

Potential Biosorption of *Rhodococcus erythropolis*, an Isolated Strain from Sossego Copper Mine, Brazil

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Abstract : In this work, bacterial strains were isolated from environmental samples from a copper mine and three of them presented potential for bioremediation of copper. All the strains were identified by mass spectrometry (MALDI-TOF-Biotyper) and grown in three different media supplemented with 100 ppm of copper chloride in flasks of 500mL and it was incubated at 28 °C and 180 rpm. Periodically, samples were taken and monitored for cellular growth and copper biosorption by spectrophotometer UV-Vis (600 nm) and Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES), respectively. At the end of exponential phase of cellular growth, the biomass was utilized to construct a correlation curve between absorbance and dry mass of the cells. Among the three isolates with potential for bioremediation, 1 strain exhibit capacity the most for bioremediation of effluents contaminated by copper being identified as *Rhodococcus erythropolis*.

Keywords : bioprocess, bioremediation, biosorption, copper

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