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Supplement of

Sources and transfer mechanisms of dissolved organic matter during storm and inter-storm conditions in a lowland headwater catchment: constraints from high-frequency molecular data

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Supplementary materials

Figure S1. Temporal change in flow and DOM concentration and composition during storm events 2, 5 and 6. Black solid line, dashed line, white squares, white circles, black squares, black circles and white triangles represent discharge, DOC concentration, $\delta^{13}C$, SUVA 254, deoxyC6/C5, Ac/Al (V) and C/V, respectively. The units are given on the axes. The uncertainties for deoxyC6/C5, C/V and Ac/Al (V) are the mean RSD calculated for five samples analyzed in triplicate.

Figure S2. Identification of heptoses: GC-traces (m/z = 129) and mass spectra recorded at 30.51 minute for the first sample of storm event 5.

Table S1. List of the analyzed compounds and of the m/z ratio and mass spectra factor used for their integration.

Figure S1

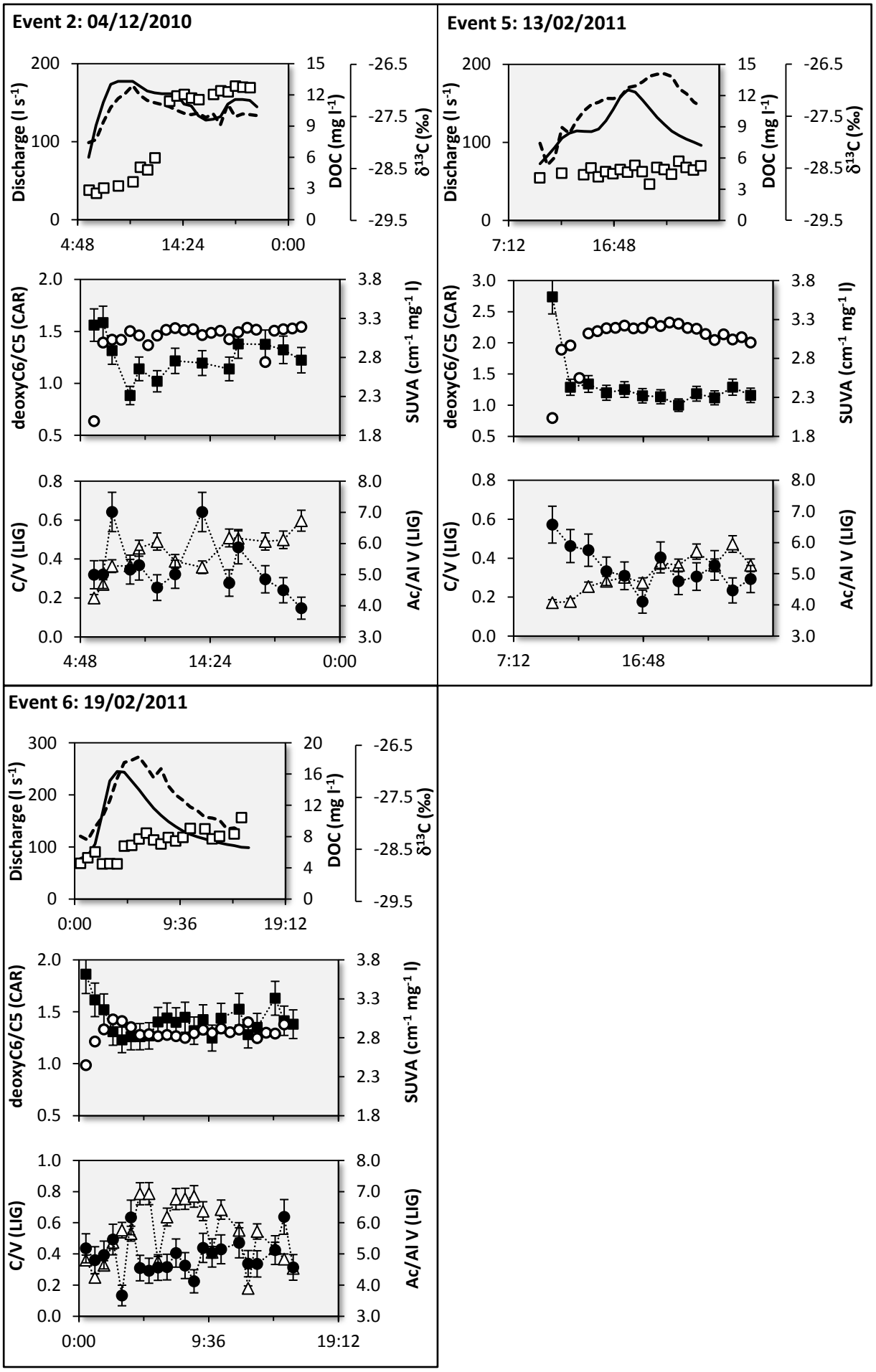
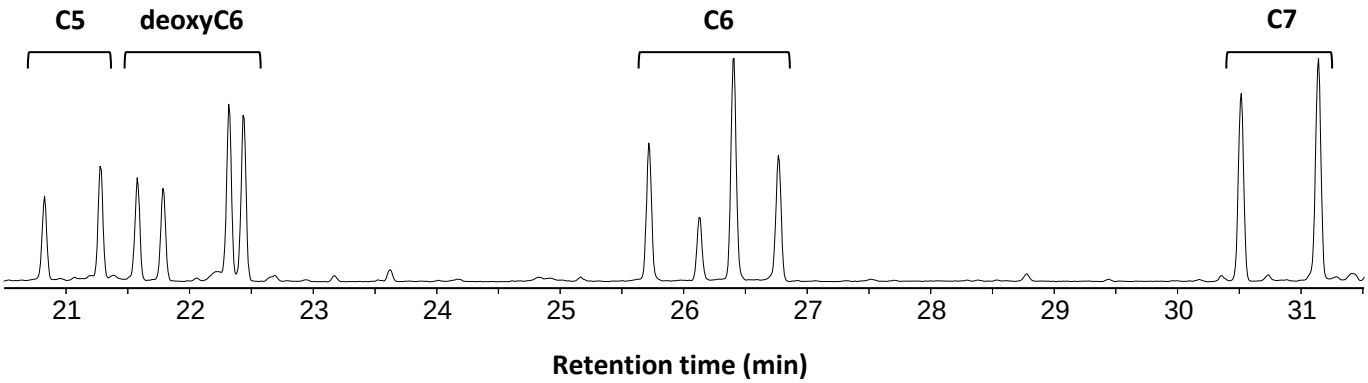

Event 2: 04/12/2010
Event 5: 13/02/2011
Event 6: 19/02/2011
Discharge (l s-1)
DOC (mg l-1)
δ13C (‰)
deoxyC6/C5 (CAR)
SUVA (cm-1 mg-1 l)
C/V (LIG)
Ac/Al V (LIG)
4:48
14:24
0:00
7:12
16:48
9:36
19:12

Figure S2

GC-traces for m/z = 129



Mass spectra recorded at 30.51 min

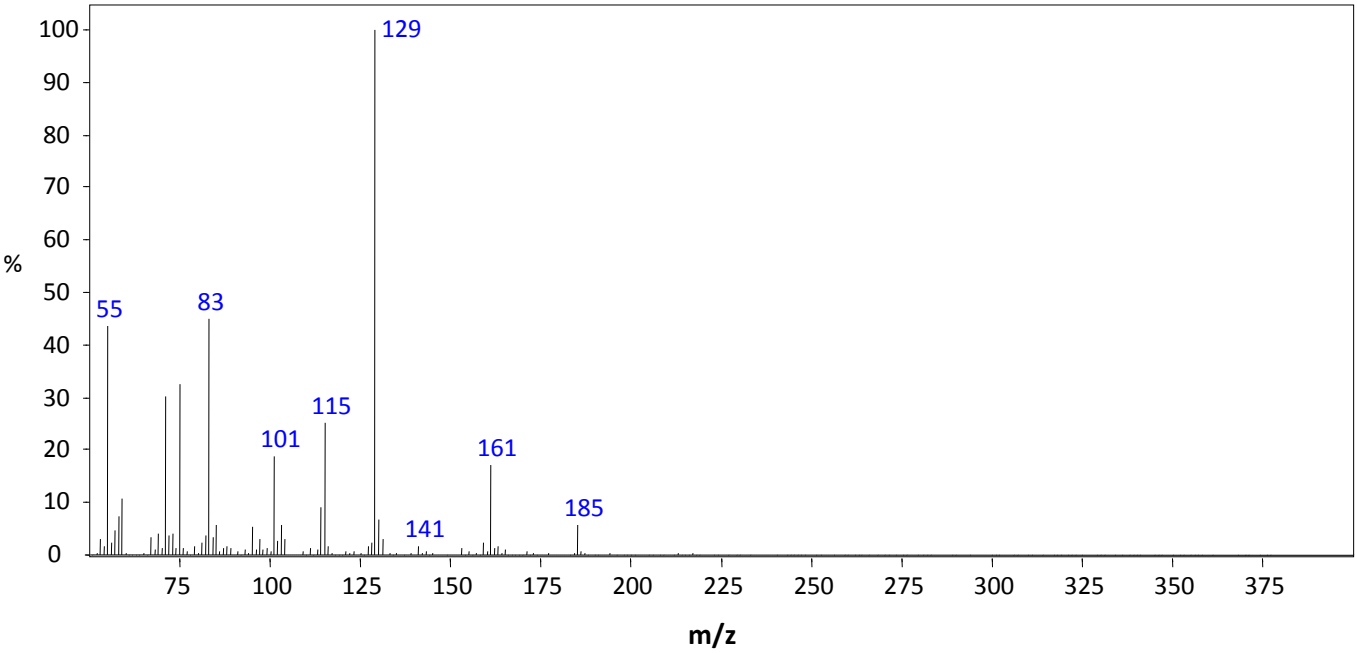


Table S1. List of the analyzed compounds and of the m/z ratio and mass spectra factor used for their integration.

Compounds	m/z ratio used for the integration	MSF
Carbohydrates		
Xylose	129	4
Rhamnose	129	4
Fucose	129	4
Glucose	129	4
Galactose	129	4
Heptose	129	4
Lignin and tannin residues		
3,4-dimethoxybenzaldehyde	166	4.2
3,4-dimethoxyacetophenone	165	2.8
3,4-dimethoxybenzoic acid, methyl ester	196	5.6
3,4,5-trimethoxybenzaldehyde	196	6.7
3,4,5-trimethoxyacetophenone	195	4.8
3-(4-methoxyphenyl)-prop-2-enoic acid, methyl ester	192	6.7
3,4,5-trimethoxybenzoic acid, methyl ester	226	5.3
3-(3,4-dimethoxyphenyl)-prop-2-enoic acid, methyl ester	222	3.7
1,2-dimethoxybenzene	138	4.7
1,4-dimethoxybenzene	138	6.0
4-methyl-1,2-dimethoxybenzene	152	5.7
1,2,3-trimethoxybenzene	168	3.8
1,2,4-trimethoxybenzene	168	4.3
4-methoxybenzoic acid methyl ester	135	2.8
5-methyl-1,2,3-trimethoxybenzene	167	7.0
1,3,5-trimethoxybenzene	168	3.0
1,2,3,4-tetramethoxybenzene	198	3.5
1,2,3,5-tetramethoxybenzene	198	13.5
Lipids		
C12:0	74	3.0
α,ω diacid C9:0	74	10.2
C13:0	74	4.1
C14:0	74	3.1
iso C15:0	74	3.3
anteiso C15:0	74	3.3
C15:0	74	3.3
brC16:0	74	4.9
C16:1	74	14.5
C16:0	74	4.9

† Those compounds have only been analyzed in the soil organic matter samples.

Table S1. continued.

Compounds	m/z ratio used for the integration	MSF
Lipids (suite)		
iso C17:0	74	3.9
anteiso C17:0	74	3.9
C17:0	74	3.9
C18:1	74	14.6
C18:0	74	4.5
ω-OH C16:0[†]	74	12.1
C19:0	74	4.3
α,ω diacid C16:0[†]	74	11.3
C20:0	74	4.9
ω-OH C18:0[†]	74	17.3
C21:0	74	7.5
α,ω diacid C18:0[†]	74	17.7
C22:0	74	4.9
ω-OH C20:0[†]	74	12.9
9,16-dimethoxy C16:0[†]	71	7.4
C23:0	74	8.4
α,ω diacid C20:0[†]	74	10.8
9,10,18-trimethoxy C18:0[†]	71	8.6
C24:0	74	4.4
ω-OH C22:0[†]	74	13.5
C25:0	74	7.7
α,ω diacid C22:0[†]	74	10.8
C26:0	74	4.5
ω-OH C24:0[†]	74	13.5
C27:0	74	5.1
α,ω diacid C24:0[†]	74	9.7
C28:0	74	4.9
ω-OH C26:0[T]	74	14.4

[†] Those compounds have only been analyzed in the soil organic matter samples.