

Oxidation of Triethylamine by Ferricyanide Ions in the Presence of Sodium Hydroxide and Potassium Hydroxide

Khamis Abbas and Deeb Marji

Chemistry Department, Yarmouk University, Irbid, Jordan

Reprint requests to Dr. K. A.; E-mail: kaabbas19@hotmail.com

Z. Naturforsch. **60a**, 667 – 671 (2005); received March 18, 2005

The rate of the oxidation of triethylamine by ferricyanide ions in sodium hydroxide or potassium hydroxide solutions has been determined spectrophotometrically at 25 °C. Analysis of the kinetic data indicates that the hydroxide ion does not appear in the rate law. Strong retardation of the oxidation of triethylamine, caused by the addition of ferrocyanide ions, has been observed. A plausible mechanism is suggested, and a suitable rate law, congruent with the experimental observations, has been derived.

Key words: Triethylamine; Potassium Ferricyanide; Potassium Ferrocyanide; Sodium Hydroxide; Potassium Hydroxide; Polarization and Solvation.