Electronic Supplementary Information (ESI)

A scalable, low-cost and green strategy for the synthesis of ultralong

hydroxyapatite nanowires using peanut oil

Yu-Qiao Chen,^{ab} Ying-Jie Zhu,^{*ab} Zhong-Yi Wang,^{ab} Han-Ping Yu^a and Zhi-Chao Xiong^{*a}

^a State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China

^b Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing 100049, China

* Corresponding author. State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, China.

E-mail: y.j.zhu@mail.sic.ac.cn (Y. J. Zhu), zcxiong@mail.sic.ac.cn (Z. C. Xiong).



Figure S1. SEM micrographs of the products prepared by the oleate precursor solvothermal method using different contents of peanut oil at a Ca/P molar ratio of 1:2 at 180 °C for 24 h. (a) 3.744 g; (b) 6.552 g; (c) 9.360 g; (d) 12.168 g; (e) 14.976 g; (f) 17.784 g.



Figure S2. SEM micrographs at a higher magnification of the products prepared by the oleate precursor solvothermal method using different contents of peanut oil at a Ca/P molar ratio of 1:2 at 180 °C for 24 h. (a) 3.744 g; (b) 6.552 g; (c) 9.360 g; (d) 12.168 g; (e) 14.976 g; (f) 17.784 g.



Figure S3. SEM micrographs of the products synthesized by the oleate precursor solvothermal method using 9.360 g peanut oil and different weights of NaOH at a Ca/P molar ratio of 1:1 at 180 °C for 24 h. (a) 0.200 g; (b) 0.500 g; (c) 1.050 g; (d) 2.000 g.



Figure S4. SEM micrographs of the products synthesized by the oleate precursor solvothermal method using 9.360 g peanut oil, 1.050 g NaOH and different weights of methanol at a Ca/P molar ratio of 1:1 at 180 °C for 24 h. (a) 2.000 g; (b) 3.000 g; (c) 4.750 g; (d) 6.000 g.

Movie S1. Video of the nonflammable test of the ultralong HAP nanowire-based fireresistant inorganic paper being heated in the flame of an alcohol lamp for 2 min.