



Kinetics and Mechanism of the Oxidation of DL-Methionine by Quinolinium Chlorochromate

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ABSTRACT

The oxidation of methionine (Met) by tetrakis (pyridine) silver dichromate (QCC) in dimethylsulphoxide (DMSO) leads to the formation of corresponding sulphoxide. The reaction is first order with respect to QCC. Michaelis-Menten type kinetics was observed with respect to methionine. The reaction is catalysed by hydrogen ions. The hydrogen-ion dependence has the form: $k_{obs} = a + b [H^+]$. The effect of nineteen solvents on oxidation is fitted in Kamlet's and Swain's multiparametric equations. This Study indicates cation-solvating power of the solvent. A suitable mechanism has been postulated.

Keywords: Halochromate, Kinetics, Kamlet's and Swain's model, Methionine, Oxidation.
