



*Supplement of*

## **Improving measurements of microbial growth, death, and turnover by accounting for extracellular DNA in soils**

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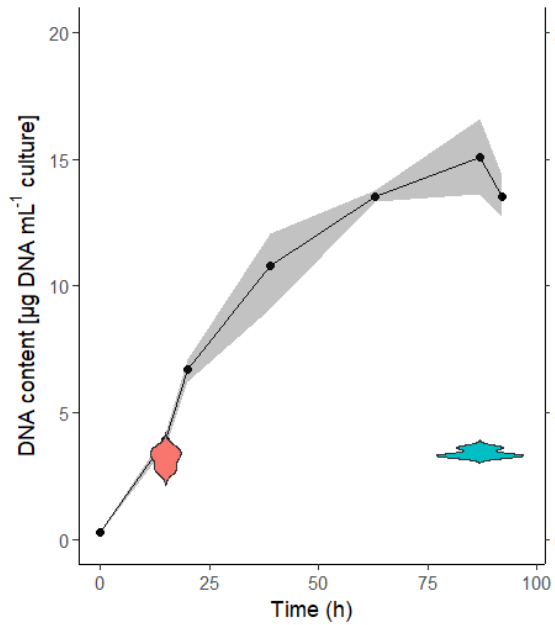
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1 SUPPLEMENT

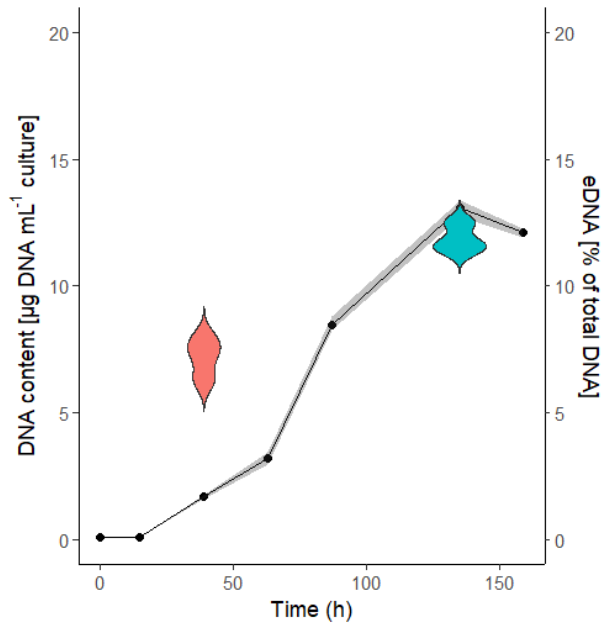
2 Extracellular DNA in pure microbial cultures

3 We determined eDNA and iDNA contents in pure liquid cultures of *Escherichia coli* and *Paenibacillus*  
4 *alginoliticus* once during the exponential growth phase of the culture and once when the culture had  
5 reached a plateau in its biomass. The microorganisms were grown following instructions and suggestions  
6 for optimal media by DSMZ – German collection of Microorganisms and Cell Cultures. For *E. coli*, we  
7 determined the total DNA per  $\mu\text{L}$  of liquid culture immediately after inoculation, 15 h, 20 h, 39 h, 63 h, 87  
8 h and 92 h after inoculation. After 15 h and after 87 h we further determined eDNA and iDNA content of  
9 the culture. For *P. alginolyticus* total DNA was determined immediately after inoculation, 15 h, 39 h, 63 h,  
10 87 h, 135 h and 159 h after inoculation. After 39 h and after 135 h we further determined eDNA and iDNA  
11 content of the culture. Total DNA was determined by extracting 500  $\mu\text{L}$  of the liquid culture with the  
12 FastDNA™ SPIN Kit for Soil (MP Biomedicals). For determination of eDNA and iDNA content, 1.6 mL of the  
13 liquid culture were filled in emptied lysing matrix tubes E. The tubes were then centrifuged at 12500 rpm  
14 for 2 min and the supernatant was collected as the eDNA containing fraction. The two DNA fractions were  
15 then treated as described above for sequential DNA extraction. Afterwards, DNA contents were  
16 determined using the Picogreen assay.

a) *E. coli*



b) *P. alginolyticus*



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18 Figure S1. DNA content and eDNA proportion of pure cultures of a) *Escherichia coli* and b) *Paenibacillus*  
19 *alginolyticus*. Dot and line plots represent DNA content in the two cultures; violin plots show the  
20 proportion of eDNA during the exponential growth phase of the culture (red color) and during the  
21 plateau phase of the culture (turquoise)