

Inexpensive, Eco-friendly and Green Adsorbent for Removal of Textile Dye: *Prosopis juliflora* Bark †

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Abstract: Adsorption has been an effective method for separating non-biodegradable contaminants. Color removal from effluents has been a concern, each within the aesthetic sense and public health. Inexpensive and eco-friendly *Prosopis juliflora* bark has obtained massive interest as a powerful adsorbent for water pollution control and displaying vast adsorption capability to eliminate numerous aquatic pollutants. In this study, *Prosopis juliflora* bark, an agricultural waste i.e. easily available in large quantities in India, was utilized as a low-cost adsorbent to remove basic dyes from aqueous solution. The study summarizes the removal capacity of raw material and activated carbon of *Prosopis juliflora* bark using batch studies and the involved adsorption mechanisms. Preparation of adsorbents and characterization like SEM, FTIR, point zero charges, proximate analysis of Adsorbents were discussed to compare surface morphology. This study concludes the feasibility for the removal of basic dyes using *Prosopis juliflora* bark as an adsorbent.

Keywords: adsorbent; *Prosopis juliflora*; basic dye; FTIR; contaminants.

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Conflicts of Interest

The authors declare no conflict of interest.