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Synthesize and application of green nanocomposites in improving oil recovery

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Anotace: Conventional chemical enhanced oil recovery (EOR) methods show a promising role in enhancing oil recovery from carbonate and sandstone reservoirs due to decreasing the interfacial tension (IFT), wettability alteration and mobility improvement. Nowadays, application of nanomaterials at different types and shapes in EOR are attracting researchers and companies because of their unique chemical and physical properties. This topic focuses on the synthesis and application of different green nanocomposites (NCs) in EOR. The main characterization of the green NCs from the plant extracts using ultraviolet–visible spectroscopy (UV–Vis), scanning electron microscopy (SEM), X-ray diffraction (XRD) and Fourier-transform infrared spectroscopy (FTIR) will be discussed. In addition, the methods of preparing the nanofluids from the synthesized green NCs and the measurements of IFT, contact angle and oil recovery will be covered. Moreover, the enhancement of oil recovery factor and improvement of the IFT and contact angle under the influence of the green NCs will be presented.

Přednáška se bude konat v pondělí 19.2. 2024 od 14:15 hod v posluchárně 5.008, budova PřF UPOL, 17. listopadu 12, Olomouc.

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