Solvation variability of Jordanian oil shale

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Jordan has a huge oil shale (OS) reserves spread over the country, with about 50 billion tons located in the central part only. And because energy bills put extreme pressure on the Jordanian economy, OS is expected to play a crucial role in solving this issue in the near future. OS deposits occur in several horizons, mainly that of upper Cretaceous Muwaqqar Chalk Marl Formation with more than 350 m in the Yarmouk area. In central Jordan, OS deposits are found in localized basins. Jordanian OS shows variability in its chemical and physical properties, and in thickness. In this paper, solvent extraction is performed on six samples obtained from four localities across the country. Different organic solvents and mixtures as well as different techniques were used. The highest yield using Soxhlet extraction was obtained using the tetrahydrofuran (THF) as a pure solvent. Other techniques showed promising results.