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ENONE AND ENONE-HYDRAZONE FLUOROPHORES: SYNTHESIS AND STUDY OF PHOTOPHYSICAL PROPERTIES

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Introduction. Well-known representatives of enones are chalcones, which are characterized by their α,β-unsaturated ketone structure. This structure typically consists of two aromatic rings connected by a conjugated system that includes an enone moiety. Chalcones are highly valued in analytical and biochemical research due to their sensitivity and versatility as fluorescent dyes and markers [1]. Their basic structural unit, the α,β-unsaturated system, enables a wide range of functional modifications, making them promising materials for various applications [2]. The hydrophobic/hydrophilic nature of chalcones has driven extensive research into their biological activities, including anticancer, antimicrobial, and antiviral properties, among others [3,4]. This versatility stems from the α,β-unsaturated ketone functionality, which facilitates diverse medicinal applications. Both natural and synthetic chalcone derivatives continue to garner significant attention due to their straightforward synthesis and broad spectrum of biological activities.

The main part. Within the framework of this work, the following tasks are being solved:

1. Synthesis and characterization of chalcones and their derivatives;
2. Study of the spectral characteristics of the obtained chalcons and their derivatives.

Conclusions. The target compounds were synthesized, purified and characterized using a number of physical and chemical methods (NMR and IR spectroscopy). Spectral analysis was performed using absorption spectroscopy and fluorescence spectroscopy for the obtained chalcons and their derivatives.

References:

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