

Supplementary information for the article:

Bratić, M., Jugović, D., Mitrić, M., Cvjetičanin, N., 2017. Insertion of lithium ion in anatase TiO₂ nanotube arrays of different morphology. *Journal of Alloys and Compounds* 712, 90–96. <https://doi.org/10.1016/j.jallcom.2017.04.065>

Supplementary material

The anatase TiO₂ nanotube arrays (NTAs) were prepared by anodic oxidation of Ti-foil at 20, 30, 45 and 60 V, and subsequent annealing at 400°C. The cyclic voltammetric peak currents for all Ti/TiO₂ NTAs electrodes, are shown as a function of scan rate in a *log-log* plot, Figs S1 and S2. According to equations both for reversible and irreversible electrochemical reactions the slope of log-log plot should be 0.5. The obtained data indicate that the process of both insertion and extraction of lithium ion can be considered as diffusion controlled, Table S1.

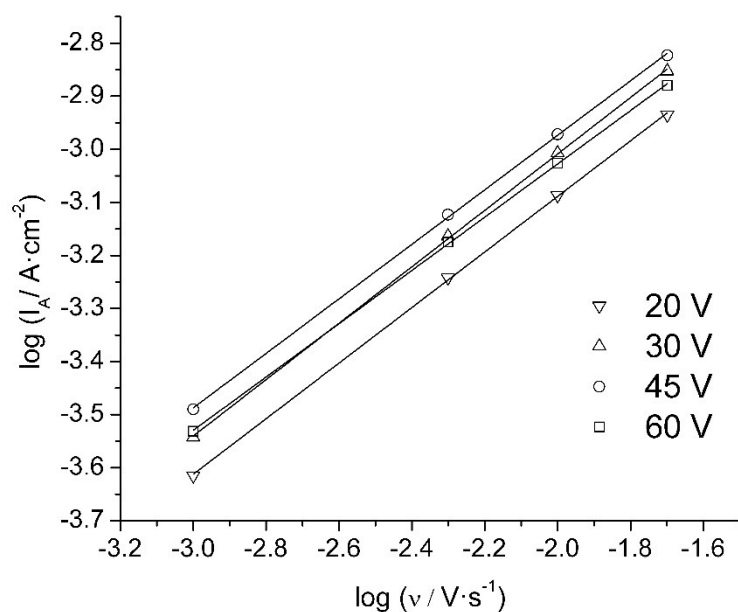


Fig. S1. *Log-log* plot of anodic peak current as a function of scan rate for Ti/TiO₂ NTAs electrodes prepared at different anodization voltages.

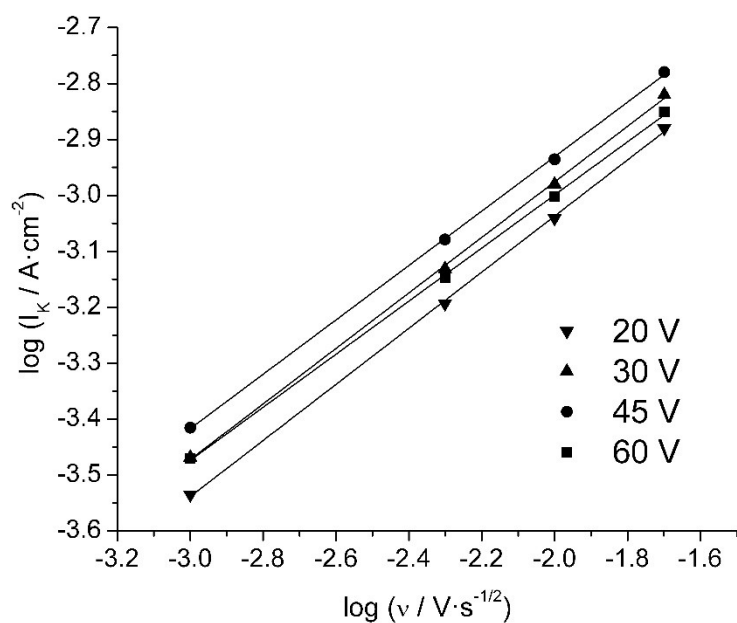


Fig. S2. *Log-log* plot of cathodic peak current as a function of scan rate for Ti/TiO₂ NTAs electrodes prepared at different anodization voltages.

Table S1. Slope of $\log I_P$ vs. $\log v$ plots for Ti/TiO₂NTAs electrodes prepared by anodic oxidation at 20, 30, 45 and 60V. I_A and I_K are the anodic and cathodic peak current.

Anodization voltage / Volts	Slope of $\log I_P$ vs. $\log v$ plot	
	$I_P = I_A$	$I_P = I_K$
20	0.524	0.502
30	0.532	0.496
45	0.514	0.486
60	0.502	0.475