Supporting Information

Primary succession changes composition and functioning of the protist community on mine tailings, especially phototrophic protists

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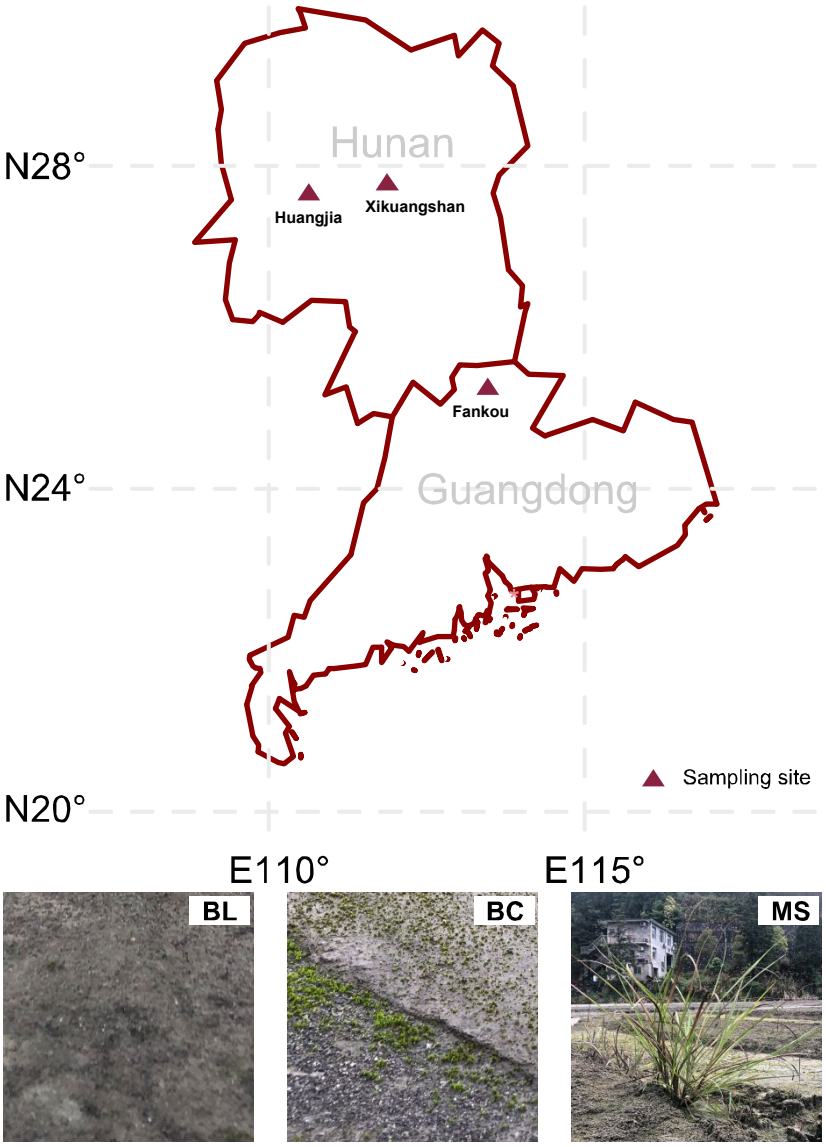

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21 Figure S1: Sampling locations for tailings in southern China. BL: original tailings from bare land, BC: tailings

22 of biological crusts, MS: tailings from the *Miscanthus sinensis* rhizosphere.

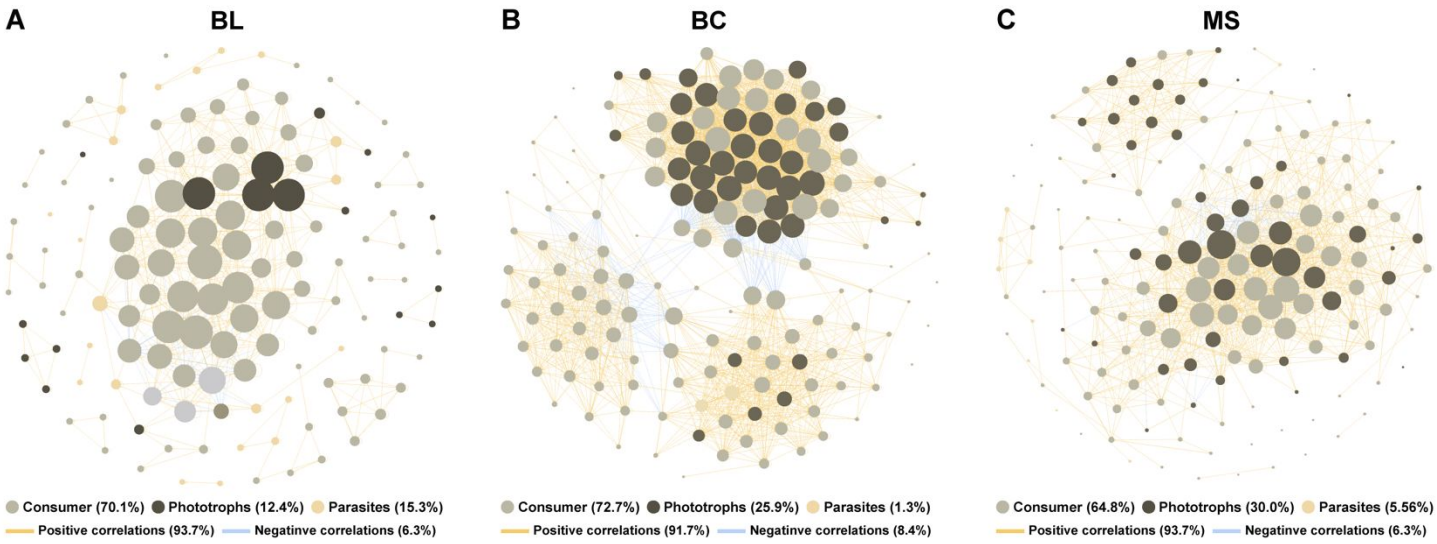

Figure S2: Co-occurrence network analysis of protist-protist showing the biological interactions in the BL (A), BC (B), and MS (C). Edges are shown only strong (Spearman correlation > |0.6|) and significant ($p < 0.05$) connections. Size of the nodes is proportional to the number of connections to it. The thickness of the edges is proportional to the strongness of the correlation. BL: original tailing from bare land, BC: tailing of biological crusts, MS: tailing from the *Miscanthus sinensis* rhizosphere.

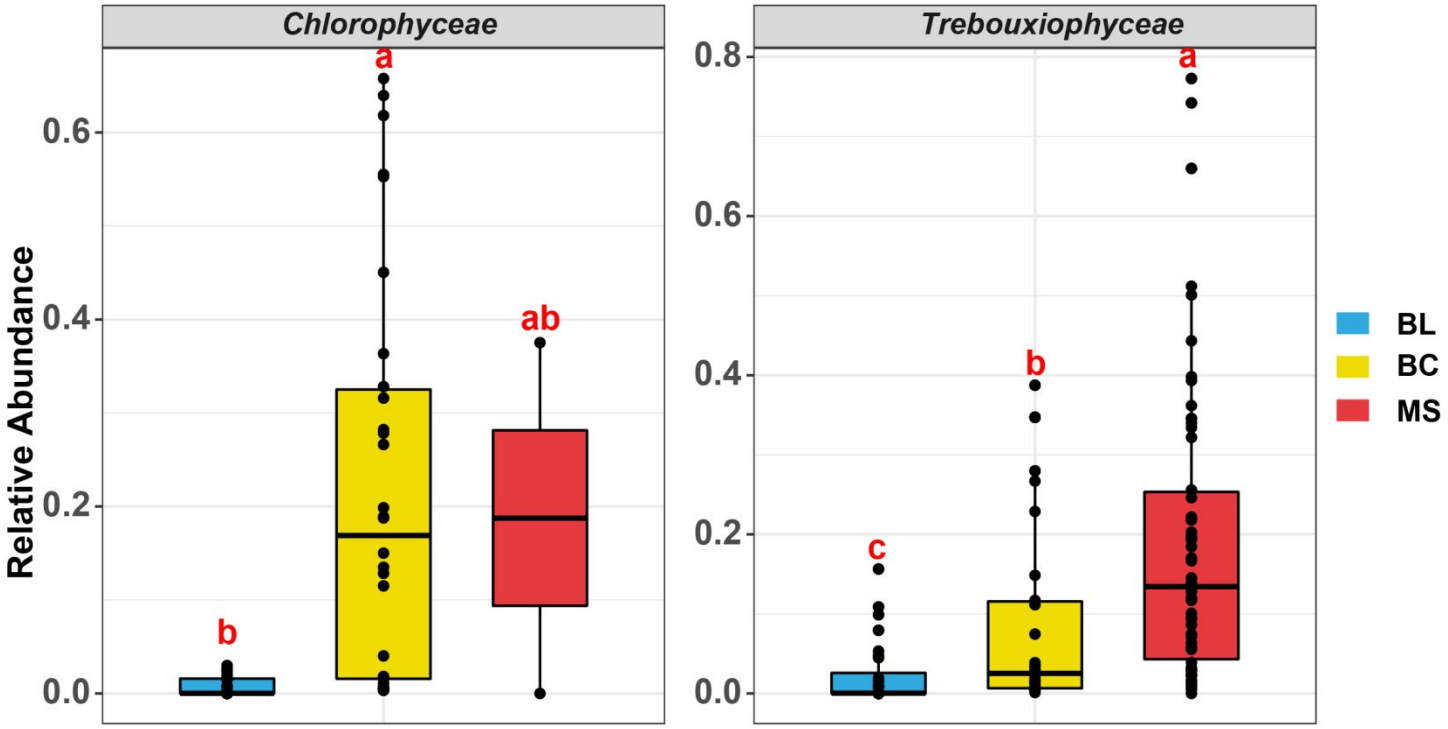

Figure S3: Box plots summarizing the relative abundance of keystone taxa of phototrophs at the class level. The bearing different letters (a, b, c) are significantly different from each other according to the least significant difference (LSD) test ($p < 0.05$). BL: original tailing from bare land, BC: tailing of biological crusts, MS: tailing from the *Miscanthus sinensis* rhizosphere.

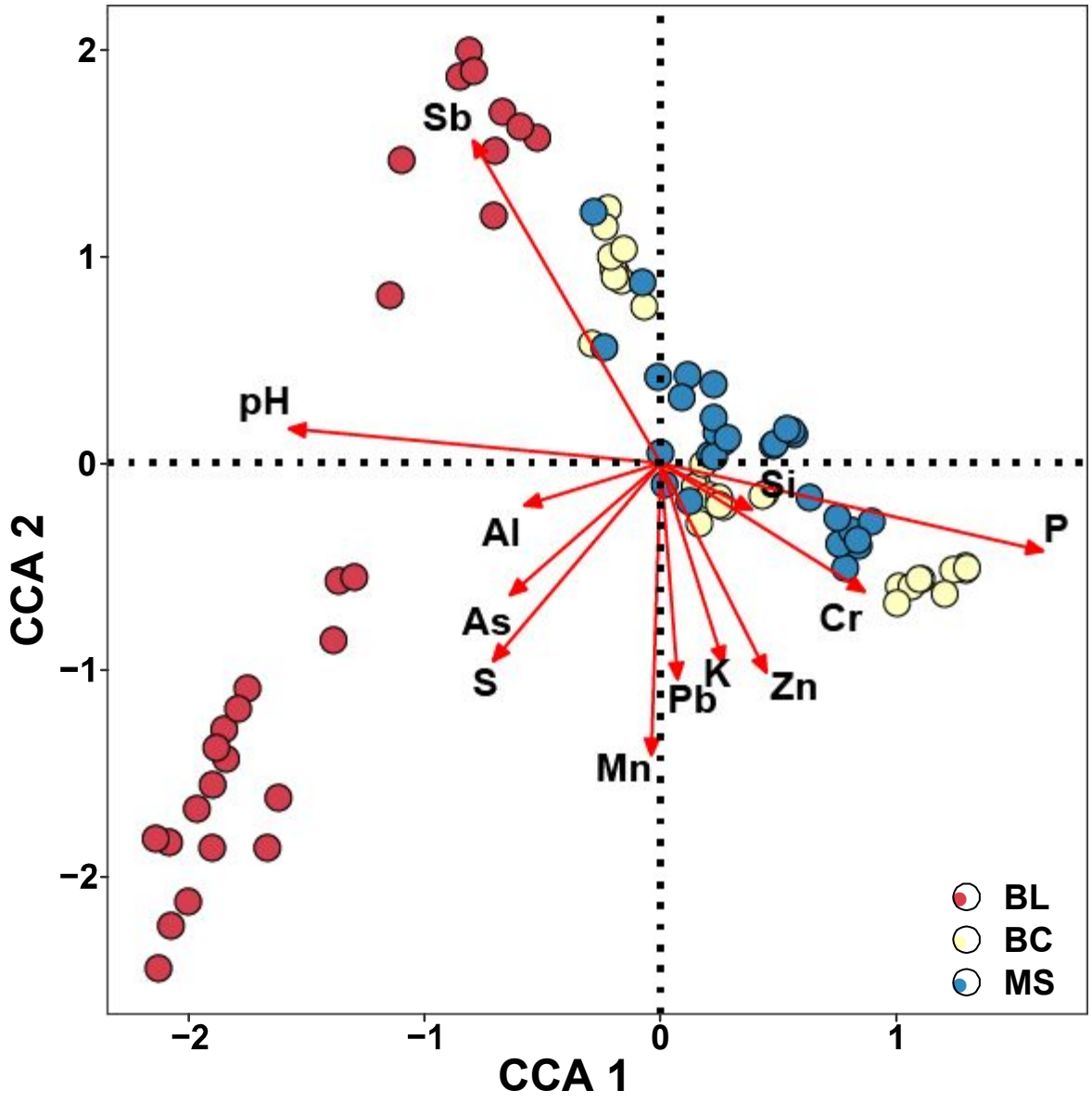

Figure S4: Redundancy analysis (RDA) demonstrating the impact of geochemical parameters on the functional community. BL: original tailings from bare land, BC: tailings of biological crusts, MS: tailings from the Miscanthus sinensis rhizosphere.