

Supporting Information

Band gap-controlled Hollow Polyaniline Nanostructures by Mn-mediated Nano-Confined Polymerization

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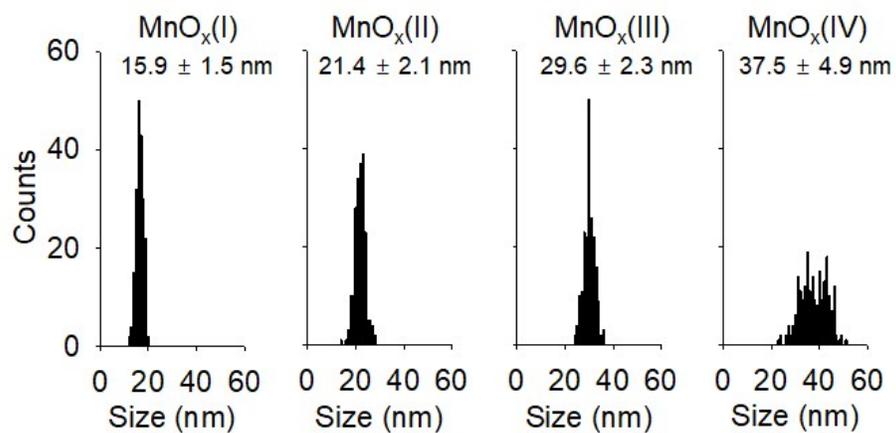


Figure S1. Size distribution of MnO_x(I~IV) based on TEM images. N indicates the number of particles included in each particle size distribution (n = 200).

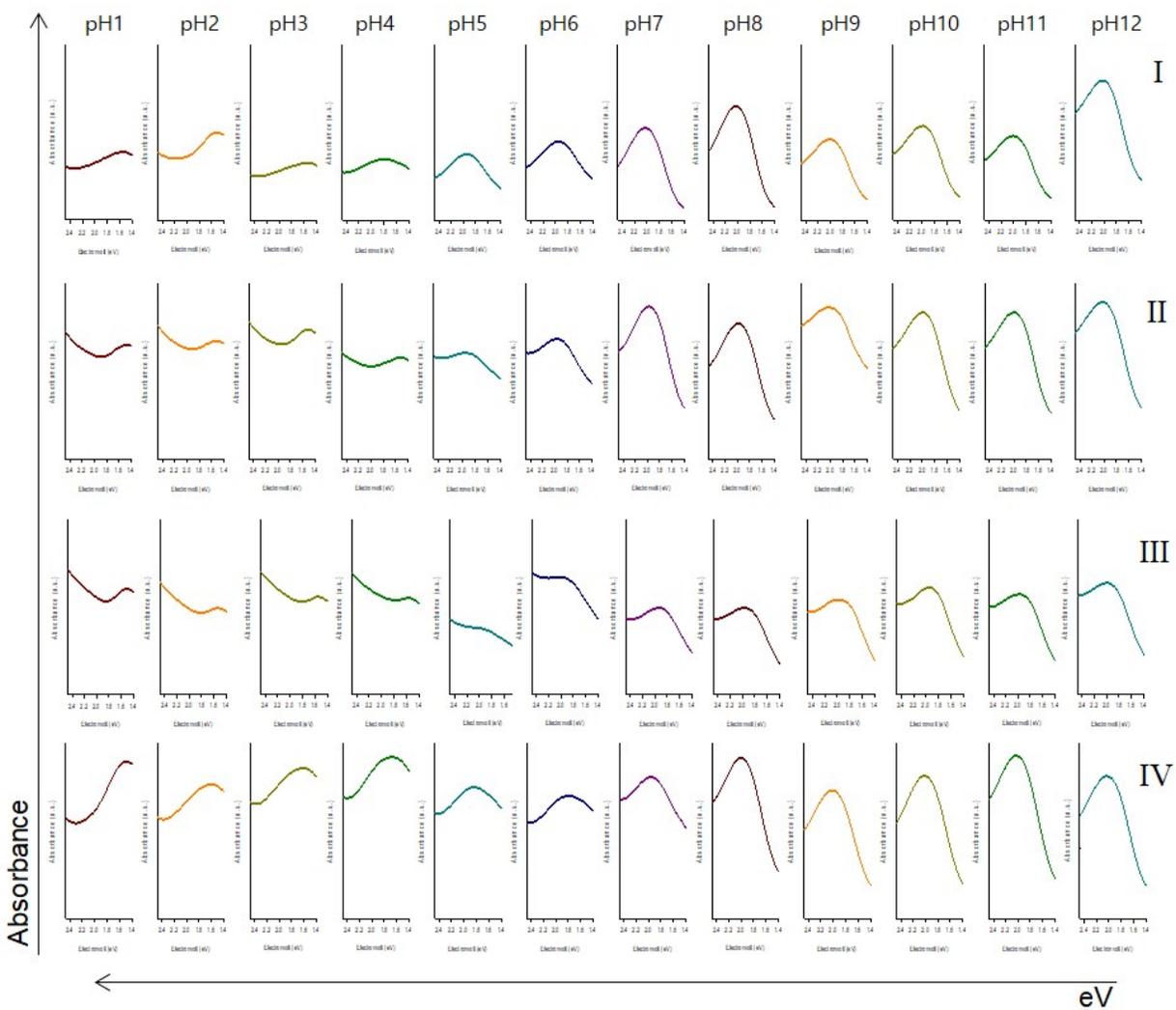


Figure S2. Absorbance spectra for Mn-HPAni(I-IV) at various pH (1~12) conditions.

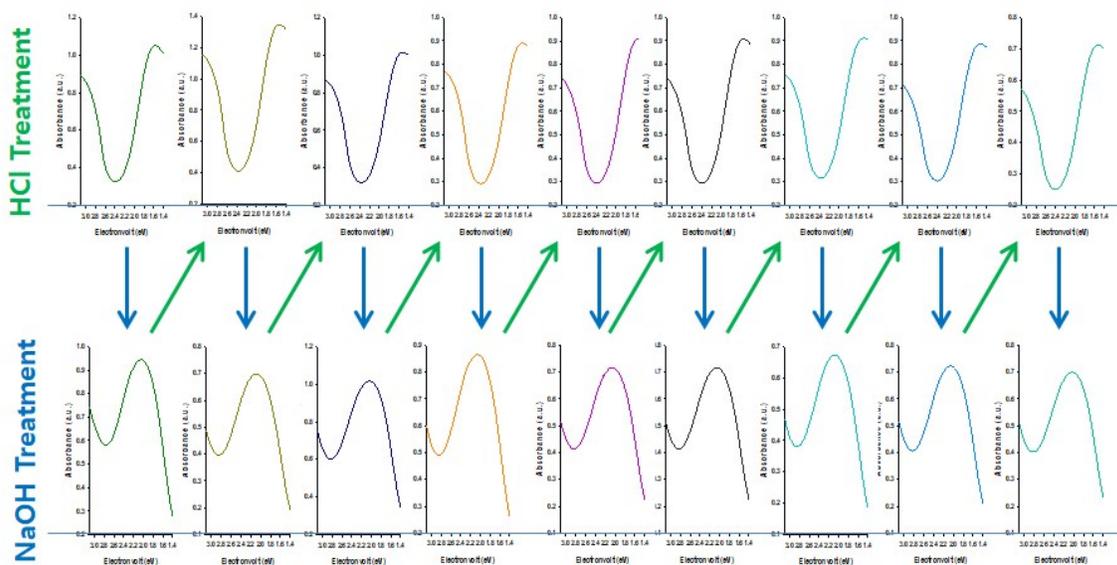


Figure S3. The doping/dedoping photonic stability test for Mn-HPAni(IV) at various pH (1~12) conditions. Using (a) HCl (1M) and (b) NaOH (1M) solution for 9 cycles ($n=9$), respectively.

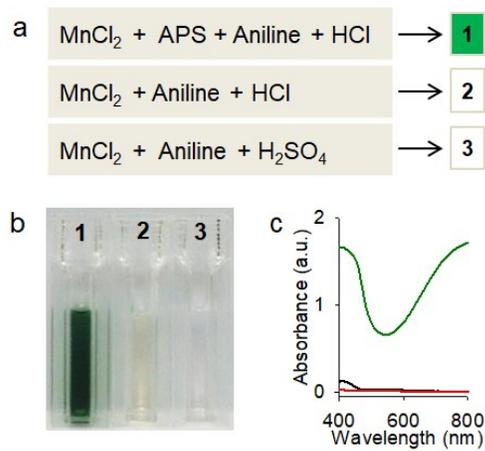


Figure S4. Polymerization test in various conditions containing MnCl_2 .