Supplementary Information


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Figure S1. Typical SEM images taken for the increasing masses of $5 \times 10^{-3}$, 10 µg & 50 µg nano-CoTAPC (A to C respectively) on the surface of a standard-SPE.
Figure S2. Raman spectra and 2D mapping of the peak obtained at 748 cm$^{-1}$ for the bulk CoPC-SPE and standard-SPEs modified with both $5 \times 10^{-3}$ and 20 µg.
**Figure S3.** Typical cyclic voltammograms utilising a standard-SPE (solid line), GCE (dashed line) and BDDE (dotted line) recorded in a blank pH 7.4 PBS and in the presence of 1 mM L-ascorbic acid. Scan rate: 100 mV s$^{-1}$.

**Figure S4.** Cyclic voltammograms recorded in the absence (solid line) and presence of 1 mM L-ascorbic acid (dashed line) in pH 7.4 PBS and plots of nano-CoTAPC mass vs. peak height of the peak obtained at $\sim +0.90$ V vs. SCE utilising a GCE (A + B) and BDDE (C + D) respectively as the underlying electrode surfaces. Scan rate: 100 mV s$^{-1}$.
**Figure S5.** Cyclic voltammograms utilising a standard-SPE modified with increasing CoPC mass in the presence of 1 mM L-ascorbic acid in pH 7.4 PBS.

**Figure S6.** Cyclic voltammograms performed over the range 5 to 500 mV s\(^{-1}\) recorded in a solution of 1 mM L-ascorbic acid in pH 7.4 PBS using a *new* CoPC-SPE for each scan rate.
Figure S7. Cyclic voltammograms utilising a standard-SPE (solid) and a bulk-CoPC SPE (dotted line) towards the sensing of 500 µM hydrazine in pH 7 PBS. Scan rate: 100 mV s\(^{-1}\).