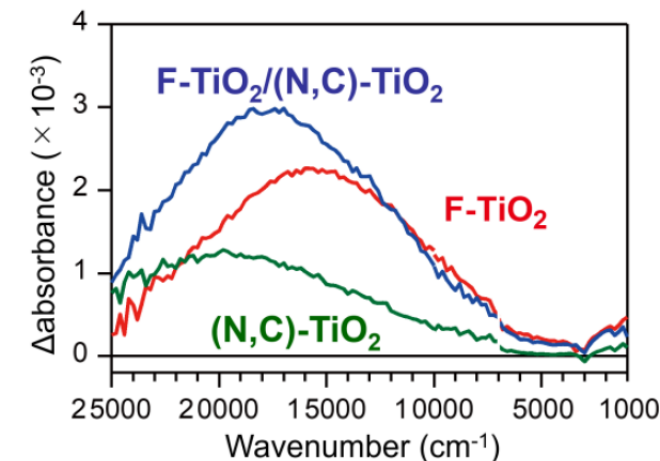
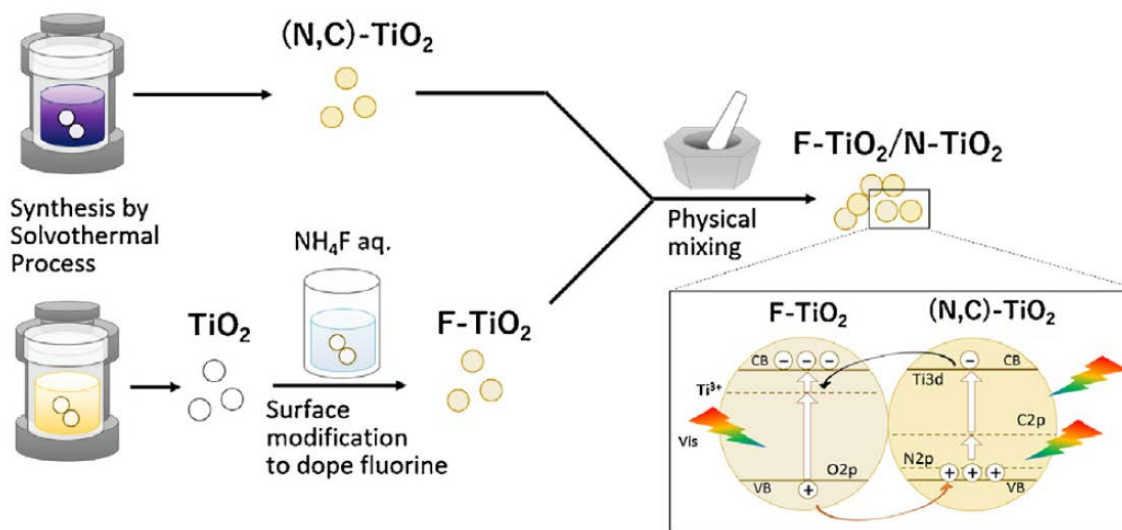


F-TiO₂/(N,C)-TiO₂複合体の可視光応答deNO_x光触媒活性向上

(東北大多元研) 殷 シュウ、朝倉 裕介、(豊田工大) 山方 啓

Enhanced Photocatalytic NO_x Decomposition of Visible-light Responsive F-TiO₂/(N,C)-TiO₂ by Charge Transfer Between F-TiO₂ and (N,C)-TiO₂ through their Doping Levels

S. KOMATSUDA, Y. ASAKURA, J. J. M. VEQUIZO, A. YAMAKATA, S. YIN



異なるバンド構造を持つ半導体間における複合体の形成がキャリア寿命の改善には効果的である。本研究では可視光触媒活性の向上と複合体における不純物準位の有用性を検討し、アナターゼ型のフッ素ドーパド酸化チタンと窒素・カーボンドープ酸化チタンの複合体(F-TiO₂/(N,C)-TiO₂)を作製し、キャリア分離を促進し、光触媒活性の向上を実現した。

The composite type photocatalyst F-TiO₂/(N,C)-TiO₂ consisted of anatase-type TiO₂ with fluorine-doping (F-TiO₂) and TiO₂ with nitrogen and carbon-doping ((N,C)-TiO₂) was prepared by simple physical mixing to exhibit higher visible-light responsive photocatalytic DeNO_x activity. The photoexcited carries separation resulted to the enhancement of the photocatalytic activity of the composite photocatalysts