Kinetics of Oxidation of Benzaldehydes by Quinolinium Dichromate

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Z. Naturforsch. **58b,** 1201 – 1205 (2003); received June 23, 2003

Quinolinium dichromate (QDC) in sulfuric acid oxidizes benzaldehydes to the corresponding acids in a 50% (v/v) acetic acid-water medium. The reaction is first order each in [QDC], [substrate] and [H^+]. The reaction rates have been determined at different temperatures and the activation parameters calculated. The rate decreases with an increase in the water content of the medium. The effects of substituents have been studied. A suitable mechanism is proposed.

Key words: Kinetic, Oxidation, Aromatic Aldehydes, Quinolinium Dichromate