



Looking at new ligands for chelation therapy.

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Streszczenie

This work reports the synthesis, characterization and study of the complex formation equilibria of four new bis-kojic acid chelators with Fe^{3+} , Al^{3+} , Cu^{2+} and Zn^{2+} . Based on previous encouraging results with tetradentate kojic acid derivatives, these ligands were designed with the aim of evaluating how acidic groups in the linker can affect both protonation constants and Fe^{3+} coordinating properties. Fe^{3+} and Al^{3+} complexation gave evidence of high metal-sequestering capacity, above all with the first metal ion. Complex formation equilibria with the essential metal ions Cu^{2+} and Zn^{2+} were furthermore studied to evaluate any disturbance of these chelating agents on the homeostatic equilibria of the essential metal ions. A multiplicity of techniques – potentiometry, UV-visible spectrophotometry, NMR spectroscopy and ESI-MS (electrospray ionization-mass spectrometry) – have enabled the characterization of the ligands, their corresponding metal complexes, together with an exhaustive analysis of the protonation and complex equilibria.

Adres publiczny

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