

Microwave assisted extraction of fatty acids from cultured and commercial phytoplankton species

Jéssica Aparecida Moretto ¹, Alexander Ossanes de Souza ¹, Lucas Moraes Berneira ², Luiz Gustavo G. Brigagão ³, Claudio Martin Pereira de Pereira ², Attilio Converti ^{4,*} and Ernani Pinto ^{1,5}

¹ Center of Nuclear Energy in Agriculture (CENA), University of São Paulo (USP),

Piracicaba 13416-000, Brazil; jessica.moretto@usp.br (J.A.M.);

alexandersouza@usp.br (A.O.S.);

ernani@usp.br (E.P.)

² Lipidomic and Bioorganic Laboratory, Center of Chemical, Food and Pharmaceutical Sciences,

Forensic Chemistry, Federal University of Pelotas, Pelotas 96010-610, Brazil;

lucas.berneira@hotmail.com (L.M.B.); claudio.martin@ufpel.edu.br (C.M.P.d.P.)

³ Department of Clinical and Toxicological Analysis, Faculty of Pharmaceutical Sciences,

University of São Paulo (USP), Av. Prof. Lineu Prestes 580, Bl. 17, São Paulo

05508-900, Brazil; gustavogb@usp.br

⁴ Department of Civil, Chemical and Environmental Engineering, Pole of Chemical Engineering,

University of Genoa, via Opera Pia 15, 16145 Genoa, Italy

⁵ Food Research Center (FoRC–CEPID), University of São Paulo (USP), São Paulo 05508-220, Brazil

* Correspondence: converti@unige.it

*Correspondence e-mail: converti@unige.it ;

Supplementary Table S1. Composition of fatty acids (% area) reported in the literature.

		<i>Chlorella protothecoides</i> (Xu <i>et al.</i> [25])	<i>Spirulina genus</i> (Romano <i>et al.</i> [26])	Different species of microalgae (Ben-Amotz <i>et al.</i> [27])	<i>Chlorella pyrenoidosa</i> (Wu <i>et al.</i> [36])
Fatty acid		Range			
C10:0	Capric acid	nd	nd	nd	nd
C14:0	Myristic acid	1.31	nd	nd	0.23
C15:0	Pentadecanoic acid	nd	nd	nd	0.63
C16:0	Palmitic acid	12.94	nd	nd	31.41
C16:1	Palmitoleic acid	nd	0 – 10.8	nd	7.66
C17:0	Heptadecanoic acid	0.89	nd	2.3	1.5
C17:1	Heptadecaenoic acid	nd	nd	90	nd
C18:0	Stearic acid	2.76	nd	nd	0.36
C18:1	Oleic acid	60.87	2.5 – 3.7	nd	3.59
C18:2	Linoleic acid	17.28	1.4 – 16.3	nd	nd

nd: not detected.