Photocatalytic approach to carbon dioxide reduction

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Short abstract

Photocatalytic CO_2 reduction and fixation attract again a growing attention. Such processes can be considered as methods of green utilization of carbon dioxide in production of fuels or chemicals. Particularly photosynthesis of fine chemicals seems an interesting area of research that can find practical applications in a foreseeable future. A search for an efficient photocatalyst can be directed towards either homogeneous (coordination compound) or heterogeneous (semiconductor) systems. The paper will present selected approaches to the use of carbon dioxide as a substrate in photocatalytic syntheses. Similarities and differences between these processes and photosynthesis will be discussed.