Supplementary Material

Effect of dissolved solids released from biochar on soil microbial metabolism

Contents
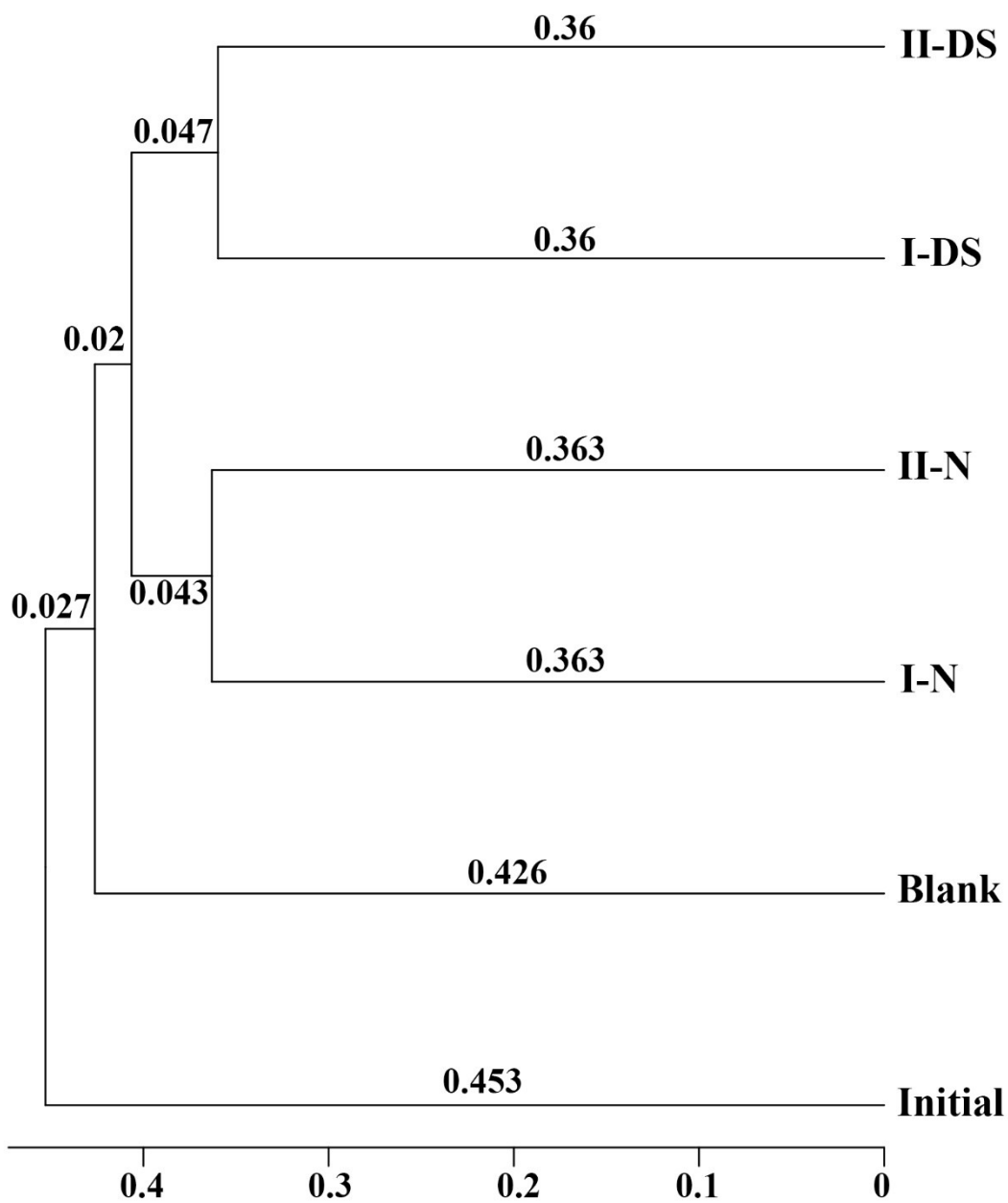
Fig. S1 The UPGMA dendrogram based on microbial community structure similarity generated from Jaccard's similarity values.

		ATP	ADP/ATP ratio	NADH	NAD/NADH ratio	NADPH	NADP/NADPH ratio	Extracellular protein	Extracellular polysaccharide	TDS	TOC	ATP/NADPH ratio	NADH/NADPH ratio
DSRB	S	**0.510**	**-0.521**	**0.611**	**-0.362**	**0.600**	-0.317	-0.102	-0.147	**0.849**	**0.634**	0.181	**-0.442**
	P	**0.005**	**0.004**	**0.001**	**0.038**	**0.001**	0.061	0.314	0.241	**0.000**	**0.000**	0.193	**0.014**
Ochrobactrum sp. WH-2	S	-0.181	-0.125	-0.011	-0.181	0.062	0.000	-0.023	0.260	0.260	**0.385**	-0.272	-0.136
	P	0.193	0.277	0.479	0.193	0.384	0.500	0.457	0.104	0.104	**0.029**	0.094	0.259
Castellaniella sp. WH-14	S	**0.747**	**-0.396**	**0.442**	0.034	**0.504**	**-0.396**	0.193	0.170	0.306	0.113	**0.668**	**-0.430**
	P	**0.000**	**0.025**	**0.014**	0.436	**0.005**	**0.025**	0.178	0.208	0.069	0.295	**0.000**	**0.016**
Time	S	-0.239	**0.482**	**0.565**	0.208	0.114	**0.365**	**-0.794**	0.263	0.184	0.137	-0.267	0.075
	P	0.125	**0.007**	**0.002**	0.159	0.294	**0.036**	**0.000**	0.102	0.189	0.256	0.099	0.362
ATP	S	--	**-0.755**	**0.448**	-0.174	**0.725**	**-0.651**	0.290	0.086	**0.661**	**0.526**	**0.748**	**-0.722**
	P	--	**0.000**	**0.012**	0.203	**0.000**	**0.000**	0.080	0.341	**0.000**	**0.003**	**0.000**	**0.000**
ADP/ATP ratio	S	**-0.755**	--	-0.298	**0.350**	**-0.400**	**0.372**	**-0.430**	-0.085	**-0.535**	**-0.485**	**-0.660**	**0.417**
	P	**0.000**	--	0.074	**0.043**	**0.024**	**0.033**	**0.016**	0.344	**0.003**	**0.007**	**0.000**	**0.019**
NADH	S	**0.448**	-0.298	--	-0.172	**0.611**	0.021	**-0.470**	0.268	**0.729**	**0.465**	0.264	**-0.344**
	P	**0.012**	0.074	--	0.205	**0.001**	0.461	**0.009**	0.097	**0.000**	**0.010**	0.101	**0.046**
NAD$^+$/NADH ratio	S	-0.174	**0.350**	-0.172	--	-0.170	0.125	-0.202	0.025	-0.313	-0.087	0.020	0.107
	P	0.203	**0.043**	0.205	--	0.208	0.275	0.166	0.454	0.064	0.340	0.462	0.305
NADPH	S	**0.725**	**-0.400**	**0.611**	-0.170	--	**-0.692**	-0.072	0.243	**0.776**	**0.607**	0.219	**-0.934**
	P	**0.000**	**0.024**	**0.001**	0.208	--	**0.000**	0.366	0.121	**0.000**	**0.001**	0.146	**0.000**

		ATP	ADP/ATP ratio	NADH	NAD/NADH ratio	NADPH	NADP/NADPH ratio	Extracellular protein	Extracellular polysaccharide	TDS	TOC	ATP/NADPH ratio	NADH/NADPH ratio
NADP$^+$/NADPH ratio	S	**-0.651**	**0.372**	0.021	0.125	**-0.692**	--	**-0.383**	-0.170	**-0.415**	**-0.387**	-0.268	**0.842**
	P	**0.000**	**0.033**	0.461	0.275	**0.000**	--	**0.029**	0.208	**0.019**	**0.028**	0.098	**0.000**
Extracellular protein	S	0.290	**-0.430**	**-0.470**	-0.202	-0.072	**-0.383**	--	0.057	-0.140	-0.143	0.325	-0.139
	P	0.080	**0.016**	**0.009**	0.166	0.366	**0.029**	--	0.394	0.253	0.247	0.056	0.254
Extracellular polysaccharide	S	0.086	-0.085	0.268	0.025	0.243	-0.170	0.057	--	0.089	0.118	-0.015	-0.282
	P	0.341	0.344	0.097	0.454	0.121	0.208	0.394	--	0.336	0.286	0.472	0.086
TDS	S	**0.661**	**-0.535**	**0.729**	-0.313	**0.776**	**-0.415**	-0.140	0.089	--	**0.824**	0.278	**-0.640**
	P	**0.000**	**0.003**	**0.000**	0.064	**0.000**	**0.019**	0.253	0.336	--	**0.000**	0.089	**0.000**
TOC	S	**0.526**	**-0.485**	**0.465**	-0.087	**0.607**	**-0.387**	-0.143	0.118	**0.824**	--	0.119	**-0.560**
	P	**0.003**	**0.007**	**0.010**	0.340	**0.001**	**0.028**	0.247	0.286	**0.000**	--	0.285	**0.002**
ATP/NADPH ratio	S	**0.748**	**-0.660**	0.264	0.020	0.219	-0.268	0.325	-0.015	0.278	0.119	--	-0.239
	P	**0.000**	**0.000**	0.101	0.462	0.146	0.098	0.056	0.472	0.089	0.285	--	0.125

S is the Spearman correlation coefficient. *Ochrobactrum* sp. WH-2 and *Castellaniella* sp. WH-14 were set as dummy variables with "not added" set at level 0 and "added" at level 1. Results of 0.000 mean <0.001.

Table S2 Biodiversity indexes of samples

Sample	Culture Time (d)	Chao1	Shannon
Initial	0	1068	5.85
Blank	10	1169	6.01
I-N	10	988	3.22
I-DS	10	1485	4.30
II-N	10	1287	5.01
II-DS	10	1338	4.58