

## Supporting Information

# Polymorphous ZnO complex architectures: selective synthesis, mechanism, surface area- and Zn-polar plane-codetermining antibacterial activity

Guo-Xiu Tong<sup>\*,a</sup>, Fang-Fang Du<sup>a</sup>, Yan Liang<sup>\*,b,d</sup>, Qian Hu<sup>a</sup>, Ruo-Nan Wu<sup>d</sup>, Jian-Guo Guan<sup>c</sup>, Xian Hu<sup>a</sup>

*Received (in XXX, XXX) Xth XXXXXXXXXX 20XX, Accepted Xth XXXXXXXXXX 20XX*

DOI: 10.1039/b000000x

<sup>a</sup>*College of Chemistry and Life Sciences, Zhejiang Normal University, Jinhua 321004, People's Republic of China*

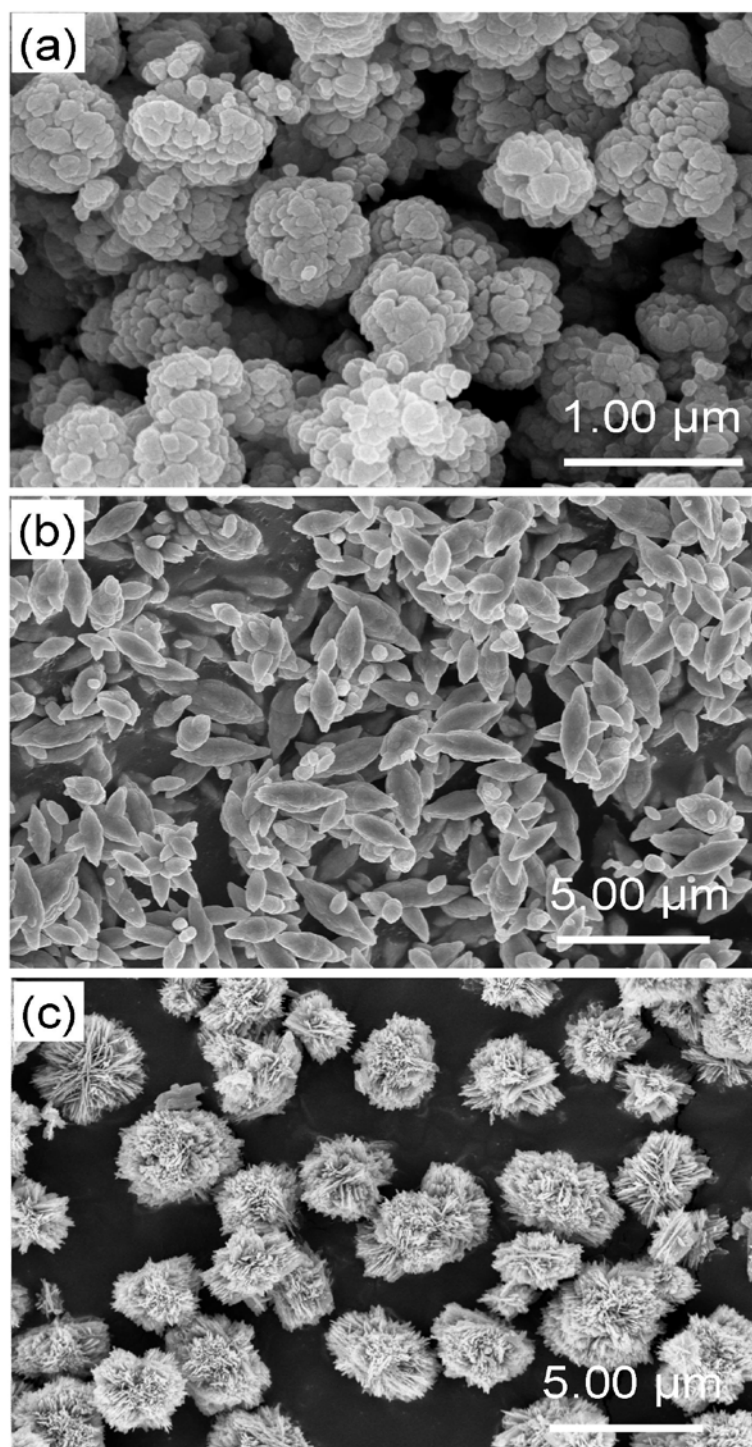
*Corresponding authors. Tel.: +86-579-82282269; Fax: +86-579-82282269. E-mail address: tonggx@zjnu.cn (G.X. Tong).*

<sup>b</sup>*Centre for Food Safety and Environmental Technology, Guangzhou Institute of Advanced Technology, Chinese Academy of Sciences, Guangzhou 511458, China*

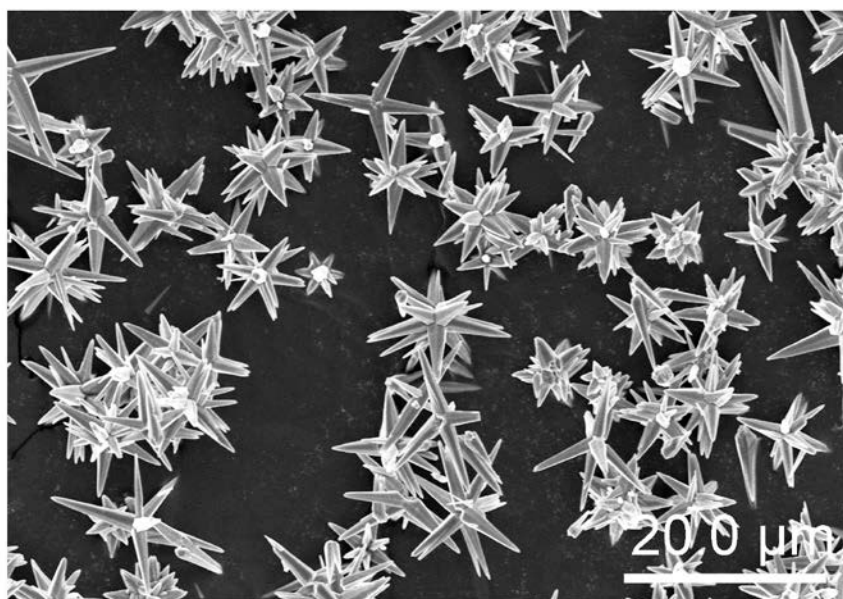
*Corresponding authors. E-mail address: yliang@hkbu.edu.hk (Y. Liang)*

<sup>c</sup>*State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology, No.122, Luoshi Road, Wuhan 430070 P. R. China*

<sup>d</sup>*Croucher Institute for Environmental Sciences and the Department of Biology, Hong Kong Baptist University, Kowloon Tong, Hong Kong, People's Republic of China*



**Fig. S1** *low- magnified SEM images* of the spherical-shaped ZnO produced at the various NaOH/Zn<sup>2+</sup> molar ratios  $\alpha$  of: (a)  $\alpha = 1.0$ . (b)  $\alpha = 2.0$ , and (c)  $\alpha = 3.0$ .



**Figure S2** low-magnified SEM images of flower-shaped ZnO architectures formed at the en /Zn<sup>2+</sup> molar ratio of 1.0.