

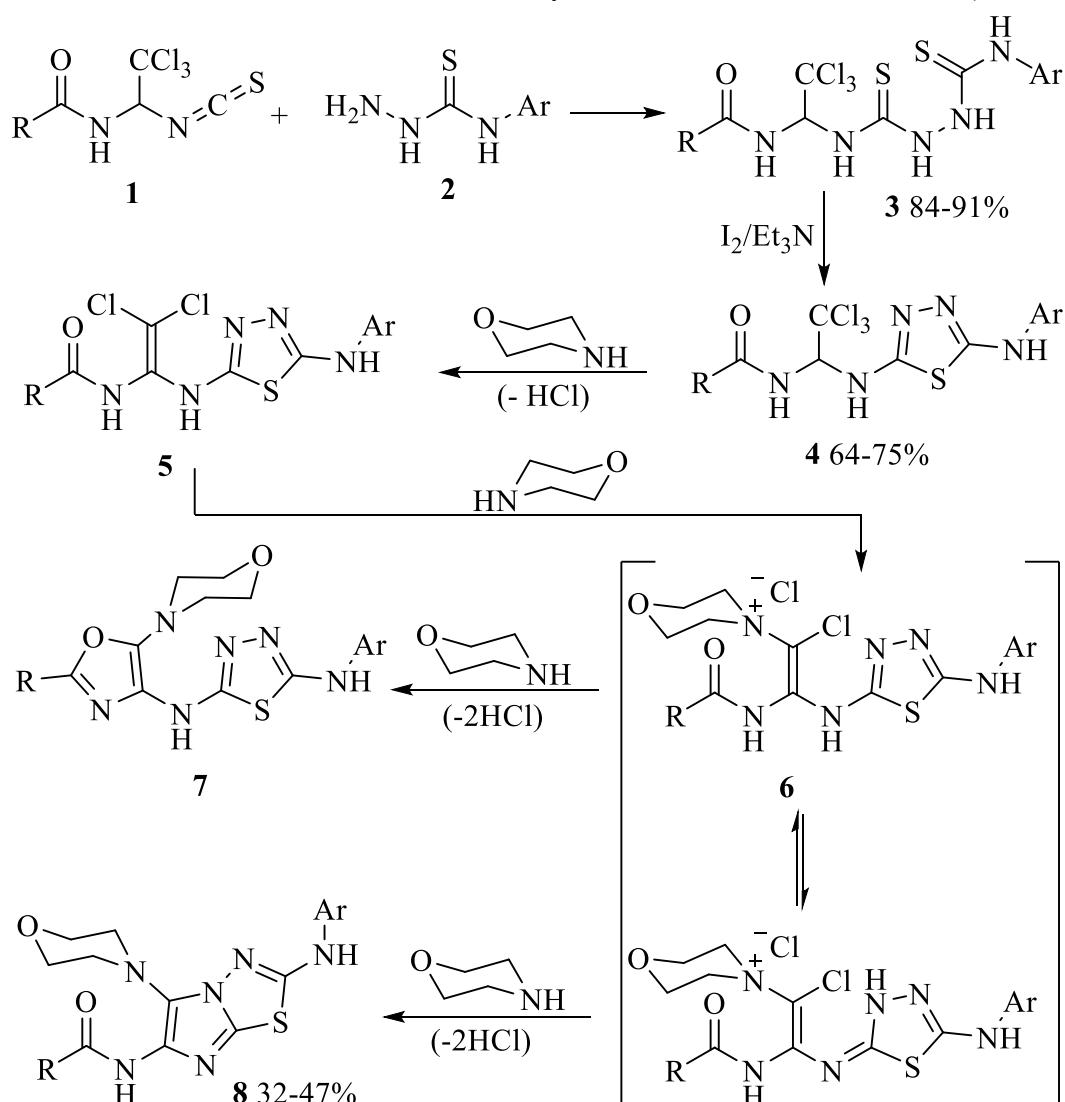
SYNTHESIS OF SOME NEW *N*-(5-MORPHOLINO-2-(ARYLAMINO)IMIDAZO[2,1-*B*][1,3,4]THIADIAZOL-6-YL)CARBOXAMIDES DERIVATIVES

Pavlova V.V., Zadorozhnii P.V., Kiselev V.V., Kharchenko A.V., Okhtina O.V.

Ukrainian State University of Chemical Technology, Dnipro, Ukraine

torfp@i.ua

Derivatives of imidazo[2,1-*b*][1,3,4]thiadiazoles are widely described in the scientific literature and are of great interest for organic and medicinal chemistry as well as pharmacy. Compounds containing the imidazo[2,1-*b*][1,3,4]thiadiazole cycle have antibacterial, antifungal, anti-tuberculosis, antiviral, anti-inflammatory, hypoglycemic, antithrombotic, anti-alzheimer, antitumor and other types of biological activity [1-5]. Based on *N*-(2,2,2-trichloro-1-isothiocyanatoethyl)carboxamides (**1**) [6] we have obtained a number of *N*-(5-morpholino-2-(aryl amino)imidazo[2,1-*b*][1,3,4]thiadiazol-6-yl)carboxamides derivatives (**8**) (Scheme 1).



Scheme 1. Synthesis of *N*-(5-morpholino-2-(aryl amino)imidazo[2,1-*b*][1,3,4]thiadiazol-6-yl)carboxamides derivatives (**8**).

The structure of the compounds synthesized has been determined by IR, NMR ¹H and ¹³C spectroscopy and mass spectrometry.

References

- [1] Khazi, I.A.M.; Gadad, A.K.; Lamani, R.S.; Bhongade, B.A. Chemistry of imidazo[2,1-*b*][1,3,4]thiadiazoles. *Tetrahedron* **2011**, *67*, 3289–3316.
- [2] Lata, K.; Kushwaha, A.; Gupta, D.; Meena, A.; Verma. Biological activities of imidazo[2,1-*b*][1,3,4]thiadiazole derivatives: a review. *Heterocyclic Lett.* **2015**, *5*, 489–509.
- [3] Bhongade, B.A.; Talath, S.; Gadad, R.A.; Gadad, A.K. Biological activities of imidazo[2,1-*b*][1,3,4]-thiadiazole derivatives: A review. *J. Saudi Chem. Soc.* **2016**, *20*(Supp. 1), S463–S475.
- [4] Sbenati, R.M.; Semreen, M.H.; Semreen, A.M.; Shehata, M.K.; Alsaghir, F.M.; El-Gamal, M.I. Evaluation of imidazo[2,1-*b*]thiazole-based anticancer agents in one decade (2011–2020): Current status and future prospects. *Bioorg. Med. Chem.* **2021**, *29*, 115897.
- [5] Zadorozhnii, P.V., Kiselev, V.V., Pavlova,V.V., Kharchenko, A.V., Okhtina, O.V. *N*-(5-Morpholino-2-arylimidazo[2,1-*b*][1,3,4]thiadiazol-6-yl)carboxamides as Potential Fer/FerT Kinase Inhibitors. Homology Modeling, Molecular Docking Studies and *In Silico* ADMET Profiling. *Biointerface Res. Appl. Chem.* **2021**, *11*, 14413–14432.
- [6] Zadorozhnii, P.V., Pokotylo, I.O., Kiselev, V.V., Kharchenko, A.V., Okhtina, O.V. Synthesis and spectral characteristics of *N*-(1-([1,2,4]triazolo[3,4-*b*][1,3,4]thiadiazol-6-ylamino)-2,2,2-trichloroethyl)carboxamides. *Heterocycl. Commun.* **2019**; *25*: 130–137.