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Spectrophotometric Study of complex formation between Hematoxylin and Al^{3+} and Fe^{3+} ions

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Abstract : In this research work deeply blue and black complexes are formed from Hematoxylin with Al^{3+} and Fe^{3+} ions respectively. The optimum conditions of (concentration, volume, pH and temperature) and The UV-Visible spectra of these ions with pigment solution have been analyzed.

The formula of complexes is deduced according to the Molar ratio method which is gained from the spectrophotometric studies of the complex solution. The ratios of ligand: metal obtained were 3: 1 for two complexes under study.

The solid complexes are indicated by UV- Visible spectra that showed red shift when it compared with pigment solution spectra. Additionaly infrared spectra are analyzed and showed appearance and disappearance of some peaks. This refers to coordination between ligand and metal ions.

Keywords : Hematoxylin, metal ions, coordination, complex.

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