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**THERMODYNAMIC BEHAVIOUR AND THE BREAK-THROUGH CAPACITY ON THE REMOVAL OF BRILLIANT GREEN FROM AQUEOUS SOLUTION BY PEELS OF PRUNUS AMYGDALUS: CHARACTERIZATION AND KINETIC STUDY**

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The almond peels (AP) have been employed as adsorbents for the removal of typical dyes. The ability of AP to remove brilliant green (BG), light green (LG), patent blue vf (PBVF), Metanil yellow (MY) from aqueous solution by adsorption process was in the order of BG > PBVF > MY > LG. The nature of possible adsorbent and dye interaction was examined by the FTIR and SEM technique. The equilibrium was attained in 3 hrs. The extent of removal of BG was found to be dependent on adsorbent dose, initial dyes concentration, temperatures, times and particles size. The Langmuir, Freundlich and Dubinin-Radushkevich (D-R) isotherm models were applied to the equilibrium data. Thermodynamic parameters such as change in free energy, enthalpy, and entropy were also evaluated for adsorption of brilliant green on almond peels. The adsorption process was found to be endothermic and spontaneous. The breakthrough and exhaustive capacity has been found to be 30 mg/g and 108 mg/g respectively.