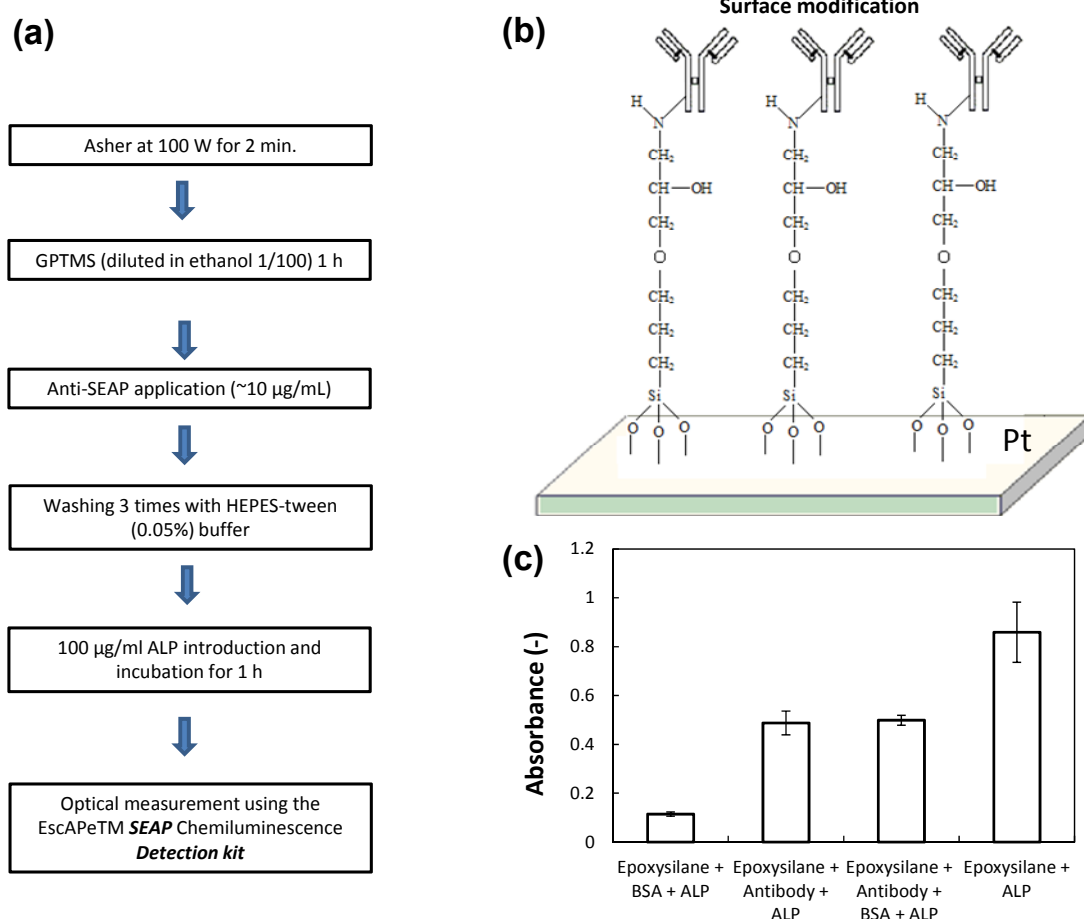
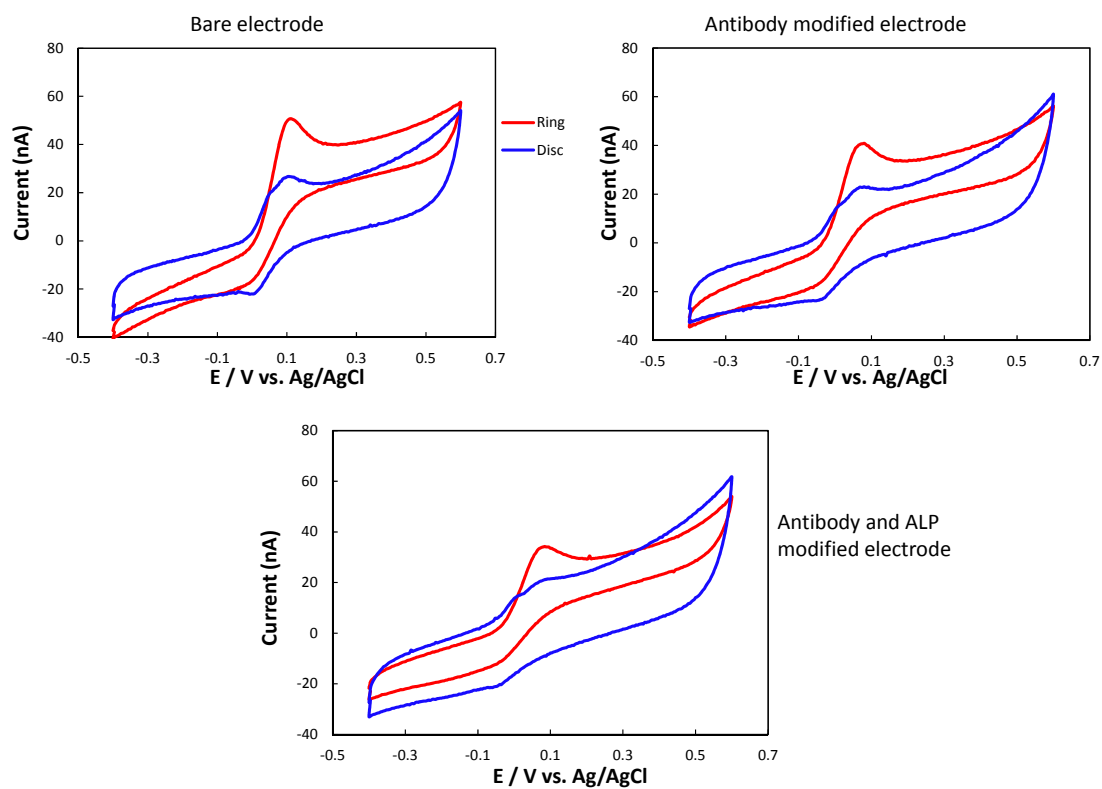


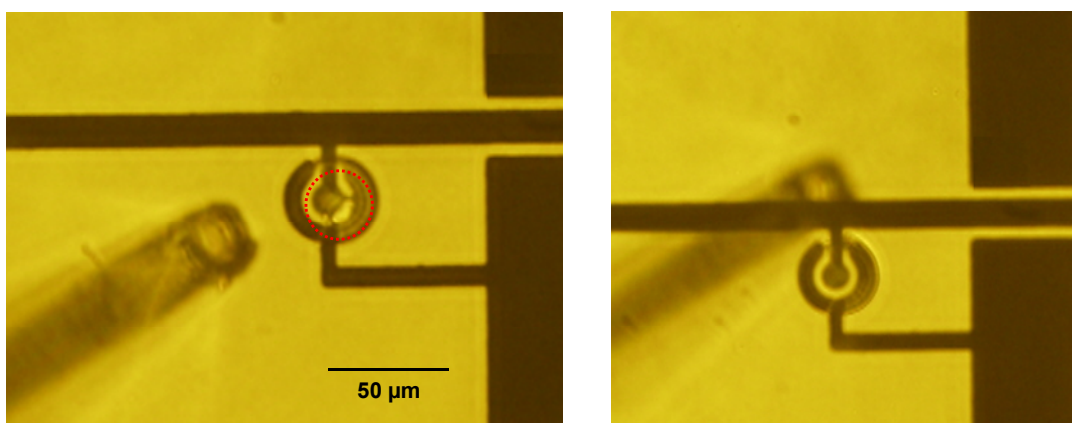
## Supporting Information



**Supporting Information Figure 1.** The modification of platinum surface with antibody. (a) The detailed modification process. For the modification process a small glass-slide sputtered with Pt (12.5×12.5 mm) was used. (b) An illustration of the antibody modification on the Pt surface. (c) Four different conditions were tested using an optical method and the results were plotted.



**Supporting Information Figure 2.** Cyclic voltammograms showing the effect of modification on electrode sensitivity. Three different conditions tested; bare electrode, antibody modified electrode and antibody + ALP modified electrode. The potential of both row (ring) and column (disk) electrodes was scanned from -0.40 to 0.60 V vs. Ag/AgCl (scan rate = 100 mV/s).



**Supporting Information Figure 3.** Images showing cell retrieval in the open microenvironment using a capillary.