

Supporting Information

CO₂ Modified Solvents for Chromatographic Separation

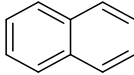
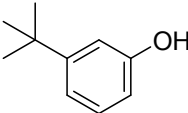
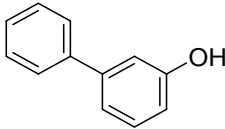
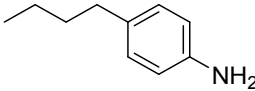
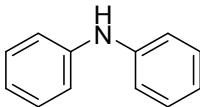
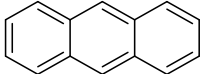
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Table S-1. Analytes structure, $\log P$ and pK_a values*.

Number	Analyte	Structure	$\log P$	pK_a (pK_{aH})
1	Naphthalene		3.0	-
2	3- <i>tert</i> -Butylphenol		3.2	10.1
3	3-Phenyl phenol		3.3	9.8
4	4-Butylaniline		3.0	4.9
5	Diphenylamine		3.4	0.8
6	Anthracene		4.0	-

*Chemicalize.org (ChemAxon®) used for prediction of $\log P$ and pK_a values, June 2016.

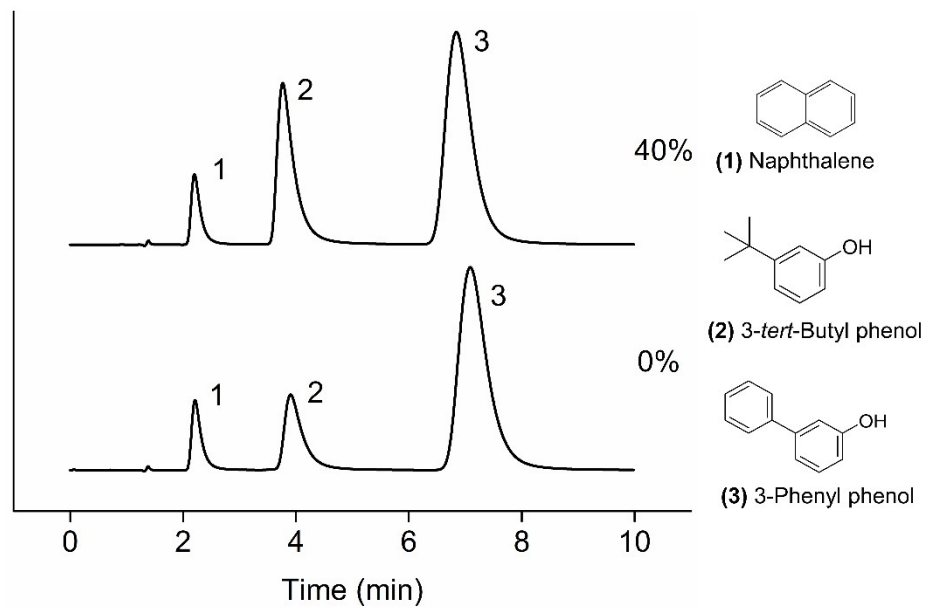


Figure S-1. Chromatograms of 0% and 40 % CO₂ saturated solvents for mixture of naphthalene, 3-*tert*-butylphenol, 3-phenylphenol. Conditions: Eprogen WCX CM-300 column; solvent A: 95% H₂O/5% acetonitrile; solvent B: CO₂ saturated solvent A; isocratic; flow rate: 1 mL/min; UV 254 nm.

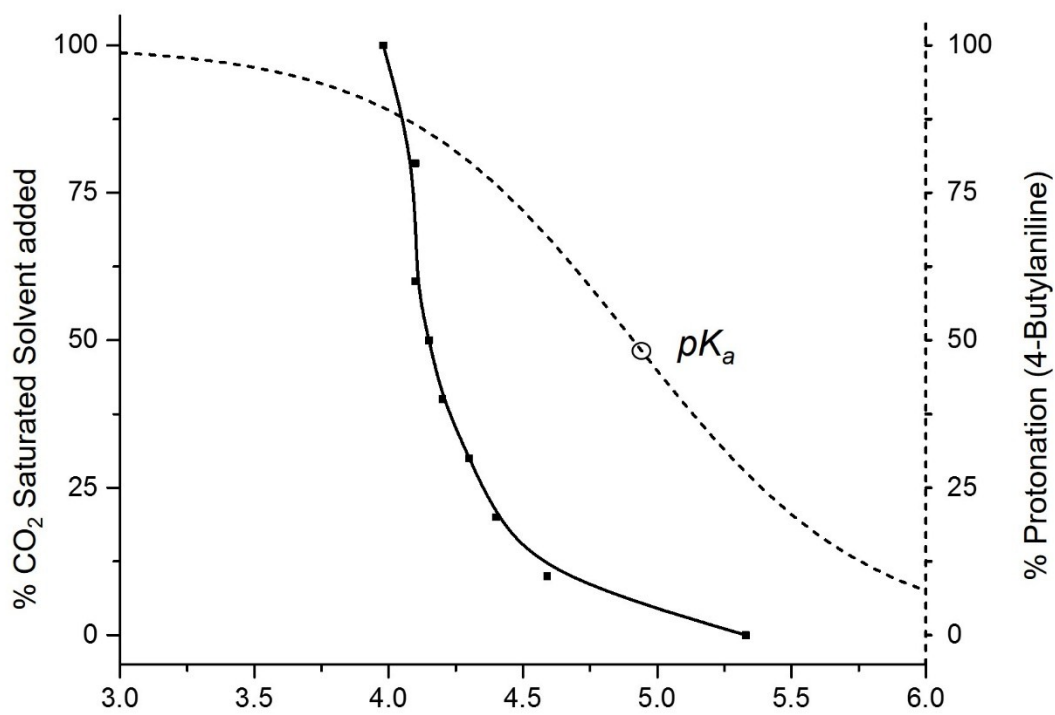


Figure S-2. Plot of pH vs percentage of CO₂ saturated water in HPLC as the mobile phase (solid line), percentage protonation of 4-butylaniline versus pH (dashed line).

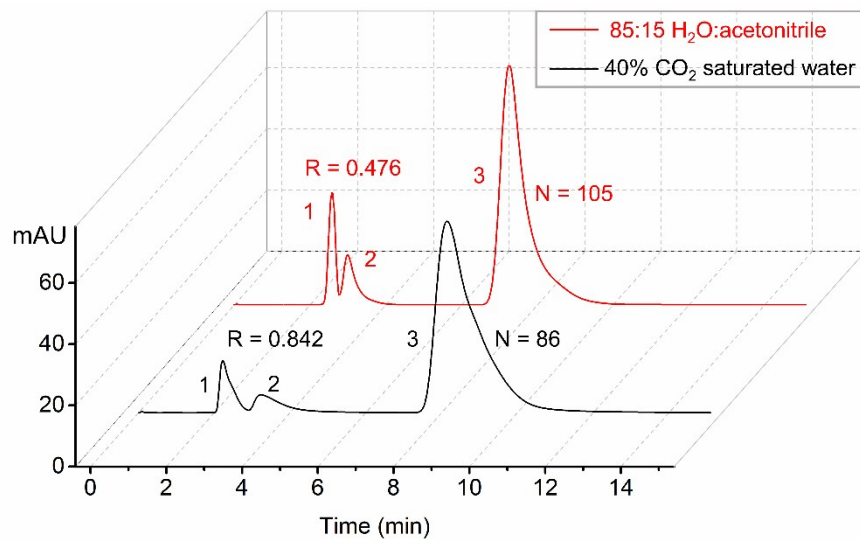


Figure S-3: Comparison of an acetonitrile/H₂O and a CO₂saturated water mobile phase based separation of using the PEI column.