AZIRIDINE/PALLADIUM COMPLEXES IN THE SYNTHESIS OF LUMINOPHORES

Dominika Lubikowska[1], Stanisław Leśniak, Adam Marek Pieczonka

[1] Department of Organic Chemistry, University of Lodz, Poland
dominika.lubikowska@gmail.com

Chiral, optically pure aziridine derivatives are commonly used compounds as a chiral shift reagents [1], ligands or organocatalysts in stereocontrolled synthesis [2], or as a biologically active compounds eg. antibacterial agents [3]. Aziridine ring in the combination with second electron donating group can act as very efficient catalyst. Insertion of diphenylphosphine subunit into aziridine containing system will allow to use such compounds as a ligands in palladium catalyzed reactions like Suzuki reaction.

In the presented project a new group of aziridine derivatives bearing phosphine subunit were obtained in relatively simple synthesis. All new compounds were tested as a ligands in Suzuki-Miyaura reaction of different boronic acids with bromosalicylicaldehyde (Fig. 1.). Products of the presented Suzuki couplings are a starting materials in the synthesis of diverse small-molecule organic compounds exhibiting strong luminescent properties.

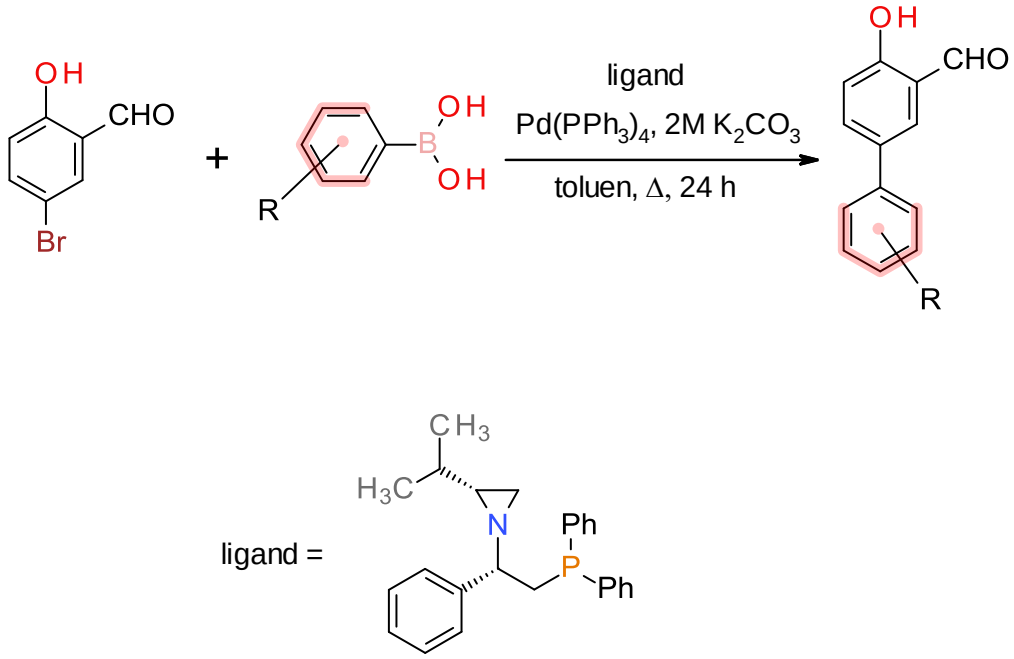

Fig. 1. Suzuki reaction in the presence of aziridine ligands.

[1] A. M. Pieczonka, S. Leśniak, M. Rachwalski, Tetrahedron **74**, 1571–1579, (2018).
[2] A. M. Pieczonka, S. Leśniak, S. Jarzyński, M. Rachwalski, Tetrahedron: Asymmetry **26**, 148-151, (2015).
[3] A. Kowalczyk, A. M. Pieczonka, M. Rachwalski, S. Leśniak, P. Stączek, Molecules **23**, 45, (2018).