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Supplementary Materials

Nanoporous Carbon Electrodes Derived from Coffee Side Streams for Supercapacitors in Aqueous Electrolytes

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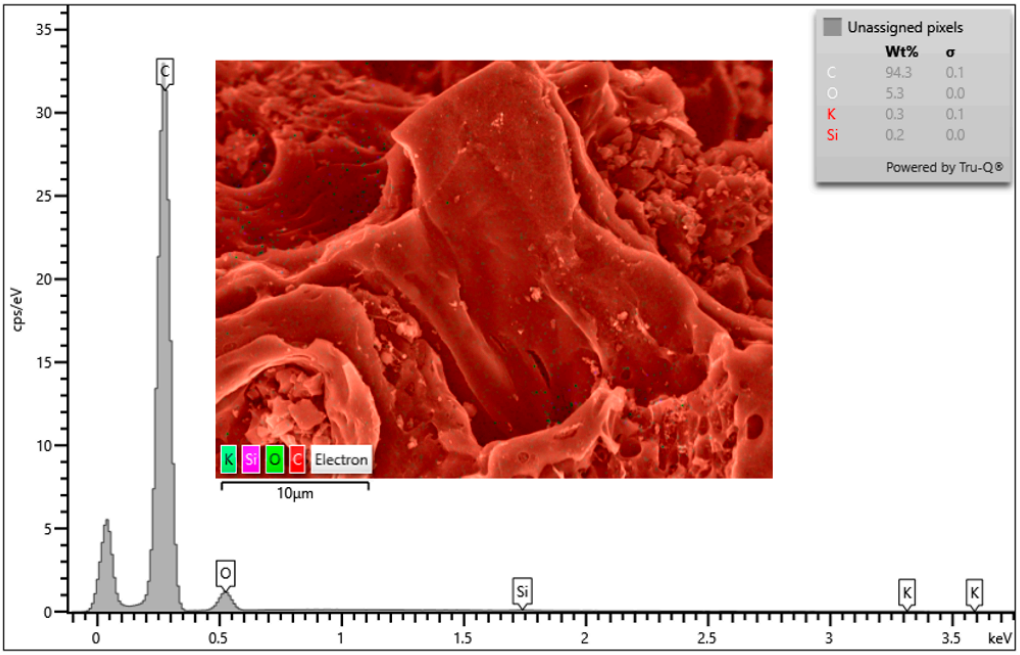

Figure S1. EDX spectrum of AC—CSS, with an elemental map and the respective share of elements detected.

Table S1. Weight of the individual electrodes used for the respective measurements.

	CV and GCD				**Long Term cycling**			
	Electrode weight		Respective AC		Electrode weight		Respective AC	
	Anode [mg]	Cathode [mg]	Anode [mg]	Cathode [mg]	Anode [mg]	Cathode [mg]	Anode [mg]	Cathode [mg]
YP—80F	4.18	4.27	3.76	3.84	4.26	4.26	3.83	3.83
AC—CSS	3.11	3.12	2.80	2.81	3.26	3.25	2.93	2.93
3 mM CA	3.24	3.25	2.92	2.93	3.2	3.18	2.88	2.86
3 mM pBQ	3.34	3.32	3.01	2.99	3.04	3.03	2.74	2.73
3 mM MHQ	3.40	3.35	3.06	3.02	3.07	3.06	2.76	2.75
0.1 M pBQ	2.99	2.96	2.69	2.66	2.80	2.80	2.52	2.52
2.3 M MHQ	3.03	3.1	2.73	2.79	2.82	2.73	2.54	2.46

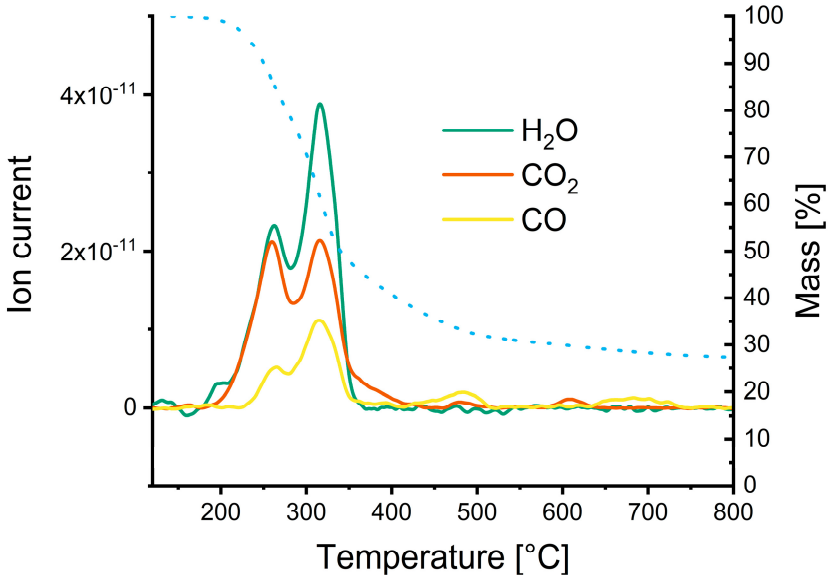

Figure S2. Evaluation of the most common gases during biomass pyrolysis under inert conditions.

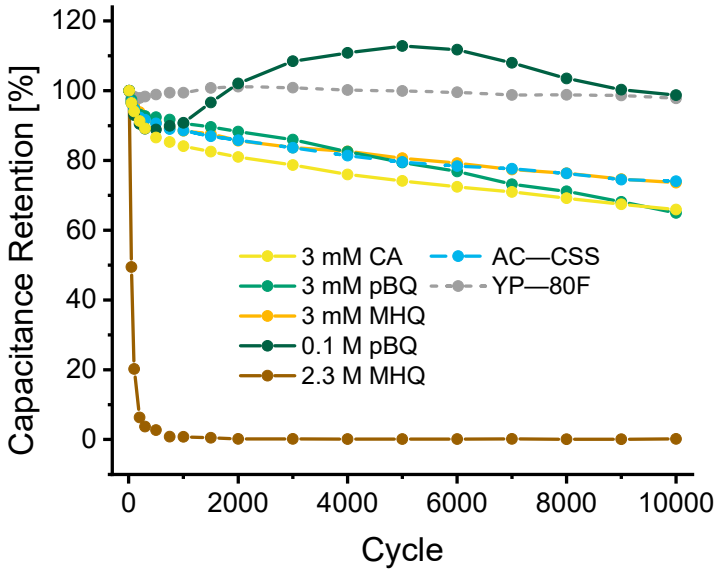

Figure S3. Capacitance retention over 10000 cycles.

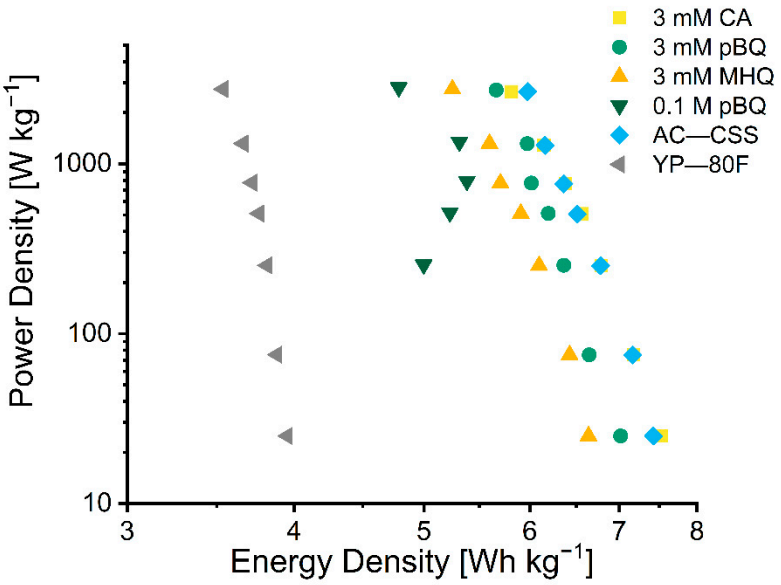

Figure S4. Ragone plot based on GCD-data. Due to the strong cycle dependence of 2.3 M MHQ, this measurement was not included.

Table S2. Capacitances at different current densities.

Current Density	**YP80F**	**AC—CSS**	**3mM CA**	**3mM pBQ**	**3mM MHQ**	**0.1 M pBQ**	**2.3 M MHQ ***
[A g^{-1}]	[F g^{-1}]	[F g^{-1}]	[F g^{-1}]	[F g^{-1}]	[F g^{-1}]	[F g^{-1}]	[F g^{-1}]
0.1	113.8	213.8	216.5	202.0	191.1	-- **	-- **
0.3	111.7	206.2	206.5	191.4	185.0	-- **	433.2
1.0	109.9	195.1	195.4	183.3	175.6	144.0	151.6
2.0	108.4	187.6	188.9	178.4	170.1	150.6	< 1
3.0	107.1	183.2	183.7	173.3	164.2	155.1	< 1
5.0	105.5	177.4	177.1	172.1	161.2	153.1	< 1
10.0	101.9	172.1	167.4	163.1	151.2	137.9	< 1

* 2.3M MHQ shows a strong cycle dependence thus values should be taken with caution
** charging times were exceeding one hour

Table S3. Capacitances at different scan rates.

Scan Rate	YP—80F	AC—CSS	3mM CA	3mM pBQ	3mM MHQ	0.1 M pBQ	2.3M MHQ *
[mV s^{-1}]	[F g^{-1}]	[F g^{-1}]	[F g^{-1}]	[F g^{-1}]	[F g^{-1}]	[F g^{-1}]	[F g^{-1}]
2	125.3	243.8	242.4	250.7	228.1	261.7	456.7
5	121.3	232.4	230.9	237.2	216.4	280.5	306.8
10	118.5	223.4	221.6	227.5	207.0	268.1	207.5
20	115.8	214.0	211.7	218.0	196.3	245.6	130.9
50	112.2	198.3	196.0	200.3	180.5	237.9	22.5
100	107.6	185.6	181.7	184.1	164.8	205.7	11.4

* 2.3M MHQ shows a strong cycle dependance thus values should be taken with caution