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Supplement of

Carbon losses from pyrolysed and original wood in a forest soil under natural and increased N deposition

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Supplement Figures

Figure 1S: Soil respiration rate (in μmol CO_2 m^{-2} s^{-1}) for control (a), PyOM (b) and wood (c). Error bars represent the standard error of the mean (n=3)

Figure 2S: Cumulative losses of PyOM-C (a) and wood-C (b) as CO_2 in % of the initial C input derived from equation 4. The black line represents losses under ambient N deposition and the grey line losses under increased N. Continuous line represent the mean and the dashed line the standard error of the mean (n=3).

Figure 3S: Cumulated losses as DOC for PyOM (a) and Wood (b) expressed as % of initially added organic input-C. Empty symbols represent the ambient N treatment and full symbols represent the increased N treatment. Error bars represent the standard error of the mean (n=3).

Figure 4S: Distribution of the range of CO_2 (difference between sample with highest and lowest CO_2 concentration) among all the keeling plots.

Figure 5S: Isotopic signature of the soil-respired CO_2. Empty symbols represent the ambient N treatment and full symbols represent the increased N treatment. Circles represent control treatment, triangles represent PyOM treatment, and squared symbols wood treatment. Error bars represent the standard error of the mean (n=3).

Figure 6S: Electrical conductivity of the leachate water. Empty symbols represent the ambient N treatment and full symbols represent the increased N treatment. Circles represent control treatment, triangles represent PyOM treatment, and squared symbols wood treatment. Error bars represent the standard error of the mean (n=3).

Figure 7S: pH of the leachate water. Empty symbols represent the ambient N treatment and full symbols represent the increased N treatment. Circles represent control treatment, triangles represent PyOM treatment, and squared symbols wood treatment. Error bars represent the standard error of the mean (n=3).

Figure 8S: C credit debt ratio predicted over time. The black lines (referred to the left axis)

represent remaining PyOM (continuous line) and wood (dashed line) as estimated by one single pool, two point mineralization model. The red line (referred to the right axis) represents the C credit ratio, when this is higher than 1 this means that more C is stored in the soil compared to the C initially present in the feedstock.
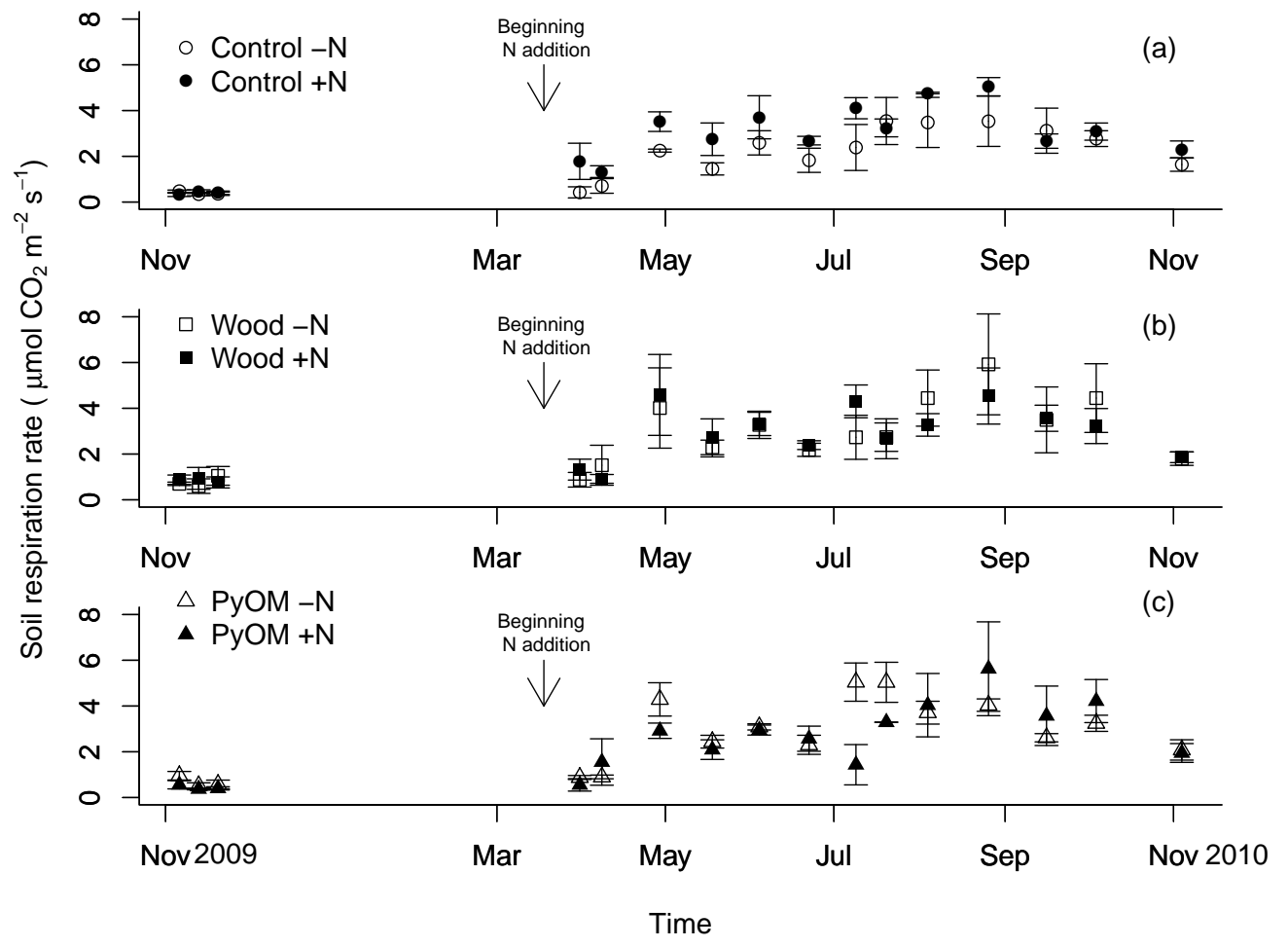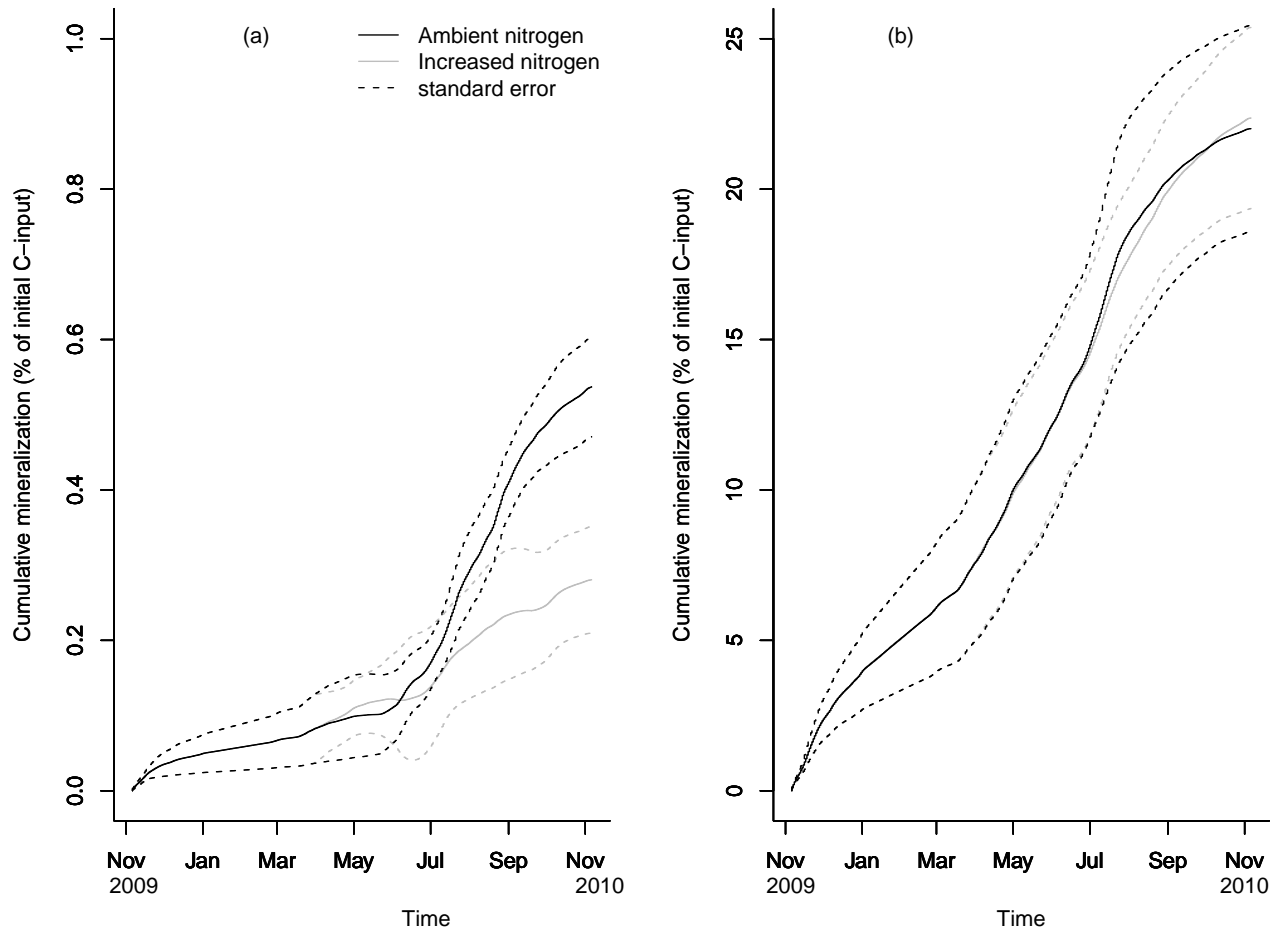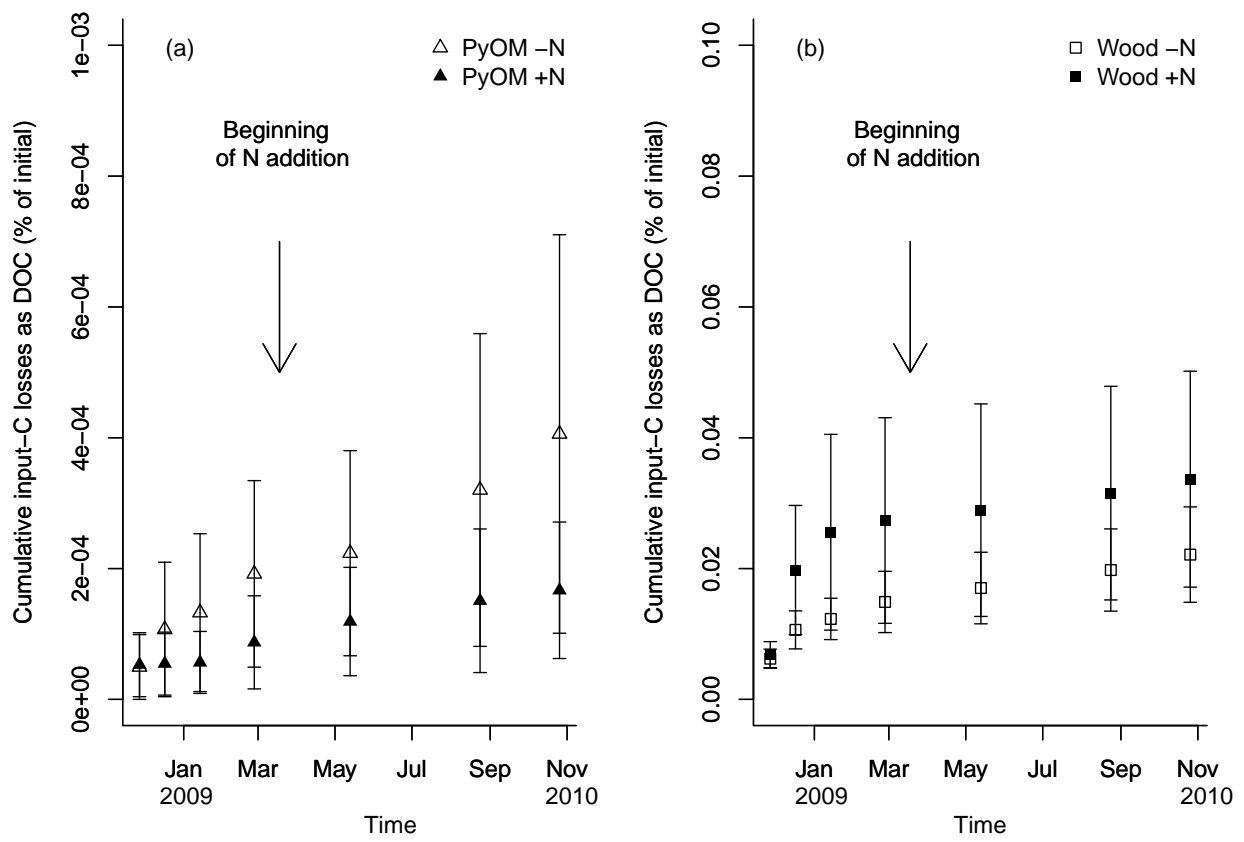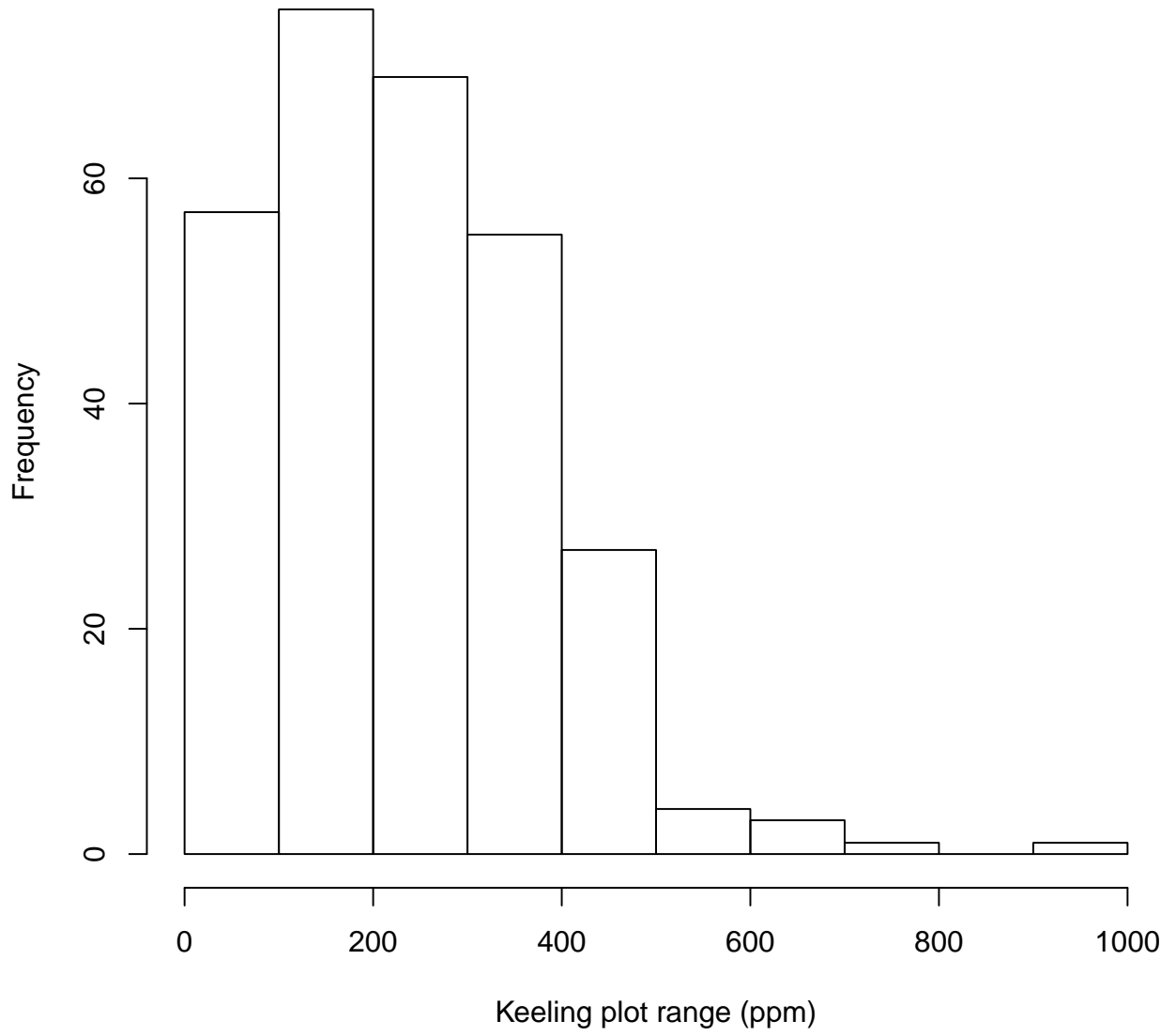
Figure 1S

Figure 2S

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Figure 3S

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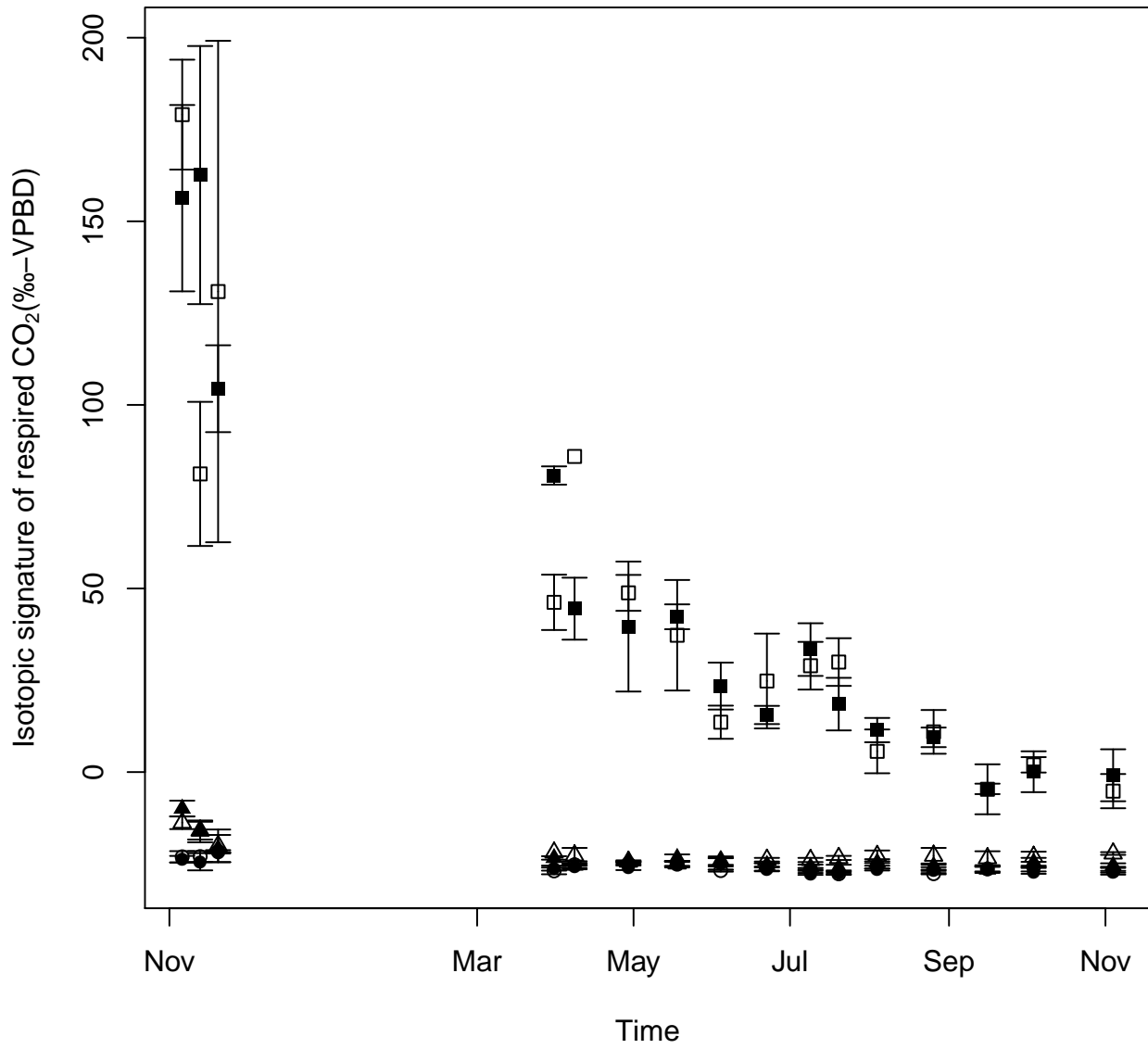# Histogram of CO2 range in Keeling plots
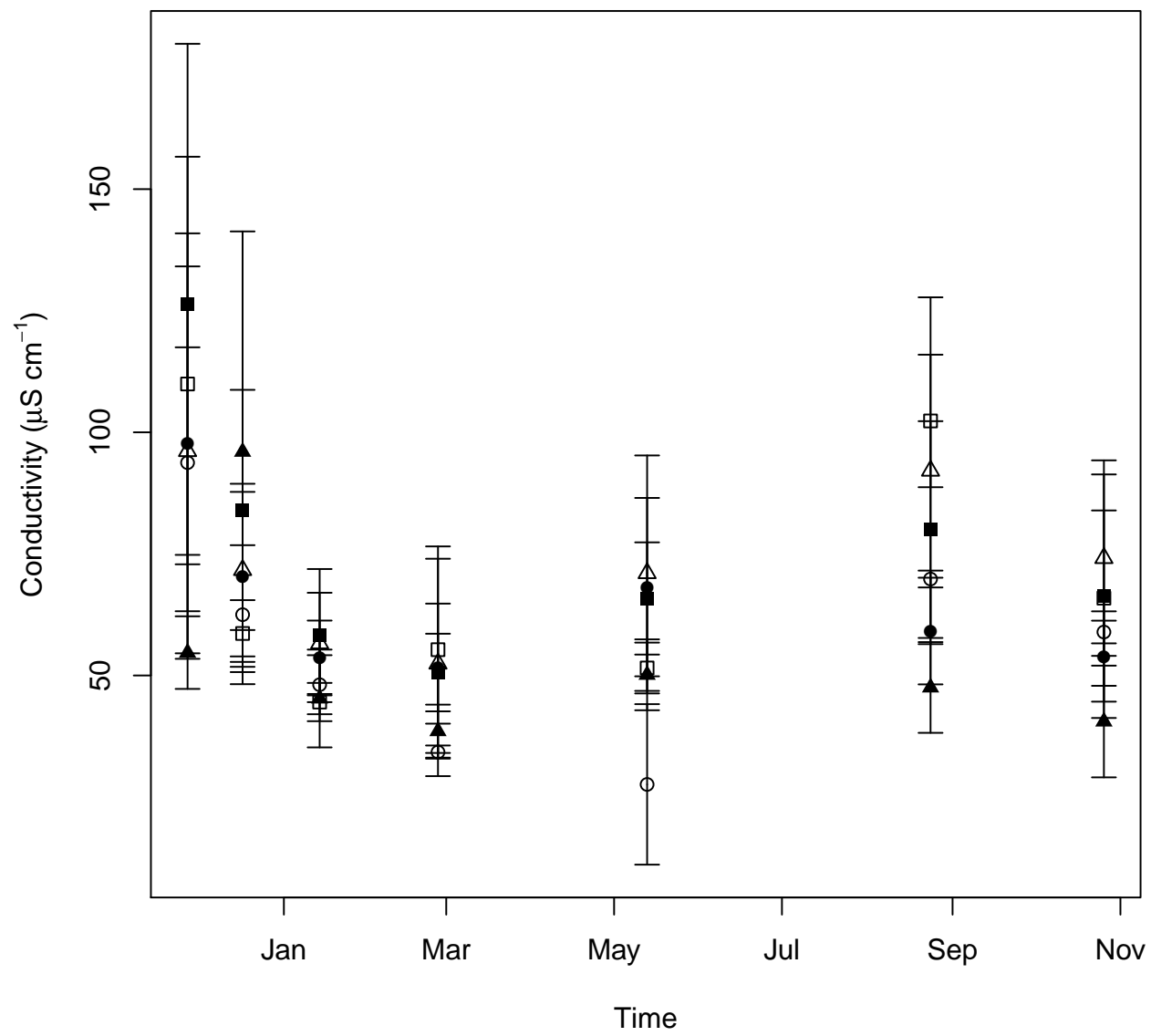

Figure 4S
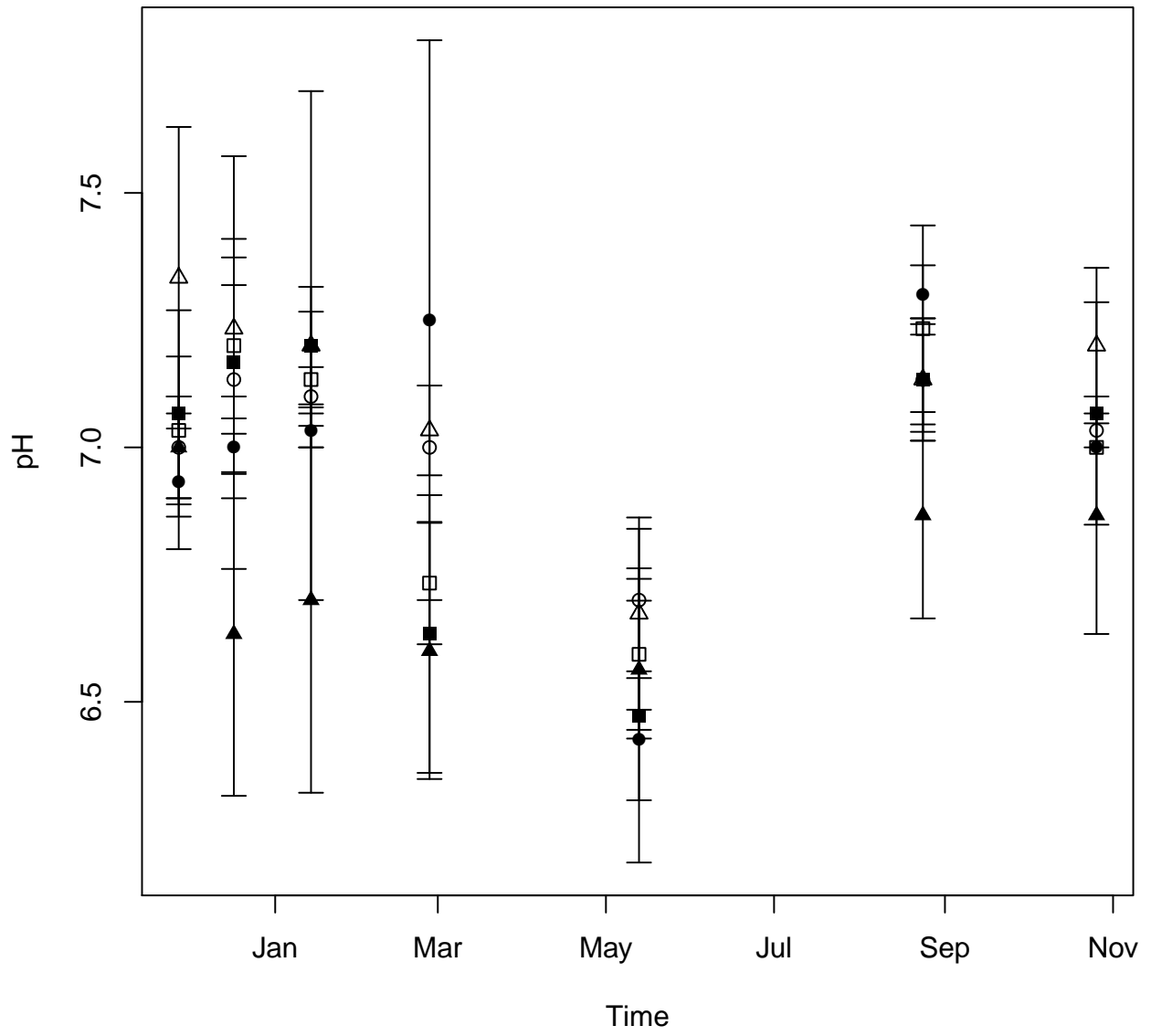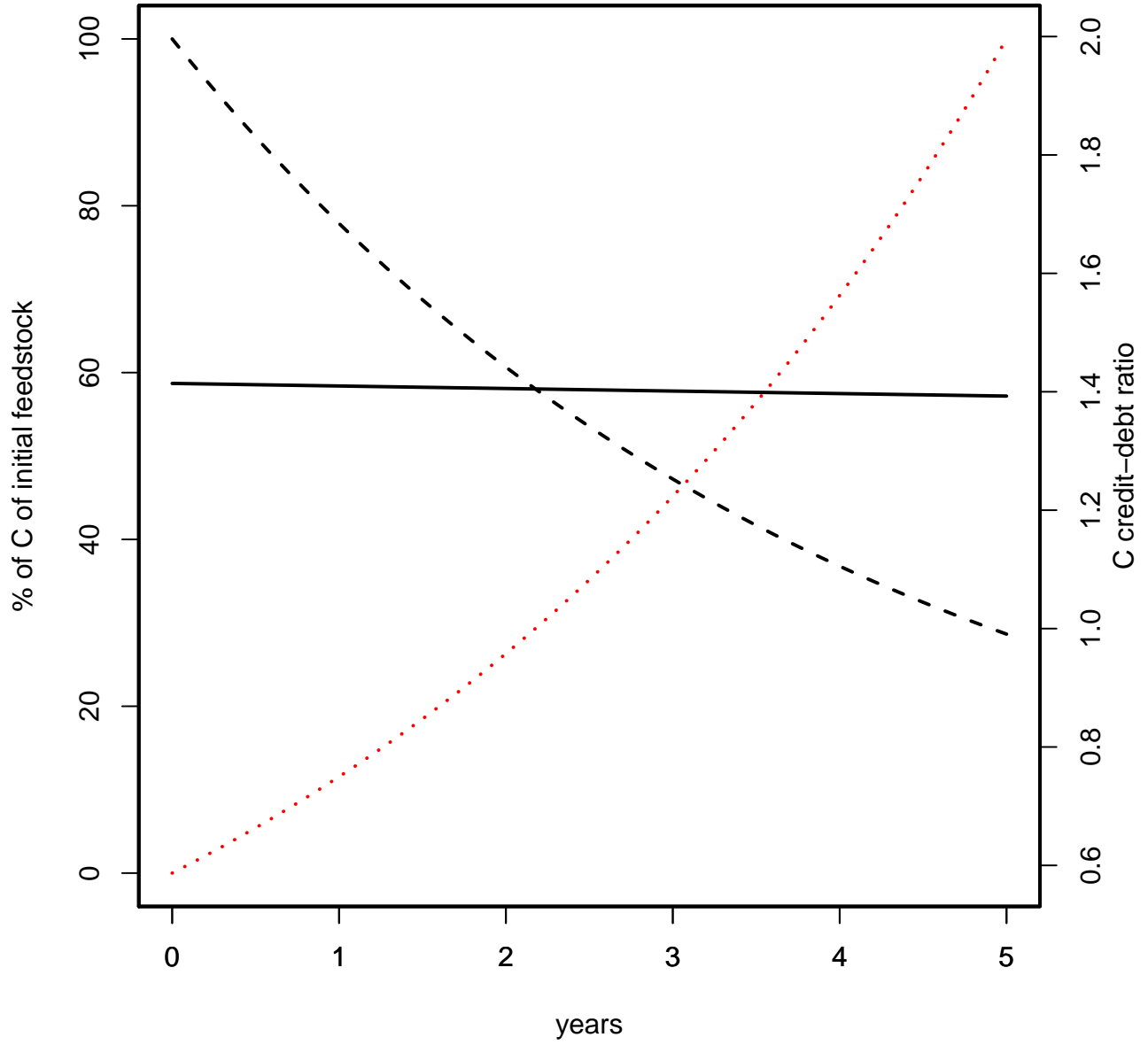
Figure 5S

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Figure 6S

Figure 7S

Figure 8S

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Table 1S: Volume-weighted average isotopic signature of DOC leached over 1 year. Letters refer to the significant differences different letters represent significant differences (P < 0.05, post-hoc Tukey's test on the interaction of nitrogen and treatment factor)

Treatment	Nitrogen addition (+60 Kg N ha^{-1})	
	No	yes
	δ^{13}C (‰ V-PBD)	
Char	-27.4±0.2 a	-27±0.1 a
Control	-27.4±0.3 a	-27.2±0.1 a
Wood	-5.5±2.8 b	-1.9±4.6 b