



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 07:45 PM UTC

PDB ID : 3MY0 / pdb_00003my0
Title : Crystal structure of the ACVRL1 (ALK1) kinase domain bound to LDN-193189
Authors : Chaikuad, A.; Alfano, I.; Cooper, C.; Mahajan, P.; Daga, N.; Sanvitale, C.; Fedorov, O.; Petrie, K.; Savitsky, P.; Gileadi, O.; Sethi, R.; Krojer, T.; Muniz, J.R.C.; Pike, A.C.W.; Vollmar, M.; Carpenter, C.P.; Ugochukwu, E.; Knapp, S.; von Delft, F.; Weigelt, J.; Arrowsmith, C.H.; Edwards, A.M.; Bountra, C.; Bullock, A.; Structural Genomics Consortium (SGC)
Deposited on : 2010-05-08
Resolution : 2.65 Å(reported)

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

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

A user guide is available at

<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>.

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

MolProbity	: 4-5-2 with Phenix2.0
Mogul	: 2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	: 2.0
EDS	: 3.0
Buster-report	: wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	: 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	: 9.0.010 (Gargrove)
Density-Fitness	: 1.0.12

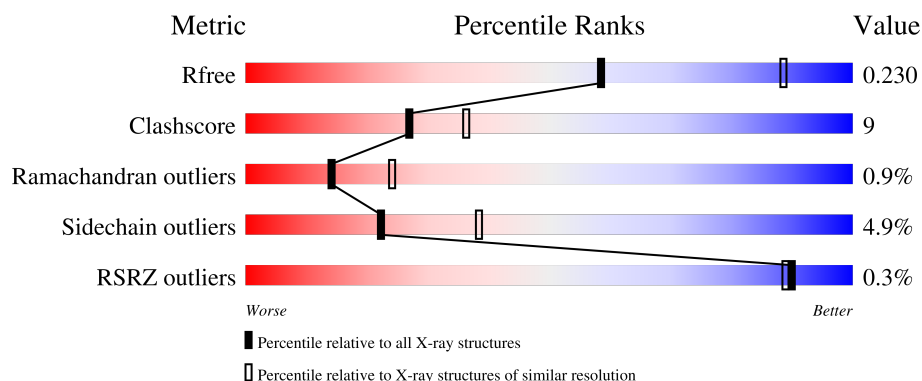
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.65 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1110 (2.66-2.66)
Clashscore	190562	1141 (2.66-2.66)
Ramachandran outliers	187476	1126 (2.66-2.66)
Sidechain outliers	187428	1126 (2.66-2.66)
RSRZ outliers	180081	1110 (2.66-2.66)

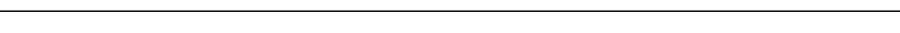
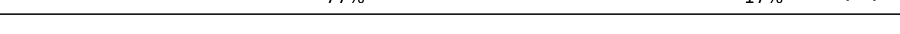
The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively.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

Mol	Chain	Length	Quality of chain
1	A	305	
1	B	305	
1	C	305	

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Ideal geometry (proteins) : Engh & Huber (2001)
 Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
 Validation Pipeline (wwPDB-VP) : 2.49

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Mol	Chain	Length	Quality of chain
1	D	305	 82% 13% . .
1	E	305	 75% 18% . .
1	F	305	 74% 20% . .
1	G	305	 74% 19% . .
1	H	305	 80% 13% . .
1	I	305	 75% 19% . .
1	J	305	 % 68% 13% . 17%
1	K	305	 2% 74% 11% 14%
1	L	305	 80% 15% . .
1	M	305	 78% 18% . .
1	N	305	 81% 15% . .
1	O	305	 80% 15% . .
1	P	305	 % 76% 15% . 5%
1	Q	305	 76% 19% . .
1	R	305	 77% 17% . .
1	S	305	 76% 17% . . .
1	T	305	 75% 16% . .
1	U	305	 78% 14% . 7%
1	V	305	 80% 11% . 8%
1	W	305	 76% 16% . 8%
1	X	305	 3% 65% 18% . 16%

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
2	LDN	X	600	-	-	X	-

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 53931 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 Serine/threonine-protein kinase receptor R3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	296	Total	C	N	O	S	0	0	0
			2295	1461	403	418	13			
1	B	295	Total	C	N	O	S	0	0	0
			2303	1470	402	418	13			
1	C	299	Total	C	N	O	S	0	0	0
			2285	1457	401	414	13			
1	D	298	Total	C	N	O	S	0	0	0
			2284	1454	396	421	13			
1	E	294	Total	C	N	O	S	0	0	0
			2251	1446	390	403	12			
1	F	294	Total	C	N	O	S	0	0	0
			2239	1430	396	401	12			
1	G	294	Total	C	N	O	S	0	0	0
			2269	1455	388	413	13			
1	H	294	Total	C	N	O	S	0	0	0
			2233	1428	390	402	13			
1	I	293	Total	C	N	O	S	0	0	0
			2286	1463	399	411	13			
1	J	252	Total	C	N	O	S	0	0	0
			1898	1215	329	342	12			
1	K	261	Total	C	N	O	S	0	0	0
			1937	1241	336	348	12			
1	L	296	Total	C	N	O	S	0	0	0
			2312	1474	406	419	13			
1	M	298	Total	C	N	O	S	0	0	0
			2325	1485	405	422	13			
1	N	300	Total	C	N	O	S	0	0	0
			2295	1464	402	416	13			
1	O	297	Total	C	N	O	S	0	0	0
			2279	1451	398	417	13			
1	P	290	Total	C	N	O	S	0	0	0
			2103	1337	370	385	11			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	Q	294	Total	C	N	O	S	0	0	0
			2262	1447	399	404	12			
1	R	294	Total	C	N	O	S	0	0	0
			2258	1449	387	409	13			
1	S	294	Total	C	N	O	S	0	0	0
			2236	1430	391	402	13			
1	T	292	Total	C	N	O	S	0	0	0
			2256	1443	391	409	13			
1	U	285	Total	C	N	O	S	0	0	0
			2154	1378	377	386	13			
1	V	282	Total	C	N	O	S	0	0	0
			2122	1358	370	381	13			
1	W	281	Total	C	N	O	S	0	0	0
			2211	1414	386	398	13			
1	X	257	Total	C	N	O	S	0	0	0
			1968	1266	337	354	11			

There are 48 discrepancies between the modelled and reference sequences:

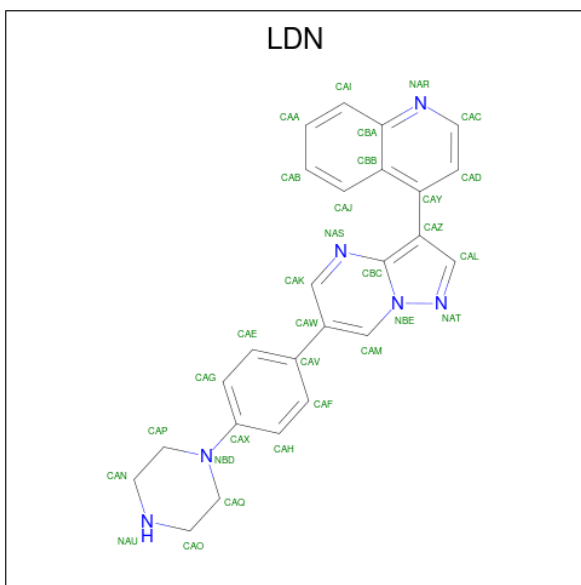
Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	SER	-	expression tag	UNP P37023
A	0	MET	-	expression tag	UNP P37023
B	-1	SER	-	expression tag	UNP P37023
B	0	MET	-	expression tag	UNP P37023
C	-1	SER	-	expression tag	UNP P37023
C	0	MET	-	expression tag	UNP P37023
D	-1	SER	-	expression tag	UNP P37023
D	0	MET	-	expression tag	UNP P37023
E	-1	SER	-	expression tag	UNP P37023
E	0	MET	-	expression tag	UNP P37023
F	-1	SER	-	expression tag	UNP P37023
F	0	MET	-	expression tag	UNP P37023
G	-1	SER	-	expression tag	UNP P37023
G	0	MET	-	expression tag	UNP P37023
H	-1	SER	-	expression tag	UNP P37023
H	0	MET	-	expression tag	UNP P37023
I	-1	SER	-	expression tag	UNP P37023
I	0	MET	-	expression tag	UNP P37023
J	-1	SER	-	expression tag	UNP P37023
J	0	MET	-	expression tag	UNP P37023
K	-1	SER	-	expression tag	UNP P37023
K	0	MET	-	expression tag	UNP P37023
L	-1	SER	-	expression tag	UNP P37023

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Chain	Residue	Modelled	Actual	Comment	Reference
L	0	MET	-	expression tag	UNP P37023
M	-1	SER	-	expression tag	UNP P37023
M	0	MET	-	expression tag	UNP P37023
N	-1	SER	-	expression tag	UNP P37023
N	0	MET	-	expression tag	UNP P37023
O	-1	SER	-	expression tag	UNP P37023
O	0	MET	-	expression tag	UNP P37023
P	-1	SER	-	expression tag	UNP P37023
P	0	MET	-	expression tag	UNP P37023
Q	-1	SER	-	expression tag	UNP P37023
Q	0	MET	-	expression tag	UNP P37023
R	-1	SER	-	expression tag	UNP P37023
R	0	MET	-	expression tag	UNP P37023
S	-1	SER	-	expression tag	UNP P37023
S	0	MET	-	expression tag	UNP P37023
T	-1	SER	-	expression tag	UNP P37023
T	0	MET	-	expression tag	UNP P37023
U	-1	SER	-	expression tag	UNP P37023
U	0	MET	-	expression tag	UNP P37023
V	-1	SER	-	expression tag	UNP P37023
V	0	MET	-	expression tag	UNP P37023
W	-1	SER	-	expression tag	UNP P37023
W	0	MET	-	expression tag	UNP P37023
X	-1	SER	-	expression tag	UNP P37023
X	0	MET	-	expression tag	UNP P37023

- Molecule 2 is 4-[6-(4-piperazin-1-ylphenyl)pyrazolo[1,5-a]pyrimidin-3-yl]quinoline (CCD ID: LDN) (formula: C₂₅H₂₂N₆).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total 31	C 25	N 6	0	0
2	B	1	Total 31	C 25	N 6	0	0
2	C	1	Total 31	C 25	N 6	0	0
2	D	1	Total 31	C 25	N 6	0	0
2	E	1	Total 31	C 25	N 6	0	0
2	F	1	Total 31	C 25	N 6	0	0
2	G	1	Total 31	C 25	N 6	0	0
2	H	1	Total 31	C 25	N 6	0	0
2	I	1	Total 31	C 25	N 6	0	0
2	J	1	Total 31	C 25	N 6	0	0
2	K	1	Total 31	C 25	N 6	0	0
2	L	1	Total 31	C 25	N 6	0	0
2	M	1	Total 31	C 25	N 6	0	0
2	N	1	Total 31	C 25	N 6	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	O	1	Total	C	N	0	0
			31	25	6		
2	P	1	Total	C	N	0	0
			31	25	6		
2	Q	1	Total	C	N	0	0
			31	25	6		
2	R	1	Total	C	N	0	0
			31	25	6		
2	S	1	Total	C	N	0	0
			31	25	6		
2	T	1	Total	C	N	0	0
			31	25	6		
2	U	1	Total	C	N	0	0
			31	25	6		
2	V	1	Total	C	N	0	0
			31	25	6		
2	W	1	Total	C	N	0	0
			31	25	6		
2	X	1	Total	C	N	0	0
			31	25	6		

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	4	Total	O	0	0
			4	4		
3	B	12	Total	O	0	0
			12	12		
3	C	11	Total	O	0	0
			11	11		
3	D	7	Total	O	0	0
			7	7		
3	E	4	Total	O	0	0
			4	4		
3	F	8	Total	O	0	0
			8	8		
3	G	6	Total	O	0	0
			6	6		
3	H	6	Total	O	0	0
			6	6		
3	I	3	Total	O	0	0
			3	3		

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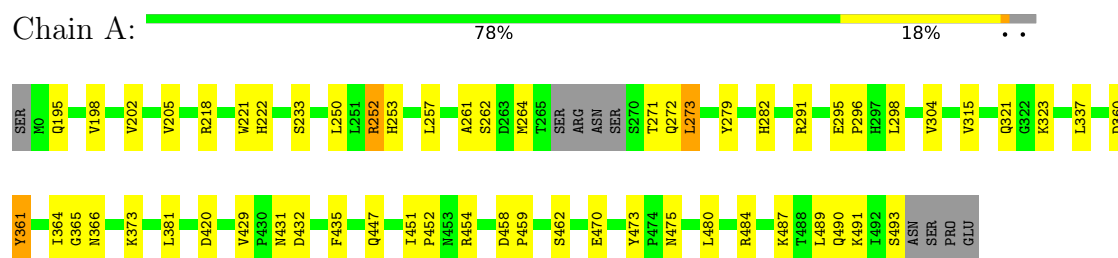
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	J	2	Total 2	O 2	0	0
3	L	6	Total 6	O 6	0	0
3	M	1	Total 1	O 1	0	0
3	N	6	Total 6	O 6	0	0
3	O	2	Total 2	O 2	0	0
3	P	4	Total 4	O 4	0	0
3	Q	8	Total 8	O 8	0	0
3	R	5	Total 5	O 5	0	0
3	S	6	Total 6	O 6	0	0
3	T	5	Total 5	O 5	0	0
3	U	9	Total 9	O 9	0	0
3	V	2	Total 2	O 2	0	0
3	W	9	Total 9	O 9	0	0

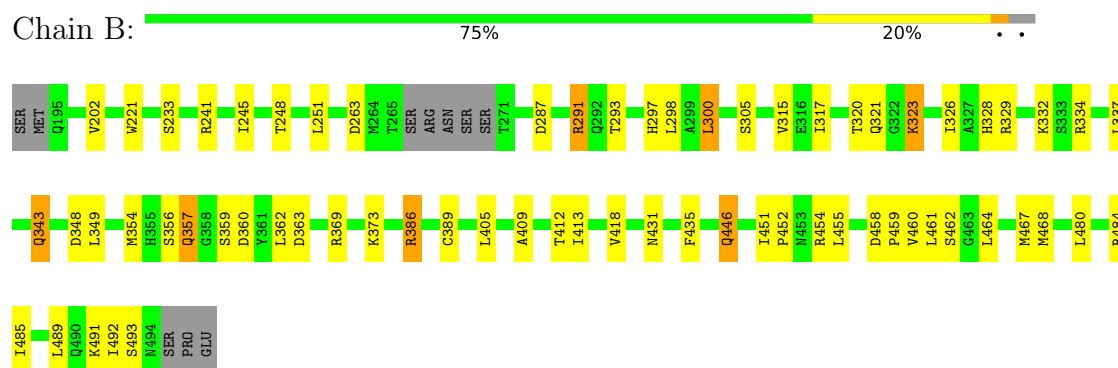
3 Residue-property plots

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 and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

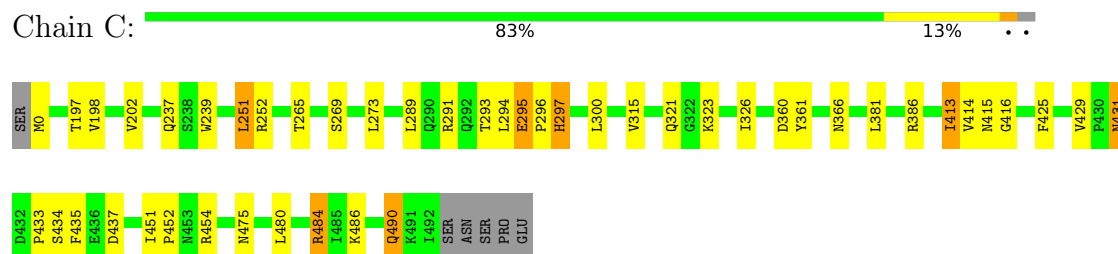
- Molecule 1: Serine/threonine-protein kinase receptor R3



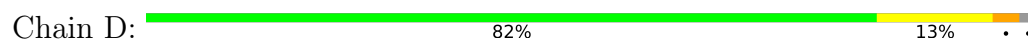
- Molecule 1: Serine/threonine-protein kinase receptor R3

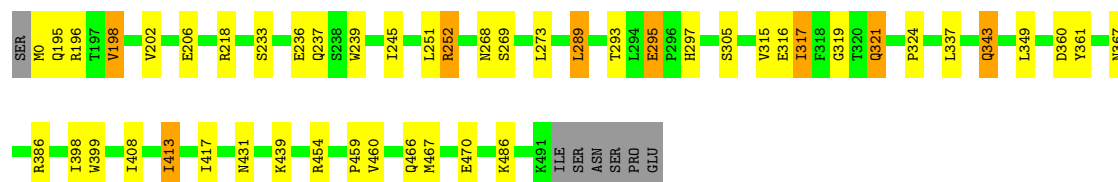


- Molecule 1: Serine/threonine-protein kinase receptor R3



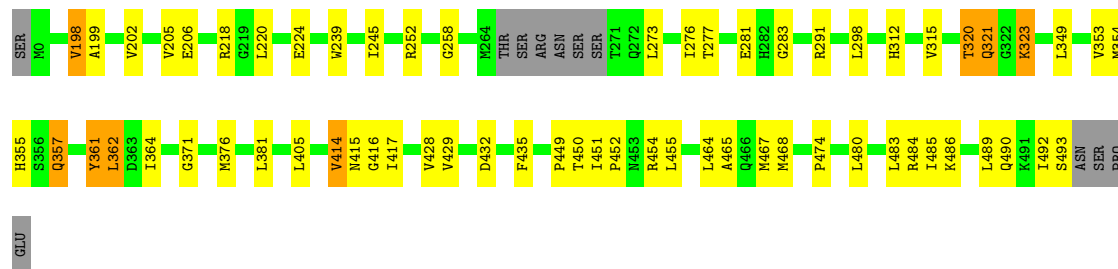
- Molecule 1: Serine/threonine-protein kinase receptor R3





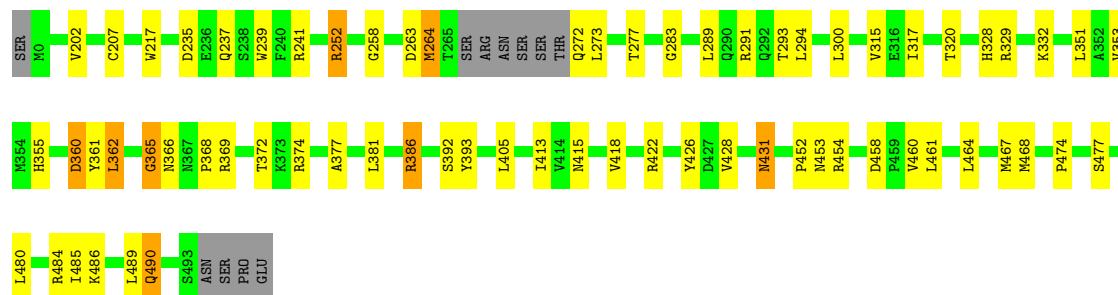
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain E: 75% 18%



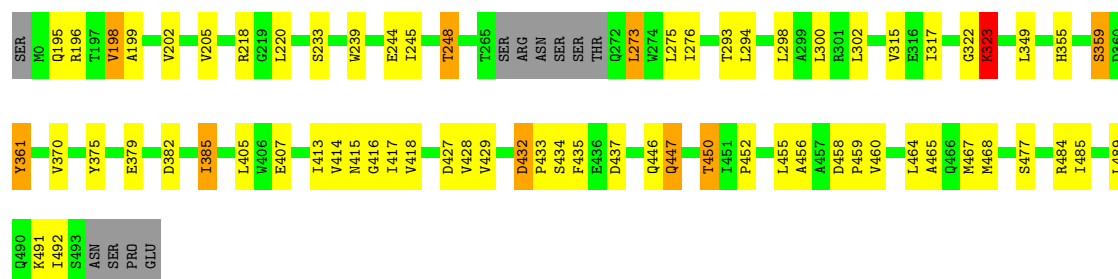
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain F: 74% 20%



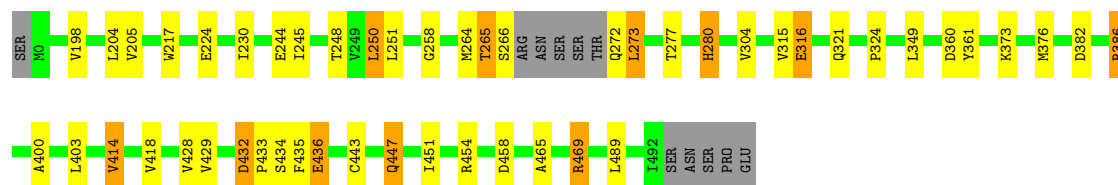
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain G: 74% 19%



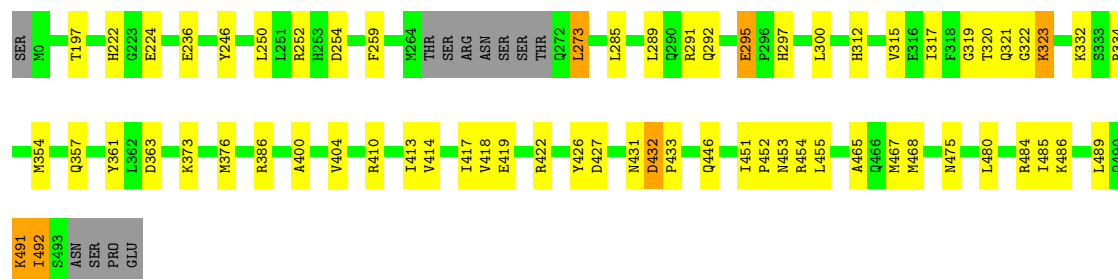
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain H: 80% 13%



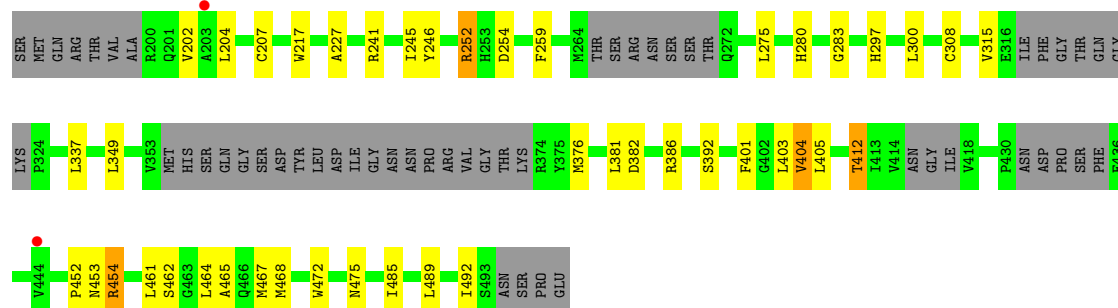
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain I: 75% 19%



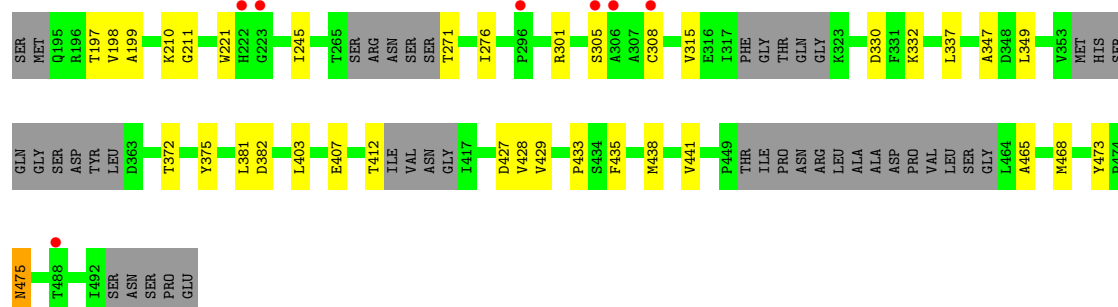
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain J: 68% 13% 17%



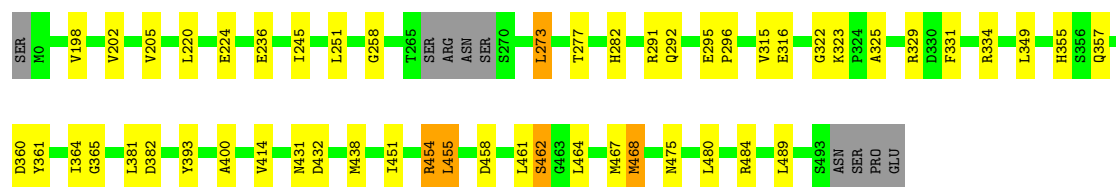
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain K: 74% 11% 14%



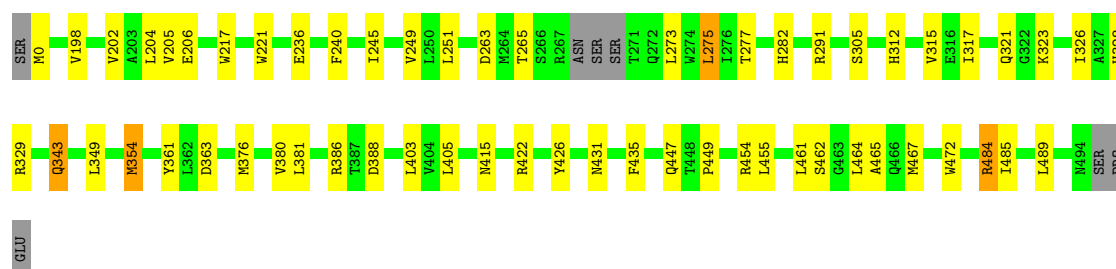
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain L:  80% 15% ..



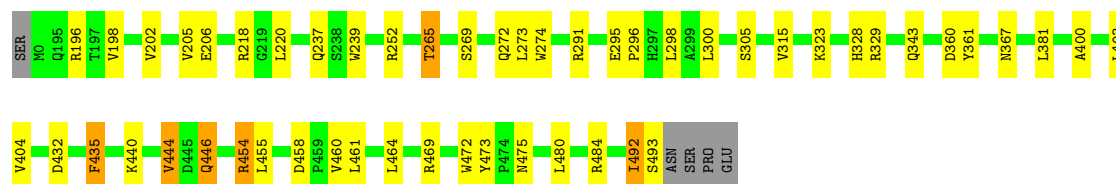
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain M:  78% 18% ..



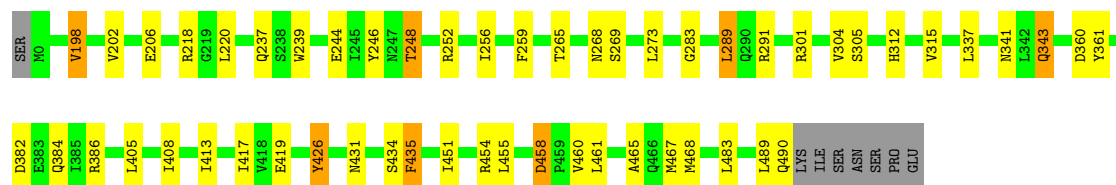
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain N:  81% 15% ..



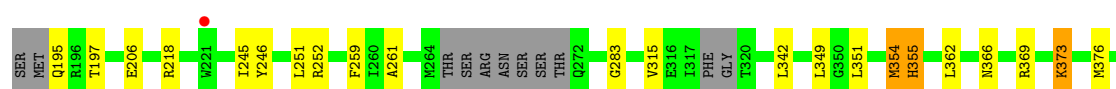
- Molecule 1: Serine/threonine-protein kinase receptor R3

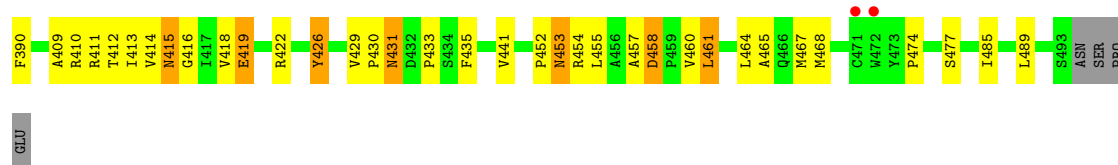
Chain O:  80% 15% ..



- Molecule 1: Serine/threonine-protein kinase receptor R3

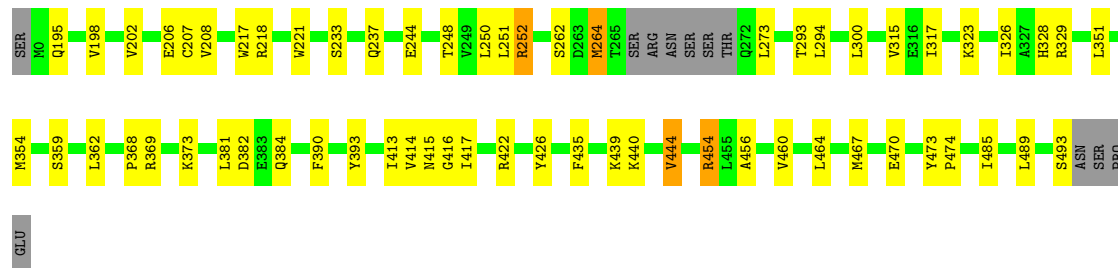
Chain P:  76% 15% 5%





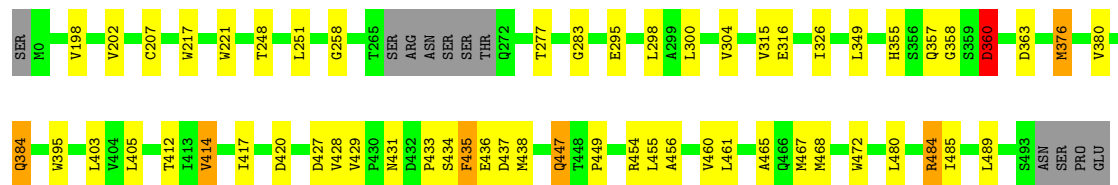
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain Q: 76% 19%



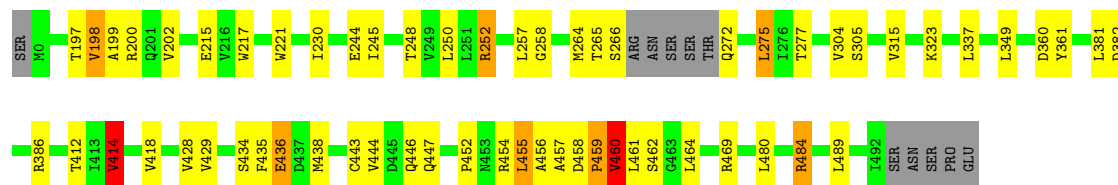
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain R: 77% 17%



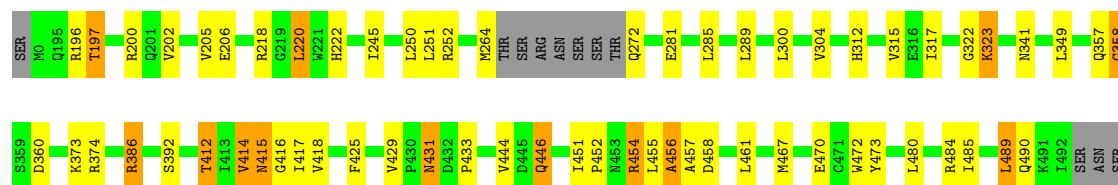
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain S: 76% 17%



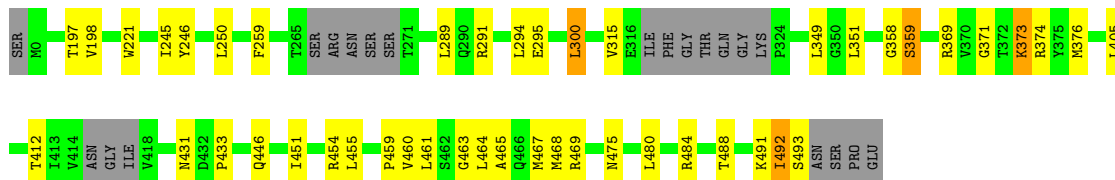
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain T: 75% 16%

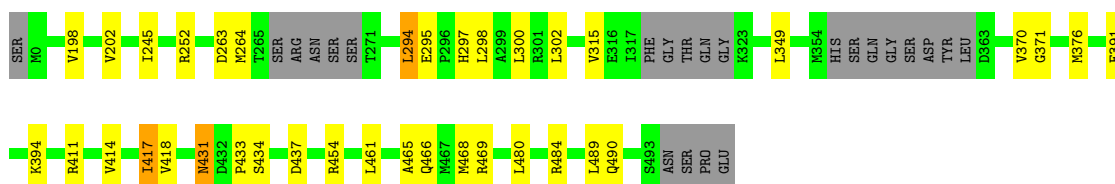


PRO
GLU

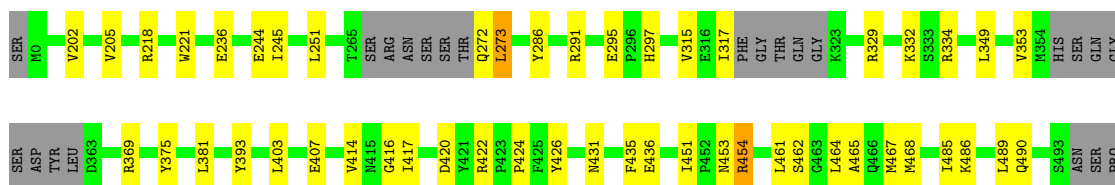
- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain U:  78% 14% • 7%

- Molecule 1: Serine/threonine-protein kinase receptor R3

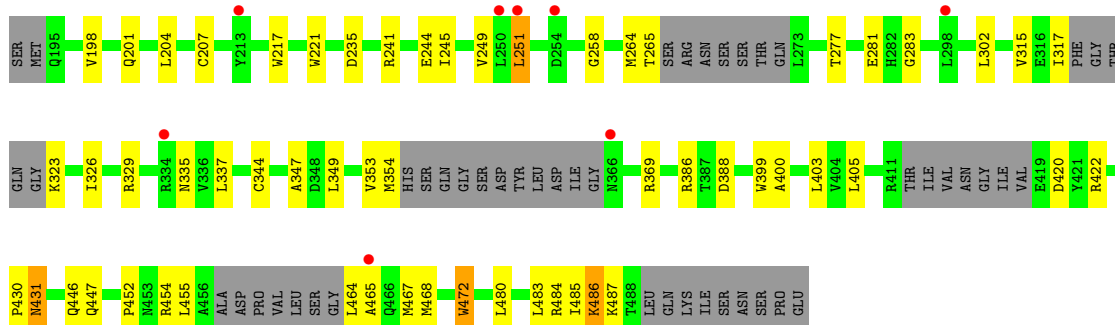
Chain V:  80% 11% • 8%

- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain W:  76% 16% • 8%

GLU

- Molecule 1: Serine/threonine-protein kinase receptor R3

Chain X:  3% 65% 18% • 16%

4 Data and refinement statistics

Property	Value	Source
Space group	P 32	Depositor
Cell constants a, b, c, α , β , γ	118.77Å 118.77Å 510.79Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	58.99 – 2.65 58.99 – 2.65	Depositor EDS
% Data completeness (in resolution range)	99.7 (58.99-2.65) 99.8 (58.99-2.65)	Depositor EDS
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.96 (at 2.65Å)	Xtriage
Refinement program	REFMAC 5.6.0066	Depositor
R, R_{free}	0.207 , 0.247 0.206 , 0.230	Depositor DCC
R_{free} test set	11717 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å ²)	44.8	Xtriage
Anisotropy	0.511	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 16.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.42$, $\langle L^2 \rangle = 0.24$	Xtriage
Estimated twinning fraction	0.457 for -h,-k,l 0.316 for h,-h-k,-l 0.315 for -k,-h,-l	Xtriage
Reported twinning fraction	0.357 for H, K, L 0.147 for h+k,-k,-l 0.352 for -h,-k,l 0.145 for h,-h-k,-l	Depositor
Outliers	0 of 233740 reflections	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	53931	wwPDB-VP
Average B, all atoms (Å ²)	45.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 24.52 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 3.7713e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

¹Intensities estimated from amplitudes.

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

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.77	3/2352 (0.1%)	0.89	3/3204 (0.1%)
1	B	0.70	0/2359	0.87	2/3212 (0.1%)
1	C	0.71	0/2342	0.90	3/3195 (0.1%)
1	D	0.74	0/2340	0.93	3/3192 (0.1%)
1	E	0.74	0/2308	0.91	4/3150 (0.1%)
1	F	0.68	0/2296	0.85	0/3133
1	G	0.88	0/2326	0.95	3/3173 (0.1%)
1	H	0.73	0/2289	0.92	2/3124 (0.1%)
1	I	0.84	0/2343	0.95	1/3191 (0.0%)
1	J	0.52	0/1942	0.77	1/2645 (0.0%)
1	K	0.52	0/1984	0.78	0/2709
1	L	0.71	0/2369	0.88	0/3226
1	M	0.76	0/2381	0.90	1/3243 (0.0%)
1	N	0.83	0/2352	0.93	3/3209 (0.1%)
1	O	0.68	0/2335	0.89	4/3185 (0.1%)
1	P	0.59	0/2150	0.85	1/2942 (0.0%)
1	Q	0.73	0/2319	0.89	2/3160 (0.1%)
1	R	0.73	0/2315	0.87	0/3160
1	S	0.78	0/2292	0.91	3/3128 (0.1%)
1	T	0.67	0/2311	0.85	0/3149
1	U	0.72	0/2206	0.84	0/3009
1	V	0.70	0/2174	0.86	0/2969
1	W	0.71	0/2263	0.87	1/3079 (0.0%)
1	X	0.50	0/2014	0.76	0/2743
All	All	0.72	3/54362 (0.0%)	0.88	37/74130 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	1
1	C	0	1
1	H	0	1
1	R	0	1
All	All	0	4

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	282	HIS	CE1-NE2	12.35	1.45	1.32
1	A	282	HIS	CG-CD2	10.15	1.47	1.35
1	A	282	HIS	CG-ND1	6.15	1.45	1.38

All (37) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	H	280	HIS	CB-CG-CD2	-10.64	117.36	131.20
1	C	431	ASN	N-CA-C	7.58	120.26	111.02
1	C	323	LYS	CA-C-N	-7.28	113.32	120.52
1	C	323	LYS	C-N-CA	-7.28	113.32	120.52
1	H	280	HIS	CB-CG-ND1	7.21	133.52	122.70
1	O	458	ASP	CA-C-N	7.10	126.59	118.85
1	O	458	ASP	C-N-CA	7.10	126.59	118.85
1	D	198	VAL	N-CA-C	-6.70	106.50	112.12
1	M	431	ASN	N-CA-C	6.35	120.29	112.54
1	O	413	ILE	CB-CA-C	-6.29	103.27	111.25
1	G	323	LYS	CA-C-N	-6.24	114.22	120.21
1	G	323	LYS	C-N-CA	-6.24	114.22	120.21
1	A	431	ASN	N-CA-C	6.18	118.56	111.02
1	W	431	ASN	N-CA-C	6.08	118.41	111.11
1	D	431	ASN	N-CA-C	6.00	121.22	111.37
1	P	354	MET	N-CA-C	5.90	117.51	108.42
1	J	492	ILE	CB-CA-C	-5.88	104.44	111.97
1	N	435	PHE	N-CA-C	-5.85	104.90	111.28
1	N	323	LYS	CA-C-N	-5.76	114.81	120.52
1	N	323	LYS	C-N-CA	-5.76	114.81	120.52
1	A	282	HIS	CB-CG-CD2	-5.66	123.85	131.20
1	O	268	ASN	N-CA-C	-5.60	102.61	110.50
1	B	431	ASN	N-CA-C	5.55	118.04	111.33
1	S	323	LYS	CA-C-N	-5.44	115.13	120.52
1	S	323	LYS	C-N-CA	-5.44	115.13	120.52
1	G	322	GLY	N-CA-C	-5.43	104.84	112.60
1	Q	456	ALA	N-CA-C	5.38	119.47	113.01

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	321	GLN	N-CA-C	-5.34	102.42	110.06
1	E	321	GLN	N-CA-C	-5.34	103.92	110.65
1	E	362	LEU	N-CA-C	5.18	117.20	109.59
1	I	413	ILE	CB-CA-C	-5.16	104.72	110.96
1	E	357	GLN	N-CA-C	-5.14	106.85	113.02
1	A	205	VAL	CB-CA-C	-5.12	106.39	111.30
1	Q	373	LYS	N-CA-C	5.11	116.85	111.28
1	S	264	MET	N-CA-C	-5.07	100.97	109.24
1	D	268	ASN	N-CA-C	-5.06	103.36	110.50
1	E	451	ILE	CB-CA-C	-5.01	105.09	110.85

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	320	THR	Peptide
1	C	490	GLN	Peptide
1	H	280	HIS	Sidechain
1	R	360	ASP	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2295	0	2191	30	0
1	B	2303	0	2224	58	1
1	C	2285	0	2171	36	0
1	D	2284	0	2161	37	0
1	E	2251	0	2153	46	1
1	F	2239	0	2112	48	0
1	G	2269	0	2174	52	1
1	H	2233	0	2106	32	1
1	I	2286	0	2215	50	0
1	J	1898	0	1760	31	1
1	K	1937	0	1740	30	1
1	L	2312	0	2228	37	0
1	M	2325	0	2254	43	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	N	2295	0	2190	45	0
1	O	2279	0	2161	34	0
1	P	2103	0	1917	47	0
1	Q	2262	0	2164	41	1
1	R	2258	0	2157	55	0
1	S	2236	0	2118	44	1
1	T	2256	0	2171	44	0
1	U	2154	0	2023	33	1
1	V	2122	0	1976	21	0
1	W	2211	0	2148	33	0
1	X	1968	0	1848	64	0
2	A	31	0	22	1	0
2	B	31	0	22	4	0
2	C	31	0	22	1	0
2	D	31	0	22	3	0
2	E	31	0	22	3	0
2	F	31	0	22	3	0
2	G	31	0	22	2	0
2	H	31	0	22	0	0
2	I	31	0	22	1	0
2	J	31	0	22	5	0
2	K	31	0	22	4	0
2	L	31	0	22	3	0
2	M	31	0	22	0	0
2	N	31	0	22	1	0
2	O	31	0	22	5	0
2	P	31	0	22	5	0
2	Q	31	0	22	1	0
2	R	31	0	22	1	1
2	S	31	0	22	0	0
2	T	31	0	22	2	0
2	U	31	0	22	1	0
2	V	31	0	22	3	0
2	W	31	0	22	4	0
2	X	31	0	22	15	0
3	A	4	0	0	1	0
3	B	12	0	0	0	0
3	C	11	0	0	0	0
3	D	7	0	0	0	0
3	E	4	0	0	2	0
3	F	8	0	0	0	0
3	G	6	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	H	6	0	0	0	0
3	I	3	0	0	0	0
3	J	2	0	0	0	0
3	L	6	0	0	0	0
3	M	1	0	0	0	0
3	N	6	0	0	0	0
3	O	2	0	0	0	0
3	P	4	0	0	0	0
3	Q	8	0	0	0	0
3	R	5	0	0	0	0
3	S	6	0	0	0	0
3	T	5	0	0	0	0
3	U	9	0	0	0	0
3	V	2	0	0	0	0
3	W	9	0	0	1	0
All	All	53931	0	50890	962	5

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 9.

All (962) 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)
1:D:198:VAL:O	1:D:202:VAL:HG23	1.17	1.27
1:S:217:TRP:CZ2	1:X:430:PRO:HB3	1.88	1.09
1:B:467:MET:HE1	1:B:489:LEU:HD11	1.41	1.03
1:G:467:MET:HE1	1:G:489:LEU:HD11	1.05	1.01
1:S:217:TRP:CH2	1:X:430:PRO:HB3	1.94	1.01
1:V:480:LEU:HD22	1:V:484:ARG:HG2	1.40	1.01
1:D:198:VAL:O	1:D:202:VAL:CG2	2.10	0.99
1:G:467:MET:CE	1:G:489:LEU:HD11	1.92	0.99
1:T:480:LEU:HD22	1:T:484:ARG:HG2	1.49	0.95
1:P:412:THR:HG21	1:P:461:LEU:HD11	1.47	0.94
1:N:239:TRP:CD2	1:N:273:LEU:HD23	2.04	0.93
1:O:198:VAL:O	1:O:202:VAL:HG23	1.70	0.92
1:N:480:LEU:HD22	1:N:484:ARG:HG2	1.52	0.90
1:G:467:MET:HE1	1:G:489:LEU:CD1	1.99	0.89
1:P:461:LEU:HD23	1:P:464:LEU:HD12	1.51	0.89
1:J:405:LEU:HD22	1:J:464:LEU:HD11	1.51	0.89
1:X:455:LEU:CD2	1:X:465:ALA:HB2	2.02	0.88
1:X:455:LEU:HD22	1:X:465:ALA:HB2	1.55	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:198:VAL:O	1:V:202:VAL:HG23	1.73	0.88
1:D:295:GLU:OE2	1:D:297:HIS:HB3	1.71	0.88
1:B:386:ARG:HB3	1:B:386:ARG:HH11	1.37	0.87
1:O:382:ASP:OD2	1:O:384:GLN:NE2	2.08	0.87
1:N:239:TRP:CE3	1:N:273:LEU:CD2	2.57	0.86
1:D:417:ILE:O	1:D:454:ARG:NH1	2.09	0.86
1:N:239:TRP:CE3	1:N:273:LEU:HD23	2.12	0.84
1:T:470:GLU:HG2	1:T:473:TYR:OH	1.76	0.84
1:V:466:GLN:OE1	1:V:469:ARG:NH1	2.09	0.83
1:X:283:GLY:HA2	2:X:600:LDN:CAV	2.08	0.83
1:X:249:VAL:CG1	1:X:251:LEU:HD13	2.09	0.83
1:X:249:VAL:HG12	1:X:251:LEU:HD13	1.59	0.83
1:U:358:GLY:O	1:U:359:SER:O	1.97	0.83
1:E:464:LEU:HD23	1:E:489:LEU:HD21	1.61	0.82
1:S:480:LEU:HD22	1:S:484:ARG:HG2	1.60	0.82
1:E:467:MET:HE1	1:E:489:LEU:HD11	1.60	0.82
1:G:464:LEU:HD23	1:G:489:LEU:HD21	1.62	0.82
1:C:486:LYS:HG2	1:C:490:GLN:OE1	1.79	0.81
1:B:455:LEU:HD12	1:B:461:LEU:HB3	1.62	0.81
1:F:477:SER:OG	1:J:382:ASP:HB3	1.80	0.80
1:X:480:LEU:HD22	1:X:484:ARG:HG2	1.63	0.80
1:F:480:LEU:HD22	1:F:484:ARG:HG2	1.63	0.80
1:U:461:LEU:HD23	1:U:464:LEU:HD22	1.63	0.80
1:B:291:ARG:HH11	2:B:600:LDN:HANA	1.45	0.79
1:M:467:MET:HE1	1:M:489:LEU:HD11	1.64	0.79
1:G:464:LEU:CD2	1:G:489:LEU:HD21	2.12	0.78
1:I:467:MET:HE1	1:I:489:LEU:HD11	1.64	0.78
1:R:412:THR:HG21	1:R:461:LEU:HD21	1.66	0.78
1:Q:464:LEU:HD23	1:Q:489:LEU:HD21	1.66	0.78
1:G:464:LEU:CD2	1:G:489:LEU:CD2	2.62	0.78
1:G:464:LEU:HD23	1:G:489:LEU:CD2	2.14	0.77
1:Q:198:VAL:HG13	1:Q:221:TRP:CE2	2.19	0.77
1:U:300:LEU:HD13	1:U:460:VAL:HG13	1.65	0.77
1:F:467:MET:HE1	1:F:489:LEU:HD11	1.67	0.76
1:O:465:ALA:HA	1:O:468:MET:HE3	1.67	0.76
1:W:236:GLU:HG2	1:W:273:LEU:HD21	1.67	0.76
1:X:467:MET:CE	1:X:485:ILE:HG23	2.16	0.76
1:T:412:THR:HG21	1:T:461:LEU:HD21	1.68	0.76
1:O:458:ASP:CB	1:O:461:LEU:HD12	2.17	0.75
1:O:252:ARG:NH1	1:T:317:ILE:HD13	2.01	0.75
1:P:195:GLN:HG2	1:P:261:ALA:CB	2.16	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:199:ALA:HB2	1:E:276:ILE:HD11	1.68	0.74
1:I:295:GLU:CD	1:I:297:HIS:HB3	2.12	0.74
1:R:480:LEU:HD22	1:R:484:ARG:HG2	1.69	0.74
1:G:467:MET:CE	1:G:485:ILE:HG23	2.18	0.74
1:A:381:LEU:HA	1:A:435:PHE:CZ	2.23	0.74
1:A:291:ARG:HD2	1:F:291:ARG:CB	2.18	0.73
1:W:295:GLU:OE1	1:W:297:HIS:HB3	1.87	0.73
1:B:291:ARG:NH1	2:B:600:LDN:HANA	2.03	0.72
1:P:413:ILE:HG23	1:P:416:GLY:HA2	1.72	0.72
1:R:467:MET:HE1	1:R:489:LEU:HD21	1.70	0.72
1:P:412:THR:HG21	1:P:461:LEU:CD1	2.18	0.72
1:D:293:THR:HB	1:D:413:ILE:HD11	1.70	0.72
1:O:460:VAL:O	1:O:461:LEU:HD23	1.90	0.71
1:N:239:TRP:CD2	1:N:273:LEU:CD2	2.73	0.71
1:J:465:ALA:HA	1:J:468:MET:HE3	1.72	0.71
1:X:483:LEU:HD11	1:X:487:LYS:HE3	1.70	0.71
1:E:467:MET:CE	1:E:485:ILE:HG23	2.20	0.71
1:P:461:LEU:CD2	1:P:464:LEU:HD12	2.20	0.71
1:X:480:LEU:HD22	1:X:484:ARG:CG	2.20	0.71
1:G:233:SER:HB2	1:K:210:LYS:C	2.16	0.71
1:L:198:VAL:O	1:L:202:VAL:HG23	1.90	0.71
1:P:195:GLN:HG2	1:P:261:ALA:HB1	1.73	0.71
1:X:337:LEU:HD11	2:X:600:LDN:HAJ	1.73	0.71
1:A:480:LEU:HD22	1:A:484:ARG:HG2	1.73	0.70
1:I:414:VAL:HG13	1:I:454:ARG:HD2	1.73	0.70
1:G:465:ALA:HA	1:G:468:MET:HE3	1.73	0.70
1:Q:198:VAL:HG13	1:Q:221:TRP:CZ2	2.26	0.70
1:Q:351:LEU:HD21	1:Q:369:ARG:O	1.92	0.70
1:P:467:MET:CE	1:P:485:ILE:HG23	2.22	0.70
1:W:454:ARG:O	1:W:454:ARG:HG2	1.90	0.70
1:D:317:ILE:HD12	1:D:317:ILE:N	2.07	0.69
1:E:353:VAL:HB	1:E:362:LEU:HD11	1.73	0.69
1:I:222:HIS:O	1:I:224:GLU:OE2	2.10	0.69
1:N:239:TRP:CE2	1:N:273:LEU:HD23	2.27	0.69
1:T:281:GLU:O	2:T:600:LDN:HAQA	1.91	0.69
1:I:465:ALA:HA	1:I:468:MET:HE3	1.74	0.69
1:N:206:GLU:OE1	1:N:218:ARG:NH1	2.26	0.69
1:Q:467:MET:CE	1:Q:485:ILE:HG23	2.22	0.69
1:T:374:ARG:NH1	1:T:431:ASN:O	2.26	0.69
1:M:317:ILE:HG21	1:N:252:ARG:HD2	1.75	0.68
1:N:446:GLN:HB2	1:R:395:TRP:HH2	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:300:LEU:HD12	1:F:460:VAL:HG13	1.75	0.68
1:K:330:ASP:OD1	1:K:372:THR:OG1	2.09	0.68
1:M:236:GLU:HG2	1:M:273:LEU:HD11	1.74	0.68
1:Q:207:CYS:HB2	1:Q:217:TRP:CZ2	2.28	0.68
1:S:460:VAL:HG12	1:S:461:LEU:HD23	1.75	0.68
1:J:386:ARG:NH1	1:J:392:SER:OG	2.27	0.68
1:L:467:MET:HE1	1:L:489:LEU:HD21	1.76	0.68
1:Q:206:GLU:OE2	1:Q:218:ARG:NH1	2.27	0.67
1:D:239:TRP:CE3	1:D:273:LEU:CD2	2.78	0.67
1:S:217:TRP:CZ2	1:X:430:PRO:CB	2.72	0.67
1:K:332:LYS:HB2	1:K:375:TYR:CE2	2.29	0.67
1:X:405:LEU:HD22	1:X:464:LEU:HD22	1.76	0.67
1:M:321:GLN:O	1:N:252:ARG:NE	2.28	0.67
1:K:199:ALA:HB2	1:K:276:ILE:HD11	1.77	0.67
1:Q:326:ILE:HG12	1:Q:354:MET:HG2	1.77	0.67
1:F:353:VAL:HB	1:F:362:LEU:HD11	1.77	0.67
1:C:239:TRP:CE3	1:C:273:LEU:HD23	2.30	0.66
1:F:293:THR:OG1	1:F:413:ILE:HD11	1.95	0.66
1:W:329:ARG:HE	1:W:353:VAL:HG13	1.60	0.66
1:J:254:ASP:OD1	1:W:490:GLN:HB3	1.94	0.66
1:X:467:MET:SD	1:X:485:ILE:HG23	2.35	0.66
1:B:293:THR:OG1	1:B:413:ILE:HD11	1.95	0.66
1:C:239:TRP:CE3	1:C:273:LEU:CD2	2.79	0.66
1:L:236:GLU:HG2	1:L:273:LEU:HD21	1.76	0.66
1:N:305:SER:HB3	1:N:343:GLN:HG2	1.78	0.66
1:D:198:VAL:C	1:D:202:VAL:HG23	2.14	0.66
1:P:467:MET:HE3	1:P:485:ILE:HG23	1.76	0.66
1:X:337:LEU:HD11	2:X:600:LDN:CAJ	2.25	0.66
1:D:486:LYS:NZ	1:I:254:ASP:OD1	2.28	0.65
1:O:283:GLY:HA2	2:O:600:LDN:CAV	2.26	0.65
1:T:304:VAL:HA	1:T:489:LEU:HD12	1.77	0.65
1:F:422:ARG:HD2	1:F:426:TYR:CD1	2.31	0.65
1:G:427:ASP:OD1	1:G:428:VAL:HG13	1.96	0.65
1:I:236:GLU:HG2	1:I:273:LEU:HD21	1.79	0.65
1:R:434:SER:O	1:R:437:ASP:N	2.29	0.65
1:F:351:LEU:HD21	1:F:369:ARG:O	1.96	0.65
1:C:480:LEU:HD22	1:C:484:ARG:HG2	1.79	0.65
1:X:251:LEU:HD11	1:X:326:ILE:CD1	2.27	0.65
1:L:382:ASP:OD2	1:P:477:SER:OG	2.15	0.65
1:F:467:MET:CE	1:F:485:ILE:HG23	2.26	0.65
1:B:287:ASP:O	1:B:291:ARG:HD3	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:382:ASP:OD1	1:H:443:CYS:SG	2.54	0.65
1:R:428:VAL:HG23	1:R:429:VAL:HG13	1.78	0.64
1:P:373:LYS:HA	1:P:376:MET:HE3	1.79	0.64
1:E:371:GLY:O	1:E:376:MET:HE3	1.98	0.64
1:L:295:GLU:HG2	1:L:296:PRO:HD2	1.80	0.64
1:A:218:ARG:HD2	1:A:279:TYR:CE2	2.33	0.64
1:Q:264:MET:HG3	1:Q:273:LEU:CD2	2.28	0.64
1:U:463:GLY:HA3	1:U:492:ILE:HD11	1.80	0.64
1:K:428:VAL:HG21	1:K:441:VAL:HG11	1.80	0.63
1:X:467:MET:HE3	1:X:485:ILE:HG23	1.79	0.63
1:E:489:LEU:HA	1:E:492:ILE:HD12	1.79	0.63
1:L:205:VAL:O	1:Q:416:GLY:HA2	1.99	0.63
1:N:461:LEU:HD23	1:N:464:LEU:HD12	1.79	0.63
1:X:315:VAL:O	1:X:323:LYS:NZ	2.31	0.63
1:E:464:LEU:CD2	1:E:489:LEU:HD21	2.28	0.63
1:S:275:LEU:HD13	1:S:277:THR:HG23	1.80	0.62
1:V:371:GLY:O	1:V:376:MET:HE3	2.00	0.62
1:U:455:LEU:HD13	1:U:465:ALA:HB2	1.81	0.62
1:K:347:ALA:HB1	2:K:600:LDN:CAI	2.30	0.62
1:H:428:VAL:HG11	1:H:447:GLN:NE2	2.15	0.62
1:P:355:HIS:HB3	1:P:390:PHE:HB2	1.81	0.62
1:R:251:LEU:HD21	1:R:349:LEU:HD21	1.81	0.62
1:U:465:ALA:HA	1:U:468:MET:HE3	1.81	0.62
1:G:467:MET:HE3	1:G:485:ILE:HG23	1.80	0.62
1:M:464:LEU:HD23	1:M:489:LEU:HD21	1.81	0.62
1:J:412:THR:HG21	1:J:461:LEU:HD11	1.81	0.61
1:I:480:LEU:HD22	1:I:484:ARG:HG2	1.81	0.61
1:J:204:LEU:HD22	1:J:217:TRP:CB	2.30	0.61
1:M:467:MET:CE	1:M:485:ILE:HG23	2.30	0.61
1:P:465:ALA:HA	1:P:468:MET:HE3	1.82	0.61
1:U:300:LEU:CD2	1:U:493:SER:HA	2.31	0.61
1:B:354:MET:HE3	1:B:363:ASP:OD1	2.01	0.61
1:D:239:TRP:CE3	1:D:273:LEU:HD22	2.35	0.61
1:A:458:ASP:O	1:A:462:SER:HB3	2.01	0.61
1:U:198:VAL:HG22	1:U:221:TRP:HZ2	1.66	0.61
1:U:358:GLY:O	1:U:359:SER:C	2.44	0.61
1:H:428:VAL:HG11	1:H:447:GLN:HE22	1.64	0.60
1:L:414:VAL:HG12	1:L:454:ARG:HH11	1.65	0.60
1:H:273:LEU:HD22	1:H:273:LEU:H	1.65	0.60
1:P:283:GLY:HA2	2:P:600:LDN:CAF	2.31	0.60
1:T:467:MET:CE	1:T:485:ILE:HG23	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:386:ARG:HB3	1:B:386:ARG:NH1	2.15	0.59
1:F:374:ARG:NH1	1:F:431:ASN:O	2.35	0.59
1:K:199:ALA:HB2	1:K:276:ILE:CD1	2.32	0.59
1:T:315:VAL:HG13	1:T:315:VAL:O	2.02	0.59
1:K:465:ALA:HA	1:K:468:MET:HE3	1.84	0.59
1:P:464:LEU:HD21	1:P:489:LEU:HD11	1.82	0.59
1:W:461:LEU:HD23	1:W:464:LEU:HB2	1.84	0.59
1:H:273:LEU:HD22	1:H:273:LEU:N	2.18	0.59
1:J:467:MET:CE	1:J:485:ILE:HG23	2.32	0.59
1:P:355:HIS:HB2	1:P:362:LEU:HD12	1.84	0.59
1:H:250:LEU:HD21	1:H:321:GLN:OE1	2.03	0.59
1:P:206:GLU:CB	1:P:218:ARG:HH12	2.15	0.59
1:S:460:VAL:HG12	1:S:461:LEU:N	2.17	0.59
1:G:450:THR:CG2	1:I:453:ASN:H	2.16	0.58
1:K:381:LEU:HD11	1:K:438:MET:HB3	1.84	0.58
1:U:374:ARG:NH1	1:U:431:ASN:O	2.36	0.58
1:E:467:MET:HE3	1:E:485:ILE:HG23	1.85	0.58
1:F:474:PRO:HB3	1:J:475:ASN:HB2	1.86	0.58
1:G:467:MET:SD	1:G:485:ILE:HG23	2.42	0.58
1:D:252:ARG:HD3	1:I:321:GLN:O	2.03	0.58
1:F:235:ASP:OD2	1:F:369:ARG:NH2	2.37	0.58
1:W:464:LEU:HD13	1:W:489:LEU:HD21	1.84	0.58
1:B:386:ARG:HH11	1:B:386:ARG:CB	2.14	0.58
1:B:409:ALA:HB2	1:B:468:MET:HE1	1.86	0.58
1:L:464:LEU:O	1:L:468:MET:HE3	2.04	0.58
1:B:405:LEU:HD11	1:B:467:MET:CE	2.33	0.58
1:I:417:ILE:HG22	1:I:418:VAL:N	2.19	0.58
1:Q:381:LEU:HA	1:Q:435:PHE:CZ	2.38	0.58
1:R:428:VAL:HG11	1:R:447:GLN:OE1	2.04	0.58
1:C:239:TRP:CD2	1:C:273:LEU:HD23	2.38	0.57
1:S:386:ARG:NH1	1:T:446:GLN:HB2	2.20	0.57
1:G:434:SER:O	1:G:435:PHE:C	2.47	0.57
1:J:227:ALA:HB1	2:J:600:LDN:HAD	1.86	0.57
1:O:301:ARG:NH2	1:O:341:ASN:O	2.37	0.57
1:Q:207:CYS:HB2	1:Q:217:TRP:CE2	2.39	0.57
1:A:195:GLN:HB3	1:A:261:ALA:HB1	1.87	0.57
1:I:250:LEU:HD11	1:I:252:ARG:NH1	2.20	0.57
1:Q:440:LYS:HA	1:Q:444:VAL:HG23	1.86	0.57
1:S:428:VAL:HG23	1:S:429:VAL:HG13	1.87	0.57
1:B:412:THR:HG21	1:B:461:LEU:HD21	1.85	0.57
1:W:251:LEU:HD21	1:W:349:LEU:HD21	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:369:ARG:NH2	3:W:142:HOH:O	2.25	0.57
1:X:420:ASP:CB	1:X:422:ARG:HH21	2.17	0.57
1:C:434:SER:OG	1:C:437:ASP:CG	2.47	0.56
1:D:206:GLU:OE1	1:D:218:ARG:NH1	2.38	0.56
1:G:379:GLU:CG	1:G:385:ILE:HG23	2.35	0.56
1:Q:467:MET:HE3	1:Q:485:ILE:HG23	1.86	0.56
1:S:265:THR:O	1:S:266:SER:OG	2.14	0.56
1:I:317:ILE:HG22	1:I:322:GLY:HA2	1.87	0.56
1:U:373:LYS:HG3	1:U:433:PRO:O	2.04	0.56
1:N:300:LEU:HD21	1:N:493:SER:HB3	1.87	0.56
1:X:452:PRO:HD2	1:X:455:LEU:HD13	1.86	0.56
1:R:455:LEU:CD2	1:R:465:ALA:HB2	2.35	0.56
1:G:450:THR:HG22	1:I:453:ASN:HB2	1.87	0.56
1:M:405:LEU:HD11	1:M:467:MET:CE	2.35	0.56
1:E:405:LEU:HD22	1:E:464:LEU:HD22	1.86	0.56
1:O:360:ASP:HA	1:O:361:TYR:C	2.31	0.56
1:A:198:VAL:O	1:A:202:VAL:HG23	2.05	0.56
1:D:360:ASP:HA	1:D:361:TYR:C	2.30	0.56
1:G:450:THR:HG21	1:I:452:PRO:HA	1.85	0.56
1:L:236:GLU:HG2	1:L:273:LEU:CD2	2.36	0.56
1:X:405:LEU:HD11	1:X:467:MET:CE	2.36	0.56
1:G:428:VAL:HG23	1:G:429:VAL:HG13	1.87	0.56
1:N:239:TRP:CZ3	1:N:273:LEU:HD23	2.40	0.56
1:T:414:VAL:HG11	1:T:454:ARG:HG3	1.86	0.56
1:U:480:LEU:HD22	1:U:484:ARG:HG2	1.87	0.56
1:F:474:PRO:CB	1:J:475:ASN:HB2	2.36	0.56
1:C:237:GLN:HG2	1:C:366:ASN:O	2.05	0.55
1:R:414:VAL:HG11	1:R:454:ARG:HG2	1.87	0.55
1:S:265:THR:O	1:S:272:GLN:N	2.39	0.55
1:C:293:THR:OG1	1:C:413:ILE:HD11	2.07	0.55
1:E:452:PRO:HD2	1:E:455:LEU:HD13	1.89	0.55
1:F:477:SER:OG	1:J:382:ASP:CB	2.54	0.55
1:V:263:ASP:OD2	1:V:264:MET:N	2.39	0.55
1:X:400:ALA:HA	1:X:403:LEU:HD12	1.87	0.55
1:N:454:ARG:CG	1:N:454:ARG:O	2.54	0.55
1:S:459:PRO:O	1:S:460:VAL:C	2.49	0.55
1:W:375:TYR:OH	1:W:407:GLU:OE2	2.17	0.55
1:C:239:TRP:CZ3	1:C:273:LEU:HD23	2.41	0.55
1:C:360:ASP:HA	1:C:361:TYR:C	2.30	0.55
1:M:305:SER:HB3	1:M:343:GLN:HG3	1.88	0.55
1:R:414:VAL:HG13	1:R:454:ARG:NH1	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:412:THR:HG21	1:U:461:LEU:HD21	1.89	0.55
1:P:410:ARG:NH1	1:P:419:GLU:OE2	2.39	0.55
1:X:347:ALA:HB3	2:X:600:LDN:CAB	2.37	0.55
1:C:315:VAL:HG13	1:C:315:VAL:O	2.06	0.55
1:F:464:LEU:HD23	1:F:489:LEU:HD21	1.88	0.55
2:F:600:LDN:HAJ	2:F:600:LDN:CBC	2.36	0.55
1:M:467:MET:SD	1:M:485:ILE:HG23	2.47	0.55
1:T:452:PRO:HD2	1:T:455:LEU:HD13	1.89	0.55
1:X:483:LEU:HD12	1:X:486:LYS:HE2	1.89	0.55
1:M:251:LEU:HD11	1:M:326:ILE:CD1	2.36	0.55
1:T:285:LEU:O	1:T:289:LEU:HG	2.06	0.55
1:B:409:ALA:CB	1:B:468:MET:HE1	2.37	0.55
1:E:298:LEU:HD12	1:E:298:LEU:O	2.07	0.55
1:H:414:VAL:HG13	1:H:454:ARG:CG	2.37	0.55
1:H:434:SER:OG	1:H:436:GLU:HG2	2.07	0.55
1:I:354:MET:HE3	1:I:363:ASP:OD1	2.07	0.55
1:J:467:MET:HE3	1:J:485:ILE:HG23	1.89	0.55
1:L:431:ASN:OD1	1:L:432:ASP:N	2.40	0.55
1:Q:329:ARG:HD3	1:Q:393:TYR:CD1	2.41	0.55
1:B:467:MET:HE1	1:B:489:LEU:CD1	2.26	0.54
1:F:239:TRP:CE3	1:F:273:LEU:HD13	2.41	0.54
1:G:199:ALA:HB2	1:G:276:ILE:HD11	1.88	0.54
1:J:452:PRO:O	1:J:454:ARG:N	2.41	0.54
1:N:295:GLU:HG2	1:N:296:PRO:HD2	1.89	0.54
1:R:283:GLY:HA2	2:R:600:LDN:CAV	2.37	0.54
1:S:414:VAL:HG21	1:S:454:ARG:HG3	1.89	0.54
1:O:315:VAL:O	1:O:315:VAL:HG13	2.06	0.54
1:O:426:TYR:H	1:O:426:TYR:HD2	1.52	0.54
1:C:434:SER:HG	1:C:437:ASP:CG	2.15	0.54
1:E:354:MET:O	1:E:362:LEU:HD12	2.07	0.54
1:G:199:ALA:HB2	1:G:276:ILE:CD1	2.37	0.54
1:N:305:SER:CB	1:N:343:GLN:HG2	2.37	0.54
1:Q:467:MET:SD	1:Q:485:ILE:HG23	2.48	0.54
1:R:198:VAL:O	1:R:202:VAL:HG23	2.07	0.54
1:N:360:ASP:HA	1:N:361:TYR:C	2.31	0.54
1:P:413:ILE:HG23	1:P:416:GLY:CA	2.37	0.54
1:X:405:LEU:HD11	1:X:467:MET:HE2	1.90	0.54
1:A:291:ARG:NH2	3:A:105:HOH:O	2.41	0.54
1:R:298:LEU:HD12	1:R:298:LEU:O	2.07	0.54
1:Q:195:GLN:OE1	1:Q:262:SER:N	2.39	0.54
1:A:470:GLU:HA	1:A:473:TYR:CE2	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:403:LEU:HD23	1:M:472:TRP:CZ2	2.43	0.53
1:P:429:VAL:HG13	1:P:441:VAL:HG21	1.91	0.53
1:N:315:VAL:HG13	1:N:315:VAL:O	2.07	0.53
1:U:300:LEU:HD22	1:U:493:SER:HA	1.89	0.53
2:V:600:LDN:HAJ	2:V:600:LDN:CBC	2.38	0.53
1:L:455:LEU:O	1:L:461:LEU:CB	2.56	0.53
1:F:467:MET:HE3	1:F:485:ILE:HG23	1.89	0.53
1:G:418:VAL:HG13	1:G:418:VAL:O	2.08	0.53
1:K:347:ALA:HB3	2:K:600:LDN:CAA	2.38	0.53
1:X:283:GLY:CA	2:X:600:LDN:CAV	2.86	0.53
1:D:237:GLN:HG2	1:D:367:ASN:HA	1.89	0.53
1:Q:473:TYR:CZ	1:U:446:GLN:OE1	2.62	0.53
1:B:386:ARG:HD2	1:B:389:CYS:HB2	1.90	0.53
1:H:434:SER:O	1:H:435:PHE:C	2.51	0.53
1:E:199:ALA:HB2	1:E:276:ILE:CD1	2.38	0.53
1:K:428:VAL:HG23	1:K:429:VAL:HG13	1.91	0.53
1:Q:474:PRO:HB2	1:U:475:ASN:HB2	1.89	0.53
1:T:470:GLU:HG2	1:T:473:TYR:CZ	2.44	0.53
1:P:464:LEU:CD2	1:P:489:LEU:HD11	2.39	0.53
1:R:465:ALA:HA	1:R:468:MET:HE3	1.91	0.53
1:S:360:ASP:HA	1:S:361:TYR:C	2.32	0.53
1:F:237:GLN:CD	1:F:368:PRO:HD3	2.34	0.53
1:N:239:TRP:CE3	1:N:273:LEU:HD22	2.41	0.53
1:O:455:LEU:HD13	1:O:465:ALA:HB2	1.89	0.53
1:W:381:LEU:HA	1:W:435:PHE:CZ	2.44	0.53
1:G:417:ILE:HG21	1:I:427:ASP:O	2.09	0.52
1:N:446:GLN:CD	1:R:395:TRP:HZ3	2.17	0.52
1:S:197:THR:O	1:S:199:ALA:N	2.42	0.52
1:L:329:ARG:HD3	1:L:393:TYR:CD1	2.45	0.52
1:O:426:TYR:N	1:O:426:TYR:CD2	2.77	0.52
1:Q:237:GLN:CD	1:Q:368:PRO:HD3	2.34	0.52
1:V:315:VAL:O	1:V:315:VAL:HG13	2.08	0.52
1:X:337:LEU:HD21	2:X:600:LDN:CBC	2.38	0.52
1:B:446:GLN:HA	1:B:446:GLN:OE1	2.08	0.52
1:D:239:TRP:CD2	1:D:273:LEU:CD2	2.92	0.52
1:I:410:ARG:NH1	1:I:419:GLU:OE2	2.42	0.52
1:I:432:ASP:O	1:I:433:PRO:C	2.52	0.52
1:K:473:TYR:CE1	1:K:475:ASN:HB3	2.44	0.52
1:N:300:LEU:CD2	1:N:492:ILE:O	2.57	0.52
1:X:468:MET:O	1:X:472:TRP:CD1	2.62	0.52
1:B:405:LEU:HD11	1:B:467:MET:HE3	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:294:LEU:HD22	1:G:298:LEU:HG	1.92	0.52
1:J:412:THR:CG2	1:J:461:LEU:HD11	2.39	0.52
1:Q:422:ARG:HD2	1:Q:426:TYR:CD1	2.45	0.52
1:R:202:VAL:HG22	1:R:221:TRP:HB2	1.91	0.52
1:R:315:VAL:HG13	1:R:315:VAL:O	2.08	0.52
1:D:337:LEU:HD21	2:D:600:LDN:HAJ	1.90	0.52
1:K:428:VAL:HG23	1:K:441:VAL:HG21	1.91	0.52
1:M:422:ARG:HD2	1:M:426:TYR:CD1	2.45	0.52
1:T:251:LEU:HD21	1:T:349:LEU:HD21	1.91	0.52
1:X:249:VAL:HG11	1:X:251:LEU:HD13	1.90	0.52
1:G:375:TYR:OH	1:G:407:GLU:OE2	2.22	0.52
1:O:417:ILE:HG22	1:O:454:ARG:HH11	1.75	0.52
1:O:206:GLU:OE1	1:O:218:ARG:NH1	2.42	0.52
1:U:300:LEU:HD13	1:U:460:VAL:CG1	2.36	0.52
1:B:458:ASP:O	1:B:462:SER:HB2	2.09	0.52
1:N:446:GLN:HB2	1:R:395:TRP:CH2	2.42	0.52
1:C:386:ARG:HB2	1:C:386:ARG:CZ	2.40	0.52
1:I:491:LYS:O	1:I:492:ILE:C	2.52	0.52
1:O:305:SER:HB3	1:O:343:GLN:HG2	1.91	0.52
1:X:347:ALA:HB3	2:X:600:LDN:CAA	2.39	0.52
1:A:250:LEU:HD13	1:A:321:GLN:OE1	2.10	0.52
1:B:248:THR:C	1:C:321:GLN:NE2	2.68	0.52
1:F:464:LEU:O	1:F:468:MET:HG3	2.10	0.52
1:K:375:TYR:OH	1:K:407:GLU:OE2	2.22	0.52
1:L:381:LEU:HD11	1:L:438:MET:HB3	1.92	0.52
1:R:376:MET:HG2	1:R:380:VAL:CG1	2.39	0.52
1:X:455:LEU:HD23	1:X:465:ALA:HB2	1.91	0.51
1:I:236:GLU:HG2	1:I:273:LEU:CD2	2.40	0.51
1:I:373:LYS:HA	1:I:376:MET:HG3	1.92	0.51
1:X:241:ARG:NH1	1:X:244:GLU:OE1	2.43	0.51
1:B:460:VAL:HG12	1:B:492:ILE:HG22	1.93	0.51
1:M:328:HIS:O	1:M:329:ARG:HB2	2.10	0.51
1:N:440:LYS:HA	1:N:444:VAL:HG23	1.92	0.51
1:U:371:GLY:O	1:U:376:MET:HE3	2.10	0.51
1:A:298:LEU:O	1:A:298:LEU:HD12	2.10	0.51
1:D:239:TRP:CD2	1:D:273:LEU:HD23	2.45	0.51
1:M:275:LEU:HD13	1:M:277:THR:HG23	1.92	0.51
1:M:305:SER:HB3	1:M:343:GLN:CG	2.41	0.51
1:S:215:GLU:OE2	1:X:431:ASN:HB3	2.10	0.51
1:B:251:LEU:HD21	1:B:326:ILE:CD1	2.41	0.51
1:K:473:TYR:HE1	1:K:475:ASN:HB3	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:198:VAL:O	1:N:202:VAL:HG23	2.11	0.51
1:Q:315:VAL:O	1:Q:315:VAL:HG13	2.10	0.51
1:U:198:VAL:HG22	1:U:221:TRP:CZ2	2.46	0.51
1:X:399:TRP:NE1	1:X:403:LEU:HD11	2.26	0.51
1:F:477:SER:CB	1:J:382:ASP:HB3	2.41	0.51
1:M:455:LEU:HD22	1:M:461:LEU:HB3	1.93	0.51
1:W:465:ALA:HA	1:W:468:MET:HE3	1.93	0.51
1:E:414:VAL:HG11	1:E:454:ARG:HG2	1.93	0.51
1:E:480:LEU:HD22	1:E:484:ARG:HG2	1.92	0.51
1:H:360:ASP:HA	1:H:361:TYR:C	2.35	0.51
1:N:239:TRP:CZ3	1:N:273:LEU:CD2	2.93	0.51
1:O:304:VAL:HA	1:O:489:LEU:HD13	1.93	0.51
1:T:315:VAL:O	1:T:315:VAL:CG1	2.59	0.51
1:V:295:GLU:OE2	1:V:297:HIS:HB3	2.10	0.51
1:A:202:VAL:HG22	1:A:221:TRP:HB2	1.93	0.51
1:B:467:MET:SD	1:B:485:ILE:HG23	2.51	0.51
1:C:289:LEU:CD2	1:C:294:LEU:HD11	2.40	0.51
1:R:455:LEU:HD23	1:R:465:ALA:HB2	1.92	0.51
1:U:351:LEU:HD21	1:U:369:ARG:O	2.10	0.51
1:W:329:ARG:HD3	1:W:393:TYR:CD1	2.45	0.51
1:P:430:PRO:O	1:P:431:ASN:O	2.29	0.50
1:T:206:GLU:OE2	1:T:218:ARG:NH1	2.44	0.50
1:X:283:GLY:HA3	2:X:600:LDN:CAG	2.41	0.50
1:E:415:ASN:O	1:E:417:ILE:HD12	2.11	0.50
1:U:451:ILE:HD12	1:U:469:ARG:HE	1.76	0.50
1:B:317:ILE:HG21	1:C:252:ARG:HD2	1.93	0.50
1:B:412:THR:HG21	1:B:461:LEU:HD11	1.94	0.50
1:L:382:ASP:CG	1:P:477:SER:HG	2.17	0.50
1:R:427:ASP:C	1:T:417:ILE:HD12	2.37	0.50
1:S:197:THR:O	1:S:200:ARG:N	2.45	0.50
1:C:295:GLU:HG2	1:C:296:PRO:HD2	1.92	0.50
1:S:460:VAL:HG12	1:S:461:LEU:CD2	2.41	0.50
1:G:417:ILE:CG2	1:I:427:ASP:O	2.59	0.50
1:H:250:LEU:HD23	1:H:321:GLN:HA	1.92	0.50
1:T:467:MET:HE3	1:T:485:ILE:HG23	1.91	0.50
1:F:315:VAL:O	1:F:315:VAL:HG13	2.11	0.50
1:P:252:ARG:CZ	1:P:252:ARG:HB3	2.42	0.50
1:V:417:ILE:HG22	1:V:454:ARG:HH11	1.77	0.50
1:B:317:ILE:HG21	1:C:252:ARG:CD	2.42	0.50
1:H:428:VAL:HG23	1:H:429:VAL:HG13	1.94	0.50
2:T:600:LDN:HAJ	2:T:600:LDN:CBC	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:289:LEU:HD21	1:F:294:LEU:HD11	1.94	0.50
1:R:434:SER:O	1:R:436:GLU:N	2.45	0.50
1:T:451:ILE:HD11	1:T:472:TRP:HZ3	1.77	0.50
1:I:446:GLN:O	1:I:446:GLN:HG3	2.12	0.49
1:R:357:GLN:O	1:R:358:GLY:C	2.55	0.49
1:T:489:LEU:O	1:T:490:GLN:C	2.55	0.49
1:X:235:ASP:OD1	1:X:369:ARG:HD3	2.11	0.49
1:B:386:ARG:NH1	1:B:386:ARG:CB	2.75	0.49
1:C:197:THR:HG22	1:C:197:THR:O	2.11	0.49
1:H:400:ALA:HA	1:H:403:LEU:HD12	1.94	0.49
1:K:337:LEU:HD11	2:K:600:LDN:CAJ	2.42	0.49
1:L:451:ILE:HG23	1:L:455:LEU:HD13	1.94	0.49
1:V:434:SER:OG	1:V:437:ASP:OD2	2.30	0.49
1:M:275:LEU:HD13	1:M:277:THR:CG2	2.43	0.49
1:J:252:ARG:HD3	1:W:486:LYS:NZ	2.26	0.49
1:U:315:VAL:HG13	1:U:315:VAL:O	2.11	0.49
1:E:428:VAL:HG23	1:E:429:VAL:HG13	1.94	0.49
1:S:217:TRP:CH2	1:X:430:PRO:CB	2.84	0.49
1:I:417:ILE:CG2	1:I:418:VAL:N	2.75	0.49
1:S:315:VAL:HG13	1:S:315:VAL:O	2.11	0.49
1:A:490:GLN:O	1:A:493:SER:N	2.38	0.49
1:C:251:LEU:HD11	1:C:326:ILE:CD1	2.42	0.49
1:L:315:VAL:O	1:L:315:VAL:HG13	2.11	0.49
1:C:451:ILE:O	1:C:452:PRO:C	2.53	0.49
1:G:359:SER:O	1:G:361:TYR:N	2.46	0.49
1:T:417:ILE:O	1:T:454:ARG:NH1	2.46	0.49
1:W:315:VAL:O	1:W:315:VAL:HG13	2.12	0.49
1:X:455:LEU:HB3	1:X:465:ALA:HB2	1.94	0.49
2:D:600:LDN:HAJ	2:D:600:LDN:CBC	2.43	0.49
1:L:322:GLY:O	1:L:323:LYS:HB3	2.12	0.49
1:W:205:VAL:HG11	1:W:218:ARG:HH22	1.78	0.49
1:C:425:PHE:O	1:C:429:VAL:HG22	2.13	0.49
1:G:432:ASP:O	1:G:433:PRO:C	2.55	0.49
1:H:386:ARG:NH1	1:I:446:GLN:HB2	2.28	0.49
1:I:312:HIS:O	1:I:323:LYS:NZ	2.44	0.49
1:P:412:THR:O	1:P:418:VAL:HG23	2.13	0.49
1:S:452:PRO:HB2	1:S:455:LEU:HD13	1.95	0.49
1:B:452:PRO:HB2	1:B:454:ARG:HB3	1.95	0.48
1:E:205:VAL:HG21	1:E:220:LEU:HG	1.93	0.48
1:E:465:ALA:HA	1:E:468:MET:HE3	1.95	0.48
1:M:447:GLN:OE1	1:Q:454:ARG:HA	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:370:VAL:HB	1:V:376:MET:HE1	1.95	0.48
1:X:283:GLY:HA2	2:X:600:LDN:CAF	2.43	0.48
1:A:361:TYR:CZ	1:M:0:MET:HA	2.48	0.48
1:P:206:GLU:CB	1:P:218:ARG:NH1	2.76	0.48
1:R:207:CYS:HB2	1:R:217:TRP:CZ2	2.49	0.48
1:T:197:THR:CG2	1:T:200:ARG:CB	2.92	0.48
1:W:467:MET:CE	1:W:485:ILE:HG23	2.44	0.48
1:B:332:LYS:HE3	1:B:334:ARG:HB2	1.94	0.48
1:L:291:ARG:NH2	2:L:600:LDN:HNAU	2.10	0.48
1:O:490:GLN:OE1	1:T:341:ASN:ND2	2.47	0.48
1:P:315:VAL:O	1:P:315:VAL:HG13	2.13	0.48
1:G:317:ILE:HB	1:G:323:LYS:HG3	1.94	0.48
1:G:452:PRO:HB2	1:G:455:LEU:HD13	1.95	0.48
1:H:265:THR:HG23	1:H:266:SER:N	2.28	0.48
1:K:198:VAL:HG13	1:K:221:TRP:CZ2	2.48	0.48
1:A:315:VAL:O	1:A:315:VAL:HG13	2.12	0.48
1:K:428:VAL:HG21	1:K:441:VAL:CG1	2.44	0.48
1:M:198:VAL:HG13	1:M:221:TRP:NE1	2.28	0.48
1:P:354:MET:HA	1:P:390:PHE:CE1	2.48	0.48
1:R:403:LEU:HD22	1:R:449:PRO:HG2	1.94	0.48
1:S:456:ALA:HA	1:S:462:SER:OG	2.13	0.48
1:T:250:LEU:HD11	1:T:252:ARG:NH1	2.29	0.48
1:T:418:VAL:O	1:T:418:VAL:HG13	2.14	0.48
1:M:236:GLU:HG2	1:M:273:LEU:CD1	2.41	0.48
1:C:486:LYS:HE2	1:C:490:GLN:HE22	1.78	0.48
1:D:198:VAL:O	1:D:202:VAL:N	2.44	0.48
1:Q:362:LEU:HD13	1:Q:390:PHE:HB2	1.96	0.48
1:B:460:VAL:HG12	1:B:492:ILE:CG2	2.44	0.48
2:C:600:LDN:CBC	2:C:600:LDN:HAJ	2.43	0.48
1:D:316:GLU:HG3	1:D:324:PRO:HA	1.95	0.48
1:E:315:VAL:O	1:E:315:VAL:HG13	2.13	0.48
1:G:245:ILE:HG21	1:G:349:LEU:HD23	1.95	0.48
1:M:467:MET:HE3	1:M:485:ILE:HG23	1.96	0.48
1:T:414:VAL:O	1:T:416:GLY:N	2.47	0.48
1:V:391:GLU:OE2	1:V:394:LYS:NZ	2.43	0.48
1:D:305:SER:HB3	1:D:343:GLN:HG2	1.96	0.48
1:L:325:ALA:N	1:L:355:HIS:O	2.40	0.48
1:Q:264:MET:HG3	1:Q:273:LEU:HD22	1.95	0.48
1:T:245:ILE:HG21	1:T:349:LEU:HD23	1.96	0.48
1:F:207:CYS:HB2	1:F:217:TRP:CZ2	2.48	0.48
1:F:329:ARG:HD3	1:F:393:TYR:CD1	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:258:GLY:O	1:H:277:THR:HB	2.14	0.48
1:N:446:GLN:CB	1:R:395:TRP:CH2	2.97	0.48
1:R:316:GLU:CD	1:R:357:GLN:H	2.22	0.47
1:I:315:VAL:O	1:I:315:VAL:HG13	2.14	0.47
1:H:316:GLU:HG2	1:H:324:PRO:HA	1.96	0.47
1:I:400:ALA:O	1:I:404:VAL:HG23	2.14	0.47
1:M:403:LEU:HD22	1:M:449:PRO:HG2	1.95	0.47
1:N:400:ALA:O	1:N:404:VAL:HG23	2.14	0.47
1:T:386:ARG:H	1:T:386:ARG:HE	1.62	0.47
1:U:488:THR:O	1:U:491:LYS:HB2	2.14	0.47
1:V:298:LEU:HD12	1:V:302:LEU:HD13	1.96	0.47
1:B:315:VAL:HG13	1:B:315:VAL:O	2.14	0.47
1:F:467:MET:SD	1:F:485:ILE:HG23	2.54	0.47
1:Q:198:VAL:HG22	1:Q:221:TRP:CZ2	2.49	0.47
1:S:230:ILE:CG2	1:S:272:GLN:OE1	2.62	0.47
1:A:304:VAL:HA	1:A:489:LEU:HD13	1.97	0.47
1:R:467:MET:HE3	1:R:485:ILE:HG23	1.95	0.47
1:A:451:ILE:O	1:A:452:PRO:C	2.56	0.47
1:E:455:LEU:HD23	1:E:465:ALA:HB2	1.97	0.47
1:E:467:MET:SD	1:E:485:ILE:HG23	2.55	0.47
1:F:458:ASP:CB	1:F:461:LEU:HD12	2.44	0.47
1:I:467:MET:CE	1:I:485:ILE:HG23	2.44	0.47
2:U:600:LDN:HAJ	2:U:600:LDN:CBC	2.44	0.47
1:B:409:ALA:HB2	1:B:468:MET:CE	2.45	0.47
1:G:355:HIS:C	1:G:355:HIS:ND1	2.72	0.47
1:I:446:GLN:HA	1:I:446:GLN:NE2	2.29	0.47
1:L:316:GLU:CD	1:L:357:GLN:H	2.23	0.47
1:N:298:LEU:HD12	1:N:298:LEU:O	2.14	0.47
1:O:256:ILE:CD1	1:O:312:HIS:HD1	2.28	0.47
1:S:381:LEU:HD11	1:S:438:MET:HB3	1.96	0.47
1:T:312:HIS:O	1:T:323:LYS:HE3	2.15	0.47
1:A:195:GLN:OE1	1:A:262:SER:N	2.46	0.47
1:B:328:HIS:O	1:B:329:ARG:HB2	2.15	0.47
1:F:332:LYS:HD3	1:F:372:THR:OG1	2.15	0.47
1:J:283:GLY:HA2	2:J:600:LDN:CAM	2.45	0.47
1:K:347:ALA:CB	2:K:600:LDN:CAA	2.93	0.47
1:Q:440:LYS:HA	1:Q:444:VAL:CG2	2.45	0.47
1:R:304:VAL:HA	1:R:489:LEU:HD13	1.97	0.47
1:X:198:VAL:HA	1:X:221:TRP:NE1	2.30	0.47
1:E:283:GLY:HA2	2:E:600:LDN:CAV	2.45	0.47
1:R:403:LEU:HD23	1:R:472:TRP:NE1	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:202:VAL:HG22	1:S:221:TRP:HB2	1.97	0.47
1:X:317:ILE:HD12	1:X:323:LYS:HG2	1.95	0.47
1:B:202:VAL:HG22	1:B:221:TRP:HB2	1.97	0.46
1:T:386:ARG:H	1:T:386:ARG:NE	2.13	0.46
1:X:302:LEU:HD22	1:X:344:CYS:SG	2.55	0.46
1:A:452:PRO:C	1:A:454:ARG:H	2.23	0.46
1:E:467:MET:HE1	1:E:489:LEU:CD1	2.40	0.46
1:F:241:ARG:HD3	1:F:365:GLY:HA3	1.96	0.46
1:G:447:GLN:OE1	1:I:454:ARG:HA	2.14	0.46
1:K:305:SER:HA	1:K:308:CYS:SG	2.55	0.46
1:C:381:LEU:HD23	1:C:435:PHE:CE1	2.50	0.46
1:G:293:THR:OG1	1:G:413:ILE:HD11	2.15	0.46
1:I:446:GLN:HA	1:I:446:GLN:HE21	1.79	0.46
1:I:467:MET:SD	1:I:485:ILE:HG23	2.55	0.46
1:J:227:ALA:CB	2:J:600:LDN:HAD	2.44	0.46
1:K:332:LYS:HD3	1:K:372:THR:OG1	2.15	0.46
1:M:405:LEU:HD11	1:M:467:MET:HE2	1.96	0.46
1:N:446:GLN:CB	1:R:395:TRP:HH2	2.26	0.46
1:P:195:GLN:CG	1:P:261:ALA:CB	2.92	0.46
1:R:434:SER:O	1:R:435:PHE:C	2.58	0.46
1:T:197:THR:HG23	1:T:200:ARG:CB	2.45	0.46
1:I:332:LYS:HE3	1:I:334:ARG:HB2	1.98	0.46
1:W:464:LEU:CD1	1:W:489:LEU:HD21	2.45	0.46
1:A:364:ILE:HG22	1:A:365:GLY:O	2.15	0.46
1:M:354:MET:HB2	1:M:363:ASP:HB3	1.97	0.46
1:Q:317:ILE:HD12	1:Q:323:LYS:HD3	1.97	0.46
1:R:434:SER:C	1:R:436:GLU:N	2.73	0.46
1:S:428:VAL:HG11	1:S:447:GLN:OE1	2.15	0.46
1:V:418:VAL:HA	1:V:454:ARG:HH12	1.81	0.46
1:G:379:GLU:HG3	1:G:385:ILE:HG23	1.97	0.46
1:O:455:LEU:HD22	1:O:461:LEU:HB3	1.97	0.46
1:R:207:CYS:HB2	1:R:217:TRP:CE2	2.51	0.46
1:R:315:VAL:O	1:R:315:VAL:CG1	2.64	0.46
1:W:403:LEU:HD22	1:W:424:PRO:HB3	1.97	0.46
2:W:600:LDN:HAJ	2:W:600:LDN:CBC	2.46	0.46
1:E:198:VAL:O	1:E:202:VAL:HG23	2.16	0.46
1:E:206:GLU:CB	3:E:113:HOH:O	2.63	0.46
1:H:204:LEU:HD13	1:H:217:TRP:CG	2.51	0.46
1:M:204:LEU:HB3	1:M:217:TRP:CE3	2.50	0.46
1:M:245:ILE:HG21	1:M:349:LEU:HD23	1.98	0.46
1:O:256:ILE:HD12	1:O:312:HIS:HD1	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:414:VAL:C	1:T:416:GLY:N	2.74	0.46
1:B:464:LEU:HD23	1:B:489:LEU:HD21	1.98	0.46
1:C:315:VAL:O	1:C:315:VAL:CG1	2.63	0.46
1:H:245:ILE:HG21	1:H:349:LEU:HD23	1.97	0.46
1:K:315:VAL:HG13	1:K:315:VAL:O	2.15	0.46
1:N:300:LEU:HD22	1:N:492:ILE:O	2.15	0.46
1:N:403:LEU:HD23	1:N:472:TRP:NE1	2.30	0.46
1:R:251:LEU:HD21	1:R:349:LEU:CD2	2.45	0.46
1:R:414:VAL:HG21	1:R:454:ARG:CG	2.46	0.46
1:B:293:THR:CB	1:B:413:ILE:HD11	2.46	0.46
1:D:315:VAL:HG13	1:D:315:VAL:O	2.15	0.46
1:T:315:VAL:O	1:T:323:LYS:NZ	2.48	0.46
1:T:357:GLN:O	1:T:358:GLY:C	2.59	0.46
1:W:245:ILE:HG21	1:W:349:LEU:HD23	1.98	0.46
1:X:281:GLU:O	2:X:600:LDN:HAH	2.16	0.46
1:X:283:GLY:CA	2:X:600:LDN:CAE	2.93	0.46
1:X:483:LEU:CD1	1:X:487:LYS:HE3	2.43	0.46
1:G:460:VAL:HA	1:G:492:ILE:HG21	1.98	0.46
1:H:414:VAL:CG1	1:H:454:ARG:HG2	2.46	0.46
1:W:420:ASP:OD2	1:W:422:ARG:CZ	2.64	0.46
1:D:317:ILE:N	1:D:317:ILE:CD1	2.75	0.45
1:X:283:GLY:HA3	2:X:600:LDN:CAE	2.46	0.45
1:X:337:LEU:CD1	2:X:600:LDN:HAJ	2.45	0.45
1:B:305:SER:CB	1:B:343:GLN:HG2	2.46	0.45
1:F:272:GLN:O	1:F:273:LEU:HD23	2.16	0.45
1:F:351:LEU:HG	1:F:369:ARG:HG2	1.97	0.45
1:P:409:ALA:HB1	1:P:455:LEU:HD22	1.97	0.45
1:X:335:ASN:HA	2:X:600:LDN:HAA	1.98	0.45
2:E:600:LDN:HAJ	2:E:600:LDN:CBC	2.46	0.45
1:H:414:VAL:HG13	1:H:454:ARG:HG2	1.98	0.45
1:O:315:VAL:O	1:O:315:VAL:CG1	2.64	0.45
1:B:451:ILE:O	1:B:452:PRO:C	2.59	0.45
1:F:289:LEU:CD2	1:F:294:LEU:HD11	2.46	0.45
1:F:328:HIS:O	1:F:329:ARG:HB2	2.15	0.45
1:M:305:SER:CB	1:M:343:GLN:CG	2.95	0.45
1:T:317:ILE:HG22	1:T:322:GLY:HA2	1.98	0.45
1:B:467:MET:SD	1:B:489:LEU:HG	2.56	0.45
1:C:293:THR:CB	1:C:413:ILE:HD11	2.47	0.45
1:D:239:TRP:CE2	1:D:273:LEU:HD23	2.50	0.45
1:G:195:GLN:O	1:G:196:ARG:C	2.59	0.45
1:H:315:VAL:O	1:H:315:VAL:HG13	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:355:HIS:NE2	1:F:360:ASP:OD2	2.47	0.45
1:I:467:MET:HE1	1:I:489:LEU:HD21	1.98	0.45
1:J:403:LEU:HD23	1:J:472:TRP:CZ2	2.52	0.45
1:K:199:ALA:CB	1:K:276:ILE:HD11	2.44	0.45
1:M:484:ARG:HD2	1:M:484:ARG:HA	1.77	0.45
1:O:451:ILE:HG23	1:O:455:LEU:HD12	1.98	0.45
1:B:435:PHE:CD2	1:B:435:PHE:O	2.70	0.45
1:E:320:THR:HG22	1:E:321:GLN:N	2.30	0.45
1:N:315:VAL:O	1:N:315:VAL:CG1	2.64	0.45
1:P:195:GLN:HG2	1:P:261:ALA:CA	2.46	0.45
1:R:355:HIS:ND1	1:R:355:HIS:C	2.74	0.45
1:W:467:MET:HE1	1:W:489:LEU:HG	1.99	0.45
1:X:455:LEU:HD22	1:X:465:ALA:CB	2.39	0.45
1:O:337:LEU:HD21	2:O:600:LDN:CBC	2.47	0.45
1:B:480:LEU:HD22	1:B:484:ARG:HG2	1.99	0.45
1:G:485:ILE:O	1:G:489:LEU:HD12	2.17	0.45
1:A:257:LEU:HD13	1:A:337:LEU:HD13	1.99	0.45
1:D:239:TRP:CD2	1:D:273:LEU:HD22	2.52	0.45
1:K:427:ASP:OD1	1:K:428:VAL:HG13	2.16	0.45
1:N:265:THR:HG21	1:N:274:TRP:CE2	2.52	0.45
1:P:351:LEU:HD21	1:P:369:ARG:O	2.17	0.45
1:E:281:GLU:O	2:E:600:LDN:HAH	2.18	0.44
1:K:375:TYR:HD1	1:K:403:LEU:HD12	1.82	0.44
2:O:600:LDN:CBC	2:O:600:LDN:HAJ	2.47	0.44
2:P:600:LDN:HAM	2:P:600:LDN:HAF	1.76	0.44
1:R:414:VAL:HG21	1:R:454:ARG:HG3	1.98	0.44
1:F:252:ARG:O	1:F:252:ARG:HG2	2.16	0.44
1:M:381:LEU:HA	1:M:435:PHE:CZ	2.52	0.44
1:Q:251:LEU:HD11	1:Q:326:ILE:CD1	2.48	0.44
1:A:273:LEU:N	1:A:273:LEU:HD22	2.32	0.44
1:N:458:ASP:CB	1:N:461:LEU:HD12	2.47	0.44
1:U:455:LEU:HD22	1:U:461:LEU:HB3	1.99	0.44
1:V:465:ALA:HA	1:V:468:MET:HE3	1.99	0.44
1:C:386:ARG:HB2	1:C:386:ARG:NH1	2.33	0.44
1:E:312:HIS:O	1:E:323:LYS:NZ	2.46	0.44
1:E:357:GLN:O	1:E:357:GLN:HG2	2.17	0.44
1:E:381:LEU:HD23	1:E:435:PHE:CE1	2.52	0.44
1:L:467:MET:CE	1:L:489:LEU:HD21	2.45	0.44
1:O:283:GLY:CA	2:O:600:LDN:CAV	2.94	0.44
1:R:405:LEU:HD11	1:R:467:MET:CE	2.47	0.44
1:S:258:GLY:O	1:S:277:THR:HB	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:245:ILE:HG21	1:B:349:LEU:HD23	2.00	0.44
1:B:251:LEU:HD23	1:B:251:LEU:HA	1.84	0.44
1:D:239:TRP:CE3	1:D:273:LEU:HD23	2.52	0.44
1:H:304:VAL:HA	1:H:489:LEU:HD13	1.99	0.44
1:K:198:VAL:HG13	1:K:221:TRP:CH2	2.52	0.44
1:P:245:ILE:HG21	1:P:349:LEU:HD23	1.99	0.44
1:S:414:VAL:CG1	1:S:461:LEU:HD12	2.47	0.44
1:U:461:LEU:HA	1:U:464:LEU:HD13	1.99	0.44
1:X:245:ILE:HG21	1:X:349:LEU:HD23	2.00	0.44
1:X:315:VAL:O	1:X:315:VAL:HG13	2.17	0.44
1:X:386:ARG:HG2	1:X:388:ASP:OD1	2.17	0.44
1:C:414:VAL:O	1:C:416:GLY:N	2.51	0.44
1:C:431:ASN:OD1	1:C:431:ASN:N	2.51	0.44
1:D:245:ILE:HG21	1:D:349:LEU:HD23	1.99	0.44
1:N:205:VAL:HG11	1:N:218:ARG:NH2	2.33	0.44
1:O:198:VAL:O	1:O:202:VAL:CG2	2.55	0.44
1:P:410:ARG:NH2	1:P:426:TYR:OH	2.50	0.44
1:Q:264:MET:HG3	1:Q:273:LEU:HD21	1.99	0.44
1:R:251:LEU:HD11	1:R:326:ILE:CD1	2.48	0.44
1:V:417:ILE:HD12	1:V:417:ILE:HA	1.82	0.44
1:B:337:LEU:HD21	2:B:600:LDN:CBC	2.48	0.44
1:H:414:VAL:HG13	1:H:454:ARG:HD2	2.00	0.44
1:R:467:MET:CE	1:R:485:ILE:HG23	2.48	0.44
1:L:295:GLU:HG2	1:L:296:PRO:CD	2.47	0.44
1:L:480:LEU:HD22	1:L:484:ARG:HG2	2.00	0.44
2:P:600:LDN:HAH	2:P:600:LDN:HAQA	1.82	0.44
1:Q:206:GLU:HG2	1:Q:208:VAL:HG13	2.00	0.44
1:I:422:ARG:HD2	1:I:426:TYR:CD1	2.53	0.43
1:M:315:VAL:O	1:M:315:VAL:HG13	2.17	0.43
1:A:475:ASN:HB2	1:E:474:PRO:HB2	1.99	0.43
1:C:297:HIS:ND1	1:C:297:HIS:C	2.76	0.43
1:C:454:ARG:CG	1:C:454:ARG:O	2.66	0.43
1:I:285:LEU:O	1:I:289:LEU:HG	2.18	0.43
1:L:292:GLN:NE2	2:Q:600:LDN:HAOA	2.33	0.43
1:M:386:ARG:HG2	1:M:388:ASP:OD1	2.19	0.43
1:V:315:VAL:O	1:V:315:VAL:CG1	2.65	0.43
1:X:455:LEU:HB3	1:X:465:ALA:CB	2.48	0.43
1:G:414:VAL:O	1:G:416:GLY:N	2.51	0.43
1:J:401:PHE:O	1:J:404:VAL:HG12	2.18	0.43
1:M:462:SER:O	1:M:465:ALA:HB3	2.18	0.43
1:O:289:LEU:HD11	1:O:408:ILE:HA	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:202:VAL:HG22	1:Q:221:TRP:HB2	2.00	0.43
1:R:363:ASP:C	1:R:363:ASP:OD2	2.61	0.43
1:R:403:LEU:HD23	1:R:472:TRP:CE2	2.53	0.43
2:A:600:LDN:CBC	2:A:600:LDN:HAJ	2.49	0.43
1:G:239:TRP:CE3	1:G:273:LEU:HD12	2.53	0.43
1:S:275:LEU:HD13	1:S:277:THR:CG2	2.46	0.43
1:W:414:VAL:CG2	1:W:454:ARG:CZ	2.96	0.43
1:W:420:ASP:OD2	1:W:422:ARG:NH2	2.51	0.43
1:X:235:ASP:OD1	1:X:369:ARG:CD	2.67	0.43
1:B:241:ARG:NH1	1:B:354:MET:HE2	2.33	0.43
1:F:486:LYS:HG2	1:F:490:GLN:HE22	1.83	0.43
1:E:218:ARG:NH1	3:E:113:HOH:O	2.52	0.43
1:E:405:LEU:HD11	1:E:467:MET:CE	2.48	0.43
1:F:454:ARG:O	1:F:454:ARG:CG	2.66	0.43
1:G:233:SER:OG	1:K:211:GLY:HA2	2.19	0.43
2:G:600:LDN:HAH	2:G:600:LDN:HAQA	1.77	0.43
1:L:245:ILE:HG21	1:L:349:LEU:HD23	2.01	0.43
1:N:461:LEU:HD23	1:N:464:LEU:CD1	2.46	0.43
1:Q:244:GLU:O	1:Q:248:THR:HB	2.19	0.43
1:S:443:CYS:O	1:S:446:GLN:OE1	2.36	0.43
1:U:198:VAL:HG13	1:U:221:TRP:CE2	2.53	0.43
1:A:366:ASN:ND2	1:M:263:ASP:OD2	2.52	0.43
1:B:300:LEU:HD23	1:B:489:LEU:HD22	2.00	0.43
1:F:263:ASP:CG	1:F:264:MET:N	2.76	0.43
1:G:273:LEU:N	1:G:273:LEU:HD22	2.33	0.43
1:E:239:TRP:CE3	1:E:273:LEU:HD13	2.53	0.43
1:G:198:VAL:O	1:G:202:VAL:N	2.51	0.43
1:K:381:LEU:HD23	1:K:435:PHE:CE1	2.52	0.43
1:Q:315:VAL:O	1:Q:315:VAL:CG1	2.67	0.43
1:W:332:LYS:HE3	1:W:334:ARG:HB2	2.01	0.43
1:W:416:GLY:C	1:W:417:ILE:HD12	2.44	0.43
1:C:239:TRP:CE3	1:C:273:LEU:HD22	2.53	0.43
1:F:283:GLY:HA2	2:F:600:LDN:CAV	2.49	0.43
1:I:451:ILE:HA	1:I:452:PRO:HD2	1.83	0.43
1:N:381:LEU:HA	1:N:435:PHE:CZ	2.53	0.43
1:P:411:ARG:C	1:P:418:VAL:HG21	2.43	0.43
1:E:258:GLY:O	1:E:277:THR:HB	2.19	0.43
1:F:237:GLN:OE1	1:F:366:ASN:O	2.36	0.43
1:H:418:VAL:HA	1:H:454:ARG:NH1	2.34	0.43
1:M:305:SER:CB	1:M:343:GLN:HG3	2.48	0.43
1:Q:293:THR:C	1:Q:294:LEU:HD23	2.44	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:205:VAL:HG21	1:T:220:LEU:HD23	1.99	0.43
1:U:405:LEU:HD11	1:U:467:MET:CE	2.48	0.43
1:D:459:PRO:CD	1:D:460:VAL:H	2.32	0.42
1:E:252:ARG:NH1	1:E:252:ARG:HB3	2.33	0.42
2:F:600:LDN:HAH	2:F:600:LDN:HAQA	1.82	0.42
1:L:364:ILE:HG22	1:L:365:GLY:O	2.18	0.42
1:P:283:GLY:CA	2:P:600:LDN:CAF	2.96	0.42
1:R:431:ASN:O	1:R:433:PRO:HD3	2.18	0.42
1:S:197:THR:O	1:S:198:VAL:C	2.62	0.42
1:T:373:LYS:HD3	1:T:433:PRO:O	2.19	0.42
1:W:422:ARG:HD2	1:W:426:TYR:CD1	2.52	0.42
1:H:465:ALA:O	1:H:469:ARG:HG2	2.19	0.42
1:K:245:ILE:HG21	1:K:349:LEU:HD23	2.01	0.42
1:N:205:VAL:HG21	1:N:220:LEU:HG	2.00	0.42
1:D:0:MET:O	1:D:196:ARG:N	2.52	0.42
2:L:600:LDN:HAJ	2:L:600:LDN:CBC	2.48	0.42
1:M:282:HIS:HA	1:M:291:ARG:NH2	2.34	0.42
2:N:600:LDN:HAQA	2:N:600:LDN:HAH	1.75	0.42
1:R:316:GLU:OE1	1:R:357:GLN:HB2	2.20	0.42
1:V:431:ASN:O	1:V:433:PRO:HD3	2.19	0.42
1:A:221:TRP:NE1	1:A:222:HIS:CE1	2.87	0.42
1:D:251:LEU:O	1:D:252:ARG:C	2.63	0.42
1:L:461:LEU:O	1:L:462:SER:C	2.62	0.42
1:M:205:VAL:HG12	1:M:206:GLU:HG3	2.02	0.42
1:O:283:GLY:HA3	2:O:600:LDN:CAE	2.50	0.42
1:Q:382:ASP:HB3	1:Q:384:GLN:HG2	2.02	0.42
1:U:289:LEU:CD2	1:U:294:LEU:HD11	2.50	0.42
2:X:600:LDN:HAH	2:X:600:LDN:HAQA	1.91	0.42
1:F:377:ALA:O	1:F:381:LEU:HD12	2.20	0.42
1:G:300:LEU:C	1:G:300:LEU:HD13	2.43	0.42
1:J:403:LEU:HD23	1:J:472:TRP:CE2	2.54	0.42
1:J:412:THR:HG21	1:J:461:LEU:HD21	2.00	0.42
1:N:300:LEU:HD21	1:N:492:ILE:O	2.19	0.42
1:O:405:LEU:HD11	1:O:467:MET:CE	2.50	0.42
1:P:373:LYS:CA	1:P:376:MET:HE3	2.48	0.42
1:R:258:GLY:O	1:R:277:THR:HB	2.20	0.42
2:W:600:LDN:HAJ	2:W:600:LDN:NAS	2.34	0.42
1:D:466:GLN:O	1:D:470:GLU:HG3	2.20	0.42
1:G:434:SER:OG	1:G:437:ASP:CG	2.62	0.42
1:H:244:GLU:O	1:H:248:THR:HB	2.18	0.42
1:N:237:GLN:HG2	1:N:367:ASN:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:457:ALA:O	1:P:458:ASP:CB	2.67	0.42
1:U:245:ILE:HG21	1:U:349:LEU:HD23	2.00	0.42
1:A:315:VAL:O	1:A:315:VAL:CG1	2.68	0.42
1:I:467:MET:CE	1:I:489:LEU:HD21	2.49	0.42
1:L:475:ASN:HB2	1:P:474:PRO:HB3	2.01	0.42
1:M:312:HIS:O	1:M:323:LYS:CE	2.67	0.42
1:N:473:TYR:CE1	1:R:384:GLN:NE2	2.88	0.42
1:P:452:PRO:O	1:P:453:ASN:C	2.63	0.42
1:R:360:ASP:OD1	1:R:360:ASP:N	2.48	0.42
1:B:356:SER:O	1:B:357:GLN:C	2.62	0.42
2:D:600:LDN:HAM	2:D:600:LDN:HAF	1.80	0.42
1:H:373:LYS:HA	1:H:376:MET:HG3	2.01	0.42
1:J:315:VAL:O	1:J:315:VAL:HG13	2.18	0.42
1:Q:328:HIS:O	1:Q:329:ARG:HB2	2.20	0.42
1:R:467:MET:CE	1:R:489:LEU:HD21	2.47	0.42
1:S:315:VAL:O	1:S:315:VAL:CG1	2.68	0.42
1:T:386:ARG:NE	1:T:392:SER:OG	2.52	0.42
1:T:425:PHE:O	1:T:429:VAL:HG22	2.19	0.42
1:A:295:GLU:HG2	1:A:296:PRO:HD2	2.02	0.42
1:D:252:ARG:NH1	1:I:317:ILE:HD13	2.35	0.42
1:G:244:GLU:O	1:G:248:THR:HB	2.19	0.42
1:G:484:ARG:NH1	3:G:10:HOH:O	2.51	0.42
1:J:337:LEU:HD22	2:J:600:LDN:NAT	2.34	0.42
1:T:264:MET:C	1:T:272:GLN:O	2.63	0.42
1:U:246:TYR:CD1	1:U:259:PHE:HB2	2.55	0.42
1:W:467:MET:SD	1:W:489:LEU:HG	2.60	0.42
1:B:300:LEU:HD11	1:B:493:SER:HA	2.02	0.42
2:P:600:LDN:CBC	2:P:600:LDN:HAJ	2.49	0.42
1:S:257:LEU:HD13	1:S:337:LEU:HD13	2.01	0.42
1:W:202:VAL:HG22	1:W:221:TRP:HB2	2.02	0.42
1:W:467:MET:HE3	1:W:485:ILE:HG23	2.00	0.42
1:F:452:PRO:C	1:F:454:ARG:N	2.77	0.41
1:J:252:ARG:HD3	1:W:486:LYS:CE	2.50	0.41
1:L:282:HIS:O	1:L:291:ARG:NH2	2.53	0.41
1:L:475:ASN:HB2	1:P:474:PRO:CB	2.49	0.41
1:P:409:ALA:HB1	1:P:455:LEU:CD2	2.50	0.41
1:P:422:ARG:CB	1:P:426:TYR:CD1	3.03	0.41
1:R:376:MET:HG2	1:R:380:VAL:HG11	2.01	0.41
1:U:315:VAL:O	1:U:315:VAL:CG1	2.68	0.41
1:D:319:GLY:C	1:D:321:GLN:N	2.78	0.41
1:D:398:ILE:O	1:D:399:TRP:C	2.61	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:245:ILE:HG21	1:E:349:LEU:HD23	2.02	0.41
1:E:252:ARG:HB3	1:E:252:ARG:CZ	2.50	0.41
1:G:315:VAL:O	1:G:315:VAL:HG13	2.19	0.41
1:I:485:ILE:O	1:I:486:LYS:C	2.62	0.41
1:J:280:HIS:O	2:J:600:LDN:HAM	2.20	0.41
1:L:251:LEU:HD21	1:L:349:LEU:HD21	2.02	0.41
1:R:427:ASP:OD1	1:R:428:VAL:HG13	2.21	0.41
1:S:245:ILE:HG21	1:S:349:LEU:HD23	2.00	0.41
1:S:275:LEU:CD1	1:S:277:THR:CG2	2.98	0.41
1:V:245:ILE:HG21	1:V:349:LEU:HD23	2.03	0.41
1:W:315:VAL:O	1:W:315:VAL:CG1	2.68	0.41
1:C:239:TRP:CD2	1:C:273:LEU:CD2	3.02	0.41
1:D:236:GLU:HG2	1:D:273:LEU:HD13	2.01	0.41
1:K:381:LEU:HD11	1:K:438:MET:CB	2.50	0.41
1:L:315:VAL:O	1:L:315:VAL:CG1	2.69	0.41
1:Q:415:ASN:O	1:Q:417:ILE:HD12	2.20	0.41
2:V:600:LDN:HAJ	2:V:600:LDN:NAS	2.35	0.41
1:X:204:LEU:HD22	1:X:217:TRP:CB	2.49	0.41
1:B:300:LEU:HD11	1:B:493:SER:CA	2.50	0.41
1:B:315:VAL:O	1:B:323:LYS:NZ	2.49	0.41
1:B:455:LEU:HD12	1:B:461:LEU:CB	2.43	0.41
1:E:486:LYS:O	1:E:490:GLN:HG3	2.20	0.41
1:F:258:GLY:O	1:F:277:THR:HB	2.21	0.41
1:F:315:VAL:O	1:F:315:VAL:CG1	2.68	0.41
1:I:246:TYR:CD1	1:I:259:PHE:HB2	2.55	0.41
1:J:467:MET:HE1	1:J:489:LEU:HD11	2.02	0.41
1:L:331:PHE:O	1:L:400:ALA:HB1	2.21	0.41
1:P:195:GLN:CG	1:P:261:ALA:HB1	2.45	0.41
1:Q:362:LEU:HD12	1:Q:362:LEU:HA	1.90	0.41
1:V:489:LEU:O	1:V:490:GLN:C	2.63	0.41
1:B:315:VAL:O	1:B:315:VAL:CG1	2.69	0.41
1:B:348:ASP:HB2	2:B:600:LDN:HAI	2.03	0.41
1:B:452:PRO:C	1:B:454:ARG:N	2.78	0.41
1:C:0:MET:CB	1:C:197:THR:HB	2.50	0.41
1:C:198:VAL:O	1:C:202:VAL:HG23	2.20	0.41
1:E:464:LEU:CD2	1:E:489:LEU:CD2	2.98	0.41
1:H:414:VAL:HG13	1:H:454:ARG:CD	2.50	0.41
1:I:319:GLY:O	1:I:320:THR:C	2.61	0.41
1:I:414:VAL:CG1	1:I:454:ARG:HD2	2.48	0.41
1:I:467:MET:HE1	1:I:489:LEU:CD1	2.41	0.41
1:J:245:ILE:HG21	1:J:349:LEU:HD23	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:434:SER:C	1:S:436:GLU:N	2.79	0.41
1:S:460:VAL:CG1	1:S:461:LEU:HD23	2.45	0.41
1:F:405:LEU:HD11	1:F:467:MET:CE	2.50	0.41
1:M:251:LEU:HD11	1:M:326:ILE:HD12	2.02	0.41
1:P:414:VAL:O	1:P:415:ASN:C	2.64	0.41
1:Q:206:GLU:HG2	1:Q:208:VAL:CG1	2.51	0.41
1:U:289:LEU:HD21	1:U:294:LEU:HD11	2.02	0.41
2:W:600:LDN:HAH	2:W:600:LDN:HAQA	1.81	0.41
1:D:289:LEU:HD11	1:D:408:ILE:HA	2.03	0.41
1:E:315:VAL:O	1:E:315:VAL:CG1	2.69	0.41
1:E:490:GLN:O	1:E:493:SER:N	2.52	0.41
1:G:405:LEU:HD11	1:G:467:MET:CE	2.50	0.41
1:H:386:ARG:NH2	1:I:446:GLN:OE1	2.54	0.41
1:O:244:GLU:O	1:O:248:THR:HB	2.20	0.41
1:S:304:VAL:HA	1:S:489:LEU:HD13	2.02	0.41
1:V:252:ARG:HH11	1:V:252:ARG:HG2	1.86	0.41
1:W:286:TYR:HB2	1:W:334:ARG:HG2	2.02	0.41
1:X:329:ARG:HH11	1:X:353:VAL:CG1	2.34	0.41
1:X:467:MET:HE3	1:X:485:ILE:CG2	2.48	0.41
1:L:220:LEU:HD12	1:L:224:GLU:O	2.21	0.41
1:L:458:ASP:O	1:L:462:SER:HB2	2.21	0.41
1:O:239:TRP:CE3	1:O:273:LEU:HD23	2.56	0.41
1:P:246:TYR:CD1	1:P:259:PHE:HB2	2.55	0.41
1:Q:470:GLU:HG2	1:Q:473:TYR:OH	2.21	0.41
1:S:230:ILE:HG21	1:S:272:GLN:OE1	2.21	0.41
1:S:244:GLU:O	1:S:248:THR:HB	2.20	0.41
1:S:386:ARG:NH1	1:T:446:GLN:CB	2.84	0.41
1:T:456:ALA:O	1:T:458:ASP:N	2.54	0.41
1:X:258:GLY:O	1:X:277:THR:HB	2.21	0.41
1:X:454:ARG:HG3	1:X:454:ARG:O	2.21	0.41
1:X:480:LEU:HD22	1:X:484:ARG:HG3	1.99	0.41
1:A:264:MET:HE3	1:M:240:PHE:CD1	2.55	0.41
1:B:460:VAL:HA	1:B:492:ILE:HG21	2.03	0.41
1:D:315:VAL:O	1:D:315:VAL:CG1	2.69	0.41
1:E:449:PRO:O	1:E:450:THR:C	2.64	0.41
1:F:355:HIS:NE2	1:F:360:ASP:HA	2.36	0.41
1:F:386:ARG:HG2	1:F:392:SER:OG	2.21	0.41
1:H:432:ASP:O	1:H:433:PRO:C	2.62	0.41
1:I:317:ILE:HD12	1:I:323:LYS:HD3	2.03	0.41
2:I:600:LDN:CBC	2:I:600:LDN:HAJ	2.50	0.41
1:J:246:TYR:CD1	1:J:259:PHE:HB2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:434:SER:O	1:O:435:PHE:C	2.63	0.41
1:S:418:VAL:O	1:S:418:VAL:HG13	2.21	0.41
1:G:458:ASP:O	1:G:459:PRO:C	2.63	0.40
1:R:403:LEU:HD23	1:R:472:TRP:CZ2	2.56	0.40
1:V:294:LEU:CD1	1:V:411:ARG:HB3	2.51	0.40
1:A:487:LYS:O	1:A:491:LYS:HG3	2.21	0.40
1:B:298:LEU:HD12	1:B:298:LEU:O	2.20	0.40
1:C:431:ASN:O	1:C:433:PRO:CD	2.69	0.40
1:D:459:PRO:HD2	1:D:460:VAL:HG23	2.02	0.40
2:G:600:LDN:HAF	2:G:600:LDN:HAM	1.84	0.40
1:H:230:ILE:CG2	1:H:272:GLN:OE1	2.70	0.40
1:I:295:GLU:HG2	1:I:297:HIS:H	1.86	0.40
1:M:376:MET:HG2	1:M:380:VAL:HG11	2.04	0.40
1:N:328:HIS:O	1:N:329:ARG:HB2	2.21	0.40
1:O:246:TYR:CD1	1:O:259:PHE:HB2	2.56	0.40
1:S:304:VAL:HG13	1:S:305:SER:N	2.36	0.40
1:E:414:VAL:HG11	1:E:454:ARG:CG	2.51	0.40
1:I:295:GLU:HG2	1:I:297:HIS:N	2.36	0.40
1:N:464:LEU:HD23	1:N:464:LEU:N	2.34	0.40
1:S:455:LEU:C	1:S:457:ALA:H	2.30	0.40
1:T:414:VAL:O	1:T:415:ASN:C	2.64	0.40
2:V:600:LDN:HAP	2:V:600:LDN:HAG	1.84	0.40
1:X:207:CYS:HB2	1:X:217:TRP:CE2	2.56	0.40
1:X:241:ARG:NH2	1:X:354:MET:HE2	2.36	0.40
1:X:468:MET:O	1:X:472:TRP:NE1	2.54	0.40
1:B:305:SER:HB3	1:B:343:GLN:CG	2.52	0.40
1:G:464:LEU:HD21	1:G:489:LEU:CD2	2.45	0.40
1:J:241:ARG:HE	1:J:245:ILE:HD11	1.86	0.40
1:M:305:SER:CB	1:M:343:GLN:HG2	2.51	0.40
1:N:440:LYS:HA	1:N:444:VAL:CG2	2.51	0.40
1:O:239:TRP:CE3	1:O:273:LEU:CD2	3.04	0.40
1:R:433:PRO:HB2	1:R:438:MET:HG2	2.03	0.40
1:U:412:THR:HG21	1:U:461:LEU:CD2	2.50	0.40
2:W:600:LDN:HAM	2:W:600:LDN:HAF	1.80	0.40
1:A:252:ARG:HE	1:A:253:HIS:N	2.19	0.40
1:B:464:LEU:HD23	1:B:464:LEU:HA	1.94	0.40
1:F:490:GLN:HE21	1:F:490:GLN:HB2	1.57	0.40
1:G:205:VAL:HG11	1:G:218:ARG:NH2	2.37	0.40
1:L:258:GLY:O	1:L:277:THR:HB	2.21	0.40
1:L:382:ASP:CG	1:P:477:SER:OG	2.62	0.40
2:L:600:LDN:HAH	2:L:600:LDN:HAQA	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:249:VAL:HG12	1:M:251:LEU:HD13	2.02	0.40

All (5) 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:E:416:GLY:CA	1:H:205:VAL:O[1_445]	2.08	0.12
1:Q:252:ARG:NH2	1:S:252:ARG:O[1_665]	2.08	0.12
1:B:386:ARG:NH2	1:K:382:ASP:O[1_655]	2.10	0.10
1:G:416:GLY:O	1:J:207:CYS:N[1_455]	2.12	0.08
1:U:291:ARG:O	2:R:600:LDN:NAU[1_655]	2.14	0.06

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	292/305 (96%)	279 (96%)	12 (4%)	1 (0%)	36	52
1	B	291/305 (95%)	277 (95%)	11 (4%)	3 (1%)	12	20
1	C	297/305 (97%)	277 (93%)	18 (6%)	2 (1%)	18	30
1	D	296/305 (97%)	277 (94%)	17 (6%)	2 (1%)	18	30
1	E	290/305 (95%)	272 (94%)	15 (5%)	3 (1%)	12	20
1	F	290/305 (95%)	276 (95%)	10 (3%)	4 (1%)	9	14
1	G	290/305 (95%)	272 (94%)	14 (5%)	4 (1%)	9	14
1	H	290/305 (95%)	270 (93%)	20 (7%)	0	100	100
1	I	289/305 (95%)	271 (94%)	17 (6%)	1 (0%)	36	52
1	J	240/305 (79%)	231 (96%)	7 (3%)	2 (1%)	16	27
1	K	249/305 (82%)	242 (97%)	6 (2%)	1 (0%)	30	45
1	L	292/305 (96%)	279 (96%)	12 (4%)	1 (0%)	36	52

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	M	294/305 (96%)	280 (95%)	12 (4%)	2 (1%)	18	30
1	N	298/305 (98%)	277 (93%)	17 (6%)	4 (1%)	9	16
1	O	295/305 (97%)	278 (94%)	16 (5%)	1 (0%)	36	52
1	P	284/305 (93%)	260 (92%)	15 (5%)	9 (3%)	3	4
1	Q	290/305 (95%)	279 (96%)	10 (3%)	1 (0%)	36	52
1	R	290/305 (95%)	275 (95%)	13 (4%)	2 (1%)	18	30
1	S	290/305 (95%)	270 (93%)	15 (5%)	5 (2%)	7	12
1	T	288/305 (94%)	274 (95%)	9 (3%)	5 (2%)	7	12
1	U	277/305 (91%)	267 (96%)	8 (3%)	2 (1%)	18	30
1	V	274/305 (90%)	258 (94%)	14 (5%)	2 (1%)	18	30
1	W	273/305 (90%)	261 (96%)	11 (4%)	1 (0%)	30	45
1	X	245/305 (80%)	239 (98%)	6 (2%)	0	100	100
All	All	6804/7320 (93%)	6441 (95%)	305 (4%)	58 (1%)	14	24

All (58) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	G	359	SER
1	G	415	ASN
1	J	453	ASN
1	P	373	LYS
1	P	431	ASN
1	P	433	PRO
1	U	359	SER
1	D	195	GLN
1	F	320	THR
1	F	453	ASN
1	L	462	SER
1	N	492	ILE
1	P	454	ARG
1	S	198	VAL
1	S	459	PRO
1	S	460	VAL
1	T	358	GLY
1	T	415	ASN
1	T	457	ALA
1	A	459	PRO
1	B	357	GLN

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Mol	Chain	Res	Type
1	B	360	ASP
1	C	269	SER
1	D	269	SER
1	E	198	VAL
1	E	361	TYR
1	G	456	ALA
1	J	454	ARG
1	N	269	SER
1	O	269	SER
1	P	355	HIS
1	R	435	PHE
1	T	196	ARG
1	F	365	GLY
1	I	357	GLN
1	M	415	ASN
1	M	454	ARG
1	P	453	ASN
1	P	460	VAL
1	R	456	ALA
1	S	435	PHE
1	T	456	ALA
1	V	431	ASN
1	W	453	ASN
1	B	459	PRO
1	C	415	ASN
1	F	431	ASN
1	N	196	ARG
1	N	454	ARG
1	P	435	PHE
1	U	459	PRO
1	K	433	PRO
1	Q	460	VAL
1	P	458	ASP
1	S	414	VAL
1	V	414	VAL
1	E	364	ILE
1	G	432	ASP

5.3.2 Protein sidechains ⓘ

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

resolution.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	236/267 (88%)	223 (94%)	13 (6%)	19	33
1	B	240/267 (90%)	225 (94%)	15 (6%)	16	29
1	C	231/267 (86%)	222 (96%)	9 (4%)	28	48
1	D	232/267 (87%)	221 (95%)	11 (5%)	23	40
1	E	228/267 (85%)	219 (96%)	9 (4%)	28	48
1	F	222/267 (83%)	210 (95%)	12 (5%)	20	35
1	G	234/267 (88%)	218 (93%)	16 (7%)	14	25
1	H	222/267 (83%)	206 (93%)	16 (7%)	13	22
1	I	238/267 (89%)	223 (94%)	15 (6%)	16	29
1	J	185/267 (69%)	174 (94%)	11 (6%)	18	30
1	K	180/267 (67%)	175 (97%)	5 (3%)	38	60
1	L	240/267 (90%)	233 (97%)	7 (3%)	37	58
1	M	243/267 (91%)	236 (97%)	7 (3%)	37	58
1	N	234/267 (88%)	224 (96%)	10 (4%)	26	44
1	O	231/267 (86%)	217 (94%)	14 (6%)	17	30
1	P	198/267 (74%)	190 (96%)	8 (4%)	28	47
1	Q	228/267 (85%)	216 (95%)	12 (5%)	20	35
1	R	231/267 (86%)	219 (95%)	12 (5%)	21	36
1	S	224/267 (84%)	210 (94%)	14 (6%)	16	29
1	T	233/267 (87%)	218 (94%)	15 (6%)	16	28
1	U	212/267 (79%)	205 (97%)	7 (3%)	33	55
1	V	207/267 (78%)	203 (98%)	4 (2%)	50	71
1	W	231/267 (86%)	222 (96%)	9 (4%)	28	48
1	X	194/267 (73%)	185 (95%)	9 (5%)	24	41
All	All	5354/6408 (84%)	5094 (95%)	260 (5%)	22	38

All (260) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	233	SER

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Mol	Chain	Res	Type
1	A	252	ARG
1	A	271	THR
1	A	272	GLN
1	A	273	LEU
1	A	323	LYS
1	A	360	ASP
1	A	361	TYR
1	A	373	LYS
1	A	420	ASP
1	A	429	VAL
1	A	432	ASP
1	A	447	GLN
1	B	233	SER
1	B	263	ASP
1	B	291	ARG
1	B	297	HIS
1	B	300	LEU
1	B	323	LYS
1	B	343	GLN
1	B	359	SER
1	B	362	LEU
1	B	369	ARG
1	B	373	LYS
1	B	386	ARG
1	B	418	VAL
1	B	446	GLN
1	B	491	LYS
1	C	251	LEU
1	C	265	THR
1	C	291	ARG
1	C	295	GLU
1	C	297	HIS
1	C	300	LEU
1	C	413	ILE
1	C	475	ASN
1	C	484	ARG
1	D	233	SER
1	D	252	ARG
1	D	289	LEU
1	D	295	GLU
1	D	317	ILE
1	D	321	GLN

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Mol	Chain	Res	Type
1	D	343	GLN
1	D	386	ARG
1	D	413	ILE
1	D	439	LYS
1	D	467	MET
1	E	224	GLU
1	E	291	ARG
1	E	320	THR
1	E	323	LYS
1	E	355	HIS
1	E	361	TYR
1	E	414	VAL
1	E	432	ASP
1	E	483	LEU
1	F	202	VAL
1	F	252	ARG
1	F	264	MET
1	F	317	ILE
1	F	360	ASP
1	F	361	TYR
1	F	362	LEU
1	F	386	ARG
1	F	415	ASN
1	F	418	VAL
1	F	428	VAL
1	F	490	GLN
1	G	198	VAL
1	G	220	LEU
1	G	248	THR
1	G	273	LEU
1	G	275	LEU
1	G	302	LEU
1	G	323	LYS
1	G	361	TYR
1	G	370	VAL
1	G	382	ASP
1	G	385	ILE
1	G	446	GLN
1	G	447	GLN
1	G	450	THR
1	G	477	SER
1	G	491	LYS

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Mol	Chain	Res	Type
1	H	198	VAL
1	H	224	GLU
1	H	250	LEU
1	H	251	LEU
1	H	264	MET
1	H	265	THR
1	H	273	LEU
1	H	316	GLU
1	H	386	ARG
1	H	414	VAL
1	H	432	ASP
1	H	436	GLU
1	H	447	GLN
1	H	451	ILE
1	H	458	ASP
1	H	469	ARG
1	I	197	THR
1	I	273	LEU
1	I	291	ARG
1	I	292	GLN
1	I	295	GLU
1	I	300	LEU
1	I	323	LYS
1	I	361	TYR
1	I	386	ARG
1	I	431	ASN
1	I	432	ASP
1	I	455	LEU
1	I	475	ASN
1	I	491	LYS
1	I	492	ILE
1	J	202	VAL
1	J	252	ARG
1	J	275	LEU
1	J	297	HIS
1	J	300	LEU
1	J	308	CYS
1	J	376	MET
1	J	381	LEU
1	J	404	VAL
1	J	412	THR
1	J	462	SER

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Mol	Chain	Res	Type
1	K	197	THR
1	K	271	THR
1	K	301	ARG
1	K	412	THR
1	K	475	ASN
1	L	273	LEU
1	L	334	ARG
1	L	360	ASP
1	L	361	TYR
1	L	454	ARG
1	L	455	LEU
1	L	468	MET
1	M	202	VAL
1	M	265	THR
1	M	275	LEU
1	M	343	GLN
1	M	354	MET
1	M	361	TYR
1	M	484	ARG
1	N	265	THR
1	N	272	GLN
1	N	291	ARG
1	N	432	ASP
1	N	444	VAL
1	N	446	GLN
1	N	455	LEU
1	N	460	VAL
1	N	469	ARG
1	N	475	ASN
1	O	198	VAL
1	O	220	LEU
1	O	237	GLN
1	O	248	THR
1	O	265	THR
1	O	289	LEU
1	O	291	ARG
1	O	343	GLN
1	O	386	ARG
1	O	419	GLU
1	O	426	TYR
1	O	431	ASN
1	O	435	PHE

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Mol	Chain	Res	Type
1	O	483	LEU
1	P	197	THR
1	P	251	LEU
1	P	342	LEU
1	P	366	ASN
1	P	415	ASN
1	P	419	GLU
1	P	426	TYR
1	P	461	LEU
1	Q	233	SER
1	Q	250	LEU
1	Q	252	ARG
1	Q	264	MET
1	Q	300	LEU
1	Q	359	SER
1	Q	413	ILE
1	Q	414	VAL
1	Q	439	LYS
1	Q	444	VAL
1	Q	454	ARG
1	Q	493	SER
1	R	248	THR
1	R	295	GLU
1	R	300	LEU
1	R	360	ASP
1	R	376	MET
1	R	384	GLN
1	R	414	VAL
1	R	417	ILE
1	R	420	ASP
1	R	447	GLN
1	R	460	VAL
1	R	484	ARG
1	S	250	LEU
1	S	252	ARG
1	S	275	LEU
1	S	382	ASP
1	S	412	THR
1	S	414	VAL
1	S	436	GLU
1	S	444	VAL
1	S	455	LEU

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Mol	Chain	Res	Type
1	S	458	ASP
1	S	460	VAL
1	S	464	LEU
1	S	469	ARG
1	S	484	ARG
1	T	197	THR
1	T	202	VAL
1	T	220	LEU
1	T	222	HIS
1	T	300	LEU
1	T	323	LYS
1	T	360	ASP
1	T	386	ARG
1	T	412	THR
1	T	414	VAL
1	T	431	ASN
1	T	444	VAL
1	T	446	GLN
1	T	454	ARG
1	T	489	LEU
1	U	197	THR
1	U	250	LEU
1	U	295	GLU
1	U	300	LEU
1	U	373	LYS
1	U	454	ARG
1	U	492	ILE
1	V	294	LEU
1	V	300	LEU
1	V	417	ILE
1	V	461	LEU
1	W	244	GLU
1	W	272	GLN
1	W	273	LEU
1	W	291	ARG
1	W	317	ILE
1	W	436	GLU
1	W	451	ILE
1	W	454	ARG
1	W	462	SER
1	X	201	GLN
1	X	251	LEU

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Mol	Chain	Res	Type
1	X	264	MET
1	X	265	THR
1	X	431	ASN
1	X	446	GLN
1	X	447	GLN
1	X	472	TRP
1	X	486	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (47) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	222	HIS
1	A	282	HIS
1	A	475	ASN
1	B	282	HIS
1	B	357	GLN
1	B	494	ASN
1	C	282	HIS
1	C	321	GLN
1	D	237	GLN
1	D	282	HIS
1	D	447	GLN
1	E	247	ASN
1	E	282	HIS
1	F	282	HIS
1	F	490	GLN
1	G	282	HIS
1	G	475	ASN
1	H	255	ASN
1	J	272	GLN
1	L	282	HIS
1	L	292	GLN
1	M	247	ASN
1	M	343	GLN
1	M	357	GLN
1	N	247	ASN
1	N	282	HIS
1	N	357	GLN
1	O	282	HIS
1	O	321	GLN
1	O	384	GLN
1	O	447	GLN

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Mol	Chain	Res	Type
1	P	247	ASN
1	P	466	GLN
1	R	282	HIS
1	R	384	GLN
1	S	247	ASN
1	T	475	ASN
1	U	253	HIS
1	U	255	ASN
1	U	282	HIS
1	U	475	ASN
1	U	490	GLN
1	W	222	HIS
1	W	343	GLN
1	X	255	ASN
1	X	282	HIS
1	X	475	ASN

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 oligosaccharides 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
2	LDN	H	600	-	35,36,36	2.21	7 (20%)	47,51,51	2.13	15 (31%)
2	LDN	I	600	-	35,36,36	2.50	7 (20%)	47,51,51	2.36	11 (23%)
2	LDN	L	600	-	35,36,36	2.22	7 (20%)	47,51,51	2.36	10 (21%)
2	LDN	E	600	-	35,36,36	2.18	6 (17%)	47,51,51	2.00	11 (23%)
2	LDN	P	600	-	35,36,36	2.28	8 (22%)	47,51,51	2.43	14 (29%)
2	LDN	T	600	-	35,36,36	2.26	6 (17%)	47,51,51	2.44	16 (34%)
2	LDN	K	600	-	35,36,36	2.27	8 (22%)	47,51,51	2.48	14 (29%)
2	LDN	S	600	-	35,36,36	2.24	5 (14%)	47,51,51	2.01	11 (23%)
2	LDN	D	600	-	35,36,36	2.23	6 (17%)	47,51,51	2.21	13 (27%)
2	LDN	G	600	-	35,36,36	2.10	6 (17%)	47,51,51	2.29	15 (31%)
2	LDN	N	600	-	35,36,36	2.37	9 (25%)	47,51,51	2.17	15 (31%)
2	LDN	B	600	-	35,36,36	2.06	5 (14%)	47,51,51	2.22	13 (27%)
2	LDN	W	600	-	35,36,36	2.42	6 (17%)	47,51,51	2.24	16 (34%)
2	LDN	R	600	-	35,36,36	2.18	6 (17%)	47,51,51	2.27	13 (27%)
2	LDN	F	600	-	35,36,36	2.34	8 (22%)	47,51,51	2.10	10 (21%)
2	LDN	C	600	-	35,36,36	2.47	7 (20%)	47,51,51	2.41	14 (29%)
2	LDN	O	600	-	35,36,36	2.34	11 (31%)	47,51,51	2.10	11 (23%)
2	LDN	A	600	-	35,36,36	2.34	9 (25%)	47,51,51	2.25	12 (25%)
2	LDN	X	600	-	35,36,36	2.36	6 (17%)	47,51,51	2.45	16 (34%)
2	LDN	V	600	-	35,36,36	2.11	5 (14%)	47,51,51	1.96	9 (19%)
2	LDN	U	600	-	35,36,36	2.45	6 (17%)	47,51,51	1.94	12 (25%)
2	LDN	Q	600	-	35,36,36	2.20	7 (20%)	47,51,51	2.41	13 (27%)
2	LDN	M	600	-	35,36,36	2.36	9 (25%)	47,51,51	2.21	15 (31%)
2	LDN	J	600	-	35,36,36	2.20	6 (17%)	47,51,51	2.48	14 (29%)

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
2	LDN	H	600	-	-	1/12/20/20	0/6/6/6
2	LDN	I	600	-	-	1/12/20/20	0/6/6/6
2	LDN	L	600	-	-	1/12/20/20	0/6/6/6
2	LDN	E	600	-	-	0/12/20/20	0/6/6/6
2	LDN	P	600	-	-	0/12/20/20	0/6/6/6
2	LDN	T	600	-	-	0/12/20/20	0/6/6/6

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	LDN	K	600	-	-	1/12/20/20	0/6/6/6
2	LDN	S	600	-	-	1/12/20/20	0/6/6/6
2	LDN	D	600	-	-	2/12/20/20	0/6/6/6
2	LDN	G	600	-	-	0/12/20/20	0/6/6/6
2	LDN	N	600	-	-	1/12/20/20	0/6/6/6
2	LDN	B	600	-	-	5/12/20/20	0/6/6/6
2	LDN	W	600	-	-	0/12/20/20	0/6/6/6
2	LDN	R	600	-	-	0/12/20/20	0/6/6/6
2	LDN	F	600	-	-	0/12/20/20	0/6/6/6
2	LDN	C	600	-	-	0/12/20/20	0/6/6/6
2	LDN	O	600	-	-	0/12/20/20	0/6/6/6
2	LDN	A	600	-	-	1/12/20/20	0/6/6/6
2	LDN	X	600	-	-	0/12/20/20	1/6/6/6
2	LDN	V	600	-	-	0/12/20/20	0/6/6/6
2	LDN	U	600	-	-	1/12/20/20	0/6/6/6
2	LDN	Q	600	-	-	0/12/20/20	0/6/6/6
2	LDN	M	600	-	-	0/12/20/20	0/6/6/6
2	LDN	J	600	-	-	0/12/20/20	0/6/6/6

All (166) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	S	600	LDN	NBE-NAT	-7.60	1.22	1.37
2	I	600	LDN	CAY-CAZ	-7.47	1.38	1.49
2	U	600	LDN	NBE-NAT	-7.40	1.23	1.37
2	E	600	LDN	NBE-NAT	-7.36	1.23	1.37
2	O	600	LDN	NBE-NAT	-7.32	1.23	1.37
2	T	600	LDN	NBE-NAT	-7.19	1.23	1.37
2	A	600	LDN	NBE-NAT	-7.17	1.23	1.37
2	Q	600	LDN	NBE-NAT	-7.16	1.23	1.37
2	N	600	LDN	NBE-NAT	-7.14	1.23	1.37
2	I	600	LDN	NBE-NAT	-7.12	1.23	1.37
2	R	600	LDN	NBE-NAT	-7.08	1.23	1.37
2	K	600	LDN	NBE-NAT	-7.07	1.23	1.37
2	W	600	LDN	CAY-CAZ	-7.04	1.39	1.49
2	W	600	LDN	NBE-NAT	-7.03	1.23	1.37
2	C	600	LDN	NBE-NAT	-7.02	1.24	1.37
2	F	600	LDN	NBE-NAT	-6.98	1.24	1.37
2	X	600	LDN	CAY-CAZ	-6.93	1.39	1.49
2	C	600	LDN	CAY-CAZ	-6.92	1.39	1.49
2	V	600	LDN	NBE-NAT	-6.90	1.24	1.37
2	B	600	LDN	NBE-NAT	-6.89	1.24	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	W	600	LDN	CAL-CAZ	-6.81	1.32	1.40
2	G	600	LDN	NBE-NAT	-6.78	1.24	1.37
2	H	600	LDN	NBE-NAT	-6.77	1.24	1.37
2	J	600	LDN	NBE-NAT	-6.68	1.24	1.37
2	P	600	LDN	NBE-NAT	-6.65	1.24	1.37
2	X	600	LDN	NBE-NAT	-6.64	1.24	1.37
2	I	600	LDN	CAL-CAZ	-6.63	1.32	1.40
2	J	600	LDN	CAY-CAZ	-6.57	1.39	1.49
2	M	600	LDN	CAY-CAZ	-6.56	1.39	1.49
2	M	600	LDN	NBE-NAT	-6.53	1.24	1.37
2	L	600	LDN	NBE-NAT	-6.50	1.24	1.37
2	C	600	LDN	CAL-CAZ	-6.49	1.32	1.40
2	P	600	LDN	CAY-CAZ	-6.45	1.40	1.49
2	F	600	LDN	CAY-CAZ	-6.31	1.40	1.49
2	D	600	LDN	NBE-NAT	-6.26	1.25	1.37
2	U	600	LDN	CAL-CAZ	-6.26	1.32	1.40
2	U	600	LDN	CAY-CAZ	-6.20	1.40	1.49
2	K	600	LDN	CAY-CAZ	-6.18	1.40	1.49
2	A	600	LDN	CAY-CAZ	-6.17	1.40	1.49
2	R	600	LDN	CAY-CAZ	-6.02	1.40	1.49
2	V	600	LDN	CAY-CAZ	-6.00	1.40	1.49
2	S	600	LDN	CAL-CAZ	-5.99	1.33	1.40
2	D	600	LDN	CAY-CAZ	-5.90	1.40	1.49
2	G	600	LDN	CAY-CAZ	-5.86	1.40	1.49
2	T	600	LDN	CAL-CAZ	-5.86	1.33	1.40
2	A	600	LDN	CAL-CAZ	-5.85	1.33	1.40
2	T	600	LDN	CAY-CAZ	-5.85	1.40	1.49
2	Q	600	LDN	CAY-CAZ	-5.76	1.41	1.49
2	N	600	LDN	CAY-CAZ	-5.76	1.41	1.49
2	E	600	LDN	CAY-CAZ	-5.72	1.41	1.49
2	X	600	LDN	CAL-CAZ	-5.67	1.33	1.40
2	L	600	LDN	CAY-CAZ	-5.67	1.41	1.49
2	N	600	LDN	CAL-CAZ	-5.63	1.33	1.40
2	H	600	LDN	CAY-CAZ	-5.63	1.41	1.49
2	O	600	LDN	CAY-CAZ	-5.62	1.41	1.49
2	S	600	LDN	CAY-CAZ	-5.60	1.41	1.49
2	P	600	LDN	CAL-CAZ	-5.56	1.33	1.40
2	J	600	LDN	CAL-CAZ	-5.50	1.33	1.40
2	K	600	LDN	CAL-CAZ	-5.46	1.33	1.40
2	M	600	LDN	CAL-CAZ	-5.45	1.33	1.40
2	O	600	LDN	CAL-CAZ	-5.42	1.33	1.40
2	E	600	LDN	CAL-CAZ	-5.33	1.33	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	L	600	LDN	CAL-CAZ	-5.31	1.33	1.40
2	V	600	LDN	CAL-CAZ	-5.26	1.34	1.40
2	B	600	LDN	CAL-CAZ	-5.23	1.34	1.40
2	F	600	LDN	CAL-CAZ	-5.14	1.34	1.40
2	R	600	LDN	CAL-CAZ	-5.12	1.34	1.40
2	B	600	LDN	CAY-CAZ	-5.07	1.42	1.49
2	Q	600	LDN	CAL-CAZ	-4.91	1.34	1.40
2	D	600	LDN	CAV-CAW	-4.79	1.39	1.48
2	D	600	LDN	CAL-CAZ	-4.59	1.34	1.40
2	H	600	LDN	CAL-CAZ	-4.54	1.34	1.40
2	F	600	LDN	CAV-CAW	-4.54	1.39	1.48
2	H	600	LDN	CAV-CAW	-4.38	1.39	1.48
2	W	600	LDN	CAV-CAW	-4.38	1.39	1.48
2	X	600	LDN	CAV-CAW	-4.33	1.40	1.48
2	G	600	LDN	CAL-CAZ	-4.27	1.35	1.40
2	H	600	LDN	CAZ-CBC	-4.26	1.36	1.43
2	N	600	LDN	CAV-CAW	-4.19	1.40	1.48
2	L	600	LDN	CAV-CAW	-4.11	1.40	1.48
2	A	600	LDN	CAV-CAW	-4.07	1.40	1.48
2	C	600	LDN	CAZ-CBC	-4.06	1.37	1.43
2	U	600	LDN	CAV-CAW	-4.06	1.40	1.48
2	J	600	LDN	CAV-CAW	-4.04	1.40	1.48
2	I	600	LDN	CAV-CAW	-4.02	1.40	1.48
2	S	600	LDN	CAV-CAW	-4.01	1.40	1.48
2	T	600	LDN	CAV-CAW	-3.98	1.40	1.48
2	Q	600	LDN	CAV-CAW	-3.98	1.40	1.48
2	C	600	LDN	CAV-CAW	-3.93	1.40	1.48
2	B	600	LDN	CAV-CAW	-3.92	1.40	1.48
2	G	600	LDN	CAV-CAW	-3.87	1.40	1.48
2	M	600	LDN	CAV-CAW	-3.84	1.41	1.48
2	U	600	LDN	CAZ-CBC	-3.75	1.37	1.43
2	X	600	LDN	CAZ-CBC	-3.74	1.37	1.43
2	P	600	LDN	CAV-CAW	-3.70	1.41	1.48
2	O	600	LDN	CAV-CAW	-3.63	1.41	1.48
2	N	600	LDN	CAZ-CBC	-3.60	1.37	1.43
2	M	600	LDN	CAZ-CBC	-3.42	1.38	1.43
2	V	600	LDN	CAV-CAW	-3.40	1.41	1.48
2	D	600	LDN	CAZ-CBC	-3.35	1.38	1.43
2	F	600	LDN	CAZ-CBC	-3.35	1.38	1.43
2	W	600	LDN	CAZ-CBC	-3.28	1.38	1.43
2	G	600	LDN	CAZ-CBC	-3.26	1.38	1.43
2	E	600	LDN	CAV-CAW	-3.25	1.42	1.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	I	600	LDN	CAZ-CBC	-3.17	1.38	1.43
2	N	600	LDN	CAM-NBE	3.15	1.41	1.36
2	R	600	LDN	CAV-CAW	-3.14	1.42	1.48
2	M	600	LDN	CAM-NBE	3.07	1.41	1.36
2	I	600	LDN	CBA-NAR	-3.07	1.32	1.37
2	X	600	LDN	CAM-NBE	2.99	1.41	1.36
2	U	600	LDN	CAM-NBE	2.97	1.41	1.36
2	A	600	LDN	CAZ-CBC	-2.93	1.39	1.43
2	H	600	LDN	CBA-NAR	-2.92	1.32	1.37
2	O	600	LDN	CAM-NBE	2.91	1.41	1.36
2	M	600	LDN	CAP-NBD	2.85	1.51	1.46
2	O	600	LDN	CBC-NBE	2.85	1.43	1.38
2	S	600	LDN	CAZ-CBC	-2.83	1.39	1.43
2	P	600	LDN	CAM-NBE	2.78	1.41	1.36
2	Q	600	LDN	CAM-NBE	2.69	1.41	1.36
2	O	600	LDN	CAZ-CBC	-2.69	1.39	1.43
2	K	600	LDN	CAX-NBD	2.66	1.46	1.38
2	L	600	LDN	CAM-NBE	2.64	1.40	1.36
2	L	600	LDN	CBB-CBA	-2.62	1.38	1.42
2	C	600	LDN	CAM-NBE	2.56	1.40	1.36
2	D	600	LDN	CAM-NBE	2.55	1.40	1.36
2	R	600	LDN	CAZ-CBC	-2.46	1.39	1.43
2	K	600	LDN	CAV-CAW	-2.44	1.43	1.48
2	O	600	LDN	CAQ-NBD	2.43	1.50	1.46
2	P	600	LDN	CAZ-CBC	-2.41	1.39	1.43
2	Q	600	LDN	CAZ-CBC	-2.40	1.39	1.43
2	K	600	LDN	CAQ-CAO	2.38	1.57	1.51
2	K	600	LDN	CAQ-NBD	2.37	1.50	1.46
2	I	600	LDN	CAX-NBD	2.35	1.45	1.38
2	N	600	LDN	CAP-CAN	2.32	1.57	1.51
2	F	600	LDN	CAM-NBE	2.32	1.40	1.36
2	E	600	LDN	CAZ-CBC	-2.31	1.40	1.43
2	J	600	LDN	CAZ-CBC	-2.31	1.40	1.43
2	T	600	LDN	CAI-CBA	-2.30	1.38	1.41
2	B	600	LDN	CAZ-CBC	-2.29	1.40	1.43
2	J	600	LDN	CBB-CBA	-2.29	1.38	1.42
2	E	600	LDN	CAP-NBD	2.28	1.50	1.46
2	V	600	LDN	CAZ-CBC	-2.27	1.40	1.43
2	N	600	LDN	CAQ-CAO	2.27	1.57	1.51
2	F	600	LDN	CAP-NBD	2.25	1.50	1.46
2	W	600	LDN	CBB-CBA	-2.24	1.39	1.42
2	H	600	LDN	CAM-NBE	2.21	1.40	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	600	LDN	CBB-CBA	-2.21	1.39	1.42
2	A	600	LDN	CAM-NBE	2.20	1.40	1.36
2	T	600	LDN	CAZ-CBC	-2.19	1.40	1.43
2	Q	600	LDN	CAY-CBB	-2.18	1.38	1.42
2	N	600	LDN	CBC-NBE	2.18	1.42	1.38
2	A	600	LDN	CAP-NBD	2.18	1.50	1.46
2	P	600	LDN	CAQ-NBD	2.17	1.50	1.46
2	O	600	LDN	CBA-NAR	-2.16	1.33	1.37
2	P	600	LDN	CAA-CAI	2.16	1.41	1.36
2	M	600	LDN	CAQ-NBD	2.15	1.50	1.46
2	A	600	LDN	CBA-NAR	-2.15	1.33	1.37
2	G	600	LDN	CBA-NAR	-2.12	1.33	1.37
2	F	600	LDN	CAY-CBB	-2.11	1.39	1.42
2	O	600	LDN	CAP-NBD	2.11	1.50	1.46
2	M	600	LDN	CAQ-CAO	2.08	1.56	1.51
2	C	600	LDN	CAA-CAI	2.03	1.41	1.36
2	R	600	LDN	CAP-NBD	2.02	1.50	1.46
2	O	600	LDN	CAI-CBA	-2.02	1.38	1.41
2	K	600	LDN	CAP-NBD	2.02	1.50	1.46
2	L	600	LDN	CAZ-CBC	-2.02	1.40	1.43

All (313) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	I	600	LDN	CAL-NAT-NBE	7.57	111.22	103.81
2	P	600	LDN	CAL-NAT-NBE	7.48	111.13	103.81
2	Q	600	LDN	CAL-NAT-NBE	7.44	111.09	103.81
2	V	600	LDN	CAL-NAT-NBE	7.39	111.04	103.81
2	C	600	LDN	CAL-NAT-NBE	7.34	111.00	103.81
2	J	600	LDN	CAL-NAT-NBE	7.30	110.95	103.81
2	L	600	LDN	CAL-NAT-NBE	7.10	110.76	103.81
2	E	600	LDN	CAL-NAT-NBE	7.07	110.73	103.81
2	P	600	LDN	CAK-NAS-CBC	6.99	122.97	115.71
2	R	600	LDN	CAL-NAT-NBE	6.98	110.64	103.81
2	O	600	LDN	CAL-NAT-NBE	6.94	110.60	103.81
2	T	600	LDN	CAK-NAS-CBC	6.92	122.89	115.71
2	L	600	LDN	CAK-NAS-CBC	6.83	122.81	115.71
2	X	600	LDN	CAL-NAT-NBE	6.73	110.39	103.81
2	W	600	LDN	CAL-NAT-NBE	6.73	110.39	103.81
2	J	600	LDN	CAW-CAK-NAS	-6.71	119.29	125.38
2	Q	600	LDN	CAK-NAS-CBC	6.68	122.65	115.71
2	N	600	LDN	CAL-NAT-NBE	6.68	110.35	103.81

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	600	LDN	CAK-NAS-CBC	6.67	122.64	115.71
2	A	600	LDN	CAL-NAT-NBE	6.64	110.31	103.81
2	K	600	LDN	CAL-NAT-NBE	6.62	110.29	103.81
2	D	600	LDN	CAK-NAS-CBC	6.56	122.52	115.71
2	B	600	LDN	CAK-NAS-CBC	6.39	122.34	115.71
2	F	600	LDN	CAL-NAT-NBE	6.36	110.03	103.81
2	S	600	LDN	CAL-NAT-NBE	6.35	110.02	103.81
2	T	600	LDN	CAL-NAT-NBE	6.34	110.01	103.81
2	M	600	LDN	CAL-NAT-NBE	6.33	110.00	103.81
2	B	600	LDN	CAL-NAT-NBE	6.30	109.97	103.81
2	K	600	LDN	CAZ-CBC-NAS	6.27	137.46	132.18
2	T	600	LDN	CAZ-CBC-NAS	6.26	137.45	132.18
2	R	600	LDN	CAK-NAS-CBC	6.18	122.12	115.71
2	D	600	LDN	CAL-NAT-NBE	6.17	109.84	103.81
2	K	600	LDN	CAK-NAS-CBC	6.13	122.08	115.71
2	G	600	LDN	CBB-CAY-CAZ	6.12	127.67	121.46
2	J	600	LDN	CAK-NAS-CBC	6.08	122.02	115.71
2	F	600	LDN	CAK-NAS-CBC	6.05	121.99	115.71
2	N	600	LDN	CAK-NAS-CBC	6.04	121.99	115.71
2	K	600	LDN	CBB-CAY-CAZ	6.04	127.59	121.46
2	A	600	LDN	CAW-CAK-NAS	-5.98	119.95	125.38
2	A	600	LDN	CAK-NAS-CBC	5.97	121.91	115.71
2	I	600	LDN	CAK-NAS-CBC	5.97	121.91	115.71
2	C	600	LDN	CAK-NAS-CBC	5.96	121.90	115.71
2	C	600	LDN	CAW-CAK-NAS	-5.85	120.07	125.38
2	H	600	LDN	CAL-NAT-NBE	5.85	109.53	103.81
2	I	600	LDN	CAW-CAK-NAS	-5.78	120.14	125.38
2	X	600	LDN	CBB-CAY-CAZ	5.77	127.31	121.46
2	F	600	LDN	CAW-CAK-NAS	-5.64	120.26	125.38
2	L	600	LDN	CAW-CAK-NAS	-5.61	120.28	125.38
2	U	600	LDN	CAL-NAT-NBE	5.60	109.29	103.81
2	S	600	LDN	CAK-NAS-CBC	5.58	121.51	115.71
2	B	600	LDN	CAW-CAK-NAS	-5.53	120.36	125.38
2	X	600	LDN	CAK-NAS-CBC	5.53	121.45	115.71
2	M	600	LDN	CAK-NAS-CBC	5.50	121.43	115.71
2	P	600	LDN	CAW-CAK-NAS	-5.45	120.43	125.38
2	Q	600	LDN	CBB-CAY-CAZ	5.35	126.88	121.46
2	T	600	LDN	CAW-CAK-NAS	-5.31	120.56	125.38
2	W	600	LDN	CAW-CAK-NAS	-5.30	120.57	125.38
2	G	600	LDN	CAL-NAT-NBE	5.28	108.97	103.81
2	U	600	LDN	CAK-NAS-CBC	5.17	121.08	115.71
2	Q	600	LDN	CAW-CAK-NAS	-5.12	120.73	125.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	R	600	LDN	CAQ-NBD-CAP	5.09	123.03	111.57
2	H	600	LDN	CBB-CAY-CAZ	5.08	126.61	121.46
2	X	600	LDN	CAW-CAK-NAS	-5.08	120.77	125.38
2	D	600	LDN	CAW-CAK-NAS	-5.06	120.79	125.38
2	E	600	LDN	CAK-NAS-CBC	5.02	120.92	115.71
2	G	600	LDN	CAW-CAK-NAS	-5.02	120.82	125.38
2	E	600	LDN	CAZ-CBC-NAS	4.94	136.34	132.18
2	O	600	LDN	CAK-NAS-CBC	4.92	120.81	115.71
2	L	600	LDN	CAQ-NBD-CAP	4.86	122.50	111.57
2	R	600	LDN	CAZ-CBC-NAS	4.82	136.24	132.18
2	Q	600	LDN	CAZ-CBC-NAS	4.82	136.23	132.18
2	D	600	LDN	CAM-NBE-NAT	4.80	133.39	126.49
2	B	600	LDN	CAQ-NBD-CAP	4.80	122.37	111.57
2	N	600	LDN	CAW-CAK-NAS	-4.80	121.02	125.38
2	S	600	LDN	CAQ-NBD-CAP	4.75	122.25	111.57
2	I	600	LDN	CAQ-NBD-CAP	4.73	122.21	111.57
2	V	600	LDN	CAK-NAS-CBC	4.69	120.58	115.71
2	C	600	LDN	CAQ-NBD-CAP	4.63	121.99	111.57
2	X	600	LDN	CAM-NBE-NAT	4.61	133.10	126.49
2	O	600	LDN	CAQ-NBD-CAP	4.57	121.84	111.57
2	W	600	LDN	CAK-NAS-CBC	4.49	120.37	115.71
2	C	600	LDN	CAZ-CAL-NAT	-4.47	107.57	113.29
2	U	600	LDN	CAW-CAK-NAS	-4.46	121.33	125.38
2	I	600	LDN	CAZ-CAL-NAT	-4.41	107.65	113.29
2	H	600	LDN	CAW-CAK-NAS	-4.40	121.39	125.38
2	S	600	LDN	CAW-CAK-NAS	-4.39	121.39	125.38
2	P	600	LDN	CAZ-CBC-NAS	4.29	135.79	132.18
2	M	600	LDN	CAG-CAX-NBD	-4.28	115.44	121.39
2	A	600	LDN	CAZ-CBC-NAS	4.27	135.78	132.18
2	J	600	LDN	CAM-NBE-NAT	4.23	132.56	126.49
2	P	600	LDN	CAM-NBE-NAT	4.21	132.53	126.49
2	H	600	LDN	CAK-NAS-CBC	4.20	120.08	115.71
2	K	600	LDN	CAW-CAK-NAS	-4.17	121.59	125.38
2	O	600	LDN	CAZ-CBC-NAS	4.14	135.67	132.18
2	W	600	LDN	CAZ-CBC-NAS	4.14	135.67	132.18
2	N	600	LDN	CAM-NBE-NAT	4.14	132.44	126.49
2	P	600	LDN	CAZ-CAL-NAT	-4.14	108.00	113.29
2	H	600	LDN	CAQ-NBD-CAP	4.08	120.75	111.57
2	R	600	LDN	CAW-CAK-NAS	-4.05	121.71	125.38
2	J	600	LDN	CAZ-CAL-NAT	-4.02	108.15	113.29
2	I	600	LDN	CAZ-CBC-NAS	4.00	135.54	132.18
2	J	600	LDN	CAD-CAC-NAR	-3.99	118.66	124.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	J	600	LDN	CAC-NAR-CBA	3.98	122.94	116.93
2	B	600	LDN	CBB-CAY-CAZ	3.91	125.43	121.46
2	M	600	LDN	CAW-CAK-NAS	-3.91	121.83	125.38
2	C	600	LDN	CAM-NBE-NAT	3.90	132.09	126.49
2	L	600	LDN	CAM-NBE-NAT	3.89	132.07	126.49
2	L	600	LDN	CAZ-CBC-NAS	3.84	135.41	132.18
2	M	600	LDN	CAC-NAR-CBA	3.83	122.72	116.93
2	M	600	LDN	CAM-NBE-NAT	3.82	131.97	126.49
2	Q	600	LDN	CAZ-CAL-NAT	-3.80	108.43	113.29
2	A	600	LDN	CAM-NBE-NAT	3.80	131.95	126.49
2	X	600	LDN	CAZ-CAL-NAT	-3.78	108.46	113.29
2	H	600	LDN	CAM-NBE-NAT	3.75	131.87	126.49
2	C	600	LDN	CAL-CAZ-CBC	3.74	107.74	104.42
2	X	600	LDN	CAY-CAZ-CBC	-3.73	121.52	127.40
2	W	600	LDN	CAC-NAR-CBA	3.71	122.55	116.93
2	E	600	LDN	CAW-CAK-NAS	-3.70	122.02	125.38
2	B	600	LDN	CAM-NBE-NAT	3.67	131.77	126.49
2	W	600	LDN	CAZ-CAL-NAT	-3.65	108.62	113.29
2	M	600	LDN	CAD-CAC-NAR	-3.60	119.24	124.60
2	V	600	LDN	CAZ-CAL-NAT	-3.60	108.69	113.29
2	V	600	LDN	CAZ-CBC-NAS	3.58	135.19	132.18
2	W	600	LDN	CAL-CAZ-CBC	3.55	107.57	104.42
2	F	600	LDN	CAM-NBE-NAT	3.54	131.57	126.49
2	Q	600	LDN	CAM-NBE-NAT	3.51	131.53	126.49
2	T	600	LDN	CAH-CAX-NBD	-3.50	116.53	121.39
2	G	600	LDN	CAZ-CBC-NAS	3.49	135.12	132.18
2	Q	600	LDN	CAQ-NBD-CAP	3.48	119.41	111.57
2	M	600	LDN	CAZ-CBC-NAS	3.48	135.10	132.18
2	U	600	LDN	CAC-NAR-CBA	3.48	122.19	116.93
2	E	600	LDN	CAQ-NBD-CAP	3.47	119.38	111.57
2	V	600	LDN	CAM-NBE-NAT	3.45	131.44	126.49
2	I	600	LDN	CAM-NBE-NAT	3.43	131.42	126.49
2	R	600	LDN	CBB-CAY-CAZ	3.42	124.93	121.46
2	G	600	LDN	CAM-NBE-NAT	3.41	131.39	126.49
2	H	600	LDN	CAC-NAR-CBA	3.41	122.09	116.93
2	C	600	LDN	CAC-NAR-CBA	3.40	122.07	116.93
2	X	600	LDN	CAD-CAY-CAZ	-3.39	113.90	118.94
2	D	600	LDN	CAQ-NBD-CAP	3.38	119.18	111.57
2	L	600	LDN	CAZ-CAL-NAT	-3.38	108.97	113.29
2	R	600	LDN	CAZ-CAL-NAT	-3.38	108.97	113.29
2	X	600	LDN	CAC-NAR-CBA	3.37	122.03	116.93
2	I	600	LDN	CAC-NAR-CBA	3.37	122.03	116.93

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	600	LDN	CAZ-CAL-NAT	-3.35	109.00	113.29
2	G	600	LDN	CAQ-NBD-CAP	3.33	119.06	111.57
2	V	600	LDN	CAW-CAK-NAS	-3.32	122.36	125.38
2	U	600	LDN	CAZ-CBC-NAS	3.31	134.97	132.18
2	W	600	LDN	CAQ-NBD-CAP	3.31	119.02	111.57
2	O	600	LDN	CAW-CAK-NAS	-3.29	122.39	125.38
2	I	600	LDN	CAL-CAZ-CBC	3.29	107.34	104.42
2	A	600	LDN	CAQ-NBD-CAP	3.26	118.90	111.57
2	W	600	LDN	CAN-CAP-NBD	-3.24	103.34	110.38
2	K	600	LDN	CAZ-CAL-NAT	-3.24	109.15	113.29
2	G	600	LDN	CAC-NAR-CBA	3.23	121.81	116.93
2	D	600	LDN	CAC-NAR-CBA	3.21	121.79	116.93
2	M	600	LDN	CAQ-NBD-CAP	3.20	118.77	111.57
2	W	600	LDN	CAD-CAC-NAR	-3.20	119.84	124.60
2	F	600	LDN	CAZ-CAL-NAT	-3.19	109.21	113.29
2	H	600	LDN	CAZ-CAL-NAT	-3.18	109.23	113.29
2	X	600	LDN	CAD-CAC-NAR	-3.15	119.92	124.60
2	F	600	LDN	CAZ-CBC-NAS	3.15	134.83	132.18
2	J	600	LDN	CAO-CAQ-NBD	-3.14	103.56	110.38
2	D	600	LDN	CAD-CAC-NAR	-3.13	119.94	124.60
2	J	600	LDN	CAL-CAZ-CBC	3.13	107.20	104.42
2	A	600	LDN	CAO-CAQ-NBD	-3.12	103.59	110.38
2	N	600	LDN	CBB-CAY-CAZ	3.12	124.62	121.46
2	D	600	LDN	CAZ-CAL-NAT	-3.11	109.31	113.29
2	N	600	LDN	CAQ-NBD-CAP	3.11	118.57	111.57
2	U	600	LDN	CAQ-NBD-CAP	3.10	118.54	111.57
2	J	600	LDN	CAQ-NBD-CAP	3.09	118.53	111.57
2	T	600	LDN	CAF-CAV-CAW	-3.09	116.83	121.16
2	J	600	LDN	CAZ-CBC-NAS	3.08	134.77	132.18
2	N	600	LDN	CAH-CAX-NBD	-3.07	117.13	121.39
2	A	600	LDN	CAC-NAR-CBA	3.06	121.56	116.93
2	T	600	LDN	CAD-CAC-NAR	-3.05	120.07	124.60
2	X	600	LDN	CAL-CAZ-CBC	3.05	107.13	104.42
2	T	600	LDN	CAQ-NBD-CAP	3.04	118.41	111.57
2	M	600	LDN	CAZ-CAL-NAT	-3.04	109.41	113.29
2	C	600	LDN	CAH-CAX-NBD	-3.03	117.18	121.39
2	K	600	LDN	CAE-CAV-CAW	3.03	125.42	121.16
2	O	600	LDN	CAM-NBE-NAT	3.01	130.82	126.49
2	K	600	LDN	NBE-CBC-NAS	-3.00	118.35	121.96
2	C	600	LDN	CAZ-CBC-NAS	2.98	134.68	132.18
2	F	600	LDN	CAQ-NBD-CAP	2.97	118.25	111.57
2	X	600	LDN	CAQ-NBD-CAP	2.97	118.24	111.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	U	600	LDN	CAM-NBE-NAT	2.96	130.74	126.49
2	P	600	LDN	CAQ-NBD-CAP	2.94	118.19	111.57
2	T	600	LDN	NBE-CBC-NAS	-2.94	118.42	121.96
2	E	600	LDN	CAZ-CAL-NAT	-2.94	109.54	113.29
2	O	600	LDN	CBB-CAY-CAZ	2.93	124.43	121.46
2	B	600	LDN	CAD-CAC-NAR	-2.87	120.34	124.60
2	C	600	LDN	CAD-CAC-NAR	-2.87	120.34	124.60
2	L	600	LDN	CAD-CAC-NAR	-2.85	120.36	124.60
2	U	600	LDN	CBB-CAY-CAZ	-2.84	118.58	121.46
2	P	600	LDN	CAD-CAC-NAR	-2.83	120.40	124.60
2	B	600	LDN	CAZ-CAL-NAT	-2.82	109.68	113.29
2	R	600	LDN	CAM-NBE-NAT	2.80	130.51	126.49
2	B	600	LDN	CAZ-CBC-NAS	2.80	134.53	132.18
2	G	600	LDN	CBB-CBA-NAR	-2.78	119.87	122.82
2	T	600	LDN	CAZ-CAL-NAT	-2.78	109.73	113.29
2	S	600	LDN	CAM-NBE-NAT	2.78	130.48	126.49
2	K	600	LDN	CAD-CAY-CAZ	-2.74	114.88	118.94
2	G	600	LDN	CAD-CAY-CAZ	-2.73	114.88	118.94
2	S	600	LDN	CAZ-CBC-NAS	2.73	134.48	132.18
2	P	600	LDN	CAL-CAZ-CBC	2.73	106.84	104.42
2	K	600	LDN	CAW-CAM-NBE	2.72	122.12	118.63
2	A	600	LDN	CAL-CAZ-CBC	2.72	106.83	104.42
2	I	600	LDN	CBB-CBA-NAR	-2.71	119.95	122.82
2	W	600	LDN	CAM-NBE-NAT	2.70	130.38	126.49
2	N	600	LDN	CAZ-CBC-NAS	2.69	134.44	132.18
2	B	600	LDN	CAC-NAR-CBA	2.69	121.00	116.93
2	L	600	LDN	CAC-NAR-CBA	2.69	121.00	116.93
2	E	600	LDN	CAM-NBE-NAT	2.69	130.35	126.49
2	Q	600	LDN	CAD-CAC-NAR	-2.68	120.61	124.60
2	U	600	LDN	CAD-CAC-NAR	-2.68	120.62	124.60
2	A	600	LDN	CAD-CAC-NAR	-2.68	120.62	124.60
2	F	600	LDN	CAC-NAR-CBA	2.67	120.97	116.93
2	R	600	LDN	CAC-NAR-CBA	2.66	120.96	116.93
2	S	600	LDN	CAZ-CAL-NAT	-2.65	109.90	113.29
2	O	600	LDN	CAY-CBB-CBA	2.65	119.96	117.08
2	N	600	LDN	CAD-CAY-CBB	-2.64	116.71	119.63
2	N	600	LDN	CAC-NAR-CBA	2.63	120.91	116.93
2	H	600	LDN	CAD-CAC-NAR	-2.62	120.70	124.60
2	X	600	LDN	CAN-CAP-NBD	-2.61	104.72	110.38
2	P	600	LDN	CAY-CAZ-CBC	-2.61	123.29	127.40
2	S	600	LDN	CAD-CAY-CBB	-2.57	116.78	119.63
2	P	600	LDN	CAC-NAR-CBA	2.56	120.80	116.93

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	600	LDN	CAY-CBB-CBA	2.56	119.87	117.08
2	X	600	LDN	CAY-CAZ-CAL	2.56	130.88	126.71
2	U	600	LDN	CBB-CBA-NAR	-2.55	120.11	122.82
2	R	600	LDN	NBE-CBC-NAS	-2.53	118.92	121.96
2	D	600	LDN	CAM-NBE-CBC	-2.52	117.44	122.11
2	L	600	LDN	CAY-CBB-CBA	2.52	119.82	117.08
2	M	600	LDN	CAH-CAX-NBD	2.50	124.86	121.39
2	X	600	LDN	CAM-NBE-CBC	-2.49	117.50	122.11
2	O	600	LDN	CAD-CAY-CBB	-2.47	116.89	119.63
2	N	600	LDN	CAF-CAV-CAW	-2.46	117.71	121.16
2	J	600	LDN	CBB-CAY-CAZ	2.42	123.92	121.46
2	H	600	LDN	CAY-CAZ-CBC	-2.42	123.58	127.40
2	T	600	LDN	CAM-NBE-NAT	2.41	129.96	126.49
2	S	600	LDN	CBB-CAY-CAZ	2.41	123.91	121.46
2	E	600	LDN	CAD-CAC-NAR	-2.41	121.02	124.60
2	K	600	LDN	CAC-NAR-CBA	2.41	120.58	116.93
2	K	600	LDN	CAD-CAC-NAR	-2.41	121.02	124.60
2	U	600	LDN	CAD-CAY-CAZ	2.41	122.52	118.94
2	Q	600	LDN	CAC-NAR-CBA	2.39	120.55	116.93
2	M	600	LDN	CBB-CBA-NAR	-2.39	120.29	122.82
2	N	600	LDN	CAZ-CAL-NAT	-2.38	110.24	113.29
2	M	600	LDN	CAL-CAZ-CBC	2.37	106.53	104.42
2	O	600	LDN	CAZ-CAL-NAT	-2.36	110.28	113.29
2	T	600	LDN	CAC-NAR-CBA	2.36	120.50	116.93
2	N	600	LDN	CAG-CAX-NBD	2.35	124.66	121.39
2	W	600	LDN	CBB-CAY-CAZ	2.35	123.84	121.46
2	N	600	LDN	CAD-CAC-NAR	-2.34	121.12	124.60
2	J	600	LDN	CAM-NBE-CBC	-2.34	117.78	122.11
2	D	600	LDN	CAQ-NBD-CAX	2.34	124.48	118.11
2	H	600	LDN	CAI-CBA-CBB	2.34	121.65	119.13
2	S	600	LDN	CAD-CAC-NAR	-2.33	121.13	124.60
2	U	600	LDN	CAZ-CAL-NAT	-2.33	110.32	113.29
2	P	600	LDN	CAM-NBE-CBC	-2.31	117.82	122.11
2	W	600	LDN	CAH-CAX-NBD	-2.30	118.20	121.39
2	G	600	LDN	CAB-CAA-CAI	-2.30	117.33	120.40
2	C	600	LDN	CBB-CBA-NAR	-2.29	120.40	122.82
2	K	600	LDN	CAM-NBE-NAT	2.29	129.77	126.49
2	B	600	LDN	CAY-CBB-CBA	2.27	119.56	117.08
2	H	600	LDN	CAL-CAZ-CBC	2.27	106.44	104.42
2	M	600	LDN	CAE-CAV-CAW	-2.27	117.98	121.16
2	V	600	LDN	CAD-CAC-NAR	-2.27	121.23	124.60
2	D	600	LDN	CAZ-CBC-NAS	2.27	134.08	132.18

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	G	600	LDN	CAZ-CAL-NAT	-2.26	110.40	113.29
2	P	600	LDN	CAH-CAX-NBD	-2.25	118.26	121.39
2	T	600	LDN	CAV-CAW-CAM	-2.23	115.48	120.21
2	R	600	LDN	CBB-CBA-NAR	-2.22	120.47	122.82
2	V	600	LDN	CAC-NAR-CBA	2.22	120.28	116.93
2	R	600	LDN	CAY-CBB-CBA	2.21	119.49	117.08
2	D	600	LDN	CAY-CAZ-CBC	-2.21	123.92	127.40
2	P	600	LDN	CAW-CAM-NBE	2.20	121.46	118.63
2	H	600	LDN	CAM-NBE-CBC	-2.20	118.04	122.11
2	J	600	LDN	CBB-CBA-NAR	-2.18	120.51	122.82
2	F	600	LDN	CAY-CBB-CBA	2.18	119.45	117.08
2	W	600	LDN	CAF-CAV-CAW	-2.18	118.11	121.16
2	Q	600	LDN	CAD-CAY-CBB	-2.17	117.22	119.63
2	S	600	LDN	CAC-NAR-CBA	2.17	120.22	116.93
2	T	600	LDN	CAJ-CBB-CBA	2.17	120.77	118.36
2	F	600	LDN	CAD-CAC-NAR	-2.16	121.39	124.60
2	A	600	LDN	CAM-NBE-CBC	-2.16	118.11	122.11
2	W	600	LDN	CAV-CAW-CAM	-2.15	115.66	120.21
2	C	600	LDN	CAH-CAF-CAV	-2.14	118.51	120.80
2	V	600	LDN	CAD-CAY-CBB	-2.14	117.25	119.63
2	T	600	LDN	CAD-CAY-CBB	-2.14	117.26	119.63
2	D	600	LDN	CAY-CAZ-CAL	2.13	130.19	126.71
2	B	600	LDN	CAD-CAY-CBB	-2.13	117.27	119.63
2	E	600	LDN	NBE-CBC-NAS	-2.11	119.42	121.96
2	W	600	LDN	CBB-CBA-NAR	-2.11	120.58	122.82
2	G	600	LDN	CAM-NBE-CBC	-2.11	118.20	122.11
2	G	600	LDN	CAI-CBA-CBB	2.11	121.40	119.13
2	E	600	LDN	CAY-CBB-CBA	2.10	119.37	117.08
2	K	600	LDN	CAV-CAW-CAM	-2.08	115.81	120.21
2	N	600	LDN	CAY-CBB-CBA	2.07	119.33	117.08
2	Q	600	LDN	CAD-CAY-CAZ	-2.07	115.87	118.94
2	R	600	LDN	CAP-CAN-NAU	-2.06	105.64	110.90
2	Q	600	LDN	NBE-CBC-NAS	-2.06	119.48	121.96
2	H	600	LDN	CBB-CBA-NAR	-2.06	120.64	122.82
2	C	600	LDN	CAE-CAG-CAX	-2.05	117.70	120.30
2	E	600	LDN	CAC-NAR-CBA	2.04	120.02	116.93
2	B	600	LDN	CAM-NBE-CBC	-2.04	118.33	122.11
2	H	600	LDN	CAD-CAY-CAZ	-2.03	115.92	118.94
2	O	600	LDN	CAG-CAX-NBD	-2.02	118.58	121.39
2	T	600	LDN	CAJ-CBB-CAY	-2.01	120.25	123.28
2	X	600	LDN	CAZ-CBC-NAS	2.01	133.87	132.18
2	I	600	LDN	CAN-CAP-NBD	2.01	114.75	110.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	M	600	LDN	CAQ-NBD-CAX	2.01	123.58	118.11

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	B	600	LDN	CAH-CAX-NBD-CAQ
2	B	600	LDN	CAH-CAX-NBD-CAP
2	B	600	LDN	CAG-CAX-NBD-CAP
2	B	600	LDN	CAG-CAX-NBD-CAQ
2	B	600	LDN	CAD-CAY-CAZ-CBC
2	I	600	LDN	CAD-CAY-CAZ-CBC
2	U	600	LDN	CAD-CAY-CAZ-CBC
2	D	600	LDN	CAH-CAX-NBD-CAP
2	K	600	LDN	CAD-CAY-CAZ-CAL
2	A	600	LDN	CAD-CAY-CAZ-CBC
2	D	600	LDN	CAD-CAY-CAZ-CBC
2	H	600	LDN	CAD-CAY-CAZ-CBC
2	L	600	LDN	CAD-CAY-CAZ-CBC
2	N	600	LDN	CAD-CAY-CAZ-CBC
2	S	600	LDN	CAD-CAY-CAZ-CBC

All (1) ring outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	X	600	LDN	CAN-CAO-CAP-CAQ-NAU-NBD

21 monomers are involved in 69 short contacts:

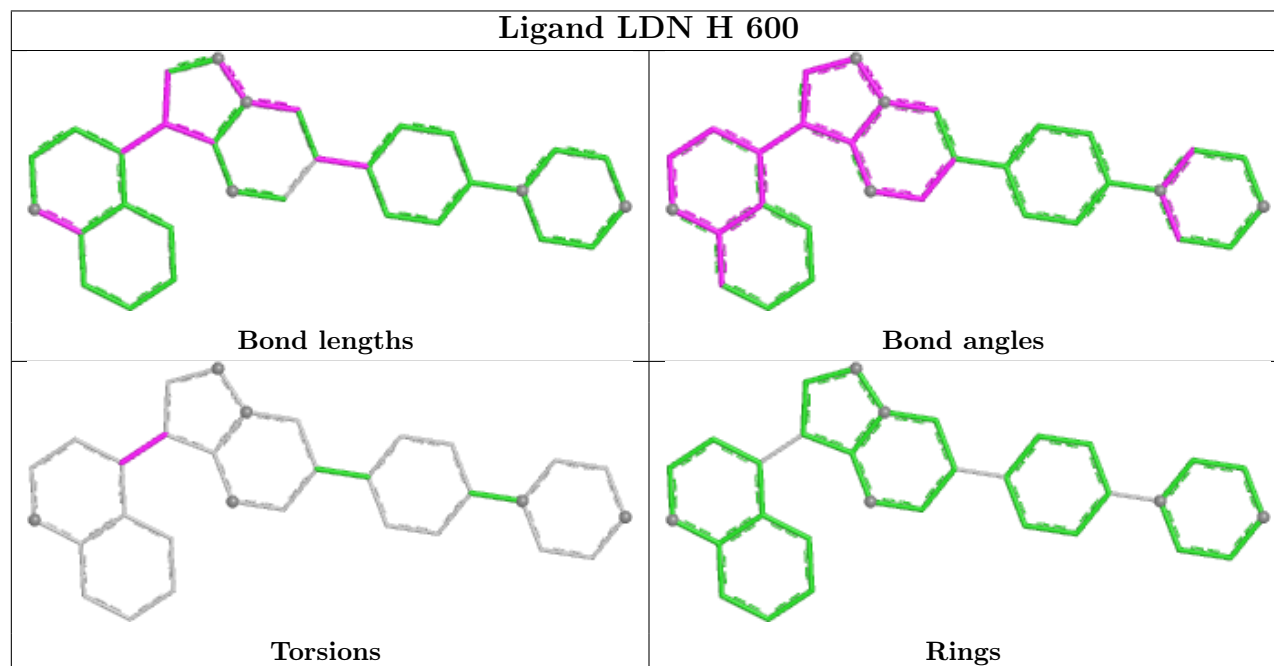
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	I	600	LDN	1	0
2	L	600	LDN	3	0
2	E	600	LDN	3	0
2	P	600	LDN	5	0
2	T	600	LDN	2	0
2	K	600	LDN	4	0
2	D	600	LDN	3	0
2	G	600	LDN	2	0
2	N	600	LDN	1	0
2	B	600	LDN	4	0
2	W	600	LDN	4	0

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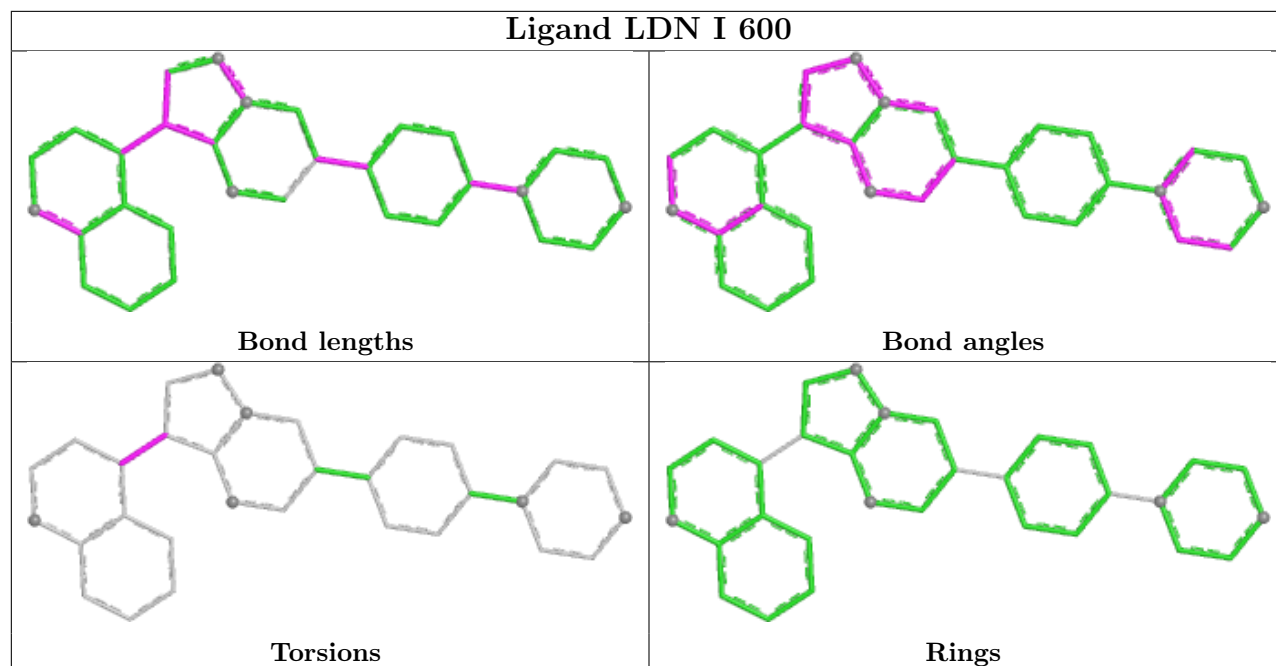
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Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	R	600	LDN	1	1
2	F	600	LDN	3	0
2	C	600	LDN	1	0
2	O	600	LDN	5	0
2	A	600	LDN	1	0
2	X	600	LDN	15	0
2	V	600	LDN	3	0
2	U	600	LDN	1	0
2	Q	600	LDN	1	0
2	J	600	LDN	5	0

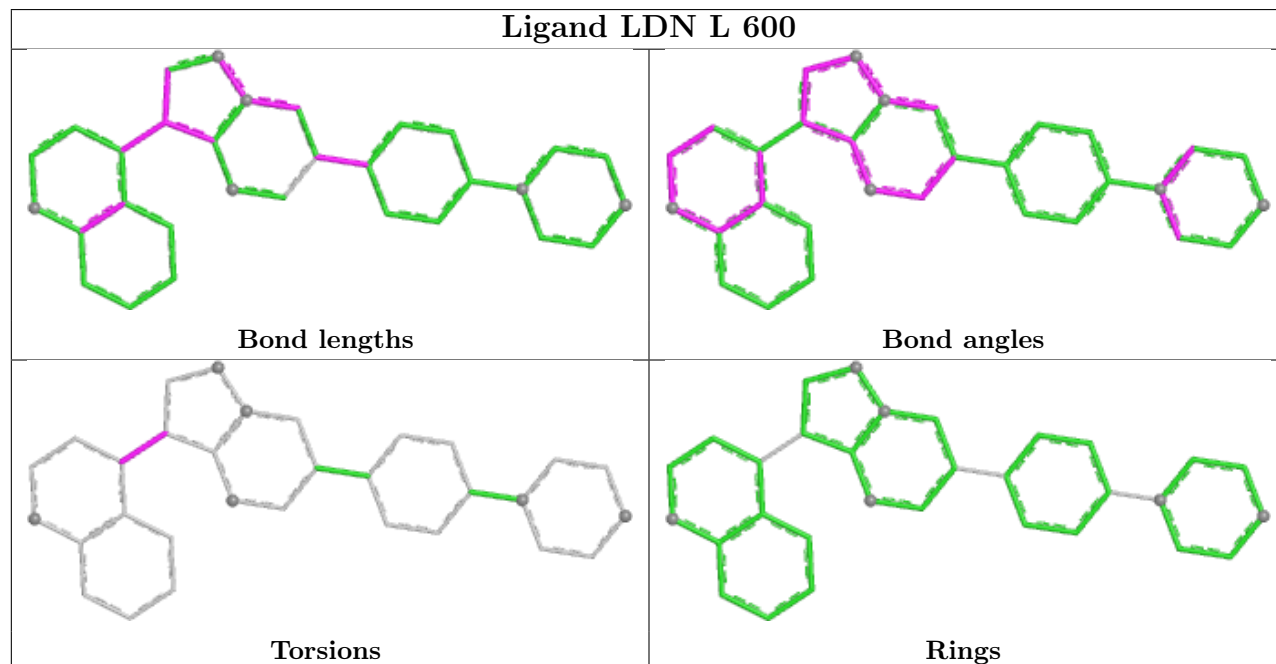
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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



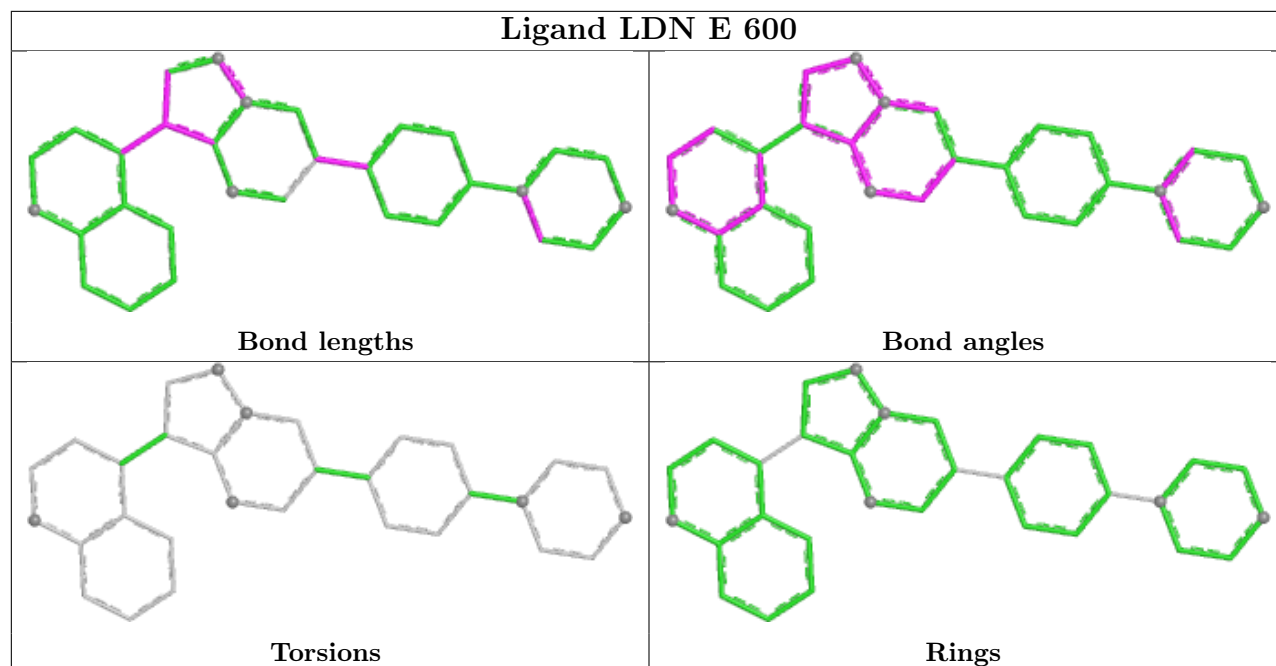
Ligand LDN I 600



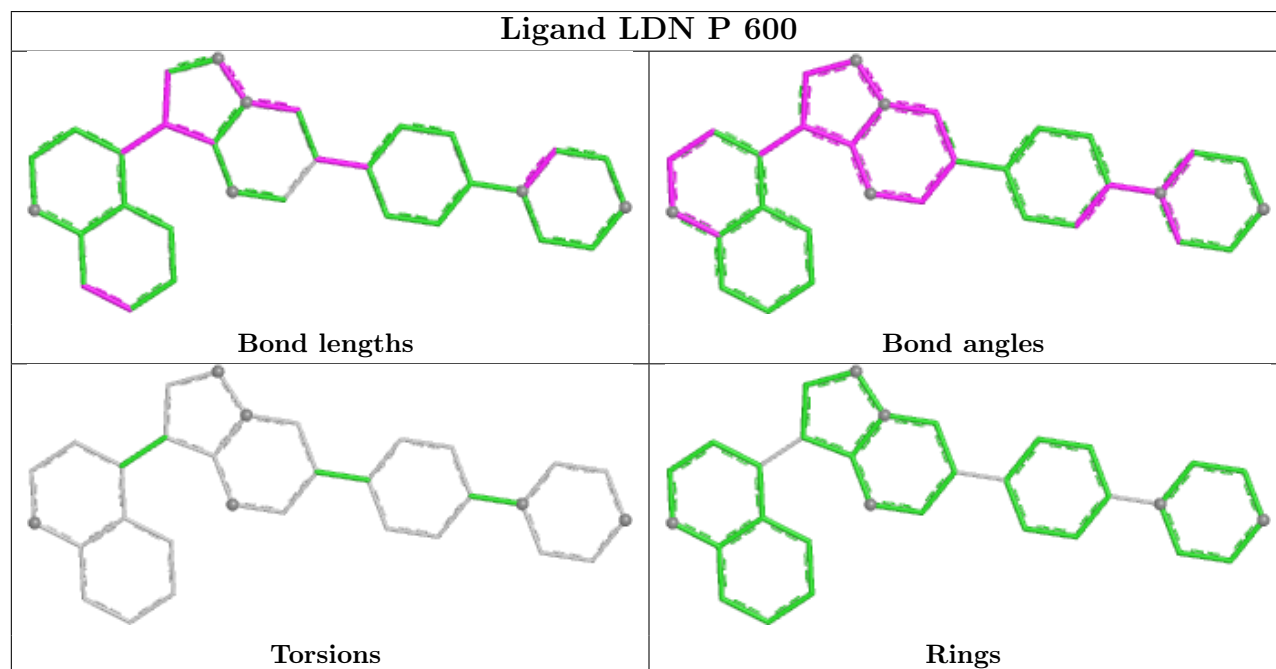
Ligand LDN L 600



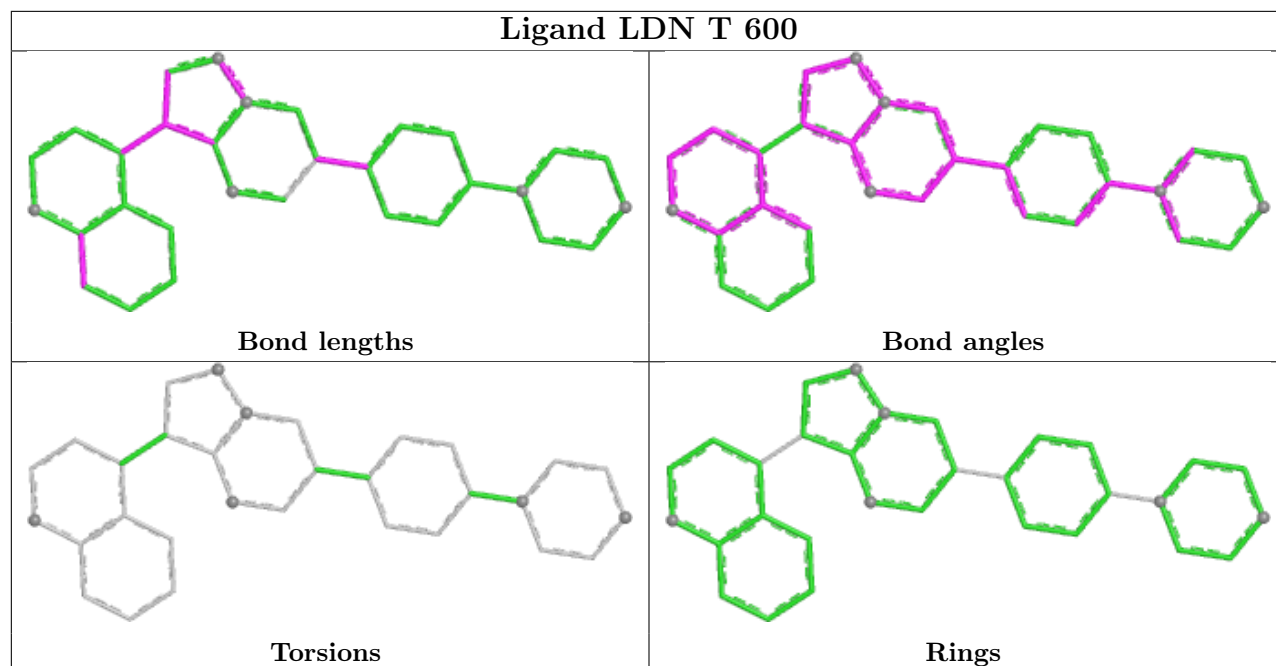
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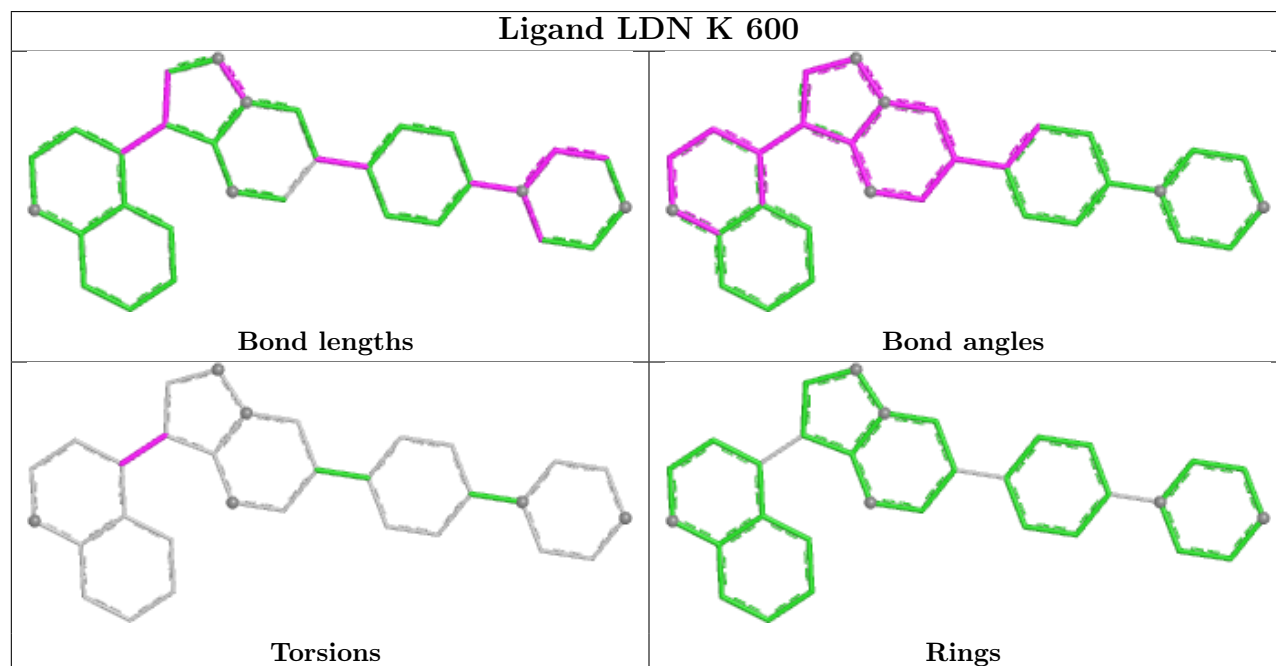
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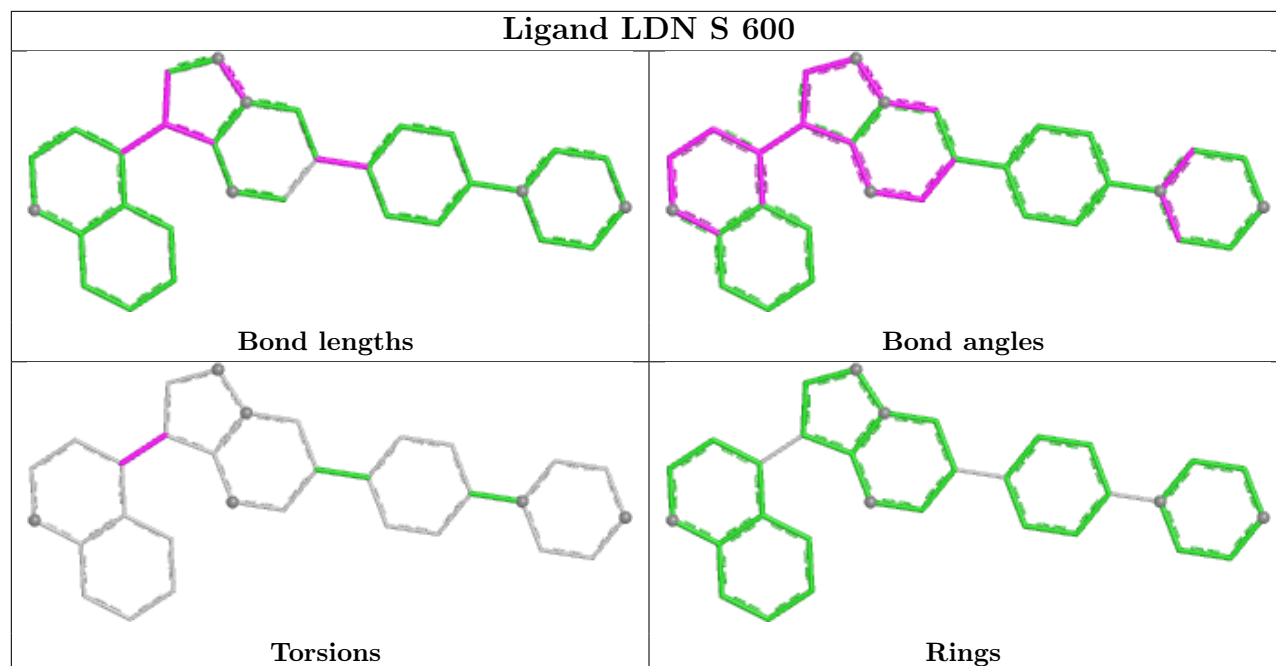
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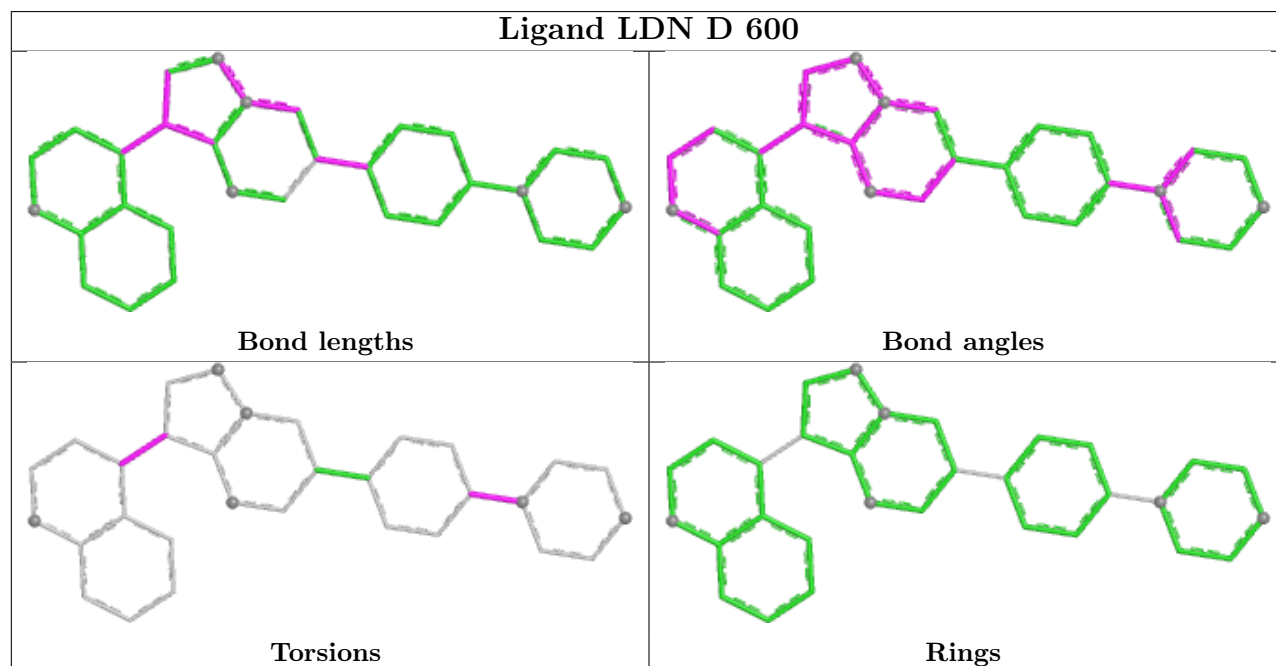
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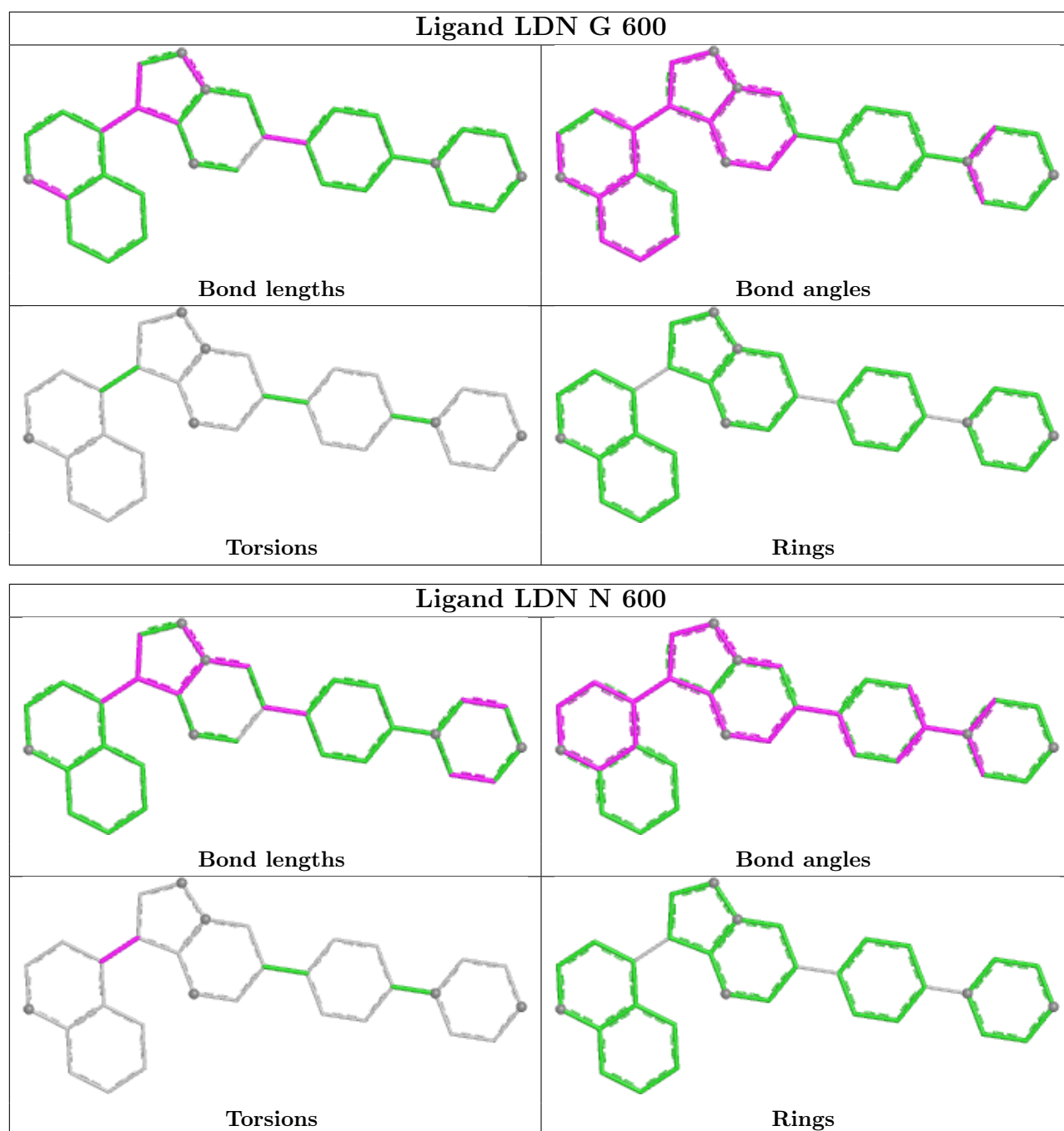


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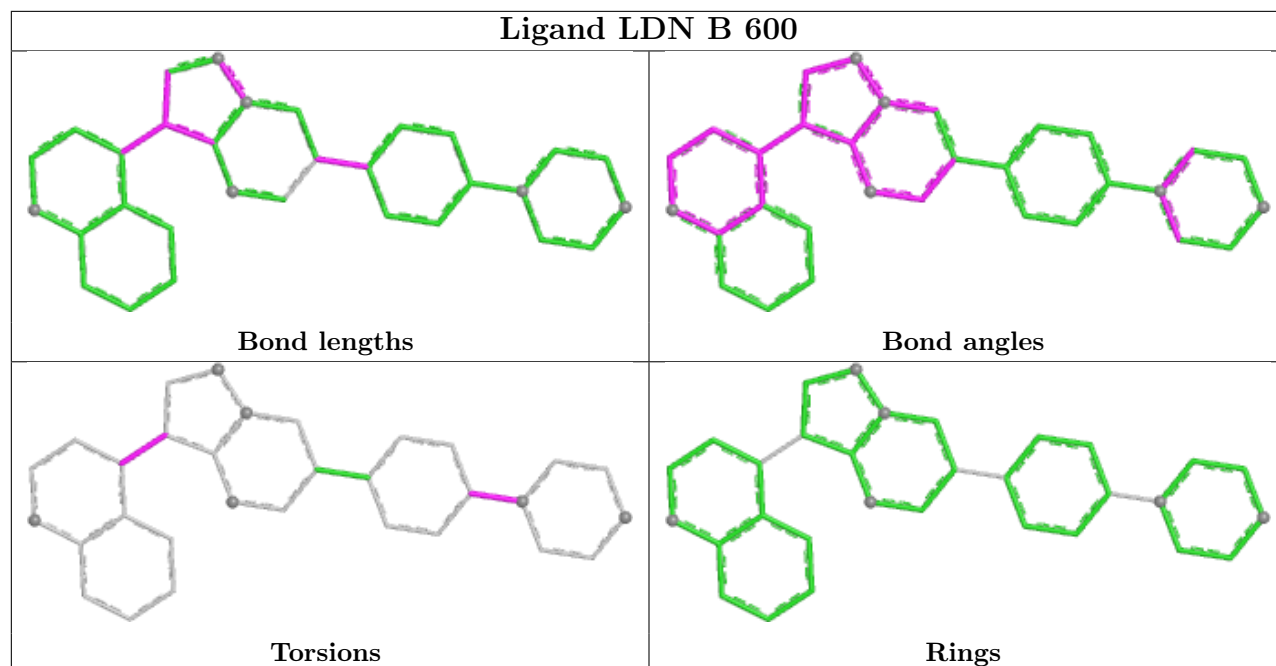


Ligand LDN D 600

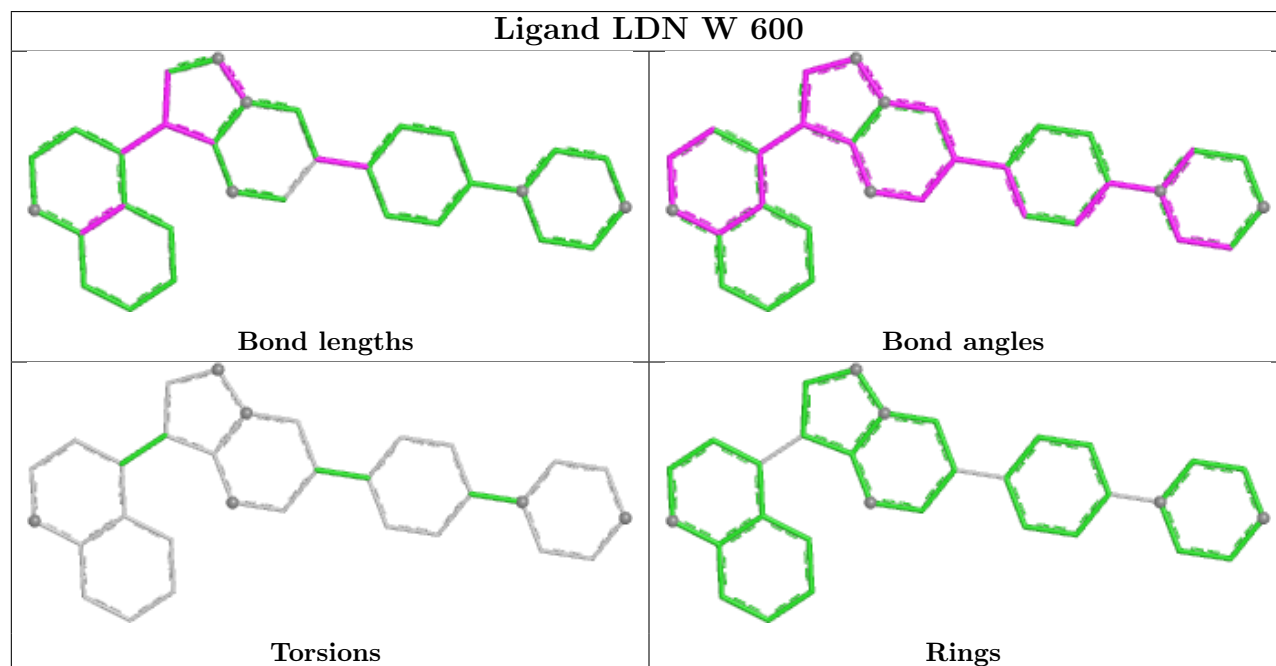


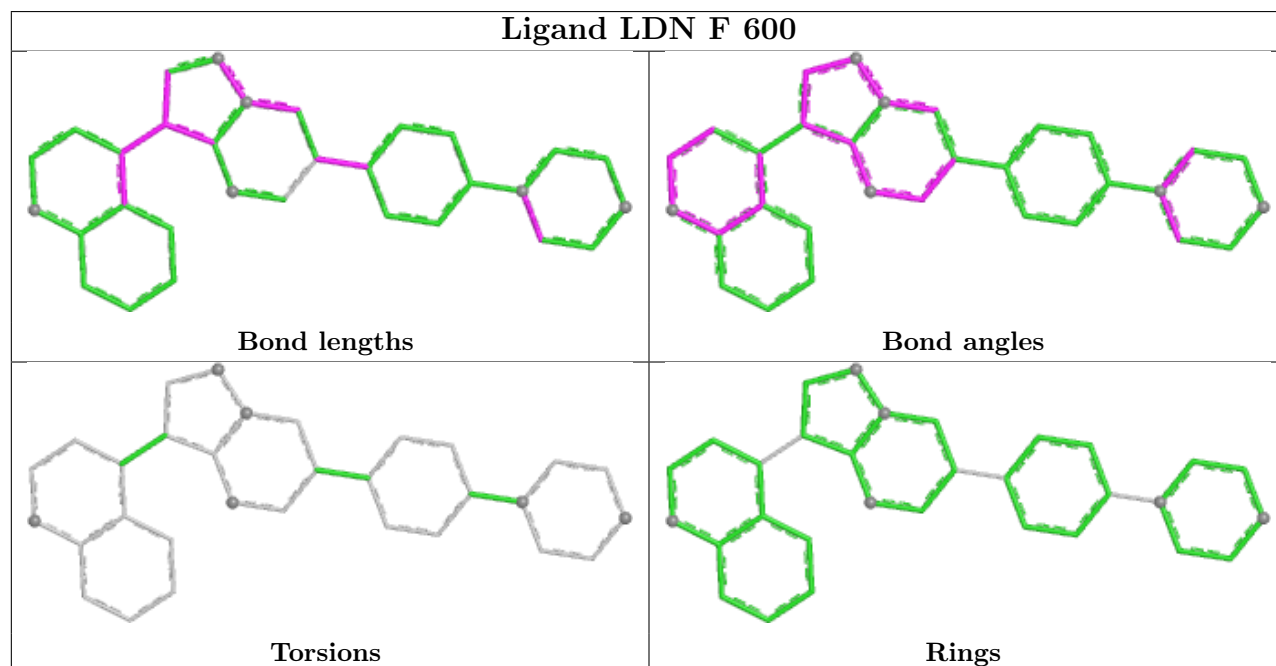
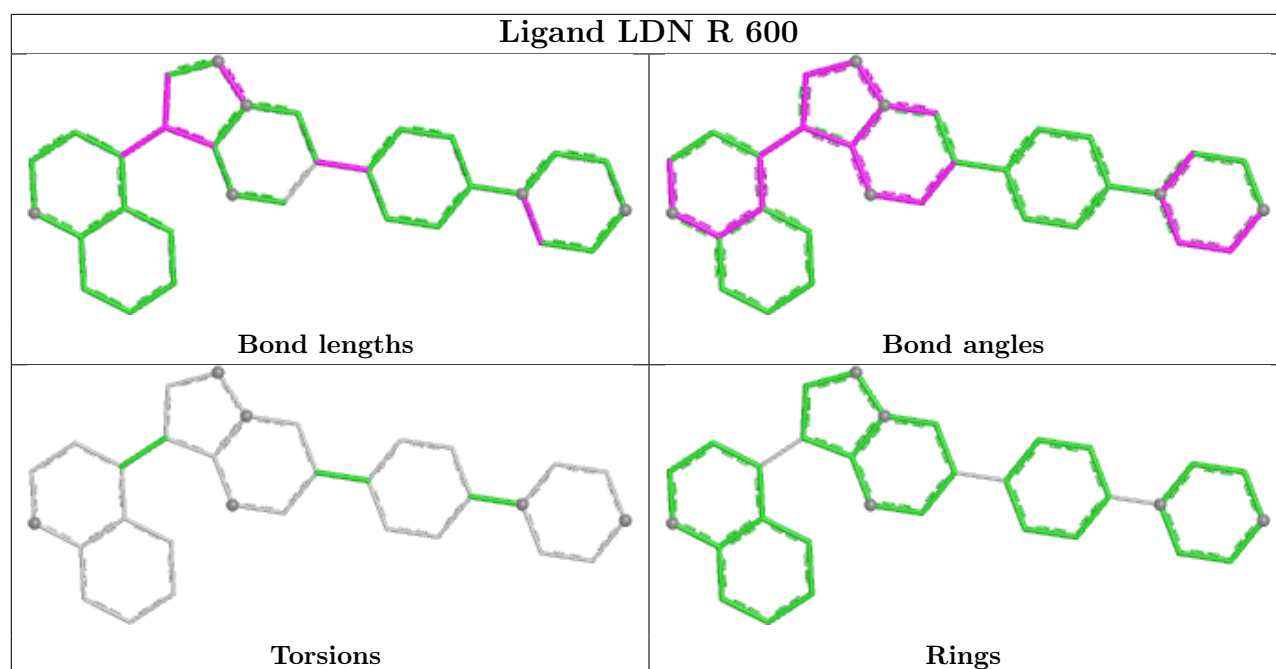


Ligand LDN B 600

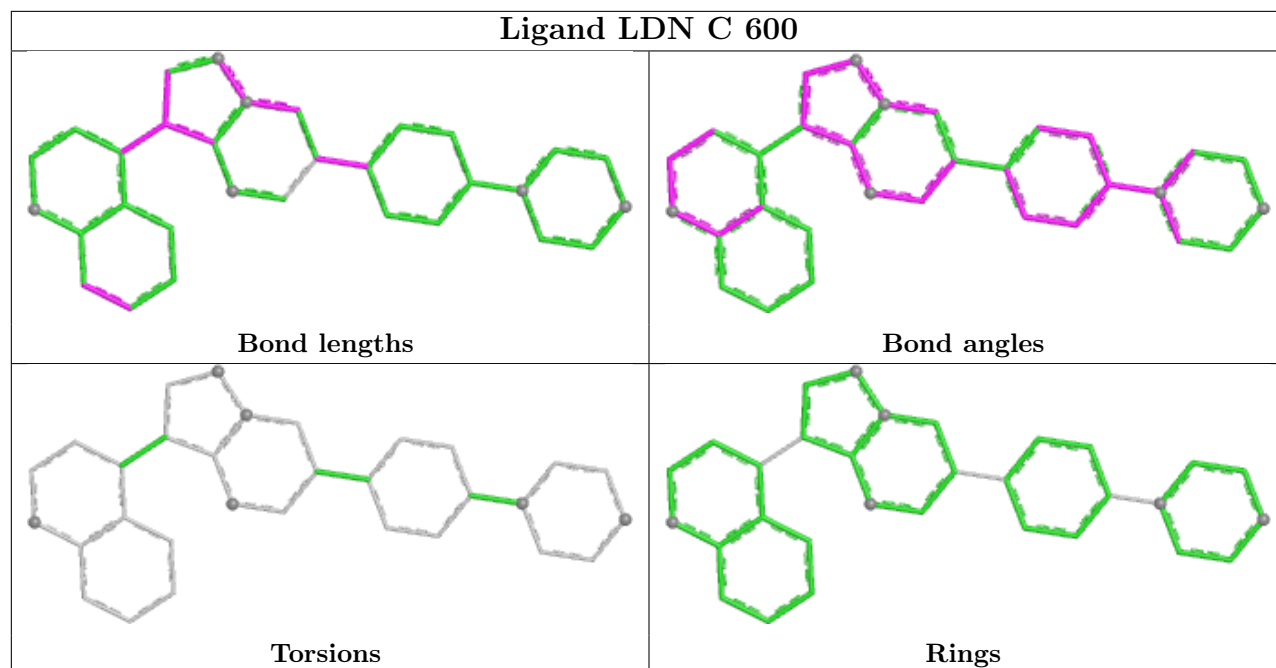


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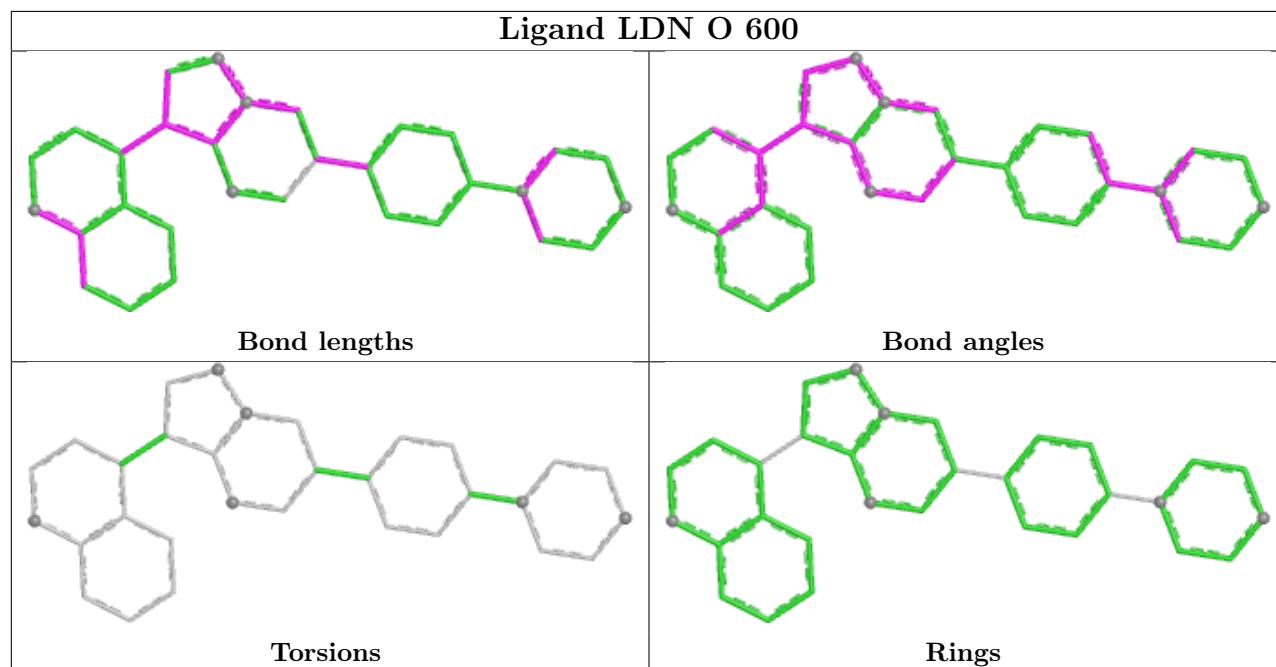




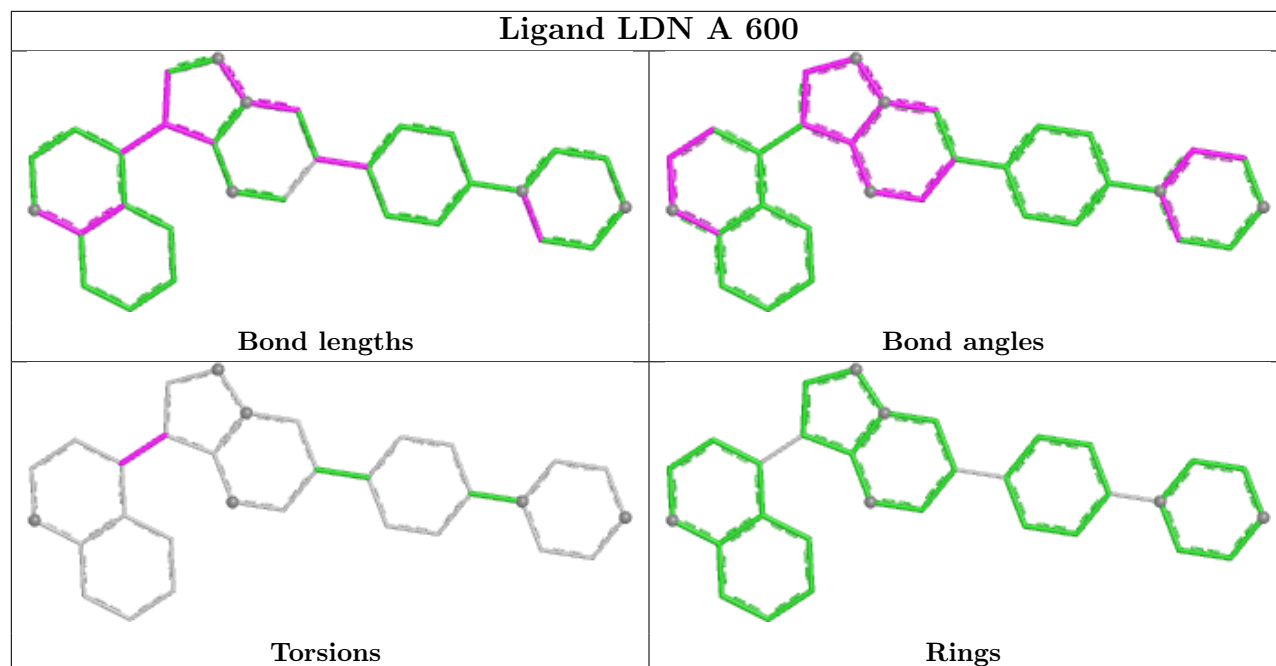
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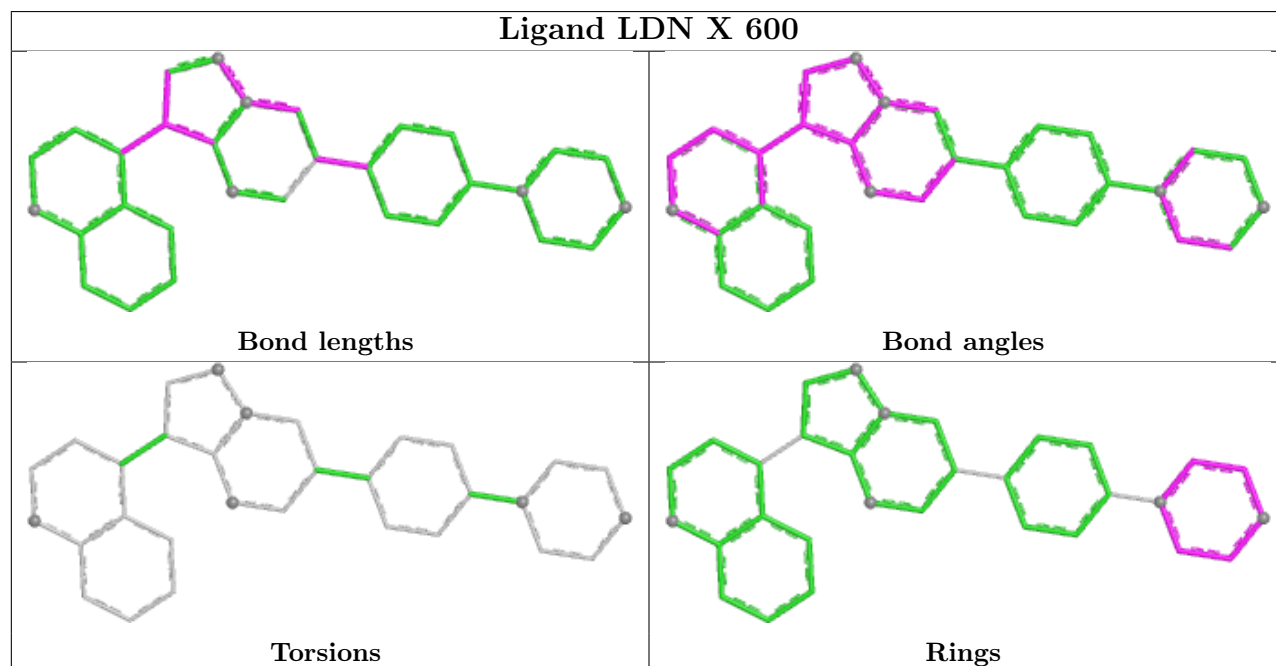
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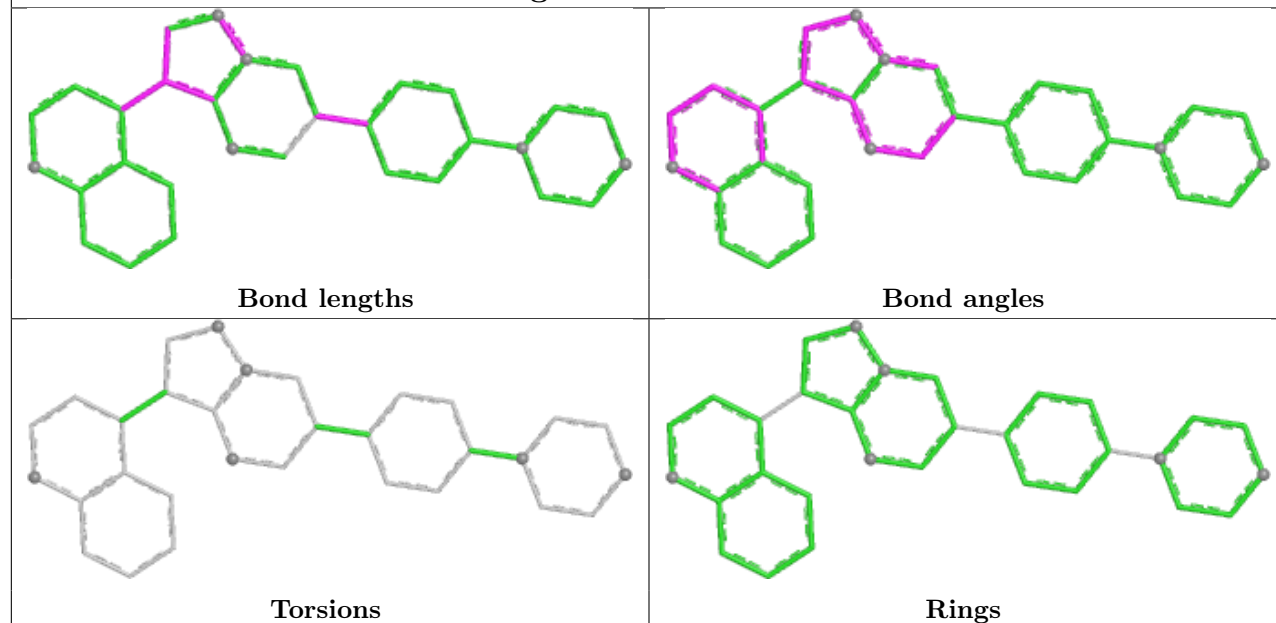
Ligand LDN A 600



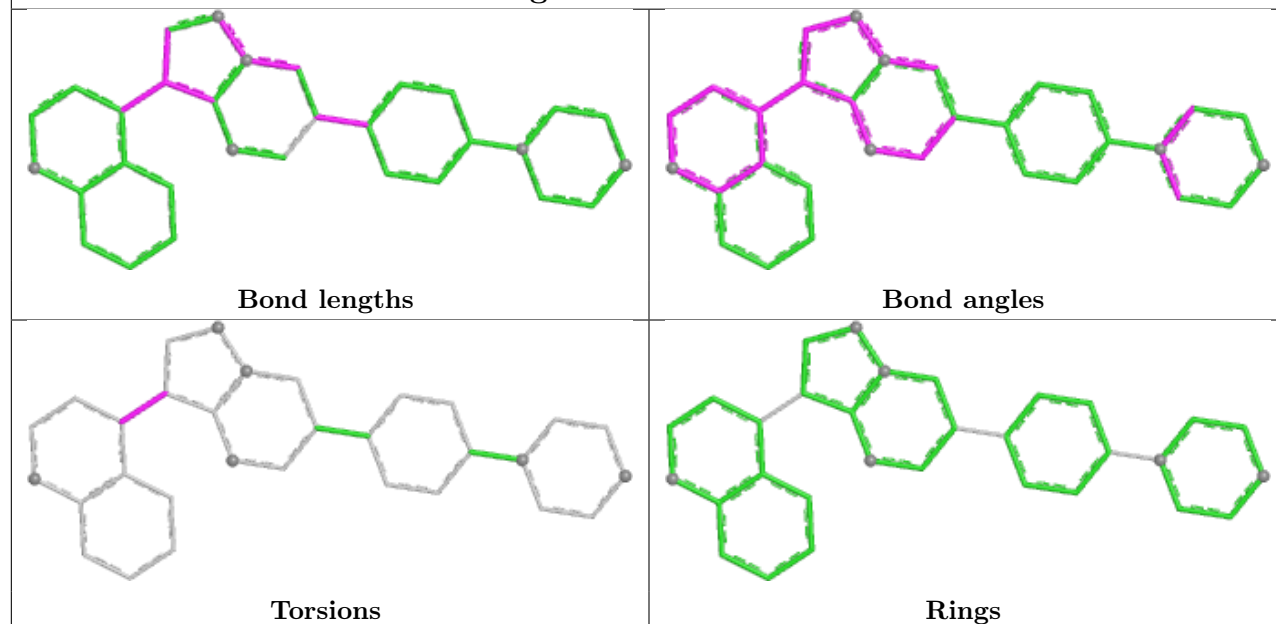
Ligand LDN X 600



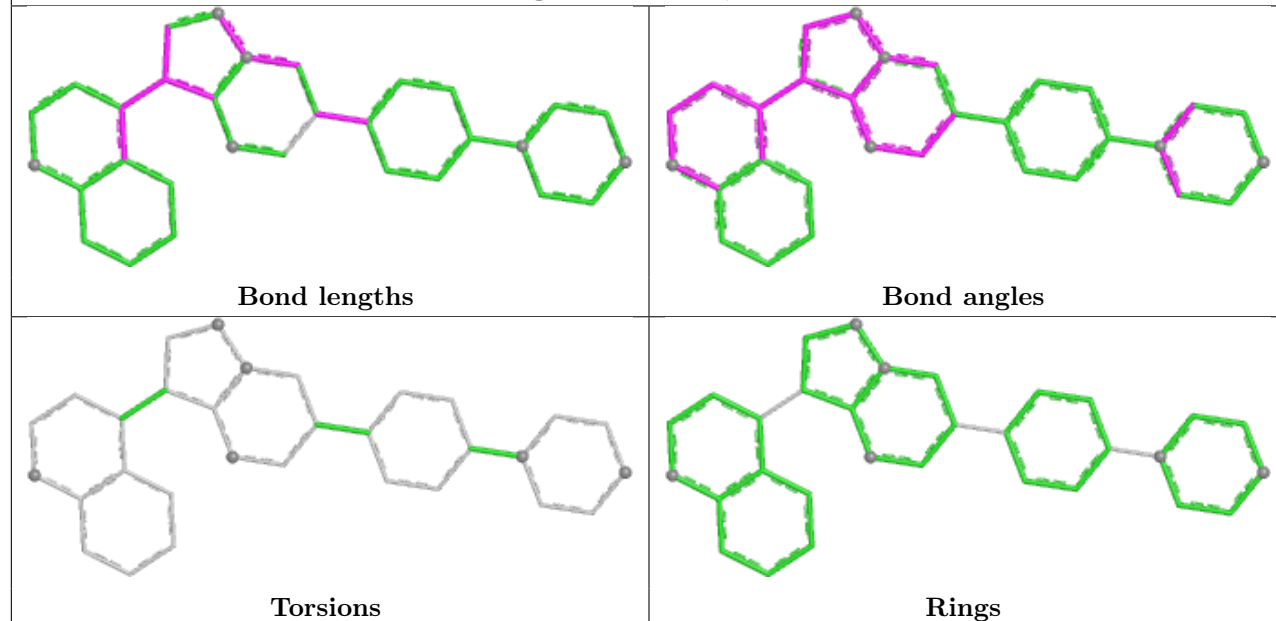
Ligand LDN V 600



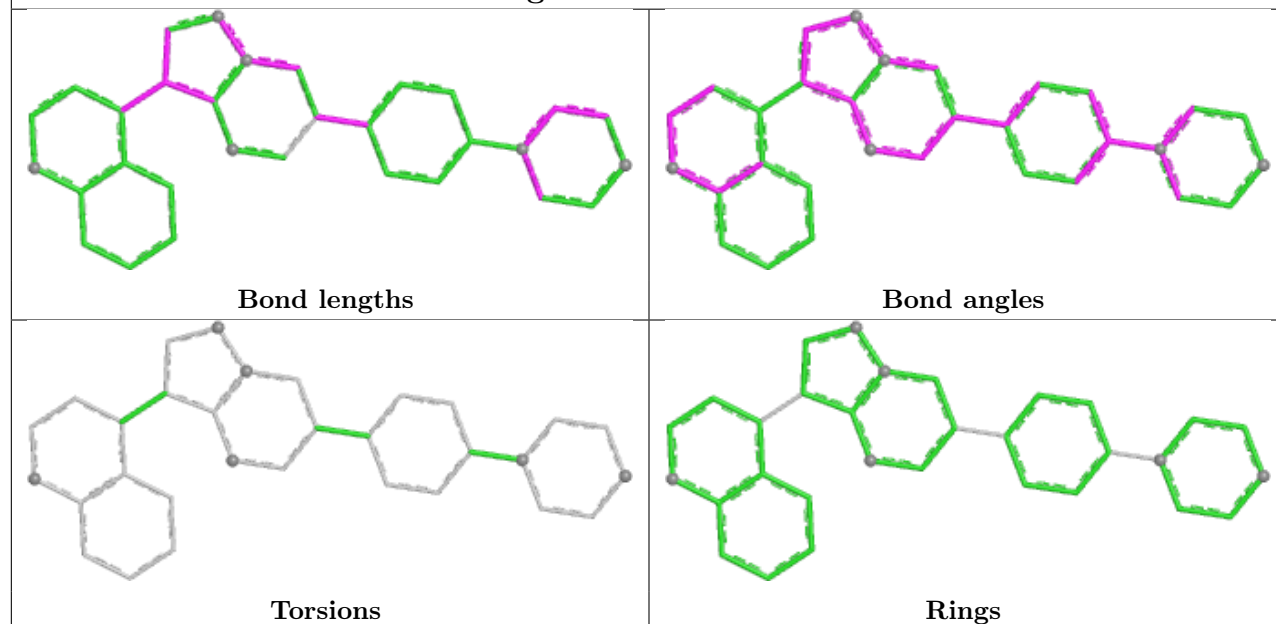
Ligand LDN U 600

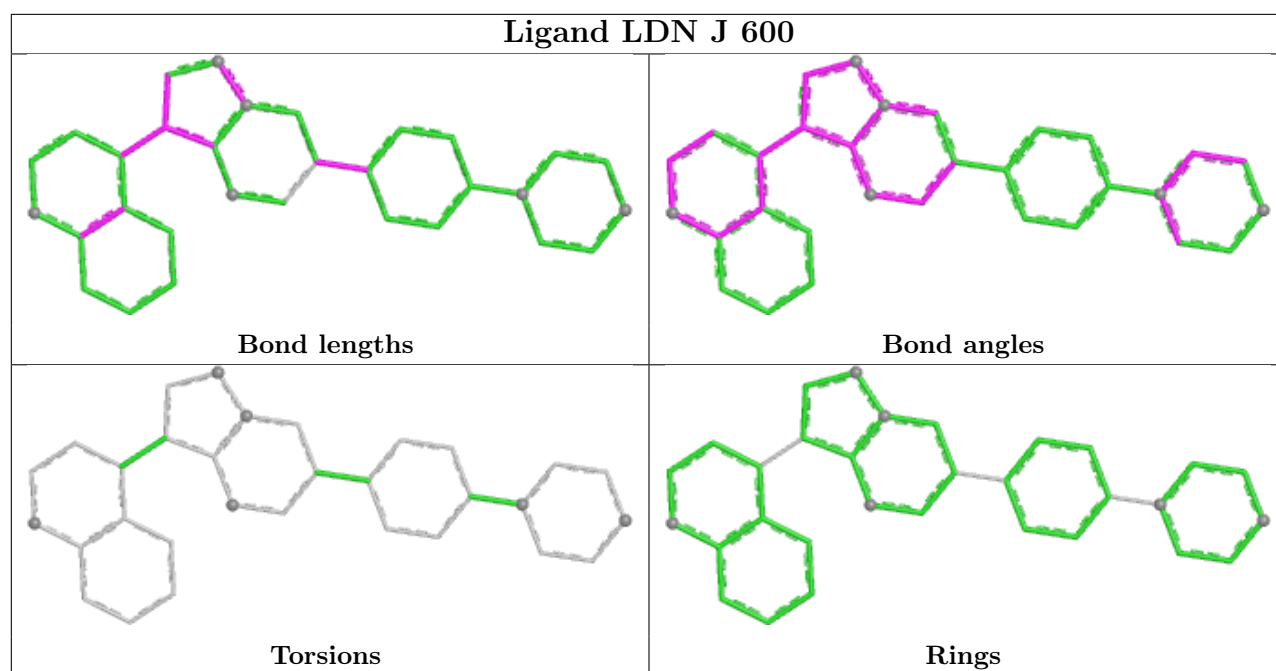


Ligand LDN Q 600



Ligand LDN M 600





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 ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	296/305 (97%)	-1.02	0 100 100	24, 39, 54, 64	0
1	B	295/305 (96%)	-0.90	0 100 100	31, 43, 58, 70	0
1	C	299/305 (98%)	-0.99	0 100 100	24, 40, 58, 70	0
1	D	298/305 (97%)	-1.05	0 100 100	25, 37, 51, 64	0
1	E	294/305 (96%)	-1.10	0 100 100	26, 36, 51, 69	0
1	F	294/305 (96%)	-0.95	0 100 100	28, 44, 68, 87	0
1	G	294/305 (96%)	-1.16	0 100 100	15, 27, 43, 58	0
1	H	294/305 (96%)	-0.99	0 100 100	27, 40, 57, 63	0
1	I	293/305 (96%)	-1.18	0 100 100	16, 27, 45, 55	0
1	J	252/305 (82%)	-0.09	2 (0%) 82 79	62, 82, 101, 113	0
1	K	261/305 (85%)	0.02	7 (2%) 56 49	29, 88, 105, 112	0
1	L	296/305 (97%)	-1.03	0 100 100	26, 40, 53, 70	0
1	M	298/305 (97%)	-1.05	0 100 100	25, 35, 58, 65	0
1	N	300/305 (98%)	-1.12	0 100 100	17, 30, 50, 68	0
1	O	297/305 (97%)	-0.92	0 100 100	29, 44, 59, 79	0
1	P	290/305 (95%)	-0.14	3 (1%) 79 76	35, 79, 99, 110	0
1	Q	294/305 (96%)	-0.99	0 100 100	27, 39, 55, 68	0
1	R	294/305 (96%)	-1.01	0 100 100	26, 41, 56, 71	0
1	S	294/305 (96%)	-1.15	0 100 100	15, 33, 53, 71	0
1	T	292/305 (95%)	-0.94	0 100 100	32, 44, 57, 67	0
1	U	285/305 (93%)	-1.05	0 100 100	28, 39, 53, 66	0
1	V	282/305 (92%)	-1.02	0 100 100	26, 39, 55, 69	0
1	W	281/305 (92%)	-1.05	0 100 100	28, 39, 54, 68	0
1	X	257/305 (84%)	0.05	8 (3%) 51 43	44, 90, 111, 129	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
All	All	6930/7320 (94%)	-0.88	20 (0%) 90 89	15, 40, 90, 129	0

All (20) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	P	472	TRP	4.9
1	K	223	GLY	4.2
1	K	306	ALA	3.5
1	J	203	ALA	3.4
1	K	305	SER	3.3
1	P	221	TRP	2.8
1	P	471	CYS	2.7
1	K	222	HIS	2.6
1	X	251	LEU	2.5
1	J	444	VAL	2.5
1	X	465	ALA	2.4
1	X	298	LEU	2.3
1	X	366	ASN	2.3
1	X	250	LEU	2.2
1	X	213	TYR	2.2
1	K	296	PRO	2.1
1	K	308	CYS	2.1
1	X	254	ASP	2.0
1	K	488	THR	2.0
1	X	334	ARG	2.0

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

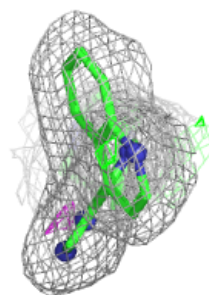
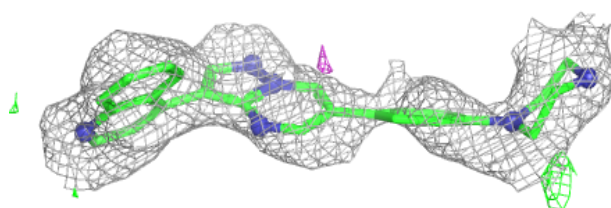
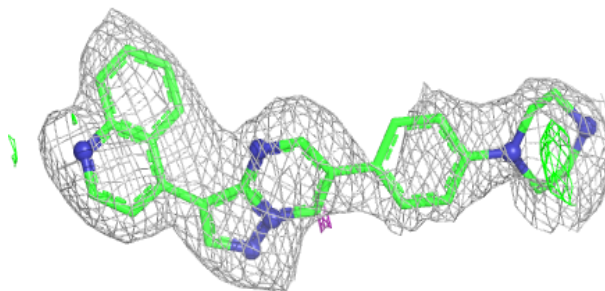
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	LDN	A	600	31/31	0.97	0.06	24,36,47,50	0
2	LDN	P	600	31/31	0.97	0.06	41,50,55,55	0
2	LDN	C	600	31/31	0.98	0.05	27,33,42,45	0
2	LDN	D	600	31/31	0.98	0.06	27,34,40,43	0
2	LDN	E	600	31/31	0.98	0.06	29,33,37,38	0
2	LDN	F	600	31/31	0.98	0.05	23,29,32,34	0
2	LDN	G	600	31/31	0.98	0.05	21,26,36,36	0
2	LDN	H	600	31/31	0.98	0.04	24,27,39,42	0
2	LDN	I	600	31/31	0.98	0.05	24,27,39,40	0
2	LDN	J	600	31/31	0.98	0.06	35,46,52,56	0
2	LDN	K	600	31/31	0.98	0.06	36,48,53,59	0
2	LDN	L	600	31/31	0.98	0.05	27,32,36,37	0
2	LDN	M	600	31/31	0.98	0.05	30,35,40,48	0
2	LDN	N	600	31/31	0.98	0.06	21,26,34,37	0
2	LDN	O	600	31/31	0.98	0.06	26,33,40,46	0
2	LDN	B	600	31/31	0.98	0.06	27,34,41,41	0
2	LDN	Q	600	31/31	0.98	0.06	25,31,39,45	0
2	LDN	R	600	31/31	0.98	0.05	25,31,36,38	0
2	LDN	T	600	31/31	0.98	0.05	30,39,45,45	0
2	LDN	U	600	31/31	0.98	0.05	26,31,44,45	0
2	LDN	V	600	31/31	0.98	0.06	26,31,44,46	0
2	LDN	W	600	31/31	0.98	0.06	33,38,42,44	0
2	LDN	X	600	31/31	0.98	0.06	34,52,63,64	0
2	LDN	S	600	31/31	0.99	0.04	20,27,45,50	0

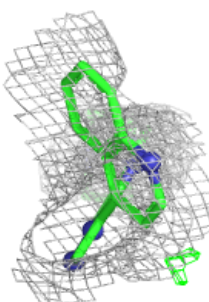
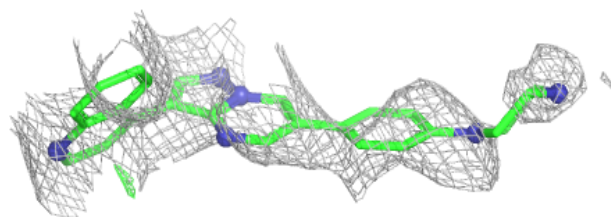
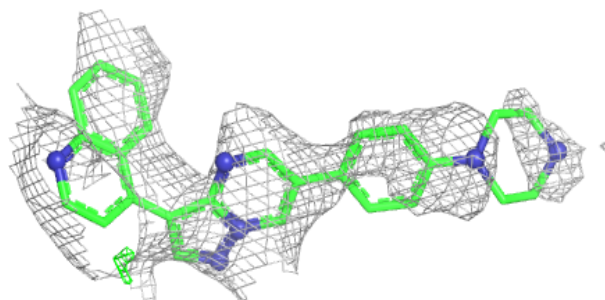
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around LDN A 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

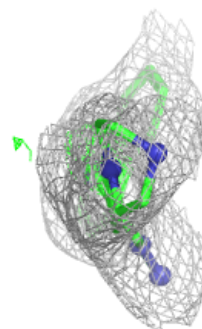
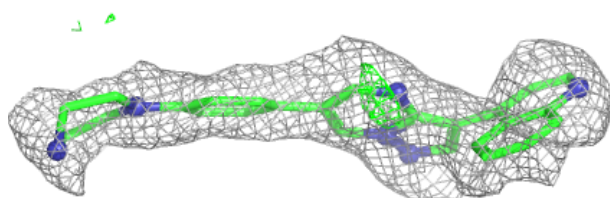
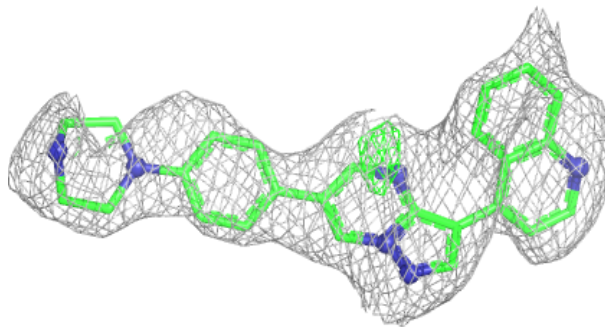
**Electron density around LDN P 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

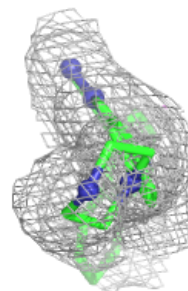
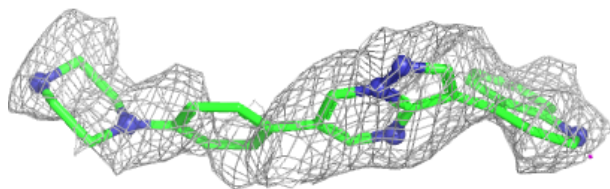
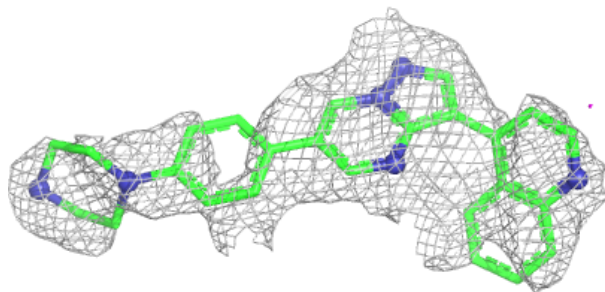


Electron density around LDN C 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

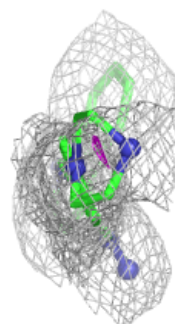
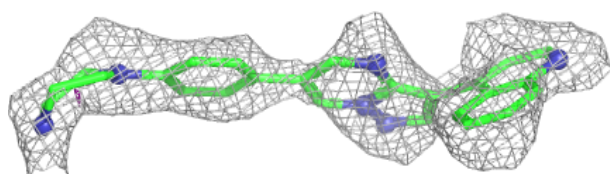
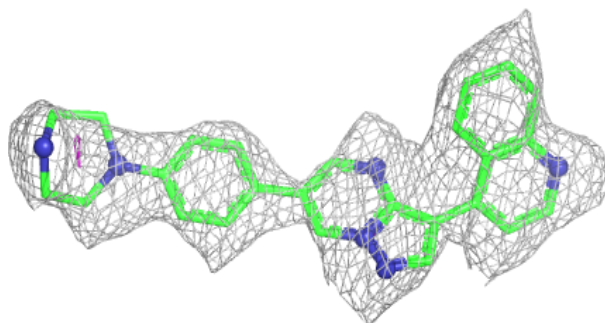
**Electron density around LDN D 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

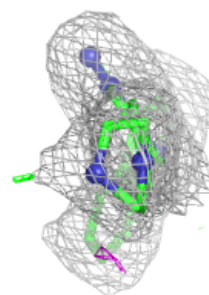
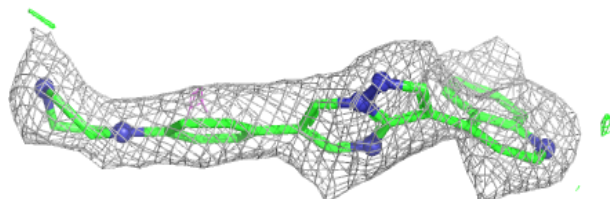
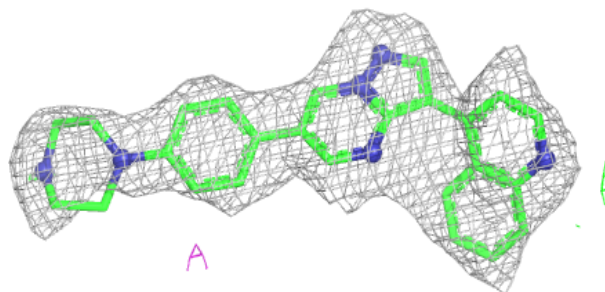


Electron density around LDN E 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

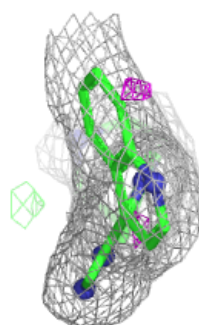
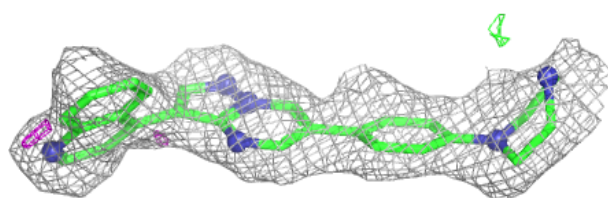
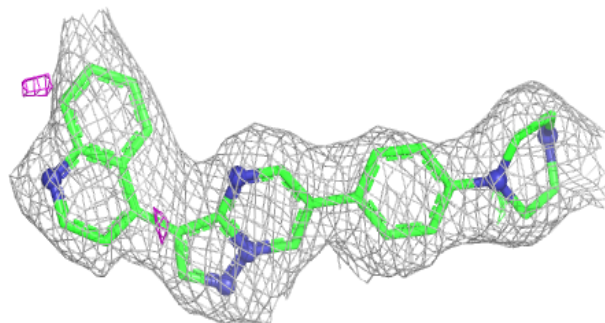
**Electron density around LDN F 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

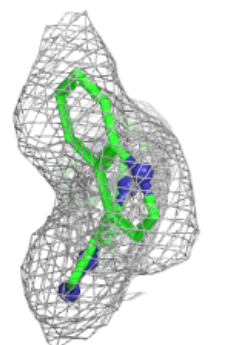
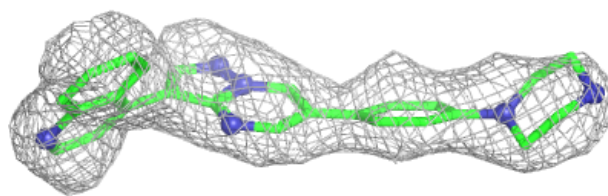
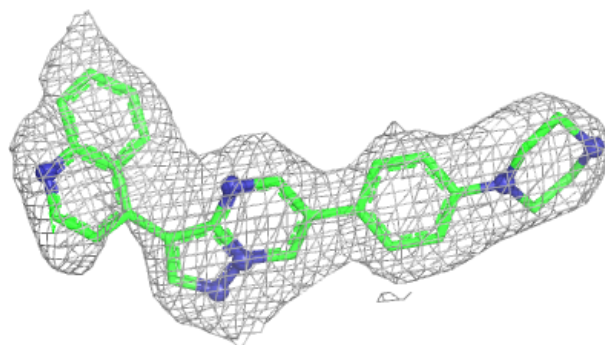


Electron density around LDN G 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

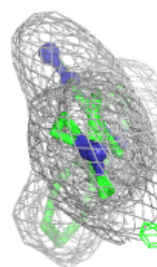
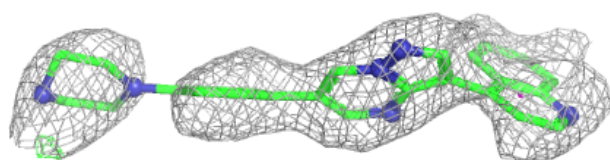
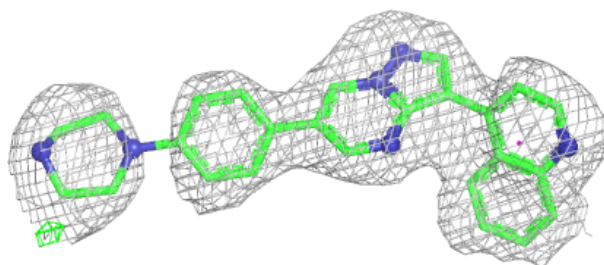
**Electron density around LDN H 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

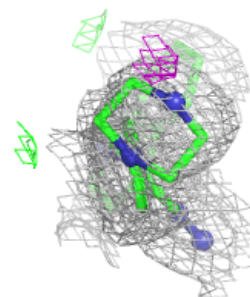
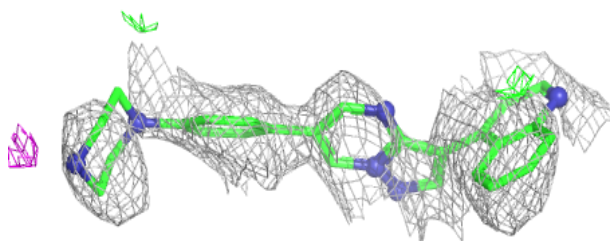
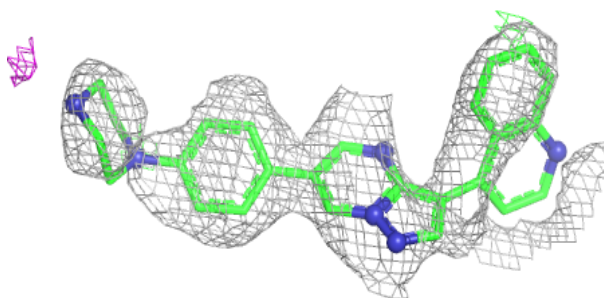


Electron density around LDN I 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

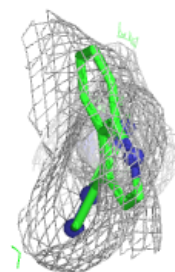
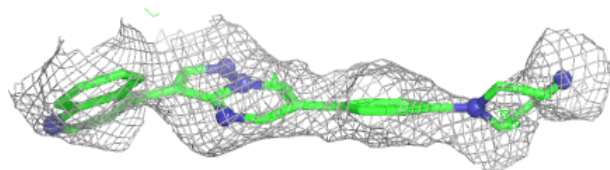
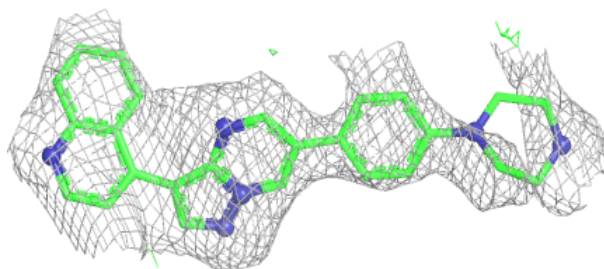
**Electron density around LDN J 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

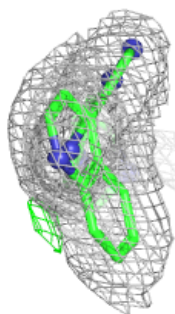
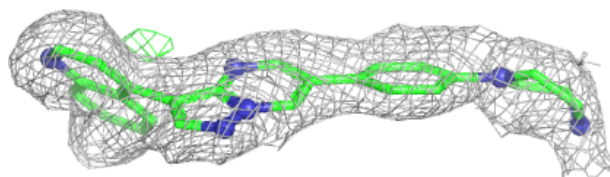
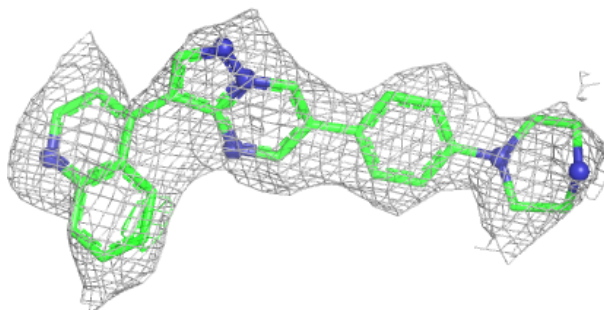


Electron density around LDN K 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

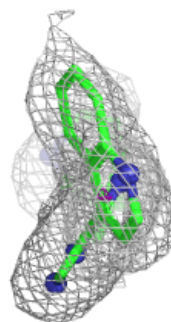
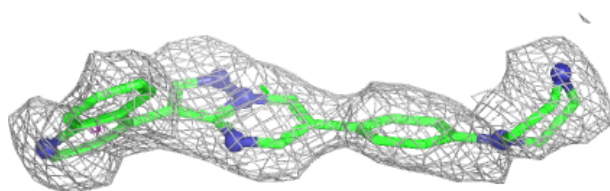
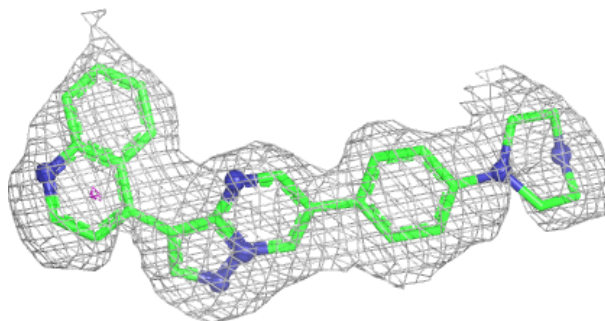
**Electron density around LDN L 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

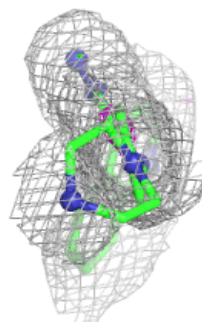
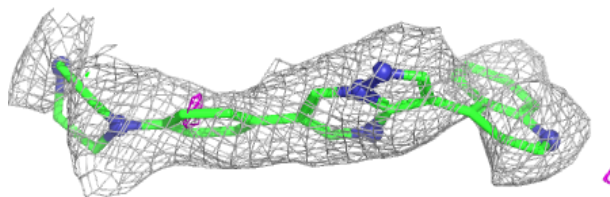
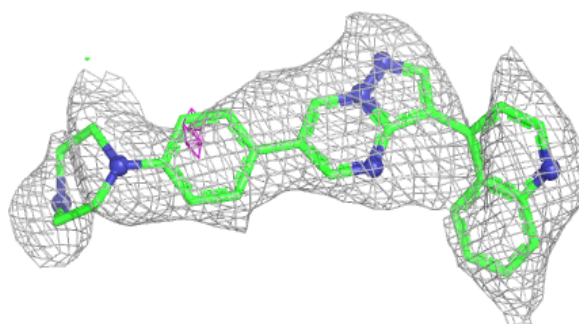


Electron density around LDN M 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

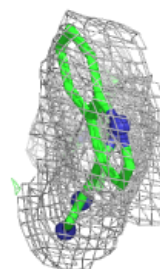
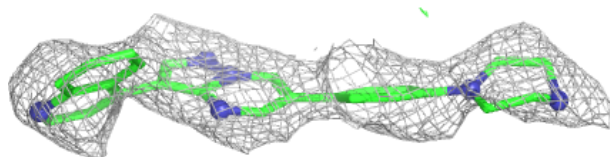
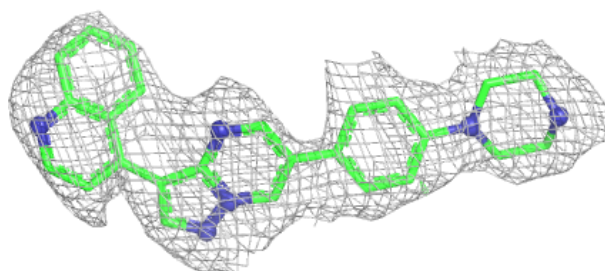
**Electron density around LDN N 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

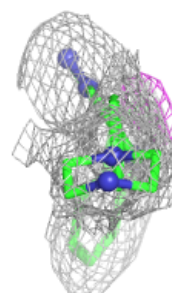
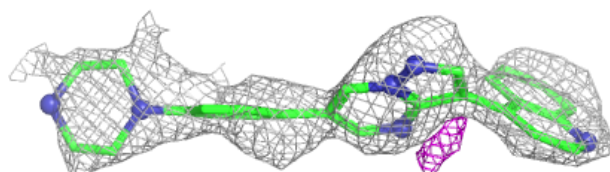
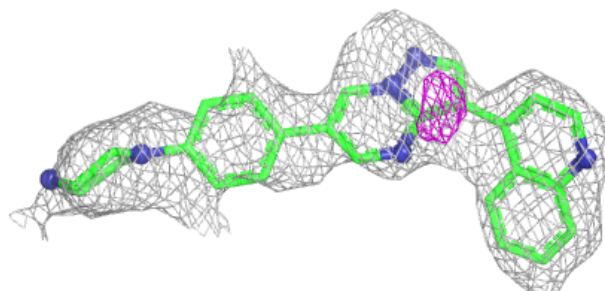


Electron density around LDN O 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

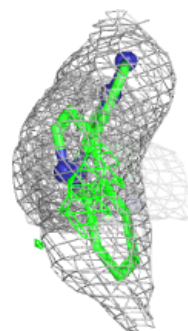
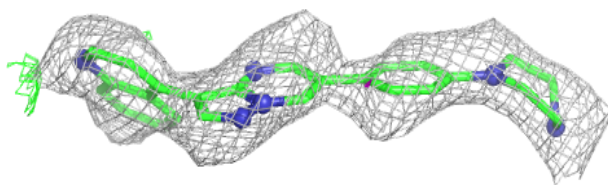
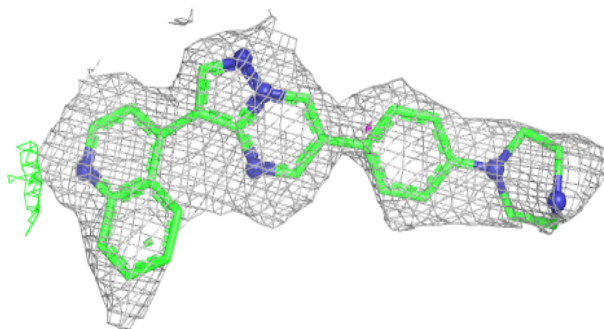
**Electron density around LDN B 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

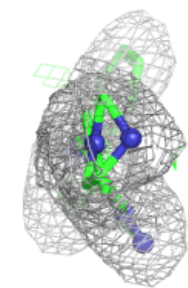
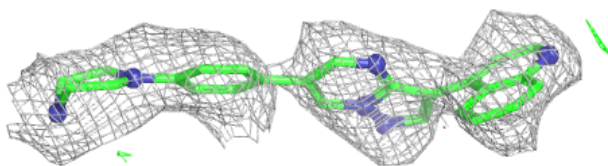
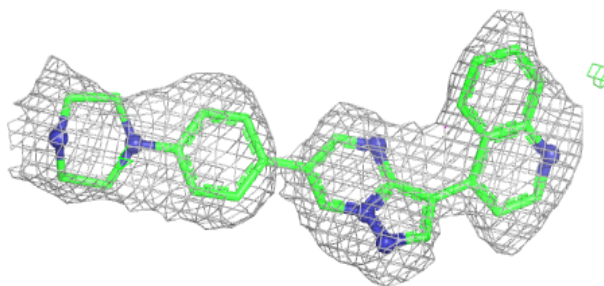


Electron density around LDN Q 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

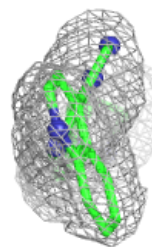
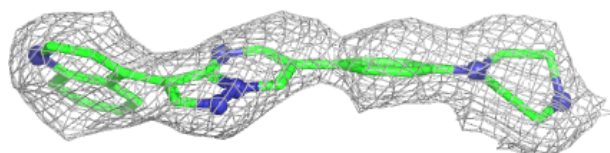
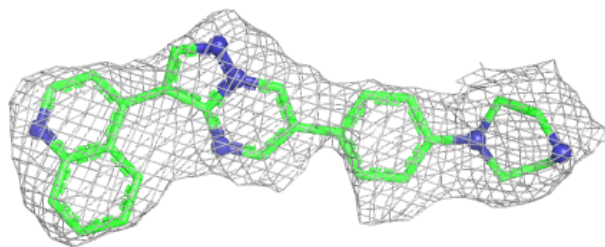
**Electron density around LDN R 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

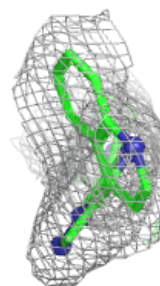
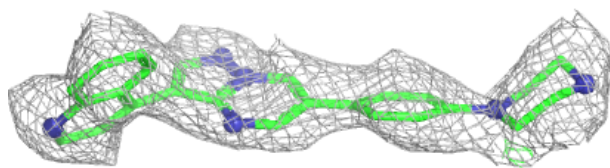
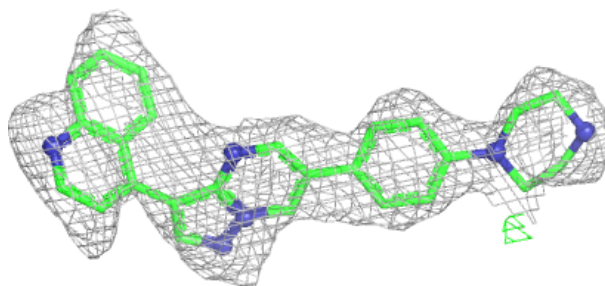


Electron density around LDN T 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

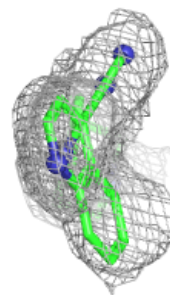
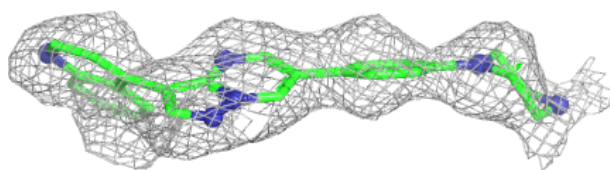
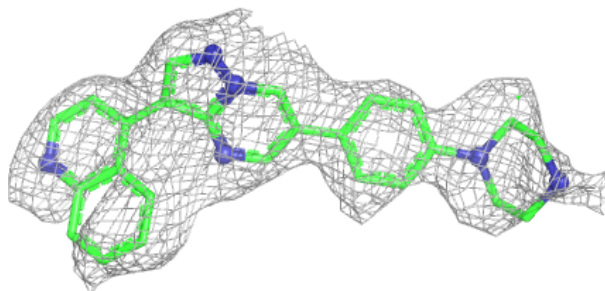
**Electron density around LDN U 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

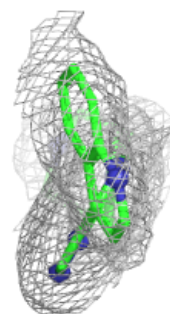
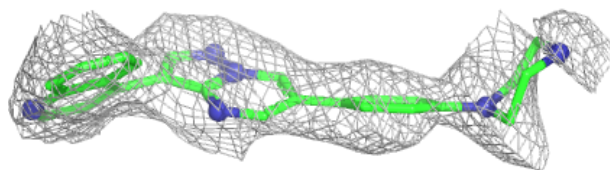
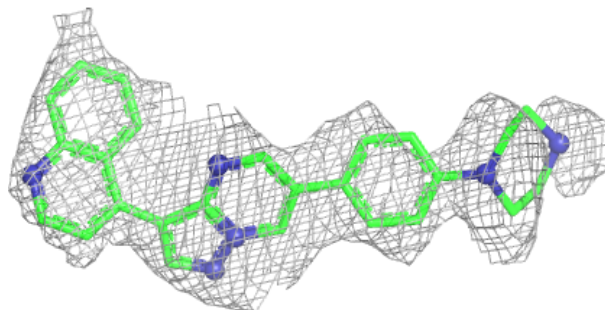


Electron density around LDN V 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

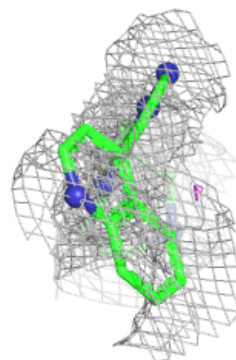
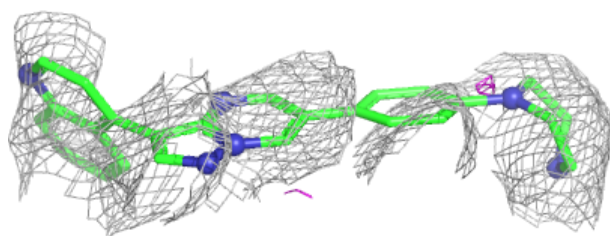
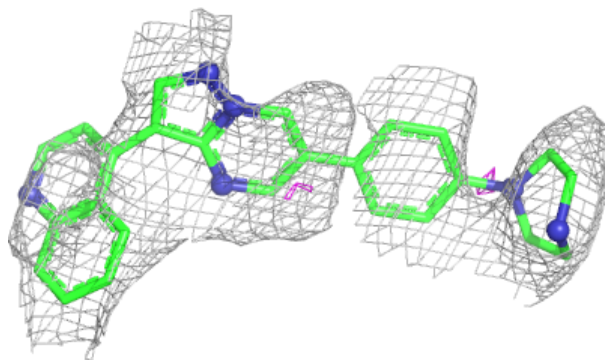
**Electron density around LDN W 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

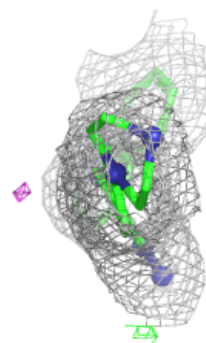
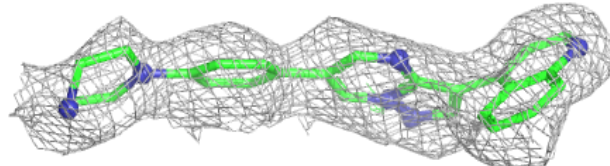
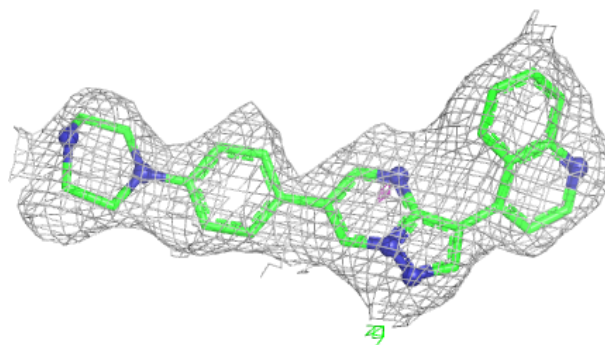


Electron density around LDN X 600:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around LDN S 600:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



6.5 Other polymers [i](#)

There are no such residues in this entry.