

Selective Extraction of Couple Nickel(II) / Cobalt(II) by a Series of Schiff Bases in Sulfate Medium, in the Chloroforme-Water

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Abstract : This work deals with the synthesis, the structural elucidation and the exploration the extracting properties of a series of ortho-hydroxy Schiff base in sulfate medium. After the synthesis and characterization of their structures, the study of their behavior in solution was carried out by pH-metric titration in different media homogeneous and heterogeneous solution. This allowed to explore and to quantify in each of these media, some of their properties in solution such as, their acid-base behavior (determination and comparison of pKa), their distribution powers (determination and comparison of logKd), and their thermodynamic constants (determining ΔH° , ΔS° and $\Delta G^\circ_{\text{moy}}$) by optimizing both the temperature and ionic strength. Study of the extraction of nickel (II) and cobalt(II) separately was undertaken in the aqueous-organic system, chloroform-water. Different extraction parameters have been thus optimized such, the pH, the concentration of extractant and the ionic strength, and the extraction constants established in each case. The extracted metal complexes have been isolated and their spatial configurations elucidated. The selective extraction of the couple cobalt (II)/nickel (II) was finally performed by our series of Schiff base in the chloroforme/water.

Keywords : selective extraction, Schiff base, distribution, cobalt(II), nickel(II)

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