

Supplementary Information

Growth of TiO₂ Microspheres with Radially Oriented Configuration

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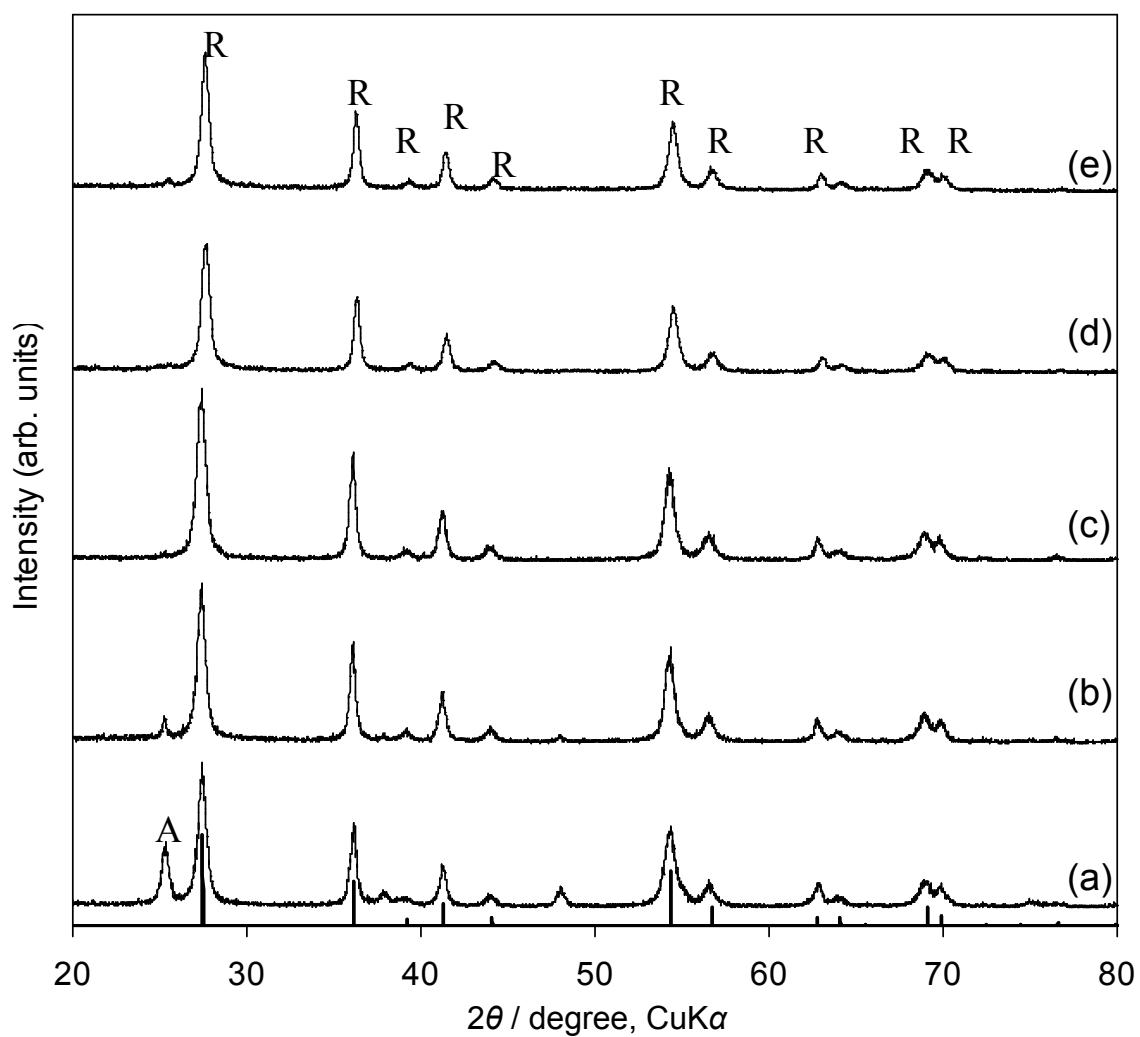


Fig. S1 XRD patterns of particles synthesized with different amount of oxalic acid with R value of (a) 1.5, (b) 3.5, (c) 5, (d) 7 and (e) 9.

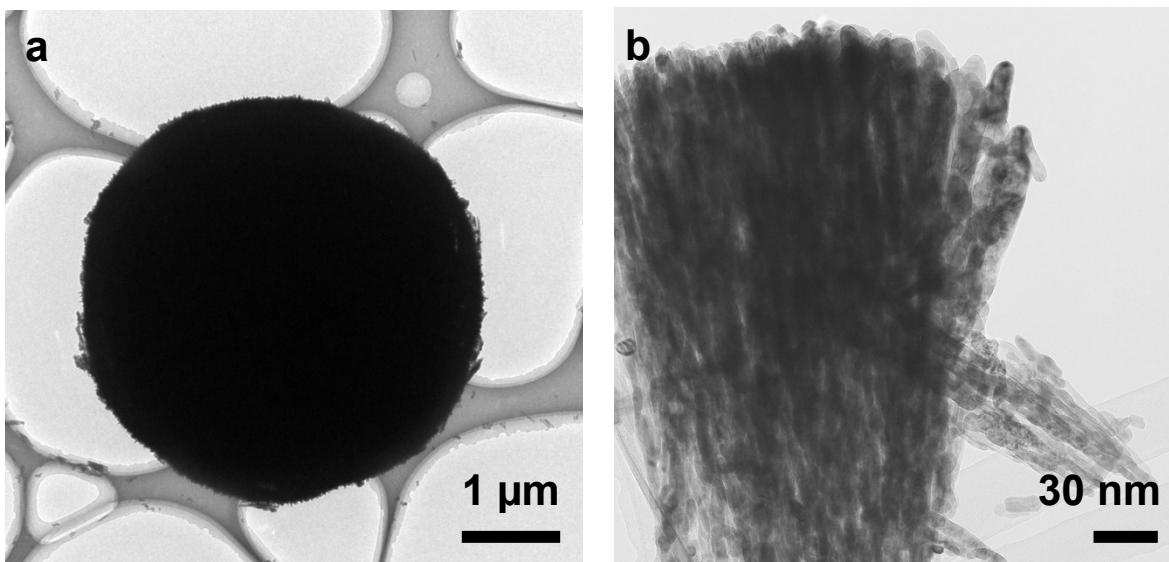


Fig. S2 SEM (a) and TEM (b, c) images of particles synthesized in the presence of oxalic acid with $R = 5$.

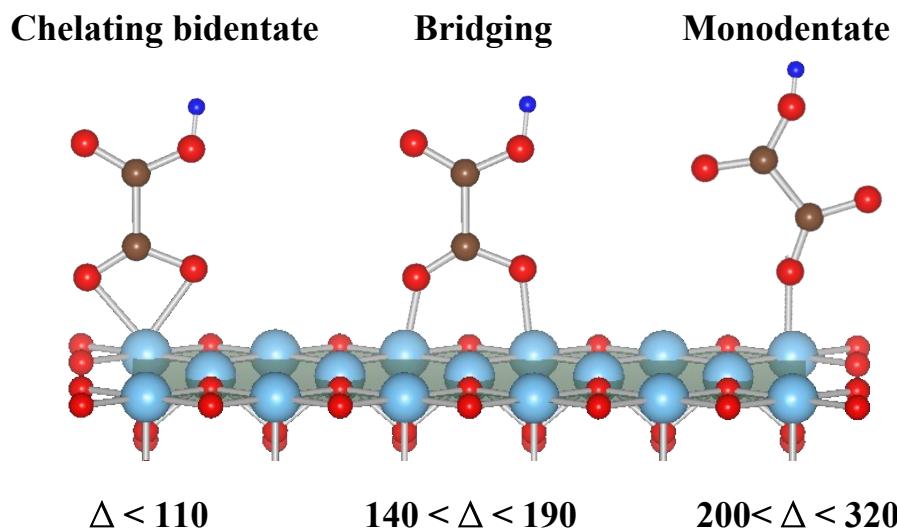


Fig. S3 Schematic illustration of the carboxyl groups coordinated to the titanium atom (Δ (cm^{-1}): wavenumber difference of ν_{as} and ν_{s} stretching vibration mode of $-\text{COO}^-$).

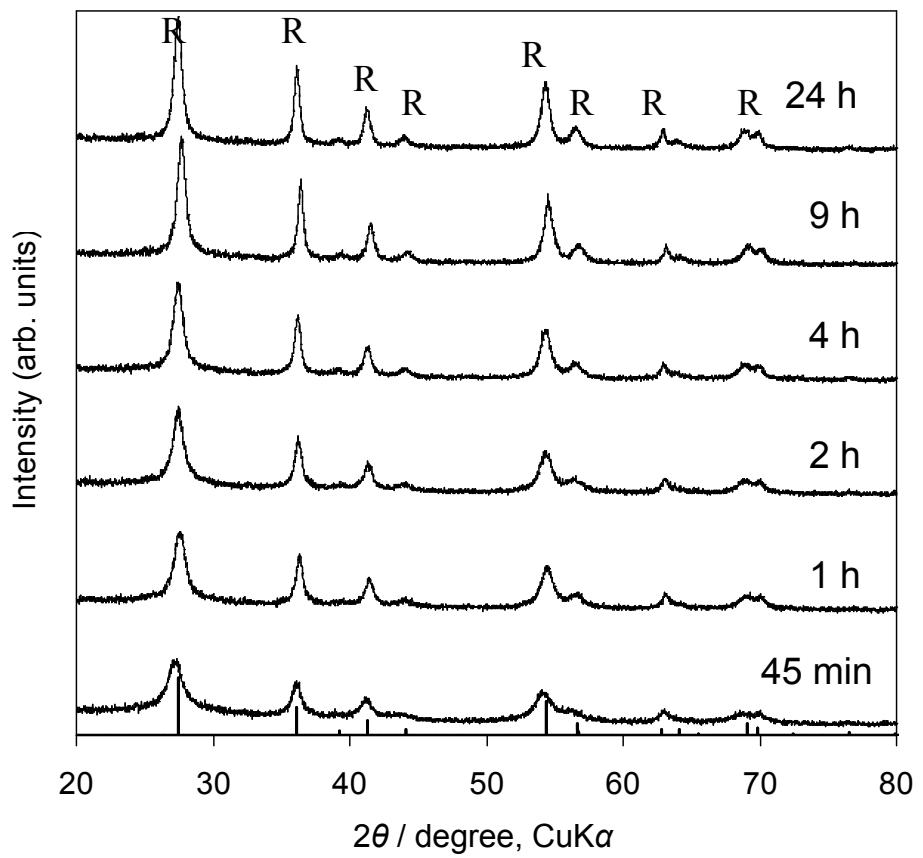


Fig. S4 XRD patterns of particles prepared with different ageing times from 45 min to 24 h.

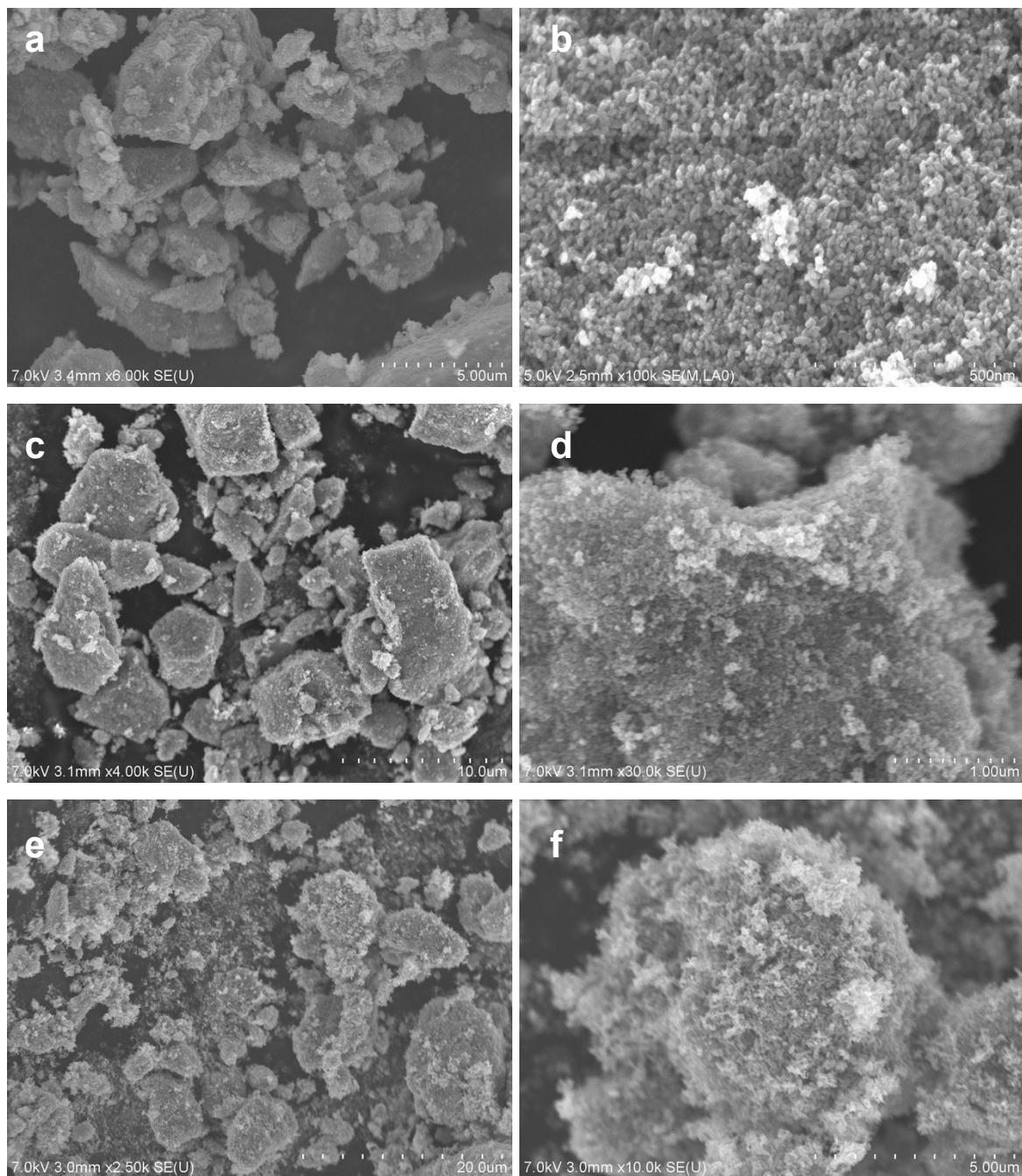


Fig. S5 TEM images of particles prepared using peroxy titanic acid with sulfuric acid only:
(a, b) 0.25 cm^3 , pH 0.8; (c, d) 0.50 cm^3 , pH 0.65; (e, f) 1.00 cm^3 , pH 0.2.

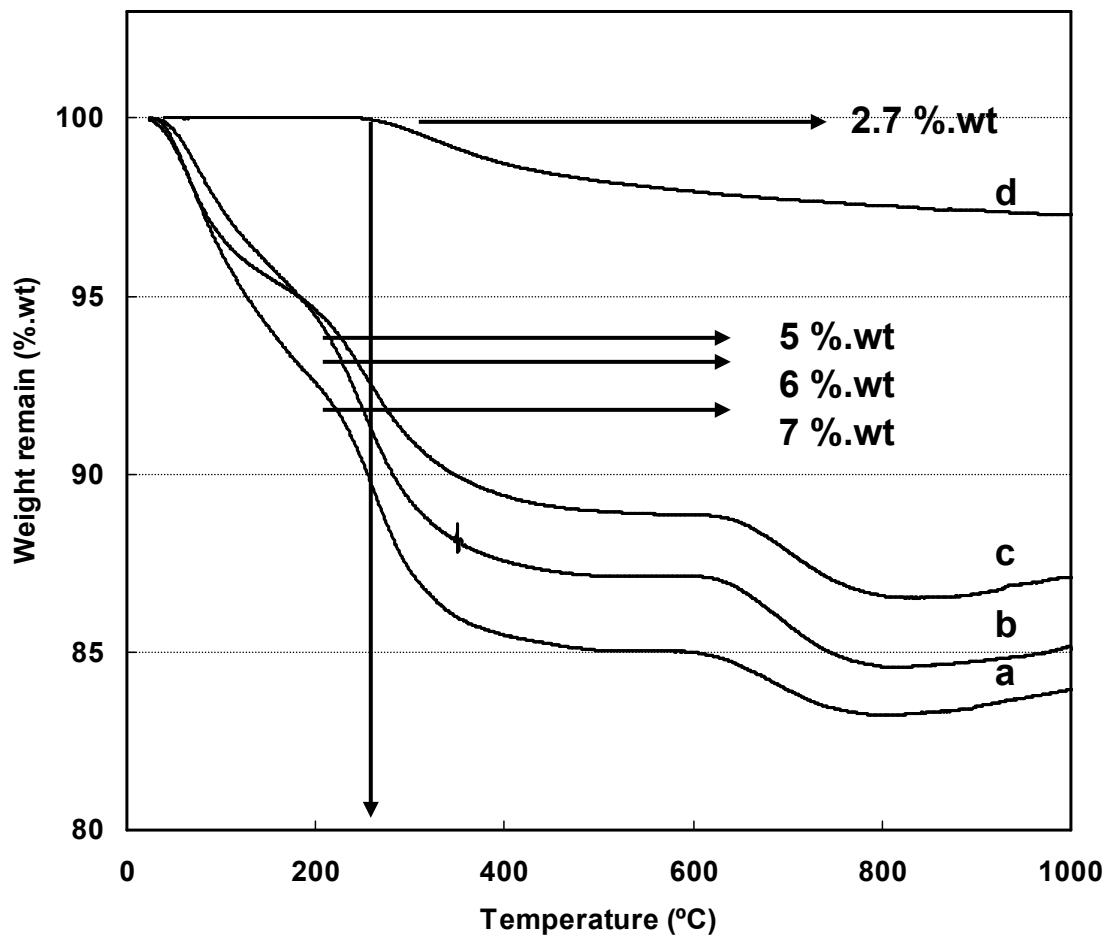


Fig. S6. TGA of TiO_2 microspheres obtained by hydrothermal treatment of titanium complex using oxalic acid ($R = 5$ with sulfuric acid) with increasing reaction time: (a) 1 h; (b) 2 h; (c) 4 h; and (d) 24 h.