Photochromic Spirocompounds and Chromenes for Sensing Metal Ions

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Abstract—The results of studying the photoinduced and dark formation of complexes between molecules of the merocyanine form of photochromic spirocompounds (spiropyrans, spiroxazines) and chromenes that bear no crown ether moieties and various metal cations are reviewed. Certain dependences of the efficiency and selectivity of ion complexation on the structure of photochromic compounds are revealed using absorption and fluorescence spectroscopy. Functionalized photochromic spiropyrans were used to prepare samples of efficient optical chemosensors to determine metal ions in liquid media.

Keywords: photochromism, complexation, metal cations, absorption and fluorescence analysis, optical chemosensors, spiropyrans, spiroxazines, chromenes.

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