

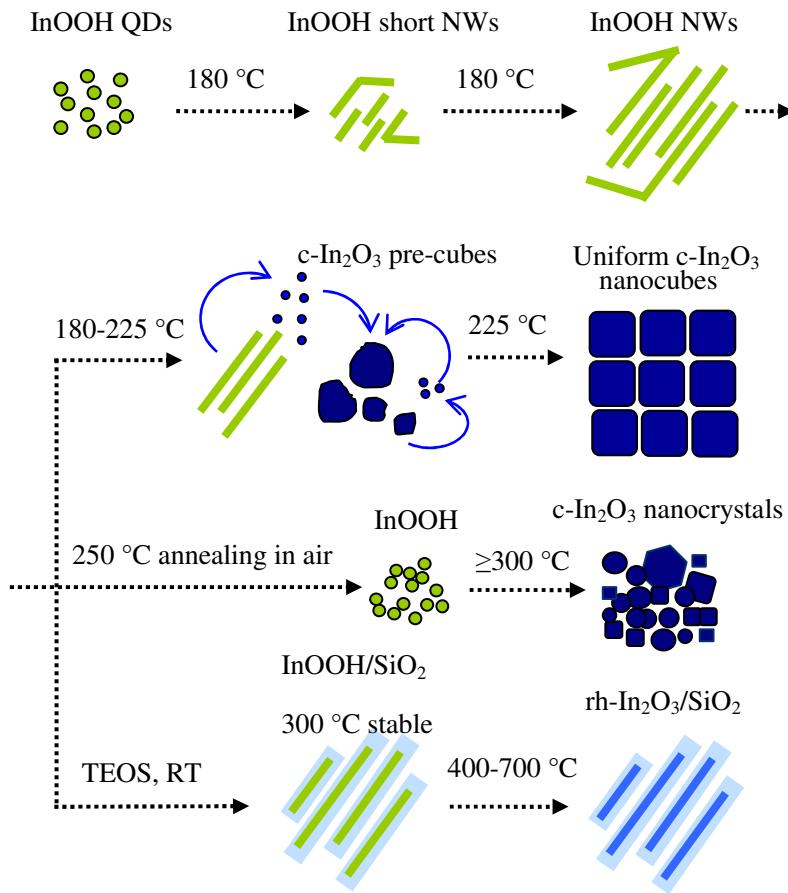
# Supporting Information

## Size- and Surface-determined Transformations: from Ultrathin InOOH Nanowires to Uniform c-In<sub>2</sub>O<sub>3</sub> Nanocubes and rh-In<sub>2</sub>O<sub>3</sub> Nanowires\*\*

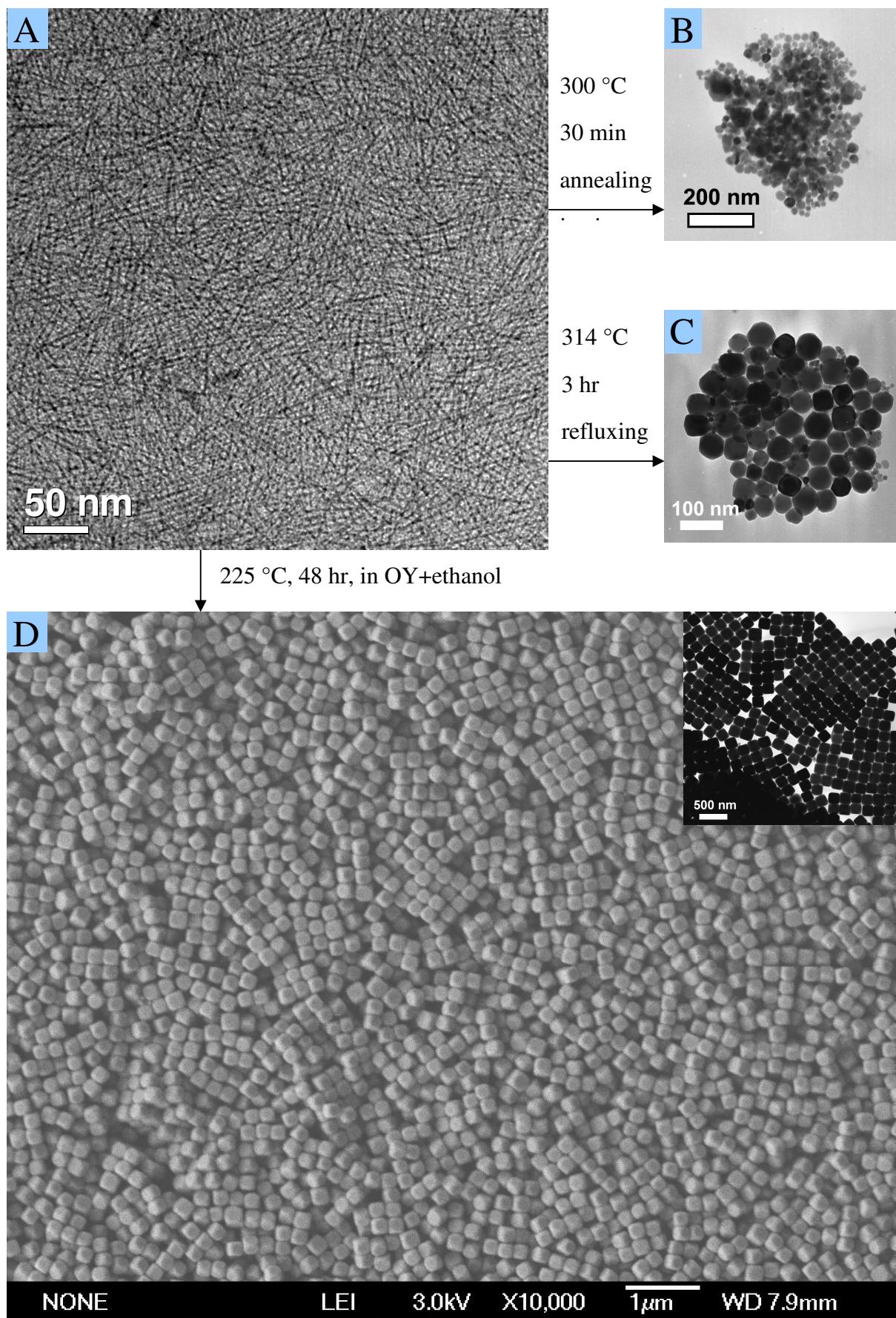
*Xiangxing Xu and Xun Wang\**

Department of Chemistry, Tsinghua University, Beijing, 100084, P. R. China

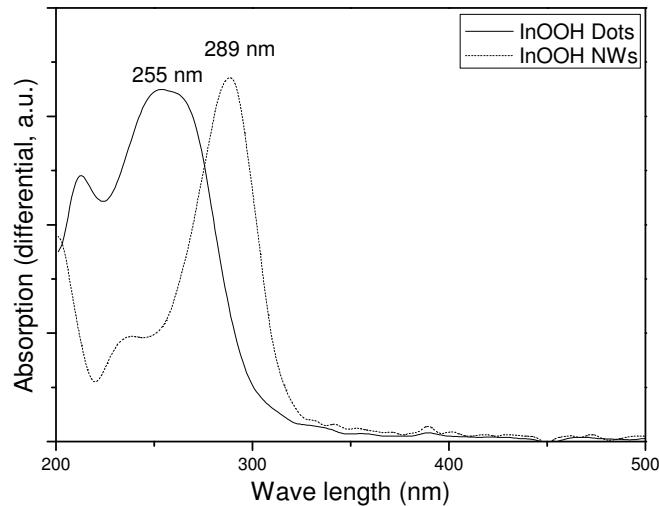
Corresponding author e-mail: wangxun@mail.tsinghua.edu.cn



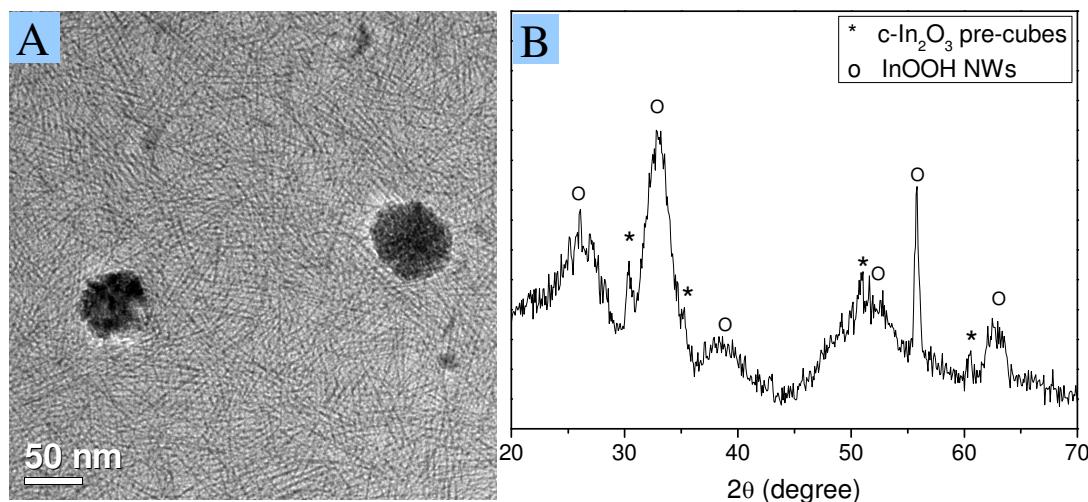
**Scheme SP-1.** Sketch of the growth and transformation diagram of the InOOH(QDs and ultrathin nanowires)–c-In<sub>2</sub>O<sub>3</sub>(nanocrystals or nanocubes)–rh-In<sub>2</sub>O<sub>3</sub>(rh-In<sub>2</sub>O<sub>3</sub>/SiO<sub>2</sub> core/shell nanowires) system.



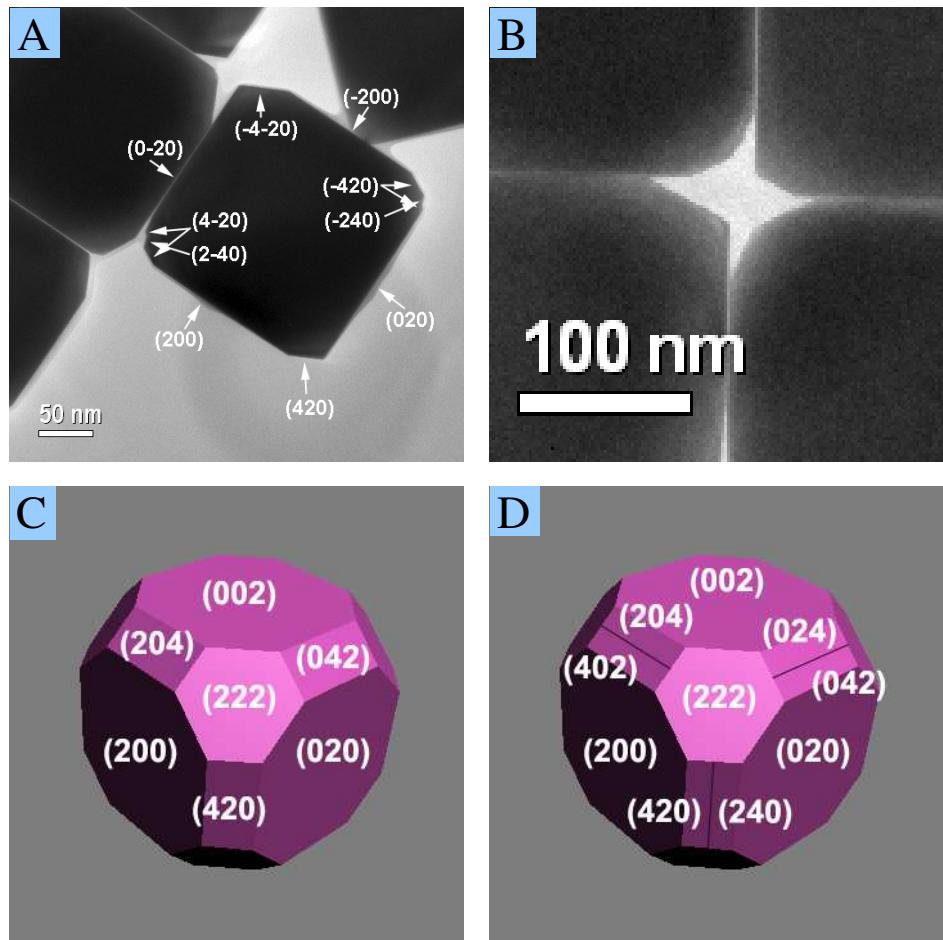
**Figure SP-1.** TEM and SEM images of A) Ultrathin InOOH nanowires and its transformation to B-C) c-In<sub>2</sub>O<sub>3</sub> nanocrystals by annealing in air and octadecene (ODE), respectively, and D) uniform c-In<sub>2</sub>O<sub>3</sub> nanocubes incubated in oleylamine and ethanol mixture solution.



**Figure SP-2.** Differential of the absorption spectra of the InOOH QDs and ultrathin nanowires from long wave length to short wave length.



**Figure SP-3.** (A) HRTEM and (B) XRD measurement of the samples in the c-In<sub>2</sub>O<sub>3</sub> pre-cube formation stage.



**Figure SP-4.** Crystal structure of the truncated c-In<sub>2</sub>O<sub>3</sub> nanocubes.