Supplementary Information

High Electrochemical performance in Asymmetric Supercapacitors using MWCNTs/Nickel Sulfide Composite and Graphene Nanoplatelets as Electrodes

Arvinder Singh,¹ Alexander J. Roberts, *2 Robert C. T. Slade² and Amreesh Chandra*1

¹Department of Physics, Indian Institute of Technology Kharagpur, Kharagpur-721302, West Bengal,

India.

Fax: +91 (0)3222255303; Tel:+91(0)3222 283820;

²Department of Chemistry, University of Surrey, Guildford, Surrey GU2 7XH, UK.

Fax: +44 (0)1483683016; Tel:+44 (0)1483 686834

*E-mail: achandra@phy.iitkgp.ernet.in, a.roberts@surrey.ac.uk



Figure S1 (a) XRD pattern and (b) SEM micrograph observed for the synthesized NiS.



Figure S2 TGA curves for MW and MWNS composite.



Figure S3 N₂ absorption-desorption curves for GNPs and MWNS composite. Inset shows the pore size distribution for GNPs and MWNS composite.



Figure S4 Four probe I-V curves for MWCNTs, MWNS, GNPs and NiS.



Figure S5 Three electrode CV curves for MW, NiS and MWNS composite using activated carbon as counter electrode and Ag/AgCl (sat. KCl) as a reference electrode.



Figure S6 Nyquist plot obtained after operating ASCs for 1000 charge-discharge cycles.