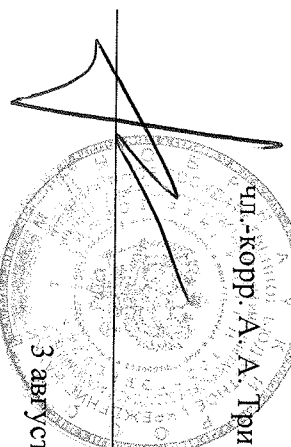


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Cyclization of Arylhydrazones of Cross-Conjugated Enynones: Synthesis of Luminescent 1,5-Diaryl-3-styryl-1*H*-pyrazoles

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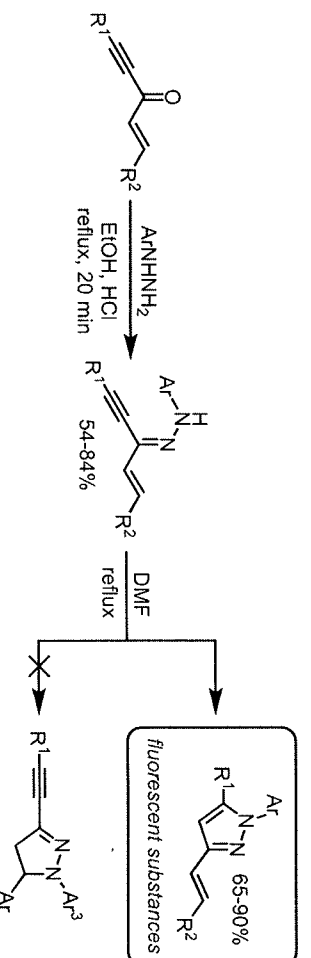
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Keywords

arylhydrazones of cross-conjugated enynones; heterocyclization; styrylpyrazoles; DFT calculations; fluorescence

Graphical Abstract



Abstract: Condensation of 1,5-disubstituted pent-1-en-4-yn-1-ones with arylhydrazines in acidified alcohol results in the corresponding arylhydrazones. They are cyclized by reflux in high-boiling polar solvents (DMF, ethylene glycol) with the selective formation of 1,5-

XRD studies were performed applying the equipment of the Center for Molecular Composition studies of INEOS RAS supported by the Ministry of Science and Higher Education of the Russian Federation (Contract/agreement No. 075-00697-22-00).

SUPPLEMENTARY INFORMATION: computational details, X-ray data, ^1H , $^{13}\text{C}\{\text{1H}\}$ NMR spectra of compounds **1f,j,k**, **4a-p**, **5b-g,j,k,m-r**, mass spectra of compounds **4a-p**, **5b-g,j,k,m-r**, UV-vis and fluorescence spectra of compounds **4a-p**.

REFERENCES

1. (a) P.K. Mykhailiuk, *Chem. Rev.*, 2021, **121**, 1670–1715; (b) A. Ansari, A. Ali, M. Asif, M. Shamsuzzaman, *New. J. Chem.*, 2017, **41**, 16–41; (c) J. Dwivedi, S. Sharma, S. Jain, A. Singh, *Mini. Rev. Med. Chem.*, 2018, **18**, 918–947; (d) W.F. Rodhan, S.S. Kadhium, Z.Z.M. Ali, A.G. Eleiwi, R.F. Abbas, I.R. Mohamed, Z.A. Hussein, *JPCS*, 2021, **1853**, 012059; (e) J.V. Faira, P.F. Vegi, A.G.C. Miguia, M.S. Dos Santos, N. Boechat, A.M.R. Bernardino, *Bioorg. Med. Chem.*, 2017, **25**, 5891–5903; (f) A. Tiwari, A. Bendi, A.S. Bhatnial, *Chem. Select.*, 2021, **6**, 12757–12795.
2. (a) B. Varghese, S.N. Al-Busafi, F.O. Suliman, S.M.Z. Al-Kindy, *RSC Adv.*, 2017, **7**, 46999–47016; (b) B. Dash, S. Karim, *Int. J. Pharm. Sci. Res.*, 2021, **12**, 2570–2588.
3. S. Fustero, M. Sánchez-Roselló, P. Barrio, A. Simón-Fuentes, *Chem. Rev.*, 2011, **111**, 6984–7034.
4. P.M.O. Gomes, P.M.S. Ouro, A.M.S. Silva, M.L.M. Silva, *Molecules*, 2020, **25**, 5886.
5. (a) A. Balbi, M. Anzaldi, C. Macció, C. Aiello, M. Mazzei, R. Gangemi, P. Castagnola, M. Miele, C. Rosano, M. Viale, *Eur. J. Med. Chem.*, 2011, **46**, 5293–5309; (b) D. Mariadis, M. Sagnou, *Int. J. Mol. Sci.*, 2020, **21**, 5507; (c) D.L. Flynn, T.R. Bellioti, A.M. Boctor, D.T. Connor, C.R. Kostlan, D.E. Nies, D.F. Ortwine, D.J. Schrier, J.C. Sircar, *J. Med. Chem.*, 1991, **34**, 518–525; (d) V.W.Y. Liao, A. Kumari, R. Narlawar, S. Vignarajan, D.E. Hibbs, D. Panda, P.W. Groundwater, *Mol. Pharmacol.*, 2020, **97**, 409–422; (e) A. Kamal, A.B. Shaik, N. Jain, C. Kishor, A. Nagabhushana, B. Supriya, G.B. Kumar, S.S. Chourasiya, Y. Suresh, R.K. Mishara, A. Addlagatta, *Eur. J. Med. Chem.*, 2015, **92**, 501–513; (f) S. Rai, A.M. Isloor, P. Shetty, K.S.R. Pai, H.K. Fun, *Arab. J. Chem.*, 2015, **8**, 317–321; (g) D. Toman, J. Radek, A. Hareh, V. Kryštof, P. Cankar, *Med. Chem.*, 2022, **18**, 484–496; (h) A.R.F. Carreira, D.M. Pereira, P.B. Andrade, P. Valentão, A.M.S. Silva, S. Santos Braga, V.L.M. Silva, *New. J. Chem.*, 2019, **43**, 8299–8310.
6. (a) V.L.M. Silva, J. Elguero, M.S. Silva, *J. Med. Chem.*, 2018, **156**, 394–429; (b) V. Gressler, S. Moura, A.F.C. Flores, D.C. Flores, P. Colepicolo, E. Pinto, *J. Braz. Chem. Soc.*,