

## عنوان مقاله:

(Synthesis, characterization, and membrane desalination application of a novel poly (sulfone urethane)

## محل انتشار:

اولین کنفرانس ملی شیمی، نانو مواد پلیمر-چالش ها و کاربردها (سال: 1402)

تعداد صفحات اصل مقاله: 1

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## خلاصه مقاله:

While polysulfone is one of the most widely used materials in membrane science due to the exceptional characteristics like thermal properties, mechanical properties, and chemical stability, it has an unfavorable hydrophilicity, which limits its application in water treatment. Hence, increasing the hydrophilicity of polysulfones can significantly improve their performance in membrane desalination. In this research, first, a novel diol comprising urethane groups based on hydrophilic polyethylene glycol was synthesized and characterized, which was then used to prepare a novel poly (sulfone urethane). Using synthesized novel polymer, membranes were prepared by the phase inversion method. The performance of prepared membranes for desalination was analyzed, and the results showed ۹۵ L.m-۲.h-۱ pure water flux, ۸۵.۲% salt rejection, and ۹۰.۱% flux recovery. It was suggested that the increase in the hydrophilicity indexes and the favorable membrane performance was due to the introduction of the hydrophilic urethane group in the backbone of the polymer. Consequently, this novel poly (sulfone urethane) could be a promising candidate for further investigation in membrane technology

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

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