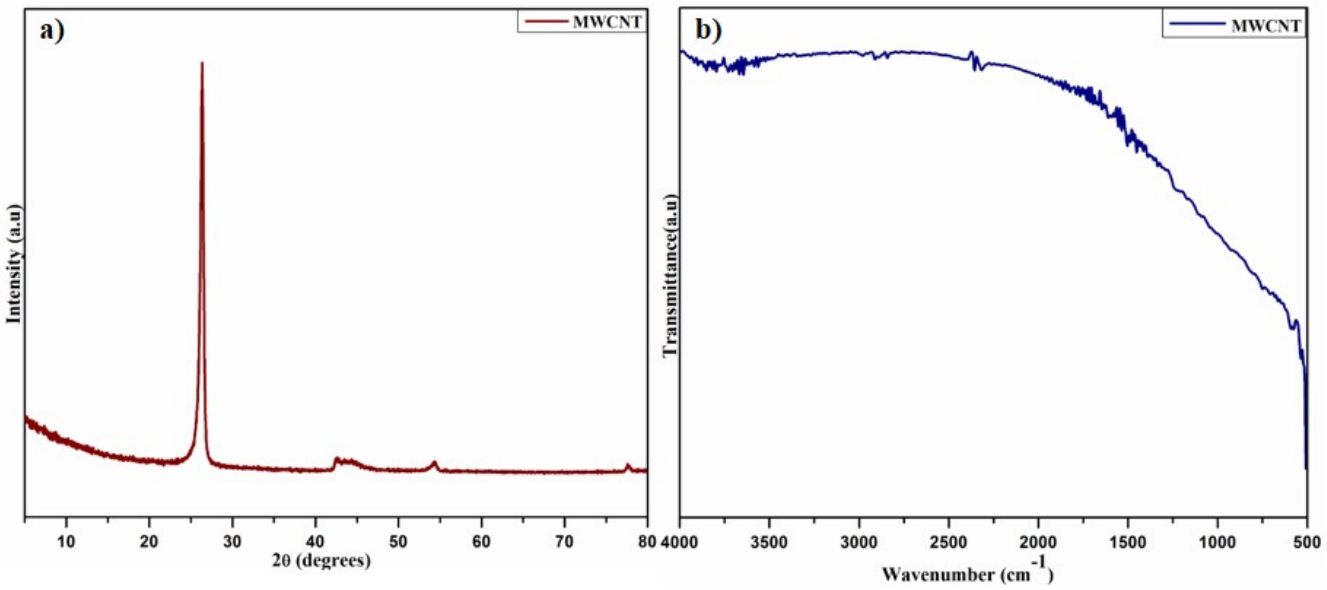
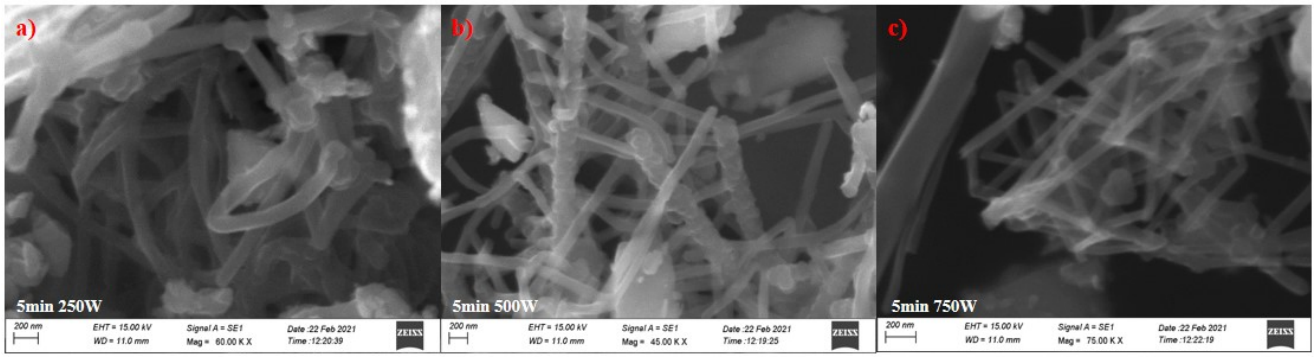
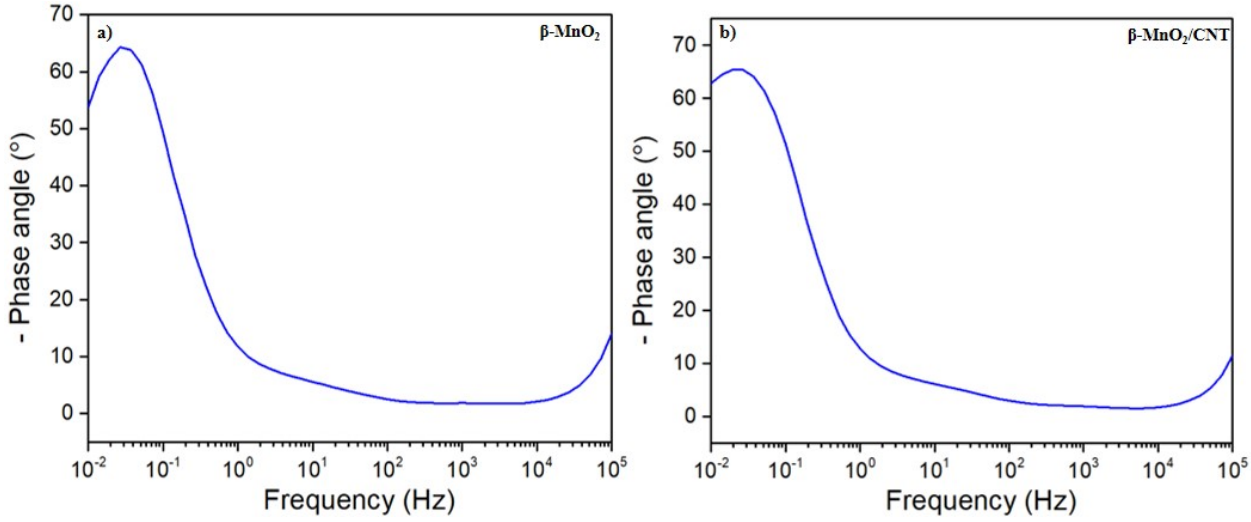


S1. (a) XRD spectra of MWCNT and (b) FTIR spectra of MWCNT



S2. SEM micrographs of β-MnO_2/CNT nanocomposite under the optimal conditions



S3. Bode plots for the (a) pristine β-MnO_2 and (b) β-MnO_2/CNT composite.

Table.1

Material	Synthesis process	Electrolyte	Specific capacitance	Capacitance retention	Ref.
MnO_2/MWCNT	Wet chemical route	Na_2SO_4	106 F g^{-1} at 0.5 A g^{-1}	95% @ 1000 cycles	(1)
Amorphous MWCNT/MnO_2 nanoflakes	Wet chemical route	Na_2SO_4	108.5 F g^{-1} at 0.7 A g^{-1}	~1400 cycles	(2)
3D MnO_2-CNT	hydrothermal	Na_2SO_4	214 Fg^{-1} at 5mV s^{-1}		(3)
MnO_2/PEDOT	electro codeposition	KCl	89.7 at 10 mV s^{-1}	97.1 % at 5000 cycles	(4)
NCNTs@MnO_2	chemical method	Na_2SO_4	219 F g^{-1} at 1 A g^{-1}	86.8% 1000 cycles	(5)
MnO_2/MWCNT 3:1	hydrothermal route	KCl	252 F g^{-1} at 0.5 A g^{-1}	95% @ 920 cycles	(6)[1]
β-MnO_2/CNT	Microwave processing route	Na_2SO_4	263.8 F g^{-1} at A g^{-1}	This work	

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