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The impact of the amino-acid sequence on the apecificity of copper(II) interactions with peptides having nonco-ordinating side-chains.

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Streszczenie

The review presents specific interactions that occur in complexes of Cu(II) ions with peptides composed only of amino acids with nonco-ordinating side chains. Three classes of such peptides are discussed. The first type (NSFRY analogues) is characterised by the presence of a specific combination of bulky and aromatic residues, leading to a formation of multiple weak interactions around Cu(II) that result in an extremely high stability of complexes. The second class is composed of complexes of vasopressins and oxytocins, achieving superstability through a pre-conformation in the peptide molecule. The third group are oligopeptides containing one or two proline residues. These peptides form exotic macrochelate loops with Cu(II) in a result of the break-point effect of Pro residues. Particular emphasis in the review was given to stability constants of complexes, compared to oligoglycine or oligoalanine peptides.

Adres publiczny

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