Marula seed husk (*Sclerocarya birrea*) biomass as a low cost biosorbent for removal of Pb(II) and Cu(II) from aqueous solution

Abstract

A biosorbent prepared from marula seed husk (*Sclerocarya birrea*) was used to study the sorption of Pb(II) and Cu(II) from industrial wastewater under batch conditions. The equilibrium sorption capacities of the seed husk were 20 mg g^{-1} for Pb(II) and 10.20 mg g^{-1} for Cu(II). The biosorption data conforms best with Langmuir model for both Pb(II) and Cu(II) with correlation factors of 0.999 and 0.998, respectively. Kinetic data were properly fitted with the pseudo-second order kinetic model. The thermodynamic parameters (ΔG^0, ΔS^0 and ΔH^0) showed that the biosorption was feasible, spontaneous and endothermic.