

Supplementary Information

Valorization of Carbon Fiber Waste from the Aeronautics Sector: An Application in Li-ion Batteries

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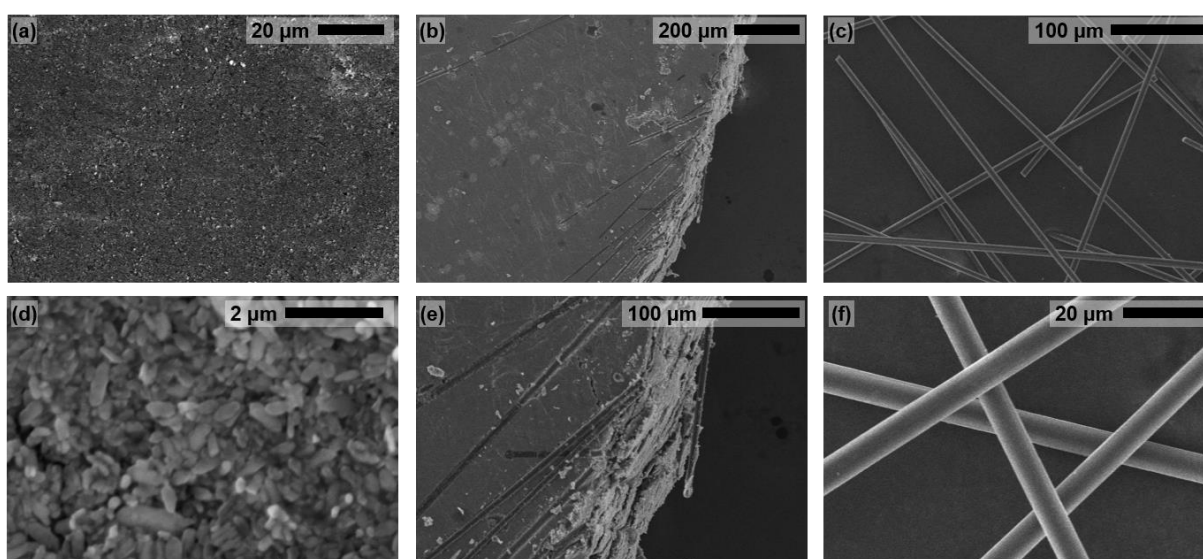


Figure S1. (a, d) SEM micrographs of FSE-1% center using a magnification of 1,000x and 15,000x respectively. (b, e) SEM micrographs of FSE-3% edges using a magnification of 100x and 300x respectively. (c, f) SEM micrographs of carbon fibers after acidic treatment using magnification of 300x and 1,300x respectively.

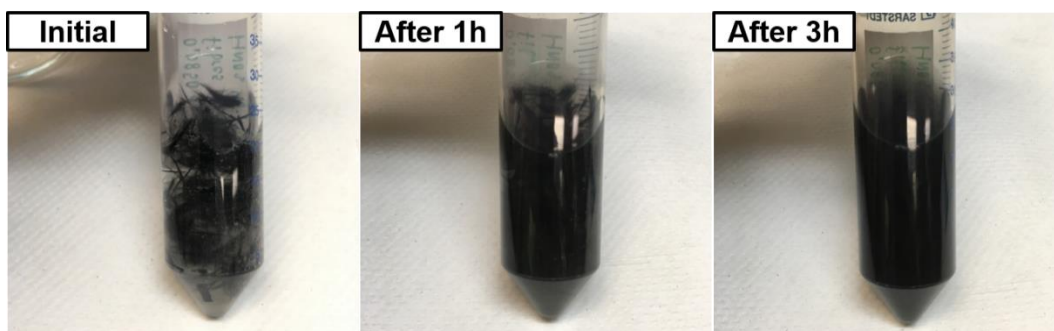


Figure S2. Dispersion of fibers during the acidic treatment in HNO_3 40% in water after different sonication period.



Figure S3. Film prepared using 5 wt% carbon fiber (FSE-5%). At this concentration of carbon fibers aggregation prevents further electrode fabrication.

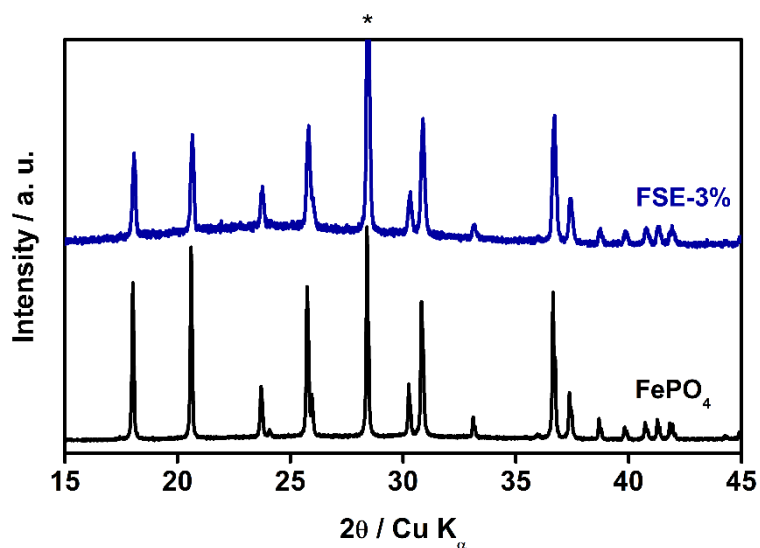


Figure S4. Diffractograms of FSE-3% and FePO_4 . Peak from the Si standard has been marked by an asterisk.

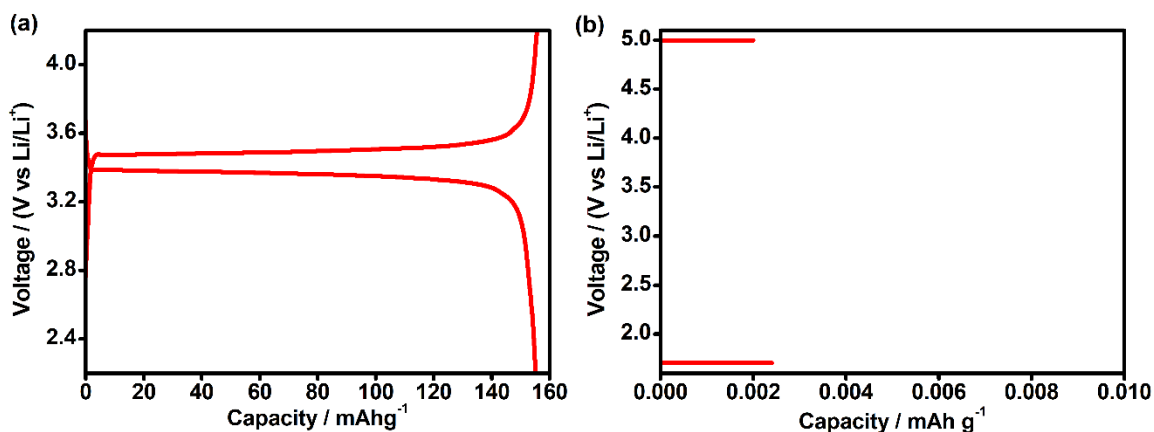


Figure S5. Galvanostatic charge and discharge curves at C/20 for (a) traditional c-LiFePO₄ electrode on c-Al and (b) FSE-0% exhibiting an overpotential too large for cycling.

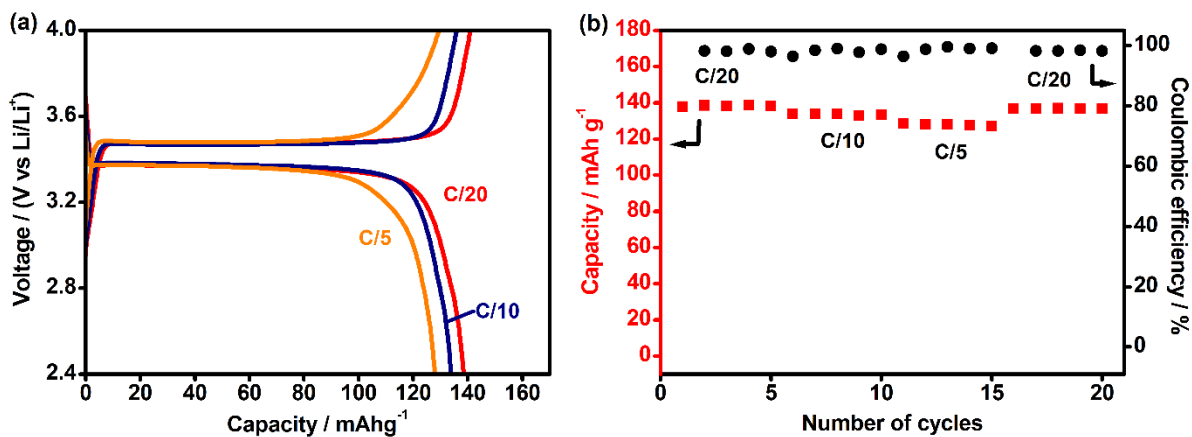


Figure S6. (a) Galvanostatic charge and discharge curves for FSE-2%-commercial fibers and (b) capacity retention and coulombic efficiency at indicated C-rates.

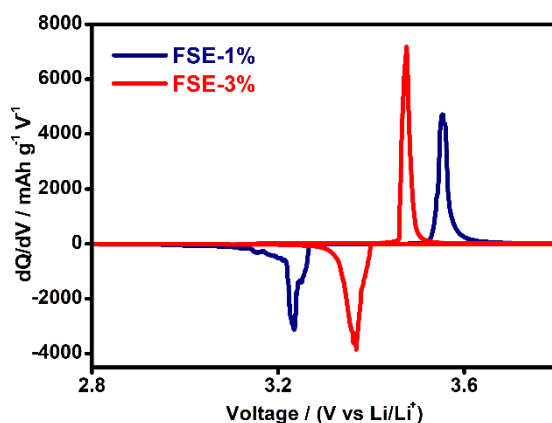


Figure S7. Derivative of the charge/discharge curves at C/20 for FSE-1 and 3%.

Table S1. Conductivity (σ) values for FSE and traditional electrode.

Electrode type	Conductivity / $S\ m^{-1}$
FSE	8 ± 1
Traditionnal electrode	66 ± 9