Biomicrofluidics

ERRATUM | MARCH 18 2014

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Biomicrofluidics 8, 029901 (2014)
https://doi.org/10.1063/1.4869375

AIP Publishing

Erratum: "Label-free electronic probing of nucleic acids and proteins at the nanoscale using the nanoneedle biosensor" [Biomicrofluidics 7, 044114 (2013)]

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(Received 7 March 2014; accepted 12 March 2014; published online 18 March 2014)

[http://dx.doi.org/10.1063/1.4869375]

In the original article,[1] a few words were missing or mistyped in page 10, impedance characterization section, lines 10–17. The original sentences read:

"We can also estimate the faradaic impedance (due to tunneling of electrons from the electrodes to the electrolyte) by looking at the measurement at low frequencies (1 Hz). The total impedance at 1 Hz is 0.5 GΩ, meaning that R_f which is frequency independent can be no more than 0.5 GΩ regardless of the frequency. This means that the equivalent impedance of C_{dl} and R_f in parallel with each other has to also be greater than 0.5 GΩ. Comparing this to the total impedance of the sensor at 15 kHz which is 3.6 MΩ, we are able to assume that the loop containing C_{dl} and R_f is essentially an open circuit allowing us to simplify our model significantly as shown in Fig. 4(b)."

The corrected sentences are as follows: "We can also estimate the faradaic impedance (due to tunneling of electrons from the electrodes to the electrolyte) by looking at the measurement at low frequencies (1 Hz) and calculating C_{dl} at this frequency. The total impedance at 1 Hz is 0.5 GΩ, meaning that R_f in series with R_b (both frequency independent) can be no less than 0.5 GΩ across the whole spectrum. This means that the equivalent impedance of C_{dl} and R_f in parallel with each other and in series with R_b has to also be greater than 0.5 GΩ. Comparing this to the total impedance of the sensor at 15 kHz which is 3.6 MΩ, we are able to assume that the loop containing C_{dl}, R_f, and R_b is essentially an open circuit allowing us to simplify our model significantly as shown in Figure 4(b)."

[1]R. Esfandyarpour, M. Javanmard, Z. Koochak, H. Esfandyarpour, J. S. Harris, and R. W. Davis, "Label-free electronic probing of nucleic acids and proteins at the nanoscale using the nanoneedle biosensor," Biomicrofluidics **7**(4), 044114 (2013).

