



# Full wwPDB X-ray Structure Validation Report ⓘ

Aug 8, 2020 – 12:40 AM BST

PDB ID : 1FFT  
Title : The structure of ubiquinol oxidase from Escherichia coli  
Authors : Abramson, J.; Riistama, S.; Larsson, G.; Jasaitis, A.; Svensson-Ek, M.; Pustinen, A.; Iwata, S.; Wikstrom, M.  
Deposited on : 2000-07-26  
Resolution : 3.50 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](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) : **NOT EXECUTED**  
EDS : **NOT EXECUTED**  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.13.1

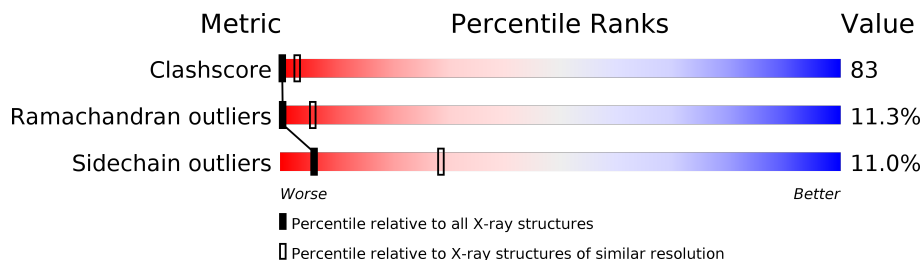
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.50 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1036 (3.58-3.42)
Ramachandran outliers	138981	1005 (3.58-3.42)
Sidechain outliers	138945	1006 (3.58-3.42)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments 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  $\leq 5\%$ .

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	663	16% 48% 11% • 24%
1	F	663	17% 47% 11% • 24%
2	B	315	16% 54% 10% • 18%
2	G	315	15% 54% 11% • 18%
3	C	204	22% 55% 12% • 9%
3	H	204	19% 58% 13% • 9%
4	D	109	70% 30%
4	I	109	70% 30%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

<b>Mol</b>	<b>Type</b>	<b>Chain</b>	<b>Res</b>	<b>Chirality</b>	<b>Geometry</b>	<b>Clashes</b>	<b>Electron density</b>
7	HEO	A	1002	X	-	-	-
7	HEO	F	1002	X	-	-	-

## 2 Entry composition i

There are 7 unique types of molecules in this entry. The entry contains 16136 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called UBIQUINOL OXIDASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	501	Total	C	N	O	S	312	0	0
			3954	2654	630	639	31			
1	F	501	Total	C	N	O	S	312	0	0
			3954	2654	630	639	31			

- Molecule 2 is a protein called UBIQUINOL OXIDASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	257	Total	C	N	O	S	155	0	0
			2015	1320	324	361	10			
2	G	257	Total	C	N	O	S	155	0	0
			2015	1320	324	361	10			

- Molecule 3 is a protein called UBIQUINOL OXIDASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	185	Total	C	N	O	S	157	0	0
			1451	970	229	240	12			
3	H	185	Total	C	N	O	S	157	0	0
			1451	970	229	240	12			

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	1	MET	-	cloning artifact	UNP P0ABJ3
C	2	ALA	-	cloning artifact	UNP P0ABJ3
C	3	THR	-	cloning artifact	UNP P0ABJ3
C	4	ASP	-	cloning artifact	UNP P0ABJ3
C	5	THR	-	cloning artifact	UNP P0ABJ3
C	6	LEU	-	cloning artifact	UNP P0ABJ3
C	7	THR	-	cloning artifact	UNP P0ABJ3
C	8	HIS	-	cloning artifact	UNP P0ABJ3

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Chain	Residue	Modelled	Actual	Comment	Reference
C	9	ALA	-	cloning artifact	UNP P0ABJ3
C	10	THR	-	cloning artifact	UNP P0ABJ3
C	11	ALA	-	cloning artifact	UNP P0ABJ3
C	12	HIS	-	cloning artifact	UNP P0ABJ3
C	13	ALA	-	cloning artifact	UNP P0ABJ3
C	14	HIS	-	cloning artifact	UNP P0ABJ3
C	15	GLU	-	cloning artifact	UNP P0ABJ3
C	16	HIS	-	cloning artifact	UNP P0ABJ3
C	17	GLY	-	cloning artifact	UNP P0ABJ3
C	18	HIS	-	cloning artifact	UNP P0ABJ3
C	19	HIS	-	cloning artifact	UNP P0ABJ3
C	20	ASP	-	cloning artifact	UNP P0ABJ3
C	21	ALA	-	cloning artifact	UNP P0ABJ3
C	22	GLY	-	cloning artifact	UNP P0ABJ3
C	23	GLY	-	cloning artifact	UNP P0ABJ3
C	24	THR	-	cloning artifact	UNP P0ABJ3
H	1	MET	-	cloning artifact	UNP P0ABJ3
H	2	ALA	-	cloning artifact	UNP P0ABJ3
H	3	THR	-	cloning artifact	UNP P0ABJ3
H	4	ASP	-	cloning artifact	UNP P0ABJ3
H	5	THR	-	cloning artifact	UNP P0ABJ3
H	6	LEU	-	cloning artifact	UNP P0ABJ3
H	7	THR	-	cloning artifact	UNP P0ABJ3
H	8	HIS	-	cloning artifact	UNP P0ABJ3
H	9	ALA	-	cloning artifact	UNP P0ABJ3
H	10	THR	-	cloning artifact	UNP P0ABJ3
H	11	ALA	-	cloning artifact	UNP P0ABJ3
H	12	HIS	-	cloning artifact	UNP P0ABJ3
H	13	ALA	-	cloning artifact	UNP P0ABJ3
H	14	HIS	-	cloning artifact	UNP P0ABJ3
H	15	GLU	-	cloning artifact	UNP P0ABJ3
H	16	HIS	-	cloning artifact	UNP P0ABJ3
H	17	GLY	-	cloning artifact	UNP P0ABJ3
H	18	HIS	-	cloning artifact	UNP P0ABJ3
H	19	HIS	-	cloning artifact	UNP P0ABJ3
H	20	ASP	-	cloning artifact	UNP P0ABJ3
H	21	ALA	-	cloning artifact	UNP P0ABJ3
H	22	GLY	-	cloning artifact	UNP P0ABJ3
H	23	GLY	-	cloning artifact	UNP P0ABJ3
H	24	THR	-	cloning artifact	UNP P0ABJ3

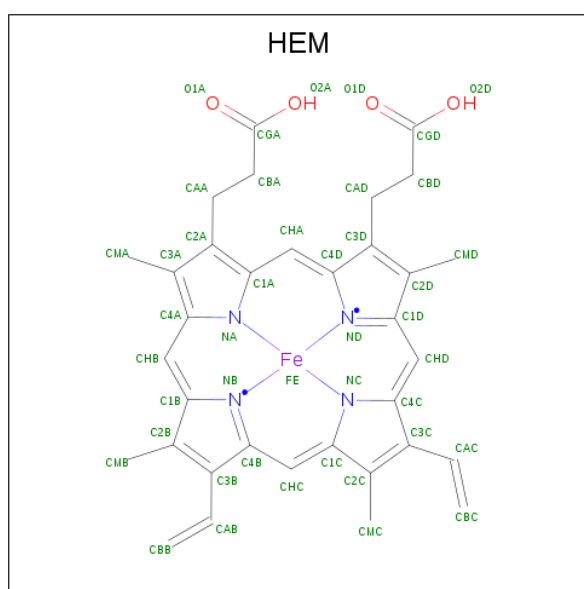
- Molecule 4 is a protein called UBIQUINOL OXIDASE.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	D	109	Total	C	N	O	0	0	0
			545	327	109	109			
4	I	109	Total	C	N	O	0	0	0
			545	327	109	109			

- Molecule 5 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

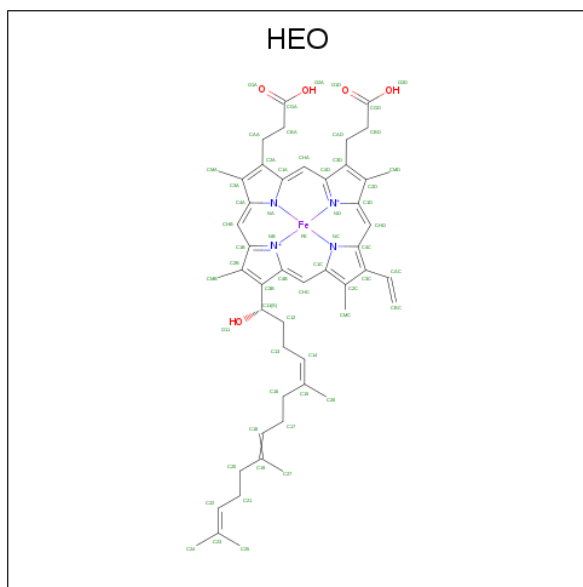
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	1	Total	Cu	0	0
			1	1		
5	F	1	Total	Cu	0	0
			1	1		

- Molecule 6 is PROTOPORPHYRIN IX CONTAINING FE (three-letter code: HEM) (formula: C<sub>34</sub>H<sub>32</sub>FeN<sub>4</sub>O<sub>4</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
6	A	1	Total	C	Fe	N	O	0	0
			43	34	1	4	4		
6	F	1	Total	C	Fe	N	O	0	0
			43	34	1	4	4		

- Molecule 7 is HEME O (three-letter code: HEO) (formula: C<sub>49</sub>H<sub>58</sub>FeN<sub>4</sub>O<sub>5</sub>).

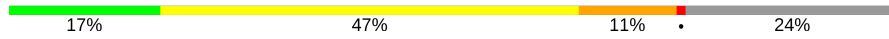


Mol	Chain	Residues	Atoms				ZeroOcc	AltConf		
			Total	C	Fe	N			O	
7	A	1	Total	59	49	1	4	5	0	0
7	F	1	Total	59	49	1	4	5	0	0





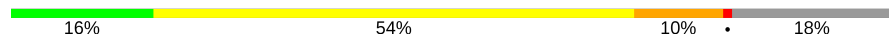
Chain F:



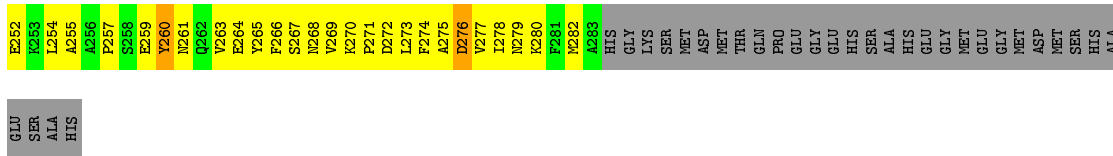
MET	PHE	GLY	LYS	LEU	SER	ASP	ALA	VAL	PRO	THR	ILE	LEU	GLY	GLY	THR	PHE	GLY	LYS	TRP	THR	TYR	LEU	TRP	SER	V52	D53	H54	K55	R56	L57	G58	I59	M60																																				
Y61	I62	I63	V64	M68	L69	L70	R71	G72	F73	A74	D75	A76	I77	M78	M79	R80	S81	Q82	P85	I101	I102	F103	T104	A105	H106	G107	G108	I109	M110	I111	F112	F113	A114	A115	M116	P117	F118	V119	I120	I121	L122	M123	M124	L125	V126	L127	P128	L129	Q130	I131	R134																		
D135	V136	A137	F138	P139	M142	M143	L144	S145	F146	V147	F148	T149	V150	M151	G152	V153	I154	L155	V156	M157	V158	S159	L160	F165	A166	Q167	T168	G169	M170	L171	Y172	P174	L176	S177	I179	G184	V187	D188	Y189	W190	I191	M192	S193	L194	Q195	L196	T201	I199	G200	T201	F263	F264	T202	I131	L203														
T204	G205	I206	M207	F208	F209	V210	T211	K214	M215	R216	A217	M220	T221	M222	F223	K224	M225	P226	V227	F228	T229	R230	A231	S232	L233	C234	A235	F236	M237	L238	I239	I240	F243	P244	I245	L246	T247	V248	T249	V250	A251	L252	L253	T254	L255	D256	R257	Y258	L259	G260	L261	T262	H263	I199	F263	F264	T202	I131	L203										
D267	M271	M272	M273	M274	Y275	L276	M277	L278	M280	A281	W282	G283	H284	P285	L286	Y287	Y288	L289	L290	M291	L292	R293	V294	F295	P296	T297	G298	F298	M300	L301	T304	F305	S306	R307	K308	L310	F311	G312	Y313	T314	S315	L316	W317	W318	A319	T320	V321	C322	I323	T324	I325	L326	S327	I329	I388	W389	T390	K454											
W330	W331	H332	H333	H334	F335	F336	M338	G339	A340	G341	V344	N345	A346	F347	F348	G349	I350	T351	M352	M353	I354	I355	A356	H357	P358	T359	G360	F360	V361	K362	I363	F364	N365	W366	L367	F368	T369	M370	Y371	Q372	G373	R374	I375	W376	F377	H378	S379	A380	M381	L382	W383	T384	I385	I388	W389	T390	K454												
V393	G394	G395	M396	T397	F398	V399	L400	L401	A402	V403	P404	A405	A406	D407	F408	V409	L410	H411	M412	A413	L414	F415	G416	L417	L418	H419	F420	G421	H422	N423	V424	L425	G426	F430	G431	C432	F433	A434	G435	M436	T437	Y438	W439	W440	P441	K442	A443	F444	G445	F446	K447	L448	M449	E450	T451	W452	W453	W454	G455	M516									
R455	A456	F457	W458	F459	W460	I461	I462	G463	F464	F465	V466	A467	F468	M469	P470	L471	Y472	A473	L474	G475	F476	M477	G478	M479	T480	R481	R482	L483	S484	Q485	Q486	D488	Q489	F491	H492	T493	M494	L495	M496	I497	A498	A499	S500	G501	A502	V503	L504	I505	I509	L510	C511	M512	V513	I514	Q515	M516													
Y517	V518	S519	I520	Q525	I461	I462	T538	L539	E540	W541	A542	T543	S544	S545	P548	F549	Y550	M551	F552	ALA	VAL	G478	M479	T480	H481	R482	L483	S484	Q485	Q486	D488	Q489	F491	H492	T493	M494	L495	M496	I497	A498	A499	S500	G501	A502	V503	L504	I505	I509	L510	C511	M512	V513	I514	Q515	M516														
ALA	GLY	ILE	VAL	ILE	ALA	ALA	PHE	SER	THR	THR	ILE	ALA	ALA	ALA	ALA	TRP	HIS	ILE	TRP	TRP	TRP	ALA	VAL	VAL	PRO	HIS	GLY	PHE	VAL	ALA	TRP	TRP	TRP	ILE	ILE	VAL	VAL	LYS	SER	LYS	LYS	ASP	GLY	ASP	GLY	ASP	GLY	ASP	VAL	VAL	VAL	GLY	GLY	ILE	ILE	GLY	HIS	HIS	PRO	LYS	MET	LYS	PRO	LYS	GLY	ASN	ASN	GLY	HIS
PHE	ASP	GLU	ILE	VAL	LYS	THR	LYS	ALA	ALA	GLY	PHE	ALA	ALA	ALA	TRP	HIS	ILE	TRP	TRP	TRP	ALA	VAL	VAL	PRO	HIS	GLY	PHE	VAL	ALA	TRP	TRP	TRP	ILE	ILE	VAL	VAL	LYS	SER	LYS	LYS	ASP	GLY	ASP	GLY	ASP	VAL	VAL	VAL	GLY	GLY	ILE	ILE	GLY	HIS	HIS	PRO	LYS	MET	LYS	PRO	LYS	GLY	ASN	ASN	GLY	HIS			

• Molecule 2: UBIQUINOL OXIDASE

Chain B:

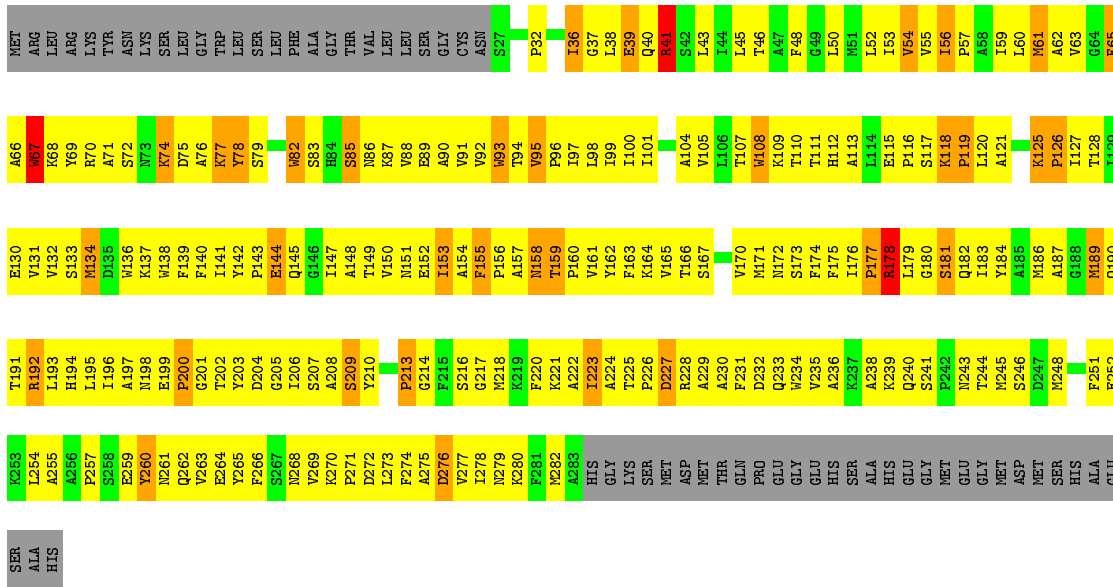


MET	ARG	M68	ARG	ARG	TYR	ASN	LYS	SER	LEU	PHE	ALA	ALA	GLY	THR	VAL	LEU	LEU	SER	SER	LEU	LEU	ASN	S27	P32	I36	G37	L38	E39	Q40	R41	S42	L43	I44	L45	T46	A47	F48	G49	L50	P51	L52	I53	V54	V55	I56	P57	A58	L59	L60	A121	M61	A62	V63	G64	F65			
A66	M67	M68	V69	R70	A71	S72	M73	R74	D75	A76	K77	V78	S79	W82	S83	H84	S85	R86	R87	V88	E89	A90	V91	V92	M93	T94	V95	N96	M98	I99	I101	F102	L103	A104	L105	L106	L45	T46	F48	G49	L50	P51	L52	I53	V54	V55	I56	P57	A58	L59	L60	A121	M61	A62	V63	G64	F65	
L129	E130	V131	L132	H133	M134	D135	V136	K137	W138	F139	F140	I141	Y142	P143	E144	Q145	G146	H147	A148	T149	V150	M151	E152	I153	A154	F155	P156	A157	N158	T159	P160	L161	Y162	F163	K164	V165	T166	S167	V170	M171	M172	S173	F174	F175	H176	A177	L178	G180	S181	P181	Q182	I183	T244	M245	S246	D247	M248	F251
Q190	T191	R192	H193	H194	L195	I196	A197	N198	E199	P200	G201	T202	Y203	D204	G205	I206	S207	A208	S209	Y210	P213	G214	P215	S216	G217	M218	K219	F220	K221	A222	I223	A224	T225	P226	D227	R228	A229	F231	Q232	Q233	W234	V235	A236	K237	K238	K239	Q240	S241	P242	N243	T244	M245	S246	D247	M248	F251		



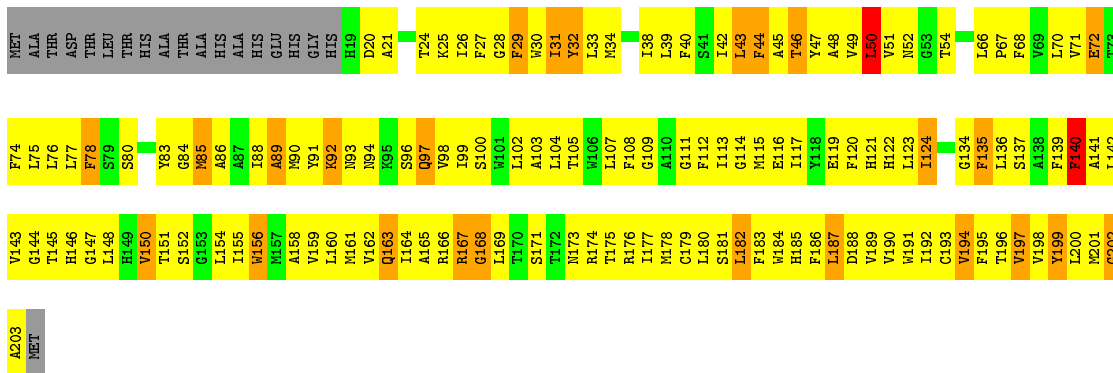
- Molecule 2: UBIQUINOL OXIDASE

Chain G: 15% 54% 11% 18%



- Molecule 3: UBIQUINOL OXIDASE

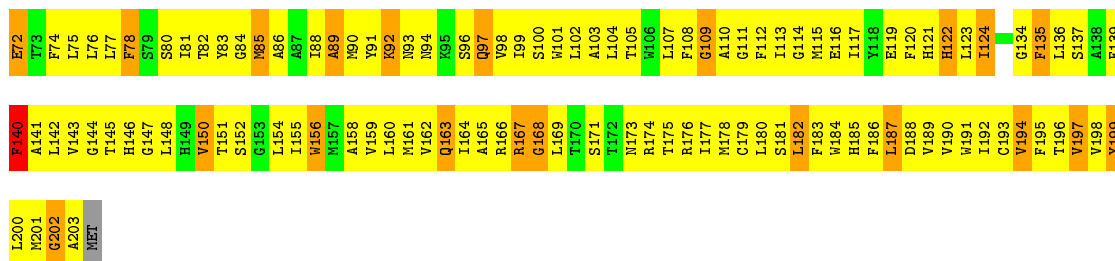
Chain C: 22% 55% 12% 9%



- Molecule 3: UBIQUINOL OXIDASE

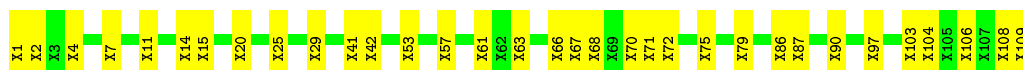
Chain H: 19% 58% 13% 9%





- Molecule 4: UBIQUINOL OXIDASE

Chain D: 70% 30%



- Molecule 4: UBIQUINOL OXIDASE

Chain I: 70% 30%



## 4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	92.10Å 372.50Å 232.70Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 3.50	Depositor
% Data completeness (in resolution range)	(Not available) (40.00-3.50)	Depositor
$R_{merge}$	0.12	Depositor
$R_{sym}$	(Not available)	Depositor
Refinement program		Depositor
R, $R_{free}$	(Not available) , (Not available)	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	16136	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	29.0	wwPDB-VP

## 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: HEM, HEO, CU

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z  > 5$	RMSZ	# $ Z  > 5$
1	A	0.46	1/4086 (0.0%)	0.71	4/5573 (0.1%)
1	F	0.44	0/4086	0.68	2/5573 (0.0%)
2	B	0.43	0/2074	0.65	0/2825
2	G	0.43	0/2074	0.67	0/2825
3	C	0.47	0/1494	0.66	0/2030
3	H	0.43	0/1494	0.65	0/2030
All	All	0.45	1/15308 (0.0%)	0.68	6/20856 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	F	0	1
All	All	0	2

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	174	PRO	C-N	-9.24	1.16	1.34

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	174	PRO	C-N-CD	-12.28	93.59	120.60
1	A	175	PRO	CB-CA-C	7.79	131.48	112.00
1	F	175	PRO	CB-CA-C	7.42	130.56	112.00
1	F	174	PRO	C-N-CD	-6.30	106.74	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	547	PRO	CA-N-CD	-6.28	102.72	111.50
1	A	546	PRO	C-N-CD	-6.03	107.33	120.60

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	174	PRO	Mainchain
1	F	174	PRO	Mainchain

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3954	0	3975	658	0
1	F	3954	0	3975	661	0
2	B	2015	0	2016	317	0
2	G	2015	0	2016	348	0
3	C	1451	0	1458	254	0
3	H	1451	0	1458	265	0
4	D	545	0	114	57	0
4	I	545	0	115	55	0
5	A	1	0	0	0	0
5	F	1	0	0	0	0
6	A	43	0	30	18	0
6	F	43	0	30	17	0
7	A	59	0	56	16	0
7	F	59	0	56	14	0
All	All	16136	0	15299	2417	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 83.

All (2417) 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)
3:H:86:ALA:HB1	3:H:91:TYR:CD1	1.43	1.53
3:H:83:TYR:HE1	4:I:14:UNK:CB	1.44	1.30
3:C:78:PHE:HZ	4:D:57:UNK:CB	1.44	1.30
1:A:55:LYS:NZ	1:A:551:ASN:HA	1.44	1.29
3:C:78:PHE:CZ	4:D:57:UNK:CB	2.20	1.24
3:H:78:PHE:CZ	4:I:57:UNK:CB	2.21	1.24
3:H:83:TYR:CE1	4:I:14:UNK:CB	2.21	1.23
3:H:78:PHE:HZ	4:I:57:UNK:CB	1.54	1.20
3:C:30:TRP:CH2	4:D:79:UNK:HA	1.79	1.17
2:G:95:VAL:HG23	2:G:96:PRO:CD	1.73	1.16
3:H:86:ALA:CB	3:H:91:TYR:CD1	2.28	1.14
2:G:148:ALA:HB3	2:G:266:PHE:HB2	1.14	1.14
2:G:95:VAL:HG23	2:G:96:PRO:HD2	1.31	1.13
2:G:244:THR:HB	2:G:268:ASN:HB3	1.26	1.12
2:B:95:VAL:HG23	2:B:96:PRO:HD3	1.27	1.12
2:B:244:THR:HB	2:B:268:ASN:HB3	1.26	1.12
2:B:147:ILE:HG23	2:B:239:LYS:HE3	1.28	1.12
2:G:147:ILE:HG23	2:G:239:LYS:HE3	1.32	1.12
3:H:86:ALA:HB1	3:H:91:TYR:CG	1.86	1.11
2:B:148:ALA:HB3	2:B:266:PHE:HB2	1.13	1.10
1:A:551:ASN:O	1:A:552:PHE:O	1.69	1.08
3:C:30:TRP:CH2	4:D:79:UNK:CA	2.37	1.07
1:F:373:GLY:HA2	2:G:71:ALA:HB1	1.39	1.03
1:F:357:ILE:HG13	2:G:100:ILE:CD1	1.89	1.03
1:A:174:PRO:CB	1:A:175:PRO:HD3	1.87	1.01
1:F:308:LYS:HZ2	1:F:372:GLN:H	1.08	1.01
1:F:195:GLN:HE22	1:F:247:THR:HG22	1.26	1.00
1:F:474:LEU:HD21	1:F:494:MET:HB2	1.45	0.99
1:F:57:LEU:O	1:F:60:MET:HB2	1.63	0.99
1:A:57:LEU:O	1:A:60:MET:HB2	1.63	0.98
3:C:89:ALA:HB2	3:C:174:ARG:HD2	1.41	0.98
3:C:70:LEU:HD21	3:C:115:MET:HB2	1.44	0.98
3:H:86:ALA:HB1	3:H:91:TYR:CE1	1.98	0.98
1:F:357:ILE:HG13	2:G:100:ILE:HD11	1.46	0.97
1:A:195:GLN:HE22	1:A:247:THR:HG22	1.28	0.97
3:H:89:ALA:HB2	3:H:174:ARG:HD2	1.45	0.97
1:F:284:HIS:O	1:F:287:VAL:HG22	1.63	0.97
3:C:88:ILE:HG12	3:C:98:VAL:HG13	1.44	0.97
1:A:308:LYS:NZ	1:A:372:GLN:H	1.63	0.96
2:G:176:ILE:HG21	2:G:179:LEU:HD12	1.46	0.96
2:B:176:ILE:HG21	2:B:179:LEU:HD12	1.46	0.95
1:F:331:TRP:CZ2	4:I:97:UNK:CB	2.49	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:373:GLY:HA2	2:B:71:ALA:HB1	1.47	0.95
1:A:284:HIS:O	1:A:287:VAL:HG22	1.64	0.95
1:A:474:LEU:HD21	1:A:494:MET:HB2	1.49	0.95
2:B:203:TYR:HB2	2:B:222:ALA:HB3	1.46	0.95
3:H:86:ALA:CB	3:H:91:TYR:CE1	2.48	0.95
2:G:203:TYR:HB2	2:G:222:ALA:HB3	1.46	0.94
3:H:70:LEU:HD21	3:H:115:MET:HB2	1.47	0.94
3:H:104:LEU:HA	3:H:107:LEU:HD12	1.49	0.93
4:I:1:UNK:H	4:I:4:UNK:CB	1.80	0.93
4:D:1:UNK:H	4:D:4:UNK:CB	1.80	0.93
1:A:159:SER:HA	1:A:189:TYR:HD1	1.32	0.93
4:I:1:UNK:N	4:I:4:UNK:CB	2.32	0.92
4:D:1:UNK:N	4:D:4:UNK:CB	2.32	0.92
2:G:95:VAL:HG23	2:G:96:PRO:HD3	1.51	0.92
3:C:169:LEU:HD23	3:C:174:ARG:HA	1.52	0.91
1:F:55:LYS:NZ	1:F:551:ASN:HA	1.85	0.91
1:A:308:LYS:HZ2	1:A:372:GLN:H	1.08	0.91
1:F:308:LYS:NZ	1:F:372:GLN:H	1.67	0.91
3:C:30:TRP:HH2	4:D:79:UNK:HA	1.32	0.91
2:G:162:TYR:HA	2:G:194:HIS:CD2	2.06	0.91
1:F:234:CYS:SG	1:F:320:THR:HG22	2.11	0.90
2:G:97:ILE:O	2:G:101:ILE:HG13	1.71	0.90
1:A:424:ILE:HG21	6:A:1001:HEM:HAC	1.54	0.90
1:F:424:ILE:HG21	6:F:1001:HEM:HAC	1.54	0.90
1:F:399:VAL:HG11	7:F:1002:HEO:H252	1.54	0.90
2:B:162:TYR:HA	2:B:194:HIS:CD2	2.07	0.89
3:C:109:GLY:O	3:C:113:ILE:HD13	1.73	0.89
1:A:55:LYS:HZ1	1:A:551:ASN:HA	1.32	0.89
7:F:1002:HEO:H201	2:G:56:ILE:HG21	1.53	0.89
3:H:40:PHE:CD1	3:H:190:VAL:HG11	2.08	0.89
1:A:374:ARG:HB3	2:B:79:SER:HB3	1.53	0.89
3:C:40:PHE:CD1	3:C:190:VAL:HG11	2.08	0.88
1:A:214:LYS:NZ	3:C:24:THR:HA	1.88	0.88
2:G:244:THR:CB	2:G:268:ASN:HB3	2.03	0.88
2:B:244:THR:CB	2:B:268:ASN:HB3	2.03	0.88
3:H:169:LEU:HD23	3:H:174:ARG:HA	1.55	0.88
3:C:160:LEU:HD13	3:C:176:ARG:HD3	1.53	0.88
1:A:237:VAL:HA	1:A:240:ILE:HD12	1.54	0.87
3:C:104:LEU:HA	3:C:107:LEU:HD12	1.54	0.87
1:F:159:SER:HA	1:F:189:TYR:HD1	1.37	0.87
1:A:174:PRO:HB2	1:A:175:PRO:HD3	1.56	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:88:ILE:HA	3:H:98:VAL:HG22	1.56	0.87
1:A:515:GLN:HG3	1:A:516:MET:N	1.89	0.87
2:B:147:ILE:CG2	2:B:239:LYS:HE3	2.04	0.87
3:H:160:LEU:HD13	3:H:176:ARG:HD3	1.53	0.87
2:B:100:ILE:O	2:B:101:ILE:HG13	1.73	0.87
3:C:88:ILE:HA	3:C:98:VAL:HG22	1.56	0.87
1:A:178:GLY:HA2	1:A:257:ARG:HG2	1.57	0.87
1:F:225:MET:HE1	1:F:233:LEU:HD11	1.56	0.86
3:H:88:ILE:HG12	3:H:98:VAL:HG13	1.57	0.86
1:A:205:GLY:HA2	1:A:236:ASN:OD1	1.76	0.86
1:A:108:VAL:HG22	1:A:170:TRP:HA	1.57	0.86
1:F:395:GLY:HA3	7:F:1002:HEO:H162	1.57	0.86
1:F:205:GLY:HA2	1:F:236:ASN:OD1	1.76	0.86
1:F:515:GLN:HG3	1:F:516:MET:N	1.90	0.86
1:A:331:TRP:CZ2	4:D:97:UNK:CB	2.59	0.85
1:F:237:VAL:HA	1:F:240:ILE:HD12	1.57	0.85
1:F:108:VAL:HG22	1:F:170:TRP:HA	1.58	0.85
1:A:225:MET:HE1	1:A:233:LEU:HD11	1.56	0.85
1:F:178:GLY:HA2	1:F:257:ARG:HG2	1.58	0.85
1:A:159:SER:HA	1:A:189:TYR:CD1	2.12	0.85
1:A:248:VAL:HG22	3:C:39:LEU:HD12	1.59	0.85
2:G:264:GLU:HG2	2:G:265:TYR:H	1.41	0.85
1:A:301:ILE:HD11	1:A:435:GLY:HA2	1.58	0.85
1:A:55:LYS:HZ3	1:A:551:ASN:HA	1.05	0.84
1:A:216:ARG:NH1	1:A:222:MET:HA	1.92	0.84
1:A:55:LYS:NZ	1:A:551:ASN:CA	2.36	0.84
3:C:45:ALA:O	3:C:49:VAL:HG23	1.76	0.84
1:F:174:PRO:CB	1:F:175:PRO:HD3	2.07	0.84
2:G:147:ILE:CG2	2:G:239:LYS:HE3	2.06	0.84
1:A:98:HIS:O	1:A:102:ILE:HG13	1.78	0.83
2:B:126:PRO:HB3	2:B:160:PRO:HB2	1.60	0.83
1:F:168:THR:HB	1:F:172:ALA:HA	1.60	0.83
2:B:195:LEU:HD23	2:B:196:ILE:N	1.93	0.83
1:A:306:SER:HA	1:A:375:ILE:HA	1.59	0.83
2:B:264:GLU:HG2	2:B:265:TYR:H	1.43	0.83
1:F:157:ASN:HA	1:F:160:LEU:HD12	1.58	0.83
1:F:195:GLN:HE22	1:F:247:THR:CG2	1.91	0.83
1:F:301:ILE:HD11	1:F:435:GLY:HA2	1.58	0.83
2:B:93:TRP:O	2:B:96:PRO:HD2	1.79	0.83
1:F:306:SER:HA	1:F:375:ILE:HA	1.59	0.83
2:G:142:TYR:HB3	2:G:145:GLN:HB2	1.60	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:376:VAL:O	1:A:381:MET:HG2	1.79	0.83
1:F:357:ILE:HD11	2:G:100:ILE:HD12	1.59	0.82
1:F:137:ALA:O	1:F:139:PRO:HD3	1.78	0.82
1:A:69:LEU:HG	1:A:114:VAL:HG11	1.61	0.82
1:A:195:GLN:HE22	1:A:247:THR:CG2	1.91	0.82
2:G:195:LEU:HD23	2:G:196:ILE:N	1.94	0.82
1:A:157:ASN:HA	1:A:160:LEU:HD12	1.58	0.82
1:A:228:PHE:HA	1:A:296:GLY:HA3	1.61	0.82
3:H:156:TRP:NE1	3:H:180:LEU:HD22	1.94	0.82
3:H:72:GLU:OE1	3:H:75:LEU:HD23	1.80	0.82
2:B:41:ARG:H	2:B:41:ARG:HD2	1.42	0.82
3:H:45:ALA:O	3:H:49:VAL:HG23	1.79	0.82
1:F:232:SER:O	1:F:236:ASN:HB2	1.80	0.82
2:B:142:TYR:HB3	2:B:145:GLN:HB2	1.60	0.82
3:H:159:VAL:O	3:H:162:VAL:HG12	1.79	0.82
1:F:55:LYS:HZ3	1:F:551:ASN:HA	1.43	0.82
2:B:90:ALA:HA	2:B:93:TRP:HB2	1.62	0.81
1:F:159:SER:HA	1:F:189:TYR:CD1	2.15	0.81
1:F:216:ARG:NH1	1:F:222:MET:HA	1.95	0.81
1:F:228:PHE:HA	1:F:296:GLY:HA3	1.62	0.81
3:H:90:MET:CE	4:I:67:UNK:CB	2.58	0.81
1:F:170:TRP:CZ2	1:F:171:LEU:HD21	2.15	0.81
1:F:373:GLY:HA2	2:G:71:ALA:CB	2.10	0.81
3:C:96:SER:HA	3:C:99:ILE:HD13	1.60	0.81
1:A:234:CYS:SG	1:A:320:THR:HG22	2.21	0.81
1:F:353:MET:HG2	1:F:402:ALA:HB1	1.62	0.81
1:A:395:GLY:HA3	7:A:1002:HEO:H162	1.63	0.81
1:A:480:THR:O	1:A:483:LEU:HG	1.81	0.81
2:G:90:ALA:HA	2:G:93:TRP:HB2	1.64	0.80
2:B:192:ARG:NH1	2:B:192:ARG:HB2	1.96	0.80
1:F:69:LEU:HG	1:F:114:VAL:HG11	1.63	0.80
1:F:357:ILE:CD1	2:G:100:ILE:HD12	2.11	0.80
1:A:175:PRO:O	1:A:179:ILE:HD12	1.81	0.80
1:A:232:SER:O	1:A:236:ASN:HB2	1.81	0.80
1:F:276:ILE:HD13	1:F:338:MET:SD	2.21	0.80
2:G:41:ARG:H	2:G:41:ARG:HD2	1.44	0.80
1:F:357:ILE:CG1	2:G:100:ILE:HD12	2.11	0.80
2:G:192:ARG:NH1	2:G:192:ARG:HB2	1.96	0.80
3:H:189:VAL:O	3:H:192:ILE:HG22	1.81	0.80
3:H:78:PHE:CE1	4:I:57:UNK:CB	2.65	0.80
1:F:249:THR:HG23	1:F:278:LEU:HD12	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:331:TRP:HZ2	4:I:97:UNK:CB	1.95	0.80
3:H:96:SER:HA	3:H:99:ILE:HD13	1.62	0.80
2:G:126:PRO:HB3	2:G:160:PRO:HB2	1.64	0.80
3:C:159:VAL:O	3:C:162:VAL:HG12	1.82	0.79
3:C:185:HIS:CE1	4:D:61:UNK:CB	2.64	0.79
1:F:98:HIS:O	1:F:102:ILE:HG13	1.82	0.79
2:G:254:LEU:O	2:G:254:LEU:HD13	1.82	0.79
1:A:399:VAL:HG11	7:A:1002:HEO:H252	1.65	0.79
1:F:104:THR:O	1:F:108:VAL:HG23	1.82	0.79
3:H:75:LEU:HD21	4:I:21:UNK:CB	2.13	0.79
2:B:95:VAL:CG2	2:B:96:PRO:HD3	2.09	0.79
2:G:36:ILE:HD11	2:G:38:LEU:HB2	1.64	0.79
1:A:126:VAL:HG11	1:A:439:TRP:CZ2	2.16	0.78
1:A:452:TRP:HA	1:A:455:ARG:HD2	1.64	0.78
2:G:217:GLY:HA3	2:G:260:TYR:CZ	2.18	0.78
1:A:104:THR:O	1:A:108:VAL:HG23	1.82	0.78
2:B:36:ILE:HD11	2:B:38:LEU:HB2	1.64	0.78
1:A:249:THR:HG23	1:A:278:LEU:HD12	1.63	0.78
3:C:89:ALA:CB	3:C:174:ARG:HD2	2.13	0.78
3:H:89:ALA:CB	3:H:174:ARG:HD2	2.14	0.78
1:A:159:SER:HB2	1:A:165:PHE:HD1	1.47	0.78
1:A:353:MET:HG2	1:A:402:ALA:HB1	1.64	0.78
1:F:214:LYS:HE3	3:H:24:THR:HG23	1.66	0.78
3:H:174:ARG:HB3	3:H:177:ILE:HD11	1.66	0.78
2:B:217:GLY:HA3	2:B:260:TYR:CZ	2.18	0.78
3:C:72:GLU:OE1	3:C:75:LEU:HD23	1.84	0.78
2:G:270:LYS:HE3	2:G:276:ASP:OD1	1.83	0.78
3:H:91:TYR:OH	4:I:7:UNK:HA	1.83	0.78
3:C:30:TRP:CH2	4:D:79:UNK:O	2.36	0.78
1:F:214:LYS:NZ	3:H:24:THR:HA	1.99	0.78
1:A:137:ALA:O	1:A:139:PRO:HD3	1.82	0.77
1:A:441:PRO:HG3	1:A:447:LYS:HA	1.64	0.77
2:G:87:LYS:O	2:G:91:VAL:HG23	1.83	0.77
1:A:409:VAL:HG13	2:B:180:GLY:HA2	1.66	0.77
1:A:206:ILE:HG23	3:C:31:ILE:CG2	2.14	0.77
3:H:156:TRP:HE1	3:H:180:LEU:HD22	1.50	0.77
1:A:55:LYS:HZ3	1:A:551:ASN:CA	1.94	0.77
1:F:58:GLY:HA2	1:F:124:ASN:HD22	1.49	0.77
1:F:446:PHE:HZ	1:F:520:ILE:HG12	1.48	0.77
1:A:168:THR:HB	1:A:172:ALA:HA	1.65	0.77
1:A:316:LEU:HD23	1:A:361:VAL:HG12	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:165:VAL:HB	2:B:191:THR:OG1	1.84	0.77
1:A:214:LYS:HE3	3:C:24:THR:HG23	1.65	0.77
1:F:357:ILE:CG1	2:G:100:ILE:CD1	2.63	0.77
1:F:126:VAL:HG11	1:F:439:TRP:CZ2	2.18	0.77
1:F:409:VAL:HG13	2:G:180:GLY:HA2	1.65	0.77
1:A:339:GLY:O	4:D:104:UNK:CB	2.33	0.77
2:B:175:PHE:CD1	2:B:182:GLN:HB2	2.20	0.77
3:C:189:VAL:O	3:C:192:ILE:HG22	1.84	0.77
1:F:389:VAL:HG13	2:G:61:MET:HE1	1.65	0.77
1:A:446:PHE:HZ	1:A:520:ILE:HG12	1.48	0.77
1:F:159:SER:CA	1:F:189:TYR:HD1	1.97	0.77
2:B:87:LYS:O	2:B:91:VAL:HG23	1.84	0.76
1:F:480:THR:O	1:F:483:LEU:HG	1.85	0.76
1:F:110:MET:HB3	6:F:1001:HEM:HBC2	1.67	0.76
1:F:316:LEU:HD23	1:F:361:VAL:HG12	1.65	0.76
1:A:544:SER:O	1:A:547:PRO:HD3	1.85	0.76
3:C:85:MET:HE1	3:C:178:MET:HG3	1.65	0.76
1:A:58:GLY:HA2	1:A:124:ASN:HD22	1.49	0.76
1:A:389:VAL:HG13	2:B:61:MET:HE1	1.66	0.76
1:F:308:LYS:NZ	1:F:372:GLN:HB2	2.00	0.76
3:C:156:TRP:NE1	3:C:180:LEU:HD22	2.00	0.76
2:G:36:ILE:HG12	2:G:39:GLU:H	1.50	0.76
1:A:308:LYS:NZ	1:A:372:GLN:HB2	2.00	0.76
2:B:270:LYS:HE3	2:B:276:ASP:OD1	1.84	0.76
3:C:77:LEU:HD21	3:C:108:PHE:HB2	1.66	0.76
1:F:376:VAL:O	1:F:381:MET:HG2	1.85	0.76
1:F:400:LEU:HD22	2:G:50:LEU:HD21	1.68	0.76
3:H:77:LEU:HA	3:H:80:SER:HB3	1.67	0.76
1:F:57:LEU:HD23	1:F:60:MET:HG3	1.67	0.75
3:H:90:MET:HE1	4:I:67:UNK:C	2.15	0.75
1:F:110:MET:CB	6:F:1001:HEM:HBC2	2.16	0.75
2:B:67:TRP:C	2:B:69:TYR:H	1.89	0.75
1:F:452:TRP:HA	1:F:455:ARG:HD2	1.67	0.75
1:A:57:LEU:HD23	1:A:60:MET:HG3	1.67	0.75
3:C:30:TRP:CH2	4:D:79:UNK:C	2.69	0.75
2:G:67:TRP:C	2:G:69:TYR:H	1.89	0.75
1:A:214:LYS:CE	3:C:24:THR:HG23	2.16	0.75
2:G:175:PHE:CD1	2:G:182:GLN:HB2	2.22	0.75
3:H:50:LEU:HD11	3:H:134:GLY:HA3	1.68	0.75
3:H:90:MET:CE	4:I:67:UNK:C	2.65	0.75
1:F:246:LEU:HD22	1:F:282:TRP:CH2	2.22	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:159:SER:CA	1:A:189:TYR:HD1	1.98	0.74
1:A:112:PHE:HD2	1:A:194:LEU:HD22	1.51	0.74
2:G:138:TRP:HZ3	2:G:174:PHE:HD1	1.33	0.74
2:B:254:LEU:O	2:B:254:LEU:HD13	1.87	0.74
2:B:193:LEU:HD23	2:B:194:HIS:N	2.02	0.74
3:C:30:TRP:CH2	4:D:79:UNK:CB	2.69	0.74
3:C:197:VAL:O	3:C:201:MET:HB3	1.87	0.74
1:F:168:THR:HG23	1:F:176:LEU:HB3	1.68	0.74
2:G:173:SER:N	2:G:208:ALA:HB2	2.02	0.74
1:F:211:THR:HG23	1:F:215:MET:HE3	1.69	0.74
1:F:70:LEU:HD23	1:F:70:LEU:O	1.87	0.74
1:A:405:GLY:HA2	1:A:408:PHE:CD1	2.23	0.74
3:C:50:LEU:HD11	3:C:134:GLY:HA3	1.69	0.74
1:F:441:PRO:HG3	1:F:447:LYS:HA	1.67	0.74
3:H:99:ILE:N	3:H:99:ILE:HD12	2.03	0.74
1:A:110:MET:CB	6:A:1001:HEM:HBC2	2.17	0.74
2:B:175:PHE:HA	2:B:181:SER:O	1.87	0.74
2:G:161:VAL:HG23	2:G:195:LEU:O	1.87	0.74
2:B:184:TYR:CE2	2:B:186:MET:HB2	2.23	0.74
2:G:162:TYR:HA	2:G:194:HIS:HD2	1.50	0.74
2:B:36:ILE:HG12	2:B:39:GLU:H	1.52	0.73
3:H:30:TRP:CH2	4:I:79:UNK:HA	2.23	0.73
1:A:331:TRP:HZ2	4:D:97:UNK:CB	2.00	0.73
1:F:73:PHE:HB3	1:F:77:ILE:HD11	1.69	0.73
3:C:77:LEU:HA	3:C:80:SER:HB3	1.70	0.73
2:G:184:TYR:CE2	2:G:186:MET:HB2	2.23	0.73
2:G:193:LEU:HD23	2:G:194:HIS:N	2.02	0.73
2:G:95:VAL:CG2	2:G:96:PRO:HD2	2.15	0.73
1:A:246:LEU:HD22	1:A:282:TRP:CH2	2.24	0.73
2:B:138:TRP:HZ3	2:B:174:PHE:HD1	1.34	0.73
1:A:110:MET:HB3	6:A:1001:HEM:HBC2	1.70	0.73
1:A:397:THR:HB	1:A:419:HIS:HD1	1.54	0.73
1:F:112:PHE:HD2	1:F:194:LEU:HD22	1.52	0.73
3:H:40:PHE:HD1	3:H:190:VAL:HG11	1.50	0.73
3:C:174:ARG:HB3	3:C:177:ILE:HD11	1.71	0.73
1:F:405:GLY:HA2	1:F:408:PHE:CD1	2.23	0.73
2:G:175:PHE:HA	2:G:181:SER:O	1.88	0.73
3:H:78:PHE:HZ	4:I:57:UNK:CA	2.01	0.73
1:A:276:ILE:HD13	1:A:338:MET:SD	2.28	0.73
3:H:75:LEU:CD2	4:I:21:UNK:CB	2.66	0.73
1:A:349:GLY:O	1:A:353:MET:HG3	1.88	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:221:THR:HG23	1:A:224:LYS:HE3	1.71	0.73
2:B:54:VAL:HA	2:B:57:PRO:CG	2.19	0.73
3:H:197:VAL:O	3:H:201:MET:HB3	1.88	0.73
1:A:308:LYS:NZ	1:A:372:GLN:N	2.37	0.73
3:C:196:THR:HA	3:C:200:LEU:HD21	1.69	0.73
3:C:40:PHE:HD1	3:C:190:VAL:HG11	1.53	0.73
3:C:78:PHE:CE1	4:D:57:UNK:CB	2.72	0.73
1:A:111:ILE:HD12	1:A:170:TRP:CE3	2.24	0.72
1:A:482:ARG:NE	6:A:1001:HEM:O1D	2.22	0.72
3:C:197:VAL:HG13	3:C:198:VAL:N	2.04	0.72
2:G:132:VAL:HG12	2:G:134:MET:SD	2.29	0.72
2:G:54:VAL:HA	2:G:57:PRO:CG	2.19	0.72
3:C:30:TRP:HH2	4:D:79:UNK:CA	1.92	0.72
2:G:165:VAL:HB	2:G:191:THR:OG1	1.89	0.72
7:A:1002:HEO:C26	7:A:1002:HEO:H273	2.19	0.72
1:A:201:THR:O	1:A:239:ILE:HG21	1.89	0.72
3:C:144:GLY:O	3:C:148:LEU:HG	1.90	0.72
1:F:308:LYS:NZ	1:F:372:GLN:N	2.38	0.72
2:G:95:VAL:CG2	2:G:96:PRO:CD	2.63	0.72
1:A:174:PRO:CB	1:A:175:PRO:CD	2.65	0.72
2:B:173:SER:N	2:B:208:ALA:HB2	2.05	0.72
1:F:367:LEU:HD13	2:G:63:VAL:HG11	1.70	0.72
1:F:227:VAL:HG11	1:F:299:SER:OG	1.89	0.72
3:H:197:VAL:HG13	3:H:198:VAL:N	2.05	0.72
2:B:101:ILE:O	2:B:105:VAL:HG23	1.90	0.72
3:C:99:ILE:HD12	3:C:99:ILE:N	2.05	0.72
1:F:482:ARG:NE	6:F:1001:HEM:O1D	2.22	0.72
1:F:367:LEU:HA	1:F:370:MET:HE3	1.72	0.72
1:F:406:ALA:HB2	2:G:45:LEU:HD22	1.72	0.72
1:A:70:LEU:HD23	1:A:70:LEU:O	1.90	0.72
1:F:446:PHE:CZ	1:F:520:ILE:HG12	2.24	0.72
2:G:36:ILE:HG23	2:G:39:GLU:CD	2.10	0.72
1:A:214:LYS:HZ2	3:C:24:THR:HA	1.53	0.71
1:A:308:LYS:CE	1:A:372:GLN:HB2	2.20	0.71
1:F:58:GLY:CA	1:F:124:ASN:HD22	2.02	0.71
1:F:138:PHE:HZ	3:H:28:GLY:HA3	1.55	0.71
3:H:77:LEU:HD21	3:H:108:PHE:HB2	1.72	0.71
3:C:164:ILE:O	3:C:168:GLY:HA2	1.90	0.71
3:C:156:TRP:HE1	3:C:180:LEU:HD13	1.55	0.71
3:C:90:MET:HE2	4:D:68:UNK:N	2.04	0.71
7:F:1002:HEO:C26	7:F:1002:HEO:H273	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:308:LYS:HZ2	1:F:372:GLN:N	1.87	0.71
1:F:308:LYS:CE	1:F:372:GLN:HB2	2.21	0.71
2:B:161:VAL:HG23	2:B:195:LEU:O	1.90	0.71
2:G:246:SER:OG	2:G:268:ASN:ND2	2.24	0.71
3:H:78:PHE:CE2	3:H:185:HIS:HE1	2.08	0.71
3:H:30:TRP:CZ2	4:I:79:UNK:O	2.43	0.71
1:A:58:GLY:CA	1:A:124:ASN:HD22	2.03	0.71
1:F:201:THR:O	1:F:239:ILE:HG21	1.90	0.71
3:H:196:THR:HA	3:H:200:LEU:HD21	1.73	0.71
2:B:235:VAL:O	2:B:239:LYS:HG2	1.90	0.71
1:F:292:LEU:HB2	1:F:293:PRO:HD3	1.73	0.71
1:F:159:SER:HB2	1:F:165:PHE:HD1	1.56	0.71
2:G:97:ILE:O	2:G:101:ILE:CG1	2.39	0.71
2:G:235:VAL:O	2:G:239:LYS:HG2	1.90	0.71
1:A:447:LYS:HG3	1:A:448:LEU:H	1.55	0.71
2:B:139:PHE:CE1	2:B:148:ALA:HB1	2.26	0.71
1:F:397:THR:HB	1:F:419:HIS:HD1	1.56	0.71
2:G:203:TYR:O	2:G:221:LYS:HA	1.91	0.71
1:A:168:THR:HG23	1:A:176:LEU:HB3	1.72	0.70
1:A:292:LEU:HB2	1:A:293:PRO:HD3	1.73	0.70
1:A:227:VAL:HG12	1:A:296:GLY:HA2	1.73	0.70
2:B:147:ILE:HD13	2:B:235:VAL:HA	1.73	0.70
1:F:221:THR:HG23	1:F:224:LYS:HE3	1.73	0.70
1:F:481:ARG:HG2	1:F:482:ARG:HG3	1.72	0.70
3:H:156:TRP:HE1	3:H:180:LEU:HD13	1.56	0.70
1:A:73:PHE:HB3	1:A:77:ILE:HD11	1.73	0.70
2:B:203:TYR:O	2:B:221:LYS:HA	1.91	0.70
1:A:446:PHE:CZ	1:A:520:ILE:HG12	2.25	0.70
1:F:276:ILE:HG22	1:F:335:PHE:CZ	2.27	0.70
2:G:147:ILE:HD13	2:G:235:VAL:HA	1.74	0.70
2:B:45:LEU:HD12	2:B:110:THR:HG21	1.74	0.70
3:H:158:ALA:O	3:H:161:MET:HB3	1.91	0.70
1:A:276:ILE:HG22	1:A:335:PHE:CZ	2.27	0.70
2:B:148:ALA:HB3	2:B:266:PHE:CB	2.07	0.70
3:C:78:PHE:HZ	4:D:57:UNK:CA	2.05	0.70
2:G:125:LYS:H	2:G:126:PRO:CD	2.03	0.70
1:A:227:VAL:HG11	1:A:299:SER:OG	1.91	0.70
1:A:414:LEU:HD12	1:A:471:LEU:HB3	1.74	0.70
2:B:36:ILE:HG23	2:B:39:GLU:CD	2.12	0.70
3:C:158:ALA:O	3:C:161:MET:HB3	1.91	0.70
1:F:225:MET:HE1	1:F:233:LEU:CD1	2.22	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:257:ARG:HH11	1:F:257:ARG:CB	2.04	0.70
3:C:30:TRP:CZ2	4:D:79:UNK:O	2.45	0.69
1:F:414:LEU:HD12	1:F:471:LEU:HB3	1.74	0.69
2:G:45:LEU:HD12	2:G:110:THR:HG21	1.74	0.69
1:A:227:VAL:HG21	1:A:310:LEU:HD22	1.74	0.69
2:B:162:TYR:HA	2:B:194:HIS:HD2	1.53	0.69
3:C:156:TRP:HE1	3:C:180:LEU:HD22	1.56	0.69
1:F:239:ILE:CG1	1:F:289:ILE:HD13	2.22	0.69
1:A:551:ASN:O	1:A:552:PHE:C	2.30	0.69
2:B:125:LYS:H	2:B:126:PRO:CD	2.03	0.69
1:F:313:TYR:O	1:F:317:VAL:HG23	1.93	0.69
1:A:62:ILE:H	1:A:62:ILE:HD12	1.57	0.69
1:F:329:ILE:O	1:F:330:VAL:HG13	1.91	0.69
1:A:220:MET:HG3	1:A:224:LYS:HB2	1.75	0.69
1:A:382:LEU:HD23	1:A:385:ILE:HD12	1.74	0.69
1:F:227:VAL:HG12	1:F:296:GLY:HA2	1.75	0.69
1:F:227:VAL:HG21	1:F:310:LEU:HD22	1.74	0.69
1:F:239:ILE:HG13	1:F:289:ILE:HD13	1.74	0.69
2:G:148:ALA:HB3	2:G:266:PHE:CB	2.08	0.69
3:H:144:GLY:O	3:H:148:LEU:HG	1.93	0.69
2:B:90:ALA:CA	2:B:93:TRP:HB2	2.22	0.69
3:C:77:LEU:HD13	3:C:184:TRP:HZ2	1.56	0.69
1:F:62:ILE:HD12	1:F:62:ILE:H	1.57	0.69
2:B:205:GLY:HA3	2:B:220:PHE:CE1	2.28	0.69
3:H:90:MET:HE2	4:I:68:UNK:N	2.08	0.69
1:A:332:LEU:HB2	1:A:348:PHE:CB	2.23	0.69
1:A:209:PHE:HE2	3:C:31:ILE:CD1	2.06	0.69
3:C:86:ALA:HB1	3:C:91:TYR:CG	2.28	0.69
1:A:257:ARG:HH11	1:A:257:ARG:CB	2.05	0.69
1:F:440:TRP:HE1	1:F:446:PHE:HE1	1.41	0.69
2:G:139:PHE:CE1	2:G:148:ALA:HB1	2.28	0.69
3:H:164:ILE:O	3:H:168:GLY:HA2	1.93	0.69
3:H:98:VAL:C	3:H:99:ILE:HD12	2.13	0.69
4:I:66:UNK:O	4:I:67:UNK:C	2.41	0.69
1:A:211:THR:HG23	1:A:215:MET:HE3	1.74	0.68
2:B:199:GLU:OE2	2:B:200:PRO:HD2	1.92	0.68
4:D:66:UNK:O	4:D:67:UNK:C	2.41	0.68
1:F:220:MET:HG3	1:F:224:LYS:HB2	1.75	0.68
1:F:227:VAL:HG11	1:F:299:SER:CB	2.23	0.68
2:G:90:ALA:CA	2:G:93:TRP:HB2	2.22	0.68
1:A:239:ILE:CG1	1:A:289:ILE:HD13	2.23	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:152:GLY:O	1:A:156:VAL:HG23	1.94	0.68
1:F:175:PRO:O	1:F:179:ILE:HD12	1.94	0.68
1:F:349:GLY:O	1:F:353:MET:HG3	1.94	0.68
1:F:447:LYS:HG3	1:F:448:LEU:H	1.57	0.68
1:F:543:THR:HG22	1:F:544:SER:N	2.08	0.68
1:F:551:ASN:O	1:F:552:PHE:HB2	1.93	0.68
3:H:104:LEU:O	3:H:107:LEU:HB2	1.93	0.68
1:A:481:ARG:HG2	1:A:482:ARG:HG3	1.75	0.68
1:A:403:VAL:HG13	2:B:107:THR:HG23	1.74	0.68
2:G:140:PHE:HB2	2:G:149:THR:OG1	1.94	0.68
1:A:400:LEU:HD22	2:B:50:LEU:HD21	1.75	0.68
1:F:111:ILE:HD11	6:F:1001:HEM:CMD	2.24	0.68
2:G:199:GLU:OE2	2:G:200:PRO:HD2	1.92	0.68
2:G:205:GLY:HA3	2:G:220:PHE:CE1	2.29	0.68
1:A:252:LEU:HD22	1:A:263:PHE:CZ	2.28	0.68
1:F:152:GLY:O	1:F:156:VAL:HG23	1.94	0.68
1:F:174:PRO:CB	1:F:175:PRO:CD	2.72	0.68
1:A:154:ILE:O	1:A:158:VAL:HG23	1.93	0.67
7:A:1002:HEO:H262	7:A:1002:HEO:H273	1.76	0.67
1:A:332:LEU:HB2	1:A:348:PHE:HB3	1.76	0.67
1:F:382:LEU:HD23	1:F:385:ILE:HD12	1.75	0.67
2:G:204:ASP:HA	2:G:220:PHE:O	1.94	0.67
1:F:175:PRO:O	2:G:170:VAL:HG12	1.95	0.67
2:G:50:LEU:O	2:G:54:VAL:HG13	1.94	0.67
2:B:246:SER:OG	2:B:268:ASN:ND2	2.28	0.67
3:H:77:LEU:HD13	3:H:184:TRP:HZ2	1.58	0.67
1:A:225:MET:HE1	1:A:233:LEU:CD1	2.25	0.67
2:B:175:PHE:HB2	2:B:182:GLN:HG3	1.77	0.67
2:B:204:ASP:HA	2:B:220:PHE:O	1.94	0.67
7:A:1002:HEO:H241	2:B:100:ILE:HG12	1.77	0.67
1:A:58:GLY:HA3	1:A:125:LEU:HB2	1.77	0.67
1:A:220:MET:HA	1:A:224:LYS:HD2	1.75	0.67
1:A:227:VAL:HG11	1:A:299:SER:CB	2.24	0.67
1:A:329:ILE:O	1:A:330:VAL:HG13	1.93	0.67
1:F:174:PRO:HB3	1:F:175:PRO:HD3	1.77	0.67
1:F:257:ARG:HB3	1:F:257:ARG:HH11	1.57	0.67
1:F:373:GLY:CA	2:G:71:ALA:HB1	2.21	0.67
1:A:284:HIS:HB3	1:A:285:PRO:HD3	1.76	0.67
1:A:112:PHE:HE1	1:A:286:GLU:OE2	1.78	0.67
3:C:94:ASN:HB2	3:C:97:GLN:NE2	2.10	0.67
1:F:255:LEU:HD23	1:F:259:LEU:HD12	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:252:LEU:HD22	1:F:263:PHE:CZ	2.29	0.67
1:A:355:ILE:C	1:A:358:PRO:HD2	2.15	0.67
2:G:203:TYR:O	2:G:221:LYS:HG3	1.95	0.67
2:B:140:PHE:HB2	2:B:149:THR:OG1	1.95	0.67
2:G:141:ILE:HD13	2:G:273:LEU:HB3	1.76	0.67
4:I:70:UNK:O	4:I:71:UNK:CB	2.42	0.67
1:A:117:PRO:O	1:A:121:GLY:N	2.28	0.66
1:F:390:THR:O	1:F:393:VAL:HB	1.94	0.66
3:H:160:LEU:HD22	3:H:176:ARG:NH1	2.10	0.66
1:A:214:LYS:HZ1	3:C:24:THR:HA	1.61	0.66
1:F:58:GLY:HA3	1:F:125:LEU:HB2	1.77	0.66
3:H:84:GLY:O	3:H:88:ILE:HG13	1.94	0.66
1:F:316:LEU:HG	1:F:365:ASN:HD22	1.60	0.66
7:F:1002:HEO:H262	7:F:1002:HEO:H273	1.77	0.66
2:G:175:PHE:HB2	2:G:182:GLN:HG3	1.78	0.66
4:I:1:UNK:O	4:I:2:UNK:C	2.41	0.66
1:A:313:TYR:O	1:A:317:VAL:HG23	1.96	0.66
1:A:390:THR:O	1:A:393:VAL:HB	1.94	0.66
1:F:220:MET:HA	1:F:224:LYS:HD2	1.76	0.66
3:H:85:MET:O	3:H:88:ILE:HB	1.96	0.66
1:A:170:TRP:CZ2	1:A:171:LEU:HD21	2.29	0.66
1:A:410:LEU:O	1:A:413:SER:HB3	1.95	0.66
3:C:134:GLY:HA2	3:C:137:SER:HB3	1.78	0.66
4:D:70:UNK:O	4:D:71:UNK:CB	2.42	0.66
1:F:125:LEU:O	1:F:125:LEU:HD23	1.96	0.66
1:F:112:PHE:HE1	1:F:286:GLU:OE2	1.79	0.66
1:F:332:LEU:HB2	1:F:348:PHE:CB	2.25	0.66
2:G:98:LEU:HA	2:G:101:ILE:HD12	1.77	0.66
2:G:171:MET:HG3	2:G:210:TYR:CE2	2.31	0.66
3:H:30:TRP:HZ2	4:I:79:UNK:O	1.77	0.66
2:B:150:VAL:HG12	2:B:151:ASN:HD22	1.60	0.66
1:F:339:GLY:O	4:I:104:UNK:CB	2.43	0.66
1:F:80:ARG:O	1:F:80:ARG:HG3	1.95	0.66
2:B:50:LEU:O	2:B:54:VAL:HG13	1.96	0.66
1:F:117:PRO:O	1:F:121:GLY:N	2.29	0.66
1:F:367:LEU:HA	1:F:370:MET:CE	2.26	0.66
2:G:131:VAL:HB	2:G:165:VAL:HG13	1.78	0.66
2:B:128:THR:HA	2:B:162:TYR:HB2	1.78	0.65
3:C:90:MET:CE	4:D:68:UNK:N	2.58	0.65
4:D:1:UNK:O	4:D:2:UNK:C	2.41	0.65
1:F:346:ALA:HB1	1:F:350:ILE:CD1	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:69:LEU:HD22	1:F:73:PHE:CD1	2.31	0.65
1:F:187:VAL:O	1:F:191:ILE:HG13	1.96	0.65
2:G:36:ILE:CG1	2:G:39:GLU:H	2.09	0.65
1:A:257:ARG:HH11	1:A:257:ARG:HB3	1.59	0.65
2:B:131:VAL:HB	2:B:165:VAL:HG13	1.79	0.65
1:F:257:ARG:HB3	1:F:257:ARG:NH1	2.10	0.65
1:F:54:HIS:CD2	1:F:128:PRO:HG2	2.31	0.65
3:H:193:CYS:O	3:H:196:THR:N	2.29	0.65
1:A:314:THR:O	1:A:317:VAL:HB	1.96	0.65
1:F:69:LEU:HD13	1:F:73:PHE:HE1	1.62	0.65
2:B:132:VAL:HG12	2:B:134:MET:SD	2.36	0.65
1:F:332:LEU:HB2	1:F:348:PHE:HB3	1.79	0.65
1:F:284:HIS:HB3	1:F:285:PRO:HD3	1.78	0.65
2:G:41:ARG:N	2:G:41:ARG:HH11	1.94	0.65
3:H:25:LYS:O	3:H:29:PHE:HB3	1.97	0.65
1:A:277:ASN:HA	1:A:335:PHE:HZ	1.62	0.65
3:C:160:LEU:HD22	3:C:176:ARG:NH1	2.12	0.65
2:G:128:THR:HA	2:G:162:TYR:HB2	1.79	0.65
1:A:203:LEU:HA	1:A:206:ILE:HD12	1.77	0.65
1:A:69:LEU:HG	1:A:114:VAL:CG1	2.27	0.65
3:H:94:ASN:HB2	3:H:97:GLN:NE2	2.12	0.65
1:F:316:LEU:HG	1:F:365:ASN:ND2	2.12	0.65
1:F:367:LEU:HD23	1:F:370:MET:CE	2.27	0.65
1:A:121:GLY:O	1:A:124:ASN:HB3	1.97	0.64
1:A:239:ILE:HG13	1:A:289:ILE:HD13	1.78	0.64
1:A:257:ARG:NH1	1:A:257:ARG:HB3	2.11	0.64
3:H:91:TYR:OH	4:I:6:UNK:C	2.45	0.64
1:A:332:LEU:H	1:A:348:PHE:HD2	1.44	0.64
1:A:513:VAL:HA	1:A:516:MET:CE	2.27	0.64
1:F:355:ILE:C	1:F:358:PRO:HD2	2.17	0.64
1:F:174:PRO:C	1:F:176:LEU:H	1.99	0.64
1:A:159:SER:OG	1:A:189:TYR:CB	2.46	0.64
1:A:159:SER:OG	1:A:189:TYR:HB3	1.97	0.64
1:A:513:VAL:HA	1:A:516:MET:HE2	1.80	0.64
3:C:98:VAL:C	3:C:99:ILE:HD12	2.18	0.64
1:F:264:PHE:CE1	1:F:275:TYR:HB2	2.33	0.64
3:H:86:ALA:HA	3:H:90:MET:HB2	1.78	0.64
1:A:481:ARG:HG2	1:A:482:ARG:N	2.12	0.64
3:C:74:PHE:HB2	3:C:112:PHE:CD1	2.31	0.64
3:C:94:ASN:HB2	3:C:97:GLN:HE21	1.62	0.64
1:F:154:ILE:O	1:F:158:VAL:HG23	1.96	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:216:ARG:HH12	1:F:221:THR:C	2.01	0.64
3:H:26:ILE:HD11	3:H:175:THR:HG23	1.79	0.64
1:A:111:ILE:HD11	6:A:1001:HEM:CMD	2.28	0.64
1:A:138:PHE:HB2	1:A:207:ASN:ND2	2.12	0.64
1:A:255:LEU:HD23	1:A:259:LEU:HD12	1.80	0.64
3:C:70:LEU:CD2	3:C:115:MET:HB2	2.22	0.64
2:G:67:TRP:C	2:G:69:TYR:N	2.50	0.64
1:A:367:LEU:HA	1:A:370:MET:CE	2.27	0.64
2:B:41:ARG:N	2:B:41:ARG:HH11	1.95	0.64
3:C:192:ILE:HG23	3:C:192:ILE:O	1.97	0.64
3:H:134:GLY:HA2	3:H:137:SER:HB3	1.80	0.64
3:H:88:ILE:HA	3:H:98:VAL:CG2	2.27	0.64
3:C:185:HIS:O	3:C:189:VAL:HG23	1.98	0.64
1:F:541:TRP:CE3	1:F:541:TRP:HA	2.33	0.64
1:A:543:THR:HG22	1:A:544:SER:N	2.12	0.64
1:A:54:HIS:CD2	1:A:128:PRO:HG2	2.32	0.64
1:F:69:LEU:HD22	1:F:73:PHE:CE1	2.33	0.64
3:H:90:MET:HE2	4:I:67:UNK:CB	2.26	0.64
1:A:216:ARG:HH12	1:A:221:THR:C	2.01	0.64
2:B:159:THR:HG21	2:B:228:ARG:HH21	1.63	0.64
3:C:88:ILE:HA	3:C:98:VAL:CG2	2.27	0.64
1:F:374:ARG:HB3	2:G:79:SER:HB3	1.78	0.64
1:F:111:ILE:HD12	1:F:170:TRP:CE3	2.33	0.63
1:F:316:LEU:HD21	1:F:365:ASN:HB2	1.80	0.63
1:A:460:TRP:CH2	1:A:509:ILE:HD11	2.33	0.63
3:C:143:VAL:O	3:C:147:GLY:N	2.31	0.63
1:F:406:ALA:HB2	2:G:45:LEU:CD2	2.28	0.63
1:F:513:VAL:HA	1:F:516:MET:HE2	1.81	0.63
1:F:214:LYS:HZ1	3:H:24:THR:HA	1.63	0.63
2:B:95:VAL:HG23	2:B:96:PRO:CD	2.18	0.63
1:A:437:THR:HA	1:A:448:LEU:HD12	1.78	0.63
1:A:96:PRO:O	1:A:97:HIS:C	2.35	0.63
3:C:193:CYS:O	3:C:196:THR:N	2.31	0.63
1:F:255:LEU:CD2	1:F:259:LEU:HD12	2.29	0.63
3:H:185:HIS:O	3:H:189:VAL:HG23	1.99	0.63
1:A:262:HIS:HB3	1:A:265:THR:HB	1.80	0.63
2:B:54:VAL:HA	2:B:57:PRO:HG2	1.81	0.63
1:F:437:THR:HA	1:F:448:LEU:HD12	1.78	0.63
1:F:512:LEU:HD23	1:F:513:VAL:N	2.13	0.63
2:B:67:TRP:C	2:B:69:TYR:N	2.52	0.63
3:C:70:LEU:HA	3:C:115:MET:HE1	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:359:THR:HB	7:A:1002:HEO:H272	1.80	0.63
1:A:481:ARG:NH2	1:A:482:ARG:HH21	1.97	0.63
3:C:85:MET:CE	3:C:178:MET:HG3	2.28	0.63
3:C:30:TRP:HH2	4:D:79:UNK:C	2.07	0.63
1:F:262:HIS:HB3	1:F:265:THR:HB	1.80	0.63
1:F:314:THR:O	1:F:317:VAL:HB	1.99	0.63
2:G:264:GLU:HG2	2:G:265:TYR:N	2.12	0.63
1:A:277:ASN:HA	1:A:335:PHE:CZ	2.33	0.63
3:C:197:VAL:HG13	3:C:198:VAL:HG23	1.80	0.63
3:C:83:TYR:HE1	4:D:14:UNK:CB	2.11	0.63
1:F:121:GLY:O	1:F:124:ASN:HB3	1.99	0.63
1:F:277:ASN:HA	1:F:335:PHE:HZ	1.64	0.63
1:F:513:VAL:HA	1:F:516:MET:CE	2.28	0.63
1:A:336:PHE:HE2	1:A:404:PRO:HG3	1.63	0.62
1:A:541:TRP:CE3	1:A:541:TRP:HA	2.34	0.62
2:B:203:TYR:O	2:B:221:LYS:HG3	1.99	0.62
2:B:36:ILE:CG1	2:B:39:GLU:H	2.12	0.62
7:A:1002:HEO:H201	2:B:56:ILE:HG21	1.80	0.62
1:F:280:TRP:CE3	1:F:280:TRP:HA	2.34	0.62
1:F:57:LEU:HA	1:F:60:MET:CG	2.29	0.62
2:G:56:ILE:H	2:G:57:PRO:HD2	1.65	0.62
2:G:57:PRO:O	2:G:61:MET:N	2.26	0.62
2:G:59:ILE:O	2:G:63:VAL:HG23	1.98	0.62
3:H:160:LEU:O	3:H:164:ILE:HG13	1.99	0.62
1:A:174:PRO:C	1:A:176:LEU:H	2.00	0.62
1:A:248:VAL:CG2	3:C:39:LEU:HD12	2.27	0.62
2:B:56:ILE:H	2:B:57:PRO:HD2	1.65	0.62
3:C:160:LEU:O	3:C:164:ILE:HG13	1.99	0.62
3:C:197:VAL:CG1	3:C:198:VAL:N	2.62	0.62
2:G:184:TYR:HE2	2:G:186:MET:HB2	1.63	0.62
3:H:185:HIS:NE2	4:I:57:UNK:O	2.32	0.62
3:H:96:SER:C	3:H:98:VAL:H	2.01	0.62
1:A:407:ASP:OD2	1:A:411:HIS:HB2	1.99	0.62
1:F:359:THR:HB	7:F:1002:HEO:H272	1.80	0.62
1:F:203:LEU:HA	1:F:206:ILE:HD12	1.80	0.62
1:F:367:LEU:HD13	2:G:63:VAL:CG1	2.29	0.62
2:G:104:ALA:HA	2:G:107:THR:OG1	2.00	0.62
1:A:367:LEU:HD23	1:A:370:MET:CE	2.29	0.62
2:B:184:TYR:HE2	2:B:186:MET:HB2	1.64	0.62
1:F:469:MET:N	1:F:470:PRO:CD	2.62	0.62
1:F:481:ARG:HG2	1:F:482:ARG:N	2.14	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:466:VAL:C	1:F:501:GLY:HA3	2.20	0.62
2:G:108:TRP:HZ3	2:G:109:LYS:HE2	1.65	0.62
1:A:174:PRO:HB2	1:A:175:PRO:CD	2.28	0.62
1:A:346:ALA:HB1	1:A:350:ILE:CD1	2.30	0.62
1:A:487:ILE:HA	1:A:492:HIS:CE1	2.34	0.62
1:A:512:LEU:HD23	1:A:513:VAL:N	2.14	0.62
1:F:96:PRO:O	1:F:97:HIS:C	2.35	0.62
1:F:487:ILE:HA	1:F:492:HIS:CE1	2.35	0.62
1:F:54:HIS:CE1	1:F:55:LYS:HG3	2.35	0.62
2:G:147:ILE:CD1	2:G:235:VAL:HG13	2.29	0.62
1:A:551:ASN:C	1:A:552:PHE:O	2.38	0.62
2:B:59:ILE:O	2:B:63:VAL:HG23	1.99	0.62
3:C:148:LEU:HA	3:C:151:THR:OG1	1.98	0.62
3:C:74:PHE:CZ	3:C:187:LEU:HD22	2.34	0.62
1:F:79:MET:SD	1:F:102:ILE:HG22	2.39	0.62
1:F:138:PHE:HB2	1:F:207:ASN:ND2	2.14	0.62
1:F:330:VAL:O	1:F:333:HIS:ND1	2.32	0.62
2:G:149:THR:HG22	2:G:265:TYR:HE1	1.64	0.62
3:H:74:PHE:HA	3:H:77:LEU:HD12	1.82	0.62
1:A:255:LEU:CD2	1:A:259:LEU:HD12	2.30	0.62
2:B:136:TRP:CE3	2:B:259:GLU:HG2	2.35	0.62
1:F:123:MET:HA	1:F:127:VAL:HG23	1.80	0.62
1:F:159:SER:OG	1:F:189:TYR:HB3	2.00	0.62
1:F:277:ASN:HA	1:F:335:PHE:CZ	2.34	0.62
3:H:197:VAL:CG1	3:H:198:VAL:N	2.62	0.62
3:H:85:MET:N	3:H:88:ILE:HD12	2.14	0.62
1:F:331:TRP:CH2	4:I:97:UNK:CB	2.82	0.62
1:A:106:HIS:O	1:A:109:ILE:N	2.32	0.62
1:A:330:VAL:O	1:A:333:HIS:ND1	2.33	0.62
1:A:469:MET:N	1:A:470:PRO:CD	2.63	0.62
1:A:481:ARG:NH2	1:A:482:ARG:NH2	2.47	0.62
1:A:54:HIS:HD2	1:A:128:PRO:HG2	1.64	0.62
2:B:148:ALA:CB	2:B:266:PHE:HB2	2.08	0.62
1:F:481:ARG:NH2	1:F:482:ARG:HH21	1.98	0.62
3:C:66:LEU:N	3:C:67:PRO:HD2	2.14	0.61
1:F:457:PHE:CE2	1:F:461:ILE:HD11	2.35	0.61
1:A:367:LEU:HD13	2:B:63:VAL:HG11	1.82	0.61
1:A:55:LYS:HZ1	1:A:551:ASN:CA	2.03	0.61
1:A:57:LEU:HA	1:A:60:MET:CG	2.30	0.61
2:B:141:ILE:HD13	2:B:273:LEU:HB3	1.81	0.61
3:C:183:PHE:O	3:C:186:PHE:HB3	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:86:ALA:HA	3:C:90:MET:HB2	1.80	0.61
1:A:316:LEU:HG	1:A:365:ASN:ND2	2.16	0.61
1:A:390:THR:HG21	1:A:426:GLY:HA3	1.81	0.61
1:A:80:ARG:HG3	1:A:80:ARG:O	2.00	0.61
2:B:171:MET:HG3	2:B:210:TYR:CE2	2.35	0.61
1:F:106:HIS:O	1:F:109:ILE:N	2.33	0.61
1:F:457:PHE:CD2	1:F:461:ILE:HD11	2.35	0.61
3:H:66:LEU:N	3:H:67:PRO:HD2	2.14	0.61
3:C:96:SER:C	3:C:98:VAL:H	2.02	0.61
1:F:159:SER:OG	1:F:189:TYR:CB	2.48	0.61
1:F:54:HIS:NE2	1:F:55:LYS:HG3	2.15	0.61
1:F:57:LEU:HA	1:F:60:MET:HG3	1.82	0.61
1:A:252:LEU:HD13	1:A:263:PHE:CE2	2.36	0.61
2:B:264:GLU:HG2	2:B:265:TYR:N	2.15	0.61
1:F:119:VAL:HG22	1:F:123:MET:HE2	1.82	0.61
1:F:69:LEU:HG	1:F:114:VAL:CG1	2.30	0.61
3:H:70:LEU:CD2	3:H:115:MET:HB2	2.24	0.61
2:G:97:ILE:O	2:G:101:ILE:CD1	2.49	0.61
3:H:143:VAL:O	3:H:147:GLY:N	2.33	0.61
3:H:94:ASN:HB2	3:H:97:GLN:HE21	1.65	0.61
3:H:91:TYR:OH	4:I:7:UNK:CA	2.49	0.61
1:A:316:LEU:HD21	1:A:365:ASN:HB2	1.83	0.61
3:C:102:LEU:O	3:C:105:THR:HB	2.00	0.61
3:C:25:LYS:O	3:C:29:PHE:HB3	2.01	0.61
3:H:120:PHE:O	3:H:123:LEU:N	2.32	0.61
1:A:159:SER:HB2	1:A:165:PHE:CD1	2.34	0.61
1:F:333:HIS:HA	1:F:336:PHE:CE1	2.35	0.61
1:F:466:VAL:HB	1:F:501:GLY:HA2	1.83	0.61
2:G:136:TRP:CE3	2:G:259:GLU:HG2	2.36	0.61
1:F:373:GLY:HA2	2:G:71:ALA:CA	2.30	0.61
1:A:305:PHE:HE2	1:A:378:HIS:HB2	1.65	0.61
1:A:441:PRO:O	1:A:443:ALA:N	2.34	0.61
3:C:30:TRP:HH2	4:D:79:UNK:O	1.79	0.61
1:F:354:ILE:HA	2:G:100:ILE:HD13	1.82	0.61
1:F:316:LEU:HD21	1:F:365:ASN:CB	2.31	0.61
3:H:183:PHE:O	3:H:186:PHE:HB3	2.01	0.61
3:H:192:ILE:O	3:H:192:ILE:HG23	2.00	0.61
1:A:125:LEU:O	1:A:125:LEU:HD23	2.01	0.61
1:A:316:LEU:HG	1:A:365:ASN:HD22	1.66	0.61
1:A:333:HIS:HA	1:A:336:PHE:CE1	2.36	0.61
1:A:54:HIS:CE1	1:A:55:LYS:HG3	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:147:ILE:CD1	2:B:235:VAL:HG13	2.31	0.61
3:C:185:HIS:NE2	4:D:61:UNK:CB	2.64	0.61
1:F:131:ILE:HD12	1:F:216:ARG:HA	1.82	0.61
1:F:282:TRP:C	1:F:285:PRO:HD2	2.21	0.61
1:F:364:PHE:HA	1:F:367:LEU:HD12	1.83	0.61
1:A:131:ILE:HD12	1:A:216:ARG:HA	1.83	0.60
1:A:54:HIS:NE2	1:A:55:LYS:HG3	2.16	0.60
1:A:58:GLY:N	1:A:124:ASN:ND2	2.49	0.60
2:B:139:PHE:HE1	2:B:148:ALA:HB1	1.66	0.60
1:F:109:ILE:HG22	1:F:114:VAL:HG23	1.83	0.60
1:F:305:PHE:HE2	1:F:378:HIS:HB2	1.65	0.60
1:F:441:PRO:O	1:F:443:ALA:N	2.34	0.60
1:F:55:LYS:HZ1	1:F:551:ASN:HA	1.62	0.60
1:A:264:PHE:CE1	1:A:275:TYR:HB2	2.37	0.60
1:A:280:TRP:HA	1:A:280:TRP:CE3	2.36	0.60
1:A:450:GLU:OE2	1:A:454:LYS:HE3	2.01	0.60
2:B:127:ILE:HD12	2:B:127:ILE:H	1.67	0.60
2:B:137:LYS:NZ	2:B:261:ASN:HD21	1.99	0.60
3:C:85:MET:N	3:C:88:ILE:HD12	2.16	0.60
3:H:178:MET:SD	4:I:68:UNK:CB	2.89	0.60
1:A:187:VAL:O	1:A:191:ILE:HG13	2.01	0.60
2:B:228:ARG:HG3	2:B:231:PHE:HD2	1.67	0.60
2:G:36:ILE:N	2:G:39:GLU:OE2	2.29	0.60
1:A:440:TRP:HE1	1:A:446:PHE:HE1	1.50	0.60
2:B:57:PRO:O	2:B:61:MET:N	2.27	0.60
3:C:26:ILE:HG22	3:C:27:PHE:N	2.16	0.60
1:F:235:ALA:O	1:F:238:LEU:HB2	2.01	0.60
1:F:442:LYS:HD3	1:F:541:TRP:CZ3	2.37	0.60
2:G:39:GLU:O	2:G:43:LEU:N	2.33	0.60
3:H:197:VAL:HG13	3:H:198:VAL:HG23	1.82	0.60
3:H:74:PHE:CZ	3:H:187:LEU:HD22	2.36	0.60
2:B:53:ILE:O	2:B:57:PRO:HD2	2.01	0.60
3:C:134:GLY:HA2	3:C:137:SER:CB	2.32	0.60
1:F:252:LEU:HD13	1:F:263:PHE:CE2	2.37	0.60
1:F:54:HIS:HD2	1:F:128:PRO:HG2	1.64	0.60
2:G:54:VAL:HA	2:G:57:PRO:HG2	1.83	0.60
1:A:442:LYS:HD3	1:A:541:TRP:CZ3	2.37	0.60
1:A:466:VAL:C	1:A:501:GLY:HA3	2.22	0.60
1:F:336:PHE:HE2	1:F:404:PRO:HG3	1.66	0.60
1:A:205:GLY:O	1:A:240:ILE:HD11	2.02	0.60
1:A:457:PHE:CD2	1:A:461:ILE:HD11	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:38:ILE:HD13	4:D:90:UNK:CB	2.32	0.60
1:F:481:ARG:NH2	1:F:482:ARG:NH2	2.49	0.60
1:F:69:LEU:HD13	1:F:73:PHE:CE1	2.37	0.60
2:G:159:THR:HG21	2:G:228:ARG:HH21	1.66	0.60
2:G:148:ALA:CB	2:G:266:PHE:HB2	2.09	0.60
3:H:96:SER:O	3:H:98:VAL:N	2.35	0.60
1:A:57:LEU:HA	1:A:60:MET:HG3	1.83	0.60
1:F:457:PHE:O	1:F:461:ILE:HG13	2.00	0.60
1:F:514:ILE:O	1:F:518:VAL:HG23	2.00	0.60
2:G:150:VAL:HG12	2:G:151:ASN:HD22	1.65	0.60
2:G:228:ARG:HG3	2:G:231:PHE:HD2	1.67	0.60
2:G:251:PHE:CD2	2:G:273:LEU:HD11	2.37	0.60
2:G:56:ILE:HD12	2:G:56:ILE:N	2.16	0.60
1:A:109:ILE:HG22	1:A:114:VAL:HG23	1.84	0.60
1:A:61:TYR:CE1	1:A:146:PHE:HB2	2.37	0.60
1:A:206:ILE:HG23	3:C:31:ILE:HG23	1.83	0.60
3:C:85:MET:O	3:C:88:ILE:HB	2.02	0.60
2:G:243:ASN:ND2	2:G:265:TYR:O	2.34	0.60
1:A:123:MET:HA	1:A:127:VAL:HG23	1.83	0.60
2:B:190:GLN:NE2	2:B:192:ARG:HH21	1.99	0.60
2:B:147:ILE:HD13	2:B:235:VAL:HG13	1.84	0.60
3:C:124:ILE:O	3:C:124:ILE:HG22	2.02	0.60
1:A:209:PHE:CE2	3:C:31:ILE:CD1	2.85	0.60
1:F:541:TRP:HE3	1:F:541:TRP:HA	1.67	0.60
2:G:149:THR:HG22	2:G:265:TYR:CE1	2.36	0.60
3:H:156:TRP:HE1	3:H:180:LEU:CD2	2.15	0.60
1:A:235:ALA:O	1:A:238:LEU:HB2	2.02	0.59
2:B:227:ASP:CG	2:B:229:ALA:H	2.06	0.59
2:B:244:THR:HB	2:B:268:ASN:CB	2.17	0.59
1:F:214:LYS:CE	3:H:24:THR:HG23	2.32	0.59
2:G:39:GLU:HB2	2:G:43:LEU:HD12	1.84	0.59
1:A:364:PHE:HA	1:A:367:LEU:HD12	1.83	0.59
1:A:457:PHE:CE2	1:A:461:ILE:HD11	2.37	0.59
2:B:39:GLU:HB2	2:B:43:LEU:HD12	1.84	0.59
3:C:88:ILE:CG1	3:C:98:VAL:HG13	2.27	0.59
1:F:460:TRP:CH2	1:F:509:ILE:HD11	2.37	0.59
1:F:73:PHE:HB3	1:F:77:ILE:CD1	2.32	0.59
2:G:137:LYS:NZ	2:G:261:ASN:HD21	2.00	0.59
2:G:227:ASP:CG	2:G:229:ALA:H	2.06	0.59
1:A:312:GLY:HA3	1:A:365:ASN:ND2	2.17	0.59
1:A:449:ASN:OD1	1:A:451:THR:HB	2.03	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:69:LEU:HD22	1:A:73:PHE:CD1	2.37	0.59
2:B:156:PRO:HG2	2:B:228:ARG:HE	1.68	0.59
2:B:243:ASN:ND2	2:B:265:TYR:O	2.35	0.59
3:C:44:PHE:HE1	3:C:142:LEU:HD21	1.67	0.59
3:C:30:TRP:CZ3	4:D:79:UNK:HA	2.35	0.59
2:G:196:ILE:HG22	2:G:198:ASN:HD21	1.67	0.59
3:H:111:GLY:O	3:H:114:GLY:N	2.34	0.59
1:F:58:GLY:N	1:F:124:ASN:ND2	2.51	0.59
3:H:134:GLY:HA2	3:H:137:SER:CB	2.33	0.59
1:A:79:MET:SD	1:A:102:ILE:HG22	2.42	0.59
1:A:105:ALA:O	1:A:109:ILE:HG13	2.02	0.59
1:A:118:PHE:CZ	1:A:294:VAL:HG22	2.37	0.59
1:A:178:GLY:HA2	1:A:257:ARG:CG	2.31	0.59
1:A:464:PHE:HD2	1:A:465:PHE:CE1	2.21	0.59
3:C:74:PHE:HZ	3:C:187:LEU:HD22	1.68	0.59
1:F:228:PHE:CE1	1:F:297:VAL:HG23	2.37	0.59
1:F:178:GLY:HA2	1:F:257:ARG:CG	2.30	0.59
2:G:244:THR:HB	2:G:268:ASN:CB	2.18	0.59
1:A:192:TRP:CE3	1:A:192:TRP:HA	2.38	0.59
1:A:282:TRP:C	1:A:285:PRO:HD2	2.22	0.59
3:C:77:LEU:HD13	3:C:184:TRP:CZ2	2.37	0.59
1:F:332:LEU:H	1:F:348:PHE:HD2	1.50	0.59
1:A:168:THR:HB	1:A:172:ALA:CA	2.32	0.59
2:G:127:ILE:H	2:G:127:ILE:HD12	1.68	0.59
2:G:147:ILE:HD13	2:G:235:VAL:HG13	1.85	0.59
1:F:375:ILE:HG12	2:G:67:TRP:HE1	1.67	0.59
3:H:124:ILE:O	3:H:124:ILE:HG22	2.03	0.59
1:A:436:MET:O	1:A:440:TRP:HB2	2.03	0.59
1:F:225:MET:SD	1:F:230:TRP:HA	2.43	0.59
2:G:60:LEU:C	2:G:62:ALA:H	2.04	0.59
3:H:74:PHE:HZ	3:H:187:LEU:HD22	1.68	0.59
1:F:206:ILE:HG23	3:H:31:ILE:HG23	1.83	0.59
3:H:74:PHE:HB2	3:H:112:PHE:CD1	2.37	0.59
3:H:78:PHE:CE2	3:H:185:HIS:CE1	2.90	0.59
3:H:90:MET:HE2	4:I:67:UNK:C	2.32	0.59
1:A:126:VAL:HG11	1:A:439:TRP:CE2	2.38	0.59
1:A:512:LEU:O	1:A:515:GLN:HG2	2.02	0.59
1:A:541:TRP:HE3	1:A:541:TRP:HA	1.68	0.59
3:C:74:PHE:HA	3:C:77:LEU:HD12	1.85	0.59
1:F:156:VAL:HG12	1:F:160:LEU:HD11	1.85	0.59
2:G:87:LYS:HD2	2:G:87:LYS:N	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:58:GLY:N	1:A:124:ASN:HD22	2.01	0.58
1:A:280:TRP:O	1:A:331:TRP:HB2	2.03	0.58
2:B:159:THR:HG21	2:B:228:ARG:NH2	2.18	0.58
2:B:196:ILE:HG22	2:B:198:ASN:HD21	1.67	0.58
2:B:50:LEU:O	2:B:53:ILE:HG22	2.03	0.58
2:B:56:ILE:HD12	2:B:56:ILE:N	2.18	0.58
3:C:68:PHE:O	3:C:72:GLU:HB2	2.02	0.58
1:F:55:LYS:HD3	1:F:129:LEU:HD21	1.85	0.58
1:F:168:THR:HB	1:F:172:ALA:CA	2.29	0.58
1:F:390:THR:HG21	1:F:426:GLY:HA3	1.84	0.58
2:G:139:PHE:HE1	2:G:148:ALA:HB1	1.68	0.58
1:F:274:MET:HG2	3:H:49:VAL:HG11	1.85	0.58
1:A:216:ARG:HH12	1:A:222:MET:HA	1.67	0.58
3:C:26:ILE:HD11	3:C:175:THR:HG23	1.83	0.58
3:C:86:ALA:HB1	3:C:91:TYR:CD1	2.37	0.58
1:A:69:LEU:HD22	1:A:73:PHE:CE1	2.38	0.58
2:B:108:TRP:HZ3	2:B:109:LYS:HE2	1.69	0.58
2:B:278:ILE:O	2:B:282:MET:HG2	2.03	0.58
3:C:96:SER:O	3:C:98:VAL:N	2.37	0.58
1:F:366:TRP:O	1:F:369:THR:HB	2.04	0.58
1:F:79:MET:CE	1:F:102:ILE:HG22	2.32	0.58
1:A:373:GLY:HA2	2:B:71:ALA:CB	2.27	0.58
1:A:381:MET:O	1:A:385:ILE:HG13	2.03	0.58
3:C:96:SER:CA	3:C:99:ILE:HD13	2.30	0.58
1:F:110:MET:HB3	6:F:1001:HEM:CBC	2.33	0.58
1:F:58:GLY:N	1:F:124:ASN:HD22	2.01	0.58
1:F:369:THR:O	1:F:369:THR:HG22	2.02	0.58
2:G:196:ILE:HG22	2:G:198:ASN:ND2	2.17	0.58
1:A:308:LYS:HZ2	1:A:372:GLN:N	1.88	0.58
1:A:466:VAL:HB	1:A:501:GLY:HA2	1.84	0.58
3:H:113:ILE:HD11	3:H:150:VAL:HG12	1.85	0.58
3:H:44:PHE:HE1	3:H:142:LEU:HD21	1.68	0.58
1:F:192:TRP:HA	1:F:192:TRP:CE3	2.39	0.58
1:F:280:TRP:O	1:F:331:TRP:HB2	2.04	0.58
1:F:245:ILE:HD12	1:F:282:TRP:HB2	1.86	0.58
1:F:373:GLY:HA2	2:G:71:ALA:O	2.03	0.58
1:F:105:ALA:O	1:F:109:ILE:HG13	2.03	0.58
2:G:278:ILE:O	2:G:282:MET:HG2	2.04	0.58
1:A:337:THR:HG22	2:B:184:TYR:HB3	1.85	0.58
2:B:87:LYS:HD2	2:B:87:LYS:N	2.19	0.58
1:F:239:ILE:N	1:F:289:ILE:HD11	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:449:ASN:OD1	1:F:451:THR:HB	2.04	0.58
2:B:251:PHE:CD2	2:B:273:LEU:HD11	2.39	0.58
3:C:47:TYR:O	3:C:51:VAL:HG13	2.03	0.58
3:C:90:MET:CE	4:D:68:UNK:CA	2.82	0.58
2:G:244:THR:CG2	2:G:268:ASN:HB3	2.33	0.58
2:B:177:PRO:C	2:B:179:LEU:H	2.08	0.57
1:F:111:ILE:HD11	6:F:1001:HEM:HMD2	1.86	0.57
1:F:54:HIS:CE1	1:F:135:ASP:HA	2.39	0.57
1:A:209:PHE:HE2	3:C:31:ILE:HD11	1.68	0.57
2:B:95:VAL:O	2:B:99:ILE:HG12	2.03	0.57
3:C:85:MET:SD	3:C:178:MET:HG3	2.44	0.57
1:F:103:PHE:CZ	6:F:1001:HEM:HMA1	2.39	0.57
1:F:155:LEU:HD13	1:F:193:SER:HA	1.85	0.57
2:G:53:ILE:O	2:G:57:PRO:HD2	2.03	0.57
3:H:96:SER:CA	3:H:99:ILE:HD13	2.30	0.57
3:H:38:ILE:HD13	4:I:90:UNK:CB	2.33	0.57
1:A:55:LYS:HD3	1:A:129:LEU:HD21	1.87	0.57
1:A:54:HIS:CE1	1:A:135:ASP:HA	2.39	0.57
1:A:397:THR:HG21	1:A:472:TYR:OH	2.04	0.57
2:B:196:ILE:HG22	2:B:198:ASN:ND2	2.18	0.57
2:B:39:GLU:O	2:B:43:LEU:HB2	2.04	0.57
1:F:464:PHE:HD2	1:F:465:PHE:CE1	2.23	0.57
1:F:549:PHE:H	1:F:549:PHE:HD1	1.52	0.57
2:G:104:ALA:O	2:G:105:VAL:C	2.38	0.57
2:G:192:ARG:HH11	2:G:192:ARG:HB2	1.68	0.57
2:G:162:TYR:CG	2:G:194:HIS:NE2	2.72	0.57
1:A:156:VAL:HG12	1:A:160:LEU:HD11	1.86	0.57
1:A:248:VAL:HG22	3:C:39:LEU:CD1	2.31	0.57
1:A:228:PHE:CE1	1:A:297:VAL:HG23	2.39	0.57
1:A:514:ILE:O	1:A:518:VAL:HG23	2.02	0.57
1:A:79:MET:CE	1:A:102:ILE:HG22	2.33	0.57
3:C:196:THR:HA	3:C:200:LEU:CD2	2.33	0.57
3:C:29:PHE:HA	3:C:32:TYR:HB2	1.84	0.57
3:C:89:ALA:HB2	3:C:174:ARG:CD	2.25	0.57
1:F:61:TYR:CE1	1:F:146:PHE:HB2	2.39	0.57
1:F:450:GLU:OE2	1:F:454:LYS:HE3	2.05	0.57
1:A:283:GLY:O	1:A:286:GLU:HB3	2.05	0.57
1:A:492:HIS:HA	1:A:495:LEU:HD12	1.86	0.57
2:B:192:ARG:HB2	2:B:192:ARG:HH11	1.68	0.57
2:B:136:TRP:HA	2:B:218:MET:HG2	1.87	0.57
2:B:50:LEU:C	2:B:53:ILE:HG22	2.25	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:136:LEU:O	3:C:140:PHE:HB2	2.04	0.57
3:C:200:LEU:HD12	3:C:201:MET:N	2.18	0.57
1:F:407:ASP:OD2	1:F:411:HIS:HB2	2.05	0.57
2:G:179:LEU:HB3	2:G:195:LEU:HD11	1.86	0.57
1:F:248:VAL:HG22	3:H:39:LEU:HD12	1.87	0.57
3:H:88:ILE:HG23	3:H:98:VAL:CG1	2.34	0.57
1:A:79:MET:HG3	1:A:103:PHE:CZ	2.40	0.57
3:C:38:ILE:CD1	4:D:90:UNK:CB	2.82	0.57
2:G:173:SER:HB3	2:G:207:SER:O	2.05	0.57
3:H:38:ILE:CD1	4:I:90:UNK:CB	2.83	0.57
1:A:155:LEU:HD13	1:A:193:SER:HA	1.86	0.57
1:A:239:ILE:N	1:A:289:ILE:HD11	2.20	0.57
1:A:316:LEU:HD21	1:A:365:ASN:CB	2.35	0.57
1:A:549:PHE:H	1:A:549:PHE:HD1	1.53	0.57
3:H:134:GLY:O	3:H:137:SER:HB3	2.05	0.57
1:A:481:ARG:O	1:A:483:LEU:N	2.38	0.57
2:B:162:TYR:CG	2:B:194:HIS:NE2	2.73	0.57
1:F:79:MET:HG3	1:F:103:PHE:CZ	2.40	0.57
2:G:156:PRO:HG2	2:G:228:ARG:HE	1.70	0.57
3:H:77:LEU:HD13	3:H:184:TRP:CZ2	2.40	0.57
1:A:437:THR:HA	1:A:448:LEU:CD1	2.34	0.57
1:A:457:PHE:O	1:A:461:ILE:HG13	2.04	0.57
2:B:179:LEU:HB3	2:B:195:LEU:HD11	1.87	0.57
1:A:353:MET:O	2:B:100:ILE:HD12	2.05	0.57
1:F:492:HIS:HA	1:F:495:LEU:HD12	1.87	0.57
2:G:140:PHE:CD2	2:G:153:ILE:HG23	2.40	0.57
3:C:44:PHE:CE1	3:C:142:LEU:HD21	2.40	0.56
3:H:100:SER:O	3:H:103:ALA:HB3	2.05	0.56
3:H:70:LEU:HA	3:H:115:MET:HE1	1.87	0.56
2:B:244:THR:CG2	2:B:268:ASN:HB3	2.35	0.56
1:F:548:PRO:N	1:F:552:PHE:O	2.38	0.56
2:G:136:TRP:HA	2:G:218:MET:HG2	1.87	0.56
2:G:39:GLU:O	2:G:43:LEU:HB2	2.05	0.56
3:H:98:VAL:O	3:H:98:VAL:HG12	2.05	0.56
1:A:251:ALA:O	1:A:254:THR:HB	2.05	0.56
1:A:367:LEU:HA	1:A:370:MET:HE3	1.87	0.56
2:B:149:THR:HG22	2:B:265:TYR:HE1	1.69	0.56
3:C:120:PHE:O	3:C:123:LEU:N	2.36	0.56
1:F:436:MET:O	1:F:440:TRP:HB2	2.06	0.56
1:F:481:ARG:O	1:F:483:LEU:N	2.39	0.56
1:F:474:LEU:HD22	1:F:491:PHE:HA	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:50:LEU:O	2:G:53:ILE:HG22	2.05	0.56
3:H:86:ALA:C	3:H:88:ILE:H	2.08	0.56
1:A:245:ILE:HD12	1:A:282:TRP:HB2	1.87	0.56
1:A:442:LYS:HD3	1:A:541:TRP:CE3	2.41	0.56
2:B:36:ILE:N	2:B:39:GLU:OE2	2.32	0.56
3:C:113:ILE:HD11	3:C:150:VAL:HG12	1.87	0.56
3:C:49:VAL:O	3:C:51:VAL:N	2.31	0.56
1:F:381:MET:O	1:F:385:ILE:HG13	2.05	0.56
1:F:426:GLY:HA2	1:F:430:PHE:CD1	2.41	0.56
1:F:57:LEU:HD11	1:F:143:ASN:HA	1.87	0.56
3:H:90:MET:CE	4:I:68:UNK:N	2.68	0.56
1:A:110:MET:HB3	6:A:1001:HEM:CBC	2.35	0.56
1:A:271:ASN:HD21	1:A:273:MET:HB2	1.71	0.56
1:F:237:VAL:O	1:F:240:ILE:HB	2.05	0.56
1:F:442:LYS:HD3	1:F:541:TRP:CE3	2.41	0.56
1:F:375:ILE:CG1	2:G:67:TRP:HE1	2.19	0.56
3:H:29:PHE:HA	3:H:32:TYR:HB2	1.86	0.56
3:C:155:ILE:O	3:C:159:VAL:HG23	2.05	0.56
1:F:159:SER:CA	1:F:189:TYR:CD1	2.81	0.56
1:F:126:VAL:HG11	1:F:439:TRP:CE2	2.41	0.56
2:G:53:ILE:HG23	2:G:54:VAL:N	2.20	0.56
1:A:138:PHE:HB2	1:A:207:ASN:HD21	1.69	0.56
1:A:420:PHE:HA	1:A:423:VAL:HG22	1.87	0.56
3:C:83:TYR:CE1	4:D:14:UNK:CB	2.89	0.56
1:F:311:PHE:HZ	2:G:88:VAL:HG11	1.70	0.56
1:A:366:TRP:O	1:A:369:THR:HB	2.06	0.56
1:A:73:PHE:HB3	1:A:77:ILE:CD1	2.36	0.56
2:B:53:ILE:HG23	2:B:54:VAL:N	2.20	0.56
1:F:312:GLY:HA3	1:F:365:ASN:ND2	2.21	0.56
2:G:248:MET:O	2:G:252:GLU:HG2	2.05	0.56
3:H:77:LEU:HA	3:H:80:SER:CB	2.35	0.56
2:G:50:LEU:C	2:G:53:ILE:HG22	2.26	0.56
3:H:155:ILE:O	3:H:159:VAL:HG23	2.05	0.56
1:A:69:LEU:HD13	1:A:73:PHE:HE1	1.71	0.56
1:F:277:ASN:OD1	1:F:331:TRP:NE1	2.39	0.56
1:F:437:THR:HA	1:F:448:LEU:CD1	2.35	0.56
2:G:164:LYS:HE3	2:G:274:PHE:CE2	2.40	0.56
2:G:95:VAL:O	2:G:98:LEU:HB2	2.06	0.56
1:F:113:PHE:HE2	1:F:153:VAL:N	2.04	0.55
2:G:41:ARG:H	2:G:41:ARG:HH11	1.54	0.55
1:A:333:HIS:CD2	1:A:334:HIS:CD2	2.94	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:248:MET:O	2:B:252:GLU:HG2	2.06	0.55
2:B:60:LEU:C	2:B:62:ALA:H	2.08	0.55
3:C:134:GLY:O	3:C:137:SER:HB3	2.06	0.55
3:C:98:VAL:O	3:C:98:VAL:HG12	2.06	0.55
1:F:271:ASN:HD21	1:F:273:MET:HB2	1.72	0.55
1:F:419:HIS:HA	1:F:472:TYR:OH	2.06	0.55
3:H:113:ILE:O	3:H:117:ILE:HG13	2.05	0.55
1:A:474:LEU:HD22	1:A:491:PHE:HA	1.87	0.55
1:A:73:PHE:O	1:A:74:ALA:C	2.43	0.55
3:H:146:HIS:HE1	3:H:190:VAL:HB	1.71	0.55
1:A:103:PHE:CZ	6:A:1001:HEM:HMA1	2.41	0.55
2:B:165:VAL:HG12	2:B:166:THR:N	2.22	0.55
2:B:136:TRP:HA	2:B:218:MET:SD	2.47	0.55
3:C:90:MET:HE1	4:D:67:UNK:C	2.36	0.55
1:F:199:ILE:O	1:F:202:THR:HB	2.06	0.55
1:F:283:GLY:O	1:F:286:GLU:HB3	2.06	0.55
1:F:330:VAL:HB	1:F:352:THR:OG1	2.06	0.55
1:F:410:LEU:O	1:F:413:SER:HB3	2.06	0.55
3:H:44:PHE:CE1	3:H:142:LEU:HD21	2.41	0.55
1:A:237:VAL:O	1:A:240:ILE:HB	2.06	0.55
1:A:419:HIS:HA	1:A:472:TYR:OH	2.07	0.55
1:A:480:THR:HB	1:A:483:LEU:HD11	1.87	0.55
2:B:164:LYS:HE3	2:B:274:PHE:CE2	2.41	0.55
2:B:149:THR:HG22	2:B:265:TYR:CE1	2.41	0.55
3:C:42:ILE:O	3:C:45:ALA:HB3	2.06	0.55
1:F:102:ILE:O	1:F:104:THR:N	2.39	0.55
1:F:159:SER:HB2	1:F:165:PHE:CD1	2.40	0.55
1:F:333:HIS:CD2	1:F:334:HIS:CD2	2.94	0.55
1:F:288:TYR:OH	1:F:355:ILE:HG21	2.06	0.55
2:G:165:VAL:O	2:G:191:THR:HG23	2.06	0.55
1:F:338:MET:HA	2:G:184:TYR:CG	2.42	0.55
1:A:239:ILE:HG12	1:A:289:ILE:HD13	1.89	0.55
1:A:384:THR:HG22	1:A:388:ILE:HD11	1.89	0.55
3:C:152:SER:C	3:C:154:LEU:H	2.10	0.55
2:G:167:SER:HB3	2:G:187:ALA:HA	1.89	0.55
1:A:238:LEU:CB	1:A:289:ILE:HD11	2.35	0.55
1:A:548:PRO:N	1:A:552:PHE:O	2.40	0.55
1:A:61:TYR:O	1:A:62:ILE:C	2.45	0.55
1:A:76:ALA:HA	1:A:79:MET:HE3	1.87	0.55
1:A:96:PRO:HB3	1:A:100:ASP:OD1	2.07	0.55
3:C:113:ILE:O	3:C:117:ILE:HG13	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:357:ILE:HB	1:F:358:PRO:HD3	1.87	0.55
2:B:143:PRO:HG2	2:B:144:GLU:OE2	2.06	0.55
1:F:106:HIS:CD2	1:F:107:GLY:N	2.75	0.55
1:F:412:ASN:OD1	2:G:209:SER:HB3	2.07	0.55
1:F:512:LEU:O	1:F:515:GLN:HG2	2.06	0.55
2:G:177:PRO:C	2:G:179:LEU:H	2.11	0.55
3:H:148:LEU:HA	3:H:151:THR:OG1	2.06	0.55
1:A:415:PHE:CD1	1:A:472:TYR:HD2	2.25	0.55
1:A:57:LEU:HD11	1:A:143:ASN:HA	1.89	0.55
2:B:132:VAL:HG12	2:B:132:VAL:O	2.07	0.55
2:B:148:ALA:O	2:B:265:TYR:HD1	1.90	0.55
2:B:173:SER:HB3	2:B:207:SER:O	2.07	0.55
2:B:227:ASP:OD1	2:B:229:ALA:HB3	2.07	0.55
3:C:195:PHE:CD1	3:C:199:TYR:HB2	2.41	0.55
3:C:77:LEU:HA	3:C:80:SER:CB	2.36	0.55
1:F:384:THR:HG22	1:F:388:ILE:HD11	1.89	0.55
1:F:61:TYR:O	1:F:62:ILE:C	2.45	0.55
2:G:148:ALA:O	2:G:265:TYR:HD1	1.90	0.55
2:G:156:PRO:HD3	2:G:231:PHE:CE2	2.42	0.55
2:G:163:PHE:CD2	2:G:193:LEU:HD22	2.41	0.55
2:G:228:ARG:O	2:G:232:ASP:OD1	2.25	0.55
2:G:40:GLN:HB2	2:G:41:ARG:NH1	2.22	0.55
2:G:82:TRP:HE3	2:G:83:SER:H	1.55	0.55
1:A:102:ILE:O	1:A:104:THR:N	2.40	0.55
1:A:106:HIS:CD2	1:A:107:GLY:N	2.75	0.55
1:A:225:MET:SD	1:A:230:TRP:HA	2.47	0.55
2:B:175:PHE:HD2	2:B:206:ILE:HD11	1.72	0.55
1:F:515:GLN:O	1:F:518:VAL:HB	2.07	0.55
1:F:515:GLN:CG	1:F:516:MET:N	2.68	0.55
1:A:515:GLN:CG	1:A:516:MET:N	2.68	0.54
1:F:96:PRO:HB3	1:F:100:ASP:OD1	2.07	0.54
1:F:104:THR:HG23	6:F:1001:HEM:O2D	2.06	0.54
1:F:394:GLY:HA3	1:F:422:ASN:OD1	2.07	0.54
2:G:165:VAL:HG12	2:G:166:THR:N	2.22	0.54
3:H:136:LEU:O	3:H:140:PHE:HB2	2.06	0.54
1:A:359:THR:HB	7:A:1002:HEO:C27	2.37	0.54
1:A:110:MET:O	1:A:115:ALA:HB3	2.07	0.54
1:A:159:SER:CA	1:A:189:TYR:CD1	2.81	0.54
1:A:426:GLY:HA2	1:A:430:PHE:CD1	2.42	0.54
1:A:446:PHE:CZ	1:A:520:ILE:HA	2.42	0.54
2:B:155:PHE:HA	2:B:231:PHE:CE1	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:497:ILE:O	1:F:500:SER:HB2	2.07	0.54
1:F:466:VAL:O	1:F:501:GLY:HA3	2.07	0.54
1:F:73:PHE:O	1:F:74:ALA:C	2.45	0.54
2:G:159:THR:HG21	2:G:228:ARG:NH2	2.22	0.54
2:G:36:ILE:CD1	2:G:39:GLU:H	2.20	0.54
2:G:37:GLY:O	2:G:40:GLN:HG2	2.08	0.54
3:H:195:PHE:CD1	3:H:199:TYR:HB2	2.41	0.54
1:A:497:ILE:O	1:A:500:SER:HB2	2.07	0.54
3:C:111:GLY:O	3:C:114:GLY:N	2.39	0.54
3:C:156:TRP:HE1	3:C:180:LEU:CD1	2.20	0.54
3:H:145:THR:C	3:H:147:GLY:H	2.11	0.54
3:C:146:HIS:HE1	3:C:190:VAL:HB	1.73	0.54
1:F:280:TRP:HE3	1:F:280:TRP:HA	1.73	0.54
1:A:310:LEU:HD11	1:A:366:TRP:CD1	2.42	0.54
2:B:140:PHE:HD2	2:B:149:THR:HG1	1.56	0.54
2:B:50:LEU:HA	2:B:53:ILE:CG2	2.38	0.54
3:C:156:TRP:HE1	3:C:180:LEU:CD2	2.20	0.54
1:F:174:PRO:HB2	1:F:175:PRO:HD3	1.87	0.54
1:F:238:LEU:CB	1:F:289:ILE:HD11	2.36	0.54
1:F:306:SER:O	1:F:374:ARG:O	2.26	0.54
1:F:346:ALA:HB1	1:F:350:ILE:HD12	1.89	0.54
3:H:68:PHE:O	3:H:72:GLU:HB2	2.07	0.54
3:H:72:GLU:OE1	3:H:72:GLU:HA	2.07	0.54
1:A:174:PRO:HB3	1:A:175:PRO:HD3	1.82	0.54
1:A:205:GLY:O	1:A:209:PHE:HB2	2.08	0.54
2:B:200:PRO:HA	2:B:224:ALA:O	2.07	0.54
2:B:65:PHE:O	2:B:68:LYS:HE2	2.08	0.54
1:A:116:MET:N	1:A:117:PRO:CD	2.70	0.54
1:A:332:LEU:HD22	1:A:335:PHE:CB	2.37	0.54
1:A:515:GLN:O	1:A:518:VAL:HB	2.07	0.54
1:A:69:LEU:HD13	1:A:73:PHE:CE1	2.43	0.54
2:B:273:LEU:O	2:B:276:ASP:HB2	2.08	0.54
2:B:40:GLN:HB2	2:B:41:ARG:NH1	2.23	0.54
1:A:209:PHE:HE2	3:C:31:ILE:HD13	1.72	0.54
1:F:118:PHE:CZ	1:F:294:VAL:HG22	2.42	0.54
1:F:251:ALA:O	1:F:254:THR:HB	2.08	0.54
1:F:480:THR:HB	1:F:483:LEU:HD11	1.88	0.54
1:F:446:PHE:CZ	1:F:520:ILE:HA	2.43	0.54
2:G:132:VAL:HG12	2:G:132:VAL:O	2.08	0.54
1:A:216:ARG:HH12	1:A:222:MET:CA	2.21	0.54
1:A:112:PHE:CE1	1:A:286:GLU:OE2	2.58	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:88:VAL:O	2:B:91:VAL:HB	2.08	0.54
3:C:86:ALA:C	3:C:88:ILE:H	2.11	0.54
4:D:20:UNK:CB	4:D:53:UNK:CB	2.86	0.54
2:G:155:PHE:HA	2:G:231:PHE:CE1	2.42	0.54
2:G:273:LEU:O	2:G:276:ASP:HB2	2.08	0.54
2:G:39:GLU:HG2	2:G:40:GLN:OE1	2.08	0.54
3:H:90:MET:HE3	4:I:67:UNK:CB	2.37	0.54
1:A:187:VAL:O	1:A:190:TRP:HB3	2.08	0.54
2:B:165:VAL:O	2:B:191:THR:HG23	2.08	0.54
2:B:230:ALA:HA	2:B:233:GLN:NE2	2.22	0.54
3:C:30:TRP:CZ2	4:D:79:UNK:CB	2.91	0.54
1:F:216:ARG:HH12	1:F:222:MET:HA	1.72	0.54
2:G:243:ASN:O	2:G:266:PHE:HA	2.07	0.54
3:H:156:TRP:HE1	3:H:180:LEU:CD1	2.20	0.54
1:A:119:VAL:HG22	1:A:123:MET:HE2	1.90	0.54
1:A:277:ASN:OD1	1:A:331:TRP:NE1	2.41	0.54
3:C:88:ILE:HG23	3:C:98:VAL:CG1	2.37	0.54
1:F:397:THR:HG21	1:F:472:TYR:OH	2.07	0.54
2:G:197:ALA:C	2:G:198:ASN:HD22	2.11	0.54
3:H:49:VAL:O	3:H:51:VAL:N	2.33	0.54
1:A:192:TRP:HA	1:A:192:TRP:HE3	1.73	0.53
1:A:288:TYR:OH	1:A:355:ILE:HG21	2.08	0.53
1:A:369:THR:O	1:A:369:THR:HG22	2.07	0.53
1:F:253:LEU:O	1:F:256:ASP:N	2.41	0.53
1:F:310:LEU:HD11	1:F:366:TRP:CD1	2.43	0.53
2:G:192:ARG:CZ	2:G:192:ARG:HB2	2.38	0.53
2:G:207:SER:OG	2:G:218:MET:HB2	2.08	0.53
3:H:152:SER:C	3:H:154:LEU:H	2.11	0.53
3:C:196:THR:O	3:C:196:THR:HG22	2.08	0.53
1:F:110:MET:O	1:F:115:ALA:HB3	2.08	0.53
1:F:308:LYS:NZ	1:F:372:GLN:CB	2.71	0.53
1:A:111:ILE:HD11	6:A:1001:HEM:HMD2	1.91	0.53
1:A:216:ARG:NH1	1:A:222:MET:CA	2.70	0.53
1:A:118:PHE:CE2	1:A:294:VAL:HG22	2.43	0.53
1:A:308:LYS:NZ	1:A:372:GLN:CB	2.71	0.53
1:A:357:ILE:HB	1:A:358:PRO:HD3	1.90	0.53
2:B:197:ALA:C	2:B:198:ASN:HD22	2.12	0.53
2:B:50:LEU:HA	2:B:53:ILE:HG22	1.90	0.53
3:C:160:LEU:HD13	3:C:176:ARG:CD	2.33	0.53
1:F:138:PHE:HB2	1:F:207:ASN:HD21	1.72	0.53
2:G:227:ASP:OD1	2:G:229:ALA:HB3	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:88:VAL:O	2:G:91:VAL:HB	2.09	0.53
7:A:1002:HEO:C24	2:B:100:ILE:HG12	2.38	0.53
1:A:150:VAL:O	1:A:153:VAL:HB	2.08	0.53
2:B:41:ARG:H	2:B:41:ARG:HH11	1.56	0.53
1:F:112:PHE:CE1	1:F:286:GLU:OE2	2.59	0.53
2:G:190:GLN:NE2	2:G:192:ARG:HH21	2.06	0.53
2:G:74:LYS:HE2	2:G:75:ASP:OD2	2.08	0.53
1:A:119:VAL:HG22	1:A:123:MET:CE	2.39	0.53
1:A:383:TRP:HB3	1:A:434:ALA:HB2	1.91	0.53
2:B:150:VAL:O	2:B:151:ASN:HB2	2.09	0.53
2:B:140:PHE:CD2	2:B:153:ILE:HG23	2.44	0.53
2:B:167:SER:HB3	2:B:187:ALA:HA	1.91	0.53
1:F:239:ILE:HG12	1:F:289:ILE:HD13	1.91	0.53
7:F:1002:HEO:H241	2:G:99:ILE:HB	1.90	0.53
1:A:113:PHE:HE2	1:A:153:VAL:N	2.07	0.53
1:A:171:LEU:HD11	1:A:280:TRP:CH2	2.44	0.53
1:A:235:ALA:HB2	1:A:292:LEU:HB2	1.90	0.53
2:B:192:ARG:HB2	2:B:192:ARG:CZ	2.39	0.53
3:C:113:ILE:HD11	3:C:150:VAL:CG1	2.38	0.53
3:C:174:ARG:HD3	3:C:177:ILE:HD11	1.91	0.53
3:C:72:GLU:OE1	3:C:72:GLU:HA	2.08	0.53
1:F:116:MET:N	1:F:117:PRO:CD	2.71	0.53
2:G:143:PRO:HG2	2:G:144:GLU:OE2	2.08	0.53
3:H:197:VAL:CG1	3:H:198:VAL:H	2.20	0.53
3:H:89:ALA:HB2	3:H:174:ARG:CD	2.27	0.53
1:A:398:GLY:C	7:A:1002:HEO:HMB3	2.29	0.53
1:A:502:ALA:O	1:A:504:LEU:N	2.42	0.53
2:B:136:TRP:CE2	2:B:213:PRO:O	2.61	0.53
2:B:36:ILE:CD1	2:B:39:GLU:H	2.22	0.53
2:B:90:ALA:HA	2:B:93:TRP:CB	2.35	0.53
1:F:441:PRO:C	1:F:443:ALA:H	2.12	0.53
1:A:466:VAL:O	1:A:501:GLY:HA3	2.09	0.53
3:C:33:LEU:HB2	3:C:34:MET:CE	2.39	0.53
1:F:316:LEU:HD11	1:F:365:ASN:HB3	1.91	0.53
1:F:301:ILE:HG23	1:F:380:ALA:HB1	1.90	0.53
1:F:383:TRP:HB3	1:F:434:ALA:HB2	1.91	0.53
1:F:415:PHE:CD1	1:F:472:TYR:HD2	2.27	0.53
3:H:113:ILE:HD11	3:H:150:VAL:CG1	2.38	0.53
1:A:199:ILE:O	1:A:202:THR:HB	2.09	0.53
1:A:311:PHE:CZ	2:B:88:VAL:HG21	2.43	0.53
1:A:367:LEU:HA	1:A:370:MET:HE2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:441:PRO:C	1:A:443:ALA:H	2.12	0.53
3:C:197:VAL:CG1	3:C:198:VAL:H	2.20	0.53
1:F:57:LEU:HD12	1:F:142:ASN:HD22	1.74	0.53
1:F:190:TRP:HE3	1:F:191:ILE:HG12	1.74	0.53
1:F:192:TRP:HA	1:F:192:TRP:HE3	1.74	0.53
1:F:279:ILE:HG22	1:F:280:TRP:N	2.24	0.53
2:G:90:ALA:HA	2:G:93:TRP:CB	2.36	0.53
1:A:104:THR:HG23	6:A:1001:HEM:O2D	2.08	0.53
1:A:306:SER:O	1:A:374:ARG:O	2.27	0.53
2:B:228:ARG:O	2:B:232:ASP:OD1	2.27	0.53
2:B:39:GLU:HG2	2:B:40:GLN:OE1	2.09	0.53
1:F:174:PRO:HB2	1:F:175:PRO:CD	2.39	0.53
1:F:288:TYR:HE2	1:F:323:ILE:HG23	1.74	0.53
1:F:486:GLN:C	1:F:487:ILE:HG13	2.29	0.53
1:F:52:VAL:O	1:F:52:VAL:HG12	2.09	0.53
2:G:125:LYS:H	2:G:126:PRO:HD2	1.71	0.53
2:G:264:GLU:CG	2:G:265:TYR:H	2.16	0.53
2:G:39:GLU:HG2	2:G:40:GLN:N	2.24	0.53
3:H:99:ILE:N	3:H:99:ILE:CD1	2.72	0.53
1:A:502:ALA:O	1:A:503:VAL:C	2.47	0.52
3:C:193:CYS:O	3:C:194:VAL:C	2.46	0.52
1:F:359:THR:HB	7:F:1002:HEO:C27	2.39	0.52
1:F:187:VAL:O	1:F:190:TRP:HB3	2.09	0.52
1:F:205:GLY:O	1:F:209:PHE:HB2	2.09	0.52
2:G:136:TRP:CE2	2:G:213:PRO:O	2.61	0.52
3:H:196:THR:HA	3:H:200:LEU:CD2	2.38	0.52
1:A:301:ILE:HG23	1:A:380:ALA:HB1	1.90	0.52
3:C:21:ALA:HA	3:C:24:THR:OG1	2.09	0.52
3:H:102:LEU:O	3:H:105:THR:HB	2.09	0.52
1:A:382:LEU:HD23	1:A:385:ILE:CD1	2.39	0.52
2:B:82:TRP:HE3	2:B:83:SER:H	1.57	0.52
1:F:225:MET:HG3	1:F:229:THR:HB	1.90	0.52
1:F:378:HIS:O	1:F:379:SER:C	2.48	0.52
1:A:280:TRP:HE3	1:A:280:TRP:HA	1.75	0.52
1:A:394:GLY:HA3	1:A:422:ASN:OD1	2.09	0.52
1:A:548:PRO:O	1:A:550:TYR:N	2.42	0.52
2:B:67:TRP:CG	2:B:68:LYS:N	2.75	0.52
3:C:74:PHE:CE2	3:C:188:ASP:HA	2.44	0.52
1:F:171:LEU:HD11	1:F:280:TRP:CH2	2.44	0.52
1:F:169:GLY:O	1:F:171:LEU:N	2.43	0.52
1:F:502:ALA:O	1:F:504:LEU:N	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:174:ARG:HD3	3:H:177:ILE:HD11	1.92	0.52
3:H:47:TYR:O	3:H:51:VAL:HG13	2.08	0.52
2:G:270:LYS:HZ2	2:G:272:ASP:H	1.56	0.52
1:F:206:ILE:HG23	3:H:31:ILE:CG2	2.40	0.52
3:H:33:LEU:HB2	3:H:34:MET:CE	2.39	0.52
1:A:336:PHE:CE2	1:A:404:PRO:HG3	2.44	0.52
2:B:177:PRO:O	2:B:179:LEU:N	2.43	0.52
1:F:235:ALA:HB2	1:F:292:LEU:HB2	1.90	0.52
2:G:67:TRP:CG	2:G:68:LYS:N	2.76	0.52
2:G:89:GLU:O	2:G:93:TRP:HB2	2.09	0.52
1:A:373:GLY:HA2	2:B:71:ALA:O	2.10	0.52
2:B:101:ILE:CA	2:B:104:ALA:HB3	2.40	0.52
3:C:46:THR:O	3:C:49:VAL:HB	2.10	0.52
1:F:543:THR:CG2	1:F:544:SER:N	2.72	0.52
2:G:200:PRO:HA	2:G:224:ALA:O	2.09	0.52
2:G:95:VAL:CG2	2:G:96:PRO:HD3	2.33	0.52
3:H:83:TYR:CZ	4:I:14:UNK:CB	2.88	0.52
2:B:207:SER:OG	2:B:218:MET:HB2	2.10	0.52
2:B:225:THR:HB	2:B:226:PRO:HD2	1.92	0.52
2:B:228:ARG:HG3	2:B:231:PHE:CD2	2.44	0.52
2:B:37:GLY:O	2:B:40:GLN:HG2	2.10	0.52
3:C:185:HIS:NE2	4:D:57:UNK:O	2.42	0.52
3:H:174:ARG:HB3	3:H:177:ILE:CD1	2.39	0.52
3:H:193:CYS:O	3:H:194:VAL:C	2.47	0.52
3:H:74:PHE:CE2	3:H:188:ASP:HA	2.44	0.52
1:A:225:MET:HG3	1:A:229:THR:HB	1.92	0.52
1:A:253:LEU:O	1:A:256:ASP:N	2.43	0.52
1:A:312:GLY:O	1:A:316:LEU:HG	2.10	0.52
1:A:54:HIS:ND1	1:A:135:ASP:OD2	2.43	0.52
2:B:138:TRP:CZ3	2:B:174:PHE:HD1	2.23	0.52
3:C:145:THR:C	3:C:147:GLY:H	2.12	0.52
1:F:362:LYS:HB3	1:F:366:TRP:CH2	2.45	0.52
2:G:230:ALA:HA	2:G:233:GLN:NE2	2.25	0.52
2:B:125:LYS:H	2:B:126:PRO:HD2	1.72	0.52
2:B:39:GLU:HG2	2:B:40:GLN:N	2.25	0.52
4:D:11:UNK:O	4:D:15:UNK:N	2.42	0.52
4:D:86:UNK:O	4:D:87:UNK:C	2.57	0.52
1:F:205:GLY:O	1:F:240:ILE:HD11	2.10	0.52
3:H:21:ALA:HA	3:H:24:THR:OG1	2.10	0.52
1:A:318:TRP:O	1:A:322:CYS:SG	2.69	0.51
1:A:362:LYS:HB3	1:A:366:TRP:CH2	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:68:MET:CE	1:A:153:VAL:HG13	2.40	0.51
1:F:248:VAL:O	1:F:252:LEU:HG	2.11	0.51
1:F:363:ILE:HG22	1:F:364:PHE:N	2.25	0.51
1:F:420:PHE:HA	1:F:423:VAL:HG22	1.91	0.51
1:F:474:LEU:CD2	1:F:494:MET:HB2	2.31	0.51
1:F:57:LEU:C	1:F:60:MET:HB2	2.29	0.51
2:G:95:VAL:HA	2:G:98:LEU:HD12	1.93	0.51
3:H:42:ILE:O	3:H:45:ALA:HB3	2.10	0.51
1:A:311:PHE:CG	1:A:312:GLY:N	2.79	0.51
1:A:405:GLY:HA2	1:A:408:PHE:HD1	1.73	0.51
1:F:203:LEU:O	1:F:206:ILE:N	2.42	0.51
1:F:277:ASN:CA	1:F:335:PHE:HZ	2.22	0.51
1:F:307:ARG:O	2:G:79:SER:HB2	2.10	0.51
2:G:50:LEU:HA	2:G:53:ILE:CG2	2.40	0.51
2:B:93:TRP:C	2:B:96:PRO:HD2	2.30	0.51
3:C:143:VAL:O	3:C:146:HIS:N	2.44	0.51
3:C:97:GLN:HG2	3:C:97:GLN:O	2.10	0.51
2:G:273:LEU:HA	2:G:276:ASP:HB2	1.91	0.51
1:F:311:PHE:CZ	2:G:88:VAL:HG21	2.45	0.51
3:H:145:THR:C	3:H:147:GLY:N	2.62	0.51
1:A:52:VAL:HG12	1:A:52:VAL:O	2.10	0.51
2:B:74:LYS:HE2	2:B:75:ASP:OD2	2.09	0.51
2:G:101:ILE:O	2:G:105:VAL:HG23	2.10	0.51
4:I:11:UNK:O	4:I:15:UNK:N	2.42	0.51
1:A:298:PHE:CE1	1:A:384:THR:HG23	2.45	0.51
3:C:180:LEU:C	3:C:182:LEU:H	2.13	0.51
1:F:125:LEU:C	1:F:125:LEU:HD23	2.31	0.51
1:F:150:VAL:O	1:F:153:VAL:HB	2.10	0.51
1:F:464:PHE:CD1	1:F:468:PHE:HD1	2.27	0.51
1:F:68:MET:CE	1:F:153:VAL:HG13	2.40	0.51
2:G:159:THR:O	2:G:196:ILE:HD13	2.10	0.51
1:F:214:LYS:HZ2	3:H:24:THR:HA	1.73	0.51
1:F:502:ALA:O	1:F:503:VAL:C	2.49	0.51
1:A:211:THR:HG23	1:A:215:MET:CE	2.39	0.51
1:A:255:LEU:HB3	1:A:261:THR:HG21	1.92	0.51
1:A:431:GLY:O	1:A:432:CYS:C	2.48	0.51
1:A:451:THR:HG22	1:A:452:TRP:N	2.24	0.51
2:B:273:LEU:HA	2:B:276:ASP:HB2	1.92	0.51
1:F:442:LYS:HB2	1:F:541:TRP:HZ3	1.75	0.51
1:F:54:HIS:ND1	1:F:135:ASP:OD2	2.44	0.51
3:H:200:LEU:HD12	3:H:201:MET:N	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:46:THR:O	3:H:49:VAL:HB	2.11	0.51
1:A:356:ALA:O	1:A:359:THR:N	2.42	0.51
1:A:378:HIS:O	1:A:379:SER:C	2.49	0.51
1:A:460:TRP:HZ3	1:A:509:ILE:HG12	1.76	0.51
2:B:163:PHE:CD2	2:B:193:LEU:HD22	2.45	0.51
1:F:312:GLY:O	1:F:316:LEU:HG	2.10	0.51
1:F:332:LEU:HD22	1:F:335:PHE:CB	2.40	0.51
1:F:73:PHE:O	1:F:77:ILE:HG13	2.11	0.51
2:G:99:ILE:N	2:G:99:ILE:HD13	2.26	0.51
3:H:180:LEU:C	3:H:182:LEU:H	2.14	0.51
1:A:108:VAL:CG2	1:A:170:TRP:HA	2.36	0.51
1:A:277:ASN:CA	1:A:335:PHE:HZ	2.22	0.51
1:A:279:ILE:HG22	1:A:280:TRP:N	2.25	0.51
1:A:346:ALA:HB1	1:A:350:ILE:HD12	1.92	0.51
1:A:375:ILE:HG21	1:A:381:MET:HE2	1.92	0.51
1:A:57:LEU:C	1:A:60:MET:HB2	2.30	0.51
1:F:282:TRP:O	1:F:285:PRO:HD2	2.11	0.51
1:F:356:ALA:O	1:F:359:THR:N	2.42	0.51
1:F:54:HIS:CG	1:F:55:LYS:N	2.79	0.51
2:G:50:LEU:HA	2:G:53:ILE:HG22	1.92	0.51
2:G:65:PHE:O	2:G:68:LYS:HE2	2.11	0.51
3:H:91:TYR:OH	4:I:7:UNK:N	2.42	0.51
1:A:316:LEU:HD11	1:A:365:ASN:HB3	1.93	0.51
2:B:175:PHE:HD1	2:B:181:SER:C	2.15	0.51
2:B:85:SER:HB3	2:B:88:VAL:HG13	1.93	0.51
3:C:71:VAL:HG22	3:C:191:TRP:HE1	1.76	0.51
3:C:90:MET:HE1	4:D:68:UNK:HA	1.93	0.51
1:F:216:ARG:NH1	1:F:222:MET:CA	2.73	0.51
1:F:311:PHE:CG	1:F:312:GLY:N	2.79	0.51
1:F:451:THR:HG22	1:F:452:TRP:N	2.24	0.51
3:H:69:VAL:HG12	3:H:115:MET:SD	2.51	0.51
1:A:138:PHE:HZ	3:C:28:GLY:HA3	1.76	0.50
1:A:146:PHE:O	1:A:149:THR:N	2.45	0.50
1:F:108:VAL:CG2	1:F:170:TRP:HA	2.37	0.50
1:F:405:GLY:HA2	1:F:408:PHE:HD1	1.73	0.50
3:H:89:ALA:HB1	3:H:171:SER:HA	1.93	0.50
3:C:76:LEU:HB2	3:C:108:PHE:CE2	2.45	0.50
1:F:169:GLY:O	1:F:172:ALA:N	2.44	0.50
2:G:138:TRP:CZ3	2:G:174:PHE:HD1	2.22	0.50
2:G:36:ILE:HG12	2:G:39:GLU:HB3	1.92	0.50
3:H:76:LEU:HB2	3:H:108:PHE:CE2	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:142:ASN:OD1	1:A:208:PHE:HE1	1.95	0.50
1:A:190:TRP:HE3	1:A:191:ILE:HG12	1.76	0.50
1:A:274:MET:HA	1:A:274:MET:CE	2.42	0.50
3:C:99:ILE:CD1	3:C:99:ILE:N	2.74	0.50
1:F:159:SER:CB	1:F:189:TYR:HD1	2.24	0.50
1:F:160:LEU:HD23	1:F:165:PHE:HB2	1.92	0.50
1:F:216:ARG:HH12	1:F:222:MET:CA	2.24	0.50
2:G:175:PHE:HD1	2:G:181:SER:C	2.15	0.50
1:A:142:ASN:OD1	1:A:208:PHE:CE1	2.64	0.50
1:A:263:PHE:HE2	3:C:46:THR:HG21	1.75	0.50
1:A:330:VAL:HG12	1:A:351:THR:HB	1.94	0.50
1:A:353:MET:SD	2:B:107:THR:HG21	2.51	0.50
3:C:145:THR:C	3:C:147:GLY:N	2.63	0.50
3:C:160:LEU:O	3:C:163:GLN:HB3	2.10	0.50
1:F:170:TRP:CE2	1:F:171:LEU:HD21	2.45	0.50
2:G:155:PHE:HZ	2:G:222:ALA:HB1	1.76	0.50
1:A:239:ILE:O	1:A:239:ILE:HG22	2.11	0.50
1:A:411:HIS:NE2	1:A:412:ASN:OD1	2.44	0.50
1:A:72:GLY:O	1:A:75:ASP:HB2	2.12	0.50
1:A:209:PHE:CE2	3:C:31:ILE:HD11	2.45	0.50
1:F:171:LEU:O	1:F:172:ALA:HB3	2.12	0.50
2:G:127:ILE:HG22	2:G:128:THR:N	2.26	0.50
2:G:175:PHE:HD2	2:G:206:ILE:HD11	1.77	0.50
2:G:225:THR:HB	2:G:226:PRO:HD2	1.94	0.50
3:H:166:ARG:NE	3:H:167:ARG:HH22	2.09	0.50
3:H:47:TYR:O	3:H:49:VAL:N	2.45	0.50
1:A:156:VAL:HG12	1:A:160:LEU:CD1	2.41	0.50
1:A:295:PHE:HE2	1:A:362:LYS:HG3	1.77	0.50
1:A:209:PHE:CE2	3:C:31:ILE:HD13	2.45	0.50
2:G:270:LYS:HE3	2:G:276:ASP:CG	2.32	0.50
1:F:374:ARG:N	2:G:71:ALA:O	2.45	0.50
3:H:196:THR:O	3:H:196:THR:HG22	2.12	0.50
1:A:203:LEU:O	1:A:206:ILE:N	2.44	0.50
1:A:406:ALA:HB2	2:B:45:LEU:CD2	2.42	0.50
2:B:95:VAL:HA	2:B:98:LEU:HD12	1.94	0.50
1:F:131:ILE:O	1:F:217:ALA:HB2	2.12	0.50
1:F:277:ASN:N	1:F:335:PHE:HZ	2.10	0.50
1:F:353:MET:SD	2:G:107:THR:HG21	2.51	0.50
1:F:367:LEU:HD23	1:F:370:MET:HE1	1.93	0.50
1:F:69:LEU:O	1:F:73:PHE:HB2	2.12	0.50
2:G:196:ILE:CG2	2:G:198:ASN:HD21	2.24	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:29:PHE:HZ	3:H:182:LEU:HB3	1.76	0.50
1:A:137:ALA:H	1:A:215:MET:HE2	1.76	0.50
2:B:270:LYS:HZ2	2:B:272:ASP:H	1.58	0.50
3:C:150:VAL:HG12	3:C:150:VAL:O	2.10	0.50
1:A:331:TRP:CH2	4:D:97:UNK:CB	2.95	0.50
1:F:155:LEU:HD13	1:F:193:SER:CA	2.42	0.50
1:F:431:GLY:O	1:F:432:CYS:C	2.49	0.50
1:A:54:HIS:CE1	1:A:135:ASP:OD2	2.65	0.50
1:A:111:ILE:CD1	1:A:170:TRP:CE3	2.95	0.50
1:A:330:VAL:HB	1:A:352:THR:OG1	2.12	0.50
1:A:442:LYS:NZ	1:A:543:THR:O	2.45	0.50
2:B:97:ILE:O	2:B:101:ILE:HD12	2.12	0.50
2:B:176:ILE:CG2	2:B:179:LEU:HD12	2.30	0.50
2:B:39:GLU:O	2:B:43:LEU:N	2.37	0.50
1:F:202:THR:O	1:F:206:ILE:HG13	2.11	0.50
1:F:543:THR:HG22	1:F:544:SER:H	1.77	0.50
1:A:169:GLY:O	1:A:171:LEU:N	2.45	0.49
2:B:89:GLU:O	2:B:93:TRP:HB2	2.11	0.49
4:D:71:UNK:O	4:D:72:UNK:C	2.59	0.49
1:F:54:HIS:CE1	1:F:135:ASP:OD2	2.65	0.49
1:F:298:PHE:CE1	1:F:384:THR:HG23	2.47	0.49
1:F:551:ASN:O	1:F:552:PHE:CB	2.57	0.49
3:H:160:LEU:HD13	3:H:176:ARG:CD	2.33	0.49
1:A:417:ILE:HD13	6:A:1001:HEM:HBA2	1.94	0.49
1:A:202:THR:O	1:A:206:ILE:HG13	2.11	0.49
1:A:442:LYS:HB2	1:A:541:TRP:HZ3	1.76	0.49
3:C:30:TRP:CZ2	4:D:79:UNK:C	2.95	0.49
4:D:108:UNK:O	4:D:109:UNK:CB	2.59	0.49
1:F:146:PHE:O	1:F:149:THR:N	2.46	0.49
1:F:118:PHE:CE2	1:F:294:VAL:HG22	2.46	0.49
1:A:120:ILE:HG23	1:A:204:THR:HG21	1.94	0.49
1:A:452:TRP:HA	1:A:455:ARG:CD	2.37	0.49
1:A:548:PRO:O	1:A:551:ASN:N	2.45	0.49
1:F:295:PHE:HE2	1:F:362:LYS:HG3	1.77	0.49
1:F:411:HIS:NE2	1:F:412:ASN:OD1	2.45	0.49
2:G:132:VAL:O	2:G:134:MET:SD	2.70	0.49
3:H:199:TYR:CD1	3:H:199:TYR:N	2.79	0.49
1:A:329:ILE:O	1:A:329:ILE:HG22	2.12	0.49
1:A:447:LYS:HG3	1:A:448:LEU:N	2.25	0.49
3:C:166:ARG:NE	3:C:167:ARG:HH22	2.09	0.49
1:F:119:VAL:HG22	1:F:123:MET:CE	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:136:VAL:HG23	1:F:211:THR:OG1	2.12	0.49
1:F:191:ILE:CG2	1:F:250:VAL:HG13	2.43	0.49
3:H:143:VAL:O	3:H:144:GLY:C	2.49	0.49
4:I:71:UNK:O	4:I:72:UNK:C	2.59	0.49
1:A:169:GLY:HA2	1:A:482:ARG:NH1	2.28	0.49
1:A:367:LEU:HD23	1:A:370:MET:HE3	1.94	0.49
1:A:465:PHE:O	1:A:470:PRO:HD3	2.13	0.49
1:A:54:HIS:CG	1:A:55:LYS:N	2.81	0.49
2:B:264:GLU:CG	2:B:265:TYR:H	2.19	0.49
3:C:90:MET:CE	4:D:67:UNK:C	2.90	0.49
1:F:151:VAL:HG11	1:F:196:LEU:HD13	1.93	0.49
1:F:482:ARG:NH2	6:F:1001:HEM:CGD	2.76	0.49
2:G:36:ILE:HG12	2:G:39:GLU:N	2.22	0.49
1:A:363:ILE:HG22	1:A:364:PHE:N	2.27	0.49
1:F:336:PHE:CE2	1:F:404:PRO:HG3	2.46	0.49
1:F:485:GLN:HA	1:F:485:GLN:OE1	2.12	0.49
1:A:191:ILE:CG2	1:A:250:VAL:HG13	2.43	0.49
1:A:374:ARG:CB	2:B:79:SER:HB3	2.35	0.49
1:F:155:LEU:HD12	1:F:196:LEU:HD12	1.94	0.49
1:F:274:MET:CE	1:F:274:MET:HA	2.43	0.49
1:F:374:ARG:HB2	2:G:78:TYR:O	2.12	0.49
1:A:169:GLY:O	1:A:172:ALA:N	2.46	0.49
1:A:155:LEU:HD13	1:A:193:SER:CA	2.43	0.49
1:A:288:TYR:HE2	1:A:323:ILE:HG23	1.78	0.49
1:A:488:ASP:OD1	1:A:490:GLN:HG3	2.13	0.49
1:A:464:PHE:HA	1:A:505:ILE:HD11	1.94	0.49
2:B:36:ILE:HG12	2:B:39:GLU:HB3	1.94	0.49
1:A:155:LEU:HD12	1:A:196:LEU:HD12	1.94	0.49
1:A:480:THR:OG1	2:B:206:ILE:HB	2.11	0.49
1:A:474:LEU:CD2	1:A:491:PHE:HA	2.43	0.49
1:A:373:GLY:CA	2:B:71:ALA:HB1	2.32	0.49
1:F:72:GLY:O	1:F:75:ASP:HB2	2.13	0.49
2:G:85:SER:HB3	2:G:88:VAL:HG13	1.95	0.49
3:H:102:LEU:HD23	3:H:161:MET:HE2	1.95	0.49
1:A:136:VAL:HG23	1:A:211:THR:OG1	2.13	0.49
2:B:183:ILE:HG13	2:B:184:TYR:N	2.28	0.49
2:B:48:PHE:CE1	2:B:52:LEU:HD11	2.48	0.49
2:G:157:ALA:O	2:G:158:ASN:C	2.51	0.49
3:H:97:GLN:HG2	3:H:97:GLN:O	2.13	0.49
3:H:91:TYR:HE2	4:I:6:UNK:CB	2.26	0.49
1:A:131:ILE:O	1:A:217:ALA:HB2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:69:LEU:O	1:A:73:PHE:HB2	2.13	0.48
3:C:89:ALA:HB1	3:C:171:SER:HA	1.95	0.48
3:C:174:ARG:HB3	3:C:177:ILE:CD1	2.43	0.48
1:F:411:HIS:ND1	7:F:1002:HEO:O2A	2.45	0.48
2:G:176:ILE:CG2	2:G:179:LEU:HD12	2.30	0.48
2:G:202:THR:HA	2:G:223:ILE:HA	1.95	0.48
3:H:160:LEU:O	3:H:163:GLN:HB3	2.12	0.48
4:I:103:UNK:O	4:I:106:UNK:HA	2.13	0.48
2:B:202:THR:HA	2:B:223:ILE:HA	1.95	0.48
3:C:143:VAL:O	3:C:144:GLY:C	2.50	0.48
3:C:66:LEU:N	3:C:67:PRO:CD	2.75	0.48
4:D:25:UNK:O	4:D:29:UNK:N	2.46	0.48
1:F:426:GLY:HA2	1:F:430:PHE:CE1	2.48	0.48
2:G:130:GLU:OE1	2:G:141:ILE:O	2.30	0.48
2:G:170:VAL:HG23	2:G:171:MET:O	2.13	0.48
2:B:50:LEU:CA	2:B:53:ILE:HG22	2.43	0.48
1:F:120:ILE:HG23	1:F:204:THR:HG21	1.95	0.48
1:F:80:ARG:O	1:F:80:ARG:CG	2.60	0.48
3:C:174:ARG:HH11	3:C:177:ILE:HG12	1.78	0.48
1:F:396:MET:HB3	2:G:53:ILE:HD13	1.95	0.48
1:A:466:VAL:O	1:A:466:VAL:HG12	2.13	0.48
1:A:73:PHE:HE2	6:A:1001:HEM:HAB	1.78	0.48
3:C:29:PHE:HZ	3:C:182:LEU:HB3	1.78	0.48
1:F:147:TRP:O	1:F:151:VAL:HG23	2.13	0.48
1:F:447:LYS:HG3	1:F:448:LEU:N	2.26	0.48
2:G:275:ALA:O	2:G:279:ASN:ND2	2.47	0.48
1:A:414:LEU:HD23	1:A:479:MET:HB3	1.96	0.48
1:A:57:LEU:HD12	1:A:142:ASN:HD22	1.78	0.48
1:A:73:PHE:O	1:A:77:ILE:HG13	2.14	0.48
2:B:243:ASN:O	2:B:266:PHE:HA	2.13	0.48
3:C:100:SER:O	3:C:103:ALA:HB3	2.14	0.48
3:C:112:PHE:HZ	3:C:191:TRP:CZ3	2.31	0.48
3:C:51:VAL:HG12	3:C:135:PHE:CE2	2.48	0.48
1:F:465:PHE:O	1:F:470:PRO:HD3	2.14	0.48
2:G:136:TRP:HA	2:G:218:MET:SD	2.54	0.48
3:H:71:VAL:HG22	3:H:191:TRP:HE1	1.79	0.48
3:H:66:LEU:N	3:H:67:PRO:CD	2.75	0.48
1:A:105:ALA:O	1:A:108:VAL:HB	2.13	0.48
1:A:125:LEU:C	1:A:125:LEU:HD23	2.34	0.48
1:A:382:LEU:HA	1:A:385:ILE:CD1	2.43	0.48
1:A:485:GLN:HA	1:A:485:GLN:OE1	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:543:THR:CG2	1:A:544:SER:N	2.75	0.48
3:C:124:ILE:HD11	3:C:140:PHE:HZ	1.79	0.48
1:F:169:GLY:HA2	1:F:482:ARG:NH1	2.29	0.48
1:F:174:PRO:C	1:F:176:LEU:N	2.66	0.48
1:F:235:ALA:O	1:F:289:ILE:HG12	2.13	0.48
1:F:318:TRP:O	1:F:322:CYS:SG	2.68	0.48
1:F:336:PHE:CE2	1:F:404:PRO:HA	2.48	0.48
4:I:25:UNK:O	4:I:29:UNK:N	2.46	0.48
1:A:235:ALA:O	1:A:289:ILE:HG12	2.13	0.48
1:A:332:LEU:HB2	1:A:348:PHE:CG	2.49	0.48
2:B:236:ALA:HA	2:B:239:LYS:HG3	1.96	0.48
2:B:95:VAL:O	2:B:98:LEU:HB2	2.13	0.48
1:F:486:GLN:HG2	1:F:492:HIS:NE2	2.29	0.48
1:F:483:LEU:HD22	2:G:216:SER:HA	1.96	0.48
3:H:150:VAL:HG12	3:H:150:VAL:O	2.13	0.48
3:H:96:SER:C	3:H:98:VAL:N	2.67	0.48
1:A:332:LEU:CD2	1:A:335:PHE:CG	2.96	0.48
1:A:379:SER:O	1:A:382:LEU:HB2	2.14	0.48
1:A:464:PHE:CD1	1:A:468:PHE:HD1	2.31	0.48
2:B:36:ILE:HG12	2:B:39:GLU:N	2.24	0.48
1:A:151:VAL:HG11	1:A:196:LEU:HD13	1.94	0.48
2:B:196:ILE:CG2	2:B:198:ASN:HD21	2.26	0.48
3:C:166:ARG:HB2	3:C:167:ARG:NH2	2.27	0.48
3:C:47:TYR:O	3:C:49:VAL:N	2.47	0.48
1:F:330:VAL:HG12	1:F:351:THR:HB	1.96	0.48
1:F:464:PHE:HA	1:F:505:ILE:HD11	1.95	0.48
2:G:184:TYR:CD2	2:G:186:MET:HB2	2.48	0.48
2:G:56:ILE:N	2:G:57:PRO:HD2	2.27	0.48
1:A:253:LEU:O	1:A:256:ASP:HB2	2.14	0.47
1:A:282:TRP:O	1:A:285:PRO:HD2	2.14	0.47
1:A:491:PHE:O	1:A:495:LEU:HG	2.14	0.47
2:B:101:ILE:HA	2:B:104:ALA:HB3	1.96	0.47
2:B:174:PHE:O	2:B:182:GLN:HA	2.14	0.47
2:B:186:MET:HB3	2:B:189:MET:HG3	1.95	0.47
1:A:96:PRO:HG2	2:B:213:PRO:HA	1.96	0.47
3:C:66:LEU:C	3:C:68:PHE:H	2.18	0.47
1:F:105:ALA:O	1:F:108:VAL:HB	2.13	0.47
1:F:488:ASP:OD1	1:F:490:GLN:HG3	2.14	0.47
2:G:177:PRO:O	2:G:179:LEU:N	2.47	0.47
2:G:228:ARG:HG3	2:G:231:PHE:CD2	2.46	0.47
3:H:33:LEU:C	3:H:35:SER:H	2.17	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:88:ILE:CG1	3:H:98:VAL:HG13	2.37	0.47
1:A:233:LEU:O	1:A:234:CYS:C	2.52	0.47
1:F:253:LEU:O	1:F:256:ASP:HB2	2.14	0.47
1:F:482:ARG:NH2	6:F:1001:HEM:O2D	2.47	0.47
1:F:487:ILE:O	1:F:488:ASP:C	2.52	0.47
2:G:131:VAL:CG2	2:G:165:VAL:HG22	2.44	0.47
2:G:136:TRP:HB2	2:G:259:GLU:HA	1.95	0.47
2:G:95:VAL:O	2:G:99:ILE:HG12	2.14	0.47
3:H:143:VAL:O	3:H:146:HIS:N	2.47	0.47
1:A:330:VAL:HG13	1:A:351:THR:CG2	2.44	0.47
1:A:297:VAL:HG22	1:A:439:TRP:HZ3	1.79	0.47
1:A:422:ASN:HA	1:A:464:PHE:CZ	2.49	0.47
1:A:486:GLN:C	1:A:487:ILE:HG13	2.34	0.47
3:C:136:LEU:C	3:C:140:PHE:HB2	2.34	0.47
3:C:96:SER:C	3:C:98:VAL:N	2.67	0.47
4:D:103:UNK:O	4:D:106:UNK:HA	2.14	0.47
1:F:385:ILE:HA	1:F:388:ILE:HD12	1.95	0.47
2:G:175:PHE:HD1	2:G:181:SER:O	1.98	0.47
2:G:61:MET:HA	2:G:61:MET:CE	2.44	0.47
3:H:166:ARG:HB2	3:H:167:ARG:NH2	2.27	0.47
1:A:464:PHE:HD2	1:A:465:PHE:CD1	2.33	0.47
3:C:74:PHE:HD1	3:C:77:LEU:HD12	1.79	0.47
1:F:142:ASN:OD1	1:F:208:PHE:CE1	2.67	0.47
1:F:211:THR:HG23	1:F:215:MET:CE	2.42	0.47
1:F:233:LEU:O	1:F:234:CYS:C	2.52	0.47
1:F:311:PHE:CZ	2:G:88:VAL:HG11	2.48	0.47
3:H:124:ILE:HD11	3:H:140:PHE:HZ	1.80	0.47
3:H:47:TYR:C	3:H:49:VAL:H	2.17	0.47
3:H:66:LEU:C	3:H:68:PHE:H	2.18	0.47
3:H:78:PHE:HZ	4:I:57:UNK:HA	1.78	0.47
3:H:85:MET:HA	3:H:88:ILE:HD12	1.95	0.47
1:A:170:TRP:NE1	1:A:171:LEU:HG	2.29	0.47
1:A:389:VAL:HG12	1:A:390:THR:N	2.29	0.47
1:A:474:LEU:CD2	1:A:494:MET:HB2	2.34	0.47
1:A:516:MET:O	1:A:519:SER:N	2.40	0.47
3:C:195:PHE:CD1	3:C:199:TYR:CB	2.98	0.47
3:C:72:GLU:O	3:C:75:LEU:HB3	2.14	0.47
1:F:397:THR:HG23	1:F:415:PHE:CZ	2.49	0.47
1:F:460:TRP:HZ3	1:F:509:ILE:HG12	1.80	0.47
2:G:130:GLU:OE1	2:G:141:ILE:HG22	2.15	0.47
2:G:184:TYR:CE2	2:G:189:MET:HE2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:384:THR:O	1:A:388:ILE:HG13	2.14	0.47
2:B:170:VAL:HG23	2:B:171:MET:O	2.15	0.47
3:C:199:TYR:CD1	3:C:199:TYR:N	2.81	0.47
3:C:47:TYR:C	3:C:49:VAL:H	2.17	0.47
2:G:48:PHE:CE1	2:G:52:LEU:HD11	2.49	0.47
1:A:147:TRP:O	1:A:151:VAL:HG23	2.14	0.47
1:F:330:VAL:HG13	1:F:351:THR:CG2	2.44	0.47
3:H:88:ILE:HG23	3:H:98:VAL:HG11	1.95	0.47
1:A:512:LEU:O	1:A:516:MET:HG3	2.14	0.47
2:B:56:ILE:N	2:B:57:PRO:HD2	2.28	0.47
2:G:174:PHE:O	2:G:182:GLN:HA	2.15	0.47
3:H:120:PHE:O	3:H:121:HIS:C	2.52	0.47
3:H:51:VAL:HG12	3:H:135:PHE:CE2	2.49	0.47
4:I:73:UNK:O	4:I:75:UNK:N	2.48	0.47
1:A:171:LEU:O	1:A:172:ALA:HB3	2.15	0.47
1:A:277:ASN:N	1:A:335:PHE:HZ	2.13	0.47
1:A:406:ALA:HB2	2:B:45:LEU:HD22	1.96	0.47
2:B:157:ALA:O	2:B:158:ASN:C	2.53	0.47
3:C:102:LEU:HB3	3:C:161:MET:HE2	1.96	0.47
3:C:89:ALA:O	3:C:90:MET:C	2.53	0.47
1:F:345:ASN:O	1:F:349:GLY:N	2.46	0.47
1:F:375:ILE:HG21	1:F:381:MET:HE2	1.96	0.47
3:H:174:ARG:CB	3:H:177:ILE:HD11	2.42	0.47
3:H:29:PHE:C	3:H:31:ILE:H	2.16	0.47
2:B:131:VAL:CG2	2:B:165:VAL:HG22	2.45	0.47
1:A:412:ASN:CG	2:B:209:SER:HB3	2.35	0.47
2:B:137:LYS:CE	2:B:261:ASN:ND2	2.78	0.47
2:B:61:MET:CE	2:B:61:MET:HA	2.45	0.47
1:F:306:SER:HB3	1:F:375:ILE:HG13	1.96	0.47
1:A:420:PHE:O	1:A:421:HIS:C	2.52	0.47
2:B:139:PHE:HA	2:B:149:THR:O	2.15	0.47
3:C:152:SER:C	3:C:154:LEU:N	2.68	0.47
3:C:191:TRP:O	3:C:191:TRP:CD1	2.68	0.47
1:F:357:ILE:CD1	2:G:100:ILE:CD1	2.89	0.47
1:F:389:VAL:HG12	1:F:390:THR:N	2.30	0.47
1:F:512:LEU:O	1:F:516:MET:HG3	2.15	0.47
3:H:85:MET:CA	3:H:88:ILE:HD12	2.45	0.47
1:A:156:VAL:O	1:A:160:LEU:HD12	2.15	0.46
1:A:332:LEU:HD22	1:A:335:PHE:HB2	1.96	0.46
1:A:491:PHE:HD1	1:A:491:PHE:H	1.62	0.46
1:A:511:CYS:SG	1:A:512:LEU:N	2.88	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:159:THR:O	2:B:196:ILE:HD13	2.15	0.46
3:C:88:ILE:O	3:C:174:ARG:NE	2.48	0.46
4:D:86:UNK:O	4:D:90:UNK:N	2.48	0.46
1:F:168:THR:CB	1:F:172:ALA:HA	2.40	0.46
1:F:272:MET:C	1:F:274:MET:H	2.18	0.46
1:F:332:LEU:CD2	1:F:335:PHE:CG	2.97	0.46
1:F:373:GLY:C	1:F:375:ILE:HD12	2.35	0.46
2:G:125:LYS:N	2:G:126:PRO:CD	2.71	0.46
7:A:1002:HEO:H241	2:B:99:ILE:HB	1.96	0.46
1:A:482:ARG:NH2	6:A:1001:HEM:CGD	2.79	0.46
2:B:156:PRO:HD3	2:B:231:PHE:CE2	2.51	0.46
2:B:177:PRO:C	2:B:179:LEU:N	2.69	0.46
2:B:184:TYR:CD2	2:B:186:MET:HB2	2.49	0.46
1:F:458:TRP:O	1:F:462:ILE:HG13	2.15	0.46
3:H:30:TRP:CH2	4:I:79:UNK:CA	2.97	0.46
1:A:397:THR:HG23	1:A:415:PHE:CZ	2.50	0.46
2:B:130:GLU:OE1	2:B:141:ILE:HG22	2.15	0.46
2:B:134:MET:CE	2:B:255:ALA:HB2	2.45	0.46
3:C:197:VAL:CG1	3:C:198:VAL:HG23	2.45	0.46
1:F:126:VAL:HG12	1:F:126:VAL:O	2.15	0.46
1:F:137:ALA:H	1:F:215:MET:CE	2.29	0.46
1:F:281:ALA:HA	1:F:331:TRP:CG	2.50	0.46
1:F:238:LEU:HD21	1:F:324:THR:HG23	1.95	0.46
2:G:130:GLU:OE1	2:G:141:ILE:HB	2.16	0.46
3:H:102:LEU:HD23	3:H:161:MET:CE	2.45	0.46
3:H:199:TYR:H	3:H:199:TYR:HD1	1.60	0.46
3:H:89:ALA:O	3:H:90:MET:C	2.53	0.46
1:A:272:MET:C	1:A:274:MET:H	2.18	0.46
1:A:295:PHE:CE2	1:A:362:LYS:HG3	2.50	0.46
1:A:452:TRP:O	1:A:455:ARG:HB2	2.15	0.46
3:C:103:ALA:CA	3:C:161:MET:HE1	2.46	0.46
3:C:177:ILE:C	3:C:177:ILE:HD12	2.35	0.46
1:F:103:PHE:CZ	6:F:1001:HEM:CMA	2.99	0.46
1:F:306:SER:HA	1:F:375:ILE:HG23	1.96	0.46
1:F:474:LEU:CD2	1:F:491:PHE:HA	2.45	0.46
1:A:127:VAL:N	1:A:128:PRO:CD	2.77	0.46
1:A:308:LYS:HZ1	1:A:372:GLN:CB	2.28	0.46
1:A:336:PHE:CE2	1:A:404:PRO:HA	2.50	0.46
1:A:441:PRO:C	1:A:443:ALA:N	2.69	0.46
2:B:217:GLY:CA	2:B:260:TYR:CZ	2.95	0.46
1:A:374:ARG:HB2	2:B:78:TYR:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:102:LEU:HD23	3:C:161:MET:CE	2.45	0.46
3:C:91:TYR:OH	4:D:7:UNK:CB	2.63	0.46
2:G:67:TRP:O	2:G:69:TYR:N	2.48	0.46
3:H:102:LEU:HB3	3:H:161:MET:HE2	1.97	0.46
3:H:174:ARG:HH11	3:H:177:ILE:HG12	1.80	0.46
1:A:426:GLY:HA2	1:A:430:PHE:CE1	2.51	0.46
2:B:136:TRP:HA	2:B:218:MET:CG	2.45	0.46
3:C:120:PHE:O	3:C:121:HIS:C	2.53	0.46
3:C:90:MET:HE1	4:D:68:UNK:CA	2.46	0.46
2:G:152:GLU:OE2	2:G:223:ILE:HG13	2.16	0.46
2:G:50:LEU:CA	2:G:53:ILE:HG22	2.45	0.46
2:G:60:LEU:C	2:G:62:ALA:N	2.68	0.46
1:A:281:ALA:HA	1:A:331:TRP:CG	2.50	0.46
1:A:408:PHE:O	2:B:182:GLN:NE2	2.42	0.46
1:A:482:ARG:NH2	6:A:1001:HEM:O2D	2.49	0.46
2:B:238:ALA:O	2:B:241:SER:N	2.48	0.46
2:B:270:LYS:HE3	2:B:276:ASP:CG	2.36	0.46
2:B:277:VAL:O	2:B:280:LYS:HG2	2.16	0.46
2:B:88:VAL:HG23	2:B:89:GLU:N	2.31	0.46
3:C:134:GLY:CA	3:C:137:SER:HB3	2.45	0.46
3:C:47:TYR:C	3:C:49:VAL:N	2.68	0.46
1:F:110:MET:HB2	6:F:1001:HEM:HBC2	1.97	0.46
1:F:384:THR:O	1:F:388:ILE:HG13	2.16	0.46
1:F:403:VAL:HG13	2:G:107:THR:HG23	1.97	0.46
1:F:297:VAL:HG22	1:F:439:TRP:HZ3	1.81	0.46
1:F:422:ASN:HA	1:F:464:PHE:CZ	2.50	0.46
1:F:491:PHE:HD1	1:F:491:PHE:H	1.62	0.46
2:G:186:MET:HB3	2:G:189:MET:HG3	1.97	0.46
3:H:171:SER:C	3:H:173:ASN:H	2.18	0.46
1:A:238:LEU:HD21	1:A:324:THR:HG23	1.96	0.46
2:B:125:LYS:N	2:B:126:PRO:CD	2.72	0.46
2:B:195:LEU:HD23	2:B:195:LEU:C	2.37	0.46
2:B:155:PHE:HZ	2:B:222:ALA:HB1	1.80	0.46
2:B:152:GLU:OE2	2:B:223:ILE:HG13	2.16	0.46
1:F:395:GLY:CA	7:F:1002:HEO:H162	2.38	0.46
1:F:127:VAL:N	1:F:128:PRO:CD	2.77	0.46
1:F:239:ILE:HG22	1:F:239:ILE:O	2.15	0.46
2:G:111:THR:O	2:G:111:THR:HG22	2.16	0.46
2:G:201:GLY:O	2:G:224:ALA:HB3	2.16	0.46
2:G:238:ALA:O	2:G:241:SER:N	2.48	0.46
3:H:152:SER:C	3:H:154:LEU:N	2.68	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:174:ARG:HD3	3:H:177:ILE:CD1	2.46	0.46
3:H:47:TYR:C	3:H:49:VAL:N	2.68	0.46
3:H:72:GLU:O	3:H:75:LEU:HB3	2.15	0.46
1:A:345:ASN:O	1:A:349:GLY:N	2.48	0.46
2:B:214:GLY:O	2:B:218:MET:HG3	2.16	0.46
2:B:46:THR:O	2:B:50:LEU:HG	2.15	0.46
3:C:92:LYS:HE2	3:C:92:LYS:HB3	1.82	0.46
1:F:134:ARG:O	1:F:135:ASP:CG	2.54	0.46
1:F:452:TRP:HA	1:F:455:ARG:CD	2.41	0.46
1:A:110:MET:HB2	6:A:1001:HEM:HBC2	1.96	0.46
1:A:318:TRP:O	1:A:322:CYS:N	2.36	0.46
2:B:175:PHE:HD1	2:B:181:SER:O	1.99	0.46
2:B:149:THR:HG21	2:B:234:TRP:CH2	2.50	0.46
1:F:255:LEU:HB3	1:F:261:THR:HG21	1.98	0.46
1:F:441:PRO:C	1:F:443:ALA:N	2.70	0.46
2:G:150:VAL:O	2:G:151:ASN:HB2	2.17	0.46
2:G:217:GLY:CA	2:G:260:TYR:CZ	2.96	0.46
2:G:277:VAL:O	2:G:280:LYS:HG2	2.16	0.46
2:G:56:ILE:HD11	2:G:99:ILE:HG13	1.98	0.46
2:B:137:LYS:CE	2:B:261:ASN:HD21	2.29	0.45
2:B:142:TYR:HE1	2:B:234:TRP:HZ3	1.64	0.45
2:B:53:ILE:O	2:B:55:VAL:N	2.49	0.45
3:C:102:LEU:HD23	3:C:161:MET:HE2	1.98	0.45
4:D:63:UNK:O	4:D:67:UNK:N	2.50	0.45
1:F:102:ILE:O	1:F:105:ALA:N	2.49	0.45
1:F:118:PHE:CD2	1:F:119:VAL:N	2.85	0.45
1:F:155:LEU:CD1	1:F:193:SER:HA	2.46	0.45
1:F:292:LEU:CB	1:F:293:PRO:HD3	2.44	0.45
1:F:352:THR:HA	1:F:355:ILE:HG12	1.97	0.45
1:F:414:LEU:HD23	1:F:479:MET:HB3	1.98	0.45
1:F:76:ALA:HA	1:F:79:MET:HE3	1.98	0.45
2:G:154:ALA:HB3	2:G:234:TRP:CD2	2.51	0.45
3:H:136:LEU:C	3:H:140:PHE:HB2	2.36	0.45
1:A:118:PHE:CD2	1:A:119:VAL:N	2.85	0.45
1:A:146:PHE:O	1:A:148:PHE:N	2.49	0.45
2:B:127:ILE:HG22	2:B:128:THR:N	2.31	0.45
1:A:375:ILE:CG1	2:B:67:TRP:HE1	2.29	0.45
3:C:171:SER:C	3:C:173:ASN:H	2.19	0.45
1:F:277:ASN:O	1:F:281:ALA:HB2	2.16	0.45
1:F:295:PHE:CE2	1:F:362:LYS:HG3	2.51	0.45
1:F:79:MET:HG3	1:F:103:PHE:CE2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:193:LEU:C	2:G:193:LEU:HD23	2.37	0.45
3:H:199:TYR:HD1	3:H:199:TYR:N	2.13	0.45
1:A:168:THR:HB	1:A:172:ALA:CB	2.46	0.45
1:A:335:PHE:HA	1:A:338:MET:CE	2.47	0.45
1:A:441:PRO:HG2	1:A:447:LYS:HD2	1.98	0.45
1:A:468:PHE:HA	1:A:471:LEU:HG	1.98	0.45
2:B:233:GLN:O	2:B:236:ALA:HB3	2.17	0.45
3:C:103:ALA:HA	3:C:161:MET:HE1	1.99	0.45
1:F:120:ILE:HD13	1:F:201:THR:OG1	2.16	0.45
1:F:350:ILE:HA	1:F:353:MET:CE	2.47	0.45
1:F:61:TYR:CE1	1:F:146:PHE:CD1	3.05	0.45
2:G:88:VAL:HG23	2:G:89:GLU:N	2.31	0.45
1:A:126:VAL:HG12	1:A:126:VAL:O	2.16	0.45
1:A:377:PHE:CD1	1:A:377:PHE:N	2.84	0.45
2:B:130:GLU:HA	2:B:164:LYS:HB2	1.99	0.45
3:C:88:ILE:HG23	3:C:98:VAL:HG11	1.97	0.45
1:F:142:ASN:OD1	1:F:208:PHE:HE1	2.00	0.45
1:F:195:GLN:HG2	1:F:250:VAL:HG11	1.97	0.45
1:F:284:HIS:NE2	1:F:288:TYR:CE1	2.84	0.45
2:G:97:ILE:HG12	2:G:101:ILE:HD11	1.98	0.45
2:G:162:TYR:CD1	2:G:194:HIS:NE2	2.85	0.45
3:H:191:TRP:CD1	3:H:191:TRP:O	2.69	0.45
3:H:74:PHE:HD1	3:H:77:LEU:HD12	1.81	0.45
1:A:221:THR:H	1:A:224:LYS:HD2	1.81	0.45
1:A:284:HIS:NE2	1:A:288:TYR:CE1	2.84	0.45
1:A:79:MET:HG3	1:A:103:PHE:CE2	2.52	0.45
3:C:192:ILE:HG12	3:C:192:ILE:O	2.16	0.45
3:C:202:GLY:O	3:C:203:ALA:HB3	2.17	0.45
1:F:398:GLY:C	7:F:1002:HEO:HMB3	2.36	0.45
1:F:379:SER:O	1:F:382:LEU:HB2	2.17	0.45
1:F:57:LEU:HA	1:F:57:LEU:HD23	1.79	0.45
3:H:145:THR:O	3:H:147:GLY:N	2.49	0.45
1:A:385:ILE:HA	1:A:388:ILE:HD12	1.98	0.45
2:B:111:THR:HG22	2:B:111:THR:O	2.17	0.45
3:C:50:LEU:HD11	3:C:134:GLY:CA	2.44	0.45
3:C:84:GLY:C	3:C:88:ILE:HD12	2.37	0.45
1:F:291:ILE:HA	1:F:294:VAL:HG23	1.99	0.45
1:F:308:LYS:HZ1	1:F:372:GLN:CB	2.29	0.45
1:F:377:PHE:N	1:F:377:PHE:CD1	2.84	0.45
1:F:388:ILE:HG13	1:F:388:ILE:H	1.50	0.45
1:F:464:PHE:HD2	1:F:465:PHE:CD1	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:56:ARG:O	1:F:60:MET:HG2	2.17	0.45
1:F:353:MET:HE3	2:G:104:ALA:CB	2.47	0.45
2:G:236:ALA:HA	2:G:239:LYS:HG3	1.99	0.45
2:G:38:LEU:HA	2:G:41:ARG:HD3	1.98	0.45
3:H:91:TYR:O	3:H:92:LYS:C	2.54	0.45
1:A:424:ILE:CG2	6:A:1001:HEM:HAC	2.38	0.45
1:A:106:HIS:CD2	1:A:107:GLY:H	2.35	0.45
1:A:277:ASN:O	1:A:281:ALA:HB2	2.17	0.45
1:A:415:PHE:CD1	1:A:472:TYR:CD2	3.04	0.45
1:A:480:THR:HB	1:A:483:LEU:CG	2.46	0.45
2:B:136:TRP:NE1	2:B:213:PRO:O	2.49	0.45
3:C:156:TRP:NE1	3:C:180:LEU:HD13	2.28	0.45
1:F:248:VAL:HG13	3:H:43:LEU:CD2	2.47	0.45
1:F:468:PHE:HA	1:F:471:LEU:HG	1.98	0.45
1:F:491:PHE:O	1:F:493:THR:N	2.50	0.45
2:G:43:LEU:O	2:G:46:THR:OG1	2.31	0.45
1:A:102:ILE:O	1:A:105:ALA:N	2.49	0.45
1:A:292:LEU:CB	1:A:293:PRO:HD3	2.44	0.45
1:A:352:THR:HA	1:A:355:ILE:HG12	1.97	0.45
1:A:80:ARG:CG	1:A:80:ARG:O	2.64	0.45
2:B:275:ALA:O	2:B:279:ASN:ND2	2.50	0.45
1:A:367:LEU:HD13	2:B:63:VAL:CG1	2.46	0.45
1:F:101:GLN:CG	1:F:165:PHE:O	2.65	0.45
1:F:329:ILE:O	1:F:329:ILE:HG22	2.17	0.45
2:G:137:LYS:CE	2:G:261:ASN:ND2	2.79	0.45
2:G:149:THR:HG21	2:G:234:TRP:CH2	2.51	0.45
2:G:156:PRO:HG3	2:G:231:PHE:CD2	2.52	0.45
2:G:240:GLN:O	2:G:241:SER:C	2.53	0.45
3:H:29:PHE:C	3:H:31:ILE:N	2.70	0.45
1:A:175:PRO:HG2	1:A:272:MET:HE2	1.99	0.45
1:A:248:VAL:O	1:A:252:LEU:HG	2.17	0.45
1:A:417:ILE:HA	1:A:420:PHE:CE2	2.51	0.45
1:A:481:ARG:HG2	1:A:482:ARG:H	1.80	0.45
2:B:137:LYS:HE2	2:B:261:ASN:ND2	2.32	0.45
2:B:193:LEU:HD23	2:B:194:HIS:O	2.17	0.45
3:C:145:THR:OG1	3:C:146:HIS:N	2.50	0.45
3:C:150:VAL:HG22	3:C:187:LEU:CD1	2.47	0.45
1:F:248:VAL:HG21	3:H:42:ILE:CG2	2.47	0.45
1:F:332:LEU:C	1:F:334:HIS:H	2.20	0.45
1:F:332:LEU:HB2	1:F:348:PHE:CG	2.52	0.45
1:F:417:ILE:HA	1:F:420:PHE:CE2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:217:GLY:HA3	2:G:260:TYR:CE1	2.52	0.45
2:G:265:TYR:O	2:G:266:PHE:CD2	2.70	0.45
2:G:46:THR:O	2:G:50:LEU:HG	2.16	0.45
3:H:137:SER:O	3:H:140:PHE:HB3	2.17	0.45
1:A:174:PRO:C	1:A:176:LEU:N	2.69	0.45
1:A:291:ILE:HA	1:A:294:VAL:HG23	1.99	0.45
1:A:311:PHE:HZ	2:B:88:VAL:HG21	1.81	0.45
1:A:332:LEU:HD22	1:A:335:PHE:CG	2.52	0.45
1:A:409:VAL:HG12	2:B:175:PHE:HZ	1.80	0.45
2:B:240:GLN:O	2:B:241:SER:C	2.53	0.45
1:F:424:ILE:CG2	6:F:1001:HEM:HAC	2.38	0.45
1:F:318:TRP:O	1:F:322:CYS:N	2.36	0.45
1:F:369:THR:O	1:F:369:THR:CG2	2.65	0.45
1:F:374:ARG:HD3	2:G:76:ALA:O	2.17	0.45
3:H:134:GLY:CA	3:H:137:SER:HB3	2.46	0.45
3:H:197:VAL:CG1	3:H:198:VAL:HG23	2.47	0.45
1:F:138:PHE:CZ	3:H:28:GLY:HA3	2.44	0.45
1:A:155:LEU:CD1	1:A:193:SER:HA	2.47	0.44
1:A:244:PRO:O	1:A:245:ILE:C	2.55	0.44
2:B:136:TRP:HB2	2:B:259:GLU:HA	1.98	0.44
1:F:395:GLY:O	1:F:399:VAL:HG23	2.17	0.44
1:F:466:VAL:O	1:F:466:VAL:HG12	2.16	0.44
2:G:142:TYR:HE1	2:G:234:TRP:HZ3	1.64	0.44
1:A:116:MET:HB3	1:A:117:PRO:HD3	1.98	0.44
1:A:275:TYR:C	1:A:275:TYR:CD2	2.90	0.44
1:A:487:ILE:O	1:A:488:ASP:C	2.55	0.44
2:B:154:ALA:HB3	2:B:234:TRP:CD2	2.52	0.44
2:B:225:THR:HB	2:B:226:PRO:CD	2.47	0.44
2:B:56:ILE:O	2:B:60:LEU:N	2.48	0.44
1:F:168:THR:CG2	1:F:176:LEU:HB3	2.41	0.44
1:F:463:GLY:HA3	1:F:505:ILE:HG13	1.99	0.44
2:G:155:PHE:CZ	2:G:222:ALA:HB1	2.52	0.44
1:A:115:ALA:O	1:A:290:LEU:HD11	2.17	0.44
1:A:502:ALA:C	1:A:504:LEU:N	2.68	0.44
1:A:541:TRP:C	1:A:543:THR:N	2.70	0.44
1:A:96:PRO:CG	2:B:213:PRO:HA	2.47	0.44
2:B:138:TRP:HH2	2:B:174:PHE:HA	1.82	0.44
3:C:70:LEU:HD23	3:C:115:MET:HE3	1.99	0.44
3:C:190:VAL:O	3:C:194:VAL:HG23	2.17	0.44
1:F:244:PRO:O	1:F:245:ILE:C	2.56	0.44
1:F:246:LEU:CD1	1:F:250:VAL:HG23	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:243:PHE:HA	1:F:282:TRP:CD1	2.53	0.44
1:F:389:VAL:O	1:F:393:VAL:HG23	2.16	0.44
1:A:169:GLY:C	1:A:171:LEU:N	2.69	0.44
1:A:316:LEU:CD2	1:A:362:LYS:HA	2.47	0.44
1:A:458:TRP:O	1:A:462:ILE:HG13	2.18	0.44
2:B:132:VAL:O	2:B:134:MET:SD	2.76	0.44
2:B:175:PHE:CD2	2:B:206:ILE:HD11	2.51	0.44
2:B:36:ILE:HG23	2:B:39:GLU:HB3	2.00	0.44
3:C:137:SER:O	3:C:140:PHE:HB3	2.18	0.44
3:C:26:ILE:CD1	3:C:175:THR:HG23	2.47	0.44
3:C:85:MET:HA	3:C:88:ILE:HD12	1.97	0.44
4:D:41:UNK:O	4:D:42:UNK:C	2.66	0.44
1:F:274:MET:CE	3:H:49:VAL:HG21	2.47	0.44
4:I:41:UNK:O	4:I:42:UNK:C	2.66	0.44
1:A:338:MET:HA	2:B:184:TYR:CG	2.53	0.44
1:A:56:ARG:O	1:A:60:MET:HG2	2.18	0.44
3:C:148:LEU:O	3:C:151:THR:N	2.50	0.44
3:C:26:ILE:C	3:C:28:GLY:N	2.69	0.44
1:F:106:HIS:CG	1:F:107:GLY:N	2.84	0.44
1:F:245:ILE:HB	1:F:282:TRP:HB2	2.00	0.44
1:F:275:TYR:C	1:F:275:TYR:CD2	2.91	0.44
1:F:476:PHE:C	1:F:478:GLY:H	2.21	0.44
1:F:79:MET:SD	1:F:102:ILE:CG2	3.05	0.44
2:G:45:LEU:CD1	2:G:110:THR:HG21	2.45	0.44
1:F:400:LEU:HD11	2:G:46:THR:HA	2.00	0.44
1:A:398:GLY:O	7:A:1002:HEO:HMB3	2.17	0.44
1:A:61:TYR:CE1	1:A:146:PHE:CD1	3.06	0.44
1:A:484:SER:H	2:B:216:SER:CB	2.30	0.44
2:B:38:LEU:HA	2:B:41:ARG:HD3	1.99	0.44
2:B:67:TRP:O	2:B:69:TYR:N	2.50	0.44
1:F:111:ILE:HD11	6:F:1001:HEM:HMD3	1.98	0.44
1:F:116:MET:HB3	1:F:117:PRO:HD3	1.98	0.44
1:F:127:VAL:HG13	1:F:229:THR:HG23	1.99	0.44
1:F:248:VAL:CG2	3:H:39:LEU:HD12	2.47	0.44
1:F:332:LEU:HD22	1:F:335:PHE:CG	2.53	0.44
1:F:316:LEU:CD2	1:F:362:LYS:HA	2.48	0.44
1:F:98:HIS:O	1:F:99:TYR:C	2.56	0.44
2:G:177:PRO:C	2:G:179:LEU:N	2.71	0.44
1:A:105:ALA:O	1:A:106:HIS:O	2.36	0.44
1:A:157:ASN:CA	1:A:160:LEU:HD12	2.37	0.44
1:A:466:VAL:HB	1:A:501:GLY:CA	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:368:PHE:CE1	2:B:88:VAL:HB	2.53	0.44
1:F:105:ALA:O	1:F:106:HIS:O	2.36	0.44
1:F:160:LEU:HD23	1:F:165:PHE:CB	2.48	0.44
1:F:337:THR:HG22	2:G:184:TYR:HB3	2.00	0.44
1:F:382:LEU:HD23	1:F:385:ILE:CD1	2.45	0.44
1:F:541:TRP:C	1:F:543:THR:N	2.70	0.44
1:A:57:LEU:CD1	1:A:143:ASN:HA	2.47	0.44
1:A:150:VAL:O	1:A:153:VAL:CB	2.66	0.44
1:A:101:GLN:CG	1:A:165:PHE:O	2.66	0.44
1:A:267:ASP:N	1:A:267:ASP:OD1	2.51	0.44
1:A:238:LEU:HB2	1:A:289:ILE:HD11	1.98	0.44
1:A:437:THR:HG23	1:A:448:LEU:HD12	2.00	0.44
1:A:486:GLN:HG2	1:A:492:HIS:NE2	2.33	0.44
1:A:59:ILE:O	1:A:60:MET:C	2.56	0.44
2:B:186:MET:HB3	2:B:189:MET:CG	2.47	0.44
3:C:67:PRO:HB2	3:C:195:PHE:CD1	2.52	0.44
3:C:90:MET:HE1	4:D:68:UNK:N	2.31	0.44
1:F:335:PHE:HA	1:F:338:MET:CE	2.48	0.44
1:F:357:ILE:O	1:F:361:VAL:HG23	2.18	0.44
1:F:502:ALA:C	1:F:504:LEU:N	2.68	0.44
2:G:142:TYR:HA	2:G:143:PRO:HD2	1.87	0.44
3:H:145:THR:OG1	3:H:146:HIS:N	2.51	0.44
4:I:75:UNK:O	4:I:79:UNK:N	2.51	0.44
1:A:159:SER:OG	1:A:189:TYR:HB2	2.16	0.44
1:A:243:PHE:HA	1:A:282:TRP:CD1	2.53	0.44
1:A:79:MET:C	1:A:81:SER:H	2.20	0.44
2:B:201:GLY:O	2:B:224:ALA:HB3	2.18	0.44
2:B:147:ILE:CD1	2:B:235:VAL:HA	2.44	0.44
2:B:41:ARG:H	2:B:41:ARG:CD	2.23	0.44
4:D:75:UNK:O	4:D:79:UNK:N	2.50	0.44
1:F:406:ALA:CB	2:G:45:LEU:HD22	2.45	0.44
3:H:139:PHE:O	3:H:141:ALA:N	2.51	0.44
3:H:197:VAL:HG13	3:H:198:VAL:H	1.81	0.44
3:H:50:LEU:HD11	3:H:134:GLY:CA	2.43	0.44
1:A:103:PHE:CZ	6:A:1001:HEM:CMA	3.01	0.43
1:A:106:HIS:CG	1:A:107:GLY:N	2.85	0.43
1:A:388:ILE:H	1:A:388:ILE:HG13	1.52	0.43
1:A:476:PHE:C	1:A:478:GLY:H	2.21	0.43
1:A:61:TYR:O	1:A:64:VAL:N	2.51	0.43
2:B:45:LEU:CD1	2:B:110:THR:HG21	2.46	0.43
3:C:94:ASN:HB2	3:C:97:GLN:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:417:ILE:HD13	6:F:1001:HEM:HBA2	2.00	0.43
1:F:106:HIS:CD2	1:F:107:GLY:H	2.36	0.43
1:F:238:LEU:HB2	1:F:289:ILE:HD11	1.99	0.43
1:F:267:ASP:OD1	1:F:267:ASP:N	2.50	0.43
1:F:319:ALA:HB1	1:F:362:LYS:HE2	2.00	0.43
1:F:55:LYS:HD3	1:F:551:ASN:OD1	2.17	0.43
1:F:68:MET:HE3	1:F:153:VAL:HG13	2.00	0.43
2:G:140:PHE:HD2	2:G:149:THR:OG1	2.01	0.43
2:G:136:TRP:NE1	2:G:213:PRO:O	2.51	0.43
2:G:36:ILE:HG23	2:G:39:GLU:HB3	2.00	0.43
3:H:116:GLU:OE1	3:H:143:VAL:HG11	2.18	0.43
3:H:67:PRO:HB2	3:H:195:PHE:CD1	2.52	0.43
3:C:84:GLY:O	3:C:88:ILE:HG13	2.18	0.43
1:F:169:GLY:C	1:F:171:LEU:N	2.70	0.43
1:F:292:LEU:HA	1:F:295:PHE:CD1	2.52	0.43
1:F:330:VAL:CG1	1:F:352:THR:OG1	2.66	0.43
1:F:316:LEU:HD22	1:F:362:LYS:HA	2.00	0.43
1:F:441:PRO:HG2	1:F:447:LYS:HD2	2.00	0.43
1:F:75:ASP:C	1:F:79:MET:HE2	2.39	0.43
2:G:195:LEU:C	2:G:195:LEU:HD23	2.39	0.43
3:H:156:TRP:NE1	3:H:180:LEU:HD13	2.29	0.43
3:H:88:ILE:O	3:H:174:ARG:NE	2.51	0.43
1:A:120:ILE:HD13	1:A:201:THR:OG1	2.18	0.43
1:A:134:ARG:O	1:A:135:ASP:CG	2.56	0.43
1:A:137:ALA:H	1:A:215:MET:CE	2.31	0.43
1:A:277:ASN:HD21	4:D:97:UNK:CB	2.31	0.43
1:A:473:ALA:O	1:A:475:GLY:N	2.50	0.43
2:B:162:TYR:CD1	2:B:194:HIS:NE2	2.87	0.43
1:F:346:ALA:HA	1:F:350:ILE:HG13	1.99	0.43
1:F:355:ILE:O	1:F:355:ILE:HG22	2.18	0.43
1:F:411:HIS:CE1	1:F:412:ASN:ND2	2.87	0.43
1:F:548:PRO:O	1:F:550:TYR:N	2.51	0.43
2:G:214:GLY:O	2:G:218:MET:HG3	2.19	0.43
2:G:233:GLN:O	2:G:236:ALA:HB3	2.19	0.43
3:H:167:ARG:HH11	3:H:167:ARG:HG3	1.83	0.43
3:H:190:VAL:O	3:H:194:VAL:HG23	2.18	0.43
1:A:498:ALA:C	1:A:500:SER:H	2.22	0.43
1:A:57:LEU:HA	1:A:57:LEU:HD23	1.79	0.43
1:A:79:MET:O	1:A:81:SER:N	2.52	0.43
3:C:199:TYR:HD1	3:C:199:TYR:N	2.15	0.43
1:F:148:PHE:HA	1:F:148:PHE:HD2	1.70	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:157:ASN:CA	1:F:160:LEU:HD12	2.40	0.43
1:F:168:THR:O	1:F:172:ALA:HA	2.18	0.43
1:F:328:PHE:O	1:F:331:TRP:HZ3	2.02	0.43
1:F:440:TRP:O	1:F:444:PHE:HB2	2.18	0.43
2:G:239:LYS:HA	2:G:239:LYS:HE2	1.99	0.43
2:G:89:GLU:HB3	2:G:93:TRP:CD2	2.54	0.43
3:H:185:HIS:CG	3:H:185:HIS:O	2.70	0.43
1:A:127:VAL:HG13	1:A:229:THR:HG23	2.00	0.43
1:A:357:ILE:N	1:A:358:PRO:CD	2.81	0.43
1:A:389:VAL:O	1:A:393:VAL:HG23	2.18	0.43
1:A:412:ASN:OD1	2:B:209:SER:HB3	2.18	0.43
2:B:130:GLU:OE1	2:B:141:ILE:HB	2.19	0.43
2:B:271:PRO:O	2:B:272:ASP:OD1	2.36	0.43
3:C:139:PHE:O	3:C:141:ALA:N	2.51	0.43
3:C:174:ARG:HD3	3:C:177:ILE:CD1	2.48	0.43
3:C:78:PHE:HD2	3:C:78:PHE:O	2.01	0.43
1:F:57:LEU:CD1	1:F:143:ASN:HA	2.48	0.43
1:F:151:VAL:O	1:F:155:LEU:HB2	2.17	0.43
1:F:221:THR:H	1:F:224:LYS:HD2	1.83	0.43
1:F:415:PHE:CD1	1:F:472:TYR:CD2	3.06	0.43
2:G:99:ILE:O	2:G:100:ILE:C	2.53	0.43
2:G:136:TRP:HA	2:G:218:MET:CG	2.47	0.43
2:G:137:LYS:HE2	2:G:261:ASN:ND2	2.34	0.43
2:G:158:ASN:O	2:G:159:THR:HG23	2.19	0.43
1:F:412:ASN:CG	2:G:209:SER:HB3	2.38	0.43
3:H:83:TYR:C	3:H:101:TRP:CZ3	2.91	0.43
4:I:63:UNK:O	4:I:67:UNK:N	2.52	0.43
1:A:111:ILE:HD11	6:A:1001:HEM:HMD3	1.99	0.43
1:A:137:ALA:HB2	1:A:215:MET:HE2	2.00	0.43
1:A:246:LEU:CD1	1:A:250:VAL:HG23	2.49	0.43
1:A:251:ALA:O	1:A:254:THR:CB	2.66	0.43
1:A:325:VAL:O	1:A:327:SER:N	2.47	0.43
1:A:543:THR:HG22	1:A:544:SER:H	1.84	0.43
2:B:130:GLU:OE1	2:B:141:ILE:O	2.36	0.43
2:B:265:TYR:O	2:B:266:PHE:CD2	2.71	0.43
3:C:139:PHE:C	3:C:141:ALA:H	2.22	0.43
3:C:84:GLY:O	3:C:85:MET:C	2.57	0.43
3:C:85:MET:CA	3:C:88:ILE:HD12	2.49	0.43
1:F:420:PHE:O	1:F:421:HIS:C	2.55	0.43
1:F:79:MET:C	1:F:81:SER:H	2.20	0.43
2:G:137:LYS:CE	2:G:261:ASN:HD21	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:138:TRP:HH2	2:G:174:PHE:HA	1.82	0.43
2:G:59:ILE:O	2:G:62:ALA:HB3	2.17	0.43
1:F:367:LEU:HD13	2:G:63:VAL:CB	2.48	0.43
3:H:86:ALA:HB2	3:H:91:TYR:CE1	2.46	0.43
1:A:241:ALA:O	1:A:328:PHE:HE2	2.01	0.43
1:A:243:PHE:N	1:A:244:PRO:CD	2.81	0.43
2:B:184:TYR:CE2	2:B:189:MET:HE2	2.54	0.43
2:B:195:LEU:HD23	2:B:196:ILE:C	2.39	0.43
2:B:39:GLU:CB	2:B:43:LEU:HD12	2.48	0.43
1:F:404:PRO:HG2	2:G:111:THR:CG2	2.49	0.43
1:F:491:PHE:C	1:F:493:THR:H	2.22	0.43
1:F:59:ILE:O	1:F:60:MET:C	2.56	0.43
3:H:103:ALA:CA	3:H:161:MET:HE1	2.49	0.43
3:H:150:VAL:HG22	3:H:187:LEU:CD1	2.48	0.43
1:A:151:VAL:O	1:A:155:LEU:HB2	2.17	0.43
1:A:356:ALA:HA	7:A:1002:HEO:H262	1.99	0.43
1:A:442:LYS:HB2	1:A:541:TRP:CZ3	2.52	0.43
1:A:486:GLN:H	1:A:486:GLN:NE2	2.17	0.43
1:F:146:PHE:O	1:F:148:PHE:N	2.51	0.43
1:F:239:ILE:O	1:F:243:PHE:HB2	2.18	0.43
1:F:73:PHE:HE2	6:F:1001:HEM:HAB	1.83	0.43
2:G:134:MET:HG2	2:G:255:ALA:CB	2.48	0.43
2:G:248:MET:HA	2:G:251:PHE:HB3	2.00	0.43
4:I:73:UNK:O	4:I:76:UNK:N	2.52	0.43
1:A:190:TRP:CE3	1:A:191:ILE:HG12	2.53	0.43
1:A:61:TYR:O	1:A:63:ILE:N	2.52	0.43
2:B:193:LEU:C	2:B:193:LEU:HD23	2.39	0.43
3:C:112:PHE:HZ	3:C:191:TRP:CE3	2.37	0.43
1:F:306:SER:HA	1:F:375:ILE:CA	2.40	0.43
1:F:79:MET:O	1:F:81:SER:N	2.52	0.43
2:G:56:ILE:O	2:G:60:LEU:N	2.49	0.43
1:A:119:VAL:CG2	1:A:293:PRO:HG2	2.48	0.43
1:A:319:ALA:HB1	1:A:362:LYS:HE2	2.01	0.43
1:A:332:LEU:C	1:A:334:HIS:H	2.22	0.43
1:A:80:ARG:NH2	1:A:467:ALA:O	2.52	0.43
2:B:153:ILE:HD11	2:B:220:PHE:CE2	2.54	0.43
3:C:150:VAL:HG22	3:C:187:LEU:HD11	2.01	0.43
1:F:201:THR:O	1:F:201:THR:HG22	2.18	0.43
1:F:115:ALA:O	1:F:290:LEU:HD11	2.19	0.43
1:F:435:GLY:O	1:F:437:THR:N	2.52	0.43
1:F:80:ARG:NH2	1:F:467:ALA:O	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:79:MET:C	1:F:81:SER:N	2.72	0.43
2:G:130:GLU:HA	2:G:164:LYS:HB2	2.01	0.43
2:G:186:MET:HB3	2:G:189:MET:CG	2.48	0.43
1:F:375:ILE:HG21	2:G:67:TRP:CZ2	2.54	0.43
3:H:166:ARG:NE	3:H:167:ARG:NH2	2.66	0.43
3:H:84:GLY:O	3:H:85:MET:C	2.57	0.43
3:H:92:LYS:HE2	3:H:92:LYS:HB3	1.85	0.43
3:H:78:PHE:CZ	4:I:57:UNK:CA	2.88	0.43
1:A:452:TRP:HA	1:A:455:ARG:HB2	2.01	0.42
1:A:480:THR:HB	1:A:483:LEU:CD1	2.48	0.42
1:A:460:TRP:CZ3	1:A:509:ILE:HG12	2.54	0.42
2:B:201:GLY:O	2:B:203:TYR:CE1	2.72	0.42
1:A:396:MET:HB3	2:B:53:ILE:HD13	2.00	0.42
1:F:119:VAL:CG2	1:F:293:PRO:HG2	2.48	0.42
1:F:150:VAL:O	1:F:153:VAL:CB	2.67	0.42
1:F:243:PHE:N	1:F:244:PRO:CD	2.81	0.42
1:F:466:VAL:HB	1:F:501:GLY:CA	2.48	0.42
1:F:491:PHE:C	1:F:493:THR:N	2.71	0.42
2:G:147:ILE:CD1	2:G:235:VAL:HA	2.45	0.42
2:G:41:ARG:H	2:G:41:ARG:CD	2.24	0.42
2:G:39:GLU:CB	2:G:43:LEU:HD12	2.49	0.42
3:H:103:ALA:HA	3:H:161:MET:HE1	2.01	0.42
3:H:26:ILE:CD1	3:H:175:THR:HG23	2.46	0.42
2:B:134:MET:HG2	2:B:255:ALA:CB	2.48	0.42
4:D:66:UNK:C	4:D:68:UNK:N	2.79	0.42
1:F:99:TYR:CE1	1:F:103:PHE:HD1	2.37	0.42
1:F:101:GLN:HG3	1:F:165:PHE:O	2.19	0.42
1:F:442:LYS:HB2	1:F:541:TRP:CZ3	2.53	0.42
1:F:61:TYR:O	1:F:63:ILE:N	2.52	0.42
1:F:79:MET:SD	1:F:103:PHE:N	2.92	0.42
2:G:140:PHE:CE1	2:G:153:ILE:HD13	2.53	0.42
1:F:338:MET:HA	2:G:184:TYR:CD1	2.52	0.42
2:G:203:TYR:O	2:G:221:LYS:CA	2.63	0.42
3:H:94:ASN:HB2	3:H:97:GLN:HB3	2.01	0.42
1:A:252:LEU:HD22	1:A:263:PHE:CE2	2.54	0.42
1:A:305:PHE:CD1	1:A:305:PHE:N	2.87	0.42
1:A:299:SER:HB3	1:A:310:LEU:HD22	2.00	0.42
1:A:361:VAL:HG22	2:B:93:TRP:CH2	2.55	0.42
1:A:316:LEU:HD22	1:A:362:LYS:HA	2.01	0.42
1:A:79:MET:C	1:A:81:SER:N	2.72	0.42
1:F:292:LEU:O	1:F:295:PHE:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:350:ILE:HG12	1:F:353:MET:HE1	2.01	0.42
1:A:228:PHE:CG	1:A:228:PHE:O	2.73	0.42
1:A:364:PHE:HB3	2:B:92:VAL:HG21	2.02	0.42
2:B:140:PHE:CE1	2:B:153:ILE:HD13	2.54	0.42
2:B:50:LEU:O	2:B:53:ILE:CG2	2.67	0.42
1:F:357:ILE:N	1:F:358:PRO:CD	2.82	0.42
1:F:480:THR:HB	1:F:483:LEU:CG	2.48	0.42
1:F:502:ALA:O	1:F:505:ILE:N	2.52	0.42
1:F:516:MET:O	1:F:519:SER:N	2.45	0.42
2:G:262:GLN:O	2:G:264:GLU:N	2.52	0.42
1:A:128:PRO:O	1:A:130:GLN:N	2.53	0.42
1:A:331:TRP:CD2	1:A:348:PHE:HE2	2.38	0.42
1:A:346:ALA:HA	1:A:350:ILE:HG13	2.00	0.42
1:A:350:ILE:HA	1:A:353:MET:HE2	2.01	0.42
1:A:549:PHE:CD1	1:A:549:PHE:N	2.87	0.42
1:F:233:LEU:O	1:F:236:ASN:N	2.52	0.42
2:G:167:SER:HB3	2:G:187:ALA:CA	2.49	0.42
1:F:337:THR:HG23	2:G:183:ILE:HA	2.02	0.42
3:H:72:GLU:O	3:H:76:LEU:HD23	2.19	0.42
1:A:68:MET:SD	1:A:113:PHE:HB3	2.60	0.42
1:A:119:VAL:HG13	1:A:120:ILE:N	2.34	0.42
1:A:233:LEU:O	1:A:236:ASN:N	2.52	0.42
1:A:354:ILE:O	1:A:356:ALA:N	2.53	0.42
2:B:54:VAL:C	2:B:56:ILE:N	2.73	0.42
1:F:333:HIS:HB2	7:F:1002:HEO:HA2	2.00	0.42
1:F:137:ALA:HB2	1:F:215:MET:HE2	2.01	0.42
1:F:216:ARG:NH2	1:F:220:MET:O	2.51	0.42
1:F:243:PHE:HA	1:F:282:TRP:NE1	2.34	0.42
1:F:264:PHE:CD1	1:F:275:TYR:HB2	2.54	0.42
1:F:299:SER:HB3	1:F:310:LEU:HD22	2.00	0.42
1:F:320:THR:OG1	1:F:362:LYS:NZ	2.52	0.42
1:F:354:ILE:O	1:F:356:ALA:N	2.53	0.42
1:F:373:GLY:CA	2:G:71:ALA:O	2.67	0.42
2:G:195:LEU:HD23	2:G:196:ILE:C	2.40	0.42
1:A:195:GLN:NE2	1:A:247:THR:CG2	2.71	0.42
1:A:292:LEU:O	1:A:295:PHE:HB2	2.20	0.42
1:A:460:TRP:CZ3	1:A:509:ILE:CD1	3.02	0.42
2:B:239:LYS:HA	2:B:239:LYS:HE2	2.01	0.42
2:B:269:VAL:O	2:B:270:LYS:C	2.56	0.42
2:B:89:GLU:HB3	2:B:93:TRP:CD2	2.55	0.42
7:F:1002:HEO:O11	7:F:1002:HEO:HHC	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:112:PHE:C	1:F:113:PHE:CD1	2.93	0.42
1:F:156:VAL:HG12	1:F:160:LEU:CD1	2.48	0.42
1:F:329:ILE:O	1:F:351:THR:HG21	2.19	0.42
1:F:354:ILE:C	1:F:356:ALA:H	2.22	0.42
1:F:437:THR:HG23	1:F:448:LEU:HD12	2.01	0.42
1:F:442:LYS:NZ	1:F:543:THR:O	2.53	0.42
1:A:99:TYR:CE1	1:A:103:PHE:HD1	2.37	0.42
1:A:148:PHE:HD2	1:A:148:PHE:HA	1.70	0.42
1:A:201:THR:O	1:A:201:THR:HG22	2.19	0.42
1:A:354:ILE:C	1:A:356:ALA:H	2.22	0.42
1:A:404:PRO:HG2	2:B:111:THR:CG2	2.50	0.42
1:A:476:PHE:N	1:A:476:PHE:CD1	2.88	0.42
2:B:140:PHE:CZ	2:B:153:ILE:HD13	2.54	0.42
2:B:156:PRO:HG3	2:B:231:PHE:CD2	2.55	0.42
2:B:45:LEU:HD12	2:B:110:THR:CG2	2.46	0.42
3:C:89:ALA:O	3:C:91:TYR:O	2.38	0.42
2:G:166:THR:HG23	2:G:167:SER:N	2.34	0.42
3:H:33:LEU:HB2	3:H:34:MET:HE2	2.01	0.42
1:F:248:VAL:HG22	3:H:39:LEU:CD1	2.49	0.42
1:A:138:PHE:HB3	1:A:141:LEU:HD12	2.02	0.42
1:A:306:SER:HA	1:A:375:ILE:CA	2.41	0.42
1:A:483:LEU:HD22	2:B:216:SER:HA	2.02	0.42
2:B:217:GLY:HA3	2:B:260:TYR:CE1	2.55	0.42
1:F:335:PHE:O	1:F:337:THR:N	2.53	0.42
2:G:130:GLU:OE1	2:G:141:ILE:CG2	2.68	0.42
2:G:140:PHE:CZ	2:G:153:ILE:HD13	2.54	0.42
2:G:97:ILE:O	2:G:101:ILE:HD12	2.19	0.42
3:H:77:LEU:HD22	3:H:105:THR:HG23	2.02	0.42
1:A:195:GLN:HG2	1:A:250:VAL:HG11	2.00	0.42
1:A:243:PHE:HA	1:A:282:TRP:NE1	2.34	0.42
1:A:395:GLY:O	1:A:399:VAL:HG23	2.20	0.42
2:B:241:SER:O	2:B:267:SER:OG	2.34	0.42
2:B:72:SER:OG	2:B:73:ASN:N	2.53	0.42
1:F:227:VAL:HG11	1:F:299:SER:HB2	2.01	0.42
1:F:191:ILE:HG22	1:F:250:VAL:HG13	2.02	0.42
1:F:253:LEU:O	1:F:254:THR:C	2.58	0.42
1:F:337:THR:C	1:F:339:GLY:H	2.24	0.42
1:F:400:LEU:HD13	2:G:50:LEU:CD2	2.50	0.42
1:F:498:ALA:C	1:F:500:SER:H	2.24	0.42
1:F:511:CYS:SG	1:F:512:LEU:N	2.93	0.42
2:G:127:ILE:HG21	2:G:142:TYR:HE2	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:119:GLU:O	3:H:120:PHE:C	2.58	0.42
1:A:107:GLY:O	1:A:111:ILE:HG13	2.20	0.41
1:A:255:LEU:HB3	1:A:261:THR:CG2	2.50	0.41
2:B:40:GLN:HB2	2:B:41:ARG:HH11	1.85	0.41
2:B:39:GLU:HG3	2:B:43:LEU:HD12	2.01	0.41
3:C:90:MET:HE2	4:D:68:UNK:CA	2.49	0.41
1:F:305:PHE:N	1:F:305:PHE:CD1	2.88	0.41
1:F:356:ALA:HA	7:F:1002:HEO:H262	2.01	0.41
1:F:306:SER:CB	1:F:375:ILE:HG13	2.50	0.41
3:H:177:ILE:C	3:H:177:ILE:HD12	2.39	0.41
1:A:168:THR:CB	1:A:172:ALA:HA	2.44	0.41
1:A:308:LYS:HE3	1:A:372:GLN:HB2	1.99	0.41
1:A:461:ILE:HG13	1:A:461:ILE:H	1.61	0.41
1:A:463:GLY:O	1:A:464:PHE:C	2.56	0.41
2:B:158:ASN:O	2:B:159:THR:HG23	2.20	0.41
3:C:139:PHE:C	3:C:141:ALA:N	2.74	0.41
3:C:166:ARG:NE	3:C:167:ARG:NH2	2.67	0.41
1:F:111:ILE:CD1	1:F:170:TRP:CE3	3.03	0.41
2:G:183:ILE:HG13	2:G:184:TYR:N	2.35	0.41
2:G:245:MET:O	2:G:269:VAL:HA	2.21	0.41
2:G:40:GLN:HB2	2:G:41:ARG:HH11	1.85	0.41
1:F:375:ILE:HD12	2:G:71:ALA:O	2.21	0.41
2:G:91:VAL:HG12	2:G:92:VAL:HG13	2.02	0.41
3:H:26:ILE:C	3:H:28:GLY:N	2.70	0.41
3:H:85:MET:SD	3:H:178:MET:HG3	2.61	0.41
4:I:66:UNK:C	4:I:68:UNK:N	2.79	0.41
1:A:156:VAL:O	1:A:160:LEU:CD1	2.68	0.41
1:A:238:LEU:HB3	1:A:289:ILE:HD11	2.02	0.41
2:B:203:TYR:O	2:B:221:LYS:CA	2.65	0.41
3:C:70:LEU:HD23	3:C:115:MET:CE	2.50	0.41
1:F:61:TYR:O	1:F:64:VAL:N	2.53	0.41
2:G:178:ARG:HA	2:G:178:ARG:HD2	1.86	0.41
2:G:183:ILE:HB	2:G:193:LEU:HD12	2.02	0.41
2:G:36:ILE:O	2:G:39:GLU:OE2	2.38	0.41
2:G:53:ILE:O	2:G:55:VAL:N	2.53	0.41
3:H:88:ILE:HG23	3:H:98:VAL:HG13	2.01	0.41
3:C:67:PRO:HB2	3:C:195:PHE:CE1	2.55	0.41
1:F:190:TRP:CE3	1:F:191:ILE:HG12	2.52	0.41
2:G:156:PRO:HD3	2:G:231:PHE:CZ	2.54	0.41
3:H:148:LEU:O	3:H:151:THR:N	2.53	0.41
3:H:202:GLY:O	3:H:203:ALA:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:84:GLY:C	3:H:88:ILE:HD12	2.41	0.41
1:A:101:GLN:HG3	1:A:165:PHE:O	2.20	0.41
1:A:176:LEU:HD13	2:B:170:VAL:HG11	2.03	0.41
1:A:337:THR:C	1:A:339:GLY:H	2.24	0.41
1:A:375:ILE:CG2	1:A:381:MET:HE2	2.49	0.41
1:A:383:TRP:CD1	1:A:434:ALA:HA	2.56	0.41
1:A:509:ILE:HD13	1:A:509:ILE:HA	1.77	0.41
2:B:140:PHE:HD2	2:B:149:THR:OG1	2.02	0.41
2:B:60:LEU:C	2:B:62:ALA:N	2.72	0.41
3:C:154:LEU:HD13	3:C:184:TRP:HH2	1.84	0.41
1:F:332:LEU:HD22	1:F:335:PHE:HB2	2.02	0.41
1:F:306:SER:OG	1:F:375:ILE:HG23	2.21	0.41
2:G:269:VAL:HG23	2:G:269:VAL:O	2.20	0.41
2:G:54:VAL:C	2:G:56:ILE:N	2.74	0.41
3:H:84:GLY:O	3:H:88:ILE:CG1	2.67	0.41
1:A:316:LEU:O	1:A:319:ALA:HB3	2.21	0.41
1:F:480:THR:OG1	2:G:206:ILE:HB	2.20	0.41
2:G:153:ILE:HD11	2:G:220:PHE:CE2	2.55	0.41
2:G:264:GLU:CG	2:G:265:TYR:N	2.79	0.41
3:H:82:THR:CG2	4:I:10:UNK:O	2.68	0.41
4:I:104:UNK:C	4:I:106:UNK:N	2.79	0.41
3:H:78:PHE:CZ	4:I:57:UNK:HA	2.54	0.41
1:A:112:PHE:C	1:A:113:PHE:CD1	2.93	0.41
1:A:168:THR:O	1:A:172:ALA:HA	2.20	0.41
1:A:245:ILE:HB	1:A:282:TRP:HB2	2.03	0.41
1:A:396:MET:HB3	2:B:53:ILE:CD1	2.50	0.41
1:A:79:MET:SD	1:A:102:ILE:CG2	3.09	0.41
2:B:127:ILE:HG21	2:B:142:TYR:HE2	1.85	0.41
2:B:178:ARG:HD2	2:B:178:ARG:HA	1.86	0.41
3:C:77:LEU:HD22	3:C:105:THR:HG23	2.01	0.41
3:C:199:TYR:HD1	3:C:199:TYR:H	1.66	0.41
4:D:104:UNK:C	4:D:106:UNK:N	2.79	0.41
1:F:137:ALA:N	1:F:215:MET:HE1	2.36	0.41
1:F:316:LEU:O	1:F:319:ALA:HB3	2.21	0.41
1:F:461:ILE:H	1:F:461:ILE:HG13	1.61	0.41
1:F:543:THR:CG2	1:F:544:SER:H	2.33	0.41
3:H:195:PHE:CD1	3:H:199:TYR:CB	3.04	0.41
1:A:106:HIS:O	1:A:108:VAL:N	2.53	0.41
1:A:310:LEU:HD11	1:A:366:TRP:HD1	1.85	0.41
1:A:512:LEU:HD23	1:A:513:VAL:HG23	2.03	0.41
3:C:145:THR:O	3:C:147:GLY:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:228:PHE:CD1	1:F:297:VAL:HG23	2.56	0.41
1:F:57:LEU:HA	1:F:60:MET:HB2	2.02	0.41
3:H:78:PHE:CZ	3:H:185:HIS:CE1	3.09	0.41
3:H:150:VAL:HG22	3:H:187:LEU:HD11	2.03	0.41
3:H:81:ILE:HD11	3:H:105:THR:HG21	2.02	0.41
3:H:86:ALA:C	3:H:88:ILE:N	2.73	0.41
1:A:227:VAL:HG11	1:A:299:SER:HB2	2.01	0.41
1:A:486:GLN:N	1:A:486:GLN:CD	2.74	0.41
2:B:86:ASN:C	2:B:87:LYS:HD2	2.40	0.41
3:C:94:ASN:HD22	3:C:97:GLN:HE22	1.68	0.41
1:F:408:PHE:O	2:G:182:GLN:NE2	2.45	0.41
1:F:452:TRP:O	1:F:455:ARG:HB2	2.20	0.41
2:G:225:THR:HB	2:G:226:PRO:CD	2.51	0.41
1:A:253:LEU:O	1:A:254:THR:C	2.59	0.41
1:A:335:PHE:O	1:A:337:THR:N	2.54	0.41
1:A:397:THR:O	1:A:401:LEU:HG	2.20	0.41
1:A:417:ILE:HD13	6:A:1001:HEM:CBA	2.50	0.41
1:A:98:HIS:HB3	1:A:102:ILE:HD11	2.03	0.41
2:B:130:GLU:OE1	2:B:141:ILE:CG2	2.69	0.41
3:C:42:ILE:CG2	3:C:43:LEU:N	2.84	0.41
1:F:159:SER:OG	1:F:189:TYR:HB2	2.18	0.41
1:F:238:LEU:HB3	1:F:289:ILE:HD11	2.03	0.41
1:F:341:GLY:O	1:F:344:VAL:N	2.54	0.41
1:F:409:VAL:HG21	2:G:43:LEU:CD2	2.51	0.41
1:F:476:PHE:CD1	1:F:476:PHE:N	2.89	0.41
2:G:147:ILE:HG21	2:G:238:ALA:HB3	2.01	0.41
2:G:271:PRO:O	2:G:272:ASP:OD1	2.39	0.41
3:H:102:LEU:HD23	3:H:161:MET:HG3	2.03	0.41
1:A:68:MET:HE1	1:A:153:VAL:HG13	2.03	0.41
1:A:252:LEU:HD13	1:A:263:PHE:CD2	2.55	0.41
1:A:350:ILE:HA	1:A:353:MET:CE	2.51	0.41
1:A:355:ILE:HG22	1:A:355:ILE:O	2.21	0.41
1:A:481:ARG:O	1:A:483:LEU:HD23	2.21	0.41
2:B:248:MET:HA	2:B:251:PHE:HB3	2.02	0.41
3:C:102:LEU:HD23	3:C:161:MET:HG3	2.03	0.41
3:C:164:ILE:O	3:C:168:GLY:CA	2.64	0.41
1:F:170:TRP:NE1	1:F:171:LEU:HG	2.35	0.41
1:F:120:ILE:CD1	1:F:201:THR:OG1	2.69	0.41
1:F:195:GLN:NE2	1:F:247:THR:CG2	2.71	0.41
1:F:397:THR:O	1:F:401:LEU:HG	2.20	0.41
1:F:480:THR:HB	1:F:483:LEU:CD1	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:112:PHE:HZ	3:H:191:TRP:CZ3	2.39	0.41
1:A:137:ALA:N	1:A:215:MET:HE2	2.35	0.40
1:A:341:GLY:O	1:A:344:VAL:N	2.54	0.40
1:A:502:ALA:O	1:A:505:ILE:N	2.54	0.40
1:A:513:VAL:HA	1:A:516:MET:HE1	2.01	0.40
2:B:251:PHE:CE2	2:B:273:LEU:HD21	2.56	0.40
2:B:91:VAL:HG12	2:B:92:VAL:HG13	2.03	0.40
2:B:89:GLU:HB3	2:B:93:TRP:CE3	2.56	0.40
1:F:170:TRP:CE2	1:F:171:LEU:CD2	3.04	0.40
1:F:251:ALA:O	1:F:254:THR:CB	2.68	0.40
1:F:463:GLY:O	1:F:464:PHE:C	2.57	0.40
2:G:134:MET:CE	2:G:255:ALA:HB2	2.50	0.40
3:H:33:LEU:C	3:H:35:SER:N	2.74	0.40
1:A:155:LEU:HA	1:A:155:LEU:HD23	1.89	0.40
1:A:251:ALA:HA	1:A:254:THR:OG1	2.21	0.40
2:B:126:PRO:HG3	2:B:160:PRO:HG2	2.03	0.40
2:B:167:SER:HB3	2:B:187:ALA:CA	2.51	0.40
1:F:228:PHE:CG	1:F:228:PHE:O	2.75	0.40
1:F:252:LEU:HD22	1:F:263:PHE:CE2	2.56	0.40
1:F:316:LEU:HD21	1:F:365:ASN:CG	2.41	0.40
1:F:481:ARG:HG2	1:F:482:ARG:H	1.85	0.40
1:F:509:ILE:HA	1:F:509:ILE:HD13	1.75	0.40
2:G:140:PHE:HD2	2:G:149:THR:HG1	1.69	0.40
1:F:409:VAL:HG21	2:G:43:LEU:HD21	2.03	0.40
2:G:50:LEU:O	2:G:53:ILE:CG2	2.69	0.40
2:G:90:ALA:O	2:G:91:VAL:C	2.59	0.40
3:H:110:ALA:O	3:H:114:GLY:N	2.54	0.40
4:I:108:UNK:O	4:I:109:UNK:CB	2.69	0.40
1:A:420:PHE:CD1	7:A:1002:HEO:HMD3	2.56	0.40
7:A:1002:HEO:HHC	7:A:1002:HEO:O11	2.21	0.40
1:A:79:MET:SD	1:A:103:PHE:N	2.94	0.40
1:A:122:LEU:HA	1:A:122:LEU:HD23	1.83	0.40
1:A:255:LEU:HD22	1:A:259:LEU:HD12	2.03	0.40
1:A:328:PHE:O	1:A:331:TRP:HZ3	2.05	0.40
1:A:463:GLY:HA3	1:A:505:ILE:HG13	2.03	0.40
1:A:473:ALA:C	1:A:475:GLY:N	2.75	0.40
2:B:155:PHE:CZ	2:B:222:ALA:HB1	2.56	0.40
3:C:177:ILE:HD12	3:C:178:MET:N	2.36	0.40
1:F:360:GLY:O	1:F:361:VAL:C	2.59	0.40
1:F:315:SER:HB3	1:F:365:ASN:HD21	1.86	0.40
2:G:254:LEU:C	2:G:254:LEU:HD13	2.41	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:45:LEU:HD12	2:G:110:THR:CG2	2.48	0.40
2:G:53:ILE:CG2	2:G:54:VAL:N	2.84	0.40
2:G:86:ASN:C	2:G:87:LYS:HD2	2.41	0.40
3:H:122:HIS:ND1	3:H:122:HIS:O	2.54	0.40
3:H:26:ILE:HG22	3:H:27:PHE:N	2.35	0.40
1:A:440:TRP:O	1:A:444:PHE:HB2	2.22	0.40
1:A:481:ARG:CG	1:A:482:ARG:N	2.80	0.40
2:B:99:ILE:O	2:B:103:LEU:HB2	2.21	0.40
3:C:146:HIS:NE2	3:C:187:LEU:HD23	2.36	0.40
1:F:200:GLY:O	1:F:202:THR:N	2.54	0.40
1:F:257:ARG:NH1	1:F:257:ARG:CB	2.74	0.40
1:F:311:PHE:HZ	2:G:88:VAL:HG21	1.85	0.40
2:G:184:TYR:OH	2:G:189:MET:CE	2.70	0.40
2:G:278:ILE:HG22	2:G:282:MET:HG3	2.03	0.40
2:G:74:LYS:HE2	2:G:75:ASP:CG	2.42	0.40
3:H:139:PHE:C	3:H:141:ALA:N	2.75	0.40
3:H:33:LEU:O	3:H:37:CYS:N	2.55	0.40
1:A:411:HIS:ND1	7:A:1002:HEO:O2A	2.52	0.40
1:A:122:LEU:CD1	1:A:297:VAL:HG21	2.51	0.40
1:A:242:SER:OG	1:A:282:TRP:HD1	2.05	0.40
1:A:228:PHE:CD1	1:A:297:VAL:HG23	2.56	0.40
1:A:305:PHE:HD1	1:A:305:PHE:N	2.19	0.40
1:A:369:THR:CG2	1:A:369:THR:O	2.69	0.40
2:B:43:LEU:O	2:B:46:THR:OG1	2.36	0.40
3:C:119:GLU:O	3:C:120:PHE:C	2.60	0.40
3:C:51:VAL:HG12	3:C:135:PHE:CZ	2.57	0.40
3:C:116:GLU:OE1	3:C:143:VAL:HG11	2.21	0.40
3:C:33:LEU:HB2	3:C:34:MET:HE2	2.02	0.40
1:F:187:VAL:O	1:F:188:ASP:C	2.60	0.40
1:F:318:TRP:C	1:F:322:CYS:HG	2.23	0.40
1:F:383:TRP:CD1	1:F:434:ALA:HA	2.57	0.40
2:G:139:PHE:HA	2:G:149:THR:O	2.21	0.40
2:G:70:ARG:C	2:G:72:SER:H	2.25	0.40
2:G:74:LYS:HG3	2:G:74:LYS:H	1.70	0.40
3:H:107:LEU:C	3:H:109:GLY:N	2.73	0.40
3:H:167:ARG:NH1	3:H:167:ARG:HG3	2.36	0.40
3:H:191:TRP:C	3:H:193:CYS:H	2.24	0.40
3:H:94:ASN:HD22	3:H:97:GLN:HE22	1.69	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

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

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	499/663 (75%)	331 (66%)	110 (22%)	58 (12%)	0	5
1	F	499/663 (75%)	333 (67%)	108 (22%)	58 (12%)	0	5
2	B	255/315 (81%)	162 (64%)	66 (26%)	27 (11%)	0	7
2	G	255/315 (81%)	167 (66%)	58 (23%)	30 (12%)	0	5
3	C	183/204 (90%)	112 (61%)	52 (28%)	19 (10%)	0	7
3	H	183/204 (90%)	107 (58%)	56 (31%)	20 (11%)	0	6
All	All	1874/2364 (79%)	1212 (65%)	450 (24%)	212 (11%)	0	6

All (212) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	96	PRO
1	A	102	ILE
1	A	106	HIS
1	A	135	ASP
1	A	175	PRO
1	A	330	VAL
1	A	336	PHE
1	A	379	SER
1	A	451	THR
1	A	482	ARG
1	A	549	PHE
2	B	85	SER
2	B	101	ILE
2	B	116	PRO
2	B	118	LYS
2	B	119	PRO
3	C	97	GLN
3	C	197	VAL
1	F	96	PRO
1	F	102	ILE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	F	106	HIS
1	F	135	ASP
1	F	175	PRO
1	F	330	VAL
1	F	336	PHE
1	F	379	SER
1	F	451	THR
1	F	482	ARG
1	F	549	PHE
1	F	551	ASN
2	G	85	SER
2	G	116	PRO
2	G	118	LYS
2	G	119	PRO
3	H	97	GLN
3	H	197	VAL
1	A	62	ILE
1	A	95	PRO
1	A	97	HIS
1	A	103	PHE
1	A	110	MET
1	A	129	LEU
1	A	139	PRO
1	A	147	TRP
1	A	166	ALA
1	A	184	GLY
1	A	304	THR
1	A	355	ILE
1	A	363	ILE
1	A	442	LYS
1	A	481	ARG
1	A	525	GLN
1	A	551	ASN
2	B	67	TRP
2	B	113	ALA
2	B	125	LYS
2	B	178	ARG
2	B	200	PRO
2	B	223	ILE
2	B	263	VAL
3	C	20	ASP
3	C	50	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	C	89	ALA
3	C	165	ALA
3	C	168	GLY
3	C	194	VAL
3	C	199	TYR
3	C	202	GLY
1	F	95	PRO
1	F	97	HIS
1	F	103	PHE
1	F	110	MET
1	F	129	LEU
1	F	139	PRO
1	F	147	TRP
1	F	166	ALA
1	F	184	GLY
1	F	234	CYS
1	F	355	ILE
1	F	363	ILE
1	F	442	LYS
1	F	481	ARG
1	F	525	GLN
2	G	67	TRP
2	G	113	ALA
2	G	125	LYS
2	G	178	ARG
2	G	223	ILE
2	G	263	VAL
3	H	20	ASP
3	H	50	LEU
3	H	52	ASN
3	H	89	ALA
3	H	109	GLY
3	H	165	ALA
3	H	168	GLY
3	H	194	VAL
3	H	199	TYR
3	H	202	GLY
1	A	82	GLN
1	A	101	GLN
1	A	128	PRO
1	A	137	ALA
1	A	200	GLY

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	201	THR
1	A	234	CYS
1	A	273	MET
1	A	326	LEU
1	A	338	MET
1	A	474	LEU
2	B	112	HIS
2	B	117	SER
2	B	121	ALA
2	B	209	SER
2	B	213	PRO
2	B	260	TYR
3	C	48	ALA
3	C	52	ASN
3	C	54	THR
3	C	92	LYS
3	C	93	ASN
3	C	140	PHE
1	F	62	ILE
1	F	82	GLN
1	F	101	GLN
1	F	128	PRO
1	F	137	ALA
1	F	200	GLY
1	F	201	THR
1	F	273	MET
1	F	304	THR
1	F	338	MET
1	F	436	MET
2	G	77	LYS
2	G	112	HIS
2	G	117	SER
2	G	121	ALA
2	G	200	PRO
2	G	209	SER
2	G	213	PRO
2	G	260	TYR
3	H	48	ALA
3	H	54	THR
3	H	92	LYS
3	H	140	PHE
1	A	60	MET

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	153	VAL
1	A	170	TRP
1	A	361	VAL
1	A	436	MET
1	A	539	LEU
2	B	32	PRO
2	B	54	VAL
2	B	77	LYS
1	F	153	VAL
1	F	170	TRP
1	F	326	LEU
1	F	474	LEU
1	F	539	LEU
2	G	32	PRO
3	H	93	ASN
1	A	172	ALA
1	A	207	ASN
1	A	313	TYR
1	A	317	VAL
1	A	371	TYR
1	A	462	ILE
2	B	56	ILE
2	B	177	PRO
1	F	60	MET
1	F	172	ALA
1	F	207	ASN
1	F	317	VAL
1	F	361	VAL
1	F	371	TYR
1	F	492	HIS
2	G	54	VAL
2	G	65	PHE
2	G	66	ALA
2	G	108	TRP
2	G	133	SER
2	G	177	PRO
3	H	181	SER
1	A	404	PRO
1	A	408	PHE
2	B	41	ARG
2	B	108	TRP
3	C	124	ILE

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Mol	Chain	Res	Type
3	C	181	SER
1	F	174	PRO
1	F	313	TYR
1	F	462	ILE
1	F	503	VAL
2	G	41	ARG
2	G	56	ILE
2	G	158	ASN
3	H	124	ILE
1	A	503	VAL
2	B	257	PRO
1	F	404	PRO
1	F	441	PRO
2	G	126	PRO
2	G	257	PRO
3	C	150	VAL
3	H	150	VAL
1	A	107	GLY
1	A	441	PRO
2	B	126	PRO
1	A	245	ILE
1	A	329	ILE
1	F	329	ILE
1	F	138	PHE

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

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	413/547 (76%)	373 (90%)	40 (10%)	8 33
1	F	413/547 (76%)	373 (90%)	40 (10%)	8 33
2	B	215/262 (82%)	188 (87%)	27 (13%)	4 22
2	G	215/262 (82%)	187 (87%)	28 (13%)	4 21
3	C	152/166 (92%)	133 (88%)	19 (12%)	4 23

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	H	152/166 (92%)	134 (88%)	18 (12%)	5	25
All	All	1560/1950 (80%)	1388 (89%)	172 (11%)	6	29

All (172) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	53	ASP
1	A	56	ARG
1	A	80	ARG
1	A	95	PRO
1	A	101	GLN
1	A	103	PHE
1	A	130	GLN
1	A	145	SER
1	A	148	PHE
1	A	155	LEU
1	A	159	SER
1	A	168	THR
1	A	188	ASP
1	A	192	TRP
1	A	223	PHE
1	A	229	THR
1	A	236	ASN
1	A	243	PHE
1	A	247	THR
1	A	249	THR
1	A	256	ASP
1	A	257	ARG
1	A	263	PHE
1	A	267	ASP
1	A	274	MET
1	A	280	TRP
1	A	314	THR
1	A	326	LEU
1	A	330	VAL
1	A	359	THR
1	A	377	PHE
1	A	397	THR
1	A	409	VAL
1	A	416	LEU
1	A	461	ILE
1	A	512	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	514	ILE
1	A	537	ARG
1	A	545	SER
1	A	552	PHE
2	B	36	ILE
2	B	39	GLU
2	B	41	ARG
2	B	61	MET
2	B	67	TRP
2	B	74	LYS
2	B	77	LYS
2	B	78	TYR
2	B	82	TRP
2	B	93	TRP
2	B	94	THR
2	B	115	GLU
2	B	118	LYS
2	B	119	PRO
2	B	120	LEU
2	B	134	MET
2	B	144	GLU
2	B	153	ILE
2	B	155	PHE
2	B	159	THR
2	B	172	ASN
2	B	178	ARG
2	B	181	SER
2	B	189	MET
2	B	192	ARG
2	B	227	ASP
2	B	276	ASP
3	C	29	PHE
3	C	31	ILE
3	C	32	TYR
3	C	43	LEU
3	C	44	PHE
3	C	46	THR
3	C	50	LEU
3	C	72	GLU
3	C	78	PHE
3	C	85	MET
3	C	122	HIS

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	C	135	PHE
3	C	140	PHE
3	C	156	TRP
3	C	163	GLN
3	C	167	ARG
3	C	179	CYS
3	C	182	LEU
3	C	187	LEU
1	F	53	ASP
1	F	56	ARG
1	F	80	ARG
1	F	95	PRO
1	F	101	GLN
1	F	103	PHE
1	F	130	GLN
1	F	145	SER
1	F	148	PHE
1	F	155	LEU
1	F	159	SER
1	F	168	THR
1	F	188	ASP
1	F	192	TRP
1	F	223	PHE
1	F	229	THR
1	F	236	ASN
1	F	243	PHE
1	F	247	THR
1	F	249	THR
1	F	256	ASP
1	F	257	ARG
1	F	263	PHE
1	F	267	ASP
1	F	274	MET
1	F	280	TRP
1	F	314	THR
1	F	326	LEU
1	F	330	VAL
1	F	359	THR
1	F	377	PHE
1	F	397	THR
1	F	409	VAL
1	F	416	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	F	512	LEU
1	F	514	ILE
1	F	537	ARG
1	F	545	SER
1	F	548	PRO
1	F	552	PHE
2	G	36	ILE
2	G	39	GLU
2	G	41	ARG
2	G	61	MET
2	G	67	TRP
2	G	74	LYS
2	G	77	LYS
2	G	78	TYR
2	G	82	TRP
2	G	93	TRP
2	G	94	THR
2	G	95	VAL
2	G	115	GLU
2	G	118	LYS
2	G	119	PRO
2	G	120	LEU
2	G	134	MET
2	G	144	GLU
2	G	153	ILE
2	G	155	PHE
2	G	159	THR
2	G	172	ASN
2	G	178	ARG
2	G	181	SER
2	G	189	MET
2	G	192	ARG
2	G	227	ASP
2	G	276	ASP
3	H	29	PHE
3	H	32	TYR
3	H	43	LEU
3	H	44	PHE
3	H	46	THR
3	H	50	LEU
3	H	72	GLU
3	H	78	PHE

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Mol	Chain	Res	Type
3	H	85	MET
3	H	122	HIS
3	H	135	PHE
3	H	140	PHE
3	H	156	TRP
3	H	163	GLN
3	H	167	ARG
3	H	179	CYS
3	H	182	LEU
3	H	187	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (36) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	124	ASN
1	A	142	ASN
1	A	143	ASN
1	A	195	GLN
1	A	266	ASN
1	A	345	ASN
1	A	365	ASN
1	A	372	GLN
1	A	486	GLN
1	A	492	HIS
2	B	151	ASN
2	B	168	ASN
2	B	190	GLN
2	B	198	ASN
2	B	233	GLN
2	B	261	ASN
2	B	268	ASN
3	C	94	ASN
3	C	97	GLN
1	F	124	ASN
1	F	142	ASN
1	F	143	ASN
1	F	195	GLN
1	F	266	ASN
1	F	345	ASN
1	F	365	ASN
2	G	151	ASN
2	G	168	ASN

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Mol	Chain	Res	Type
2	G	190	GLN
2	G	198	ASN
2	G	233	GLN
2	G	261	ASN
2	G	268	ASN
3	H	94	ASN
3	H	97	GLN
3	H	185	HIS

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

Of 6 ligands modelled in this entry, 2 are monoatomic - leaving 4 for Mogul analysis.

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	$\# Z  > 2$
7	HEO	F	1002	1	51,66,66	1.13	3 (5%)	54,102,102	1.24	6 (11%)
7	HEO	A	1002	1	51,66,66	1.12	2 (3%)	54,102,102	1.25	6 (11%)
6	HEM	A	1001	1	27,50,50	1.74	4 (14%)	17,82,82	0.91	0
6	HEM	F	1001	1	27,50,50	1.75	4 (14%)	17,82,82	0.99	0

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
7	HEO	F	1002	1	2/2/17/25	2/28/114/114	-
7	HEO	A	1002	1	2/2/17/25	1/28/114/114	-
6	HEM	A	1001	1	-	0/6/54/54	-
6	HEM	F	1001	1	-	0/6/54/54	-

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A	1002	HEO	C3C-CAC	-4.12	1.39	1.47
7	F	1002	HEO	C3C-CAC	-4.07	1.39	1.47
6	F	1001	HEM	C3B-C2B	-3.91	1.35	1.40
6	F	1001	HEM	C3C-CAC	-3.90	1.39	1.47
6	A	1001	HEM	C3C-CAC	-3.85	1.39	1.47
6	A	1001	HEM	C3B-C2B	-3.83	1.35	1.40
6	F	1001	HEM	C3C-C2C	-3.77	1.35	1.40
6	A	1001	HEM	C3C-C2C	-3.68	1.35	1.40
6	A	1001	HEM	CBB-CAB	3.65	1.53	1.29
6	F	1001	HEM	CBB-CAB	3.57	1.53	1.29
7	A	1002	HEO	C3C-C2C	-3.46	1.35	1.40
7	F	1002	HEO	C3C-C2C	-3.28	1.35	1.40
7	F	1002	HEO	C18-C19	2.18	1.38	1.33

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	A	1002	HEO	C1D-ND-C4D	-2.94	102.03	105.07
7	F	1002	HEO	C1D-ND-C4D	-2.86	102.12	105.07
7	A	1002	HEO	C3C-C4C-NC	2.52	112.47	109.21
7	F	1002	HEO	C3C-C4C-NC	2.45	112.37	109.21
7	A	1002	HEO	C3D-C4D-ND	2.34	112.62	110.36
7	F	1002	HEO	C3D-C4D-ND	2.26	112.55	110.36
7	A	1002	HEO	C13-C14-C15	-2.22	122.33	127.66
7	F	1002	HEO	C13-C14-C15	-2.14	122.50	127.66
7	F	1002	HEO	C17-C18-C19	-2.13	122.53	127.66
7	A	1002	HEO	C17-C18-C19	-2.13	122.54	127.66
7	A	1002	HEO	C13-C12-C11	-2.01	111.33	114.35
7	F	1002	HEO	C2D-C1D-ND	2.00	112.21	109.84

All (4) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
7	F	1002	HEO	ND
7	F	1002	HEO	NB
7	A	1002	HEO	ND
7	A	1002	HEO	NB

All (3) torsion outliers are listed below:

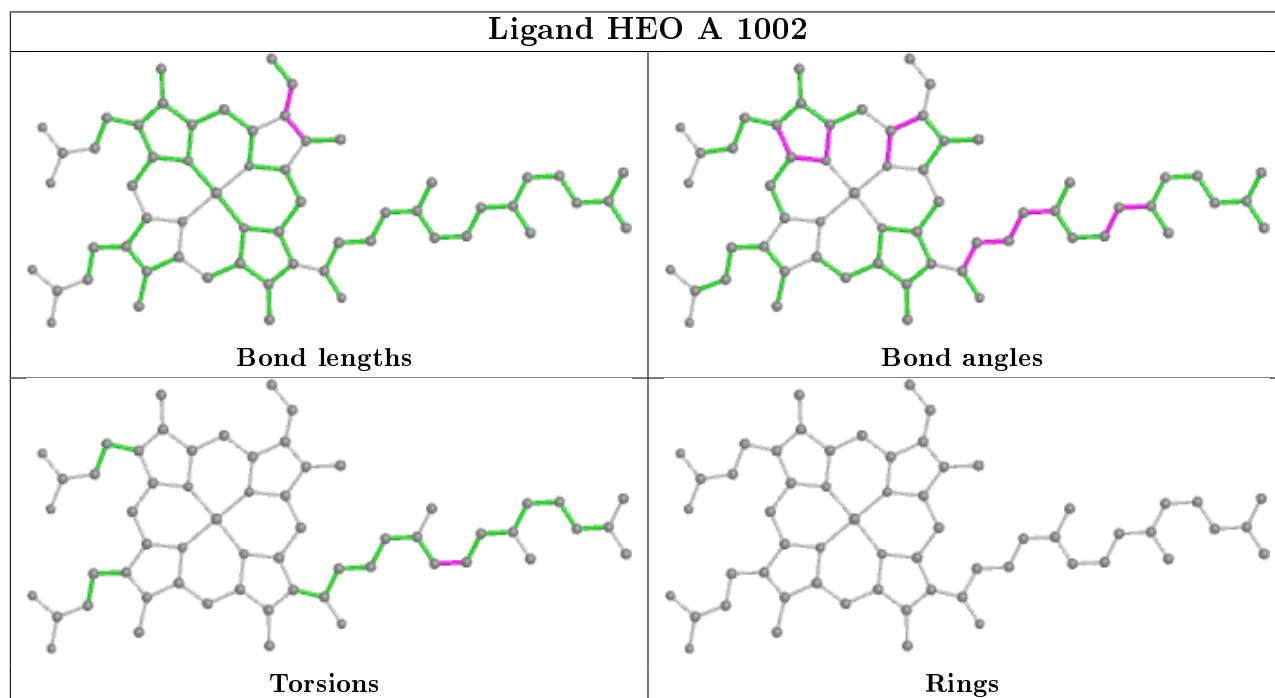
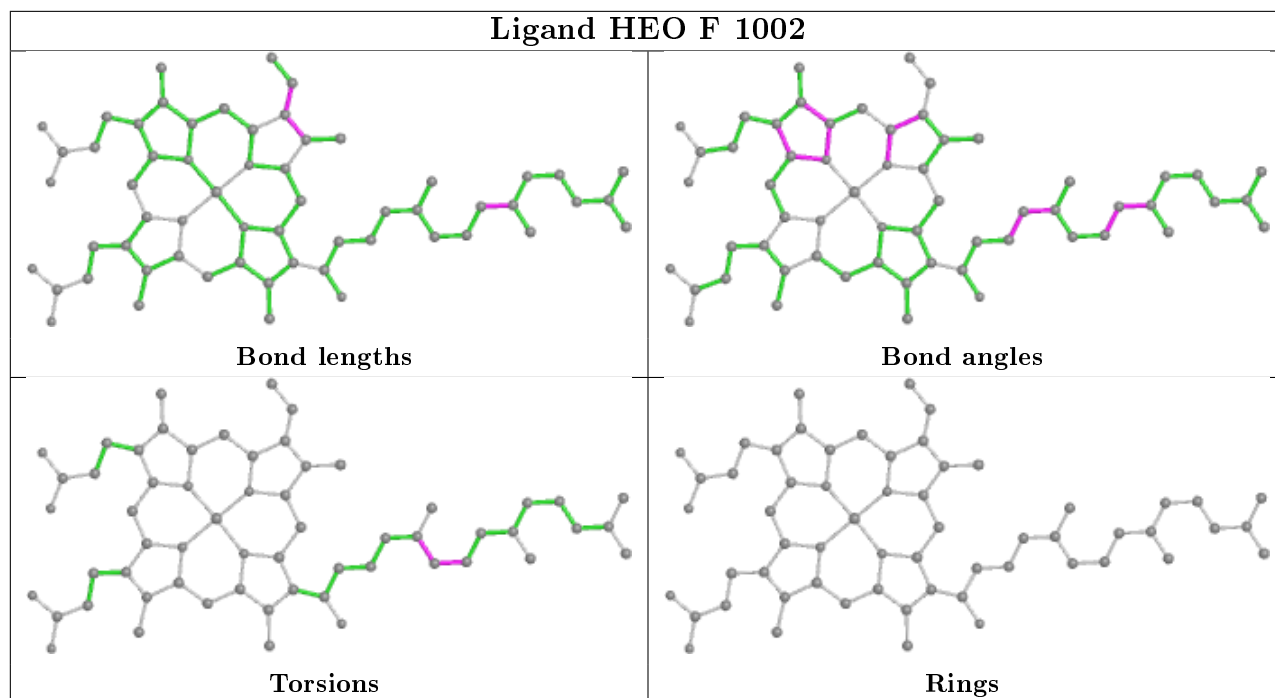
Mol	Chain	Res	Type	Atoms
7	F	1002	HEO	C15-C16-C17-C18
7	A	1002	HEO	C15-C16-C17-C18
7	F	1002	HEO	C26-C15-C16-C17

There are no ring outliers.

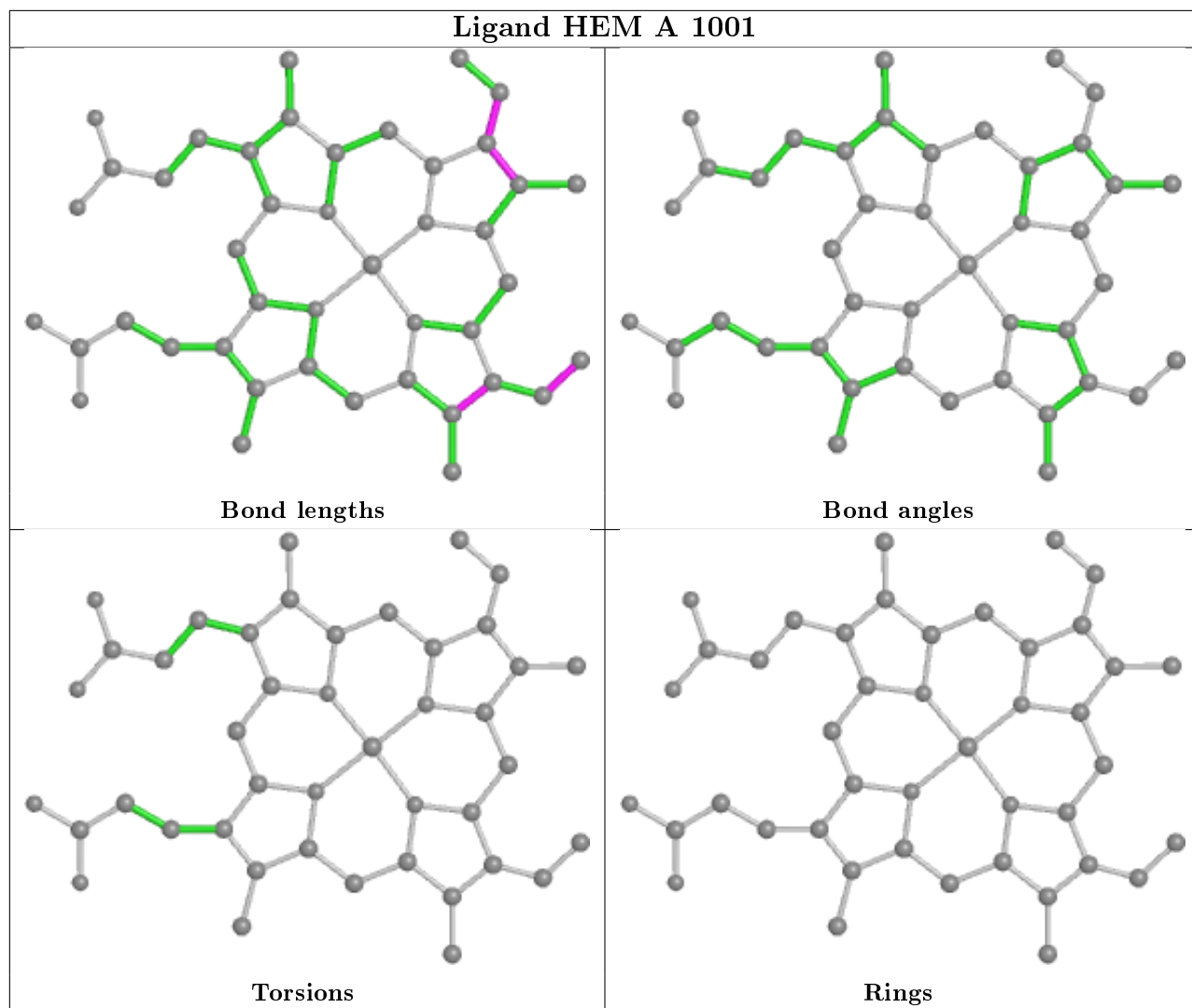
4 monomers are involved in 65 short contacts:

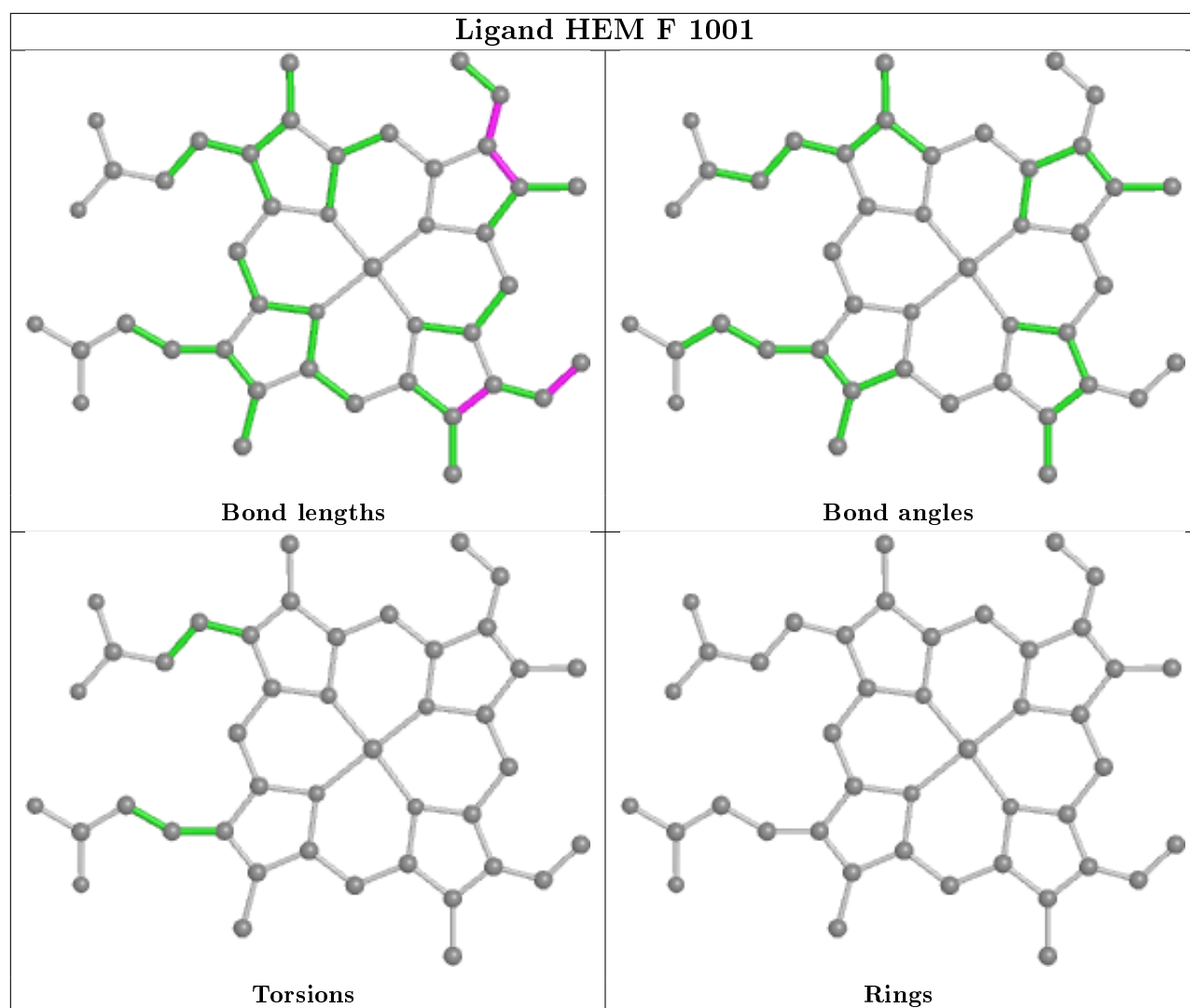
Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	F	1002	HEO	14	0
7	A	1002	HEO	16	0
6	A	1001	HEM	18	0
6	F	1001	HEM	17	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.









## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	A	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	174:PRO	C	175:PRO	N	1.16

## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

### 6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

### 6.4 Ligands

EDS was not executed - this section is therefore empty.

### 6.5 Other polymers

EDS was not executed - this section is therefore empty.