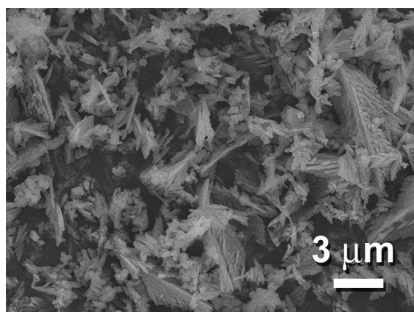
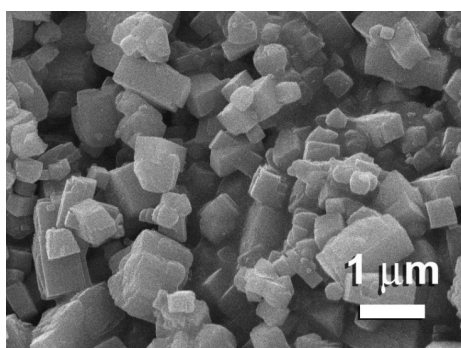


## Supplementary information



S1 A low magnification SEM image of CaTiO<sub>3</sub> synthesized in a reaction between Ca(OH)<sub>2</sub> and TTIP with a stirring rate of 75 rpm stirring rate at 120 °C for 2 days.



S2 A typical SEM image of CaTiO<sub>3</sub> samples synthesized in a reaction between Ca(OH)<sub>2</sub> and TTIP with a stirring rate of 650 rpm stirring rate at 120 °C for 2 days.

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S3 Na and Ti contents in the reaction solutions with different amount of NaOH during different reaction time.

| NaOH conc.(M) | Reaction time (h) | Na content<br>(ppm) | Ti content<br>(ppb) |
|---------------|-------------------|---------------------|---------------------|
| 0.05          | 12                | 18                  | 3                   |
| 0.05          | 19                | 13                  | 3                   |
| 0.05          | 24                | 12                  | 6                   |
|               | Avg.              | 14.2                | 4                   |
| 5             | 12                | 14660               | 39                  |
| 5             | 19                | 14610               | 28                  |
| 5             | 24                | 14150               | 19                  |
|               | Avg.              | 14473               | 29                  |