

## Supplementary Information

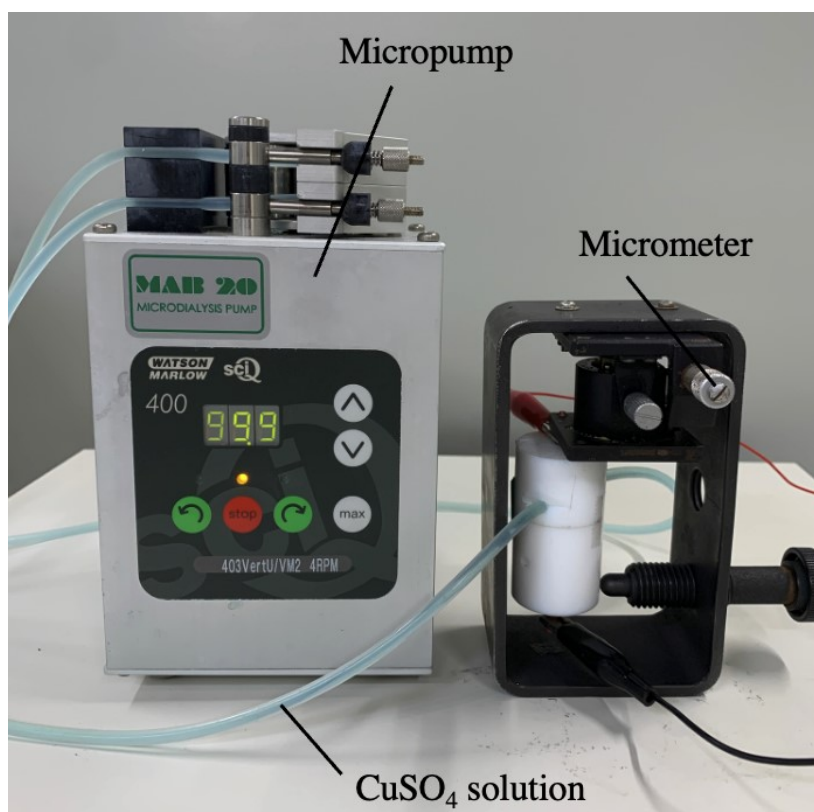
### **Interfacial analysis of the ion-transport process controlling the steady-state current in a two-phase electrodeposition system using polyelectrolyte membranes**

Shunsuke Yamada, Yohei Takashima, Takaaki Tsuruoka, and Kensuke Akamatsu\*

Department of Nanobiochemistry, Frontiers of Innovative Research in Science and Technology (FIRST), Konan University, 7-1-20 Minatojimaminamimachi, Chuo-ku, kobe-650-0047, Japan.

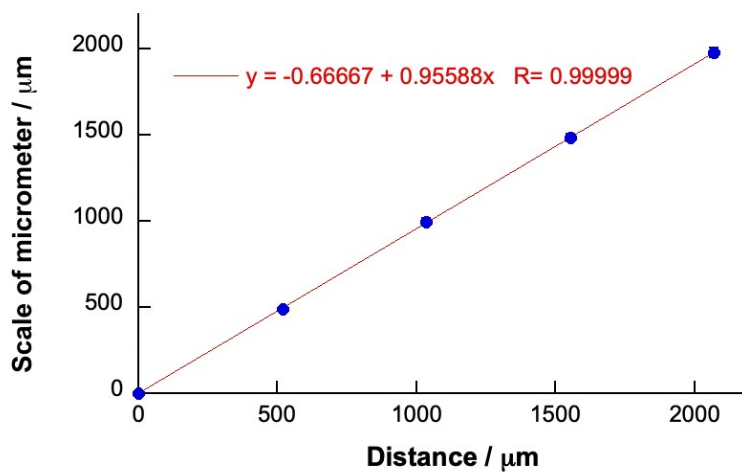
\*Corresponding author. E-mail: akamatsu@konan-u.ac.jp (K. A.)

#### **Experimental setup**



**Figure S1.** Photograph of Experimental setup for solid-state electrodeposition (SED) process. Aqueous solution of  $\text{CuSO}_4$  was circulated ( $2.0 \text{ mL min}^{-1}$ ) during electrodeposition, and the distance between anode and polyelectrolyte membrane were controlled by micrometer.

### Calibration of anode-membrane distance



**Figure S2.** Plots of the scale of micrometer as a function of distance between anode and cathode copper electrode using 515  $\mu\text{m}$ -thick copper plate for calibration of distance between anode and polyelectrolyte membrane. The data demonstrate that the scale of the micrometer is in good agreement with that of actual distance in the present experimental setup.