

**Immobilized TiO<sub>2</sub> according to treatment surface of glass for improving effect of photodecomposition**

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In this study, we investigated the immobilization of anatase TiO<sub>2</sub> nanoparticles on the silica surface for photocatalysis of organic waste degradation. Tetraethylorthosilicate (TEOS) was used as a binder for TiO<sub>2</sub> immobilization. Immobilization mechanism was examined dependent on treatment time, temperature and concentration. Properties of TiO<sub>2</sub> immobilized layers were characterized using various analytical techniques including zeta potential, high resolution X-ray diffraction, Fourier infrared spectroscopy (FT-IR), energy dispersive x-ray spectroscopy (EDX) and X-ray photoelectron spectroscopy (XPS). Result demonstrated that TiO<sub>2</sub> nanoparticles were homogeneously immobilized on the silica surface.