



# wwPDB X-ray Structure Validation Summary Report ⓘ

Oct 3, 2023 – 10:54 PM EDT

PDB ID : 4V58  
Title : Crystal structure of fatty acid synthase from thermomyces lanuginosus at 3.1 angstrom resolution.  
Authors : Jenni, S.; Leibundgut, M.; Boehringer, D.; Frick, C.; Mikolasek, B.; Ban, N.  
Deposited on : 2007-03-09  
Resolution : 3.10 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](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtriage (Phenix) : 1.13  
EDS : 2.35.1  
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) : 2.35.1

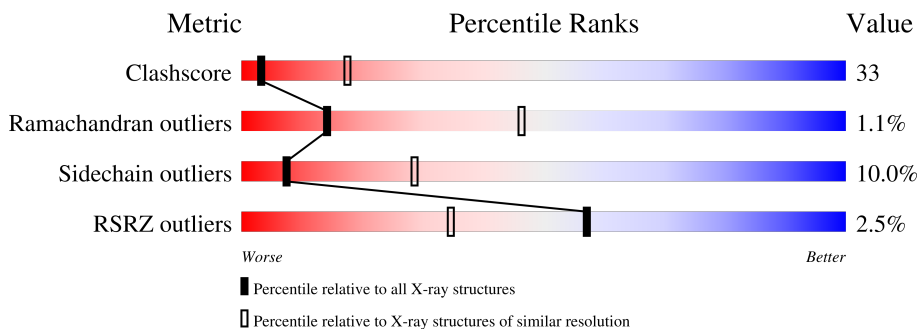
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.10 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1184 (3.10-3.10)
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)
RSRZ outliers	127900	1067 (3.10-3.10)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . 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	1878	 2% 40% 33% 5% 22%
1	B	1878	 2% 42% 32% • 22%
1	C	1878	 2% 41% 32% • 22%
1	D	1878	 2% 41% 33% 5% 22%
1	E	1878	 2% 40% 33% • 22%
1	F	1878	 2% 41% 32% • 22%
2	G	2060	 2% 44% 49% 6%

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Mol	Chain	Length	Quality of chain
2	H	2060	
2	I	2060	
2	J	2060	
2	K	2060	
2	L	2060	

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
3	FMN	G	2101	-	-	X	-
3	FMN	H	2101	-	-	X	-
3	FMN	I	2101	-	-	X	-
3	FMN	J	2101	-	-	X	-
3	FMN	K	2101	-	-	X	-
3	FMN	L	2101	-	-	X	-

## 2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 166671 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 ALPHA SUBUNITS.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	1457	Total 11514	C 7290	N 2005	O 2170	S 49	0	0	0
1	B	1464	Total 11571	C 7323	N 2015	O 2183	S 50	0	0	0
1	C	1462	Total 11555	C 7312	N 2012	O 2181	S 50	0	0	0
1	D	1467	Total 11593	C 7336	N 2021	O 2186	S 50	0	0	0
1	E	1456	Total 11506	C 7285	N 2004	O 2169	S 48	0	0	0
1	F	1461	Total 11546	C 7307	N 2010	O 2179	S 50	0	0	0

- Molecule 2 is a protein called FATTY ACID SYNTHASE BETA SUBUNITS.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	G	2060	Total 16200	C 10314	N 2781	O 3051	S 54	0	0	0
2	H	2060	Total 16200	C 10314	N 2781	O 3051	S 54	0	0	0
2	I	2060	Total 16200	C 10314	N 2781	O 3051	S 54	0	0	0
2	J	2060	Total 16200	C 10314	N 2781	O 3051	S 54	0	0	0
2	K	2060	Total 16200	C 10314	N 2781	O 3051	S 54	0	0	0
2	L	2060	Total 16200	C 10314	N 2781	O 3051	S 54	0	0	0

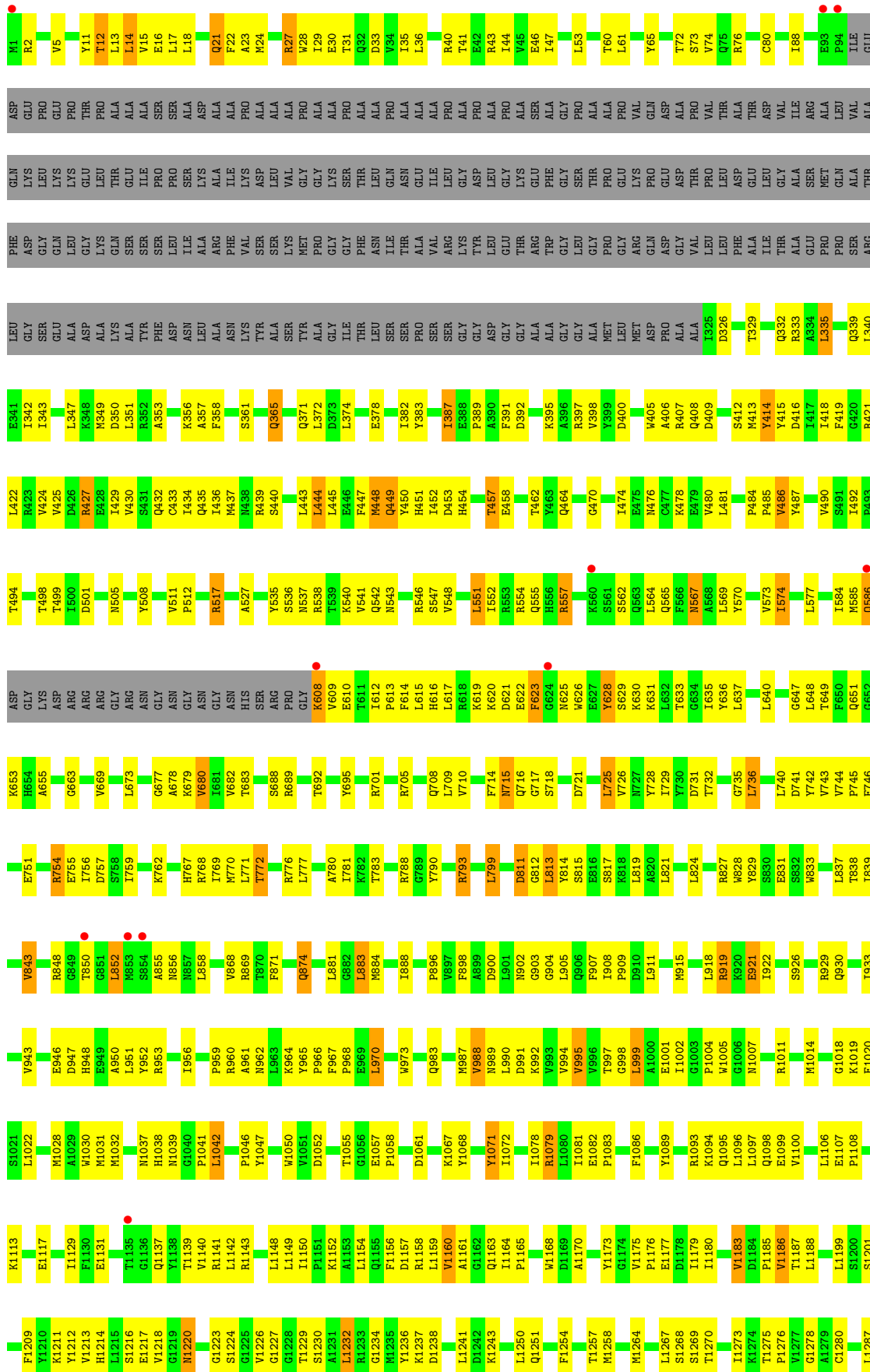
- Molecule 3 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: C<sub>17</sub>H<sub>21</sub>N<sub>4</sub>O<sub>9</sub>P).



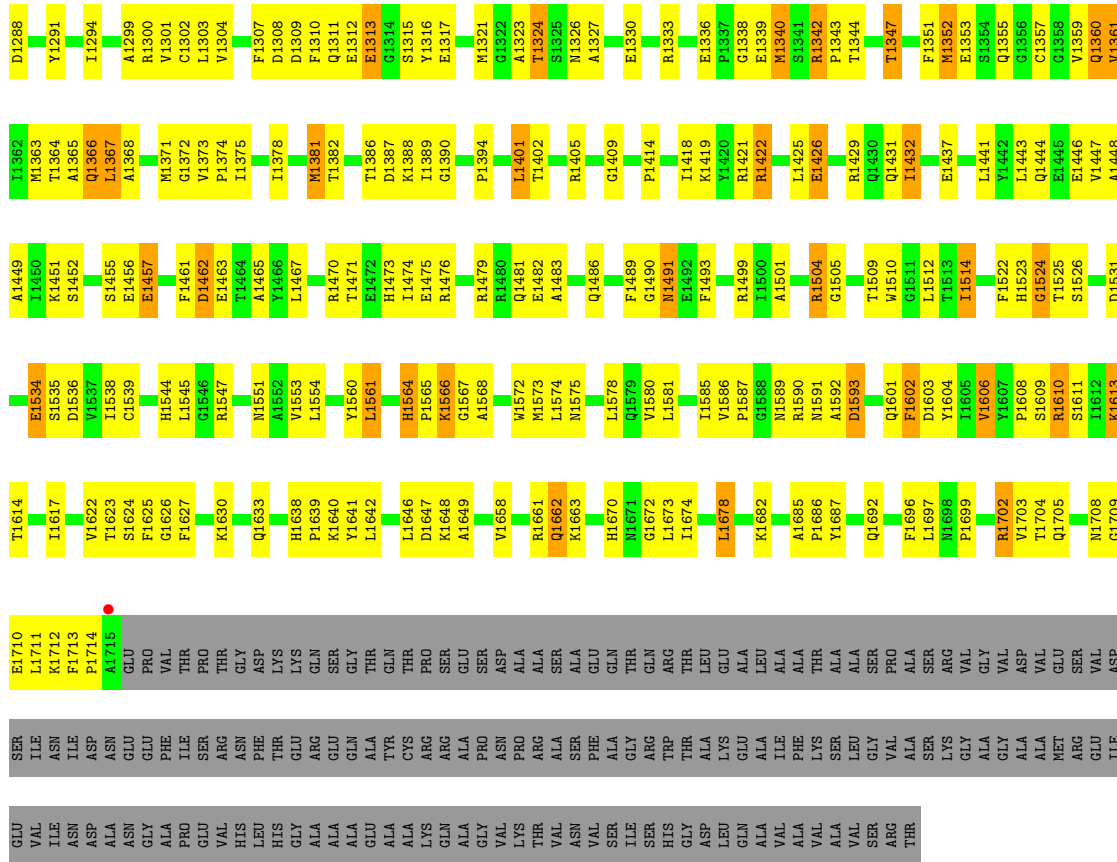
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
3	G	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
3	H	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
3	I	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
3	J	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
3	K	1	Total	C	N	O	P	0	0
			31	17	4	9	1		
3	L	1	Total	C	N	O	P	0	0
			31	17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



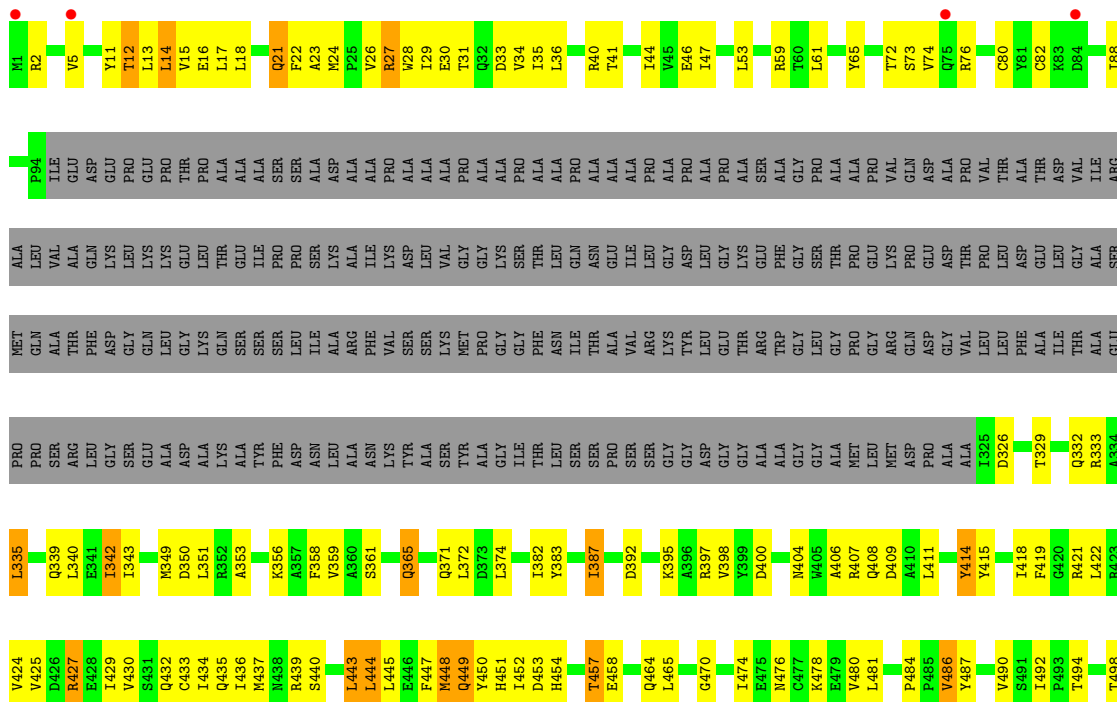






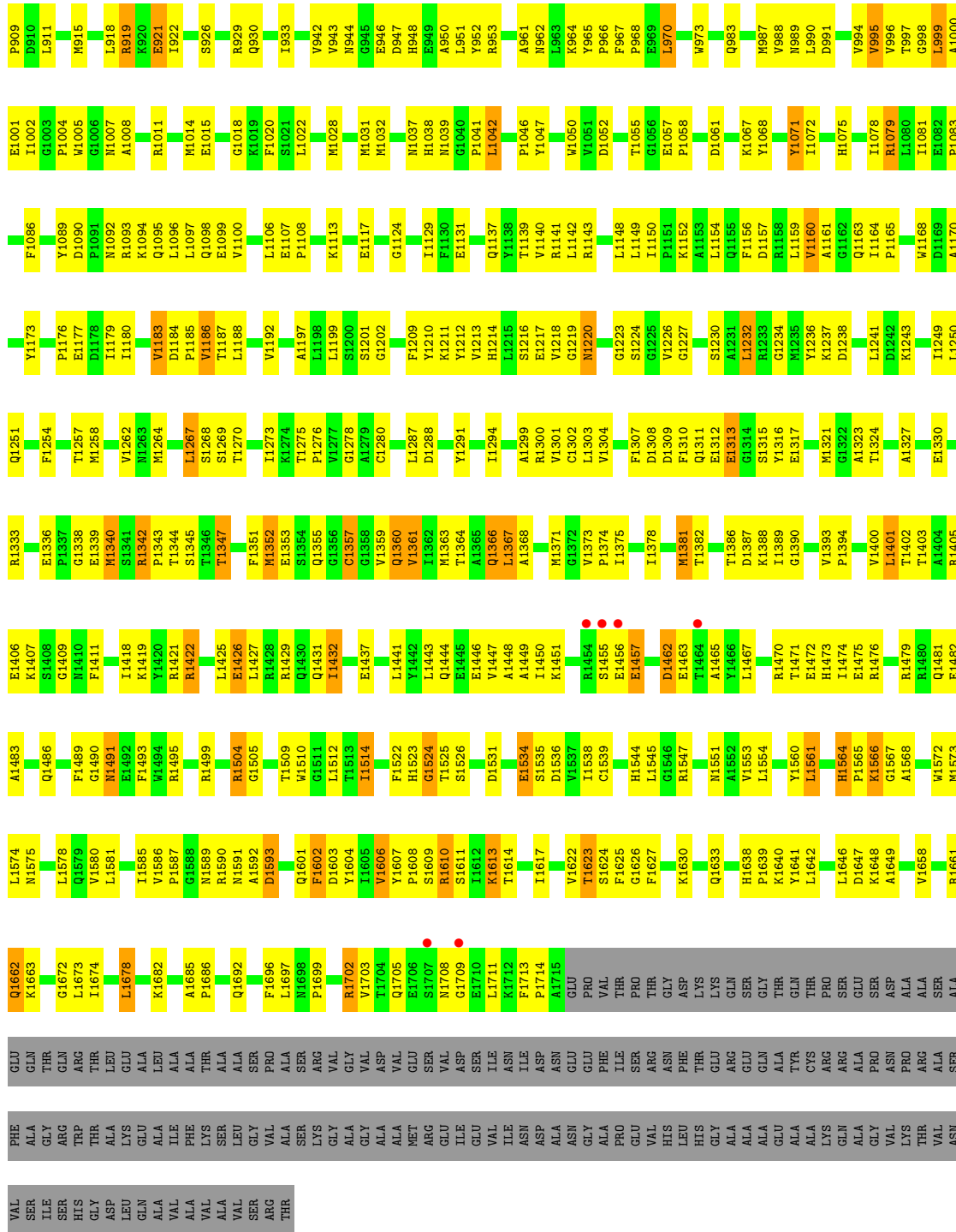


● Molecule 1: FATTY ACID SYNTHASE ALPHA SUBUNITS

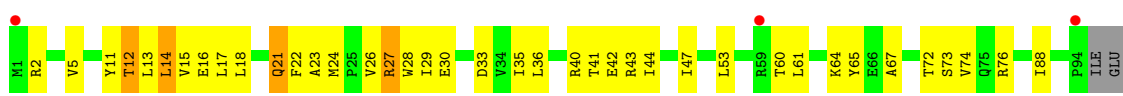


L1678	M1589	T1509	I1432	F1351	S1269	V1183	R1093	M1007	I922	T838	P750	E668	ARG
R1590	R1590	M1510	E1437	M1352	T1270	D1184	K1094	A1008	S926	L839	E751	V669	ARG
A1592	M1592	G1511	E1437	E1353	I1273	P1185	Q1096	R1011	R929	V843	R754	L670	ARG
D1593	D1593	L1441	L1441	S1354	K1274	L1186	L1097	M1014	R930	R848	I756	G672	GLY
Q1601	Q1601	L1443	L1443	G1355	T1275	T1187	Q1098	E1015	Q930	R848	D757	L673	ARG
F1602	F1602	Q1444	Q1444	G1357	V1277	L1188	E1099	L1018	I933	G851	S758	G677	GLY
L1603	L1603	E1445	E1445	G1358	G1278	A1197	V1100	G1018	V942	L852	I759	A678	ASN
H1604	H1604	E1446	E1446	L1198	G1279	L1198	L1106	K1019	V942	L852	I759	A678	GLY
L1605	L1605	Q1360	Q1360	L1199	C1280	L1199	E1107	F1020	A855	A855	K762	K679	ASN
F1606	F1606	V1361	V1361	S1200	C1280	S1200	P1108	S1021	E946	N856	I681	V680	ASN
V1607	V1607	I1362	I1362	S1201	L1287	S1201	P1108	L1022	D947	N857	V682	I682	ASN
P1608	P1608	M1363	M1363	L1287	D1288	L1287	K1113	L1022	H948	L858	R768	T683	HIS
S1609	S1609	T1364	T1364	A1197	D1288	A1197	K1113	L1022	E949	V859	I769	G677	SER
D1531	D1531	K1451	K1451	F1209	D1288	F1209	E1117	M1028	A950	V859	I769	A678	ARG
S1452	S1452	T1364	T1364	Y1210	Y1291	Y1210	E1117	M1028	A950	V859	I769	A678	GLY
A1453	A1453	K1366	K1366	K1211	Y1291	K1211	G1124	M1031	L951	V863	L771	K679	ASN
R1454	R1454	L1367	L1367	Y1212	I1294	Y1212	G1124	M1031	Y952	V863	L771	K679	ASN
S1455	S1455	A1368	A1368	V1213	I1294	V1213	E1131	M1032	R953	V868	I772	V680	ASN
E1456	E1456	A1368	A1368	H1214	A1299	H1214	E1131	M1032	R953	V868	I772	V680	ASN
E1457	E1457	M1371	M1371	L1215	R1300	L1215	E1134	M1037	R954	R869	R776	T692	VAL
D1458	D1458	G1372	G1372	S1216	R1300	S1216	E1134	H1038	V955	T870	L777	S693	GLY
G1459	G1459	P1373	P1373	E1217	V1301	E1217	E1134	N1039	I956	F871	A780	Y694	LYS
P1460	P1460	P1374	P1374	V1218	C1302	V1218	Q1137	G1040	I956	S872	I781	Y695	LYS
F1461	F1461	I1375	I1375	G1219	L1303	G1219	Q1137	P1041	P959	Q873	I781	R701	VAL
D1462	D1462	I1378	I1378	N1220	V1304	N1220	V1140	L1042	R960	Q874	K782	R660	VAL
T1463	T1463	I1378	I1378	G1223	F1307	G1223	V1140	L1042	A861	L881	I783	R705	HIS
A1465	A1465	M1381	M1381	G1224	D1308	G1224	L1142	K1046	N962	L881	I783	R705	HIS
Y1466	Y1466	T1382	T1382	G1225	D1308	G1225	L1142	K1046	N962	L881	I783	R705	HIS
L1467	L1467	L1382	L1382	G1226	D1309	G1226	L1142	K1046	N962	L881	I783	R705	HIS
G1550	G1550	T1386	T1386	G1227	F1310	G1227	T1147	Y1047	K964	R882	R788	Q708	THR
M1551	M1551	D1387	D1387	G1227	F1310	G1227	T1147	Y1047	K964	R882	R788	Q708	THR
A1552	A1552	K1388	K1388	S1230	D1309	S1230	L1147	Y1047	K964	R882	R788	Q708	THR
V1553	V1553	I1389	I1389	L1232	D1309	L1232	L1147	Y1047	K964	R882	R788	Q708	THR
L1554	L1554	G1390	G1390	R1233	F1310	R1233	L1148	Y1050	Y965	M824	V790	V710	THR
I1474	I1474	P1394	P1394	G1234	Q1311	G1234	L1148	Y1050	Y965	M824	V790	V710	THR
E1475	E1475	P1394	P1394	G1234	Q1311	G1234	L1149	Y1050	Y965	M824	V790	V710	THR
R1476	R1476	V1400	V1400	G1235	E1312	G1235	L1149	Y1050	Y965	M824	V790	V710	THR
H1564	H1564	L1401	L1401	G1236	E1312	G1236	L1150	Y1051	R967	I888	F714	F714	THR
P1565	P1565	T1402	T1402	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
Q1481	Q1481	K1407	K1407	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
E1482	E1482	S1408	S1408	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
A1483	A1483	G1409	G1409	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
Q1486	Q1486	I1418	I1418	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
M1573	M1573	K1419	K1419	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
L1574	L1574	Y1420	Y1420	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
M1575	M1575	R1421	R1421	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
L1578	L1578	R1422	R1422	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
Q1579	Q1579	F1493	F1493	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
V1580	V1580	Q1423	Q1423	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
L1581	L1581	L1425	L1425	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
R1499	R1499	E1426	E1426	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
V1586	V1586	R1429	R1429	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
P1587	P1587	Q1430	Q1430	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
G1588	G1588	G1505	G1505	Y1236	G1322	Y1236	D1157	D1082	E969	V889	N715	N715	THR
ASP	ASP	L1673	L1673	GLY	L1673	GLY	L1673	GLY	L1673	GLY	L1673	GLY	ASP
LYS	LYS	L1674	L1674	LYS	L1674	LYS	L1674	LYS	L1674	LYS	L1674	LYS	LYS
GLN	GLN	L1674	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	GLN
SER	SER	L1674	L1674	SER	L1674	SER	L1674	SER	L1674	SER	L1674	SER	SER
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
GLY	GLY	L1674	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	GLY
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
GLN	GLN	L1674	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	GLN
SER	SER	L1674	L1674	SER	L1674	SER	L1674	SER	L1674	SER	L1674	SER	SER
GLY	GLY	L1674	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	GLY
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
GLN	GLN	L1674	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	GLN
SER	SER	L1674	L1674	SER	L1674	SER	L1674	SER	L1674	SER	L1674	SER	SER
GLY	GLY	L1674	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	GLY
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
GLN	GLN	L1674	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	GLN
SER	SER	L1674	L1674	SER	L1674	SER	L1674	SER	L1674	SER	L1674	SER	SER
GLY	GLY	L1674	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	GLY
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
GLN	GLN	L1674	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	GLN
SER	SER	L1674	L1674	SER	L1674	SER	L1674	SER	L1674	SER	L1674	SER	SER
GLY	GLY	L1674	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	GLY
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
GLN	GLN	L1674	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	GLN
SER	SER	L1674	L1674	SER	L1674	SER	L1674	SER	L1674	SER	L1674	SER	SER
GLY	GLY	L1674	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	GLY
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
GLN	GLN	L1674	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	GLN
SER	SER	L1674	L1674	SER	L1674	SER	L1674	SER	L1674	SER	L1674	SER	SER
GLY	GLY	L1674	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	GLY
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
GLN	GLN	L1674	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	GLN
SER	SER	L1674	L1674	SER	L1674	SER	L1674	SER	L1674	SER	L1674	SER	SER
GLY	GLY	L1674	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	GLY
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
GLN	GLN	L1674	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	GLN
SER	SER	L1674	L1674	SER	L1674	SER	L1674	SER	L1674	SER	L1674	SER	SER
GLY	GLY	L1674	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	L1674	GLY	GLY
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
THR	THR	L1674	L1674	THR	L1674	THR	L1674	THR	L1674	THR	L1674	THR	THR
GLN	GLN	L1674	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	L1674	GLN	GLN
SER	SER	L1674	L1674	SER	L1674	SER	L1674	SER	L1674	SER	L1674	SER	SER
GLY	GLY	L1674	L1674	GLY									





● Molecule 1: FATTY ACID SYNTHASE ALPHA SUBUNITS





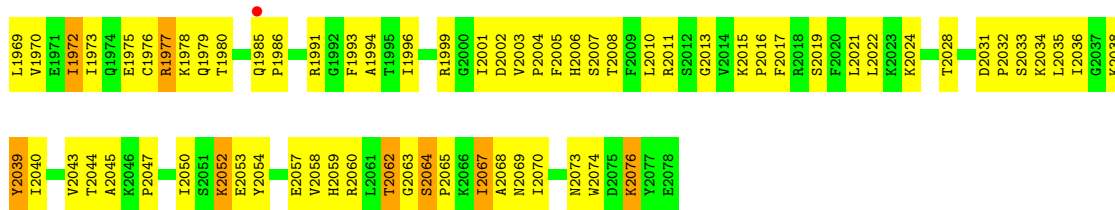


I1674	G1588	A1501	R1429	S1345	L1267	D1178	Y1089	G1000	R919	I839	V742	T649	I584	T499
L1678	M589	R1504	Q1430	T1346	S1268	L1179	R1093	E1001	K920	V843	V743	F650	M585	I500
K1682	M1590	G1505	I1432	T1347	S1269	L1180	K1094	I1002	E921	V844	V744	G652	M586	D501
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LYS	R1476	I1389	R1476	I1389	E1317	L1232	K1152	M1051	F967	N890	L799	K619	R554	R554
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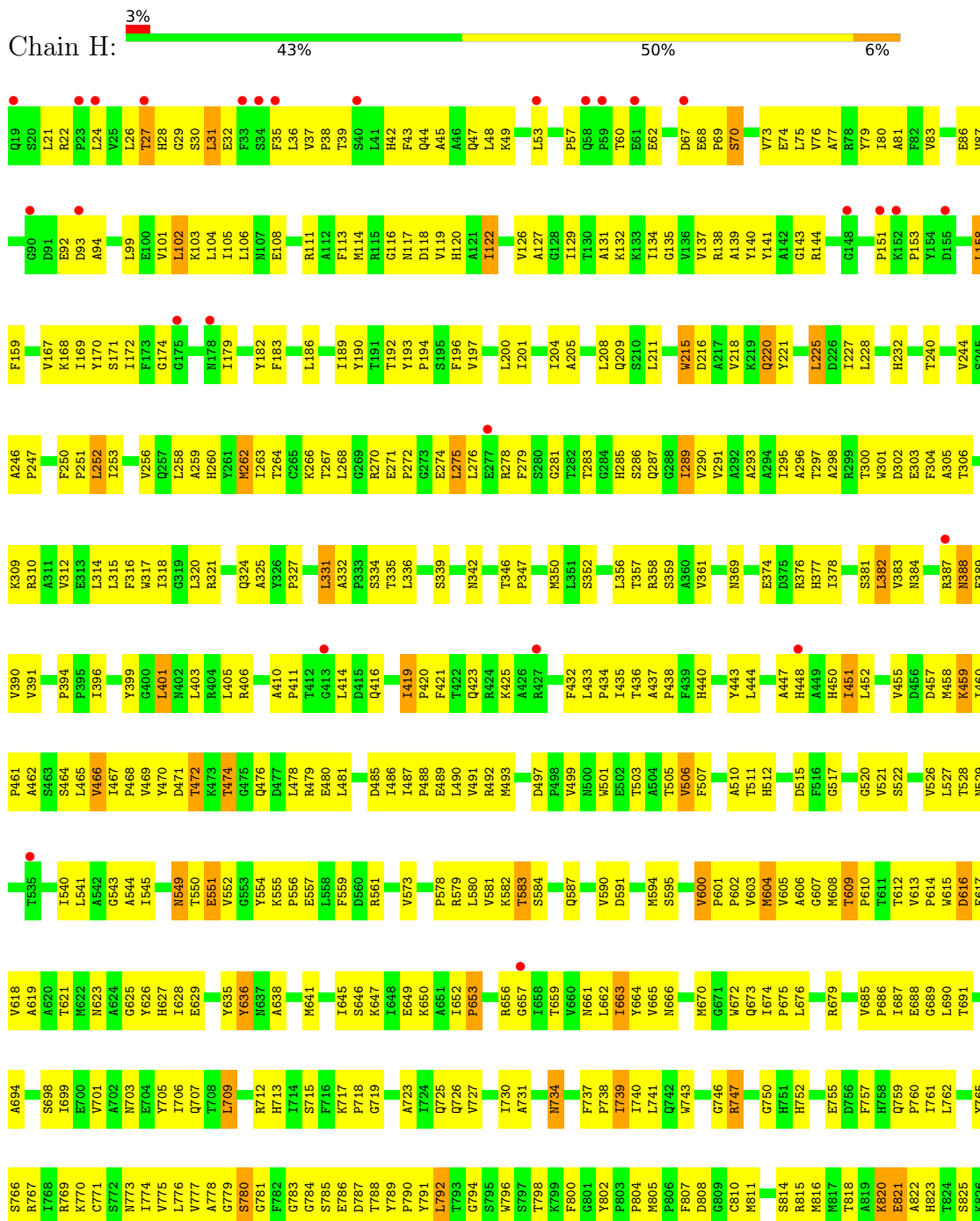


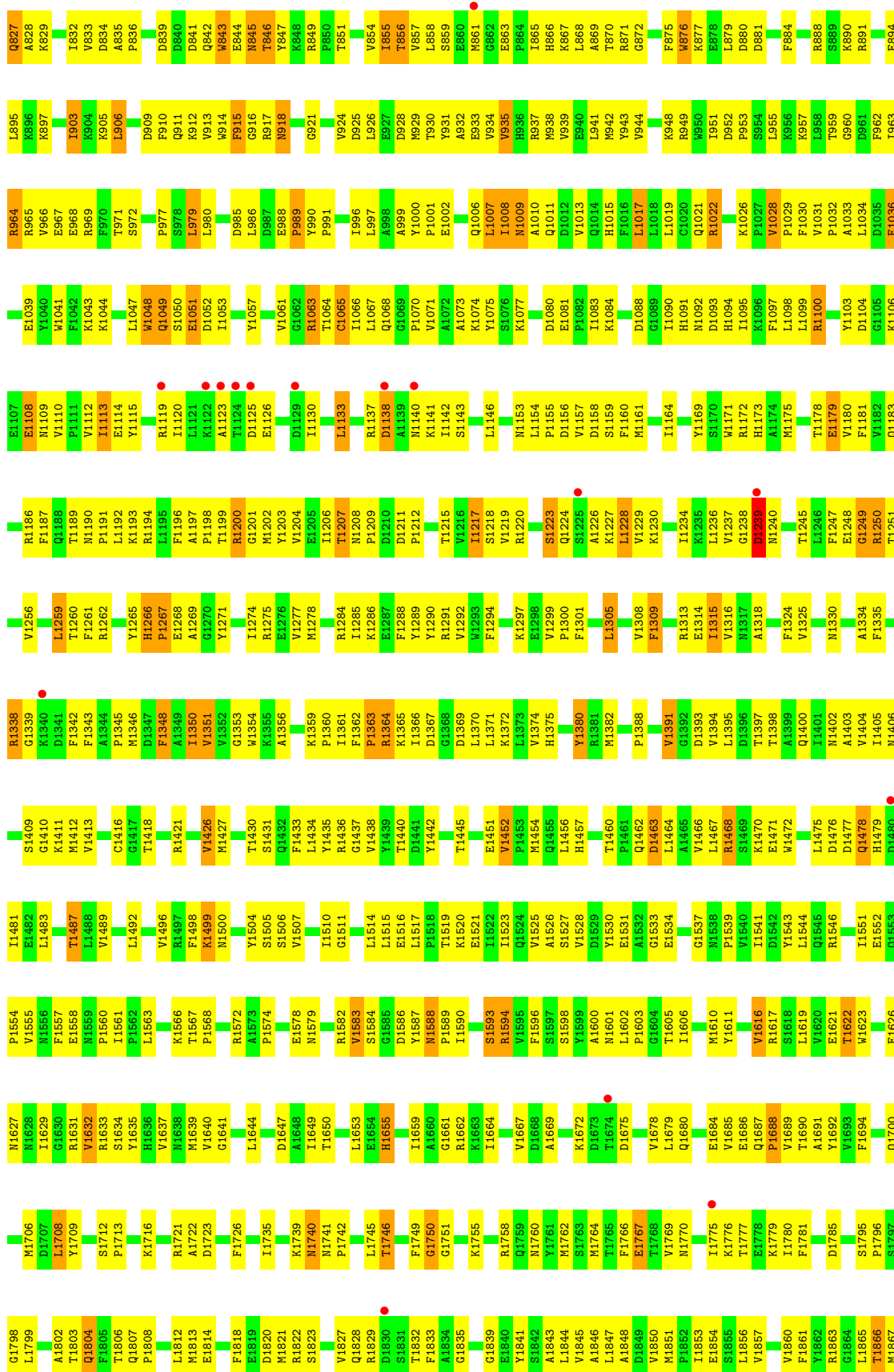


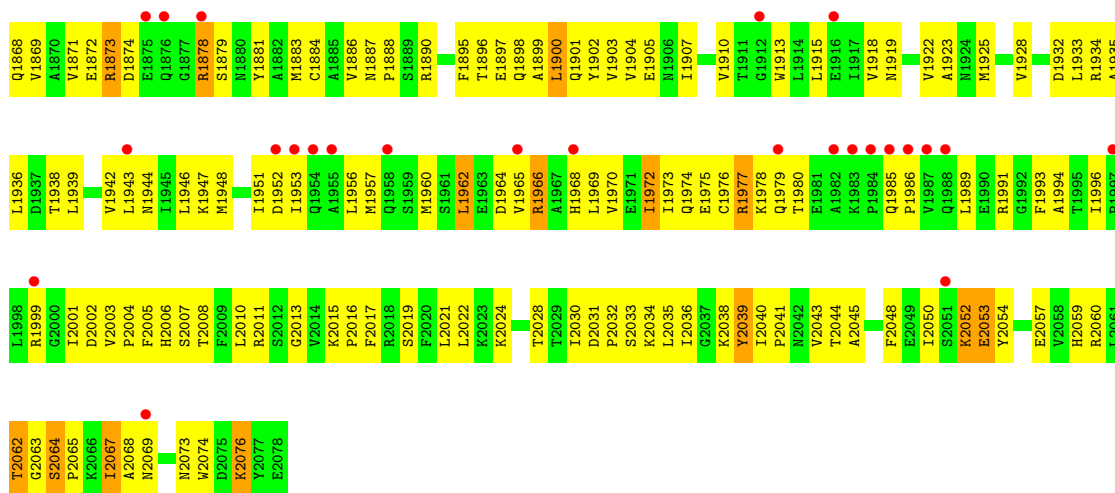
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V1919	L1849	E1767	K1672	Y1590	K1519	L1369	W1293	R1220	L1154	K1077	M1009	M938
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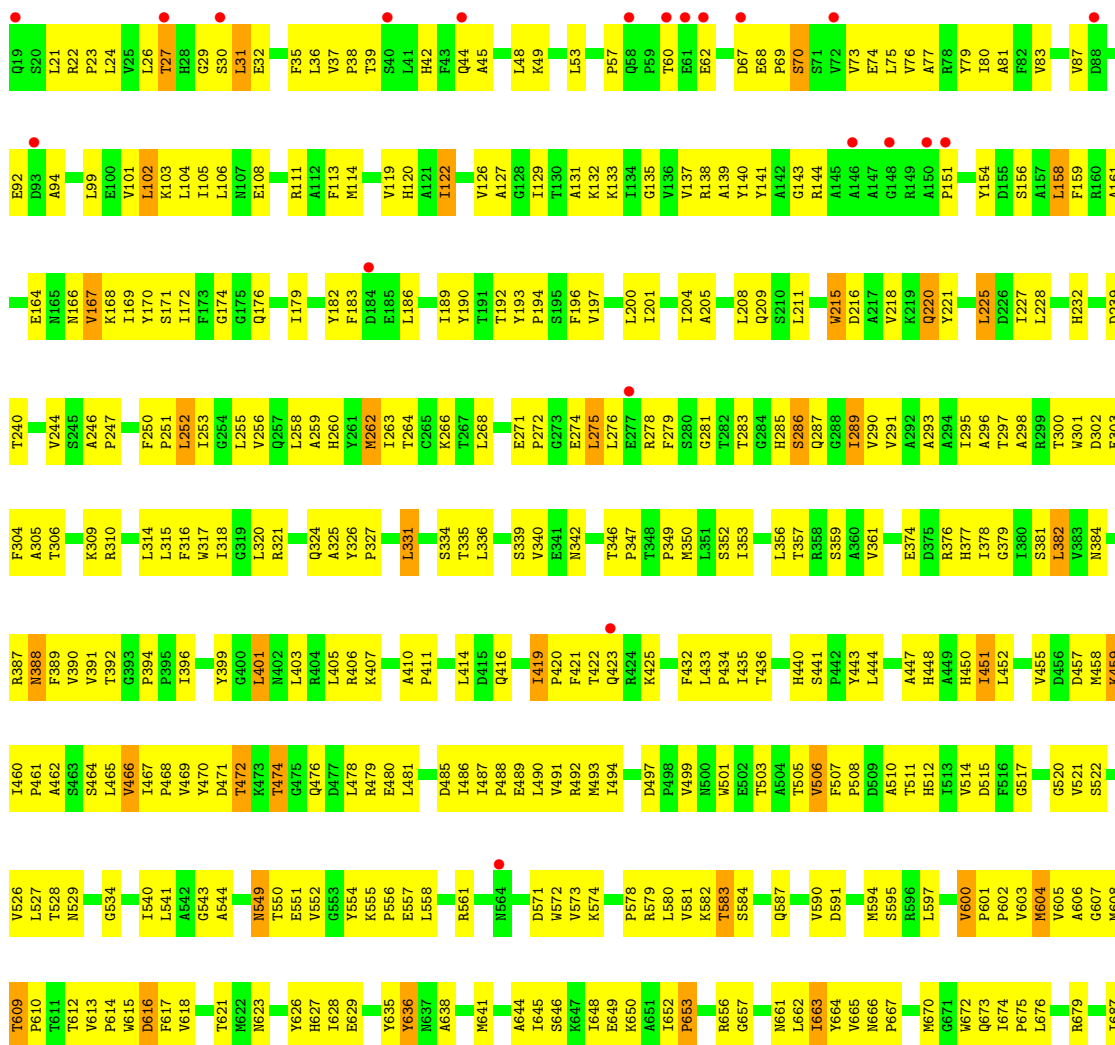
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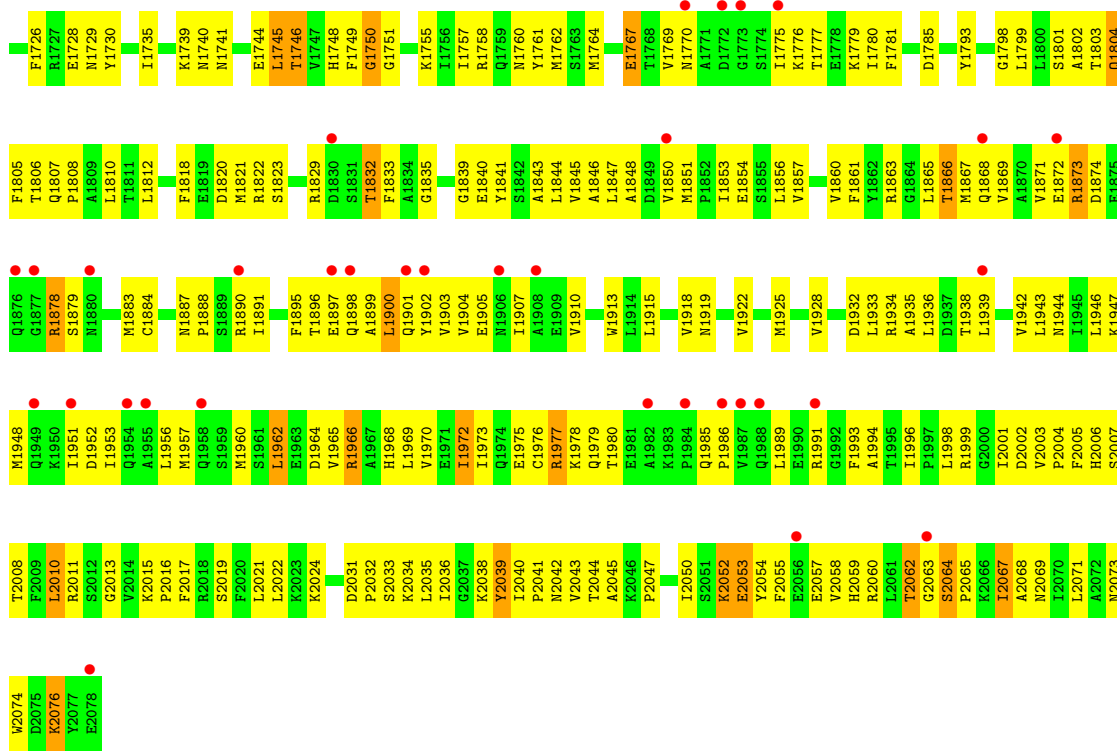




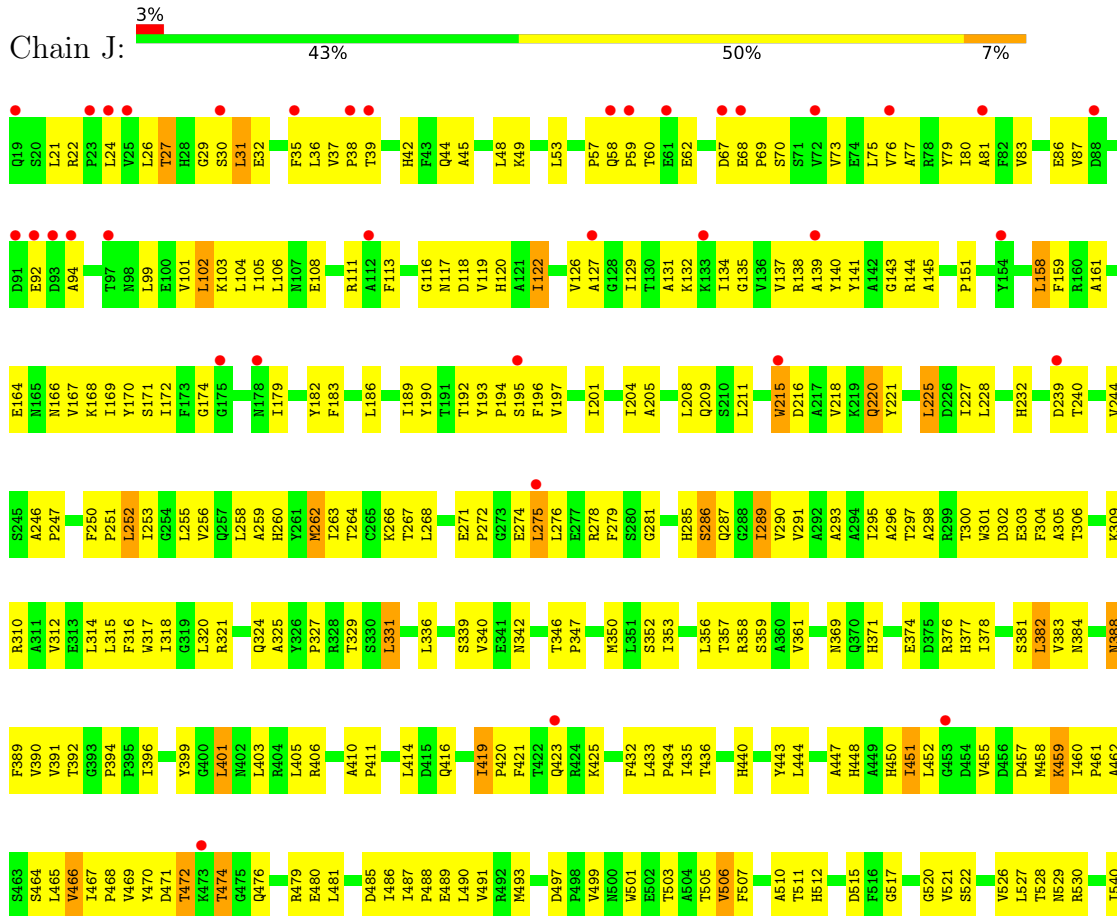
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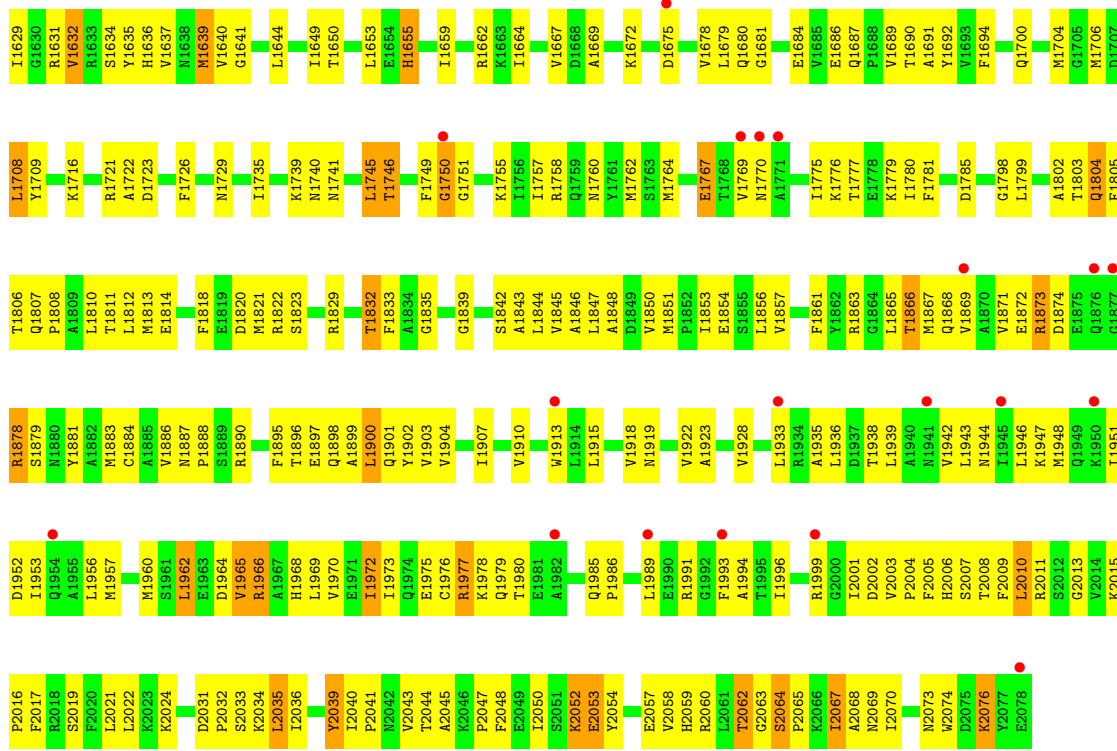




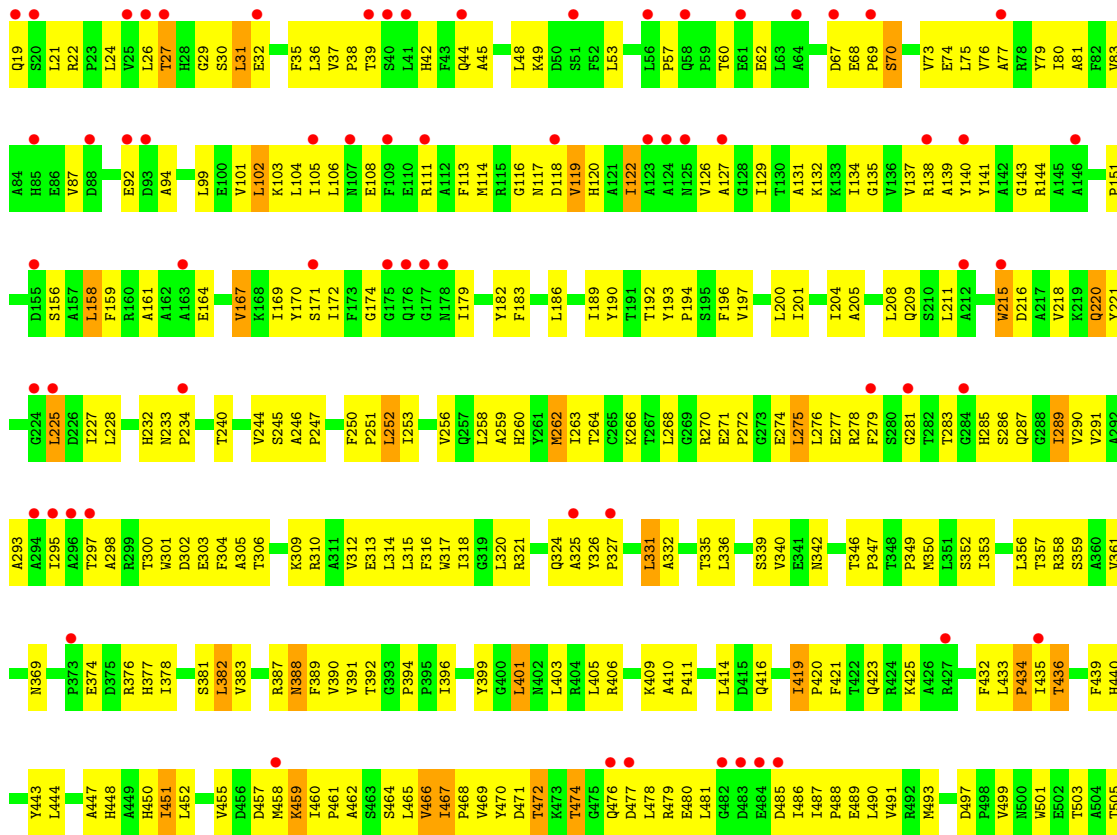
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P1539	P1539	D1393	D1323	L1246	F1247	M1175	L1099	L1034	E755	E755	R679	T609
V1540	P1539	F1324	F1323	F1247	F1247	T1178	D1093	D1035	K820	Q789	V685	T611
E1541	L1541	V1395	G1248	G1248	G1248	E1179	H1104	E1036	S889	P760	P686	V613
T1542	E1542	L1396	E1249	E1249	E1249	Y1180	G1105	E1036	K930	I761	P686	P614
Y1543	S1469	S1469	V1325	V1325	V1325	V1180	K1106	E1039	R891	L762	I687	W615
W1623	K1470	T1397	V1328	T1251	T1251	F1181	E1107	Y1040	E884	L763	G689	D616
E1626	E1471	T1398	G1329	A1282	A1282	F1181	E1107	W1041	E896	Q827	G689	F617
M1628	Q1400	M1330	M1330	V1256	V1256	R1186	E1108	F1042	L895	A828	P675	V618
	I1401	E1333	E1333	V1256	V1256	Q1188	E1109	F1042	A896	S766	L674	V618
	L1475	E1333	E1333	V1256	V1256	Q1188	M1109	F1042	K937	I768	L674	A619
							V1110	K1044	R898			A620
												A694

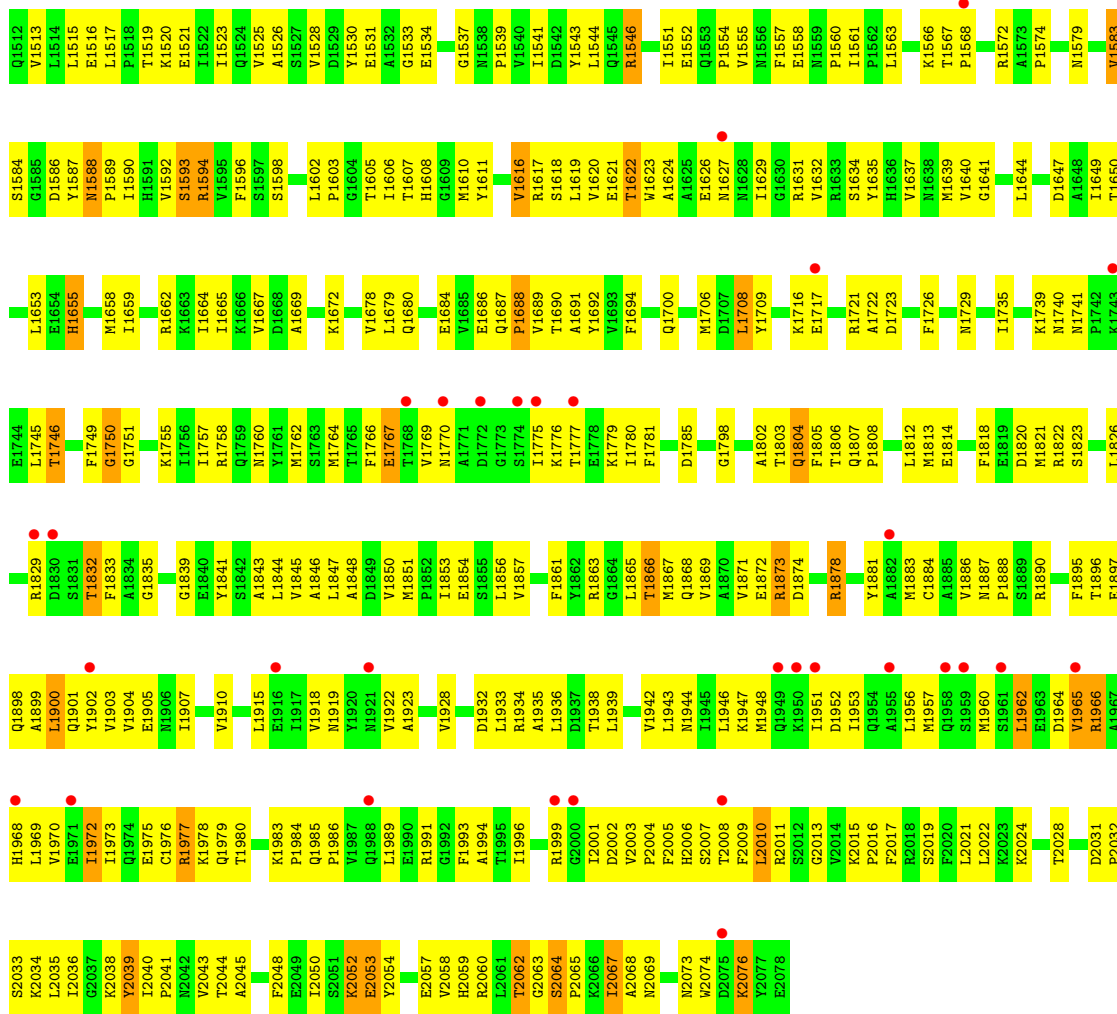


● Molecule 2: FATTY ACID SYNTHASE BETA SUBUNITS

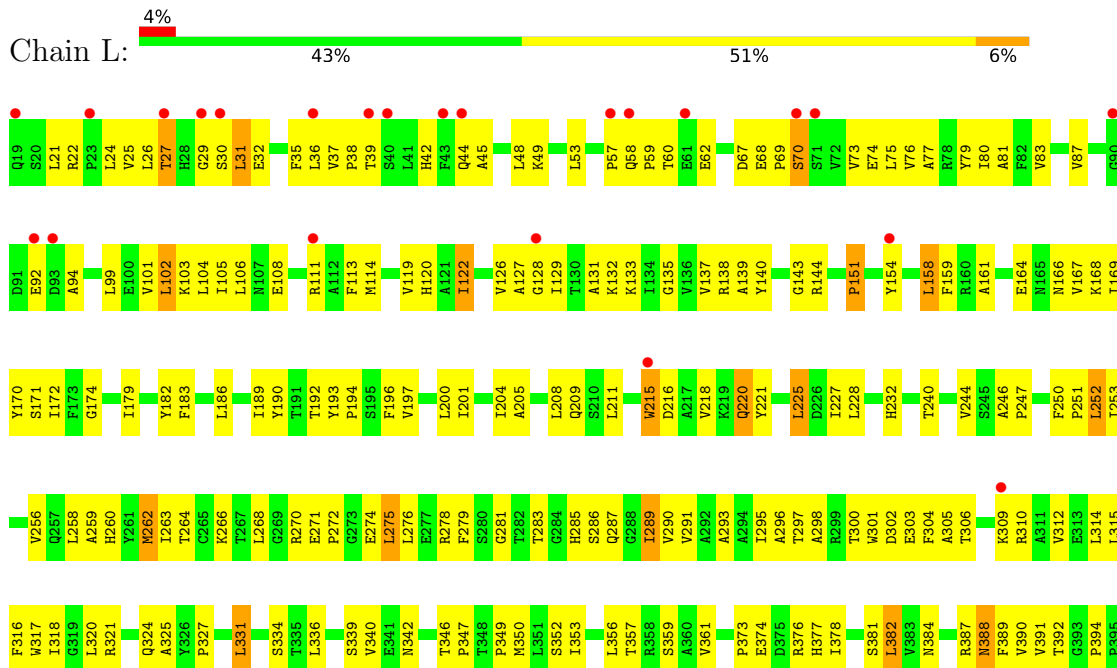


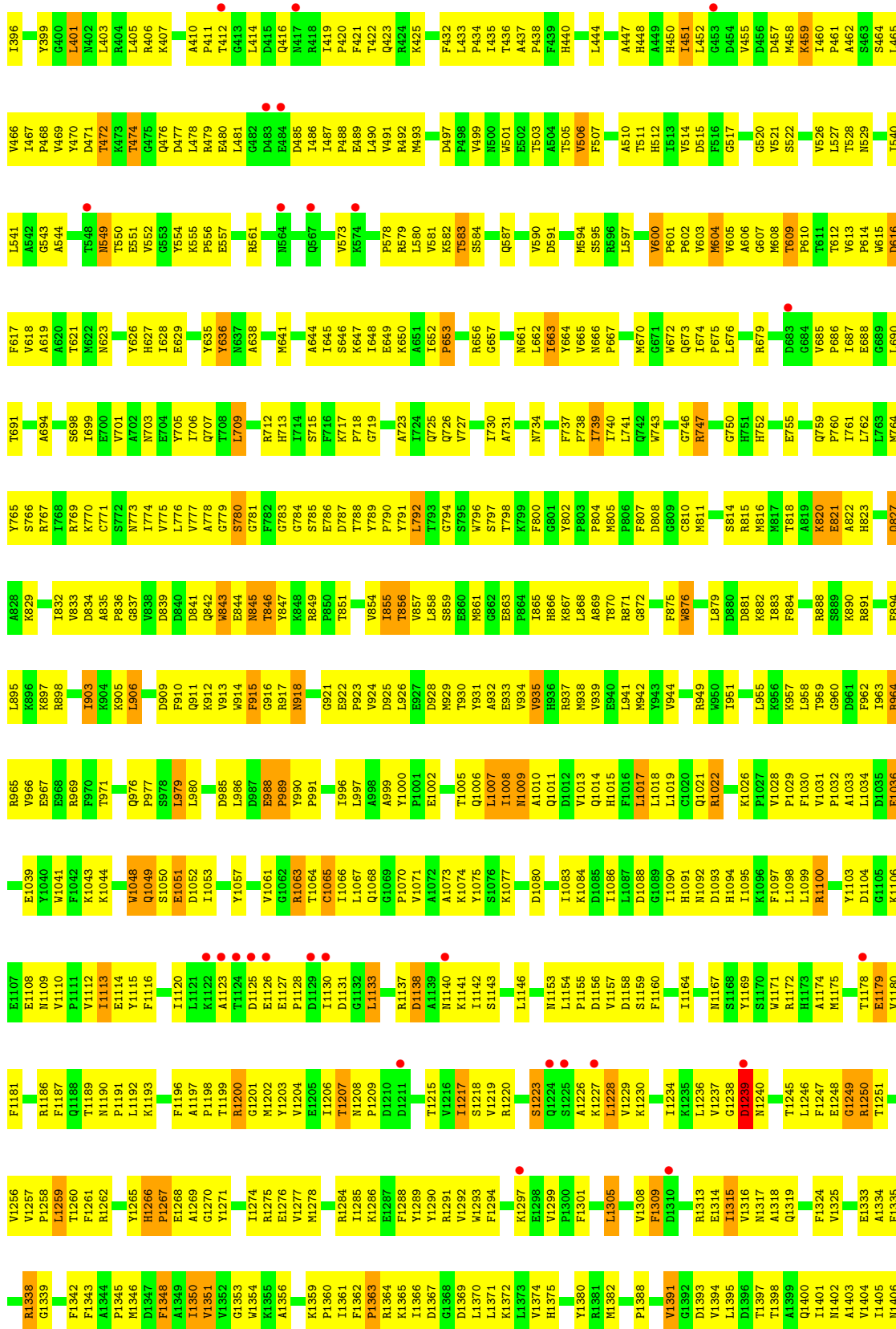


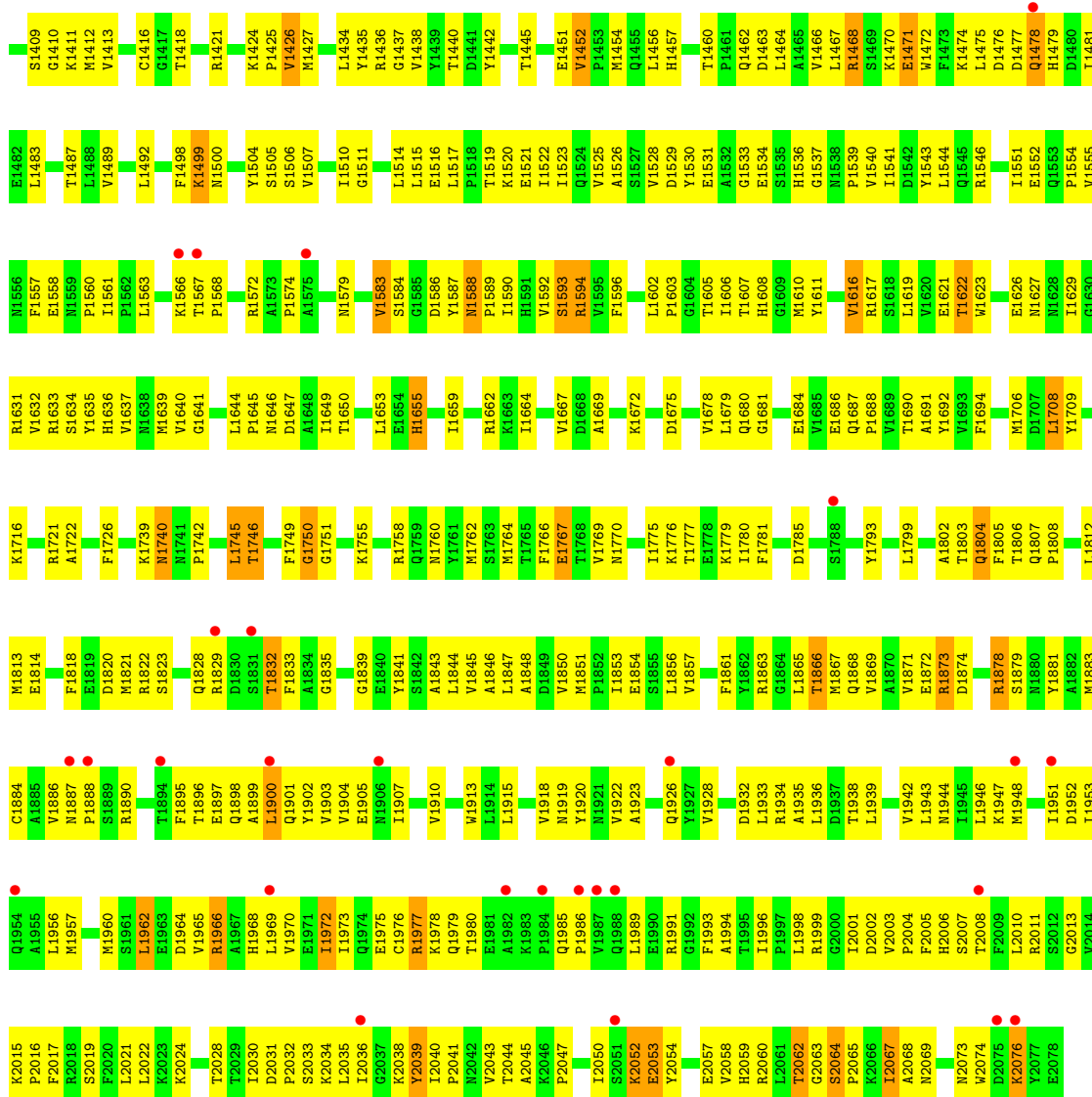
R1436	T1358	Y1289	A1213	S1143	A1073	Q1006	R936	I885	Y802	I740	V664	F589	V506
G1437	K1359	Y1290	A1214	L1146	K1074	L1007	R937	H866	P803	L741	V665	V690	F507
V1438	P1360	R1291	T1215	L1147	Y1075	I1008	M938	K867	P804	W742	M666	B591	D609
L1439	I1361	V1292	V1216	S1076	K1077	M1009	R939	L868	M805	Q743	M594	M594	A510
F1440	M1293	F1293	I1217	A1152	L1078	A1010	L940	A869	P806	G746	M670	M595	T511
P1441	P1362	M1294	S1218	M1154	I1079	Q1011	L941	T870	F807	R747	M671	S595	H512
R1442	R1364	L1294	V1219	F1155	D1080	D1012	N942	R871	D808	G748	Q673	V600	D515
K1443	K1365	K1297	R1220	P1156	I1081	V1013	Y943	G872	G609	G749	Q674	P601	F516
L1445	E1298	E1298	S1223	D1156	I1083	Q1014	Y944	F875	M811	C810	Q675	P602	G517
E1451	D1369	P1300	Q1224	V1157	K1084	H1015	K948	W876	R814	G750	L676	V603	G517
V1452	L1370	F1301	S1225	F1158	I1085	F1016	R950	K877	M816	H751	L677	M604	G520
F1453	L1371	D1302	A1226	S1159	D1088	L1017	R951	R879	M817	H752	R679	V521	V521
M1454	K1372	T1303	K1227	F1160	G1089	L1018	R952	L879	M818	E755	A606	S522	S522
Q1455	L1373	P1304	L1228	I1164	I1090	Q1020	D952	D880	M817	D756	V685	G607	V526
L1456	L1374	L1305	V1229	I1165	H091	Q1021	P953	D881	M818	F757	P686	M608	V526
H1457	H1375	K1230	K1230	I1166	M1092	R1022	S954	K882	A819	H758	E688	T609	L527
T1460	Y1380	I1234	I1234	S1170	D1093	Q1025	L955	R883	K820	Q759	E688	P610	T528
F1461	P1388	K1235	K1235	M1171	H1094	K1026	K957	F884	E821	I761	L690	T612	M529
D1463	R1313	V1237	L1236	H1173	F1097	P1027	L958	R888	H823	L762	T691	V613	D533
L1464	E1314	G1238	G1238	M1174	L1098	V1028	T959	R891	T824	L763	L692	P614	I540
A1465	I1315	D1239	D1239	F1176	L1099	F1030	F962	R894	K826	M764	G693	M615	L540
V1466	I1316	M1240	M1240	T1177	R1100	I1031	L963	E894	Q827	Y765	A694	F617	L541
L1467	M1317	T1178	T1178	E1179	Y1103	P1032	R964	L895	A828	R767	P697	V618	A582
R1468	A1318	E1179	T1245	L1180	D1104	A1033	R965	K896	K829	I768	S698	G543	G543
S1469	Q1319	L1246	L1246	F1181	L1034	L1034	V966	K897	I832	R769	T621	A544	A544
K1470	E1314	F1247	F1247	F1182	D1035	E1035	E967	G1005	I832	K770	M622	M622	I545
E1471	I1315	G1248	G1248	M1183	K1106	E1036	E968	G1006	T903	V833	V701	N623	D646
V1472	I1316	D1249	D1249	Q1183	E1107	E1036	R969	K904	K904	S772	A624	G625	G547
F1473	M1317	L1250	L1250	H1184	E1108	E1039	F970	K905	K905	N773	M703	G625	T548
A1474	A1318	T1251	T1251	H1185	E1109	E1039	T971	L906	L906	I774	E704	V626	M549
L1475	Q1319	V1256	V1256	L1186	M1109	Y1040	S972	D909	D909	V775	Y705	H627	T550
D1476	E1403	V1257	V1257	F1187	V1110	M1041	S972	F910	F910	L776	I706	E629	E551
L1477	I1405	P1258	P1258	Q1188	P1111	F1042	Q976	D838	D838	V777	Q707	V552	V552
H1478	M1406	L1259	L1259	M1189	I1113	K1043	P977	Q911	Q911	A778	L708	G553	G553
S1409	G1410	L1260	L1260	N1190	E1114	K1044	S978	K912	K912	G779	L708	Y636	Y636
G1410	D1337	F1261	F1261	L1191	Y1115	L1047	L979	W914	W914	S780	R712	Y636	K555
K1411	R1338	R1262	R1262	R1192	F1116	W1048	L980	F915	F915	G781	H713	A638	P556
M1412	G1339	G1262	G1262	R1194	F1116	Q1049	Q981	G916	G916	F782	G783	A638	E557
V1413	K1340	Y1265	Y1265	L1195	L1121	S1050	D985	R917	R917	G784	M641	M641	L558
C1416	F1342	P1266	P1266	F1196	A1123	D1052	D987	M918	M918	S785	G719	G719	F559
G1417	F1343	E1268	E1268	P1197	E1126	I1053	E987	L986	L986	E786	G719	G719	D562
L1418	A1344	P1268	P1268	T1199	E1127	Y1057	E988	R849	R849	D787	A723	Y636	R561
V1496	P1345	G1270	G1270	R1200	P1128	Q1062	P989	P850	P850	T788	I724	K647	D562
F1497	M1346	Y1271	Y1271	M1201	D1129	V1061	Y990	T851	T851	Y789	I648	K647	D562
R1421	D1347	I1274	I1274	Y1202	I1130	G1062	P991	V924	V924	P790	Q726	K650	D562
D1422	F1348	R1275	R1275	Y1203	D1131	R1063	R995	D925	D925	Y791	V727	K650	V573
M1900	A1349	A1275	A1275	V1204	G1132	T1064	R995	L926	L926	L792	A651	A651	F578
F1499	I1350	E1276	E1276	I1205	L1133	T1064	Y996	E927	E927	T793	I730	I652	R579
L1499	P1351	V1277	V1277	I1206	A1133	Q1065	L997	D928	D928	G794	A731	P653	L580
F1498	M1352	M1278	M1278	T1207	I1066	I1066	A998	M929	M929	S795	K732	P653	F581
K1499	G1423	M1284	M1284	M1208	L1067	Q1068	A999	T930	T930	Y796	A733	R656	K582
M1900	D1423	I1285	I1285	P1209	G1068	G1068	Y1000	Y931	Y931	S797	M734	G657	T583
F1504	P1425	L1285	L1285	P1209	A1139	G1069	P1001	A932	A932	T798	F737	N661	S584
S1505	M1427	I1285	I1285	D1210	M1140	P1070	E1002	E933	E933	K799	F738	F800	Q557
S1506	M1427	F1288	F1288	D1211	K1141	V1071	E1002	E934	E934	R799	F738	L662	Q557
V1507	F1433	F1288	F1288	P1212	I1142	A1072	T1005	V935	V935	G801	I739	I663	T588



● Molecule 2: FATTY ACID SYNTHASE BETA SUBUNITS







## 4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	216.37Å 414.43Å 221.51Å 90.00° 111.65° 90.00°	Depositor
Resolution (Å)	12.00 – 3.10 88.45 – 3.10	Depositor EDS
% Data completeness (in resolution range)	(Not available) (12.00-3.10) 89.5 (88.45-3.10)	Depositor EDS
$R_{merge}$	0.16	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	3.34 (at 3.13Å)	Xtrriage
Refinement program	PHENIX	Depositor
R, $R_{free}$	0.290 , 0.320 0.305 , (Not available)	Depositor DCC
$R_{free}$ test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	39.5	Xtrriage
Anisotropy	0.123	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.12 , -83.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.21$ , $\langle L^2 \rangle = 0.07$	Xtrriage
Estimated twinning fraction	0.276 for l,-k,h	Xtrriage
$F_o, F_c$ correlation	0.76	EDS
Total number of atoms	166671	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	76.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.42% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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

## 5 Model quality [i](#)

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

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

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	0.38	0/11744	0.55	1/15873 (0.0%)
1	B	0.39	0/11801	0.55	1/15949 (0.0%)
1	C	0.40	0/11785	0.56	0/15928
1	D	0.39	0/11824	0.55	0/15980
1	E	0.39	0/11736	0.55	1/15863 (0.0%)
1	F	0.40	0/11776	0.56	2/15916 (0.0%)
2	G	0.34	0/16573	0.52	0/22516
2	H	0.34	0/16573	0.52	0/22516
2	I	0.34	0/16573	0.52	0/22516
2	J	0.35	0/16573	0.53	0/22516
2	K	0.38	0/16573	0.54	0/22516
2	L	0.35	0/16573	0.53	0/22516
All	All	0.37	0/170104	0.54	5/230605 (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	F	0	1
All	All	0	2

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	F	585	MET	N-CA-C	9.68	137.14	111.00
1	B	608	LYS	N-CA-C	-7.98	89.44	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	538	ARG	NE-CZ-NH2	-5.78	117.41	120.30
1	A	579	MET	N-CA-C	5.72	126.45	111.00
1	F	585	MET	CA-C-O	5.45	131.53	120.10

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	578	ALA	Peptide
1	F	584	ILE	Peptide

## 5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	11514	0	11476	745	0
1	B	11571	0	11529	706	1
1	C	11555	0	11507	695	0
1	D	11593	0	11552	733	0
1	E	11506	0	11467	745	0
1	F	11546	0	11499	701	0
2	G	16200	0	16081	1178	1
2	H	16200	0	16081	1209	1
2	I	16200	0	16081	1238	0
2	J	16200	0	16081	1213	0
2	K	16200	0	16081	1262	1
2	L	16200	0	16081	1219	0
3	G	31	0	19	10	0
3	H	31	0	19	11	0
3	I	31	0	19	9	0
3	J	31	0	19	9	0
3	K	31	0	19	12	0
3	L	31	0	19	10	0
All	All	166671	0	165630	11004	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 33.

The worst 5 of 11004 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:43:PHE:HB2	2:I:22:ARG:NH2	1.54	1.21
2:K:1594:ARG:HG2	2:K:1594:ARG:HH11	1.05	1.20
2:H:1594:ARG:HG2	2:H:1594:ARG:HH11	1.02	1.17
1:E:1610:ARG:HG2	1:E:1610:ARG:HH11	1.00	1.16
2:L:1594:ARG:HG2	2:L:1594:ARG:HH11	1.03	1.16

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)
2:H:1527:SER:O	2:K:19:GLN:NE2[2_646]	2.09	0.11
1:B:1452:SER:O	2:G:1092:ASN:ND2[1_556]	2.15	0.05

## 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	1451/1878 (77%)	1291 (89%)	148 (10%)	12 (1%)	19	54
1	B	1458/1878 (78%)	1295 (89%)	151 (10%)	12 (1%)	19	54
1	C	1456/1878 (78%)	1293 (89%)	151 (10%)	12 (1%)	19	54
1	D	1461/1878 (78%)	1290 (88%)	155 (11%)	16 (1%)	14	46
1	E	1450/1878 (77%)	1292 (89%)	146 (10%)	12 (1%)	19	54
1	F	1455/1878 (78%)	1300 (89%)	140 (10%)	15 (1%)	15	49
2	G	2058/2060 (100%)	1792 (87%)	240 (12%)	26 (1%)	12	42
2	H	2058/2060 (100%)	1786 (87%)	244 (12%)	28 (1%)	11	40
2	I	2058/2060 (100%)	1799 (87%)	233 (11%)	26 (1%)	12	42
2	J	2058/2060 (100%)	1792 (87%)	240 (12%)	26 (1%)	12	42

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	K	2058/2060 (100%)	1772 (86%)	258 (12%)	28 (1%)	11	40
2	L	2058/2060 (100%)	1777 (86%)	253 (12%)	28 (1%)	11	40
All	All	21079/23628 (89%)	18479 (88%)	2359 (11%)	241 (1%)	14	46

5 of 241 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1227	GLY
1	A	1566	LYS
1	A	1593	ASP
1	B	614	PHE
1	B	1566	LYS

### 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	1220/1527 (80%)	1101 (90%)	119 (10%)	8	29
1	B	1227/1527 (80%)	1111 (90%)	116 (10%)	8	31
1	C	1225/1527 (80%)	1102 (90%)	123 (10%)	7	28
1	D	1229/1527 (80%)	1110 (90%)	119 (10%)	8	30
1	E	1219/1527 (80%)	1101 (90%)	118 (10%)	8	30
1	F	1224/1527 (80%)	1109 (91%)	115 (9%)	8	32
2	G	1752/1752 (100%)	1571 (90%)	181 (10%)	7	27
2	H	1752/1752 (100%)	1579 (90%)	173 (10%)	8	29
2	I	1752/1752 (100%)	1571 (90%)	181 (10%)	7	27
2	J	1752/1752 (100%)	1573 (90%)	179 (10%)	7	27
2	K	1752/1752 (100%)	1575 (90%)	177 (10%)	7	28
2	L	1752/1752 (100%)	1576 (90%)	176 (10%)	7	28
All	All	17856/19674 (91%)	16079 (90%)	1777 (10%)	7	28

5 of 1777 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	H	549	ASN
2	L	2062	THR
2	I	1022	ARG
2	L	1785	ASP
2	K	2067	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 470 such sidechains are listed below:

Mol	Chain	Res	Type
2	H	47	GLN
2	L	758	HIS
2	I	416	GLN
2	L	661	ASN
2	K	911	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

6 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
3	FMN	G	2101	-	33,33,33	6.29	24 (72%)	48,50,50	1.39	10 (20%)
3	FMN	H	2101	-	33,33,33	6.29	22 (66%)	48,50,50	1.33	8 (16%)
3	FMN	L	2101	-	33,33,33	6.24	22 (66%)	48,50,50	1.35	10 (20%)
3	FMN	K	2101	-	33,33,33	6.52	24 (72%)	48,50,50	1.46	11 (22%)
3	FMN	J	2101	-	33,33,33	6.49	24 (72%)	48,50,50	1.38	11 (22%)
3	FMN	I	2101	-	33,33,33	6.28	22 (66%)	48,50,50	1.41	9 (18%)

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	FMN	G	2101	-	-	5/18/18/18	0/3/3/3
3	FMN	H	2101	-	-	5/18/18/18	0/3/3/3
3	FMN	L	2101	-	-	5/18/18/18	0/3/3/3
3	FMN	K	2101	-	-	5/18/18/18	0/3/3/3
3	FMN	J	2101	-	-	5/18/18/18	0/3/3/3
3	FMN	I	2101	-	-	5/18/18/18	0/3/3/3

The worst 5 of 138 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	K	2101	FMN	C9-C9A	12.79	1.60	1.39
3	J	2101	FMN	C9-C9A	12.76	1.60	1.39
3	K	2101	FMN	C6-C7	12.73	1.58	1.39
3	I	2101	FMN	C9-C9A	12.62	1.60	1.39
3	J	2101	FMN	C6-C7	12.52	1.57	1.39

The worst 5 of 59 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	2101	FMN	C9A-C5A-N5	-3.22	118.93	122.43
3	I	2101	FMN	C9A-C5A-N5	-3.12	119.05	122.43
3	K	2101	FMN	C4-N3-C2	-3.11	119.90	125.64
3	L	2101	FMN	C9A-C5A-N5	-3.09	119.08	122.43
3	J	2101	FMN	C9A-C5A-N5	-3.06	119.11	122.43

There are no chirality outliers.

5 of 30 torsion outliers are listed below:

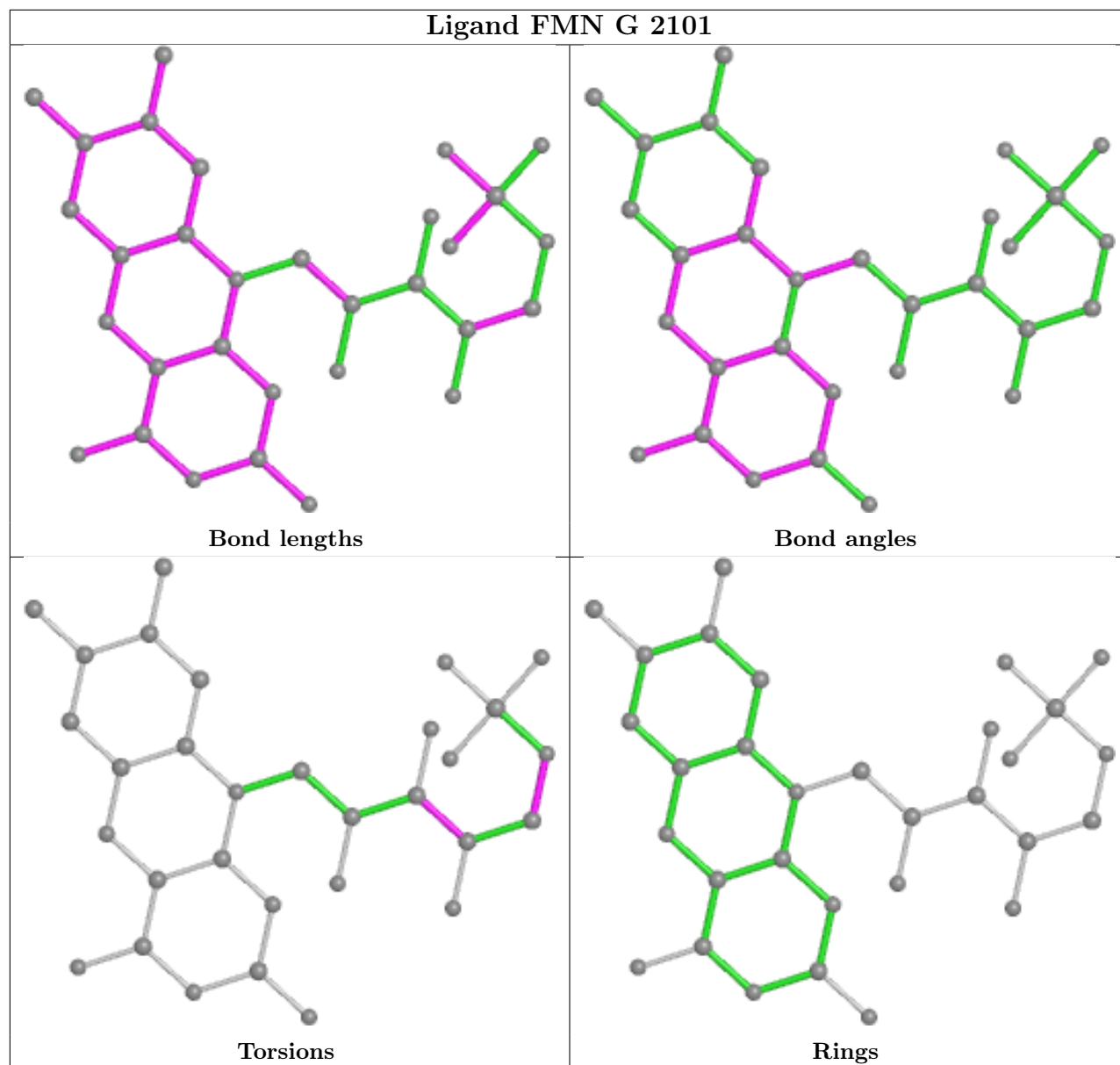
Mol	Chain	Res	Type	Atoms
3	G	2101	FMN	C2'-C3'-C4'-C5'
3	G	2101	FMN	O3'-C3'-C4'-C5'
3	H	2101	FMN	C2'-C3'-C4'-C5'
3	H	2101	FMN	O3'-C3'-C4'-C5'
3	I	2101	FMN	C2'-C3'-C4'-C5'

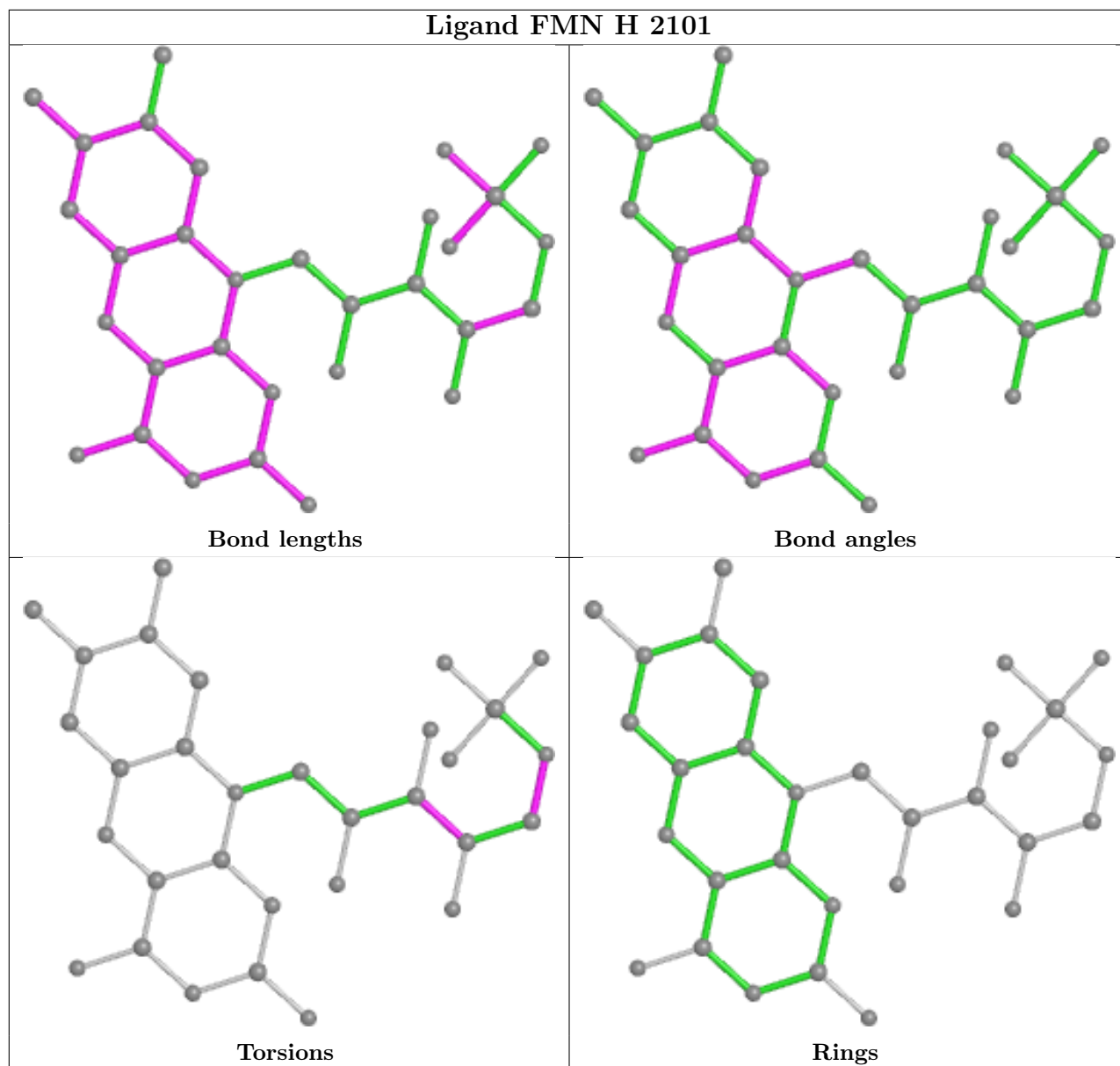
There are no ring outliers.

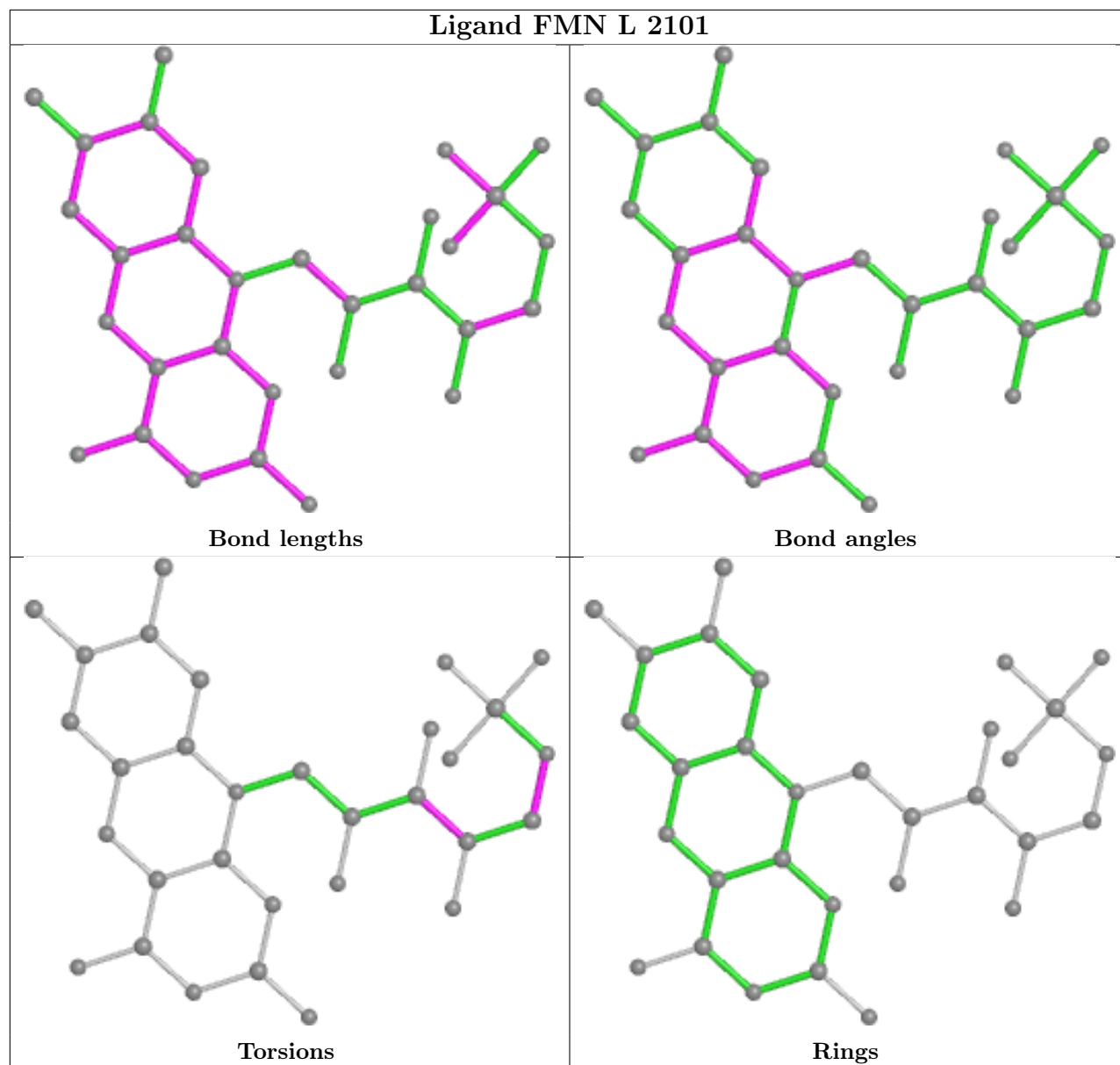
6 monomers are involved in 61 short contacts:

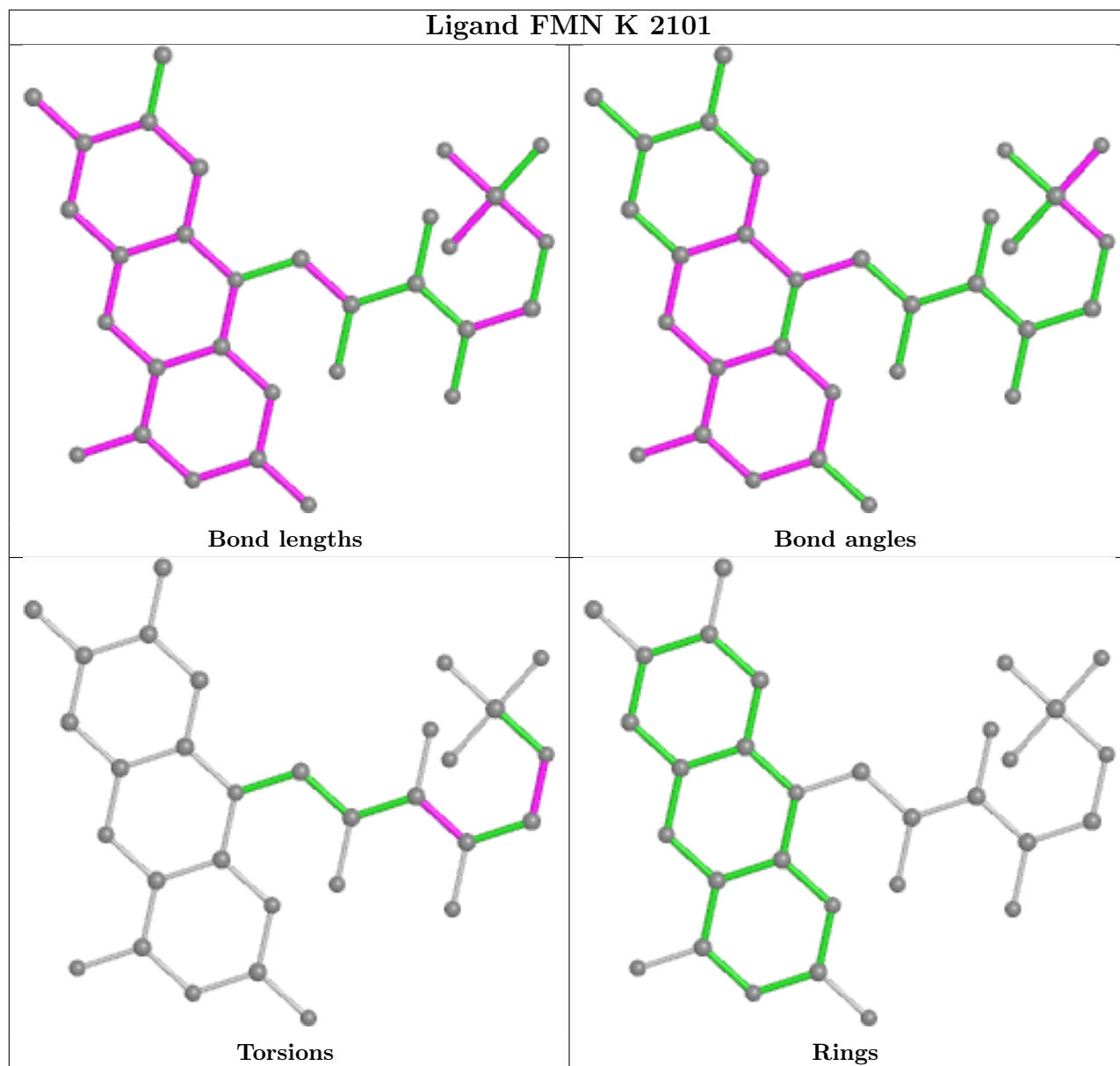
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	G	2101	FMN	10	0
3	H	2101	FMN	11	0
3	L	2101	FMN	10	0
3	K	2101	FMN	12	0
3	J	2101	FMN	9	0
3	I	2101	FMN	9	0

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.

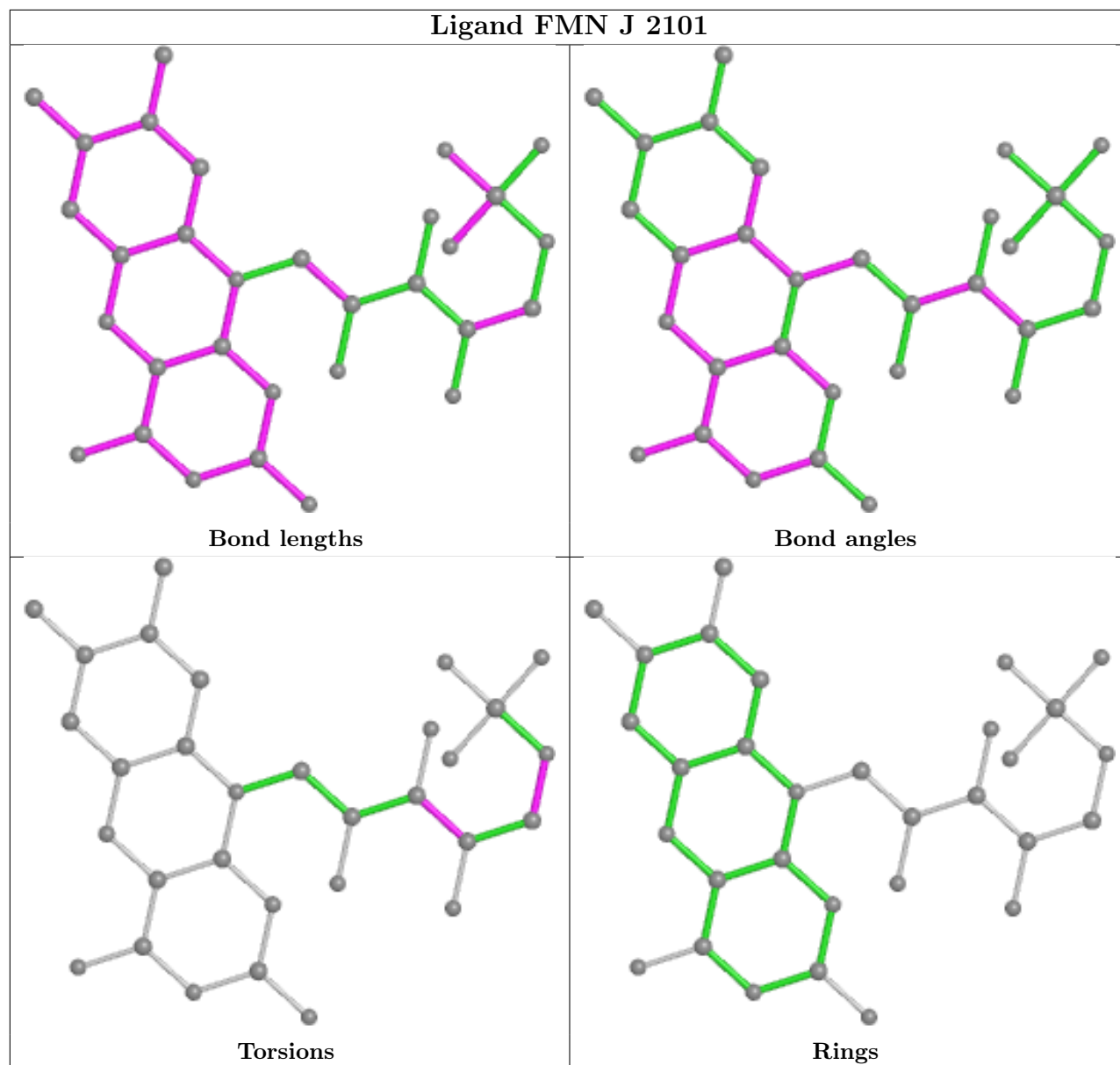


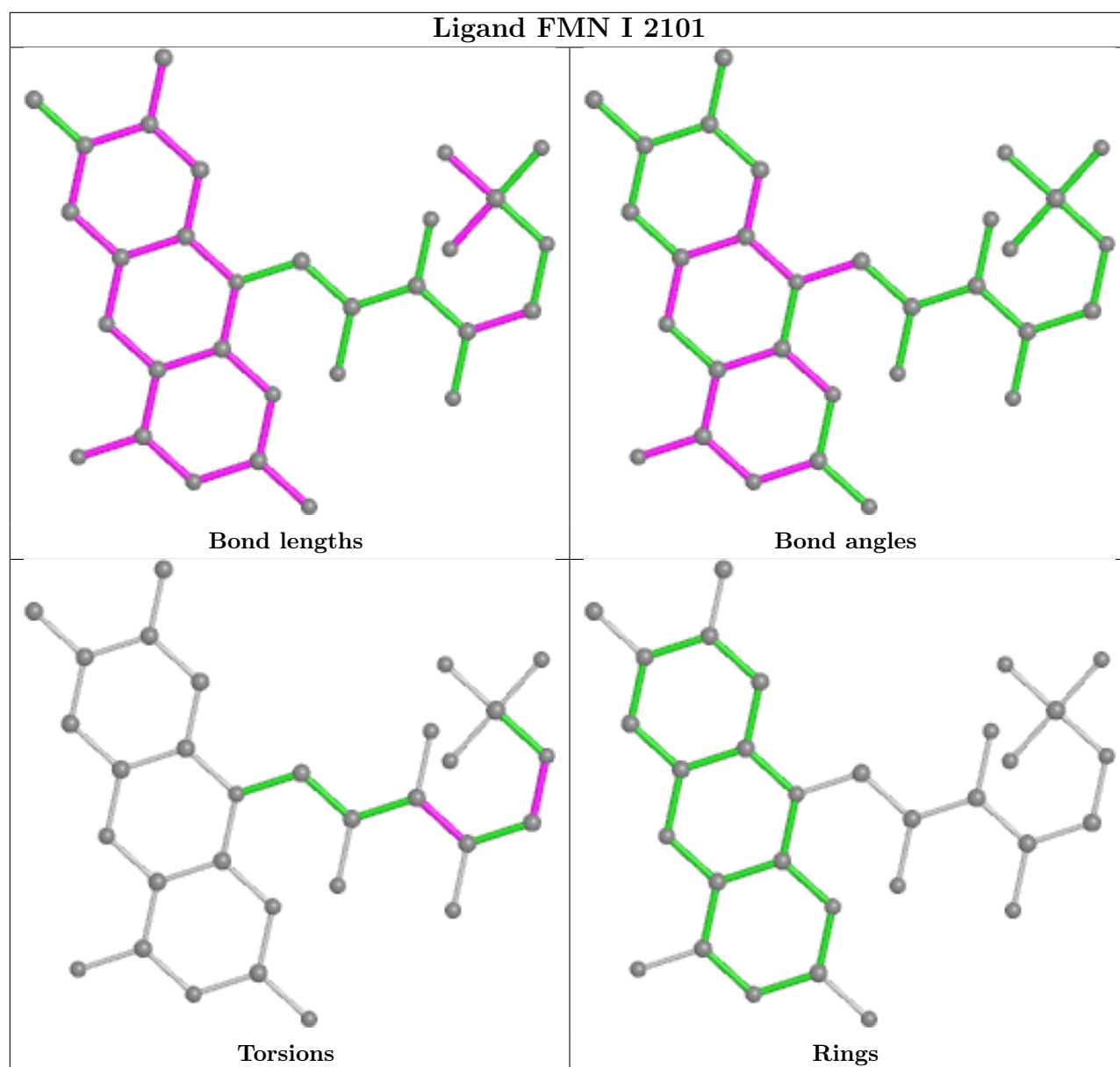












## 5.7 Other polymers [\(i\)](#)

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, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	1457/1878 (77%)	-0.50	14 (0%) 82 67	17, 54, 105, 150	0
1	B	1464/1878 (77%)	-0.51	12 (0%) 86 72	16, 52, 111, 158	0
1	C	1462/1878 (77%)	-0.51	17 (1%) 79 61	15, 51, 111, 159	0
1	D	1467/1878 (78%)	-0.52	13 (0%) 84 69	16, 54, 108, 158	0
1	E	1456/1878 (77%)	-0.48	13 (0%) 84 69	15, 54, 110, 157	0
1	F	1461/1878 (77%)	-0.54	12 (0%) 86 72	16, 51, 108, 159	0
2	G	2060/2060 (100%)	-0.12	38 (1%) 68 47	27, 83, 129, 169	0
2	H	2060/2060 (100%)	-0.05	69 (3%) 46 24	24, 86, 132, 167	0
2	I	2060/2060 (100%)	-0.02	73 (3%) 44 23	23, 86, 132, 167	0
2	J	2060/2060 (100%)	0.03	66 (3%) 47 25	28, 89, 133, 172	0
2	K	2060/2060 (100%)	0.25	134 (6%) 18 8	27, 91, 136, 172	0
2	L	2060/2060 (100%)	0.01	76 (3%) 41 21	23, 87, 133, 172	0
All	All	21127/23628 (89%)	-0.20	537 (2%) 57 34	15, 75, 127, 172	0

The worst 5 of 537 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	K	40	SER	13.0
2	J	93	ASP	11.0
2	K	27	THR	9.5
2	I	19	GLN	7.4
2	G	39	THR	6.7

### 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](#)

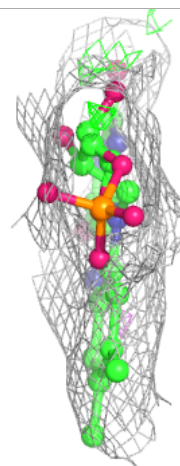
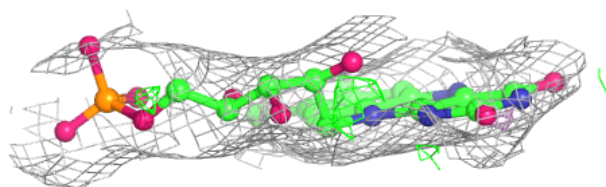
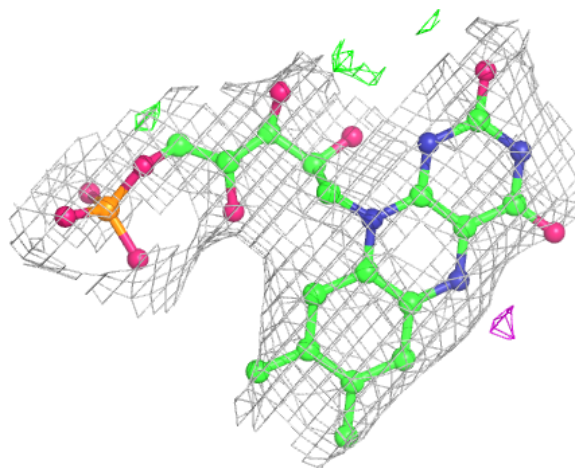
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q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

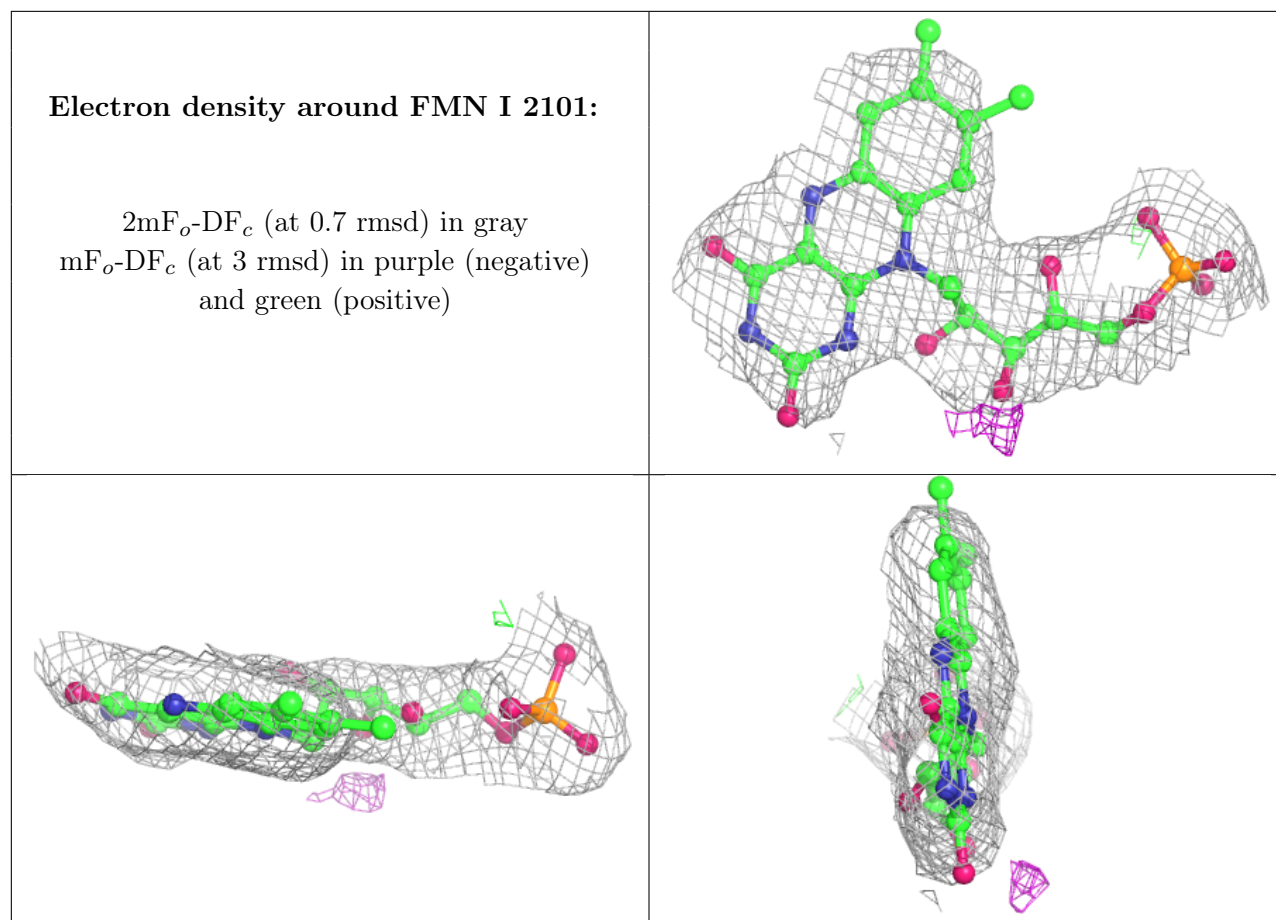
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
3	FMN	K	2101	31/31	0.90	0.19	24,63,111,122	0
3	FMN	I	2101	31/31	0.93	0.18	23,54,85,115	0
3	FMN	G	2101	31/31	0.94	0.20	19,64,105,124	0
3	FMN	J	2101	31/31	0.94	0.15	19,56,106,122	0
3	FMN	H	2101	31/31	0.94	0.18	21,53,91,110	0
3	FMN	L	2101	31/31	0.94	0.18	15,51,89,119	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 FMN K 2101:**

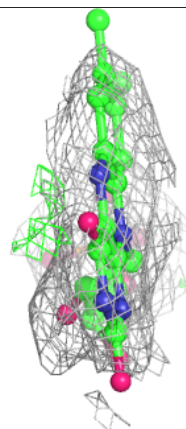
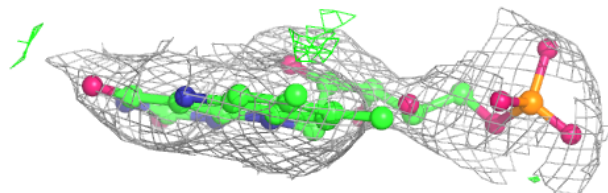
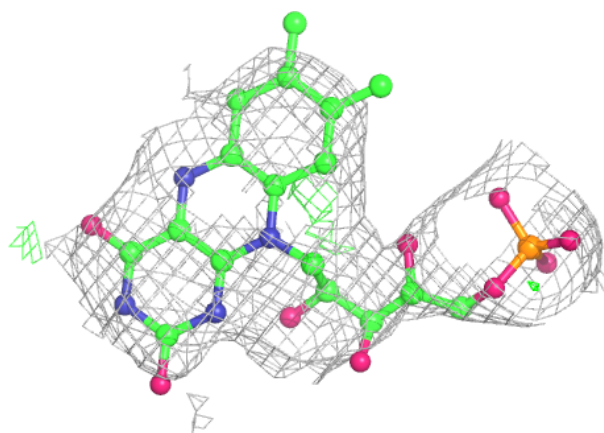
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



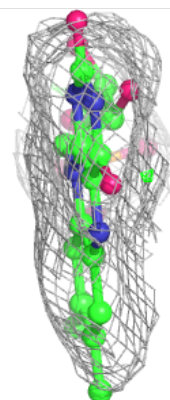
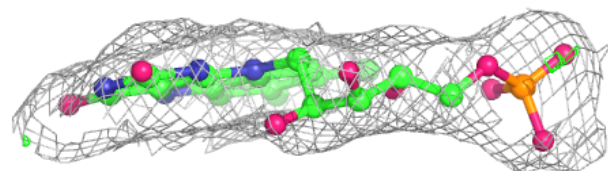
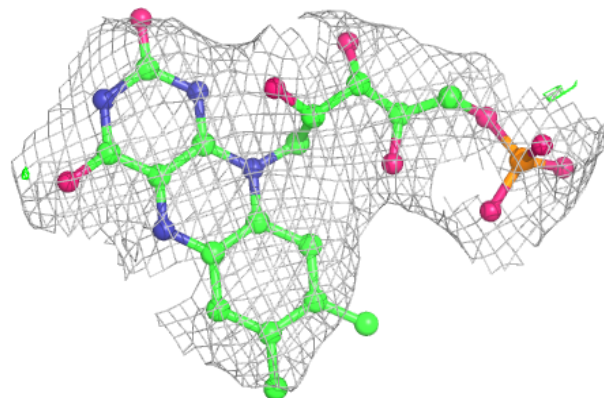


**Electron density around FMN G 2101:**

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

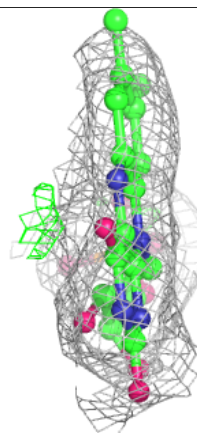
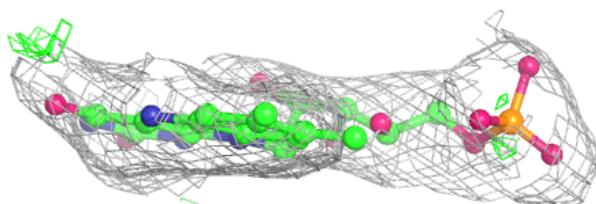
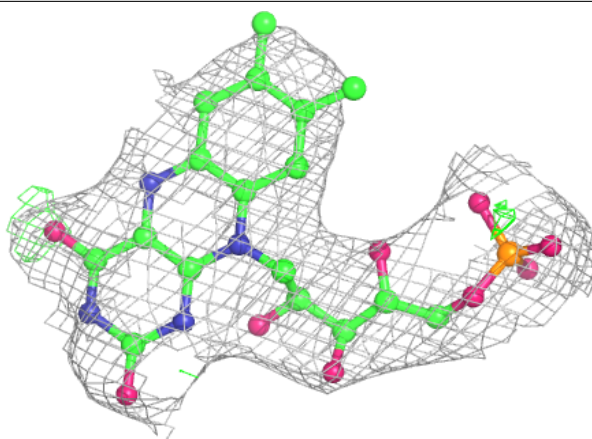
**Electron density around FMN J 2101:**

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

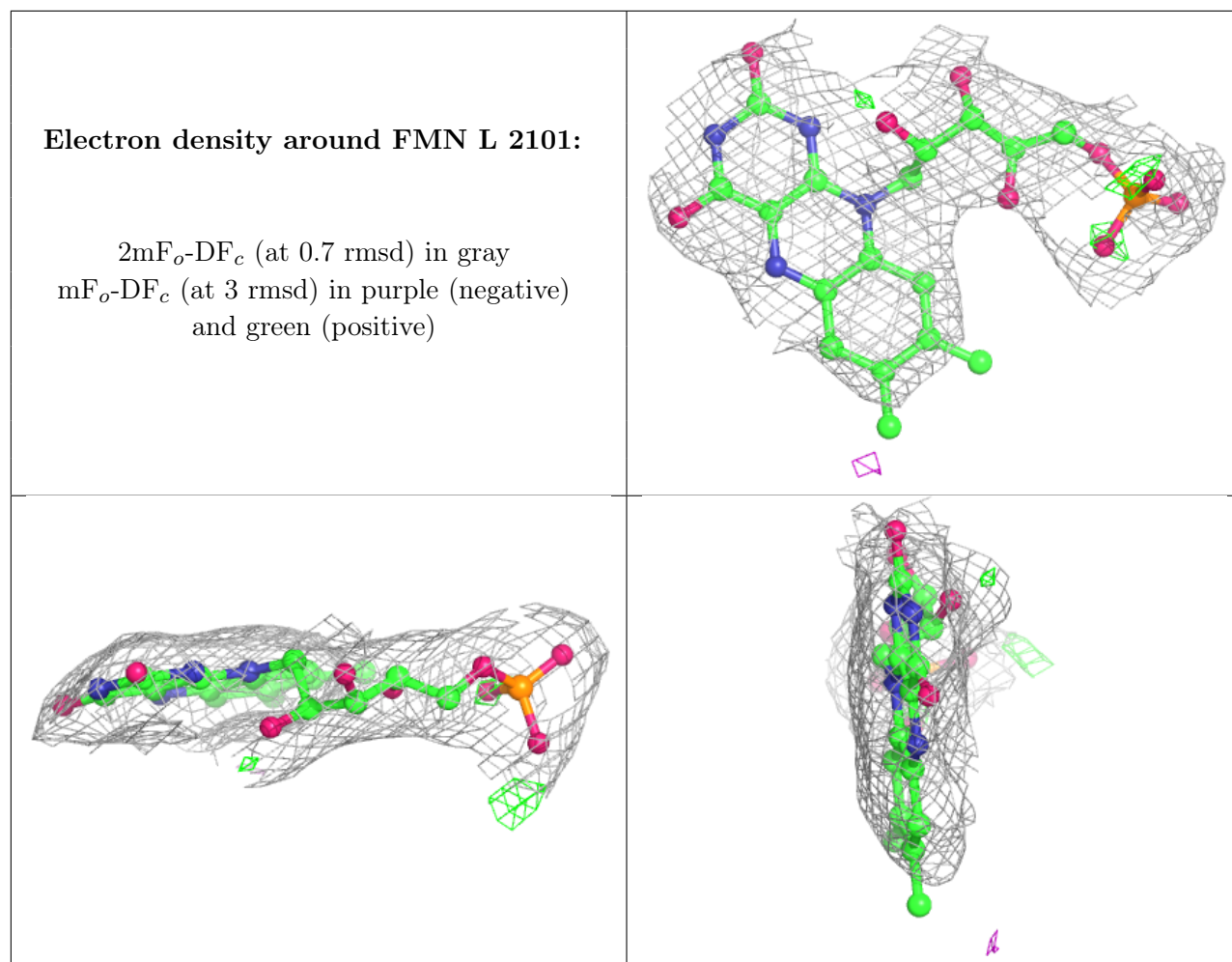


**Electron density around FMN H 2101:**

$2mF_o-DF_c$  (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.