

Textile-Based Battery Using a Biodegradable Gel-Electrolyte †

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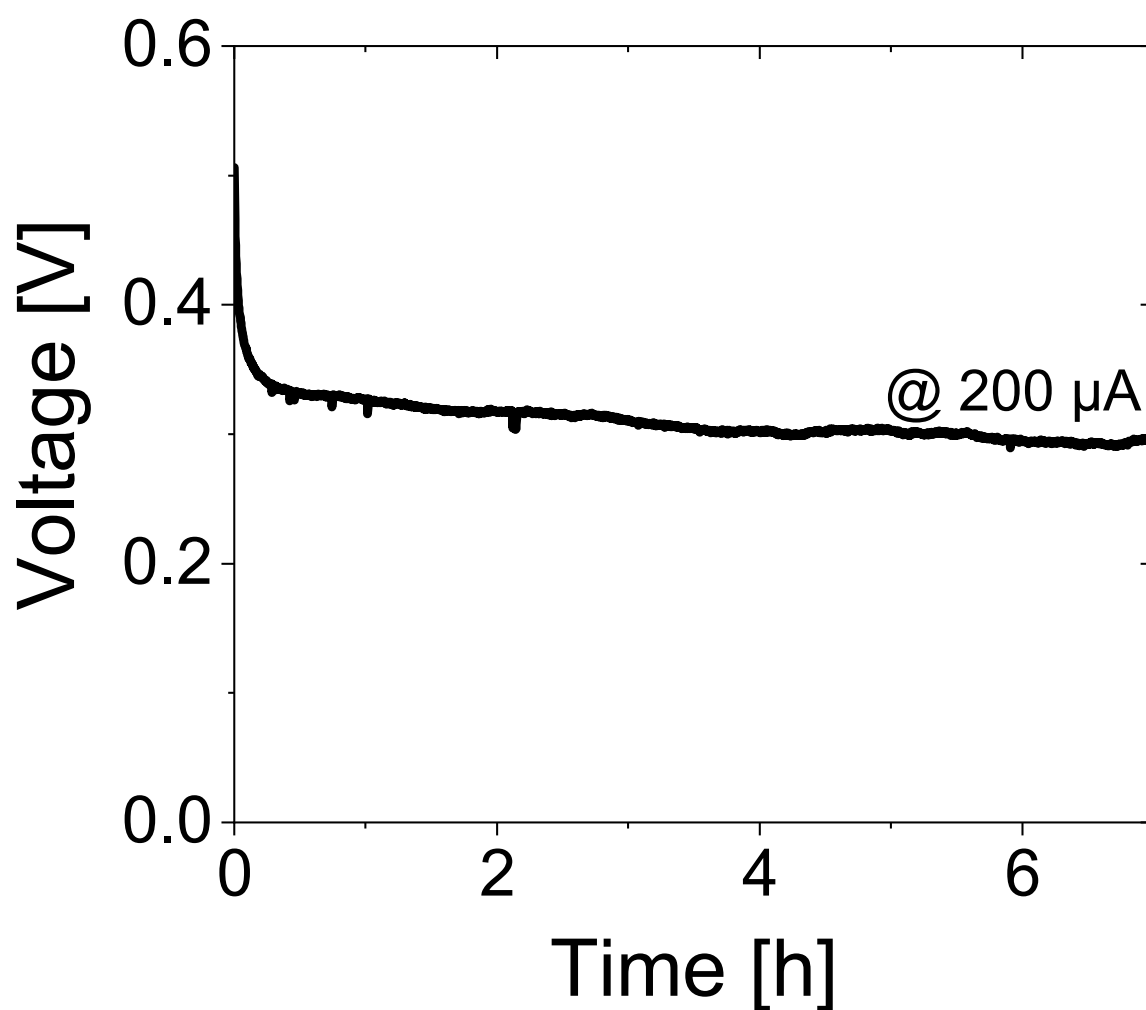


Figure S1: Discharge curve of textile-based battery with citric acid concentration of 0.2 mol/l at discharge current of 200 μ A.

Figure 1 shows the voltage of a textile-based battery while discharging with a current of 200 μ A for the first 7 hours of operation reaching a capacity of 100 mAh g^{-1} .

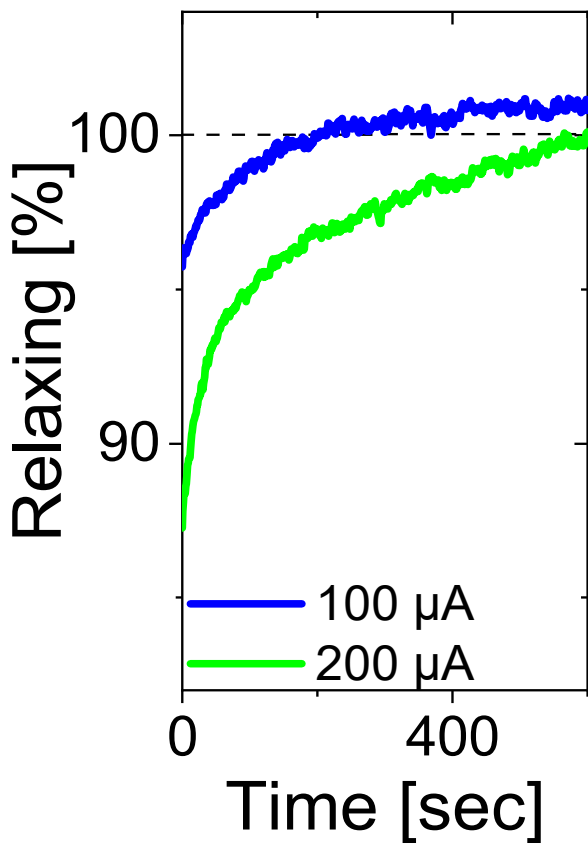
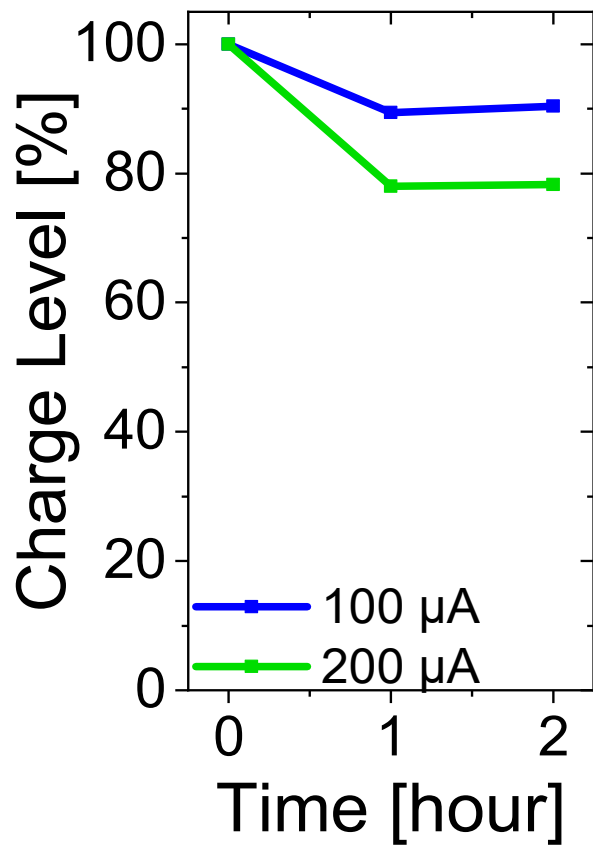
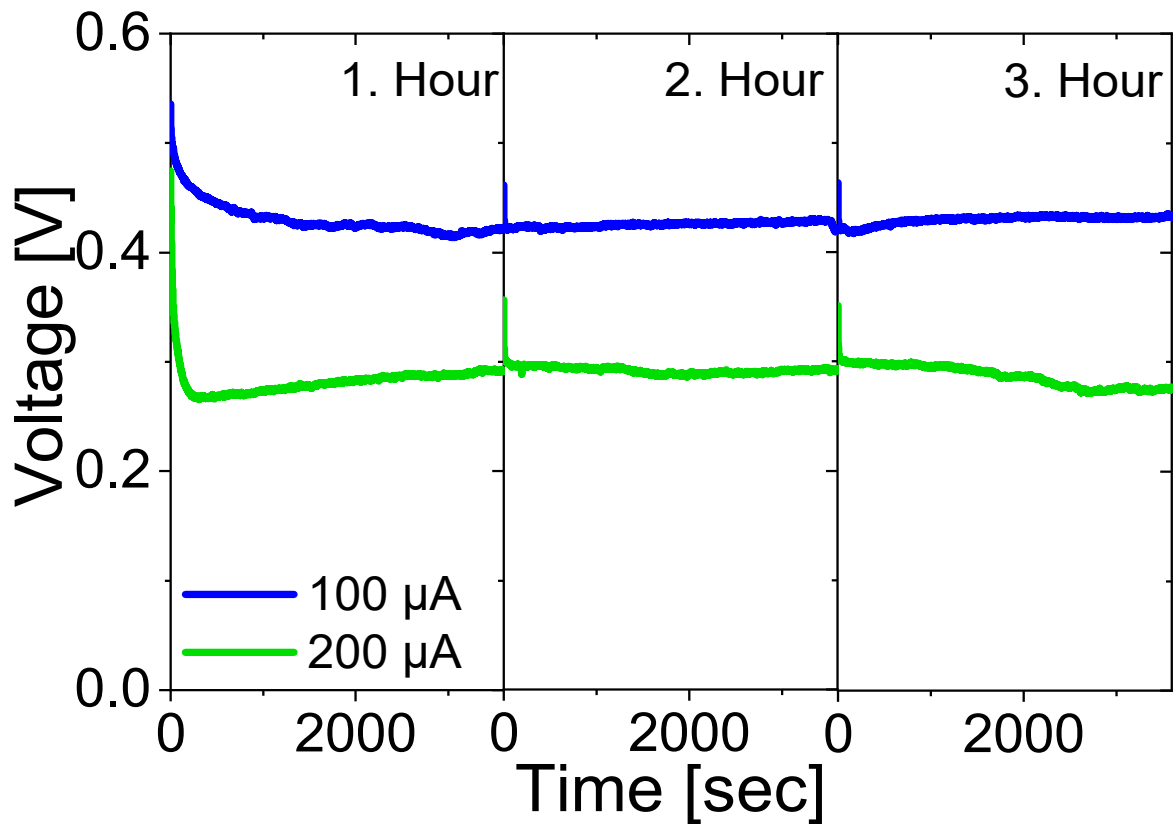


Figure S2: a) Voltage of textile-based battery discharging at discharge currents of 100 (blue) and 200 μA for the three hours of discharging; b) Charge level of the textile-based battery after one and two hours in dependency of the discharge current; c) Relaxation of the textile-battery after three hours of discharging.

The voltage of one textile-based battery with citric acid concentration of 0.2 mol/l was first measured without load, then the battery was discharged for one hour with 100 (blue) or 200 μA (green) and the operational voltage was measured. After one hour the voltage was again measured without load and immediately the battery was again discharged with the same discharge current as before. After another hour, the voltage was measured without load and afterwards the battery was again discharged for one hour. After these three hours of discharging, the voltage without load was measured for ten minutes. In Figure 2 a, the operation voltage as function of time while discharging is presented. The charge level of the battery after one and two hours of discharging is shown as ratio of measured voltage without load at specific discharge time compared to measured voltage without load before discharging is shown in Figure 2b. The relaxation (measured voltage without load after three hours of discharging divided by the initial voltage without load) of the textile-based battery after three hours of discharging is given in Figure 2c, showing that the battery recovers after discharging reaching initial voltage.