

Supporting Information

Electrochemical Response of Highly Porous Percolative CGO Electrospun Membranes

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Figure S1 shows the scheme of the experimental procedure for the fabrication of CGO electrospun membranes. The spinning solution is prepared as described in Experimental section, and then processed using the conditions indicated in the scheme. The (green) nanofibers are collected and then calcinated to remove the organic component and promote the formation of the fluorite phase.

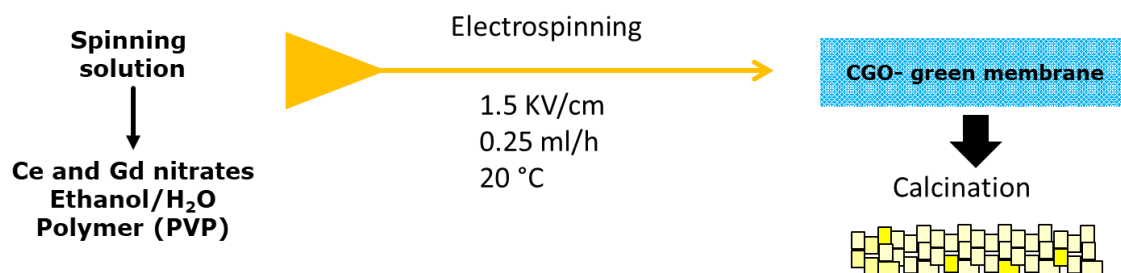


Figure S1. Scheme of the experimental procedure.

Figure S2 shows the thermogravimetric (TGA) and the differential thermal analysis profiles (DTA). At around of 330 ° all the organics (PVP) are decomposed. No peaks associated with decomposition are observed at higher temperatures.

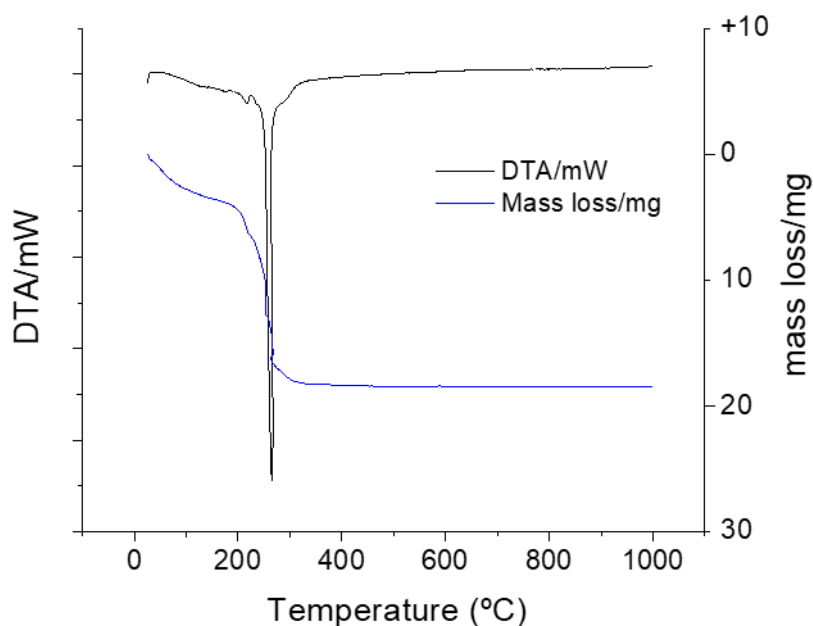


Figure S2. TGA and DTA profiles.

The composition of the nanofibers has been confirmed via EDS. The formation of CGO is confirmed as indicated in Figure 3S. The analysis refers to the CGO600. Similar results have been observed for the other samples.

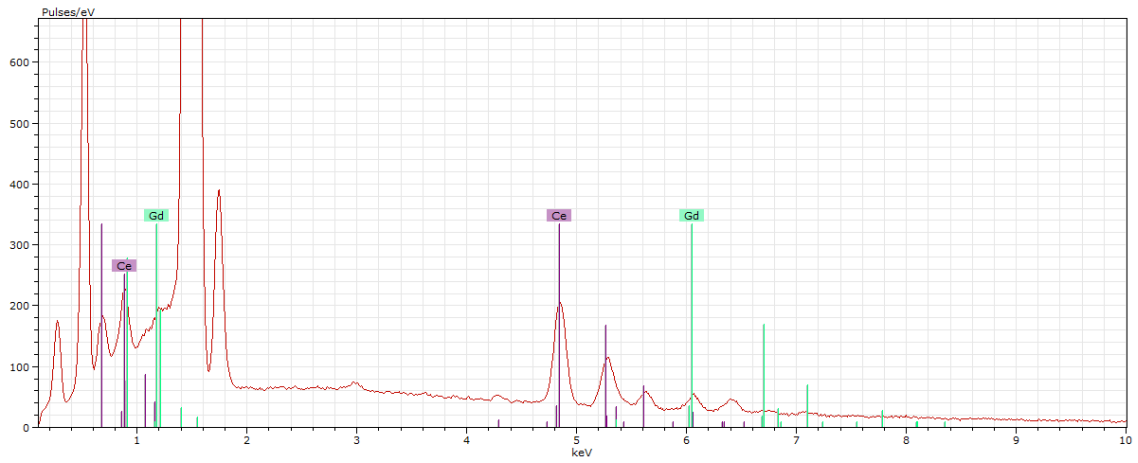


Figure S3. EDS analysis of CGO600.

A zoom of the (111) plane for the all developed materials is shown in Figure S4. The peak became gradually sharper as the temperature increases, indicating a growth of the crystallite's sizes.

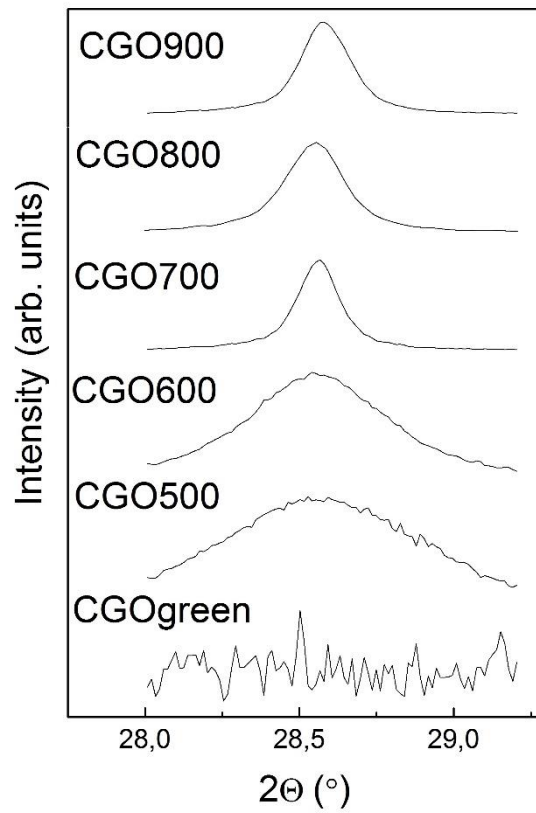
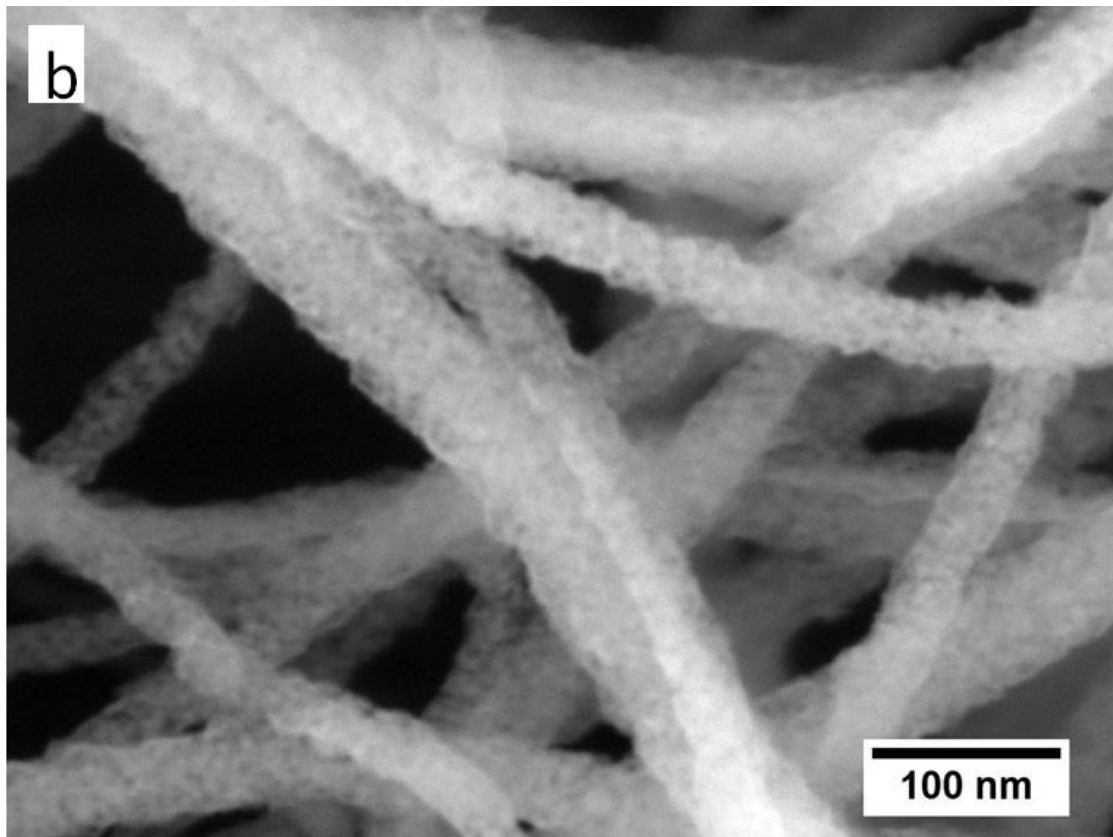
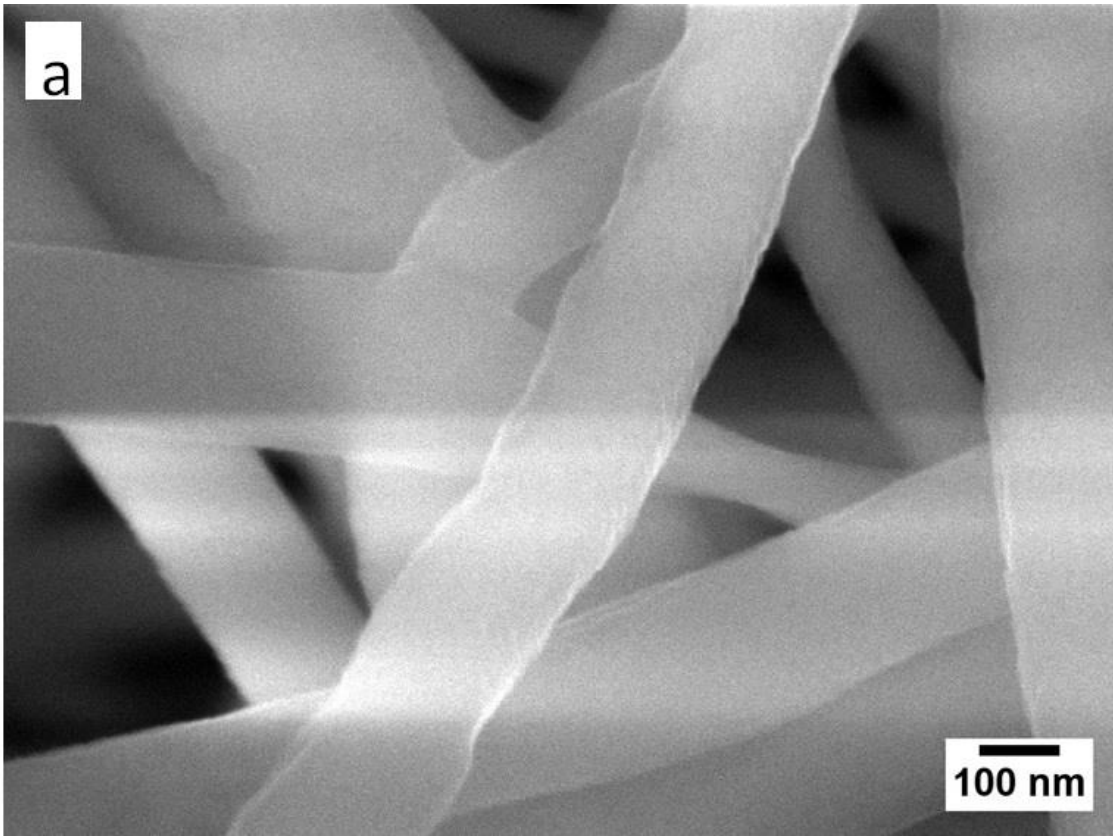
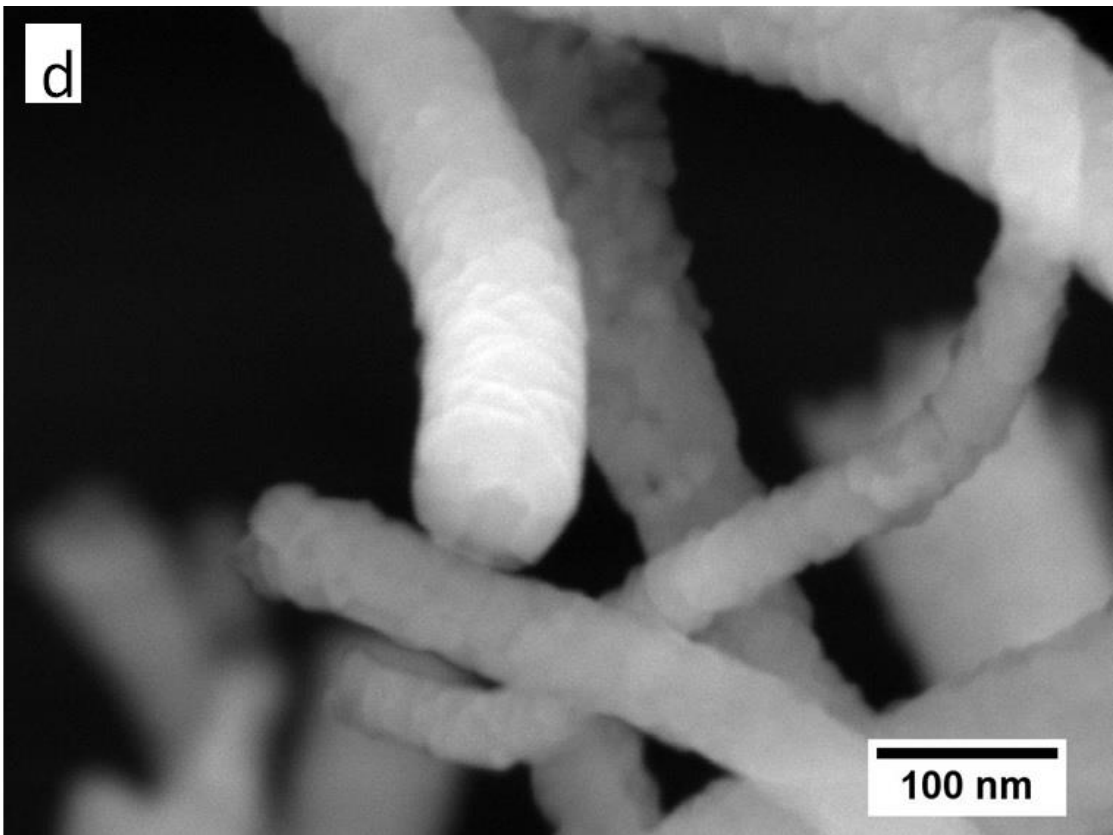
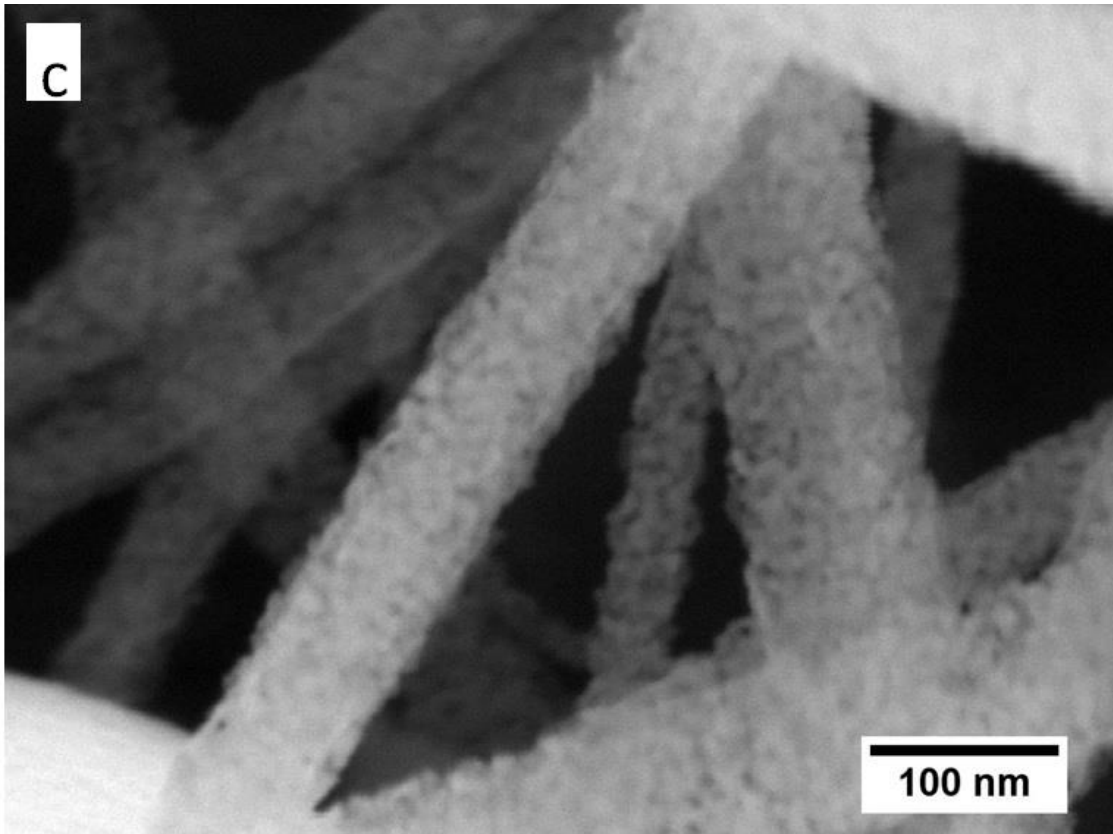


Figure S4. Zoom on (111) plane.

Figure S5 shows the high magnification SEM images used for the statistical evaluation of the grain dimensions.





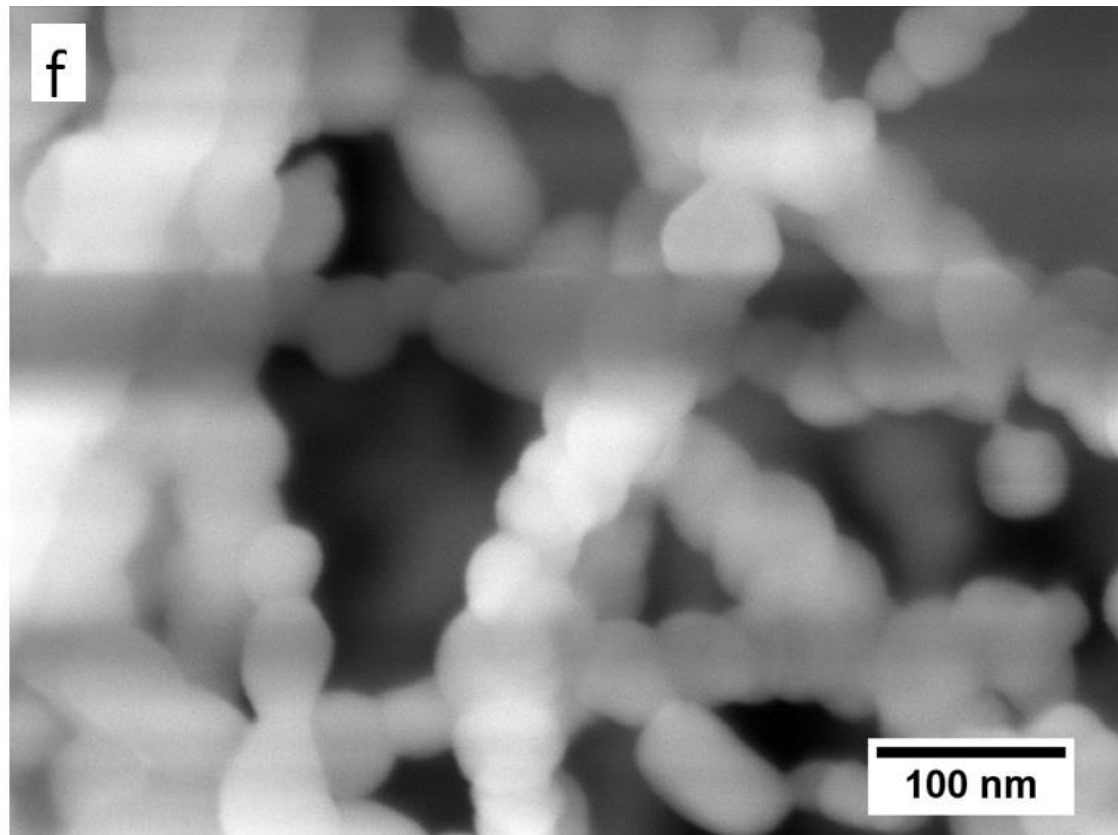
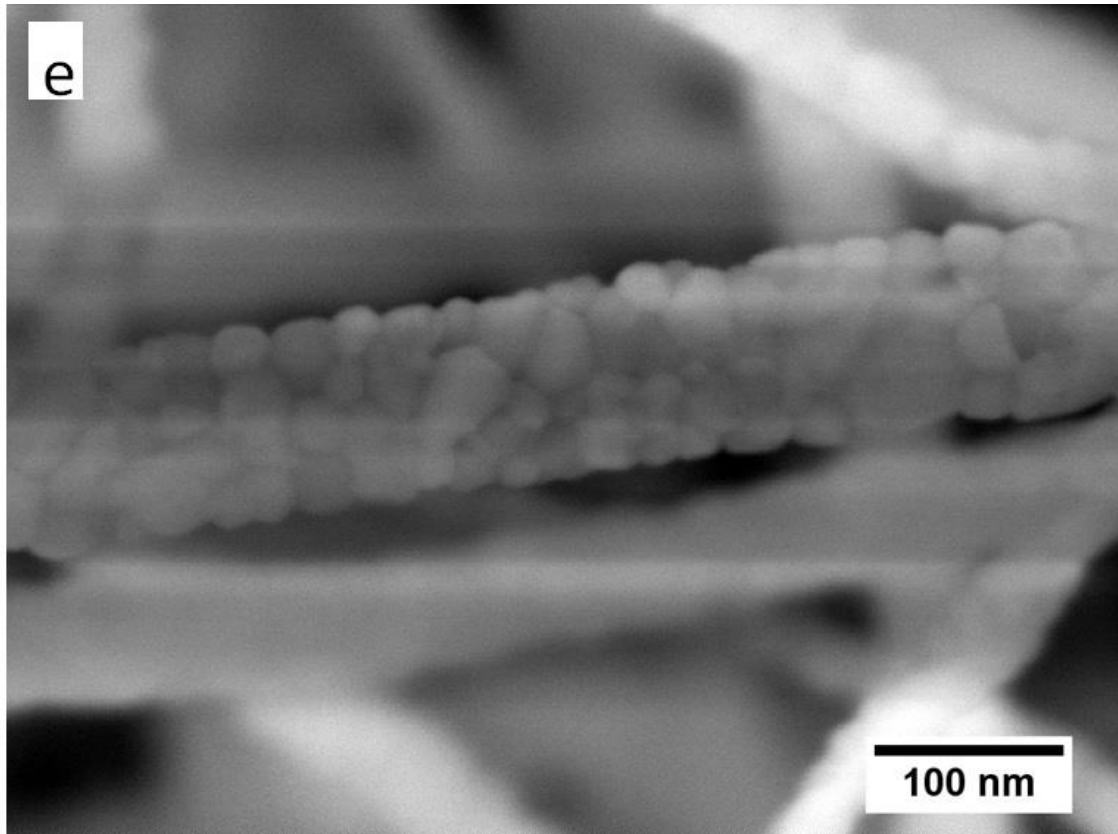


Figure S5. High magnification SEM images of (a) CGO green, (b) CGO500, (c) CGO600, (d) CGO700, (e) CGO800, and (f) CGO900.