Supplementary Information for

The size dependence of the surface free energy of titania nanocrystals

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1. XRD patterns of nanocrystalline anatase samples

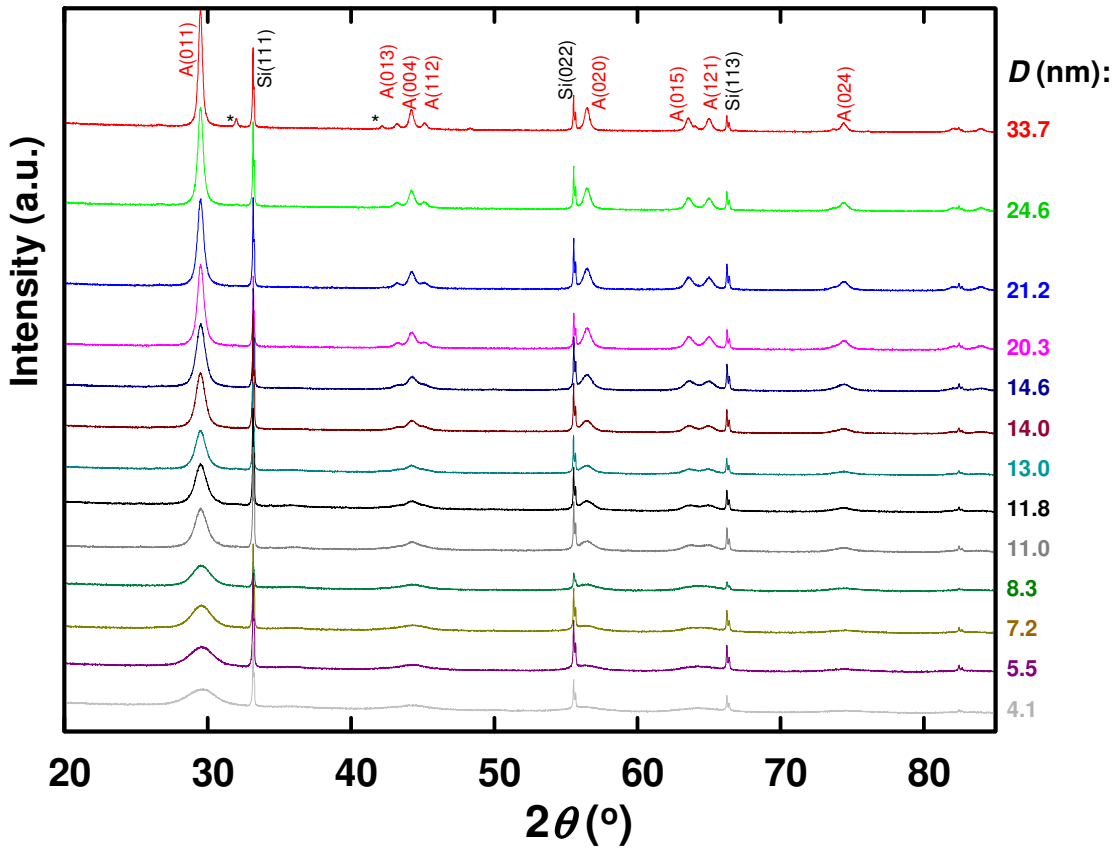
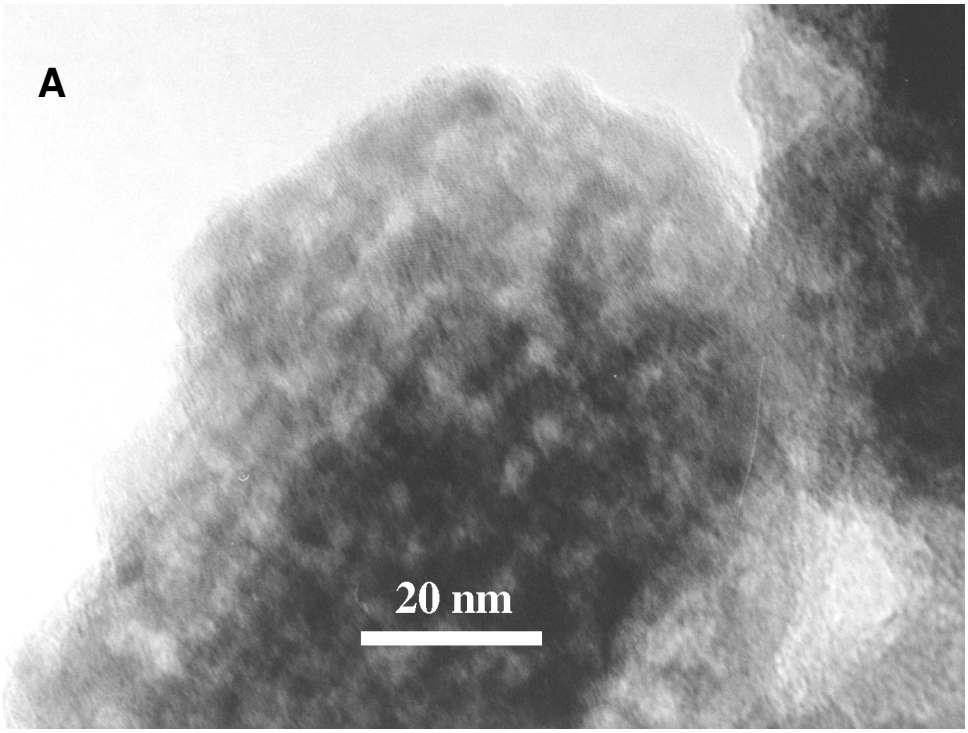
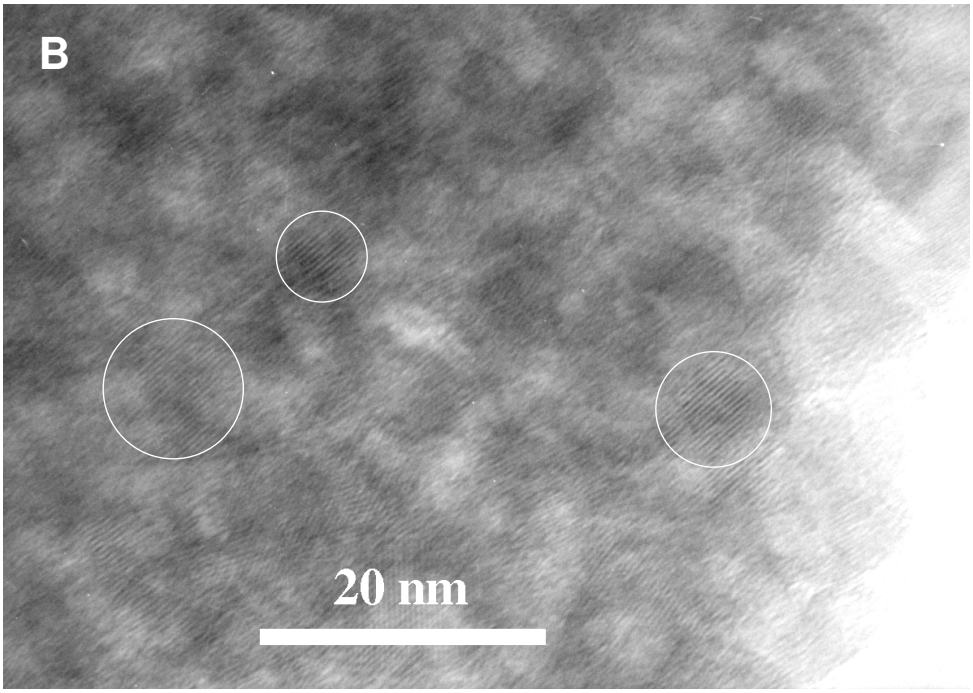
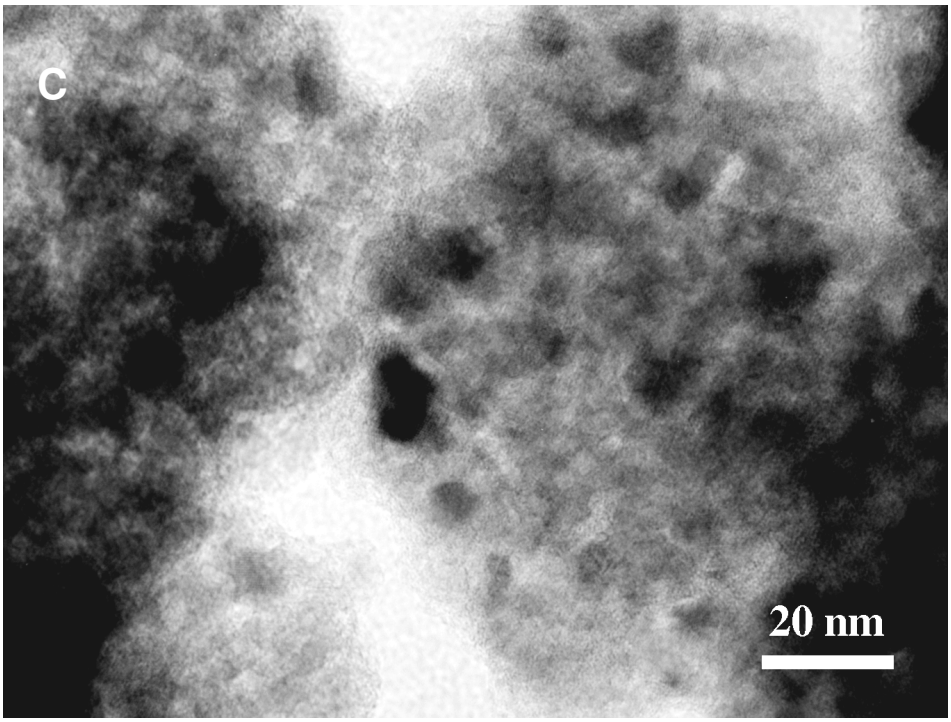


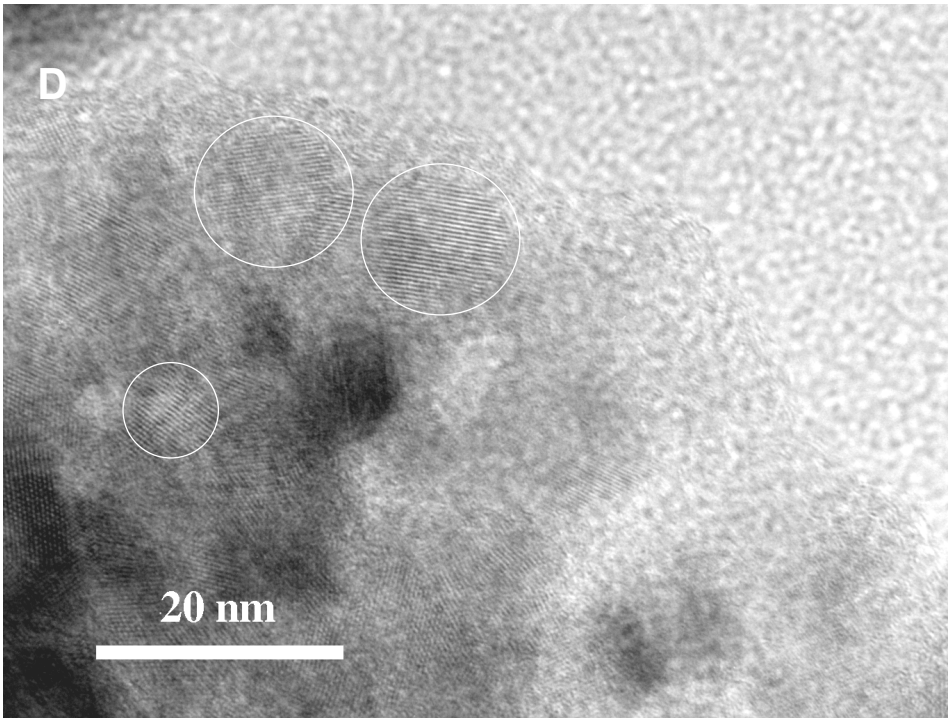
Fig. S1 XRD patterns of nanocrystalline anatase samples. Silicon powder was added as internal standard for accurate determinations of the lattice parameters of anatase. Minor rutile was present in the 34 nm anatase sample (indicated by *).

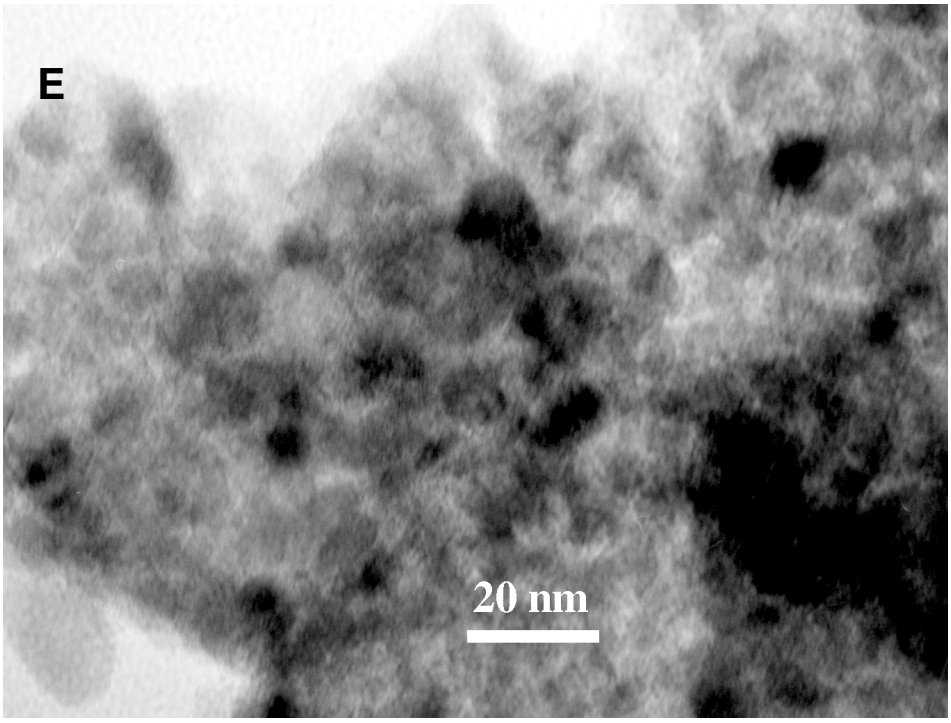
2. TEM images of nanocrystalline anatase crystallized from amorphous titania upon heat-treatment

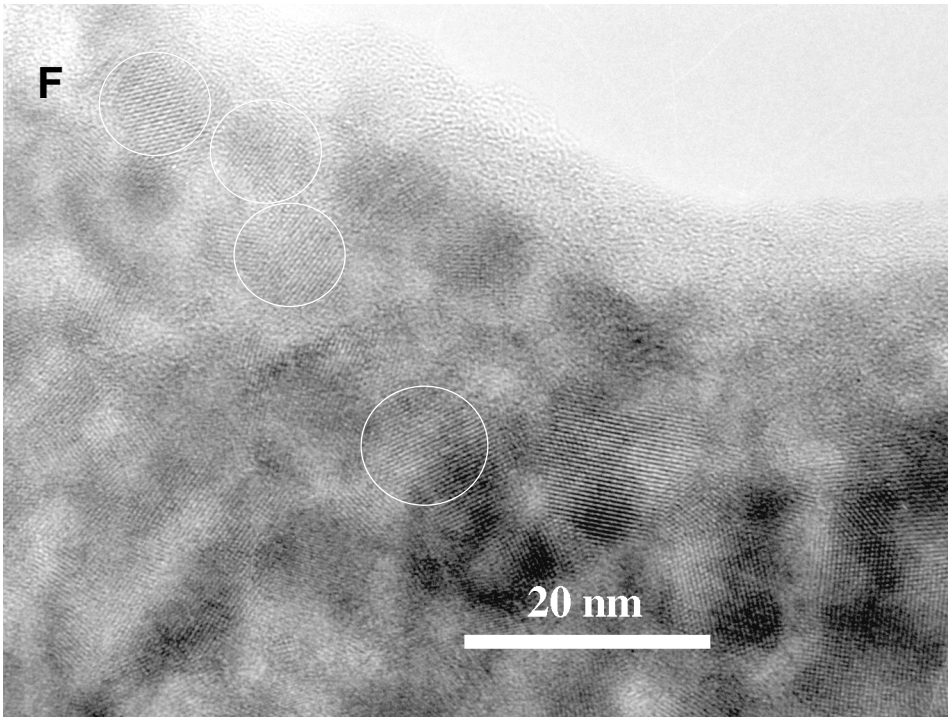





C
20 nm


D
20 nm


E
20 nm


F
20 nm

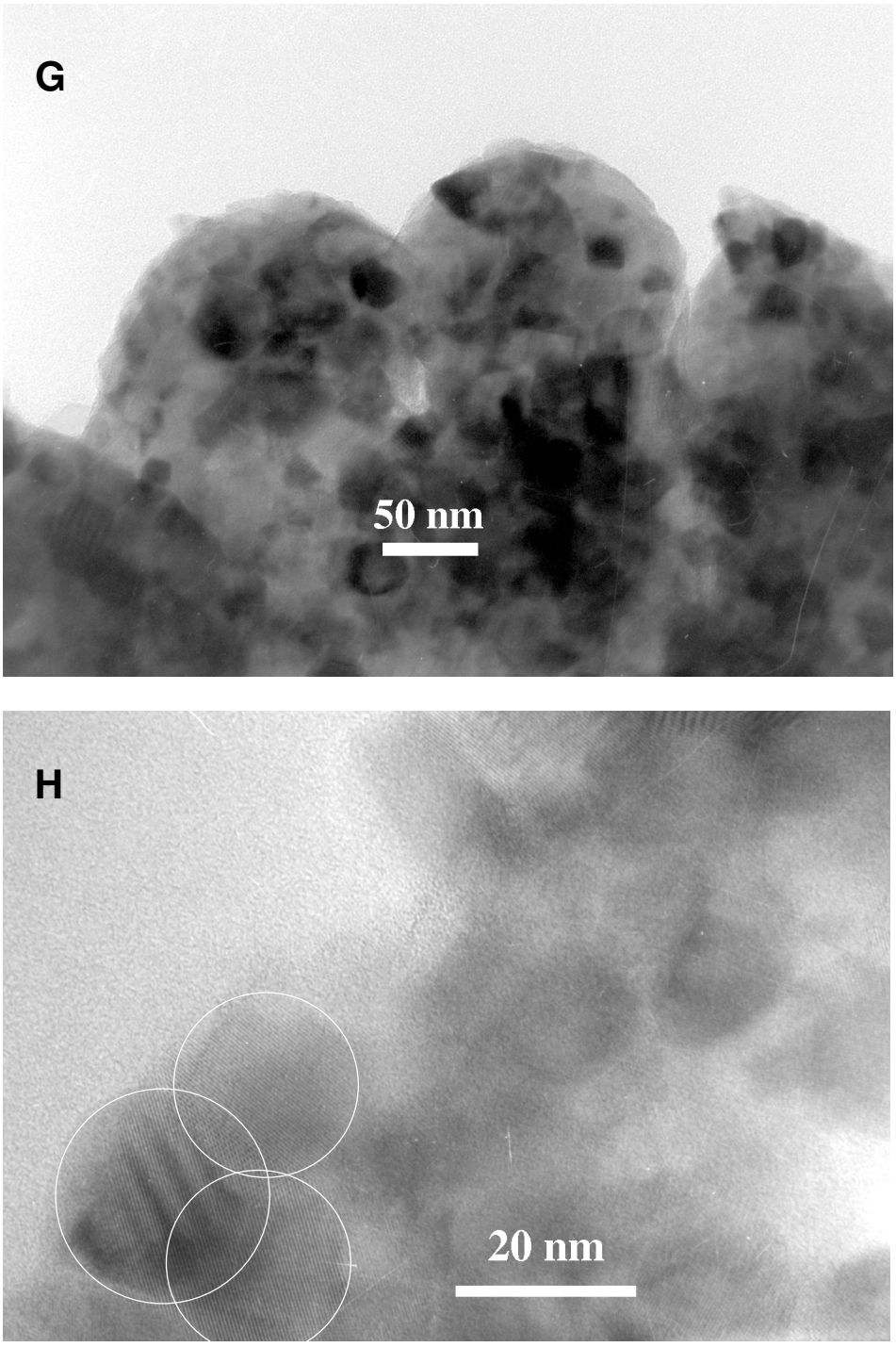


Fig. S2 TEM images of nanocrystalline anatase produced by heating amorphous titania (A, B) at 325 ^{o}C for 3 h, (C, D) 325 ^{o}C for 4 h, (E, F) 325 ^{o}C for 8 h, and (G, H) 500 ^{o}C for 3 h. The average diameters of the samples from XRD determinations are, respectively, (A, B) 8 nm, (C, D) 10 nm, (E, F) 11 nm, and (G, H) 27 nm. Anatase particles are nearly spherical in shape, as indicated by the circles.