

Supplementary material

Table 1. Dissolved free-ion concentration released from each metallic NP as calculated by TXRF after 24 h of exposure in AA/8+N medium and percentage of released free-ion metals with respect to the nominal NP concentration.

Metallic NP	Nominal Concentration (mg/L)	Concentration Measure by TXRF (mg/L)	% of Released Free-Ion
AgO	10	0.04 (Ag ⁺)	0.41
TiO ₂	100	0 (Ti ⁴⁺)	0
ZnO	100	3.56 (Zn ²⁺)	1.12
CuO	100	3.66 (Cu ²⁺)	1.12

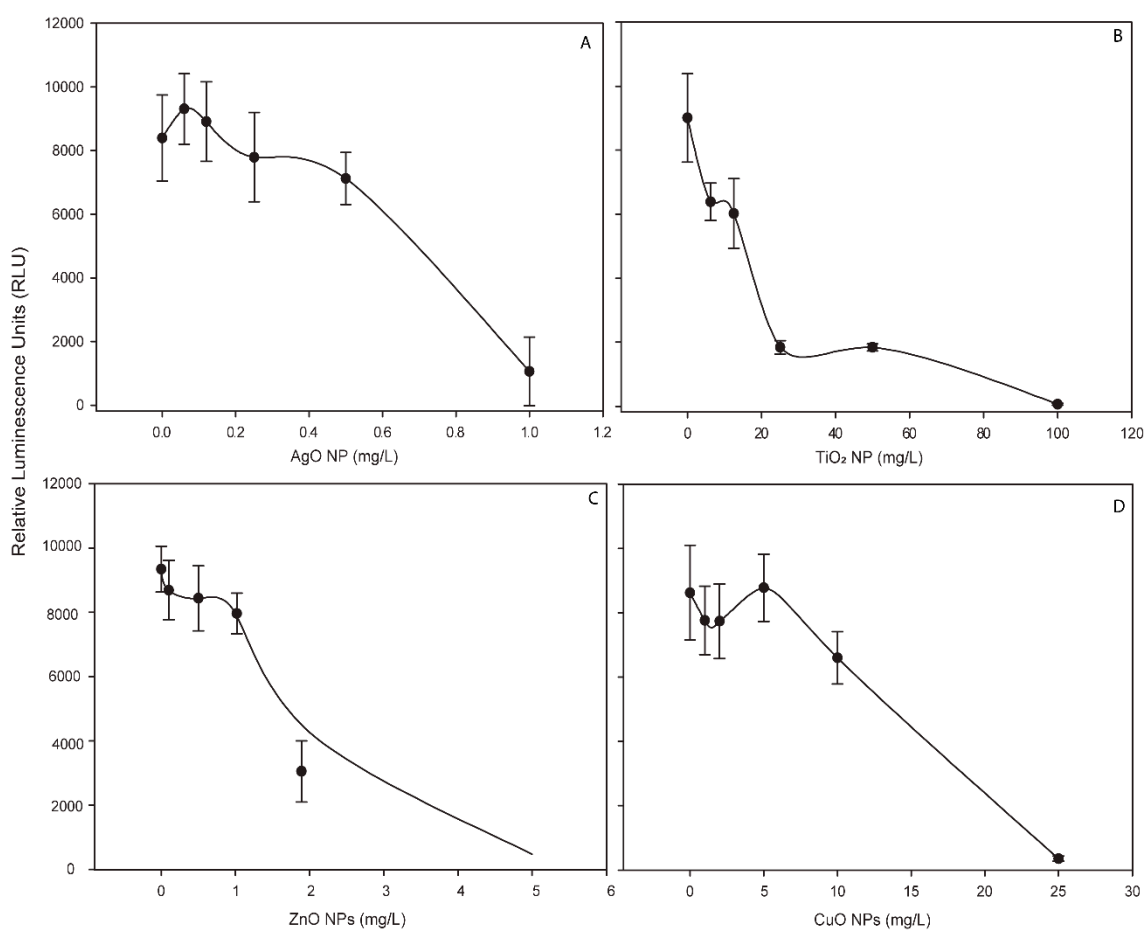


Figure S1. Dose–response curves of the bioluminescence of *Nostoc* sp. CPB4337 after 24 h of exposure to increasing concentrations of metallic NPs. RLU: relative luminescence units.

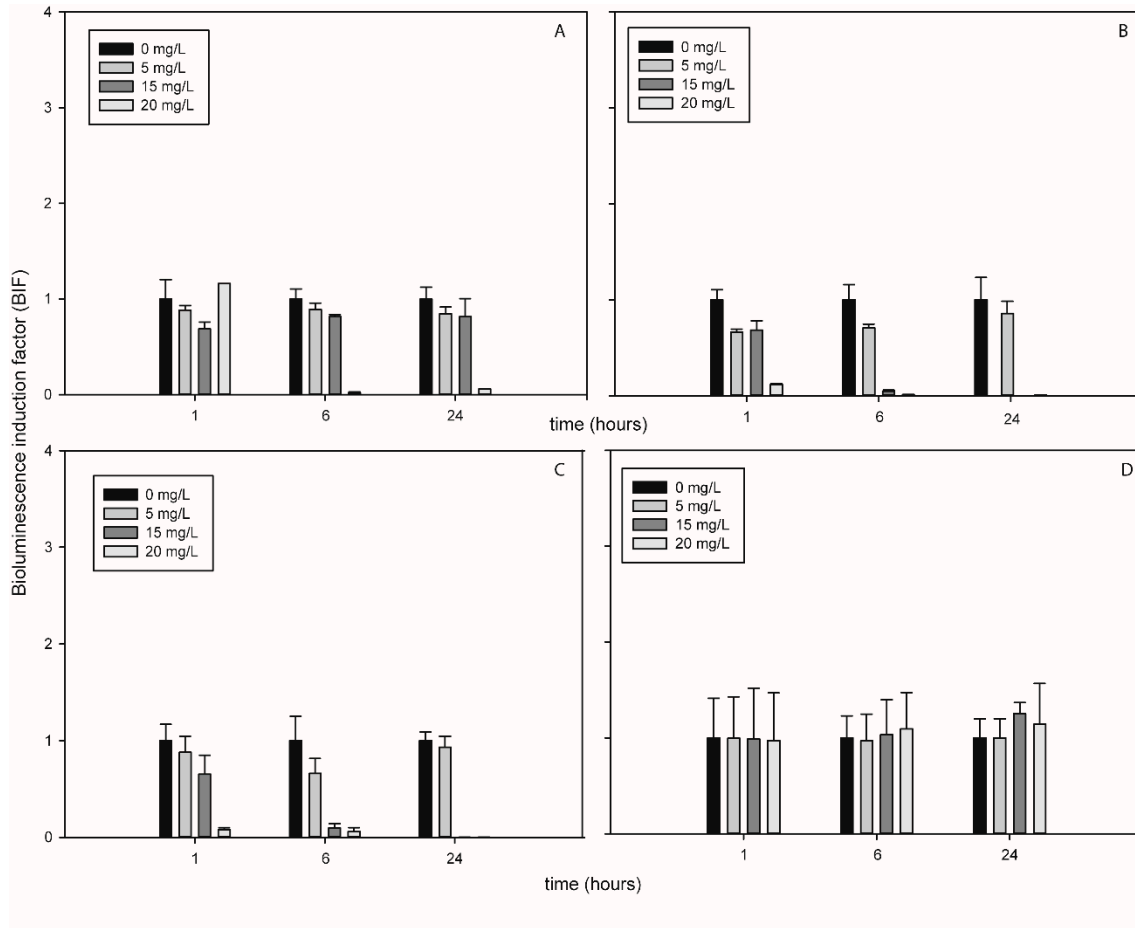


Figure S2. Bioluminescence induction of ROS-detecting *Nostoc* sp. PCC7120 bioreporters exposed to 0, 5, 15 and 20 mg/L of CuO NPs after 1, 6 and 24 h of exposure. (A) *Nostoc* sp. PCC7120 pBG2154, (B) *Nostoc* sp. PCC7120 pBG2165, (C) *Nostoc* sp. PCC7120 pBG2172 and (D) *Nostoc* sp. PCC7120 pBG2173. No significant differences ($p < 0.05$) were observed at any of the assayed times.