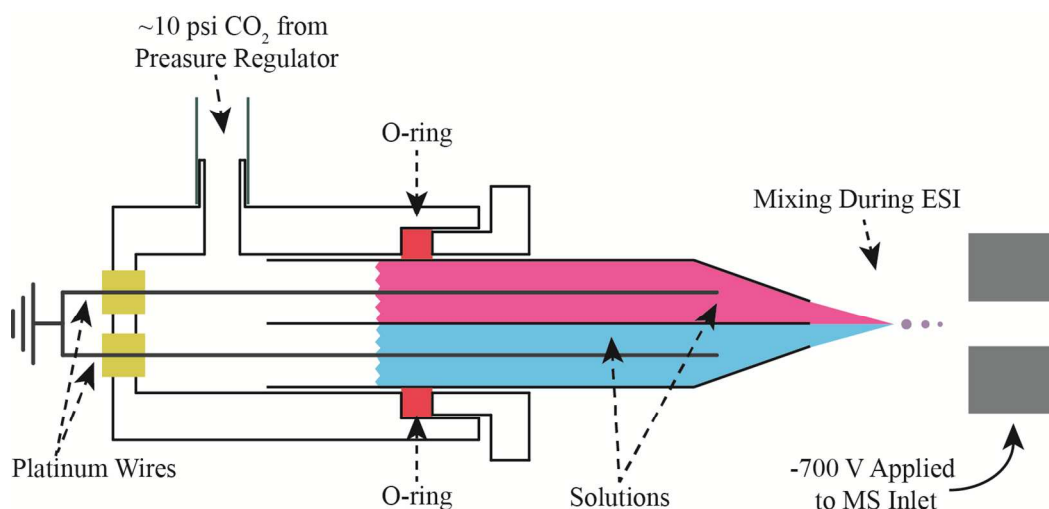


Supporting Information

Theta-Glass Capillaries in Electrospray Ionization: Rapid Mixing and Short Droplet Lifetimes

Daniel Mortensen and Evan Williams*

Department of Chemistry, University of California, Berkeley, California 94720-1460



Scheme S-1 A schematic diagram of the experimental setup showing the grounded platinum wires in contact with the solutions in each barrel of the theta-glass emitter. Electrospray was initiated by applying a potential of ~ -700 V to the inlet of the mass spectrometer, and a backing pressure of ~ 10 psi (CO₂) was applied to the solutions during electrospray using a pressure regulator.

The relative ionization efficiency of oxidized DCIP to reduced DCIP

The relative ionization efficiency of the oxidized form of 2,6-dichloroindophenol (oDCIP) with respect to its reduced form (rDCIP) was measured by preparing a solution containing oDCIP and 18-crown-6 (18C6) and a solution containing rDCIP and 18C6, all at 10 μ M concentrations and at pH = 3. The most abundant ion in the ESI mass spectra of both solutions is $[18\text{C}6 + \text{K}]^+$, which was used as an internal standard. The relative abundances of $[\text{oDCIP} + \text{H}]^+$ and $[\text{rDCIP} + \text{H}]^+$ were 24.4 ± 4.0 and 25.5 ± 2.0 , respectively (representative mass spectra of the solutions containing oDCIP and rDCIP are shown in Figure S-1 a and b, respectively). The relative ionization efficiency of oDCIP to rDCIP was determined from these results and is 1.0 ± 0.2 .

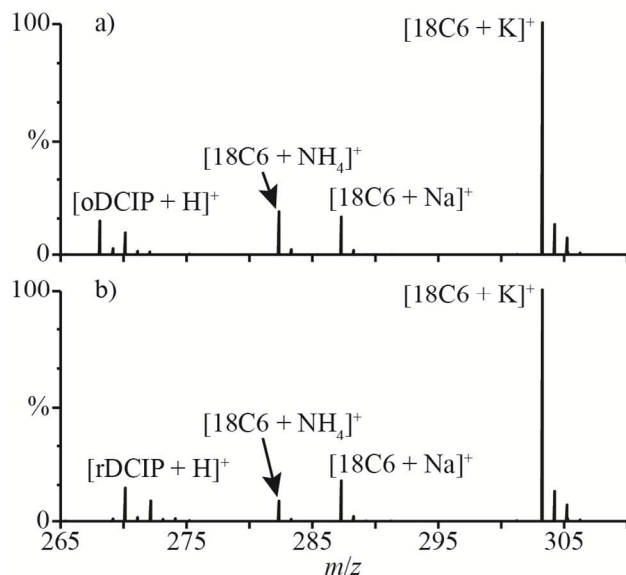


Figure S-1 Representative mass spectra of aqueous solutions containing (a) oDCIP and 18C6 (pH = 3) and (b) rDCIP and 18C6, all at 10 μ M concentrations and at pH = 3.