Date : April 08, 2022

CERTIFICATE OF ANALYSIS – TOTAL FATTY ACIDS METHYL ESTERS (FAMES)

SAMPLE IDENTIFICATION

Internal code : 22C28-PTH01
Customer identification : Apricot Kernel - AD0117R
Type : Vegetable oil & fats
Source : *Prunus armeniaca*
Customer : Plant Therapy

ANALYSIS

Method: PC-MAT-010 - Fatty acids profiling of a vegetable oil or a plant by hydrolysis and derivatisation (FAMEs).
Analyst : Seydou Ka, Ph. D.
Analysis date : April 06, 2022

Checked and approved by :

Alexis St-Gelais, Ph. D., Chimiste 2013-174

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Physicochemical data

Physical aspect: Clear viscous liquid
Refractive index: 1.4712 ± 0.0003 (20 °C; method PC-MAT-016)

PC 002:2021 - PhytoChemia Criteria - Apricot kernel oil

Compound	Min. %	Max. %	Observed %	Complies?
Linoleic acid	13.3	50.8	22.4	Yes
Stearic acid	0.2	2.8	3.2	No
Palmitic acid	2.9	7.8	4.8	Yes
C16:1	0.1	1.2	0.1	Yes
C18:1 (Oleic+vaccenic acids)	41.1	81.0	65.6	Yes

Conclusion

The fatty acids ratios are mostly in line with expectations for the species, although the stearic acid content is slightly higher than expected based on literature (see table above).

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ANALYSIS DATA

Fatty acids						
Common name	Systematic name	Shorthand formula	**R.T**	**R.I**	**%**	**Type**
Lauric acid	Dodecanoic acid	C12:0	7.91	1194	tr	SFA
Myristic acid	Tetradecanoic acid	C14:0	9.70	1396	0.05	SFA
Palmitic acid	Hexadecanoic acid	C16:0	12.21	1600	4.83	SFA
Hypogeic acid	(7*Z*)-Hexadecenoic acid	C16:1 n-9 c	13.04	1654	0.03	MUFA
Palmitoleic acid	(9*Z*)-Hexadecenoic acid	C16:1 n-7 c	13.21	1663	0.12	MUFA
cis-Palmitvaccenic acid	(11*Z*)-Hexadecenoic acid	C16:1 n-5 c	13.44	1676	tr	MUFA
Margaric acid	Heptadecanoic acid	C17:0	13.87	1701	0.04	SFA
cis-9-Heptadecenoic acid	(9*Z*)-Heptadecenoic acid	C17:1 n-8 c	14.95	1756	tr	MUFA
Stearic acid	Octadecanoic acid	C18:0	16.10	1807	3.23	SFA
Octadecenoic acid isomer I	Octadecenoic acid	C18:1	16.73	1835	tr	MUFA
Octadecenoic acid isomer III	Octadecenoic acid	C18:1	17.02	1846	0.03	MUFA
cis-Vaccenic acid	(11*Z*)-Octadecenoic acid	C18:1 n-7 c	17.62	1869	65.62	MUFA
Octadecenoic acid isomer VII	Octadecenoic acid	C18:1	17.70	1872	0.81	MUFA
Linolelaidic acid	(9*E*,12*E*)-Octadecadienoic acid	C18:2 n-6 tt	18.53	1904	tr	PUFA
Nonadecylic acid	Nonadecanoic acid	C19:0	18.64	1908	tr	SFA
trans,*cis*-9,12-Octadecadienoic acid	(9*E*,12*Z*)-Octadecadienoic acid	C18:2 n-6 tc	19.12	1926	0.04	PUFA
Linoleic acid	(9*Z*,12*Z*)-Octadecadienoic acid	C18:2 n-6 cc	19.76	1949	22.39	PUFA
Arachidic acid	Eicosanoic acid	C20:0	21.46	2006	0.31	SFA
α-Linolenic acid	(9*Z*,12*Z*,15*Z*)-Octadecatrienoic acid	C18:3 n-3 ccc	22.44	2039	0.47	PUFA
Gondoic acid	(11*Z*)-Eicosenoic acid	C20:1 n-9 c	23.06	2059	0.29	MUFA
Paullinic acid	(13*Z*)-Eicosenoic acid	C20:1 n-7 c	23.39	2069	0.01	MUFA
cis-15-Eicosenoic acid?	(15*Z*)-Eicosenoic acid	C20:1 n-5 c	23.83	2084	tr	MUFA
Heneicosylic acid	Heneicosanoic acid	C21:0	24.52	2106	0.02	SFA
cis,*cis*-11,14-Eicosadienoic acid	(11*Z*,14*Z*)-Eicosadienoic acid	C20:2 n-6 cc	25.69	2143	0.01	PUFA
Behenic acid	Docosanoic acid	C22:0	27.47	2202	tr	SFA
Erucic acid	(13*Z*)-Docosenoic acid	C22:1 n-9 c	29.08	2261	0.03	MUFA
Tricosylic acid	Tricosanoic acid	C23:0	30.18	2308	0.05	SFA
Lignoceric acid	Tetracosanoic acid	C24:0	32.24	2406	0.32	SFA
	Total PUFA: 22.87% Total MUFA: 66.88% Total SFA: 8.85%		**Total identified 98.71%**			

tr: The compound has been detected below 0.005% of total signal.

Note: no correction factor was applied
R.T.: Retention time (minutes)
R.I.: Retention index
PUFA: Polyunsaturated fatty acid
MUFA: Monounsaturated fatty acid
SFA: Saturated fatty acid

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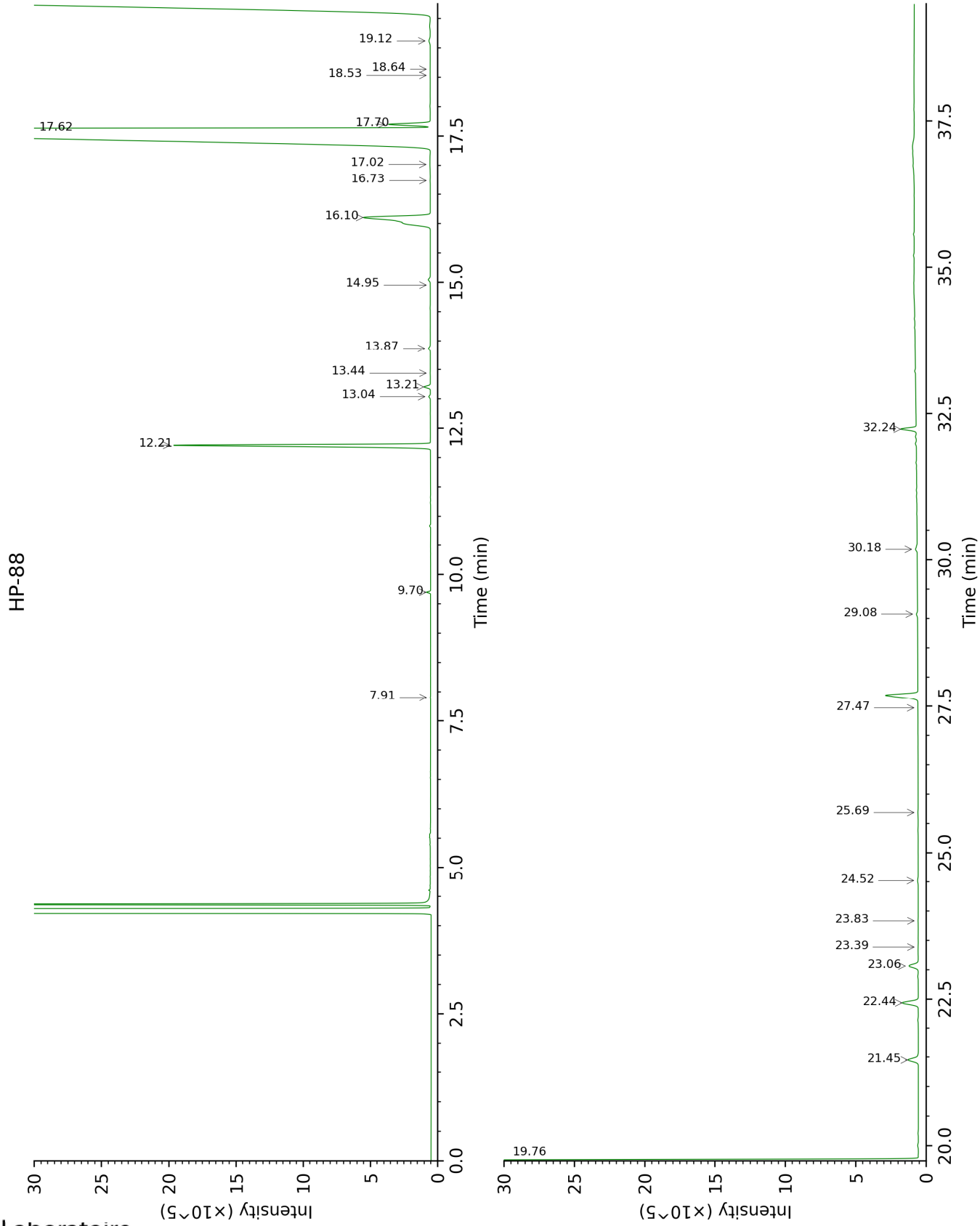
HP-88
Intensity (×10^5)
Time (min)
19.12
18.64
18.53
17.70
17.62
17.02
16.73
16.10
14.95
13.87
13.44
13.21
13.04
12.21
9.70
7.91
19.76
21.45
22.44
23.06
23.39
23.83
24.52
25.69
27.47
29.08
30.18
32.24