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Photoinduced heterogenous catalysis with TiO₂ and kaolinite

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Heterogeneous photocatalysis is a worldwide researched Advanced Oxidation Process. It can be successfully applied for degradation of various organic pollutants into harmless or less harmful compounds. The efficiency of this technology can be increased in multiple ways, thus it has the flexibility for being used in practical application. The efficiency can be significantly enhanced by the combination with other oxidative procedures such as ozonation and by using new kind of catalysts or modifying their surface with precious metals. The latter helps the charge separation therefore slows down the recombination of holes and electrons. Furthermore with the “coloring” of the semiconductor there is a possibility to extend the light absorption range of the catalyst to the visible light wave lengths. Our research group studied TiO₂ and kaolinite based heterogenous photocatalysis by the degradation of different model compounds. In this work, we summarize our results regarding the mineralization of benzenesulfonic acid and oxalic acid on the previous two catalysts.

Biography

Orsolya Fónagy has started her PhD in 2014 at University of Pannonia. Her PhD topic is “Investigation and development of water treatment procedures based on heterogeneous photocatalysis”. She is a co-author in two publications at scientific journals.

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