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## **CATALYSTS FOR HETEROGENEOUS PHOTOCATALYSIS. PART I. POSSIBILITIES TO IMPROVE PHOTOEFFICIENCY THROUGH CATALYST MODIFICATION**

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### **Abstract**

The widespread commercial application of photocatalysis will significantly depend on the successful development of more active photocatalysts at reasonable costs, but also on the lifetime of the catalyst and the ease of its regeneration. The improvement of quantum efficiency and activity of the catalyst could be a solution for reducing the costs of the process and, thus, a possibility to extend the application of the heterogeneous photocatalysis at the industrial scale. Considerable efforts have been directed towards modifying existent catalysts but also toward testing novel catalytic materials in order to identify ways to increase quantum yields and to enhance the absorption by expanding the wavelength response of the photocatalysts to visible region of the solar spectrum. The aim of the present work is to identify the possibilities to increase the photocatalytic activity through modification of the conventional photocatalysts and also the way the surface modifiers influence the catalyst features.

*Keywords:* heterogeneous photocatalysis, photoefficiency, quantum yield, semiconductors, catalysts modification

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