Full wwPDB X-ray Structure Validation Report ⓘ

Jun 16, 2024 – 10:41 AM EDT

PDB ID	:	5BP4
Title	:	Modifying region (DH-ER-KR) of a mycocerosic acid synthase-like (MAS-like) PKS
Authors	:	Herbst, D.A.; Jakob, P.R.; Zaehringer, F.; Maier, T.
Deposited on	:	2015-05-27
Resolution	:	3.75 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:

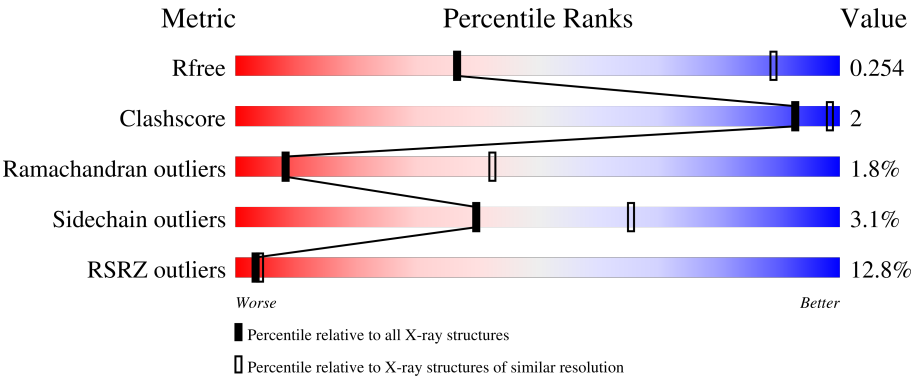
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.37.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.75 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1039 (3.94-3.58)
Clashscore	141614	1051 (3.92-3.60)
Ramachandran outliers	138981	1015 (3.92-3.60)
Sidechain outliers	138945	1011 (3.92-3.60)
RSRZ outliers	127900	1050 (3.96-3.56)

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 <=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	1140	10% 88% 8%
1	B	1140	5% 89% 7%
1	C	1140	8% 90% 6%
1	D	1140	9% 89% 7%
1	E	1140	21% 89% 6%

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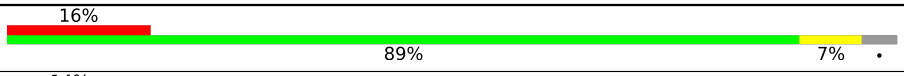
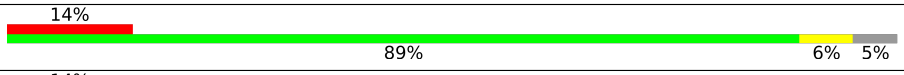
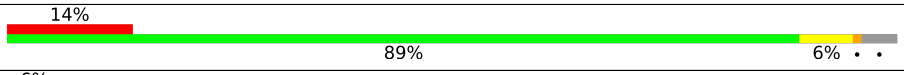
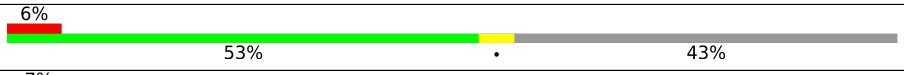
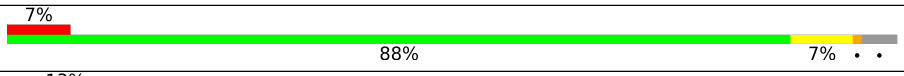
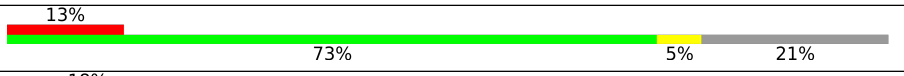
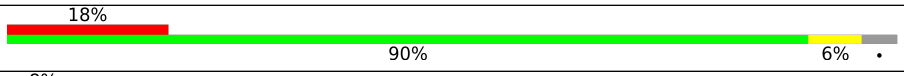
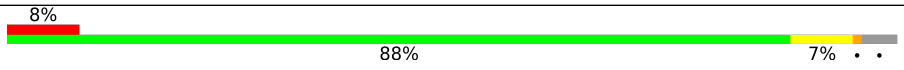
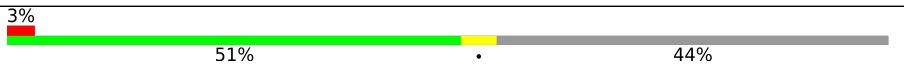
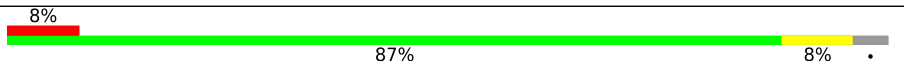
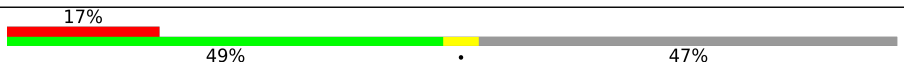
Mol	Chain	Length	Quality of chain
1	F	1140	
1	G	1140	
1	H	1140	
1	I	1140	
1	J	1140	
1	K	1140	
1	L	1140	
1	M	1140	
1	N	1140	
1	O	1140	
1	P	1140	
1	Q	1140	
1	R	1140	

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 262498 atoms, of which 129384 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 Mycocerosic acid synthase.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	1102	Total	C	H	N	O	S	0	0	0
			16283	5165	8038	1479	1576	25			
1	B	1102	Total	C	H	N	O	S	0	0	0
			16283	5165	8038	1479	1576	25			
1	C	1102	Total	C	H	N	O	S	0	0	0
			16283	5165	8038	1479	1576	25			
1	D	1102	Total	C	H	N	O	S	0	0	0
			16283	5165	8038	1479	1576	25			
1	E	1089	Total	C	H	N	O	S	0	0	0
			16094	5107	7945	1463	1555	24			
1	F	1093	Total	C	H	N	O	S	0	0	0
			16142	5122	7965	1467	1564	24			
1	G	1088	Total	C	H	N	O	S	0	0	0
			16079	5102	7939	1462	1552	24			
1	H	1097	Total	C	H	N	O	S	0	0	0
			16195	5138	7991	1471	1571	24			
1	I	655	Total	C	H	N	O	S	0	0	0
			9680	3057	4801	872	935	15			
1	J	1089	Total	C	H	N	O	S	0	0	0
			16094	5107	7945	1463	1555	24			
1	K	1089	Total	C	H	N	O	S	0	0	0
			16094	5107	7945	1463	1555	24			
1	L	897	Total	C	H	N	O	S	0	0	0
			13209	4199	6535	1183	1272	20			
1	M	1089	Total	C	H	N	O	S	0	0	0
			16094	5107	7945	1463	1555	24			
1	N	1089	Total	C	H	N	O	S	0	0	0
			16094	5107	7945	1463	1555	24			
1	O	633	Total	C	H	N	O	S	0	0	0
			9327	2950	4625	839	898	15			
1	P	1089	Total	C	H	N	O	S	0	0	0
			16094	5107	7945	1463	1555	24			

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Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	Q	608	Total	C	H	N	O	S	0	0	0
			8979	2846	4455	804	859	15			
1	R	637	Total	C	H	N	O	S	0	0	0
			9417	2980	4669	844	909	15			

There are 54 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	882	SER	-	expression tag	UNP A0R1E8
A	883	MET	-	expression tag	UNP A0R1E8
A	2021	GLN	-	expression tag	UNP A0R1E8
B	882	SER	-	expression tag	UNP A0R1E8
B	883	MET	-	expression tag	UNP A0R1E8
B	2021	GLN	-	expression tag	UNP A0R1E8
C	882	SER	-	expression tag	UNP A0R1E8
C	883	MET	-	expression tag	UNP A0R1E8
C	2021	GLN	-	expression tag	UNP A0R1E8
D	882	SER	-	expression tag	UNP A0R1E8
D	883	MET	-	expression tag	UNP A0R1E8
D	2021	GLN	-	expression tag	UNP A0R1E8
E	882	SER	-	expression tag	UNP A0R1E8
E	883	MET	-	expression tag	UNP A0R1E8
E	2021	GLN	-	expression tag	UNP A0R1E8
F	882	SER	-	expression tag	UNP A0R1E8
F	883	MET	-	expression tag	UNP A0R1E8
F	2021	GLN	-	expression tag	UNP A0R1E8
G	882	SER	-	expression tag	UNP A0R1E8
G	883	MET	-	expression tag	UNP A0R1E8
G	2021	GLN	-	expression tag	UNP A0R1E8
H	882	SER	-	expression tag	UNP A0R1E8
H	883	MET	-	expression tag	UNP A0R1E8
H	2021	GLN	-	expression tag	UNP A0R1E8
I	882	SER	-	expression tag	UNP A0R1E8
I	883	MET	-	expression tag	UNP A0R1E8
I	2021	GLN	-	expression tag	UNP A0R1E8
J	882	SER	-	expression tag	UNP A0R1E8
J	883	MET	-	expression tag	UNP A0R1E8
J	2021	GLN	-	expression tag	UNP A0R1E8
K	882	SER	-	expression tag	UNP A0R1E8
K	883	MET	-	expression tag	UNP A0R1E8
K	2021	GLN	-	expression tag	UNP A0R1E8
L	882	SER	-	expression tag	UNP A0R1E8

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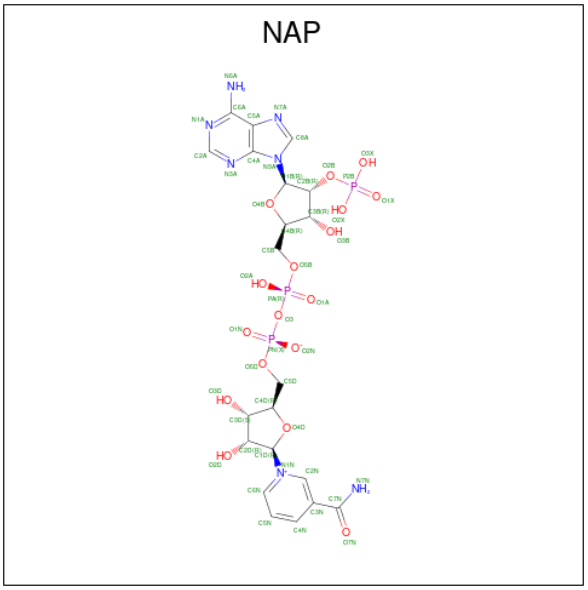
Chain	Residue	Modelled	Actual	Comment	Reference
L	883	MET	-	expression tag	UNP A0R1E8
L	2021	GLN	-	expression tag	UNP A0R1E8
M	882	SER	-	expression tag	UNP A0R1E8
M	883	MET	-	expression tag	UNP A0R1E8
M	2021	GLN	-	expression tag	UNP A0R1E8
N	882	SER	-	expression tag	UNP A0R1E8
N	883	MET	-	expression tag	UNP A0R1E8
N	2021	GLN	-	expression tag	UNP A0R1E8
O	882	SER	-	expression tag	UNP A0R1E8
O	883	MET	-	expression tag	UNP A0R1E8
O	2021	GLN	-	expression tag	UNP A0R1E8
P	882	SER	-	expression tag	UNP A0R1E8
P	883	MET	-	expression tag	UNP A0R1E8
P	2021	GLN	-	expression tag	UNP A0R1E8
Q	882	SER	-	expression tag	UNP A0R1E8
Q	883	MET	-	expression tag	UNP A0R1E8
Q	2021	GLN	-	expression tag	UNP A0R1E8
R	882	SER	-	expression tag	UNP A0R1E8
R	883	MET	-	expression tag	UNP A0R1E8
R	2021	GLN	-	expression tag	UNP A0R1E8

- Molecule 2 is NADP NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NAP) (formula: $C_{21}H_{28}N_7O_{17}P_3$).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	A	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		

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Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	A	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	B	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	B	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	C	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	C	1	Total	C	H	N	O	P	0	0
			42	10	11	5	13	3		
2	D	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	D	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	E	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	F	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	F	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	G	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	G	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	H	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	H	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	I	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	J	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	J	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	K	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	K	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	L	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	M	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		

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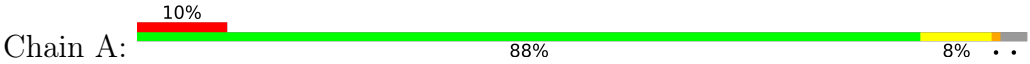
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	M	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	N	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	N	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	O	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	P	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	P	1	Total	C	H	N	O	P	0	0
			38	10	11	5	10	2		
2	Q	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		
2	R	1	Total	C	H	N	O	P	0	0
			73	21	25	7	17	3		

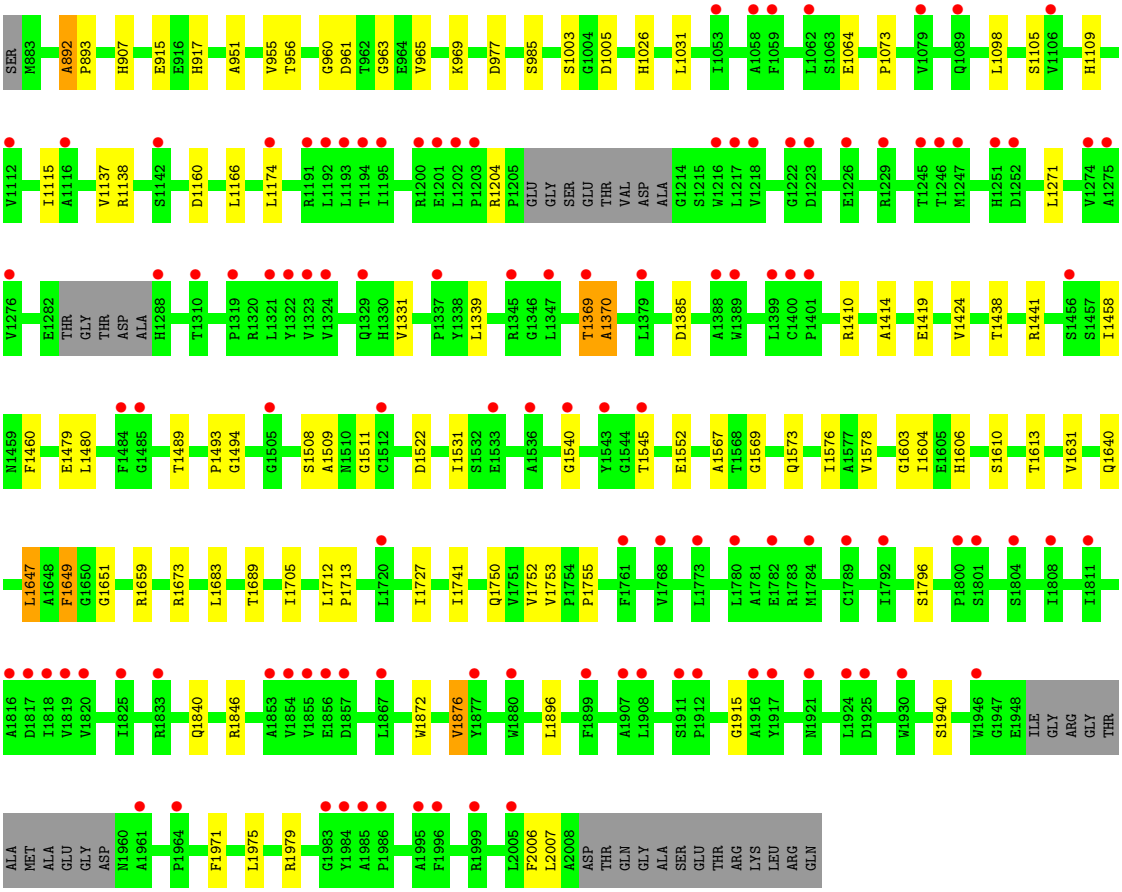
3 Residue-property plots (i)

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: Mycocerosic acid synthase

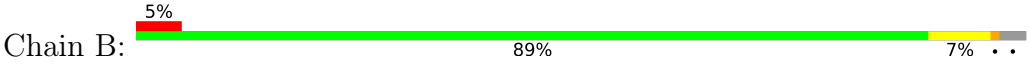
Chain A:

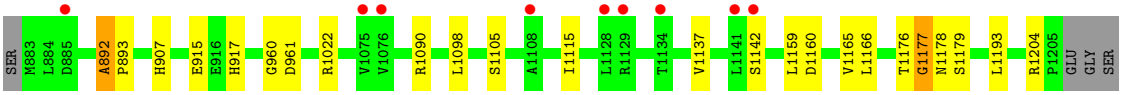


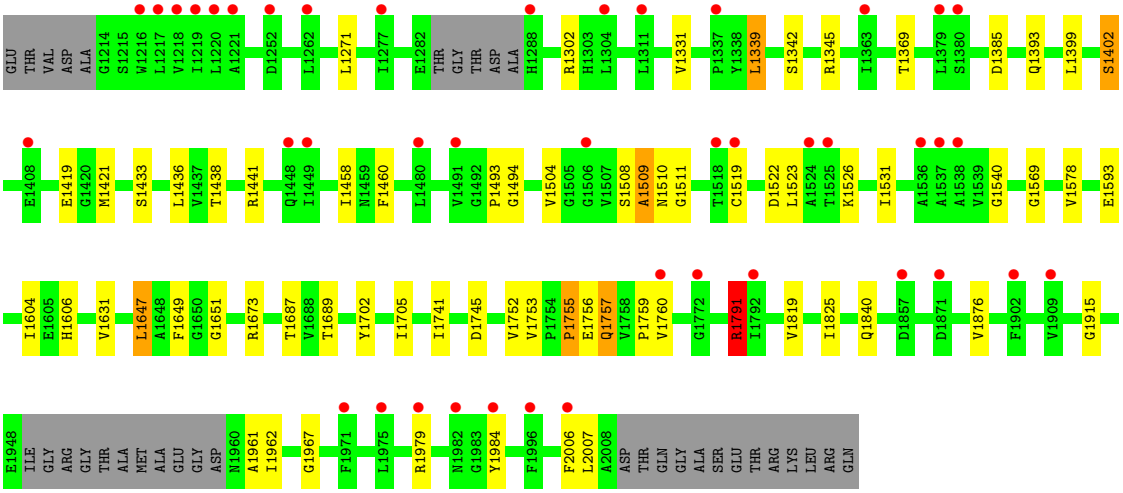


• Molecule 1: Mycocerosic acid synthase

Chain B:

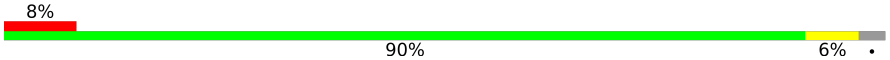


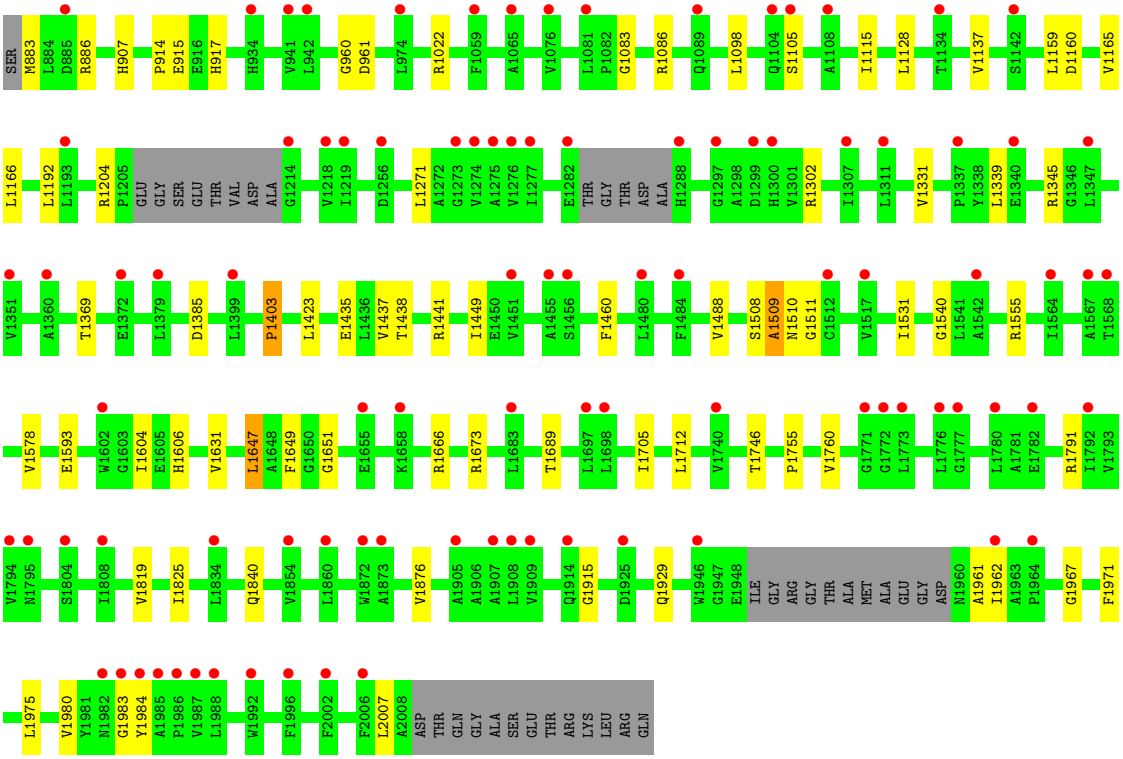




• Molecule 1: Mycocerosic acid synthase

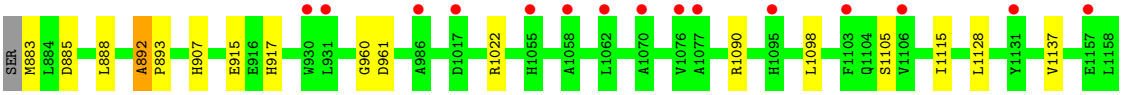
Chain C:

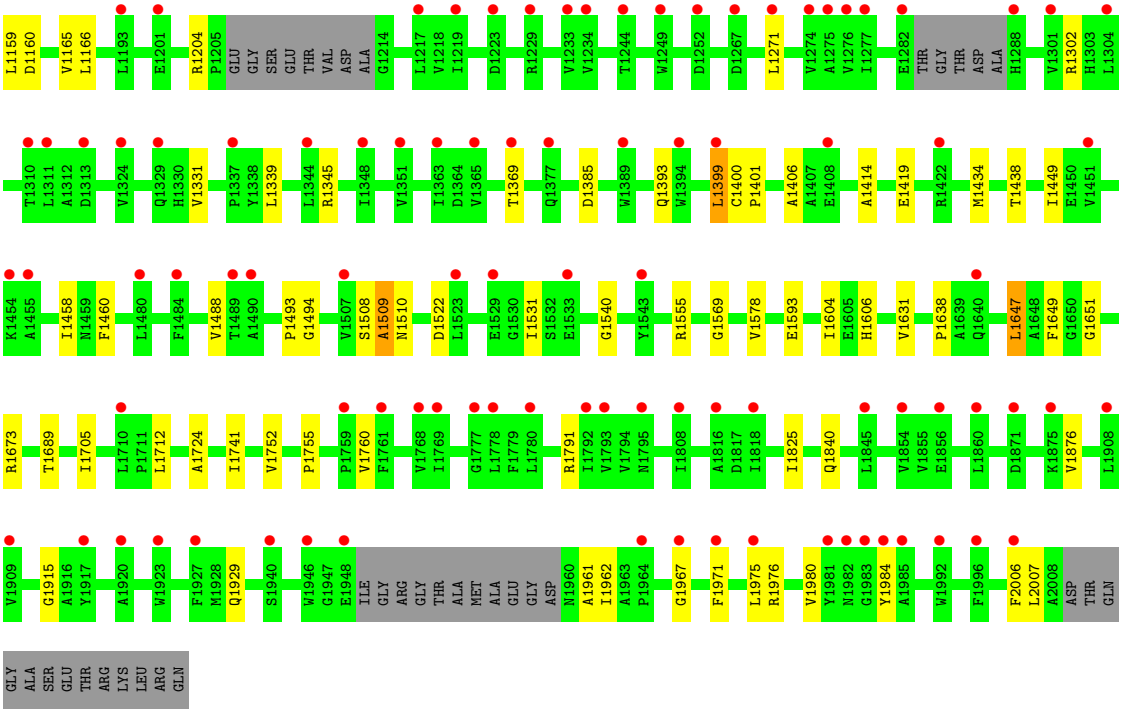




• Molecule 1: Mycocerosic acid synthase

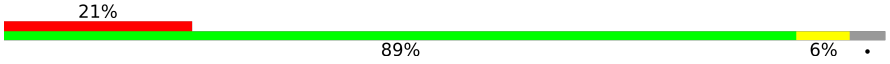
Chain D:

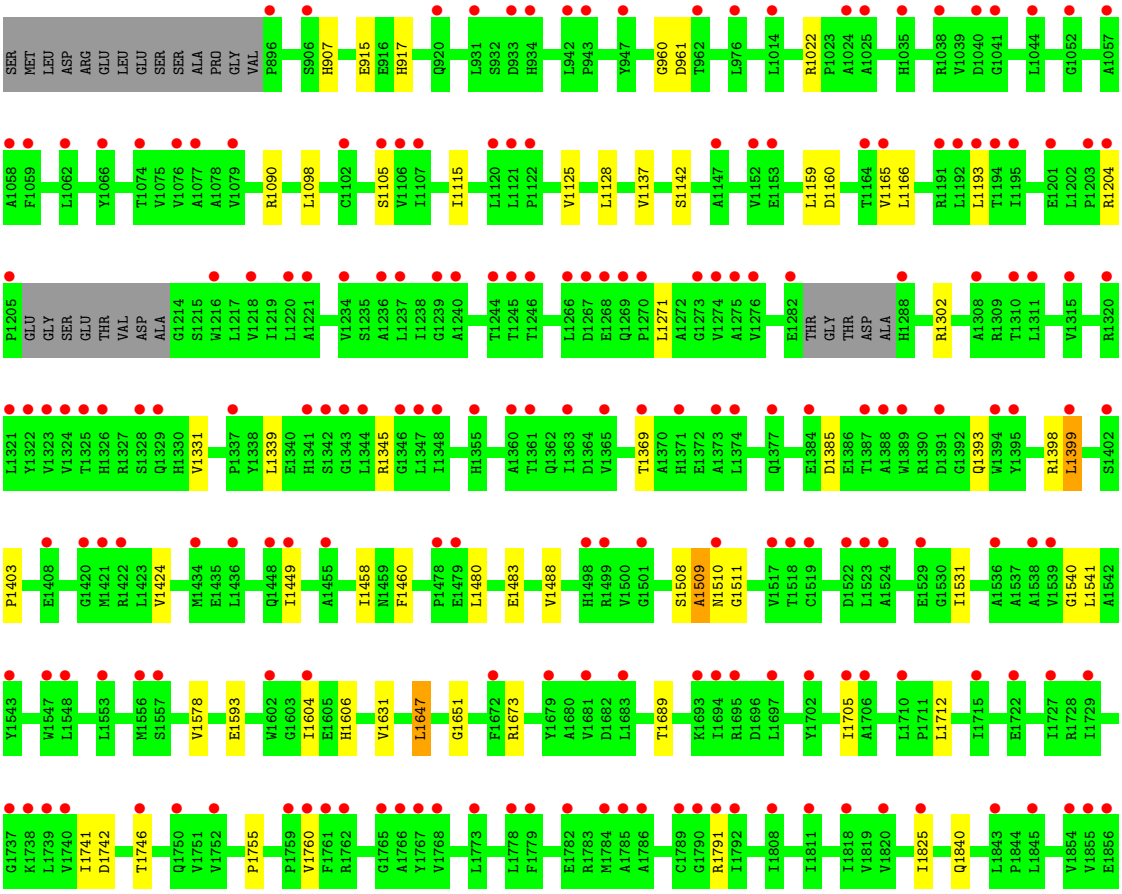


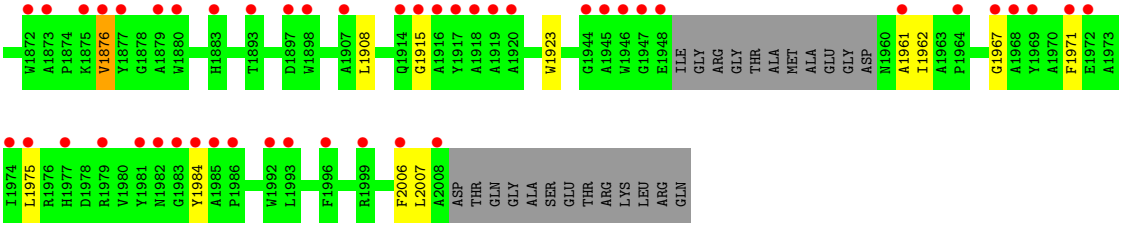


• Molecule 1: Mycocerosic acid synthase

Chain E:

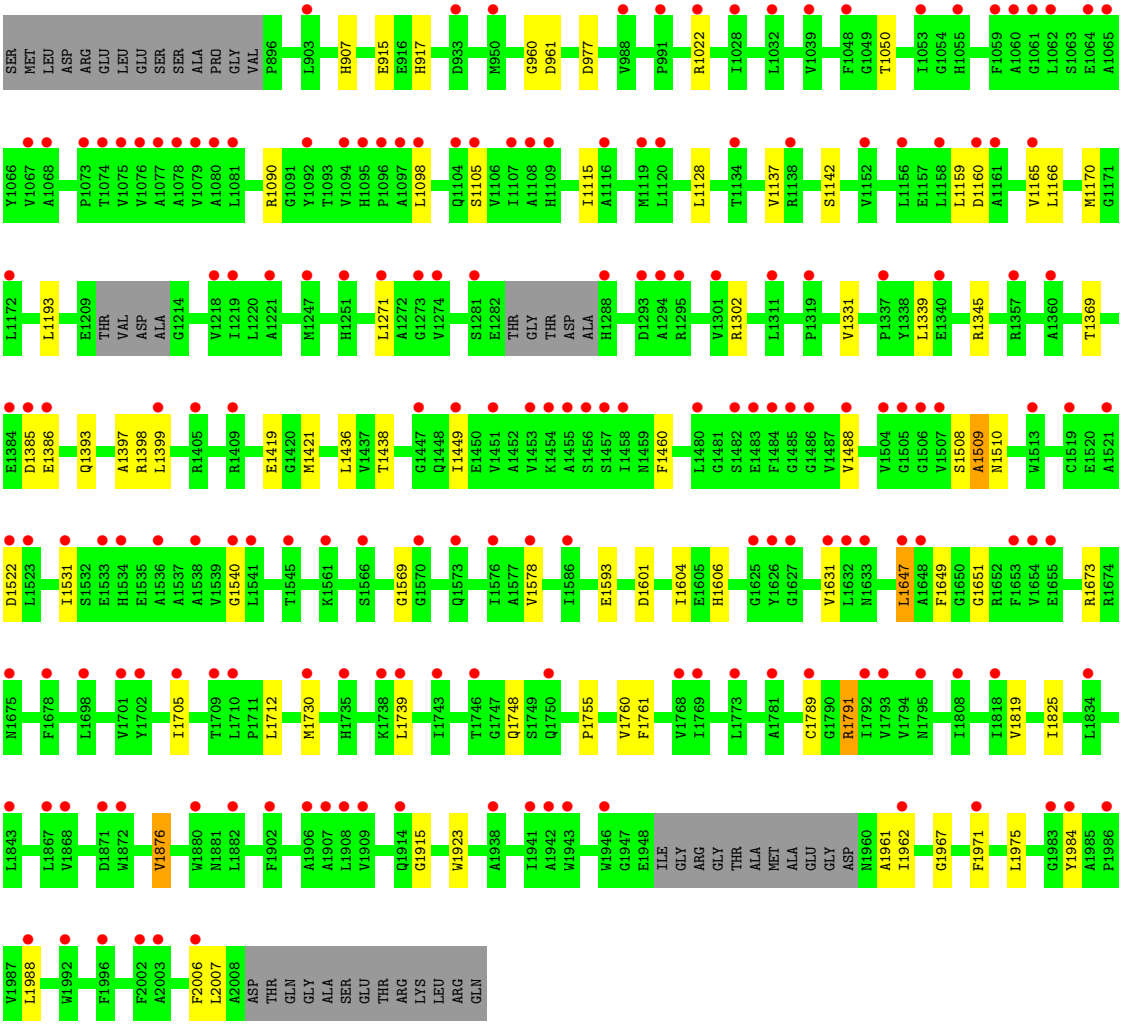






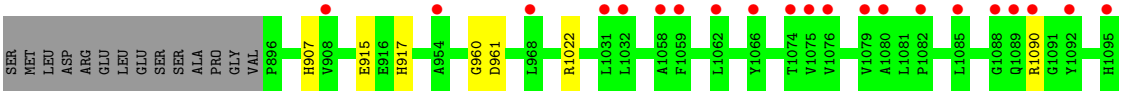
• Molecule 1: Mycocerosic acid synthase

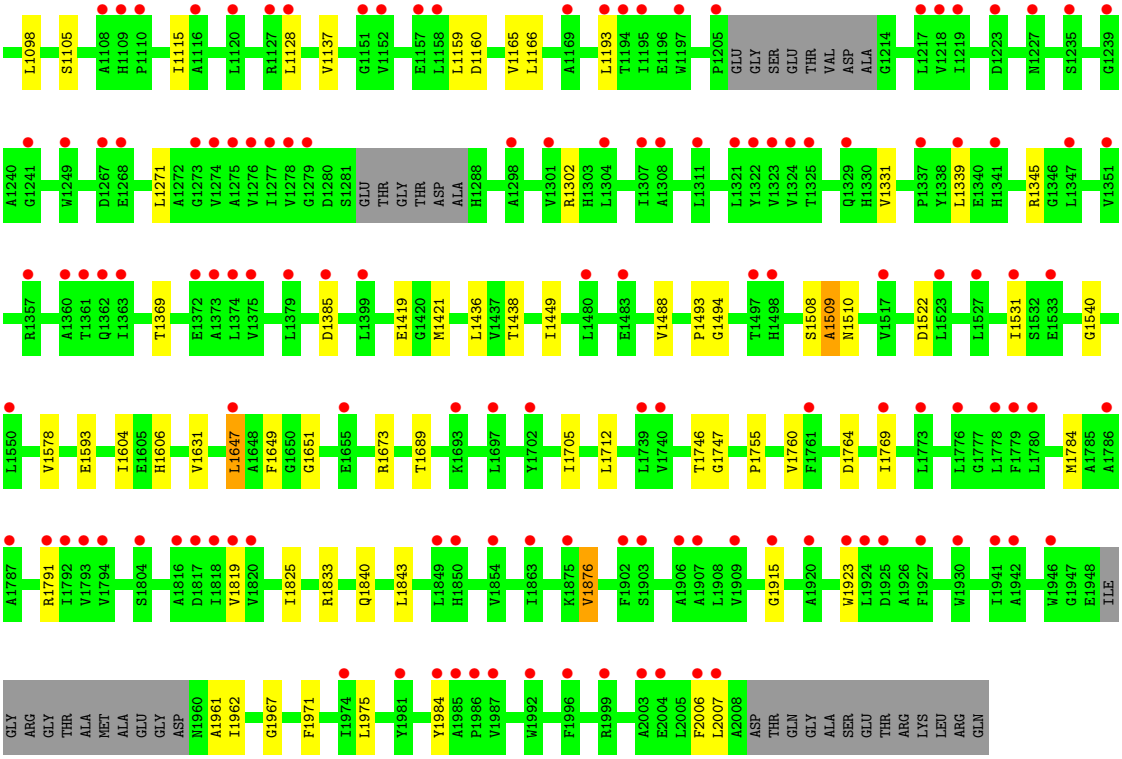
Chain F:



• Molecule 1: Mycocerosic acid synthase

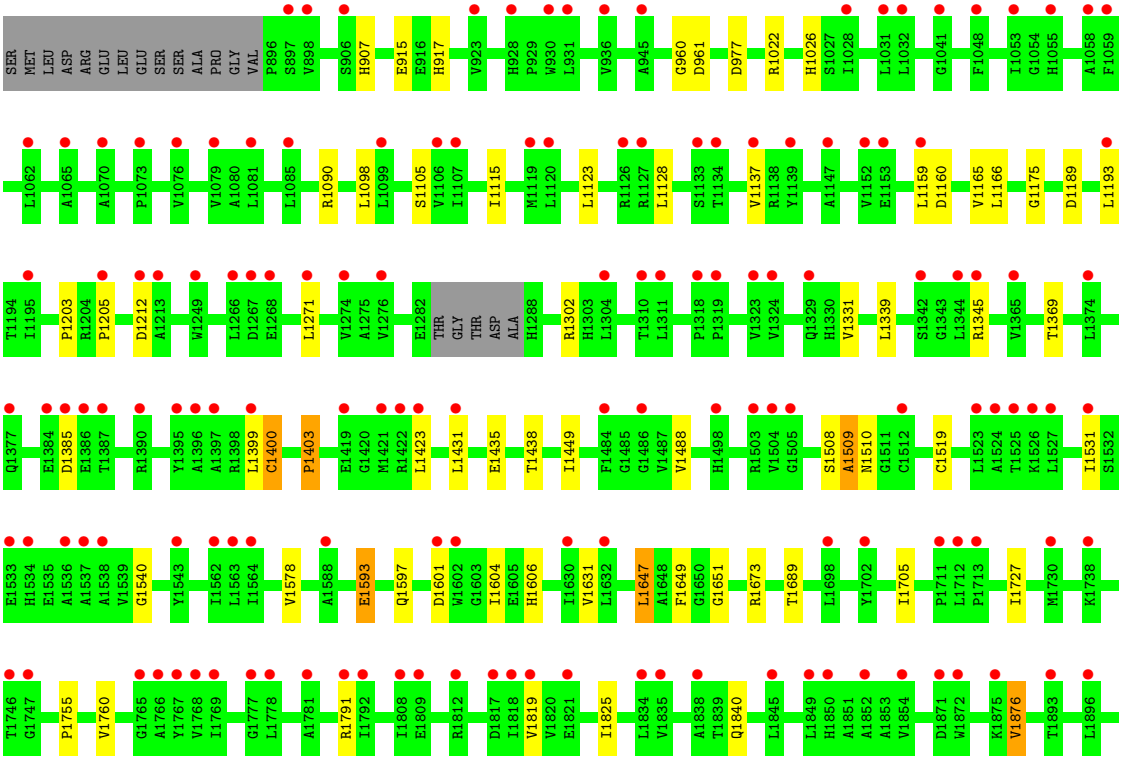
Chain G:

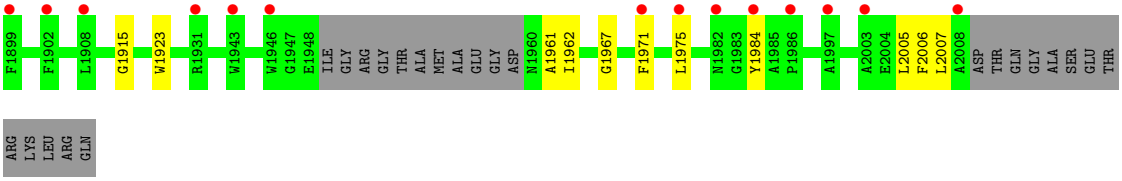




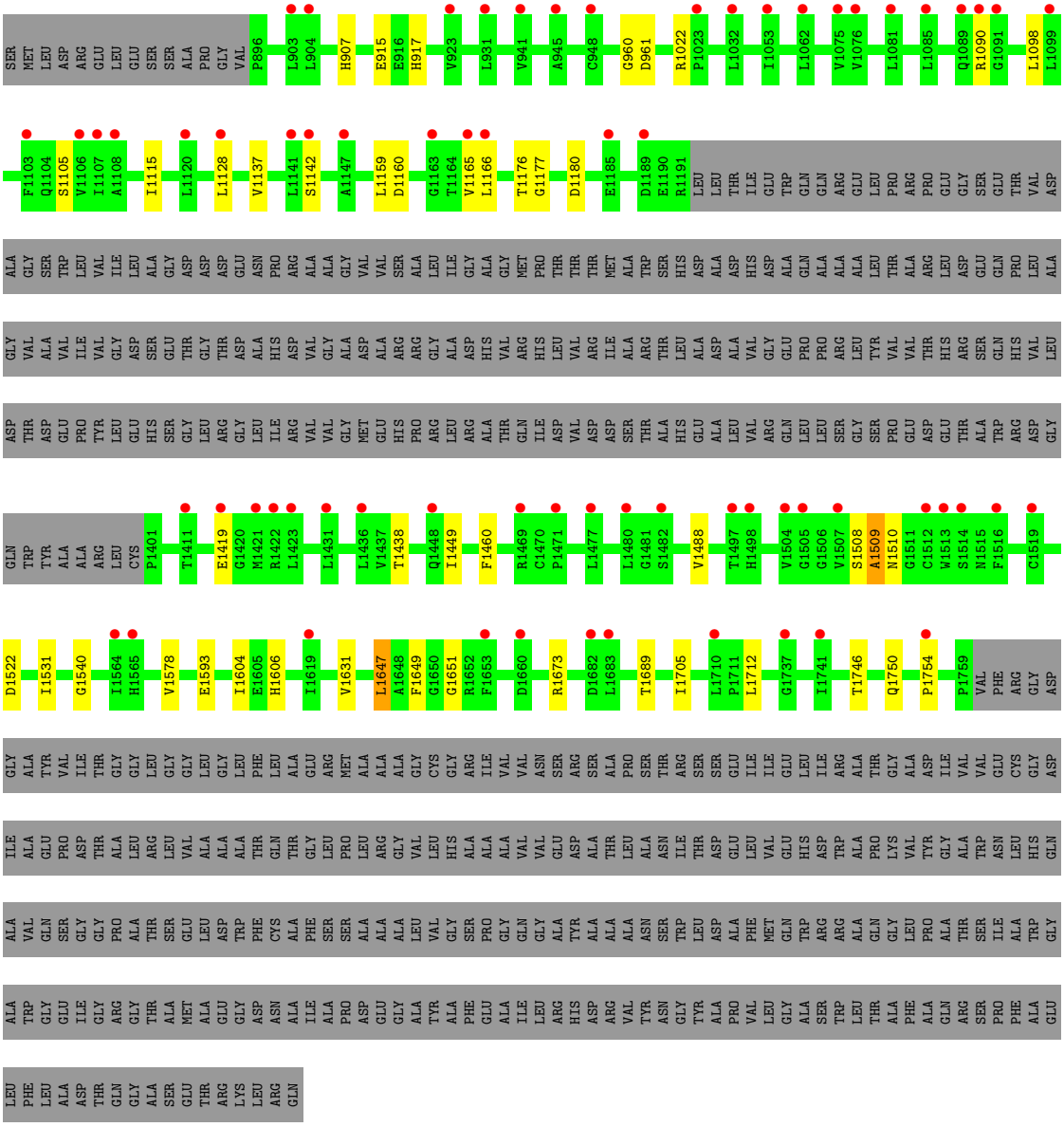
• Molecule 1: Mycocerosic acid synthase

Chain H:

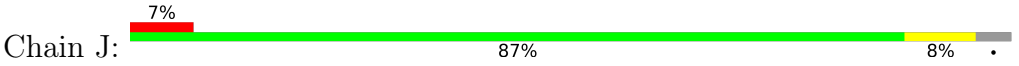


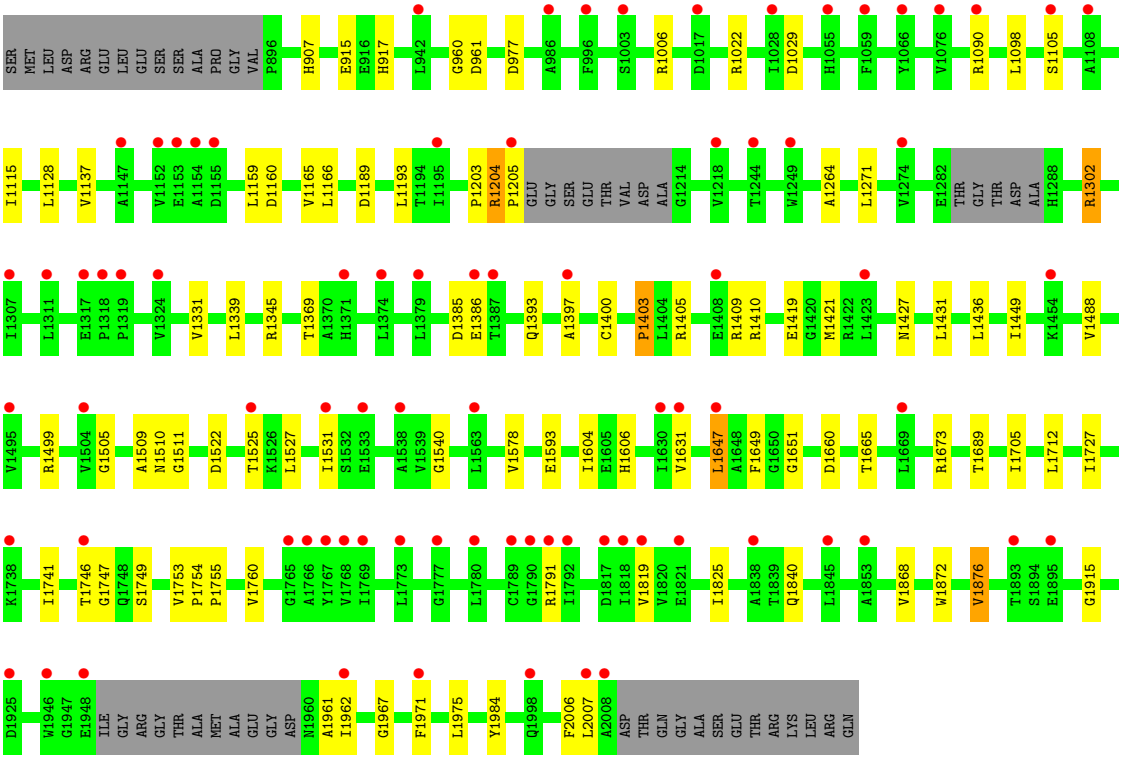


• Molecule 1: Mycocerosic acid synthase



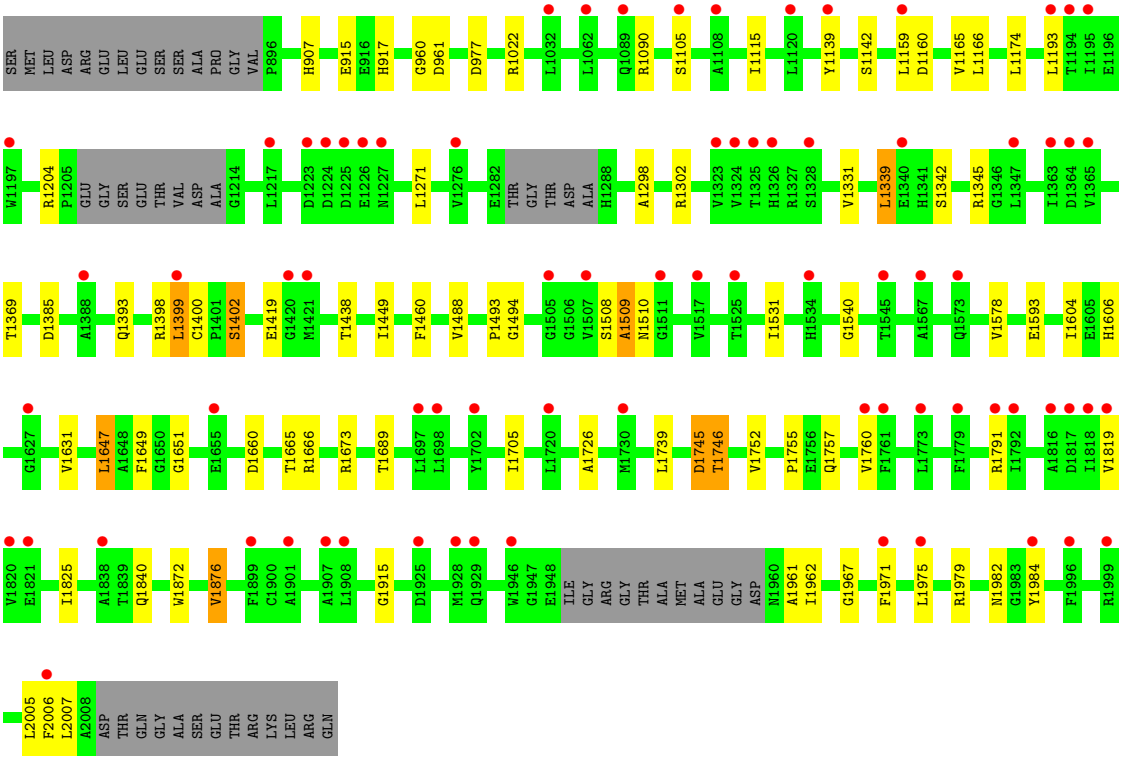
• Molecule 1: Mycocerosic acid synthase





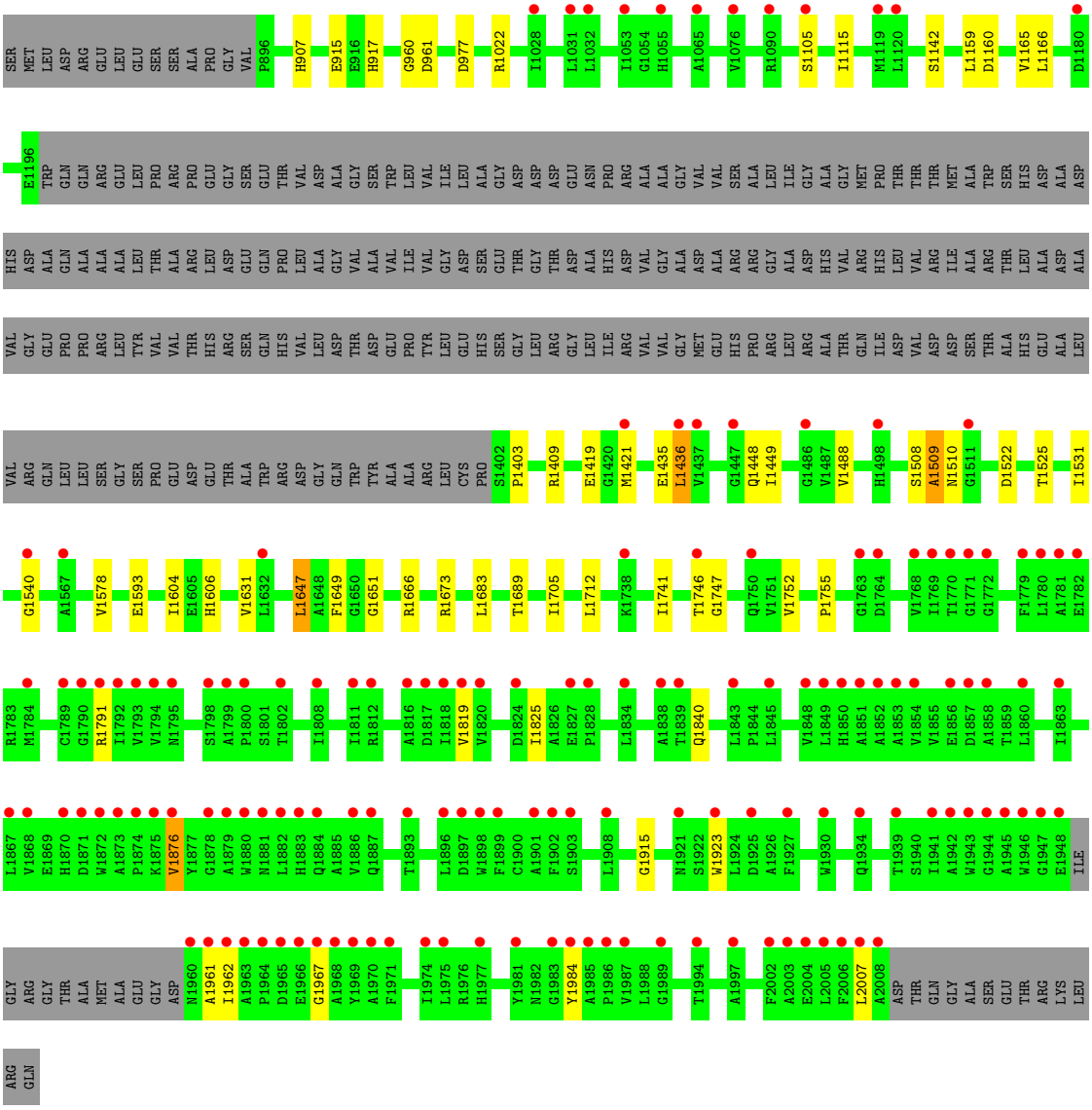
• Molecule 1: Mycocerosic acid synthase

Chain K:



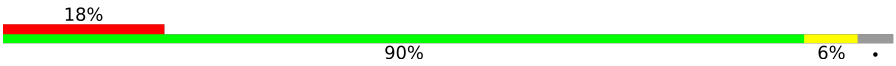
• Molecule 1: Mycocerosic acid synthase

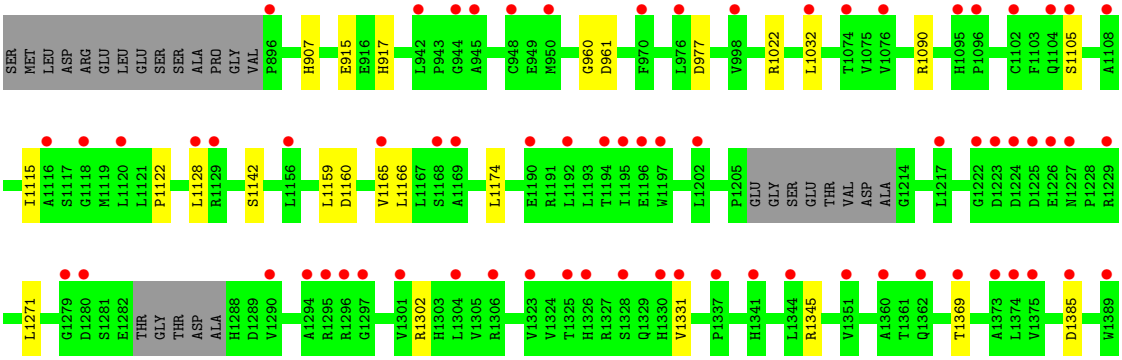
Chain L:

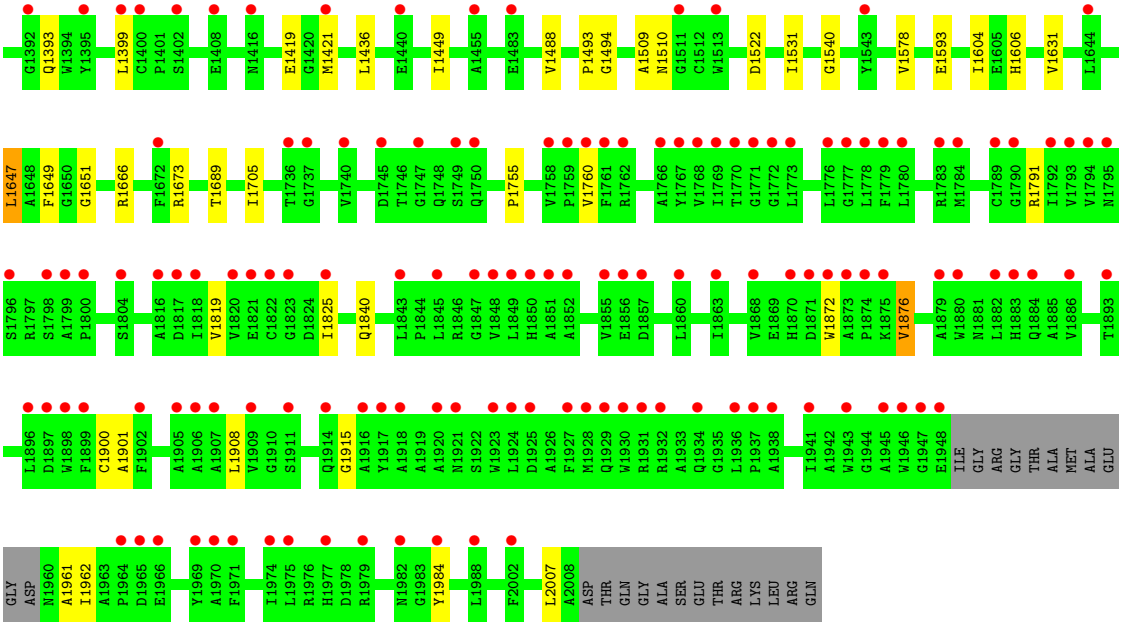


• Molecule 1: Mycocerosic acid synthase

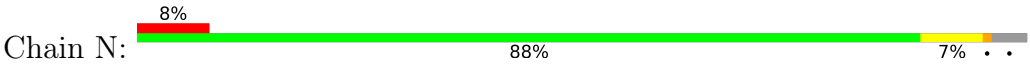
Chain M:

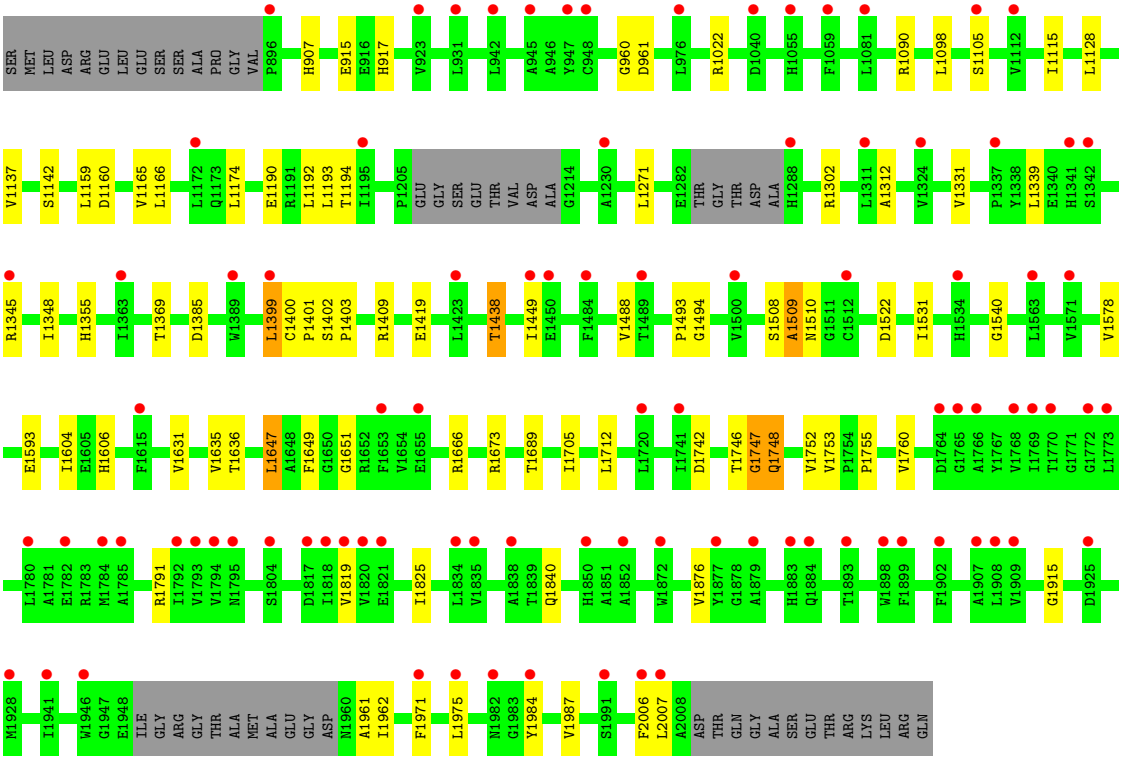




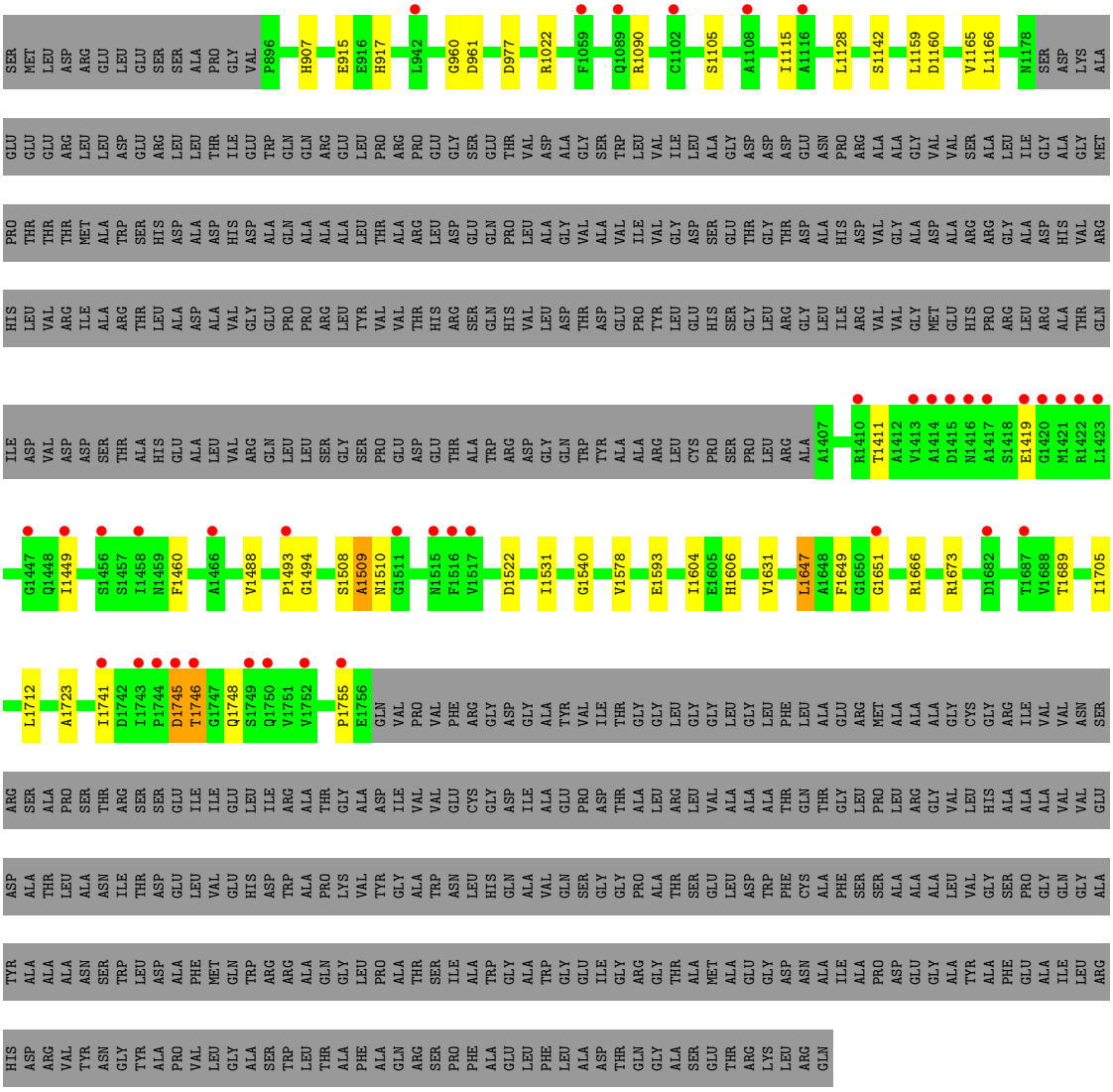


• Molecule 1: Mycocerosic acid synthase



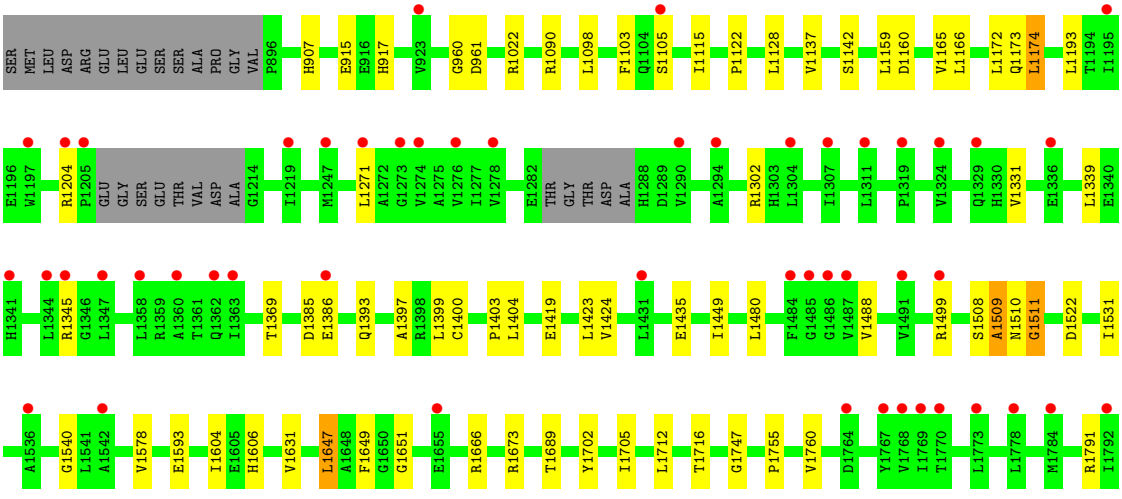


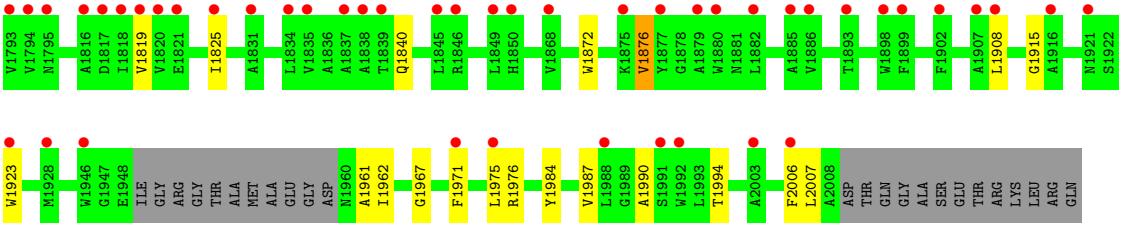
• Molecule 1: Mycocerosic acid synthase



• Molecule 1: Mycocerosic acid synthase

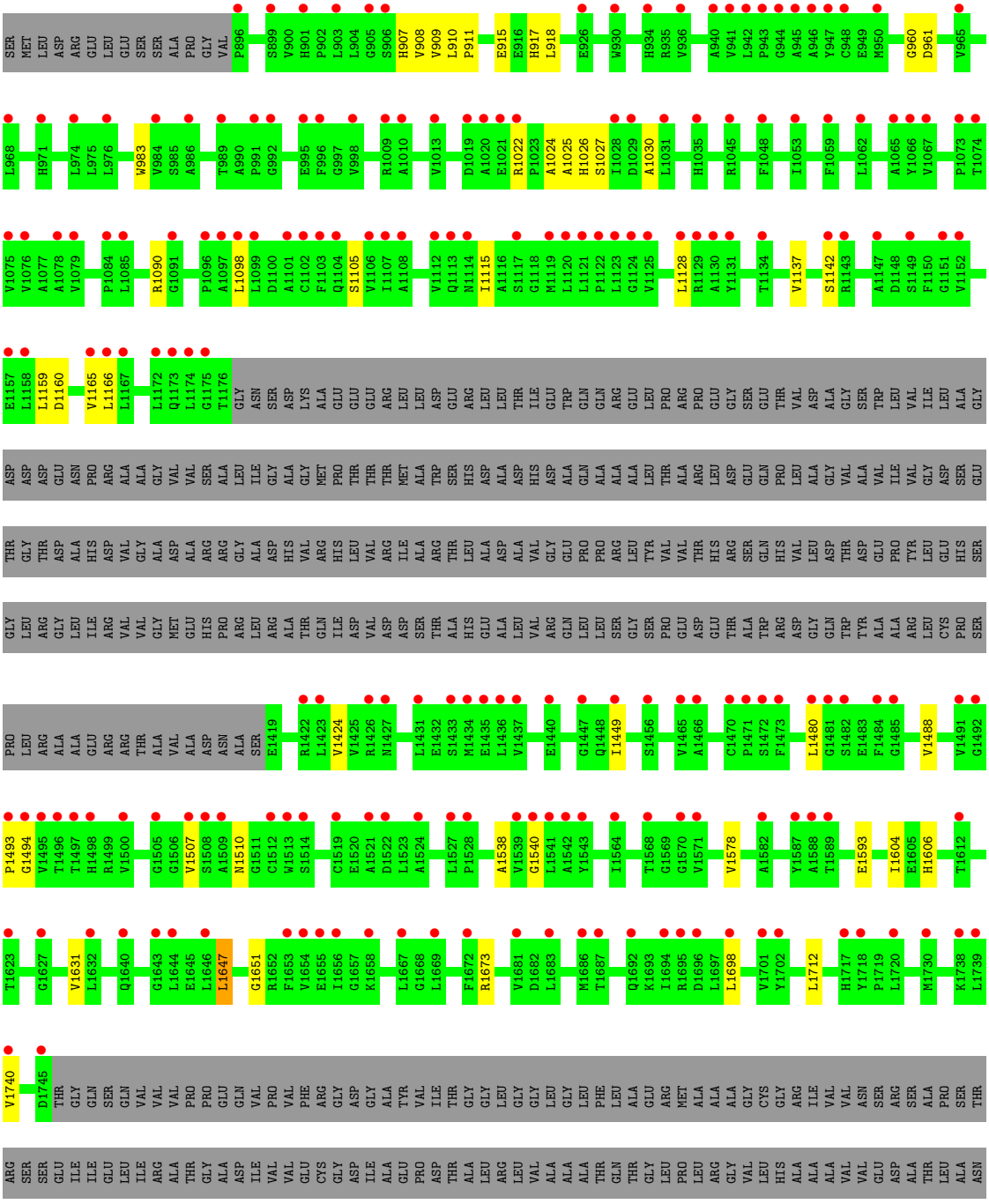
Chain P:

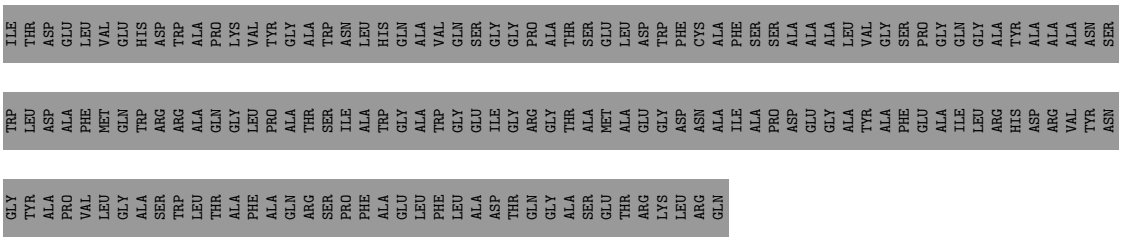




• Molecule 1: Mycocerosic acid synthase

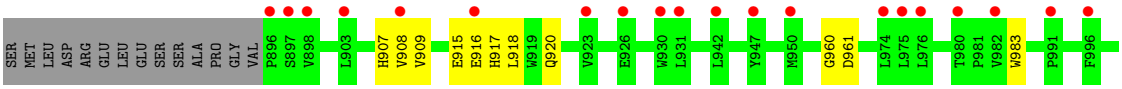
Chain Q:

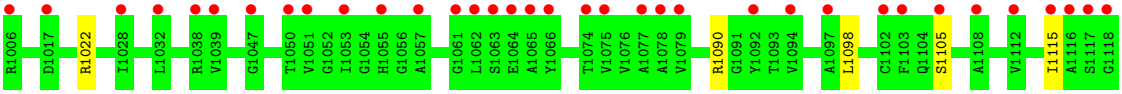


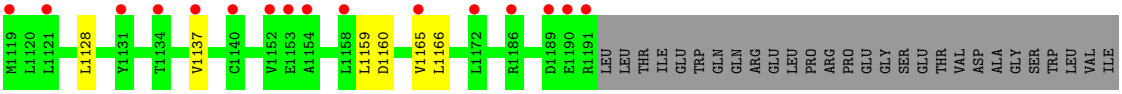


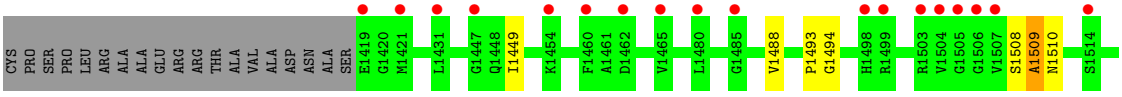
• Molecule 1: Mycocerosic acid synthase

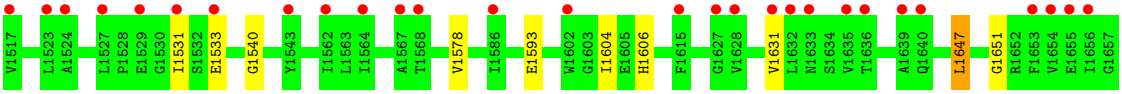
Chain R:

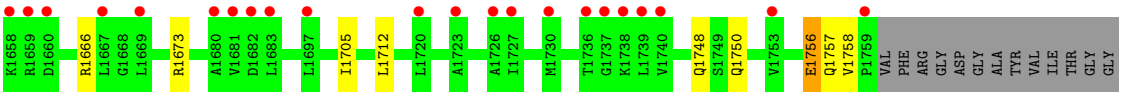


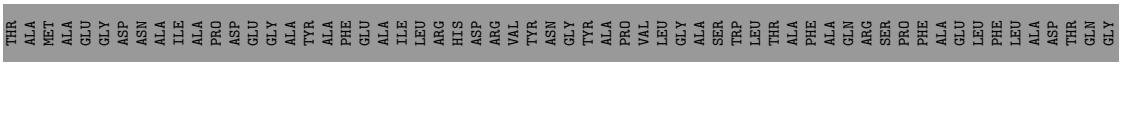













ALA
SER
GLU
THR
ARG
LYS
LEU
ARG
GLN

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	151.38Å 190.37Å 270.84Å 95.58° 91.92° 103.65°	Depositor
Resolution (Å)	78.62 – 3.75 78.62 – 3.75	Depositor EDS
% Data completeness (in resolution range)	99.0 (78.62-3.75) 99.0 (78.62-3.75)	Depositor EDS
R_{merge}	0.25	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.42 (at 3.78Å)	Xtriage
Refinement program	BUSTER 2.10.2	Depositor
R, R_{free}	0.230 , 0.240 0.247 , 0.254	Depositor DCC
R_{free} test set	2985 reflections (1.01%)	wwPDB-VP
Wilson B-factor (Å^2)	132.2	Xtriage
Anisotropy	0.073	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 132.4	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	262498	wwPDB-VP
Average B, all atoms (Å^2)	171.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 11.96% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ 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: NAP

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	0.51	0/8420	0.65	0/11488
1	B	0.45	0/8420	0.62	1/11488 (0.0%)
1	C	0.41	0/8420	0.59	0/11488
1	D	0.41	0/8420	0.59	0/11488
1	E	0.40	0/8323	0.58	0/11356
1	F	0.39	0/8351	0.58	0/11393
1	G	0.42	0/8314	0.59	0/11344
1	H	0.41	0/8379	0.59	0/11434
1	I	0.40	0/4977	0.59	0/6783
1	J	0.42	0/8323	0.59	0/11356
1	K	0.44	0/8323	0.60	0/11356
1	L	0.44	0/6815	0.61	0/9296
1	M	0.40	0/8323	0.58	0/11356
1	N	0.42	0/8323	0.61	0/11356
1	O	0.44	0/4797	0.61	0/6540
1	P	0.43	0/8323	0.60	0/11356
1	Q	0.39	0/4617	0.58	0/6293
1	R	0.40	0/4844	0.60	0/6602
All	All	0.42	0/134712	0.60	1/183773 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	1178	ASN	C-N-CA	5.23	134.78	121.70

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	8245	8038	8072	32	0
1	B	8245	8038	8072	33	0
1	C	8245	8038	8072	22	1
1	D	8245	8038	8072	26	0
1	E	8149	7945	7979	23	0
1	F	8177	7965	7999	27	0
1	G	8140	7939	7973	23	0
1	H	8204	7991	8025	35	0
1	I	4879	4801	4822	12	0
1	J	8149	7945	7979	30	1
1	K	8149	7945	7979	30	0
1	L	6674	6535	6560	19	0
1	M	8149	7945	7979	19	0
1	N	8149	7945	7979	24	0
1	O	4702	4625	4646	14	0
1	P	8149	7945	7979	28	0
1	Q	4524	4455	4476	31	0
1	R	4748	4669	4690	23	0
2	A	75	36	36	2	0
2	B	75	36	36	2	0
2	C	79	36	36	1	0
2	D	75	36	36	2	0
2	E	48	25	25	1	0
2	F	75	36	36	2	0
2	G	75	36	36	0	0
2	H	75	36	36	0	0
2	I	48	25	25	1	0
2	J	75	36	36	0	0
2	K	75	36	36	2	0
2	L	48	25	25	1	0
2	M	75	36	36	0	0
2	N	75	36	36	0	0
2	O	48	25	25	1	0
2	P	75	36	36	0	0
2	Q	48	25	25	0	0
2	R	48	25	25	0	0
All	All	133114	129384	129935	406	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 2.

All (406) 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:N:1348:ILE:CD1	1:N:1348:ILE:CG1	1.80	1.59
1:Q:908:VAL:HG13	1:R:920:GLN:HB2	1.68	0.75
1:N:1193:LEU:HD22	1:N:1399:LEU:HD22	1.70	0.73
1:C:914:PRO:HD3	1:D:1638:PRO:HG3	1.71	0.73
1:Q:909:VAL:O	1:R:983:TRP:NE1	2.21	0.71
1:A:1098:LEU:HD21	1:A:1137:VAL:HG11	1.73	0.71
1:A:1631:VAL:HG23	1:A:1647:LEU:HD23	1.73	0.70
1:F:1050:THR:O	1:F:1988:LEU:HD22	1.92	0.69
1:G:1962:ILE:HD12	1:G:1984:TYR:CE1	2.28	0.69
1:L:1421:MET:HB2	1:L:1436:LEU:HD21	1.78	0.65
1:K:1438:THR:HB	1:K:1752:VAL:HG11	1.81	0.63
1:O:1649:PHE:CD1	1:P:1689:THR:HG21	2.33	0.63
1:E:1689:THR:HG21	1:F:1649:PHE:CD1	2.34	0.63
1:Q:909:VAL:HB	1:R:920:GLN:NE2	2.14	0.63
1:Q:1507:VAL:HG23	1:Q:1698:LEU:HD11	1.80	0.62
1:A:1567:ALA:HB1	1:A:1576:ILE:HD11	1.80	0.62
1:A:1971:PHE:CZ	1:A:1975:LEU:HD11	2.35	0.61
1:B:1421:MET:CE	1:B:1436:LEU:HD21	2.30	0.61
1:H:1593:GLU:OE1	1:Q:1024:ALA:HB3	2.00	0.61
1:Q:911:PRO:HD3	1:R:983:TRP:CD1	2.35	0.61
1:Q:918:LEU:HD21	1:R:908:VAL:HG11	1.84	0.60
1:B:1193:LEU:HD22	1:B:1399:LEU:HD11	1.85	0.59
1:K:1666:ARG:HB3	1:L:1666:ARG:HB3	1.85	0.59
1:E:1193:LEU:HD22	1:E:1399:LEU:HD22	1.84	0.58
1:G:1421:MET:CE	1:G:1436:LEU:HD21	2.33	0.58
1:H:1597:GLN:HG2	1:Q:1026:HIS:HA	1.84	0.58
1:H:1193:LEU:HD22	1:H:1399:LEU:HD11	1.87	0.57
1:M:1689:THR:HG21	1:N:1649:PHE:CD1	2.40	0.57
1:J:1421:MET:CE	1:J:1436:LEU:HD21	2.35	0.57
1:F:1791:ARG:CZ	1:F:1819:VAL:HG21	2.35	0.56
1:Q:918:LEU:CD2	1:R:908:VAL:HG11	2.36	0.56
1:A:892:ALA:HB3	1:A:893:PRO:HD3	1.87	0.56
1:H:1601:ASP:HB3	1:Q:1030:ALA:HB3	1.88	0.56
1:M:1962:ILE:HD12	1:M:1984:TYR:CE1	2.41	0.56
1:Q:909:VAL:HB	1:R:920:GLN:HE22	1.71	0.55
1:A:1689:THR:HG21	1:B:1649:PHE:CD1	2.41	0.55
1:K:1649:PHE:CD1	1:L:1689:THR:HG21	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1962:ILE:HD12	1:B:1984:TYR:CE1	2.43	0.54
1:O:1689:THR:HG21	1:P:1649:PHE:CD1	2.43	0.54
1:C:1649:PHE:CD1	1:D:1689:THR:HG21	2.42	0.53
1:H:1601:ASP:HB3	1:Q:1030:ALA:CB	2.38	0.53
1:D:1531:ILE:HG21	1:D:1705:ILE:HG23	1.90	0.53
1:D:1962:ILE:HD12	1:D:1984:TYR:CE1	2.44	0.53
1:B:892:ALA:HB3	1:B:893:PRO:CD	2.38	0.53
1:A:1569:GLY:O	1:A:1573:GLN:HG3	2.09	0.53
1:H:1531:ILE:HG21	1:H:1705:ILE:HG23	1.88	0.53
1:H:1593:GLU:HB3	1:Q:1024:ALA:HB2	1.91	0.52
1:L:1962:ILE:HD12	1:L:1984:TYR:CE1	2.44	0.52
1:P:1399:LEU:HD21	1:P:1908:LEU:HD21	1.91	0.52
1:C:907:HIS:HE2	1:C:917:HIS:HD1	1.57	0.52
1:D:1929:GLN:HG2	1:D:1980:VAL:HG11	1.91	0.52
1:A:1438:THR:HB	1:A:1752:VAL:HG11	1.90	0.52
1:M:1649:PHE:CD1	1:N:1689:THR:HG21	2.43	0.52
1:D:1971:PHE:CZ	1:D:1975:LEU:HD11	2.45	0.52
1:E:1962:ILE:HD12	1:E:1984:TYR:CE1	2.44	0.52
1:J:1962:ILE:HD12	1:J:1984:TYR:CE1	2.45	0.52
1:P:907:HIS:HE2	1:P:917:HIS:HD1	1.57	0.52
1:B:1193:LEU:HD21	1:B:2006:PHE:CZ	2.45	0.52
1:F:1962:ILE:HD12	1:F:1984:TYR:CE1	2.45	0.52
1:H:1962:ILE:HD12	1:H:1984:TYR:CE1	2.44	0.52
1:K:1631:VAL:HG23	1:K:1647:LEU:HD23	1.92	0.51
1:K:1962:ILE:HD12	1:K:1984:TYR:CE1	2.45	0.51
1:C:1962:ILE:HD12	1:C:1984:TYR:CE1	2.45	0.51
1:F:1569:GLY:HA3	2:F:3001:NAP:O1A	2.11	0.51
1:G:1971:PHE:CZ	1:G:1975:LEU:HD11	2.45	0.51
1:E:1531:ILE:HG21	1:E:1705:ILE:HG23	1.93	0.51
1:F:1421:MET:CE	1:F:1436:LEU:HD21	2.40	0.51
1:M:907:HIS:HE2	1:M:917:HIS:HD1	1.58	0.51
1:E:1971:PHE:CZ	1:E:1975:LEU:HD11	2.45	0.51
1:R:907:HIS:HE2	1:R:917:HIS:HD1	1.59	0.51
1:A:1073:PRO:HA	1:A:1109:HIS:HE2	1.76	0.51
1:F:1971:PHE:CZ	1:F:1975:LEU:HD11	2.46	0.51
1:G:1649:PHE:CD1	1:H:1689:THR:HG21	2.46	0.51
1:I:907:HIS:HE2	1:I:917:HIS:HD1	1.59	0.51
1:O:1631:VAL:HG23	1:O:1647:LEU:HD23	1.93	0.51
1:G:1631:VAL:HG23	1:G:1647:LEU:HD23	1.93	0.51
1:Q:1631:VAL:HG23	1:Q:1647:LEU:HD23	1.93	0.51
1:I:1631:VAL:HG23	1:I:1647:LEU:HD23	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1569:GLY:HA3	2:B:3001:NAP:O1A	2.11	0.50
1:E:1631:VAL:HG23	1:E:1647:LEU:HD23	1.93	0.50
1:G:907:HIS:HE2	1:G:917:HIS:HD1	1.59	0.50
1:R:1631:VAL:HG23	1:R:1647:LEU:HD23	1.94	0.50
1:A:1531:ILE:HG21	1:A:1705:ILE:HG23	1.93	0.50
1:A:1603:GLY:HA2	1:J:1029:ASP:HB2	1.92	0.50
1:A:1441:ARG:NH2	1:A:1489:THR:HG21	2.26	0.50
1:A:1458:ILE:HD11	1:A:1741:ILE:HD13	1.94	0.50
1:D:1631:VAL:HG23	1:D:1647:LEU:HD23	1.94	0.50
1:F:907:HIS:HE2	1:F:917:HIS:HD1	1.59	0.50
1:H:1631:VAL:HG23	1:H:1647:LEU:HD23	1.93	0.50
1:K:907:HIS:HE2	1:K:917:HIS:HD1	1.59	0.50
1:O:907:HIS:HE2	1:O:917:HIS:HD1	1.59	0.50
1:J:1193:LEU:HD21	1:J:2006:PHE:CZ	2.47	0.50
1:N:1631:VAL:HG23	1:N:1647:LEU:HD23	1.93	0.50
1:B:1339:LEU:HA	1:B:1342:SER:OG	2.12	0.50
1:G:1193:LEU:HD21	1:G:2006:PHE:CZ	2.47	0.50
1:H:907:HIS:HE2	1:H:917:HIS:HD1	1.60	0.50
1:P:1480:LEU:O	1:P:1511:GLY:HA2	2.12	0.50
1:P:1631:VAL:HG23	1:P:1647:LEU:HD23	1.93	0.50
1:J:1753:VAL:HG23	1:J:1753:VAL:O	2.12	0.50
1:N:1971:PHE:CZ	1:N:1975:LEU:HD11	2.47	0.50
1:C:1971:PHE:CZ	1:C:1975:LEU:HD11	2.47	0.50
1:K:1971:PHE:CZ	1:K:1975:LEU:HD11	2.46	0.50
1:N:1438:THR:HB	1:N:1752:VAL:HG11	1.94	0.50
1:B:1631:VAL:HG23	1:B:1647:LEU:HD23	1.93	0.49
1:D:1399:LEU:HD13	1:D:2006:PHE:CZ	2.45	0.49
1:F:1631:VAL:HG23	1:F:1647:LEU:HD23	1.93	0.49
1:G:1531:ILE:HG21	1:G:1705:ILE:HG23	1.94	0.49
1:J:907:HIS:HE2	1:J:917:HIS:HD1	1.59	0.49
1:H:1193:LEU:HD21	1:H:2006:PHE:CZ	2.47	0.49
1:K:1689:THR:HG21	1:L:1649:PHE:CD1	2.47	0.49
1:L:907:HIS:HE2	1:L:917:HIS:HD1	1.60	0.49
1:L:1631:VAL:HG23	1:L:1647:LEU:HD23	1.93	0.49
1:Q:1449:ILE:HG23	1:Q:1488:VAL:HG13	1.93	0.49
1:B:1458:ILE:HD11	1:B:1741:ILE:HD13	1.94	0.49
1:K:1193:LEU:HD21	1:K:2006:PHE:CZ	2.48	0.49
1:N:1531:ILE:HG21	1:N:1705:ILE:HG23	1.94	0.49
1:F:1193:LEU:HD21	1:F:2006:PHE:CZ	2.47	0.49
1:J:1531:ILE:HG21	1:J:1705:ILE:HG23	1.93	0.49
1:C:1631:VAL:HG23	1:C:1647:LEU:HD23	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:1971:PHE:CZ	1:J:1975:LEU:HD11	2.47	0.49
1:M:1631:VAL:HG23	1:M:1647:LEU:HD23	1.93	0.49
1:B:892:ALA:HB3	1:B:893:PRO:HD3	1.93	0.49
1:B:907:HIS:HE2	1:B:917:HIS:HD1	1.60	0.49
1:D:1460:PHE:CD1	2:D:3001:NAP:H52A	2.46	0.49
1:I:1649:PHE:CD1	1:J:1689:THR:HG21	2.48	0.49
1:Q:907:HIS:HE2	1:Q:917:HIS:HD1	1.59	0.49
1:J:1631:VAL:HG23	1:J:1647:LEU:HD23	1.93	0.49
1:N:907:HIS:HE2	1:N:917:HIS:HD1	1.59	0.49
1:B:1438:THR:HB	1:B:1752:VAL:HG11	1.95	0.49
1:H:1601:ASP:OD2	1:Q:1027:SER:HB3	2.13	0.49
1:P:1971:PHE:CZ	1:P:1975:LEU:HD11	2.47	0.49
1:O:1531:ILE:HG21	1:O:1705:ILE:HG23	1.94	0.49
1:E:907:HIS:HE2	1:E:917:HIS:HD1	1.60	0.48
1:M:1531:ILE:HG21	1:M:1705:ILE:HG23	1.94	0.48
1:B:1531:ILE:HG21	1:B:1705:ILE:HG23	1.95	0.48
1:J:1189:ASP:HA	1:J:1403:PRO:HB3	1.95	0.48
1:K:1531:ILE:HG21	1:K:1705:ILE:HG23	1.95	0.48
1:D:1449:ILE:HG23	1:D:1488:VAL:HG13	1.96	0.48
1:I:1449:ILE:HG23	1:I:1488:VAL:HG13	1.96	0.48
1:I:1531:ILE:HG21	1:I:1705:ILE:HG23	1.94	0.48
1:L:1531:ILE:HG21	1:L:1705:ILE:HG23	1.94	0.48
1:M:1449:ILE:HG23	1:M:1488:VAL:HG13	1.96	0.48
1:E:1193:LEU:HD21	1:E:2006:PHE:CZ	2.49	0.48
1:A:1424:VAL:HA	1:A:1480:LEU:HD12	1.96	0.48
1:C:1449:ILE:HG23	1:C:1488:VAL:HG13	1.96	0.48
1:C:1460:PHE:CD1	2:C:3001:NAP:H52A	2.48	0.48
1:C:1531:ILE:HG21	1:C:1705:ILE:HG23	1.95	0.48
1:N:1747:GLY:O	1:N:1748:GLN:C	2.50	0.48
1:H:1431:LEU:HD21	1:H:1727:ILE:HG21	1.95	0.48
1:Q:1538:ALA:HB2	1:Q:1740:VAL:CG2	2.43	0.48
1:D:907:HIS:HE2	1:D:917:HIS:HD1	1.60	0.48
1:E:1449:ILE:HG23	1:E:1488:VAL:HG13	1.96	0.48
1:H:1189:ASP:HA	1:H:1403:PRO:HB3	1.94	0.48
1:A:955:VAL:HG11	1:A:963:GLY:HA3	1.96	0.48
1:I:1460:PHE:CD1	2:I:3001:NAP:H52A	2.48	0.48
1:N:1962:ILE:HD12	1:N:1984:TYR:CE1	2.49	0.48
1:F:1449:ILE:HG23	1:F:1488:VAL:HG13	1.96	0.48
1:R:1531:ILE:HG21	1:R:1705:ILE:HG23	1.94	0.48
1:J:1431:LEU:HD21	1:J:1727:ILE:HG21	1.96	0.48
1:K:1449:ILE:HG23	1:K:1488:VAL:HG13	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:1449:ILE:HG23	1:P:1488:VAL:HG13	1.96	0.48
1:G:1449:ILE:HG23	1:G:1488:VAL:HG13	1.96	0.47
1:K:1402:SER:O	1:K:1979:ARG:NH2	2.46	0.47
1:J:1410:ARG:O	1:J:1754:PRO:HD2	2.14	0.47
1:N:1449:ILE:HG23	1:N:1488:VAL:HG13	1.96	0.47
1:G:1689:THR:HG21	1:H:1649:PHE:CD1	2.50	0.47
1:J:1421:MET:HE3	1:J:1436:LEU:HD21	1.96	0.47
1:B:1504:VAL:HG12	1:B:1526:LYS:HA	1.97	0.47
1:O:1449:ILE:HG23	1:O:1488:VAL:HG13	1.96	0.47
1:R:1449:ILE:HG23	1:R:1488:VAL:HG13	1.96	0.47
1:A:1441:ARG:HH22	1:A:1489:THR:HG21	1.80	0.47
1:C:886:ARG:NE	1:D:885:ASP:OD2	2.48	0.47
1:D:1160:ASP:HB3	1:D:1166:LEU:HD11	1.97	0.47
1:J:1204:ARG:HB3	1:J:1205:PRO:HA	1.97	0.47
1:Q:909:VAL:H	1:R:920:GLN:CD	2.18	0.47
1:B:1193:LEU:HD21	1:B:2006:PHE:HZ	1.80	0.47
1:R:916:GLU:OE2	1:R:1666:ARG:NH2	2.48	0.46
1:B:1962:ILE:HD12	1:B:1984:TYR:CD1	2.50	0.46
1:G:1962:ILE:HD12	1:G:1984:TYR:CD1	2.49	0.46
1:O:1666:ARG:HB3	1:P:1666:ARG:HB3	1.97	0.46
1:C:1791:ARG:CZ	1:C:1819:VAL:HG21	2.46	0.46
1:L:1962:ILE:HD12	1:L:1984:TYR:CD1	2.50	0.46
1:H:1449:ILE:HG23	1:H:1488:VAL:HG13	1.96	0.46
1:C:1689:THR:HG21	1:D:1649:PHE:CD1	2.51	0.46
1:J:1449:ILE:HG23	1:J:1488:VAL:HG13	1.97	0.46
1:Q:911:PRO:HB3	1:R:983:TRP:CD2	2.51	0.46
1:H:1193:LEU:HD22	1:H:1399:LEU:CD1	2.46	0.46
1:E:1483:GLU:HB3	1:E:1541:LEU:HD13	1.98	0.46
1:D:1962:ILE:HD12	1:D:1984:TYR:CD1	2.51	0.46
1:O:1723:ALA:HB2	1:O:1741:ILE:HD11	1.98	0.46
1:A:1569:GLY:HA3	2:A:3001:NAP:O1A	2.16	0.46
1:F:1761:PHE:HB3	1:F:1789:CYS:SG	2.56	0.45
1:B:1402:SER:O	1:B:1979:ARG:NH1	2.48	0.45
1:B:1755:PRO:HD2	1:B:1757:GLN:HG3	1.97	0.45
1:F:1962:ILE:HD12	1:F:1984:TYR:CD1	2.51	0.45
1:G:1769:ILE:HD11	1:G:1784:MET:SD	2.56	0.45
1:H:1160:ASP:HB3	1:H:1166:LEU:HD11	1.98	0.45
1:N:1312:ALA:HB1	1:N:1355:HIS:CE1	2.51	0.45
1:E:1399:LEU:HD21	1:E:1908:LEU:HD21	1.98	0.45
1:M:1399:LEU:HD21	1:M:1908:LEU:HD11	1.98	0.45
1:M:1421:MET:CE	1:M:1436:LEU:HD21	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1160:ASP:HB3	1:B:1166:LEU:HD11	1.98	0.45
1:B:1508:SER:O	1:B:1509:ALA:HB3	2.16	0.45
1:J:1160:ASP:HB3	1:J:1166:LEU:HD11	1.98	0.45
1:L:1160:ASP:HB3	1:L:1166:LEU:HD11	1.97	0.45
1:M:1791:ARG:CZ	1:M:1819:VAL:HG21	2.46	0.45
1:Q:1160:ASP:HB3	1:Q:1166:LEU:HD11	1.99	0.45
1:E:1962:ILE:HD12	1:E:1984:TYR:CD1	2.51	0.45
1:J:1499:ARG:HD3	1:K:1139:TYR:OH	2.16	0.45
1:K:1160:ASP:HB3	1:K:1166:LEU:HD11	1.98	0.45
1:M:1493:PRO:HA	1:M:1494:GLY:HA2	1.86	0.45
1:E:1458:ILE:HD11	1:E:1741:ILE:HD13	1.98	0.45
1:F:1160:ASP:HB3	1:F:1166:LEU:HD11	1.99	0.45
1:K:1193:LEU:HD22	1:K:1399:LEU:HD22	1.99	0.45
1:O:1460:PHE:CD1	2:O:3001:NAP:H52A	2.52	0.45
1:O:1160:ASP:HB3	1:O:1166:LEU:HD11	1.99	0.45
1:P:1160:ASP:HB3	1:P:1166:LEU:HD11	1.99	0.45
1:P:1962:ILE:HD12	1:P:1984:TYR:CE2	2.52	0.45
1:R:1756:GLU:HA	1:R:1757:GLN:C	2.37	0.45
1:C:1192:LEU:HD12	1:C:1403:PRO:HB3	1.99	0.45
1:E:1125:VAL:HG11	1:E:1128:LEU:HG	1.99	0.44
1:F:1531:ILE:HG21	1:F:1705:ILE:HG23	1.98	0.44
1:G:1193:LEU:HD21	1:G:2006:PHE:HZ	1.81	0.44
1:H:1791:ARG:CZ	1:H:1819:VAL:HG21	2.47	0.44
1:H:1962:ILE:HD12	1:H:1984:TYR:CD1	2.51	0.44
1:K:1339:LEU:HA	1:K:1342:SER:OG	2.17	0.44
1:P:1791:ARG:CZ	1:P:1819:VAL:HG21	2.46	0.44
1:C:1962:ILE:HD12	1:C:1984:TYR:CD1	2.52	0.44
1:N:1160:ASP:HB3	1:N:1166:LEU:HD11	1.98	0.44
1:N:1752:VAL:HG12	1:N:1753:VAL:H	1.82	0.44
1:N:1962:ILE:HD12	1:N:1984:TYR:CD1	2.52	0.44
1:C:1160:ASP:HB3	1:C:1166:LEU:HD11	1.98	0.44
1:D:1493:PRO:HA	1:D:1494:GLY:HA2	1.86	0.44
1:J:1505:GLY:HA3	1:J:1527:LEU:HD21	1.99	0.44
1:J:1791:ARG:CZ	1:J:1819:VAL:HG21	2.47	0.44
1:E:1160:ASP:HB3	1:E:1166:LEU:HD11	1.98	0.44
1:K:1962:ILE:HD12	1:K:1984:TYR:CD1	2.52	0.44
1:L:1791:ARG:CZ	1:L:1819:VAL:HG21	2.47	0.44
1:Q:910:LEU:HD22	1:R:918:LEU:HD21	2.00	0.44
1:J:1962:ILE:HD12	1:J:1984:TYR:CD1	2.52	0.44
1:K:1962:ILE:HD11	1:K:1967:GLY:CA	2.48	0.44
1:L:1448:GLN:C	1:L:1449:ILE:HD12	2.37	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:1193:LEU:HD22	1:P:1399:LEU:HD22	1.99	0.44
1:P:1962:ILE:HD12	1:P:1984:TYR:CD2	2.52	0.44
1:G:1791:ARG:CZ	1:G:1819:VAL:HG21	2.48	0.44
1:H:1193:LEU:HD21	1:H:2006:PHE:HZ	1.82	0.44
1:K:1791:ARG:CZ	1:K:1819:VAL:HG21	2.48	0.44
1:N:1791:ARG:CZ	1:N:1819:VAL:HG21	2.47	0.44
1:P:1424:VAL:HA	1:P:1480:LEU:HD12	2.00	0.44
1:A:1649:PHE:CD1	1:B:1689:THR:HG21	2.53	0.44
1:F:1962:ILE:HD11	1:F:1967:GLY:CA	2.48	0.44
1:H:1962:ILE:HD11	1:H:1967:GLY:CA	2.48	0.44
1:P:1962:ILE:HD11	1:P:1967:GLY:CA	2.48	0.44
1:A:1026:HIS:HB3	1:A:1031:LEU:HD11	1.99	0.44
1:R:1160:ASP:HB3	1:R:1166:LEU:HD11	1.98	0.44
1:G:1160:ASP:HB3	1:G:1166:LEU:HD11	1.99	0.44
1:L:1159:LEU:CD2	1:L:1165:VAL:HG22	2.48	0.43
1:M:1160:ASP:HB3	1:M:1166:LEU:HD11	1.99	0.43
1:M:1399:LEU:HD11	1:M:1908:LEU:HD21	2.00	0.43
1:H:1593:GLU:HB3	1:Q:1024:ALA:CB	2.48	0.43
1:I:1160:ASP:HB3	1:I:1166:LEU:HD11	1.99	0.43
1:J:1386:GLU:HB3	1:J:1397:ALA:HB3	2.00	0.43
1:K:1193:LEU:HD21	1:K:2006:PHE:HZ	1.82	0.43
1:A:1369:THR:O	1:A:1370:ALA:HB3	2.18	0.43
1:D:1962:ILE:HD11	1:D:1967:GLY:CA	2.48	0.43
1:G:1962:ILE:HD11	1:G:1967:GLY:CA	2.48	0.43
1:H:1971:PHE:CZ	1:H:1975:LEU:HD11	2.53	0.43
1:A:1460:PHE:CD1	2:A:3001:NAP:H52A	2.53	0.43
1:B:1962:ILE:HD11	1:B:1967:GLY:CA	2.48	0.43
1:E:1460:PHE:CD1	2:E:3001:NAP:H51A	2.53	0.43
1:J:1962:ILE:HD11	1:J:1967:GLY:CA	2.49	0.43
1:M:1122:PRO:HA	1:M:1174:LEU:HD23	2.01	0.43
1:F:1601:ASP:OD2	1:H:1026:HIS:HA	2.19	0.43
1:C:1962:ILE:HD11	1:C:1967:GLY:CA	2.48	0.43
1:E:1962:ILE:HD11	1:E:1967:GLY:CA	2.48	0.43
1:C:1929:GLN:HG3	1:C:1980:VAL:HG11	2.01	0.43
1:E:1159:LEU:CD2	1:E:1165:VAL:HG22	2.49	0.43
1:L:1962:ILE:HD11	1:L:1967:GLY:CA	2.48	0.43
1:Q:1159:LEU:CD2	1:Q:1165:VAL:HG22	2.49	0.43
1:A:1545:THR:OG1	1:A:1683:LEU:HD22	2.19	0.43
1:A:1752:VAL:HG12	1:A:1753:VAL:H	1.84	0.43
1:C:1159:LEU:CD2	1:C:1165:VAL:HG22	2.49	0.43
1:P:1531:ILE:HG21	1:P:1705:ILE:HG23	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1555:ARG:NH2	1:D:1555:ARG:NH2	2.66	0.43
1:B:1193:LEU:HD22	1:B:1399:LEU:CD1	2.48	0.42
1:F:1193:LEU:HD21	1:F:2006:PHE:HZ	1.82	0.42
1:K:1745:ASP:O	1:K:1746:THR:O	2.38	0.42
1:L:1449:ILE:HG23	1:L:1488:VAL:HG13	2.01	0.42
1:R:1493:PRO:HA	1:R:1494:GLY:HA2	1.85	0.42
1:A:1026:HIS:CB	1:A:1031:LEU:HD11	2.48	0.42
1:D:1569:GLY:HA3	2:D:3001:NAP:O1A	2.18	0.42
1:O:1159:LEU:CD2	1:O:1165:VAL:HG22	2.49	0.42
1:F:1193:LEU:HD22	1:F:1399:LEU:HD11	2.01	0.42
1:K:1460:PHE:CD1	2:K:3001:NAP:H52A	2.54	0.42
1:P:1159:LEU:CD2	1:P:1165:VAL:HG22	2.49	0.42
1:B:1159:LEU:CD2	1:B:1165:VAL:HG22	2.49	0.42
1:H:1597:GLN:HG2	1:Q:1025:ALA:O	2.20	0.42
1:I:1159:LEU:CD2	1:I:1165:VAL:HG22	2.49	0.42
1:J:1660:ASP:OD1	1:J:1665:THR:HG21	2.19	0.42
1:K:1298:ALA:HB2	1:K:1872:TRP:NE1	2.34	0.42
1:M:1159:LEU:CD2	1:M:1165:VAL:HG22	2.49	0.42
1:D:1414:ALA:HB3	1:D:1752:VAL:HG21	2.01	0.42
1:E:1098:LEU:HD21	1:E:1137:VAL:HG11	2.02	0.42
1:G:1159:LEU:CD2	1:G:1165:VAL:HG22	2.49	0.42
1:C:1423:LEU:HD12	1:C:1435:GLU:O	2.19	0.42
1:F:1421:MET:HE3	1:F:1436:LEU:HD21	2.00	0.42
1:K:1400:CYS:HB3	1:K:2005:LEU:HD12	2.02	0.42
1:L:1436:LEU:HD23	1:L:1752:VAL:HG13	2.01	0.42
1:F:1159:LEU:CD2	1:F:1165:VAL:HG22	2.49	0.42
1:J:1159:LEU:CD2	1:J:1165:VAL:HG22	2.50	0.42
1:K:1508:SER:O	1:K:1509:ALA:HB3	2.19	0.42
1:F:1386:GLU:HB3	1:F:1397:ALA:HB3	2.01	0.42
1:I:1689:THR:HG21	1:J:1649:PHE:CD1	2.55	0.42
1:B:1523:LEU:HD22	1:B:1687:THR:HG23	2.02	0.42
1:D:1159:LEU:CD2	1:D:1165:VAL:HG22	2.49	0.42
1:F:1508:SER:O	1:F:1509:ALA:HB3	2.20	0.42
1:K:1159:LEU:CD2	1:K:1165:VAL:HG22	2.50	0.42
1:M:1900:CYS:SG	1:M:1901:ALA:N	2.93	0.42
1:O:1508:SER:O	1:O:1509:ALA:HB3	2.20	0.42
1:C:1098:LEU:HD21	1:C:1137:VAL:HG11	2.02	0.41
1:D:1458:ILE:HD11	1:D:1741:ILE:HD13	2.02	0.41
1:H:1123:LEU:HD11	1:H:1175:GLY:O	2.19	0.41
1:H:1159:LEU:CD2	1:H:1165:VAL:HG22	2.49	0.41
1:L:1508:SER:O	1:L:1509:ALA:HB3	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:1876:VAL:HB	1:L:1923:TRP:CE3	2.55	0.41
1:Q:1098:LEU:HD21	1:Q:1137:VAL:HG11	2.02	0.41
1:A:1414:ALA:HB3	1:A:1752:VAL:HG21	2.02	0.41
1:D:892:ALA:CB	1:D:893:PRO:CD	2.99	0.41
1:G:1421:MET:HE3	1:G:1436:LEU:HD21	2.01	0.41
1:G:1493:PRO:HA	1:G:1494:GLY:HA2	1.86	0.41
1:I:1176:THR:HG21	1:I:1180:ASP:OD1	2.20	0.41
1:A:1493:PRO:HA	1:A:1494:GLY:HA2	1.84	0.41
1:J:1098:LEU:HD21	1:J:1137:VAL:HG11	2.03	0.41
1:J:1302:ARG:HG3	1:J:1868:VAL:HG11	2.01	0.41
1:A:1727:ILE:HD13	1:A:1727:ILE:N	2.36	0.41
1:A:1846:ARG:HA	1:A:1896:LEU:HA	2.02	0.41
1:F:1876:VAL:HB	1:F:1923:TRP:CE3	2.56	0.41
1:N:1159:LEU:CD2	1:N:1165:VAL:HG22	2.50	0.41
1:N:1635:VAL:HG22	1:N:1636:THR:H	1.85	0.41
1:R:1159:LEU:CD2	1:R:1165:VAL:HG22	2.49	0.41
1:B:1098:LEU:HD21	1:B:1137:VAL:HG11	2.03	0.41
1:B:1493:PRO:HA	1:B:1494:GLY:HA2	1.85	0.41
1:I:1098:LEU:HD21	1:I:1137:VAL:HG11	2.03	0.41
1:M:1032:LEU:HD13	1:P:1499:ARG:HD2	2.02	0.41
1:A:1872:TRP:NE1	1:A:1876:VAL:HG21	2.35	0.41
1:B:1755:PRO:O	1:B:1756:GLU:OE1	2.39	0.41
1:D:1098:LEU:HD21	1:D:1137:VAL:HG11	2.02	0.41
1:E:1424:VAL:HA	1:E:1480:LEU:HD12	2.02	0.41
1:F:1460:PHE:CD1	2:F:3001:NAP:H52A	2.56	0.41
1:H:1098:LEU:HD21	1:H:1137:VAL:HG11	2.02	0.41
1:H:1876:VAL:HB	1:H:1923:TRP:CE3	2.56	0.41
1:P:1386:GLU:HB3	1:P:1397:ALA:HB3	2.03	0.41
1:A:951:ALA:HB1	1:A:965:VAL:HG11	2.02	0.41
1:C:1508:SER:O	1:C:1509:ALA:HB3	2.21	0.41
1:Q:1424:VAL:HA	1:Q:1480:LEU:HD12	2.03	0.41
1:R:1508:SER:O	1:R:1509:ALA:HB3	2.21	0.41
1:B:1791:ARG:CZ	1:B:1819:VAL:HG21	2.51	0.41
1:G:1876:VAL:HB	1:G:1923:TRP:CE3	2.56	0.41
1:J:1193:LEU:HD21	1:J:2006:PHE:HZ	1.84	0.41
1:K:1872:TRP:NE1	1:K:1876:VAL:HG21	2.35	0.41
1:L:1683:LEU:H	2:L:3001:NAP:H72N	1.67	0.41
1:M:1872:TRP:NE1	1:M:1876:VAL:HG21	2.36	0.41
1:N:1098:LEU:HD21	1:N:1137:VAL:HG11	2.02	0.41
1:N:1193:LEU:HD21	1:N:2006:PHE:CZ	2.56	0.41
1:O:1493:PRO:HA	1:O:1494:GLY:HA2	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:P:1872:TRP:NE1	1:P:1876:VAL:HG21	2.36	0.41
1:Q:983:TRP:NE1	1:R:909:VAL:O	2.54	0.41
1:B:1460:PHE:CD1	2:B:3001:NAP:H52A	2.55	0.41
1:D:1434:MET:CE	1:D:1724:ALA:HA	2.51	0.41
1:F:1730:MET:CE	1:F:1739:LEU:HD22	2.51	0.41
1:O:1745:ASP:O	1:O:1746:THR:C	2.60	0.41
1:P:1876:VAL:HB	1:P:1923:TRP:CE3	2.56	0.41
1:D:1508:SER:O	1:D:1509:ALA:HB3	2.21	0.40
1:G:1764:ASP:C	1:G:1843:LEU:HD22	2.40	0.40
1:H:1508:SER:O	1:H:1509:ALA:HB3	2.21	0.40
2:K:3001:NAP:O1A	2:K:3001:NAP:H4B	2.19	0.40
1:N:1493:PRO:HA	1:N:1494:GLY:HA2	1.86	0.40
1:P:1122:PRO:HA	1:P:1174:LEU:HB3	2.02	0.40
1:P:1508:SER:O	1:P:1509:ALA:HB3	2.21	0.40
1:A:1160:ASP:HB3	1:A:1166:LEU:HD11	2.03	0.40
1:G:1098:LEU:HD21	1:G:1137:VAL:HG11	2.03	0.40
1:H:1400:CYS:HB3	1:H:2005:LEU:HD22	2.03	0.40
1:H:1597:GLN:CG	1:Q:1026:HIS:HA	2.50	0.40
1:J:1872:TRP:NE1	1:J:1876:VAL:HG21	2.37	0.40
1:K:1493:PRO:HA	1:K:1494:GLY:HA2	1.86	0.40
1:K:1660:ASP:OD1	1:K:1665:THR:HG21	2.22	0.40
1:N:1508:SER:O	1:N:1509:ALA:HB3	2.21	0.40
1:Q:908:VAL:HG13	1:R:920:GLN:CB	2.46	0.40
1:Q:1493:PRO:HA	1:Q:1494:GLY:HA2	1.85	0.40
1:R:1098:LEU:HD21	1:R:1137:VAL:HG11	2.02	0.40
1:B:1176:THR:O	1:B:1177:GLY:C	2.59	0.40
1:E:1508:SER:O	1:E:1509:ALA:HB3	2.22	0.40
1:G:1508:SER:O	1:G:1509:ALA:HB3	2.21	0.40
1:H:1423:LEU:HD12	1:H:1435:GLU:O	2.22	0.40
1:M:1666:ARG:HB3	1:N:1666:ARG:HB3	2.03	0.40
1:P:1098:LEU:HD21	1:P:1137:VAL:HG11	2.03	0.40
1:B:1531:ILE:HD11	1:B:1702:TYR:HB3	2.03	0.40
1:E:1876:VAL:HB	1:E:1923:TRP:CE3	2.56	0.40
1:F:1098:LEU:HD21	1:F:1137:VAL:HG11	2.02	0.40
1:P:1103:PHE:CD1	1:P:1172:LEU:HD22	2.57	0.40
1:P:1423:LEU:HD12	1:P:1435:GLU:O	2.21	0.40
1:P:1531:ILE:HD11	1:P:1702:TYR:HB3	2.03	0.40
1:A:907:HIS:NE2	1:A:917:HIS:ND1	2.69	0.40
1:E:1193:LEU:HD21	1:E:2006:PHE:HZ	1.85	0.40
1:I:1508:SER:O	1:I:1509:ALA:HB3	2.21	0.40
1:K:1726:ALA:HB1	1:K:1739:LEU:HD23	2.04	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1083:GLY:HA2	1:J:1264:ALA:HB1[1_565]	1.34	0.26

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1094/1140 (96%)	995 (91%)	79 (7%)	20 (2%)	8	42
1	B	1094/1140 (96%)	1002 (92%)	69 (6%)	23 (2%)	7	40
1	C	1094/1140 (96%)	1002 (92%)	73 (7%)	19 (2%)	9	43
1	D	1094/1140 (96%)	1001 (92%)	72 (7%)	21 (2%)	8	42
1	E	1081/1140 (95%)	993 (92%)	68 (6%)	20 (2%)	8	42
1	F	1085/1140 (95%)	995 (92%)	74 (7%)	16 (2%)	10	45
1	G	1080/1140 (95%)	990 (92%)	72 (7%)	18 (2%)	9	43
1	H	1091/1140 (96%)	996 (91%)	76 (7%)	19 (2%)	9	43
1	I	651/1140 (57%)	601 (92%)	39 (6%)	11 (2%)	9	43
1	J	1081/1140 (95%)	991 (92%)	68 (6%)	22 (2%)	7	41
1	K	1081/1140 (95%)	990 (92%)	71 (7%)	20 (2%)	8	42
1	L	891/1140 (78%)	815 (92%)	61 (7%)	15 (2%)	9	43
1	M	1081/1140 (95%)	995 (92%)	71 (7%)	15 (1%)	11	46
1	N	1081/1140 (95%)	982 (91%)	76 (7%)	23 (2%)	7	40
1	O	629/1140 (55%)	580 (92%)	37 (6%)	12 (2%)	8	42
1	P	1081/1140 (95%)	986 (91%)	72 (7%)	23 (2%)	7	40
1	Q	604/1140 (53%)	562 (93%)	35 (6%)	7 (1%)	13	49
1	R	633/1140 (56%)	582 (92%)	39 (6%)	12 (2%)	8	42
All	All	17526/20520 (85%)	16058 (92%)	1152 (7%)	316 (2%)	8	42

All (316) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1755	PRO
1	B	892	ALA
1	B	1179	SER
1	C	1755	PRO
1	D	892	ALA
1	D	1755	PRO
1	E	1755	PRO
1	F	1755	PRO
1	G	1755	PRO
1	H	1403	PRO
1	H	1755	PRO
1	J	1403	PRO
1	K	1746	THR
1	K	1755	PRO
1	M	1755	PRO
1	N	1747	GLY
1	N	1748	GLN
1	N	1755	PRO
1	O	1746	THR
1	P	1404	LEU
1	P	1540	GLY
1	P	1755	PRO
1	A	892	ALA
1	A	915	GLU
1	A	960	GLY
1	A	1115	ILE
1	A	1339	LEU
1	A	1509	ALA
1	A	1651	GLY
1	A	1915	GLY
1	B	1177	GLY
1	B	1419	GLU
1	B	1540	GLY
1	B	1606	HIS
1	B	1651	GLY
1	B	1760	VAL
1	B	1840	GLN
1	B	1915	GLY
1	B	1961	ALA
1	C	1540	GLY
1	C	1606	HIS
1	C	1651	GLY

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Mol	Chain	Res	Type
1	C	1840	GLN
1	C	1915	GLY
1	C	1961	ALA
1	D	1419	GLU
1	D	1540	GLY
1	D	1606	HIS
1	D	1651	GLY
1	D	1915	GLY
1	D	1961	ALA
1	E	1540	GLY
1	E	1606	HIS
1	E	1651	GLY
1	E	1915	GLY
1	E	1961	ALA
1	F	1540	GLY
1	F	1606	HIS
1	F	1651	GLY
1	F	1915	GLY
1	F	1961	ALA
1	G	1419	GLU
1	G	1540	GLY
1	G	1606	HIS
1	G	1651	GLY
1	G	1747	GLY
1	G	1915	GLY
1	G	1961	ALA
1	H	1540	GLY
1	H	1606	HIS
1	H	1651	GLY
1	H	1840	GLN
1	H	1915	GLY
1	H	1961	ALA
1	I	1540	GLY
1	I	1606	HIS
1	I	1651	GLY
1	J	1540	GLY
1	J	1606	HIS
1	J	1651	GLY
1	J	1746	THR
1	J	1755	PRO
1	J	1840	GLN
1	J	1915	GLY

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Mol	Chain	Res	Type
1	J	1961	ALA
1	K	1419	GLU
1	K	1540	GLY
1	K	1606	HIS
1	K	1651	GLY
1	K	1757	GLN
1	K	1840	GLN
1	K	1915	GLY
1	K	1961	ALA
1	L	1419	GLU
1	L	1540	GLY
1	L	1606	HIS
1	L	1651	GLY
1	L	1755	PRO
1	L	1840	GLN
1	L	1915	GLY
1	L	1961	ALA
1	M	1540	GLY
1	M	1606	HIS
1	M	1651	GLY
1	M	1840	GLN
1	M	1915	GLY
1	M	1961	ALA
1	N	1419	GLU
1	N	1540	GLY
1	N	1606	HIS
1	N	1651	GLY
1	N	1840	GLN
1	N	1915	GLY
1	N	1987	VAL
1	O	1540	GLY
1	O	1606	HIS
1	O	1651	GLY
1	O	1745	ASP
1	P	1419	GLU
1	P	1606	HIS
1	P	1651	GLY
1	P	1747	GLY
1	P	1840	GLN
1	P	1915	GLY
1	P	1961	ALA
1	P	1987	VAL

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Mol	Chain	Res	Type
1	Q	1540	GLY
1	Q	1606	HIS
1	Q	1651	GLY
1	R	1540	GLY
1	R	1606	HIS
1	R	1651	GLY
1	A	1419	GLU
1	A	1540	GLY
1	A	1606	HIS
1	A	1840	GLN
1	B	1509	ALA
1	B	1755	PRO
1	C	1746	THR
1	D	1401	PRO
1	D	1840	GLN
1	E	1840	GLN
1	F	1419	GLU
1	G	1339	LEU
1	G	1746	THR
1	G	1840	GLN
1	H	1205	PRO
1	I	1419	GLU
1	J	1419	GLU
1	J	1747	GLY
1	K	1339	LEU
1	M	1419	GLU
1	N	1401	PRO
1	O	1419	GLU
1	P	1403	PRO
1	P	1990	ALA
1	R	1750	GLN
1	A	1369	THR
1	A	1649	PHE
1	B	915	GLU
1	B	960	GLY
1	B	1090	ARG
1	B	1339	LEU
1	C	915	GLU
1	C	960	GLY
1	C	1509	ALA
1	D	915	GLU
1	D	960	GLY

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Mol	Chain	Res	Type
1	D	1090	ARG
1	D	1509	ALA
1	D	1760	VAL
1	E	960	GLY
1	E	1090	ARG
1	E	1509	ALA
1	E	1746	THR
1	F	915	GLU
1	F	960	GLY
1	F	1090	ARG
1	F	1509	ALA
1	G	915	GLU
1	G	960	GLY
1	G	1090	ARG
1	G	1509	ALA
1	H	1090	ARG
1	H	1509	ALA
1	I	915	GLU
1	I	960	GLY
1	I	1090	ARG
1	I	1509	ALA
1	I	1754	PRO
1	J	915	GLU
1	J	960	GLY
1	J	1090	ARG
1	J	1509	ALA
1	K	915	GLU
1	K	960	GLY
1	K	1090	ARG
1	K	1509	ALA
1	K	1760	VAL
1	L	1509	ALA
1	M	915	GLU
1	M	1090	ARG
1	M	1509	ALA
1	N	915	GLU
1	N	1090	ARG
1	N	1509	ALA
1	N	1746	THR
1	N	1961	ALA
1	O	915	GLU
1	O	960	GLY

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Mol	Chain	Res	Type
1	O	1090	ARG
1	O	1509	ALA
1	P	1090	ARG
1	P	1509	ALA
1	Q	915	GLU
1	Q	960	GLY
1	Q	1090	ARG
1	R	915	GLU
1	R	1090	ARG
1	R	1509	ALA
1	R	1748	GLN
1	A	1370	ALA
1	B	1115	ILE
1	B	1369	THR
1	B	1791	ARG
1	C	1115	ILE
1	C	1339	LEU
1	C	1369	THR
1	C	1403	PRO
1	D	1115	ILE
1	D	1339	LEU
1	D	1369	THR
1	D	1406	ALA
1	D	1791	ARG
1	E	915	GLU
1	E	1115	ILE
1	E	1339	LEU
1	E	1369	THR
1	E	1791	ARG
1	F	1115	ILE
1	F	1339	LEU
1	F	1369	THR
1	F	1791	ARG
1	G	1115	ILE
1	H	915	GLU
1	H	960	GLY
1	H	1115	ILE
1	H	1212	ASP
1	H	1339	LEU
1	H	1369	THR
1	I	1115	ILE
1	J	1115	ILE

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Mol	Chain	Res	Type
1	J	1204	ARG
1	J	1339	LEU
1	J	1369	THR
1	K	1115	ILE
1	K	1369	THR
1	K	1745	ASP
1	L	915	GLU
1	L	1115	ILE
1	L	1746	THR
1	M	960	GLY
1	M	1115	ILE
1	M	1369	THR
1	N	960	GLY
1	N	1115	ILE
1	N	1339	LEU
1	N	1369	THR
1	N	1402	SER
1	O	1115	ILE
1	O	1755	PRO
1	P	915	GLU
1	P	960	GLY
1	P	1115	ILE
1	P	1339	LEU
1	P	1369	THR
1	Q	1115	ILE
1	R	960	GLY
1	R	1756	GLU
1	R	1758	VAL
1	A	1508	SER
1	B	1204	ARG
1	C	1511	GLY
1	E	1760	VAL
1	G	1369	THR
1	I	1177	GLY
1	J	1203	PRO
1	J	1760	VAL
1	L	960	GLY
1	L	1403	PRO
1	P	1760	VAL
1	R	1115	ILE
1	C	1760	VAL
1	E	1403	PRO

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Mol	Chain	Res	Type
1	E	1511	GLY
1	F	1760	VAL
1	G	1760	VAL
1	M	1760	VAL
1	A	1511	GLY
1	C	1204	ARG
1	D	1204	ARG
1	E	1204	ARG
1	H	1203	PRO
1	K	1204	ARG
1	P	1204	ARG
1	B	1759	PRO
1	C	1983	GLY
1	L	1747	GLY
1	N	1403	PRO
1	N	1760	VAL
1	A	1204	ARG
1	A	1713	PRO
1	B	1511	GLY
1	H	1760	VAL
1	J	1511	GLY
1	P	1511	GLY

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	836/863 (97%)	802 (96%)	34 (4%)	30	59
1	B	836/863 (97%)	808 (97%)	28 (3%)	38	64
1	C	836/863 (97%)	811 (97%)	25 (3%)	41	66
1	D	836/863 (97%)	809 (97%)	27 (3%)	39	65
1	E	825/863 (96%)	802 (97%)	23 (3%)	43	68
1	F	828/863 (96%)	801 (97%)	27 (3%)	38	64
1	G	824/863 (96%)	802 (97%)	22 (3%)	44	69

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	H	831/863 (96%)	809 (97%)	22 (3%)	46 70
1	I	503/863 (58%)	487 (97%)	16 (3%)	39 65
1	J	825/863 (96%)	795 (96%)	30 (4%)	35 63
1	K	825/863 (96%)	800 (97%)	25 (3%)	41 66
1	L	674/863 (78%)	653 (97%)	21 (3%)	40 65
1	M	825/863 (96%)	803 (97%)	22 (3%)	44 69
1	N	825/863 (96%)	795 (96%)	30 (4%)	35 63
1	O	483/863 (56%)	467 (97%)	16 (3%)	38 64
1	P	825/863 (96%)	796 (96%)	29 (4%)	36 63
1	Q	464/863 (54%)	452 (97%)	12 (3%)	46 70
1	R	490/863 (57%)	478 (98%)	12 (2%)	49 71
All	All	13391/15534 (86%)	12970 (97%)	421 (3%)	40 65

All (421) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	956	THR
1	A	961	ASP
1	A	969	LYS
1	A	977	ASP
1	A	985	SER
1	A	1003	SER
1	A	1005	ASP
1	A	1064	GLU
1	A	1105	SER
1	A	1138	ARG
1	A	1174	LEU
1	A	1271	LEU
1	A	1331	VAL
1	A	1385	ASP
1	A	1410	ARG
1	A	1479	GLU
1	A	1522	ASP
1	A	1552	GLU
1	A	1578	VAL
1	A	1604	ILE
1	A	1610	SER
1	A	1613	THR

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Mol	Chain	Res	Type
1	A	1640	GLN
1	A	1647	LEU
1	A	1659	ARG
1	A	1673	ARG
1	A	1712	LEU
1	A	1750	GLN
1	A	1796	SER
1	A	1876	VAL
1	A	1940	SER
1	A	1979	ARG
1	A	2006	PHE
1	A	2007	LEU
1	B	961	ASP
1	B	1022	ARG
1	B	1105	SER
1	B	1142	SER
1	B	1271	LEU
1	B	1302	ARG
1	B	1331	VAL
1	B	1345	ARG
1	B	1385	ASP
1	B	1393	GLN
1	B	1402	SER
1	B	1433	SER
1	B	1441	ARG
1	B	1510	ASN
1	B	1519	CYS
1	B	1522	ASP
1	B	1578	VAL
1	B	1593	GLU
1	B	1604	ILE
1	B	1647	LEU
1	B	1673	ARG
1	B	1745	ASP
1	B	1753	VAL
1	B	1757	GLN
1	B	1791	ARG
1	B	1825	ILE
1	B	1876	VAL
1	B	2007	LEU
1	C	883	MET
1	C	961	ASP

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Mol	Chain	Res	Type
1	C	1022	ARG
1	C	1086	ARG
1	C	1105	SER
1	C	1128	LEU
1	C	1271	LEU
1	C	1302	ARG
1	C	1331	VAL
1	C	1345	ARG
1	C	1385	ASP
1	C	1437	VAL
1	C	1438	THR
1	C	1441	ARG
1	C	1510	ASN
1	C	1578	VAL
1	C	1593	GLU
1	C	1604	ILE
1	C	1647	LEU
1	C	1666	ARG
1	C	1673	ARG
1	C	1712	LEU
1	C	1825	ILE
1	C	1876	VAL
1	C	2007	LEU
1	D	883	MET
1	D	888	LEU
1	D	961	ASP
1	D	1022	ARG
1	D	1105	SER
1	D	1128	LEU
1	D	1271	LEU
1	D	1302	ARG
1	D	1331	VAL
1	D	1345	ARG
1	D	1385	ASP
1	D	1393	GLN
1	D	1399	LEU
1	D	1400	CYS
1	D	1438	THR
1	D	1510	ASN
1	D	1522	ASP
1	D	1578	VAL
1	D	1593	GLU

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Mol	Chain	Res	Type
1	D	1604	ILE
1	D	1647	LEU
1	D	1673	ARG
1	D	1712	LEU
1	D	1825	ILE
1	D	1876	VAL
1	D	1976	ARG
1	D	2007	LEU
1	E	961	ASP
1	E	1022	ARG
1	E	1105	SER
1	E	1142	SER
1	E	1271	LEU
1	E	1302	ARG
1	E	1331	VAL
1	E	1345	ARG
1	E	1385	ASP
1	E	1393	GLN
1	E	1398	ARG
1	E	1399	LEU
1	E	1510	ASN
1	E	1578	VAL
1	E	1593	GLU
1	E	1604	ILE
1	E	1647	LEU
1	E	1673	ARG
1	E	1712	LEU
1	E	1742	ASP
1	E	1825	ILE
1	E	1876	VAL
1	E	2007	LEU
1	F	961	ASP
1	F	977	ASP
1	F	1022	ARG
1	F	1105	SER
1	F	1128	LEU
1	F	1142	SER
1	F	1170	MET
1	F	1271	LEU
1	F	1302	ARG
1	F	1331	VAL
1	F	1345	ARG

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Mol	Chain	Res	Type
1	F	1385	ASP
1	F	1393	GLN
1	F	1398	ARG
1	F	1438	THR
1	F	1510	ASN
1	F	1522	ASP
1	F	1578	VAL
1	F	1593	GLU
1	F	1604	ILE
1	F	1647	LEU
1	F	1673	ARG
1	F	1712	LEU
1	F	1748	GLN
1	F	1825	ILE
1	F	1876	VAL
1	F	2007	LEU
1	G	961	ASP
1	G	1022	ARG
1	G	1105	SER
1	G	1128	LEU
1	G	1271	LEU
1	G	1302	ARG
1	G	1331	VAL
1	G	1345	ARG
1	G	1385	ASP
1	G	1438	THR
1	G	1510	ASN
1	G	1522	ASP
1	G	1578	VAL
1	G	1593	GLU
1	G	1604	ILE
1	G	1647	LEU
1	G	1673	ARG
1	G	1712	LEU
1	G	1825	ILE
1	G	1833	ARG
1	G	1876	VAL
1	G	2007	LEU
1	H	961	ASP
1	H	977	ASP
1	H	1022	ARG
1	H	1105	SER

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Mol	Chain	Res	Type
1	H	1128	LEU
1	H	1271	LEU
1	H	1302	ARG
1	H	1331	VAL
1	H	1345	ARG
1	H	1385	ASP
1	H	1400	CYS
1	H	1438	THR
1	H	1510	ASN
1	H	1519	CYS
1	H	1578	VAL
1	H	1593	GLU
1	H	1604	ILE
1	H	1647	LEU
1	H	1673	ARG
1	H	1825	ILE
1	H	1876	VAL
1	H	2007	LEU
1	I	961	ASP
1	I	1022	ARG
1	I	1105	SER
1	I	1128	LEU
1	I	1142	SER
1	I	1438	THR
1	I	1510	ASN
1	I	1522	ASP
1	I	1578	VAL
1	I	1593	GLU
1	I	1604	ILE
1	I	1647	LEU
1	I	1673	ARG
1	I	1712	LEU
1	I	1746	THR
1	I	1750	GLN
1	J	961	ASP
1	J	977	ASP
1	J	1006	ARG
1	J	1022	ARG
1	J	1105	SER
1	J	1128	LEU
1	J	1271	LEU
1	J	1302	ARG

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Mol	Chain	Res	Type
1	J	1331	VAL
1	J	1345	ARG
1	J	1385	ASP
1	J	1393	GLN
1	J	1400	CYS
1	J	1405	ARG
1	J	1409	ARG
1	J	1427	ASN
1	J	1510	ASN
1	J	1522	ASP
1	J	1525	THR
1	J	1578	VAL
1	J	1593	GLU
1	J	1604	ILE
1	J	1647	LEU
1	J	1673	ARG
1	J	1712	LEU
1	J	1741	ILE
1	J	1749	SER
1	J	1825	ILE
1	J	1876	VAL
1	J	2007	LEU
1	K	961	ASP
1	K	977	ASP
1	K	1022	ARG
1	K	1105	SER
1	K	1142	SER
1	K	1174	LEU
1	K	1271	LEU
1	K	1302	ARG
1	K	1331	VAL
1	K	1345	ARG
1	K	1385	ASP
1	K	1393	GLN
1	K	1398	ARG
1	K	1399	LEU
1	K	1402	SER
1	K	1510	ASN
1	K	1578	VAL
1	K	1593	GLU
1	K	1604	ILE
1	K	1647	LEU

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Mol	Chain	Res	Type
1	K	1673	ARG
1	K	1825	ILE
1	K	1876	VAL
1	K	1982	ASN
1	K	2007	LEU
1	L	961	ASP
1	L	977	ASP
1	L	1022	ARG
1	L	1105	SER
1	L	1142	SER
1	L	1409	ARG
1	L	1435	GLU
1	L	1436	LEU
1	L	1510	ASN
1	L	1522	ASP
1	L	1525	THR
1	L	1578	VAL
1	L	1593	GLU
1	L	1604	ILE
1	L	1647	LEU
1	L	1673	ARG
1	L	1712	LEU
1	L	1741	ILE
1	L	1825	ILE
1	L	1876	VAL
1	L	2007	LEU
1	M	961	ASP
1	M	977	ASP
1	M	1022	ARG
1	M	1105	SER
1	M	1128	LEU
1	M	1142	SER
1	M	1271	LEU
1	M	1302	ARG
1	M	1331	VAL
1	M	1345	ARG
1	M	1385	ASP
1	M	1393	GLN
1	M	1510	ASN
1	M	1522	ASP
1	M	1578	VAL
1	M	1593	GLU

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Mol	Chain	Res	Type
1	M	1604	ILE
1	M	1647	LEU
1	M	1673	ARG
1	M	1825	ILE
1	M	1876	VAL
1	M	2007	LEU
1	N	961	ASP
1	N	1022	ARG
1	N	1105	SER
1	N	1128	LEU
1	N	1142	SER
1	N	1174	LEU
1	N	1190	GLU
1	N	1192	LEU
1	N	1194	THR
1	N	1271	LEU
1	N	1302	ARG
1	N	1331	VAL
1	N	1345	ARG
1	N	1385	ASP
1	N	1399	LEU
1	N	1400	CYS
1	N	1409	ARG
1	N	1438	THR
1	N	1510	ASN
1	N	1522	ASP
1	N	1578	VAL
1	N	1593	GLU
1	N	1604	ILE
1	N	1647	LEU
1	N	1673	ARG
1	N	1712	LEU
1	N	1742	ASP
1	N	1825	ILE
1	N	1876	VAL
1	N	2007	LEU
1	O	961	ASP
1	O	977	ASP
1	O	1022	ARG
1	O	1105	SER
1	O	1128	LEU
1	O	1142	SER

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Mol	Chain	Res	Type
1	O	1411	THR
1	O	1510	ASN
1	O	1522	ASP
1	O	1578	VAL
1	O	1593	GLU
1	O	1604	ILE
1	O	1647	LEU
1	O	1673	ARG
1	O	1712	LEU
1	O	1748	GLN
1	P	961	ASP
1	P	1022	ARG
1	P	1105	SER
1	P	1128	LEU
1	P	1142	SER
1	P	1173	GLN
1	P	1174	LEU
1	P	1271	LEU
1	P	1302	ARG
1	P	1331	VAL
1	P	1345	ARG
1	P	1385	ASP
1	P	1393	GLN
1	P	1400	CYS
1	P	1510	ASN
1	P	1522	ASP
1	P	1578	VAL
1	P	1593	GLU
1	P	1604	ILE
1	P	1647	LEU
1	P	1673	ARG
1	P	1712	LEU
1	P	1716	THR
1	P	1825	ILE
1	P	1876	VAL
1	P	1976	ARG
1	P	1994	THR
1	P	2006	PHE
1	P	2007	LEU
1	Q	961	ASP
1	Q	1022	ARG
1	Q	1105	SER

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Mol	Chain	Res	Type
1	Q	1128	LEU
1	Q	1142	SER
1	Q	1510	ASN
1	Q	1578	VAL
1	Q	1593	GLU
1	Q	1604	ILE
1	Q	1647	LEU
1	Q	1673	ARG
1	Q	1712	LEU
1	R	961	ASP
1	R	1022	ARG
1	R	1105	SER
1	R	1128	LEU
1	R	1510	ASN
1	R	1533	GLU
1	R	1578	VAL
1	R	1593	GLU
1	R	1604	ILE
1	R	1647	LEU
1	R	1673	ARG
1	R	1712	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (27) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	1416	ASN
1	B	1633	ASN
1	C	1459	ASN
1	C	1633	ASN
1	D	1459	ASN
1	D	1633	ASN
1	E	1633	ASN
1	F	1459	ASN
1	F	1633	ASN
1	G	1459	ASN
1	G	1633	ASN
1	H	1459	ASN
1	H	1597	GLN
1	H	1633	ASN
1	I	1633	ASN
1	J	1459	ASN
1	J	1633	ASN

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Mol	Chain	Res	Type
1	K	1459	ASN
1	K	1633	ASN
1	K	1735	HIS
1	L	1633	ASN
1	M	1633	ASN
1	N	1459	ASN
1	O	1633	ASN
1	P	1633	ASN
1	Q	1633	ASN
1	R	1633	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

30 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	NAP	C	3002	-	27,33,52	0.78	0	35,52,80	1.06	3 (8%)
2	NAP	A	3001	-	45,52,52	1.04	1 (2%)	56,80,80	1.05	3 (5%)
2	NAP	K	3001	-	45,52,52	1.52	3 (6%)	56,80,80	1.03	4 (7%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	NAP	P	3002	-	25,29,52	0.78	0	31,45,80	1.29	5 (16%)
2	NAP	F	3002	-	25,29,52	0.76	0	31,45,80	1.24	4 (12%)
2	NAP	F	3001	-	45,52,52	1.15	3 (6%)	56,80,80	1.02	4 (7%)
2	NAP	Q	3001	-	45,52,52	0.98	2 (4%)	56,80,80	0.86	3 (5%)
2	NAP	D	3001	-	45,52,52	0.93	2 (4%)	56,80,80	1.11	2 (3%)
2	NAP	D	3002	-	25,29,52	0.77	0	31,45,80	1.26	5 (16%)
2	NAP	M	3002	-	25,29,52	0.94	1 (4%)	31,45,80	1.14	3 (9%)
2	NAP	G	3002	-	25,29,52	0.71	0	31,45,80	1.24	3 (9%)
2	NAP	R	3001	-	45,52,52	0.76	1 (2%)	56,80,80	0.91	2 (3%)
2	NAP	N	3002	-	25,29,52	0.91	1 (4%)	31,45,80	1.43	3 (9%)
2	NAP	B	3002	-	25,29,52	0.85	0	31,45,80	1.36	3 (9%)
2	NAP	O	3001	-	45,52,52	1.01	3 (6%)	56,80,80	0.87	1 (1%)
2	NAP	J	3002	-	25,29,52	0.82	0	31,45,80	1.20	3 (9%)
2	NAP	N	3001	-	45,52,52	0.98	2 (4%)	56,80,80	0.93	3 (5%)
2	NAP	J	3001	-	45,52,52	0.85	2 (4%)	56,80,80	0.98	4 (7%)
2	NAP	K	3002	-	25,29,52	0.68	0	31,45,80	1.31	5 (16%)
2	NAP	P	3001	-	45,52,52	0.94	2 (4%)	56,80,80	1.07	3 (5%)
2	NAP	G	3001	-	45,52,52	0.91	1 (2%)	56,80,80	0.84	2 (3%)
2	NAP	H	3002	-	25,29,52	0.77	0	31,45,80	1.21	6 (19%)
2	NAP	H	3001	-	45,52,52	0.80	1 (2%)	56,80,80	0.85	2 (3%)
2	NAP	C	3001	-	45,52,52	0.84	2 (4%)	56,80,80	0.93	3 (5%)
2	NAP	B	3001	-	45,52,52	0.96	3 (6%)	56,80,80	0.99	3 (5%)
2	NAP	E	3001	-	45,52,52	0.95	3 (6%)	56,80,80	0.79	1 (1%)
2	NAP	M	3001	-	45,52,52	0.97	3 (6%)	56,80,80	0.86	2 (3%)
2	NAP	A	3002	-	25,29,52	0.74	0	31,45,80	1.14	2 (6%)
2	NAP	I	3001	-	45,52,52	0.89	1 (2%)	56,80,80	0.92	3 (5%)
2	NAP	L	3001	-	45,52,52	0.95	2 (4%)	56,80,80	0.87	2 (3%)

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	NAP	C	3002	-	-	5/17/37/67	0/3/3/5
2	NAP	A	3001	-	-	12/31/67/67	0/5/5/5

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAP	K	3001	-	-	12/31/67/67	0/5/5/5
2	NAP	P	3002	-	-	5/11/31/67	0/3/3/5
2	NAP	F	3002	-	-	6/11/31/67	0/3/3/5
2	NAP	F	3001	-	-	11/31/67/67	0/5/5/5
2	NAP	Q	3001	-	-	6/31/67/67	0/5/5/5
2	NAP	D	3001	-	-	10/31/67/67	0/5/5/5
2	NAP	D	3002	-	-	6/11/31/67	0/3/3/5
2	NAP	M	3002	-	-	4/11/31/67	0/3/3/5
2	NAP	G	3002	-	-	4/11/31/67	0/3/3/5
2	NAP	R	3001	-	-	10/31/67/67	0/5/5/5
2	NAP	N	3002	-	-	5/11/31/67	0/3/3/5
2	NAP	B	3002	-	-	5/11/31/67	0/3/3/5
2	NAP	O	3001	-	-	11/31/67/67	0/5/5/5
2	NAP	J	3002	-	-	5/11/31/67	0/3/3/5
2	NAP	N	3001	-	-	8/31/67/67	0/5/5/5
2	NAP	J	3001	-	-	4/31/67/67	0/5/5/5
2	NAP	K	3002	-	-	5/11/31/67	0/3/3/5
2	NAP	P	3001	-	-	5/31/67/67	0/5/5/5
2	NAP	G	3001	-	-	7/31/67/67	0/5/5/5
2	NAP	H	3002	-	-	5/11/31/67	0/3/3/5
2	NAP	H	3001	-	-	8/31/67/67	0/5/5/5
2	NAP	C	3001	-	-	8/31/67/67	0/5/5/5
2	NAP	B	3001	-	-	9/31/67/67	0/5/5/5
2	NAP	E	3001	-	-	10/31/67/67	0/5/5/5
2	NAP	M	3001	-	-	8/31/67/67	0/5/5/5
2	NAP	A	3002	-	-	4/11/31/67	0/3/3/5
2	NAP	I	3001	-	-	11/31/67/67	0/5/5/5
2	NAP	L	3001	-	-	7/31/67/67	0/5/5/5

All (39) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	K	3001	NAP	C2N-N1N	8.07	1.44	1.35
2	F	3001	NAP	C2N-N1N	5.28	1.41	1.35
2	Q	3001	NAP	C2N-N1N	4.89	1.40	1.35
2	A	3001	NAP	C2N-N1N	4.69	1.40	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	G	3001	NAP	C2N-N1N	4.58	1.40	1.35
2	D	3001	NAP	C2N-N1N	4.34	1.40	1.35
2	N	3001	NAP	C2N-N1N	4.28	1.40	1.35
2	E	3001	NAP	C2N-N1N	4.13	1.40	1.35
2	I	3001	NAP	C2N-N1N	3.97	1.39	1.35
2	P	3001	NAP	C2N-N1N	3.92	1.39	1.35
2	L	3001	NAP	P2B-O1X	3.78	1.62	1.50
2	O	3001	NAP	P2B-O1X	3.71	1.62	1.50
2	J	3001	NAP	C2N-N1N	3.68	1.39	1.35
2	R	3001	NAP	C2N-N1N	3.41	1.39	1.35
2	K	3001	NAP	C2D-C1D	3.27	1.58	1.53
2	K	3001	NAP	O7N-C7N	-3.14	1.18	1.24
2	B	3001	NAP	C2N-N1N	3.14	1.38	1.35
2	M	3001	NAP	C2N-N1N	3.11	1.38	1.35
2	N	3002	NAP	PA-O1A	3.07	1.60	1.50
2	O	3001	NAP	C2N-N1N	3.06	1.38	1.35
2	M	3002	NAP	PA-O1A	3.06	1.60	1.50
2	H	3001	NAP	C2N-N1N	3.04	1.38	1.35
2	B	3001	NAP	O4D-C1D	-3.00	1.36	1.41
2	M	3001	NAP	C7N-N7N	-2.95	1.27	1.33
2	N	3001	NAP	O4D-C1D	-2.91	1.37	1.41
2	F	3001	NAP	C3N-C7N	2.78	1.54	1.50
2	M	3001	NAP	O4D-C1D	-2.73	1.37	1.41
2	C	3001	NAP	C2N-N1N	2.70	1.38	1.35
2	L	3001	NAP	C2N-N1N	2.58	1.38	1.35
2	J	3001	NAP	C2D-C1D	2.48	1.57	1.53
2	C	3001	NAP	C2D-C1D	2.42	1.57	1.53
2	F	3001	NAP	C2D-C1D	2.42	1.57	1.53
2	E	3001	NAP	P2B-O1X	-2.31	1.43	1.50
2	P	3001	NAP	P2B-O1X	2.25	1.57	1.50
2	Q	3001	NAP	C8A-N7A	-2.08	1.31	1.34
2	E	3001	NAP	C2D-C1D	2.07	1.56	1.53
2	B	3001	NAP	C2D-C1D	2.06	1.56	1.53
2	D	3001	NAP	C2D-C1D	2.05	1.56	1.53
2	O	3001	NAP	C7N-N7N	-2.04	1.29	1.33

All (92) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	F	3001	NAP	O4D-C1D-C2D	-5.01	99.60	106.93
2	A	3001	NAP	O4D-C1D-C2D	-4.39	100.51	106.93
2	P	3001	NAP	O4D-C1D-C2D	-4.37	100.54	106.93

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	N	3002	NAP	O2B-P2B-O1X	-4.34	92.64	109.39
2	R	3001	NAP	O4D-C1D-C2D	-4.27	100.68	106.93
2	I	3001	NAP	O4D-C1D-C2D	-4.21	100.77	106.93
2	N	3001	NAP	O4D-C1D-C2D	-4.18	100.82	106.93
2	D	3001	NAP	O4D-C1D-C2D	-4.13	100.90	106.93
2	B	3002	NAP	O5B-PA-O1A	-3.80	95.83	106.47
2	K	3001	NAP	O2A-PA-O5B	-3.75	90.31	107.75
2	P	3002	NAP	O2B-P2B-O1X	-3.54	95.72	109.39
2	P	3001	NAP	PN-O3-PA	-3.01	122.50	132.83
2	K	3002	NAP	O2A-PA-O5B	-3.00	98.75	106.73
2	Q	3001	NAP	C3D-C2D-C1D	3.00	105.49	100.98
2	C	3001	NAP	O4D-C1D-C2D	-2.98	102.58	106.93
2	J	3001	NAP	O4D-C1D-C2D	-2.97	102.59	106.93
2	H	3001	NAP	O4D-C1D-C2D	-2.91	102.68	106.93
2	J	3002	NAP	O3-PA-O5B	-2.90	99.01	106.73
2	J	3001	NAP	C3D-C2D-C1D	-2.77	96.80	100.98
2	H	3002	NAP	O5B-PA-O1A	-2.77	98.70	106.47
2	B	3001	NAP	O4D-C1D-C2D	-2.75	102.91	106.93
2	F	3002	NAP	O3-PA-O5B	-2.72	99.51	106.73
2	A	3001	NAP	C3D-C2D-C1D	-2.66	96.98	100.98
2	B	3002	NAP	O3-PA-O5B	-2.61	99.77	106.73
2	L	3001	NAP	O2A-PA-O5B	-2.60	95.66	107.75
2	G	3001	NAP	O4D-C1D-C2D	-2.59	103.14	106.93
2	G	3002	NAP	PA-O5B-C5B	2.58	125.40	118.30
2	D	3002	NAP	O2X-P2B-O2B	-2.58	94.45	105.99
2	D	3002	NAP	O3-PA-O2A	2.57	117.45	107.64
2	L	3001	NAP	C5A-C6A-N6A	2.54	124.21	120.35
2	A	3002	NAP	O3-PA-O5B	-2.53	100.00	106.73
2	C	3001	NAP	C5A-C6A-N6A	2.46	124.09	120.35
2	A	3001	NAP	C5A-C6A-N6A	2.45	124.08	120.35
2	M	3002	NAP	PA-O5B-C5B	2.42	124.97	118.30
2	N	3002	NAP	PA-O5B-C5B	2.41	124.92	118.30
2	I	3001	NAP	C3D-C2D-C1D	-2.40	97.36	100.98
2	G	3002	NAP	O2X-P2B-O2B	-2.38	95.31	105.99
2	K	3002	NAP	O2X-P2B-O2B	-2.38	95.31	105.99
2	B	3001	NAP	C5A-C6A-N6A	2.37	123.96	120.35
2	D	3002	NAP	O3-PA-O5B	-2.37	100.41	106.73
2	N	3001	NAP	C5A-C6A-N6A	2.37	123.95	120.35
2	D	3002	NAP	C5A-C6A-N6A	2.36	123.94	120.35
2	O	3001	NAP	C5A-C6A-N6A	2.35	123.92	120.35
2	M	3002	NAP	O2B-P2B-O1X	-2.35	100.33	109.39
2	M	3001	NAP	C5A-C6A-N6A	2.35	123.92	120.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	K	3002	NAP	O3-PA-O5B	-2.34	100.49	106.73
2	J	3001	NAP	C5A-C6A-N6A	2.34	123.90	120.35
2	A	3002	NAP	C5A-C6A-N6A	2.33	123.89	120.35
2	D	3001	NAP	C5A-C6A-N6A	2.33	123.89	120.35
2	N	3001	NAP	O3X-P2B-O2B	-2.29	95.72	105.99
2	F	3002	NAP	O2X-P2B-O2B	-2.28	95.78	105.99
2	R	3001	NAP	C5A-C6A-N6A	2.27	123.80	120.35
2	M	3002	NAP	C5A-C6A-N6A	2.27	123.80	120.35
2	H	3002	NAP	PA-O5B-C5B	2.26	124.53	118.30
2	H	3002	NAP	O3-PA-O2A	2.26	116.28	107.64
2	E	3001	NAP	C5A-C6A-N6A	2.25	123.78	120.35
2	K	3001	NAP	C5A-C6A-N6A	2.25	123.77	120.35
2	D	3002	NAP	PA-O5B-C5B	2.24	124.47	118.30
2	C	3002	NAP	O2X-P2B-O2B	-2.23	96.01	105.99
2	P	3002	NAP	O3-PA-O5B	-2.22	100.83	106.73
2	B	3002	NAP	O3-PA-O2A	2.21	116.09	107.64
2	H	3002	NAP	O2A-PA-O5B	2.21	112.60	106.73
2	Q	3001	NAP	C5A-C6A-N6A	2.20	123.70	120.35
2	C	3002	NAP	PA-O3-PN	2.20	140.38	132.83
2	G	3001	NAP	C5A-C6A-N6A	2.20	123.70	120.35
2	F	3002	NAP	C5A-C6A-N6A	2.18	123.67	120.35
2	F	3001	NAP	C5A-C6A-N6A	2.18	123.66	120.35
2	H	3002	NAP	C5A-C6A-N6A	2.17	123.66	120.35
2	J	3002	NAP	C5A-C6A-N6A	2.17	123.64	120.35
2	H	3001	NAP	C5A-C6A-N6A	2.16	123.64	120.35
2	M	3001	NAP	O4D-C1D-C2D	-2.16	103.77	106.93
2	F	3002	NAP	O2A-PA-O5B	-2.16	100.99	106.73
2	F	3001	NAP	C3D-C2D-C1D	2.16	104.23	100.98
2	F	3001	NAP	C6N-N1N-C2N	-2.15	120.01	121.97
2	P	3002	NAP	O3-PA-O2A	2.14	115.82	107.64
2	P	3002	NAP	C5A-C6A-N6A	2.13	123.58	120.35
2	P	3001	NAP	C3D-C2D-C1D	-2.12	97.78	100.98
2	C	3001	NAP	C3D-C2D-C1D	-2.11	97.80	100.98
2	J	3001	NAP	O2D-C2D-C3D	2.11	118.64	111.82
2	K	3001	NAP	C3D-C2D-C1D	-2.10	97.82	100.98
2	N	3002	NAP	O3-PA-O2A	2.09	115.64	107.64
2	C	3002	NAP	O2N-PN-O1N	2.09	118.86	110.68
2	G	3002	NAP	C5A-C6A-N6A	2.08	123.52	120.35
2	I	3001	NAP	C5A-C6A-N6A	2.08	123.52	120.35
2	K	3002	NAP	O3X-P2B-O2X	2.07	115.53	107.64
2	K	3001	NAP	O3X-P2B-O2B	-2.05	96.81	105.99
2	H	3002	NAP	O2X-P2B-O2B	-2.04	96.85	105.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	J	3002	NAP	O2X-P2B-O2B	-2.03	96.89	105.99
2	K	3002	NAP	PA-O5B-C5B	2.03	123.88	118.30
2	Q	3001	NAP	C6N-N1N-C2N	-2.01	120.14	121.97
2	B	3001	NAP	O3D-C3D-C2D	2.01	118.33	111.82
2	P	3002	NAP	PA-O5B-C5B	2.00	123.81	118.30

There are no chirality outliers.

All (216) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	3001	NAP	C5B-O5B-PA-O2A
2	A	3001	NAP	C5B-O5B-PA-O3
2	A	3001	NAP	C3B-C4B-C5B-O5B
2	A	3001	NAP	C5D-O5D-PN-O3
2	A	3001	NAP	C5D-O5D-PN-O1N
2	A	3001	NAP	C5D-O5D-PN-O2N
2	A	3001	NAP	O4D-C1D-N1N-C6N
2	A	3002	NAP	C5B-O5B-PA-O1A
2	A	3002	NAP	C5B-O5B-PA-O2A
2	A	3002	NAP	C5B-O5B-PA-O3
2	B	3001	NAP	C4B-C5B-O5B-PA
2	B	3001	NAP	C3B-C4B-C5B-O5B
2	B	3001	NAP	C5D-O5D-PN-O3
2	B	3001	NAP	C5D-O5D-PN-O1N
2	B	3001	NAP	C5D-O5D-PN-O2N
2	B	3002	NAP	C5B-O5B-PA-O1A
2	B	3002	NAP	C5B-O5B-PA-O2A
2	B	3002	NAP	C5B-O5B-PA-O3
2	C	3001	NAP	C3B-C4B-C5B-O5B
2	C	3001	NAP	C2B-O2B-P2B-O1X
2	C	3001	NAP	C5D-O5D-PN-O3
2	C	3001	NAP	C5D-O5D-PN-O1N
2	C	3001	NAP	C5D-O5D-PN-O2N
2	C	3002	NAP	C5B-O5B-PA-O1A
2	C	3002	NAP	C5B-O5B-PA-O2A
2	D	3001	NAP	C5B-O5B-PA-O2A
2	D	3001	NAP	C4B-C5B-O5B-PA
2	D	3001	NAP	C3B-C4B-C5B-O5B
2	D	3001	NAP	C2B-O2B-P2B-O1X
2	D	3001	NAP	C5D-O5D-PN-O3
2	D	3001	NAP	C5D-O5D-PN-O1N
2	D	3001	NAP	C5D-O5D-PN-O2N

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Mol	Chain	Res	Type	Atoms
2	D	3002	NAP	C5B-O5B-PA-O1A
2	D	3002	NAP	C5B-O5B-PA-O2A
2	D	3002	NAP	C5B-O5B-PA-O3
2	E	3001	NAP	PA-O3-PN-O5D
2	F	3001	NAP	C3B-C4B-C5B-O5B
2	F	3001	NAP	C2B-O2B-P2B-O1X
2	F	3001	NAP	C5D-O5D-PN-O3
2	F	3001	NAP	C5D-O5D-PN-O1N
2	F	3001	NAP	C5D-O5D-PN-O2N
2	F	3002	NAP	C5B-O5B-PA-O1A
2	F	3002	NAP	C5B-O5B-PA-O2A
2	F	3002	NAP	C5B-O5B-PA-O3
2	G	3001	NAP	C3B-C4B-C5B-O5B
2	G	3001	NAP	C2B-O2B-P2B-O1X
2	G	3001	NAP	C5D-O5D-PN-O3
2	G	3001	NAP	C5D-O5D-PN-O1N
2	G	3001	NAP	C5D-O5D-PN-O2N
2	G	3002	NAP	C5B-O5B-PA-O2A
2	G	3002	NAP	C5B-O5B-PA-O3
2	G	3002	NAP	C2B-O2B-P2B-O3X
2	H	3001	NAP	C3B-C4B-C5B-O5B
2	H	3001	NAP	C2B-O2B-P2B-O1X
2	H	3001	NAP	C2B-O2B-P2B-O3X
2	H	3001	NAP	C5D-O5D-PN-O3
2	H	3002	NAP	C5B-O5B-PA-O1A
2	H	3002	NAP	C5B-O5B-PA-O2A
2	H	3002	NAP	C5B-O5B-PA-O3
2	I	3001	NAP	C3B-C4B-C5B-O5B
2	I	3001	NAP	C2B-O2B-P2B-O1X
2	I	3001	NAP	C5D-O5D-PN-O3
2	I	3001	NAP	C5D-O5D-PN-O1N
2	I	3001	NAP	C5D-O5D-PN-O2N
2	J	3001	NAP	C2B-O2B-P2B-O1X
2	J	3001	NAP	C2B-O2B-P2B-O3X
2	J	3002	NAP	C5B-O5B-PA-O2A
2	J	3002	NAP	C5B-O5B-PA-O3
2	K	3001	NAP	C4B-C5B-O5B-PA
2	K	3001	NAP	C3B-C4B-C5B-O5B
2	K	3001	NAP	C2B-O2B-P2B-O1X
2	K	3001	NAP	C5D-O5D-PN-O2N
2	K	3001	NAP	C4D-C5D-O5D-PN
2	K	3001	NAP	C2D-C1D-N1N-C2N

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Mol	Chain	Res	Type	Atoms
2	K	3001	NAP	C2D-C1D-N1N-C6N
2	K	3002	NAP	C5B-O5B-PA-O1A
2	K	3002	NAP	C5B-O5B-PA-O2A
2	K	3002	NAP	C5B-O5B-PA-O3
2	L	3001	NAP	C3B-C4B-C5B-O5B
2	L	3001	NAP	O4D-C1D-N1N-C6N
2	M	3001	NAP	C3B-C4B-C5B-O5B
2	M	3001	NAP	C5D-O5D-PN-O3
2	M	3001	NAP	C5D-O5D-PN-O1N
2	M	3001	NAP	C5D-O5D-PN-O2N
2	M	3002	NAP	C5B-O5B-PA-O2A
2	N	3001	NAP	C3B-C4B-C5B-O5B
2	N	3001	NAP	C2B-O2B-P2B-O1X
2	N	3001	NAP	C5D-O5D-PN-O3
2	N	3001	NAP	C5D-O5D-PN-O1N
2	N	3001	NAP	C5D-O5D-PN-O2N
2	N	3002	NAP	C5B-O5B-PA-O1A
2	N	3002	NAP	C5B-O5B-PA-O2A
2	N	3002	NAP	C5B-O5B-PA-O3
2	N	3002	NAP	C2B-O2B-P2B-O1X
2	O	3001	NAP	C3B-C4B-C5B-O5B
2	O	3001	NAP	O4D-C1D-N1N-C2N
2	O	3001	NAP	O4D-C1D-N1N-C6N
2	O	3001	NAP	C2D-C1D-N1N-C2N
2	P	3002	NAP	C5B-O5B-PA-O1A
2	P	3002	NAP	C5B-O5B-PA-O2A
2	P	3002	NAP	C5B-O5B-PA-O3
2	P	3002	NAP	C2B-O2B-P2B-O1X
2	Q	3001	NAP	C2B-O2B-P2B-O1X
2	Q	3001	NAP	O4D-C1D-N1N-C6N
2	R	3001	NAP	C3B-C4B-C5B-O5B
2	R	3001	NAP	C2B-O2B-P2B-O1X
2	R	3001	NAP	C5D-O5D-PN-O3
2	R	3001	NAP	C5D-O5D-PN-O1N
2	R	3001	NAP	C5D-O5D-PN-O2N
2	F	3001	NAP	O4D-C4D-C5D-O5D
2	H	3001	NAP	O4B-C4B-C5B-O5B
2	L	3001	NAP	C3D-C4D-C5D-O5D
2	I	3001	NAP	C4B-C5B-O5B-PA
2	M	3001	NAP	C4B-C5B-O5B-PA
2	P	3001	NAP	C4B-C5B-O5B-PA
2	A	3001	NAP	O4B-C4B-C5B-O5B

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Mol	Chain	Res	Type	Atoms
2	B	3001	NAP	O4B-C4B-C5B-O5B
2	C	3001	NAP	O4B-C4B-C5B-O5B
2	F	3001	NAP	O4B-C4B-C5B-O5B
2	F	3001	NAP	C3D-C4D-C5D-O5D
2	G	3001	NAP	O4B-C4B-C5B-O5B
2	I	3001	NAP	O4B-C4B-C5B-O5B
2	K	3001	NAP	O4B-C4B-C5B-O5B
2	L	3001	NAP	O4B-C4B-C5B-O5B
2	L	3001	NAP	O4D-C4D-C5D-O5D
2	M	3001	NAP	O4B-C4B-C5B-O5B
2	N	3001	NAP	O4B-C4B-C5B-O5B
2	O	3001	NAP	O4B-C4B-C5B-O5B
2	O	3001	NAP	O4D-C4D-C5D-O5D
2	O	3001	NAP	C3D-C4D-C5D-O5D
2	R	3001	NAP	O4B-C4B-C5B-O5B
2	D	3001	NAP	O4B-C4B-C5B-O5B
2	A	3001	NAP	C4B-C5B-O5B-PA
2	C	3001	NAP	C4B-C5B-O5B-PA
2	G	3001	NAP	C4B-C5B-O5B-PA
2	H	3001	NAP	C4B-C5B-O5B-PA
2	R	3001	NAP	C4B-C5B-O5B-PA
2	N	3001	NAP	C4B-C5B-O5B-PA
2	F	3002	NAP	O4B-C4B-C5B-O5B
2	Q	3001	NAP	C3D-C4D-C5D-O5D
2	J	3002	NAP	C5B-O5B-PA-O1A
2	E	3001	NAP	O4B-C4B-C5B-O5B
2	Q	3001	NAP	O4D-C4D-C5D-O5D
2	F	3001	NAP	C4B-C5B-O5B-PA
2	L	3001	NAP	C4B-C5B-O5B-PA
2	O	3001	NAP	C4B-C5B-O5B-PA
2	B	3001	NAP	PN-O3-PA-O5B
2	E	3001	NAP	PN-O3-PA-O5B
2	L	3001	NAP	PN-O3-PA-O5B
2	M	3001	NAP	PN-O3-PA-O5B
2	H	3002	NAP	C2B-O2B-P2B-O1X
2	J	3002	NAP	C2B-O2B-P2B-O1X
2	M	3002	NAP	C5B-O5B-PA-O3
2	O	3001	NAP	C2B-O2B-P2B-O1X
2	A	3001	NAP	C2B-O2B-P2B-O3X
2	B	3001	NAP	C2B-O2B-P2B-O2X
2	I	3001	NAP	C2B-O2B-P2B-O3X
2	K	3001	NAP	C5D-O5D-PN-O3

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Mol	Chain	Res	Type	Atoms
2	O	3001	NAP	PA-O3-PN-O1N
2	P	3001	NAP	PA-O3-PN-O2N
2	R	3001	NAP	PA-O3-PN-O1N
2	E	3001	NAP	C4B-C5B-O5B-PA
2	J	3001	NAP	C4B-C5B-O5B-PA
2	B	3001	NAP	C5B-O5B-PA-O2A
2	C	3001	NAP	C5B-O5B-PA-O2A
2	E	3001	NAP	C5B-O5B-PA-O1A
2	F	3001	NAP	C5B-O5B-PA-O2A
2	H	3001	NAP	C5D-O5D-PN-O1N
2	H	3001	NAP	C5D-O5D-PN-O2N
2	I	3001	NAP	C5B-O5B-PA-O2A
2	K	3001	NAP	C5D-O5D-PN-O1N
2	M	3001	NAP	C5B-O5B-PA-O2A
2	N	3001	NAP	C5B-O5B-PA-O2A
2	R	3001	NAP	C5B-O5B-PA-O2A
2	M	3002	NAP	C5B-O5B-PA-O1A
2	F	3001	NAP	PA-O3-PN-O1N
2	C	3002	NAP	O4B-C4B-C5B-O5B
2	D	3002	NAP	O4B-C4B-C5B-O5B
2	E	3001	NAP	C3B-C4B-C5B-O5B
2	E	3001	NAP	O4D-C4D-C5D-O5D
2	J	3002	NAP	O4B-C4B-C5B-O5B
2	K	3002	NAP	O4B-C4B-C5B-O5B
2	A	3002	NAP	O4B-C4B-C5B-O5B
2	F	3002	NAP	C3B-C4B-C5B-O5B
2	P	3002	NAP	O4B-C4B-C5B-O5B
2	D	3001	NAP	PA-O3-PN-O1N
2	P	3001	NAP	PA-O3-PN-O1N
2	N	3002	NAP	O4B-C4B-C5B-O5B
2	A	3001	NAP	C2B-O2B-P2B-O1X
2	D	3002	NAP	C2B-O2B-P2B-O1X
2	B	3002	NAP	C2B-O2B-P2B-O2X
2	C	3002	NAP	C5B-O5B-PA-O3
2	C	3002	NAP	C2B-O2B-P2B-O2X
2	D	3001	NAP	C5B-O5B-PA-O3
2	D	3002	NAP	C2B-O2B-P2B-O2X
2	E	3001	NAP	C5B-O5B-PA-O3
2	F	3002	NAP	C2B-O2B-P2B-O2X
2	I	3001	NAP	C5B-O5B-PA-O3
2	K	3002	NAP	C2B-O2B-P2B-O2X
2	R	3001	NAP	C2B-O2B-P2B-O2X

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Mol	Chain	Res	Type	Atoms
2	B	3002	NAP	O4B-C4B-C5B-O5B
2	E	3001	NAP	C3D-C4D-C5D-O5D
2	G	3002	NAP	O4B-C4B-C5B-O5B
2	J	3001	NAP	O4B-C4B-C5B-O5B
2	K	3001	NAP	O4D-C4D-C5D-O5D
2	Q	3001	NAP	O4B-C4B-C5B-O5B
2	I	3001	NAP	PA-O3-PN-O2N
2	K	3001	NAP	PN-O3-PA-O2A
2	E	3001	NAP	C5B-O5B-PA-O2A
2	O	3001	NAP	C5B-O5B-PA-O2A
2	P	3001	NAP	C5B-O5B-PA-O1A
2	Q	3001	NAP	C5D-O5D-PN-O1N
2	H	3002	NAP	O4B-C4B-C5B-O5B
2	M	3002	NAP	O4B-C4B-C5B-O5B
2	P	3001	NAP	O4B-C4B-C5B-O5B
2	A	3001	NAP	C3B-C2B-O2B-P2B

There are no ring outliers.

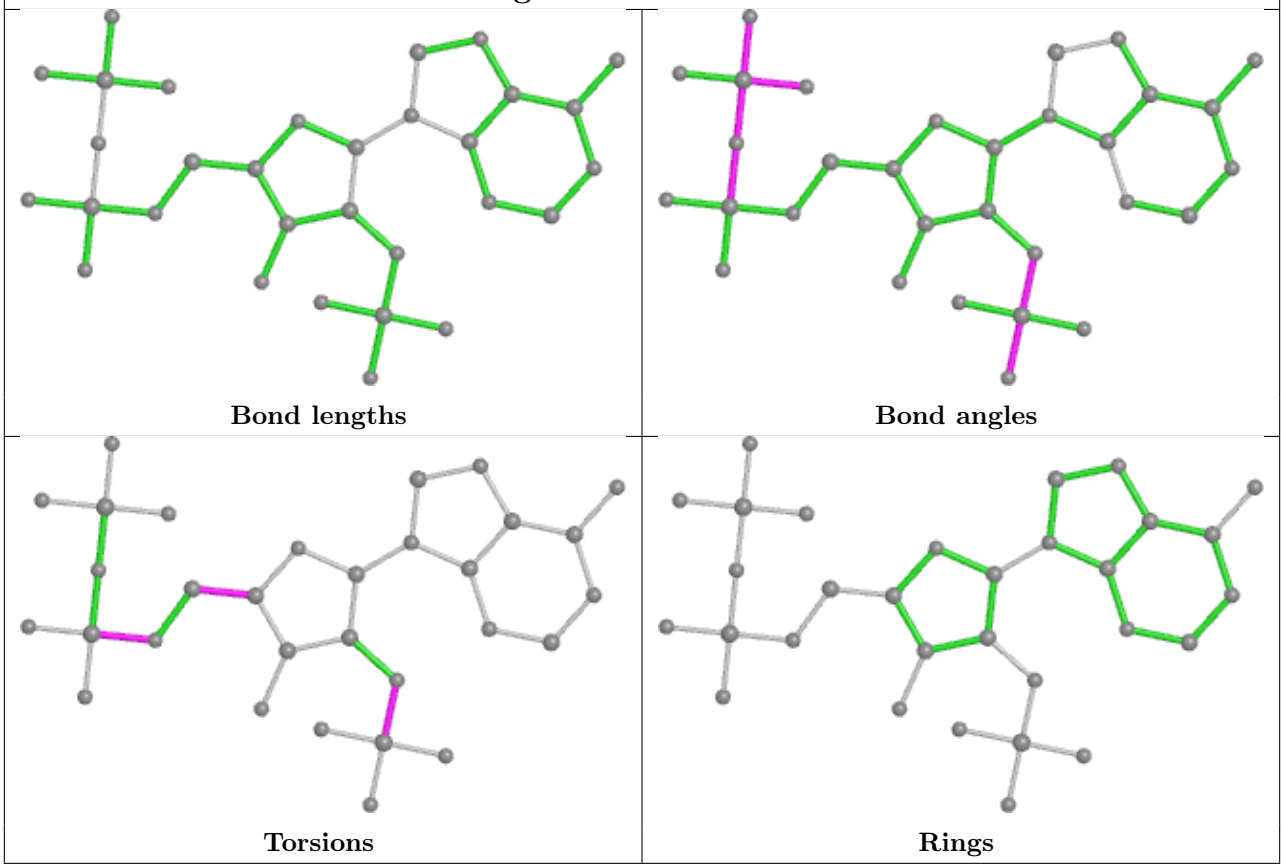
10 monomers are involved in 15 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	3001	NAP	2	0
2	K	3001	NAP	2	0
2	F	3001	NAP	2	0
2	D	3001	NAP	2	0
2	O	3001	NAP	1	0
2	C	3001	NAP	1	0
2	B	3001	NAP	2	0
2	E	3001	NAP	1	0
2	I	3001	NAP	1	0
2	L	3001	NAP	1	0

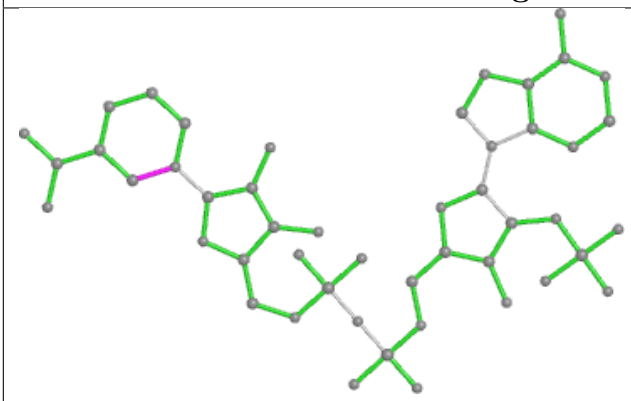
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

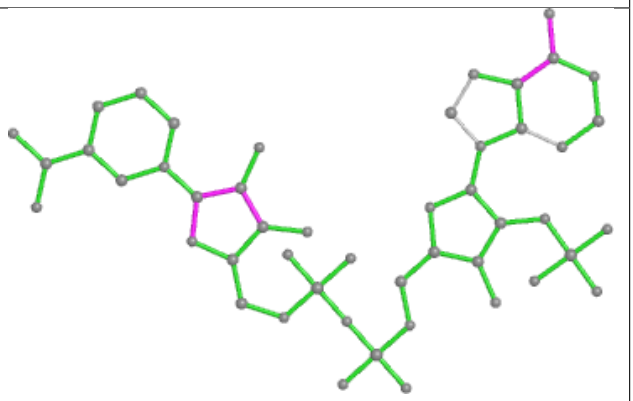
Ligand NAP C 3002



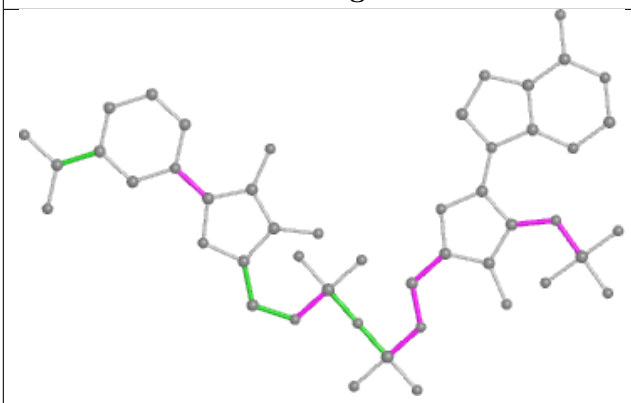
Ligand NAP A 3001



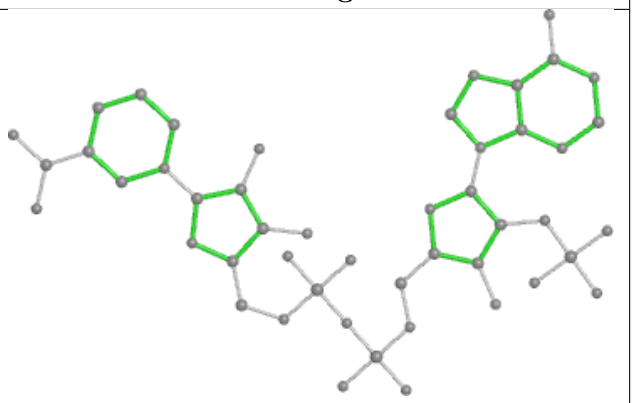
Bond lengths



Bond angles

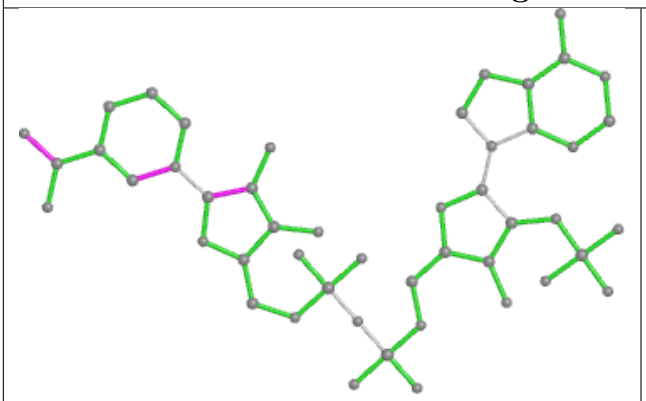


Torsions

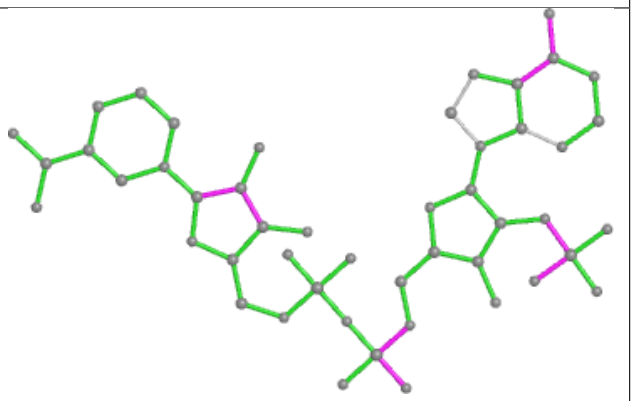


Rings

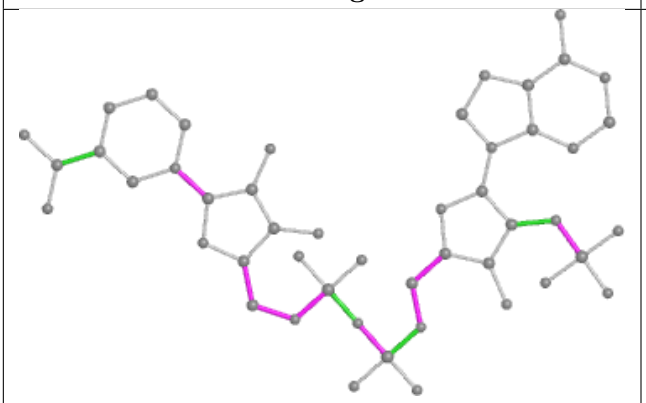
Ligand NAP K 3001



Bond lengths



Bond angles



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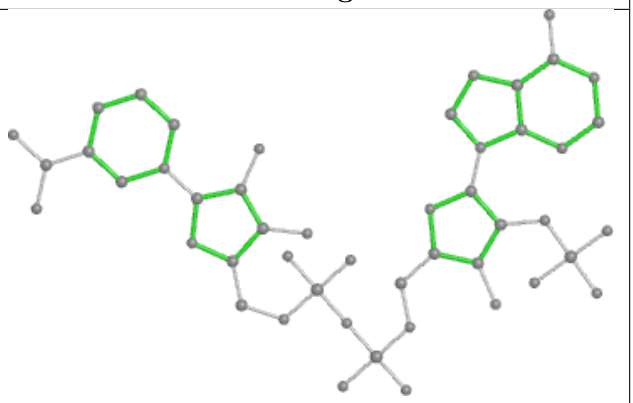
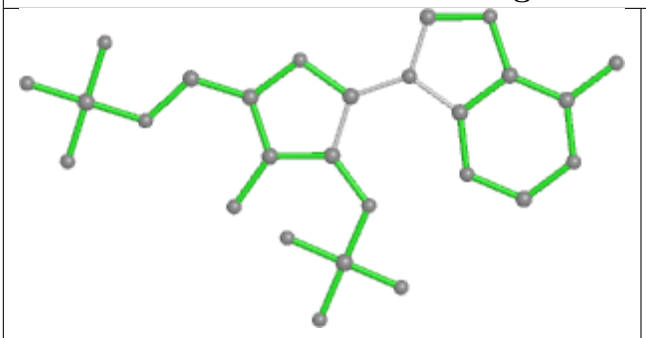
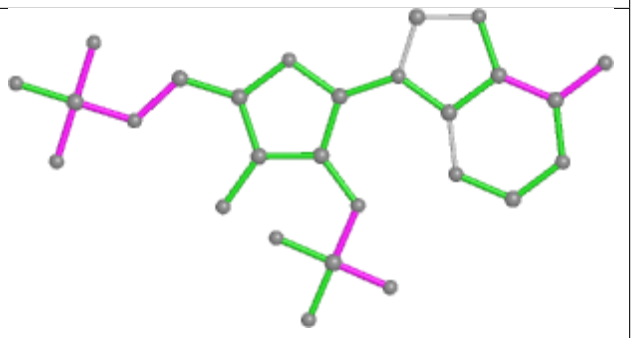


Rings

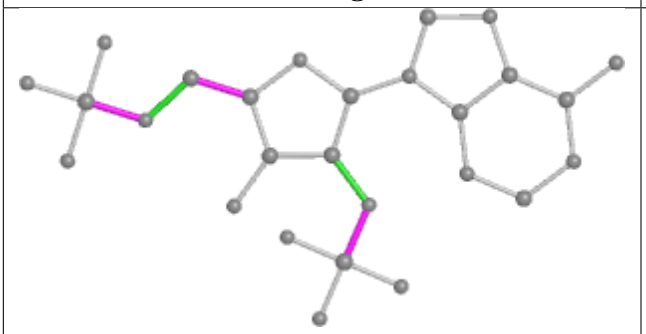
Ligand NAP P 3002



Bond lengths



Bond angles



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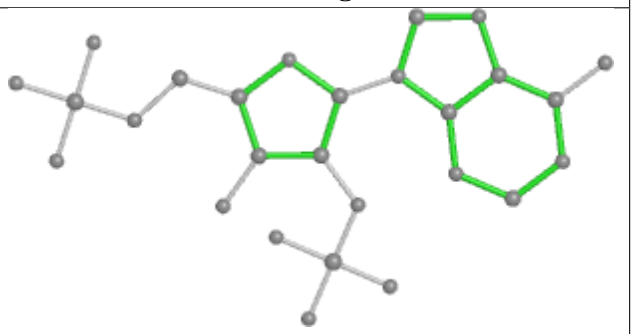
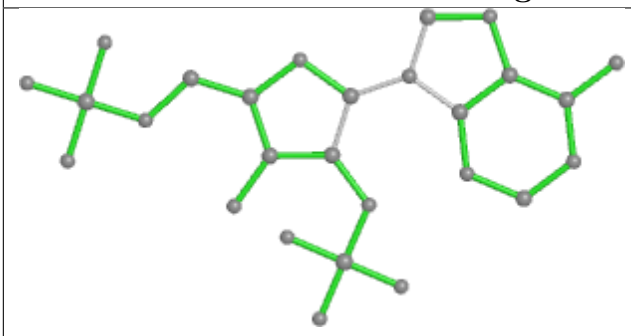


Rings

Ligand NAP F 3002



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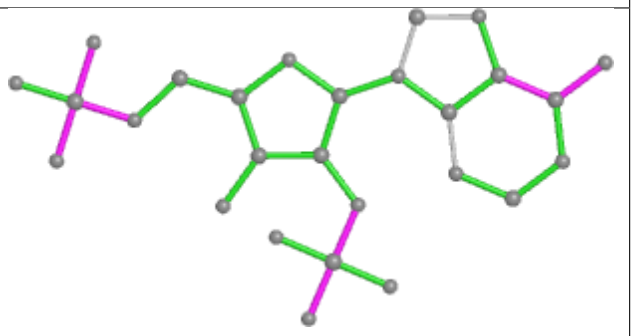

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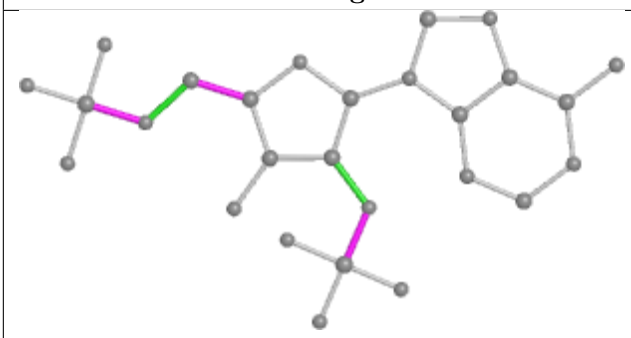

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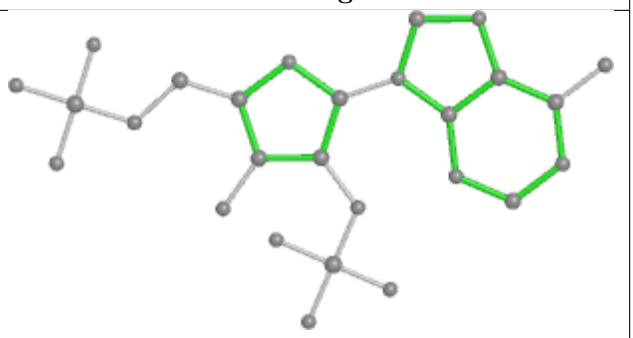
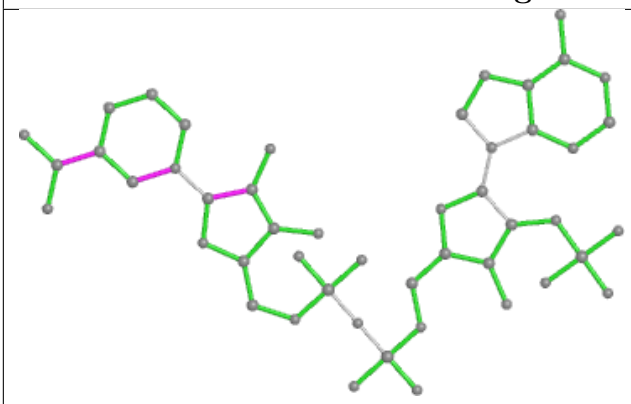


Rings

Ligand NAP F 3001



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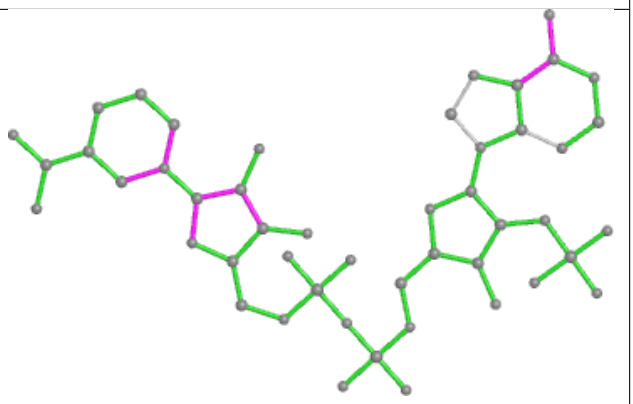

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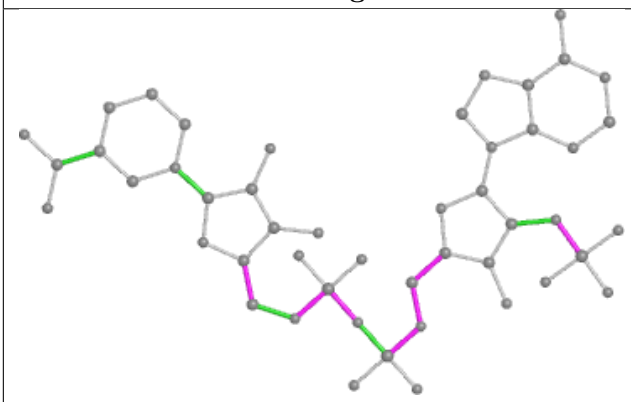

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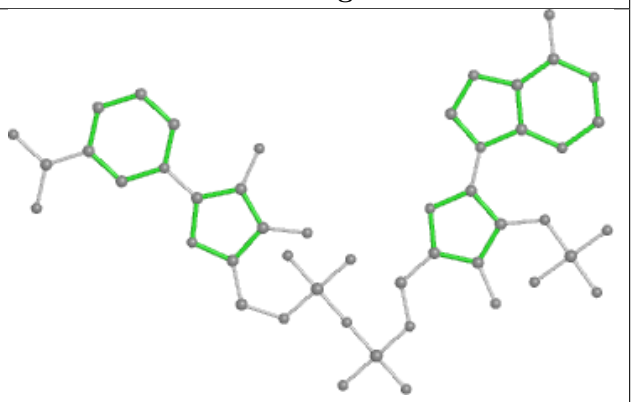

Rings

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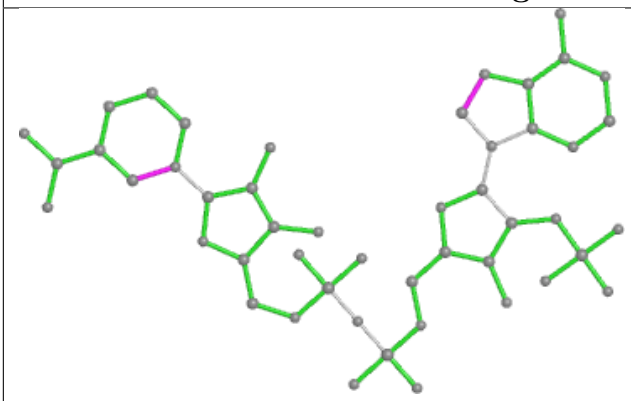

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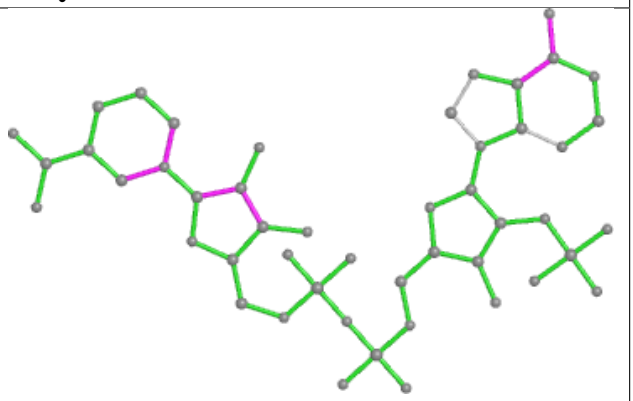
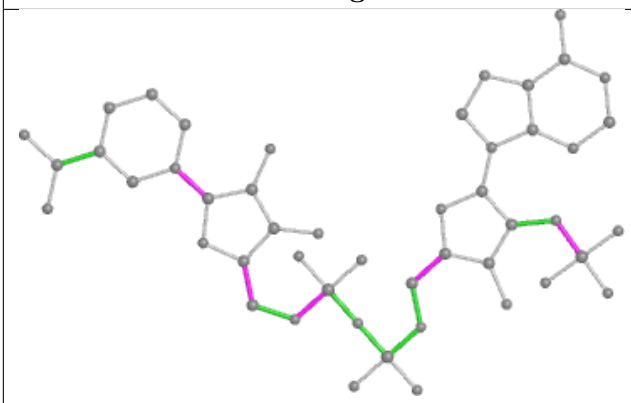


Bond angles



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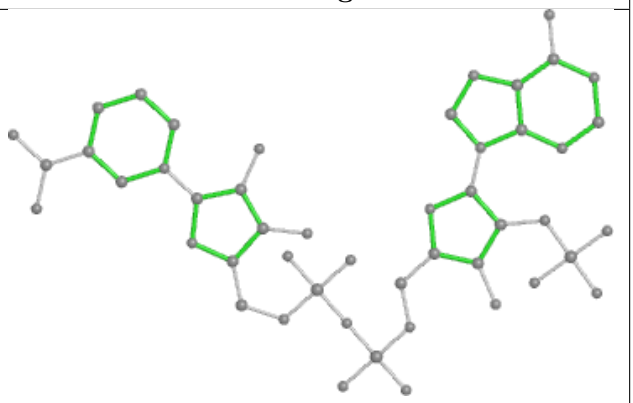
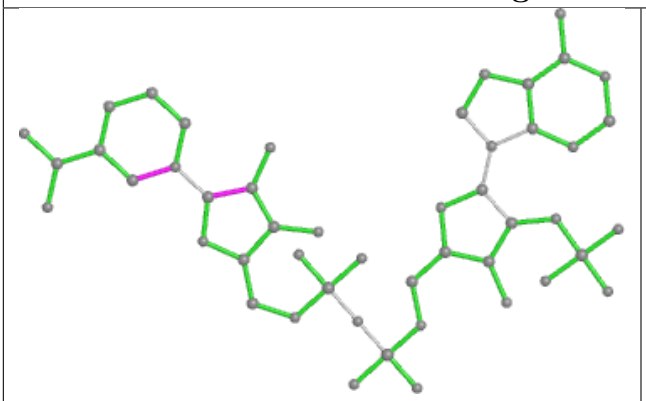


Rings

Ligand NAP D 3001



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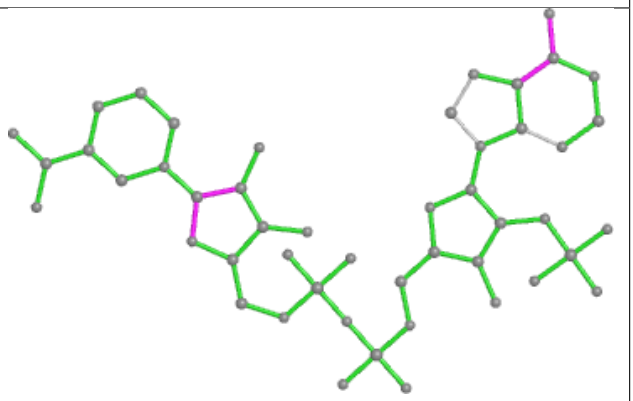

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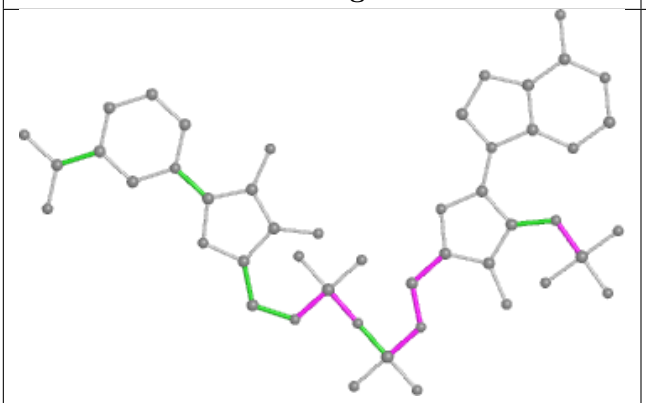

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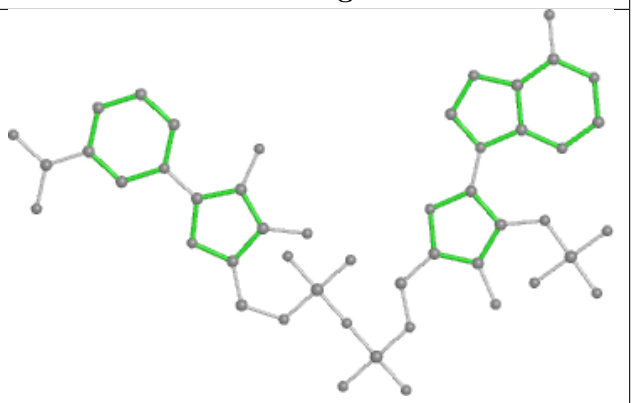
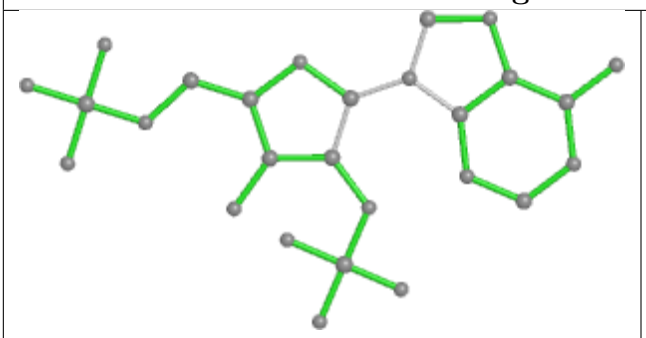


Rings

Ligand NAP D 3002



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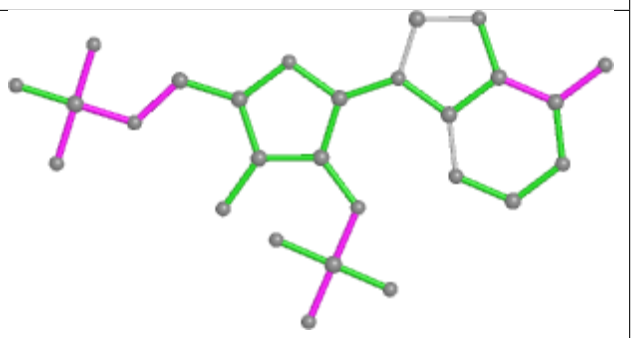
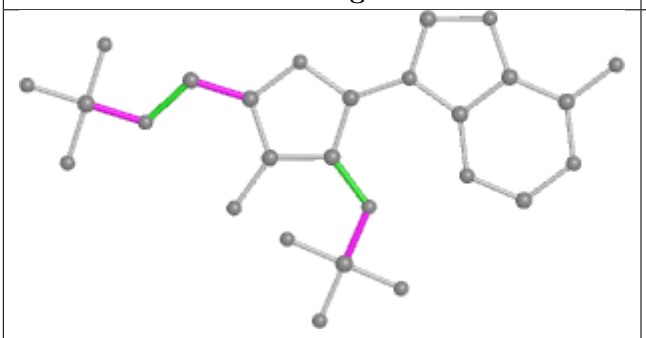


Bond angles



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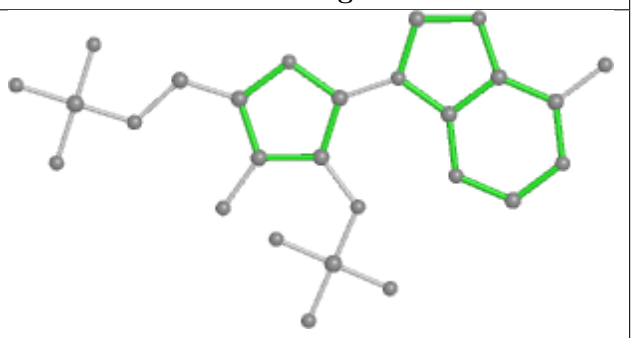
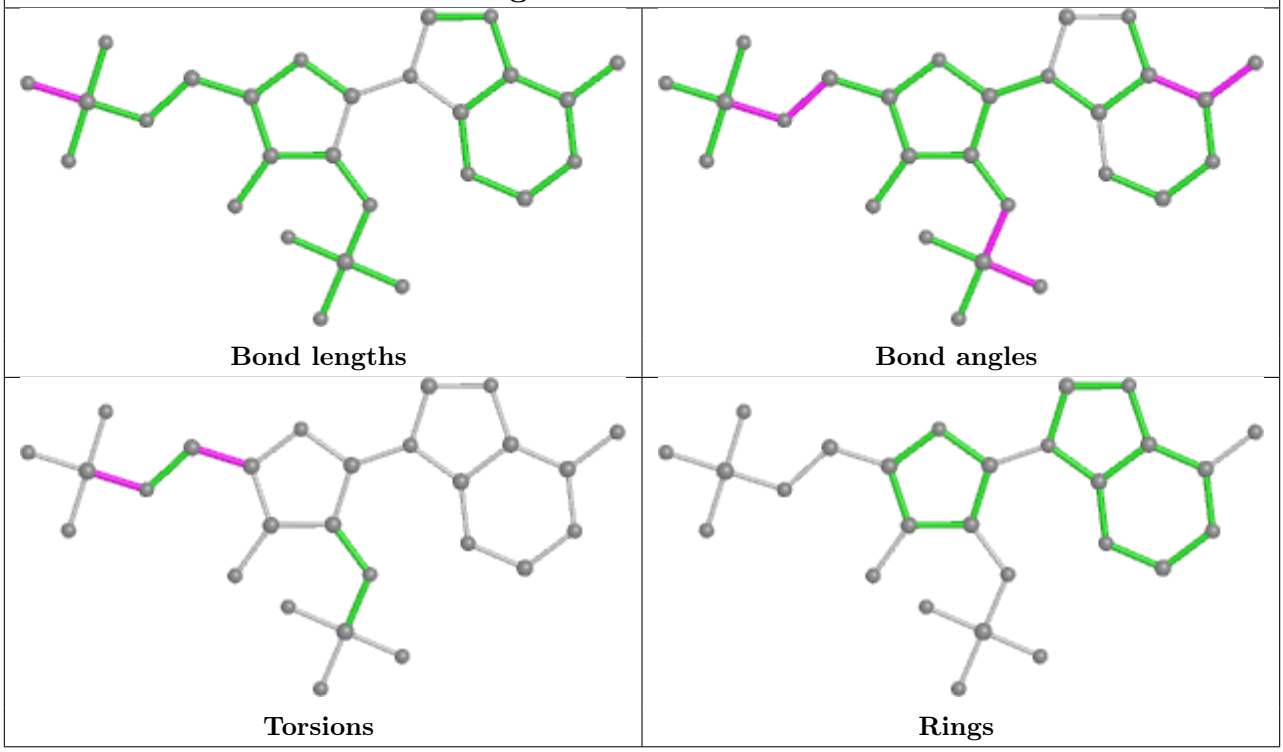
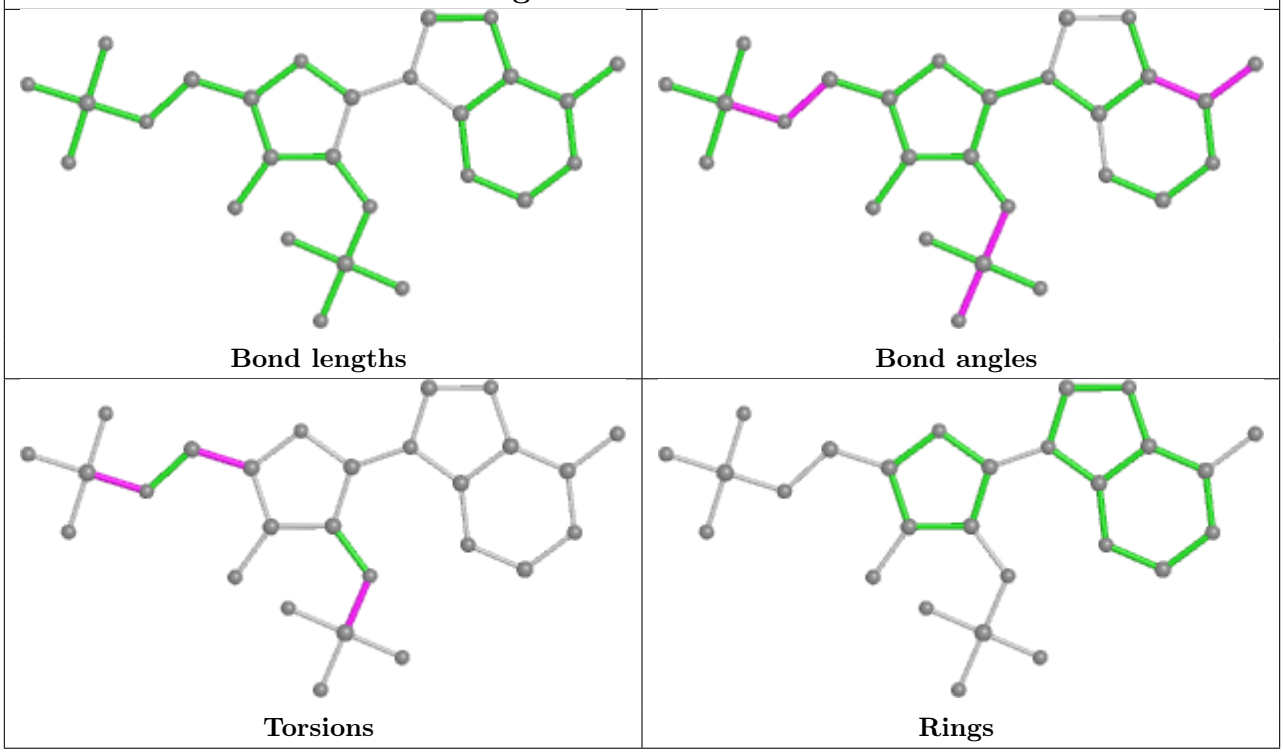


Rings

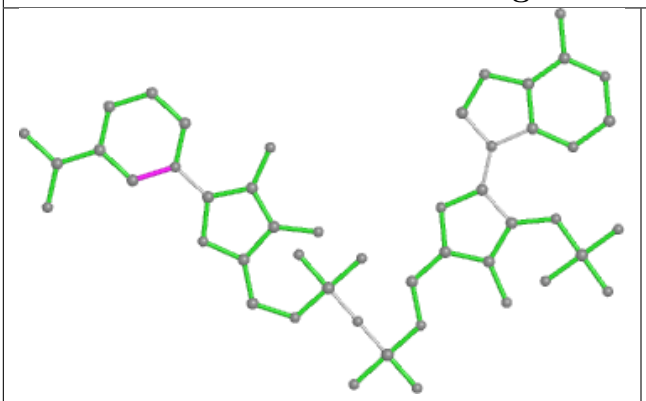
Ligand NAP M 3002



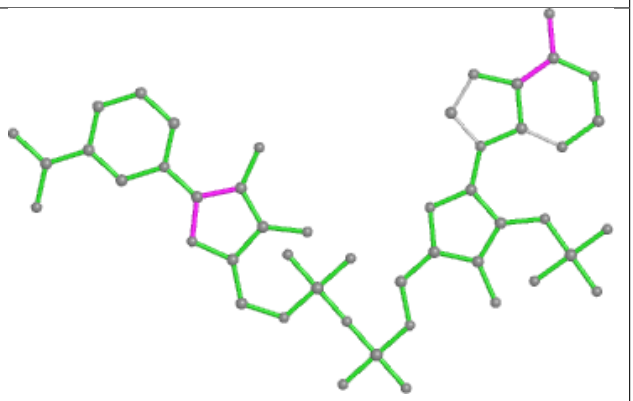
Ligand NAP G 3002



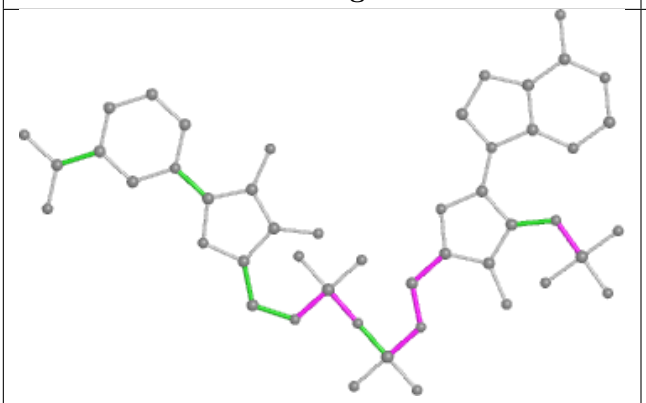
Ligand NAP R 3001



Bond lengths



Bond angles



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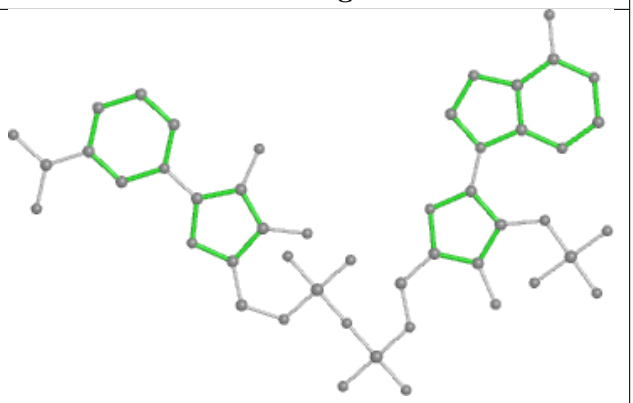
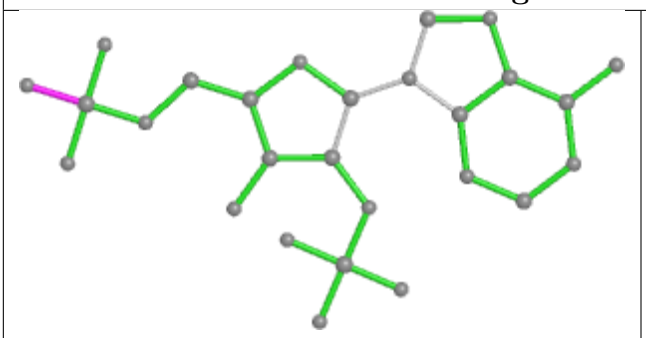


Rings

Ligand NAP N 3002



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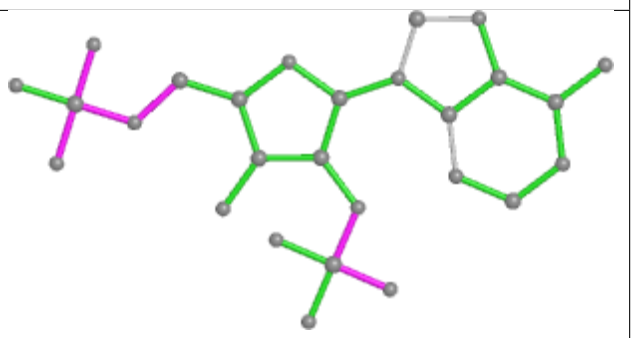
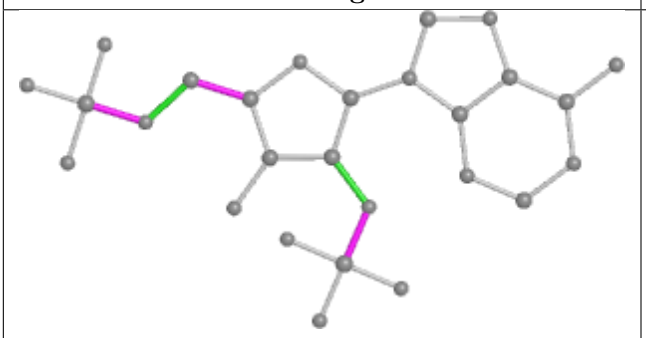


Bond angles



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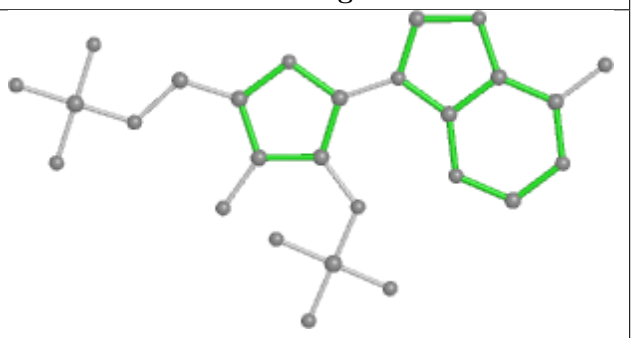
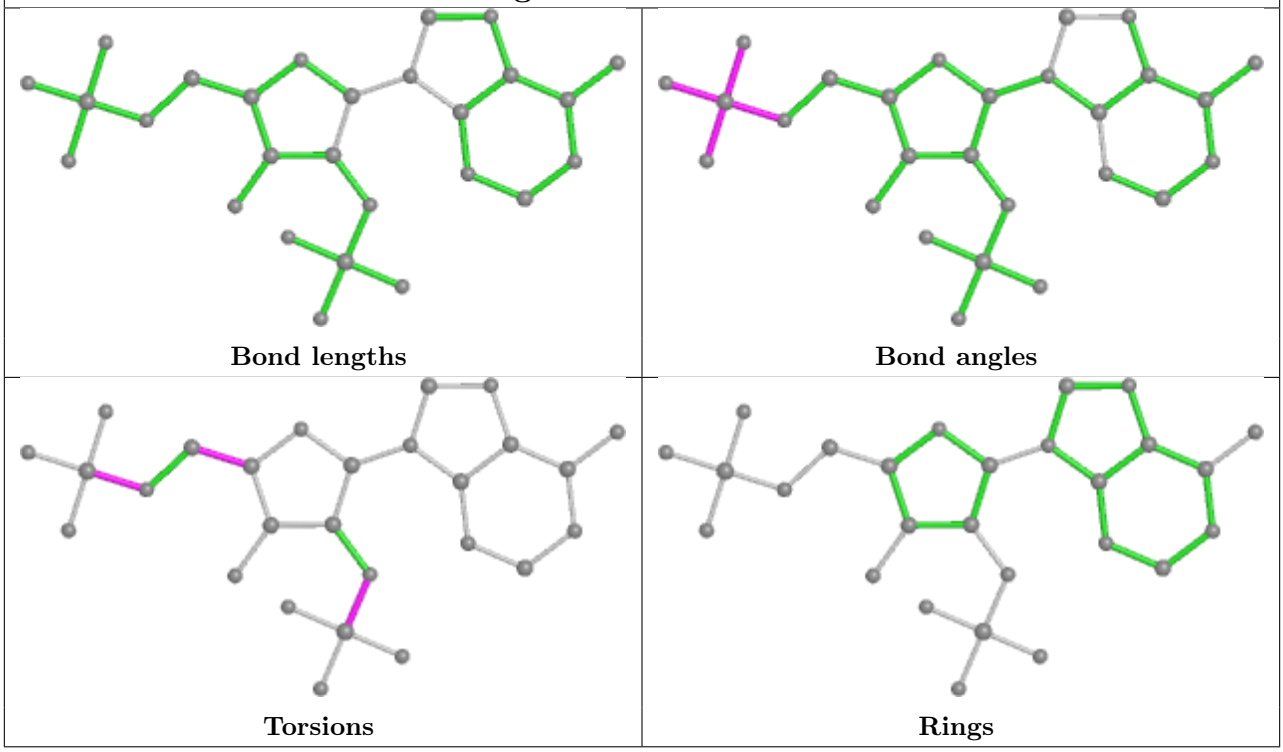
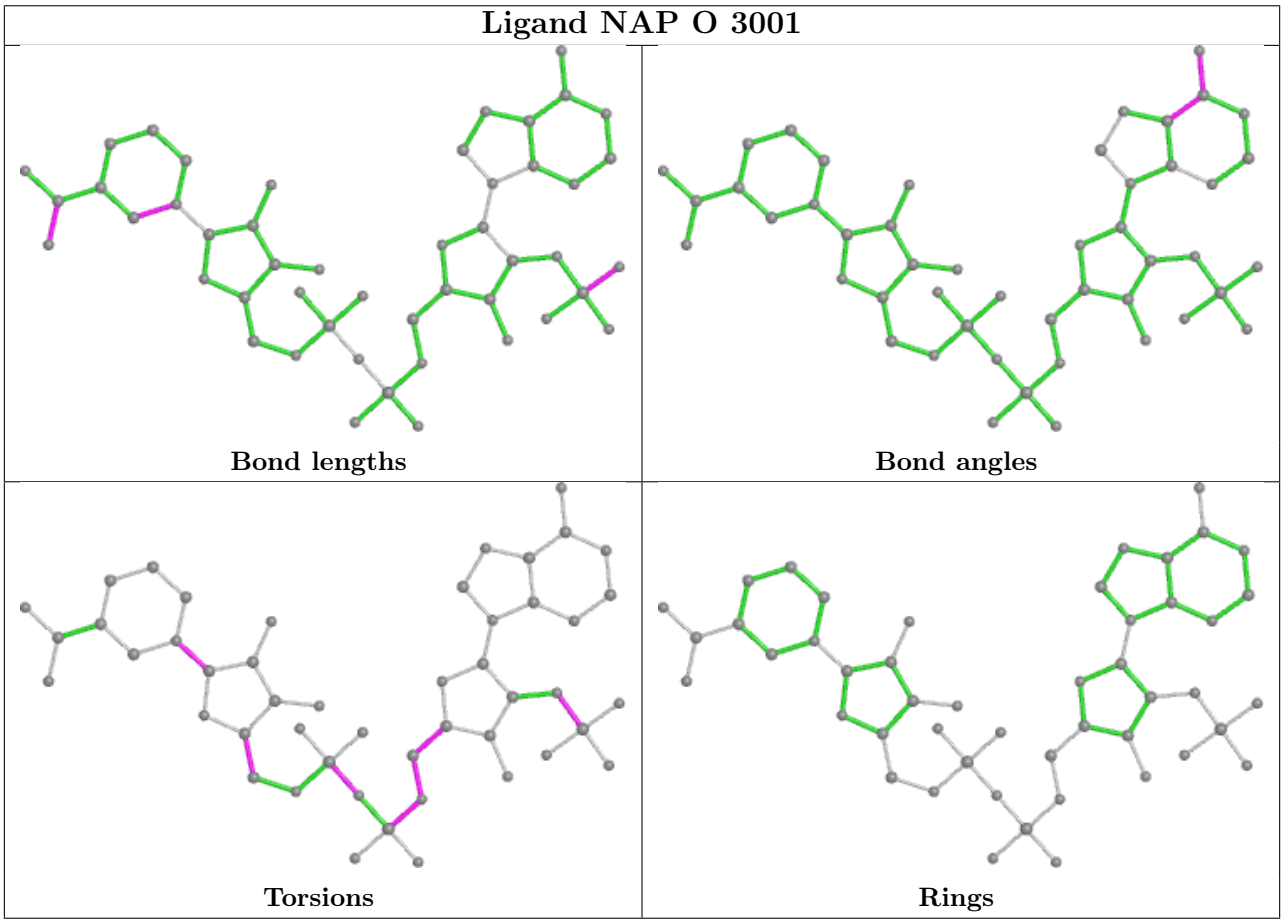


Rings

Ligand NAP B 3002



Ligand NAP O 3001



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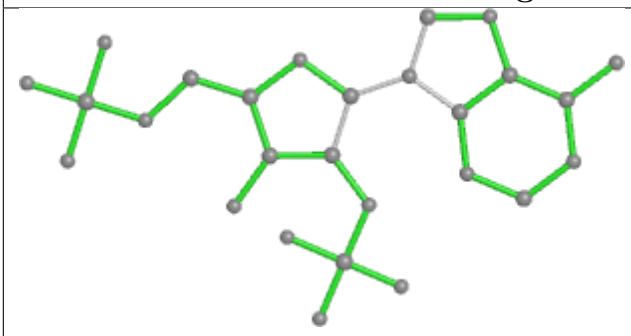
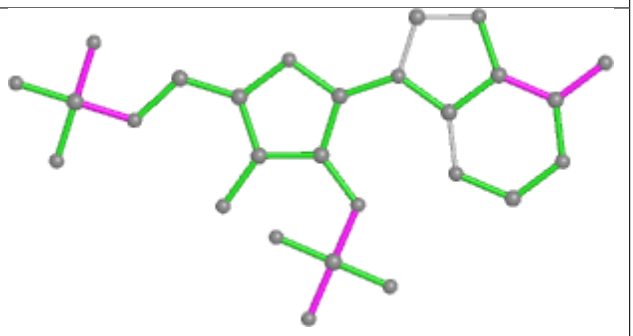
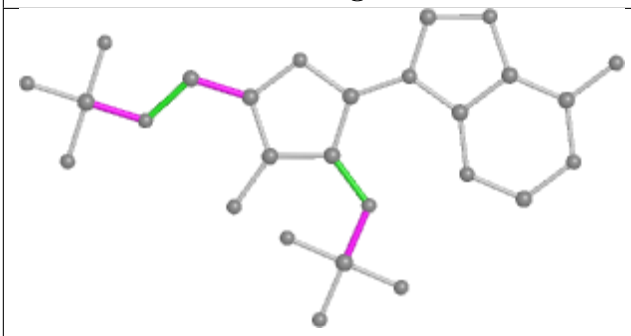


Bond lengths



Bond angles



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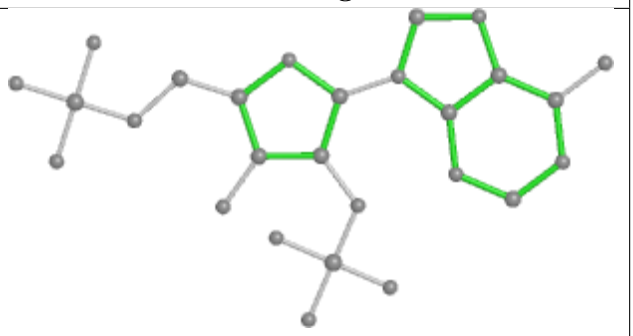
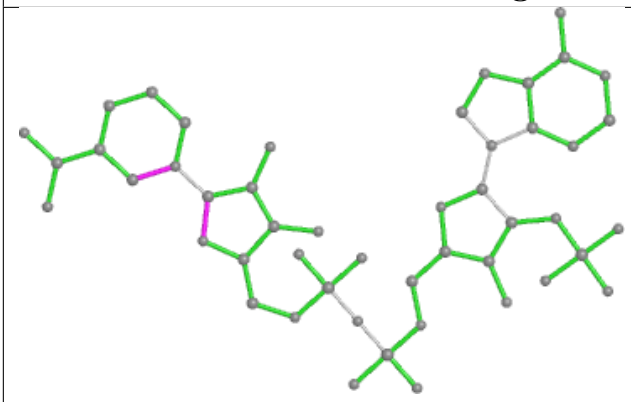


Rings

Ligand NAP N 3001



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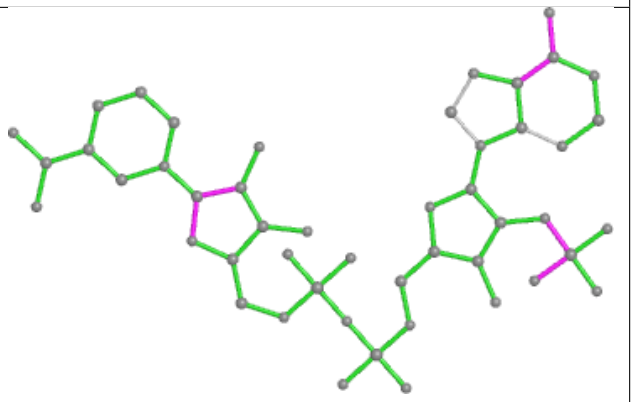

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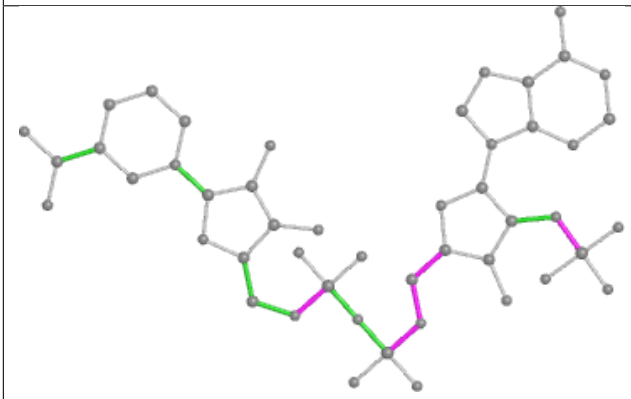

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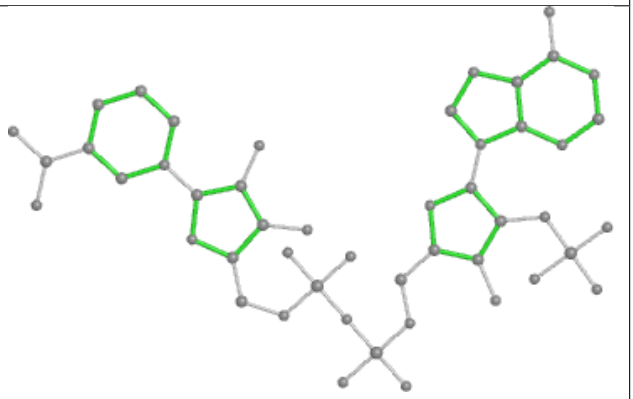

Rings

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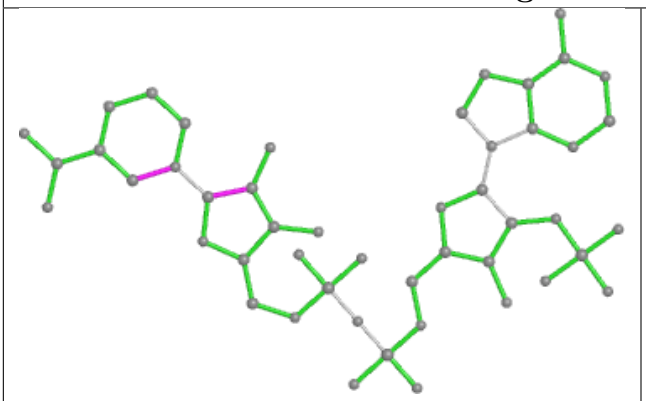

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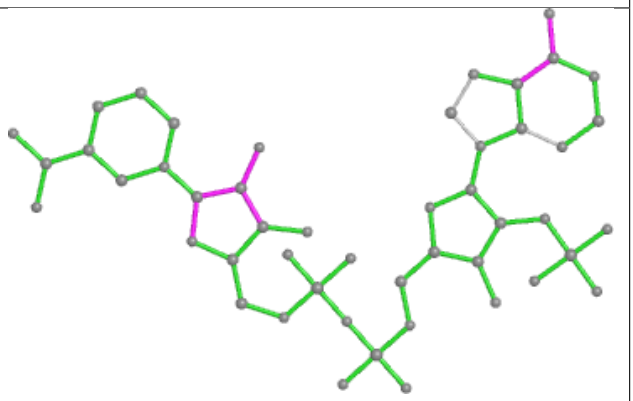

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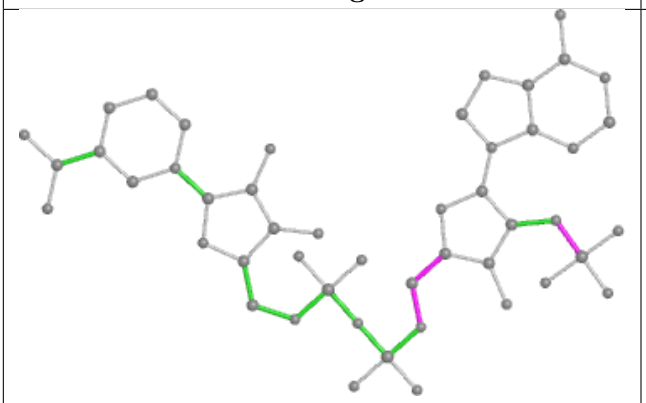

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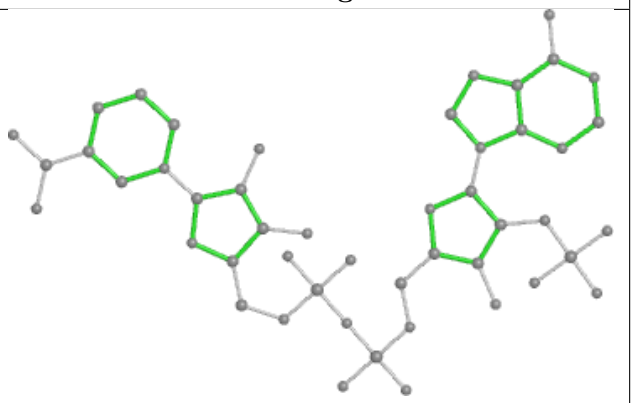
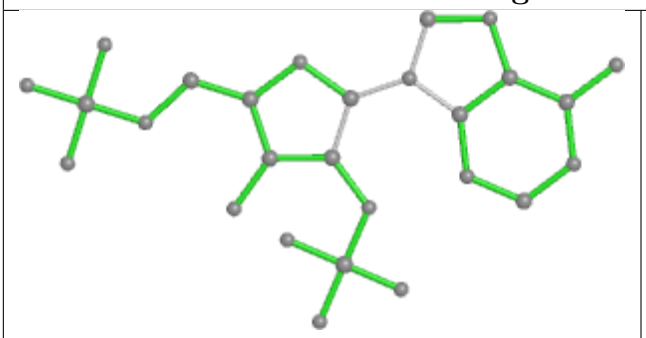


Rings

Ligand NAP K 3002



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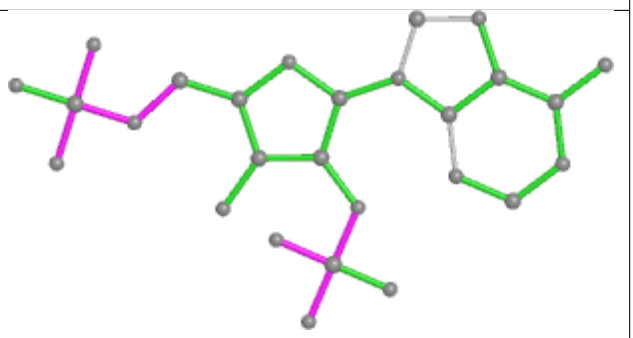
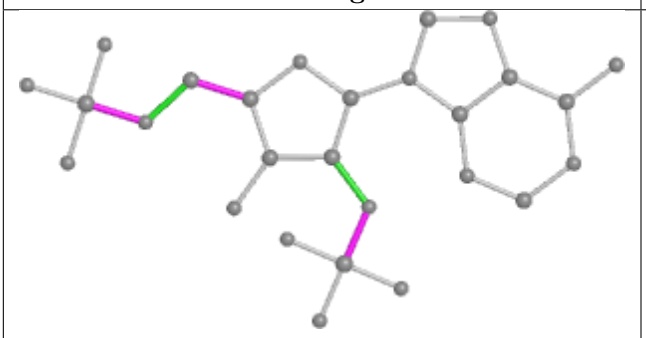


Bond angles



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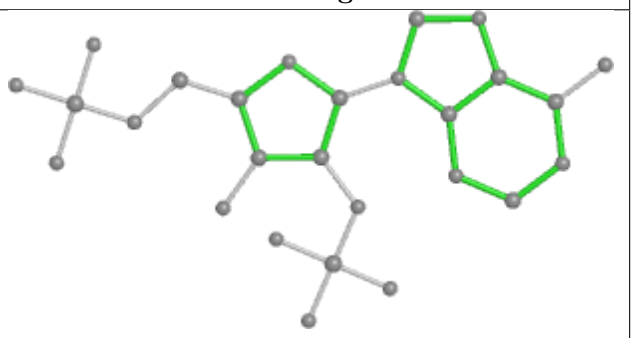
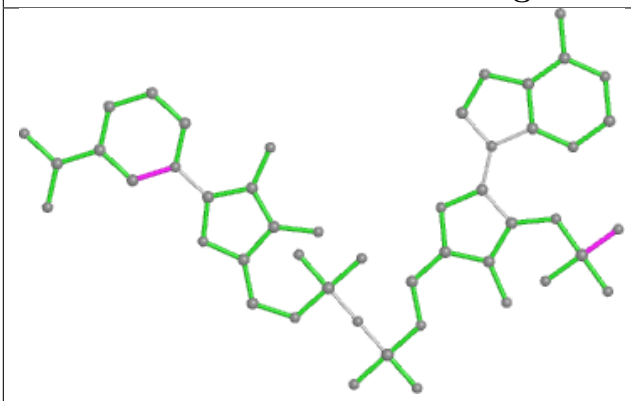


Rings

Ligand NAP P 3001



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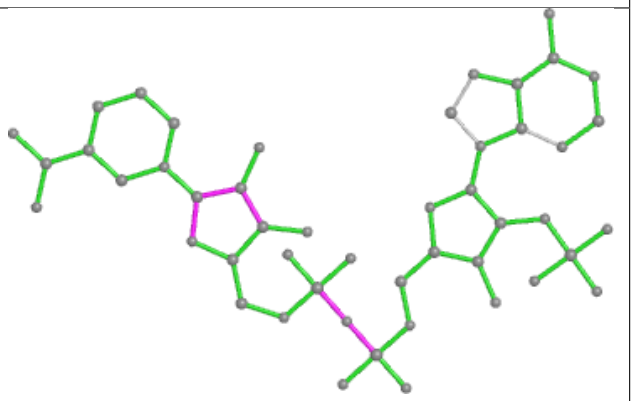

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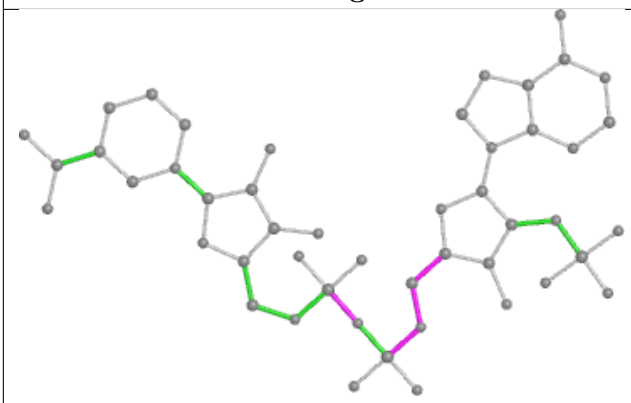

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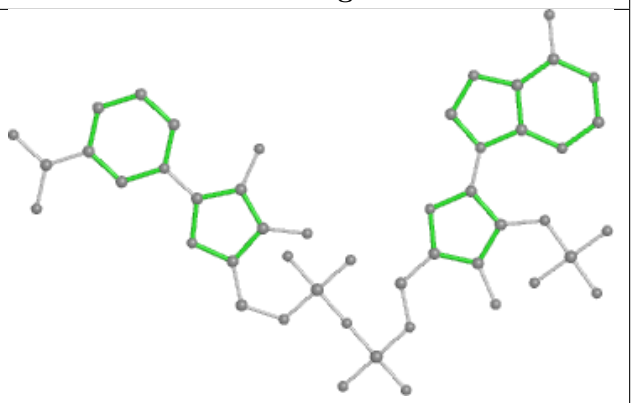
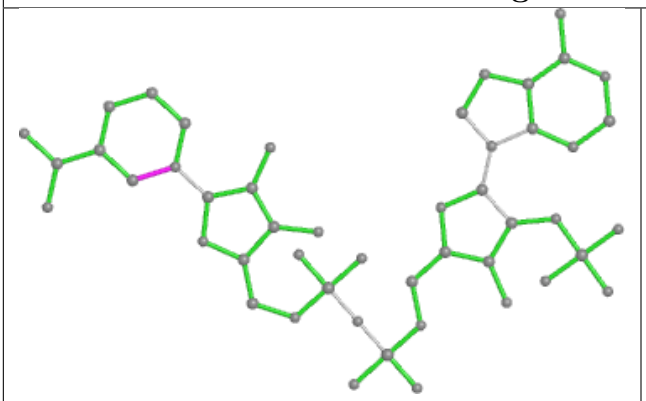


Rings

Ligand NAP G 3001



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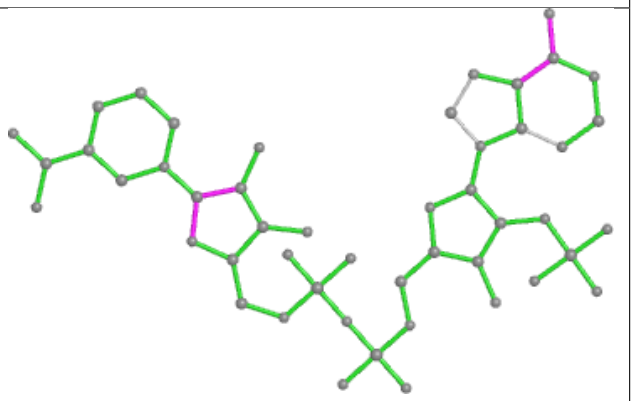

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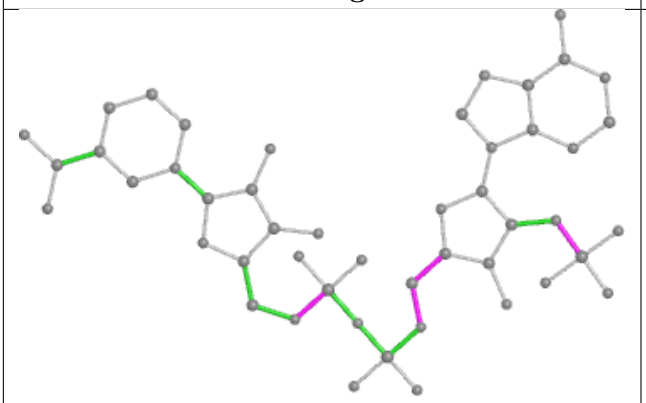

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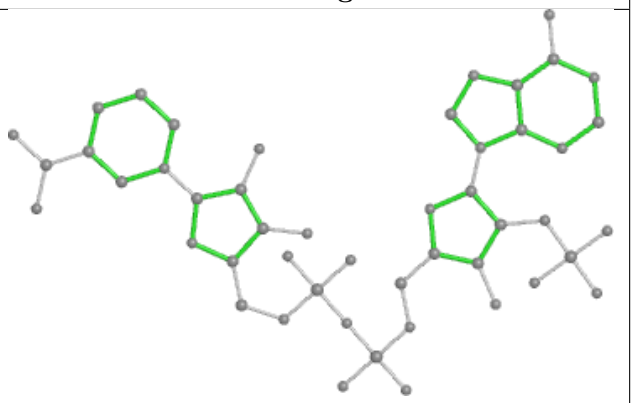
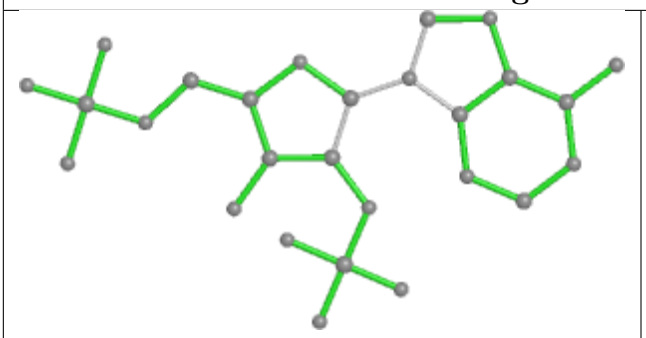


Rings

Ligand NAP H 3002



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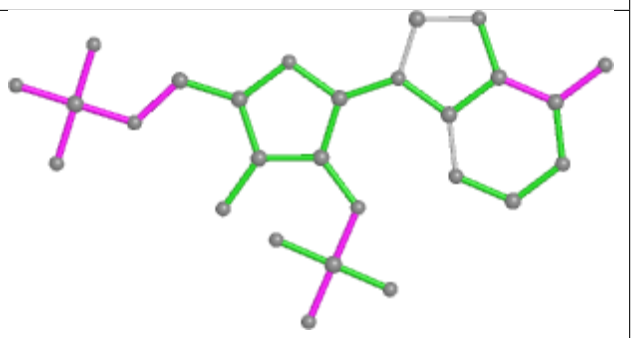
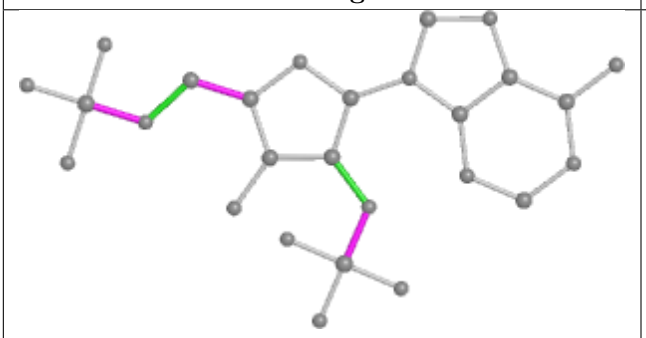


Bond angles



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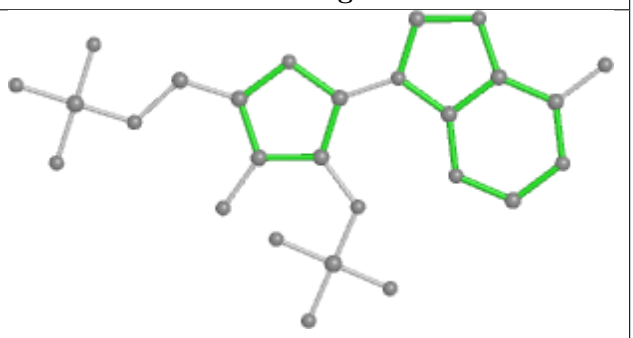
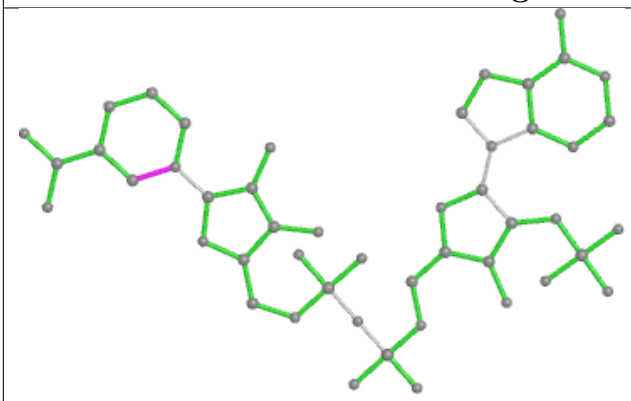


Rings

Ligand NAP H 3001



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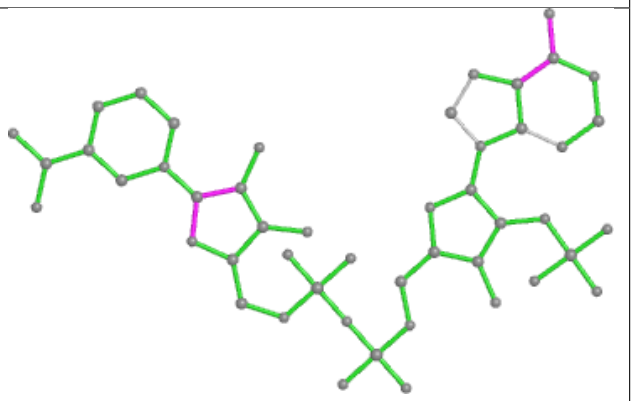

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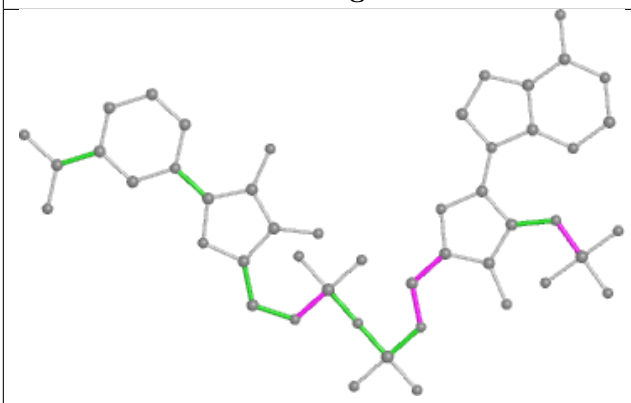

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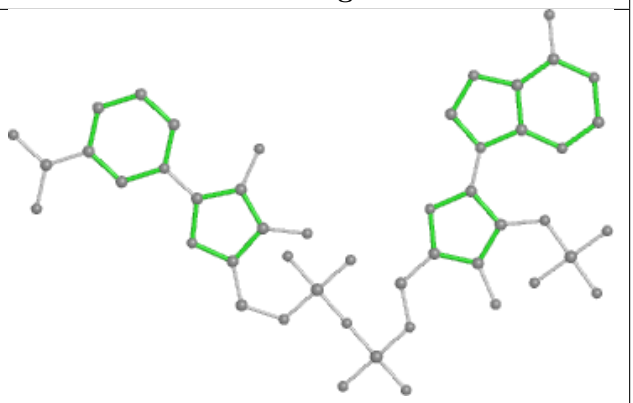
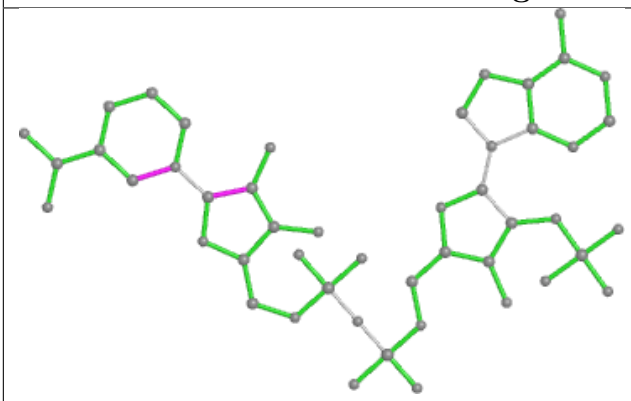


Rings

Ligand NAP C 3001



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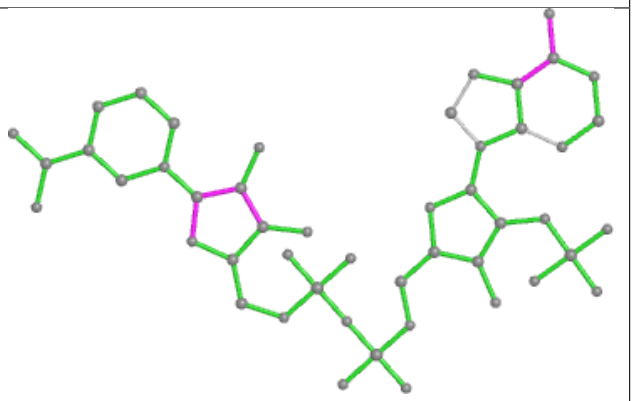

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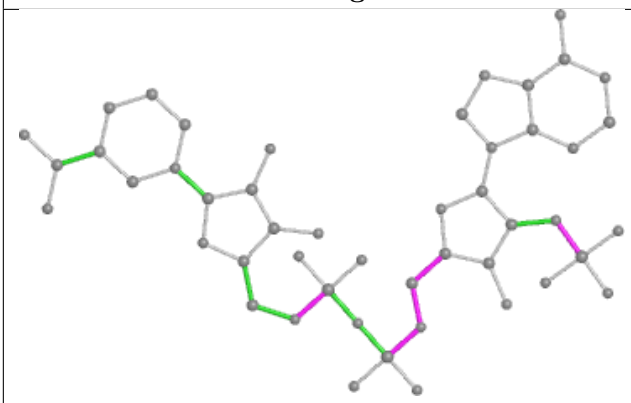

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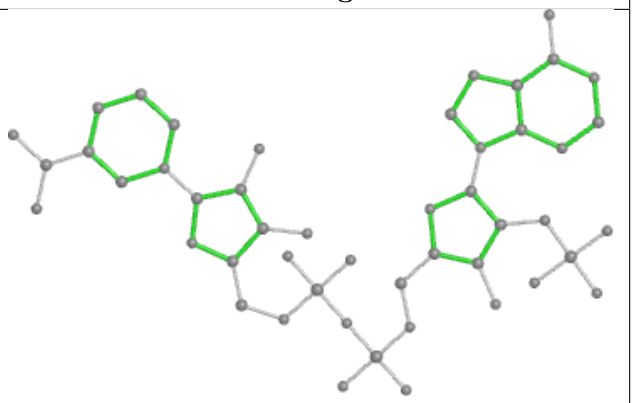
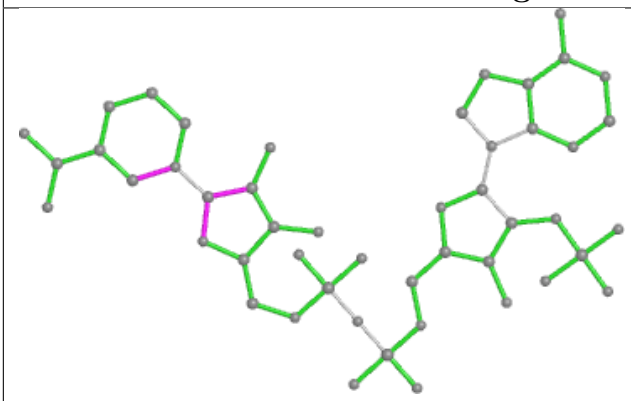


Rings

Ligand NAP B 3001



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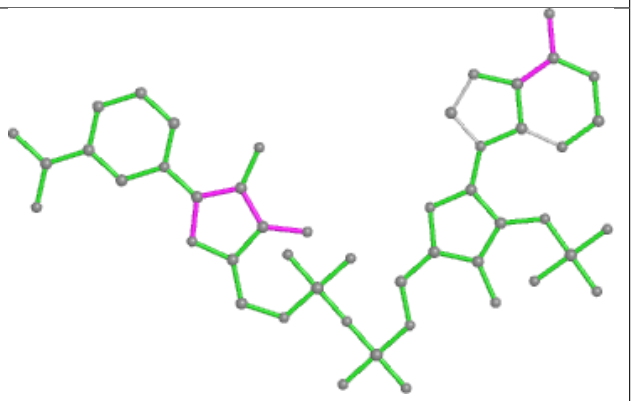
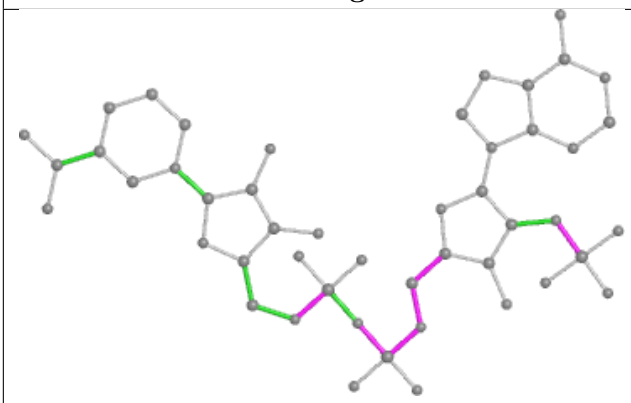
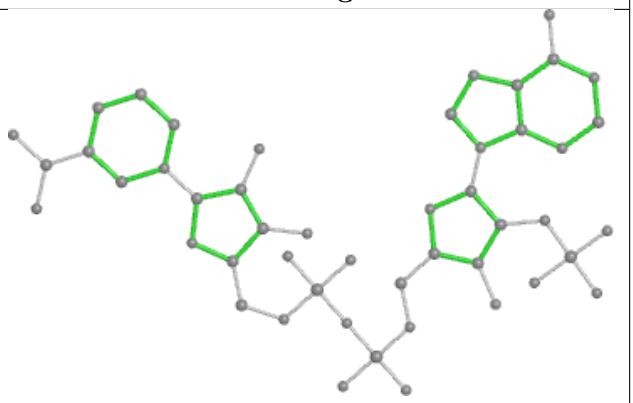


Bond angles

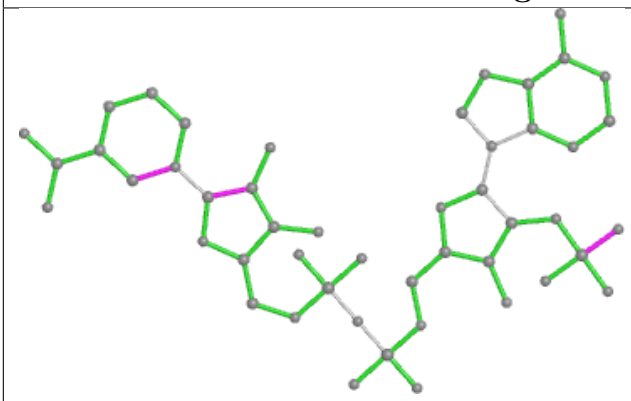


Torsions



Rings

Ligand NAP E 3001



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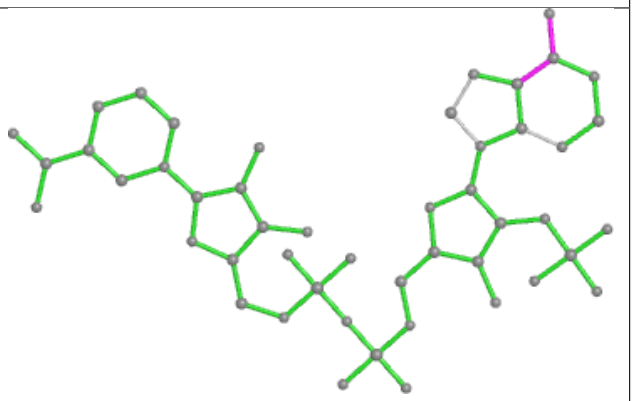

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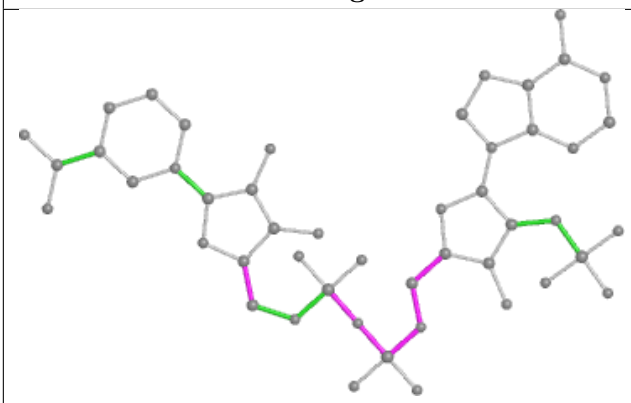

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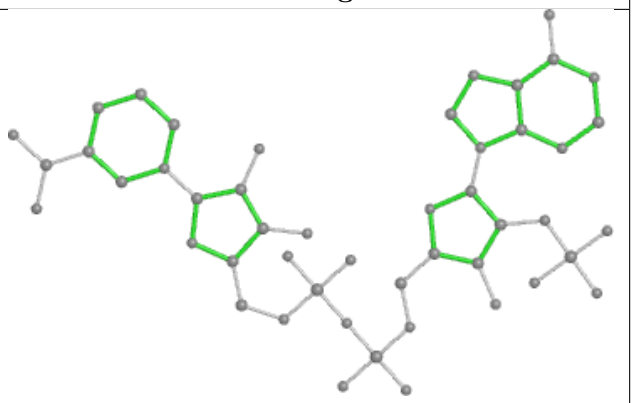
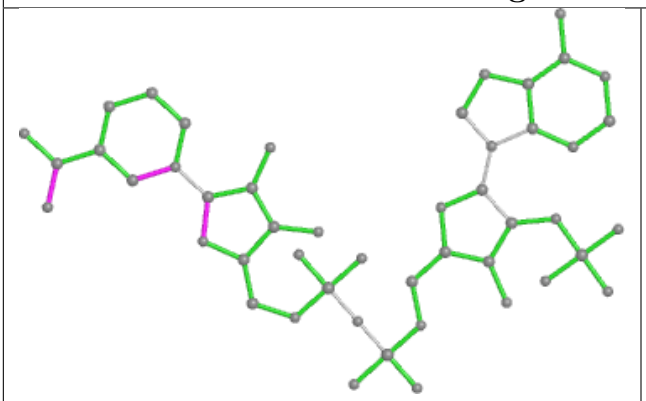


Rings

Ligand NAP M 3001



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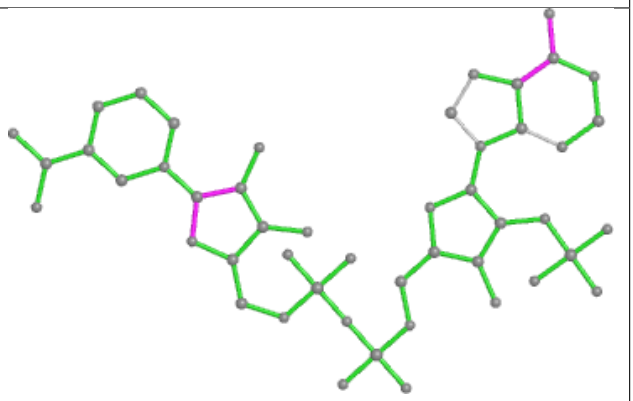
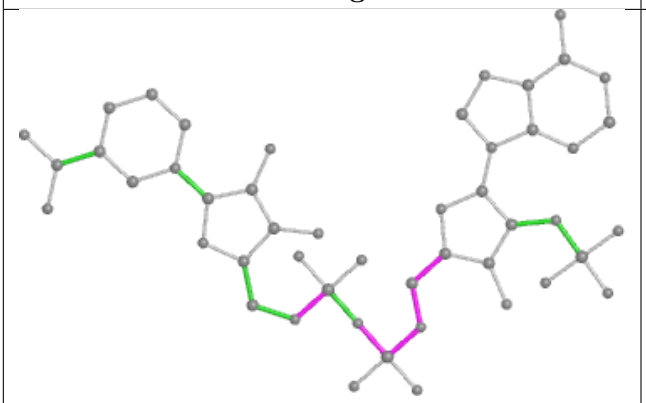


Bond angles



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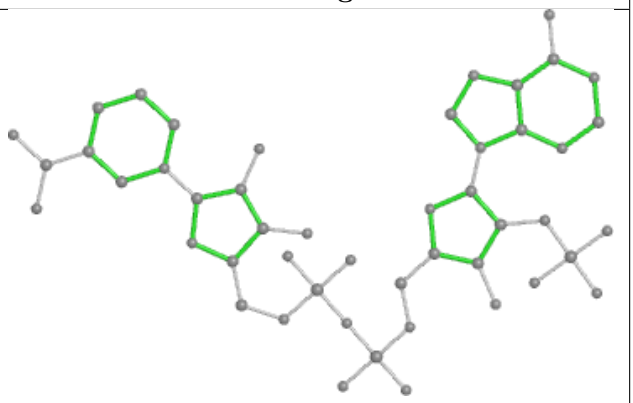
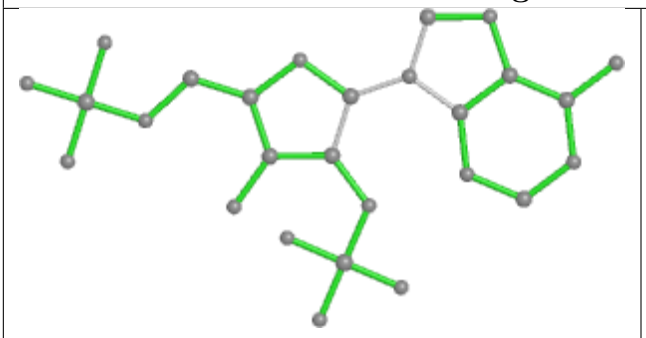
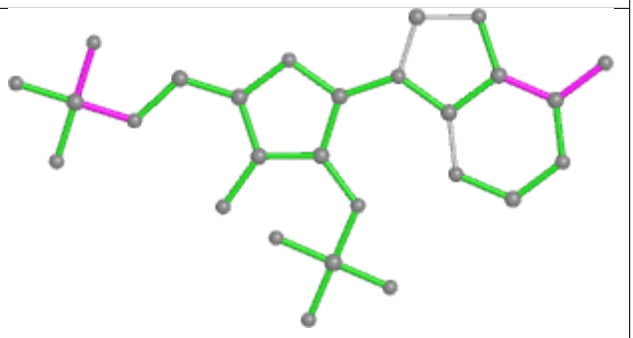


Rings

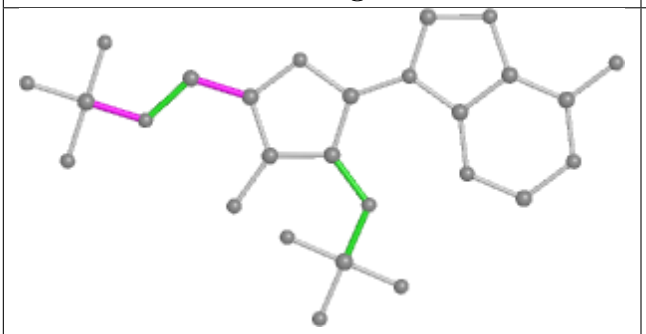
Ligand NAP A 3002



Bond lengths



Bond angles



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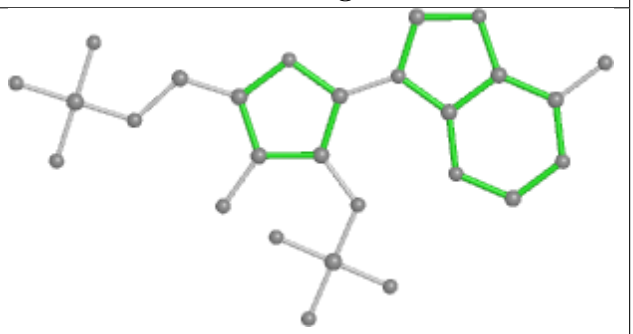
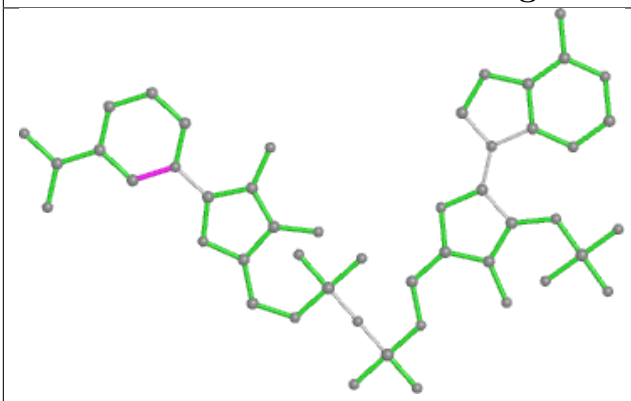


Rings

Ligand NAP I 3001



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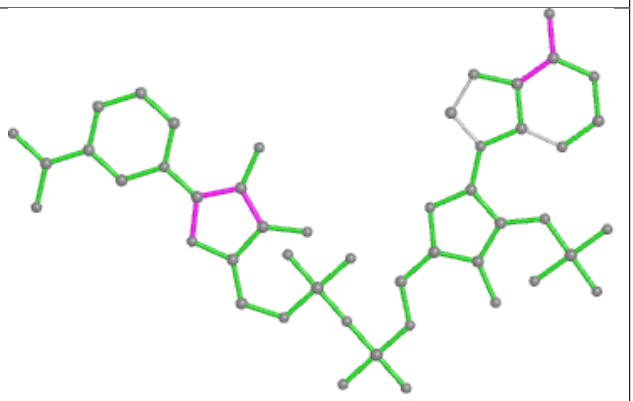
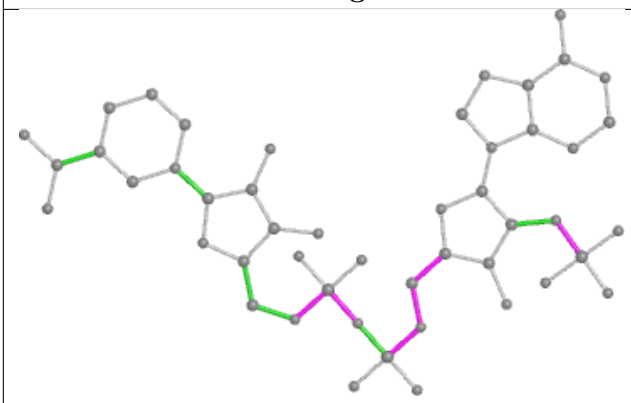
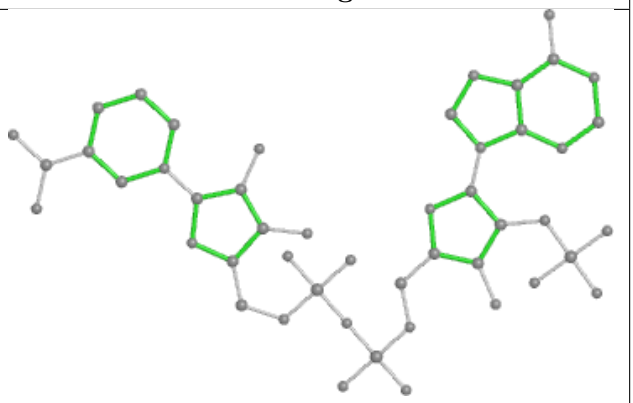


Bond angles

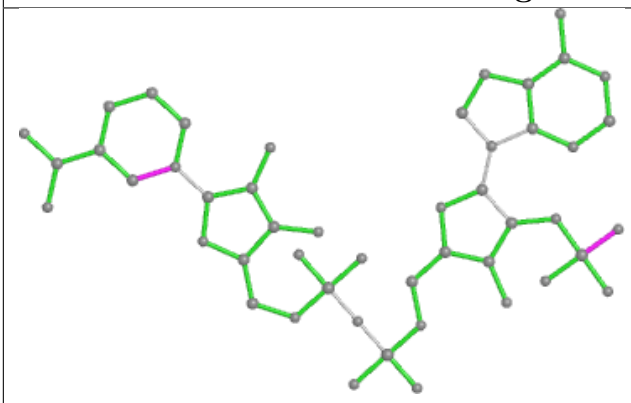


Torsions

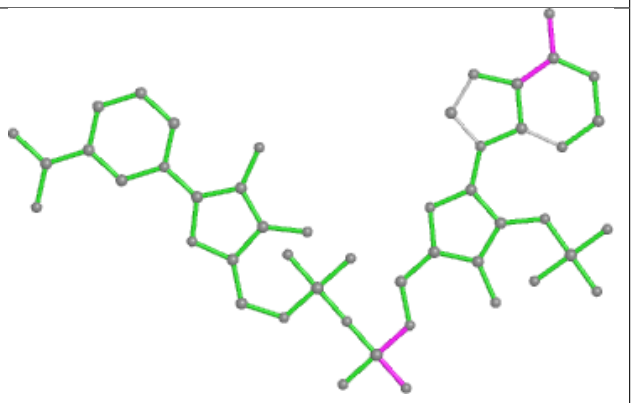


Rings

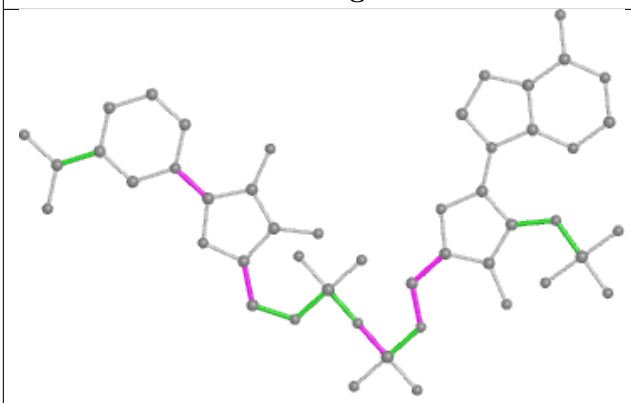
Ligand NAP L 3001



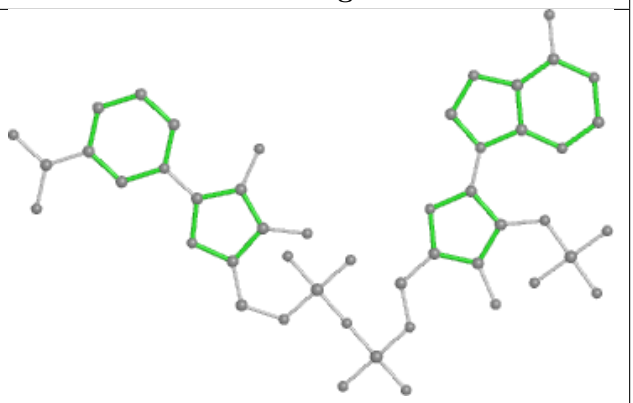
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

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, 95^{th} 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	1102/1140 (96%)	0.77	114 (10%) 6 6	84, 166, 265, 278	0
1	B	1102/1140 (96%)	0.61	52 (4%) 31 28	85, 136, 221, 240	0
1	C	1102/1140 (96%)	0.66	95 (8%) 10 9	89, 162, 233, 261	0
1	D	1102/1140 (96%)	0.70	108 (9%) 7 6	92, 173, 262, 282	0
1	E	1089/1140 (95%)	1.14	245 (22%) 0 0	127, 204, 264, 278	0
1	F	1093/1140 (95%)	0.97	184 (16%) 1 1	125, 193, 236, 259	0
1	G	1088/1140 (95%)	0.82	154 (14%) 2 3	108, 174, 224, 260	0
1	H	1097/1140 (96%)	0.85	161 (14%) 2 2	113, 180, 220, 255	0
1	I	655/1140 (57%)	0.80	67 (10%) 6 6	96, 167, 220, 254	0
1	J	1089/1140 (95%)	0.68	81 (7%) 14 12	94, 166, 213, 252	0
1	K	1089/1140 (95%)	0.68	76 (6%) 16 13	85, 138, 187, 226	0
1	L	897/1140 (78%)	1.13	149 (16%) 1 1	81, 145, 244, 264	0
1	M	1089/1140 (95%)	1.06	208 (19%) 1 1	111, 175, 239, 265	0
1	N	1089/1140 (95%)	0.66	92 (8%) 11 10	107, 157, 205, 254	0
1	O	633/1140 (55%)	0.69	39 (6%) 20 17	84, 131, 183, 222	0
1	P	1089/1140 (95%)	0.72	96 (8%) 10 8	85, 150, 211, 247	0
1	Q	608/1140 (53%)	1.75	198 (32%) 0 0	180, 229, 263, 279	0
1	R	637/1140 (55%)	1.10	139 (21%) 0 0	158, 210, 247, 266	0
All	All	17650/20520 (86%)	0.85	2258 (12%) 3 4	81, 170, 243, 282	0

All (2258) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	Q	1074	THR	18.0
1	L	1871	ASP	17.2
1	Q	1073	PRO	13.5

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Mol	Chain	Res	Type	RSRZ
1	Q	943	PRO	13.2
1	Q	942	LEU	12.6
1	M	1794	VAL	12.6
1	L	1947	GLY	11.7
1	L	1879	ALA	11.6
1	Q	1123	LEU	11.3
1	M	1799	ALA	10.7
1	L	1818	ILE	10.5
1	L	1948	GLU	10.3
1	M	1795	ASN	9.2
1	Q	946	ALA	9.1
1	M	1224	ASP	9.1
1	L	1768	VAL	8.8
1	A	1856	GLU	8.8
1	E	1761	PHE	8.7
1	M	1773	LEU	8.7
1	A	1275	ALA	8.4
1	L	1838	ALA	8.3
1	Q	1152	VAL	8.2
1	A	1274	VAL	8.0
1	A	1217	LEU	8.0
1	Q	1513	TRP	7.9
1	L	1769	ILE	7.8
1	L	1792	ILE	7.7
1	L	1967	GLY	7.6
1	Q	1423	LEU	7.6
1	M	1821	GLU	7.6
1	F	1506	GLY	7.5
1	L	1850	HIS	7.5
1	E	1274	VAL	7.3
1	L	1793	VAL	7.2
1	E	1983	GLY	7.2
1	E	1982	ASN	7.1
1	D	1948	GLU	7.0
1	E	1395	TYR	7.0
1	C	1983	GLY	6.9
1	L	1856	GLU	6.9
1	Q	1717	HIS	6.9
1	E	1498	HIS	6.9
1	Q	1588	ALA	6.8
1	F	1655	GLU	6.8
1	Q	1683	LEU	6.8

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Mol	Chain	Res	Type	RSRZ
1	L	1880	TRP	6.8
1	L	1968	ALA	6.7
1	M	1280	ASP	6.6
1	L	1985	ALA	6.6
1	E	1275	ALA	6.6
1	A	1986	PRO	6.6
1	L	1887	GLN	6.6
1	Q	1107	ILE	6.5
1	L	1964	PRO	6.5
1	A	1288	HIS	6.5
1	E	1388	ALA	6.4
1	A	1192	LEU	6.4
1	K	1420	GLY	6.4
1	Q	1496	THR	6.4
1	Q	1119	MET	6.3
1	L	2002	PHE	6.3
1	L	1989	GLY	6.3
1	E	1321	LEU	6.3
1	L	1771	GLY	6.3
1	M	1796	SER	6.3
1	A	1323	VAL	6.2
1	M	1792	ILE	6.2
1	B	1217	LEU	6.1
1	E	1192	LEU	6.1
1	Q	944	GLY	6.1
1	R	1739	LEU	6.1
1	L	1851	ALA	6.1
1	L	1780	LEU	6.1
1	Q	1174	LEU	6.1
1	Q	945	ALA	6.1
1	M	1223	ASP	6.0
1	M	1886	VAL	6.0
1	E	1767	TYR	6.0
1	A	1984	TYR	6.0
1	L	1942	ALA	6.0
1	F	1505	GLY	6.0
1	D	1533	GLU	6.0
1	G	1399	LEU	5.9
1	F	1710	LEU	5.9
1	M	1820	VAL	5.9
1	A	1818	ILE	5.9
1	A	1321	LEU	5.9

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Mol	Chain	Res	Type	RSRZ
1	F	1483	GLU	5.9
1	R	1736	THR	5.9
1	L	1770	THR	5.8
1	E	1310	THR	5.8
1	A	1276	VAL	5.8
1	Q	1067	VAL	5.8
1	Q	1104	GLN	5.8
1	L	1946	TRP	5.8
1	L	1794	VAL	5.8
1	Q	1108	ALA	5.8
1	L	1812	ARG	5.8
1	G	1773	LEU	5.7
1	E	1518	THR	5.7
1	Q	1102	CYS	5.7
1	Q	1175	GLY	5.7
1	F	1447	GLY	5.7
1	E	1917	TYR	5.6
1	Q	1075	VAL	5.6
1	C	1984	TYR	5.6
1	E	942	LEU	5.6
1	L	1802	THR	5.6
1	Q	1128	LEU	5.6
1	Q	1129	ARG	5.6
1	Q	1113	GLN	5.6
1	P	1818	ILE	5.6
1	B	1996	PHE	5.5
1	Q	1165	VAL	5.5
1	K	1227	ASN	5.5
1	E	1920	ALA	5.5
1	D	1274	VAL	5.5
1	D	1984	TYR	5.5
1	L	1962	ILE	5.5
1	Q	1172	LEU	5.5
1	N	1288	HIS	5.4
1	H	1588	ALA	5.4
1	E	943	PRO	5.4
1	Q	940	ALA	5.4
1	R	1660	ASP	5.4
1	Q	1021	GLU	5.3
1	P	1486	GLY	5.3
1	E	1246	THR	5.3
1	R	1523	LEU	5.3

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Mol	Chain	Res	Type	RSRZ
1	D	1983	GLY	5.3
1	Q	1151	GLY	5.3
1	G	1925	ASP	5.3
1	A	1337	PRO	5.3
1	N	1773	LEU	5.3
1	Q	1124	GLY	5.3
1	M	1822	CYS	5.3
1	M	1798	SER	5.3
1	L	1883	HIS	5.3
1	G	1902	PHE	5.3
1	C	1275	ALA	5.2
1	R	1050	THR	5.2
1	L	1784	MET	5.2
1	Q	1122	PRO	5.2
1	A	1985	ALA	5.2
1	C	1792	ILE	5.2
1	Q	1029	ASP	5.2
1	G	2006	PHE	5.2
1	O	1745	ASP	5.2
1	Q	941	VAL	5.1
1	D	1277	ILE	5.1
1	E	1276	VAL	5.1
1	M	1761	PHE	5.1
1	E	1322	TYR	5.1
1	M	1737	GLY	5.1
1	C	1218	VAL	5.1
1	J	1792	ILE	5.1
1	L	1845	LEU	5.0
1	H	1525	THR	5.0
1	L	1971	PHE	5.0
1	Q	1130	ALA	5.0
1	M	1226	GLU	5.0
1	Q	947	TYR	5.0
1	F	1105	SER	5.0
1	L	1944	GLY	5.0
1	M	1857	ASP	5.0
1	L	1925	ASP	5.0
1	R	1079	VAL	5.0
1	F	1773	LEU	4.9
1	M	1750	GLN	4.9
1	L	2003	ALA	4.9
1	E	1529	GLU	4.9

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Mol	Chain	Res	Type	RSRZ
1	M	1408	GLU	4.9
1	Q	1084	PRO	4.9
1	B	1218	VAL	4.9
1	F	1907	ALA	4.9
1	M	1883	HIS	4.9
1	R	1533	GLU	4.8
1	C	1274	VAL	4.8
1	F	1161	ALA	4.8
1	H	1531	ILE	4.8
1	M	1863	ILE	4.8
1	L	1782	GLU	4.8
1	Q	1493	PRO	4.8
1	G	1337	PRO	4.8
1	F	1984	TYR	4.8
1	L	1882	LEU	4.8
1	H	1505	GLY	4.8
1	F	1792	ILE	4.8
1	M	1966	GLU	4.8
1	E	1342	SER	4.8
1	E	1348	ILE	4.8
1	E	1058	ALA	4.8
1	E	1968	ALA	4.8
1	Q	1473	PHE	4.7
1	G	1362	GLN	4.7
1	Q	1521	ALA	4.7
1	Q	1076	VAL	4.7
1	Q	1466	ALA	4.7
1	L	1870	HIS	4.7
1	A	1399	LEU	4.7
1	M	1825	ILE	4.7
1	E	1738	LYS	4.7
1	Q	1103	PHE	4.7
1	L	1799	ALA	4.7
1	H	1602	TRP	4.7
1	M	1979	ARG	4.7
1	I	1142	SER	4.7
1	F	1986	PRO	4.7
1	Q	1470	CYS	4.7
1	I	1062	LEU	4.7
1	L	1927	PHE	4.7
1	F	1120	LEU	4.7
1	F	1647	LEU	4.7

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Mol	Chain	Res	Type	RSRZ
1	F	1482	SER	4.6
1	E	1539	VAL	4.6
1	L	1878	GLY	4.6
1	L	2008	ALA	4.6
1	M	1856	GLU	4.6
1	D	1193	LEU	4.6
1	H	1396	ALA	4.6
1	E	896	PRO	4.6
1	M	1875	LYS	4.6
1	E	1387	THR	4.6
1	G	1279	GLY	4.6
1	A	1792	ILE	4.6
1	M	1374	LEU	4.6
1	R	1191	ARG	4.6
1	E	1947	GLY	4.5
1	A	1246	THR	4.5
1	A	1400	CYS	4.5
1	G	1274	VAL	4.5
1	Q	1512	CYS	4.5
1	E	1421	MET	4.5
1	I	1482	SER	4.5
1	O	1750	GLN	4.5
1	Q	1434	MET	4.5
1	F	1152	VAL	4.5
1	H	1498	HIS	4.5
1	P	1816	ALA	4.5
1	Q	1491	VAL	4.5
1	R	1051	VAL	4.5
1	M	1902	PHE	4.5
1	A	1322	TYR	4.5
1	Q	1449	ILE	4.5
1	H	1397	ALA	4.5
1	N	1850	HIS	4.5
1	R	903	LEU	4.5
1	R	1039	VAL	4.5
1	E	1269	GLN	4.5
1	L	1779	PHE	4.5
1	L	2006	PHE	4.4
1	E	1203	PRO	4.4
1	C	1089	GLN	4.4
1	G	1903	SER	4.4
1	M	1195	ILE	4.4

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Mol	Chain	Res	Type	RSRZ
1	M	1899	PHE	4.4
1	P	1825	ILE	4.4
1	M	1772	GLY	4.4
1	L	1781	ALA	4.4
1	Q	1142	SER	4.4
1	C	1772	GLY	4.4
1	I	1505	GLY	4.4
1	G	1498	HIS	4.4
1	D	1909	VAL	4.4
1	I	1089	GLN	4.4
1	R	1524	ALA	4.4
1	G	1999	ARG	4.4
1	F	1996	PHE	4.4
1	H	1778	LEU	4.3
1	P	1992	TRP	4.3
1	E	1789	CYS	4.3
1	E	1992	TRP	4.3
1	R	1053	ILE	4.3
1	Q	1010	ALA	4.3
1	G	1108	ALA	4.3
1	H	1386	GLU	4.3
1	R	1065	ALA	4.3
1	J	1845	LEU	4.3
1	E	1739	LEU	4.3
1	M	1295	ARG	4.3
1	P	1835	VAL	4.3
1	G	1195	ILE	4.3
1	M	1225	ASP	4.3
1	E	1059	PHE	4.3
1	N	1984	TYR	4.3
1	D	1982	ASN	4.3
1	F	1107	ILE	4.3
1	F	2006	PHE	4.3
1	E	1919	ALA	4.2
1	B	1449	ILE	4.2
1	H	1055	HIS	4.2
1	M	1898	TRP	4.2
1	P	1329	GLN	4.2
1	G	1996	PHE	4.2
1	M	1871	ASP	4.2
1	F	1705	ILE	4.2
1	H	1147	ALA	4.2

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Mol	Chain	Res	Type	RSRZ
1	M	1868	VAL	4.2
1	A	1800	PRO	4.2
1	H	1792	ILE	4.2
1	M	1759	PRO	4.2
1	Q	1694	ILE	4.2
1	E	1194	THR	4.2
1	F	1074	THR	4.2
1	F	1909	VAL	4.2
1	E	1543	TYR	4.2
1	O	1421	MET	4.2
1	E	1343	GLY	4.2
1	B	1219	ILE	4.2
1	Q	1065	ALA	4.1
1	R	1683	LEU	4.1
1	F	1104	GLN	4.1
1	L	1795	ASN	4.1
1	M	1896	LEU	4.1
1	G	1032	LEU	4.1
1	D	1282	GLU	4.1
1	F	1160	ASP	4.1
1	F	1507	VAL	4.1
1	E	1399	LEU	4.1
1	Q	1739	LEU	4.1
1	P	1991	SER	4.1
1	F	1456	SER	4.1
1	F	1971	PHE	4.1
1	F	1941	ILE	4.1
1	Q	950	MET	4.1
1	H	1946	TRP	4.1
1	L	1872	TRP	4.1
1	L	1884	GLN	4.1
1	H	1139	TYR	4.1
1	M	1947	GLY	4.1
1	H	2003	ALA	4.1
1	Q	1009	ARG	4.1
1	N	1793	VAL	4.1
1	R	1190	GLU	4.1
1	A	1218	VAL	4.1
1	C	1219	ILE	4.1
1	G	1374	LEU	4.1
1	Q	1066	TYR	4.0
1	A	1854	VAL	4.0

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Mol	Chain	Res	Type	RSRZ
1	G	1193	LEU	4.0
1	J	1746	THR	4.0
1	H	1767	TYR	4.0
1	L	1789	CYS	4.0
1	P	1882	LEU	4.0
1	A	1964	PRO	4.0
1	E	1282	GLU	4.0
1	L	1820	VAL	4.0
1	Q	974	LEU	4.0
1	Q	1497	THR	4.0
1	H	923	VAL	4.0
1	I	1081	LEU	4.0
1	E	1369	THR	4.0
1	R	1119	MET	4.0
1	L	1977	HIS	4.0
1	L	1984	TYR	4.0
1	M	1893	THR	4.0
1	A	1247	MET	4.0
1	Q	1696	ASP	4.0
1	E	1374	LEU	4.0
1	E	1786	ALA	4.0
1	H	898	VAL	4.0
1	M	1344	LEU	4.0
1	Q	1143	ARG	4.0
1	J	1386	GLU	4.0
1	M	1767	TYR	4.0
1	C	2006	PHE	4.0
1	M	1964	PRO	4.0
1	F	1702	TYR	4.0
1	L	1764	ASP	4.0
1	M	1946	TRP	4.0
1	H	1533	GLU	4.0
1	O	1414	ALA	4.0
1	A	1202	LEU	4.0
1	G	1205	PRO	4.0
1	F	1065	ALA	4.0
1	Q	1440	GLU	3.9
1	F	1273	GLY	3.9
1	G	1218	VAL	3.9
1	J	1153	GLU	3.9
1	A	1324	VAL	3.9
1	H	1106	VAL	3.9

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Mol	Chain	Res	Type	RSRZ
1	Q	934	HIS	3.9
1	G	2003	ALA	3.9
1	F	1055	HIS	3.9
1	I	1737	GLY	3.9
1	F	1735	HIS	3.9
1	E	1759	PRO	3.9
1	Q	1173	GLN	3.9
1	Q	1702	TYR	3.9
1	A	1203	PRO	3.9
1	Q	1059	PHE	3.9
1	M	1880	TRP	3.9
1	E	1760	VAL	3.9
1	G	1058	ALA	3.9
1	J	1789	CYS	3.9
1	F	1675	ASN	3.9
1	C	1214	GLY	3.9
1	C	1777	GLY	3.9
1	Q	1471	PRO	3.9
1	R	1506	GLY	3.9
1	Q	1654	VAL	3.9
1	E	1524	ALA	3.9
1	E	1785	ALA	3.9
1	E	1245	THR	3.9
1	Q	1571	VAL	3.8
1	L	1961	ALA	3.8
1	R	1654	VAL	3.8
1	F	1053	ILE	3.8
1	G	1268	GLU	3.8
1	I	1497	THR	3.8
1	R	1737	GLY	3.8
1	F	1294	ALA	3.8
1	L	1901	ALA	3.8
1	E	1323	VAL	3.8
1	F	1743	ILE	3.8
1	E	1972	GLU	3.8
1	H	1081	LEU	3.8
1	H	1562	ILE	3.8
1	E	1907	ALA	3.8
1	D	1324	VAL	3.8
1	H	1808	ILE	3.8
1	N	1769	ILE	3.8
1	Q	1062	LEU	3.8

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Mol	Chain	Res	Type	RSRZ
1	G	1152	VAL	3.8
1	N	1907	ALA	3.8
1	P	1817	ASP	3.8
1	A	1195	ILE	3.8
1	A	1855	VAL	3.8
1	E	1766	ALA	3.8
1	G	1301	VAL	3.8
1	D	1394	TRP	3.8
1	F	1247	MET	3.8
1	Q	1112	VAL	3.8
1	F	1079	VAL	3.8
1	N	1768	VAL	3.8
1	E	1984	TYR	3.8
1	N	1818	ILE	3.8
1	R	1465	VAL	3.8
1	A	1880	TRP	3.7
1	G	1076	VAL	3.7
1	P	1975	LEU	3.7
1	L	1839	THR	3.7
1	E	1792	ILE	3.7
1	N	1764	ASP	3.7
1	H	1399	LEU	3.7
1	H	1702	TYR	3.7
1	E	1074	THR	3.7
1	G	1278	VAL	3.7
1	H	1504	VAL	3.7
1	Q	1436	LEU	3.7
1	E	906	SER	3.7
1	H	1107	ILE	3.7
1	P	1837	ALA	3.7
1	F	1340	GLU	3.7
1	Q	1114	ASN	3.7
1	Q	1540	GLY	3.7
1	F	1077	ALA	3.7
1	E	1066	TYR	3.7
1	M	1855	VAL	3.7
1	G	1818	ILE	3.7
1	E	1479	GLU	3.7
1	F	1098	LEU	3.7
1	A	1319	PRO	3.7
1	E	1325	THR	3.7
1	G	1275	ALA	3.7

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Mol	Chain	Res	Type	RSRZ
1	E	1519	CYS	3.7
1	R	1505	GLY	3.7
1	K	1773	LEU	3.7
1	D	1777	GLY	3.7
1	L	2005	LEU	3.7
1	M	1325	THR	3.7
1	P	2006	PHE	3.7
1	Q	1085	LEU	3.7
1	R	1655	GLU	3.7
1	N	1794	VAL	3.6
1	P	1834	LEU	3.6
1	H	1212	ASP	3.6
1	F	1386	GLU	3.6
1	Q	1718	TYR	3.6
1	E	1076	VAL	3.6
1	L	1849	LEU	3.6
1	E	1204	ARG	3.6
1	F	1288	HIS	3.6
1	M	1769	ILE	3.6
1	J	1105	SER	3.6
1	E	1975	LEU	3.6
1	I	1471	PRO	3.6
1	R	1462	ASP	3.6
1	A	1329	GLN	3.6
1	L	1028	ILE	3.6
1	R	1640	GLN	3.6
1	I	1085	LEU	3.6
1	A	1780	LEU	3.6
1	B	1984	TYR	3.6
1	E	1363	ILE	3.6
1	F	1626	TYR	3.6
1	L	1811	ILE	3.6
1	R	976	LEU	3.6
1	M	1402	SER	3.6
1	M	1907	ALA	3.6
1	A	1877	TYR	3.6
1	F	1385	ASP	3.6
1	F	1633	ASN	3.6
1	M	1323	VAL	3.6
1	C	1996	PHE	3.6
1	Q	1698	LEU	3.6
1	E	1946	TRP	3.6

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Mol	Chain	Res	Type	RSRZ
1	F	1384	GLU	3.6
1	C	1311	LEU	3.6
1	A	1194	THR	3.6
1	O	1744	PRO	3.6
1	Q	1589	THR	3.6
1	M	1776	LEU	3.6
1	C	1773	LEU	3.6
1	D	1985	ALA	3.6
1	E	1221	ALA	3.6
1	E	1315	VAL	3.6
1	M	1440	GLU	3.6
1	E	1697	LEU	3.6
1	N	1899	PHE	3.6
1	E	1918	ALA	3.6
1	F	1060	ALA	3.6
1	M	1297	GLY	3.6
1	P	1271	LEU	3.6
1	P	1845	LEU	3.6
1	R	1632	LEU	3.6
1	C	1986	PRO	3.6
1	G	1109	HIS	3.6
1	N	1534	HIS	3.6
1	R	1498	HIS	3.6
1	H	1053	ILE	3.6
1	O	1089	GLN	3.6
1	M	1969	TYR	3.6
1	M	1194	THR	3.6
1	Q	1527	LEU	3.6
1	F	1768	VAL	3.5
1	H	1563	LEU	3.5
1	A	1216	TRP	3.5
1	E	1420	GLY	3.5
1	M	1222	GLY	3.5
1	B	1220	LEU	3.5
1	G	2007	LEU	3.5
1	I	1091	GLY	3.5
1	G	1323	VAL	3.5
1	G	1820	VAL	3.5
1	J	1767	TYR	3.5
1	Q	1121	LEU	3.5
1	O	1447	GLY	3.5
1	A	1401	PRO	3.5

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Mol	Chain	Res	Type	RSRZ
1	H	1070	ALA	3.5
1	H	1818	ILE	3.5
1	M	1943	TRP	3.5
1	D	1106	VAL	3.5
1	E	1784	MET	3.5
1	F	1648	ALA	3.5
1	Q	1028	ILE	3.5
1	H	1319	PRO	3.5
1	P	1795	ASN	3.5
1	I	1504	VAL	3.5
1	K	1820	VAL	3.5
1	I	1090	ARG	3.5
1	E	1971	PHE	3.5
1	G	1277	ILE	3.5
1	R	1074	THR	3.5
1	E	1436	LEU	3.5
1	F	1769	ILE	3.5
1	I	1512	CYS	3.5
1	Q	948	CYS	3.5
1	F	1946	TRP	3.5
1	P	1820	VAL	3.5
1	R	1078	ALA	3.5
1	R	1189	ASP	3.5
1	E	1845	LEU	3.5
1	G	1239	GLY	3.5
1	A	1223	ASP	3.5
1	M	1294	ALA	3.5
1	E	1205	PRO	3.5
1	M	1816	ALA	3.5
1	I	1513	TRP	3.5
1	J	1791	ARG	3.5
1	C	1909	VAL	3.5
1	H	1971	PHE	3.5
1	I	1498	HIS	3.5
1	P	1794	VAL	3.5
1	Q	1681	VAL	3.5
1	R	1419	GLU	3.5
1	J	2007	LEU	3.4
1	L	1808	ILE	3.4
1	L	1746	THR	3.4
1	G	1793	VAL	3.4
1	A	1825	ILE	3.4

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Mol	Chain	Res	Type	RSRZ
1	E	1195	ILE	3.4
1	F	1908	LEU	3.4
1	H	931	LEU	3.4
1	L	1824	ASP	3.4
1	M	1330	HIS	3.4
1	F	1902	PHE	3.4
1	G	1372	GLU	3.4
1	D	1759	PRO	3.4
1	H	1076	VAL	3.4
1	G	1120	LEU	3.4
1	Q	1500	VAL	3.4
1	E	1695	ARG	3.4
1	I	1141	LEU	3.4
1	R	1627	GLY	3.4
1	E	1341	HIS	3.4
1	G	1197	TRP	3.4
1	D	1344	LEU	3.4
1	L	1868	VAL	3.4
1	L	1986	PRO	3.4
1	P	1778	LEU	3.4
1	E	1729	ILE	3.4
1	C	1795	ASN	3.4
1	G	1169	ALA	3.4
1	M	1845	LEU	3.4
1	Q	1481	GLY	3.4
1	R	991	PRO	3.4
1	D	1816	ALA	3.4
1	J	1147	ALA	3.4
1	E	1402	SER	3.4
1	Q	1498	HIS	3.4
1	A	1200	ARG	3.4
1	Q	1508	SER	3.4
1	L	1874	PRO	3.4
1	E	1517	VAL	3.4
1	D	1818	ILE	3.4
1	R	1485	GLY	3.4
1	R	1529	GLU	3.4
1	M	1936	LEU	3.4
1	N	1821	GLU	3.4
1	D	1854	VAL	3.4
1	L	1798	SER	3.4
1	B	1221	ALA	3.4

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Mol	Chain	Res	Type	RSRZ
1	E	1985	ALA	3.4
1	L	1791	ARG	3.4
1	F	1028	ILE	3.4
1	G	1850	HIS	3.4
1	M	1385	ASP	3.4
1	L	1827	GLU	3.3
1	N	1817	ASP	3.3
1	C	974	LEU	3.3
1	H	1738	LYS	3.3
1	H	1845	LEU	3.3
1	P	1773	LEU	3.3
1	E	1746	THR	3.3
1	F	1337	PRO	3.3
1	G	1360	ALA	3.3
1	E	1273	GLY	3.3
1	Q	1643	GLY	3.3
1	M	1306	ARG	3.3
1	M	1934	GLN	3.3
1	E	962	THR	3.3
1	L	1983	GLY	3.3
1	M	1921	ASN	3.3
1	L	1981	TYR	3.3
1	Q	998	VAL	3.3
1	E	1041	GLY	3.3
1	N	1975	LEU	3.3
1	J	1817	ASP	3.3
1	P	1946	TRP	3.3
1	D	1365	VAL	3.3
1	A	1804	SER	3.3
1	G	1739	LEU	3.3
1	M	1849	LEU	3.3
1	F	1631	VAL	3.3
1	O	1417	ALA	3.3
1	P	1879	ALA	3.3
1	I	1053	ILE	3.3
1	M	1331	VAL	3.3
1	N	923	VAL	3.3
1	P	1793	VAL	3.3
1	R	1152	VAL	3.3
1	H	2008	ALA	3.3
1	H	1387	THR	3.3
1	G	1792	ILE	3.3

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Mol	Chain	Res	Type	RSRZ
1	G	1987	VAL	3.3
1	F	1983	GLY	3.3
1	G	1357	ARG	3.3
1	A	1924	LEU	3.3
1	R	1117	SER	3.3
1	G	1924	LEU	3.3
1	L	1908	LEU	3.3
1	Q	1543	TYR	3.3
1	A	1345	ARG	3.3
1	R	1633	ASN	3.2
1	M	1784	MET	3.2
1	M	948	CYS	3.2
1	M	1290	VAL	3.2
1	Q	996	PHE	3.2
1	E	1762	ARG	3.2
1	E	1986	PRO	3.2
1	M	1970	ALA	3.2
1	Q	991	PRO	3.2
1	F	1653	PHE	3.2
1	G	1946	TRP	3.2
1	R	942	LEU	3.2
1	P	1204	ARG	3.2
1	E	1782	GLU	3.2
1	G	1223	ASP	3.2
1	G	1794	VAL	3.2
1	E	1216	TRP	3.2
1	E	1880	TRP	3.2
1	L	1834	LEU	3.2
1	M	1328	SER	3.2
1	R	1720	LEU	3.2
1	H	1819	VAL	3.2
1	M	1870	HIS	3.2
1	P	1768	VAL	3.2
1	R	1062	LEU	3.2
1	Q	1524	ALA	3.2
1	R	1075	VAL	3.2
1	M	1229	ARG	3.2
1	D	1267	ASP	3.2
1	F	1455	ALA	3.2
1	K	1925	ASP	3.2
1	R	1726	ALA	3.2
1	A	1310	THR	3.2

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Mol	Chain	Res	Type	RSRZ
1	L	1970	ALA	3.2
1	M	1848	VAL	3.2
1	M	1770	THR	3.2
1	A	1484	PHE	3.2
1	E	1981	TYR	3.2
1	G	1769	ILE	3.2
1	R	897	SER	3.2
1	F	1709	THR	3.2
1	H	1423	LEU	3.2
1	Q	976	LEU	3.2
1	A	1916	ALA	3.2
1	P	1838	ALA	3.2
1	R	1658	LYS	3.2
1	E	1193	LEU	3.2
1	H	1712	LEU	3.2
1	P	1769	ILE	3.2
1	P	1792	ILE	3.2
1	G	1992	TRP	3.2
1	L	1943	TRP	3.2
1	R	1723	ALA	3.2
1	O	1420	GLY	3.2
1	D	1971	PHE	3.2
1	Q	1098	LEU	3.2
1	E	1499	ARG	3.1
1	G	1373	ALA	3.1
1	J	2008	ALA	3.1
1	Q	1692	GLN	3.1
1	Q	896	PRO	3.1
1	R	1066	TYR	3.1
1	F	1513	TRP	3.1
1	Q	1745	ASP	3.1
1	R	1480	LEU	3.1
1	N	1512	CYS	3.1
1	M	1927	PHE	3.1
1	F	1573	GLN	3.1
1	H	1523	LEU	3.1
1	M	1116	ALA	3.1
1	G	1267	ASP	3.1
1	C	1288	HIS	3.1
1	K	1702	TYR	3.1
1	N	1946	TRP	3.1
1	Q	1096	PRO	3.1

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Mol	Chain	Res	Type	RSRZ
1	L	1437	VAL	3.1
1	E	1604	ILE	3.1
1	E	1790	GLY	3.1
1	F	1738	LYS	3.1
1	M	1771	GLY	3.1
1	M	1948	GLU	3.1
1	N	1819	VAL	3.1
1	F	1108	ALA	3.1
1	Q	1020	ALA	3.1
1	K	1089	GLN	3.1
1	P	1484	PHE	3.1
1	R	1038	ARG	3.1
1	B	2006	PHE	3.1
1	H	1059	PHE	3.1
1	F	1073	PRO	3.1
1	G	1791	ARG	3.1
1	F	1480	LEU	3.1
1	L	1896	LEU	3.1
1	F	1486	GLY	3.1
1	F	1536	ALA	3.1
1	K	1421	MET	3.1
1	Q	965	VAL	3.1
1	E	1536	ALA	3.1
1	A	1058	ALA	3.1
1	F	1457	SER	3.1
1	H	1028	ILE	3.1
1	K	1761	PHE	3.1
1	M	1749	SER	3.1
1	D	1856	GLU	3.1
1	R	1730	MET	3.1
1	C	1081	LEU	3.1
1	M	1778	LEU	3.1
1	J	1853	ALA	3.1
1	L	1903	SER	3.1
1	A	1817	ASP	3.1
1	A	2005	LEU	3.1
1	F	1081	LEU	3.1
1	F	1522	ASP	3.1
1	G	1361	THR	3.1
1	C	1273	GLY	3.1
1	D	1233	VAL	3.1
1	J	1154	ALA	3.1

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Mol	Chain	Res	Type	RSRZ
1	L	1997	ALA	3.1
1	M	1851	ALA	3.1
1	D	1389	TRP	3.1
1	E	1522	ASP	3.1
1	F	1059	PHE	3.1
1	P	1875	LYS	3.1
1	D	1923	TRP	3.1
1	Q	1484	PHE	3.1
1	F	1097	ALA	3.1
1	N	945	ALA	3.1
1	P	1850	HIS	3.1
1	E	1408	GLU	3.1
1	D	1761	PHE	3.1
1	L	1886	VAL	3.0
1	N	1500	VAL	3.0
1	P	1319	PRO	3.0
1	E	1361	THR	3.0
1	C	1351	VAL	3.0
1	L	1120	LEU	3.0
1	M	1874	PRO	3.0
1	D	1996	PHE	3.0
1	F	1138	ARG	3.0
1	H	1324	VAL	3.0
1	E	1854	VAL	3.0
1	R	1115	ILE	3.0
1	E	1722	GLU	3.0
1	B	1216	TRP	3.0
1	E	1883	HIS	3.0
1	E	1236	ALA	3.0
1	M	1416	ASN	3.0
1	O	1511	GLY	3.0
1	P	1907	ALA	3.0
1	E	1964	PRO	3.0
1	G	1311	LEU	3.0
1	H	1058	ALA	3.0
1	J	1538	ALA	3.0
1	F	1914	GLN	3.0
1	H	1791	ARG	3.0
1	O	1422	ARG	3.0
1	H	1137	VAL	3.0
1	L	1076	VAL	3.0
1	R	896	PRO	3.0

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Mol	Chain	Res	Type	RSRZ
1	N	1399	LEU	3.0
1	Q	1147	ALA	3.0
1	E	1979	ARG	3.0
1	H	1854	VAL	3.0
1	I	1421	MET	3.0
1	C	1992	TRP	3.0
1	H	1766	ALA	3.0
1	G	1235	SER	3.0
1	I	1185	GLU	3.0
1	I	1411	THR	3.0
1	P	1290	VAL	3.0
1	J	1946	TRP	3.0
1	A	1816	ALA	3.0
1	H	1524	ALA	3.0
1	D	1276	VAL	3.0
1	J	1317	GLU	3.0
1	N	1450	GLU	3.0
1	P	1868	VAL	3.0
1	R	1454	LYS	3.0
1	O	1456	SER	3.0
1	J	1318	PRO	3.0
1	L	1511	GLY	3.0
1	E	1876	VAL	3.0
1	P	1821	GLU	3.0
1	G	1523	LEU	3.0
1	L	1090	ARG	3.0
1	Q	1570	GLY	3.0
1	R	1116	ALA	3.0
1	H	936	VAL	3.0
1	M	1909	VAL	3.0
1	R	1504	VAL	3.0
1	H	1893	THR	3.0
1	M	1931	ARG	3.0
1	P	1971	PHE	3.0
1	C	1276	VAL	3.0
1	O	1515	ASN	3.0
1	E	1360	ALA	3.0
1	E	1557	SER	3.0
1	K	1838	ALA	3.0
1	R	1653	PHE	3.0
1	F	1504	VAL	3.0
1	Q	1495	VAL	3.0

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Mol	Chain	Res	Type	RSRZ
1	E	1705	ILE	3.0
1	H	1875	LYS	3.0
1	J	1563	LEU	3.0
1	Q	1091	GLY	2.9
1	C	1065	ALA	2.9
1	D	1451	VAL	2.9
1	M	1977	HIS	2.9
1	I	1422	ARG	2.9
1	K	1399	LEU	2.9
1	G	1915	GLY	2.9
1	M	1872	TRP	2.9
1	N	1765	GLY	2.9
1	H	1384	GLU	2.9
1	Q	968	LEU	2.9
1	E	1147	ALA	2.9
1	M	1852	ALA	2.9
1	N	1571	VAL	2.9
1	R	1681	VAL	2.9
1	F	1698	LEU	2.9
1	H	1730	MET	2.9
1	E	1377	GLN	2.9
1	G	1363	ILE	2.9
1	F	1064	GLU	2.9
1	F	1109	HIS	2.9
1	M	1982	ASN	2.9
1	M	1911	SER	2.9
1	I	1075	VAL	2.9
1	K	1325	THR	2.9
1	D	1792	ILE	2.9
1	M	1120	LEU	2.9
1	R	1659	ARG	2.9
1	L	1881	ASN	2.9
1	Q	995	GLU	2.9
1	R	1682	ASP	2.9
1	B	1792	ILE	2.9
1	D	1363	ILE	2.9
1	F	1454	LYS	2.9
1	F	1746	THR	2.9
1	G	1219	ILE	2.9
1	C	1347	LEU	2.9
1	D	1229	ARG	2.9
1	J	1768	VAL	2.9

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Mol	Chain	Res	Type	RSRZ
1	M	1917	TYR	2.9
1	E	1944	GLY	2.9
1	I	1108	ALA	2.9
1	H	1698	LEU	2.9
1	M	1762	ARG	2.9
1	F	1484	PHE	2.9
1	B	1337	PRO	2.9
1	H	1543	TYR	2.9
1	H	1850	HIS	2.9
1	J	1818	ILE	2.9
1	K	1792	ILE	2.9
1	R	1017	ASP	2.9
1	F	1523	LEU	2.9
1	D	2006	PHE	2.9
1	J	1525	THR	2.9
1	D	1845	LEU	2.9
1	E	1373	ALA	2.9
1	F	2003	ALA	2.9
1	H	1205	PRO	2.9
1	Q	906	SER	2.9
1	D	1377	GLN	2.9
1	G	1909	VAL	2.9
1	K	1139	TYR	2.9
1	C	934	HIS	2.9
1	C	1360	ALA	2.9
1	F	1221	ALA	2.9
1	G	1816	ALA	2.9
1	K	1818	ILE	2.9
1	M	1843	LEU	2.9
1	H	1419	GLU	2.9
1	Q	1157	GLU	2.9
1	F	1409	ARG	2.9
1	A	1193	LEU	2.9
1	E	1765	GLY	2.9
1	K	1505	GLY	2.9
1	M	1800	PRO	2.9
1	M	1975	LEU	2.9
1	N	931	LEU	2.9
1	F	1451	VAL	2.9
1	M	1227	ASN	2.9
1	M	1884	GLN	2.9
1	D	1219	ILE	2.9

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Mol	Chain	Res	Type	RSRZ
1	F	1078	ALA	2.9
1	H	1902	PHE	2.9
1	Q	1099	LEU	2.9
1	Q	1167	LEU	2.9
1	E	1040	ASP	2.9
1	O	1419	GLU	2.9
1	C	1193	LEU	2.9
1	K	1217	LEU	2.9
1	F	1218	VAL	2.9
1	R	1094	VAL	2.9
1	D	1946	TRP	2.9
1	E	1602	TRP	2.9
1	A	1925	ASP	2.9
1	Q	1019	ASP	2.9
1	A	1059	PHE	2.9
1	Q	1542	ALA	2.9
1	F	1578	VAL	2.8
1	J	1408	GLU	2.8
1	G	1092	TYR	2.8
1	L	1860	LEU	2.8
1	J	1777	GLY	2.8
1	H	1127	ARG	2.8
1	H	1503	ARG	2.8
1	D	1055	HIS	2.8
1	K	1105	SER	2.8
1	K	1347	LEU	2.8
1	H	1329	GLN	2.8
1	R	1154	ALA	2.8
1	R	1134	THR	2.8
1	H	1769	ILE	2.8
1	H	1065	ALA	2.8
1	P	1294	ALA	2.8
1	J	1773	LEU	2.8
1	O	1746	THR	2.8
1	F	1781	ALA	2.8
1	G	1116	ALA	2.8
1	J	986	ALA	2.8
1	E	1548	LEU	2.8
1	I	1128	LEU	2.8
1	J	1838	ALA	2.8
1	M	1076	VAL	2.8
1	R	1165	VAL	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	1533	GLU	2.8
1	M	1399	LEU	2.8
1	M	1745	ASP	2.8
1	E	1191	ARG	2.8
1	M	1169	ALA	2.8
1	C	1399	LEU	2.8
1	E	1996	PHE	2.8
1	Q	1480	LEU	2.8
1	A	1112	VAL	2.8
1	E	1893	THR	2.8
1	E	1977	HIS	2.8
1	G	1927	PHE	2.8
1	K	1698	LEU	2.8
1	A	1768	VAL	2.8
1	H	1747	GLY	2.8
1	G	1128	LEU	2.8
1	F	1219	ILE	2.8
1	K	1276	VAL	2.8
1	R	1137	VAL	2.8
1	D	986	ALA	2.8
1	F	1871	ASP	2.8
1	L	1486	GLY	2.8
1	A	1761	PHE	2.8
1	I	903	LEU	2.8
1	M	1924	LEU	2.8
1	R	931	LEU	2.8
1	P	1219	ILE	2.8
1	A	1079	VAL	2.8
1	E	1855	VAL	2.8
1	F	1534	HIS	2.8
1	G	1276	VAL	2.8
1	H	1534	HIS	2.8
1	I	1507	VAL	2.8
1	I	1163	GLY	2.8
1	M	1937	PRO	2.8
1	L	1031	LEU	2.8
1	R	1158	LEU	2.8
1	A	1820	VAL	2.8
1	D	1768	VAL	2.8
1	D	1808	ILE	2.8
1	L	1893	THR	2.8
1	J	1371	HIS	2.8

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Mol	Chain	Res	Type	RSRZ
1	N	1991	SER	2.8
1	E	2008	ALA	2.8
1	G	1347	LEU	2.8
1	L	1828	PRO	2.8
1	N	976	LEU	2.8
1	F	1538	ALA	2.8
1	G	1804	SER	2.8
1	I	1754	PRO	2.8
1	E	1740	VAL	2.8
1	E	1999	ARG	2.8
1	K	1226	GLU	2.8
1	M	1301	VAL	2.8
1	B	1288	HIS	2.8
1	H	1041	GLY	2.8
1	L	1498	HIS	2.8
1	M	1918	ALA	2.8
1	R	1669	LEU	2.8
1	E	1365	VAL	2.8
1	G	1385	ASP	2.8
1	C	1780	LEU	2.8
1	Q	1582	ALA	2.8
1	L	1800	PRO	2.7
1	L	1819	VAL	2.7
1	M	1914	GLN	2.7
1	O	1415	ASP	2.7
1	A	1899	PHE	2.7
1	G	1321	LEU	2.7
1	K	1907	ALA	2.7
1	P	1899	PHE	2.7
1	A	1999	ARG	2.7
1	F	1274	VAL	2.7
1	M	1326	HIS	2.7
1	Q	1106	VAL	2.7
1	P	1386	GLU	2.7
1	A	1388	ALA	2.7
1	L	1899	PHE	2.7
1	L	1923	TRP	2.7
1	M	970	PHE	2.7
1	F	1449	ILE	2.7
1	L	1876	VAL	2.7
1	K	1326	HIS	2.7
1	Q	1117	SER	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	1867	LEU	2.7
1	E	1120	LEU	2.7
1	H	1849	LEU	2.7
1	M	1938	ALA	2.7
1	K	1195	ILE	2.7
1	F	1095	HIS	2.7
1	H	1711	PRO	2.7
1	A	1853	ALA	2.7
1	H	1872	TRP	2.7
1	N	1741	ILE	2.7
1	E	934	HIS	2.7
1	M	1984	TYR	2.7
1	A	1907	ALA	2.7
1	G	1308	ALA	2.7
1	Q	1422	ARG	2.7
1	J	1821	GLU	2.7
1	N	1655	GLU	2.7
1	Q	1522	ASP	2.7
1	F	1632	LEU	2.7
1	P	1341	HIS	2.7
1	P	1849	LEU	2.7
1	R	947	TYR	2.7
1	D	1077	ALA	2.7
1	D	1490	ALA	2.7
1	F	1360	ALA	2.7
1	Q	1022	ARG	2.7
1	R	1118	GLY	2.7
1	D	1981	TYR	2.7
1	G	1031	LEU	2.7
1	H	1484	PHE	2.7
1	J	996	PHE	2.7
1	P	1311	LEU	2.7
1	Q	1120	LEU	2.7
1	F	1096	PRO	2.7
1	G	1907	ALA	2.7
1	J	1893	THR	2.7
1	M	1197	TRP	2.7
1	Q	986	ALA	2.7
1	C	1860	LEU	2.7
1	L	1867	LEU	2.7
1	A	1222	GLY	2.7
1	E	1916	ALA	2.7

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Mol	Chain	Res	Type	RSRZ
1	H	1768	VAL	2.7
1	M	1793	VAL	2.7
1	Q	1472	SER	2.7
1	A	1226	GLU	2.7
1	H	1099	LEU	2.7
1	L	2007	LEU	2.7
1	R	1431	LEU	2.7
1	D	1793	VAL	2.7
1	F	1116	ALA	2.7
1	F	1540	GLY	2.7
1	G	1920	ALA	2.7
1	L	1816	ALA	2.7
1	M	1279	GLY	2.7
1	Q	1134	THR	2.7
1	A	1833	ARG	2.7
1	H	1031	LEU	2.7
1	I	1436	LEU	2.7
1	N	2006	PHE	2.7
1	G	1941	ILE	2.7
1	G	1986	PRO	2.7
1	I	1147	ALA	2.7
1	A	1369	THR	2.7
1	R	1697	LEU	2.7
1	G	1740	VAL	2.7
1	K	1507	VAL	2.7
1	K	1517	VAL	2.7
1	L	1854	VAL	2.7
1	J	1531	ILE	2.7
1	R	1727	ILE	2.7
1	B	1971	PHE	2.7
1	N	1337	PRO	2.7
1	N	1971	PHE	2.7
1	P	1898	TRP	2.7
1	E	1948	GLU	2.7
1	Q	1695	ARG	2.7
1	F	1730	MET	2.7
1	G	1854	VAL	2.7
1	J	1819	VAL	2.7
1	M	1768	VAL	2.7
1	P	1274	VAL	2.7
1	H	1304	LEU	2.7
1	K	1999	ARG	2.7

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Mol	Chain	Res	Type	RSRZ
1	Q	1166	LEU	2.7
1	Q	1653	PHE	2.7
1	L	2004	GLU	2.7
1	H	1323	VAL	2.7
1	I	1076	VAL	2.7
1	N	1877	TYR	2.7
1	O	1413	VAL	2.7
1	H	945	ALA	2.7
1	Q	1101	ALA	2.7
1	E	1270	PRO	2.7
1	G	1127	ARG	2.7
1	Q	903	LEU	2.7
1	R	1460	PHE	2.7
1	E	1556	MET	2.7
1	H	1817	ASP	2.7
1	K	1324	VAL	2.7
1	B	1277	ILE	2.7
1	E	1974	ILE	2.7
1	G	1325	THR	2.7
1	K	1573	GLN	2.7
1	O	1449	ILE	2.7
1	F	1795	ASN	2.7
1	G	1480	LEU	2.6
1	H	1975	LEU	2.6
1	D	1017	ASP	2.6
1	E	1434	MET	2.6
1	E	1969	TYR	2.6
1	L	1817	ASP	2.6
1	A	1540	GLY	2.6
1	P	1195	ILE	2.6
1	G	1550	LEU	2.6
1	H	1896	LEU	2.6
1	D	1234	VAL	2.6
1	A	1917	TYR	2.6
1	A	1808	ILE	2.6
1	N	1941	ILE	2.6
1	Q	1149	SER	2.6
1	B	1518	THR	2.6
1	F	1521	ALA	2.6
1	K	1975	LEU	2.6
1	M	1932	ARG	2.6
1	C	1740	VAL	2.6

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Mol	Chain	Res	Type	RSRZ
1	G	1533	GLU	2.6
1	E	1105	SER	2.6
1	P	1362	GLN	2.6
1	Q	1519	CYS	2.6
1	R	975	LEU	2.6
1	R	1097	ALA	2.6
1	R	1667	LEU	2.6
1	A	1389	TRP	2.6
1	F	1039	VAL	2.6
1	N	1872	TRP	2.6
1	F	1485	GLY	2.6
1	H	1390	ARG	2.6
1	M	1108	ALA	2.6
1	H	1267	ASP	2.6
1	Q	1465	VAL	2.6
1	B	1408	GLU	2.6
1	A	1505	GLY	2.6
1	J	1059	PHE	2.6
1	Q	1539	VAL	2.6
1	M	1369	THR	2.6
1	Q	1035	HIS	2.6
1	R	1602	TRP	2.6
1	E	1107	ILE	2.6
1	C	1964	PRO	2.6
1	H	1048	PHE	2.6
1	H	1564	ILE	2.6
1	D	1271	LEU	2.6
1	H	1527	LEU	2.6
1	P	1886	VAL	2.6
1	R	1740	VAL	2.6
1	D	1288	HIS	2.6
1	Q	1587	TYR	2.6
1	C	1908	LEU	2.6
1	Q	1667	LEU	2.6
1	R	1108	ALA	2.6
1	D	1076	VAL	2.6
1	M	1351	VAL	2.6
1	N	1884	GLN	2.6
1	P	1324	VAL	2.6
1	G	1090	ARG	2.6
1	Q	1131	TYR	2.6
1	E	1014	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
1	F	1156	LEU	2.6
1	D	1252	ASP	2.6
1	K	1120	LEU	2.6
1	F	1319	PRO	2.6
1	G	1194	THR	2.6
1	H	1152	VAL	2.6
1	L	1852	ALA	2.6
1	N	1852	ALA	2.6
1	C	1946	TRP	2.6
1	K	1363	ILE	2.6
1	E	1683	LEU	2.6
1	N	1804	SER	2.6
1	M	1766	ALA	2.6
1	P	1276	VAL	2.6
1	H	1899	PHE	2.6
1	N	1782	GLU	2.6
1	P	1655	GLU	2.6
1	H	1374	LEU	2.6
1	B	1538	ALA	2.6
1	H	1835	VAL	2.6
1	J	1766	ALA	2.6
1	J	1790	GLY	2.6
1	L	1857	ASP	2.6
1	R	1186	ARG	2.6
1	C	1655	GLU	2.6
1	E	1347	LEU	2.6
1	K	1929	GLN	2.6
1	L	1930	TRP	2.6
1	F	1701	VAL	2.6
1	E	1391	ASP	2.6
1	F	1399	LEU	2.6
1	H	1781	ALA	2.6
1	L	1763	GLY	2.6
1	L	1963	ALA	2.6
1	H	1812	ARG	2.6
1	O	1410	ARG	2.6
1	F	1172	LEU	2.6
1	K	1821	GLU	2.6
1	N	1834	LEU	2.6
1	A	1106	VAL	2.6
1	F	1094	VAL	2.6
1	H	930	TRP	2.6

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Mol	Chain	Res	Type	RSRZ
1	I	923	VAL	2.6
1	P	1542	ALA	2.6
1	Q	1447	GLY	2.6
1	C	1142	SER	2.6
1	R	1503	ARG	2.6
1	E	2006	PHE	2.6
1	B	1519	CYS	2.5
1	J	1155	ASP	2.5
1	L	1875	LYS	2.5
1	R	1131	TYR	2.5
1	D	1249	TRP	2.5
1	A	1191	ARG	2.5
1	A	1983	GLY	2.5
1	Q	1687	THR	2.5
1	H	1126	ARG	2.5
1	C	1105	SER	2.5
1	M	1779	PHE	2.5
1	E	1778	LEU	2.5
1	G	1085	LEU	2.5
1	G	1217	LEU	2.5
1	M	1818	ILE	2.5
1	M	1850	HIS	2.5
1	R	1061	GLY	2.5
1	D	1523	LEU	2.5
1	D	1908	LEU	2.5
1	F	1561	LYS	2.5
1	M	1974	ILE	2.5
1	C	1872	TRP	2.5
1	E	1779	PHE	2.5
1	M	1128	LEU	2.5
1	R	1121	LEU	2.5
1	P	1767	TYR	2.5
1	A	1784	MET	2.5
1	F	1251	HIS	2.5
1	L	1902	PHE	2.5
1	C	1962	ILE	2.5
1	E	1311	LEU	2.5
1	J	1387	THR	2.5
1	F	1405	ARG	2.5
1	A	1946	TRP	2.5
1	L	1858	ALA	2.5
1	P	1273	GLY	2.5

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Mol	Chain	Res	Type	RSRZ
1	J	1925	ASP	2.5
1	M	1341	HIS	2.5
1	P	1902	PHE	2.5
1	Q	1097	ALA	2.5
1	F	1311	LEU	2.5
1	M	1925	ASP	2.5
1	M	1965	ASP	2.5
1	Q	1427	ASN	2.5
1	Q	1644	LEU	2.5
1	K	1791	ARG	2.5
1	R	1064	GLU	2.5
1	D	1275	ALA	2.5
1	L	1873	ALA	2.5
1	M	896	PRO	2.5
1	C	1480	LEU	2.5
1	P	1988	LEU	2.5
1	B	885	ASP	2.5
1	O	1517	VAL	2.5
1	H	1153	GLU	2.5
1	F	1834	LEU	2.5
1	H	1120	LEU	2.5
1	H	1193	LEU	2.5
1	H	1943	TRP	2.5
1	A	1789	CYS	2.5
1	F	933	ASP	2.5
1	R	1636	THR	2.5
1	B	1141	LEU	2.5
1	E	1706	ALA	2.5
1	D	1769	ILE	2.5
1	G	1819	VAL	2.5
1	L	1053	ILE	2.5
1	M	1196	GLU	2.5
1	B	1772	GLY	2.5
1	N	1784	MET	2.5
1	D	1062	LEU	2.5
1	E	1449	ILE	2.5
1	F	1032	LEU	2.5
1	H	1997	ALA	2.5
1	I	1480	LEU	2.5
1	P	1360	ALA	2.5
1	Q	1426	ARG	2.5
1	F	1519	CYS	2.5

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Mol	Chain	Res	Type	RSRZ
1	F	1789	CYS	2.5
1	R	1055	HIS	2.5
1	C	1776	LEU	2.5
1	N	1311	LEU	2.5
1	D	1301	VAL	2.5
1	F	1165	VAL	2.5
1	F	1868	VAL	2.5
1	G	1863	ILE	2.5
1	I	1107	ILE	2.5
1	G	1110	PRO	2.5
1	H	897	SER	2.5
1	M	998	VAL	2.5
1	N	1324	VAL	2.5
1	K	2006	PHE	2.5
1	C	1985	ALA	2.5
1	D	1920	ALA	2.5
1	F	1068	ALA	2.5
1	D	1310	THR	2.5
1	F	1793	VAL	2.5
1	F	1943	TRP	2.5
1	G	1298	ALA	2.5
1	G	1974	ILE	2.5
1	N	1792	ILE	2.5
1	O	1116	ALA	2.5
1	R	1753	VAL	2.5
1	D	1940	SER	2.5
1	K	1984	TYR	2.5
1	Q	1048	PHE	2.5
1	E	976	LEU	2.5
1	E	1344	LEU	2.5
1	G	1062	LEU	2.5
1	E	1024	ALA	2.5
1	E	1371	HIS	2.5
1	F	1576	ILE	2.5
1	F	1808	ILE	2.5
1	R	1531	ILE	2.5
1	D	1489	THR	2.5
1	D	1201	GLU	2.5
1	E	1337	PRO	2.5
1	I	1448	GLN	2.5
1	J	1669	LEU	2.5
1	E	1288	HIS	2.5

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Mol	Chain	Res	Type	RSRZ
1	M	1823	GLY	2.5
1	I	1519	CYS	2.5
1	P	1499	ARG	2.5
1	E	1244	THR	2.5
1	I	1516	PHE	2.5
1	D	1640	GLN	2.5
1	G	1655	GLU	2.5
1	R	926	GLU	2.5
1	F	1458	ILE	2.5
1	G	1375	VAL	2.5
1	M	1789	CYS	2.5
1	E	1750	GLN	2.4
1	Q	1632	LEU	2.4
1	Q	1646	LEU	2.4
1	E	1079	VAL	2.4
1	B	1537	ALA	2.4
1	C	1307	ILE	2.4
1	C	1658	LYS	2.4
1	H	1931	ARG	2.4
1	L	1941	ILE	2.4
1	F	1119	MET	2.4
1	H	1713	PRO	2.4
1	K	1323	VAL	2.4
1	N	1795	ASN	2.4
1	O	1755	PRO	2.4
1	H	1526	LYS	2.4
1	L	1969	TYR	2.4
1	R	1153	GLU	2.4
1	F	1453	VAL	2.4
1	M	1296	ARG	2.4
1	G	1227	ASN	2.4
1	M	1777	GLY	2.4
1	C	1484	PHE	2.4
1	D	1095	HIS	2.4
1	I	1710	LEU	2.4
1	Q	1658	LYS	2.4
1	A	1245	THR	2.4
1	A	1536	ALA	2.4
1	F	2002	PHE	2.4
1	G	1906	ALA	2.4
1	J	1397	ALA	2.4
1	K	1899	PHE	2.4

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Mol	Chain	Res	Type	RSRZ
1	R	1077	ALA	2.4
1	C	1602	TRP	2.4
1	F	1533	GLU	2.4
1	H	1365	VAL	2.4
1	R	1631	VAL	2.4
1	E	1818	ILE	2.4
1	M	1337	PRO	2.4
1	D	1313	ASP	2.4
1	M	1916	ALA	2.4
1	B	1311	LEU	2.4
1	M	1304	LEU	2.4
1	P	1921	ASN	2.4
1	M	1421	MET	2.4
1	D	1964	PRO	2.4
1	H	1213	ALA	2.4
1	M	1672	PHE	2.4
1	A	1911	SER	2.4
1	B	1857	ASP	2.4
1	B	1075	VAL	2.4
1	C	1834	LEU	2.4
1	E	1266	LEU	2.4
1	E	1267	ASP	2.4
1	G	1379	LEU	2.4
1	L	1965	ASP	2.4
1	N	1105	SER	2.4
1	C	1782	GLU	2.4
1	N	1982	ASN	2.4
1	P	923	VAL	2.4
1	A	1053	ILE	2.4
1	F	1080	ALA	2.4
1	I	1565	HIS	2.4
1	L	1447	GLY	2.4
1	M	1455	ALA	2.4
1	Q	1485	GLY	2.4
1	B	1871	ASP	2.4
1	C	1925	ASP	2.4
1	E	1062	LEU	2.4
1	H	1431	LEU	2.4
1	I	1106	VAL	2.4
1	I	1431	LEU	2.4
1	M	1758	VAL	2.4
1	P	1880	TRP	2.4

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Mol	Chain	Res	Type	RSRZ
1	Q	1125	VAL	2.4
1	B	1363	ILE	2.4
1	F	1586	ILE	2.4
1	E	1077	ALA	2.4
1	N	1230	ALA	2.4
1	N	1785	ALA	2.4
1	R	1103	PHE	2.4
1	F	1882	LEU	2.4
1	E	1201	GLU	2.4
1	K	1224	ASP	2.4
1	N	1040	ASP	2.4
1	P	1877	TYR	2.4
1	Q	1656	ILE	2.4
1	C	1794	VAL	2.4
1	E	1106	VAL	2.4
1	F	1750	GLN	2.4
1	G	1075	VAL	2.4
1	I	948	CYS	2.4
1	K	1908	LEU	2.4
1	Q	1669	LEU	2.4
1	N	1389	TRP	2.4
1	L	1994	THR	2.4
1	M	950	MET	2.4
1	M	1897	ASP	2.4
1	R	1586	ILE	2.4
1	C	1771	GLY	2.4
1	Q	989	THR	2.4
1	L	1567	ALA	2.4
1	G	968	LEU	2.4
1	K	1062	LEU	2.4
1	M	1780	LEU	2.4
1	L	1750	GLN	2.4
1	C	1277	ILE	2.4
1	Q	1672	PHE	2.4
1	A	1142	SER	2.4
1	A	1485	GLY	2.4
1	E	1875	LYS	2.4
1	D	1304	LEU	2.4
1	E	1308	ALA	2.4
1	O	1682	ASP	2.4
1	F	903	LEU	2.4
1	P	1536	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
1	P	1885	ALA	2.4
1	G	1324	VAL	2.4
1	G	1351	VAL	2.4
1	K	1819	VAL	2.4
1	A	1930	TRP	2.4
1	J	1998	GLN	2.4
1	Q	1435	GLU	2.4
1	J	1454	LYS	2.4
1	K	1511	GLY	2.4
1	M	1747	GLY	2.4
1	M	1945	ALA	2.4
1	N	1925	ASP	2.4
1	R	1057	ALA	2.4
1	L	1939	THR	2.4
1	Q	1740	VAL	2.4
1	R	1635	VAL	2.4
1	D	1484	PHE	2.4
1	G	1984	TYR	2.4
1	E	1035	HIS	2.4
1	E	1872	TRP	2.4
1	E	1239	GLY	2.4
1	C	1987	VAL	2.4
1	E	1057	ALA	2.4
1	G	954	ALA	2.4
1	G	1776	LEU	2.4
1	H	1276	VAL	2.4
1	J	1379	LEU	2.4
1	L	1843	LEU	2.4
1	P	2003	ALA	2.4
1	E	1715	ILE	2.4
1	A	1174	LEU	2.4
1	A	1512	CYS	2.4
1	C	1907	ALA	2.4
1	M	1400	CYS	2.4
1	Q	1612	THR	2.4
1	R	1543	TYR	2.4
1	D	1455	ALA	2.3
1	H	1062	LEU	2.3
1	M	1202	LEU	2.3
1	M	1373	ALA	2.3
1	L	1897	ASP	2.3
1	B	1304	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
1	H	1318	PRO	2.3
1	A	1921	ASN	2.3
1	D	1070	ALA	2.3
1	E	1538	ALA	2.3
1	E	1820	VAL	2.3
1	J	1765	GLY	2.3
1	M	1511	GLY	2.3
1	O	1416	ASN	2.3
1	G	1779	PHE	2.3
1	B	1975	LEU	2.3
1	E	1448	GLN	2.3
1	F	1654	VAL	2.3
1	H	1908	LEU	2.3
1	K	1730	MET	2.3
1	K	1946	TRP	2.3
1	Q	1701	VAL	2.3
1	G	1693	LYS	2.3
1	N	1902	PHE	2.3
1	E	1811	ILE	2.3
1	C	1988	LEU	2.3
1	D	931	LEU	2.3
1	E	1346	GLY	2.3
1	E	1523	LEU	2.3
1	F	1570	GLY	2.3
1	G	1849	LEU	2.3
1	I	1660	ASP	2.3
1	M	1928	MET	2.3
1	N	1835	VAL	2.3
1	Q	1627	GLY	2.3
1	Q	1730	MET	2.3
1	J	1738	LYS	2.3
1	R	1092	TYR	2.3
1	Q	1158	LEU	2.3
1	B	1108	ALA	2.3
1	C	1455	ALA	2.3
1	M	1362	GLN	2.3
1	O	1466	ALA	2.3
1	P	1784	MET	2.3
1	E	1727	ILE	2.3
1	J	1962	ILE	2.3
1	R	1564	ILE	2.3
1	F	1076	VAL	2.3

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Mol	Chain	Res	Type	RSRZ
1	G	1778	LEU	2.3
1	G	1930	TRP	2.3
1	H	1079	VAL	2.3
1	J	1311	LEU	2.3
1	E	1240	ALA	2.3
1	E	1879	ALA	2.3
1	M	1906	ALA	2.3
1	R	1738	LYS	2.3
1	E	1897	ASP	2.3
1	G	1059	PHE	2.3
1	Q	1623	THR	2.3
1	E	1877	TYR	2.3
1	F	1075	VAL	2.3
1	Q	1720	LEU	2.3
1	G	1875	LYS	2.3
1	B	1142	SER	2.3
1	H	906	SER	2.3
1	O	1749	SER	2.3
1	Q	992	GLY	2.3
1	G	1780	LEU	2.3
1	Q	971	HIS	2.3
1	Q	1013	VAL	2.3
1	M	1102	CYS	2.3
1	M	1847	GLY	2.3
1	K	1816	ALA	2.3
1	Q	930	TRP	2.3
1	M	1096	PRO	2.3
1	M	1104	GLN	2.3
1	M	1168	SER	2.3
1	P	1205	PRO	2.3
1	B	1252	ASP	2.3
1	D	1871	ASP	2.3
1	F	1158	LEU	2.3
1	H	1085	LEU	2.3
1	K	1032	LEU	2.3
1	K	1655	GLU	2.3
1	K	1720	LEU	2.3
1	E	1394	TRP	2.3
1	L	1421	MET	2.3
1	P	1846	ARG	2.3
1	C	1808	ILE	2.3
1	G	1981	TYR	2.3

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Mol	Chain	Res	Type	RSRZ
1	H	1986	PRO	2.3
1	L	1436	LEU	2.3
1	R	1527	LEU	2.3
1	N	1484	PHE	2.3
1	G	1080	ALA	2.3
1	D	1311	LEU	2.3
1	E	1152	VAL	2.3
1	E	1752	VAL	2.3
1	F	1988	LEU	2.3
1	G	1066	TYR	2.3
1	G	1329	GLN	2.3
1	L	1934	GLN	2.3
1	M	976	LEU	2.3
1	A	1252	ASP	2.3
1	F	950	MET	2.3
1	H	1119	MET	2.3
1	N	1345	ARG	2.3
1	P	1893	THR	2.3
1	C	1512	CYS	2.3
1	L	1863	ILE	2.3
1	P	1307	ILE	2.3
1	R	1656	ILE	2.3
1	D	1337	PRO	2.3
1	R	1517	VAL	2.3
1	B	1902	PHE	2.3
1	H	1422	ARG	2.3
1	K	1928	MET	2.3
1	Q	1045	ARG	2.3
1	Q	1686	MET	2.3
1	B	1909	VAL	2.3
1	C	1379	LEU	2.3
1	K	1365	VAL	2.3
1	L	1032	LEU	2.3
1	M	1860	LEU	2.3
1	H	1342	SER	2.3
1	F	1625	GLY	2.3
1	D	1348	ILE	2.3
1	Q	1509	ALA	2.3
1	D	1351	VAL	2.3
1	H	1032	LEU	2.3
1	I	1120	LEU	2.3
1	N	2007	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
1	O	942	LEU	2.3
1	D	1103	PHE	2.3
1	D	1422	ARG	2.3
1	J	1895	GLU	2.3
1	L	1966	GLU	2.3
1	C	1982	ASN	2.3
1	F	1906	ALA	2.3
1	F	1942	ALA	2.3
1	A	1857	ASP	2.3
1	A	1908	LEU	2.3
1	G	1647	LEU	2.3
1	H	1630	ILE	2.3
1	H	1134	THR	2.3
1	P	1839	THR	2.3
1	A	1229	ARG	2.2
1	E	1326	HIS	2.3
1	M	1971	PHE	2.3
1	A	1912	PRO	2.2
1	G	1241	GLY	2.2
1	H	1073	PRO	2.2
1	Q	1640	GLN	2.2
1	R	1006	ARG	2.2
1	L	1772	GLY	2.2
1	M	1790	GLY	2.2
1	E	1547	TRP	2.2
1	E	1825	ILE	2.2
1	G	1531	ILE	2.2
1	I	1032	LEU	2.2
1	M	1923	TRP	2.2
1	N	1195	ILE	2.2
1	B	1979	ARG	2.2
1	E	920	GLN	2.2
1	L	1055	HIS	2.2
1	K	1328	SER	2.2
1	M	1804	SER	2.2
1	Q	905	GLY	2.2
1	R	1063	SER	2.2
1	R	1514	SER	2.2
1	B	1379	LEU	2.2
1	F	1067	VAL	2.2
1	O	1752	VAL	2.2
1	R	1112	VAL	2.2

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Mol	Chain	Res	Type	RSRZ
1	I	1103	PHE	2.2
1	J	1244	THR	2.2
1	K	1225	ASP	2.2
1	M	1817	ASP	2.2
1	N	1059	PHE	2.2
1	P	1345	ARG	2.2
1	B	1525	THR	2.2
1	C	1340	GLU	2.2
1	M	1736	THR	2.2
1	Q	926	GLU	2.2
1	E	1773	LEU	2.2
1	G	1527	LEU	2.2
1	G	1786	ALA	2.2
1	H	1311	LEU	2.2
1	L	1975	LEU	2.2
1	M	1879	ALA	2.2
1	N	1838	ALA	2.2
1	O	1741	ILE	2.2
1	Q	1431	LEU	2.2
1	Q	1564	ILE	2.2
1	R	1102	CYS	2.2
1	E	1702	TYR	2.2
1	L	1921	ASN	2.2
1	R	1499	ARG	2.2
1	C	1282	GLU	2.2
1	I	1419	GLU	2.2
1	F	1062	LEU	2.2
1	J	1108	ALA	2.2
1	M	945	ALA	2.2
1	C	1059	PHE	2.2
1	F	1872	TRP	2.2
1	K	1197	TRP	2.2
1	R	1105	SER	2.2
1	H	1268	GLU	2.2
1	F	1301	VAL	2.2
1	H	1159	LEU	2.2
1	L	1790	GLY	2.2
1	L	1853	ALA	2.2
1	O	1458	ILE	2.2
1	J	1003	SER	2.2
1	R	1140	CYS	2.2
1	E	1268	GLU	2.2

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Mol	Chain	Res	Type	RSRZ
1	H	1821	GLU	2.2
1	E	1510	ASN	2.2
1	G	1088	GLY	2.2
1	G	1158	LEU	2.2
1	I	1099	LEU	2.2
1	L	1848	VAL	2.2
1	L	1960	ASN	2.2
1	N	1772	GLY	2.2
1	P	1908	LEU	2.2
1	C	1108	ALA	2.2
1	D	1058	ALA	2.2
1	H	1746	THR	2.2
1	H	1838	ALA	2.2
1	Q	1482	SER	2.2
1	C	941	VAL	2.2
1	D	1710	LEU	2.2
1	D	1780	LEU	2.2
1	E	1121	LEU	2.2
1	E	1694	ILE	2.2
1	F	1818	ILE	2.2
1	J	1307	ILE	2.2
1	N	1563	LEU	2.2
1	R	974	LEU	2.2
1	C	1914	GLN	2.2
1	E	1025	ALA	2.2
1	H	1377	GLN	2.2
1	H	1852	ALA	2.2
1	M	1783	ARG	2.2
1	M	1920	ALA	2.2
1	D	1543	TYR	2.2
1	F	1545	THR	2.2
1	G	1817	ASP	2.2
1	P	1197	TRP	2.2
1	Q	1738	LYS	2.2
1	R	1759	PRO	2.2
1	E	1328	SER	2.2
1	E	1218	VAL	2.2
1	E	1220	LEU	2.2
1	F	1488	VAL	2.2
1	P	1278	VAL	2.2
1	E	1945	ALA	2.2
1	M	1873	ALA	2.2

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Mol	Chain	Res	Type	RSRZ
1	N	1653	PHE	2.2
1	R	1680	ALA	2.2
1	C	1337	PRO	2.2
1	D	1369	THR	2.2
1	Q	1528	PRO	2.2
1	R	980	THR	2.2
1	A	1782	GLU	2.2
1	E	1710	LEU	2.2
1	G	1273	GLY	2.2
1	H	1271	LEU	2.2
1	H	1809	GLU	2.2
1	I	931	LEU	2.2
1	C	1873	ALA	2.2
1	D	1875	LYS	2.2
1	L	1738	LYS	2.2
1	M	1129	ARG	2.2
1	N	1615	PHE	2.2
1	E	1478	PRO	2.2
1	A	1456	SER	2.2
1	H	1344	LEU	2.2
1	Q	1568	THR	2.2
1	I	1469	ARG	2.2
1	I	1564	ILE	2.2
1	Q	1494	GLY	2.2
1	C	1542	ALA	2.2
1	C	1567	ALA	2.2
1	H	1537	ALA	2.2
1	I	945	ALA	2.2
1	D	1917	TYR	2.2
1	G	1089	GLN	2.2
1	E	1553	LEU	2.2
1	G	1079	VAL	2.2
1	J	1319	PRO	2.2
1	J	1324	VAL	2.2
1	J	1495	VAL	2.2
1	K	1193	LEU	2.2
1	A	1801	SER	2.2
1	B	1129	ARG	2.2
1	E	1422	ARG	2.2
1	N	1363	ILE	2.2
1	P	1363	ILE	2.2
1	L	1105	SER	2.2

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Mol	Chain	Res	Type	RSRZ
1	O	1108	ALA	2.2
1	A	1089	GLN	2.2
1	A	1201	GLU	2.2
1	E	931	LEU	2.2
1	E	1993	LEU	2.2
1	G	1082	PRO	2.2
1	J	1374	LEU	2.2
1	N	1172	LEU	2.2
1	Q	1437	VAL	2.2
1	C	1299	ASP	2.2
1	C	1905	ALA	2.2
1	G	1341	HIS	2.2
1	K	1108	ALA	2.2
1	M	1105	SER	2.2
1	P	1105	SER	2.2
1	P	1247	MET	2.2
1	Q	1078	ALA	2.2
1	Q	1433	SER	2.2
1	G	1322	TYR	2.2
1	J	1066	TYR	2.2
1	M	1543	TYR	2.2
1	E	1320	ARG	2.2
1	E	1898	TRP	2.2
1	F	1541	LEU	2.2
1	I	1165	VAL	2.2
1	N	1423	LEU	2.2
1	E	1856	GLU	2.2
1	L	1974	ILE	2.2
1	M	2002	PHE	2.2
1	C	885	ASP	2.2
1	E	1164	THR	2.2
1	E	1455	ALA	2.2
1	K	1364	ASP	2.2
1	P	1770	THR	2.2
1	P	1928	MET	2.2
1	G	1304	LEU	2.2
1	K	1760	VAL	2.2
1	O	1423	LEU	2.2
1	R	923	VAL	2.2
1	B	1506	GLY	2.2
1	D	1157	GLU	2.2
1	G	1157	GLU	2.2

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Mol	Chain	Res	Type	RSRZ
1	J	1533	GLU	2.2
1	M	1190	GLU	2.2
1	N	896	PRO	2.2
1	C	1568	THR	2.2
1	E	1355	HIS	2.2
1	A	1773	LEU	2.2
1	B	1262	LEU	2.2
1	C	1517	VAL	2.2
1	E	1044	LEU	2.2
1	E	1237	LEU	2.2
1	I	904	LEU	2.2
1	J	942	LEU	2.2
1	Q	1079	VAL	2.2
1	R	1507	VAL	2.2
1	A	1811	ILE	2.2
1	E	1153	GLU	2.2
1	E	1967	GLY	2.1
1	F	1048	PHE	2.2
1	N	1449	ILE	2.2
1	N	1898	TRP	2.2
1	Q	1053	ILE	2.2
1	G	1151	GLY	2.1
1	M	1118	GLY	2.1
1	R	1421	MET	2.1
1	G	1697	LEU	2.1
1	H	1385	ASP	2.1
1	H	1982	ASN	2.1
1	J	1423	LEU	2.1
1	J	1631	VAL	2.1
1	C	1104	GLN	2.1
1	F	1962	ILE	2.1
1	F	1061	GLY	2.1
1	H	1765	GLY	2.1
1	K	1627	GLY	2.1
1	B	1524	ALA	2.1
1	A	1819	VAL	2.1
1	I	1683	LEU	2.1
1	Q	1031	LEU	2.1
1	A	1545	THR	2.1
1	D	1244	THR	2.1
1	F	1281	SER	2.1
1	G	1497	THR	2.1

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Mol	Chain	Res	Type	RSRZ
1	I	1514	SER	2.1
1	Q	1655	GLU	2.1
1	R	1028	ILE	2.1
1	R	1562	ILE	2.1
1	A	1062	LEU	2.1
1	A	1347	LEU	2.1
1	C	1698	LEU	2.1
1	D	1454	LYS	2.1
1	F	1357	ARG	2.1
1	I	1166	LEU	2.1
1	M	1395	TYR	2.1
1	Q	936	VAL	2.1
1	R	982	VAL	2.1
1	B	1982	ASN	2.1
1	D	1408	GLU	2.1
1	G	1074	THR	2.1
1	J	1769	ILE	2.1
1	R	996	PHE	2.1
1	H	1871	ASP	2.1
1	R	1568	THR	2.1
1	L	1540	GLY	2.1
1	Q	1505	GLY	2.1
1	G	1517	VAL	2.1
1	M	1760	VAL	2.1
1	E	1808	ILE	2.1
1	K	1996	PHE	2.1
1	F	1880	TRP	2.1
1	G	2004	GLU	2.1
1	H	1133	SER	2.1
1	Q	901	HIS	2.1
1	B	1480	LEU	2.1
1	C	1683	LEU	2.1
1	D	1480	LEU	2.1
1	F	1022	ARG	2.1
1	H	1274	VAL	2.1
1	H	1632	LEU	2.1
1	K	1388	ALA	2.1
1	J	1028	ILE	2.1
1	D	1992	TRP	2.1
1	E	1052	GLY	2.1
1	F	1627	GLY	2.1
1	A	1720	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
1	D	1795	ASN	2.1
1	D	1975	LEU	2.1
1	F	1295	ARG	2.1
1	F	1867	LEU	2.1
1	H	1834	LEU	2.1
1	I	1189	ASP	2.1
1	M	1095	HIS	2.1
1	M	942	LEU	2.1
1	N	1879	ALA	2.1
1	P	1487	VAL	2.1
1	E	1122	PRO	2.1
1	H	1195	ILE	2.1
1	I	1741	ILE	2.1
1	E	1737	GLY	2.1
1	F	1992	TRP	2.1
1	K	1340	GLU	2.1
1	A	1379	LEU	2.1
1	B	1134	THR	2.1
1	C	1256	ASP	2.1
1	C	1456	SER	2.1
1	H	1266	LEU	2.1
1	H	1538	ALA	2.1
1	M	1074	THR	2.1
1	N	1780	LEU	2.1
1	R	1172	LEU	2.1
1	D	1967	GLY	2.1
1	J	1090	ARG	2.1
1	M	1389	TRP	2.1
1	M	1483	GLU	2.1
1	N	1820	VAL	2.1
1	P	1358	LEU	2.1
1	P	1831	ALA	2.1
1	R	908	VAL	2.1
1	R	1567	ALA	2.1
1	R	1639	ALA	2.1
1	F	1134	THR	2.1
1	L	1180	ASP	2.1
1	E	1389	TRP	2.1
1	A	1961	ALA	2.1
1	C	1076	VAL	2.1
1	F	1739	LEU	2.1
1	F	1938	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
1	L	1065	ALA	2.1
1	Q	1541	LEU	2.1
1	G	1307	ILE	2.1
1	J	1017	ASP	2.1
1	M	1941	ILE	2.1
1	N	1893	THR	2.1
1	O	1687	THR	2.1
1	Q	1514	SER	2.1
1	E	1384	GLU	2.1
1	D	930	TRP	2.1
1	D	1399	LEU	2.1
1	J	1274	VAL	2.1
1	K	1901	ALA	2.1
1	N	942	LEU	2.1
1	P	1304	LEU	2.1
1	P	1347	LEU	2.1
1	Q	984	VAL	2.1
1	F	1531	ILE	2.1
1	F	1566	SER	2.1
1	C	1372	GLU	2.1
1	D	1217	LEU	2.1
1	D	1529	GLU	2.1
1	I	1682	ASP	2.1
1	E	1915	GLY	2.1
1	G	908	VAL	2.1
1	G	1923	TRP	2.1
1	J	1249	TRP	2.1
1	L	1632	LEU	2.1
1	O	1651	GLY	2.1
1	R	1032	LEU	2.1
1	R	1628	VAL	2.1
1	P	1916	ALA	2.1
1	A	1251	HIS	2.1
1	K	1534	HIS	2.1
1	B	1076	VAL	2.1
1	C	1297	GLY	2.1
1	D	1223	ASP	2.1
1	E	1102	CYS	2.1
1	F	1293	ASP	2.1
1	H	1601	ASP	2.1
1	N	1081	LEU	2.1
1	P	1819	VAL	2.1

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Mol	Chain	Res	Type	RSRZ
1	R	898	VAL	2.1
1	C	2002	PHE	2.1
1	M	1360	ALA	2.1
1	H	1984	TYR	2.1
1	J	1195	ILE	2.1
1	N	947	TYR	2.1
1	E	1165	VAL	2.1
1	E	1324	VAL	2.1
1	J	1152	VAL	2.1
1	J	1205	PRO	2.1
1	K	1159	LEU	2.1
1	M	1165	VAL	2.1
1	I	1653	PHE	2.1
1	J	1971	PHE	2.1
1	K	1779	PHE	2.1
1	L	1898	TRP	2.1
1	N	1489	THR	2.1
1	P	1344	LEU	2.1
1	R	916	GLU	2.1
1	A	1116	ALA	2.1
1	B	1536	ALA	2.1
1	H	1421	MET	2.1
1	H	1536	ALA	2.1
1	O	1516	PHE	2.1
1	O	1743	ILE	2.1
1	R	950	MET	2.1
1	E	1038	ARG	2.1
1	M	1929	GLN	2.1
1	J	1076	VAL	2.1
1	L	1987	VAL	2.1
1	G	1761	PHE	2.1
1	H	928	HIS	2.1
1	M	1644	LEU	2.1
1	N	1342	SER	2.1
1	E	1693	LYS	2.1
1	G	1787	ALA	2.1
1	K	1525	THR	2.1
1	L	1945	ALA	2.1
1	N	1770	THR	2.1
1	D	1507	VAL	2.1
1	D	1860	LEU	2.1
1	F	988	VAL	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	1996	PHE	2.1
1	E	1501	GLY	2.1
1	E	1843	LEU	2.1
1	H	1777	GLY	2.1
1	K	1971	PHE	2.1
1	Q	1456	SER	2.0
1	R	1047	GLY	2.1
1	A	1995	ALA	2.0
1	I	1023	PRO	2.0
1	N	1055	HIS	2.0
1	A	1543	TYR	2.0
1	E	933	ASP	2.0
1	F	1092	TYR	2.0
1	I	1619	ILE	2.0
1	K	1817	ASP	2.0
1	O	1102	CYS	2.0
1	B	1491	VAL	2.0
1	C	942	LEU	2.0
1	C	1697	LEU	2.0
1	F	1843	LEU	2.0
1	I	1423	LEU	2.0
1	M	1375	VAL	2.0
1	M	1740	VAL	2.0
1	M	1882	LEU	2.0
1	N	1909	VAL	2.0
1	M	1930	TRP	2.0
1	E	947	TYR	2.0
1	G	1702	TYR	2.0
1	F	1271	LEU	2.0
1	K	1223	ASP	2.0
1	P	1491	VAL	2.0
1	B	1448	GLN	2.0
1	D	1329	GLN	2.0
1	F	1678	PHE	2.0
1	E	1961	ALA	2.0
1	G	1985	ALA	2.0
1	E	1679	TYR	2.0
1	E	1791	ARG	2.0
1	H	1345	ARG	2.0
1	N	1766	ALA	2.0
1	O	1493	PRO	2.0
1	P	1923	TRP	2.0

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Mol	Chain	Res	Type	RSRZ
1	C	1854	VAL	2.0
1	D	1778	LEU	2.0
1	J	1504	VAL	2.0
1	K	1194	THR	2.0
1	M	1988	LEU	2.0
1	N	1112	VAL	2.0
1	E	1329	GLN	2.0
1	M	944	GLY	2.0
1	M	1392	GLY	2.0
1	R	1447	GLY	2.0
1	B	1380	SER	2.0
1	C	1804	SER	2.0
1	G	1249	TRP	2.0
1	G	1942	ALA	2.0
1	H	1249	TRP	2.0
1	J	1630	ILE	2.0
1	Q	899	SER	2.0
1	G	1339	LEU	2.0
1	C	1134	THR	2.0
1	E	1672	PHE	2.0
1	N	1908	LEU	2.0
1	N	948	CYS	2.0
1	R	1615	PHE	2.0
1	P	1485	GLY	2.0
1	K	1567	ALA	2.0
1	F	991	PRO	2.0
1	L	1119	MET	2.0
1	R	930	TRP	2.0
1	J	1055	HIS	2.0
1	K	1697	LEU	2.0
1	M	1156	LEU	2.0
1	M	1217	LEU	2.0
1	O	1059	PHE	2.0
1	P	1431	LEU	2.0
1	H	1310	THR	2.0
1	H	1486	GLY	2.0
1	H	1512	CYS	2.0
1	C	1564	ILE	2.0
1	E	1873	ALA	2.0
1	C	1451	VAL	2.0
1	D	1131	TYR	2.0
1	E	1234	VAL	2.0

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Mol	Chain	Res	Type	RSRZ
1	E	1768	VAL	2.0
1	H	1395	TYR	2.0
1	I	941	VAL	2.0
1	I	1477	LEU	2.0
1	J	1218	VAL	2.0
1	M	1032	LEU	2.0
1	M	1192	LEU	2.0
1	M	1513	TRP	2.0
1	N	1928	MET	2.0
1	Q	1507	VAL	2.0
1	D	1927	PHE	2.0
1	C	1300	HIS	2.0
1	N	1341	HIS	2.0
1	J	1948	GLU	2.0
1	P	1336	GLU	2.0
1	E	1914	GLN	2.0
1	K	1545	THR	2.0
1	M	1905	ALA	2.0
1	P	1764	ASP	2.0
1	B	1128	LEU	2.0
1	B	1760	VAL	2.0
1	E	1681	VAL	2.0
1	J	1647	LEU	2.0
1	J	1780	LEU	2.0
1	N	1720	LEU	2.0
1	G	1095	HIS	2.0
1	G	1483	GLU	2.0
1	N	1883	HIS	2.0
1	Q	1492	GLY	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 monosaccharides in this entry.

6.4 Ligands (i)

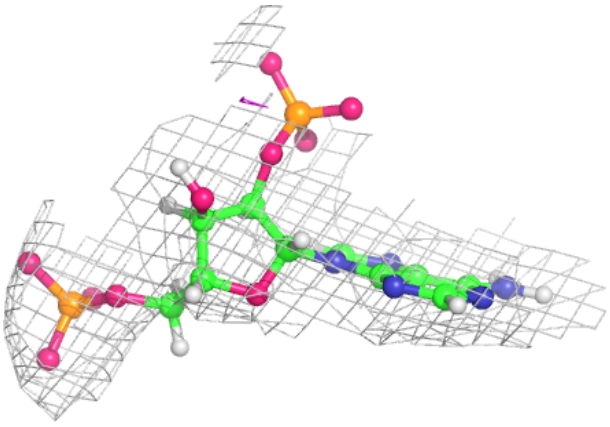
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

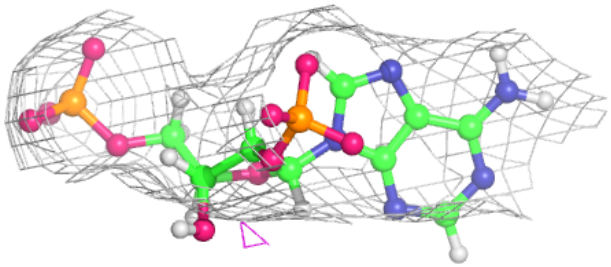
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	NAP	M	3002	27/48	0.54	0.28	233,235,240,240	0
2	NAP	N	3002	27/48	0.59	0.26	156,165,181,182	0
2	NAP	A	3002	27/48	0.61	0.26	229,235,241,242	0
2	NAP	P	3002	27/48	0.61	0.21	191,203,209,210	0
2	NAP	Q	3001	48/48	0.61	0.40	222,225,232,235	0
2	NAP	H	3002	27/48	0.64	0.30	179,187,190,190	0
2	NAP	F	3002	27/48	0.67	0.28	164,168,171,171	0
2	NAP	D	3002	27/48	0.68	0.28	193,197,199,199	0
2	NAP	J	3002	27/48	0.69	0.30	166,169,175,176	0
2	NAP	G	3002	27/48	0.70	0.20	195,201,205,205	0
2	NAP	C	3002	31/48	0.73	0.27	141,162,203,205	0
2	NAP	K	3002	27/48	0.75	0.31	135,151,159,161	0
2	NAP	R	3001	48/48	0.77	0.23	210,221,233,234	0
2	NAP	B	3002	27/48	0.78	0.29	120,134,148,148	0
2	NAP	E	3001	48/48	0.82	0.35	181,193,197,198	0
2	NAP	F	3001	48/48	0.85	0.33	165,176,183,184	0
2	NAP	H	3001	48/48	0.85	0.32	129,146,170,171	0
2	NAP	I	3001	48/48	0.87	0.33	133,144,150,151	0
2	NAP	M	3001	48/48	0.89	0.36	132,144,158,161	0
2	NAP	N	3001	48/48	0.89	0.32	141,152,175,175	0
2	NAP	G	3001	48/48	0.90	0.31	117,132,158,158	0
2	NAP	C	3001	48/48	0.91	0.33	110,132,150,153	0
2	NAP	L	3001	48/48	0.91	0.37	110,118,130,134	0
2	NAP	D	3001	48/48	0.91	0.31	114,124,138,139	0
2	NAP	O	3001	48/48	0.92	0.35	101,113,135,138	0
2	NAP	A	3001	48/48	0.92	0.35	104,124,136,137	0
2	NAP	J	3001	48/48	0.92	0.30	115,126,149,153	0
2	NAP	B	3001	48/48	0.92	0.34	103,111,127,129	0
2	NAP	P	3001	48/48	0.93	0.33	106,124,132,136	0
2	NAP	K	3001	48/48	0.94	0.34	109,123,141,145	0

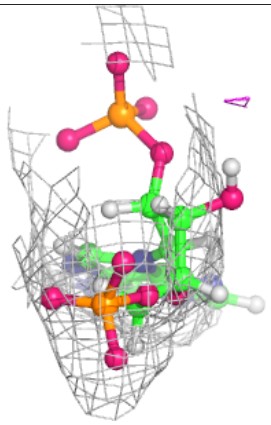
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around NAP M 3002:

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

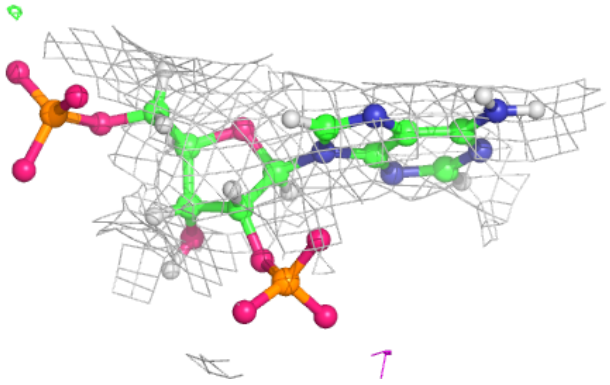


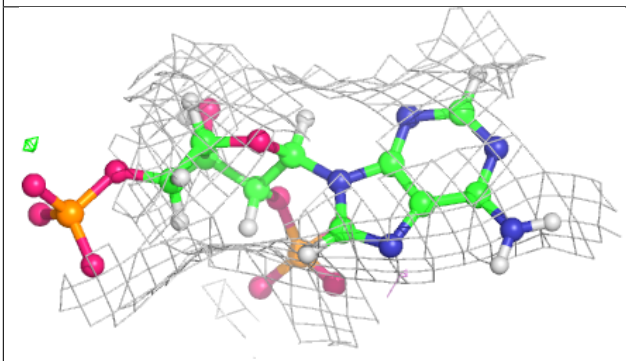


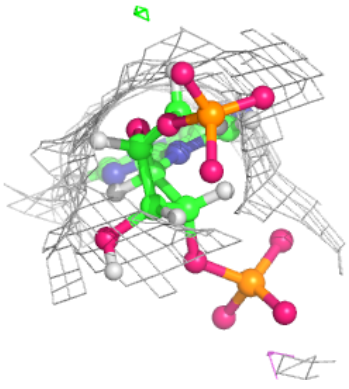


Electron density around NAP N 3002:

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

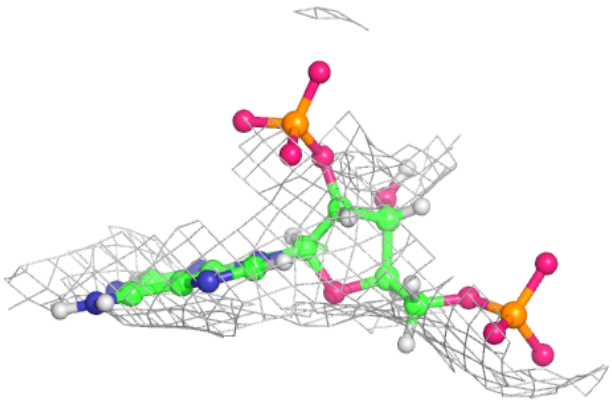


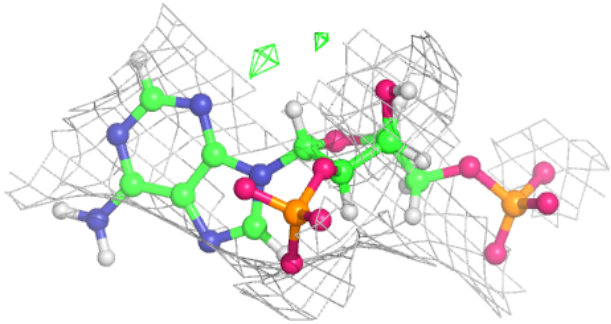


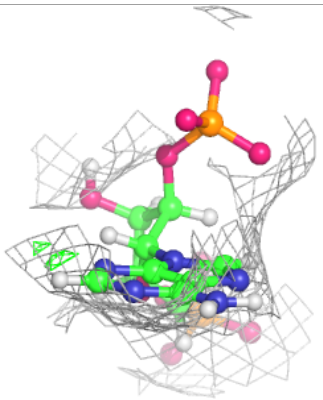


Electron density around NAP A 3002:

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

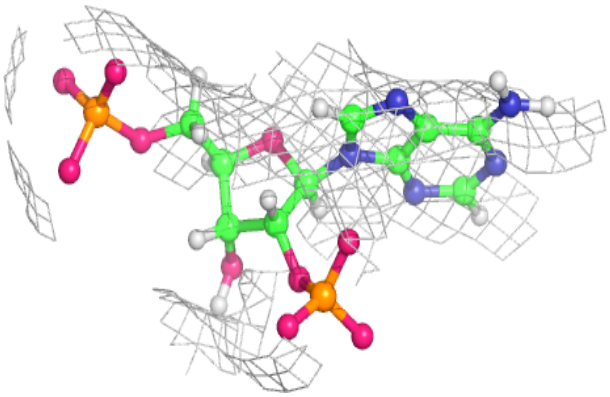


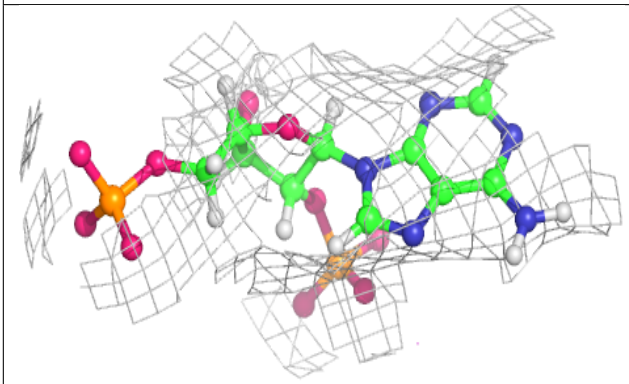


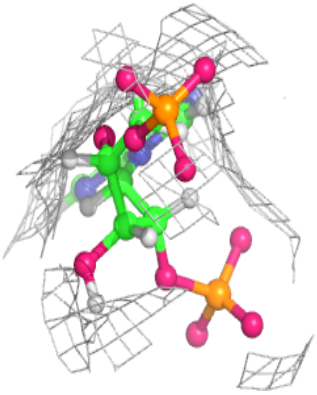


Electron density around NAP P 3002:

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

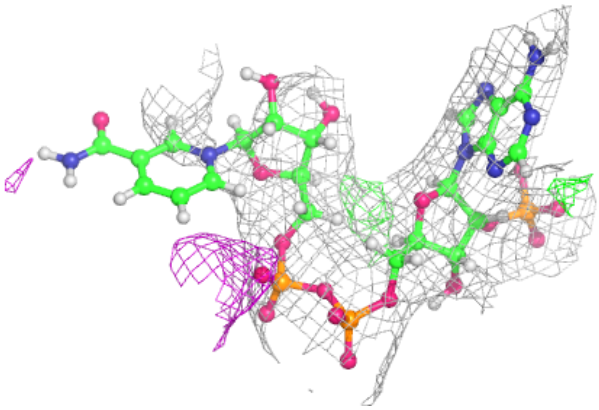


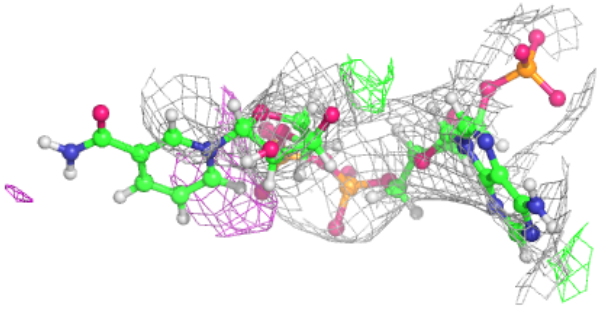


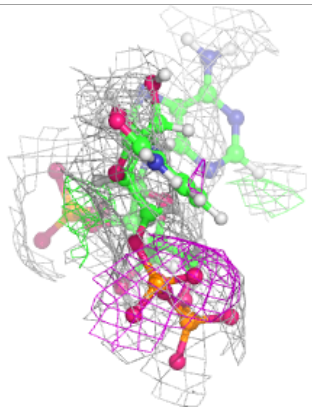


Electron density around NAP Q 3001:

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

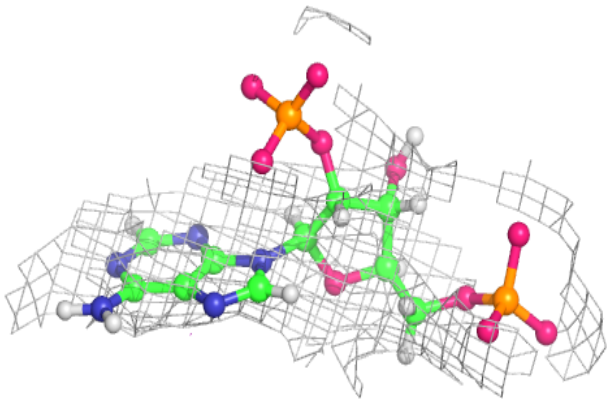


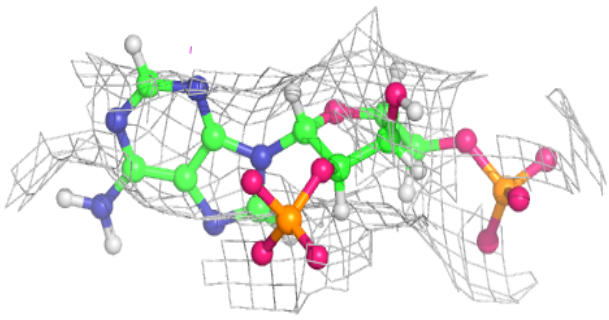


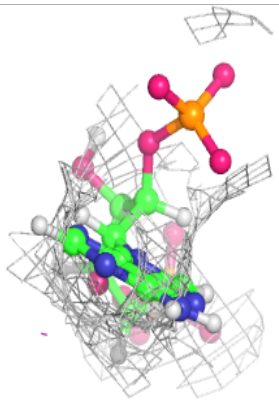


Electron density around NAP H 3002:

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

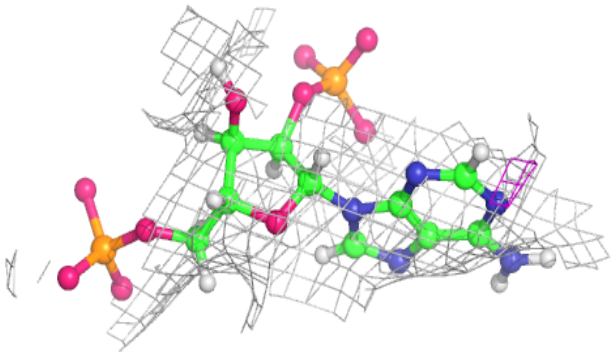


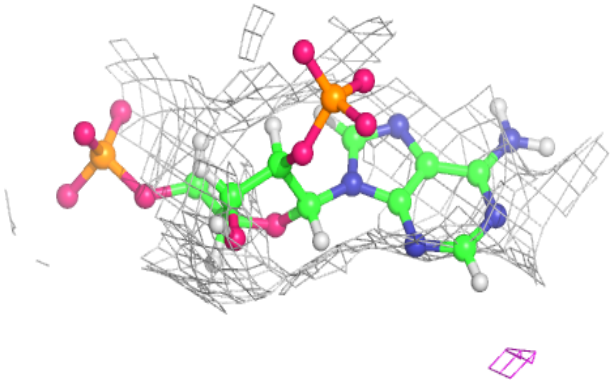


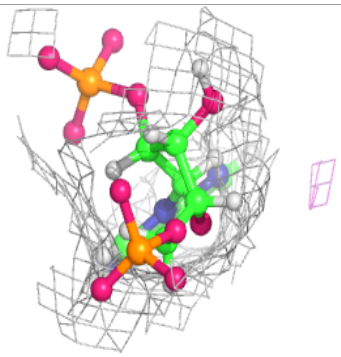


Electron density around NAP F 3002:

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

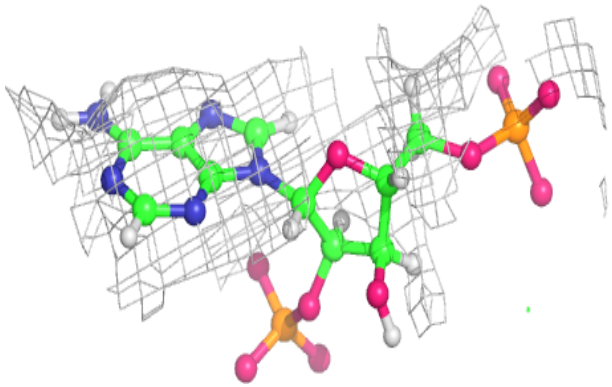


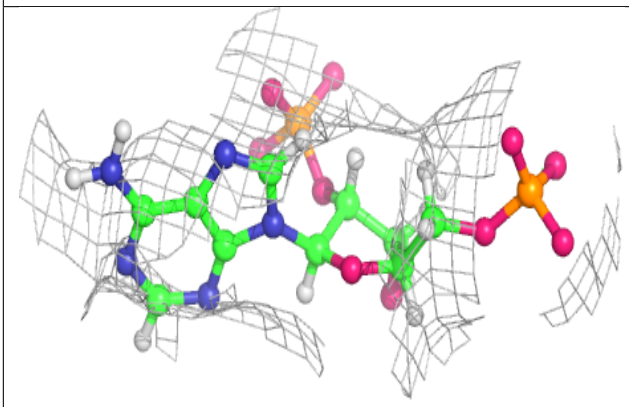


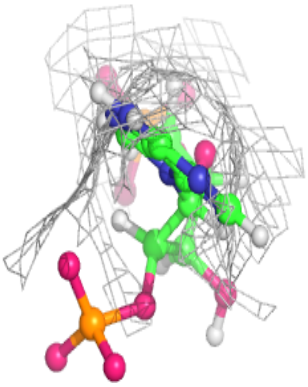


Electron density around NAP D 3002:

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

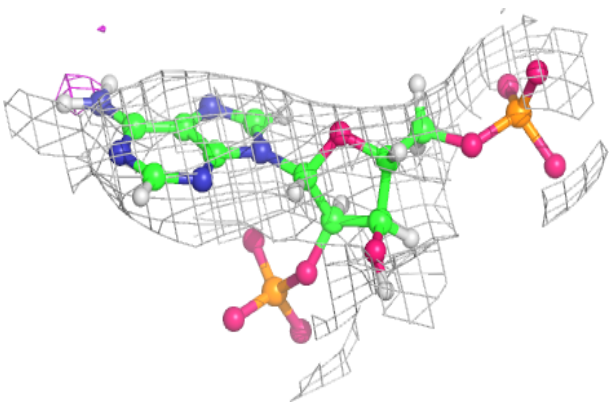


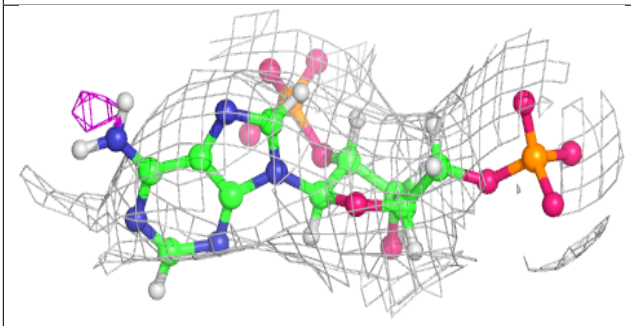


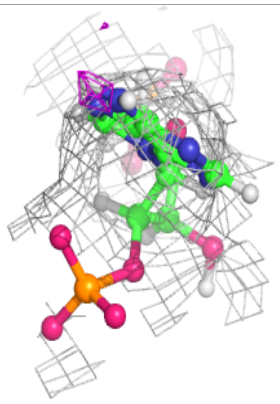


Electron density around NAP J 3002:

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

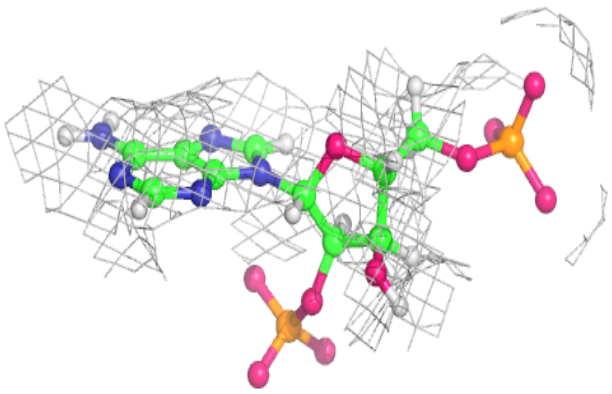


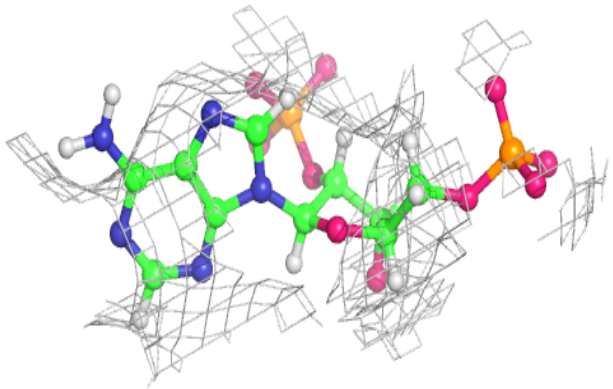


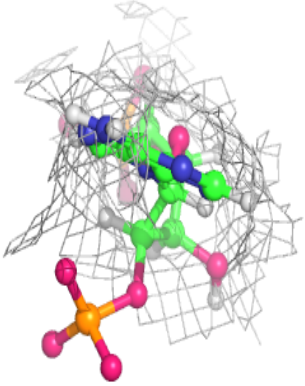


Electron density around NAP G 3002:

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

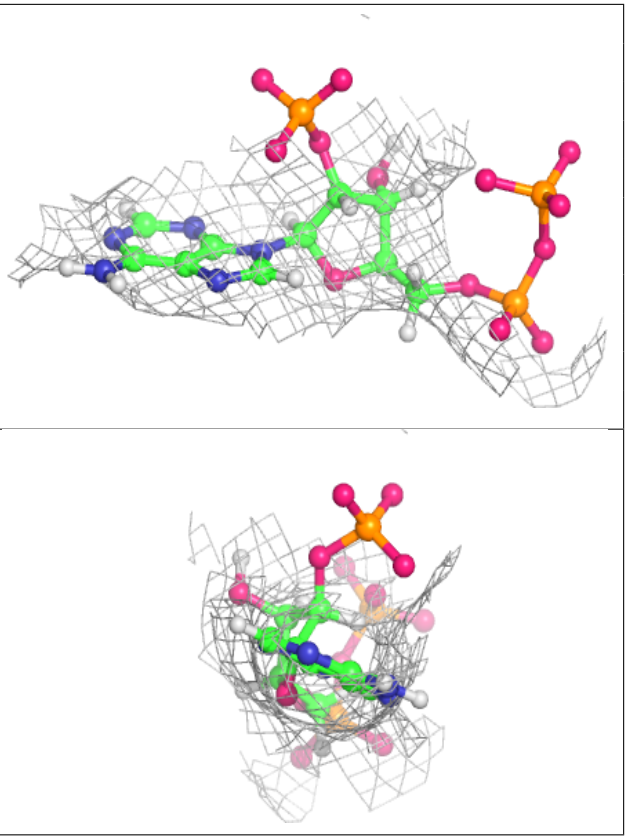






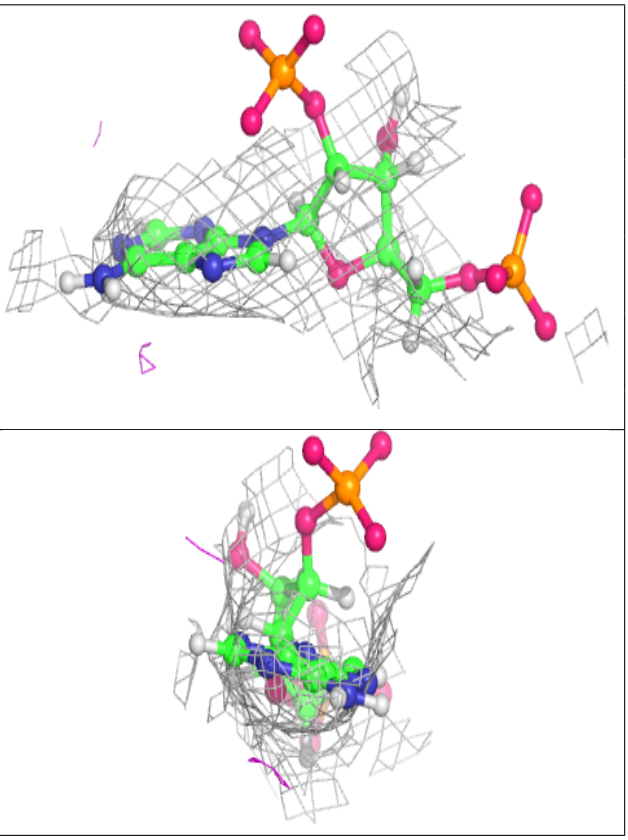
Electron density around NAP C 3002:

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



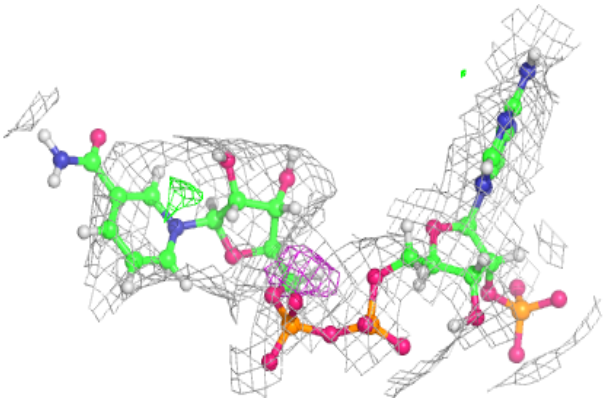
Electron density around NAP K 3002:

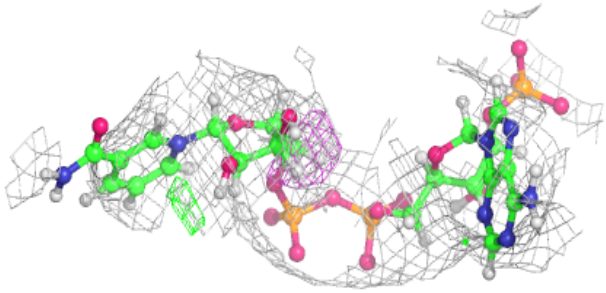
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

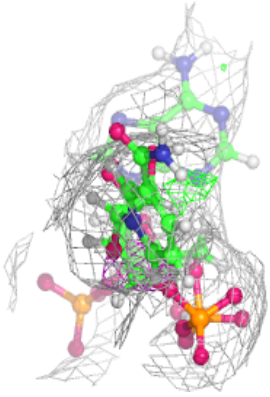


Electron density around NAP R 3001:

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

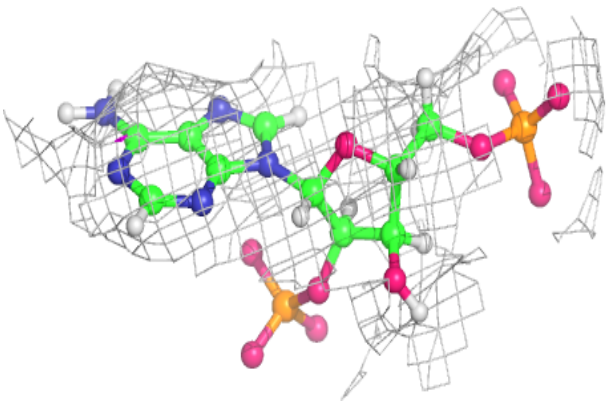


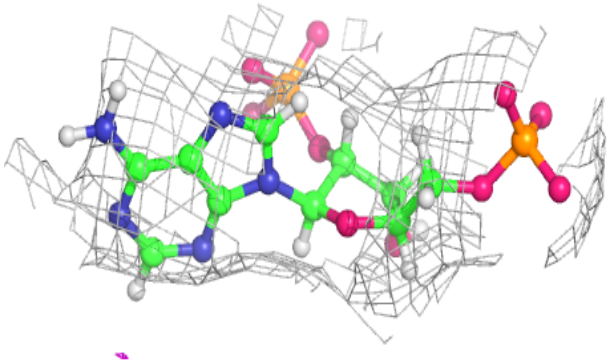


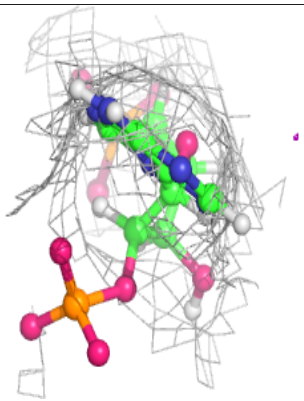


Electron density around NAP B 3002:

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

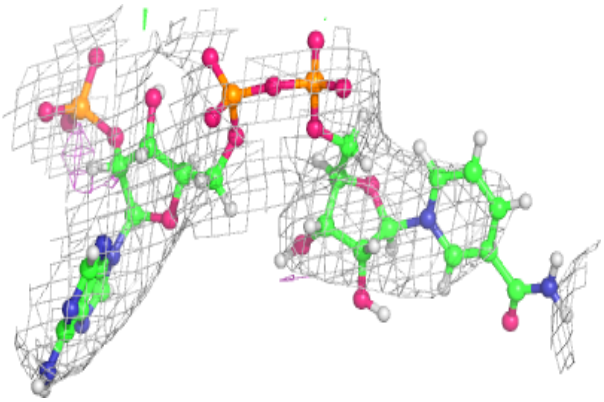


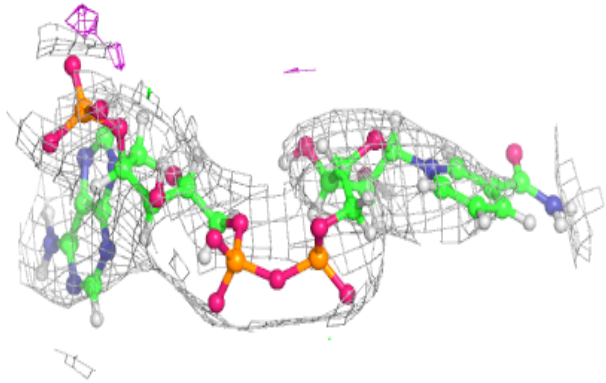


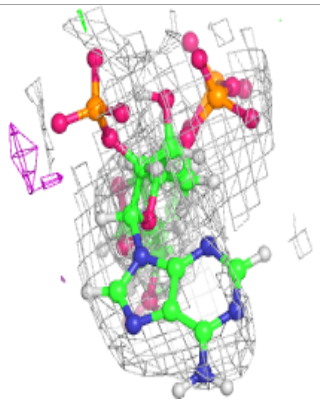


Electron density around NAP E 3001:

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

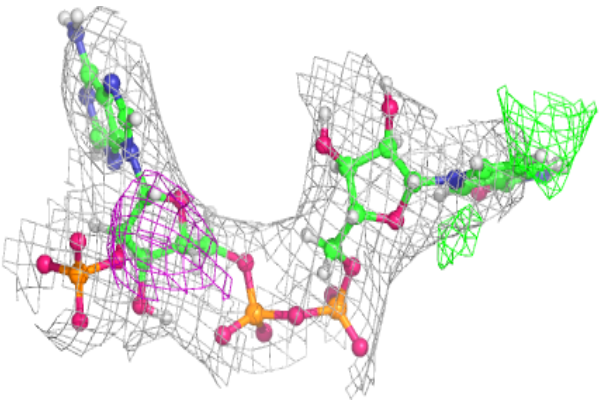


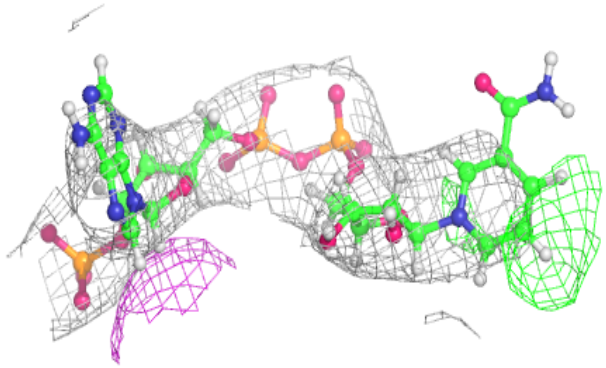


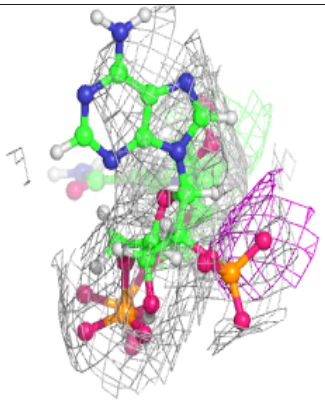


Electron density around NAP F 3001:

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

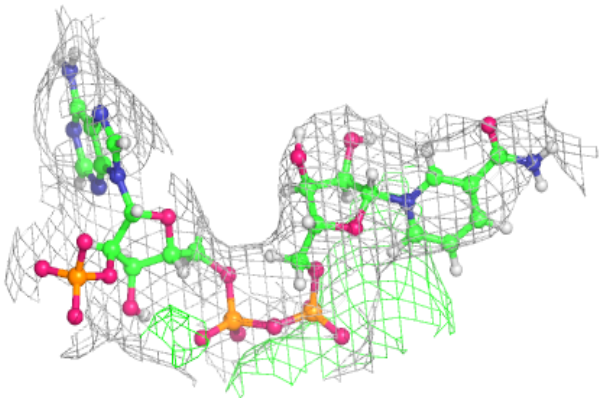


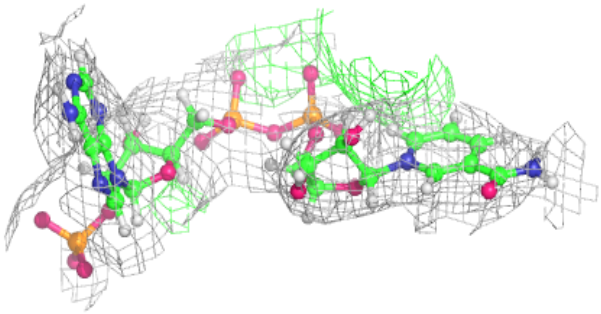


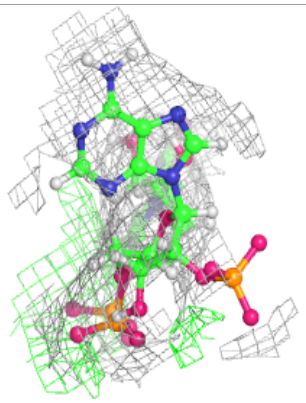


Electron density around NAP H 3001:

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

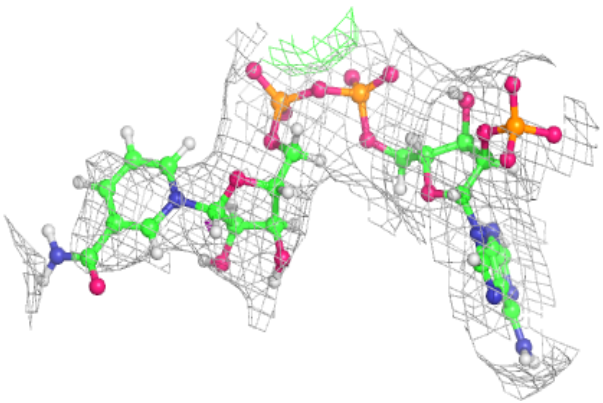


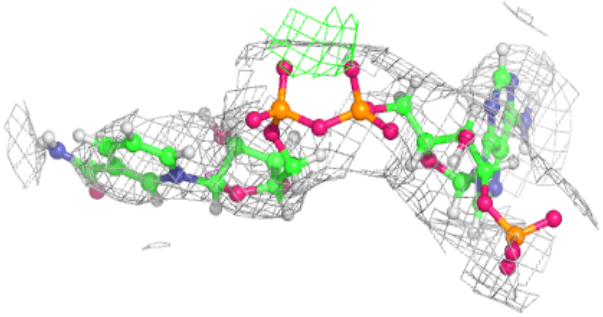


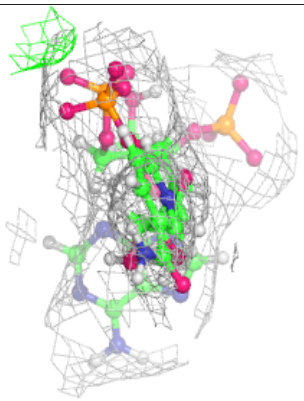


Electron density around NAP I 3001:

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

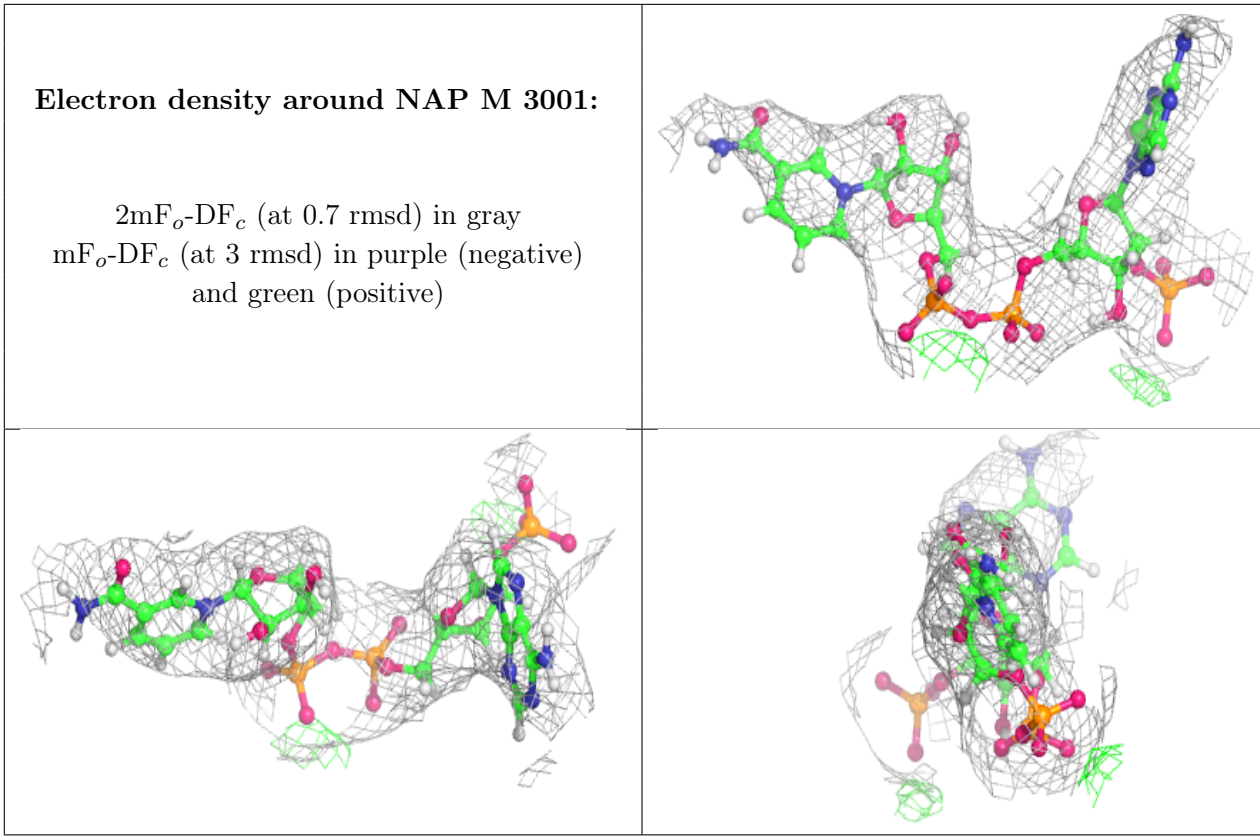






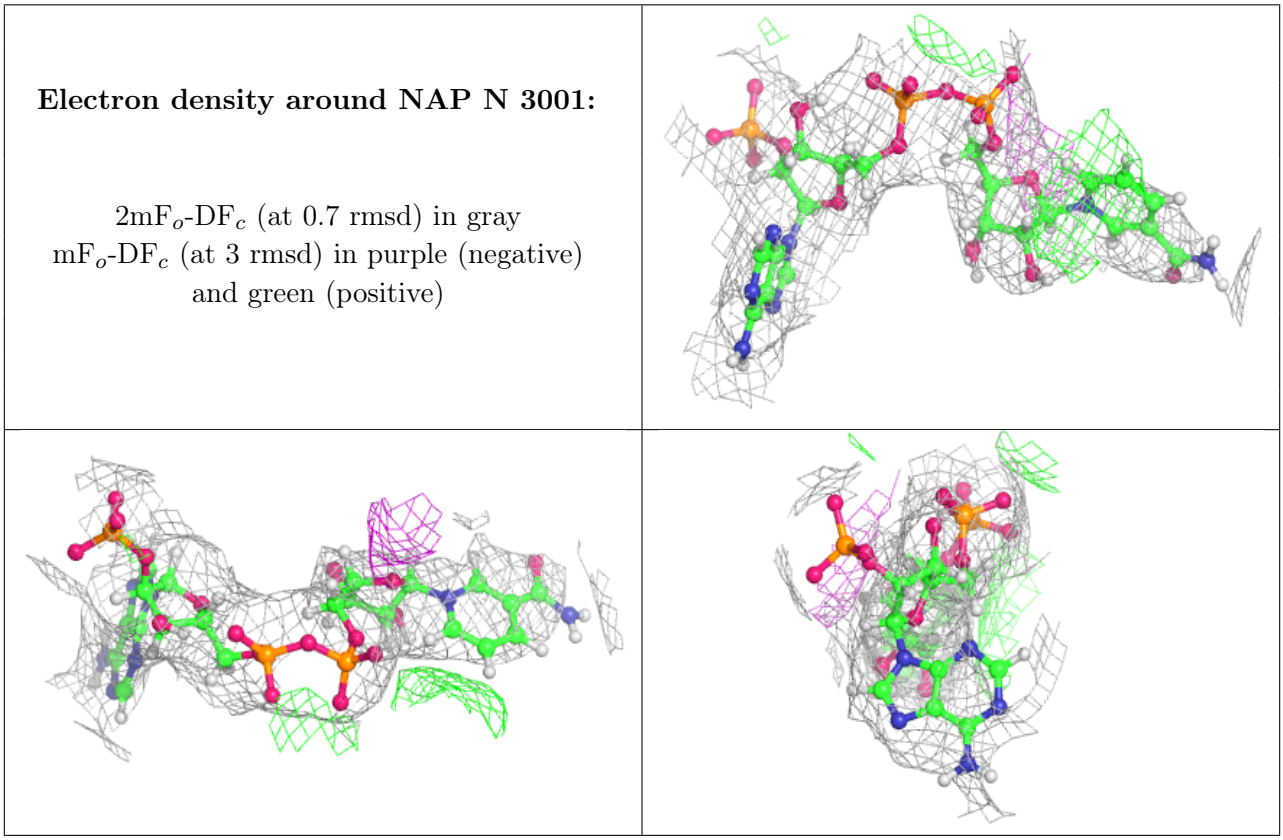
Electron density around NAP M 3001:

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



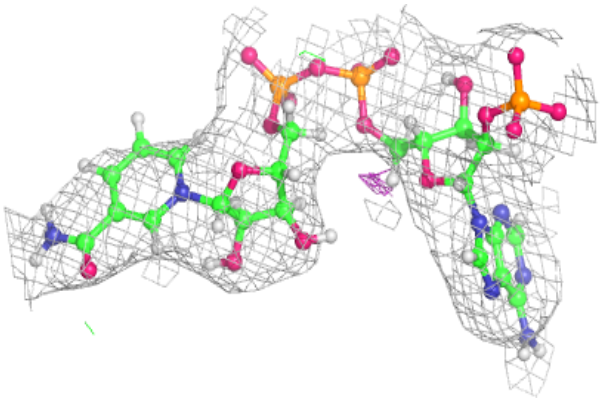
Electron density around NAP N 3001:

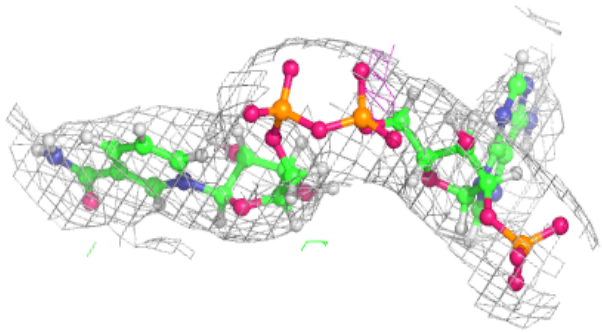
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around NAP G 3001:

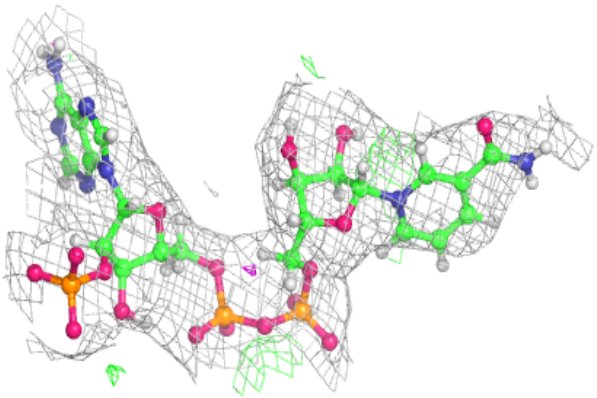
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

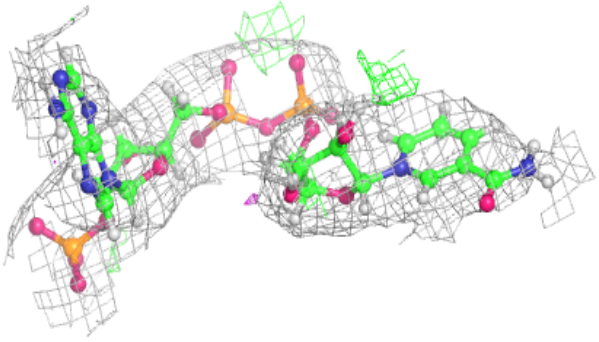


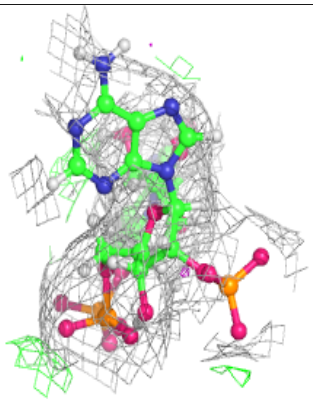


Electron density around NAP C 3001:

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

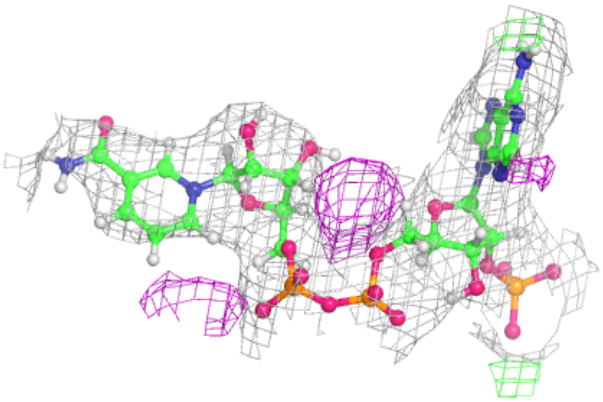


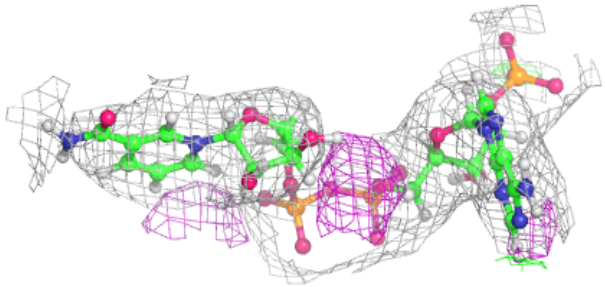


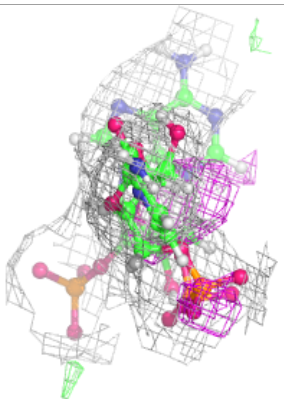


Electron density around NAP L 3001:

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

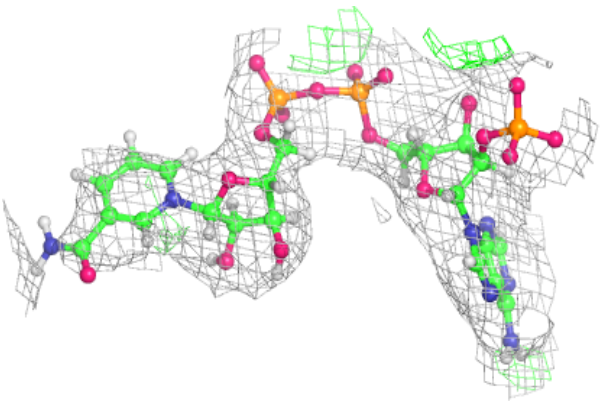


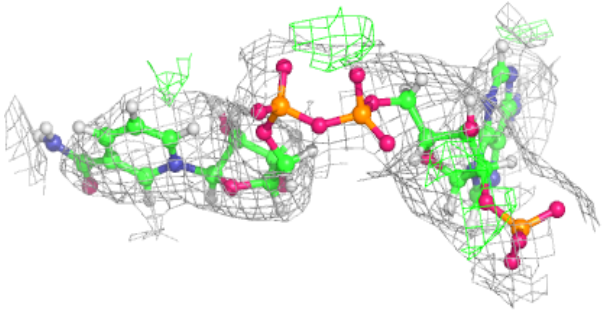


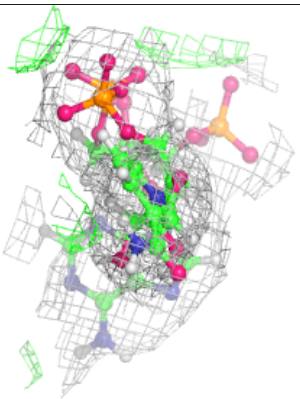


Electron density around NAP D 3001:

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

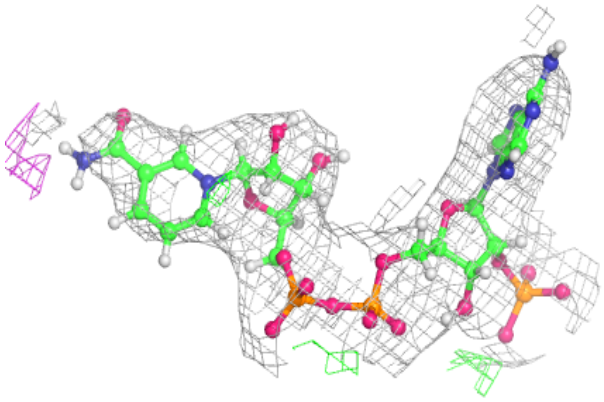


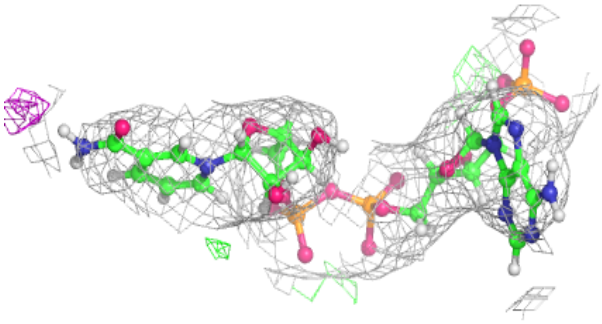


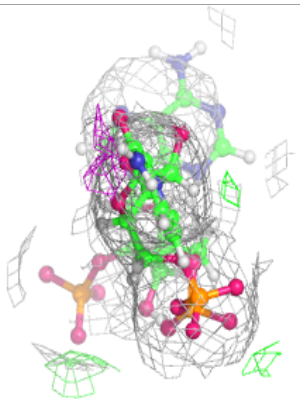


Electron density around NAP O 3001:

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

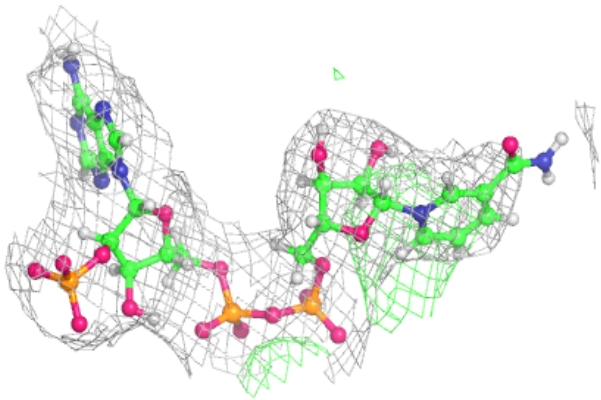


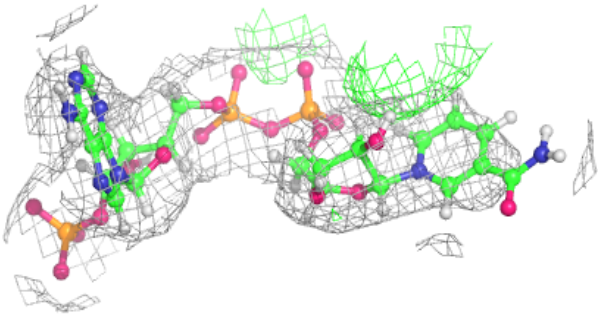


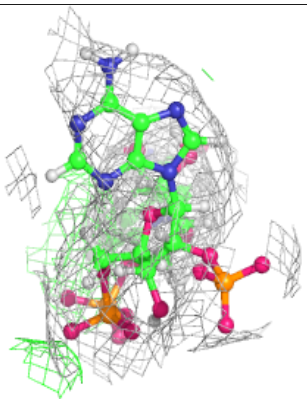


Electron density around NAP A 3001:

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

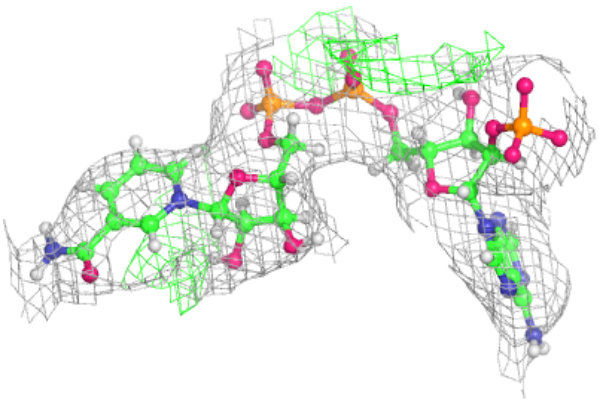


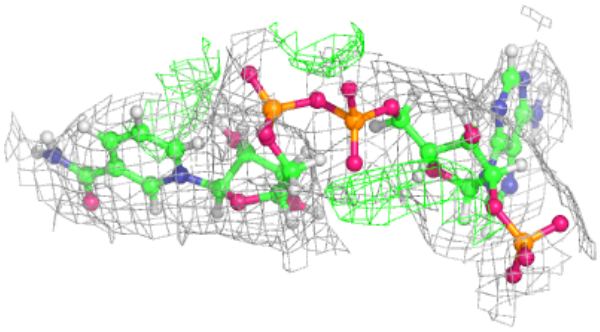


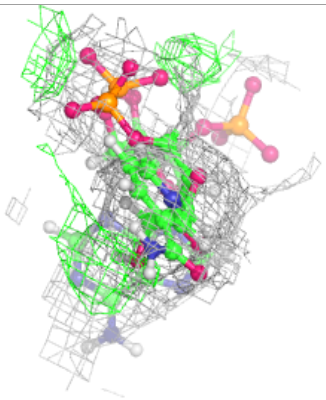


Electron density around NAP J 3001:

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

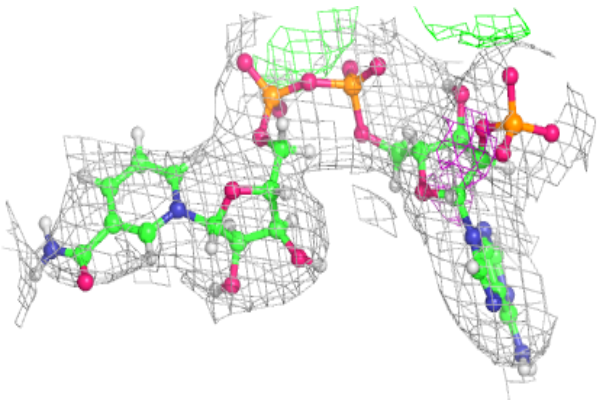


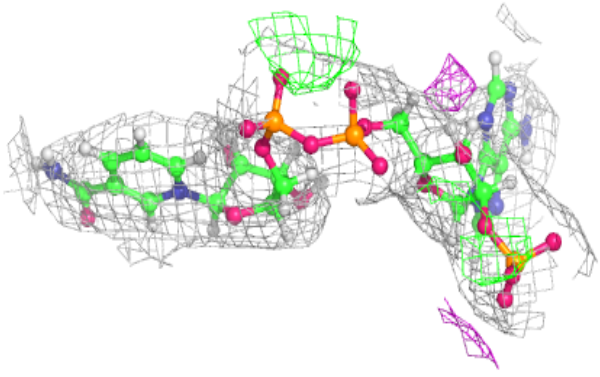


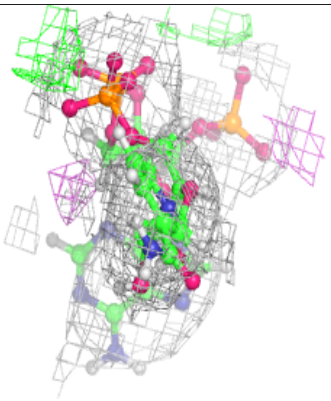


Electron density around NAP B 3001:

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

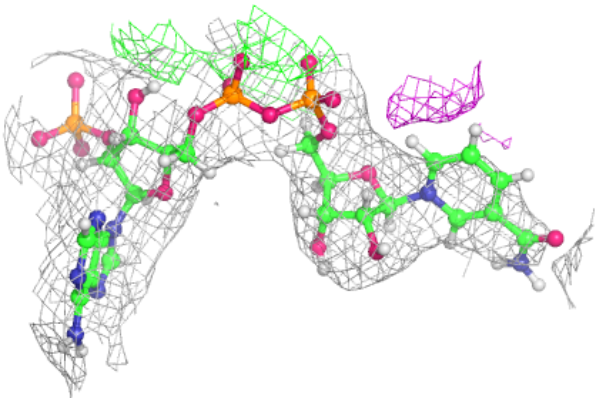


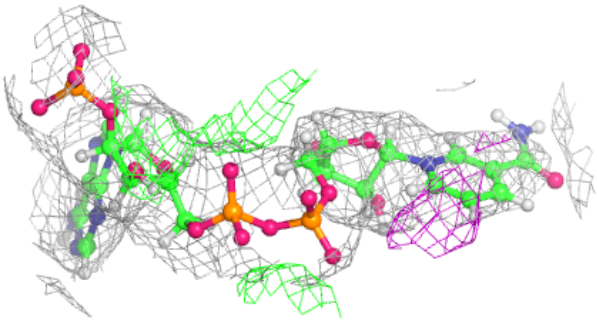


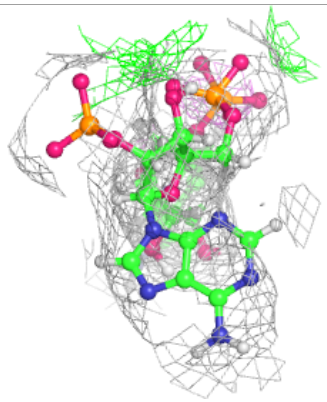


Electron density around NAP P 3001:

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

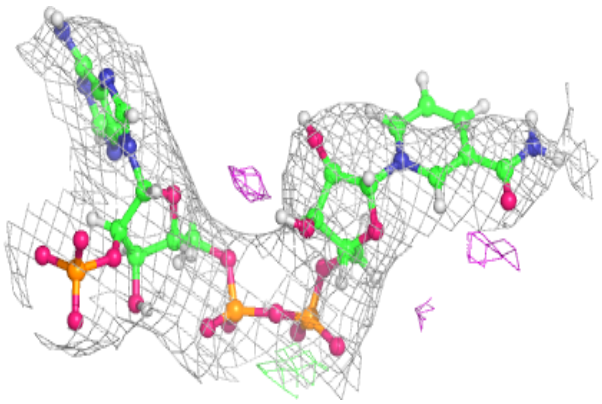


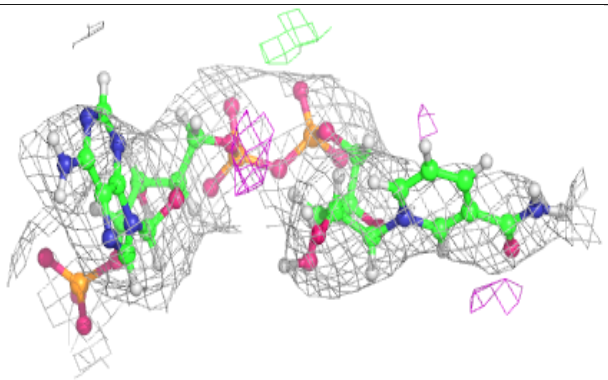


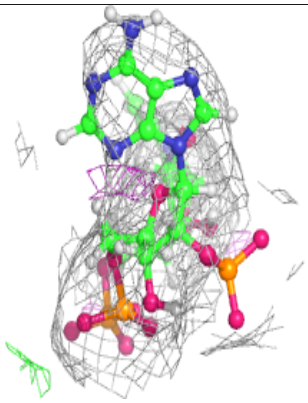


Electron density around NAP K 3001:

$2mF_o$-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.