Supporting Information

Facile Electrochemical Demethylation of 2-MethoxyPhenolto Surface-Confined Catechol on MWCNT and its Efficient Electrocatalytic Hydrazine Oxidation and Sensing Applications

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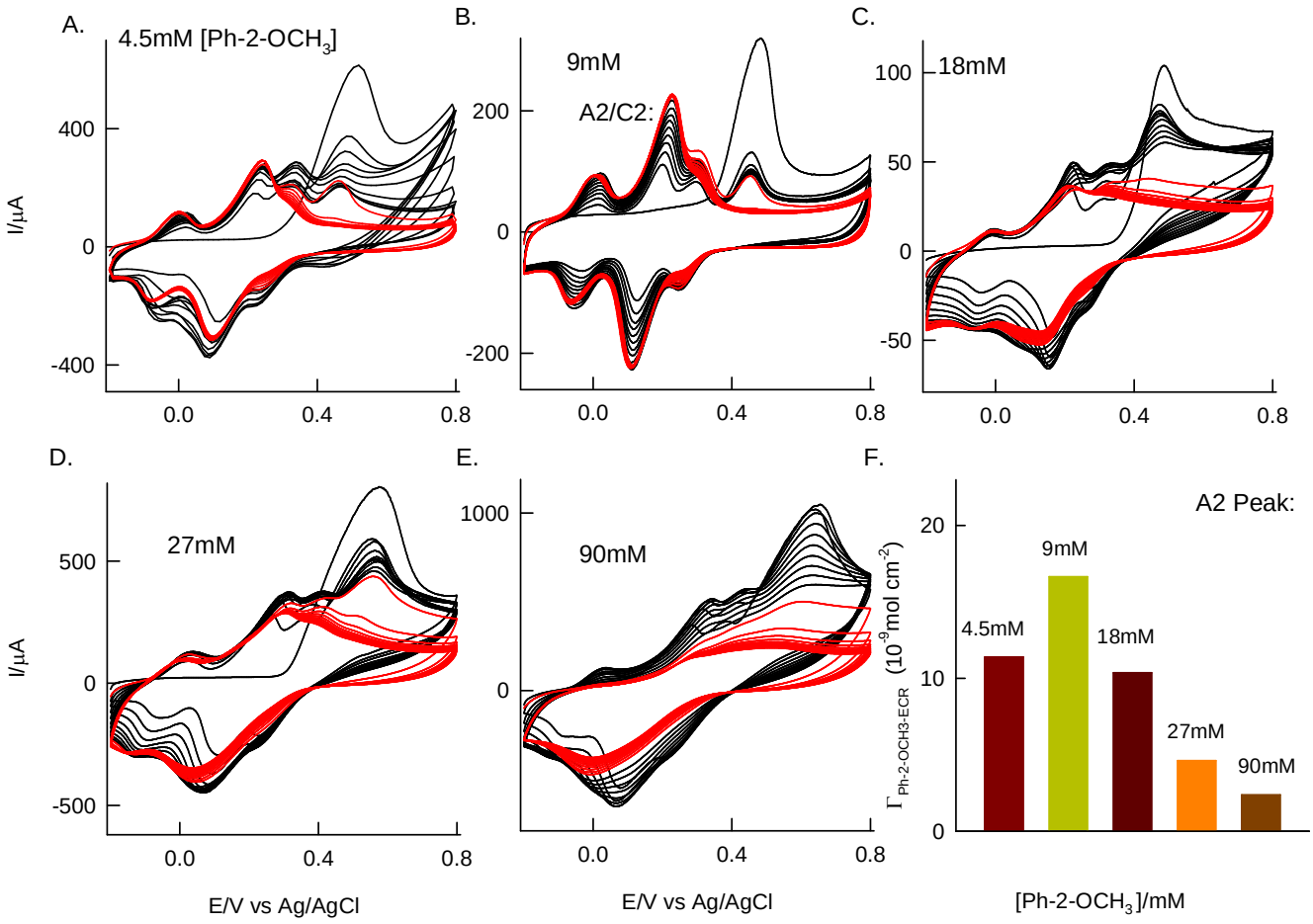

Figure S1.(A-E) Ten continuous CV responses of GCE/MWCNT with various concentrations of Ph-2-OCH_3 (4.5 to 90 mM) dissolved pH 7 PBS (a) and its medium transferred responses (b; GCE/MWCNT@CA_{DE}) in pH 7 PBS at v=50 mV s^{-1}. (F) Plot of surface excess vs Ph-2-OCH_3 concentration used for the preparation of GCE/MWCNT@CA_{DE}. Note CA_{DE} = Ph-2-OCH_3-ECR. ECR= Electrochemical reaction product.

Notes: A peak like plot of surface excess vs Ph-2-OCH_3 noticed is due to ability of the π-π interaction between the graphitic structure and aromatic portion of the analyte. Excess concentration of analyst in the procedure may leads to thick film of the product and easy surface-fouling behaviour.

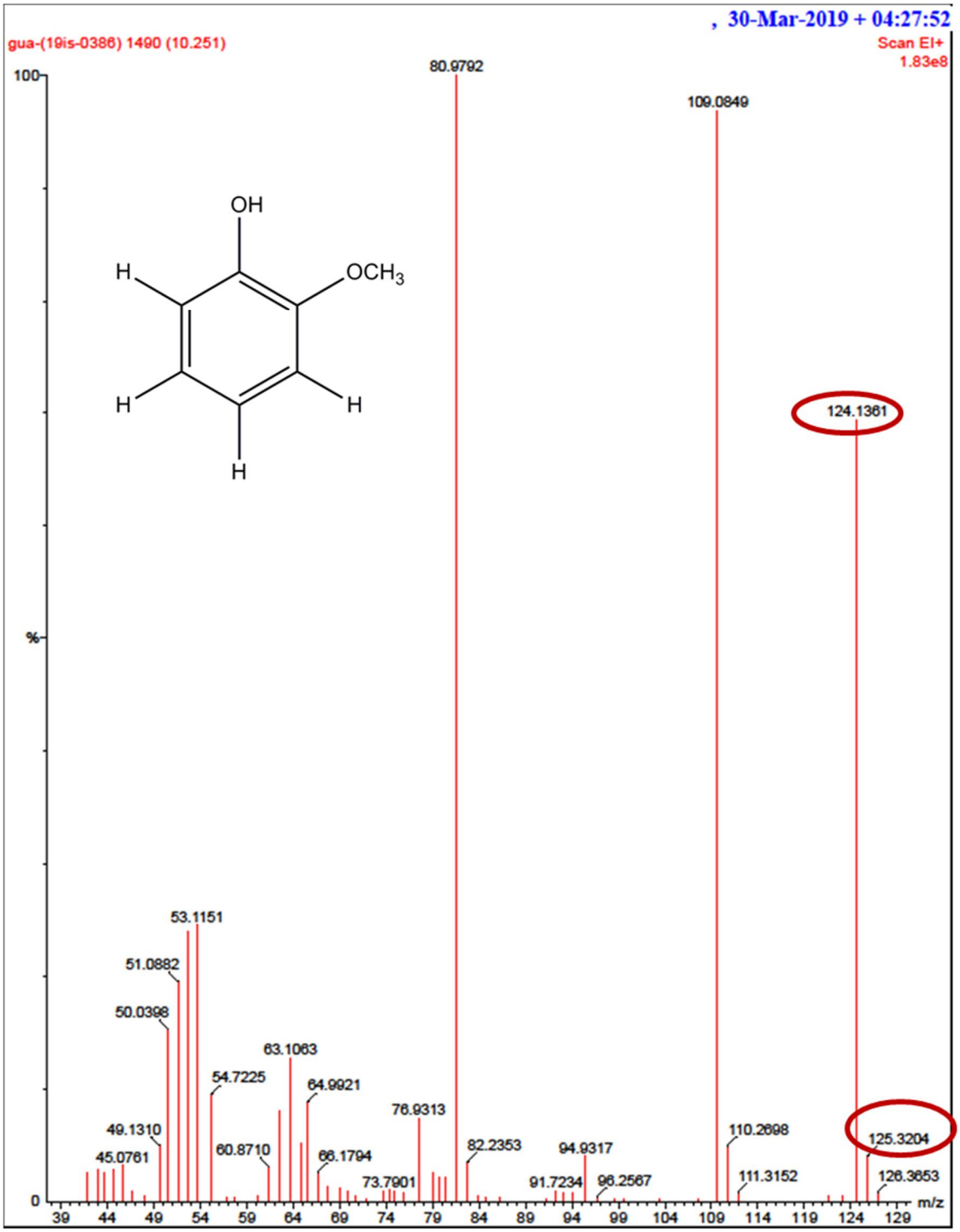

Figure S2A. Control GC-MS response of Ph-2-OCH_3 (calculated molecular weight 124.14).

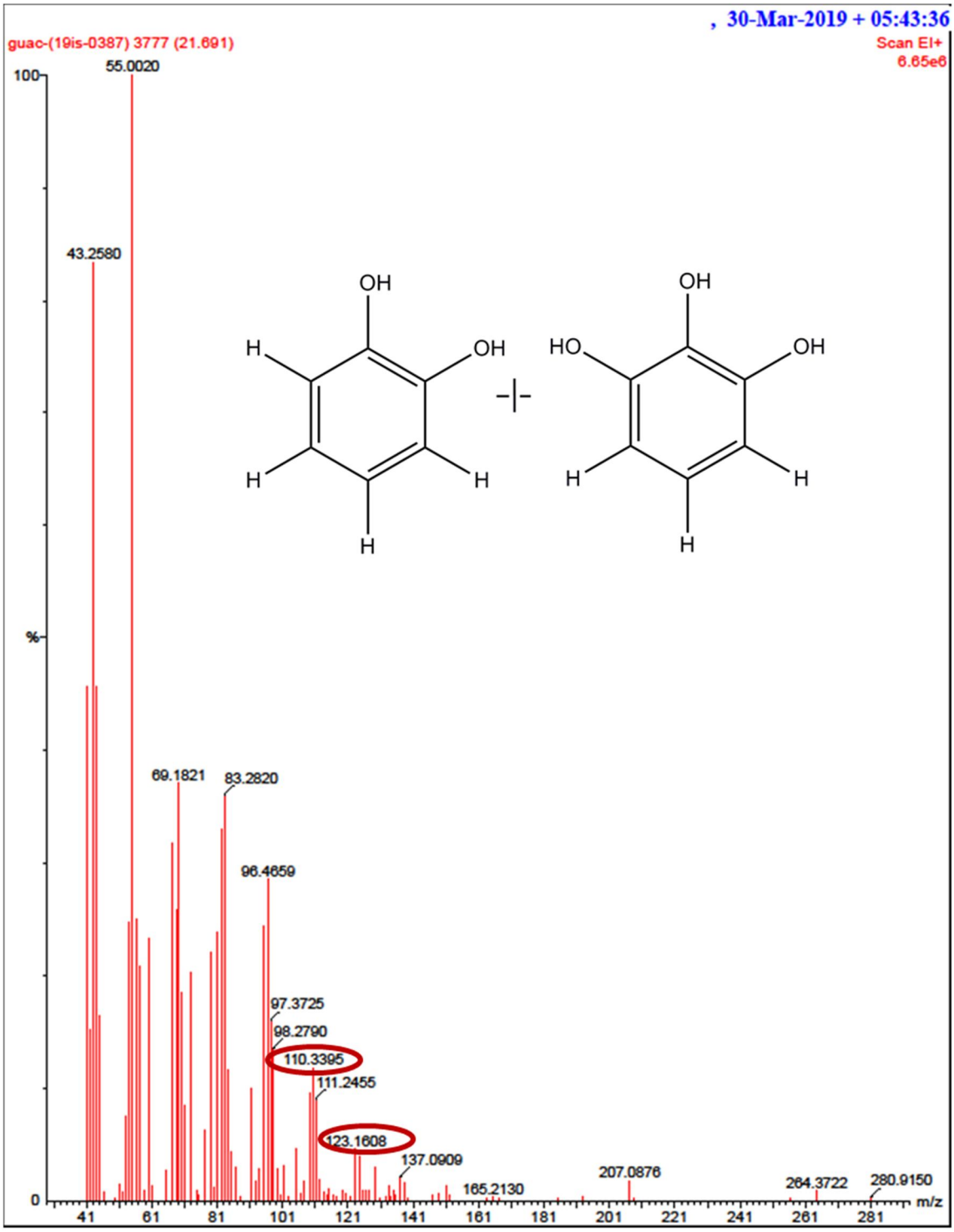

Figure S2B.GC-MS of Ph-2-OCH_3-ECR extract. *m/z*= 110.3395, Catechol (calculated, 110.1) and m/z, 123.16 pyrogallol (M), (M-3H peak) (calculated mol. weight, 126.11).

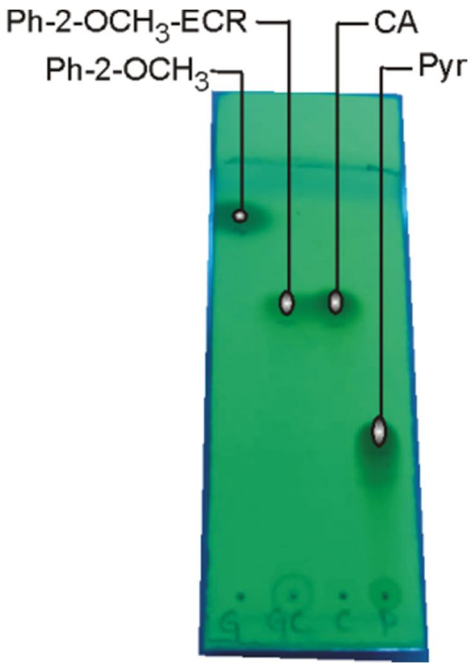

Figure S3. Typical TLC picture of the ethanolic extract obtained from MMWCNT@Ph-2-OCH_3-ECR with various control samples. Ph-2-OCH_3 – Staring material; CA– Catechol; Pyr– Pyrogallol. 40% ethyl acetate:hexane mixture solution was used for elution in presence of Iodine chamber.

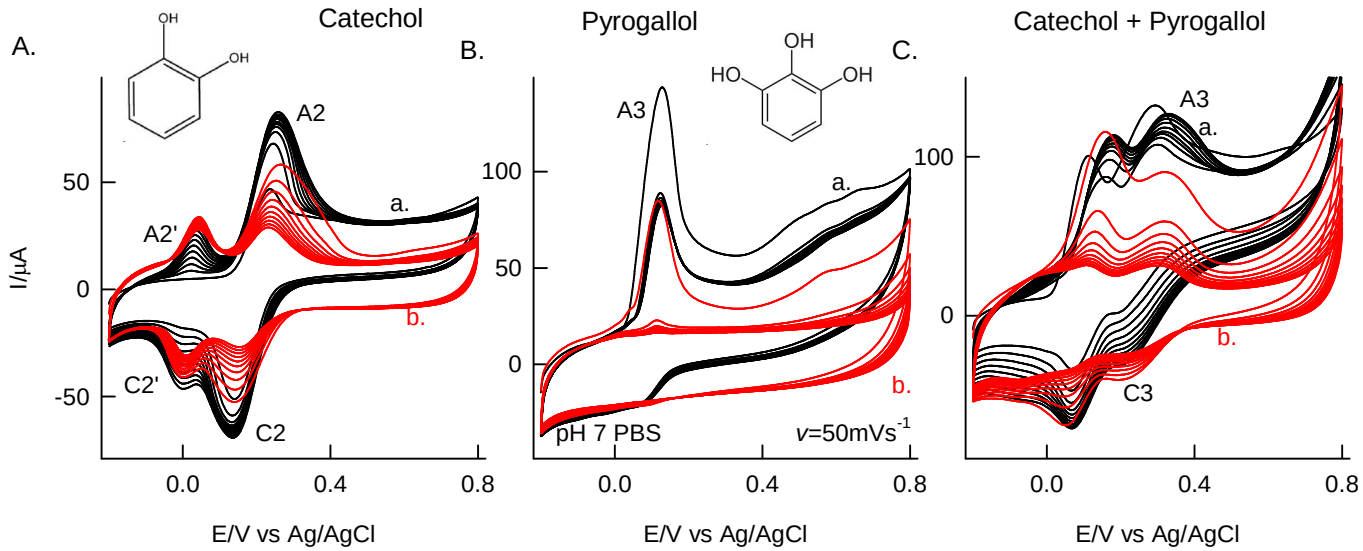

Figure S4. Control Experiments. Ten continuous CV responses of GCE/MWCNT with 9 mM catechol (A), 9 mM pyrogallol (B) and a mixture of 9 mM each of catechol and pyrogallol (C) dissolved pH 7 PBS (a) and its respective medium transferred responses (b) in a blank pH 7 PBS at v= 50 mV s^{-1}.