Cathode/Gel polymer electrolyte integration design based on continuous composition and preparation technic for high performance lithium ion battery

Feng Yu,^{a,b*} Lingzhu Zhao,^a Zhang hongbing,^a Zhipeng Sun,^a Yuli Li,^c Qing Hu,^d Yong Chen^{*a}

^a State Key Laboratory of Marine Resource Utilization in South China Sea, Hainan Provincial Key Laboratory of Research on Utilization of Si-Zr-Ti Resources, College of Materials Science and Engineering, Hainan University, 570228, PR China

^b Key Laboratory of Advanced Energy Materials Chemistry (Ministry of Education), College of Chemistry, Nankai University, Tianjin, 300071, PR China

^c Institution of Plastic Surgery, Weifang Medical University, Weifang 261042, P. R. China ^dSchool of Material Science and Engineering, Jingdezhen Ceramic Institute, Jingdezhen 3330 01, P. R. China

E-mail: yuf@hainanu.edu.cn; ychen2002@163.com

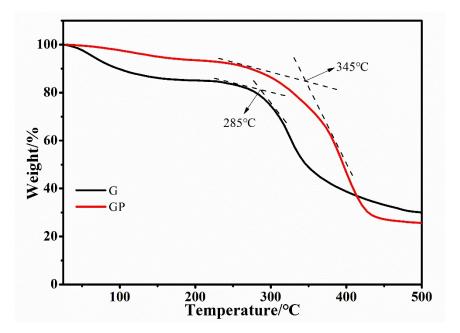


Figure S1. TGA of gelatin (G) and crosslinked GelMA/PEGDA (GP) in nitrogen from 35 to 500 °C.

Table S1. Ionic conductivity of GPE dependence on temperature.

Temperature/°C	15	25	35	45	55	65	75	85
$\delta \times 10^{-3}/\text{S cm}^{-1}$	1.93	2.32	2.95	3.35	3.68	4.22	4.83	5.63

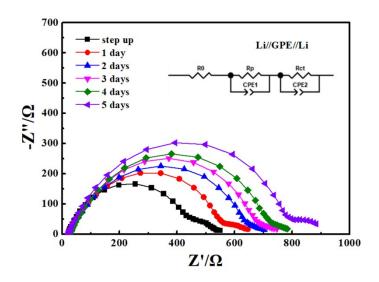


Figure S2. Nyquist plots of Li/GPE/Li cells with GelMA/PEGDA GPE.

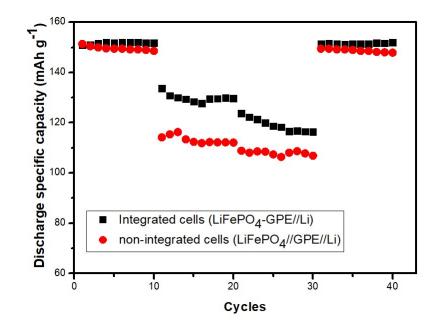


Figure S3. The rate behavior of non-integrated cells and integrated cells at 0.2C, 0.5C and 1C.