



Kinetic Study of Phosphotungstic Acid Catalyzed Oxidation of Cyclopentanol

Sailendra Kumar

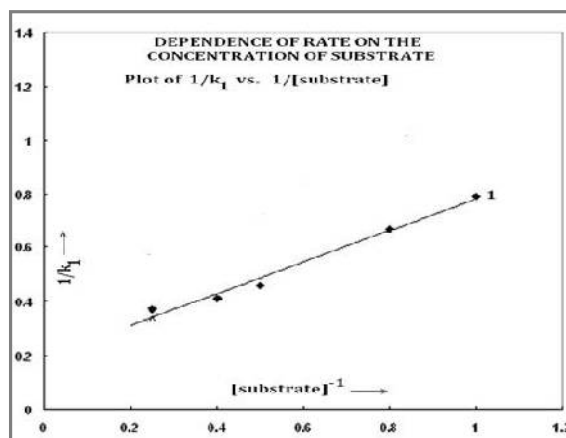
Department of Chemistry, S.G.S. Government auto P.G. College Sidhi, M.P., **INDIA**
Email: vikeshkumaraps@gmail.com

Accepted on 02nd October, 2021

ABSTRACT

A kinetic and mechanistic study of phosphotungstic acid catalyzed oxidation of cyclopentanol by N-bromosaccharin was carried out in acidic medium. The reaction is first order each in N-bromosaccharin. The reaction constant is positive and increase with increase in temperature. Hydrogen ion shows positive effect on reaction rate. Activation parameters were calculated at different temperature. The main oxidizing product of the reaction has been identified as corresponding ketone. The proposed mechanism is well supported by kinetic data.

Graphical Abstract



Dependence of rate on the concentration of substrates.

Keywords: Halonium ion, N-bromosuccinimide, N- bromosaccharin, Cycloheptanone.