

Preparation and surface morphology study of seaweed (*Kappaphycus* sp.) as biosorbent for lead (Pb^{2+}) and aluminium (Al^{3+}) ions removal

ABSTRACT

Determination of Zn^{2+} and Al^{3+} ion metals removal were carried out using a biosorbent which is red seaweed, *Kappaphycus* sp. In this study, the biosorbent was modified using 0.2 wt % formaldehyde to avoid organic leaching. The removal of Zn^{2+} and Al^{3+} were the best at pH 3. Fourier Transform Infrared (FTIR) spectra show the functional groups involved for a metal binding are carboxyl (1690- 1760 cm^{-1}), sulphate (1220-1260 cm^{-1}) and hydroxyl (3200-3500 cm^{-1}) group. Based on the surface morphology study, it was found that the texture of the treated biosorbent has changed, smooth texture to dry and rough texture. This show the surface has been leached out during the biosorption process.