Electronic Supplementary Material (ESI) for New Journal of Chemistry.

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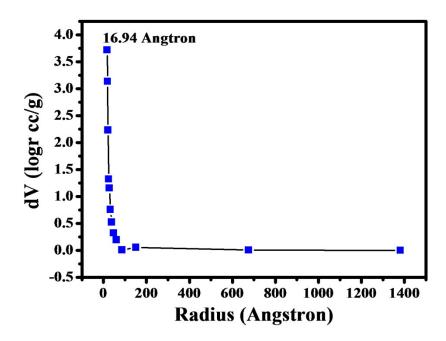
## **Supporting Information**

## Amine Functionalized Multi-Walled Carbon Nanotubes (EDA-MWCNTs) for Electrochemical Water Splitting Reactions.

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**Fig. S1:** BJH Pore size distribution curve of EDA-MWCNTs having 16.94 Angstrom it will convert in 1.6 nm pore size of EDA-MWCNTs.

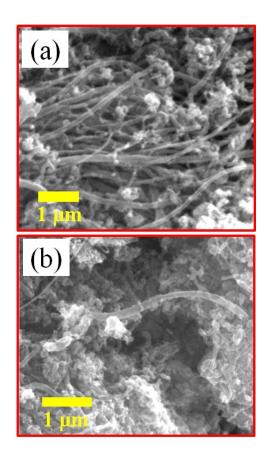
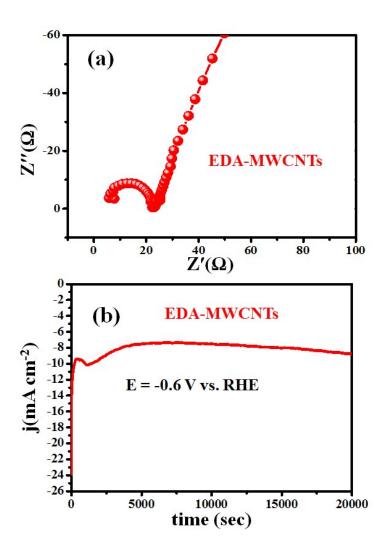
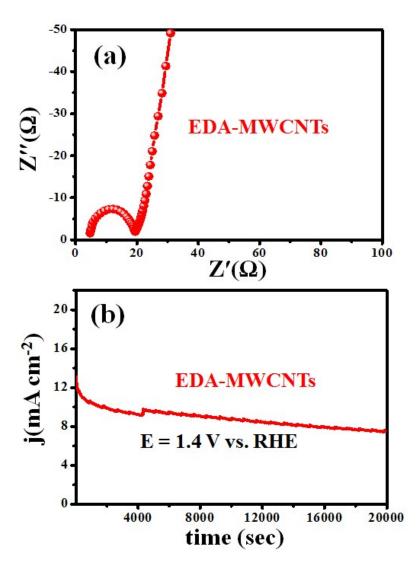


Fig.S2: Scanning electron microscopy (SEM) of (a) O-MWCNTs and (b) EDA-MWCNTs.



**Fig.S3:** (a) The electrochemical activities of EDA-MWCNTs were studied electrochemical impedance spectra 20.4  $\Omega$ EIS (20.4  $\Omega$ ) in 0.5 M H<sub>2</sub>SO<sub>4</sub> solutions for HER. (b) Chronoamperometric (i-t) response of EDA-MWCNTs nanomaterial at potential - 0.6 V vs RHE at 50 mV/s in 0.5 M H<sub>2</sub>SO<sub>4</sub> for 20000 s.



**Fig.S4:** (a) the electrochemical impedance of EDA-MWCNTs were studied electrochemical impedance spectra (20  $\Omega$ ) in 0.5 M KOH electrolyte for OER. (b) Shows i-t amperometry (20000 sec) of EDA-MWCNTs.