



Supporting Information

for

Gas sorption porosimetry for the evaluation of hard carbons as anodes for Li- and Na-ion batteries

Yuko Matsukawa, Fabian Linsenmann, Maximilian A. Plass, George Hasegawa, Katsuro Hayashi and Tim-Patrick Fellingner

Beilstein J. Nanotechnol. **2020**, *11*, 1217–1229. doi:10.3762/bjnano.11.106

Additional figures

Total Publications
4.907 Analyze

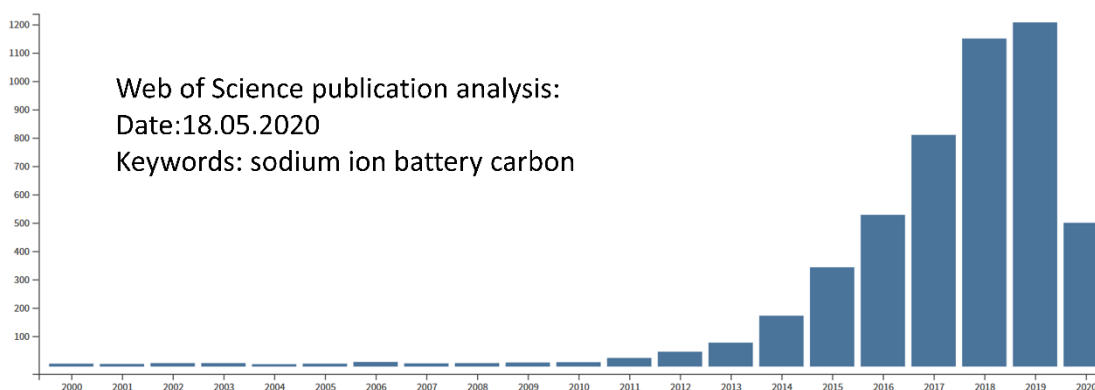


Figure S1: Publication trend since the year 2000 on carbons for SIBs according to Web of Science.

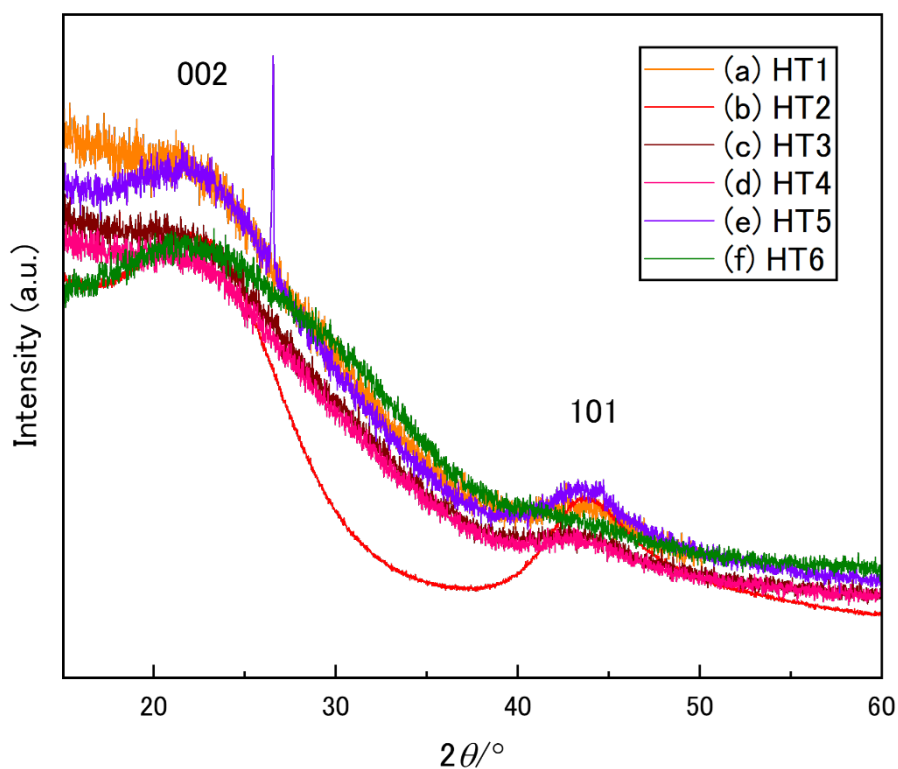


Figure S2: Powder X-ray diffraction pattern of HT2. $d_{002} = 4.02 \text{ \AA}$ ($2\theta = 22.1^\circ$), $d_{101} = 2.06 \text{ \AA}$ ($2\theta = 43.9^\circ$).

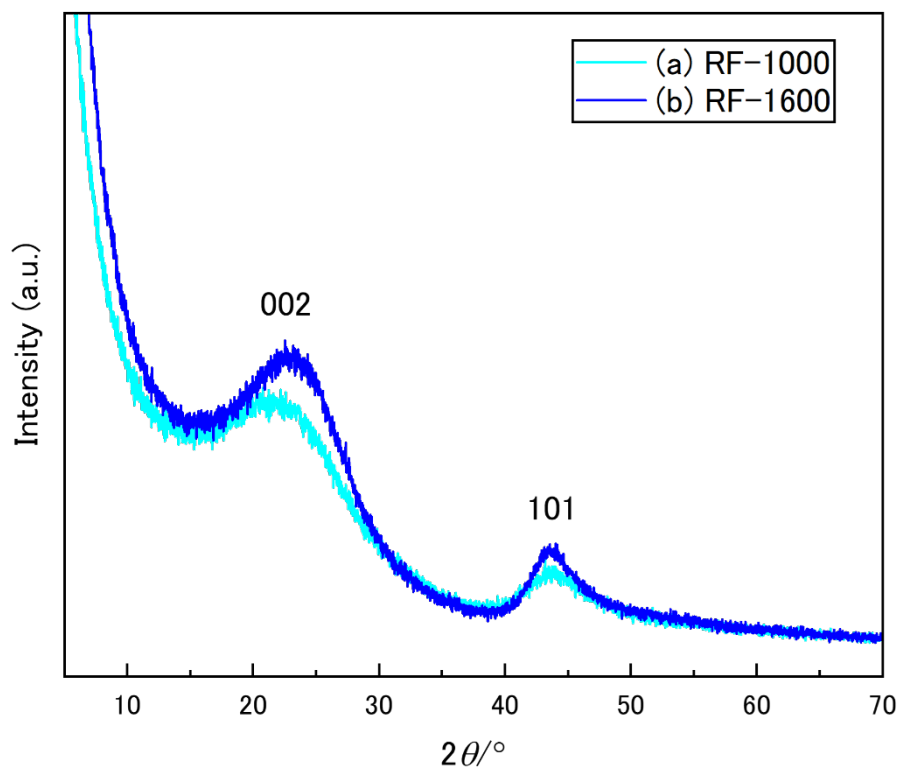


Figure S3: Powder X-ray diffraction patterns of (a) RF-1000 and (b) RF-1600. (a) $d_{002} = 4.28 \text{ \AA}$ ($2\theta = 20.8^\circ$), $d_{101} = 2.09 \text{ \AA}$ ($2\theta = 43.2^\circ$), (b) $d_{002} = 3.94 \text{ \AA}$ ($2\theta = 22.5^\circ$), $d_{101} = 2.06 \text{ \AA}$ ($2\theta = 44.0^\circ$).

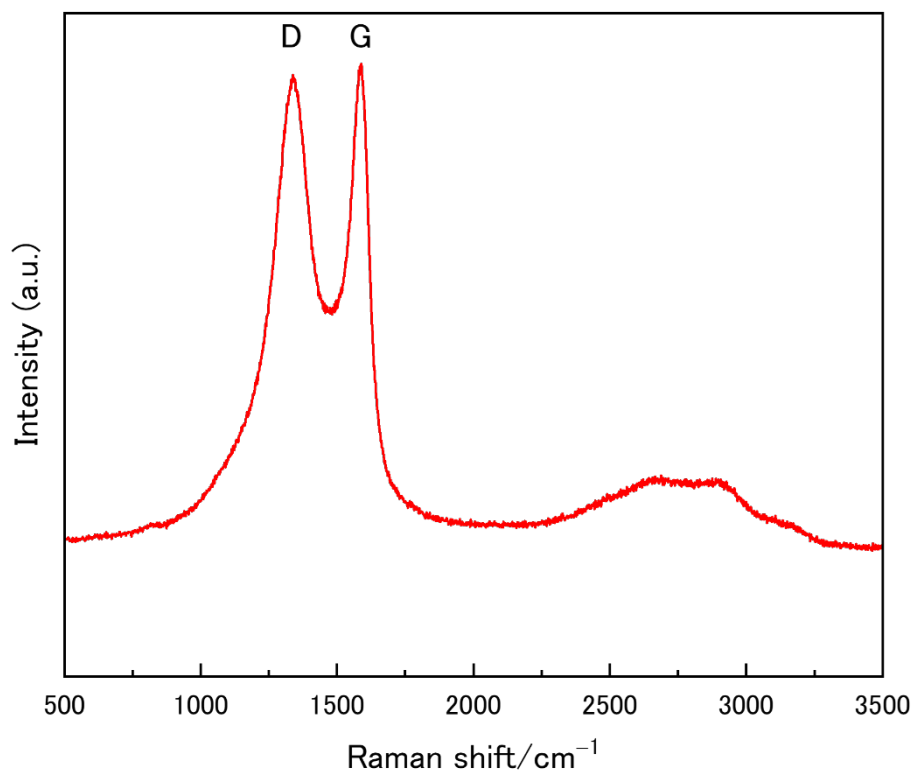


Figure S4: Raman spectrum of HT2. $I_D/I_G = 0.98$.

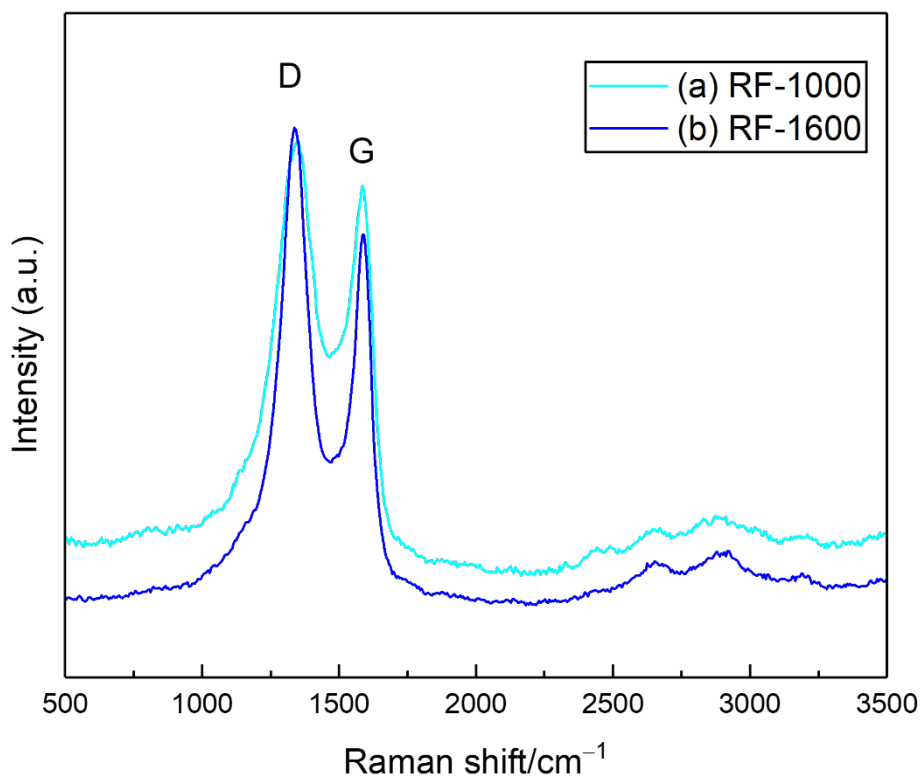


Figure S5: Raman spectra of (a) RF-1000 and (b) RF-1600. (a) $I_D/I_G = 1.12$, (b) $I_D/I_G = 1.29$. c) Micropore size distributions of the carbons calcined at different temperatures obtained from the corresponding N_2 isotherms by the Horvath–Kawazoe (HK) method. The carbons treated above 1600 °C possessed negligible micropores.

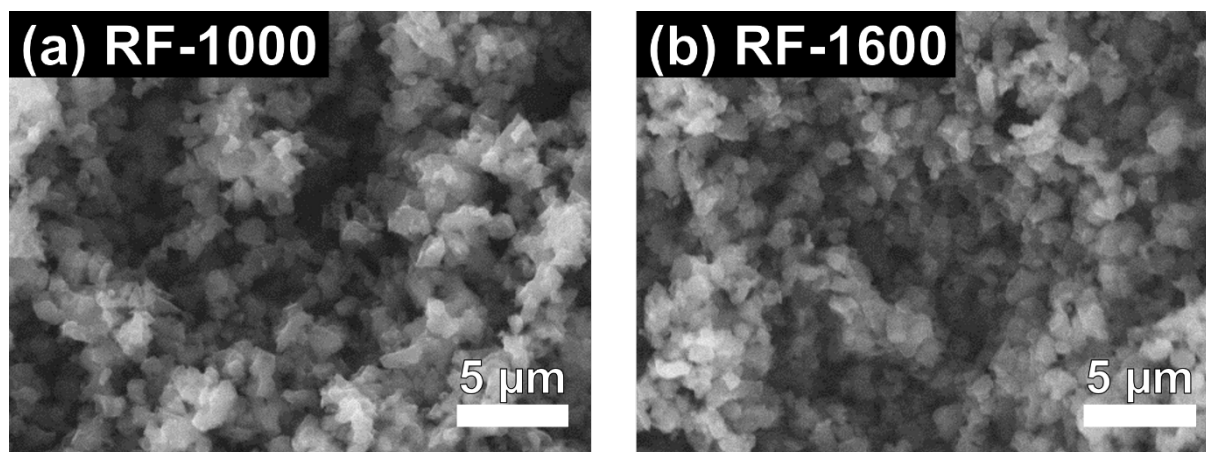


Figure S6: SEM images of RF carbons. (a) RF-1000, (b) RF-1600.

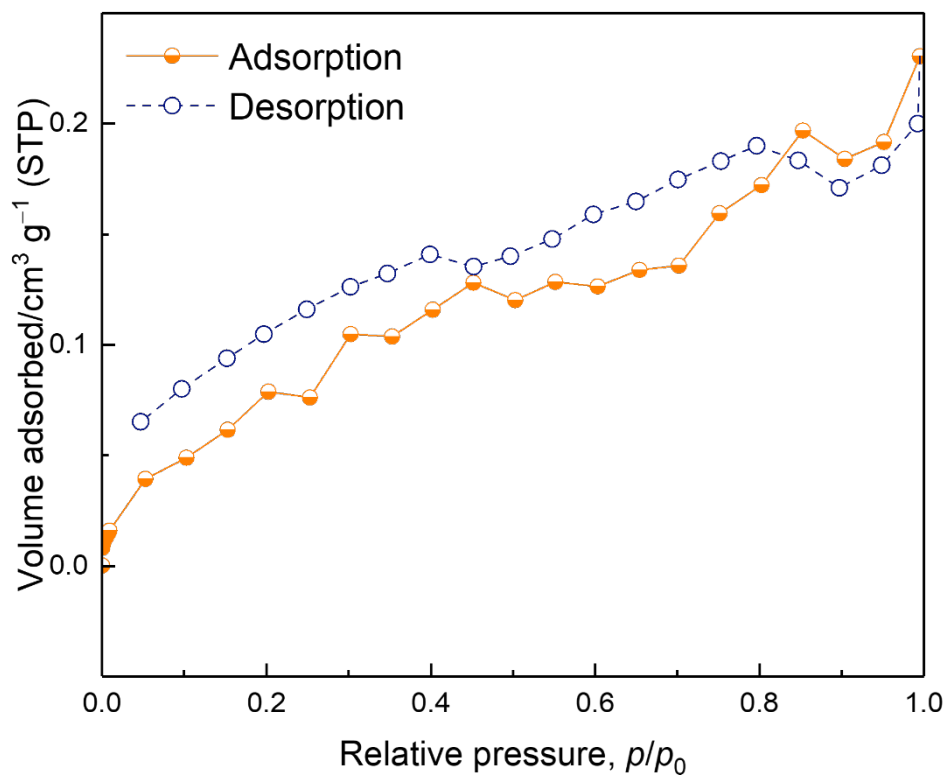


Figure S7: Failed N₂ sorption isotherms of HT1.

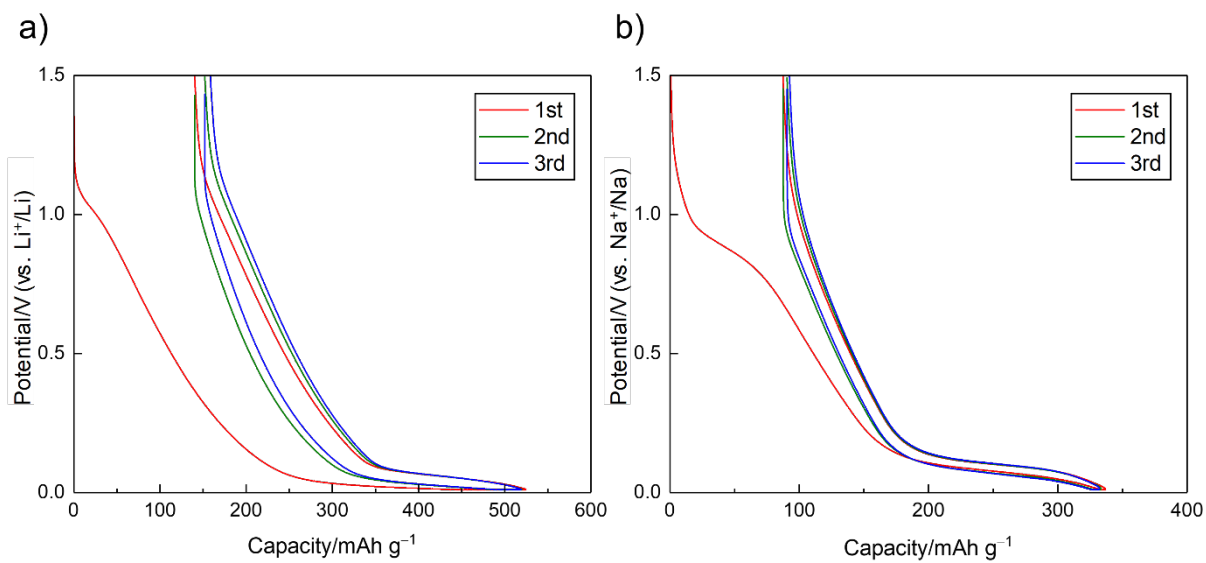


Figure S8: Charge-discharge curves of HT2 vs (a) Li and (b) Na metal electrode.