

## عنوان مقاله:

Study the effect of seeding suspension concentration of DD3R particles on the modified surface of  $\alpha$ -alumina support for preparing DD3R zeolite membrane with high quality

## محل انتشار:

چهارمین کنفرانس بین المللی نوآوری های اخیر در شیمی و مهندسی شیمی (سال: 1396)

تعداد صفحات اصل مقاله: 6

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## خلاصه مقاله:

In this study, seeding of DD3R particles as an important step in the synthesis of DD3R membranewith secondary growth method was investigated. Dip-coating method is used for seeding of DD3R particleson the modified surface of  $\alpha$ -alumina supports. 0.1, 0.2 and 0.3 wt% aqueous suspensions of the DD3Rseeds were prepared and each support was coated three times with dipping time of 240 s. Scanningelectron microscopy (SEM) analysis was used for the investigation of the quality of seed layer formed onthe support. It is shown that the uniform layer of seeds was formed with 0.2 wt% seed suspensionconcentration. DD3R zeolite membrane was synthesized via hydrothermal method on the support seededwith 0.2 wt% seed suspension concentration. The X-ray diffraction and SEM analysis confirmed thesynthesis of uniform DD3R zeolite membrane layer on the support which can be due to the uniformdistribution of the DD3R seeds. Single gas permeation tests of N<sub>2</sub>, CO<sub>2</sub> and CH<sub>4</sub> were carried out, so thatgood perm-selectivity for gas mixtures was observed.

## کلمات کلیدی:

Seeding, Seed Suspension Concentration, DD3R Zeolite Membrane

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/675867>

