



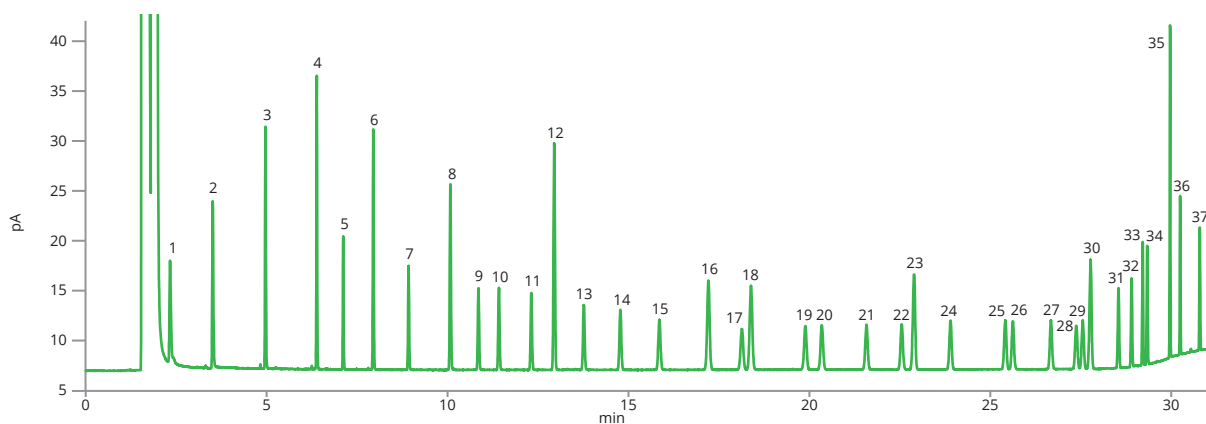
## FAME

Fatty acids are carboxylic acids with a long side carbon chain typically found in lipids. These acids differ by the number of carbon atoms in the chain and the number of double bonds in the chain. According to the number of double bonds we distinguish saturated fatty acids (SFA), monounsaturated fatty acids (MUFA) and polyunsaturated fatty acids (PUFA). Trans fatty acids are unsaturated fatty acids in which at least one double bond is in the trans position.

Capillary column LION™ LN-FAME was designed to provide the required polarity by the high-cyano propyl phase (G48). In this application note you can see a fast, robust and reproducible baseline separation of the 37 most common FAMES.

### Substance

Fatty Acid Methyl Esters (see table below)



FAME standard on LION™ LN-FAME capillary column



## FAME

<b>Column</b>	LION™ LN-FAME
<b>Dimensions</b>	30 m × 0.25 mm × 0.20 µm
<b>Part number</b>	LNI-5777-FE30
<b>Injection volume</b>	1 µl (air lock 1 µl), cold needle injection
<b>Injector temperature</b>	240 °C
<b>Injection mode</b>	S/SL, Split ratio 10:1
<b>Column flowrate</b>	Carrier Gas- Hydrogen, constant flow, 1ml/min
<b>Oven program</b>	60 °C, hold 2 min 15 °C/min, 140 °C, hold 0 min 3 °C/min, 160 °C, hold 5 min 3 °C/min, 190 °C, hold 0 min 25 °C/min, 240 °C, hold 1 min
<b>Detection</b>	FID @240 °C Air: 350 ml/min Hydrogen: 35 ml/min Make-up gas (nitrogen): 30 ml/min
<b>Sample</b>	Supelco 37 FAME mix in DCM (dilution 1:10)
<b>Analytes</b>	<b>See table below</b>



## APPLICATION LIST #388

Peak No.	Compound name	Compound ID	Retention time (min)
1	Butanoic Acid Methyl Ester	C4:0	2.347
2	Hexanoic Acid Methyl Ester	C6:0	3.518
3	Octanoic Acid Methyl Ester	C8:0	4.968
4	Decanoic Acid Methyl Ester	C10:0	6.385
5	Undecanoic Acid Methyl Ester	C11:0	7.115
6	Dodecanoic Acid Methyl Ester	C12:0	7.947
7	Tridecanoic Acid Methyl Ester	C13:0	8.920
8	Myristic Acid Methyl Ester	C14:0	10.075
9	Myristoleic Acid Methyl Ester	C14:1 cis 9	10.848
10	Pentadecanoic Acid Methyl Ester	C15:0	11.415
11	cis-10-Pentadecenoic Acid Methyl Ester	C15:1 cis 10	12.310
12	Hexadecanoic Acid Methyl Ester	C16:0	12.953
13	Palmitoleic Acid Methyl Ester	C16:1 cis 9	13.762
14	Heptadecanoic Acid Methyl Ester	C17:0	14.773
15	cis-10-Heptadecenoic Acid Methyl Ester	C17:1 cis 10	15.852
16	Stearic Acid Methyl Ester	C18:0	17.223
17	Elaidic Acid Methyl Ester	C18:1 trans 9	18.137
18	Oleic Acid Methyl Ester	C18:1 cis 9	18.398
19	Linolelaidic Acid Methyl Ester	C18:2 trans 9,12	19.888
20	Linoleic Acid Methyl Ester	C18:2 cis 9,12	20.345
21	γ-Linolenic Acid Methyl Ester	C18:3 cis 6,9,12	21.575
22	α-Linolenic Acid Methyl Ester	C18:3 cis 9,12,15	22.553
23	Arachidic Acid Methyl Ester	C20:0	22.913
24	cis-11-Eicosenoic Acid Methyl Ester	C20:1 cis 11	23.907
25	cis-11,14-Eicosadienoic Acid Methyl Ester	C20:2 cis 11,14	25.433
26	Heneicosanoic Acid Methyl Ester	C21:0	25.630
27	cis-8,11,14-Eicosatrienoic Acid Methyl Ester	C20:3 cis 8,11,14	26.682
28	Arachidonic Acid Methyl Ester	C20:4 cis 5,8,11,14	27.378
29	cis-11,14,17-Eicosatrienoic Acid Methyl Ester	C20:3 cis 11,14,17	27.560
30	Behenic Acid Methyl Ester	C22:0	27.802
31	Erucic Acid Methyl Ester	C22:1 cis 13	28.548
32	cis-5,8,11,14,17-Eicosapentaenoic Acid Methyl Ester	C20:5 cis 5,8,11,14,17	28.903
33	cis-13,16-Docosadienoic Acid Methyl Ester	C22:2 cis 13,16	29.218
34	Tricosanoic Acid Methyl Ester	C23:0	29.337
35	Lignoceric Acid Methyl Ester	C24:0	29.975
36	Nervonic Acid Methyl Ester	C24:1 cis 15	30.250
37	cis-4,7,10,13,16,19-Docosahexaenoic Acid Methyl Ester	C22:6 cis 4,7,10,13,16,19	30.787