

**MACROPOROUS 3D ARCHITECTURES OF SELF-ASSEMBLED MWCNTS
SURFACE DECORATED WITH PT NANOPARTICLES AS ANODES FOR A
DIRECT METHANOL FUEL CELL**

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Abstract:

Microchannelled 3D architectures composed of multiwall carbon nanotubes (MWCNTs) surface decorated with Pt nanoparticles and chitosan (CHI) are prepared by ice segregation induce self assembly (ISISA) process. The microchannelled structures are highly porous (specific gravity $\sim 10^{-2}$), and exhibit excellent electron conductivity thanks to both the high content of MWCNTs (up to 89 wt.%) and their interconnection. The Pt/MWCNTs/CHI 3D architectures provide remarkable performance as anodes for a direct methanol fuel cell (DMFC).