

Electronic Supplementary Information

High-performance CO₂ sorbents from algae

Marta Sevilla,^{a*} Camillo Falco,^{b,c} Maria-Magdalena Titirici,^c Antonio

B. Fuertes^a

^a Instituto Nacional del Carbón (CSIC), P.O. Box 73, 33080 Oviedo, Spain. Fax: +34 985 29 76 62; Tel: +34 985 11 90 90; E-mail: martasev@incarc.csic.es (M. Sevilla)

^b IASS – Institute for Advanced Sustainability Studies, Berliner Strasse 130, 14467, Potsdam (Germany)

^c Colloid Chemistry, Max-Planck Institute for Colloids and Interfaces, Am Mühlenberg 1, 14476, Potsdam (Germany)

Content:

Figure S1. SEM images of N-doped hydrothermal carbon (a) and N-doped porous carbon (b and c).

Figure S2. N₂ physisorption isotherms at -196 °C of the porous carbons.

Figure S3. Evolution of the apparent surface area and pore volume with the increase of the activation temperature for different KOH/HTC carbon weight ratios (closed symbols: apparent surface area, open symbols: pore volume): □, ■: 4; △, ▲: 2; ◇, ◆: 1.

Figure S4. Correlation between the a) apparent surface area and b) total pore volume and the CO₂ uptake (at 0 °C and 1 bar) of the porous carbon materials: closed symbols - activated carbons from HTC algae and open symbols – activated carbons from HTC starch, cellulose and sawdust.

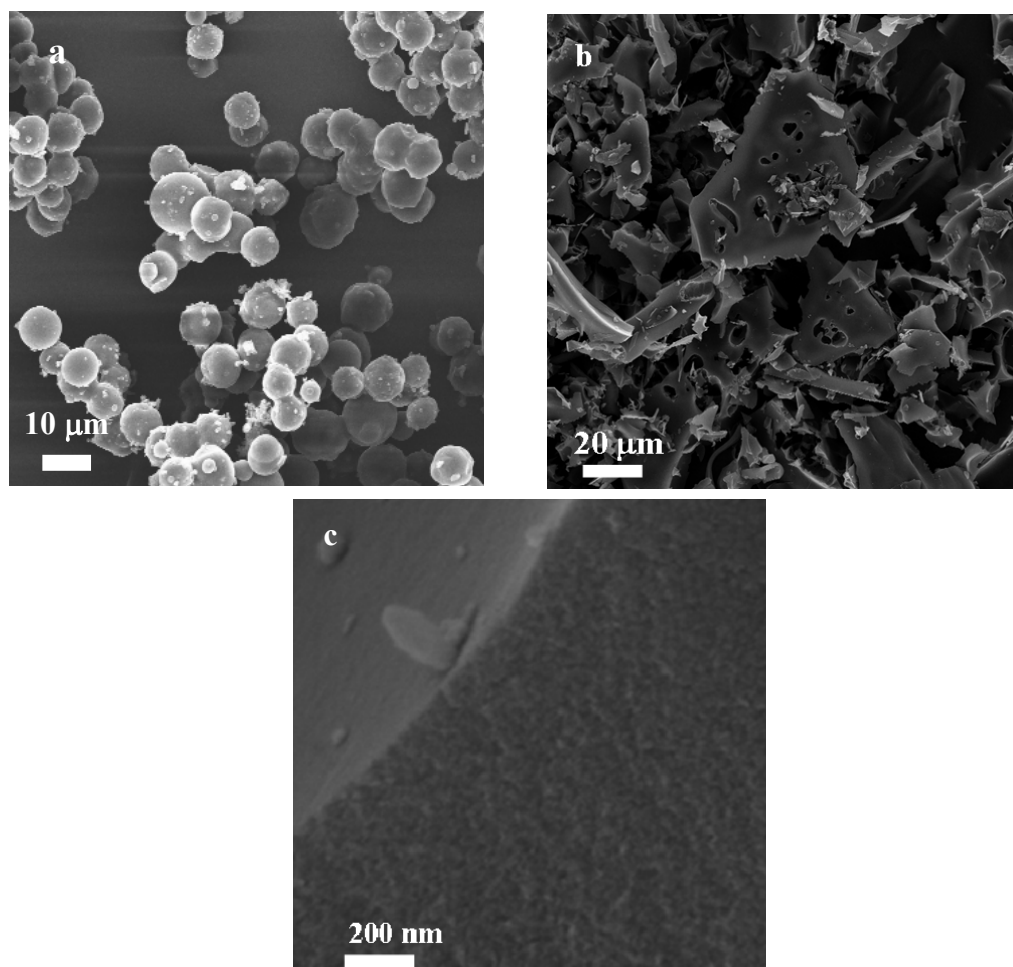


Figure S1. SEM images of N-doped hydrothermal carbon (a) and N-doped porous carbon (b and c).

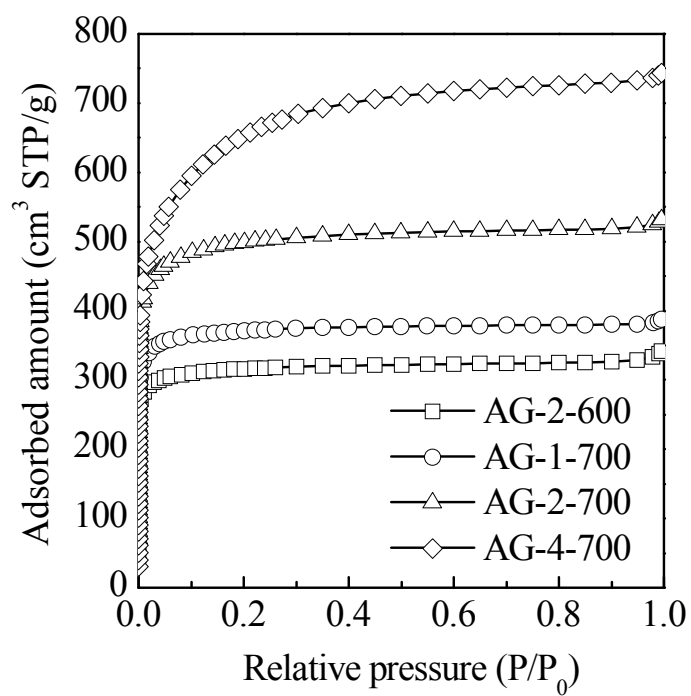


Figure S2. N₂ physisorption isotherms at -196 °C of the porous carbons.

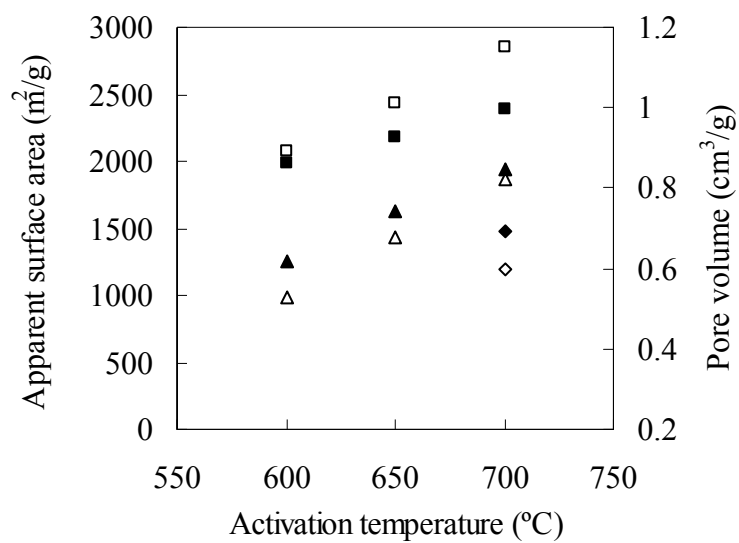


Figure S3. Evolution of the apparent surface area and pore volume with the increase of the activation temperature for different KOH/HTC carbon weight ratios (closed symbols: apparent surface area, open symbols: pore volume): □, ■: 4; △, ▲: 2; ◇, ◆: 1.

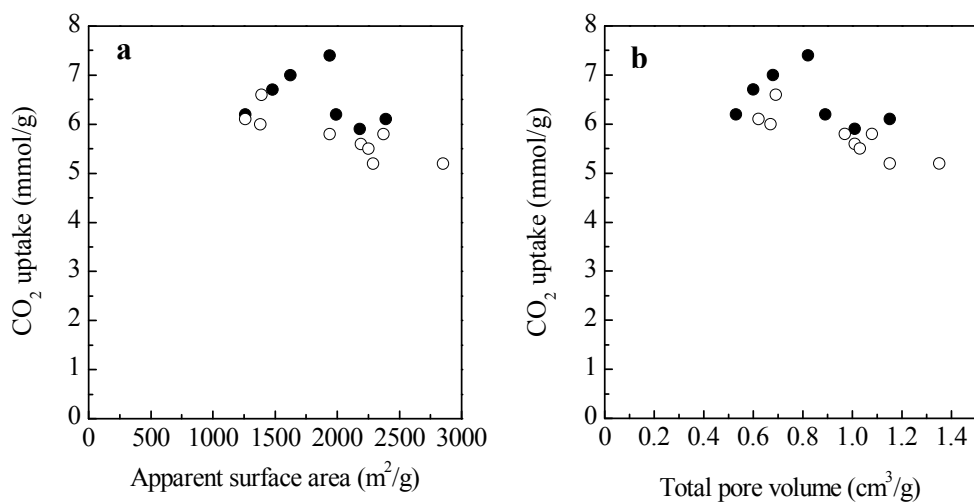


Figure S4. Correlation between the a) apparent surface area and b) total pore volume and the CO₂ uptake (at 0 °C and 1 bar) of the porous carbon materials: closed symbols - activated carbons from HTC algae and open symbols – activated carbons from HTC starch, cellulose and sawdust.