

Synthesis and some sorption properties of the anion-exchangers with biguanidyl groups.

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Streszczenie

In this work, a method of synthesis of the resins bearing biguanidyl groups is presented. It includes exchange of chlorine in the terpolymer of styrene–vinylbenzyl chloride and 2 wt.% of divinylbenzene for ethylenediamine and the reaction of the amino groups with sodium dicyanamide. Thus obtained groups were converted to biguanidyl ones with urotropine. Resins are displaying sufficiently high biguanidyl ligand content, 1.7 mmol/g. The presence of guanidyl and biguanidyl groups does not improve sorption of Cu(II), which is due only to the nitrogens originating in ethylenediamine, as indicated by the electron paramagnetic resonance (EPR) spectra. Obtained resins have negligible sorption of Ni(II) and Co(II) but they have high capacity towards dicyanoaurate anions and gold chlorocomplexes. The sorption of gold from diluted 2 ppm solution of dicyanoaurate reaches 19 mg of Au/g of dry resin.

Słowa kluczowe

Gold sorption, Anion-exchanger, Biguanidyl resin, Copper(II) sorption, EPR copper(II) complexes

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