



### Supplementary Materials

**Supplementary Table S1.** Summary of CNP powder characteristics: nanoparticles size was measured by SEM, specific surface area (SSA) by BET, mean hydrodynamic diameter (d) and Zeta potential (Z pot) in deionized water by Zetasizer.

| Crystal structure | Size (nm) | SSA (m <sup>2</sup> /g) | d (nm)  | Z pot (mV) |
|-------------------|-----------|-------------------------|---------|------------|
| Fluorite          | 9 ± 2     | 74                      | 164 ± 8 | -23 ± 1    |

**Supplementary Table S2.** Summary of TNP powder characteristics: nanoparticles size was measured by SEM, specific surface area (SSA) by BET, mean hydrodynamic diameter (d) and Zeta potential (Z pot) in deionized water by Zetasizer.

| Crystal structure | Size (nm) | SSA (m <sup>2</sup> /g) | d (nm)  | Z pot (mV) |
|-------------------|-----------|-------------------------|---------|------------|
| Anatase           | 10 ± 2    | 50                      | 228 ± 4 | -35 ± 1    |