

Table S1: List of the analysed compounds and their appropriate m/z ratio and mass spectra factor (MSF). * indicate compounds retained for PCA analysis

Compound name	m/z	MSF
Lignin phenols		
* 3,4-dimethoxyacetophenone (acetovanillone)	165	2,8
* 3,4-dimethoxybenzaldehyde (vanillin)	166	4,2
* 3,4-dimethoxybenzoic acid, methyl ester (vanillic acid)	196	5,6
* 3,4,5-trimethoxyacetophenone (acetosyringone)	195	4,8
* 3,4,5-trimethoxybenzaldehyde (syringaldehyde)	196	6,7
* 3,4,5-trimethoxybenzoic acid, methyl ester (syringic acid)	226	5,3
* 3-(4-methoxyphenyl)-prop-2-enoic acid, methyl ester (p-coumaric acid)	192	6,7
* 3-(3,4-dimethoxyphenyl)-prop-2-enoic acid, methyl ester (ferulic acid)	222	3,7
* 4-methyl-1,2-dimethoxybenzène	152	5,7
* 1,2,4-trimethoxybenzène	168	4,3
* 1,3,5-trimethoxybenzène	168	3,0
* 3-methoxybenzoic acid methylester	135	3,9
* 4-methoxybenzoic acid methylester	135	2,8
1,2,3,4-tetramethylbenzène	198	3,5
* 1,2,3,5-tetramethylbenzène	198	13,5
* cis-1,2-Dimethoxy-4-(2-methoxyethenyl)benzene	194	5,1
* trans-1,2-Dimethoxy-4-(2-methoxyethenyl)benzene	194	5,1
1,2-Dimethoxy-4-(1-methoxy-1-propenyl)benzene	208	6,2
cis-1,2-Dimethoxy-4-(2-methoxy-1-propenyl)benzene	208	5,7
trans-1,2-Dimethoxy-4-(2-methoxy-1-propenyl)benzene	208	5,7
trans-1,2-Dimethoxy-4-(3-methoxy-1-propenyl)benzene	208	5,6
* cis-1,2,3-Trimethoxy-5-(2-methoxyethenyl)benzene	224	7,0
trans-1,2,3-Trimethoxy-5-(2-methoxyethenyl)benzene	224	7,0
* erythro-1,2-dimethoxy-4-(1,2,3-trimethoxypropyl)benzene	181	3,6
threo-1,2-dimethoxy-4-(1,2,3-trimethoxypropyl)benzene	181	3,6
cis-1,2,3-Trimethoxy-5-(2-methoxy-1-propenyl)benzene	238	7,0
trans-1,2,3-Trimethoxy-5-(2-methoxy-1-propenyl)benzene	238	7,0
cis-1,2-Dimethoxy-4-(2,3-dimethoxy-1-propenyl)benzene	238	8,5
trans-1,2-Dimethoxy-4-(2,3-dimethoxy-1-propenyl)benzene	238	8,5
* erythro-1,2,3-Trimethoxy-5-(1,2,3-trimethoxypropyl)benzene	211	2,1
threo-1,2,3-Trimethoxy-5-(1,2,3-trimethoxypropyl)benzene	211	2,1
benzoic acid methyl ester	105	2,9
Carbohydrates		
* xylose (C5)	129	4,0
* rhamnose (deoxyC6)	129	4,0
* fucose (deoxy C6)	129	4,0
* glucose (C6)	129	4,0
* galactose (C6)	129	4,0

Table S1 continued

Compound name	m/z	MSF
Fatty acids		
* C _{12:0}	74	3,0
* C _{13:0}	74	4,1
* brC _{14:0}	74	3,1
* C _{14:0}	74	3,1
* isoC _{15:0}	74	3,3
* anteC _{15:0}	74	3,3
* C _{15:0}	74	3,3
* brC _{16:0}	74	4,9
* C _{16:1}	74	14,5
* C _{16:0}	74	4,9
* isoC _{17:0}	74	3,9
* anteC _{17:0}	74	3,9
* C _{17:0}	74	3,9
* C _{18:1}	74	14,6
* C _{18:0}	74	4,5
* ω-OH C _{16:0}	74	12,1
* C _{19:0}	74	4,3
* α,ω diacid C _{16:0}	74	11,3
C _{20:0}	74	4,9
* ω-OH C _{18:0}	74	17,3
C _{21:0}	74	7,5
* α,ω diacid C _{18:0}	74	17,7
C _{22:0}	74	4,9
* ω-OH C _{20:0}	74	12,9
C _{23:0}	74	8,4
* α,ω diacid C _{20:0}	74	10,8
C _{24:0}	74	4,4
* ω-OH C _{22:0}	74	13,5
* C _{25:0}	74	7,7
* α,ω diacid C _{22:0}	74	10,8
* C _{26:0}	74	4,5
* ω-OH C _{24:0}	74	13,5

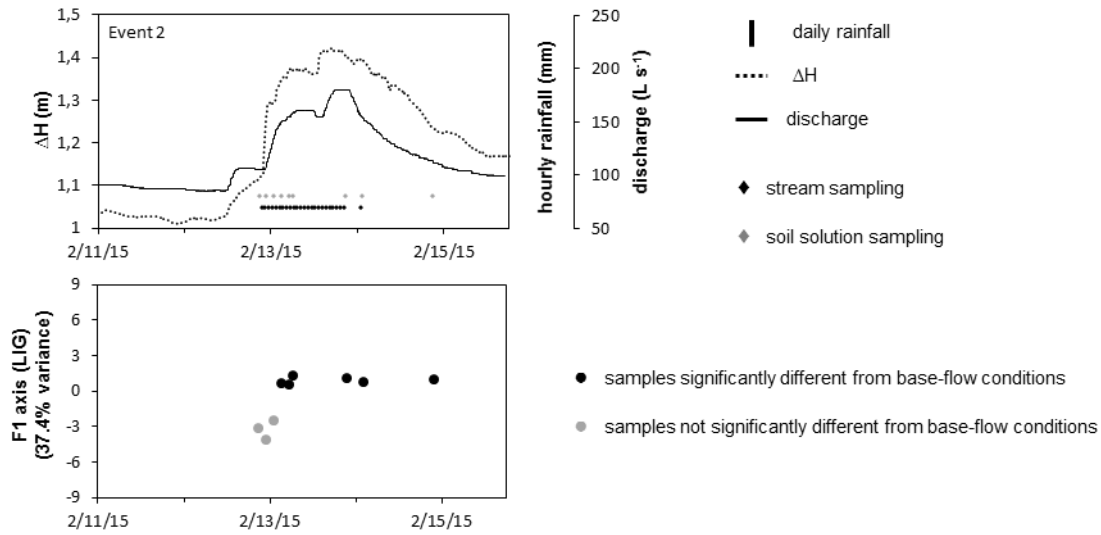


Figure S1: Evolution of LIG distribution during event 2.

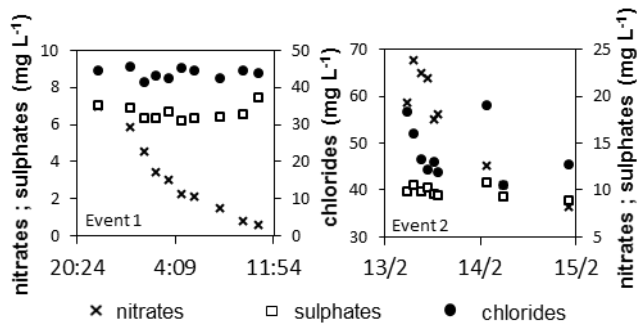


Figure S2: Concentration of nitrates, sulphates and chlorides in soil solutions during events 1 and 2.

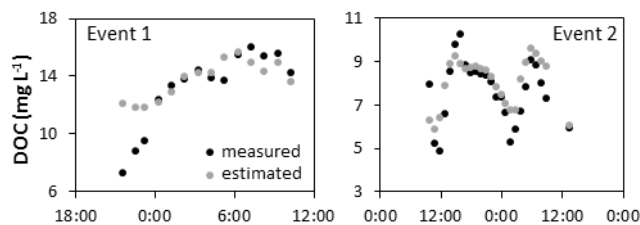


Figure S3: Comparison of DOC concentration measured at the outlet and DOC concentration estimated from deep groundwater, soil solution, surface runoff concentrations and their relative contribution to the discharge for events 1 and 2.