

## Synthesis of TiO<sub>2</sub> Nanoparticles by Sol-Gel and Sonochemical Combination

**Authors :** Sabriye Piskin, Sibel Kasap, Muge Sari Yilmaz

**Abstract :** Nanocrystalline TiO<sub>2</sub> particles were successfully synthesized via sol-gel and sonochemical combination using titanium tetraisopropoxide as a precursor at lower temperature for a short time. The effect of the reaction parameters (hydrolysis media, acid media, and reaction temperatures) on the synthesis of TiO<sub>2</sub> particles were investigated in the present study. Characterizations of synthesized samples were prepared by X-ray diffraction (XRD) analysis. It was shown that the reaction parameters played a significant role in the synthesis of TiO<sub>2</sub> particles.

**Keywords :** crystalline TiO<sub>2</sub>, sonochemical mechanism, sol-gel reaction, XRD

**Conference Title :** ICCB 2016 : International Conference on Chemistry and Biochemistry

**Conference Location :** San Diego, United States

**Conference Dates :** January 21-22, 2016