**Charge Transfer Complexes of IsonicotinohydrazideDerivatives and Their Binding Studies Using UV-Visble Spectra**

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Abstract:

 Herewith, we have modified fly ash (a industrial waste, collected from Dipnagar power plant near Bhusawal) by hydrothermal treatment to prepare zeolite type porous material. The synthesized material is well characterized by IR, XRD, FESEM, TGA analysis. The modified fly ash is found to be an efficient heterogeneous catalyst for the synthesis of some isonicotinohydrazide derivatives. The synthesized isonicotinohydrazide derivatives showing excellent binding ability with some high energy nitro-compounds to form some charge transfer complexes. The synthesized compounds were well characterized by IR, H1 NMR, C13 NMR and Mass analysis. The binding study of these charge transferred complexeshas been studied on UV-Vis spectrophotometer, it shows isobestic points in the spectra implicating the proper binding executed, complex geometry and binding constant. The study shows that these compounds can be utilized as chemical sensors for the high energy nitro-compounds.

**key words:** Fly ash, CT complex, UV-Visible study, Nitro compounds, Isonicotinohydrazides

Nitro compound

