

Pore-Architecture Affects Photocatalytic Activity of Periodic Mesoporous Nanocrystalline Anatase Thin Films

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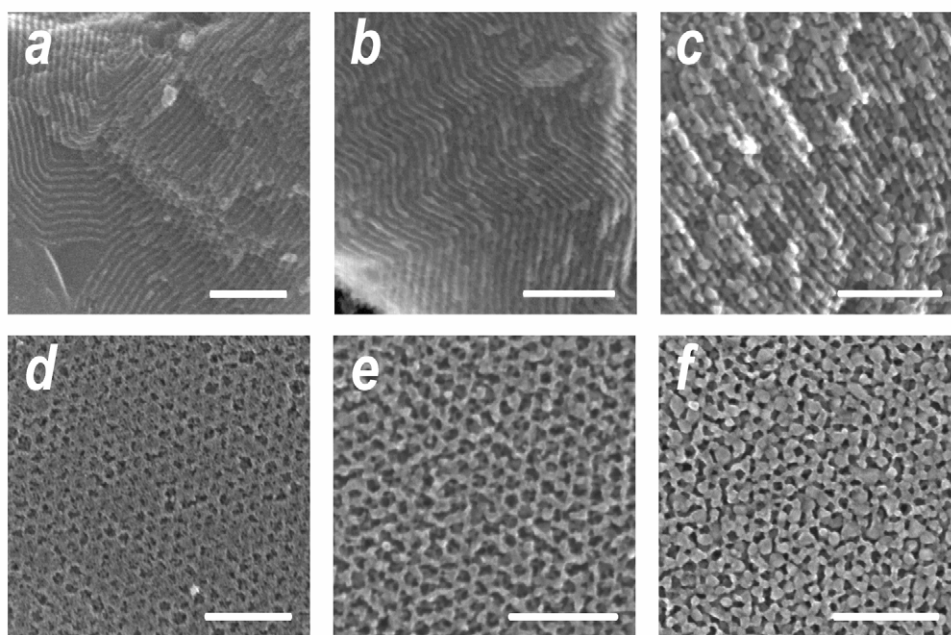


Fig. S1. HRSEM images of h-meso-nc-TiO₂ (a, b, and c) and c-meso-nc-TiO₂ (d, e, and f) used in this study. Calcination temperatures for each samples are 350°C (a, d), 400°C (b, e) and 450°C (c, f). With increasing calcination temperature, titania frameworks coarsened due to anatase crystallite growth. Scale bars seen in this figure represent 100 nm.

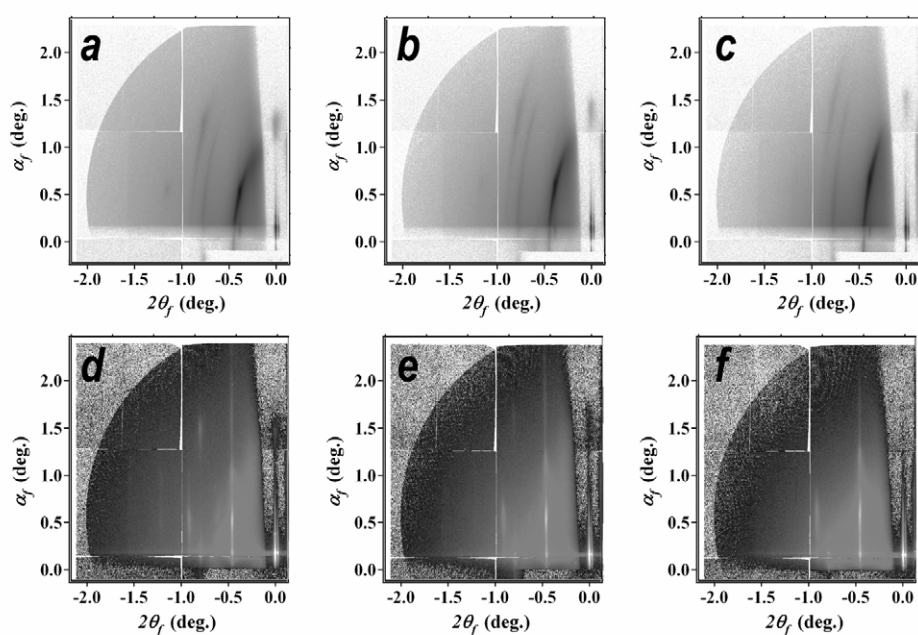


Fig. S2. GISAXS patterns of h-meso-nc-TiO₂ (a, b, and c) and c-meso-nc-TiO₂ (d, e, and f) used in this study. Calcination temperatures for each sample are 350°C (a, d), 400°C (b, e) and 450°C (c, f). Well-defined mesostructure is preserved even in 450°C treated meso-nc-TiO₂.

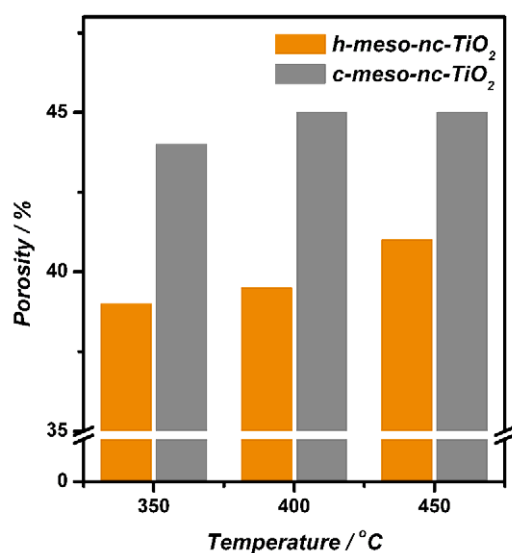


Fig. S3. Porosity of h-meso-nc-TiO₂ (left, orange) and c-meso-nc-TiO₂ (right, grey) thin film samples measured by variable angle ellipsometry spectroscopy (VASE). Note the c-meso-nc-TiO₂ exhibits 10% larger porosity than h-meso-nc-TiO₂.