

Article

Priming of Soil Organic Carbon Decomposition Induced by Exogenous Organic Carbon Input Depends on Vegetation and Soil Depth in Coastal Salt Marshes

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Table S1. Cumulative CO₂ emission derived from glucose and soil.

Vegetation	Soil layer	Treatment	From soil (mg kg ⁻¹)	From glucose (mg kg ⁻¹)
<i>S. salsa</i>	Topsoil	CK	13.96 ± 1.53b	
		+G	100.34 ± 3.11A	193.66 ± 14.54A
	Subsoil	CK	8.09 ± 0.48c	
		+G	83.74 ± 2.23B	156.66 ± 18.36B
<i>P. australis</i>	Topsoil	CK	16.00 ± 1.30a	
		+G	100.39 ± 2.2A	204.46 ± 10.29A
	Subsoil	CK	8.00 ± 0.72c	
		+G	67.01 ± 1.44C	126.04 ± 9.68C

Mean values ± SD are shown ($n = 4$). Different lowercase letters represent significant differences between different soil layers and different vegetations under the control (CK) treatment. Different capital letters in each column represent significant differences between different soil layers and vegetation treated with glucose addition treatment (+G) (one-way ANOVA, $p < 0.05$, Duncan's multiple range test).

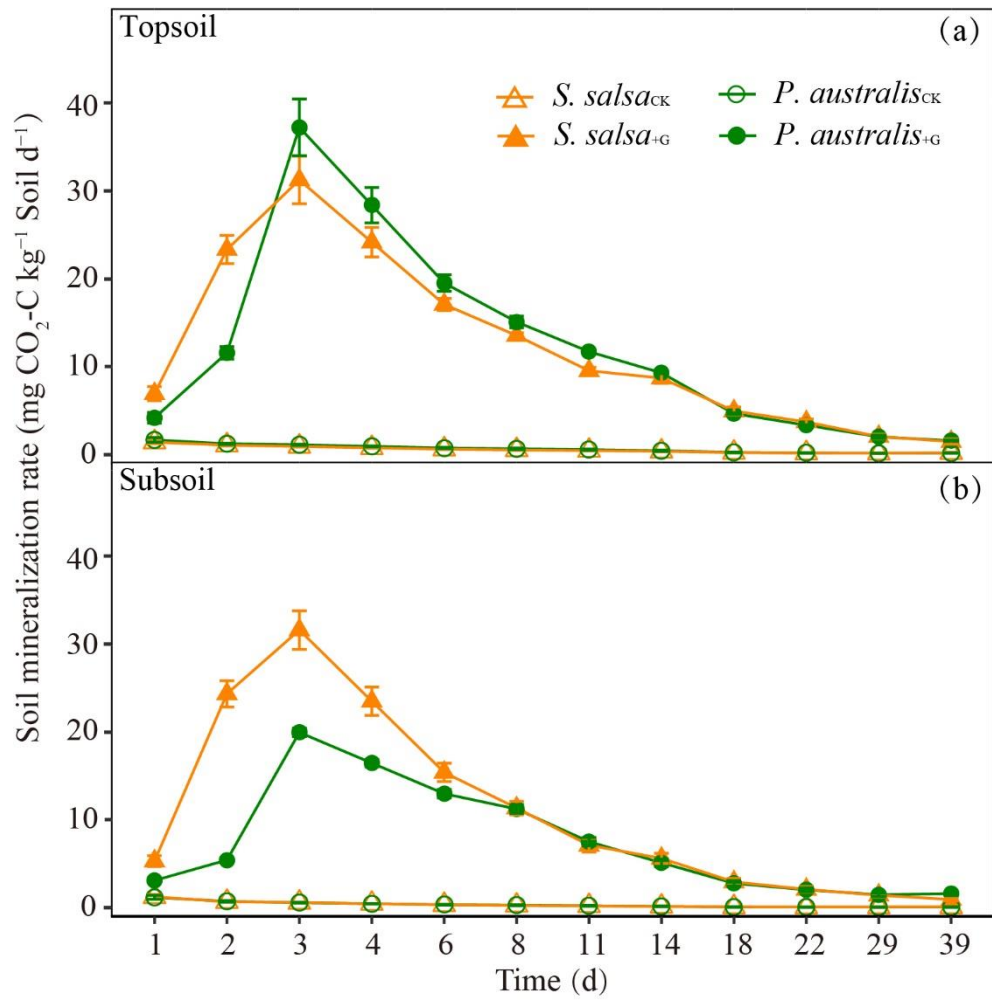


Figure S1. The changes in the rate of soil mineralization for the control (CK) and glucose addition treatment (+G) in the topsoil (a) and subsoil (b) layers of the two salt marshes. Mean values \pm SD are shown ($n = 4$).

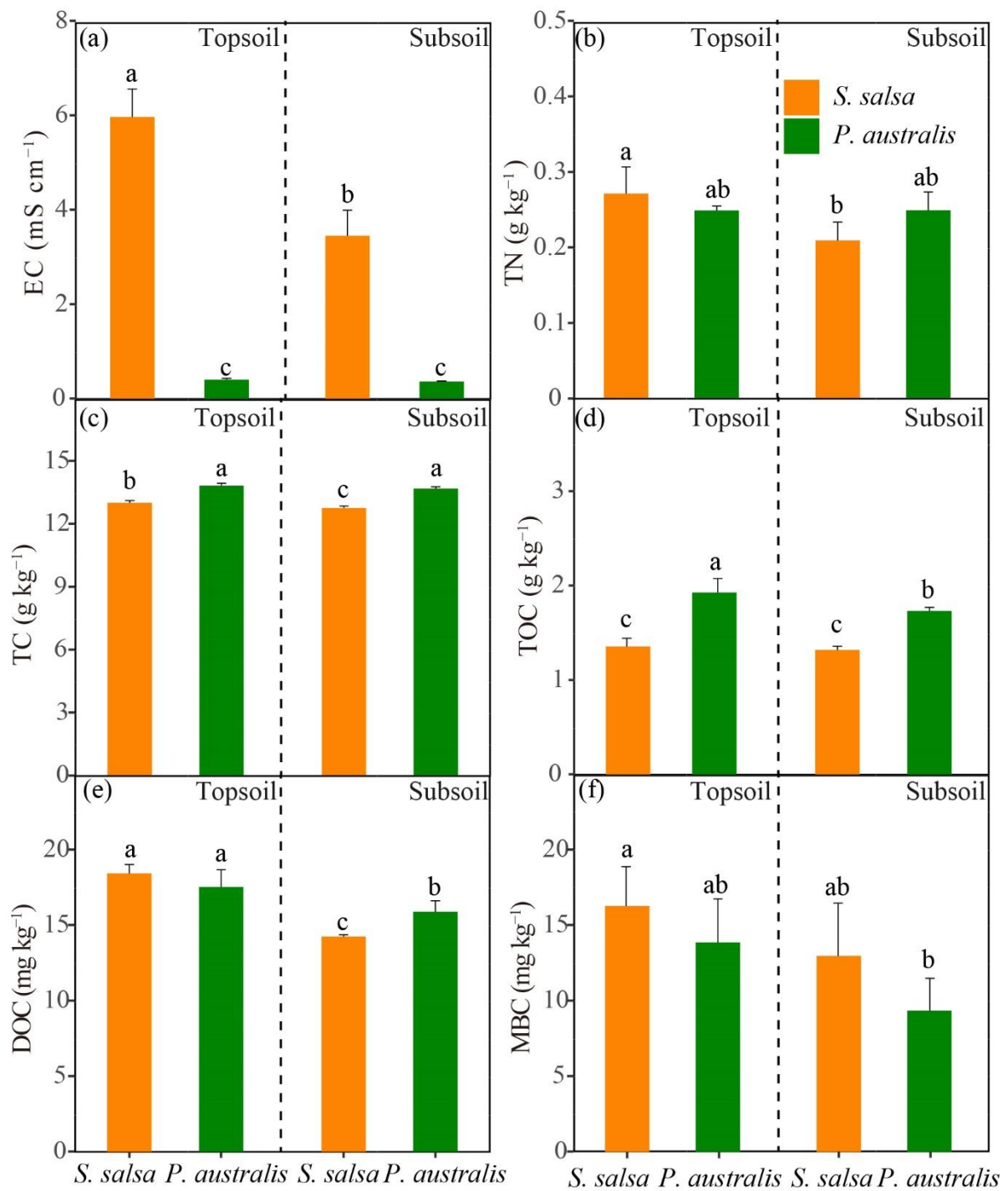


Figure S2. The final values of soil physicochemical properties in the glucose addition treatment (+G) after the incubation. Mean values \pm SD are shown ($n = 4$). Different letters indicate significant differences between treatments in the same soil layer. (a): electrical conductivity (EC), (b): soil total nitrogen (TN), (c): soil total carbon (TC), (d): soil total organic carbon (TOC), (e): soil dissolved organic carbon (DOC), (f): soil microbial biomass carbon (MBC).

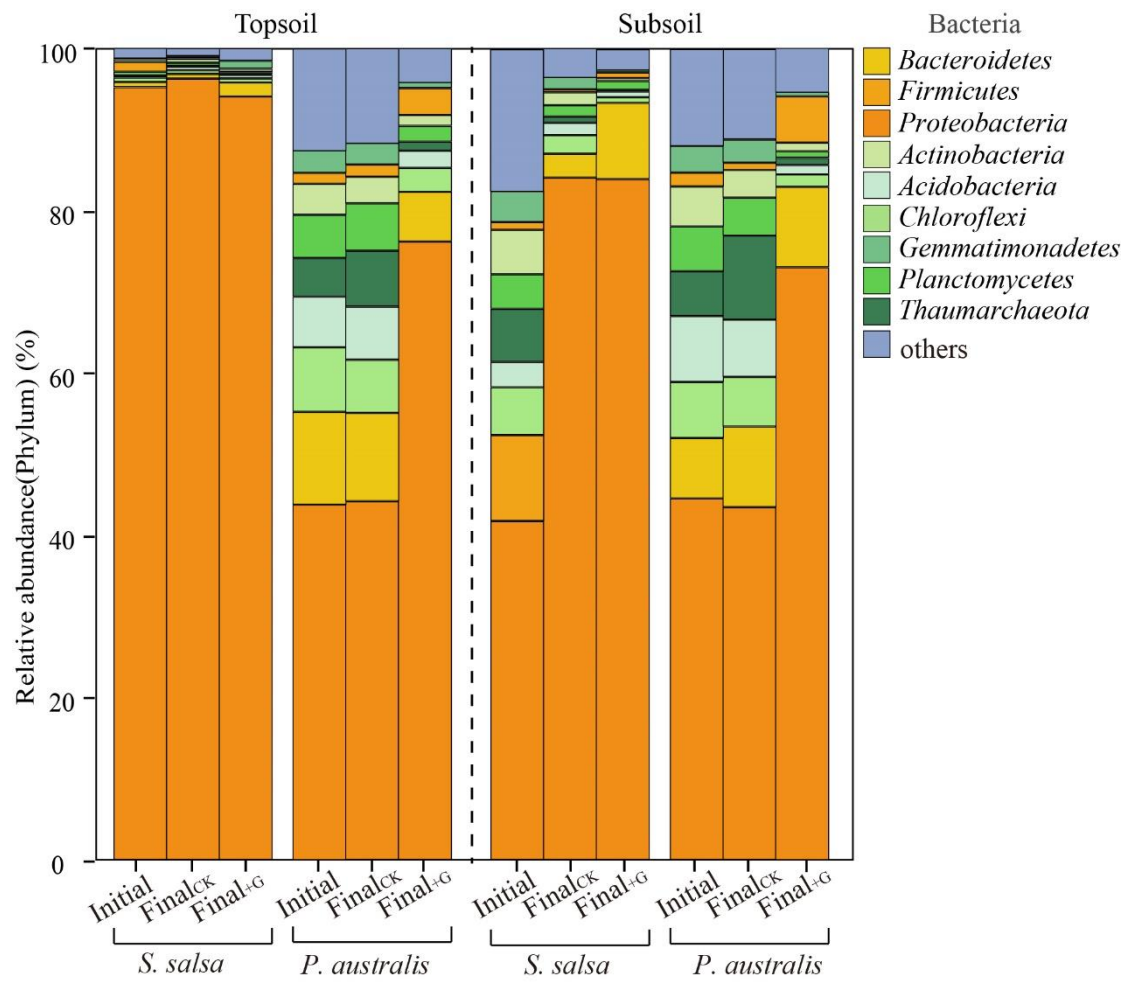


Figure S3. Relative abundances of different phylum of bacteria in the soil. **Initial** is the soil before incubation experiment, **Final_{ck}** is the soil from the control at the end of incubation experiment, and **Final_{+G}** is the soil from glucose addition treatment at the end of incubation experiment.

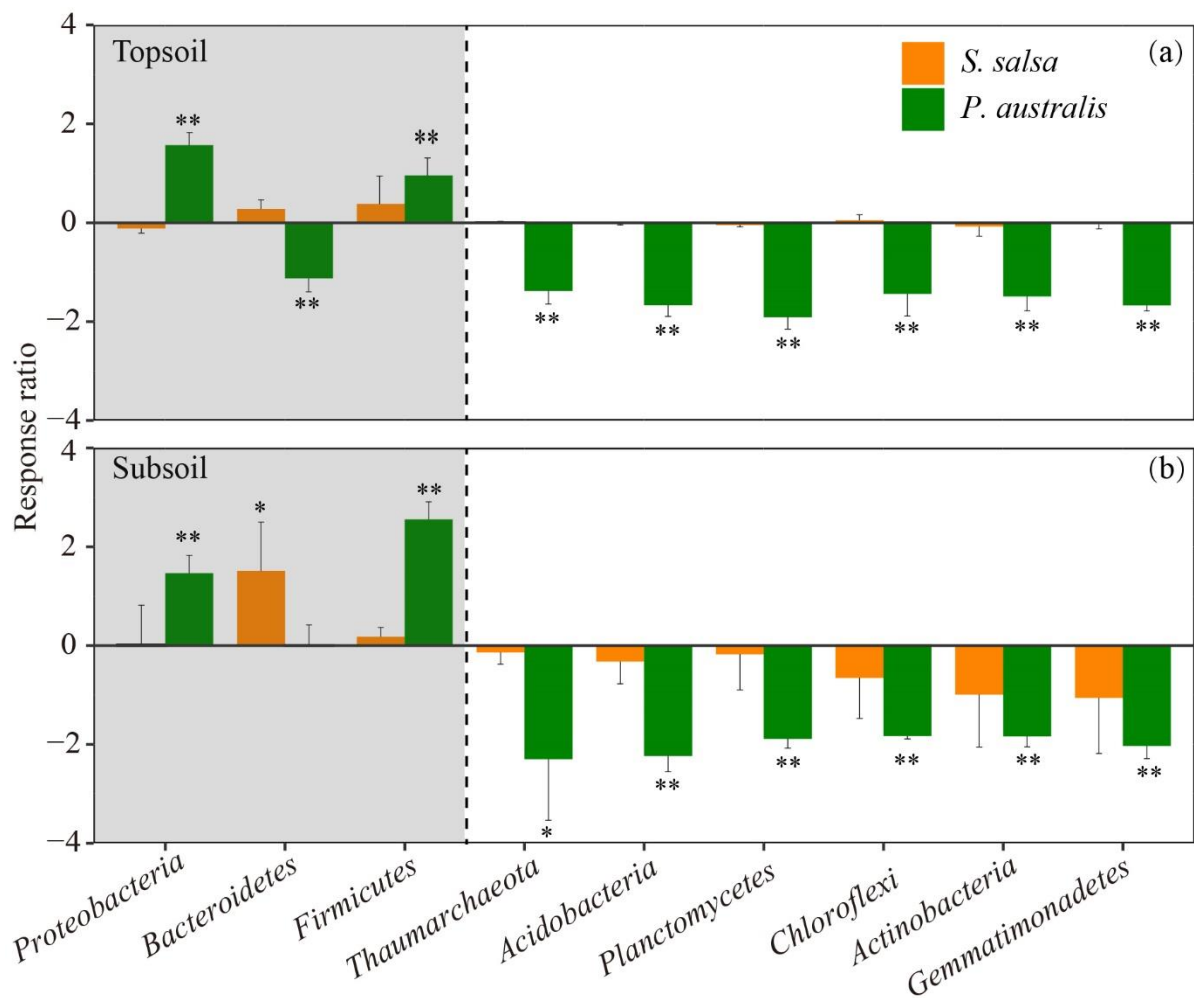


Figure S4. The response ratio of the relative abundance of dominant bacterial groups at the phylum level at the end of the experiment. The shaded portion represents the r-strategy bacterial groups, while the others represent the K-strategy bacterial groups. Mean values \pm SD are shown ($n = 4$). The positive and negative values suggest positive and negative treatment effect, respectively. The t -test was used to determine its significant differences from zero. * $p < 0.05$; ** $p < 0.01$.

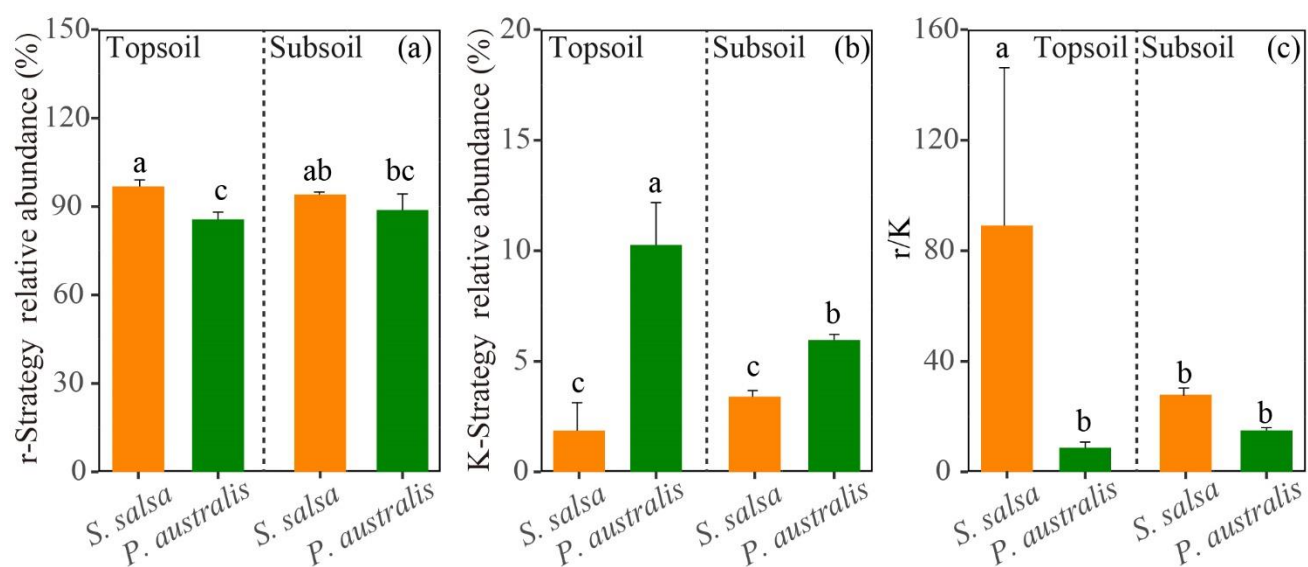


Figure S5. The relative abundance of r-strategists (a), K-strategists (b) and their ratio (r:K ratio) (c) in the topsoil and subsoil layers for the two vegetation types under glucose addition treatment. Different lowercase letters represent significant differences between treatments in the same soil layer (One-way ANOVA, $p < 0.05$, Duncan's multiple range test).

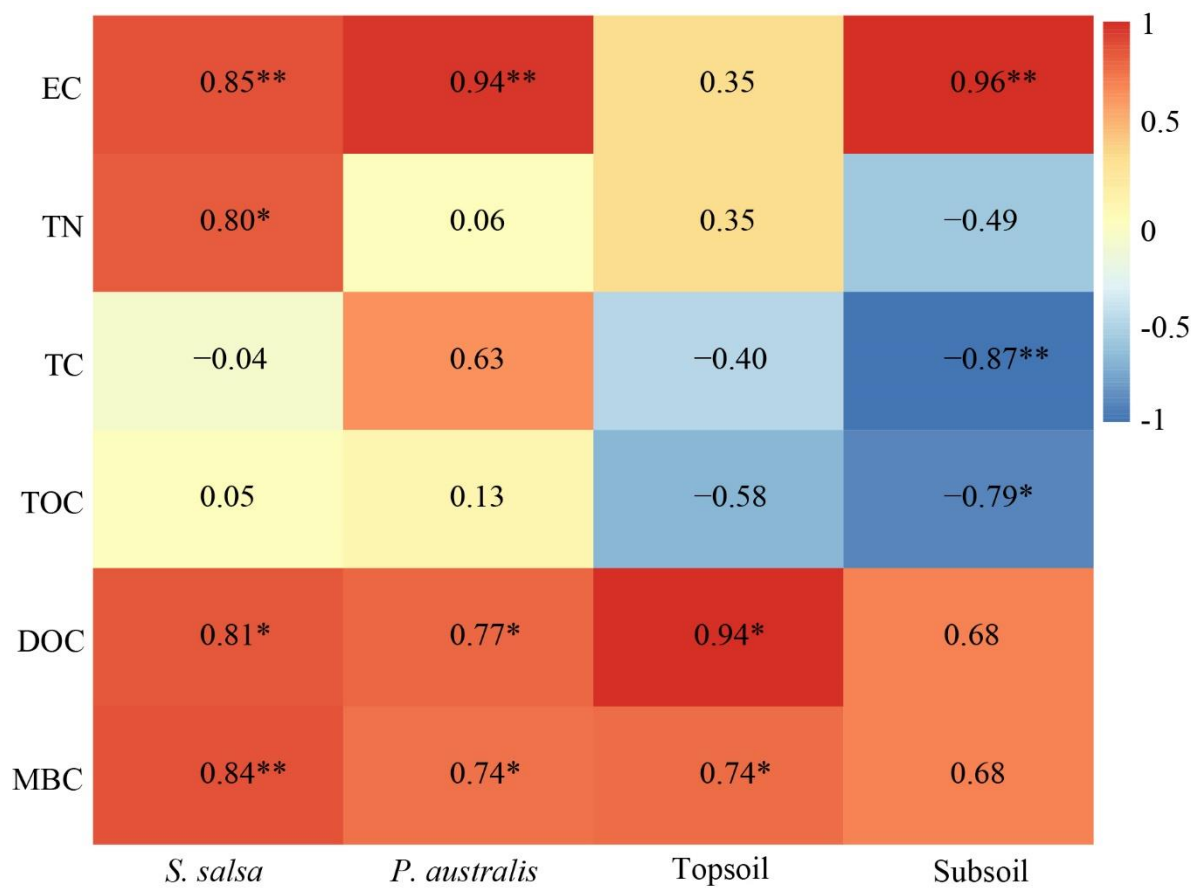


Figure S6. The Pearson correlation coefficients between PE and physiochemical properties based on the two vegetation types and the two soil layers. * $p < 0.05$; ** $p < 0.01$. EC: electrical conductivity, TN: soil total nitrogen, TC: soil total carbon, TOC: soil total organic carbon, DOC: soil dissolved organic carbon, MBC: soil microbial biomass carbon.

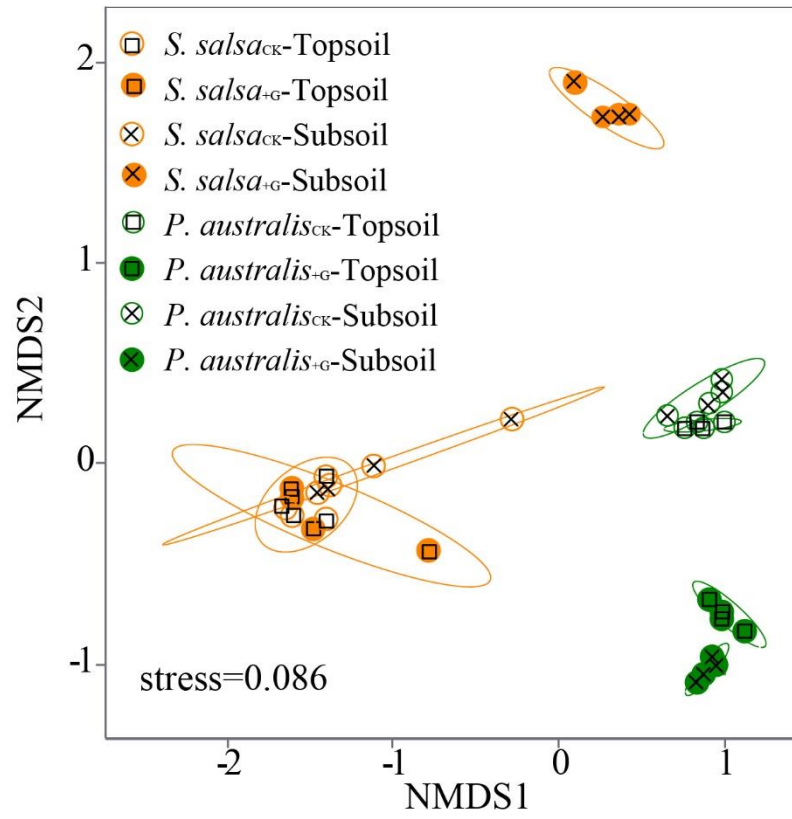


Figure S7. Nonmetric multidimensional scaling (NMDS) ordination of OUT composition of the microbial communities in the CK and glucose addition treatment (+G) based on Bray–Curtis distances. The ellipses represent 95% confidence intervals.