



ALEXANDRU IOAN CUZA
UNIVERSITY of IAȘI



FACULTY of CHEMISTRY

Conference Program



25-26 October 2018, Iasi, Romania

PI-23. Synthesis of new pyrrolodiazine with fluorescent propertie

Gheorghita Zbancioc^{1*}, Costel Moldoveanu¹, Mihai-Ady Zvancu¹, Catalina Ciobanu¹,
Vasilichia Antoci¹, Violeta Mangalagiu^{2,3}, Dorina Amariuca-Mantu¹,
Ionel Mangalagiu¹

¹“Alexandru Ioan Cuza” University of Iasi, Faculty of Chemistry, 11 Carol I, Iasi, 700506, Romania

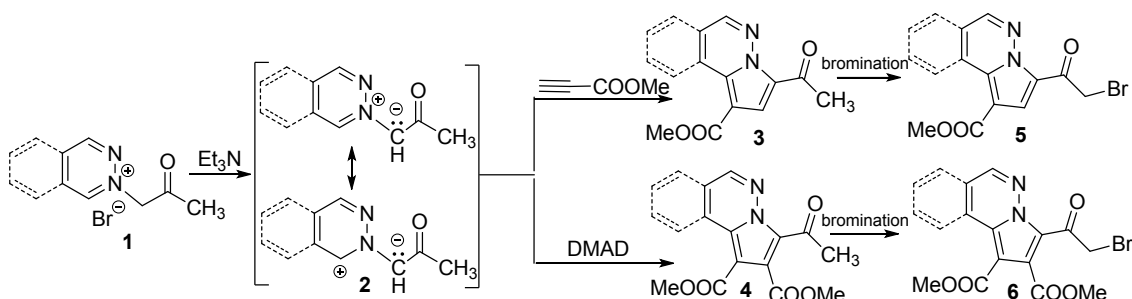
³“Alexandru Ioan Cuza” University of Iasi, Integrated Centre of Environmental Science Studies in the North Eastern Region (CERNESIM), 11 Carol I, Iasi, 700506, Romania

⁴“Stefan cel Mare” University of Suceava, Faculty of Food Engineering, 13 Universitatii Street, Suceava, 720229, Romania

*correspondence to: gheorghita.zbancioc@uaic.ro

Synthesis of highly fluorescent derivatives with extended π -conjugation continues to arouse strong interest because of their applications as sensors and biosensors, electroluminescent materials, lasers, and other optoelectronic devices [1-3]. Various classes and various strategies have been adopted to reach this goal [1].

Initially, we generate in situ the diazinium ylides from the corresponding diazinium salts **1**, using Et₃N as base. In the next step, the ylides **2** were treated with methyl propiolate or DMAD (dimethyl acetylenedicarboxylate), leading to the corresponding pyrrolodiazine derivatives **3** and **4**. Finally we investigated the bromination reaction of pyrrolodiazine. This reaction was highly selective, leading to α -bromo-derivatives **5** and **6** in very good yields.



The structures of all compounds were unambiguously proved by spectral analysis (IR, ¹H-NMR, ¹³C-NMR and 2D NMR experiments).

Acknowledgements: Authors are thankful to UEFISCDI Bucharest, Romania, project PN-III-P1-1.1-TE-2016-1205 for financial support and the POSCCE-O 2.2.1, SMIS-CSNR 13984-901, No. 257/28.09.2010 Project, CERNESIM, for NMR experiments.

References

- [1] B. Valeur, Molecular Fluorescence, Wiley-VCH: Weinheim, 2002.
- [2] M.A. Baldo, M.E. Thompson, S.R. Forrest, High-efficiency fluorescent organic light-emitting devices using a phosphorescent sensitizer, Nature 403 (2000) 750–753. <https://doi.org/10.1038/35001541>.
- [3] D.T. McQuade, A.E. Pullen, T.M. Swager, Conjugated polymer-based chemical sensors, Chem. Rev. 100 (2000) 2537–2574. <https://doi.org/10.1021/cr9801014>.