Synthesis of $SrTiO_3$ photocatalyst by w/o emulsion-assisted flame spray pyrolysis

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SrTiO3 is a promising perovskite-type photocatalyst for water decomposition because of its optical and electrical properties, chemical stability and non-toxicity. SrTiO3 can be used not only as a water decomposition photocatalyst, but also as poison degradation photocatalyst even though its activity is relatively low. Many methods have been studied to improve the photocatalytic activity of SrTiO3. Doping modification is one of those effective methods. With ion doping, suitable donor or accepter energy levels are created, which will expand the photosensitivity of semiconductors toward the visible light region, or become the potential traps of photogenerated electron-hole pairs.
In this study, SrTiO3 powders were synthesized by w/o emulsion-assisted flame spray pyrolysis and its photocatalytic activity was investigated.