



# Full wwPDB X-ray Structure Validation Report ⓘ

May 18, 2020 – 09:30 pm BST

PDB ID : 2B63  
Title : Complete RNA Polymerase II-RNA inhibitor complex  
Authors : Kettenberger, H.; Eisenfuehr, A.; Brueckner, F.; Theis, M.; Famulok, M.;  
Cramer, P.  
Deposited on : 2005-09-30  
Resolution : 3.80 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](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.11  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.11

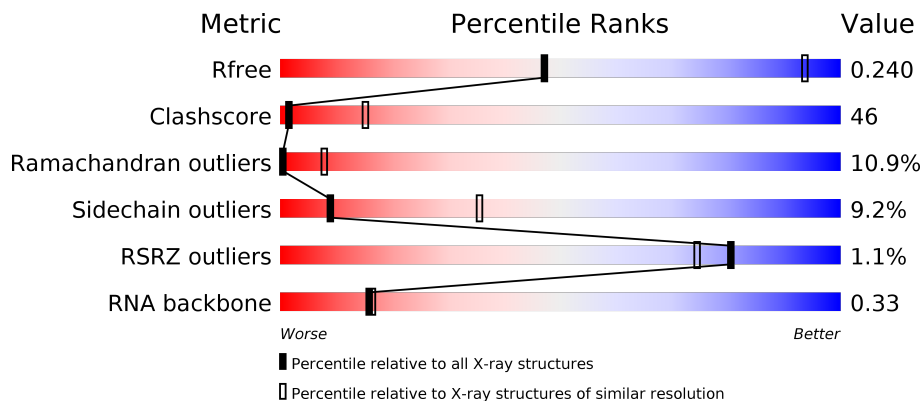
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.80 Å.

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



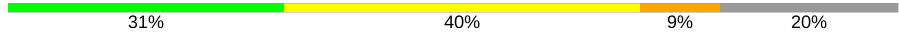

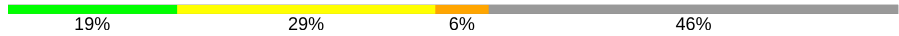
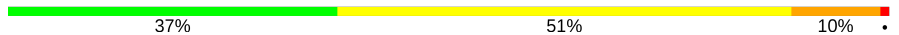
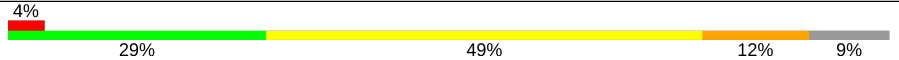
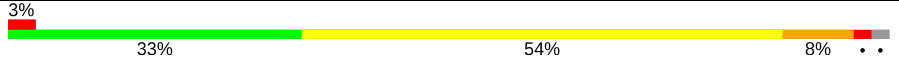
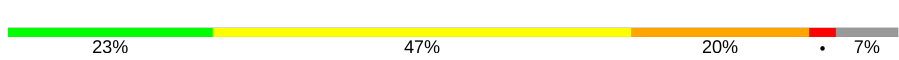
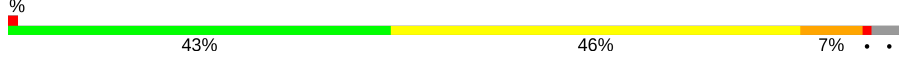

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	1212 (4.00-3.60)
Clashscore	141614	1288 (4.00-3.60)
Ramachandran outliers	138981	1243 (4.00-3.60)
Sidechain outliers	138945	1237 (4.00-3.60)
RSRZ outliers	127900	1121 (4.00-3.60)
RNA backbone	3102	1036 (4.60-3.00)

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	R	31	
2	A	1733	
3	B	1224	
4	C	318	

*Continued on next page...*

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Mol	Chain	Length	Quality of chain
5	D	221	
6	E	215	
7	F	155	
8	G	171	
9	H	146	
10	I	122	
11	J	70	
12	K	120	
13	L	70	

## 2 Entry composition [i](#)

There are 15 unique types of molecules in this entry. The entry contains 31731 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 RNA chain called 31-MER.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	Br	C	N	O	P			
1	R	31	666	4	296	119	217	30	88	0	0

- Molecule 2 is a protein called DNA-directed RNA polymerase II largest subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	A	1416	11140	7021	1946	2111	62	0	0	0

- Molecule 3 is a protein called DNA-directed RNA polymerase II 140 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	B	1112	8836	5594	1548	1639	55	0	0	0

- Molecule 4 is a protein called DNA-directed RNA polymerase II 45 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	C	266	2095	1317	348	417	13	0	0	0

- Molecule 5 is a protein called DNA-directed RNA polymerase II 32 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	D	177	1356	840	241	273	2	0	0	0

- Molecule 6 is a protein called DNA-directed RNA polymerases I, II, and III 27 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	E	214	1752	1111	309	321	11	0	0	0

- Molecule 7 is a protein called DNA-directed RNA polymerases I, II, and III 23 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	F	84	679	434	115	127	3	0	0	0

- Molecule 8 is a protein called DNA-directed RNA polymerase II 19 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	G	171	1340	861	222	249	8	0	0	0

- Molecule 9 is a protein called DNA-directed RNA polymerases I, II, and III 14.5 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	H	133	1068	673	180	211	4	0	0	0

- Molecule 10 is a protein called DNA-directed RNA polymerase II subunit 9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	I	119	971	596	179	186	10	0	0	0

- Molecule 11 is a protein called DNA-directed RNA polymerases I/II/III subunit 10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	J	65	532	339	93	94	6	0	0	0

- Molecule 12 is a protein called DNA-directed RNA polymerase II 13.6 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	K	115	924	593	157	172	2	0	0	0

- Molecule 13 is a protein called DNA-directed RNA polymerases I, II, and III 7.7 kDa polypeptide.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	L	46	363	224	72	63	4	0	0	0

- Molecule 14 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
14	J	1	Total	Zn	0	0
			1	1		
14	B	1	Total	Zn	0	0
			1	1		
14	I	2	Total	Zn	0	0
			2	2		
14	C	1	Total	Zn	0	0
			1	1		
14	A	2	Total	Zn	0	0
			2	2		
14	L	1	Total	Zn	0	0
			1	1		

- Molecule 15 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

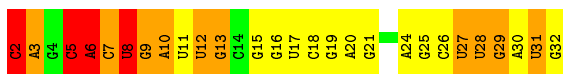
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
15	A	1	Total	Mg	0	0
			1	1		

### 3 Residue-property plots

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

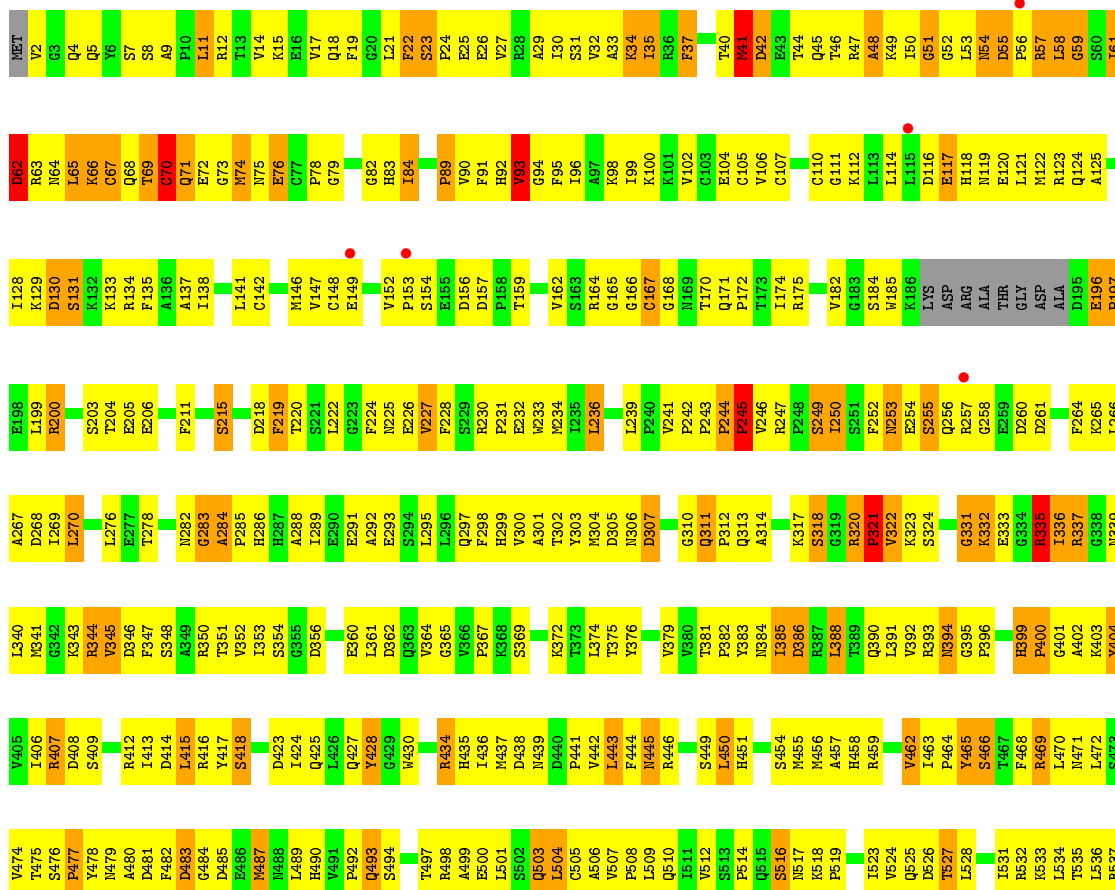
- Molecule 1: 31-MER

Chain R: 



- Molecule 2: DNA-directed RNA polymerase II largest subunit

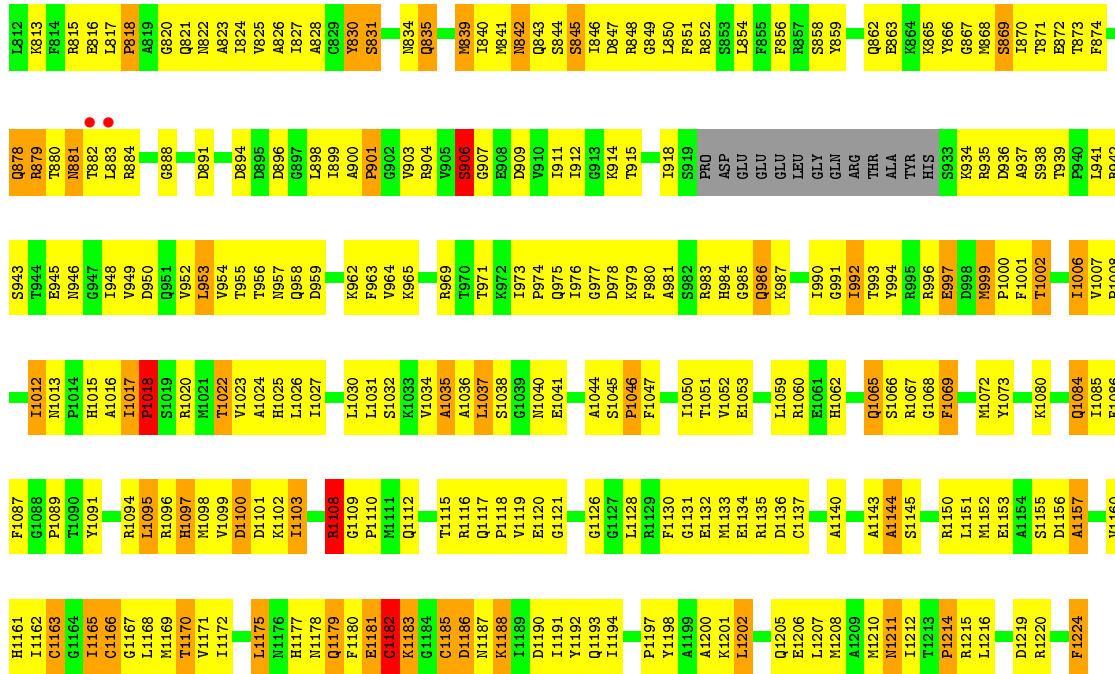
Chain A: 



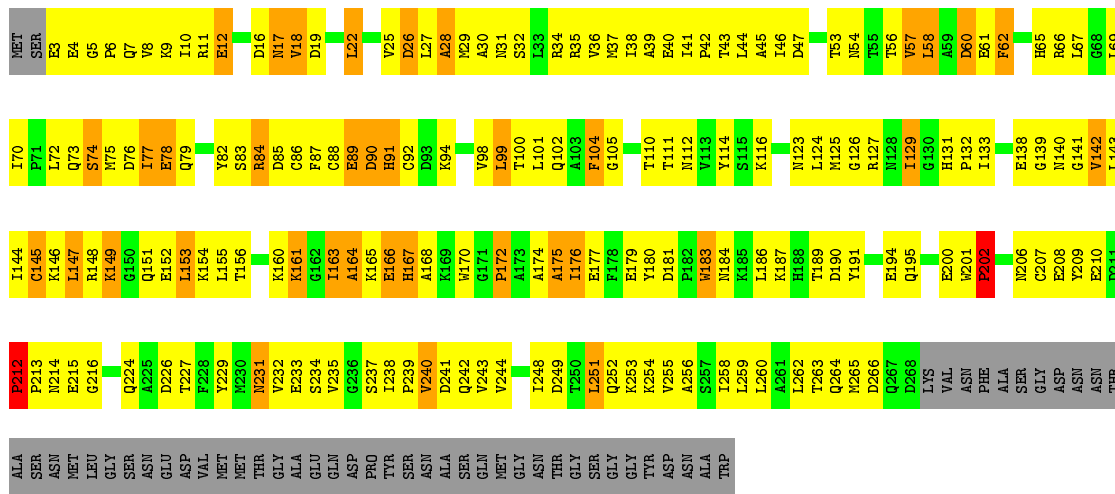
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PRO	GLY	GLU	S1415	M1278	G1210	I1134	V1064	L988	L913	Q838	S762	V690	T539	
TYR	VAL	SER	E1417	I1279	Q1211	R1135	L1067	L986	R839	R890	A763	V690	F640	
SER	SER	LEU	K1350	V1280	V1212	S1136	A1068	N996	R840	R830	C764	D692	I541	
PRO	PRO	VAL	D1419	G1213	G1214	A1069	A1069	L997	L841	V842	V765	Q698	E542	
THR	GLY	ASN	E1356	V1282	E1215	Q1070	Q1070	L998	V842	K843	G766	Q689	L543	
SER	PHE	ALA	D1420	M1284	R1216	S1071	S1071	L999	A844	M849	Q767	M889	D644	
PRO	ASP	ASP	D1359	R1289	K1217	I1072	G1002	L920	L920	L845	Q768	N700	Q846	
SER	PRO	LEU	G1360	G1218	Q1248	E1071	K1003	G921	G921	L846	L612	L701	V646	
TYR	PRO	ASP	S1361	T1219	T1219	E1074	M1004	D922	D922	D847	F614	F614	L547	
PRO	SER	VAL	E1425	V1291	V1146	P1075	E1005	L925	L925	I848	G615	G615	N548	
PRO	PRO	LYS	M1364	P1292	T1447	A1076	I0006	Q926	Q926	M849	V616	V616	M549	
THR	THR	ASP	Y1385	I1148	I1148	A1077	I1007	V927	V927	V850	V617	V617	L550	
TYR	TYR	GLU	H1386	I1149	M1079	M1079	Q1008	Q1008	R782	M708	E616	E616	Y551	
PRO	SER	LEU	H1387	D1223	T1080	T1080	L928	L928	L710	T709	E618	E618	Y551	
PRO	PRO	MET	M1368	L1224	S1150	M1081	Y852	R783	R783	L710	K619	K619	M652	
TYR	THR	PHE	E1297	V1225	I1151	L1081	D930	L784	L784	L710	K620	K620	M652	
TYR	PRO	SER	M1369	F1226	I1152	ASN	M854	P785	P785	R711	T621	T621	P554	
PRO	SER	SER	L1370	I1227	I1152	THR	T855	K786	K786	F714	V622	V622	P554	
PRO	PRO	PRO	L1371	W1228	D1155	PHE	T856	K789	K789	E715			I560	
THR	ALA	LEU	E1301	L1236	T1161	HLI	V1015			D716	M626	M626	P661	
TYR	VAL	LEU	D1373	I1237	T1161	HLI	T1016			M717	G627	G627	T662	
SER	PRO	ASP	E1303	I1238	V1162	PHE	L1017			V718	G628	G628	P663	
PRO	PRO	ASP	E1303	I1238	V1162	ALA	F1018			V719	G629	G629	A564	
TYR	TYR	MET	G1431	R1238	I1163	GLY	C1019			R720	I630	I630	I665	
TYR	THR	GLY	M1375	R1239	I1163	VAL	G1020			K791	H631	H631	I666	
TYR	THR	GLY	T1376	R1239	I1163	VAL	C1020			V721	I666	I666	I578	
SER	SER	SER	T1377	C1240	D1166	ALA	L1021			L722	V632	V632	K667	
PRO	PRO	ASN	Q1378	R1241	R1241	SER	L1022			F799	V633	V633	K669	
PRO	PRO	ASP	G1379	V1242	I1170	K1092	L1022			E724	P339	P339	K669	
TYR	THR	ALA	I1380	V1243	I1170	K1093	R1023			M724	P640	P640	P570	
PRO	PRO	ALA	G1381	ARG	S1175	V1094	S1024			A725	K640	K640	L571	
PRO	PRO	ALA	L1381	PRO	L1176	V1095	S1024			R726	Q640	Q640	M572	
TYR	THR	ALA	V1384	LVS	LEU	S1896	A1027			K728	L645	L645	S573	
TYR	GLY	GLY	T1385	SER	ASP	S1897	R1029			A729	F646	F646	K575	
PRO	PHE	LEU	E1447	LEU	GLU	V1098	R1030			G871	G647	G647	Q576	
PRO	PRO	LEU	E1448	GLU	GLU	P1099	M958			G730	M648	M648	K575	
TYR	TYR	ALA	S1449	ASP	ALA	V1099	D871			R731	I649	I649	L577	
PRO	TYR	ALA	G1388	ALA	ALA	V1099	I960			L732	Q650	Q650	I577	
PRO	TYR	TYR	M1318	GLU	GLU	K1102	L1032			L733	M651	M651	S579	
PRO	PRO	GLY	F1389	GLU	GLN	K1102	G1033			E734	V850	V850	V580	
TYR	THR	GLY	M1390	THR	GLN	E1034	E1034				P683	P683	I586	
TYR	THR	ALA	R1391	GLU	SER	M106	E1034			L737	M652	M652	H687	
PRO	PRO	ALA	S1392	GLU	PHE	V1107	Y1035			K738	N654	N654	L588	
PRO	PRO	ASP	N1393	A1254	ASP	V1107	R1036			D739	L658	L658	Q689	
TYR	TYR	TYR	T1394	E1255	ASP	M111	T1037			F814	S663	S663	R590	
SER	TYR	GLY	G1395	E1256	ASP	Q1187	K1112			F815	I666	I666	F591	
PRO	SER	GLY	E1395	M1259	S1188	T1113	T1113			H816	G667	G667	D692	
SER	PRO	ALA	L1397	L1260	P1190	P1114	A1041			M818	T664	T664	L668	
TYR	THR	THR	L1398	K1261	M1191	F1042	Q988			M818	S663	S663	Q689	
SER	SER	SER	R1399	K1262	G1187	S1115	T970			R821	T664	T664	Q689	
PRO	PRO	ILE	C1400	K1263	Q1188	D1043	F971			E822	G665	G665	R590	
THR	THR	PRO	S1401	E1264	S1188	L1192	M1044			G823	I666	I666	F591	
SER	TYR	PHE	F1402	N1265	R1194	T1117	V1044			L824	D668	D668	D692	
PRO	SER	ALA	E1403	T1266	L1195	V1118	V1045			I825	T675	T675	T595	
PRO	PRO	ALA	E1403	T1266	L1195	V1119	M1048			D826	T675	T675	T596	
TYR	TYR	TYR	E1404	M1267	D1198	E1121	I1048			L901	K752	K752	L597	
TYR	GLY	GLY	T1405	L1268	A1201	P1122	E1050			L901	T827	T827	L598	
TYR	GLY	GLY	V1406	L1268	M1202	K1123	I1057			L902	G753	G753	L599	
PRO	PRO	ALA	G1409	T1271	M1202	H1124	L981			A828	I679	I679	P600	
TYR	THR	VAL	F1410	T1272	K1205	A1125	T904			M830	T682	T682	K601	
PRO	THR	THR	F1410	L1273	D1206	A1126	H1058			R829	I683	I683	K601	
PRO	SER	SER	E1411	L1274	M1206	H1126	L983			L824	A684	A684	M602	
PRO	PRO	PRO	A1412	G1275	Q1128	Q1127	H096			I825	I788	I788	M603	
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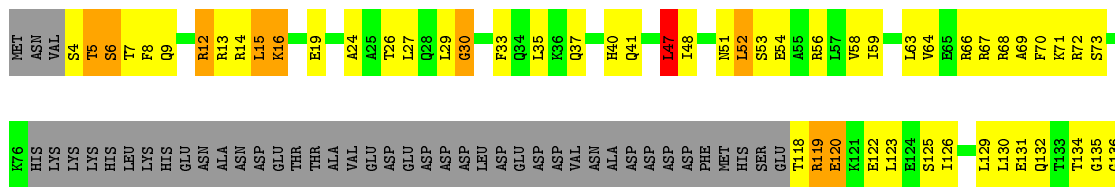
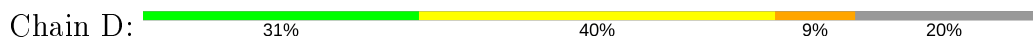


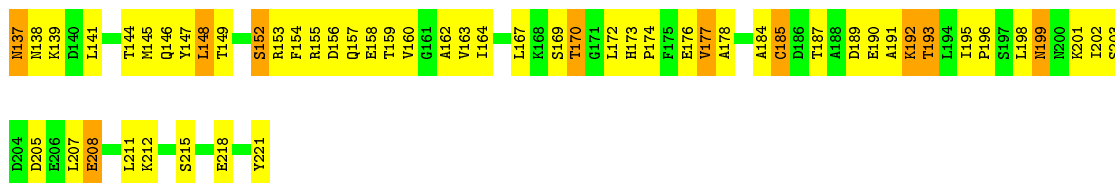


• Molecule 4: DNA-directed RNA polymerase II 45 kDa polypeptide

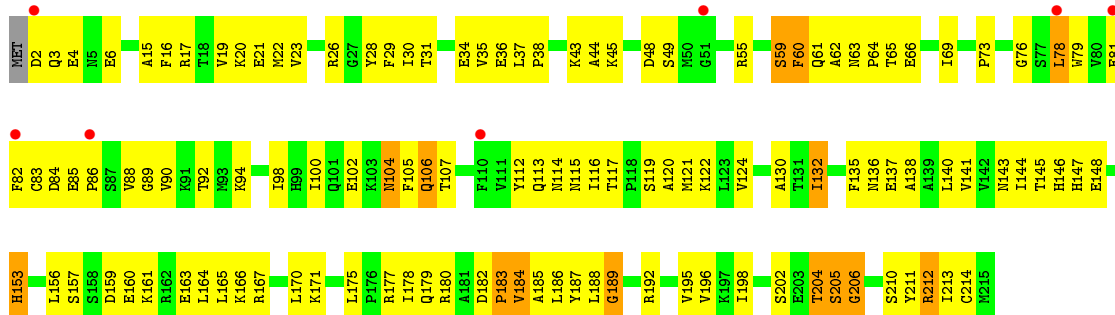
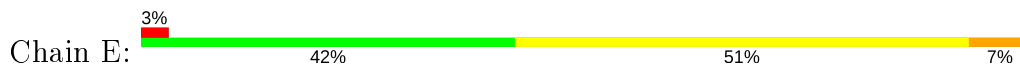


• Molecule 5: DNA-directed RNA polymerase II 32 kDa polypeptide

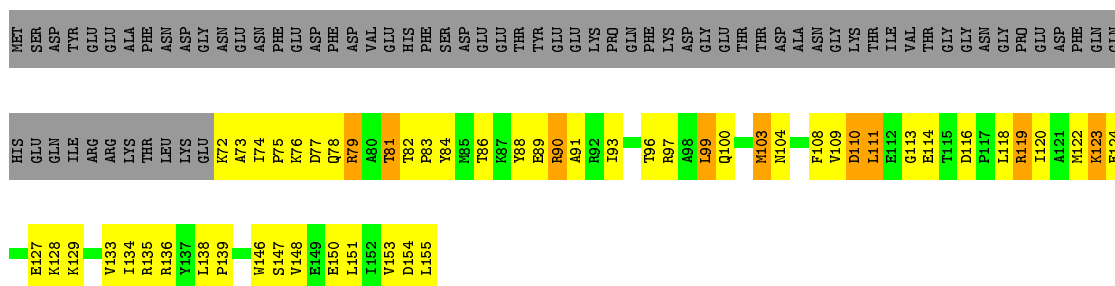




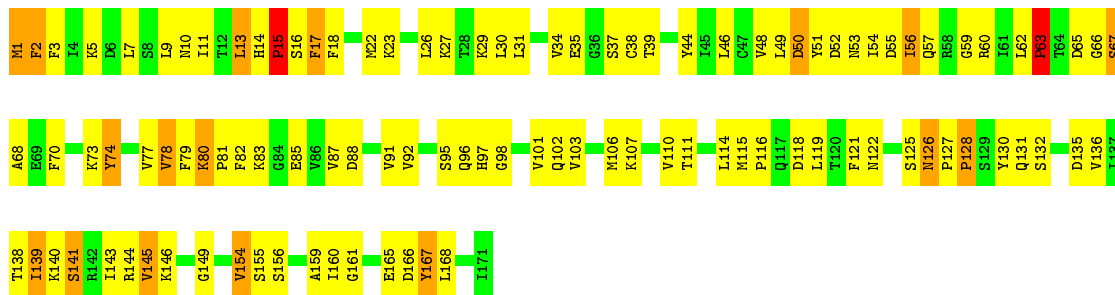
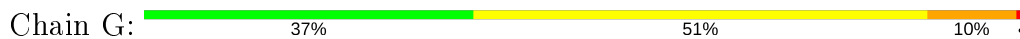
- Molecule 6: DNA-directed RNA polymerases I, II, and III 27 kDa polypeptide



- Molecule 7: DNA-directed RNA polymerases I, II, and III 23 kDa polypeptide

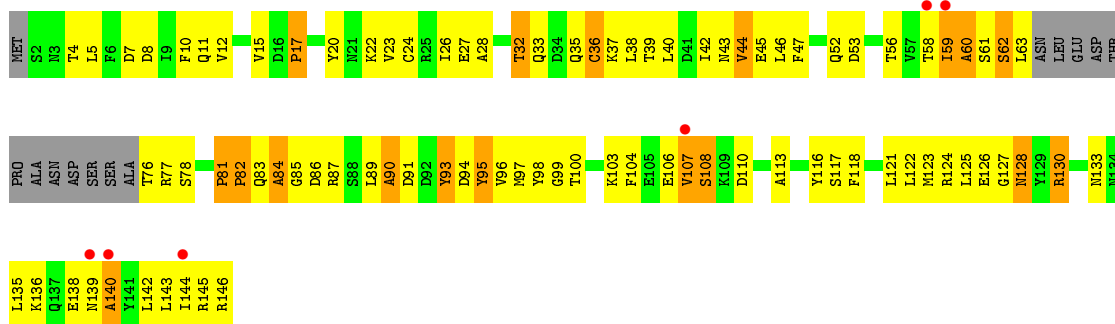


- Molecule 8: DNA-directed RNA polymerase II 19 kDa polypeptide

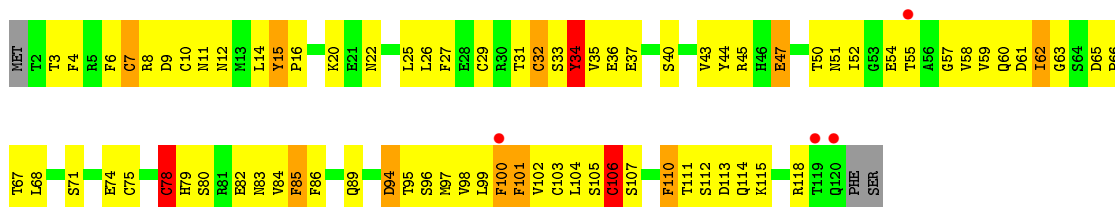


- Molecule 9: DNA-directed RNA polymerases I, II, and III 14.5 kDa polypeptide

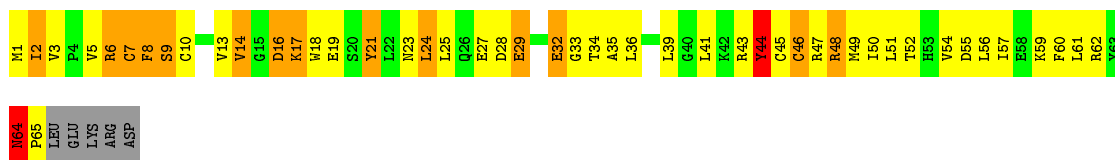




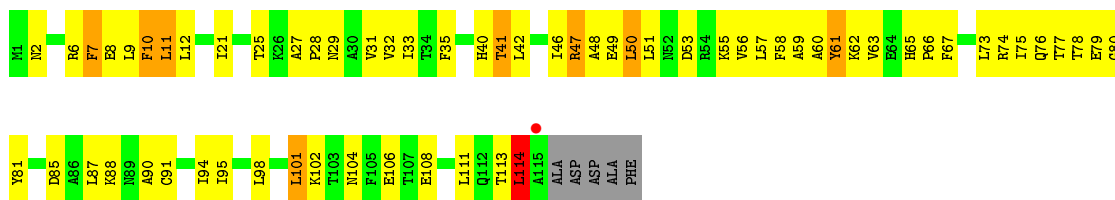
- Molecule 10: DNA-directed RNA polymerase II subunit 9



- Molecule 11: DNA-directed RNA polymerases I/II/III subunit 10



- Molecule 12: DNA-directed RNA polymerase II 13.6 kDa polypeptide



- Molecule 13: DNA-directed RNA polymerases I, II, and III 7.7 kDa polypeptide



T61
V65
Q66
F67
E68
A69
R70

## 4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	224.59Å 399.81Å 286.73Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 3.80 49.15 – 3.77	Depositor EDS
% Data completeness (in resolution range)	99.8 (50.00-3.80) 99.1 (49.15-3.77)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.20 (at 3.77Å)	Xtrriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.252 , 0.273 0.214 , 0.240	Depositor DCC
$R_{free}$ test set	8121 reflections (3.27%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	121.4	Xtrriage
Anisotropy	0.339	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.25 , 64.6	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.29$	Xtrriage
Estimated twinning fraction	0.015 for 1/2*h-1/2*k,-3/2*h-1/2*k,-l 0.018 for 1/2*h+1/2*k,3/2*h-1/2*k,-l	Xtrriage
$F_o, F_c$ correlation	0.92	EDS
Total number of atoms	31731	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	99.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.87% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: 5BU, ZN, MG

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	R	0.93	1/652 (0.2%)	1.19	4/1017 (0.4%)
2	A	0.48	0/11339	0.74	5/15334 (0.0%)
3	B	0.47	0/9008	0.78	19/12146 (0.2%)
4	C	0.47	0/2133	0.75	1/2891 (0.0%)
5	D	0.45	0/1365	0.68	0/1837
6	E	0.44	0/1788	0.67	0/2406
7	F	0.56	0/691	0.76	0/933
8	G	0.51	0/1368	0.75	0/1844
9	H	0.39	0/1086	0.64	0/1470
10	I	0.39	0/989	0.70	0/1331
11	J	0.51	0/541	0.82	0/727
12	K	0.46	0/942	0.68	0/1272
13	L	0.53	0/365	0.75	0/485
All	All	0.48	1/32267 (0.0%)	0.76	29/43693 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	R	0	2
11	J	0	1
All	All	0	3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	R	2	C	C3'-C2'	5.33	1.58	1.52

All (29) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	503	GLY	N-CA-C	-10.94	85.76	113.10
3	B	273	LEU	C-N-CD	-9.80	99.03	120.60
1	R	2	C	O4'-C1'-N1	9.55	115.84	108.20
3	B	508	LEU	N-CA-C	-8.97	86.78	111.00
1	R	5	C	C2'-C3'-O3'	7.04	124.98	109.50
3	B	479	VAL	N-CA-C	-6.26	94.11	111.00
3	B	468	GLU	N-CA-C	6.23	127.83	111.00
3	B	471	LYS	N-CA-C	-6.22	94.20	111.00
3	B	470	LYS	N-CA-C	6.16	127.64	111.00
3	B	474	SER	N-CA-C	6.08	127.42	111.00
3	B	472	ALA	N-CA-C	6.04	127.31	111.00
3	B	1185	CYS	CA-CB-SG	6.04	124.87	114.00
3	B	1166	CYS	CA-CB-SG	-5.97	103.25	114.00
2	A	331	GLY	N-CA-C	5.96	128.00	113.10
3	B	275	TYR	N-CA-C	-5.83	95.27	111.00
3	B	473	MET	N-CA-C	-5.82	95.28	111.00
3	B	1185	CYS	N-CA-C	-5.79	95.36	111.00
2	A	344	ARG	N-CA-C	-5.76	95.46	111.00
2	A	311	GLN	N-CA-C	5.43	125.67	111.00
3	B	1182	CYS	N-CA-C	-5.41	96.39	111.00
2	A	1403	GLU	N-CA-C	5.27	125.24	111.00
3	B	1182	CYS	CA-CB-SG	-5.26	104.53	114.00
3	B	464	GLY	N-CA-C	-5.22	100.04	113.10
4	C	183	TRP	N-CA-C	-5.15	97.09	111.00
1	R	8	U	N1-C1'-C2'	5.14	120.68	114.00
3	B	502	ILE	N-CA-C	5.10	124.77	111.00
1	R	6	A	N9-C1'-C2'	5.07	120.59	114.00
2	A	466	SER	N-CA-C	5.05	124.63	111.00
3	B	273	LEU	C-N-CA	5.04	143.15	122.00

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
11	J	44	TYR	Sidechain
1	R	2	C	Sidechain
1	R	5	C	Sidechain

## 5.2 Too-close contacts [\(i\)](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen



atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	R	666	0	331	42	0
2	A	11140	0	11217	1087	0
3	B	8836	0	8871	910	0
4	C	2095	0	2051	242	0
5	D	1356	0	1319	118	0
6	E	1752	0	1776	129	0
7	F	679	0	701	56	0
8	G	1340	0	1357	132	0
9	H	1068	0	1040	123	0
10	I	971	0	928	83	0
11	J	532	0	542	84	0
12	K	924	0	934	78	0
13	L	363	0	386	41	0
14	A	2	0	0	0	0
14	B	1	0	0	0	0
14	C	1	0	0	0	0
14	I	2	0	0	0	0
14	J	1	0	0	0	0
14	L	1	0	0	0	0
15	A	1	0	0	0	0
All	All	31731	0	31453	2875	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 46.

All (2875) 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)
5:D:40:HIS:HB3	8:G:73:LYS:NZ	1.60	1.16
2:A:1329:THR:HG22	2:A:1331:SER:H	1.01	1.12
3:B:827:ILE:HG12	3:B:1012:ILE:HD11	1.18	1.11
3:B:463:THR:HB	3:B:465:ASN:HB2	1.32	1.10
1:R:3:A:OP2	3:B:531:GLN:HB3	1.50	1.10
3:B:882:THR:HG22	3:B:884:ARG:H	1.14	1.10
9:H:59:ILE:HG22	9:H:60:ALA:H	0.92	1.08
10:I:34:TYR:HD2	10:I:35:VAL:N	1.54	1.06
11:J:5:VAL:HG12	11:J:6:ARG:HG3	1.31	1.05
2:A:53:LEU:HD23	2:A:54:ASN:N	1.71	1.04
2:A:53:LEU:CD2	2:A:54:ASN:H	1.69	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:100:THR:HG23	9:H:138:GLU:HA	1.35	1.04
8:G:13:LEU:HD21	8:G:17:PHE:HB2	1.39	1.04
2:A:779:PHE:CE1	2:A:785:PRO:HD3	1.94	1.03
12:K:47:ARG:HB3	12:K:47:ARG:HH11	1.17	1.03
2:A:61:ILE:HG22	2:A:62:ASP:H	1.22	1.03
2:A:107:CYS:H	2:A:114:LEU:HD21	1.22	1.03
2:A:590:ARG:NH2	2:A:620:LYS:HB3	1.74	1.03
4:C:57:VAL:HG11	11:J:60:PHE:HB3	1.41	1.01
2:A:1161:THR:HG22	2:A:1163:ILE:H	1.26	1.01
9:H:59:ILE:HG22	9:H:60:ALA:N	1.72	1.01
2:A:53:LEU:HD23	2:A:54:ASN:H	0.87	1.01
2:A:826:ASP:O	2:A:830:LYS:HB2	1.61	1.01
3:B:509:ALA:O	3:B:511:PRO:HD3	1.61	1.00
6:E:29:PHE:O	6:E:30:ILE:HG13	1.61	1.00
2:A:225:ASN:ND2	2:A:228:PHE:H	1.60	1.00
8:G:138:THR:HG22	8:G:139:ILE:H	1.25	0.99
3:B:577:ALA:HB1	3:B:589:VAL:HG11	1.45	0.98
11:J:3:VAL:HG21	11:J:18:TRP:HB2	1.43	0.98
11:J:64:ASN:HB3	11:J:65:PRO:CD	1.92	0.98
3:B:505:ASP:CG	3:B:506:GLY:H	1.68	0.97
8:G:143:ILE:HG22	8:G:144:ARG:H	1.28	0.97
3:B:684:LEU:H	3:B:684:LEU:HD12	1.30	0.96
2:A:907:THR:HG22	2:A:908:LEU:H	1.26	0.96
3:B:276:ILE:HD11	3:B:355:ILE:HG21	1.45	0.95
3:B:65:GLU:HG3	3:B:66:ASP:H	1.30	0.95
2:A:767:GLN:HE21	2:A:774:ARG:HB3	1.28	0.95
3:B:365:THR:HG23	3:B:367:LEU:H	1.32	0.94
2:A:249:SER:O	2:A:250:ILE:HG12	1.66	0.94
2:A:1116:LEU:HG	2:A:1308:THR:HG21	1.46	0.94
9:H:59:ILE:CG2	9:H:60:ALA:H	1.79	0.94
6:E:94:LYS:HE2	6:E:98:ILE:HD11	1.49	0.94
3:B:510:LYS:HD2	3:B:510:LYS:H	1.32	0.93
2:A:858:ASN:ND2	2:A:860:LEU:H	1.67	0.93
10:I:85:PHE:HD2	10:I:85:PHE:H	1.08	0.93
2:A:1329:THR:HG22	2:A:1331:SER:N	1.84	0.92
2:A:868:TYR:CE1	2:A:1064:VAL:HG11	2.04	0.92
5:D:40:HIS:HB3	8:G:73:LYS:HZ3	1.18	0.92
3:B:800:GLN:HB3	11:J:52:THR:HG21	1.51	0.92
2:A:783:THR:HG22	2:A:784:LEU:HG	1.51	0.91
2:A:901:LEU:HG	2:A:926:GLN:HE21	1.32	0.91
12:K:21:ILE:HG12	12:K:33:ILE:HG13	1.52	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1017:LEU:HB2	6:E:206:GLY:H	1.33	0.91
9:H:23:VAL:HG22	9:H:43:ASN:HA	1.52	0.90
7:F:93:ILE:HD11	7:F:134:ILE:HD11	1.51	0.90
2:A:225:ASN:HD22	2:A:228:PHE:H	0.98	0.90
2:A:567:LYS:CG	2:A:568:PRO:HD2	2.01	0.90
3:B:1072:MET:CE	3:B:1085:ILE:HB	2.01	0.89
2:A:1094:VAL:HG13	2:A:1113:THR:HG21	1.55	0.89
4:C:17:ASN:HD22	4:C:17:ASN:N	1.70	0.89
3:B:642:ASP:HA	3:B:649:LYS:HA	1.52	0.89
3:B:589:VAL:HG12	3:B:590:HIS:H	1.36	0.89
7:F:82:THR:HG22	7:F:84:TYR:H	1.36	0.89
8:G:143:ILE:HG22	8:G:144:ARG:N	1.84	0.89
2:A:1428:VAL:HG13	3:B:1151:LEU:HD21	1.53	0.88
3:B:271:ALA:HB1	3:B:273:LEU:HD11	1.53	0.88
3:B:1065:GLN:HE21	3:B:1067:ARG:N	1.70	0.88
4:C:47:ASP:HA	13:L:69:ALA:HB3	1.55	0.88
10:I:111:THR:HG22	10:I:113:ASP:H	1.35	0.88
9:H:42:ILE:HG23	9:H:95:TYR:HE1	1.37	0.88
2:A:907:THR:HG22	2:A:908:LEU:N	1.89	0.88
4:C:251:LEU:O	4:C:251:LEU:HD12	1.73	0.88
3:B:953:LEU:HD21	3:B:965:LYS:HB2	1.56	0.87
3:B:705:MET:H	3:B:710:LEU:HD12	1.39	0.87
12:K:47:ARG:HB3	12:K:47:ARG:NH1	1.89	0.87
3:B:1007:VAL:HG22	3:B:1008:PRO:HD2	1.54	0.87
2:A:369:SER:HB3	12:K:2:ASN:HD21	1.37	0.87
3:B:827:ILE:CG1	3:B:1012:ILE:HD11	2.04	0.87
6:E:153:HIS:HB3	6:E:196:VAL:HG11	1.56	0.87
2:A:590:ARG:HH21	2:A:620:LYS:HB3	1.31	0.87
2:A:1242:VAL:HG12	2:A:1243:VAL:H	1.35	0.86
3:B:281:PRO:HG2	3:B:284:ILE:HD13	1.57	0.86
3:B:510:LYS:CD	3:B:510:LYS:H	1.87	0.86
4:C:142:VAL:H	11:J:16:ASP:HB3	1.40	0.86
3:B:846:ILE:HG23	3:B:974:PRO:HG2	1.57	0.86
2:A:1312:ASN:O	2:A:1316:VAL:HG23	1.74	0.86
3:B:821:GLN:HE22	3:B:851:PHE:HA	1.40	0.86
11:J:64:ASN:HB3	11:J:65:PRO:HD3	1.55	0.86
2:A:1438:THR:HB	3:B:1144:ALA:HB3	1.55	0.86
3:B:476:ARG:HH11	3:B:476:ARG:HA	1.40	0.86
6:E:156:LEU:HD12	6:E:195:VAL:HB	1.57	0.86
2:A:1364:ASN:HD22	2:A:1365:TYR:N	1.73	0.85
2:A:399:HIS:HB3	2:A:400:PRO:HD3	1.57	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:164:ALA:HA	4:C:167:HIS:O	1.75	0.85
2:A:164:ARG:HG3	2:A:165:GLY:H	1.38	0.85
2:A:821:ARG:HH11	2:A:821:ARG:HB2	1.41	0.85
3:B:800:GLN:HB3	11:J:52:THR:CG2	2.06	0.85
2:A:56:PRO:O	2:A:57:ARG:HG3	1.76	0.85
1:R:2:C:O2'	1:R:3:A:OP1	1.95	0.85
6:E:144:ILE:HD12	6:E:145:THR:N	1.91	0.84
2:A:527:THR:HG21	2:A:650:GLN:HG2	1.57	0.84
8:G:115:MET:HB2	8:G:116:PRO:HD2	1.57	0.84
2:A:981:LEU:HD21	2:A:1039:LYS:HA	1.58	0.84
1:R:29:G:H4'	2:A:1386:ARG:HH12	1.42	0.84
2:A:285:PRO:HG2	2:A:288:ALA:HB3	1.60	0.84
2:A:567:LYS:HG3	2:A:568:PRO:HD2	1.56	0.84
2:A:15:LYS:HB3	3:B:1220:ARG:HH21	1.43	0.83
3:B:980:PHE:HE1	3:B:990:ILE:HD11	1.42	0.83
2:A:628:GLY:O	2:A:632:VAL:HG23	1.78	0.83
2:A:800:VAL:HG22	2:A:812:GLU:HB3	1.60	0.83
9:H:126:GLU:C	9:H:130:ARG:HH22	1.82	0.83
2:A:1394:THR:HG21	2:A:1398:MET:SD	2.19	0.83
10:I:8:ARG:HG3	10:I:34:TYR:HE1	1.43	0.83
2:A:54:ASN:HB3	2:A:247:ARG:HH12	1.44	0.83
2:A:768:GLN:HG2	2:A:816:HIS:HA	1.61	0.83
2:A:147:VAL:N	2:A:171:GLN:HE21	1.75	0.83
3:B:1152:MET:CE	3:B:1157:ALA:HA	2.08	0.82
3:B:120:ARG:HG2	3:B:955:THR:HG21	1.59	0.82
4:C:167:HIS:HA	12:K:6:ARG:HH12	1.43	0.82
2:A:528:LEU:O	2:A:531:ILE:HG22	1.79	0.82
3:B:1072:MET:HE3	3:B:1085:ILE:HB	1.61	0.82
3:B:952:VAL:HG12	3:B:953:LEU:N	1.94	0.82
8:G:145:VAL:HG12	8:G:146:LYS:H	1.43	0.82
2:A:901:LEU:H	2:A:926:GLN:NE2	1.77	0.82
5:D:134:THR:HG22	5:D:136:GLY:H	1.44	0.82
2:A:22:PHE:HB2	3:B:1211:ASN:ND2	1.94	0.82
3:B:273:LEU:N	3:B:273:LEU:HD22	1.93	0.82
5:D:144:THR:HG21	8:G:46:LEU:HD13	1.59	0.81
2:A:828:ALA:CB	3:B:530:GLY:HA2	2.09	0.81
3:B:284:ILE:H	3:B:284:ILE:HD12	1.45	0.81
3:B:463:THR:CB	3:B:465:ASN:HB2	2.08	0.81
3:B:579:ARG:HB2	3:B:586:TRP:NE1	1.95	0.81
8:G:14:HIS:ND1	8:G:15:PRO:HD2	1.95	0.81
12:K:113:THR:O	12:K:114:LEU:HB2	1.78	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:879:ARG:HH11	3:B:883:LEU:HD22	1.46	0.81
4:C:186:LEU:HD21	4:C:224:GLN:O	1.81	0.81
2:A:254:GLU:O	2:A:256:GLN:N	2.13	0.81
3:B:25:ILE:HD11	3:B:653:VAL:O	1.80	0.81
3:B:801:LYS:O	11:J:52:THR:HG23	1.81	0.81
5:D:59:ILE:HD11	8:G:77:VAL:HG11	1.60	0.81
2:A:472:LEU:HD11	3:B:835:GLN:NE2	1.94	0.81
8:G:56:ILE:H	8:G:56:ILE:HD12	1.46	0.81
5:D:202:ILE:HG23	5:D:203:SER:N	1.96	0.81
2:A:1329:THR:CG2	2:A:1331:SER:H	1.89	0.80
13:L:60:ARG:HG2	13:L:61:THR:H	1.46	0.80
2:A:524:VAL:HG12	2:A:525:GLN:H	1.45	0.80
2:A:67:CYS:O	2:A:70:CYS:HB3	1.82	0.80
3:B:1201:LYS:HE2	3:B:1205:GLN:OE1	1.81	0.80
8:G:1:MET:HE3	8:G:80:LYS:H	1.45	0.80
2:A:567:LYS:HZ1	9:H:46:LEU:HB2	1.46	0.80
3:B:918:ILE:HB	3:B:935:ARG:HD2	1.61	0.80
10:I:34:TYR:CD2	10:I:35:VAL:N	2.45	0.80
4:C:16:ASP:C	4:C:17:ASN:HD22	1.85	0.80
3:B:464:GLY:C	3:B:466:TRP:H	1.83	0.80
3:B:516:ASN:N	3:B:516:ASN:HD22	1.77	0.80
8:G:143:ILE:CG2	8:G:144:ARG:H	1.94	0.80
6:E:202:SER:OG	6:E:204:THR:HG22	1.82	0.79
2:A:598:LEU:HA	9:H:122:LEU:HD13	1.62	0.79
10:I:26:LEU:HD23	10:I:37:GLU:HA	1.64	0.79
2:A:798:GLY:HA2	2:A:815:PHE:CD1	2.17	0.79
3:B:501:PRO:HG2	3:B:502:ILE:HG12	1.64	0.79
2:A:49:LYS:NZ	2:A:61:ILE:HG12	1.98	0.79
3:B:1187:ASN:O	3:B:1188:LYS:HB2	1.81	0.79
3:B:589:VAL:HG12	3:B:590:HIS:N	1.97	0.79
5:D:33:PHE:CE2	8:G:80:LYS:NZ	2.50	0.79
3:B:23:ALA:HB1	3:B:24:PRO:HD2	1.65	0.79
3:B:579:ARG:HB2	3:B:586:TRP:HE1	1.46	0.79
4:C:31:ASN:O	4:C:34:ARG:HB3	1.82	0.79
3:B:247:GLY:H	3:B:418:LYS:NZ	1.79	0.79
2:A:907:THR:CG2	2:A:908:LEU:H	1.96	0.79
2:A:351:THR:HG22	3:B:1103:ILE:HA	1.65	0.79
2:A:1189:SER:O	2:A:1241:ARG:HD3	1.82	0.78
2:A:767:GLN:NE2	2:A:774:ARG:HB3	1.97	0.78
3:B:463:THR:C	3:B:465:ASN:H	1.85	0.78
2:A:535:THR:HG21	2:A:616:VAL:HA	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1345:ARG:HG3	2:A:1376:THR:HG21	1.63	0.78
2:A:107:CYS:N	2:A:114:LEU:HD21	1.99	0.78
2:A:1420:ASP:HB3	2:A:1422:ARG:HG3	1.66	0.78
2:A:855:THR:HG23	2:A:857:ARG:HG3	1.63	0.78
2:A:1102:LYS:HG2	2:A:1106:ASN:HD21	1.47	0.78
3:B:466:TRP:O	3:B:468:GLU:N	2.17	0.78
4:C:172:PRO:O	4:C:235:VAL:HG23	1.83	0.78
2:A:728:LYS:HA	2:A:731:ARG:HB2	1.65	0.77
3:B:293:PRO:HG2	3:B:296:GLU:HB3	1.66	0.77
3:B:613:VAL:HG13	3:B:627:PHE:O	1.85	0.77
2:A:877:HIS:C	2:A:878:ILE:HG13	2.03	0.77
2:A:913:LEU:HD12	2:A:914:GLU:N	1.98	0.77
3:B:654:ARG:H	3:B:657:HIS:HD2	1.29	0.77
2:A:56:PRO:HD2	2:A:58:LEU:HG	1.67	0.77
3:B:1172:ILE:N	3:B:1172:ILE:HD12	2.00	0.77
2:A:146:MET:HA	2:A:171:GLN:HB2	1.65	0.77
3:B:37:PHE:CD1	3:B:41:LYS:HG3	2.19	0.77
10:I:34:TYR:HD2	10:I:35:VAL:H	1.32	0.77
2:A:709:THR:HG23	10:I:94:ASP:HA	1.66	0.77
5:D:35:LEU:H	5:D:35:LEU:HD12	1.50	0.77
2:A:442:VAL:HB	2:A:489:LEU:HD11	1.67	0.77
2:A:567:LYS:NZ	9:H:46:LEU:HB2	1.98	0.77
8:G:122:ASN:ND2	8:G:125:SER:HB3	1.99	0.77
3:B:211:VAL:O	3:B:480:SER:HA	1.83	0.77
3:B:472:ALA:C	3:B:474:SER:H	1.87	0.77
2:A:577:ILE:O	2:A:580:VAL:HG23	1.85	0.76
3:B:1017:ILE:HB	3:B:1018:PRO:HD3	1.66	0.76
3:B:37:PHE:CE1	3:B:41:LYS:HG3	2.20	0.76
3:B:582:VAL:HG23	3:B:626:ILE:HB	1.65	0.76
2:A:1428:VAL:HG13	3:B:1151:LEU:CD2	2.16	0.76
2:A:84:ILE:HG22	2:A:239:LEU:HB3	1.67	0.76
9:H:4:THR:HA	9:H:60:ALA:HB2	1.67	0.76
2:A:41:MET:HB3	2:A:49:LYS:HA	1.66	0.76
3:B:955:THR:HG22	3:B:956:THR:N	2.01	0.76
11:J:16:ASP:OD1	11:J:17:LYS:HD2	1.86	0.76
2:A:828:ALA:HB1	3:B:530:GLY:HA2	1.67	0.76
9:H:36:CYS:HA	9:H:126:GLU:O	1.84	0.76
2:A:230:ARG:H	2:A:233:TRP:HE3	1.33	0.76
2:A:24:PRO:HD2	2:A:233:TRP:HE1	1.51	0.76
2:A:438:ASP:O	2:A:439:ASN:HB2	1.86	0.76
3:B:1162:ILE:HG22	3:B:1163:CYS:H	1.50	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:505:ASP:CG	3:B:506:GLY:N	2.39	0.76
6:E:116:ILE:HG22	6:E:117:THR:N	2.01	0.76
9:H:23:VAL:HG13	9:H:42:ILE:O	1.85	0.76
2:A:250:ILE:O	2:A:258:GLY:HA3	1.85	0.76
3:B:205:ILE:N	3:B:205:ILE:HD12	2.00	0.76
3:B:510:LYS:HD2	3:B:510:LYS:N	1.98	0.76
2:A:541:ILE:HG21	2:A:549:MET:HE3	1.66	0.75
2:A:1206:ASP:HB3	2:A:1274:ARG:HH12	1.51	0.75
3:B:273:LEU:HD23	3:B:273:LEU:O	1.85	0.75
6:E:22:MET:HE3	6:E:26:ARG:HE	1.49	0.75
11:J:3:VAL:HG21	11:J:18:TRP:CB	2.17	0.75
3:B:996:ARG:HH22	4:C:175:ALA:H	1.33	0.75
2:A:382:PRO:HB3	2:A:428:TYR:HE2	1.51	0.75
3:B:463:THR:HB	3:B:465:ASN:CB	2.15	0.75
3:B:841:MET:HG2	3:B:846:ILE:HD11	1.67	0.75
6:E:19:VAL:O	6:E:23:VAL:HG23	1.86	0.75
2:A:1345:ARG:HG2	2:A:1372:VAL:HG13	1.66	0.75
2:A:1063:MET:SD	2:A:1436:ILE:HG13	2.26	0.75
11:J:57:ILE:HA	11:J:60:PHE:HD2	1.51	0.75
2:A:1370:LEU:O	2:A:1374:VAL:HG23	1.87	0.75
3:B:1182:CYS:SG	3:B:1182:CYS:O	2.45	0.75
2:A:438:ASP:OD1	2:A:462:VAL:HG23	1.86	0.75
3:B:983:ARG:HD2	3:B:1091:TYR:HB3	1.69	0.75
2:A:1444:MET:HG2	8:G:60:ARG:HA	1.69	0.74
2:A:374:LEU:HB3	2:A:436:ILE:HD11	1.69	0.74
2:A:1313:LEU:O	2:A:1315:GLU:N	2.20	0.74
2:A:339:ASN:HB3	3:B:1117:GLN:HE22	1.51	0.74
3:B:580:VAL:HG13	3:B:624:LEU:HB3	1.69	0.74
4:C:147:LEU:HB2	4:C:151:GLN:HB2	1.68	0.74
4:C:248:ILE:HD12	12:K:101:LEU:HD22	1.69	0.74
4:C:32:SER:O	4:C:36:VAL:HG23	1.88	0.74
1:R:11:U:H4'	1:R:12:5BU:OP2	1.85	0.74
3:B:711:GLU:H	3:B:712:PRO:HD2	1.50	0.74
10:I:55:THR:HG22	10:I:58:VAL:HG21	1.69	0.74
9:H:61:SER:O	9:H:62:SER:HB3	1.88	0.74
2:A:1107:VAL:HG12	2:A:1107:VAL:O	1.87	0.74
3:B:125:SER:HA	3:B:171:PRO:HA	1.68	0.74
5:D:63:LEU:HD12	5:D:129:LEU:HG	1.68	0.74
3:B:1096:ARG:O	3:B:1097:HIS:HB2	1.86	0.74
1:R:15:G:OP1	3:B:474:SER:HB3	1.86	0.74
2:A:1261:LYS:O	2:A:1264:GLU:HB3	1.88	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:93:VAL:HG13	2:A:301:ALA:HB1	1.69	0.74
2:A:50:ILE:O	2:A:52:GLY:N	2.19	0.74
2:A:666:ILE:HD12	2:A:667:GLY:H	1.53	0.74
3:B:284:ILE:N	3:B:284:ILE:HD12	2.03	0.74
3:B:882:THR:HG22	3:B:884:ARG:N	1.98	0.74
2:A:14:VAL:H	2:A:1432:GLN:HE22	1.36	0.73
2:A:21:LEU:HD21	2:A:1414:ALA:HA	1.70	0.73
6:E:153:HIS:HB3	6:E:196:VAL:CG1	2.18	0.73
2:A:1057:VAL:HG12	2:A:1058:VAL:N	2.04	0.73
5:D:7:THR:O	5:D:9:GLN:N	2.22	0.73
8:G:138:THR:HG22	8:G:139:ILE:N	2.00	0.73
12:K:56:VAL:HA	12:K:77:THR:HG22	1.68	0.73
2:A:1372:VAL:HG12	2:A:1373:ASP:N	2.03	0.73
2:A:853:ASP:OD1	2:A:855:THR:HB	1.88	0.73
8:G:13:LEU:CD2	8:G:17:PHE:HB2	2.18	0.73
2:A:743:VAL:O	2:A:747:VAL:HG23	1.87	0.73
3:B:978:ASP:OD2	3:B:1098:MET:HG2	1.88	0.73
3:B:1099:VAL:O	3:B:1101:ASP:N	2.21	0.73
3:B:834:ASN:HB3	3:B:840:ILE:HG13	1.71	0.73
6:E:124:VAL:HG13	6:E:132:ILE:HD13	1.70	0.73
10:I:111:THR:HG22	10:I:113:ASP:N	2.03	0.73
11:J:57:ILE:HA	11:J:60:PHE:CD2	2.23	0.73
2:A:1325:THR:HG23	6:E:146:HIS:O	1.88	0.73
2:A:567:LYS:CD	2:A:568:PRO:HD2	2.19	0.73
4:C:116:LYS:HD3	4:C:140:ASN:HB3	1.70	0.73
5:D:47:LEU:HD13	5:D:48:ILE:H	1.54	0.73
3:B:1065:GLN:HE21	3:B:1067:ARG:H	1.37	0.73
2:A:55:ASP:C	2:A:57:ARG:H	1.90	0.73
2:A:524:VAL:HG12	2:A:525:GLN:N	2.02	0.72
2:A:710:LEU:H	2:A:710:LEU:HD12	1.53	0.72
3:B:215:GLN:HE22	3:B:499:ASN:HD22	1.36	0.72
3:B:862:GLN:HG2	3:B:963:PHE:HD1	1.54	0.72
3:B:952:VAL:HG12	3:B:953:LEU:H	1.54	0.72
4:C:77:ILE:HG12	4:C:161:LYS:HE3	1.71	0.72
8:G:56:ILE:HD12	8:G:56:ILE:N	2.04	0.72
3:B:516:ASN:H	3:B:516:ASN:HD22	1.35	0.72
3:B:1007:VAL:HG22	3:B:1008:PRO:CD	2.19	0.72
3:B:509:ALA:O	3:B:511:PRO:CD	2.36	0.72
2:A:341:MET:HE1	2:A:843:LYS:HZ3	1.54	0.72
3:B:1072:MET:HE1	3:B:1085:ILE:HB	1.70	0.72
3:B:616:ILE:N	3:B:616:ILE:HD12	2.04	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:148:ARG:HG2	4:C:149:LYS:H	1.54	0.72
3:B:622:LYS:HE2	10:I:59:VAL:HG22	1.71	0.72
12:K:58:PHE:HE2	12:K:74:ARG:HE	1.32	0.72
2:A:1116:LEU:N	2:A:1308:THR:HG22	2.04	0.72
4:C:37:MET:HA	4:C:41:ILE:HD11	1.70	0.72
2:A:1444:MET:HE1	7:F:135:ARG:HB2	1.72	0.72
2:A:1102:LYS:HG2	2:A:1106:ASN:ND2	2.04	0.72
2:A:70:CYS:O	2:A:72:GLU:HG2	1.90	0.72
3:B:1224:PHE:HE2	6:E:171:LYS:HG3	1.55	0.72
2:A:875:ALA:HA	2:A:878:ILE:HD12	1.72	0.72
2:A:886:ILE:HG22	2:A:887:GLY:N	2.04	0.72
6:E:135:PHE:HD2	6:E:140:LEU:HD21	1.52	0.72
2:A:567:LYS:HB3	9:H:96:VAL:H	1.55	0.72
4:C:77:ILE:HA	4:C:129:ILE:HD11	1.71	0.72
4:C:194:GLU:O	4:C:195:GLN:HG3	1.90	0.72
9:H:93:TYR:HB3	9:H:144:ILE:O	1.90	0.72
5:D:33:PHE:CZ	8:G:80:LYS:NZ	2.59	0.71
8:G:143:ILE:CG2	8:G:144:ARG:N	2.53	0.71
2:A:1283:VAL:HG12	2:A:1284:MET:H	1.55	0.71
4:C:166:GLU:HG3	12:K:10:PHE:HZ	1.55	0.71
13:L:53:HIS:HB3	13:L:55:ILE:HD11	1.71	0.71
2:A:23:SER:HA	2:A:233:TRP:NE1	2.05	0.71
2:A:269:ILE:HG12	2:A:299:HIS:HB3	1.72	0.71
8:G:1:MET:HE3	8:G:80:LYS:N	2.03	0.71
3:B:1051:THR:HG22	3:B:1052:VAL:N	2.05	0.71
4:C:92:CYS:SG	4:C:94:LYS:HB3	2.29	0.71
1:R:7:C:H3'	1:R:8:U:H5''	1.71	0.71
2:A:886:ILE:HD11	2:A:943:LEU:HB3	1.72	0.71
3:B:827:ILE:HG12	3:B:1012:ILE:CD1	2.10	0.71
2:A:1329:THR:H	2:A:1335:ILE:HD11	1.55	0.71
3:B:1002:THR:HG21	3:B:1006:ILE:HD12	1.72	0.71
2:A:93:VAL:HG22	2:A:301:ALA:HA	1.71	0.71
3:B:291:ILE:HD12	3:B:291:ILE:N	2.04	0.71
3:B:806:THR:HB	3:B:809:MET:HG3	1.71	0.71
3:B:999:MET:HE3	3:B:999:MET:HA	1.73	0.71
3:B:977:GLY:HA3	3:B:1099:VAL:HG21	1.73	0.71
2:A:1155:ASP:OD2	2:A:1161:THR:HG23	1.90	0.71
2:A:763:ALA:O	2:A:803:SER:HB3	1.91	0.71
2:A:984:LYS:HB3	2:A:988:LEU:HD12	1.73	0.71
3:B:357:GLN:HA	3:B:374:LYS:NZ	2.05	0.71
4:C:114:TYR:HB3	4:C:140:ASN:O	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:195:ILE:O	5:D:195:ILE:HG22	1.91	0.70
2:A:225:ASN:HD22	2:A:228:PHE:N	1.82	0.70
3:B:865:LYS:HE2	3:B:871:THR:OG1	1.91	0.70
9:H:100:THR:OG1	9:H:138:GLU:HG3	1.91	0.70
2:A:1161:THR:HG22	2:A:1163:ILE:N	2.04	0.70
2:A:35:ILE:HA	2:A:52:GLY:O	1.90	0.70
3:B:745:PRO:O	3:B:748:ILE:HG12	1.91	0.70
3:B:859:TYR:OH	3:B:941:LEU:HD12	1.91	0.70
6:E:22:MET:HE3	6:E:26:ARG:NE	2.06	0.70
2:A:302:THR:HA	2:A:305:ASP:O	1.90	0.70
2:A:541:ILE:HG21	2:A:549:MET:CE	2.21	0.70
2:A:768:GLN:CG	2:A:816:HIS:HA	2.21	0.70
3:B:95:ILE:HG12	3:B:130:VAL:HG22	1.72	0.70
4:C:31:ASN:OD1	4:C:34:ARG:HD3	1.92	0.70
8:G:1:MET:SD	8:G:79:PHE:CD1	2.85	0.70
2:A:858:ASN:HD22	2:A:858:ASN:C	1.95	0.70
4:C:212:PRO:HB3	4:C:213:PRO:HD2	1.74	0.70
5:D:59:ILE:O	5:D:63:LEU:HB2	1.91	0.70
8:G:119:LEU:HD12	8:G:131:GLN:O	1.90	0.70
2:A:537:ARG:HD2	9:H:20:TYR:CE1	2.26	0.70
2:A:134:ARG:HG2	2:A:134:ARG:O	1.90	0.70
2:A:63:ARG:HA	2:A:74:MET:SD	2.31	0.70
6:E:213:ILE:HG12	6:E:214:CYS:H	1.57	0.70
3:B:274:PRO:O	3:B:275:TYR:HB2	1.91	0.70
3:B:468:GLU:N	3:B:468:GLU:CD	2.45	0.69
2:A:537:ARG:HD2	9:H:20:TYR:HE1	1.57	0.69
2:A:600:PRO:HG2	2:A:601:LYS:H	1.56	0.69
4:C:258:ILE:HD13	12:K:35:PHE:HE2	1.57	0.69
1:R:3:A:H2	1:R:15:G:H21	1.37	0.69
2:A:1409:LEU:HD13	3:B:1207:LEU:HD11	1.74	0.69
2:A:306:ASN:HB2	2:A:324:SER:HB3	1.74	0.69
2:A:381:THR:OG1	2:A:382:PRO:HD2	1.91	0.69
3:B:1162:ILE:HD11	3:B:1194:ILE:CG1	2.21	0.69
3:B:782:LEU:HD12	3:B:788:ARG:HH11	1.56	0.69
2:A:1279:ILE:HD11	2:A:1316:VAL:HG21	1.73	0.69
3:B:240:ILE:HG22	3:B:254:LEU:HB3	1.73	0.69
3:B:737:THR:HG21	10:I:66:PRO:HA	1.74	0.69
2:A:1116:LEU:H	2:A:1308:THR:HG22	1.57	0.69
2:A:1349:TYR:HB2	2:A:1372:VAL:HG21	1.74	0.69
2:A:164:ARG:HG3	2:A:165:GLY:N	2.07	0.69
10:I:111:THR:HG22	10:I:112:SER:N	2.06	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:364:ILE:HG12	3:B:585:VAL:HG13	1.74	0.69
9:H:4:THR:HG22	9:H:5:LEU:H	1.56	0.69
3:B:274:PRO:O	3:B:276:ILE:HD13	1.93	0.69
3:B:980:PHE:CE1	3:B:990:ILE:HD11	2.25	0.69
2:A:1166:ASP:OD2	2:A:1239:ARG:HD2	1.93	0.69
2:A:90:VAL:HG12	2:A:297:GLN:NE2	2.07	0.69
4:C:124:LEU:O	4:C:127:ARG:HG2	1.93	0.69
10:I:68:LEU:HB3	10:I:84:VAL:HG23	1.74	0.69
2:A:68:GLN:C	2:A:70:CYS:H	1.96	0.69
2:A:783:THR:HG21	2:A:815:PHE:CZ	2.28	0.69
3:B:284:ILE:H	3:B:284:ILE:CD1	2.06	0.69
4:C:73:GLN:HB3	4:C:131:HIS:H	1.58	0.69
3:B:1099:VAL:HG13	3:B:1103:ILE:CD1	2.23	0.68
3:B:708:GLU:O	3:B:710:LEU:N	2.26	0.68
3:B:847:ASP:HB3	4:C:167:HIS:NE2	2.09	0.68
7:F:77:ASP:O	7:F:78:GLN:HB2	1.93	0.68
8:G:11:ILE:HG21	8:G:29:LYS:HG2	1.75	0.68
2:A:567:LYS:HB2	9:H:94:ASP:O	1.93	0.68
12:K:12:LEU:HD12	12:K:12:LEU:H	1.58	0.68
12:K:53:ASP:OD1	12:K:55:LYS:HB2	1.93	0.68
3:B:555:ILE:HD11	3:B:587:HIS:CD2	2.27	0.68
6:E:198:ILE:N	6:E:198:ILE:HD12	2.08	0.68
2:A:49:LYS:HZ3	2:A:61:ILE:HG12	1.56	0.68
2:A:61:ILE:HG22	2:A:62:ASP:N	2.03	0.68
6:E:61:GLN:HB2	6:E:79:TRP:CE3	2.28	0.68
9:H:98:TYR:C	9:H:118:PHE:HD2	1.96	0.68
2:A:1441:PHE:CZ	7:F:89:GLU:HA	2.29	0.68
2:A:701:LEU:HD21	10:I:114:GLN:HB2	1.74	0.68
3:B:758:PHE:HB3	3:B:761:HIS:HD2	1.57	0.68
2:A:1402:PHE:CE1	2:A:1403:GLU:HG3	2.29	0.68
2:A:794:PRO:HG2	2:A:795:GLU:OE2	1.93	0.68
2:A:903:ASN:C	2:A:903:ASN:HD22	1.97	0.68
3:B:378:LEU:O	3:B:382:ILE:HG13	1.93	0.68
6:E:116:ILE:HG22	6:E:117:THR:H	1.59	0.68
3:B:797:TYR:CD2	3:B:852:ARG:HB2	2.28	0.68
2:A:1364:ASN:HD22	2:A:1364:ASN:C	1.96	0.68
4:C:43:THR:HG22	4:C:44:LEU:N	2.09	0.68
2:A:1341:ILE:HD12	2:A:1379:GLY:O	1.94	0.68
2:A:981:LEU:CD2	2:A:1039:LYS:HA	2.24	0.68
3:B:363:HIS:O	3:B:364:ILE:HB	1.94	0.68
8:G:74:TYR:HD2	8:G:74:TYR:H	1.39	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:244:PRO:O	2:A:246:VAL:N	2.26	0.68
4:C:98:VAL:C	4:C:99:LEU:HD23	2.14	0.68
3:B:1002:THR:HG23	3:B:1006:ILE:HG13	1.76	0.68
5:D:144:THR:O	5:D:148:LEU:HB2	1.94	0.68
2:A:1111:MET:HE2	2:A:1330:ASN:OD1	1.94	0.67
2:A:374:LEU:CB	2:A:436:ILE:HD11	2.24	0.67
9:H:99:GLY:HA3	9:H:118:PHE:HA	1.76	0.67
9:H:81:PRO:CB	9:H:82:PRO:HD2	2.25	0.67
2:A:1148:ILE:HD11	2:A:1198:ASP:HB2	1.76	0.67
3:B:479:VAL:O	3:B:480:SER:HB3	1.92	0.67
2:A:1032:LEU:O	2:A:1036:ARG:HD3	1.93	0.67
2:A:463:ILE:HD13	2:A:469:ARG:HD2	1.77	0.67
3:B:501:PRO:O	3:B:502:ILE:HG13	1.93	0.67
3:B:899:ILE:HD11	3:B:911:ILE:HA	1.76	0.67
8:G:7:LEU:HB2	8:G:74:TYR:CE2	2.29	0.67
3:B:1099:VAL:HG12	3:B:1100:ASP:N	2.07	0.67
3:B:483:LEU:HD12	3:B:484:ASN:N	2.10	0.67
12:K:65:HIS:HD2	12:K:67:PHE:H	1.43	0.67
2:A:119:ASN:O	2:A:122:MET:HB3	1.95	0.67
3:B:217:ARG:HE	3:B:405:ARG:HB2	1.60	0.67
4:C:148:ARG:CG	4:C:149:LYS:H	2.05	0.67
5:D:192:LYS:NZ	5:D:199:ASN:HA	2.10	0.67
2:A:1319:VAL:HG13	2:A:1320:PRO:HD2	1.77	0.67
3:B:955:THR:CG2	3:B:956:THR:N	2.58	0.67
5:D:40:HIS:CB	8:G:73:LYS:HZ3	2.02	0.67
2:A:147:VAL:N	2:A:171:GLN:NE2	2.42	0.67
3:B:310:MET:O	3:B:313:MET:HB2	1.95	0.67
6:E:132:ILE:N	6:E:132:ILE:HD12	2.10	0.67
2:A:474:VAL:O	2:A:477:PRO:HD2	1.95	0.67
9:H:81:PRO:HB3	9:H:82:PRO:HD2	1.76	0.67
2:A:353:ILE:HG21	2:A:487:MET:HE3	1.76	0.66
2:A:898:ARG:HB2	2:A:933:TYR:CE1	2.30	0.66
3:B:879:ARG:NH1	3:B:883:LEU:HD22	2.10	0.66
2:A:4:GLN:O	2:A:5:GLN:HB2	1.95	0.66
3:B:260:GLY:O	3:B:267:ARG:HD3	1.95	0.66
4:C:189:THR:HG22	4:C:190:ASP:N	2.09	0.66
5:D:153:ARG:NH2	5:D:184:ALA:HA	2.10	0.66
2:A:1114:PRO:HG2	2:A:1115:SER:H	1.60	0.66
2:A:845:LEU:HD22	2:A:1374:VAL:HG21	1.78	0.66
2:A:965:GLN:HA	2:A:968:GLN:HG3	1.78	0.66
2:A:664:THR:HG22	2:A:665:GLY:N	2.09	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:996:ARG:NH2	4:C:175:ALA:H	1.92	0.66
5:D:192:LYS:HZ3	5:D:199:ASN:HA	1.60	0.66
2:A:551:TYR:CE2	12:K:62:LYS:HE2	2.30	0.66
13:L:31:CYS:SG	13:L:34:CYS:N	2.66	0.66
3:B:463:THR:C	3:B:465:ASN:N	2.49	0.66
3:B:515:HIS:H	3:B:518:HIS:HD2	1.44	0.66
12:K:12:LEU:N	12:K:12:LEU:HD12	2.10	0.66
2:A:147:VAL:H	2:A:171:GLN:HE21	1.42	0.66
2:A:84:ILE:HG23	2:A:84:ILE:O	1.96	0.66
3:B:696:GLU:O	3:B:699:GLU:HB2	1.95	0.66
2:A:11:LEU:O	2:A:11:LEU:HD23	1.96	0.66
2:A:414:ASP:OD1	2:A:416:ARG:HG2	1.96	0.66
2:A:1149:ALA:HB2	10:I:47:GLU:HA	1.77	0.66
2:A:903:ASN:ND2	2:A:905:ASP:H	1.92	0.66
2:A:343:LYS:HE2	3:B:1156:ASP:OD2	1.96	0.66
3:B:483:LEU:HD12	3:B:484:ASN:H	1.61	0.66
3:B:642:ASP:HB3	3:B:649:LYS:HD2	1.78	0.66
3:B:918:ILE:HG21	3:B:935:ARG:NH1	2.11	0.66
2:A:1028:THR:O	2:A:1032:LEU:HD12	1.96	0.66
3:B:806:THR:HG22	3:B:808:ALA:N	2.10	0.66
8:G:132:SER:HB3	8:G:135:ASP:H	1.61	0.66
2:A:629:LEU:HD23	2:A:629:LEU:O	1.95	0.66
6:E:61:GLN:HG2	6:E:62:ALA:N	2.10	0.66
10:I:8:ARG:HG3	10:I:34:TYR:CE1	2.29	0.66
10:I:62:ILE:HG12	10:I:62:ILE:O	1.96	0.66
12:K:27:ALA:HB1	12:K:28:PRO:HD2	1.77	0.66
2:A:590:ARG:NH1	2:A:590:ARG:HG3	2.09	0.65
3:B:468:GLU:H	3:B:468:GLU:CD	2.00	0.65
2:A:474:VAL:C	2:A:477:PRO:HD2	2.17	0.65
3:B:1152:MET:HE1	3:B:1157:ALA:HA	1.77	0.65
3:B:558:LEU:CD2	3:B:596:LEU:HD11	2.27	0.65
5:D:52:LEU:HD21	5:D:147:TYR:HE2	1.61	0.65
2:A:1017:LEU:HB3	6:E:205:SER:HA	1.78	0.65
8:G:145:VAL:HG12	8:G:146:LYS:N	2.10	0.65
3:B:390:LEU:O	3:B:392:ARG:HG3	1.96	0.65
3:B:496:ARG:HB3	3:B:496:ARG:HH11	1.61	0.65
9:H:59:ILE:O	9:H:60:ALA:HB3	1.97	0.65
2:A:658:LEU:HD13	3:B:831:SER:HA	1.78	0.65
3:B:830:TYR:CE2	3:B:1000:PRO:HD3	2.32	0.65
8:G:110:VAL:HG13	8:G:161:GLY:O	1.97	0.65
9:H:12:VAL:HA	9:H:28:ALA:HB2	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:52:ILE:HG13	10:I:52:ILE:O	1.96	0.65
2:A:117:GLU:H	2:A:117:GLU:CD	1.97	0.65
2:A:565:ILE:C	2:A:566:ILE:HD13	2.17	0.65
3:B:1166:CYS:O	3:B:1166:CYS:SG	2.53	0.65
3:B:274:PRO:HD2	3:B:274:PRO:O	1.96	0.65
3:B:821:GLN:NE2	3:B:851:PHE:HA	2.09	0.65
4:C:35:ARG:HH12	12:K:40:HIS:HB2	1.62	0.65
2:A:42:ASP:HA	2:A:46:THR:O	1.94	0.65
2:A:828:ALA:HB2	3:B:530:GLY:HA2	1.78	0.65
3:B:94:LYS:HG2	3:B:95:ILE:N	2.11	0.65
4:C:100:THR:HG22	4:C:101:LEU:H	1.60	0.65
5:D:170:THR:HB	5:D:172:LEU:HG	1.77	0.65
6:E:124:VAL:HG13	6:E:132:ILE:HB	1.77	0.65
2:A:1242:VAL:HG12	2:A:1243:VAL:N	2.10	0.65
5:D:56:ARG:HB2	5:D:148:LEU:HD22	1.78	0.65
11:J:50:ILE:H	11:J:50:ILE:HD12	1.60	0.65
2:A:203:SER:OG	2:A:206:GLU:HB2	1.97	0.65
2:A:344:ARG:HB2	3:B:1118:PRO:HD2	1.77	0.65
2:A:356:ASP:HB2	2:A:469:ARG:HH11	1.61	0.65
3:B:464:GLY:C	3:B:466:TRP:N	2.49	0.65
3:B:504:ARG:HB3	3:B:507:LYS:HE2	1.78	0.65
3:B:563:MET:HE1	3:B:580:VAL:HB	1.79	0.65
3:B:948:ILE:HG22	3:B:949:VAL:O	1.96	0.65
5:D:160:VAL:O	5:D:164:ILE:HG13	1.97	0.65
2:A:783:THR:HG21	2:A:815:PHE:CE2	2.31	0.65
3:B:850:LEU:HD12	3:B:851:PHE:N	2.12	0.65
2:A:114:LEU:HD13	2:A:171:GLN:OE1	1.97	0.65
2:A:1451:VAL:O	2:A:1454:MET:HG2	1.96	0.65
2:A:547:LEU:HD22	12:K:58:PHE:CE1	2.32	0.65
3:B:210:LYS:HE2	3:B:462:ALA:O	1.97	0.64
3:B:555:ILE:C	3:B:557:PHE:H	2.00	0.64
4:C:177:GLU:HB2	4:C:231:ASN:HB3	1.78	0.64
4:C:8:VAL:HG12	4:C:9:LYS:H	1.61	0.64
2:A:901:LEU:H	2:A:926:GLN:HE21	1.45	0.64
3:B:240:ILE:CG2	3:B:254:LEU:HB3	2.27	0.64
3:B:247:GLY:H	3:B:418:LYS:HZ1	1.46	0.64
6:E:55:ARG:HD2	6:E:83:CYS:O	1.97	0.64
9:H:15:VAL:HG22	9:H:26:ILE:HD11	1.78	0.64
2:A:92:HIS:O	2:A:94:GLY:N	2.29	0.64
2:A:666:ILE:HD11	3:B:1067:ARG:O	1.97	0.64
3:B:95:ILE:HG12	3:B:130:VAL:CG2	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:23:ASN:C	11:J:25:LEU:H	2.00	0.64
13:L:30:ILE:HG22	13:L:31:CYS:O	1.97	0.64
2:A:1015:VAL:HG12	2:A:1019:CYS:SG	2.37	0.64
2:A:1373:ASP:HA	2:A:1376:THR:HG22	1.78	0.64
2:A:869:GLY:O	2:A:870:GLU:HB2	1.97	0.64
2:A:782:ARG:NH2	3:B:699:GLU:O	2.28	0.64
4:C:67:LEU:HD11	4:C:155:LEU:CD1	2.28	0.64
4:C:5:GLY:O	4:C:7:GLN:HG3	1.98	0.64
5:D:52:LEU:HD21	5:D:147:TYR:CE2	2.32	0.64
9:H:40:LEU:HD13	9:H:123:MET:HB2	1.78	0.64
2:A:979:SER:OG	2:A:980:ASP:N	2.30	0.64
3:B:1162:ILE:HD11	3:B:1194:ILE:HG13	1.80	0.64
3:B:758:PHE:HB3	3:B:761:HIS:CD2	2.31	0.64
4:C:166:GLU:O	4:C:167:HIS:HB2	1.97	0.64
11:J:50:ILE:N	11:J:50:ILE:HD12	2.13	0.64
1:R:12:5BU:O2'	1:R:13:G:O5'	2.07	0.64
3:B:1001:PHE:CZ	3:B:1073:TYR:HB2	2.32	0.64
4:C:189:THR:HG22	4:C:190:ASP:H	1.60	0.64
8:G:1:MET:HG3	8:G:85:GLU:OE2	1.98	0.64
1:R:15:G:O2'	1:R:16:G:H5'	1.97	0.64
1:R:3:A:C2	1:R:16:G:H1'	2.33	0.64
2:A:340:LEU:HD21	3:B:1200:ALA:N	2.12	0.64
3:B:1152:MET:HE3	3:B:1157:ALA:HA	1.79	0.64
3:B:411:PRO:O	3:B:414:ALA:HB3	1.96	0.64
3:B:644:GLU:HG2	3:B:654:ARG:HH22	1.61	0.64
9:H:35:GLN:O	9:H:37:LYS:HG3	1.96	0.64
2:A:1072:ILE:O	2:A:1075:PRO:HG2	1.98	0.64
2:A:55:ASP:CG	2:A:55:ASP:O	2.33	0.64
2:A:709:THR:HG22	2:A:711:ARG:H	1.62	0.64
2:A:809:THR:HG23	2:A:812:GLU:OE1	1.98	0.64
3:B:701:ILE:HD11	3:B:703:ILE:HD11	1.80	0.64
5:D:40:HIS:CB	8:G:73:LYS:NZ	2.52	0.64
2:A:32:VAL:HG21	2:A:68:GLN:NE2	2.12	0.64
3:B:799:PRO:HB3	3:B:818:PRO:HG2	1.80	0.64
2:A:166:GLY:O	2:A:167:CYS:SG	2.56	0.63
2:A:69:THR:C	2:A:71:GLN:H	2.02	0.63
3:B:504:ARG:CB	3:B:507:LYS:HE2	2.28	0.63
6:E:161:LYS:HD2	6:E:195:VAL:CG2	2.28	0.63
9:H:44:VAL:O	9:H:44:VAL:HG12	1.98	0.63
2:A:1120:LEU:HD12	2:A:1120:LEU:N	2.13	0.63
3:B:770:GLN:OE1	3:B:983:ARG:HA	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:55:ASP:N	2:A:56:PRO:HD3	2.13	0.63
2:A:829:VAL:C	2:A:831:THR:H	1.99	0.63
2:A:881:GLN:NE2	2:A:959:ASN:HA	2.13	0.63
3:B:918:ILE:CB	3:B:935:ARG:HD2	2.27	0.63
4:C:148:ARG:H	4:C:151:GLN:HG3	1.63	0.63
5:D:130:LEU:C	5:D:132:GLN:H	2.02	0.63
11:J:1:MET:N	11:J:56:LEU:N	2.47	0.63
1:R:28:5BU:H2'	1:R:29:G:C8	2.33	0.63
2:A:172:PRO:HB3	2:A:185:TRP:CE2	2.33	0.63
3:B:1085:ILE:HD12	3:B:1085:ILE:N	2.13	0.63
3:B:273:LEU:CD2	3:B:273:LEU:N	2.62	0.63
3:B:446:LEU:O	3:B:447:ALA:HB3	1.99	0.63
3:B:999:MET:HG3	3:B:1000:PRO:HD2	1.81	0.63
4:C:18:VAL:O	4:C:18:VAL:HG12	1.97	0.63
2:A:1438:THR:HB	3:B:1144:ALA:CB	2.26	0.63
2:A:332:LYS:HG2	2:A:333:GLU:HG2	1.80	0.63
3:B:1034:VAL:HG12	3:B:1035:ALA:N	2.14	0.63
3:B:842:ASN:ND2	3:B:845:SER:OG	2.29	0.63
4:C:56:THR:HG22	4:C:57:VAL:N	2.12	0.63
4:C:67:LEU:HA	4:C:70:ILE:HD13	1.81	0.63
5:D:40:HIS:CE1	5:D:41:GLN:HG3	2.33	0.63
3:B:1099:VAL:C	3:B:1101:ASP:H	2.00	0.63
4:C:262:LEU:HD11	12:K:87:LEU:HD23	1.81	0.63
2:A:1004:ASN:O	2:A:1008:GLN:HB2	1.98	0.63
3:B:359:GLU:O	3:B:362:PRO:HD3	1.98	0.63
3:B:463:THR:HB	3:B:465:ASN:H	1.64	0.63
3:B:952:VAL:CG1	3:B:953:LEU:N	2.62	0.63
3:B:1119:VAL:HG23	3:B:1126:GLY:HA2	1.80	0.63
3:B:821:GLN:HE22	3:B:851:PHE:CA	2.09	0.63
4:C:76:ASP:O	4:C:79:GLN:HG2	1.98	0.63
2:A:1102:LYS:O	2:A:1106:ASN:ND2	2.32	0.62
3:B:282:ILE:N	3:B:282:ILE:HD13	2.14	0.62
7:F:147:SER:OG	7:F:150:GLU:HG3	1.98	0.62
12:K:63:VAL:HG23	12:K:63:VAL:O	1.98	0.62
1:R:8:U:H2'	1:R:8:U:O2	1.99	0.62
2:A:563:PRO:HG3	2:A:572:TRP:CZ2	2.34	0.62
2:A:821:ARG:NH1	2:A:821:ARG:HB2	2.14	0.62
2:A:836:TYR:CE2	2:A:840:ARG:HD2	2.34	0.62
2:A:842:VAL:HG11	3:B:1136:ASP:OD2	1.98	0.62
3:B:658:ILE:HG22	3:B:659:ALA:N	2.13	0.62
2:A:567:LYS:HD3	9:H:95:TYR:CD2	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:272:THR:O	3:B:273:LEU:HB3	1.99	0.62
2:A:1325:THR:O	6:E:148:GLU:HB2	1.99	0.62
3:B:1096:ARG:O	3:B:1097:HIS:CB	2.47	0.62
3:B:65:GLU:HG3	3:B:66:ASP:N	2.10	0.62
7:F:109:VAL:HG21	7:F:124:GLU:HA	1.81	0.62
7:F:76:LYS:O	7:F:79:ARG:HD3	1.98	0.62
2:A:1272:THR:C	2:A:1273:LEU:HD12	2.19	0.62
2:A:63:ARG:HG2	2:A:74:MET:SD	2.40	0.62
2:A:856:THR:HB	2:A:865:GLN:HB2	1.82	0.62
4:C:166:GLU:HG3	12:K:10:PHE:CZ	2.34	0.62
5:D:185:CYS:HB3	5:D:211:LEU:HD22	1.81	0.62
3:B:1006:ILE:HD13	11:J:44:TYR:CE2	2.34	0.62
2:A:1313:LEU:HD23	2:A:1338:VAL:HG21	1.81	0.62
5:D:66:ARG:O	5:D:70:PHE:HB2	2.00	0.62
7:F:89:GLU:OE2	7:F:134:ILE:HG21	1.99	0.62
9:H:17:PRO:HB3	9:H:24:CYS:SG	2.38	0.62
2:A:1127:ASP:O	2:A:1130:GLN:HB3	1.99	0.62
2:A:401:GLY:C	2:A:435:HIS:HD2	2.03	0.62
3:B:95:ILE:HD13	3:B:96:TYR:N	2.15	0.62
5:D:189:ASP:O	5:D:193:THR:HB	2.00	0.62
2:A:1454:MET:O	2:A:1454:MET:HG3	1.99	0.62
2:A:79:GLY:HA3	2:A:243:PRO:HG3	1.82	0.62
2:A:506:ALA:HB3	2:A:509:LEU:HD12	1.82	0.62
2:A:82:GLY:O	2:A:241:VAL:N	2.26	0.62
3:B:200:GLY:HA2	3:B:202:TYR:CE2	2.35	0.62
2:A:1206:ASP:CB	2:A:1274:ARG:HH12	2.11	0.62
2:A:295:LEU:O	2:A:298:PHE:HB3	2.00	0.62
2:A:335:ARG:HA	2:A:339:ASN:HD22	1.65	0.62
6:E:163:GLU:O	6:E:166:LYS:N	2.33	0.62
2:A:225:ASN:ND2	2:A:227:VAL:H	1.98	0.62
3:B:27:ALA:O	3:B:29:ASP:N	2.33	0.62
3:B:526:GLU:HG2	3:B:538:ASN:HD22	1.63	0.62
2:A:254:GLU:HB2	3:B:935:ARG:HH22	1.65	0.62
5:D:156:ASP:C	5:D:158:GLU:H	2.02	0.62
5:D:33:PHE:CE1	8:G:80:LYS:HD2	2.35	0.62
7:F:111:LEU:C	7:F:113:GLY:H	2.03	0.62
9:H:143:LEU:C	9:H:144:ILE:HG13	2.20	0.62
9:H:84:ALA:HB1	9:H:87:ARG:HB2	1.82	0.62
2:A:129:LYS:O	2:A:130:ASP:HB2	1.99	0.61
3:B:1160:VAL:HG11	3:B:1169:MET:SD	2.40	0.61
2:A:446:ARG:HB2	2:A:487:MET:SD	2.40	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:521:LEU:HB3	3:B:633:VAL:HG11	1.82	0.61
3:B:653:VAL:CG2	3:B:689:LEU:HB3	2.31	0.61
6:E:17:ARG:O	6:E:21:GLU:HG3	1.99	0.61
2:A:1130:GLN:NE2	2:A:1134:ILE:HD11	2.15	0.61
3:B:556:THR:O	3:B:556:THR:HG22	2.00	0.61
3:B:906:SER:HA	3:B:946:ASN:HB2	1.81	0.61
3:B:1224:PHE:CE2	6:E:171:LYS:HG3	2.34	0.61
6:E:15:ALA:O	6:E:19:VAL:HG23	2.00	0.61
13:L:46:VAL:HG12	13:L:46:VAL:O	2.00	0.61
2:A:573:SER:O	2:A:576:GLN:HB2	2.00	0.61
3:B:984:HIS:CD2	3:B:1025:HIS:HB2	2.35	0.61
3:B:778:MET:HE1	3:B:1094:ARG:HD3	1.81	0.61
3:B:1095:LEU:HD12	3:B:1095:LEU:H	1.65	0.61
3:B:637:LEU:HD12	3:B:693:ILE:HD12	1.82	0.61
13:L:30:ILE:O	13:L:56:LEU:HA	2.00	0.61
3:B:53:GLN:HG2	3:B:547:VAL:HG22	1.83	0.61
2:A:244:PRO:HB2	2:A:245:PRO:HD3	1.83	0.61
2:A:535:THR:HG21	2:A:617:VAL:H	1.65	0.61
2:A:709:THR:CG2	10:I:94:ASP:HA	2.30	0.61
13:L:39:SER:O	13:L:40:LEU:HG	2.00	0.61
3:B:465:ASN:O	3:B:466:TRP:C	2.38	0.61
9:H:89:LEU:HB3	9:H:91:ASP:OD1	1.99	0.61
2:A:1435:PRO:HA	2:A:1439:GLY:O	2.01	0.61
3:B:1183:LYS:HA	3:B:1186:ASP:HA	1.82	0.61
3:B:168:GLY:H	3:B:450:ALA:HB1	1.66	0.61
3:B:51:PHE:CD2	3:B:173:MET:HB3	2.36	0.61
3:B:240:ILE:HG23	3:B:240:ILE:O	2.00	0.61
3:B:272:THR:C	3:B:273:LEU:HD13	2.21	0.61
3:B:408:LEU:C	3:B:412:LEU:HD12	2.21	0.61
3:B:640:VAL:HG12	3:B:640:VAL:O	1.99	0.61
5:D:195:ILE:HG22	5:D:198:LEU:HG	1.81	0.61
8:G:80:LYS:HG2	8:G:80:LYS:O	2.01	0.61
9:H:89:LEU:C	9:H:91:ASP:H	2.02	0.61
1:R:2:C:C2'	1:R:3:A:OP1	2.49	0.61
2:A:147:VAL:H	2:A:171:GLN:NE2	1.97	0.61
2:A:384:ASN:CG	2:A:388:LEU:HD12	2.20	0.61
2:A:567:LYS:CG	2:A:568:PRO:CD	2.77	0.61
3:B:1051:THR:HG22	3:B:1052:VAL:H	1.66	0.61
3:B:862:GLN:HG2	3:B:963:PHE:CD1	2.36	0.61
4:C:31:ASN:O	4:C:34:ARG:N	2.34	0.61
5:D:138:ASN:OD1	5:D:141:LEU:HB2	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:48:ILE:N	5:D:48:ILE:HD12	2.16	0.61
2:A:1004:ASN:ND2	6:E:167:ARG:HD2	2.15	0.61
7:F:81:THR:HB	7:F:136:ARG:NH1	2.16	0.61
2:A:1447:GLU:OE2	8:G:23:LYS:HB2	2.00	0.61
2:A:463:ILE:HB	2:A:464:PRO:HD2	1.83	0.61
2:A:341:MET:HE1	2:A:843:LYS:NZ	2.15	0.61
2:A:925:LEU:O	2:A:927:VAL:N	2.34	0.61
3:B:1045:SER:O	3:B:1046:PRO:O	2.19	0.61
3:B:293:PRO:HG2	3:B:296:GLU:CB	2.30	0.61
4:C:56:THR:HG22	4:C:57:VAL:H	1.64	0.61
12:K:46:ILE:O	12:K:50:LEU:HB2	2.00	0.61
2:A:1124:HIS:HB3	2:A:1130:GLN:HG2	1.83	0.60
2:A:224:PHE:CE2	2:A:231:PRO:HG3	2.36	0.60
2:A:427:GLN:HB2	2:A:430:TRP:CD2	2.36	0.60
2:A:33:ALA:HB1	2:A:56:PRO:HB2	1.82	0.60
3:B:1162:ILE:HG22	3:B:1163:CYS:N	2.16	0.60
9:H:59:ILE:CG2	9:H:60:ALA:N	2.46	0.60
4:C:66:ARG:NH2	11:J:3:VAL:O	2.34	0.60
9:H:100:THR:HG23	9:H:138:GLU:CA	2.21	0.60
2:A:321:PRO:O	2:A:322:VAL:HB	2.00	0.60
8:G:1:MET:SD	8:G:2:PHE:N	2.74	0.60
2:A:825:ILE:C	2:A:827:THR:H	2.03	0.60
3:B:825:VAL:CG1	3:B:826:ALA:N	2.63	0.60
9:H:40:LEU:CD1	9:H:123:MET:HB2	2.31	0.60
2:A:1389:PHE:CD1	2:A:1389:PHE:C	2.74	0.60
2:A:340:LEU:HD13	2:A:1429:ILE:HG23	1.84	0.60
4:C:17:ASN:ND2	4:C:17:ASN:N	2.43	0.60
2:A:914:GLU:HB2	2:A:979:SER:O	2.01	0.60
6:E:61:GLN:HB2	6:E:79:TRP:HE3	1.66	0.60
8:G:138:THR:CG2	8:G:139:ILE:H	2.07	0.60
10:I:26:LEU:CD2	10:I:37:GLU:HA	2.31	0.60
2:A:148:CYS:HB3	2:A:168:GLY:HA2	1.83	0.60
2:A:388:LEU:HA	2:A:391:LEU:HD12	1.82	0.60
2:A:464:PRO:HG2	2:A:465:TYR:HD1	1.65	0.60
3:B:521:LEU:HD13	3:B:633:VAL:HB	1.84	0.60
3:B:557:PHE:CD2	3:B:557:PHE:C	2.75	0.60
3:B:33:VAL:HG21	3:B:638:PHE:HZ	1.67	0.60
3:B:642:ASP:HB3	3:B:649:LYS:CD	2.31	0.60
3:B:710:LEU:HA	3:B:733:HIS:HB3	1.82	0.60
9:H:38:LEU:HD12	9:H:124:ARG:O	2.00	0.60
3:B:387:LEU:HD12	3:B:387:LEU:H	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:G:91:VAL:HG12	8:G:92:VAL:N	2.16	0.60
2:A:61:ILE:CG2	2:A:62:ASP:H	2.01	0.60
2:A:896:ARG:HD3	2:A:897:TYR:CE1	2.37	0.60
3:B:472:ALA:C	3:B:474:SER:N	2.55	0.60
3:B:501:PRO:C	3:B:502:ILE:HG13	2.21	0.60
3:B:515:HIS:HD2	3:B:517:THR:H	1.50	0.60
3:B:865:LYS:HZ2	3:B:869:SER:HA	1.66	0.60
6:E:182:ASP:O	6:E:185:ALA:N	2.35	0.60
1:R:16:G:C4	1:R:17:5BU:BR	3.10	0.60
10:I:7:CYS:HB3	10:I:14:LEU:HD21	1.84	0.60
2:A:1094:VAL:HG13	2:A:1113:THR:CG2	2.30	0.59
2:A:1120:LEU:CD1	2:A:1120:LEU:H	2.14	0.59
4:C:161:LYS:O	4:C:170:TRP:NE1	2.35	0.59
6:E:161:LYS:HD2	6:E:195:VAL:HG23	1.84	0.59
6:E:178:ILE:HG22	6:E:213:ILE:O	2.02	0.59
10:I:101:PHE:N	10:I:101:PHE:CD1	2.70	0.59
2:A:720:ARG:O	2:A:724:GLU:HB2	2.02	0.59
2:A:734:GLU:O	2:A:734:GLU:HG2	2.02	0.59
3:B:1130:PHE:CE1	3:B:1150:ARG:HG3	2.37	0.59
3:B:1162:ILE:HD11	3:B:1194:ILE:HG12	1.83	0.59
3:B:466:TRP:C	3:B:468:GLU:H	2.04	0.59
3:B:527:THR:OG1	3:B:528:PRO:HD2	2.02	0.59
4:C:147:LEU:N	4:C:147:LEU:HD23	2.17	0.59
8:G:87:VAL:HG21	8:G:103:VAL:HG11	1.85	0.59
8:G:15:PRO:HA	8:G:18:PHE:CD1	2.38	0.59
2:A:92:HIS:HB2	2:A:236:LEU:HD21	1.83	0.59
2:A:252:PHE:O	2:A:253:ASN:HB2	2.03	0.59
2:A:41:MET:O	2:A:50:ILE:HG13	2.01	0.59
2:A:475:THR:HG23	2:A:476:SER:N	2.17	0.59
2:A:534:LEU:O	2:A:574:GLY:HA3	2.02	0.59
2:A:965:GLN:O	2:A:968:GLN:HB2	2.02	0.59
3:B:589:VAL:CG1	3:B:590:HIS:H	2.12	0.59
3:B:882:THR:CG2	3:B:884:ARG:HB2	2.32	0.59
4:C:73:GLN:HE21	4:C:75:MET:H	1.48	0.59
12:K:58:PHE:HB3	12:K:76:GLN:HB3	1.83	0.59
2:A:1209:MET:SD	2:A:1236:LEU:HD22	2.42	0.59
2:A:24:PRO:HD2	2:A:233:TRP:NE1	2.16	0.59
2:A:808:LEU:HD23	2:A:812:GLU:C	2.22	0.59
3:B:952:VAL:CG1	3:B:953:LEU:H	2.15	0.59
11:J:1:MET:H2	11:J:56:LEU:N	1.98	0.59
2:A:317:LYS:O	2:A:318:SER:HB3	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:567:LYS:HB3	9:H:95:TYR:HA	1.83	0.59
3:B:1002:THR:HG21	3:B:1006:ILE:CD1	2.31	0.59
3:B:213:ILE:HD11	3:B:481:GLN:OE1	2.02	0.59
3:B:350:GLN:O	3:B:352:ALA:N	2.35	0.59
2:A:84:ILE:HD11	2:A:270:LEU:HD13	1.84	0.59
3:B:288:ALA:HB2	3:B:330:ALA:HB1	1.83	0.59
4:C:133:ILE:CD1	4:C:237:SER:HA	2.32	0.59
11:J:41:LEU:HD13	11:J:50:ILE:HD13	1.83	0.59
2:A:388:LEU:O	2:A:392:VAL:HG23	2.02	0.59
2:A:341:MET:HE1	3:B:1135:ARG:NH1	2.18	0.59
3:B:113:TYR:HB3	3:B:114:PRO:HD2	1.85	0.59
3:B:282:ILE:CD1	3:B:282:ILE:N	2.66	0.59
3:B:521:LEU:HD22	3:B:633:VAL:HG12	1.84	0.59
3:B:999:MET:HE2	3:B:1000:PRO:HD2	1.83	0.59
4:C:186:LEU:HD12	4:C:186:LEU:N	2.17	0.59
4:C:8:VAL:HG12	4:C:9:LYS:N	2.17	0.59
6:E:157:SER:OG	6:E:160:GLU:HG3	2.02	0.59
8:G:143:ILE:N	8:G:143:ILE:HD12	2.18	0.59
2:A:590:ARG:HH11	2:A:590:ARG:HG3	1.67	0.59
2:A:666:ILE:CD1	2:A:667:GLY:H	2.16	0.59
2:A:30:ILE:HG23	3:B:1170:THR:CG2	2.33	0.59
4:C:148:ARG:HG2	4:C:149:LYS:N	2.17	0.59
6:E:16:PHE:CE2	6:E:20:LYS:HE2	2.37	0.59
9:H:127:GLY:O	9:H:128:ASN:HB2	2.03	0.59
10:I:111:THR:CG2	10:I:112:SER:N	2.65	0.59
2:A:1332:PHE:H	2:A:1332:PHE:HD2	1.51	0.59
2:A:1364:ASN:C	2:A:1364:ASN:ND2	2.56	0.59
2:A:650:GLN:O	2:A:654:ASN:HB2	2.03	0.59
3:B:276:ILE:O	3:B:276:ILE:HG23	2.02	0.59
3:B:314:LEU:O	3:B:317:CYS:HB3	2.03	0.59
3:B:606:LYS:HD2	3:B:608:ASP:OD2	2.03	0.59
8:G:139:ILE:HG22	8:G:140:LYS:N	2.17	0.59
8:G:15:PRO:HA	8:G:18:PHE:CE1	2.38	0.59
10:I:50:THR:CG2	10:I:52:ILE:HG12	2.33	0.59
2:A:1208:THR:HG22	2:A:1210:GLY:H	1.68	0.59
2:A:1115:SER:HA	2:A:1308:THR:HG23	1.84	0.59
2:A:504:LEU:HD12	2:A:504:LEU:N	2.18	0.59
3:B:1002:THR:CG2	3:B:1006:ILE:HG13	2.32	0.59
3:B:1069:PHE:HD1	3:B:1069:PHE:H	1.51	0.59
3:B:505:ASP:O	3:B:507:LYS:N	2.35	0.59
3:B:579:ARG:HG2	3:B:579:ARG:HH11	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:797:TYR:HD2	3:B:852:ARG:HB2	1.66	0.59
3:B:880:THR:O	3:B:881:ASN:HB2	2.02	0.59
10:I:82:GLU:HB3	10:I:104:LEU:HD12	1.85	0.59
4:C:22:LEU:HD21	12:K:101:LEU:HD11	1.85	0.59
2:A:1212:VAL:O	2:A:1216:ILE:HG13	2.03	0.58
2:A:1144:LYS:HB2	2:A:1268:LEU:O	2.03	0.58
2:A:154:SER:HB3	2:A:162:VAL:HG21	1.84	0.58
3:B:39:ARG:NH2	3:B:665:GLU:HG2	2.18	0.58
4:C:226:ASP:O	4:C:227:THR:HB	2.03	0.58
1:R:29:G:C4'	2:A:1386:ARG:HH12	2.15	0.58
2:A:219:PHE:O	2:A:222:LEU:O	2.19	0.58
2:A:471:ASN:O	2:A:474:VAL:HG12	2.02	0.58
2:A:858:ASN:HD21	2:A:860:LEU:H	1.46	0.58
4:C:208:GLU:O	4:C:210:GLU:N	2.36	0.58
9:H:107:VAL:HG21	9:H:126:GLU:OE2	2.03	0.58
1:R:19:G:H1	1:R:28:5BU:H3	1.51	0.58
2:A:711:ARG:NH1	10:I:95:THR:HB	2.19	0.58
2:A:903:ASN:HD22	2:A:904:THR:N	2.00	0.58
3:B:1023:VAL:O	3:B:1026:LEU:HB2	2.03	0.58
3:B:526:GLU:HG2	3:B:538:ASN:ND2	2.18	0.58
2:A:1102:LYS:CG	2:A:1106:ASN:HD21	2.13	0.58
2:A:1299:VAL:HG12	2:A:1300:LYS:N	2.18	0.58
2:A:1356:ILE:HG22	2:A:1361:SER:HB2	1.84	0.58
3:B:365:THR:CG2	3:B:367:LEU:H	2.11	0.58
2:A:1198:ASP:O	2:A:1202:MET:HG2	2.03	0.58
2:A:1118:VAL:O	2:A:1305:VAL:HG13	2.03	0.58
2:A:351:THR:HB	3:B:1103:ILE:HD12	1.85	0.58
2:A:816:HIS:CD2	3:B:764:SER:HB2	2.39	0.58
8:G:91:VAL:HB	8:G:139:ILE:O	2.03	0.58
1:R:10:A:O2'	1:R:12:5BU:C6	2.51	0.58
2:A:1402:PHE:CD1	2:A:1403:GLU:HG3	2.37	0.58
2:A:567:LYS:HB3	9:H:96:VAL:N	2.18	0.58
2:A:57:ARG:O	2:A:58:LEU:O	2.21	0.58
2:A:1224:LEU:HD12	2:A:1241:ARG:O	2.03	0.58
2:A:823:GLY:O	2:A:825:ILE:N	2.37	0.58
2:A:838:GLN:O	2:A:842:VAL:HG23	2.03	0.58
3:B:1099:VAL:HG13	3:B:1103:ILE:HD13	1.85	0.58
2:A:22:PHE:CB	3:B:1211:ASN:ND2	2.66	0.58
6:E:22:MET:HE1	6:E:26:ARG:NH2	2.19	0.58
10:I:29:CYS:SG	10:I:32:CYS:N	2.64	0.58
3:B:1099:VAL:HG13	3:B:1103:ILE:HD11	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:95:ILE:CG1	3:B:130:VAL:HG22	2.34	0.58
3:B:400:HIS:O	3:B:402:GLY:N	2.37	0.58
3:B:503:GLY:O	3:B:504:ARG:HB2	2.04	0.58
11:J:32:GLU:O	11:J:34:THR:N	2.37	0.58
2:A:1057:VAL:HG12	2:A:1058:VAL:H	1.68	0.58
2:A:1206:ASP:O	2:A:1274:ARG:NH1	2.35	0.58
2:A:1372:VAL:CG1	2:A:1373:ASP:N	2.67	0.58
2:A:135:PHE:C	2:A:137:ALA:H	2.06	0.58
2:A:384:ASN:O	2:A:385:ILE:C	2.41	0.58
2:A:710:LEU:HD12	2:A:710:LEU:N	2.17	0.58
3:B:504:ARG:HB3	3:B:507:LYS:CE	2.33	0.58
3:B:94:LYS:O	3:B:130:VAL:HG13	2.04	0.58
4:C:37:MET:HA	4:C:41:ILE:CD1	2.33	0.58
9:H:130:ARG:H	9:H:130:ARG:HD2	1.68	0.58
11:J:8:PHE:H	11:J:49:MET:CE	2.17	0.58
13:L:49:LYS:O	13:L:50:ASP:CB	2.51	0.58
2:A:663:SER:OG	2:A:664:THR:N	2.37	0.58
2:A:774:ARG:CZ	2:A:797:LYS:HG3	2.33	0.58
3:B:866:TYR:O	3:B:868:MET:N	2.37	0.58
3:B:955:THR:CG2	3:B:956:THR:H	2.17	0.58
1:R:27:5BU:BR	1:R:28:5BU:BR	3.32	0.58
2:A:1195:LEU:HD11	2:A:1267:MET:CE	2.34	0.57
2:A:224:PHE:CZ	2:A:231:PRO:HG3	2.39	0.57
2:A:590:ARG:HH11	2:A:590:ARG:CG	2.17	0.57
2:A:754:SER:H	2:A:757:ASN:HD22	1.52	0.57
3:B:1073:TYR:OH	4:C:179:GLU:HG3	2.04	0.57
3:B:254:LEU:HD23	3:B:381:MET:CE	2.33	0.57
3:B:773:MET:SD	3:B:987:LYS:HD3	2.44	0.57
6:E:48:ASP:CG	6:E:49:SER:H	2.06	0.57
5:D:29:LEU:HD22	8:G:82:PHE:CE2	2.39	0.57
10:I:110:PHE:HD2	10:I:110:PHE:H	1.51	0.57
4:C:175:ALA:O	4:C:176:ILE:HG13	2.04	0.57
4:C:6:PRO:HB2	12:K:101:LEU:HD12	1.86	0.57
6:E:165:LEU:HD23	6:E:170:LEU:HB2	1.85	0.57
3:B:309:GLN:OE1	10:I:52:ILE:HD11	2.03	0.57
2:A:546:VAL:HG13	2:A:577:ILE:HG21	1.86	0.57
3:B:1065:GLN:NE2	3:B:1066:SER:N	2.53	0.57
3:B:282:ILE:HD13	3:B:283:VAL:H	1.68	0.57
3:B:373:ARG:HA	3:B:566:LEU:HD23	1.85	0.57
7:F:74:ILE:HG23	7:F:75:PRO:HD2	1.86	0.57
10:I:50:THR:HG22	10:I:51:ASN:N	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:47:ARG:CB	12:K:47:ARG:HH11	2.05	0.57
2:A:1291:VAL:HG13	2:A:1292:PRO:HD2	1.87	0.57
3:B:210:LYS:HA	3:B:481:GLN:O	2.04	0.57
3:B:504:ARG:HB3	3:B:507:LYS:NZ	2.19	0.57
4:C:43:THR:CG2	4:C:44:LEU:N	2.67	0.57
7:F:99:LEU:HD12	7:F:99:LEU:O	2.04	0.57
1:R:7:C:N3	3:B:465:ASN:ND2	2.53	0.57
3:B:466:TRP:C	3:B:468:GLU:N	2.57	0.57
3:B:846:ILE:CG2	3:B:974:PRO:HG2	2.33	0.57
12:K:42:LEU:O	12:K:46:ILE:HG12	2.04	0.57
2:A:1345:ARG:HD2	2:A:1373:ASP:OD1	2.05	0.57
2:A:75:ASN:O	2:A:76:GLU:HB2	2.05	0.57
2:A:858:ASN:ND2	2:A:858:ASN:C	2.58	0.57
2:A:89:PRO:HB2	2:A:204:THR:HG22	1.87	0.57
2:A:963:ILE:HD11	2:A:1048:ASN:HB3	1.87	0.57
3:B:778:MET:CE	3:B:1094:ARG:HD3	2.35	0.57
2:A:1378:GLN:O	6:E:177:ARG:HB2	2.04	0.57
7:F:111:LEU:H	7:F:111:LEU:HD12	1.69	0.57
2:A:868:TYR:CE1	2:A:1064:VAL:CG1	2.83	0.57
3:B:274:PRO:CD	3:B:274:PRO:O	2.52	0.57
3:B:515:HIS:CD2	3:B:517:THR:H	2.21	0.57
3:B:847:ASP:C	3:B:849:GLY:H	2.07	0.57
4:C:174:ALA:O	4:C:175:ALA:HB3	2.05	0.57
7:F:138:LEU:HB3	7:F:139:PRO:HD2	1.87	0.57
9:H:123:MET:HE3	9:H:142:LEU:HD22	1.85	0.57
9:H:42:ILE:HG23	9:H:95:TYR:CE1	2.29	0.57
12:K:58:PHE:HE2	12:K:74:ARG:NE	2.02	0.57
2:A:1094:VAL:CG1	2:A:1113:THR:HG21	2.32	0.57
3:B:57:TYR:CD1	3:B:57:TYR:N	2.72	0.57
6:E:163:GLU:O	6:E:164:LEU:C	2.42	0.57
10:I:16:PRO:HB3	10:I:27:PHE:CE2	2.40	0.57
2:A:1116:LEU:N	2:A:1308:THR:CG2	2.67	0.57
2:A:500:GLU:OE2	2:A:1438:THR:HG21	2.05	0.57
3:B:549:THR:H	3:B:628:THR:HG23	1.70	0.57
7:F:86:THR:OG1	7:F:89:GLU:HG3	2.05	0.57
2:A:1214:GLU:O	2:A:1218:GLN:HG2	2.05	0.57
2:A:645:LEU:O	2:A:646:PHE:C	2.43	0.57
7:F:81:THR:HB	7:F:136:ARG:HH11	1.69	0.57
8:G:53:ASN:HD22	8:G:53:ASN:N	2.03	0.57
12:K:55:LYS:HB3	12:K:81:TYR:CD1	2.39	0.57
1:R:7:C:N4	1:R:13:G:H21	2.02	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1385:THR:HG22	2:A:1386:ARG:N	2.20	0.56
2:A:1420:ASP:O	2:A:1421:CYS:HB2	2.05	0.56
3:B:563:MET:CE	3:B:580:VAL:HB	2.34	0.56
6:E:116:ILE:CG2	6:E:117:THR:H	2.18	0.56
6:E:116:ILE:CG2	6:E:117:THR:N	2.67	0.56
2:A:499:ALA:O	2:A:503:GLN:HB2	2.04	0.56
3:B:1120:GLU:HG2	3:B:1121:GLY:N	2.19	0.56
3:B:408:LEU:O	3:B:411:PRO:HD2	2.04	0.56
4:C:249:ASP:O	4:C:252:GLN:HB3	2.06	0.56
4:C:47:ASP:HA	13:L:69:ALA:CB	2.31	0.56
2:A:369:SER:HB3	12:K:2:ASN:ND2	2.16	0.56
2:A:445:ASN:HB2	2:A:455:MET:HG2	1.88	0.56
2:A:919:ILE:HG23	2:A:925:LEU:HD12	1.85	0.56
4:C:167:HIS:CD2	4:C:168:ALA:H	2.23	0.56
9:H:126:GLU:C	9:H:130:ARG:NH2	2.57	0.56
2:A:1114:PRO:O	2:A:1115:SER:O	2.23	0.56
2:A:1323:ASP:OD1	2:A:1325:THR:HB	2.04	0.56
2:A:336:ILE:HG22	2:A:337:ARG:N	2.20	0.56
2:A:586:ILE:CD1	2:A:633:VAL:HG22	2.34	0.56
2:A:855:THR:HG21	2:A:857:ARG:HE	1.69	0.56
5:D:134:THR:HG22	5:D:135:GLY:N	2.18	0.56
8:G:7:LEU:O	8:G:73:LYS:HD2	2.06	0.56
2:A:935:GLN:HE21	2:A:1023:ARG:NH1	2.04	0.56
2:A:498:ARG:O	2:A:501:LEU:N	2.38	0.56
2:A:805:LEU:HD11	3:B:1052:VAL:HG21	1.87	0.56
3:B:1115:THR:O	3:B:1116:ARG:HB2	2.05	0.56
3:B:185:THR:H	3:B:188:ASP:HB2	1.70	0.56
5:D:47:LEU:C	5:D:48:ILE:HD12	2.25	0.56
2:A:1425:SER:O	2:A:1426:GLU:C	2.44	0.56
2:A:1450:LEU:HG	2:A:1450:LEU:O	2.05	0.56
2:A:289:ILE:C	2:A:291:GLU:H	2.08	0.56
2:A:67:CYS:O	2:A:68:GLN:HB2	2.05	0.56
3:B:828:ALA:HB2	3:B:1085:ILE:HG23	1.87	0.56
3:B:357:GLN:O	3:B:366:GLN:HA	2.06	0.56
3:B:299:GLU:OE2	3:B:572:HIS:HE1	1.88	0.56
4:C:184:ASN:ND2	4:C:187:LYS:HA	2.21	0.56
6:E:85:GLU:HB2	6:E:88:VAL:HG22	1.86	0.56
11:J:27:GLU:C	11:J:29:GLU:H	2.09	0.56
2:A:361:LEU:HA	2:A:471:ASN:HD22	1.70	0.56
5:D:155:ARG:O	5:D:155:ARG:HG2	2.05	0.56
7:F:103:MET:CE	8:G:66:GLY:H	2.19	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:146:MET:CA	2:A:171:GLN:HB2	2.34	0.56
2:A:384:ASN:OD1	2:A:388:LEU:HD12	2.06	0.56
3:B:803:LEU:HD12	3:B:1032:SER:HB3	1.87	0.56
3:B:504:ARG:HB3	3:B:507:LYS:HZ1	1.71	0.56
3:B:569:TYR:CE1	3:B:589:VAL:HG21	2.41	0.56
3:B:777:ALA:HA	3:B:1095:LEU:HA	1.87	0.56
8:G:34:VAL:HG11	8:G:74:TYR:HE1	1.71	0.56
4:C:29:MET:HE1	12:K:98:LEU:HG	1.88	0.56
2:A:1116:LEU:HD12	2:A:1116:LEU:C	2.25	0.56
2:A:547:LEU:HD22	12:K:58:PHE:CD1	2.41	0.56
2:A:849:MET:CE	2:A:1061:GLY:HA2	2.36	0.56
3:B:758:PHE:CE1	3:B:1027:ILE:HG22	2.41	0.56
3:B:401:PHE:CE2	3:B:633:VAL:HG21	2.39	0.56
5:D:170:THR:CG2	5:D:172:LEU:HG	2.36	0.56
10:I:75:CYS:SG	10:I:103:CYS:SG	3.03	0.56
11:J:1:MET:N	11:J:56:LEU:H	2.03	0.56
2:A:1120:LEU:HD12	2:A:1120:LEU:H	1.70	0.56
2:A:567:LYS:NZ	9:H:47:PHE:HB2	2.20	0.56
3:B:1000:PRO:O	3:B:1007:VAL:HG23	2.06	0.56
3:B:284:ILE:HD11	3:B:321:GLY:HA2	1.88	0.56
2:A:1444:MET:O	7:F:133:VAL:N	2.38	0.56
2:A:399:HIS:CB	2:A:400:PRO:HD3	2.33	0.56
3:B:1182:CYS:O	3:B:1186:ASP:N	2.39	0.56
3:B:464:GLY:O	3:B:466:TRP:N	2.39	0.56
4:C:237:SER:C	4:C:238:ILE:HD12	2.25	0.56
2:A:1334:ASP:O	2:A:1336:MET:N	2.38	0.55
2:A:524:VAL:HG12	2:A:525:GLN:HG2	1.88	0.55
2:A:626:ASN:O	2:A:631:HIS:CD2	2.58	0.55
3:B:254:LEU:HD23	3:B:381:MET:HE3	1.88	0.55
3:B:467:GLY:O	3:B:470:LYS:HG3	2.06	0.55
4:C:66:ARG:O	4:C:69:LEU:N	2.39	0.55
8:G:128:PRO:O	8:G:138:THR:HG23	2.05	0.55
10:I:7:CYS:HB2	10:I:34:TYR:CD1	2.41	0.55
3:B:822:ASN:ND2	11:J:52:THR:HG21	2.21	0.55
2:A:629:LEU:HD23	2:A:629:LEU:C	2.27	0.55
4:C:36:VAL:HG21	4:C:251:LEU:HD22	1.88	0.55
7:F:103:MET:O	7:F:104:ASN:HB2	2.06	0.55
9:H:22:LYS:O	9:H:23:VAL:HG23	2.05	0.55
2:A:1094:VAL:HG22	2:A:1113:THR:HG21	1.88	0.55
2:A:843:LYS:HD3	2:A:846:GLU:OE2	2.06	0.55
2:A:855:THR:HG21	2:A:857:ARG:NE	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:1172:ILE:N	3:B:1172:ILE:CD1	2.68	0.55
3:B:44:VAL:O	3:B:45:SER:C	2.45	0.55
3:B:591:ARG:O	3:B:593:PRO:HD3	2.06	0.55
5:D:51:ASN:O	5:D:54:GLU:HB3	2.06	0.55
7:F:119:ARG:HG3	7:F:119:ARG:HH11	1.71	0.55
2:A:72:GLU:OE2	3:B:1175:LEU:HB2	2.07	0.55
2:A:964:ILE:HD13	2:A:1045:VAL:HG21	1.89	0.55
4:C:74:SER:O	4:C:238:ILE:HD11	2.07	0.55
5:D:134:THR:HG22	5:D:136:GLY:N	2.19	0.55
2:A:321:PRO:O	2:A:322:VAL:CB	2.54	0.55
2:A:503:GLN:HE21	7:F:90:ARG:HH21	1.53	0.55
2:A:590:ARG:O	2:A:591:PHE:HB2	2.05	0.55
2:A:741:ASN:HD22	2:A:744:LYS:H	1.54	0.55
2:A:1410:PHE:HA	3:B:1212:ILE:HD11	1.88	0.55
3:B:428:ILE:O	3:B:432:MET:HE2	2.07	0.55
4:C:86:CYS:O	4:C:88:CYS:N	2.39	0.55
4:C:88:CYS:SG	4:C:92:CYS:HB3	2.46	0.55
9:H:58:THR:C	9:H:59:ILE:HD12	2.26	0.55
2:A:1121:GLU:CG	2:A:1122:PRO:HD2	2.37	0.55
2:A:1334:ASP:C	2:A:1336:MET:N	2.58	0.55
2:A:901:LEU:HG	2:A:926:GLN:NE2	2.11	0.55
2:A:929:LEU:HD23	2:A:983:ILE:HG21	1.88	0.55
3:B:1202:LEU:O	3:B:1206:GLU:HG3	2.06	0.55
3:B:503:GLY:O	3:B:507:LYS:HG3	2.06	0.55
3:B:839:MET:CE	3:B:980:PHE:HB2	2.37	0.55
4:C:69:LEU:HD12	4:C:69:LEU:N	2.20	0.55
2:A:583:PRO:HG2	2:A:586:ILE:HD11	1.88	0.55
3:B:681:TRP:HA	3:B:684:LEU:HD13	1.88	0.55
8:G:154:VAL:HG12	8:G:155:SER:N	2.22	0.55
2:A:1093:LYS:O	2:A:1094:VAL:HG23	2.06	0.55
2:A:196:GLU:HG2	2:A:197:PRO:HD2	1.88	0.55
2:A:55:ASP:H	2:A:56:PRO:HD3	1.71	0.55
2:A:722:LEU:O	2:A:725:ALA:HB3	2.06	0.55
3:B:217:ARG:C	3:B:217:ARG:HD2	2.27	0.55
8:G:1:MET:CE	8:G:80:LYS:H	2.16	0.55
2:A:93:VAL:CG2	2:A:301:ALA:HA	2.37	0.55
3:B:1110:PRO:O	3:B:1119:VAL:HG22	2.07	0.55
3:B:130:VAL:HG12	3:B:131:ASP:N	2.21	0.55
3:B:233:PRO:HG2	3:B:234:ILE:CD1	2.37	0.55
3:B:365:THR:HG23	3:B:367:LEU:N	2.12	0.55
3:B:831:SER:CB	3:B:994:TYR:OH	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:317:LYS:O	2:A:318:SER:CB	2.54	0.55
2:A:7:SER:C	2:A:9:ALA:H	2.10	0.55
3:B:346:GLU:CA	3:B:349:ILE:HD13	2.37	0.55
3:B:223:VAL:HG11	3:B:381:MET:HG2	1.87	0.55
3:B:558:LEU:O	3:B:560:GLU:N	2.40	0.55
3:B:844:SER:O	3:B:847:ASP:HB2	2.07	0.55
9:H:15:VAL:HG22	9:H:26:ILE:CD1	2.36	0.55
2:A:225:ASN:ND2	2:A:228:PHE:N	2.43	0.54
2:A:90:VAL:CG1	2:A:297:GLN:NE2	2.70	0.54
2:A:613:ILE:HG22	2:A:614:PHE:HD2	1.72	0.54
2:A:639:PRO:CD	2:A:640:GLN:H	2.19	0.54
3:B:1166:CYS:O	3:B:1168:LEU:N	2.36	0.54
3:B:465:ASN:O	3:B:466:TRP:O	2.25	0.54
5:D:37:GLN:OE1	8:G:5:LYS:NZ	2.34	0.54
2:A:630:ILE:HD13	2:A:645:LEU:HD23	1.88	0.54
2:A:675:THR:O	2:A:679:ILE:HG12	2.08	0.54
3:B:1023:VAL:O	3:B:1026:LEU:N	2.39	0.54
3:B:1187:ASN:O	3:B:1188:LYS:CB	2.53	0.54
3:B:34:ILE:O	3:B:37:PHE:HB3	2.07	0.54
3:B:373:ARG:HG2	3:B:566:LEU:HD23	1.89	0.54
3:B:642:ASP:O	3:B:644:GLU:N	2.40	0.54
3:B:850:LEU:HD12	3:B:851:PHE:H	1.70	0.54
5:D:47:LEU:HD13	5:D:48:ILE:N	2.21	0.54
6:E:88:VAL:HG12	6:E:89:GLY:N	2.20	0.54
1:R:29:G:H4'	2:A:1386:ARG:NH1	2.17	0.54
2:A:518:LYS:HG3	2:A:519:PRO:O	2.08	0.54
2:A:40:THR:HG23	2:A:54:ASN:HD21	1.71	0.54
2:A:567:LYS:CB	2:A:568:PRO:CD	2.84	0.54
2:A:577:ILE:HD13	2:A:577:ILE:N	2.22	0.54
2:A:869:GLY:O	6:E:204:THR:HG21	2.07	0.54
3:B:247:GLY:H	3:B:418:LYS:HZ3	1.55	0.54
3:B:798:TYR:HE2	4:C:62:PHE:CZ	2.25	0.54
6:E:114:ASN:O	6:E:115:ASN:HB3	2.08	0.54
9:H:56:THR:O	9:H:144:ILE:HA	2.08	0.54
1:R:7:C:H41	1:R:13:G:H21	1.53	0.54
2:A:269:ILE:HD11	2:A:300:VAL:HA	1.89	0.54
2:A:49:LYS:HD3	2:A:55:ASP:HB3	1.88	0.54
3:B:254:LEU:HD11	3:B:273:LEU:HG	1.88	0.54
3:B:949:VAL:HG12	3:B:950:ASP:N	2.23	0.54
4:C:73:GLN:NE2	4:C:75:MET:H	2.05	0.54
8:G:126:ASN:HD22	8:G:127:PRO:HA	1.70	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:142:LEU:C	9:H:143:LEU:HD12	2.28	0.54
11:J:51:LEU:O	11:J:51:LEU:HD12	2.08	0.54
2:A:130:ASP:O	2:A:131:SER:C	2.45	0.54
2:A:588:LEU:O	2:A:606:LEU:HA	2.07	0.54
2:A:650:GLN:O	2:A:654:ASN:ND2	2.37	0.54
3:B:114:PRO:HG2	3:B:115:GLN:H	1.71	0.54
3:B:945:GLU:O	3:B:946:ASN:HB3	2.08	0.54
2:A:1341:ILE:HB	6:E:182:ASP:OD2	2.08	0.54
2:A:12:ARG:O	3:B:1194:ILE:HG22	2.08	0.54
2:A:382:PRO:CB	2:A:428:TYR:HE2	2.18	0.54
2:A:598:LEU:O	2:A:599:SER:C	2.46	0.54
3:B:258:LEU:O	3:B:258:LEU:HG	2.07	0.54
3:B:274:PRO:HD2	3:B:276:ILE:HD13	1.89	0.54
3:B:387:LEU:CD1	3:B:387:LEU:H	2.21	0.54
4:C:253:LYS:O	4:C:256:ALA:HB3	2.07	0.54
5:D:52:LEU:O	5:D:54:GLU:N	2.37	0.54
10:I:85:PHE:N	10:I:85:PHE:CD2	2.61	0.54
2:A:1341:ILE:CG2	2:A:1342:GLU:N	2.71	0.54
3:B:1156:ASP:O	3:B:1157:ALA:O	2.26	0.54
3:B:94:LYS:HG2	3:B:95:ILE:H	1.73	0.54
5:D:208:GLU:O	5:D:212:LYS:HG3	2.07	0.54
3:B:954:VAL:O	13:L:55:ILE:O	2.25	0.54
2:A:1001:ARG:O	2:A:1002:GLY:O	2.26	0.54
2:A:1265:ASN:HD21	3:B:265:SER:HB3	1.73	0.54
2:A:1420:ASP:CB	2:A:1422:ARG:HG3	2.37	0.54
2:A:492:PRO:O	2:A:493:GLN:NE2	2.41	0.54
2:A:541:ILE:N	2:A:541:ILE:HD12	2.23	0.54
2:A:866:PHE:C	2:A:867:ILE:HG13	2.28	0.54
3:B:1065:GLN:HG3	3:B:1067:ARG:H	1.71	0.54
5:D:130:LEU:O	5:D:132:GLN:N	2.41	0.54
7:F:128:LYS:HE2	7:F:151:LEU:O	2.08	0.54
7:F:90:ARG:HG3	7:F:91:ALA:N	2.23	0.54
8:G:91:VAL:CG2	8:G:143:ILE:HD13	2.37	0.54
2:A:37:PHE:CD1	2:A:37:PHE:N	2.76	0.54
2:A:441:PRO:HD2	2:A:498:ARG:NH2	2.22	0.54
3:B:1208:MET:O	3:B:1211:ASN:N	2.31	0.54
3:B:272:THR:O	3:B:273:LEU:CB	2.55	0.54
4:C:167:HIS:HA	12:K:6:ARG:NH1	2.19	0.54
6:E:177:ARG:C	6:E:212:ARG:HD3	2.28	0.54
8:G:1:MET:O	8:G:3:PHE:CE1	2.61	0.54
2:A:352:VAL:HG12	2:A:353:ILE:N	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:407:ARG:HA	2:A:430:TRP:CD1	2.43	0.54
2:A:563:PRO:HB3	2:A:571:LEU:O	2.08	0.54
2:A:70:CYS:O	2:A:70:CYS:SG	2.65	0.54
2:A:853:ASP:OD1	2:A:855:THR:CB	2.56	0.54
3:B:1022:THR:HG23	3:B:1022:THR:O	2.08	0.54
3:B:918:ILE:CG1	3:B:935:ARG:HD2	2.38	0.54
4:C:66:ARG:NH1	11:J:2:ILE:HG21	2.23	0.54
5:D:122:GLU:HA	5:D:125:SER:OG	2.09	0.54
5:D:64:VAL:O	5:D:67:ARG:N	2.41	0.54
12:K:31:VAL:HG12	12:K:32:VAL:N	2.23	0.54
2:A:1116:LEU:O	2:A:1308:THR:HG22	2.07	0.53
2:A:322:VAL:HG12	2:A:323:LYS:N	2.23	0.53
2:A:535:THR:CG2	2:A:616:VAL:HA	2.37	0.53
2:A:490:HIS:HB3	3:B:1150:ARG:NH1	2.23	0.53
3:B:258:LEU:CG	3:B:258:LEU:O	2.56	0.53
3:B:508:LEU:N	3:B:508:LEU:HD13	2.23	0.53
3:B:563:MET:HE2	3:B:588:GLY:N	2.23	0.53
3:B:90:ILE:HD11	3:B:432:MET:SD	2.48	0.53
3:B:953:LEU:O	3:B:953:LEU:HD23	2.08	0.53
9:H:4:THR:HG22	9:H:5:LEU:N	2.22	0.53
10:I:43:VAL:O	10:I:43:VAL:HG12	2.07	0.53
12:K:90:ALA:O	12:K:94:ILE:HG12	2.08	0.53
1:R:2:C:H1'	1:R:3:A:OP1	2.08	0.53
2:A:1118:VAL:CG2	2:A:1306:LEU:HB2	2.38	0.53
2:A:1195:LEU:HD11	2:A:1267:MET:HE3	1.90	0.53
2:A:450:LEU:O	2:A:1070:GLN:HB3	2.08	0.53
3:B:1065:GLN:NE2	3:B:1067:ARG:HG2	2.23	0.53
3:B:287:ARG:NH1	3:B:324:ILE:O	2.40	0.53
3:B:282:ILE:HD11	3:B:317:CYS:SG	2.47	0.53
2:A:1017:LEU:CB	6:E:205:SER:HA	2.38	0.53
9:H:58:THR:O	9:H:59:ILE:HD12	2.09	0.53
11:J:2:ILE:HG22	11:J:3:VAL:O	2.08	0.53
2:A:1027:ALA:O	2:A:1031:VAL:HG23	2.07	0.53
2:A:1030:ARG:HG3	2:A:1034:GLU:OE2	2.07	0.53
2:A:1116:LEU:HD12	2:A:1116:LEU:O	2.09	0.53
2:A:427:GLN:HG3	2:A:430:TRP:CZ2	2.43	0.53
2:A:50:ILE:C	2:A:52:GLY:N	2.61	0.53
2:A:751:SER:OG	3:B:1015:HIS:CE1	2.61	0.53
3:B:1031:LEU:CD2	3:B:1044:ALA:HB2	2.39	0.53
3:B:259:TYR:H	3:B:259:TYR:HD1	1.57	0.53
3:B:269:ILE:N	3:B:269:ILE:HD12	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:360:PHE:O	3:B:361:LEU:C	2.45	0.53
5:D:146:GLN:O	5:D:149:THR:HG22	2.08	0.53
6:E:29:PHE:C	6:E:30:ILE:HG13	2.25	0.53
9:H:56:THR:HB	9:H:145:ARG:HG2	1.91	0.53
9:H:59:ILE:O	9:H:60:ALA:CB	2.56	0.53
2:A:1057:VAL:CG1	2:A:1058:VAL:N	2.70	0.53
2:A:1291:VAL:HG13	2:A:1292:PRO:CD	2.39	0.53
2:A:563:PRO:HG3	2:A:572:TRP:CE2	2.43	0.53
3:B:1060:ARG:CZ	4:C:202:PRO:HG3	2.38	0.53
2:A:1265:ASN:ND2	3:B:265:SER:HB3	2.23	0.53
4:C:237:SER:O	4:C:238:ILE:HD12	2.08	0.53
4:C:260:LEU:O	4:C:264:GLN:HG3	2.08	0.53
2:A:1334:ASP:C	2:A:1336:MET:H	2.11	0.53
2:A:265:LYS:HE2	2:A:302:THR:CG2	2.38	0.53
2:A:269:ILE:HD13	2:A:300:VAL:HG22	1.90	0.53
2:A:345:VAL:HG23	2:A:346:ASP:O	2.09	0.53
2:A:629:LEU:HD23	2:A:633:VAL:HG23	1.91	0.53
2:A:645:LEU:HG	2:A:649:ILE:HD12	1.90	0.53
3:B:1115:THR:HG22	3:B:1117:GLN:HG3	1.91	0.53
3:B:35:SER:O	3:B:39:ARG:HG3	2.08	0.53
3:B:120:ARG:CG	3:B:955:THR:HG21	2.34	0.53
7:F:118:LEU:O	7:F:122:MET:HG3	2.09	0.53
2:A:1031:VAL:HG12	2:A:1031:VAL:O	2.08	0.53
2:A:683:ILE:HG21	2:A:801:GLU:HG3	1.90	0.53
2:A:808:LEU:HD23	2:A:813:PHE:N	2.23	0.53
2:A:903:ASN:C	2:A:903:ASN:ND2	2.61	0.53
3:B:245:GLU:O	3:B:246:LYS:HG3	2.08	0.53
3:B:562:GLY:HA3	3:B:590:HIS:CE1	2.43	0.53
8:G:149:GLY:O	8:G:159:ALA:HB1	2.08	0.53
9:H:27:GLU:HG2	9:H:39:THR:HG23	1.91	0.53
11:J:21:TYR:HB2	11:J:39:LEU:CD1	2.39	0.53
2:A:963:ILE:HD11	2:A:1048:ASN:CB	2.39	0.53
2:A:1207:LEU:HA	2:A:1211:GLN:OE1	2.09	0.53
2:A:382:PRO:HB3	2:A:428:TYR:CE2	2.38	0.53
2:A:41:MET:O	2:A:42:ASP:C	2.47	0.53
2:A:456:MET:HB2	2:A:478:TYR:OH	2.08	0.53
2:A:56:PRO:O	2:A:57:ARG:CG	2.53	0.53
3:B:121:ASN:HA	3:B:207:GLY:HA3	1.91	0.53
5:D:202:ILE:CG2	5:D:203:SER:N	2.68	0.53
11:J:44:TYR:HD2	11:J:44:TYR:H	1.57	0.53
2:A:1283:VAL:HG12	2:A:1284:MET:N	2.22	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:50:ILE:C	2:A:52:GLY:H	2.10	0.53
2:A:68:GLN:O	2:A:70:CYS:N	2.36	0.53
2:A:730:GLY:C	2:A:732:LEU:H	2.12	0.53
3:B:293:PRO:C	3:B:294:ASP:O	2.45	0.53
2:A:322:VAL:CG1	2:A:323:LYS:N	2.71	0.53
2:A:686:ALA:O	2:A:690:VAL:HG23	2.09	0.53
3:B:979:LYS:HG2	3:B:1095:LEU:HD13	1.90	0.53
2:A:466:SER:HB3	3:B:1103:ILE:HG12	1.91	0.53
3:B:640:VAL:O	3:B:641:GLU:C	2.48	0.53
3:B:880:THR:HB	3:B:934:LYS:HE3	1.91	0.53
4:C:167:HIS:CD2	4:C:168:ALA:N	2.77	0.53
4:C:179:GLU:HG2	4:C:180:TYR:N	2.24	0.53
5:D:14:ARG:O	5:D:16:LYS:N	2.42	0.53
2:A:2:VAL:HG21	3:B:1157:ALA:HB1	1.89	0.53
2:A:49:LYS:HZ1	2:A:61:ILE:H	1.55	0.53
2:A:71:GLN:HG3	2:A:72:GLU:N	2.24	0.53
3:B:387:LEU:HD12	3:B:387:LEU:N	2.24	0.53
3:B:593:PRO:O	3:B:596:LEU:N	2.42	0.53
3:B:62:ILE:HG23	3:B:418:LYS:HG2	1.91	0.53
3:B:973:ILE:HG23	3:B:974:PRO:HD2	1.90	0.53
4:C:184:ASN:HD21	4:C:187:LYS:HA	1.72	0.53
2:A:1339:LEU:HD13	6:E:147:HIS:CD2	2.44	0.53
9:H:32:THR:HG22	9:H:33:GLN:OE1	2.09	0.53
1:R:17:5BU:O2'	1:R:18:C:H5'	2.09	0.53
2:A:1280:GLU:O	2:A:1282:VAL:HG23	2.08	0.52
2:A:1398:MET:C	2:A:1400:CYS:H	2.11	0.52
2:A:84:ILE:CG2	2:A:239:LEU:HB3	2.37	0.52
3:B:1178:ASN:O	3:B:1179:GLN:C	2.48	0.52
3:B:421:PHE:O	3:B:424:LEU:HB3	2.09	0.52
3:B:58:THR:O	3:B:62:ILE:HG12	2.09	0.52
3:B:997:GLU:H	3:B:997:GLU:CD	2.10	0.52
9:H:110:ASP:O	9:H:128:ASN:ND2	2.42	0.52
2:A:1373:ASP:O	2:A:1376:THR:HG22	2.09	0.52
2:A:49:LYS:HZ1	2:A:61:ILE:N	2.07	0.52
2:A:567:LYS:HB2	2:A:568:PRO:CD	2.39	0.52
3:B:1073:TYR:CE2	3:B:1080:LYS:HG2	2.44	0.52
3:B:516:ASN:ND2	3:B:516:ASN:N	2.50	0.52
5:D:167:LEU:O	5:D:170:THR:OG1	2.28	0.52
10:I:83:ASN:HA	10:I:102:VAL:O	2.09	0.52
2:A:1094:VAL:CG1	2:A:1095:THR:N	2.72	0.52
2:A:340:LEU:HD13	2:A:1429:ILE:CG2	2.38	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:276:LEU:HG	2:A:276:LEU:O	2.09	0.52
2:A:512:VAL:HA	2:A:519:PRO:HA	1.90	0.52
2:A:586:ILE:HD13	2:A:633:VAL:HG22	1.91	0.52
2:A:590:ARG:HH21	2:A:620:LYS:CB	2.13	0.52
2:A:590:ARG:NH1	2:A:590:ARG:CG	2.73	0.52
3:B:185:THR:O	3:B:186:GLU:C	2.47	0.52
3:B:203:PHE:CB	3:B:205:ILE:HD11	2.39	0.52
3:B:287:ARG:HA	3:B:291:ILE:O	2.09	0.52
3:B:603:LEU:HB3	3:B:609:ILE:HG13	1.91	0.52
3:B:847:ASP:HB3	4:C:167:HIS:CD2	2.44	0.52
6:E:112:TYR:CE1	6:E:136:ASN:HA	2.44	0.52
6:E:2:ASP:O	6:E:3:GLN:HG2	2.09	0.52
13:L:32:ALA:HB2	13:L:55:ILE:HG13	1.91	0.52
2:A:442:VAL:O	2:A:457:ALA:HA	2.10	0.52
2:A:590:ARG:HG2	2:A:591:PHE:N	2.23	0.52
3:B:285:ILE:HG21	3:B:378:LEU:CD2	2.39	0.52
3:B:984:HIS:NE2	3:B:1025:HIS:HA	2.24	0.52
4:C:259:LEU:HD13	12:K:91:CYS:HB2	1.91	0.52
6:E:145:THR:HG21	6:E:187:TYR:CD2	2.44	0.52
2:A:1254:ALA:O	2:A:1255:GLU:HB2	2.10	0.52
2:A:877:HIS:O	2:A:878:ILE:HG13	2.09	0.52
3:B:251:ILE:HG22	3:B:251:ILE:O	2.10	0.52
3:B:843:GLN:HA	3:B:846:ILE:HD13	1.91	0.52
5:D:156:ASP:HB2	5:D:159:THR:HG23	1.91	0.52
8:G:35:GLU:OE2	8:G:48:VAL:HG23	2.09	0.52
13:L:27:LEU:HD13	13:L:37:LYS:HE2	1.92	0.52
2:A:710:LEU:H	2:A:710:LEU:CD1	2.19	0.52
3:B:1051:THR:CG2	3:B:1052:VAL:N	2.72	0.52
3:B:1183:LYS:HE3	3:B:1183:LYS:O	2.09	0.52
3:B:235:SER:OG	3:B:236:HIS:CD2	2.62	0.52
3:B:349:ILE:HD12	3:B:349:ILE:N	2.25	0.52
3:B:582:VAL:CG2	3:B:626:ILE:HB	2.36	0.52
3:B:840:ILE:HG22	3:B:841:MET:N	2.25	0.52
3:B:969:ARG:NH1	4:C:61:GLU:OE1	2.43	0.52
4:C:244:VAL:O	4:C:248:ILE:HG12	2.10	0.52
2:A:857:ARG:NH1	7:F:139:PRO:HB2	2.25	0.52
2:A:1074:GLU:N	2:A:1075:PRO:HD2	2.24	0.52
2:A:524:VAL:CG1	2:A:525:GLN:N	2.72	0.52
2:A:69:THR:O	2:A:71:GLN:N	2.43	0.52
2:A:986:ILE:HG22	2:A:987:VAL:N	2.23	0.52
3:B:309:GLN:HG3	10:I:52:ILE:CD1	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:191:TYR:HB3	4:C:201:TRP:CD1	2.45	0.52
8:G:101:VAL:CG1	8:G:102:GLN:N	2.73	0.52
2:A:1237:ILE:HG22	2:A:1238:ILE:N	2.25	0.52
2:A:1345:ARG:HG2	2:A:1372:VAL:CG1	2.39	0.52
2:A:134:ARG:O	2:A:138:ILE:HG12	2.08	0.52
2:A:244:PRO:HG2	2:A:245:PRO:CD	2.38	0.52
2:A:465:TYR:CD2	3:B:976:ILE:HG13	2.44	0.52
2:A:765:VAL:HG23	2:A:802:ASN:O	2.10	0.52
3:B:558:LEU:C	3:B:560:GLU:H	2.13	0.52
3:B:796:LEU:HD12	3:B:797:TYR:N	2.24	0.52
3:B:810:GLU:HB2	3:B:815:ARG:HH22	1.75	0.52
3:B:899:ILE:CD1	3:B:911:ILE:HA	2.40	0.52
7:F:75:PRO:O	7:F:77:ASP:O	2.27	0.52
9:H:98:TYR:C	9:H:118:PHE:CD2	2.80	0.52
1:R:20:A:H2'	1:R:21:G:C8	2.45	0.52
2:A:446:ARG:CD	2:A:480:ALA:HB2	2.40	0.52
2:A:55:ASP:C	2:A:57:ARG:N	2.58	0.52
2:A:829:VAL:O	2:A:831:THR:N	2.38	0.52
2:A:899:VAL:HB	2:A:929:LEU:HD11	1.91	0.52
4:C:235:VAL:HG13	11:J:13:VAL:HG23	1.91	0.52
5:D:153:ARG:HB3	5:D:154:PHE:CE1	2.45	0.52
2:A:98:LYS:O	2:A:102:VAL:HG23	2.10	0.52
2:A:1072:ILE:HD11	2:A:1368:MET:HG2	1.91	0.52
3:B:842:ASN:HB2	3:B:1008:PRO:O	2.10	0.52
3:B:172:ILE:HG22	3:B:173:MET:N	2.23	0.52
3:B:237:VAL:HG12	3:B:238:ALA:N	2.24	0.52
5:D:144:THR:O	5:D:144:THR:HG22	2.10	0.52
7:F:79:ARG:HH21	7:F:146:TRP:HA	1.75	0.52
2:A:1193:LEU:HB2	2:A:1260:LEU:HD11	1.92	0.51
2:A:1315:GLU:C	2:A:1317:MET:H	2.13	0.51
2:A:35:ILE:HG12	2:A:56:PRO:HG2	1.91	0.51
2:A:709:THR:HG22	2:A:710:LEU:N	2.25	0.51
2:A:982:THR:HG22	2:A:984:LYS:H	1.75	0.51
3:B:880:THR:O	3:B:934:LYS:HG3	2.09	0.51
4:C:101:LEU:HD12	4:C:102:GLN:N	2.25	0.51
4:C:73:GLN:NE2	4:C:75:MET:N	2.58	0.51
7:F:103:MET:HE3	8:G:66:GLY:H	1.75	0.51
7:F:127:GLU:O	7:F:129:LYS:HG3	2.09	0.51
8:G:91:VAL:HG23	8:G:143:ILE:HD13	1.91	0.51
1:R:15:G:H2'	1:R:16:G:H8	1.75	0.51
2:A:1313:LEU:C	2:A:1315:GLU:H	2.13	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:339:ASN:HB3	3:B:1117:GLN:NE2	2.23	0.51
2:A:73:GLY:O	2:A:75:ASN:N	2.43	0.51
3:B:112:LEU:HG	3:B:113:TYR:N	2.25	0.51
3:B:57:TYR:O	3:B:59:LEU:N	2.43	0.51
3:B:824:ILE:HG12	11:J:48:ARG:HH12	1.74	0.51
3:B:999:MET:CE	3:B:999:MET:HA	2.39	0.51
7:F:109:VAL:HG11	7:F:123:LYS:HG2	1.92	0.51
13:L:43:THR:O	13:L:43:THR:HG22	2.10	0.51
2:A:939:ASP:OD1	2:A:1023:ARG:NH1	2.43	0.51
3:B:865:LYS:NZ	3:B:869:SER:HA	2.24	0.51
4:C:181:ASP:CG	4:C:186:LEU:HD13	2.30	0.51
4:C:27:LEU:O	4:C:30:ALA:HB3	2.10	0.51
5:D:156:ASP:O	5:D:158:GLU:N	2.43	0.51
8:G:15:PRO:HD3	8:G:67:SER:HA	1.91	0.51
12:K:91:CYS:O	12:K:95:ILE:HG12	2.11	0.51
2:A:1313:LEU:HD23	2:A:1338:VAL:CG2	2.40	0.51
2:A:450:LEU:N	2:A:450:LEU:HD12	2.25	0.51
2:A:53:LEU:O	2:A:54:ASN:C	2.48	0.51
2:A:69:THR:C	2:A:71:GLN:N	2.63	0.51
2:A:997:LEU:HD13	2:A:1018:PHE:HE2	1.76	0.51
3:B:1045:SER:HB3	3:B:1046:PRO:HD2	1.91	0.51
3:B:1068:GLY:O	3:B:1069:PHE:O	2.28	0.51
3:B:936:ASP:OD1	3:B:937:ALA:N	2.43	0.51
4:C:167:HIS:HD2	4:C:168:ALA:H	1.58	0.51
5:D:137:ASN:C	5:D:137:ASN:HD22	2.13	0.51
9:H:47:PHE:CD2	9:H:47:PHE:O	2.63	0.51
11:J:8:PHE:H	11:J:49:MET:HE1	1.74	0.51
13:L:48:CYS:SG	13:L:49:LYS:N	2.84	0.51
2:A:1227:ILE:HG22	2:A:1228:TRP:N	2.24	0.51
2:A:21:LEU:HD21	2:A:1414:ALA:CA	2.40	0.51
2:A:401:GLY:O	2:A:435:HIS:CD2	2.63	0.51
3:B:240:ILE:HD13	3:B:240:ILE:C	2.31	0.51
3:B:383:ASN:O	3:B:387:LEU:HD13	2.09	0.51
3:B:428:ILE:HG22	3:B:432:MET:HE1	1.92	0.51
3:B:464:GLY:HA3	3:B:479:VAL:O	2.11	0.51
3:B:601:ARG:O	3:B:605:ARG:HG3	2.09	0.51
4:C:31:ASN:O	4:C:32:SER:C	2.48	0.51
4:C:31:ASN:HA	4:C:34:ARG:HB3	1.91	0.51
8:G:102:GLN:HG3	8:G:106:MET:O	2.10	0.51
2:A:1149:ALA:CB	10:I:47:GLU:HA	2.41	0.51
2:A:1398:MET:C	2:A:1400:CYS:N	2.62	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1437:GLY:O	2:A:1439:GLY:N	2.44	0.51
3:B:1183:LYS:N	3:B:1183:LYS:CE	2.74	0.51
4:C:18:VAL:HG23	4:C:240:VAL:CG1	2.40	0.51
5:D:170:THR:CB	5:D:172:LEU:HG	2.40	0.51
8:G:106:MET:CG	8:G:107:LYS:N	2.73	0.51
9:H:91:ASP:C	9:H:93:TYR:H	2.13	0.51
10:I:61:ASP:C	10:I:63:GLY:H	2.13	0.51
2:A:196:GLU:CG	2:A:197:PRO:HD2	2.41	0.51
3:B:1183:LYS:H	3:B:1183:LYS:CE	2.24	0.51
3:B:233:PRO:HG2	3:B:234:ILE:HD12	1.92	0.51
3:B:558:LEU:HD22	3:B:596:LEU:HD11	1.93	0.51
3:B:614:SER:C	3:B:615:MET:HG3	2.30	0.51
8:G:9:LEU:HG	8:G:10:ASN:N	2.26	0.51
11:J:2:ILE:HD11	11:J:57:ILE:HD13	1.92	0.51
2:A:996:ASN:HB3	2:A:1050:GLU:OE2	2.09	0.51
2:A:42:ASP:O	2:A:44:THR:N	2.44	0.51
2:A:738:LYS:C	2:A:740:LEU:H	2.14	0.51
2:A:768:GLN:HG2	2:A:816:HIS:CA	2.38	0.51
3:B:305:VAL:O	3:B:305:VAL:HG12	2.10	0.51
3:B:393:LYS:HE3	3:B:393:LYS:HA	1.92	0.51
3:B:48:LEU:O	3:B:51:PHE:N	2.43	0.51
3:B:661:LEU:C	3:B:663:ALA:H	2.14	0.51
3:B:635:ARG:NH2	3:B:742:GLU:OE2	2.44	0.51
4:C:26:ASP:O	4:C:27:LEU:C	2.49	0.51
3:B:798:TYR:HE2	4:C:62:PHE:HZ	1.59	0.51
6:E:23:VAL:HG13	6:E:28:TYR:HD1	1.76	0.51
7:F:82:THR:HG22	7:F:84:TYR:N	2.17	0.51
9:H:42:ILE:CG2	9:H:43:ASN:N	2.73	0.51
2:A:54:ASN:CB	2:A:247:ARG:HH12	2.19	0.51
2:A:34:LYS:CD	2:A:34:LYS:N	2.74	0.51
2:A:757:ASN:O	2:A:761:MET:HG3	2.11	0.51
3:B:616:ILE:HG13	3:B:697:GLU:HG3	1.91	0.51
4:C:38:ILE:HD11	4:C:176:ILE:HD12	1.92	0.51
4:C:91:HIS:O	4:C:91:HIS:CD2	2.64	0.51
2:A:1450:LEU:HD11	7:F:108:PHE:CZ	2.45	0.51
2:A:567:LYS:CE	9:H:46:LEU:HB2	2.41	0.51
2:A:120:GLU:C	2:A:122:MET:H	2.15	0.51
2:A:1430:LEU:O	3:B:1197:PRO:HD2	2.10	0.51
3:B:638:PHE:HB2	3:B:741:CYS:O	2.11	0.51
5:D:202:ILE:HG21	5:D:207:LEU:HB2	1.93	0.51
9:H:143:LEU:O	9:H:144:ILE:HG13	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:53:HIS:HB3	13:L:55:ILE:CD1	2.41	0.51
2:A:1027:ALA:HB3	2:A:1030:ARG:HB2	1.93	0.50
2:A:116:ASP:O	2:A:118:HIS:N	2.44	0.50
2:A:587:HIS:O	2:A:588:LEU:HB2	2.11	0.50
3:B:1017:ILE:HB	3:B:1018:PRO:CD	2.39	0.50
5:D:51:ASN:O	5:D:52:LEU:O	2.28	0.50
8:G:101:VAL:HG12	8:G:102:GLN:N	2.26	0.50
8:G:81:PRO:HG3	8:G:106:MET:SD	2.51	0.50
2:A:1436:ILE:O	2:A:1436:ILE:HG22	2.11	0.50
2:A:231:PRO:C	2:A:233:TRP:H	2.14	0.50
2:A:307:ASP:OD2	2:A:307:ASP:N	2.44	0.50
2:A:567:LYS:CB	9:H:95:TYR:HA	2.40	0.50
3:B:276:ILE:CG2	3:B:276:ILE:O	2.59	0.50
3:B:292:ILE:N	3:B:293:PRO:HD2	2.26	0.50
4:C:35:ARG:HA	4:C:38:ILE:HG12	1.93	0.50
4:C:36:VAL:HG21	4:C:251:LEU:HB2	1.92	0.50
11:J:23:ASN:C	11:J:25:LEU:N	2.65	0.50
12:K:6:ARG:O	12:K:9:LEU:HG	2.11	0.50
2:A:1127:ASP:HB3	2:A:1130:GLN:CB	2.42	0.50
2:A:524:VAL:CG1	2:A:525:GLN:H	2.17	0.50
2:A:543:LEU:C	2:A:545:GLN:H	2.15	0.50
2:A:907:THR:CG2	2:A:908:LEU:N	2.58	0.50
3:B:212:LEU:HD23	3:B:480:SER:HB2	1.93	0.50
3:B:957:ASN:O	3:B:959:ASP:N	2.45	0.50
6:E:23:VAL:O	6:E:28:TYR:HB2	2.11	0.50
13:L:53:HIS:O	13:L:55:ILE:HG12	2.11	0.50
2:A:106:VAL:HG13	2:A:112:LYS:O	2.12	0.50
2:A:1120:LEU:CD1	2:A:1120:LEU:N	2.73	0.50
2:A:1443:VAL:C	2:A:1444:MET:HG3	2.31	0.50
2:A:244:PRO:CB	2:A:245:PRO:HD3	2.42	0.50
2:A:666:ILE:N	2:A:666:ILE:HD12	2.26	0.50
2:A:823:GLY:C	2:A:825:ILE:H	2.15	0.50
2:A:84:ILE:O	2:A:84:ILE:CG2	2.59	0.50
3:B:1133:MET:O	3:B:1136:ASP:HB2	2.11	0.50
3:B:496:ARG:NH1	3:B:539:LEU:HB2	2.26	0.50
11:J:44:TYR:N	11:J:44:TYR:CD2	2.80	0.50
12:K:48:ALA:O	12:K:51:LEU:N	2.40	0.50
13:L:59:ALA:O	13:L:60:ARG:O	2.29	0.50
2:A:1213:GLY:O	2:A:1214:GLU:C	2.49	0.50
2:A:1336:MET:CE	2:A:1381:LEU:HG	2.41	0.50
2:A:622:VAL:HG13	2:A:622:VAL:O	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:57:TYR:HD1	3:B:57:TYR:N	2.10	0.50
4:C:38:ILE:CD1	4:C:176:ILE:HD12	2.41	0.50
4:C:133:ILE:HD11	4:C:237:SER:HA	1.93	0.50
9:H:15:VAL:HG22	9:H:26:ILE:CG1	2.40	0.50
2:A:567:LYS:HZ2	9:H:47:PHE:HB2	1.76	0.50
3:B:1006:ILE:HD13	11:J:44:TYR:HE2	1.77	0.50
4:C:84:ARG:NE	12:K:11:LEU:HD11	2.27	0.50
2:A:332:LYS:HB2	2:A:337:ARG:CZ	2.42	0.50
2:A:337:ARG:HD3	3:B:1132:GLU:OE2	2.11	0.50
2:A:767:GLN:NE2	2:A:774:ARG:HD2	2.26	0.50
2:A:1409:LEU:HD13	3:B:1207:LEU:CD1	2.41	0.50
3:B:204:ILE:C	3:B:205:ILE:HD12	2.32	0.50
3:B:272:THR:O	3:B:273:LEU:HD13	2.12	0.50
3:B:470:LYS:HE2	3:B:471:LYS:H	1.77	0.50
3:B:590:HIS:NE2	3:B:592:ASN:O	2.44	0.50
3:B:955:THR:HG22	3:B:956:THR:O	2.12	0.50
4:C:67:LEU:HD11	4:C:155:LEU:HD12	1.93	0.50
4:C:239:PRO:HB2	4:C:241:ASP:OD1	2.12	0.50
9:H:139:ASN:O	9:H:140:ALA:HB2	2.12	0.50
2:A:1094:VAL:HG12	2:A:1095:THR:N	2.26	0.50
2:A:218:ASP:O	2:A:219:PHE:C	2.50	0.50
3:B:776:GLN:O	3:B:1095:LEU:HB3	2.11	0.50
3:B:1099:VAL:C	3:B:1101:ASP:N	2.65	0.50
3:B:800:GLN:HB3	11:J:52:THR:HG22	1.89	0.50
3:B:839:MET:HE1	3:B:980:PHE:HB2	1.94	0.50
5:D:5:THR:O	5:D:6:SER:O	2.29	0.50
8:G:136:VAL:HG12	8:G:136:VAL:O	2.10	0.50
8:G:15:PRO:O	8:G:16:SER:C	2.50	0.50
2:A:971:PHE:CE2	2:A:1040:GLN:HG2	2.47	0.50
2:A:236:LEU:N	2:A:236:LEU:HD23	2.26	0.50
2:A:401:GLY:C	2:A:435:HIS:CD2	2.83	0.50
2:A:503:GLN:HE21	7:F:90:ARG:NH2	2.09	0.50
2:A:507:VAL:N	2:A:508:PRO:CD	2.75	0.50
2:A:853:ASP:C	2:A:853:ASP:OD1	2.49	0.50
3:B:295:GLY:H	3:B:298:LEU:HD23	1.77	0.50
3:B:648:HIS:CG	3:B:649:LYS:N	2.79	0.50
4:C:82:TYR:O	4:C:83:SER:C	2.49	0.50
7:F:86:THR:HG23	7:F:89:GLU:OE1	2.12	0.50
4:C:175:ALA:HB1	11:J:43:ARG:HH12	1.76	0.50
2:A:868:TYR:CD1	2:A:1064:VAL:HG11	2.47	0.50
2:A:1356:ILE:CG2	2:A:1361:SER:HB2	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1436:ILE:O	2:A:1437:GLY:C	2.49	0.50
2:A:356:ASP:HB2	2:A:469:ARG:NH1	2.25	0.50
3:B:190:TYR:CE2	11:J:62:ARG:HB3	2.46	0.50
3:B:487:THR:CG2	3:B:488:TYR:N	2.75	0.50
3:B:695:ALA:O	3:B:698:GLU:HB3	2.12	0.50
3:B:841:MET:CG	3:B:846:ILE:HD11	2.41	0.50
4:C:147:LEU:HD12	4:C:151:GLN:O	2.11	0.50
6:E:213:ILE:HG12	6:E:214:CYS:N	2.25	0.50
13:L:60:ARG:HG2	13:L:61:THR:N	2.21	0.50
2:A:51:GLY:HA2	2:A:56:PRO:HA	1.94	0.49
2:A:546:VAL:O	2:A:550:LEU:HG	2.12	0.49
3:B:460:ALA:O	3:B:462:ALA:N	2.45	0.49
3:B:508:LEU:HD22	3:B:508:LEU:H	1.76	0.49
3:B:653:VAL:HG22	3:B:689:LEU:HB3	1.94	0.49
4:C:243:VAL:HG12	4:C:243:VAL:O	2.12	0.49
4:C:56:THR:HG22	4:C:58:LEU:H	1.76	0.49
4:C:70:ILE:HD12	4:C:70:ILE:H	1.76	0.49
5:D:134:THR:CG2	5:D:135:GLY:N	2.75	0.49
6:E:16:PHE:CZ	6:E:20:LYS:HE2	2.47	0.49
9:H:82:PRO:C	9:H:84:ALA:H	2.15	0.49
10:I:16:PRO:HB3	10:I:27:PHE:CD2	2.46	0.49
10:I:50:THR:HG22	10:I:52:ILE:H	1.77	0.49
2:A:1148:ILE:HD11	2:A:1198:ASP:CB	2.41	0.49
2:A:1279:ILE:HG23	2:A:1308:THR:OG1	2.13	0.49
2:A:215:SER:HG	2:A:218:ASP:CG	2.16	0.49
3:B:97:VAL:HG12	3:B:178:ASN:HD21	1.77	0.49
3:B:315:LYS:N	3:B:316:PRO:HD2	2.26	0.49
3:B:705:MET:N	3:B:710:LEU:HD12	2.19	0.49
4:C:70:ILE:HD12	4:C:70:ILE:N	2.27	0.49
5:D:120:GLU:HA	5:D:123:LEU:HD12	1.94	0.49
5:D:137:ASN:HD22	5:D:138:ASN:N	2.10	0.49
6:E:79:TRP:CD1	6:E:100:ILE:HD11	2.47	0.49
11:J:21:TYR:HA	11:J:39:LEU:HD11	1.94	0.49
11:J:44:TYR:HD2	11:J:44:TYR:N	2.11	0.49
2:A:1130:GLN:HE21	2:A:1134:ILE:HD11	1.76	0.49
2:A:942:PHE:C	2:A:942:PHE:CD2	2.86	0.49
3:B:1183:LYS:HE2	3:B:1183:LYS:H	1.78	0.49
3:B:234:ILE:N	3:B:234:ILE:HD12	2.27	0.49
4:C:60:ASP:OD2	13:L:60:ARG:NH2	2.45	0.49
5:D:198:LEU:O	5:D:199:ASN:C	2.50	0.49
12:K:10:PHE:CD2	12:K:10:PHE:N	2.79	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1007:ILE:C	2:A:1009:ASN:H	2.15	0.49
2:A:1005:GLU:O	2:A:1009:ASN:HB2	2.12	0.49
2:A:1227:ILE:HG22	2:A:1228:TRP:H	1.75	0.49
3:B:761:HIS:HB2	3:B:1024:ALA:HB2	1.94	0.49
3:B:34:ILE:O	3:B:37:PHE:N	2.44	0.49
3:B:363:HIS:CD2	3:B:585:VAL:HG22	2.47	0.49
3:B:821:GLN:HE22	3:B:851:PHE:N	2.11	0.49
4:C:241:ASP:CG	4:C:242:GLN:N	2.65	0.49
6:E:136:ASN:OD1	6:E:137:GLU:N	2.45	0.49
6:E:165:LEU:HD22	6:E:170:LEU:O	2.12	0.49
9:H:76:THR:HG22	9:H:76:THR:O	2.12	0.49
10:I:50:THR:HG23	10:I:52:ILE:HG12	1.94	0.49
2:A:1121:GLU:HG3	2:A:1122:PRO:HD2	1.95	0.49
2:A:1359:ASP:C	2:A:1361:SER:H	2.15	0.49
2:A:1444:MET:HG2	8:G:60:ARG:CA	2.39	0.49
2:A:335:ARG:NH1	3:B:1202:LEU:HD13	2.27	0.49
2:A:381:THR:HG23	2:A:383:TYR:H	1.76	0.49
2:A:401:GLY:O	2:A:435:HIS:HD2	1.94	0.49
2:A:96:ILE:H	2:A:96:ILE:HD12	1.76	0.49
3:B:1214:PRO:HG2	3:B:1214:PRO:O	2.13	0.49
3:B:503:GLY:O	3:B:504:ARG:CB	2.59	0.49
3:B:506:GLY:O	3:B:508:LEU:HD22	2.13	0.49
3:B:515:HIS:O	3:B:518:HIS:HB2	2.12	0.49
3:B:558:LEU:C	3:B:560:GLU:N	2.66	0.49
3:B:684:LEU:HD12	3:B:684:LEU:N	2.13	0.49
3:B:798:TYR:CE2	4:C:62:PHE:CZ	3.00	0.49
3:B:971:THR:OG1	4:C:61:GLU:HG3	2.12	0.49
5:D:162:ALA:O	5:D:163:VAL:C	2.51	0.49
11:J:5:VAL:O	11:J:6:ARG:O	2.30	0.49
2:A:1336:MET:HE2	2:A:1381:LEU:HG	1.94	0.49
3:B:180:TYR:HD1	3:B:180:TYR:H	1.59	0.49
3:B:555:ILE:C	3:B:557:PHE:N	2.65	0.49
1:R:16:G:C5	1:R:17:5BU:BR	3.20	0.49
2:A:1011:GLN:NE2	2:A:1015:VAL:HG21	2.27	0.49
2:A:157:ASP:C	2:A:159:THR:H	2.15	0.49
2:A:455:MET:HE3	3:B:1134:GLU:HG3	1.95	0.49
2:A:921:GLY:O	2:A:922:ASP:C	2.50	0.49
3:B:653:VAL:HG22	3:B:689:LEU:HD22	1.93	0.49
4:C:27:LEU:O	4:C:30:ALA:N	2.46	0.49
6:E:202:SER:C	6:E:204:THR:H	2.16	0.49
6:E:65:THR:O	6:E:69:ILE:HG13	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:25:LEU:HD12	10:I:26:LEU:H	1.76	0.49
2:A:1304:TRP:O	2:A:1305:VAL:HG23	2.13	0.49
2:A:1327:ILE:HG22	6:E:147:HIS:CE1	2.48	0.49
2:A:147:VAL:C	2:A:171:GLN:HE21	2.16	0.49
2:A:269:ILE:CG1	2:A:299:HIS:HB3	2.42	0.49
2:A:399:HIS:O	2:A:401:GLY:N	2.46	0.49
3:B:185:THR:H	3:B:188:ASP:CB	2.24	0.49
3:B:781:PHE:O	3:B:782:LEU:HG	2.13	0.49
6:E:198:ILE:N	6:E:210:SER:O	2.44	0.49
6:E:22:MET:HE1	6:E:26:ARG:HH21	1.77	0.49
2:A:472:LEU:HD11	3:B:835:GLN:CD	2.33	0.49
2:A:567:LYS:HD3	9:H:95:TYR:CG	2.48	0.49
3:B:38:PHE:HD1	3:B:811:TYR:CD2	2.31	0.49
4:C:239:PRO:O	4:C:241:ASP:N	2.46	0.49
2:A:1059:HIS:ND1	7:F:86:THR:HA	2.27	0.49
11:J:23:ASN:O	11:J:25:LEU:N	2.46	0.49
2:A:71:GLN:HG3	2:A:72:GLU:H	1.78	0.49
3:B:363:HIS:O	3:B:364:ILE:CB	2.61	0.49
3:B:990:ILE:HG22	3:B:991:GLY:N	2.28	0.49
5:D:56:ARG:HA	5:D:148:LEU:HD13	1.95	0.49
5:D:69:ALA:HA	5:D:72:ARG:HG3	1.94	0.49
5:D:190:GLU:HG3	8:G:167:TYR:CD2	2.48	0.49
11:J:14:VAL:CG1	11:J:14:VAL:O	2.61	0.49
13:L:38:LEU:O	13:L:39:SER:HB3	2.13	0.49
2:A:100:LYS:O	2:A:104:GLU:HG3	2.12	0.48
2:A:1206:ASP:CB	2:A:1274:ARG:NH1	2.76	0.48
2:A:1265:ASN:O	2:A:1267:MET:N	2.46	0.48
2:A:768:GLN:NE2	2:A:816:HIS:ND1	2.61	0.48
2:A:877:HIS:C	2:A:878:ILE:CG1	2.80	0.48
2:A:96:ILE:CD1	2:A:96:ILE:H	2.27	0.48
3:B:203:PHE:N	3:B:203:PHE:CD1	2.81	0.48
3:B:33:VAL:O	3:B:36:ALA:HB3	2.13	0.48
4:C:6:PRO:HB3	4:C:25:VAL:HG12	1.95	0.48
5:D:54:GLU:O	5:D:58:VAL:HG23	2.13	0.48
13:L:44:ASP:O	13:L:45:ALA:HB3	2.13	0.48
2:A:1118:VAL:HG23	2:A:1306:LEU:HB2	1.95	0.48
2:A:40:THR:HG22	2:A:41:MET:CG	2.42	0.48
2:A:376:TYR:OH	2:A:498:ARG:HD2	2.13	0.48
2:A:829:VAL:C	2:A:831:THR:N	2.66	0.48
3:B:20:ASP:O	3:B:22:SER:N	2.37	0.48
3:B:550:ASP:OD1	3:B:551:PRO:HD2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:226:ASP:O	4:C:227:THR:CB	2.60	0.48
4:C:238:ILE:HG22	4:C:243:VAL:HG23	1.94	0.48
13:L:28:LYS:HB2	13:L:39:SER:HA	1.95	0.48
2:A:1329:THR:CG2	2:A:1330:ASN:N	2.76	0.48
3:B:1219:ASP:O	3:B:1219:ASP:OD1	2.31	0.48
3:B:129:PHE:CD2	3:B:166:PHE:HA	2.49	0.48
3:B:205:ILE:O	3:B:207:GLY:N	2.46	0.48
3:B:582:VAL:O	3:B:582:VAL:HG12	2.13	0.48
3:B:785:TYR:CD1	3:B:785:TYR:C	2.87	0.48
3:B:796:LEU:HD12	3:B:797:TYR:H	1.77	0.48
8:G:1:MET:SD	8:G:79:PHE:CE1	3.06	0.48
9:H:116:TYR:HB2	9:H:123:MET:HB3	1.95	0.48
2:A:475:THR:CG2	2:A:476:SER:N	2.77	0.48
2:A:482:PHE:C	2:A:484:GLY:H	2.16	0.48
2:A:664:THR:CG2	2:A:665:GLY:N	2.76	0.48
3:B:507:LYS:HD3	3:B:507:LYS:HA	1.53	0.48
5:D:185:CYS:HB3	5:D:211:LEU:CD2	2.43	0.48
6:E:117:THR:HG22	6:E:119:SER:H	1.77	0.48
6:E:180:ARG:HH21	6:E:192:ARG:HB2	1.78	0.48
6:E:28:TYR:CE1	6:E:78:LEU:HD13	2.49	0.48
8:G:26:LEU:HD12	8:G:56:ILE:HG21	1.93	0.48
9:H:10:PHE:CD1	9:H:10:PHE:N	2.81	0.48
4:C:10:ILE:HG13	12:K:108:GLU:HB3	1.95	0.48
12:K:57:LEU:N	12:K:76:GLN:O	2.38	0.48
2:A:1384:VAL:O	2:A:1384:VAL:HG12	2.13	0.48
3:B:1177:HIS:HB2	3:B:1179:GLN:HE21	1.77	0.48
3:B:33:VAL:HG21	3:B:638:PHE:CZ	2.48	0.48
3:B:405:ARG:HA	3:B:631:GLY:O	2.13	0.48
3:B:648:HIS:CG	3:B:649:LYS:H	2.32	0.48
4:C:35:ARG:NH1	12:K:41:THR:H	2.12	0.48
4:C:53:THR:O	4:C:153:LEU:HA	2.14	0.48
5:D:40:HIS:HB3	8:G:73:LYS:HZ2	1.65	0.48
5:D:51:ASN:OD1	5:D:52:LEU:O	2.32	0.48
6:E:179:GLN:HB2	6:E:182:ASP:HB2	1.96	0.48
6:E:55:ARG:NH1	6:E:113:GLN:NE2	2.61	0.48
10:I:100:PHE:N	10:I:100:PHE:CD1	2.81	0.48
2:A:825:ILE:C	2:A:827:THR:N	2.65	0.48
2:A:901:LEU:CG	2:A:926:GLN:HE21	2.17	0.48
3:B:1180:PHE:O	3:B:1181:GLU:HB2	2.13	0.48
2:A:17:VAL:HA	3:B:1215:ARG:O	2.13	0.48
3:B:515:HIS:HB3	3:B:518:HIS:CD2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:992:ILE:HG13	3:B:993:THR:N	2.29	0.48
4:C:146:LYS:C	4:C:147:LEU:HD23	2.34	0.48
4:C:179:GLU:HG2	4:C:180:TYR:H	1.78	0.48
4:C:66:ARG:NH2	11:J:5:VAL:HG23	2.29	0.48
6:E:120:ALA:O	6:E:122:LYS:N	2.46	0.48
6:E:205:SER:O	6:E:206:GLY:C	2.52	0.48
8:G:31:LEU:CD2	8:G:48:VAL:HG21	2.44	0.48
13:L:58:LYS:O	13:L:59:ALA:O	2.32	0.48
2:A:1116:LEU:HG	2:A:1308:THR:CG2	2.32	0.48
2:A:1259:MET:C	2:A:1261:LYS:H	2.17	0.48
2:A:1341:ILE:HG23	2:A:1342:GLU:N	2.27	0.48
2:A:450:LEU:H	2:A:450:LEU:HD12	1.78	0.48
2:A:831:THR:HG23	2:A:832:ALA:N	2.28	0.48
2:A:867:ILE:O	2:A:868:TYR:C	2.51	0.48
3:B:642:ASP:CA	3:B:649:LYS:HA	2.35	0.48
3:B:773:MET:C	3:B:775:LYS:H	2.17	0.48
3:B:863:GLU:HG3	3:B:962:LYS:HB2	1.96	0.48
5:D:153:ARG:C	5:D:154:PHE:CD1	2.87	0.48
5:D:40:HIS:CG	5:D:41:GLN:N	2.82	0.48
9:H:128:ASN:O	9:H:128:ASN:OD1	2.31	0.48
10:I:100:PHE:N	10:I:100:PHE:HD1	2.11	0.48
11:J:2:ILE:HD11	11:J:57:ILE:CD1	2.44	0.48
4:C:47:ASP:CA	13:L:69:ALA:HB3	2.37	0.48
2:A:1021:LEU:O	2:A:1024:SER:HB3	2.14	0.48
2:A:1127:ASP:HB3	2:A:1130:GLN:HB2	1.96	0.48
2:A:1242:VAL:CG1	2:A:1243:VAL:H	2.18	0.48
2:A:591:PHE:HA	2:A:595:THR:HG21	1.95	0.48
2:A:664:THR:HG22	2:A:665:GLY:H	1.75	0.48
2:A:831:THR:CG2	2:A:832:ALA:N	2.76	0.48
2:A:858:ASN:ND2	2:A:859:SER:N	2.61	0.48
2:A:929:LEU:HD23	2:A:983:ILE:CG2	2.44	0.48
3:B:1197:PRO:O	3:B:1200:ALA:N	2.47	0.48
3:B:980:PHE:CE2	3:B:1094:ARG:HG3	2.49	0.48
3:B:1060:ARG:NE	4:C:202:PRO:HG3	2.29	0.48
11:J:64:ASN:HB3	11:J:65:PRO:HD2	1.91	0.48
2:A:1007:ILE:C	2:A:1009:ASN:N	2.67	0.48
2:A:1128:GLN:HG3	2:A:1129:GLU:N	2.29	0.48
2:A:1450:LEU:O	2:A:1450:LEU:CG	2.61	0.48
2:A:543:LEU:O	2:A:545:GLN:N	2.46	0.48
2:A:566:ILE:HD13	2:A:566:ILE:N	2.29	0.48
2:A:744:LYS:HG2	2:A:748:MET:HE2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:774:ARG:HB2	2:A:797:LYS:O	2.13	0.48
3:B:327:ARG:O	3:B:330:ALA:HB3	2.14	0.48
3:B:731:VAL:HG12	3:B:732:SER:N	2.29	0.48
3:B:843:GLN:O	3:B:844:SER:C	2.51	0.48
4:C:183:TRP:CZ2	4:C:207:CYS:HB3	2.49	0.48
6:E:198:ILE:H	6:E:198:ILE:HD12	1.78	0.48
9:H:15:VAL:HG22	9:H:26:ILE:HG12	1.96	0.48
2:A:26:GLU:O	2:A:29:ALA:N	2.46	0.48
2:A:269:ILE:CD1	2:A:300:VAL:HA	2.43	0.48
2:A:313:GLN:O	2:A:314:ALA:HB3	2.14	0.48
2:A:583:PRO:HG2	2:A:586:ILE:CD1	2.43	0.48
3:B:476:ARG:NH1	3:B:476:ARG:HA	2.19	0.48
3:B:806:THR:CG2	3:B:808:ALA:HB3	2.44	0.48
4:C:263:THR:C	4:C:265:MET:H	2.17	0.48
4:C:39:ALA:HA	4:C:164:ALA:HB3	1.95	0.48
8:G:59:GLY:HA3	8:G:70:PHE:CE2	2.49	0.48
9:H:83:GLN:C	9:H:85:GLY:H	2.16	0.48
2:A:1002:GLY:HA3	2:A:1007:ILE:HG21	1.96	0.47
2:A:166:GLY:O	2:A:167:CYS:CB	2.62	0.47
2:A:276:LEU:HD21	2:A:293:GLU:HG3	1.95	0.47
2:A:372:LYS:HA	2:A:435:HIS:ND1	2.28	0.47
3:B:1102:LYS:O	3:B:1103:ILE:C	2.51	0.47
3:B:1183:LYS:HE3	3:B:1183:LYS:N	2.29	0.47
4:C:148:ARG:CG	4:C:149:LYS:N	2.75	0.47
2:A:567:LYS:HZ2	9:H:46:LEU:C	2.17	0.47
11:J:1:MET:H1	11:J:56:LEU:H	1.62	0.47
2:A:1226:VAL:HG12	2:A:1227:ILE:N	2.29	0.47
2:A:249:SER:O	2:A:250:ILE:CG1	2.52	0.47
2:A:920:LEU:HD23	2:A:920:LEU:C	2.34	0.47
3:B:1001:PHE:CD2	4:C:34:ARG:NH2	2.82	0.47
2:A:14:VAL:HG21	3:B:1216:LEU:HD12	1.96	0.47
3:B:272:THR:N	3:B:273:LEU:HD13	2.28	0.47
3:B:878:GLN:O	3:B:878:GLN:OE1	2.33	0.47
3:B:955:THR:HG23	13:L:54:ARG:O	2.13	0.47
3:B:977:GLY:HA3	3:B:1099:VAL:CG2	2.43	0.47
4:C:79:GLN:O	4:C:127:ARG:NH1	2.47	0.47
4:C:206:ASN:OD1	4:C:229:TYR:CD2	2.67	0.47
4:C:73:GLN:N	4:C:131:HIS:O	2.47	0.47
4:C:7:GLN:HG2	12:K:104:ASN:HD22	1.78	0.47
5:D:185:CYS:CB	5:D:211:LEU:HD22	2.44	0.47
6:E:3:GLN:HG3	6:E:4:GLU:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:117:SER:HA	9:H:121:LEU:O	2.14	0.47
3:B:955:THR:OG1	13:L:55:ILE:HA	2.14	0.47
2:A:873:MET:C	2:A:1058:VAL:HG23	2.34	0.47
2:A:1423:GLY:HA3	2:A:1426:GLU:HG2	1.95	0.47
2:A:62:ASP:HB3	2:A:64:ASN:ND2	2.29	0.47
3:B:285:ILE:O	3:B:289:LEU:HB2	2.14	0.47
3:B:429:PHE:C	3:B:431:TYR:H	2.18	0.47
3:B:446:LEU:O	3:B:447:ALA:CB	2.62	0.47
4:C:114:TYR:OH	11:J:19:GLU:OE2	2.32	0.47
10:I:68:LEU:HB3	10:I:84:VAL:CG2	2.43	0.47
2:A:1074:GLU:C	2:A:1076:ALA:H	2.18	0.47
2:A:1143:LEU:HB2	2:A:1271:ILE:CG2	2.44	0.47
2:A:1385:THR:O	2:A:1387:HIS:N	2.48	0.47
2:A:364:VAL:O	2:A:364:VAL:HG13	2.14	0.47
2:A:347:PHE:HE2	2:A:375:THR:HG22	1.78	0.47
2:A:472:LEU:O	2:A:475:THR:HG22	2.15	0.47
2:A:61:ILE:O	2:A:63:ARG:N	2.48	0.47
2:A:527:THR:CG2	2:A:650:GLN:HA	2.45	0.47
2:A:68:GLN:C	2:A:70:CYS:N	2.67	0.47
2:A:774:ARG:NH2	2:A:797:LYS:HG3	2.30	0.47
3:B:1072:MET:CE	3:B:1087:PHE:HD1	2.27	0.47
3:B:205:ILE:CD1	3:B:205:ILE:N	2.71	0.47
3:B:466:TRP:O	3:B:467:GLY:C	2.52	0.47
3:B:763:GLN:HG2	3:B:765:PRO:HD2	1.96	0.47
3:B:831:SER:HB3	3:B:994:TYR:OH	2.14	0.47
4:C:65:HIS:O	4:C:69:LEU:HD13	2.13	0.47
4:C:83:SER:C	4:C:85:ASP:H	2.18	0.47
5:D:185:CYS:SG	5:D:191:ALA:HB2	2.55	0.47
8:G:95:SER:C	8:G:97:HIS:H	2.17	0.47
12:K:55:LYS:HB2	12:K:81:TYR:CE1	2.49	0.47
12:K:65:HIS:CD2	12:K:67:PHE:H	2.26	0.47
12:K:50:LEU:HD13	12:K:75:ILE:HD11	1.96	0.47
2:A:1403:GLU:O	2:A:1404:GLU:HG3	2.14	0.47
2:A:15:LYS:HB3	3:B:1220:ARG:NH2	2.21	0.47
2:A:89:PRO:HB2	2:A:204:THR:CG2	2.44	0.47
2:A:567:LYS:HG3	2:A:568:PRO:CD	2.35	0.47
3:B:1007:VAL:CG2	3:B:1008:PRO:HD2	2.35	0.47
3:B:1050:ILE:HG22	3:B:1051:THR:N	2.28	0.47
3:B:821:GLN:HE22	3:B:851:PHE:H	1.62	0.47
5:D:118:THR:O	5:D:119:ARG:C	2.53	0.47
8:G:106:MET:HG2	8:G:107:LYS:N	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:J:34:THR:O	11:J:35:ALA:C	2.53	0.47
12:K:42:LEU:HD23	12:K:46:ILE:HG13	1.96	0.47
1:R:30:A:H2'	1:R:31:U:O4'	2.15	0.47
2:A:184:SER:HB3	2:A:199:LEU:HD23	1.96	0.47
2:A:19:PHE:HB3	2:A:1413:GLY:HA2	1.95	0.47
2:A:427:GLN:HB2	2:A:430:TRP:CE2	2.50	0.47
2:A:382:PRO:HD3	2:A:428:TYR:CD2	2.49	0.47
2:A:96:ILE:N	2:A:96:ILE:HD12	2.28	0.47
3:B:1110:PRO:HG2	3:B:1119:VAL:CG2	2.45	0.47
3:B:410:GLY:O	3:B:413:LEU:N	2.47	0.47
3:B:644:GLU:HG2	3:B:654:ARG:NH2	2.26	0.47
3:B:773:MET:CE	3:B:985:GLY:HA2	2.44	0.47
4:C:189:THR:CG2	4:C:190:ASP:H	2.27	0.47
4:C:255:VAL:HG21	12:K:94:ILE:HG21	1.97	0.47
5:D:156:ASP:C	5:D:158:GLU:N	2.67	0.47
5:D:191:ALA:C	5:D:193:THR:H	2.17	0.47
5:D:195:ILE:O	5:D:198:LEU:HG	2.14	0.47
8:G:115:MET:HB2	8:G:116:PRO:CD	2.36	0.47
9:H:81:PRO:CB	9:H:82:PRO:CD	2.91	0.47
2:A:698:GLN:HA	10:I:97:MET:O	2.15	0.47
13:L:60:ARG:CG	13:L:61:THR:H	2.23	0.47
1:R:20:A:H2'	1:R:21:G:H8	1.79	0.47
2:A:1189:SER:OG	2:A:1190:PRO:HD2	2.15	0.47
2:A:501:LEU:HA	2:A:505:CYS:HB2	1.96	0.47
2:A:578:LEU:HD23	2:A:612:ILE:CD1	2.44	0.47
2:A:897:TYR:HB3	2:A:936:LEU:HD12	1.95	0.47
3:B:184:ALA:HB1	3:B:188:ASP:HB3	1.97	0.47
3:B:386:LEU:O	3:B:389:ALA:N	2.48	0.47
3:B:579:ARG:CB	3:B:586:TRP:HE1	2.22	0.47
3:B:896:ASP:OD1	3:B:898:LEU:HG	2.14	0.47
4:C:16:ASP:C	4:C:17:ASN:ND2	2.63	0.47
9:H:93:TYR:CD1	9:H:93:TYR:N	2.82	0.47
2:A:1057:VAL:CG1	2:A:1058:VAL:H	2.28	0.47
2:A:276:LEU:HD13	2:A:292:ALA:C	2.35	0.47
2:A:516:SER:O	2:A:518:LYS:N	2.47	0.47
2:A:532:ARG:O	2:A:533:LYS:C	2.52	0.47
3:B:1201:LYS:HE2	3:B:1205:GLN:CD	2.33	0.47
3:B:487:THR:HG22	3:B:488:TYR:N	2.29	0.47
3:B:529:GLU:O	3:B:531:GLN:HG2	2.15	0.47
3:B:825:VAL:HG13	3:B:826:ALA:N	2.30	0.47
6:E:88:VAL:CG1	6:E:89:GLY:N	2.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:109:VAL:HG23	7:F:124:GLU:HG2	1.97	0.47
12:K:40:HIS:ND1	12:K:61:TYR:OH	2.29	0.47
2:A:1434:ALA:O	2:A:1436:ILE:N	2.44	0.47
2:A:595:THR:O	2:A:596:THR:HG23	2.15	0.47
3:B:225:VAL:HA	3:B:237:VAL:O	2.14	0.47
3:B:244:LEU:HD21	3:B:366:GLN:NE2	2.29	0.47
3:B:615:MET:C	3:B:616:ILE:HD12	2.35	0.47
3:B:842:ASN:ND2	3:B:845:SER:H	2.13	0.47
3:B:882:THR:HG21	3:B:884:ARG:HB2	1.96	0.47
8:G:13:LEU:HD21	8:G:17:PHE:CB	2.27	0.47
8:G:27:LYS:O	8:G:30:LEU:HB3	2.15	0.47
2:A:1152:ILE:HG23	2:A:1192:LEU:O	2.14	0.47
2:A:1445:ILE:HD13	8:G:18:PHE:CE2	2.50	0.47
3:B:1156:ASP:HB3	3:B:1198:TYR:N	2.30	0.47
3:B:271:ALA:HB1	3:B:273:LEU:CD1	2.34	0.47
3:B:526:GLU:O	3:B:526:GLU:HG2	2.14	0.47
3:B:635:ARG:HH11	3:B:635:ARG:HG3	1.80	0.47
3:B:658:ILE:O	3:B:661:LEU:HB2	2.14	0.47
4:C:112:ASN:HB2	4:C:114:TYR:HE1	1.80	0.47
4:C:144:ILE:HG22	4:C:145:CYS:HB3	1.95	0.47
5:D:4:SER:O	5:D:5:THR:CB	2.62	0.47
9:H:24:CYS:HB2	9:H:44:VAL:HG21	1.97	0.47
12:K:21:ILE:HG23	12:K:31:VAL:HG11	1.97	0.47
2:A:997:LEU:HD13	2:A:1018:PHE:CE2	2.50	0.47
2:A:1073:GLY:O	2:A:1076:ALA:HB3	2.14	0.47
2:A:476:SER:N	2:A:477:PRO:CD	2.78	0.47
3:B:361:LEU:HD21	3:B:377:PHE:CD2	2.50	0.47
3:B:63:ILE:HD13	3:B:63:ILE:O	2.15	0.47
3:B:912:ILE:O	3:B:938:SER:HB3	2.16	0.47
4:C:213:PRO:O	4:C:214:ASN:HB2	2.14	0.47
4:C:70:ILE:HG13	4:C:142:VAL:HG11	1.96	0.47
6:E:35:VAL:C	6:E:37:LEU:H	2.18	0.47
8:G:53:ASN:ND2	8:G:53:ASN:N	2.62	0.47
9:H:143:LEU:N	9:H:143:LEU:HD12	2.30	0.47
11:J:14:VAL:HG12	11:J:14:VAL:O	2.13	0.47
2:A:474:VAL:HG22	2:A:474:VAL:O	2.15	0.46
2:A:730:GLY:O	2:A:732:LEU:N	2.48	0.46
2:A:853:ASP:O	2:A:854:ASN:HB2	2.13	0.46
3:B:185:THR:O	3:B:188:ASP:N	2.48	0.46
3:B:203:PHE:HB2	3:B:205:ILE:HD11	1.98	0.46
3:B:635:ARG:NH1	3:B:635:ARG:HG3	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:234:SER:OG	4:C:235:VAL:N	2.47	0.46
6:E:23:VAL:HG13	6:E:78:LEU:HD13	1.97	0.46
9:H:99:GLY:N	9:H:118:PHE:CD2	2.84	0.46
10:I:71:SER:OG	10:I:83:ASN:HB2	2.15	0.46
11:J:48:ARG:C	11:J:48:ARG:HD2	2.36	0.46
2:A:1017:LEU:HB2	6:E:206:GLY:N	2.15	0.46
2:A:1041:ALA:O	2:A:1044:TRP:HB3	2.16	0.46
2:A:1329:THR:HG22	2:A:1330:ASN:N	2.29	0.46
2:A:42:ASP:HB3	2:A:45:GLN:H	1.81	0.46
2:A:808:LEU:CD2	2:A:813:PHE:HA	2.45	0.46
2:A:852:TYR:CZ	7:F:136:ARG:HG2	2.51	0.46
2:A:867:ILE:O	2:A:870:GLU:N	2.42	0.46
3:B:593:PRO:O	3:B:595:ARG:N	2.48	0.46
3:B:653:VAL:HG22	3:B:689:LEU:HD13	1.97	0.46
3:B:896:ASP:C	3:B:896:ASP:OD1	2.54	0.46
3:B:899:ILE:HG22	3:B:900:ALA:N	2.30	0.46
3:B:999:MET:HB3	3:B:1007:VAL:HG21	1.96	0.46
4:C:235:VAL:HG13	11:J:13:VAL:CG2	2.45	0.46
6:E:20:LYS:O	6:E:23:VAL:N	2.47	0.46
12:K:85:ASP:O	12:K:88:LYS:HB2	2.14	0.46
1:R:7:C:H41	1:R:13:G:N2	2.12	0.46
2:A:196:GLU:HG2	2:A:197:PRO:CD	2.44	0.46
2:A:79:GLY:HA3	2:A:243:PRO:CG	2.43	0.46
2:A:605:MET:HE2	2:A:606:LEU:N	2.29	0.46
2:A:898:ARG:HD3	2:A:933:TYR:CD1	2.50	0.46
4:C:112:ASN:CB	4:C:114:TYR:CE1	2.98	0.46
4:C:238:ILE:HG22	4:C:243:VAL:CG2	2.45	0.46
6:E:124:VAL:HG13	6:E:132:ILE:CD1	2.41	0.46
9:H:11:GLN:HA	9:H:53:ASP:O	2.15	0.46
9:H:62:SER:O	9:H:63:LEU:C	2.53	0.46
11:J:6:ARG:HG2	11:J:13:VAL:HA	1.97	0.46
2:A:1115:SER:OG	2:A:1116:LEU:N	2.49	0.46
2:A:120:GLU:C	2:A:122:MET:N	2.69	0.46
2:A:344:ARG:C	2:A:345:VAL:CG1	2.84	0.46
2:A:89:PRO:C	2:A:204:THR:HG21	2.36	0.46
3:B:114:PRO:O	3:B:116:GLU:N	2.47	0.46
3:B:205:ILE:C	3:B:207:GLY:N	2.69	0.46
3:B:903:VAL:HG12	3:B:904:ARG:N	2.30	0.46
4:C:241:ASP:CG	4:C:242:GLN:H	2.18	0.46
4:C:3:GLU:HG2	4:C:4:GLU:N	2.30	0.46
12:K:33:ILE:N	12:K:33:ILE:HD12	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:532:ARG:NH1	2:A:532:ARG:HG2	2.30	0.46
2:A:913:LEU:HD11	2:A:915:SER:OG	2.15	0.46
3:B:1051:THR:HG22	3:B:1053:GLU:H	1.81	0.46
3:B:179:CYS:SG	3:B:181:LEU:HB2	2.55	0.46
3:B:274:PRO:C	3:B:276:ILE:N	2.66	0.46
3:B:331:LEU:N	3:B:331:LEU:HD12	2.31	0.46
3:B:496:ARG:HH12	3:B:539:LEU:HB2	1.79	0.46
3:B:95:ILE:HA	3:B:129:PHE:O	2.14	0.46
2:A:1151:GLU:HA	10:I:44:TYR:O	2.16	0.46
2:A:1036:ARG:HH11	2:A:1036:ARG:HG2	1.80	0.46
2:A:244:PRO:HG2	2:A:245:PRO:HD2	1.98	0.46
2:A:381:THR:HG23	2:A:383:TYR:N	2.31	0.46
2:A:49:LYS:CD	2:A:55:ASP:HB3	2.44	0.46
2:A:537:ARG:O	2:A:540:PHE:CE1	2.69	0.46
2:A:539:THR:C	2:A:540:PHE:CD1	2.89	0.46
2:A:871:ASP:OD2	2:A:873:MET:HB2	2.16	0.46
2:A:898:ARG:HB2	2:A:933:TYR:HE1	1.77	0.46
3:B:1163:CYS:SG	3:B:1165:ILE:N	2.74	0.46
3:B:466:TRP:CD1	3:B:468:GLU:OE2	2.69	0.46
3:B:489:SER:OG	3:B:490:SER:N	2.49	0.46
3:B:654:ARG:O	3:B:656:GLY:N	2.49	0.46
3:B:729:ILE:O	3:B:729:ILE:HG22	2.15	0.46
3:B:816:GLU:O	3:B:817:LEU:HD23	2.16	0.46
5:D:144:THR:O	5:D:144:THR:CG2	2.64	0.46
6:E:186:LEU:C	6:E:189:GLY:H	2.18	0.46
9:H:43:ASN:OD1	9:H:46:LEU:HG	2.16	0.46
10:I:54:GLU:OE2	10:I:118:ARG:NH1	2.48	0.46
2:A:133:LYS:C	2:A:135:PHE:H	2.19	0.46
2:A:174:ILE:HG23	2:A:182:VAL:O	2.16	0.46
2:A:219:PHE:CE2	2:A:231:PRO:HD2	2.51	0.46
2:A:605:MET:HE2	2:A:607:ILE:HG13	1.97	0.46
2:A:809:THR:H	2:A:812:GLU:HB2	1.81	0.46
3:B:911:ILE:HD11	3:B:941:LEU:HD13	1.98	0.46
4:C:46:ILE:HD12	4:C:67:LEU:HB3	1.97	0.46
6:E:78:LEU:HB2	6:E:107:THR:HB	1.98	0.46
6:E:143:ASN:OD1	6:E:187:TYR:CE1	2.69	0.46
7:F:114:GLU:OE2	7:F:119:ARG:HG2	2.16	0.46
8:G:111:THR:HB	8:G:114:LEU:HB2	1.96	0.46
3:B:822:ASN:HD22	11:J:52:THR:HG21	1.80	0.46
1:R:5:C:H4'	1:R:6:A:OP1	2.14	0.46
2:A:90:VAL:HG12	2:A:297:GLN:HE22	1.77	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:385:ILE:HG22	2:A:386:ASP:N	2.31	0.46
2:A:463:ILE:HD12	2:A:464:PRO:O	2.16	0.46
2:A:353:ILE:HD13	2:A:487:MET:HE2	1.98	0.46
2:A:608:ILE:HD12	2:A:613:ILE:HG13	1.98	0.46
2:A:767:GLN:HE21	2:A:774:ARG:HD2	1.81	0.46
2:A:836:TYR:CZ	2:A:840:ARG:HD2	2.51	0.46
2:A:860:LEU:HB3	2:A:862:ASN:OD1	2.16	0.46
2:A:1409:LEU:CD1	3:B:1207:LEU:HD11	2.44	0.46
3:B:94:LYS:O	3:B:130:VAL:HA	2.15	0.46
3:B:639:ILE:HD13	3:B:690:VAL:HA	1.97	0.46
4:C:112:ASN:HB3	4:C:114:TYR:CE1	2.51	0.46
4:C:43:THR:CG2	4:C:44:LEU:H	2.29	0.46
4:C:58:LEU:HD22	4:C:58:LEU:N	2.31	0.46
4:C:86:CYS:C	4:C:88:CYS:H	2.19	0.46
5:D:215:SER:HA	5:D:218:GLU:HB2	1.98	0.46
6:E:153:HIS:ND1	6:E:153:HIS:N	2.64	0.46
6:E:157:SER:C	6:E:159:ASP:H	2.19	0.46
6:E:157:SER:HG	6:E:160:GLU:HG3	1.80	0.46
2:A:1155:ASP:OD2	2:A:1162:VAL:N	2.39	0.46
2:A:1273:LEU:N	2:A:1273:LEU:HD12	2.31	0.46
2:A:913:LEU:HD12	2:A:913:LEU:C	2.36	0.46
3:B:773:MET:C	3:B:775:LYS:N	2.70	0.46
6:E:100:ILE:HG23	6:E:105:PHE:HB2	1.98	0.46
2:A:1327:ILE:HG22	6:E:147:HIS:HE1	1.81	0.46
2:A:1021:LEU:HD12	2:A:1021:LEU:O	2.16	0.46
2:A:23:SER:HA	2:A:233:TRP:CD1	2.51	0.46
2:A:346:ASP:CG	3:B:1108:ARG:HA	2.37	0.46
2:A:399:HIS:CB	2:A:400:PRO:CD	2.94	0.46
2:A:437:MET:O	2:A:438:ASP:C	2.54	0.46
2:A:626:ASN:O	2:A:631:HIS:HD2	1.98	0.46
2:A:897:TYR:HB3	2:A:936:LEU:CD1	2.46	0.46
3:B:1031:LEU:HD23	3:B:1044:ALA:HB2	1.98	0.46
3:B:240:ILE:CG2	3:B:240:ILE:O	2.64	0.46
3:B:644:GLU:CG	3:B:654:ARG:HH22	2.28	0.46
3:B:680:THR:O	3:B:683:SER:OG	2.32	0.46
3:B:980:PHE:HD2	3:B:1094:ARG:HA	1.81	0.46
4:C:104:PHE:HD2	4:C:105:GLY:N	2.13	0.46
11:J:24:LEU:HD23	11:J:24:LEU:N	2.30	0.46
2:A:1333:ILE:O	2:A:1337:GLU:HG3	2.16	0.45
2:A:350:ARG:O	2:A:351:THR:HG22	2.16	0.45
2:A:618:GLU:O	2:A:619:LYS:C	2.54	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:806:THR:HA	3:B:1045:SER:OG	2.16	0.45
3:B:203:PHE:HB3	3:B:205:ILE:HD11	1.97	0.45
3:B:296:GLU:O	3:B:299:GLU:HB2	2.16	0.45
3:B:333:PHE:C	3:B:334:ILE:HG12	2.35	0.45
3:B:508:LEU:O	3:B:509:ALA:C	2.50	0.45
3:B:542:MET:HB3	3:B:636:PRO:HD2	1.98	0.45
5:D:123:LEU:HD23	5:D:149:THR:HG21	1.98	0.45
9:H:42:ILE:CG2	9:H:95:TYR:HE1	2.19	0.45
10:I:99:LEU:O	10:I:111:THR:HG23	2.16	0.45
1:R:9:G:H5'	1:R:10:A:OP1	2.14	0.45
2:A:463:ILE:HD13	2:A:469:ARG:CD	2.46	0.45
2:A:442:VAL:CB	2:A:489:LEU:HD11	2.42	0.45
2:A:57:ARG:O	2:A:68:GLN:NE2	2.48	0.45
2:A:737:LEU:HD23	2:A:737:LEU:HA	1.65	0.45
2:A:807:GLY:HA2	3:B:760:ASP:O	2.16	0.45
2:A:84:ILE:HD11	2:A:270:LEU:HD22	1.98	0.45
2:A:908:LEU:O	2:A:909:ASP:C	2.54	0.45
3:B:1131:GLY:N	3:B:1134:GLU:OE1	2.48	0.45
3:B:125:SER:O	3:B:126:SER:HB3	2.17	0.45
3:B:376:PHE:HB3	3:B:586:TRP:CZ3	2.51	0.45
3:B:661:LEU:C	3:B:663:ALA:N	2.69	0.45
3:B:865:LYS:HD3	3:B:870:ILE:O	2.16	0.45
4:C:77:ILE:CG2	4:C:78:GLU:N	2.79	0.45
5:D:51:ASN:O	5:D:52:LEU:C	2.53	0.45
7:F:109:VAL:HG12	7:F:110:ASP:N	2.32	0.45
7:F:96:THR:O	7:F:100:GLN:HG3	2.16	0.45
8:G:121:PHE:HB2	8:G:130:TYR:CE2	2.51	0.45
9:H:113:ALA:HA	9:H:125:LEU:O	2.16	0.45
12:K:53:ASP:HB3	12:K:56:VAL:HG23	1.99	0.45
13:L:33:GLU:C	13:L:35:SER:H	2.19	0.45
2:A:1064:VAL:O	2:A:1064:VAL:HG12	2.15	0.45
2:A:1170:ILE:HG13	2:A:1170:ILE:H	1.60	0.45
2:A:1211:GLN:O	2:A:1212:VAL:C	2.55	0.45
2:A:244:PRO:CB	2:A:245:PRO:CD	2.94	0.45
2:A:523:ILE:HG22	2:A:528:LEU:HB2	1.99	0.45
2:A:897:TYR:N	2:A:897:TYR:CD1	2.84	0.45
2:A:93:VAL:HG23	2:A:304:MET:HE3	1.98	0.45
2:A:1431:GLY:HA3	3:B:1197:PRO:HD3	1.98	0.45
3:B:593:PRO:HG2	3:B:617:ARG:NH2	2.31	0.45
3:B:797:TYR:CD2	3:B:852:ARG:CB	2.99	0.45
3:B:846:ILE:HG23	3:B:974:PRO:CG	2.38	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:40:GLU:OE1	4:C:254:LYS:NZ	2.49	0.45
5:D:29:LEU:O	5:D:30:GLY:O	2.35	0.45
5:D:37:GLN:HE22	8:G:5:LYS:HD2	1.79	0.45
8:G:160:ILE:H	8:G:160:ILE:HD12	1.82	0.45
10:I:34:TYR:O	10:I:35:VAL:HG23	2.17	0.45
2:A:98:LYS:O	2:A:102:VAL:N	2.47	0.45
2:A:1342:GLU:OE2	6:E:212:ARG:NH1	2.43	0.45
2:A:1409:LEU:O	2:A:1412:ALA:HB3	2.16	0.45
2:A:494:SER:O	2:A:497:THR:N	2.48	0.45
2:A:70:CYS:O	2:A:71:GLN:C	2.53	0.45
2:A:92:HIS:O	2:A:95:PHE:N	2.46	0.45
3:B:1169:MET:HE1	3:B:1201:LYS:HA	1.99	0.45
3:B:240:ILE:HD13	3:B:241:ARG:N	2.32	0.45
3:B:37:PHE:HE2	3:B:542:MET:HA	1.82	0.45
3:B:556:THR:O	3:B:556:THR:CG2	2.63	0.45
3:B:604:ARG:O	3:B:606:LYS:N	2.50	0.45
3:B:616:ILE:N	3:B:616:ILE:CD1	2.74	0.45
6:E:59:SER:HB3	6:E:81:GLU:HA	1.99	0.45
13:L:49:LYS:O	13:L:50:ASP:HB2	2.17	0.45
2:A:1263:ILE:O	2:A:1267:MET:HG3	2.16	0.45
2:A:1394:THR:CG2	2:A:1398:MET:SD	2.98	0.45
2:A:840:ARG:O	2:A:841:LEU:C	2.54	0.45
2:A:875:ALA:HA	2:A:878:ILE:CD1	2.44	0.45
3:B:1015:HIS:C	3:B:1017:ILE:H	2.20	0.45
3:B:44:VAL:O	3:B:46:GLN:HG3	2.17	0.45
3:B:873:THR:O	3:B:914:LYS:HA	2.16	0.45
3:B:872:GLU:HA	3:B:915:THR:O	2.17	0.45
3:B:981:ALA:HB2	3:B:987:LYS:HA	1.98	0.45
4:C:41:ILE:HD12	4:C:41:ILE:N	2.30	0.45
6:E:144:ILE:HD12	6:E:145:THR:H	1.78	0.45
6:E:78:LEU:C	6:E:78:LEU:HD23	2.36	0.45
9:H:127:GLY:N	9:H:130:ARG:HH22	2.12	0.45
10:I:8:ARG:O	10:I:10:CYS:N	2.49	0.45
12:K:31:VAL:CG1	12:K:32:VAL:N	2.79	0.45
4:C:35:ARG:NH1	12:K:40:HIS:HB2	2.30	0.45
2:A:1385:THR:HG22	2:A:1386:ARG:H	1.80	0.45
2:A:22:PHE:CB	3:B:1211:ASN:HD21	2.29	0.45
2:A:236:LEU:N	2:A:236:LEU:CD2	2.79	0.45
2:A:264:PHE:O	2:A:267:ALA:N	2.49	0.45
2:A:350:ARG:O	2:A:351:THR:CG2	2.64	0.45
2:A:443:LEU:HD23	2:A:501:LEU:HD22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:970:THR:HG22	2:A:970:THR:O	2.16	0.45
3:B:820:GLY:N	3:B:1091:TYR:OH	2.50	0.45
3:B:778:MET:HE1	3:B:1094:ARG:CD	2.46	0.45
3:B:347:LYS:HG3	3:B:348:ARG:H	1.81	0.45
3:B:467:GLY:O	3:B:470:LYS:CG	2.64	0.45
3:B:903:VAL:CG1	3:B:904:ARG:N	2.80	0.45
4:C:258:ILE:HD13	12:K:35:PHE:CE2	2.46	0.45
6:E:92:THR:HG22	6:E:92:THR:O	2.17	0.45
7:F:97:ARG:HA	7:F:97:ARG:HD2	1.69	0.45
8:G:88:ASP:HB3	8:G:144:ARG:HG3	1.99	0.45
11:J:64:ASN:CB	11:J:65:PRO:CD	2.80	0.45
2:A:123:ARG:O	2:A:125:ALA:N	2.50	0.45
2:A:26:GLU:O	2:A:27:VAL:C	2.54	0.45
2:A:283:GLY:O	2:A:285:PRO:CD	2.65	0.45
2:A:268:ASP:HB3	2:A:299:HIS:CE1	2.52	0.45
2:A:335:ARG:NH1	3:B:1206:GLU:OE2	2.50	0.45
2:A:881:GLN:HE22	2:A:960:ILE:H	1.64	0.45
3:B:1013:ASN:OD1	3:B:1015:HIS:N	2.47	0.45
3:B:113:TYR:CB	3:B:114:PRO:HD2	2.46	0.45
3:B:258:LEU:O	3:B:259:TYR:O	2.35	0.45
3:B:26:THR:O	3:B:29:ASP:HB2	2.16	0.45
3:B:327:ARG:HH22	3:B:371:GLU:HG2	1.82	0.45
3:B:801:LYS:N	11:J:52:THR:CG2	2.79	0.45
3:B:953:LEU:CD2	3:B:965:LYS:HB2	2.35	0.45
4:C:6:PRO:HB3	4:C:25:VAL:CG1	2.47	0.45
5:D:153:ARG:HB3	5:D:154:PHE:CD1	2.52	0.45
12:K:56:VAL:HG22	12:K:77:THR:HG22	1.99	0.45
2:A:1388:GLY:O	2:A:1390:ASN:N	2.50	0.45
2:A:532:ARG:HG2	2:A:532:ARG:HH11	1.82	0.45
2:A:901:LEU:N	2:A:926:GLN:NE2	2.58	0.45
3:B:20:ASP:C	3:B:22:SER:H	2.16	0.45
3:B:238:ALA:HB3	3:B:256:VAL:HB	1.99	0.45
3:B:248:SER:O	3:B:249:ARG:HB2	2.16	0.45
3:B:459:TYR:CD2	3:B:459:TYR:C	2.90	0.45
3:B:840:ILE:HD13	3:B:994:TYR:HE1	1.81	0.45
4:C:242:GLN:C	4:C:244:VAL:H	2.19	0.45
4:C:37:MET:SD	4:C:232:VAL:HG21	2.56	0.45
7:F:72:LYS:O	7:F:73:ALA:HB3	2.17	0.45
8:G:17:PHE:N	8:G:17:PHE:CD2	2.85	0.45
9:H:63:LEU:C	9:H:90:ALA:HB3	2.37	0.45
10:I:6:PHE:HB3	10:I:12:ASN:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:49:GLU:HG3	12:K:94:ILE:HG12	1.99	0.45
2:A:1330:ASN:OD1	2:A:1330:ASN:C	2.55	0.45
2:A:1364:ASN:O	2:A:1365:TYR:C	2.55	0.45
2:A:1433:MET:CE	8:G:63:PRO:HB2	2.46	0.45
2:A:58:LEU:O	2:A:59:GLY:O	2.35	0.45
2:A:89:PRO:O	2:A:204:THR:HG21	2.17	0.45
3:B:429:PHE:HA	3:B:432:MET:CE	2.47	0.45
3:B:821:GLN:NE2	3:B:851:PHE:CD2	2.85	0.45
3:B:843:GLN:O	3:B:846:ILE:N	2.49	0.45
4:C:123:ASN:ND2	4:C:125:MET:SD	2.90	0.45
4:C:77:ILE:HA	4:C:129:ILE:CD1	2.44	0.45
5:D:52:LEU:C	5:D:54:GLU:H	2.19	0.45
8:G:1:MET:O	8:G:3:PHE:CD1	2.70	0.45
8:G:34:VAL:HG11	8:G:74:TYR:CE1	2.52	0.45
12:K:42:LEU:HD23	12:K:46:ILE:CG1	2.46	0.45
2:A:1076:ALA:HA	2:A:1079:MET:HE3	1.99	0.45
2:A:1291:VAL:HG13	2:A:1292:PRO:N	2.32	0.45
2:A:1299:VAL:HG12	2:A:1300:LYS:H	1.81	0.45
2:A:1345:ARG:CG	2:A:1372:VAL:HG13	2.43	0.45
2:A:446:ARG:HD2	2:A:480:ALA:HB2	1.99	0.45
2:A:738:LYS:HB2	2:A:740:LEU:CD2	2.46	0.45
2:A:808:LEU:HD22	2:A:813:PHE:HA	1.98	0.45
2:A:343:LYS:NZ	3:B:1151:LEU:O	2.30	0.45
3:B:324:ILE:CG2	3:B:325:GLN:N	2.80	0.45
3:B:726:ALA:HB1	3:B:1051:THR:HG21	1.99	0.45
6:E:136:ASN:OD1	6:E:138:ALA:N	2.49	0.45
10:I:34:TYR:C	10:I:34:TYR:CD2	2.87	0.45
4:C:175:ALA:HB1	11:J:43:ARG:NH1	2.31	0.45
2:A:1278:ASN:O	2:A:1280:GLU:HG3	2.18	0.44
2:A:40:THR:HG22	2:A:41:MET:HG2	1.98	0.44
2:A:565:ILE:O	2:A:570:PRO:HA	2.17	0.44
2:A:605:MET:CE	2:A:606:LEU:H	2.29	0.44
2:A:728:LYS:O	2:A:732:LEU:HG	2.17	0.44
2:A:783:THR:CG2	2:A:815:PHE:CE2	2.99	0.44
3:B:289:LEU:HD13	3:B:375:ALA:HB2	1.99	0.44
3:B:313:MET:O	3:B:316:PRO:HD2	2.17	0.44
3:B:1065:GLN:HB2	4:C:201:TRP:CZ3	2.52	0.44
5:D:205:ASP:O	5:D:208:GLU:N	2.50	0.44
7:F:90:ARG:HD3	7:F:155:LEU:CD1	2.47	0.44
9:H:104:PHE:CZ	9:H:136:LYS:HG2	2.53	0.44
10:I:101:PHE:HD1	10:I:101:PHE:N	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:K:61:TYR:C	12:K:61:TYR:CD2	2.90	0.44
2:A:244:PRO:O	2:A:247:ARG:N	2.40	0.44
2:A:92:HIS:HB2	2:A:236:LEU:CD2	2.48	0.44
3:B:1051:THR:CG2	3:B:1052:VAL:H	2.29	0.44
3:B:292:ILE:HD12	3:B:326:ASP:HA	1.99	0.44
3:B:549:THR:HG22	3:B:550:ASP:H	1.82	0.44
3:B:520:GLY:HA2	3:B:748:ILE:HG22	2.00	0.44
4:C:101:LEU:C	4:C:101:LEU:HD12	2.38	0.44
4:C:99:LEU:HD23	4:C:99:LEU:N	2.32	0.44
5:D:126:ILE:HD13	5:D:126:ILE:HA	1.87	0.44
8:G:88:ASP:HB3	8:G:144:ARG:CB	2.47	0.44
9:H:89:LEU:C	9:H:91:ASP:N	2.69	0.44
10:I:32:CYS:HB2	10:I:33:SER:H	1.46	0.44
10:I:74:GLU:HA	10:I:80:SER:O	2.18	0.44
10:I:7:CYS:SG	10:I:8:ARG:O	2.75	0.44
11:J:3:VAL:HG21	11:J:18:TRP:CG	2.52	0.44
3:B:800:GLN:CB	11:J:52:THR:HG22	2.47	0.44
2:A:1315:GLU:C	2:A:1317:MET:N	2.70	0.44
2:A:1372:VAL:HG12	2:A:1373:ASP:H	1.81	0.44
2:A:836:TYR:O	2:A:840:ARG:HD3	2.17	0.44
2:A:877:HIS:O	2:A:878:ILE:CG1	2.65	0.44
3:B:766:ARG:HH22	3:B:1020:ARG:HH11	1.65	0.44
3:B:350:GLN:C	3:B:352:ALA:N	2.69	0.44
3:B:792:MET:HA	3:B:856:PHE:O	2.18	0.44
8:G:140:LYS:O	8:G:141:SER:C	2.56	0.44
10:I:74:GLU:HB2	10:I:79:HIS:HA	2.00	0.44
11:J:44:TYR:HA	11:J:47:ARG:HB2	1.99	0.44
2:A:1058:VAL:CG1	2:A:1059:HIS:N	2.81	0.44
2:A:1260:LEU:O	2:A:1260:LEU:HG	2.16	0.44
2:A:365:GLY:O	2:A:468:PHE:HA	2.18	0.44
2:A:404:TYR:N	2:A:415:LEU:HD12	2.33	0.44
2:A:474:VAL:HG22	2:A:478:TYR:CE1	2.52	0.44
2:A:599:SER:HA	2:A:600:PRO:HD2	1.84	0.44
2:A:608:ILE:C	2:A:610:GLY:N	2.71	0.44
3:B:1120:GLU:CG	3:B:1121:GLY:N	2.79	0.44
3:B:766:ARG:HD3	3:B:766:ARG:HA	1.83	0.44
4:C:163:ILE:C	4:C:165:LYS:H	2.21	0.44
4:C:89:GLU:O	4:C:90:ASP:CB	2.65	0.44
5:D:177:VAL:HG12	5:D:177:VAL:O	2.18	0.44
5:D:47:LEU:HD11	8:G:3:PHE:CD2	2.52	0.44
6:E:84:ASP:O	6:E:86:PRO:HD3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:F:74:ILE:CG2	7:F:75:PRO:HD2	2.46	0.44
5:D:47:LEU:HD11	8:G:3:PHE:CE2	2.51	0.44
8:G:51:TYR:C	8:G:51:TYR:CD2	2.91	0.44
9:H:42:ILE:HG23	9:H:43:ASN:N	2.32	0.44
2:A:289:ILE:C	2:A:291:GLU:N	2.71	0.44
2:A:608:ILE:C	2:A:610:GLY:H	2.21	0.44
2:A:668:ASP:HA	2:A:741:ASN:OD1	2.17	0.44
2:A:925:LEU:C	2:A:927:VAL:H	2.21	0.44
3:B:98:THR:O	3:B:126:SER:HB2	2.18	0.44
3:B:654:ARG:HH11	3:B:654:ARG:HG3	1.82	0.44
3:B:681:TRP:C	3:B:683:SER:N	2.71	0.44
3:B:737:THR:HG22	10:I:66:PRO:HB3	2.00	0.44
3:B:859:TYR:CZ	3:B:941:LEU:HD12	2.53	0.44
5:D:192:LYS:NZ	5:D:192:LYS:HB3	2.32	0.44
9:H:56:THR:HG21	9:H:145:ARG:HE	1.81	0.44
1:R:6:A:OP1	3:B:210:LYS:HE3	2.17	0.44
2:A:1130:GLN:O	2:A:1134:ILE:HG12	2.18	0.44
2:A:117:GLU:N	2:A:117:GLU:CD	2.69	0.44
2:A:91:PHE:HD2	2:A:96:ILE:HG13	1.82	0.44
3:B:287:ARG:HG2	3:B:292:ILE:HA	1.99	0.44
3:B:408:LEU:HA	3:B:408:LEU:HD12	1.82	0.44
3:B:794:ASN:O	3:B:795:ILE:HD12	2.17	0.44
3:B:801:LYS:O	11:J:52:THR:CG2	2.60	0.44
2:A:255:SER:OG	3:B:918:ILE:HG23	2.18	0.44
3:B:97:VAL:HG12	3:B:178:ASN:ND2	2.32	0.44
4:C:174:ALA:O	4:C:175:ALA:CB	2.66	0.44
4:C:60:ASP:HB3	13:L:67:PHE:CZ	2.53	0.44
7:F:103:MET:HE1	8:G:65:ASP:HB2	2.00	0.44
9:H:4:THR:HA	9:H:60:ALA:CB	2.44	0.44
9:H:98:TYR:HE1	9:H:139:ASN:HA	1.83	0.44
12:K:55:LYS:CB	12:K:81:TYR:CE1	3.01	0.44
2:A:899:VAL:CG2	2:A:1029:ARG:HG2	2.48	0.44
2:A:120:GLU:O	2:A:122:MET:N	2.51	0.44
2:A:1410:PHE:C	2:A:1412:ALA:H	2.20	0.44
2:A:899:VAL:HB	2:A:929:LEU:CD1	2.48	0.44
3:B:635:ARG:HB2	3:B:636:PRO:HD2	1.99	0.44
4:C:44:LEU:HB2	4:C:77:ILE:HD12	2.00	0.44
4:C:77:ILE:HG23	4:C:78:GLU:N	2.32	0.44
6:E:61:GLN:HB2	6:E:79:TRP:CZ3	2.52	0.44
8:G:13:LEU:O	8:G:67:SER:HA	2.17	0.44
8:G:80:LYS:HA	8:G:81:PRO:HD2	1.78	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:111:THR:CG2	10:I:112:SER:H	2.31	0.44
3:B:800:GLN:CA	11:J:52:THR:HG22	2.48	0.44
12:K:79:GLU:HG2	12:K:80:GLY:N	2.31	0.44
1:R:2:C:C1'	1:R:3:A:OP1	2.65	0.44
2:A:964:ILE:CD1	2:A:1045:VAL:HG21	2.48	0.44
2:A:1329:THR:HB	2:A:1335:ILE:HD11	1.99	0.44
2:A:374:LEU:HB2	2:A:436:ILE:CD1	2.48	0.44
2:A:779:PHE:HE1	2:A:785:PRO:HD3	1.66	0.44
2:A:767:GLN:OE1	2:A:799:PHE:HB2	2.18	0.44
3:B:221:ASN:OD1	3:B:242:SER:HA	2.18	0.44
3:B:579:ARG:HB2	3:B:586:TRP:CE2	2.53	0.44
4:C:29:MET:CE	12:K:98:LEU:HG	2.46	0.44
9:H:89:LEU:O	9:H:91:ASP:N	2.49	0.44
10:I:15:TYR:N	10:I:15:TYR:CD1	2.86	0.44
2:A:1192:LEU:HG	2:A:1193:LEU:N	2.33	0.44
2:A:23:SER:O	2:A:26:GLU:N	2.50	0.44
2:A:567:LYS:NZ	9:H:47:PHE:CB	2.81	0.44
2:A:75:ASN:O	2:A:76:GLU:CB	2.66	0.44
2:A:868:TYR:OH	2:A:1366:ARG:HD3	2.18	0.44
3:B:51:PHE:O	3:B:55:VAL:HG23	2.17	0.44
3:B:405:ARG:HE	3:B:629:ASP:HB3	1.82	0.44
3:B:758:PHE:CE1	3:B:1044:ALA:HB1	2.53	0.44
4:C:56:THR:CG2	4:C:57:VAL:N	2.80	0.44
6:E:138:ALA:HA	6:E:141:VAL:HG23	2.00	0.44
2:A:1220:PHE:O	2:A:1221:LYS:HB2	2.17	0.43
3:B:491:THR:O	3:B:492:LEU:C	2.55	0.43
3:B:560:GLU:O	3:B:561:TRP:CD1	2.71	0.43
3:B:578:THR:O	3:B:578:THR:HG22	2.17	0.43
3:B:620:ARG:NH2	10:I:89:GLN:NE2	2.66	0.43
3:B:763:GLN:O	3:B:764:SER:C	2.57	0.43
5:D:130:LEU:C	5:D:132:GLN:N	2.69	0.43
5:D:176:GLU:C	5:D:178:ALA:H	2.21	0.43
6:E:89:GLY:HA2	6:E:117:THR:OG1	2.17	0.43
2:A:700:ASN:HB2	10:I:98:VAL:HG22	2.00	0.43
11:J:7:CYS:CA	11:J:49:MET:HE3	2.48	0.43
2:A:1162:VAL:HG12	2:A:1162:VAL:O	2.18	0.43
2:A:1276:VAL:HG12	2:A:1277:GLU:N	2.33	0.43
2:A:443:LEU:HD11	2:A:455:MET:HB3	2.00	0.43
2:A:500:GLU:OE1	3:B:1143:ALA:C	2.56	0.43
2:A:587:HIS:HA	2:A:607:ILE:O	2.18	0.43
2:A:852:TYR:HA	2:A:1060:PRO:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:102:VAL:HG23	3:B:112:LEU:HB2	1.99	0.43
3:B:129:PHE:CE2	3:B:166:PHE:HA	2.52	0.43
3:B:225:VAL:HG12	3:B:238:ALA:HA	2.01	0.43
3:B:558:LEU:O	3:B:561:TRP:N	2.51	0.43
3:B:593:PRO:O	3:B:594:ALA:C	2.55	0.43
4:C:152:GLU:HG2	4:C:153:LEU:H	1.82	0.43
4:C:44:LEU:HB2	4:C:77:ILE:CD1	2.48	0.43
7:F:90:ARG:HD3	7:F:155:LEU:HD12	1.98	0.43
8:G:87:VAL:CG2	8:G:103:VAL:HG11	2.48	0.43
13:L:70:ARG:HG2	13:L:70:ARG:HH11	1.83	0.43
2:A:964:ILE:HD13	2:A:1045:VAL:CG2	2.48	0.43
2:A:264:PHE:O	2:A:265:LYS:C	2.56	0.43
2:A:343:LYS:HZ2	3:B:1151:LEU:HG	1.83	0.43
2:A:751:SER:OG	3:B:1015:HIS:HE1	2.00	0.43
2:A:774:ARG:H	2:A:774:ARG:HG2	1.55	0.43
2:A:966:ASN:O	2:A:967:ALA:C	2.57	0.43
3:B:96:TYR:N	3:B:129:PHE:O	2.40	0.43
3:B:496:ARG:HB3	3:B:496:ARG:NH1	2.29	0.43
3:B:847:ASP:C	3:B:849:GLY:N	2.72	0.43
4:C:27:LEU:O	4:C:28:ALA:C	2.57	0.43
6:E:6:GLU:O	6:E:6:GLU:HG3	2.18	0.43
9:H:116:TYR:O	9:H:122:LEU:HA	2.18	0.43
10:I:60:GLN:NE2	10:I:107:SER:OG	2.51	0.43
11:J:36:LEU:O	11:J:39:LEU:N	2.51	0.43
11:J:49:MET:HB3	11:J:50:ILE:HD12	2.00	0.43
1:R:28:5BU:H2'	1:R:29:G:H8	1.81	0.43
2:A:1376:THR:HA	2:A:1380:GLY:O	2.19	0.43
2:A:19:PHE:O	2:A:1416:ALA:HA	2.18	0.43
2:A:344:ARG:O	2:A:345:VAL:HG12	2.18	0.43
2:A:443:LEU:O	2:A:489:LEU:HD12	2.19	0.43
2:A:464:PRO:HG2	2:A:465:TYR:CD1	2.50	0.43
2:A:510:GLN:HA	2:A:510:GLN:OE1	2.19	0.43
2:A:954:TRP:HB3	2:A:955:PRO:HD2	2.00	0.43
3:B:221:ASN:O	3:B:222:ILE:HD13	2.19	0.43
3:B:272:THR:OG1	3:B:279:ASP:OD1	2.36	0.43
3:B:515:HIS:H	3:B:518:HIS:CD2	2.31	0.43
3:B:743:ILE:HG12	3:B:743:ILE:H	1.49	0.43
4:C:183:TRP:CE2	4:C:207:CYS:HB3	2.53	0.43
4:C:58:LEU:CD2	4:C:58:LEU:N	2.81	0.43
5:D:64:VAL:C	5:D:66:ARG:N	2.72	0.43
7:F:81:THR:HG21	7:F:136:ARG:HD3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:H:123:MET:HE3	9:H:142:LEU:CD2	2.49	0.43
9:H:47:PHE:CD2	9:H:95:TYR:HD1	2.36	0.43
3:B:619:ILE:HD12	10:I:65:ASP:HB2	1.99	0.43
12:K:7:PHE:HA	12:K:10:PHE:CE2	2.54	0.43
2:A:1076:ALA:HA	2:A:1079:MET:CE	2.48	0.43
2:A:1332:PHE:N	2:A:1332:PHE:CD2	2.84	0.43
2:A:244:PRO:HG2	2:A:245:PRO:HD3	2.01	0.43
2:A:353:ILE:HD13	2:A:487:MET:CE	2.48	0.43
3:B:273:LEU:CD2	3:B:273:LEU:O	2.63	0.43
3:B:45:SER:O	3:B:48:LEU:HB2	2.19	0.43
3:B:215:GLN:NE2	3:B:499:ASN:HD22	2.11	0.43
3:B:639:ILE:HD11	3:B:691:GLU:HB2	2.00	0.43
4:C:254:LYS:O	4:C:256:ALA:N	2.52	0.43
11:J:13:VAL:O	11:J:14:VAL:HG23	2.18	0.43
13:L:51:CYS:HB2	13:L:53:HIS:HD2	1.82	0.43
3:B:1030:LEU:HD12	3:B:1030:LEU:HA	1.80	0.43
3:B:290:GLY:C	3:B:291:ILE:HD12	2.39	0.43
3:B:365:THR:HG23	3:B:367:LEU:CB	2.48	0.43
3:B:464:GLY:CA	3:B:479:VAL:O	2.67	0.43
3:B:684:LEU:HA	3:B:689:LEU:HD12	2.00	0.43
3:B:526:GLU:HB2	3:B:752:ALA:HB3	2.01	0.43
4:C:131:HIS:HA	4:C:132:PRO:HD3	1.86	0.43
4:C:229:TYR:CD1	4:C:229:TYR:N	2.86	0.43
4:C:242:GLN:C	4:C:244:VAL:N	2.72	0.43
5:D:26:THR:O	5:D:27:LEU:HB2	2.19	0.43
7:F:111:LEU:C	7:F:113:GLY:N	2.68	0.43
8:G:78:VAL:HG12	8:G:79:PHE:H	1.84	0.43
11:J:1:MET:N	11:J:54:VAL:O	2.51	0.43
12:K:87:LEU:O	12:K:88:LYS:C	2.56	0.43
2:A:1434:ALA:HA	2:A:1435:PRO:HD3	1.91	0.43
2:A:23:SER:O	2:A:25:GLU:N	2.52	0.43
3:B:1026:LEU:HD23	3:B:1086:PHE:CE2	2.54	0.43
3:B:758:PHE:O	3:B:760:ASP:N	2.51	0.43
4:C:186:LEU:CD1	4:C:186:LEU:N	2.81	0.43
4:C:19:ASP:HA	4:C:231:ASN:HA	2.00	0.43
6:E:31:THR:O	6:E:35:VAL:HG23	2.18	0.43
7:F:74:ILE:HG22	7:F:75:PRO:N	2.34	0.43
11:J:47:ARG:C	11:J:49:MET:N	2.72	0.43
13:L:30:ILE:HD11	13:L:59:ALA:HB2	2.00	0.43
1:R:2:C:N3	1:R:16:G:C2	2.87	0.43
2:A:1265:ASN:C	2:A:1267:MET:N	2.70	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:13:G:H4'	2:A:320:ARG:HD3	2.01	0.43
2:A:902:LEU:O	2:A:903:ASN:HB2	2.19	0.43
2:A:939:ASP:O	2:A:940:ARG:C	2.54	0.43
3:B:1178:ASN:O	3:B:1179:GLN:O	2.36	0.43
3:B:634:TYR:CD1	3:B:692:TYR:HB3	2.53	0.43
8:G:49:LEU:HD21	8:G:77:VAL:HG23	1.99	0.43
11:J:1:MET:HA	11:J:57:ILE:H	1.83	0.43
2:A:1206:ASP:O	2:A:1207:LEU:HG	2.19	0.43
2:A:1289:ARG:NH1	2:A:1326:ARG:NH1	2.66	0.43
2:A:1401:SER:O	2:A:1402:PHE:HB2	2.18	0.43
2:A:265:LYS:HG2	2:A:303:TYR:HA	2.00	0.43
2:A:348:SER:HB2	3:B:1128:LEU:HD12	1.99	0.43
3:B:1190:ASP:O	3:B:1191:ILE:HD12	2.18	0.43
3:B:1208:MET:C	3:B:1210:MET:H	2.22	0.43
3:B:449:ASN:ND2	3:B:451:LYS:HB3	2.34	0.43
3:B:595:ARG:O	3:B:596:LEU:C	2.57	0.43
4:C:83:SER:O	4:C:85:ASP:N	2.47	0.43
8:G:1:MET:HE3	8:G:80:LYS:O	2.19	0.43
3:B:737:THR:CG2	10:I:66:PRO:HA	2.44	0.43
1:R:11:U:HO2'	1:R:12:5BU:P	2.42	0.43
2:A:586:ILE:HD11	2:A:633:VAL:HG22	2.01	0.43
2:A:648:ASN:OD1	2:A:648:ASN:N	2.52	0.43
2:A:714:PHE:O	2:A:718:VAL:HG23	2.19	0.43
2:A:925:LEU:C	2:A:927:VAL:N	2.72	0.43
3:B:1066:SER:O	3:B:1067:ARG:HD3	2.18	0.43
3:B:983:ARG:CD	3:B:1091:TYR:HB3	2.45	0.43
3:B:1097:HIS:H	3:B:1098:MET:HE2	1.82	0.43
3:B:277:LYS:HB2	3:B:278:GLN:H	1.58	0.43
3:B:27:ALA:C	3:B:29:ASP:N	2.73	0.43
3:B:431:TYR:CE1	3:B:447:ALA:HB2	2.54	0.43
3:B:501:PRO:C	3:B:502:ILE:CG1	2.87	0.43
3:B:782:LEU:HB3	3:B:784:ASN:OD1	2.18	0.43
3:B:806:THR:CG2	3:B:808:ALA:H	2.32	0.43
6:E:164:LEU:HD11	6:E:211:TYR:CE1	2.54	0.43
6:E:186:LEU:C	6:E:188:LEU:N	2.71	0.43
6:E:90:VAL:HA	6:E:120:ALA:HB2	2.01	0.43
2:A:1151:GLU:OE2	10:I:45:ARG:NH1	2.52	0.43
10:I:8:ARG:H	10:I:34:TYR:HE1	1.66	0.43
2:A:1007:ILE:O	2:A:1009:ASN:N	2.52	0.42
2:A:971:PHE:HE2	2:A:1040:GLN:HG2	1.84	0.42
2:A:1226:VAL:C	2:A:1227:ILE:HG13	2.39	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:276:LEU:HD13	2:A:292:ALA:O	2.19	0.42
2:A:682:THR:HA	2:A:685:GLU:HG2	2.00	0.42
2:A:901:LEU:O	2:A:921:GLY:N	2.42	0.42
2:A:960:ILE:O	2:A:961:ARG:C	2.57	0.42
3:B:522:VAL:HG12	3:B:523:CYS:N	2.33	0.42
4:C:160:LYS:O	4:C:161:LYS:O	2.36	0.42
6:E:34:GLU:HG2	6:E:34:GLU:O	2.19	0.42
9:H:107:VAL:O	9:H:108:SER:O	2.38	0.42
9:H:116:TYR:HE2	9:H:140:ALA:CB	2.31	0.42
9:H:123:MET:HG2	9:H:124:ARG:N	2.32	0.42
2:A:1161:THR:C	2:A:1163:ILE:H	2.22	0.42
2:A:135:PHE:CE1	2:A:222:LEU:HD22	2.53	0.42
2:A:332:LYS:O	2:A:333:GLU:HB2	2.19	0.42
2:A:600:PRO:C	2:A:602:ASP:H	2.22	0.42
2:A:578:LEU:HD23	2:A:612:ILE:HD11	2.02	0.42
2:A:629:LEU:CD2	2:A:629:LEU:C	2.87	0.42
2:A:814:PHE:O	2:A:818:MET:HG3	2.19	0.42
2:A:823:GLY:C	2:A:825:ILE:N	2.71	0.42
3:B:121:ASN:HA	3:B:207:GLY:CA	2.49	0.42
3:B:236:HIS:CE1	3:B:389:ALA:HA	2.55	0.42
3:B:487:THR:HB	3:B:490:SER:HB3	2.00	0.42
3:B:609:ILE:O	3:B:610:ASN:C	2.56	0.42
3:B:785:TYR:CD1	3:B:786:ASN:N	2.87	0.42
3:B:95:ILE:CB	3:B:130:VAL:HG22	2.48	0.42
10:I:95:THR:HG22	10:I:96:SER:N	2.34	0.42
11:J:7:CYS:CB	11:J:46:CYS:HB3	2.49	0.42
12:K:102:LYS:O	12:K:106:GLU:HG3	2.18	0.42
13:L:38:LEU:C	13:L:38:LEU:HD12	2.40	0.42
2:A:1195:LEU:HD11	2:A:1267:MET:HE1	2.02	0.42
2:A:374:LEU:HB2	2:A:436:ILE:HD11	2.01	0.42
2:A:481:ASP:OD1	2:A:485:ASP:OD2	2.37	0.42
2:A:870:GLU:HB2	6:E:204:THR:HG21	2.01	0.42
3:B:1034:VAL:O	3:B:1036:ALA:N	2.52	0.42
3:B:510:LYS:HB3	3:B:513:GLN:HB2	2.01	0.42
3:B:806:THR:HG21	3:B:808:ALA:HB3	2.01	0.42
3:B:899:ILE:HD12	3:B:911:ILE:HG23	2.02	0.42
8:G:81:PRO:HB3	8:G:106:MET:HE1	2.01	0.42
9:H:145:ARG:O	9:H:146:ARG:HB2	2.18	0.42
9:H:82:PRO:O	9:H:84:ALA:N	2.41	0.42
4:C:258:ILE:CD1	12:K:42:LEU:HD21	2.48	0.42
1:R:7:C:H3'	1:R:8:U:C5'	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1445:ILE:HD11	8:G:68:ALA:HB2	2.01	0.42
2:A:362:ASP:OD1	2:A:459:ARG:HD2	2.19	0.42
2:A:630:ILE:CD1	2:A:645:LEU:HD23	2.49	0.42
2:A:523:ILE:CD1	2:A:649:ILE:HG21	2.50	0.42
2:A:95:PHE:O	2:A:96:ILE:C	2.56	0.42
3:B:1001:PHE:CE2	3:B:1073:TYR:HB2	2.54	0.42
3:B:1135:ARG:O	3:B:1136:ASP:C	2.56	0.42
3:B:558:LEU:HD21	3:B:596:LEU:HD11	2.01	0.42
3:B:797:TYR:HE1	3:B:854:LEU:HD21	1.84	0.42
8:G:22:MET:O	8:G:23:LYS:C	2.57	0.42
9:H:33:GLN:C	9:H:35:GLN:H	2.23	0.42
11:J:7:CYS:CB	11:J:49:MET:HE3	2.50	0.42
12:K:60:ALA:O	12:K:73:LEU:HD12	2.19	0.42
2:A:1279:ILE:CD1	2:A:1316:VAL:HG21	2.45	0.42
2:A:1335:ILE:HG23	2:A:1339:LEU:HD12	2.00	0.42
2:A:1349:TYR:CB	2:A:1372:VAL:HG21	2.46	0.42
2:A:845:LEU:CD2	2:A:1374:VAL:HG21	2.46	0.42
2:A:1449:SER:C	2:A:1451:VAL:H	2.22	0.42
2:A:282:ASN:O	2:A:284:ALA:N	2.53	0.42
2:A:352:VAL:HG13	2:A:485:ASP:O	2.20	0.42
2:A:37:PHE:HD1	2:A:37:PHE:N	2.17	0.42
2:A:715:GLU:O	2:A:716:ASP:C	2.57	0.42
2:A:728:LYS:O	2:A:729:ALA:C	2.56	0.42
3:B:1115:THR:CG2	3:B:1117:GLN:HG3	2.49	0.42
3:B:186:GLU:HB3	3:B:187:SER:H	1.68	0.42
3:B:276:ILE:HD11	3:B:355:ILE:HD13	2.02	0.42
3:B:492:LEU:O	3:B:495:LEU:N	2.48	0.42
3:B:501:PRO:HB2	3:B:502:ILE:H	1.64	0.42
3:B:683:SER:OG	3:B:684:LEU:HD12	2.19	0.42
3:B:882:THR:O	3:B:883:LEU:CB	2.67	0.42
4:C:143:LEU:HD21	4:C:146:LYS:HE2	2.01	0.42
4:C:191:TYR:CD2	4:C:201:TRP:CD1	3.07	0.42
4:C:208:GLU:C	4:C:210:GLU:H	2.23	0.42
6:E:60:PHE:C	6:E:60:PHE:CD2	2.92	0.42
2:A:1329:THR:N	2:A:1335:ILE:HD11	2.28	0.42
2:A:283:GLY:O	2:A:285:PRO:HD2	2.20	0.42
2:A:63:ARG:HA	2:A:74:MET:CE	2.50	0.42
2:A:90:VAL:CG1	2:A:297:GLN:HA	2.48	0.42
3:B:823:ALA:O	3:B:1089:PRO:HA	2.20	0.42
3:B:555:ILE:O	3:B:557:PHE:N	2.52	0.42
3:B:615:MET:HA	3:B:625:LYS:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:794:ASN:C	3:B:795:ILE:HD12	2.40	0.42
3:B:975:GLN:O	3:B:990:ILE:HG13	2.20	0.42
4:C:248:ILE:O	4:C:252:GLN:HB2	2.19	0.42
5:D:145:MET:O	5:D:149:THR:N	2.53	0.42
6:E:198:ILE:N	6:E:198:ILE:CD1	2.77	0.42
12:K:50:LEU:HD13	12:K:75:ILE:CD1	2.50	0.42
13:L:47:ARG:HG3	13:L:47:ARG:HH11	1.84	0.42
2:A:1225:PHE:O	2:A:1240:CYS:HA	2.18	0.42
2:A:1373:ASP:CA	2:A:1376:THR:HG22	2.48	0.42
2:A:134:ARG:NH1	2:A:220:THR:O	2.52	0.42
2:A:393:ARG:O	2:A:395:GLY:N	2.53	0.42
2:A:818:MET:HE2	2:A:818:MET:HB3	1.91	0.42
2:A:826:ASP:HB2	2:A:830:LYS:HD3	2.02	0.42
3:B:1038:SER:C	3:B:1040:ASN:H	2.22	0.42
3:B:1060:ARG:C	3:B:1062:HIS:H	2.23	0.42
3:B:408:LEU:O	3:B:410:GLY:N	2.53	0.42
3:B:48:LEU:O	3:B:49:ASP:C	2.58	0.42
3:B:597:MET:O	3:B:600:LEU:N	2.52	0.42
3:B:653:VAL:CG2	3:B:689:LEU:HD22	2.50	0.42
3:B:936:ASP:OD1	3:B:938:SER:N	2.46	0.42
3:B:996:ARG:HH12	4:C:174:ALA:HA	1.85	0.42
4:C:254:LYS:C	4:C:256:ALA:N	2.73	0.42
5:D:146:GLN:O	5:D:149:THR:N	2.48	0.42
5:D:35:LEU:HD21	5:D:173:HIS:HB3	2.02	0.42
5:D:40:HIS:NE2	5:D:41:GLN:HG3	2.34	0.42
5:D:63:LEU:O	5:D:66:ARG:HB3	2.20	0.42
5:D:71:LYS:C	5:D:73:SER:N	2.73	0.42
8:G:98:GLY:HA3	8:G:110:VAL:O	2.19	0.42
10:I:95:THR:HG22	10:I:96:SER:O	2.20	0.42
1:R:2:C:H1'	1:R:3:A:P	2.60	0.42
2:A:122:MET:O	2:A:123:ARG:C	2.58	0.42
2:A:1308:THR:HG23	2:A:1309:ASP:N	2.34	0.42
3:B:190:TYR:CD2	11:J:62:ARG:HB3	2.55	0.42
3:B:750:GLY:O	3:B:751:VAL:C	2.58	0.42
3:B:763:GLN:C	3:B:765:PRO:HD2	2.40	0.42
3:B:873:THR:HG22	3:B:874:PHE:N	2.35	0.42
3:B:1165:ILE:HG22	5:D:15:LEU:HA	2.01	0.42
8:G:125:SER:OG	8:G:128:PRO:HA	2.18	0.42
2:A:1004:ASN:C	2:A:1004:ASN:OD1	2.58	0.42
2:A:1214:GLU:C	2:A:1218:GLN:HE21	2.23	0.42
2:A:285:PRO:CG	2:A:288:ALA:HB3	2.39	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:552:TRP:O	2:A:554:PRO:HD3	2.19	0.42
2:A:590:ARG:HD3	2:A:604:GLY:HA2	2.02	0.42
2:A:730:GLY:C	2:A:732:LEU:N	2.73	0.42
2:A:860:LEU:HA	2:A:860:LEU:HD23	1.88	0.42
2:A:974:ASP:C	2:A:976:THR:H	2.23	0.42
3:B:258:LEU:HD12	3:B:258:LEU:C	2.40	0.42
3:B:460:ALA:O	3:B:461:LEU:C	2.59	0.42
3:B:63:ILE:HD13	3:B:421:PHE:CZ	2.55	0.42
4:C:102:GLN:HG2	4:C:154:LYS:HG2	2.01	0.42
2:A:1062:GLU:OE2	7:F:88:TYR:OH	2.34	0.42
2:A:135:PHE:C	2:A:137:ALA:N	2.70	0.42
2:A:23:SER:HB3	2:A:233:TRP:CZ2	2.55	0.42
2:A:784:LEU:C	2:A:786:HIS:H	2.22	0.42
3:B:878:GLN:O	3:B:879:ARG:C	2.57	0.42
3:B:843:GLN:N	3:B:994:TYR:O	2.43	0.42
4:C:166:GLU:O	4:C:167:HIS:CB	2.66	0.42
5:D:63:LEU:CD1	5:D:129:LEU:HG	2.45	0.42
2:A:789:LYS:HE3	10:I:67:THR:OG1	2.20	0.42
11:J:47:ARG:HH11	11:J:47:ARG:HG2	1.85	0.42
2:A:18:GLN:HG2	2:A:1418:LEU:HD13	2.01	0.41
2:A:44:THR:O	2:A:45:GLN:HB2	2.20	0.41
2:A:47:ARG:HH12	2:A:254:GLU:HG2	1.84	0.41
2:A:55:ASP:O	2:A:55:ASP:OD2	2.37	0.41
2:A:560:ILE:HG13	9:H:78:SER:HB2	2.02	0.41
2:A:76:GLU:O	2:A:78:PRO:HD3	2.20	0.41
2:A:896:ARG:HB3	2:A:897:TYR:CD1	2.55	0.41
3:B:1034:VAL:HG23	3:B:1059:LEU:HD13	2.02	0.41
2:A:500:GLU:OE2	3:B:1145:SER:HB2	2.20	0.41
3:B:170:LEU:HA	3:B:171:PRO:HD2	1.94	0.41
3:B:263:GLY:O	3:B:264:SER:C	2.58	0.41
4:C:11:ARG:O	4:C:12:GLU:C	2.58	0.41
4:C:77:ILE:C	4:C:79:GLN:H	2.23	0.41
8:G:9:LEU:CG	8:G:10:ASN:N	2.83	0.41
8:G:145:VAL:CG1	8:G:146:LYS:H	2.23	0.41
8:G:166:ASP:C	8:G:168:LEU:H	2.24	0.41
8:G:50:ASP:OD1	8:G:50:ASP:O	2.38	0.41
2:A:1097:GLY:C	2:A:1099:PRO:HD2	2.41	0.41
2:A:185:TRP:CZ3	2:A:200:ARG:HG2	2.55	0.41
2:A:403:LYS:O	2:A:404:TYR:CG	2.73	0.41
2:A:444:PHE:HB3	2:A:458:HIS:CD2	2.55	0.41
2:A:53:LEU:CD2	2:A:54:ASN:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:276:ILE:CD1	3:B:355:ILE:HG21	2.33	0.41
3:B:63:ILE:CD1	3:B:421:PHE:CZ	3.03	0.41
3:B:519:TRP:CD1	3:B:519:TRP:C	2.93	0.41
3:B:70:ILE:O	3:B:70:ILE:HG22	2.19	0.41
3:B:769:TYR:O	3:B:772:ALA:N	2.53	0.41
3:B:911:ILE:HD11	3:B:941:LEU:HB2	2.02	0.41
4:C:56:THR:CG2	4:C:57:VAL:H	2.32	0.41
8:G:119:LEU:HD12	8:G:131:GLN:C	2.41	0.41
11:J:48:ARG:HE	11:J:49:MET:HE2	1.85	0.41
12:K:6:ARG:O	12:K:8:GLU:N	2.53	0.41
2:A:260:ASP:O	2:A:261:ASP:C	2.57	0.41
2:A:600:PRO:CG	2:A:601:LYS:H	2.29	0.41
2:A:744:LYS:HG2	2:A:748:MET:CE	2.51	0.41
2:A:926:GLN:O	2:A:930:ASP:HB2	2.20	0.41
3:B:1137:CYS:O	3:B:1140:ALA:HB3	2.20	0.41
3:B:523:CYS:SG	3:B:524:PRO:HD2	2.59	0.41
3:B:773:MET:O	3:B:775:LYS:N	2.53	0.41
4:C:189:THR:CG2	4:C:190:ASP:N	2.77	0.41
4:C:44:LEU:HD23	4:C:44:LEU:C	2.41	0.41
5:D:198:LEU:O	5:D:201:LYS:HB2	2.20	0.41
6:E:61:GLN:HG2	6:E:62:ALA:H	1.80	0.41
8:G:122:ASN:HD22	8:G:125:SER:HB3	1.80	0.41
8:G:44:TYR:O	8:G:78:VAL:CG1	2.68	0.41
12:K:27:ALA:HB1	12:K:28:PRO:CD	2.45	0.41
2:A:1205:LYS:O	2:A:1206:ASP:C	2.59	0.41
2:A:1216:ILE:HA	2:A:1219:THR:OG1	2.19	0.41
2:A:1435:PRO:O	2:A:1436:ILE:HD12	2.20	0.41
2:A:23:SER:O	2:A:24:PRO:C	2.58	0.41
2:A:242:PRO:HA	2:A:243:PRO:HD2	1.86	0.41
2:A:541:ILE:HG22	2:A:546:VAL:HG23	2.01	0.41
3:B:1171:VAL:C	3:B:1172:ILE:HD12	2.39	0.41
3:B:498:THR:HG22	3:B:498:THR:O	2.21	0.41
3:B:542:MET:HG2	3:B:747:MET:HB3	2.02	0.41
4:C:148:ARG:O	4:C:149:LYS:C	2.59	0.41
5:D:176:GLU:O	5:D:178:ALA:N	2.53	0.41
8:G:23:LYS:HE2	8:G:27:LYS:NZ	2.34	0.41
8:G:51:TYR:O	8:G:54:ILE:HG13	2.21	0.41
12:K:10:PHE:CD1	12:K:11:LEU:CD2	3.04	0.41
1:R:5:C:O2'	3:B:463:THR:HA	2.21	0.41
2:A:1015:VAL:CG1	2:A:1019:CYS:SG	3.08	0.41
2:A:1265:ASN:O	2:A:1268:LEU:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1143:LEU:HB2	2:A:1271:ILE:HG21	2.01	0.41
2:A:1359:ASP:C	2:A:1361:SER:N	2.74	0.41
2:A:18:GLN:O	3:B:1215:ARG:HG2	2.20	0.41
2:A:90:VAL:HG13	2:A:297:GLN:CD	2.41	0.41
2:A:34:LYS:HD3	2:A:34:LYS:H	1.84	0.41
2:A:489:LEU:HD12	2:A:490:HIS:N	2.35	0.41
2:A:774:ARG:NE	2:A:797:LYS:CB	2.83	0.41
2:A:779:PHE:CD1	2:A:785:PRO:HD3	2.48	0.41
2:A:913:LEU:HD12	2:A:914:GLU:H	1.81	0.41
3:B:1109:GLY:HA3	3:B:1110:PRO:HD2	1.80	0.41
3:B:1160:VAL:HG12	3:B:1161:HIS:H	1.86	0.41
3:B:202:TYR:CE1	3:B:204:ILE:HD11	2.56	0.41
3:B:579:ARG:HD2	3:B:586:TRP:CZ2	2.56	0.41
3:B:798:TYR:CE2	4:C:62:PHE:HZ	2.36	0.41
3:B:801:LYS:N	11:J:52:THR:HG22	2.35	0.41
4:C:66:ARG:O	4:C:67:LEU:C	2.58	0.41
5:D:12:ARG:O	5:D:14:ARG:N	2.54	0.41
6:E:63:ASN:HA	6:E:64:PRO:HD3	1.87	0.41
7:F:103:MET:CE	8:G:65:ASP:HB2	2.50	0.41
8:G:59:GLY:HA3	8:G:70:PHE:CD2	2.55	0.41
9:H:103:LYS:HG2	9:H:104:PHE:N	2.35	0.41
9:H:43:ASN:C	9:H:45:GLU:H	2.23	0.41
9:H:76:THR:O	9:H:77:ARG:HB2	2.20	0.41
10:I:50:THR:CG2	10:I:51:ASN:N	2.82	0.41
2:A:1405:THR:HB	2:A:1406:VAL:H	1.76	0.41
2:A:381:THR:HG22	2:A:384:ASN:ND2	2.36	0.41
2:A:402:ALA:HA	2:A:434:ARG:HA	2.01	0.41
2:A:506:ALA:HB1	2:A:508:PRO:HD2	2.03	0.41
2:A:341:MET:CE	2:A:843:LYS:NZ	2.82	0.41
3:B:1084:GLN:H	3:B:1084:GLN:NE2	2.19	0.41
3:B:274:PRO:N	3:B:276:ILE:HB	2.36	0.41
3:B:45:SER:O	3:B:48:LEU:N	2.50	0.41
3:B:95:ILE:C	3:B:95:ILE:HD13	2.41	0.41
3:B:980:PHE:CD2	3:B:1094:ARG:HA	2.55	0.41
4:C:41:ILE:HA	4:C:42:PRO:HD3	1.82	0.41
5:D:53:SER:CB	5:D:152:SER:HB3	2.50	0.41
8:G:126:ASN:HA	8:G:126:ASN:HD22	1.56	0.41
9:H:93:TYR:CD2	9:H:143:LEU:HB3	2.55	0.41
10:I:78:CYS:SG	10:I:103:CYS:SG	3.12	0.41
12:K:65:HIS:CD2	12:K:66:PRO:HD2	2.56	0.41
13:L:40:LEU:HB3	13:L:41:SER:H	1.72	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1261:LYS:C	2:A:1264:GLU:H	2.23	0.41
2:A:152:VAL:HG13	2:A:153:PRO:HD2	2.03	0.41
2:A:390:GLN:O	2:A:394:ASN:ND2	2.53	0.41
2:A:406:ILE:HG22	2:A:412:ARG:HA	2.03	0.41
2:A:639:PRO:CD	2:A:640:GLN:N	2.84	0.41
2:A:851:HIS:O	2:A:854:ASN:N	2.44	0.41
3:B:1096:ARG:HG2	3:B:1096:ARG:HH11	1.85	0.41
3:B:172:ILE:CG2	3:B:173:MET:N	2.83	0.41
3:B:314:LEU:O	3:B:317:CYS:CB	2.68	0.41
3:B:378:LEU:O	3:B:378:LEU:HD12	2.20	0.41
3:B:504:ARG:HB2	3:B:507:LYS:HE2	2.03	0.41
3:B:582:VAL:O	3:B:582:VAL:CG1	2.67	0.41
3:B:616:ILE:CG1	3:B:697:GLU:HA	2.51	0.41
3:B:918:ILE:HG21	3:B:935:ARG:HH11	1.81	0.41
3:B:976:ILE:CD1	3:B:992:ILE:HA	2.51	0.41
6:E:132:ILE:CD1	6:E:132:ILE:N	2.78	0.41
6:E:157:SER:C	6:E:159:ASP:N	2.73	0.41
6:E:66:GLU:HA	6:E:69:ILE:HD12	2.01	0.41
6:E:81:GLU:C	6:E:82:PHE:HD1	2.24	0.41
9:H:7:ASP:O	9:H:8:ASP:HB2	2.21	0.41
13:L:27:LEU:HD23	13:L:27:LEU:N	2.35	0.41
2:A:99:ILE:HG23	2:A:211:PHE:CZ	2.56	0.41
2:A:463:ILE:HB	2:A:464:PRO:CD	2.50	0.41
2:A:478:TYR:O	2:A:479:ASN:HB3	2.21	0.41
2:A:606:LEU:HD23	2:A:614:PHE:CE2	2.55	0.41
2:A:605:MET:CE	2:A:607:ILE:HG13	2.50	0.41
2:A:65:LEU:O	2:A:66:LYS:C	2.59	0.41
3:B:130:VAL:CG1	3:B:131:ASP:N	2.83	0.41
3:B:275:TYR:C	3:B:276:ILE:HD12	2.41	0.41
3:B:580:VAL:O	3:B:586:TRP:HD1	2.04	0.41
3:B:683:SER:O	3:B:685:LEU:N	2.54	0.41
4:C:100:THR:HG22	4:C:101:LEU:N	2.29	0.41
4:C:45:ALA:HA	4:C:72:LEU:HD12	2.02	0.41
3:B:798:TYR:CE2	4:C:62:PHE:CE2	3.09	0.41
6:E:78:LEU:HA	6:E:107:THR:HB	2.03	0.41
5:D:24:ALA:HA	8:G:83:LYS:O	2.20	0.41
9:H:127:GLY:N	9:H:130:ARG:NH2	2.68	0.41
9:H:12:VAL:HA	9:H:28:ALA:CB	2.50	0.41
2:A:1279:ILE:HD11	2:A:1316:VAL:CG2	2.45	0.41
2:A:226:GLU:O	2:A:226:GLU:HG2	2.21	0.41
2:A:407:ARG:HD2	2:A:413:ILE:HD11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:417:TYR:O	2:A:418:SER:C	2.59	0.41
2:A:481:ASP:OD1	2:A:483:ASP:OD2	2.38	0.41
2:A:528:LEU:HD23	2:A:751:SER:HA	2.03	0.41
2:A:666:ILE:HD12	2:A:667:GLY:N	2.29	0.41
2:A:711:ARG:O	2:A:714:PHE:N	2.53	0.41
3:B:1012:ILE:N	3:B:1012:ILE:HD13	2.35	0.41
3:B:1034:VAL:HA	3:B:1037:LEU:HD12	2.03	0.41
2:A:12:ARG:CZ	3:B:1192:TYR:HE2	2.34	0.41
2:A:18:GLN:HB2	3:B:1215:ARG:HB2	2.02	0.41
3:B:400:HIS:O	3:B:401:PHE:C	2.58	0.41
3:B:53:GLN:HG2	3:B:547:VAL:CG2	2.50	0.41
3:B:615:MET:HB3	3:B:626:ILE:HG12	2.03	0.41
3:B:840:ILE:HG23	3:B:992:ILE:HG23	2.03	0.41
3:B:882:THR:O	3:B:883:LEU:HB2	2.21	0.41
3:B:948:ILE:N	3:B:948:ILE:HD12	2.36	0.41
3:B:773:MET:HE1	3:B:985:GLY:HA2	2.03	0.41
6:E:102:GLU:C	6:E:104:ASN:N	2.73	0.41
6:E:112:TYR:CE1	6:E:136:ASN:HB2	2.56	0.41
6:E:138:ALA:HA	6:E:141:VAL:CG2	2.51	0.41
6:E:161:LYS:C	6:E:163:GLU:N	2.72	0.41
13:L:60:ARG:HH21	13:L:65:VAL:HG21	1.85	0.41
2:A:1059:HIS:O	2:A:1061:GLY:N	2.54	0.41
2:A:1242:VAL:O	2:A:1243:VAL:HB	2.21	0.41
2:A:1397:LEU:HB2	2:A:1426:GLU:OE1	2.20	0.41
2:A:464:PRO:O	2:A:465:TYR:O	2.39	0.41
2:A:575:LYS:O	2:A:576:GLN:O	2.38	0.41
2:A:621:THR:HG22	2:A:621:THR:O	2.21	0.41
2:A:705:LYS:HB2	2:A:708:MET:HE3	2.03	0.41
2:A:7:SER:C	2:A:9:ALA:N	2.73	0.41
2:A:7:SER:O	2:A:9:ALA:N	2.54	0.41
3:B:129:PHE:HA	3:B:165:VAL:O	2.20	0.41
3:B:496:ARG:CB	3:B:496:ARG:HH11	2.31	0.41
3:B:918:ILE:HG13	3:B:935:ARG:HD2	2.02	0.41
3:B:949:VAL:HG12	3:B:950:ASP:H	1.84	0.41
5:D:51:ASN:C	5:D:52:LEU:O	2.58	0.41
6:E:105:PHE:O	6:E:106:GLN:HB2	2.21	0.41
6:E:117:THR:O	6:E:120:ALA:HB3	2.21	0.41
6:E:55:ARG:H	6:E:84:ASP:CG	2.22	0.41
7:F:103:MET:O	7:F:104:ASN:CB	2.68	0.41
8:G:51:TYR:O	8:G:51:TYR:CD2	2.74	0.41
10:I:8:ARG:HB2	10:I:8:ARG:HE	1.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:I:85:PHE:HD1	10:I:99:LEU:HD13	1.86	0.41
2:A:1094:VAL:HG13	2:A:1113:THR:CB	2.51	0.41
2:A:1198:ASP:HB3	2:A:1201:ALA:HB3	2.03	0.41
2:A:310:GLY:O	2:A:312:PRO:HD2	2.21	0.41
2:A:603:ASN:HB3	2:A:604:GLY:H	1.62	0.41
2:A:514:PRO:CB	2:A:875:ALA:HB3	2.51	0.41
3:B:1045:SER:HB3	3:B:1046:PRO:CD	2.50	0.41
3:B:1086:PHE:CG	3:B:1086:PHE:O	2.71	0.41
3:B:1152:MET:HE3	3:B:1157:ALA:CA	2.49	0.41
3:B:216:GLU:HA	3:B:406:LEU:HD23	2.03	0.41
3:B:654:ARG:H	3:B:657:HIS:CD2	2.20	0.41
3:B:734:HIS:O	3:B:735:ALA:HB2	2.21	0.41
4:C:163:ILE:O	4:C:165:LYS:N	2.54	0.41
5:D:27:LEU:HD13	5:D:173:HIS:HD2	1.86	0.41
7:F:116:ASP:O	7:F:120:ILE:HG13	2.21	0.41
7:F:82:THR:HA	7:F:83:PRO:HD3	1.80	0.41
2:A:1443:VAL:O	2:A:1444:MET:HG3	2.21	0.40
2:A:41:MET:HB3	2:A:48:ALA:O	2.21	0.40
2:A:7:SER:HA	3:B:1175:LEU:HD22	2.02	0.40
2:A:928:LEU:O	2:A:931:GLU:N	2.55	0.40
3:B:1110:PRO:HG2	3:B:1119:VAL:HG21	2.02	0.40
3:B:1208:MET:C	3:B:1210:MET:N	2.74	0.40
3:B:976:ILE:O	3:B:976:ILE:HG22	2.20	0.40
4:C:238:ILE:HA	4:C:239:PRO:HD3	1.91	0.40
4:C:77:ILE:O	4:C:79:GLN:N	2.54	0.40
5:D:48:ILE:CD1	5:D:48:ILE:N	2.84	0.40
6:E:184:VAL:C	6:E:186:LEU:H	2.24	0.40
2:A:871:ASP:HB3	6:E:204:THR:HG23	2.03	0.40
8:G:83:LYS:HG2	8:G:149:GLY:HA2	2.03	0.40
4:C:142:VAL:N	11:J:16:ASP:HB3	2.21	0.40
2:A:1194:ARG:HG2	2:A:1194:ARG:HH11	1.87	0.40
2:A:1280:GLU:O	2:A:1281:ARG:C	2.59	0.40
2:A:184:SER:HB3	2:A:199:LEU:CD2	2.51	0.40
2:A:255:SER:O	2:A:256:GLN:HG3	2.21	0.40
2:A:278:THR:O	2:A:278:THR:HG22	2.21	0.40
2:A:40:THR:HG22	2:A:41:MET:HG3	2.03	0.40
2:A:91:PHE:N	2:A:91:PHE:CD1	2.90	0.40
3:B:346:GLU:N	3:B:349:ILE:HD13	2.36	0.40
3:B:640:VAL:HG22	3:B:651:LEU:HD23	2.03	0.40
3:B:680:THR:HB	3:B:681:TRP:H	1.59	0.40
3:B:952:VAL:O	3:B:953:LEU:HB3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:B:986:GLN:HE22	3:B:1022:THR:HG21	1.85	0.40
4:C:111:THR:C	4:C:112:ASN:HD22	2.24	0.40
4:C:114:TYR:C	4:C:116:LYS:H	2.23	0.40
4:C:200:GLU:O	4:C:202:PRO:HD3	2.22	0.40
4:C:94:LYS:HE3	4:C:94:LYS:HB2	1.80	0.40
6:E:23:VAL:CG1	6:E:28:TYR:HD1	2.34	0.40
8:G:149:GLY:O	8:G:159:ALA:CB	2.69	0.40
8:G:95:SER:O	8:G:97:HIS:N	2.54	0.40
9:H:106:GLU:O	9:H:108:SER:N	2.52	0.40
9:H:5:LEU:HD22	9:H:133:ASN:O	2.22	0.40
9:H:95:TYR:CE2	9:H:97:MET:HG3	2.56	0.40
11:J:59:LYS:HG2	11:J:59:LYS:H	1.62	0.40
2:A:174:ILE:HG22	2:A:175:ARG:N	2.36	0.40
2:A:30:ILE:HG23	3:B:1170:THR:HG23	2.02	0.40
2:A:32:VAL:HG21	2:A:68:GLN:HE22	1.84	0.40
2:A:470:LEU:HD21	2:A:487:MET:HE3	2.03	0.40
2:A:489:LEU:HD12	2:A:490:HIS:H	1.87	0.40
3:B:1094:ARG:HH21	3:B:1098:MET:HG2	1.86	0.40
3:B:205:ILE:C	3:B:207:GLY:H	2.24	0.40
3:B:215:GLN:HA	3:B:215:GLN:NE2	2.36	0.40
3:B:824:ILE:HG22	3:B:824:ILE:O	2.22	0.40
3:B:911:ILE:O	3:B:911:ILE:HG22	2.21	0.40
4:C:143:LEU:HD21	4:C:146:LYS:CE	2.51	0.40
8:G:87:VAL:HG23	8:G:103:VAL:HG21	2.03	0.40
9:H:128:ASN:O	9:H:128:ASN:CG	2.59	0.40
11:J:21:TYR:HB2	11:J:39:LEU:HD13	2.04	0.40
11:J:45:CYS:O	11:J:48:ARG:HG3	2.20	0.40
2:A:1039:LYS:HE3	2:A:1043:ASP:OD2	2.22	0.40
2:A:1069:ALA:O	2:A:1070:GLN:C	2.58	0.40
2:A:1349:TYR:O	2:A:1350:LYS:C	2.60	0.40
2:A:1390:ASN:O	2:A:1390:ASN:ND2	2.55	0.40
2:A:246:VAL:HG12	2:A:246:VAL:O	2.19	0.40
2:A:2:VAL:HG21	3:B:1157:ALA:CB	2.50	0.40
2:A:266:LEU:HD21	2:A:303:TYR:CZ	2.56	0.40
2:A:352:VAL:CG1	2:A:353:ILE:N	2.84	0.40
2:A:442:VAL:HB	2:A:489:LEU:CD1	2.45	0.40
2:A:444:PHE:HB3	2:A:458:HIS:HD2	1.87	0.40
2:A:367:PRO:HB3	2:A:465:TYR:O	2.20	0.40
2:A:543:LEU:C	2:A:545:GLN:N	2.74	0.40
3:B:53:GLN:HB2	3:B:547:VAL:HG21	2.03	0.40
4:C:112:ASN:N	4:C:112:ASN:HD22	2.17	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:C:212:PRO:CB	4:C:213:PRO:HD2	2.41	0.40
4:C:35:ARG:NH1	12:K:41:THR:N	2.68	0.40
4:C:84:ARG:O	4:C:85:ASP:OD1	2.40	0.40
5:D:195:ILE:O	5:D:195:ILE:CG2	2.62	0.40
6:E:136:ASN:C	6:E:136:ASN:OD1	2.60	0.40
8:G:126:ASN:ND2	8:G:127:PRO:HA	2.35	0.40
10:I:105:SER:O	10:I:106:CYS:HB3	2.19	0.40
10:I:34:TYR:HE2	10:I:36:GLU:HB3	1.85	0.40
3:B:308:TRP:CH2	10:I:45:ARG:HD3	2.56	0.40
12:K:47:ARG:HD3	12:K:59:ALA:O	2.22	0.40
13:L:28:LYS:HB2	13:L:39:SER:CA	2.52	0.40
1:R:8:U:O2	1:R:8:U:C2'	2.69	0.40
2:A:106:VAL:HG13	2:A:112:LYS:H	1.86	0.40
2:A:1299:VAL:CG1	2:A:1300:LYS:N	2.84	0.40
2:A:1335:ILE:O	2:A:1335:ILE:HG22	2.22	0.40
2:A:141:LEU:O	2:A:142:CYS:SG	2.71	0.40
2:A:254:GLU:HB2	3:B:935:ARG:NH2	2.35	0.40
2:A:298:PHE:CZ	2:A:314:ALA:HB2	2.56	0.40
2:A:562:THR:HA	2:A:563:PRO:HD3	1.82	0.40
2:A:574:GLY:O	2:A:577:ILE:HD13	2.22	0.40
2:A:613:ILE:HG22	2:A:614:PHE:CD2	2.55	0.40
2:A:809:THR:OG1	2:A:812:GLU:HG3	2.22	0.40
3:B:1017:ILE:CB	3:B:1018:PRO:CD	3.00	0.40
3:B:1207:LEU:HA	3:B:1207:LEU:HD23	1.85	0.40
3:B:190:TYR:HD2	11:J:62:ARG:O	2.05	0.40
3:B:254:LEU:HG	3:B:273:LEU:HD12	2.03	0.40
3:B:283:VAL:O	3:B:286:PHE:HB2	2.20	0.40
3:B:557:PHE:CD2	3:B:557:PHE:O	2.75	0.40
3:B:906:SER:O	3:B:941:LEU:HD23	2.22	0.40
7:F:99:LEU:HD12	7:F:99:LEU:C	2.41	0.40
8:G:114:LEU:HA	8:G:114:LEU:HD12	1.88	0.40
8:G:143:ILE:CD1	8:G:143:ILE:N	2.85	0.40
10:I:110:PHE:CD2	10:I:110:PHE:N	2.83	0.40
10:I:55:THR:HG22	10:I:58:VAL:CG2	2.43	0.40
13:L:47:ARG:HB3	13:L:48:CYS:H	1.80	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	A	1406/1733 (81%)	973 (69%)	278 (20%)	155 (11%)	0	8
3	B	1096/1224 (90%)	754 (69%)	214 (20%)	128 (12%)	0	6
4	C	264/318 (83%)	172 (65%)	62 (24%)	30 (11%)	0	7
5	D	173/221 (78%)	116 (67%)	36 (21%)	21 (12%)	0	6
6	E	212/215 (99%)	155 (73%)	42 (20%)	15 (7%)	1	17
7	F	82/155 (53%)	72 (88%)	9 (11%)	1 (1%)	13	50
8	G	169/171 (99%)	133 (79%)	19 (11%)	17 (10%)	0	9
9	H	129/146 (88%)	89 (69%)	23 (18%)	17 (13%)	0	5
10	I	117/122 (96%)	83 (71%)	23 (20%)	11 (9%)	0	11
11	J	63/70 (90%)	35 (56%)	14 (22%)	14 (22%)	0	1
12	K	113/120 (94%)	83 (74%)	25 (22%)	5 (4%)	2	25
13	L	44/70 (63%)	19 (43%)	16 (36%)	9 (20%)	0	2
All	All	3868/4565 (85%)	2684 (69%)	761 (20%)	423 (11%)	0	8

All (423) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	A	31	SER
2	A	48	ALA
2	A	55	ASP
2	A	57	ARG
2	A	58	LEU
2	A	62	ASP
2	A	65	LEU
2	A	66	LYS
2	A	71	GLN
2	A	74	MET
2	A	93	VAL
2	A	128	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	A	130	ASP
2	A	167	CYS
2	A	170	THR
2	A	250	ILE
2	A	255	SER
2	A	286	HIS
2	A	311	GLN
2	A	318	SER
2	A	321	PRO
2	A	322	VAL
2	A	336	ILE
2	A	418	SER
2	A	423	ASP
2	A	517	ASN
2	A	536	LEU
2	A	567	LYS
2	A	576	GLN
2	A	1002	GLY
2	A	1115	SER
2	A	1314	SER
2	A	1365	TYR
2	A	1377	THR
2	A	1392	SER
2	A	1405	THR
3	B	21	GLU
3	B	27	ALA
3	B	28	GLU
3	B	45	SER
3	B	58	THR
3	B	100	PRO
3	B	186	GLU
3	B	259	TYR
3	B	274	PRO
3	B	351	TYR
3	B	364	ILE
3	B	401	PHE
3	B	466	TRP
3	B	467	GLY
3	B	468	GLU
3	B	470	LYS
3	B	472	ALA
3	B	474	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	502	ILE
3	B	504	ARG
3	B	510	LYS
3	B	571	PRO
3	B	643	ASP
3	B	709	ASP
3	B	727	LYS
3	B	731	VAL
3	B	751	VAL
3	B	867	GLY
3	B	943	SER
3	B	958	GLN
3	B	1046	PRO
3	B	1069	PHE
3	B	1097	HIS
3	B	1100	ASP
3	B	1157	ALA
3	B	1186	ASP
4	C	87	PHE
4	C	141	GLY
4	C	149	LYS
4	C	161	LYS
4	C	167	HIS
4	C	209	TYR
4	C	212	PRO
4	C	231	ASN
5	D	5	THR
5	D	6	SER
5	D	8	PHE
5	D	15	LEU
5	D	19	GLU
5	D	30	GLY
5	D	169	SER
5	D	199	ASN
6	E	59	SER
6	E	106	GLN
6	E	206	GLY
8	G	2	PHE
8	G	62	LEU
8	G	63	PRO
8	G	139	ILE
9	H	36	CYS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
9	H	62	SER
9	H	82	PRO
9	H	108	SER
9	H	128	ASN
10	I	9	ASP
10	I	47	GLU
10	I	106	CYS
11	J	6	ARG
11	J	32	GLU
11	J	33	GLY
11	J	55	ASP
11	J	64	ASN
12	K	114	LEU
13	L	50	ASP
13	L	56	LEU
13	L	59	ALA
13	L	60	ARG
2	A	42	ASP
2	A	54	ASN
2	A	59	GLY
2	A	69	THR
2	A	70	CYS
2	A	76	GLU
2	A	111	GLY
2	A	117	GLU
2	A	124	GLN
2	A	131	SER
2	A	149	GLU
2	A	156	ASP
2	A	245	PRO
2	A	249	SER
2	A	257	ARG
2	A	331	GLY
2	A	332	LYS
2	A	335	ARG
2	A	415	LEU
2	A	424	ILE
2	A	544	ASP
2	A	626	ASN
2	A	731	ARG
2	A	789	LYS
2	A	808	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	A	824	LEU
2	A	875	ALA
2	A	926	GLN
2	A	975	HIS
2	A	1016	THR
2	A	1036	ARG
2	A	1120	LEU
2	A	1122	PRO
2	A	1128	GLN
2	A	1136	SER
2	A	1223	ASP
2	A	1266	THR
2	A	1297	GLU
2	A	1378	GLN
2	A	1386	ARG
2	A	1389	PHE
2	A	1438	THR
2	A	1448	GLU
3	B	108	VAL
3	B	114	PRO
3	B	126	SER
3	B	176	SER
3	B	206	ASN
3	B	282	ILE
3	B	334	ILE
3	B	409	ALA
3	B	430	ARG
3	B	460	ALA
3	B	461	LEU
3	B	475	SER
3	B	476	ARG
3	B	543	SER
3	B	591	ARG
3	B	594	ALA
3	B	605	ARG
3	B	629	ASP
3	B	655	LYS
3	B	688	GLY
3	B	708	GLU
3	B	842	ASN
3	B	881	ASN
3	B	888	GLY

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	891	ASP
3	B	901	PRO
3	B	907	GLY
3	B	1016	ALA
3	B	1167	GLY
3	B	1175	LEU
3	B	1179	GLN
3	B	1188	LYS
4	C	78	GLU
4	C	84	ARG
4	C	90	ASP
4	C	240	VAL
5	D	12	ARG
5	D	13	ARG
5	D	16	LYS
5	D	47	LEU
5	D	52	LEU
5	D	131	GLU
5	D	157	GLN
6	E	36	GLU
6	E	38	PRO
6	E	45	LYS
6	E	121	MET
6	E	189	GLY
7	F	154	ASP
8	G	50	ASP
8	G	67	SER
8	G	96	GLN
8	G	154	VAL
8	G	167	TYR
9	H	81	PRO
9	H	140	ALA
10	I	57	GLY
11	J	2	ILE
11	J	8	PHE
11	J	9	SER
11	J	17	LYS
11	J	24	LEU
11	J	28	ASP
11	J	29	GLU
12	K	7	PHE
13	L	35	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
13	L	53	HIS
2	A	8	SER
2	A	253	ASN
2	A	283	GLY
2	A	360	GLU
2	A	394	ASN
2	A	409	SER
2	A	465	TYR
2	A	516	SER
2	A	592	ASP
2	A	598	LEU
2	A	603	ASN
2	A	716	ASP
2	A	739	ASP
2	A	830	LYS
2	A	846	GLU
2	A	852	TYR
2	A	903	ASN
2	A	968	GLN
2	A	1114	PRO
2	A	1139	GLU
2	A	1224	LEU
2	A	1255	GLU
3	B	65	GLU
3	B	115	GLN
3	B	258	LEU
3	B	278	GLN
3	B	328	GLU
3	B	418	LYS
3	B	465	ASN
3	B	501	PRO
3	B	526	GLU
3	B	540	SER
3	B	556	THR
3	B	559	SER
3	B	641	GLU
3	B	711	GLU
3	B	764	SER
3	B	792	MET
3	B	818	PRO
3	B	869	SER
3	B	1017	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	1035	ALA
3	B	1065	GLN
3	B	1108	ARG
3	B	1153	GLU
3	B	1155	SER
4	C	28	ALA
4	C	77	ILE
4	C	153	LEU
4	C	156	THR
4	C	215	GLU
4	C	216	GLY
5	D	68	ARG
5	D	119	ARG
5	D	120	GLU
6	E	43	LYS
6	E	73	PRO
6	E	205	SER
8	G	17	PHE
8	G	118	ASP
8	G	141	SER
9	H	32	THR
9	H	60	ALA
9	H	84	ALA
9	H	135	LEU
10	I	3	THR
10	I	11	ASN
13	L	51	CYS
2	A	89	PRO
2	A	197	PRO
2	A	219	PHE
2	A	483	ASP
2	A	526	ASP
2	A	543	LEU
2	A	577	ILE
2	A	591	PHE
2	A	605	MET
2	A	639	PRO
2	A	719	VAL
2	A	727	ASP
2	A	759	ALA
2	A	843	LYS
2	A	847	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	A	958	VAL
2	A	1211	GLN
2	A	1221	LYS
2	A	1281	ARG
2	A	1309	ASP
2	A	1313	LEU
2	A	1395	GLY
3	B	67	SER
3	B	229	ALA
3	B	367	LEU
3	B	447	ALA
3	B	505	ASP
3	B	579	ARG
3	B	597	MET
3	B	712	PRO
3	B	738	PHE
3	B	752	ALA
3	B	758	PHE
3	B	879	ARG
3	B	906	SER
3	B	1144	ALA
3	B	1181	GLU
4	C	110	THR
4	C	142	VAL
4	C	164	ALA
5	D	174	PRO
6	E	44	ALA
8	G	57	GLN
8	G	156	SER
8	G	165	GLU
9	H	17	PRO
9	H	52	GLN
9	H	90	ALA
9	H	107	VAL
10	I	78	CYS
12	K	29	ASN
12	K	41	THR
13	L	44	ASP
2	A	41	MET
2	A	84	ILE
2	A	121	LEU
2	A	386	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	A	428	TYR
2	A	829	VAL
2	A	842	VAL
2	A	904	THR
2	A	1069	ALA
2	A	1335	ILE
2	A	1341	ILE
2	A	1379	GLY
2	A	1437	GLY
3	B	68	THR
3	B	240	ILE
3	B	260	GLY
3	B	459	TYR
3	B	593	PRO
3	B	598	GLU
3	B	803	LEU
3	B	813	LYS
3	B	848	ARG
3	B	1018	PRO
3	B	1041	GLU
4	C	12	GLU
4	C	18	VAL
4	C	60	ASP
4	C	172	PRO
4	C	175	ALA
6	E	130	ALA
6	E	183	PRO
9	H	59	ILE
10	I	20	LYS
10	I	34	TYR
11	J	14	VAL
11	J	61	LEU
12	K	111	LEU
2	A	232	GLU
2	A	244	PRO
2	A	399	HIS
2	A	599	SER
2	A	1242	VAL
3	B	200	GLY
3	B	305	VAL
3	B	391	ASP
3	B	759	PRO

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Mol	Chain	Res	Type
3	B	942	ARG
3	B	992	ILE
4	C	126	GLY
4	C	176	ILE
5	D	177	VAL
6	E	76	GLY
10	I	62	ILE
10	I	115	LYS
2	A	196	GLU
3	B	729	ILE
4	C	202	PRO
5	D	196	PRO
8	G	15	PRO
9	H	44	VAL
2	A	35	ILE
2	A	51	GLY
2	A	284	ALA
2	A	385	ILE
2	A	1212	VAL
13	L	55	ILE
2	A	396	PRO
2	A	400	PRO
2	A	753	GLY
2	A	986	ILE
8	G	128	PRO
2	A	477	PRO
2	A	652	VAL
2	A	1302	PRO
3	B	551	PRO
2	A	61	ILE
3	B	658	ILE
3	B	1165	ILE
4	C	139	GLY

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	A	1239/1520 (82%)	1146 (92%)	93 (8%)	13	44
3	B	964/1061 (91%)	854 (89%)	110 (11%)	5	28
4	C	234/274 (85%)	211 (90%)	23 (10%)	8	33
5	D	140/200 (70%)	128 (91%)	12 (9%)	10	40
6	E	196/197 (100%)	186 (95%)	10 (5%)	24	54
7	F	74/137 (54%)	63 (85%)	11 (15%)	3	18
8	G	152/152 (100%)	137 (90%)	15 (10%)	8	32
9	H	117/128 (91%)	113 (97%)	4 (3%)	37	64
10	I	113/116 (97%)	97 (86%)	16 (14%)	3	21
11	J	60/65 (92%)	51 (85%)	9 (15%)	3	18
12	K	99/102 (97%)	90 (91%)	9 (9%)	9	36
13	L	40/57 (70%)	37 (92%)	3 (8%)	13	44
All	All	3428/4009 (86%)	3113 (91%)	315 (9%)	9	35

All (315) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A	11	LEU
2	A	22	PHE
2	A	23	SER
2	A	34	LYS
2	A	37	PHE
2	A	41	MET
2	A	62	ASP
2	A	67	CYS
2	A	70	CYS
2	A	83	HIS
2	A	93	VAL
2	A	105	CYS
2	A	110	CYS
2	A	200	ARG
2	A	205	GLU
2	A	215	SER
2	A	227	VAL
2	A	234	MET
2	A	236	LEU
2	A	245	PRO
2	A	270	LEU
2	A	307	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	A	320	ARG
2	A	321	PRO
2	A	335	ARG
2	A	337	ARG
2	A	345	VAL
2	A	354	SER
2	A	379	VAL
2	A	388	LEU
2	A	404	TYR
2	A	407	ARG
2	A	408	ASP
2	A	425	GLN
2	A	434	ARG
2	A	443	LEU
2	A	445	ASN
2	A	449	SER
2	A	450	LEU
2	A	451	HIS
2	A	454	SER
2	A	462	VAL
2	A	469	ARG
2	A	487	MET
2	A	493	GLN
2	A	503	GLN
2	A	504	LEU
2	A	527	THR
2	A	560	ILE
2	A	577	ILE
2	A	590	ARG
2	A	598	LEU
2	A	599	SER
2	A	666	ILE
2	A	692	ASP
2	A	711	ARG
2	A	727	ASP
2	A	739	ASP
2	A	740	LEU
2	A	768	GLN
2	A	774	ARG
2	A	821	ARG
2	A	858	ASN
2	A	886	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	A	903	ASN
2	A	906	HIS
2	A	929	LEU
2	A	930	ASP
2	A	963	ILE
2	A	998	LEU
2	A	1001	ARG
2	A	1029	ARG
2	A	1035	TYR
2	A	1037	LEU
2	A	1067	LEU
2	A	1111	MET
2	A	1113	THR
2	A	1116	LEU
2	A	1122	PRO
2	A	1127	ASP
2	A	1146	VAL
2	A	1295	THR
2	A	1298	TYR
2	A	1300	LYS
2	A	1332	PHE
2	A	1359	ASP
2	A	1364	ASN
2	A	1372	VAL
2	A	1389	PHE
2	A	1393	ASN
2	A	1405	THR
2	A	1436	ILE
2	A	1443	VAL
3	B	30	SER
3	B	44	VAL
3	B	46	GLN
3	B	61	ASP
3	B	63	ILE
3	B	95	ILE
3	B	100	PRO
3	B	106	ASP
3	B	128	LEU
3	B	175	ARG
3	B	188	ASP
3	B	194	GLU
3	B	203	PHE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	217	ARG
3	B	223	VAL
3	B	240	ILE
3	B	250	PHE
3	B	261	ARG
3	B	268	THR
3	B	273	LEU
3	B	277	LYS
3	B	282	ILE
3	B	289	LEU
3	B	298	LEU
3	B	365	THR
3	B	371	GLU
3	B	393	LYS
3	B	401	PHE
3	B	416	LEU
3	B	427	ASP
3	B	429	PHE
3	B	459	TYR
3	B	463	THR
3	B	465	ASN
3	B	468	GLU
3	B	474	SER
3	B	475	SER
3	B	476	ARG
3	B	485	ARG
3	B	490	SER
3	B	496	ARG
3	B	498	THR
3	B	501	PRO
3	B	502	ILE
3	B	504	ARG
3	B	505	ASP
3	B	508	LEU
3	B	510	LYS
3	B	516	ASN
3	B	531	GLN
3	B	549	THR
3	B	570	VAL
3	B	582	VAL
3	B	603	LEU
3	B	615	MET

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	629	ASP
3	B	635	ARG
3	B	638	PHE
3	B	644	GLU
3	B	682	SER
3	B	684	LEU
3	B	694	ASP
3	B	724	ASP
3	B	737	THR
3	B	742	GLU
3	B	743	ILE
3	B	778	MET
3	B	785	TYR
3	B	787	VAL
3	B	796	LEU
3	B	797	TYR
3	B	830	TYR
3	B	831	SER
3	B	835	GLN
3	B	839	MET
3	B	845	SER
3	B	858	SER
3	B	878	GLN
3	B	894	ASP
3	B	901	PRO
3	B	906	SER
3	B	909	ASP
3	B	939	THR
3	B	953	LEU
3	B	964	VAL
3	B	986	GLN
3	B	997	GLU
3	B	999	MET
3	B	1002	THR
3	B	1006	ILE
3	B	1012	ILE
3	B	1018	PRO
3	B	1022	THR
3	B	1037	LEU
3	B	1047	PHE
3	B	1084	GLN
3	B	1095	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	1103	ILE
3	B	1108	ARG
3	B	1112	GLN
3	B	1163	CYS
3	B	1170	THR
3	B	1182	CYS
3	B	1183	LYS
3	B	1185	CYS
3	B	1193	GLN
3	B	1202	LEU
3	B	1211	ASN
3	B	1214	PRO
3	B	1224	PHE
4	C	17	ASN
4	C	22	LEU
4	C	26	ASP
4	C	54	ASN
4	C	57	VAL
4	C	58	LEU
4	C	62	PHE
4	C	74	SER
4	C	89	GLU
4	C	91	HIS
4	C	99	LEU
4	C	104	PHE
4	C	129	ILE
4	C	138	GLU
4	C	145	CYS
4	C	147	LEU
4	C	163	ILE
4	C	166	GLU
4	C	202	PRO
4	C	212	PRO
4	C	233	GLU
4	C	251	LEU
4	C	266	ASP
5	D	47	LEU
5	D	137	ASN
5	D	139	LYS
5	D	148	LEU
5	D	152	SER
5	D	170	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
5	D	185	CYS
5	D	187	THR
5	D	192	LYS
5	D	193	THR
5	D	208	GLU
5	D	221	TYR
6	E	60	PHE
6	E	78	LEU
6	E	104	ASN
6	E	132	ILE
6	E	153	HIS
6	E	175	LEU
6	E	183	PRO
6	E	184	VAL
6	E	204	THR
6	E	212	ARG
7	F	79	ARG
7	F	81	THR
7	F	90	ARG
7	F	99	LEU
7	F	103	MET
7	F	110	ASP
7	F	111	LEU
7	F	119	ARG
7	F	123	LYS
7	F	148	VAL
7	F	153	VAL
8	G	1	MET
8	G	13	LEU
8	G	15	PRO
8	G	37	SER
8	G	38	CYS
8	G	39	THR
8	G	52	ASP
8	G	55	ASP
8	G	56	ILE
8	G	63	PRO
8	G	74	TYR
8	G	78	VAL
8	G	80	LYS
8	G	126	ASN
8	G	145	VAL

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
9	H	86	ASP
9	H	93	TYR
9	H	95	TYR
9	H	130	ARG
10	I	4	PHE
10	I	7	CYS
10	I	15	TYR
10	I	22	ASN
10	I	31	THR
10	I	32	CYS
10	I	34	TYR
10	I	40	SER
10	I	78	CYS
10	I	85	PHE
10	I	86	PHE
10	I	94	ASP
10	I	100	PHE
10	I	101	PHE
10	I	106	CYS
10	I	110	PHE
11	J	7	CYS
11	J	9	SER
11	J	10	CYS
11	J	16	ASP
11	J	21	TYR
11	J	44	TYR
11	J	46	CYS
11	J	48	ARG
11	J	64	ASN
12	K	10	PHE
12	K	11	LEU
12	K	25	THR
12	K	47	ARG
12	K	50	LEU
12	K	61	TYR
12	K	78	THR
12	K	101	LEU
12	K	114	LEU
13	L	55	ILE
13	L	68	GLU
13	L	70	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (85) such

sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	A	54	ASN
2	A	64	ASN
2	A	92	HIS
2	A	171	GLN
2	A	225	ASN
2	A	256	GLN
2	A	299	HIS
2	A	306	ASN
2	A	339	ASN
2	A	394	ASN
2	A	435	HIS
2	A	493	GLN
2	A	503	GLN
2	A	631	HIS
2	A	757	ASN
2	A	768	GLN
2	A	786	HIS
2	A	858	ASN
2	A	881	GLN
2	A	903	ASN
2	A	926	GLN
2	A	935	GLN
2	A	994	GLN
2	A	1106	ASN
2	A	1130	GLN
2	A	1218	GLN
2	A	1265	ASN
2	A	1364	ASN
2	A	1393	ASN
2	A	1432	GLN
3	B	46	GLN
3	B	60	GLN
3	B	121	ASN
3	B	178	ASN
3	B	215	GLN
3	B	236	HIS
3	B	363	HIS
3	B	366	GLN
3	B	449	ASN
3	B	469	GLN
3	B	513	GLN
3	B	515	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	B	516	ASN
3	B	518	HIS
3	B	531	GLN
3	B	538	ASN
3	B	587	HIS
3	B	686	ASN
3	B	821	GLN
3	B	842	ASN
3	B	975	GLN
3	B	1015	HIS
3	B	1065	GLN
3	B	1117	GLN
3	B	1179	GLN
3	B	1193	GLN
3	B	1211	ASN
4	C	17	ASN
4	C	65	HIS
4	C	73	GLN
4	C	112	ASN
4	C	123	ASN
4	C	167	HIS
5	D	39	ASN
5	D	40	HIS
5	D	137	ASN
5	D	173	HIS
5	D	179	GLN
5	D	216	ASN
6	E	8	ASN
6	E	32	GLN
6	E	101	GLN
6	E	104	ASN
6	E	114	ASN
6	E	147	HIS
8	G	53	ASN
8	G	126	ASN
9	H	133	ASN
10	I	12	ASN
10	I	60	GLN
10	I	89	GLN
11	J	64	ASN
12	K	29	ASN
12	K	65	HIS

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Mol	Chain	Res	Type
13	L	53	HIS

### 5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	R	31/31 (100%)	16 (51%)	3 (9%)

All (16) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	R	3	A
1	R	6	A
1	R	7	C
1	R	8	U
1	R	9	G
1	R	10	A
1	R	12	5BU
1	R	13	G
1	R	24	A
1	R	25	G
1	R	26	C
1	R	27	5BU
1	R	28	5BU
1	R	29	G
1	R	31	U
1	R	32	G

All (3) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	R	2	C
1	R	5	C
1	R	6	A

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

4 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The

Link column lists molecule types, if any, to which the group is linked. 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  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
1	5BU	R	17	1	15,22,23	1.65	3 (20%)	17,32,35	4.04	3 (17%)
1	5BU	R	12	1	15,22,23	1.96	3 (20%)	17,32,35	4.39	7 (41%)
1	5BU	R	28	1	15,22,23	2.43	3 (20%)	17,32,35	4.43	5 (29%)
1	5BU	R	27	1	15,22,23	1.98	3 (20%)	17,32,35	4.09	3 (17%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	5BU	R	17	1	-	0/5/25/26	0/2/2/2
1	5BU	R	12	1	-	0/5/25/26	0/2/2/2
1	5BU	R	28	1	-	4/5/25/26	0/2/2/2
1	5BU	R	27	1	-	2/5/25/26	0/2/2/2

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	R	28	5BU	C4-C5	6.75	1.47	1.38
1	R	27	5BU	C4-C5	6.12	1.46	1.38
1	R	12	5BU	C4-C5	5.93	1.46	1.38
1	R	28	5BU	BR-C5	5.46	2.06	1.90
1	R	17	5BU	C4-C5	4.47	1.44	1.38
1	R	27	5BU	C4-N3	3.68	1.39	1.33
1	R	12	5BU	BR-C5	3.32	1.99	1.90
1	R	17	5BU	C4-N3	3.10	1.38	1.33
1	R	28	5BU	C4-N3	2.93	1.38	1.33
1	R	17	5BU	C6-C5	-2.84	1.33	1.39
1	R	27	5BU	C6-C5	-2.43	1.34	1.39
1	R	12	5BU	C4-N3	2.36	1.37	1.33

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	R	28	5BU	C4-N3-C2	15.47	128.20	115.14

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	R	12	5BU	C4-N3-C2	15.12	127.91	115.14
1	R	27	5BU	C4-N3-C2	14.48	127.37	115.14
1	R	17	5BU	C4-N3-C2	14.20	127.13	115.14
1	R	17	5BU	C5-C4-N3	-7.72	114.40	123.64
1	R	27	5BU	C5-C4-N3	-7.28	114.92	123.64
1	R	12	5BU	C5-C4-N3	-7.04	115.21	123.64
1	R	28	5BU	C5-C4-N3	-6.71	115.61	123.64
1	R	28	5BU	O3'-C3'-C2'	4.05	124.92	111.82
1	R	27	5BU	C5-C6-N1	3.51	124.51	119.97
1	R	12	5BU	C6-N1-C1'	3.42	126.92	119.24
1	R	28	5BU	BR-C5-C6	3.22	124.64	117.31
1	R	17	5BU	C5-C6-N1	2.97	123.81	119.97
1	R	12	5BU	BR-C5-C6	2.97	124.07	117.31
1	R	28	5BU	C5-C6-N1	2.88	123.69	119.97
1	R	12	5BU	O3'-C3'-C2'	2.49	119.88	111.82
1	R	12	5BU	BR-C5-C4	-2.29	118.03	121.50
1	R	12	5BU	C5-C6-N1	2.16	122.77	119.97

There are no chirality outliers.

All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	R	28	5BU	C3'-C4'-C5'-O5'
1	R	28	5BU	C2'-C1'-N1-C6
1	R	28	5BU	O4'-C4'-C5'-O5'
1	R	27	5BU	O4'-C4'-C5'-O5'
1	R	27	5BU	C3'-C4'-C5'-O5'
1	R	28	5BU	C4'-C5'-O5'-P

There are no ring outliers.

4 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	R	17	5BU	3	0
1	R	12	5BU	4	0
1	R	28	5BU	4	0
1	R	27	5BU	1	0

## 5.5 Carbohydrates

There are no carbohydrates in this entry.

## 5.6 Ligand geometry

Of 9 ligands modelled in this entry, 9 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 i

### 6.1 Protein, DNA and RNA chains i

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, 95<sup>th</sup> 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 <sup>2</sup> )	Q < 0.9
1	R	23/31 (74%)	0.19	0 <span style="border: 1px solid black; padding: 2px;">100</span> <span style="border: 1px solid black; padding: 2px;">100</span>	86, 105, 133, 157	0
2	A	1416/1733 (81%)	-0.37	11 (0%) <span style="border: 1px solid black; padding: 2px;">86</span> <span style="border: 1px solid black; padding: 2px;">81</span>	22, 86, 159, 180	0
3	B	1112/1224 (90%)	-0.28	15 (1%) <span style="border: 1px solid black; padding: 2px;">77</span> <span style="border: 1px solid black; padding: 2px;">70</span>	26, 95, 168, 180	0
4	C	266/318 (83%)	-0.45	0 <span style="border: 1px solid black; padding: 2px;">100</span> <span style="border: 1px solid black; padding: 2px;">100</span>	47, 82, 139, 156	0
5	D	177/221 (80%)	-0.35	0 <span style="border: 1px solid black; padding: 2px;">100</span> <span style="border: 1px solid black; padding: 2px;">100</span>	56, 108, 156, 177	0
6	E	214/215 (99%)	-0.12	7 (3%) <span style="border: 1px solid black; padding: 2px;">46</span> <span style="border: 1px solid black; padding: 2px;">38</span>	56, 141, 179, 180	0
7	F	84/155 (54%)	-0.55	0 <span style="border: 1px solid black; padding: 2px;">100</span> <span style="border: 1px solid black; padding: 2px;">100</span>	28, 59, 98, 122	0
8	G	171/171 (100%)	-0.34	0 <span style="border: 1px solid black; padding: 2px;">100</span> <span style="border: 1px solid black; padding: 2px;">100</span>	54, 82, 124, 133	0
9	H	133/146 (91%)	0.25	6 (4%) <span style="border: 1px solid black; padding: 2px;">33</span> <span style="border: 1px solid black; padding: 2px;">28</span>	105, 144, 178, 180	0
10	I	119/122 (97%)	0.00	4 (3%) <span style="border: 1px solid black; padding: 2px;">45</span> <span style="border: 1px solid black; padding: 2px;">37</span>	82, 135, 166, 180	0
11	J	65/70 (92%)	-0.56	0 <span style="border: 1px solid black; padding: 2px;">100</span> <span style="border: 1px solid black; padding: 2px;">100</span>	48, 78, 125, 133	0
12	K	115/120 (95%)	-0.43	1 (0%) <span style="border: 1px solid black; padding: 2px;">84</span> <span style="border: 1px solid black; padding: 2px;">79</span>	45, 83, 113, 143	0
13	L	46/70 (65%)	-0.09	1 (2%) <span style="border: 1px solid black; padding: 2px;">62</span> <span style="border: 1px solid black; padding: 2px;">54</span>	73, 139, 174, 179	0
All	All	3941/4596 (85%)	-0.31	45 (1%) <span style="border: 1px solid black; padding: 2px;">80</span> <span style="border: 1px solid black; padding: 2px;">74</span>	22, 92, 168, 180	0

All (45) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	A	1176	LEU	5.1
3	B	882	THR	4.5
2	A	149	GLU	3.7
3	B	883	LEU	3.7
6	E	51	GLY	3.6
3	B	132	VAL	3.5
10	I	119	THR	3.5
12	K	115	ALA	3.4
2	A	1455	PRO	3.3

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Mol	Chain	Res	Type	RSRZ
2	A	56	PRO	3.2
9	H	107	VAL	3.0
9	H	139	ASN	3.0
3	B	733	HIS	3.0
6	E	110	PHE	3.0
3	B	133	LYS	3.0
10	I	120	GLN	3.0
2	A	257	ARG	2.8
6	E	2	ASP	2.8
6	E	82	PHE	2.8
9	H	140	ALA	2.7
3	B	92	PHE	2.7
3	B	473	MET	2.7
2	A	115	LEU	2.6
3	B	734	HIS	2.6
3	B	469	GLN	2.6
6	E	81	GLU	2.5
2	A	153	PRO	2.5
9	H	59	ILE	2.5
9	H	58	THR	2.4
2	A	1126	ALA	2.3
3	B	472	ALA	2.3
10	I	100	PHE	2.3
6	E	86	PRO	2.3
3	B	166	PHE	2.3
10	I	55	THR	2.2
3	B	90	ILE	2.2
9	H	144	ILE	2.2
2	A	1256	GLU	2.1
2	A	1175	SER	2.1
3	B	468	GLU	2.1
6	E	78	LEU	2.1
3	B	257	LYS	2.1
3	B	474	SER	2.0
13	L	43	THR	2.0
2	A	1242	VAL	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains

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. The B-factors column lists the minimum, median, 95<sup>th</sup> 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	B-factors( $\text{\AA}^2$ )	Q<0.9
1	5BU	R	27	21/22	0.77	0.24	140,148,161,171	0
1	5BU	R	28	21/22	0.78	0.25	130,138,155,167	0
1	5BU	R	12	21/22	0.88	0.18	96,112,134,153	0
1	5BU	R	17	21/22	0.91	0.18	88,105,129,149	0

### 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. The B-factors column lists the minimum, median, 95<sup>th</sup> 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	B-factors( $\text{\AA}^2$ )	Q<0.9
14	ZN	A	2456	1/1	0.97	0.11	73,73,73,73	0
14	ZN	L	1071	1/1	0.97	0.05	114,114,114,114	0
15	MG	A	2458	1/1	0.98	0.34	20,20,20,20	0
14	ZN	C	1269	1/1	0.98	0.07	48,48,48,48	0
14	ZN	A	2457	1/1	0.99	0.10	46,46,46,46	0
14	ZN	B	2225	1/1	0.99	0.13	66,66,66,66	0
14	ZN	I	1122	1/1	0.99	0.08	176,176,176,176	0
14	ZN	J	1066	1/1	0.99	0.13	65,65,65,65	0
14	ZN	I	1121	1/1	0.99	0.14	85,85,85,85	0

### 6.5 Other polymers [i](#)

There are no such residues in this entry.