

Electronic Supplementary Information

The synergy effect on Li storage of LiFePO_4 with activated carbon modifications

Bo Wang,^{ab} Qiuming Wang,^a Binghui Xu,^b Tiefeng Liu,^a Dianlong Wang^a and George Zhao*^b*

^a Harbin Institute of Technology, School of Chemical Engineering and Technology, Xidazhi Street, 150001 Harbin, China. Fax: 86 45186413721; Tel: 86 451 86413751; E-mail: wangdianlongwbhit@163.com

^b The University of Queensland, Faculty of Engineering, Architecture and Information Technology, School of Chemical Engineering, St Lucia, Brisbane, QLD 4072, Australia. Fax: 61 7 33654199; Tex: 61 7 33469997; E-mail: george.zhao@uq.edu.au

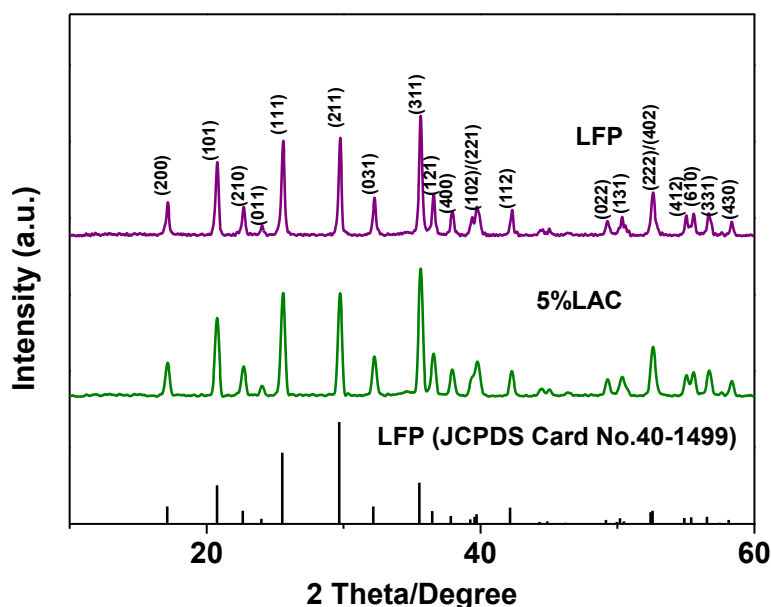


Fig. S1† XRD patterns of LFP, 5%LAC and standard LFP (JCPDS Card No. 40-1499).

Supplementary Material (ESI) for RSC Advances
This journal is © Royal Society of Chemistry 2013

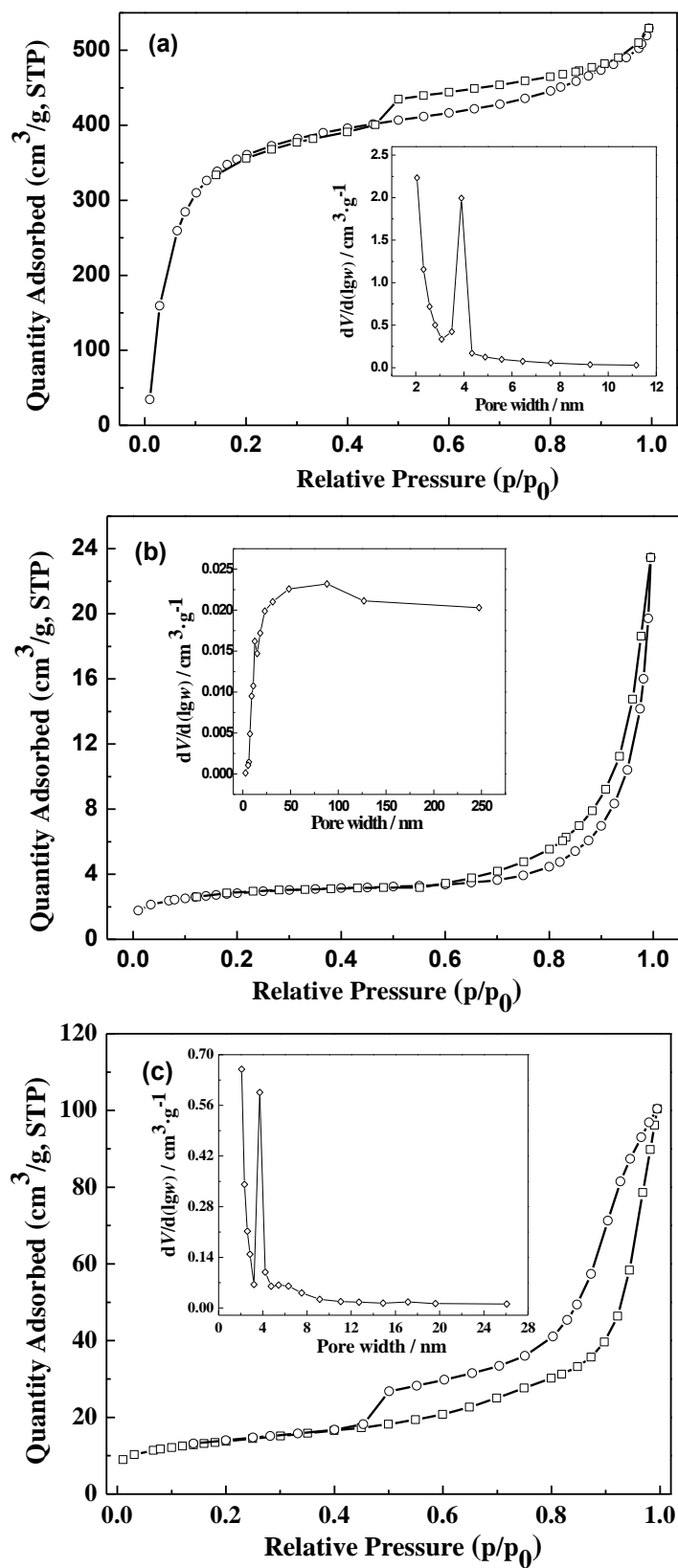


Fig. S2† The nitrogen adsorption/desorption isotherms and pore-size distributions of (a) AC; (b) LFP; (c) 5%LAC.

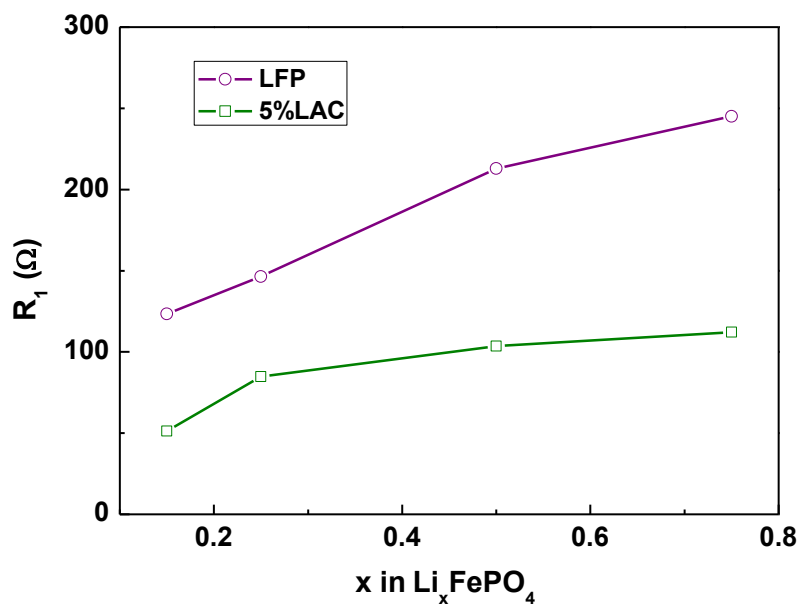


Fig. S3† R_1 of electrodes LFP and 5%LAC at different SOCs.

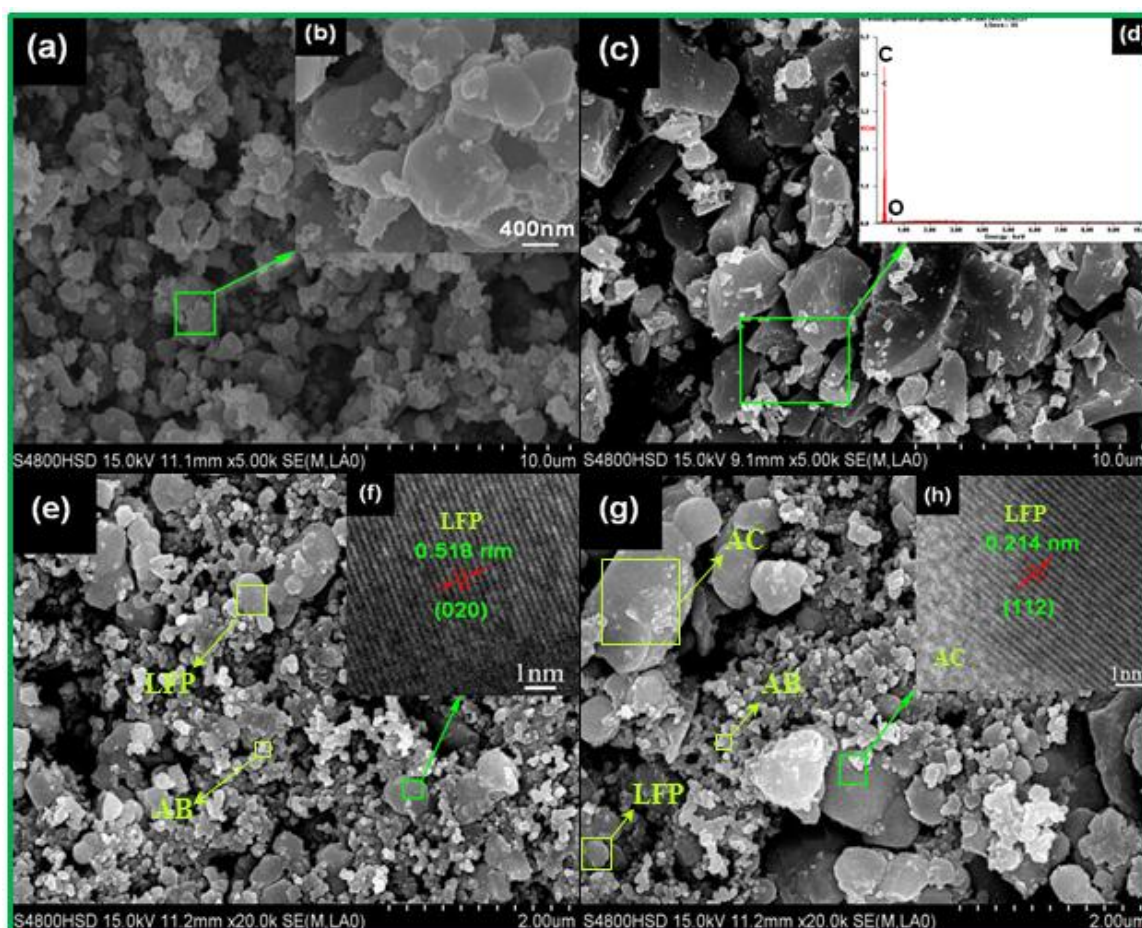


Fig. S4† FESEM images of LFP particles (a, b), AC bulks (c), LFP electrode (e), and 5%LAC electrode (g). EDX spectrum of AC (d). HRTEM images of LFP electrode (f) and 5%LAC electrode (h).

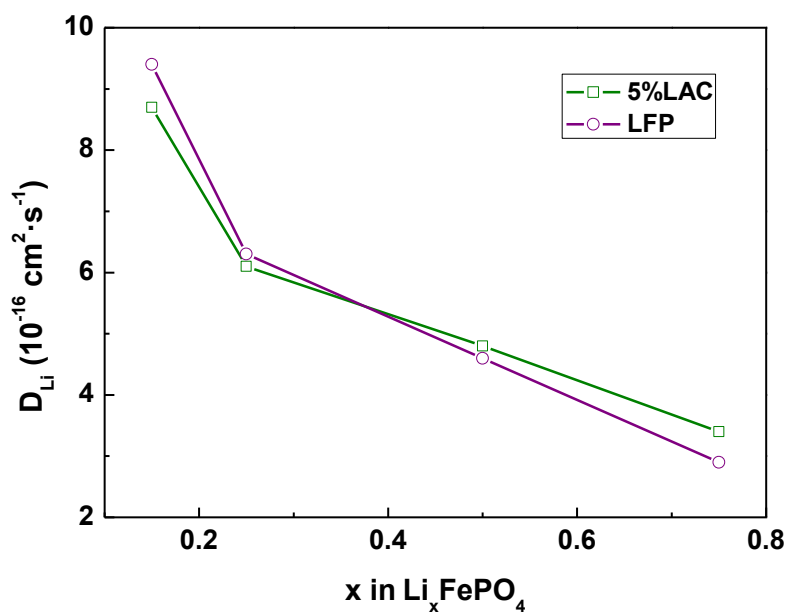


Fig. S5† D_{Li} of electrodes LFP and 5%LAC at different SOCs.

Table S1† The BET surface areas and electric conductivities of AC, LFP and 5%LAC

	<i>AC</i>	<i>LFP</i>	<i>5%LAC</i>
<i>BET surface area</i> (m ² .g ⁻¹)	1241.6	9.3	66.4
<i>Electric conductivity</i> (S.cm ⁻¹)	4.62 × 10 ⁻³	1.56 × 10 ⁻⁸	6.28 × 10 ⁻⁶