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Biosorption of Fluoride from Aqueous Solutions by Tinospora Cordifolia Leaves

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Abstract : Tinospora cordifolia leaves biomass used for the removal fluoride from aqueous solutions. Batch biosorption technique was applied, pH, contact time, biosorbent dose and initial fluoride concentration was studied. The Scanning Electron Microscopy (SEM) and Fourier Transform Infrared (FTIR) techniques used to study the surface characteristics and the presence of chemical functional groups on the biosorbent. Biosorption isotherm models and kinetic models were applied to understand the sorption mechanism. Results revealed that pH, contact time, biosorbent dose and initial fluoride concentration played a significant effect on fluoride removal from aqueous solutions. The developed biosorbent derived from Tinospora cordifolia leaves biomass found to be a low-cost biosorbent and could be used for the effective removal of fluoride in synthetic as well as real water samples.

Keywords : biosorption, contact time, fluoride, isotherms
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