



Removal of Congo red dye from aqueous solution using a new adsorbent surface developed from aquatic plant (*Phragmites australis*)

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Abstract: The present study aimed to evaluate the removal activity of aquatic plant *Phragmites australis* for removal of the carcinogenic dye (Congo red) from aqueous solution. The aquatic plant was collected from local aquatic system (Hilla River) in Babylon province, middle of Iraq as low cost materials, eco-friendly adsorbents and highly removal efficiency.

Each adsorption study is carried out by observing the effect of experimental parameters such as amount of adsorbents (1-3 gm/L), contact time, pH (4-9), mesh size (45-150 μ m), and concentration of dye as optimum removal conditions of Congo red dye from its aqueous solution. The results showed that the removal percentage of dye was 98%, and the removal processes increased with increasing of pH, adsorbent dosage, and mesh size.

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