

SVRC-QSPR model for prediction of liquid viscosity

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Viscosity is an important transport property used in engineering design for transportation and processing of fluids. Although experimental determination of Viscosity of liquid remains option, It requires significant time and cost investment.

Current liquid viscosity models, which utilize traditional physical properties as inputs, are limited by their narrow range of applicability and/or by poor suitability for generalization. Further, recent quantitative structure-property relations (QSPR) model data over the entire saturation range provides only semi-quantitative predictions. have very narrow prediction range.

In this work, To overcome the drawbacks of conventional QSPR models, an approach that involves the use of QSPR methodology to generalize the model parameters of the developed Scaled variable reduced coordinate model was proposed. By Using SVRC model, We can do precise prediction of liquid viscosity. The Scaled-Variable-Reduced-Coordinate (SVRC) framework was used to correlate the available data for the saturation properties under consideration. Quantitative Structure-Property Relationships (QSPR) was used to generalize the SVRC model parameters.