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Synthesis of Fluorinated Molecular Cage

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Fluorinated counterparts of hydrogenated molecules have been reportedly shown to have higher heat resistance as well as chemical stability. This work is a joint collaboration aimed at combining ideas of B. M. Schmidt group, which reported the application of fluorinated [4+4] molecular cages to effectively absorb gases with the works of A. Kasprzak group that gave birth to the synthesis of [3+2] ferrocene cages, which showed to be an effective catalysts of 1,1'-biphenyls, when combined with Pd. Together we contrived the idea to synthesize fluorinated analogues of [3+2] ferrocene cages and check if they bare the same characteristics as aforementioned cages, meaning that they might potentially act as a catalyst or a gas absorber. The imine formation reaction that has been employed for the creation of the discussed cages is very simple as it consists of just one step. It has been also concluded that the reaction itself doesn't require any sophisticated conditions, which further translates to trivialness of the synthesis of the materials that might possess a number of useful properties and applications.

Biography:

Maurycy Krzyżanowski currently in his sophomore year at Warsaw University of Technology, working in A. Kasprzak Functional Organic Compound Group. Recipient of the prestigious scholarship - „Szkoła Orłów”, financed by Ministry of Science and Higher Education within a funding from European Union.