



Effect of Sodium Dodecyl Sulphate on the Photoinduced Electron Transfer Reactions of Ruthenium(II)-Polypyridyl Complexes with Polyphenols

Sheeba Daniel and G. Allen Gnana Raj*

*Department of Chemistry and Research Centre, Scott Christian College (Autonomous),
Nagercoil-629003, Tamil Nadu, **INDIA**

Email: gallengraj@gmail.com

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ABSTRACT

*Photoinduced electron transfer between the excited state Ru(II)-polypyridyl complexes and polyphenols (*p*-coumaric acid and ferulic acid) has been investigated in sodium dodecyl sulphate at pH 11 using luminescent quenching technique. The dynamic nature of quenching is confirmed from the ground state absorption studies. The observed quenching rate constant (k_q) values are sensitive to the nature of the ligand, medium and the structure of the quenchers. The electron transfer rate is low in sodium dodecyl sulphate compared to that in aqueous medium may be due to the operation of predominant electrostatic interaction over the hydrophobic interaction of the cationic complexes with the anionic micelle. The reductive quenching of Ru(II)-polypyridyl complexes by phenolate ions has been confirmed from transient absorption spectra.*

Keywords: Ru(II)-polypyridyl complex, Electron transfer, Dynamic quenching, Electrostatic interaction.
