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Gibbs Energy Additivity Approaches in Estimation Surface Tension of Fatty Acids

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Surface tension is important to ensure the efficiency of industrial operation units involving chemical reactions and extractive processes that use these compounds as solvents. In this work, correlation of surface tension of fatty acids (FA) is correlated to the Martin's rule of free energy additivity for estimated surface tension. The proposed equations for estimating surface tension of FA are correlated to number of carbon atoms (nc), number of double bond(s) (nd) and temperature (T) to r=69.05-1.3614nc-0.13895T+0.005209nc+6.24nd-0.01612nd. The proposed equations are easy to use and the estimated surface tension values of FA at different temperatures agree well with the literature values.

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