

Figure S1: TEM image of 2D PPy/TiO₂: Top view of 2D PPy on TiO₂ nanoribbon appeared in 2D layered structures. b) 2D PPy nanoribbon on the surface TiO₂ with clear arrangement for the layered structure on the margin.

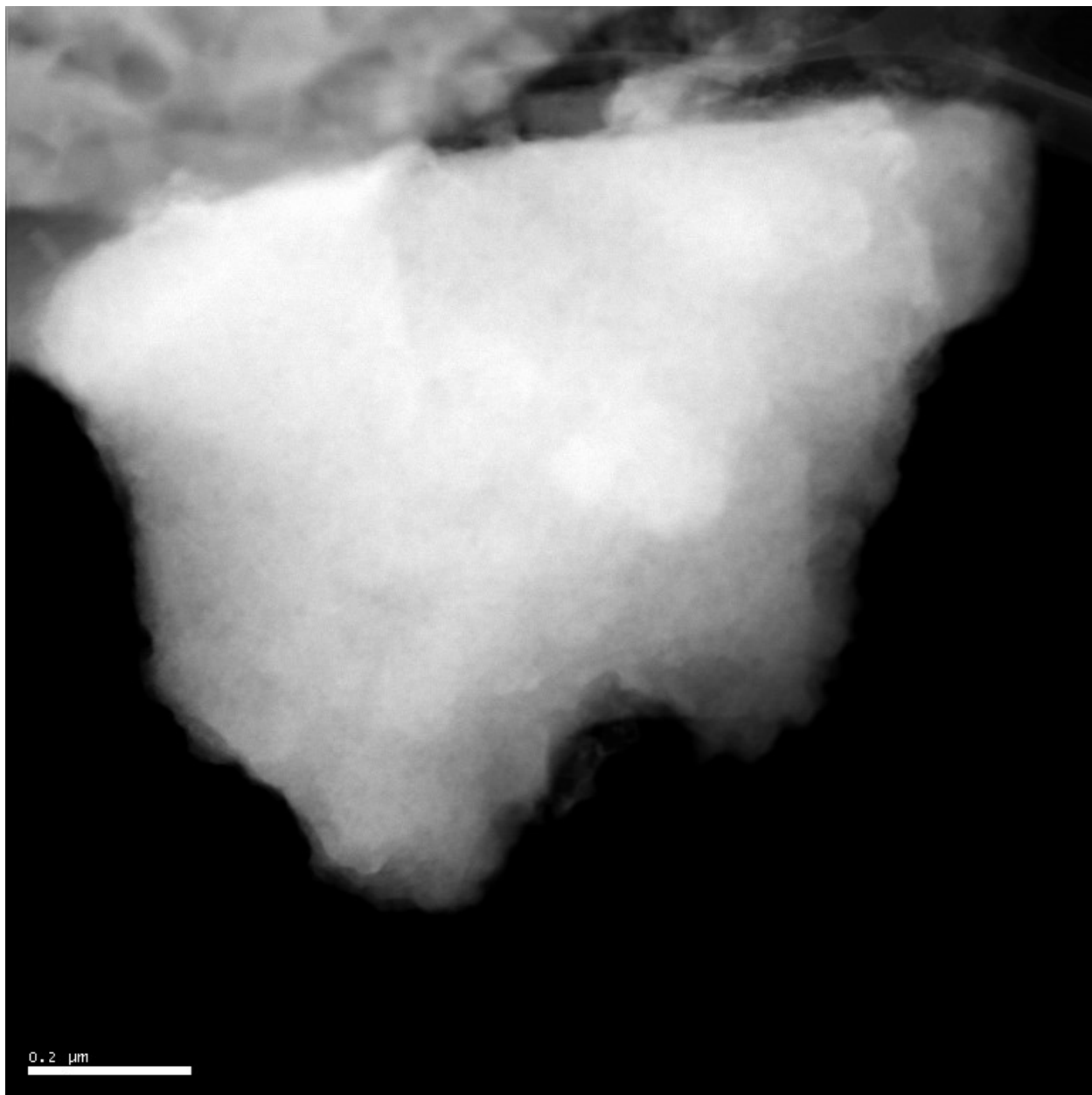


Figure S2: HAADF-STEM images of 2D PPy/TiO₂

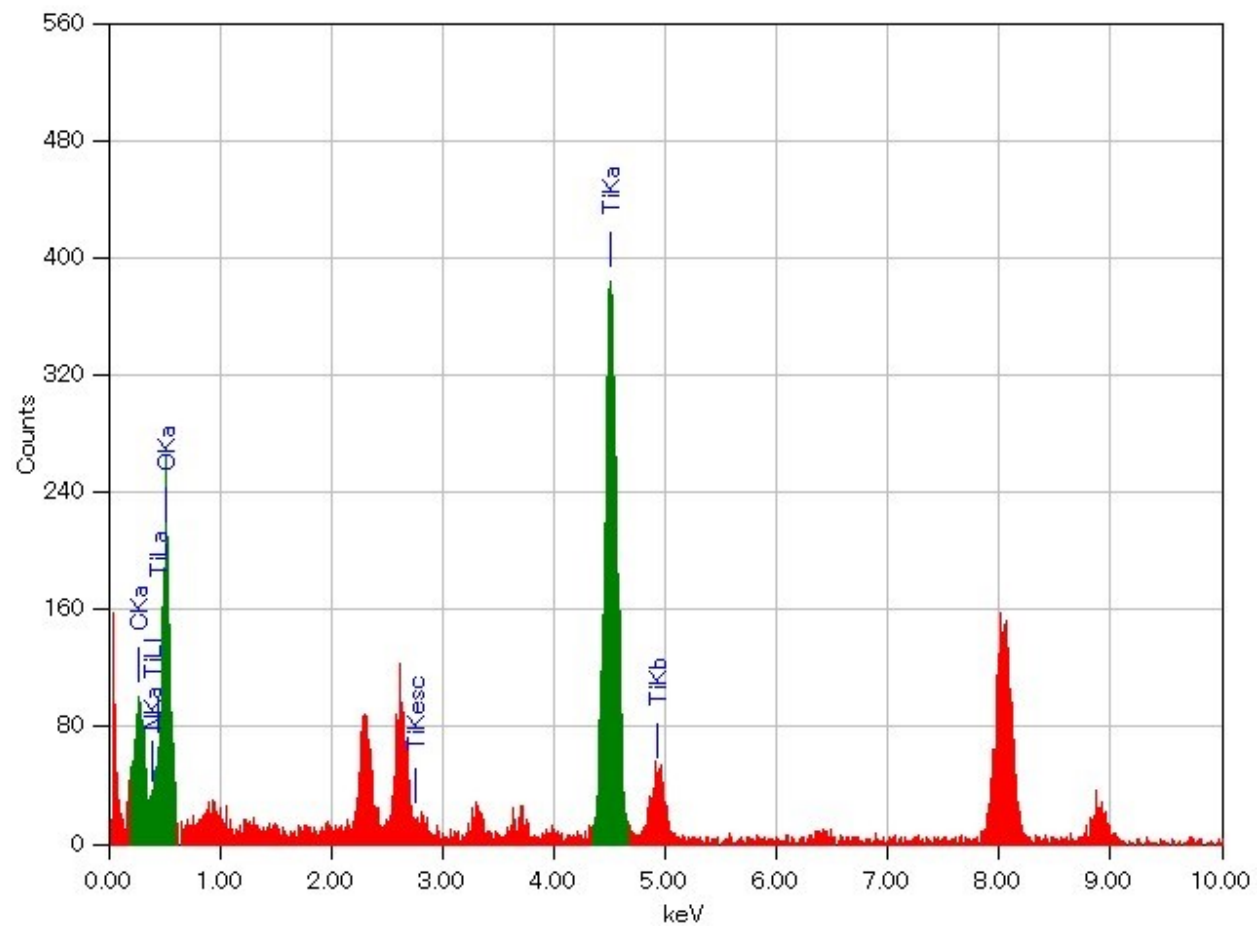


Figure S3: EDX spectra of 2D PPy/TiO₂

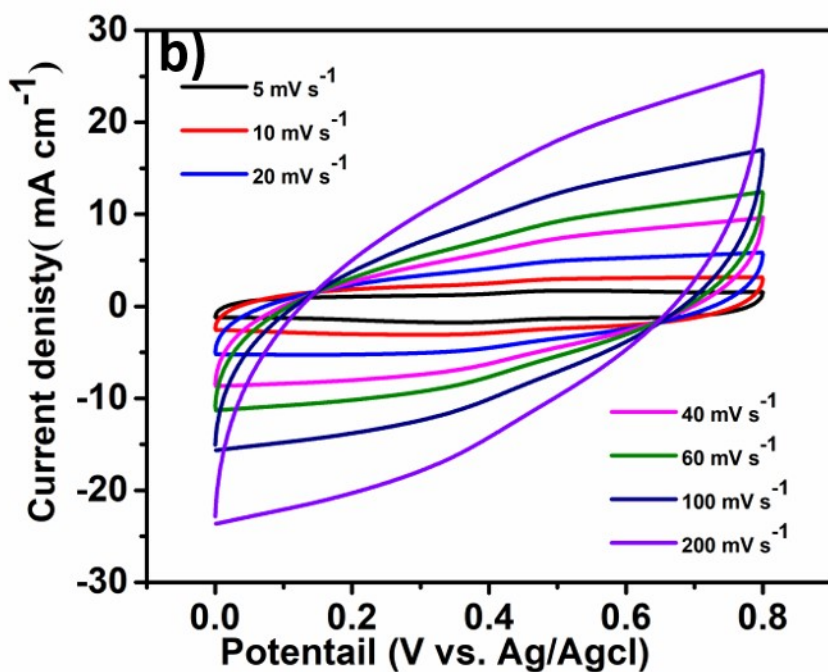
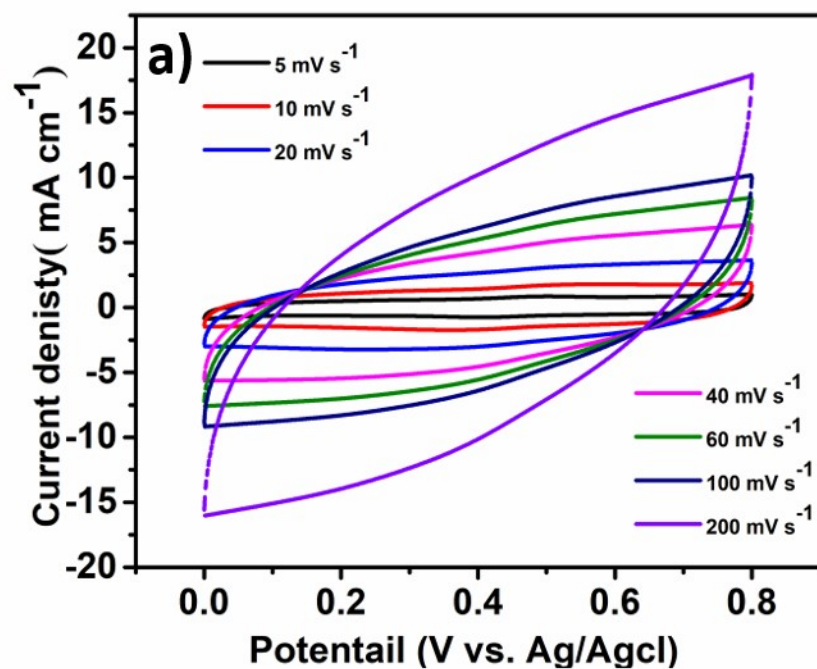


Fig S4: Cyclic voltammety graphs for a) 2D TiO₂, b) 2DPpy/TiO₂. at different scan rates

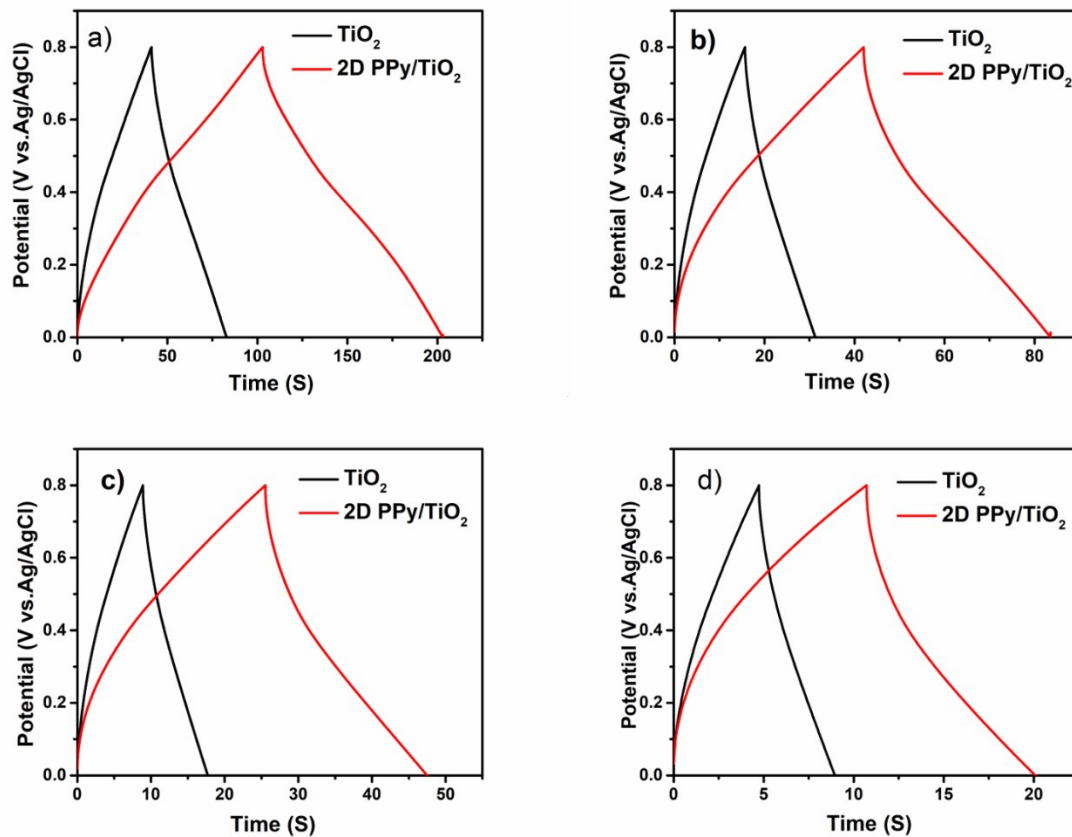


Figure S5: Galvanostatic charge-discharge curves at a current density of 2,4,8,10 A g^{-1} , for pure 2DTiO_2 and $2\text{D PPy}/\text{TiO}_2$.

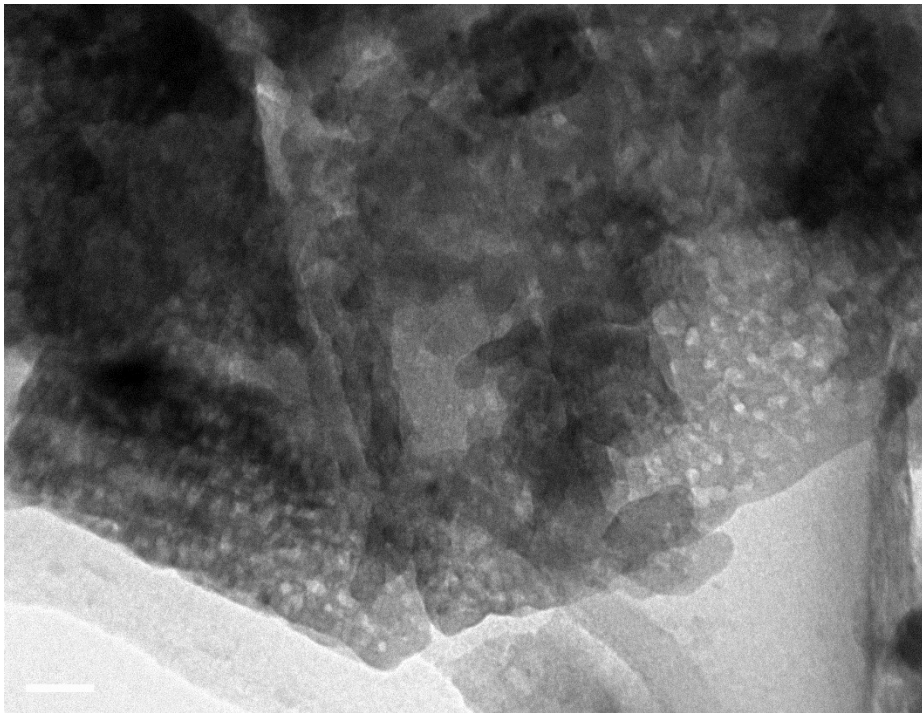
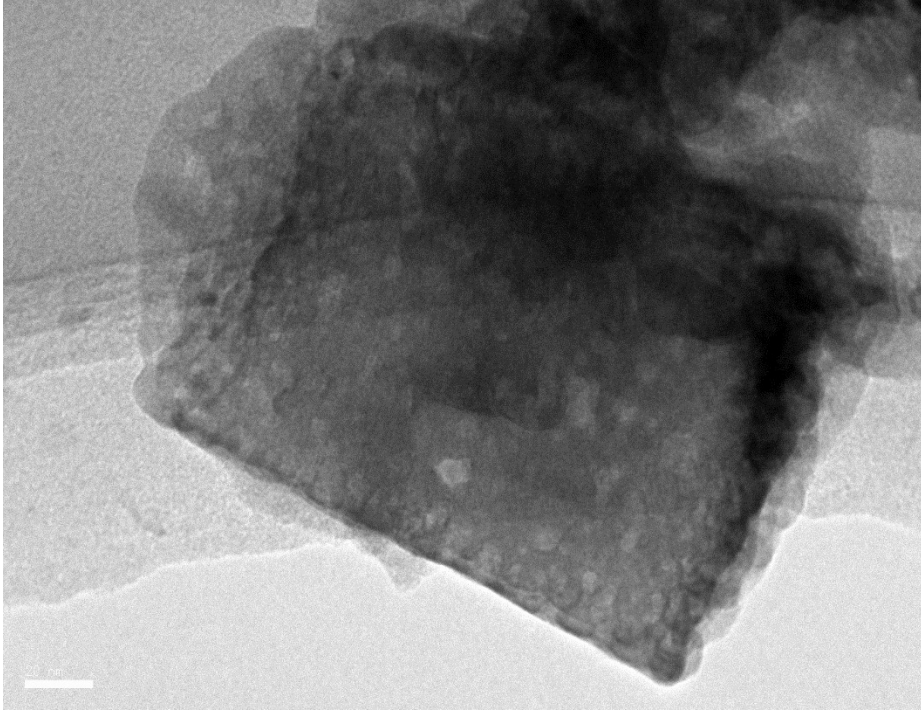


Figure S6: TEM images of 2D PPy/TiO₂ after 10.000 cycle test

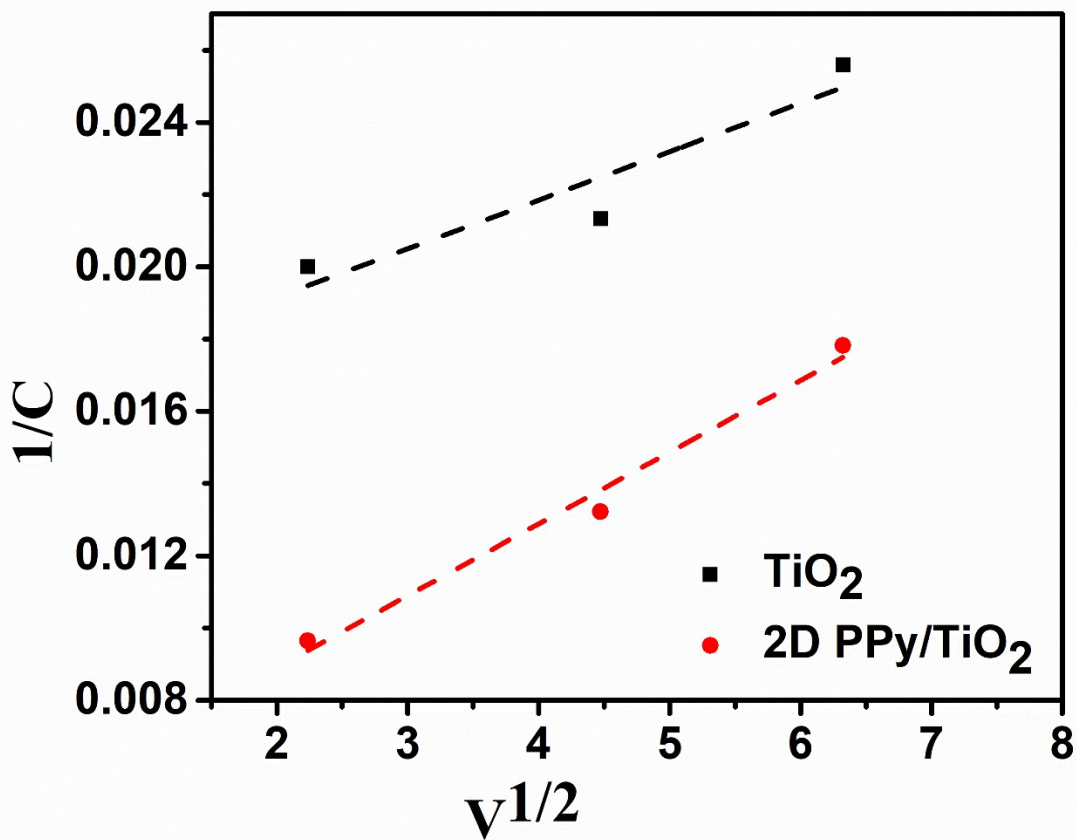


Figure S7: The linearly fitted line in the low scan rate region for calculation of total specific capacitance of the electrode material.

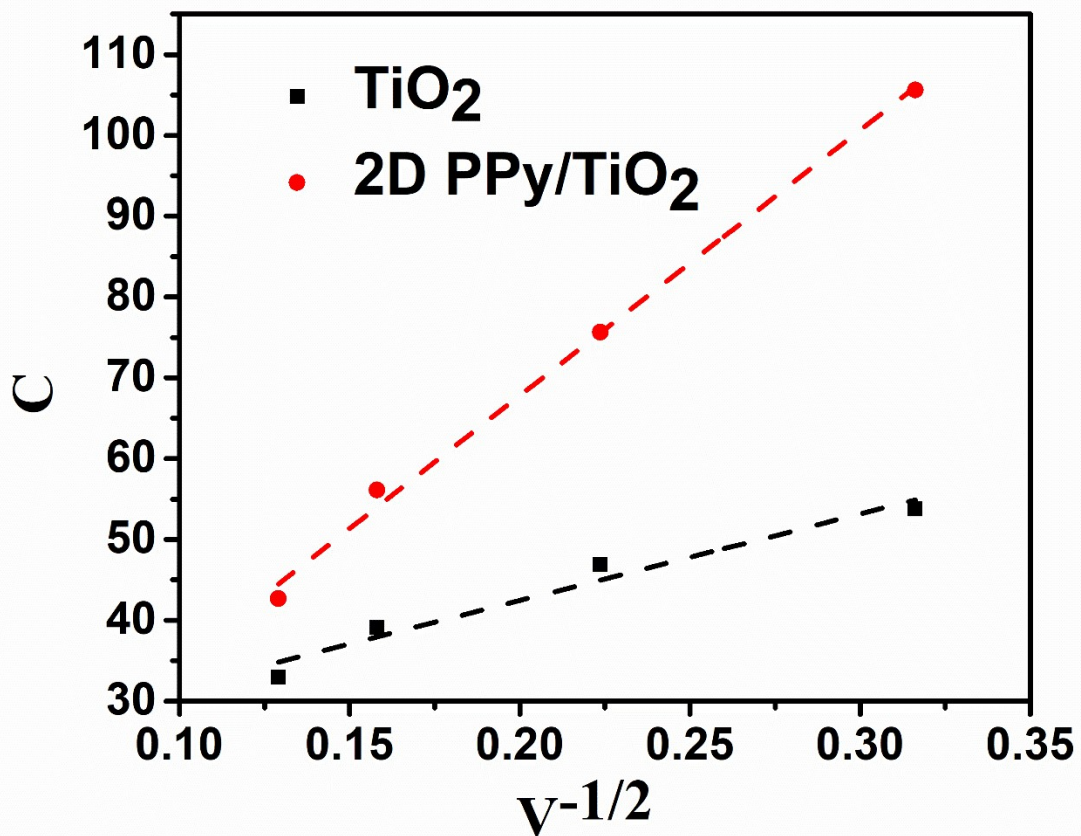


Figure S8: The linearly fitted line in the high scan rate region for calculation of electric double layer capacitance of the electrode material.