Solvothermal Synthesis and Photocatalytic Properties of Nitrogen-Doped SrTiO3 Nanoparticles

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Abstract	Perovskite-type nitrogen-doped SrTiO3 nanoparticles of 50-80nm in diameter were successfully synthesized by the solvothermal of Ti(OC3H7)(4), SrCl2 center dot 6H(2)O, and hexamethylenetetramine in KOH aqueous solution. Nitrogen-doped SrTiO3 showed excellent photocatalytic activity under both UV and visible light irradiation, that is, the photocatalytic activity of N-doped SrTiO3 for DeNO(x) reaction was greater than that of SrTiO3 and commercial TiO2 (Degussa P25) in both visible light region (> 510 nm) and UV light region (> 290 nm). The excellent visible light photocatalytic activity of this substance was caused by generating a new band gap that absorbs visible light.
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