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Supplementary Information

Kinetic analysis of anodic growth of TiO_2 nanotubes: Effects of voltage and temperature

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Figure S1. SEM images and the corresponding FFT patterns of TiO_2 nanotube arrays formed at different anodization times (voltage: 50 V, temperature: 50°C): (a) 15 min, (b) 30 min, (c) 45 min, and (d) 60 min.

Figure S2. SEM images and the corresponding FFT patterns of TiO_2 nanotube arrays formed at different anodization voltages (time: 60 min, temperature: 50°C): (a) 30 V, (b) 40 V, and (c) 50 V.

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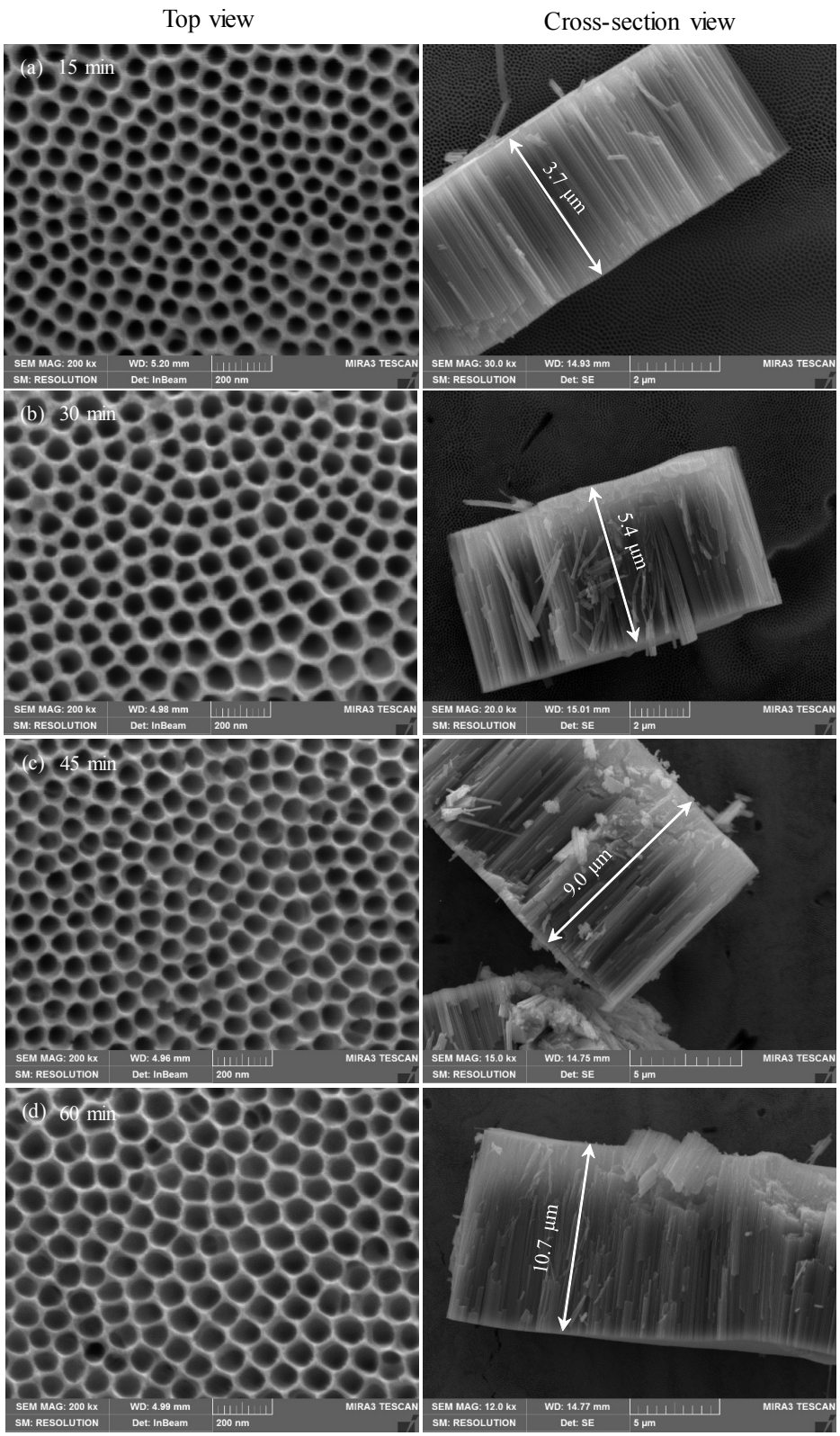

Figure S1. SEM images of the TNTs synthesized at a temperature of 40 ^{o}C and a voltage of 40 V with different anodization times: (a) 15 min, (b) 30 min, (c) 45 min, and (d) 60 min.

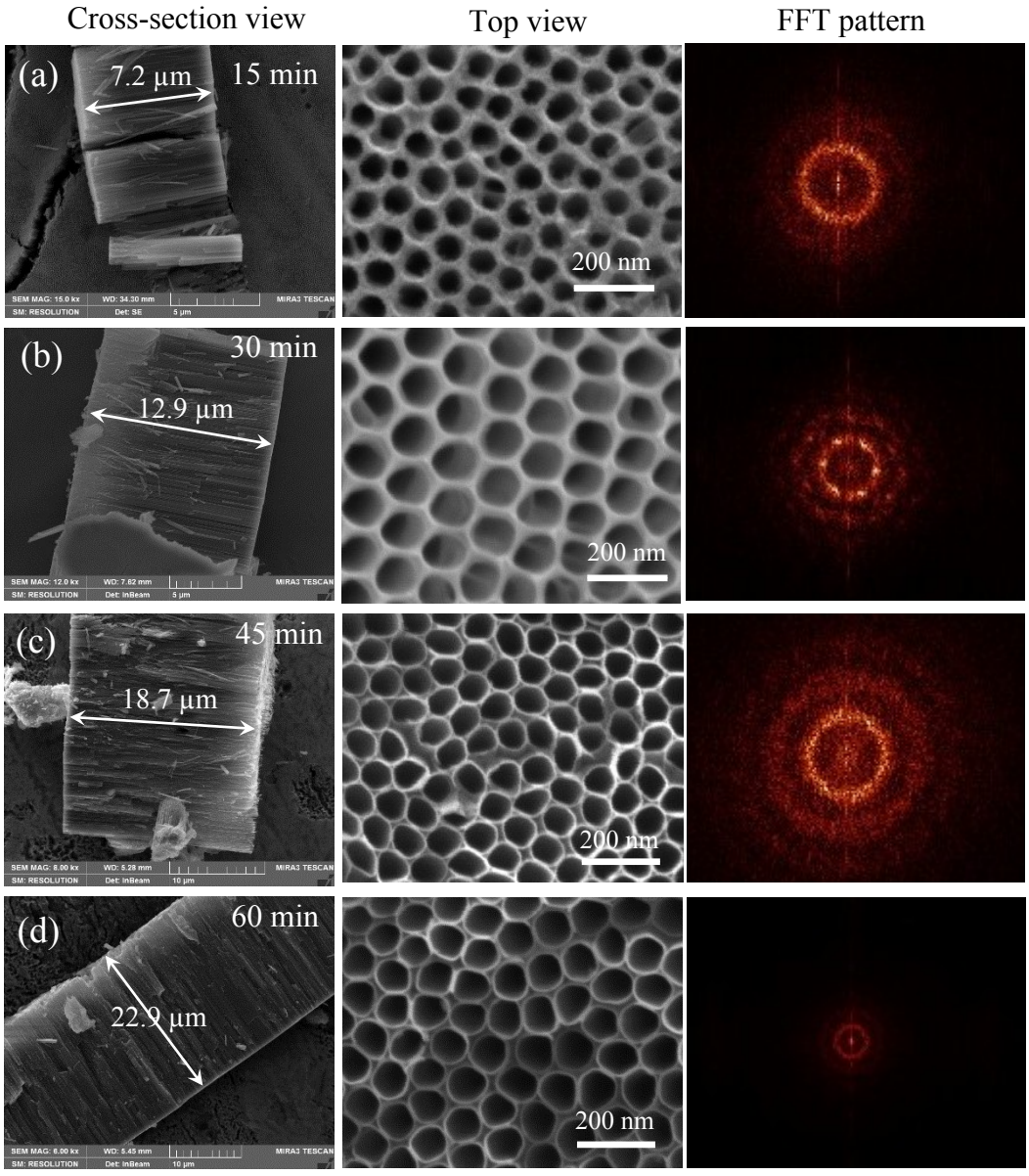

Figure S2. SEM images and the corresponding FFT patterns of TiO_2 nanotube arrays formed at different anodization times (voltage: 50 V, temperature: 50^{o}C): (a) 15 min, (b) 30 min, (c) 45 min, and (d) 60 min.

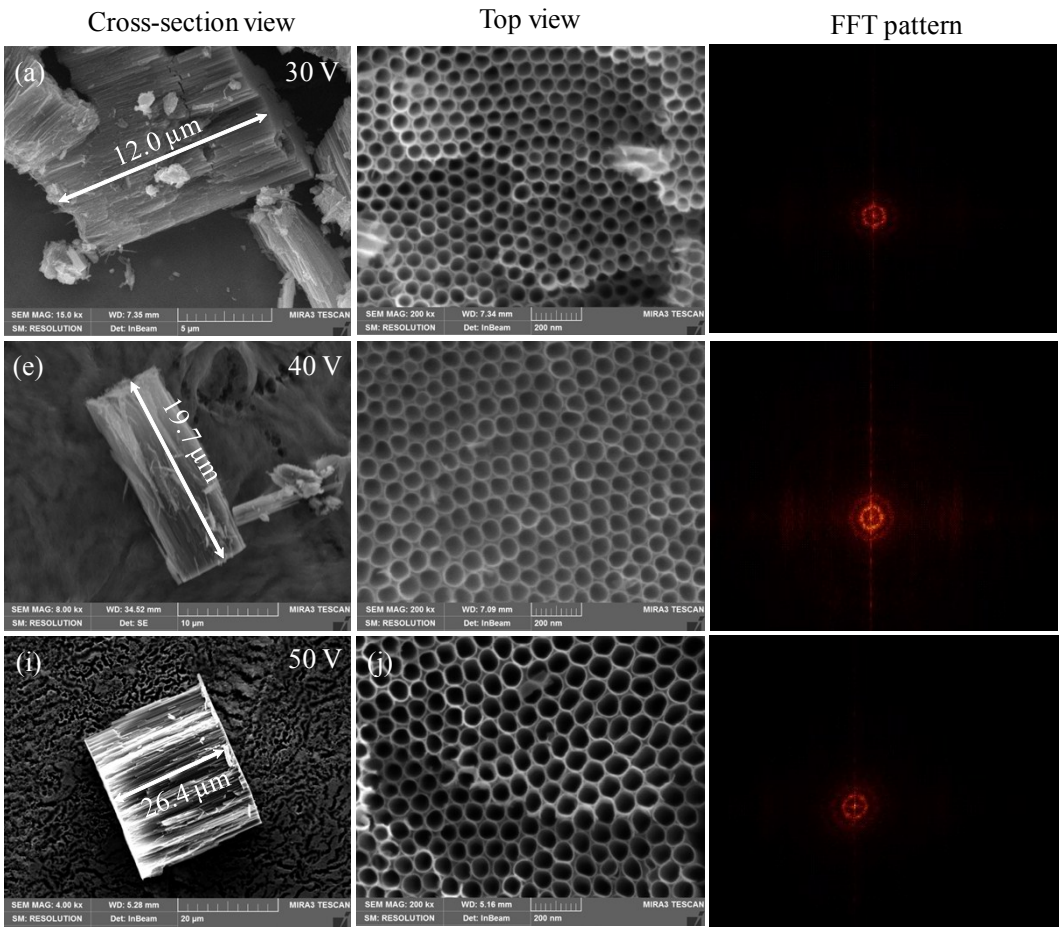

Figure S3. SEM images and the corresponding FFT patterns of TiO_2 nanotube arrays formed at different anodization voltages (time: 60 min, temperature: 50°C): (a) 30 V, (b) 40 V, and (c) 50 V.

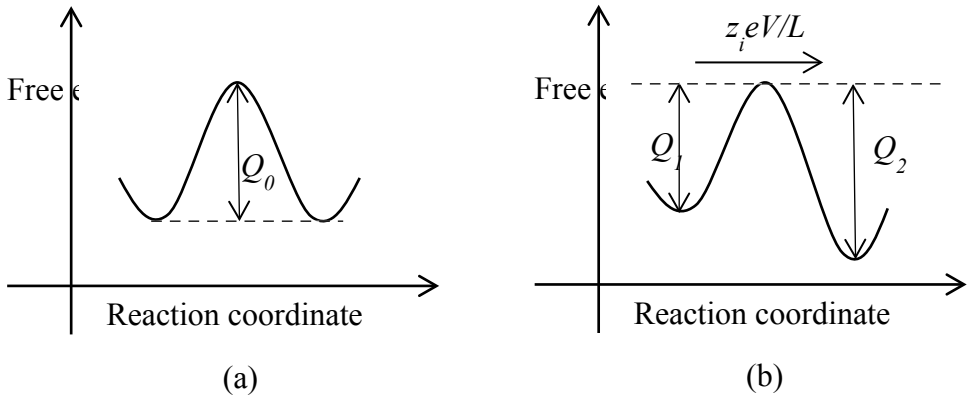

Figure S4. Schematic of the field effect on the activation energy for the rate process controlling the anodic growth of Ti nanotubes.