

Mesoporous Carbons Templated by Amphiphilic Block Copolymers and Its Application on Supercapacitors

Jheng-Guang Li,¹ Heng-Chia Liang,¹ and Shiao-Wei Kuo²

¹ R&D department, Asia Carbons & Technology Inc. Taoyuan, Taiwan

² Department of Materials and Optoelectronic Science, National Sun Yat-Sen University, Kaohsiung, Taiwan

The mesoporous carbons were fabricated through evaporation induced self-assembly (EISA) process by taking Pluronic P123 or PEO-PCL as templates, resol as the carbon source; specific pore structures of mesoporous carbons could be tuned by resol/template ratio, besides, as the activated materials in the electrodes of Electric double-layer capacitors (EDLC), the electro-properties of carbon materials could be further improved by the KOH activation and N-atom doped strategies. The electric properties are examined by the electro-chemical station and coin-cell supercapacitor measurements. Mesoporous carbon materials could be expected as the promising activated materials in the electrodes both on power density and energy density of EDLC supercapacitors (Figure 1).

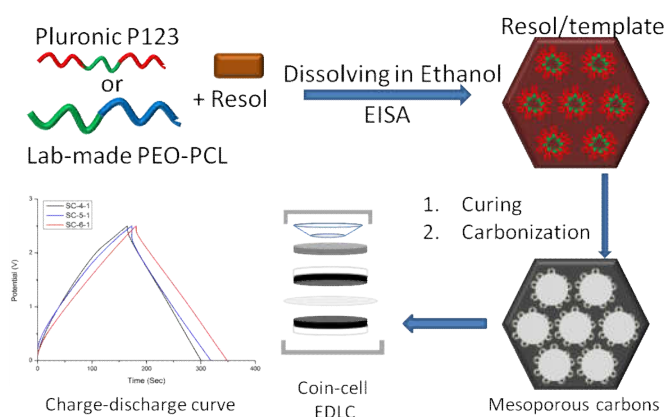


Figure 1: Fabrication of mesoporous carbons and the corresponding electric measurement as EDLC supercapacitors

References:

- [1] J.G. Li, C.Y. Tsai and S. W. Kuo *Polymers* **6**, 1794 (2014)
- [2] Y. Lv, F. Zhang, Y. Dou, Y. Zhai, J. Wang, H. Liu, Y. Xia, B. Tu and D. Zhao *J. Mater. Chem.* **22**, 93 (2012)
- [3] J. Wei, D. Zhou, Z. Sun, Y. Deng, Y. Xia, and D. Zhao *Adv. Funct. Mater.* **23**, 2322 (2013)