



## Kinetics and Mechanism of Oxidation of Indigo Carmine with N-Bromosuccinimide-Effect of CTAB and SDS Micelles

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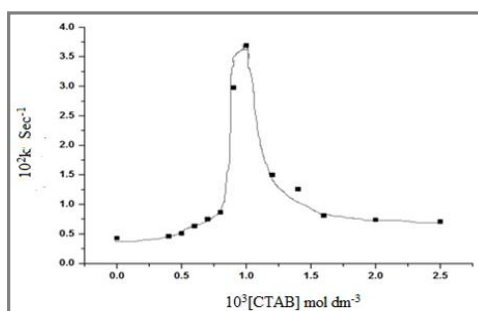
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### ABSTRACT

The kinetics and mechanism of oxidation of Indigo carmine is investigated in acetate buffer both in absence and presence of CTAB and SDS micelles. The kinetic runs are followed under pseudo first order conditions by maintaining  $[IC] < [NBS]$ . The reaction obeys first order kinetics with Indigo carmine, NBS and fractional order with  $[H^+]$  ion. The rate of the reaction is increased with increase in the  $[CTAB]$  and reached maximum. At  $[CTAB] > cmc$  the reaction rate is inhibited. The rate [surfactant]-profile shows maximum indicating a typical bimolecular reaction on micellar surface. There is no effect of varying  $[SDS]$  on reaction rate.

### Graphical Abstract



**Keywords:** N-Bromosuccinimide (NBS), Indigo Carmine(IC), Sodium dodecyl sulphate (SDS), Cetyl Trimethyl ammonium bromide (CTAB).