Electronic supplementary information (ESI)

Anomalous Large Capacitances of Porous Carbon Anodes

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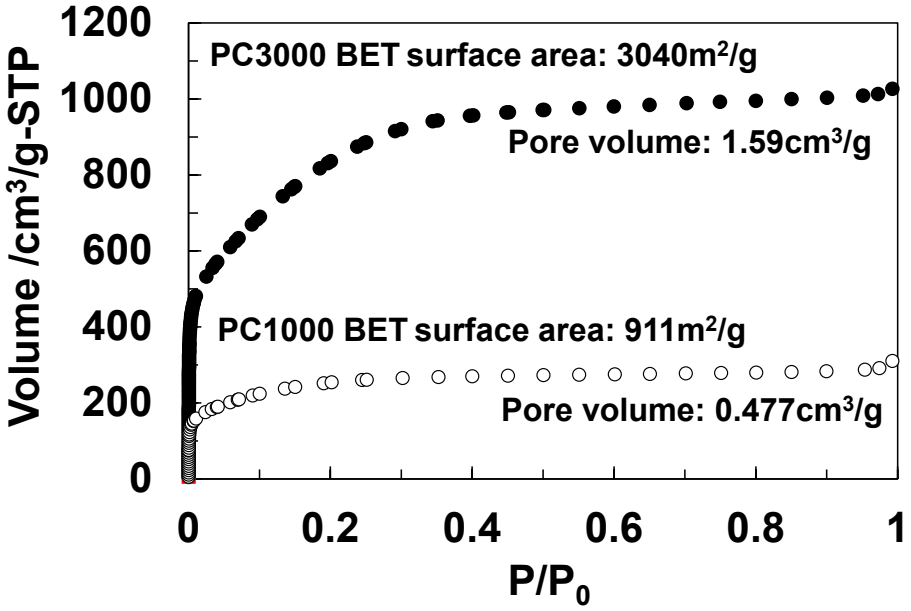

Fig. S1 N_2 adsorption isotherms of (black) PC3000 and (white) PC1000.

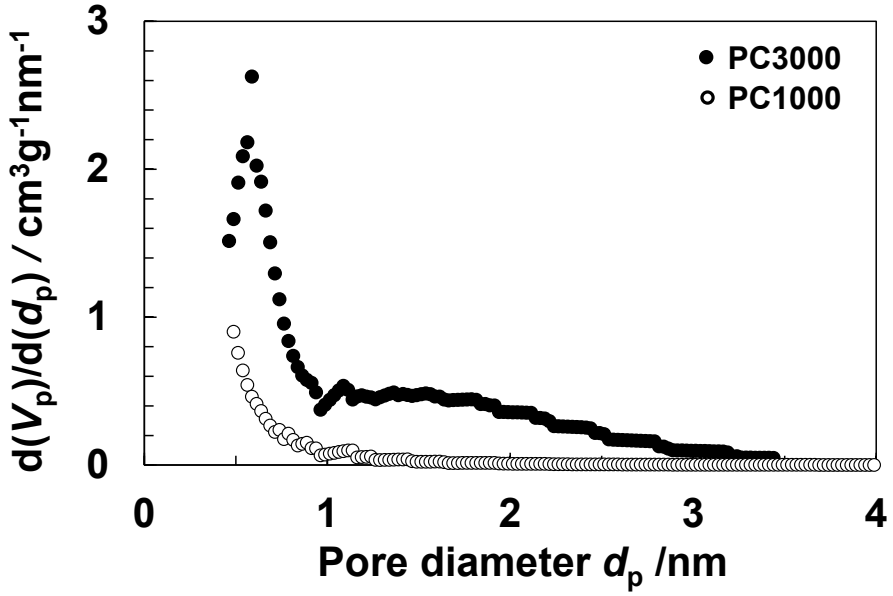

Fig. S2 HK pore size distributions of PC3000 and PC1000 (V_p: pore volume).

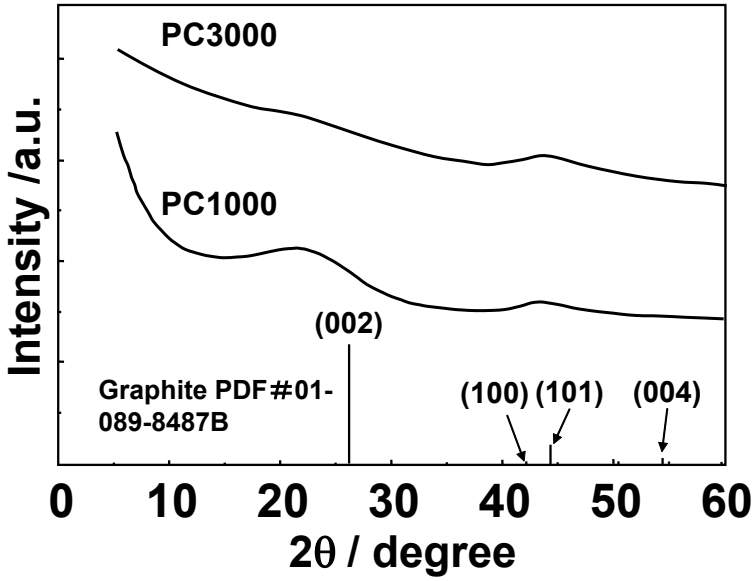

Fig. S3 XRD patterns of PC3000 and PC1000 (Rigaku-Rint 2500V, CuKα radiation, λ=0.15418nm, graphite monochrometer, 40kV, 200mA).

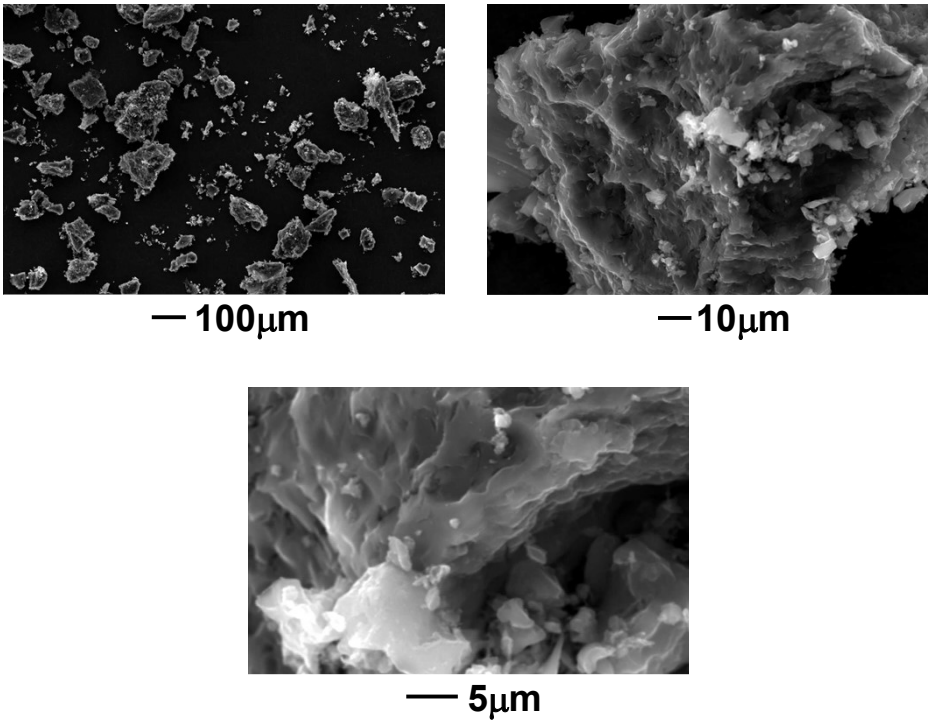

Fig. S4 SEM images of PC3000 (JEOL Ltd., JSM-6380 Scanning Electron Microscope).

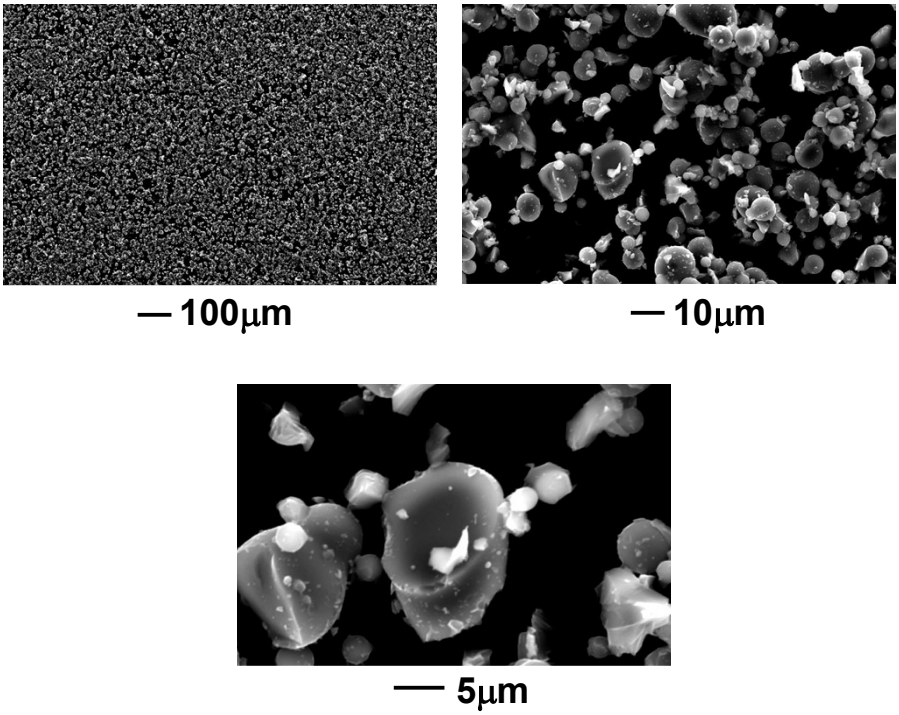

Fig. S5 SEM images of PC1000 (JEOL Ltd., JSM-6380 Scanning Electron Microscope).

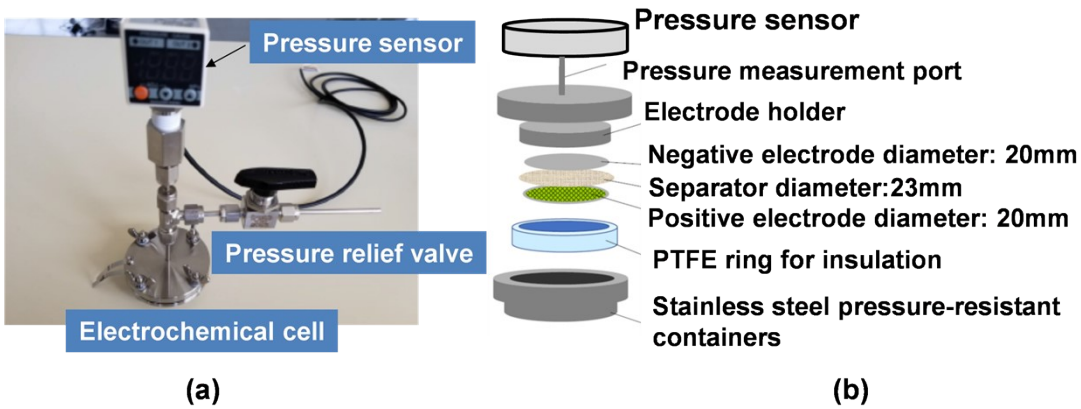

Fig. S6 Overview and schematic diagram of electrochemical cell to measure pressure in the cell and charge /discharge capacity of porous carbons.

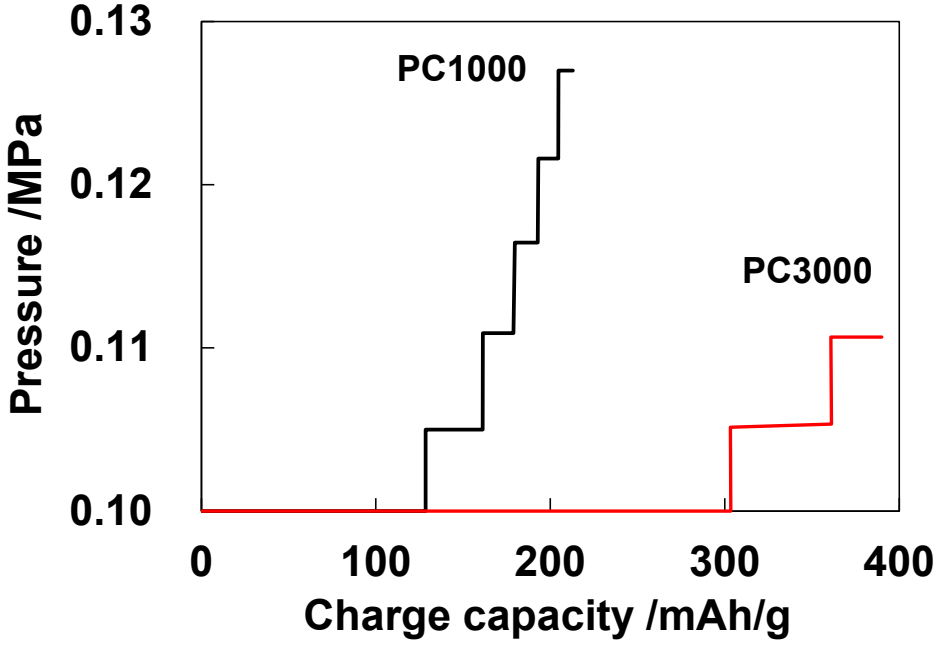

Fig. S7 Relations between gas pressures and charge capacities.

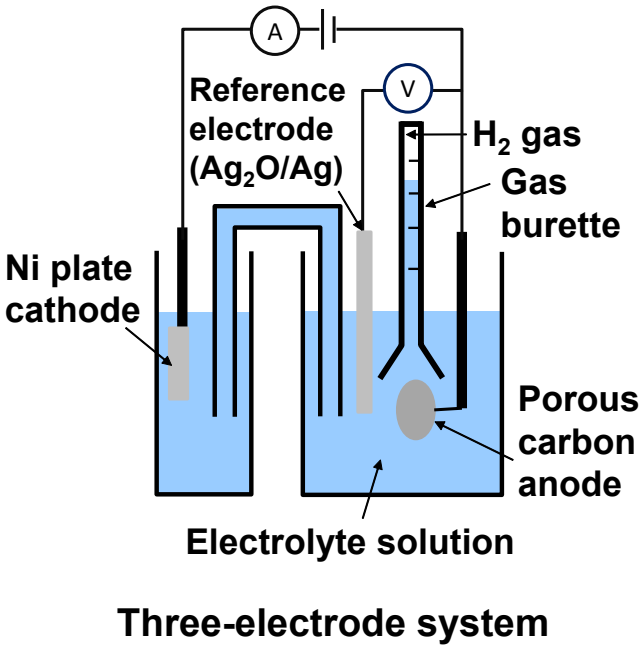

Fig. S8 Schematic diagram of three-electrode system with gas burette to measure charge capacity removed H_2 evolution and standard electrode potential (electrolyte solution, KOH 2N, 7N, NaOH 2N, 8N).

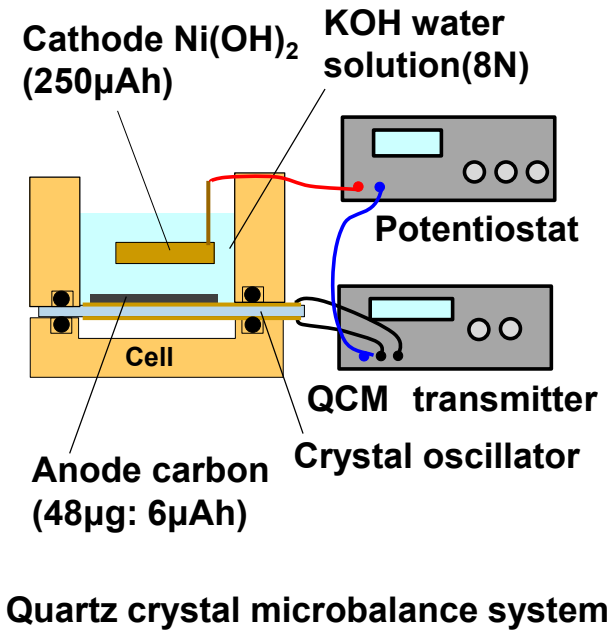

Fig. S9 Schematic diagram of quartz crystal microbalance system (cathode $Ni(OH)_2$, anode PC1000, electrolyte: KOH, concentration: 8N).