

## Fluorosensor action of bis-9-anthryl derivatives immobilised in silica xerogel.

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### Streszczenie

Silica xerogel samples with entrapped series of three fluorescent chemosensors of the Ant-R-Ant type, where Ant is an anthryl group and R is a receptor (spacer) with donor atoms, were prepared by the sol-gel process as chemical recognition phases. The absorption spectra characteristic of alkylanthracene are nearly the same for the free and complexed chemosensors in solution and those encapsulated in the silica xerogels. The fluorescence emission of the samples is specifically enhanced owing to the coordination reaction, with Cu<sup>II</sup> ions in particular. Emission decays can be described by a triple exponential; the lifetimes at room temperature are short. EPR spectra of Cu<sup>II</sup> ions complexed by chemisorption with the fluorosensors immobilised in silica have a fairly well resolved hyperfine structure and show the tetragonal-octahedral environment of the central ion. The recognition phase with fluorosensor **1** of the type Ant-N-O-N-Ant (where N and O are donor atoms) in silica can undergo cycles chemisorption-desorption many times.

### Słowa kluczowe

Chemosensor, Chemisorption, Fluorescence, Silica xerogel, Anthryl derivatives, Cu<sup>II</sup> complex

### Adres publiczny

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