Selective and efficient photocatalytic reduction of carbon dioxide by control of metal nanoalloy surface

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Conversion carbon dioxide is challenge for solving to global warming and producing permanent energy generation. Many researchers suggest that intermediate energy state between metal surface and CO_2 is key point of reduction yield and selectivity. Therefore, we use hetero metal nanoalloy for efficient CO_2 reduction to methane. The hetero metal surface induce adsorption of CO_2 and maintain of O binding state on surface, so methane can be produced instead of CO. we optimize the selectivity by control of metal proportion on surface.