

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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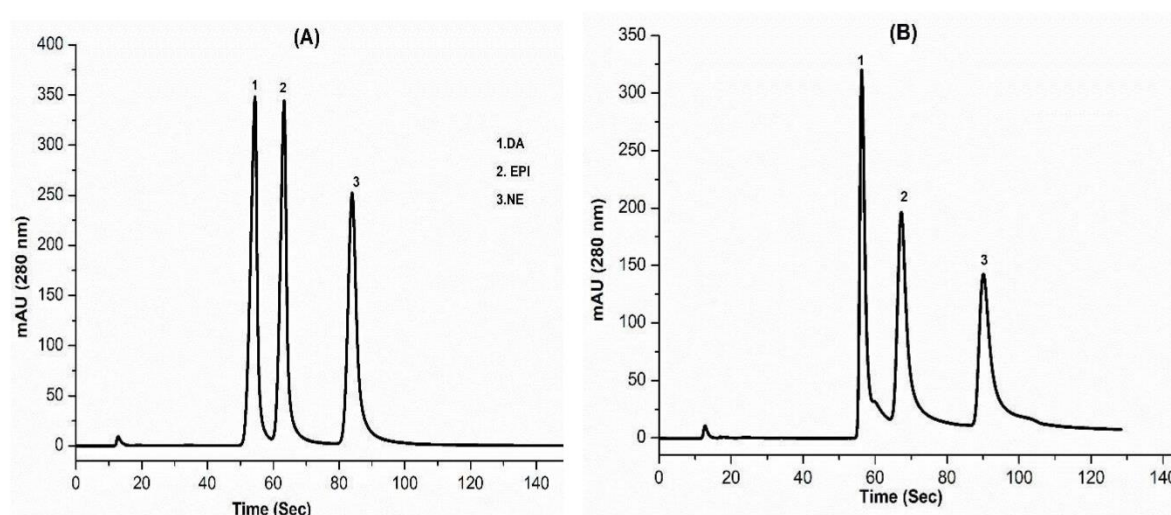


Figure S1. Effect of the mobile phase pH on the retention time of a mixture of 500 μ M each of DA, EPI, and NE. Mobile phase: 15:85, ACN: 10 mM ammonium formate pH 3 (A) and 10 mM acetate pH 5 (B) Column: Poro-shell Z-HILIC (2.1 \times 50 mm, 2.7 μ m), flow rate: 0.5 mL/min, injection volume: 5 μ L, UV detection: 280 nm, and Temperature 23 $^{\circ}$ C.

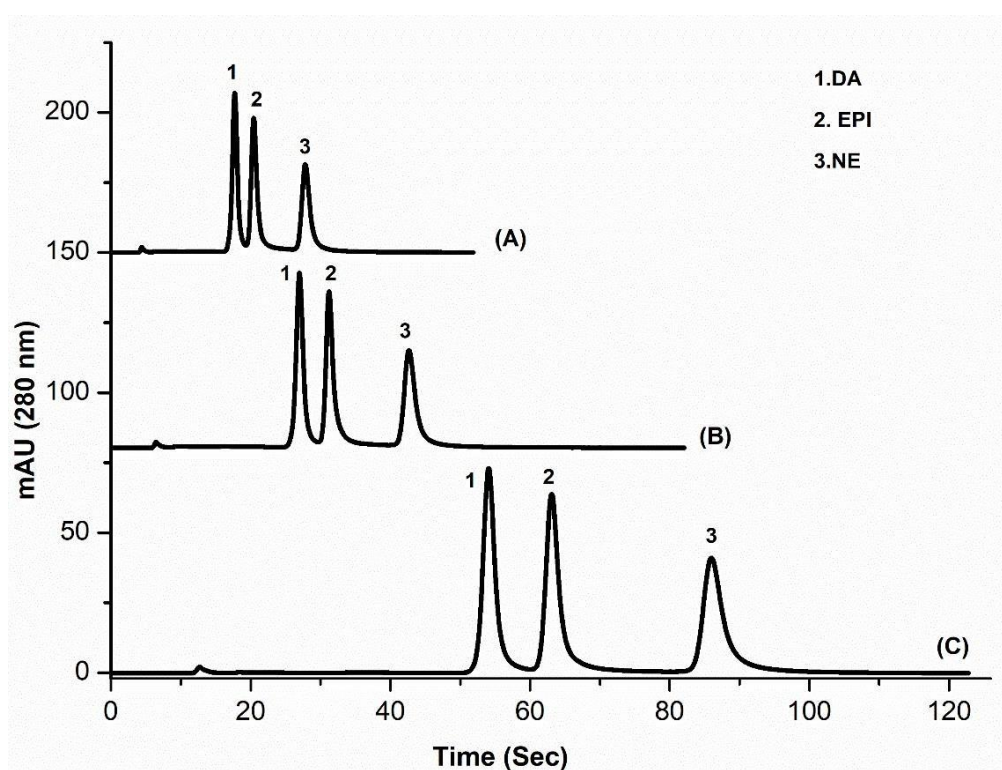


Figure S2. Effect of the mobile phase flow rate on the retention time of a mixture of 500 µM each of DA, EPI, and NE. Mobile phase: ACN: 10 mM ammonium formate pH 3 (85:15). Column: Poro-shell Z-HILIC (2.1 × 50 mm, 2.7 µm), injection volume: 1 µL, UV detection: 280 nm, Temperature 23 °C flow rate: 1.5 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 (µM)	Linear Regression Equation	Correlation Coefficient (R^2)	Intra-Day (%) ^a	Inter-Day (%) ^b
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

^a Intra-day (%) calculated from three measurements within one experiment for the retention time at 500 µM of each standard.

^b Inter-day (%) calculated from three measurements within three different days for the retention time at 500 µM of each standard.