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<b>Prediction of thermal conductivities for liquid mixture using ASOG-ThermConduct model</b>
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Abstract (less than 300 words)
<p>Thermal conductivity is one of transport properties relating to heat transfer required for designing chemical process [1]. The authors have proposed the model for calculating liquid mixtures using excess thermal conductivity [2]. The thermal conductivity for ternary system can be predicted using binary Wilson-TC parameters.</p> <p>This paper deals with the prediction of thermal conductivity for liquid mixture using ASOG group contribution method [3-5]. The group pair parameters for CH<sub>2</sub>, ArCH, CyCH, H<sub>2</sub>O, OH and CO groups have been determined using the observed thermal conductivity data. The average deviations for binary systems discussed in this paper are 0.3 % and 2.1 % for non-aqueous and aqueous systems, respectively. The overall average deviations for 3 ternary systems is 1.25 %.</p> <p>References</p> <p>[1] B. E. Poling, J. M. Prausnitz, J. P. O'Connell, The Properties of Gases and Liquids, fifth edition, McGraw Hill, New York (2001).</p> <p>[2] K. Tochigi, H. Matsuda, K. Kurihara, T. Funazukuri, V.K. Rattan, proceedings of PPEPPD 2019, Vancouver (2019)</p> <p>[3] K. Kojima, K. Tochigi, "Prediction of Vapor-Liquid Equilibria by ASOG Method," Kodansha-Elsevier (1979):</p> <p>[4] K. Tochigi, D. Tiegs, J. Gmehling, K. Kojima, J. Chem. Eng. Japan, 23 (1990) 453-463.</p> <p>[5] K. Tochigi, J. Gmehling, J. Chem. Eng. Japan, 44 (2011) 304-306.</p>
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