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Kinetic study on the Oxidation of Dibenzyl Sulfide with iron(III) polypyridyl complexes in the presence of Cationic micelle

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Abstract : The kinetics of the reaction between DBS with $Fe(NN)_3]^{3+}$ was followed spectrophotometrically by measuring the increase in absorbance of $[Fe(NN)_3]^{2+}$ with time. The article describes a detailed kinetic investigation on the oxidation of DBS by iron(III)-polypyridyl complexes in the presence of CTAB, cationic micelle. The kinetics in micellar medium is governed by both electrostatic interactions and hydrophobic between micelles and reactants, transition states and product¹⁻⁴. The increase in rate with increase in [CTAB] demonstrates the importance of hydrophobic interactions in the binding of positively charged metal complexes to micelles.

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