Figure 4: Chromatographic Analysis of Food FAME Standard (with C19:0) and Soy B100 on FAMEWAX column (EN14103)

FAME standard &
C19:0 FAME standard

Soy B100
(With C19:0 FAME IS)

Peak#	Name	Structural Nomenclature
1	Methyl butyrate	C4:0
2	Methyl capronate	C6:0
3	Methyl caprylate	C8:0
4	Methyl caprate	C10:0
5	Methyl undecanoate	C11:0
6	Methyl laurate	C12:0
7	Methyl tridecanoate	C13:0
8	Methyl myristate	C14:0
9	Methyl myristoleate	C14:1 (cis-9)
10	Methyl pentadecanoate	C15:0
11	Methyl pentadecenoate	C15:1 (cis-10)
12	Methyl palmitate	C16:0
13	Methyl palmitoleate	C16:1 (cis-9)
14	Methyl margarate	C17:0
15	Methyl heptadecenoate	C17:1 (cis-10)
16	Methyl stearate	C18:0
17	Methyl oleate	C18:1 (cis-9)
18	Methyl elaidate	C18:1 (trans-9)
19	Methyl linoleate	C18:2 (all-cis-9,12)
20	Methyl linolelaidate	C18:2 (all-trans-9,12)
21	Methyl γ-linolenate	C18:3 (all-cis-6,9,12)
22	Methyl nonadecanoate	C19:0
23	Methyl α-linolenate	C18:3 (all-cis-9,12,15)
24	Methyl arachidate	C20:0
25	Methyl (Z)-11-eicosenoate	C20:1 (cis-11)
26	Methyl 11,14-eicosadienoate	C20:2 (all-cis-11,14)
27	Methyl eicosa-8,11,14-trienoate	C20:3 (all-cis-8,11,14)
28	Methyl heneicosanoate	C21:0
29	Methyl arachidonate	C20:4 (all-cis-5,8,11,14)
30	Methyl 11,14,17-eicosatrienoate	C20:3 (all-cis-11,14,17)
31	Methyl 5,8,11,14,17-eicosapentanoate	C20:5 (all-cis-5,8,11,14,17)
32	Methyl behenate	C22:0
33	Methyl erucate	C22:1 (cis-13)
34	Methyl docosadienoate	C22:2 (all-cis-13,16)
35	Methyl tricosanoate	C23:0
36	Methyl lignocerate	C24:0
37	Methyl docosahexaenoate	C22:6 (all-cis-4,7,10,13,16,19)
38	Methyl nervonate	C24:1 (cis-15)

Analytical Column: FAMEWAX, 30 m, 0.25 mm ID, 0.25µm
Carrier Gas: Hydrogen, Constant Flow @ 1.75 ml/min
Inlet: Split @ 240°C, Precision liner with wool, split ratio 50:1
Detector: FID @ 250°C
Oven Temp: 60 °C (hold 2 min) to 200 °C @ 10°C/min to 240 °C @ 5 °C/min
Sample: Chromatogram Left: FAME mix in methylene chloride (black) with C19:0 FAME in toluene (red), 1µl injection
Chromatogram Right: Soy B100 with C19:0 FAME internal standard, 1µl injection

Analysis of Poly Unsaturated Fatty Acids (PUFA) Methyl Esters in Biodiesel