Supporting Information of the manuscript

Fabrication of oriented Polyaniline nanostructures using block copolymer nanotemplates and their optical, electrochemical and electric properties

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UV-vis Study:

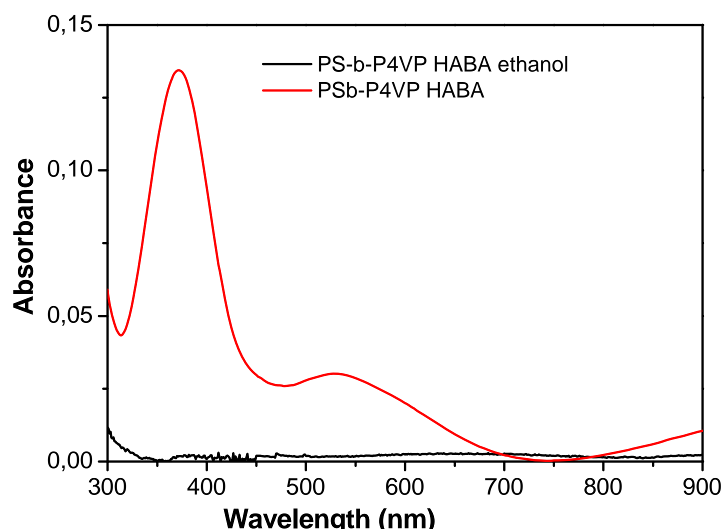

Fig.S1:UV-vis spectra of block copolymer thin film fabricated from supramolecular solution of PS-b-P4VP & HABA before washing in methanol (red line) and after washing with methanol.

Figure S1 shows UV-vis spectra of block copolymer thin film fabricated from supramolecular solution of PS-b-P4VP & HABA before (red line) and after washing with methanol. The block copolymer thin film deposited from supramolecular solution contains two peaks at 372 nm 531 (red line) characteristic peak of HABA which are absent when the thin film washed with methanol (black line) . The absence of these two peaks clearly indicates that the HABA is completely removed from the block copolymer thin film during pore formation.

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FTIR study:

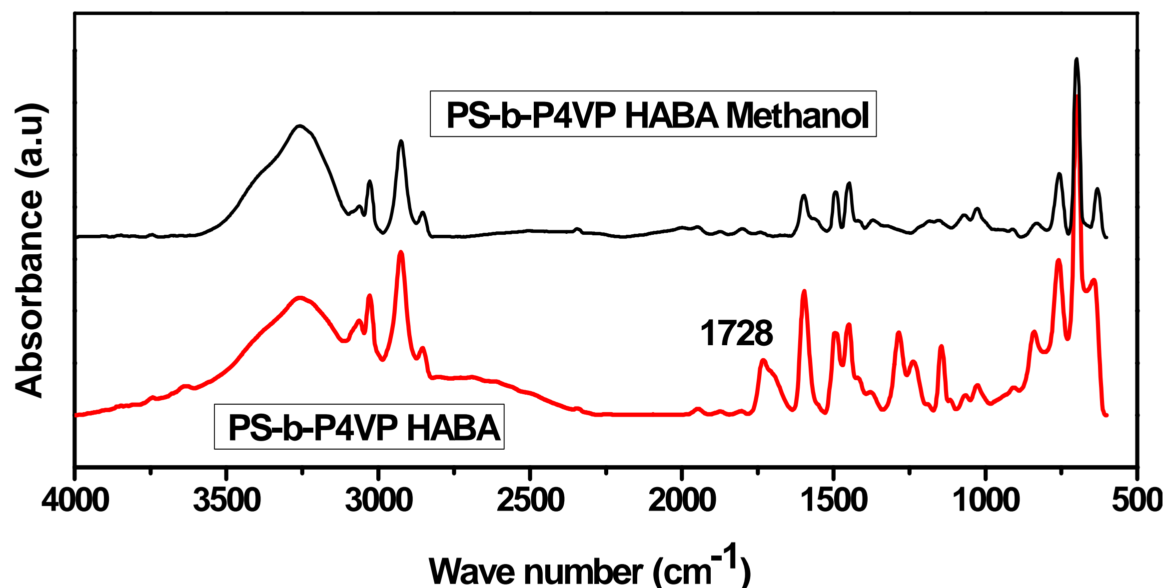

Fig.S2: FTIR spectra of block copolymer thin film fabricated from supramolecular solution of PS-b-P4VP & HABA before washing in methanol (red line) and after washing with methanol (black line).

Figure S2 shows the FT-IR spectra of PS-b-P4VP (HABA) thin films on silicon wafer before (red line) and after washing in methanol (black line). The 1728 cm^{-1} peak in PS-b-P4VP (HABA) is coming from the carboxylic group of HABA which is hydrogen bonded to the pyridine ring of PS-b-P4VP. After immersing the PS-b-P4VP (HABA) thin film in methanol, the characteristic carboxylic group peak of HABA (1728 cm^{-1}) is completely disappeared (black line). This indicates that HABA is completely removed from the block copolymer thin film during washing in methanol.