Study of two protocols for the separation of heterogeneous catalysts after decarbonylation of aldehydes

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Aldehyde decarbonylation is among the most important reactions for the deoxygenation of biomaterials. Apart from industrial processes, the reaction is widely used for the synthesis of other useful molecules, including natural products [1]. Accordingly, we have described two palladium-catalyzed aldehyde decarbonylation reactions and two efficient methods for separating the expensive palladium catalyst from the reaction mixture (Figure 1).

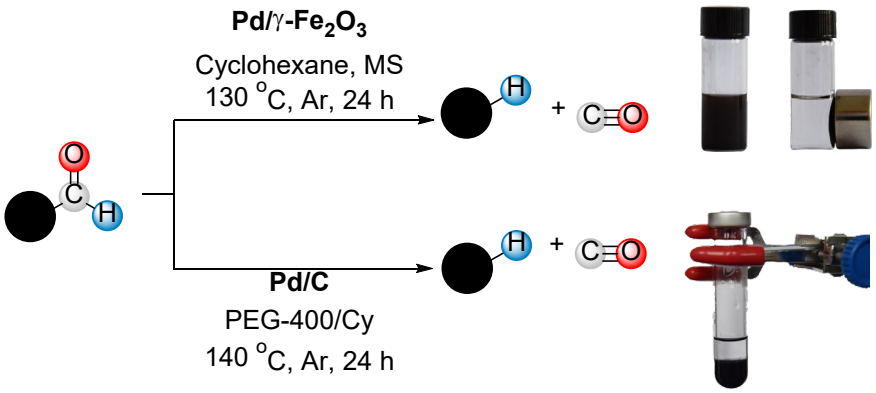

Figure 1.

The first method entails palladium immobilization on γ-Fe_2O_3, which endows the catalyst with magnetic properties and allows its efficient recovery and reusability [2]. The second separation method is based on the differential distribution of commercially available Pd/C and organic products in a mixture of PEG-400 and cyclohexane [3].

References

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[2] V. Ajdačić, A. Nikolić, S. Simić, D. Manojlović, Z. Stojanović, J. Nikodinovič-Runić and I. M. Opsenica, *Synthesis*, **2018**, *50*, 119.
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