

**Structure and electrochemical performance modulation of
 $\text{LiNi}_{0.8}\text{Co}_{0.1}\text{Mn}_{0.1}\text{O}_2$ cathode material by anion and cation co-doping
for lithium ion battery**

Rong Li^a, Yong Ming^a, Wei Xiang^b, Chunliu Xu^a, Guilin Feng^a, Yongchun Li^a,
Yanxiao Chen^a, Zhenguo Wu^{a*,c}, Benhe Zhong^a, Xiaodong Guo^{a,d}

^a *College of Chemical Engineering, Sichuan University, Chengdu 610065, P. R. China;*

^b *College of Materials and Chemistry & Chemical Engineering, Chengdu University of
Technology, Chengdu, 610059, PR China;*

^c *State Key Laboratory of Physical Chemistry of Solid Surfaces, College of Chemistry and
Chemical Engineering, Xiamen University, Xiamen, 361005 (PR China);*

^d *Institute for Superconducting and Electronic Materials, University of Wollongong, Wollongong,
NSW 2522, Australia;*

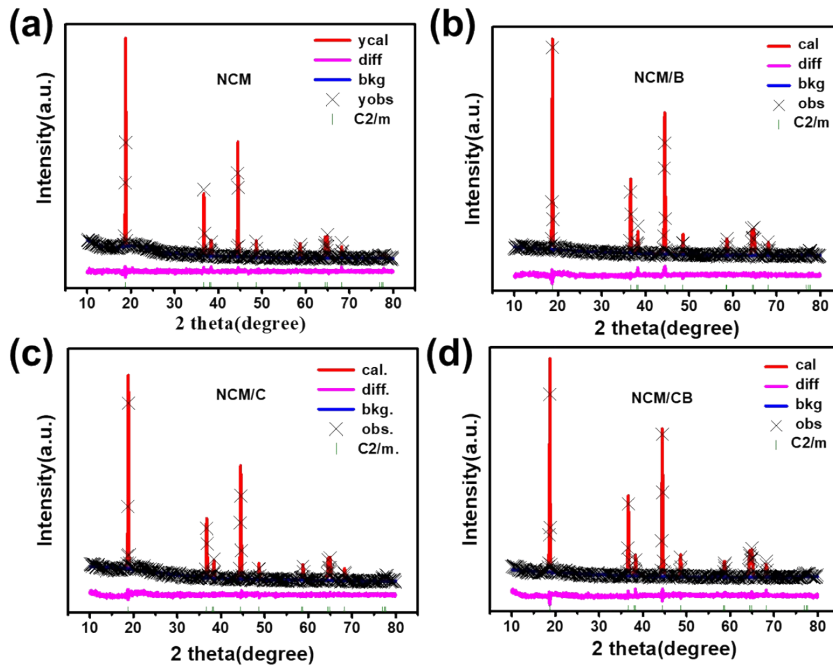


Fig.S1 Rietveld refinement results of NCM(a), NCM/B(b), NCM/C(c) and NCM/CB(d)

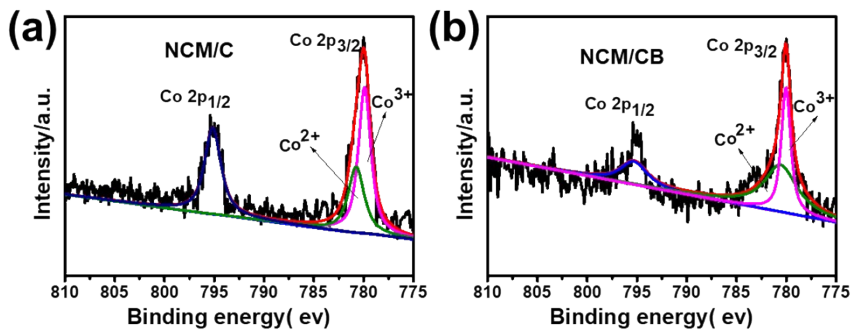


Fig.S2 XPS spectra of Co for (d) NCM/C and (f) NCM/CB.

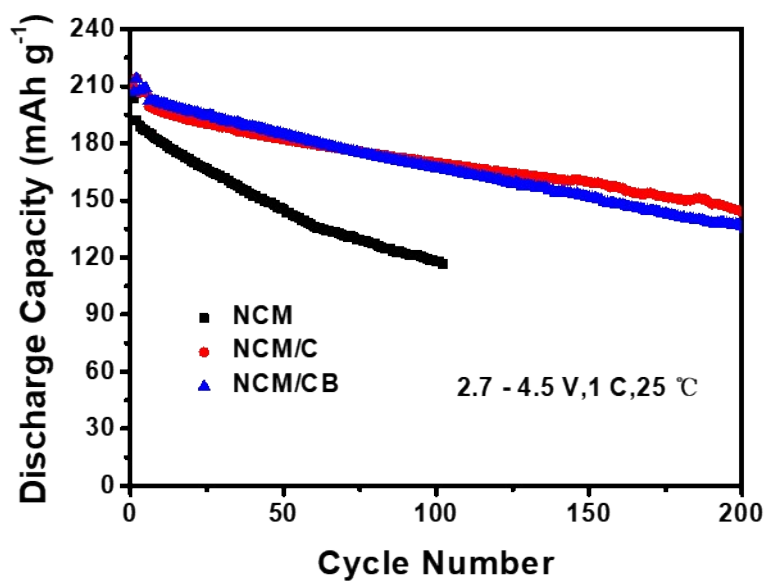


Fig.S3 cycle performance at high voltage

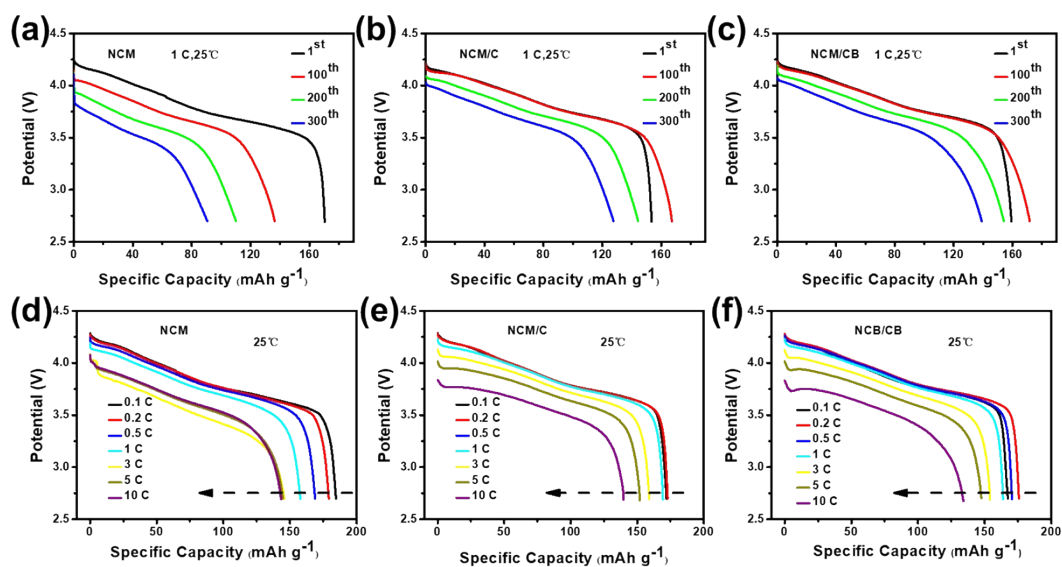


Fig.S4 The Corresponding charge/discharge curves at the 1st, 5th, 50th and 100th cycle for NCM(a), NCM/C(b) and NCM/CB(c). The rate discharge curves between 0.1-10 C of NCM(d), NCM/C(e) and NCM/CB(f).