Copper and nickel complex-formation equilibria with Lys-Gly-His-Lys, a fragment of the matricellular protein SPARC.

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Streszczenie

Complex-formation equilibria of the tetrapeptide Lys–Gly–His–Lys with the Cu(II) and the Ni(II) ions have been studied in aqueous solution, at I=0.1 mol dm^{-3} (KNO_3) and T=25 °C. Protonation and complex-formation constants have been potentiometrically determined. The structure of the main complex species is discussed on the basis of thermodynamic data obtained by direct calorimetry as well as the CD, ESR and electronic spectra. The participation of two amide nitrogens in complex-formation is suggested for both the metal ions, while no evidence supports the participation of the ε-NH_2 side groups of Lys residues in coordination.Complex-formation equilibria of Lys–Gly–His–Lys, with the Cu(II) and the Ni(II) ions, have been studied by potentiometry, calorimetry, UV–Vis spectrophotometry, CD and ESR spectroscopies, in aqueous solution. The structure of the main complex species is discussed, devoting particular attention to the extra-stability effects due to the amino-acid-residue side-chains.

Słowa kluczowe

Copper complexes, Nickel complexes, Complex-formation equilibria, Lysyl–glycyl–histidyl–lysine

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