Electronic Supplementary Material (ESI) for CrystEngComm.

Supplementary Information

Hydrothermal Synthesis of Size- and Shape-Controlled $CaTiO_3$ Fine Particles and their Photocatalytic Activity

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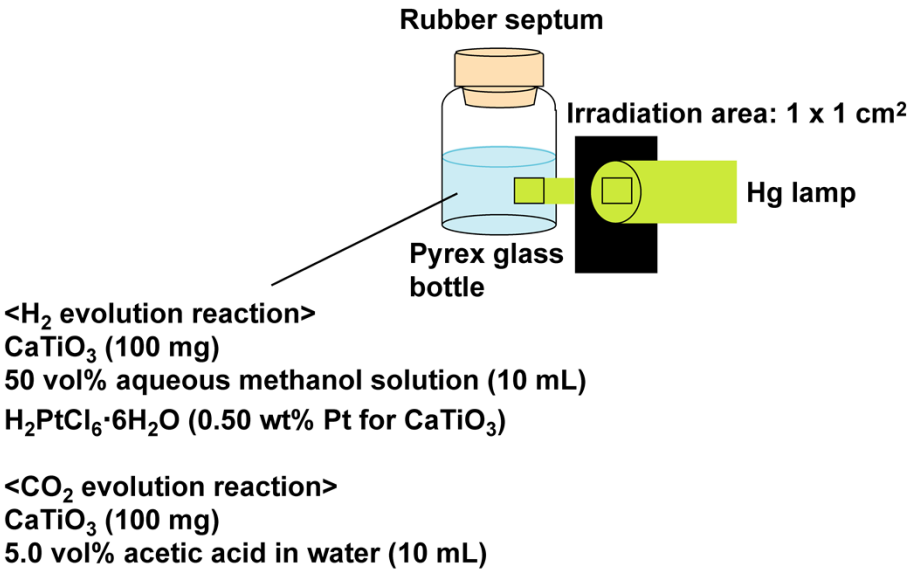

Figure S1. Schematic illustration for H_2 and CO_2 evolution reaction.

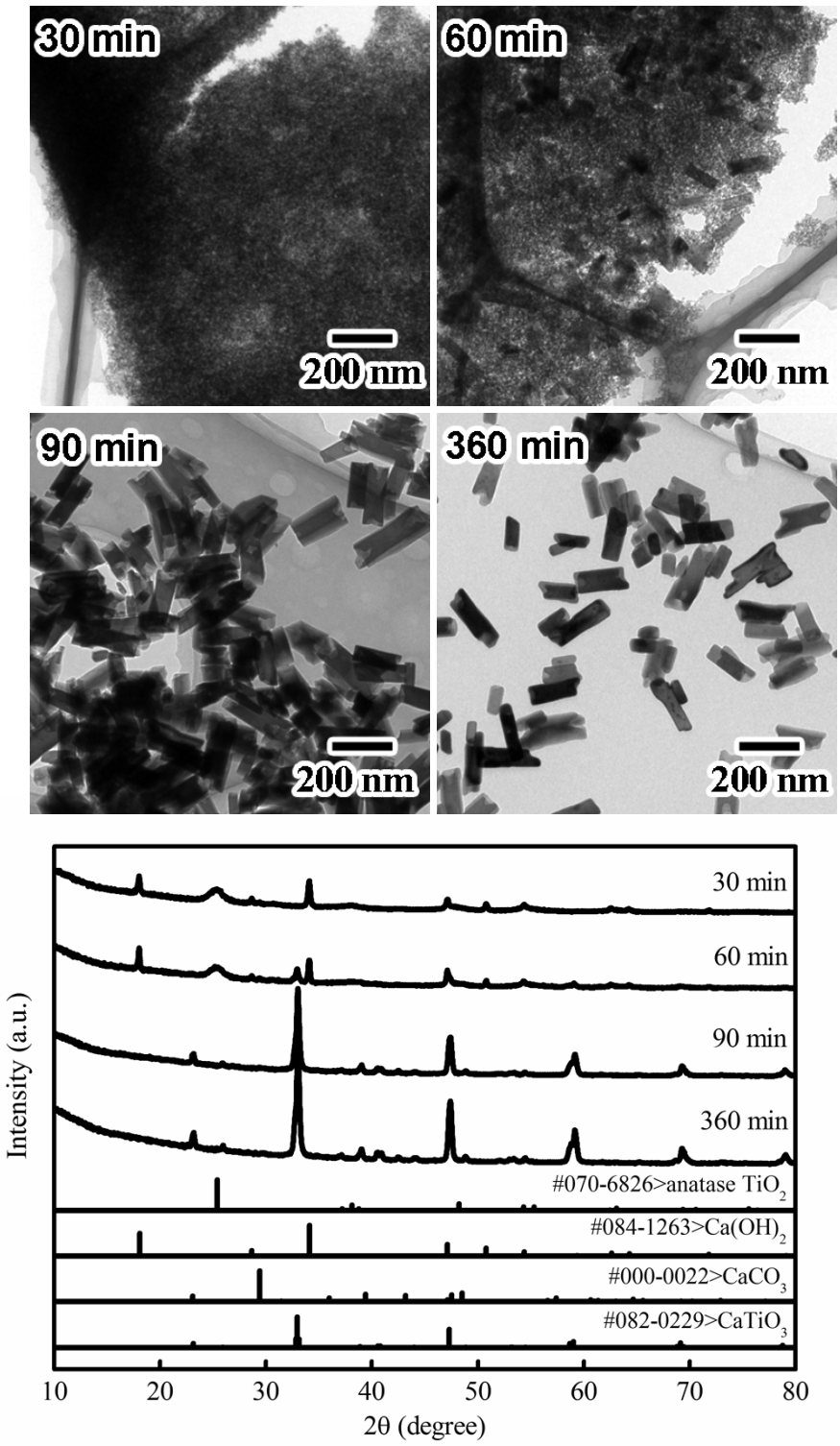

Figure S2. TEM images and XRD patterns of particles obtained at the same condition as **CT4** except for aging time. The aging time was varied from 30 to 360 min.

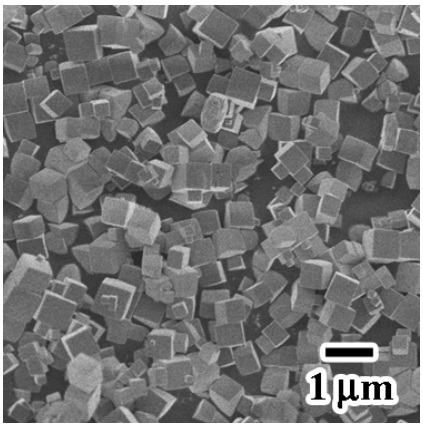

Figure S3. SEM images of fine particles **CT10**.

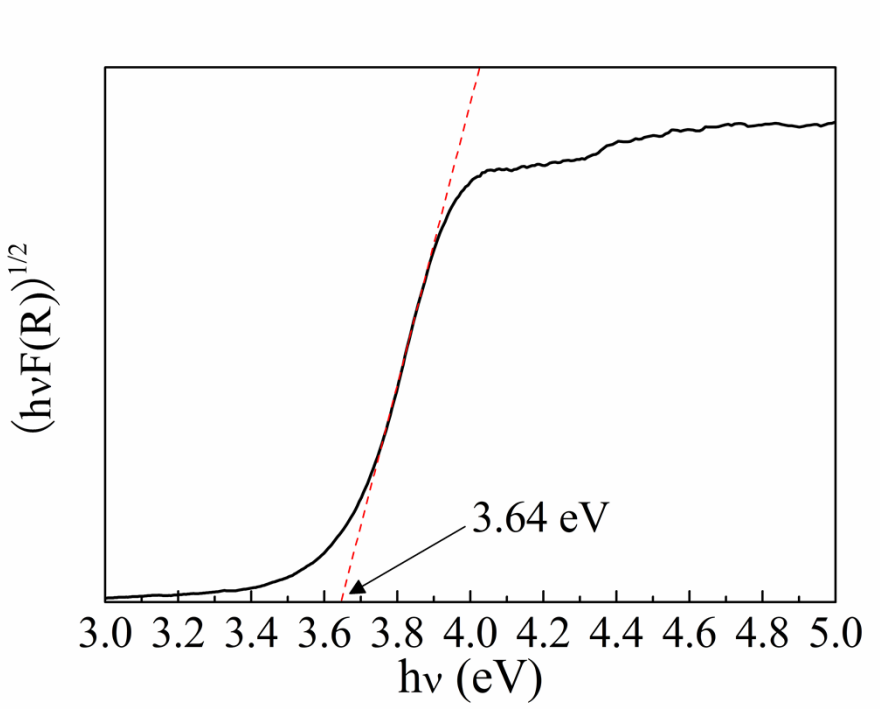

Figure S4. Tauc plot of **CT4**.

The optical indirect band gap was estimated by use of tauc plot and can be estimated following formula.[1]

$$(h\nu F(R))^{1/2} = A(h\nu - Eg)$$

h: Planck's constant, ν: frequency, F(R): Kubelka munk function,
A: proportional constant, Eg: band gap.

The intercept of the linear fit line with the photon energy (hν) axis yield the value of the optical band gap.

1 J. Tauc, R. Grigorovici, and A. Vancu, *Phys. Status Solidi*, 1966, 14, 627-637.

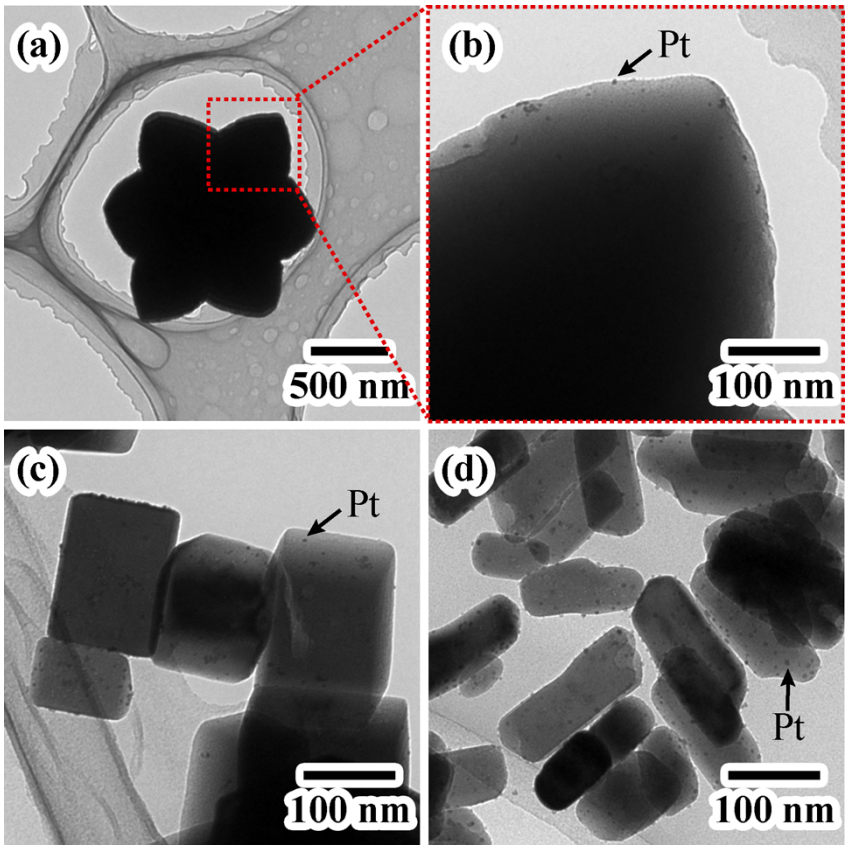

Figure S5. TEM images of Pt-loaded (a, b) concave cubic-, (c) cubic-, and (d) rod-shaped particles after H_2 evolution reaction.