

عنوان مقاله:

Improvement of PES MF membrane performance using silica mesoporous FSM-16 modified with metformin (FSM-16-Met)

محل انتشار:

هفتمین کنفرانس بین المللی شیمی و مهندسی شیمی (سال: 1399)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Mahya Samari - *Environmental Research Center (ERC), Department of Applied Chemistry, Faculty of Chemistry, Razi University, Kermanshah, Iran*

Sirus Zinadini - *Environmental Research Center (ERC), Department of Applied Chemistry, Faculty of Chemistry, Razi University, Kermanshah, Iran*

Foad Gholami - *Environmental Research Center (ERC), Department of Applied Chemistry, Faculty of Chemistry, Razi University, Kermanshah, Iran*

Ali Akbar Zinatizadeh - *Environmental Research Center (ERC), Department of Applied Chemistry, Faculty of Chemistry, Razi University, Kermanshah, Iran*

Mohammad Jafarzadeh - *Department of Organic Chemistry, Faculty of Chemistry, Razi University, Kermanshah 67149-67346, Iran*

خلاصه مقاله:

The silica mesoporous FSM-16 modified with metformin (FSM-16-Met) is known as new additive form membrane modification. In the creation of microfiltration membrane, polyethersulfone (PES) was chosen as the main polymer. With benefiting from the FSM-16-Met additives, the modified membranes exhibited excellent anti-fouling affection, while a high pure water mass transfer efficiency without notable oil permeation was observed. The optimal modified PES/FSM-16-Met membrane indicated enhancement in pure water flux (PWF) and water contact angle (WCA) compared to the bare membrane. The high flux recovery ratio (FRR) (97%), during the oily effluent separation, is one of the obtained features in this work.

کلمات کلیدی:

microfiltration, silica mesoporous, membrane, oil-water emulsion, metformin

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1040711>



