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Adsorptionof Acid violet4BS fromaqueous solutions onto*Lagerstroemia indica* seedsas a low cost biosorbent

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Abstract: The use of low-cost and ecofriendly adsorbents was investigated as an ideal alternative to the current expensive methods of removing dyesfrom wastewater. Lagerstroemia indica seeds (LIS)was used as an adsorbent for the removal of Acid violet 4BS from aqueous solutions.The rate of adsorption was investigated under various parameters such as contact time, carbon dosage, pH and temperature for theremoval of these dyes. Kinetic study showed that the adsorption of dyes on Lagerstroemia indica seeds (LIS)was a gradual process. Adsorption rate increased with the increase in carbon dosage, temperatureand decreases with increase in pH. Pseudo-first-order, the Elvoich equation, pseudo-secondorder,and intra-particle diffusion models were used to fit the experimental data. The sorption kinetics of Acid violet onto LISwas described by the pseudo-second-order kinetic equation. Intra-particle diffusion process was identified as the main mechanism controlling therate of the dye sorption.Thermodynamicactivation parameters such as ΔG^0, ΔS^0 and ΔH^0 were also calculated.
Keywords : Adsorption; Acid violet; Pseudo; Intraparticle.

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