

Supporting Information for

Three-Dimensional Printing of a LiFePO_4 /Graphite Battery Cell via Fused Deposition Modeling

Alexis Maurel^{*, 1,2,3}, Sylvie Grugeon^{1,3}, Benoit Fleutot^{1,3}, Matthieu Courty^{1,3}, Kalappa Prashantha^{4,5}, Hugues Tortajada², Michel Armand¹, Stéphane Panier² & Loïc Dupont^{*, 1,3,6}

¹ Laboratoire de Réactivité et de Chimie des Solides, UMR CNRS 7314, Hub de l'Énergie, Université de Picardie Jules Verne, 33 rue Saint Leu, 80039, Amiens Cedex, France

² Laboratoire des Technologies Innovantes, LTI-EA 3899, Université de Picardie Jules Verne, 80025 Amiens, France

³ RS2E, Réseau français sur le stockage électrochimique de l'énergie, FR CNRS 3459, 80039 Amiens Cedex, France

⁴ IMT Lille Douai, Institut Mines-Télécom, Centre d'Enseignement, de Recherche et d'Innovation (CERI): Matériaux et Procédés Innovants, 941 rue Charles Bourseul C.S.10838, 59508 Douai Cedex, France

⁵ Université de Lille, 59000 Lille, France

⁶ Plateforme de Microscopie Électronique (PME) de l'Université de Picardie Jules Verne, Hub de l'Énergie, 15 rue Baudelocque, 80000 Amiens, France

* alexis.maurel@u-picardie.fr

* loic.dupont@u-picardie.fr

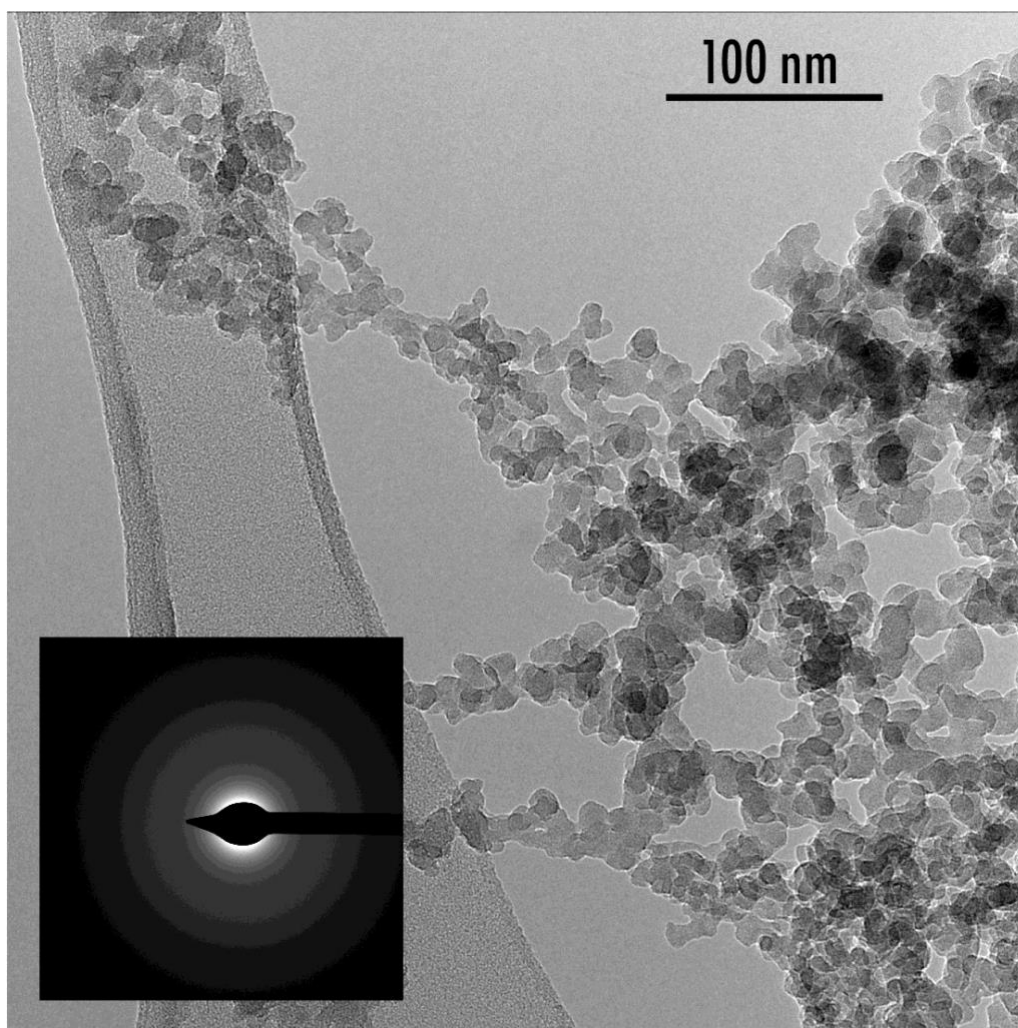


Figure S1. TEM image of the amorphous SiO₂ particles. Selected area electron diffraction (SAED) pattern is displayed in inset.

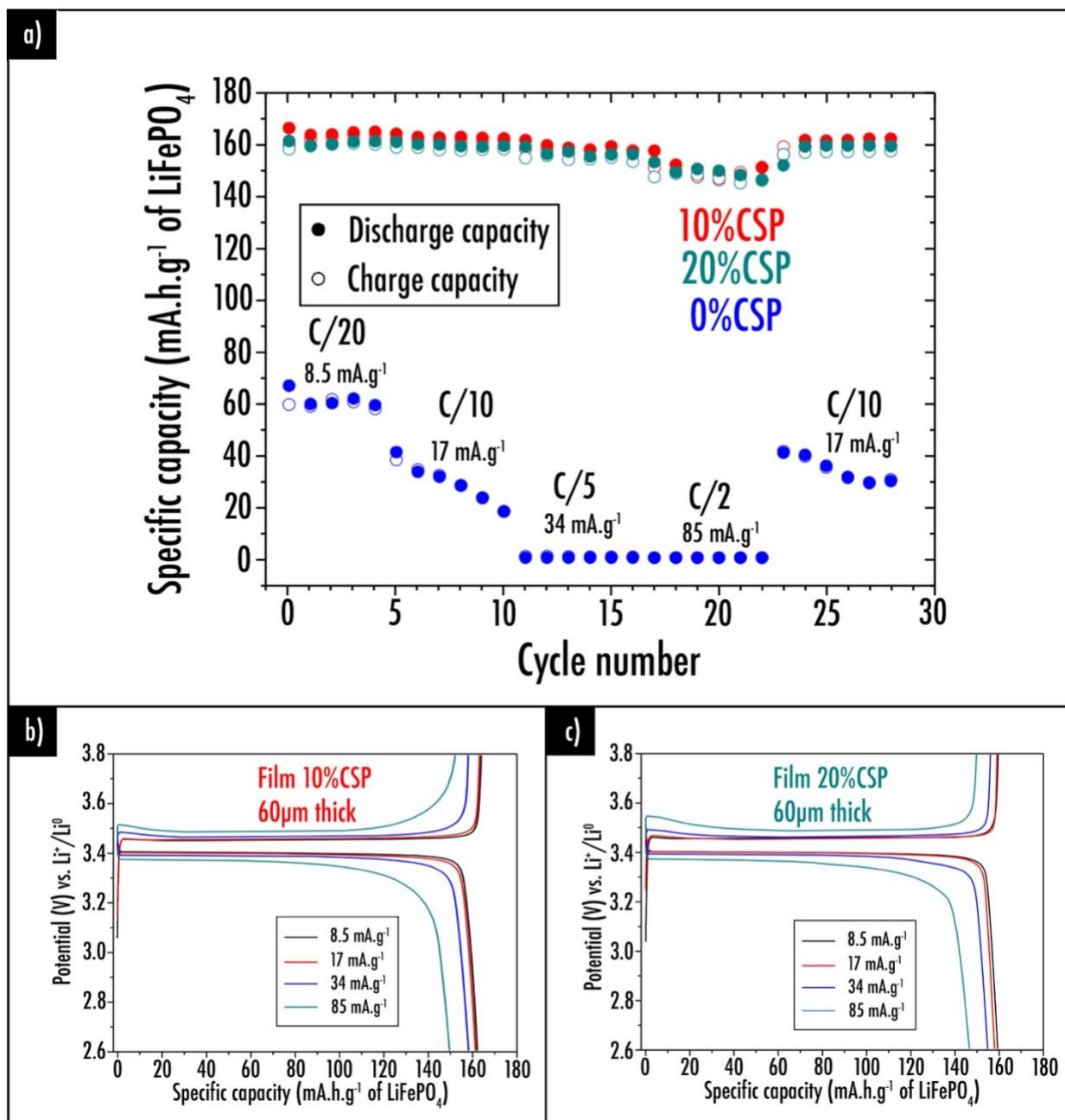


Figure S2. (a) Capacity retention plots at different C-rate for the 0%CSP, 10%CSP and 20%CSP positive electrode films; Potential profiles versus specific capacity based on the active material for (b) the 10%CSP and (c) the 20%CSP film samples.

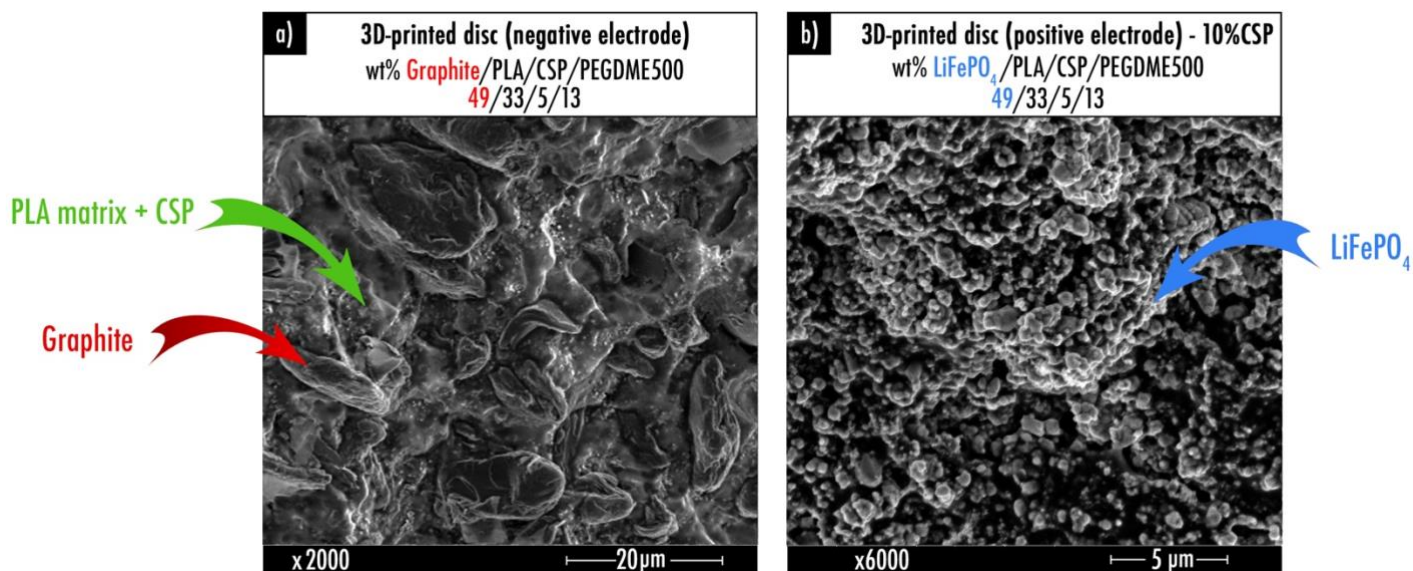


Figure S3. SEM images depicting the microstructure of the (a) 3D-printed disc prepared for negative electrode (cf. ref 42); (b) 10%CSP 3D-printed disc sample prepared for the positive electrode.

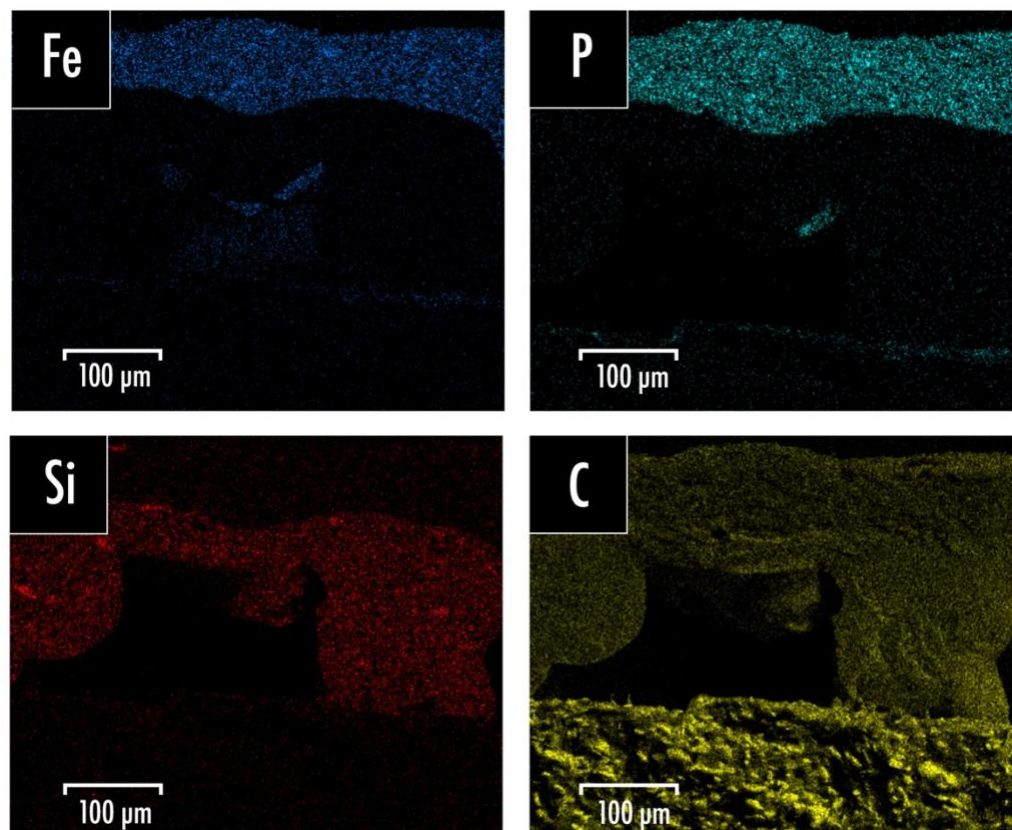


Figure S4. Element distribution map (Fe, P, Si, C) was obtained by Energy Dispersive X-ray Spectroscopy (EDS).