# Co(II) recovery from electronic waste based on ion-imprinting of reduced Schiff base ligand on magnetite

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Co(II) recovery from electronic waste is critical. Schiff base ligands were incorporated in ion-imprinted polymers (IIPs) with magnetic particles providing the recyclability. Ligands were prepared from the reaction of substituted benzaldehyde (AHB) with phenylenediamine (PDA) or tris(2-aminoethyl)amine (TAEA) and reduced by $NaBH_4$. All compounds were confirmed via FTIR and NMR. Magnetite was coated with silica and alkene (MAG). Polymerization between MAG and the ligands were carried out with AIBN and EGDMA with and without Co(II) to produce MAG-IIP and MAG-NIP. Materials were characterized by FTIR. Adsorption tests for Co(II) recovery are on-going. This work was supported by National Research Foundation of Korea (NRF) funded by the Ministry of Science and ICT (2017R1D1A1B03028102 and 2017R1A2B2002109) and Ministry of Education (2009-0093816 and 22A20130012051 (BK21Plus)).