

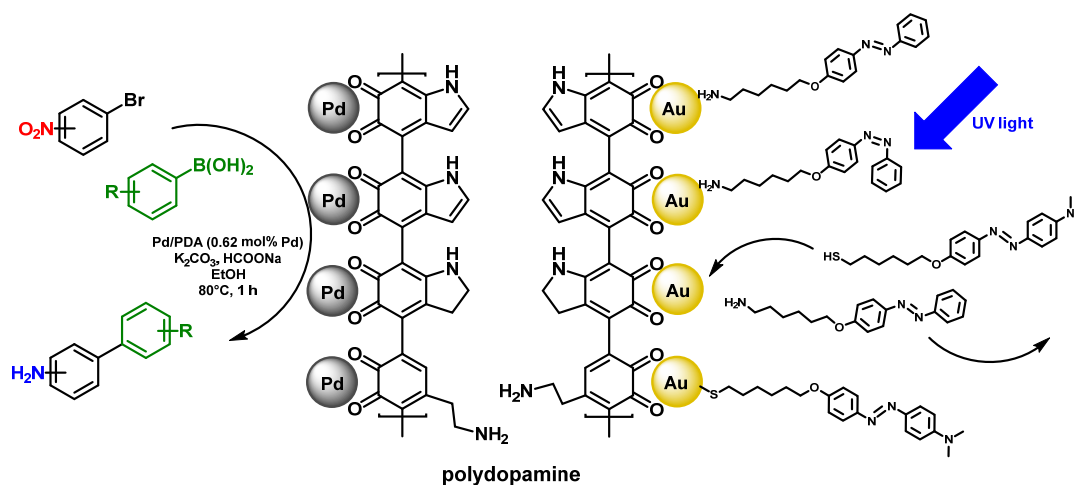
# CONSTRUCTION OF HETEROGENEOUS CATALYSTS AND DYNAMIC INTERFACES ON A POLYDOPAMINE PLATFORM

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Polydopamine has attracted major attention in the past decade due to its universal adhesive property, its redox activity, and its biocompatibility. [1] In our work, we prepared polydopamine supported palladium nanoparticles (Pd/PDA) and magnetically separable Pd/PDA modified Fe<sub>3</sub>O<sub>4</sub> nanoparticles (Fe<sub>3</sub>O<sub>4</sub>@Pd/PDA) with an outstanding Pd nanoparticle diameter of 1-3 nm and 5-8 nm respectively. These catalysts demonstrated high activity and selectivity in transfer hydrogenation reactions [2], Suzuki cross-couplings and tandem Suzuki/transfer hydrogenation reactions. [3] Furthermore, gold nanoparticle deposited polydopamine modified quartz slides (Q-PDA-Au) were prepared as an easy-to-assemble system for the immobilization of thiol and amine terminated azobenzene photoswitches. These azobenzenes were able to reversibly isomerize on the Q-PDA-Au surface upon UV-light irradiation. Moreover, amine terminated azobenzenes could be exchanged by thiolated ones, thus, a reconfigurable surface could be constructed.



[1] H. Lee, S. M. Dellatore, W. M. Miller, P. B. Messersmith, *Science*, **2007**, *318*, 426–430.

[2] A. Kunfi, V. Szabó, Á. Mastalir, I. Bucsi, M. Mohai, P. Németh, I. Bertóti, G. London, *ChemCatChem*, **2017**, *9*, 3236–3244.

[3] A. Kunfi, Z. May, P. Németh, G. London, *J. Catal.* **2018**, *361*, 84–93.