Density and viscosity behavior of a North Sea crude oil, natural gas liquid, and their mixtures - DTU Orbit (10/12/2018)

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The friction theory (f-theory) for viscosity modeling, combined with a recently developed characterization procedure, which includes an accurate method to describe the fluid mass distribution, commonly used cubic equations of state, and a Peneloux-type volume translation scheme, have been shown to accurately model the saturation pressures, densities, and viscosities of petroleum systems ranging from natural gases to heavy crude oils. The applicability of this overall modeling technique to reproduce measured bubble points, densities, and viscosities of a North Sea crude oil, a natural gas liquid, and their mixtures has been investigated. The approach has been successfully applied to the modeling of the experimental data of these fluid systems to within an acceptable accuracy.

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