

# PALLADIUM CATALYZED SYNTHESIS AND STRUCTURAL CHARACTERIZATION OF NOVEL 2-ARYLBENZOXAZOLE DERIVATIVES

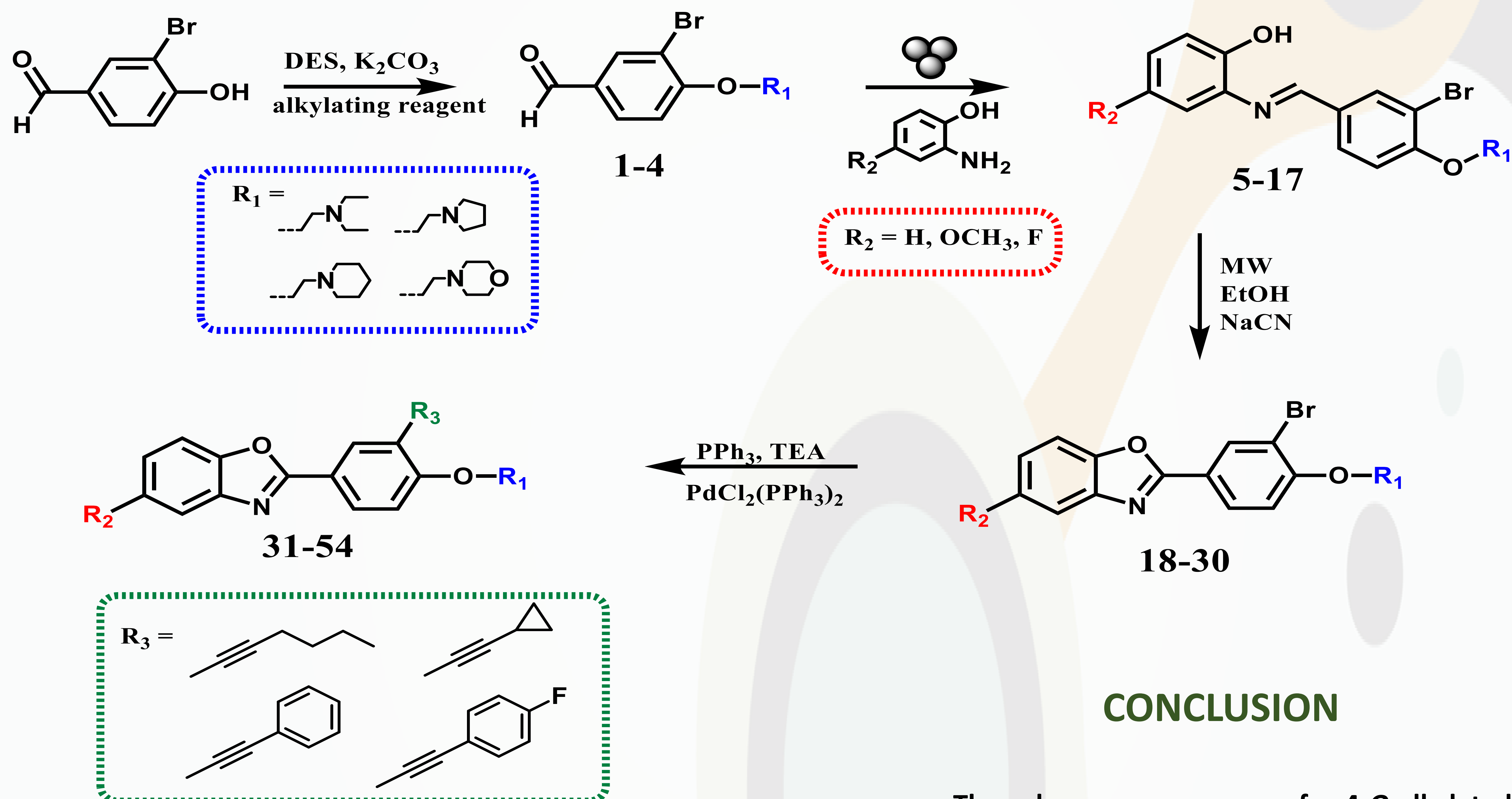
Anja Rakas<sup>1</sup>, Kristina Olujić<sup>1</sup>, Jurja Vukovinski<sup>1</sup>, Tatjana Gazivoda Kraljević<sup>1</sup>

<sup>1</sup> Department of Organic Chemistry, Faculty of Chemical Engineering and Technology, University of Zagreb, Marulićev trg 20, 10000 Zagreb, Croatia

## INTRODUCTION

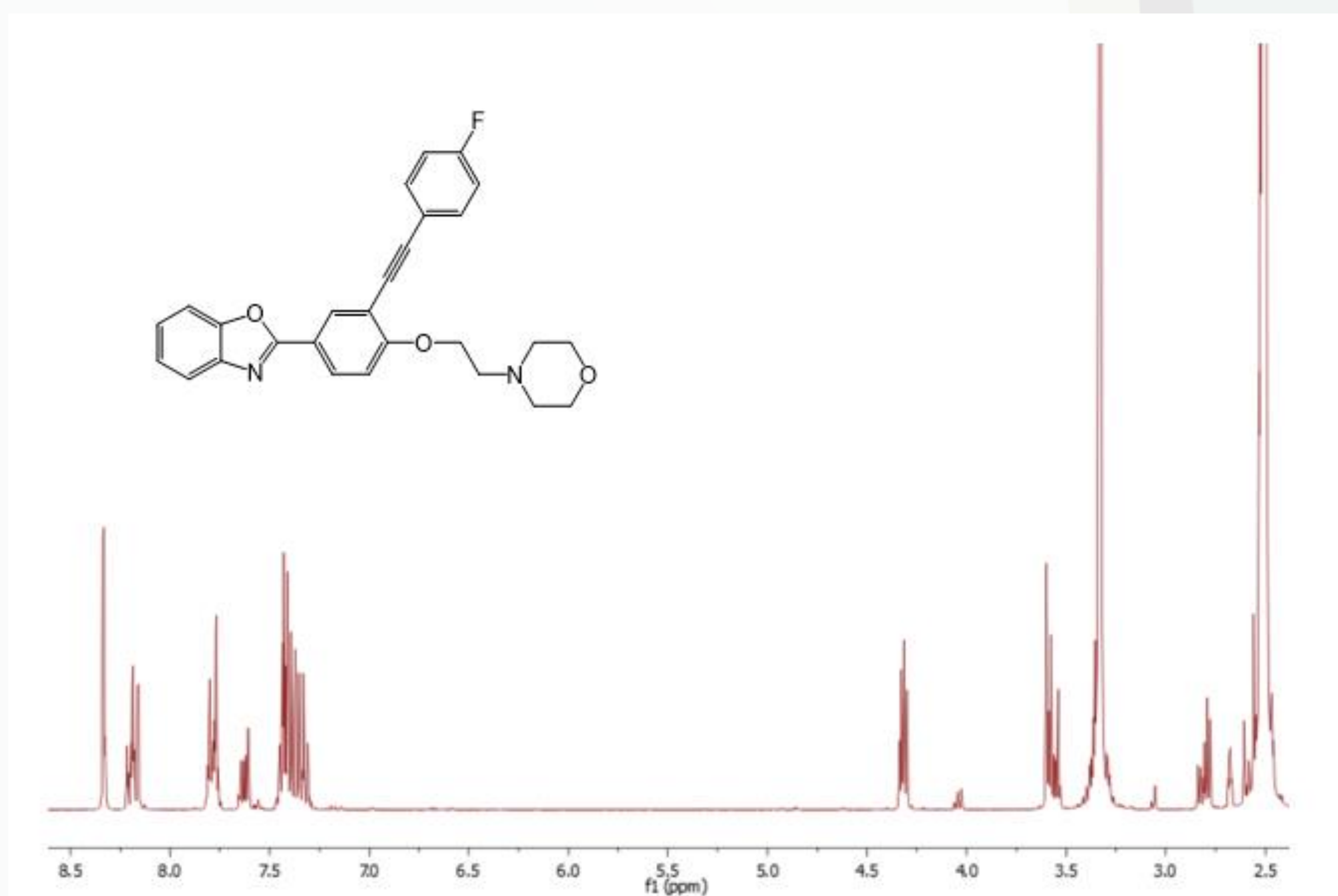
Interest in the synthesis of compounds containing the benzoxazole ring has lately increased due to their presence in recently discovered biologically active molecules, which act as natural antibiotics, modulator for various receptors and antitumor compounds [1]. Cross-coupling reactions have made an impressive impact in medicinal chemistry and drug discovery and development for more than two decades. The success and popularity of this type reactions comes from the fact that during the drug discovery phase, chemists are attracted to reactions that are reliable and reproducible [2,3].

## CHEMISTRY



## CONCLUSION

The key precursors of 4-*O*-alkylated benzaldehyde derivatives (1-4) for the synthesis of target benzoxazole derivatives were prepared by alkylation reaction in DES (ChCl/glycerol) which were then converted in Schiff bases (5-17) by mechanochemical reaction with 2-aminophenole. Microwave assisted cyclization reaction of Schiff bases gave 2-arylbenzoxazole derivatives (18-30). Alkynyl substituents at position 3 of phenyl ring were introduced by Pd-catalyzed Sonogashira cross-coupling reaction. Structures of newly prepared benzoxazole derivatives were confirmed by <sup>1</sup>H and <sup>13</sup>C NMR spectroscopy.



<sup>1</sup>H NMR spectrum of compound 48

## REFERENCES

- [1] D. Osmaniye *et al.*, *Eur. J. Med. Chem.* **131** (2021) 90-95
- [2] A. Paun *et al.*, *Tetrahedron Lett.* **56** (2015) 5349-5489
- [3] R. Ayoub *et al.*, *Molecules* **27** (2022) 23-36