

Supporting Information

Electrochemical synthesis of carbon nano onions

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Figure S1. Optical graph of an electrolytic cell with a three-electrode system.

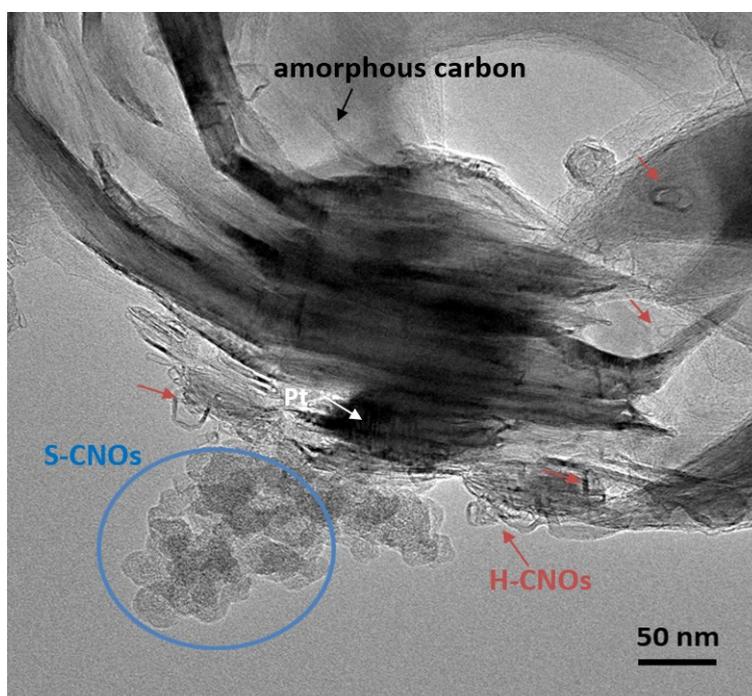


Figure S2. TEM image of the electrolytic products consisting of amorphous carbon, Pt NPs, S-CNOs and H-CNOs.

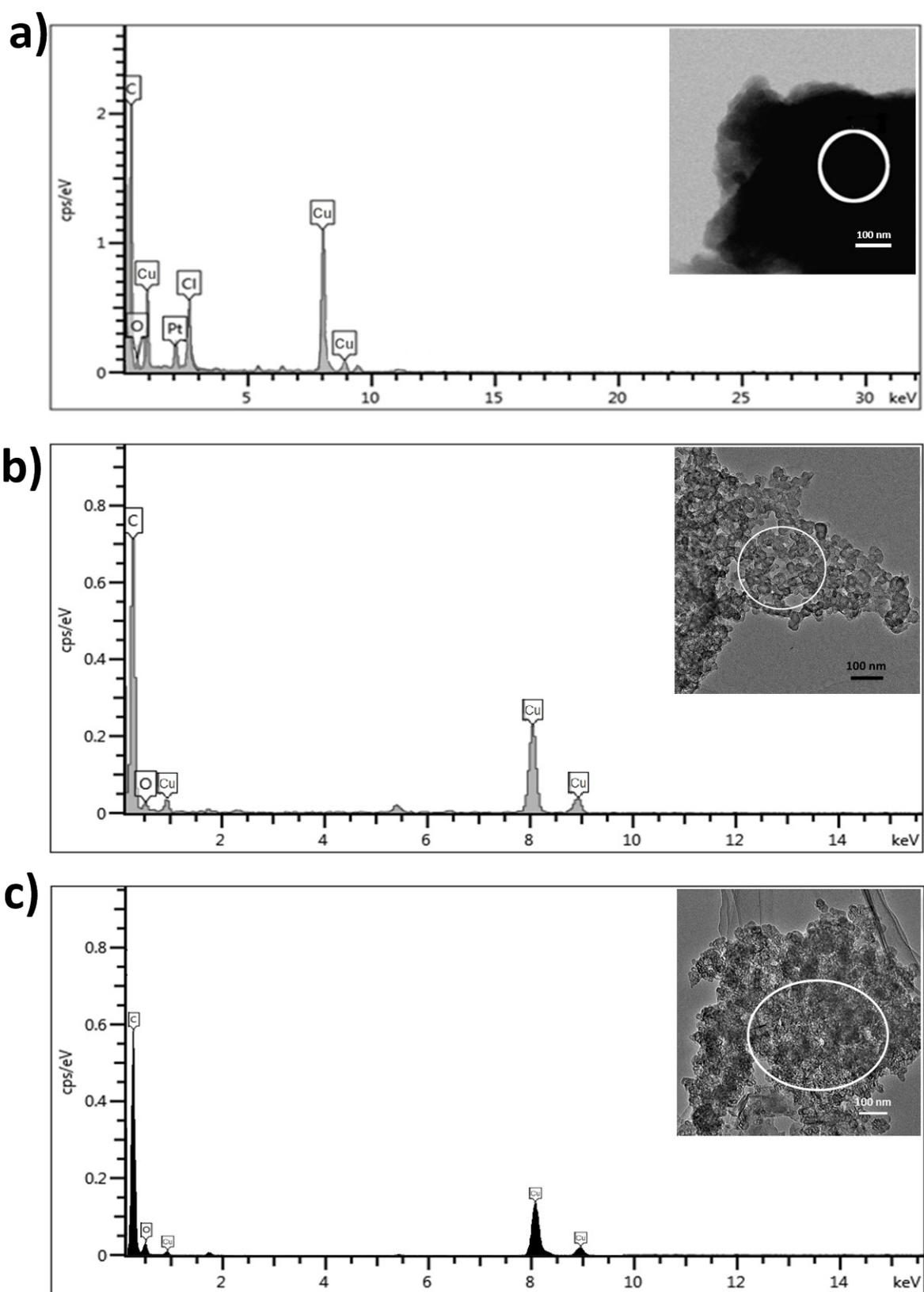


Figure S3. TEM images and elemental composition by EDS characterization of (a) amorphous carbon, (b) S-CNOs and (c) H-CNOs.

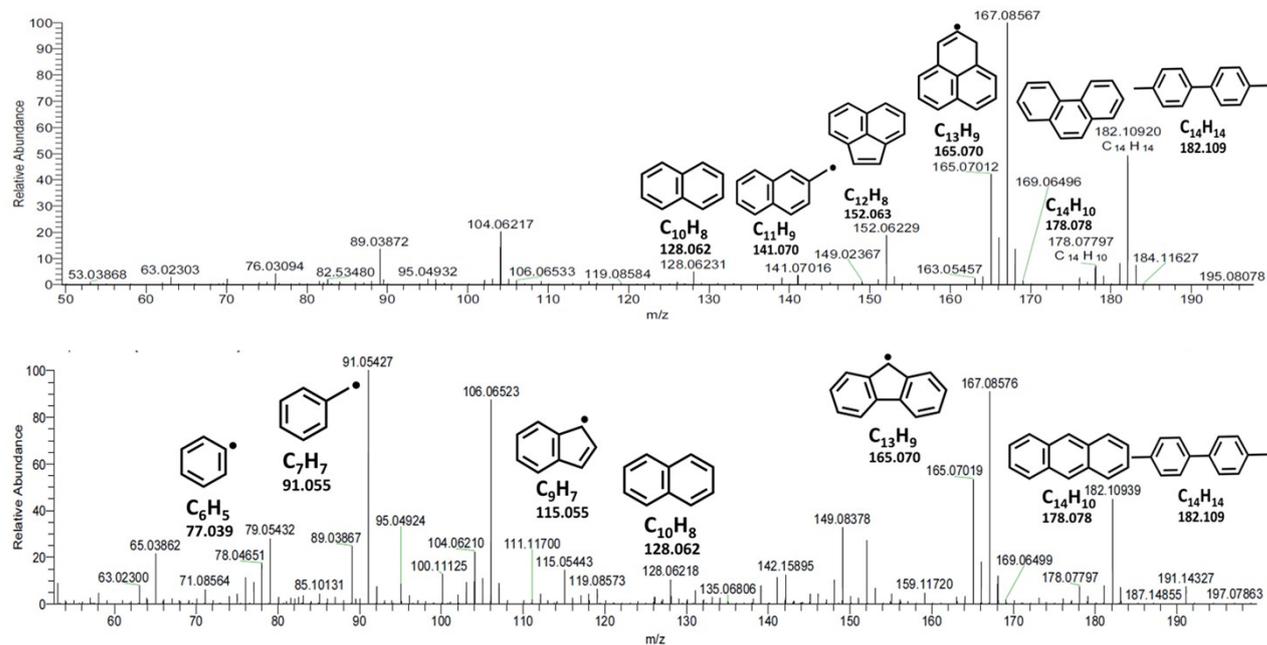


Figure S4. Mass spectra of an electrolytic solution after electrolysis of 5 hours and structures of some stable radicals and polycyclic aromatic hydrocarbons identified by GC-MS.

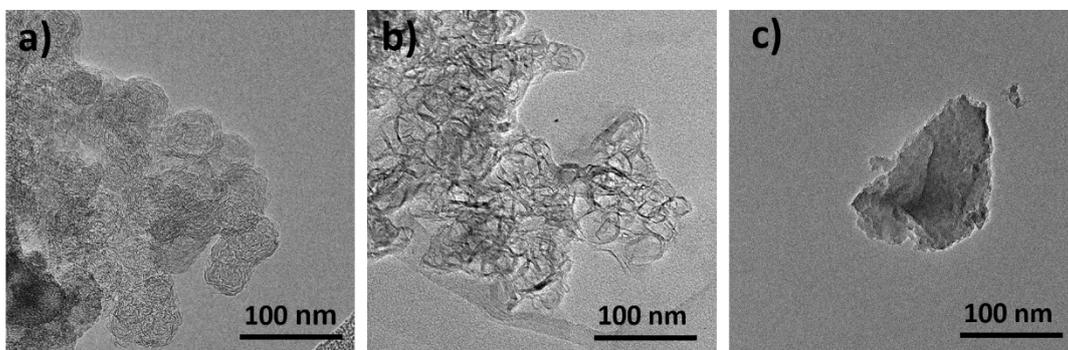


Figure S5. TEM images of the product after heating at 400 °C, (a)H-CNOs, (b)S-CNOs, (c) amorphous carbon.

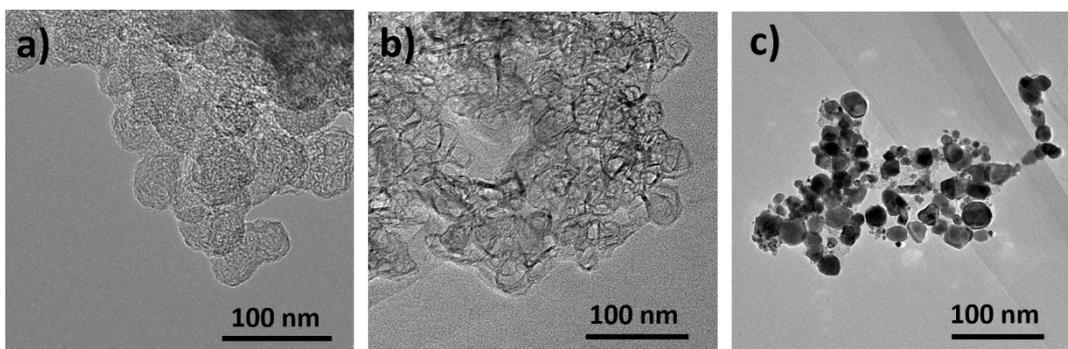


Figure S6. TEM images of product after heating at 450 °C, (a) H-CNOs, (b) S-CNOs, (c) Pt NPs.

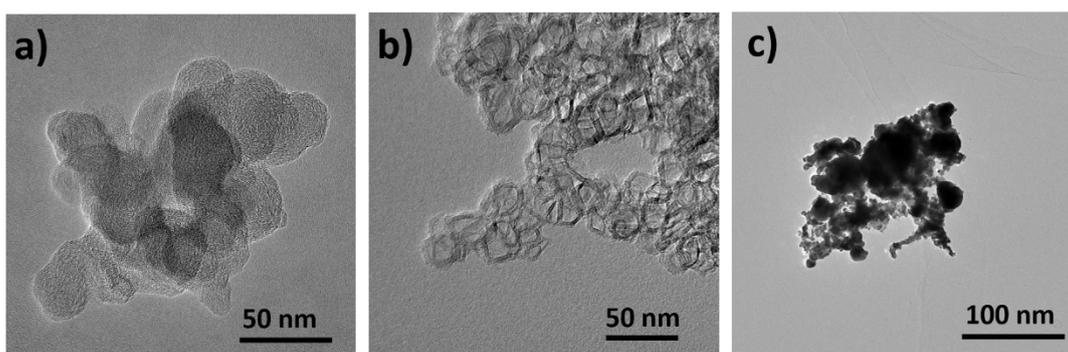


Figure S7. TEM images of the product after heating at 500 °C, (a) H-CNOs, (b)S-CNOs, (c) Pt NPs.

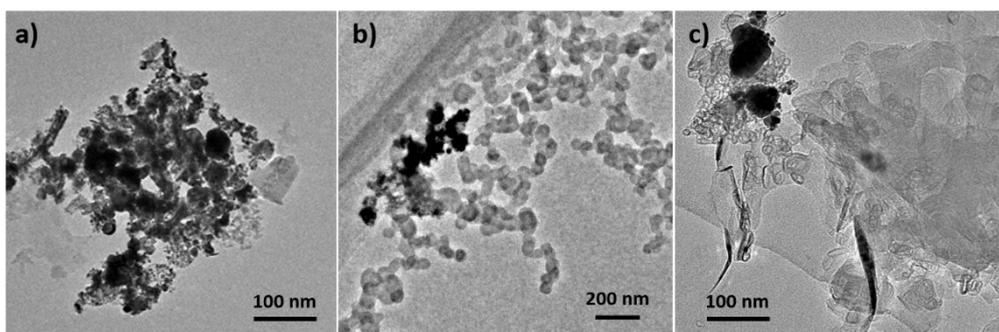


Figure S8. TEM images of the collected products by ultrasonically dispersed in CHP for 1 h at a concentration of 1 mg/mL and then centrifuged at (a) 6000 rpm, (b) 8000 rpm, and (c) 12000 rpm, respectively.

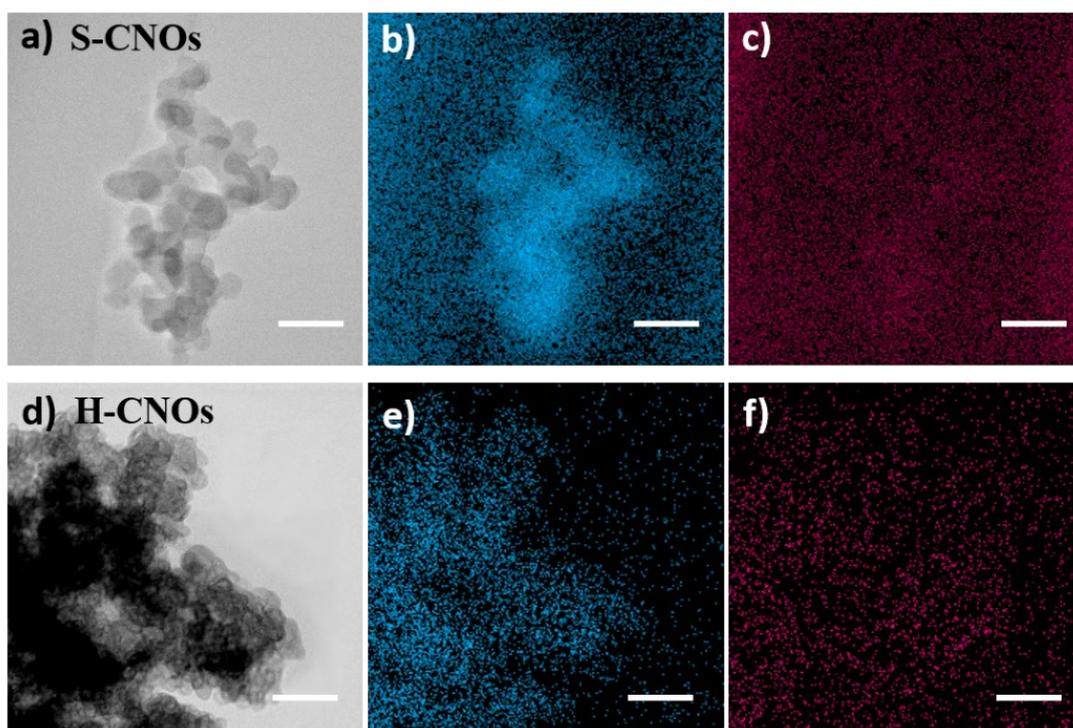


Figure S9. STEM raw images of (a) S-CNOs and (d) H-CNOs and elemental distribution of C (b, e), O (c, f). The scale bars are 100 nm.