

Supplementary information

A facile approach to create sensitive and selective Cu(II) sensors on carbon fiber microelectrodes

Uma Nudurupati,^a Terdha Narla^b, David Punihaole^{a,c}, Yangguang Ou^{a,c*}

- a. Department of Chemistry, University of Vermont.
- b. Department of Pharmacology, University of Vermont
- c. Pipeline Investigator in Vermont Centre for Cardiovascular and Brain Health, University of Vermont

*Corresponding author

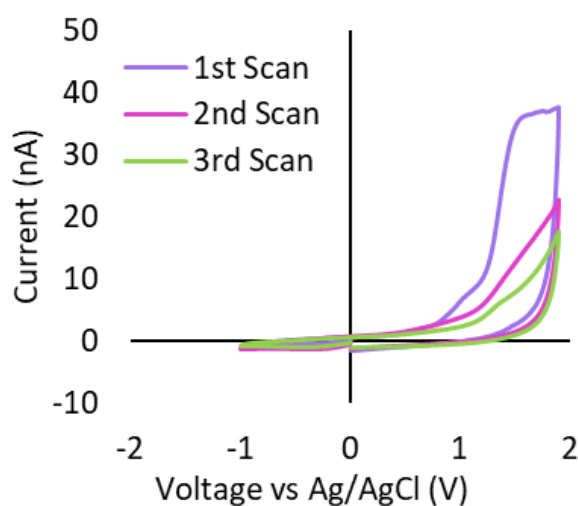


Figure S1 Representative CV recorded during electrodeposition of DEB on carbon fiber. The characteristic peak attributed to the alkynyl radical is observed between 1.5 – 1.9 V vs Ag/AgCl. Over subsequent scans the current for this peak is decreasing.

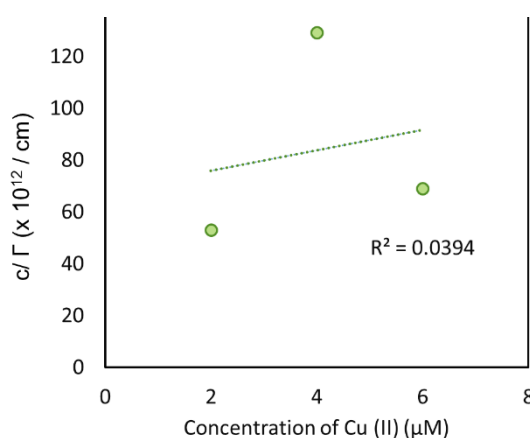


Figure S2 Cu(II) Linearized adsorption isotherm for 3-Scan DEB coated carbon fiber micro electrode shows a poor fit, in congruence with the heterogeneous surface seen in the SEM in figure 3(c).

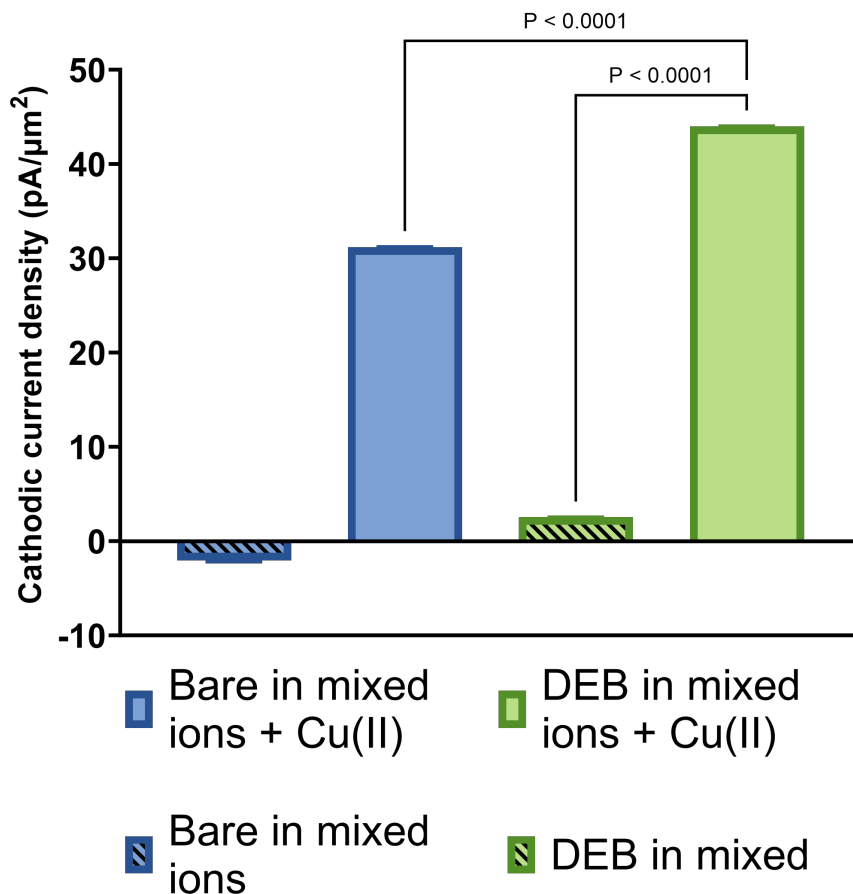
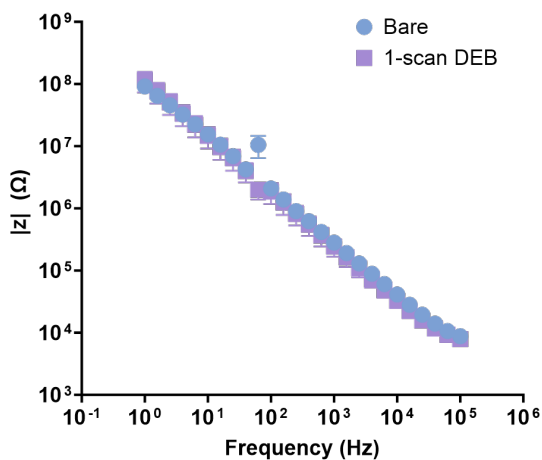


Figure S3. Plot of cathodic current density for either bare or 3-scan DEB modified electrodes responding to either mixed metal ions alone (solid color) or mixed metals with Cu(II) (striped color).

(a)



(b)

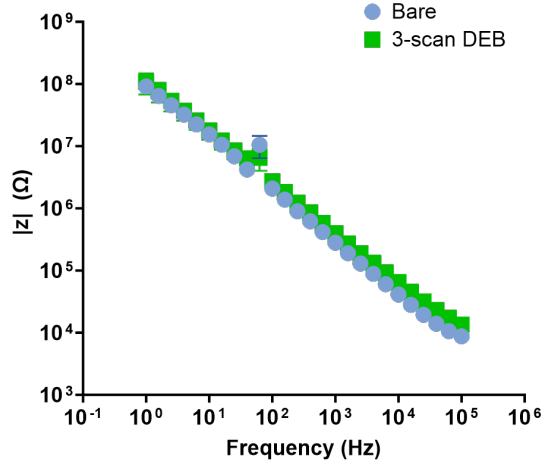


Figure S4. Bode plots (not normalized to surface area) comparing and contrasting (a) bare (blue) with 1-scan DEB coated carbon fiber microelectrodes (purple) and (b) bare (blue) with 3-scan DEB coated carbon fiber microelectrodes (green).