A Study of the thermodynamic parameters (functions) of complexes formation of Sulfanilamid with metal ions and DL-Alanine by potentiometric method

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Tikrit Journal of Pure Science
2019, Volume 24, Issue 3, Pages 59-68

Abstract

The current study deals with the preparation of disulfonalmide complexes composed of the sulfanilamid drug, the salt of chromium(III) and the trisulfonalmide complexes composed of the sulfonalmide drug, the metal salt and the amino acid (alanin), as well as study in the stability constant of each complex and making a comparison between them. The obtained results show that the tricomplex stability constant is higher than the dicomplex stability constant due to the existence of the amino acid in the tricomplex which makes greater stereo structure and eventually easier interaction. Besides the thermodynamic functions in this experiment have been studied since they cause a chemical spontaneous reaction and a random arrangement in system.

Keywords

sulfonalmide, amino acid, alanine, stability constant, thermodynamic.
electrons is in the process of being filled with up to ten electrons. Transition metal ion formation is more complex than simple cation formation. Transition metal ions often involve rearrangements of both d and s electrons. Practice. Answer the question on the link below

The thermodynamic property studies on these complexes are performed. For the first one, Eu(Glu)(Im)_{5}ClO_{4}3·3HClO_{4}·6H_{2}O, the low temperature heat capacity, phase transition, and thermodynamic functions are determined by adiabatic calorimetry. For the second one, Nd(Gly)_{2}Cl_{3}·3H_{2}O, the molar dissolution enthalpy and standard molar enthalpy of formation are determined by isoperibol solution reaction calorimetry. By making research easy to access, and puts the academic needs of the researchers before the business interests of publishers. Our authors and editors. We are a community of more than 103,000 authors and editors from 3,291 institutions spanning 160 countries, including Nobel Prize winners and some of the world’s most-cited researchers. Although there are many methods available to study the stability of metal-ligand complexes, pH-metry is most frequently used. In extension of our study on solution equilibria, we used Calvin-Bjerrum method for the calculation of stability constants. Stoichiometries and stability constants of binary systems containing the above metal ions in a 1:1 and 1:2 and/or 1:3 ratios were also determined to compare the effect of the secondary ligand on (1:1) Metal:Sulphathiazole system. It was found that glycine adds preferably [M-Sulphathiazole] rather than to the aqueous complexes of metal ions. In all cases 1:1:1 complex was formed.