

عنوان مقاله:

Using activated carbon derived from pistachio shells and zeolitic imidazolate frameworks to modify polyether sulfone membranes to eliminate dye contaminants

محل انتشار:

دومین کنفرانس ملی و اولین کنفرانس بین المللی چالش های محیط زیست: صنعت و معدن سبز (سال: 1403)

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خلاصه مقاله:

In this study, activated carbon was prepared from a pistachio shell, and then it was modified using an imidazolate zeolite framework. Following that, a nanofiltration membrane including nanoparticles was synthesized using the phase inversion method. Scanning electron microscopy analysis has been used to study the morphology and structure of membranes and nanoparticles. The hydrophilicity of the membranes was determined by studying the pure water flux and water contact angle. The findings demonstrated that the addition of nanoparticles enhanced the hydrophilicity of the membrane and increased its pure water flux in comparison to the polyether sulfone membrane. The membranes were studied to remove malachite green and crystal violet, and the results showed that the membrane containing nanoparticles has a high efficiency in removing contaminants

کلمات کلیدی:

Nanofiltration membrane, Activated carbon, zeolitic imidazolate frameworks, polyether sulfone

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