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Disposable-micropipette tip supported electrified liquid-organogel interface as a platform for sensing of acetylcholine

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Figure S1. Cyclic voltammograms of TBA⁺ with various concentration and corresponding calibration plot obtained from cell 1 representation.



Figure S2 Cyclic voltammogram of background subtracted simple ion transfer of acetylcholine using various scan rates (A) and corresponding plot of scan rate (v) versus current (I) from cell 1 representation.



Figure S3 Cyclic voltammogram of background subtracted facilitated ion transfer of acetylcholine using various scan rates (A) and corresponding plot of scan rate (v) versus current (I) from cell 2 representation.



Figure S4 Comparison of ionic strength by varying the aqueous phase 10 mM LiCl {black} (A) to 100 mM LiCl {black} (B) in the presence of acetylcholine {red} using cell 1 configuration.



Figure S5 Simple ion transfer of acetylcholine with different concentrations in 100 mM LiCl in aqueous phase.



Figure S6 Determination of association constant and Gibbs free energy using $\Delta \varphi^{1/2}$ vs ln C



Figure S7. Simple ion transfer of acetylcholine in different scan rate (A) and corresponding plot of scan rate ($v^{1/2}$) versus current (I) (B) plot of micropipette based electrochemical cell setup (cell 3).



Figure S8. Facilitated ion transfer of acetylcholine in different scan rate using cell 4 configuration. Corresponding plot of scan rate (v) versus current (I) for forward (B) and backward (C) transfer of acetylcholine obtained from cell 4 configuration.



Figure S9 Interferences studies in urea [blue (A)], bovine serum albumin [blue (B)] and hemoglobin [blue (C)] in presence of acetylcholine (red) micropipette tip based electrochemical cell setup using liquid-organogel interface.



Figure S10 Comparison of reproducibility of current response across liquid-liquid interface and liquid-organogel interface based on glass pipette (green) and plastic micropipette tip (red) respectively.



Figure S11 Comparison of inter-day variability current response using liquid-liquid interface and liquid-organogel interface based on pre-pulled glass pipette (green) and plastic micropipette tip (red) respectively.



Figure S12 Facilitated ion transfer of acetylcholine in different concentrations was spiked in artificial cerebrospinal fluid using glass micropipette across electrified liquid-liquid interface.