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Supplement of

Sources 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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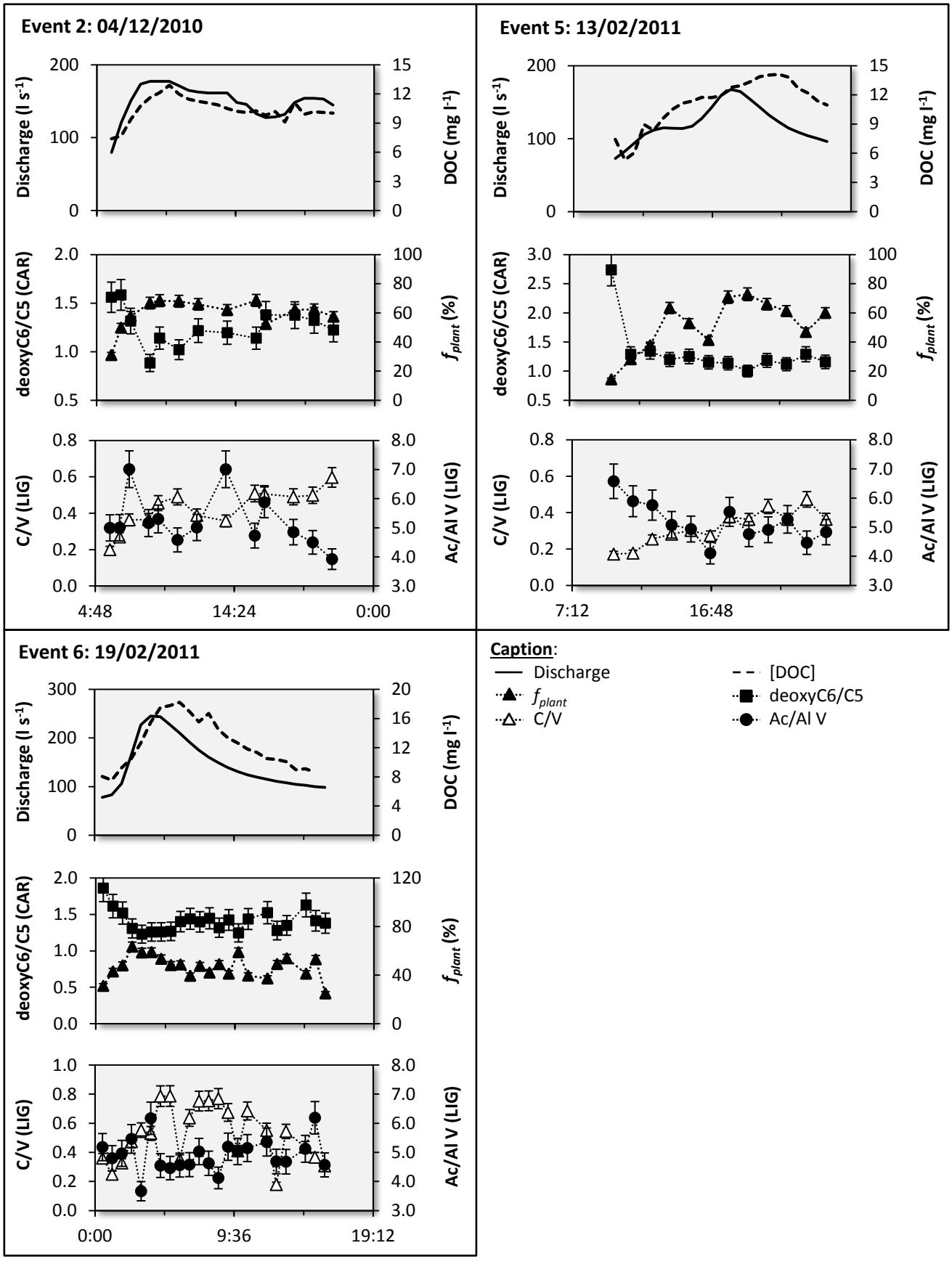
Figure S1. Temporal change in flow and DOM concentration and composition during storm events 2, 5 and 6. The uncertainties for deoxyC6/C5, f_{plant}, C/V and Ac/Al (V) are the mean RSD calculated for five samples analyzed in triplicate.

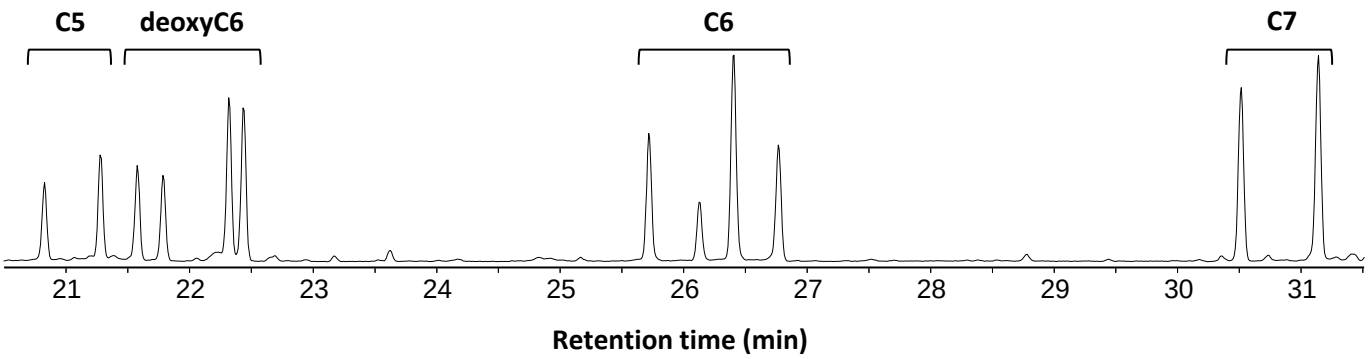
Figure S2. Identification of heptoses: GC-traces (m/z = 129) and mass spectra recorded at 30.51 minute for the first sample of storm event 5.

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

Table S2. Evolution of the discharge (l s^{-1}) during the day before each recorded storm events.


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

GC-traces for m/z = 129



Mass spectra recorded at 30.51 min

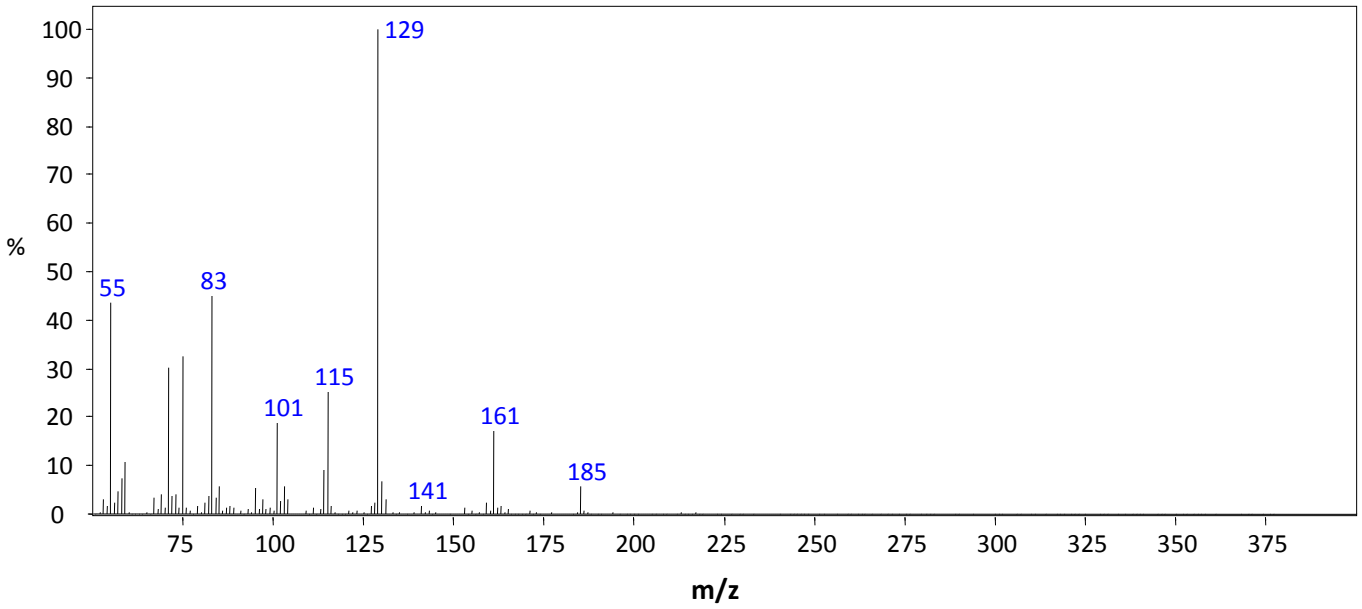


Table S1. List of the analyzed compounds and of the m/z ratio and mass spectra factor used for their integration.

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 (vanillaldehyde)	166	4.2
3,4-dimethoxyacetophenone (acetovanillone)	165	2.8
3,4-dimethoxybenzoic acid, methyl ester (vanillic acid)	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 (coumaric acid)	192	6.7
3,4,5-trimethoxybenzoic acid, methyl ester	226	5.3
3-(3,4-dimethoxyphenyl)-prop-2-enoic acid, methyl ester (ferulic acid)	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

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

Table S1. continued.

Compounds	m/z ratio used	MSF
Lipids (suite)		
C16:1	74	14.5
C16:0	74	4.9
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[†]	74	14.4

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

Table S2. Evolution of the discharge (l s^{-1}) during the day before each recorded storm events.

	event 2	event 3	event 4	event 5	event 6
h-24	44.0	48.0	57.1	54.5	60.5
h-23	44.0	48.0	57.1	53.6	60.5
h-22	44.0	48.0	57.1	53.6	60.3
h-21	43.9	47.9	57.1	53.1	59.7
h-20	43.2	47.2	57.1	53.3	59.7
h-19	43.2	47.6	57.1	52.1	59.9
h-18	43.2	51.7	57.1	52.0	59.9
h-17	43.2	62.5	57.1	51.6	59.6
h-16	42.5	72.7	57.1	51.2	59.6
h-15	42.5	76.9	57.1	51.2	58.8
h-14	42.5	77.5	57.1	51.2	58.8
h-13	42.5	77.2	57.1	51.2	58.8
h-12	41.9	75.3	57.1	51.2	58.8
h-11	41.7	72.4	57.1	51.2	58.8
h-10	41.7	69.9	57.2	51.2	58.8
h-09	41.7	67.0	57.9	51.2	58.8
h-08	41.7	64.4	57.9	51.2	58.8
h-07	41.7	62.6	57.9	51.5	58.8
h-06	41.7	61.9	57.9	52.0	58.8
h-05	41.7	60.6	57.9	52.0	58.8
h-04	41.7	59.2	57.9	52.1	58.8
h-03	41.7	58.8	57.9	52.9	59.5
h-02	41.7	58.8	57.9	54.4	60.7
h-01	41.7	59.5	57.9	57.3	64.4
Mean	42.5	61.5	57.4	52.4	59.6
Standard deviation	0.9	10.5	0.4	1.5	1.2
Relative standard deviation	2	17	1	3	2