**Improvements and limitations of Mie -6 potential for prediction of saturated and compressed liquid viscosity**

**Richard A. Messerly**

richard.messerly@nist.gov

Thermodynamics Research Center, National Institute of Standards and Technology, Boulder, Colorado, 80305

**Michelle C. Anderson**

michelle.anderson@nist.gov

Thermodynamics Research Center, National Institute of Standards and Technology, Boulder, Colorado, 80305

**S. Mostafa Razavi**

sr87@zips.uakron.edu

Department of Chemical and Biological Engineering, The University of Akron, Akron, Ohio, 44325-3906

**J. Richard Elliott**

elliot1@uakron.edu

Department of Chemical and Biological Engineering, The University of Akron, Akron, Ohio, 44325-3906

**Dear Editor,**

We would greatly appreciate if you would consider the following paper for publication in *Fluid Phase Equilibria*. In this work, we demonstrate that the recent developments in state-of-the-art Mie -6 force fields provide considerable improvement for estimating saturated and compressed liquid viscosities. We also demonstrate some of the limitations, primarily at high densities/pressures. The primary importance of this study is that it quantifies the reliability of some common force fields for predicting liquid viscosity.

As this study provides a “comprehensive snapshot with respect to the prediction of thermophysical properties, including atomistic and coarse-grained force fields,” we believe this manuscript fits the aims and scope of the *Special Issue of Fluid Phase Equilibria on Molecular Simulation.* We are willing to make any changes that may be required to make the manuscript publishable in *Fluid Phase Equilibria*.

**Sincerely,**

**Richard Messerly**