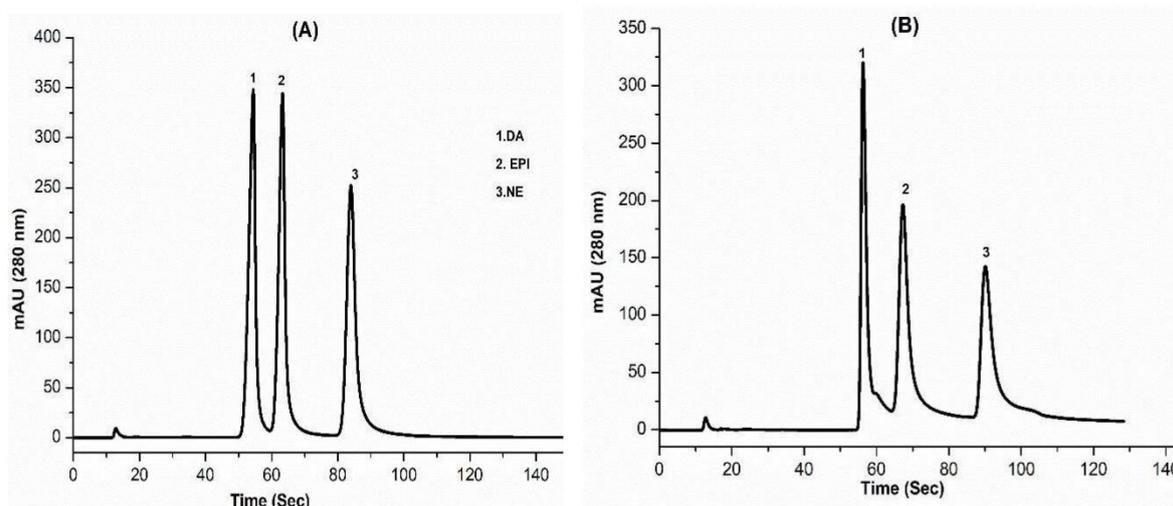


# Efficient Sub-1 Minute Analysis of Selected Biomarker Catecholamines by CoreShell Hydrophilic Interaction Liquid Chromatography (HILIC) with Nanomolar Detection at a Boron-Doped Diamond (BDD) Electrode

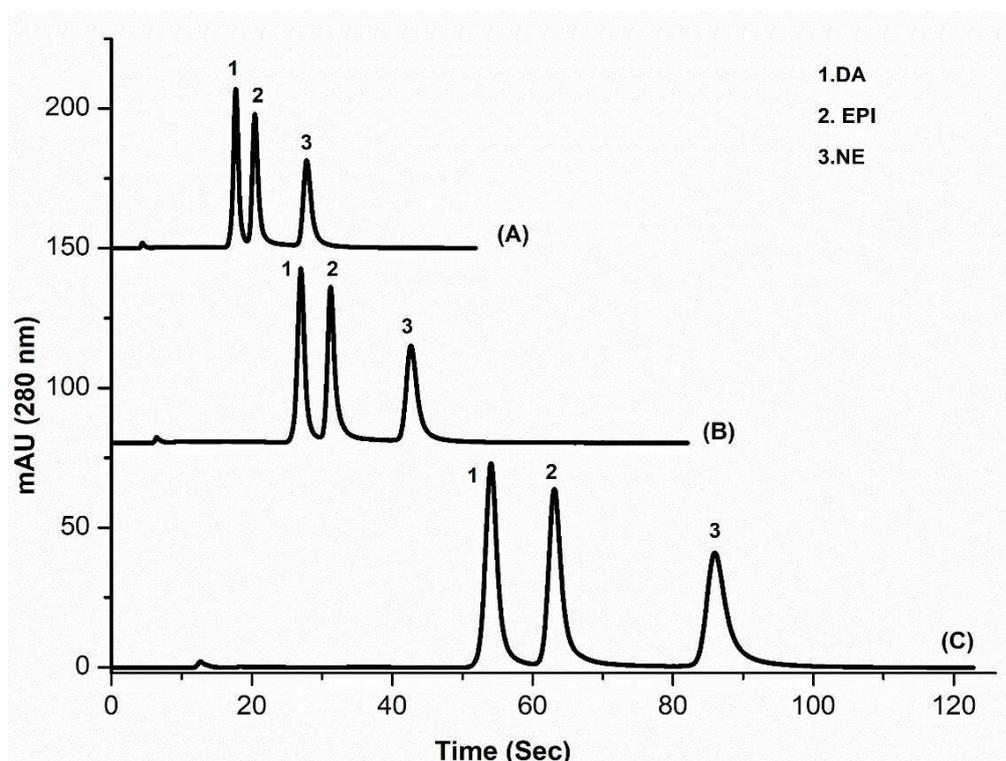
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**Figure S1.** Effect of the mobile phase pH on the retention time of a mixture of 500 μM each of DA, EPI, and NE. Mobile phase: 15:85, ACN: 10 mM ammonium formate pH 3 (A) and 10 mM acetate pH 5 (B) Column: Poro-shell Z-HILIC (2.1 × 50 mm, 2.7 μm), flow rate: 0.5 mL/min, injection volume: 5 μL, UV detection: 280 nm, and Temperature 23 °C.



**Figure S2.** Effect of the mobile phase flow rate on the retention time of a mixture of 500  $\mu\text{M}$  each of DA, EPI, and NE. Mobile phase: ACN: 10 mM ammonium formate pH 3 (85:15). Column: Poro-shell Z-HILIC ( $2.1 \times 50$  mm,  $2.7 \mu\text{m}$ ), injection volume: 1  $\mu\text{L}$ , UV detection: 280 nm, Temperature 23  $^{\circ}\text{C}$  flow rate: 1.5 mL/min (A), 1 mL/min (B), 0.5 mL/min (C).

**Table S1.** Linear regression parameters of calibration curves, and precision data with HPLC-UV at 280 nm.

Analyte	Linear Range ( $\mu\text{M}$ )	Linear Regression Equation	Correlation Coefficient ( $R^2$ )	Intra-Day (%) <sup>a</sup>	Inter-Day (%) <sup>b</sup>
DA	50–500	$y = 0.6248x - 1.6397$	0.999	0.16	0.41
EPI	50–500	$y = 0.6349x - 0.088$	0.999	0.14	0.31
NE	50–500	$y = 0.639x - 5.0173$	0.999	0.28	0.6

<sup>a</sup> Intra-day (%) calculated from three measurements within one experiment for the retention time at 500  $\mu\text{M}$  of each standard.

<sup>b</sup> Inter-day (%) calculated from three measurements within three different days for the retention time at 500  $\mu\text{M}$  of each standard.