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Elaboration of a lignocellulosic material for a comparative study of adsorption of micropollutants in aqueous solution**Rechache Mustapha, Sebba Fatima Zohra and Ould Kada Seghier**
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Present study was consisted in the chemical treatment of raw timber sawdust (TS-OH)_r by chemical agents (acid and base) for the comparative removal of two anionic dyes, namely, Thiazole Yellow (TY) and Bright Yellow (BY) from aqueous solutions. Batch experiments were performed to evaluate the influence of various operating conditions viz., pH, contact time, temperature, etc. on dyes removal efficiency. This result obtained from the adsorption of the two dyes, was found to be endothermic with second-order rate kinetics, which followed the Langmuir isotherm. The monolayer saturation capacities are 1408.4507 and 140.845 mg g⁻¹ for thiazole yellow and bright yellow, respectively. Adsorption was favorably influenced by an increase in the temperature of the operation. The positive values of the change in entropy (DS₀), heat of adsorption (DH₀) and the negative value of change in Gibbs free energy (DG₀) indicate feasible and spontaneous adsorption of (TY and BY) on adsorbent. Desorption experiments with 1 M aqueous NaCl put into evidence that anionic dyes were completely desorbed from the matrices and the reusability of the (TS-OH)_r chemically modify after three repeated cycles led to just a slight attenuation in its performance. These results show that chemical treatment of a low value byproduct of the timber industry leads to an effective adsorbent.

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