Supporting Information for

[14]C-free Carbon is a Major Contributor to Cellular Biomass in Geochemically Distinct Groundwater of Shallow Sedimentary Bedrock Aquifers

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Introduction

This supporting information provides the entire data for the distribution (absolute and relative concentration) and $\delta^{13}C$ values of PLFAs.

Table S1. PLFAs absolute concentration in the forest soil and groundwater sample

		C13:0	C14:0	i15:0	a15:0	C15:0	C16:1	C16:1ω7C	C16:1	C16:1ω9c	C16:1ω11	C16:0	C17:1	MeC16:0	10MeC16:0
Forest	ngg^{-1}	2.6	5.3	41.0	53.0	2.4	31.9	833.3	340.0	867.6	0.0	130.4	0.0	0.0	105.0
5.1-NO	ngL^{-1}	0.4	0.2	0.7	0.5	0.2	0.5	1.2	0.0	0.2	1.1	6.4	0.0	0.0	0.1
4.3-IR	ngL^{-1}	0.3	0.1	1.1	0.4	0.1	0.3	2.0	0.4	0.3	0.3	5.1	0.5	1.3	1.3
5.2-SR/An	ngL^{-1}	0.5	0.6	2.8	1.7	0.6	1.5	11.9	0.4	1.4	0.1	8.9	1.0	0.0	5.7

		11MeC16:0	iC17:0	C18:2	C18:1ω5c	C18:1ω7c	C18:1	C18:0	MeC18:0	C20:1	C20:1	C20:4	C20:5	C20:0	Σ PLFAs
Forest	ngg^{-1}	0.0	1.7	5.9	131.8	229.9	3.4	17.0	12.0	2.6	2.3	0.0	0.0	3.4	2409.8
5.1-NO	ngL^{-1}	10.3	0.5	0.5	1.4	4.1	0.0	2.2	1.4	0.0	0.0	0.3	0.0	0.0	10.9
4.3-IR	ngL^{-1}	0.0	0.4	1.2	2.9	7.9	0.0	10.2	0.4	0.0	0.0	0.1	0.2	0.0	13.2
5.2-SR/An	ngL^{-1}	0.0	0.6	1.2	3.4	15.6	0.6	1.3	0.4	0.0	0.0	0.3	0.2	0.0	36.7

Table S2. PLFA relative concentration

PLFAs	Forest area PLFA/C19:0 std	5.1-NO area PLFA/C19:0 std	4.3-IR area PLFA/C19:0 std	5.2-SR/An area PLFA/C19:0 std
C13:0	2.4	0.7	0.9	0.4
iC13:0	0.5	1.3	1.1	0.3
C14:0	4.8	0.3	0.3	0.6
i15:0	3.7	1.3	3.1	2.6
a15:0	0.2	1.0	1.1	1.6
C15:0	0.4	0.3	0.4	0.6
C16:3	2.0			0.5
meC15:0	1.7	0.8	0.9	1.0
C16:1	0.4	1.0	0.8	2.9
C16:1ω9c	11.8	0.4	0.9	2.6
C16:1ω7c	11.3	2.4	5.7	22.4
C16:1c	4.6		1.1	0.8
C16:1ω11		2.3	0.8	0.2
C16:0	1.8	13.2	14.3	16.8
C17:1			1.3	0.9
MeC16:0			3.6	
10MeC16:0	9.5	0.4	3.6	9.2
11MeC16:0		27.9		
iC17:0	2.9		2.9	1.2
cy17:0	2.9	22.3	4.5	5.2
iC17:1	0.2			0.7
C17:0	1.3	1.0	1.1	0.6
C18:2	11.9	1.1	3.2	3.9
C18:1ω5c	0.3	2.9	8.2	3.2
C18:1ω7c	20.8	8.4	22.1	14.8
C18:1	1.0			0.6
C18:0	1.4	4.6	11.5	1.2
C19:1	1.1	1.2	1.9	1.8
10MeC18:0	0.3	2.9	1.1	0.4
cy19:0	0.2	1.6	2.6	1.1
C20:1	0.2			
C20:1	0.3			
C20:4		0.6	0.4	0.3
C20:5			0.5	0.2
C20:0	0.3			
ladd(3)				0.2
ladd(5)				0.8

Table S3. Stale carbon isotope composition (δ^{13}C value) of the major PLFAs in groundwater and soil samples

well/soil	5.1-NO			5.2-SR/An			4.3-IR			Forest		
	δ^{13}C (‰)	st	n	δ^{13}C (‰)	sd	n	δ^{13}C (‰)	sd	n	δ^{13}C (‰)	sd	n
*i*C14:0				-42.6	0.7	4				-26.5	1.5	3
*a*15:0				-39.3	0.9	4				-25.6	1.9	3
*i*15:0				-44.6	0.5	4				-23.2	1.8	3
C16:1ω7c	-36.1	0.5	4	-41.5	0.3	4	-40.3	0.3	4	-28.4	1.7	3
C16:1				-42.4	2.6	4	-34.4	0.6	3			
C16:1ω11c	-28.5	2.3	3									
C16:0	-31.9	1.0	5	-39.8	0.7	4	-35.6	1.0	4	-26.5	0..8	3
MeC16:0							-45.1	0.8	3			
10MeC16:0				-49.2	0.3	4				-25.4	1.4	3
11MeC16:0	-28.7	0.9	5									
*a*C17:0										-26.5	0.9	2
*i*C17:0										-25.8	1.2	3
cy17:0	-25.8	0.4	5	-40.3	0.3	4	-31.4	0.4	3			
C18:1ω9c				-33.8		1				-28.2	0.8	2
C18:1ω7c	-29.0	0.8	3	-36.9	0.2	4	-33.9	0.7	4	-26.3	0.5	3
C18:0				-34.0		1	-32.4	0.3	3	-25.9	1.2	3
cy19:0				-39.9		1	-33.1	0.4	3	-31.8	1.5	3
C20:0												
ladd[3]				-64.4	1.8	4						
ladd[5]				-62.7	1.1	4						