In this work, PtMo nanoparticles were supported in MWCNTs, characterized and applied to the viscosity reduction processes of extra heavy crude oil (aquathermolysis). The nanostructured catalysts were synthesized via impregnation at different weight relation of Pt and Mo nanostructures and then characterized by several techniques: X-ray diffraction, UV–visible absorbance spectra, scanning electron microscopy and transmission electron microscopy. The results of the characterization show that Pt-Mo are uniformly loaded over the MWCNTs surface, having a crystallite size ranging from 12 to 25 nm. The resulting nanostructured catalysts were used on the aquathermolysis process of extra heavy crude oil, UTSIL raw, with an initial viscosity of 1133 cps. The Pt and PtMo nanostructures performed well, showing good stability and catalytic activity: An apparent viscosity reduction of the heavy oils by 23 and 45% was achieved. The formation of molecules of hydrogenated aromatic rings during the viscosity reduction process was also found by Fourier Transform Infrared (FTIR) spectroscopy

**Keywords:** aquatermolisis, heavy crude, nanoparticles

**References:**


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