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Chemistry Section

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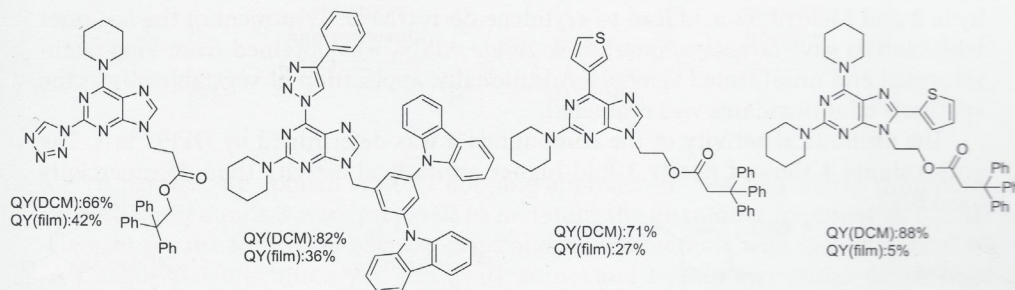
SYNTHESIS AND PHOTOPHYSICAL PROPERTIES OF FUNCTIONALIZED PURINE-HETEROCYCLE CONJUGATES

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Earlier we reported the synthesis of fluorescent 6-triazolyl purine nucleosides [1] and the synthesis of 2/6-triazolyl purine derivatives with amorphous groups at N(9) position. Different electron-donor and electron-acceptor groups were introduced in the purine structure that changed the fluorescent properties, while the trityl group increased amorphous properties [2] and carbazole groups enhanced hole transport capabilities [3].

In this work, the synthetic routes for introduction of azole electron-acceptor and amine electron-donor groups at purine C(2), C(6) and C(8) positions were designed. Purine N(9) position was functionalized with substituents with trityl or carbazole moieties. The fluorescent properties were studied in the solutions and in the films. Quantum yields in DCM reached up to 88% and up to 45% in the films.



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