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# Binder-free $\text{Li}_3\text{V}_2(\text{PO}_4)_3/\text{C}$ membrane electrode supported on 3D nitrogen-doped carbon fibers for high-performance lithium-ion batteries

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## Abstract

An *in-situ* prepared binder-free  $\text{Li}_3\text{V}_2(\text{PO}_4)_3/\text{C}$  membrane electrode supported on 3D N-doped carbon fibers (LVP/C@NCF) has been developed. The residual carbon in LVP/C@NCF consists of the pyrolytic carbon from glucose and the N-doped carbon fibers decomposed from filter paper. The former uniformly covers on the surface of LVP particles, while the latter is functioned as both a 3D conductive network and a current collector for LVP. Compared with the traditional LVP/C electrode supported on Al foil (LVP/C@Al), the LVP/C@NCF membrane electrode

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