

### Preparation and characterization of layered perovskite $\text{La}_2\text{Ti}_2\text{O}_7$ by ultrasonic spray pyrolysis

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Monoclinic compound  $\text{La}_2\text{Ti}_2\text{O}_7$  with [100] layered perovskite structure, has been reported to have good photocatalytic activity in water splitting reaction under uv-visible region.  $\text{La}_2\text{Ti}_2\text{O}_7$  was usually synthesized by the typical solid-state reaction. As the result of this synthesis method, It is difficult to obtain a high homogeneity and large specific surface area and control a morphology of layered perovskite material. Therefore, In this study, we synthesized  $\text{La}_2\text{Ti}_2\text{O}_7$  with ultrasonic spray pyrolysis to improve its properties. It was compared with  $\text{La}_2\text{Ti}_2\text{O}_7$  prepared by solid state reaction and polymerized complex method by a crystallinity, morphology and optical property.