# The preferential electrocatalytic behaviour of graphite and multiwalled carbon nanotubes on endiol groups and their analytical implications in real domains

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**Supplementary data**

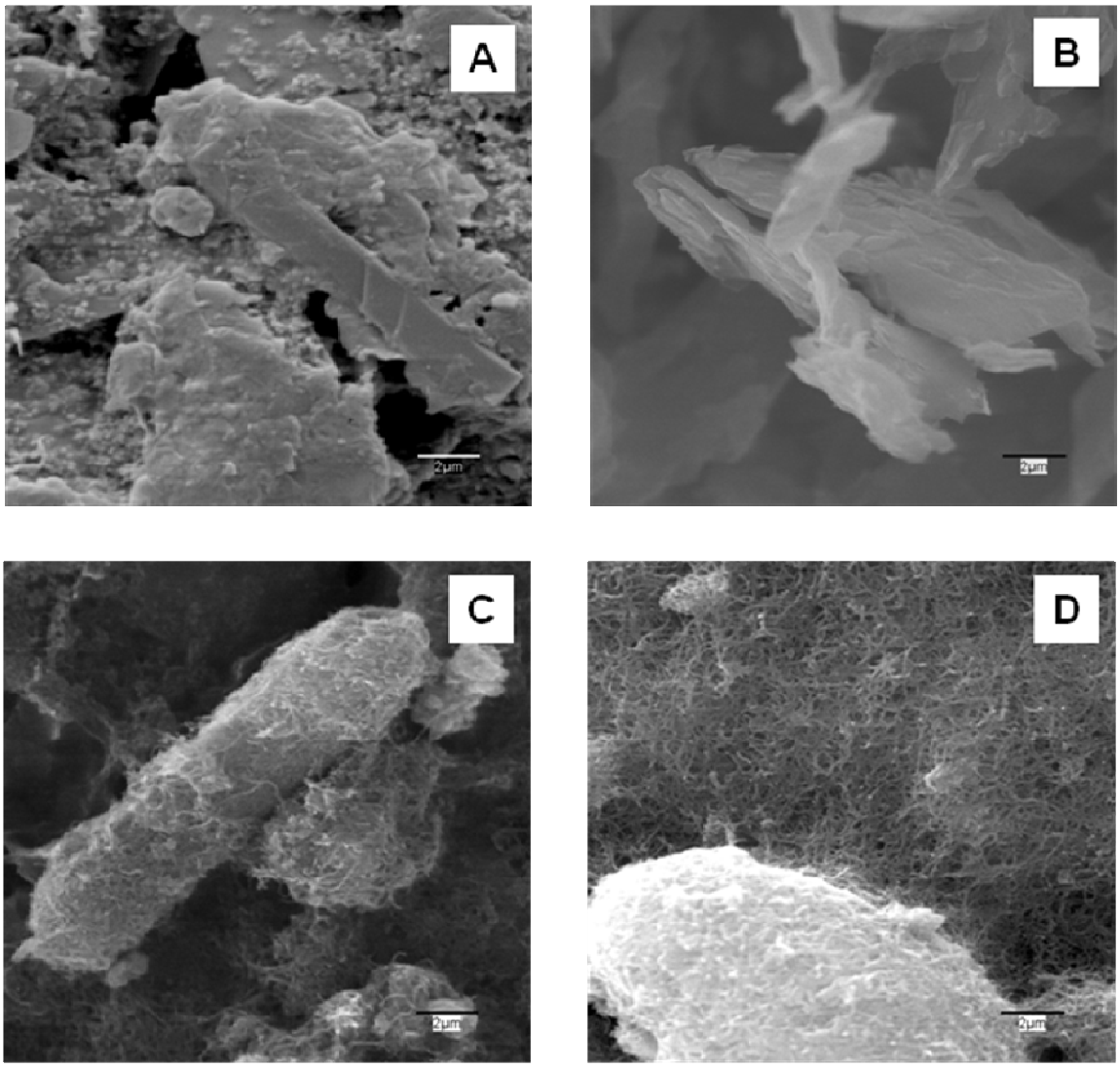


**Figure S-1.** SEM micrographs of SPE modified with different carbon materials; not modified (A), graphite (B), MWCNT-B (C) and MWCNT-A (D). Conditions: Amplification 5000x, 25 kV.

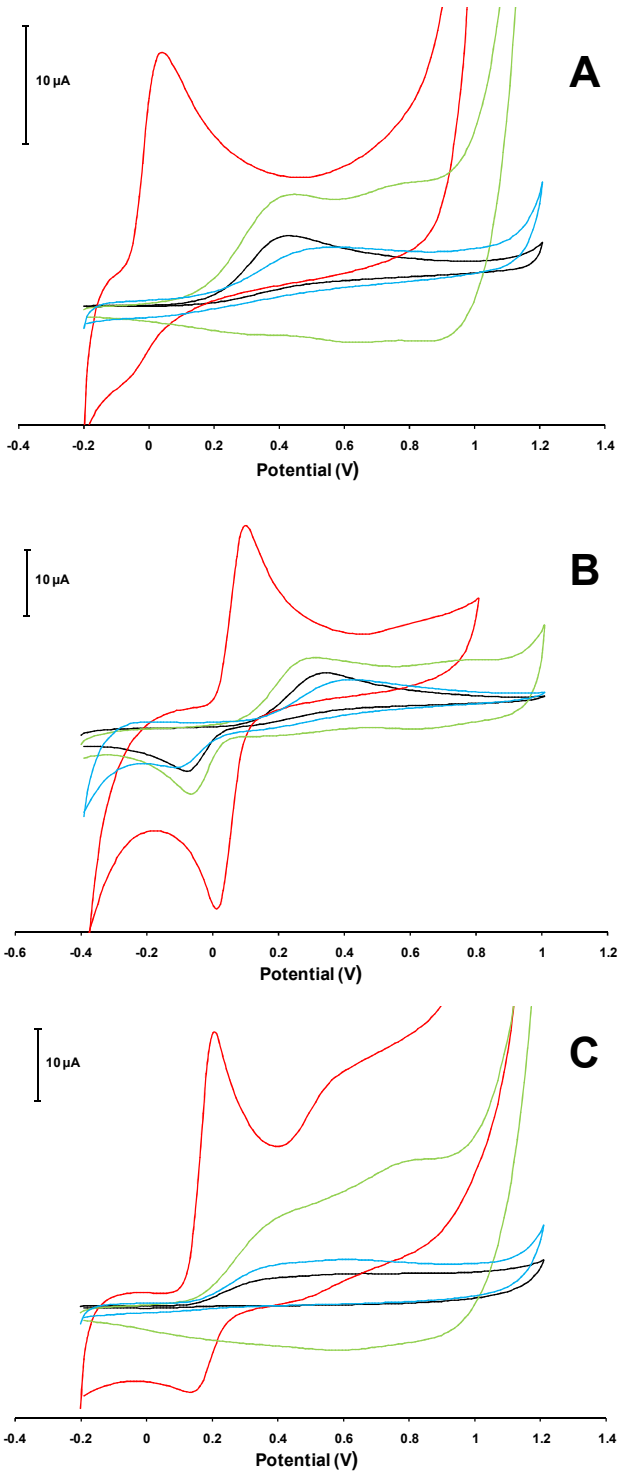


**Figure S-2.** Cyclic voltammograms for standards of ascorbic acid (A), hydroquinone (B) and catechin (C) using different modifiers for SPE; bare (black line), $Fe_3O_4$ nanoparticles (blue line), NiO nanoparticles (green line) and MWCNT-A (red line). Conditions: Scan rate 100mV/s, step potential 0.01V.

**Table S-3.** Redox peak potentials for SPE modified with metal oxide nanoparticles.

| | *SPE* | *SPE-NiO* | *SPE-$Fe_2O_3$* | *SPE-MWCNT-A* |
|---|---|---|---|---|
| **Ascorbic acid** | +0.41 | +0.39 | +0.48 | +0.03 |
| **Hydroquinone** | +0.31[a] | +0.28[a] | +0.38[a] | +0.09[a] |
| | -0.07[b] | -0.06[b] | -0.10[b] | +0.01[b] |
| **Catechin** | +0.33[a] | +0.37[a] | +0.40[a] | +0.20[a] |
| | +0.04[b] | - | +0.08[b] | +0.15[b] |

[a] anodic sweep
[b] catodic sweep

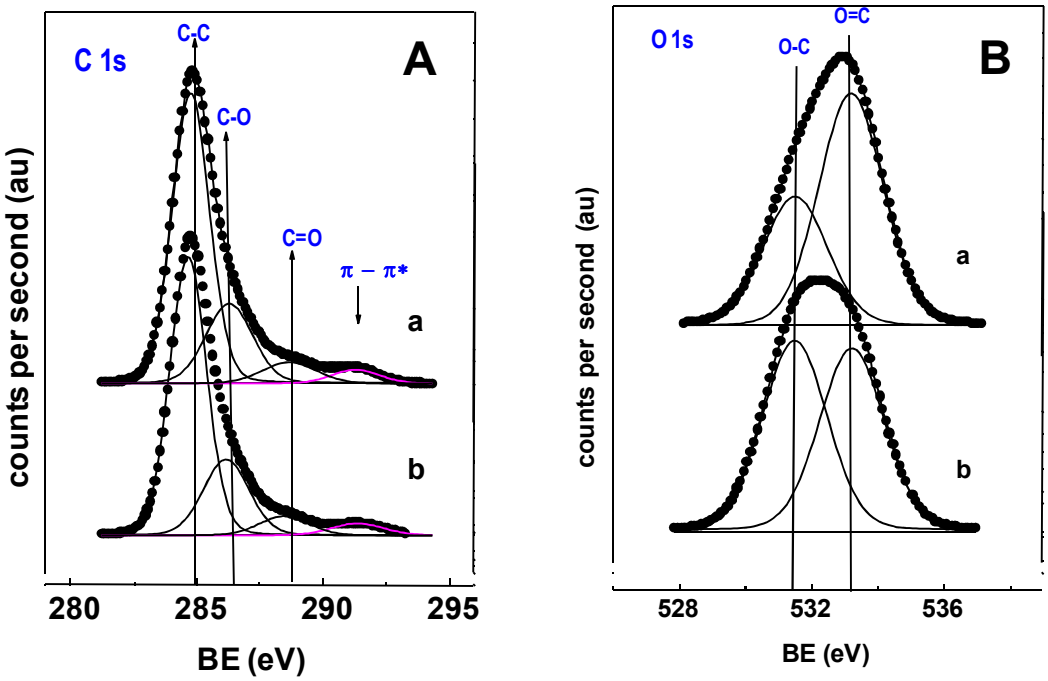


**Figure S-4.** XPS of C 1s (A) and O 1s (B) for acid treated MWCNT-A (a), untreated MWCNT-A (b).

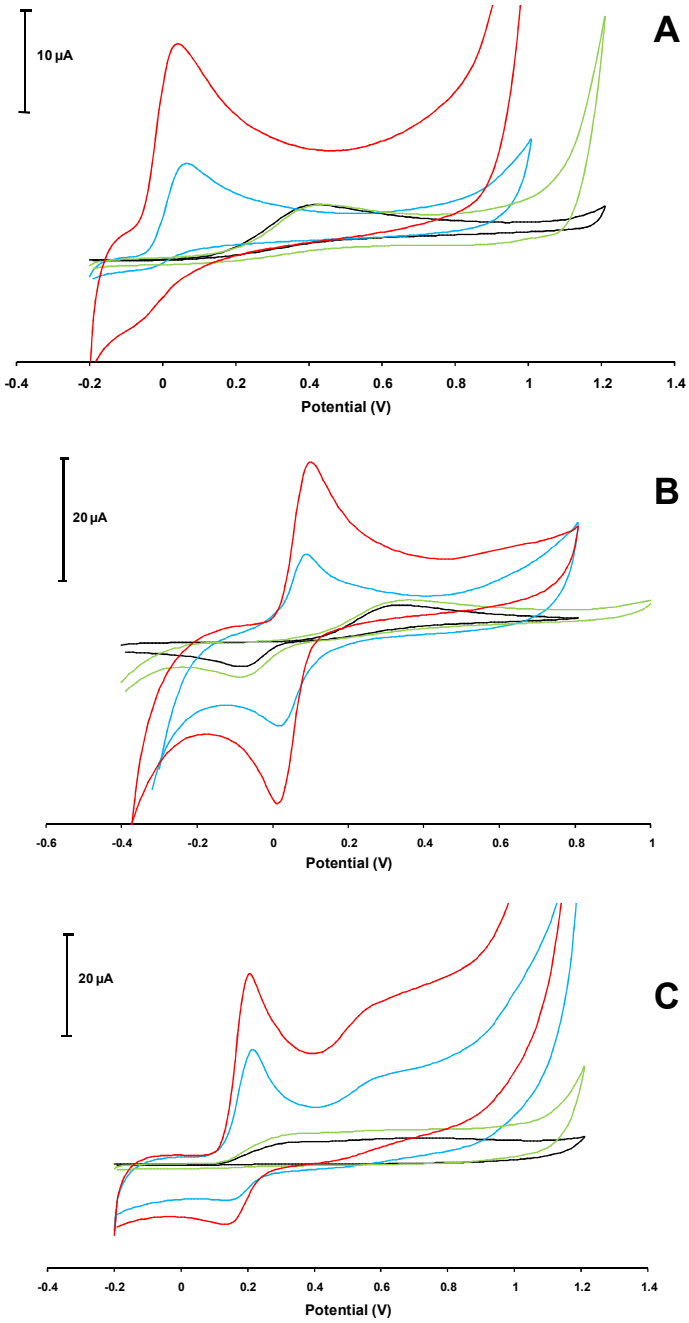


**Figure S-5.** Cyclic voltammograms for standards of 1mM ascorbic acid (A), 1mM hydroquinone (B) and 1mM (+)-catechin (C) using different SPE; bare (black line), electrochemically activated (blue line), untreated MWCNT-A (green line) and acid treated MWCNT-A (red line). Conditions: Scan rate 100mV/s, step potential 0.01V.