Supplement of Biogeosciences, 14, 1793–1809, 2017
http://www.biogeosciences.net/14/1793/2017/
doi:10.5194/bg-14-1793-2017-supplement

Biogeosciences Open Access EGU

Supplement of

Temporal changes in photoreactivity of dissolved organic carbon and implications for aquatic carbon fluxes from peatlands

Amy E. Pickard et al.

Correspondence to: Amy E. Pickard (amy.pickard@ed.ac.uk)

Table S1. Selection parameters for rainfall event samples from the Black Burn used in irradiation experiments. Top row denotes winter rainfall event values and bottom row denotes summer rainfall event values.

	Rainfall event	**a_{254}**	**E4:E6**	**POC mg L^{-1}**
Median	Winter	1.63	6.70	11.0
	Summer	1.36	6.73	5.83
Maximum	Winter	1.98	8.63	63.5
	Summer	1.47	11.0	10.6
Minimum	Winter	1.34	3.57	4.10
	Summer	1.30	4.62	3.88

Table S2. Carbon budget calculations for individual C species and total C balance in samples collected in May 2014 at the Black Burn and Loch Katrine. CH_4 concentrations are not included in budget calculations as they were < 0.05% of the total budget. Differences are expressed as % of non-irradiated samples. Values are means of 4 replicates. LOD = limit of detection

	DOC mg L^{-1}	DIC mg L^{-1}	CO_2 mg L^{-1}	CO mg L^{-1}	**∑ C mg L^{-1}**
Black Burn					
Irradiated	48.9	1.18	2.82	0.13	**53.0**
Non irradiated	50.9	1.38	1.20	<LOD	**53.5**
Difference	-3.9 %	-14 %	135 %	---	**-0.8 %**
Loch Katrine					
Irradiated	5.30	1.42	0.82	0.02	**7.56**
Non irradiated	5.05	1.55	0.80	<LOD	**7.40**
Difference	5.0 %	-8.4 %	2.5 %	---	**2.2 %**

Figure S1. Spectral output (240-800 nm) of UV-B 313 lamps employed in irradiation experiments in this study.

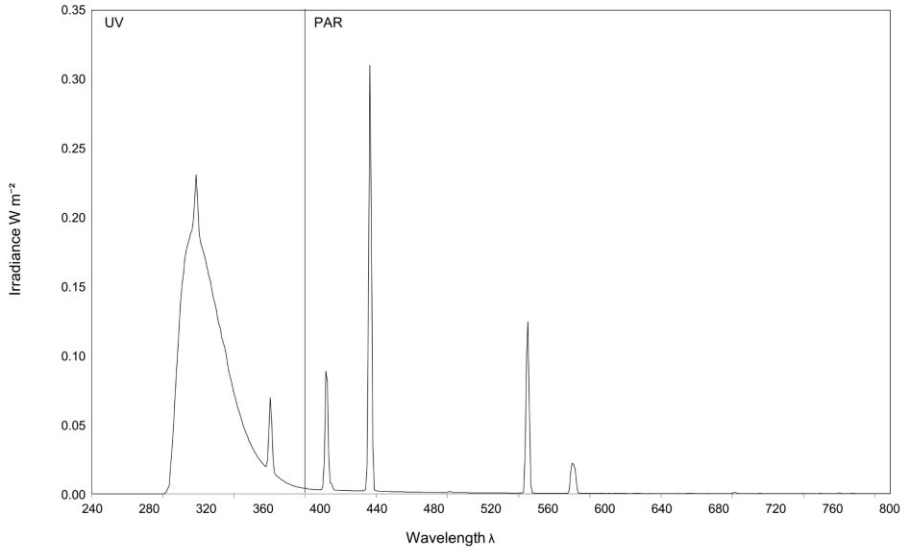

Figure S2. Black Burn discharge during and 2 weeks before a) winter and b) summer rainfall events. The events are demarcated by two vertical lines on each of the plots.

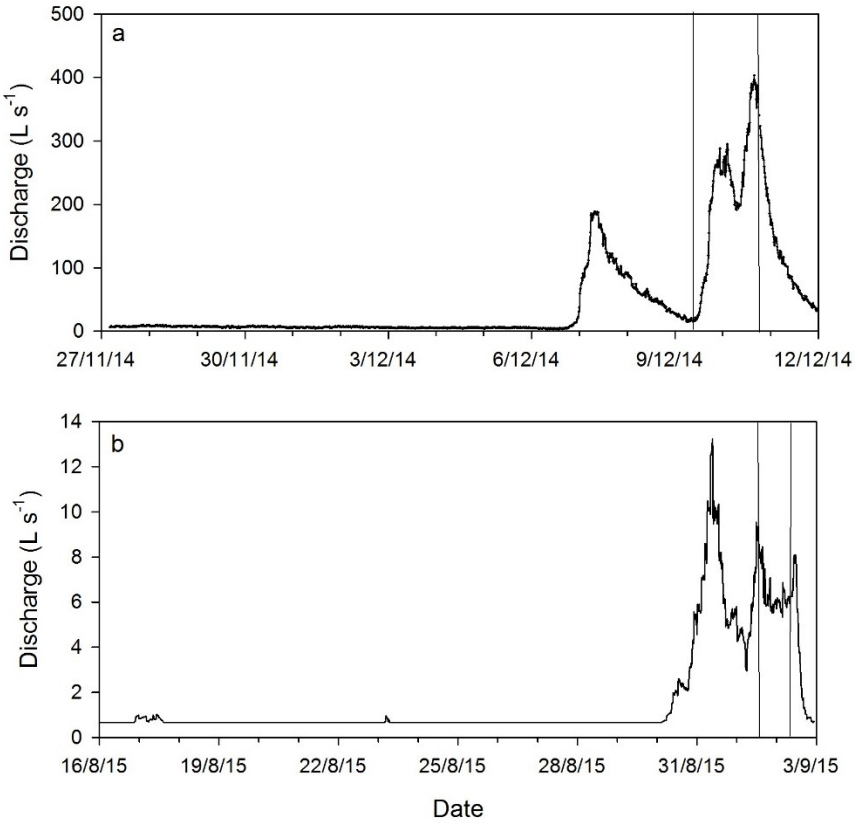

Figure S3. Pearson correlation between total concentration of lignin phenols Σ_{11} (µg L^{-1}) and DOC concentration in all Black Burn water samples (n=28), including monthly and rainfall event samples.