Available online at **www.joac.info**

ISSN: 2278-1862

Journal of Applicable Chemistry

2013, 2 (3): 636-639

(International Peer Reviewed Journal)

Kinetics and mechanism of oxidation of lactic acid by N-bromoanisamide

L. N. Malviya[1]*, V. K. Siriah[2] and M. K. Badole[2]

1. Department of Chemistry Govt. P. G. College Pipariya (M.P.) **INDIA.**
2. Department of Chemistry Govt. M.G.M. P. G. College Itarsi (M.P.) **INDIA.**

Email: malviyaln@gmail.com

Received on 5th May and finalized on 6th May 2013.

ABSTRACT

The Kinetics and mechanism of oxidation of lactic acid by N-bromoanisamide in $HC1O_4$ and in the presence of $Hg(OAc)_2$ has been investigated. The reaction, studied under pseudo-first order conditions of [LA] □□ [NBA] follows a first - order dependence of the rate on [[NBA] and a fractional order on [LA]. The decreasing effect of H^+ ion concentration on the rate was observed. Variation of the ionic strength, dielectric constant of the medium and $Hg(OAc)_2$ (used as Br^- ion scavenger) had significant effect on the rate of the reaction. Kinetic and activation parameters are evaluated based on the temperature effect on the rate. A mechanism consistent with the observed kinetics and activation data have been proposed leading to the derived rate law.

Keywords: lactic acid, oxidation, mechanism, N-bromoanisamide, activation parameters.
