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Shear Rheology of Imidazolium-Based Ionic Liquids with Aromatic Functionality RAN TAO, SINDEE SIMON, Texas Tech University — As a material class, ionic liquids possess attractive properties and have a wide range of potential uses. In this work, a series of imidazolium-based ionic liquids with varying functionalities from aliphatic to aromatic groups and a fixed anion were characterized using steady shear and dynamic shear rheology. The temperature dependence of shift factors used for constructing the dynamic moduli reduced curves follows the expected WLF relationship, and the dynamic fragility is calculated and compared to the fragility obtained from calorimetry. The retardation spectra are calculated and compared for the series of ionic liquids.

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