

Thermochemistry of the Acid-Base Interactions in Aqueous Solutions of Isonicotinic and Picolinic Acids

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Received January 17, 2019; revised September 23, 2019; accepted October 1, 2019

Abstract—The calorimetric method was employed to measure the heat effects of the interaction of isonicotinic and picolinic acids with HNO₃ in aqueous solutions over different pH ranges at 298.15 K and ionic strengths of 0.5, 1.0, and 1.5 against potassium nitrate. The heat effects of stepwise dissociation of the acids were determined. The standard thermodynamic characteristics ($\Delta_r H^\circ$, $\Delta_r G^\circ$, $\Delta_r S^\circ$, ΔC_p°) of the acid-base reactions in aqueous solutions of isonicotinic and picolinic acids were calculated.

Keywords: pyridine carboxylic acids, isonicotinic acid, picolinic acid, dissociation, calorimetry

DOI: 10.1134/S1070363219110124