*fibers*

MDPI

# *Supplementary Material*

*Article*

# Improve in $CO_2$ and $CH_4$ Adsorption Capacity on Carbon Microfibers Synthesized by Electrospinning of PAN

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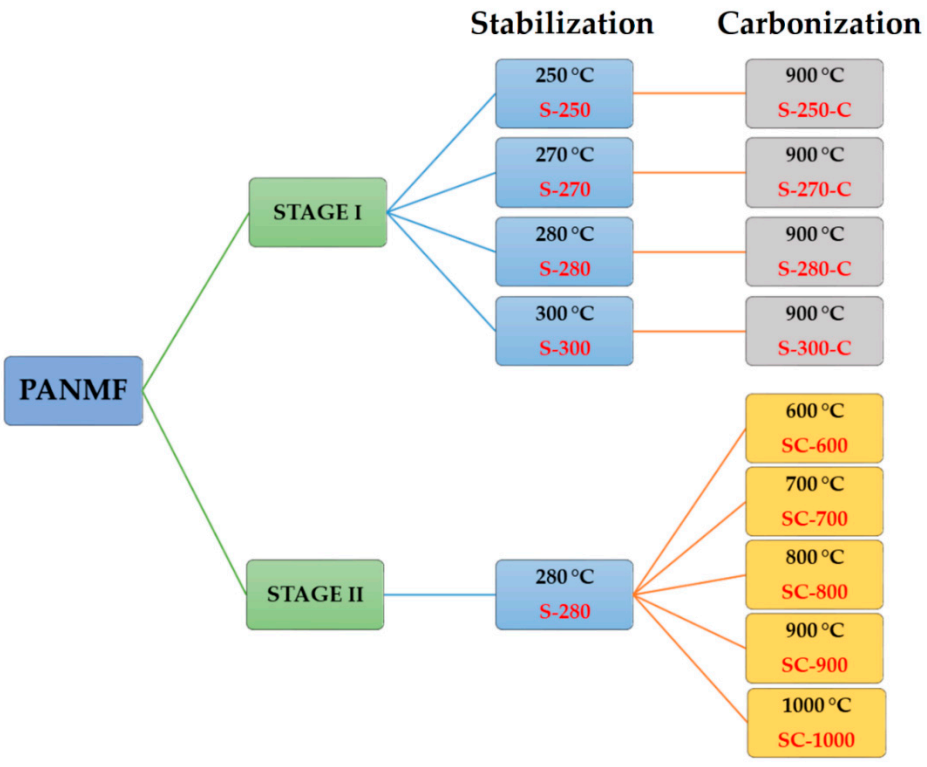


**Figure S1.** Nomenclature of PAN microfibers stabilized and carbonized, synthetized by electrospinning.

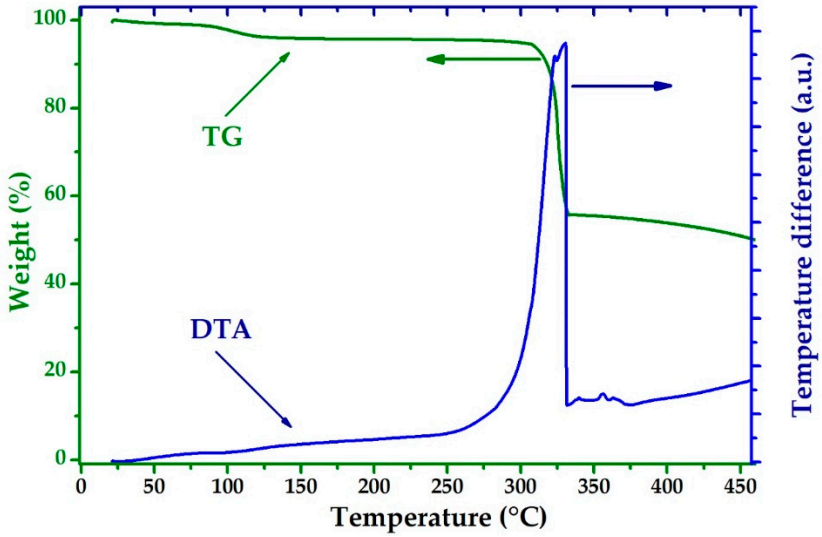


**Figure S2.** TG/DTA analysis of polyacrylonitrile microfibers (PANMFs), synthesized by the electrospinning method. Reaching a temperature of 300 °C the material begins to degrade thermally, therefore, in this work, an interval between 250 °C and 300 °C was selected

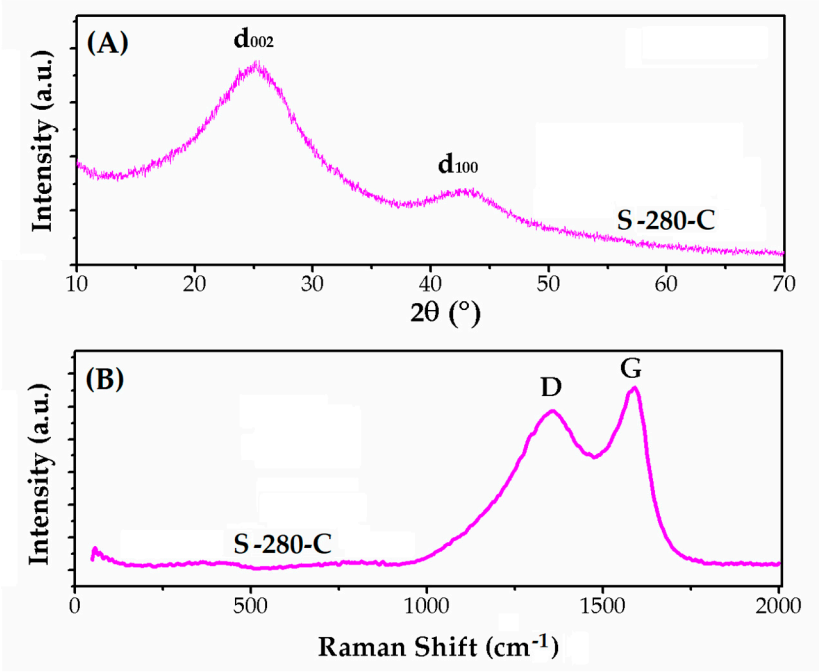


**Figure S3.** PAN microfibers stabilized at 280 °C and carbonized at 900 °C: (A) XRD analysis, the high amplitude of the peak between 5o and 35° in 2θ indicates a high degree of amorphicity on the graphene sheets. The signal in the plane (100) is attributed to the graphitic character of the material, and (B) Raman spectroscopy analysis, which exhibit two peaks, centered at 1360 $cm^{-1}$ and 1600 $cm^{-1}$, they are known as D and G peaks, respectively. The first peak is attributed to disordered carbon films while the second one is attributed to the presence of graphitic type ordered structures.