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## Book of Abstracts



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## Synthesis and Photophysical Analysis of Fluorescent Purine-Azole Conjugates

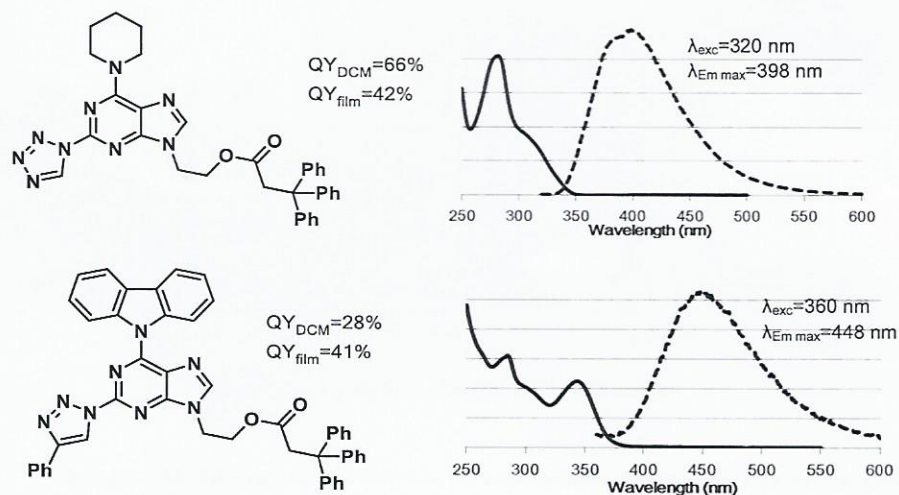
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Earlier we reported the synthesis of fluorescent 2/6-triazolyl purine derivatives.<sup>1</sup> To improve photophysical properties purine conjugates with various azoles were synthesized. The attention was drawn to the introduction of carbazole moieties to the purine structure. It is known that various compounds with carbazole moieties have good hole transport properties<sup>2</sup> which could be favorable for the development of new OLED devices.

The synthetic routes for various substituted purine derivatives were designed. Imidazole, 1,2,4-triazole and tetrazole were introduced in the purine. Several functionalized purine-carbazole conjugates were synthesized. The photophysical properties of the target compounds were studied in DCM solution and in the thin layer film and fluorescence with emission maxima corresponding to violet, blue or teal light were observed. Quantum yields greatly depended on the substituents and in DCM solution reached up to 86% but in the thin layer films up to 54%.



**Figure 1:** Target compounds with tetrazole and carbazole moieties and their absorption-emission spectra in DCM solution (solid lines - absorption spectra, dashed lines - emission spectra).

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