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Potentiometric, polarographic and spectroscopic studies of the Cu(II)-*D*-glucosamine-*D*-lactobionic acid ternary systems.

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Streszczenie

Our recent work on Cu(II) and VO(IV) interactions with lactobionic acid have shown[1,2] that this sugar acid has an unusually high ability to coordinate both metal ions. The carboxyl group is not a very effective donor for cupric ions[3,4] and metal interations with the set of the protonated hydroxyl groups should have considerable effects on complex stability. This high stability of the lactobionic acid complexes can lead to the involvement of this ligand in formation of ternary complexes with ligands such as aminosugars.[3–6] Both ligands are important chelating agents for Cu(II) ions in medicine, agriculture and food chemistry.[7–9] Since ternary complexes may play an important role in natural systems we have decided to follow complex formation in solutions containing lactobionic acid and one an aminosugar, *D*-glucosamine. The anchoring group in *D*(+)-glucosamine (2-amino-2-deoxy-*D*-glucose) is an amino group which is much more effective donor than carboxylate which acts as an anchor in sugar acids. Thus in our study we have used excess lactobionic acid to promote the formation of ternary complexes as major species in the solutions studied.

Słowa kluczowe

Copper(II), glucosamine, lactobionic acid, complexe, stability constants

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