



# Full wwPDB X-ray Structure Validation Report ⓘ

Aug 30, 2020 – 10:43 AM BST

PDB ID : 6Y11  
Title : Respiratory complex I from *Thermus thermophilus*  
Authors : Gutierrez-Fernandez, J.; Minhas, G.S.; Sazanov, L.A.  
Deposited on : 2020-02-10  
Resolution : 3.11 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)  
Xtrriage (Phenix) : 1.13  
EDS : **FAILED**  
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

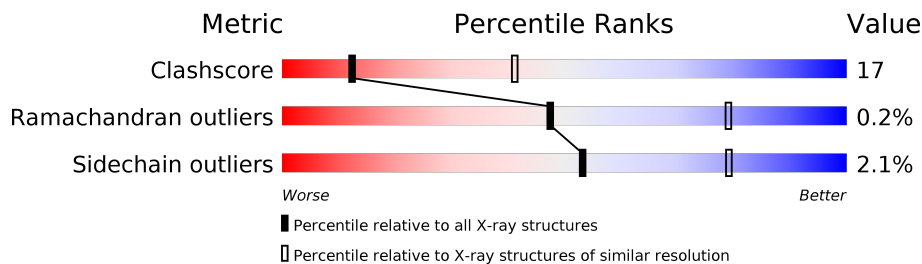
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.11 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	1184 (3.10-3.10)
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)









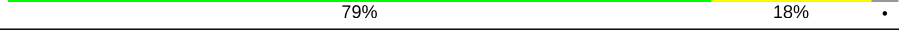

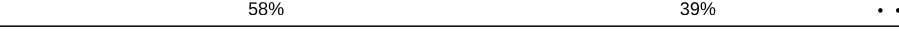






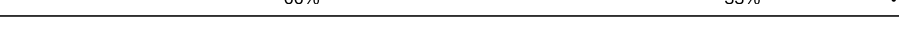
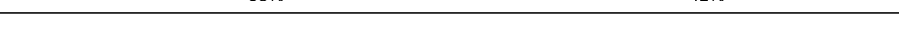
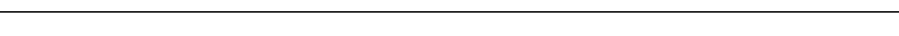
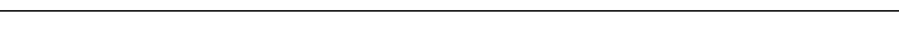
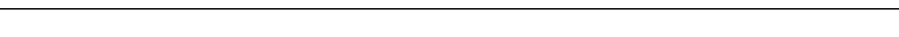
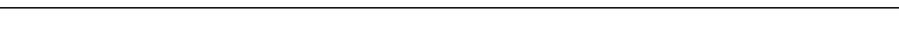

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria 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 failed to run properly.

Mol	Chain	Length	Quality of chain
1	1	438	
1	B	438	
2	2	181	
2	C	181	
3	3	783	
3	D	783	
4	4	409	
4	E	409	

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Mol	Chain	Length	Quality of chain
5	5	207	 57% 37% • 5%
5	F	207	 62% 32% • 5%
6	6	181	 54% 34% • 8%
6	G	181	 43% 47% • 8%
7	9	182	 55% 42% ...
7	O	182	 60% 37% ..
8	7	129	 66% 32% ..
8	I	129	 64% 33% ..
9	W	131	 79% 18% •
9	X	131	 71% 26% •
10	A	119	 58% 39% ..
10	P	119	 54% 43% ..
11	J	176	 61% 30% • 9%
11	R	176	 58% 32% • 9%
12	K	95	 63% 37%
12	S	95	 64% 35% •
13	L	606	 67% 33% •
13	T	606	 66% 33% •
14	M	469	 58% 41%
14	U	469	 62% 37%
15	N	427	 68% 32%
15	V	427	 71% 29%
16	H	365	 49% 44% • •
16	Q	365	 44% 50% • •

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 crite-

ria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
17	SF4	1	501	-	-	X	-
17	SF4	6	201	-	-	X	-
17	SF4	9	201	-	-	X	-
17	SF4	9	202	-	-	X	-
17	SF4	B	501	-	-	X	-
17	SF4	G	201	-	-	X	-
17	SF4	O	201	-	-	X	-
17	SF4	O	202	-	-	X	-
19	FES	3	804	-	-	X	-
19	FES	C	201	-	-	X	-

## 2 Entry composition [i](#)

There are 19 unique types of molecules in this entry. The entry contains 74086 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 NADH-quinone oxidoreductase subunit 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	1	437	Total	C	N	O	S	0	0	0
			3417	2180	595	624	18			
1	B	437	Total	C	N	O	S	0	0	0
			3417	2180	595	624	18			

- Molecule 2 is a protein called NADH-quinone oxidoreductase subunit 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	2	178	Total	C	N	O	S	0	0	0
			1406	895	238	265	8			
2	C	178	Total	C	N	O	S	0	0	0
			1406	895	238	265	8			

- Molecule 3 is a protein called NADH-quinone oxidoreductase subunit 3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	3	756	Total	C	N	O	S	0	0	0
			5895	3754	1057	1053	31			
3	D	756	Total	C	N	O	S	0	0	0
			5895	3754	1057	1053	31			

- Molecule 4 is a protein called NADH-quinone oxidoreductase subunit 4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	4	384	Total	C	N	O	S	0	0	0
			3067	1975	522	559	11			
4	E	384	Total	C	N	O	S	0	0	0
			3067	1975	522	559	11			

- Molecule 5 is a protein called NADH-quinone oxidoreductase subunit 5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	5	196	Total 1607	C 1043	N 273	O 288	S 3	0	0	0
5	F	196	Total 1607	C 1043	N 273	O 288	S 3	0	0	0

- Molecule 6 is a protein called NADH-quinone oxidoreductase subunit 6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	6	166	Total 1289	C 815	N 235	O 226	S 13	0	0	0
6	G	166	Total 1289	C 815	N 235	O 226	S 13	0	0	0

- Molecule 7 is a protein called NADH-quinone oxidoreductase subunit 9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	9	180	Total 1388	C 890	N 232	O 255	S 11	0	0	0
7	O	180	Total 1388	C 890	N 232	O 255	S 11	0	0	0

- Molecule 8 is a protein called NADH-quinone oxidoreductase subunit 15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	7	127	Total 1031	C 664	N 183	O 181	S 3	0	0	0
8	I	127	Total 1031	C 664	N 183	O 181	S 3	0	0	0

- Molecule 9 is a protein called DUF3197 domain-containing protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	W	127	Total 967	C 623	N 165	O 175	S 4	0	0	0
9	X	127	Total 967	C 623	N 165	O 175	S 4	0	0	0

- Molecule 10 is a protein called NADH-quinone oxidoreductase subunit 7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	A	117	Total 910	C 624	N 138	O 144	S 4	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	P	117	910	624	138	144	4	0	0	0

- Molecule 11 is a protein called NADH-quinone oxidoreductase subunit 10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
11	J	160	1183	806	183	191	3	0	0	0
11	R	160	1183	806	183	191	3	0	0	0

- Molecule 12 is a protein called NADH-quinone oxidoreductase subunit 11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
12	K	95	703	456	118	126	3	0	0	0
12	S	95	703	456	118	126	3	0	0	0

- Molecule 13 is a protein called NADH-quinone oxidoreductase subunit 12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
13	L	605	4604	3089	740	756	19	0	0	0
13	T	605	4604	3089	740	756	19	0	0	0

- Molecule 14 is a protein called NADH-quinone oxidoreductase subunit 13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
14	M	467	3489	2363	546	572	8	0	0	0
14	U	467	3489	2363	546	572	8	0	0	0

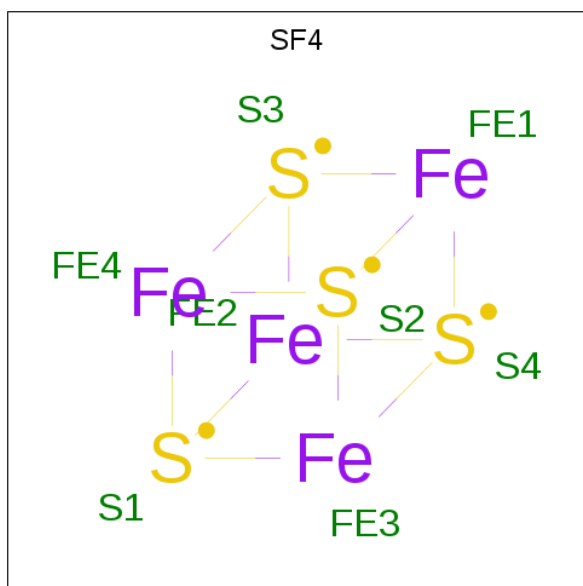
- Molecule 15 is a protein called NADH-quinone oxidoreductase subunit 14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
15	N	427	3154	2125	505	518	6	0	0	0
15	V	427	3154	2125	505	518	6	0	0	0

- Molecule 16 is a protein called NADH-quinone oxidoreductase subunit 8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
16	H	353	Total 2838	C 1943	N 431	O 457	S 7	0	0	0
16	Q	353	Total 2838	C 1943	N 431	O 457	S 7	0	0	0

- Molecule 17 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe<sub>4</sub>S<sub>4</sub>).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	
			Total	Fe S			
17	1	1	Total 8	Fe 4	S 4	0	0
17	3	1	Total 8	Fe 4	S 4	0	0
17	3	1	Total 8	Fe 4	S 4	0	0
17	3	1	Total 8	Fe 4	S 4	0	0
17	6	1	Total 8	Fe 4	S 4	0	0
17	9	1	Total 8	Fe 4	S 4	0	0
17	9	1	Total 8	Fe 4	S 4	0	0
17	B	1	Total 8	Fe 4	S 4	0	0
17	D	1	Total 8	Fe 4	S 4	0	0

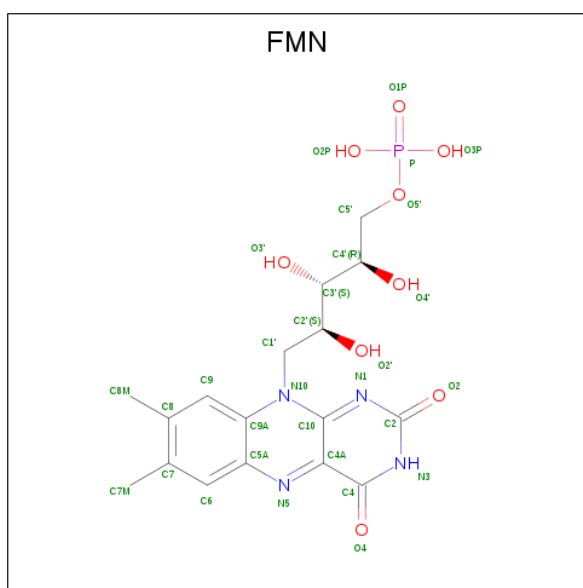
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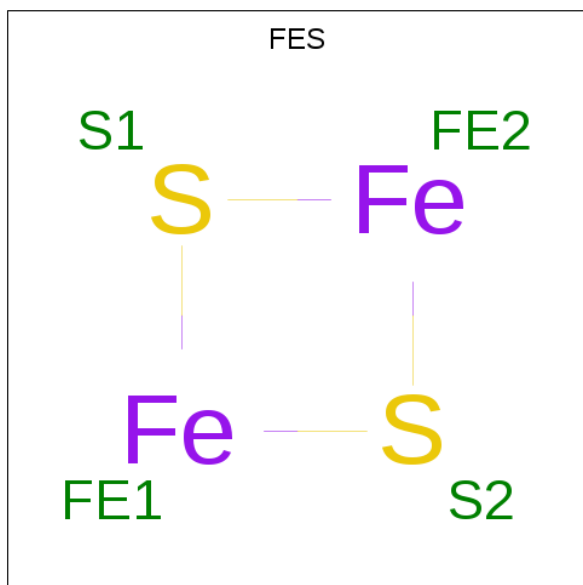
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
17	D	1	Total	Fe	S	0	0
			8	4	4		
17	D	1	Total	Fe	S	0	0
			8	4	4		
17	G	1	Total	Fe	S	0	0
			8	4	4		
17	O	1	Total	Fe	S	0	0
			8	4	4		
17	O	1	Total	Fe	S	0	0
			8	4	4		

- Molecule 18 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: C<sub>17</sub>H<sub>21</sub>N<sub>4</sub>O<sub>9</sub>P).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
18	1	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
18	B	1	Total	C	N	O	P	0	0
			31	17	4	9	1		

- Molecule 19 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe<sub>2</sub>S<sub>2</sub>).



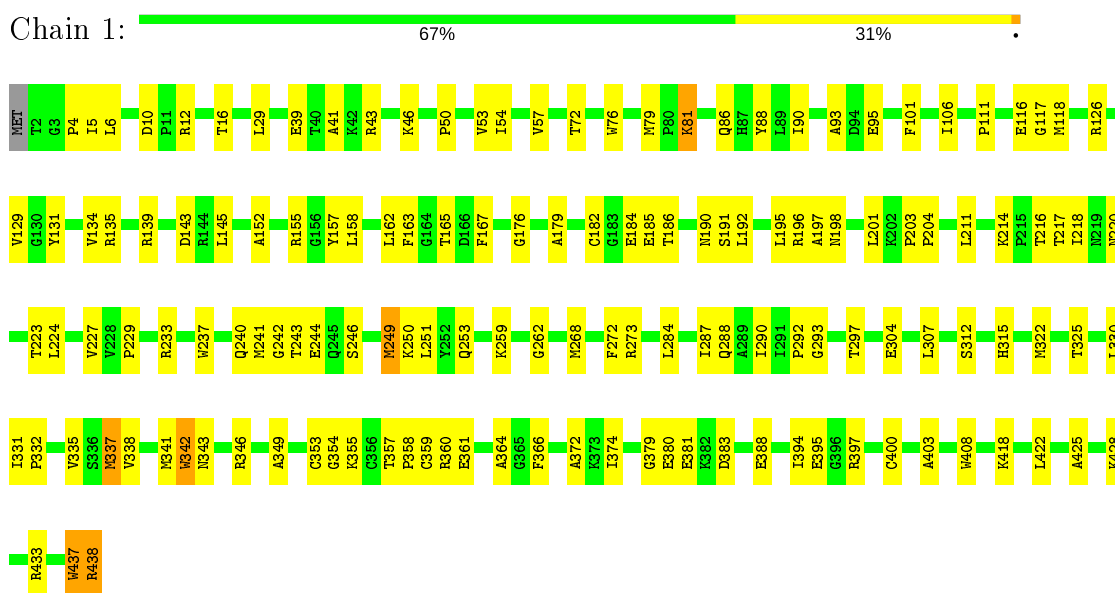
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
19	2	1	Total	Fe	S	0	0
			4	2	2		
19	3	1	Total	Fe	S	0	0
			4	2	2		
19	C	1	Total	Fe	S	0	0
			4	2	2		
19	D	1	Total	Fe	S	0	0
			4	2	2		

### 3 Residue-property plots

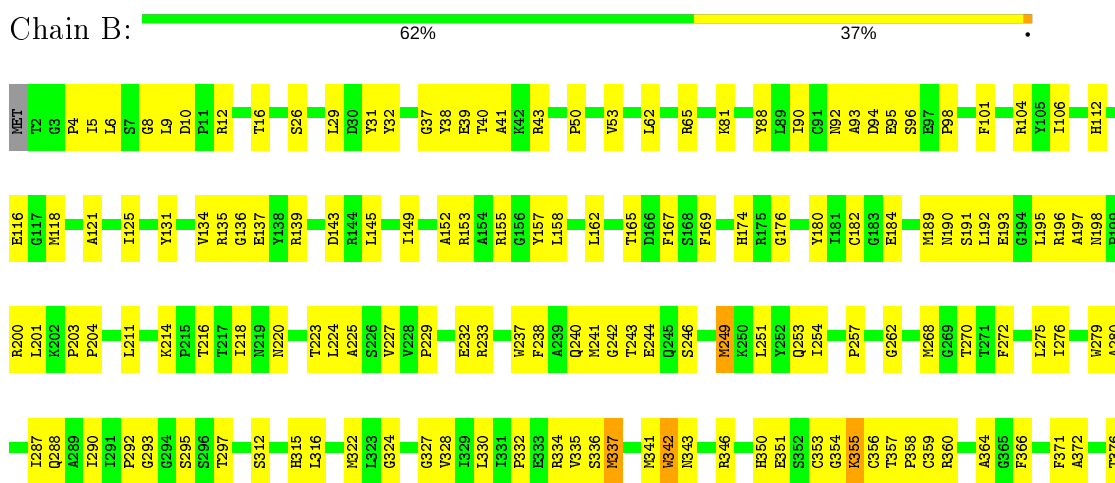
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded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

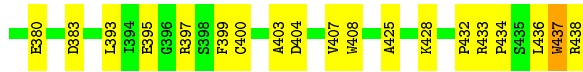
Note EDS failed to run properly.

- Molecule 1: NADH-quinone oxidoreductase subunit 1

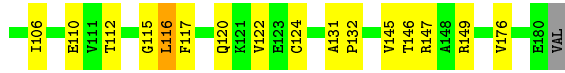


- Molecule 1: NADH-quinone oxidoreductase subunit 1

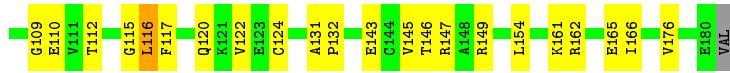
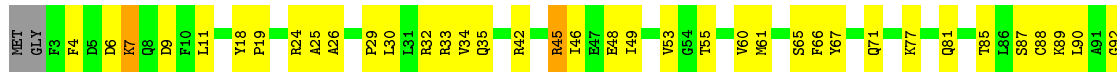




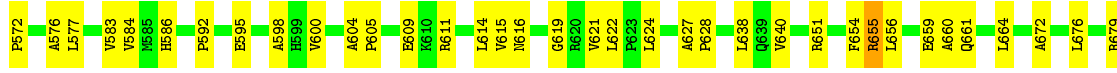
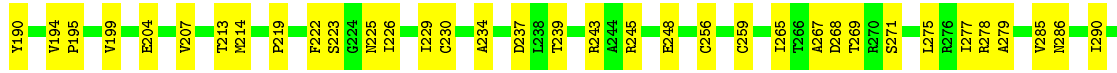
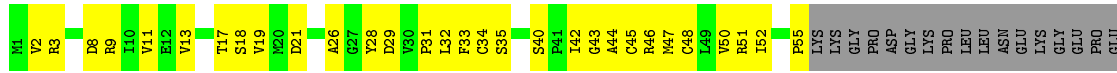
• Molecule 2: NADH-quinone oxidoreductase subunit 2



• Molecule 2: NADH-quinone oxidoreductase subunit 2

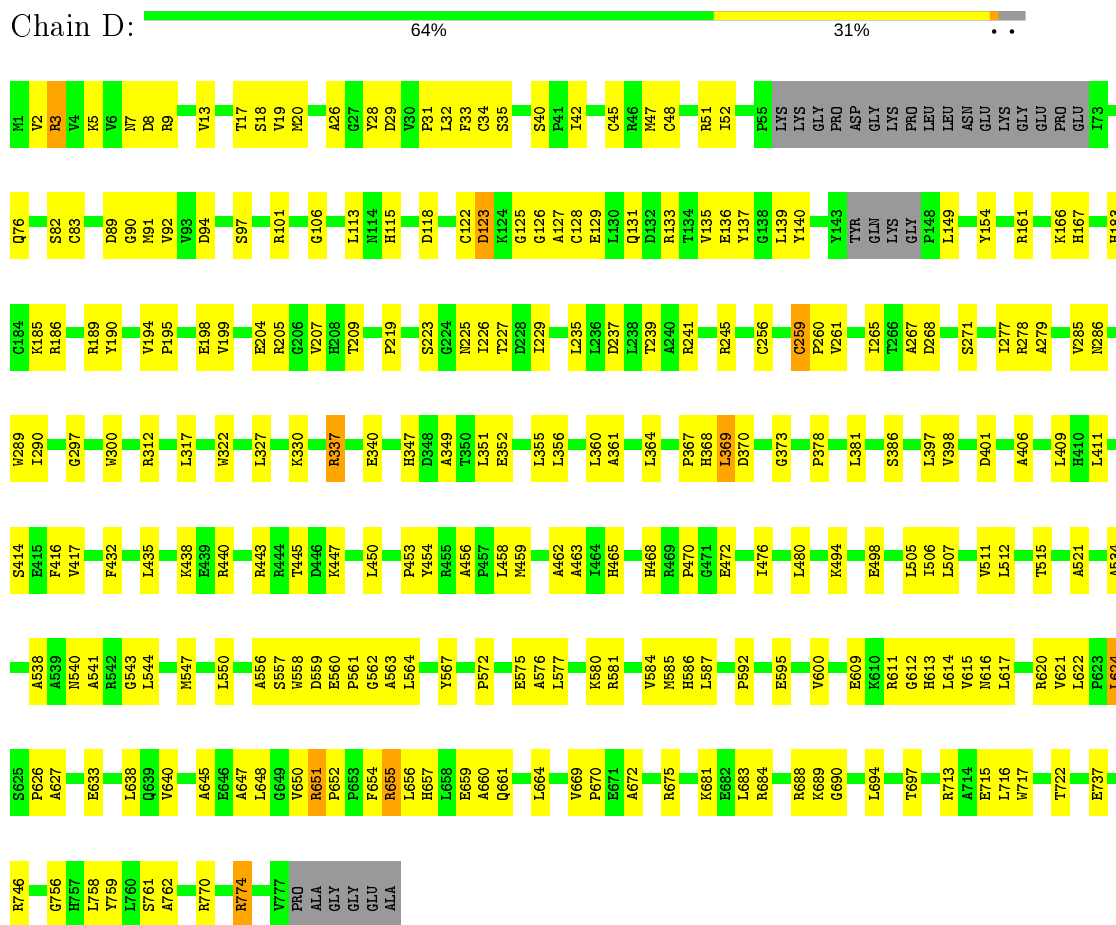


• Molecule 3: NADH-quinone oxidoreductase subunit 3

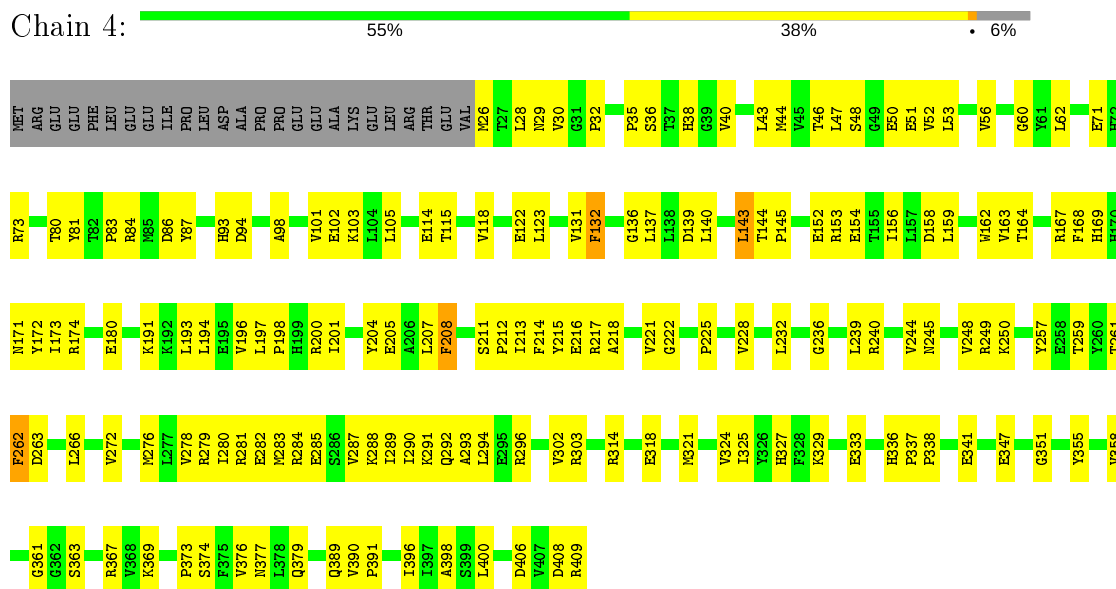


GLY  
GLY  
GLU  
ALA

● Molecule 3: NADH-quinone oxidoreductase subunit 3

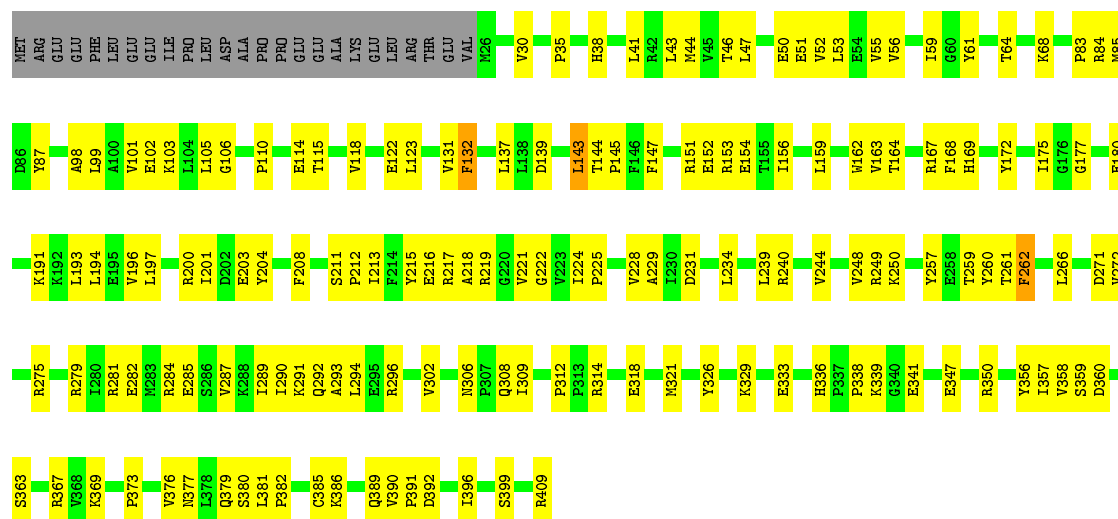


● Molecule 4: NADH-quinone oxidoreductase subunit 4



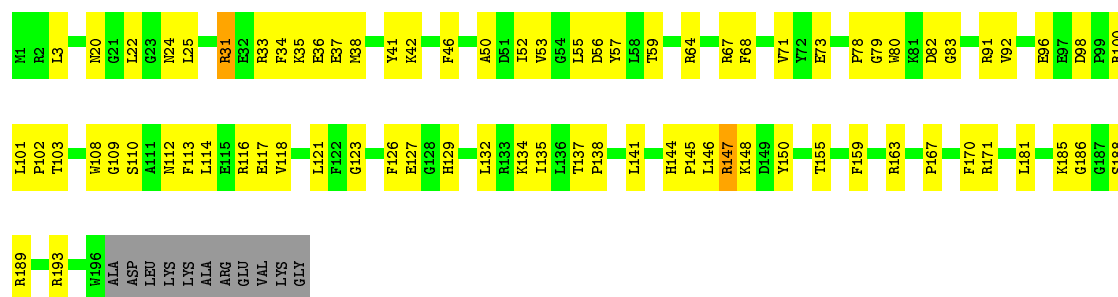
- Molecule 4: NADH-quinone oxidoreductase subunit 4

Chain E:  56% 37% • 6%



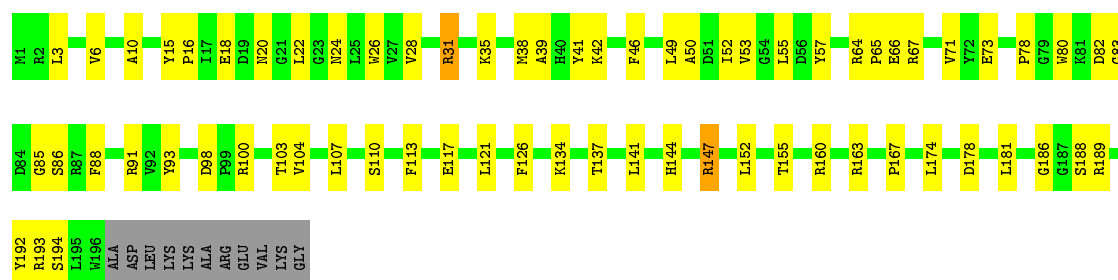
- Molecule 5: NADH-quinone oxidoreductase subunit 5

Chain 5:  57% 37% • 5%



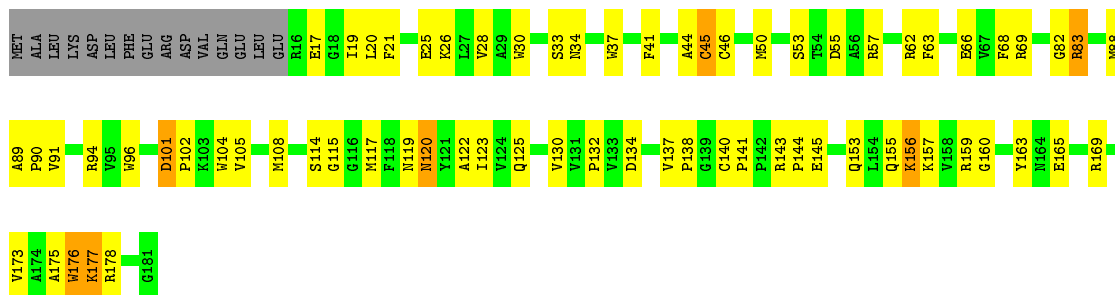
- Molecule 5: NADH-quinone oxidoreductase subunit 5

Chain F:  62% 32% • 5%



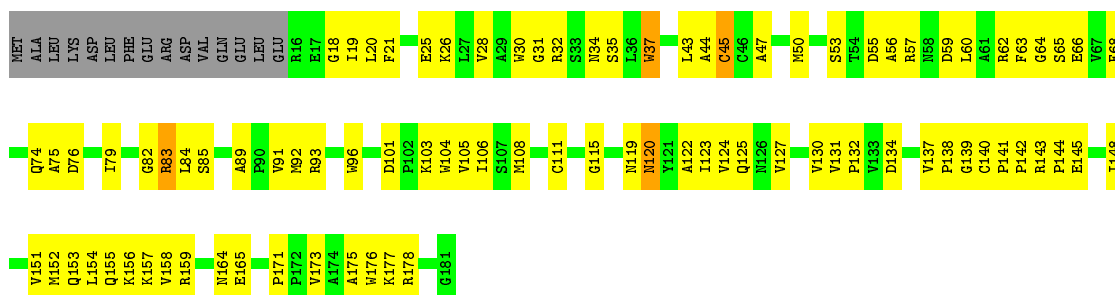
- Molecule 6: NADH-quinone oxidoreductase subunit 6

Chain 6:  54% 34% • 8%



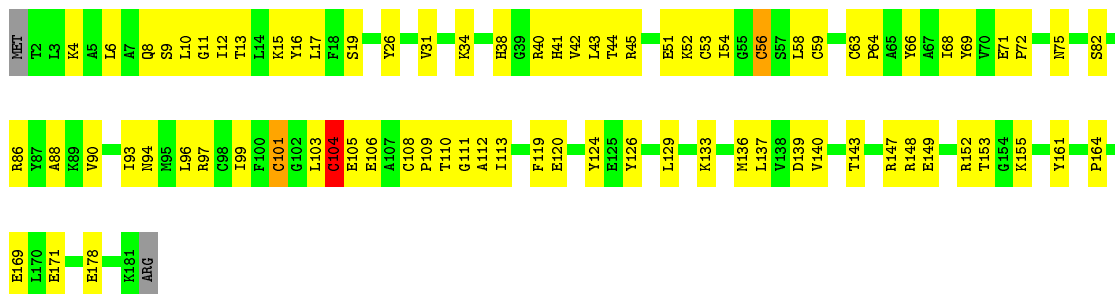
- Molecule 6: NADH-quinone oxidoreductase subunit 6

Chain G: 43% 47% 8%



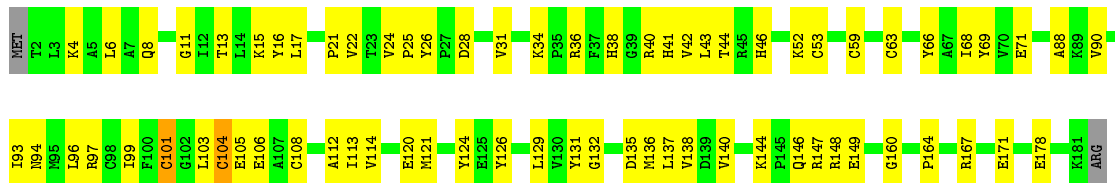
- Molecule 7: NADH-quinone oxidoreductase subunit 9

Chain 9: 55% 42%



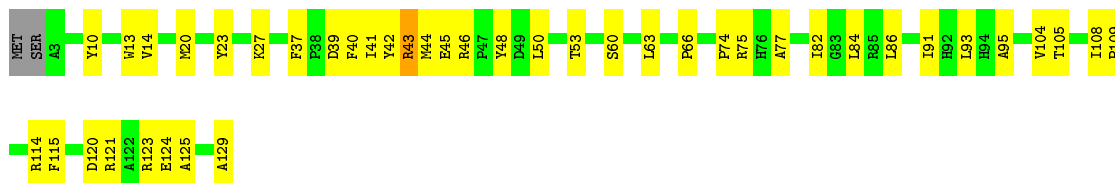
- Molecule 7: NADH-quinone oxidoreductase subunit 9

Chain O: 60% 37%



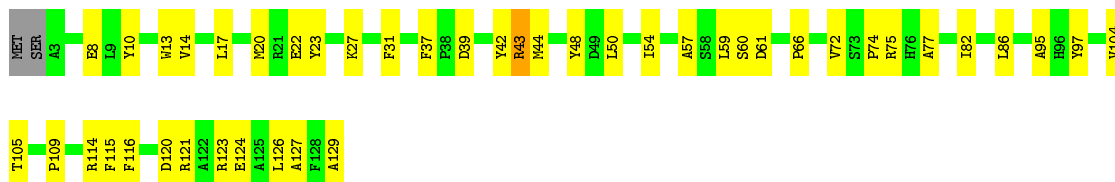
- Molecule 8: NADH-quinone oxidoreductase subunit 15

Chain 7: 66% 32%



- Molecule 8: NADH-quinone oxidoreductase subunit 15

Chain I: 64% 33%



- Molecule 9: DUF3197 domain-containing protein

Chain W: 79% 18%



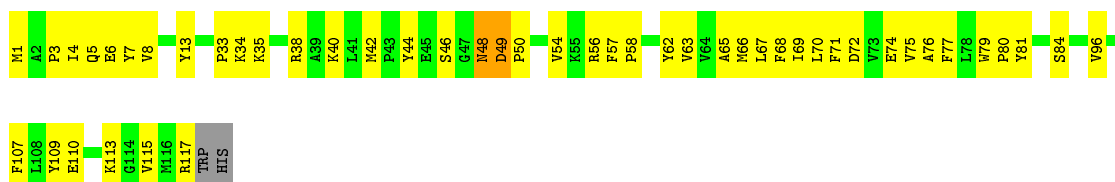
- Molecule 9: DUF3197 domain-containing protein

Chain X: 71% 26%



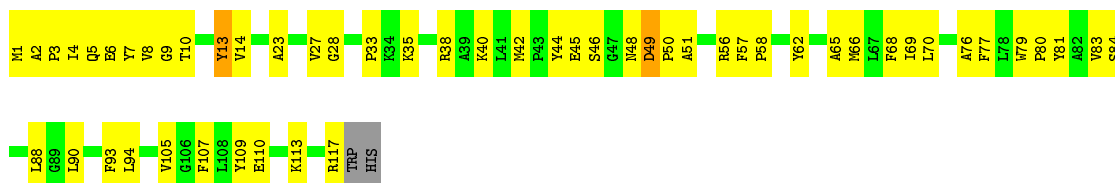
- Molecule 10: NADH-quinone oxidoreductase subunit 7

Chain A: 58% 39%



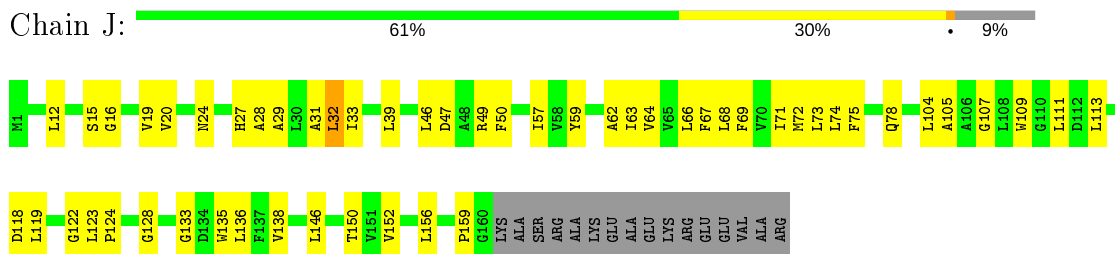
- Molecule 10: NADH-quinone oxidoreductase subunit 7

Chain P: 54% 43%

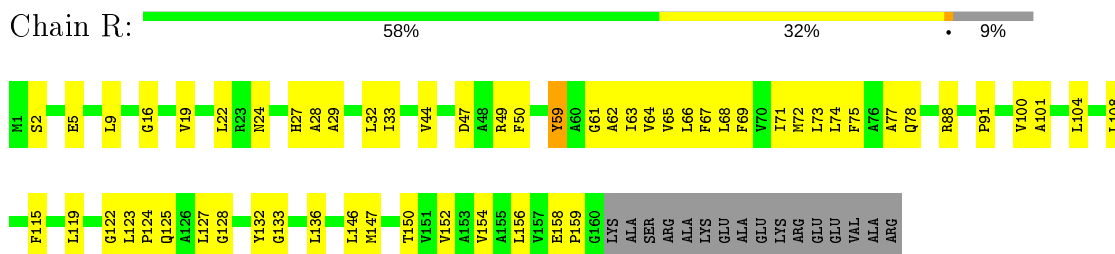




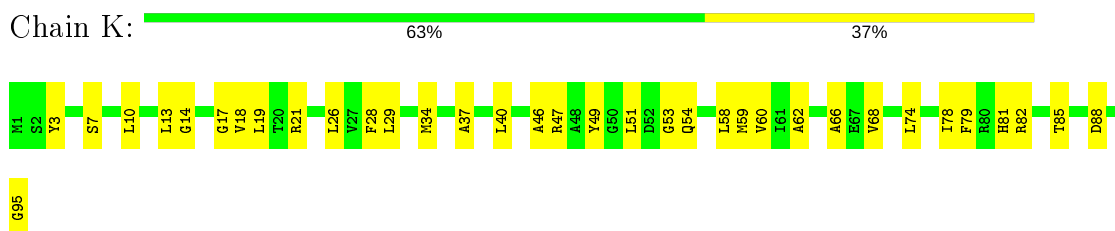
- Molecule 11: NADH-quinone oxidoreductase subunit 10



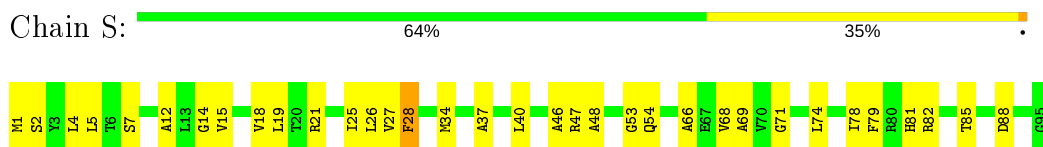
- Molecule 11: NADH-quinone oxidoreductase subunit 10



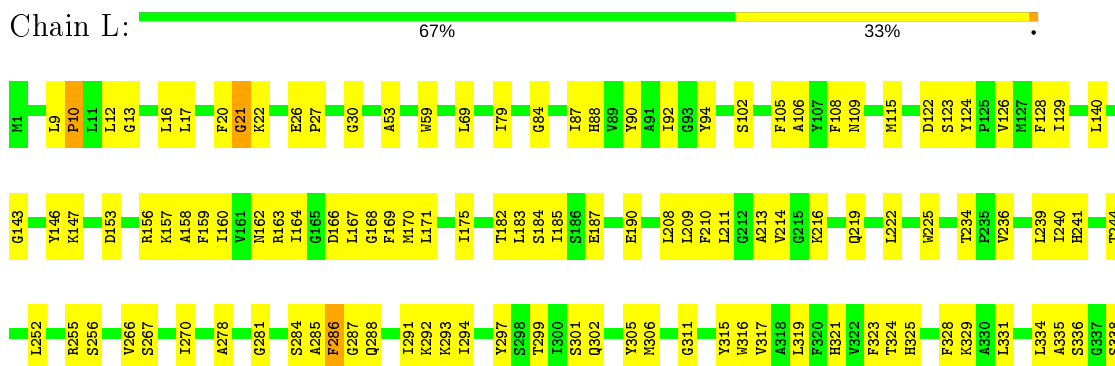
- Molecule 12: NADH-quinone oxidoreductase subunit 11

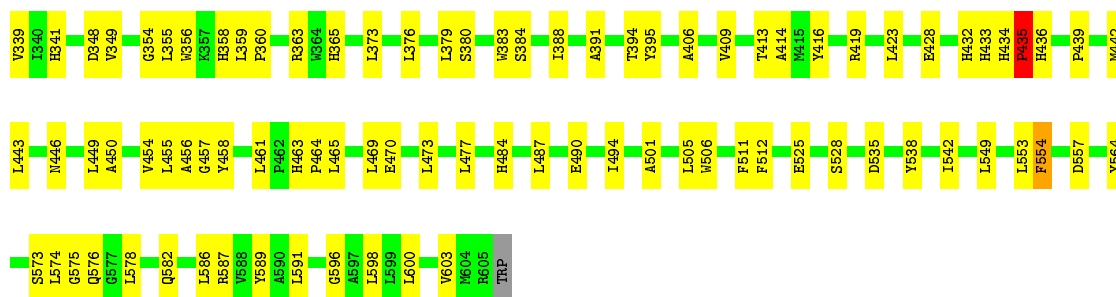


- Molecule 12: NADH-quinone oxidoreductase subunit 11



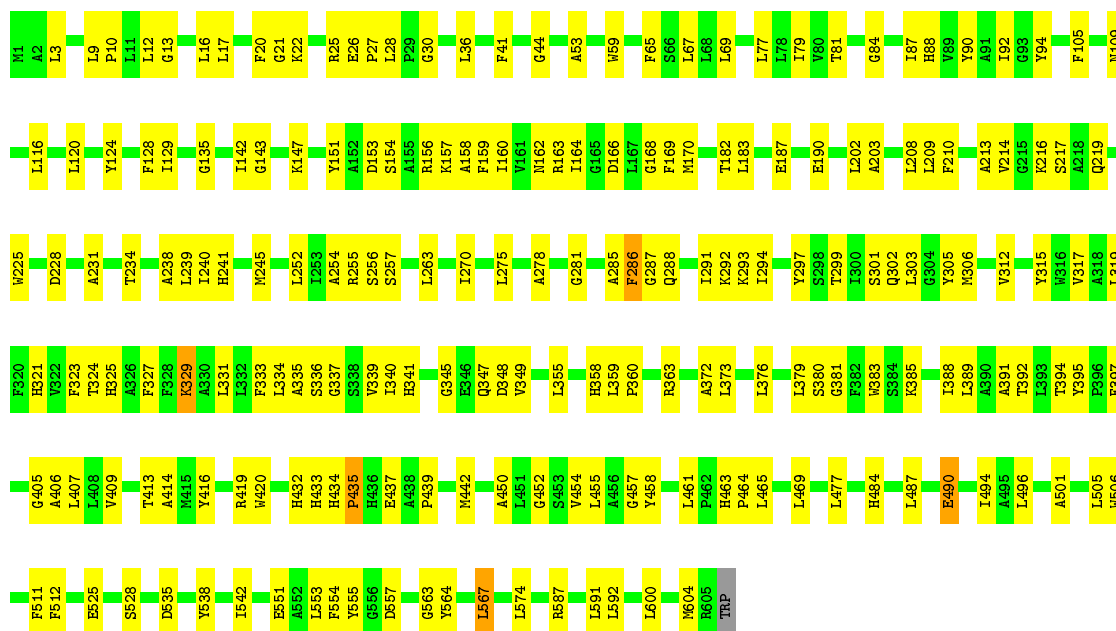
- Molecule 13: NADH-quinone oxidoreductase subunit 12





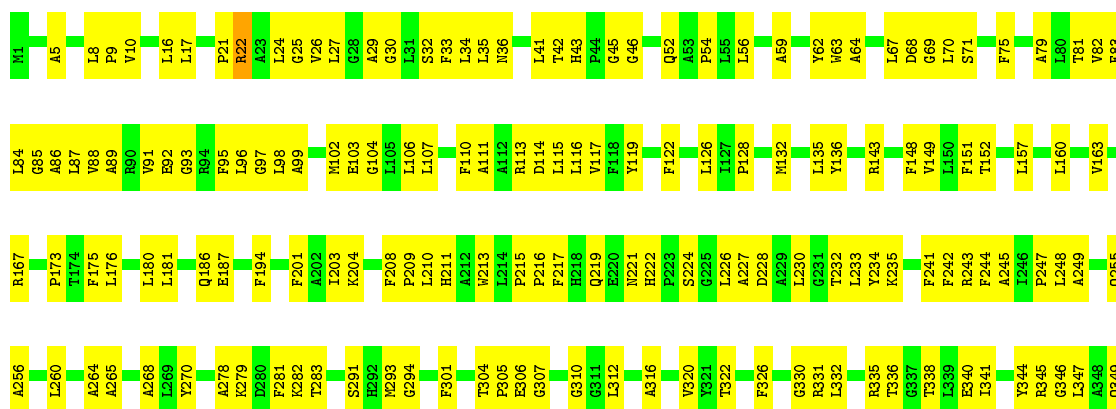
- Molecule 13: NADH-quinone oxidoreductase subunit 12

Chain T: 66% 33%



- Molecule 14: NADH-quinone oxidoreductase subunit 13

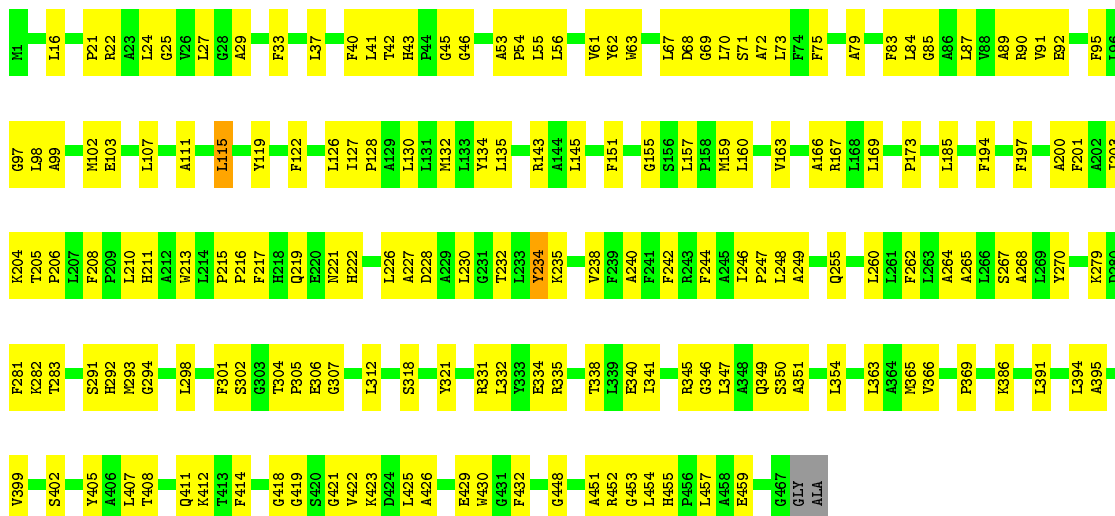
Chain M: 58% 41%





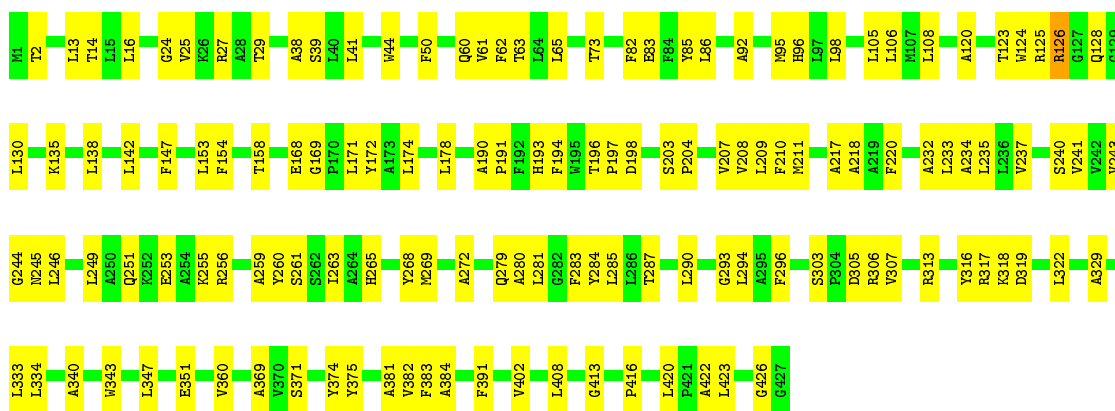
- Molecule 14: NADH-quinone oxidoreductase subunit 13

Chain U: 62% 37%



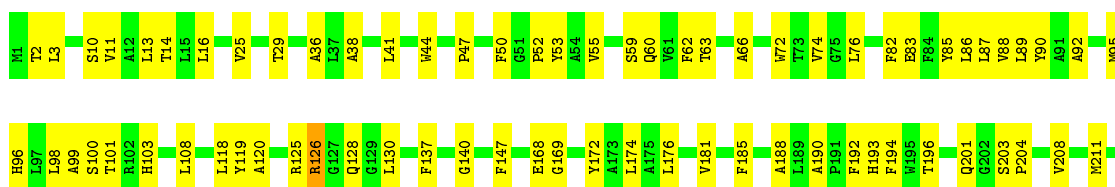
- Molecule 15: NADH-quinone oxidoreductase subunit 14

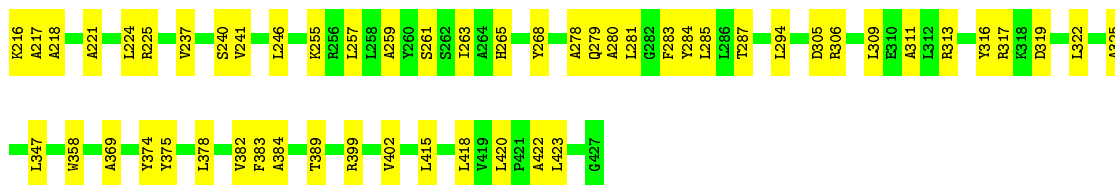
Chain N: 68% 32%



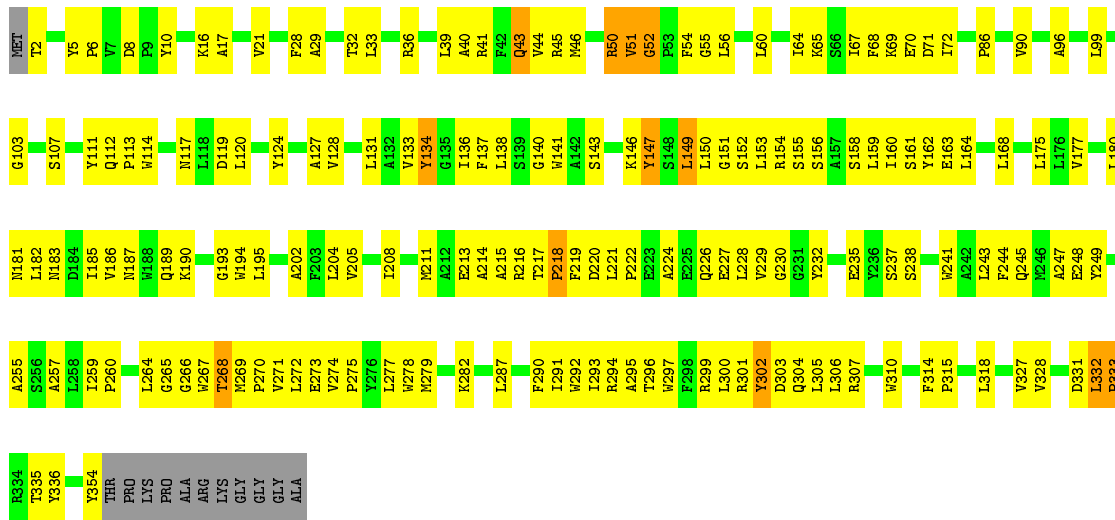
- Molecule 15: NADH-quinone oxidoreductase subunit 14

Chain V: 71% 29%

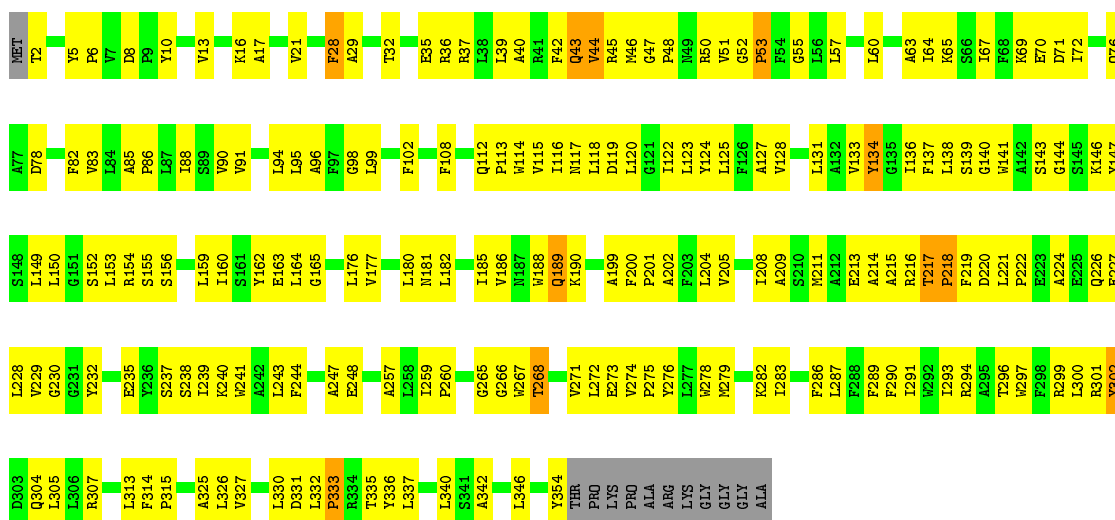




• Molecule 16: NADH-quinone oxidoreductase subunit 8



• Molecule 16: NADH-quinone oxidoreductase subunit 8



## 4 Data and refinement statistics i

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	96.28Å 340.89Å 263.30Å 90.00° 100.57° 90.00°	Depositor
Resolution (Å)	58.67 – 3.11	Depositor
% Data completeness (in resolution range)	90.0 (58.67-3.11)	Depositor
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.47 (at 3.13Å)	Xtrriage
Refinement program	PHENIX 1.12_2829	Depositor
R, $R_{free}$	0.204 , 0.229	Depositor
Wilson B-factor (Å <sup>2</sup> )	91.2	Xtrriage
Anisotropy	0.025	Xtrriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.36$ , $\langle L^2 \rangle = 0.19$	Xtrriage
Estimated twinning fraction	0.420 for h,-k,-h-l	Xtrriage
Reported twinning fraction	0.490 for -h,-k,h+l	Depositor
Outliers	0 of 268255 reflections	Xtrriage
Total number of atoms	74086	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	100.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.82% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: FMN, SF4, FES

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	1	0.34	0/3506	0.48	0/4745
1	B	0.36	0/3506	0.48	0/4745
2	2	0.33	0/1439	0.48	0/1953
2	C	0.34	0/1439	0.48	0/1953
3	3	0.38	0/6035	0.53	1/8185 (0.0%)
3	D	0.39	1/6035 (0.0%)	0.54	1/8185 (0.0%)
4	4	0.36	0/3150	0.51	0/4284
4	E	0.36	0/3150	0.51	0/4284
5	5	0.38	0/1656	0.52	0/2246
5	F	0.40	0/1656	0.52	0/2246
6	6	0.40	0/1319	0.55	0/1786
6	G	0.43	0/1319	0.55	0/1786
7	9	0.55	3/1423 (0.2%)	0.57	0/1933
7	O	0.50	1/1423 (0.1%)	0.55	0/1933
8	7	0.32	0/1059	0.49	0/1429
8	I	0.35	0/1059	0.50	0/1429
9	W	0.36	0/985	0.49	0/1335
9	X	0.35	0/985	0.50	0/1335
10	A	0.37	0/940	0.51	0/1280
10	P	0.38	0/940	0.53	0/1280
11	J	0.31	0/1206	0.48	0/1649
11	R	0.31	0/1206	0.50	0/1649
12	K	0.31	0/710	0.44	0/962
12	S	0.30	0/710	0.45	0/962
13	L	0.33	0/4741	0.49	1/6460 (0.0%)
13	T	0.33	0/4741	0.48	1/6460 (0.0%)
14	M	0.34	0/3591	0.51	0/4896
14	U	0.32	0/3591	0.50	0/4896
15	N	0.33	0/3238	0.46	0/4434
15	V	0.33	0/3238	0.47	0/4434
16	H	0.39	0/2935	0.56	0/4014
16	Q	0.40	0/2935	0.56	0/4014

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
All	All	0.37	5/75866 (0.0%)	0.51	4/103182 (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
7	O	0	1
13	L	0	1
13	T	0	1
16	H	0	5
16	Q	0	3
All	All	0	11

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	9	101	CYS	CB-SG	-6.99	1.70	1.82
7	9	104	CYS	CB-SG	-5.75	1.72	1.81
7	O	101	CYS	CB-SG	-5.55	1.72	1.81
3	D	624	LEU	C-N	-5.32	1.21	1.34
7	9	56	CYS	CB-SG	-5.14	1.73	1.81

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	369	LEU	CA-CB-CG	5.81	128.66	115.30
3	3	369	LEU	CA-CB-CG	5.34	127.58	115.30
13	T	574	LEU	CB-CG-CD2	5.29	120.00	111.00
13	L	574	LEU	CB-CG-CD2	5.16	119.77	111.00

There are no chirality outliers.

All (11) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
16	H	217	THR	Peptide
16	H	266	GLY	Peptide
16	H	332	LEU	Peptide
16	H	43	GLN	Peptide
16	H	52	GLY	Peptide

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Mol	Chain	Res	Type	Group
13	L	435	PRO	Peptide
7	O	21	PRO	Peptide
16	Q	217	THR	Peptide
16	Q	266	GLY	Peptide
16	Q	43	GLN	Peptide
13	T	435	PRO	Peptide

## 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	1	3417	0	3389	97	0
1	B	3417	0	3388	123	0
2	2	1406	0	1373	41	0
2	C	1406	0	1373	49	0
3	3	5895	0	5930	165	0
3	D	5895	0	5930	186	0
4	4	3067	0	3049	153	0
4	E	3067	0	3049	143	0
5	5	1607	0	1574	70	0
5	F	1607	0	1574	62	0
6	6	1289	0	1298	71	0
6	G	1289	0	1298	89	0
7	9	1388	0	1383	84	0
7	O	1388	0	1383	70	0
8	7	1031	0	1029	42	0
8	I	1031	0	1029	37	0
9	W	967	0	1010	17	0
9	X	967	0	1010	24	0
10	A	910	0	939	52	0
10	P	910	0	939	61	0
11	J	1183	0	1286	51	0
11	R	1183	0	1286	57	0
12	K	703	0	747	36	0
12	S	703	0	747	31	0
13	L	4604	0	4734	159	0
13	T	4604	0	4734	146	0
14	M	3489	0	3606	138	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	U	3489	0	3606	124	0
15	N	3154	0	3343	104	0
15	V	3154	0	3343	85	0
16	H	2838	0	2903	173	0
16	Q	2838	0	2903	184	0
17	1	8	0	0	2	0
17	3	24	0	0	2	0
17	6	8	0	0	3	0
17	9	16	0	0	9	0
17	B	8	0	0	2	0
17	D	24	0	0	1	0
17	G	8	0	0	3	0
17	O	16	0	0	6	0
18	1	31	0	19	3	0
18	B	31	0	19	4	0
19	2	4	0	0	1	0
19	3	4	0	0	2	0
19	C	4	0	0	2	0
19	D	4	0	0	0	0
All	All	74086	0	75223	2529	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 17.

All (2529) 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)
4:E:85:MET:HE2	4:E:409:ARG:HG3	1.33	1.10
6:G:140:CYS:SG	7:O:99:ILE:HD11	1.93	1.08
4:E:47:LEU:CD1	4:E:51:GLU:O	2.00	1.08
7:9:108:CYS:HA	17:9:202:SF4:S3	1.99	1.02
3:D:115:HIS:HB3	4:E:321:MET:HE3	1.45	0.98
14:M:115:LEU:HD13	14:M:163:VAL:HG23	1.46	0.97
3:3:722:THR:HG21	3:3:756:GLY:H	1.28	0.97
6:G:140:CYS:SG	7:O:99:ILE:CD1	2.52	0.97
4:E:47:LEU:HD13	4:E:51:GLU:O	1.65	0.95
3:D:42:ILE:HD12	3:D:42:ILE:O	1.67	0.95
3:3:115:HIS:HB3	4:4:321:MET:HE3	1.51	0.92
7:9:52:LYS:NZ	8:7:44:MET:O	2.03	0.91
6:G:62:ARG:HA	16:Q:48:PRO:HA	1.53	0.91
1:B:437:TRP:HB3	2:C:92:GLY:HA3	1.52	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:H:302:TYR:HA	16:H:305:LEU:HB3	1.53	0.90
14:M:89:ALA:HB1	14:M:91:VAL:HG22	1.53	0.89
6:G:140:CYS:HB2	7:O:99:ILE:HD12	1.54	0.89
14:U:21:PRO:HD2	14:U:24:LEU:HG	1.54	0.87
4:E:85:MET:CE	4:E:409:ARG:HG3	2.04	0.87
14:M:21:PRO:HD2	14:M:24:LEU:HG	1.58	0.85
16:H:50:ARG:O	16:H:52:GLY:N	2.09	0.85
7:O:96:LEU:HD21	7:O:129:LEU:HD13	1.59	0.85
14:U:115:LEU:HD13	14:U:163:VAL:HG23	1.56	0.85
4:E:47:LEU:HD11	4:E:51:GLU:O	1.74	0.85
16:Q:215:ALA:O	16:Q:294:ARG:NH1	2.10	0.84
3:3:611:ARG:HA	3:3:624:LEU:O	1.78	0.84
3:D:584:VAL:HG12	3:D:600:VAL:HB	1.59	0.84
6:G:119:ASN:HA	6:G:125:GLN:HE22	1.43	0.83
6:G:140:CYS:CB	7:O:99:ILE:HD12	2.08	0.83
15:N:279:GLN:HG3	15:N:423:LEU:HB2	1.60	0.83
14:U:268:ALA:HA	14:U:291:SER:HA	1.61	0.82
4:4:314:ARG:NH2	7:9:108:CYS:O	2.12	0.82
10:P:90:LEU:HD23	10:P:94:LEU:HD13	1.59	0.82
14:U:41:LEU:O	14:U:42:THR:HG22	1.78	0.82
14:M:41:LEU:O	14:M:42:THR:HG22	1.79	0.81
14:M:75:PHE:HZ	14:M:111:ALA:HB2	1.44	0.81
16:H:219:PHE:HB3	16:H:299:ARG:HG2	1.63	0.81
2:C:110:GLU:HA	8:I:121:ARG:HH12	1.45	0.81
7:O:108:CYS:HA	17:O:202:SF4:S3	2.20	0.81
15:V:14:THR:HA	15:V:86:LEU:HD21	1.62	0.81
13:T:158:ALA:HA	13:T:225:TRP:HB2	1.61	0.80
16:Q:143:SER:HB2	16:Q:235:GLU:HG3	1.63	0.80
16:Q:302:TYR:HA	16:Q:305:LEU:HB3	1.61	0.80
1:1:118:MET:HG2	1:1:224:LEU:HD13	1.63	0.79
7:O:41:HIS:HB3	7:O:113:ILE:HD11	1.63	0.79
3:D:198:GLU:OE2	3:D:440:ARG:NH1	2.14	0.79
1:1:437:TRP:HB3	2:2:92:GLY:HA3	1.64	0.79
1:B:88:TYR:HB2	1:B:216:THR:HG22	1.64	0.79
8:7:40:PHE:HA	8:7:43:ARG:HG2	1.65	0.79
4:E:281:ARG:HD3	4:E:284:ARG:HH12	1.48	0.79
10:P:117:ARG:HD2	11:R:159:PRO:HD2	1.65	0.79
16:Q:52:GLY:HA3	16:Q:55:GLY:H	1.46	0.79
4:4:314:ARG:NH1	7:9:106:GLU:O	2.16	0.78
11:J:133:GLY:H	11:J:136:LEU:HB2	1.47	0.78
15:N:294:LEU:HG	15:N:402:VAL:HG13	1.65	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:9:96:LEU:HD21	7:9:129:LEU:HD13	1.63	0.78
5:F:18:GLU:HB2	5:F:26:TRP:HB2	1.63	0.78
16:Q:291:ILE:HA	16:Q:294:ARG:HG3	1.66	0.78
5:5:35:LYS:NZ	5:5:103:THR:O	2.16	0.78
1:B:287:ILE:HA	1:B:332:PRO:HA	1.64	0.78
4:E:314:ARG:NH2	8:I:44:MET:SD	2.57	0.78
1:B:334:ARG:HG2	1:B:434:PRO:HG3	1.64	0.78
11:J:47:ASP:O	11:J:122:GLY:N	2.17	0.78
4:E:84:ARG:O	6:G:83:ARG:NH2	2.17	0.78
3:3:9:ARG:NH1	3:3:26:ALA:O	2.16	0.77
6:6:160:GLY:O	6:6:169:ARG:NH1	2.18	0.77
1:B:190:ASN:ND2	1:B:198:ASN:O	2.17	0.77
8:I:23:TYR:OH	8:I:123:ARG:NH1	2.17	0.77
3:D:352:GLU:OE2	3:D:661:GLN:NE2	2.16	0.77
1:B:246:SER:HB3	1:B:268:MET:HG2	1.67	0.77
3:D:538:ALA:HB3	3:D:541:ALA:HB2	1.65	0.77
3:3:561:PRO:HB3	3:3:576:ALA:HA	1.67	0.77
4:E:85:MET:HE2	4:E:409:ARG:CG	2.13	0.77
3:3:42:ILE:HD12	3:3:42:ILE:O	1.84	0.76
16:H:52:GLY:HA3	16:H:55:GLY:H	1.48	0.76
15:N:190:ALA:HB3	15:N:240:SER:HA	1.67	0.76
16:H:158:SER:HA	16:H:306:LEU:HD21	1.67	0.76
13:T:557:ASP:OD1	14:U:211:HIS:NE2	2.16	0.76
3:D:716:LEU:HD21	3:D:758:LEU:HD23	1.65	0.76
11:R:152:VAL:HG13	15:V:120:ALA:HB2	1.66	0.76
3:3:715:GLU:H	3:3:761:SER:HB2	1.51	0.75
4:4:338:PRO:HG3	5:5:193:ARG:HB2	1.68	0.75
7:9:171:GLU:OE2	8:7:43:ARG:NH2	2.19	0.75
16:Q:274:VAL:HG12	16:Q:278:TRP:CD1	2.22	0.75
5:F:20:ASN:HD21	5:F:24:ASN:HB2	1.52	0.75
3:3:51:ARG:HB3	3:3:94:ASP:HB3	1.69	0.75
1:1:16:THR:HG21	1:1:229:PRO:HB3	1.67	0.75
13:L:575:GLY:HA2	15:N:246:LEU:HB3	1.69	0.75
3:D:656:LEU:HD11	9:X:3:ARG:HD3	1.67	0.74
1:B:65:ARG:NH1	1:B:249:MET:O	2.20	0.74
11:J:68:LEU:HD23	11:J:71:ILE:HD11	1.69	0.74
15:V:294:LEU:HD11	15:V:325:ALA:HB1	1.69	0.74
15:V:44:TRP:HE1	15:V:422:ALA:HB1	1.51	0.74
9:W:31:VAL:HG11	9:W:81:LEU:HD13	1.69	0.74
3:D:2:VAL:HG13	3:D:89:ASP:HA	1.70	0.74
16:H:216:ARG:HD2	16:H:294:ARG:HA	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:278:ALA:HA	13:L:301:SER:HA	1.69	0.74
15:N:193:HIS:HB2	15:N:263:ILE:HD13	1.69	0.74
16:H:189:GLN:NE2	16:H:264:LEU:O	2.21	0.74
7:O:40:ARG:HH12	7:O:136:MET:HA	1.52	0.74
10:P:90:LEU:CD2	10:P:94:LEU:HD13	2.18	0.73
4:E:261:THR:H	4:E:292:GLN:HE22	1.36	0.73
13:L:557:ASP:OD1	14:M:211:HIS:NE2	2.21	0.73
14:M:217:PHE:O	14:M:221:ASN:ND2	2.21	0.73
13:T:340:ILE:O	13:T:345:GLY:N	2.13	0.73
3:3:609:GLU:HA	3:3:627:ALA:H	1.51	0.73
13:T:291:ILE:HD12	13:T:336:SER:HB3	1.69	0.73
3:D:459:MET:HG2	3:D:465:HIS:HB2	1.70	0.73
1:1:425:ALA:O	1:1:428:LYS:NZ	2.18	0.73
11:J:50:PHE:HB2	11:J:124:PRO:HD3	1.70	0.73
14:U:217:PHE:O	14:U:221:ASN:ND2	2.22	0.73
7:O:28:ASP:OD2	16:Q:50:ARG:NH1	2.22	0.72
14:U:89:ALA:HB1	14:U:91:VAL:HG22	1.70	0.72
6:6:145:GLU:HG2	7:9:31:VAL:HG21	1.69	0.72
4:E:85:MET:CE	4:E:409:ARG:CG	2.67	0.72
16:Q:222:PRO:HG2	16:Q:230:GLY:HA2	1.71	0.72
13:T:278:ALA:HA	13:T:301:SER:HA	1.70	0.72
4:4:259:THR:O	4:4:296:ARG:NH2	2.22	0.72
11:J:119:LEU:HD11	12:K:47:ARG:HA	1.70	0.72
4:E:314:ARG:NH1	7:O:106:GLU:O	2.23	0.72
15:V:59:SER:HG	15:V:100:SER:HG	1.30	0.72
5:5:103:THR:HG22	5:5:126:PHE:HB3	1.72	0.72
3:D:51:ARG:HB3	3:D:94:ASP:HB3	1.72	0.71
14:M:268:ALA:HA	14:M:291:SER:HA	1.71	0.71
10:A:63:VAL:HG11	10:A:115:VAL:HG21	1.73	0.71
1:B:288:GLN:NE2	1:B:335:VAL:O	2.24	0.71
5:F:31:ARG:NH2	5:F:98:ASP:OD2	2.22	0.71
16:Q:29:ALA:O	16:Q:32:THR:OG1	2.09	0.71
14:U:244:PHE:O	14:U:248:LEU:HB2	1.89	0.71
3:3:31:PRO:HB2	3:3:47:MET:HB3	1.73	0.71
1:B:16:THR:HG21	1:B:229:PRO:HB3	1.72	0.71
16:H:265:GLY:O	16:H:282:LYS:NZ	2.23	0.71
13:L:17:LEU:HB2	13:L:106:ALA:HB2	1.72	0.71
4:E:306:ASN:ND2	5:F:192:TYR:OH	2.18	0.71
16:Q:332:LEU:HB2	16:Q:333:PRO:HD3	1.72	0.71
1:1:111:PRO:HB3	1:1:145:LEU:HD23	1.72	0.71
4:4:248:VAL:HB	4:4:347:GLU:HB2	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:259:THR:O	4:E:296:ARG:NH2	2.23	0.71
7:9:164:PRO:HA	7:9:178:GLU:HB2	1.73	0.71
3:D:31:PRO:HB2	3:D:47:MET:HB3	1.72	0.71
14:M:102:MET:HB3	14:M:230:LEU:HD23	1.73	0.71
5:5:56:ASP:OD2	5:5:148:LYS:N	2.22	0.71
13:L:163:ARG:NH2	14:M:366:VAL:O	2.24	0.71
3:3:621:VAL:HG23	3:3:672:ALA:HA	1.73	0.70
3:D:694:LEU:HB3	3:D:762:ALA:HB2	1.73	0.70
16:Q:214:ALA:HB1	16:Q:248:GLU:HG3	1.73	0.70
13:T:217:SER:HB2	13:T:303:LEU:HD22	1.73	0.70
13:T:278:ALA:HB1	13:T:409:VAL:HG11	1.73	0.70
8:7:23:TYR:OH	8:7:123:ARG:NH1	2.24	0.70
7:O:68:ILE:HG12	7:O:93:ILE:HG12	1.73	0.70
4:4:163:VAL:HG13	4:4:164:THR:HG23	1.72	0.70
4:4:341:GLU:OE1	5:5:91:ARG:NH2	2.24	0.70
3:D:611:ARG:HH21	9:X:101:ALA:HB1	1.57	0.70
4:E:163:VAL:HG13	4:E:164:THR:HG23	1.73	0.70
10:P:14:VAL:HG22	16:Q:95:LEU:HD22	1.72	0.70
6:6:153:GLN:HG3	7:9:124:TYR:CZ	2.26	0.70
6:G:34:ASN:O	6:G:64:GLY:HA3	1.92	0.70
16:H:152:SER:O	16:H:155:SER:OG	2.10	0.70
16:Q:86:PRO:HG3	16:Q:244:PHE:CE2	2.27	0.70
1:B:93:ALA:HB3	1:B:134:VAL:HG12	1.74	0.69
5:F:35:LYS:NZ	5:F:103:THR:O	2.25	0.69
10:A:70:LEU:HD13	11:J:150:THR:HG22	1.74	0.69
3:3:397:LEU:HD21	3:3:480:LEU:HD13	1.74	0.69
4:4:281:ARG:HD3	4:4:284:ARG:HH12	1.57	0.69
14:M:16:LEU:HD12	14:M:25:GLY:HA3	1.74	0.69
3:D:7:ASN:ND2	3:D:94:ASP:OD1	2.25	0.69
4:E:216:GLU:OE2	16:Q:304:GLN:NE2	2.26	0.69
13:L:355:LEU:HB3	13:L:359:LEU:HD12	1.73	0.69
13:L:159:PHE:HD2	14:M:407:LEU:HD11	1.57	0.69
5:F:144:HIS:HB2	5:F:147:ARG:HD3	1.75	0.69
14:M:99:ALA:HB2	14:M:226:LEU:HD21	1.74	0.69
3:3:694:LEU:HB3	3:3:762:ALA:HB2	1.74	0.69
13:L:288:GLN:NE2	13:L:528:SER:O	2.26	0.69
1:B:196:ARG:NH2	3:D:204:GLU:O	2.25	0.69
16:H:147:TYR:HD1	16:H:229:VAL:HG22	1.58	0.69
3:3:297:GLY:O	3:3:300:TRP:NE1	2.25	0.69
3:3:127:ALA:HB2	5:5:181:LEU:HB3	1.75	0.69
5:F:38:MET:HA	5:F:41:TYR:HD2	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:84:GLY:O	13:L:88:HIS:ND1	2.25	0.69
13:L:162:ASN:OD1	13:L:216:LYS:NZ	2.26	0.69
4:4:314:ARG:NH2	8:7:44:MET:SD	2.65	0.68
16:H:133:VAL:HG11	16:H:160:ILE:HG13	1.75	0.68
10:P:109:TYR:OH	10:P:113:LYS:NZ	2.24	0.68
3:D:94:ASP:OD2	3:D:97:SER:OG	2.11	0.68
4:E:318:GLU:HB2	8:I:39:ASP:HA	1.76	0.68
1:1:287:ILE:HA	1:1:332:PRO:HA	1.74	0.68
1:1:400:CYS:SG	17:1:501:SF4:FE3	1.85	0.68
4:E:409:ARG:NH2	5:F:117:GLU:OE2	2.26	0.68
13:T:355:LEU:HB3	13:T:359:LEU:HD12	1.76	0.68
3:3:713:ARG:HH21	3:3:746:ARG:HH21	1.42	0.68
3:3:716:LEU:HD21	3:3:758:LEU:HD23	1.75	0.68
15:N:217:ALA:HA	15:N:285:LEU:HD23	1.75	0.68
1:B:195:LEU:HD23	2:C:24:ARG:HH12	1.59	0.68
3:D:651:ARG:NH1	3:D:652:PRO:O	2.27	0.68
1:1:79:MET:SD	1:1:217:THR:OG1	2.51	0.68
11:R:50:PHE:HB2	11:R:124:PRO:HD3	1.76	0.68
13:T:53:ALA:HB3	13:T:69:LEU:HB3	1.75	0.68
13:T:84:GLY:O	13:T:88:HIS:ND1	2.21	0.68
7:9:41:HIS:HB3	7:9:113:ILE:HD11	1.77	0.67
3:3:538:ALA:HB3	3:3:541:ALA:HB2	1.75	0.67
3:3:701:ALA:N	3:3:763:LEU:O	2.26	0.67
1:B:94:ASP:O	18:B:502:FMN:N3	2.28	0.67
13:L:105:PHE:O	13:L:109:ASN:ND2	2.25	0.67
1:1:246:SER:HB3	1:1:268:MET:HG2	1.76	0.67
5:F:3:LEU:HB2	5:F:86:SER:HB2	1.77	0.67
10:A:35:LYS:O	10:A:40:LYS:NZ	2.27	0.67
6:G:143:ARG:NE	6:G:145:GLU:OE1	2.28	0.67
16:Q:133:VAL:HG11	16:Q:160:ILE:HG13	1.75	0.67
3:D:19:VAL:HG22	3:D:91:MET:HE1	1.77	0.67
16:H:215:ALA:O	16:H:294:ARG:NH1	2.23	0.67
3:3:462:ALA:O	3:3:465:HIS:ND1	2.28	0.67
14:M:46:GLY:HA2	14:M:68:ASP:HA	1.76	0.67
10:A:113:LYS:NZ	15:N:83:GLU:OE2	2.27	0.67
4:E:240:ARG:NH1	4:E:282:GLU:OE2	2.28	0.67
4:E:87:TYR:CB	6:G:45:CYS:HB3	2.24	0.67
14:M:82:VAL:HG11	14:M:103:GLU:HB2	1.77	0.66
16:Q:219:PHE:HB3	16:Q:299:ARG:HG2	1.77	0.66
10:P:113:LYS:NZ	15:V:83:GLU:OE2	2.23	0.66
1:1:342:TRP:HE1	1:1:372:ALA:HA	1.60	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:250:LYS:HE2	4:4:262:PHE:HB3	1.77	0.66
4:4:318:GLU:HB2	8:7:39:ASP:HA	1.77	0.66
14:M:305:PRO:HB3	14:M:459:GLU:HA	1.76	0.66
15:V:63:THR:HG22	15:V:96:HIS:HA	1.77	0.66
3:3:185:LYS:O	3:3:189:ARG:HB2	1.96	0.66
16:H:162:TYR:OH	16:H:305:LEU:O	2.10	0.66
8:I:60:SER:HA	8:I:66:PRO:HA	1.78	0.66
4:E:123:LEU:HG	4:E:156:ILE:HG23	1.78	0.66
1:1:361:GLU:OE1	3:3:114:ASN:ND2	2.29	0.66
2:2:110:GLU:HA	8:7:121:ARG:HH12	1.59	0.66
14:M:75:PHE:CZ	14:M:111:ALA:HB2	2.28	0.66
16:Q:216:ARG:HB2	16:Q:294:ARG:HD2	1.78	0.66
3:D:286:ASN:ND2	3:D:289:TRP:O	2.29	0.66
3:D:557:SER:H	3:D:560:GLU:HB2	1.60	0.66
16:H:146:LYS:HA	16:H:149:LEU:HB2	1.78	0.66
13:L:278:ALA:HB1	13:L:409:VAL:HG11	1.77	0.66
4:4:240:ARG:NH1	4:4:282:GLU:OE2	2.29	0.66
4:4:103:LYS:NZ	5:5:22:LEU:O	2.29	0.66
8:I:104:VAL:HG12	8:I:109:PRO:HA	1.77	0.66
15:N:283:PHE:O	15:N:287:THR:HG23	1.96	0.66
7:O:43:LEU:HB2	7:O:137:LEU:HD12	1.78	0.66
15:V:319:ASP:HB3	15:V:322:LEU:HB2	1.77	0.66
4:E:194:LEU:HD21	4:E:290:ILE:HG22	1.77	0.65
7:O:52:LYS:NZ	8:I:44:MET:O	2.29	0.65
16:Q:177:VAL:HG11	16:Q:185:ILE:HD13	1.79	0.65
3:3:559:ASP:OD2	3:3:686:LYS:NZ	2.28	0.65
5:F:155:THR:O	6:G:119:ASN:ND2	2.29	0.65
14:U:351:ALA:HB1	14:U:354:LEU:HB2	1.78	0.65
3:D:9:ARG:NH1	3:D:26:ALA:O	2.30	0.65
4:E:341:GLU:HG2	4:E:358:VAL:HG22	1.77	0.65
5:5:20:ASN:HD21	5:5:24:ASN:HB2	1.61	0.65
5:F:31:ARG:HH21	5:F:100:ARG:HB2	1.61	0.65
6:G:145:GLU:HG2	7:O:31:VAL:HG21	1.79	0.65
4:E:248:VAL:HB	4:E:347:GLU:HB2	1.79	0.65
2:2:132:PRO:HG2	2:2:145:VAL:HB	1.79	0.65
11:R:69:PHE:O	11:R:73:LEU:HG	1.97	0.65
12:S:88:ASP:OD2	13:T:587:ARG:NH1	2.30	0.65
1:B:191:SER:HB2	1:B:197:ALA:HB2	1.79	0.65
16:H:43:GLN:O	16:H:45:ARG:N	2.30	0.65
13:L:458:TYR:HB3	13:L:461:LEU:HD11	1.77	0.65
16:Q:290:PHE:O	16:Q:294:ARG:HG2	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:62:ARG:HD2	16:Q:50:ARG:HH21	1.62	0.65
10:P:5:GLN:OE1	16:Q:10:TYR:OH	2.13	0.65
13:L:163:ARG:HE	14:M:399:VAL:HB	1.61	0.64
3:D:340:GLU:HB3	3:D:564:LEU:HB2	1.78	0.64
13:L:187:GLU:HA	13:L:190:GLU:HG2	1.79	0.64
4:E:389:GLN:HG2	16:Q:301:ARG:HD2	1.80	0.64
16:H:150:LEU:HD22	16:H:228:LEU:HD12	1.78	0.64
16:Q:226:GLN:HB2	16:Q:299:ARG:HH22	1.61	0.64
6:6:33:SER:HB2	6:6:155:GLN:HG2	1.78	0.64
14:U:305:PRO:HB3	14:U:459:GLU:HA	1.79	0.64
15:V:52:PRO:HB3	15:V:103:HIS:HB2	1.79	0.64
5:5:59:THR:HG22	5:5:59:THR:O	1.96	0.64
1:B:359:CYS:HB2	1:B:403:ALA:HB2	1.79	0.64
13:L:255:ARG:HA	13:L:477:LEU:HD23	1.78	0.64
5:5:31:ARG:NH2	5:5:98:ASP:OD2	2.31	0.64
3:D:688:ARG:HB3	3:D:770:ARG:HB2	1.80	0.64
16:H:29:ALA:O	16:H:32:THR:OG1	2.14	0.64
11:J:15:SER:OG	11:J:31:ALA:O	2.15	0.64
13:T:419:ARG:NH2	13:T:525:GLU:OE2	2.31	0.64
14:M:244:PHE:O	14:M:248:LEU:HB2	1.98	0.64
4:4:240:ARG:HB2	4:4:266:LEU:HD23	1.79	0.64
4:4:218:ALA:HB1	4:4:272:VAL:HB	1.79	0.64
16:H:267:TRP:CG	16:H:268:THR:N	2.63	0.64
13:T:162:ASN:OD1	13:T:216:LYS:NZ	2.30	0.64
13:T:288:GLN:NE2	13:T:528:SER:O	2.31	0.64
6:6:119:ASN:HA	6:6:125:GLN:HE22	1.63	0.64
8:7:120:ASP:OD1	8:7:123:ARG:NH1	2.22	0.64
6:G:132:PRO:HG3	6:G:178:ARG:HD2	1.80	0.64
13:L:291:ILE:HD12	13:L:336:SER:HB3	1.80	0.64
13:L:380:SER:HB3	13:L:457:GLY:H	1.62	0.64
14:U:69:GLY:HA3	14:U:453:GLY:HA3	1.78	0.64
4:4:87:TYR:CG	6:6:45:CYS:HB3	2.33	0.63
3:D:337:ARG:HH12	3:D:581:ARG:NH1	1.96	0.63
4:4:47:LEU:HD13	4:4:52:VAL:HA	1.79	0.63
3:D:713:ARG:HH21	3:D:746:ARG:HH21	1.44	0.63
14:M:43:HIS:NE2	14:M:45:GLY:O	2.31	0.63
7:O:164:PRO:HA	7:O:178:GLU:HB2	1.81	0.63
7:O:44:THR:HA	7:O:138:VAL:HG13	1.79	0.63
16:Q:221:LEU:N	16:Q:222:PRO:HA	2.12	0.63
11:R:47:ASP:O	11:R:122:GLY:N	2.30	0.63
13:T:286:PHE:O	13:T:419:ARG:NH1	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:126:GLY:O	4:4:329:LYS:NZ	2.30	0.63
6:6:19:ILE:HG23	6:6:20:LEU:HG	1.79	0.63
13:T:20:PHE:O	13:T:22:LYS:N	2.30	0.63
4:4:201:ILE:HA	4:4:204:TYR:HD2	1.63	0.63
1:B:342:TRP:HE1	1:B:372:ALA:HA	1.63	0.63
4:E:200:ARG:NH1	7:O:16:TYR:OH	2.32	0.63
11:J:19:VAL:O	12:K:21:ARG:NH2	2.27	0.63
4:4:44:MET:HB2	4:4:56:VAL:HB	1.81	0.63
8:7:104:VAL:HG12	8:7:109:PRO:HA	1.79	0.63
4:4:144:THR:OG1	16:H:295:ALA:O	2.16	0.63
14:M:54:PRO:HA	14:M:62:TYR:HD1	1.63	0.63
16:Q:43:GLN:O	16:Q:45:ARG:N	2.31	0.63
16:Q:65:LYS:O	16:Q:69:LYS:HB2	1.99	0.63
13:T:157:LYS:NZ	13:T:535:ASP:OD2	2.31	0.63
1:1:288:GLN:NE2	1:1:335:VAL:O	2.32	0.63
15:V:2:THR:HG23	15:V:36:ALA:HB1	1.80	0.63
6:G:120:ASN:HD22	6:G:122:ALA:H	1.47	0.63
13:T:163:ARG:HE	14:U:399:VAL:HB	1.64	0.63
13:T:385:LYS:NZ	13:T:413:THR:OG1	2.31	0.63
5:5:185:LYS:HB2	5:5:189:ARG:HG3	1.79	0.62
10:P:69:ILE:HG22	11:R:62:ALA:HB1	1.81	0.62
4:4:194:LEU:HD21	4:4:290:ILE:HG22	1.81	0.62
10:A:69:ILE:HG22	11:J:62:ALA:HB1	1.81	0.62
6:G:153:GLN:HG3	7:O:124:TYR:OH	1.99	0.62
16:Q:127:ALA:O	16:Q:131:LEU:HG	1.99	0.62
11:R:133:GLY:H	11:R:136:LEU:HB2	1.62	0.62
14:U:265:ALA:HA	14:U:395:ALA:HB2	1.81	0.62
3:3:285:VAL:HG13	3:3:286:ASN:H	1.65	0.62
16:H:147:TYR:CD1	16:H:229:VAL:HG22	2.34	0.62
14:M:232:THR:HA	14:M:235:LYS:HZ2	1.63	0.62
1:1:361:GLU:OE2	3:3:162:ARG:NH2	2.31	0.62
7:9:43:LEU:HD12	7:9:133:LYS:HG3	1.81	0.62
7:9:71:GLU:HB2	7:9:90:VAL:HB	1.81	0.62
14:M:85:GLY:O	14:M:89:ALA:HB2	1.98	0.62
14:U:157:LEU:HD12	15:V:369:ALA:HB2	1.81	0.62
1:B:192:LEU:HD22	1:B:211:LEU:HD21	1.82	0.62
16:H:177:VAL:HG21	16:H:185:ILE:HG23	1.82	0.62
11:J:104:LEU:HA	15:N:174:LEU:HD21	1.80	0.62
3:D:655:ARG:HH22	3:D:659:GLU:HG3	1.65	0.62
4:E:47:LEU:CD1	4:E:51:GLU:C	2.68	0.62
15:N:313:ARG:HB2	15:N:384:ALA:HB3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:P:70:LEU:HD13	11:R:150:THR:HG22	1.81	0.62
13:T:159:PHE:HD2	14:U:407:LEU:HD11	1.65	0.62
5:5:35:LYS:HD3	5:5:102:PRO:HB2	1.81	0.62
15:N:92:ALA:HA	15:N:95:MET:HE2	1.81	0.62
3:3:199:VAL:HG11	3:3:219:PRO:HD2	1.82	0.62
6:6:102:PRO:O	16:H:69:LYS:NZ	2.33	0.62
1:B:118:MET:HG2	1:B:224:LEU:HD13	1.82	0.62
14:U:338:THR:HG22	14:U:340:GLU:H	1.64	0.62
3:3:8:ASP:OD2	3:3:28:TYR:OH	2.17	0.61
8:7:42:TYR:O	8:7:46:ARG:NH2	2.33	0.61
16:Q:45:ARG:HG2	16:Q:46:MET:N	2.14	0.61
3:3:305:ARG:HH22	3:3:605:PRO:HA	1.65	0.61
7:9:68:ILE:HG12	7:9:93:ILE:HG12	1.82	0.61
16:Q:265:GLY:O	16:Q:282:LYS:NZ	2.28	0.61
1:1:220:ASN:N	18:1:502:FMN:O3P	2.31	0.61
1:B:297:THR:HG22	1:B:322:MET:HG3	1.82	0.61
4:E:154:GLU:OE2	4:E:167:ARG:NH2	2.33	0.61
16:Q:332:LEU:HB2	16:Q:333:PRO:CD	2.31	0.61
13:T:214:VAL:HG13	13:T:219:GLN:HB2	1.82	0.61
14:U:208:PHE:N	14:U:267:SER:OG	2.32	0.61
9:W:90:TYR:HB3	9:W:118:ALA:HB1	1.82	0.61
3:3:435:LEU:O	3:3:438:LYS:NZ	2.30	0.61
1:B:95:GLU:O	1:B:135:ARG:NH1	2.29	0.61
3:D:351:LEU:HD11	3:D:615:VAL:HG23	1.82	0.61
4:E:50:GLU:O	4:E:389:GLN:NE2	2.31	0.61
16:Q:267:TRP:CG	16:Q:268:THR:N	2.66	0.61
3:3:728:LEU:O	3:3:749:HIS:NE2	2.29	0.61
1:B:176:GLY:O	2:C:32:ARG:NH2	2.30	0.61
7:9:13:THR:HG21	16:H:296:THR:HG23	1.83	0.61
11:J:146:LEU:HD23	12:K:66:ALA:HB2	1.83	0.61
11:R:68:LEU:HD23	11:R:71:ILE:HD11	1.81	0.61
15:N:13:LEU:HA	15:N:16:LEU:HB2	1.83	0.61
16:Q:333:PRO:HB2	16:Q:335:THR:H	1.64	0.61
1:1:190:ASN:ND2	1:1:198:ASN:O	2.32	0.61
2:2:42:ARG:HB2	2:2:45:ARG:HG2	1.83	0.61
3:D:561:PRO:HB3	3:D:576:ALA:HA	1.81	0.61
16:H:186:VAL:HG11	16:H:267:TRP:CZ3	2.35	0.61
13:L:454:VAL:HB	13:L:455:LEU:HD22	1.80	0.61
15:N:25:VAL:HG11	15:N:82:PHE:HB2	1.82	0.61
11:R:22:LEU:O	12:S:21:ARG:NH2	2.34	0.61
3:3:557:SER:H	3:3:560:GLU:HB2	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:715:GLU:OE1	3:3:717:TRP:NE1	2.31	0.61
1:B:184:GLU:HG2	18:B:502:FMN:HM82	1.83	0.61
6:G:50:MET:O	6:G:53:SER:OG	2.18	0.61
13:L:158:ALA:HA	13:L:225:TRP:HB2	1.82	0.61
14:M:126:LEU:HD11	14:M:149:VAL:HG22	1.83	0.61
7:O:101:CYS:HB2	7:O:103:LEU:H	1.66	0.61
16:Q:39:LEU:O	16:Q:43:GLN:HG2	2.01	0.61
15:V:29:THR:HG21	15:V:85:TYR:HB3	1.82	0.61
4:4:200:ARG:NH1	7:9:16:TYR:OH	2.33	0.61
15:N:128:GLN:OE1	15:N:306:ARG:NH2	2.34	0.61
8:7:82:ILE:HG23	8:7:95:ALA:HB3	1.82	0.60
1:B:287:ILE:HG12	1:B:330:LEU:HB3	1.82	0.60
3:D:113:LEU:O	3:D:161:ARG:NH1	2.34	0.60
15:N:280:ALA:HB1	15:N:347:LEU:HB3	1.83	0.60
1:1:41:ALA:HB2	1:1:116:GLU:HG3	1.83	0.60
3:3:728:LEU:HB3	3:3:747:VAL:HG11	1.83	0.60
6:6:50:MET:O	6:6:53:SER:OG	2.18	0.60
3:D:621:VAL:HG11	3:D:669:VAL:HG23	1.82	0.60
10:A:6:GLU:OE2	16:H:2:THR:OG1	2.17	0.60
4:E:341:GLU:OE1	5:F:91:ARG:NH2	2.33	0.60
16:H:154:ARG:HD3	16:H:222:PRO:HG3	1.83	0.60
13:L:287:GLY:HA3	13:L:528:SER:HB2	1.82	0.60
1:1:243:THR:HG22	1:1:244:GLU:H	1.66	0.60
3:3:515:THR:HG23	3:3:683:LEU:HD13	1.82	0.60
3:D:129:GLU:O	3:D:133:ARG:HG2	2.01	0.60
3:D:256:CYS:HB2	3:D:265:ILE:HD13	1.82	0.60
3:D:614:LEU:O	3:D:621:VAL:HA	2.01	0.60
3:D:621:VAL:HG23	3:D:672:ALA:HA	1.83	0.60
6:G:30:TRP:O	6:G:34:ASN:ND2	2.30	0.60
14:M:221:ASN:ND2	14:M:228:ASP:OD1	2.35	0.60
4:E:162:TRP:CE2	7:O:34:LYS:HD2	2.36	0.60
1:B:433:ARG:HH12	2:C:89:LYS:HE2	1.66	0.60
2:C:132:PRO:HG2	2:C:145:VAL:HB	1.83	0.60
10:P:65:ALA:O	10:P:69:ILE:HG23	2.01	0.60
4:E:224:ILE:HD11	4:E:275:ARG:CZ	2.31	0.60
4:E:341:GLU:OE2	5:F:57:TYR:OH	2.19	0.60
16:H:90:VAL:HG21	16:H:243:LEU:HB3	1.83	0.60
16:H:45:ARG:HG2	16:H:46:MET:N	2.17	0.60
11:J:135:TRP:HZ3	15:N:105:LEU:HD22	1.66	0.60
2:2:24:ARG:HA	2:2:53:VAL:HG22	1.83	0.60
3:D:563:ALA:HB3	3:D:580:LYS:HE3	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:P:35:LYS:O	10:P:40:LYS:NZ	2.35	0.60
13:T:286:PHE:HD2	13:T:416:TYR:HB3	1.67	0.60
15:V:309:LEU:HD22	15:V:378:LEU:HD11	1.82	0.60
1:1:196:ARG:NH2	3:3:204:GLU:O	2.34	0.60
8:I:120:ASP:OD1	8:I:123:ARG:NH1	2.21	0.60
4:4:136:GLY:HA2	4:4:398:ALA:HB1	1.82	0.60
13:L:432:HIS:CE1	13:L:434:HIS:HB2	2.36	0.60
4:E:314:ARG:NH2	7:O:108:CYS:O	2.33	0.60
13:T:209:LEU:HD22	13:T:252:LEU:HD11	1.84	0.60
1:1:29:LEU:HD23	1:1:155:ARG:HD2	1.82	0.59
3:3:34:CYS:SG	3:3:35:SER:N	2.74	0.59
3:3:614:LEU:O	3:3:621:VAL:HA	2.02	0.59
14:M:5:ALA:HB1	14:M:36:ASN:ND2	2.17	0.59
15:N:126:ARG:HD2	15:N:128:GLN:HG2	1.83	0.59
4:4:409:ARG:NH2	5:5:117:GLU:OE2	2.36	0.59
3:D:227:THR:HG21	3:D:237:ASP:HB2	1.84	0.59
16:H:274:VAL:HG12	16:H:278:TRP:CD1	2.37	0.59
12:K:19:LEU:HD22	13:L:591:LEU:HD12	1.84	0.59
13:L:286:PHE:O	13:L:419:ARG:NH1	2.35	0.59
15:N:245:ASN:OD1	15:N:374:TYR:OH	2.21	0.59
15:N:317:ARG:NH1	15:N:384:ALA:O	2.34	0.59
3:3:119:CYS:HB2	4:4:324:VAL:HG12	1.83	0.59
7:9:58:LEU:HD12	7:9:109:PRO:HG3	1.83	0.59
4:4:162:TRP:CE2	7:9:34:LYS:HD2	2.37	0.59
1:B:243:THR:HG22	1:B:244:GLU:H	1.67	0.59
3:3:94:ASP:OD2	3:3:97:SER:OG	2.19	0.59
16:H:16:LYS:NZ	16:H:114:TRP:O	2.33	0.59
11:R:72:MET:HE3	16:Q:149:LEU:HD21	1.84	0.59
3:3:129:GLU:O	3:3:133:ARG:HG2	2.02	0.59
4:E:47:LEU:HD13	4:E:52:VAL:HA	1.84	0.59
13:L:157:LYS:NZ	13:L:535:ASP:OD2	2.35	0.59
6:G:140:CYS:CB	7:O:99:ILE:CD1	2.75	0.59
10:A:68:PHE:CD2	16:H:164:LEU:HB2	2.38	0.59
13:L:87:ILE:HD12	13:L:239:LEU:HD13	1.85	0.59
4:4:38:HIS:ND1	4:4:139:ASP:OD2	2.35	0.59
1:B:293:GLY:O	1:B:327:GLY:N	2.32	0.59
1:B:354:GLY:HA2	1:B:360:ARG:HB2	1.84	0.59
7:O:135:ASP:OD1	7:O:147:ARG:NH2	2.36	0.59
4:E:308:GLN:NE2	4:E:326:TYR:OH	2.36	0.59
13:T:156:ARG:NH1	14:U:408:THR:OG1	2.34	0.59
15:V:319:ASP:OD2	15:V:399:ARG:NH2	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:143:LEU:HD23	4:4:143:LEU:H	1.68	0.59
4:4:318:GLU:OE1	8:7:46:ARG:NE	2.36	0.59
8:7:50:LEU:HD11	8:7:75:ARG:HB2	1.85	0.59
3:D:285:VAL:HG13	3:D:286:ASN:H	1.68	0.59
6:6:155:GLN:O	6:6:159:ARG:HG3	2.02	0.59
16:H:39:LEU:O	16:H:43:GLN:HG2	2.03	0.59
14:M:260:LEU:HB3	14:M:301:PHE:CD2	2.38	0.59
3:3:190:TYR:O	3:3:195:PRO:HD2	2.03	0.58
16:H:151:GLY:HA2	16:H:154:ARG:HD3	1.84	0.58
13:L:373:LEU:HD21	13:L:416:TYR:HE1	1.67	0.58
14:M:33:PHE:HA	14:M:79:ALA:HB1	1.85	0.58
3:3:256:CYS:HB2	3:3:265:ILE:HD13	1.84	0.58
3:3:34:CYS:HB3	3:3:45:CYS:H	1.68	0.58
3:3:584:VAL:HG12	3:3:600:VAL:HB	1.84	0.58
4:4:122:GLU:HB2	4:4:290:ILE:HD11	1.85	0.58
4:4:216:GLU:OE2	16:H:304:GLN:NE2	2.36	0.58
14:M:194:PHE:HB2	14:M:249:ALA:HB3	1.84	0.58
15:N:209:LEU:HB2	15:N:296:PHE:HB3	1.84	0.58
6:G:138:PRO:HG2	7:O:121:MET:HG3	1.85	0.58
7:O:71:GLU:HB2	7:O:90:VAL:HB	1.84	0.58
14:U:166:ALA:HA	14:U:185:LEU:HD21	1.85	0.58
3:3:131:GLN:HG2	4:4:325:ILE:HG23	1.84	0.58
4:4:80:THR:O	4:4:84:ARG:NH1	2.36	0.58
5:F:10:ALA:HB1	5:F:15:TYR:HB2	1.84	0.58
13:L:394:THR:HB	13:L:484:HIS:O	2.03	0.58
16:Q:274:VAL:HG12	16:Q:278:TRP:HD1	1.68	0.58
4:4:333:GLU:OE2	4:4:336:HIS:NE2	2.36	0.58
4:4:50:GLU:O	4:4:389:GLN:NE2	2.26	0.58
4:E:122:GLU:HB2	4:E:290:ILE:HD11	1.85	0.58
13:L:20:PHE:O	13:L:22:LYS:N	2.35	0.58
14:M:203:ILE:HG13	14:M:210:LEU:HB3	1.86	0.58
10:P:65:ALA:HB3	11:R:66:LEU:HD13	1.85	0.58
1:B:6:LEU:HD21	1:B:12:ARG:HG3	1.84	0.58
4:E:167:ARG:HD3	6:G:143:ARG:HH12	1.67	0.58
16:H:50:ARG:C	16:H:52:GLY:H	2.05	0.58
13:L:490:GLU:O	13:L:494:ILE:HG12	2.02	0.58
15:N:343:TRP:NE1	15:N:413:GLY:O	2.32	0.58
7:O:40:ARG:NH1	7:O:136:MET:HA	2.18	0.58
9:W:78:VAL:HA	9:W:81:LEU:HD12	1.85	0.58
6:6:30:TRP:O	6:6:34:ASN:ND2	2.34	0.58
3:D:136:GLU:HG2	5:F:186:GLY:O	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:414:SER:OG	3:D:443:ARG:NH2	2.37	0.58
12:K:95:GLY:HA2	15:N:256:ARG:HE	1.67	0.58
16:Q:136:ILE:HG23	16:Q:232:TYR:HD2	1.68	0.58
13:T:187:GLU:HA	13:T:190:GLU:HG2	1.85	0.58
13:T:305:TYR:OH	13:T:406:ALA:O	2.17	0.58
14:U:208:PHE:O	14:U:211:HIS:ND1	2.35	0.58
14:U:85:GLY:O	14:U:89:ALA:HB2	2.03	0.58
5:5:123:GLY:H	5:5:147:ARG:HH11	1.51	0.58
5:5:67:ARG:NH1	5:5:96:GLU:OE2	2.36	0.58
1:B:253:GLN:HG2	1:B:327:GLY:HA2	1.85	0.58
3:D:118:ASP:O	3:D:122:CYS:N	2.37	0.58
16:H:150:LEU:O	16:H:154:ARG:HG3	2.03	0.58
15:N:265:HIS:HA	15:N:268:TYR:CD2	2.38	0.58
13:T:275:LEU:HD11	13:T:405:GLY:HA3	1.86	0.58
15:V:317:ARG:NH1	15:V:384:ALA:O	2.36	0.58
3:3:616:ASN:HD22	3:3:622:LEU:HD11	1.68	0.58
4:4:47:LEU:CD1	4:4:51:GLU:O	2.52	0.58
13:L:413:THR:HA	13:L:416:TYR:CE2	2.38	0.58
3:D:260:PRO:HB2	3:D:617:LEU:HB3	1.85	0.58
3:D:657:HIS:O	3:D:661:GLN:HG2	2.03	0.58
5:F:6:VAL:HG13	5:F:41:TYR:HE1	1.68	0.58
16:Q:72:ILE:HG22	16:Q:237:SER:HB3	1.86	0.58
16:Q:52:GLY:CA	16:Q:55:GLY:H	2.16	0.58
13:T:458:TYR:HB3	13:T:461:LEU:HD11	1.84	0.58
14:U:264:ALA:HB1	14:U:294:GLY:O	2.03	0.58
3:3:19:VAL:HG22	3:3:91:MET:HE3	1.85	0.58
1:B:342:TRP:CD1	1:B:371:PHE:HB3	2.39	0.58
5:F:20:ASN:ND2	5:F:24:ASN:HB2	2.18	0.58
16:H:290:PHE:O	16:H:294:ARG:HG2	2.03	0.58
15:N:73:THR:HG21	15:N:210:PHE:HB2	1.86	0.58
13:T:340:ILE:HB	13:T:345:GLY:HA2	1.84	0.58
2:2:81:GLN:HB3	2:2:122:VAL:HG21	1.85	0.57
7:9:101:CYS:N	17:9:201:SF4:S4	2.77	0.57
4:E:132:PHE:CE2	4:E:279:ARG:HD2	2.38	0.57
4:E:105:LEU:HD13	4:E:309:ILE:HD13	1.85	0.57
13:L:603:VAL:HG21	15:N:235:LEU:HD22	1.86	0.57
13:T:490:GLU:O	13:T:494:ILE:HG12	2.02	0.57
2:2:9:ASP:OD1	2:2:9:ASP:N	2.37	0.57
3:D:190:TYR:O	3:D:195:PRO:HD2	2.04	0.57
8:I:82:ILE:HG23	8:I:95:ALA:HB3	1.85	0.57
16:Q:71:ASP:HB2	16:Q:238:SER:HB3	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:4:114:GLU:O	4:4:118:VAL:HG13	2.04	0.57
4:4:152:GLU:OE2	4:4:204:TYR:OH	2.20	0.57
3:D:185:LYS:O	3:D:189:ARG:HB2	2.05	0.57
6:G:156:LYS:NZ	7:O:149:GLU:OE1	2.36	0.57
11:J:107:GLY:HA3	15:N:174:LEU:HD22	1.86	0.57
14:U:260:LEU:HB3	14:U:301:PHE:CD2	2.39	0.57
4:4:158:ASP:OD1	6:6:57:ARG:NH1	2.32	0.57
8:7:86:LEU:HB2	8:7:91:ILE:HB	1.86	0.57
14:M:56:LEU:HD11	15:N:416:PRO:HG2	1.86	0.57
14:U:203:ILE:HG13	14:U:210:LEU:HB3	1.86	0.57
14:U:43:HIS:NE2	14:U:45:GLY:O	2.37	0.57
1:1:290:ILE:HD12	1:1:292:PRO:HD3	1.87	0.57
10:A:109:TYR:OH	10:A:113:LYS:NZ	2.32	0.57
4:E:293:ALA:HA	4:E:296:ARG:HG2	1.85	0.57
5:F:50:ALA:HB3	5:F:73:GLU:HB3	1.85	0.57
14:M:402:SER:HA	14:M:405:TYR:CE2	2.39	0.57
13:T:391:ALA:O	13:T:395:TYR:HB2	2.04	0.57
15:V:13:LEU:HA	15:V:16:LEU:HB2	1.86	0.57
15:V:25:VAL:HG11	15:V:82:PHE:HB2	1.86	0.57
1:1:287:ILE:HG12	1:1:330:LEU:HB3	1.87	0.57
4:4:171:ASN:OD1	4:4:174:ARG:NH1	2.23	0.57
10:A:33:PRO:HD2	16:H:70:GLU:HB2	1.86	0.57
8:I:123:ARG:O	8:I:127:ALA:HB3	2.04	0.57
10:P:33:PRO:HD2	16:Q:70:GLU:HB2	1.86	0.57
13:T:88:HIS:O	13:T:92:ILE:HG13	2.04	0.57
15:V:128:GLN:OE1	15:V:306:ARG:NH2	2.37	0.57
15:V:66:ALA:HB1	15:V:95:MET:HE3	1.86	0.57
15:V:92:ALA:HA	15:V:95:MET:HE2	1.86	0.57
2:C:4:PHE:HB3	2:C:11:LEU:HD11	1.87	0.57
4:E:333:GLU:OE2	4:E:336:HIS:NE2	2.37	0.57
6:G:82:GLY:HA2	17:G:201:SF4:S4	2.44	0.57
11:R:50:PHE:HB3	11:R:122:GLY:O	2.05	0.57
3:3:225:ASN:O	3:3:229:ILE:HG13	2.04	0.57
4:4:341:GLU:OE2	5:5:57:TYR:OH	2.23	0.57
15:N:319:ASP:HB3	15:N:322:LEU:HB2	1.86	0.57
10:P:3:PRO:HD2	16:Q:2:THR:HB	1.87	0.57
10:P:66:MET:HG3	12:S:69:ALA:HB1	1.86	0.57
1:1:312:SER:OG	1:1:315:HIS:ND1	2.25	0.57
3:3:185:LYS:HB3	3:3:189:ARG:HH11	1.70	0.57
4:4:341:GLU:HG2	4:4:358:VAL:HG22	1.87	0.57
5:5:52:ILE:HB	5:5:114:LEU:HB3	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:397:LEU:HD21	3:D:480:LEU:HD13	1.86	0.57
16:H:189:GLN:HG2	16:H:195:LEU:H	1.69	0.57
13:L:168:GLY:HA3	13:L:211:LEU:HD22	1.86	0.57
15:N:13:LEU:HD22	15:N:25:VAL:HG13	1.87	0.57
16:Q:51:VAL:O	16:Q:57:LEU:HB2	2.05	0.57
4:4:84:ARG:CZ	4:4:169:HIS:HB3	2.35	0.57
10:A:62:TYR:CD2	11:J:66:LEU:HD11	2.40	0.57
16:H:211:MET:HA	16:H:215:ALA:HB3	1.86	0.57
14:M:347:LEU:HB2	14:M:414:PHE:HA	1.87	0.57
13:T:432:HIS:CE1	13:T:434:HIS:HB2	2.40	0.57
14:U:345:ARG:HG2	14:U:412:LYS:O	2.05	0.57
15:V:108:LEU:HB2	15:V:147:PHE:HE2	1.70	0.57
1:1:195:LEU:HD23	2:2:24:ARG:HH12	1.70	0.56
10:A:71:PHE:HZ	10:A:107:PHE:HB2	1.70	0.56
3:D:271:SER:HG	7:O:69:TYR:HH	1.53	0.56
12:K:7:SER:HB3	12:K:40:LEU:HD23	1.86	0.56
3:D:690:GLY:HA2	3:D:770:ARG:HB3	1.87	0.56
4:E:101:VAL:O	4:E:105:LEU:HG	2.06	0.56
15:N:38:ALA:HA	15:N:41:LEU:HD12	1.87	0.56
16:Q:70:GLU:O	16:Q:237:SER:OG	2.20	0.56
13:T:255:ARG:HA	13:T:477:LEU:HD23	1.86	0.56
13:T:210:PHE:CD1	13:T:270:ILE:HG12	2.40	0.56
1:1:88:TYR:HB2	1:1:216:THR:HG22	1.88	0.56
3:3:285:VAL:HA	3:3:387:LEU:HD12	1.87	0.56
4:4:201:ILE:HG21	4:4:284:ARG:HG3	1.88	0.56
1:B:6:LEU:HD11	1:B:240:GLN:HE21	1.70	0.56
16:Q:232:TYR:OH	16:Q:248:GLU:OE1	2.21	0.56
16:Q:90:VAL:HG21	16:Q:243:LEU:HB3	1.86	0.56
14:U:350:SER:HB3	14:U:422:VAL:H	1.70	0.56
15:N:168:GLU:H	15:N:172:TYR:HB2	1.69	0.56
16:Q:274:VAL:HG22	16:Q:275:PRO:HD2	1.85	0.56
15:V:217:ALA:HA	15:V:285:LEU:HD23	1.87	0.56
15:V:193:HIS:HB2	15:V:263:ILE:HD13	1.88	0.56
3:3:459:MET:HG2	3:3:465:HIS:HB2	1.88	0.56
4:E:222:GLY:HA3	4:E:275:ARG:HH22	1.69	0.56
4:4:83:PRO:HB2	4:4:169:HIS:HA	1.87	0.56
1:B:275:LEU:HA	1:B:279:TRP:HD1	1.70	0.56
3:D:507:LEU:HD22	3:D:511:VAL:HG11	1.86	0.56
4:E:114:GLU:O	4:E:118:VAL:HG13	2.06	0.56
13:L:123:SER:HA	13:L:184:SER:HA	1.86	0.56
13:T:439:PRO:HG2	13:T:442:MET:HE3	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:T:454:VAL:HB	13:T:455:LEU:HD22	1.86	0.56
5:5:50:ALA:HB3	5:5:73:GLU:HB3	1.88	0.56
7:9:40:ARG:NH1	7:9:136:MET:HA	2.21	0.56
3:D:592:PRO:HA	3:D:595:GLU:HG2	1.88	0.56
4:E:341:GLU:OE1	4:E:356:TYR:OH	2.23	0.56
4:E:363:SER:N	5:F:174:LEU:O	2.38	0.56
16:H:154:ARG:NH2	16:H:227:GLU:OE2	2.37	0.56
10:P:62:TYR:CD2	11:R:66:LEU:HD11	2.41	0.56
15:V:98:LEU:HD23	15:V:218:ALA:HB1	1.88	0.56
2:2:146:THR:HG23	2:2:149:ARG:H	1.70	0.56
13:L:255:ARG:HD2	13:L:477:LEU:HD23	1.87	0.56
16:Q:260:PRO:HG3	16:Q:286:PHE:CD2	2.40	0.56
16:H:190:LYS:HB2	16:H:268:THR:HG21	1.87	0.56
13:L:122:ASP:O	13:L:185:ILE:N	2.39	0.56
15:N:124:TRP:HZ3	15:N:305:ASP:HB2	1.70	0.56
10:P:56:ARG:HD3	11:R:74:LEU:HA	1.87	0.56
16:H:99:LEU:HB3	16:H:182:LEU:HD22	1.87	0.56
14:M:167:ARG:NH2	14:M:173:PRO:O	2.36	0.56
15:N:168:GLU:HG2	15:N:169:GLY:H	1.70	0.56
4:4:132:PHE:CE2	4:4:279:ARG:HD2	2.41	0.55
13:L:12:LEU:O	13:L:16:LEU:HG	2.05	0.55
13:L:182:THR:HB	13:L:187:GLU:HG3	1.88	0.55
14:M:91:VAL:HG23	14:M:92:GLU:H	1.70	0.55
13:L:321:HIS:HD2	13:L:388:ILE:HD12	1.72	0.55
15:N:203:SER:O	15:N:255:LYS:NZ	2.40	0.55
7:O:13:THR:HG21	16:Q:296:THR:HG23	1.88	0.55
1:1:337:MET:O	1:1:341:MET:HG2	2.06	0.55
3:3:194:VAL:HG12	3:3:411:LEU:HD22	1.88	0.55
3:3:616:ASN:ND2	3:3:622:LEU:HD11	2.21	0.55
1:B:192:LEU:O	2:C:25:ALA:HA	2.07	0.55
6:G:108:MET:HA	6:G:137:VAL:HG13	1.88	0.55
16:H:224:ALA:HA	16:H:229:VAL:HA	1.88	0.55
10:P:28:GLY:HA3	16:Q:239:ILE:HB	1.88	0.55
12:S:19:LEU:HD22	13:T:591:LEU:HD12	1.88	0.55
1:1:139:ARG:NH1	1:1:143:ASP:OD2	2.39	0.55
1:1:342:TRP:NE1	1:1:372:ALA:HA	2.22	0.55
4:E:143:LEU:HD23	4:E:143:LEU:H	1.71	0.55
16:H:218:PRO:HB3	16:H:305:LEU:HD22	1.88	0.55
13:L:487:LEU:HA	13:L:490:GLU:HG2	1.89	0.55
15:N:265:HIS:NE2	15:N:333:LEU:O	2.37	0.55
1:1:6:LEU:HD11	1:1:240:GLN:HE21	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:113:LEU:O	3:3:161:ARG:NH1	2.39	0.55
4:4:140:LEU:HD21	4:4:217:ARG:NH1	2.21	0.55
16:H:226:GLN:HB2	16:H:299:ARG:HH22	1.70	0.55
12:S:7:SER:HB2	12:S:37:ALA:O	2.07	0.55
6:6:165:GLU:OE2	7:9:148:ARG:NH1	2.39	0.55
1:B:4:PRO:O	1:B:5:ILE:HG13	2.06	0.55
3:D:717:TRP:HB2	3:D:759:TYR:HB2	1.89	0.55
11:J:105:ALA:O	11:J:109:TRP:HB2	2.07	0.55
13:L:439:PRO:HG2	13:L:442:MET:HE3	1.89	0.55
15:N:198:ASP:OD1	15:N:256:ARG:NH2	2.37	0.55
13:T:182:THR:HB	13:T:187:GLU:HG3	1.89	0.55
13:T:87:ILE:HD12	13:T:239:LEU:HD13	1.87	0.55
3:3:118:ASP:O	3:3:122:CYS:N	2.40	0.55
1:B:90:ILE:HB	1:B:218:ILE:HG12	1.89	0.55
2:C:9:ASP:OD1	2:C:9:ASP:N	2.37	0.55
5:F:66:GLU:HB2	5:F:93:TYR:HB3	1.88	0.55
16:H:168:LEU:HD13	16:H:318:LEU:HB3	1.89	0.55
13:L:461:LEU:HD13	13:L:465:LEU:HD13	1.88	0.55
1:1:16:THR:HG23	1:1:233:ARG:HH21	1.72	0.55
1:1:354:GLY:HA2	1:1:360:ARG:HB2	1.87	0.55
3:3:268:ASP:OD1	3:3:278:ARG:NH1	2.39	0.55
4:4:236:GLY:HA2	4:4:351:GLY:HA3	1.88	0.55
5:5:144:HIS:HB2	5:5:147:ARG:HD3	1.87	0.55
6:6:90:PRO:HB2	6:6:94:ARG:HH12	1.72	0.55
8:7:63:LEU:HD13	8:7:129:ALA:HB3	1.88	0.55
1:B:355:LYS:N	17:B:501:SF4:S3	2.80	0.55
16:H:221:LEU:N	16:H:222:PRO:HA	2.22	0.55
16:Q:227:GLU:HG2	16:Q:228:LEU:N	2.22	0.55
16:Q:52:GLY:HA3	16:Q:53:PRO:C	2.27	0.55
15:V:204:PRO:O	15:V:208:VAL:HG23	2.07	0.55
15:V:38:ALA:HA	15:V:41:LEU:HD12	1.88	0.55
4:E:30:VAL:HG13	4:E:35:PRO:HD2	1.88	0.55
13:L:234:THR:HG23	13:L:292:LYS:HE2	1.89	0.55
5:5:52:ILE:HG22	5:5:118:VAL:HG21	1.88	0.55
10:A:66:MET:O	10:A:69:ILE:HG12	2.07	0.55
5:F:160:ARG:HH12	7:O:132:GLY:HA3	1.72	0.55
16:H:300:LEU:O	16:H:301:ARG:HG2	2.06	0.55
13:L:432:HIS:HE1	13:L:434:HIS:HB2	1.73	0.55
14:U:228:ASP:OD2	14:U:282:LYS:NZ	2.30	0.55
7:9:111:GLY:HA3	8:7:44:MET:HB3	1.87	0.54
3:D:125:GLY:HA2	3:D:245:ARG:HH21	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:69:LYS:HB3	16:Q:238:SER:HA	1.88	0.54
12:S:46:ALA:HB2	12:S:53:GLY:HA3	1.88	0.54
14:U:402:SER:HA	14:U:405:TYR:CE2	2.42	0.54
3:D:3:ARG:O	3:D:90:GLY:N	2.40	0.54
3:D:356:LEU:HD13	3:D:654:PHE:HB2	1.88	0.54
5:F:160:ARG:HB2	5:F:163:ARG:HH21	1.72	0.54
6:G:60:LEU:HG	6:G:65:SER:HB2	1.89	0.54
13:L:147:LYS:NZ	14:M:349:GLN:OE1	2.29	0.54
15:N:234:ALA:HB1	15:N:360:VAL:HG21	1.89	0.54
16:Q:117:ASN:O	16:Q:181:ASN:ND2	2.41	0.54
13:T:25:ARG:HG2	13:T:28:LEU:HB2	1.88	0.54
13:T:433:HIS:ND1	13:T:433:HIS:O	2.40	0.54
1:1:46:LYS:HE2	1:1:163:PHE:HB3	1.90	0.54
1:1:131:TYR:OH	2:2:17:LYS:O	2.12	0.54
10:A:5:GLN:OE1	16:H:10:TYR:OH	2.17	0.54
1:B:98:PRO:HB2	1:B:295:SER:HB2	1.89	0.54
1:B:336:SER:HB2	1:B:432:PRO:HD2	1.88	0.54
1:B:96:SER:HB2	1:B:180:TYR:HD1	1.72	0.54
8:I:20:MET:HG2	8:I:115:PHE:CZ	2.42	0.54
2:2:77:LYS:H	2:2:116:LEU:HA	1.71	0.54
3:3:21:ASP:OD1	3:3:432:PHE:N	2.31	0.54
4:4:93:HIS:ND1	4:4:355:TYR:OH	2.31	0.54
6:6:138:PRO:HB3	7:9:96:LEU:HD23	1.90	0.54
3:D:225:ASN:O	3:D:229:ILE:HG13	2.08	0.54
6:G:19:ILE:HG23	6:G:20:LEU:HG	1.89	0.54
14:M:114:ASP:HB3	14:M:176:LEU:HD23	1.90	0.54
15:V:181:VAL:HA	15:V:192:PHE:CE2	2.43	0.54
3:3:689:LYS:HB2	3:3:772:GLU:HG2	1.88	0.54
6:6:134:ASP:OD1	6:6:157:LYS:NZ	2.40	0.54
5:F:42:LYS:NZ	5:F:107:LEU:O	2.27	0.54
16:H:227:GLU:HG2	16:H:228:LEU:N	2.23	0.54
13:L:321:HIS:HA	13:L:384:SER:HB2	1.88	0.54
7:O:120:GLU:OE1	7:O:146:GLN:NE2	2.41	0.54
4:4:208:PHE:CE2	4:4:276:MET:HG2	2.43	0.54
6:6:138:PRO:HG3	7:9:129:LEU:HD22	1.90	0.54
13:L:435:PRO:HG2	13:L:436:HIS:HD2	1.72	0.54
15:N:62:PHE:HE2	15:N:285:LEU:HD22	1.73	0.54
16:Q:327:VAL:O	16:Q:331:ASP:N	2.40	0.54
15:V:62:PHE:HE2	15:V:285:LEU:HD22	1.73	0.54
3:3:717:TRP:HB2	3:3:759:TYR:HB2	1.89	0.54
4:4:87:TYR:CB	6:6:45:CYS:HB3	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:88:HIS:O	13:L:92:ILE:HG13	2.08	0.54
14:M:29:ALA:HB1	14:M:83:PHE:HA	1.88	0.54
14:M:91:VAL:HG12	14:M:222:HIS:CE1	2.43	0.54
16:Q:60:LEU:O	16:Q:64:ILE:HG13	2.06	0.54
11:R:44:VAL:HG22	11:R:49:ARG:HA	1.90	0.54
15:V:126:ARG:HD2	15:V:128:GLN:HG2	1.90	0.54
3:3:494:LYS:O	3:3:498:GLU:HG2	2.07	0.54
8:7:37:PHE:HE1	8:7:74:PRO:HA	1.72	0.54
10:A:68:PHE:HD2	16:H:164:LEU:HB2	1.73	0.54
4:E:367:ARG:NH1	4:E:369:LYS:HB2	2.23	0.54
16:H:65:LYS:O	16:H:69:LYS:HB2	2.08	0.54
10:P:2:ALA:O	11:R:49:ARG:NH1	2.34	0.54
16:Q:300:LEU:O	16:Q:301:ARG:HG2	2.08	0.54
13:T:44:GLY:HA3	13:T:77:LEU:HD21	1.89	0.54
14:U:46:GLY:HA2	14:U:68:ASP:HA	1.89	0.54
3:D:123:ASP:OD2	3:D:241:ARG:HA	2.08	0.54
3:D:613:HIS:NE2	3:D:661:GLN:OE1	2.41	0.54
4:E:217:ARG:CZ	16:Q:301:ARG:HB3	2.38	0.54
8:I:13:TRP:CD2	8:I:72:VAL:HB	2.42	0.54
14:M:115:LEU:HD12	14:M:180:LEU:HD13	1.90	0.54
11:R:16:GLY:O	11:R:19:VAL:HG12	2.08	0.54
1:1:4:PRO:HA	1:1:12:ARG:HH22	1.73	0.54
3:3:136:GLU:HG2	5:5:189:ARG:HG2	1.90	0.54
3:3:186:ARG:HD3	3:3:229:ILE:HG22	1.90	0.54
2:C:4:PHE:N	2:C:48:GLU:OE2	2.37	0.54
5:F:6:VAL:HG13	5:F:41:TYR:CE1	2.42	0.54
13:L:108:PHE:HE1	13:L:236:VAL:HG22	1.73	0.54
4:4:159:LEU:O	4:4:163:VAL:HG12	2.08	0.53
4:E:201:ILE:HG21	4:E:284:ARG:HG3	1.89	0.53
15:N:204:PRO:O	15:N:208:VAL:HG23	2.08	0.53
16:Q:120:LEU:HD22	16:Q:180:LEU:HD12	1.89	0.53
14:U:306:GLU:OE2	14:U:386:LYS:NZ	2.40	0.53
1:1:165:THR:HG23	1:1:167:PHE:H	1.72	0.53
3:3:136:GLU:HG2	5:5:186:GLY:O	2.09	0.53
4:4:140:LEU:HD11	4:4:217:ARG:HH22	1.72	0.53
6:6:140:CYS:SG	7:9:99:ILE:HG13	2.48	0.53
3:D:609:GLU:HA	3:D:627:ALA:H	1.73	0.53
6:G:134:ASP:OD1	6:G:157:LYS:NZ	2.41	0.53
14:M:224:SER:HA	14:M:330:GLY:HA3	1.89	0.53
14:M:338:THR:HG22	14:M:340:GLU:H	1.73	0.53
14:M:22:ARG:NH1	14:M:92:GLU:HG3	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:6:PRO:HG2	16:Q:112:GLN:HE21	1.72	0.53
1:1:176:GLY:O	2:2:32:ARG:NH2	2.34	0.53
3:3:367:PRO:O	3:3:552:GLY:N	2.34	0.53
3:3:414:SER:OG	3:3:443:ARG:NH2	2.42	0.53
8:7:43:ARG:HA	8:7:46:ARG:HH21	1.73	0.53
1:B:290:ILE:HD12	1:B:292:PRO:HD3	1.90	0.53
8:I:20:MET:HE2	8:I:59:LEU:HG	1.90	0.53
13:L:433:HIS:O	13:L:433:HIS:ND1	2.41	0.53
9:W:51:HIS:ND1	9:W:56:ASP:OD1	2.41	0.53
4:4:193:LEU:HA	4:4:196:VAL:HG12	1.89	0.53
2:C:61:MET:O	2:C:65:SER:OG	2.20	0.53
3:D:154:TYR:CZ	4:E:312:PRO:HB3	2.44	0.53
3:D:378:PRO:O	3:D:381:LEU:HB2	2.08	0.53
3:D:614:LEU:HD11	3:D:624:LEU:HG	1.91	0.53
4:E:201:ILE:HA	4:E:204:TYR:HD2	1.73	0.53
3:D:127:ALA:HB2	5:F:181:LEU:HB3	1.90	0.53
16:Q:271:VAL:HG12	16:Q:272:LEU:HG	1.90	0.53
16:Q:6:PRO:HG2	16:Q:112:GLN:NE2	2.23	0.53
3:3:508:GLY:HA2	3:3:535:MET:HB2	1.90	0.53
6:6:101:ASP:OD2	10:A:35:LYS:HB2	2.09	0.53
14:M:93:GLY:O	14:M:136:TYR:OH	2.11	0.53
12:K:59:MET:HB2	15:N:105:LEU:HD21	1.89	0.53
15:N:196:THR:HG22	15:N:259:ALA:HB1	1.91	0.53
5:5:34:PHE:CD2	5:5:102:PRO:HG2	2.44	0.53
1:B:203:PRO:HB2	1:B:204:PRO:HD3	1.90	0.53
14:U:91:VAL:HB	14:U:95:PHE:CE1	2.44	0.53
1:1:93:ALA:HB3	1:1:134:VAL:HG12	1.91	0.53
3:3:133:ARG:NE	3:3:136:GLU:OE2	2.33	0.53
8:7:60:SER:HA	8:7:66:PRO:HA	1.91	0.53
7:9:101:CYS:HB2	7:9:103:LEU:H	1.73	0.53
7:9:59:CYS:HA	7:9:104:CYS:HA	1.91	0.53
2:C:110:GLU:HA	8:I:121:ARG:NH1	2.19	0.53
4:E:250:LYS:HE2	4:E:262:PHE:HB3	1.90	0.53
16:H:271:VAL:HG12	16:H:272:LEU:HG	1.90	0.53
15:N:343:TRP:HD1	15:N:413:GLY:HA2	1.74	0.53
10:P:57:PHE:HB3	10:P:58:PRO:HD2	1.91	0.53
5:5:121:LEU:O	5:5:144:HIS:HB3	2.07	0.53
16:H:120:LEU:HD22	16:H:180:LEU:HD12	1.91	0.53
16:H:333:PRO:HB2	16:H:335:THR:H	1.73	0.53
13:L:324:THR:HG22	13:L:380:SER:HB2	1.91	0.53
16:Q:291:ILE:HA	16:Q:294:ARG:CG	2.37	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:U:90:ARG:HG2	14:U:334:GLU:HG3	1.91	0.53
15:V:316:TYR:HB2	15:V:382:VAL:HG12	1.91	0.53
1:1:203:PRO:HB2	1:1:204:PRO:HD3	1.91	0.53
4:4:81:TYR:OH	6:6:117:MET:O	2.18	0.53
5:5:167:PRO:HB3	7:9:66:TYR:CE2	2.44	0.53
6:G:28:VAL:O	6:G:32:ARG:HG3	2.09	0.53
14:U:242:PHE:CD2	14:U:312:LEU:HD11	2.43	0.53
14:U:347:LEU:HB2	14:U:414:PHE:HA	1.91	0.53
15:V:168:GLU:HG2	15:V:169:GLY:H	1.73	0.53
15:V:188:ALA:HB3	15:V:216:LYS:HZ1	1.74	0.53
15:V:99:ALA:O	15:V:225:ARG:NH1	2.42	0.53
1:B:165:THR:HG23	1:B:167:PHE:H	1.74	0.53
1:B:354:GLY:O	1:B:360:ARG:NH1	2.38	0.53
3:D:355:LEU:HB2	3:D:547:MET:SD	2.49	0.53
16:H:150:LEU:HD23	16:H:154:ARG:HD2	1.91	0.53
14:M:264:ALA:HB1	14:M:294:GLY:O	2.08	0.53
14:M:95:PHE:HB2	14:M:98:LEU:HD12	1.91	0.53
10:P:10:THR:OG1	16:Q:118:LEU:HD21	2.09	0.53
5:5:137:THR:HB	5:5:141:LEU:HD22	1.92	0.52
13:L:325:HIS:NE2	13:L:329:LYS:HG3	2.24	0.52
10:P:90:LEU:HD12	16:Q:330:LEU:HD21	1.91	0.52
4:4:232:LEU:HD23	5:5:109:GLY:HA3	1.91	0.52
4:4:205:GLU:OE1	4:4:284:ARG:NH2	2.42	0.52
5:F:28:VAL:HA	5:F:91:ARG:O	2.09	0.52
12:K:78:ILE:HG12	15:N:130:LEU:HD22	1.90	0.52
16:Q:222:PRO:CG	16:Q:230:GLY:HA2	2.38	0.52
14:U:91:VAL:HG23	14:U:92:GLU:H	1.74	0.52
1:1:400:CYS:HG	17:1:501:SF4:FE3	1.26	0.52
3:3:401:ASP:OD2	3:3:454:TYR:OH	2.25	0.52
3:3:592:PRO:HA	3:3:595:GLU:HG2	1.91	0.52
4:4:367:ARG:NH1	4:4:369:LYS:HB2	2.23	0.52
6:6:83:ARG:HB2	6:6:123:ILE:HD12	1.92	0.52
3:D:186:ARG:HD3	3:D:229:ILE:HG22	1.90	0.52
7:O:171:GLU:OE2	8:I:43:ARG:NH2	2.41	0.52
13:L:115:MET:HG2	13:L:244:THR:HG22	1.90	0.52
13:L:596:GLY:HA3	15:N:191:PRO:HG2	1.91	0.52
4:4:47:LEU:HA	4:4:53:LEU:HD23	1.91	0.52
4:E:222:GLY:HA3	4:E:275:ARG:NH2	2.25	0.52
4:E:218:ALA:HB1	4:E:272:VAL:HB	1.92	0.52
16:H:136:ILE:HG23	16:H:232:TYR:HD2	1.75	0.52
13:T:240:ILE:HG22	13:T:241:HIS:HD2	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:149:LEU:HD11	4:E:110:PRO:HG3	1.91	0.52
16:H:33:LEU:HD11	16:H:56:LEU:HA	1.90	0.52
14:M:215:PRO:HG2	14:M:216:PRO:HD3	1.90	0.52
11:R:154:VAL:O	11:R:158:GLU:HB2	2.10	0.52
14:U:215:PRO:HG2	14:U:216:PRO:HD3	1.92	0.52
15:V:190:ALA:HB3	15:V:240:SER:HA	1.90	0.52
3:3:373:GLY:HA3	3:3:538:ALA:HB2	1.91	0.52
1:B:106:ILE:HD11	1:B:251:LEU:HD21	1.90	0.52
2:C:88:CYS:HA	2:C:131:ALA:HB1	1.91	0.52
5:F:53:VAL:HG13	5:F:71:VAL:HB	1.92	0.52
16:H:332:LEU:HB2	16:H:333:PRO:HD3	1.90	0.52
10:A:1:MET:HA	11:J:123:LEU:HD11	1.91	0.52
13:T:160:ILE:O	13:T:164:ILE:HG13	2.09	0.52
15:V:13:LEU:HD22	15:V:25:VAL:HG13	1.90	0.52
7:9:111:GLY:N	8:7:44:MET:HG2	2.25	0.52
3:D:194:VAL:HG12	3:D:411:LEU:HD22	1.92	0.52
3:D:456:ALA:O	3:D:459:MET:HB2	2.10	0.52
6:G:62:ARG:CZ	7:O:25:PRO:HA	2.39	0.52
8:I:48:TYR:CZ	8:I:50:LEU:HB2	2.45	0.52
10:P:66:MET:O	10:P:69:ILE:HG12	2.09	0.52
16:Q:185:ILE:O	16:Q:189:GLN:NE2	2.43	0.52
16:Q:190:LYS:HB2	16:Q:268:THR:HG21	1.92	0.52
14:U:151:PHE:HD2	14:U:213:TRP:HD1	1.58	0.52
14:U:350:SER:OG	14:U:421:GLY:HA2	2.09	0.52
3:3:512:LEU:HD21	3:3:534:ALA:HB1	1.91	0.52
4:4:87:TYR:HB3	4:4:169:HIS:HE1	1.75	0.52
7:9:94:ASN:OD1	7:9:97:ARG:N	2.41	0.52
16:H:327:VAL:O	16:H:331:ASP:N	2.42	0.52
16:H:332:LEU:HB2	16:H:333:PRO:CD	2.39	0.52
5:5:126:PHE:H	5:5:132:LEU:HD11	1.74	0.52
5:5:38:MET:HA	5:5:41:TYR:HD2	1.75	0.52
10:A:65:ALA:O	10:A:69:ILE:HG23	2.10	0.52
2:C:66:PHE:O	3:D:205:ARG:NE	2.41	0.52
3:D:199:VAL:HG11	3:D:219:PRO:HD2	1.92	0.52
5:F:38:MET:HA	5:F:41:TYR:CD2	2.43	0.52
13:L:281:GLY:O	13:L:285:ALA:HB2	2.09	0.52
13:L:293:LYS:O	13:L:297:TYR:HD1	1.93	0.52
1:1:288:GLN:NE2	1:1:332:PRO:O	2.43	0.52
3:3:382:PHE:HB3	3:3:532:VAL:HB	1.92	0.52
2:C:146:THR:HG23	2:C:149:ARG:H	1.74	0.52
4:E:272:VAL:HG13	4:E:399:SER:HB3	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:H:333:PRO:HG2	16:H:336:TYR:CD1	2.45	0.52
7:O:46:HIS:NE2	7:O:52:LYS:HG2	2.25	0.52
15:V:203:SER:HB2	15:V:208:VAL:HG22	1.92	0.52
1:1:4:PRO:O	1:1:5:ILE:HG13	2.10	0.51
3:3:230:CYS:SG	3:3:234:ALA:HB3	2.49	0.51
7:9:63:CYS:HA	17:9:201:SF4:S2	2.50	0.51
16:H:274:VAL:HG22	16:H:275:PRO:HD2	1.91	0.51
6:6:62:ARG:HD2	16:H:50:ARG:HH21	1.75	0.51
13:L:553:LEU:O	14:M:270:TYR:OH	2.22	0.51
11:R:147:MET:O	11:R:150:THR:OG1	2.25	0.51
13:T:9:LEU:HB2	13:T:10:PRO:HD3	1.92	0.51
4:E:191:LYS:HE2	4:E:294:LEU:HD21	1.92	0.51
5:F:137:THR:HB	5:F:141:LEU:HD22	1.91	0.51
16:H:181:ASN:O	16:H:185:ILE:HG13	2.10	0.51
10:P:44:TYR:O	10:P:50:PRO:HG3	2.10	0.51
16:Q:213:GLU:N	16:Q:213:GLU:OE1	2.43	0.51
16:Q:257:ALA:HA	16:Q:283:ILE:HG12	1.91	0.51
13:T:360:PRO:HA	13:T:363:ARG:NH1	2.25	0.51
14:U:53:ALA:HB3	14:U:63:TRP:HB2	1.92	0.51
4:4:131:VAL:HG23	4:4:153:ARG:HD2	1.93	0.51
4:4:36:SER:HB2	16:H:226:GLN:H	1.76	0.51
1:B:8:GLY:HA2	1:B:270:THR:HG22	1.93	0.51
4:E:225:PRO:HG2	4:E:228:VAL:HB	1.92	0.51
4:E:341:GLU:HA	4:E:357:ILE:O	2.10	0.51
4:E:391:PRO:HG2	16:Q:301:ARG:HB2	1.92	0.51
8:I:74:PRO:HG2	8:I:77:ALA:HB2	1.93	0.51
11:J:29:ALA:O	11:J:33:ILE:HG13	2.10	0.51
13:L:356:TRP:O	13:L:363:ARG:HD3	2.09	0.51
7:O:137:LEU:O	7:O:140:VAL:HG12	2.09	0.51
11:R:119:LEU:HD11	12:S:47:ARG:HA	1.91	0.51
2:2:71:GLN:NE2	2:2:120:GLN:OE1	2.44	0.51
1:1:364:ALA:HB3	3:3:207:VAL:HG13	1.91	0.51
5:5:53:VAL:HG13	5:5:71:VAL:HB	1.92	0.51
6:6:114:SER:OG	7:9:96:LEU:O	2.28	0.51
1:B:293:GLY:HA3	1:B:297:THR:HG21	1.92	0.51
3:D:406:ALA:O	3:D:409:LEU:HB2	2.10	0.51
4:E:285:GLU:O	4:E:289:ILE:HG12	2.10	0.51
13:L:209:LEU:HD22	13:L:252:LEU:HD11	1.93	0.51
13:L:391:ALA:O	13:L:395:TYR:HB2	2.10	0.51
7:O:41:HIS:CD2	7:O:93:ILE:HD13	2.46	0.51
5:5:123:GLY:HA2	5:5:144:HIS:CE1	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:713:ARG:HE	3:D:746:ARG:HE	1.58	0.51
4:E:229:ALA:O	4:E:234:LEU:N	2.33	0.51
4:E:106:GLY:O	5:F:194:SER:HB3	2.09	0.51
13:L:305:TYR:OH	13:L:406:ALA:O	2.27	0.51
15:N:422:ALA:O	15:N:423:LEU:HD23	2.11	0.51
13:T:302:GLN:O	13:T:306:MET:HG3	2.11	0.51
14:U:221:ASN:HB3	14:U:227:ALA:HB3	1.92	0.51
1:1:259:LYS:HA	1:1:284:LEU:HD21	1.92	0.51
10:A:81:TYR:CE2	10:A:96:VAL:HG11	2.46	0.51
5:F:121:LEU:O	5:F:144:HIS:HB3	2.11	0.51
13:L:450:ALA:O	13:L:454:VAL:HG23	2.11	0.51
14:M:208:PHE:O	14:M:211:HIS:ND1	2.43	0.51
15:N:294:LEU:HD22	15:N:329:ALA:HB2	1.93	0.51
10:P:77:PHE:O	10:P:80:PRO:HD2	2.11	0.51
16:Q:181:ASN:O	16:Q:185:ILE:HG12	2.11	0.51
16:Q:139:SER:HB3	16:Q:232:TYR:HA	1.92	0.51
13:T:413:THR:HA	13:T:416:TYR:CE2	2.45	0.51
13:T:461:LEU:HD13	13:T:465:LEU:HD13	1.93	0.51
1:1:201:LEU:HG	1:1:203:PRO:HD2	1.93	0.51
3:3:696:PRO:HB3	3:3:767:ALA:HB1	1.93	0.51
6:6:120:ASN:HD22	6:6:122:ALA:H	1.57	0.51
7:9:42:VAL:HA	7:9:136:MET:O	2.11	0.51
7:9:75:ASN:ND2	7:9:82:SER:OG	2.31	0.51
1:B:190:ASN:OD1	1:B:200:ARG:NE	2.33	0.51
1:B:342:TRP:HZ3	1:B:346:ARG:HE	1.59	0.51
5:F:39:ALA:HA	5:F:107:LEU:HD21	1.92	0.51
16:Q:149:LEU:O	16:Q:153:LEU:HG	2.11	0.51
1:1:380:GLU:N	1:1:383:ASP:OD2	2.43	0.51
3:3:42:ILE:HG21	3:3:439:GLU:OE1	2.11	0.51
3:3:352:GLU:OE2	3:3:661:GLN:NE2	2.44	0.51
4:4:46:THR:O	4:4:53:LEU:HB2	2.10	0.51
1:B:10:ASP:OD2	1:B:12:ARG:NE	2.32	0.51
2:C:146:THR:HG22	2:C:149:ARG:HB2	1.93	0.51
3:D:136:GLU:HG2	5:F:189:ARG:HG2	1.92	0.51
14:M:91:VAL:HB	14:M:95:PHE:CE1	2.45	0.51
7:O:113:ILE:HB	17:O:202:SF4:S4	2.51	0.51
4:4:101:VAL:O	4:4:105:LEU:HG	2.11	0.51
3:3:117:LEU:H	4:4:321:MET:CE	2.24	0.51
3:D:229:ILE:HD11	3:D:289:TRP:HZ3	1.75	0.51
6:G:76:ASP:OD1	16:Q:65:LYS:NZ	2.42	0.51
16:H:151:GLY:HA2	16:H:154:ARG:CD	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:H:117:ASN:O	16:H:181:ASN:ND2	2.43	0.51
10:P:2:ALA:HB3	16:Q:119:ASP:OD2	2.11	0.51
3:3:223:SER:O	3:3:226:ILE:HG12	2.11	0.51
8:7:105:THR:OG1	8:7:114:ARG:NH1	2.40	0.51
6:G:37:TRP:HB3	6:G:75:ALA:HA	1.92	0.51
16:H:291:ILE:HA	16:H:294:ARG:HG3	1.93	0.51
13:L:156:ARG:NH1	14:M:408:THR:OG1	2.44	0.51
15:V:128:GLN:NE2	15:V:305:ASP:OD1	2.45	0.51
3:3:40:SER:O	3:3:189:ARG:NE	2.41	0.50
10:A:34:LYS:N	16:H:70:GLU:OE1	2.42	0.50
1:B:395:GLU:OE2	1:B:408:TRP:NE1	2.31	0.50
6:G:18:GLY:HA3	6:G:28:VAL:HG11	1.94	0.50
13:L:553:LEU:HB3	14:M:270:TYR:CE2	2.46	0.50
13:L:554:PHE:CZ	14:M:283:THR:HG21	2.46	0.50
9:X:102:LEU:HD12	9:X:105:LEU:HD12	1.93	0.50
1:1:243:THR:HG21	1:1:315:HIS:HE1	1.75	0.50
3:3:31:PRO:HG3	3:3:137:TYR:CD2	2.46	0.50
4:4:29:ASN:HB3	10:A:49:ASP:O	2.11	0.50
6:6:108:MET:HA	6:6:137:VAL:HG13	1.94	0.50
1:B:337:MET:O	1:B:341:MET:HG2	2.11	0.50
5:F:103:THR:HG22	5:F:126:PHE:HB3	1.92	0.50
16:H:159:LEU:O	16:H:163:GLU:HB2	2.11	0.50
16:H:293:ILE:HG23	16:H:297:TRP:CE3	2.46	0.50
16:Q:63:ALA:O	16:Q:67:ILE:HG12	2.11	0.50
10:P:84:SER:OG	11:R:128:GLY:HA3	2.11	0.50
11:R:146:LEU:O	11:R:150:THR:HG23	2.10	0.50
13:T:12:LEU:O	13:T:16:LEU:HG	2.11	0.50
13:T:312:VAL:O	13:T:395:TYR:HB3	2.12	0.50
13:T:373:LEU:HD21	13:T:416:TYR:HE1	1.75	0.50
15:V:415:LEU:HB3	15:V:418:LEU:HD13	1.92	0.50
15:V:422:ALA:O	15:V:423:LEU:HD23	2.11	0.50
15:V:279:GLN:HG3	15:V:423:LEU:HB2	1.93	0.50
3:3:583:VAL:HG23	3:3:598:ALA:HA	1.92	0.50
5:5:42:LYS:HB2	5:5:108:TRP:CH2	2.47	0.50
1:B:29:LEU:HD23	1:B:155:ARG:HD2	1.93	0.50
3:D:34:CYS:SG	3:D:35:SER:N	2.83	0.50
16:H:45:ARG:HG2	16:H:46:MET:H	1.76	0.50
11:J:152:VAL:O	11:J:156:LEU:HB2	2.11	0.50
14:M:17:LEU:HD21	14:M:98:LEU:HG	1.93	0.50
12:S:79:PHE:HA	12:S:82:ARG:HB3	1.93	0.50
7:9:53:CYS:HB2	7:9:112:ALA:HB1	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:372:ALA:O	1:B:376:THR:OG1	2.10	0.50
3:D:611:ARG:HA	3:D:624:LEU:O	2.11	0.50
4:E:85:MET:CE	4:E:409:ARG:HD2	2.41	0.50
14:M:306:GLU:O	14:M:379:LEU:HB3	2.12	0.50
16:Q:140:GLY:HA3	16:Q:152:SER:CB	2.40	0.50
16:Q:32:THR:O	16:Q:36:ARG:HG3	2.11	0.50
3:3:125:GLY:HA2	3:3:245:ARG:HH21	1.77	0.50
4:E:390:VAL:HB	4:E:391:PRO:HD3	1.94	0.50
8:I:120:ASP:O	8:I:124:GLU:HG3	2.11	0.50
13:L:214:VAL:HG13	13:L:219:GLN:HB2	1.92	0.50
1:1:184:GLU:OE1	1:1:186:THR:OG1	2.23	0.50
3:3:619:GLY:O	3:3:676:LEU:N	2.33	0.50
4:4:379:GLN:HG2	5:5:113:PHE:CD2	2.47	0.50
14:M:122:PHE:O	14:M:234:TYR:OH	2.28	0.50
15:V:283:PHE:O	15:V:287:THR:HG23	2.11	0.50
1:1:185:GLU:HB2	1:1:218:ILE:HD13	1.93	0.50
5:5:92:VAL:HG21	5:5:101:LEU:HD21	1.92	0.50
6:6:21:PHE:O	6:6:25:GLU:HG2	2.11	0.50
7:9:45:ARG:NH2	7:9:139:ASP:OD2	2.45	0.50
10:A:71:PHE:CZ	10:A:107:PHE:HB2	2.47	0.50
3:D:352:GLU:HB3	3:D:660:ALA:HB1	1.92	0.50
16:H:90:VAL:HA	16:H:247:ALA:HB2	1.93	0.50
11:J:16:GLY:O	11:J:19:VAL:HG12	2.12	0.50
13:L:554:PHE:HE2	14:M:278:ALA:HA	1.76	0.50
15:N:260:TYR:HA	15:N:263:ILE:HD12	1.94	0.50
13:T:340:ILE:HG22	13:T:347:GLN:H	1.76	0.50
14:U:219:GLN:NE2	14:U:283:THR:OG1	2.40	0.50
3:3:119:CYS:N	17:3:801:SF4:S1	2.85	0.50
3:3:722:THR:HG21	3:3:756:GLY:N	2.11	0.50
4:E:333:GLU:O	4:E:363:SER:OG	2.15	0.50
6:G:101:ASP:OD2	10:P:35:LYS:HB2	2.12	0.50
11:J:63:ILE:HG23	12:K:68:VAL:HG11	1.94	0.50
14:M:448:GLY:O	14:M:452:ARG:HG2	2.12	0.50
14:M:157:LEU:HD12	15:N:369:ALA:HB2	1.94	0.50
2:2:6:ASP:HB3	2:2:7:LYS:HE3	1.94	0.50
3:3:128:CYS:HB3	3:3:131:GLN:HB2	1.94	0.50
2:C:71:GLN:NE2	2:C:120:GLN:OE1	2.44	0.50
3:D:360:LEU:HD13	3:D:645:ALA:HB2	1.92	0.50
3:D:505:LEU:HD21	3:D:521:ALA:HB1	1.93	0.50
14:M:5:ALA:HB2	14:M:35:LEU:HG	1.94	0.50
14:U:115:LEU:CD1	14:U:163:VAL:HG23	2.35	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:326:PHE:CZ	3:3:330:LYS:HE3	2.47	0.49
5:5:155:THR:O	6:6:119:ASN:ND2	2.44	0.49
5:5:33:ARG:NH1	5:5:36:GLU:OE2	2.45	0.49
4:E:338:PRO:HG3	5:F:193:ARG:HB2	1.94	0.49
13:L:413:THR:HG22	13:L:416:TYR:OH	2.12	0.49
6:G:91:VAL:HG22	10:P:46:SER:HB3	1.94	0.49
10:P:51:ALA:HB2	16:Q:147:TYR:H	1.76	0.49
13:T:551:GLU:O	13:T:555:TYR:HD1	1.94	0.49
3:3:351:LEU:HD12	3:3:540:ASN:HD21	1.77	0.49
3:D:312:ARG:HH21	3:D:317:LEU:HD21	1.76	0.49
3:D:615:VAL:HG22	3:D:621:VAL:HG12	1.94	0.49
3:D:654:PHE:CD2	3:D:660:ALA:HA	2.47	0.49
3:D:351:LEU:HB3	3:D:664:LEU:HD21	1.94	0.49
4:E:240:ARG:HB2	4:E:266:LEU:HD23	1.94	0.49
6:G:79:ILE:HG12	6:G:106:ILE:HB	1.95	0.49
16:H:268:THR:HA	16:H:273:GLU:OE1	2.12	0.49
11:J:64:VAL:HA	11:J:67:PHE:HB2	1.92	0.49
11:J:138:VAL:HG22	15:N:106:LEU:HB2	1.93	0.49
7:O:105:GLU:CD	7:O:114:VAL:HG13	2.33	0.49
7:O:94:ASN:OD1	7:O:97:ARG:N	2.42	0.49
13:T:358:HIS:O	13:T:360:PRO:HD3	2.12	0.49
4:4:47:LEU:HD13	4:4:51:GLU:O	2.11	0.49
5:5:33:ARG:O	5:5:37:GLU:HB2	2.13	0.49
1:B:225:ALA:O	1:B:229:PRO:HD2	2.12	0.49
3:D:494:LYS:O	3:D:498:GLU:HG2	2.12	0.49
3:D:18:SER:OG	3:D:82:SER:O	2.29	0.49
16:H:301:ARG:C	16:H:303:ASP:H	2.15	0.49
14:M:204:LYS:HE3	14:M:234:TYR:O	2.12	0.49
14:M:68:ASP:H	14:M:71:SER:HB2	1.78	0.49
16:Q:159:LEU:O	16:Q:163:GLU:HB2	2.12	0.49
6:6:117:MET:CE	7:9:99:ILE:HG12	2.42	0.49
14:M:86:ALA:O	14:M:96:LEU:HD11	2.12	0.49
10:P:13:TYR:CZ	16:Q:95:LEU:HA	2.48	0.49
14:U:70:LEU:O	14:U:73:LEU:HD23	2.11	0.49
5:5:121:LEU:HA	5:5:145:PRO:HD2	1.94	0.49
4:4:245:ASN:O	5:5:79:GLY:HA3	2.13	0.49
6:6:25:GLU:HA	6:6:28:VAL:HG12	1.94	0.49
8:7:40:PHE:HB2	8:7:48:TYR:CE1	2.48	0.49
10:A:71:PHE:O	10:A:75:VAL:HG23	2.12	0.49
3:D:352:GLU:N	3:D:352:GLU:OE1	2.35	0.49
11:J:24:ASN:HB3	11:J:27:HIS:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:124:TYR:OH	13:L:256:SER:OG	2.23	0.49
13:L:162:ASN:ND2	13:L:166:ASP:OD2	2.45	0.49
15:N:14:THR:HA	15:N:86:LEU:HD21	1.94	0.49
10:P:81:TYR:HE2	16:Q:325:ALA:HB1	1.77	0.49
14:U:281:PHE:HE2	14:U:332:LEU:HD21	1.78	0.49
1:1:262:GLY:HA3	2:2:176:VAL:HG12	1.93	0.49
2:2:61:MET:O	2:2:65:SER:OG	2.27	0.49
6:G:154:LEU:O	6:G:158:VAL:HG13	2.13	0.49
16:H:214:ALA:HB1	16:H:248:GLU:OE2	2.12	0.49
16:H:8:ASP:OD1	16:H:112:GLN:HG2	2.12	0.49
16:Q:268:THR:HA	16:Q:273:GLU:OE1	2.12	0.49
14:U:102:MET:HB3	14:U:230:LEU:HD23	1.94	0.49
4:4:379:GLN:NE2	5:5:110:SER:O	2.39	0.49
7:9:6:LEU:HB3	16:H:297:TRP:CZ2	2.47	0.49
10:A:57:PHE:HB3	10:A:58:PRO:HD2	1.95	0.49
4:E:87:TYR:HB2	6:G:45:CYS:HB3	1.94	0.49
13:L:90:TYR:CD1	13:L:334:LEU:HD22	2.48	0.49
14:M:316:ALA:O	14:M:320:VAL:HG23	2.11	0.49
13:L:163:ARG:NE	14:M:399:VAL:HB	2.28	0.49
13:L:586:LEU:HD13	15:N:138:LEU:HD12	1.94	0.49
15:N:207:VAL:O	15:N:211:MET:HG3	2.11	0.49
16:Q:287:LEU:O	16:Q:291:ILE:HG13	2.13	0.49
14:U:151:PHE:HD2	14:U:213:TRP:CD1	2.30	0.49
15:V:108:LEU:HB2	15:V:147:PHE:CE2	2.48	0.49
9:X:31:VAL:HG11	9:X:81:LEU:HD13	1.93	0.49
2:2:74:PRO:HD3	8:7:125:ALA:HB2	1.95	0.49
3:3:347:HIS:HB2	3:3:538:ALA:HA	1.94	0.49
3:3:557:SER:OG	3:3:559:ASP:OD1	2.29	0.49
1:B:312:SER:OG	1:B:315:HIS:ND1	2.29	0.49
3:D:223:SER:O	3:D:226:ILE:HG12	2.13	0.49
3:D:557:SER:OG	3:D:559:ASP:OD1	2.26	0.49
3:D:135:VAL:HG11	4:E:329:LYS:HG2	1.94	0.49
13:L:325:HIS:HA	13:L:328:PHE:CE2	2.48	0.49
14:M:224:SER:HA	14:M:330:GLY:CA	2.43	0.49
13:T:291:ILE:HA	13:T:294:ILE:HG22	1.94	0.49
13:T:325:HIS:CD2	13:T:329:LYS:HG3	2.47	0.49
5:5:3:LEU:HD21	5:5:25:LEU:HD22	1.94	0.49
7:9:44:THR:OG1	7:9:52:LYS:HD2	2.12	0.49
3:D:462:ALA:O	3:D:465:HIS:ND1	2.46	0.49
4:E:229:ALA:HB1	4:E:234:LEU:HB3	1.93	0.49
4:E:47:LEU:HA	4:E:53:LEU:HD23	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:66:GLU:HG2	16:Q:36:ARG:HD3	1.95	0.49
7:9:10:LEU:HA	16:H:296:THR:HG21	1.95	0.49
13:L:153:ASP:OD1	14:M:411:GLN:NE2	2.26	0.49
13:L:586:LEU:HD11	15:N:135:LYS:HA	1.94	0.49
16:Q:114:TRP:NE1	16:Q:117:ASN:HB2	2.28	0.49
16:Q:134:TYR:HA	16:Q:137:PHE:CE2	2.47	0.49
13:T:105:PHE:O	13:T:109:ASN:ND2	2.43	0.49
13:T:213:ALA:HB2	13:T:252:LEU:HD23	1.95	0.49
4:4:285:GLU:O	4:4:289:ILE:HG12	2.12	0.49
10:A:107:PHE:HE1	16:H:310:TRP:CD1	2.31	0.49
1:B:157:TYR:O	1:B:158:LEU:HD23	2.13	0.49
3:D:5:LYS:HA	3:D:9:ARG:O	2.12	0.49
4:E:385:CYS:HB3	4:E:396:ILE:HG21	1.94	0.49
13:L:140:LEU:HD21	14:M:359:LEU:HD21	1.95	0.49
13:T:41:PHE:HB2	13:T:81:THR:HB	1.95	0.49
15:V:420:LEU:HA	15:V:423:LEU:HG	1.94	0.49
2:2:26:ALA:O	2:2:30:LEU:HG	2.13	0.48
3:3:190:TYR:OH	3:3:222:PHE:O	2.27	0.48
6:6:173:VAL:O	6:6:176:TRP:HB2	2.13	0.48
1:B:276:ILE:HA	1:B:280:ALA:HB3	1.94	0.48
2:C:42:ARG:HB2	2:C:45:ARG:HG2	1.95	0.48
4:E:38:HIS:ND1	4:E:139:ASP:OD2	2.45	0.48
14:M:56:LEU:HB3	14:M:59:ALA:HB3	1.95	0.48
10:P:1:MET:HA	11:R:123:LEU:HD11	1.95	0.48
14:U:122:PHE:O	14:U:234:TYR:OH	2.31	0.48
14:U:16:LEU:HD12	14:U:25:GLY:HA3	1.94	0.48
15:V:311:ALA:HA	15:V:389:THR:OG1	2.13	0.48
7:9:17:LEU:HA	16:H:41:ARG:O	2.13	0.48
10:A:84:SER:OG	11:J:128:GLY:HA3	2.14	0.48
11:J:69:PHE:O	11:J:73:LEU:HG	2.13	0.48
7:O:11:GLY:O	7:O:15:LYS:HG3	2.13	0.48
7:O:26:TYR:HE1	7:O:160:GLY:HA3	1.77	0.48
16:Q:333:PRO:HG2	16:Q:336:TYR:CD1	2.48	0.48
11:R:101:ALA:HB2	12:S:12:ALA:CB	2.42	0.48
14:U:128:PRO:O	14:U:132:MET:HG2	2.13	0.48
4:4:167:ARG:HD3	6:6:143:ARG:HH12	1.77	0.48
7:9:11:GLY:O	7:9:15:LYS:HG3	2.13	0.48
1:B:4:PRO:HA	1:B:12:ARG:HH22	1.77	0.48
1:B:262:GLY:HA3	2:C:176:VAL:HG12	1.95	0.48
3:D:616:ASN:HD22	3:D:622:LEU:HD11	1.78	0.48
6:G:124:VAL:HG13	9:X:119:ASN:HB3	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:H:175:LEU:HB3	16:H:328:VAL:HG21	1.95	0.48
16:H:151:GLY:HA3	16:H:229:VAL:O	2.14	0.48
8:I:54:ILE:HD11	8:I:57:ALA:HB2	1.95	0.48
11:J:32:LEU:HD13	12:K:29:LEU:HG	1.95	0.48
13:L:94:TYR:HE1	13:L:341:HIS:HB2	1.77	0.48
15:N:287:THR:HG21	15:N:340:ALA:O	2.13	0.48
16:Q:37:ARG:HG2	16:Q:47:GLY:HA3	1.95	0.48
15:V:72:TRP:O	15:V:76:LEU:HG	2.13	0.48
1:1:394:ILE:HG22	1:1:403:ALA:HB1	1.95	0.48
2:2:146:THR:HG22	2:2:149:ARG:HB2	1.96	0.48
3:3:300:TRP:CD1	3:3:703:GLN:HA	2.48	0.48
4:4:118:VAL:HB	4:4:257:TYR:HE1	1.78	0.48
7:9:108:CYS:SG	7:9:111:GLY:N	2.87	0.48
6:6:91:VAL:HA	10:A:46:SER:HB3	1.95	0.48
2:C:161:LYS:HB3	2:C:166:ILE:HG12	1.95	0.48
1:B:364:ALA:HB3	3:D:207:VAL:HG13	1.95	0.48
3:D:279:ALA:HB2	3:D:290:ILE:HG12	1.94	0.48
4:E:373:PRO:HA	4:E:376:VAL:HG22	1.95	0.48
6:G:43:LEU:HB2	6:G:82:GLY:HA3	1.94	0.48
16:H:161:SER:HA	16:H:310:TRP:HZ3	1.77	0.48
13:L:267:SER:HB3	13:L:311:GLY:O	2.13	0.48
16:Q:186:VAL:HG11	16:Q:267:TRP:CZ3	2.48	0.48
13:T:30:GLY:HA3	13:T:92:ILE:HG12	1.94	0.48
13:T:600:LEU:O	13:T:604:MET:HG3	2.12	0.48
15:V:196:THR:HG22	15:V:259:ALA:HB1	1.96	0.48
3:3:615:VAL:HG22	3:3:621:VAL:HG12	1.94	0.48
3:3:655:ARG:HH22	3:3:659:GLU:HG3	1.79	0.48
4:4:47:LEU:CD1	4:4:51:GLU:C	2.82	0.48
16:H:222:PRO:HG2	16:H:230:GLY:HA2	1.96	0.48
14:M:16:LEU:HD22	14:M:97:GLY:H	1.79	0.48
14:M:331:ARG:HA	14:M:331:ARG:HH11	1.79	0.48
10:P:6:GLU:OE2	16:Q:2:THR:OG1	2.23	0.48
14:U:347:LEU:HB3	14:U:414:PHE:CD2	2.48	0.48
15:V:83:GLU:O	15:V:87:LEU:HG	2.14	0.48
4:4:137:LEU:HD23	4:4:145:PRO:HG2	1.96	0.48
5:F:16:PRO:HD2	5:F:28:VAL:HG13	1.94	0.48
13:L:17:LEU:HA	13:L:21:GLY:HA2	1.95	0.48
13:L:291:ILE:HA	13:L:294:ILE:HG22	1.94	0.48
13:L:419:ARG:HB2	13:L:512:PHE:CD2	2.47	0.48
14:M:335:ARG:NH2	14:M:429:GLU:OE1	2.47	0.48
7:O:36:ARG:HA	7:O:167:ARG:HD3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:R:75:PHE:CZ	11:R:78:GLN:HG2	2.48	0.48
13:T:419:ARG:HB2	13:T:512:PHE:CE2	2.48	0.48
13:T:463:HIS:CG	13:T:464:PRO:HD3	2.48	0.48
14:U:41:LEU:O	14:U:42:THR:CG2	2.56	0.48
9:W:28:GLU:O	9:W:88:ARG:NH2	2.46	0.48
1:1:374:ILE:HA	1:1:379:GLY:HA3	1.95	0.48
3:3:237:ASP:OD1	3:3:239:THR:HG22	2.14	0.48
3:3:32:LEU:HD11	3:3:35:SER:HB2	1.95	0.48
4:E:234:LEU:HD12	4:E:380:SER:HB2	1.95	0.48
16:H:70:GLU:O	16:H:70:GLU:HG3	2.14	0.48
13:L:380:SER:CB	13:L:457:GLY:H	2.27	0.48
15:N:259:ALA:O	15:N:263:ILE:HG13	2.14	0.48
16:Q:86:PRO:HG2	16:Q:240:LYS:HB3	1.95	0.48
3:3:312:ARG:HH21	3:3:317:LEU:HD21	1.78	0.48
3:3:516:VAL:O	3:3:520:ARG:HG3	2.14	0.48
4:4:47:LEU:HD11	4:4:51:GLU:O	2.14	0.48
4:4:47:LEU:HD13	4:4:51:GLU:C	2.34	0.48
7:9:119:PHE:HE2	7:9:161:TYR:HB3	1.78	0.48
1:B:162:LEU:O	1:B:165:THR:HG22	2.14	0.48
4:E:169:HIS:NE2	6:G:45:CYS:SG	2.86	0.48
4:E:249:ARG:HB3	4:E:257:TYR:HD2	1.78	0.48
16:H:134:TYR:HA	16:H:137:PHE:CE2	2.48	0.48
13:L:413:THR:HA	13:L:416:TYR:CZ	2.49	0.48
15:N:280:ALA:CB	15:N:347:LEU:HB3	2.43	0.48
7:O:68:ILE:HD11	17:O:201:SF4:S1	2.54	0.48
14:U:159:MET:HG3	14:U:197:PHE:CD1	2.48	0.48
11:R:104:LEU:HD23	15:V:174:LEU:HD21	1.96	0.48
3:3:656:LEU:HD21	9:W:3:ARG:HD3	1.95	0.48
1:1:201:LEU:O	1:1:204:PRO:HD2	2.14	0.48
4:E:84:ARG:CZ	4:E:169:HIS:HB3	2.43	0.48
6:G:92:MET:HE1	6:G:127:VAL:HG13	1.94	0.48
15:N:62:PHE:CE2	15:N:285:LEU:HD22	2.49	0.48
13:T:234:THR:HG23	13:T:292:LYS:HE2	1.95	0.48
15:V:257:LEU:HD11	15:V:374:TYR:HB2	1.95	0.48
4:4:98:ALA:O	4:4:102:GLU:HG3	2.14	0.48
2:C:24:ARG:HA	2:C:53:VAL:HG22	1.95	0.48
3:D:8:ASP:OD2	3:D:28:TYR:OH	2.31	0.48
3:D:40:SER:O	3:D:189:ARG:NE	2.45	0.48
3:D:620:ARG:HA	3:D:675:ARG:HA	1.96	0.48
13:L:240:ILE:HG22	13:L:241:HIS:HD2	1.78	0.48
14:M:335:ARG:HG3	14:M:336:THR:HG23	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:99:LEU:HA	16:Q:116:ILE:O	2.14	0.48
11:R:75:PHE:HZ	11:R:78:GLN:HG2	1.79	0.48
13:T:413:THR:HG22	13:T:416:TYR:OH	2.14	0.48
9:X:102:LEU:HG	9:X:110:LEU:HD13	1.96	0.48
4:4:217:ARG:CZ	16:H:301:ARG:HB3	2.44	0.47
4:E:46:THR:O	4:E:53:LEU:HB2	2.13	0.47
6:G:119:ASN:HA	6:G:125:GLN:NE2	2.22	0.47
6:G:59:ASP:OD1	6:G:62:ARG:NH2	2.47	0.47
16:H:213:GLU:OE1	16:H:213:GLU:N	2.47	0.47
16:H:274:VAL:HG12	16:H:278:TRP:HD1	1.78	0.47
12:S:79:PHE:CD2	12:S:85:THR:HA	2.49	0.47
13:T:26:GLU:HB3	13:T:27:PRO:HD3	1.95	0.47
14:U:167:ARG:NH2	14:U:173:PRO:O	2.39	0.47
9:W:122:ASP:O	9:W:125:ILE:HG12	2.14	0.47
7:9:126:TYR:HB3	9:W:39:ASP:OD2	2.14	0.47
1:1:288:GLN:HE21	1:1:331:ILE:HG22	1.79	0.47
1:B:50:PRO:HA	1:B:53:VAL:HG12	1.96	0.47
3:D:126:GLY:O	4:E:329:LYS:NZ	2.46	0.47
3:D:370:ASP:OD2	3:D:558:TRP:HD1	1.97	0.47
3:D:661:GLN:NE2	3:D:664:LEU:HD12	2.29	0.47
15:N:422:ALA:HB1	15:N:426:GLY:HA2	1.95	0.47
10:P:105:VAL:HG11	15:V:11:VAL:HG13	1.96	0.47
10:P:38:ARG:O	10:P:42:MET:HG3	2.14	0.47
13:T:281:GLY:O	13:T:285:ALA:HB2	2.14	0.47
9:W:48:LEU:HD13	9:W:77:LEU:HD11	1.95	0.47
3:D:185:LYS:HB3	3:D:189:ARG:HH11	1.80	0.47
16:H:8:ASP:OD2	16:H:112:GLN:HB2	2.14	0.47
16:H:131:LEU:HA	16:H:134:TYR:HB2	1.96	0.47
8:I:22:GLU:HG2	8:I:116:PHE:HZ	1.79	0.47
16:Q:217:THR:OG1	16:Q:293:ILE:HG22	2.14	0.47
13:T:388:ILE:O	13:T:392:THR:OG1	2.31	0.47
9:X:1:MET:HE1	9:X:110:LEU:HD23	1.96	0.47
1:1:272:PHE:HB2	1:1:307:LEU:HA	1.96	0.47
1:1:50:PRO:HA	1:1:53:VAL:HG12	1.97	0.47
4:4:293:ALA:HA	4:4:296:ARG:HG2	1.96	0.47
1:B:139:ARG:NH1	1:B:143:ASP:OD2	2.47	0.47
1:B:180:TYR:HB3	1:B:351:GLU:HB3	1.97	0.47
3:D:445:THR:HB	3:D:463:ALA:HB2	1.95	0.47
3:D:52:ILE:HB	3:D:76:GLN:HG3	1.97	0.47
6:G:139:GLY:O	6:G:142:PRO:HD3	2.15	0.47
12:K:88:ASP:OD2	13:L:587:ARG:NH1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:30:GLY:O	14:M:34:LEU:HG	2.14	0.47
7:O:131:TYR:CZ	7:O:144:LYS:HB2	2.49	0.47
13:T:128:PHE:CE1	13:T:166:ASP:HB3	2.49	0.47
13:T:234:THR:OG1	13:T:340:ILE:HD11	2.15	0.47
13:T:321:HIS:HD2	13:T:388:ILE:HD12	1.78	0.47
14:U:279:LYS:HA	14:U:279:LYS:HD3	1.72	0.47
14:U:87:LEU:HD11	14:U:432:PHE:HB2	1.96	0.47
1:1:179:ALA:HB3	1:1:182:CYS:SG	2.54	0.47
1:1:117:GLY:HA3	1:1:224:LEU:O	2.15	0.47
1:1:81:LYS:HG3	1:1:126:ARG:NH1	2.30	0.47
3:3:370:ASP:OD2	3:3:558:TRP:HD1	1.97	0.47
4:4:211:SER:HB2	4:4:215:TYR:N	2.28	0.47
7:9:56:CYS:N	17:9:202:SF4:S1	2.85	0.47
4:E:373:PRO:O	4:E:377:ASN:ND2	2.48	0.47
16:H:96:ALA:HA	16:H:124:TYR:HE2	1.79	0.47
15:V:10:SER:OG	15:V:89:LEU:HB3	2.14	0.47
4:4:86:ASP:HB3	4:4:93:HIS:HD2	1.79	0.47
6:6:163:TYR:HB2	7:9:152:ARG:HH11	1.79	0.47
1:B:272:PHE:CE2	1:B:292:PRO:HB3	2.49	0.47
3:D:556:ALA:HB2	3:D:562:GLY:HA3	1.97	0.47
6:G:84:LEU:HD11	6:G:89:ALA:HA	1.97	0.47
16:H:189:GLN:O	16:H:193:GLY:HA2	2.14	0.47
12:K:60:VAL:HG23	15:N:105:LEU:HD11	1.97	0.47
12:K:81:HIS:CD2	12:K:81:HIS:H	2.33	0.47
13:L:435:PRO:HG2	13:L:436:HIS:CD2	2.50	0.47
14:U:347:LEU:HD13	14:U:422:VAL:HG21	1.97	0.47
5:5:31:ARG:HH21	5:5:100:ARG:HB2	1.80	0.47
6:6:44:ALA:HB3	17:6:201:SF4:S4	2.55	0.47
7:9:110:THR:C	8:7:44:MET:HG2	2.35	0.47
10:A:6:GLU:OE1	16:H:117:ASN:N	2.45	0.47
4:E:98:ALA:O	4:E:102:GLU:HG3	2.15	0.47
14:M:345:ARG:HG2	14:M:412:LYS:O	2.14	0.47
16:Q:293:ILE:HD12	16:Q:297:TRP:CZ3	2.49	0.47
13:T:331:LEU:HD22	13:T:450:ALA:HA	1.96	0.47
13:T:287:GLY:HA3	13:T:528:SER:HB2	1.96	0.47
14:U:221:ASN:HB2	14:U:228:ASP:OD1	2.15	0.47
14:U:56:LEU:HB2	14:U:61:VAL:HB	1.96	0.47
15:V:47:PRO:HA	15:V:55:VAL:O	2.15	0.47
1:1:106:ILE:HD11	1:1:251:LEU:HD21	1.97	0.47
1:B:425:ALA:O	1:B:428:LYS:NZ	2.35	0.47
2:C:77:LYS:H	2:C:116:LEU:HA	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:286:ASN:HD21	3:D:289:TRP:H	1.63	0.47
3:D:664:LEU:O	3:D:669:VAL:HG12	2.14	0.47
11:J:119:LEU:HD22	12:K:54:GLN:HE21	1.79	0.47
13:L:380:SER:HB3	13:L:456:ALA:HB3	1.97	0.47
13:L:463:HIS:CG	13:L:464:PRO:HD3	2.50	0.47
16:Q:152:SER:O	16:Q:155:SER:OG	2.24	0.47
11:R:72:MET:CE	16:Q:153:LEU:HD21	2.44	0.47
13:T:13:GLY:HA3	13:T:36:LEU:HD13	1.95	0.47
13:T:414:ALA:HB1	13:T:505:LEU:HD23	1.96	0.47
13:T:77:LEU:HD12	13:T:116:LEU:HD22	1.96	0.47
3:3:661:GLN:NE2	3:3:664:LEU:HD12	2.30	0.47
1:B:189:MET:O	1:B:193:GLU:HB2	2.15	0.47
1:B:223:THR:O	1:B:227:VAL:HG23	2.15	0.47
3:D:330:LYS:HA	3:D:647:ALA:HB1	1.97	0.47
16:H:147:TYR:HE1	16:H:229:VAL:H	1.62	0.47
14:M:10:VAL:HG23	14:M:104:GLY:HA3	1.97	0.47
16:Q:332:LEU:H	16:Q:332:LEU:HD12	1.80	0.47
13:T:241:HIS:HB3	13:T:299:THR:HG21	1.97	0.47
13:T:433:HIS:CG	13:T:433:HIS:O	2.67	0.47
14:U:232:THR:HA	14:U:235:LYS:HZ2	1.80	0.47
15:V:317:ARG:HH12	15:V:383:PHE:C	2.17	0.47
3:3:115:HIS:CG	3:3:116:PRO:HD2	2.50	0.47
4:4:249:ARG:HB3	4:4:257:TYR:HD2	1.80	0.47
3:D:237:ASP:OD1	3:D:239:THR:HG22	2.14	0.47
4:E:193:LEU:HA	4:E:196:VAL:HG12	1.97	0.47
5:F:174:LEU:HD11	5:F:189:ARG:HH21	1.78	0.47
6:G:155:GLN:O	6:G:159:ARG:HG3	2.15	0.47
16:H:255:ALA:O	16:H:259:ILE:HG13	2.14	0.47
10:A:1:MET:HG2	11:J:49:ARG:NH1	2.29	0.47
13:L:167:LEU:HD21	14:M:396:PHE:HB3	1.97	0.47
13:L:325:HIS:CD2	13:L:329:LYS:HG3	2.50	0.47
15:N:334:LEU:HD13	15:N:375:TYR:HD2	1.80	0.47
7:O:44:THR:HA	7:O:138:VAL:CG1	2.44	0.47
7:O:44:THR:OG1	7:O:52:LYS:HD2	2.15	0.47
16:Q:176:LEU:HD21	16:Q:337:LEU:HD12	1.97	0.47
12:S:18:VAL:HG13	12:S:27:VAL:HG13	1.97	0.47
12:S:1:MET:HA	12:S:4:LEU:HD23	1.96	0.47
11:R:63:ILE:HG23	12:S:68:VAL:HG11	1.97	0.47
13:T:348:ASP:OD1	13:T:349:VAL:N	2.45	0.47
13:T:317:VAL:HG12	13:T:388:ILE:HG12	1.96	0.47
14:U:281:PHE:CE1	14:U:341:ILE:HG22	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:V:118:LEU:HD22	15:V:211:MET:HG2	1.97	0.47
15:V:280:ALA:HB1	15:V:347:LEU:HB3	1.97	0.47
3:3:501:LYS:HD2	3:3:501:LYS:H	1.80	0.47
3:3:572:PRO:HD2	3:3:577:LEU:HD21	1.97	0.47
3:3:305:ARG:NH2	3:3:604:ALA:O	2.47	0.47
3:3:55:PRO:HB3	3:3:74:GLN:HB2	1.96	0.47
3:D:373:GLY:HA3	3:D:538:ALA:HB2	1.96	0.47
3:D:564:LEU:O	3:D:581:ARG:N	2.39	0.47
13:L:9:LEU:HB2	13:L:10:PRO:HD3	1.97	0.47
15:N:24:GLY:HA2	15:N:27:ARG:HD2	1.96	0.47
16:Q:226:GLN:HB2	16:Q:299:ARG:NH2	2.28	0.47
14:U:281:PHE:CE2	14:U:332:LEU:HD21	2.50	0.47
15:V:261:SER:OG	15:V:375:TYR:OH	2.22	0.47
1:1:433:ARG:NH1	2:2:94:GLU:HG3	2.30	0.46
3:3:695:ARG:N	3:3:760:LEU:O	2.39	0.46
5:5:41:TYR:HD1	5:5:46:PHE:HE2	1.63	0.46
7:9:59:CYS:HB2	7:9:104:CYS:CB	2.45	0.46
4:E:222:GLY:HA2	4:E:396:ILE:HD11	1.96	0.46
16:Q:17:ALA:O	16:Q:21:VAL:HG23	2.14	0.46
16:Q:237:SER:OG	16:Q:238:SER:N	2.48	0.46
13:T:3:LEU:HD11	13:T:120:LEU:HD13	1.97	0.46
13:T:389:LEU:HD21	13:T:407:LEU:HD13	1.96	0.46
14:U:75:PHE:CZ	14:U:111:ALA:HB2	2.50	0.46
14:U:206:PRO:HD2	14:U:293:MET:HG3	1.95	0.46
14:U:29:ALA:HB1	14:U:83:PHE:HA	1.97	0.46
2:2:88:CYS:HA	2:2:131:ALA:HB1	1.96	0.46
6:6:19:ILE:HG12	6:6:20:LEU:H	1.80	0.46
1:B:182:CYS:SG	2:C:67:TYR:HE1	2.38	0.46
3:D:715:GLU:H	3:D:761:SER:HB2	1.80	0.46
4:E:389:GLN:HG3	4:E:391:PRO:HD2	1.96	0.46
5:F:188:SER:HA	5:F:192:TYR:HB2	1.97	0.46
5:F:78:PRO:HA	5:F:83:GLY:HA3	1.97	0.46
6:G:138:PRO:O	6:G:142:PRO:HB3	2.15	0.46
4:E:168:PHE:CE1	6:G:141:PRO:HG3	2.49	0.46
11:J:64:VAL:HG13	16:H:134:TYR:OH	2.15	0.46
14:M:235:LYS:HD3	14:M:293:MET:HG3	1.97	0.46
15:N:251:GLN:OE1	15:N:256:ARG:HD3	2.16	0.46
15:N:371:SER:HA	15:N:374:TYR:CE2	2.50	0.46
16:Q:124:TYR:O	16:Q:128:VAL:HG13	2.16	0.46
16:Q:21:VAL:HG13	16:Q:94:LEU:HD13	1.96	0.46
13:T:154:SER:HB2	13:T:228:ASP:HB3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:T:413:THR:HA	13:T:416:TYR:CZ	2.50	0.46
14:U:169:LEU:HD21	15:V:358:TRP:HZ2	1.79	0.46
9:X:14:LEU:HG	9:X:18:LYS:HE3	1.97	0.46
8:7:48:TYR:CZ	8:7:50:LEU:HB2	2.51	0.46
7:9:68:ILE:HD11	17:9:201:SF4:S1	2.55	0.46
10:A:44:TYR:O	10:A:50:PRO:HG3	2.16	0.46
4:E:281:ARG:HD3	4:E:284:ARG:NH1	2.24	0.46
16:H:208:ILE:O	16:H:211:MET:HG2	2.15	0.46
13:L:90:TYR:CG	13:L:334:LEU:HD13	2.51	0.46
14:M:304:THR:O	14:M:307:GLY:N	2.47	0.46
14:M:9:PRO:HG2	14:M:107:LEU:HD12	1.97	0.46
7:O:63:CYS:HA	17:O:201:SF4:S2	2.56	0.46
10:P:68:PHE:CE2	16:Q:164:LEU:HB2	2.50	0.46
3:3:8:ASP:OD1	3:3:9:ARG:HG3	2.15	0.46
4:4:261:THR:H	4:4:292:GLN:HE22	1.64	0.46
6:6:104:TRP:CZ2	6:6:173:VAL:HG22	2.50	0.46
8:7:120:ASP:O	8:7:124:GLU:HG3	2.14	0.46
1:B:272:PHE:HZ	1:B:316:LEU:HD11	1.81	0.46
3:D:459:MET:HG2	3:D:465:HIS:CB	2.44	0.46
4:E:85:MET:HE3	4:E:409:ARG:CG	2.45	0.46
4:E:84:ARG:HG2	17:G:201:SF4:S2	2.55	0.46
16:H:202:ALA:HA	16:H:205:VAL:HG22	1.96	0.46
8:I:50:LEU:HD11	8:I:75:ARG:HB2	1.98	0.46
13:L:391:ALA:HA	13:L:394:THR:OG1	2.16	0.46
14:M:201:PHE:CE2	14:M:245:ALA:HB2	2.50	0.46
7:O:42:VAL:HA	7:O:136:MET:O	2.15	0.46
12:S:71:GLY:HA3	15:V:137:PHE:CZ	2.50	0.46
13:T:129:ILE:HG12	14:U:369:PRO:HB2	1.97	0.46
13:T:372:ALA:O	13:T:381:GLY:HA3	2.16	0.46
14:U:304:THR:O	14:U:307:GLY:N	2.47	0.46
14:U:426:ALA:N	14:U:429:GLU:OE1	2.44	0.46
15:V:62:PHE:CE2	15:V:285:LEU:HD22	2.51	0.46
6:G:93:ARG:NH2	9:X:122:ASP:OD2	2.48	0.46
3:3:459:MET:HG2	3:3:465:HIS:CB	2.45	0.46
4:4:390:VAL:HB	4:4:391:PRO:HD3	1.98	0.46
7:9:6:LEU:HD23	16:H:297:TRP:CE2	2.50	0.46
6:6:63:PHE:HA	16:H:50:ARG:HG2	1.96	0.46
13:L:160:ILE:O	13:L:164:ILE:HG13	2.15	0.46
13:L:349:VAL:HG13	13:L:423:LEU:HB3	1.98	0.46
14:M:24:LEU:HD22	14:M:27:LEU:HD21	1.97	0.46
14:M:232:THR:HG21	14:M:322:THR:HG21	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:159:PHE:CD2	14:M:407:LEU:HD11	2.44	0.46
15:N:317:ARG:HH12	15:N:383:PHE:C	2.17	0.46
3:D:271:SER:OG	7:O:69:TYR:OH	2.26	0.46
1:1:191:SER:HB2	1:1:197:ALA:HB2	1.98	0.46
1:1:388:GLU:OE2	1:1:418:LYS:NZ	2.49	0.46
2:2:112:THR:HG22	2:2:117:PHE:H	1.81	0.46
3:3:688:ARG:HD3	3:3:688:ARG:HA	1.50	0.46
4:4:218:ALA:HA	4:4:221:VAL:HG22	1.97	0.46
4:4:288:LYS:HA	4:4:288:LYS:HD3	1.66	0.46
4:4:28:LEU:HD11	16:H:147:TYR:CD2	2.51	0.46
1:B:32:TYR:CE2	1:B:37:GLY:HA3	2.51	0.46
1:B:174:HIS:CE1	2:C:29:PRO:HD3	2.51	0.46
3:D:512:LEU:HD21	3:D:534:ALA:HB1	1.97	0.46
3:D:572:PRO:HD2	3:D:577:LEU:HD21	1.96	0.46
3:D:621:VAL:HG11	3:D:669:VAL:CG2	2.46	0.46
4:E:159:LEU:O	4:E:163:VAL:HG12	2.16	0.46
6:G:44:ALA:HB3	17:G:201:SF4:S4	2.56	0.46
11:J:119:LEU:HD23	12:K:51:LEU:HD12	1.98	0.46
6:G:165:GLU:HG2	7:O:148:ARG:NH1	2.30	0.46
16:Q:162:TYR:HD2	16:Q:209:ALA:HA	1.81	0.46
11:R:152:VAL:O	11:R:156:LEU:HB2	2.16	0.46
12:S:74:LEU:O	12:S:78:ILE:HG13	2.16	0.46
13:T:379:LEU:HD22	13:T:454:VAL:HA	1.98	0.46
14:U:119:TYR:CZ	14:U:160:LEU:HB2	2.51	0.46
3:3:586:HIS:CE1	3:3:640:VAL:HG21	2.51	0.46
7:9:72:PRO:HG3	7:9:86:ARG:HH21	1.80	0.46
1:B:149:ILE:HG21	1:B:153:ARG:HH21	1.81	0.46
5:F:38:MET:HE2	5:F:104:VAL:HG11	1.98	0.46
16:H:150:LEU:HD21	16:H:154:ARG:HH11	1.80	0.46
16:H:287:LEU:O	16:H:291:ILE:HG13	2.16	0.46
16:H:72:ILE:HG22	16:H:237:SER:HB3	1.97	0.46
13:L:285:ALA:O	13:L:294:ILE:HG13	2.16	0.46
10:P:76:ALA:HA	10:P:79:TRP:CE3	2.51	0.46
3:3:734:VAL:HG13	3:3:775:VAL:HG13	1.96	0.46
4:4:239:LEU:HG	4:4:244:VAL:HB	1.98	0.46
1:B:93:ALA:CB	1:B:134:VAL:HG12	2.45	0.46
1:B:98:PRO:HA	2:C:124:CYS:SG	2.56	0.46
3:D:450:LEU:O	3:D:465:HIS:HA	2.16	0.46
3:D:540:ASN:HB2	3:D:614:LEU:HD23	1.98	0.46
14:M:128:PRO:O	14:M:132:MET:HG2	2.16	0.46
14:M:213:TRP:C	14:M:216:PRO:HD2	2.35	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:M:346:GLY:HA3	14:M:418:GLY:HA2	1.98	0.46
15:N:347:LEU:O	15:N:351:GLU:HG2	2.16	0.46
16:Q:122:ILE:HA	16:Q:125:LEU:HD12	1.98	0.46
11:R:64:VAL:HA	11:R:67:PHE:HB2	1.97	0.46
14:U:448:GLY:O	14:U:452:ARG:HG2	2.16	0.46
3:3:17:THR:HG22	3:3:18:SER:O	2.16	0.46
3:3:42:ILE:O	3:3:42:ILE:CD1	2.61	0.46
5:5:80:TRP:CE3	5:5:80:TRP:HA	2.51	0.46
3:D:515:THR:HG23	3:D:683:LEU:HD13	1.98	0.46
3:D:688:ARG:HA	3:D:688:ARG:HD3	1.54	0.46
4:E:102:GLU:HG2	4:E:175:ILE:O	2.16	0.46
16:H:6:PRO:HG2	16:H:112:GLN:NE2	2.30	0.46
11:J:19:VAL:HG23	11:J:28:ALA:O	2.16	0.46
14:M:335:ARG:NH1	14:M:423:LYS:O	2.49	0.46
14:M:451:ALA:HA	14:M:454:LEU:HG	1.98	0.46
16:Q:96:ALA:CB	16:Q:128:VAL:HG21	2.45	0.46
13:T:153:ASP:OD1	14:U:411:GLN:NE2	2.40	0.46
1:1:250:LYS:NZ	1:1:325:THR:O	2.49	0.46
7:9:108:CYS:CA	17:9:202:SF4:S3	2.89	0.46
1:B:131:TYR:OH	2:C:18:TYR:HA	2.16	0.46
3:D:435:LEU:O	3:D:438:LYS:NZ	2.48	0.46
3:D:52:ILE:HA	3:D:92:VAL:O	2.16	0.46
6:G:164:ASN:O	7:O:148:ARG:HD2	2.16	0.46
8:I:37:PHE:HE1	8:I:74:PRO:HA	1.81	0.46
13:L:302:GLN:O	13:L:306:MET:HG3	2.16	0.46
13:L:90:TYR:OH	13:L:338:SER:N	2.49	0.46
14:M:9:PRO:HG3	14:M:32:SER:HB2	1.98	0.46
16:Q:141:TRP:CE3	16:Q:149:LEU:HD11	2.51	0.46
16:Q:202:ALA:HA	16:Q:205:VAL:HG22	1.97	0.46
16:Q:99:LEU:HD12	16:Q:116:ILE:HG13	1.98	0.46
13:T:405:GLY:O	13:T:409:VAL:HG23	2.16	0.46
5:5:34:PHE:HD2	5:5:102:PRO:HG2	1.81	0.45
7:9:112:ALA:HB3	17:9:202:SF4:S4	2.56	0.45
10:A:107:PHE:HA	10:A:110:GLU:HG2	1.98	0.45
1:B:136:GLY:HA3	2:C:32:ARG:NH2	2.31	0.45
4:E:85:MET:CE	4:E:409:ARG:CD	2.94	0.45
5:F:10:ALA:HA	5:F:15:TYR:CD2	2.51	0.45
15:N:303:SER:HB3	15:N:307:VAL:HG22	1.98	0.45
16:Q:150:LEU:O	16:Q:154:ARG:HG3	2.16	0.45
13:T:553:LEU:HB3	14:U:270:TYR:CE2	2.51	0.45
14:U:204:LYS:HE3	14:U:234:TYR:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:472:GLU:O	3:3:476:ILE:HD12	2.15	0.45
4:4:338:PRO:HG2	5:5:193:ARG:HH11	1.81	0.45
1:B:29:LEU:CD2	1:B:155:ARG:HD2	2.46	0.45
3:D:349:ALA:HB3	3:D:544:LEU:HD21	1.98	0.45
4:E:231:ASP:O	5:F:110:SER:N	2.49	0.45
16:Q:140:GLY:HA3	16:Q:152:SER:HB3	1.96	0.45
12:S:21:ARG:HG3	12:S:26:LEU:HB3	1.99	0.45
4:4:32:PRO:HG2	6:6:91:VAL:HG11	1.99	0.45
5:5:103:THR:HG23	5:5:127:GLU:O	2.16	0.45
7:9:54:ILE:HG21	8:7:41:ILE:HG23	1.98	0.45
6:G:143:ARG:HG3	6:G:144:PRO:HD2	1.98	0.45
8:I:8:GLU:HG2	8:I:97:TYR:CZ	2.52	0.45
11:J:49:ARG:HD2	11:J:123:LEU:HD21	1.98	0.45
13:L:348:ASP:OD1	13:L:349:VAL:N	2.48	0.45
13:L:433:HIS:O	13:L:433:HIS:CG	2.70	0.45
10:P:81:TYR:HB2	11:R:132:TYR:CZ	2.51	0.45
11:R:29:ALA:O	11:R:33:ILE:HG13	2.16	0.45
13:T:286:PHE:HB2	13:T:419:ARG:HD3	1.97	0.45
15:V:265:HIS:HA	15:V:268:TYR:CD2	2.51	0.45
1:1:195:LEU:CD2	2:2:24:ARG:HH12	2.29	0.45
3:3:11:VAL:HG21	3:3:26:ALA:HB2	1.99	0.45
4:4:263:ASP:HB2	4:4:285:GLU:CD	2.37	0.45
5:5:64:ARG:HD3	5:5:64:ARG:HA	1.81	0.45
8:7:74:PRO:HG2	8:7:77:ALA:HB2	1.99	0.45
7:9:109:PRO:HD3	17:9:202:SF4:S3	2.56	0.45
2:C:81:GLN:HB3	2:C:122:VAL:HG21	1.98	0.45
3:D:567:TYR:HA	3:D:584:VAL:HG23	1.99	0.45
5:F:80:TRP:CE3	5:F:80:TRP:HA	2.52	0.45
8:I:23:TYR:OH	8:I:120:ASP:HA	2.16	0.45
13:L:379:LEU:HD22	13:L:454:VAL:HA	1.98	0.45
16:Q:137:PHE:HB3	16:Q:156:SER:HB2	1.99	0.45
16:Q:78:ASP:O	16:Q:82:PHE:HB2	2.16	0.45
13:T:312:VAL:HA	13:T:397:PHE:HD2	1.81	0.45
13:T:147:LYS:NZ	14:U:349:GLN:OE1	2.46	0.45
14:U:453:GLY:O	14:U:457:LEU:HD13	2.17	0.45
1:1:223:THR:O	1:1:227:VAL:HG23	2.17	0.45
1:1:39:GLU:O	1:1:43:ARG:HG2	2.17	0.45
3:3:267:ALA:HA	3:3:277:ILE:HD13	1.99	0.45
4:4:94:ASP:HB3	4:4:173:ILE:HG21	1.99	0.45
8:7:86:LEU:HD12	8:7:91:ILE:HD12	1.98	0.45
1:B:272:PHE:CZ	1:B:316:LEU:HD21	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:268:ASP:OD1	3:D:278:ARG:NH1	2.49	0.45
4:E:219:ARG:HD3	4:E:271:ASP:OD2	2.16	0.45
6:G:127:VAL:HG12	6:G:131:VAL:HG22	1.98	0.45
11:J:50:PHE:HE2	12:K:58:LEU:HD11	1.81	0.45
12:K:17:GLY:O	12:K:21:ARG:HG2	2.16	0.45
13:L:335:ALA:O	13:L:339:VAL:HG23	2.17	0.45
14:M:68:ASP:OD2	14:M:243:ARG:NH2	2.50	0.45
15:N:279:GLN:NE2	15:N:420:LEU:O	2.49	0.45
10:P:23:ALA:O	10:P:27:VAL:HG23	2.16	0.45
9:W:94:VAL:HG11	9:W:102:LEU:HD22	1.98	0.45
1:B:393:LEU:HD22	3:D:106:GLY:HA3	1.98	0.45
3:D:131:GLN:HG3	17:D:801:SF4:S4	2.56	0.45
3:D:386:SER:HB2	3:D:675:ARG:NH1	2.32	0.45
4:E:44:MET:HB2	4:E:56:VAL:HB	1.99	0.45
4:E:87:TYR:HB3	6:G:45:CYS:HB3	1.99	0.45
16:H:259:ILE:HB	16:H:260:PRO:HD3	1.98	0.45
10:A:67:LEU:HD23	16:H:310:TRP:CZ2	2.52	0.45
15:N:272:ALA:HB3	15:N:281:LEU:HD13	1.98	0.45
16:Q:137:PHE:HA	16:Q:152:SER:HB2	1.99	0.45
16:Q:218:PRO:C	16:Q:220:ASP:H	2.18	0.45
16:Q:326:LEU:HD12	16:Q:330:LEU:HD23	1.98	0.45
16:Q:45:ARG:HG2	16:Q:46:MET:H	1.82	0.45
14:U:91:VAL:HG12	14:U:222:HIS:CE1	2.52	0.45
1:1:95:GLU:O	1:1:135:ARG:NH1	2.38	0.45
3:3:351:LEU:HD11	3:3:615:VAL:HG23	1.98	0.45
4:4:337:PRO:O	4:4:361:GLY:HA2	2.17	0.45
6:6:44:ALA:H	6:6:82:GLY:HA3	1.82	0.45
6:6:157:LYS:HB2	7:9:124:TYR:HE2	1.82	0.45
7:9:137:LEU:O	7:9:140:VAL:HG12	2.17	0.45
3:D:401:ASP:OD2	3:D:454:TYR:OH	2.23	0.45
3:D:409:LEU:HA	3:D:409:LEU:HD23	1.74	0.45
16:H:222:PRO:O	16:H:230:GLY:HA3	2.16	0.45
10:A:3:PRO:HD2	16:H:2:THR:HB	1.99	0.45
16:H:300:LEU:O	16:H:304:GLN:HB3	2.17	0.45
14:M:243:ARG:O	14:M:247:PRO:HG2	2.17	0.45
12:S:28:PHE:CE2	12:S:68:VAL:HA	2.52	0.45
12:S:81:HIS:H	12:S:81:HIS:CD2	2.33	0.45
15:V:168:GLU:H	15:V:172:TYR:HB2	1.81	0.45
3:3:476:ILE:HG23	3:3:490:VAL:HG13	1.99	0.45
8:7:43:ARG:HA	8:7:46:ARG:NH2	2.31	0.45
7:9:149:GLU:O	7:9:153:THR:OG1	2.25	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:32:TYR:CD2	1:B:37:GLY:HA3	2.51	0.45
6:G:19:ILE:HG12	6:G:20:LEU:H	1.81	0.45
16:H:227:GLU:HG2	16:H:228:LEU:H	1.82	0.45
16:H:86:PRO:HG3	16:H:244:PHE:CE2	2.52	0.45
11:J:19:VAL:HG21	11:J:32:LEU:HB2	1.98	0.45
10:A:1:MET:HG2	11:J:49:ARG:HH12	1.81	0.45
12:K:79:PHE:CD2	12:K:85:THR:HA	2.52	0.45
12:K:7:SER:HB2	12:K:37:ALA:O	2.16	0.45
13:L:315:TYR:O	13:L:319:LEU:HG	2.16	0.45
14:M:281:PHE:CE1	14:M:341:ILE:HG22	2.51	0.45
16:Q:35:GLU:OE2	16:Q:294:ARG:NE	2.33	0.45
16:Q:70:GLU:O	16:Q:70:GLU:HG3	2.17	0.45
13:T:142:ILE:HG23	13:T:231:ALA:HB3	1.98	0.45
13:T:94:TYR:HE1	13:T:341:HIS:HB2	1.80	0.45
3:3:356:LEU:HD22	3:3:638:LEU:HD12	1.98	0.45
4:4:84:ARG:O	6:6:83:ARG:NH2	2.50	0.45
7:9:51:GLU:OE1	7:9:133:LYS:NZ	2.28	0.45
10:A:56:ARG:HD3	11:J:73:LEU:O	2.17	0.45
1:B:229:PRO:HB2	1:B:237:TRP:CZ3	2.52	0.45
3:D:616:ASN:ND2	3:D:622:LEU:HD11	2.31	0.45
3:D:8:ASP:OD1	3:D:9:ARG:HG3	2.16	0.45
14:M:41:LEU:O	14:M:42:THR:CG2	2.57	0.45
10:P:44:TYR:CD2	10:P:45:GLU:HB2	2.52	0.45
16:Q:150:LEU:HD23	16:Q:154:ARG:HD2	1.99	0.45
11:R:124:PRO:HA	11:R:127:LEU:HB2	1.98	0.45
13:T:124:TYR:HH	13:T:256:SER:HG	1.52	0.45
13:T:234:THR:HG21	13:T:337:GLY:CA	2.47	0.45
13:T:380:SER:HB3	13:T:457:GLY:H	1.82	0.45
1:1:72:THR:HG21	1:1:223:THR:HG21	1.99	0.45
3:3:29:ASP:OD1	3:3:29:ASP:N	2.50	0.45
4:4:115:THR:O	4:4:118:VAL:HG22	2.17	0.45
6:6:66:GLU:HG2	16:H:36:ARG:HD3	1.99	0.45
2:C:112:THR:HG22	2:C:117:PHE:H	1.82	0.45
3:D:638:LEU:HD21	3:D:660:ALA:HB2	1.99	0.45
4:E:200:ARG:NH1	4:E:203:GLU:OE1	2.50	0.45
4:E:318:GLU:HB3	8:I:42:TYR:HB2	1.99	0.45
5:F:41:TYR:HD1	5:F:46:PHE:HE2	1.65	0.45
5:F:64:ARG:HA	5:F:64:ARG:HD3	1.82	0.45
16:H:267:TRP:CD1	16:H:275:PRO:HA	2.52	0.45
16:H:310:TRP:CE3	16:H:314:PHE:HE2	2.34	0.45
14:M:67:LEU:HA	14:M:71:SER:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:O:6:LEU:HD23	16:Q:297:TRP:CE2	2.52	0.45
16:Q:300:LEU:HD23	16:Q:305:LEU:HA	1.99	0.45
14:U:134:TYR:HB2	14:U:145:LEU:CD1	2.46	0.45
4:4:30:VAL:HG13	4:4:35:PRO:HD2	1.98	0.44
6:6:143:ARG:NE	6:6:145:GLU:OE1	2.50	0.44
1:B:135:ARG:HE	1:B:137:GLU:HB2	1.81	0.44
4:E:239:LEU:HG	4:E:244:VAL:HB	2.00	0.44
4:E:30:VAL:HB	4:E:43:LEU:HB2	1.99	0.44
5:F:134:LYS:NZ	5:F:141:LEU:O	2.50	0.44
4:E:68:LYS:HG3	5:F:152:LEU:HD13	1.99	0.44
5:F:67:ARG:NH2	5:F:147:ARG:HB2	2.32	0.44
4:E:64:THR:HA	6:G:123:ILE:HD11	1.99	0.44
8:I:105:THR:OG1	8:I:114:ARG:NH2	2.50	0.44
13:L:379:LEU:HA	13:L:379:LEU:HD23	1.84	0.44
7:O:46:HIS:CD2	7:O:52:LYS:HG2	2.51	0.44
10:P:9:GLY:HA2	16:Q:13:VAL:HG11	1.99	0.44
14:U:155:GLY:O	14:U:200:ALA:HB2	2.17	0.44
14:U:260:LEU:HB3	14:U:301:PHE:CE2	2.52	0.44
14:U:346:GLY:HA3	14:U:419:GLY:H	1.82	0.44
14:U:451:ALA:HA	14:U:454:LEU:HG	1.98	0.44
1:1:101:PHE:CE1	1:1:253:GLN:HB2	2.52	0.44
1:1:381:GLU:HG3	1:1:422:LEU:HD22	1.99	0.44
3:3:2:VAL:HG13	3:3:89:ASP:HA	1.99	0.44
4:4:191:LYS:HE2	4:4:294:LEU:HD21	2.00	0.44
7:9:169:GLU:HA	8:7:45:GLU:HB3	1.99	0.44
10:A:117:ARG:HD2	11:J:159:PRO:HD2	1.99	0.44
10:A:63:VAL:O	10:A:67:LEU:HD13	2.17	0.44
3:D:32:LEU:HD11	3:D:35:SER:HB2	1.99	0.44
13:L:331:LEU:HD12	13:L:446:ASN:OD1	2.17	0.44
13:L:419:ARG:NH2	13:L:525:GLU:OE2	2.49	0.44
13:T:302:GLN:HE22	13:T:413:THR:HG21	1.83	0.44
14:U:318:SER:HA	14:U:321:TYR:CZ	2.52	0.44
9:X:7:ARG:NH2	9:X:100:THR:HA	2.32	0.44
1:1:162:LEU:O	1:1:165:THR:HG22	2.17	0.44
3:3:279:ALA:HB2	3:3:290:ILE:HG12	1.99	0.44
3:3:48:CYS:HB3	19:3:804:FES:S2	2.57	0.44
4:4:123:LEU:HG	4:4:156:ILE:HG23	2.00	0.44
5:5:42:LYS:HB2	5:5:108:TRP:CZ2	2.53	0.44
2:2:101:THR:HG22	8:7:108:ILE:CD1	2.47	0.44
4:4:318:GLU:HA	8:7:42:TYR:HD2	1.82	0.44
7:9:105:GLU:HA	7:9:113:ILE:HG23	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:38:ARG:O	10:A:42:MET:HG3	2.17	0.44
2:C:30:LEU:O	2:C:34:VAL:HG23	2.18	0.44
13:L:126:VAL:HA	13:L:129:ILE:HD12	1.99	0.44
13:L:94:TYR:CE1	13:L:341:HIS:HB2	2.53	0.44
15:N:233:LEU:HD12	15:N:233:LEU:HA	1.86	0.44
10:P:6:GLU:OE1	16:Q:117:ASN:N	2.43	0.44
16:Q:214:ALA:CB	16:Q:248:GLU:HG3	2.44	0.44
14:U:331:ARG:HA	14:U:331:ARG:HH11	1.83	0.44
14:U:335:ARG:NH1	14:U:423:LYS:O	2.50	0.44
14:U:40:PHE:HD1	14:U:72:ALA:HB1	1.82	0.44
5:F:155:THR:HG23	9:X:93:VAL:HB	2.00	0.44
1:1:290:ILE:HG22	1:1:330:LEU:HD22	1.98	0.44
3:3:697:THR:HG21	3:3:761:SER:OG	2.17	0.44
3:3:713:ARG:NH2	3:3:715:GLU:OE2	2.49	0.44
3:D:48:CYS:SG	3:D:83:CYS:N	2.79	0.44
3:D:543:GLY:CA	3:D:615:VAL:HB	2.47	0.44
4:E:167:ARG:HD3	6:G:143:ARG:NH1	2.32	0.44
4:E:379:GLN:HG2	5:F:113:PHE:CD2	2.52	0.44
12:K:74:LEU:O	12:K:78:ILE:HG13	2.18	0.44
13:L:284:SER:HG	13:L:297:TYR:HD2	1.62	0.44
14:M:181:LEU:HD21	14:M:247:PRO:HB2	1.99	0.44
16:Q:224:ALA:HA	16:Q:230:GLY:H	1.82	0.44
10:P:80:PRO:HA	11:R:124:PRO:HB2	1.98	0.44
15:V:237:VAL:O	15:V:241:VAL:HG23	2.17	0.44
18:1:502:FMN:O3'	18:1:502:FMN:N1	2.41	0.44
3:3:119:CYS:HB2	4:4:324:VAL:CG1	2.47	0.44
4:4:276:MET:O	4:4:280:ILE:HG13	2.18	0.44
8:7:10:TYR:O	8:7:14:VAL:HG23	2.18	0.44
8:7:20:MET:HG2	8:7:115:PHE:CZ	2.53	0.44
10:A:72:ASP:OD1	11:J:57:ILE:HG22	2.17	0.44
1:B:26:SER:HA	1:B:31:TYR:CD1	2.53	0.44
1:B:220:ASN:N	18:B:502:FMN:O3P	2.33	0.44
3:D:611:ARG:HB2	3:D:626:PRO:HD3	1.99	0.44
16:H:274:VAL:HG11	16:H:277:LEU:HB2	2.00	0.44
13:L:414:ALA:HB1	13:L:505:LEU:HD23	1.99	0.44
13:L:380:SER:CB	13:L:456:ALA:HB3	2.48	0.44
14:M:260:LEU:HB3	14:M:301:PHE:CE2	2.52	0.44
14:M:344:TYR:O	14:M:347:LEU:HD23	2.17	0.44
15:N:261:SER:HG	15:N:375:TYR:HH	1.60	0.44
15:N:44:TRP:CZ3	15:N:60:GLN:HB3	2.53	0.44
16:Q:99:LEU:HB3	16:Q:182:LEU:HD22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:T:324:THR:HG22	13:T:380:SER:HB2	2.00	0.44
14:U:298:LEU:HD22	14:U:395:ALA:CB	2.47	0.44
15:V:224:LEU:HD11	15:V:281:LEU:HD23	1.99	0.44
2:2:24:ARG:HA	2:2:53:VAL:CG2	2.48	0.44
3:3:43:GLY:HA2	19:3:804:FES:S1	2.58	0.44
5:5:98:ASP:OD1	5:5:100:ARG:HD3	2.17	0.44
5:5:82:ASP:N	5:5:82:ASP:OD1	2.49	0.44
10:A:76:ALA:HA	10:A:79:TRP:CE3	2.53	0.44
3:D:352:GLU:OE2	3:D:612:GLY:HA2	2.18	0.44
3:D:364:LEU:HB2	3:D:650:VAL:HG21	2.00	0.44
6:G:25:GLU:HA	6:G:28:VAL:HG12	1.99	0.44
16:H:257:ALA:O	16:H:260:PRO:HD2	2.17	0.44
13:L:213:ALA:HB2	13:L:252:LEU:HD23	2.00	0.44
14:M:119:TYR:OH	14:M:160:LEU:HB2	2.17	0.44
14:M:186:GLN:HG2	14:M:187:GLU:H	1.83	0.44
15:N:237:VAL:O	15:N:241:VAL:HG23	2.18	0.44
10:P:88:LEU:HD23	11:R:132:TYR:HB2	2.00	0.44
13:T:383:TRP:CD1	13:T:457:GLY:HA2	2.53	0.44
14:U:160:LEU:O	14:U:163:VAL:HG12	2.18	0.44
1:1:152:ALA:HB1	1:1:157:TYR:HB2	2.00	0.44
2:2:61:MET:SD	3:3:214:MET:HG3	2.58	0.44
4:4:50:GLU:O	4:4:390:VAL:HG23	2.18	0.44
1:B:404:ASP:HA	1:B:407:VAL:HG22	2.00	0.44
2:C:6:ASP:HB3	2:C:7:LYS:HE3	2.00	0.44
4:E:231:ASP:O	5:F:110:SER:OG	2.29	0.44
16:H:218:PRO:C	16:H:220:ASP:H	2.20	0.44
6:6:34:ASN:HB3	16:H:51:VAL:HG21	2.00	0.44
16:H:60:LEU:O	16:H:64:ILE:HG13	2.18	0.44
13:L:291:ILE:HG13	13:L:292:LYS:N	2.33	0.44
14:M:82:VAL:HG21	14:M:103:GLU:HB2	2.00	0.44
13:T:563:GLY:O	13:T:567:LEU:HD12	2.17	0.44
14:U:134:TYR:HB2	14:U:145:LEU:HD13	1.99	0.44
14:U:194:PHE:HB2	14:U:249:ALA:HB3	1.98	0.44
1:1:343:ASN:O	1:1:346:ARG:HG2	2.18	0.44
4:4:283:MET:O	4:4:287:VAL:HG23	2.17	0.44
4:4:333:GLU:O	4:4:363:SER:OG	2.20	0.44
5:5:145:PRO:HA	5:5:150:TYR:CD1	2.53	0.44
6:6:115:GLY:HA3	6:6:125:GLN:OE1	2.18	0.44
6:6:28:VAL:HA	16:H:64:ILE:CG2	2.48	0.44
3:D:20:MET:HE3	3:D:432:PHE:HB3	1.98	0.44
4:E:218:ALA:HA	4:E:221:VAL:HG22	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:A:57:PHE:HB2	11:J:73:LEU:HD23	1.99	0.44
13:L:171:LEU:O	13:L:175:ILE:HG13	2.18	0.44
13:L:286:PHE:HD2	13:L:416:TYR:HB3	1.82	0.44
15:N:73:THR:HB	15:N:209:LEU:HD22	1.99	0.44
16:Q:40:ALA:HA	16:Q:45:ARG:HH21	1.83	0.44
16:Q:2:THR:HA	16:Q:5:TYR:HD2	1.83	0.44
11:R:75:PHE:O	11:R:77:ALA:N	2.51	0.44
18:1:502:FMN:H9	18:1:502:FMN:H1'1	1.75	0.44
2:2:43:PRO:HA	3:3:214:MET:HE1	1.99	0.44
3:3:243:ARG:HD2	3:3:275:LEU:HD22	1.99	0.44
3:3:689:LYS:H	3:3:689:LYS:HG2	1.61	0.44
4:4:84:ARG:HG2	17:6:201:SF4:S2	2.58	0.44
6:6:156:LYS:HZ1	7:9:152:ARG:HH21	1.66	0.44
10:A:71:PHE:O	10:A:74:GLU:HB3	2.18	0.44
3:D:128:CYS:HB3	3:D:131:GLN:HB2	1.99	0.44
3:D:361:ALA:CB	3:D:369:LEU:HD23	2.48	0.44
3:D:414:SER:O	3:D:417:VAL:HG12	2.18	0.44
3:D:472:GLU:O	3:D:476:ILE:HD12	2.16	0.44
3:D:550:LEU:HD22	3:D:684:ARG:HH21	1.83	0.44
16:H:267:TRP:H	16:H:279:MET:HE2	1.83	0.44
13:L:222:LEU:O	13:L:225:TRP:HD1	2.01	0.44
13:L:94:TYR:HA	13:L:442:MET:HE1	2.00	0.44
14:M:148:PHE:O	14:M:152:THR:HG23	2.17	0.44
15:N:193:HIS:HB2	15:N:263:ILE:CD1	2.46	0.44
15:N:290:LEU:HD11	15:N:408:LEU:HD23	1.99	0.44
10:P:107:PHE:HA	10:P:110:GLU:HG2	2.00	0.44
13:T:335:ALA:O	13:T:339:VAL:HG23	2.18	0.44
13:T:360:PRO:HA	13:T:363:ARG:HH12	1.83	0.44
14:U:205:THR:HG23	14:U:238:VAL:HG23	2.00	0.44
14:U:349:GLN:NE2	14:U:418:GLY:HA3	2.32	0.44
13:T:163:ARG:NE	14:U:399:VAL:HB	2.32	0.44
9:X:1:MET:HE3	9:X:58:LEU:HD22	2.00	0.44
1:1:229:PRO:HB2	1:1:237:TRP:HZ3	1.82	0.43
4:4:318:GLU:HB3	8:7:42:TYR:HB2	2.00	0.43
4:4:60:GLY:N	4:4:408:ASP:OD1	2.47	0.43
4:4:73:ARG:HH11	5:5:171:ARG:HH21	1.66	0.43
6:6:82:GLY:HA2	17:6:201:SF4:S4	2.58	0.43
4:4:40:VAL:HG21	6:6:88:MET:HE2	1.99	0.43
7:9:9:SER:O	7:9:12:ILE:HG13	2.17	0.43
4:4:73:ARG:NH2	7:9:64:PRO:O	2.51	0.43
1:B:145:LEU:HA	1:B:145:LEU:HD23	1.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:343:ASN:O	1:B:346:ARG:HG2	2.18	0.43
2:C:24:ARG:HA	2:C:53:VAL:CG2	2.48	0.43
3:D:327:LEU:HD23	3:D:327:LEU:HA	1.81	0.43
16:H:147:TYR:CE1	16:H:228:LEU:HD13	2.53	0.43
16:H:332:LEU:HD12	16:H:332:LEU:H	1.82	0.43
13:L:26:GLU:HB3	13:L:27:PRO:HD3	1.99	0.43
13:L:383:TRP:HD1	13:L:457:GLY:HA2	1.83	0.43
13:L:53:ALA:HB3	13:L:69:LEU:HB3	1.99	0.43
14:M:208:PHE:O	14:M:211:HIS:CE1	2.71	0.43
14:M:81:THR:HB	14:M:233:LEU:HD11	2.00	0.43
12:S:7:SER:HB3	12:S:40:LEU:HD23	2.00	0.43
13:T:437:GLU:O	13:T:439:PRO:HD3	2.18	0.43
15:V:53:TYR:HA	15:V:101:THR:HG22	1.99	0.43
15:V:119:TYR:CZ	15:V:137:PHE:HA	2.53	0.43
15:V:294:LEU:HG	15:V:402:VAL:HG13	2.00	0.43
9:W:51:HIS:CE1	9:W:111:LEU:HD21	2.53	0.43
2:2:27:ILE:HG13	2:2:53:VAL:HG21	2.00	0.43
2:2:89:LYS:HG3	2:2:94:GLU:HG2	1.99	0.43
3:3:13:VAL:HG21	3:3:17:THR:HG21	2.00	0.43
3:3:476:ILE:O	3:3:480:LEU:HG	2.18	0.43
4:4:197:LEU:HD23	4:4:197:LEU:HA	1.81	0.43
4:4:367:ARG:HH12	4:4:369:LYS:HB2	1.82	0.43
4:4:336:HIS:CG	5:5:189:ARG:HA	2.53	0.43
3:3:136:GLU:CG	5:5:189:ARG:HG2	2.49	0.43
4:4:168:PHE:CE1	6:6:141:PRO:HG3	2.53	0.43
6:6:17:GLU:HG3	10:A:33:PRO:HA	1.99	0.43
1:B:162:LEU:HD11	1:B:169:PHE:HB3	2.00	0.43
4:E:137:LEU:HD23	4:E:145:PRO:HG2	1.99	0.43
4:E:217:ARG:NH1	16:Q:301:ARG:HB3	2.33	0.43
5:F:167:PRO:HB3	7:O:66:TYR:CE2	2.52	0.43
11:J:39:LEU:HD11	12:K:40:LEU:HB2	2.00	0.43
14:M:143:ARG:HD3	14:M:143:ARG:HA	1.80	0.43
16:Q:205:VAL:HG12	16:Q:313:LEU:HD22	2.00	0.43
11:R:100:VAL:O	11:R:104:LEU:HG	2.17	0.43
13:T:496:LEU:HA	13:T:496:LEU:HD12	1.88	0.43
14:U:33:PHE:HA	14:U:79:ALA:HB1	2.00	0.43
15:V:44:TRP:CZ3	15:V:60:GLN:HB3	2.53	0.43
1:1:192:LEU:HD22	1:1:211:LEU:HD21	2.00	0.43
4:4:373:PRO:O	4:4:377:ASN:ND2	2.51	0.43
6:6:132:PRO:HG3	6:6:178:ARG:HD2	1.99	0.43
10:A:67:LEU:HB3	16:H:310:TRP:CZ2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:214:LYS:O	1:B:216:THR:HG23	2.18	0.43
3:D:337:ARG:HH12	3:D:581:ARG:HH12	1.64	0.43
16:H:293:ILE:HD12	16:H:297:TRP:CZ3	2.54	0.43
10:A:77:PHE:HE2	12:K:62:ALA:HB2	1.82	0.43
15:N:334:LEU:HD13	15:N:375:TYR:CD2	2.52	0.43
15:N:318:LYS:HB3	15:N:391:PHE:CE2	2.52	0.43
15:N:29:THR:HG21	15:N:85:TYR:HB3	1.99	0.43
7:O:17:LEU:HD12	16:Q:42:PHE:CE1	2.53	0.43
10:P:56:ARG:HH11	11:R:75:PHE:H	1.65	0.43
11:R:119:LEU:HD22	12:S:54:GLN:HE21	1.83	0.43
12:S:7:SER:O	12:S:37:ALA:HB1	2.18	0.43
13:T:285:ALA:O	13:T:294:ILE:HG13	2.19	0.43
13:T:501:ALA:O	13:T:505:LEU:HG	2.18	0.43
3:3:33:PHE:CZ	3:3:130:LEU:HA	2.53	0.43
5:5:138:PRO:HG2	5:5:141:LEU:HD13	2.00	0.43
2:C:26:ALA:O	2:C:30:LEU:HG	2.19	0.43
3:D:349:ALA:O	3:D:540:ASN:ND2	2.39	0.43
4:E:287:VAL:HG12	4:E:291:LYS:HE3	2.00	0.43
6:G:30:TRP:CE3	6:G:34:ASN:ND2	2.86	0.43
8:I:27:LYS:HD3	8:I:27:LYS:HA	1.81	0.43
11:J:69:PHE:HZ	16:H:156:SER:HB3	1.84	0.43
13:L:582:GLN:HA	13:L:589:TYR:HE1	1.84	0.43
13:L:564:TYR:OH	14:M:209:PRO:O	2.24	0.43
7:O:22:VAL:HB	16:Q:44:VAL:HG11	2.00	0.43
16:Q:98:GLY:O	16:Q:114:TRP:HB2	2.17	0.43
11:R:24:ASN:HB3	11:R:27:HIS:HB2	2.00	0.43
14:U:143:ARG:HA	14:U:143:ARG:HD3	1.80	0.43
1:1:354:GLY:O	1:1:360:ARG:NH1	2.48	0.43
4:4:222:GLY:HA2	4:4:396:ILE:HD11	2.00	0.43
4:4:30:VAL:HB	4:4:43:LEU:HB2	1.99	0.43
4:4:373:PRO:HA	4:4:376:VAL:HG22	2.01	0.43
7:9:113:ILE:HB	17:9:202:SF4:S4	2.59	0.43
1:B:134:VAL:O	1:B:176:GLY:N	2.46	0.43
1:B:62:LEU:HD13	1:B:238:PHE:CZ	2.52	0.43
2:C:154:LEU:HD23	2:C:154:LEU:HA	1.87	0.43
16:H:5:TYR:CZ	16:H:183:ASN:HB3	2.54	0.43
11:J:20:VAL:HG11	12:K:13:LEU:O	2.19	0.43
13:L:463:HIS:CE1	13:L:487:LEU:HD22	2.54	0.43
15:N:98:LEU:HD23	15:N:218:ALA:HB1	2.01	0.43
11:R:146:LEU:HD23	12:S:66:ALA:HB2	1.99	0.43
13:T:394:THR:HB	13:T:484:HIS:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:T:41:PHE:HD1	13:T:81:THR:OG1	2.02	0.43
14:U:99:ALA:HB2	14:U:226:LEU:HD21	2.00	0.43
1:1:10:ASP:OD2	1:1:12:ARG:NE	2.38	0.43
3:3:248:GLU:HG2	5:5:170:PHE:CE1	2.53	0.43
4:4:26:MET:HG2	10:A:54:VAL:HB	2.00	0.43
4:4:336:HIS:HB2	5:5:188:SER:O	2.17	0.43
4:4:374:SER:HB2	4:4:406:ASP:HB3	2.00	0.43
6:6:41:PHE:CE2	6:6:88:MET:HE3	2.54	0.43
3:D:17:THR:HG22	3:D:18:SER:O	2.18	0.43
3:D:561:PRO:HB3	3:D:575:GLU:O	2.18	0.43
3:D:722:THR:HG21	3:D:756:GLY:H	1.83	0.43
6:G:44:ALA:O	6:G:47:ALA:N	2.36	0.43
16:H:149:LEU:O	16:H:153:LEU:HG	2.19	0.43
13:L:13:GLY:O	13:L:17:LEU:HG	2.18	0.43
14:M:221:ASN:HB3	14:M:227:ALA:HB3	2.01	0.43
15:N:63:THR:HG21	15:N:96:HIS:ND1	2.33	0.43
7:O:112:ALA:HB3	17:O:202:SF4:S4	2.59	0.43
10:P:48:ASN:OD1	10:P:49:ASP:HB2	2.19	0.43
16:Q:16:LYS:HB3	16:Q:115:VAL:HG22	2.00	0.43
16:Q:147:TYR:CD1	16:Q:229:VAL:HG22	2.53	0.43
16:Q:108:PHE:HD1	16:Q:276:TYR:HH	1.67	0.43
13:T:327:PHE:CE1	13:T:452:GLY:HA3	2.53	0.43
13:T:463:HIS:CE1	13:T:487:LEU:HD22	2.54	0.43
15:V:63:THR:HG21	15:V:96:HIS:ND1	2.33	0.43
1:1:293:GLY:HA3	1:1:297:THR:HG21	2.00	0.43
1:1:338:VAL:O	1:1:342:TRP:HB2	2.18	0.43
3:3:115:HIS:CD2	3:3:116:PRO:HD2	2.53	0.43
7:9:108:CYS:SG	7:9:112:ALA:N	2.92	0.43
7:9:119:PHE:CE2	7:9:161:TYR:HB3	2.54	0.43
2:C:87:SER:HB2	19:C:201:FES:S2	2.58	0.43
3:D:398:VAL:HG22	3:D:506:ILE:HD12	2.01	0.43
5:F:55:LEU:HD23	5:F:57:TYR:OH	2.19	0.43
16:H:133:VAL:HG13	16:H:156:SER:HA	2.01	0.43
16:H:194:TRP:NE1	16:H:265:GLY:HA3	2.34	0.43
10:A:77:PHE:CE2	12:K:62:ALA:HB2	2.53	0.43
13:L:17:LEU:O	13:L:102:SER:HB2	2.18	0.43
13:L:538:TYR:O	13:L:542:ILE:HB	2.18	0.43
15:N:313:ARG:HA	15:N:381:ALA:O	2.18	0.43
16:Q:200:PHE:HB3	16:Q:201:PRO:HD3	2.00	0.43
11:R:88:ARG:O	11:R:91:PRO:HD2	2.18	0.43
14:U:302:SER:O	14:U:304:THR:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:V:201:GLN:HA	15:V:255:LYS:HE3	2.00	0.43
9:X:36:ASP:N	9:X:36:ASP:OD1	2.50	0.43
1:1:214:LYS:O	1:1:216:THR:HG23	2.19	0.43
2:2:85:THR:HB	19:2:201:FES:S2	2.58	0.43
3:3:654:PHE:CD2	3:3:660:ALA:HA	2.54	0.43
4:4:38:HIS:HE1	4:4:398:ALA:HA	1.83	0.43
4:E:382:PRO:O	4:E:386:LYS:HB2	2.18	0.43
6:G:153:GLN:HG3	7:O:124:TYR:CZ	2.53	0.43
11:J:146:LEU:O	11:J:150:THR:HG23	2.18	0.43
14:M:95:PHE:HB3	14:M:136:TYR:CE2	2.54	0.43
16:Q:102:PHE:CD1	16:Q:279:MET:HG2	2.54	0.43
14:U:95:PHE:HB2	14:U:98:LEU:HD12	2.01	0.43
12:S:78:ILE:HG12	15:V:130:LEU:HD22	2.01	0.43
6:G:124:VAL:HG22	9:X:120:PRO:HD2	1.99	0.43
1:1:211:LEU:HA	1:1:211:LEU:HD12	1.88	0.43
2:2:58:THR:HG23	3:3:213:THR:HA	2.00	0.43
10:A:77:PHE:O	10:A:80:PRO:HD2	2.19	0.43
1:B:152:ALA:HB1	1:B:157:TYR:HB2	2.01	0.43
1:B:288:GLN:NE2	1:B:332:PRO:O	2.52	0.43
1:B:197:ALA:HB3	2:C:66:PHE:CE2	2.54	0.43
3:D:621:VAL:HG21	3:D:670:PRO:O	2.19	0.43
16:H:141:TRP:CE3	16:H:149:LEU:HD11	2.53	0.43
8:I:105:THR:OG1	8:I:114:ARG:NH1	2.49	0.43
13:T:315:TYR:O	13:T:319:LEU:HG	2.19	0.43
14:U:91:VAL:HB	14:U:95:PHE:HE1	1.82	0.43
3:3:112:LEU:HD23	3:3:130:LEU:HD21	2.01	0.43
3:3:378:PRO:O	3:3:381:LEU:HB2	2.18	0.43
4:4:211:SER:HB3	4:4:214:PHE:HD2	1.84	0.43
7:9:69:TYR:HE1	7:9:71:GLU:HG3	1.83	0.43
3:D:226:ILE:HD12	3:D:235:LEU:HD13	2.01	0.43
4:E:172:TYR:OH	4:E:180:GLU:O	2.20	0.43
5:F:155:THR:OG1	6:G:125:GLN:HG3	2.19	0.43
11:J:113:LEU:HD21	12:K:49:TYR:OH	2.19	0.43
11:J:46:LEU:HD21	12:K:3:TYR:CE2	2.54	0.43
13:L:143:GLY:HA3	14:M:415:TRP:CH2	2.54	0.43
15:N:61:VAL:O	15:N:65:LEU:HG	2.19	0.43
16:Q:289:PHE:O	16:Q:293:ILE:HG12	2.19	0.43
12:S:14:GLY:HA3	12:S:34:MET:HG3	2.01	0.43
13:T:254:ALA:O	13:T:257:SER:OG	2.28	0.43
14:U:331:ARG:HA	14:U:331:ARG:HD2	1.79	0.43
15:V:188:ALA:HB3	15:V:216:LYS:NZ	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:V:92:ALA:HA	15:V:95:MET:CE	2.49	0.43
9:W:78:VAL:HG21	9:W:126:TYR:HB2	2.01	0.43
4:4:62:LEU:HD23	4:4:62:LEU:HA	1.85	0.42
8:7:48:TYR:CE2	8:7:53:THR:HG22	2.54	0.42
2:C:85:THR:HB	19:C:201:FES:S2	2.58	0.42
4:E:211:SER:HB2	4:E:215:TYR:N	2.33	0.42
3:D:139:LEU:HD12	4:E:326:TYR:CZ	2.54	0.42
4:E:339:LYS:HG2	4:E:360:ASP:C	2.40	0.42
16:H:293:ILE:HG23	16:H:297:TRP:HE3	1.84	0.42
16:H:40:ALA:O	16:H:43:GLN:O	2.38	0.42
8:I:31:PHE:CE2	8:I:57:ALA:HB1	2.54	0.42
11:J:111:LEU:HG	15:N:171:LEU:HD22	2.01	0.42
15:N:246:LEU:O	15:N:249:LEU:HB2	2.18	0.42
7:O:34:LYS:HD3	7:O:34:LYS:HA	1.90	0.42
13:T:135:GLY:HA2	13:T:245:MET:HE2	2.01	0.42
13:T:291:ILE:HG13	13:T:292:LYS:N	2.34	0.42
14:U:292:HIS:NE2	14:U:365:MET:HG3	2.34	0.42
1:1:101:PHE:CZ	1:1:253:GLN:HB2	2.54	0.42
3:3:290:ILE:HG23	17:3:803:SF4:S4	2.59	0.42
4:4:287:VAL:HG12	4:4:291:LYS:HE3	2.01	0.42
6:6:104:TRP:CE2	6:6:173:VAL:HG22	2.54	0.42
7:9:53:CYS:HB2	7:9:112:ALA:CB	2.49	0.42
3:D:267:ALA:HA	3:D:277:ILE:HD13	2.01	0.42
3:D:690:GLY:HA3	3:D:770:ARG:NH2	2.34	0.42
3:D:737:GLU:HB3	3:D:774:ARG:HD3	2.01	0.42
4:E:147:PHE:HD2	6:G:56:ALA:HB2	1.83	0.42
8:I:10:TYR:O	8:I:14:VAL:HG23	2.19	0.42
12:K:21:ARG:HG3	12:K:26:LEU:HB3	2.01	0.42
15:N:234:ALA:CB	15:N:360:VAL:HG21	2.49	0.42
16:Q:216:ARG:CB	16:Q:294:ARG:HD2	2.47	0.42
13:T:13:GLY:O	13:T:17:LEU:HG	2.19	0.42
14:U:84:LEU:HB3	14:U:432:PHE:CD1	2.54	0.42
15:V:224:LEU:HD13	15:V:278:ALA:CB	2.49	0.42
9:X:89:PHE:HB2	9:X:123:PRO:HD3	2.01	0.42
4:4:367:ARG:HH21	5:5:146:LEU:HD13	1.84	0.42
4:4:71:GLU:OE1	5:5:148:LYS:NZ	2.38	0.42
6:6:26:LYS:HA	6:6:26:LYS:HD3	1.91	0.42
2:2:74:PRO:O	8:7:121:ARG:NH2	2.52	0.42
1:B:334:ARG:NH1	1:B:434:PRO:HB2	2.33	0.42
1:B:356:CYS:SG	1:B:399:PHE:N	2.68	0.42
1:B:104:ARG:NH2	2:C:143:GLU:OE2	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:24:ARG:HE	2:C:55:THR:HG21	1.83	0.42
1:B:257:PRO:HD3	2:C:90:LEU:HD23	2.01	0.42
5:F:82:ASP:OD1	5:F:82:ASP:N	2.52	0.42
14:M:219:GLN:HA	14:M:282:LYS:HG3	2.00	0.42
14:M:8:LEU:HD23	14:M:32:SER:HA	2.01	0.42
16:Q:227:GLU:HG2	16:Q:228:LEU:H	1.83	0.42
16:Q:82:PHE:HZ	16:Q:235:GLU:O	2.02	0.42
10:P:93:PHE:CE2	16:Q:326:LEU:HD13	2.55	0.42
6:G:63:PHE:CD1	16:Q:50:ARG:HG2	2.54	0.42
14:U:24:LEU:HD22	14:U:27:LEU:HD21	2.00	0.42
14:U:363:LEU:HA	14:U:366:VAL:HG22	2.02	0.42
15:V:313:ARG:HE	15:V:384:ALA:HB3	1.83	0.42
6:G:178:ARG:HD3	9:X:125:ILE:HG22	2.02	0.42
9:X:74:LEU:HD21	9:X:126:TYR:HB3	2.00	0.42
7:O:126:TYR:HB3	9:X:39:ASP:OD2	2.19	0.42
2:2:106:ILE:HG22	2:2:110:GLU:HG3	2.00	0.42
3:3:723:ALA:O	3:3:727:ALA:N	2.52	0.42
4:4:201:ILE:HA	4:4:204:TYR:CD2	2.49	0.42
5:5:55:LEU:HD23	5:5:57:TYR:OH	2.18	0.42
1:B:350:HIS:O	3:D:205:ARG:NH1	2.53	0.42
3:D:543:GLY:O	3:D:547:MET:HG2	2.19	0.42
4:E:336:HIS:HB2	5:F:189:ARG:HA	2.01	0.42
16:H:204:LEU:HA	16:H:204:LEU:HD23	1.87	0.42
14:M:69:GLY:HA3	14:M:453:GLY:HA3	2.01	0.42
10:P:7:TYR:HD2	11:R:44:VAL:HG11	1.83	0.42
13:T:293:LYS:O	13:T:297:TYR:HD1	2.03	0.42
1:1:395:GLU:OE2	1:1:408:TRP:NE1	2.46	0.42
5:5:159:PHE:HB2	5:5:163:ARG:O	2.19	0.42
7:9:59:CYS:HB2	7:9:104:CYS:HB2	2.02	0.42
1:B:90:ILE:HD11	1:B:211:LEU:HD22	2.01	0.42
1:B:242:GLY:HA3	1:B:246:SER:O	2.20	0.42
3:D:29:ASP:N	3:D:29:ASP:OD1	2.53	0.42
16:H:71:ASP:HB2	16:H:238:SER:HB3	2.01	0.42
13:L:358:HIS:O	13:L:360:PRO:HD3	2.19	0.42
15:N:290:LEU:HD13	15:N:408:LEU:HB3	2.00	0.42
7:O:108:CYS:SG	7:O:112:ALA:N	2.93	0.42
11:R:72:MET:HG2	16:Q:141:TRP:CE3	2.54	0.42
14:U:54:PRO:HA	14:U:62:TYR:HD1	1.85	0.42
15:V:3:LEU:HD13	15:V:96:HIS:HD2	1.84	0.42
3:3:165:ASP:HB3	3:3:178:ARG:HD2	2.01	0.42
4:4:40:VAL:HG21	6:6:88:MET:CE	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:5:155:THR:HG23	9:W:93:VAL:HB	2.00	0.42
5:5:78:PRO:HA	5:5:83:GLY:HA3	2.02	0.42
1:B:101:PHE:CZ	1:B:253:GLN:HB2	2.55	0.42
1:B:92:ASN:ND2	18:B:502:FMN:O3'	2.38	0.42
2:C:109:GLY:O	8:I:121:ARG:NH2	2.27	0.42
2:C:7:LYS:O	2:C:11:LEU:HG	2.19	0.42
3:D:259:CYS:SG	3:D:261:VAL:HG22	2.59	0.42
4:E:131:VAL:HG23	4:E:153:ARG:HD2	2.02	0.42
4:E:194:LEU:HD11	4:E:290:ILE:HG21	2.01	0.42
4:E:392:ASP:OD2	16:Q:301:ARG:NH1	2.49	0.42
6:G:83:ARG:HG3	6:G:83:ARG:H	1.43	0.42
16:H:185:ILE:HG22	16:H:189:GLN:OE1	2.19	0.42
16:H:204:LEU:O	16:H:208:ILE:HG12	2.20	0.42
16:H:292:TRP:O	16:H:296:THR:OG1	2.20	0.42
16:H:40:ALA:HA	16:H:45:ARG:HH21	1.84	0.42
14:M:256:ALA:O	14:M:260:LEU:HG	2.19	0.42
7:O:101:CYS:N	17:O:201:SF4:S4	2.92	0.42
16:Q:122:ILE:HG13	16:Q:123:LEU:HD12	2.00	0.42
16:Q:136:ILE:HD12	16:Q:159:LEU:HD22	2.00	0.42
16:Q:199:ALA:HB1	16:Q:202:ALA:HB3	2.01	0.42
11:R:2:SER:HA	11:R:5:GLU:HB3	2.01	0.42
13:T:238:ALA:HB2	13:T:333:PHE:HB3	2.02	0.42
13:T:94:TYR:CE1	13:T:341:HIS:HB2	2.55	0.42
3:3:271:SER:HG	7:9:69:TYR:HH	1.54	0.42
3:D:453:PRO:HA	3:D:468:HIS:O	2.19	0.42
16:H:5:TYR:OH	16:H:187:ASN:ND2	2.52	0.42
12:K:47:ARG:HE	12:K:47:ARG:HB3	1.66	0.42
13:L:168:GLY:O	13:L:208:LEU:HB3	2.19	0.42
13:L:317:VAL:HG12	13:L:388:ILE:HG12	2.02	0.42
14:M:91:VAL:HG23	14:M:92:GLU:N	2.35	0.42
15:N:153:LEU:HD12	15:N:178:LEU:HD12	2.01	0.42
15:N:209:LEU:HG	15:N:293:GLY:HA2	2.01	0.42
15:N:220:PHE:CZ	15:N:269:MET:HB2	2.55	0.42
16:Q:204:LEU:O	16:Q:208:ILE:HG12	2.19	0.42
16:Q:208:ILE:O	16:Q:211:MET:HG2	2.20	0.42
14:U:208:PHE:O	14:U:211:HIS:CE1	2.73	0.42
14:U:201:PHE:CZ	14:U:240:ALA:HB1	2.55	0.42
9:X:78:VAL:HB	9:X:127:LEU:HD21	2.01	0.42
1:1:54:ILE:HG12	1:1:76:TRP:HE3	1.85	0.42
3:3:269:THR:OG1	3:3:628:PRO:HD2	2.20	0.42
3:3:34:CYS:HB2	3:3:44:ALA:HB3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:692:PHE:CE1	3:3:758:LEU:HD22	2.55	0.42
3:3:717:TRP:CD1	3:3:748:VAL:HB	2.55	0.42
4:4:327:HIS:CE1	7:9:58:LEU:HD13	2.55	0.42
5:5:134:LYS:NZ	5:5:141:LEU:O	2.52	0.42
6:6:46:CYS:HB2	6:6:82:GLY:HA2	2.02	0.42
8:7:13:TRP:HE3	8:7:82:ILE:HD12	1.84	0.42
7:9:26:TYR:OH	7:9:120:GLU:OE2	2.32	0.42
1:B:39:GLU:O	1:B:43:ARG:HG2	2.20	0.42
1:B:9:LEU:HD13	1:B:279:TRP:CZ2	2.55	0.42
4:E:50:GLU:O	4:E:390:VAL:HG23	2.19	0.42
6:G:101:ASP:O	6:G:103:LYS:N	2.53	0.42
6:G:83:ARG:HG2	6:G:111:CYS:SG	2.60	0.42
6:G:125:GLN:OE1	7:O:97:ARG:NH2	2.39	0.42
6:G:140:CYS:SG	7:O:99:ILE:CG1	3.07	0.42
11:J:75:PHE:HZ	11:J:78:GLN:HG2	1.84	0.42
11:J:12:LEU:HD22	12:K:10:LEU:HD11	2.02	0.42
13:L:299:THR:N	13:L:329:LYS:HE3	2.34	0.42
13:L:501:ALA:O	13:L:505:LEU:HG	2.20	0.42
14:M:425:LEU:HD22	14:M:430:TRP:CE2	2.54	0.42
14:M:426:ALA:N	14:M:429:GLU:OE1	2.41	0.42
15:N:120:ALA:O	15:N:123:THR:OG1	2.32	0.42
15:N:244:GLY:O	15:N:260:TYR:HB3	2.20	0.42
10:P:83:VAL:HB	11:R:125:GLN:NE2	2.34	0.42
10:P:93:PHE:CD2	10:P:94:LEU:HD12	2.55	0.42
16:Q:131:LEU:HA	16:Q:134:TYR:HB2	2.02	0.42
4:E:144:THR:HA	16:Q:43:GLN:OE1	2.19	0.42
16:Q:85:ALA:HA	16:Q:88:ILE:HD12	2.00	0.42
11:R:108:LEU:HD22	12:S:4:LEU:HB3	2.01	0.42
14:U:304:THR:HG21	14:U:386:LYS:HB2	2.01	0.42
14:U:262:PHE:N	14:U:391:LEU:HD13	2.34	0.42
9:X:36:ASP:OD2	9:X:96:PRO:HG3	2.20	0.42
1:1:349:ALA:HB1	1:1:364:ALA:HA	2.00	0.42
1:1:53:VAL:O	1:1:57:VAL:HG23	2.20	0.42
2:2:30:LEU:O	2:2:34:VAL:HG23	2.19	0.42
3:3:351:LEU:HD11	3:3:543:GLY:HA3	2.02	0.42
6:6:19:ILE:HG12	6:6:20:LEU:N	2.34	0.42
1:B:131:TYR:OH	2:C:19:PRO:HD3	2.19	0.42
1:B:16:THR:HG23	1:B:233:ARG:HH21	1.85	0.42
3:D:133:ARG:HA	3:D:136:GLU:OE2	2.20	0.42
3:D:416:PHE:CZ	3:D:447:LYS:HG2	2.55	0.42
16:H:155:SER:OG	16:H:156:SER:N	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:H:17:ALA:O	16:H:21:VAL:HG23	2.19	0.42
16:H:299:ARG:O	16:H:300:LEU:HD12	2.19	0.42
11:J:75:PHE:CZ	11:J:78:GLN:HG2	2.55	0.42
12:K:21:ARG:CZ	12:K:26:LEU:HD23	2.50	0.42
13:L:183:LEU:HA	13:L:183:LEU:HD23	1.73	0.42
14:M:106:LEU:O	14:M:110:PHE:HD1	2.03	0.42
14:M:70:LEU:HD13	14:M:312:LEU:HD13	2.01	0.42
10:P:10:THR:HA	16:Q:116:ILE:HD13	2.01	0.42
16:Q:232:TYR:HB2	16:Q:244:PHE:CE1	2.54	0.42
16:Q:91:VAL:O	16:Q:95:LEU:HG	2.20	0.42
13:T:183:LEU:HD23	13:T:183:LEU:HA	1.85	0.42
13:T:79:ILE:HD11	13:T:323:PHE:HD1	1.85	0.42
13:T:538:TYR:O	13:T:542:ILE:HB	2.20	0.42
14:U:16:LEU:HD22	14:U:97:GLY:H	1.84	0.42
14:U:242:PHE:CE2	14:U:312:LEU:HD11	2.54	0.42
9:X:45:ARG:NH1	9:X:61:ASP:OD2	2.52	0.42
2:2:85:THR:HG22	2:2:86:LEU:H	1.85	0.42
3:3:243:ARG:NH1	3:3:275:LEU:HA	2.35	0.42
3:3:380:SER:O	3:3:679:ARG:HA	2.20	0.42
3:3:464:ILE:HG12	3:3:492:LYS:HB3	2.01	0.42
4:4:211:SER:HB2	4:4:214:PHE:HB3	2.02	0.42
3:D:13:VAL:HG21	3:D:17:THR:HG21	2.02	0.42
4:E:61:TYR:O	6:G:85:SER:HB3	2.20	0.42
16:H:124:TYR:O	16:H:128:VAL:HG13	2.20	0.42
16:H:269:MET:HG3	16:H:270:PRO:HD2	2.02	0.42
12:K:14:GLY:HA3	12:K:34:MET:HG3	2.02	0.42
13:L:354:GLY:HA3	13:L:428:GLU:O	2.20	0.42
13:L:549:LEU:O	13:L:553:LEU:HG	2.20	0.42
14:M:52:GLN:HA	14:M:63:TRP:O	2.20	0.42
15:N:194:PHE:O	15:N:197:PRO:HD2	2.20	0.42
16:Q:8:ASP:OD2	16:Q:112:GLN:HB2	2.20	0.42
16:Q:185:ILE:HG22	16:Q:189:GLN:HE22	1.85	0.42
13:T:477:LEU:HD12	13:T:477:LEU:HA	1.84	0.42
13:T:90:TYR:CG	13:T:334:LEU:HD13	2.55	0.42
1:1:438:ARG:OXT	2:2:146:THR:OG1	2.38	0.41
1:B:26:SER:HA	1:B:31:TYR:CG	2.55	0.41
2:C:42:ARG:H	2:C:45:ARG:HG3	1.84	0.41
3:D:367:PRO:HG2	3:D:368:HIS:ND1	2.35	0.41
4:E:234:LEU:O	4:E:239:LEU:HB2	2.20	0.41
5:F:49:LEU:HD21	5:F:52:ILE:HD11	2.01	0.41
6:G:115:GLY:HA3	6:G:125:GLN:OE1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:148:ILE:O	6:G:151:VAL:HG22	2.19	0.41
8:I:13:TRP:CE2	8:I:17:LEU:HD11	2.54	0.41
13:L:319:LEU:HD12	13:L:473:LEU:HD13	2.01	0.41
14:M:114:ASP:OD1	14:M:117:VAL:HB	2.20	0.41
14:M:279:LYS:HD3	14:M:279:LYS:HA	1.78	0.41
10:P:57:PHE:HB2	11:R:73:LEU:CD2	2.50	0.41
13:T:376:LEU:HB3	13:T:379:LEU:HD12	2.02	0.41
13:T:65:PHE:CZ	13:T:67:LEU:HD21	2.55	0.41
14:U:246:ILE:HB	14:U:247:PRO:HD3	2.01	0.41
14:U:265:ALA:HB1	14:U:394:LEU:HD23	2.01	0.41
9:W:31:VAL:HG11	9:W:81:LEU:CD1	2.45	0.41
1:1:90:ILE:HB	1:1:218:ILE:HG12	2.02	0.41
2:2:10:PHE:CZ	2:2:33:ARG:HG3	2.56	0.41
4:4:212:PRO:HG2	4:4:213:ILE:HD12	2.01	0.41
6:6:102:PRO:HG2	16:H:69:LYS:HA	2.02	0.41
6:6:96:TRP:HZ2	6:6:175:ALA:HB1	1.82	0.41
4:4:327:HIS:HE1	7:9:58:LEU:HD13	1.86	0.41
1:B:121:ALA:O	1:B:125:ILE:HG12	2.20	0.41
1:B:357:THR:N	1:B:358:PRO:HD2	2.35	0.41
3:D:33:PHE:HB2	3:D:45:CYS:SG	2.60	0.41
3:D:689:LYS:HG2	3:D:689:LYS:H	1.62	0.41
5:F:174:LEU:HB3	5:F:178:ASP:HB3	2.02	0.41
12:K:46:ALA:HB2	12:K:53:GLY:HA3	2.02	0.41
13:L:334:LEU:HD12	13:L:449:LEU:CD1	2.51	0.41
14:M:91:VAL:HG13	14:M:224:SER:HB3	2.02	0.41
7:O:4:LYS:O	7:O:8:GLN:HG3	2.20	0.41
16:Q:138:LEU:HD23	16:Q:138:LEU:HA	1.87	0.41
16:Q:76:GLN:O	16:Q:144:GLY:HA3	2.19	0.41
2:2:112:THR:HG23	2:2:115:GLY:H	1.85	0.41
3:3:46:ARG:NH2	3:3:81:ALA:HB2	2.35	0.41
4:4:278:VAL:O	4:4:282:GLU:HG3	2.20	0.41
4:4:48:SER:H	4:4:53:LEU:HD23	1.85	0.41
5:5:116:ARG:NH2	5:5:135:ILE:HG12	2.34	0.41
5:5:68:PHE:HE2	5:5:147:ARG:HB3	1.84	0.41
6:6:89:ALA:HB1	6:6:130:VAL:HG11	2.02	0.41
16:H:107:SER:OG	16:H:113:PRO:HG3	2.20	0.41
7:9:10:LEU:HD12	16:H:296:THR:CG2	2.49	0.41
13:L:210:PHE:CD1	13:L:270:ILE:HG12	2.55	0.41
14:M:26:VAL:HG13	14:M:87:LEU:HB3	2.01	0.41
14:M:84:LEU:O	14:M:88:VAL:HG12	2.20	0.41
13:L:600:LEU:HD11	15:N:232:ALA:HB1	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:P:105:VAL:HG11	15:V:11:VAL:CG1	2.50	0.41
16:Q:119:ASP:OD1	16:Q:120:LEU:HG	2.19	0.41
16:Q:43:GLN:HE21	16:Q:45:ARG:NH2	2.17	0.41
13:T:203:ALA:HA	13:T:263:LEU:HD13	2.02	0.41
13:T:358:HIS:HB3	13:T:433:HIS:CE1	2.55	0.41
13:T:432:HIS:HE1	13:T:434:HIS:HB2	1.83	0.41
1:1:242:GLY:HA2	1:1:268:MET:O	2.19	0.41
1:1:50:PRO:HB2	1:1:126:ARG:CZ	2.51	0.41
3:3:28:TYR:CE2	3:3:96:LEU:HD11	2.55	0.41
4:4:225:PRO:HG2	4:4:228:VAL:HB	2.03	0.41
7:9:143:THR:O	7:9:147:ARG:HG3	2.19	0.41
1:B:356:CYS:N	17:B:501:SF4:S3	2.74	0.41
4:E:99:LEU:HD23	4:E:102:GLU:OE1	2.21	0.41
5:F:65:PRO:HD2	5:F:93:TYR:CE2	2.54	0.41
12:K:95:GLY:HA2	15:N:256:ARG:NE	2.35	0.41
13:L:79:ILE:HD11	13:L:323:PHE:HD1	1.85	0.41
14:M:116:LEU:HB2	14:M:175:PHE:CG	2.56	0.41
12:K:59:MET:CB	15:N:105:LEU:HD21	2.51	0.41
10:P:4:ILE:O	10:P:8:VAL:HG23	2.21	0.41
11:R:5:GLU:O	11:R:9:LEU:HG	2.20	0.41
12:S:2:SER:HA	12:S:5:LEU:HD12	2.02	0.41
14:U:126:LEU:O	14:U:126:LEU:HD13	2.19	0.41
14:U:159:MET:HG3	14:U:197:PHE:CE1	2.56	0.41
14:U:55:LEU:HG	14:U:56:LEU:HD13	2.02	0.41
3:3:52:ILE:HA	3:3:92:VAL:O	2.20	0.41
4:4:86:ASP:HB3	4:4:93:HIS:CD2	2.55	0.41
4:4:379:GLN:OE1	5:5:112:ASN:HB3	2.20	0.41
6:6:163:TYR:CD1	7:9:152:ARG:HD2	2.55	0.41
1:B:201:LEU:O	1:B:204:PRO:HD2	2.20	0.41
5:F:78:PRO:HG3	5:F:85:GLY:HA2	2.02	0.41
5:F:6:VAL:HG11	5:F:88:PHE:CZ	2.55	0.41
4:4:391:PRO:HG3	16:H:227:GLU:OE2	2.20	0.41
8:I:20:MET:HG2	8:I:115:PHE:HZ	1.82	0.41
14:M:242:PHE:CZ	14:M:461:PHE:HD2	2.39	0.41
15:N:108:LEU:HB2	15:N:147:PHE:HE2	1.84	0.41
15:N:280:ALA:HA	15:N:347:LEU:HD13	2.01	0.41
12:S:15:VAL:O	12:S:19:LEU:HG	2.19	0.41
12:S:25:ILE:HG13	12:S:25:ILE:H	1.63	0.41
10:P:69:ILE:HD11	12:S:69:ALA:HB2	2.02	0.41
13:T:294:ILE:HG21	13:T:420:TRP:HD1	1.85	0.41
14:U:67:LEU:HA	14:U:71:SER:HB2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:29:LEU:CD2	1:1:155:ARG:HD2	2.48	0.41
1:1:241:MET:SD	1:1:249:MET:HB3	2.61	0.41
2:2:83:CYS:SG	2:2:124:CYS:HA	2.60	0.41
3:3:327:LEU:HA	3:3:327:LEU:HD23	1.80	0.41
3:3:50:VAL:HG22	3:3:82:SER:HB3	2.02	0.41
4:4:259:THR:OG1	4:4:296:ARG:NH1	2.53	0.41
6:6:143:ARG:HG3	6:6:144:PRO:HD2	2.02	0.41
4:4:169:HIS:NE2	6:6:45:CYS:SG	2.91	0.41
7:9:4:LYS:O	7:9:8:GLN:HG3	2.21	0.41
10:A:48:ASN:OD1	10:A:49:ASP:HB2	2.20	0.41
4:E:350:ARG:O	4:E:373:PRO:HB2	2.21	0.41
4:E:41:LEU:HD13	4:E:59:ILE:HG22	2.03	0.41
6:G:21:PHE:O	6:G:25:GLU:HG2	2.20	0.41
16:H:138:LEU:HA	16:H:138:LEU:HD23	1.90	0.41
16:H:314:PHE:HB2	16:H:315:PRO:HD3	2.01	0.41
13:L:30:GLY:HA3	13:L:92:ILE:HG12	2.02	0.41
13:L:557:ASP:CG	14:M:211:HIS:HE2	2.15	0.41
1:1:357:THR:N	1:1:358:PRO:HD2	2.35	0.41
5:5:112:ASN:HA	5:5:129:HIS:NE2	2.36	0.41
5:5:145:PRO:HA	5:5:150:TYR:CG	2.56	0.41
6:6:90:PRO:HB2	6:6:94:ARG:NH1	2.35	0.41
7:9:149:GLU:O	7:9:153:THR:CB	2.68	0.41
1:B:293:GLY:HA3	1:B:324:GLY:H	1.85	0.41
4:E:217:ARG:HH21	4:E:392:ASP:CG	2.24	0.41
13:L:128:PHE:CE1	13:L:166:ASP:HB3	2.55	0.41
13:L:266:VAL:O	13:L:270:ILE:HG13	2.20	0.41
13:L:376:LEU:HB3	13:L:379:LEU:HD12	2.03	0.41
13:L:578:LEU:HD13	15:N:243:VAL:HA	2.02	0.41
13:L:598:LEU:HA	13:L:598:LEU:HD23	1.85	0.41
14:M:215:PRO:CG	14:M:216:PRO:HD3	2.51	0.41
7:O:59:CYS:HB2	7:O:104:CYS:CB	2.51	0.41
10:P:6:GLU:HB3	16:Q:118:LEU:HD23	2.02	0.41
16:Q:259:ILE:HB	16:Q:260:PRO:HD3	2.02	0.41
16:Q:267:TRP:CD1	16:Q:275:PRO:HA	2.55	0.41
13:T:383:TRP:HD1	13:T:457:GLY:HA2	1.85	0.41
13:T:564:TYR:HA	13:T:567:LEU:HD12	2.03	0.41
14:U:103:GLU:O	14:U:107:LEU:HG	2.20	0.41
3:3:309:PRO:HG2	3:3:320:ALA:O	2.21	0.41
4:4:172:TYR:OH	4:4:180:GLU:O	2.27	0.41
8:7:23:TYR:CZ	8:7:27:LYS:HG3	2.56	0.41
2:C:45:ARG:O	2:C:49:ILE:HG13	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:115:THR:O	4:E:118:VAL:HG22	2.21	0.41
4:E:257:TYR:HA	4:E:260:TYR:CD1	2.56	0.41
4:E:339:LYS:HA	4:E:359:SER:O	2.20	0.41
4:E:103:LYS:NZ	5:F:22:LEU:O	2.26	0.41
6:G:130:VAL:HG13	9:X:120:PRO:O	2.21	0.41
6:G:31:GLY:O	6:G:35:SER:HB3	2.20	0.41
16:H:103:GLY:O	16:H:113:PRO:HG2	2.20	0.41
13:L:573:SER:O	13:L:576:GLN:HG2	2.20	0.41
14:M:381:LEU:HB2	14:M:396:PHE:CZ	2.55	0.41
15:N:2:THR:OG1	15:N:39:SER:OG	2.32	0.41
7:O:40:ARG:NH1	7:O:41:HIS:O	2.54	0.41
6:G:91:VAL:HG13	10:P:46:SER:OG	2.20	0.41
10:P:51:ALA:HB1	16:Q:146:LYS:HB2	2.03	0.41
16:Q:40:ALA:O	16:Q:43:GLN:O	2.39	0.41
11:R:64:VAL:HG13	16:Q:134:TYR:OH	2.20	0.41
13:T:163:ARG:NH2	14:U:366:VAL:O	2.54	0.41
13:T:592:LEU:HB3	15:V:194:PHE:CZ	2.56	0.41
3:3:503:PRO:HG3	3:3:528:LYS:HD3	2.03	0.41
4:4:154:GLU:OE1	6:6:57:ARG:HD3	2.21	0.41
7:9:126:TYR:HB3	9:W:39:ASP:CG	2.41	0.41
4:4:207:LEU:HD21	7:9:12:ILE:HD11	2.03	0.41
1:B:41:ALA:HB2	1:B:116:GLU:HG3	2.03	0.41
3:D:29:ASP:HB2	3:D:137:TYR:OH	2.21	0.41
3:D:347:HIS:HB2	3:D:538:ALA:HB1	2.03	0.41
3:D:34:CYS:HB3	3:D:45:CYS:H	1.86	0.41
3:D:322:TRP:NE1	3:D:633:GLU:O	2.53	0.41
3:D:681:LYS:HB3	3:D:681:LYS:HE3	1.89	0.41
16:H:119:ASP:OD1	16:H:120:LEU:HG	2.21	0.41
16:H:158:SER:HB2	16:H:305:LEU:HD21	2.02	0.41
8:I:61:ASP:HB2	8:I:129:ALA:OXT	2.19	0.41
8:I:86:LEU:HB3	8:I:126:LEU:HD11	2.03	0.41
13:L:409:VAL:O	13:L:413:THR:HG23	2.20	0.41
14:M:331:ARG:HD2	14:M:331:ARG:HA	1.72	0.41
14:M:332:LEU:HA	14:M:335:ARG:HG2	2.01	0.41
7:O:53:CYS:SG	7:O:88:ALA:HB2	2.60	0.41
10:P:7:TYR:CD2	11:R:44:VAL:HG11	2.55	0.41
16:Q:177:VAL:HG22	16:Q:188:TRP:CG	2.56	0.41
13:T:143:GLY:HA2	13:T:151:TYR:O	2.21	0.41
13:T:214:VAL:HG22	13:T:219:GLN:HB2	2.03	0.41
15:V:176:LEU:HD23	15:V:176:LEU:HA	1.94	0.41
15:V:246:LEU:HD23	15:V:246:LEU:HA	1.75	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:X:106:PRO:HA	9:X:107:PRO:HD3	1.95	0.41
4:4:287:VAL:O	4:4:291:LYS:HG3	2.20	0.41
4:4:73:ARG:NH2	4:4:81:TYR:OH	2.54	0.41
6:6:41:PHE:CZ	6:6:88:MET:HE3	2.55	0.41
7:9:16:TYR:HA	7:9:19:SER:HB3	2.03	0.41
3:D:101:ARG:HH12	3:D:140:TYR:HD1	1.69	0.41
3:D:183:HIS:NE2	3:D:209:THR:O	2.49	0.41
3:D:450:LEU:HD13	3:D:458:LEU:HB2	2.01	0.41
3:D:697:THR:HG21	3:D:761:SER:OG	2.20	0.41
4:E:162:TRP:NE1	7:O:34:LYS:HD2	2.34	0.41
4:E:381:LEU:HB3	4:E:382:PRO:HD3	2.02	0.41
6:G:105:VAL:O	6:G:134:ASP:HB2	2.21	0.41
6:G:148:ILE:O	6:G:152:MET:HG3	2.20	0.41
14:M:265:ALA:HA	14:M:395:ALA:HB2	2.01	0.41
14:M:310:GLY:HA2	14:M:376:GLY:HA2	2.01	0.41
12:K:18:VAL:HG11	15:N:142:LEU:HD13	2.02	0.41
6:G:57:ARG:O	7:O:24:VAL:HG22	2.20	0.41
13:T:168:GLY:O	13:T:208:LEU:HB3	2.21	0.41
13:T:202:LEU:HA	13:T:202:LEU:HD12	1.83	0.41
14:U:127:ILE:O	14:U:130:LEU:HG	2.21	0.41
14:U:265:ALA:CB	14:U:394:LEU:HD23	2.51	0.41
15:V:59:SER:OG	15:V:100:SER:OG	2.07	0.41
1:1:297:THR:HG22	1:1:322:MET:HG3	2.01	0.41
2:2:101:THR:HG23	2:2:106:ILE:O	2.21	0.41
4:4:47:LEU:HD21	4:4:390:VAL:HG22	2.03	0.41
8:7:84:LEU:HB2	8:7:93:LEU:HB2	2.02	0.41
1:B:254:ILE:HG13	1:B:328:VAL:HB	2.03	0.41
1:B:38:TYR:CE2	1:B:112:HIS:HB3	2.56	0.41
16:H:8:ASP:OD2	16:H:111:TYR:HB3	2.21	0.41
16:H:140:GLY:O	16:H:149:LEU:HG	2.21	0.41
16:H:218:PRO:HB3	16:H:305:LEU:HD13	2.02	0.41
13:L:316:TRP:CD2	13:L:470:GLU:HB2	2.56	0.41
16:Q:108:PHE:HB2	16:Q:113:PRO:HA	2.02	0.41
16:Q:28:PHE:O	16:Q:32:THR:HG23	2.21	0.41
16:Q:314:PHE:HB2	16:Q:315:PRO:HD3	2.03	0.41
16:Q:83:VAL:O	16:Q:86:PRO:HD2	2.20	0.41
13:T:151:TYR:HB3	13:T:231:ALA:HB1	2.02	0.41
15:V:10:SER:HB3	15:V:90:TYR:HE1	1.85	0.41
15:V:259:ALA:O	15:V:263:ILE:HG13	2.21	0.41
3:3:507:LEU:HD13	3:3:511:VAL:HG11	2.03	0.40
3:3:719:HIS:CD2	3:3:755:LYS:HG2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:40:THR:OG1	1:B:232:GLU:HB2	2.21	0.40
2:C:46:ILE:HG23	2:C:60:VAL:HG12	2.03	0.40
3:D:42:ILE:HD12	3:D:42:ILE:C	2.39	0.40
3:D:470:PRO:HD3	3:D:759:TYR:OH	2.20	0.40
3:D:48:CYS:SG	3:D:82:SER:N	2.94	0.40
4:E:177:GLY:HA3	4:E:302:VAL:O	2.20	0.40
8:I:13:TRP:HE3	8:I:82:ILE:HD12	1.86	0.40
10:A:56:ARG:HD3	11:J:74:LEU:HA	2.02	0.40
13:L:166:ASP:O	13:L:170:MET:HG3	2.21	0.40
14:M:350:SER:OG	14:M:421:GLY:HA2	2.22	0.40
14:M:402:SER:HG	14:M:403:ALA:H	1.69	0.40
14:M:68:ASP:N	14:M:71:SER:HB2	2.35	0.40
15:N:253:GLU:HG3	15:N:306:ARG:HD3	2.02	0.40
15:N:316:TYR:HB2	15:N:382:VAL:HG12	2.02	0.40
12:S:28:PHE:CZ	12:S:68:VAL:HA	2.56	0.40
11:R:115:PHE:CD1	12:S:48:ALA:HB2	2.56	0.40
13:T:162:ASN:ND2	13:T:166:ASP:OD2	2.54	0.40
14:U:425:LEU:HD22	14:U:430:TRP:CE2	2.56	0.40
15:V:140:GLY:HA2	15:V:185:PHE:CE2	2.55	0.40
15:V:74:VAL:HG23	15:V:88:VAL:HG11	2.03	0.40
1:1:273:ARG:HH22	1:1:304:GLU:CD	2.24	0.40
4:4:400:LEU:HA	4:4:400:LEU:HD23	1.87	0.40
10:A:7:TYR:HD1	10:A:7:TYR:N	2.19	0.40
1:B:242:GLY:HA2	1:B:268:MET:O	2.20	0.40
1:B:436:LEU:HD23	2:C:90:LEU:HA	2.03	0.40
3:D:31:PRO:HG3	3:D:137:TYR:CD2	2.57	0.40
6:G:19:ILE:HG12	6:G:20:LEU:N	2.36	0.40
16:H:260:PRO:HA	16:H:264:LEU:HB2	2.02	0.40
12:K:7:SER:O	12:K:37:ALA:HB1	2.21	0.40
15:N:154:PHE:O	15:N:158:THR:HG22	2.21	0.40
11:R:59:TYR:O	11:R:64:VAL:HG12	2.22	0.40
11:R:61:GLY:O	11:R:65:VAL:HG21	2.22	0.40
15:V:62:PHE:CG	15:V:221:ALA:HB2	2.56	0.40
1:1:157:TYR:O	1:1:158:LEU:HD23	2.20	0.40
6:6:105:VAL:O	6:6:134:ASP:HB2	2.21	0.40
6:6:177:LYS:HB2	6:6:177:LYS:HE3	1.75	0.40
8:7:108:ILE:HD12	8:7:108:ILE:N	2.36	0.40
7:9:53:CYS:SG	7:9:88:ALA:HB2	2.61	0.40
3:D:166:LYS:HB3	3:D:167:HIS:CD2	2.57	0.40
3:D:585:MET:HB3	3:D:587:LEU:HD13	2.02	0.40
4:E:83:PRO:HB2	4:E:169:HIS:HA	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:104:TRP:NE1	6:G:173:VAL:HG22	2.37	0.40
6:G:74:GLN:NE2	16:Q:241:TRP:CD1	2.89	0.40
16:H:114:TRP:NE1	16:H:117:ASN:HB2	2.36	0.40
16:H:222:PRO:HD2	16:H:230:GLY:HA2	2.03	0.40
16:H:274:VAL:CG1	16:H:277:LEU:HB2	2.50	0.40
8:I:31:PHE:HB2	8:I:59:LEU:HD23	2.04	0.40
13:L:365:HIS:CE1	13:L:443:LEU:HG	2.56	0.40
13:L:90:TYR:CE2	13:L:334:LEU:HB3	2.56	0.40
14:M:64:ALA:HB1	14:M:113:ARG:HB3	2.02	0.40
14:M:132:MET:SD	14:M:227:ALA:HA	2.60	0.40
16:Q:165:GLY:HA3	16:Q:314:PHE:CE1	2.56	0.40
13:T:166:ASP:O	13:T:170:MET:HG3	2.21	0.40
1:1:86:GLN:HE22	1:1:129:VAL:HG23	1.87	0.40
4:4:197:LEU:N	4:4:198:PRO:HD2	2.36	0.40
6:6:69:ARG:HD2	16:H:241:TRP:HZ2	1.86	0.40
7:9:155:LYS:HD2	7:9:155:LYS:HA	1.85	0.40
10:A:40:LYS:HB2	10:A:40:LYS:HE3	1.83	0.40
1:B:380:GLU:N	1:B:383:ASP:OD2	2.52	0.40
2:C:112:THR:HG23	2:C:115:GLY:H	1.87	0.40
2:C:162:ARG:NH2	2:C:165:GLU:OE2	2.55	0.40
3:D:297:GLY:O	3:D:300:TRP:NE1	2.54	0.40
3:D:586:HIS:NE2	3:D:640:VAL:HG21	2.36	0.40
4:E:43:LEU:HD13	4:E:55:VAL:HG11	2.02	0.40
6:G:96:TRP:HZ2	6:G:175:ALA:HB1	1.86	0.40
16:H:127:ALA:O	16:H:131:LEU:HG	2.21	0.40
16:H:301:ARG:O	16:H:302:TYR:CD1	2.74	0.40
13:L:469:LEU:HD12	13:L:469:LEU:HA	1.81	0.40
13:L:582:GLN:HG2	15:N:194:PHE:HD1	1.86	0.40
11:R:19:VAL:HG23	11:R:28:ALA:O	2.21	0.40
14:U:454:LEU:HD23	14:U:454:LEU:HA	1.84	0.40
9:X:90:TYR:HB3	9:X:118:ALA:HB1	2.02	0.40
2:2:27:ILE:HG23	2:2:49:ILE:HG21	2.04	0.40
4:4:302:VAL:HG23	4:4:303:ARG:HG2	2.04	0.40
10:A:4:ILE:O	10:A:8:VAL:HG23	2.22	0.40
1:B:152:ALA:O	1:B:157:TYR:N	2.53	0.40
1:B:241:MET:SD	1:B:249:MET:HB3	2.61	0.40
3:D:648:LEU:HD23	3:D:648:LEU:HA	1.86	0.40
4:E:197:LEU:HA	4:E:197:LEU:HD23	1.88	0.40
4:E:212:PRO:HG2	4:E:213:ILE:HD12	2.02	0.40
6:G:171:PRO:HG3	6:G:177:LYS:HE2	2.03	0.40
6:G:26:LYS:HD3	6:G:26:LYS:HA	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:H:143:SER:HB2	16:H:235:GLU:HG3	2.04	0.40
11:J:72:MET:CE	16:H:153:LEU:HD21	2.52	0.40
16:H:16:LYS:HE3	16:H:16:LYS:HB2	1.84	0.40
16:H:67:ILE:HG13	16:H:68:PHE:HD1	1.86	0.40
13:L:316:TRP:HB2	13:L:473:LEU:HD12	2.04	0.40
13:L:477:LEU:HD12	13:L:477:LEU:HA	1.77	0.40
16:Q:155:SER:HA	16:Q:221:LEU:O	2.22	0.40
16:Q:340:LEU:HA	16:Q:340:LEU:HD23	1.97	0.40
16:Q:342:ALA:O	16:Q:346:LEU:HG	2.22	0.40
16:Q:90:VAL:HA	16:Q:247:ALA:HB2	2.03	0.40
13:T:469:LEU:HD12	13:T:469:LEU:HA	1.85	0.40
14:U:37:LEU:O	14:U:41:LEU:HG	2.22	0.40
9:W:3:ARG:NH1	9:W:103:LEU:O	2.54	0.40
9:W:91:GLU:OE1	9:W:126:TYR:OH	2.26	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	1	435/438 (99%)	413 (95%)	22 (5%)	0	100	100
1	B	435/438 (99%)	410 (94%)	25 (6%)	0	100	100
2	2	176/181 (97%)	168 (96%)	8 (4%)	0	100	100
2	C	176/181 (97%)	167 (95%)	9 (5%)	0	100	100
3	3	750/783 (96%)	708 (94%)	42 (6%)	0	100	100
3	D	750/783 (96%)	710 (95%)	40 (5%)	0	100	100
4	4	382/409 (93%)	361 (94%)	21 (6%)	0	100	100
4	E	382/409 (93%)	362 (95%)	20 (5%)	0	100	100
5	5	194/207 (94%)	185 (95%)	9 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	F	194/207 (94%)	186 (96%)	8 (4%)	0	100	100
6	6	164/181 (91%)	152 (93%)	12 (7%)	0	100	100
6	G	164/181 (91%)	150 (92%)	14 (8%)	0	100	100
7	9	178/182 (98%)	169 (95%)	9 (5%)	0	100	100
7	O	178/182 (98%)	171 (96%)	7 (4%)	0	100	100
8	7	125/129 (97%)	118 (94%)	7 (6%)	0	100	100
8	I	125/129 (97%)	119 (95%)	6 (5%)	0	100	100
9	W	125/131 (95%)	122 (98%)	3 (2%)	0	100	100
9	X	125/131 (95%)	121 (97%)	4 (3%)	0	100	100
10	A	115/119 (97%)	105 (91%)	10 (9%)	0	100	100
10	P	115/119 (97%)	106 (92%)	9 (8%)	0	100	100
11	J	158/176 (90%)	148 (94%)	10 (6%)	0	100	100
11	R	158/176 (90%)	150 (95%)	8 (5%)	0	100	100
12	K	93/95 (98%)	89 (96%)	4 (4%)	0	100	100
12	S	93/95 (98%)	88 (95%)	5 (5%)	0	100	100
13	L	603/606 (100%)	567 (94%)	34 (6%)	2 (0%)	41	73
13	T	603/606 (100%)	574 (95%)	27 (4%)	2 (0%)	41	73
14	M	465/469 (99%)	440 (95%)	25 (5%)	0	100	100
14	U	465/469 (99%)	447 (96%)	18 (4%)	0	100	100
15	N	425/427 (100%)	409 (96%)	16 (4%)	0	100	100
15	V	425/427 (100%)	407 (96%)	18 (4%)	0	100	100
16	H	351/365 (96%)	312 (89%)	33 (9%)	6 (2%)	9	36
16	Q	351/365 (96%)	308 (88%)	38 (11%)	5 (1%)	11	40
All	All	9478/9796 (97%)	8942 (94%)	521 (6%)	15 (0%)	47	79

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
16	H	51	VAL
16	H	44	VAL
16	H	50	ARG
16	Q	44	VAL
13	L	435	PRO
16	H	218	PRO

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Mol	Chain	Res	Type
13	T	435	PRO
16	Q	268	THR
16	H	268	THR
16	H	333	PRO
13	T	21	GLY
16	Q	218	PRO
13	L	21	GLY
16	Q	333	PRO
16	Q	53	PRO

### 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	1	355/356 (100%)	344 (97%)	11 (3%)	40	70
1	B	355/356 (100%)	344 (97%)	11 (3%)	40	70
2	2	150/152 (99%)	144 (96%)	6 (4%)	31	65
2	C	150/152 (99%)	144 (96%)	6 (4%)	31	65
3	3	609/628 (97%)	599 (98%)	10 (2%)	62	84
3	D	609/628 (97%)	602 (99%)	7 (1%)	73	89
4	4	332/355 (94%)	328 (99%)	4 (1%)	71	88
4	E	332/355 (94%)	326 (98%)	6 (2%)	59	82
5	5	167/175 (95%)	165 (99%)	2 (1%)	71	88
5	F	167/175 (95%)	165 (99%)	2 (1%)	71	88
6	6	135/149 (91%)	125 (93%)	10 (7%)	13	42
6	G	135/149 (91%)	128 (95%)	7 (5%)	23	55
7	9	148/150 (99%)	146 (99%)	2 (1%)	67	86
7	O	148/150 (99%)	146 (99%)	2 (1%)	67	86
8	7	104/106 (98%)	103 (99%)	1 (1%)	76	90
8	I	104/106 (98%)	103 (99%)	1 (1%)	76	90
9	W	99/101 (98%)	97 (98%)	2 (2%)	55	80

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	X	99/101 (98%)	98 (99%)	1 (1%)	76	90
10	A	90/92 (98%)	87 (97%)	3 (3%)	38	69
10	P	90/92 (98%)	88 (98%)	2 (2%)	52	78
11	J	118/130 (91%)	115 (98%)	3 (2%)	47	75
11	R	118/130 (91%)	116 (98%)	2 (2%)	60	83
12	K	71/71 (100%)	69 (97%)	2 (3%)	43	73
12	S	71/71 (100%)	70 (99%)	1 (1%)	67	86
13	L	453/454 (100%)	445 (98%)	8 (2%)	59	82
13	T	453/454 (100%)	444 (98%)	9 (2%)	55	80
14	M	332/332 (100%)	325 (98%)	7 (2%)	53	79
14	U	332/332 (100%)	326 (98%)	6 (2%)	59	82
15	N	302/302 (100%)	298 (99%)	4 (1%)	69	87
15	V	302/302 (100%)	298 (99%)	4 (1%)	69	87
16	H	293/300 (98%)	283 (97%)	10 (3%)	37	69
16	Q	293/300 (98%)	287 (98%)	6 (2%)	55	80
All	All	7516/7706 (98%)	7358 (98%)	158 (2%)	53	79

All (158) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1	81	LYS
1	1	249	MET
1	1	337	MET
1	1	342	TRP
1	1	353	CYS
1	1	355	LYS
1	1	359	CYS
1	1	366	PHE
1	1	397	ARG
1	1	437	TRP
1	1	438	ARG
2	2	7	LYS
2	2	33	ARG
2	2	35	GLN
2	2	45	ARG
2	2	116	LEU
2	2	147	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	3	3	ARG
3	3	83	CYS
3	3	123	ASP
3	3	132	ASP
3	3	259	CYS
3	3	337	ARG
3	3	651	ARG
3	3	655	ARG
3	3	761	SER
3	3	774	ARG
4	4	132	PHE
4	4	143	LEU
4	4	208	PHE
4	4	262	PHE
5	5	31	ARG
5	5	147	ARG
6	6	37	TRP
6	6	45	CYS
6	6	55	ASP
6	6	68	PHE
6	6	83	ARG
6	6	101	ASP
6	6	120	ASN
6	6	156	LYS
6	6	176	TRP
6	6	177	LYS
7	9	38	HIS
7	9	104	CYS
8	7	43	ARG
9	W	37	TRP
9	W	43	GLN
10	A	13	TYR
10	A	48	ASN
10	A	49	ASP
11	J	32	LEU
11	J	59	TYR
11	J	118	ASP
12	K	28	PHE
12	K	82	ARG
13	L	10	PRO
13	L	59	TRP
13	L	146	TYR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
13	L	169	PHE
13	L	286	PHE
13	L	506	TRP
13	L	511	PHE
13	L	554	PHE
14	M	22	ARG
14	M	135	LEU
14	M	151	PHE
14	M	241	PHE
14	M	255	GLN
14	M	326	PHE
14	M	455	HIS
15	N	50	PHE
15	N	125	ARG
15	N	126	ARG
15	N	284	TYR
16	H	28	PHE
16	H	54	PHE
16	H	134	TYR
16	H	147	TYR
16	H	149	LEU
16	H	245	GLN
16	H	249	TYR
16	H	302	TYR
16	H	307	ARG
16	H	354	TYR
1	B	81	LYS
1	B	249	MET
1	B	337	MET
1	B	342	TRP
1	B	353	CYS
1	B	355	LYS
1	B	366	PHE
1	B	397	ARG
1	B	400	CYS
1	B	437	TRP
1	B	438	ARG
2	C	7	LYS
2	C	33	ARG
2	C	35	GLN
2	C	45	ARG
2	C	116	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	C	147	ARG
3	D	3	ARG
3	D	123	ASP
3	D	259	CYS
3	D	337	ARG
3	D	651	ARG
3	D	655	ARG
3	D	774	ARG
4	E	132	PHE
4	E	143	LEU
4	E	151	ARG
4	E	152	GLU
4	E	208	PHE
4	E	262	PHE
5	F	31	ARG
5	F	147	ARG
6	G	37	TRP
6	G	45	CYS
6	G	55	ASP
6	G	68	PHE
6	G	83	ARG
6	G	120	ASN
6	G	176	TRP
7	O	38	HIS
7	O	104	CYS
8	I	43	ARG
9	X	37	TRP
10	P	13	TYR
10	P	49	ASP
11	R	32	LEU
11	R	59	TYR
12	S	28	PHE
13	T	59	TRP
13	T	169	PHE
13	T	286	PHE
13	T	329	LYS
13	T	490	GLU
13	T	506	TRP
13	T	511	PHE
13	T	554	PHE
13	T	567	LEU
14	U	22	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
14	U	115	LEU
14	U	135	LEU
14	U	234	TYR
14	U	255	GLN
14	U	455	HIS
15	V	50	PHE
15	V	125	ARG
15	V	126	ARG
15	V	284	TYR
16	Q	28	PHE
16	Q	134	TYR
16	Q	189	GLN
16	Q	302	TYR
16	Q	307	ARG
16	Q	354	TYR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (37) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1	20	HIS
1	1	35	HIS
1	1	240	GLN
3	3	104	GLN
3	3	702	HIS
3	3	709	GLN
4	4	327	HIS
5	5	112	ASN
5	5	129	HIS
6	6	120	ASN
6	6	153	GLN
12	K	81	HIS
13	L	432	HIS
15	N	277	ASN
16	H	117	ASN
16	H	183	ASN
16	H	187	ASN
16	H	304	GLN
1	B	35	HIS
1	B	240	GLN
2	C	71	GLN
3	D	104	GLN
3	D	286	ASN

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Mol	Chain	Res	Type
3	D	436	GLN
4	E	292	GLN
5	F	112	ASN
5	F	129	HIS
9	X	38	GLN
9	X	43	GLN
10	P	60	HIS
12	S	81	HIS
13	T	341	HIS
13	T	432	HIS
15	V	245	ASN
16	Q	112	GLN
16	Q	117	ASN
16	Q	304	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

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

20 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
17	SF4	3	801	3	0,12,12	0.00	-	-		
17	SF4	O	201	7	0,12,12	0.00	-	-		
19	FES	C	201	2	0,4,4	0.00	-	-		
17	SF4	3	802	3	0,12,12	0.00	-	-		
17	SF4	O	202	7	0,12,12	0.00	-	-		
18	FMN	1	502	-	31,33,33	1.60	4 (12%)	40,50,50	1.74	6 (15%)
19	FES	D	804	3	0,4,4	0.00	-	-		
17	SF4	B	501	1	0,12,12	0.00	-	-		
17	SF4	3	803	3	0,12,12	0.00	-	-		
17	SF4	6	201	6	0,12,12	0.00	-	-		
17	SF4	9	201	7	0,12,12	0.00	-	-		
17	SF4	D	803	3	0,12,12	0.00	-	-		
17	SF4	1	501	1	0,12,12	0.00	-	-		
17	SF4	G	201	6	0,12,12	0.00	-	-		
19	FES	2	201	2	0,4,4	0.00	-	-		
17	SF4	D	801	3	0,12,12	0.00	-	-		
19	FES	3	804	3	0,4,4	0.00	-	-		
17	SF4	9	202	7	0,12,12	0.00	-	-		
17	SF4	D	802	3	0,12,12	0.00	-	-		
18	FMN	B	502	-	31,33,33	1.46	4 (12%)	40,50,50	1.60	6 (15%)

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
17	SF4	3	801	3	-	-	0/6/5/5
17	SF4	O	201	7	-	-	0/6/5/5
19	FES	C	201	2	-	-	0/1/1/1
17	SF4	3	802	3	-	-	0/6/5/5
17	SF4	O	202	7	-	-	0/6/5/5
18	FMN	1	502	-	-	7/18/18/18	0/3/3/3
19	FES	D	804	3	-	-	0/1/1/1
17	SF4	B	501	1	-	-	0/6/5/5
17	SF4	3	803	3	-	-	0/6/5/5
17	SF4	6	201	6	-	-	0/6/5/5
17	SF4	9	201	7	-	-	0/6/5/5
17	SF4	D	803	3	-	-	0/6/5/5
17	SF4	1	501	1	-	-	0/6/5/5
17	SF4	G	201	6	-	-	0/6/5/5
19	FES	2	201	2	-	-	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
17	SF4	D	801	3	-	-	0/6/5/5
19	FES	3	804	3	-	-	0/1/1/1
17	SF4	9	202	7	-	-	0/6/5/5
17	SF4	D	802	3	-	-	0/6/5/5
18	FMN	B	502	-	-	6/18/18/18	0/3/3/3

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
18	1	502	FMN	C10-N1	4.81	1.39	1.33
18	B	502	FMN	C10-N1	4.26	1.38	1.33
18	1	502	FMN	C4A-N5	3.78	1.38	1.33
18	B	502	FMN	C4A-N5	3.65	1.38	1.33
18	1	502	FMN	C4-N3	3.46	1.39	1.33
18	B	502	FMN	C4-N3	3.28	1.38	1.33
18	1	502	FMN	C1'-N10	3.22	1.51	1.48
18	B	502	FMN	C1'-N10	2.31	1.50	1.48

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
18	1	502	FMN	C4-N3-C2	6.72	120.82	115.14
18	B	502	FMN	C4-N3-C2	6.46	120.60	115.14
18	1	502	FMN	C5A-C9A-N10	4.26	120.80	117.72
18	1	502	FMN	C4A-N5-C5A	4.03	120.80	116.77
18	B	502	FMN	C5A-C9A-N10	3.47	120.23	117.72
18	B	502	FMN	C4A-N5-C5A	3.44	120.21	116.77
18	1	502	FMN	C1'-N10-C10	3.37	121.43	118.41
18	B	502	FMN	C4A-C4-N3	-2.69	119.75	123.43
18	1	502	FMN	C4A-C4-N3	-2.39	120.16	123.43
18	B	502	FMN	C1'-N10-C9A	2.26	120.07	118.29
18	1	502	FMN	C9A-C5A-N5	-2.05	119.16	122.36
18	B	502	FMN	O3P-P-O5'	2.00	112.07	106.73

There are no chirality outliers.

All (13) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
18	1	502	FMN	N10-C1'-C2'-O2'
18	1	502	FMN	N10-C1'-C2'-C3'
18	1	502	FMN	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
18	1	502	FMN	O4'-C4'-C5'-O5'
18	B	502	FMN	N10-C1'-C2'-O2'
18	B	502	FMN	N10-C1'-C2'-C3'
18	B	502	FMN	C1'-C2'-C3'-O3'
18	B	502	FMN	C1'-C2'-C3'-C4'
18	B	502	FMN	O2'-C2'-C3'-O3'
18	B	502	FMN	O2'-C2'-C3'-C4'
18	1	502	FMN	O2'-C2'-C3'-C4'
18	1	502	FMN	C1'-C2'-C3'-O3'
18	1	502	FMN	O2'-C2'-C3'-O3'

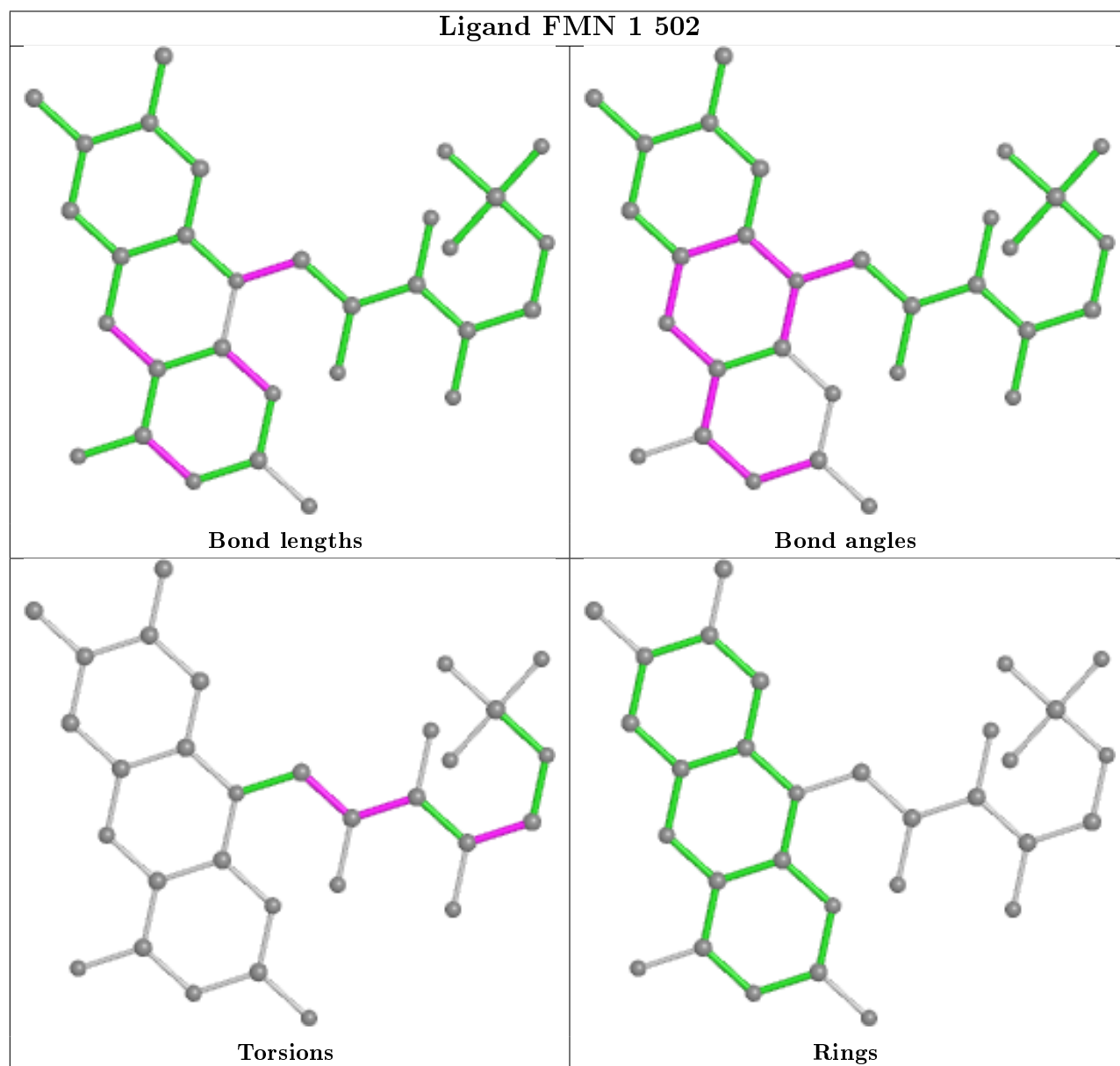
There are no ring outliers.

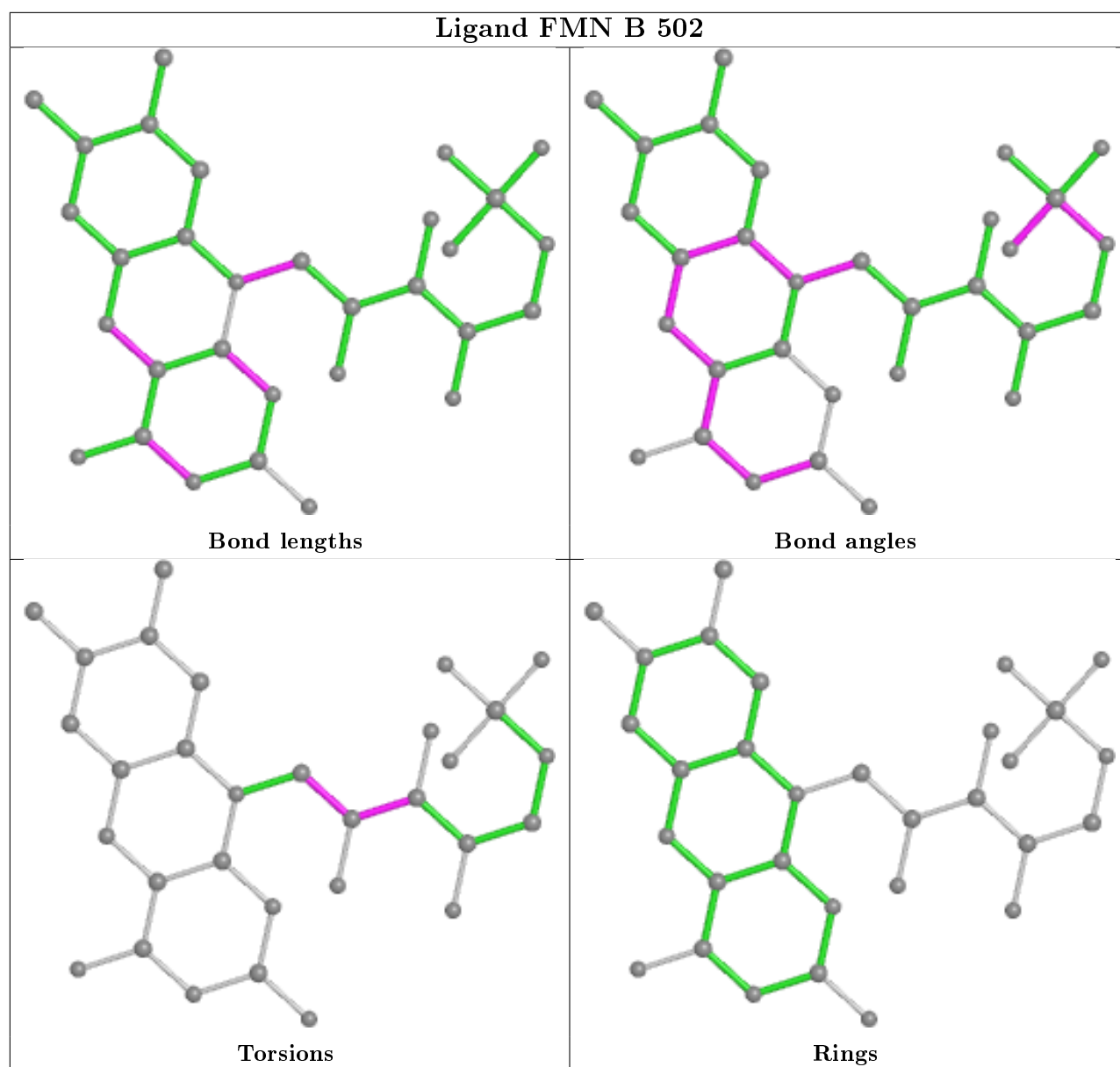
16 monomers are involved in 40 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
17	3	801	SF4	1	0
17	O	201	SF4	3	0
19	C	201	FES	2	0
17	O	202	SF4	3	0
18	1	502	FMN	3	0
17	B	501	SF4	2	0
17	3	803	SF4	1	0
17	6	201	SF4	3	0
17	9	201	SF4	3	0
17	1	501	SF4	2	0
17	G	201	SF4	3	0
19	2	201	FES	1	0
17	D	801	SF4	1	0
19	3	804	FES	2	0
17	9	202	SF4	6	0
18	B	502	FMN	4	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 [\(i\)](#)

There are no chain breaks in this entry.

## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

EDS failed to run properly - this section is therefore empty.

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

EDS failed to run properly - this section is therefore empty.

### 6.3 Carbohydrates

EDS failed to run properly - this section is therefore empty.

### 6.4 Ligands

EDS failed to run properly - this section is therefore empty.

### 6.5 Other polymers

EDS failed to run properly - this section is therefore empty.