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Synthesis of isocyanides from n-substituted formamides using phophorus oxychloride

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A simple, green, and highly efficient protocol for the synthesis of isocyanides is described. The reaction involves dehydration of formamides with phosphorus oxychloride in the presence of triethylamine at ^{0}C. The product isocyanides were obtained in high to excellent yields within one hour. The advantages of this present protocol include an increased synthesis speed, relatively mild conditions, and rapid access to large numbers of functionalized isocyanides, excellent purity, increased safety, and minimal reaction waste. The new approach of dehydrative isocyanides from formamides is significantly more environmentally friendly than prior methods.

Biography

Salami Sodeeq Aderotimi is a PhD student at Rhodes University Grahamstown South Africa. Sodeeq hold a Master's degree in 2015 from the University of Ilorin Kwara State Nigeria where He became interested in biotransformation of natural plants and antibiotic drugs which involves exploiting microorganisms and their isolated enzymes to develop a variety of useful constituents, through regio sterio selectivity reaction. His PhD research focuses on the synthesis and application of isocyanides in the passerini reaction, with the goal of identifying new multicomponent reactions that involve an isocyanides, such as the passerini reaction, and applying them to new heterocyclic synthesis approaches.