

# Supporting Information

for

## Mechanochemistry-assisted synthesis of hierarchical porous carbons applied as supercapacitors

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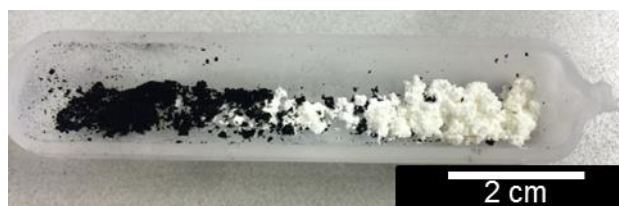
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**Additional data**



**Figure S1:** Reference sample Ti citrate after chlorine treatment.

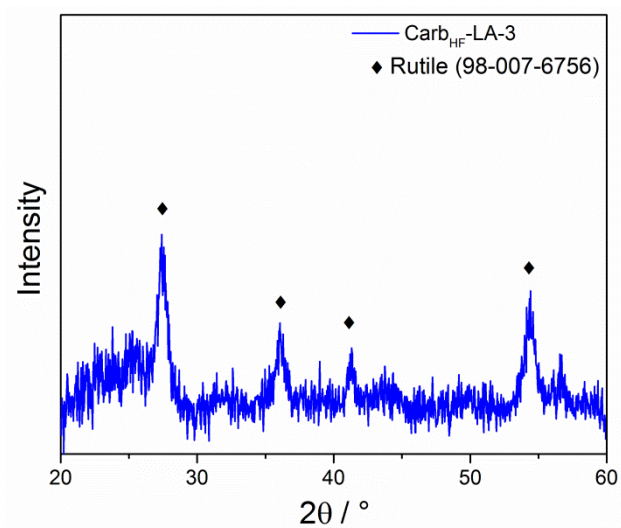
**Table S1:** Porosity data summary for different carbon samples calculated by QSDFT.

Sample	$SSA_{d < 0.7 \text{ nm}}$ $/ \text{m}^2 \text{g}^{-1}$	$SSA_{2 \text{ nm} > d > 0.7 \text{ nm}}$ $/ \text{m}^2 \text{g}^{-1}$	$SSA_{d > 2 \text{ m}}$ $/ \text{m}^2 \text{g}^{-1}$	$V_{d < 0.7 \text{ nm}}$ $/ \text{cm}^3 \text{g}^{-1}$	$V_{2 \text{ nm} > d > 0.7 \text{ nm}}$ $/ \text{cm}^3 \text{g}^{-1}$	$V_{2 \text{ nm} > d > 0.7 \text{ nm}}$ $/ \text{cm}^3 \text{g}^{-1}$
Carb-SF-1	295	328	804	0.07	0.16	1.11
Carb-SF-2	144	336	1019	0.03	0.16	1.43
Carb-SF-3	181	377	1018	0.04	0.19	1.60
Carb <sub>HF</sub> -LA-3	123	206	438	0.04	0.1	0.48
Carb-LA-3	135	310	1015	0.03	0.15	1.45

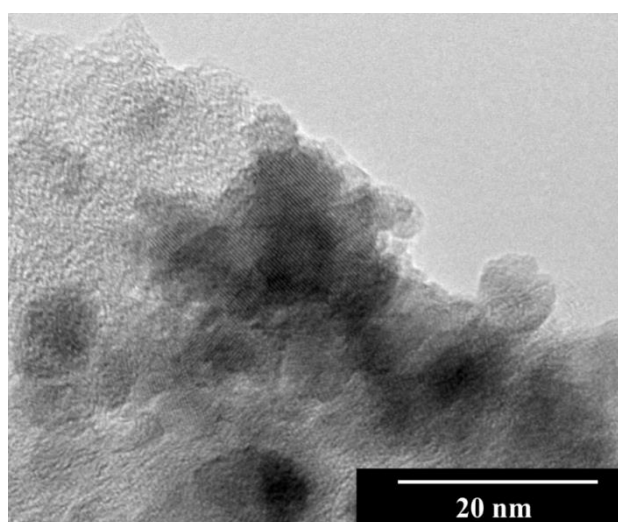
**Table S2:** Composition data of carbon samples determined by elemental analysis.

Sample	C $/ \text{wt} \%$	H $/ \text{wt} \%$	N $/ \text{wt} \%$	S $/ \text{wt} \%$	Residual mass $/ \text{wt} \%$
Comp-SF-1	31.2	0.4	1.9	0.0	66.5
Comp-SF-2	35.3	0.4	0.0	0.1	64.2
Comp-SF-3	31.6	0.4	2.2	0.1	65.7
Carb-SF-1	88.9	0.3	0.9	0.7	9.2
Carb-SF-3	92.1	0.4	0.7	0.2	6.6
Carb-LA-3	85.7	0.2	0.0	0.2	13.9

We could not identify the formation of a titanium carbide shell around the embedded  $\text{TiO}_2$  particles, preventing any etching by HF by TEM or XRD (Figure S2 and Figure S3).



**Figure S2:** XRD pattern of the sample Carb<sub>HF</sub>-LA-3 with residual rutile and the ideal signal positions for rutile (98-007-6756).



**Figure S3:** TEM image of sample Comp-SF-3.