Methane Formation From Photoreduction Of Co_2 With Water Using A Spherical Ni-Doped Tio_2

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Recently, utilizing fossil fuels not only creates the problems like exhaustion of energy and global warming, it also increases more carbon dioxide. In order to solve this problem many researchers are trying to develop alternate energy sources. Reduction of CO_2 is worthy of notice in the way that it would help to produce energy sources as decreased CO_2 concentration with mitigate global temperature. In this study, spherical Ni metal is synthesized to reduce recombination of exited electron and hole, and TiO_2 is supported on the Ni. The prepared catalysts were characterized using powder X-ray diffraction and scanning electron microscopy analysis. The photocatalytic activity for reduction of CO_2 with H_2O was evaluated in photoreactor. The gaseous products from the reactor were taken using syringe. The products were analyzed with a gas chromatograph(GC) equipped with FID and TCD detectors.