



wwPDB X-ray Structure Validation Summary Report ⓘ

Jan 14, 2024 – 01:56 am GMT

PDB ID : 6QL9
Title : Structure of Fatty acid synthase complex from *Saccharomyces cerevisiae* at 2.9 Angstrom
Authors : Singh, K.; Graf, B.; Linden, A.; Sautner, V.; Urlaub, H.; Tittmann, K.; Stark, H.; Chari, A.
Deposited on : 2019-01-31
Resolution : 2.82 Å(reported)

This is a wwPDB X-ray Structure Validation Summary 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 : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
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) : 2.36

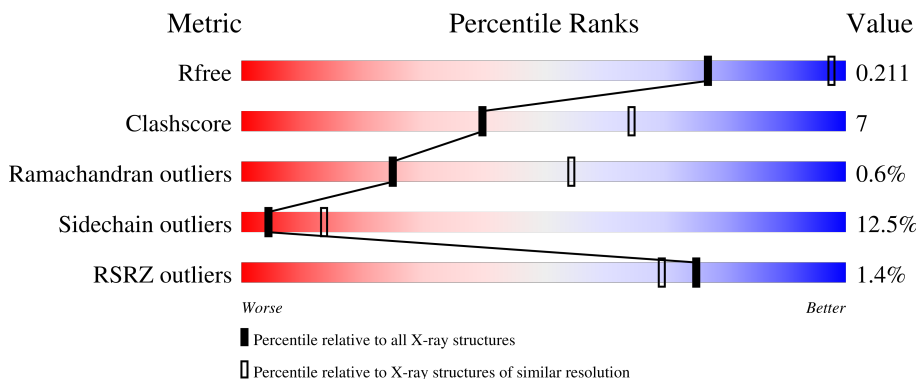
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.82 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.








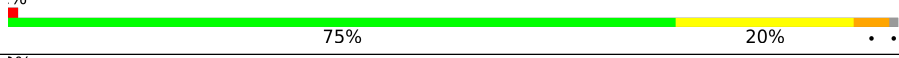


Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3617 (2.84-2.80)
Clashscore	141614	4060 (2.84-2.80)
Ramachandran outliers	138981	3978 (2.84-2.80)
Sidechain outliers	138945	3980 (2.84-2.80)
RSRZ outliers	127900	3552 (2.84-2.80)

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

Mol	Chain	Length	Quality of chain
1	A	1887	
1	B	1887	
1	C	1887	
1	D	1887	

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Mol	Chain	Length	Quality of chain	
1	E	1887		%
1	F	1887		%
2	G	2051		2%
2	J	2051		2%
3	H	2051		%
3	I	2051		%
3	K	2051		2%
3	L	2051		2%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
11	MLI	J	2102	-	-	X	-
6	NA	C	1914	-	-	-	X
7	A2P	A	1918	-	-	-	X
7	A2P	B	1918	-	-	-	X
7	A2P	E	1917	-	-	-	X
7	A2P	F	1912	-	-	-	X
8	ACT	B	1902	-	-	-	X
8	ACT	C	1903	-	-	X	-

2 Entry composition [i](#)

There are 12 unique types of molecules in this entry. The entry contains 179453 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Fatty acid synthase subunit alpha.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	1760	13686	8661	2308	2665	52	0	0	0
1	B	1759	13680	8658	2307	2663	52	0	0	0
1	C	1759	13680	8658	2307	2663	52	0	0	0
1	D	1765	13729	8688	2314	2675	52	0	0	0
1	E	1759	13680	8658	2307	2663	52	0	0	0
1	F	1759	13680	8658	2307	2663	52	0	0	0

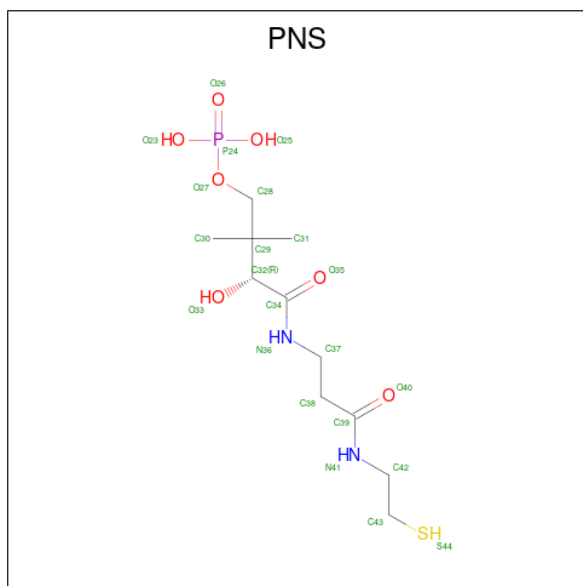
- Molecule 2 is a protein called Fatty acid synthase subunit beta.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	G	2036	16028	10271	2666	3035	56	0	1	0
2	J	2035	16025	10272	2665	3032	56	0	1	0

- Molecule 3 is a protein called Fatty acid synthase subunit beta.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	H	2035	16028	10274	2664	3034	56	0	1	0
3	I	2034	16019	10266	2664	3033	56	0	1	0
3	K	2035	16021	10269	2662	3034	56	0	0	0
3	L	2036	16040	10280	2666	3038	56	0	1	0

- Molecule 4 is 4'-PHOSPHOPANTETHEINE (three-letter code: PNS) (formula: C₁₁H₂₃N₂O₇PS).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	N	O	P			S
4	A	1	Total	C	N	O	P	S	0	0
			21	11	2	6	1	1		
4	B	1	Total	C	N	O	P	S	0	0
			21	11	2	6	1	1		
4	C	1	Total	C	N	O	P	S	0	0
			21	11	2	6	1	1		
4	D	1	Total	C	N	O	P	S	0	0
			21	11	2	6	1	1		
4	E	1	Total	C	N	O	P	S	0	0
			21	11	2	6	1	1		
4	F	1	Total	C	N	O	P	S	0	0
			21	11	2	6	1	1		

- Molecule 5 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: C₂H₆O₂).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	B	1	Total C O 4 2 2	0	0
5	B	1	Total C O 4 2 2	0	0
5	B	1	Total C O 4 2 2	0	0
5	B	1	Total C O 4 2 2	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	B	1	Total 4	C 2	O 2	0	0
5	B	1	Total 4	C 2	O 2	0	0
5	B	1	Total 4	C 2	O 2	0	0
5	B	1	Total 4	C 2	O 2	0	0
5	B	1	Total 4	C 2	O 2	0	0
5	B	1	Total 4	C 2	O 2	0	0
5	C	1	Total 4	C 2	O 2	0	0
5	C	1	Total 4	C 2	O 2	0	0
5	C	1	Total 4	C 2	O 2	0	0
5	C	1	Total 4	C 2	O 2	0	0
5	C	1	Total 4	C 2	O 2	0	0
5	C	1	Total 4	C 2	O 2	0	0
5	C	1	Total 4	C 2	O 2	0	0
5	C	1	Total 4	C 2	O 2	0	0
5	C	1	Total 4	C 2	O 2	0	0
5	D	1	Total 4	C 2	O 2	0	0
5	D	1	Total 4	C 2	O 2	0	0
5	D	1	Total 4	C 2	O 2	0	0
5	D	1	Total 4	C 2	O 2	0	0
5	D	1	Total 4	C 2	O 2	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	D	1	Total	C	O	0	0
			4	2	2		
5	D	1	Total	C	O	0	0
			4	2	2		
5	D	1	Total	C	O	0	0
			4	2	2		
5	D	1	Total	C	O	0	0
			4	2	2		
5	D	1	Total	C	O	0	0
			4	2	2		
5	D	1	Total	C	O	0	0
			4	2	2		
5	E	1	Total	C	O	0	0
			4	2	2		
5	E	1	Total	C	O	0	0
			4	2	2		
5	E	1	Total	C	O	0	0
			4	2	2		
5	E	1	Total	C	O	0	0
			4	2	2		
5	E	1	Total	C	O	0	0
			4	2	2		
5	E	1	Total	C	O	0	0
			4	2	2		
5	E	1	Total	C	O	0	0
			4	2	2		
5	E	1	Total	C	O	0	0
			4	2	2		
5	E	1	Total	C	O	0	0
			4	2	2		
5	F	1	Total	C	O	0	0
			4	2	2		
5	F	1	Total	C	O	0	0
			4	2	2		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	F	1	Total C O 4 2 2	0	0
5	F	1	Total C O 4 2 2	0	0
5	F	1	Total C O 4 2 2	0	0
5	F	1	Total C O 4 2 2	0	0
5	F	1	Total C O 4 2 2	0	0
5	F	1	Total C O 4 2 2	0	0
5	H	1	Total C O 4 2 2	0	0
5	J	1	Total C O 4 2 2	0	0
5	J	1	Total C O 4 2 2	0	0
5	J	1	Total C O 4 2 2	0	0
5	J	1	Total C O 4 2 2	0	0

- Molecule 6 is SODIUM ION (three-letter code: NA) (formula: Na).

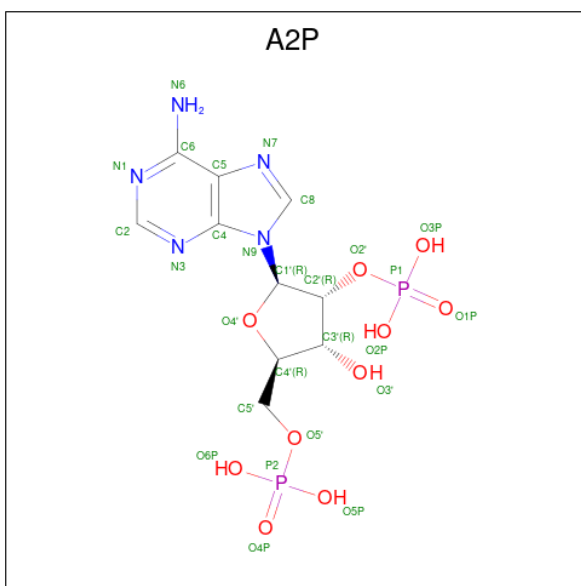
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	6	Total Na 6 6	0	0
6	B	5	Total Na 5 5	0	0
6	C	4	Total Na 4 4	0	0
6	D	8	Total Na 8 8	0	0
6	E	3	Total Na 3 3	0	0
6	F	2	Total Na 2 2	0	0
6	G	2	Total Na 2 2	0	0
6	H	2	Total Na 2 2	0	0

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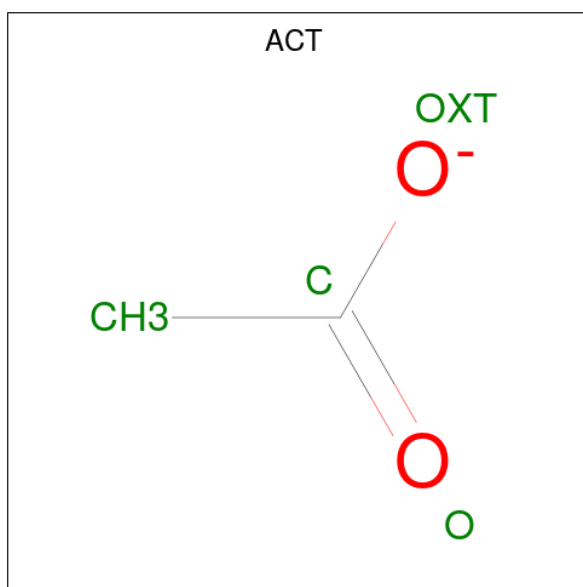
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	I	1	Total	Na	0	0
			1	1		
6	J	2	Total	Na	0	0
			2	2		
6	K	2	Total	Na	0	0
			2	2		
6	L	2	Total	Na	0	0
			2	2		

- Molecule 7 is ADENOSINE-2'-5'-DIPHOSPHATE (three-letter code: A2P) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
7	A	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
7	B	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
7	C	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
7	D	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
7	E	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
7	F	1	Total	C	N	O	P	0	0
			27	10	5	10	2		

- Molecule 8 is ACETATE ION (three-letter code: ACT) (formula: $C_2H_3O_2$).



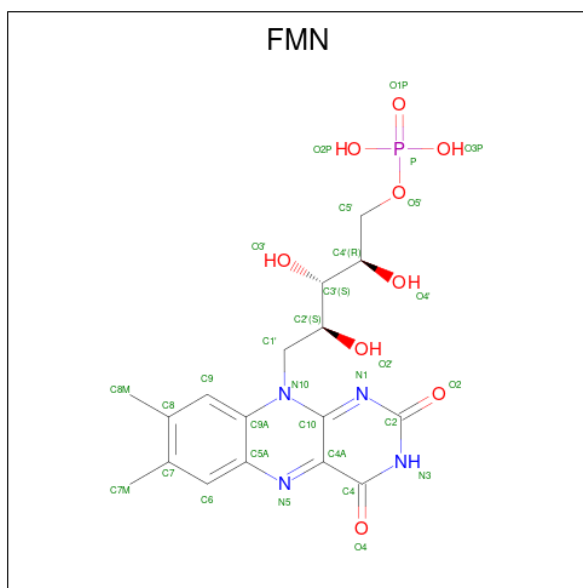
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	B	1	Total C O 4 2 2	0	0
8	C	1	Total C O 4 2 2	0	0
8	C	1	Total C O 4 2 2	0	0
8	H	1	Total C O 4 2 2	0	0
8	H	1	Total C O 4 2 2	0	0
8	H	1	Total C O 4 2 2	0	0

- Molecule 9 is TRIETHYLENE GLYCOL (three-letter code: PGE) (formula: C₆H₁₄O₄).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
9	E	1	Total	C	O	0	0
			10	6	4		

- Molecule 10 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: C₁₇H₂₁N₄O₉P).



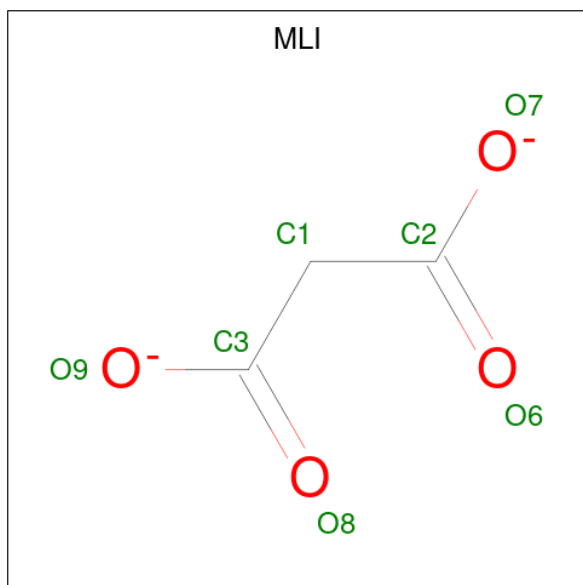
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
10	G	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
10	H	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
10	I	1	Total	C	N	O	P	0	0
			31	17	4	9	1		

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
10	J	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
10	K	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
10	L	1	Total	C	N	O	P	0	0
			31	17	4	9	1		

- Molecule 11 is MALONATE ION (three-letter code: MLI) (formula: $C_3H_2O_4$).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
11	G	1	Total	C O	0	0
			7	3 4		
11	J	1	Total	C O	0	0
			7	3 4		

- Molecule 12 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
12	A	42	Total	O	0	0
			42	42		
12	B	36	Total	O	0	0
			36	36		
12	C	42	Total	O	0	0
			42	42		
12	D	60	Total	O	0	0
			60	60		

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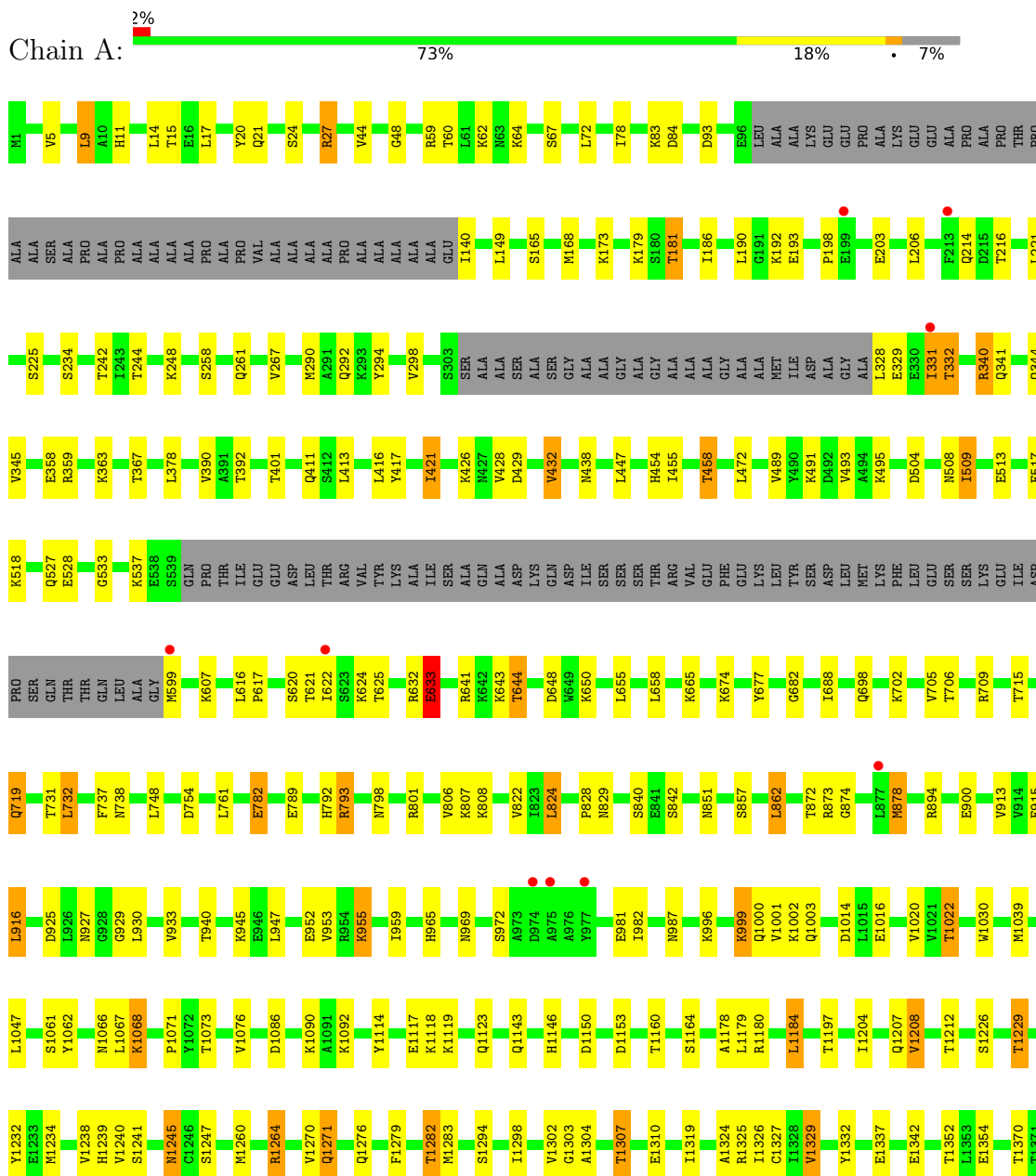
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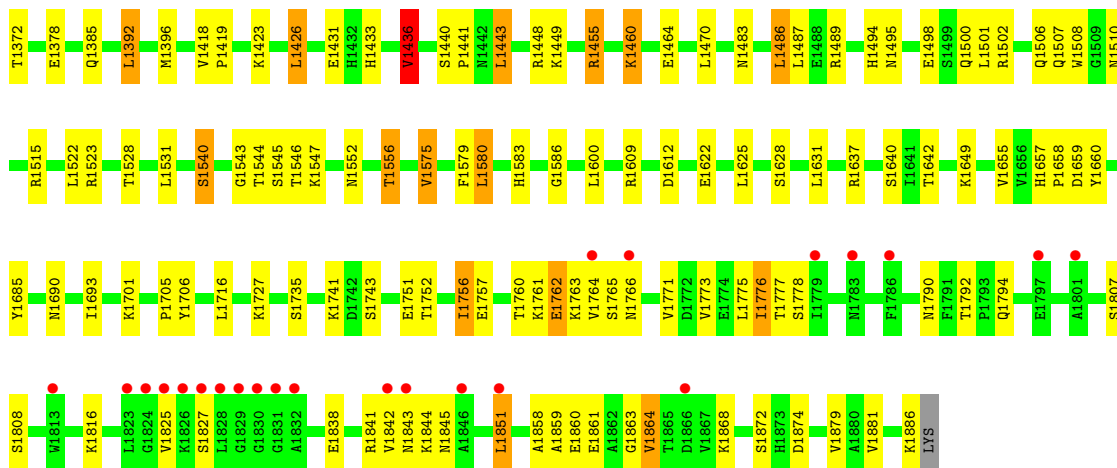
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
12	E	30	Total 30	O 30	0	0
12	F	24	Total 24	O 24	0	0
12	G	19	Total 19	O 19	0	0
12	H	24	Total 24	O 24	0	0
12	I	17	Total 17	O 17	0	0
12	J	17	Total 17	O 17	0	0
12	K	5	Total 5	O 5	0	0
12	L	12	Total 12	O 12	0	0

3 Residue-property plots i

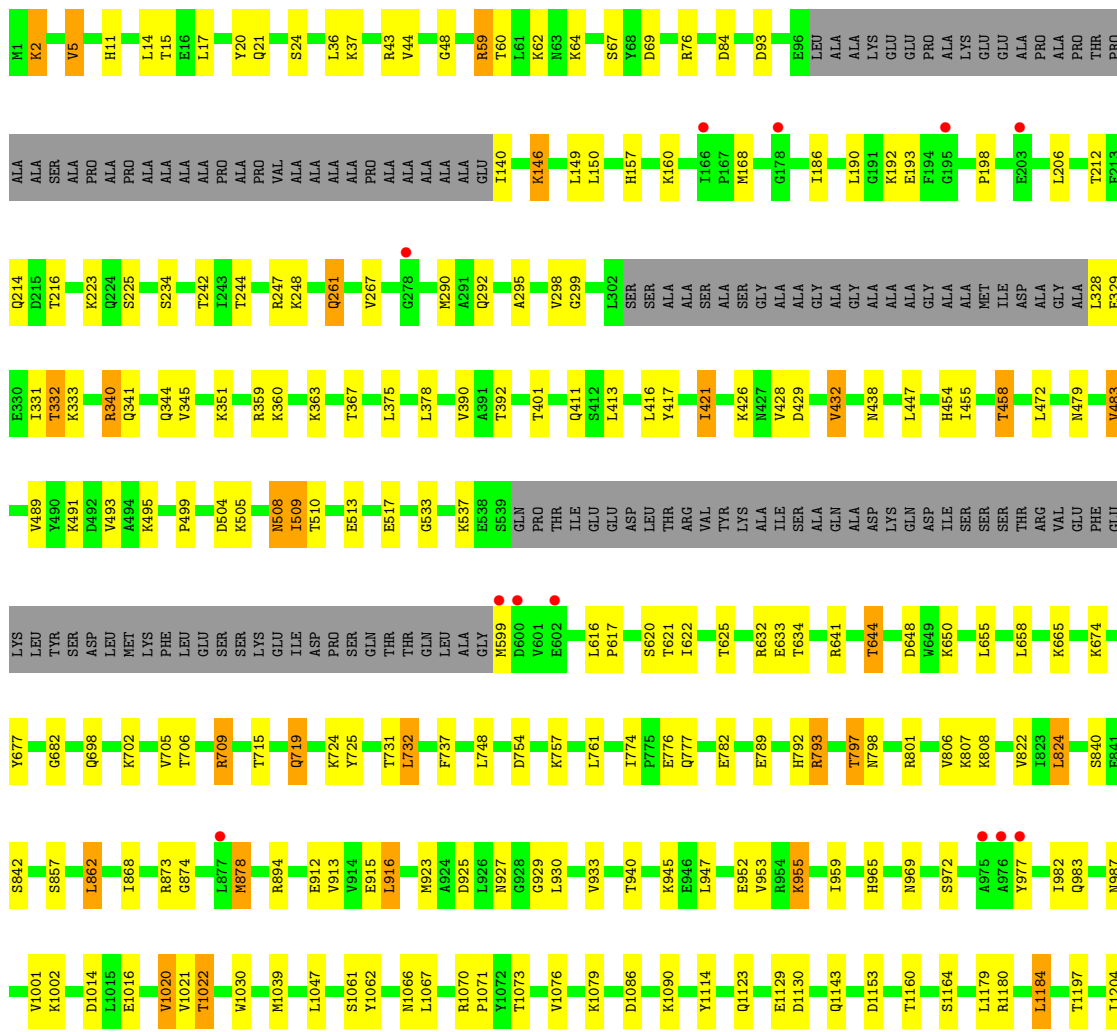
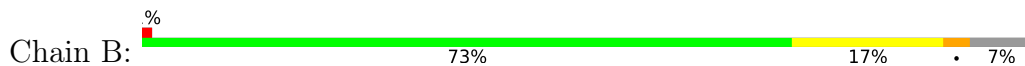
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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.

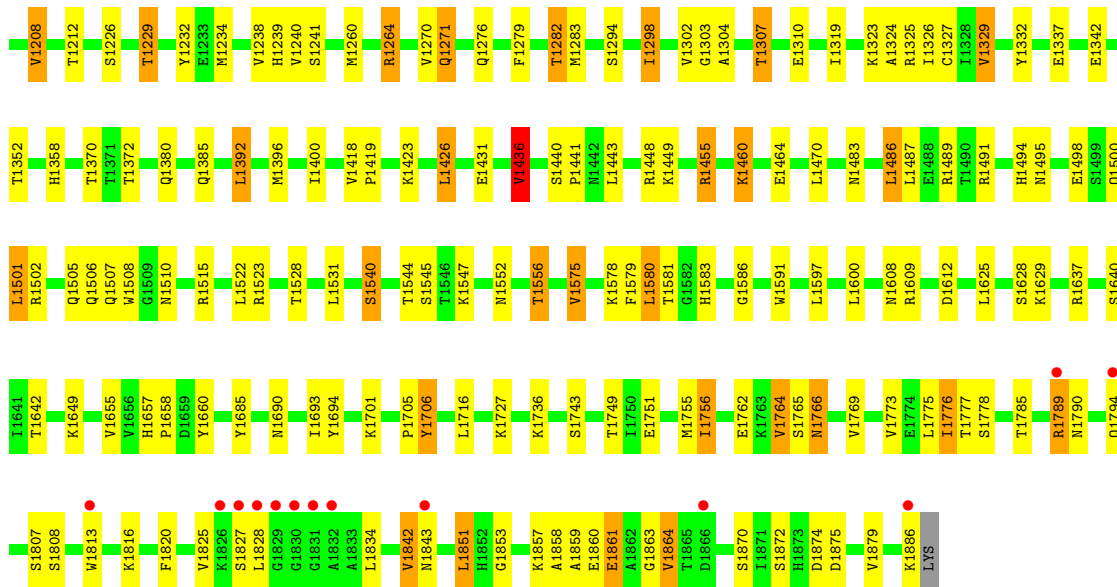
● Molecule 1: Fatty acid synthase subunit alpha



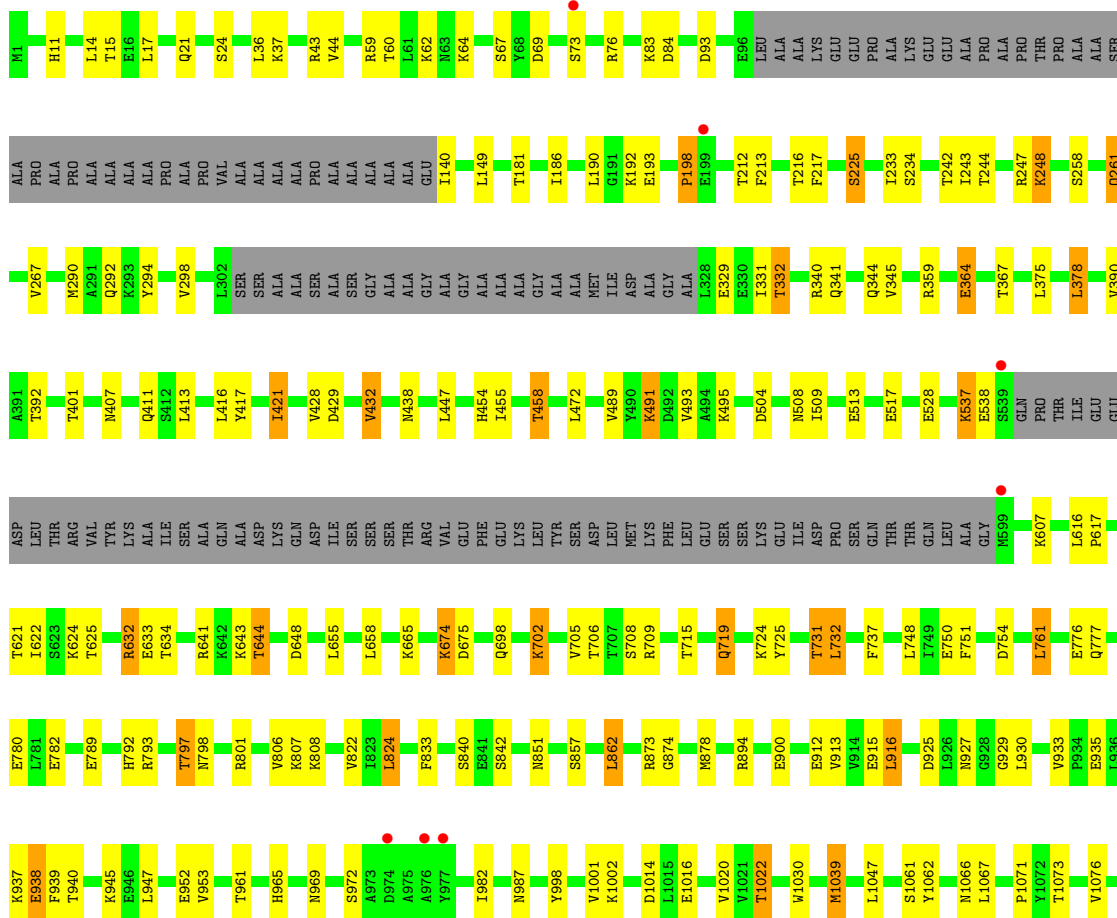
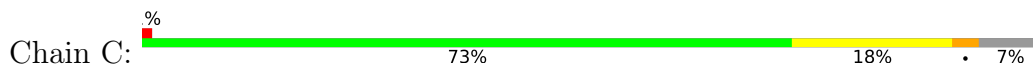


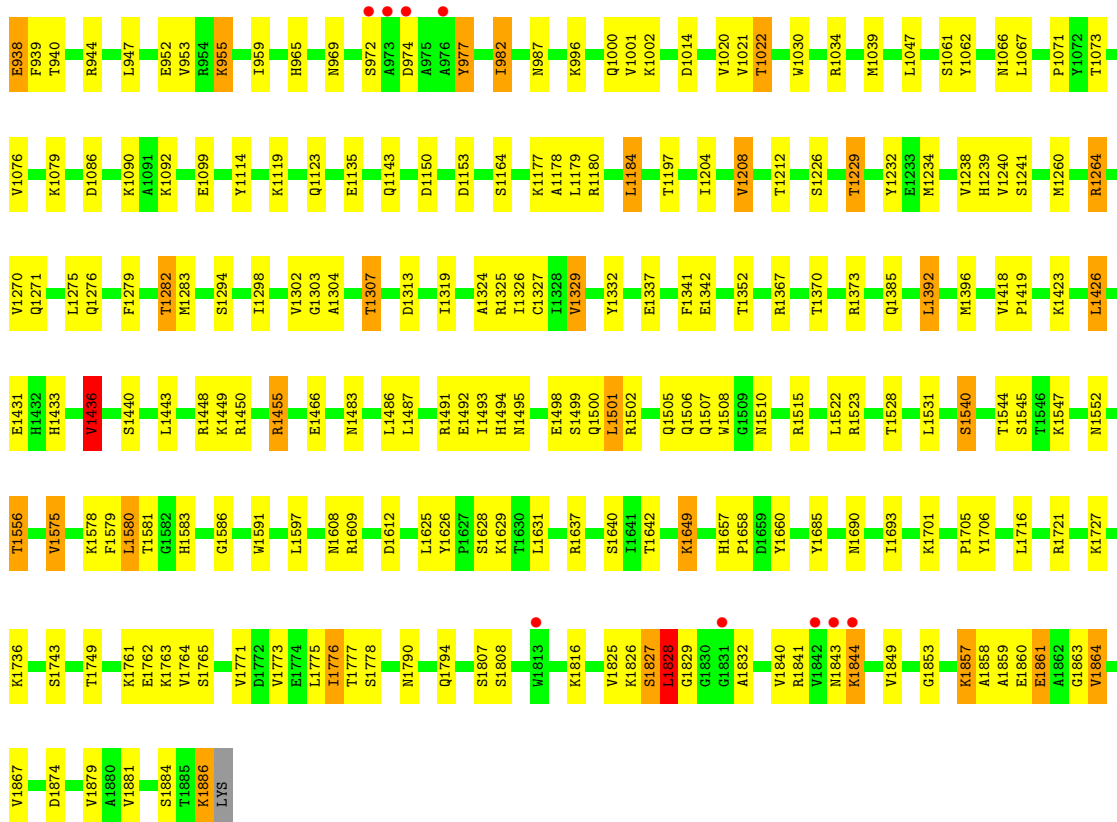
● Molecule 1: Fatty acid synthase subunit alpha



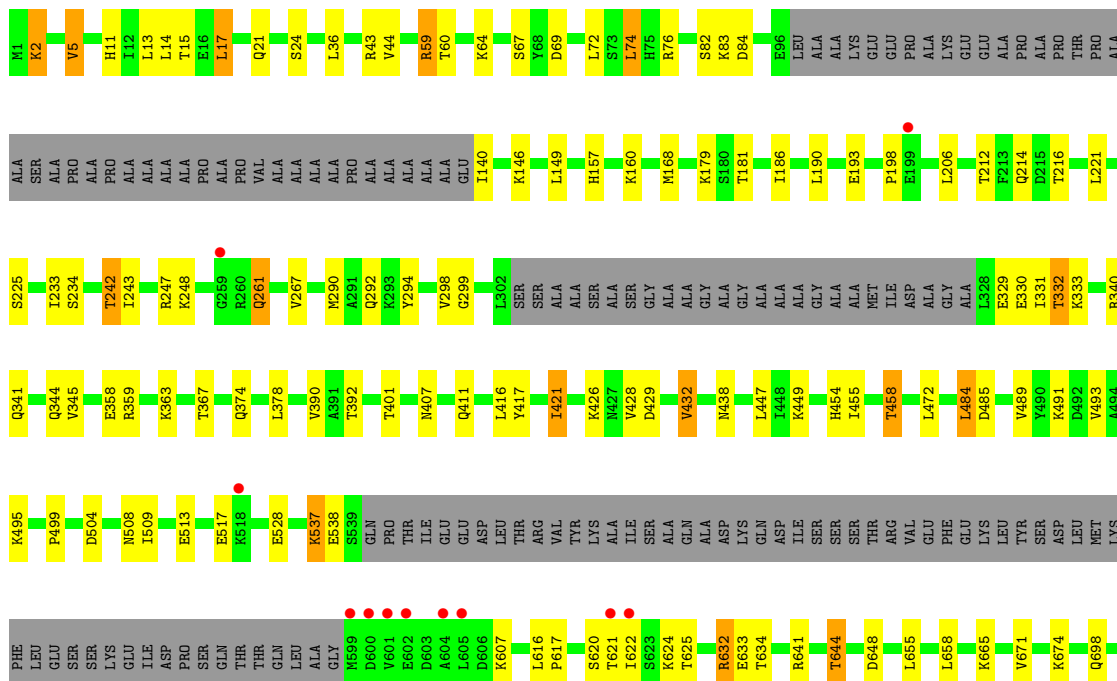


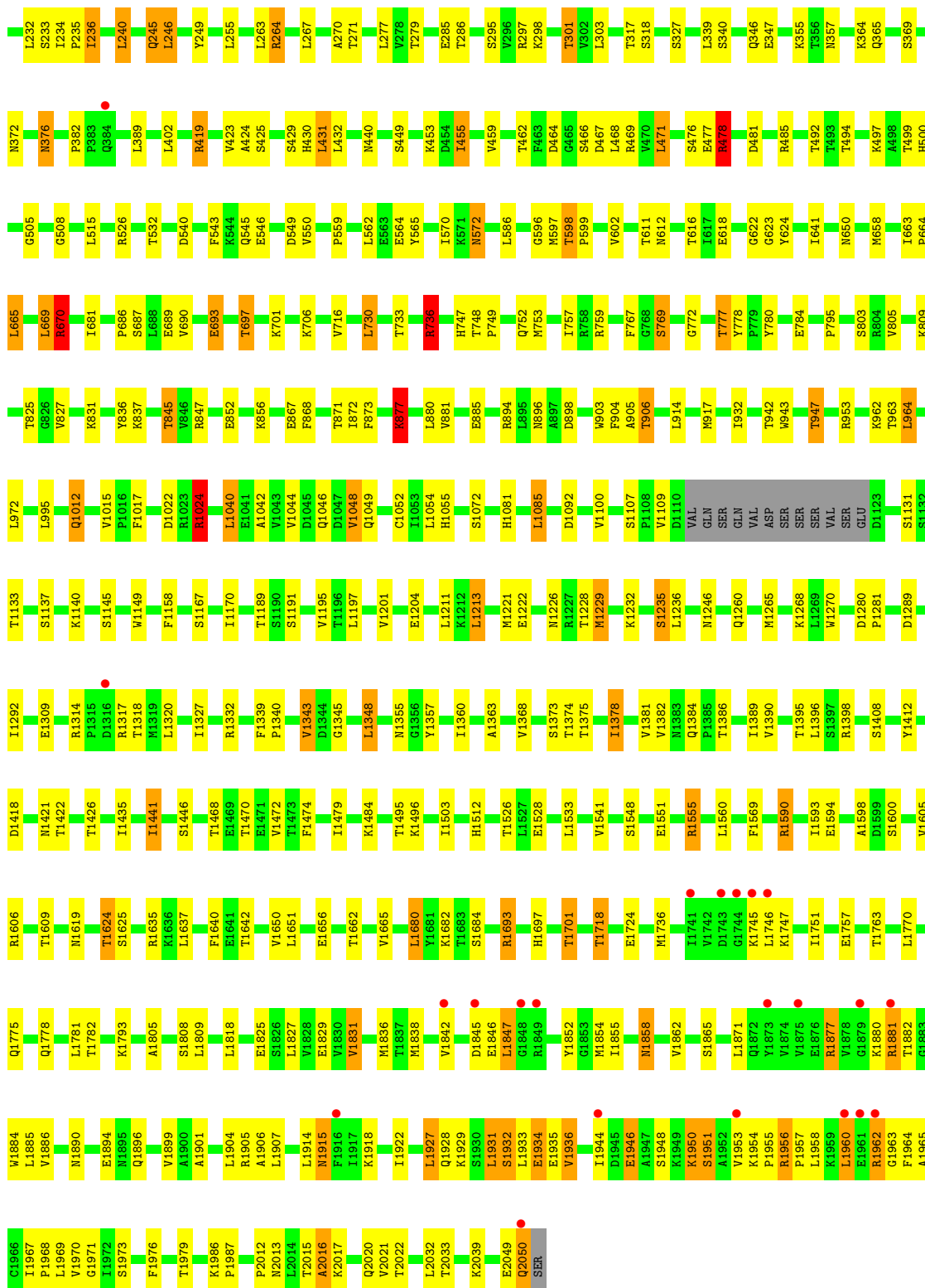
• Molecule 1: Fatty acid synthase subunit alpha





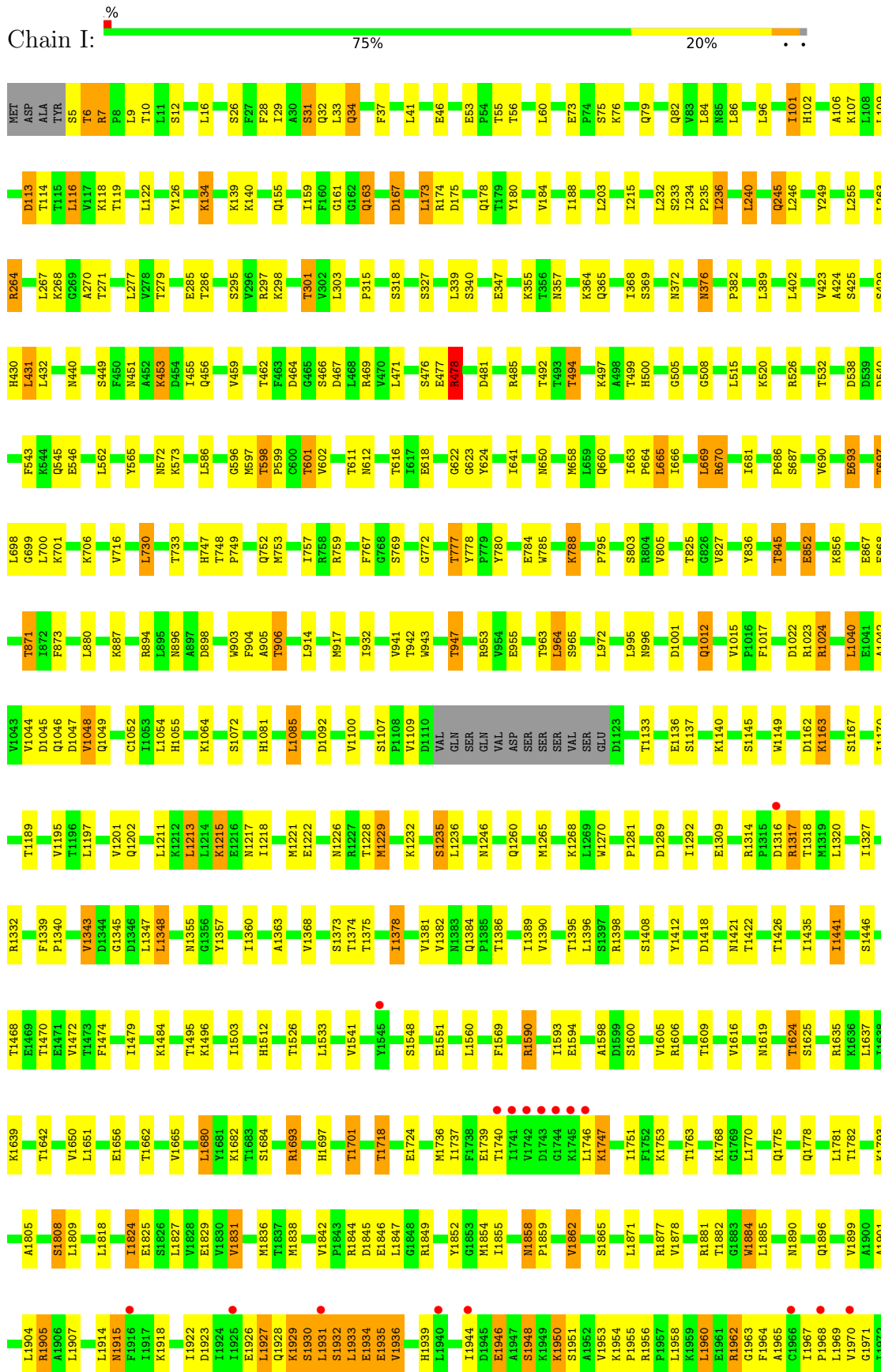
• Molecule 1: Fatty acid synthase subunit alpha

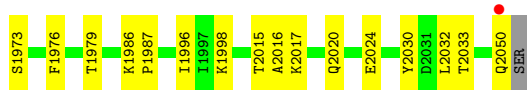




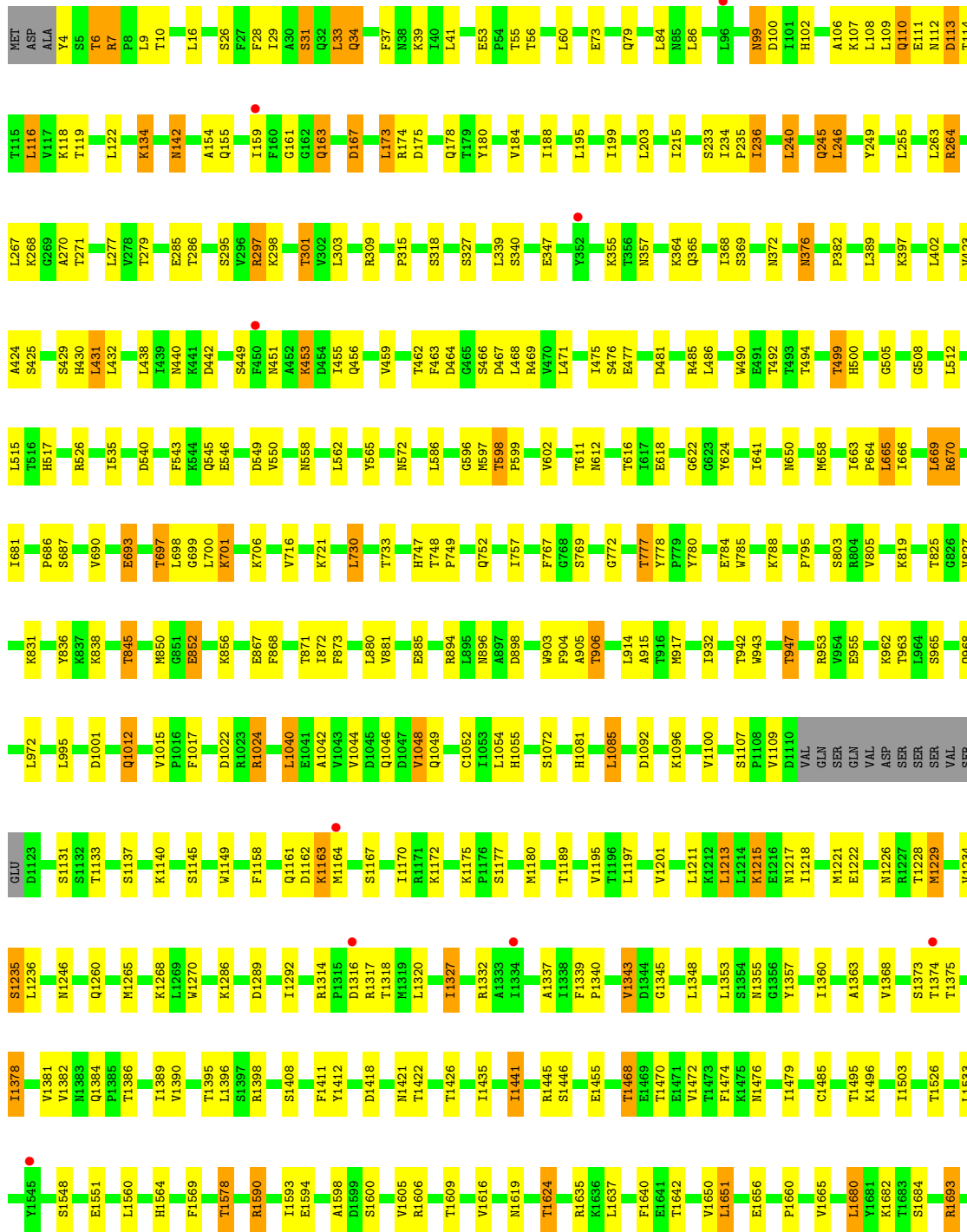
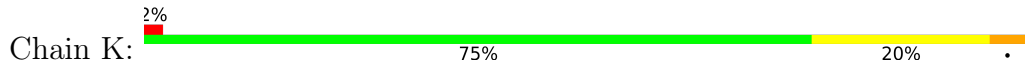
NET	M112	A270	R419	Q545	T697	K877	V1048	S1190	P1340	E1471	T1642	L1809	F1916
ASP	D113	A271	V423	E546	L698	L880	Q1049	S1191	V1343	V1472	V1650	L1818	D1923
ALA	T114	T271	L880	E546	G699	L880	Q1049	S1192	D1344	T1473	L1651	L1819	D1924
Y4	T115	T272	V424	D549	L700	T883	C1052	T1193	D1345	F1474	L1652	E1825	E1925
S5	L116	V277	S425	V550	K701	T883	L1053	V1194	G1346	I1479	E1656	S1826	L2015
T6	V117	L278	S429	P559	K706	K887	L1054	V1195	G1347	I1480	T1662	L1827	A2016
R7	K118	T279	H430	P560	H430	K887	H1055	V1196	L1347	K1484	T1663	L1828	K2017
P8	T119	T280	L431	L562	V716	R894	S1072	L1197	L1348	C1485	T1664	V1829	Q2020
L9	L122	T281	L432	E563	A284	N895	H1081	V1201	N1355	T1495	V1665	V1830	L2032
T10	L123	E285	L433	E564	A285	N896	H1082	V1202	G1356	F1666	F1666	S1932	L2033
L15	K134	T286	N440	Y565	A897	D898	L1085	K1213	Y1357	K1496	T1667	L1933	L1934
P23	K139	S295	S449	N572	T733	D898	L1086	L1213	T1360	I1503	L1680	M1836	E1934
S26	K140	V296	S450	L562	H747	W903	D1092	L1214	N1356	H1512	S1684	M1837	E1935
L29	S141	R297	K453	E576	T748	F904	D1093	K1215	A1363	T1526	S1685	M1838	V1936
A30	M142	K298	L454	R576	P749	A905	V1100	L1216	A1364	T1527	R1693	V1842	L1940
S31	I159	T301	L455	L586	T757	T906	V1101	I1218	V1368	T1528	H1697	D1845	F1941
Q32	F180	V302	L456	G596	Q752	L914	S1107	M1221	S1373	L1533	H1698	E1846	E1942
L33	G161	L303	Q456	M597	H753	M917	F1108	E1222	T1374	L1534	L1847	L1943	L1943
Q34	Q163	P315	W459	P599	I757	T906	V1109	N1226	T1375	V1541	T1701	L1944	L1944
F37	D167	S318	T462	P599	I757	T906	D1110	N1227	I1378	S1548	T1718	Y1852	E1945
L41	L173	I323	F463	V602	F767	I932	VAL	R1227	I1378	T1578	T1719	G1853	S1947
E53	R174	S327	D464	V602	S768	V941	GLN	M1228	V1381	R1578	E1724	M1854	S1948
F54	D175	S327	G485	T611	S769	W942	SER	M1229	V1382	R1579	E1725	I1855	K1949
T55	Q178	S330	S466	N612	G772	W943	GLN	K1232	V1383	L1560	S1734	M1858	K1950
T56	T179	L339	D467	N612	G772	W943	VAL	S1235	M1383	L1561	S1735	P1859	S1951
L60	Y180	S340	L488	T616	T777	T947	ASP	S1236	Q1384	L1562	M1736	F1862	A1962
L71	V184	E347	L489	E618	T778	R953	SER	L1236	T1386	F1569	I1737	V1862	V1963
V72	V184	K355	L490	E618	T779	R953	VAL	M1246	I1389	T1578	F1738	V1862	K1964
E73	L203	K356	D481	G622	E784	K960	GLU	M1247	V1390	R1590	E1739	S1865	R1965
F74	L203	T356	R485	G623	E784	K961	D1123	Q1260	T1395	I1741	I1740	L1871	P1957
S75	T215	N357	R485	Y624	E784	K962	D1123	Q1261	L1396	E1594	V1742	L1872	L1958
K76	T215	N357	R485	Y624	E784	K962	D1123	Q1262	L1397	E1594	D1743	R1877	K1959
Q79	S233	N357	T492	I641	P795	T963	A1129	M1265	S1397	A1598	G1744	E1881	E1961
V83	L234	N372	T493	I641	P795	T963	T1130	K1268	R1398	A1599	K1745	R1881	L1962
L84	L236	N372	T494	I641	P795	T963	S1131	L1269	R1399	D1899	L1746	G1963	G1963
N85	L240	N376	T494	I641	P795	T963	S1132	W1270	S1408	S1600	K1747	W1884	F1964
L86	L240	N376	T494	I641	P795	T963	T1133	D1280	S1408	S1600	T1748	L1885	A1965
L96	Q245	P382	K497	N658	W827	Q998	S1137	D1281	Y1412	V1605	E1749	M1890	P1966
N99	L246	P382	L498	N658	W827	Q998	S1137	P1281	D1418	R1606	K1750	M1890	L1968
D100	L246	P382	L498	N658	W827	Q998	S1137	P1281	D1418	R1606	I1751	L1969	L1969
I101	Y249	N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	V1970	V1970
H102	L255	N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	G1971	G1971
A106	L263	N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	I1972	I1972
L109	R264	N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	S1973	S1973
L267	L267	N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	F1976	F1976
		N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	L1904	L1904
		N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	R1905	R1905
		N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	A1906	A1906
		N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	L1907	L1907
		N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	D1908	D1908
		N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	T1909	T1909
		N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	K1983	K1983
		N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	L1914	L1914
		N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	M1915	M1915
		N372	L515	I681	R856	D1001	S1145	D1289	M1421	T1609	T1763	I1996	I1996

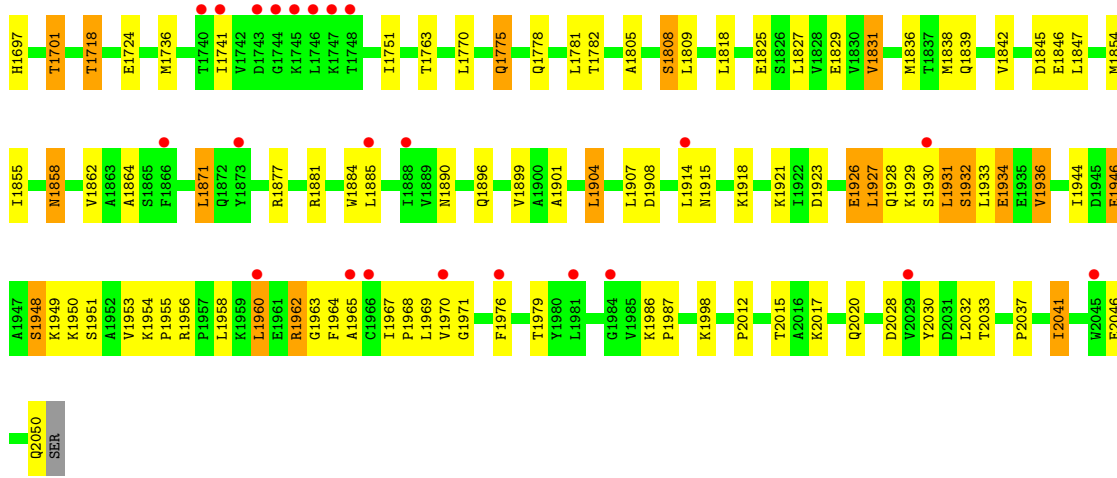
● Molecule 3: Fatty acid synthase subunit beta



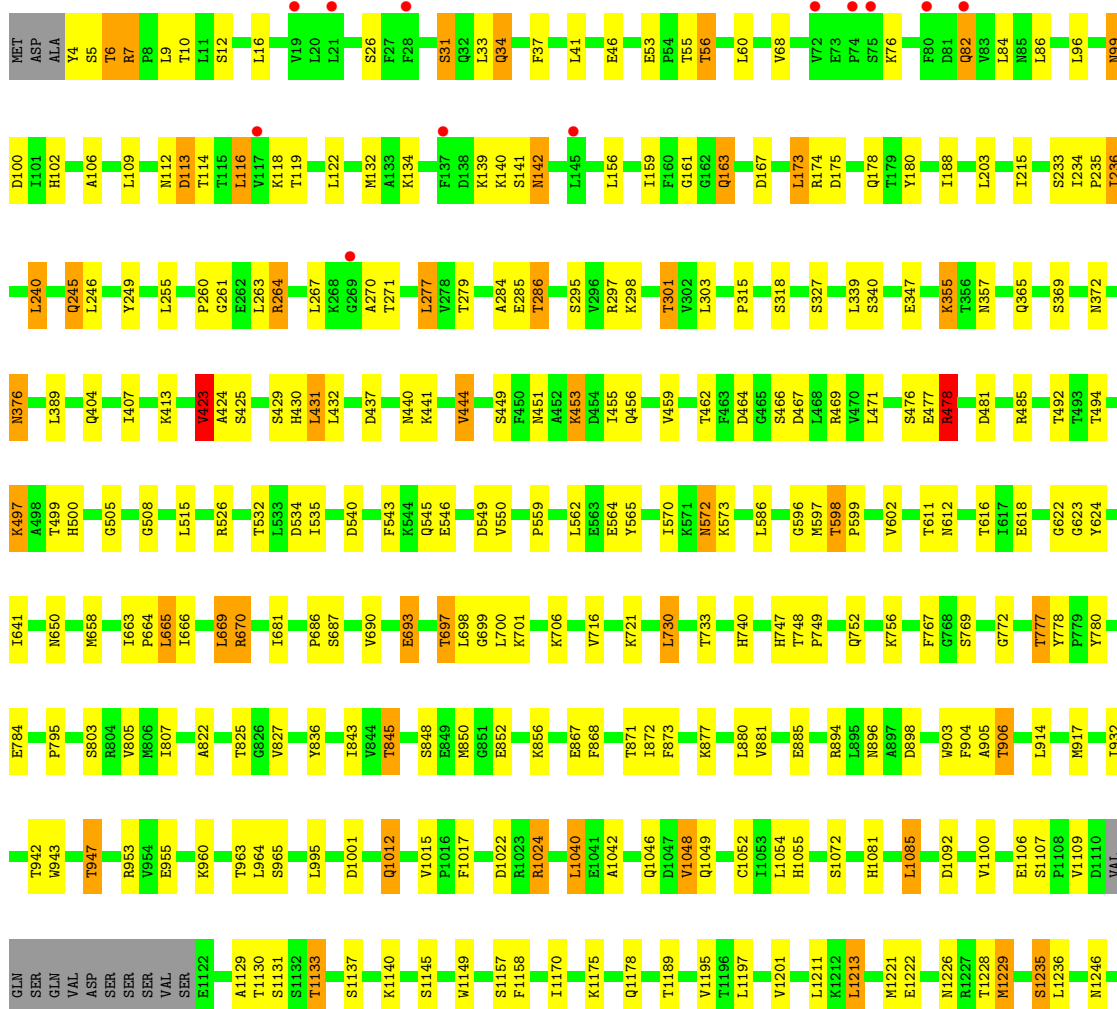
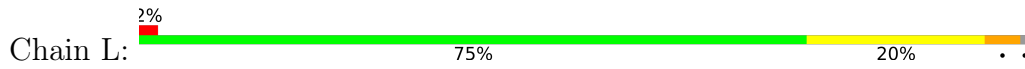


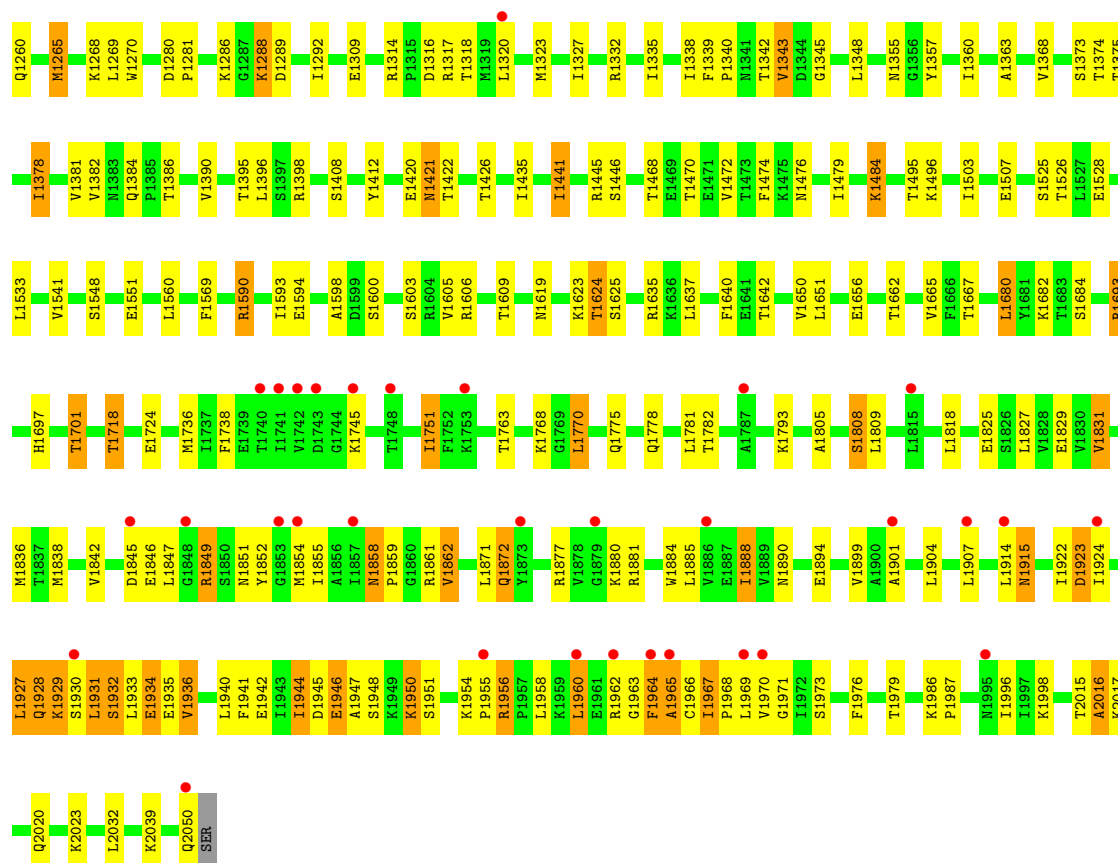
● Molecule 3: Fatty acid synthase subunit beta





• Molecule 3: Fatty acid synthase subunit beta





4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	217.62Å 347.60Å 265.27Å 90.00° 107.88° 90.00°	Depositor
Resolution (Å)	191.50 – 2.82 204.26 – 2.82	Depositor EDS
% Data completeness (in resolution range)	78.6 (191.50-2.82) 78.6 (204.26-2.82)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.62 (at 2.82Å)	Xtrriage
Refinement program	REFMAC 5.8.0238	Depositor
R, R_{free}	0.192 , 0.211 0.194 , 0.211	Depositor DCC
R_{free} test set	35171 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å ²)	63.8	Xtrriage
Anisotropy	0.023	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 44.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	179453	wwPDB-VP
Average B, all atoms (Å ²)	73.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.33% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: EDO, PNS, J8W, A2P, MLI, NA, ACT, FMN, PGE

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	0.68	2/13939 (0.0%)	0.85	5/18837 (0.0%)
1	B	0.69	0/13933	0.85	4/18829 (0.0%)
1	C	0.69	1/13933 (0.0%)	0.84	3/18829 (0.0%)
1	D	0.69	0/13983	0.86	8/18898 (0.0%)
1	E	0.69	1/13933 (0.0%)	0.85	2/18829 (0.0%)
1	F	0.68	0/13933	0.83	2/18829 (0.0%)
2	G	0.67	0/16394	0.82	1/22244 (0.0%)
2	J	0.67	0/16392	0.83	4/22242 (0.0%)
3	H	0.67	1/16385 (0.0%)	0.82	0/22231
3	I	0.67	0/16372	0.82	1/22213 (0.0%)
3	K	0.67	0/16374	0.82	0/22216
3	L	0.67	0/16394	0.81	3/22243 (0.0%)
All	All	0.68	5/181965 (0.0%)	0.83	33/246440 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	C	0	2
1	D	0	1
3	I	0	1
All	All	0	5

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	E	1484	GLU	CD-OE2	6.00	1.32	1.25
3	H	852	GLU	CD-OE1	5.37	1.31	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1354	GLU	CD-OE1	5.29	1.31	1.25
1	A	1378	GLU	CD-OE1	5.19	1.31	1.25
1	C	1317	GLU	CD-OE1	5.05	1.31	1.25

The worst 5 of 33 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	1886	LYS	CA-C-O	7.42	135.69	120.10
3	L	1964	PHE	CB-CA-C	7.13	124.66	110.40
1	E	1264	ARG	CG-CD-NE	-7.07	96.96	111.80
1	A	1264	ARG	CG-CD-NE	-7.04	97.01	111.80
1	B	1264	ARG	CG-CD-NE	-7.03	97.03	111.80

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1207	GLN	Peptide
1	C	1841	ARG	Peptide
1	C	538	GLU	Peptide
1	D	1828	LEU	Peptide
3	I	1844	ARG	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	13686	0	13661	211	2
1	B	13680	0	13658	214	0
1	C	13680	0	13658	222	0
1	D	13729	0	13701	207	2
1	E	13680	0	13658	212	0
1	F	13680	0	13658	201	0
2	G	16028	0	15999	241	0
2	J	16025	0	15997	248	0
3	H	16028	0	15993	246	0
3	I	16019	0	15983	249	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	K	16021	0	15986	261	0
3	L	16040	0	15998	295	0
4	A	21	0	21	1	0
4	B	21	0	21	1	0
4	C	21	0	21	0	0
4	D	21	0	21	0	0
4	E	21	0	21	0	0
4	F	21	0	21	2	0
5	A	40	0	60	0	0
5	B	40	0	60	4	0
5	C	36	0	54	1	0
5	D	52	0	78	1	0
5	E	48	0	72	0	0
5	F	32	0	48	0	0
5	H	4	0	6	0	0
5	J	16	0	24	2	0
6	A	6	0	0	0	0
6	B	5	0	0	0	0
6	C	4	0	0	0	0
6	D	8	0	0	0	0
6	E	3	0	0	0	0
6	F	2	0	0	0	0
6	G	2	0	0	0	0
6	H	2	0	0	0	0
6	I	1	0	0	0	0
6	J	2	0	0	0	0
6	K	2	0	0	0	0
6	L	2	0	0	0	0
7	A	27	0	11	3	0
7	B	27	0	11	5	0
7	C	27	0	11	2	0
7	D	27	0	11	3	0
7	E	27	0	11	2	0
7	F	27	0	11	1	0
8	B	4	0	3	1	0
8	C	8	0	6	2	0
8	H	12	0	9	0	0
9	E	10	0	14	0	0
10	G	31	0	19	4	0
10	H	31	0	19	4	0
10	I	31	0	19	5	0
10	J	31	0	19	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
10	K	31	0	19	5	0
10	L	31	0	19	5	0
11	G	7	0	2	1	0
11	J	7	0	2	2	0
12	A	42	0	0	1	0
12	B	36	0	0	0	0
12	C	42	0	0	0	0
12	D	60	0	0	1	0
12	E	30	0	0	0	0
12	F	24	0	0	1	0
12	G	19	0	0	1	0
12	H	24	0	0	2	0
12	I	17	0	0	1	0
12	J	17	0	0	0	0
12	K	5	0	0	0	0
12	L	12	0	0	0	0
All	All	179453	0	178694	2594	2

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 7.

The worst 5 of 2594 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:B:504:ASP:OD2	1:B:508:ASN:OD1	1.53	1.21
3:K:1904:LEU:HD22	3:K:1960:LEU:HD23	1.32	1.12
3:I:867:GLU:O	3:I:871:THR:OG1	1.69	1.08
1:C:1486:LEU:O	1:C:1490:THR:HG22	1.55	1.06
1:B:193:GLU:OE2	1:B:225:SER:OG	1.72	1.06

All (2) 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:A:1843:ASN:O	1:D:1843:ASN:O[1_655]	1.70	0.50
1:A:1845:ASN:OD1	1:D:1844:LYS:O[1_655]	1.96	0.24

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	1752/1887 (93%)	1667 (95%)	77 (4%)	8 (0%)	29	59
1	B	1751/1887 (93%)	1663 (95%)	77 (4%)	11 (1%)	25	54
1	C	1751/1887 (93%)	1661 (95%)	80 (5%)	10 (1%)	25	54
1	D	1757/1887 (93%)	1664 (95%)	81 (5%)	12 (1%)	22	51
1	E	1751/1887 (93%)	1667 (95%)	75 (4%)	9 (0%)	29	59
1	F	1751/1887 (93%)	1662 (95%)	79 (4%)	10 (1%)	25	54
2	G	2033/2051 (99%)	1915 (94%)	105 (5%)	13 (1%)	25	54
2	J	2032/2051 (99%)	1914 (94%)	101 (5%)	17 (1%)	19	47
3	H	2031/2051 (99%)	1913 (94%)	105 (5%)	13 (1%)	25	54
3	I	2030/2051 (99%)	1911 (94%)	106 (5%)	13 (1%)	25	54
3	K	2030/2051 (99%)	1909 (94%)	109 (5%)	12 (1%)	25	54
3	L	2032/2051 (99%)	1912 (94%)	107 (5%)	13 (1%)	25	54
All	All	22701/23628 (96%)	21458 (94%)	1102 (5%)	141 (1%)	25	54

5 of 141 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	1843	ASN
1	D	539	SER
1	F	1827	SER
2	G	7	ARG
2	G	1869	GLU

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	1484/1566 (95%)	1310 (88%)	174 (12%)	5	16
1	B	1483/1566 (95%)	1306 (88%)	177 (12%)	5	15
1	C	1483/1566 (95%)	1319 (89%)	164 (11%)	6	18
1	D	1489/1566 (95%)	1315 (88%)	174 (12%)	5	16
1	E	1483/1566 (95%)	1299 (88%)	184 (12%)	4	14
1	F	1483/1566 (95%)	1310 (88%)	173 (12%)	5	16
2	G	1776/1789 (99%)	1553 (87%)	223 (13%)	4	13
2	J	1775/1789 (99%)	1540 (87%)	235 (13%)	4	11
3	H	1774/1788 (99%)	1557 (88%)	217 (12%)	5	14
3	I	1773/1788 (99%)	1529 (86%)	244 (14%)	3	10
3	K	1773/1788 (99%)	1541 (87%)	232 (13%)	4	12
3	L	1775/1788 (99%)	1533 (86%)	242 (14%)	3	11
All	All	19551/20126 (97%)	17112 (88%)	2439 (12%)	4	14

5 of 2439 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	J	1072	SER
3	L	752	GLN
2	J	1560	LEU
2	J	1048	VAL
3	K	1044	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 458 such sidechains are listed below:

Mol	Chain	Res	Type
2	G	553	ASN
3	L	1246	ASN
3	H	1421	ASN
3	L	1049	GLN
3	K	998	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

4 non-standard protein/DNA/RNA residues 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
3	J8W	L	1808	3	10,11,12	1.81	1 (10%)	9,13,15	2.03	3 (33%)
3	J8W	K	1808	3	10,11,12	1.86	1 (10%)	9,13,15	2.04	4 (44%)
3	J8W	H	1808	3	10,11,12	1.77	1 (10%)	9,13,15	1.78	2 (22%)
3	J8W	I	1808	3	10,11,12	1.99	1 (10%)	9,13,15	1.78	3 (33%)

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
3	J8W	L	1808	3	-	4/9/11/13	-
3	J8W	K	1808	3	-	4/9/11/13	-
3	J8W	H	1808	3	-	4/9/11/13	-
3	J8W	I	1808	3	-	4/9/11/13	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	I	1808	J8W	OG-C2	5.59	1.49	1.33
3	K	1808	J8W	OG-C2	5.35	1.49	1.33
3	L	1808	J8W	OG-C2	5.16	1.48	1.33
3	H	1808	J8W	OG-C2	4.94	1.47	1.33

The worst 5 of 12 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	1808	J8W	CB-OG-C2	3.78	131.14	117.12
3	K	1808	J8W	CB-OG-C2	3.75	131.00	117.12

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	I	1808	J8W	CB-OG-C2	3.56	130.29	117.12
3	L	1808	J8W	CB-OG-C2	3.46	129.93	117.12
3	L	1808	J8W	OG-C2-C1	2.58	118.34	111.39

There are no chirality outliers.

5 of 16 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	H	1808	J8W	N-CA-CB-OG
3	H	1808	J8W	C-CA-CB-OG
3	I	1808	J8W	N-CA-CB-OG
3	I	1808	J8W	C-CA-CB-OG
3	K	1808	J8W	N-CA-CB-OG

There are no ring outliers.

4 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	L	1808	J8W	1	0
3	K	1808	J8W	1	0
3	H	1808	J8W	1	0
3	I	1808	J8W	1	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 133 ligands modelled in this entry, 39 are monoatomic - leaving 94 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	PNS	B	1901	1	13,20,21	0.61	0	18,26,29	1.23	2 (11%)
5	EDO	A	1904	-	3,3,3	0.13	0	2,2,2	0.29	0
5	EDO	D	1905	-	3,3,3	0.11	0	2,2,2	0.13	0
7	A2P	E	1917	-	25,29,29	0.68	0	31,45,45	0.81	1 (3%)
5	EDO	A	1907	-	3,3,3	0.20	0	2,2,2	0.31	0
5	EDO	F	1905	-	3,3,3	0.19	0	2,2,2	0.41	0
5	EDO	F	1906	-	3,3,3	0.23	0	2,2,2	0.38	0
5	EDO	B	1911	-	3,3,3	0.18	0	2,2,2	0.39	0
4	PNS	F	1901	1	13,20,21	0.86	0	18,26,29	2.65	7 (38%)
5	EDO	E	1903	-	3,3,3	0.13	0	2,2,2	0.24	0
7	A2P	C	1917	-	25,29,29	0.73	0	31,45,45	0.80	1 (3%)
7	A2P	D	1923	-	25,29,29	0.71	0	31,45,45	0.85	1 (3%)
5	EDO	D	1914	-	3,3,3	0.24	0	2,2,2	0.45	0
5	EDO	C	1910	-	3,3,3	0.11	0	2,2,2	0.23	0
5	EDO	E	1906	-	3,3,3	0.05	0	2,2,2	0.10	0
5	EDO	H	2105	-	3,3,3	0.11	0	2,2,2	0.18	0
5	EDO	E	1909	-	3,3,3	0.17	0	2,2,2	0.41	0
5	EDO	D	1906	-	3,3,3	0.43	0	2,2,2	0.65	0
5	EDO	F	1908	-	3,3,3	0.09	0	2,2,2	0.23	0
11	MLI	J	2102	-	6,6,6	1.43	1 (16%)	7,7,7	1.15	0
5	EDO	D	1903	-	3,3,3	0.32	0	2,2,2	0.51	0
5	EDO	E	1905	-	3,3,3	0.12	0	2,2,2	0.36	0
5	EDO	B	1906	-	3,3,3	0.16	0	2,2,2	0.49	0
5	EDO	A	1902	-	3,3,3	0.18	0	2,2,2	0.41	0
8	ACT	H	2102	-	3,3,3	1.14	0	3,3,3	0.69	0
5	EDO	A	1903	-	3,3,3	0.27	0	2,2,2	0.48	0
10	FMN	G	2101	-	33,33,33	1.41	3 (9%)	48,50,50	1.53	12 (25%)
5	EDO	E	1913	-	3,3,3	0.16	0	2,2,2	0.34	0
7	A2P	B	1918	-	25,29,29	0.70	0	31,45,45	0.96	1 (3%)
9	PGE	E	1918	-	9,9,9	0.23	0	8,8,8	0.16	0
5	EDO	A	1906	-	3,3,3	0.05	0	2,2,2	0.12	0
5	EDO	B	1905	-	3,3,3	0.07	0	2,2,2	0.25	0
5	EDO	E	1910	-	3,3,3	0.15	0	2,2,2	0.36	0
8	ACT	H	2103	-	3,3,3	1.12	0	3,3,3	0.83	0
5	EDO	F	1909	-	3,3,3	0.23	0	2,2,2	0.52	0
5	EDO	B	1903	-	3,3,3	0.10	0	2,2,2	0.18	0
5	EDO	E	1911	-	3,3,3	0.19	0	2,2,2	0.41	0
5	EDO	A	1908	-	3,3,3	0.10	0	2,2,2	0.28	0
4	PNS	E	1901	1	13,20,21	0.64	0	18,26,29	1.21	1 (5%)
5	EDO	A	1905	-	3,3,3	0.29	0	2,2,2	0.48	0
5	EDO	F	1907	-	3,3,3	0.13	0	2,2,2	0.33	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	EDO	F	1904	-	3,3,3	0.31	0	2,2,2	0.49	0
10	FMN	H	2101	-	33,33,33	1.39	4 (12%)	48,50,50	1.37	8 (16%)
5	EDO	C	1908	-	3,3,3	0.29	0	2,2,2	0.55	0
11	MLI	G	2102	-	6,6,6	1.36	0	7,7,7	1.05	0
5	EDO	B	1910	-	3,3,3	0.15	0	2,2,2	0.33	0
5	EDO	C	1905	-	3,3,3	0.18	0	2,2,2	0.39	0
7	A2P	F	1912	-	25,29,29	0.69	0	31,45,45	0.75	1 (3%)
5	EDO	D	1904	-	3,3,3	0.11	0	2,2,2	0.29	0
5	EDO	E	1904	-	3,3,3	0.07	0	2,2,2	0.20	0
5	EDO	E	1907	-	3,3,3	0.13	0	2,2,2	0.28	0
10	FMN	I	2101	-	33,33,33	1.44	4 (12%)	48,50,50	1.51	11 (22%)
5	EDO	C	1906	-	3,3,3	0.32	0	2,2,2	0.57	0
5	EDO	D	1908	-	3,3,3	0.10	0	2,2,2	0.21	0
5	EDO	D	1911	-	3,3,3	0.19	0	2,2,2	0.32	0
5	EDO	D	1907	-	3,3,3	0.13	0	2,2,2	0.32	0
5	EDO	A	1911	-	3,3,3	0.19	0	2,2,2	0.45	0
8	ACT	H	2104	-	3,3,3	1.09	0	3,3,3	0.75	0
5	EDO	J	2106	-	3,3,3	0.07	0	2,2,2	0.35	0
5	EDO	E	1908	-	3,3,3	0.10	0	2,2,2	0.29	0
5	EDO	B	1907	-	3,3,3	0.15	0	2,2,2	0.25	0
5	EDO	B	1909	-	3,3,3	0.30	0	2,2,2	0.45	0
8	ACT	C	1903	-	3,3,3	0.90	0	3,3,3	0.89	0
5	EDO	D	1910	-	3,3,3	0.13	0	2,2,2	0.24	0
5	EDO	B	1912	-	3,3,3	0.11	0	2,2,2	0.22	0
5	EDO	C	1909	-	3,3,3	0.22	0	2,2,2	0.41	0
5	EDO	D	1913	-	3,3,3	0.13	0	2,2,2	0.07	0
5	EDO	F	1902	-	3,3,3	0.09	0	2,2,2	0.13	0
5	EDO	D	1912	-	3,3,3	0.11	0	2,2,2	0.23	0
5	EDO	J	2104	-	3,3,3	0.10	0	2,2,2	0.34	0
5	EDO	D	1902	-	3,3,3	0.17	0	2,2,2	0.49	0
8	ACT	C	1902	-	3,3,3	1.05	0	3,3,3	0.68	0
5	EDO	E	1912	-	3,3,3	0.09	0	2,2,2	0.14	0
4	PNS	A	1901	1	13,20,21	0.68	0	18,26,29	1.03	1 (5%)
8	ACT	B	1902	-	3,3,3	1.18	0	3,3,3	0.68	0
5	EDO	C	1911	-	3,3,3	0.43	0	2,2,2	0.50	0
5	EDO	C	1907	-	3,3,3	0.10	0	2,2,2	0.21	0
4	PNS	C	1901	1	13,20,21	0.61	0	18,26,29	1.15	1 (5%)
10	FMN	K	2101	-	33,33,33	1.55	5 (15%)	48,50,50	1.66	8 (16%)
5	EDO	F	1903	-	3,3,3	0.10	0	2,2,2	0.20	0
5	EDO	E	1902	-	3,3,3	0.09	0	2,2,2	0.23	0
7	A2P	A	1918	-	25,29,29	0.65	0	31,45,45	0.70	0
5	EDO	C	1912	-	3,3,3	0.29	0	2,2,2	0.64	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	EDO	J	2105	-	3,3,3	0.08	0	2,2,2	0.17	0
10	FMN	L	2101	-	33,33,33	1.41	3 (9%)	48,50,50	1.53	10 (20%)
5	EDO	J	2103	-	3,3,3	0.08	0	2,2,2	0.14	0
5	EDO	A	1909	-	3,3,3	0.32	0	2,2,2	0.51	0
10	FMN	J	2101	-	33,33,33	1.36	3 (9%)	48,50,50	1.39	7 (14%)
5	EDO	A	1910	-	3,3,3	0.37	0	2,2,2	0.63	0
4	PNS	D	1901	1	13,20,21	0.60	0	18,26,29	1.08	1 (5%)
5	EDO	B	1904	-	3,3,3	0.12	0	2,2,2	0.16	0
5	EDO	D	1909	-	3,3,3	0.28	0	2,2,2	0.64	0
5	EDO	B	1908	-	3,3,3	0.13	0	2,2,2	0.29	0
5	EDO	C	1904	-	3,3,3	0.15	0	2,2,2	0.36	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	PNS	B	1901	1	-	1/24/26/27	-
5	EDO	A	1904	-	-	0/1/1/1	-
5	EDO	D	1905	-	-	1/1/1/1	-
7	A2P	E	1917	-	-	6/11/31/31	0/3/3/3
5	EDO	A	1907	-	-	1/1/1/1	-
5	EDO	F	1905	-	-	1/1/1/1	-
5	EDO	F	1906	-	-	1/1/1/1	-
5	EDO	B	1911	-	-	1/1/1/1	-
4	PNS	F	1901	1	-	3/24/26/27	-
5	EDO	E	1903	-	-	1/1/1/1	-
7	A2P	C	1917	-	-	6/11/31/31	0/3/3/3
7	A2P	D	1923	-	-	4/11/31/31	0/3/3/3
5	EDO	D	1914	-	-	1/1/1/1	-
5	EDO	C	1910	-	-	1/1/1/1	-
5	EDO	E	1906	-	-	1/1/1/1	-
5	EDO	H	2105	-	-	1/1/1/1	-
5	EDO	E	1909	-	-	1/1/1/1	-
5	EDO	D	1906	-	-	1/1/1/1	-
5	EDO	F	1908	-	-	0/1/1/1	-
11	MLI	J	2102	-	-	0/4/4/4	-
5	EDO	D	1903	-	-	1/1/1/1	-
5	EDO	E	1905	-	-	1/1/1/1	-
5	EDO	B	1906	-	-	0/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	EDO	A	1902	-	-	1/1/1/1	-
5	EDO	A	1903	-	-	1/1/1/1	-
10	FMN	G	2101	-	-	5/18/18/18	0/3/3/3
5	EDO	E	1913	-	-	1/1/1/1	-
7	A2P	B	1918	-	-	5/11/31/31	0/3/3/3
9	PGE	E	1918	-	-	3/7/7/7	-
5	EDO	A	1906	-	-	1/1/1/1	-
5	EDO	B	1905	-	-	0/1/1/1	-
5	EDO	E	1910	-	-	0/1/1/1	-
5	EDO	F	1909	-	-	0/1/1/1	-
5	EDO	B	1903	-	-	1/1/1/1	-
5	EDO	E	1911	-	-	1/1/1/1	-
5	EDO	A	1908	-	-	1/1/1/1	-
4	PNS	E	1901	1	-	1/24/26/27	-
5	EDO	A	1905	-	-	1/1/1/1	-
5	EDO	F	1907	-	-	0/1/1/1	-
5	EDO	F	1904	-	-	0/1/1/1	-
10	FMN	H	2101	-	-	2/18/18/18	0/3/3/3
5	EDO	C	1908	-	-	1/1/1/1	-
11	MLI	G	2102	-	-	1/4/4/4	-
5	EDO	B	1910	-	-	1/1/1/1	-
5	EDO	C	1905	-	-	1/1/1/1	-
7	A2P	F	1912	-	-	9/11/31/31	0/3/3/3
5	EDO	D	1904	-	-	1/1/1/1	-
5	EDO	E	1904	-	-	0/1/1/1	-
5	EDO	E	1907	-	-	1/1/1/1	-
10	FMN	I	2101	-	-	6/18/18/18	0/3/3/3
5	EDO	C	1906	-	-	1/1/1/1	-
5	EDO	D	1908	-	-	1/1/1/1	-
5	EDO	D	1911	-	-	1/1/1/1	-
5	EDO	D	1907	-	-	1/1/1/1	-
5	EDO	A	1911	-	-	1/1/1/1	-
5	EDO	J	2106	-	-	1/1/1/1	-
5	EDO	E	1908	-	-	1/1/1/1	-
5	EDO	B	1907	-	-	0/1/1/1	-
5	EDO	B	1909	-	-	0/1/1/1	-
5	EDO	D	1910	-	-	0/1/1/1	-
5	EDO	B	1912	-	-	1/1/1/1	-
5	EDO	C	1909	-	-	1/1/1/1	-
5	EDO	D	1913	-	-	0/1/1/1	-
5	EDO	F	1902	-	-	0/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	EDO	D	1912	-	-	1/1/1/1	-
5	EDO	J	2104	-	-	0/1/1/1	-
5	EDO	D	1902	-	-	1/1/1/1	-
5	EDO	E	1912	-	-	0/1/1/1	-
4	PNS	A	1901	1	-	1/24/26/27	-
5	EDO	C	1911	-	-	1/1/1/1	-
5	EDO	C	1907	-	-	1/1/1/1	-
4	PNS	C	1901	1	-	1/24/26/27	-
10	FMN	K	2101	-	-	3/18/18/18	0/3/3/3
5	EDO	F	1903	-	-	0/1/1/1	-
5	EDO	E	1902	-	-	0/1/1/1	-
7	A2P	A	1918	-	-	5/11/31/31	0/3/3/3
5	EDO	C	1912	-	-	1/1/1/1	-
5	EDO	J	2105	-	-	0/1/1/1	-
10	FMN	L	2101	-	-	3/18/18/18	0/3/3/3
5	EDO	J	2103	-	-	0/1/1/1	-
5	EDO	A	1909	-	-	0/1/1/1	-
10	FMN	J	2101	-	-	5/18/18/18	0/3/3/3
5	EDO	A	1910	-	-	1/1/1/1	-
4	PNS	D	1901	1	-	0/24/26/27	-
5	EDO	B	1904	-	-	1/1/1/1	-
5	EDO	D	1909	-	-	1/1/1/1	-
5	EDO	B	1908	-	-	0/1/1/1	-
5	EDO	C	1904	-	-	1/1/1/1	-

The worst 5 of 23 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	K	2101	FMN	C9A-C5A	5.14	1.49	1.41
10	L	2101	FMN	C9A-C5A	5.08	1.49	1.41
10	H	2101	FMN	C9A-C5A	4.94	1.49	1.41
10	I	2101	FMN	C9A-C5A	4.85	1.49	1.41
10	G	2101	FMN	C9A-C5A	4.62	1.48	1.41

The worst 5 of 74 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	F	1901	PNS	C38-C39-N41	6.24	126.93	116.42
4	F	1901	PNS	C43-C42-N41	-5.51	99.72	112.31
10	K	2101	FMN	O2-C2-N1	-4.79	113.88	121.83
10	L	2101	FMN	O3P-P-O5'	-4.37	95.10	106.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	F	1901	PNS	O40-C39-N41	-4.18	115.12	123.01

There are no chirality outliers.

5 of 115 torsion outliers are listed below:

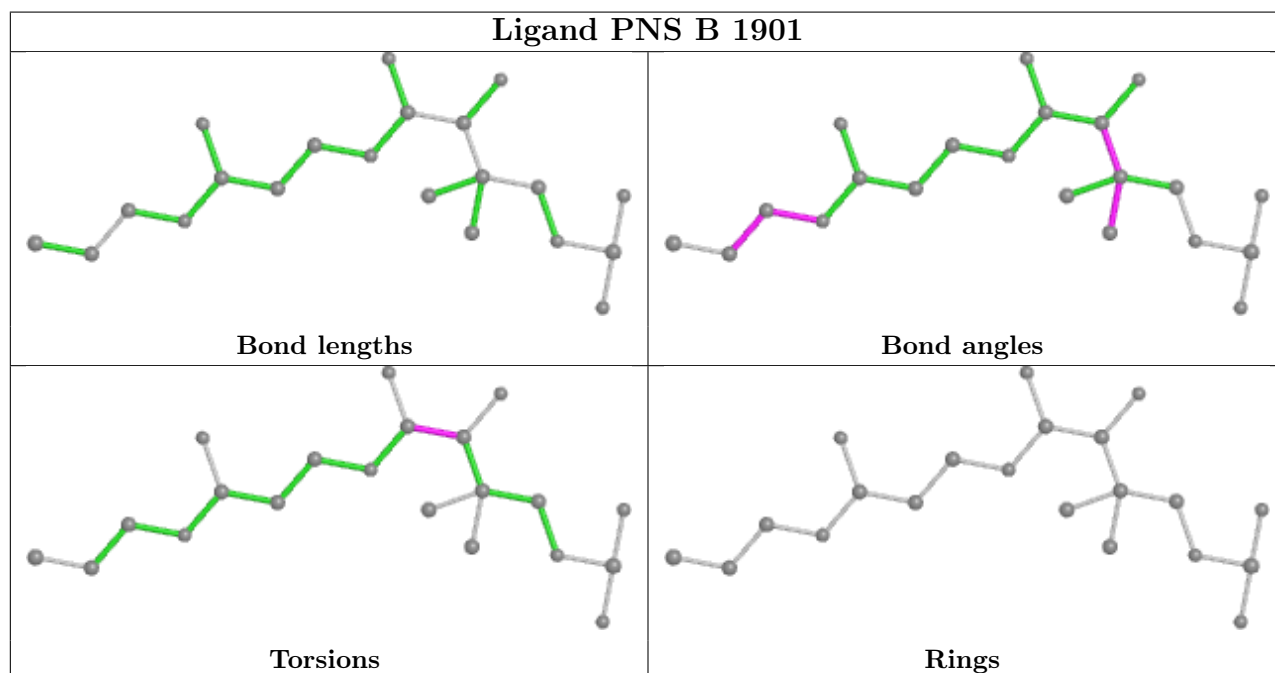
Mol	Chain	Res	Type	Atoms
4	F	1901	PNS	C38-C39-N41-C42
4	F	1901	PNS	O40-C39-N41-C42
5	A	1910	EDO	O1-C1-C2-O2
7	A	1918	A2P	C5'-O5'-P2-O4P
7	A	1918	A2P	C5'-O5'-P2-O6P

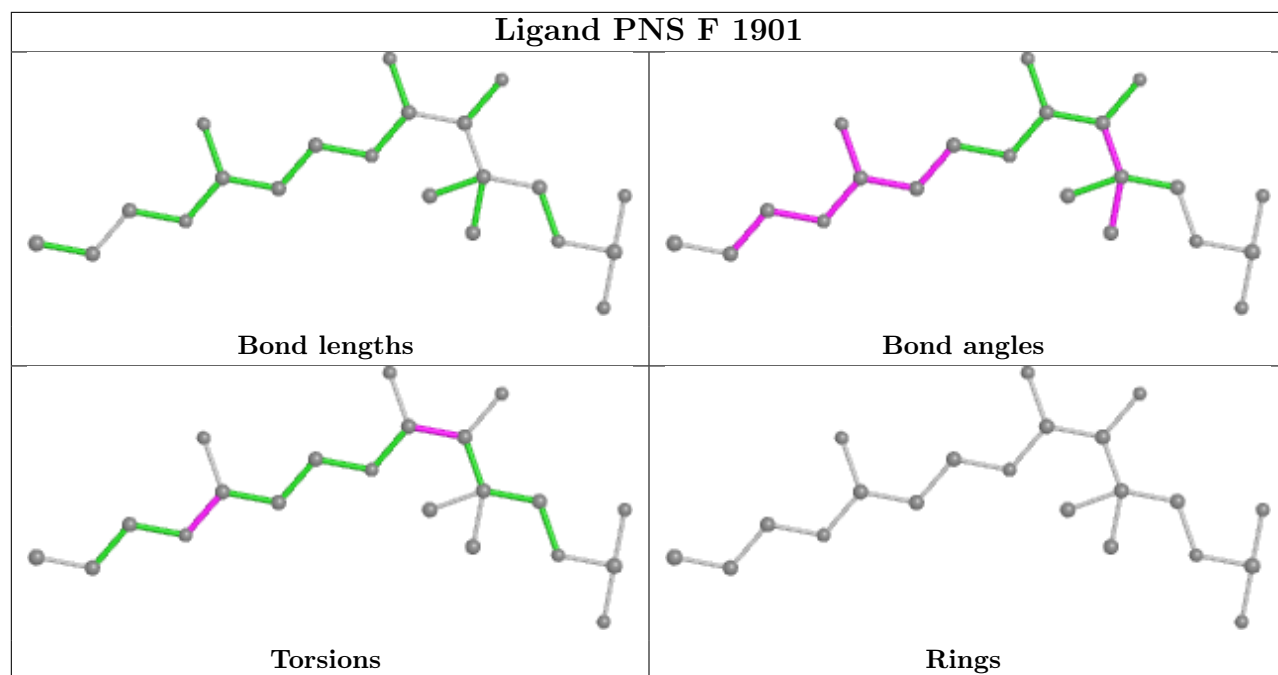
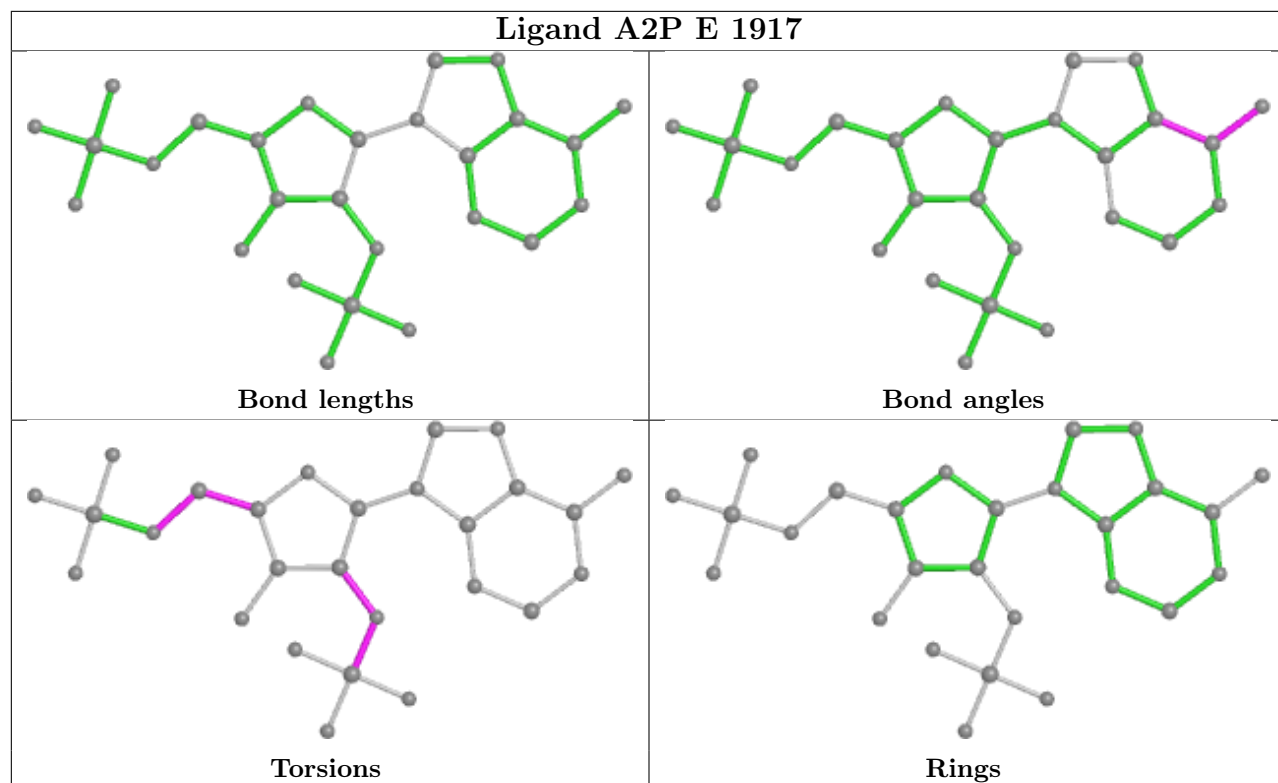
There are no ring outliers.

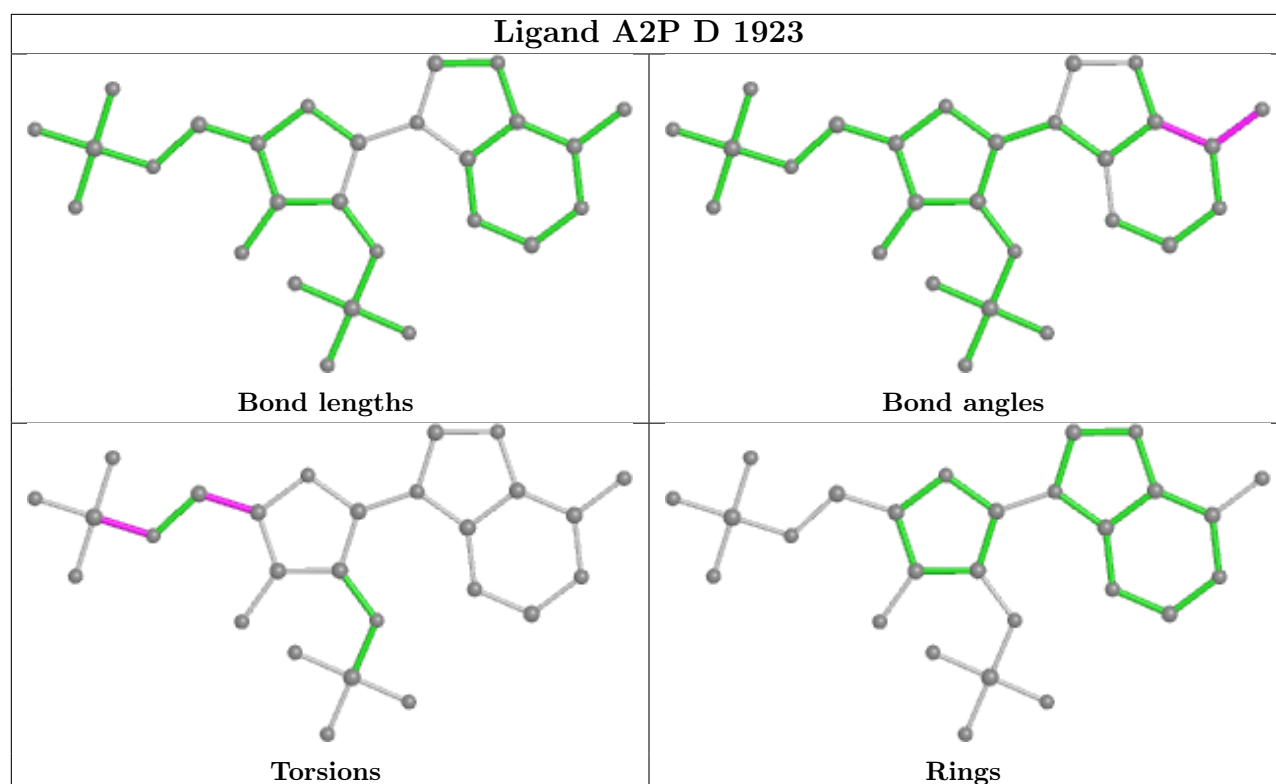
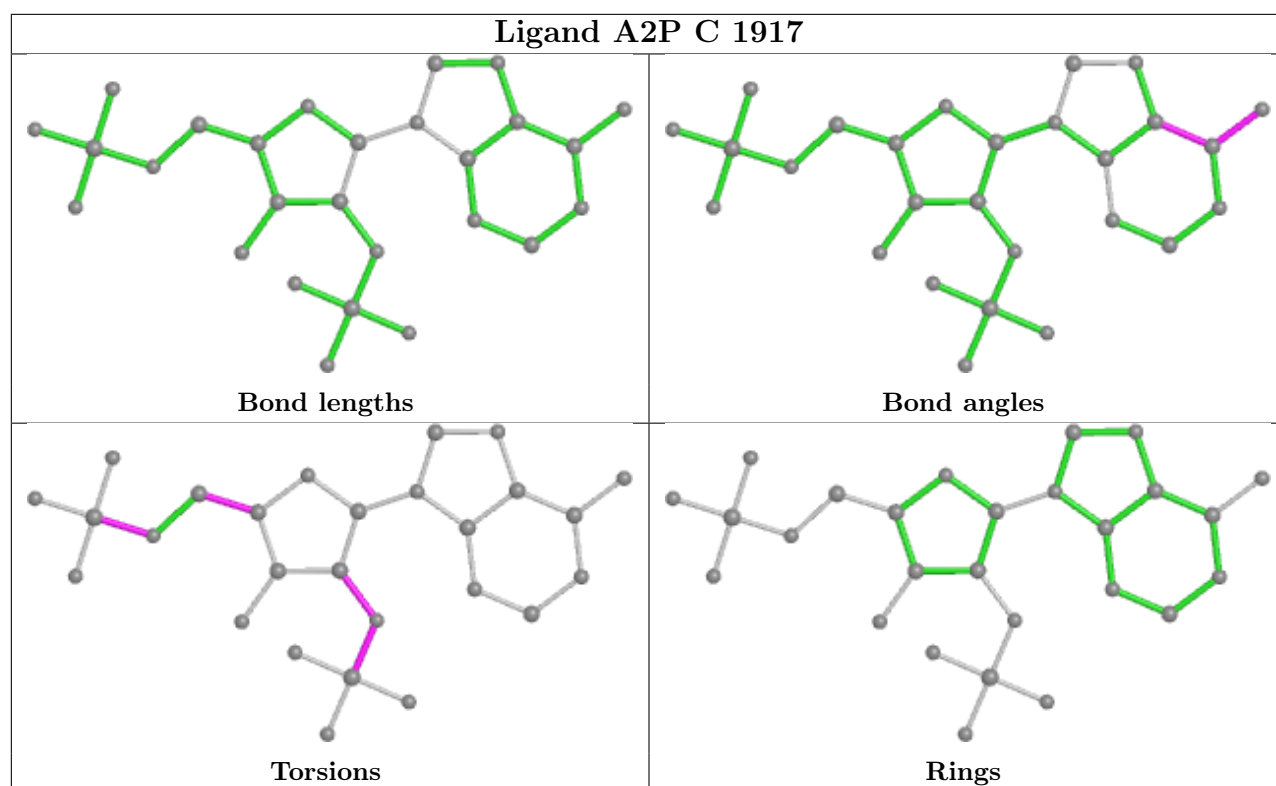
25 monomers are involved in 64 short contacts:

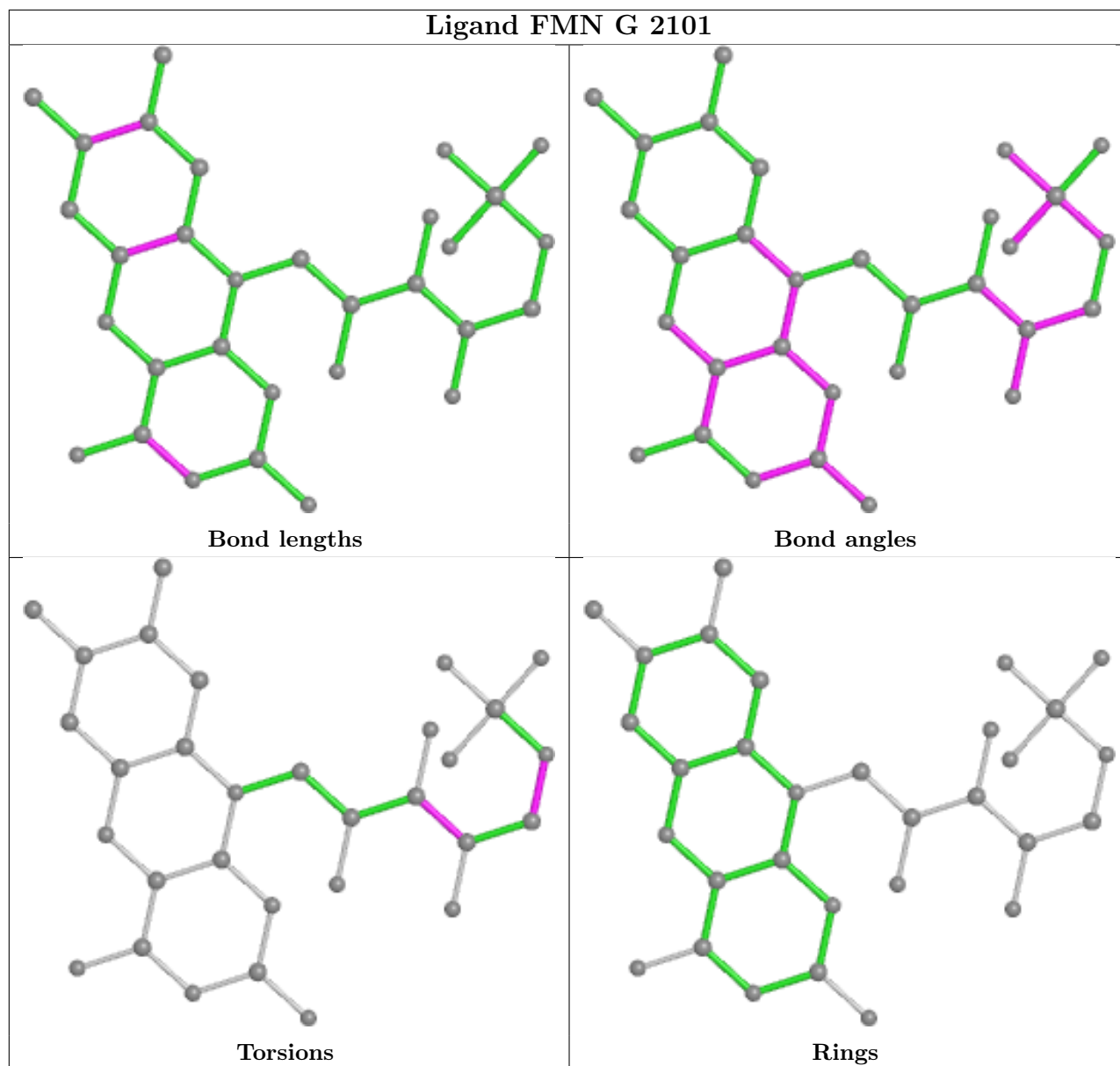
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	B	1901	PNS	1	0
7	E	1917	A2P	2	0
4	F	1901	PNS	2	0
7	C	1917	A2P	2	0
7	D	1923	A2P	3	0
11	J	2102	MLI	2	0
5	B	1906	EDO	3	0
10	G	2101	FMN	4	0
7	B	1918	A2P	5	0
10	H	2101	FMN	4	0
11	G	2102	MLI	1	0
5	B	1910	EDO	1	0
7	F	1912	A2P	1	0
10	I	2101	FMN	5	0
8	C	1903	ACT	2	0
5	D	1910	EDO	1	0
5	J	2104	EDO	1	0
4	A	1901	PNS	1	0
8	B	1902	ACT	1	0
5	C	1907	EDO	1	0
10	K	2101	FMN	5	0
7	A	1918	A2P	3	0
5	J	2105	EDO	1	0
10	L	2101	FMN	5	0
10	J	2101	FMN	7	0

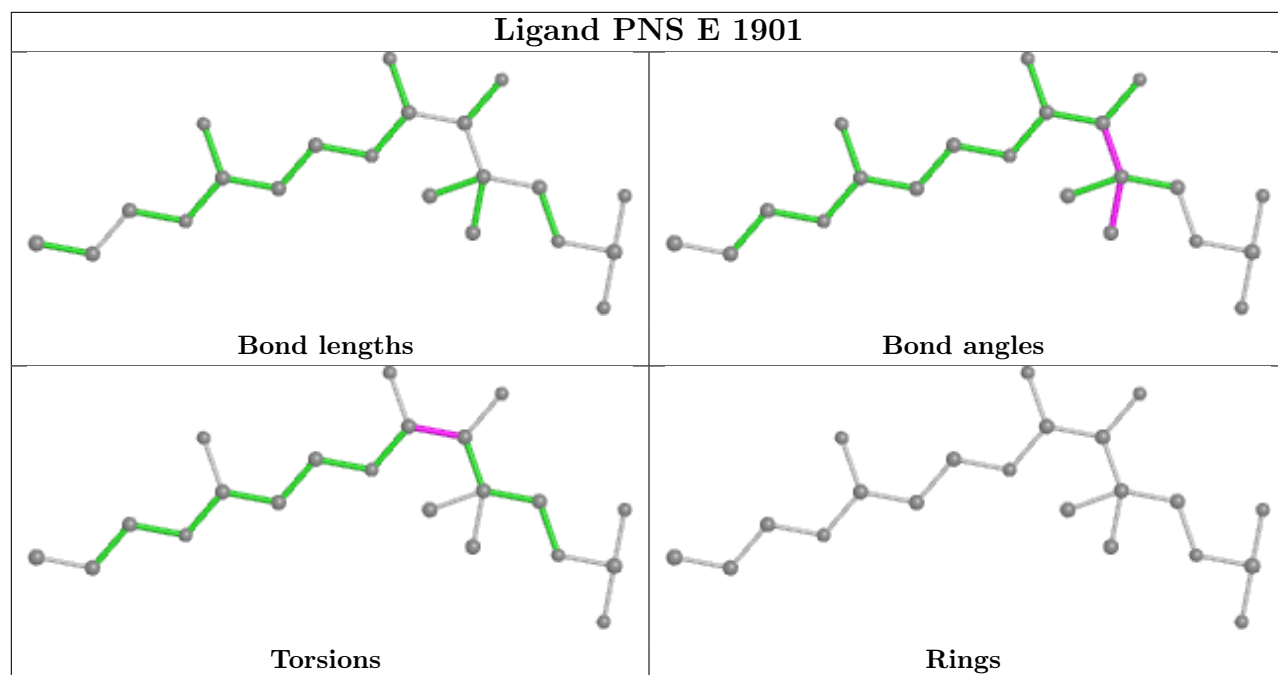
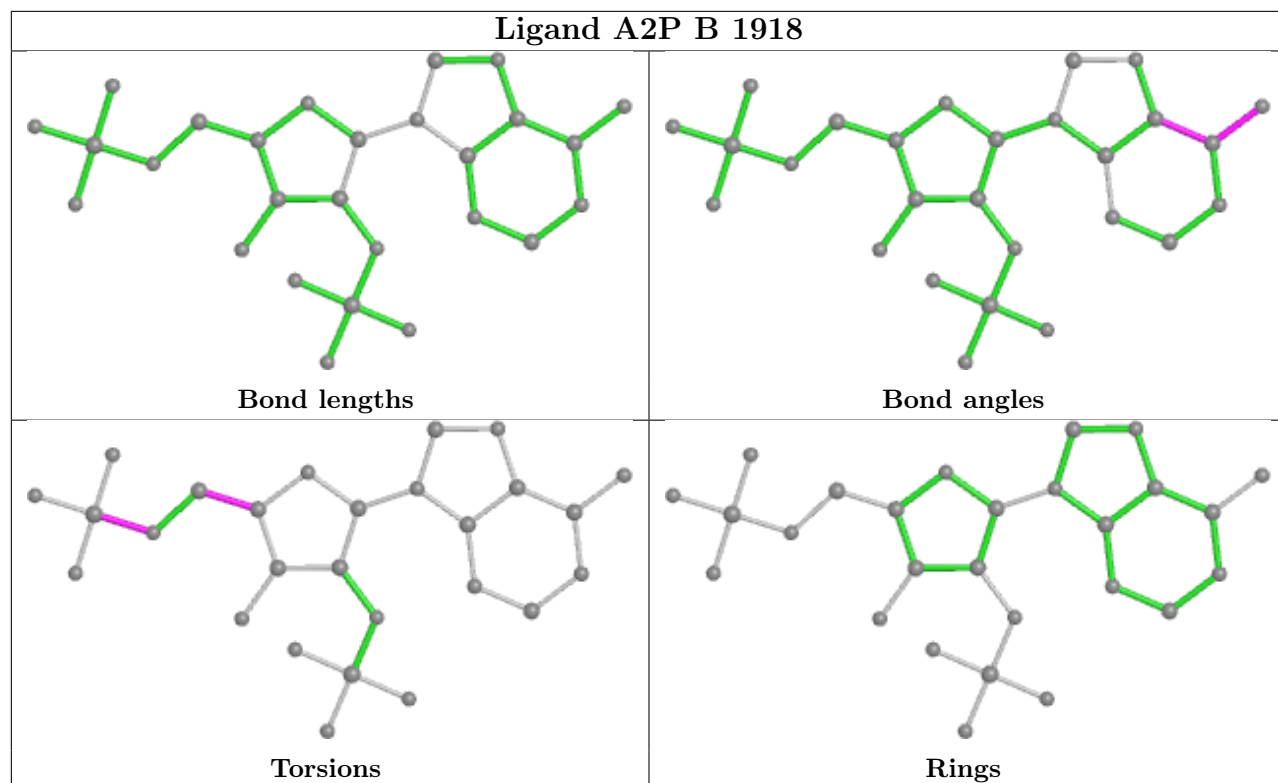
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

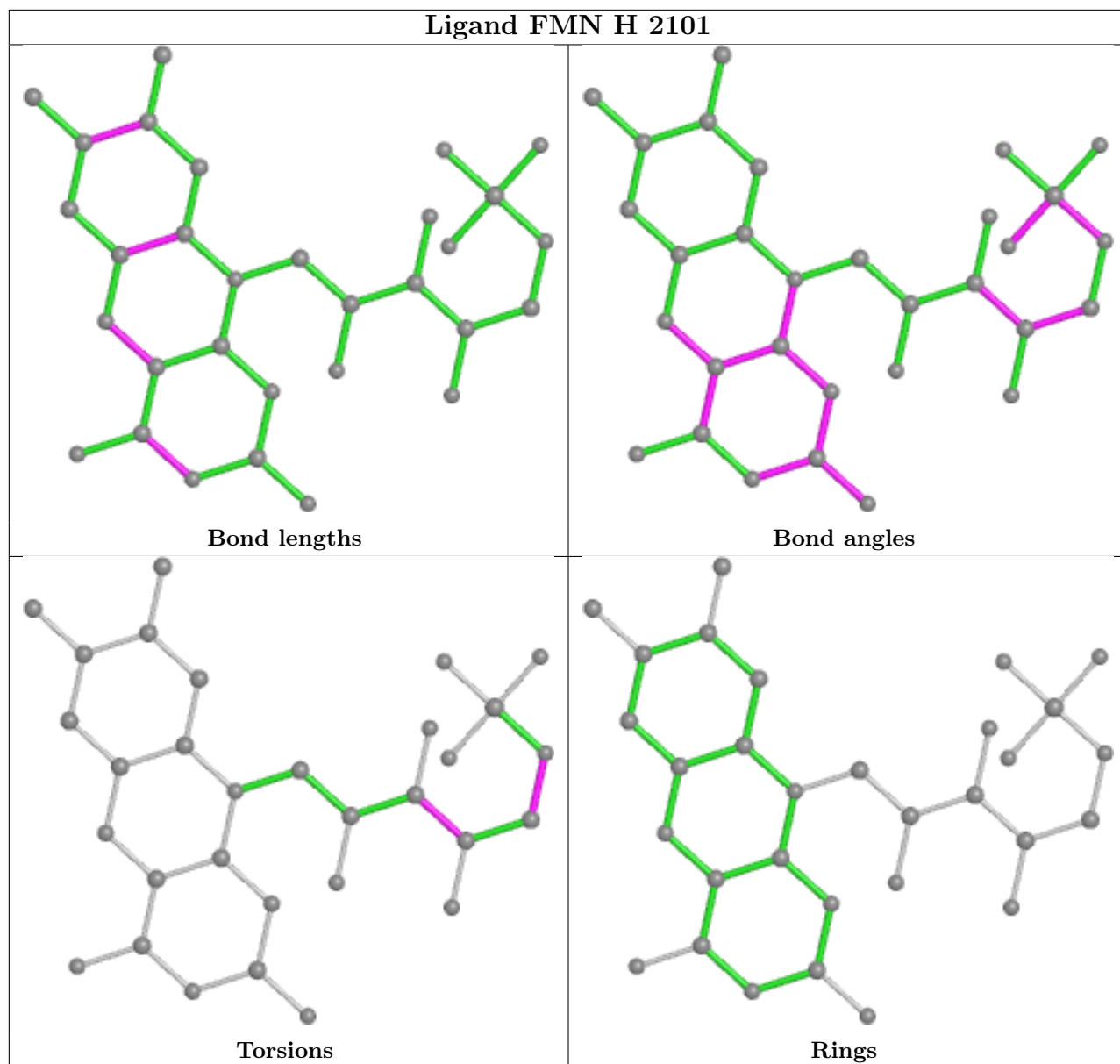


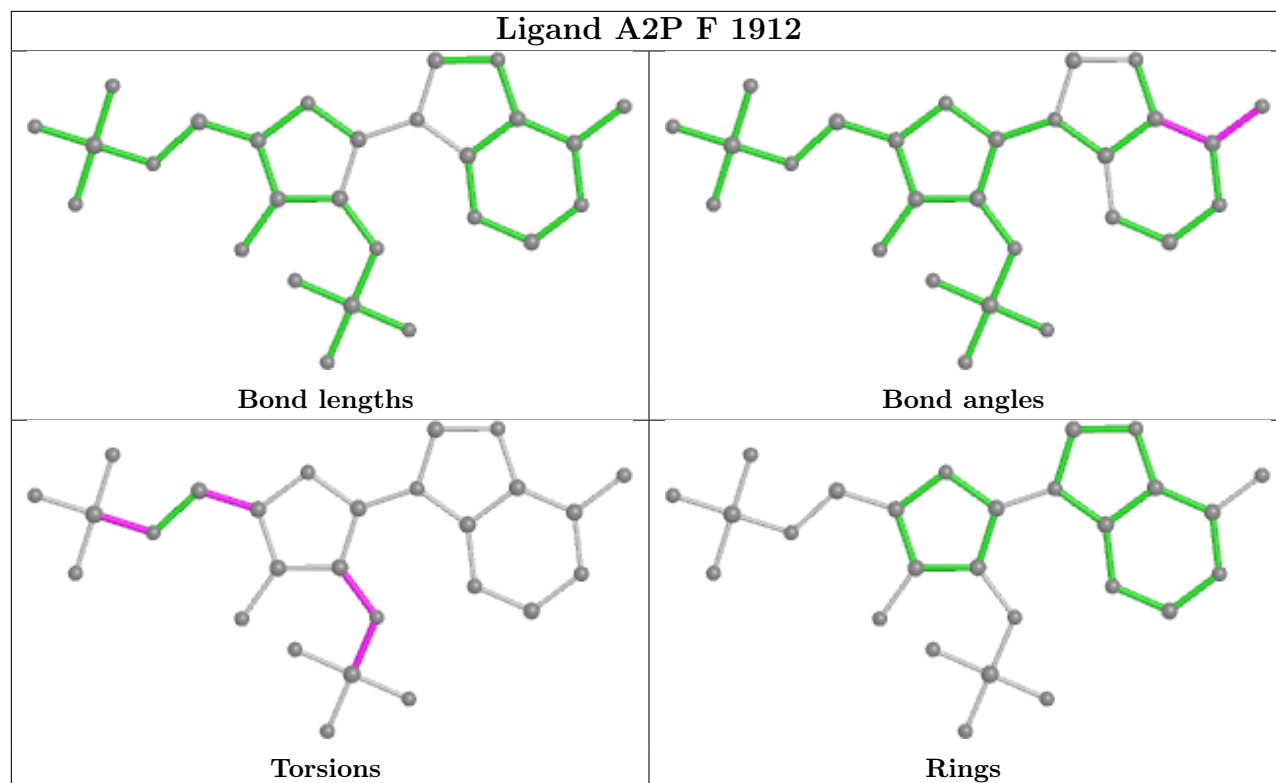


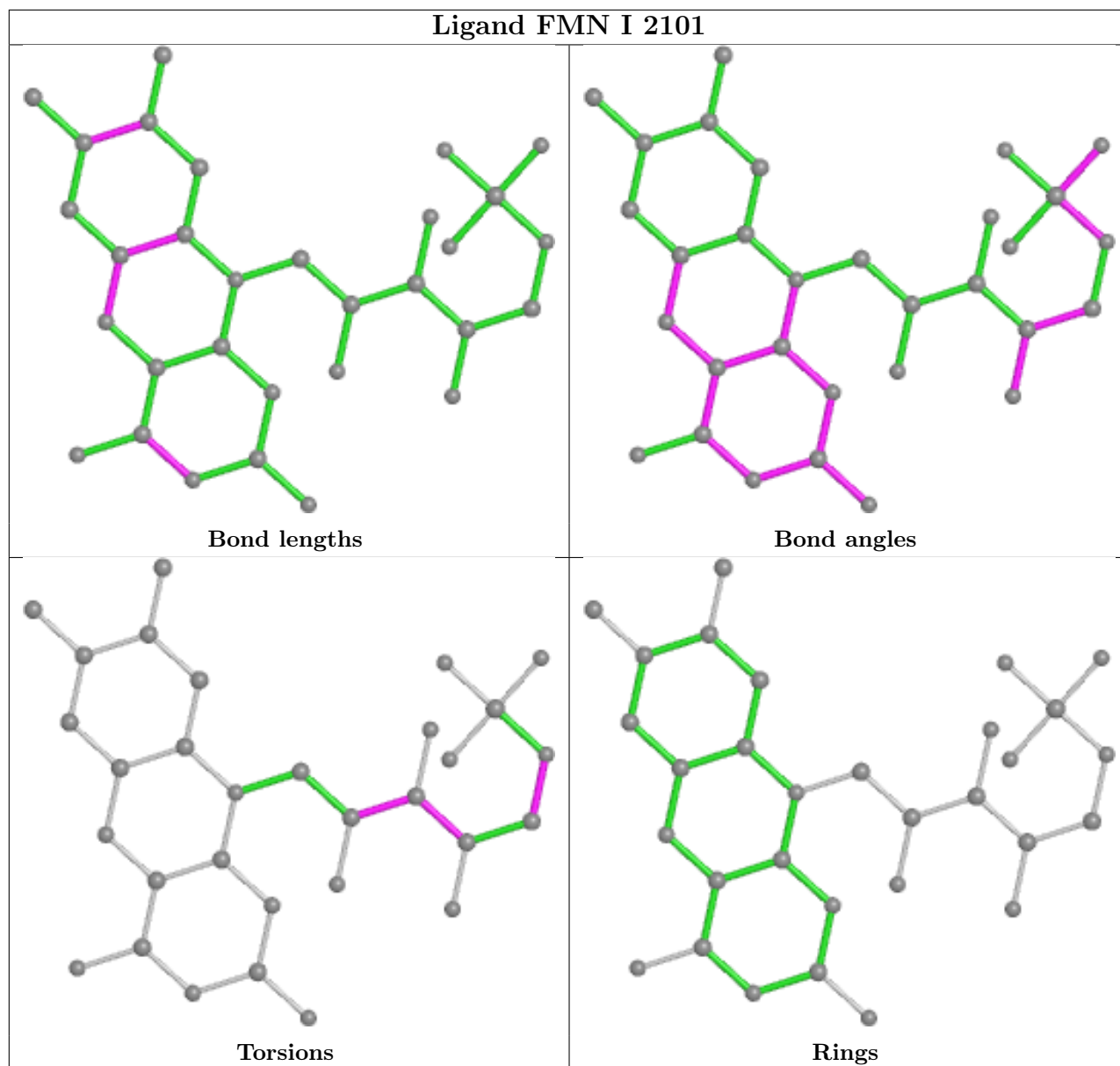


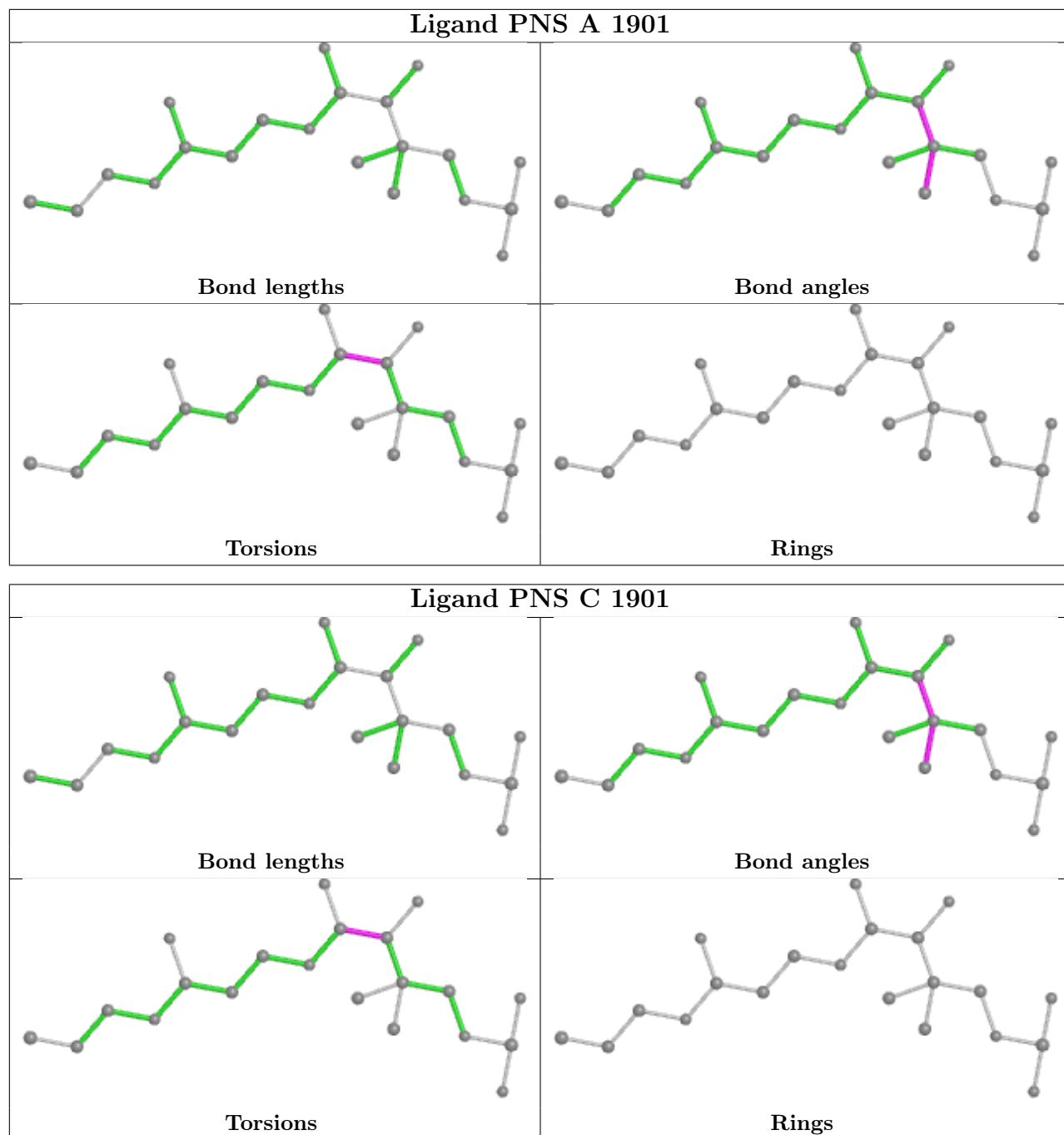


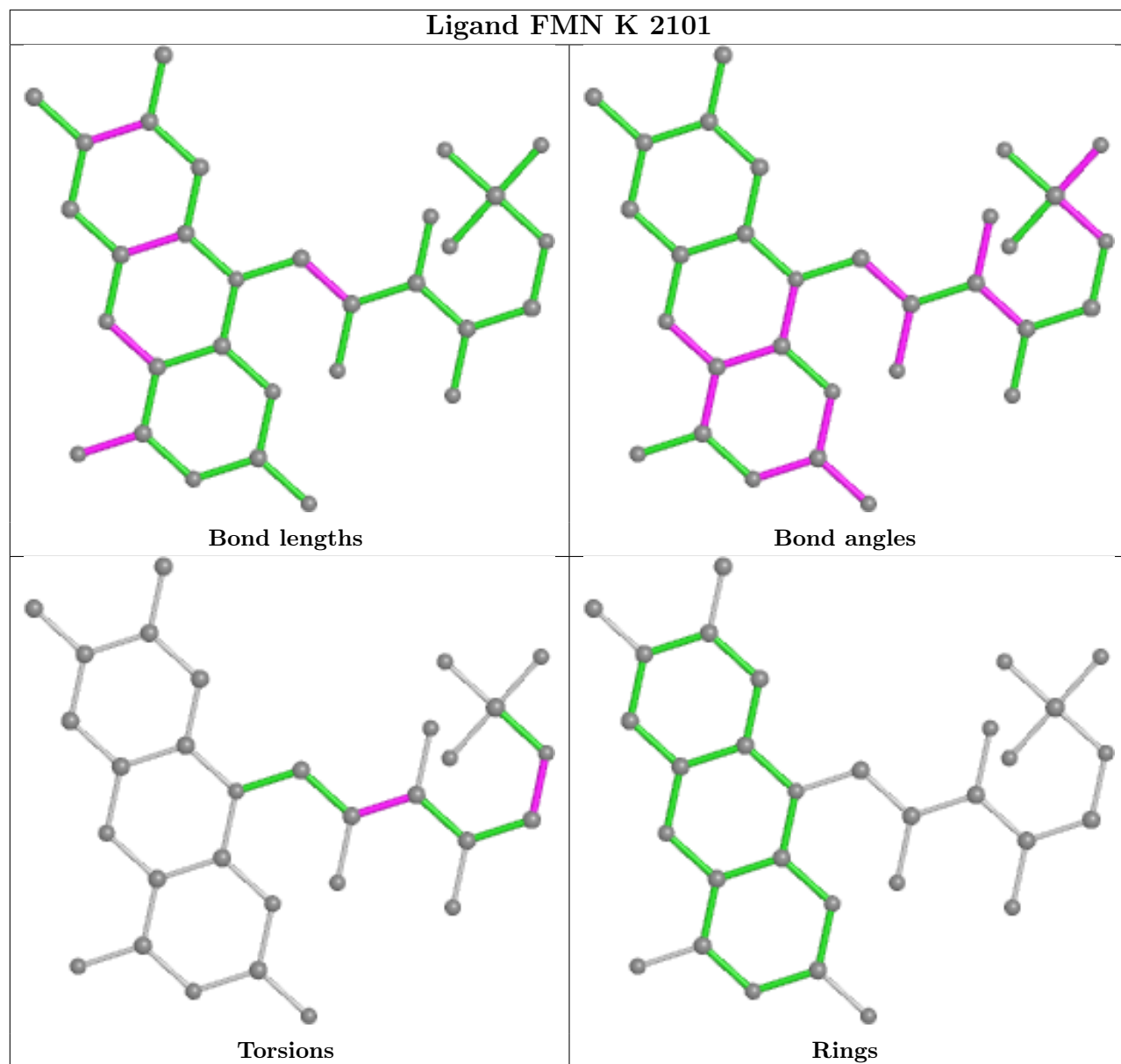


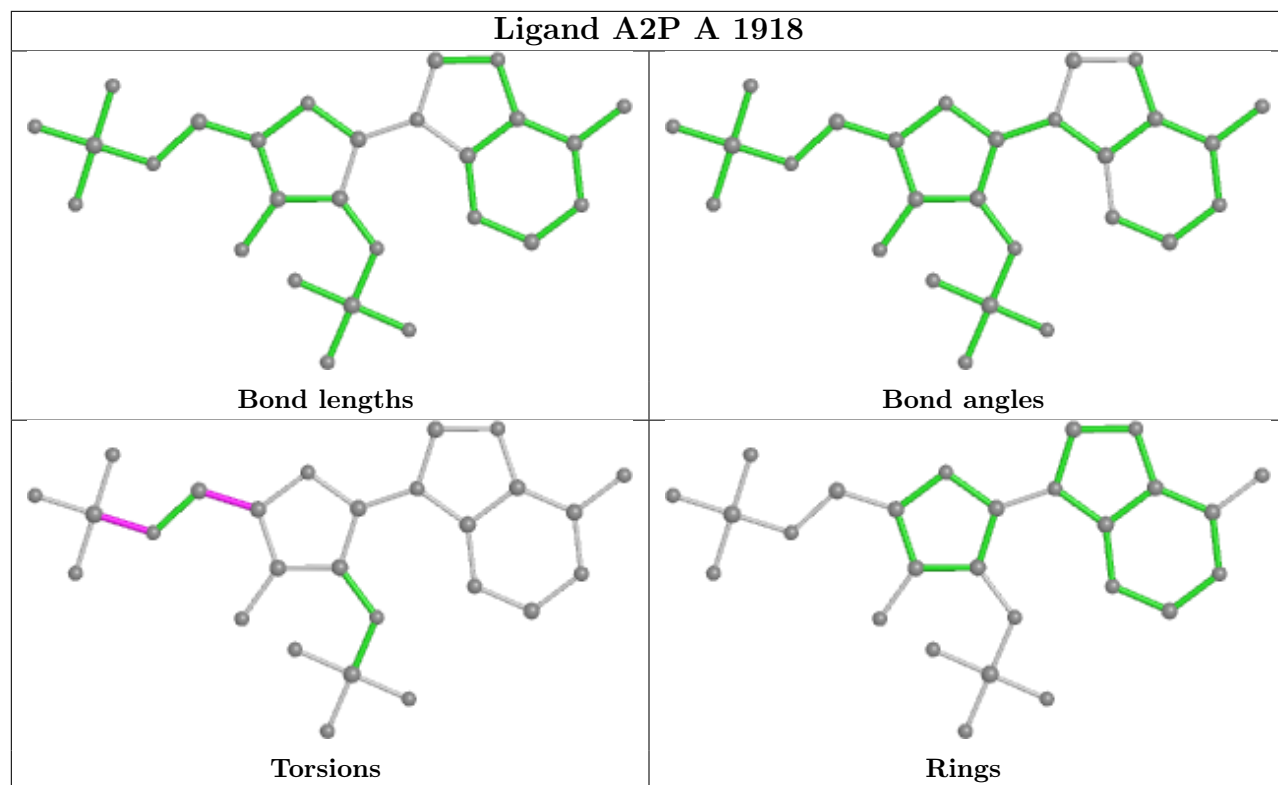


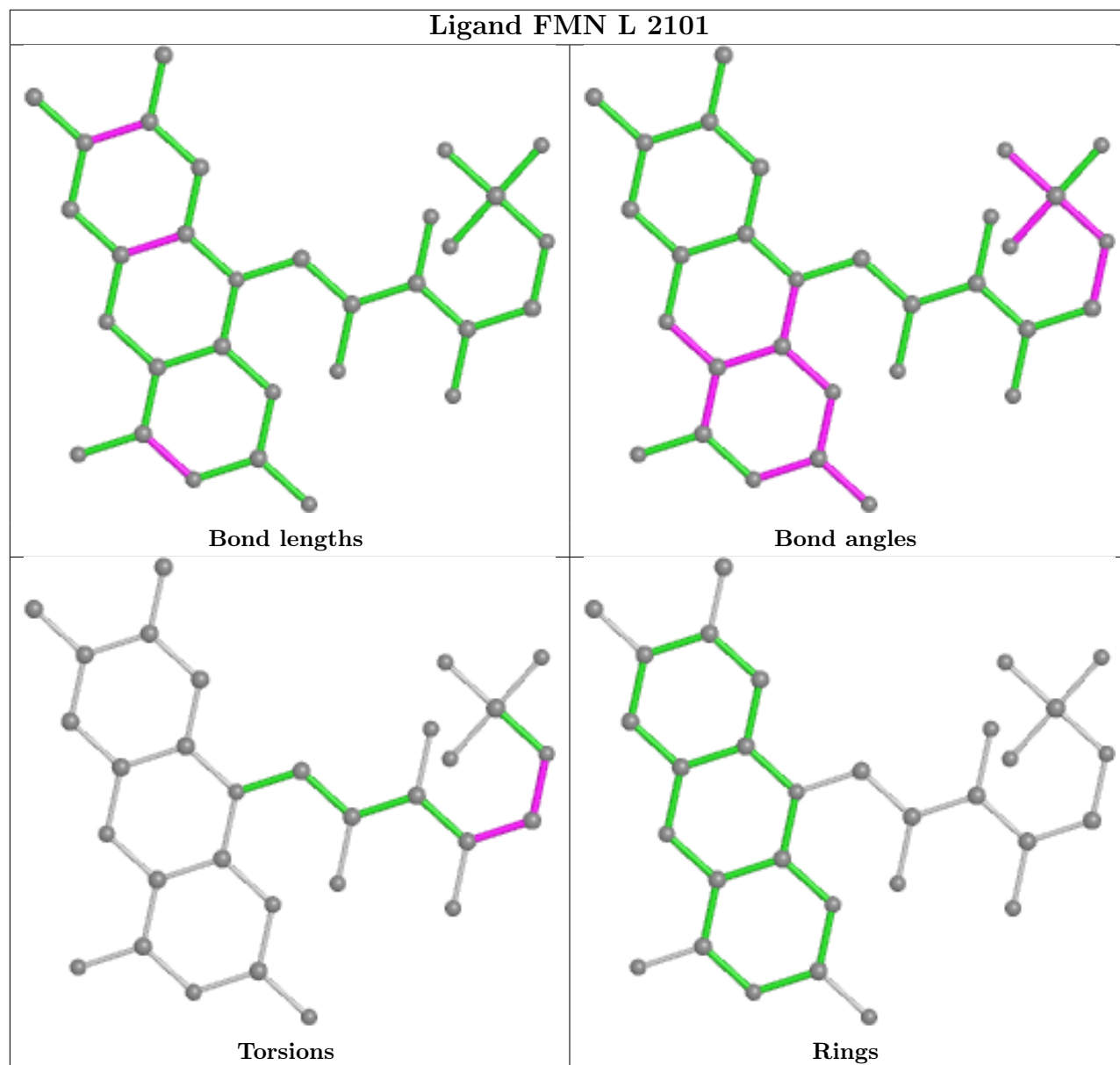


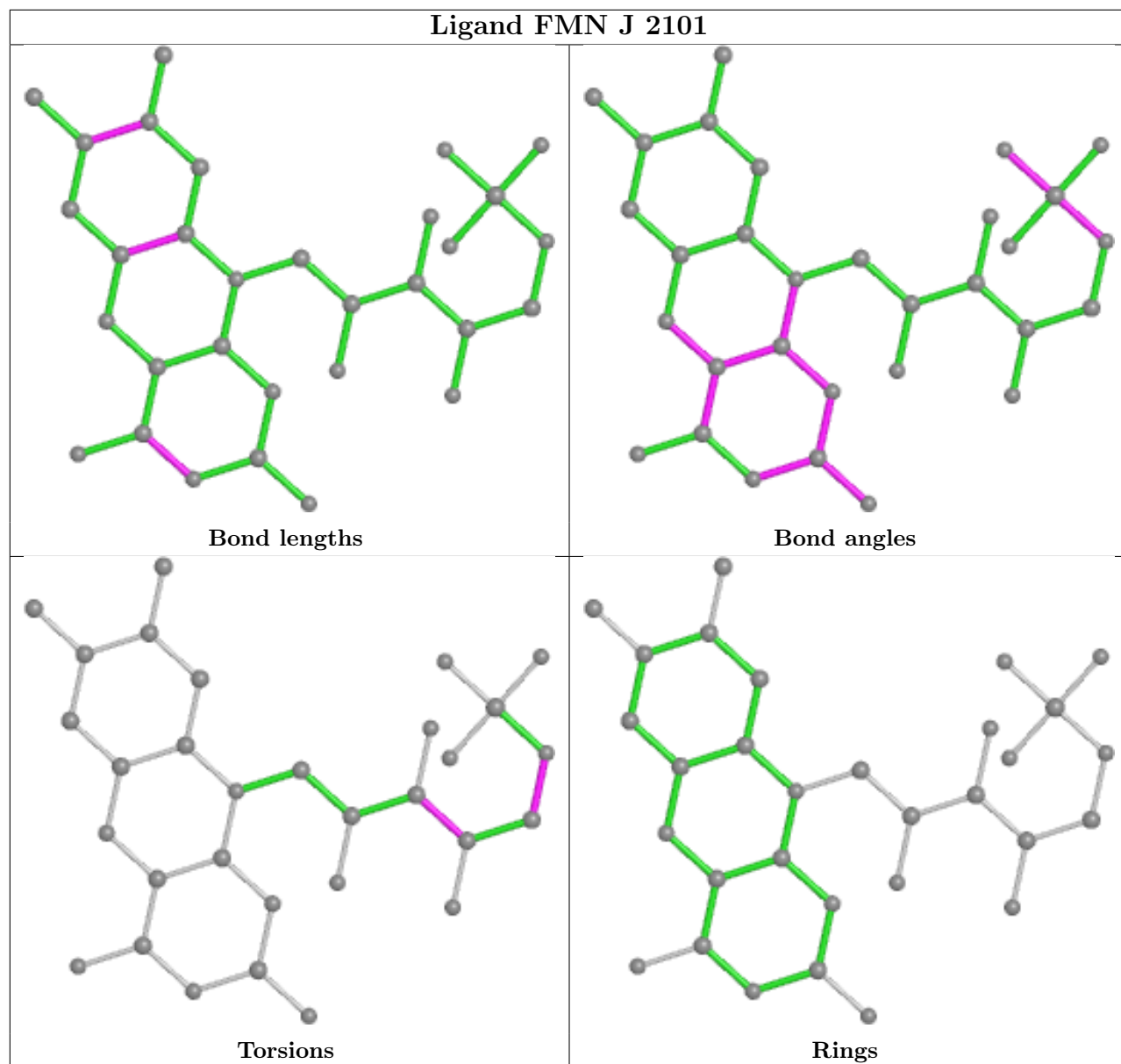


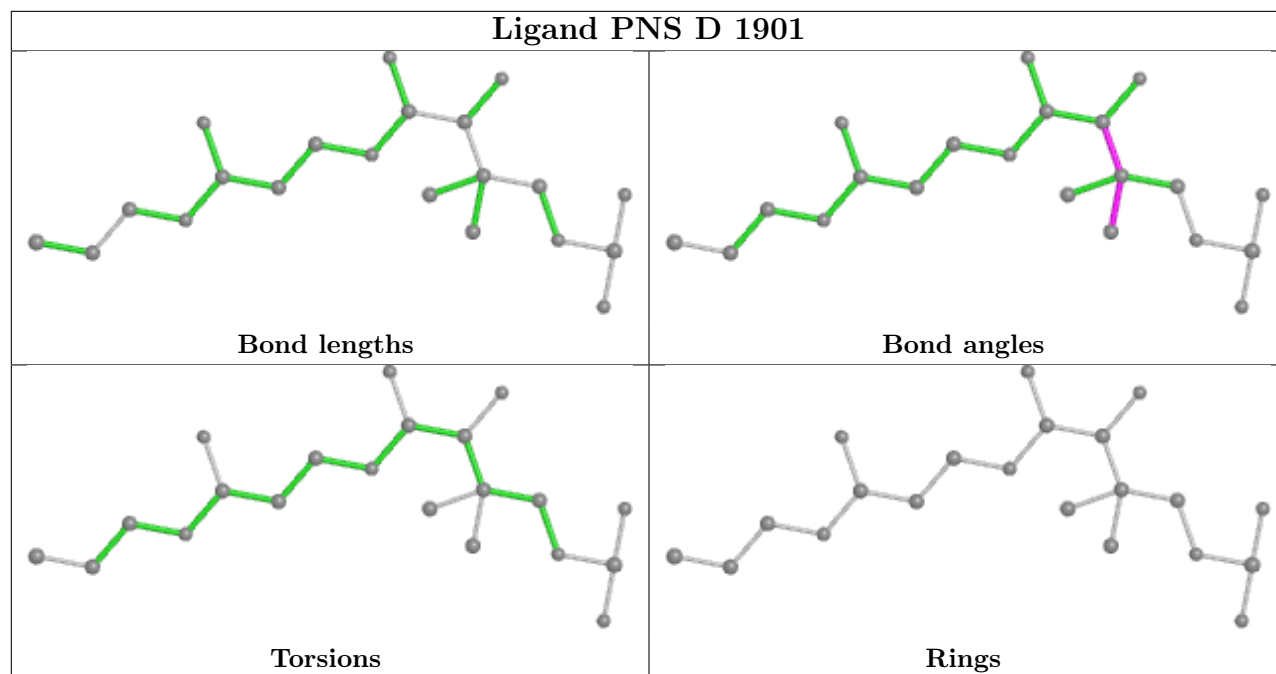












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ > 2	OWAB(Å ²)	Q < 0.9
1	A	1760/1887 (93%)	0.23	32 (1%) 68 61	32, 54, 115, 158	0
1	B	1759/1887 (93%)	0.23	25 (1%) 75 69	29, 53, 108, 154	0
1	C	1759/1887 (93%)	0.19	25 (1%) 75 69	31, 53, 112, 166	0
1	D	1765/1887 (93%)	0.21	12 (0%) 87 84	27, 47, 111, 154	0
1	E	1759/1887 (93%)	0.20	26 (1%) 73 67	35, 57, 109, 162	0
1	F	1759/1887 (93%)	0.19	21 (1%) 79 73	34, 59, 117, 172	0
2	G	2036/2051 (99%)	0.18	38 (1%) 66 59	42, 70, 130, 175	0
2	J	2035/2051 (99%)	0.22	38 (1%) 66 59	37, 69, 135, 189	0
3	H	2034/2051 (99%)	0.15	12 (0%) 89 86	39, 67, 119, 162	0
3	I	2033/2051 (99%)	0.17	18 (0%) 84 80	48, 79, 124, 167	0
3	K	2034/2051 (99%)	0.23	32 (1%) 72 65	57, 87, 129, 175	0
3	L	2035/2051 (99%)	0.27	44 (2%) 62 52	56, 84, 137, 191	0
All	All	22768/23628 (96%)	0.21	323 (1%) 75 69	27, 71, 122, 191	0

The worst 5 of 323 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	1830	GLY	10.0
1	E	599	MET	8.9
1	B	1831	GLY	8.7
1	F	1830	GLY	8.3
1	A	1829	GLY	8.1

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum,

median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
3	J8W	I	1808	12/13	0.88	0.23	79,93,103,106	0
3	J8W	L	1808	12/13	0.88	0.23	97,105,108,110	0
3	J8W	K	1808	12/13	0.91	0.21	83,92,98,98	0
3	J8W	H	1808	12/13	0.94	0.22	66,82,88,89	0

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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
5	EDO	E	1908	4/4	0.61	0.28	76,79,81,82	0
5	EDO	F	1904	4/4	0.64	0.27	68,73,77,78	0
7	A2P	B	1918	27/27	0.68	0.43	87,126,138,145	0
5	EDO	F	1902	4/4	0.72	0.39	75,80,85,89	0
8	ACT	B	1902	4/4	0.73	0.41	68,72,75,76	0
6	NA	J	2108	1/1	0.74	0.13	60,60,60,60	0
5	EDO	C	1910	4/4	0.74	0.30	79,83,84,86	0
5	EDO	J	2104	4/4	0.74	0.22	68,70,71,71	0
8	ACT	H	2102	4/4	0.74	0.31	80,82,86,89	0
7	A2P	A	1918	27/27	0.77	0.48	87,121,166,169	0
5	EDO	C	1908	4/4	0.77	0.27	60,69,73,74	0
7	A2P	F	1912	27/27	0.77	0.43	86,121,152,158	0
6	NA	C	1914	1/1	0.77	0.52	60,60,60,60	0
5	EDO	E	1912	4/4	0.77	0.37	91,93,93,97	0
9	PGE	E	1918	10/10	0.77	0.39	88,99,106,107	0
5	EDO	A	1909	4/4	0.79	0.38	64,64,71,71	0
5	EDO	C	1907	4/4	0.79	0.32	75,78,80,81	0
5	EDO	D	1912	4/4	0.79	0.27	79,81,81,82	0
7	A2P	D	1923	27/27	0.79	0.35	74,107,137,145	0
7	A2P	E	1917	27/27	0.80	0.45	83,114,130,138	0
5	EDO	D	1906	4/4	0.80	0.24	51,52,58,59	0
5	EDO	J	2105	4/4	0.80	0.33	73,77,78,79	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
5	EDO	F	1906	4/4	0.80	0.27	71,74,76,77	0
6	NA	G	2104	1/1	0.80	0.18	59,59,59,59	0
6	NA	E	1915	1/1	0.82	0.09	50,50,50,50	0
8	ACT	H	2104	4/4	0.82	0.29	81,84,84,85	0
8	ACT	C	1903	4/4	0.82	0.49	59,69,73,75	0
6	NA	I	2102	1/1	0.83	0.17	84,84,84,84	0
5	EDO	B	1903	4/4	0.83	0.17	70,76,77,79	0
5	EDO	A	1907	4/4	0.83	0.39	69,71,74,75	0
5	EDO	C	1911	4/4	0.83	0.40	64,65,71,71	0
6	NA	B	1915	1/1	0.84	0.13	49,49,49,49	0
5	EDO	C	1909	4/4	0.84	0.28	72,78,79,80	0
8	ACT	H	2103	4/4	0.84	0.31	66,66,70,73	0
6	NA	D	1918	1/1	0.84	0.34	56,56,56,56	0
7	A2P	C	1917	27/27	0.84	0.34	66,97,150,153	0
6	NA	H	2107	1/1	0.85	0.12	49,49,49,49	0
6	NA	F	1910	1/1	0.85	0.67	65,65,65,65	0
5	EDO	F	1905	4/4	0.85	0.36	65,67,67,67	0
5	EDO	F	1909	4/4	0.86	0.29	54,54,56,56	0
5	EDO	H	2105	4/4	0.86	0.20	68,72,74,76	0
5	EDO	B	1910	4/4	0.86	0.25	69,72,76,78	0
5	EDO	B	1911	4/4	0.86	0.36	55,57,58,59	0
5	EDO	A	1908	4/4	0.86	0.21	59,60,60,60	0
5	EDO	A	1903	4/4	0.87	0.22	56,60,60,61	0
6	NA	D	1920	1/1	0.87	0.26	45,45,45,45	0
6	NA	A	1916	1/1	0.87	0.47	51,51,51,51	0
5	EDO	B	1912	4/4	0.87	0.21	74,78,78,80	0
5	EDO	A	1911	4/4	0.87	0.25	83,84,90,91	0
5	EDO	E	1910	4/4	0.88	0.32	80,82,84,85	0
5	EDO	A	1905	4/4	0.88	0.17	57,60,60,61	0
5	EDO	C	1906	4/4	0.88	0.21	67,68,72,74	0
5	EDO	E	1911	4/4	0.89	0.25	69,69,72,72	0
5	EDO	D	1911	4/4	0.89	0.18	60,61,61,62	0
5	EDO	D	1902	4/4	0.89	0.30	58,59,59,60	0
6	NA	C	1916	1/1	0.89	0.70	61,61,61,61	0
5	EDO	D	1903	4/4	0.89	0.21	46,52,55,56	0
5	EDO	B	1906	4/4	0.89	0.32	52,54,58,65	0
5	EDO	D	1907	4/4	0.90	0.25	56,63,70,70	0
5	EDO	A	1910	4/4	0.90	0.32	64,69,70,70	0
5	EDO	B	1907	4/4	0.90	0.36	57,58,58,59	0
5	EDO	E	1905	4/4	0.90	0.41	64,68,70,72	0
5	EDO	J	2106	4/4	0.90	0.33	72,72,73,73	0
6	NA	A	1915	1/1	0.90	0.09	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
5	EDO	D	1913	4/4	0.91	0.14	61,61,63,66	0
5	EDO	C	1904	4/4	0.91	0.46	74,76,78,79	0
6	NA	D	1916	1/1	0.91	0.10	55,55,55,55	0
6	NA	A	1913	1/1	0.91	0.38	42,42,42,42	0
5	EDO	E	1906	4/4	0.91	0.14	68,75,75,75	0
5	EDO	D	1909	4/4	0.91	0.27	60,61,62,63	0
5	EDO	E	1909	4/4	0.91	0.22	69,70,71,72	0
6	NA	F	1911	1/1	0.91	0.14	62,62,62,62	0
6	NA	B	1917	1/1	0.92	0.44	47,47,47,47	0
6	NA	K	2103	1/1	0.92	0.16	69,69,69,69	0
6	NA	G	2103	1/1	0.92	0.12	37,37,37,37	0
5	EDO	C	1905	4/4	0.92	0.34	54,57,61,62	0
5	EDO	C	1912	4/4	0.92	0.41	50,52,53,54	0
5	EDO	B	1909	4/4	0.92	0.22	50,53,54,55	0
6	NA	J	2107	1/1	0.92	0.17	38,38,38,38	0
11	MLI	J	2102	7/7	0.92	0.25	83,86,87,96	0
6	NA	E	1914	1/1	0.93	0.16	62,62,62,62	0
5	EDO	F	1908	4/4	0.93	0.45	83,88,92,93	0
6	NA	A	1912	1/1	0.93	0.14	65,65,65,65	0
6	NA	C	1915	1/1	0.93	0.74	62,62,62,62	0
4	PNS	B	1901	21/22	0.93	0.33	91,95,106,107	0
5	EDO	D	1904	4/4	0.93	0.22	58,63,66,68	0
5	EDO	E	1907	4/4	0.93	0.18	69,72,73,74	0
10	FMN	K	2101	31/31	0.93	0.20	64,75,80,88	0
5	EDO	D	1914	4/4	0.93	0.29	49,52,54,56	0
5	EDO	B	1908	4/4	0.94	0.17	58,62,62,62	0
4	PNS	F	1901	21/22	0.94	0.29	89,92,102,103	0
4	PNS	C	1901	21/22	0.94	0.25	75,78,88,89	0
5	EDO	E	1913	4/4	0.94	0.54	78,81,86,86	0
6	NA	A	1914	1/1	0.94	0.36	55,55,55,55	0
5	EDO	A	1904	4/4	0.94	0.37	59,63,65,65	0
5	EDO	J	2103	4/4	0.94	0.22	69,71,71,71	0
11	MLI	G	2102	7/7	0.94	0.27	78,86,91,92	0
5	EDO	E	1904	4/4	0.94	0.30	67,70,72,74	0
4	PNS	D	1901	21/22	0.95	0.35	90,93,101,103	0
6	NA	C	1913	1/1	0.95	0.07	56,56,56,56	0
5	EDO	D	1908	4/4	0.95	0.30	54,56,58,58	0
4	PNS	E	1901	21/22	0.95	0.29	86,88,91,92	0
5	EDO	D	1910	4/4	0.95	0.23	59,63,64,64	0
8	ACT	C	1902	4/4	0.95	0.24	59,62,63,65	0
5	EDO	A	1906	4/4	0.95	0.30	53,58,58,59	0
5	EDO	B	1904	4/4	0.95	0.24	51,53,56,62	0

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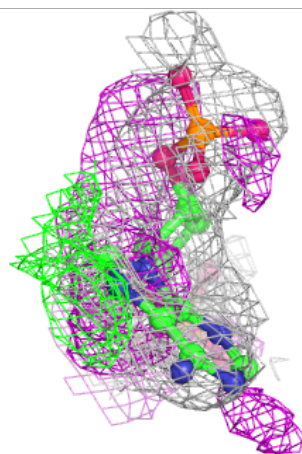
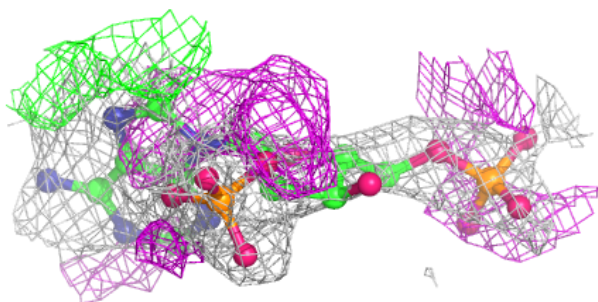
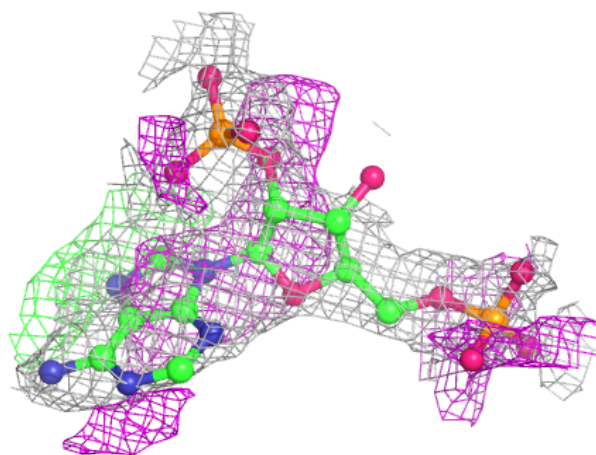
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
5	EDO	D	1905	4/4	0.95	0.24	45,46,47,49	0
6	NA	D	1921	1/1	0.95	0.15	52,52,52,52	0
6	NA	L	2102	1/1	0.95	0.10	46,46,46,46	0
10	FMN	I	2101	31/31	0.95	0.21	66,73,78,79	0
6	NA	L	2103	1/1	0.95	0.17	66,66,66,66	0
5	EDO	B	1905	4/4	0.95	0.32	65,66,67,67	0
5	EDO	E	1902	4/4	0.95	0.40	51,51,51,52	0
6	NA	A	1917	1/1	0.96	0.34	53,53,53,53	0
6	NA	B	1914	1/1	0.96	0.15	43,43,43,43	0
4	PNS	A	1901	21/22	0.96	0.27	86,90,101,101	0
6	NA	D	1922	1/1	0.96	0.54	46,46,46,46	0
6	NA	B	1916	1/1	0.96	0.31	52,52,52,52	0
10	FMN	L	2101	31/31	0.96	0.20	54,62,68,81	0
5	EDO	A	1902	4/4	0.96	0.18	47,51,54,54	0
6	NA	E	1916	1/1	0.96	0.23	51,51,51,51	0
5	EDO	F	1903	4/4	0.97	0.23	65,66,70,70	0
10	FMN	G	2101	31/31	0.97	0.21	46,49,53,56	0
10	FMN	H	2101	31/31	0.97	0.21	43,50,54,61	0
6	NA	D	1917	1/1	0.97	0.46	46,46,46,46	0
10	FMN	J	2101	31/31	0.97	0.19	43,46,50,55	0
6	NA	K	2102	1/1	0.97	0.11	53,53,53,53	0
5	EDO	E	1903	4/4	0.97	0.24	50,54,55,56	0
5	EDO	F	1907	4/4	0.97	0.43	54,58,61,63	0
6	NA	D	1915	1/1	0.97	0.11	49,49,49,49	0
6	NA	H	2106	1/1	0.98	0.13	34,34,34,34	0
6	NA	B	1913	1/1	0.98	0.12	43,43,43,43	0
6	NA	D	1919	1/1	0.98	0.65	46,46,46,46	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.

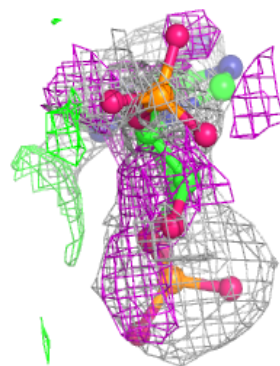
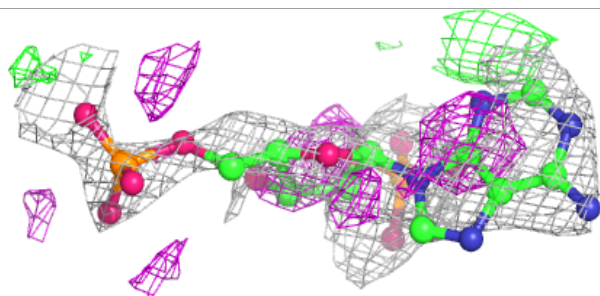
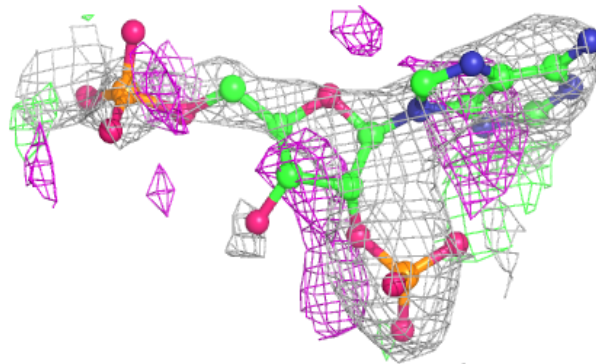
Electron density around A2P B 1918:

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

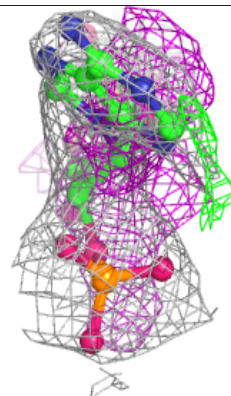
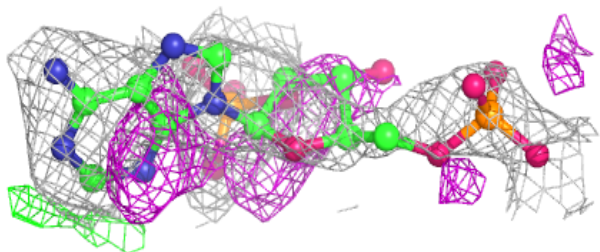
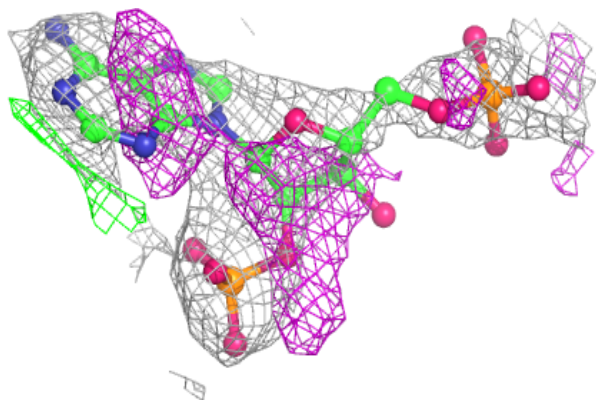


Electron density around A2P A 1918:

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

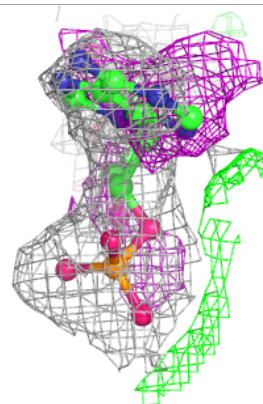
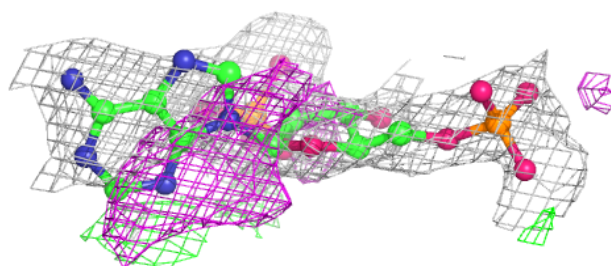
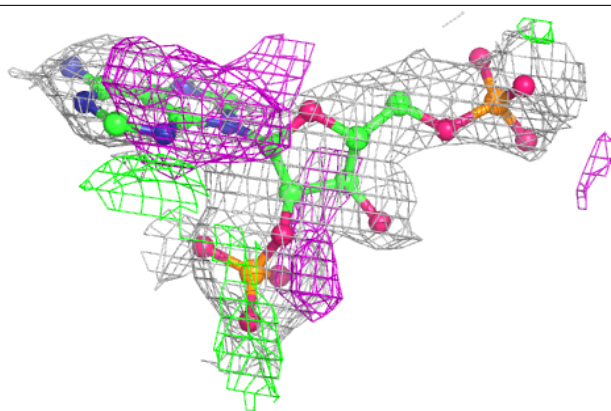
**Electron density around A2P F 1912:**

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

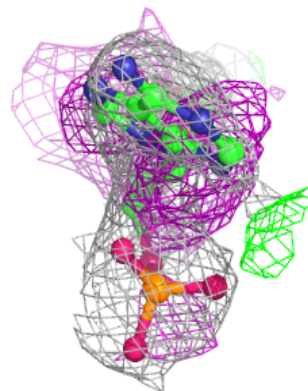
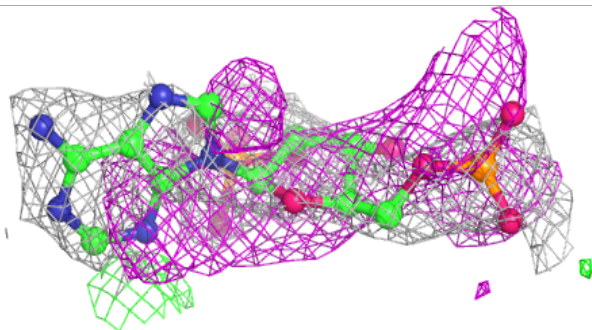
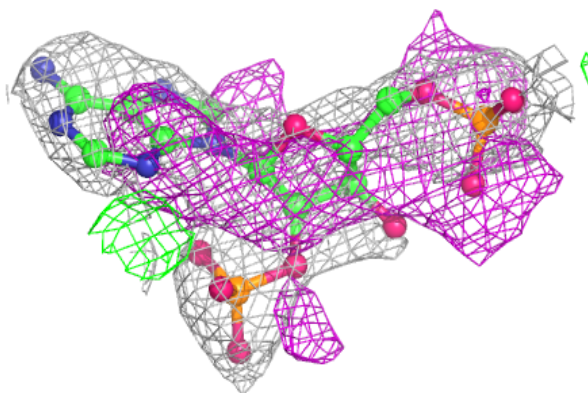


Electron density around A2P D 1923:

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

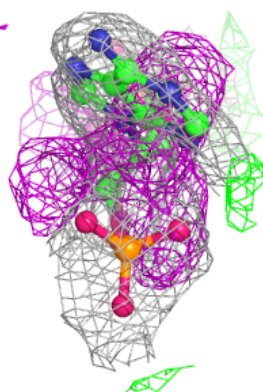
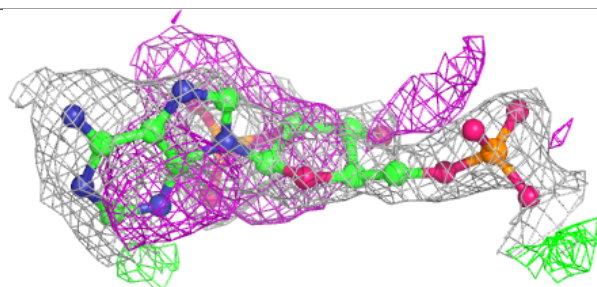
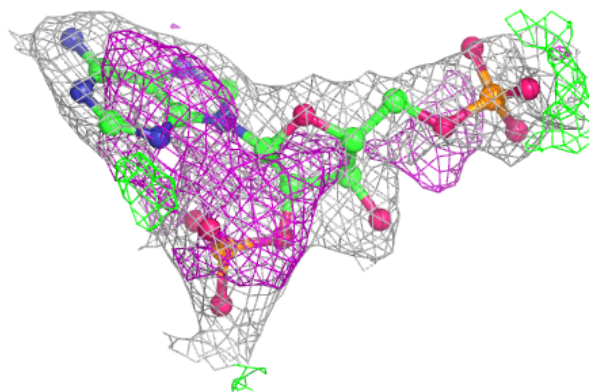
**Electron density around A2P E 1917:**

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

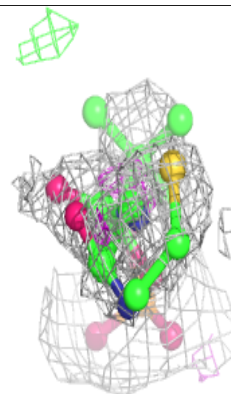
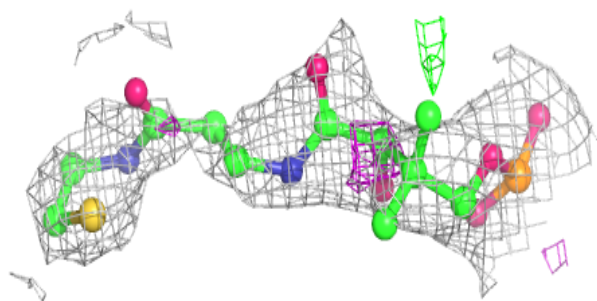
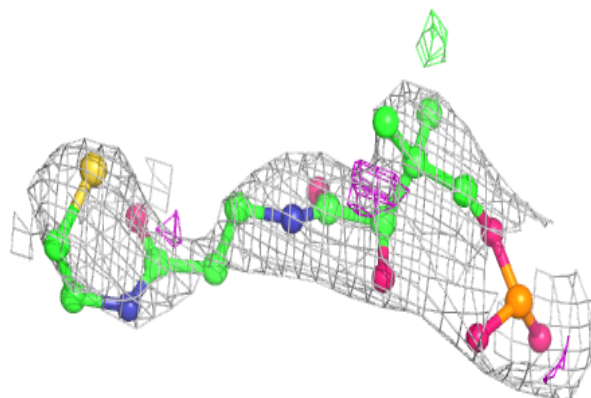


Electron density around A2P C 1917:

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

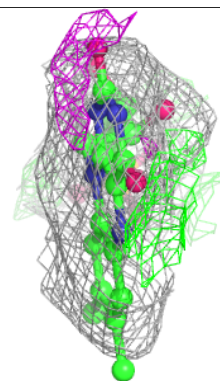
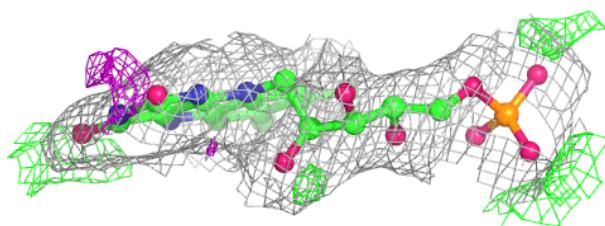
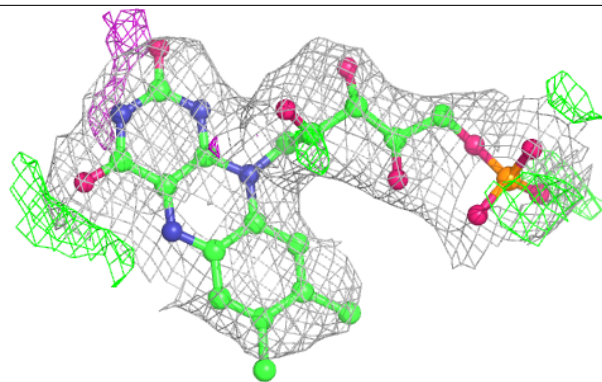
**Electron density around PNS B 1901:**

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

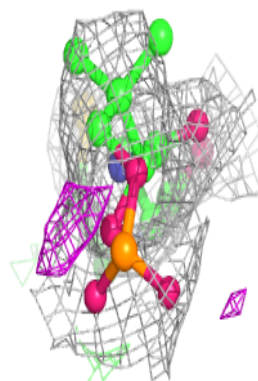
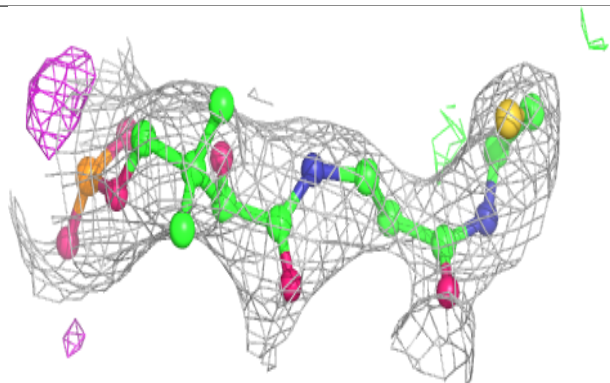
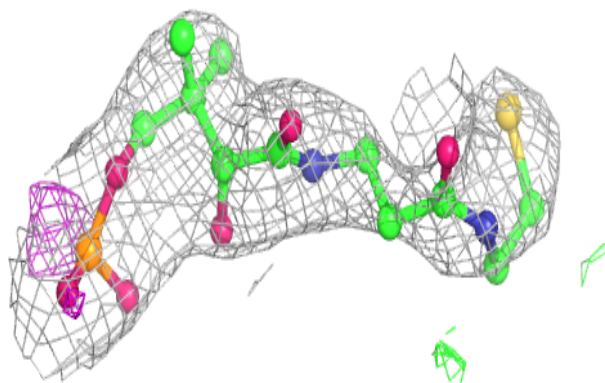


Electron density around FMN K 2101:

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

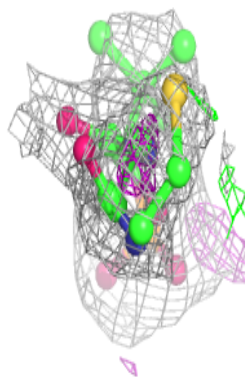
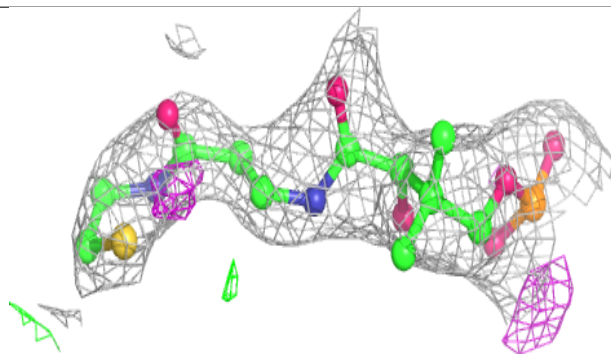
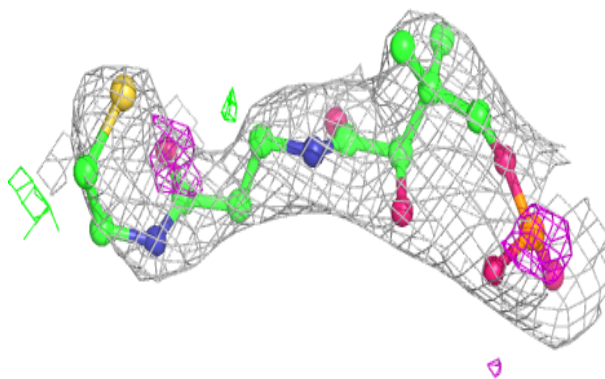
**Electron density around PNS F 1901:**

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

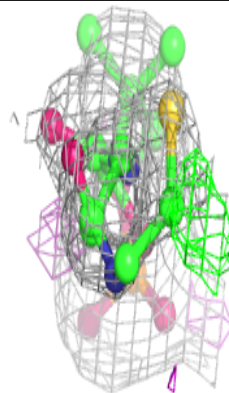
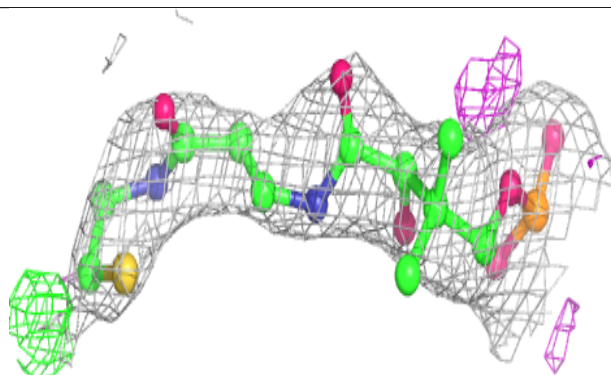
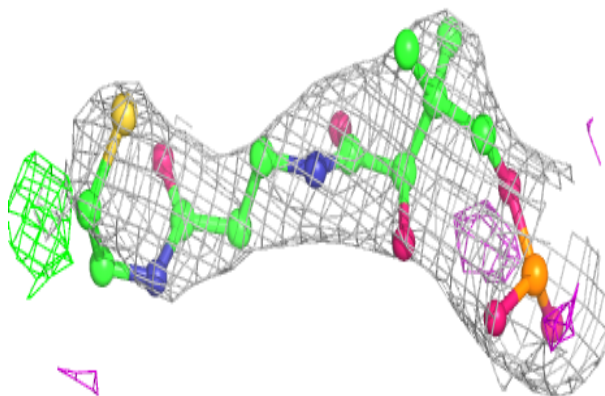


Electron density around PNS C 1901:

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

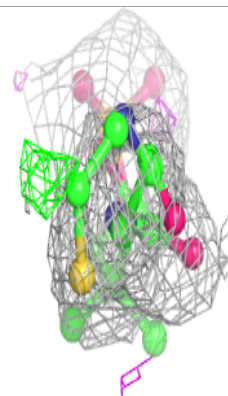
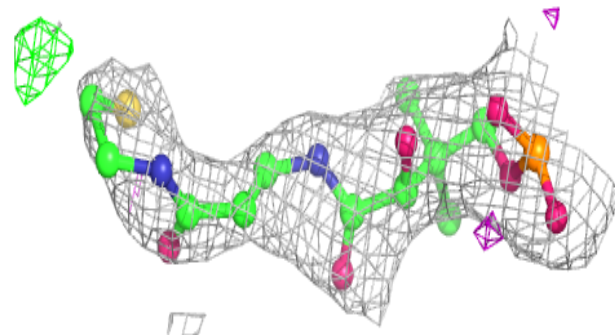
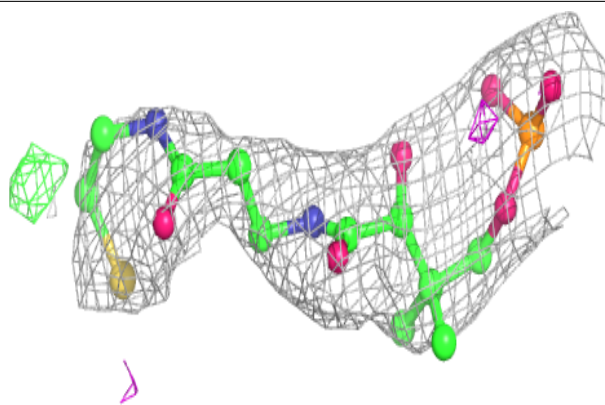
**Electron density around PNS D 1901:**

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

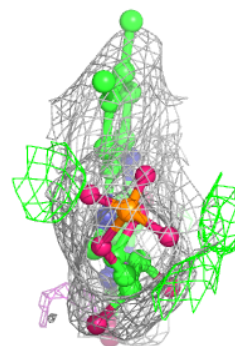
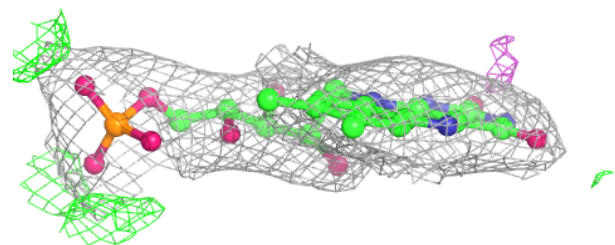
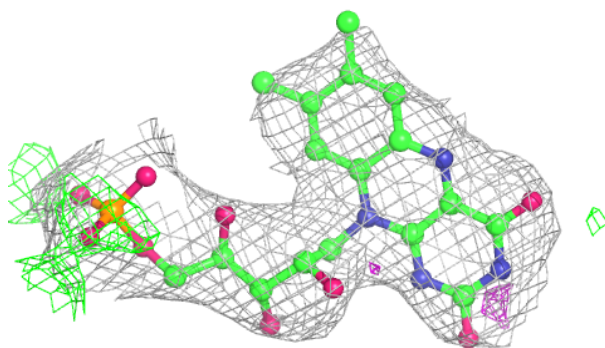


Electron density around PNS E 1901:

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

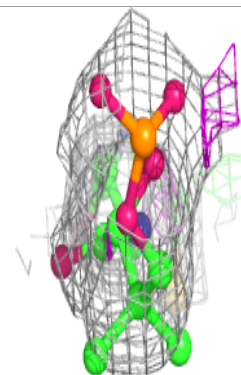
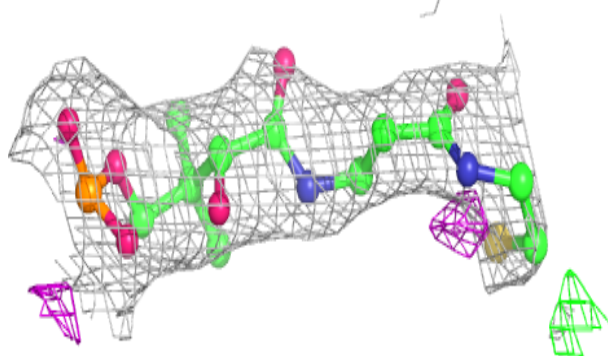
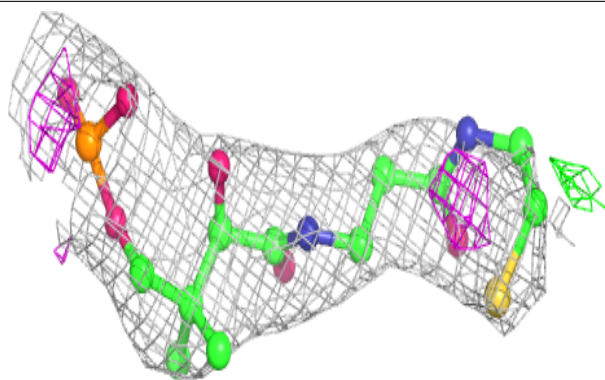
**Electron density around FMN I 2101:**

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

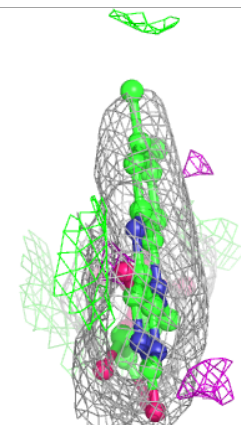
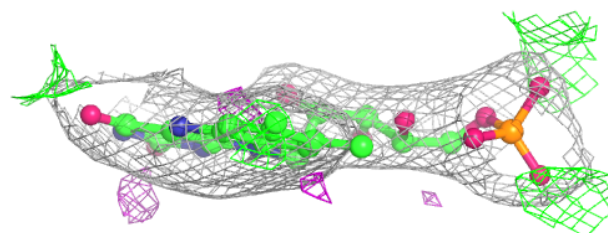
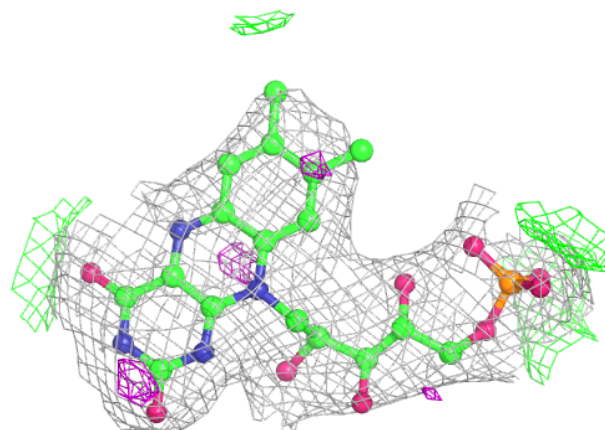


Electron density around PNS A 1901:

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

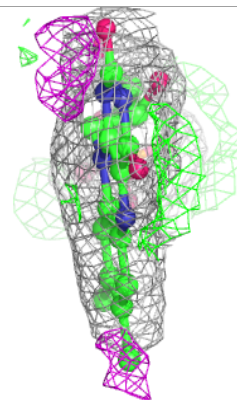
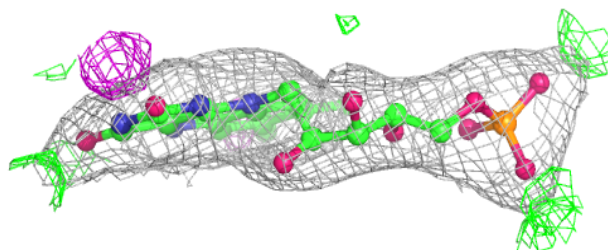
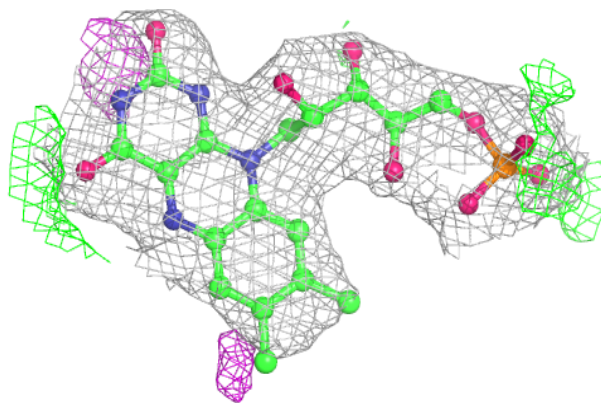
**Electron density around FMN L 2101:**

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



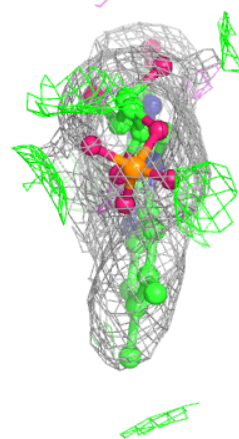
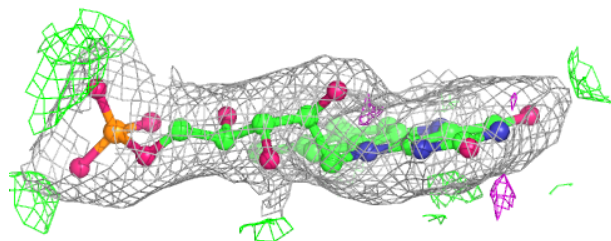
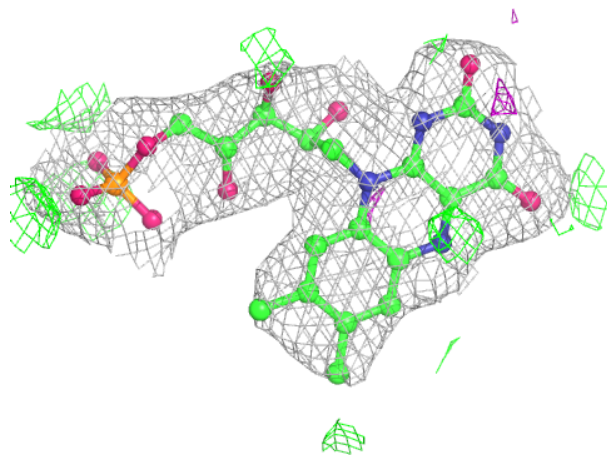
Electron density around FMN G 2101:

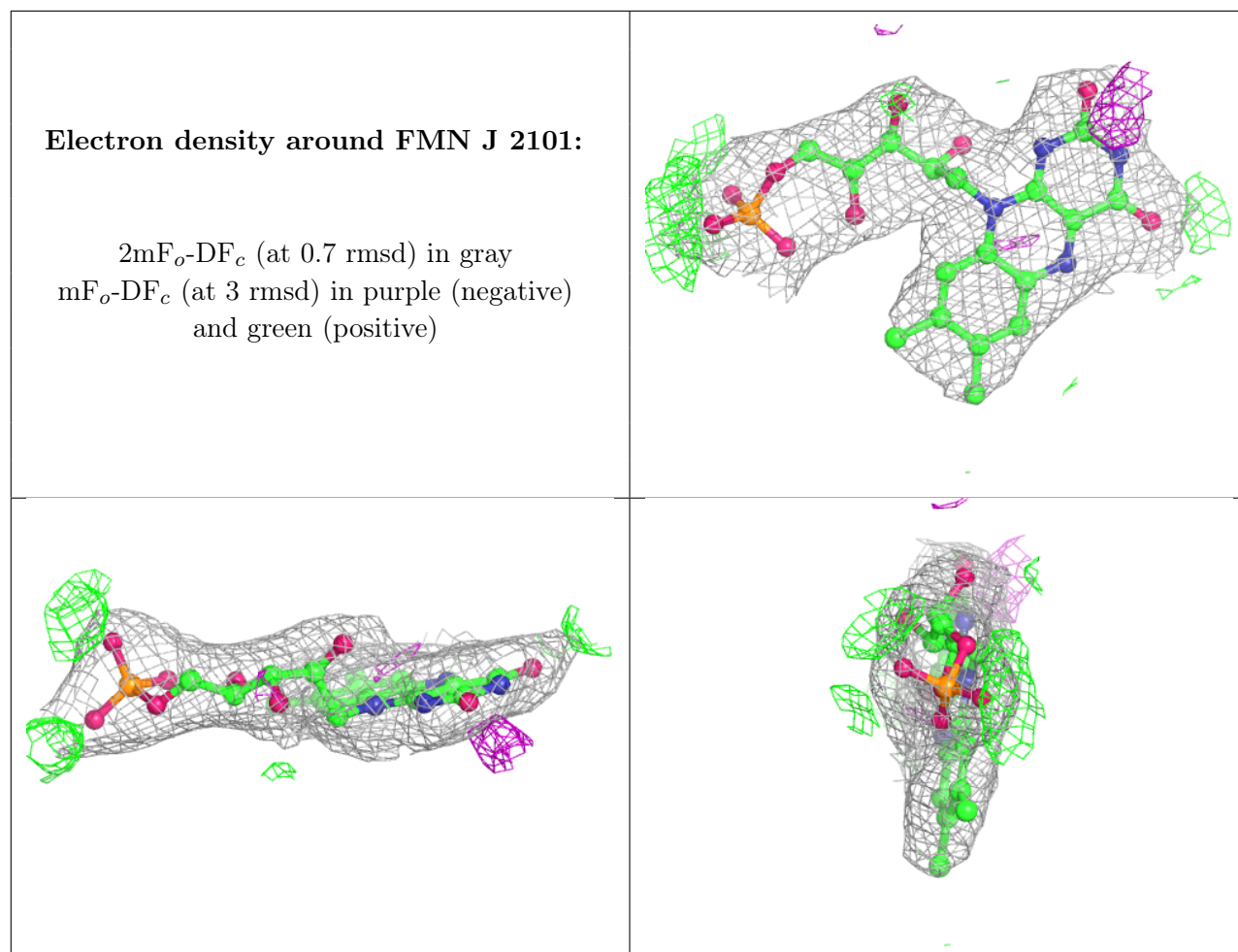
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around FMN H 2101:

$2mF_o-DF_c$ (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.