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Zinc(II) and copper(II) complexes with hydroxypyrone iron chelators.

Autorzy

Joanna Izabela Lachowicz

Valeria Marina Nurchi

Guido Crisponi

Maria de Guadalupe Jaraquemada-Pelaez

Małgorzata Ostrowska

Julia Jezierska

Elżbieta Gumienna-Kontecka

Massimiliano Peana

Maria Antonietta Zoroddu

Duane Choquesillo-Lazarte

Juan Niclós-Gutíerrez

Josefa M. González-Pérez

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Streszczenie

High stability of the complexes formed at physiological pH is one of the basic requisites that a good iron chelator must possess. At the same time the chelating agent must be selective toward iron, i.e., the stability of iron complexes must be significantly higher than that of the complexes formed with essential metal ions, in order that these last ones do not perturb iron chelation.

In the frame of our research on iron chelators we have designed and synthesized a series of tetradentate derivatives of kojic acid, and examined their binding properties toward Fe^{3+} and Al^{3+}. In this paper, for a characterization of the behavior of the proposed iron chelating agents in biological fluids, their complex formation equilibria with copper(II) and zinc(II) ions have been fully characterized together with a speciation study, showing the degree at which the iron chelators interfere with the homeostatic equilibria of these two essential metal ions.

Słowa kluczowe

Zinc(II) copper(II) complexes, pH potentiometry, EPR, NMR

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