# Capturing Sulfur: A comparative study on sulfur infiltration techniques of carbon aerogels and novel methods for microstructural analysis

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## Supporting information

***Table S1: Specific surface area, C constant and correlation coefficient from nitrogen isotherms***

| **Sample** | **$S_{BET}$, [m²/g]** | ***C* constant** | **Correlation coefficient $R^2$** |
|---|---|---|---|
| $CA_a$ | 827±21 | 2,906 | 0.99999 |
| $CA_{ad}$ | 2440±110 | 223 | 0.99999 |
| $CA_{a,\ 600°C}$ | 740±64 | 2,916 | 0.99999 |
| $CA_{a,\ MW}$ | 761±17 | 2,993 | 0.99999 |

The specific surface area was determined using the multi-point Brunauer-Emmett-Teller (BET) method. The calculation was performed in the relative pressure range of 0.05 to 0.13 using MicroActive Version 7.00 software.

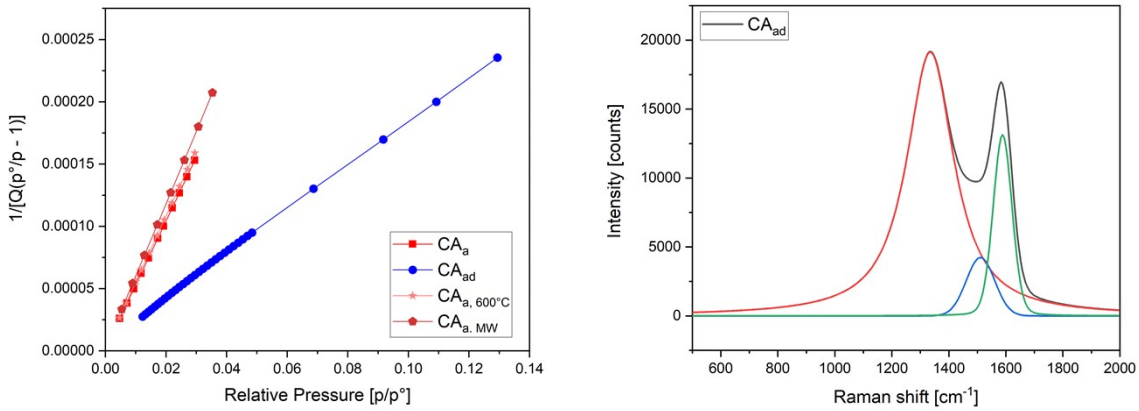


***Figure S1: a) Rouquerol BET fits at relative pressure 0.01 to 0.13; b) Raman spectra of $CA_{ad}$ with fits***

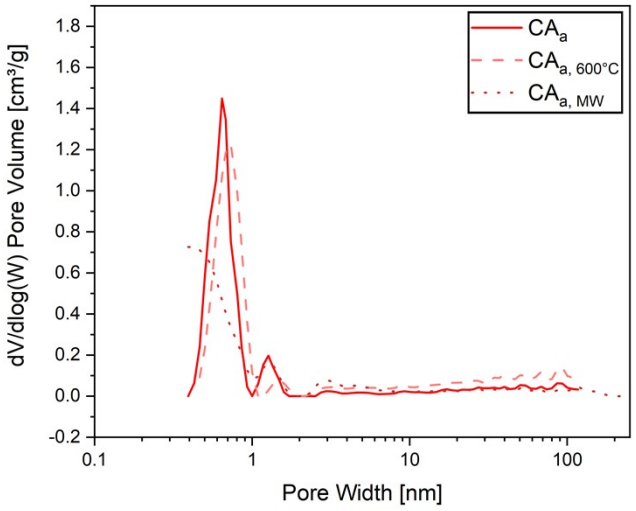


*Figure S2: Pore size distribution of pure $CA_a$ and of $CA_a$ after different treatments*

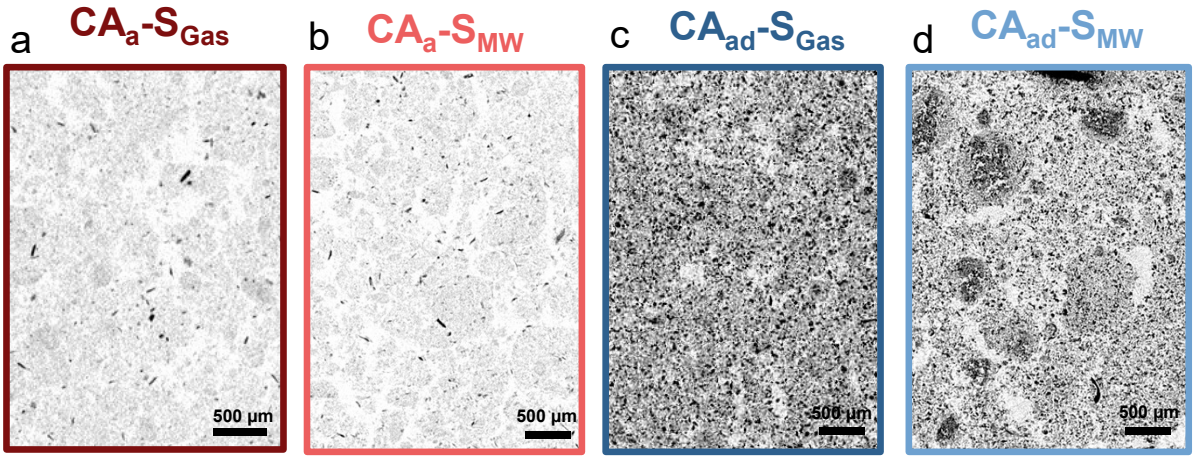


*Figure S3: Reconstructed cross-sectional images of the analyzed carbon sulfur aerogels. In this depiction, material with a higher density appears darker in the images.*

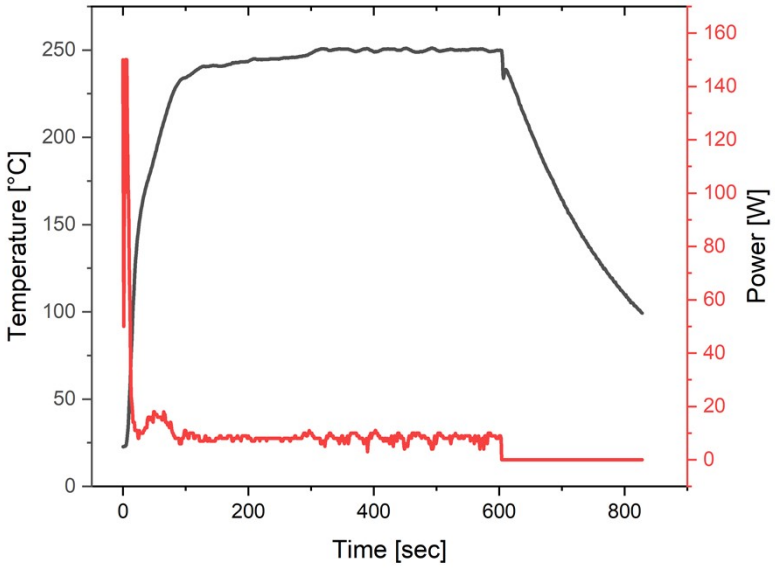


***Figure S4: The power – temperature plots during microwave treatment***