Supporting Information

Flexible Ag-C_{60} Nano-Biosensors based on Surface Plasmon Coupled Emission for Clinical and Forensic Applications

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Mobile phone based sensing of SPCE signals: Encouraged by the high selectivity and sensitivity exhibited by our GLAG/FLAG-C_{60} platforms for sensing bacteria (cf. Fig. 4) and sperm (cf. Fig. 6), we explored the possibility of sensing them in RLS setting using the camera on iPhone© to record the SPCE signals through SpectraSnapp© application (developed by the American Physical Society and available freely on the iTunes© store). In our setup, an iPhone 6 (which served as the detector) and a 1 cm^2 piece of a compact disc (which served as the diffraction grating) were assembled into a smartphone-based biosensor using black chart paper (which cut out ambient light). For the study, we employed GLAG/FLAG-C_{60} substrates coated with 10 μM concentration of RhB, which was excited with a green laser (532 nm). By a simple point-and-shoot technique, we captured the SPCE orange RhB spectral band (Fig. 6) at 580 nm. It is important to note that the orange band captured in the image moves from a light orange to red color gradient, which corresponds to RhB emission profile from ~540-620 nm that can be seen in Figs. 3 and 5.

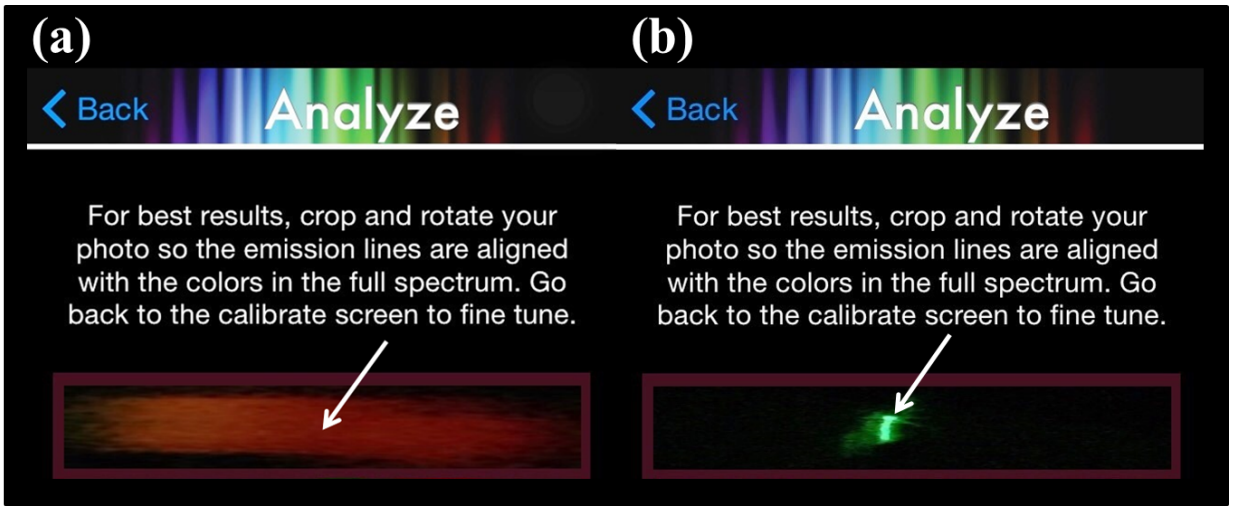

Figure S1: An iPhone 6 screen-shot representing: (a) the recorded SPCE spectral emission from micro-molar concentration of RhB on a FLAG-C_{60} substrate that corresponds to SPCE signal @580 nm and (b) a green spectral band corresponding to a 532 nm excitation source in the absence of RhB fluorophore on the FLAG-C_{60} substrate.