



# Full wwPDB X-ray Structure Validation Report ⓘ

Aug 6, 2023 – 08:25 PM EDT

PDB ID : 1KYI  
Title : HslUV (H. influenzae)-NLVS Vinyl Sulfone Inhibitor Complex  
Authors : Sousa, M.C.; Kessler, B.M.; Overkleeft, H.S.; McKay, D.B.  
Deposited on : 2002-02-04  
Resolution : 3.10 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.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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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) : **NOT EXECUTED**  
EDS : **NOT EXECUTED**  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.35

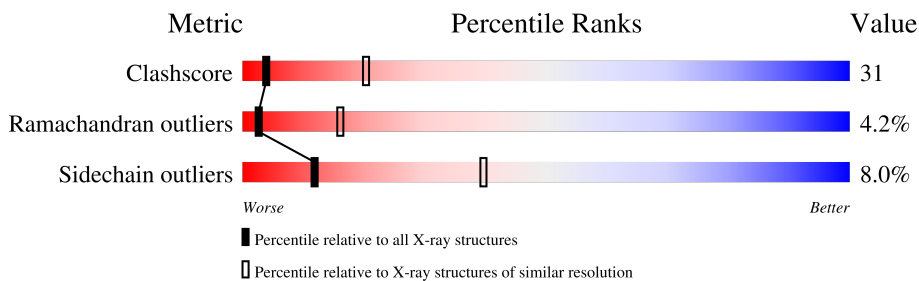
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.10 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 of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	444	41% 26% 5% • 28%
1	B	444	39% 28% 5% 28%
1	C	444	42% 27% • 28%
1	D	444	41% 27% • 28%
1	E	444	41% 25% 6% 28%
1	F	444	41% 27% • 28%
1	S	444	34% 32% • 29%
1	T	444	36% 30% 5% 29%

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Mol	Chain	Length	Quality of chain			
1	U	444	36%	31%	•	29%
1	V	444	35%	31%	5%	29%
1	W	444	37%	29%	5%	29%
1	X	444	36%	31%	•	29%
2	G	174	56%	36%	7%	•
2	H	174	57%	37%	6%	•
2	I	174	55%	37%	7%	•
2	J	174	57%	36%	6%	•
2	K	174	56%	38%	6%	•
2	L	174	55%	38%	6%	•
2	M	174	55%	38%	6%	•
2	N	174	53%	40%	6%	•
2	O	174	53%	40%	6%	•
2	P	174	51%	41%	7%	•
2	Q	174	52%	41%	7%	•
2	R	174	55%	38%	6%	••

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	LVS	J	175	-	-	X	-

## 2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 45756 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 ATP-dependent hsl protease ATP-binding subunit hslU.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	321	2488	1557	444	477	10	0	0	0
1	B	321	2488	1557	444	477	10	0	0	0
1	C	321	2488	1557	444	477	10	0	0	0
1	D	321	2488	1557	444	477	10	0	0	0
1	E	321	2488	1557	444	477	10	0	0	0
1	F	321	2488	1557	444	477	10	0	0	0
1	S	317	2469	1543	444	472	10	0	0	0
1	T	317	2469	1543	444	472	10	0	0	0
1	U	317	2469	1543	444	472	10	0	0	0
1	V	317	2469	1543	444	472	10	0	0	0
1	W	317	2469	1543	444	472	10	0	0	0
1	X	317	2469	1543	444	472	10	0	0	0

- Molecule 2 is a protein called ATP-dependent protease hslV.

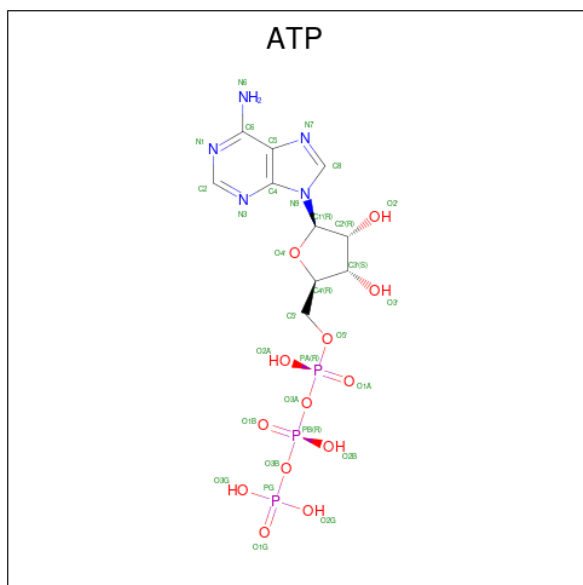
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	G	173	1290	809	228	249	4	0	0	0
2	H	173	1290	809	228	249	4	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	I	173	Total 1290	C 809	N 228	O 249	S 4	0	0	0
2	J	173	Total 1290	C 809	N 228	O 249	S 4	0	0	0
2	K	173	Total 1290	C 809	N 228	O 249	S 4	0	0	0
2	L	173	Total 1290	C 809	N 228	O 249	S 4	0	0	0
2	M	173	Total 1261	C 791	N 226	O 241	S 3	0	0	0
2	N	173	Total 1261	C 791	N 226	O 241	S 3	0	0	0
2	O	173	Total 1261	C 791	N 226	O 241	S 3	0	0	0
2	P	173	Total 1261	C 791	N 226	O 241	S 3	0	0	0
2	Q	173	Total 1261	C 791	N 226	O 241	S 3	0	0	0
2	R	173	Total 1261	C 791	N 226	O 241	S 3	0	0	0

- Molecule 3 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula:  $C_{10}H_{16}N_5O_{13}P_3$ ).



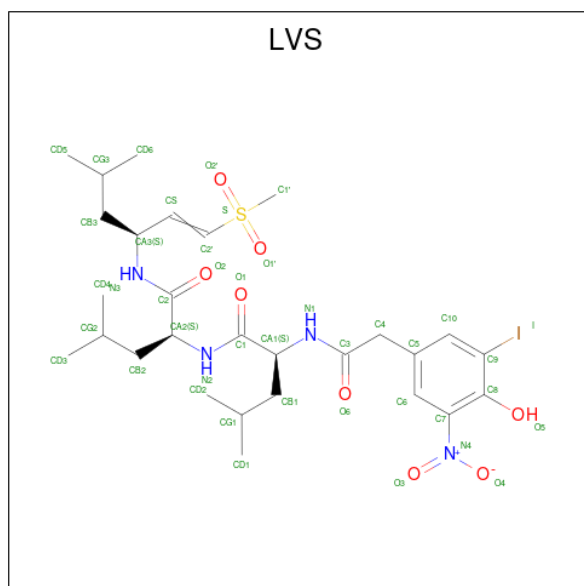
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
			Total	C	N	O			P
3	A	1	Total 31	C 10	N 5	O 13	P 3	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	B	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	C	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	D	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	E	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	F	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	S	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	T	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	U	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	V	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	W	1	Total	C	N	O	P	0	0
			31	10	5	13	3		
3	X	1	Total	C	N	O	P	0	0
			31	10	5	13	3		

- Molecule 4 is 4-IODO-3-NITROPHENYL ACETYL-LEUCINYL-LEUCINYL-LEUCINYLVINYLSULFONE (three-letter code: LVS) (formula: C<sub>28</sub>H<sub>43</sub>IN<sub>4</sub>O<sub>8</sub>S).



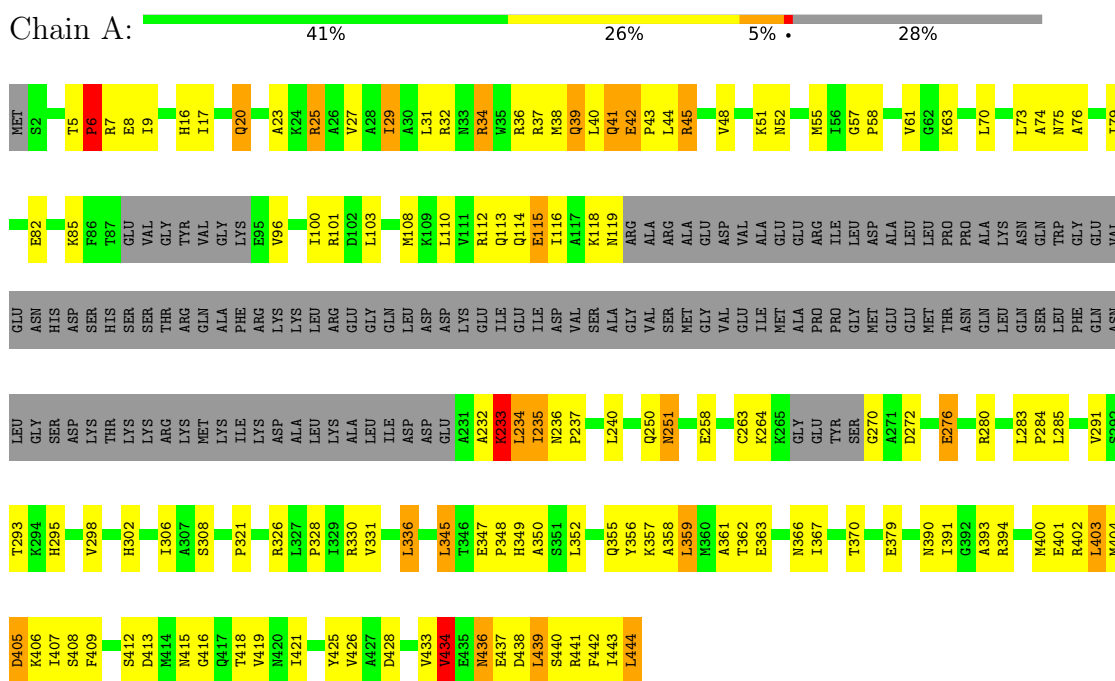
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	G	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	H	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	I	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	J	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	K	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	L	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	M	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	N	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	O	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	P	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	Q	1	Total	C	N	O	S	0	0
			28	20	3	4	1		
4	R	1	Total	C	N	O	S	0	0
			28	20	3	4	1		

### 3 Residue-property plots

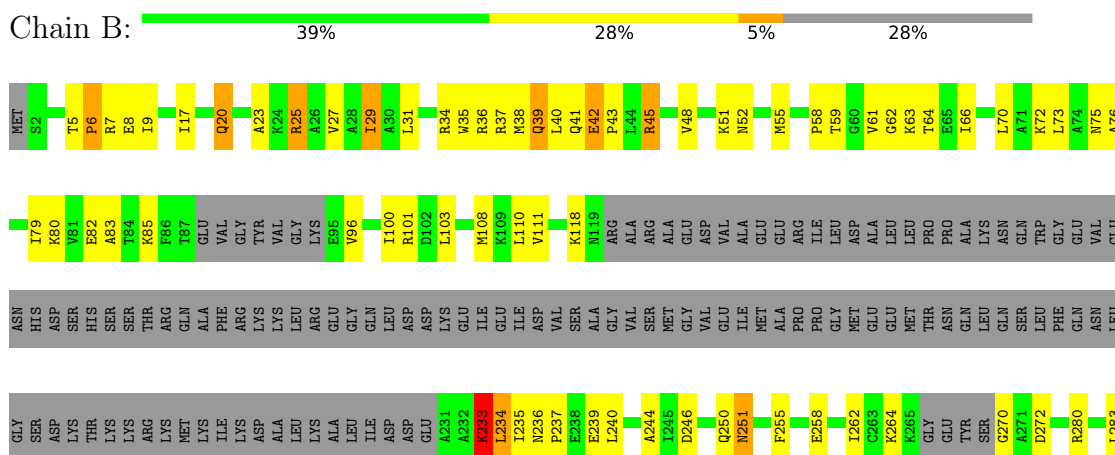
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded 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 was not executed.

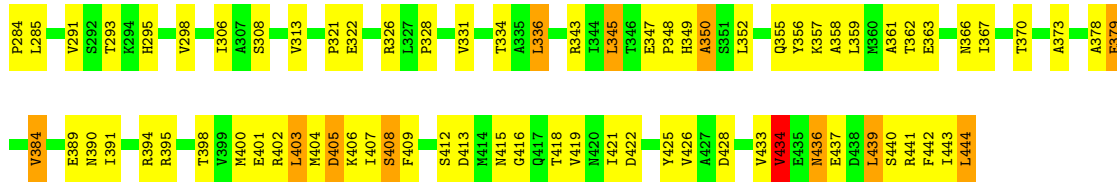
- Molecule 1: ATP-dependent hsl protease ATP-binding subunit hslU



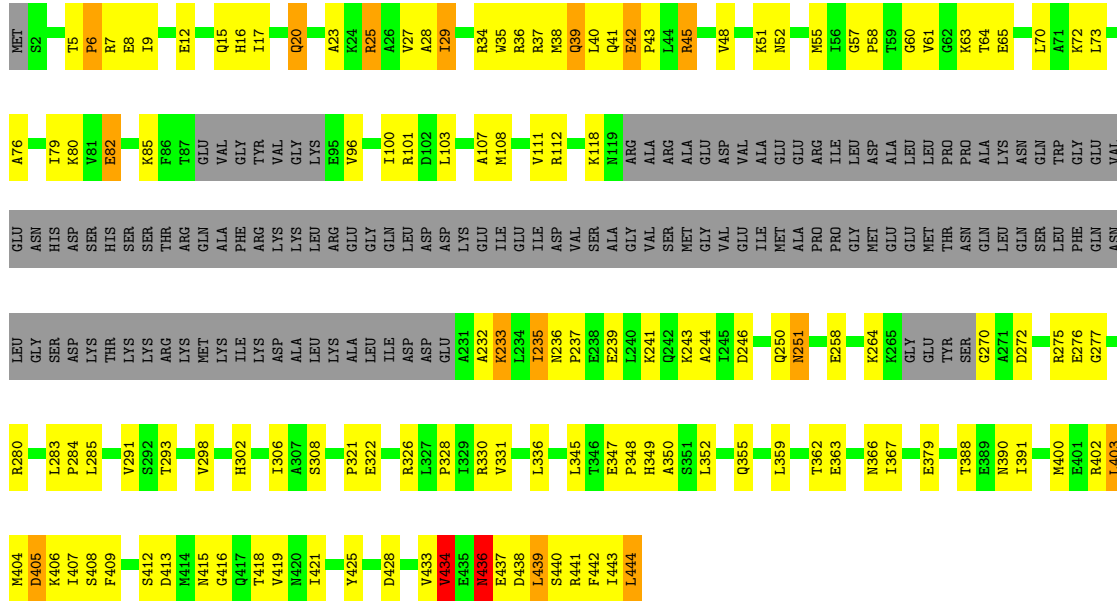
- Molecule 1: ATP-dependent hsl protease ATP-binding subunit hslU



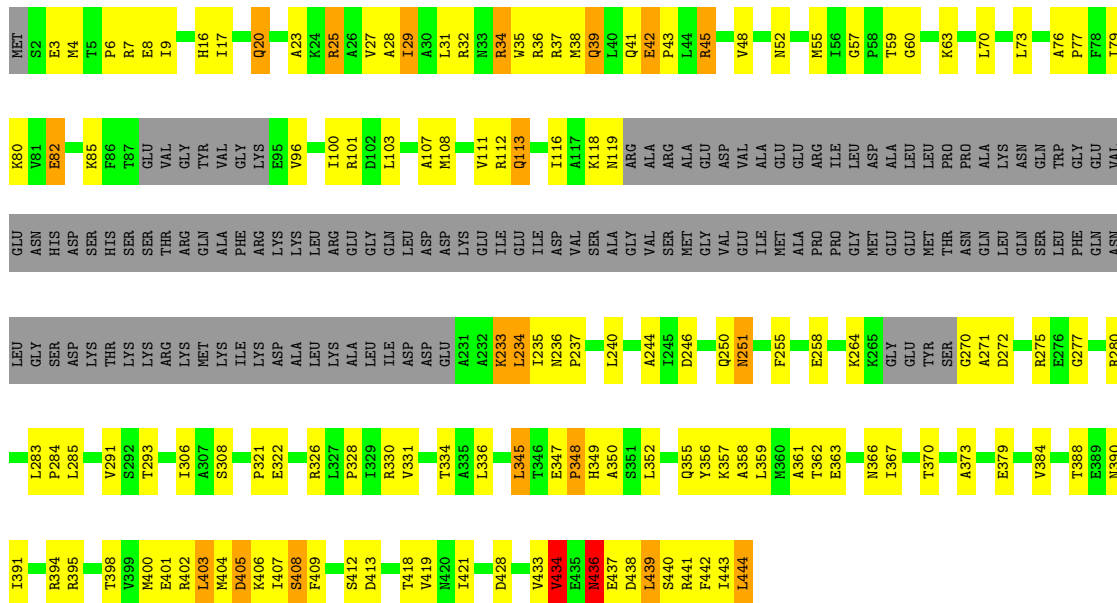




• Molecule 1: ATP-dependent hsl protease ATP-binding subunit hslU

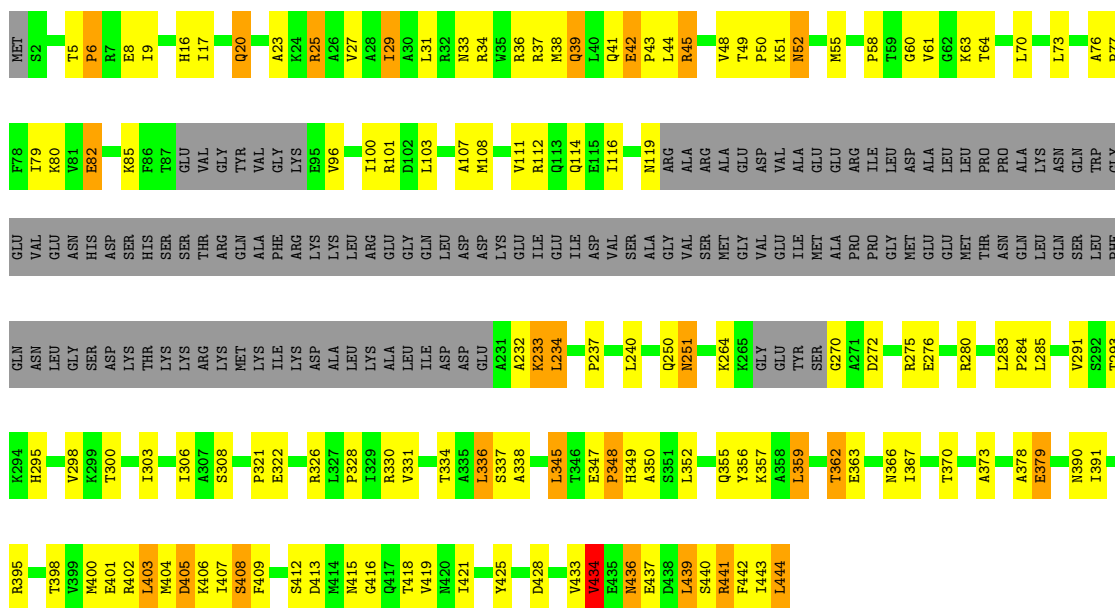


• Molecule 1: ATP-dependent hsl protease ATP-binding subunit hslU



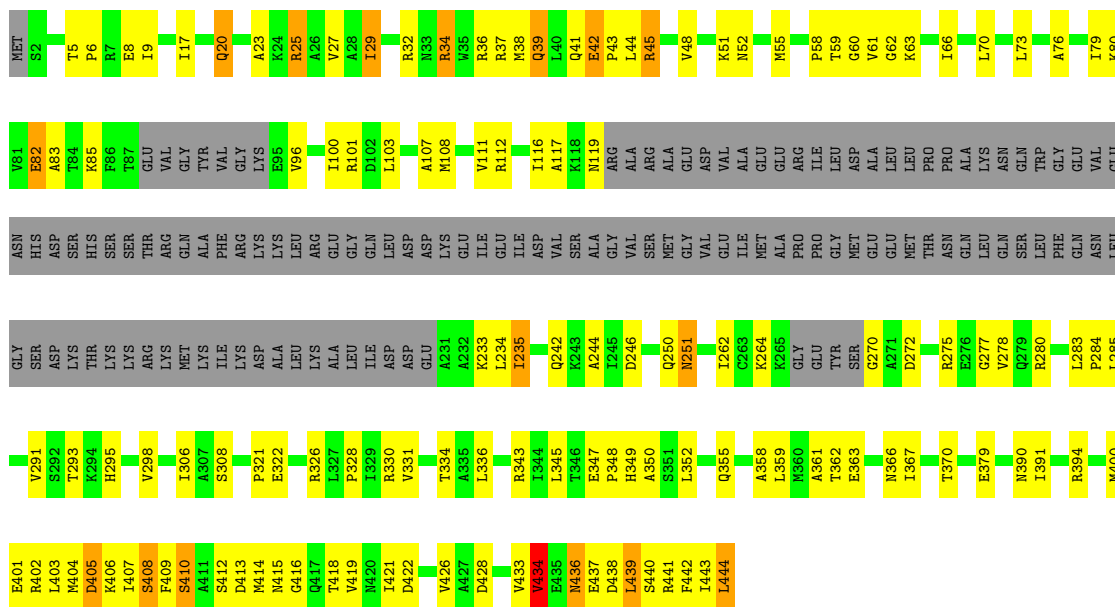
- Molecule 1: ATP-dependent hsl protease ATP-binding subunit hslU

Chain E:  41% 25% 6% 28%



- Molecule 1: ATP-dependent hsl protease ATP-binding subunit hslU

Chain F:  41% 27% 28%

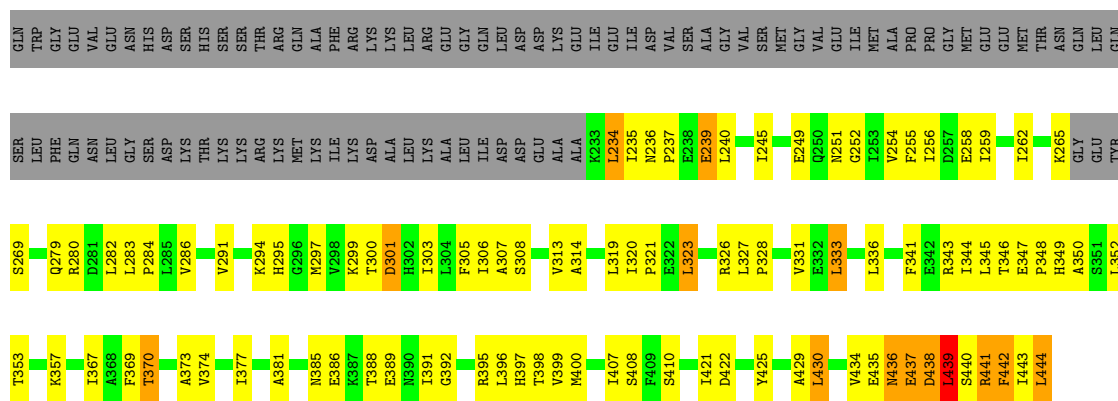


- Molecule 1: ATP-dependent hsl protease ATP-binding subunit hslU

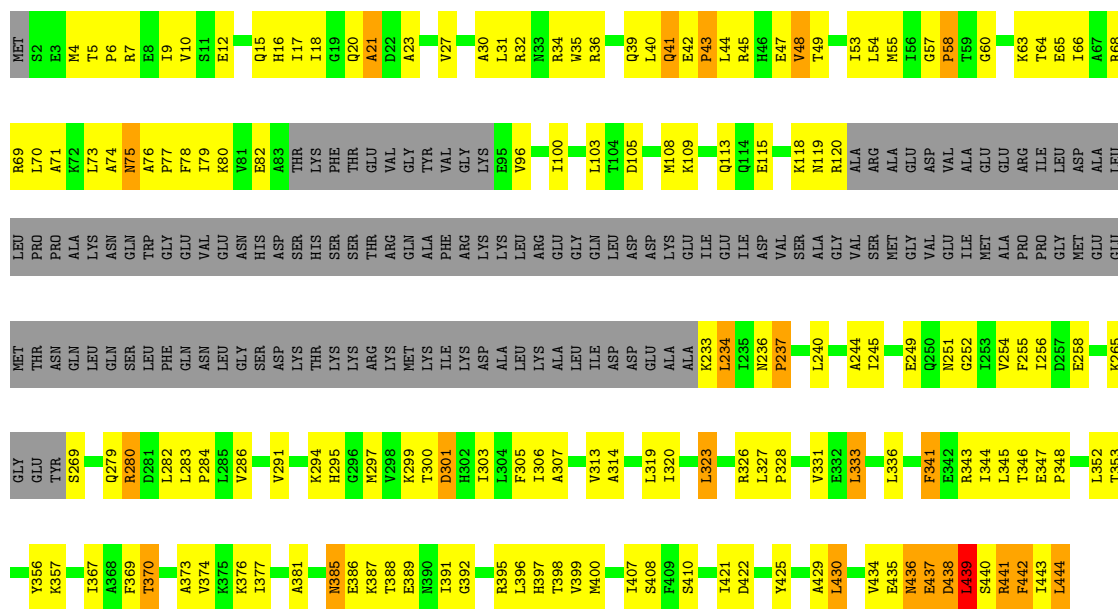
Chain S:  34% 32% 29%



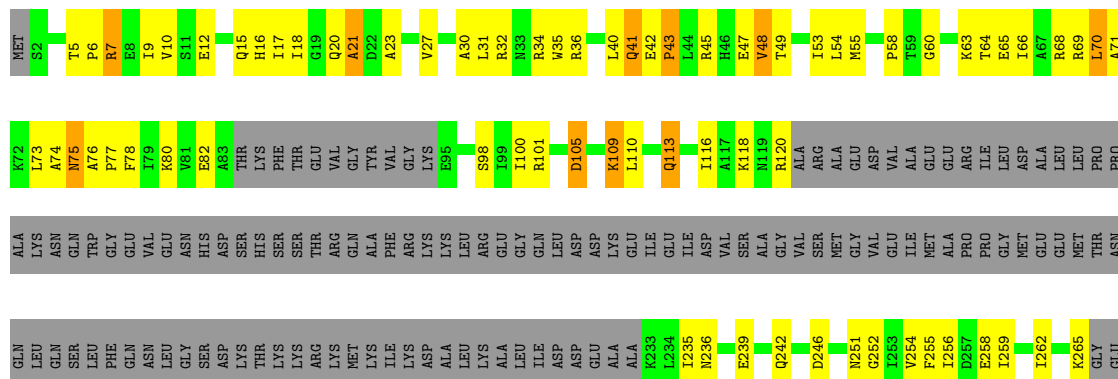
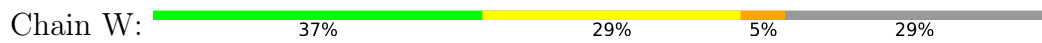


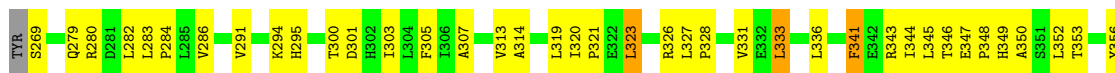


• Molecule 1: ATP-dependent hsl protease ATP-binding subunit hslU

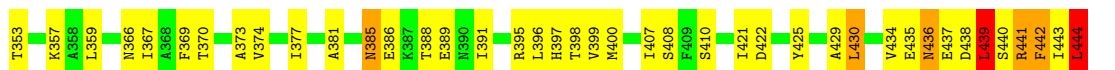
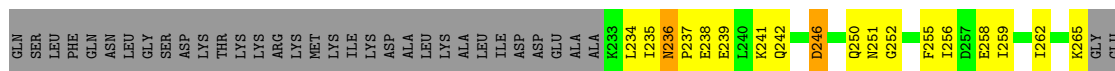
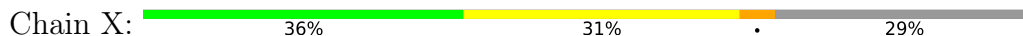


• Molecule 1: ATP-dependent hsl protease ATP-binding subunit hslU

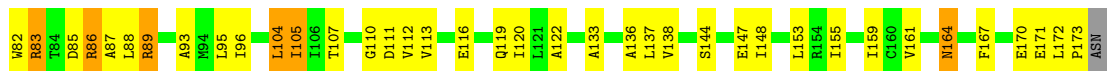
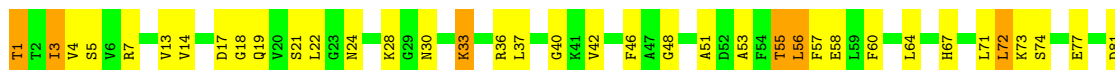




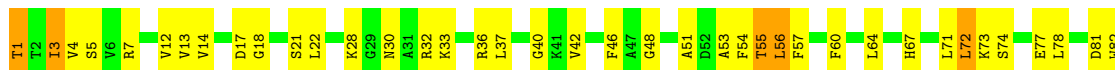
● Molecule 1: ATP-dependent hsl protease ATP-binding subunit hslU



● Molecule 2: ATP-dependent protease hslV

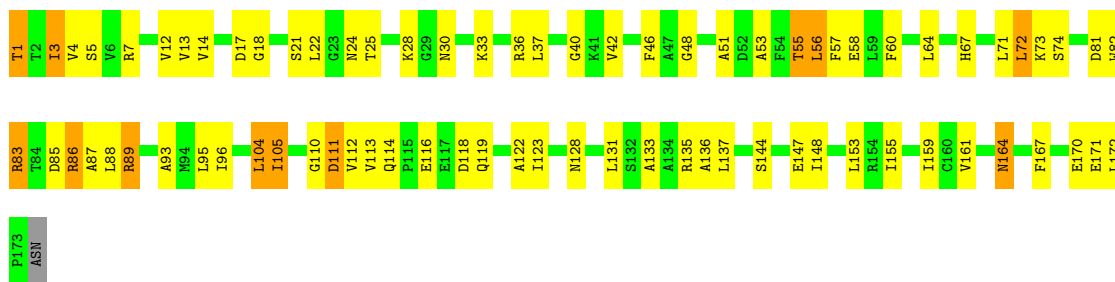


● Molecule 2: ATP-dependent protease hslV



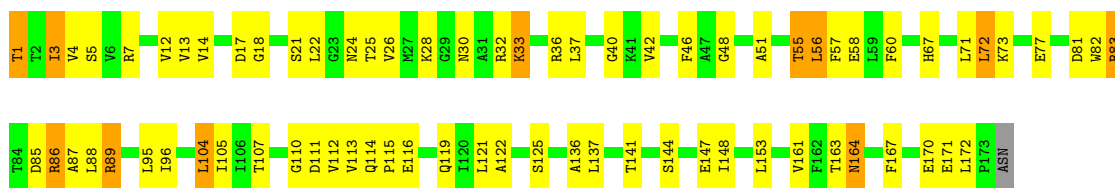
● Molecule 2: ATP-dependent protease hslV

Chain I:  55% 37% 7%



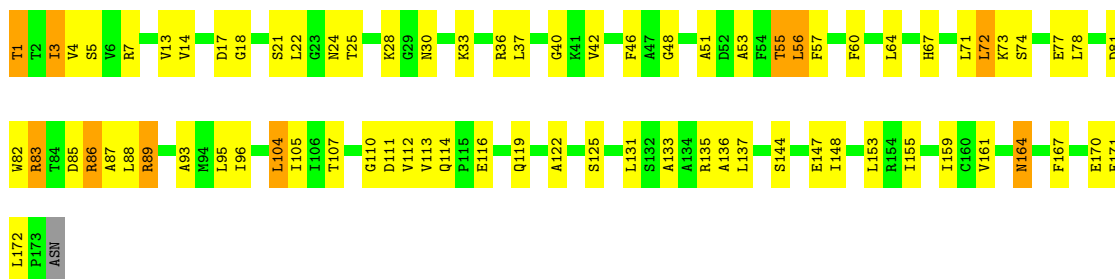
- Molecule 2: ATP-dependent protease hslV

Chain J:  57% 36% 6%



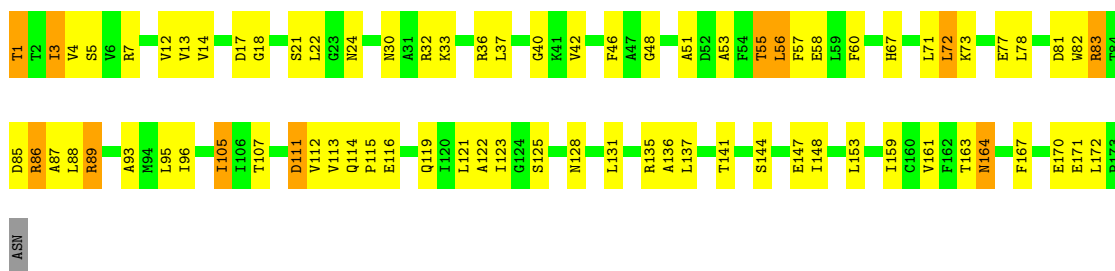
- Molecule 2: ATP-dependent protease hslV

Chain K:  56% 38% 6%



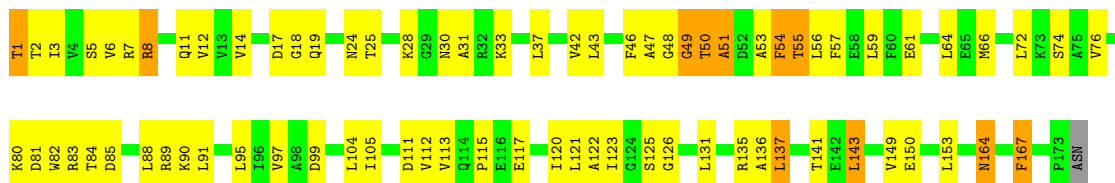
- Molecule 2: ATP-dependent protease hslV

Chain L:  55% 38% 6%



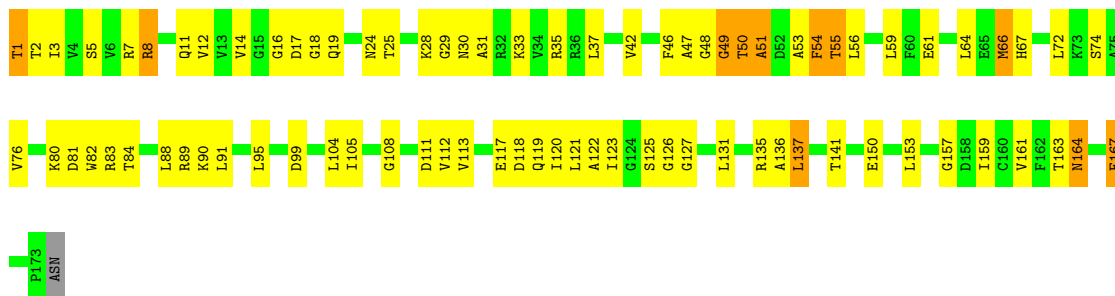
- Molecule 2: ATP-dependent protease hslV

Chain M:  55% 38% 6%



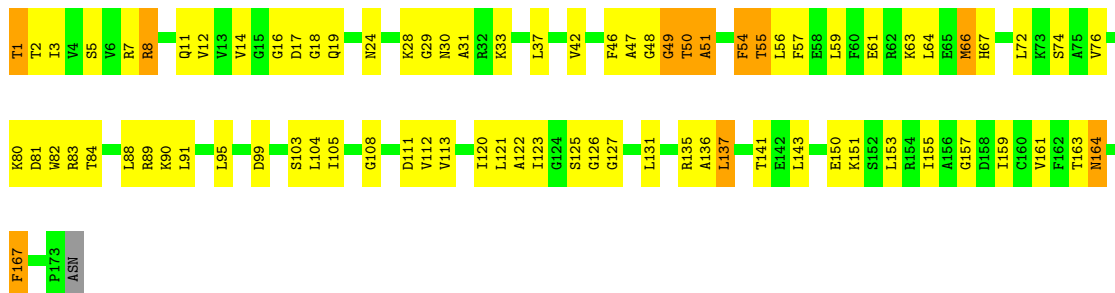
- Molecule 2: ATP-dependent protease hslV

Chain N: 53% 40% 6%



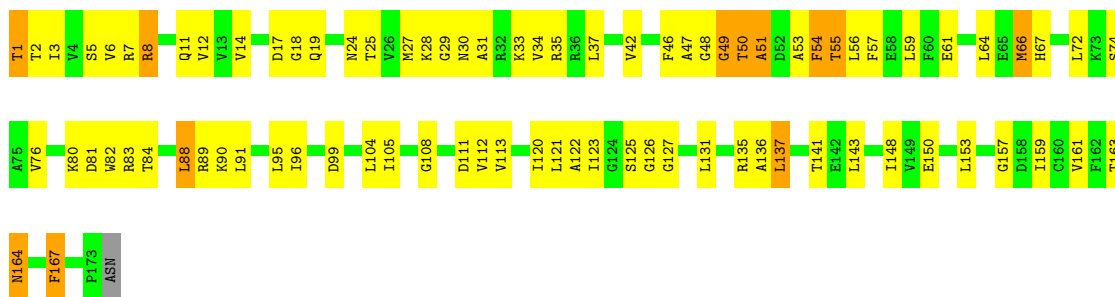
- Molecule 2: ATP-dependent protease hslV

Chain O: 53% 40% 6%



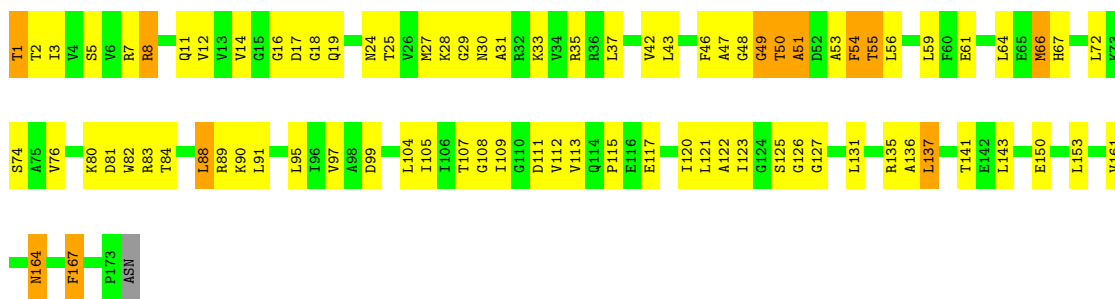
- Molecule 2: ATP-dependent protease hslV

Chain P: 51% 41% 7%



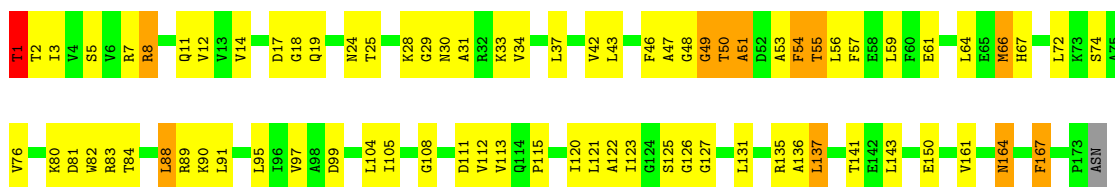
- Molecule 2: ATP-dependent protease hslV

Chain Q: 52% 41% 7%



- Molecule 2: ATP-dependent protease hslV

Chain R: 55% 38% 6% ..





## 4 Data and refinement statistics

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

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	208.51Å 219.97Å 242.63Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 3.10	Depositor
% Data completeness (in resolution range)	92.9 (30.00-3.10)	Depositor
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	0.06	Depositor
Refinement program	CNS	Depositor
R, $R_{free}$	0.266 , 0.288	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	45756	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	92.0	wwPDB-VP

## 5 Model quality [i](#)

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

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z  > 5$	RMSZ	# $ Z  > 5$
1	A	0.55	1/2515 (0.0%)	0.80	4/3391 (0.1%)
1	B	0.55	0/2515	0.75	2/3391 (0.1%)
1	C	0.56	0/2515	0.76	2/3391 (0.1%)
1	D	0.56	0/2515	0.75	2/3391 (0.1%)
1	E	0.57	0/2515	0.75	2/3391 (0.1%)
1	F	0.54	0/2515	0.74	3/3391 (0.1%)
1	S	0.29	0/2495	0.57	0/3360
1	T	0.30	0/2495	0.57	0/3360
1	U	0.30	0/2495	0.57	0/3360
1	V	0.30	0/2495	0.58	0/3360
1	W	0.30	0/2495	0.57	0/3360
1	X	0.29	0/2495	0.57	1/3360 (0.0%)
2	G	0.55	0/1304	0.77	0/1765
2	H	0.55	0/1304	0.77	0/1765
2	I	0.57	0/1304	0.79	0/1765
2	J	0.60	0/1304	0.80	0/1765
2	K	0.54	0/1304	0.77	0/1765
2	L	0.57	0/1304	0.79	0/1765
2	M	0.45	0/1275	0.70	0/1732
2	N	0.48	0/1275	0.72	0/1732
2	O	0.47	0/1275	0.70	0/1732
2	P	0.48	0/1275	0.72	0/1732
2	Q	0.46	0/1275	0.72	0/1732
2	R	0.48	1/1275 (0.1%)	0.71	0/1732
All	All	0.47	2/45534 (0.0%)	0.70	16/61488 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	R	1	THR	C-N	8.01	1.52	1.34
1	A	263	CYS	CB-SG	-5.19	1.73	1.81

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	234	LEU	CA-CB-CG	10.08	138.48	115.30
1	A	234	LEU	N-CA-C	-8.40	88.32	111.00
1	A	436	ASN	N-CA-C	6.53	128.63	111.00
1	C	436	ASN	N-CA-C	6.45	128.41	111.00
1	B	436	ASN	N-CA-C	6.24	127.86	111.00
1	F	436	ASN	N-CA-C	6.20	127.74	111.00
1	D	434	VAL	N-CA-C	6.19	127.72	111.00
1	C	434	VAL	N-CA-C	6.11	127.50	111.00
1	E	436	ASN	N-CA-C	6.10	127.47	111.00
1	E	434	VAL	N-CA-C	6.04	127.29	111.00
1	D	436	ASN	N-CA-C	6.00	127.19	111.00
1	A	434	VAL	N-CA-C	5.99	127.19	111.00
1	F	434	VAL	N-CA-C	5.96	127.09	111.00
1	B	434	VAL	N-CA-C	5.53	125.92	111.00
1	F	438	ASP	N-CA-C	-5.16	97.07	111.00
1	X	444	LEU	CA-CB-CG	5.02	126.85	115.30

There are no chirality outliers.

There are no planarity outliers.

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2488	0	2546	148	0
1	B	2488	0	2546	150	0
1	C	2488	0	2546	144	0
1	D	2488	0	2546	142	0
1	E	2488	0	2546	136	0
1	F	2488	0	2546	142	0
1	S	2469	0	2540	159	0
1	T	2469	0	2540	148	0
1	U	2469	0	2540	155	0
1	V	2469	0	2540	154	0
1	W	2469	0	2540	144	0
1	X	2469	0	2540	154	1

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	G	1290	0	1288	98	0
2	H	1290	0	1288	103	0
2	I	1290	0	1288	108	0
2	J	1290	0	1288	108	0
2	K	1290	0	1288	99	0
2	L	1290	0	1288	103	0
2	M	1261	0	1239	105	0
2	N	1261	0	1239	106	0
2	O	1261	0	1239	106	0
2	P	1261	0	1239	122	0
2	Q	1261	0	1239	111	0
2	R	1261	0	1239	106	0
3	A	31	0	12	3	0
3	B	31	0	12	5	0
3	C	31	0	12	8	0
3	D	31	0	12	5	0
3	E	31	0	12	6	0
3	F	31	0	12	4	0
3	S	31	0	12	3	0
3	T	31	0	12	4	0
3	U	31	0	12	5	0
3	V	31	0	12	2	0
3	W	31	0	12	4	0
3	X	31	0	12	3	0
4	G	28	0	36	15	0
4	H	28	0	36	14	0
4	I	28	0	36	16	0
4	J	28	0	36	22	0
4	K	28	0	36	17	0
4	L	28	0	36	14	0
4	M	28	0	36	12	0
4	N	28	0	36	15	0
4	O	28	0	36	11	0
4	P	28	0	36	12	0
4	Q	28	0	36	13	0
4	R	28	0	36	12	0
All	All	45756	0	46254	2818	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 31.

All (2818) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:1:THR:HG21	2:P:33:LYS:CD	1.47	1.44
2:G:1:THR:CG2	2:G:33:LYS:CE	1.98	1.41
2:O:1:THR:HG21	2:O:33:LYS:CD	1.50	1.40
2:H:1:THR:HG21	2:H:33:LYS:CE	1.53	1.38
2:G:1:THR:HG21	2:G:33:LYS:CD	1.53	1.38
2:H:1:THR:HG21	2:H:33:LYS:CD	1.52	1.36
2:L:1:THR:HG21	2:L:33:LYS:CD	1.59	1.30
2:M:1:THR:CG2	2:M:33:LYS:HE2	1.62	1.29
2:R:1:THR:HG21	2:R:33:LYS:CD	1.61	1.28
2:O:1:THR:CG2	2:O:33:LYS:CE	2.13	1.27
2:P:1:THR:CG2	2:P:33:LYS:CE	2.12	1.27
2:H:1:THR:HG23	2:H:33:LYS:NZ	1.50	1.26
2:H:1:THR:CG2	2:H:33:LYS:CE	2.15	1.24
2:I:1:THR:HG21	2:I:33:LYS:CD	1.69	1.22
2:K:1:THR:HG21	2:K:33:LYS:CD	1.73	1.17
2:P:1:THR:HG23	2:P:33:LYS:HE2	1.23	1.17
2:Q:1:THR:HG21	2:Q:33:LYS:CD	1.73	1.17
2:G:18:GLY:HA2	2:G:33:LYS:NZ	1.58	1.17
2:O:1:THR:HG21	2:O:33:LYS:HD2	1.16	1.16
2:G:1:THR:HG21	2:G:33:LYS:HD2	1.24	1.15
2:G:1:THR:HG21	2:G:33:LYS:CE	1.64	1.14
2:Q:1:THR:HG21	2:Q:33:LYS:HD2	1.27	1.14
2:P:1:THR:HG21	2:P:33:LYS:HD2	1.14	1.13
2:G:1:THR:HG23	2:G:33:LYS:HE3	1.23	1.13
2:R:1:THR:HG21	2:R:33:LYS:HD2	1.23	1.13
2:M:1:THR:CG2	2:M:33:LYS:CE	2.26	1.12
2:J:1:THR:HG22	2:J:17:ASP:OD1	1.50	1.12
2:M:1:THR:HG21	2:M:33:LYS:HD2	1.23	1.12
2:G:1:THR:CG2	2:G:33:LYS:HE2	1.76	1.11
2:G:56:LEU:CD1	2:G:95:LEU:HG	1.81	1.10
2:N:1:THR:HG21	2:N:33:LYS:CD	1.80	1.10
2:P:1:THR:CG2	2:P:33:LYS:HE2	1.77	1.09
2:R:56:LEU:HD23	2:R:95:LEU:HD13	1.34	1.09
2:L:56:LEU:HD13	2:L:95:LEU:HG	1.34	1.08
2:O:1:THR:CG2	2:O:33:LYS:HE2	1.79	1.08
2:O:1:THR:HG23	2:O:33:LYS:HE2	1.25	1.08
2:J:33:LYS:NZ	4:J:175:LVS:HB32	1.69	1.08
2:H:1:THR:HG21	2:H:33:LYS:HD3	1.31	1.07
2:K:56:LEU:HD13	2:K:95:LEU:HG	1.36	1.07
2:R:1:THR:CG2	2:R:33:LYS:CE	2.33	1.07
1:F:406:LYS:H	1:F:406:LYS:HD2	1.19	1.07
2:N:56:LEU:HD23	2:N:95:LEU:HD13	1.34	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:1:THR:HG21	2:M:33:LYS:CD	1.85	1.06
2:N:1:THR:HG21	2:N:33:LYS:HD2	1.32	1.06
2:P:7:ARG:HE	2:P:12:VAL:HG22	1.21	1.06
2:P:1:THR:CG2	2:P:33:LYS:CD	2.31	1.06
1:B:20:GLN:HA	1:B:20:GLN:HE21	1.16	1.05
2:O:56:LEU:HD23	2:O:95:LEU:HD13	1.36	1.05
1:E:20:GLN:HA	1:E:20:GLN:HE21	1.18	1.05
2:M:1:THR:HG23	2:M:33:LYS:HE2	1.11	1.05
2:O:1:THR:CG2	2:O:33:LYS:CD	2.33	1.05
2:Q:56:LEU:HD23	2:Q:95:LEU:HD13	1.39	1.05
1:B:406:LYS:H	1:B:406:LYS:HD2	1.19	1.04
2:K:1:THR:CG2	2:K:33:LYS:HD3	1.87	1.04
2:L:1:THR:HG23	2:L:33:LYS:NZ	1.72	1.04
2:M:7:ARG:HE	2:M:12:VAL:HG22	1.22	1.04
2:M:56:LEU:HD23	2:M:95:LEU:HD13	1.38	1.04
2:P:1:THR:CG2	2:P:33:LYS:HD2	1.88	1.04
2:H:1:THR:CG2	2:H:33:LYS:CD	2.36	1.03
1:C:20:GLN:HA	1:C:20:GLN:HE21	1.20	1.03
2:P:1:THR:HG21	2:P:33:LYS:CE	1.80	1.03
2:R:1:THR:CG2	2:R:33:LYS:CD	2.35	1.03
2:H:1:THR:HG21	2:H:33:LYS:HE2	1.39	1.03
2:J:56:LEU:HD13	2:J:95:LEU:HG	1.40	1.02
1:C:406:LYS:H	1:C:406:LYS:HD2	1.23	1.02
2:Q:7:ARG:HE	2:Q:12:VAL:HG22	1.22	1.02
2:R:1:THR:CG2	2:R:33:LYS:HD2	1.89	1.02
2:G:18:GLY:CA	2:G:33:LYS:NZ	2.22	1.02
2:L:1:THR:CG2	2:L:33:LYS:CD	2.38	1.02
2:R:7:ARG:HE	2:R:12:VAL:HG22	1.20	1.02
2:H:56:LEU:CD1	2:H:95:LEU:HG	1.90	1.02
2:L:1:THR:CG2	2:L:33:LYS:CE	2.37	1.01
2:K:56:LEU:CD1	2:K:95:LEU:HG	1.90	1.01
2:O:1:THR:CG2	2:O:33:LYS:HD2	1.90	1.01
2:L:1:THR:HG21	2:L:33:LYS:HD3	1.03	1.01
2:N:7:ARG:HE	2:N:12:VAL:HG22	1.23	1.01
1:A:406:LYS:H	1:A:406:LYS:HD2	1.24	1.00
2:G:1:THR:CG2	2:G:33:LYS:HE3	1.75	1.00
2:H:1:THR:CG2	2:H:33:LYS:NZ	2.21	1.00
2:O:7:ARG:HE	2:O:12:VAL:HG22	1.23	1.00
2:I:1:THR:HG23	2:I:33:LYS:HZ1	1.22	1.00
1:F:20:GLN:HA	1:F:20:GLN:HE21	1.25	1.00
2:P:56:LEU:HD23	2:P:95:LEU:HD13	1.43	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:56:LEU:HD13	2:I:95:LEU:HG	1.43	1.00
2:Q:1:THR:CG2	2:Q:33:LYS:HD2	1.93	0.99
2:I:1:THR:CG2	2:I:33:LYS:HD3	1.91	0.99
1:D:406:LYS:H	1:D:406:LYS:HD2	1.25	0.98
2:O:49:GLY:HA2	4:O:175:LVS:HA2	1.43	0.98
2:N:49:GLY:HA2	4:N:175:LVS:HA2	1.45	0.98
2:O:1:THR:HG23	2:O:33:LYS:CE	1.86	0.98
2:R:49:GLY:HA2	4:R:175:LVS:HA2	1.45	0.98
2:N:1:THR:HG23	2:N:33:LYS:HE2	1.44	0.98
2:P:49:GLY:HA2	4:P:175:LVS:HA2	1.45	0.98
2:Q:49:GLY:HA2	4:Q:175:LVS:HA2	1.40	0.98
2:G:18:GLY:CA	2:G:33:LYS:HZ1	1.74	0.98
2:I:56:LEU:CD1	2:I:95:LEU:HG	1.91	0.98
1:C:20:GLN:HE21	1:C:20:GLN:CA	1.78	0.97
1:C:79:ILE:HG22	1:C:103:LEU:HD13	1.43	0.97
2:J:56:LEU:CD1	2:J:95:LEU:HG	1.94	0.96
1:A:232:ALA:O	1:A:233:LYS:HB2	1.61	0.96
2:N:1:THR:CG2	2:N:33:LYS:CE	2.43	0.96
2:H:1:THR:CG2	2:H:33:LYS:HE2	1.93	0.96
2:Q:1:THR:CG2	2:Q:33:LYS:CD	2.43	0.96
2:I:1:THR:HG21	2:I:33:LYS:HD3	0.98	0.96
1:B:391:ILE:HG22	1:C:321:PRO:HB3	1.47	0.96
1:W:120:ARG:H	1:W:120:ARG:HD2	1.26	0.96
1:E:406:LYS:H	1:E:406:LYS:HD2	1.29	0.95
2:L:56:LEU:CD1	2:L:95:LEU:HG	1.97	0.95
2:M:49:GLY:HA2	4:M:175:LVS:HA2	1.48	0.94
2:P:1:THR:HG23	2:P:33:LYS:CE	1.85	0.94
2:H:33:LYS:HE2	4:H:175:LVS:HB32	1.48	0.94
2:G:1:THR:HG22	2:G:33:LYS:HE2	1.48	0.94
2:K:1:THR:HG23	2:K:33:LYS:NZ	1.81	0.94
2:O:1:THR:HG21	2:O:33:LYS:CE	1.83	0.94
2:K:1:THR:HG21	2:K:33:LYS:HD3	0.94	0.94
2:Q:1:THR:CG2	2:Q:33:LYS:CE	2.45	0.94
2:K:1:THR:CG2	2:K:33:LYS:NZ	2.31	0.93
1:D:20:GLN:HE21	1:D:20:GLN:HA	1.33	0.93
1:B:20:GLN:HE21	1:B:20:GLN:CA	1.82	0.93
2:L:1:THR:CG2	2:L:33:LYS:HZ2	1.80	0.93
1:E:20:GLN:HE21	1:E:20:GLN:CA	1.80	0.93
2:I:1:THR:CG2	2:I:33:LYS:NZ	2.32	0.93
1:E:27:VAL:HB	1:E:70:LEU:HD22	1.51	0.92
1:F:79:ILE:HG22	1:F:103:LEU:HD13	1.50	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:1:THR:HG23	2:I:33:LYS:NZ	1.84	0.92
2:H:56:LEU:HD13	2:H:95:LEU:HG	1.49	0.92
1:A:20:GLN:HE21	1:A:20:GLN:HA	1.35	0.91
2:K:125:SER:H	4:K:175:LVS:H1'1	1.35	0.91
2:G:86:ARG:HB3	2:G:86:ARG:HH11	1.34	0.91
2:I:86:ARG:HB3	2:I:86:ARG:HH11	1.33	0.91
2:I:105:ILE:HG23	2:I:113:VAL:HB	1.53	0.91
2:K:1:THR:HG22	2:K:17:ASP:OD1	1.68	0.91
1:A:391:ILE:HG22	1:B:321:PRO:HB3	1.51	0.90
1:A:409:PHE:CD1	1:B:6:PRO:HB3	2.07	0.90
2:K:17:ASP:O	2:K:33:LYS:HD2	1.72	0.90
2:H:86:ARG:HB3	2:H:86:ARG:HH11	1.35	0.89
2:H:1:THR:HG23	2:H:33:LYS:HZ3	1.09	0.89
2:J:125:SER:H	4:J:175:LVS:H1'1	1.34	0.89
2:R:1:THR:CG2	2:R:33:LYS:NZ	2.36	0.89
2:Q:17:ASP:O	2:Q:33:LYS:HG3	1.73	0.89
2:J:105:ILE:HG23	2:J:113:VAL:HB	1.53	0.89
2:I:1:THR:CG2	2:I:33:LYS:CD	2.49	0.88
2:J:86:ARG:HB3	2:J:86:ARG:HH11	1.37	0.88
2:L:1:THR:CG2	2:L:33:LYS:NZ	2.33	0.88
1:A:233:LYS:HD3	1:A:235:ILE:HG13	1.54	0.88
1:F:20:GLN:HE21	1:F:20:GLN:CA	1.86	0.88
2:L:86:ARG:HB3	2:L:86:ARG:HH11	1.36	0.88
1:B:409:PHE:CD1	1:C:6:PRO:HB3	2.08	0.88
2:N:1:THR:CG2	2:N:33:LYS:HE2	2.01	0.88
2:Q:125:SER:H	4:Q:175:LVS:H1'1	1.38	0.88
2:I:33:LYS:HZ2	4:I:175:LVS:HB32	1.38	0.88
2:M:17:ASP:O	2:M:33:LYS:HG3	1.73	0.88
2:I:1:THR:CG2	2:I:33:LYS:CE	2.52	0.87
1:X:439:LEU:HD23	1:X:439:LEU:H	1.36	0.87
1:A:405:ASP:HB3	1:A:406:LYS:HD2	1.56	0.87
2:K:86:ARG:HB3	2:K:86:ARG:HH11	1.39	0.87
2:R:137:LEU:O	2:R:141:THR:HG22	1.75	0.87
2:M:1:THR:HG21	2:M:33:LYS:CE	2.04	0.87
1:D:79:ILE:HG22	1:D:103:LEU:HD13	1.55	0.86
1:V:439:LEU:HD23	1:V:439:LEU:H	1.38	0.86
2:G:1:THR:N	4:G:175:LVS:CS	2.37	0.86
1:B:405:ASP:HB3	1:B:406:LYS:HD2	1.56	0.86
2:G:1:THR:H1	4:G:175:LVS:CS	1.87	0.86
2:L:1:THR:HG21	2:L:33:LYS:CE	2.03	0.86
1:A:235:ILE:HG22	1:A:237:PRO:HD3	1.56	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:443:ILE:HD11	2:H:72:LEU:HD11	1.58	0.86
2:K:105:ILE:HG23	2:K:113:VAL:HB	1.56	0.86
2:H:7:ARG:HD2	2:H:119:GLN:HG2	1.58	0.86
2:R:1:THR:HG23	2:R:33:LYS:CE	2.06	0.86
2:K:7:ARG:HD2	2:K:119:GLN:HG2	1.57	0.85
1:C:27:VAL:HB	1:C:70:LEU:HD22	1.56	0.85
2:I:1:THR:HG22	2:I:17:ASP:OD1	1.76	0.85
2:I:7:ARG:HD2	2:I:119:GLN:HG2	1.58	0.85
1:A:27:VAL:HB	1:A:70:LEU:HD22	1.56	0.85
2:G:56:LEU:HD13	2:G:95:LEU:HG	1.57	0.85
2:J:83:ARG:HG3	2:K:55:THR:HG22	1.58	0.84
1:V:279:GLN:HE21	1:V:320:ILE:HG12	1.42	0.84
2:N:125:SER:H	4:N:175:LVS:H1'2	1.43	0.84
1:D:405:ASP:HB3	1:D:406:LYS:HD2	1.59	0.84
1:S:439:LEU:H	1:S:439:LEU:HD23	1.40	0.84
1:T:439:LEU:HD23	1:T:439:LEU:H	1.42	0.84
1:C:391:ILE:HG22	1:D:321:PRO:HB3	1.60	0.84
1:E:367:ILE:HD11	1:E:421:ILE:HD11	1.59	0.84
2:L:1:THR:N	4:L:175:LVS:CS	2.40	0.84
1:A:110:LEU:O	1:A:114:GLN:HB2	1.77	0.84
2:H:105:ILE:HG23	2:H:113:VAL:HB	1.58	0.84
1:W:439:LEU:HD23	1:W:439:LEU:H	1.40	0.84
2:L:1:THR:HG22	2:L:17:ASP:OD1	1.78	0.84
2:L:125:SER:H	4:L:175:LVS:H1'1	1.42	0.84
1:U:439:LEU:HD23	1:U:439:LEU:H	1.42	0.84
1:E:402:ARG:HH22	1:E:433:VAL:HG21	1.43	0.84
1:T:279:GLN:HE21	1:T:320:ILE:HG12	1.43	0.84
2:J:7:ARG:HD2	2:J:119:GLN:HG2	1.59	0.83
1:A:20:GLN:HE21	1:A:20:GLN:CA	1.91	0.83
1:C:405:ASP:HB3	1:C:406:LYS:HD2	1.58	0.83
2:O:1:THR:CG2	2:O:33:LYS:NZ	2.40	0.83
2:O:125:SER:H	4:O:175:LVS:H1'1	1.41	0.83
1:A:6:PRO:HB3	1:F:409:PHE:CD1	2.14	0.83
1:U:279:GLN:HE22	1:U:320:ILE:H	1.27	0.83
1:F:405:ASP:HB3	1:F:406:LYS:HD2	1.61	0.83
2:G:105:ILE:HG23	2:G:113:VAL:HB	1.59	0.83
2:H:1:THR:HG22	2:H:17:ASP:OD1	1.78	0.83
1:C:60:GLY:HA2	3:C:452:ATP:O3A	1.79	0.83
2:J:1:THR:N	4:J:175:LVS:CS	2.41	0.83
2:P:1:THR:CG2	2:P:33:LYS:NZ	2.41	0.82
1:U:279:GLN:HE21	1:U:320:ILE:HG12	1.44	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:1:THR:HG21	2:I:33:LYS:CE	2.10	0.82
2:R:1:THR:HG23	2:R:33:LYS:HE2	1.60	0.82
1:X:279:GLN:HE22	1:X:320:ILE:H	1.27	0.82
2:G:1:THR:HG22	2:G:17:ASP:OD1	1.79	0.82
2:L:7:ARG:HD2	2:L:119:GLN:HG2	1.62	0.82
2:R:1:THR:HG22	2:R:33:LYS:NZ	1.95	0.82
1:S:279:GLN:HE21	1:S:320:ILE:HG12	1.45	0.82
1:D:20:GLN:HE21	1:D:20:GLN:CA	1.92	0.82
1:E:443:ILE:HD11	2:K:72:LEU:HD11	1.61	0.82
2:N:1:THR:CG2	2:N:33:LYS:HD2	2.10	0.81
1:U:279:GLN:NE2	1:U:320:ILE:H	1.78	0.81
1:X:279:GLN:HE21	1:X:320:ILE:HG12	1.44	0.81
2:H:1:THR:H1	4:H:175:LVS:CS	1.93	0.81
2:R:42:VAL:HG12	2:R:99:ASP:HB3	1.63	0.81
1:S:12:GLU:HG2	1:S:73:LEU:HD23	1.60	0.81
1:B:79:ILE:HG22	1:B:103:LEU:HD13	1.60	0.81
2:M:125:SER:H	4:M:175:LVS:H1'1	1.44	0.81
1:W:12:GLU:HG2	1:W:73:LEU:HD23	1.62	0.81
2:H:33:LYS:CE	4:H:175:LVS:HB32	2.10	0.81
2:P:125:SER:H	4:P:175:LVS:H1'2	1.45	0.81
1:S:18:ILE:HD11	1:S:343:ARG:NH2	1.95	0.81
1:T:12:GLU:HG2	1:T:73:LEU:HD23	1.63	0.81
2:G:3:ILE:HG22	2:G:96:ILE:HD12	1.62	0.81
2:L:1:THR:HG23	2:L:33:LYS:HZ2	1.38	0.81
2:M:137:LEU:O	2:M:141:THR:HG22	1.79	0.81
1:E:404:MET:O	1:E:408:SER:HB2	1.80	0.81
2:K:1:THR:CG2	2:K:33:LYS:CD	2.51	0.81
1:U:12:GLU:HG2	1:U:73:LEU:HD23	1.63	0.81
1:A:233:LYS:HD3	1:A:235:ILE:CG1	2.10	0.80
1:X:12:GLU:HG2	1:X:73:LEU:HD23	1.62	0.80
2:K:1:THR:CG2	2:K:33:LYS:HZ2	1.94	0.80
2:K:1:THR:CG2	2:K:33:LYS:CE	2.59	0.80
2:R:125:SER:H	4:R:175:LVS:H1'1	1.44	0.80
1:V:279:GLN:NE2	1:V:320:ILE:H	1.79	0.80
1:D:402:ARG:HH22	1:D:433:VAL:HG21	1.44	0.80
2:N:1:THR:N	4:N:175:LVS:S	2.55	0.80
1:T:279:GLN:HE22	1:T:320:ILE:H	1.28	0.80
2:K:83:ARG:HG3	2:L:55:THR:HG22	1.64	0.80
2:Q:137:LEU:O	2:Q:141:THR:HG22	1.82	0.80
2:N:1:THR:HG23	2:N:33:LYS:CE	2.10	0.80
2:O:137:LEU:O	2:O:141:THR:HG22	1.82	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:33:LYS:NZ	4:I:175:LVS:HB32	1.95	0.80
2:Q:1:THR:HG23	2:Q:33:LYS:HE2	1.62	0.80
1:T:7:ARG:HH12	1:U:410:SER:HB3	1.45	0.80
2:K:125:SER:H	4:K:175:LVS:C1'	1.94	0.79
1:C:402:ARG:HH22	1:C:433:VAL:HG21	1.47	0.79
1:X:369:PHE:HE2	1:X:421:ILE:HD12	1.47	0.79
1:B:362:THR:CG2	1:C:39:GLN:HG2	2.13	0.79
1:E:367:ILE:HD11	1:E:421:ILE:CD1	2.12	0.79
1:D:391:ILE:HG22	1:E:321:PRO:HB3	1.64	0.79
2:J:33:LYS:HZ3	4:J:175:LVS:HB32	1.47	0.79
2:N:1:THR:CG2	2:N:33:LYS:CD	2.59	0.79
2:G:7:ARG:HD2	2:G:119:GLN:HG2	1.63	0.79
2:M:17:ASP:C	2:M:33:LYS:HZ2	1.85	0.79
1:T:279:GLN:NE2	1:T:320:ILE:H	1.81	0.79
1:V:279:GLN:HE22	1:V:320:ILE:H	1.29	0.79
1:W:279:GLN:HE21	1:W:320:ILE:HG12	1.47	0.79
2:O:42:VAL:HG12	2:O:99:ASP:HB3	1.64	0.79
1:V:12:GLU:HG2	1:V:73:LEU:HD23	1.63	0.79
1:X:279:GLN:NE2	1:X:320:ILE:H	1.80	0.79
2:J:1:THR:CG2	2:J:33:LYS:NZ	2.45	0.78
2:J:125:SER:H	4:J:175:LVS:C1'	1.97	0.78
2:K:1:THR:HG23	2:K:33:LYS:HZ1	1.48	0.78
2:O:125:SER:H	4:O:175:LVS:C1'	1.96	0.78
2:H:1:THR:N	4:H:175:LVS:CS	2.46	0.78
2:J:1:THR:HG21	2:J:33:LYS:NZ	1.99	0.78
2:I:1:THR:N	4:I:175:LVS:CS	2.45	0.78
1:S:279:GLN:HE22	1:S:320:ILE:H	1.30	0.78
1:A:79:ILE:HG22	1:A:103:LEU:HD13	1.64	0.78
1:S:279:GLN:NE2	1:S:320:ILE:H	1.80	0.78
1:U:388:THR:HG22	1:U:389:GLU:H	1.47	0.78
1:E:79:ILE:HG22	1:E:103:LEU:HD13	1.65	0.78
2:N:137:LEU:O	2:N:141:THR:HG22	1.81	0.78
2:N:1:THR:N	4:N:175:LVS:O1'	2.15	0.78
2:L:105:ILE:HG23	2:L:113:VAL:HB	1.66	0.77
2:J:33:LYS:HZ1	4:J:175:LVS:HB32	1.46	0.77
2:P:42:VAL:HG12	2:P:99:ASP:HB3	1.63	0.77
2:G:18:GLY:HA2	2:G:33:LYS:HZ3	1.48	0.77
2:K:46:PHE:HB3	2:K:95:LEU:HD23	1.64	0.77
1:V:369:PHE:HE2	1:V:421:ILE:HD12	1.50	0.77
1:E:405:ASP:HB3	1:E:406:LYS:HD2	1.66	0.77
1:S:388:THR:HG22	1:S:389:GLU:H	1.50	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:119:ASN:O	1:E:234:LEU:HD12	1.84	0.77
2:H:83:ARG:HG3	2:I:55:THR:HG22	1.66	0.77
2:L:1:THR:CG2	2:L:33:LYS:HD3	1.99	0.77
1:B:409:PHE:CE1	1:C:6:PRO:HB3	2.19	0.77
2:M:17:ASP:C	2:M:33:LYS:NZ	2.38	0.77
1:B:403:LEU:HD23	1:B:404:MET:N	2.00	0.77
1:D:443:ILE:HD11	2:J:72:LEU:HD11	1.66	0.77
2:I:46:PHE:HB3	2:I:95:LEU:HD23	1.67	0.77
1:W:279:GLN:NE2	1:W:320:ILE:H	1.83	0.76
1:A:367:ILE:HD11	1:A:421:ILE:CD1	2.16	0.76
2:K:3:ILE:HG22	2:K:96:ILE:HD12	1.68	0.76
2:Q:42:VAL:HG12	2:Q:99:ASP:HB3	1.66	0.76
2:H:46:PHE:HB3	2:H:95:LEU:HD23	1.68	0.76
2:R:17:ASP:O	2:R:33:LYS:HG3	1.84	0.76
1:W:369:PHE:HE2	1:W:421:ILE:HD12	1.49	0.76
2:M:42:VAL:HG12	2:M:99:ASP:HB3	1.67	0.76
2:P:137:LEU:O	2:P:141:THR:HG22	1.85	0.76
1:E:440:SER:O	1:E:442:PHE:N	2.18	0.76
1:A:402:ARG:HH22	1:A:433:VAL:HG21	1.51	0.76
1:F:406:LYS:HD2	1:F:406:LYS:N	2.00	0.76
2:K:1:THR:N	4:K:175:LVS:CS	2.48	0.76
1:U:323:LEU:O	1:U:323:LEU:HD23	1.85	0.76
2:G:46:PHE:HB3	2:G:95:LEU:HD23	1.67	0.76
2:P:7:ARG:HH21	2:P:12:VAL:HG21	1.50	0.76
2:N:1:THR:HG21	2:N:33:LYS:CE	2.13	0.76
1:U:369:PHE:HE2	1:U:421:ILE:HD12	1.51	0.76
1:V:388:THR:HG22	1:V:389:GLU:H	1.51	0.76
2:L:46:PHE:HB3	2:L:95:LEU:HD23	1.68	0.76
1:A:39:GLN:HG2	1:F:362:THR:CG2	2.16	0.76
3:E:454:ATP:C8	3:E:454:ATP:H5'1	2.21	0.75
1:X:388:THR:HG22	1:X:389:GLU:H	1.49	0.75
2:J:1:THR:HG21	2:J:33:LYS:HZ2	1.49	0.75
1:B:402:ARG:HH22	1:B:433:VAL:HG21	1.48	0.75
1:E:38:MET:HA	1:E:45:ARG:HD2	1.69	0.75
2:G:17:ASP:C	2:G:33:LYS:HZ3	1.89	0.75
2:K:37:LEU:HD21	2:K:57:PHE:CZ	2.21	0.75
1:V:441:ARG:HB3	1:V:442:PHE:CD1	2.20	0.75
2:M:18:GLY:H	2:M:164:ASN:HD21	1.35	0.75
1:T:241:LYS:HE3	1:T:295:HIS:HA	1.66	0.75
2:Q:64:LEU:HD23	2:Q:74:SER:OG	1.85	0.75
1:W:279:GLN:HE22	1:W:320:ILE:H	1.32	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:388:THR:HG22	1:W:389:GLU:H	1.52	0.75
2:P:64:LEU:HD23	2:P:74:SER:OG	1.86	0.75
1:D:402:ARG:NH2	1:D:433:VAL:HG21	2.00	0.75
1:F:443:ILE:HD11	2:L:72:LEU:HD11	1.66	0.75
1:F:27:VAL:HB	1:F:70:LEU:HD22	1.69	0.74
1:F:119:ASN:ND2	1:F:234:LEU:HD12	2.01	0.74
2:K:13:VAL:HG22	2:K:171:GLU:HB3	1.67	0.74
1:X:20:GLN:OE1	1:X:333:LEU:HB3	1.87	0.74
2:L:13:VAL:HG22	2:L:171:GLU:HB3	1.68	0.74
2:M:7:ARG:HH21	2:M:12:VAL:HG21	1.51	0.74
1:S:15:GLN:O	1:S:348:PRO:HA	1.87	0.74
1:S:369:PHE:HE2	1:S:421:ILE:HD12	1.50	0.74
1:A:406:LYS:HD2	1:A:406:LYS:N	2.02	0.74
2:R:1:THR:HG21	2:R:33:LYS:HD3	1.66	0.74
1:U:20:GLN:OE1	1:U:333:LEU:HB3	1.86	0.74
1:C:38:MET:HA	1:C:45:ARG:HD2	1.68	0.74
2:O:18:GLY:H	2:O:164:ASN:HD21	1.35	0.74
1:T:388:THR:HG22	1:T:389:GLU:H	1.51	0.74
1:A:6:PRO:HB3	1:F:409:PHE:CE1	2.23	0.74
2:J:1:THR:H3	4:J:175:LVS:C2'	1.99	0.74
2:K:1:THR:HG23	2:K:33:LYS:CE	2.17	0.74
2:G:17:ASP:O	2:G:33:LYS:NZ	2.15	0.74
2:N:7:ARG:NE	2:N:12:VAL:HG22	2.02	0.74
2:N:42:VAL:HG12	2:N:99:ASP:HB3	1.68	0.74
1:W:439:LEU:O	1:W:441:ARG:N	2.21	0.74
1:T:323:LEU:HD23	1:T:323:LEU:O	1.86	0.74
1:D:60:GLY:HA2	3:D:453:ATP:O3A	1.88	0.74
2:I:83:ARG:HG3	2:J:55:THR:HG22	1.69	0.74
2:G:48:GLY:H	4:G:175:LVS:H2'	1.52	0.74
2:J:83:ARG:CG	2:K:55:THR:HG22	2.17	0.74
2:M:64:LEU:HD23	2:M:74:SER:OG	1.88	0.73
1:S:410:SER:HB3	1:X:7:ARG:HH12	1.53	0.73
1:V:20:GLN:OE1	1:V:333:LEU:HB3	1.87	0.73
1:C:403:LEU:HD23	1:C:404:MET:N	2.02	0.73
1:E:391:ILE:HG22	1:F:321:PRO:HB3	1.70	0.73
2:J:46:PHE:HB3	2:J:95:LEU:HD23	1.68	0.73
1:C:443:ILE:HD11	2:I:72:LEU:HD11	1.70	0.73
2:R:1:THR:CG2	2:R:33:LYS:HE2	2.18	0.73
1:S:20:GLN:OE1	1:S:333:LEU:HB3	1.89	0.73
1:S:323:LEU:O	1:S:323:LEU:HD23	1.87	0.73
1:A:403:LEU:HD23	1:A:404:MET:N	2.01	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:83:ARG:HG3	2:H:55:THR:HG22	1.68	0.73
2:Q:17:ASP:CG	2:Q:33:LYS:NZ	2.42	0.73
1:B:406:LYS:HD2	1:B:406:LYS:N	2.00	0.73
1:D:38:MET:HA	1:D:45:ARG:HD2	1.70	0.73
2:L:1:THR:HG23	2:L:33:LYS:CE	2.10	0.73
2:L:1:THR:H3	4:L:175:LVS:C2'	2.01	0.73
1:F:23:ALA:HA	1:F:331:VAL:HG21	1.71	0.73
1:B:23:ALA:HA	1:B:331:VAL:HG21	1.70	0.73
2:J:48:GLY:H	4:J:175:LVS:H2'	1.54	0.73
2:Q:7:ARG:HH21	2:Q:12:VAL:HG21	1.52	0.73
1:T:20:GLN:OE1	1:T:333:LEU:HB3	1.88	0.73
1:W:441:ARG:HB3	1:W:442:PHE:CD1	2.24	0.73
1:T:369:PHE:HE2	1:T:421:ILE:HD12	1.52	0.72
1:D:367:ILE:HD11	1:D:421:ILE:CD1	2.18	0.72
2:I:1:THR:H1	4:I:175:LVS:CS	2.02	0.72
1:D:406:LYS:HD2	1:D:406:LYS:N	2.03	0.72
2:P:7:ARG:NE	2:P:12:VAL:HG22	2.02	0.72
1:T:328:PRO:HA	1:U:398:THR:HG22	1.70	0.72
1:B:38:MET:HA	1:B:45:ARG:HD2	1.70	0.72
1:E:402:ARG:NH2	1:E:433:VAL:HG21	2.04	0.72
2:J:1:THR:N	4:J:175:LVS:S	2.62	0.72
2:J:105:ILE:CG2	2:J:113:VAL:HB	2.19	0.72
2:K:105:ILE:CG2	2:K:113:VAL:HB	2.20	0.72
1:W:323:LEU:HD23	1:W:323:LEU:O	1.88	0.72
1:A:38:MET:HA	1:A:45:ARG:HD2	1.71	0.72
2:N:125:SER:H	4:N:175:LVS:C1'	2.01	0.72
1:T:441:ARG:HB3	1:T:442:PHE:CD1	2.24	0.72
2:N:64:LEU:HD23	2:N:74:SER:OG	1.89	0.72
1:B:437:GLU:C	1:B:439:LEU:N	2.38	0.71
2:N:7:ARG:HH21	2:N:12:VAL:HG21	1.53	0.71
1:U:395:ARG:O	1:U:399:VAL:HG23	1.90	0.71
1:V:18:ILE:HD11	1:V:343:ARG:NH2	2.05	0.71
1:E:437:GLU:C	1:E:439:LEU:N	2.41	0.71
2:H:13:VAL:HG22	2:H:171:GLU:HB3	1.72	0.71
1:B:111:VAL:HG21	1:B:244:ALA:HA	1.72	0.71
2:Q:18:GLY:H	2:Q:164:ASN:HD21	1.36	0.71
1:B:402:ARG:NH2	1:B:433:VAL:HG21	2.05	0.71
2:G:55:THR:HG22	2:L:83:ARG:HG3	1.71	0.71
3:B:451:ATP:C8	3:B:451:ATP:H5'1	2.25	0.71
1:F:406:LYS:H	1:F:406:LYS:CD	2.02	0.71
2:J:17:ASP:O	2:J:33:LYS:CD	2.39	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:441:ARG:HB3	1:S:442:PHE:CD1	2.26	0.71
1:A:58:PRO:HG2	1:A:61:VAL:HG11	1.73	0.71
1:B:37:ARG:HD2	1:B:48:VAL:HG13	1.72	0.71
3:E:454:ATP:H5'1	3:E:454:ATP:H8	1.53	0.71
2:I:13:VAL:HG22	2:I:171:GLU:HB3	1.72	0.71
1:D:409:PHE:CD1	1:E:6:PRO:HB3	2.25	0.71
2:R:7:ARG:HH21	2:R:12:VAL:HG21	1.53	0.71
2:I:1:THR:HG21	2:I:33:LYS:NZ	2.05	0.71
1:S:75:ASN:HD21	1:S:110:LEU:HD21	1.56	0.71
2:J:13:VAL:HG22	2:J:171:GLU:HB3	1.73	0.70
2:P:131:LEU:HD11	2:P:135:ARG:NE	2.06	0.70
2:R:18:GLY:H	2:R:164:ASN:HD21	1.37	0.70
1:X:439:LEU:O	1:X:441:ARG:N	2.24	0.70
1:A:367:ILE:HD11	1:A:421:ILE:HD11	1.71	0.70
1:B:27:VAL:HB	1:B:70:LEU:HD22	1.72	0.70
2:K:48:GLY:H	4:K:175:LVS:H2'	1.56	0.70
2:K:83:ARG:CG	2:L:55:THR:HG22	2.19	0.70
1:U:441:ARG:HB3	1:U:442:PHE:CD1	2.26	0.70
1:W:15:GLN:O	1:W:348:PRO:HA	1.90	0.70
1:A:321:PRO:HB3	1:F:391:ILE:HG22	1.72	0.70
2:P:18:GLY:H	2:P:164:ASN:HD21	1.38	0.70
2:R:125:SER:H	4:R:175:LVS:C1'	2.05	0.70
1:X:441:ARG:HB3	1:X:442:PHE:CD1	2.26	0.70
2:R:7:ARG:NE	2:R:12:VAL:HG22	2.02	0.70
2:G:13:VAL:HG22	2:G:171:GLU:HB3	1.73	0.70
1:T:279:GLN:NE2	1:T:320:ILE:HG12	2.06	0.70
1:D:403:LEU:HD23	1:D:404:MET:N	2.06	0.70
2:M:125:SER:H	4:M:175:LVS:C1'	2.04	0.70
1:T:327:LEU:N	1:T:328:PRO:HD3	2.07	0.70
1:X:369:PHE:CE2	1:X:421:ILE:HD12	2.26	0.70
2:J:1:THR:HG21	2:J:33:LYS:CE	2.22	0.70
2:L:4:VAL:HG23	2:L:122:ALA:HB2	1.73	0.70
2:L:164:ASN:HD22	2:L:164:ASN:C	1.95	0.70
2:Q:125:SER:H	4:Q:175:LVS:C1'	2.03	0.70
2:R:1:THR:HG21	2:R:33:LYS:CE	2.11	0.70
1:C:20:GLN:HA	1:C:20:GLN:NE2	2.01	0.70
2:G:1:THR:N	4:G:175:LVS:C1'	2.55	0.70
1:D:27:VAL:HB	1:D:70:LEU:HD22	1.73	0.70
1:A:280:ARG:HD3	1:F:82:GLU:OE2	1.92	0.70
1:E:363:GLU:OE1	1:E:412:SER:HA	1.92	0.70
2:J:17:ASP:O	2:J:33:LYS:HD2	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:395:ARG:O	1:V:399:VAL:HG23	1.91	0.70
2:R:64:LEU:HD23	2:R:74:SER:OG	1.92	0.69
1:W:20:GLN:OE1	1:W:333:LEU:HB3	1.92	0.69
1:B:406:LYS:H	1:B:406:LYS:CD	2.02	0.69
1:F:38:MET:HA	1:F:45:ARG:HD2	1.74	0.69
1:S:100:ILE:HG13	1:S:291:VAL:HG21	1.74	0.69
1:W:369:PHE:CE2	1:W:421:ILE:HD12	2.27	0.69
2:J:1:THR:CG2	2:J:33:LYS:CE	2.71	0.69
2:Q:7:ARG:NE	2:Q:12:VAL:HG22	2.04	0.69
2:R:1:THR:HG22	2:R:33:LYS:HZ2	1.57	0.69
1:U:100:ILE:HG13	1:U:291:VAL:HG21	1.73	0.69
2:K:33:LYS:NZ	4:K:175:LVS:HB32	2.07	0.69
2:Q:131:LEU:HD11	2:Q:135:ARG:NE	2.07	0.69
1:T:395:ARG:O	1:T:399:VAL:HG23	1.93	0.69
1:W:327:LEU:N	1:W:328:PRO:HD3	2.07	0.69
1:B:404:MET:O	1:B:408:SER:HB2	1.92	0.69
2:O:37:LEU:HB2	2:O:42:VAL:HG23	1.73	0.69
2:K:1:THR:HG21	2:K:33:LYS:CE	2.21	0.69
2:P:125:SER:H	4:P:175:LVS:C1'	2.06	0.69
1:S:327:LEU:N	1:S:328:PRO:HD3	2.08	0.69
2:I:3:ILE:HG22	2:I:96:ILE:HD12	1.75	0.69
1:U:327:LEU:N	1:U:328:PRO:HD3	2.07	0.69
1:V:369:PHE:CE2	1:V:421:ILE:HD12	2.28	0.69
1:X:100:ILE:HG13	1:X:291:VAL:HG21	1.75	0.69
1:A:270:GLY:C	1:A:272:ASP:H	1.93	0.69
2:H:22:LEU:HB2	4:H:175:LVS:HD13	1.75	0.69
2:M:37:LEU:HB2	2:M:42:VAL:HG23	1.75	0.69
2:R:1:THR:N	4:R:175:LVS:CS	2.56	0.69
1:U:328:PRO:HA	1:V:398:THR:HG22	1.75	0.69
2:L:1:THR:H1	4:L:175:LVS:CS	2.05	0.68
1:A:437:GLU:C	1:A:439:LEU:N	2.45	0.68
1:F:437:GLU:C	1:F:439:LEU:N	2.41	0.68
2:I:48:GLY:H	4:I:175:LVS:H2'	1.57	0.68
1:B:363:GLU:OE1	1:B:412:SER:HA	1.94	0.68
2:M:131:LEU:HD11	2:M:135:ARG:NE	2.08	0.68
2:O:64:LEU:HD23	2:O:74:SER:OG	1.92	0.68
2:Q:18:GLY:N	2:Q:33:LYS:HZ1	1.90	0.68
1:F:444:LEU:OXT	2:L:113:VAL:HA	1.92	0.68
1:C:443:ILE:HG21	2:I:114:GLN:HG3	1.75	0.68
2:O:7:ARG:HH21	2:O:12:VAL:HG21	1.58	0.68
2:Q:17:ASP:HA	2:Q:167:PHE:HB3	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:439:LEU:O	1:S:441:ARG:N	2.27	0.68
2:I:22:LEU:HB2	4:I:175:LVS:HD13	1.75	0.68
2:J:1:THR:CG2	2:J:33:LYS:HE3	2.24	0.68
1:T:18:ILE:HD11	1:T:343:ARG:NH2	2.08	0.68
2:J:3:ILE:HG22	2:J:96:ILE:HD12	1.76	0.68
1:S:369:PHE:CE2	1:S:421:ILE:HD12	2.28	0.68
1:T:100:ILE:HG13	1:T:291:VAL:HG21	1.75	0.68
2:I:18:GLY:H	2:I:164:ASN:HD21	1.42	0.68
1:U:344:ILE:HG23	3:U:458:ATP:C2	2.29	0.68
1:X:279:GLN:NE2	1:X:320:ILE:HG12	2.08	0.68
1:X:323:LEU:O	1:X:323:LEU:HD23	1.92	0.68
1:B:349:HIS:O	1:B:350:ALA:HB3	1.94	0.68
1:C:402:ARG:NH2	1:C:433:VAL:HG21	2.08	0.68
2:J:22:LEU:HB2	4:J:175:LVS:HD13	1.75	0.68
1:V:323:LEU:O	1:V:323:LEU:HD23	1.94	0.68
1:C:437:GLU:C	1:C:439:LEU:N	2.43	0.67
1:D:55:MET:HE3	1:D:306:ILE:HG21	1.76	0.67
1:D:352:LEU:HD13	1:D:400:MET:HG3	1.75	0.67
1:C:403:LEU:HD23	1:C:403:LEU:C	2.15	0.67
1:E:280:ARG:HH11	1:E:280:ARG:HG3	1.57	0.67
2:N:37:LEU:HB2	2:N:42:VAL:HG23	1.74	0.67
1:T:369:PHE:CE2	1:T:421:ILE:HD12	2.29	0.67
1:A:235:ILE:O	1:A:236:ASN:HB3	1.93	0.67
1:A:264:LYS:HA	1:A:272:ASP:OD1	1.94	0.67
2:K:56:LEU:HD13	2:K:95:LEU:CG	2.20	0.67
1:V:54:LEU:HD21	1:V:327:LEU:HD13	1.76	0.67
1:V:100:ILE:HG13	1:V:291:VAL:HG21	1.75	0.67
1:D:404:MET:O	1:D:408:SER:HB2	1.94	0.67
2:K:46:PHE:HB3	2:K:95:LEU:CD2	2.24	0.67
1:S:77:PRO:HD2	1:S:251:ASN:O	1.95	0.67
1:X:395:ARG:O	1:X:399:VAL:HG23	1.95	0.67
1:B:20:GLN:HA	1:B:20:GLN:NE2	1.99	0.67
1:W:345:LEU:HD23	1:W:374:VAL:HG13	1.76	0.67
2:R:37:LEU:HB2	2:R:42:VAL:HG23	1.76	0.67
1:U:369:PHE:CE2	1:U:421:ILE:HD12	2.29	0.67
1:W:100:ILE:HG13	1:W:291:VAL:HG21	1.76	0.67
1:A:403:LEU:HD23	1:A:403:LEU:C	2.14	0.67
1:V:279:GLN:NE2	1:V:320:ILE:HG12	2.09	0.67
1:A:37:ARG:HD2	1:A:48:VAL:HG13	1.75	0.67
1:E:403:LEU:HD23	1:E:404:MET:N	2.09	0.67
1:F:280:ARG:HH11	1:F:280:ARG:HG3	1.60	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Q:37:LEU:HB2	2:Q:42:VAL:HG23	1.77	0.67
1:W:395:ARG:O	1:W:399:VAL:HG23	1.95	0.67
2:Q:105:ILE:HG23	2:Q:113:VAL:HB	1.76	0.67
1:S:75:ASN:HD21	1:S:110:LEU:CD2	2.07	0.67
1:S:326:ARG:HA	1:S:326:ARG:HH11	1.60	0.67
1:V:327:LEU:N	1:V:328:PRO:HD3	2.09	0.67
2:I:17:ASP:O	2:I:33:LYS:HD2	1.94	0.67
2:N:131:LEU:HD11	2:N:135:ARG:NE	2.10	0.67
1:U:54:LEU:HD21	1:U:327:LEU:HD13	1.77	0.67
1:X:327:LEU:N	1:X:328:PRO:HD3	2.07	0.67
2:G:1:THR:H1	4:G:175:LVS:C1'	2.07	0.66
2:G:144:SER:OG	2:G:147:GLU:HG3	1.95	0.66
2:Q:1:THR:HG23	2:Q:33:LYS:CE	2.21	0.66
1:C:440:SER:O	1:C:442:PHE:N	2.28	0.66
2:P:1:THR:N	4:P:175:LVS:CS	2.58	0.66
1:V:439:LEU:O	1:V:441:ARG:N	2.27	0.66
1:X:345:LEU:HD23	1:X:374:VAL:HG13	1.77	0.66
1:D:440:SER:O	1:D:442:PHE:N	2.28	0.66
2:R:17:ASP:HA	2:R:167:PHE:HB3	1.77	0.66
1:V:42:GLU:HB3	1:V:43:PRO:HD3	1.78	0.66
1:V:326:ARG:HA	1:V:326:ARG:HH11	1.61	0.66
1:E:20:GLN:HA	1:E:20:GLN:NE2	2.02	0.66
1:U:42:GLU:HB3	1:U:43:PRO:HD3	1.78	0.66
2:O:17:ASP:HB2	2:O:164:ASN:ND2	2.10	0.66
1:A:440:SER:HB3	2:H:32:ARG:HH22	1.60	0.66
1:D:443:ILE:HG21	2:J:114:GLN:HG3	1.77	0.66
2:L:3:ILE:HG22	2:L:96:ILE:HD12	1.76	0.66
1:T:345:LEU:HD23	1:T:374:VAL:HG13	1.77	0.66
1:X:42:GLU:HB3	1:X:43:PRO:HD3	1.77	0.66
2:H:48:GLY:H	4:H:175:LVS:H2'	1.61	0.66
2:N:105:ILE:HG23	2:N:113:VAL:HB	1.77	0.66
1:S:395:ARG:O	1:S:399:VAL:HG23	1.96	0.66
1:U:279:GLN:NE2	1:U:320:ILE:HG12	2.09	0.66
1:B:5:THR:O	1:B:9:ILE:HG13	1.96	0.66
1:C:79:ILE:CG2	1:C:103:LEU:HD13	2.23	0.66
1:D:437:GLU:C	1:D:439:LEU:N	2.44	0.66
2:L:1:THR:CG2	2:L:33:LYS:HE3	2.26	0.66
1:U:345:LEU:HD23	1:U:374:VAL:HG13	1.78	0.66
2:H:18:GLY:H	2:H:164:ASN:HD21	1.41	0.65
2:O:7:ARG:NE	2:O:12:VAL:HG22	2.06	0.65
1:S:279:GLN:NE2	1:S:320:ILE:HG12	2.11	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:265:LYS:HA	1:U:269:SER:HB3	1.78	0.65
1:F:349:HIS:O	1:F:350:ALA:HB3	1.96	0.65
1:T:7:ARG:NH1	1:U:410:SER:HB3	2.11	0.65
1:U:385:ASN:ND2	1:U:395:ARG:HE	1.94	0.65
3:D:453:ATP:C8	3:D:453:ATP:H5'1	2.32	0.65
1:F:367:ILE:HD11	1:F:421:ILE:HD11	1.77	0.65
1:X:18:ILE:HD11	1:X:343:ARG:NH2	2.11	0.65
2:G:1:THR:CG2	2:G:33:LYS:CD	2.42	0.65
2:J:1:THR:H1	4:J:175:LVS:CS	2.09	0.65
1:T:75:ASN:HD21	1:T:110:LEU:HD22	1.61	0.65
1:A:402:ARG:NH2	1:A:433:VAL:HG21	2.11	0.65
2:J:1:THR:H3	4:J:175:LVS:CS	2.10	0.65
2:N:18:GLY:H	2:N:164:ASN:HD21	1.42	0.65
1:X:326:ARG:HA	1:X:326:ARG:HH11	1.60	0.65
1:D:270:GLY:C	1:D:272:ASP:H	1.99	0.65
2:G:164:ASN:HD22	2:G:164:ASN:C	1.98	0.65
2:M:1:THR:N	4:M:175:LVS:CS	2.60	0.65
2:M:7:ARG:NE	2:M:12:VAL:HG22	2.03	0.65
2:M:18:GLY:HA2	2:M:33:LYS:HZ2	1.61	0.65
2:P:37:LEU:HB2	2:P:42:VAL:HG23	1.76	0.65
1:T:326:ARG:HH11	1:T:326:ARG:HA	1.60	0.65
1:X:77:PRO:HD2	1:X:251:ASN:O	1.97	0.65
1:E:443:ILE:HG23	2:K:112:VAL:HG23	1.78	0.65
2:H:46:PHE:HB3	2:H:95:LEU:CD2	2.27	0.65
2:R:19:GLN:H	2:R:33:LYS:HZ1	1.43	0.65
1:T:77:PRO:HD2	1:T:251:ASN:O	1.97	0.65
1:A:280:ARG:HH11	1:A:280:ARG:HG3	1.61	0.65
2:I:164:ASN:C	2:I:164:ASN:HD22	1.99	0.65
2:P:112:VAL:HB	1:V:443:ILE:HD12	1.79	0.65
2:Q:72:LEU:HG	1:W:438:ASP:OD2	1.97	0.65
2:I:116:GLU:HG2	2:J:30:ASN:HD21	1.61	0.65
1:U:77:PRO:HD2	1:U:251:ASN:O	1.97	0.65
1:V:77:PRO:HD2	1:V:251:ASN:O	1.96	0.65
2:Q:1:THR:HG22	2:Q:33:LYS:NZ	2.12	0.65
1:B:362:THR:HG21	1:C:39:GLN:HG2	1.78	0.64
2:N:1:THR:N	4:N:175:LVS:CS	2.60	0.64
1:V:265:LYS:HA	1:V:269:SER:HB3	1.80	0.64
1:X:54:LEU:HD21	1:X:327:LEU:HD13	1.77	0.64
1:X:265:LYS:HA	1:X:269:SER:HB3	1.79	0.64
1:B:437:GLU:C	1:B:439:LEU:H	2.00	0.64
1:D:17:ILE:N	1:D:17:ILE:HD12	2.12	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:63:LYS:HD2	1:E:308:SER:HB2	1.78	0.64
1:B:440:SER:O	1:B:442:PHE:N	2.29	0.64
1:E:270:GLY:C	1:E:272:ASP:H	2.00	0.64
1:T:245:ILE:HD11	1:T:295:HIS:O	1.97	0.64
1:U:326:ARG:HA	1:U:326:ARG:HH11	1.61	0.64
1:C:52:ASN:O	1:C:328:PRO:HD2	1.98	0.64
1:W:42:GLU:HB3	1:W:43:PRO:HD3	1.79	0.64
2:O:131:LEU:HD11	2:O:135:ARG:NE	2.11	0.64
2:Q:1:THR:N	4:Q:175:LVS:CS	2.60	0.64
1:W:328:PRO:HA	1:X:398:THR:HG22	1.80	0.64
2:G:17:ASP:C	2:G:33:LYS:NZ	2.50	0.64
2:K:81:ASP:O	2:K:88:LEU:HB2	1.97	0.64
1:W:54:LEU:HD21	1:W:327:LEU:HD13	1.78	0.64
1:E:60:GLY:HA2	3:E:454:ATP:O3A	1.98	0.64
1:F:402:ARG:HH22	1:F:433:VAL:HG21	1.61	0.64
1:F:443:ILE:HG21	2:L:114:GLN:HG3	1.79	0.64
2:M:105:ILE:HG23	2:M:113:VAL:HB	1.80	0.64
1:S:118:LYS:C	1:S:118:LYS:HD3	2.18	0.64
1:S:265:LYS:HA	1:S:269:SER:HB3	1.80	0.64
1:U:279:GLN:HE22	1:U:320:ILE:N	1.95	0.64
2:H:86:ARG:HB3	2:H:86:ARG:NH1	2.11	0.64
2:I:86:ARG:HB3	2:I:86:ARG:NH1	2.10	0.64
2:P:17:ASP:HB2	2:P:164:ASN:ND2	2.13	0.64
1:S:42:GLU:HB3	1:S:43:PRO:HD3	1.80	0.64
1:T:42:GLU:HB3	1:T:43:PRO:HD3	1.79	0.64
1:V:370:THR:CG2	1:V:422:ASP:HA	2.28	0.64
1:X:256:ILE:HD13	1:X:282:LEU:HD21	1.80	0.64
1:B:20:GLN:CA	1:B:20:GLN:NE2	2.57	0.64
1:C:406:LYS:HD2	1:C:406:LYS:N	2.03	0.64
1:F:440:SER:O	1:F:442:PHE:N	2.31	0.64
2:I:116:GLU:HG2	2:J:30:ASN:ND2	2.13	0.64
1:T:54:LEU:HD21	1:T:327:LEU:HD13	1.79	0.64
1:T:64:THR:HB	3:T:457:ATP:O1A	1.97	0.64
1:W:326:ARG:HH11	1:W:326:ARG:HA	1.62	0.64
1:B:403:LEU:HD23	1:B:403:LEU:C	2.17	0.64
1:D:233:LYS:HB2	1:D:233:LYS:NZ	2.13	0.64
2:H:37:LEU:HD21	2:H:57:PHE:CZ	2.33	0.64
1:U:439:LEU:O	1:U:441:ARG:N	2.30	0.64
1:A:440:SER:O	1:A:442:PHE:N	2.31	0.63
1:F:37:ARG:HD2	1:F:48:VAL:HG13	1.79	0.63
1:F:367:ILE:HD11	1:F:421:ILE:CD1	2.28	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:56:LEU:HD13	2:L:95:LEU:CG	2.21	0.63
2:R:131:LEU:HD11	2:R:135:ARG:NE	2.13	0.63
1:W:265:LYS:HA	1:W:269:SER:HB3	1.80	0.63
1:W:279:GLN:NE2	1:W:320:ILE:HG12	2.12	0.63
1:A:409:PHE:CE1	1:B:6:PRO:HB3	2.33	0.63
1:D:406:LYS:H	1:D:406:LYS:CD	2.05	0.63
1:F:60:GLY:HA2	3:F:455:ATP:O3A	1.98	0.63
2:K:18:GLY:H	2:K:164:ASN:HD21	1.43	0.63
2:N:7:ARG:HH21	2:N:12:VAL:CG2	2.11	0.63
2:O:105:ILE:HG23	2:O:113:VAL:HB	1.79	0.63
2:Q:17:ASP:HB2	2:Q:164:ASN:ND2	2.14	0.63
1:E:37:ARG:HD2	1:E:48:VAL:HG13	1.80	0.63
1:F:403:LEU:HD23	1:F:404:MET:N	2.13	0.63
2:L:125:SER:H	4:L:175:LVS:C1'	2.11	0.63
2:P:3:ILE:O	2:P:122:ALA:HA	1.98	0.63
1:T:265:LYS:HA	1:T:269:SER:HB3	1.80	0.63
1:V:5:THR:OG1	1:V:6:PRO:HD2	1.97	0.63
1:C:280:ARG:HH11	1:C:280:ARG:HG3	1.63	0.63
2:J:7:ARG:HD2	2:J:119:GLN:CG	2.27	0.63
2:L:48:GLY:H	4:L:175:LVS:H2'	1.64	0.63
2:R:105:ILE:HG23	2:R:113:VAL:HB	1.80	0.63
1:S:54:LEU:HD21	1:S:327:LEU:HD13	1.80	0.63
1:D:367:ILE:HD11	1:D:421:ILE:HD11	1.81	0.63
2:N:17:ASP:O	2:N:33:LYS:HG3	1.97	0.63
1:X:279:GLN:HE22	1:X:320:ILE:N	1.95	0.63
1:A:408:SER:O	1:B:36:ARG:NH2	2.30	0.63
2:L:37:LEU:HD21	2:L:57:PHE:CZ	2.33	0.63
2:H:3:ILE:HG22	2:H:96:ILE:HD12	1.81	0.63
2:M:17:ASP:O	2:M:33:LYS:NZ	2.30	0.63
1:B:352:LEU:HD13	1:B:400:MET:HG3	1.81	0.63
1:F:20:GLN:HA	1:F:20:GLN:NE2	2.06	0.63
2:O:1:THR:HG21	2:O:33:LYS:HD3	1.72	0.63
1:T:15:GLN:O	1:T:348:PRO:HA	1.99	0.63
2:I:1:THR:CG2	2:I:33:LYS:HZ1	1.97	0.62
2:L:46:PHE:HB3	2:L:95:LEU:CD2	2.28	0.62
2:P:5:SER:HB2	2:P:14:VAL:HG22	1.81	0.62
1:T:279:GLN:HE22	1:T:320:ILE:N	1.97	0.62
1:V:385:ASN:ND2	1:V:395:ARG:HE	1.97	0.62
2:P:3:ILE:HB	2:P:123:ILE:HG13	1.81	0.62
1:E:409:PHE:CD1	1:F:6:PRO:HB3	2.34	0.62
2:G:18:GLY:HA2	2:G:33:LYS:HZ2	1.63	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:116:GLU:HG2	2:I:30:ASN:ND2	2.14	0.62
2:H:137:LEU:CD1	2:N:136:ALA:HB1	2.29	0.62
2:O:1:THR:N	4:O:175:LVS:CS	2.61	0.62
2:Q:1:THR:HG21	2:Q:33:LYS:HD3	1.76	0.62
1:T:345:LEU:HD13	1:T:396:LEU:HD22	1.81	0.62
1:V:345:LEU:HD23	1:V:374:VAL:HG13	1.80	0.62
2:G:18:GLY:C	2:G:33:LYS:HZ1	2.02	0.62
2:M:18:GLY:CA	2:M:33:LYS:HZ2	2.13	0.62
2:Q:1:THR:CG2	2:Q:33:LYS:HE2	2.19	0.62
2:R:8:ARG:O	2:R:11:GLN:HB2	1.99	0.62
1:U:18:ILE:HD11	1:U:343:ARG:NH2	2.14	0.62
1:U:370:THR:CG2	1:U:422:ASP:HA	2.30	0.62
1:X:115:GLU:HG2	1:X:119:ASN:ND2	2.14	0.62
2:I:1:THR:HG23	2:I:33:LYS:CE	2.24	0.62
2:K:1:THR:H3	4:K:175:LVS:C2'	2.12	0.62
2:M:83:ARG:HG2	2:R:55:THR:HG22	1.80	0.62
2:O:17:ASP:HA	2:O:167:PHE:HB3	1.81	0.62
2:P:55:THR:HG22	2:Q:83:ARG:HG2	1.82	0.62
1:W:444:LEU:HD22	1:W:444:LEU:OXT	1.99	0.62
2:G:46:PHE:HB3	2:G:95:LEU:CD2	2.29	0.62
2:J:46:PHE:HB3	2:J:95:LEU:CD2	2.29	0.62
2:O:112:VAL:HB	1:U:443:ILE:HD12	1.80	0.62
2:R:47:ALA:HB3	2:R:123:ILE:HD12	1.81	0.62
2:M:72:LEU:HG	1:S:438:ASP:OD2	2.00	0.62
2:M:112:VAL:HB	1:S:443:ILE:HD12	1.79	0.62
1:S:244:ALA:O	1:S:247:ALA:HB3	1.99	0.62
2:I:67:HIS:CD2	2:I:73:LYS:HE3	2.35	0.62
2:N:2:THR:OG1	2:N:126:GLY:HA3	1.99	0.62
2:P:2:THR:OG1	2:P:126:GLY:HA3	2.00	0.62
1:D:280:ARG:HH11	1:D:280:ARG:HG3	1.64	0.62
1:F:5:THR:O	1:F:9:ILE:HG13	1.99	0.62
2:G:19:GLN:N	2:G:33:LYS:HZ1	1.96	0.62
2:K:4:VAL:HG23	2:K:122:ALA:HB2	1.82	0.62
2:K:22:LEU:HB2	4:K:175:LVS:HD13	1.81	0.62
2:O:1:THR:HG22	2:O:33:LYS:NZ	2.14	0.62
2:P:112:VAL:HB	1:V:443:ILE:CD1	2.30	0.62
1:S:5:THR:OG1	1:S:6:PRO:HD2	1.99	0.62
1:S:345:LEU:HD23	1:S:374:VAL:HG13	1.80	0.62
1:T:439:LEU:O	1:T:441:ARG:N	2.33	0.62
1:B:83:ALA:HB1	1:B:262:ILE:HD13	1.82	0.62
1:D:409:PHE:CE1	1:E:6:PRO:HB3	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:81:ASP:O	2:H:88:LEU:HB2	2.00	0.62
2:I:37:LEU:HD21	2:I:57:PHE:CZ	2.35	0.62
1:T:5:THR:OG1	1:T:6:PRO:HD2	2.00	0.62
1:A:407:ILE:HD11	1:A:419:VAL:HG11	1.81	0.61
1:C:64:THR:HB	3:C:452:ATP:O1A	2.00	0.61
2:K:1:THR:H1	4:K:175:LVS:CS	2.13	0.61
2:M:17:ASP:HB2	2:M:164:ASN:ND2	2.15	0.61
1:F:52:ASN:O	1:F:328:PRO:HD2	2.00	0.61
2:I:105:ILE:CG2	2:I:113:VAL:HB	2.27	0.61
2:P:7:ARG:HH21	2:P:12:VAL:CG2	2.14	0.61
1:S:370:THR:CG2	1:S:422:ASP:HA	2.29	0.61
1:T:370:THR:CG2	1:T:422:ASP:HA	2.31	0.61
1:W:18:ILE:HD11	1:W:343:ARG:NH2	2.15	0.61
2:G:86:ARG:HB3	2:G:86:ARG:NH1	2.10	0.61
2:I:137:LEU:CD1	2:O:136:ALA:HB1	2.31	0.61
2:R:19:GLN:H	2:R:33:LYS:NZ	1.98	0.61
1:T:385:ASN:ND2	1:T:395:ARG:HE	1.98	0.61
1:A:39:GLN:HG2	1:F:362:THR:HG23	1.81	0.61
1:C:349:HIS:O	1:C:350:ALA:HB3	1.98	0.61
1:C:363:GLU:OE1	1:C:412:SER:HA	2.01	0.61
2:I:81:ASP:O	2:I:88:LEU:HB2	2.01	0.61
1:U:23:ALA:O	1:U:27:VAL:HG23	2.01	0.61
2:K:1:THR:CG2	2:K:17:ASP:OD1	2.46	0.61
2:Q:17:ASP:OD2	2:Q:33:LYS:NZ	2.34	0.61
1:C:23:ALA:HA	1:C:331:VAL:HG21	1.81	0.61
1:E:403:LEU:HD23	1:E:403:LEU:C	2.21	0.61
1:F:444:LEU:HD23	2:L:113:VAL:HG22	1.83	0.61
2:G:83:ARG:CG	2:H:55:THR:HG22	2.31	0.61
1:V:80:LYS:HG3	1:V:255:PHE:HD2	1.64	0.61
1:F:63:LYS:HD2	1:F:308:SER:HB2	1.83	0.61
2:G:30:ASN:ND2	2:L:116:GLU:HG2	2.16	0.61
1:T:256:ILE:HD13	1:T:282:LEU:HD21	1.83	0.61
1:D:37:ARG:HD2	1:D:48:VAL:HG13	1.82	0.61
2:J:137:LEU:CD1	2:P:136:ALA:HB1	2.31	0.61
2:J:164:ASN:HD22	2:J:164:ASN:C	2.04	0.61
1:U:5:THR:OG1	1:U:6:PRO:HD2	2.00	0.61
1:X:370:THR:CG2	1:X:422:ASP:HA	2.30	0.61
1:F:58:PRO:HG2	1:F:61:VAL:HG11	1.82	0.61
2:G:60:PHE:HZ	2:G:71:LEU:HD22	1.66	0.61
2:L:86:ARG:HB3	2:L:86:ARG:NH1	2.13	0.61
1:W:256:ILE:HD13	1:W:282:LEU:HD21	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:385:ASN:ND2	1:W:395:ARG:HE	1.99	0.61
3:B:451:ATP:H5'1	3:B:451:ATP:H8	1.65	0.60
2:L:1:THR:H3	4:L:175:LVS:CS	2.13	0.60
2:N:72:LEU:HG	1:T:438:ASP:OD2	2.00	0.60
2:P:81:ASP:HB3	2:P:88:LEU:HD12	1.83	0.60
1:T:63:LYS:HG2	1:T:333:LEU:CD1	2.31	0.60
1:W:5:THR:OG1	1:W:6:PRO:HD2	2.02	0.60
1:E:233:LYS:HA	1:E:233:LYS:HZ2	1.66	0.60
2:N:46:PHE:HB3	2:N:95:LEU:HD12	1.84	0.60
2:P:19:GLN:H	2:P:33:LYS:NZ	1.99	0.60
2:Q:1:THR:CG2	2:Q:33:LYS:NZ	2.63	0.60
1:C:444:LEU:OXT	2:I:113:VAL:HA	2.02	0.60
2:I:1:THR:H3	4:I:175:LVS:C2'	2.14	0.60
2:K:7:ARG:HD2	2:K:119:GLN:CG	2.31	0.60
1:S:279:GLN:HE22	1:S:320:ILE:N	1.98	0.60
1:W:77:PRO:HD2	1:W:251:ASN:O	2.00	0.60
1:C:352:LEU:HD13	1:C:400:MET:HG3	1.82	0.60
1:E:264:LYS:HA	1:E:272:ASP:OD1	2.00	0.60
2:J:136:ALA:HB1	2:P:137:LEU:HD13	1.84	0.60
2:M:7:ARG:HH21	2:M:12:VAL:CG2	2.14	0.60
2:O:17:ASP:HB2	2:O:164:ASN:HD22	1.66	0.60
1:D:20:GLN:HA	1:D:20:GLN:NE2	2.11	0.60
2:H:4:VAL:HG23	2:H:122:ALA:HB2	1.84	0.60
2:I:33:LYS:NZ	4:I:175:LVS:CB3	2.64	0.60
2:M:8:ARG:O	2:M:11:GLN:HB2	2.01	0.60
2:N:104:LEU:HD13	2:N:112:VAL:CG1	2.32	0.60
2:P:17:ASP:HA	2:P:167:PHE:HB3	1.82	0.60
2:Q:7:ARG:HH21	2:Q:12:VAL:CG2	2.14	0.60
1:S:80:LYS:HG3	1:S:255:PHE:HD2	1.66	0.60
1:V:279:GLN:HE22	1:V:320:ILE:N	1.97	0.60
1:A:404:MET:O	1:A:408:SER:HB2	2.01	0.60
1:E:406:LYS:HD2	1:E:406:LYS:N	2.11	0.60
2:G:56:LEU:HD13	2:G:95:LEU:CG	2.30	0.60
2:J:60:PHE:HZ	2:J:71:LEU:HD22	1.67	0.60
2:K:67:HIS:CD2	2:K:73:LYS:HE3	2.37	0.60
2:M:17:ASP:HA	2:M:167:PHE:HB3	1.83	0.60
2:N:3:ILE:O	2:N:122:ALA:HA	2.01	0.60
2:O:17:ASP:O	2:O:33:LYS:HG3	2.01	0.60
1:W:63:LYS:HG2	1:W:333:LEU:CD1	2.31	0.60
1:X:5:THR:OG1	1:X:6:PRO:HD2	2.01	0.60
1:B:264:LYS:HA	1:B:272:ASP:OD1	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:367:ILE:HD11	1:C:421:ILE:CD1	2.32	0.60
1:D:349:HIS:O	1:D:350:ALA:HB3	2.02	0.60
1:E:349:HIS:O	1:E:350:ALA:HB3	2.02	0.60
2:G:1:THR:H3	4:G:175:LVS:C2'	2.15	0.60
2:N:19:GLN:H	2:N:33:LYS:HZ2	1.50	0.60
1:A:403:LEU:CD1	1:A:426:VAL:HG22	2.32	0.60
2:M:112:VAL:HB	1:S:443:ILE:CD1	2.32	0.60
1:X:239:GLU:C	1:X:241:LYS:H	2.05	0.60
1:A:20:GLN:HA	1:A:20:GLN:NE2	2.14	0.60
1:B:443:ILE:CD1	2:H:72:LEU:HD11	2.32	0.60
1:C:264:LYS:HA	1:C:272:ASP:OD1	2.02	0.60
2:I:46:PHE:HB3	2:I:95:LEU:CD2	2.31	0.60
2:J:116:GLU:HG2	2:K:30:ASN:ND2	2.17	0.60
2:K:67:HIS:HD2	2:K:73:LYS:HE3	1.67	0.60
2:O:5:SER:HB2	2:O:14:VAL:HG22	1.83	0.60
2:Q:81:ASP:HB3	2:Q:88:LEU:HD12	1.83	0.60
1:X:15:GLN:O	1:X:348:PRO:HA	2.02	0.60
1:X:345:LEU:HD13	1:X:396:LEU:HD22	1.84	0.60
1:B:62:GLY:O	1:B:66:ILE:HG13	2.01	0.60
1:D:264:LYS:HA	1:D:272:ASP:OD1	2.02	0.60
2:H:60:PHE:HZ	2:H:71:LEU:HD22	1.67	0.60
2:O:81:ASP:HB3	2:O:88:LEU:HD12	1.84	0.60
1:X:344:ILE:HG23	3:X:461:ATP:C2	2.37	0.60
1:C:37:ARG:HD2	1:C:48:VAL:HG13	1.84	0.59
1:D:63:LYS:HD2	1:D:308:SER:HB2	1.83	0.59
1:D:403:LEU:HD23	1:D:403:LEU:C	2.21	0.59
1:E:5:THR:O	1:E:9:ILE:HG13	2.02	0.59
1:E:17:ILE:HD12	1:E:17:ILE:N	2.17	0.59
2:K:137:LEU:CD1	2:Q:136:ALA:HB1	2.31	0.59
1:V:23:ALA:O	1:V:27:VAL:HG23	2.02	0.59
1:W:80:LYS:HG3	1:W:255:PHE:HD2	1.67	0.59
1:W:370:THR:CG2	1:W:422:ASP:HA	2.30	0.59
1:A:443:ILE:HG23	2:G:112:VAL:HG23	1.84	0.59
2:G:88:LEU:O	2:G:89:ARG:CB	2.50	0.59
1:U:7:ARG:HH12	1:V:410:SER:HB3	1.67	0.59
1:V:108:MET:SD	1:V:244:ALA:HB1	2.42	0.59
1:B:270:GLY:C	1:B:272:ASP:H	2.05	0.59
1:C:55:MET:HE3	1:C:306:ILE:HG21	1.83	0.59
3:E:454:ATP:H8	3:E:454:ATP:C5'	2.15	0.59
2:G:55:THR:HG22	2:L:83:ARG:CG	2.31	0.59
2:G:81:ASP:O	2:G:88:LEU:HB2	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:105:ILE:CG2	2:H:113:VAL:HB	2.29	0.59
2:H:164:ASN:C	2:H:164:ASN:HD22	2.05	0.59
2:J:81:ASP:O	2:J:88:LEU:HB2	2.01	0.59
2:L:88:LEU:O	2:L:89:ARG:CB	2.50	0.59
2:P:46:PHE:HB3	2:P:95:LEU:HD12	1.83	0.59
2:P:105:ILE:HG23	2:P:113:VAL:HB	1.82	0.59
2:Q:55:THR:HG22	2:R:83:ARG:HG2	1.85	0.59
1:S:385:ASN:ND2	1:S:395:ARG:HE	1.99	0.59
1:B:408:SER:O	1:C:36:ARG:NH2	2.34	0.59
1:S:256:ILE:HD13	1:S:282:LEU:HD21	1.84	0.59
1:U:256:ILE:HD13	1:U:282:LEU:HD21	1.83	0.59
1:C:232:ALA:C	1:C:233:LYS:HD3	2.23	0.59
2:G:30:ASN:HD21	2:L:116:GLU:HG2	1.67	0.59
2:G:56:LEU:HD12	2:G:95:LEU:HG	1.80	0.59
2:M:46:PHE:HB3	2:M:95:LEU:HD12	1.85	0.59
1:S:345:LEU:HD13	1:S:396:LEU:HD22	1.84	0.59
1:A:5:THR:O	1:A:9:ILE:HG13	2.02	0.59
2:K:164:ASN:C	2:K:164:ASN:HD22	2.04	0.59
2:N:17:ASP:HB2	2:N:164:ASN:ND2	2.17	0.59
2:N:81:ASP:HB3	2:N:88:LEU:HD12	1.84	0.59
1:A:443:ILE:HD11	2:G:72:LEU:HD11	1.85	0.59
1:E:362:THR:CG2	1:F:39:GLN:HG2	2.32	0.59
1:F:83:ALA:HB1	1:F:262:ILE:HD13	1.83	0.59
2:G:18:GLY:H	2:G:164:ASN:HD21	1.50	0.59
2:O:47:ALA:HB3	2:O:123:ILE:HD12	1.82	0.59
2:R:17:ASP:HB2	2:R:164:ASN:ND2	2.18	0.59
1:T:80:LYS:HG3	1:T:255:PHE:HD2	1.67	0.59
1:W:64:THR:HB	3:W:460:ATP:O1A	2.02	0.59
1:F:246:ASP:O	1:F:250:GLN:HG2	2.03	0.59
2:H:7:ARG:HD2	2:H:119:GLN:CG	2.32	0.59
1:W:120:ARG:HD2	1:W:120:ARG:N	2.10	0.59
1:W:346:THR:HG22	1:W:353:THR:HG21	1.85	0.59
1:A:363:GLU:OE1	1:A:412:SER:HA	2.03	0.59
1:C:58:PRO:HG2	1:C:61:VAL:HG11	1.85	0.59
3:D:453:ATP:H5'1	3:D:453:ATP:H8	1.68	0.59
2:H:83:ARG:CG	2:I:55:THR:HG22	2.33	0.59
1:C:5:THR:O	1:C:9:ILE:HG13	2.02	0.59
1:D:20:GLN:CA	1:D:20:GLN:NE2	2.66	0.59
1:D:402:ARG:NH2	1:D:433:VAL:CG2	2.66	0.59
2:H:1:THR:HG23	2:H:33:LYS:HZ2	1.63	0.59
2:L:33:LYS:HZ2	4:L:175:LVS:HB32	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:60:PHE:HZ	2:L:71:LEU:HD22	1.68	0.59
2:P:17:ASP:HB2	2:P:164:ASN:HD22	1.68	0.59
2:R:17:ASP:CG	2:R:33:LYS:NZ	2.56	0.59
2:R:81:ASP:HB3	2:R:88:LEU:HD12	1.83	0.59
1:A:403:LEU:CD2	1:A:404:MET:SD	2.91	0.58
2:I:88:LEU:O	2:I:89:ARG:CB	2.51	0.58
2:M:105:ILE:CG2	2:M:113:VAL:HB	2.33	0.58
2:O:19:GLN:H	2:O:33:LYS:NZ	1.99	0.58
2:P:105:ILE:CG2	2:P:113:VAL:HB	2.33	0.58
2:R:17:ASP:OD2	2:R:33:LYS:NZ	2.36	0.58
2:N:17:ASP:HA	2:N:167:PHE:HB3	1.85	0.58
1:S:410:SER:HB3	1:X:7:ARG:NH1	2.17	0.58
1:V:297:MET:CE	1:W:105:ASP:HB3	2.33	0.58
2:K:86:ARG:HB3	2:K:86:ARG:NH1	2.15	0.58
2:O:1:THR:HG23	2:O:33:LYS:NZ	2.13	0.58
1:S:23:ALA:O	1:S:27:VAL:HG23	2.03	0.58
1:S:328:PRO:HA	1:T:398:THR:HG22	1.86	0.58
1:W:63:LYS:HB2	3:W:460:ATP:O2B	2.03	0.58
1:C:111:VAL:HG12	1:C:112:ARG:N	2.19	0.58
1:F:403:LEU:HD23	1:F:403:LEU:C	2.24	0.58
2:K:161:VAL:HG13	2:P:24:ASN:O	2.04	0.58
1:X:23:ALA:O	1:X:27:VAL:HG23	2.04	0.58
1:F:270:GLY:C	1:F:272:ASP:H	2.07	0.58
2:J:18:GLY:H	2:J:164:ASN:HD21	1.51	0.58
2:L:81:ASP:O	2:L:88:LEU:HB2	2.02	0.58
1:V:15:GLN:O	1:V:348:PRO:HA	2.04	0.58
1:V:240:LEU:O	1:V:244:ALA:HB3	2.03	0.58
1:V:346:THR:HG22	1:V:353:THR:HG21	1.86	0.58
1:A:119:ASN:HB2	1:A:234:LEU:HD11	1.85	0.58
1:D:355:GLN:O	1:D:359:LEU:HD23	2.03	0.58
1:F:119:ASN:HD21	1:F:234:LEU:HD12	1.67	0.58
2:J:1:THR:HG23	2:J:33:LYS:HE3	1.85	0.58
2:N:28:LYS:HE2	2:N:30:ASN:OD1	2.03	0.58
2:Q:105:ILE:CG2	2:Q:113:VAL:HB	2.33	0.58
1:S:7:ARG:HH12	1:T:410:SER:HB3	1.69	0.58
1:X:352:LEU:HD13	1:X:400:MET:HG3	1.86	0.58
1:A:37:ARG:HD2	1:A:48:VAL:CG1	2.33	0.58
1:B:73:LEU:HD12	1:B:73:LEU:O	2.04	0.58
1:C:65:GLU:HG3	3:C:452:ATP:O2'	2.04	0.58
2:M:3:ILE:HB	2:M:123:ILE:HG13	1.85	0.58
2:P:1:THR:HG23	2:P:33:LYS:NZ	2.13	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:23:ALA:HA	1:S:331:VAL:HG21	1.86	0.58
1:V:64:THR:HB	3:V:459:ATP:O1A	2.04	0.58
1:V:280:ARG:HG3	1:W:82:GLU:OE1	2.02	0.58
1:V:439:LEU:H	1:V:439:LEU:CD2	2.14	0.58
1:A:352:LEU:HD13	1:A:400:MET:HG3	1.85	0.58
1:D:55:MET:CE	1:D:306:ILE:HG21	2.33	0.58
2:H:67:HIS:HD2	2:H:73:LYS:HE3	1.69	0.58
1:U:15:GLN:O	1:U:348:PRO:HA	2.04	0.58
1:A:100:ILE:HB	1:A:291:VAL:HG21	1.85	0.58
1:C:270:GLY:C	1:C:272:ASP:H	2.06	0.58
1:D:9:ILE:HD13	1:D:31:LEU:HD23	1.86	0.58
2:G:4:VAL:HG23	2:G:122:ALA:HB2	1.85	0.58
2:H:88:LEU:O	2:H:89:ARG:CB	2.51	0.58
2:L:67:HIS:CD2	2:L:73:LYS:HE3	2.38	0.58
1:X:385:ASN:ND2	1:X:395:ARG:HE	2.00	0.58
1:A:362:THR:CG2	1:B:39:GLN:HG2	2.33	0.58
1:D:23:ALA:HA	1:D:331:VAL:HG21	1.85	0.58
1:E:100:ILE:HB	1:E:291:VAL:HG21	1.85	0.58
2:P:1:THR:HG21	2:P:33:LYS:HD3	1.70	0.58
2:R:2:THR:OG1	2:R:126:GLY:HA3	2.03	0.58
1:F:264:LYS:HA	1:F:272:ASP:OD1	2.04	0.57
2:G:22:LEU:HB2	4:G:175:LVS:HD13	1.86	0.57
2:H:67:HIS:CD2	2:H:73:LYS:HE3	2.39	0.57
2:K:88:LEU:O	2:K:89:ARG:CB	2.52	0.57
2:Q:8:ARG:HB3	2:Q:8:ARG:HH11	1.69	0.57
1:W:279:GLN:HE22	1:W:320:ILE:N	2.00	0.57
1:B:437:GLU:HG3	1:B:439:LEU:HD12	1.84	0.57
1:B:444:LEU:OXT	2:H:113:VAL:HA	2.03	0.57
2:I:4:VAL:HG23	2:I:122:ALA:HB2	1.86	0.57
2:L:67:HIS:HD2	2:L:73:LYS:HE3	1.69	0.57
2:M:81:ASP:HB3	2:M:88:LEU:HD12	1.85	0.57
1:B:73:LEU:HD12	1:B:73:LEU:C	2.24	0.57
2:N:19:GLN:H	2:N:33:LYS:NZ	2.01	0.57
2:Q:164:ASN:ND2	2:Q:164:ASN:H	2.03	0.57
2:R:7:ARG:HH21	2:R:12:VAL:CG2	2.17	0.57
1:S:346:THR:HG22	1:S:353:THR:HG21	1.86	0.57
1:T:23:ALA:HA	1:T:331:VAL:HG21	1.86	0.57
1:W:23:ALA:O	1:W:27:VAL:HG23	2.04	0.57
1:A:20:GLN:CA	1:A:20:GLN:NE2	2.65	0.57
1:B:234:LEU:O	1:B:234:LEU:HD23	2.04	0.57
2:J:1:THR:N	4:J:175:LVS:C2'	2.66	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:86:ARG:HB3	2:J:86:ARG:NH1	2.13	0.57
2:Q:66:MET:O	2:Q:67:HIS:ND1	2.37	0.57
2:R:7:ARG:HE	2:R:12:VAL:CG2	2.06	0.57
1:S:236:ASN:HB3	1:S:239:GLU:HB2	1.86	0.57
1:A:236:ASN:N	1:A:237:PRO:HD3	2.19	0.57
2:I:83:ARG:CG	2:J:55:THR:HG22	2.34	0.57
2:J:17:ASP:O	2:J:33:LYS:HD3	2.04	0.57
2:M:3:ILE:O	2:M:122:ALA:HA	2.04	0.57
1:V:385:ASN:HD21	1:V:395:ARG:HE	1.53	0.57
1:E:55:MET:HE3	1:E:306:ILE:HG21	1.86	0.57
2:P:7:ARG:NH2	2:P:12:VAL:HG21	2.19	0.57
1:U:352:LEU:HD13	1:U:400:MET:HG3	1.86	0.57
1:V:256:ILE:HD13	1:V:282:LEU:HD21	1.85	0.57
1:B:403:LEU:CD1	1:B:426:VAL:HG22	2.34	0.57
1:C:406:LYS:H	1:C:406:LYS:CD	2.05	0.57
1:D:367:ILE:HD11	1:D:421:ILE:HD12	1.84	0.57
2:I:56:LEU:HD13	2:I:95:LEU:CG	2.26	0.57
2:O:28:LYS:HE2	2:O:30:ASN:OD1	2.05	0.57
1:D:52:ASN:O	1:D:328:PRO:HD2	2.05	0.57
1:E:402:ARG:NH2	1:E:433:VAL:CG2	2.68	0.57
2:Q:17:ASP:C	2:Q:33:LYS:NZ	2.58	0.57
1:S:63:LYS:HG2	1:S:333:LEU:CD1	2.35	0.57
1:C:55:MET:CE	1:C:306:ILE:HG21	2.35	0.57
2:I:1:THR:N	4:I:175:LVS:S	2.78	0.57
2:L:1:THR:HG21	2:L:33:LYS:HZ2	1.66	0.57
2:M:7:ARG:NH2	2:M:12:VAL:HG21	2.19	0.57
1:U:385:ASN:HD21	1:U:395:ARG:HE	1.51	0.57
1:F:100:ILE:HB	1:F:291:VAL:HG21	1.87	0.57
2:H:1:THR:H1	4:H:175:LVS:H1'1	1.68	0.57
2:M:17:ASP:HB2	2:M:164:ASN:HD22	1.70	0.57
2:O:19:GLN:H	2:O:33:LYS:HZ2	1.53	0.57
1:B:63:LYS:HD2	1:B:308:SER:HB2	1.87	0.56
2:J:1:THR:HG23	2:J:33:LYS:NZ	2.20	0.56
2:K:1:THR:H3	4:K:175:LVS:CS	2.16	0.56
2:N:8:ARG:O	2:N:11:GLN:HB2	2.05	0.56
2:Q:3:ILE:O	2:Q:122:ALA:HA	2.04	0.56
2:R:1:THR:HG23	2:R:33:LYS:NZ	2.16	0.56
1:X:23:ALA:HA	1:X:331:VAL:HG21	1.86	0.56
1:B:37:ARG:HD2	1:B:48:VAL:CG1	2.33	0.56
2:I:67:HIS:HD2	2:I:73:LYS:HE3	1.70	0.56
2:O:19:GLN:N	2:O:33:LYS:HZ2	2.01	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:72:LEU:HG	1:V:438:ASP:OD2	2.05	0.56
2:Q:164:ASN:H	2:Q:164:ASN:HD22	1.52	0.56
1:S:352:LEU:HD13	1:S:400:MET:HG3	1.87	0.56
1:T:346:THR:HG22	1:T:353:THR:HG21	1.87	0.56
1:A:17:ILE:N	1:A:17:ILE:HD12	2.19	0.56
1:A:73:LEU:C	1:A:73:LEU:HD12	2.26	0.56
1:B:401:GLU:OE1	1:C:51:LYS:HG3	2.05	0.56
1:D:362:THR:CG2	1:E:39:GLN:HG2	2.35	0.56
2:J:1:THR:N	4:J:175:LVS:O1'	2.37	0.56
2:L:137:LEU:CD1	2:R:136:ALA:HB1	2.35	0.56
2:O:1:THR:N	4:O:175:LVS:O1'	2.38	0.56
2:P:8:ARG:HB3	2:P:8:ARG:HH11	1.71	0.56
2:Q:17:ASP:HB2	2:Q:164:ASN:HD22	1.71	0.56
1:U:63:LYS:HG2	1:U:333:LEU:CD1	2.35	0.56
1:W:23:ALA:HA	1:W:331:VAL:HG21	1.87	0.56
1:W:352:LEU:HD13	1:W:400:MET:HG3	1.87	0.56
1:F:111:VAL:HG21	1:F:244:ALA:HA	1.87	0.56
2:I:144:SER:OG	2:I:147:GLU:HG3	2.06	0.56
2:J:88:LEU:O	2:J:89:ARG:CB	2.53	0.56
2:K:17:ASP:HB2	2:K:164:ASN:ND2	2.20	0.56
2:L:1:THR:N	4:L:175:LVS:C2'	2.67	0.56
2:N:1:THR:CG2	2:N:33:LYS:NZ	2.68	0.56
2:P:1:THR:HG22	2:P:33:LYS:NZ	2.18	0.56
2:P:17:ASP:O	2:P:33:LYS:HG3	2.06	0.56
1:S:297:MET:HG3	1:T:109:LYS:NZ	2.21	0.56
1:U:23:ALA:HA	1:U:331:VAL:HG21	1.88	0.56
1:V:297:MET:HE1	1:W:105:ASP:HB3	1.88	0.56
1:X:439:LEU:H	1:X:439:LEU:CD2	2.13	0.56
2:H:116:GLU:HG2	2:I:30:ASN:HD21	1.70	0.56
2:J:161:VAL:HG13	2:O:24:ASN:O	2.05	0.56
2:P:46:PHE:HB3	2:P:95:LEU:CD1	2.35	0.56
2:Q:8:ARG:O	2:Q:11:GLN:HB2	2.05	0.56
1:S:385:ASN:HD21	1:S:395:ARG:HE	1.53	0.56
1:U:75:ASN:HD21	1:U:110:LEU:HD21	1.69	0.56
1:U:345:LEU:HD13	1:U:396:LEU:HD22	1.88	0.56
1:B:55:MET:CE	1:B:306:ILE:HG21	2.36	0.56
1:D:73:LEU:C	1:D:73:LEU:HD12	2.26	0.56
1:E:403:LEU:CD2	1:E:404:MET:SD	2.93	0.56
2:O:8:ARG:HB3	2:O:8:ARG:HH11	1.71	0.56
1:V:63:LYS:HG2	1:V:333:LEU:CD1	2.36	0.56
1:A:55:MET:HE3	1:A:306:ILE:HG21	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:56:LEU:HD13	2:H:95:LEU:CG	2.29	0.56
2:I:153:LEU:HB3	2:I:167:PHE:CE2	2.41	0.56
2:Q:1:THR:N	4:Q:175:LVS:O1'	2.39	0.56
2:Q:18:GLY:CA	2:Q:33:LYS:HZ1	2.18	0.56
2:Q:131:LEU:HD11	2:Q:135:ARG:CZ	2.36	0.56
1:V:23:ALA:HA	1:V:331:VAL:HG21	1.88	0.56
1:X:357:LYS:HA	1:X:367:ILE:HD11	1.88	0.56
1:A:85:LYS:HG2	1:A:85:LYS:O	2.05	0.56
1:D:443:ILE:CG2	2:J:114:GLN:HG3	2.35	0.56
2:K:144:SER:O	2:K:148:ILE:HG13	2.06	0.56
2:Q:95:LEU:O	2:Q:105:ILE:HA	2.06	0.56
2:R:112:VAL:HB	1:X:443:ILE:CD1	2.35	0.56
1:S:108:MET:HE2	1:S:244:ALA:HB1	1.88	0.56
1:T:23:ALA:O	1:T:27:VAL:HG23	2.05	0.56
1:B:367:ILE:HD11	1:B:421:ILE:CD1	2.35	0.56
2:L:22:LEU:HB2	4:L:175:LVS:HD13	1.87	0.56
2:Q:28:LYS:HE2	2:Q:30:ASN:OD1	2.06	0.56
1:T:16:HIS:CD2	1:T:69:ARG:HE	2.24	0.56
1:X:16:HIS:CD2	1:X:69:ARG:HE	2.24	0.56
2:K:60:PHE:HZ	2:K:71:LEU:HD22	1.69	0.56
2:M:5:SER:HB2	2:M:14:VAL:HG22	1.88	0.56
2:R:46:PHE:HB3	2:R:95:LEU:HD12	1.87	0.56
2:R:105:ILE:CG2	2:R:113:VAL:HB	2.35	0.56
1:V:68:ARG:HH11	1:V:68:ARG:HG3	1.70	0.56
1:V:345:LEU:HD13	1:V:396:LEU:HD22	1.88	0.56
2:I:144:SER:O	2:I:148:ILE:HG13	2.07	0.55
2:L:88:LEU:O	2:L:89:ARG:HB3	2.06	0.55
1:X:346:THR:HG22	1:X:353:THR:HG21	1.88	0.55
1:X:352:LEU:HD11	1:X:397:HIS:HD2	1.71	0.55
1:A:113:GLN:OE1	1:A:113:GLN:HA	2.06	0.55
2:G:137:LEU:CD1	2:M:136:ALA:HB1	2.37	0.55
2:M:1:THR:N	4:M:175:LVS:O1'	2.39	0.55
2:P:8:ARG:O	2:P:11:GLN:HB2	2.06	0.55
2:Q:112:VAL:HB	1:W:443:ILE:HD12	1.88	0.55
2:R:5:SER:HB2	2:R:14:VAL:HG22	1.87	0.55
1:A:63:LYS:HD2	1:A:308:SER:HB2	1.87	0.55
1:F:407:ILE:HD11	1:F:419:VAL:HG11	1.89	0.55
2:H:137:LEU:HD11	2:N:136:ALA:HB1	1.87	0.55
2:Q:46:PHE:HB3	2:Q:95:LEU:HD12	1.86	0.55
2:R:1:THR:H1	4:R:175:LVS:CS	2.20	0.55
1:S:398:THR:HG22	1:X:328:PRO:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:65:GLU:HG2	3:T:457:ATP:H5'2	1.88	0.55
1:T:444:LEU:OXT	1:T:444:LEU:HD22	2.06	0.55
1:U:80:LYS:HG3	1:U:255:PHE:HD2	1.71	0.55
2:J:56:LEU:HD13	2:J:95:LEU:CG	2.24	0.55
2:N:1:THR:H1	4:N:175:LVS:CS	2.19	0.55
1:S:16:HIS:CD2	1:S:69:ARG:HE	2.24	0.55
2:J:36:ARG:NH1	2:J:170:GLU:OE2	2.40	0.55
2:O:105:ILE:CG2	2:O:113:VAL:HB	2.36	0.55
1:S:68:ARG:HG3	1:S:68:ARG:HH11	1.71	0.55
1:T:280:ARG:HG3	1:U:82:GLU:OE1	2.07	0.55
1:U:16:HIS:CD2	1:U:69:ARG:HE	2.25	0.55
1:U:442:PHE:O	1:U:443:ILE:HD13	2.07	0.55
1:V:352:LEU:HD13	1:V:400:MET:HG3	1.89	0.55
1:X:64:THR:HB	3:X:461:ATP:O1A	2.06	0.55
3:A:450:ATP:C8	3:A:450:ATP:H5'1	2.42	0.55
1:B:55:MET:HE3	1:B:306:ILE:HG21	1.89	0.55
1:B:402:ARG:NH2	1:B:433:VAL:CG2	2.69	0.55
1:C:443:ILE:HG23	2:I:112:VAL:HG23	1.89	0.55
1:F:437:GLU:C	1:F:439:LEU:H	2.05	0.55
2:Q:104:LEU:HD13	2:Q:112:VAL:CG1	2.37	0.55
1:W:352:LEU:HD11	1:W:397:HIS:HD2	1.71	0.55
1:W:439:LEU:H	1:W:439:LEU:CD2	2.15	0.55
1:F:63:LYS:HB2	3:F:455:ATP:O2B	2.07	0.55
2:G:1:THR:N	4:G:175:LVS:C2'	2.70	0.55
2:G:1:THR:N	4:G:175:LVS:S	2.79	0.55
2:G:1:THR:H1	4:G:175:LVS:H1'1	1.71	0.55
2:J:18:GLY:HA2	2:J:33:LYS:HD2	1.89	0.55
1:B:64:THR:HB	3:B:451:ATP:O1A	2.07	0.55
2:I:17:ASP:HB2	2:I:164:ASN:ND2	2.22	0.55
2:J:144:SER:OG	2:J:147:GLU:HG3	2.07	0.55
2:N:8:ARG:HB3	2:N:8:ARG:HH11	1.71	0.55
2:O:46:PHE:HB3	2:O:95:LEU:HD12	1.87	0.55
2:O:104:LEU:HD13	2:O:112:VAL:CG1	2.37	0.55
1:T:352:LEU:HD11	1:T:397:HIS:HD2	1.71	0.55
1:U:346:THR:HG22	1:U:353:THR:HG21	1.89	0.55
1:A:366:ASN:HB3	1:A:418:THR:HG22	1.88	0.55
2:G:18:GLY:N	2:G:33:LYS:NZ	2.54	0.55
2:I:161:VAL:HG13	2:N:24:ASN:O	2.06	0.55
2:K:137:LEU:HD11	2:Q:136:ALA:HB1	1.89	0.55
2:L:161:VAL:HG13	2:Q:24:ASN:O	2.06	0.55
2:N:19:GLN:N	2:N:33:LYS:HZ2	2.03	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:1:THR:N	4:P:175:LVS:O1'	2.39	0.55
1:T:352:LEU:HD13	1:T:400:MET:HG3	1.88	0.55
1:U:344:ILE:HG23	3:U:458:ATP:H2	1.71	0.55
1:U:439:LEU:H	1:U:439:LEU:CD2	2.18	0.55
1:B:280:ARG:HG3	1:B:280:ARG:HH11	1.71	0.55
1:B:366:ASN:HB3	1:B:418:THR:HG22	1.88	0.55
1:F:79:ILE:CG2	1:F:103:LEU:HD13	2.30	0.55
2:N:17:ASP:HB2	2:N:164:ASN:HD22	1.72	0.55
2:R:1:THR:CG2	2:R:33:LYS:HZ3	2.19	0.55
2:R:28:LYS:HE2	2:R:30:ASN:OD1	2.07	0.55
1:A:23:ALA:HA	1:A:331:VAL:HG21	1.88	0.54
1:C:443:ILE:HG12	2:I:112:VAL:CG2	2.37	0.54
2:L:18:GLY:H	2:L:164:ASN:HD21	1.56	0.54
2:M:120:ILE:O	2:M:121:LEU:HD23	2.06	0.54
2:O:8:ARG:O	2:O:11:GLN:HB2	2.07	0.54
2:R:8:ARG:HB3	2:R:8:ARG:HH11	1.71	0.54
2:R:112:VAL:HB	1:X:443:ILE:HD12	1.88	0.54
1:S:352:LEU:HD11	1:S:397:HIS:HD2	1.72	0.54
1:U:71:ALA:HB1	1:U:78:PHE:HB2	1.89	0.54
1:W:345:LEU:HD13	1:W:396:LEU:HD22	1.88	0.54
2:H:161:VAL:HG13	2:M:24:ASN:O	2.07	0.54
2:N:55:THR:HG22	2:O:83:ARG:HG2	1.88	0.54
1:D:100:ILE:HB	1:D:291:VAL:HG21	1.89	0.54
1:E:366:ASN:HB3	1:E:418:THR:HG22	1.88	0.54
1:F:37:ARG:HD2	1:F:48:VAL:CG1	2.37	0.54
1:F:402:ARG:NH2	1:F:433:VAL:HG21	2.22	0.54
2:J:67:HIS:CD2	2:J:73:LYS:HE3	2.42	0.54
2:P:28:LYS:HE2	2:P:30:ASN:OD1	2.08	0.54
2:P:164:ASN:HD22	2:P:164:ASN:H	1.56	0.54
2:Q:3:ILE:HB	2:Q:123:ILE:HG13	1.89	0.54
1:U:313:VAL:HG23	1:U:314:ALA:N	2.23	0.54
1:A:406:LYS:H	1:A:406:LYS:CD	2.04	0.54
1:C:63:LYS:HD2	1:C:308:SER:HB2	1.89	0.54
1:W:16:HIS:CD2	1:W:69:ARG:HE	2.26	0.54
1:B:100:ILE:HB	1:B:291:VAL:HG21	1.89	0.54
1:C:409:PHE:CE1	1:D:6:PRO:HB3	2.43	0.54
1:D:37:ARG:HD2	1:D:48:VAL:CG1	2.38	0.54
2:G:133:ALA:HB1	2:G:155:ILE:HD12	1.89	0.54
2:H:56:LEU:HD12	2:H:95:LEU:HG	1.86	0.54
2:I:136:ALA:HB1	2:O:137:LEU:HD13	1.90	0.54
2:K:72:LEU:HD22	2:K:104:LEU:HD21	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:8:ARG:HB3	2:M:8:ARG:HH11	1.73	0.54
2:M:1:THR:HG21	2:M:33:LYS:HE2	1.68	0.54
2:Q:5:SER:HB2	2:Q:14:VAL:HG22	1.90	0.54
1:T:313:VAL:HG23	1:T:314:ALA:N	2.23	0.54
1:U:357:LYS:HA	1:U:367:ILE:HD11	1.89	0.54
1:W:68:ARG:HH11	1:W:68:ARG:HG3	1.73	0.54
1:A:55:MET:CE	1:A:306:ILE:HG21	2.37	0.54
2:K:5:SER:HB2	2:K:14:VAL:HG22	1.88	0.54
2:L:24:ASN:O	2:Q:161:VAL:HG13	2.08	0.54
2:M:18:GLY:N	2:M:33:LYS:HZ2	2.06	0.54
2:R:7:ARG:NH2	2:R:12:VAL:HG21	2.22	0.54
1:V:352:LEU:HD11	1:V:397:HIS:HD2	1.71	0.54
1:A:75:ASN:HD21	1:A:114:GLN:HE22	1.56	0.54
1:C:100:ILE:CG2	1:C:298:VAL:HG21	2.37	0.54
2:J:116:GLU:HG2	2:K:30:ASN:HD21	1.72	0.54
2:K:33:LYS:HZ2	4:K:175:LVS:HB32	1.73	0.54
2:O:2:THR:OG1	2:O:126:GLY:HA3	2.08	0.54
2:O:76:VAL:HG22	1:U:443:ILE:HD11	1.90	0.54
2:Q:46:PHE:HB3	2:Q:95:LEU:CD1	2.37	0.54
1:S:279:GLN:NE2	1:S:320:ILE:N	2.54	0.54
1:S:370:THR:HG22	1:S:421:ILE:O	2.08	0.54
1:T:75:ASN:ND2	1:T:110:LEU:HD22	2.23	0.54
1:X:68:ARG:HG3	1:X:68:ARG:HH11	1.73	0.54
2:I:60:PHE:HZ	2:I:71:LEU:HD22	1.72	0.54
2:N:55:THR:O	2:N:59:LEU:HD13	2.07	0.54
2:O:3:ILE:O	2:O:122:ALA:HA	2.08	0.54
2:Q:17:ASP:C	2:Q:33:LYS:HZ1	2.10	0.54
2:Q:47:ALA:HB3	2:Q:123:ILE:HD12	1.90	0.54
1:A:444:LEU:OXT	2:G:113:VAL:HA	2.09	0.54
1:D:85:LYS:O	1:D:85:LYS:HG2	2.08	0.54
1:F:404:MET:O	1:F:408:SER:HB2	2.08	0.54
2:K:144:SER:OG	2:K:147:GLU:HG3	2.08	0.54
2:N:5:SER:HB2	2:N:14:VAL:HG22	1.90	0.54
2:N:7:ARG:NH2	2:N:12:VAL:HG21	2.21	0.54
2:P:19:GLN:N	2:P:33:LYS:HZ1	2.06	0.54
2:Q:1:THR:H1	4:Q:175:LVS:CS	2.20	0.54
1:S:313:VAL:HG23	1:S:314:ALA:N	2.23	0.54
1:X:279:GLN:NE2	1:X:320:ILE:N	2.53	0.54
1:A:437:GLU:C	1:A:439:LEU:H	2.09	0.53
1:E:437:GLU:C	1:E:439:LEU:H	2.02	0.53
2:H:136:ALA:HB1	2:N:137:LEU:HD13	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:300:THR:O	1:U:303:ILE:HG13	2.08	0.53
1:W:32:ARG:NH1	1:W:35:TRP:HZ3	2.06	0.53
1:B:355:GLN:O	1:B:359:LEU:HD23	2.08	0.53
1:C:100:ILE:HB	1:C:291:VAL:HG21	1.89	0.53
1:D:443:ILE:HG12	2:J:112:VAL:CG2	2.38	0.53
4:J:175:LVS:HD33	4:J:175:LVS:C1	2.38	0.53
2:K:116:GLU:HG2	2:L:30:ASN:ND2	2.23	0.53
2:M:19:GLN:H	2:M:33:LYS:HZ1	1.56	0.53
2:P:164:ASN:ND2	2:P:164:ASN:H	2.06	0.53
1:W:71:ALA:HB1	1:W:78:PHE:HB2	1.89	0.53
1:C:407:ILE:HD11	1:C:419:VAL:HG11	1.90	0.53
1:D:111:VAL:HG21	1:D:244:ALA:HA	1.91	0.53
1:F:285:LEU:N	1:F:285:LEU:HD12	2.24	0.53
2:G:105:ILE:CG2	2:G:113:VAL:HB	2.35	0.53
2:H:1:THR:CG2	2:H:33:LYS:HD3	2.17	0.53
2:I:7:ARG:HG3	2:I:12:VAL:HG22	1.90	0.53
1:T:357:LYS:HA	1:T:367:ILE:HD11	1.90	0.53
1:V:336:LEU:HB2	1:V:341:PHE:HE1	1.74	0.53
1:V:370:THR:HG22	1:V:421:ILE:O	2.09	0.53
1:W:385:ASN:HD21	1:W:395:ARG:HE	1.56	0.53
1:X:236:ASN:HD21	1:X:238:GLU:HB2	1.73	0.53
1:A:270:GLY:C	1:A:272:ASP:N	2.62	0.53
1:A:403:LEU:C	1:A:405:ASP:H	2.11	0.53
1:C:27:VAL:HB	1:C:70:LEU:CD2	2.33	0.53
1:E:42:GLU:HB3	1:E:43:PRO:HD3	1.90	0.53
2:G:5:SER:HB2	2:G:14:VAL:HG22	1.89	0.53
2:G:67:HIS:HD2	2:G:73:LYS:HE3	1.72	0.53
2:M:95:LEU:O	2:M:105:ILE:HA	2.07	0.53
2:R:137:LEU:C	2:R:141:THR:HG22	2.28	0.53
1:T:48:VAL:O	1:T:48:VAL:HG13	2.09	0.53
1:X:385:ASN:HD21	1:X:395:ARG:HE	1.57	0.53
3:F:455:ATP:C8	3:F:455:ATP:H5'1	2.43	0.53
1:D:363:GLU:OE1	1:D:412:SER:HA	2.08	0.53
1:D:444:LEU:HD23	2:J:113:VAL:HG22	1.90	0.53
2:R:3:ILE:O	2:R:122:ALA:HA	2.08	0.53
1:T:385:ASN:HD21	1:T:395:ARG:HE	1.56	0.53
1:V:357:LYS:HA	1:V:367:ILE:HD11	1.89	0.53
1:D:79:ILE:CG2	1:D:103:LEU:HD13	2.34	0.53
2:G:67:HIS:CD2	2:G:73:LYS:HE3	2.44	0.53
4:G:175:LVS:H1'1	4:G:175:LVS:HA3	1.90	0.53
2:M:37:LEU:HB2	2:M:42:VAL:CG2	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:105:ASP:HB3	1:X:297:MET:CE	2.39	0.53
1:U:68:ARG:HH11	1:U:68:ARG:HG3	1.74	0.53
1:X:80:LYS:HG3	1:X:255:PHE:HD2	1.74	0.53
1:A:437:GLU:HG3	1:A:439:LEU:HD12	1.91	0.53
1:B:358:ALA:HB1	1:C:40:LEU:HD22	1.91	0.53
1:F:73:LEU:C	1:F:73:LEU:HD12	2.29	0.53
1:F:119:ASN:CG	1:F:234:LEU:HD12	2.30	0.53
2:H:115:PRO:HG3	2:H:121:LEU:HD11	1.90	0.53
2:I:1:THR:N	4:I:175:LVS:C1'	2.71	0.53
4:I:175:LVS:CA3	4:I:175:LVS:H1'1	2.38	0.53
2:M:1:THR:H3	4:M:175:LVS:CS	2.21	0.53
2:N:105:ILE:CG2	2:N:113:VAL:HB	2.38	0.53
2:P:47:ALA:HB3	2:P:123:ILE:HD12	1.89	0.53
2:Q:2:THR:OG1	2:Q:126:GLY:HA3	2.08	0.53
1:V:313:VAL:HG23	1:V:314:ALA:N	2.24	0.53
1:W:32:ARG:O	1:W:36:ARG:HG2	2.09	0.53
1:E:27:VAL:HB	1:E:70:LEU:CD2	2.33	0.53
4:I:175:LVS:H1'1	4:I:175:LVS:HA3	1.90	0.53
2:M:55:THR:HG22	2:N:83:ARG:HG2	1.89	0.53
2:O:55:THR:HG22	2:P:83:ARG:HG2	1.90	0.53
2:P:131:LEU:HD11	2:P:135:ARG:CZ	2.38	0.53
2:Q:7:ARG:NH2	2:Q:12:VAL:HG21	2.21	0.53
1:B:367:ILE:HD11	1:B:421:ILE:HD11	1.91	0.53
1:E:37:ARG:HD2	1:E:48:VAL:CG1	2.39	0.53
1:F:352:LEU:HD13	1:F:400:MET:HG3	1.91	0.53
2:G:1:THR:N	4:G:175:LVS:H1'3	2.23	0.53
2:I:1:THR:H1	4:I:175:LVS:C1'	2.20	0.53
2:I:36:ARG:NH1	2:I:170:GLU:OE2	2.42	0.53
2:L:7:ARG:HD2	2:L:119:GLN:CG	2.37	0.53
1:S:32:ARG:NH1	1:S:35:TRP:HZ3	2.07	0.53
1:X:63:LYS:HG2	1:X:333:LEU:CD1	2.38	0.53
1:E:55:MET:CE	1:E:306:ILE:HG21	2.39	0.52
1:F:437:GLU:HG3	1:F:439:LEU:HB2	1.90	0.52
2:R:72:LEU:O	2:R:76:VAL:HG23	2.09	0.52
1:T:71:ALA:HB1	1:T:78:PHE:HB2	1.91	0.52
1:U:439:LEU:HD23	1:U:439:LEU:N	2.20	0.52
1:X:313:VAL:HG23	1:X:314:ALA:N	2.24	0.52
1:B:250:GLN:HA	1:B:250:GLN:HE21	1.73	0.52
1:B:362:THR:HG23	1:C:39:GLN:HG2	1.90	0.52
1:B:437:GLU:HG3	1:B:439:LEU:HB2	1.90	0.52
1:D:118:LYS:CG	1:D:234:LEU:HD13	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:403:LEU:CD2	1:F:404:MET:SD	2.97	0.52
2:G:37:LEU:HD21	2:G:57:PHE:CZ	2.45	0.52
2:P:19:GLN:H	2:P:33:LYS:HZ1	1.57	0.52
2:R:95:LEU:O	2:R:105:ILE:HA	2.09	0.52
1:U:336:LEU:HB2	1:U:341:PHE:HE1	1.74	0.52
1:W:48:VAL:O	1:W:48:VAL:HG13	2.09	0.52
1:C:402:ARG:NH2	1:C:433:VAL:CG2	2.73	0.52
1:E:73:LEU:C	1:E:73:LEU:HD12	2.29	0.52
2:G:7:ARG:HD2	2:G:119:GLN:CG	2.35	0.52
2:G:120:ILE:HD11	2:G:138:VAL:HG21	1.90	0.52
2:H:1:THR:N	4:H:175:LVS:C1'	2.72	0.52
4:J:175:LVS:HD33	4:J:175:LVS:N2	2.25	0.52
2:N:46:PHE:HB3	2:N:95:LEU:CD1	2.40	0.52
1:E:20:GLN:CA	1:E:20:GLN:NE2	2.57	0.52
2:H:1:THR:H1	4:H:175:LVS:C1'	2.20	0.52
2:J:1:THR:HG23	2:J:33:LYS:CE	2.40	0.52
2:L:33:LYS:NZ	4:L:175:LVS:HB32	2.24	0.52
2:Q:17:ASP:CG	2:Q:33:LYS:HZ3	2.12	0.52
1:T:32:ARG:O	1:T:36:ARG:HG2	2.09	0.52
1:V:34:ARG:NH1	1:V:252:GLY:H	2.07	0.52
1:X:9:ILE:HD13	1:X:31:LEU:HD23	1.91	0.52
1:X:434:VAL:HG12	1:X:435:GLU:N	2.24	0.52
1:A:40:LEU:HD22	1:F:358:ALA:HB1	1.92	0.52
1:C:73:LEU:C	1:C:73:LEU:HD12	2.29	0.52
1:C:409:PHE:CD1	1:D:6:PRO:HB3	2.44	0.52
1:D:118:LYS:HG2	1:D:234:LEU:HD13	1.92	0.52
1:D:403:LEU:CD2	1:D:404:MET:SD	2.97	0.52
1:D:407:ILE:HD11	1:D:419:VAL:HG11	1.91	0.52
2:P:95:LEU:O	2:P:105:ILE:HA	2.09	0.52
1:S:63:LYS:HB2	3:S:456:ATP:O2B	2.09	0.52
1:S:71:ALA:HB1	1:S:78:PHE:HB2	1.91	0.52
1:U:40:LEU:O	1:U:45:ARG:HD3	2.10	0.52
2:G:18:GLY:N	2:G:33:LYS:HZ1	2.06	0.52
2:J:33:LYS:NZ	4:J:175:LVS:CB3	2.58	0.52
1:S:18:ILE:HD11	1:S:343:ARG:HH21	1.73	0.52
1:S:242:GLN:NE2	1:S:246:ASP:OD1	2.42	0.52
1:T:68:ARG:HH11	1:T:68:ARG:HG3	1.74	0.52
1:T:439:LEU:H	1:T:439:LEU:CD2	2.18	0.52
1:U:20:GLN:O	1:U:21:ALA:HB2	2.09	0.52
1:W:6:PRO:O	1:W:10:VAL:HG23	2.10	0.52
1:X:71:ALA:HB1	1:X:78:PHE:HB2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:286:VAL:HA	1:X:305:PHE:CE1	2.44	0.52
1:A:27:VAL:HB	1:A:70:LEU:CD2	2.35	0.52
1:A:349:HIS:O	1:A:350:ALA:HB3	2.09	0.52
1:A:370:THR:HG23	1:A:421:ILE:O	2.09	0.52
2:N:47:ALA:HB3	2:N:123:ILE:HD12	1.92	0.52
2:R:1:THR:N	4:R:175:LVS:O1'	2.43	0.52
1:A:401:GLU:OE1	1:B:51:LYS:HG3	2.10	0.52
1:B:108:MET:CE	1:B:240:LEU:HG	2.40	0.52
1:B:403:LEU:HD11	1:B:426:VAL:HG22	1.91	0.52
1:C:444:LEU:CD2	2:I:113:VAL:HG22	2.39	0.52
1:E:79:ILE:HD12	1:E:80:LYS:H	1.75	0.52
2:L:105:ILE:CG2	2:L:113:VAL:HB	2.36	0.52
2:N:76:VAL:HG11	1:T:442:PHE:CE2	2.45	0.52
1:V:71:ALA:HB1	1:V:78:PHE:HB2	1.90	0.52
1:W:109:LYS:C	1:W:110:LEU:HD12	2.30	0.52
2:O:1:THR:N	4:O:175:LVS:S	2.83	0.52
2:P:72:LEU:O	2:P:76:VAL:HG23	2.10	0.52
1:S:357:LYS:HA	1:S:367:ILE:HD11	1.92	0.52
1:S:439:LEU:HD23	1:S:439:LEU:N	2.17	0.52
1:V:32:ARG:NH1	1:V:35:TRP:HZ3	2.08	0.52
1:X:32:ARG:NH1	1:X:35:TRP:HZ3	2.08	0.52
1:A:52:ASN:O	1:A:328:PRO:HD2	2.10	0.52
1:E:406:LYS:H	1:E:406:LYS:CD	2.13	0.52
1:F:25:ARG:O	1:F:29:ILE:HG23	2.10	0.52
4:H:175:LVS:H1'1	4:H:175:LVS:HA3	1.92	0.52
2:I:51:ALA:O	2:I:55:THR:HG23	2.09	0.52
2:K:1:THR:HG21	2:K:33:LYS:HZ2	1.65	0.52
2:O:8:ARG:HH11	2:O:8:ARG:CB	2.22	0.52
1:T:40:LEU:O	1:T:45:ARG:HD3	2.10	0.52
1:U:352:LEU:HD11	1:U:397:HIS:HD2	1.74	0.52
1:V:279:GLN:NE2	1:V:320:ILE:N	2.54	0.52
1:W:439:LEU:HD23	1:W:439:LEU:N	2.17	0.52
1:C:42:GLU:HB3	1:C:43:PRO:HD3	1.92	0.51
3:C:452:ATP:H5'1	3:C:452:ATP:C8	2.45	0.51
2:G:17:ASP:O	2:G:33:LYS:HG3	2.10	0.51
2:H:78:LEU:O	2:H:78:LEU:HD12	2.09	0.51
2:M:46:PHE:HB3	2:M:95:LEU:CD1	2.40	0.51
2:O:66:MET:O	2:O:67:HIS:ND1	2.43	0.51
2:O:72:LEU:HG	1:U:438:ASP:OD2	2.10	0.51
1:S:336:LEU:HB2	1:S:341:PHE:HE1	1.74	0.51
1:S:439:LEU:H	1:S:439:LEU:CD2	2.16	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:37:ARG:O	1:E:38:MET:HB2	2.11	0.51
1:E:73:LEU:HD12	1:E:73:LEU:O	2.10	0.51
2:G:36:ARG:NH1	2:G:170:GLU:OE2	2.44	0.51
2:G:153:LEU:HB3	2:G:167:PHE:CE2	2.46	0.51
2:M:1:THR:N	4:M:175:LVS:S	2.83	0.51
2:M:18:GLY:N	2:M:33:LYS:NZ	2.58	0.51
2:N:131:LEU:HD11	2:N:135:ARG:CZ	2.40	0.51
2:R:104:LEU:HD13	2:R:112:VAL:CG1	2.40	0.51
1:U:32:ARG:NH1	1:U:35:TRP:HZ3	2.07	0.51
1:V:48:VAL:HG21	1:W:359:LEU:HD11	1.91	0.51
1:V:439:LEU:HD23	1:V:439:LEU:N	2.19	0.51
1:C:20:GLN:CA	1:C:20:GLN:NE2	2.54	0.51
2:G:24:ASN:O	2:R:161:VAL:HG13	2.11	0.51
2:M:104:LEU:HD13	2:M:112:VAL:CG1	2.39	0.51
1:V:421:ILE:HG12	1:V:425:TYR:CD1	2.46	0.51
1:X:115:GLU:HG2	1:X:119:ASN:HD22	1.74	0.51
1:B:285:LEU:HD12	1:B:285:LEU:N	2.25	0.51
2:I:133:ALA:HB1	2:I:155:ILE:HD12	1.92	0.51
2:J:137:LEU:HD11	2:P:136:ALA:HB1	1.92	0.51
2:M:131:LEU:HD11	2:M:135:ARG:HE	1.75	0.51
1:V:444:LEU:OXT	1:V:444:LEU:HD22	2.10	0.51
1:W:313:VAL:HG23	1:W:314:ALA:N	2.25	0.51
1:C:362:THR:CG2	1:D:39:GLN:HG2	2.40	0.51
2:J:67:HIS:HD2	2:J:73:LYS:HE3	1.75	0.51
2:K:28:LYS:HE2	2:K:30:ASN:OD1	2.11	0.51
2:L:1:THR:N	4:L:175:LVS:S	2.83	0.51
2:N:37:LEU:HB2	2:N:42:VAL:CG2	2.40	0.51
1:S:60:GLY:HA3	1:S:392:GLY:HA3	1.93	0.51
1:T:336:LEU:HB2	1:T:341:PHE:HE1	1.75	0.51
1:U:30:ALA:HB2	1:U:53:ILE:HD11	1.93	0.51
1:U:279:GLN:NE2	1:U:320:ILE:N	2.52	0.51
1:A:367:ILE:HD11	1:A:421:ILE:HD12	1.91	0.51
1:D:444:LEU:OXT	2:J:113:VAL:HA	2.11	0.51
1:F:363:GLU:OE1	1:F:412:SER:HA	2.10	0.51
2:O:7:ARG:HE	2:O:12:VAL:CG2	2.08	0.51
2:R:1:THR:N	4:R:175:LVS:S	2.84	0.51
2:R:17:ASP:HB2	2:R:164:ASN:HD22	1.74	0.51
2:R:66:MET:O	2:R:67:HIS:ND1	2.44	0.51
1:T:63:LYS:HG2	1:T:333:LEU:HD12	1.93	0.51
1:X:336:LEU:HB2	1:X:341:PHE:HE1	1.76	0.51
1:A:250:GLN:HA	1:A:250:GLN:HE21	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:403:LEU:C	1:B:405:ASP:H	2.13	0.51
1:B:444:LEU:HD23	2:H:113:VAL:HG22	1.93	0.51
2:I:137:LEU:HD11	2:O:136:ALA:HB1	1.93	0.51
2:L:78:LEU:HD12	2:L:78:LEU:O	2.11	0.51
2:P:141:THR:OG1	2:P:143:LEU:HG	2.10	0.51
2:Q:1:THR:N	4:Q:175:LVS:S	2.84	0.51
1:S:48:VAL:HG13	1:S:48:VAL:O	2.11	0.51
1:S:120:ARG:HD2	1:S:120:ARG:C	2.30	0.51
1:U:32:ARG:O	1:U:36:ARG:HG2	2.11	0.51
1:U:112:ARG:HG2	1:U:112:ARG:HH11	1.75	0.51
1:U:321:PRO:HG3	1:V:389:GLU:HG2	1.93	0.51
1:B:359:LEU:HD22	1:C:40:LEU:HD11	1.93	0.51
1:D:395:ARG:O	1:D:398:THR:HB	2.10	0.51
2:J:1:THR:CG2	2:J:33:LYS:HZ2	2.15	0.51
2:N:72:LEU:O	2:N:76:VAL:HG23	2.10	0.51
1:S:6:PRO:O	1:S:10:VAL:HG23	2.11	0.51
1:U:333:LEU:N	1:U:333:LEU:HD23	2.26	0.51
1:W:336:LEU:HB2	1:W:341:PHE:HE1	1.76	0.51
2:G:51:ALA:O	2:G:55:THR:HG23	2.11	0.51
4:G:175:LVS:H1'1	4:G:175:LVS:CA3	2.41	0.51
1:S:5:THR:O	1:S:9:ILE:HG13	2.10	0.51
1:W:40:LEU:O	1:W:45:ARG:HD3	2.10	0.51
1:X:439:LEU:HD23	1:X:439:LEU:N	2.18	0.51
2:K:78:LEU:O	2:K:78:LEU:HD12	2.11	0.51
2:O:51:ALA:O	2:O:55:THR:HG23	2.10	0.51
1:T:5:THR:O	1:T:9:ILE:HG13	2.11	0.51
1:V:333:LEU:N	1:V:333:LEU:HD23	2.25	0.51
1:X:48:VAL:HG13	1:X:48:VAL:O	2.11	0.51
1:B:108:MET:HE1	1:B:240:LEU:HG	1.93	0.50
1:C:437:GLU:HG3	1:C:439:LEU:HB2	1.92	0.50
1:F:60:GLY:HA2	3:F:455:ATP:PB	2.50	0.50
1:F:355:GLN:O	1:F:359:LEU:HD23	2.10	0.50
2:I:1:THR:N	4:I:175:LVS:C2'	2.74	0.50
2:N:1:THR:H3	4:N:175:LVS:C1'	2.24	0.50
1:S:32:ARG:O	1:S:36:ARG:HG2	2.11	0.50
1:S:34:ARG:NH1	1:S:252:GLY:H	2.08	0.50
1:U:100:ILE:HB	1:U:291:VAL:HG11	1.93	0.50
1:U:370:THR:HG22	1:U:421:ILE:O	2.11	0.50
1:X:444:LEU:OXT	1:X:444:LEU:HD22	2.11	0.50
1:C:403:LEU:CD2	1:C:404:MET:SD	2.99	0.50
2:G:161:VAL:HG13	2:R:24:ASN:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:81:ASP:O	2:M:88:LEU:HB2	2.11	0.50
1:T:32:ARG:NH1	1:T:35:TRP:HZ3	2.08	0.50
1:T:34:ARG:NH1	1:T:252:GLY:H	2.09	0.50
1:W:34:ARG:NH1	1:W:252:GLY:H	2.09	0.50
1:W:357:LYS:HA	1:W:367:ILE:HD11	1.93	0.50
1:W:370:THR:HG22	1:W:421:ILE:O	2.11	0.50
1:C:36:ARG:C	1:C:37:ARG:O	2.46	0.50
1:F:79:ILE:HD12	1:F:80:LYS:N	2.26	0.50
2:J:24:ASN:O	2:O:161:VAL:HG13	2.12	0.50
2:K:33:LYS:HZ3	4:K:175:LVS:HB32	1.77	0.50
2:M:1:THR:CG2	2:M:33:LYS:NZ	2.75	0.50
2:O:95:LEU:O	2:O:105:ILE:HA	2.11	0.50
2:Q:112:VAL:HB	1:W:443:ILE:CD1	2.42	0.50
1:S:20:GLN:O	1:S:21:ALA:HB2	2.11	0.50
1:U:34:ARG:NH1	1:U:252:GLY:H	2.10	0.50
1:V:20:GLN:O	1:V:21:ALA:HB2	2.11	0.50
1:W:63:LYS:HG2	1:W:333:LEU:HD12	1.93	0.50
1:A:39:GLN:HG2	1:F:362:THR:HG21	1.93	0.50
1:A:347:GLU:HB2	1:A:348:PRO:HD3	1.93	0.50
1:B:76:ALA:HB1	1:B:251:ASN:O	2.11	0.50
1:B:236:ASN:HD22	1:B:239:GLU:HB2	1.75	0.50
1:F:85:LYS:HG2	1:F:85:LYS:O	2.09	0.50
2:L:131:LEU:HD21	2:L:135:ARG:NH2	2.26	0.50
2:N:8:ARG:HH11	2:N:8:ARG:CB	2.25	0.50
2:Q:54:PHE:HE1	1:X:444:LEU:HD12	1.76	0.50
2:R:3:ILE:HB	2:R:123:ILE:HG13	1.93	0.50
2:R:131:LEU:HD11	2:R:135:ARG:CZ	2.42	0.50
1:S:425:TYR:O	1:S:429:ALA:HB2	2.11	0.50
1:U:286:VAL:HA	1:U:305:PHE:CE1	2.47	0.50
1:W:279:GLN:NE2	1:W:320:ILE:N	2.56	0.50
1:W:439:LEU:C	1:W:441:ARG:H	2.15	0.50
1:C:111:VAL:HG21	1:C:244:ALA:HA	1.92	0.50
1:E:64:THR:HB	3:E:454:ATP:O1A	2.11	0.50
2:J:153:LEU:HB3	2:J:167:PHE:CE2	2.46	0.50
2:O:37:LEU:HB2	2:O:42:VAL:CG2	2.40	0.50
2:O:137:LEU:C	2:O:141:THR:HG22	2.32	0.50
2:P:66:MET:O	2:P:67:HIS:ND1	2.45	0.50
2:P:104:LEU:HD13	2:P:112:VAL:CG1	2.41	0.50
2:Q:7:ARG:HE	2:Q:12:VAL:CG2	2.10	0.50
1:U:283:LEU:HB3	1:U:284:PRO:HD3	1.93	0.50
1:V:6:PRO:O	1:V:10:VAL:HG23	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:441:ARG:HB3	1:W:442:PHE:CE1	2.46	0.50
1:X:30:ALA:HB2	1:X:53:ILE:HD11	1.93	0.50
1:D:234:LEU:HD23	1:D:234:LEU:O	2.11	0.50
2:P:37:LEU:HB2	2:P:42:VAL:CG2	2.42	0.50
1:T:283:LEU:HB3	1:T:284:PRO:HD3	1.93	0.50
1:A:108:MET:CE	1:A:240:LEU:HG	2.42	0.50
1:A:233:LYS:HD3	1:A:235:ILE:CD1	2.42	0.50
1:D:258:GLU:OE1	1:E:322:GLU:OE1	2.29	0.50
2:H:144:SER:OG	2:H:147:GLU:HG3	2.12	0.50
2:M:72:LEU:O	2:M:76:VAL:HG23	2.11	0.50
2:P:1:THR:H3	4:P:175:LVS:CS	2.23	0.50
1:V:5:THR:O	1:V:9:ILE:HG13	2.11	0.50
1:V:16:HIS:CD2	1:V:69:ARG:HE	2.29	0.50
1:X:34:ARG:NH1	1:X:252:GLY:H	2.09	0.50
1:A:37:ARG:CG	1:A:38:MET:N	2.75	0.50
1:E:280:ARG:HH11	1:E:280:ARG:CG	2.25	0.50
2:J:88:LEU:O	2:J:89:ARG:HB3	2.12	0.50
2:K:131:LEU:HD21	2:K:135:ARG:NH2	2.27	0.50
2:O:7:ARG:HH21	2:O:12:VAL:CG2	2.23	0.50
1:X:20:GLN:O	1:X:21:ALA:HB2	2.10	0.50
1:B:63:LYS:HB2	3:B:451:ATP:O2B	2.12	0.50
1:D:437:GLU:C	1:D:439:LEU:H	2.12	0.50
2:I:131:LEU:HD21	2:I:135:ARG:NH2	2.26	0.50
2:M:8:ARG:HH11	2:M:8:ARG:CB	2.25	0.50
2:O:1:THR:H3	4:O:175:LVS:CS	2.24	0.50
2:O:49:GLY:H	4:O:175:LVS:HN3	1.59	0.50
2:Q:37:LEU:HB2	2:Q:42:VAL:CG2	2.41	0.50
2:Q:72:LEU:O	2:Q:76:VAL:HG23	2.12	0.50
1:T:333:LEU:HD23	1:T:333:LEU:N	2.27	0.50
1:W:5:THR:O	1:W:9:ILE:HG13	2.12	0.50
1:W:300:THR:O	1:W:303:ILE:HG13	2.11	0.50
1:X:32:ARG:O	1:X:36:ARG:HG2	2.12	0.50
1:X:283:LEU:HB3	1:X:284:PRO:HD3	1.94	0.50
1:A:415:ASN:OD1	1:A:416:GLY:N	2.45	0.49
1:C:330:ARG:HG3	1:C:330:ARG:HH11	1.77	0.49
1:E:23:ALA:HA	1:E:331:VAL:HG21	1.94	0.49
1:E:409:PHE:CE1	1:F:6:PRO:HB3	2.47	0.49
2:J:4:VAL:HG23	2:J:122:ALA:HB2	1.94	0.49
2:J:144:SER:O	2:J:148:ILE:HG13	2.11	0.49
2:L:18:GLY:HA2	2:L:33:LYS:HE2	1.94	0.49
2:N:95:LEU:O	2:N:105:ILE:HA	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:131:LEU:HD11	2:O:135:ARG:CZ	2.42	0.49
1:V:115:GLU:HA	1:V:118:LYS:HB2	1.94	0.49
1:W:20:GLN:O	1:W:21:ALA:HB2	2.12	0.49
1:A:356:TYR:O	1:A:357:LYS:C	2.51	0.49
1:F:55:MET:HE3	1:F:306:ILE:HG21	1.94	0.49
2:H:88:LEU:O	2:H:89:ARG:HB3	2.12	0.49
2:H:153:LEU:HB3	2:H:167:PHE:CE2	2.47	0.49
2:R:46:PHE:HB3	2:R:95:LEU:CD1	2.42	0.49
1:S:333:LEU:N	1:S:333:LEU:HD23	2.26	0.49
1:U:48:VAL:HG13	1:U:48:VAL:O	2.11	0.49
1:V:32:ARG:O	1:V:36:ARG:HG2	2.12	0.49
1:V:48:VAL:HG13	1:V:48:VAL:O	2.11	0.49
1:B:20:GLN:HE22	1:B:334:THR:H	1.60	0.49
1:C:85:LYS:HG2	1:C:85:LYS:O	2.12	0.49
1:C:250:GLN:HA	1:C:250:GLN:HE21	1.76	0.49
1:E:283:LEU:HB2	1:E:284:PRO:HD3	1.93	0.49
4:H:175:LVS:H1'1	4:H:175:LVS:CA3	2.42	0.49
2:O:46:PHE:HB3	2:O:95:LEU:CD1	2.42	0.49
2:P:18:GLY:CA	2:P:33:LYS:HZ1	2.24	0.49
2:R:8:ARG:HH11	2:R:8:ARG:CB	2.24	0.49
2:R:56:LEU:HB2	2:R:91:LEU:HD23	1.94	0.49
1:S:336:LEU:HB2	1:S:341:PHE:CE1	2.47	0.49
1:V:286:VAL:HA	1:V:305:PHE:CE1	2.47	0.49
1:W:30:ALA:HB2	1:W:53:ILE:HD11	1.94	0.49
1:X:108:MET:C	1:X:110:LEU:H	2.16	0.49
2:M:83:ARG:CG	2:R:55:THR:HG22	2.42	0.49
2:Q:120:ILE:O	2:Q:121:LEU:HD23	2.12	0.49
1:V:40:LEU:O	1:V:45:ARG:HD3	2.11	0.49
1:V:425:TYR:O	1:V:429:ALA:HB2	2.13	0.49
1:W:444:LEU:HD13	1:W:444:LEU:H	1.77	0.49
1:X:40:LEU:O	1:X:45:ARG:HD3	2.12	0.49
1:B:37:ARG:O	1:B:38:MET:HB2	2.12	0.49
1:B:349:HIS:O	1:B:350:ALA:CB	2.61	0.49
1:B:403:LEU:CD2	1:B:404:MET:SD	3.01	0.49
1:C:101:ARG:HA	1:C:293:THR:HG22	1.94	0.49
3:E:454:ATP:C8	3:E:454:ATP:C5'	2.94	0.49
1:F:62:GLY:O	1:F:66:ILE:HG13	2.12	0.49
2:H:5:SER:HB2	2:H:14:VAL:HG22	1.94	0.49
2:J:136:ALA:HB1	2:P:137:LEU:CD1	2.42	0.49
2:K:88:LEU:O	2:K:89:ARG:HB3	2.12	0.49
2:O:72:LEU:O	2:O:76:VAL:HG23	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:120:ILE:O	2:O:121:LEU:HD23	2.13	0.49
2:Q:48:GLY:H	4:Q:175:LVS:H2'	1.77	0.49
2:M:55:THR:O	2:M:59:LEU:HD13	2.12	0.49
2:O:157:GLY:HA2	2:O:163:THR:HG22	1.94	0.49
1:S:233:LYS:C	1:S:235:ILE:H	2.16	0.49
1:T:336:LEU:HB2	1:T:341:PHE:CE1	2.48	0.49
1:U:336:LEU:HB2	1:U:341:PHE:CE1	2.47	0.49
1:U:425:TYR:O	1:U:429:ALA:HB2	2.13	0.49
1:A:32:ARG:C	1:A:34:ARG:N	2.65	0.49
1:A:37:ARG:O	1:A:38:MET:HB2	2.12	0.49
1:B:444:LEU:CD2	2:H:113:VAL:HG22	2.42	0.49
2:G:116:GLU:HG2	2:H:30:ASN:ND2	2.28	0.49
2:H:17:ASP:HB2	2:H:164:ASN:ND2	2.27	0.49
2:M:48:GLY:H	4:M:175:LVS:H2'	1.77	0.49
2:O:141:THR:OG1	2:O:143:LEU:HG	2.13	0.49
1:T:100:ILE:HB	1:T:291:VAL:HG11	1.95	0.49
1:B:246:ASP:O	1:B:250:GLN:HG2	2.13	0.49
1:B:283:LEU:HB2	1:B:284:PRO:HD3	1.95	0.49
1:F:42:GLU:HB3	1:F:43:PRO:HD3	1.95	0.49
1:F:250:GLN:HA	1:F:250:GLN:HE21	1.76	0.49
2:N:1:THR:H3	4:N:175:LVS:C2'	2.26	0.49
1:V:336:LEU:HB2	1:V:341:PHE:CE1	2.47	0.49
1:X:259:ILE:HG22	1:X:308:SER:O	2.13	0.49
1:C:367:ILE:HD11	1:C:421:ILE:HD12	1.95	0.49
1:F:443:ILE:CG2	2:L:114:GLN:HG3	2.43	0.49
2:R:81:ASP:O	2:R:88:LEU:HB2	2.13	0.49
1:A:258:GLU:OE1	1:B:322:GLU:OE1	2.31	0.49
1:B:389:GLU:CD	1:C:321:PRO:HG3	2.33	0.49
2:H:64:LEU:HD23	2:H:74:SER:OG	2.12	0.49
2:P:1:THR:N	4:P:175:LVS:S	2.86	0.49
1:S:17:ILE:CD1	1:S:65:GLU:HB3	2.42	0.49
1:U:236:ASN:HB3	1:U:239:GLU:HB2	1.95	0.49
1:V:18:ILE:HD11	1:V:343:ARG:HH21	1.75	0.49
1:X:76:ALA:CB	1:X:251:ASN:HB3	2.43	0.49
1:A:40:LEU:HD11	1:F:359:LEU:HD22	1.95	0.48
1:C:35:TRP:O	1:C:37:ARG:O	2.29	0.48
1:D:42:GLU:H	1:D:43:PRO:CD	2.25	0.48
1:D:80:LYS:HG3	1:D:255:PHE:HD2	1.77	0.48
2:G:144:SER:O	2:G:148:ILE:HG13	2.13	0.48
2:J:37:LEU:HD21	2:J:57:PHE:CZ	2.48	0.48
2:P:56:LEU:HB2	2:P:91:LEU:HD23	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:81:ASP:O	2:P:88:LEU:HB2	2.12	0.48
2:Q:19:GLN:H	2:Q:33:LYS:NZ	2.10	0.48
1:D:16:HIS:HB2	1:D:17:ILE:HD12	1.95	0.48
2:K:136:ALA:HB1	2:Q:137:LEU:HD13	1.95	0.48
1:T:425:TYR:O	1:T:429:ALA:HB2	2.13	0.48
1:T:441:ARG:HB3	1:T:442:PHE:CE1	2.48	0.48
1:A:76:ALA:HB1	1:A:251:ASN:O	2.12	0.48
1:A:233:LYS:HE2	1:A:235:ILE:HD12	1.95	0.48
1:D:366:ASN:HB3	1:D:418:THR:HG22	1.95	0.48
1:E:403:LEU:C	1:E:405:ASP:H	2.16	0.48
1:F:76:ALA:HB1	1:F:251:ASN:O	2.13	0.48
2:N:18:GLY:O	2:N:29:GLY:C	2.51	0.48
2:P:1:THR:H1	4:P:175:LVS:CS	2.26	0.48
1:V:240:LEU:HB3	1:V:244:ALA:HB2	1.93	0.48
1:X:236:ASN:ND2	1:X:238:GLU:HB2	2.28	0.48
1:B:437:GLU:CG	1:B:439:LEU:HB2	2.43	0.48
1:C:100:ILE:HG21	1:C:298:VAL:HG21	1.94	0.48
1:C:444:LEU:HD23	2:I:113:VAL:HG22	1.96	0.48
1:E:52:ASN:O	1:E:328:PRO:HD2	2.13	0.48
1:F:42:GLU:H	1:F:43:PRO:CD	2.26	0.48
2:G:1:THR:H3	4:G:175:LVS:CS	2.24	0.48
2:M:28:LYS:HE2	2:M:30:ASN:OD1	2.13	0.48
2:O:89:ARG:HG2	2:O:90:LYS:H	1.78	0.48
2:Q:8:ARG:HH11	2:Q:8:ARG:CB	2.26	0.48
1:S:40:LEU:O	1:S:45:ARG:HD3	2.13	0.48
1:X:370:THR:HG22	1:X:421:ILE:O	2.12	0.48
1:C:16:HIS:HB2	1:C:17:ILE:HD12	1.95	0.48
1:D:246:ASP:O	1:D:250:GLN:HG2	2.14	0.48
1:E:114:GLN:C	1:E:116:ILE:H	2.16	0.48
2:I:7:ARG:NH1	2:I:12:VAL:CG2	2.77	0.48
2:M:1:THR:HG22	2:M:33:LYS:NZ	2.28	0.48
2:O:164:ASN:ND2	2:O:164:ASN:H	2.12	0.48
2:R:37:LEU:HB2	2:R:42:VAL:CG2	2.42	0.48
1:T:30:ALA:HB2	1:T:53:ILE:HD11	1.96	0.48
1:T:370:THR:HG22	1:T:421:ILE:O	2.12	0.48
1:W:100:ILE:HB	1:W:291:VAL:HG11	1.96	0.48
1:A:7:ARG:NH1	1:A:7:ARG:HB3	2.29	0.48
1:B:108:MET:HA	1:B:108:MET:HE3	1.96	0.48
1:C:76:ALA:HB1	1:C:251:ASN:O	2.13	0.48
1:D:36:ARG:C	1:D:37:ARG:O	2.47	0.48
1:E:326:ARG:O	1:E:328:PRO:HD3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:7:ARG:HD2	2:I:119:GLN:CG	2.36	0.48
2:M:76:VAL:HG11	1:S:442:PHE:CE2	2.49	0.48
2:N:51:ALA:O	2:N:55:THR:HG23	2.13	0.48
1:S:76:ALA:CB	1:S:251:ASN:HB3	2.43	0.48
1:V:9:ILE:HD13	1:V:31:LEU:HD23	1.96	0.48
1:V:434:VAL:HG12	1:V:435:GLU:N	2.29	0.48
2:I:53:ALA:HA	2:I:93:ALA:HB1	1.96	0.48
2:M:131:LEU:HD11	2:M:135:ARG:CZ	2.43	0.48
2:N:48:GLY:H	4:N:175:LVS:H2'	1.79	0.48
2:Q:76:VAL:HG11	1:W:442:PHE:CE2	2.48	0.48
2:Q:137:LEU:C	2:Q:141:THR:HG22	2.34	0.48
2:R:89:ARG:HG2	2:R:90:LYS:H	1.79	0.48
1:U:9:ILE:HD13	1:U:31:LEU:HD23	1.96	0.48
1:W:434:VAL:HG12	1:W:435:GLU:N	2.28	0.48
1:B:75:ASN:OD1	1:B:110:LEU:HD11	2.14	0.48
1:C:17:ILE:HD12	1:C:17:ILE:N	2.28	0.48
1:C:100:ILE:HG21	1:C:298:VAL:CG2	2.44	0.48
1:E:367:ILE:CD1	1:E:421:ILE:HD11	2.39	0.48
2:J:7:ARG:NH1	2:J:12:VAL:CG2	2.76	0.48
2:J:33:LYS:HZ1	4:J:175:LVS:CB3	2.21	0.48
2:K:107:THR:OG1	2:K:111:ASP:OD2	2.22	0.48
1:U:5:THR:O	1:U:9:ILE:HG13	2.14	0.48
1:V:63:LYS:HG2	1:V:333:LEU:HD12	1.96	0.48
1:W:7:ARG:HH12	1:X:410:SER:HB3	1.77	0.48
1:W:9:ILE:HD13	1:W:31:LEU:HD23	1.94	0.48
1:X:300:THR:O	1:X:303:ILE:HG13	2.13	0.48
1:A:403:LEU:HD11	1:A:426:VAL:HG22	1.94	0.48
1:C:367:ILE:HD11	1:C:421:ILE:HD11	1.95	0.48
1:D:285:LEU:HD12	1:D:285:LEU:N	2.28	0.48
2:H:7:ARG:NH1	2:H:12:VAL:CG2	2.77	0.48
2:J:72:LEU:HD22	2:J:104:LEU:HD21	1.96	0.48
2:P:131:LEU:HD11	2:P:135:ARG:HE	1.76	0.48
2:R:1:THR:HG22	2:R:33:LYS:HD2	1.89	0.48
1:S:373:ALA:HB2	1:S:422:ASP:HA	1.96	0.48
1:W:17:ILE:CD1	1:W:65:GLU:HB3	2.44	0.48
1:W:60:GLY:HA3	1:W:392:GLY:HA3	1.95	0.48
1:X:100:ILE:HB	1:X:291:VAL:HG11	1.94	0.48
1:B:443:ILE:HG12	2:H:112:VAL:CG2	2.44	0.48
1:F:37:ARG:O	1:F:38:MET:HB2	2.12	0.48
1:F:330:ARG:HG3	1:F:330:ARG:HH11	1.78	0.48
1:F:370:THR:HG23	1:F:421:ILE:O	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:144:SER:OG	2:L:147:GLU:HG3	2.14	0.48
2:M:1:THR:HG22	2:M:33:LYS:HZ3	1.78	0.48
1:S:283:LEU:HB3	1:S:284:PRO:HD3	1.95	0.48
1:S:388:THR:HG22	1:S:389:GLU:N	2.25	0.48
1:T:20:GLN:O	1:T:21:ALA:HB2	2.14	0.48
1:U:327:LEU:N	1:U:328:PRO:CD	2.77	0.48
1:V:30:ALA:HB2	1:V:53:ILE:HD11	1.94	0.48
1:X:49:THR:HG21	1:X:326:ARG:HH22	1.79	0.48
1:B:250:GLN:HA	1:B:250:GLN:NE2	2.28	0.47
1:C:443:ILE:HG12	2:I:112:VAL:HG21	1.96	0.47
2:K:24:ASN:O	2:P:161:VAL:HG13	2.14	0.47
2:L:153:LEU:HB3	2:L:167:PHE:CE2	2.49	0.47
2:P:7:ARG:HE	2:P:12:VAL:CG2	2.07	0.47
1:U:6:PRO:O	1:U:10:VAL:HG23	2.14	0.47
1:W:283:LEU:HB3	1:W:284:PRO:HD3	1.96	0.47
1:W:336:LEU:HB2	1:W:341:PHE:CE1	2.49	0.47
1:X:17:ILE:HD13	1:X:66:ILE:CG1	2.44	0.47
1:B:395:ARG:O	1:B:398:THR:HB	2.14	0.47
1:D:283:LEU:HB2	1:D:284:PRO:HD3	1.95	0.47
1:D:283:LEU:HD23	1:D:283:LEU:HA	1.72	0.47
2:P:120:ILE:O	2:P:121:LEU:HD23	2.14	0.47
2:Q:76:VAL:HG22	1:W:443:ILE:HD11	1.96	0.47
2:R:50:THR:H	4:R:175:LVS:CD6	2.27	0.47
1:T:434:VAL:HG12	1:T:435:GLU:N	2.28	0.47
1:U:297:MET:HG3	1:V:109:LYS:HD2	1.96	0.47
1:U:421:ILE:HG12	1:U:425:TYR:CD1	2.49	0.47
1:U:434:VAL:HG12	1:U:435:GLU:N	2.30	0.47
1:V:300:THR:O	1:V:303:ILE:HG13	2.14	0.47
1:X:336:LEU:HB2	1:X:341:PHE:CE1	2.49	0.47
1:B:326:ARG:O	1:B:328:PRO:HD3	2.14	0.47
1:B:356:TYR:O	1:B:357:LYS:C	2.52	0.47
1:C:20:GLN:HE21	1:C:20:GLN:N	2.12	0.47
1:D:42:GLU:HB3	1:D:43:PRO:HD3	1.96	0.47
1:D:250:GLN:HE21	1:D:250:GLN:HA	1.79	0.47
1:F:366:ASN:HB3	1:F:418:THR:HG22	1.95	0.47
2:N:3:ILE:HB	2:N:123:ILE:HG13	1.95	0.47
1:T:17:ILE:CD1	1:T:65:GLU:HB3	2.44	0.47
1:T:57:GLY:O	1:T:58:PRO:O	2.32	0.47
1:W:49:THR:HG21	1:W:326:ARG:HH22	1.79	0.47
1:B:100:ILE:CG2	1:B:298:VAL:HG21	2.43	0.47
1:C:63:LYS:NZ	3:C:452:ATP:O1B	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:444:LEU:HD23	2:I:113:VAL:HG13	1.96	0.47
1:E:233:LYS:HZ3	1:E:233:LYS:HB2	1.80	0.47
1:E:356:TYR:O	1:E:357:LYS:C	2.51	0.47
1:F:20:GLN:HE22	1:F:334:THR:H	1.62	0.47
1:F:415:ASN:OD1	1:F:416:GLY:N	2.46	0.47
2:I:83:ARG:NH1	2:J:58:GLU:OE2	2.44	0.47
2:K:1:THR:HG21	2:K:33:LYS:NZ	2.15	0.47
2:M:51:ALA:O	2:M:55:THR:HG23	2.14	0.47
1:S:100:ILE:HB	1:S:291:VAL:HG11	1.96	0.47
1:V:283:LEU:HB3	1:V:284:PRO:HD3	1.95	0.47
1:X:6:PRO:O	1:X:10:VAL:HG23	2.15	0.47
1:X:421:ILE:HG12	1:X:425:TYR:CD1	2.49	0.47
1:C:443:ILE:CG2	2:I:114:GLN:HG3	2.41	0.47
2:N:50:THR:H	4:N:175:LVS:CD6	2.28	0.47
1:S:30:ALA:HB2	1:S:53:ILE:HD11	1.95	0.47
1:S:48:VAL:HG21	1:T:359:LEU:HD11	1.95	0.47
1:T:279:GLN:NE2	1:T:320:ILE:N	2.55	0.47
1:U:17:ILE:CD1	1:U:65:GLU:HB3	2.45	0.47
1:U:17:ILE:HD13	1:U:66:ILE:CG1	2.44	0.47
1:U:245:ILE:HG22	1:U:249:GLU:OE1	2.15	0.47
1:W:333:LEU:N	1:W:333:LEU:HD23	2.29	0.47
1:W:421:ILE:HG12	1:W:425:TYR:CD1	2.50	0.47
1:A:100:ILE:CG2	1:A:298:VAL:HG21	2.45	0.47
1:C:235:ILE:HG22	1:C:237:PRO:HD3	1.96	0.47
1:D:326:ARG:O	1:D:328:PRO:HD3	2.14	0.47
2:H:7:ARG:CZ	2:H:12:VAL:CG2	2.93	0.47
2:K:116:GLU:HG2	2:L:30:ASN:HD21	1.79	0.47
2:N:81:ASP:O	2:N:88:LEU:HB2	2.15	0.47
2:O:55:THR:O	2:O:59:LEU:HD13	2.15	0.47
2:P:8:ARG:HH11	2:P:8:ARG:CB	2.27	0.47
1:T:6:PRO:O	1:T:10:VAL:HG23	2.13	0.47
1:V:373:ALA:HB2	1:V:422:ASP:HA	1.96	0.47
1:A:44:LEU:HD23	1:A:44:LEU:HA	1.73	0.47
1:A:108:MET:HE1	1:A:240:LEU:HG	1.95	0.47
1:A:440:SER:HB3	2:H:32:ARG:NH2	2.29	0.47
1:B:80:LYS:HG3	1:B:255:PHE:HD2	1.80	0.47
1:B:370:THR:HG23	1:B:421:ILE:O	2.14	0.47
1:D:330:ARG:HH11	1:D:330:ARG:HG3	1.79	0.47
1:E:79:ILE:HD12	1:E:80:LYS:N	2.29	0.47
1:E:285:LEU:N	1:E:285:LEU:HD12	2.30	0.47
1:E:355:GLN:O	1:E:359:LEU:HD23	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:410:SER:O	1:F:414:MET:HB2	2.15	0.47
2:H:67:HIS:NE2	2:H:77:GLU:HG3	2.30	0.47
2:I:64:LEU:HD23	2:I:74:SER:OG	2.15	0.47
2:P:105:ILE:HG22	2:P:113:VAL:O	2.14	0.47
2:R:55:THR:O	2:R:59:LEU:HD13	2.15	0.47
1:S:63:LYS:HG2	1:S:333:LEU:HD12	1.96	0.47
1:S:105:ASP:HB3	1:X:297:MET:HE1	1.96	0.47
1:S:297:MET:HG3	1:T:109:LYS:HZ2	1.79	0.47
1:S:434:VAL:HG12	1:S:435:GLU:N	2.30	0.47
1:T:388:THR:HG22	1:T:389:GLU:N	2.26	0.47
1:U:49:THR:HG21	1:U:326:ARG:HH22	1.80	0.47
1:U:63:LYS:HG2	1:U:333:LEU:HD12	1.97	0.47
1:U:370:THR:O	1:U:374:VAL:HG23	2.14	0.47
1:V:82:GLU:OE2	1:V:258:GLU:HG3	2.15	0.47
1:V:328:PRO:HA	1:W:398:THR:HG22	1.96	0.47
1:W:327:LEU:N	1:W:328:PRO:CD	2.77	0.47
1:X:17:ILE:CD1	1:X:65:GLU:HB3	2.45	0.47
1:X:294:LYS:HG3	1:X:295:HIS:ND1	2.30	0.47
1:B:440:SER:O	1:B:443:ILE:N	2.29	0.47
1:F:17:ILE:N	1:F:17:ILE:HD12	2.30	0.47
1:F:55:MET:CE	1:F:306:ILE:HG21	2.45	0.47
2:M:76:VAL:HG22	1:S:443:ILE:HD11	1.97	0.47
2:M:131:LEU:HD21	2:M:135:ARG:NH2	2.30	0.47
2:N:76:VAL:HG11	1:T:442:PHE:CD2	2.50	0.47
1:S:294:LYS:HG3	1:S:295:HIS:ND1	2.30	0.47
1:S:347:GLU:HB2	1:S:348:PRO:HD3	1.97	0.47
1:T:18:ILE:HD11	1:T:343:ARG:HH21	1.80	0.47
1:V:80:LYS:HG3	1:V:255:PHE:CD2	2.48	0.47
1:V:100:ILE:HB	1:V:291:VAL:HG11	1.97	0.47
1:A:32:ARG:C	1:A:34:ARG:H	2.17	0.47
1:A:233:LYS:CD	1:A:235:ILE:HD12	2.45	0.47
1:D:233:LYS:HB2	1:D:233:LYS:HZ3	1.79	0.47
1:E:250:GLN:HA	1:E:250:GLN:HE21	1.80	0.47
2:P:51:ALA:O	2:P:55:THR:HG23	2.15	0.47
1:T:49:THR:HG21	1:T:326:ARG:HH22	1.80	0.47
1:V:49:THR:HG21	1:V:326:ARG:HH22	1.80	0.47
1:W:370:THR:O	1:W:374:VAL:HG23	2.15	0.47
1:X:388:THR:HG22	1:X:389:GLU:N	2.25	0.47
1:X:425:TYR:O	1:X:429:ALA:HB2	2.15	0.47
1:A:283:LEU:HB2	1:A:284:PRO:HD3	1.97	0.47
1:A:438:ASP:O	1:A:439:LEU:O	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:42:GLU:HB3	1:B:43:PRO:HD3	1.97	0.47
1:B:58:PRO:HG2	1:B:61:VAL:HG11	1.97	0.47
1:B:285:LEU:HD12	1:B:285:LEU:H	1.80	0.47
1:B:355:GLN:OE1	1:C:48:VAL:HA	2.15	0.47
2:I:1:THR:HG21	2:I:33:LYS:HZ2	1.79	0.47
2:O:18:GLY:O	2:O:29:GLY:C	2.54	0.47
2:P:50:THR:O	2:P:53:ALA:HB3	2.15	0.47
1:S:437:GLU:O	1:S:438:ASP:C	2.53	0.47
1:U:294:LYS:HG3	1:U:295:HIS:ND1	2.30	0.47
1:V:441:ARG:HB3	1:V:442:PHE:CE1	2.49	0.47
1:F:293:THR:C	1:F:295:HIS:H	2.18	0.46
2:G:164:ASN:C	2:G:164:ASN:ND2	2.67	0.46
2:M:115:PRO:HG3	2:M:121:LEU:HD21	1.97	0.46
2:O:37:LEU:HD22	2:O:61:GLU:HG3	1.96	0.46
2:O:164:ASN:HD22	2:O:164:ASN:H	1.62	0.46
2:Q:51:ALA:O	2:Q:55:THR:HG23	2.15	0.46
2:R:1:THR:H3	4:R:175:LVS:CS	2.27	0.46
2:R:49:GLY:H	4:R:175:LVS:HN3	1.62	0.46
2:R:76:VAL:HG22	1:X:443:ILE:HD11	1.96	0.46
1:T:370:THR:O	1:T:374:VAL:HG23	2.14	0.46
1:U:55:MET:HE2	1:U:306:ILE:HG21	1.97	0.46
1:U:236:ASN:HB3	1:U:239:GLU:CB	2.46	0.46
1:W:68:ARG:C	1:W:70:LEU:H	2.19	0.46
1:X:439:LEU:C	1:X:441:ARG:H	2.18	0.46
1:A:403:LEU:HD12	1:A:426:VAL:HG22	1.96	0.46
1:B:326:ARG:C	1:B:328:PRO:HD3	2.35	0.46
1:C:57:GLY:O	1:C:63:LYS:HE2	2.15	0.46
1:C:60:GLY:HA2	3:C:452:ATP:PB	2.55	0.46
1:C:285:LEU:N	1:C:285:LEU:HD12	2.30	0.46
1:D:362:THR:HG23	1:E:39:GLN:HG2	1.97	0.46
1:E:42:GLU:H	1:E:43:PRO:CD	2.28	0.46
1:E:85:LYS:O	1:E:85:LYS:HG2	2.14	0.46
1:E:444:LEU:OXT	2:K:113:VAL:HA	2.15	0.46
1:F:100:ILE:CG2	1:F:298:VAL:HG21	2.45	0.46
2:H:71:LEU:CD1	2:H:104:LEU:HD22	2.45	0.46
2:J:7:ARG:CZ	2:J:12:VAL:CG2	2.94	0.46
2:J:17:ASP:CG	2:J:163:THR:HG23	2.36	0.46
2:K:153:LEU:HB3	2:K:167:PHE:CE2	2.50	0.46
2:L:137:LEU:HD11	2:R:136:ALA:HB1	1.96	0.46
2:M:18:GLY:CA	2:M:33:LYS:NZ	2.79	0.46
2:N:76:VAL:HG22	1:T:443:ILE:HD11	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:137:LEU:C	2:N:141:THR:HG22	2.35	0.46
2:O:7:ARG:NH2	2:O:12:VAL:HG21	2.26	0.46
2:R:164:ASN:ND2	2:R:164:ASN:H	2.13	0.46
1:V:76:ALA:CB	1:V:251:ASN:HB3	2.45	0.46
1:X:5:THR:O	1:X:9:ILE:HG13	2.15	0.46
1:D:270:GLY:C	1:D:272:ASP:N	2.68	0.46
1:E:61:VAL:HA	1:E:336:LEU:HD22	1.98	0.46
1:E:347:GLU:HB2	1:E:348:PRO:HD3	1.96	0.46
2:N:157:GLY:HA2	2:N:163:THR:HG22	1.97	0.46
2:R:48:GLY:H	4:R:175:LVS:H2'	1.80	0.46
1:T:421:ILE:HG12	1:T:425:TYR:CD1	2.49	0.46
1:X:68:ARG:C	1:X:70:LEU:H	2.19	0.46
1:X:333:LEU:N	1:X:333:LEU:HD23	2.30	0.46
1:X:370:THR:O	1:X:374:VAL:HG23	2.15	0.46
1:A:330:ARG:HH11	1:A:330:ARG:HG3	1.81	0.46
1:E:270:GLY:C	1:E:272:ASP:N	2.68	0.46
2:H:1:THR:N	4:H:175:LVS:S	2.89	0.46
2:M:137:LEU:C	2:M:141:THR:HG22	2.34	0.46
1:T:9:ILE:HD13	1:T:31:LEU:HD23	1.98	0.46
1:T:381:ALA:O	1:T:395:ARG:HG2	2.15	0.46
1:T:430:LEU:N	1:T:430:LEU:HD23	2.31	0.46
1:V:60:GLY:HA3	1:V:392:GLY:HA3	1.97	0.46
1:C:347:GLU:HB2	1:C:348:PRO:HD3	1.98	0.46
1:C:366:ASN:HB3	1:C:418:THR:HG22	1.98	0.46
1:C:437:GLU:C	1:C:439:LEU:H	2.14	0.46
1:D:347:GLU:HB2	1:D:348:PRO:HD3	1.98	0.46
1:E:402:ARG:O	1:E:405:ASP:HB2	2.15	0.46
1:F:403:LEU:HD11	1:F:426:VAL:HG22	1.96	0.46
2:G:159:ILE:O	2:R:25:THR:HA	2.15	0.46
2:P:48:GLY:H	4:P:175:LVS:H2'	1.79	0.46
1:S:49:THR:HG21	1:S:326:ARG:HH22	1.80	0.46
1:U:373:ALA:HB2	1:U:422:ASP:HA	1.97	0.46
1:U:388:THR:HG22	1:U:389:GLU:N	2.22	0.46
1:A:390:ASN:C	1:A:390:ASN:OD1	2.54	0.46
1:B:61:VAL:HA	1:B:336:LEU:HD22	1.98	0.46
1:D:37:ARG:O	1:D:38:MET:HB2	2.16	0.46
1:D:37:ARG:HG2	1:D:38:MET:N	2.31	0.46
1:E:16:HIS:HB2	1:E:17:ILE:HD12	1.96	0.46
1:E:36:ARG:C	1:E:37:ARG:O	2.51	0.46
1:E:108:MET:HG2	1:E:295:HIS:CE1	2.50	0.46
2:J:51:ALA:O	2:J:55:THR:HG23	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:K:105:ILE:HG22	2:K:113:VAL:O	2.16	0.46
2:N:56:LEU:HB2	2:N:91:LEU:HD23	1.98	0.46
2:O:112:VAL:HB	1:U:443:ILE:CD1	2.44	0.46
2:P:96:ILE:CD1	2:P:123:ILE:HG12	2.45	0.46
2:R:1:THR:HG23	2:R:33:LYS:HZ3	1.78	0.46
1:S:421:ILE:HG12	1:S:425:TYR:CD1	2.50	0.46
2:M:76:VAL:HG11	1:S:442:PHE:CD2	2.50	0.46
2:M:164:ASN:HD22	2:M:164:ASN:H	1.64	0.46
1:T:240:LEU:C	1:T:242:GLN:H	2.19	0.46
1:W:55:MET:HE1	1:W:63:LYS:O	2.15	0.46
1:W:76:ALA:CB	1:W:251:ASN:HB3	2.46	0.46
1:W:82:GLU:OE2	1:W:258:GLU:HG3	2.15	0.46
1:W:425:TYR:O	1:W:429:ALA:HB2	2.15	0.46
1:A:31:LEU:HD21	1:A:74:ALA:HB2	1.98	0.46
1:A:73:LEU:HD12	1:A:73:LEU:O	2.16	0.46
1:A:352:LEU:HD23	1:A:352:LEU:HA	1.79	0.46
1:C:25:ARG:O	1:C:28:ALA:HB3	2.16	0.46
2:M:89:ARG:HG2	2:M:90:LYS:H	1.81	0.46
2:R:91:LEU:HB2	2:R:108:GLY:HA3	1.98	0.46
1:S:7:ARG:NH1	1:T:410:SER:HB3	2.30	0.46
1:U:441:ARG:HB3	1:U:442:PHE:CE1	2.51	0.46
1:A:250:GLN:HA	1:A:250:GLN:NE2	2.29	0.46
1:B:443:ILE:HD11	2:H:72:LEU:CD1	2.38	0.46
1:C:25:ARG:O	1:C:29:ILE:HG23	2.15	0.46
1:D:112:ARG:O	1:D:116:ILE:HG13	2.16	0.46
1:D:401:GLU:OE1	1:E:51:LYS:HG3	2.16	0.46
1:E:25:ARG:O	1:E:29:ILE:HG23	2.16	0.46
2:G:58:GLU:OE2	2:L:83:ARG:NH1	2.49	0.46
2:I:164:ASN:C	2:I:164:ASN:ND2	2.68	0.46
2:J:33:LYS:HZ3	4:J:175:LVS:CB3	2.24	0.46
2:L:7:ARG:HG3	2:L:12:VAL:HG22	1.96	0.46
2:P:18:GLY:O	2:P:29:GLY:C	2.53	0.46
2:Q:80:LYS:O	2:Q:84:THR:HG23	2.15	0.46
1:V:54:LEU:HD23	1:V:307:ALA:HB3	1.97	0.46
1:V:347:GLU:HB2	1:V:348:PRO:HD3	1.98	0.46
3:A:450:ATP:C5'	3:A:450:ATP:H8	2.28	0.46
1:B:233:LYS:HB2	1:B:233:LYS:NZ	2.31	0.46
1:B:402:ARG:O	1:B:405:ASP:HB2	2.16	0.46
1:C:390:ASN:C	1:C:390:ASN:OD1	2.55	0.46
2:I:86:ARG:HH11	2:I:86:ARG:CB	2.18	0.46
2:P:55:THR:O	2:P:59:LEU:HD13	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:64:LEU:HD23	2:P:74:SER:CB	2.46	0.46
2:Q:37:LEU:HD22	2:Q:61:GLU:HG3	1.97	0.46
1:T:63:LYS:HB2	3:T:457:ATP:O2B	2.16	0.46
1:V:294:LYS:HG3	1:V:295:HIS:ND1	2.31	0.46
1:V:442:PHE:O	1:V:443:ILE:HG12	2.16	0.46
1:A:285:LEU:HD12	1:A:285:LEU:N	2.31	0.45
1:A:443:ILE:HG12	2:G:112:VAL:CG2	2.47	0.45
1:B:101:ARG:HA	1:B:293:THR:HG22	1.99	0.45
1:B:415:ASN:OD1	1:B:416:GLY:N	2.49	0.45
1:C:52:ASN:HB2	1:C:326:ARG:O	2.15	0.45
1:C:250:GLN:HA	1:C:250:GLN:NE2	2.31	0.45
1:D:57:GLY:O	1:D:63:LYS:HE2	2.16	0.45
1:E:352:LEU:HD13	1:E:400:MET:HG3	1.98	0.45
1:F:5:THR:H	1:F:8:GLU:HB3	1.81	0.45
1:F:37:ARG:HG2	1:F:38:MET:N	2.31	0.45
1:F:349:HIS:O	1:F:350:ALA:CB	2.62	0.45
1:T:17:ILE:HD13	1:T:66:ILE:CG1	2.46	0.45
1:X:373:ALA:HB2	1:X:422:ASP:HA	1.97	0.45
1:A:402:ARG:NH2	1:A:433:VAL:CG2	2.79	0.45
1:C:27:VAL:CB	1:C:70:LEU:HD22	2.39	0.45
1:E:293:THR:C	1:E:295:HIS:H	2.19	0.45
1:E:326:ARG:C	1:E:328:PRO:HD3	2.36	0.45
1:E:409:PHE:CD2	1:F:25:ARG:CZ	3.00	0.45
1:F:23:ALA:CA	1:F:331:VAL:HG21	2.43	0.45
2:H:172:LEU:HD23	2:H:172:LEU:HA	1.82	0.45
2:L:7:ARG:CZ	2:L:12:VAL:CG2	2.95	0.45
1:S:286:VAL:HA	1:S:305:PHE:CE1	2.51	0.45
1:S:326:ARG:HH11	1:S:326:ARG:CA	2.28	0.45
1:A:36:ARG:C	1:A:37:ARG:O	2.54	0.45
1:A:345:LEU:HD12	1:A:345:LEU:HA	1.74	0.45
1:C:7:ARG:NH1	1:C:7:ARG:HB3	2.31	0.45
1:E:362:THR:HG23	1:F:39:GLN:HG2	1.98	0.45
1:F:79:ILE:HD12	1:F:80:LYS:H	1.81	0.45
2:L:7:ARG:NH1	2:L:12:VAL:CG2	2.79	0.45
2:N:66:MET:O	2:N:67:HIS:ND1	2.50	0.45
2:Q:54:PHE:CZ	1:X:444:LEU:HB3	2.51	0.45
1:T:54:LEU:HD23	1:T:307:ALA:HB3	1.98	0.45
1:T:236:ASN:N	1:T:237:PRO:HD3	2.31	0.45
1:U:347:GLU:HB2	1:U:348:PRO:HD3	1.98	0.45
1:A:283:LEU:HA	1:A:283:LEU:HD23	1.68	0.45
1:E:112:ARG:HD2	1:E:240:LEU:HD21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:116:GLU:HG2	2:H:30:ASN:HD21	1.81	0.45
2:I:5:SER:HB2	2:I:14:VAL:HG22	1.98	0.45
2:J:172:LEU:HD23	2:J:172:LEU:HA	1.80	0.45
2:M:47:ALA:HB3	2:M:123:ILE:HD12	1.99	0.45
2:N:1:THR:N	4:N:175:LVS:C2'	2.79	0.45
2:Q:164:ASN:HD22	2:Q:164:ASN:N	2.10	0.45
2:R:19:GLN:N	2:R:33:LYS:HZ1	2.11	0.45
2:R:120:ILE:O	2:R:121:LEU:HD23	2.16	0.45
1:U:68:ARG:C	1:U:70:LEU:H	2.19	0.45
1:W:373:ALA:HB2	1:W:422:ASP:HA	1.97	0.45
1:B:36:ARG:C	1:B:37:ARG:O	2.54	0.45
3:B:451:ATP:H8	3:B:451:ATP:C5'	2.28	0.45
3:D:453:ATP:H8	3:D:453:ATP:C5'	2.28	0.45
1:E:370:THR:O	1:E:373:ALA:HB3	2.17	0.45
1:F:20:GLN:CA	1:F:20:GLN:NE2	2.61	0.45
2:G:137:LEU:HD11	2:M:136:ALA:HB1	1.97	0.45
2:O:56:LEU:HB2	2:O:91:LEU:HD23	1.98	0.45
2:P:5:SER:CB	2:P:14:VAL:HG22	2.47	0.45
2:R:164:ASN:HD22	2:R:164:ASN:H	1.62	0.45
1:S:64:THR:N	3:S:456:ATP:O2B	2.50	0.45
1:S:82:GLU:OE2	1:S:258:GLU:HG3	2.16	0.45
1:S:327:LEU:N	1:S:328:PRO:CD	2.78	0.45
1:S:370:THR:O	1:S:374:VAL:HG23	2.16	0.45
1:U:40:LEU:HD13	1:U:44:LEU:O	2.17	0.45
1:V:326:ARG:HH11	1:V:326:ARG:CA	2.28	0.45
1:W:54:LEU:HD23	1:W:307:ALA:HB3	1.97	0.45
1:X:407:ILE:HG23	1:X:408:SER:N	2.32	0.45
1:B:407:ILE:HD11	1:B:419:VAL:HG11	1.97	0.45
1:D:280:ARG:HH11	1:D:280:ARG:CG	2.30	0.45
1:E:437:GLU:HG3	1:E:439:LEU:HB2	1.97	0.45
2:K:33:LYS:HZ3	4:K:175:LVS:CB3	2.29	0.45
2:L:164:ASN:C	2:L:164:ASN:ND2	2.64	0.45
2:Q:89:ARG:HG2	2:Q:90:LYS:H	1.82	0.45
1:S:9:ILE:HD13	1:S:31:LEU:HD23	1.98	0.45
1:S:391:ILE:HD11	1:S:395:ARG:NE	2.31	0.45
1:T:68:ARG:C	1:T:70:LEU:H	2.20	0.45
1:V:63:LYS:HB2	3:V:459:ATP:O2B	2.16	0.45
1:V:387:LYS:NZ	1:V:435:GLU:HG3	2.30	0.45
1:V:444:LEU:HD13	1:V:444:LEU:H	1.81	0.45
1:X:82:GLU:OE2	1:X:258:GLU:HG3	2.16	0.45
1:X:326:ARG:HH11	1:X:326:ARG:CA	2.28	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:404:MET:O	1:C:408:SER:HB2	2.17	0.45
1:D:358:ALA:O	1:D:361:ALA:HB3	2.15	0.45
1:D:403:LEU:C	1:D:405:ASP:H	2.19	0.45
2:H:1:THR:H3	4:H:175:LVS:C2'	2.29	0.45
2:J:5:SER:HB2	2:J:14:VAL:HG22	1.96	0.45
2:L:88:LEU:O	2:L:88:LEU:HD23	2.16	0.45
2:M:1:THR:CG2	2:M:33:LYS:HD2	2.15	0.45
2:M:50:THR:O	2:M:53:ALA:HB3	2.17	0.45
2:M:164:ASN:ND2	2:M:164:ASN:H	2.13	0.45
1:T:300:THR:O	1:T:303:ILE:HG13	2.17	0.45
1:V:55:MET:HE2	1:V:306:ILE:HG21	1.98	0.45
1:W:347:GLU:HB2	1:W:348:PRO:HD3	1.98	0.45
1:E:330:ARG:HH11	1:E:330:ARG:HG3	1.82	0.45
2:I:136:ALA:HB1	2:O:137:LEU:CD1	2.47	0.45
2:J:1:THR:HG23	2:J:33:LYS:HZ1	1.80	0.45
2:K:125:SER:N	4:K:175:LVS:C1'	2.72	0.45
1:S:68:ARG:C	1:S:70:LEU:H	2.20	0.45
1:T:373:ALA:HB2	1:T:422:ASP:HA	1.98	0.45
1:U:313:VAL:HG23	1:U:314:ALA:H	1.82	0.45
1:U:344:ILE:CG2	3:U:458:ATP:C2	2.97	0.45
1:U:439:LEU:C	1:U:441:ARG:H	2.21	0.45
1:V:370:THR:HG23	1:V:373:ALA:CB	2.47	0.45
1:W:65:GLU:CG	3:W:460:ATP:H2'	2.46	0.45
1:W:66:ILE:O	1:W:66:ILE:HG22	2.17	0.45
1:A:359:LEU:HD22	1:B:40:LEU:HD11	1.98	0.45
1:D:438:ASP:O	1:D:439:LEU:O	2.35	0.45
1:E:415:ASN:OD1	1:E:416:GLY:N	2.50	0.45
2:M:49:GLY:H	4:M:175:LVS:HN3	1.64	0.45
1:S:430:LEU:HD23	1:S:430:LEU:N	2.32	0.45
1:T:313:VAL:HG23	1:T:314:ALA:H	1.82	0.45
1:U:240:LEU:HD12	1:U:240:LEU:N	2.32	0.45
1:V:254:VAL:HB	1:V:305:PHE:CD2	2.52	0.45
1:V:381:ALA:O	1:V:395:ARG:HG2	2.17	0.45
2:I:24:ASN:O	2:N:161:VAL:HG13	2.17	0.45
2:K:64:LEU:HD23	2:K:74:SER:OG	2.17	0.45
2:O:91:LEU:HB2	2:O:108:GLY:HA3	1.97	0.45
2:P:49:GLY:O	2:P:50:THR:C	2.54	0.45
2:R:51:ALA:O	2:R:55:THR:HG23	2.17	0.45
1:T:55:MET:HE1	1:T:63:LYS:O	2.17	0.45
1:U:54:LEU:HD23	1:U:307:ALA:HB3	1.99	0.45
1:U:381:ALA:O	1:U:395:ARG:HG2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:17:ILE:CD1	1:V:65:GLU:HB3	2.46	0.45
1:W:65:GLU:HG3	3:W:460:ATP:H2'	1.99	0.45
1:A:61:VAL:HA	1:A:336:LEU:HD22	1.98	0.44
1:B:378:ALA:O	1:B:379:GLU:C	2.55	0.44
1:C:42:GLU:H	1:C:43:PRO:CD	2.29	0.44
1:D:37:ARG:CG	1:D:38:MET:N	2.81	0.44
1:E:237:PRO:O	1:E:240:LEU:N	2.50	0.44
1:E:390:ASN:C	1:E:390:ASN:OD1	2.55	0.44
2:G:88:LEU:O	2:G:89:ARG:HB3	2.16	0.44
2:I:88:LEU:O	2:I:89:ARG:HB3	2.17	0.44
2:N:49:GLY:H	4:N:175:LVS:HN3	1.64	0.44
2:N:164:ASN:ND2	2:N:164:ASN:H	2.15	0.44
2:P:55:THR:HG22	2:Q:83:ARG:CG	2.46	0.44
2:P:76:VAL:HG11	1:V:442:PHE:CE2	2.52	0.44
2:Q:1:THR:HG22	2:Q:33:LYS:HD2	1.91	0.44
2:Q:64:LEU:HD23	2:Q:74:SER:CB	2.47	0.44
1:S:234:LEU:HG	1:S:234:LEU:O	2.18	0.44
1:T:41:GLN:HG3	1:T:43:PRO:HD2	1.99	0.44
1:V:370:THR:O	1:V:374:VAL:HG23	2.16	0.44
1:A:250:GLN:HE21	1:A:250:GLN:CA	2.30	0.44
1:B:394:ARG:HD3	1:B:394:ARG:HA	1.82	0.44
1:B:443:ILE:HG23	2:H:112:VAL:HG23	2.00	0.44
1:E:49:THR:HB	1:E:50:PRO:HD2	1.99	0.44
1:E:77:PRO:CG	1:E:107:ALA:HB2	2.46	0.44
1:F:250:GLN:HA	1:F:250:GLN:NE2	2.32	0.44
2:L:144:SER:O	2:L:148:ILE:HG13	2.16	0.44
2:P:157:GLY:HA2	2:P:163:THR:HG22	1.99	0.44
1:T:76:ALA:CB	1:T:251:ASN:HB3	2.46	0.44
1:T:286:VAL:HA	1:T:305:PHE:CE1	2.52	0.44
1:T:386:GLU:O	1:T:386:GLU:HG2	2.16	0.44
1:U:76:ALA:CB	1:U:251:ASN:HB3	2.47	0.44
1:V:391:ILE:HD11	1:V:395:ARG:NE	2.32	0.44
1:W:381:ALA:O	1:W:395:ARG:HG2	2.17	0.44
1:X:381:ALA:O	1:X:395:ARG:HG2	2.17	0.44
1:A:280:ARG:HH11	1:A:280:ARG:CG	2.28	0.44
3:A:450:ATP:C8	3:A:450:ATP:C5'	3.00	0.44
1:B:42:GLU:H	1:B:43:PRO:CD	2.30	0.44
1:D:77:PRO:HB3	1:D:107:ALA:HB2	1.98	0.44
1:D:101:ARG:HA	1:D:293:THR:HG22	1.99	0.44
2:L:3:ILE:O	2:L:122:ALA:HA	2.18	0.44
2:M:54:PHE:O	2:M:57:PHE:HB3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:35:ARG:HG3	2:N:35:ARG:HH11	1.83	0.44
2:O:48:GLY:H	4:O:175:LVS:H2'	1.82	0.44
1:U:73:LEU:N	1:U:73:LEU:HD12	2.32	0.44
1:V:119:ASN:HB2	1:V:234:LEU:CD2	2.48	0.44
1:X:17:ILE:HD13	1:X:66:ILE:HG12	2.00	0.44
1:X:63:LYS:HG2	1:X:333:LEU:HD12	1.98	0.44
1:X:327:LEU:N	1:X:328:PRO:CD	2.77	0.44
1:A:326:ARG:C	1:A:328:PRO:HD3	2.38	0.44
1:B:233:LYS:O	1:B:234:LEU:HB2	2.17	0.44
1:E:409:PHE:CD2	1:F:25:ARG:NH2	2.86	0.44
1:F:370:THR:HG23	1:F:422:ASP:HA	2.00	0.44
1:F:403:LEU:HD23	1:F:404:MET:SD	2.57	0.44
2:J:125:SER:N	4:J:175:LVS:C1'	2.72	0.44
2:K:1:THR:N	4:K:175:LVS:S	2.91	0.44
2:O:50:THR:H	4:O:175:LVS:CD6	2.30	0.44
2:O:76:VAL:HG11	1:U:442:PHE:CE2	2.52	0.44
2:R:80:LYS:O	2:R:84:THR:HG23	2.18	0.44
1:T:347:GLU:HB2	1:T:348:PRO:HD3	1.99	0.44
1:U:437:GLU:O	1:U:439:LEU:N	2.50	0.44
1:V:327:LEU:N	1:V:328:PRO:CD	2.78	0.44
1:W:63:LYS:HG2	1:W:333:LEU:HD11	2.00	0.44
1:X:54:LEU:HD23	1:X:307:ALA:HB3	1.99	0.44
1:X:119:ASN:HB3	1:X:234:LEU:HD23	1.98	0.44
1:B:52:ASN:O	1:B:328:PRO:HD2	2.17	0.44
3:C:452:ATP:H5'1	3:C:452:ATP:H8	1.82	0.44
1:D:82:GLU:OE2	1:E:280:ARG:HD3	2.17	0.44
1:F:101:ARG:HA	1:F:293:THR:HG22	1.98	0.44
1:F:107:ALA:O	1:F:108:MET:C	2.56	0.44
1:F:283:LEU:HA	1:F:283:LEU:HD23	1.69	0.44
2:J:71:LEU:CD1	2:J:104:LEU:HD22	2.48	0.44
2:M:105:ILE:HG22	2:M:113:VAL:O	2.17	0.44
2:N:120:ILE:O	2:N:121:LEU:HD23	2.18	0.44
2:P:91:LEU:HB2	2:P:108:GLY:HA3	1.99	0.44
2:R:76:VAL:HG11	1:X:442:PHE:CE2	2.52	0.44
2:R:131:LEU:HD11	2:R:135:ARG:HE	1.83	0.44
1:S:370:THR:HG23	1:S:373:ALA:CB	2.47	0.44
1:W:236:ASN:HD22	1:W:236:ASN:N	2.15	0.44
1:W:294:LYS:HG3	1:W:295:HIS:ND1	2.32	0.44
1:W:407:ILE:HG23	1:W:408:SER:N	2.33	0.44
1:A:25:ARG:O	1:A:29:ILE:HG23	2.18	0.44
1:A:57:GLY:O	1:A:63:LYS:HE2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:250:GLN:HA	1:E:250:GLN:NE2	2.33	0.44
1:F:403:LEU:C	1:F:405:ASP:H	2.20	0.44
2:G:33:LYS:HZ3	2:G:33:LYS:HG3	1.67	0.44
2:H:53:ALA:HA	2:H:93:ALA:HB1	1.99	0.44
2:H:136:ALA:HB1	2:N:137:LEU:CD1	2.47	0.44
2:N:1:THR:N	4:N:175:LVS:C1'	2.80	0.44
2:Q:49:GLY:H	4:Q:175:LVS:HN3	1.65	0.44
1:S:59:THR:HG23	3:S:456:ATP:O1G	2.17	0.44
1:T:327:LEU:N	1:T:328:PRO:CD	2.77	0.44
1:A:358:ALA:O	1:A:361:ALA:HB3	2.17	0.44
1:B:390:ASN:C	1:B:390:ASN:OD1	2.56	0.44
1:C:415:ASN:OD1	1:C:416:GLY:N	2.51	0.44
1:D:443:ILE:HG12	2:J:112:VAL:HG21	2.00	0.44
1:E:367:ILE:HD11	1:E:421:ILE:HD12	1.95	0.44
1:F:283:LEU:HB2	1:F:284:PRO:HD3	1.99	0.44
1:F:347:GLU:HB2	1:F:348:PRO:HD3	1.99	0.44
1:F:402:ARG:NH2	1:F:433:VAL:CG2	2.80	0.44
2:G:172:LEU:HD23	2:G:172:LEU:HA	1.82	0.44
2:I:72:LEU:HD22	2:I:104:LEU:HD21	2.00	0.44
2:M:80:LYS:O	2:M:84:THR:HG23	2.17	0.44
2:P:141:THR:HG21	2:P:143:LEU:HD12	2.00	0.44
2:Q:55:THR:HG22	2:R:83:ARG:CG	2.47	0.44
1:S:300:THR:O	1:S:303:ILE:HG13	2.17	0.44
1:U:60:GLY:HA3	1:U:392:GLY:HA3	2.00	0.44
1:V:17:ILE:HD13	1:V:66:ILE:CG1	2.48	0.44
1:V:236:ASN:N	1:V:237:PRO:HD3	2.32	0.44
1:V:407:ILE:HG23	1:V:408:SER:N	2.33	0.44
1:V:430:LEU:HD23	1:V:430:LEU:N	2.33	0.44
1:V:439:LEU:C	1:V:441:ARG:H	2.21	0.44
1:W:48:VAL:HG21	1:X:359:LEU:HD11	1.99	0.44
1:A:232:ALA:O	1:A:233:LYS:CB	2.46	0.44
1:B:25:ARG:O	1:B:29:ILE:HG23	2.18	0.44
1:B:359:LEU:CD2	1:C:40:LEU:HD11	2.46	0.44
1:D:390:ASN:C	1:D:390:ASN:OD1	2.56	0.44
1:E:440:SER:HB3	2:L:32:ARG:HH22	1.82	0.44
2:R:76:VAL:HG11	1:X:442:PHE:CD2	2.52	0.44
1:T:36:ARG:HA	1:T:36:ARG:HE	1.83	0.44
1:T:82:GLU:OE2	1:T:258:GLU:HG3	2.18	0.44
1:U:407:ILE:HG23	1:U:408:SER:N	2.33	0.44
1:V:245:ILE:HG22	1:V:249:GLU:OE1	2.18	0.44
1:W:36:ARG:HA	1:W:36:ARG:HE	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:439:LEU:C	1:W:441:ARG:N	2.71	0.44
1:X:76:ALA:HB1	1:X:251:ASN:HB3	1.98	0.44
1:A:16:HIS:HB2	1:A:17:ILE:HD12	2.00	0.44
1:C:355:GLN:O	1:C:359:LEU:HD23	2.17	0.44
1:C:440:SER:HB3	2:J:32:ARG:HH22	1.83	0.44
1:E:407:ILE:HD11	1:E:419:VAL:HG11	2.00	0.44
1:F:352:LEU:HA	1:F:352:LEU:HD23	1.80	0.44
1:F:443:ILE:HG23	2:L:112:VAL:HG23	1.99	0.44
1:F:444:LEU:CD2	2:L:113:VAL:HG22	2.47	0.44
2:G:1:THR:H2	4:G:175:LVS:H1'3	1.81	0.44
2:I:159:ILE:O	2:N:25:THR:HA	2.17	0.44
2:K:1:THR:N	4:K:175:LVS:C2'	2.79	0.44
2:K:133:ALA:HB1	2:K:155:ILE:HD12	2.00	0.44
1:T:407:ILE:HG23	1:T:408:SER:N	2.33	0.44
1:U:7:ARG:NH1	1:V:410:SER:HB3	2.31	0.44
1:U:82:GLU:OE2	1:U:258:GLU:HG3	2.17	0.44
1:U:349:HIS:O	1:U:350:ALA:HB3	2.18	0.44
1:U:437:GLU:O	1:U:438:ASP:C	2.56	0.44
1:V:240:LEU:N	1:V:240:LEU:HD12	2.33	0.44
1:B:258:GLU:OE1	1:C:322:GLU:OE1	2.36	0.43
1:D:275:ARG:C	1:D:277:GLY:N	2.71	0.43
1:F:36:ARG:C	1:F:37:ARG:O	2.55	0.43
2:I:1:THR:CG2	2:I:33:LYS:HE3	2.46	0.43
2:J:1:THR:N	4:J:175:LVS:H1'1	2.33	0.43
2:N:50:THR:H	4:N:175:LVS:HD63	1.82	0.43
2:P:89:ARG:HG2	2:P:90:LYS:H	1.83	0.43
2:P:137:LEU:C	2:P:141:THR:HG22	2.38	0.43
1:S:21:ALA:C	1:S:23:ALA:N	2.71	0.43
1:S:36:ARG:HA	1:S:36:ARG:HE	1.82	0.43
1:S:76:ALA:HB1	1:S:251:ASN:HB3	2.00	0.43
1:S:441:ARG:HB3	1:S:442:PHE:CE1	2.53	0.43
1:T:294:LYS:HG3	1:T:295:HIS:ND1	2.33	0.43
1:V:36:ARG:HA	1:V:36:ARG:HE	1.82	0.43
1:X:36:ARG:HE	1:X:36:ARG:HA	1.82	0.43
1:A:444:LEU:HB2	2:H:54:PHE:CE1	2.53	0.43
1:B:352:LEU:HD23	1:B:352:LEU:HA	1.83	0.43
1:C:349:HIS:O	1:C:350:ALA:CB	2.65	0.43
2:G:17:ASP:HB2	2:G:164:ASN:ND2	2.33	0.43
2:H:1:THR:N	4:H:175:LVS:C2'	2.81	0.43
2:I:128:ASN:HA	2:I:131:LEU:HB3	2.00	0.43
4:L:175:LVS:HD33	4:L:175:LVS:N2	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:80:LYS:O	2:O:84:THR:HG23	2.18	0.43
2:P:50:THR:H	4:P:175:LVS:CD6	2.30	0.43
2:P:153:LEU:HD23	2:P:153:LEU:HA	1.86	0.43
1:S:344:ILE:O	1:S:344:ILE:HG22	2.17	0.43
1:U:254:VAL:HB	1:U:305:PHE:CD2	2.52	0.43
1:W:321:PRO:HG3	1:X:389:GLU:HG2	1.99	0.43
1:B:35:TRP:O	1:B:37:ARG:O	2.36	0.43
1:B:236:ASN:ND2	1:B:239:GLU:HB2	2.33	0.43
1:D:25:ARG:O	1:D:29:ILE:HG23	2.18	0.43
1:E:345:LEU:HD12	1:E:345:LEU:HA	1.77	0.43
1:F:233:LYS:HD3	1:F:235:ILE:HG12	2.00	0.43
2:H:64:LEU:HD23	2:H:74:SER:CB	2.48	0.43
2:J:137:LEU:CD1	2:J:137:LEU:N	2.81	0.43
2:N:80:LYS:O	2:N:84:THR:HG23	2.17	0.43
2:O:16:GLY:N	2:O:153:LEU:HD11	2.34	0.43
2:P:80:LYS:O	2:P:84:THR:HG23	2.17	0.43
2:Q:91:LEU:HB2	2:Q:108:GLY:HA3	1.99	0.43
1:U:36:ARG:HA	1:U:36:ARG:HE	1.82	0.43
1:W:386:GLU:O	1:W:386:GLU:HG2	2.18	0.43
1:X:73:LEU:HD12	1:X:73:LEU:N	2.32	0.43
1:A:437:GLU:HA	1:A:439:LEU:HD12	2.00	0.43
1:B:293:THR:C	1:B:295:HIS:H	2.22	0.43
1:C:280:ARG:HH11	1:C:280:ARG:CG	2.30	0.43
1:D:236:ASN:N	1:D:237:PRO:HD3	2.33	0.43
1:E:20:GLN:HE22	1:E:334:THR:H	1.66	0.43
1:F:275:ARG:C	1:F:277:GLY:N	2.72	0.43
1:F:394:ARG:HA	1:F:394:ARG:HD3	1.75	0.43
2:K:37:LEU:HD21	2:K:57:PHE:CE2	2.52	0.43
2:L:136:ALA:HB1	2:R:137:LEU:HD13	2.00	0.43
1:T:63:LYS:HG2	1:T:333:LEU:HD11	2.00	0.43
1:U:259:ILE:HG22	1:U:308:SER:O	2.18	0.43
1:U:370:THR:HG23	1:U:373:ALA:CB	2.48	0.43
1:U:386:GLU:O	1:U:386:GLU:HG2	2.18	0.43
1:U:430:LEU:N	1:U:430:LEU:HD23	2.33	0.43
1:W:388:THR:HG22	1:W:389:GLU:N	2.28	0.43
1:X:441:ARG:HB3	1:X:442:PHE:CE1	2.53	0.43
1:C:107:ALA:O	1:C:108:MET:C	2.57	0.43
1:D:321:PRO:O	1:D:322:GLU:C	2.57	0.43
1:D:367:ILE:CD1	1:D:421:ILE:HD11	2.48	0.43
2:K:51:ALA:O	2:K:55:THR:HG23	2.19	0.43
4:K:175:LVS:HD33	4:K:175:LVS:C1	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:115:PRO:HG3	2:L:121:LEU:HD11	1.99	0.43
2:M:56:LEU:HB2	2:M:91:LEU:HD23	2.01	0.43
2:O:54:PHE:O	2:O:57:PHE:HB3	2.19	0.43
2:R:141:THR:OG1	2:R:143:LEU:HG	2.19	0.43
1:S:259:ILE:O	1:S:262:ILE:HG12	2.19	0.43
1:T:326:ARG:NH1	1:T:326:ARG:HB3	2.34	0.43
1:U:439:LEU:C	1:U:441:ARG:N	2.72	0.43
1:V:34:ARG:HH12	1:V:252:GLY:H	1.67	0.43
1:V:120:ARG:HA	1:V:233:LYS:HE3	2.01	0.43
1:W:41:GLN:HG3	1:W:43:PRO:HD2	2.01	0.43
1:X:41:GLN:HG3	1:X:43:PRO:HD2	1.99	0.43
1:A:75:ASN:OD1	1:A:114:GLN:OE1	2.35	0.43
1:C:63:LYS:HB2	3:C:452:ATP:O2B	2.19	0.43
1:C:409:PHE:CD2	1:D:25:ARG:NH2	2.86	0.43
1:C:438:ASP:O	1:C:439:LEU:O	2.37	0.43
1:E:300:THR:HA	1:E:303:ILE:HG12	2.01	0.43
2:J:28:LYS:HE2	2:J:30:ASN:OD1	2.18	0.43
2:K:67:HIS:NE2	2:K:77:GLU:HG3	2.34	0.43
2:N:37:LEU:HD22	2:N:61:GLU:HG3	1.99	0.43
2:N:164:ASN:HD22	2:N:164:ASN:H	1.66	0.43
1:U:326:ARG:NH1	1:U:326:ARG:HB3	2.34	0.43
1:V:27:VAL:CG1	1:V:70:LEU:HD22	2.49	0.43
1:V:39:GLN:HB2	1:W:362:THR:HG21	1.99	0.43
1:V:299:LYS:HE2	1:V:301:ASP:CG	2.39	0.43
1:V:386:GLU:HG2	1:V:386:GLU:O	2.18	0.43
1:W:437:GLU:O	1:W:438:ASP:C	2.57	0.43
1:X:391:ILE:HD11	1:X:395:ARG:NE	2.34	0.43
1:X:437:GLU:O	1:X:439:LEU:N	2.52	0.43
1:A:37:ARG:HG2	1:A:38:MET:N	2.33	0.43
1:B:79:ILE:HD12	1:B:80:LYS:H	1.83	0.43
1:C:79:ILE:HD12	1:C:80:LYS:N	2.34	0.43
1:F:437:GLU:CG	1:F:439:LEU:HB2	2.49	0.43
2:J:7:ARG:CZ	2:J:12:VAL:HG22	2.49	0.43
2:J:67:HIS:NE2	2:J:77:GLU:HG3	2.34	0.43
2:M:37:LEU:HD22	2:M:61:GLU:HG3	2.01	0.43
2:Q:55:THR:O	2:Q:59:LEU:HD13	2.18	0.43
1:T:73:LEU:N	1:T:73:LEU:HD12	2.33	0.43
1:V:96:VAL:HG13	1:V:282:LEU:HD12	2.01	0.43
1:D:76:ALA:HB1	1:D:251:ASN:O	2.19	0.43
1:D:352:LEU:HA	1:D:352:LEU:HD23	1.77	0.43
1:D:444:LEU:CD2	2:J:113:VAL:HG22	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:101:ARG:HA	1:E:293:THR:HG22	2.01	0.43
1:E:443:ILE:HG21	2:K:114:GLN:HG3	2.00	0.43
2:H:7:ARG:HG3	2:H:12:VAL:HG22	2.01	0.43
2:H:137:LEU:HD13	2:N:136:ALA:HB1	2.00	0.43
2:O:1:THR:HG22	2:O:33:LYS:HZ3	1.80	0.43
2:O:18:GLY:CA	2:O:33:LYS:HZ2	2.32	0.43
2:P:37:LEU:HD22	2:P:61:GLU:HG3	2.01	0.43
2:P:49:GLY:H	4:P:175:LVS:HN3	1.67	0.43
2:Q:50:THR:H	4:Q:175:LVS:HD63	1.84	0.43
1:S:118:LYS:HD3	1:S:119:ASN:N	2.33	0.43
1:S:313:VAL:HG23	1:S:314:ALA:H	1.82	0.43
1:T:344:ILE:HG22	1:T:344:ILE:O	2.18	0.43
1:T:370:THR:HG23	1:T:373:ALA:CB	2.49	0.43
1:U:63:LYS:HZ1	3:U:458:ATP:PG	2.42	0.43
1:U:326:ARG:HH11	1:U:326:ARG:CA	2.28	0.43
1:V:82:GLU:HG3	1:V:258:GLU:HB2	2.00	0.43
1:X:347:GLU:HB2	1:X:348:PRO:HD3	2.00	0.43
1:X:442:PHE:CD1	1:X:442:PHE:N	2.87	0.43
1:C:108:MET:HE1	1:C:241:LYS:HG2	2.00	0.43
1:C:239:GLU:HG2	1:C:243:LYS:CD	2.49	0.43
1:D:35:TRP:O	1:D:37:ARG:O	2.37	0.43
1:D:357:LYS:HA	1:D:367:ILE:CG2	2.49	0.43
1:D:388:THR:HG22	1:D:436:ASN:HD21	1.84	0.43
1:E:283:LEU:HA	1:E:283:LEU:HD23	1.80	0.43
1:F:37:ARG:CG	1:F:38:MET:N	2.82	0.43
2:M:1:THR:H1	4:M:175:LVS:CS	2.31	0.43
2:N:16:GLY:N	2:N:153:LEU:HD11	2.34	0.43
2:Q:19:GLN:H	2:Q:33:LYS:HZ1	1.67	0.43
1:S:41:GLN:HG3	1:S:43:PRO:HD2	2.00	0.43
1:S:54:LEU:HD23	1:S:307:ALA:HB3	2.00	0.43
1:S:254:VAL:HB	1:S:305:PHE:CD2	2.53	0.43
1:W:286:VAL:HA	1:W:305:PHE:CE1	2.53	0.43
1:X:259:ILE:O	1:X:262:ILE:HG12	2.19	0.43
1:A:232:ALA:O	1:A:233:LYS:HE3	2.18	0.43
1:A:276:GLU:HG3	1:A:276:GLU:O	2.18	0.43
1:A:355:GLN:O	1:A:359:LEU:HD23	2.18	0.43
1:B:23:ALA:CA	1:B:331:VAL:HG21	2.45	0.43
1:E:111:VAL:HG12	1:E:240:LEU:HD11	2.01	0.43
2:J:1:THR:H3	4:J:175:LVS:C1'	2.32	0.43
2:O:1:THR:H3	4:O:175:LVS:C2'	2.32	0.43
2:Q:50:THR:O	2:Q:53:ALA:HB3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:50:THR:O	2:R:53:ALA:HB3	2.19	0.43
1:T:40:LEU:HD13	1:T:44:LEU:O	2.19	0.43
1:V:326:ARG:HB3	1:V:326:ARG:NH1	2.34	0.43
1:C:250:GLN:HE21	1:C:250:GLN:CA	2.32	0.42
1:C:388:THR:HG22	1:C:436:ASN:HD21	1.84	0.42
1:E:44:LEU:HD23	1:E:44:LEU:HA	1.91	0.42
1:F:32:ARG:C	1:F:34:ARG:N	2.72	0.42
1:F:250:GLN:HE21	1:F:250:GLN:CA	2.31	0.42
2:O:61:GLU:C	2:O:63:LYS:N	2.72	0.42
1:S:370:THR:HG23	1:S:373:ALA:HB3	2.01	0.42
1:T:326:ARG:HH11	1:T:326:ARG:CA	2.28	0.42
1:U:328:PRO:HB3	1:V:398:THR:HA	2.00	0.42
1:X:439:LEU:C	1:X:441:ARG:N	2.72	0.42
1:A:393:ALA:O	1:A:394:ARG:C	2.58	0.42
1:B:285:LEU:H	1:B:285:LEU:CD1	2.32	0.42
1:D:438:ASP:C	1:D:439:LEU:O	2.57	0.42
1:E:114:GLN:C	1:E:116:ILE:N	2.73	0.42
2:J:115:PRO:HG3	2:J:121:LEU:HD11	2.00	0.42
2:M:153:LEU:HD23	2:M:153:LEU:HA	1.84	0.42
2:O:55:THR:HG22	2:P:83:ARG:CG	2.50	0.42
1:S:17:ILE:HD11	1:S:65:GLU:HB3	2.00	0.42
1:S:280:ARG:HG3	1:T:82:GLU:OE1	2.19	0.42
1:S:369:PHE:HE2	1:S:421:ILE:CD1	2.27	0.42
1:T:76:ALA:HB1	1:T:251:ASN:HB3	2.02	0.42
1:T:80:LYS:HG3	1:T:255:PHE:CD2	2.51	0.42
1:W:82:GLU:HG3	1:W:258:GLU:HB2	2.01	0.42
1:B:85:LYS:O	1:B:85:LYS:HG2	2.18	0.42
1:B:250:GLN:HE21	1:B:250:GLN:CA	2.28	0.42
1:B:437:GLU:O	1:B:439:LEU:N	2.52	0.42
1:D:20:GLN:HE22	1:D:334:THR:H	1.67	0.42
1:F:275:ARG:O	1:F:278:VAL:N	2.52	0.42
2:H:86:ARG:HH11	2:H:86:ARG:CB	2.19	0.42
2:I:111:ASP:O	2:I:111:ASP:OD2	2.37	0.42
2:K:159:ILE:O	2:P:25:THR:HA	2.19	0.42
2:R:54:PHE:O	2:R:57:PHE:HB3	2.20	0.42
1:U:17:ILE:HD13	1:U:66:ILE:HG12	2.01	0.42
1:W:17:ILE:HD13	1:W:66:ILE:CG1	2.50	0.42
1:X:430:LEU:N	1:X:430:LEU:HD23	2.34	0.42
1:B:370:THR:HG23	1:B:422:ASP:HA	2.01	0.42
1:D:108:MET:CE	1:D:240:LEU:HG	2.49	0.42
1:E:58:PRO:O	1:E:61:VAL:HG22	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:53:ALA:HA	2:G:93:ALA:HB1	2.00	0.42
2:H:96:ILE:HG13	2:H:123:ILE:HD13	2.01	0.42
2:I:28:LYS:HE2	2:I:30:ASN:OD1	2.19	0.42
2:J:7:ARG:HG3	2:J:12:VAL:HG22	2.00	0.42
2:L:96:ILE:HG13	2:L:123:ILE:HD13	2.01	0.42
2:N:89:ARG:HG2	2:N:90:LYS:H	1.85	0.42
2:O:131:LEU:HD11	2:O:135:ARG:HE	1.81	0.42
2:Q:131:LEU:HD11	2:Q:135:ARG:HE	1.78	0.42
1:S:96:VAL:HG13	1:S:282:LEU:HD12	2.02	0.42
1:S:439:LEU:C	1:S:441:ARG:H	2.22	0.42
1:V:115:GLU:HA	1:V:118:LYS:CB	2.49	0.42
1:C:409:PHE:HD1	1:D:29:ILE:HG22	1.84	0.42
2:H:17:ASP:O	2:H:33:LYS:HD2	2.19	0.42
2:H:137:LEU:CD1	2:H:137:LEU:N	2.82	0.42
2:I:25:THR:HA	2:N:159:ILE:O	2.20	0.42
2:L:172:LEU:HD23	2:L:172:LEU:HA	1.79	0.42
2:P:3:ILE:HB	2:P:123:ILE:CG1	2.48	0.42
2:R:14:VAL:HG12	2:R:34:VAL:CG1	2.50	0.42
1:V:68:ARG:C	1:V:70:LEU:H	2.21	0.42
1:D:250:GLN:HE21	1:D:250:GLN:CA	2.33	0.42
1:D:250:GLN:HA	1:D:250:GLN:NE2	2.34	0.42
1:D:394:ARG:HD3	1:D:394:ARG:HA	1.79	0.42
1:E:100:ILE:CG2	1:E:298:VAL:HG21	2.50	0.42
1:E:357:LYS:HA	1:E:367:ILE:CG2	2.50	0.42
1:F:112:ARG:HH22	1:F:235:ILE:HD12	1.84	0.42
2:H:28:LYS:HE2	2:H:30:ASN:OD1	2.20	0.42
2:M:2:THR:OG1	2:M:126:GLY:HA3	2.19	0.42
2:O:3:ILE:HB	2:O:123:ILE:HG13	2.00	0.42
2:O:61:GLU:C	2:O:63:LYS:H	2.23	0.42
2:Q:35:ARG:HH11	2:Q:35:ARG:HG3	1.85	0.42
1:S:359:LEU:HD11	1:X:48:VAL:HG21	2.00	0.42
1:T:65:GLU:HG3	3:T:457:ATP:H2'	2.02	0.42
1:U:442:PHE:CD1	1:U:442:PHE:N	2.87	0.42
1:W:373:ALA:O	1:W:377:ILE:HG13	2.20	0.42
1:X:40:LEU:HD13	1:X:44:LEU:O	2.20	0.42
1:X:236:ASN:C	1:X:238:GLU:H	2.22	0.42
1:X:326:ARG:HB3	1:X:326:ARG:NH1	2.35	0.42
1:X:344:ILE:O	1:X:344:ILE:HG22	2.19	0.42
1:A:115:GLU:OE1	1:A:118:LYS:HE2	2.19	0.42
1:B:118:LYS:HE2	1:B:118:LYS:HB3	1.93	0.42
1:B:358:ALA:O	1:B:361:ALA:HB3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:25:ARG:O	1:D:28:ALA:HB3	2.20	0.42
1:E:37:ARG:CG	1:E:38:MET:N	2.82	0.42
1:E:440:SER:O	1:E:441:ARG:C	2.56	0.42
1:F:44:LEU:HD23	1:F:44:LEU:HA	1.84	0.42
2:G:28:LYS:HE2	2:G:30:ASN:OD1	2.19	0.42
2:H:72:LEU:HD22	2:H:104:LEU:HD21	2.01	0.42
2:J:72:LEU:HD22	2:J:72:LEU:HA	1.92	0.42
2:K:17:ASP:HB2	2:K:164:ASN:HD22	1.85	0.42
2:K:36:ARG:NH1	2:K:170:GLU:OE2	2.53	0.42
2:K:72:LEU:O	2:K:72:LEU:HD13	2.20	0.42
2:N:54:PHE:HE1	1:U:444:LEU:HD12	1.83	0.42
2:O:151:LYS:O	2:O:155:ILE:HD13	2.19	0.42
2:P:1:THR:HG22	2:P:33:LYS:HZ2	1.82	0.42
2:Q:16:GLY:N	2:Q:153:LEU:HD11	2.34	0.42
1:S:326:ARG:HB3	1:S:326:ARG:NH1	2.35	0.42
1:T:98:SER:HA	1:T:101:ARG:NH1	2.34	0.42
1:W:76:ALA:HB1	1:W:251:ASN:HB3	2.02	0.42
1:X:370:THR:HG23	1:X:373:ALA:CB	2.50	0.42
1:C:330:ARG:HG3	1:C:330:ARG:NH1	2.33	0.42
1:F:52:ASN:HB2	1:F:326:ARG:O	2.20	0.42
1:F:242:GLN:OE1	1:F:242:GLN:HA	2.20	0.42
2:L:17:ASP:HB2	2:L:164:ASN:ND2	2.35	0.42
2:L:36:ARG:NH1	2:L:170:GLU:OE2	2.53	0.42
2:N:113:VAL:HG22	1:T:444:LEU:HD11	2.01	0.42
2:R:37:LEU:HD22	2:R:61:GLU:HG3	2.02	0.42
1:T:439:LEU:HD23	1:T:439:LEU:N	2.22	0.42
1:U:344:ILE:O	1:U:344:ILE:HG22	2.20	0.42
1:X:385:ASN:HD22	1:X:385:ASN:HA	1.59	0.42
1:B:357:LYS:HA	1:B:367:ILE:CG2	2.50	0.42
1:C:235:ILE:HG22	1:C:236:ASN:N	2.35	0.42
1:D:345:LEU:HD12	1:D:345:LEU:HA	1.73	0.42
1:D:384:VAL:HG21	1:D:395:ARG:HD2	2.02	0.42
1:D:384:VAL:CG2	1:D:395:ARG:NE	2.83	0.42
2:G:136:ALA:HB1	2:M:137:LEU:HD13	2.02	0.42
2:I:1:THR:H3	4:I:175:LVS:CS	2.23	0.42
2:L:67:HIS:NE2	2:L:77:GLU:HG3	2.35	0.42
2:M:141:THR:OG1	2:M:143:LEU:HG	2.19	0.42
2:P:6:VAL:HG21	2:P:148:ILE:CG2	2.50	0.42
2:P:35:ARG:HH11	2:P:35:ARG:HG3	1.85	0.42
1:S:279:GLN:HE22	1:S:319:LEU:HA	1.85	0.42
1:T:254:VAL:HB	1:T:305:PHE:CD2	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:75:ASN:ND2	1:U:110:LEU:HD21	2.34	0.42
1:U:299:LYS:HE2	1:U:301:ASP:CG	2.40	0.42
1:V:370:THR:HG21	1:V:422:ASP:HA	2.02	0.42
1:W:349:HIS:O	1:W:350:ALA:HB3	2.19	0.42
1:W:391:ILE:HD11	1:W:395:ARG:NE	2.35	0.42
1:X:239:GLU:C	1:X:241:LYS:N	2.73	0.42
1:A:403:LEU:HD23	1:A:404:MET:SD	2.60	0.42
1:C:79:ILE:HD12	1:C:80:LYS:H	1.85	0.42
1:E:76:ALA:HB1	1:E:251:ASN:O	2.19	0.42
1:E:337:SER:O	1:E:338:ALA:C	2.57	0.42
1:F:390:ASN:C	1:F:390:ASN:OD1	2.57	0.42
1:F:403:LEU:CD1	1:F:426:VAL:HG22	2.49	0.42
2:I:7:ARG:CZ	2:I:12:VAL:CG2	2.98	0.42
2:L:7:ARG:CZ	2:L:12:VAL:HG21	2.50	0.42
2:L:53:ALA:HA	2:L:93:ALA:HB1	2.02	0.42
2:L:136:ALA:HB1	2:R:137:LEU:CD1	2.50	0.42
2:Q:3:ILE:HB	2:Q:123:ILE:CG1	2.50	0.42
2:R:18:GLY:O	2:R:29:GLY:C	2.58	0.42
1:S:40:LEU:HD13	1:S:44:LEU:O	2.20	0.42
1:S:55:MET:HE2	1:S:306:ILE:HG21	2.00	0.42
1:T:27:VAL:CG1	1:T:70:LEU:HD22	2.50	0.42
1:U:370:THR:HG23	1:U:373:ALA:HB3	2.02	0.42
1:W:27:VAL:CG1	1:W:70:LEU:HD22	2.50	0.42
1:W:73:LEU:N	1:W:73:LEU:HD12	2.34	0.42
1:X:369:PHE:HE2	1:X:421:ILE:CD1	2.25	0.42
1:C:352:LEU:HA	1:C:352:LEU:HD23	1.79	0.41
1:D:356:TYR:O	1:D:357:LYS:C	2.58	0.41
1:D:408:SER:O	1:E:36:ARG:NH2	2.47	0.41
1:F:280:ARG:HH11	1:F:280:ARG:CG	2.28	0.41
2:G:64:LEU:HD23	2:G:74:SER:OG	2.20	0.41
2:H:7:ARG:CZ	2:H:12:VAL:HG22	2.50	0.41
2:I:172:LEU:HA	2:I:172:LEU:HD23	1.81	0.41
2:J:25:THR:HA	2:O:159:ILE:O	2.20	0.41
2:K:83:ARG:NH1	2:L:58:GLU:OE2	2.52	0.41
2:P:50:THR:O	2:P:51:ALA:C	2.58	0.41
2:P:64:LEU:C	2:P:66:MET:H	2.24	0.41
1:T:259:ILE:O	1:T:262:ILE:HG12	2.20	0.41
1:V:40:LEU:HD13	1:V:44:LEU:O	2.20	0.41
1:W:21:ALA:C	1:W:23:ALA:N	2.74	0.41
1:A:75:ASN:HD21	1:A:114:GLN:NE2	2.18	0.41
1:A:101:ARG:HA	1:A:293:THR:HG22	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:7:ARG:HB3	1:B:7:ARG:NH1	2.34	0.41
1:C:37:ARG:HG2	1:C:38:MET:N	2.34	0.41
1:C:82:GLU:OE2	1:D:280:ARG:HD3	2.19	0.41
1:D:42:GLU:N	1:D:43:PRO:CD	2.82	0.41
1:D:113:GLN:HA	1:D:116:ILE:HD12	2.02	0.41
1:F:343:ARG:O	1:F:348:PRO:HD3	2.20	0.41
2:I:71:LEU:CD1	2:I:104:LEU:HD22	2.51	0.41
2:K:25:THR:HA	2:P:159:ILE:O	2.20	0.41
2:M:64:LEU:HD23	2:M:74:SER:CB	2.50	0.41
2:N:91:LEU:HB2	2:N:108:GLY:HA3	2.02	0.41
2:P:18:GLY:HA2	2:P:33:LYS:HZ1	1.85	0.41
1:S:27:VAL:CG1	1:S:70:LEU:HD22	2.49	0.41
1:U:41:GLN:HG3	1:U:43:PRO:HD2	2.01	0.41
1:U:66:ILE:HG22	1:U:66:ILE:O	2.20	0.41
1:U:259:ILE:O	1:U:262:ILE:HG12	2.21	0.41
1:U:279:GLN:HE22	1:U:319:LEU:HA	1.85	0.41
1:V:313:VAL:HG23	1:V:314:ALA:H	1.84	0.41
1:V:370:THR:HG23	1:V:373:ALA:HB3	2.01	0.41
1:W:442:PHE:O	1:W:443:ILE:HD13	2.20	0.41
1:X:246:ASP:O	1:X:250:GLN:HB3	2.20	0.41
1:X:299:LYS:HE2	1:X:301:ASP:CG	2.41	0.41
1:X:366:ASN:HD22	1:X:366:ASN:HA	1.69	0.41
1:A:7:ARG:HB3	1:A:7:ARG:HH11	1.86	0.41
1:A:402:ARG:O	1:A:405:ASP:HB2	2.20	0.41
1:A:438:ASP:C	1:A:439:LEU:O	2.59	0.41
1:B:17:ILE:HD12	1:B:17:ILE:N	2.36	0.41
1:B:72:LYS:HD2	1:B:72:LYS:HA	1.87	0.41
1:B:347:GLU:N	1:B:348:PRO:CD	2.83	0.41
1:E:275:ARG:HG3	1:E:276:GLU:N	2.36	0.41
2:K:111:ASP:OD2	2:K:111:ASP:N	2.53	0.41
2:P:54:PHE:O	2:P:57:PHE:HB3	2.20	0.41
2:P:164:ASN:ND2	2:P:164:ASN:N	2.66	0.41
1:S:17:ILE:HD13	1:S:66:ILE:CG1	2.50	0.41
1:S:235:ILE:HG22	1:S:237:PRO:HD3	2.01	0.41
1:S:407:ILE:HG23	1:S:408:SER:N	2.34	0.41
1:T:75:ASN:HD22	1:T:75:ASN:HA	1.65	0.41
1:T:439:LEU:C	1:T:441:ARG:H	2.23	0.41
1:T:442:PHE:CD1	1:T:442:PHE:N	2.88	0.41
1:U:391:ILE:HD11	1:U:395:ARG:NE	2.35	0.41
1:V:68:ARG:HG3	1:V:68:ARG:NH1	2.33	0.41
1:V:373:ALA:O	1:V:377:ILE:HG13	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:403:LEU:C	1:A:405:ASP:N	2.73	0.41
1:C:12:GLU:O	1:C:15:GLN:HB2	2.20	0.41
1:C:438:ASP:HB2	2:I:72:LEU:HD12	2.03	0.41
1:E:437:GLU:HG3	1:E:439:LEU:HD12	2.02	0.41
1:F:402:ARG:O	1:F:405:ASP:HB2	2.20	0.41
2:G:86:ARG:HH11	2:G:86:ARG:CB	2.19	0.41
2:L:1:THR:HG21	2:L:33:LYS:NZ	2.17	0.41
2:N:42:VAL:HG21	2:N:64:LEU:HD11	2.02	0.41
2:N:54:PHE:CZ	1:U:444:LEU:HB3	2.56	0.41
1:S:80:LYS:HG3	1:S:255:PHE:CD2	2.49	0.41
1:S:258:GLU:OE2	1:X:322:GLU:OE2	2.39	0.41
1:T:21:ALA:C	1:T:23:ALA:N	2.72	0.41
1:U:21:ALA:C	1:U:23:ALA:N	2.73	0.41
1:U:82:GLU:HG3	1:U:258:GLU:HB2	2.03	0.41
1:U:109:LYS:O	1:U:110:LEU:HD23	2.20	0.41
1:V:442:PHE:CD1	1:V:442:PHE:N	2.88	0.41
1:W:356:TYR:O	1:W:367:ILE:HD11	2.20	0.41
1:X:47:GLU:HG3	1:X:47:GLU:O	2.20	0.41
1:X:82:GLU:HG3	1:X:258:GLU:HB2	2.03	0.41
1:A:293:THR:C	1:A:295:HIS:H	2.22	0.41
1:B:37:ARG:HG2	1:B:38:MET:N	2.36	0.41
1:B:384:VAL:HG21	1:B:395:ARG:HD2	2.02	0.41
1:C:37:ARG:O	1:C:38:MET:HB2	2.19	0.41
1:C:246:ASP:O	1:C:250:GLN:HG2	2.20	0.41
1:D:17:ILE:N	1:D:17:ILE:CD1	2.81	0.41
2:H:1:THR:OG1	2:H:33:LYS:HE2	2.21	0.41
2:H:51:ALA:O	2:H:55:THR:HG23	2.21	0.41
2:J:26:VAL:HG23	2:O:161:VAL:HG12	2.03	0.41
2:P:42:VAL:HG21	2:P:64:LEU:CD1	2.50	0.41
1:S:47:GLU:HG3	1:S:47:GLU:O	2.21	0.41
1:S:233:LYS:C	1:S:235:ILE:N	2.74	0.41
1:T:82:GLU:HG3	1:T:258:GLU:HB2	2.02	0.41
1:U:373:ALA:O	1:U:377:ILE:HG13	2.20	0.41
1:W:259:ILE:O	1:W:262:ILE:HG12	2.21	0.41
1:W:279:GLN:HE22	1:W:319:LEU:HA	1.85	0.41
1:X:18:ILE:HD11	1:X:343:ARG:HH21	1.83	0.41
1:X:386:GLU:HG2	1:X:386:GLU:O	2.19	0.41
1:D:283:LEU:CB	1:D:284:PRO:HD3	2.51	0.41
1:E:42:GLU:N	1:E:43:PRO:CD	2.84	0.41
1:E:401:GLU:OE1	1:F:51:LYS:HG3	2.20	0.41
2:I:1:THR:CG2	2:I:33:LYS:HZ2	2.29	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:50:THR:H	4:M:175:LVS:CD6	2.34	0.41
2:N:118:ASP:O	2:N:119:GLN:HB2	2.21	0.41
1:S:73:LEU:HD12	1:S:73:LEU:N	2.35	0.41
1:S:386:GLU:HG2	1:S:386:GLU:O	2.20	0.41
1:S:444:LEU:HD13	1:S:444:LEU:H	1.86	0.41
1:T:96:VAL:HG13	1:T:282:LEU:HD12	2.01	0.41
1:U:96:VAL:HG13	1:U:282:LEU:HD12	2.02	0.41
1:V:47:GLU:HG3	1:V:47:GLU:O	2.21	0.41
1:X:21:ALA:C	1:X:23:ALA:N	2.72	0.41
1:X:349:HIS:O	1:X:350:ALA:HB3	2.20	0.41
1:A:40:LEU:O	1:A:45:ARG:HD3	2.20	0.41
1:C:283:LEU:HB2	1:C:284:PRO:HD3	2.03	0.41
1:C:437:GLU:CG	1:C:439:LEU:HB2	2.51	0.41
1:D:437:GLU:HG3	1:D:439:LEU:HD12	2.02	0.41
2:H:36:ARG:NH1	2:H:170:GLU:OE2	2.53	0.41
2:H:83:ARG:NH1	2:I:58:GLU:OE2	2.51	0.41
2:J:105:ILE:HG22	2:J:113:VAL:O	2.21	0.41
2:K:136:ALA:HB1	2:Q:137:LEU:CD1	2.50	0.41
2:L:37:LEU:HD21	2:L:57:PHE:CE2	2.55	0.41
2:M:7:ARG:HE	2:M:12:VAL:CG2	2.11	0.41
2:P:164:ASN:HD22	2:P:164:ASN:N	2.14	0.41
2:Q:50:THR:H	4:Q:175:LVS:CD6	2.33	0.41
1:S:259:ILE:HG22	1:S:308:SER:O	2.21	0.41
1:S:442:PHE:O	1:S:443:ILE:HG12	2.20	0.41
1:C:34:ARG:NH1	1:C:302:HIS:O	2.54	0.41
1:C:37:ARG:CG	1:C:38:MET:N	2.83	0.41
1:D:370:THR:O	1:D:373:ALA:HB3	2.20	0.41
1:D:437:GLU:HG3	1:D:439:LEU:HB2	2.01	0.41
3:D:453:ATP:C8	3:D:453:ATP:C5'	3.03	0.41
1:E:233:LYS:HB2	1:E:233:LYS:NZ	2.36	0.41
1:E:321:PRO:O	1:E:322:GLU:C	2.59	0.41
2:J:17:ASP:HB2	2:J:164:ASN:ND2	2.35	0.41
2:N:50:THR:O	2:N:53:ALA:HB3	2.21	0.41
2:N:104:LEU:HD13	2:N:112:VAL:HG11	2.01	0.41
2:O:81:ASP:O	2:O:88:LEU:HB2	2.20	0.41
2:P:14:VAL:HG12	2:P:34:VAL:CG1	2.51	0.41
2:Q:1:THR:H3	4:Q:175:LVS:CS	2.34	0.41
1:S:38:MET:HB3	1:S:39:GLN:NE2	2.36	0.41
1:U:294:LYS:HE3	1:U:295:HIS:HE1	1.86	0.41
1:V:57:GLY:O	1:V:58:PRO:O	2.39	0.41
1:W:370:THR:HG23	1:W:373:ALA:CB	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:276:GLU:O	1:C:276:GLU:HG3	2.21	0.41
1:D:7:ARG:HB3	1:D:7:ARG:NH1	2.36	0.41
1:D:57:GLY:O	1:D:63:LYS:CE	2.68	0.41
1:E:33:ASN:OD1	1:E:36:ARG:HD2	2.20	0.41
1:E:58:PRO:HG2	1:E:61:VAL:HG11	2.02	0.41
1:E:82:GLU:OE2	1:F:280:ARG:HD3	2.21	0.41
1:E:378:ALA:O	1:E:379:GLU:C	2.58	0.41
1:F:42:GLU:N	1:F:43:PRO:CD	2.84	0.41
1:F:321:PRO:O	1:F:322:GLU:C	2.58	0.41
1:F:330:ARG:HG3	1:F:330:ARG:NH1	2.35	0.41
2:G:71:LEU:CD1	2:G:104:LEU:HD22	2.51	0.41
2:G:172:LEU:O	2:G:173:PRO:C	2.58	0.41
2:H:7:ARG:CZ	2:H:12:VAL:HG21	2.51	0.41
2:I:1:THR:H1	4:I:175:LVS:H1'1	1.84	0.41
2:I:3:ILE:O	2:I:122:ALA:HA	2.20	0.41
2:J:1:THR:CG2	2:J:33:LYS:HZ1	2.31	0.41
2:J:137:LEU:HD13	2:P:136:ALA:HB1	2.02	0.41
2:K:3:ILE:O	2:K:122:ALA:HA	2.21	0.41
2:L:5:SER:HB2	2:L:14:VAL:HG22	2.02	0.41
2:L:17:ASP:CG	2:L:163:THR:HG23	2.41	0.41
2:L:125:SER:N	4:L:175:LVS:C1'	2.80	0.41
2:M:43:LEU:O	2:M:97:VAL:HA	2.21	0.41
2:P:6:VAL:HG21	2:P:148:ILE:HG22	2.02	0.41
2:Q:107:THR:C	2:Q:109:ILE:H	2.24	0.41
1:S:68:ARG:HG3	1:S:68:ARG:NH1	2.35	0.41
1:S:82:GLU:HG3	1:S:258:GLU:HB2	2.03	0.41
1:S:370:THR:HG21	1:S:422:ASP:HA	2.03	0.41
1:T:260:ASP:HB3	1:T:311:PHE:CE2	2.56	0.41
1:T:373:ALA:O	1:T:377:ILE:HG13	2.21	0.41
1:U:63:LYS:HG2	1:U:333:LEU:HD11	2.03	0.41
1:U:120:ARG:O	1:U:234:LEU:HD12	2.21	0.41
1:U:369:PHE:HE2	1:U:421:ILE:CD1	2.29	0.41
1:V:41:GLN:HG3	1:V:43:PRO:HD2	2.02	0.41
1:V:279:GLN:HE22	1:V:319:LEU:HA	1.85	0.41
1:V:356:TYR:O	1:V:367:ILE:HD11	2.21	0.41
1:W:98:SER:HA	1:W:101:ARG:NH1	2.36	0.41
1:W:326:ARG:HH11	1:W:326:ARG:CA	2.30	0.41
1:X:110:LEU:C	1:X:112:ARG:H	2.25	0.41
1:X:313:VAL:HG23	1:X:314:ALA:H	1.85	0.41
1:A:52:ASN:HB2	1:A:326:ARG:O	2.21	0.41
1:B:343:ARG:O	1:B:348:PRO:HD3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:258:GLU:OE1	1:D:322:GLU:OE1	2.39	0.41
1:C:283:LEU:HA	1:C:283:LEU:HD23	1.72	0.41
1:D:52:ASN:HB2	1:D:326:ARG:O	2.21	0.41
1:D:330:ARG:HG3	1:D:330:ARG:NH1	2.36	0.41
1:D:402:ARG:HH22	1:D:433:VAL:CG2	2.25	0.41
1:E:283:LEU:CB	1:E:284:PRO:HD3	2.50	0.41
1:F:27:VAL:HB	1:F:70:LEU:CD2	2.44	0.41
2:I:7:ARG:CZ	2:I:12:VAL:HG21	2.51	0.41
2:N:112:VAL:HB	1:T:443:ILE:CD1	2.51	0.41
2:R:1:THR:H3	4:R:175:LVS:C2'	2.34	0.41
1:S:112:ARG:O	1:S:112:ARG:HG2	2.21	0.41
1:U:63:LYS:HB2	3:U:458:ATP:O2B	2.21	0.41
1:V:73:LEU:HD12	1:V:73:LEU:N	2.35	0.41
1:V:76:ALA:HB1	1:V:251:ASN:HB3	2.02	0.41
1:V:79:ILE:HG22	1:V:103:LEU:HD13	2.03	0.41
1:W:254:VAL:HB	1:W:305:PHE:CD2	2.56	0.41
1:W:313:VAL:HG23	1:W:314:ALA:H	1.86	0.41
1:X:65:GLU:HA	1:X:65:GLU:OE1	2.21	0.41
1:X:107:ALA:O	1:X:111:VAL:HG23	2.21	0.41
1:A:34:ARG:NH1	1:A:302:HIS:O	2.54	0.40
1:B:283:LEU:HD23	1:B:283:LEU:HA	1.67	0.40
1:C:72:LYS:HA	1:C:72:LYS:HD2	1.86	0.40
1:C:235:ILE:O	1:C:236:ASN:HB3	2.21	0.40
1:C:403:LEU:C	1:C:405:ASP:H	2.23	0.40
1:D:326:ARG:C	1:D:328:PRO:HD3	2.41	0.40
1:E:52:ASN:HB2	1:E:326:ARG:O	2.22	0.40
1:F:280:ARG:HG3	1:F:280:ARG:NH1	2.33	0.40
2:L:51:ALA:O	2:L:55:THR:HG23	2.21	0.40
2:N:7:ARG:NH2	2:N:12:VAL:CG2	2.81	0.40
2:P:27:MET:HE2	4:P:175:LVS:HD11	2.02	0.40
2:Q:76:VAL:HG11	1:W:442:PHE:CD2	2.56	0.40
1:S:373:ALA:O	1:S:377:ILE:HG13	2.20	0.40
1:T:96:VAL:HG21	1:T:281:ASP:HB2	2.03	0.40
1:T:349:HIS:O	1:T:350:ALA:HB3	2.21	0.40
1:V:437:GLU:O	1:V:438:ASP:C	2.60	0.40
1:B:79:ILE:HD12	1:B:80:LYS:N	2.36	0.40
1:B:370:THR:O	1:B:373:ALA:HB3	2.21	0.40
1:C:421:ILE:HG23	1:C:425:TYR:CD1	2.56	0.40
1:D:32:ARG:C	1:D:34:ARG:N	2.74	0.40
1:E:395:ARG:O	1:E:398:THR:HB	2.21	0.40
1:F:100:ILE:HG21	1:F:298:VAL:HG21	2.01	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:67:HIS:NE2	2:G:77:GLU:HG3	2.36	0.40
2:H:144:SER:O	2:H:148:ILE:HG13	2.21	0.40
2:H:159:ILE:O	2:M:25:THR:HA	2.20	0.40
2:R:43:LEU:O	2:R:97:VAL:HA	2.22	0.40
1:U:49:THR:HA	1:U:50:PRO:HD3	1.97	0.40
1:V:376:LYS:HE2	1:V:376:LYS:HB3	1.95	0.40
1:W:430:LEU:N	1:W:430:LEU:HD23	2.35	0.40
1:X:373:ALA:O	1:X:377:ILE:HG13	2.22	0.40
1:A:20:GLN:HE21	1:A:20:GLN:N	2.18	0.40
1:A:42:GLU:HB3	1:A:43:PRO:HD3	2.03	0.40
1:A:51:LYS:HG3	1:F:401:GLU:OE1	2.21	0.40
1:A:280:ARG:CD	1:F:82:GLU:OE2	2.67	0.40
1:B:9:ILE:HD13	1:B:31:LEU:HD23	2.04	0.40
1:B:352:LEU:HD13	1:B:400:MET:CG	2.49	0.40
1:D:3:GLU:HG3	1:D:4:MET:N	2.36	0.40
1:E:9:ILE:HD13	1:E:31:LEU:HD23	2.02	0.40
1:F:100:ILE:HG21	1:F:298:VAL:CG2	2.51	0.40
2:K:48:GLY:O	4:K:175:LVS:HD53	2.22	0.40
2:L:159:ILE:O	2:Q:25:THR:HA	2.21	0.40
2:M:3:ILE:HB	2:M:123:ILE:CG1	2.50	0.40
2:N:131:LEU:HD11	2:N:135:ARG:HE	1.83	0.40
2:P:7:ARG:HA	2:P:11:GLN:O	2.22	0.40
2:Q:18:GLY:O	2:Q:29:GLY:C	2.60	0.40
1:T:47:GLU:HG3	1:T:47:GLU:O	2.22	0.40
1:V:66:ILE:HG22	1:V:66:ILE:O	2.21	0.40
1:V:344:ILE:O	1:V:344:ILE:HG22	2.22	0.40
1:W:344:ILE:HG22	1:W:344:ILE:O	2.21	0.40
1:X:55:MET:HE1	1:X:63:LYS:O	2.21	0.40
1:X:344:ILE:HG12	3:X:461:ATP:C2	2.57	0.40
1:B:118:LYS:HZ1	1:B:234:LEU:HD11	1.86	0.40
2:I:96:ILE:HG13	2:I:123:ILE:HD13	2.02	0.40
2:K:172:LEU:HD23	2:K:172:LEU:HA	1.85	0.40
2:L:111:ASP:OD2	2:L:111:ASP:N	2.54	0.40
2:L:128:ASN:HA	2:L:131:LEU:HB3	2.03	0.40
2:M:1:THR:H3	4:M:175:LVS:C2'	2.34	0.40
2:M:6:VAL:HG23	2:M:149:VAL:HG23	2.04	0.40
2:N:42:VAL:HG21	2:N:64:LEU:CD1	2.51	0.40
2:O:1:THR:HG23	2:O:33:LYS:HZ1	1.84	0.40
2:O:103:SER:O	2:O:104:LEU:HD23	2.22	0.40
2:P:14:VAL:HG12	2:P:14:VAL:O	2.20	0.40
2:Q:27:MET:HE2	4:Q:175:LVS:HD11	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Q:43:LEU:O	2:Q:97:VAL:HA	2.22	0.40
1:S:349:HIS:O	1:S:350:ALA:HB3	2.22	0.40
1:T:17:ILE:HD11	1:T:65:GLU:HB3	2.03	0.40
1:T:437:GLU:O	1:T:439:LEU:N	2.54	0.40
1:U:27:VAL:CG1	1:U:70:LEU:HD22	2.51	0.40
1:U:441:ARG:HA	1:U:441:ARG:HD3	1.85	0.40
1:V:65:GLU:OE1	1:V:65:GLU:HA	2.22	0.40
1:W:34:ARG:HH12	1:W:252:GLY:H	1.69	0.40
1:W:47:GLU:O	1:W:47:GLU:HG3	2.21	0.40
1:W:437:GLU:O	1:W:439:LEU:N	2.55	0.40
1:B:345:LEU:HD12	1:B:345:LEU:HA	1.75	0.40
1:C:275:ARG:C	1:C:277:GLY:N	2.74	0.40
1:D:73:LEU:HD12	1:D:73:LEU:O	2.22	0.40
1:F:358:ALA:O	1:F:361:ALA:HB3	2.22	0.40
1:F:444:LEU:HD23	2:L:113:VAL:HG13	2.03	0.40
2:K:53:ALA:HA	2:K:93:ALA:HB1	2.02	0.40
2:O:64:LEU:HD23	2:O:74:SER:CB	2.51	0.40
2:Q:141:THR:HG21	2:Q:143:LEU:HD12	2.03	0.40
1:S:240:LEU:HD12	1:S:240:LEU:N	2.36	0.40
1:T:96:VAL:HG21	1:T:281:ASP:CB	2.52	0.40
1:T:257:ASP:HA	1:T:308:SER:OG	2.22	0.40
1:U:353:THR:HA	1:U:369:PHE:CE1	2.56	0.40
1:V:21:ALA:C	1:V:23:ALA:N	2.72	0.40
1:W:326:ARG:NH1	1:W:326:ARG:HB3	2.37	0.40
1:W:385:ASN:HD22	1:W:385:ASN:HA	1.61	0.40
1:X:66:ILE:O	1:X:66:ILE:HG22	2.22	0.40
1:X:79:ILE:HG22	1:X:103:LEU:HD13	2.03	0.40
1:X:236:ASN:N	1:X:237:PRO:HD3	2.36	0.40
1:X:294:LYS:HE3	1:X:295:HIS:HE1	1.86	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:7:ARG:NH2	1:X:7:ARG:NH2[2_765]	2.04	0.16

## 5.3 Torsion angles [i](#)

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

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	313/444 (70%)	261 (83%)	41 (13%)	11 (4%)	3	20
1	B	313/444 (70%)	258 (82%)	43 (14%)	12 (4%)	3	19
1	C	313/444 (70%)	261 (83%)	43 (14%)	9 (3%)	4	24
1	D	313/444 (70%)	270 (86%)	32 (10%)	11 (4%)	3	20
1	E	313/444 (70%)	266 (85%)	37 (12%)	10 (3%)	4	22
1	F	313/444 (70%)	264 (84%)	39 (12%)	10 (3%)	4	22
1	S	309/444 (70%)	235 (76%)	57 (18%)	17 (6%)	2	11
1	T	309/444 (70%)	238 (77%)	51 (16%)	20 (6%)	1	8
1	U	309/444 (70%)	235 (76%)	55 (18%)	19 (6%)	1	9
1	V	309/444 (70%)	237 (77%)	54 (18%)	18 (6%)	1	10
1	W	309/444 (70%)	233 (75%)	57 (18%)	19 (6%)	1	9
1	X	309/444 (70%)	237 (77%)	55 (18%)	17 (6%)	2	11
2	G	171/174 (98%)	157 (92%)	9 (5%)	5 (3%)	4	24
2	H	171/174 (98%)	153 (90%)	13 (8%)	5 (3%)	4	24
2	I	171/174 (98%)	154 (90%)	11 (6%)	6 (4%)	3	20
2	J	171/174 (98%)	154 (90%)	12 (7%)	5 (3%)	4	24
2	K	171/174 (98%)	154 (90%)	13 (8%)	4 (2%)	6	28
2	L	171/174 (98%)	155 (91%)	12 (7%)	4 (2%)	6	28
2	M	171/174 (98%)	145 (85%)	19 (11%)	7 (4%)	3	16
2	N	171/174 (98%)	143 (84%)	21 (12%)	7 (4%)	3	16
2	O	171/174 (98%)	141 (82%)	24 (14%)	6 (4%)	3	20
2	P	171/174 (98%)	143 (84%)	22 (13%)	6 (4%)	3	20
2	Q	171/174 (98%)	142 (83%)	21 (12%)	8 (5%)	2	14
2	R	171/174 (98%)	144 (84%)	20 (12%)	7 (4%)	3	16
All	All	5784/7416 (78%)	4780 (83%)	761 (13%)	243 (4%)	3	16

All (243) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	42	GLU
1	A	233	LYS
1	A	434	VAL
1	A	436	ASN
1	A	439	LEU
1	A	441	ARG
1	B	41	GLN
1	B	42	GLU
1	B	234	LEU
1	B	235	ILE
1	B	434	VAL
1	B	436	ASN
1	B	441	ARG
1	C	41	GLN
1	C	42	GLU
1	C	118	LYS
1	C	235	ILE
1	C	436	ASN
1	C	439	LEU
1	C	441	ARG
1	D	41	GLN
1	D	42	GLU
1	D	234	LEU
1	D	434	VAL
1	D	436	ASN
1	D	439	LEU
1	D	441	ARG
1	E	41	GLN
1	E	42	GLU
1	E	434	VAL
1	E	436	ASN
1	E	441	ARG
1	F	41	GLN
1	F	42	GLU
1	F	235	ILE
1	F	434	VAL
1	F	436	ASN
1	F	441	ARG
2	G	89	ARG
2	H	89	ARG
2	I	89	ARG
2	J	89	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	K	89	ARG
2	L	89	ARG
2	M	50	THR
2	M	51	ALA
2	N	50	THR
2	O	50	THR
2	O	51	ALA
2	P	50	THR
2	P	51	ALA
2	Q	50	THR
2	Q	51	ALA
2	R	50	THR
2	R	51	ALA
1	S	21	ALA
1	S	41	GLN
1	S	48	VAL
1	S	58	PRO
1	S	75	ASN
1	S	235	ILE
1	S	436	ASN
1	S	438	ASP
1	S	439	LEU
1	S	440	SER
1	T	21	ALA
1	T	41	GLN
1	T	48	VAL
1	T	58	PRO
1	T	75	ASN
1	T	436	ASN
1	T	438	ASP
1	T	439	LEU
1	T	440	SER
1	U	21	ALA
1	U	41	GLN
1	U	48	VAL
1	U	58	PRO
1	U	75	ASN
1	U	436	ASN
1	U	438	ASP
1	U	439	LEU
1	U	440	SER
1	V	21	ALA

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	V	41	GLN
1	V	48	VAL
1	V	58	PRO
1	V	75	ASN
1	V	436	ASN
1	V	438	ASP
1	V	439	LEU
1	V	440	SER
1	W	21	ALA
1	W	41	GLN
1	W	48	VAL
1	W	58	PRO
1	W	75	ASN
1	W	235	ILE
1	W	436	ASN
1	W	438	ASP
1	W	439	LEU
1	W	440	SER
1	X	21	ALA
1	X	41	GLN
1	X	48	VAL
1	X	58	PRO
1	X	75	ASN
1	X	112	ARG
1	X	436	ASN
1	X	438	ASP
1	X	439	LEU
1	X	440	SER
1	A	41	GLN
1	A	235	ILE
1	B	405	ASP
1	B	439	LEU
1	C	405	ASP
1	C	434	VAL
1	D	235	ILE
1	E	232	ALA
1	E	405	ASP
1	E	439	LEU
1	F	405	ASP
1	F	439	LEU
2	J	40	GLY
2	K	40	GLY

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	N	31	ALA
2	N	51	ALA
2	O	31	ALA
2	O	127	GLY
2	P	31	ALA
2	Q	31	ALA
2	Q	127	GLY
1	S	74	ALA
1	S	301	ASP
1	T	74	ALA
1	T	116	ILE
1	T	235	ILE
1	T	242	GLN
1	T	323	LEU
1	T	435	GLU
1	U	74	ALA
1	U	234	LEU
1	U	237	PRO
1	U	301	ASP
1	U	323	LEU
1	V	74	ALA
1	V	301	ASP
1	W	74	ALA
1	W	116	ILE
1	W	242	GLN
1	W	323	LEU
1	X	74	ALA
1	X	301	ASP
1	X	323	LEU
1	A	405	ASP
1	D	405	ASP
1	E	52	ASN
1	F	117	ALA
2	I	110	GLY
2	I	111	ASP
2	J	87	ALA
2	M	31	ALA
2	N	127	GLY
2	R	31	ALA
1	S	113	GLN
1	S	323	LEU
1	T	301	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	V	234	LEU
1	V	323	LEU
1	W	113	GLN
1	W	118	LYS
1	W	301	ASP
1	X	109	LYS
1	A	112	ARG
1	B	350	ALA
2	G	40	GLY
2	G	111	ASP
2	H	40	GLY
2	H	87	ALA
2	I	87	ALA
2	I	118	ASP
2	J	111	ASP
2	L	111	ASP
2	M	66	MET
2	O	49	GLY
2	O	66	MET
2	Q	66	MET
2	Q	117	GLU
1	S	435	GLU
1	U	4	MET
1	X	235	ILE
1	B	233	LYS
1	B	237	PRO
1	D	271	ALA
2	G	87	ALA
2	H	110	GLY
2	H	111	ASP
2	K	87	ALA
2	K	110	GLY
2	L	87	ALA
2	N	66	MET
2	P	66	MET
2	P	127	GLY
2	R	66	MET
1	S	4	MET
1	S	437	GLU
1	U	118	LYS
1	U	235	ILE
1	V	4	MET

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Mol	Chain	Res	Type
1	V	113	GLN
1	W	239	GLU
1	D	348	PRO
2	G	110	GLY
2	M	117	GLU
2	M	143	LEU
2	N	117	GLU
2	R	127	GLY
1	T	4	MET
1	T	238	GLU
1	U	239	GLU
1	U	437	GLU
1	V	437	GLU
1	X	242	GLN
1	F	116	ILE
2	J	110	GLY
2	M	49	GLY
2	N	49	GLY
2	Q	49	GLY
1	X	111	VAL
2	I	40	GLY
2	L	40	GLY
1	A	6	PRO
2	P	49	GLY
2	Q	115	PRO
1	E	348	PRO
2	R	115	PRO
1	T	43	PRO
1	T	237	PRO
1	V	237	PRO
2	R	49	GLY
1	V	43	PRO
1	W	43	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	A	267/373 (72%)	241 (90%)	26 (10%)	8	30
1	B	267/373 (72%)	242 (91%)	25 (9%)	8	32
1	C	267/373 (72%)	248 (93%)	19 (7%)	14	44
1	D	267/373 (72%)	244 (91%)	23 (9%)	10	37
1	E	267/373 (72%)	242 (91%)	25 (9%)	8	32
1	F	267/373 (72%)	248 (93%)	19 (7%)	14	44
1	S	267/373 (72%)	253 (95%)	14 (5%)	23	55
1	T	267/373 (72%)	250 (94%)	17 (6%)	17	48
1	U	267/373 (72%)	255 (96%)	12 (4%)	27	60
1	V	267/373 (72%)	253 (95%)	14 (5%)	23	55
1	W	267/373 (72%)	249 (93%)	18 (7%)	16	46
1	X	267/373 (72%)	252 (94%)	15 (6%)	21	52
2	G	132/140 (94%)	116 (88%)	16 (12%)	5	20
2	H	132/140 (94%)	118 (89%)	14 (11%)	6	26
2	I	132/140 (94%)	118 (89%)	14 (11%)	6	26
2	J	132/140 (94%)	116 (88%)	16 (12%)	5	20
2	K	132/140 (94%)	119 (90%)	13 (10%)	8	29
2	L	132/140 (94%)	117 (89%)	15 (11%)	5	23
2	M	125/140 (89%)	114 (91%)	11 (9%)	10	36
2	N	125/140 (89%)	115 (92%)	10 (8%)	12	40
2	O	125/140 (89%)	115 (92%)	10 (8%)	12	40
2	P	125/140 (89%)	114 (91%)	11 (9%)	10	36
2	Q	125/140 (89%)	114 (91%)	11 (9%)	10	36
2	R	125/140 (89%)	114 (91%)	11 (9%)	10	36
All	All	4746/6156 (77%)	4367 (92%)	379 (8%)	12	40

All (379) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	6	PRO
1	A	8	GLU
1	A	20	GLN
1	A	25	ARG
1	A	29	ILE
1	A	34	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	39	GLN
1	A	41	GLN
1	A	45	ARG
1	A	82	GLU
1	A	96	VAL
1	A	115	GLU
1	A	116	ILE
1	A	233	LYS
1	A	251	ASN
1	A	276	GLU
1	A	336	LEU
1	A	345	LEU
1	A	359	LEU
1	A	379	GLU
1	A	403	LEU
1	A	413	ASP
1	A	425	TYR
1	A	428	ASP
1	A	434	VAL
1	A	444	LEU
1	B	6	PRO
1	B	8	GLU
1	B	20	GLN
1	B	25	ARG
1	B	29	ILE
1	B	34	ARG
1	B	39	GLN
1	B	45	ARG
1	B	59	THR
1	B	82	GLU
1	B	96	VAL
1	B	233	LYS
1	B	251	ASN
1	B	313	VAL
1	B	336	LEU
1	B	345	LEU
1	B	379	GLU
1	B	384	VAL
1	B	403	LEU
1	B	408	SER
1	B	413	ASP
1	B	425	TYR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	428	ASP
1	B	434	VAL
1	B	444	LEU
1	C	6	PRO
1	C	8	GLU
1	C	20	GLN
1	C	25	ARG
1	C	29	ILE
1	C	39	GLN
1	C	45	ARG
1	C	82	GLU
1	C	96	VAL
1	C	233	LYS
1	C	251	ASN
1	C	336	LEU
1	C	345	LEU
1	C	379	GLU
1	C	403	LEU
1	C	413	ASP
1	C	428	ASP
1	C	434	VAL
1	C	444	LEU
1	D	8	GLU
1	D	20	GLN
1	D	25	ARG
1	D	29	ILE
1	D	34	ARG
1	D	39	GLN
1	D	45	ARG
1	D	59	THR
1	D	82	GLU
1	D	96	VAL
1	D	113	GLN
1	D	119	ASN
1	D	233	LYS
1	D	251	ASN
1	D	336	LEU
1	D	345	LEU
1	D	379	GLU
1	D	403	LEU
1	D	408	SER
1	D	413	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	D	428	ASP
1	D	434	VAL
1	D	444	LEU
1	E	6	PRO
1	E	8	GLU
1	E	20	GLN
1	E	25	ARG
1	E	29	ILE
1	E	34	ARG
1	E	39	GLN
1	E	45	ARG
1	E	82	GLU
1	E	96	VAL
1	E	233	LYS
1	E	234	LEU
1	E	251	ASN
1	E	336	LEU
1	E	345	LEU
1	E	359	LEU
1	E	362	THR
1	E	379	GLU
1	E	403	LEU
1	E	408	SER
1	E	413	ASP
1	E	425	TYR
1	E	428	ASP
1	E	434	VAL
1	E	444	LEU
1	F	20	GLN
1	F	25	ARG
1	F	29	ILE
1	F	34	ARG
1	F	39	GLN
1	F	45	ARG
1	F	59	THR
1	F	82	GLU
1	F	96	VAL
1	F	251	ASN
1	F	336	LEU
1	F	345	LEU
1	F	379	GLU
1	F	408	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	F	410	SER
1	F	413	ASP
1	F	428	ASP
1	F	434	VAL
1	F	444	LEU
2	G	1	THR
2	G	3	ILE
2	G	21	SER
2	G	33	LYS
2	G	42	VAL
2	G	55	THR
2	G	56	LEU
2	G	72	LEU
2	G	82	TRP
2	G	83	ARG
2	G	85	ASP
2	G	86	ARG
2	G	104	LEU
2	G	105	ILE
2	G	107	THR
2	G	164	ASN
2	H	1	THR
2	H	3	ILE
2	H	21	SER
2	H	42	VAL
2	H	55	THR
2	H	56	LEU
2	H	72	LEU
2	H	82	TRP
2	H	83	ARG
2	H	85	ASP
2	H	86	ARG
2	H	104	LEU
2	H	107	THR
2	H	164	ASN
2	I	1	THR
2	I	3	ILE
2	I	21	SER
2	I	42	VAL
2	I	55	THR
2	I	56	LEU
2	I	72	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	I	82	TRP
2	I	83	ARG
2	I	85	ASP
2	I	86	ARG
2	I	104	LEU
2	I	105	ILE
2	I	164	ASN
2	J	1	THR
2	J	3	ILE
2	J	21	SER
2	J	33	LYS
2	J	42	VAL
2	J	55	THR
2	J	56	LEU
2	J	72	LEU
2	J	82	TRP
2	J	83	ARG
2	J	85	ASP
2	J	86	ARG
2	J	104	LEU
2	J	107	THR
2	J	141	THR
2	J	164	ASN
2	K	1	THR
2	K	3	ILE
2	K	21	SER
2	K	42	VAL
2	K	55	THR
2	K	56	LEU
2	K	72	LEU
2	K	82	TRP
2	K	83	ARG
2	K	85	ASP
2	K	86	ARG
2	K	104	LEU
2	K	164	ASN
2	L	1	THR
2	L	3	ILE
2	L	21	SER
2	L	42	VAL
2	L	55	THR
2	L	56	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	L	72	LEU
2	L	82	TRP
2	L	83	ARG
2	L	85	ASP
2	L	86	ARG
2	L	105	ILE
2	L	107	THR
2	L	141	THR
2	L	164	ASN
2	M	1	THR
2	M	8	ARG
2	M	54	PHE
2	M	55	THR
2	M	82	TRP
2	M	85	ASP
2	M	111	ASP
2	M	137	LEU
2	M	150	GLU
2	M	164	ASN
2	M	167	PHE
2	N	1	THR
2	N	8	ARG
2	N	54	PHE
2	N	55	THR
2	N	82	TRP
2	N	111	ASP
2	N	137	LEU
2	N	150	GLU
2	N	164	ASN
2	N	167	PHE
2	O	1	THR
2	O	8	ARG
2	O	54	PHE
2	O	55	THR
2	O	82	TRP
2	O	111	ASP
2	O	137	LEU
2	O	150	GLU
2	O	164	ASN
2	O	167	PHE
2	P	1	THR
2	P	8	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	P	54	PHE
2	P	55	THR
2	P	82	TRP
2	P	88	LEU
2	P	111	ASP
2	P	137	LEU
2	P	150	GLU
2	P	164	ASN
2	P	167	PHE
2	Q	1	THR
2	Q	8	ARG
2	Q	54	PHE
2	Q	55	THR
2	Q	82	TRP
2	Q	88	LEU
2	Q	111	ASP
2	Q	137	LEU
2	Q	150	GLU
2	Q	164	ASN
2	Q	167	PHE
2	R	1	THR
2	R	8	ARG
2	R	54	PHE
2	R	55	THR
2	R	82	TRP
2	R	88	LEU
2	R	111	ASP
2	R	137	LEU
2	R	150	GLU
2	R	164	ASN
2	R	167	PHE
1	S	7	ARG
1	S	75	ASN
1	S	105	ASP
1	S	241	LYS
1	S	246	ASP
1	S	280	ARG
1	S	333	LEU
1	S	370	THR
1	S	430	LEU
1	S	436	ASN
1	S	439	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	S	441	ARG
1	S	442	PHE
1	S	444	LEU
1	T	7	ARG
1	T	70	LEU
1	T	75	ASN
1	T	105	ASP
1	T	236	ASN
1	T	246	ASP
1	T	280	ARG
1	T	333	LEU
1	T	341	PHE
1	T	370	THR
1	T	385	ASN
1	T	430	LEU
1	T	436	ASN
1	T	439	LEU
1	T	441	ARG
1	T	442	PHE
1	T	444	LEU
1	U	7	ARG
1	U	75	ASN
1	U	105	ASP
1	U	280	ARG
1	U	333	LEU
1	U	370	THR
1	U	430	LEU
1	U	436	ASN
1	U	439	LEU
1	U	441	ARG
1	U	442	PHE
1	U	444	LEU
1	V	7	ARG
1	V	75	ASN
1	V	105	ASP
1	V	280	ARG
1	V	333	LEU
1	V	341	PHE
1	V	370	THR
1	V	385	ASN
1	V	430	LEU
1	V	436	ASN

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Mol	Chain	Res	Type
1	V	439	LEU
1	V	441	ARG
1	V	442	PHE
1	V	444	LEU
1	W	7	ARG
1	W	70	LEU
1	W	75	ASN
1	W	105	ASP
1	W	109	LYS
1	W	113	GLN
1	W	246	ASP
1	W	280	ARG
1	W	333	LEU
1	W	341	PHE
1	W	370	THR
1	W	385	ASN
1	W	430	LEU
1	W	436	ASN
1	W	439	LEU
1	W	441	ARG
1	W	442	PHE
1	W	444	LEU
1	X	7	ARG
1	X	75	ASN
1	X	105	ASP
1	X	236	ASN
1	X	246	ASP
1	X	280	ARG
1	X	333	LEU
1	X	341	PHE
1	X	385	ASN
1	X	430	LEU
1	X	436	ASN
1	X	439	LEU
1	X	441	ARG
1	X	442	PHE
1	X	444	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (137) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	20	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	39	GLN
1	A	41	GLN
1	A	75	ASN
1	A	250	GLN
1	A	324	GLN
1	A	349	HIS
1	A	417	GLN
1	B	20	GLN
1	B	39	GLN
1	B	41	GLN
1	B	119	ASN
1	B	236	ASN
1	B	250	GLN
1	B	324	GLN
1	B	417	GLN
1	C	20	GLN
1	C	39	GLN
1	C	41	GLN
1	C	114	GLN
1	C	236	ASN
1	C	250	GLN
1	C	324	GLN
1	C	349	HIS
1	C	417	GLN
1	C	436	ASN
1	D	20	GLN
1	D	39	GLN
1	D	41	GLN
1	D	114	GLN
1	D	119	ASN
1	D	250	GLN
1	D	324	GLN
1	D	417	GLN
1	D	436	ASN
1	E	20	GLN
1	E	39	GLN
1	E	41	GLN
1	E	114	GLN
1	E	250	GLN
1	E	324	GLN
1	E	417	GLN
1	F	20	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	F	39	GLN
1	F	41	GLN
1	F	114	GLN
1	F	250	GLN
1	F	324	GLN
1	F	417	GLN
2	G	24	ASN
2	G	164	ASN
2	H	24	ASN
2	H	128	ASN
2	H	146	HIS
2	H	164	ASN
2	I	24	ASN
2	I	119	GLN
2	I	146	HIS
2	I	164	ASN
2	J	146	HIS
2	J	164	ASN
2	K	24	ASN
2	K	164	ASN
2	L	146	HIS
2	L	164	ASN
2	M	164	ASN
2	N	164	ASN
2	O	164	ASN
2	P	164	ASN
2	Q	164	ASN
2	R	68	GLN
2	R	164	ASN
1	S	16	HIS
1	S	41	GLN
1	S	75	ASN
1	S	236	ASN
1	S	279	GLN
1	S	366	ASN
1	S	385	ASN
1	S	390	ASN
1	S	397	HIS
1	S	436	ASN
1	T	16	HIS
1	T	41	GLN
1	T	75	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	T	236	ASN
1	T	279	GLN
1	T	366	ASN
1	T	385	ASN
1	T	390	ASN
1	T	397	HIS
1	T	436	ASN
1	U	16	HIS
1	U	41	GLN
1	U	75	ASN
1	U	119	ASN
1	U	236	ASN
1	U	242	GLN
1	U	279	GLN
1	U	366	ASN
1	U	385	ASN
1	U	390	ASN
1	U	397	HIS
1	U	436	ASN
1	V	16	HIS
1	V	41	GLN
1	V	75	ASN
1	V	114	GLN
1	V	236	ASN
1	V	279	GLN
1	V	366	ASN
1	V	385	ASN
1	V	390	ASN
1	V	397	HIS
1	V	436	ASN
1	W	16	HIS
1	W	41	GLN
1	W	75	ASN
1	W	236	ASN
1	W	242	GLN
1	W	279	GLN
1	W	366	ASN
1	W	385	ASN
1	W	390	ASN
1	W	397	HIS
1	W	436	ASN
1	X	16	HIS

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Mol	Chain	Res	Type
1	X	41	GLN
1	X	75	ASN
1	X	114	GLN
1	X	119	ASN
1	X	236	ASN
1	X	279	GLN
1	X	366	ASN
1	X	385	ASN
1	X	390	ASN
1	X	397	HIS

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

24 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	$\# Z  > 2$
4	LVS	H	175	2	26,27,42	2.91	4 (15%)	33,37,59	1.41	4 (12%)
3	ATP	X	461	-	26,33,33	0.60	0	31,52,52	0.98	2 (6%)
4	LVS	J	175	2	26,27,42	2.86	4 (15%)	33,37,59	1.52	5 (15%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	ATP	W	460	-	26,33,33	0.63	0	31,52,52	1.02	2 (6%)
4	LVS	N	175	2	26,27,42	3.14	4 (15%)	33,37,59	1.69	7 (21%)
3	ATP	F	455	-	26,33,33	0.82	1 (3%)	31,52,52	1.06	1 (3%)
3	ATP	C	452	-	26,33,33	0.70	0	31,52,52	1.09	2 (6%)
4	LVS	L	175	2	26,27,42	2.96	4 (15%)	33,37,59	1.52	4 (12%)
4	LVS	P	175	2	26,27,42	2.97	4 (15%)	33,37,59	1.64	6 (18%)
4	LVS	M	175	2	26,27,42	2.83	4 (15%)	33,37,59	1.65	6 (18%)
3	ATP	V	459	-	26,33,33	0.64	0	31,52,52	1.01	2 (6%)
4	LVS	Q	175	2	26,27,42	2.79	4 (15%)	33,37,59	1.63	6 (18%)
3	ATP	A	450	-	26,33,33	0.79	1 (3%)	31,52,52	1.05	1 (3%)
4	LVS	I	175	2	26,27,42	2.89	4 (15%)	33,37,59	1.56	4 (12%)
3	ATP	E	454	-	26,33,33	0.87	1 (3%)	31,52,52	1.02	0
3	ATP	D	453	-	26,33,33	0.69	0	31,52,52	1.07	1 (3%)
3	ATP	S	456	-	26,33,33	0.64	0	31,52,52	0.99	2 (6%)
3	ATP	U	458	-	26,33,33	0.60	0	31,52,52	0.97	2 (6%)
4	LVS	K	175	2	26,27,42	3.02	4 (15%)	33,37,59	1.57	5 (15%)
4	LVS	O	175	2	26,27,42	3.01	4 (15%)	33,37,59	1.66	7 (21%)
4	LVS	R	175	2	26,27,42	2.89	3 (11%)	33,37,59	1.60	7 (21%)
3	ATP	T	457	-	26,33,33	0.62	0	31,52,52	0.98	2 (6%)
3	ATP	B	451	-	26,33,33	0.74	0	31,52,52	1.06	2 (6%)
4	LVS	G	175	2	26,27,42	3.05	4 (15%)	33,37,59	1.47	4 (12%)

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
4	LVS	H	175	2	-	13/33/34/46	-
3	ATP	X	461	-	-	0/18/38/38	0/3/3/3
4	LVS	J	175	2	-	11/33/34/46	-
3	ATP	W	460	-	-	3/18/38/38	0/3/3/3
4	LVS	N	175	2	-	4/33/34/46	-
3	ATP	F	455	-	-	4/18/38/38	0/3/3/3
3	ATP	C	452	-	-	6/18/38/38	0/3/3/3
4	LVS	L	175	2	-	11/33/34/46	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	LVS	P	175	2	-	4/33/34/46	-
4	LVS	M	175	2	-	4/33/34/46	-
3	ATP	V	459	-	-	0/18/38/38	0/3/3/3
4	LVS	Q	175	2	-	5/33/34/46	-
3	ATP	A	450	-	-	3/18/38/38	0/3/3/3
4	LVS	I	175	2	-	11/33/34/46	-
3	ATP	E	454	-	-	7/18/38/38	0/3/3/3
3	ATP	D	453	-	-	7/18/38/38	0/3/3/3
3	ATP	S	456	-	-	1/18/38/38	0/3/3/3
3	ATP	U	458	-	-	3/18/38/38	0/3/3/3
4	LVS	K	175	2	-	11/33/34/46	-
4	LVS	O	175	2	-	4/33/34/46	-
4	LVS	R	175	2	-	4/33/34/46	-
3	ATP	T	457	-	-	0/18/38/38	0/3/3/3
3	ATP	B	451	-	-	10/18/38/38	0/3/3/3
4	LVS	G	175	2	-	14/33/34/46	-

All (50) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	N	175	LVS	C2'-CS	14.19	1.54	1.31
4	P	175	LVS	C2'-CS	13.79	1.54	1.31
4	R	175	LVS	C2'-CS	13.75	1.53	1.31
4	O	175	LVS	C2'-CS	13.71	1.53	1.31
4	K	175	LVS	C2'-CS	12.94	1.52	1.31
4	M	175	LVS	C2'-CS	12.89	1.52	1.31
4	Q	175	LVS	C2'-CS	12.78	1.52	1.31
4	G	175	LVS	C2'-CS	12.39	1.51	1.31
4	J	175	LVS	C2'-CS	12.11	1.51	1.31
4	L	175	LVS	C2'-CS	11.70	1.50	1.31
4	I	175	LVS	C2'-CS	11.52	1.50	1.31
4	H	175	LVS	C2'-CS	11.50	1.50	1.31
4	I	175	LVS	C2'-S	7.92	1.85	1.75
4	L	175	LVS	C2'-S	7.51	1.85	1.75
4	G	175	LVS	C2'-S	7.38	1.85	1.75
4	H	175	LVS	C2'-S	7.33	1.85	1.75
4	J	175	LVS	C2'-S	6.36	1.83	1.75
4	K	175	LVS	C2'-S	6.03	1.83	1.75
4	N	175	LVS	C2'-S	5.49	1.82	1.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	O	175	LVS	C2'-S	5.23	1.82	1.75
4	K	175	LVS	O1'-S	4.40	1.50	1.44
4	L	175	LVS	O1'-S	4.27	1.50	1.44
4	Q	175	LVS	C2'-S	4.21	1.81	1.75
4	M	175	LVS	C2'-S	4.21	1.81	1.75
4	R	175	LVS	C2'-S	3.96	1.80	1.75
4	P	175	LVS	C2'-S	3.93	1.80	1.75
4	H	175	LVS	O1'-S	3.75	1.49	1.44
4	N	175	LVS	O1'-S	3.65	1.49	1.44
4	G	175	LVS	O1'-S	3.62	1.49	1.44
4	G	175	LVS	O2'-S	3.55	1.49	1.44
4	H	175	LVS	O2'-S	3.55	1.49	1.44
4	M	175	LVS	O1'-S	3.45	1.48	1.44
4	P	175	LVS	O1'-S	3.31	1.48	1.44
4	O	175	LVS	O2'-S	3.30	1.48	1.44
4	J	175	LVS	O1'-S	3.19	1.48	1.44
4	Q	175	LVS	O2'-S	3.14	1.48	1.44
4	P	175	LVS	O2'-S	3.13	1.48	1.44
4	L	175	LVS	O2'-S	3.12	1.48	1.44
4	I	175	LVS	O1'-S	3.10	1.48	1.44
4	N	175	LVS	O2'-S	3.00	1.48	1.44
4	Q	175	LVS	O1'-S	2.98	1.48	1.44
4	K	175	LVS	O2'-S	2.98	1.48	1.44
4	M	175	LVS	O2'-S	2.94	1.48	1.44
4	J	175	LVS	O2'-S	2.72	1.47	1.44
4	R	175	LVS	O2'-S	2.58	1.47	1.44
3	E	454	ATP	C8-N7	-2.49	1.30	1.34
4	I	175	LVS	O2'-S	2.41	1.47	1.44
3	F	455	ATP	C8-N7	-2.35	1.30	1.34
4	O	175	LVS	O1'-S	2.21	1.47	1.44
3	A	450	ATP	C8-N7	-2.17	1.30	1.34

All (84) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	K	175	LVS	CS-CA3-N3	5.58	121.04	110.53
4	Q	175	LVS	CG3-CB3-CA3	5.56	129.22	115.34
4	N	175	LVS	CG3-CB3-CA3	5.47	128.99	115.34
4	L	175	LVS	CS-CA3-N3	5.47	120.84	110.53
4	M	175	LVS	CG3-CB3-CA3	5.34	128.67	115.34
4	P	175	LVS	CG3-CB3-CA3	5.25	128.45	115.34
4	G	175	LVS	CS-CA3-N3	5.17	120.27	110.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	I	175	LVS	CS-CA3-N3	5.12	120.19	110.53
4	H	175	LVS	CS-CA3-N3	5.09	120.12	110.53
4	J	175	LVS	CS-CA3-N3	4.80	119.57	110.53
4	R	175	LVS	CG3-CB3-CA3	4.77	127.24	115.34
4	O	175	LVS	CG3-CB3-CA3	4.63	126.89	115.34
4	O	175	LVS	CS-CA3-N3	4.62	119.23	110.53
4	R	175	LVS	CS-CA3-N3	4.17	118.38	110.53
4	Q	175	LVS	CS-CA3-N3	4.13	118.33	110.53
4	N	175	LVS	CS-CA3-N3	4.13	118.31	110.53
4	M	175	LVS	CS-CA3-N3	4.12	118.30	110.53
4	I	175	LVS	O1'-S-C1'	4.12	117.08	108.23
4	L	175	LVS	CG3-CB3-CA3	3.99	125.28	115.34
4	P	175	LVS	CS-CA3-N3	3.91	117.89	110.53
4	I	175	LVS	CG3-CB3-CA3	3.90	125.06	115.34
4	J	175	LVS	O1'-S-C1'	3.65	116.07	108.23
4	K	175	LVS	O1'-S-C1'	3.64	116.05	108.23
4	R	175	LVS	O1'-S-C1'	3.53	115.81	108.23
4	J	175	LVS	CG3-CB3-CA3	3.45	123.93	115.34
4	P	175	LVS	O1'-S-C1'	3.41	115.56	108.23
4	N	175	LVS	O1'-S-C1'	3.39	115.51	108.23
4	M	175	LVS	O1'-S-C1'	3.29	115.30	108.23
4	G	175	LVS	O1'-S-C1'	3.28	115.29	108.23
4	O	175	LVS	CG2-CB2-CA2	3.18	124.19	115.43
4	O	175	LVS	C2-CA2-N2	3.11	119.62	111.16
4	H	175	LVS	O1'-S-C1'	3.05	114.78	108.23
4	N	175	LVS	CG2-CB2-CA2	3.05	123.82	115.43
4	M	175	LVS	C2-CA2-N2	3.02	119.39	111.16
4	P	175	LVS	CG2-CB2-CA2	2.96	123.58	115.43
4	H	175	LVS	CG3-CB3-CA3	2.96	122.72	115.34
4	Q	175	LVS	O1'-S-C1'	2.95	114.58	108.23
4	O	175	LVS	O1'-S-C1'	2.87	114.39	108.23
4	N	175	LVS	C2-CA2-N2	2.83	118.85	111.16
4	G	175	LVS	CG3-CB3-CA3	2.77	122.24	115.34
4	K	175	LVS	CG3-CB3-CA3	2.76	122.21	115.34
4	R	175	LVS	CG2-CB2-CA2	2.75	122.99	115.43
4	P	175	LVS	C2-CA2-N2	2.65	118.38	111.16
4	M	175	LVS	CG2-CB2-CA2	2.64	122.69	115.43
4	J	175	LVS	CA3-CS-C2'	-2.57	112.13	125.92
4	Q	175	LVS	C2-CA2-N2	2.54	118.07	111.16
4	L	175	LVS	O1'-S-C1'	2.53	113.67	108.23
4	Q	175	LVS	CG2-CB2-CA2	2.51	122.34	115.43
4	R	175	LVS	C2-CA2-N2	2.47	117.88	111.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	Q	175	LVS	CA3-CS-C2'	-2.45	112.78	125.92
4	I	175	LVS	CA3-CS-C2'	-2.44	112.84	125.92
4	M	175	LVS	CA3-CS-C2'	-2.42	112.97	125.92
4	R	175	LVS	CA3-CS-C2'	-2.41	113.00	125.92
4	H	175	LVS	CA3-CS-C2'	-2.37	113.22	125.92
4	P	175	LVS	CA3-CS-C2'	-2.36	113.25	125.92
4	O	175	LVS	CA3-CS-C2'	-2.36	113.27	125.92
3	W	460	ATP	C5-C6-N6	2.31	123.86	120.35
4	G	175	LVS	CA3-CS-C2'	-2.30	113.60	125.92
3	W	460	ATP	O3G-PG-O2G	2.29	116.41	107.64
3	U	458	ATP	O3G-PG-O2G	2.29	116.38	107.64
4	N	175	LVS	CA3-CS-C2'	-2.28	113.69	125.92
3	V	459	ATP	C5-C6-N6	2.28	123.81	120.35
3	X	461	ATP	O3G-PG-O2G	2.28	116.34	107.64
3	S	456	ATP	O3G-PG-O2G	2.28	116.34	107.64
3	T	457	ATP	C5-C6-N6	2.26	123.78	120.35
3	T	457	ATP	O3G-PG-O2G	2.24	116.20	107.64
3	V	459	ATP	O3G-PG-O2G	2.22	116.13	107.64
4	L	175	LVS	CA3-CS-C2'	-2.19	114.20	125.92
4	K	175	LVS	CA3-CS-C2'	-2.18	114.21	125.92
3	S	456	ATP	C5-C6-N6	2.17	123.65	120.35
4	O	175	LVS	CB2-CA2-C2	-2.16	105.42	110.57
3	U	458	ATP	C5-C6-N6	2.16	123.63	120.35
4	N	175	LVS	CB2-CA2-C2	-2.15	105.44	110.57
3	X	461	ATP	C5-C6-N6	2.15	123.62	120.35
3	B	451	ATP	C5-C6-N6	2.15	123.61	120.35
4	J	175	LVS	CA2-N2-C1	-2.13	117.09	121.67
3	D	453	ATP	O3G-PG-O2G	2.11	115.70	107.64
3	F	455	ATP	O3G-PG-O2G	2.10	115.66	107.64
3	A	450	ATP	O3G-PG-O2G	2.06	115.50	107.64
4	K	175	LVS	CA1-C1-N2	2.05	119.00	116.15
3	C	452	ATP	PB-O3B-PG	2.05	139.85	132.83
3	B	451	ATP	O3G-PG-O2G	2.05	115.45	107.64
3	C	452	ATP	O3G-PG-O2G	2.02	115.36	107.64
4	R	175	LVS	O2'-S-C1'	2.01	112.55	108.23

There are no chirality outliers.

All (140) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	450	ATP	PB-O3B-PG-O2G
3	B	451	ATP	PB-O3B-PG-O2G

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Mol	Chain	Res	Type	Atoms
3	B	451	ATP	C5'-O5'-PA-O1A
3	B	451	ATP	C5'-O5'-PA-O2A
3	C	452	ATP	PB-O3B-PG-O2G
3	D	453	ATP	PB-O3B-PG-O2G
3	F	455	ATP	PB-O3B-PG-O2G
3	S	456	ATP	C5'-O5'-PA-O1A
4	G	175	LVS	C1-CA1-CB1-CG1
4	G	175	LVS	N1-CA1-CB1-CG1
4	G	175	LVS	CS-CA3-N3-C2
4	G	175	LVS	S-C2'-CS-CA3
4	H	175	LVS	C1-CA1-CB1-CG1
4	H	175	LVS	N1-CA1-CB1-CG1
4	H	175	LVS	CS-CA3-N3-C2
4	H	175	LVS	CS-CA3-CB3-CG3
4	H	175	LVS	S-C2'-CS-CA3
4	I	175	LVS	C1-CA1-CB1-CG1
4	I	175	LVS	N1-CA1-CB1-CG1
4	I	175	LVS	CS-CA3-N3-C2
4	I	175	LVS	S-C2'-CS-CA3
4	J	175	LVS	C1-CA1-CB1-CG1
4	J	175	LVS	N1-CA1-CB1-CG1
4	J	175	LVS	CS-CA3-N3-C2
4	J	175	LVS	CB3-CA3-N3-C2
4	J	175	LVS	S-C2'-CS-CA3
4	K	175	LVS	C1-CA1-CB1-CG1
4	K	175	LVS	N1-CA1-CB1-CG1
4	K	175	LVS	CS-CA3-CB3-CG3
4	K	175	LVS	S-C2'-CS-CA3
4	L	175	LVS	C1-CA1-CB1-CG1
4	L	175	LVS	N1-CA1-CB1-CG1
4	L	175	LVS	CS-CA3-N3-C2
4	L	175	LVS	CS-CA3-CB3-CG3
4	L	175	LVS	S-C2'-CS-CA3
4	M	175	LVS	C1-CA1-CB1-CG1
4	M	175	LVS	S-C2'-CS-CA3
4	N	175	LVS	S-C2'-CS-CA3
4	O	175	LVS	C1-CA1-CB1-CG1
4	O	175	LVS	S-C2'-CS-CA3
4	P	175	LVS	S-C2'-CS-CA3
4	Q	175	LVS	S-C2'-CS-CA3
4	R	175	LVS	C1-CA1-CB1-CG1
4	R	175	LVS	S-C2'-CS-CA3

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Mol	Chain	Res	Type	Atoms
4	J	175	LVS	O2-C2-CA2-CB2
4	H	175	LVS	N3-CA3-CB3-CG3
4	K	175	LVS	N3-CA3-CB3-CG3
3	E	454	ATP	PB-O3B-PG-O1G
4	K	175	LVS	O2-C2-CA2-N2
4	L	175	LVS	O2-C2-CA2-N2
4	G	175	LVS	N3-C2-CA2-N2
4	G	175	LVS	N3-CA3-CB3-CG3
4	J	175	LVS	N3-C2-CA2-CB2
4	G	175	LVS	O2-C2-CA2-N2
4	I	175	LVS	O2-C2-CA2-N2
3	C	452	ATP	PA-O3A-PB-O1B
3	D	453	ATP	PG-O3B-PB-O1B
4	K	175	LVS	N3-C2-CA2-N2
4	L	175	LVS	N3-C2-CA2-N2
4	I	175	LVS	N3-C2-CA2-N2
4	L	175	LVS	O2-C2-CA2-CB2
4	I	175	LVS	N3-CA3-CB3-CG3
4	L	175	LVS	N3-CA3-CB3-CG3
4	H	175	LVS	O2-C2-CA2-N2
4	J	175	LVS	O2-C2-CA2-N2
4	K	175	LVS	O2-C2-CA2-CB2
4	I	175	LVS	O2-C2-CA2-CB2
4	O	175	LVS	N2-CA2-CB2-CG2
4	L	175	LVS	N3-C2-CA2-CB2
4	H	175	LVS	N3-C2-CA2-N2
4	J	175	LVS	N3-C2-CA2-N2
3	B	451	ATP	PB-O3B-PG-O3G
3	E	454	ATP	PB-O3B-PG-O2G
4	I	175	LVS	N3-C2-CA2-CB2
4	G	175	LVS	O2-C2-CA2-CB2
3	B	451	ATP	PG-O3B-PB-O1B
4	M	175	LVS	N1-CA1-CB1-CG1
4	O	175	LVS	N1-CA1-CB1-CG1
4	P	175	LVS	N1-CA1-CB1-CG1
4	Q	175	LVS	N1-CA1-CB1-CG1
4	R	175	LVS	N1-CA1-CB1-CG1
4	K	175	LVS	N3-C2-CA2-CB2
4	N	175	LVS	C1-CA1-CB1-CG1
4	P	175	LVS	C1-CA1-CB1-CG1
4	Q	175	LVS	C1-CA1-CB1-CG1
4	G	175	LVS	CB3-CA3-N3-C2

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Mol	Chain	Res	Type	Atoms
4	I	175	LVS	CB3-CA3-N3-C2
4	K	175	LVS	CS-CA3-N3-C2
4	L	175	LVS	CB3-CA3-N3-C2
4	G	175	LVS	N3-C2-CA2-CB2
4	G	175	LVS	CS-C2'-S-O2'
4	H	175	LVS	O2-C2-CA2-CB2
4	M	175	LVS	N2-CA2-CB2-CG2
3	D	453	ATP	PG-O3B-PB-O2B
3	D	453	ATP	PA-O3A-PB-O2B
3	E	454	ATP	PG-O3B-PB-O2B
3	U	458	ATP	PA-O3A-PB-O2B
4	P	175	LVS	N2-CA2-CB2-CG2
4	J	175	LVS	N3-CA3-CB3-CG3
4	H	175	LVS	CA2-CB2-CG2-CD3
4	H	175	LVS	N3-C2-CA2-CB2
4	N	175	LVS	N2-CA2-CB2-CG2
4	G	175	LVS	CA2-CB2-CG2-CD4
4	G	175	LVS	CA2-CB2-CG2-CD3
4	G	175	LVS	CS-CA3-CB3-CG3
4	I	175	LVS	CS-CA3-CB3-CG3
4	J	175	LVS	CS-CA3-CB3-CG3
3	F	455	ATP	O4'-C4'-C5'-O5'
3	C	452	ATP	PA-O3A-PB-O2B
3	D	453	ATP	PA-O3A-PB-O1B
3	W	460	ATP	C3'-C4'-C5'-O5'
3	B	451	ATP	PB-O3B-PG-O1G
3	C	452	ATP	PB-O3B-PG-O1G
4	R	175	LVS	N2-CA2-CB2-CG2
3	A	450	ATP	PB-O3B-PG-O3G
3	C	452	ATP	PB-O3B-PG-O3G
3	F	455	ATP	PB-O3B-PG-O3G
3	B	451	ATP	C5'-O5'-PA-O3A
3	A	450	ATP	O4'-C4'-C5'-O5'
3	C	452	ATP	O4'-C4'-C5'-O5'
3	D	453	ATP	O4'-C4'-C5'-O5'
3	B	451	ATP	PG-O3B-PB-O2B
3	B	451	ATP	PB-O3A-PA-O1A
3	E	454	ATP	PG-O3B-PB-O1B
3	E	454	ATP	PA-O3A-PB-O1B
3	E	454	ATP	PA-O3A-PB-O2B
3	U	458	ATP	PG-O3B-PB-O1B
3	W	460	ATP	PA-O3A-PB-O1B

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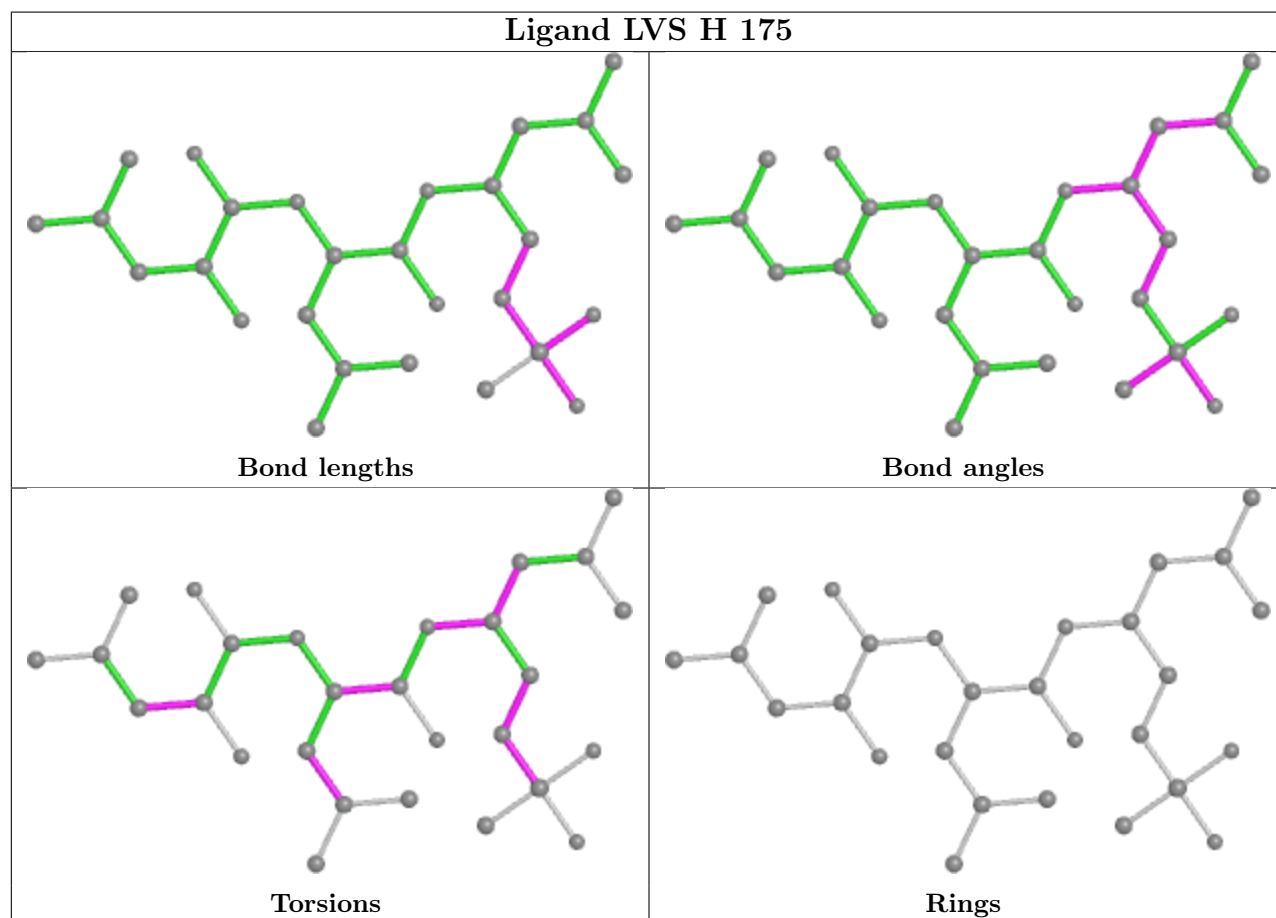
Mol	Chain	Res	Type	Atoms
3	W	460	ATP	PA-O3A-PB-O2B
4	N	175	LVS	N1-CA1-CB1-CG1
4	Q	175	LVS	N2-CA2-CB2-CG2
4	Q	175	LVS	CA2-CB2-CG2-CD3
3	U	458	ATP	C5'-O5'-PA-O1A
3	B	451	ATP	O4'-C4'-C5'-O5'
3	E	454	ATP	O4'-C4'-C5'-O5'
3	D	453	ATP	PB-O3B-PG-O1G
3	F	455	ATP	PB-O3B-PG-O1G
4	H	175	LVS	CB3-CA3-N3-C2
4	K	175	LVS	CB3-CA3-N3-C2
4	H	175	LVS	CS-C2'-S-O2'

There are no ring outliers.

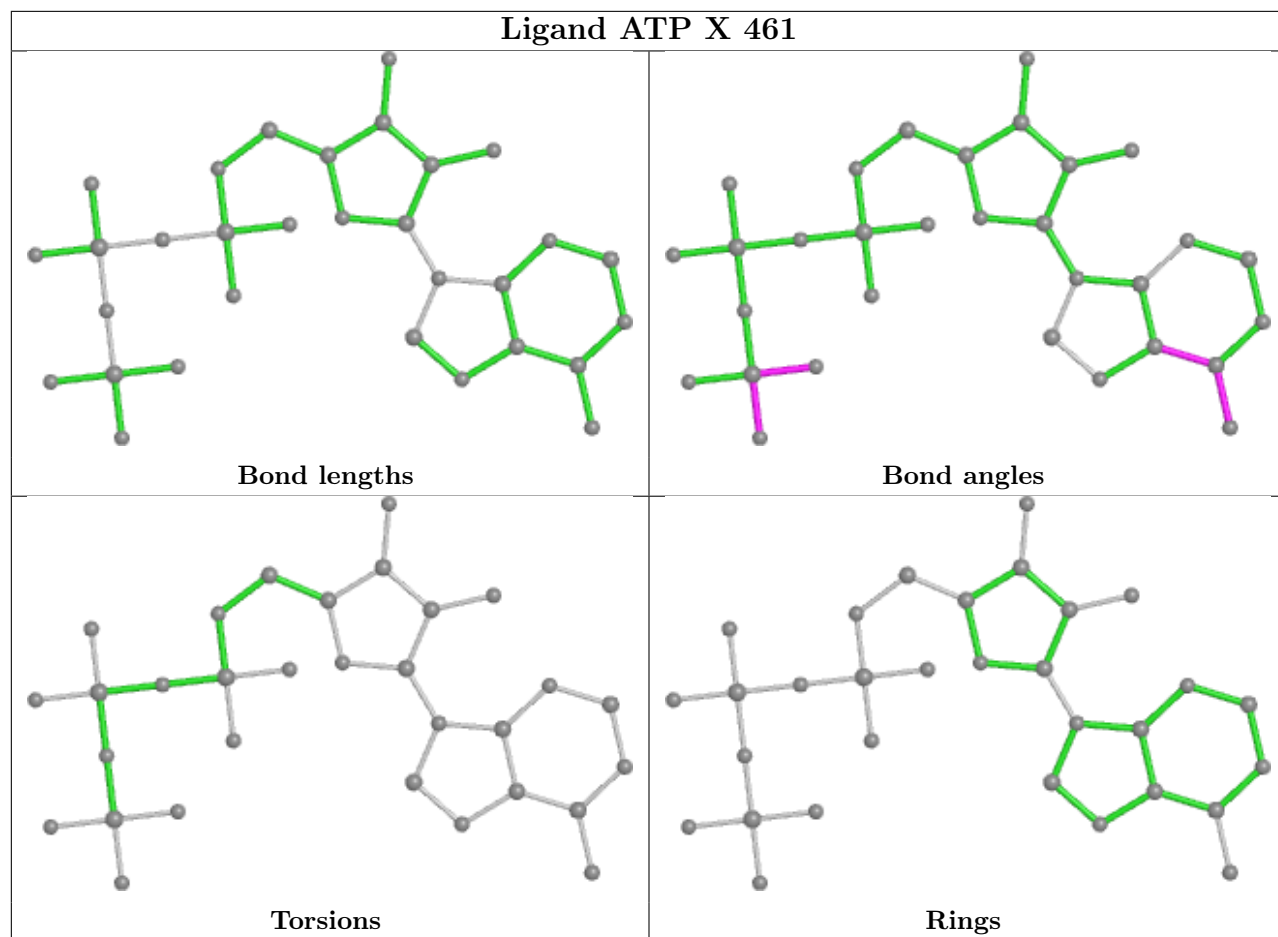
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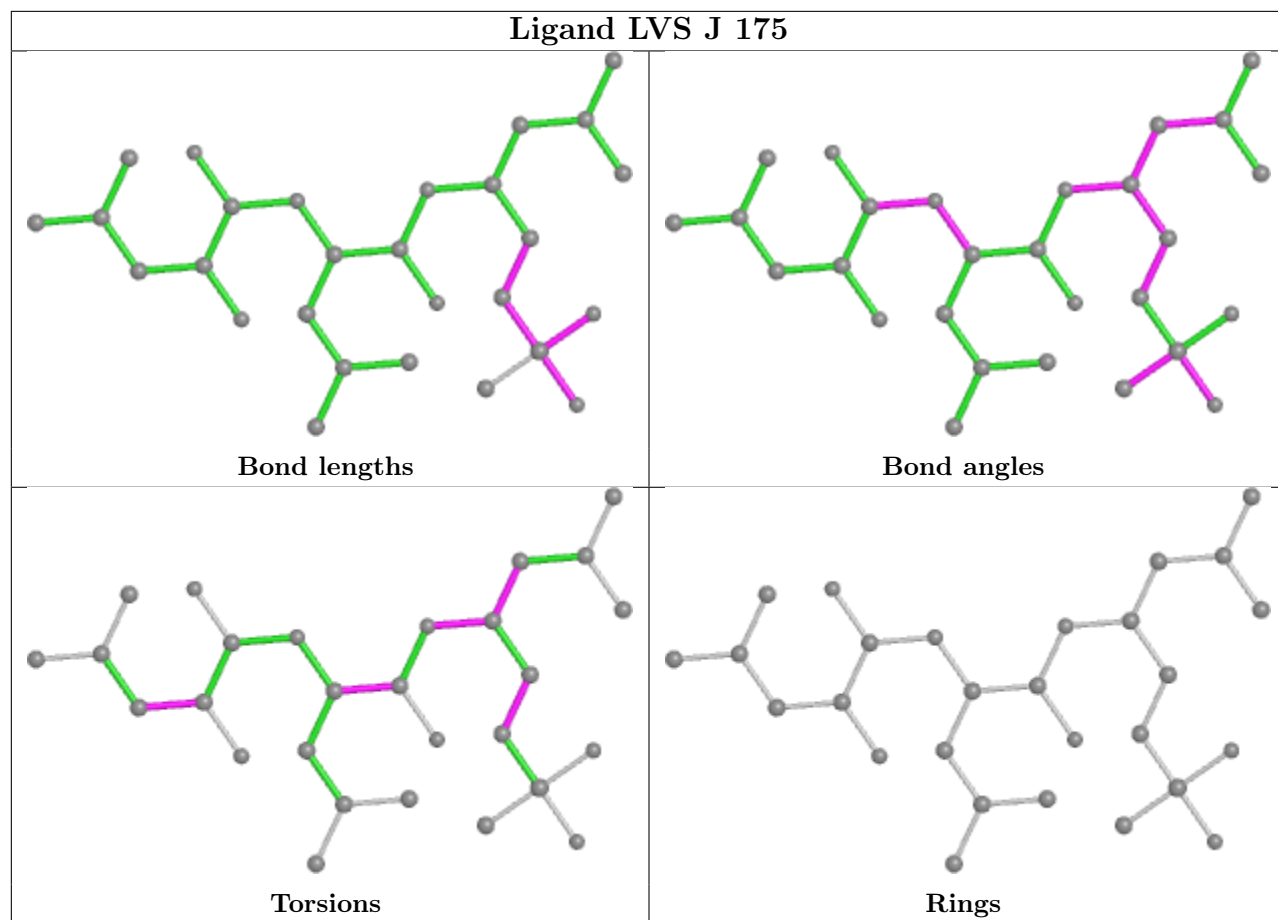
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	H	175	LVS	14	0
3	X	461	ATP	3	0
4	J	175	LVS	22	0
3	W	460	ATP	4	0
4	N	175	LVS	15	0
3	F	455	ATP	4	0
3	C	452	ATP	8	0
4	L	175	LVS	14	0
4	P	175	LVS	12	0
4	M	175	LVS	12	0
3	V	459	ATP	2	0
4	Q	175	LVS	13	0
3	A	450	ATP	3	0
4	I	175	LVS	16	0
3	E	454	ATP	6	0
3	D	453	ATP	5	0
3	S	456	ATP	3	0
3	U	458	ATP	5	0
4	K	175	LVS	17	0
4	O	175	LVS	11	0
4	R	175	LVS	12	0
3	T	457	ATP	4	0
3	B	451	ATP	5	0
4	G	175	LVS	15	0

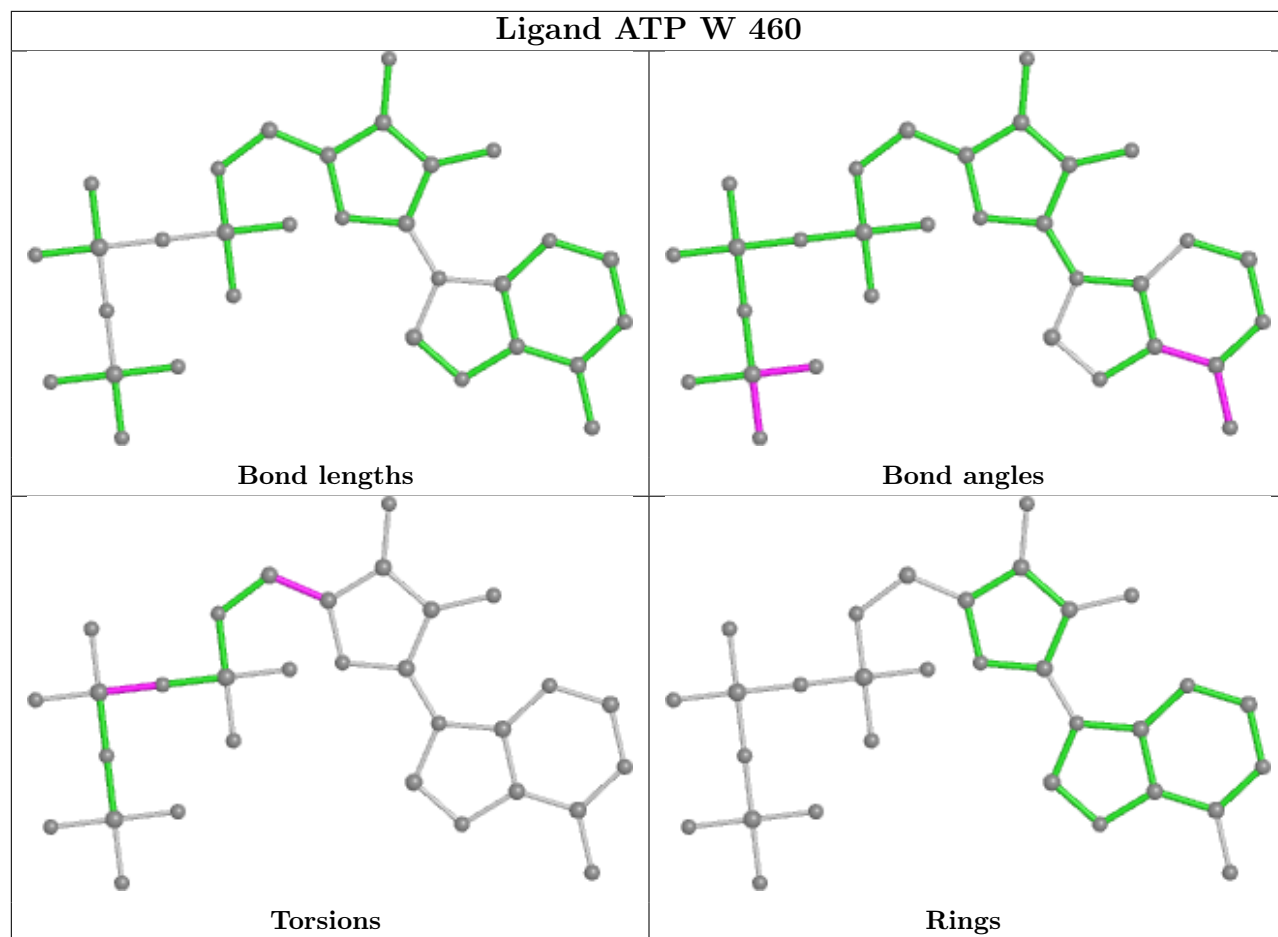
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

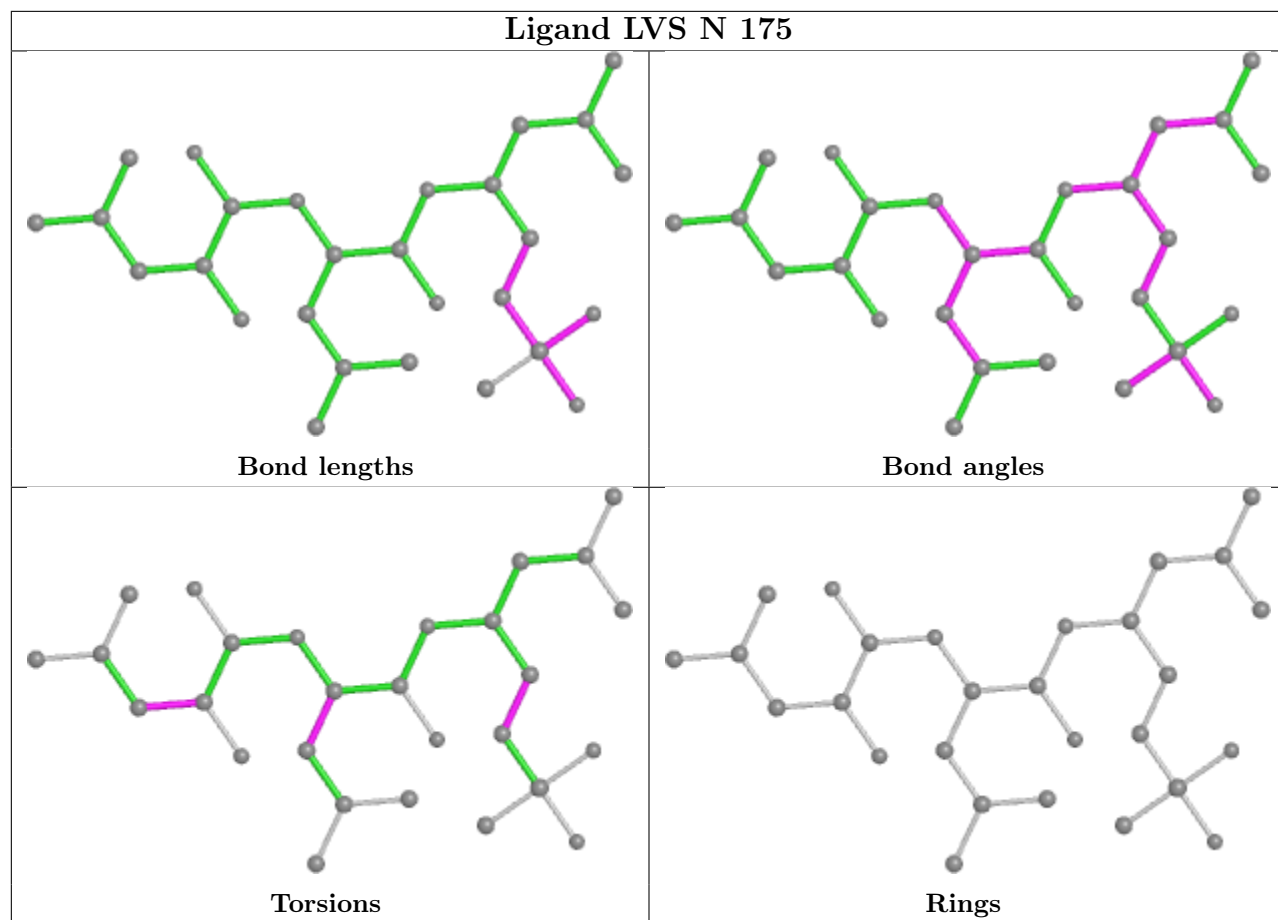


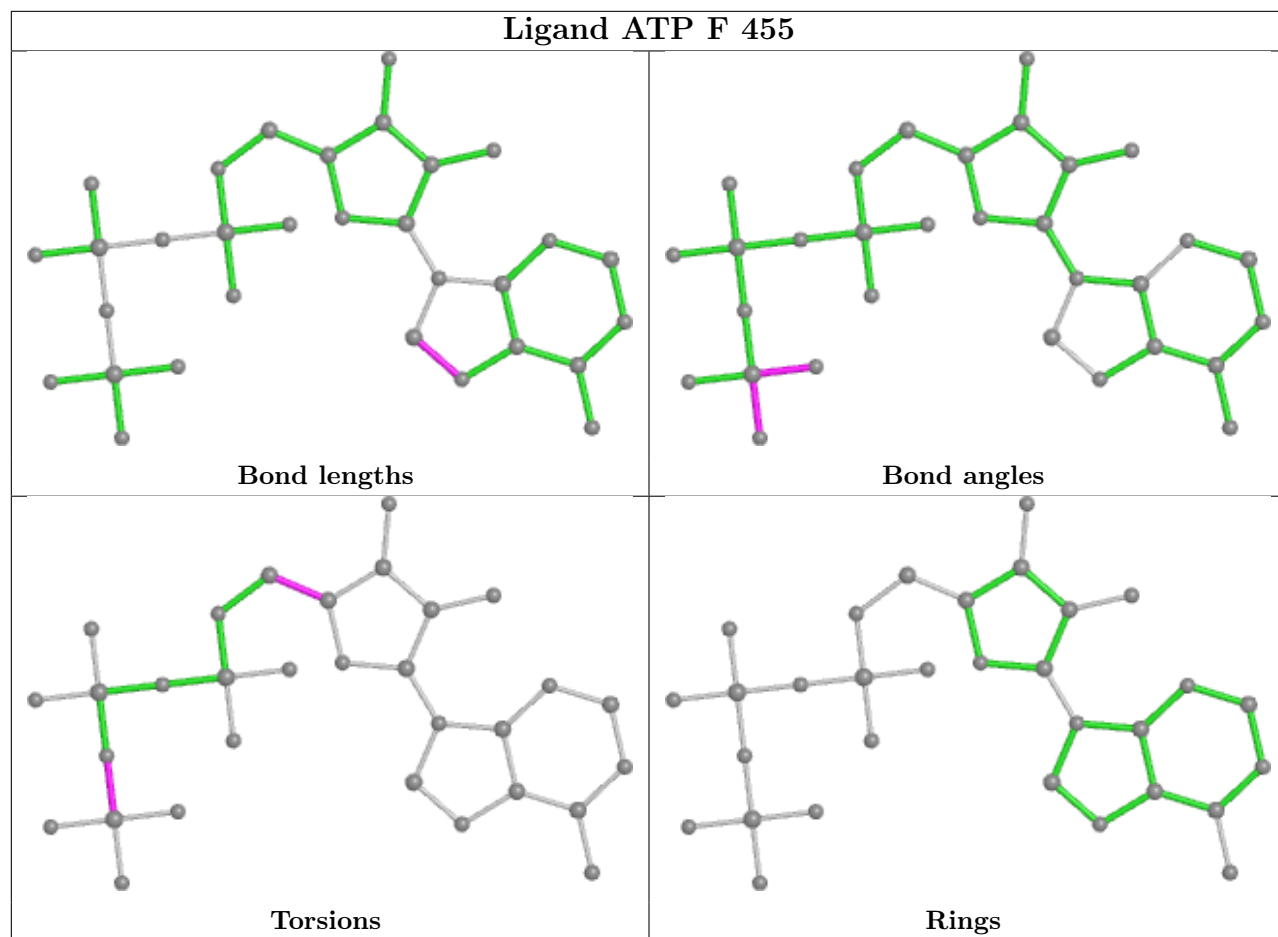


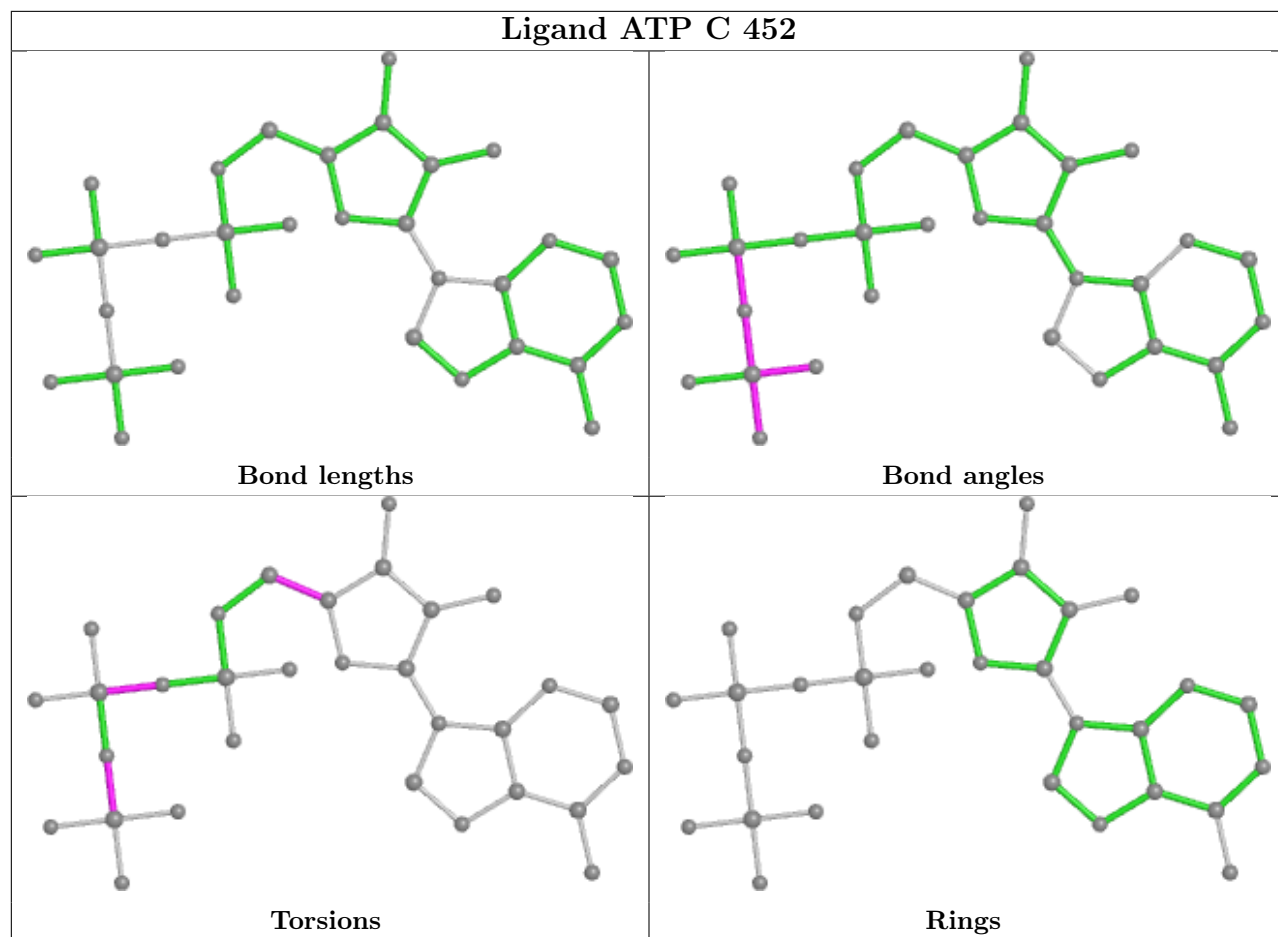


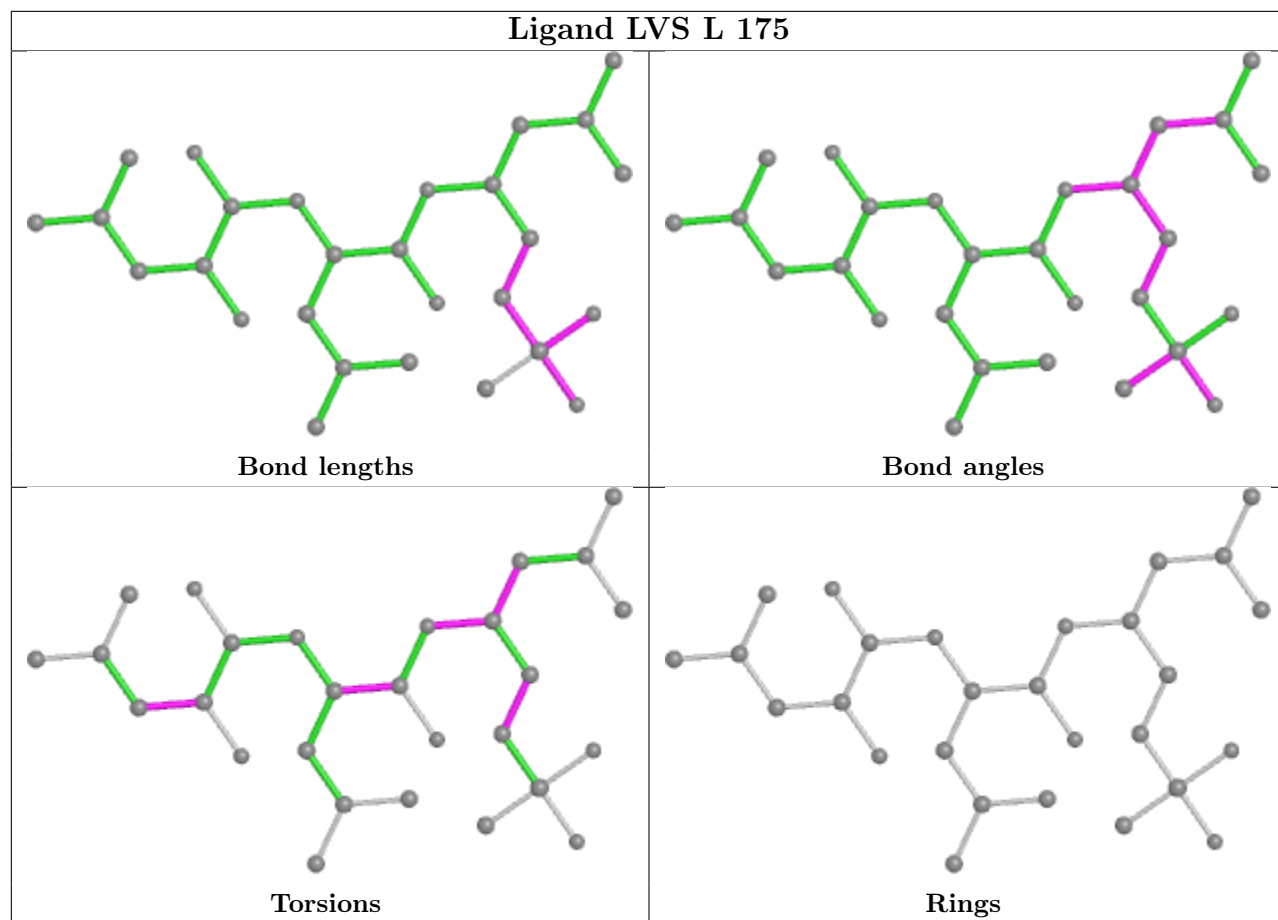


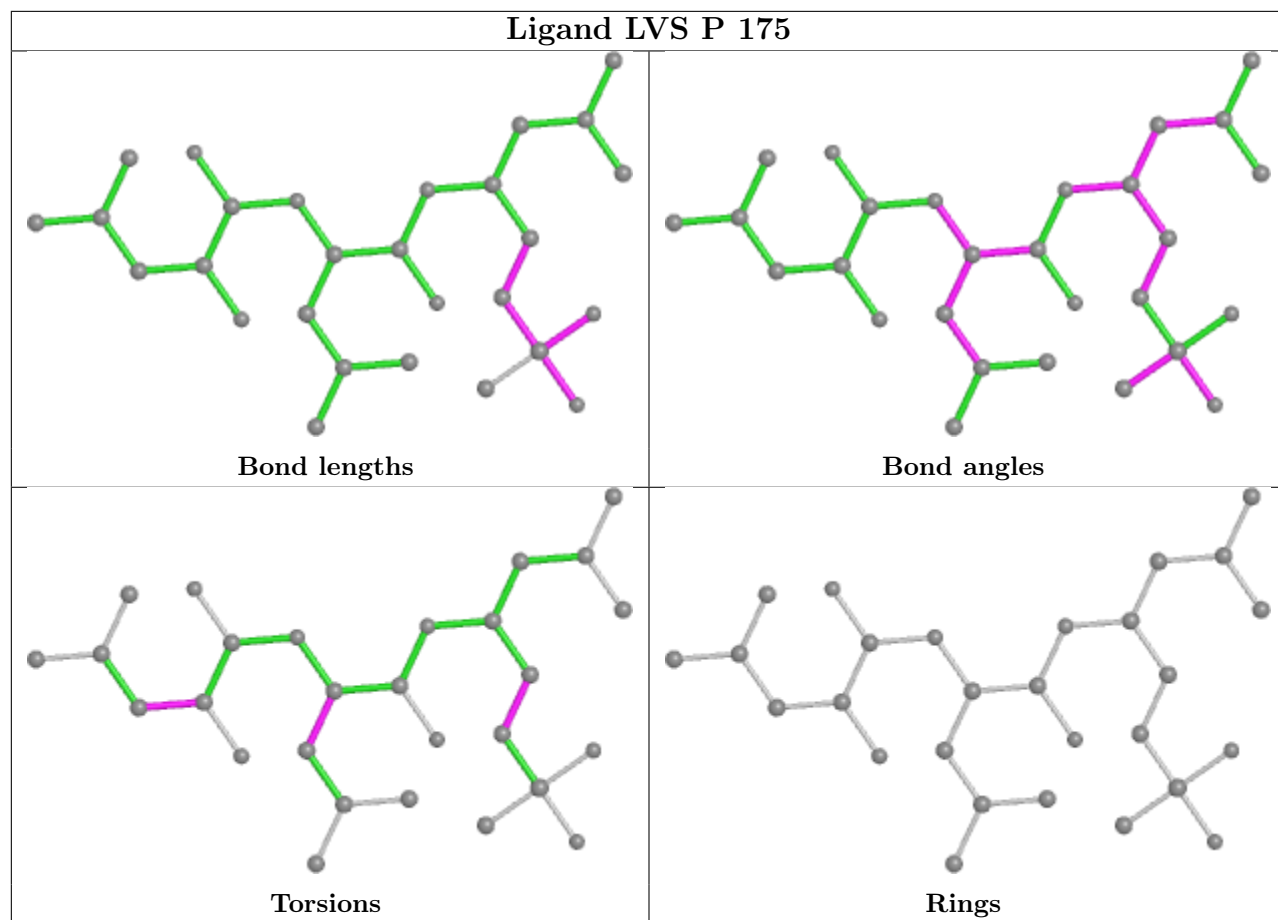




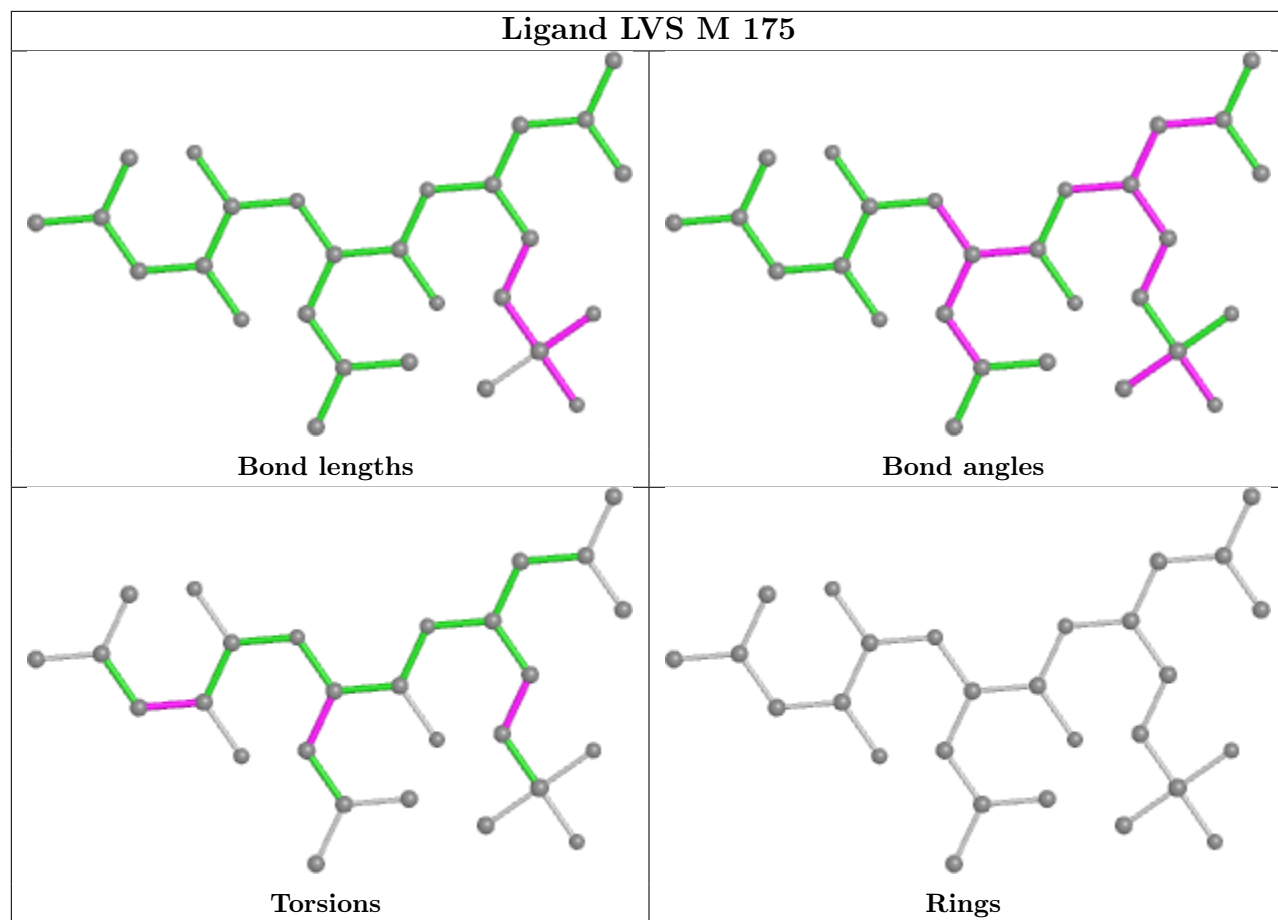


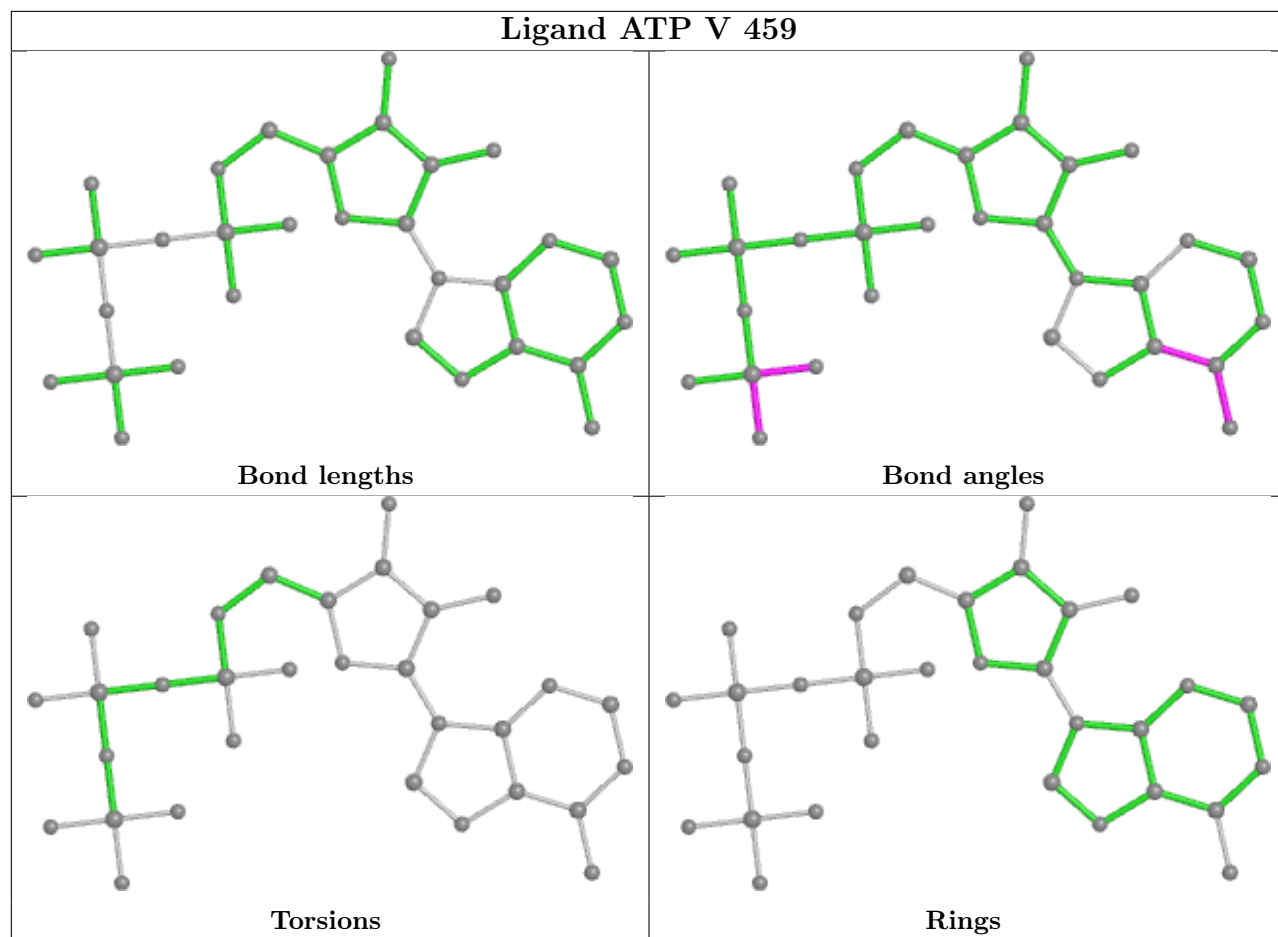


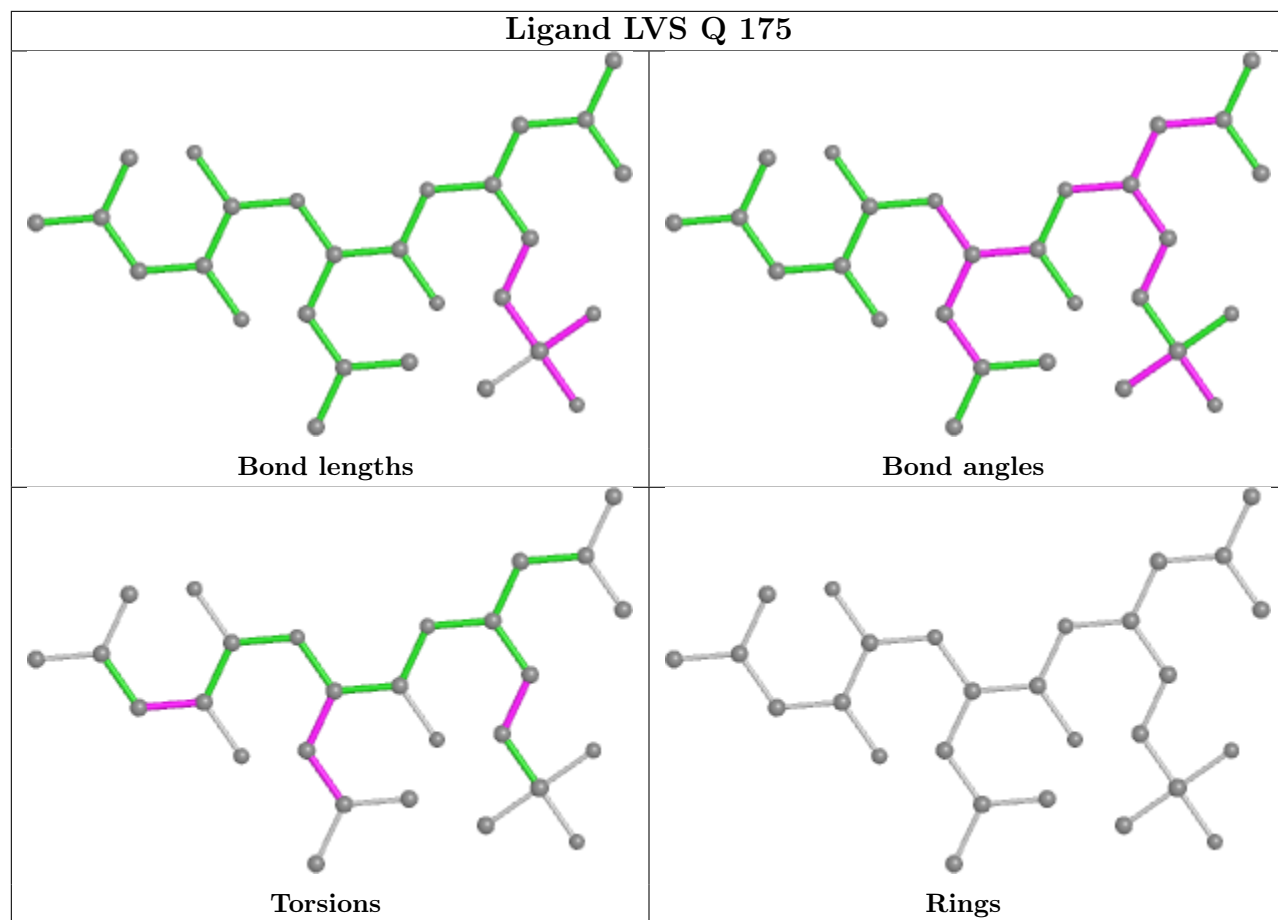


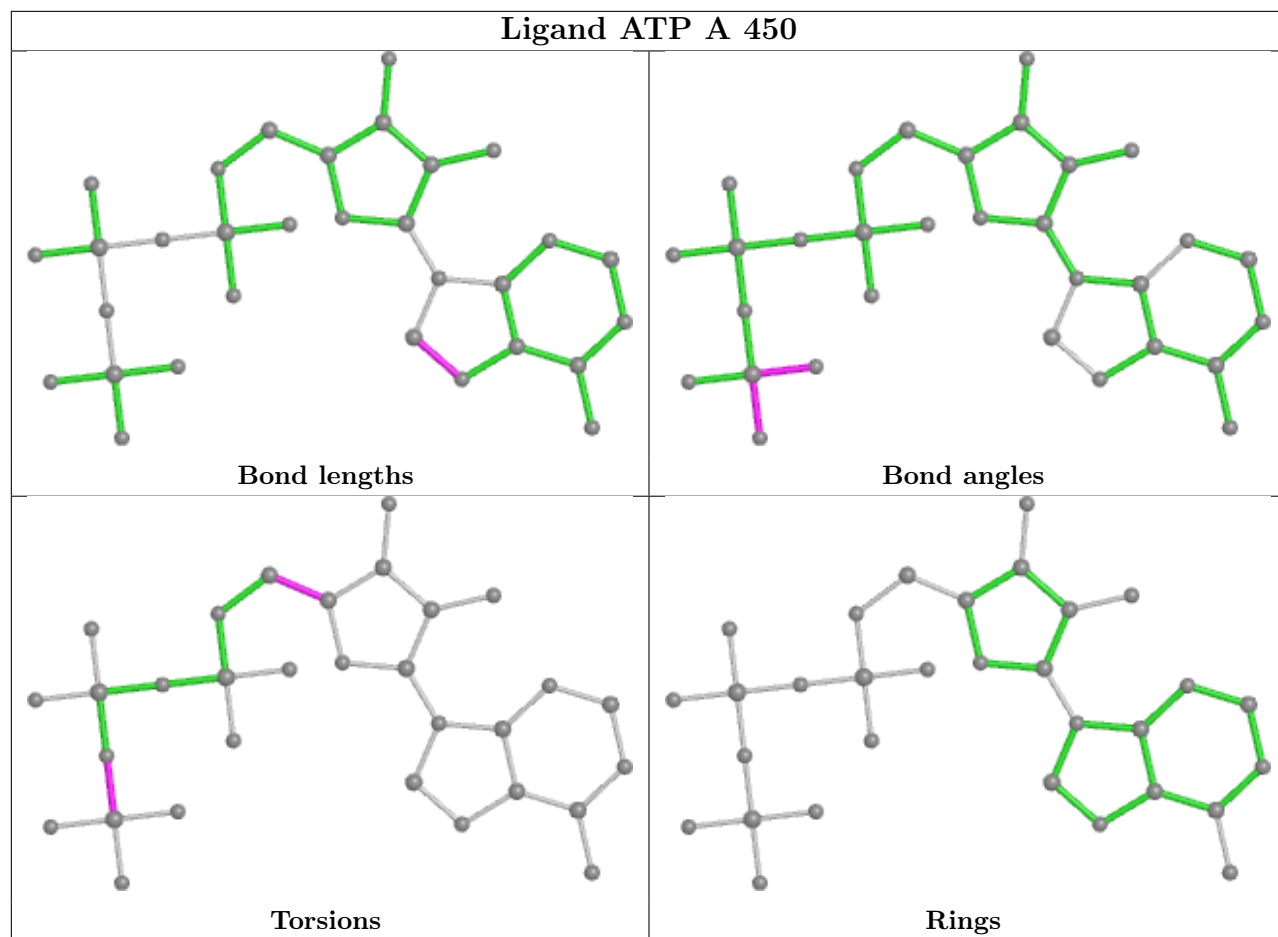


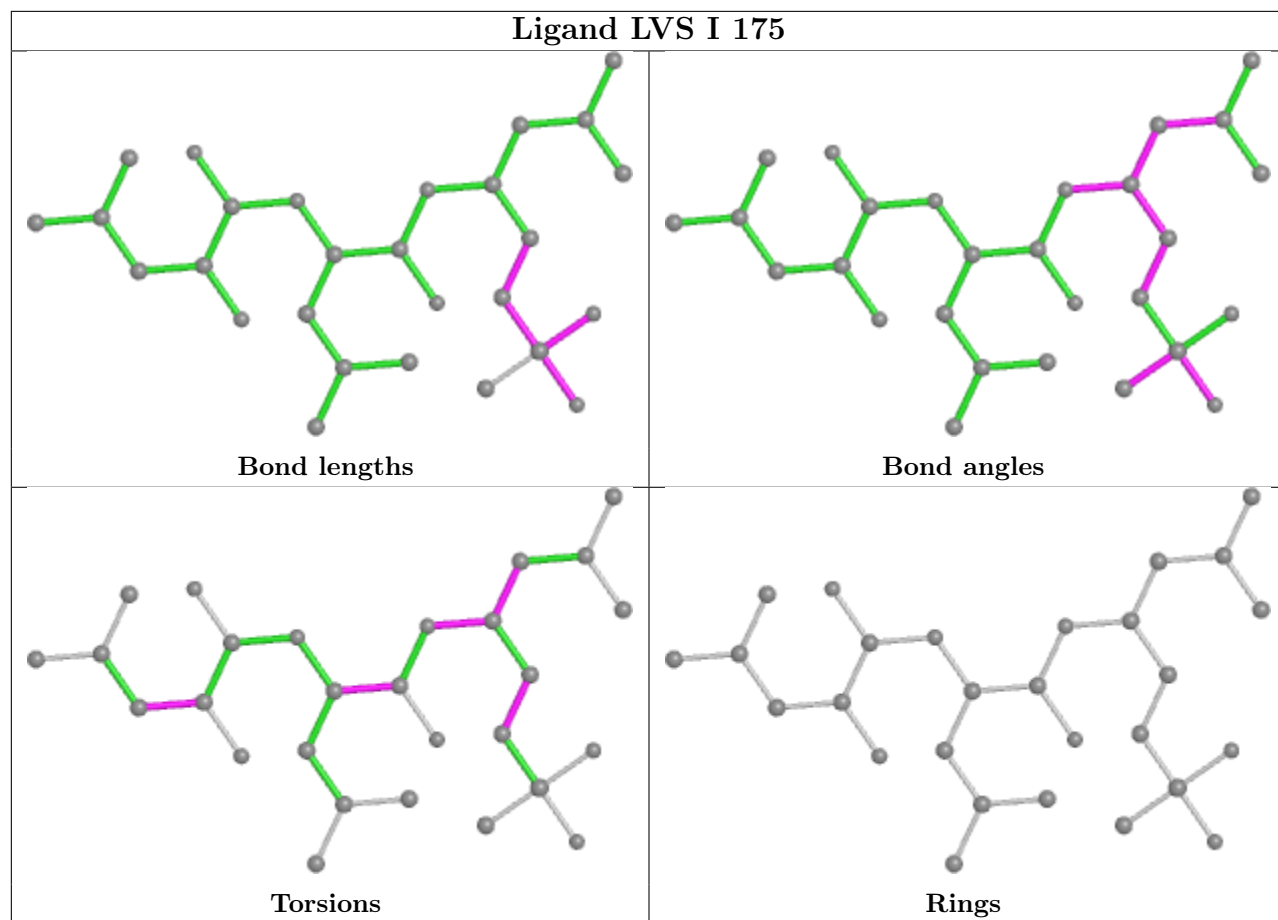


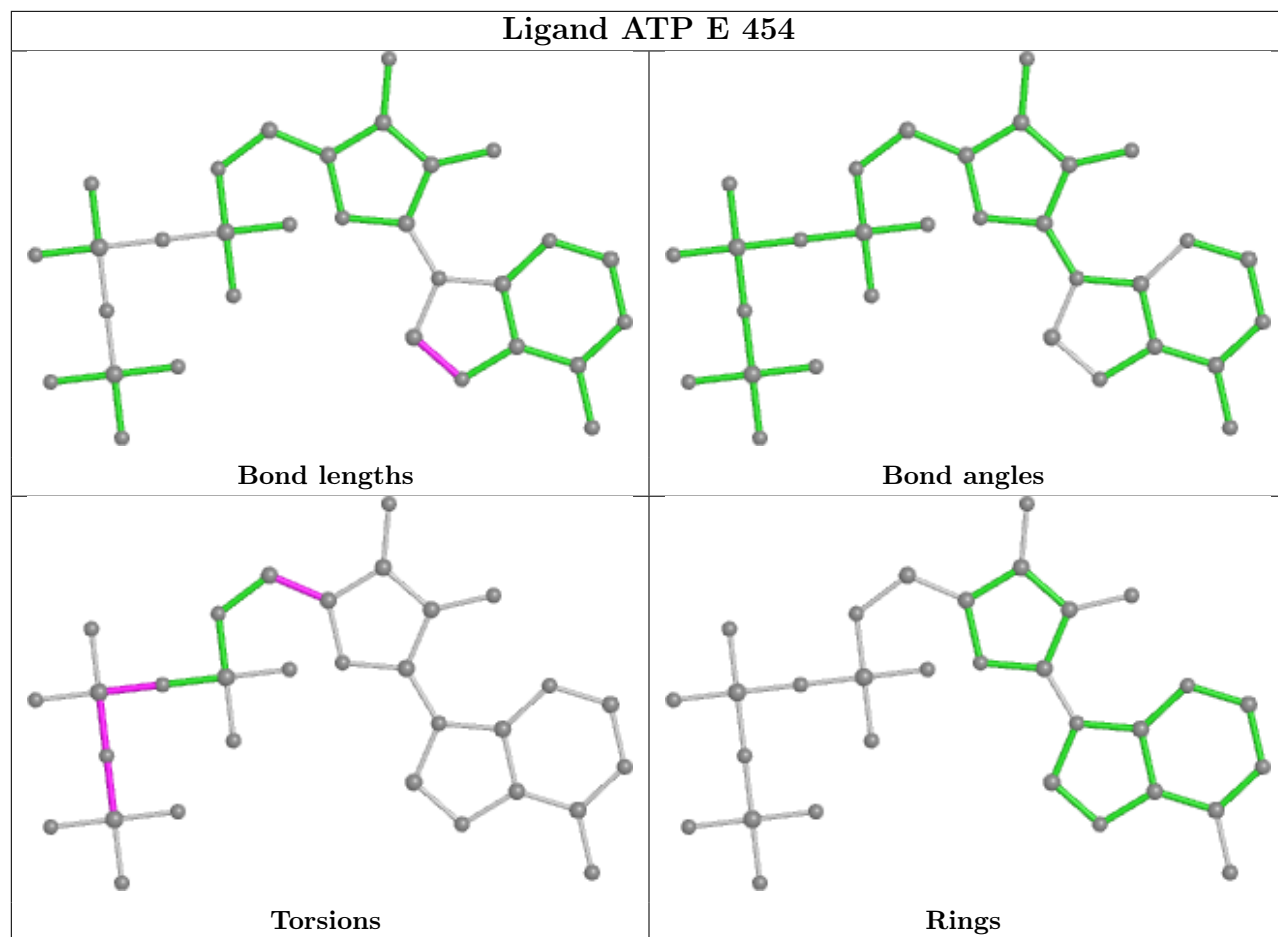


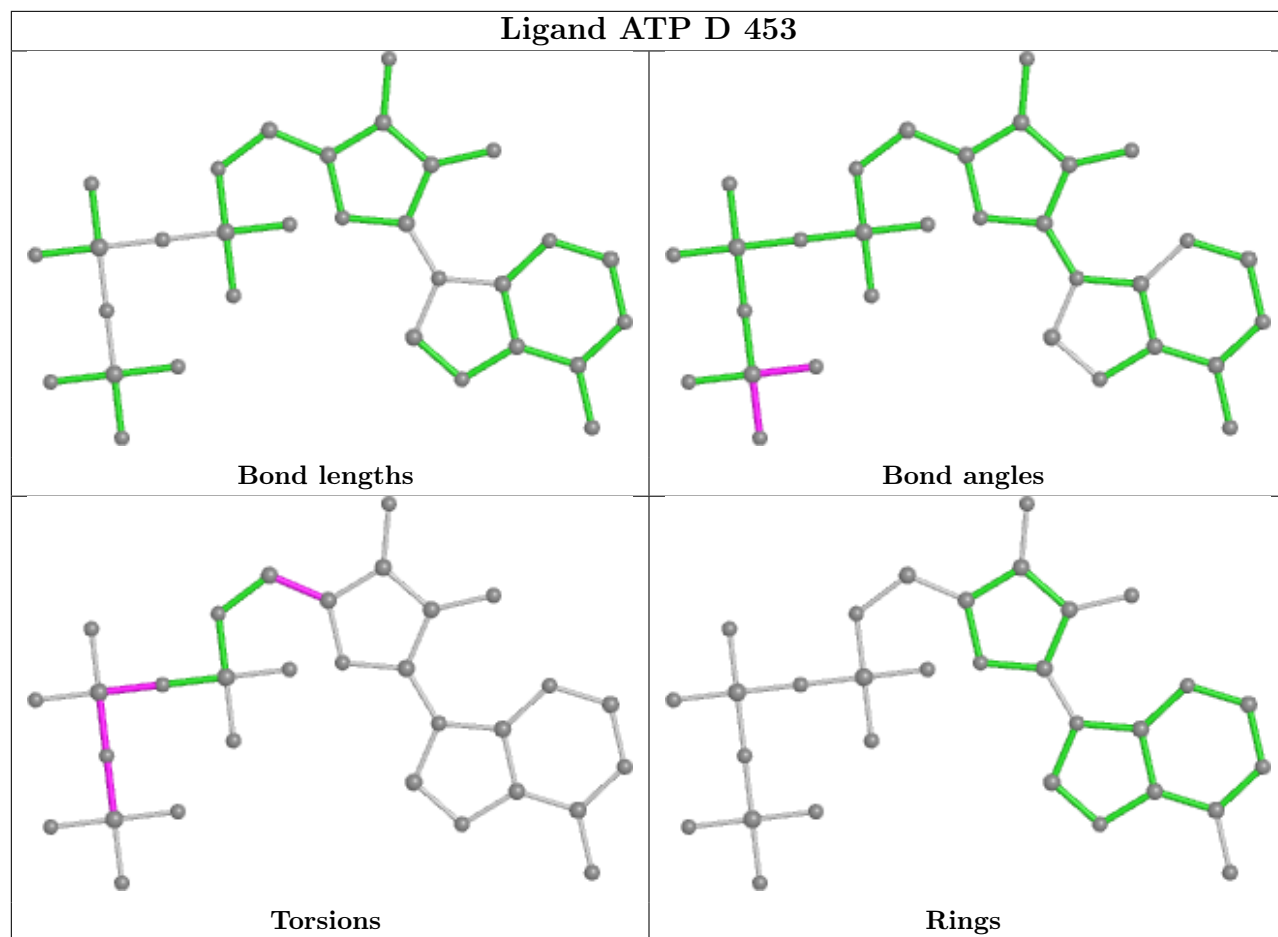


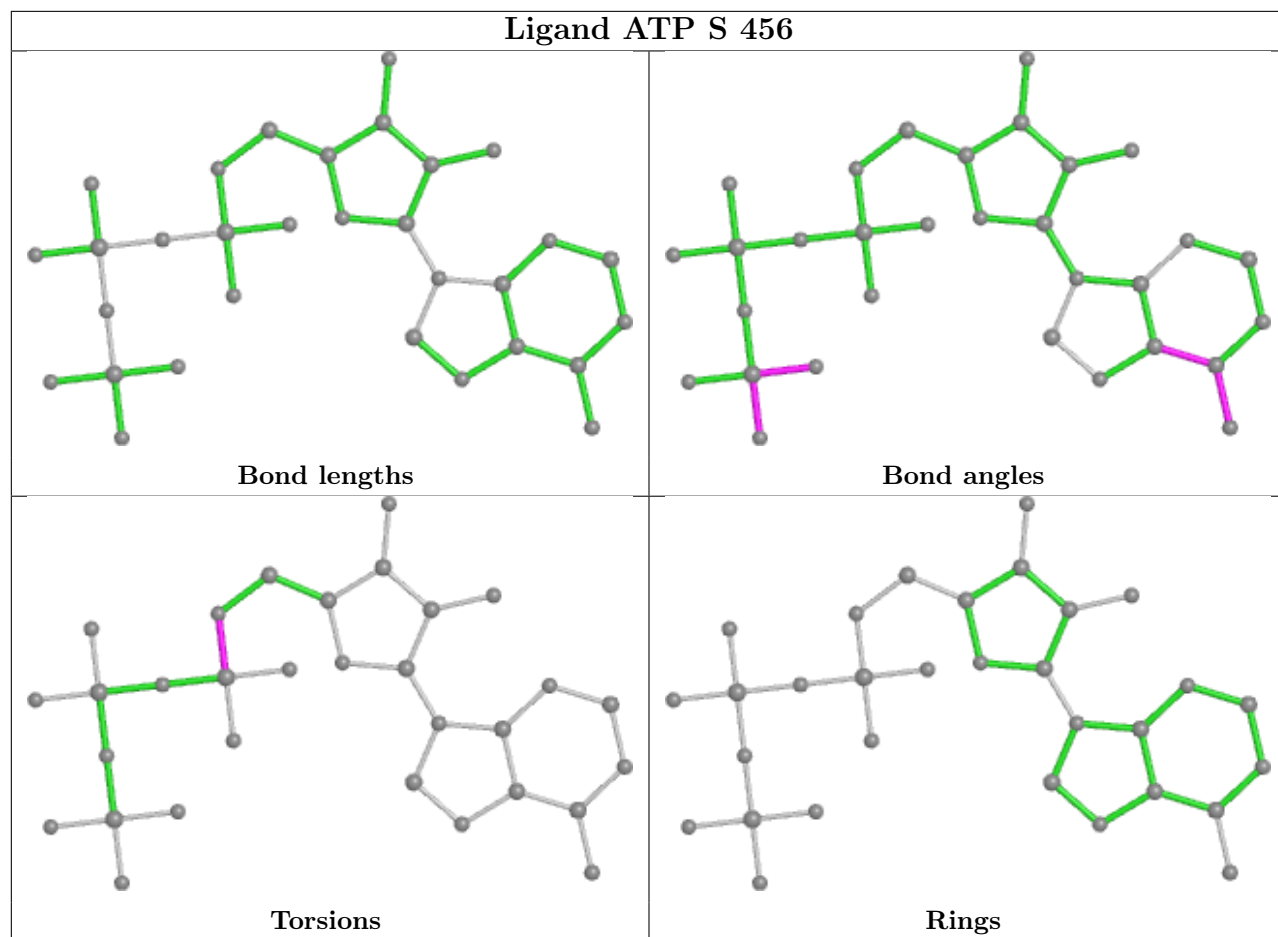




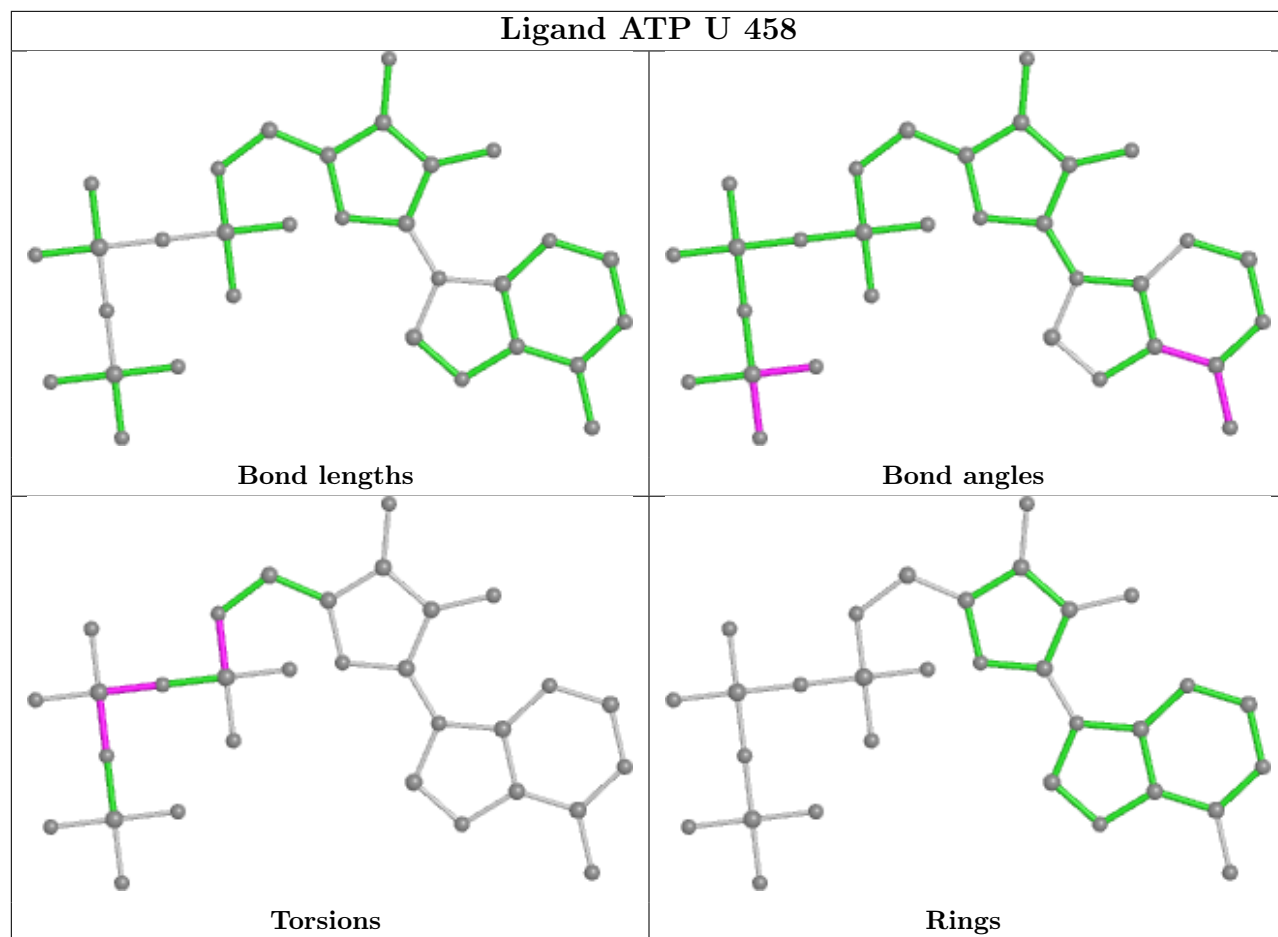


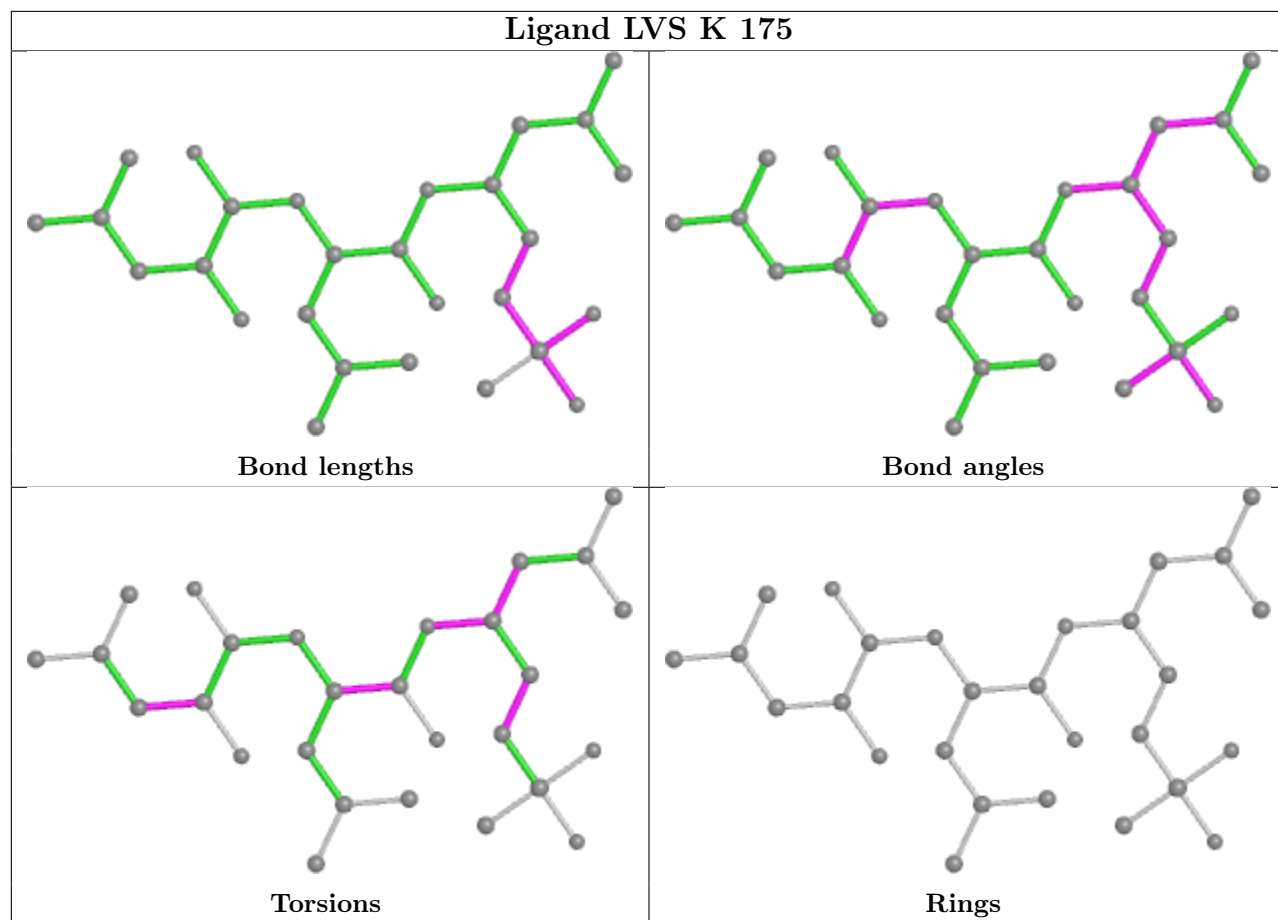


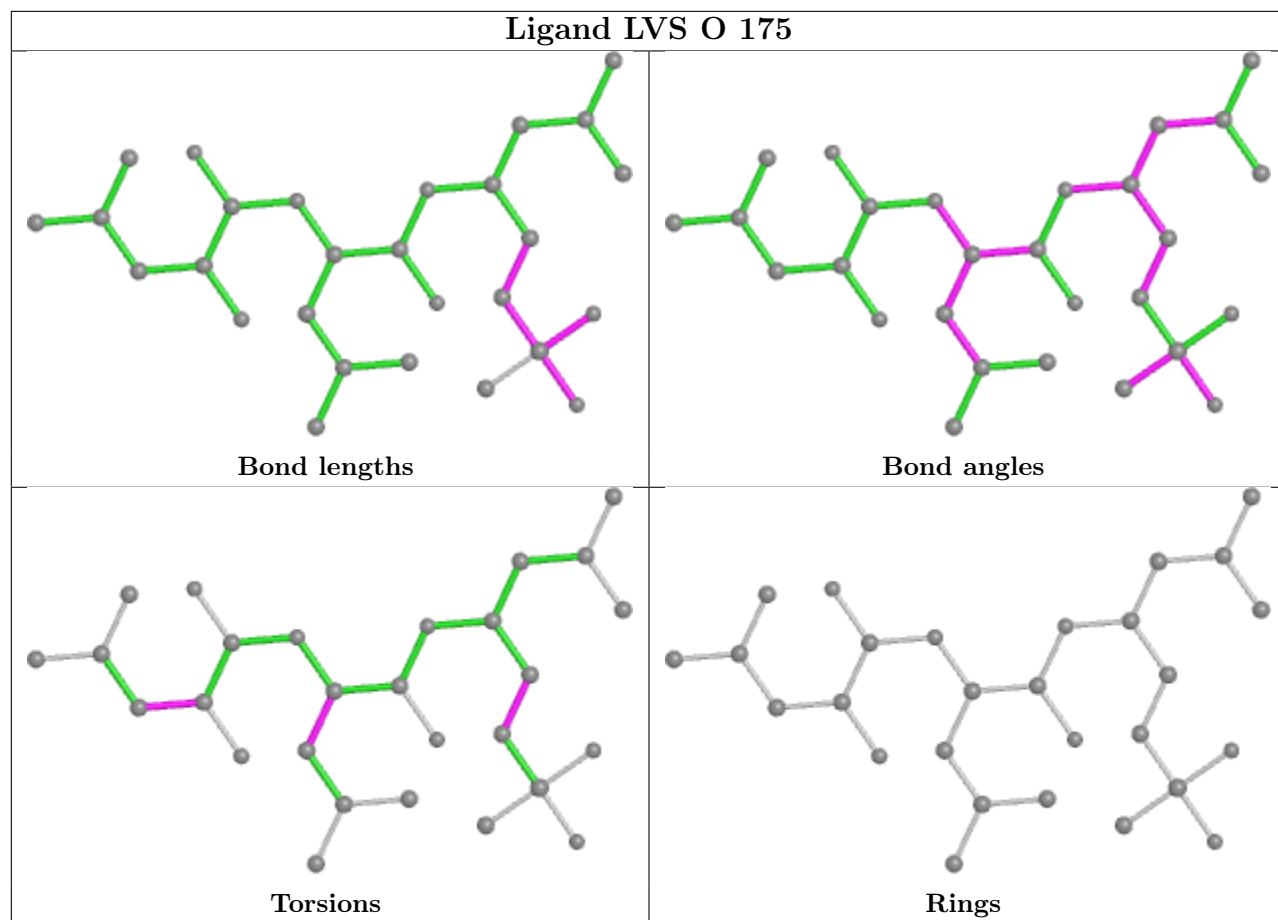


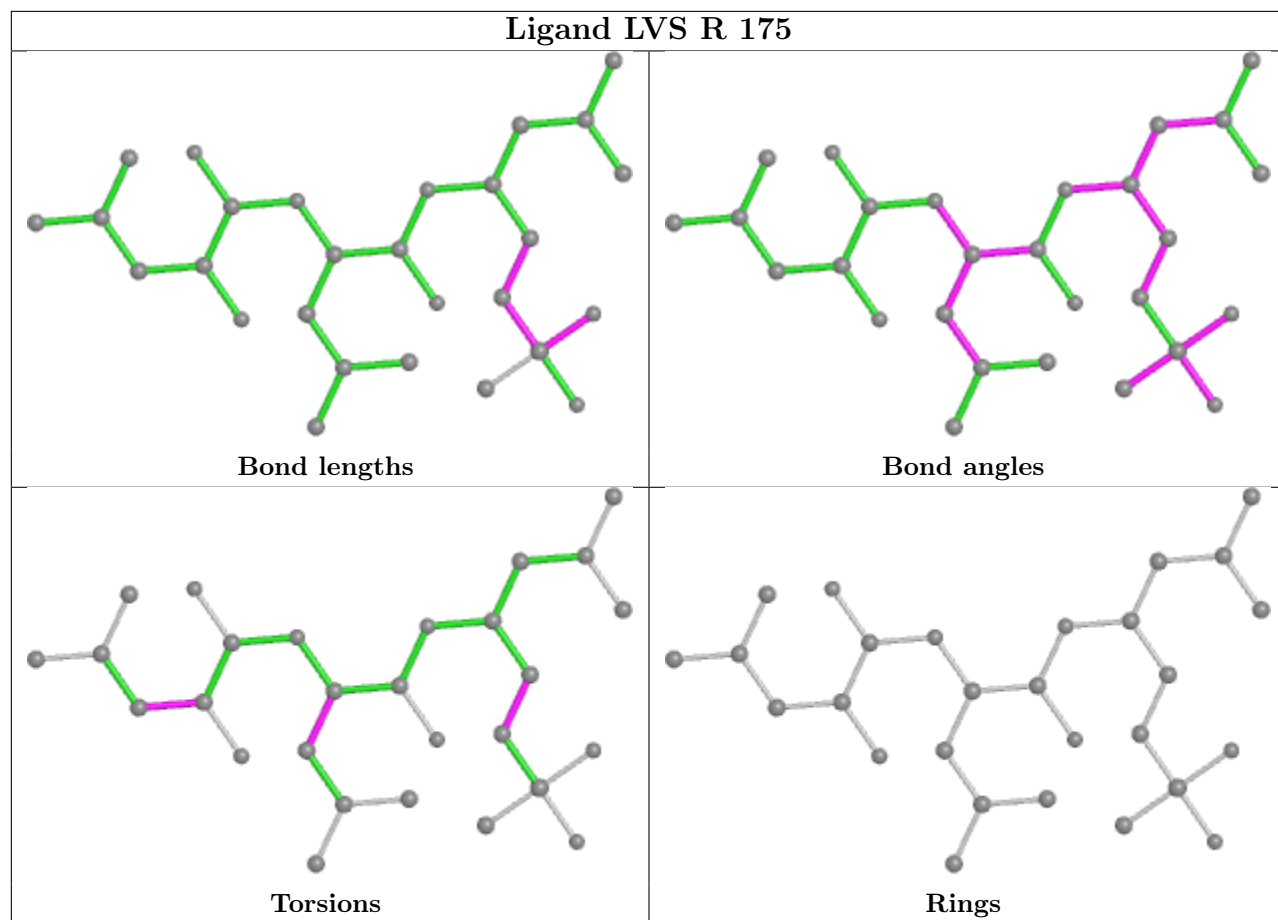


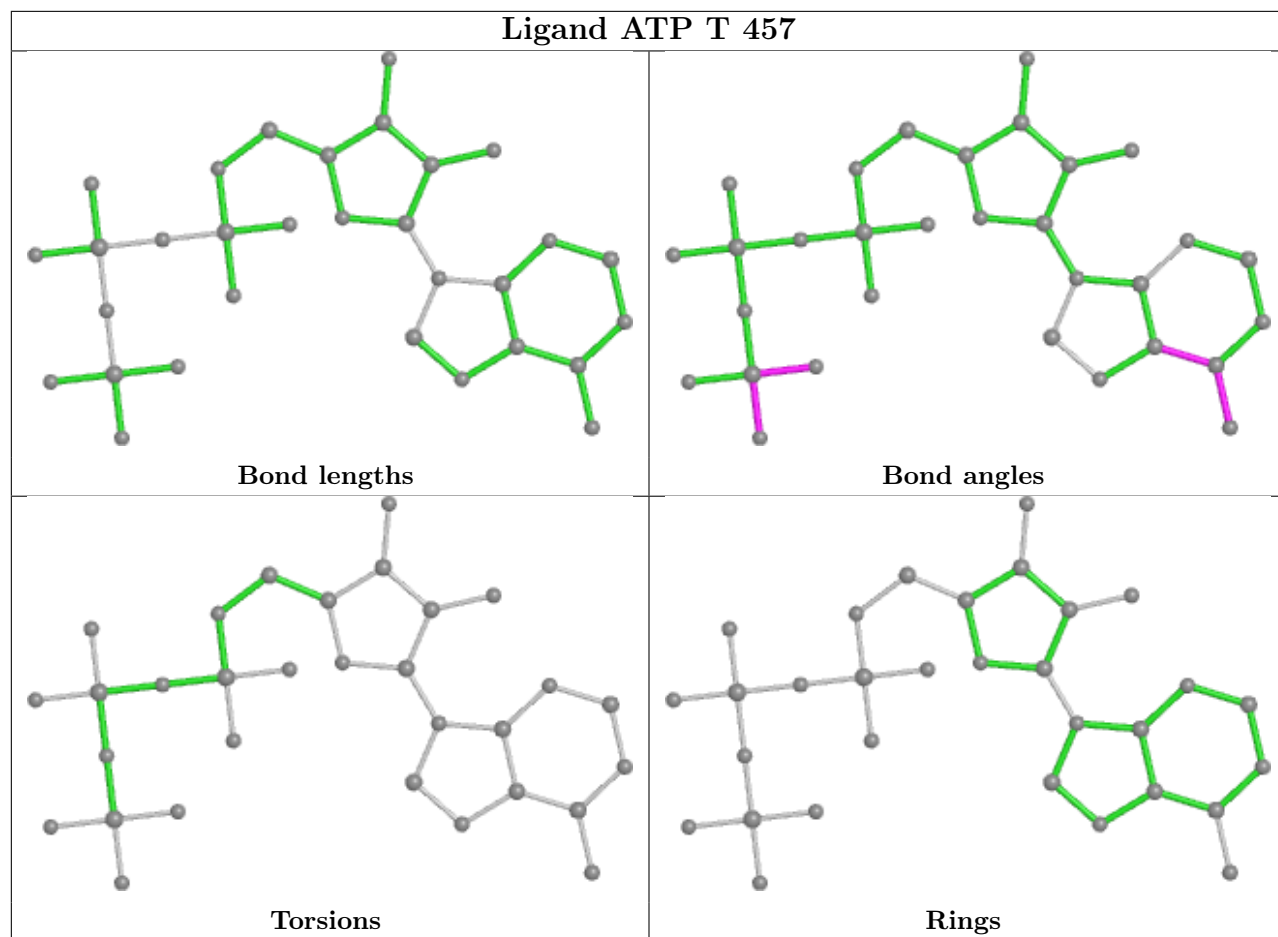


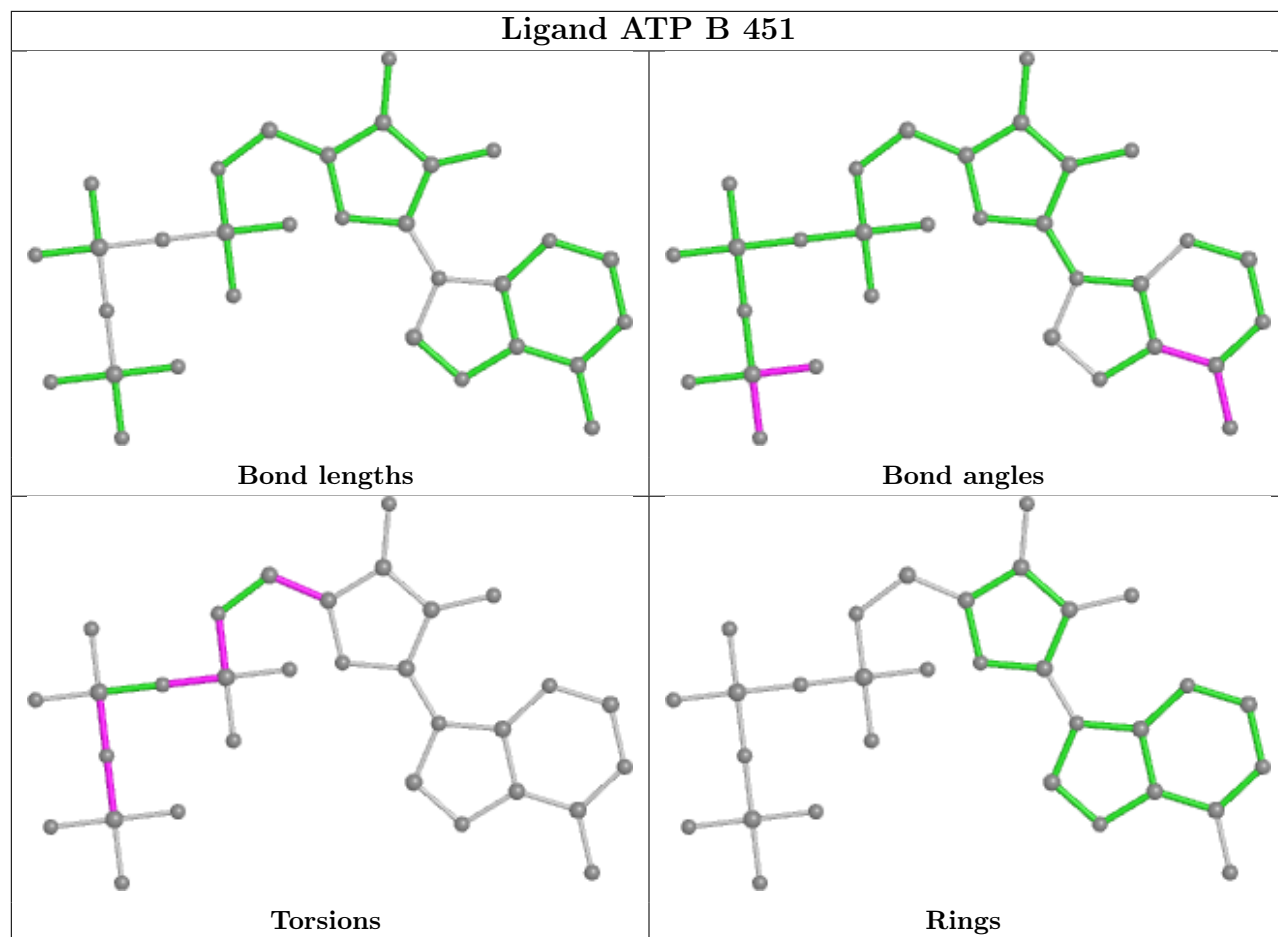


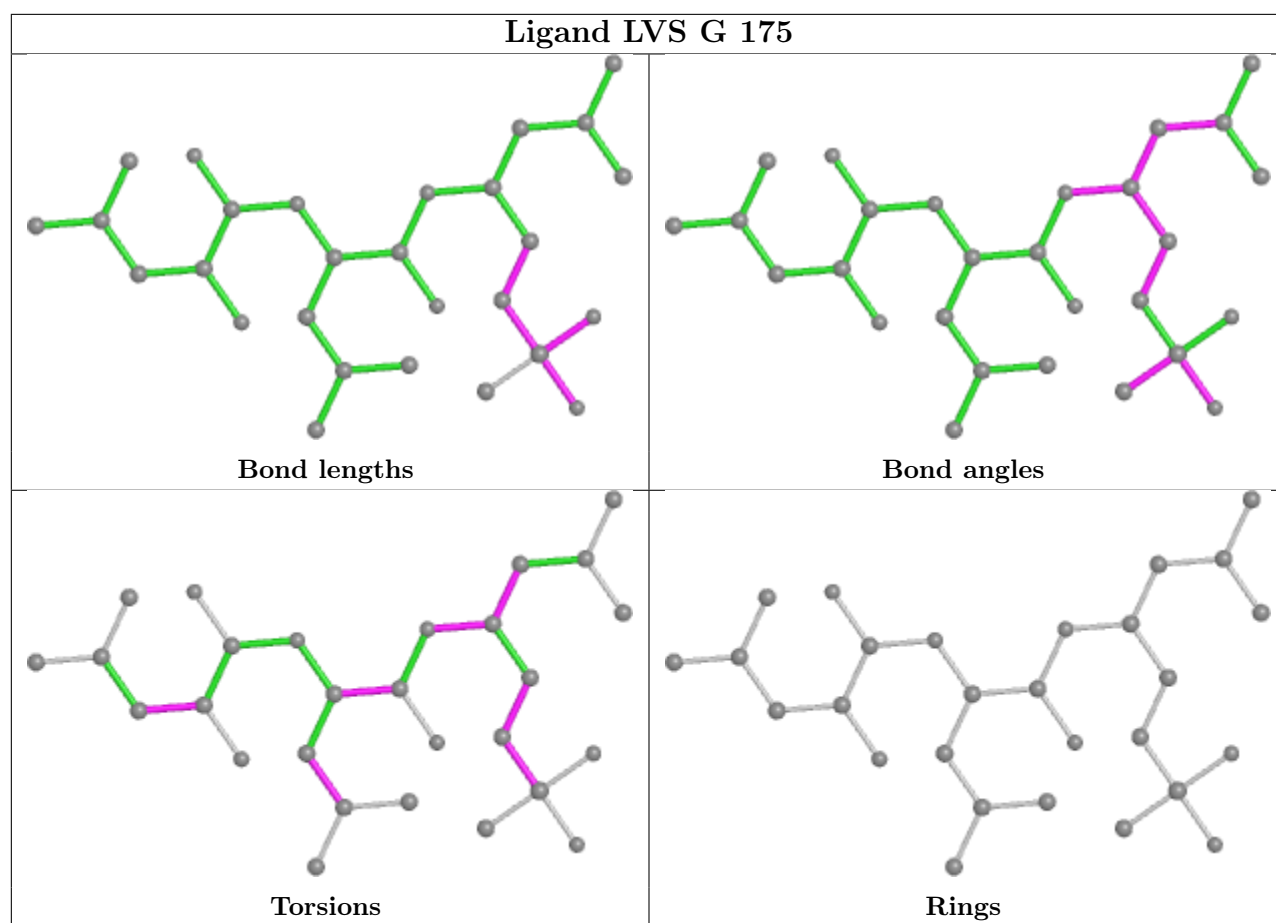












## 5.7 Other polymers [i](#)

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 was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

### 6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

### 6.4 Ligands

EDS was not executed - this section is therefore empty.

### 6.5 Other polymers

EDS was not executed - this section is therefore empty.