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Biosorption of Cr(III) from aqueous solutions by *Cabomba spp.* – pH effect and isothermal study

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Water bodies are contaminated with Cr(III) from the discharge of effluents by industries that use chromium such as in glass, leather tanning, etc. Since Cr(III) is toxic to life, it is necessary to be removed from the environment. Biosorption offers alternative, cost-effective, biological environmental remediation methodology instead of expensive physico-chemical methods. Previous studies showed that the nonliving *Cabomba spp.* is a good biosorbent for the removal of Cr(III) from an aqueous solution. This paper shows the effect of pH and the concentration of Cr(III) on the sorption process.

Variation of the solution pH showed that the acidity of the medium reduced the sorption capacity. The extent of sorption increased with the increase of the pH of the medium and reached an optimum value at pH 5.00 and decreased with further increase in pH. The sorption occurred either as a mono-layer or a multi-layer process depending on the initial metal concentration in the aqueous medium. The adsorption of metal ions on to the surface of the biosorbent obeyed the Langmuir model of adsorption at lower initial concentrations of metal ions whereas it obeyed the Freundlich model at higher metal concentrations.

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