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Synthesis and Characterization of 3,5-Dimethyl-2- (4-nitrophenyl azo)-Phenol Complexes with Co(II) and Ni(II) and Study Its Effect on the Activity of Ach Enzyme(invitro)

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Abstract

Transition metal complexes of Co(II) and Ni(II) with azo dye 3,5-dimethyl-2-(4-nitrophenylazo)-phenol derived from 4-nitroaniline and 3,5-dimethylphenol were synthesized. Characterization of these compounds has been done on the basis of elemental analysis, electronic data, FT-IR,UV-Vis and ¹HNMR, as well as magnetic susceptibility and conductivity measurements. The nature of the complexes formed were studied following the mole ratio and continuous variation methods, Beer's law obeyed over a concentration range (1x10⁻⁴- 3x10⁻⁴ M). High molar absorptivity of the complex solutions were observed. From the analytical data, the stoichiometry of the complexes has been found to be 1:2 (Metal:ligand). On the basis of physicochemical data tetrahedral geometries were assigned for the complexes. The inhibitory effect of prepared compounds was used to study the type of inhibition. The results from line weaver- Burk plot indicated that the inhibitor type was non competitive with a range (31.76-83-21%).

Keywords: - spectral studies, complexes, azo dyes, inhibitors.

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