Electronic Supplementary Material (ESI) for Analytical Methods.

Supplemental Information for: *Integrated Hybrid Polystyrene/Polydimethylsiloxane Device for Monitoring Cellular Release with Microchip Electrophoresis and Electrochemical Detection*

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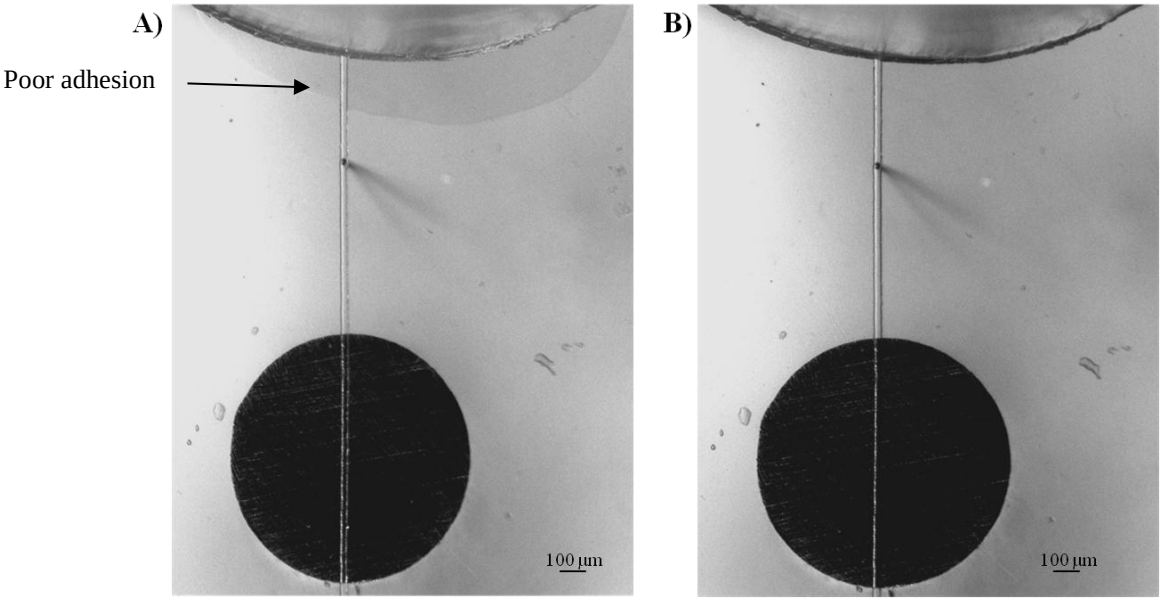

Figure S-1. Improvement of PDMS-PS adhesion with chlorotrimethylsilane stamping. **A)** Untreated PDMS is sealed on PS over embedded electrodes. **B)** The PDMS is stamped with chlorotrimethylsilane for one hour and then sealed onto the PS base with embedded electrodes. The PDMS microchip exhibits improved adhesion and full sealing around the sample waste reservoir after the chlorotrimethylsilane stamping method is performed.

Buffer	25 mM TES	25 mM TES, 25 mM SDS	25 mM TES, 25 mM SDS, 0.5 mM Tween® 20
EOF ($cm^2V^{-1}s^{-1}$)	$3.27 \pm 0.04 \times 10^{-4}$	$5.95 \pm 0.11 \times 10^{-4}$	$6.05 \pm 0.05 \times 10^{-4}$

Table S-1. EOF measurements using 25 mM TES, 25 mM TES, 25 mM SDS, and 25 mM TES, 25 mM SDS, 0.5 mM Tween® 20. There was a statistical difference at the 95% confidence level between 25 mM TES and 25 mM TES, 25 mM SDS. While there is also a statistical difference ($p < 0.01$) at the 95% confidence level between 25 mM TES, 25 mM SDS, and 25 mM TES, 25 mM SDS, 0.5 mM Tween® 20 (pH=7.4), as can be seen in the table, there is just a slight change in the EOF value (~0.1×10^{-4} $cm^2V^{-1}s^{-1}$). For each buffer, 12 measurements were made.

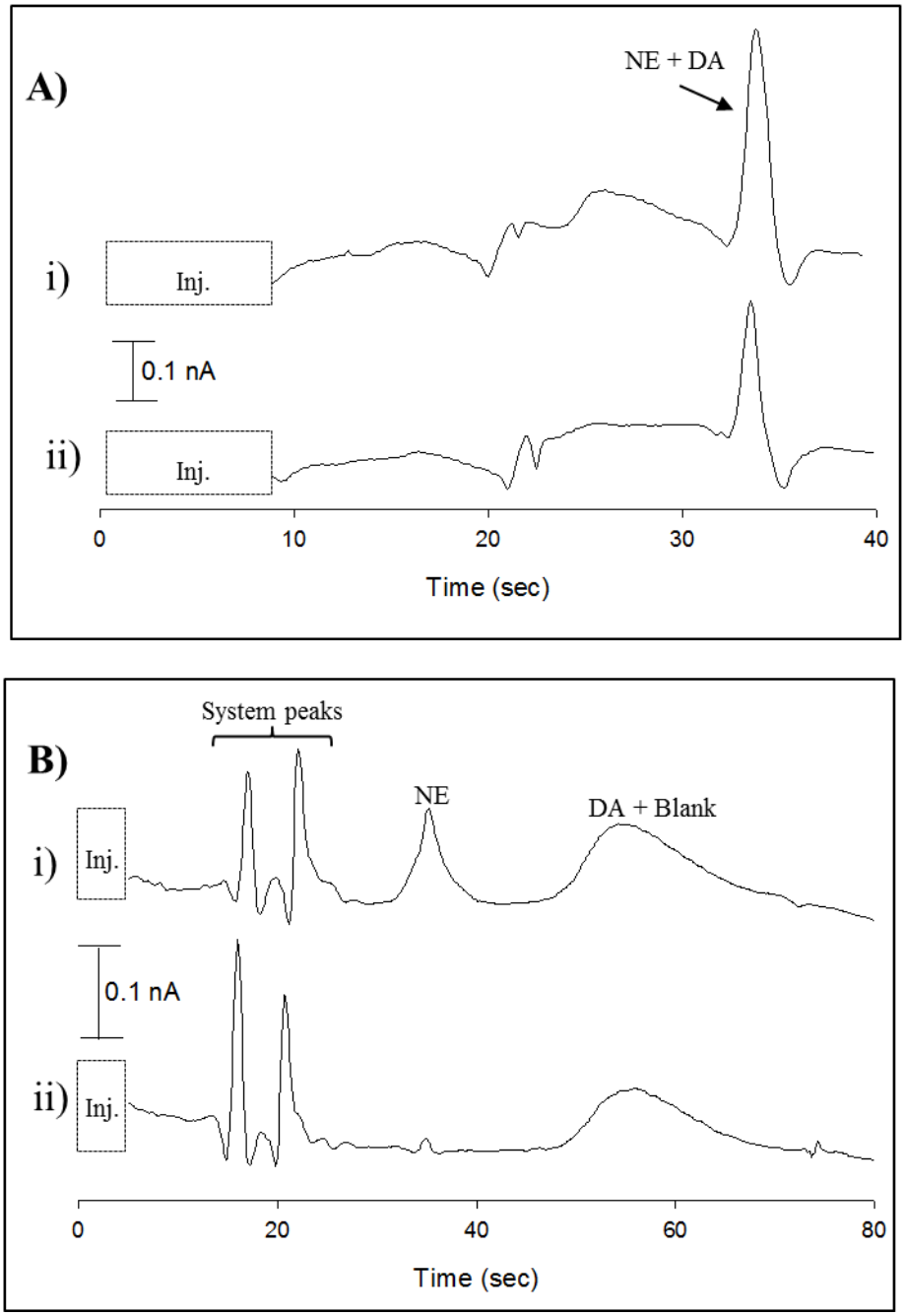

Figure S-2. Separation buffer optimization. i) 100 µM DA/NE mixtures were prepared in K^+ stimulant ii) Samples were prepared exactly as in i) with no addition of analytes. **A)** 25 mM TES (pH=7.4); **B)** 25 mM TES with 25 mM SDS (pH=7.4).