

Magnetic Compton scattering study of Li-rich battery materials

Kosuke Suzuki ^{1,*}, Yuji Otsuka ¹, Kazushi Hoshi ¹, Hiroshi Sakurai ¹, Naruki Tsuji ², Kentaro Yamamoto ³, Naoaki Yabuuchi ⁴, Hasnain Hafiz ⁵, Yuki Oriksa ⁶, Yoshiharu Uchimoto ³, Yoshiharu Sakurai ², Venkatasubramanian Viswanathan ⁵, Arun Bansil ⁷, and Bernardo Barbiellini ^{8,7}

¹ Faculty of Science and Technology, Gunma University, Kiryu, Gunma, Japan;
kosuzuki@gunma.ac.jp (K.S.), t201d016@gunma-u.ac.jp (Y.O.), hoshi@gunma-u.ac.jp (H.K),
sakuraih@gunma-u.ac.jp (H.S.)

² Japan Synchrotron Radiation Research Institute (JASRI), Sayo, Hyogo, Japan;
ntsuji@spring8.or.jp (N.T.), sakurai@spring8.or.jp (Y.S.)

³ Graduate School of Human and Environmental Studies, Kyoto University, Sakyo-ku, Kyoto,
Japan; yamamoto.kentaro.4e@kyoto-u.ac.jp (K.Y.), uchimoto.yoshiharu.2n@kyoto-u.ac.jp (Y.U.)

⁴ Department of Chemistry and Life Science, Yokohama National University, Yokohama,
Kanagawa, Japan; yabuuchi-naoaki-pw@ynu.ac.jp (N.Y.)

⁵ Department of Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA, USA;
hafiz.h@northeastern.edu (H.H.), venkatv@andrew.cmu.edu (V.V.)

⁶ Department of Applied Chemistry, Ritsumeikan University, Kusatsu, shiga, Japan;
orikasa@fc.ritsumei.ac.jp (Y.O.)

⁷ Department of Physics, Northeastern University, Boston, MA, USA; ar.bansil@northeastern.edu
(A.B.)

⁸ Department of Physics, School of Engineering Science, LUT University, Lappeenranta, Finland;
Bernardo.Barbiellini@lut.fi (B.B.)

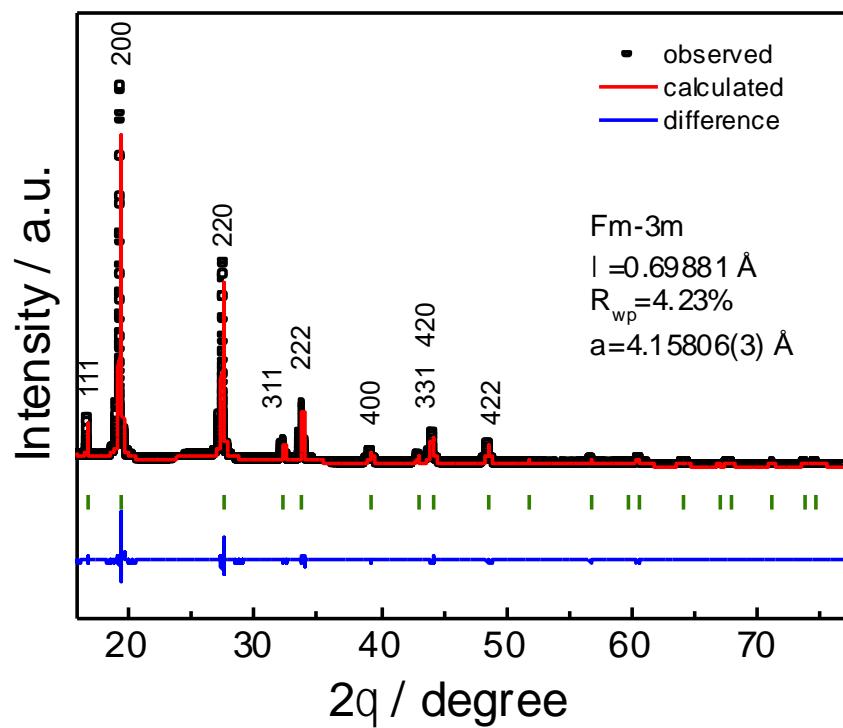


Figure S1. X-ray diffraction pattern of prepared $\text{Li}_{1.2}\text{Ti}_{0.4}\text{Mn}_{0.4}\text{O}_2$.

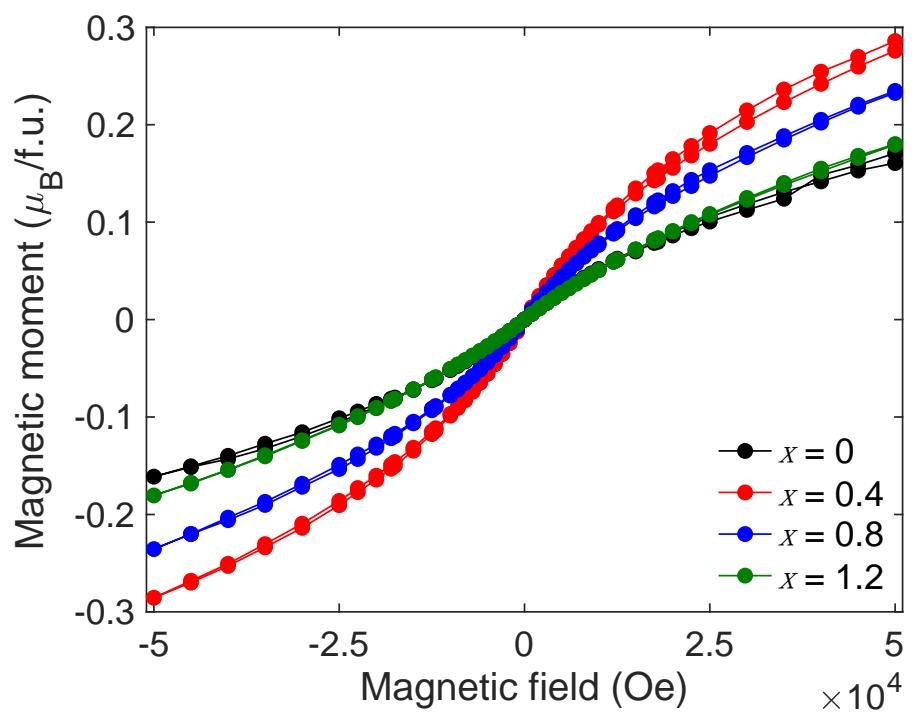


Figure S2. Hysteresis curves for various lithium concentrations (x) obtained by a SQUID magnetometer. Measurements were performed at approximately 10K.