

Electronic Supporting Information (ESI)

Figure S1

Repeat measurements, expressing a % RSD of 4.8 ($N = 3$), utilising square-wave voltammetry for the detection of $2000 \mu\text{g L}^{-1}$ lead (II) ions in pH 1.5 aqueous HCl solution at a CVD-graphene electrode. A deposition potential of -0.8 V (vs. SCE) for 40 seconds was utilised.

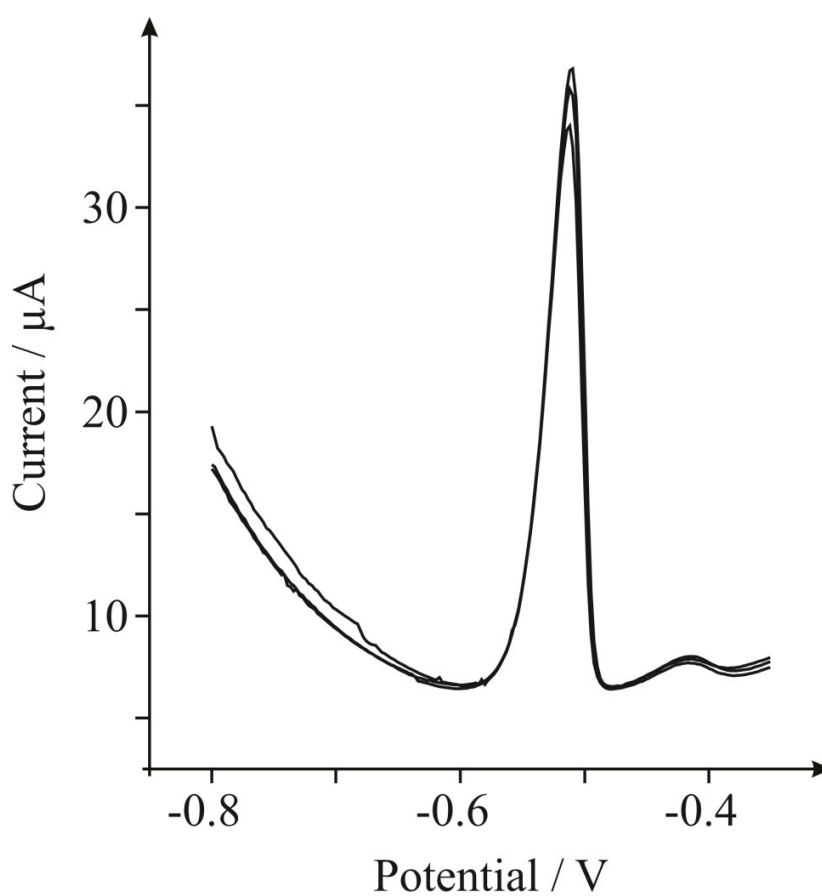
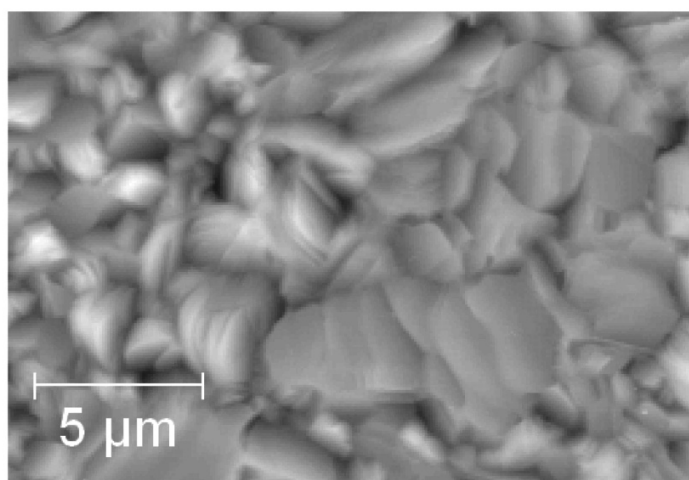


Figure S2

AFM image of the ‘as received’ commercially available CVD-graphene surface as observed from both top-down (A) and three-dimensional (B) perspectives. Note the graphene/graphitic layer is polycrystalline in nature and thus a highly disordered surface is evident.

A



B

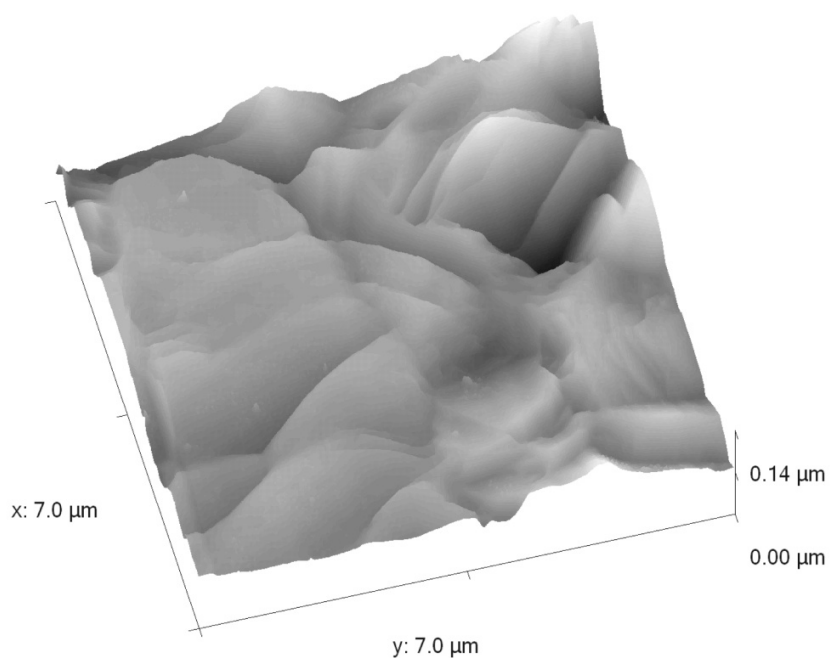


Figure S3

Raman spectra of the commercially obtained CVD-graphene grown directly onto a Ni film on an oxidised silicon wafer, showing both graphene (A) and graphitic (B) regions. Images kindly provided by the manufacturer.¹

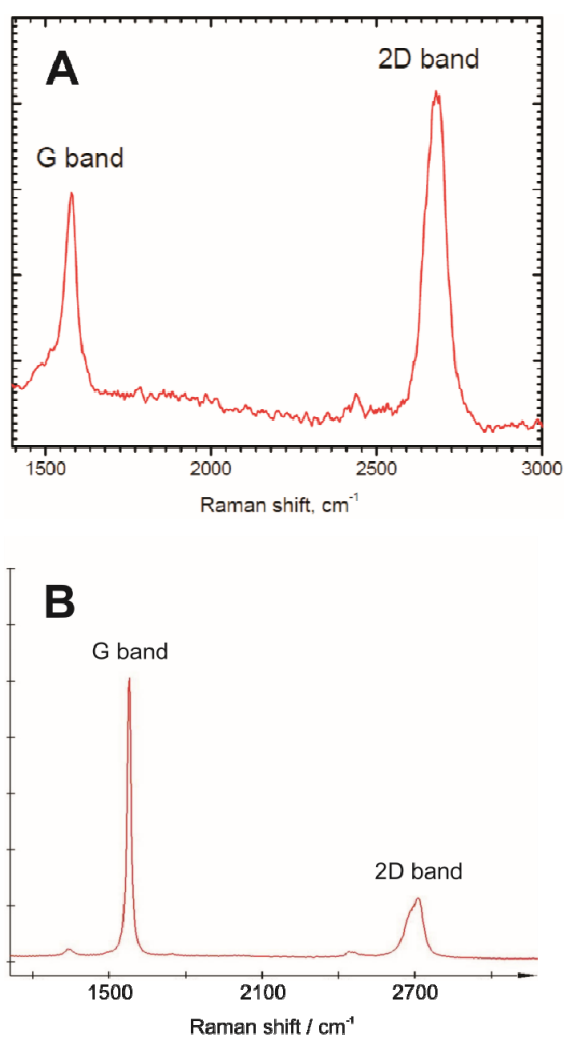
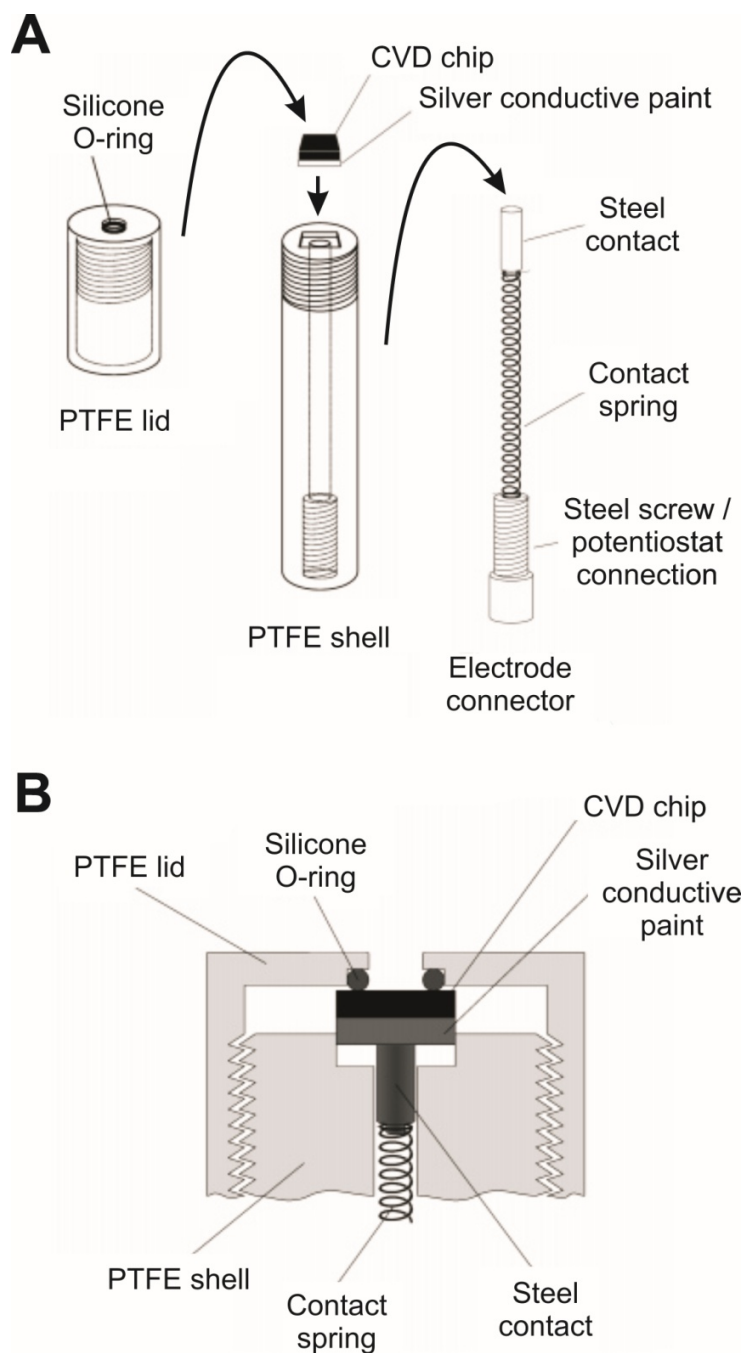


Figure S4

A) Schematic diagram of the four-part CVD-graphene substrate ‘housing’ unit. **B)** Cross-sectional view of the assembled CVD-graphene substrate working electrode when fully ‘housed’. Adapted from reference ² for exclusive use with CVD-graphene chips/substrates.



References:

- ESI1. www.graphene-supermarket.com.
ESI2. R. Bowler, T. J. Davies, M. E. Hyde and R. G. Compton, *Anal. Chem.* 2005, **77**, 1916.