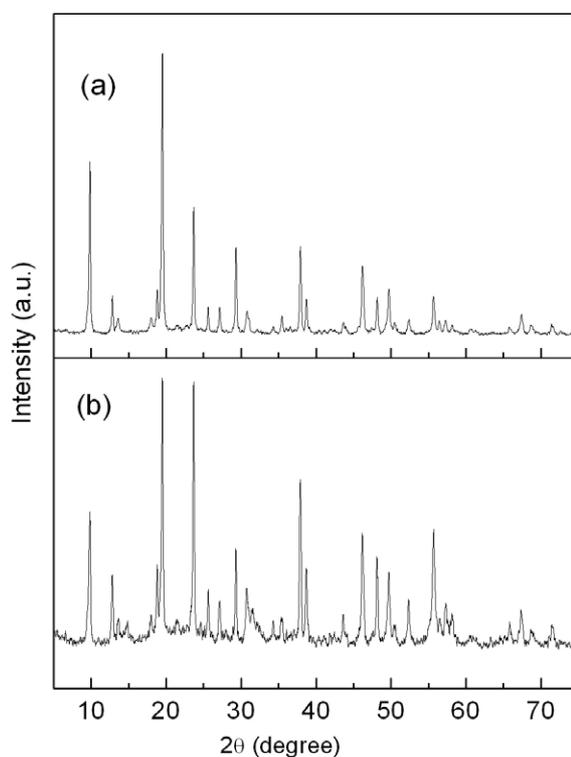


Supplementary Information

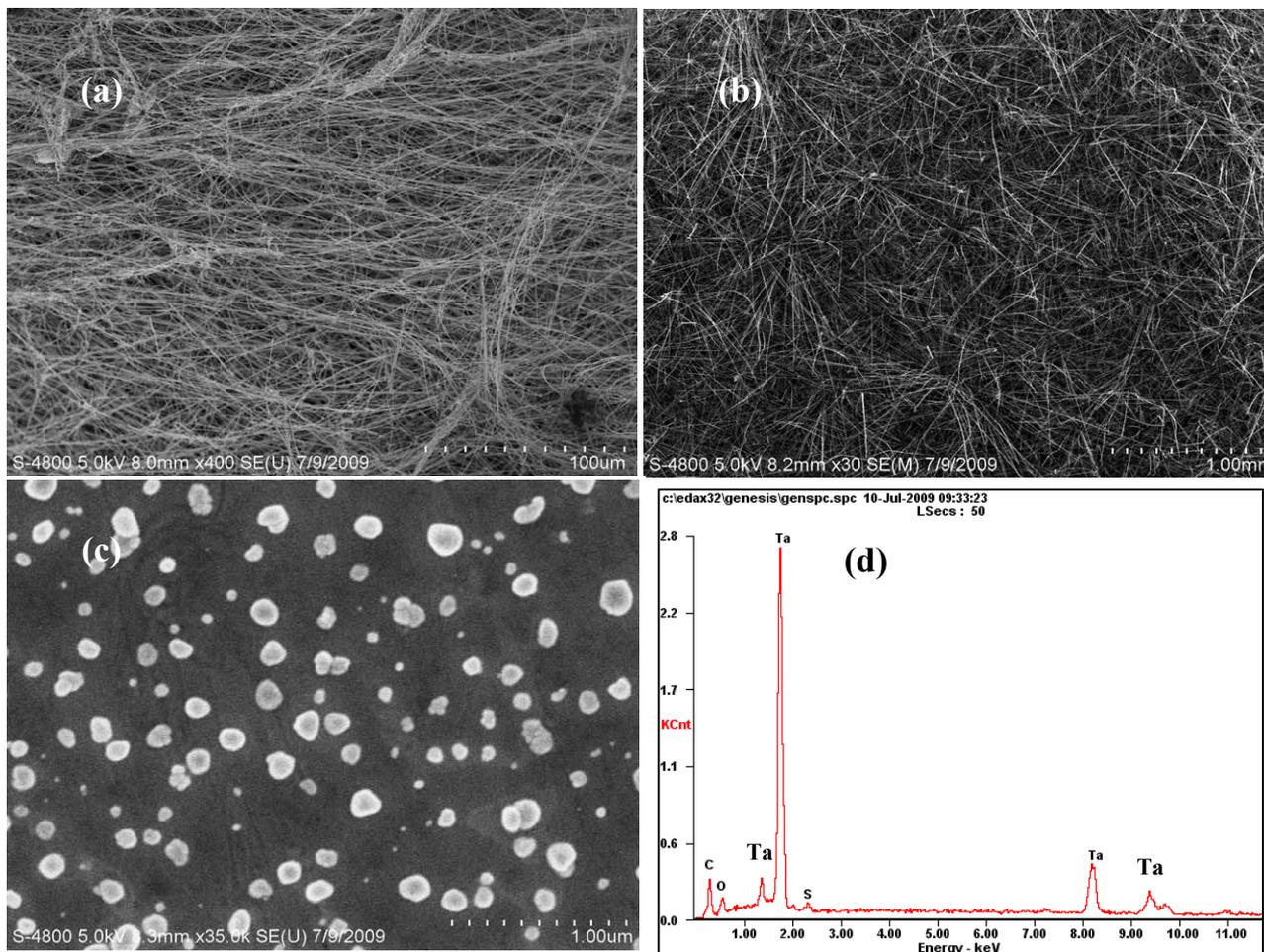
## Fabrication of TaS<sub>2</sub> nanobelt arrays and their enhanced field-emission

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**Fig. S1.** XRD patterns of TaS<sub>3</sub> nanobelts prepared at (a) 450 °C and (b) 750 °C for 6h, which can be indexed as orthorhombic TaS<sub>3</sub> (JCPDS No. 18-1313).



**Fig. S2.** SEM images of TaS<sub>3</sub> nanobelts prepared at (a) 450 °C and (b) 750 °C for 6h. (c) SEM image of products grown on Ta foil by reaction of Ta foil with S at 350 °C for 6h. (d) EDX spectrum of products grown on Ta foil by reaction of Ta foil with S at 350 °C for 6h, showing Ta/S atomic ratio of 93.09:6.91.