

Supplementary Information

Self-organized ZnO nanorods prepared by anodization of Zn in NaOH electrolyte

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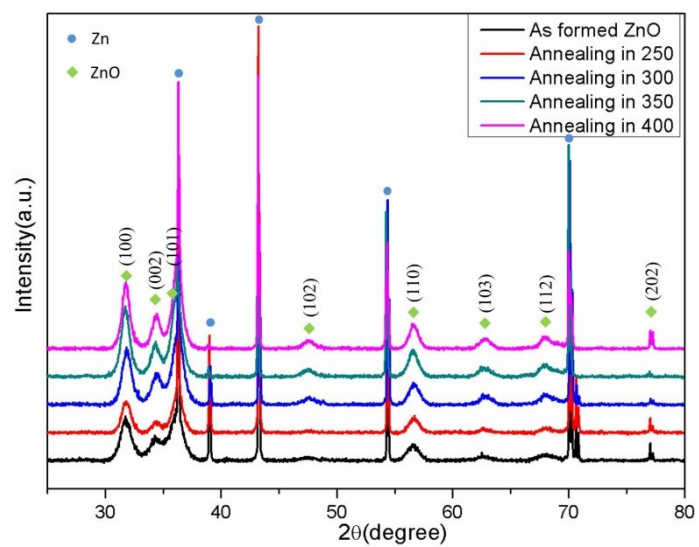


Fig. S1 XRD patterns of as-formed ZnO in 0.1M NaOH aqueous electrolytes at 12 V for 1h and after annealing at different temperature for 1h

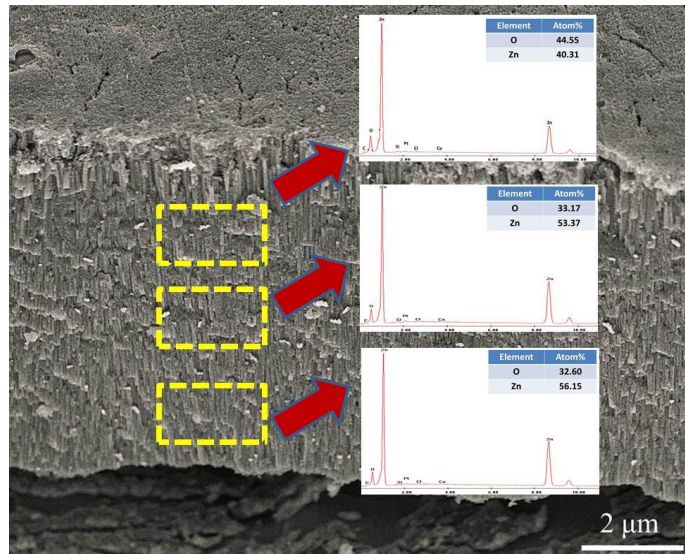


Fig. S2 EDS spectra of anodized ZnO prepared in 0.1M NaOH aqueous electrolytes at 12 V for 1h:
upper part, middle part and bottom part

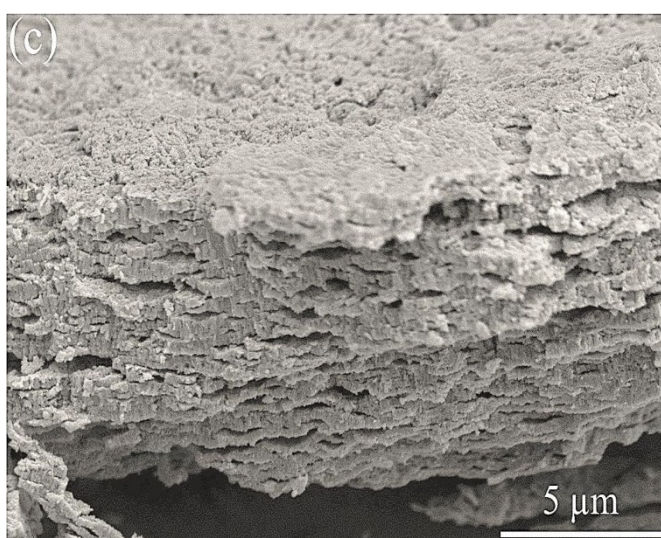
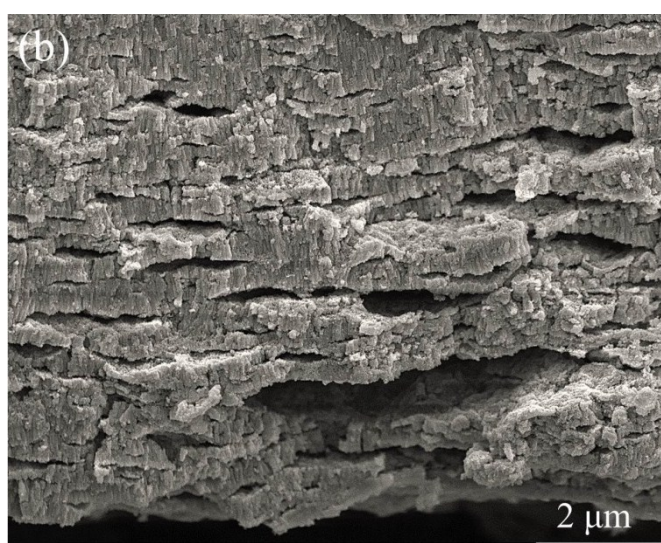
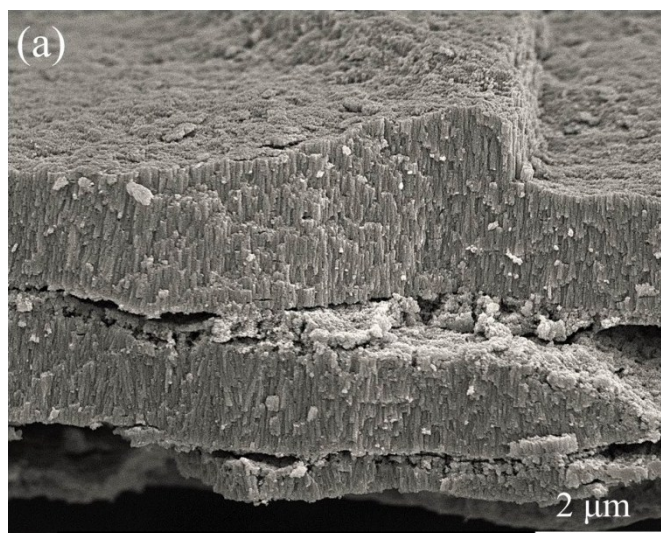


Fig. S3 FESEM cross-sectional images of anodic film prepared in 0.1M NaOH aqueous electrolytes for 1h at various voltages: (a) 20V, (b) 30V and (c) 40V

As shown in Fig. S4a-b, anodic ZnO layers are fabricated and substrate with smooth surface marked by yellow rectangle can be found underneath oxide layer. However, initial oxide layers are partially replaced by small secondary ZnO layer when duration time extends to 1.5 h (Fig. S4c).

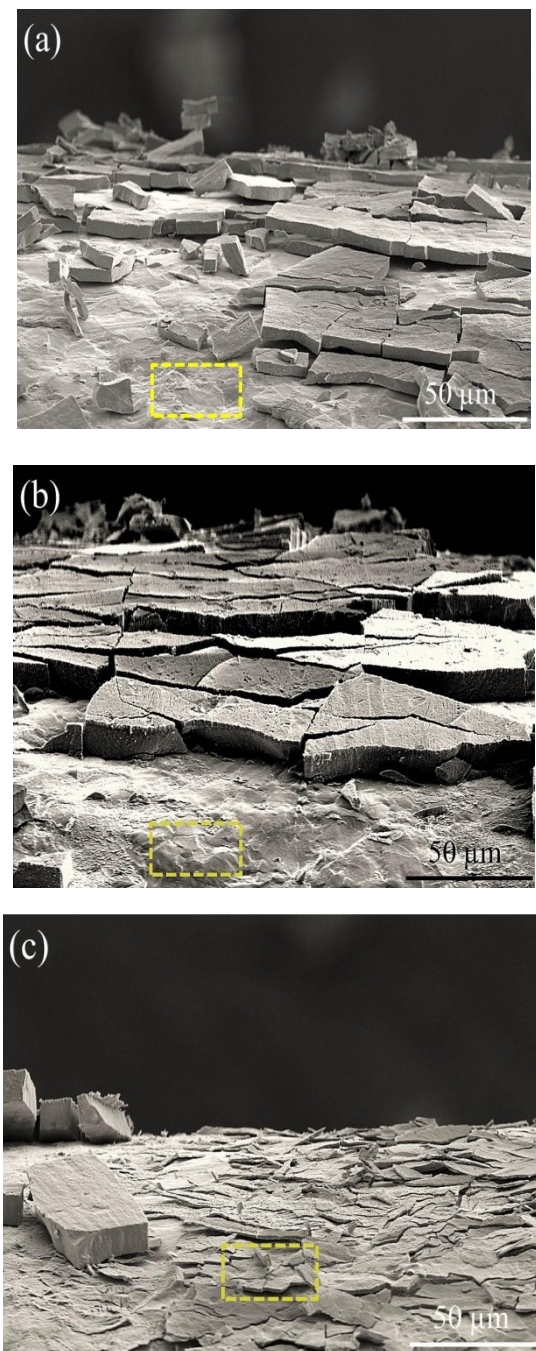


Fig. S4 FESEM images with low magnification of anodic film prepared in 0.1 M NaOH aqueous electrolytes at 12 V for different duration time: (a) 0.5 h; (b) 1 h and (c) 1.5 h

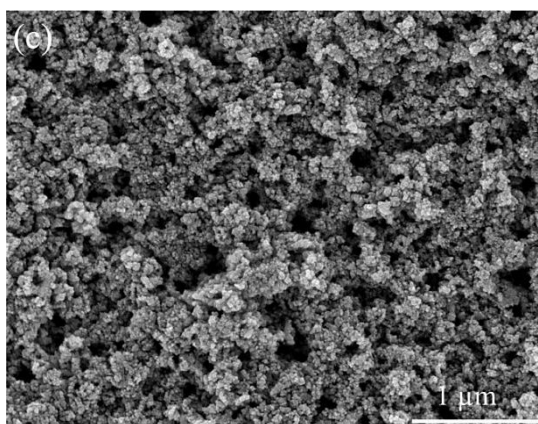
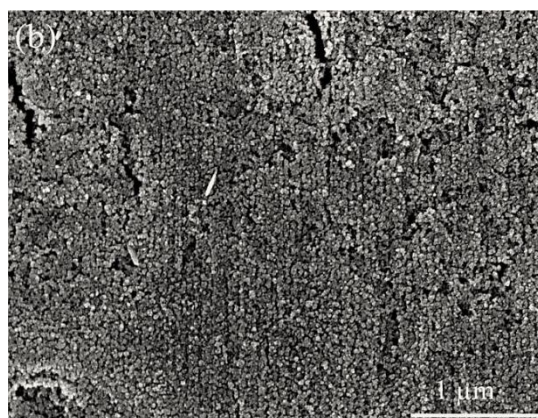
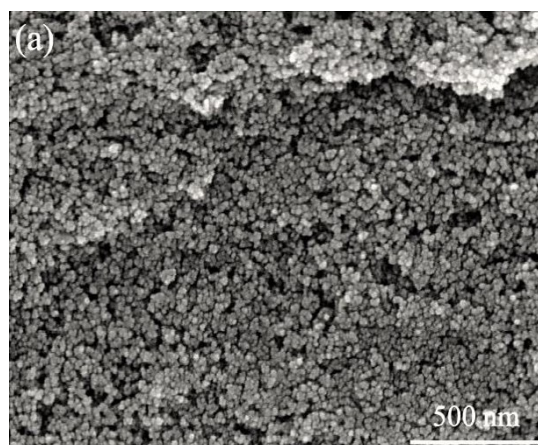


Fig. S5 FESEM images of anodic films prepared at 12 V for 1 h in different concentrations of NaOH in electrolytes: (a) 0.05M, (b) 0.1M and (c) 0.2M