Supporting Information

Enhanced Electrochemical Performance of Polyaniline-based Supercapacitor by Bicontinuous Microemulsion Nanoreactor Approach

Yelriza Yeszhan^a, Sagydat Duisenbekov^a, Dana Kurmangalieva^a, Dana Kazhigitova^{a,b}, Perizat Askar^a, Yerbol Tileuberdi^c, Aishuak Konarov^a, Salimgerey Adilov^d, Nurxat Nuraje^{a,e}

Author Information

Affiliations

^aDepartment of Chemical and Materials Engineering, School of Engineering & Digital Science, Nazarbayev University, Astana 010000, Kazakhstan

^bDepartment of Chemistry and Chemical Technology, Al-Farabi Kazakh National University, Almaty 050040, Kazakhstan

^cInstitute of Natural Sciences and Geography, Abai Kazakh National Pedagogical University, 13, Dostyk ave., Almaty 050010, Kazakhstan

^dDepartment of Chemistry, School of Sciences and Humanities, Nazarbayev University, Astana, 010000 Kazakhstan

^eLab of Renewable Energy, National Laboratory Astana, Nazarbayev University, Astana, 010000 Kazakhstan

*sadilov@nu.edu.kz(S. Adilov)

*nurxat.nuraje@nu.edu.kz(N. Nuraje)



Figure S1. ¹H NMR of aniline linker compound (with acetone impurity)





Figure S3. FTIR spectra of polymeric materials



Figure S4. TGA/DSC of (a) PANI nanofiber and (b) crosslinked PANI

Figure S5 illustrates the BET N₂ absorption isotherms of the nanostructured PANI, 2D and 3D PANI. From the isotherm, can be observed that the amount of the adsorbed nitrogen is in this order 38.7 cm³/g for PANI fiber > 30.74 cm³/g for 3D PANI > 19.53 cm³/g for 3D PANI-AB composite > 15.2 cm³/g for 2D PANI film.



Figure S5. The nitrogen adsorption isotherms of polymeric materials