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Supporting information for article:

Three-dimensional morphology of anatase nanocrystals obtained from supercritical flow synthesis with industrial grade TiOSO₄ precursor

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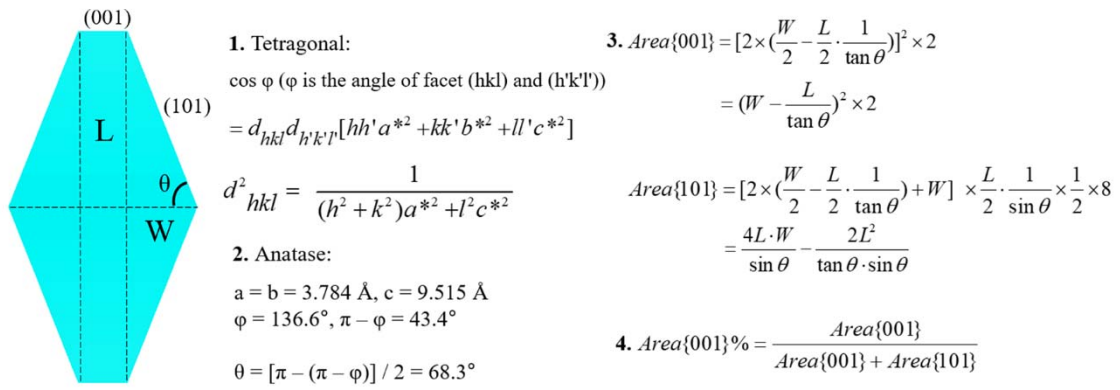
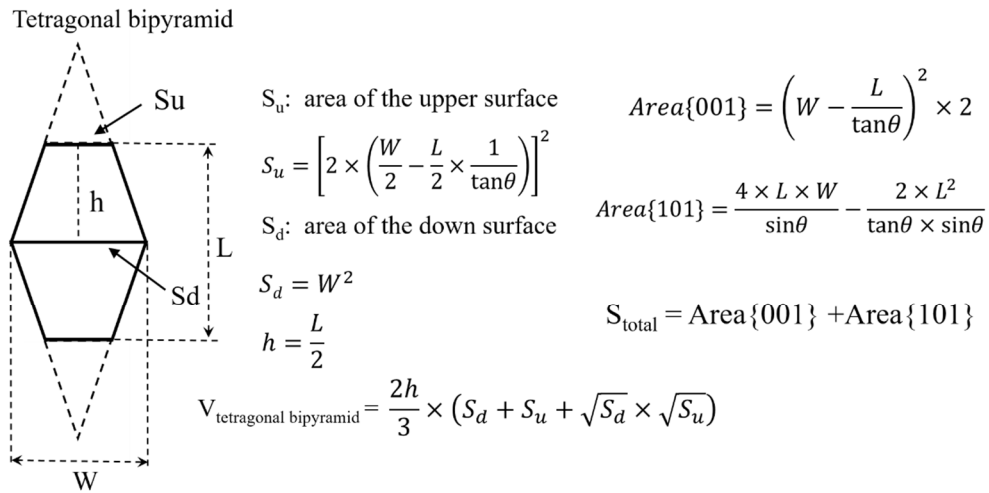


Figure S1. Schematic drawing of the truncated tetragonal bipyramidal model of a-TiO₂ nanocrystals utilized for calculating the percentage of exposed {001} facets.



For NH_4HCO_3 -400 a- TiO_2 :

$$L = 13.3 \text{ nm}, \quad W = 9.7 \text{ nm}$$

$$V = 699.2 \text{ nm}^3 \quad \rho = 3.78 \text{ g/cm}^3 \quad m = \rho \times V = 2.64 \times 10^{-18} \text{ g}$$

$$Area\{001\} = 39.1 \text{ nm}^2 \quad Area\{101\} = 406.4 \text{ nm}^2 \quad S_{\text{total}} = 445.5 \text{ nm}^2$$

$$\text{Specific surface area} = \frac{S_{\text{total}}}{V} = 168.5 \text{ m}^2/\text{g}$$

Figure S2. Specific surface area calculation process for NH_4HCO_3 -400 a- TiO_2 sample.

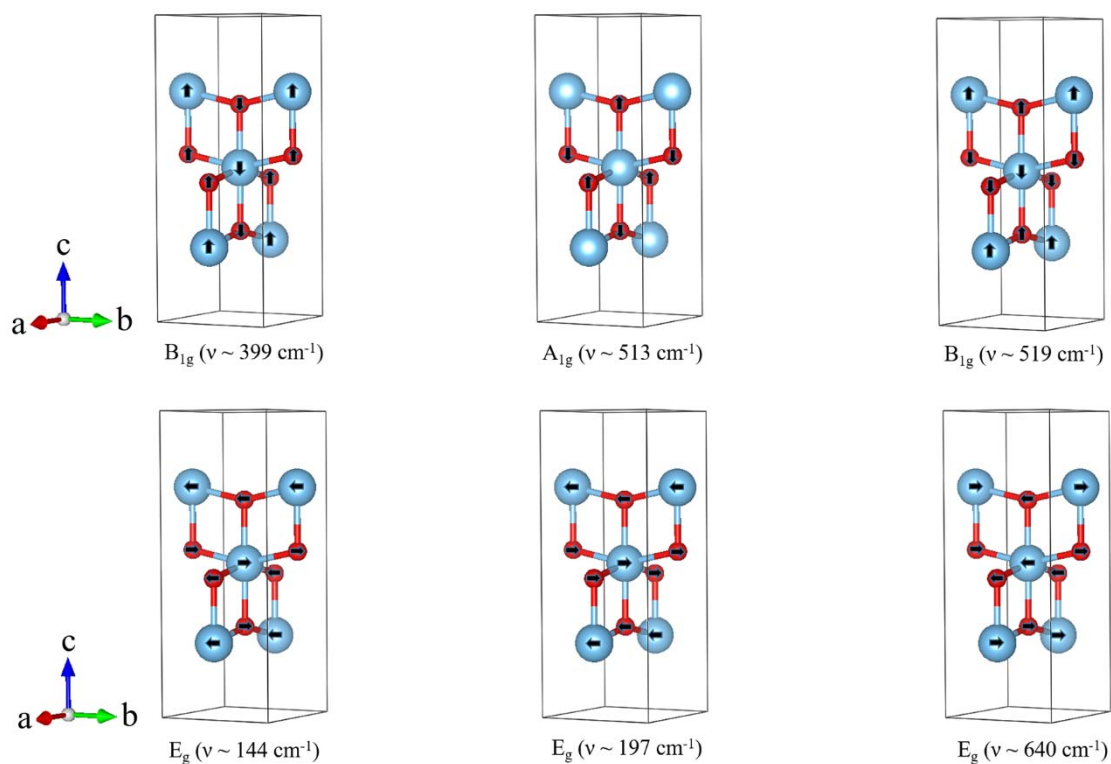


Figure S3. Schemes for different optical atomic vibrations in α - TiO_2 crystals according to Ohsaka et al (Ohsaka *et al.*, 1978). Red spheres represent the oxygen atoms while blue ones refer to titanium atoms.

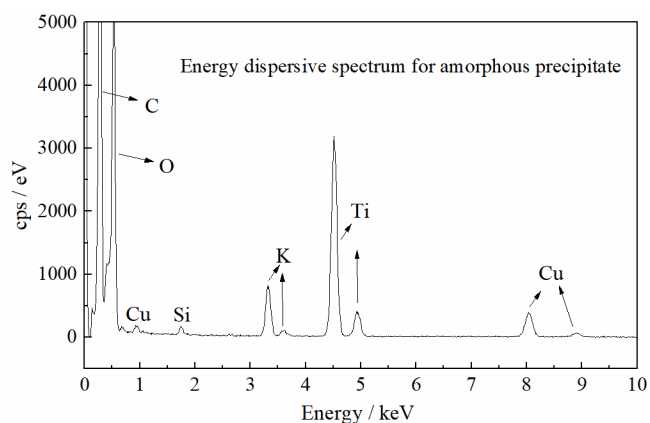


Figure S4. Energy dispersive X-ray spectrum of white compound obtained from neutralizing TiOSO_4 solution with 5 M KOH solution.

References

Ohsaka, T., Izumi, F. & Fujiki, Y. (1978). *J. of Raman Spectrosc.* **7**, 321- 324.