

SPECTROSCOPIC INVESTIGATIONS OF PERMANGANATE OXIDATION OF METFORMIN HYDROCHLORIDE IN ALKALINE CONDITION

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ABSTRACT

Oxidation of Metformin hydrochloride (MET) by alkaline permanganate was calculated spectrophotometrically at 525nm. First order kinetics has been maintained during the reaction. The unit order dependence and fractional order which is observed with oxidant and drug respectively. The reaction between metformin hydrochloride and permanganate in presence of sodium hydroxide exhibits 1:1 stoichiometry. Product is identified by LCMS. The ionic strength and dielectric constant do not have significant effect on reaction. The activation parameters were determined at various temperatures. The reaction mechanism is proposed by experimental data. The experimental rate constants are in good agreement between experimental k values and theoretical k values.

KEYWORDS: *Kinetics, Metformin Hydrochloride, Potassium Permanganate, Sodium Hydroxide, Potassium Chloride*

Article History

Received: 14 May 2020 | Revised: 18 May 2020 | Accepted: 27 May 2020
