

Supplementary material II-S3

PLFA biomarkers used to identify soil microbes' functional groups

Fatty acid	Lipid fraction	Predominant origin	Literature
i15:0	PLFA	Gram-positive bacteria	[1-2]
a15:0	PLFA	Gram-positive bacteria	[1-2]
i16:0	PLFA	Gram-positive bacteria	[1-2]
i17:0	PLFA	Gram-positive bacteria	[1-2]
16:1n7	PLFA	Bacteria widespread	[2-3]
16:1n-5	PLFA	General bacteria	[1-4]
cy17:0	PLFA	Gram-negative bacteria	[1-2]
18:1n9	PLFA	Fungi (saprophytic, EM)	[2,5-8]
cy19:0	PLFA	Gram-negative bacteria	[1-2]
18:2n6c	PLFA	Fungi (saprophytic, EM)	[2,9]
20:1	PLFA	AM fungi (Gigaspora)	[10]

Cited literature

[1] Zelles, L., *et al.* (1997). Changes in soil microbial properties and phospholipid fatty acid fractions after chloroform fumigation. *Soil Biology and Biochemistry*, 29(9-10), 1325-1336.

[2] Zelles, L. (1999). Fatty acid patterns of phospholipids and lipopolysaccharides in the characterisation of microbial communities in soil: a review. *Biology and fertility of soils*, 29(2), 111-129.

[3] Guckert, J. B., Ringelberg, D. B., White, D. C., Hanson, R. S., & Bratina, B. J. (1991). Membrane fatty acids as phenotypic markers in the polyphasic taxonomy of methylotrophs within the Proteobacteria. *Microbiology*, 137(11), 2631-2641.

[4] Nichols, P. D., *et al.* (1987). Detection of a microbial consortium, including type II methanotrophs, by use of phospholipid fatty acids in an aerobic halogenated hydrocarbon-degrading soil column enriched with natural gas. *Environmental Toxicology and Chemistry: An International Journal*, 6(2), 89-97.

[5] Baath, E., & Anderson, T. H. (2003). Comparison of soil fungal/bacterial ratios in a pH gradient using physiological and PLFA-based techniques. *Soil Biology and Biochemistry*, 35(7), 955-963.

[6] Vestal, J. R., & White, D. C. (1989). Lipid analysis in microbial ecology. *Bioscience*, 39(8), 535-541.1

[7] Harwood, J. L., & Russell, N. J. (1984). Distribution of lipids. In *Lipids in plants and microbes* (pp. 35-70). Springer, Dordrecht.

[8] Ruess, L., & Chamberlain, P. M. (2010). The fat that matters: soil food web analysis using fatty acids and their carbon stable isotope signature. *Soil Biology and Biochemistry*, 42(11), 1898-1910.

[9] Frostegard, A., & Baath, E. (1996). The use of phospholipid fatty acid analysis to estimate bacterial and fungal biomass in soil. *Biology and Fertility of soils*, 22(1-2), 59-65.

[10] Sakamoto, K., Iijima, T., & Higuchi, R. (2004). Use of specific phospholipid fatty acids for identifying and quantifying the external hyphae of the arbuscular mycorrhizal fungus *Gigaspora rosea*. *Soil Biology and Biochemistry*, 36(11), 1827-1834.