

Preparation of carbon doped TiO₂ by micro wave irradiation for the photo catalytic reaction

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Now the fate of earth is at risk. The use of fossil fuels caused the problem of global warming and the lack of fossil fuel itself. The emission of CO₂ into the earth atmosphere from various sources such as power generation plants and automobiles pose great threat to our environment due to rapid climate change round the globe which could cause heavy rains, flood, dust storms and other disasters. If we extract energy and resources from water, this development allows human being to progress sustainably. The conversion of CO₂ to fuel using solar energy is the “Holy Grail” in the catalysis research area. Nano-structured photo-catalysts have drawn considerable interest due to their large surface area, high redox potential of the photo-generated charge carriers and selective reduction/oxidation to different classes of organic compounds. Current states of this technology will be briefly discussed with our findings of highly efficient carbon-doped titanium dioxide catalyst for photo-catalytic reaction. The prepared catalyst can absorb the visible light by carbon doping with oxygen and shows better efficiency than commercial p25 catalyst.