

Fatty Acid Applications by GC

INDEX

Olive oil.....	1	Egg yolk.....	12	Mustard.....	22
Canola oil.....	2	BSA.....	12,13	Wasabi paste.....	23
Sesame oil.....	2	Unpolished rice.....	13	Miso.....	23
Potato chips.....	3	Yeast.....	14	Butter.....	24
DHA supplement.....	3	Linseed oil.....	14	Powdered milk(for 0-1 year old)....	24
Tuna(chu-toro).....	4	Safflower oil.....	15	Powdered milk(for 1-3 years old)...	25
Tuna(minced).....	4	Rice bran.....	15	Human milk.....	25
Butter.....	5	Soybean oil (partially-hydrolyzed) .	16	Fatty Acid Methylation Kits.....	26
Tween 20.....	5,6	Toasted soybean flour.....	16	Ordering Information.....	27
Tween 40.....	6	Japanese horse mackerel.....	17		
Tween 60.....	7	E. coli.....	17		
Tween 80.....	7	Blood.....	18		
Tween 85.....	8	Bovine heart.....	18		
Pig fat.....	8	Bovine liver.....	19		
Wild boar fat.....	9	Bovine brain.....	19		
Milk.....	9	Plasma.....	20		
Sardine.....	10	Milk.....	20		
Soybean oil.....	10	Egg yolk.....	21		
Potato chips.....	11	Ice cream.....	21		
Green leaf of tobacco.....	11	Mayonnaise.....	22		

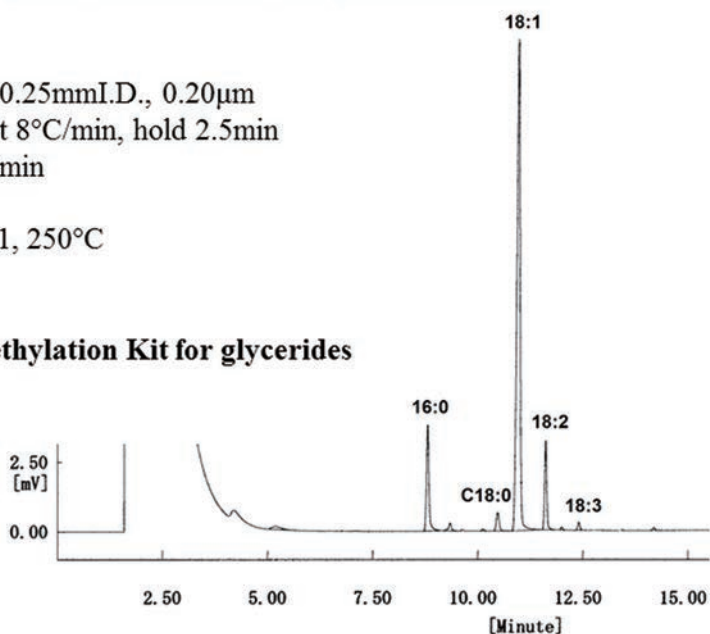


• Olive oil

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20µm
 Oven: 100 to 240°C at 8°C/min, hold 2.5min
 Carrier: Helium, 1.0ml/min
 Detection: FID, 250°C
 Injection: 0.2µl, Split 50:1, 250°C

Sample: Olive oil
 Methylation: Fatty Acid Methylation Kit for glycerides



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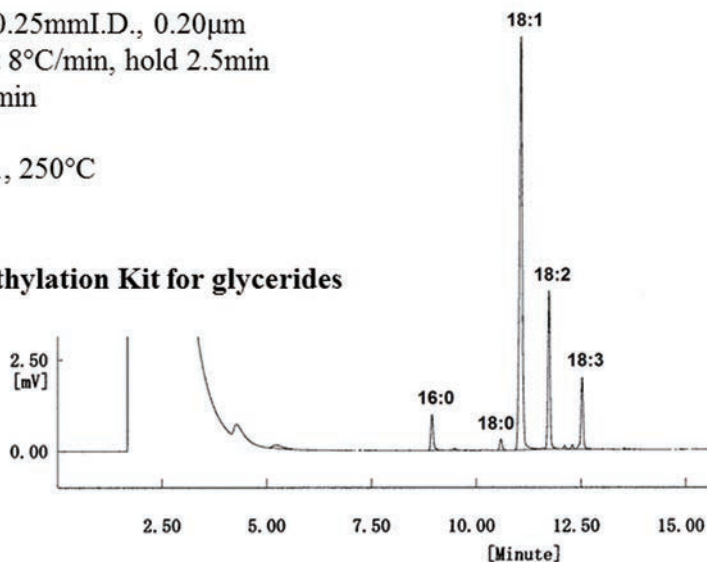
FM-001

• Canola oil

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 100 to 240°C at 8°C/min, hold 2.5min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Canola oil
Methylation: **Fatty Acid Methylation Kit for glycerides**



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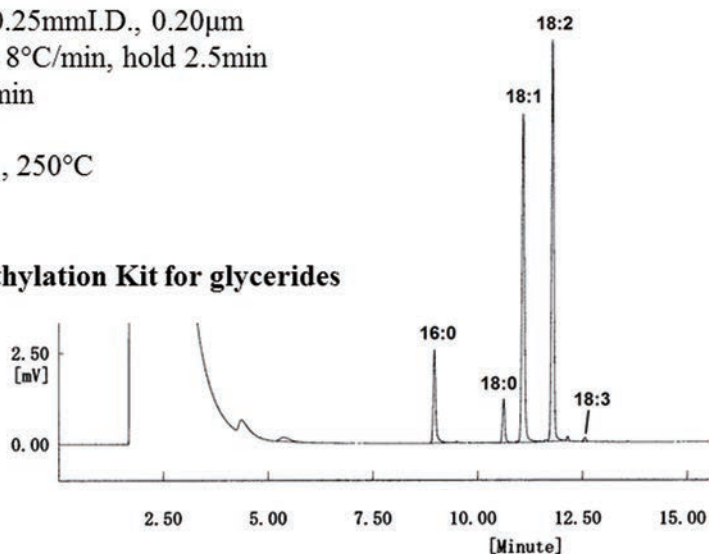
FM-002

• Sesame oil

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 100 to 240°C at 8°C/min, hold 2.5min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Sesame oil
Methylation: **Fatty Acid Methylation Kit for glycerides**



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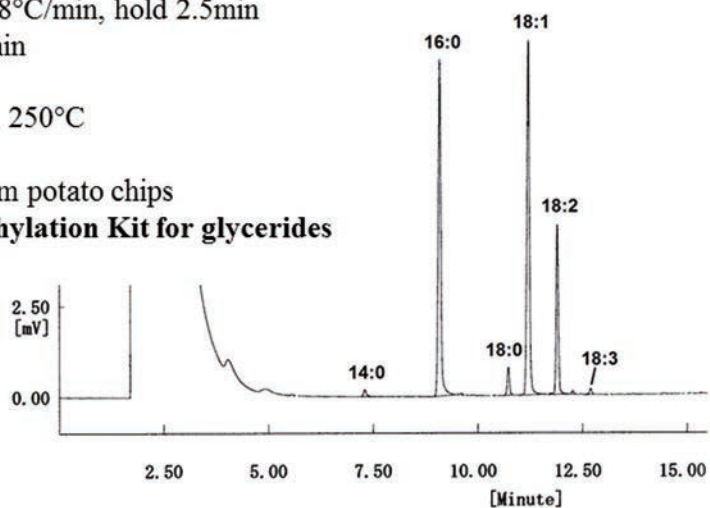
FM-003

• Potato chips

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 100 to 240°C at 8°C/min, hold 2.5min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Extracted oil from potato chips
Methylation: **Fatty Acid Methylation Kit for glycerides**



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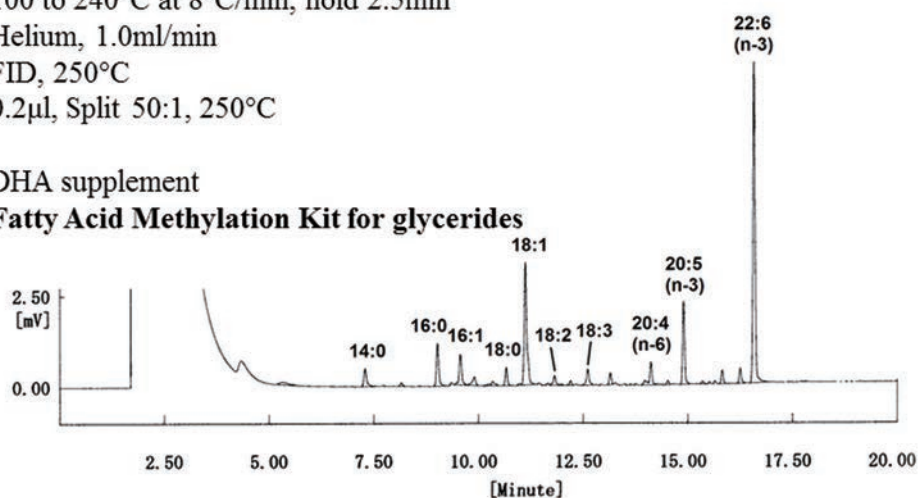
FM-004

• DHA supplement

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 100 to 240°C at 8°C/min, hold 2.5min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

Sample: DHA supplement
Methylation: **Fatty Acid Methylation Kit for glycerides**



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FM-005

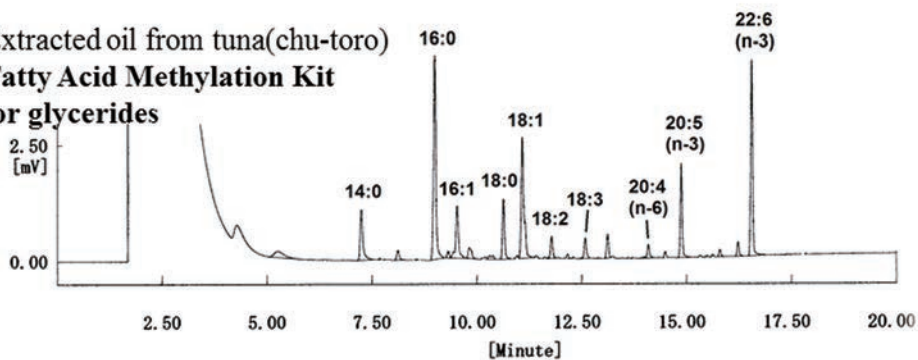
• Tuna(chu-toro)

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 100 to 240°C at 8°C/min, hold 2.5min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Extracted oil from tuna(chu-toro)

Methylation: **Fatty Acid Methylation Kit
for glycerides**



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FM-006

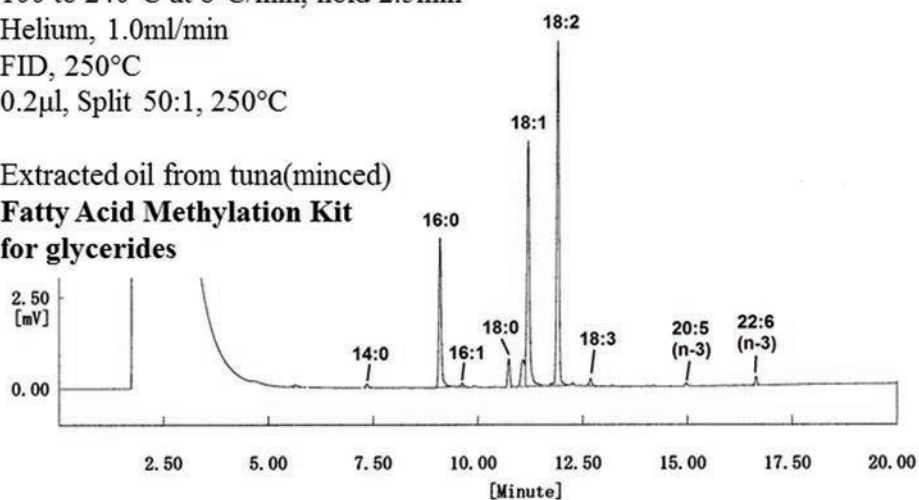
• Tuna(minced)

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 100 to 240°C at 8°C/min, hold 2.5min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Extracted oil from tuna(minced)

Methylation: **Fatty Acid Methylation Kit
for glycerides**



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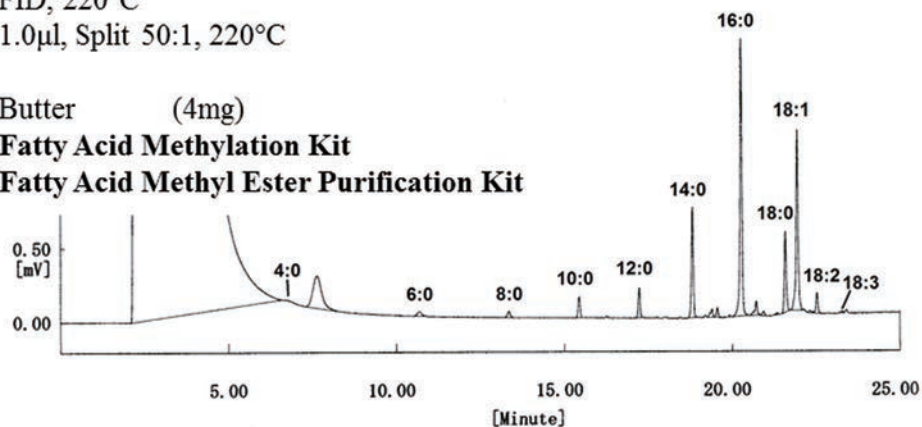
FM-007

• Butter

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 30°C(5min) to 200°C at 10°C/min, hold 3min
Carrier: Helium, 1.0ml/min
Detection: FID, 220°C
Injection: 1.0 μ l, Split 50:1, 220°C

Sample: Butter (4mg)
Methylation: **Fatty Acid Methylation Kit**
Fatty Acid Methyl Ester Purification Kit



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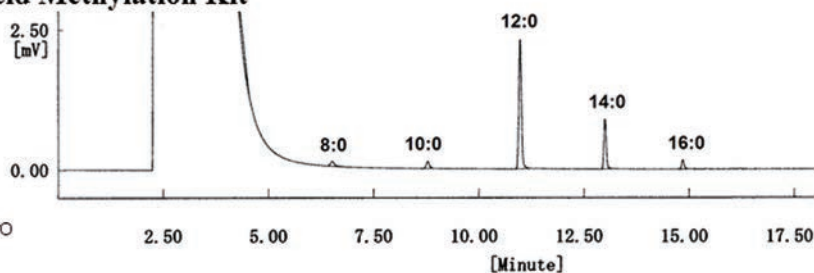
FM-008

• Tween 20

Fatty Acid Methylation Kit Application

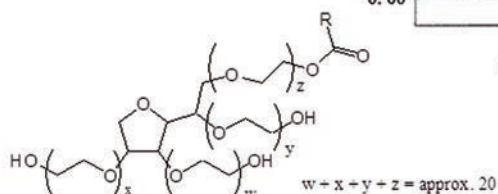
Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 60 to 220°C at 8°C/min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Polyoxyethylene Sorbitan Monolaurate (Tween 20) (20mg)
Methylation: **Fatty Acid Methylation Kit**



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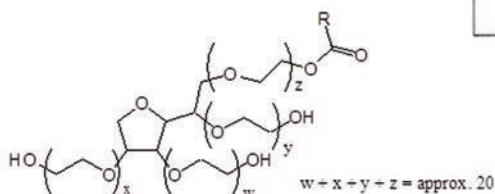
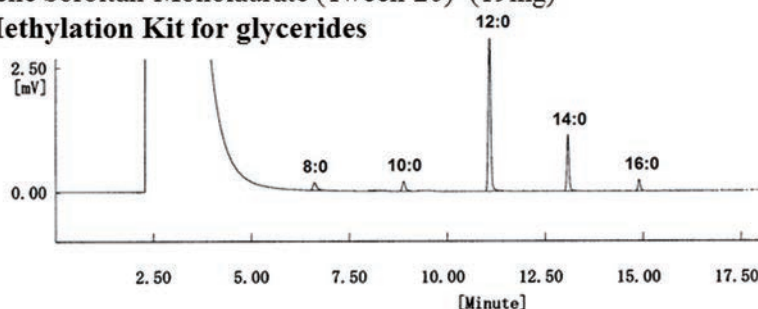
FM-009



Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
 Oven: 60 to 220°C at 8°C/min
 Carrier: Helium, 1.0ml/min
 Detection: FID, 250°C
 Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Polyoxyethylene Sorbitan Monolaurate (Tween 20) (19mg)
 Methylation: **Fatty Acid Methylation Kit for glycerides**



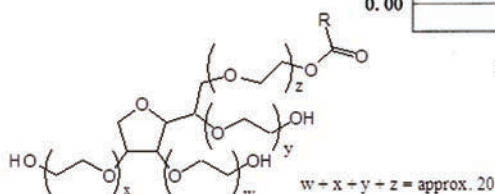
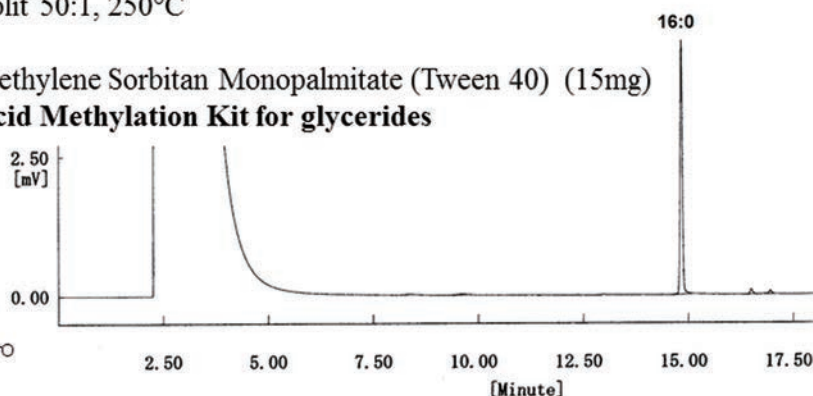
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FM-010

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
 Oven: 60 to 220°C at 8°C/min
 Carrier: Helium, 1.0ml/min
 Detection: FID, 250°C
 Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Polyoxyethylene Sorbitan Monopalmitate (Tween 40) (15mg)
 Methylation: **Fatty Acid Methylation Kit for glycerides**



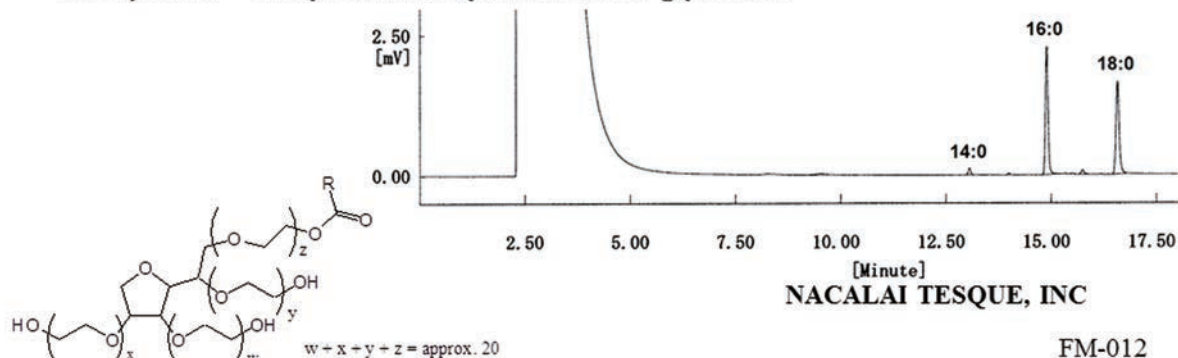
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FM-011

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
 Oven: 60 to 220°C at 8°C/min
 Carrier: Helium, 1.0ml/min
 Detection: FID, 250°C
 Injection: 0.2 μ l, Split 50:1, 250°C

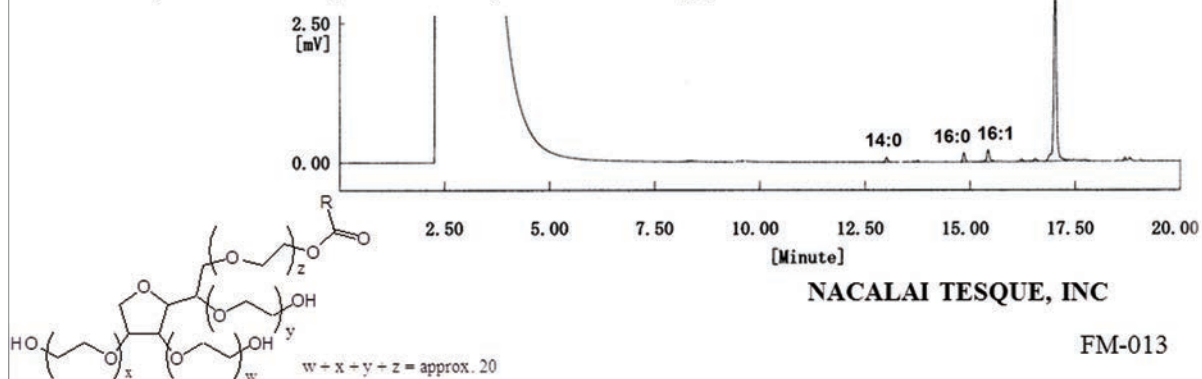
Sample: Polyoxyethylene Sorbitan Monostearate (Tween 60) (17mg)
 Methylation: **Fatty Acid Methylation Kit for glycerides**



Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
 Oven: 60 to 220°C at 8°C/min
 Carrier: Helium, 1.0ml/min
 Detection: FID, 250°C
 Injection: 0.2 μ l, Split 50:1, 250°C

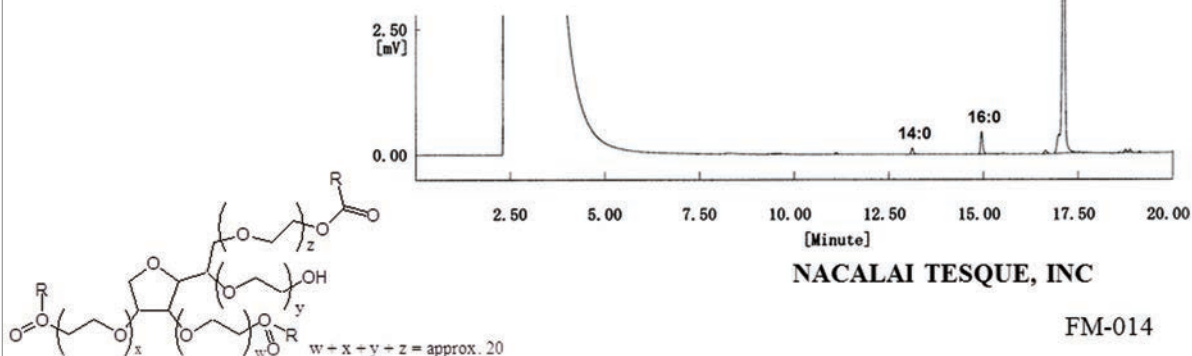
Sample: Polyoxyethylene Sorbitan Monooleate (Tween 80) (17mg)
 Methylation: **Fatty Acid Methylation Kit for glycerides**



Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 60 to 220°C at 8°C/min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

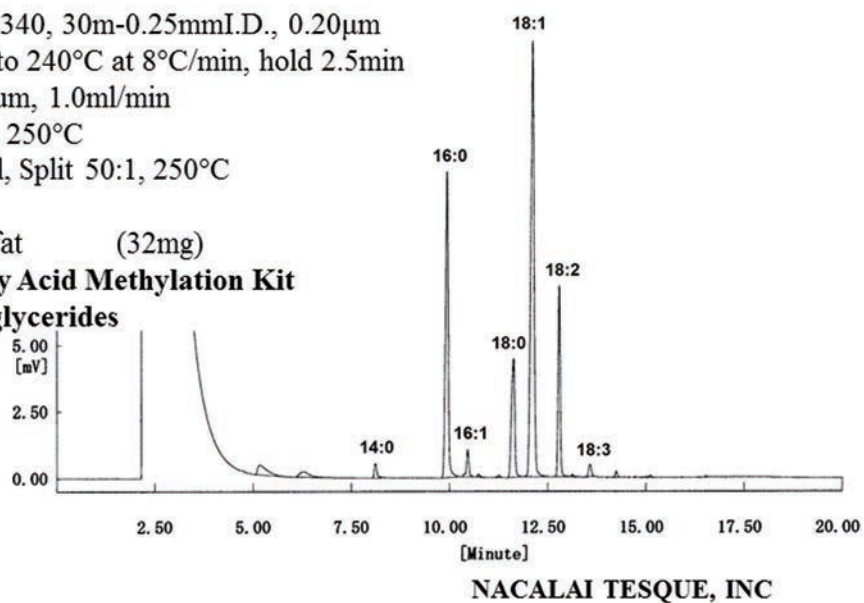
Sample: Polyoxyethylene Sorbitan Trioleate (Tween 85) (18mg)
Methylation: **Fatty Acid Methylation Kit for glycerides**



Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 100 to 240°C at 8°C/min, hold 2.5min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Pig fat (32mg)
Methylation: **Fatty Acid Methylation Kit for glycerides**

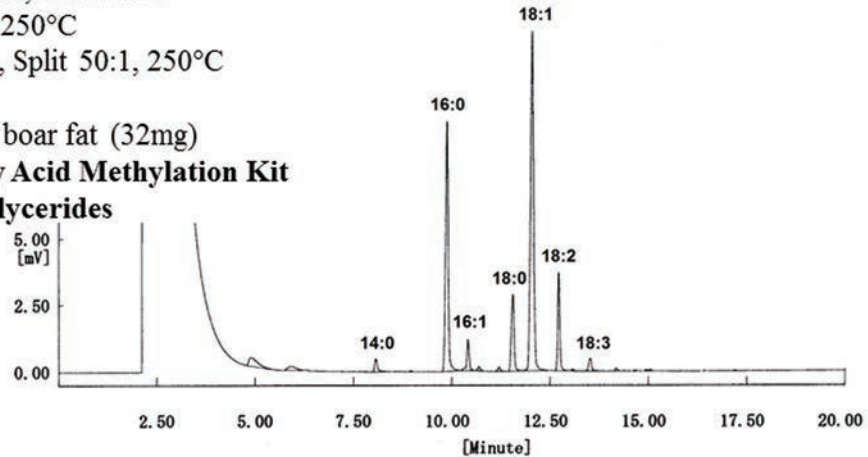


• Wild boar fat

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 100 to 240°C at 8°C/min, hold 2.5min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Wild boar fat (32mg)
Methylation: **Fatty Acid Methylation Kit
for glycerides**



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FM-016

• Milk

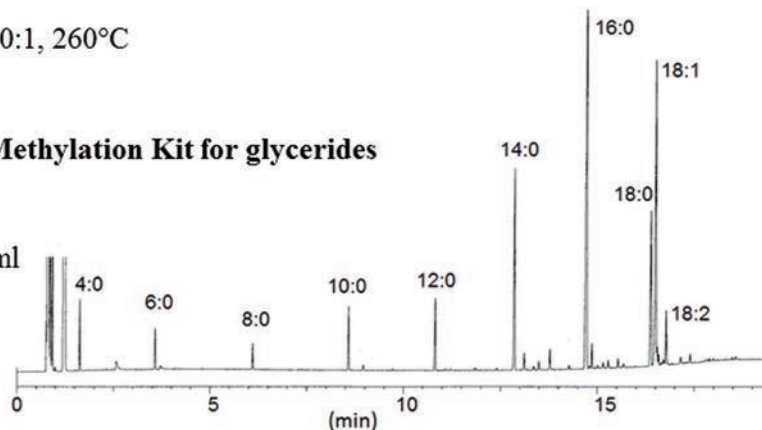
Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
Oven: 60°C(2min) to 210°C at 20°C/min, hold 10min
Carrier: Helium, 35cm/s
Detection: FID, 280°C
Injection: 1.0 μ l, Split 20:1, 260°C

Sample: Milk
Methylation: **Fatty Acid Methylation Kit for glycerides**

Sample preparation

- 1, Milk 0.5ml, Reagent A 2ml
- 2, Upper layer 1ml
- ↓
- 3, Methylation



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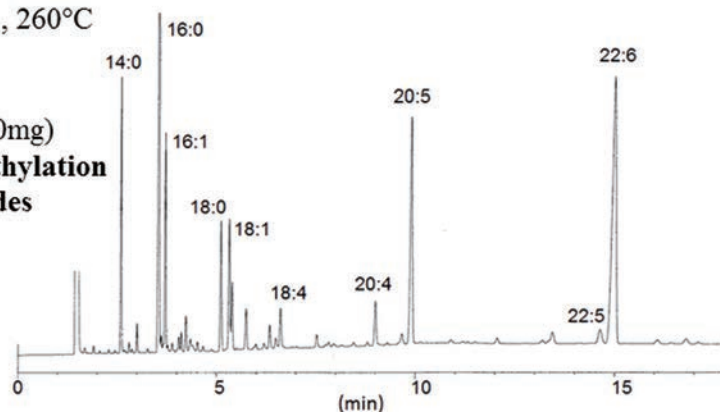
Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

FM-017

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
Oven: 200 to 220°C at 2°C/min, hold 10min
Carrier: Helium, 35cm/s
Detection: FID, 280°C
Injection: 1.0 μ l, Split 40:1, 260°C

Sample: Extracted oil
from sardine (20mg)
Methylation: **Fatty Acid Methylation
Kit for glycerides**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

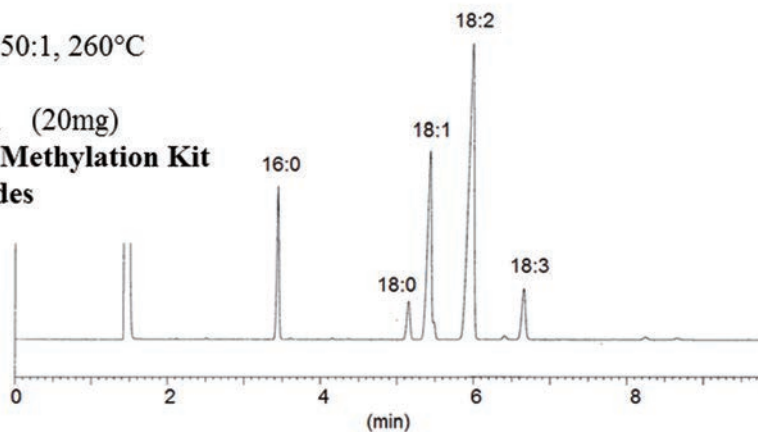
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FM-018

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
Oven: 205°C
Carrier: Helium, 35cm/s
Detection: FID, 280°C
Injection: 1.0 μ l, Split 50:1, 260°C

Sample: Soybean oil (20mg)
Methylation: **Fatty Acid Methylation Kit
for glycerides**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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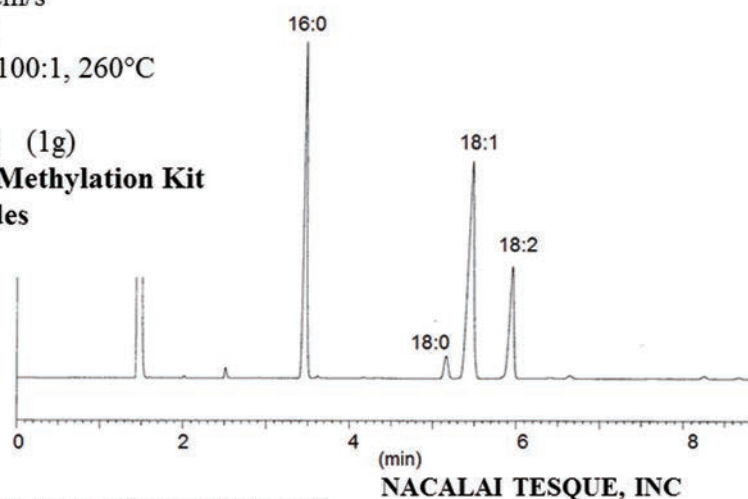
FM-019

• Potato chips

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
Oven: 205°C
Carrier: Helium, 35cm/s
Detection: FID, 280°C
Injection: 1.0 μ l, Split 100:1, 260°C

Sample: Potato chips (1g)
Methylation: **Fatty Acid Methylation Kit
for glycerides**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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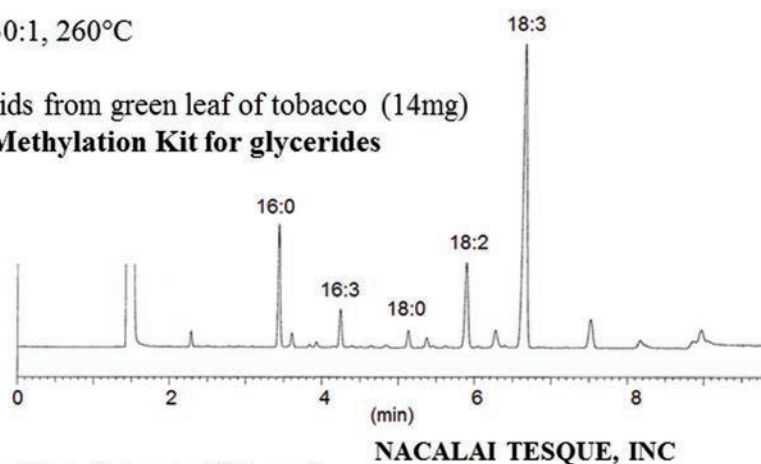
FM-020

• Green leaf of tobacco

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
Oven: 205°C
Carrier: Helium, 35cm/s
Detection: FID, 280°C
Injection: 1.0 μ l, Split 30:1, 260°C

Sample: Extracted lipids from green leaf of tobacco (14mg)
Methylation: **Fatty Acid Methylation Kit for glycerides**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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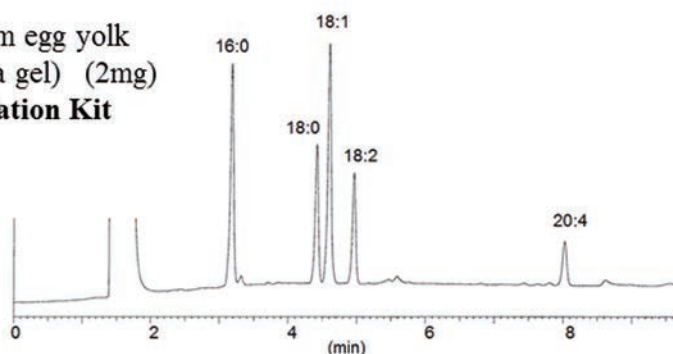
FM-021

• Egg yolk

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
Oven: 205 to 215°C at 3°C/min, hold 10min
Carrier: Helium, 35cm/s
Detection: FID, 280°C
Injection: 1.0 μ l, Split 8:1, 260°C

Sample: Extracted lipids from egg yolk
(Purified with silica gel) (2mg)
Methylation: **Fatty Acid Methylation Kit
for glycerides**



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Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science &
Technology Bio-Analysis Center, ASTEM

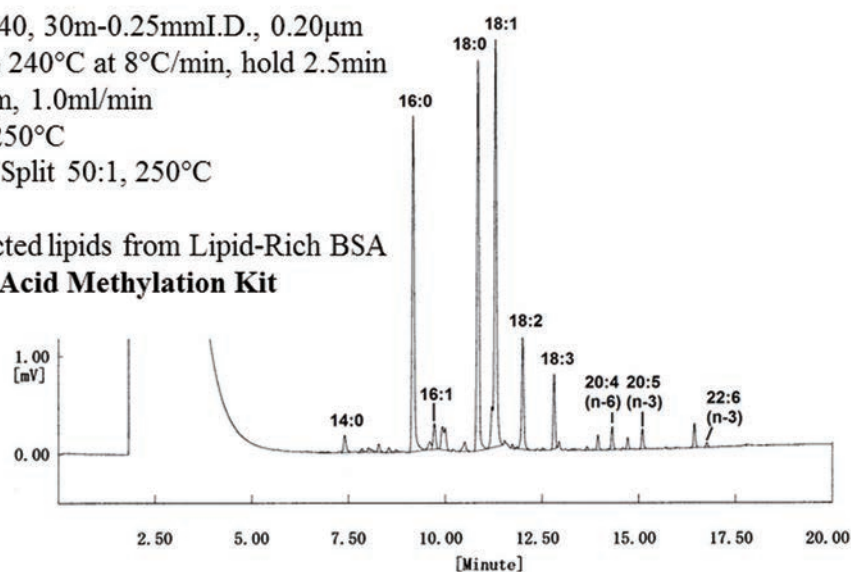
FM-022

• BSA

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
Oven: 100 to 240°C at 8°C/min, hold 2.5min
Carrier: Helium, 1.0ml/min
Detection: FID, 250°C
Injection: 0.2 μ l, Split 50:1, 250°C

Sample: Extracted lipids from Lipid-Rich BSA
Methylation: **Fatty Acid Methylation Kit**



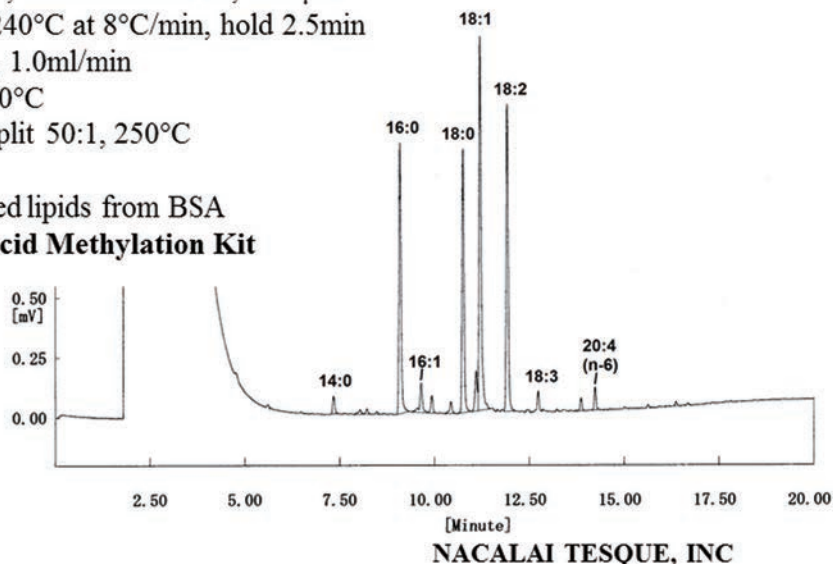
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FM-023

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20µm
 Oven: 100 to 240°C at 8°C/min, hold 2.5min
 Carrier: Helium, 1.0ml/min
 Detection: FID, 250°C
 Injection: 0.2µl, Split 50:1, 250°C

Sample: Extracted lipids from BSA
 Methylation: **Fatty Acid Methylation Kit**

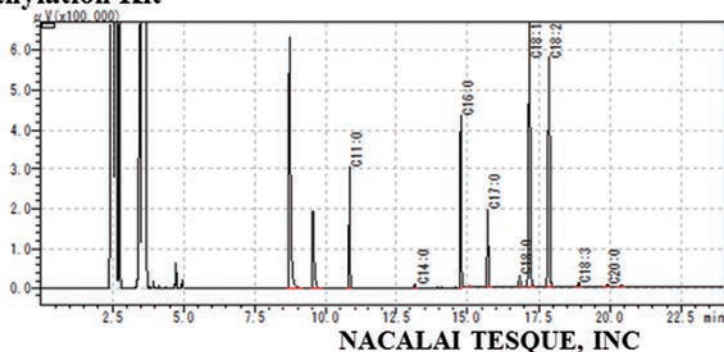


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FM-024

Fatty Acid Methylation Kit Application

Column: Stabilwax, 30m-0.53mmI.D., 0.25µm
 Oven: 50°C(1min) to 230°C at 15°C/min, hold 8min
 Carrier: Helium, 2.95ml/min
 Detection: FID, 250°C
 Injection: 1.0µl, Split 3:1, 250°C
 Sample: Extracted lipids from unpolished rice
 Methylation: **Fatty Acid Methylation Kit
 for glycerides**



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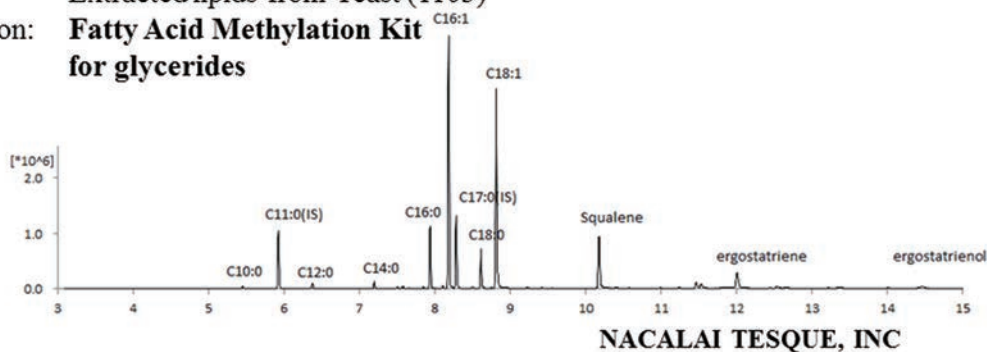
Data courtesy of Gekkeikan Sake Company, Ltd.

FM-025

Fatty Acid Methylation Kit Application

Column: SP-2380, 30m-0.25mmI.D., 0.20µm
 Oven: 70°C(1min) to 230°C at 20°C/min, hold 7min
 Carrier: Helium, 0.6ml/min
 Detection: MSD, 230°C
 Injection: 2.0µl, Split 20:1, 250°C

Sample: Extracted lipids from Yeast (1103)
 Methylation: **Fatty Acid Methylation Kit**
for glycerides



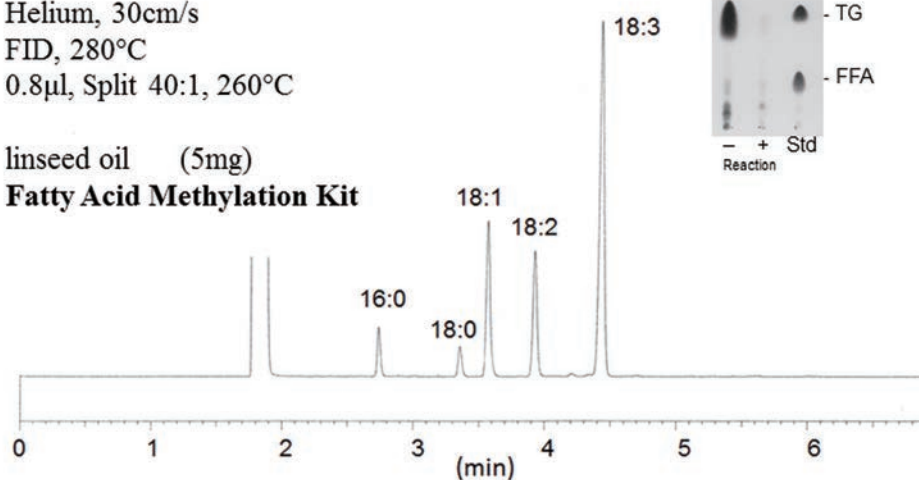
Data courtesy of Gekkeikan Sake Company, Ltd.

FM-026

Fatty Acid Methylation Kit Application

Column: BPX-70, 30m-0.25mmI.D., 0.25µm
 Oven: 205°C
 Carrier: Helium, 30cm/s
 Detection: FID, 280°C
 Injection: 0.8µl, Split 40:1, 260°C

Sample: linseed oil (5mg)
 Methylation: **Fatty Acid Methylation Kit**



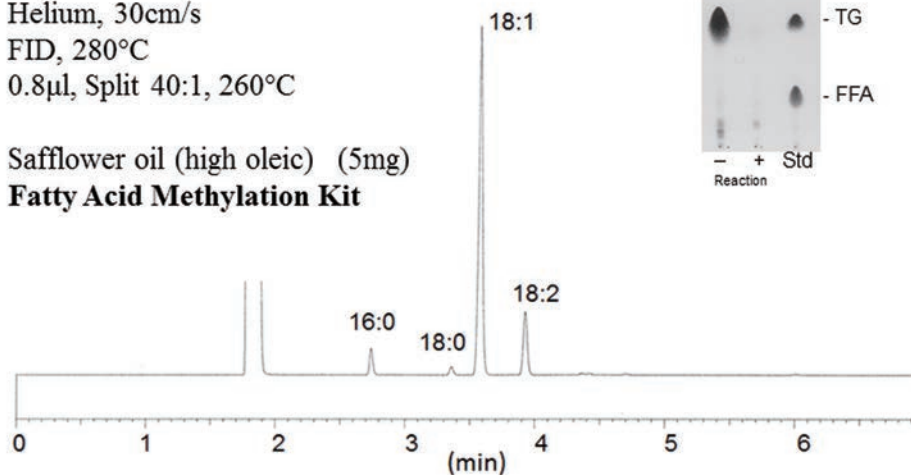
Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

FM-027

Fatty Acid Methylation Kit Application

Column: BPX-70, 30m-0.25mmI.D., 0.25 μ m
Oven: 205 $^{\circ}$ C
Carrier: Helium, 30cm/s
Detection: FID, 280 $^{\circ}$ C
Injection: 0.8 μ l, Split 40:1, 260 $^{\circ}$ C

Sample: Safflower oil (high oleic) (5mg)
Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

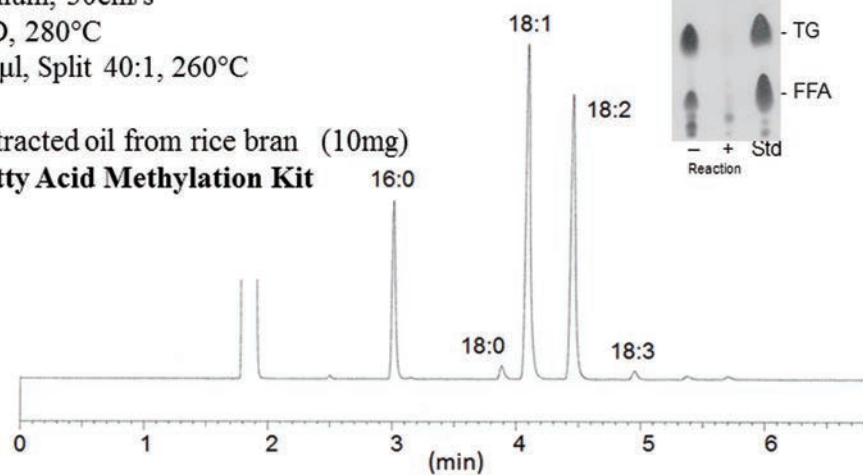
NACALAI TESQUE, INC

FM-028

Fatty Acid Methylation Kit Application

Column: DB-23, 30m-0.25mmI.D., 0.25 μ m
Oven: 210 $^{\circ}$ C
Carrier: Helium, 30cm/s
Detection: FID, 280 $^{\circ}$ C
Injection: 0.5 μ l, Split 40:1, 260 $^{\circ}$ C

Sample: Extracted oil from rice bran (10mg)
Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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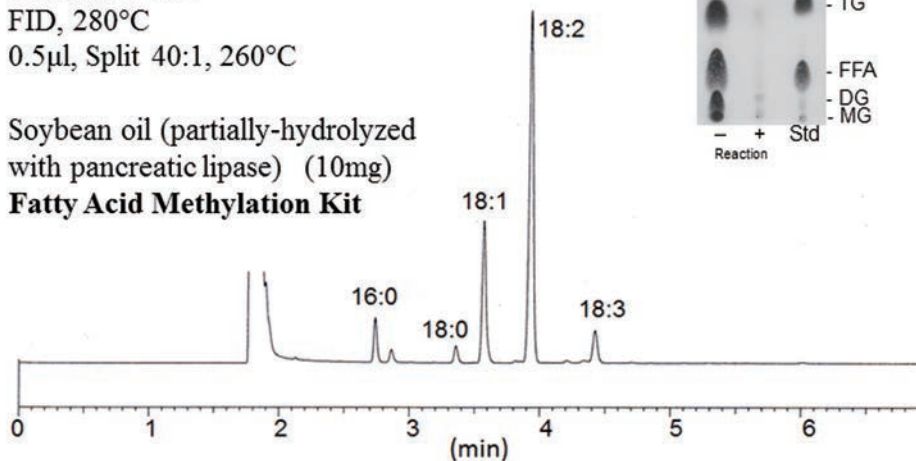
FM-029

• Soybean oil (partially-hydrolyzed)

Fatty Acid Methylation Kit Application

Column: BPX-70, 30m-0.25mmI.D., 0.25 μ m
Oven: 205°C
Carrier: Helium, 30cm/s
Detection: FID, 280°C
Injection: 0.5 μ l, Split 40:1, 260°C

Sample: Soybean oil (partially-hydrolyzed
with pancreatic lipase) (10mg)
Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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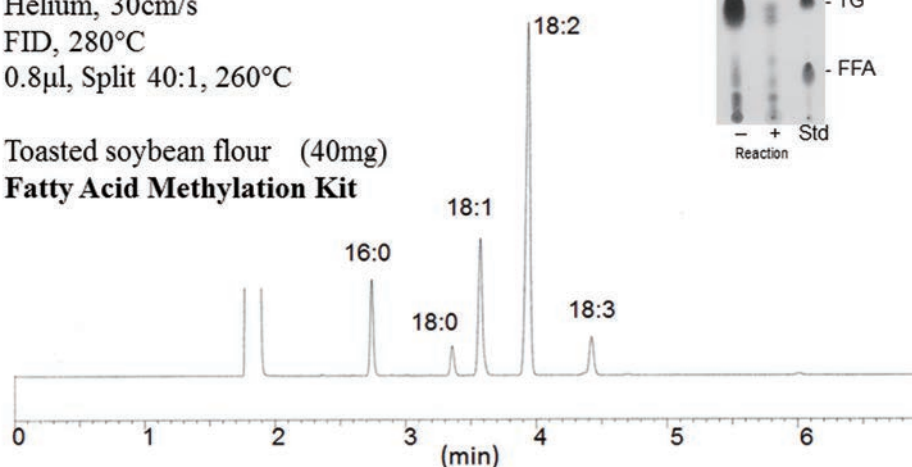
FM-030

• Toasted soybean flour

Fatty Acid Methylation Kit Application

Column: BPX-70, 30m-0.25mmI.D., 0.25 μ m
Oven: 205°C
Carrier: Helium, 30cm/s
Detection: FID, 280°C
Injection: 0.8 μ l, Split 40:1, 260°C

Sample: Toasted soybean flour (40mg)
Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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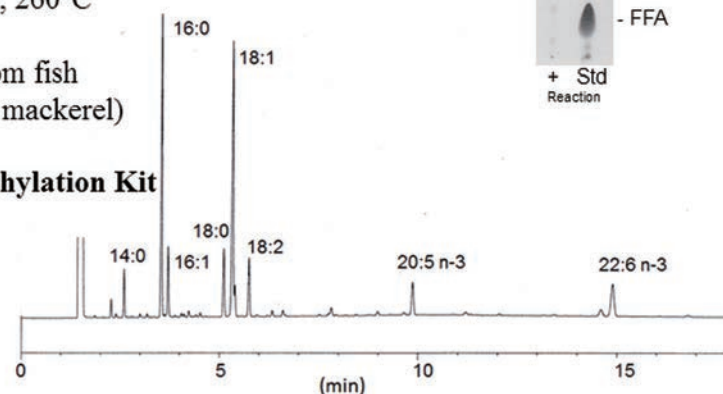
FM-031

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
 Oven: 200 to 220°C at 2°C/min, hold 8min
 Carrier: Helium, 35cm/s
 Detection: FID, 280°C
 Injection: 1.0 μ l, Split 20:1, 260°C

Sample: Extracted oil from fish
 (Japanese horse mackerel)
 (2mg)

Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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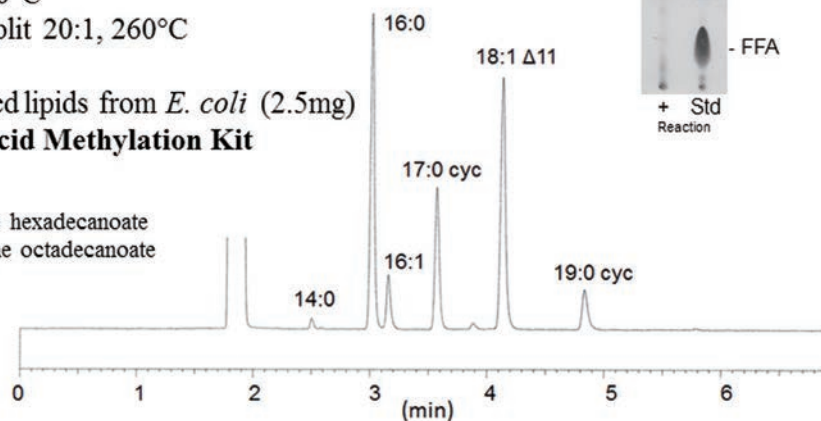
FM-032

Fatty Acid Methylation Kit Application

Column: DB-23, 30m-0.25mmI.D., 0.25 μ m
 Oven: 210°C
 Carrier: Helium, 30cm/s
 Detection: FID, 280°C
 Injection: 1.0 μ l, Split 20:1, 260°C

Sample: Extracted lipids from *E. coli* (2.5mg)
 Methylation: **Fatty Acid Methylation Kit**

17:0 cyc = *cis*-9,10-methylene hexadecanoate
 19:0 cyc = *cis*-11,12-methylene octadecanoate
 18:1 Δ 11 = *cis*-vaccenate



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

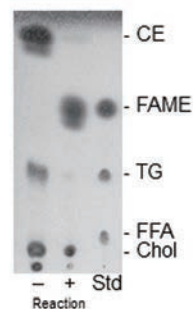
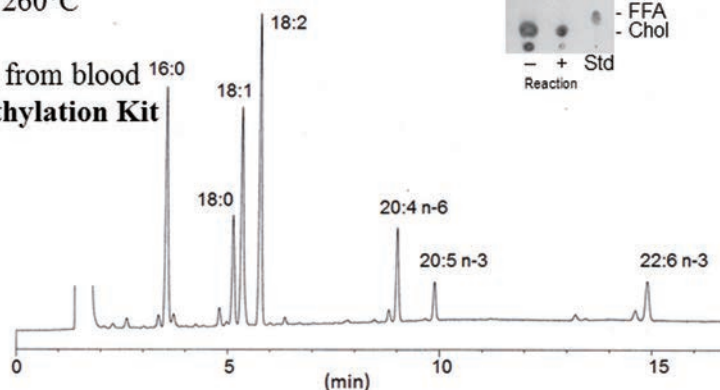
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FM-033

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25µm
 Oven: 200 to 220°C at 2°C/min, hold 8min
 Carrier: Helium, 35cm/s
 Detection: FID, 280°C
 Injection: 1.0µl, Split 5:1, 260°C

Sample: Extracted lipids from blood
 Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

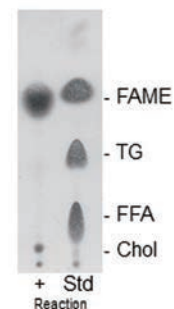
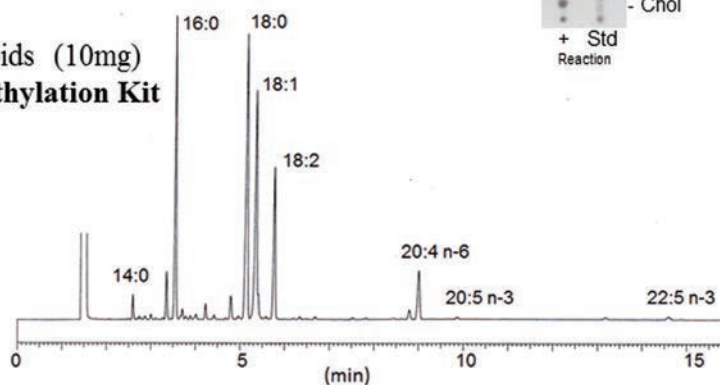
NACALAI TESQUE, INC

FM-034

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25µm
 Oven: 200 to 220°C at 2°C/min, hold 8min
 Carrier: Helium, 35cm/s
 Detection: FID, 280°C
 Injection: 1.0µl, Split 40:1, 260°C

Sample: Bovine heart lipids (10mg)
 Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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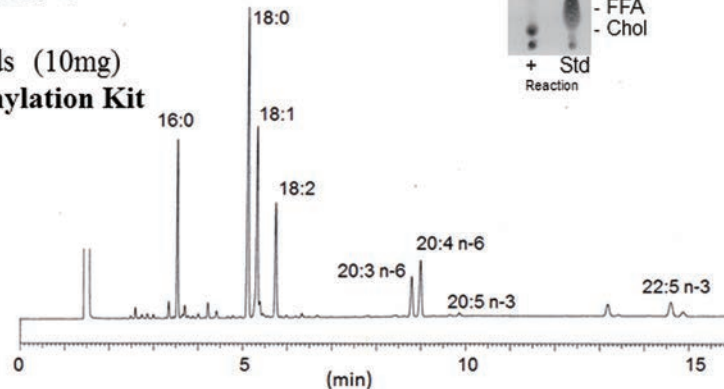
FM-035

• Bovine liver

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
Oven: 200 to 220°C at 2°C/min, hold 8min
Carrier: Helium, 35cm/s
Detection: FID, 280°C
Injection: 1.0 μ l, Split 40:1, 260°C

Sample: Bovine liver lipids (10mg)
Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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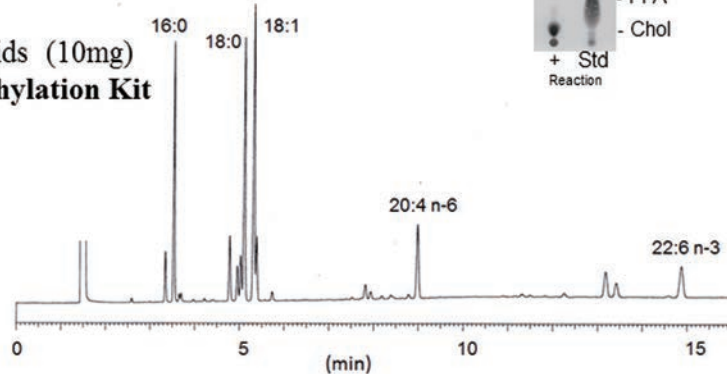
FM-036

• Bovine brain

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
Oven: 200 to 220°C at 2°C/min, hold 8min
Carrier: Helium, 35cm/s
Detection: FID, 280°C
Injection: 1.0 μ l, Split 40:1, 260°C

Sample: Bovine brain lipids (10mg)
Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

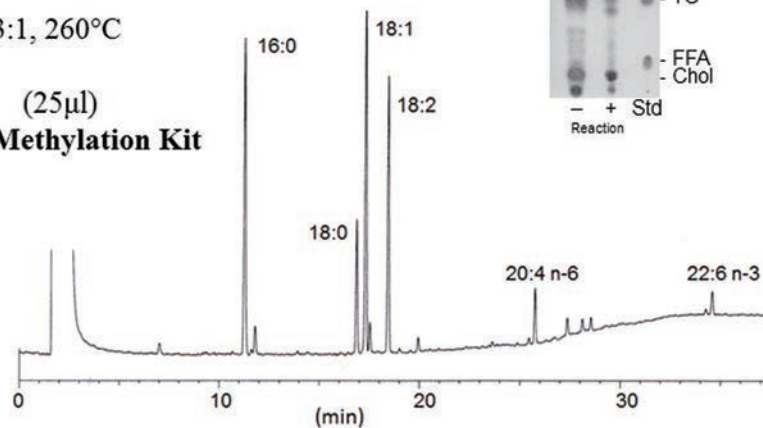
NACALAI TESQUE, INC

FM-037

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25µm
 Oven: 160°C(2min) to 220°C at 2°C/min, hold 6min
 Carrier: Helium, 30cm/s
 Detection: FID, 280°C
 Injection: 1.0µl, Split 3:1, 260°C

Sample: Plasma (25µl)
 Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

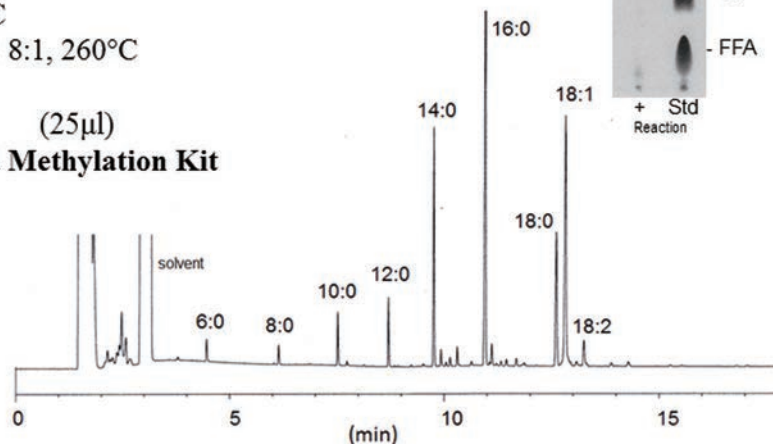
NACALAI TESQUE, INC

FM-038

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25µm
 Oven: 60°C(2min) to 210°C at 20°C/min, hold 10min
 Carrier: Helium, 35cm/s
 Detection: FID, 280°C
 Injection: 1.0µl, Split 8:1, 260°C

Sample: Milk (25µl)
 Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

NACALAI TESQUE, INC

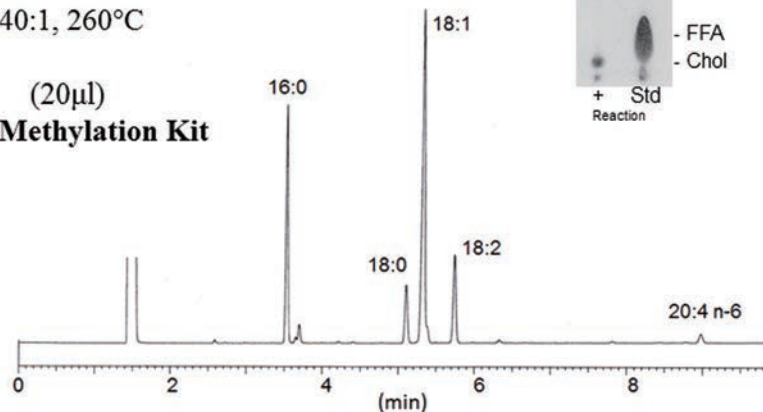
FM-039

• Egg yolk

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
Oven: 200 to 220°C at 2°C/min
Carrier: Helium, 35cm/s
Detection: FID, 280°C
Injection: 1.0 μ l, Split 40:1, 260°C

Sample: Egg yolk (20 μ l)
Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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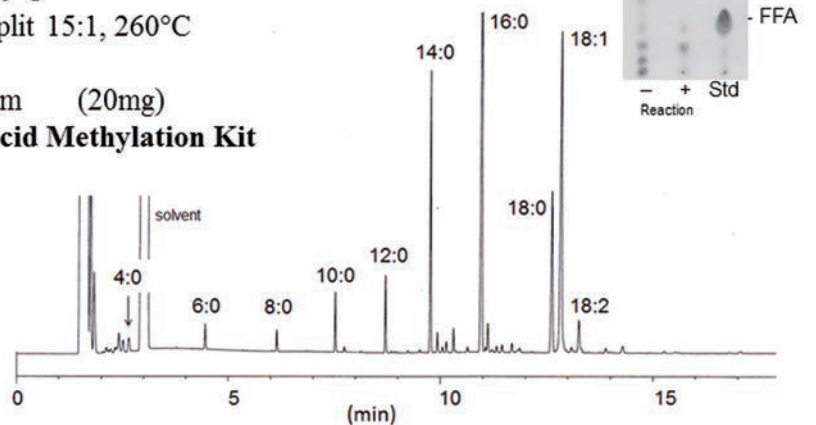
FM-040

• Ice cream

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
Oven: 60°C(2min) to 210°C at 20°C/min, hold 10min
Carrier: Helium, 35cm/s
Detection: FID, 280°C
Injection: 1.0 μ l, Split 15:1, 260°C

Sample: Ice cream (20mg)
Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

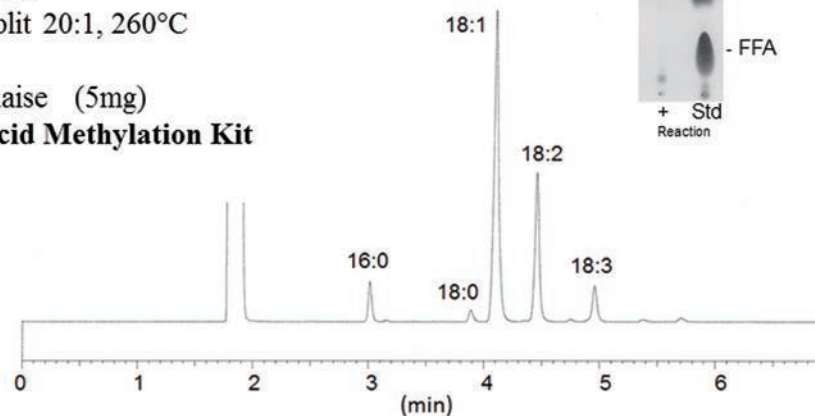
NACALAI TESQUE, INC

FM-041

Fatty Acid Methylation Kit Application

Column: DB-23, 30m-0.25mmI.D., 0.25 μ m
 Oven: 210 $^{\circ}$ C
 Carrier: Helium, 30cm/s
 Detection: FID, 280 $^{\circ}$ C
 Injection: 1.0 μ l, Split 20:1, 260 $^{\circ}$ C

Sample: Mayonnaise (5mg)
 Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

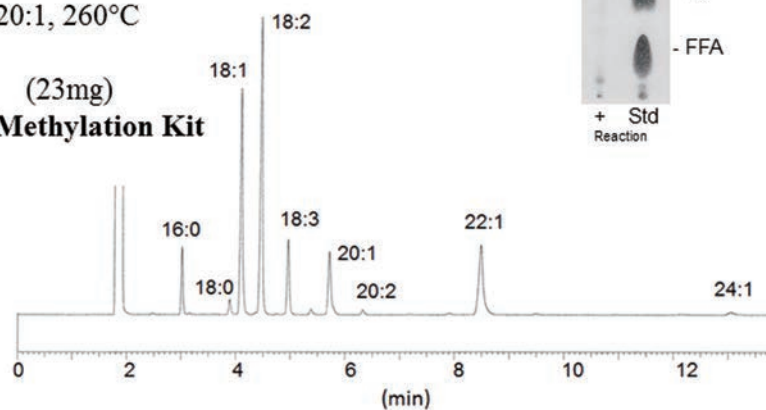
NACALAI TESQUE, INC

FM-042

Fatty Acid Methylation Kit Application

Column: DB-23, 30m-0.25mmI.D., 0.25 μ m
 Oven: 210 $^{\circ}$ C
 Carrier: Helium, 30cm/s
 Detection: FID, 280 $^{\circ}$ C
 Injection: 1.0 μ l, Split 20:1, 260 $^{\circ}$ C

Sample: Mustard (23mg)
 Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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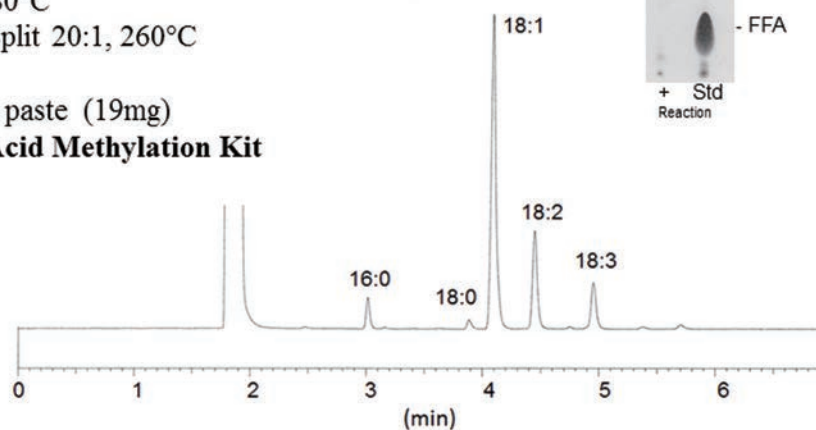
FM-043

• Wasabi paste

Fatty Acid Methylation Kit Application

Column: DB-23, 30m-0.25mmI.D., 0.25 μ m
Oven: 210 $^{\circ}$ C
Carrier: Helium, 30cm/s
Detection: FID, 280 $^{\circ}$ C
Injection: 0.5 μ l, Split 20:1, 260 $^{\circ}$ C

Sample: Wasabi paste (19mg)
Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

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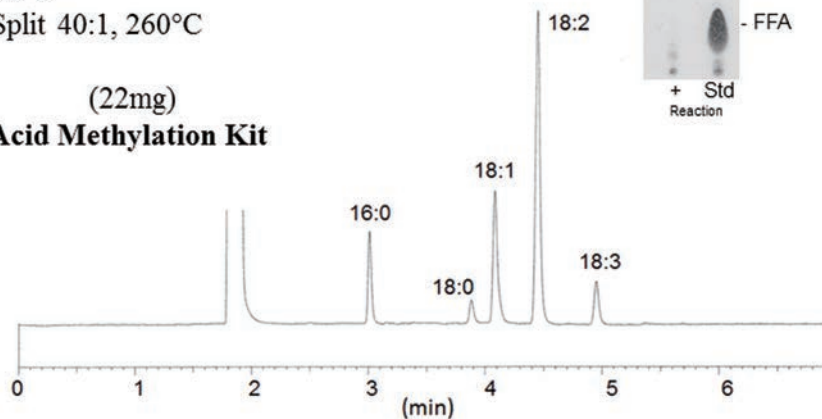
FM-044

• Miso

Fatty Acid Methylation Kit Application

Column: DB-23, 30m-0.25mmI.D., 0.25 μ m
Oven: 210 $^{\circ}$ C
Carrier: Helium, 30cm/s
Detection: FID, 280 $^{\circ}$ C
Injection: 1.0 μ l, Split 40:1, 260 $^{\circ}$ C

Sample: Miso (22mg)
Methylation: **Fatty Acid Methylation Kit**



Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

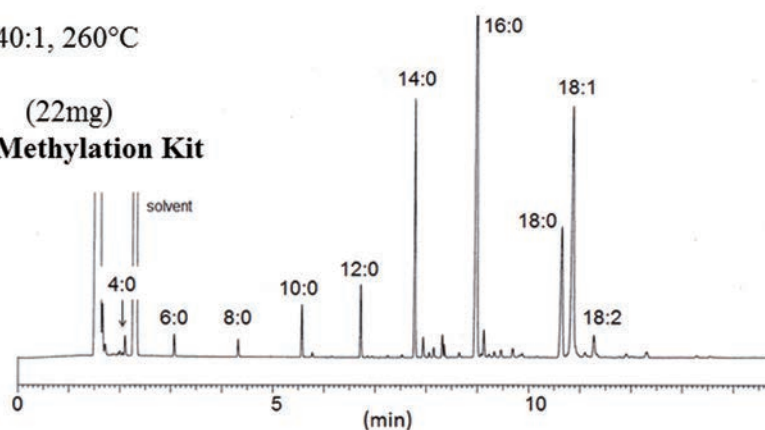
NACALAI TESQUE, INC

FM-045

Fatty Acid Methylation Kit Application

Column: Rtx[®]-225, 30m-0.25mmI.D., 0.25 μ m
 Oven: 60 to 210°C at 20°C/min, hold 8min
 Carrier: Helium, 35cm/s
 Detection: FID, 280°C
 Injection: 0.5 μ l, Split 40:1, 260°C

Sample: Butter (22mg)
 Methylation: **Fatty Acid Methylation Kit**



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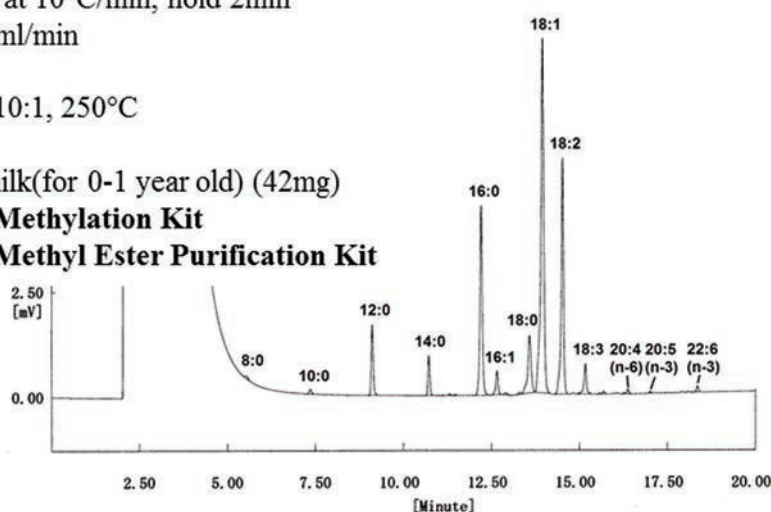
Data courtesy of Dr. K. Ichihara, Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM

FM-046

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20 μ m
 Oven: 60 to 200°C at 10°C/min, hold 2min
 Carrier: Helium, 1.0ml/min
 Detection: FID, 250°C
 Injection: 1.0 μ l, Split 10:1, 250°C

Sample: Powdered milk(for 0-1 year old) (42mg)
 Methylation: **Fatty Acid Methylation Kit**
Fatty Acid Methyl Ester Purification Kit



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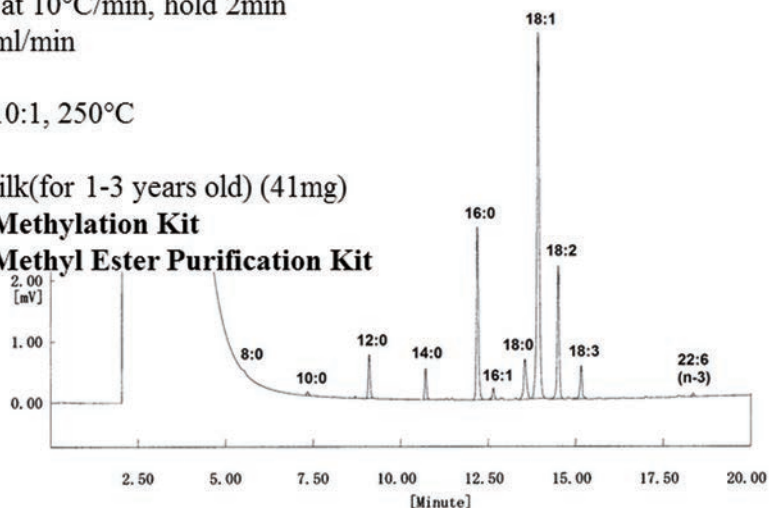
FM-047

- Powdered milk(for 1-3 years old)

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20µm
 Oven: 60 to 200°C at 10°C/min, hold 2min
 Carrier: Helium, 1.0ml/min
 Detection: FID, 250°C
 Injection: 1.0µl, Split 10:1, 250°C

Sample: Powdered milk(for 1-3 years old) (41mg)
 Methylation: **Fatty Acid Methylation Kit**
Fatty Acid Methyl Ester Purification Kit



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FM-048

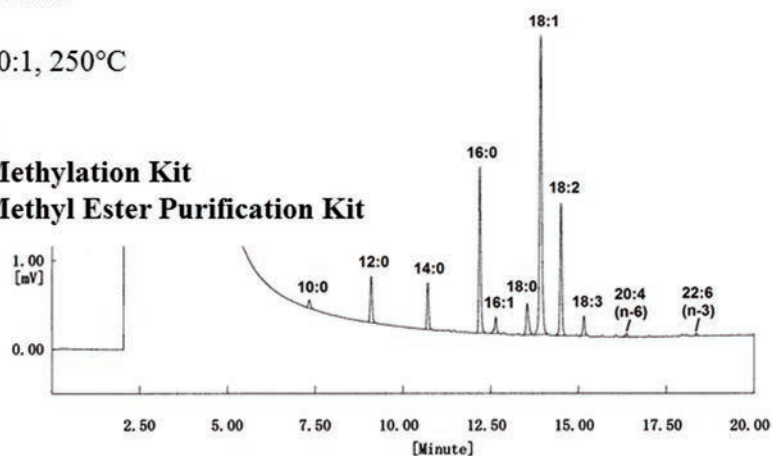
- Human milk

Fatty Acid Methylation Kit Application

Column: SP-2340, 30m-0.25mmI.D., 0.20µm
 Oven: 60 to 200°C at 10°C/min, hold 2min
 Carrier: Helium, 1.0ml/min
 Detection: FID, 250°C
 Injection: 1.0µl, Split 10:1, 250°C

Sample: Human milk
 Methylation: **Fatty Acid Methylation Kit**
Fatty Acid Methyl Ester Purification Kit

Sample preparation
 1, Human milk 0.5ml,
 Reagent A 2ml
 2, Upper layer 1ml
 ↓
 3, Methylation



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FM-049

Fatty Acid Methylation Kits

Below are two methods for efficiently preparing fatty acid samples for GC analysis. Neither method requires high temperatures, unlike the conventional method, so methylation can be done safely and easily.

	Fatty Acid Methylation Kit	Fatty Acid Methylation Kit for Glycerides
Targeted fatty acids	<ul style="list-style-type: none"> • Glycerides (glycerolipids, such as triglycerides, diglycerides, monoglycerides and lecithin) • Free fatty acids • Sterol esters 	<ul style="list-style-type: none"> • Glycerides (glycerolipids, such as triglycerides, diglycerides, monoglycerides and lecithin) • Glycerides containing short-chain fatty acids
Targeted samples	Blood, yeast, liver, cooking oil, soybean powder, fish oils	Cooking oil, fish oils
Procedure	<p> <ul style="list-style-type: none"> • React at 37°C • Simple procedure </p>	<p> <ul style="list-style-type: none"> • React at room temp. • Fast and simple procedure </p>
	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p>Conventional Method</p> </div>	
Reaction time	1.5 hrs	Less than 1 min
Reaction temperature	37°C	Room temp.
Quantitative analysis*	Very good	Good
Experimental precision	Very good	Good

* This difference is due to a small amount of free fatty acids in cooking oil.

Kit Contents

Fatty Acid Methylation Kit (100 tests)

Product Name	PKG Size	QTY
Methylation Reagent A	50 ml	1
Methylation Reagent B	50 ml	1
Methylation Reagent C	50 ml	1
Isolation Reagent	250 m	1



Fatty Acid Methyl Ester Purification Kit (50 tests)

Product Name	PKG Size	QTY
Conditioning Solution	200 ml	1
Washing Solution	200 ml	1
Eluting Solution	200 ml	1
SPE Cartridge Column	-	50 pcs



Fatty Acid Methylation Kit for glycerides (100 tests)

Product Name	PKG Size	QTY
Solution A (Solvent)	100 ml	1
Solution B (Reaction Solution)	10 ml	1
Solution C (Stop Solution)	100 ml	1



Ordering Information

Product Name	Grade	Storage	Product No.	PKG Size
Fatty Acid Methylation Kit (100 tests)	SP	RT	16962-04	100 tests
Fatty Acid Methyl Ester Purification Kit (50 tests)	SP	RT	16961-14	50 tests
Fatty Acid Methylation Kit for glycerides (100 tests)	SP	RT	13246-84	100 tests

These products are covered by a patent acquired by Gekkeikan Sake Co., Ltd. in collaboration with Dr. Ichihara of Kyoto Integrated Science & Technology Bio-Analysis Center, ASTEM. Nacalai Tesque manufactures and sells these products under a license agreement. [Patent no. 4942380 (Japan)]

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