**ELECTRONIC SUPPORTING INFORMATION**

# Voltametric behaviour of free DNA bases, methylcytosine and oligonucleotides at disposable screen printed graphite electrode platforms

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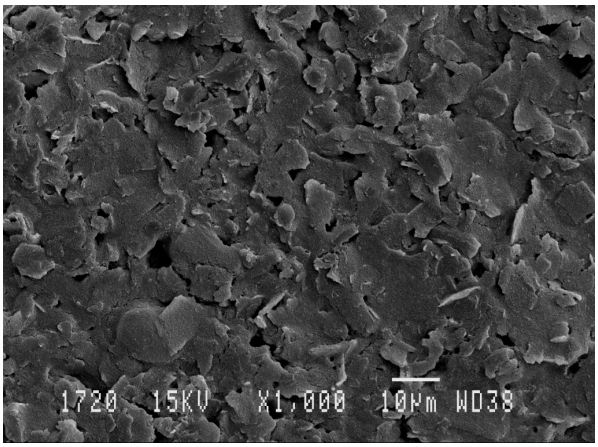


**Figure SI-1.** SEM image of the SPGE working surface.

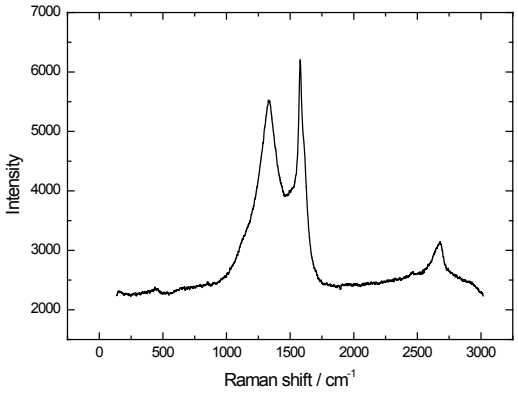


**Figure SI-2.** Raman spectrum of the SPGE working surface.

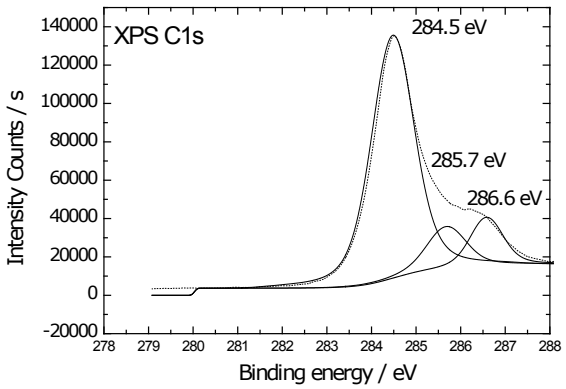


**Figure SI-3.** De-convoluted XPS spectrum of SPGE.

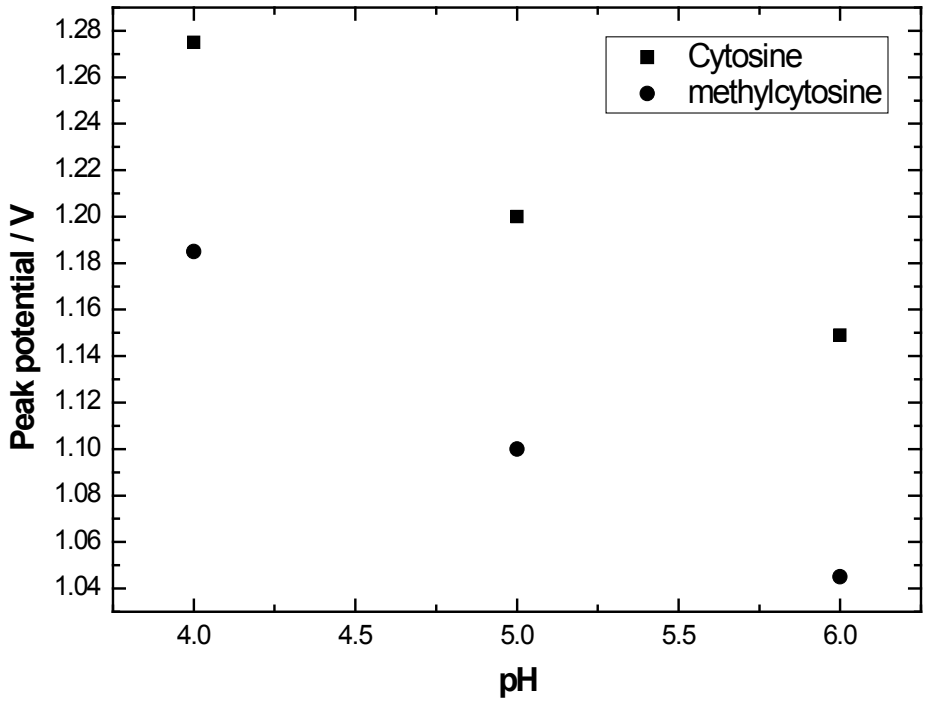


**Figure SI-4.** pH dependence of the anodic peak potential of C and mC obtained from the SWC responses of Fig. 3.

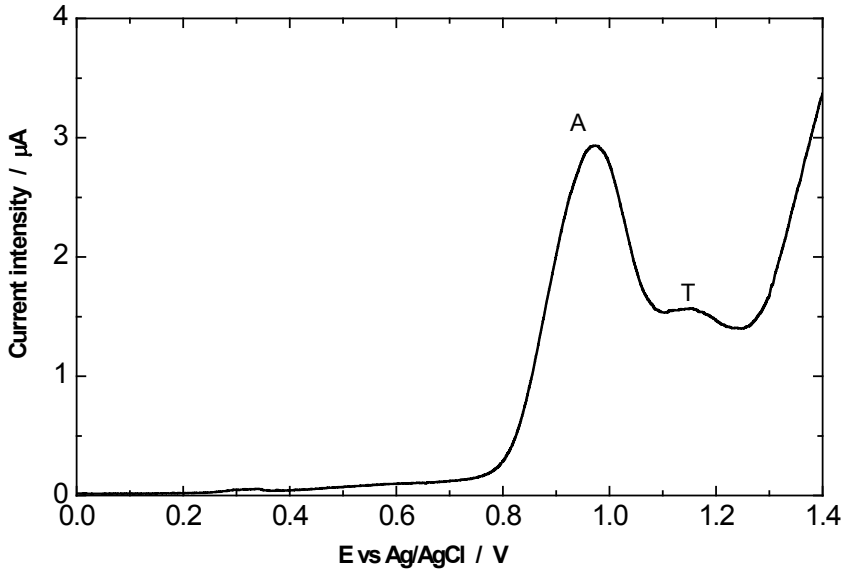


**Figure SI-5.** . SWV responses of 165 µM A plus 330 µM T at SPGE. 0.1 M acetate buffer pH 5.0;.SWV parameters: modulation amplitude, 50 mV; modulation frequency, 10 Hz; modulation step, 2 mV.

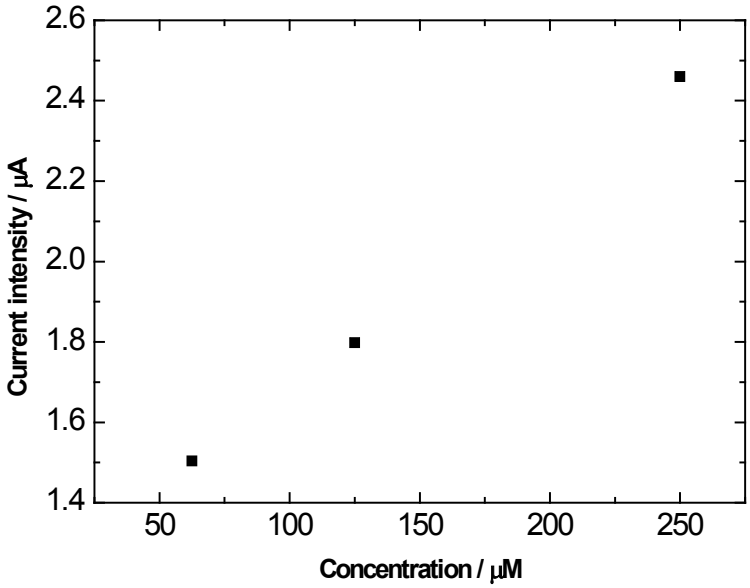


**Figure SI-6A.** Plot of anodic peak current of C with concentration in the presence of 250 µM mC in 0.1 M acetate buffer pH 5.0. Anodic peak currents were obtained from figure 5A.

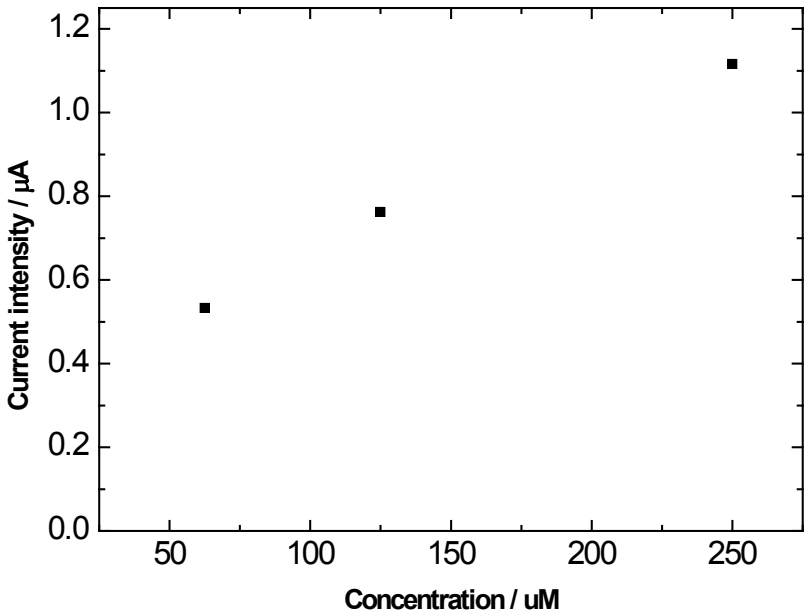


**Figure SI-6B.** Plot of anodic peak current of mC with concentration in the presence of 250 µM C in 0.1 M acetate buffer pH 5.0. Anodic peak currents were obtained from figure 5B.

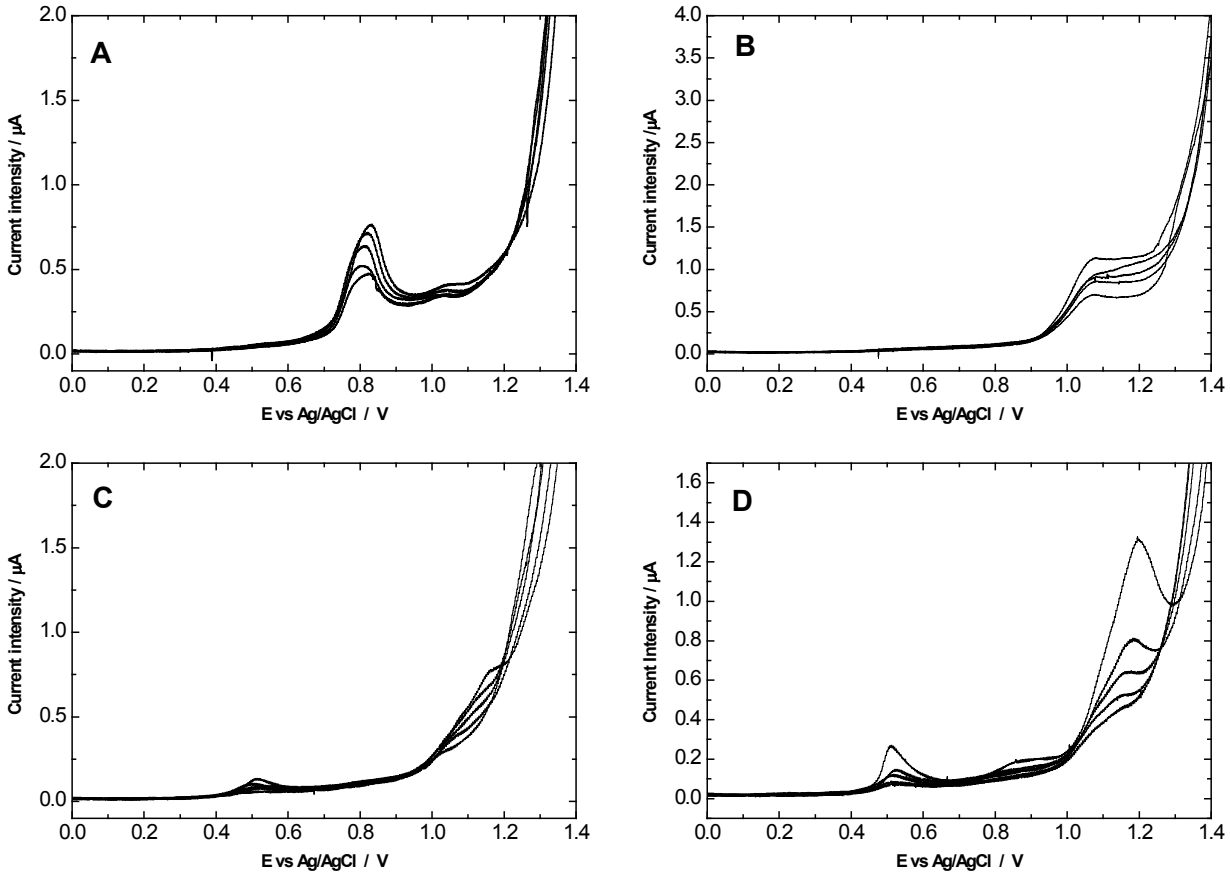


**Figure SI-7**. SWV responses of poly(G): 5′-GGGGGG-3′ (Fig. A; 300, 150, 100, 75 and 50 µM) , poly(A): 5′-AAAAAA-3′ (Fig. B; 150, 100, 75, 50 and 25 µM) , poly(T): 5′-TTTTTT-3′ (Fig. C; 300, 150, 100, 75 and 50 µM) and poly(C): 5′-CCCCCC-3′ (Fig. D; 300, 150, 100, 75 and 50 µM) with concentration at the SPGE in 0.1 M acetate buffer pH 5.0. SWV parameters: modulation amplitude, 50 mV; modulation frequency, 10 Hz; modulation step, 2 mV.

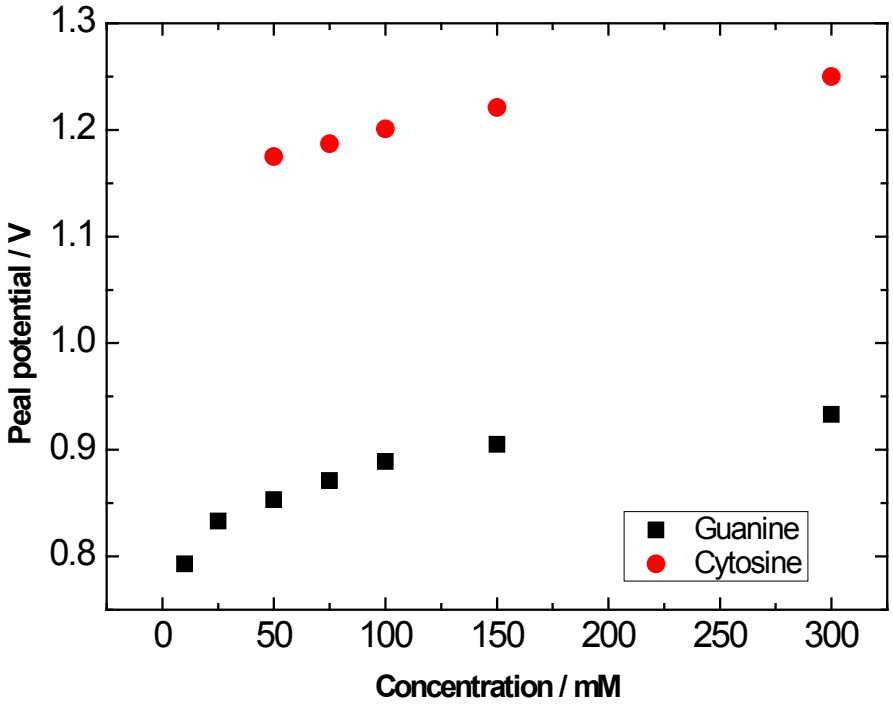


**Figure SI-8.** Plots of anodic peak potential of guanine and cytosine obtained from the SWV response of 5′-CGCGCG-3′ versus oligonucleotide concentration.

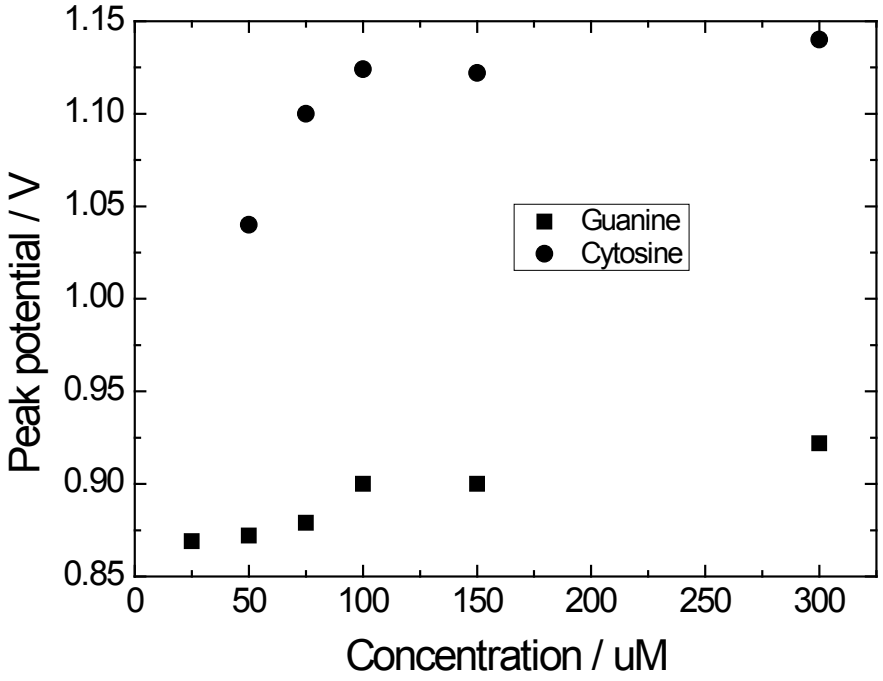


**Figure SI-9.** Plots of anodic peak potential of guanine and methylcytosine obtained from the SWV response of 5′-mCGmCGmCG-3′ versus oligonucleotide concentration.

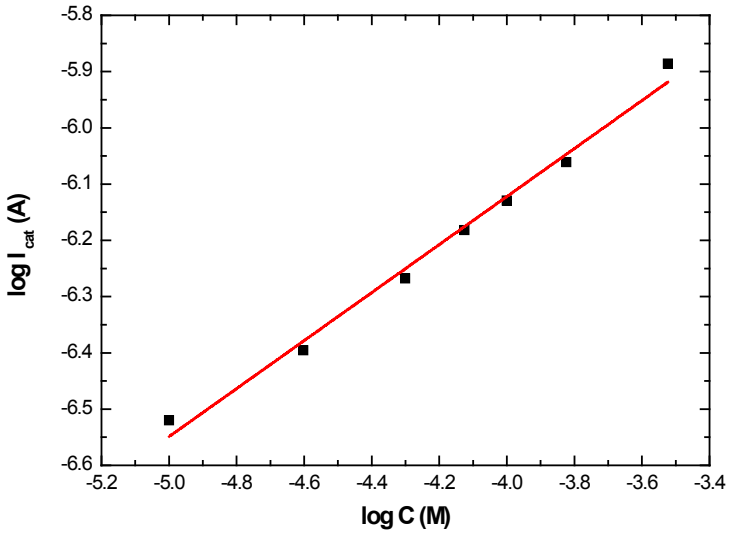


**Figure SI-10A.** Fitting results according to Freundlich model obtained from plot of electrooxidative current intensity of G versus oligonucleotide concentration from Figure 9. Oligonucleotide 5′-CGCGCG-3′ k= 25703. 1/n = 0.43 with $r^2$= 0.994.

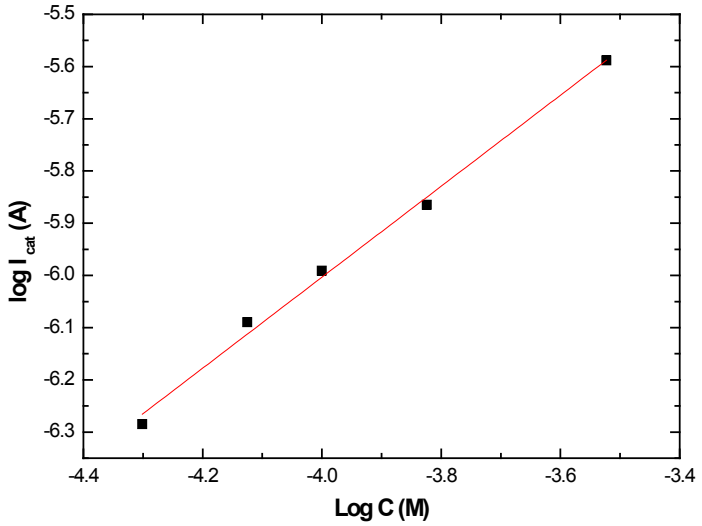


**Figure SI-10B. .** Fitting results according to Freundlich model obtained from plot of electrooxidative current intensity of C versus concentration from Figure 9. Oligonucleotide 5′-CGCGCG-3′ k= 331.1. 1/n= 0.87 with $r^2$= 0.998.

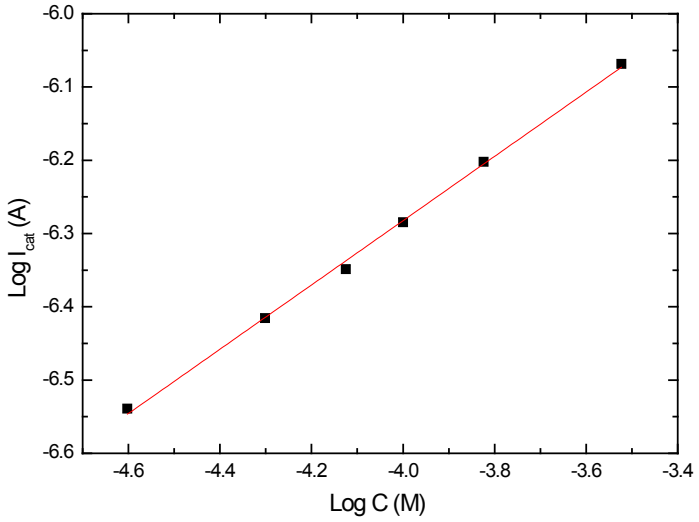


**Figure SI-11A. .** Fitting results according to Freundlich model obtained from plot of electrooxidative current intensity of G versus concentration from Figure 10. Oligonucleotide 5′-mCGmCGmCG-3′ k= 33884. 1/n = 0.44 with $r^2$= 0.999.

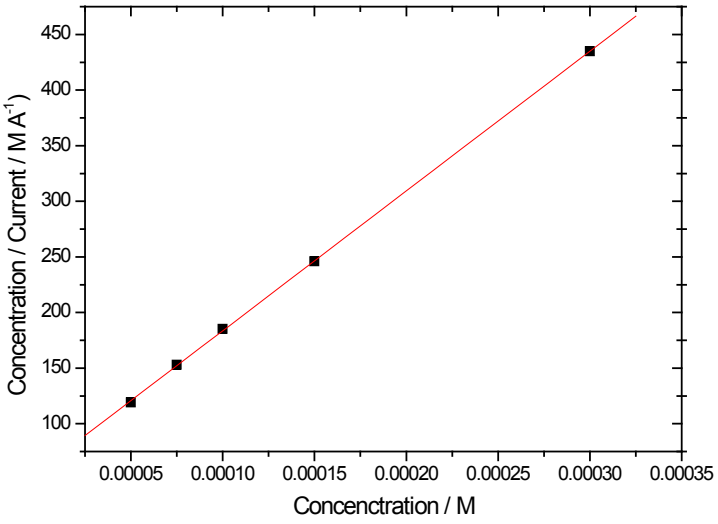


**Figure SI-11B. .** Fitting results according to Langmuir model obtained from plot of electrooxidative current intensity of mC versus concentration from Figure 10. Oligonucleotide 5′-mCGmCGmCG-3′ $r^2$= 0.9999. Calculation of the parameter β led to 0.022 $M^{-1}$, $I_{max}$= 0.796 A.