Application of Biogenic Iron Phosphate for Lithium-Ion Batteries

Hiroyuki Kageyama, [a] Yasuo Hashimoto, [a] Yuya Oaki, [a] Siro Saito, [b] Yasuhiro Konishi, [c] and Hiroaki Imai [a*]

[a] *Department of Applied Chemistry, Faculty of Science and Technology, Keio University, 3-14-1 Hiyoshi, Kohoku-ku, Yokohama, Kanagawa,223-8522 Japan.*

[b] *Aisin Seiki Co., Ltd, 2-1, Asahi-machi, Kariya, Aichi, 448-8650 Japan*

[c] *Department of Chemical Engineering, Osaka Prefecture University, 1-1 Gakuen-cho, Naka-ku, Sakai, Osaka 599-8531, Japan*

**Fax: +81455661551; Tel: +81455661556; E-mail: hiroaki@applc.keio.ac.jp*

†Electronic supplementary information (ESI): Figure S1 and S2

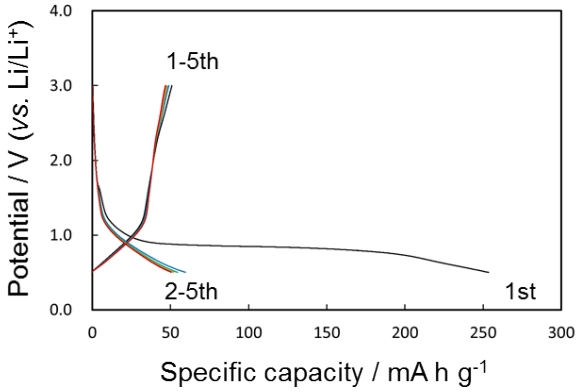

Figure S1. Charge–discharge curves of acetylene black and PTFE (90: 10 weight ratio) on Cu mesh at 50 mA h g^{-1} (for all weight). Counter and reference electrode were metal lithium on Cu mesh.

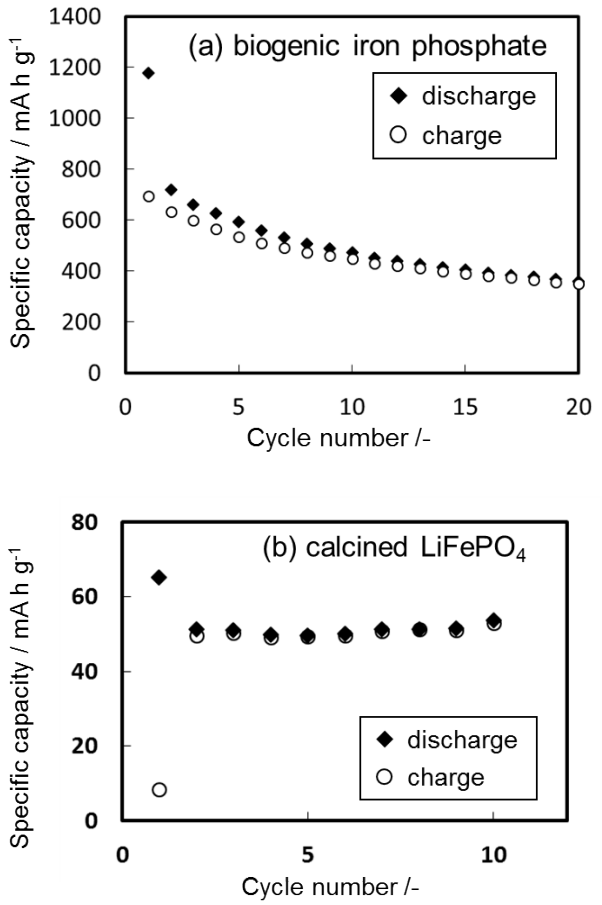

Figure S2. Charge–discharge capacity retention of the biogenic iron (II) phosphate at 50 mA g^{-1} (a) and the calcined $LiFePO_4$ particles at 10 mA g^{-1} (b). The active material, acetylene black, and PTFE were mixed for 50:45:5 in weight.