

CHARGE TRANSFER COMPLEX FORMATION OF C-(2-FURANYL)-N-ARYL
NITRONES WITH 2,3-DICHLORO-5,6-DICYANO
BENZOQUINONE AND THEIR SUBSTITUENT EFFECTS.

A.S. Amarasekera and K.N. Sivarajah
Dept. of Chemistry, University of Colombo.

In recent work Nour El-Din (1) has shown the charge transfer complex formation of aryl nitrones with π -acceptors like tetracyanoethylene (TCNE), 7,7,8,8-tetracyanoquinodimethane (TCNE), 2,3-dichloro-5,6-dicyano benzoquinone (DDQ).

Substituent effects of C-N-diaryl nitrones on their charge transfer complexes with TCNE and DDQ has been studied for various substituents on the C-Phenyl ring. As the substituent effects of the N-Phenyl group has not been investigated, this study was carried out to see such effects.

Five C-(2-furanyl)-N-Aryl nitrones with substituents in the phenyl ring H, p-CH₃, p-Cl, p-CO₂Et, m-Cl were prepared using the previously described method. Charge transfer complexes with DDQ were prepared in methylene chloride and the charge transfer absorption in the visible region was recorded.

A linear free energy relationship was observed between λ_{\max} and the substituent constant σ with $\rho = -3.908$. Ionization potentials of these complexes were also estimated. The charge transfer complexes were found to be due to π - π^* charge transfer interactions.

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