

Supplementary Information for:

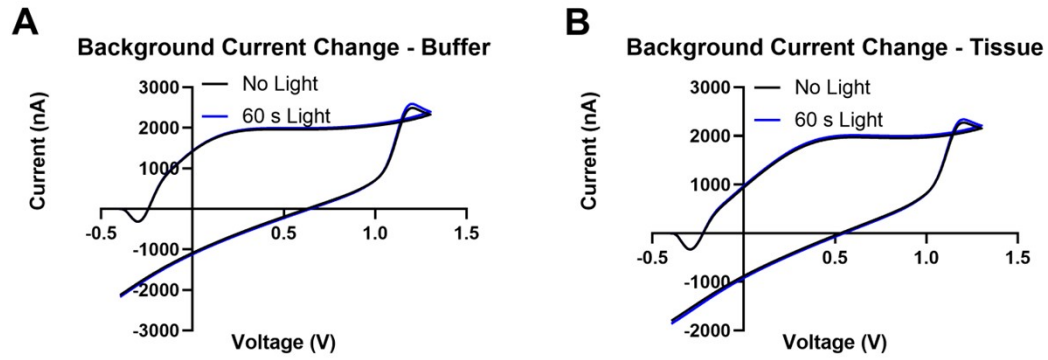
**Blue Light Enhances Background Current and Dopamine Sensitivity of Carbon-Fiber Microelectrodes During Fast-Scan Cyclic Voltammetry**

Eric D. Donarski<sup>1</sup>, David R. Luedeka<sup>1</sup>, and B. Jill Venton<sup>1,\*</sup>

<sup>1</sup>Departments of Chemistry, University of Virginia, Charlottesville, VA 22901

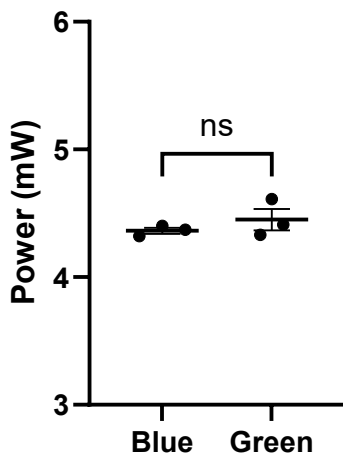
\* Corresponding author

Email: [bjv2n@virginia.edu](mailto:bjv2n@virginia.edu)

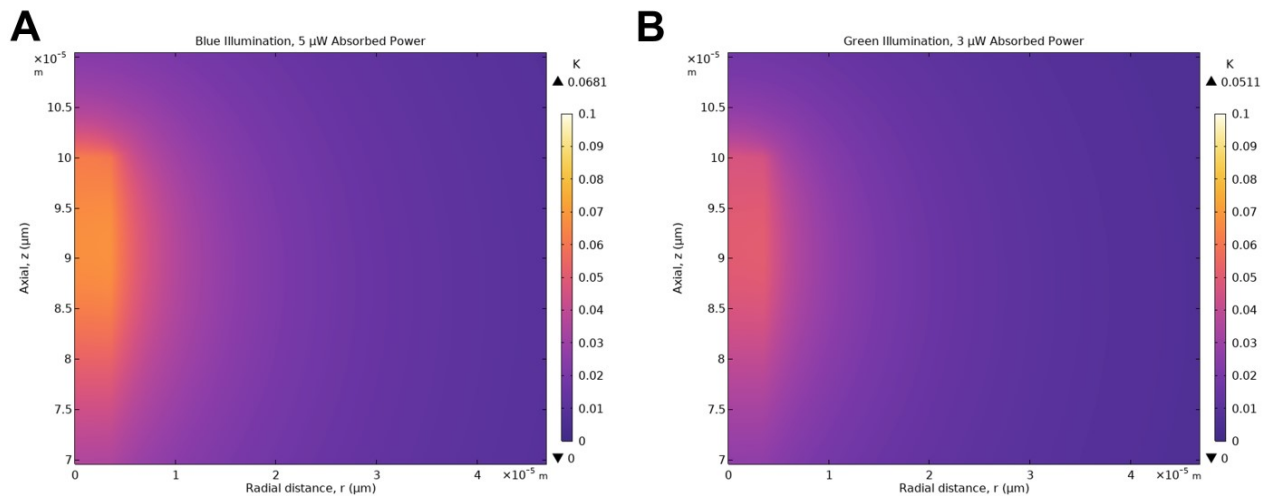


**Figure S1.** Cyclic Voltammograms Without Background Subtraction. A) Cyclic voltammogram before (black) and after (blue) 60 seconds of blue light exposure. B) Cyclic voltammogram before (black) and after (blue) 60 seconds of blue light exposure in tissue.

### Light Power Measurement



**Figure S2.** Light power measurements at point of excitation for blue and green light (t-Test,  $n = 3$ ,  $p = 0.41$ ). There is no difference in light power between the two wavelengths.



**Figure S3.** COMSOL simulations of localized photothermal heating at the carbon-fiber microelectrode (CFME) interface during optical illumination. A-B) Simulated spatial distribution of interfacial temperature rise surrounding (A) a 7  $\mu\text{m}$  diameter CFME during blue-light illumination, maximum rise is 0.068 K or (B) green-light illumination, maximum T rise is 0.051 K.