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Nitric Acid Modification of Activated Carbon Produced from Waste Tea and Adsorption of Methylene Blue and Phenol

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Abstract

Nitric acid (HNO_3) modification of activated carbon (AC) prepared from waste tea with the assistance of microwave activation was studied. Unmodified and modified AC samples were characterised in terms of structural, morphological and chemical properties. Methylene blue (MB) and phenol adsorption from aqueous solution were investigated to determine the effect of modification on the adsorption performances. Modification process increased the oxygen containing groups on the surface of the AC. The adsorption of MB and phenol on the modified AC was quite different. It is reported that the adsorption of these contaminants

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