

**SYNTHESIS AND CHARACTERIZATION OF
2,6-PYRIDINEDIHYDROXAMIC ACID AND ITS IRON(III) COMPLEX**

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ABSTRACT

SYNTHESIS AND CHARACTERIZATIONS OF 2,6-PYRIDINEDIHYDROXAMIC ACID AND ITS IRON(III) COMPLEX

2,6-pyridinedihydroxamic acid (2,6-pyha) was synthesized and characterized their complexation properties with iron(III) metal. The percentages compositions of each elements in 2,6-pyha and iron(III) complex was determined by elemental analysis. It shows that the percentages C,H and N in 2,6-pyha are 44.48%, 3.63% and 21.12%. While in iron(III) complex, the percentages compositions are 32.72%, 3.60% and 18.74% which corresponds to C, H and N. It is indicated in the IR spectra of 2,6-pyha that the $\nu_{\text{O-H}}$, $\nu_{\text{N-H}}$ and $\nu_{\text{C=O}}$ are at 2822.75 cm^{-1} , 3153.31 cm^{-1} and 1669.48 cm^{-1} respectively. While the IR spectra for iron(III) complex shows the shifting value at N-H bond which then was confirmed there is a coordination mode between nitrogen from pyridine ring with iron(III) metal. The ^1H NMR spectra shows for 2,6-pyha, the presence of O-H resonance at 11.85 ppm, N-H resonance at 9.331 ppm and H resonance from disubstituted pyridine ring at 8.137 ppm.