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12th Paul Walden Symposium on Organic Chemistry



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12th Paul Walden Symposium on Organic Chemistry

PROGRAM AND ABSTRACT BOOK

Riga, Latvia
28-29 October, 2021

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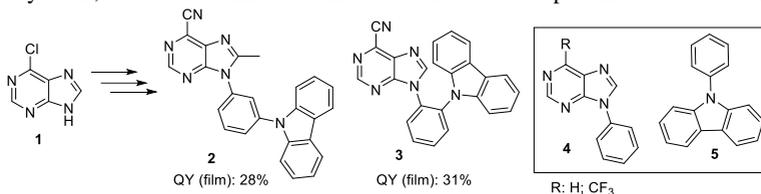
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Armands Sebris

Synthesis and Photophysical Properties of Fluorescent Purine-Carbazole Conjugates

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Earlier, we reported the synthesis and photophysical properties of fluorescent 1,2,3-triazolylpurine derivatives¹ and 2-azolylpurines.² We continued this work with a synthesis and an investigation of purine-carbazole conjugates, later to study their potential use in OLEDs as emitters or hosts [3]. Now we have modified purine structures with elements, which introduce steric hindrance for achieving optimal emission properties. Structure **2** is modified with a methyl group at purine C(8), which introduces steric hindrance and reduces rotation. In an alternative structure **3** connection between purine and carbazole moieties is made through an *o*-substituted benzene ring, which changes torsion angles between cycles and reduces possible rotation. Different 6-substituted purines **4** are prepared for use together with compound **5** as exciplex systems, which can utilize disconnected donor and acceptor molecules for emission.



Scheme 1. Common starting material **1** and synthesized target compounds **2**, **3** and **4**

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References

1. Šišuljns, A.; Bucevičius, J.; Tseng, Y.-T.; Novosjolova, I.; Traskovskis, K.; Bizdēna, Ē.; Chang, H.-T.; Tumkevičius, S.; Turks, M. *Beilstein J. Org. Chem.* **2019**, *15*, 474.
2. Sebris, A.; Traskovskis, K.; Novosjolova, I.; Turks, M. *Chem. Heterocycl. Compd.* **2021**, *57*, 560.
3. Traskovskis, K.; Sebris, A.; Novosjolova, I.; Turks, M.; Guzauskas, M.; Volyniuk, D.; Bezikonnyi, O.; Grazulevicius, J. V.; Mishnev, A.; Grzibovskis, R.; Vembris, A. *J. Mater. Chem. C* **2021**, *9*, 4532.