

Figure S1. Inoculum-free control test for DC-II bioleaching. Changes in the total soluble Cu (●, ○), Fe (■, □) or As (▲, △) concentration are shown in (a). Changes in E_h (◆, ◇) and pH (▼, ▽) are shown in (b). AC was either absent (dotted lines) or added at 0.05% (solid lines). Error bars depicting averages are not visible in some cases as they are smaller than the data point symbols. Percentages marked on the right axis (a) were calculated as the amount of each soluble metal (on day 60) relative to its content in the concentrate.

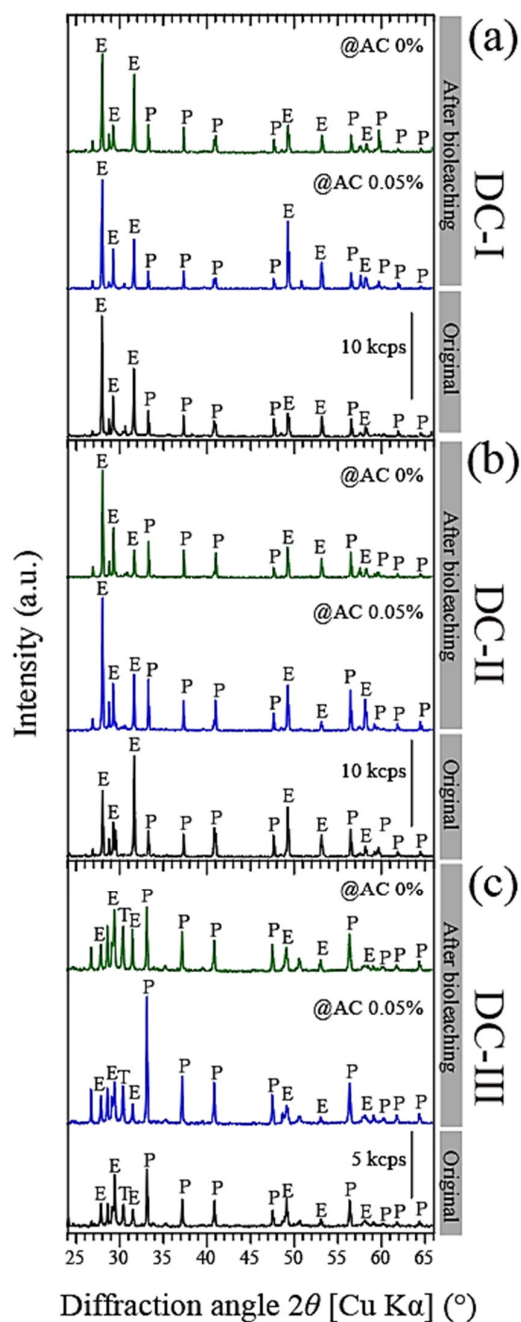


Figure S2. X-ray diffraction patterns of DC-I (a), DC-II (b) and DC-III (c) before and after bioleaching (with or without AC). E: enargite (Cu_3AsS_4 ; PDF No. 00-035-0775), P: pyrite (FeS_2 ; PDF No. 00-042-1340), T: tennantite ($\text{Cu}_{12}\text{As}_4\text{S}_{13}$; PDF No. 01-074-1027).