

# SYNTHESIS OF ALDEHYDE MONOPODALIMIDAZO-FENANTROLIN POLYPYRIDINE LIGAND WITH MAGNETIC NANO PARTICAL Fe<sub>3</sub>O<sub>4</sub> COMPLEXES

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In this study, a compound (1,10-phenanthroline-5,6-dione) derived from the compound (1,10-phenanthroline) was synthesized. The phenanthrenimidazole containing a pyridine group was prepared from 1,10-phenanthroline-5,6-dione and an aldehyde derivative. This reaction is called Aldol reaction.

We aimed to the binding of ligands on super iron oxide nanoparticles. Magnetic nano partical Fe<sub>3</sub>O<sub>4</sub> (SPION) for using as a column packing material in Immobilized metal affinity chromatography (IMAC). Thus, the SPION unit derived with ligand will be investigated for the complexation reactions with some metals that this nanoparticle can be used as an affinity support material for metal ions. The obtained nanoparticle containing the ligand-metal complex is then will be interacted with some proteins such as albumin and hemoglobin for immobilization and the binding quantities will be compared.

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