Supporting Information

Nitric oxide permselectivity in electropolymerized films for sensing applications

Micah D. Brown[a] and Mark H. Schoenfisch[a]*

[a] Department of Chemistry, University of North Carolina at Chapel Hill, CB 3290, Chapel Hill, NC 27599

Table of Contents

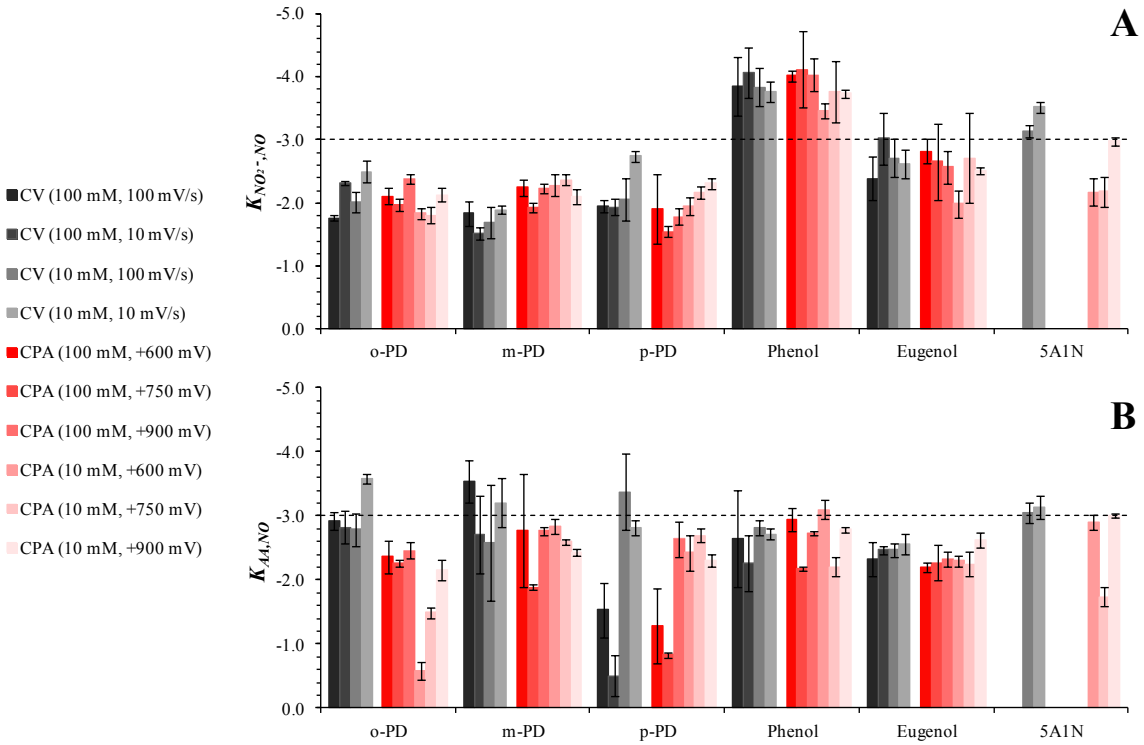

Figure S1. Selectivity coefficients for nitric oxide against interferents (A) nitrite and (B) L-ascorbate for electrodes modified by electropolymerized films of different compositions and different deposition procedures ($n \geq 4$). Selectivity coefficients were calculated from the current responses to injections of NO (1.9 µM) and the anionic interferents (1 mM). Error bars represent standard errors of the mean. Depositions were not conducted with 100 mM monomer in 5A1N due to limited solubility in aqueous solutions. The dashed lines mark a selectivity coefficient of -3, corresponding to 1000-fold greater sensor response to NO over the interferent under observation. The procedure deemed optimal for monomer deposition was determined by the greatest sum of selectivity coefficients versus nitrite and L-ascorbate.

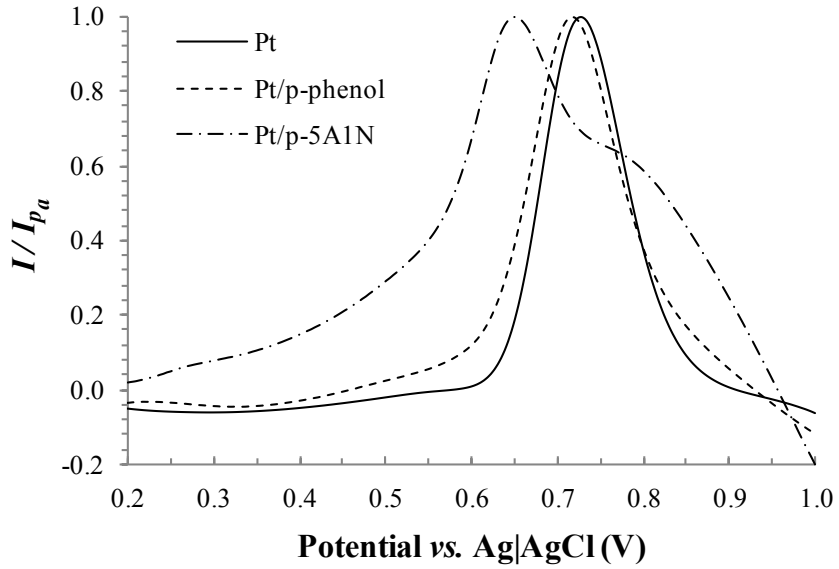

Figure S2. Differential pulse voltammograms of nitric oxide collected on bare Pt, poly-phenol-, and poly-5A1N-modified electrode surfaces. Traces collected in deoxygenated phosphate buffered saline (0.01 M, pH 7.4) were subtracted from traces collected in the presence of 90 μM NO. Background-subtracted traces were then averaged over multiple runs (n = 8) and normalized to the peak oxidation current (I_{pa}). Peak potentials were determined to be 728 ± 2, 713 ± 2, and 649 ± 4 for bare Pt, poly-phenol-, and poly-5A1N-modified electrodes, respectively. Parameters: increased potential of 0.004 V, amplitude of 0.05 V, pulse width of 0.2 s, sampling width of 0.0167 s, and pulse period of 0.5 s.