**Synthesis of bis(azacrown)dienones and supramolecular complexes**

**based on them**

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Cross-conjugated dienones of cyclic ketones are widely known for their photochromic and fluorescence properties, which determine their applicability, first of all, as fluorescent probes in biology and agriculture [1-2]. The purpose of this study was to synthesize a series of dienones with various donor substituents, including azacrown-containing dienones, to study the photophysical properties of the obtained compounds and the possibility to construct photoactive supramolecular systems based on them.



Dienones with various donor substituents and azacrown-containing dienones were obtained by the alkaline aldol-crotonic condensation of aromatic aldehydes with cyclic ketones in the presence of a base (Claisen-Schmidt reaction). The structure of the obtained dienones was determined by NMR-, IR-, UV spectroscopy and elemental analysis.

The formation of supramolecular complexes of azacrown-containing dienones with alkaline and alkaline earth metal cations was studied by electronic spectroscopy methods. The complexation is accompanied by changes in the absorption and fluorescence spectra of dienones. It was found that azacrown-containing dienones forms complexes of different stoichiometry with metal cations. The stability constants of the complexes were determined.

The synthesized dienones and supramolecular systems based on them may be used as components of photoactive supramolecular devices, optical molecular sensors.

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**References**

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