SUPPLEMENTARY MATERIAL

Electrochemical Performance of Electrochemical Capacitors Prepared with Activated Carbons from Sugar Cane Bagasse

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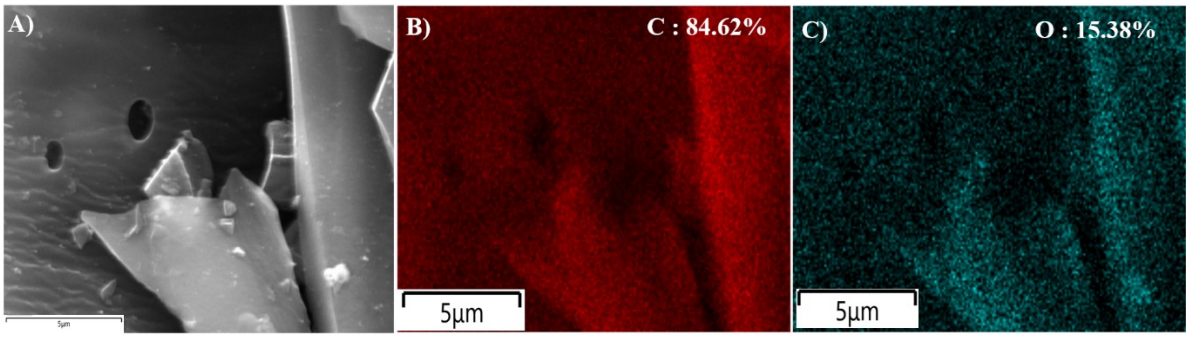

Figure 1S. A) SEM image of AC-1; EDX mapping of atoms **B)** Carbon and **C)** Oxygen

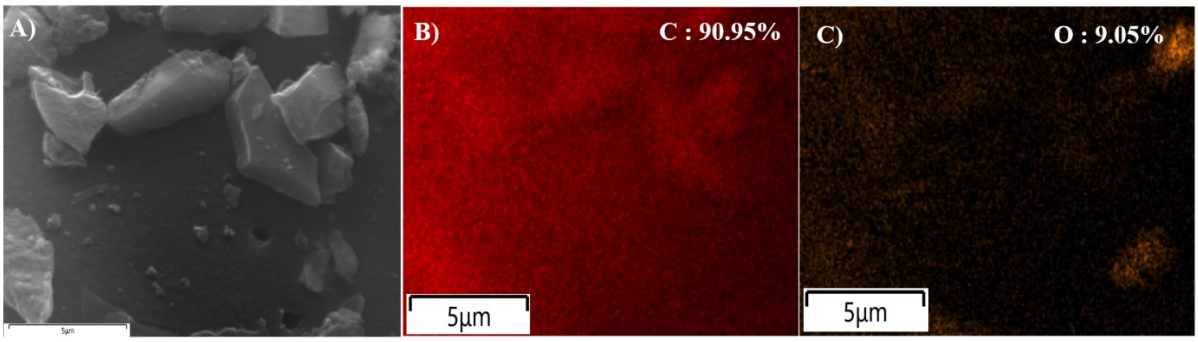

Figure 2S. A) SEM image of AC-2; EDX mapping of atoms **B)** Carbon and **C)** Oxygen

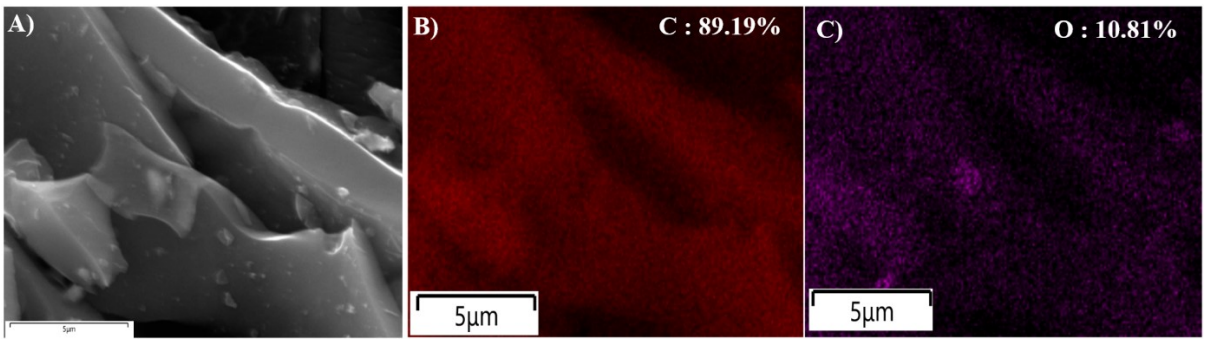

Figure 3S. A) SEM image of AC-4; EDX mapping of atoms **B)** Carbon and **C)** Oxygen.

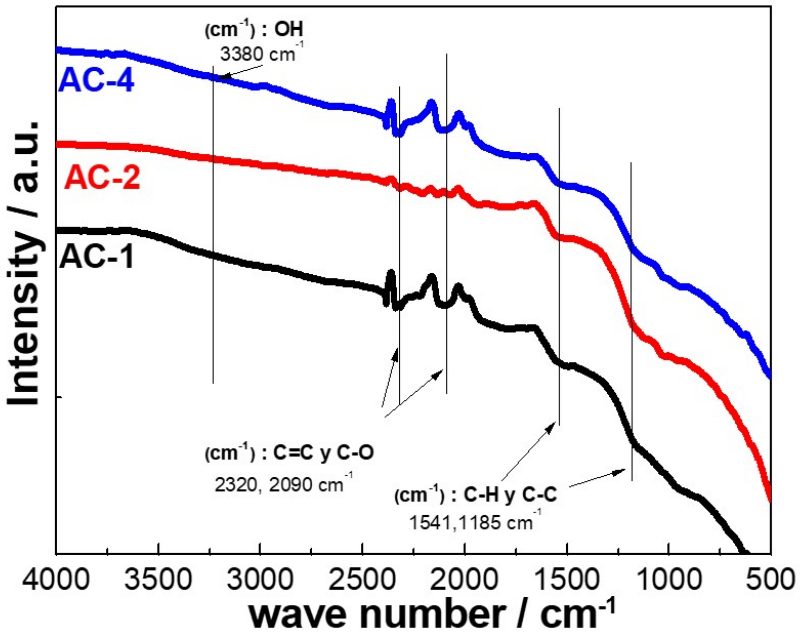

Figure 4S. IR spectrum of the synthesized AC materials.

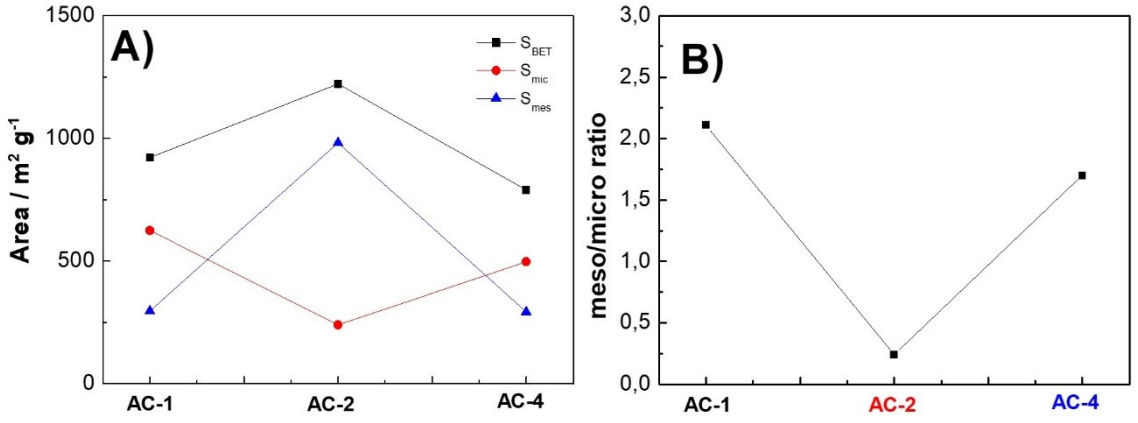

Figure 5S. A) Comparison of the different surface area contributions, including BET surface area (S_{BET}), micropore area (S_{micro}), and mesopore area (S_{mes}), for the activated carbon samples AC-1, AC-2, and AC-4. B) Variation of the meso/micro pore area ratio, highlighting differences in pore structure balance among the materials.

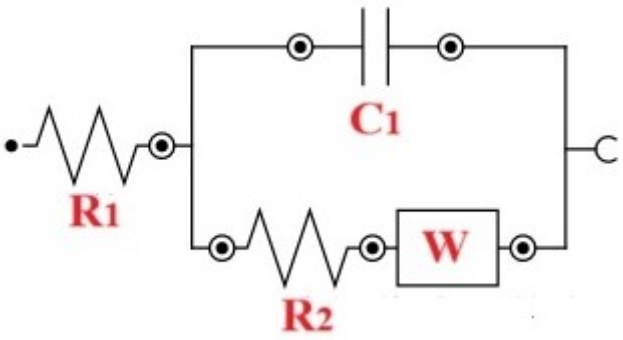

Figure 6S. Equivalent circuit obtained from EIS

Table 1S. Values of the elements of the equivalent circuit of the EIS

Materials	Elements							
	R1		C2		R2		W	
	Valor (Ω)	Error (%)	Valor (μF)	Error (%)	Valor (Ω)	Error (%)	Valor (Mho*s$^{1/2}$)	Error (%)
AC-1	0.61	14.83	19.40	8.97	183.4	8.33	25.63	17.87
AC-2	0.64	16.03	13.79	9.65	133.6	5.57	24.63	16.34
AC-4	0.49	19.91	23.91	12.55	78.01	12.42	16.94	15.42

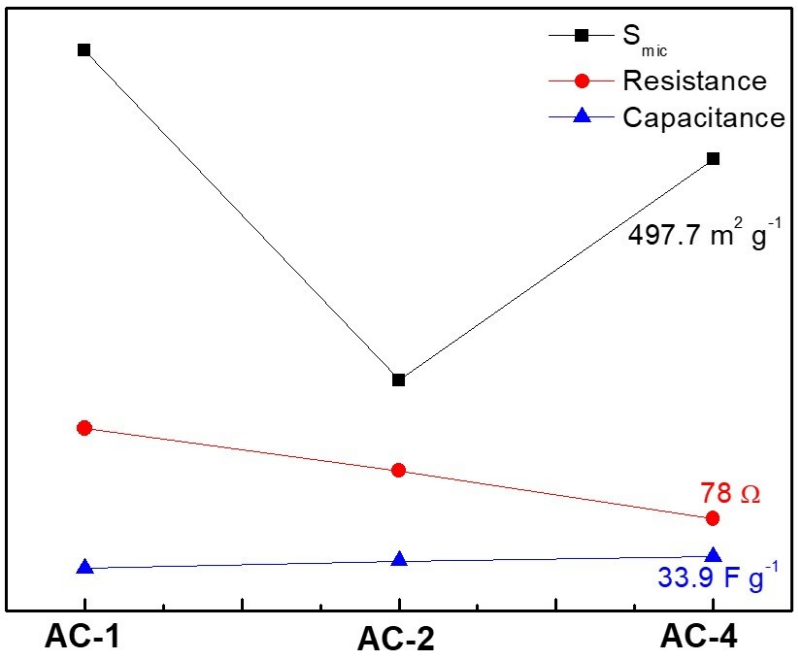

Figure 7S. Relationship between pore size distribution, diffusion resistance, and specific capacitance of the developed coin cells

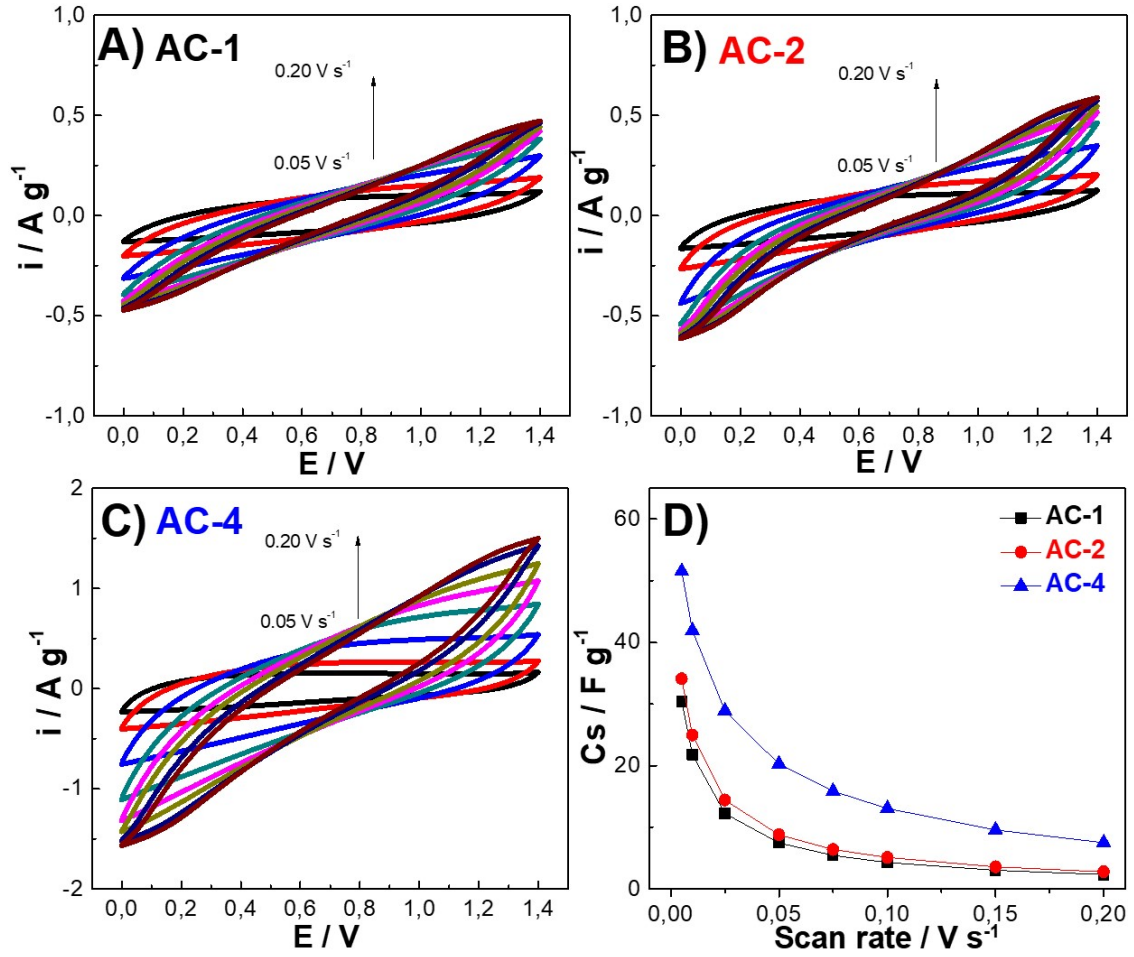

Figure 8S. Analysis of devices **A)** AC-1, **B)** AC-2 and **C)** AC-4 at different scan rates (0.05 - 0.2 V s^{-1}) and **D)** Evaluation of specific capacitance (Cs) (F g^{-1}) versus different scan rates (V s^{-1})

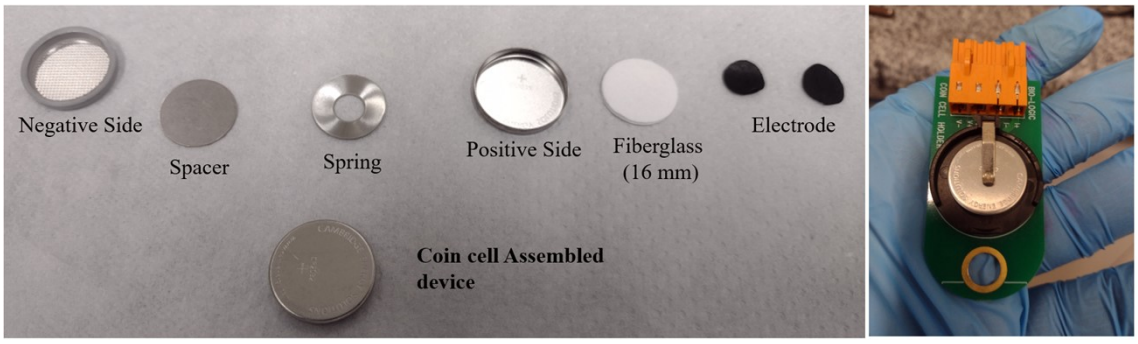

Figure 9S. Images of the parts and assembled coin cell device