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Synthesis, Characterization and Reactivity of Novel Bis(2,4-dinitrophenoxy)diethoxysilane

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ABSTRACT

The hypervalent complex of Silicon with composition [$(DNP)_2SiR_2$] (3), (R= C_2H_5O-, DNP = anion of 2,4-dinitrophenol) has been synthesized by the reaction of diethoxydichlorosilane with 2,4-dinitrophenol in tetrahydrofuran. The reactivity of (3) was studied with dipicolinic acid and Schiff base of hydrazine and salicylaldehyde and the products obtained has composition [$(DNP)_2SiX$], (X= -$OOCC_5H_3NCOO$-(6) and -$OC_7H_5NNC_7H_5O$-(7).The structures of the (3,6 and 7) were established by DFT studies and were correlated with ^1H, ^{13}C NMR and elemental analysis.

Keywords: Dinitrophenoxysilane, diethoxydichlorosilane, dipicolinic acid, Schiff's base, hypervalent complexes