

عنوان مقاله:

Treating Water In Crude Oil Emulsion Using Silica Modified By Cationic Surfactant

محل انتشار:

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خلاصه مقاله:

Low cost, environmentally friendly and highly efficient novel SiO_2 @surfactant was synthesized and applied to treat water in oil emulsion. It was characterized by Fourier-transform infrared spectroscopy and Thermogravimetric analysis. The effect of standing time and optimal demulsifier dosage were systematically investigated. Interfacial tension before and after the addition of demulsifiers was deeply discussed and possible demulsification mechanism was researched. 100% water separation was gained after 55 minutes by adding interfacially active SiO_2 @surfactant 20% to w/o emulsion. This paper provides beneficial information about demulsification mechanism for oil separation industry and suggests a promising nontoxic and cost-effective demulsifier for the separation of water from crude oil

کلمات کلیدی:

water in oil emulsion, demulsification, silica (SiO_2), surfactant

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