:ILE:HD12	1.94	0.50
1:A:82:ARG:HG3	1:A:364:LEU:HD11	1.94	0.50
2:B:436:ASP:CA	2:B:437:ILE:HB	2.25	0.50
2:D:1140:TYR:CE2	2:D:1142:TRP:CD2	3.00	0.50
2:D:658:ALA:O	2:D:662:LEU:HG	2.12	0.50
2:F:277:ASN:HA	2:F:281:ASN:HA	1.93	0.50
1:A:1090:ASN:HB2	1:A:1240:TRP:CZ3	2.47	0.49
1:A:607:GLY:HA2	1:A:612:ILE:HG13	1.94	0.49
1:A:897:GLU:CG	1:A:1032:LYS:HD3	2.42	0.49
1:A:897:GLU:HG2	1:A:1032:LYS:CB	2.38	0.49
2:B:763:LEU:HA	2:B:766:GLN:HB2	1.94	0.49
2:D:482:LEU:HD22	2:D:499:SER:HB3	1.93	0.49
2:D:9:ILE:HG21	2:D:76:ASP:HB2	1.94	0.49
2:D:877:LYS:HB3	2:D:878:GLN:CB	2.42	0.49
2:D:9:ILE:O	2:D:11:SER:N	2.45	0.49
1:E:41:ILE:HG22	1:E:150:ILE:HB	1.93	0.49
2:F:990:ASN:O	2:F:991:SER:C	2.50	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:41:ILE:HG22	2:B:138:ILE:HB	1.94	0.49
2:D:14:ASP:O	2:D:15:ASN:HB2	2.12	0.49
2:D:21:VAL:HG12	2:D:22:ARG:N	2.26	0.49
2:D:388:ASP:N	2:D:388:ASP:OD1	2.42	0.49
2:F:251:ILE:O	2:F:252:ASP:CB	2.60	0.49
2:F:888:SER:HB3	2:F:968:ILE:HG12	1.94	0.49
1:A:836:LEU:HD13	2:B:991:SER:HA	1.94	0.49
1:A:940:ILE:O	1:A:951:LYS:HA	2.13	0.49
2:B:888:SER:HB3	2:B:968:ILE:HG12	1.95	0.49
2:D:554:ILE:CG2	2:D:556:TRP:CE2	2.95	0.49
1:E:547:GLU:HB2	1:E:550:LYS:HG3	1.94	0.49
2:B:803:LEU:C	2:B:803:LEU:HD23	2.33	0.49
1:C:705:TYR:C	1:C:705:TYR:HD1	2.12	0.49
2:D:290:LYS:HG2	2:D:290:LYS:O	2.13	0.49
2:D:347:GLY:O	2:D:351:THR:HB	2.13	0.49
2:D:824:THR:HA	2:D:856:ASN:HB2	1.94	0.49
1:E:143:ILE:CG2	1:E:144:LEU:N	2.75	0.49
2:F:1007:ILE:HG22	2:F:1015:LEU:HD12	1.93	0.49
2:F:877:LYS:HB3	2:F:878:GLN:CB	2.42	0.49
1:A:795:ASN:OD1	1:A:796:TYR:N	2.45	0.49
2:B:990:ASN:O	2:B:991:SER:C	2.50	0.49
1:C:1188:VAL:CG1	1:C:1199:MET:HB2	2.43	0.49
1:C:38:ASN:HD21	1:C:484:SER:HB2	1.77	0.49
1:C:90:ILE:O	1:C:93:ARG:HB3	2.13	0.49
2:D:151:ILE:HD11	2:D:167:GLU:HB2	1.94	0.49
2:D:706:ALA:O	2:D:709:ASN:HB2	2.13	0.49
2:D:827:GLU:O	2:D:852:ILE:HG23	2.12	0.49
1:E:607:GLY:HA2	1:E:612:ILE:CG1	2.42	0.49
1:A:1093:LYS:HB3	1:A:1096:ASN:HB2	1.94	0.49
1:A:41:ILE:HG22	1:A:150:ILE:HB	1.93	0.49
2:B:717:ALA:O	2:B:721:VAL:HG23	2.12	0.49
2:B:722:PHE:HA	2:B:726:ILE:HD12	1.93	0.49
2:B:755:ILE:HG23	2:B:759:GLU:HB2	1.95	0.49
1:C:607:GLY:HA2	1:C:612:ILE:HG13	1.95	0.49
2:D:755:ILE:HG23	2:D:759:GLU:HB2	1.95	0.49
1:E:166:SER:HB3	1:E:498:ILE:HB	1.94	0.49
1:A:1122:TYR:HE1	1:A:1244:SER:O	1.95	0.49
1:A:607:GLY:HA2	1:A:612:ILE:CG1	2.43	0.49
1:A:989:LYS:HG2	1:A:1076:TRP:HA	1.94	0.49
2:B:1095:ASN:HB2	2:B:1097:ARG:HB2	1.95	0.49
2:B:64:TYR:HE2	2:B:363:ILE:HD12	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:199:ILE:HA	1:C:705:TYR:CE2	2.42	0.49
1:C:892:ASN:N	1:C:892:ASN:OD1	2.45	0.49
2:D:154:LYS:HD3	2:D:157:TYR:CE2	2.47	0.49
2:D:153:TYR:HD2	2:D:165:MET:HB2	1.77	0.49
2:D:22:ARG:HD2	2:D:27:ASP:O	2.12	0.49
2:D:41:ILE:HG22	2:D:138:ILE:HB	1.94	0.49
2:D:717:ALA:O	2:D:721:VAL:HG23	2.13	0.49
1:E:113:TYR:HB3	1:E:178:PHE:HB3	1.93	0.49
1:E:607:GLY:HA2	1:E:612:ILE:HG13	1.95	0.49
2:F:347:GLY:O	2:F:351:THR:HB	2.12	0.49
2:F:424:GLU:O	2:F:428:LYS:N	2.44	0.49
2:F:518:ASP:O	2:F:680:ILE:HD11	2.12	0.49
1:A:34:ASN:HB2	1:A:40:TRP:CH2	2.48	0.49
1:A:700:ARG:HA	1:A:703:GLN:HB2	1.95	0.49
1:A:854:ASN:HB2	1:A:865:THR:CG2	2.43	0.49
2:B:541:THR:O	2:B:542:GLN:CB	2.60	0.49
2:B:806:TYR:O	2:B:806:TYR:CD1	2.65	0.49
2:D:23:SER:HB2	2:D:47:TYR:CZ	2.47	0.49
1:E:154:GLU:CB	1:E:155:PRO:HD2	2.40	0.49
1:E:205:ASP:OD1	1:E:206:PRO:HD2	2.13	0.49
2:F:203:ILE:HG22	2:F:254:TYR:OH	2.12	0.49
2:F:755:ILE:HG23	2:F:759:GLU:HB2	1.95	0.49
2:B:393:THR:OG1	2:B:396:ASN:N	2.46	0.49
2:B:872:TRP:HB2	2:B:980:GLU:HB3	1.94	0.49
1:C:143:ILE:CG2	1:C:144:LEU:N	2.75	0.49
1:C:331:LEU:HB2	1:C:332:TYR:HD2	1.77	0.49
1:C:940:ILE:O	1:C:951:LYS:HA	2.12	0.49
2:D:763:LEU:HA	2:D:766:GLN:HB2	1.95	0.49
1:A:143:ILE:CG2	1:A:144:LEU:N	2.76	0.49
2:B:277:ASN:HA	2:B:281:ASN:HA	1.94	0.49
2:B:815:VAL:HG12	2:B:816:ILE:N	2.28	0.49
2:F:153:TYR:HD2	2:F:165:MET:HB2	1.77	0.49
2:B:1020:THR:HA	2:B:1059:PHE:O	2.12	0.48
1:C:1025:VAL:CG1	1:C:1026:SER:N	2.76	0.48
1:C:1108:ILE:CG2	1:C:1217:ASP:HA	2.43	0.48
1:C:278:ASP:OD1	1:C:278:ASP:N	2.43	0.48
1:C:854:ASN:HB2	1:C:865:THR:CG2	2.43	0.48
1:C:879:TYR:O	1:C:888:PHE:HA	2.13	0.48
1:C:627:LEU:O	1:E:419:LYS:HG2	2.12	0.48
1:E:944:ARG:O	1:E:946:ASN:N	2.46	0.48
2:B:877:LYS:HB3	2:B:878:GLN:CB	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:251:ILE:O	2:D:252:ASP:HB2	2.13	0.48
2:D:428:LYS:C	2:D:430:PRO:HD2	2.33	0.48
2:D:518:ASP:O	2:D:680:ILE:HD11	2.12	0.48
1:E:46:ASN:OD1	1:E:151:MET:HG3	2.12	0.48
1:E:47:VAL:O	1:E:47:VAL:HG12	2.12	0.48
2:F:207:ASP:OD1	2:F:207:ASP:N	2.46	0.48
2:F:658:ALA:O	2:F:662:LEU:HG	2.13	0.48
2:F:803:LEU:C	2:F:803:LEU:HD23	2.33	0.48
1:A:17:THR:HG22	1:A:34:ASN:HB3	1.94	0.48
1:A:220:GLY:CA	1:A:225:LYS:HE3	2.43	0.48
1:A:480:ALA:N	1:A:481:PRO:HD3	2.29	0.48
2:B:206:ASN:ND2	2:B:208:ASN:HB2	2.27	0.48
2:B:424:GLU:O	2:B:428:LYS:N	2.46	0.48
1:C:1087:TYR:N	1:C:1243:ILE:O	2.46	0.48
1:C:548:GLN:HB2	1:C:549:PRO:HD3	1.95	0.48
1:C:818:THR:O	1:C:819:LEU:HG	2.13	0.48
2:D:64:TYR:HE2	2:D:363:ILE:HD12	1.79	0.48
1:E:940:ILE:O	1:E:951:LYS:HA	2.13	0.48
2:F:1140:TYR:CE2	2:F:1142:TRP:CD2	3.02	0.48
2:F:21:VAL:HG12	2:F:22:ARG:N	2.28	0.48
2:F:9:ILE:O	2:F:11:SER:N	2.46	0.48
2:B:552:LYS:CB	2:B:713:PHE:HE1	2.26	0.48
1:C:573:VAL:HA	1:C:576:ILE:HD12	1.95	0.48
1:C:607:GLY:HA2	1:C:612:ILE:CG1	2.43	0.48
1:C:829:SER:C	1:C:831:THR:H	2.17	0.48
2:D:1008:ARG:HA	2:D:1014:ILE:HA	1.96	0.48
2:D:372:LEU:O	2:D:379:VAL:HA	2.14	0.48
1:E:17:THR:HG22	1:E:34:ASN:HB3	1.95	0.48
1:E:376:ASN:O	1:E:381:LYS:HB3	2.13	0.48
1:A:1212:LEU:O	1:A:1238:CYS:HA	2.12	0.48
1:A:936:GLU:HA	1:A:954:LEU:O	2.14	0.48
2:B:402:ILE:HG12	2:B:593:LYS:CB	2.44	0.48
2:B:827:GLU:O	2:B:852:ILE:HG23	2.12	0.48
1:C:46:ASN:OD1	1:C:151:MET:HG3	2.12	0.48
2:D:1007:ILE:HG22	2:D:1015:LEU:HD12	1.95	0.48
2:D:552:LYS:CB	2:D:713:PHE:HE1	2.26	0.48
1:E:892:ASN:N	1:E:892:ASN:OD1	2.45	0.48
2:F:615:LEU:HB3	2:F:767:ASN:ND2	2.28	0.48
1:E:972:LYS:CB	2:F:772:LEU:HD11	2.44	0.48
1:A:47:VAL:O	1:A:47:VAL:HG12	2.13	0.48
2:B:502:ASN:O	2:B:506:ASP:N	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:570:PHE:O	2:B:573:GLU:HB2	2.13	0.48
1:C:1122:TYR:HE1	1:C:1244:SER:O	1.97	0.48
1:C:231:CYS:CB	1:C:249:ILE:HD12	2.43	0.48
1:E:1122:TYR:HE1	1:E:1244:SER:O	1.97	0.48
1:E:440:GLU:O	1:E:443:TYR:CD1	2.67	0.48
1:E:854:ASN:CB	1:E:865:THR:HG22	2.43	0.48
2:F:570:PHE:O	2:F:573:GLU:HB2	2.14	0.48
2:B:518:ASP:O	2:B:680:ILE:HD11	2.13	0.48
1:E:423:LYS:HD2	2:D:510:PHE:CE2	2.48	0.48
1:E:220:GLY:CA	1:E:225:LYS:HE3	2.44	0.48
1:E:700:ARG:HA	1:E:703:GLN:HB2	1.95	0.48
2:F:23:SER:HB2	2:F:47:TYR:CZ	2.49	0.48
1:A:944:ARG:CG	1:A:1026:SER:HA	2.42	0.48
1:A:291:VAL:HA	1:A:292:SER:HB2	1.95	0.48
2:B:1122:LEU:HD21	2:B:1158:TRP:HZ2	1.76	0.48
2:D:1042:ILE:O	2:D:1099:GLN:HA	2.13	0.48
2:D:1138:GLN:HB3	2:D:1139:ASP:C	2.34	0.48
2:D:153:TYR:CD2	2:D:165:MET:HB2	2.48	0.48
1:E:215:ILE:HG22	1:E:219:HIS:CE1	2.48	0.48
1:E:548:GLN:HB2	1:E:549:PRO:HD3	1.96	0.48
2:F:232:PHE:CZ	2:F:240:TYR:HA	2.49	0.48
1:A:944:ARG:O	1:A:946:ASN:N	2.47	0.48
2:B:203:ILE:O	2:B:203:ILE:HG22	2.13	0.48
1:C:836:LEU:HD13	2:D:991:SER:HA	1.96	0.48
2:D:146:ILE:HD13	2:D:330:TYR:CZ	2.49	0.48
2:D:684:ASN:O	2:D:687:LEU:N	2.47	0.48
2:D:615:LEU:HB3	2:D:767:ASN:ND2	2.29	0.48
1:E:897:GLU:CG	1:E:1032:LYS:HD3	2.44	0.48
2:F:1020:THR:HA	2:F:1059:PHE:O	2.14	0.48
2:F:15:ASN:OD1	2:F:126:LYS:CB	2.62	0.48
2:F:475:ILE:HG21	2:F:497:VAL:HG22	1.95	0.48
2:B:1008:ARG:HA	2:B:1014:ILE:HA	1.96	0.48
2:B:21:VAL:HG12	2:B:22:ARG:N	2.29	0.48
2:B:571:VAL:O	2:B:574:PHE:HB3	2.14	0.48
2:B:64:TYR:N	2:B:64:TYR:CD2	2.81	0.48
1:C:1088:LEU:HD23	1:C:1089:LEU:N	2.29	0.48
1:C:661:ASN:HA	1:C:664:ILE:HG22	1.95	0.48
1:C:944:ARG:O	1:C:946:ASN:N	2.47	0.48
2:D:1095:ASN:HB2	2:D:1097:ARG:HB2	1.95	0.48
1:E:1143:ARG:HH21	1:E:1143:ARG:CG	2.26	0.48
2:F:1042:ILE:O	2:F:1099:GLN:HA	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:203:ILE:HG22	2:B:254:TYR:OH	2.13	0.47
2:B:232:PHE:CZ	2:B:240:TYR:HA	2.49	0.47
1:C:166:SER:HB3	1:C:498:ILE:HB	1.95	0.47
1:E:90:ILE:O	1:E:93:ARG:HB3	2.14	0.47
2:F:381:MET:HE3	2:F:471:GLN:HB3	1.95	0.47
2:F:583:ILE:HG23	2:F:644:GLN:NE2	2.29	0.47
2:F:726:ILE:C	2:F:728:PRO:HD2	2.34	0.47
2:F:815:VAL:HG12	2:F:816:ILE:N	2.29	0.47
1:A:929:LYS:HA	1:A:932:ASN:HB2	1.96	0.47
2:B:551:THR:HG21	2:B:716:ASN:HB3	1.95	0.47
2:D:205:PRO:HD3	2:D:230:ILE:HD11	1.96	0.47
2:D:945:PHE:CD1	2:D:950:LEU:HA	2.49	0.47
2:D:991:SER:O	2:D:994:ILE:HB	2.13	0.47
1:E:682:TYR:CE2	1:E:825:PHE:HA	2.49	0.47
1:E:879:TYR:O	1:E:888:PHE:HA	2.13	0.47
2:F:1122:LEU:HD21	2:F:1158:TRP:HZ2	1.75	0.47
2:F:631:TYR:O	2:F:634:LEU:HB2	2.14	0.47
1:A:138:ASN:ND2	1:A:140:SER:OG	2.47	0.47
1:A:270:ASP:O	1:A:273:THR:HG22	2.14	0.47
2:B:290:LYS:HG2	2:B:290:LYS:O	2.14	0.47
2:B:402:ILE:HG12	2:B:593:LYS:HB2	1.96	0.47
2:B:541:THR:HA	2:B:553:ILE:O	2.14	0.47
2:B:554:ILE:HB	2:B:557:ILE:CD1	2.44	0.47
1:C:936:GLU:HA	1:C:954:LEU:O	2.14	0.47
2:D:1020:THR:HA	2:D:1059:PHE:O	2.14	0.47
1:E:1025:VAL:CG1	1:E:1026:SER:N	2.78	0.47
1:E:854:ASN:HB2	1:E:865:THR:CG2	2.43	0.47
1:E:911:LYS:O	1:E:999:ARG:NE	2.47	0.47
2:F:205:PRO:HD3	2:F:230:ILE:HD11	1.96	0.47
2:F:269:TYR:HD1	2:F:287:LEU:HD23	1.79	0.47
2:F:717:ALA:O	2:F:721:VAL:HG23	2.14	0.47
1:A:203:ILE:HD13	1:A:396:ILE:HG21	1.96	0.47
1:A:603:VAL:CG1	1:A:605:TYR:CE2	2.98	0.47
1:C:716:LYS:O	1:C:719:ILE:HG22	2.14	0.47
2:D:192:CYS:O	2:D:195:LYS:HB3	2.14	0.47
2:D:815:VAL:HG12	2:D:816:ILE:N	2.29	0.47
1:E:231:CYS:HB2	1:E:249:ILE:HD12	1.97	0.47
2:F:1095:ASN:HB2	2:F:1097:ARG:HB2	1.96	0.47
1:A:528:VAL:HG13	1:A:528:VAL:O	2.15	0.47
1:A:456:ASP:HA	1:A:669:ASN:HD21	1.79	0.47
1:C:138:ASN:ND2	1:C:140:SER:OG	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:17:THR:HG22	1:C:34:ASN:HB3	1.96	0.47
1:C:949:GLY:O	1:C:963:LEU:HD12	2.15	0.47
2:D:794:ILE:O	2:D:795:LYS:C	2.53	0.47
1:E:1108:ILE:CG2	1:E:1217:ASP:HA	2.44	0.47
1:E:1087:TYR:N	1:E:1243:ILE:O	2.47	0.47
2:F:239:ASP:OD2	2:F:318:TYR:N	2.43	0.47
2:F:402:ILE:HG12	2:F:593:LYS:HB2	1.97	0.47
2:F:827:GLU:O	2:F:852:ILE:HG23	2.14	0.47
1:A:1229:MET:O	1:A:1231:ASP:N	2.48	0.47
1:A:431:ASN:O	1:A:434:LEU:HB2	2.14	0.47
1:A:855:MET:C	1:A:856:ARG:HD3	2.33	0.47
1:A:912:TYR:O	1:A:913:LYS:HB3	2.15	0.47
2:B:1138:GLN:HB3	2:B:1139:ASP:C	2.34	0.47
2:B:706:ALA:O	2:B:709:ASN:HB2	2.13	0.47
2:B:726:ILE:C	2:B:728:PRO:HD2	2.35	0.47
2:B:991:SER:O	2:B:994:ILE:HB	2.15	0.47
1:C:897:GLU:CG	1:C:1032:LYS:HD3	2.44	0.47
2:D:271:ILE:HG23	2:D:272:LYS:N	2.30	0.47
2:D:424:GLU:O	2:D:428:LYS:N	2.47	0.47
1:E:1043:GLY:C	1:E:1044:ILE:HG13	2.35	0.47
1:E:186:PHE:CE2	1:E:188:PRO:HB3	2.48	0.47
2:F:173:PHE:HA	2:F:333:ILE:HB	1.96	0.47
1:A:548:GLN:HB2	1:A:549:PRO:HD3	1.96	0.47
1:A:716:LYS:O	1:A:719:ILE:HG22	2.15	0.47
1:A:778:LYS:HA	1:A:782:LEU:HB2	1.96	0.47
2:B:1069:GLN:O	2:B:1070:TYR:CD2	2.68	0.47
2:B:210:ASN:HB3	2:B:228:ASP:HA	1.97	0.47
1:C:376:ASN:O	1:C:381:LYS:HB3	2.15	0.47
1:C:911:LYS:O	1:C:999:ARG:NE	2.47	0.47
2:D:541:THR:HA	2:D:553:ILE:O	2.15	0.47
1:E:829:SER:C	1:E:831:THR:H	2.18	0.47
2:F:388:ASP:N	2:F:388:ASP:OD1	2.44	0.47
2:F:706:ALA:O	2:F:709:ASN:HB2	2.14	0.47
2:B:269:TYR:HD1	2:B:287:LEU:HD23	1.79	0.47
1:C:203:ILE:HD13	1:C:396:ILE:HG21	1.97	0.47
1:C:291:VAL:HA	1:C:292:SER:HB2	1.97	0.47
2:D:203:ILE:HG22	2:D:254:TYR:OH	2.14	0.47
2:D:917:ASN:C	2:D:918:ILE:HG13	2.35	0.47
1:E:270:ASP:O	1:E:273:THR:HG22	2.15	0.47
1:E:633:LEU:O	1:E:700:ARG:NH2	2.45	0.47
2:F:290:LYS:O	2:F:290:LYS:HG2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:9:ILE:HG21	2:F:76:ASP:HB2	1.97	0.47
1:A:231:CYS:HB2	1:A:249:ILE:HD12	1.97	0.47
1:A:286:LEU:O	1:A:287:SER:C	2.52	0.47
2:B:13:VAL:HG12	2:B:14:ASP:H	1.77	0.47
2:B:185:PRO:O	2:B:186:ALA:C	2.53	0.47
1:C:1092:LEU:HD11	1:C:1234:ASN:O	2.15	0.47
2:D:868:SER:HA	2:D:933:ILE:O	2.14	0.47
1:E:632:ILE:HG23	1:E:633:LEU:N	2.28	0.47
1:E:795:ASN:OD1	1:E:796:TYR:N	2.48	0.47
2:F:251:ILE:O	2:F:252:ASP:HB2	2.14	0.47
1:A:911:LYS:O	1:A:999:ARG:NE	2.47	0.47
2:B:15:ASN:OD1	2:B:126:LYS:CB	2.63	0.47
2:B:658:ALA:O	2:B:662:LEU:HG	2.14	0.47
2:B:876:LEU:HD21	2:B:978:TYR:CD2	2.50	0.47
1:C:857:TYR:HB2	1:C:862:TYR:CE1	2.50	0.47
2:D:9:ILE:HG13	2:D:10:ASP:N	2.29	0.47
1:E:1092:LEU:HD11	1:E:1234:ASN:O	2.15	0.47
1:E:331:LEU:HB2	1:E:332:TYR:HD2	1.80	0.47
1:A:942:CYS:SG	1:A:1025:VAL:CG1	3.03	0.47
1:A:949:GLY:O	1:A:963:LEU:HD12	2.15	0.47
2:B:1116:ILE:HG23	2:B:1117:PHE:N	2.29	0.47
2:B:305:TYR:CE1	2:B:418:LEU:CD1	2.97	0.47
2:B:475:ILE:HG21	2:B:497:VAL:HG22	1.96	0.47
1:C:231:CYS:HB2	1:C:249:ILE:HD12	1.97	0.47
1:C:270:ASP:O	1:C:273:THR:HG22	2.15	0.47
2:F:541:THR:HA	2:F:553:ILE:O	2.15	0.47
2:F:876:LEU:HD21	2:F:978:TYR:CD2	2.50	0.47
1:A:1132:VAL:HG23	1:A:1149:TYR:CE2	2.50	0.46
1:A:1188:VAL:CG1	1:A:1199:MET:HB2	2.45	0.46
1:A:480:ALA:N	1:A:481:PRO:CD	2.78	0.46
2:B:106:ILE:HG22	2:B:107:PRO:O	2.14	0.46
2:B:155:LYS:O	2:B:156:GLU:C	2.54	0.46
2:B:45:ARG:HG3	2:B:141:PRO:O	2.15	0.46
1:C:535:VAL:HG12	1:C:536:ASN:N	2.30	0.46
1:E:896:SER:C	1:E:897:GLU:HG3	2.35	0.46
2:F:185:PRO:O	2:F:186:ALA:C	2.53	0.46
2:F:146:ILE:HD13	2:F:330:TYR:CZ	2.50	0.46
1:A:186:PHE:CE2	1:A:188:PRO:HB3	2.51	0.46
1:A:297:ASN:N	1:A:298:PRO:HD3	2.30	0.46
1:C:1090:ASN:HB2	1:C:1240:TRP:CZ3	2.50	0.46
1:C:440:GLU:O	1:C:443:TYR:CD1	2.68	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:470:GLN:HG3	2:D:1028:PHE:CE1	2.50	0.46
2:D:1093:THR:OG1	2:D:1094:THR:N	2.49	0.46
2:D:570:PHE:O	2:D:573:GLU:HB2	2.15	0.46
2:D:631:TYR:O	2:D:634:LEU:HB2	2.15	0.46
2:D:722:PHE:HA	2:D:726:ILE:HD12	1.96	0.46
2:D:81:ALA:O	2:D:82:THR:C	2.53	0.46
1:E:154:GLU:CB	1:E:155:PRO:CD	2.94	0.46
1:E:528:VAL:HG13	1:E:528:VAL:O	2.15	0.46
1:E:824:PRO:HB2	2:F:952:ALA:HB2	1.97	0.46
2:B:567:ASN:O	2:B:568:ASN:C	2.53	0.46
1:C:528:VAL:HG13	1:C:528:VAL:O	2.15	0.46
2:D:990:ASN:O	2:D:993:GLU:N	2.48	0.46
1:E:1188:VAL:CG1	1:E:1199:MET:HB2	2.45	0.46
1:E:855:MET:C	1:E:856:ARG:HD3	2.36	0.46
1:E:920:TRP:HB2	1:E:1045:ARG:CD	2.45	0.46
2:F:45:ARG:HG3	2:F:141:PRO:O	2.15	0.46
1:A:376:ASN:O	1:A:381:LYS:HB3	2.15	0.46
1:A:785:TYR:O	1:A:786:ASP:C	2.53	0.46
1:A:879:TYR:O	1:A:888:PHE:HA	2.16	0.46
2:B:23:SER:HB2	2:B:47:TYR:CZ	2.50	0.46
1:C:606:ILE:CG2	1:C:621:PHE:CE2	2.98	0.46
1:C:795:ASN:C	1:C:795:ASN:OD1	2.54	0.46
2:D:106:ILE:HG22	2:D:107:PRO:O	2.15	0.46
2:D:846:THR:HG23	2:D:847:GLY:N	2.31	0.46
1:E:1132:VAL:HG23	1:E:1149:TYR:CE2	2.50	0.46
1:E:345:VAL:HG13	1:E:387:GLN:HE22	1.81	0.46
1:E:573:VAL:HA	1:E:576:ILE:HD12	1.97	0.46
2:F:153:TYR:CD2	2:F:165:MET:HB2	2.50	0.46
2:F:859:PHE:HD1	2:F:968:ILE:HD12	1.80	0.46
2:F:867:PHE:CZ	2:F:935:ILE:HD12	2.50	0.46
2:F:989:ILE:HG22	2:F:990:ASN:N	2.31	0.46
1:A:1088:LEU:HD23	1:A:1089:LEU:N	2.30	0.46
1:A:22:LYS:CG	1:A:23:PRO:HD2	2.45	0.46
1:A:453:GLU:C	1:A:454:ILE:HG22	2.36	0.46
2:B:141:PRO:HA	2:B:169:TRP:HB3	1.96	0.46
2:B:192:CYS:O	2:B:195:LYS:HB3	2.15	0.46
2:B:305:TYR:CZ	2:B:418:LEU:CD1	2.99	0.46
2:B:868:SER:HA	2:B:933:ILE:O	2.16	0.46
1:C:22:LYS:CG	1:C:23:PRO:HD2	2.45	0.46
1:C:469:ASP:O	1:C:472:ILE:HB	2.15	0.46
1:C:571:LEU:O	1:C:575:TRP:N	2.42	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:13:VAL:HG12	2:D:14:ASP:H	1.80	0.46
2:D:610:ASP:OD1	2:D:611:LEU:HD13	2.15	0.46
2:F:14:ASP:O	2:F:15:ASN:CB	2.64	0.46
2:F:872:TRP:HB2	2:F:980:GLU:HB3	1.97	0.46
1:A:179:GLY:HA2	1:A:220:GLY:O	2.15	0.46
2:B:269:TYR:CE2	2:B:288:GLU:HA	2.51	0.46
2:B:989:ILE:HG22	2:B:990:ASN:N	2.30	0.46
1:C:179:GLY:HA2	1:C:220:GLY:O	2.15	0.46
1:C:932:ASN:HA	1:C:956:HIS:CE1	2.51	0.46
1:C:989:LYS:HG2	1:C:1076:TRP:HA	1.97	0.46
2:D:1003:ASN:HB3	2:D:1116:ILE:CD1	2.46	0.46
2:D:203:ILE:HG22	2:D:203:ILE:O	2.16	0.46
2:D:815:VAL:C	2:D:816:ILE:HG13	2.36	0.46
1:E:453:GLU:C	1:E:454:ILE:HG22	2.35	0.46
1:E:664:ILE:HG23	1:E:665:LYS:N	2.30	0.46
2:F:271:ILE:HG23	2:F:272:LYS:N	2.30	0.46
2:F:806:TYR:CD1	2:F:806:TYR:O	2.69	0.46
1:A:231:CYS:CB	1:A:249:ILE:HD12	2.46	0.46
1:A:286:LEU:O	1:A:289:VAL:HG13	2.16	0.46
2:B:207:ASP:N	2:B:207:ASP:OD1	2.48	0.46
1:C:942:CYS:SG	1:C:1025:VAL:CG1	3.04	0.46
2:D:475:ILE:HG21	2:D:497:VAL:HG22	1.96	0.46
1:E:873:ASN:N	1:E:899:ASN:O	2.39	0.46
1:E:949:GLY:O	1:E:963:LEU:HD12	2.16	0.46
1:E:981:ASN:ND2	2:F:414:ASN:HB3	2.28	0.46
2:F:586:LYS:O	2:F:641:TYR:CZ	2.69	0.46
2:F:991:SER:O	2:F:994:ILE:HB	2.16	0.46
1:A:1108:ILE:CG2	1:A:1217:ASP:HA	2.46	0.46
1:A:382:VAL:HG11	1:A:868:TYR:CE1	2.51	0.46
2:B:1007:ILE:CG2	2:B:1015:LEU:HD12	2.46	0.46
2:B:815:VAL:C	2:B:816:ILE:HG13	2.36	0.46
2:D:1003:ASN:HB3	2:D:1116:ILE:HD13	1.97	0.46
2:D:515:LYS:HB3	2:D:516:PRO:HD2	1.97	0.46
2:D:726:ILE:C	2:D:728:PRO:HD2	2.36	0.46
1:E:286:LEU:O	1:E:289:VAL:HG13	2.16	0.46
1:E:456:ASP:HA	1:E:669:ASN:HD21	1.80	0.46
1:E:610:LEU:HD11	1:E:704:MET:HE2	1.98	0.46
2:F:554:ILE:HB	2:F:557:ILE:CD1	2.45	0.46
1:A:468:LEU:HD12	1:A:471:VAL:HG22	1.98	0.46
1:A:937:TYR:CE1	1:A:954:LEU:HB2	2.51	0.46
2:B:867:PHE:CZ	2:B:935:ILE:HD12	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:297:ASN:N	1:C:298:PRO:HD3	2.31	0.46
2:D:173:PHE:HA	2:D:333:ILE:HB	1.98	0.46
1:E:1010:ASN:HB3	2:F:780:GLN:HG3	1.97	0.46
1:E:1212:LEU:O	1:E:1238:CYS:HA	2.16	0.46
1:E:231:CYS:CB	1:E:249:ILE:HD12	2.45	0.46
2:F:1003:ASN:HB3	2:F:1116:ILE:CD1	2.46	0.46
2:F:1138:GLN:HB3	2:F:1139:ASP:C	2.36	0.46
2:F:51:LEU:HB3	2:F:66:SER:HA	1.97	0.46
2:F:402:ILE:HG12	2:F:593:LYS:CB	2.45	0.46
1:A:1127:VAL:HG11	1:A:1150:ILE:HG23	1.97	0.46
1:A:664:ILE:HG23	1:A:665:LYS:N	2.31	0.46
2:B:610:ASP:OD1	2:B:611:LEU:HD13	2.16	0.46
1:C:1168:THR:HG22	1:C:1170:ASN:H	1.80	0.46
1:C:627:LEU:O	1:E:420:GLY:HA3	2.16	0.46
2:D:1135:ILE:HG22	2:D:1136:LYS:N	2.31	0.46
2:D:298:ILE:HA	2:D:301:LEU:HD12	1.98	0.46
2:D:806:TYR:CD1	2:D:806:TYR:O	2.69	0.46
2:F:106:ILE:HG22	2:F:107:PRO:O	2.16	0.46
1:A:482:GLY:C	1:A:483:LEU:HG	2.36	0.45
1:A:456:ASP:HA	1:A:669:ASN:ND2	2.31	0.45
1:A:896:SER:C	1:A:897:GLU:HG3	2.36	0.45
2:B:21:VAL:CG1	2:B:121:ASN:HA	2.43	0.45
2:B:51:LEU:HB3	2:B:66:SER:HA	1.98	0.45
2:B:846:THR:HG23	2:B:847:GLY:N	2.31	0.45
1:C:345:VAL:HG13	1:C:387:GLN:HE22	1.81	0.45
1:C:664:ILE:HG23	1:C:665:LYS:N	2.31	0.45
1:C:778:LYS:HA	1:C:782:LEU:HB2	1.98	0.45
1:E:972:LYS:CD	2:F:772:LEU:HD11	2.46	0.45
1:E:972:LYS:HB2	2:F:772:LEU:HD11	1.98	0.45
2:F:298:ILE:HA	2:F:301:LEU:HD12	1.97	0.45
2:F:868:SER:HA	2:F:933:ILE:O	2.16	0.45
1:A:535:VAL:HG12	1:A:536:ASN:N	2.32	0.45
1:A:912:TYR:O	1:A:913:LYS:CB	2.64	0.45
2:B:1149:HIS:CE1	2:B:1150:ASP:CB	3.00	0.45
1:C:897:GLU:HG2	1:C:1032:LYS:CB	2.44	0.45
2:D:269:TYR:HD1	2:D:287:LEU:HD23	1.81	0.45
1:E:1168:THR:HG22	1:E:1170:ASN:H	1.80	0.45
1:E:606:ILE:CG2	1:E:621:PHE:CE2	2.99	0.45
2:F:269:TYR:HE2	2:F:288:GLU:CG	2.29	0.45
2:F:552:LYS:CB	2:F:713:PHE:HE1	2.30	0.45
1:A:94:ILE:HG23	1:A:211:MET:HE3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:469:ASP:O	1:A:472:ILE:HB	2.15	0.45
1:A:771:MET:HA	1:A:774:ILE:CG2	2.46	0.45
2:B:298:ILE:O	2:B:301:LEU:HB2	2.17	0.45
1:C:1106:LEU:HD12	1:C:1175:ILE:HB	1.97	0.45
1:C:942:CYS:SG	1:C:1026:SER:HB3	2.56	0.45
2:D:15:ASN:OD1	2:D:126:LYS:CB	2.64	0.45
2:D:867:PHE:CB	2:D:985:LEU:O	2.64	0.45
1:E:482:GLY:C	1:E:483:LEU:HG	2.37	0.45
1:E:603:VAL:CG1	1:E:605:TYR:CE2	2.99	0.45
2:F:65:ASP:O	2:F:66:SER:OG	2.31	0.45
2:F:866:ASN:O	2:F:867:PHE:HB3	2.16	0.45
1:A:1092:LEU:HD11	1:A:1234:ASN:O	2.16	0.45
1:A:864:ASP:C	1:A:864:ASP:OD1	2.55	0.45
2:B:374:ASN:C	2:B:374:ASN:OD1	2.54	0.45
2:B:990:ASN:O	2:B:993:GLU:N	2.49	0.45
1:C:21:ILE:HG12	1:C:134:ILE:HG22	1.98	0.45
1:C:448:ILE:O	1:C:449:ASN:O	2.35	0.45
1:C:597:ALA:HB2	2:D:939:LYS:HB3	1.98	0.45
1:E:778:LYS:HA	1:E:782:LEU:HB2	1.97	0.45
1:E:836:LEU:HD11	2:F:945:PHE:CE1	2.52	0.45
1:E:942:CYS:SG	1:E:1026:SER:HB3	2.57	0.45
2:F:594:ILE:CG2	2:F:595:LYS:N	2.79	0.45
2:F:932:VAL:C	2:F:933:ILE:HG13	2.37	0.45
1:A:192:PHE:CE1	1:A:204:GLN:HB3	2.51	0.45
1:A:203:ILE:CD1	1:A:396:ILE:HG21	2.46	0.45
1:A:440:GLU:O	1:A:443:TYR:CD1	2.69	0.45
1:A:606:ILE:CG2	1:A:621:PHE:CE2	3.00	0.45
2:B:1142:TRP:HD1	2:B:1142:TRP:H	1.65	0.45
2:B:173:PHE:HA	2:B:333:ILE:HB	1.98	0.45
1:C:160:THR:HA	1:C:185:THR:O	2.17	0.45
1:C:275:LEU:HD11	1:C:279:TYR:CE2	2.51	0.45
1:C:576:ILE:HG12	1:C:719:ILE:HD11	1.97	0.45
1:C:1012:ILE:O	2:D:779:ILE:HD12	2.17	0.45
2:D:932:VAL:C	2:D:933:ILE:HG13	2.36	0.45
1:E:1127:VAL:HG11	1:E:1150:ILE:HG23	1.99	0.45
1:E:199:ILE:HA	1:E:705:TYR:CE2	2.45	0.45
1:E:203:ILE:HD13	1:E:396:ILE:HG21	1.97	0.45
1:E:716:LYS:O	1:E:719:ILE:HG22	2.16	0.45
2:F:192:CYS:O	2:F:195:LYS:HB3	2.16	0.45
1:A:857:TYR:HB2	1:A:862:TYR:CE1	2.51	0.45
1:A:92:ASN:O	1:A:96:ASN:HB2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:43:PRO:HA	2:B:78:PHE:CE2	2.51	0.45
1:C:427:ILE:HD12	1:C:521:PHE:CD1	2.52	0.45
1:C:720:GLU:HA	1:C:723:TYR:HB3	1.99	0.45
2:D:402:ILE:HG12	2:D:593:LYS:CB	2.46	0.45
1:E:981:ASN:HB3	1:E:1117:LEU:HB3	1.99	0.45
2:F:203:ILE:O	2:F:203:ILE:HG22	2.15	0.45
1:A:275:LEU:HD11	1:A:279:TYR:CE2	2.51	0.45
1:A:345:VAL:HG13	1:A:387:GLN:HE22	1.80	0.45
2:B:541:THR:O	2:B:542:GLN:HB3	2.16	0.45
2:B:727:TYR:N	2:B:728:PRO:CD	2.80	0.45
2:B:738:ILE:HA	2:B:741:ILE:HD12	1.99	0.45
1:C:453:GLU:C	1:C:454:ILE:HG22	2.37	0.45
1:C:484:SER:O	1:C:485:ASP:CB	2.64	0.45
1:C:456:ASP:HA	1:C:669:ASN:HD21	1.81	0.45
2:D:102:ILE:HG12	2:D:197:LEU:HD11	1.98	0.45
2:F:684:ASN:O	2:F:687:LEU:N	2.50	0.45
2:F:734:MET:HA	2:F:737:CYS:SG	2.57	0.45
1:A:1168:THR:HG22	1:A:1170:ASN:H	1.82	0.45
1:A:427:ILE:CG2	1:A:428:GLU:N	2.79	0.45
1:A:634:LEU:HD23	1:A:696:GLN:CD	2.37	0.45
2:B:631:TYR:O	2:B:634:LEU:HB2	2.16	0.45
2:B:730:PHE:O	2:B:734:MET:HG2	2.17	0.45
2:B:9:ILE:HG21	2:B:76:ASP:HB2	1.98	0.45
1:C:416:VAL:CG1	1:C:420:GLY:N	2.80	0.45
1:C:92:ASN:O	1:C:96:ASN:HB2	2.16	0.45
2:D:583:ILE:HG23	2:D:644:GLN:NE2	2.32	0.45
2:D:730:PHE:O	2:D:734:MET:HG2	2.17	0.45
2:D:43:PRO:HA	2:D:78:PHE:CE2	2.52	0.45
2:F:1003:ASN:HB3	2:F:1116:ILE:HD13	1.98	0.45
1:A:206:PRO:O	1:A:209:THR:N	2.50	0.45
2:B:684:ASN:O	2:B:687:LEU:N	2.49	0.45
2:B:867:PHE:C	2:B:867:PHE:CD1	2.91	0.45
1:C:194:PHE:N	1:C:194:PHE:CD1	2.85	0.45
1:C:203:ILE:CD1	1:C:396:ILE:HG21	2.47	0.45
1:C:144:LEU:HA	1:C:487:LYS:HA	1.99	0.45
1:C:610:LEU:HD11	1:C:704:MET:HE2	1.98	0.45
2:D:232:PHE:CZ	2:D:240:TYR:HA	2.52	0.45
2:D:402:ILE:HG12	2:D:593:LYS:HB2	1.99	0.45
2:D:64:TYR:N	2:D:64:TYR:CD2	2.85	0.45
1:E:416:VAL:CG1	1:E:420:GLY:N	2.80	0.45
1:E:576:ILE:HG12	1:E:719:ILE:HD11	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:852:VAL:HG11	1:E:906:ILE:HG23	1.99	0.45
1:E:94:ILE:HG23	1:E:211:MET:HE3	1.99	0.45
2:F:610:ASP:OD1	2:F:611:LEU:HD13	2.17	0.45
2:F:738:ILE:HA	2:F:741:ILE:HD12	1.98	0.45
1:A:942:CYS:SG	1:A:1026:SER:HB3	2.57	0.45
1:A:154:GLU:CB	1:A:155:PRO:CD	2.94	0.45
1:A:682:TYR:CE2	1:A:825:PHE:HA	2.52	0.45
2:B:14:ASP:O	2:B:15:ASN:CB	2.64	0.45
2:B:274:LYS:C	2:B:276:ASN:H	2.19	0.45
2:B:856:ASN:O	2:B:857:ASP:C	2.55	0.45
1:C:1212:LEU:O	1:C:1238:CYS:HA	2.16	0.45
1:C:896:SER:C	1:C:897:GLU:HG3	2.36	0.45
1:C:920:TRP:HB2	1:C:1045:ARG:CD	2.47	0.45
2:D:1116:ILE:HG23	2:D:1117:PHE:N	2.32	0.45
2:D:210:ASN:HB3	2:D:228:ASP:HA	1.99	0.45
2:D:298:ILE:O	2:D:301:LEU:HB2	2.17	0.45
1:E:423:LYS:HD2	2:D:510:PHE:CZ	2.52	0.45
2:D:803:LEU:HD23	2:D:803:LEU:C	2.37	0.45
1:E:1088:LEU:HD23	1:E:1089:LEU:N	2.31	0.45
1:E:193:ARG:NH2	1:E:196:ASP:OD1	2.50	0.45
2:F:423:ILE:O	2:F:423:ILE:CG2	2.64	0.45
2:F:870:TYR:HA	2:F:931:ILE:O	2.17	0.45
2:F:989:ILE:CG2	2:F:994:ILE:HG13	2.47	0.45
1:A:427:ILE:HD12	1:A:521:PHE:CD1	2.52	0.44
1:A:614:ASN:CB	1:A:617:GLN:OE1	2.66	0.44
1:A:633:LEU:O	1:A:700:ARG:NH2	2.46	0.44
2:B:1056:PRO:O	2:B:1058:LYS:N	2.50	0.44
2:B:677:ASN:CG	2:D:849:ASN:ND2	2.70	0.44
2:B:824:THR:HA	2:B:856:ASN:HB2	1.99	0.44
2:B:870:TYR:HA	2:B:931:ILE:O	2.17	0.44
1:C:1229:MET:O	1:C:1231:ASP:N	2.50	0.44
1:C:154:GLU:CB	1:C:155:PRO:CD	2.94	0.44
1:C:738:TYR:C	1:C:740:ILE:N	2.70	0.44
2:D:14:ASP:O	2:D:15:ASN:CB	2.65	0.44
2:D:274:LYS:C	2:D:276:ASN:H	2.20	0.44
2:D:51:LEU:HB3	2:D:66:SER:HA	1.98	0.44
1:E:484:SER:O	1:E:485:ASP:CB	2.65	0.44
1:E:785:TYR:O	1:E:786:ASP:C	2.55	0.44
2:F:1056:PRO:O	2:F:1058:LYS:N	2.50	0.44
1:A:1076:TRP:HZ3	1:A:1244:SER:HG	1.66	0.44
1:A:576:ILE:HG12	1:A:719:ILE:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:603:VAL:HG13	1:A:605:TYR:CE2	2.52	0.44
2:B:271:ILE:HG23	2:B:272:LYS:N	2.32	0.44
2:B:866:ASN:O	2:B:867:PHE:HB3	2.18	0.44
2:B:922:ASN:C	2:B:923:ILE:HG13	2.37	0.44
1:C:1127:VAL:HG11	1:C:1150:ILE:HG23	1.99	0.44
2:D:35:VAL:O	2:D:36:ALA:HB2	2.17	0.44
2:D:415:TYR:O	2:D:416:SER:CB	2.65	0.44
2:D:594:ILE:CG2	2:D:595:LYS:N	2.80	0.44
2:D:859:PHE:HD1	2:D:968:ILE:HD12	1.82	0.44
1:E:535:VAL:HG11	1:E:551:ILE:HD12	1.99	0.44
1:E:554:PHE:HB3	1:E:608:LEU:HD12	1.99	0.44
2:F:155:LYS:O	2:F:156:GLU:C	2.55	0.44
2:F:64:TYR:HE2	2:F:363:ILE:HD12	1.81	0.44
1:A:331:LEU:HB2	1:A:332:TYR:HD2	1.81	0.44
1:A:795:ASN:C	1:A:795:ASN:OD1	2.55	0.44
2:B:27:ASP:OD1	2:B:27:ASP:N	2.50	0.44
2:B:622:ASN:O	2:B:625:TYR:N	2.50	0.44
1:C:94:ILE:HG23	1:C:211:MET:HE3	1.99	0.44
1:C:220:GLY:HA2	1:C:225:LYS:HE3	1.99	0.44
1:C:700:ARG:HA	1:C:703:GLN:HB2	1.98	0.44
2:D:45:ARG:HG3	2:D:141:PRO:O	2.18	0.44
2:D:866:ASN:O	2:D:867:PHE:HB3	2.18	0.44
1:E:22:LYS:CG	1:E:23:PRO:HD2	2.47	0.44
1:E:448:ILE:O	1:E:449:ASN:O	2.36	0.44
1:E:864:ASP:C	1:E:864:ASP:OD1	2.55	0.44
1:E:912:TYR:O	1:E:913:LYS:CB	2.65	0.44
2:F:372:LEU:O	2:F:379:VAL:HA	2.17	0.44
1:A:535:VAL:HG11	1:A:551:ILE:HD12	1.99	0.44
1:A:738:TYR:C	1:A:740:ILE:N	2.71	0.44
1:A:908:TYR:HB3	1:A:1025:VAL:CG2	2.47	0.44
2:B:1122:LEU:HD21	2:B:1158:TRP:CE2	2.53	0.44
1:C:331:LEU:CB	1:C:332:TYR:CD2	3.01	0.44
1:C:908:TYR:HB3	1:C:1025:VAL:CG2	2.47	0.44
2:D:1056:PRO:O	2:D:1058:LYS:N	2.50	0.44
1:E:1090:ASN:HB2	1:E:1240:TRP:CZ3	2.53	0.44
1:E:469:ASP:O	1:E:472:ILE:HB	2.17	0.44
2:F:1036:ILE:HD12	2:F:1045:SER:HB3	1.99	0.44
2:F:480:ILE:HG21	2:F:497:VAL:HG23	2.00	0.44
2:F:846:THR:HG23	2:F:847:GLY:N	2.32	0.44
2:F:880:THR:CB	2:F:901:ASN:HA	2.48	0.44
1:A:522:TYR:O	1:A:525:ALA:HB3	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:636:PHE:HD2	1:A:696:GLN:OE1	2.01	0.44
2:B:1135:ILE:HG22	2:B:1136:LYS:N	2.32	0.44
2:B:211:ILE:O	2:B:226:GLU:HA	2.18	0.44
2:B:932:VAL:C	2:B:933:ILE:HG13	2.37	0.44
1:C:186:PHE:CE2	1:C:188:PRO:HB3	2.53	0.44
1:C:286:LEU:O	1:C:289:VAL:HG13	2.17	0.44
1:C:785:TYR:O	1:C:786:ASP:C	2.54	0.44
2:D:554:ILE:HB	2:D:557:ILE:CD1	2.48	0.44
1:E:21:ILE:HG12	1:E:134:ILE:HG22	2.00	0.44
2:F:1013:GLU:O	2:F:1014:ILE:CB	2.66	0.44
1:A:916:SER:OG	1:A:1054:LEU:HG	2.18	0.44
2:B:102:ILE:HG12	2:B:197:LEU:HD11	1.99	0.44
2:B:298:ILE:HA	2:B:301:LEU:HD12	1.99	0.44
2:D:141:PRO:HA	2:D:169:TRP:HB3	1.99	0.44
2:F:1007:ILE:CG2	2:F:1015:LEU:HD12	2.47	0.44
2:F:727:TYR:N	2:F:728:PRO:CD	2.80	0.44
2:F:815:VAL:C	2:F:816:ILE:HG13	2.37	0.44
1:A:920:TRP:HB2	1:A:1045:ARG:CD	2.48	0.44
2:B:285:LEU:O	2:B:288:GLU:N	2.51	0.44
2:B:877:LYS:CB	2:B:878:GLN:HB3	2.47	0.44
1:C:1044:ILE:CG2	1:C:1045:ARG:N	2.80	0.44
1:C:912:TYR:O	1:C:913:LYS:HB3	2.18	0.44
2:D:990:ASN:HB3	2:D:993:GLU:OE2	2.17	0.44
1:E:203:ILE:CD1	1:E:396:ILE:HG21	2.47	0.44
2:F:8:ASN:O	2:F:9:ILE:C	2.55	0.44
1:A:1044:ILE:CG2	1:A:1045:ARG:N	2.80	0.44
1:A:193:ARG:NH2	1:A:196:ASP:OD1	2.51	0.44
1:A:287:SER:HA	1:A:317:TYR:CD2	2.53	0.44
1:A:395:ILE:HG13	1:A:396:ILE:HG23	2.00	0.44
1:A:484:SER:O	1:A:485:ASP:CB	2.66	0.44
1:A:987:ILE:O	1:A:989:LYS:N	2.51	0.44
2:B:153:TYR:HB2	2:B:165:MET:O	2.18	0.44
2:B:400:ASN:N	2:B:400:ASN:OD1	2.50	0.44
1:C:916:SER:OG	1:C:1054:LEU:HG	2.18	0.44
1:C:1132:VAL:HG23	1:C:1149:TYR:CE2	2.52	0.44
1:C:1153:VAL:HG23	1:C:1159:LEU:CD2	2.48	0.44
1:C:380:LEU:HD23	1:C:385:ARG:HD3	2.00	0.44
1:C:431:ASN:O	1:C:434:LEU:HB2	2.17	0.44
1:C:864:ASP:OD1	1:C:864:ASP:C	2.56	0.44
1:E:299:TYR:HA	1:E:302:ILE:HG22	1.99	0.44
2:F:552:LYS:C	2:F:713:PHE:CE1	2.91	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:21:ILE:HG12	1:A:134:ILE:HG22	2.00	0.44
1:A:554:PHE:HB3	1:A:608:LEU:HD12	1.99	0.44
2:B:106:ILE:N	2:B:290:LYS:HD3	2.33	0.44
2:B:579:PRO:C	2:B:581:SER:N	2.71	0.44
1:C:476:ASN:N	2:D:1136:LYS:CE	2.81	0.44
1:C:482:GLY:C	1:C:483:LEU:HG	2.38	0.44
2:D:867:PHE:CZ	2:D:935:ILE:HD12	2.52	0.44
1:E:1229:MET:O	1:E:1231:ASP:N	2.51	0.44
1:E:431:ASN:O	1:E:434:LEU:HB2	2.17	0.44
1:E:571:LEU:O	1:E:575:TRP:N	2.42	0.44
1:E:942:CYS:SG	1:E:1025:VAL:CG1	3.06	0.44
1:E:92:ASN:O	1:E:96:ASN:HB2	2.18	0.44
2:F:108:PHE:HB3	2:F:162:MET:CG	2.46	0.44
2:F:1142:TRP:H	2:F:1142:TRP:HD1	1.66	0.44
2:F:274:LYS:C	2:F:276:ASN:H	2.21	0.44
2:F:945:PHE:CD1	2:F:950:LEU:HA	2.53	0.44
1:A:398:PRO:C	1:A:399:ILE:HG13	2.38	0.43
2:B:1003:ASN:HB3	2:B:1116:ILE:HD13	2.00	0.43
2:B:173:PHE:O	2:B:333:ILE:N	2.51	0.43
1:C:427:ILE:CG2	1:C:428:GLU:N	2.81	0.43
1:C:636:PHE:HD2	1:C:696:GLN:OE1	2.00	0.43
1:C:727:THR:O	1:C:728:LEU:CB	2.65	0.43
2:D:870:TYR:HA	2:D:931:ILE:O	2.18	0.43
1:E:535:VAL:HG12	1:E:536:ASN:N	2.31	0.43
2:F:227:LEU:HD11	2:F:231:ASP:CB	2.48	0.43
2:F:298:ILE:O	2:F:301:LEU:HB2	2.17	0.43
2:F:305:TYR:CE1	2:F:418:LEU:CD1	3.01	0.43
1:A:299:TYR:HA	1:A:302:ILE:HG22	1.99	0.43
1:A:416:VAL:CG1	1:A:420:GLY:N	2.81	0.43
2:B:501:LEU:HD22	2:B:537:ASP:HB3	2.00	0.43
1:C:522:TYR:O	1:C:525:ALA:HB3	2.18	0.43
1:C:554:PHE:HB3	1:C:608:LEU:HD12	2.00	0.43
2:D:381:MET:HE3	2:D:471:GLN:CD	2.39	0.43
2:D:804:SER:HB3	2:D:819:THR:HG22	1.99	0.43
2:D:962:ILE:O	2:D:962:ILE:CG2	2.66	0.43
1:E:361:SER:OG	1:E:397:LYS:HE2	2.17	0.43
1:E:857:TYR:HB2	1:E:862:TYR:CE1	2.53	0.43
2:F:141:PRO:HA	2:F:169:TRP:HB3	2.00	0.43
2:F:415:TYR:O	2:F:416:SER:CB	2.65	0.43
2:F:501:LEU:HD22	2:F:537:ASP:HB3	2.00	0.43
1:A:873:ASN:N	1:A:899:ASN:O	2.39	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:645:TYR:O	2:B:646:PHE:C	2.56	0.43
2:B:799:SER:HB2	2:B:800:PRO:HD2	1.99	0.43
2:B:962:ILE:O	2:B:962:ILE:CG2	2.65	0.43
1:C:299:TYR:HA	1:C:302:ILE:HG22	2.00	0.43
1:E:522:TYR:O	1:E:525:ALA:HB3	2.18	0.43
1:E:993:VAL:HG12	1:E:994:THR:N	2.33	0.43
2:F:1135:ILE:HG22	2:F:1136:LYS:N	2.33	0.43
2:F:540:GLU:HB3	2:F:555:PRO:CD	2.49	0.43
2:F:567:ASN:O	2:F:568:ASN:C	2.57	0.43
2:F:867:PHE:C	2:F:867:PHE:CD1	2.91	0.43
1:A:454:ILE:HD12	1:A:456:ASP:OD1	2.19	0.43
1:A:727:THR:O	1:A:728:LEU:CB	2.66	0.43
2:B:515:LYS:HB3	2:B:516:PRO:HD2	1.98	0.43
2:B:794:ILE:O	2:B:795:LYS:C	2.56	0.43
2:B:806:TYR:O	2:B:816:ILE:HA	2.19	0.43
1:C:398:PRO:C	1:C:399:ILE:HG13	2.38	0.43
1:C:836:LEU:HD11	2:D:945:PHE:CE1	2.54	0.43
1:C:929:LYS:HA	1:C:932:ASN:HB2	1.99	0.43
2:D:296:LYS:HA	2:D:299:TRP:HE3	1.84	0.43
2:D:552:LYS:C	2:D:713:PHE:CE1	2.92	0.43
1:E:1095:ASN:O	1:E:1112:ARG:N	2.40	0.43
1:E:771:MET:HA	1:E:774:ILE:CG2	2.45	0.43
1:E:833:ASP:HB3	1:E:835:ILE:HD12	2.01	0.43
2:F:645:TYR:OH	2:F:721:VAL:HG21	2.19	0.43
2:F:794:ILE:O	2:F:795:LYS:C	2.56	0.43
2:F:89:ILE:O	2:F:95:GLY:HA3	2.18	0.43
1:A:361:SER:OG	1:A:397:LYS:HE2	2.18	0.43
1:A:981:ASN:HB3	1:A:1117:LEU:HB3	2.01	0.43
2:B:1142:TRP:HD1	2:B:1142:TRP:N	2.16	0.43
2:B:146:ILE:HD13	2:B:330:TYR:CE2	2.54	0.43
2:B:105:ALA:HA	2:B:290:LYS:CD	2.48	0.43
1:A:836:LEU:CB	2:B:995:LEU:HD11	2.47	0.43
2:D:246:ASN:HA	2:D:247:PRO:HA	1.83	0.43
2:D:35:VAL:CG1	2:D:36:ALA:H	2.29	0.43
2:D:567:ASN:O	2:D:568:ASN:C	2.54	0.43
2:D:738:ILE:HA	2:D:741:ILE:HD12	1.99	0.43
2:D:876:LEU:HD21	2:D:978:TYR:CD2	2.53	0.43
1:E:456:ASP:HA	1:E:669:ASN:ND2	2.34	0.43
1:E:634:LEU:HD23	1:E:696:GLN:CD	2.39	0.43
1:A:380:LEU:HD23	1:A:385:ARG:HD3	2.01	0.43
2:B:81:ALA:O	2:B:84:LYS:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:193:ARG:NH2	1:C:196:ASP:OD1	2.51	0.43
1:C:4:ILE:HD11	1:C:95:ASN:HB2	2.01	0.43
2:D:21:VAL:CG1	2:D:121:ASN:HA	2.46	0.43
2:D:269:TYR:HE2	2:D:288:GLU:CG	2.31	0.43
2:D:645:TYR:O	2:D:646:PHE:C	2.55	0.43
1:E:179:GLY:HA2	1:E:220:GLY:O	2.17	0.43
1:E:522:TYR:CZ	1:E:611:ASN:HB2	2.53	0.43
1:E:617:GLN:OE1	1:E:617:GLN:N	2.47	0.43
1:E:632:ILE:HG23	1:E:633:LEU:HG	2.01	0.43
1:E:883:THR:HG23	1:E:884:ASN:H	1.84	0.43
2:B:1013:GLU:O	2:B:1014:ILE:CB	2.66	0.43
1:C:633:LEU:O	1:C:700:ARG:NH2	2.47	0.43
1:C:456:ASP:HA	1:C:669:ASN:ND2	2.34	0.43
1:E:1106:LEU:HD12	1:E:1175:ILE:HB	1.99	0.43
1:E:1232:HIS:CB	1:E:1236:ASN:HD21	2.32	0.43
1:E:863:VAL:HG12	1:E:864:ASP:N	2.33	0.43
1:E:912:TYR:O	1:E:913:LYS:HB3	2.16	0.43
2:F:856:ASN:O	2:F:857:ASP:C	2.56	0.43
1:A:468:LEU:HD12	1:A:468:LEU:C	2.39	0.43
1:A:660:LYS:CG	1:A:661:ASN:N	2.82	0.43
1:A:824:PRO:HB3	2:B:952:ALA:HB2	2.00	0.43
2:B:1003:ASN:HB3	2:B:1116:ILE:CD1	2.48	0.43
2:B:13:VAL:CG1	2:B:14:ASP:N	2.82	0.43
2:B:913:GLY:O	2:B:914:ASN:C	2.57	0.43
1:C:863:VAL:HG12	1:C:864:ASP:N	2.34	0.43
1:C:898:VAL:O	1:C:1030:LEU:HA	2.18	0.43
1:C:990:TRP:HZ3	1:C:1044:ILE:HA	1.83	0.43
1:C:994:THR:HB	1:C:1006:TYR:HB2	2.00	0.43
1:E:423:LYS:NZ	2:D:514:ASP:OD1	2.41	0.43
1:E:118:ASN:HA	1:E:119:THR:CB	2.41	0.43
1:E:38:ASN:HB3	1:E:147:ASN:HB2	2.00	0.43
1:C:627:LEU:HG	1:E:419:LYS:O	2.18	0.43
1:E:47:VAL:C	1:E:50:THR:HG1	2.22	0.43
1:E:603:VAL:HG13	1:E:605:TYR:CE2	2.54	0.43
1:E:262:ILE:CD1	1:E:690:MET:HB3	2.49	0.43
1:E:897:GLU:HG2	1:E:1032:LYS:CB	2.42	0.43
2:F:400:ASN:N	2:F:400:ASN:OD1	2.51	0.43
2:F:43:PRO:HA	2:F:78:PHE:CE2	2.54	0.43
2:F:990:ASN:O	2:F:993:GLU:N	2.51	0.43
1:A:452:LYS:CB	1:A:651:LYS:HE2	2.49	0.43
2:B:423:ILE:CG2	2:B:423:ILE:O	2.64	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:859:PHE:HD1	2:B:968:ILE:HD12	1.81	0.43
1:C:250:GLU:O	1:C:254:THR:N	2.43	0.43
1:C:682:TYR:HE2	1:C:825:PHE:HA	1.83	0.43
1:C:943:MET:CE	1:C:947:ASN:HB3	2.49	0.43
2:D:1093:THR:HG23	2:D:1095:ASN:N	2.34	0.43
2:D:13:VAL:HG13	2:D:19:ALA:HA	2.01	0.43
2:D:917:ASN:O	2:D:918:ILE:HG13	2.19	0.43
2:D:854:PHE:HE2	2:D:970:LEU:HB2	1.83	0.43
1:E:795:ASN:C	1:E:795:ASN:OD1	2.57	0.43
2:F:13:VAL:HG12	2:F:14:ASP:H	1.82	0.43
2:F:306:PHE:O	2:F:307:SER:C	2.57	0.43
2:F:867:PHE:CB	2:F:985:LEU:O	2.65	0.43
1:A:730:GLU:O	1:A:732:ASN:N	2.52	0.43
1:A:994:THR:HB	1:A:1006:TYR:HB2	2.00	0.43
2:B:289:GLN:NE2	2:B:423:ILE:HG22	2.34	0.43
2:B:923:ILE:C	2:B:925:ASN:N	2.72	0.43
1:C:1226:TYR:CD2	1:C:1226:TYR:N	2.87	0.43
1:C:632:ILE:HG23	1:C:633:LEU:HG	2.01	0.43
1:C:634:LEU:HD23	1:C:696:GLN:CD	2.38	0.43
2:D:1007:ILE:CG2	2:D:1015:LEU:HD12	2.49	0.43
1:C:475:PHE:C	2:D:1136:LYS:CE	2.87	0.43
1:E:916:SER:OG	1:E:1054:LEU:HG	2.18	0.43
1:E:173:PRO:HB2	1:E:178:PHE:HB2	2.01	0.43
1:E:838:SER:O	1:E:842:LYS:HB3	2.19	0.43
2:F:289:GLN:NE2	2:F:292:LYS:HE3	2.34	0.43
2:F:429:ILE:N	2:F:430:PRO:HD3	2.34	0.43
2:F:554:ILE:HG21	2:F:556:TRP:CZ2	2.54	0.43
2:F:923:ILE:C	2:F:925:ASN:H	2.21	0.43
1:A:1106:LEU:HD12	1:A:1175:ILE:HB	2.00	0.42
1:A:191:SER:HB2	1:A:360:LEU:HD11	2.01	0.42
1:A:448:ILE:O	1:A:449:ASN:O	2.36	0.42
1:A:610:LEU:CD1	1:A:704:MET:HE2	2.48	0.42
1:A:912:TYR:CD1	1:A:912:TYR:N	2.83	0.42
2:B:35:VAL:O	2:B:36:ALA:HB2	2.19	0.42
2:B:586:LYS:O	2:B:641:TYR:CZ	2.72	0.42
1:C:196:ASP:N	1:C:196:ASP:OD2	2.52	0.42
1:C:286:LEU:O	1:C:287:SER:C	2.58	0.42
1:C:382:VAL:HG11	1:C:868:TYR:CE1	2.54	0.42
2:D:211:ILE:O	2:D:226:GLU:HA	2.19	0.42
2:D:254:TYR:O	2:D:258:THR:HB	2.19	0.42
2:D:989:ILE:HG22	2:D:990:ASN:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:1153:VAL:HG23	1:E:1159:LEU:CD2	2.48	0.42
1:E:468:LEU:HD12	1:E:471:VAL:HG22	2.01	0.42
1:E:660:LYS:CG	1:E:661:ASN:N	2.82	0.42
1:E:936:GLU:HA	1:E:954:LEU:O	2.19	0.42
2:F:973:ASP:O	2:F:975:ASN:N	2.51	0.42
1:A:453:GLU:HG3	1:A:454:ILE:HB	2.01	0.42
2:B:296:LYS:HA	2:B:299:TRP:HE3	1.84	0.42
2:B:428:LYS:C	2:B:430:PRO:CD	2.88	0.42
2:B:989:ILE:CG2	2:B:994:ILE:HG13	2.50	0.42
2:D:1003:ASN:CG	2:D:1003:ASN:O	2.57	0.42
2:D:106:ILE:N	2:D:290:LYS:HD3	2.34	0.42
2:D:976:ASN:C	2:D:977:VAL:HG23	2.40	0.42
1:E:138:ASN:ND2	1:E:140:SER:OG	2.52	0.42
2:F:211:ILE:O	2:F:226:GLU:HA	2.19	0.42
2:F:9:ILE:HG13	2:F:10:ASP:N	2.34	0.42
1:A:194:PHE:CD1	1:A:194:PHE:N	2.87	0.42
2:B:266:LYS:HA	2:B:291:PHE:CE1	2.55	0.42
2:B:381:MET:HE3	2:B:471:GLN:CD	2.38	0.42
2:B:480:ILE:HG21	2:B:497:VAL:HG23	2.01	0.42
2:B:645:TYR:OH	2:B:721:VAL:HG21	2.19	0.42
1:C:1188:VAL:HG22	1:C:1201:PHE:CE1	2.54	0.42
1:C:361:SER:OG	1:C:397:LYS:HE2	2.19	0.42
1:C:912:TYR:O	1:C:913:LYS:CB	2.67	0.42
2:D:1098:ILE:HD12	2:D:1143:VAL:CG1	2.50	0.42
2:D:238:ILE:O	2:D:239:ASP:C	2.55	0.42
1:E:274:ASN:HA	1:E:277:ASN:ND2	2.34	0.42
2:F:210:ASN:HB3	2:F:228:ASP:HA	1.99	0.42
1:A:990:TRP:HZ3	1:A:1044:ILE:HA	1.84	0.42
1:A:160:THR:HA	1:A:185:THR:O	2.19	0.42
2:B:1122:LEU:HD12	2:B:1122:LEU:C	2.40	0.42
1:C:416:VAL:HG13	1:C:420:GLY:CA	2.50	0.42
1:C:467:ASP:C	1:C:467:ASP:OD1	2.57	0.42
1:C:920:TRP:O	1:C:1044:ILE:HA	2.19	0.42
2:D:155:LYS:O	2:D:156:GLU:C	2.57	0.42
2:D:289:GLN:NE2	2:D:423:ILE:HG22	2.35	0.42
2:D:855:THR:HG22	2:D:967:ILE:HG12	2.02	0.42
2:D:877:LYS:CB	2:D:878:GLN:HB3	2.47	0.42
1:E:1083:ASP:HB2	1:E:1128:LYS:HE3	2.01	0.42
1:E:297:ASN:N	1:E:298:PRO:HD3	2.33	0.42
2:F:1116:ILE:HG23	2:F:1117:PHE:N	2.34	0.42
2:F:411:HIS:CA	2:F:624:PHE:HE1	2.32	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:877:LYS:CB	2:F:878:GLN:HB3	2.47	0.42
1:E:597:ALA:HA	2:F:939:LYS:HD3	2.01	0.42
2:F:962:ILE:CG2	2:F:962:ILE:O	2.66	0.42
1:A:1043:GLY:C	1:A:1044:ILE:HG13	2.39	0.42
2:B:234:ILE:O	2:B:302:ASN:HB2	2.19	0.42
2:B:242:LEU:CD1	2:B:638:TRP:CG	3.03	0.42
2:B:415:TYR:O	2:B:416:SER:CB	2.67	0.42
1:C:194:PHE:N	1:C:194:PHE:HD1	2.18	0.42
1:C:535:VAL:HG11	1:C:551:ILE:HD12	2.00	0.42
1:E:1044:ILE:CG2	1:E:1045:ARG:N	2.82	0.42
1:E:727:THR:O	1:E:728:LEU:CB	2.66	0.42
1:E:987:ILE:O	1:E:989:LYS:N	2.52	0.42
1:E:1012:ILE:O	2:F:779:ILE:HD12	2.19	0.42
1:A:1002:ASP:N	1:A:1002:ASP:OD1	2.53	0.42
1:A:287:SER:HB3	1:A:317:TYR:H	1.84	0.42
1:A:720:GLU:HA	1:A:723:TYR:HB3	2.02	0.42
1:A:993:VAL:HG12	1:A:994:THR:N	2.35	0.42
1:C:1127:VAL:CG1	1:C:1128:LYS:N	2.82	0.42
2:D:727:TYR:N	2:D:728:PRO:CD	2.82	0.42
1:E:15:ASP:HA	1:E:16:ARG:HA	1.77	0.42
1:E:427:ILE:CG2	1:E:428:GLU:N	2.82	0.42
1:E:738:TYR:C	1:E:740:ILE:N	2.72	0.42
2:F:242:LEU:CD1	2:F:638:TRP:CG	3.02	0.42
2:F:276:ASN:O	2:F:277:ASN:HB3	2.20	0.42
1:A:1190:MET:HE1	1:A:1199:MET:HB3	2.02	0.42
1:A:617:GLN:N	1:A:617:GLN:OE1	2.47	0.42
1:A:932:ASN:HA	1:A:956:HIS:CE1	2.55	0.42
2:B:1097:ARG:NE	2:B:1142:TRP:CE3	2.87	0.42
2:B:629:ILE:O	2:B:630:TYR:C	2.58	0.42
1:C:926:TYR:HD1	1:C:1247:HIS:O	2.03	0.42
2:D:586:LYS:O	2:D:641:TYR:CZ	2.73	0.42
2:D:923:ILE:O	2:D:925:ASN:N	2.39	0.42
1:E:170:ASN:HD21	2:B:377:ASN:ND2	2.18	0.42
1:E:250:GLU:O	1:E:254:THR:N	2.44	0.42
1:E:730:GLU:O	1:E:732:ASN:N	2.52	0.42
2:F:945:PHE:HA	2:F:949:ILE:O	2.20	0.42
1:A:305:GLU:HA	1:A:305:GLU:OE1	2.20	0.42
1:A:436:PHE:CD1	1:A:437:VAL:N	2.86	0.42
2:B:13:VAL:HG13	2:B:19:ALA:HA	2.01	0.42
2:B:755:ILE:HG22	2:B:760:LYS:HG3	2.01	0.42
2:B:905:VAL:HA	2:B:918:ILE:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1232:HIS:CB	1:C:1236:ASN:HD21	2.32	0.42
1:C:617:GLN:OE1	1:C:617:GLN:N	2.48	0.42
1:C:452:LYS:CB	1:C:651:LYS:HE2	2.50	0.42
1:C:660:LYS:CG	1:C:661:ASN:N	2.82	0.42
1:C:262:ILE:CD1	1:C:690:MET:HB3	2.50	0.42
1:C:981:ASN:HB3	1:C:1117:LEU:HB3	2.02	0.42
2:D:153:TYR:HB2	2:D:165:MET:O	2.19	0.42
2:D:922:ASN:C	2:D:923:ILE:HG13	2.40	0.42
1:E:15:ASP:HA	1:E:136:PHE:HZ	1.85	0.42
2:F:238:ILE:O	2:F:239:ASP:C	2.57	0.42
2:F:738:ILE:O	2:F:739:LYS:C	2.58	0.42
1:A:1111:ILE:HG23	1:A:1111:ILE:O	2.20	0.42
1:A:1153:VAL:HG23	1:A:1159:LEU:CD2	2.50	0.42
1:A:220:GLY:HA2	1:A:225:LYS:HE3	2.01	0.42
1:A:903:ASN:OD1	1:A:903:ASN:C	2.59	0.42
2:B:108:PHE:CG	2:B:109:PRO:HD2	2.55	0.42
2:B:1093:THR:HG23	2:B:1095:ASN:N	2.35	0.42
2:B:276:ASN:O	2:B:277:ASN:HB3	2.20	0.42
2:B:945:PHE:CD1	2:B:950:LEU:HA	2.55	0.42
1:C:38:ASN:HB3	1:C:147:ASN:HB2	2.02	0.42
1:C:395:ILE:HG13	1:C:396:ILE:HG23	2.02	0.42
1:C:838:SER:O	1:C:842:LYS:HB3	2.20	0.42
2:D:1149:HIS:CE1	2:D:1150:ASP:CB	3.02	0.42
2:D:554:ILE:HG21	2:D:556:TRP:CZ2	2.54	0.42
1:E:196:ASP:OD2	1:E:196:ASP:N	2.53	0.42
1:E:398:PRO:C	1:E:399:ILE:HG13	2.40	0.42
2:F:266:LYS:HA	2:F:291:PHE:CE1	2.55	0.42
2:F:515:LYS:HB3	2:F:516:PRO:HD2	2.01	0.42
2:F:709:ASN:O	2:F:713:PHE:HD2	2.02	0.42
2:F:922:ASN:C	2:F:923:ILE:HG13	2.39	0.42
1:A:427:ILE:CD1	1:A:521:PHE:CD1	3.03	0.42
1:A:522:TYR:CZ	1:A:611:ASN:HB2	2.53	0.42
2:B:1093:THR:OG1	2:B:1094:THR:N	2.52	0.42
2:B:552:LYS:C	2:B:713:PHE:CE1	2.93	0.42
2:B:734:MET:HA	2:B:737:CYS:SG	2.60	0.42
2:B:990:ASN:HB3	2:B:993:GLU:OE2	2.19	0.42
1:C:1103:ASP:OD1	1:C:1103:ASP:N	2.36	0.42
1:C:993:VAL:HG12	1:C:994:THR:N	2.35	0.42
2:D:1122:LEU:HD21	2:D:1158:TRP:CE2	2.55	0.42
2:D:27:ASP:OD1	2:D:27:ASP:N	2.52	0.42
2:D:308:LYS:HA	2:D:789:TYR:CE2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:81:ALA:O	2:D:84:LYS:N	2.52	0.42
1:E:39:ILE:HG12	1:E:148:VAL:HB	2.02	0.42
1:E:908:TYR:HB3	1:E:1025:VAL:CG2	2.49	0.42
1:E:4:ILE:HD11	1:E:95:ASN:HB2	2.02	0.42
2:F:629:ILE:O	2:F:630:TYR:C	2.58	0.42
1:E:1227:THR:HG22	2:F:806:TYR:CD2	2.54	0.42
2:B:917:ASN:C	2:B:918:ILE:HG13	2.40	0.41
2:B:973:ASP:O	2:B:975:ASN:N	2.50	0.41
1:C:427:ILE:CD1	1:C:521:PHE:CD1	3.02	0.41
2:D:856:ASN:O	2:D:857:ASP:C	2.58	0.41
1:E:636:PHE:HD2	1:E:696:GLN:OE1	2.03	0.41
1:E:943:MET:CE	1:E:947:ASN:HB3	2.50	0.41
2:F:1003:ASN:CG	2:F:1003:ASN:O	2.58	0.41
2:F:1122:LEU:HD21	2:F:1158:TRP:CE2	2.54	0.41
2:F:71:THR:OG1	2:F:74:GLU:HG2	2.20	0.41
2:F:855:THR:HG22	2:F:967:ILE:HG12	2.02	0.41
2:F:855:THR:HA	2:F:966:ASP:O	2.19	0.41
2:B:1122:LEU:HD21	2:B:1158:TRP:NE1	2.35	0.41
2:B:453:ILE:CG1	2:B:454:THR:H	2.32	0.41
2:B:530:ILE:O	2:B:531:PHE:C	2.59	0.41
2:B:71:THR:OG1	2:B:74:GLU:HG2	2.19	0.41
2:B:917:ASN:O	2:B:918:ILE:HG13	2.20	0.41
1:C:192:PHE:CE1	1:C:204:GLN:HB3	2.55	0.41
1:C:468:LEU:HD12	1:C:471:VAL:HG22	2.02	0.41
1:C:522:TYR:CZ	1:C:611:ASN:HB2	2.54	0.41
2:D:1097:ARG:NE	2:D:1142:TRP:CE3	2.89	0.41
2:D:622:ASN:O	2:D:625:TYR:N	2.53	0.41
2:D:828:TYR:HB2	2:D:829:PRO:HD2	2.02	0.41
2:D:89:ILE:O	2:D:95:GLY:HA3	2.21	0.41
1:E:216:HIS:CE1	1:E:250:GLU:HG3	2.54	0.41
1:E:720:GLU:HA	1:E:723:TYR:HB3	2.02	0.41
2:F:321:ALA:HB1	2:F:388:ASP:HB3	2.02	0.41
2:F:580:ILE:H	2:F:580:ILE:HG13	1.66	0.41
1:A:1143:ARG:HB2	1:A:1146:ASP:OD1	2.20	0.41
1:A:22:LYS:HG3	1:A:23:PRO:HD2	2.01	0.41
1:A:987:ILE:C	1:A:989:LYS:N	2.73	0.41
2:B:1007:ILE:HG12	2:B:1072:GLN:C	2.41	0.41
2:B:245:THR:HB	2:B:631:TYR:CE1	2.55	0.41
1:C:1232:HIS:HB3	1:C:1236:ASN:HD21	1.85	0.41
1:C:912:TYR:CD1	1:C:912:TYR:N	2.87	0.41
2:D:185:PRO:O	2:D:186:ALA:C	2.57	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:308:LYS:HA	2:D:789:TYR:CD2	2.56	0.41
2:D:799:SER:HB2	2:D:800:PRO:HD2	2.02	0.41
1:E:1010:ASN:HB3	2:F:780:GLN:CG	2.50	0.41
1:E:436:PHE:CD1	1:E:437:VAL:N	2.85	0.41
1:E:778:LYS:HA	1:E:782:LEU:HD12	2.02	0.41
2:F:502:ASN:O	2:F:505:MET:N	2.54	0.41
2:F:730:PHE:O	2:F:734:MET:HG2	2.20	0.41
2:F:308:LYS:HA	2:F:789:TYR:CE2	2.55	0.41
1:A:1000:LEU:N	1:A:1000:LEU:HD12	2.36	0.41
1:A:38:ASN:HB3	1:A:147:ASN:HB2	2.03	0.41
1:A:584:THR:HG22	1:A:750:LYS:HD2	2.02	0.41
1:A:789:VAL:HG12	1:A:793:LEU:HD12	2.03	0.41
1:A:838:SER:O	1:A:842:LYS:HB3	2.21	0.41
1:A:852:VAL:HG11	1:A:906:ILE:HG23	2.03	0.41
2:B:526:TRP:O	2:B:529:ALA:HB3	2.20	0.41
2:B:540:GLU:HB3	2:B:555:PRO:CD	2.50	0.41
2:B:554:ILE:HG21	2:B:556:TRP:CZ2	2.54	0.41
2:B:860:GLU:O	2:B:861:ASN:HB2	2.20	0.41
2:B:885:LEU:HG	2:B:886:ILE:CD1	2.22	0.41
1:C:249:ILE:HG23	1:C:263:ILE:CD1	2.51	0.41
1:C:903:ASN:OD1	1:C:903:ASN:C	2.59	0.41
2:D:254:TYR:O	2:D:258:THR:CG2	2.69	0.41
2:D:289:GLN:NE2	2:D:292:LYS:HE3	2.36	0.41
2:D:46:TYR:HB3	2:D:142:GLY:HA2	2.02	0.41
2:D:645:TYR:OH	2:D:721:VAL:HG21	2.21	0.41
2:D:71:THR:OG1	2:D:74:GLU:HG2	2.19	0.41
1:E:1188:VAL:HG22	1:E:1201:PHE:CE1	2.55	0.41
1:E:614:ASN:CB	1:E:617:GLN:OE1	2.68	0.41
2:F:1069:GLN:O	2:F:1070:TYR:CD2	2.74	0.41
2:F:269:TYR:CZ	2:F:288:GLU:HB2	2.55	0.41
2:F:35:VAL:O	2:F:36:ALA:HB2	2.19	0.41
2:F:423:ILE:HG23	2:F:426:ILE:HB	2.02	0.41
2:F:46:TYR:HB3	2:F:142:GLY:HA2	2.03	0.41
2:F:860:GLU:O	2:F:861:ASN:HB2	2.21	0.41
1:A:1001:GLY:HA2	1:A:1018:LEU:HD21	2.02	0.41
1:A:297:ASN:N	1:A:297:ASN:OD1	2.49	0.41
2:B:594:ILE:CG2	2:B:595:LYS:N	2.83	0.41
2:B:709:ASN:O	2:B:712:LYS:N	2.53	0.41
2:B:730:PHE:CE2	2:B:734:MET:HG3	2.55	0.41
1:C:274:ASN:HA	1:C:277:ASN:ND2	2.36	0.41
1:C:614:ASN:HB2	1:C:617:GLN:HE22	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:730:GLU:O	1:C:732:ASN:N	2.53	0.41
2:D:423:ILE:HG23	2:D:426:ILE:HB	2.01	0.41
2:D:654:LYS:HA	2:D:657:LEU:HD12	2.02	0.41
1:C:835:ILE:HG23	2:D:949:ILE:HA	2.03	0.41
1:E:1127:VAL:CG1	1:E:1128:LYS:N	2.84	0.41
1:E:395:ILE:HG13	1:E:396:ILE:HG23	2.03	0.41
1:E:456:ASP:OD1	1:E:456:ASP:N	2.52	0.41
1:E:932:ASN:HA	1:E:956:HIS:CE1	2.56	0.41
2:F:1098:ILE:HD12	2:F:1143:VAL:CG1	2.51	0.41
2:F:755:ILE:HG22	2:F:760:LYS:HG3	2.03	0.41
2:F:799:SER:HB2	2:F:800:PRO:HD2	2.02	0.41
2:F:88:ARG:O	2:F:91:ASN:HB2	2.20	0.41
1:A:1083:ASP:HB2	1:A:1128:LYS:HE3	2.02	0.41
1:A:1127:VAL:CG1	1:A:1128:LYS:N	2.83	0.41
1:A:863:VAL:HG12	1:A:864:ASP:N	2.36	0.41
1:A:883:THR:HG23	1:A:884:ASN:H	1.85	0.41
2:B:1140:TYR:CE2	2:B:1142:TRP:CE2	3.09	0.41
2:B:185:PRO:O	2:B:188:GLU:N	2.53	0.41
2:B:583:ILE:HD11	2:B:645:TYR:CE2	2.55	0.41
2:B:709:ASN:O	2:B:713:PHE:HD2	2.03	0.41
2:B:626:LEU:HD22	2:B:734:MET:HE3	2.01	0.41
2:B:828:TYR:HB2	2:B:829:PRO:HD2	2.02	0.41
1:C:603:VAL:CG1	1:C:605:TYR:CE2	3.04	0.41
2:D:501:LEU:HD22	2:D:537:ASP:HB3	2.01	0.41
2:D:755:ILE:HG22	2:D:760:LYS:HG3	2.03	0.41
2:D:945:PHE:HA	2:D:949:ILE:O	2.20	0.41
1:E:1111:ILE:O	1:E:1111:ILE:HG23	2.20	0.41
2:F:1097:ARG:NE	2:F:1142:TRP:CE3	2.89	0.41
2:F:553:ILE:CG2	2:F:554:ILE:N	2.83	0.41
2:F:731:THR:O	2:F:735:GLU:HG3	2.21	0.41
1:A:682:TYR:CD2	1:A:825:PHE:HD1	2.38	0.41
2:B:11:SER:CB	2:B:12:PRO:HA	2.51	0.41
2:B:254:TYR:O	2:B:258:THR:HB	2.21	0.41
2:B:35:VAL:CG1	2:B:36:ALA:H	2.30	0.41
2:B:423:ILE:HG23	2:B:426:ILE:HB	2.02	0.41
1:C:470:GLN:HG3	2:D:1028:PHE:HE1	1.86	0.41
2:F:102:ILE:HG12	2:F:197:LEU:HD11	2.03	0.41
2:F:185:PRO:O	2:F:188:GLU:N	2.53	0.41
2:F:182:TYR:CE2	2:F:351:THR:HG22	2.56	0.41
1:A:1127:VAL:HG13	1:A:1151:ASN:O	2.21	0.41
1:A:1188:VAL:HG22	1:A:1201:PHE:CE1	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:15:ASP:HA	1:A:16:ARG:HA	1.75	0.41
1:A:143:ILE:CD1	1:A:491:THR:HG23	2.50	0.41
2:B:381:MET:HE3	2:B:471:GLN:HB3	2.03	0.41
2:B:681:SER:HB3	2:B:684:ASN:HD22	1.85	0.41
1:C:1083:ASP:HB2	1:C:1128:LYS:HE3	2.03	0.41
1:C:436:PHE:CD1	1:C:437:VAL:N	2.83	0.41
2:D:480:ILE:HG21	2:D:497:VAL:HG23	2.02	0.41
2:D:583:ILE:HD11	2:D:645:TYR:CE2	2.55	0.41
1:E:416:VAL:HG13	1:E:420:GLY:CA	2.51	0.41
1:E:903:ASN:C	1:E:903:ASN:OD1	2.59	0.41
2:F:13:VAL:HG13	2:F:19:ALA:HA	2.03	0.41
1:A:989:LYS:HE2	1:A:1075:PHE:CE2	2.55	0.41
1:A:962:THR:HA	1:A:972:LYS:HG2	2.03	0.41
2:B:789:TYR:CE2	2:B:793:LEU:CD1	3.03	0.41
1:C:116:ASN:N	1:C:116:ASN:OD1	2.54	0.41
1:C:468:LEU:O	1:C:469:ASP:C	2.59	0.41
1:C:610:LEU:O	1:C:611:ASN:C	2.58	0.41
1:C:627:LEU:O	1:E:419:LYS:CG	2.69	0.41
1:C:641:LEU:HD12	1:E:614:ASN:ND2	2.35	0.41
2:D:207:ASP:OD1	2:D:207:ASP:N	2.52	0.41
2:D:453:ILE:CG1	2:D:454:THR:H	2.33	0.41
2:D:710:ILE:HG23	2:D:714:PHE:CE2	2.56	0.41
2:D:734:MET:HA	2:D:737:CYS:SG	2.60	0.41
2:D:855:THR:HA	2:D:966:ASP:O	2.20	0.41
1:E:773:LEU:O	1:E:774:ILE:C	2.59	0.41
1:E:912:TYR:N	1:E:912:TYR:CD1	2.87	0.41
1:E:929:LYS:HA	1:E:932:ASN:HB2	2.02	0.41
2:F:27:ASP:N	2:F:27:ASP:OD1	2.54	0.41
2:F:709:ASN:O	2:F:710:ILE:C	2.60	0.41
2:F:832:ILE:HG13	2:F:832:ILE:H	1.75	0.41
1:A:1190:MET:CE	1:A:1199:MET:HB3	2.51	0.41
1:A:1137:THR:OG1	2:B:1109:ILE:HG21	2.21	0.41
2:B:1147:LEU:HD12	2:B:1147:LEU:N	2.36	0.41
2:B:197:LEU:HD12	2:B:197:LEU:N	2.36	0.41
2:B:491:SER:O	2:B:495:SER:N	2.54	0.41
1:C:331:LEU:HB2	1:C:332:TYR:CD2	2.55	0.41
1:C:468:LEU:C	1:C:468:LEU:HD12	2.41	0.41
1:C:645:ILE:HD12	1:C:785:TYR:HB2	2.03	0.41
1:C:769:TYR:O	1:C:772:LYS:HB2	2.21	0.41
1:C:74:LEU:N	1:C:79:GLU:OE1	2.49	0.41
2:D:1008:ARG:HD2	2:D:1012:GLU:HB3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:108:PHE:CG	2:D:109:PRO:HD2	2.55	0.41
2:D:242:LEU:CD1	2:D:638:TRP:CG	3.04	0.41
2:D:105:ALA:HA	2:D:290:LYS:CD	2.50	0.41
2:D:709:ASN:O	2:D:713:PHE:HD2	2.03	0.41
1:E:989:LYS:CG	1:E:1076:TRP:HA	2.50	0.41
1:E:192:PHE:CE1	1:E:204:GLN:HB3	2.56	0.41
1:E:220:GLY:HA2	1:E:225:LYS:HE3	2.03	0.41
1:E:382:VAL:HG11	1:E:868:TYR:CE1	2.56	0.41
1:E:468:LEU:O	1:E:469:ASP:C	2.60	0.41
2:F:106:ILE:N	2:F:290:LYS:HD3	2.36	0.41
2:F:146:ILE:HD13	2:F:330:TYR:CE2	2.56	0.41
2:F:35:VAL:CG1	2:F:36:ALA:H	2.31	0.41
2:F:552:LYS:C	2:F:713:PHE:HE1	2.24	0.41
1:A:1067:PRO:O	1:A:1068:ASN:O	2.38	0.41
1:A:1143:ARG:O	1:A:1144:LYS:C	2.59	0.41
1:A:778:LYS:HA	1:A:782:LEU:HD12	2.02	0.41
2:B:1098:ILE:HD12	2:B:1143:VAL:CG1	2.50	0.41
2:B:269:TYR:HE2	2:B:288:GLU:CG	2.34	0.41
2:B:502:ASN:O	2:B:505:MET:N	2.54	0.41
2:B:855:THR:HA	2:B:966:ASP:O	2.21	0.41
1:C:297:ASN:N	1:C:297:ASN:OD1	2.49	0.41
1:C:625:LEU:O	1:C:626:GLU:C	2.59	0.41
2:D:1069:GLN:O	2:D:1070:TYR:CD2	2.74	0.41
2:D:276:ASN:O	2:D:277:ASN:HB3	2.21	0.41
2:D:400:ASN:OD1	2:D:400:ASN:N	2.54	0.41
1:E:160:THR:HA	1:E:185:THR:O	2.21	0.41
1:E:452:LYS:CB	1:E:651:LYS:HE2	2.50	0.41
2:F:285:LEU:O	2:F:288:GLU:N	2.54	0.41
1:A:989:LYS:CG	1:A:1076:TRP:HA	2.50	0.40
1:A:196:ASP:N	1:A:196:ASP:OD2	2.54	0.40
1:A:4:ILE:HD11	1:A:95:ASN:HB2	2.02	0.40
2:B:554:ILE:CG2	2:B:556:TRP:NE1	2.84	0.40
1:C:225:LYS:HA	1:C:228:THR:OG1	2.21	0.40
2:D:108:PHE:HB3	2:D:162:MET:CG	2.47	0.40
1:E:898:VAL:O	1:E:1030:LEU:HA	2.22	0.40
1:E:20:TYR:HA	1:E:30:TYR:O	2.21	0.40
1:E:388:ASN:HB3	1:E:391:LEU:HB3	2.01	0.40
2:F:108:PHE:CG	2:F:109:PRO:HD2	2.56	0.40
2:F:254:TYR:O	2:F:258:THR:HB	2.21	0.40
2:F:428:LYS:C	2:F:430:PRO:CD	2.89	0.40
2:B:429:ILE:N	2:B:430:PRO:HD3	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:470:LEU:HD11	2:B:654:LYS:HB3	2.04	0.40
1:C:614:ASN:CB	1:C:617:GLN:OE1	2.68	0.40
1:C:833:ASP:HB3	1:C:835:ILE:HD12	2.03	0.40
2:D:497:VAL:HG12	2:D:498:TYR:N	2.35	0.40
2:F:583:ILE:HD11	2:F:645:TYR:CE2	2.56	0.40
2:F:880:THR:HB	2:F:901:ASN:HA	2.03	0.40
2:F:854:PHE:HE2	2:F:970:LEU:HB2	1.87	0.40
2:F:990:ASN:HB3	2:F:993:GLU:OE2	2.20	0.40
1:A:1213:GLY:HA3	1:A:1225:TYR:CE2	2.57	0.40
1:A:926:TYR:HD1	1:A:1247:HIS:O	2.04	0.40
1:A:625:LEU:O	1:A:626:GLU:C	2.60	0.40
1:A:632:ILE:HG23	1:A:633:LEU:HG	2.02	0.40
2:B:107:PRO:HG2	2:B:118:ARG:CB	2.50	0.40
2:B:553:ILE:CG2	2:B:554:ILE:N	2.83	0.40
1:C:897:GLU:HG2	1:C:1032:LYS:HD3	2.04	0.40
1:C:305:GLU:HA	1:C:305:GLU:OE1	2.20	0.40
1:C:39:ILE:HG12	1:C:148:VAL:HB	2.04	0.40
1:C:903:ASN:OD1	1:C:904:ASP:N	2.54	0.40
2:D:197:LEU:HD12	2:D:197:LEU:N	2.36	0.40
2:D:709:ASN:O	2:D:710:ILE:C	2.60	0.40
1:E:1125:ILE:HD12	1:E:1125:ILE:HA	1.93	0.40
2:F:205:PRO:CD	2:F:230:ILE:HD11	2.52	0.40
2:F:246:ASN:HA	2:F:247:PRO:HA	1.84	0.40
2:F:254:TYR:O	2:F:258:THR:CG2	2.69	0.40
2:F:298:ILE:HA	2:F:301:LEU:CD1	2.52	0.40
2:F:541:THR:O	2:F:542:GLN:HB3	2.21	0.40
2:F:469:TYR:CE1	2:F:562:ASN:HB2	2.55	0.40
1:A:1084:LYS:HB3	1:A:1086:TYR:CE2	2.57	0.40
1:A:467:ASP:OD1	1:A:467:ASP:C	2.58	0.40
1:A:614:ASN:HB2	1:A:617:GLN:HE22	1.86	0.40
1:A:833:ASP:HB3	1:A:835:ILE:HD12	2.03	0.40
2:B:589:ILE:HG13	2:B:641:TYR:OH	2.22	0.40
2:B:646:PHE:O	2:B:647:ASP:C	2.59	0.40
1:C:937:TYR:CE1	1:C:954:LEU:HB2	2.57	0.40
2:D:1106:ASN:O	2:D:1107:ALA:C	2.59	0.40
2:D:646:PHE:O	2:D:647:ASP:C	2.60	0.40
1:C:824:PRO:HB2	2:D:952:ALA:HB2	2.03	0.40
1:E:225:LYS:HA	1:E:228:THR:OG1	2.22	0.40
1:E:216:HIS:CE1	1:E:254:THR:HG1	2.39	0.40
1:E:305:GLU:HA	1:E:305:GLU:OE1	2.21	0.40
1:E:789:VAL:HG12	1:E:793:LEU:HD12	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:920:TRP:O	1:E:1044:ILE:HA	2.21	0.40
2:F:828:TYR:HB2	2:F:829:PRO:HD2	2.04	0.40
2:F:99:LEU:C	2:F:101:LEU:N	2.75	0.40
1:A:39:ILE:HG12	1:A:148:VAL:HB	2.04	0.40
2:B:373:ILE:HG22	2:B:379:VAL:HG22	2.04	0.40
2:B:403:ILE:HA	2:B:404:PRO:HD3	1.95	0.40
2:B:654:LYS:HA	2:B:657:LEU:HD12	2.02	0.40
1:C:1163:TYR:CZ	1:C:1176:LYS:HB2	2.56	0.40
1:C:22:LYS:HG3	1:C:23:PRO:HD2	2.02	0.40
1:C:249:ILE:O	1:C:250:GLU:C	2.57	0.40
1:C:873:ASN:N	1:C:899:ASN:O	2.41	0.40
2:D:13:VAL:CG1	2:D:14:ASP:N	2.84	0.40
2:D:271:ILE:CG2	2:D:272:LYS:N	2.84	0.40
2:D:540:GLU:HB3	2:D:555:PRO:CD	2.52	0.40
2:D:589:ILE:HG13	2:D:641:TYR:OH	2.21	0.40
2:D:245:THR:HB	2:D:631:TYR:CE1	2.56	0.40
1:E:1000:LEU:N	1:E:1000:LEU:HD12	2.36	0.40
1:E:169:ASN:OD1	2:B:461:THR:HA	2.20	0.40
1:E:427:ILE:HD12	1:E:521:PHE:CD1	2.56	0.40
1:E:610:LEU:O	1:E:611:ASN:C	2.60	0.40
1:E:975:PHE:CE2	1:E:977:TYR:HB3	2.57	0.40
2:F:153:TYR:HB2	2:F:165:MET:O	2.21	0.40
2:F:579:PRO:C	2:F:581:SER:N	2.74	0.40
2:F:92:ASN:O	2:F:95:GLY:N	2.55	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:280:ARG:NH2	1:C:420:GLY:O[3_564]	2.16	0.04

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

The Analysed column shows the number of residues for which the backbone conformation was

analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1225/1252 (98%)	999 (82%)	159 (13%)	67 (6%)	2	11
1	C	1225/1252 (98%)	995 (81%)	166 (14%)	64 (5%)	2	12
1	E	1225/1252 (98%)	997 (81%)	162 (13%)	66 (5%)	2	12
2	B	1084/1163 (93%)	832 (77%)	183 (17%)	69 (6%)	1	8
2	D	1084/1163 (93%)	835 (77%)	179 (16%)	70 (6%)	1	8
2	F	1084/1163 (93%)	838 (77%)	177 (16%)	69 (6%)	1	8
All	All	6927/7245 (96%)	5496 (79%)	1026 (15%)	405 (6%)	2	10

All (405) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	119	THR
1	A	199	ILE
1	A	291	VAL
1	A	419	LYS
1	A	449	ASN
1	A	469	ASP
1	A	483	LEU
1	A	485	ASP
1	A	490	LEU
1	A	499	PRO
1	A	738	TYR
1	A	740	ILE
1	A	743	ILE
1	A	928	ASN
1	A	978	GLY
1	A	979	ASN
1	A	1068	ASN
1	A	1074	ASP
1	A	1103	ASP
1	A	1104	SER
1	A	1109	ASN
1	A	1156	LYS
1	C	119	THR
1	C	199	ILE
1	C	291	VAL
1	C	419	LYS
1	C	449	ASN
1	C	469	ASP

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Mol	Chain	Res	Type
1	C	483	LEU
1	C	485	ASP
1	C	490	LEU
1	C	499	PRO
1	C	738	TYR
1	C	740	ILE
1	C	743	ILE
1	C	928	ASN
1	C	978	GLY
1	C	979	ASN
1	C	1068	ASN
1	C	1074	ASP
1	C	1103	ASP
1	C	1104	SER
1	C	1109	ASN
1	C	1156	LYS
1	E	119	THR
1	E	199	ILE
1	E	291	VAL
1	E	419	LYS
1	E	449	ASN
1	E	469	ASP
1	E	483	LEU
1	E	485	ASP
1	E	490	LEU
1	E	499	PRO
1	E	738	TYR
1	E	740	ILE
1	E	743	ILE
1	E	928	ASN
1	E	978	GLY
1	E	979	ASN
1	E	1068	ASN
1	E	1074	ASP
1	E	1103	ASP
1	E	1104	SER
1	E	1109	ASN
1	E	1156	LYS
2	B	9	ILE
2	B	10	ASP
2	B	36	ALA
2	B	37	PRO

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Mol	Chain	Res	Type
2	B	155	LYS
2	B	252	ASP
2	B	253	LYS
2	B	273	ILE
2	B	277	ASN
2	B	279	ILE
2	B	285	LEU
2	B	416	SER
2	B	439	PRO
2	B	480	ILE
2	B	604	LEU
2	B	709	ASN
2	B	848	ALA
2	B	856	ASN
2	B	861	ASN
2	B	914	ASN
2	B	991	SER
2	B	1057	LEU
2	B	1102	ASP
2	B	1107	ALA
2	B	1128	ASN
2	D	9	ILE
2	D	10	ASP
2	D	36	ALA
2	D	37	PRO
2	D	155	LYS
2	D	252	ASP
2	D	253	LYS
2	D	273	ILE
2	D	277	ASN
2	D	279	ILE
2	D	285	LEU
2	D	416	SER
2	D	439	PRO
2	D	480	ILE
2	D	604	LEU
2	D	709	ASN
2	D	848	ALA
2	D	856	ASN
2	D	861	ASN
2	D	914	ASN
2	D	991	SER

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Mol	Chain	Res	Type
2	D	1057	LEU
2	D	1102	ASP
2	D	1128	ASN
2	F	9	ILE
2	F	10	ASP
2	F	36	ALA
2	F	37	PRO
2	F	155	LYS
2	F	252	ASP
2	F	253	LYS
2	F	273	ILE
2	F	277	ASN
2	F	279	ILE
2	F	285	LEU
2	F	416	SER
2	F	439	PRO
2	F	480	ILE
2	F	604	LEU
2	F	709	ASN
2	F	848	ALA
2	F	856	ASN
2	F	861	ASN
2	F	914	ASN
2	F	991	SER
2	F	1057	LEU
2	F	1102	ASP
2	F	1107	ALA
2	F	1128	ASN
1	A	362	ASN
1	A	417	SER
1	A	420	GLY
1	A	444	ASN
1	A	530	GLU
1	A	569	ALA
1	A	611	ASN
1	A	728	LEU
1	A	731	LYS
1	A	739	ASP
1	A	742	GLN
1	A	819	LEU
1	A	835	ILE
1	A	1116	LEU

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Mol	Chain	Res	Type
1	A	1230	ARG
1	C	362	ASN
1	C	417	SER
1	C	420	GLY
1	C	444	ASN
1	C	530	GLU
1	C	569	ALA
1	C	611	ASN
1	C	728	LEU
1	C	731	LYS
1	C	739	ASP
1	C	742	GLN
1	C	819	LEU
1	C	835	ILE
1	C	1027	ASP
1	C	1116	LEU
1	C	1230	ARG
1	E	362	ASN
1	E	417	SER
1	E	420	GLY
1	E	444	ASN
1	E	530	GLU
1	E	569	ALA
1	E	611	ASN
1	E	728	LEU
1	E	731	LYS
1	E	739	ASP
1	E	742	GLN
1	E	819	LEU
1	E	835	ILE
1	E	1116	LEU
1	E	1230	ARG
2	B	15	ASN
2	B	81	ALA
2	B	114	THR
2	B	419	ASP
2	B	501	LEU
2	B	540	GLU
2	B	676	GLU
2	B	710	ILE
2	B	811	GLN
2	B	822	LYS

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Mol	Chain	Res	Type
2	B	947	ASP
2	B	1012	GLU
2	B	1014	ILE
2	D	15	ASN
2	D	81	ALA
2	D	114	THR
2	D	419	ASP
2	D	501	LEU
2	D	540	GLU
2	D	676	GLU
2	D	710	ILE
2	D	811	GLN
2	D	822	LYS
2	D	947	ASP
2	D	1012	GLU
2	D	1014	ILE
2	D	1107	ALA
2	F	15	ASN
2	F	81	ALA
2	F	114	THR
2	F	419	ASP
2	F	501	LEU
2	F	540	GLU
2	F	676	GLU
2	F	710	ILE
2	F	811	GLN
2	F	822	LYS
2	F	947	ASP
2	F	1012	GLU
2	F	1014	ILE
1	A	138	ASN
1	A	293	ASN
1	A	398	PRO
1	A	451	PRO
1	A	507	SER
1	A	583	PHE
1	A	648	PHE
1	A	666	ALA
1	A	1027	ASP
1	C	138	ASN
1	C	293	ASN
1	C	398	PRO

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Mol	Chain	Res	Type
1	C	451	PRO
1	C	507	SER
1	C	583	PHE
1	C	648	PHE
1	C	666	ALA
1	E	138	ASN
1	E	293	ASN
1	E	398	PRO
1	E	451	PRO
1	E	507	SER
1	E	583	PHE
1	E	648	PHE
1	E	666	ALA
1	E	1027	ASP
1	E	1083	ASP
2	B	16	LYS
2	B	113	ASN
2	B	153	TYR
2	B	154	LYS
2	B	276	ASN
2	B	542	GLN
2	B	857	ASP
2	B	922	ASN
2	B	924	SER
2	B	972	SER
2	B	1018	ASN
2	D	16	LYS
2	D	113	ASN
2	D	153	TYR
2	D	154	LYS
2	D	276	ASN
2	D	296	LYS
2	D	417	TYR
2	D	542	GLN
2	D	922	ASN
2	D	924	SER
2	D	972	SER
2	D	1018	ASN
2	F	16	LYS
2	F	113	ASN
2	F	154	LYS
2	F	276	ASN

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Mol	Chain	Res	Type
2	F	417	TYR
2	F	922	ASN
2	F	924	SER
2	F	972	SER
2	F	1018	ASN
1	A	454	ILE
1	A	488	LEU
1	A	498	ILE
1	A	913	LYS
1	A	915	PHE
1	A	927	ASP
1	A	1083	ASP
1	A	1117	LEU
1	C	454	ILE
1	C	488	LEU
1	C	498	ILE
1	C	913	LYS
1	C	927	ASP
1	C	1083	ASP
1	C	1117	LEU
1	E	468	LEU
1	E	498	ILE
1	E	913	LYS
1	E	927	ASP
1	E	988	ASN
2	B	66	SER
2	B	296	LYS
2	B	417	TYR
2	B	442	LYS
2	B	680	ILE
2	B	1093	THR
2	B	1140	TYR
2	B	1147	LEU
2	D	275	ASN
2	D	295	VAL
2	D	442	LYS
2	D	680	ILE
2	D	857	ASP
2	D	878	GLN
2	D	1093	THR
2	D	1140	TYR
2	D	1147	LEU

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Mol	Chain	Res	Type
2	F	153	TYR
2	F	275	ASN
2	F	295	VAL
2	F	296	LYS
2	F	442	LYS
2	F	542	GLN
2	F	857	ASP
2	F	1140	TYR
2	F	1147	LEU
1	A	146	PRO
1	A	292	SER
1	A	400	THR
1	A	468	LEU
1	A	791	THR
1	A	910	ASN
1	A	988	ASN
1	A	1139	ASP
1	C	50	THR
1	C	146	PRO
1	C	292	SER
1	C	468	LEU
1	C	791	THR
1	C	915	PHE
1	C	988	ASN
1	C	1094	PRO
1	E	146	PRO
1	E	292	SER
1	E	400	THR
1	E	454	ILE
1	E	488	LEU
1	E	791	THR
1	E	910	ASN
1	E	915	PHE
1	E	1094	PRO
1	E	1117	LEU
2	B	275	ASN
2	B	295	VAL
2	B	433	ASN
2	B	478	ASN
2	B	878	GLN
2	D	14	ASP
2	D	66	SER

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Mol	Chain	Res	Type
2	D	328	LYS
2	D	433	ASN
2	D	478	ASN
2	F	66	SER
2	F	433	ASN
2	F	478	ASN
2	F	680	ILE
2	F	878	GLN
2	F	1093	THR
1	A	1094	PRO
1	E	50	THR
2	B	14	ASP
2	B	328	LYS
2	B	429	ILE
2	B	1101	VAL
2	D	186	ALA
2	D	429	ILE
2	D	1101	VAL
2	F	14	ASP
2	F	328	LYS
2	F	1101	VAL
1	C	604	PRO
2	B	251	ILE
2	D	142	GLY
2	D	251	ILE
2	F	142	GLY
2	F	251	ILE
2	F	429	ILE
1	A	604	PRO
1	C	239	PRO
2	B	93	VAL
2	B	142	GLY
2	D	93	VAL
2	F	93	VAL
1	A	154	GLU
1	A	803	ILE
1	C	803	ILE
1	E	604	PRO
1	A	239	PRO
1	E	803	ILE
1	E	154	GLU

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 X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1125/1155 (97%)	1013 (90%)	112 (10%)	9	30
1	C	1125/1155 (97%)	1011 (90%)	114 (10%)	9	30
1	E	1125/1155 (97%)	1014 (90%)	111 (10%)	9	31
2	B	990/1103 (90%)	915 (92%)	75 (8%)	15	46
2	D	990/1103 (90%)	915 (92%)	75 (8%)	15	46
2	F	990/1103 (90%)	914 (92%)	76 (8%)	15	45
All	All	6345/6774 (94%)	5782 (91%)	563 (9%)	11	37

All (563) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	16	ARG
1	A	17	THR
1	A	19	LEU
1	A	50	THR
1	A	53	GLN
1	A	65	ASP
1	A	93	ARG
1	A	108	SER
1	A	121	ASP
1	A	122	ASN
1	A	136	PHE
1	A	144	LEU
1	A	180	SER
1	A	191	SER
1	A	194	PHE
1	A	196	ASP
1	A	197	ASN
1	A	201	GLU
1	A	221	LEU
1	A	230	THR
1	A	258	ASN
1	A	270	ASP

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Mol	Chain	Res	Type
1	A	273	THR
1	A	278	ASP
1	A	281	LYS
1	A	290	GLN
1	A	301	ASP
1	A	305	GLU
1	A	326	ASP
1	A	336	GLU
1	A	348	ARG
1	A	354	GLN
1	A	402	ARG
1	A	421	ILE
1	A	428	GLU
1	A	436	PHE
1	A	440	GLU
1	A	441	ASN
1	A	443	TYR
1	A	447	ASN
1	A	455	ASP
1	A	456	ASP
1	A	464	TYR
1	A	465	GLU
1	A	468	LEU
1	A	475	PHE
1	A	486	GLU
1	A	487	LYS
1	A	491	THR
1	A	506	THR
1	A	515	ASN
1	A	532	GLU
1	A	554	PHE
1	A	591	SER
1	A	598	ASP
1	A	608	LEU
1	A	625	LEU
1	A	634	LEU
1	A	658	ASP
1	A	674	ARG
1	A	690	MET
1	A	696	GLN
1	A	703	GLN
1	A	705	TYR

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Mol	Chain	Res	Type
1	A	716	LYS
1	A	725	SER
1	A	733	GLU
1	A	734	LEU
1	A	735	THR
1	A	738	TYR
1	A	755	MET
1	A	781	LYS
1	A	795	ASN
1	A	821	ASN
1	A	838	SER
1	A	839	TYR
1	A	842	LYS
1	A	869	ASP
1	A	886	ASN
1	A	893	ASP
1	A	897	GLU
1	A	903	ASN
1	A	904	ASP
1	A	905	TYR
1	A	907	ILE
1	A	918	SER
1	A	930	ILE
1	A	938	THR
1	A	1002	ASP
1	A	1016	SER
1	A	1020	LEU
1	A	1027	ASP
1	A	1037	SER
1	A	1040	ARG
1	A	1045	ARG
1	A	1052	LYS
1	A	1053	GLU
1	A	1083	ASP
1	A	1088	LEU
1	A	1099	ASP
1	A	1103	ASP
1	A	1104	SER
1	A	1105	THR
1	A	1134	ASN
1	A	1143	ARG
1	A	1169	THR

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Mol	Chain	Res	Type
1	A	1170	ASN
1	A	1197	CYS
1	A	1205	ASN
1	A	1217	ASP
1	A	1230	ARG
1	A	1250	GLN
1	C	16	ARG
1	C	17	THR
1	C	19	LEU
1	C	50	THR
1	C	53	GLN
1	C	65	ASP
1	C	93	ARG
1	C	108	SER
1	C	121	ASP
1	C	122	ASN
1	C	136	PHE
1	C	144	LEU
1	C	180	SER
1	C	191	SER
1	C	194	PHE
1	C	196	ASP
1	C	197	ASN
1	C	201	GLU
1	C	221	LEU
1	C	230	THR
1	C	258	ASN
1	C	270	ASP
1	C	273	THR
1	C	278	ASP
1	C	281	LYS
1	C	290	GLN
1	C	301	ASP
1	C	305	GLU
1	C	326	ASP
1	C	336	GLU
1	C	348	ARG
1	C	354	GLN
1	C	402	ARG
1	C	421	ILE
1	C	422	ARG
1	C	428	GLU

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Mol	Chain	Res	Type
1	C	436	PHE
1	C	440	GLU
1	C	441	ASN
1	C	443	TYR
1	C	447	ASN
1	C	456	ASP
1	C	464	TYR
1	C	465	GLU
1	C	468	LEU
1	C	475	PHE
1	C	486	GLU
1	C	487	LYS
1	C	491	THR
1	C	506	THR
1	C	515	ASN
1	C	532	GLU
1	C	554	PHE
1	C	591	SER
1	C	598	ASP
1	C	608	LEU
1	C	625	LEU
1	C	634	LEU
1	C	658	ASP
1	C	690	MET
1	C	696	GLN
1	C	703	GLN
1	C	705	TYR
1	C	716	LYS
1	C	725	SER
1	C	733	GLU
1	C	734	LEU
1	C	735	THR
1	C	738	TYR
1	C	755	MET
1	C	781	LYS
1	C	795	ASN
1	C	821	ASN
1	C	831	THR
1	C	838	SER
1	C	839	TYR
1	C	842	LYS
1	C	869	ASP

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Mol	Chain	Res	Type
1	C	886	ASN
1	C	893	ASP
1	C	897	GLU
1	C	903	ASN
1	C	904	ASP
1	C	905	TYR
1	C	907	ILE
1	C	918	SER
1	C	930	ILE
1	C	938	THR
1	C	1002	ASP
1	C	1016	SER
1	C	1020	LEU
1	C	1027	ASP
1	C	1037	SER
1	C	1040	ARG
1	C	1045	ARG
1	C	1052	LYS
1	C	1053	GLU
1	C	1083	ASP
1	C	1088	LEU
1	C	1099	ASP
1	C	1103	ASP
1	C	1104	SER
1	C	1105	THR
1	C	1134	ASN
1	C	1143	ARG
1	C	1146	ASP
1	C	1169	THR
1	C	1170	ASN
1	C	1183	ARG
1	C	1197	CYS
1	C	1205	ASN
1	C	1217	ASP
1	C	1230	ARG
1	C	1250	GLN
1	E	16	ARG
1	E	17	THR
1	E	19	LEU
1	E	50	THR
1	E	53	GLN
1	E	65	ASP

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Mol	Chain	Res	Type
1	E	93	ARG
1	E	108	SER
1	E	121	ASP
1	E	122	ASN
1	E	136	PHE
1	E	144	LEU
1	E	180	SER
1	E	191	SER
1	E	194	PHE
1	E	196	ASP
1	E	197	ASN
1	E	201	GLU
1	E	221	LEU
1	E	230	THR
1	E	258	ASN
1	E	273	THR
1	E	278	ASP
1	E	281	LYS
1	E	290	GLN
1	E	305	GLU
1	E	326	ASP
1	E	336	GLU
1	E	348	ARG
1	E	354	GLN
1	E	367	SER
1	E	402	ARG
1	E	421	ILE
1	E	422	ARG
1	E	428	GLU
1	E	436	PHE
1	E	440	GLU
1	E	441	ASN
1	E	443	TYR
1	E	447	ASN
1	E	455	ASP
1	E	456	ASP
1	E	464	TYR
1	E	465	GLU
1	E	468	LEU
1	E	475	PHE
1	E	486	GLU
1	E	487	LYS

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Mol	Chain	Res	Type
1	E	491	THR
1	E	506	THR
1	E	532	GLU
1	E	554	PHE
1	E	591	SER
1	E	598	ASP
1	E	608	LEU
1	E	625	LEU
1	E	634	LEU
1	E	658	ASP
1	E	690	MET
1	E	696	GLN
1	E	703	GLN
1	E	705	TYR
1	E	716	LYS
1	E	725	SER
1	E	733	GLU
1	E	734	LEU
1	E	735	THR
1	E	738	TYR
1	E	755	MET
1	E	781	LYS
1	E	795	ASN
1	E	821	ASN
1	E	838	SER
1	E	839	TYR
1	E	842	LYS
1	E	869	ASP
1	E	886	ASN
1	E	893	ASP
1	E	897	GLU
1	E	903	ASN
1	E	904	ASP
1	E	905	TYR
1	E	907	ILE
1	E	918	SER
1	E	930	ILE
1	E	938	THR
1	E	1002	ASP
1	E	1016	SER
1	E	1020	LEU
1	E	1027	ASP

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Mol	Chain	Res	Type
1	E	1037	SER
1	E	1040	ARG
1	E	1045	ARG
1	E	1052	LYS
1	E	1053	GLU
1	E	1083	ASP
1	E	1088	LEU
1	E	1099	ASP
1	E	1103	ASP
1	E	1104	SER
1	E	1105	THR
1	E	1128	LYS
1	E	1134	ASN
1	E	1143	ARG
1	E	1169	THR
1	E	1170	ASN
1	E	1197	CYS
1	E	1205	ASN
1	E	1217	ASP
1	E	1230	ARG
1	E	1250	GLN
2	B	14	ASP
2	B	23	SER
2	B	41	ILE
2	B	63	ILE
2	B	68	PHE
2	B	70	SER
2	B	152	TYR
2	B	153	TYR
2	B	179	ASP
2	B	207	ASP
2	B	248	TYR
2	B	253	LYS
2	B	267	ASN
2	B	272	LYS
2	B	291	PHE
2	B	300	GLU
2	B	304	SER
2	B	319	ASN
2	B	335	TYR
2	B	351	THR
2	B	400	ASN

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Mol	Chain	Res	Type
2	B	435	GLU
2	B	438	TYR
2	B	453	ILE
2	B	481	ASN
2	B	483	SER
2	B	484	SER
2	B	491	SER
2	B	499	SER
2	B	504	THR
2	B	518	ASP
2	B	566	THR
2	B	570	PHE
2	B	580	ILE
2	B	588	ASN
2	B	593	LYS
2	B	601	SER
2	B	620	CYS
2	B	643	SER
2	B	656	VAL
2	B	678	SER
2	B	697	ARG
2	B	754	ASN
2	B	756	ASN
2	B	787	ASN
2	B	791	GLU
2	B	793	LEU
2	B	830	LYS
2	B	845	LEU
2	B	856	ASN
2	B	863	LEU
2	B	865	ASN
2	B	876	LEU
2	B	899	PHE
2	B	910	ASP
2	B	928	TRP
2	B	954	GLU
2	B	958	GLU
2	B	969	SER
2	B	974	ASN
2	B	986	ASN
2	B	987	LYS
2	B	1002	LEU

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Mol	Chain	Res	Type
2	B	1013	GLU
2	B	1024	PHE
2	B	1030	GLU
2	B	1075	ASP
2	B	1095	ASN
2	B	1097	ARG
2	B	1140	TYR
2	B	1142	TRP
2	B	1145	CYS
2	B	1147	LEU
2	B	1148	ASN
2	B	1158	TRP
2	D	14	ASP
2	D	23	SER
2	D	41	ILE
2	D	63	ILE
2	D	68	PHE
2	D	70	SER
2	D	152	TYR
2	D	153	TYR
2	D	207	ASP
2	D	248	TYR
2	D	253	LYS
2	D	258	THR
2	D	267	ASN
2	D	272	LYS
2	D	291	PHE
2	D	300	GLU
2	D	304	SER
2	D	319	ASN
2	D	335	TYR
2	D	351	THR
2	D	400	ASN
2	D	438	TYR
2	D	445	ASP
2	D	453	ILE
2	D	481	ASN
2	D	483	SER
2	D	484	SER
2	D	491	SER
2	D	499	SER
2	D	504	THR

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Mol	Chain	Res	Type
2	D	518	ASP
2	D	566	THR
2	D	570	PHE
2	D	580	ILE
2	D	588	ASN
2	D	593	LYS
2	D	601	SER
2	D	620	CYS
2	D	643	SER
2	D	656	VAL
2	D	678	SER
2	D	697	ARG
2	D	703	SER
2	D	754	ASN
2	D	756	ASN
2	D	787	ASN
2	D	791	GLU
2	D	793	LEU
2	D	830	LYS
2	D	845	LEU
2	D	863	LEU
2	D	865	ASN
2	D	876	LEU
2	D	899	PHE
2	D	910	ASP
2	D	928	TRP
2	D	954	GLU
2	D	958	GLU
2	D	969	SER
2	D	974	ASN
2	D	986	ASN
2	D	987	LYS
2	D	1002	LEU
2	D	1013	GLU
2	D	1024	PHE
2	D	1030	GLU
2	D	1075	ASP
2	D	1095	ASN
2	D	1097	ARG
2	D	1140	TYR
2	D	1142	TRP
2	D	1145	CYS

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Mol	Chain	Res	Type
2	D	1147	LEU
2	D	1148	ASN
2	D	1158	TRP
2	F	14	ASP
2	F	23	SER
2	F	41	ILE
2	F	56	ASP
2	F	63	ILE
2	F	68	PHE
2	F	70	SER
2	F	74	GLU
2	F	152	TYR
2	F	153	TYR
2	F	207	ASP
2	F	248	TYR
2	F	253	LYS
2	F	267	ASN
2	F	272	LYS
2	F	291	PHE
2	F	300	GLU
2	F	304	SER
2	F	319	ASN
2	F	335	TYR
2	F	351	THR
2	F	400	ASN
2	F	438	TYR
2	F	445	ASP
2	F	453	ILE
2	F	481	ASN
2	F	483	SER
2	F	484	SER
2	F	491	SER
2	F	499	SER
2	F	504	THR
2	F	518	ASP
2	F	566	THR
2	F	570	PHE
2	F	580	ILE
2	F	588	ASN
2	F	593	LYS
2	F	601	SER
2	F	620	CYS

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Mol	Chain	Res	Type
2	F	643	SER
2	F	656	VAL
2	F	678	SER
2	F	697	ARG
2	F	754	ASN
2	F	756	ASN
2	F	791	GLU
2	F	793	LEU
2	F	830	LYS
2	F	845	LEU
2	F	855	THR
2	F	856	ASN
2	F	863	LEU
2	F	865	ASN
2	F	876	LEU
2	F	899	PHE
2	F	910	ASP
2	F	928	TRP
2	F	954	GLU
2	F	958	GLU
2	F	969	SER
2	F	974	ASN
2	F	986	ASN
2	F	987	LYS
2	F	1002	LEU
2	F	1013	GLU
2	F	1024	PHE
2	F	1030	GLU
2	F	1075	ASP
2	F	1095	ASN
2	F	1097	ARG
2	F	1140	TYR
2	F	1142	TRP
2	F	1145	CYS
2	F	1147	LEU
2	F	1148	ASN
2	F	1158	TRP

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (110) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	111	ASN

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Mol	Chain	Res	Type
1	A	122	ASN
1	A	125	HIS
1	A	195	ASN
1	A	197	ASN
1	A	204	GLN
1	A	235	GLN
1	A	261	ASN
1	A	379	ASN
1	A	441	ASN
1	A	661	ASN
1	A	669	ASN
1	A	711	GLN
1	A	957	ASN
1	A	1060	GLN
1	A	1170	ASN
1	A	1228	HIS
1	C	111	ASN
1	C	122	ASN
1	C	125	HIS
1	C	195	ASN
1	C	197	ASN
1	C	235	GLN
1	C	261	ASN
1	C	379	ASN
1	C	441	ASN
1	C	661	ASN
1	C	669	ASN
1	C	841	ASN
1	C	932	ASN
1	C	956	HIS
1	C	957	ASN
1	C	1060	GLN
1	C	1170	ASN
1	E	111	ASN
1	E	122	ASN
1	E	125	HIS
1	E	142	HIS
1	E	195	ASN
1	E	197	ASN
1	E	204	GLN
1	E	235	GLN
1	E	261	ASN

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Mol	Chain	Res	Type
1	E	379	ASN
1	E	441	ASN
1	E	661	ASN
1	E	669	ASN
1	E	711	GLN
1	E	932	ASN
1	E	956	HIS
1	E	957	ASN
1	E	1060	GLN
1	E	1170	ASN
1	E	1228	HIS
2	B	67	ASN
2	B	171	GLN
2	B	208	ASN
2	B	289	GLN
2	B	324	HIS
2	B	377	ASN
2	B	452	ASN
2	B	636	GLN
2	B	644	GLN
2	B	677	ASN
2	B	684	ASN
2	B	704	GLN
2	B	762	HIS
2	B	849	ASN
2	B	865	ASN
2	B	1003	ASN
2	B	1034	ASN
2	B	1130	ASN
2	B	1137	ASN
2	D	67	ASN
2	D	171	GLN
2	D	208	ASN
2	D	289	GLN
2	D	324	HIS
2	D	452	ASN
2	D	636	GLN
2	D	644	GLN
2	D	677	ASN
2	D	684	ASN
2	D	704	GLN
2	D	762	HIS

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Mol	Chain	Res	Type
2	D	849	ASN
2	D	865	ASN
2	D	925	ASN
2	D	1003	ASN
2	D	1034	ASN
2	D	1130	ASN
2	D	1137	ASN
2	F	67	ASN
2	F	92	ASN
2	F	171	GLN
2	F	208	ASN
2	F	289	GLN
2	F	324	HIS
2	F	452	ASN
2	F	636	GLN
2	F	644	GLN
2	F	677	ASN
2	F	684	ASN
2	F	704	GLN
2	F	762	HIS
2	F	865	ASN
2	F	1003	ASN
2	F	1034	ASN
2	F	1130	ASN
2	F	1137	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains ⓘ

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry

Of 3 ligands modelled in this entry, 3 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	1235/1252 (98%)	-0.69	1 (0%) 95 90	53, 120, 189, 296	0
1	C	1235/1252 (98%)	-0.66	3 (0%) 94 88	46, 129, 207, 365	0
1	E	1235/1252 (98%)	-0.67	5 (0%) 92 81	62, 143, 214, 391	0
2	B	1114/1163 (95%)	-0.69	1 (0%) 95 90	37, 109, 179, 274	0
2	D	1114/1163 (95%)	-0.68	4 (0%) 92 81	48, 129, 194, 278	0
2	F	1114/1163 (95%)	-0.61	10 (0%) 84 66	51, 143, 220, 328	0
All	All	7047/7245 (97%)	-0.67	24 (0%) 93 84	37, 129, 203, 391	0

All (24) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	657	SER	9.4
1	E	655	GLY	7.5
1	E	657	SER	7.4
2	B	275	ASN	6.8
1	E	656	SER	4.7
2	F	852	ILE	4.4
1	E	658	ASP	4.2
1	C	656	SER	3.9
2	F	434	ASP	3.7
2	F	1158	TRP	3.4
1	C	803	ILE	3.4
1	E	420	GLY	3.2
2	F	843	ILE	3.2
1	A	498	ILE	2.9
2	D	275	ASN	2.8
2	F	275	ASN	2.3
2	F	279	ILE	2.2
2	F	278	TYR	2.2
2	F	380	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
2	D	843	ILE	2.1
2	D	1158	TRP	2.1
2	F	873	LEU	2.1
2	F	979	ILE	2.0
2	D	863	LEU	2.0

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

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

6.3 Carbohydrates [i](#)

There are no carbohydrates in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q < 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å ²)	Q<0.9
3	ZN	E	1301	1/1	0.98	0.14	-	99,99,99,99	0
3	ZN	A	1301	1/1	0.99	0.18	-	86,86,86,86	0
3	ZN	C	1301	1/1	0.98	0.17	-	83,83,83,83	0

6.5 Other polymers [i](#)

There are no such residues in this entry.