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Supplementary Information

Amino Acid Mediated Mesopore Formation in LTA Zeolite†

*Zhuwen Chen,[a] Jian Zhang,[a] Bole Yu,[a] Guangchao Zheng,[a]Jing Zhao,[a,b] and Mei Hong[a]**

[a]Guangdong Provincial Key Laboratory of Nano-Micro Materials Research, School of Chemical Biology & Biotechnology, Peking University Shenzhen Graduate School, Shenzhen 518055, China

[b]Institute of Chemistry and BioMedical Sciences, State Key Laboratory of Pharmaceutical Biotechnology, School of Life Sciences, Nanjing University, Nanjing, 210093, China

*E-mail: hongmei@pkusz.edu.cn

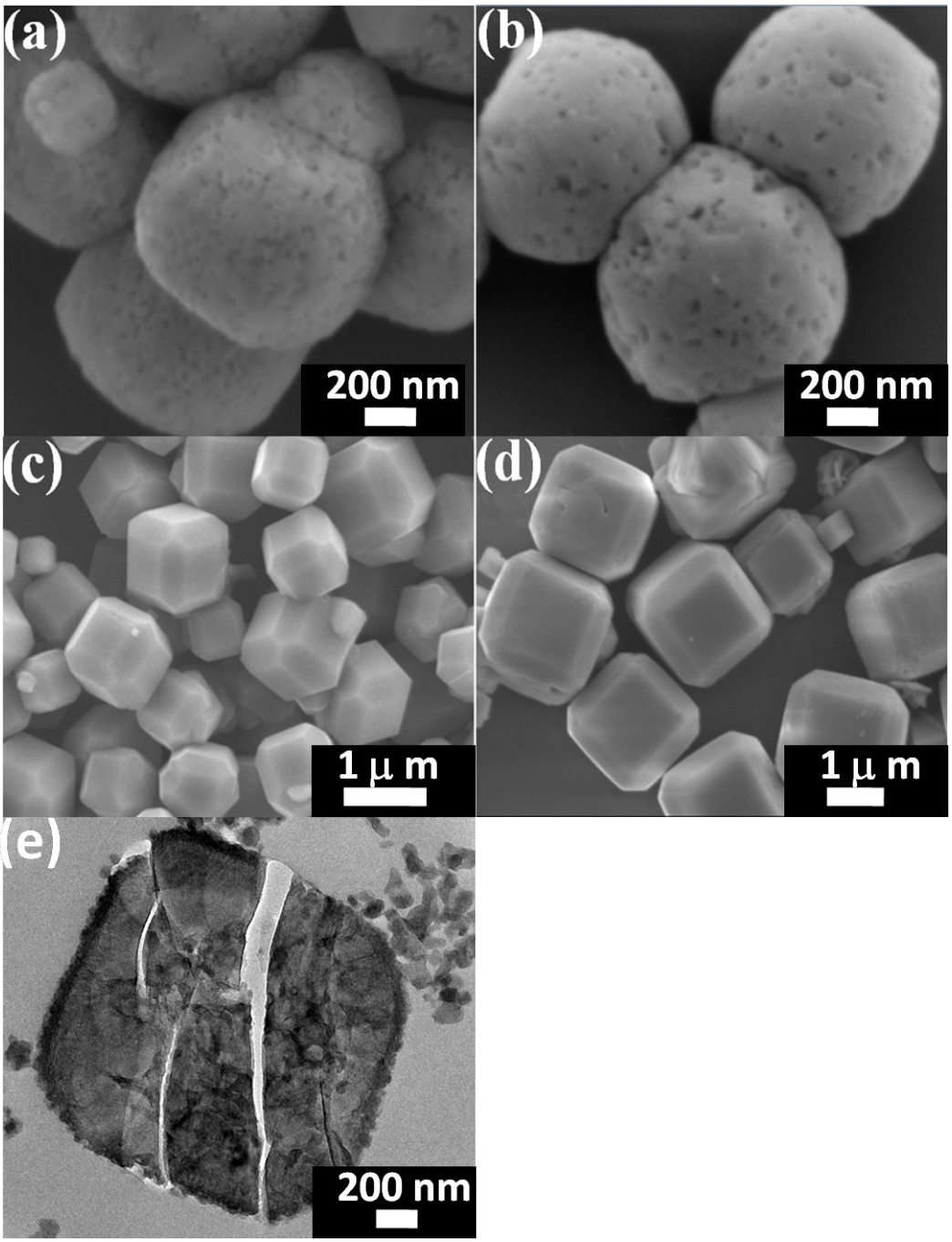

Figure S1. SEM images of (a) MLTA-Lys (b) MLTA-LysAc. (c) conventional LTA synthesized in this work and (d) commercial LTA purchased from Acros. (e) low-resolution TEM image of LTA synthesized in this work. All samples were dried and degassed at 110 °C before measurement.

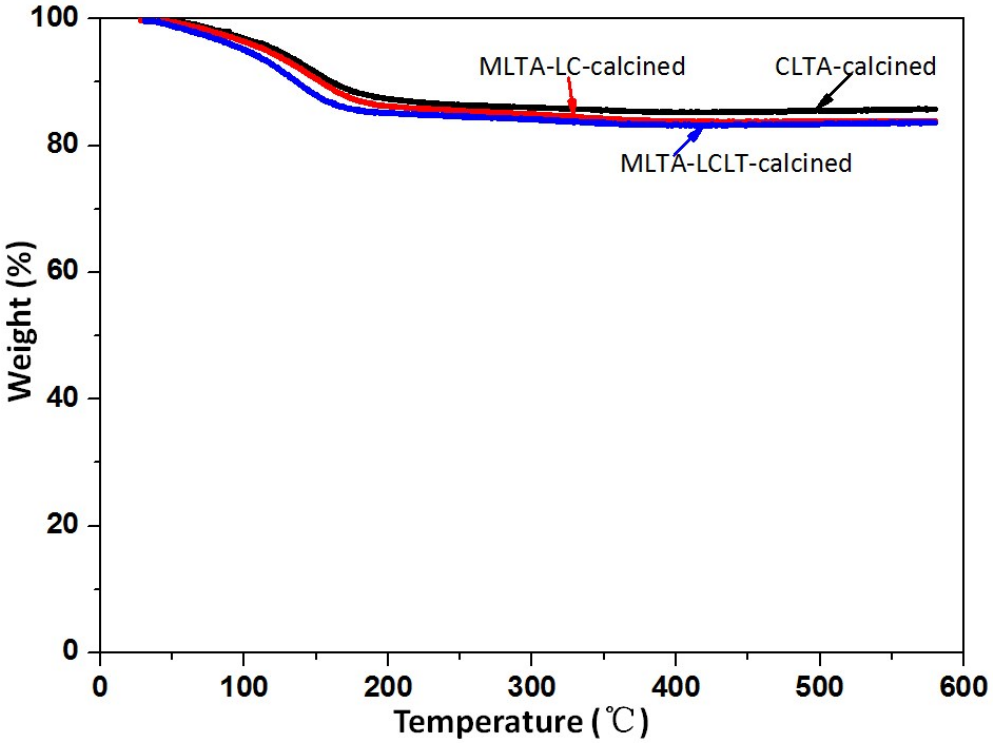

Figure S2. Relative weight loss measured by TGA of calcined MLTA-LC and MLTA-LCLT samples in comparison with that of calcined CLTA sample. Calcination was conducted at 600 °C for 2 h in air, and all samples were dried at 110 °C before measurement.

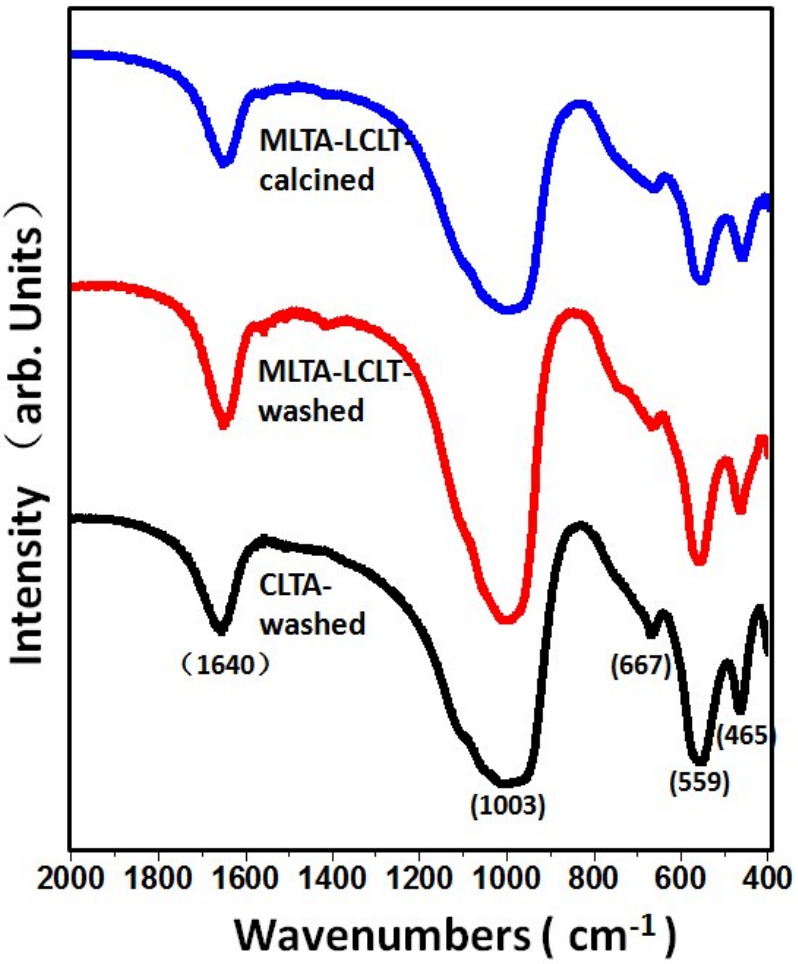

Figure S3. FTIR spectra of as synthesized zeolite samples MLTA-LCLT before and after calcination in comparison to that of the calcined CLTA. Zeolite samples were washed with water and calcined at 600 °C, then dried and degassed at 110 °C before measurement.

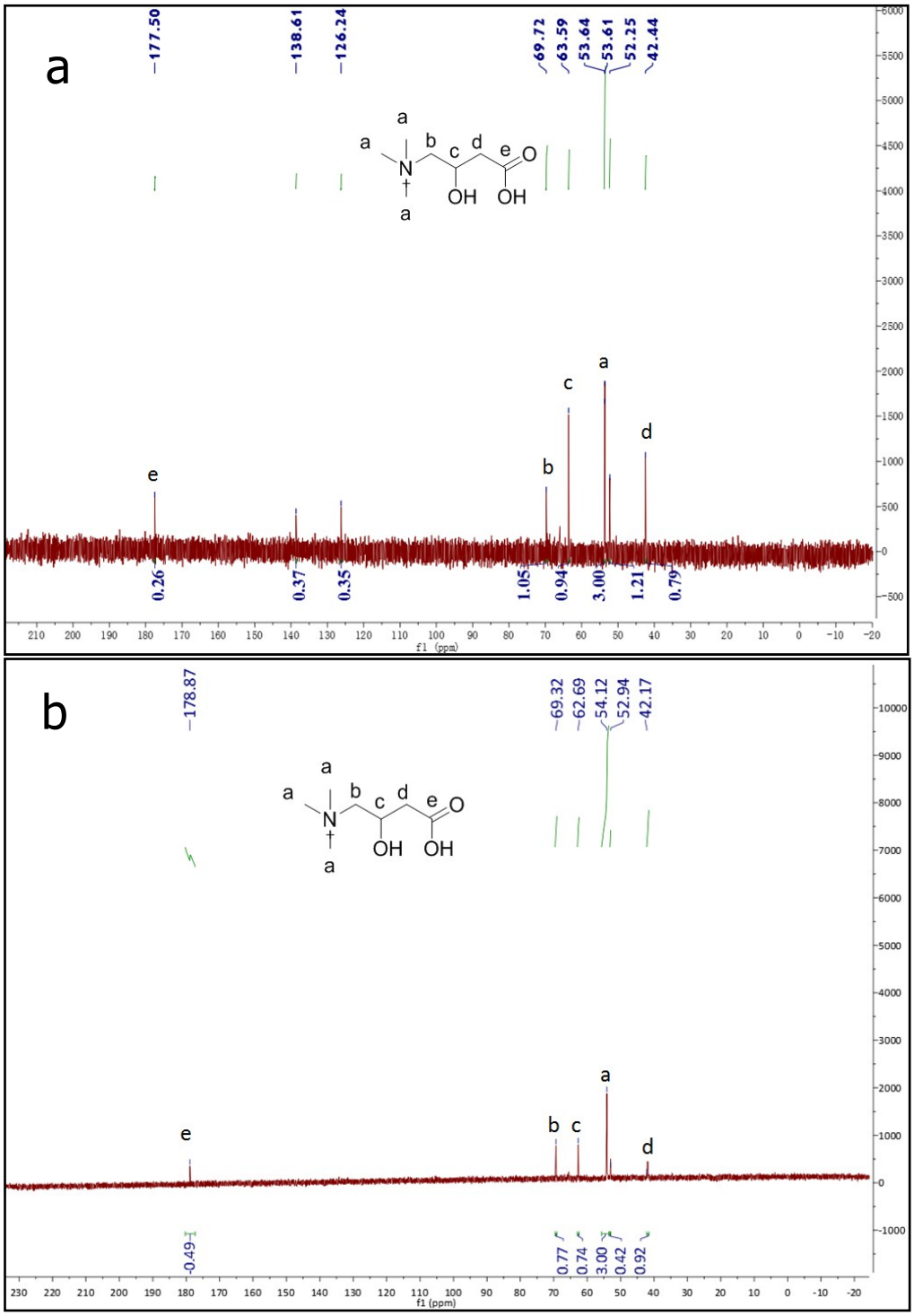

Figure S4. (a) ^{13}C-NMR of supernatant from unwashed MLTA-LC sample after synthesis for 20 h. (b) ^{13}C-NMR of precipitate from unwashed MLTA-LC sample after synthesis for 20 h, the liquid phase was obtained by dissolving unwashed MLTA-LC with hydrochloric acid solution, followed by addition of D_2O.

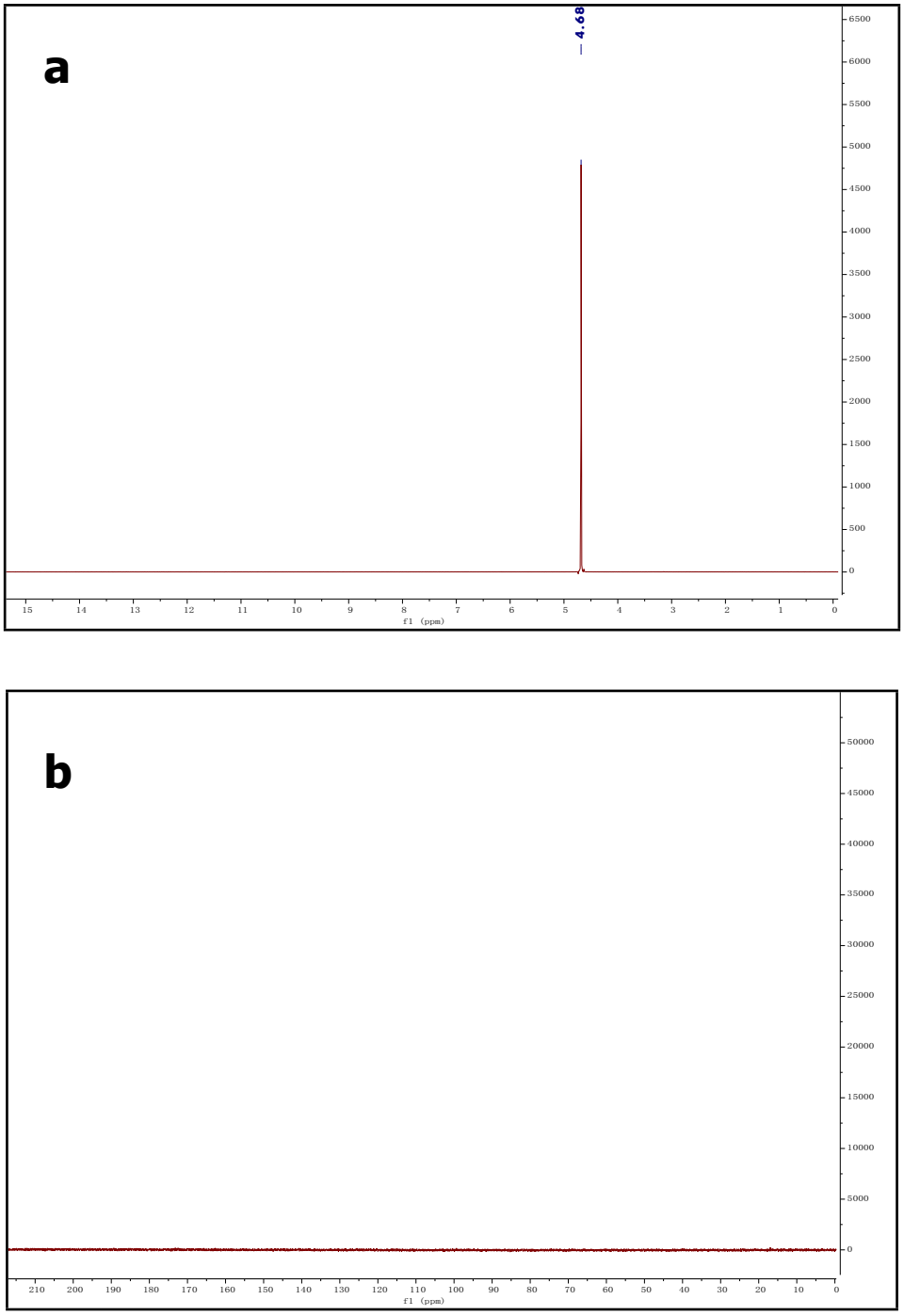

Figure S5. ^{1}H-NMR(a) and ^{13}C-NMR(b) of water-washed MLTA-LC sample. MLTA-LC was washed with water and dried at 60 °C, the liquid phase was obtained by dissolving as-washed MLTA-LC with hydrofluoric acid solution, followed by addition of D_2O.

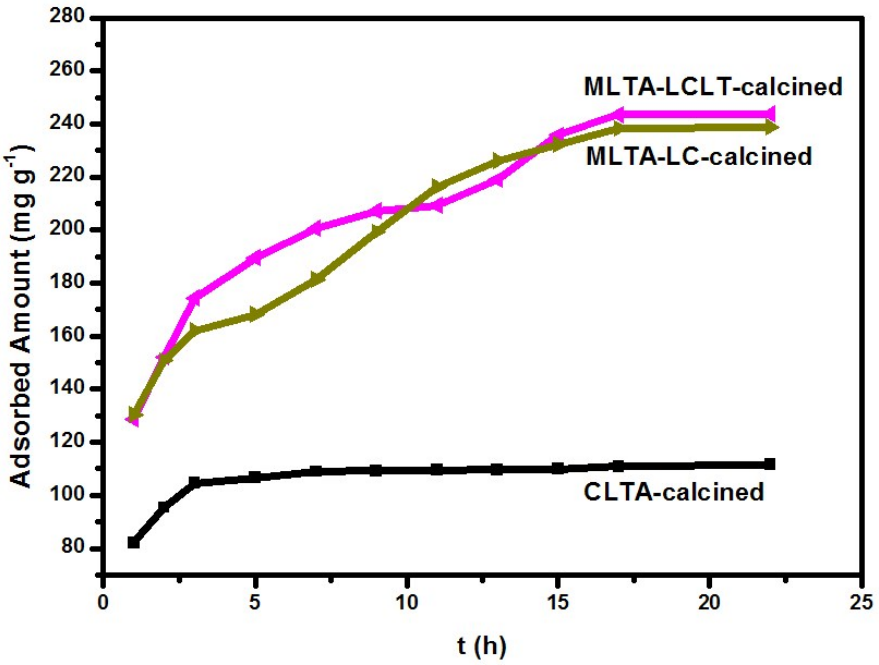

Figure S6. Catalase adsorption kinetics of calcined mesoporous MLTA zeolite samples in comparison to CLTA. The powder samples were calcined at 600 °C for 2 h.

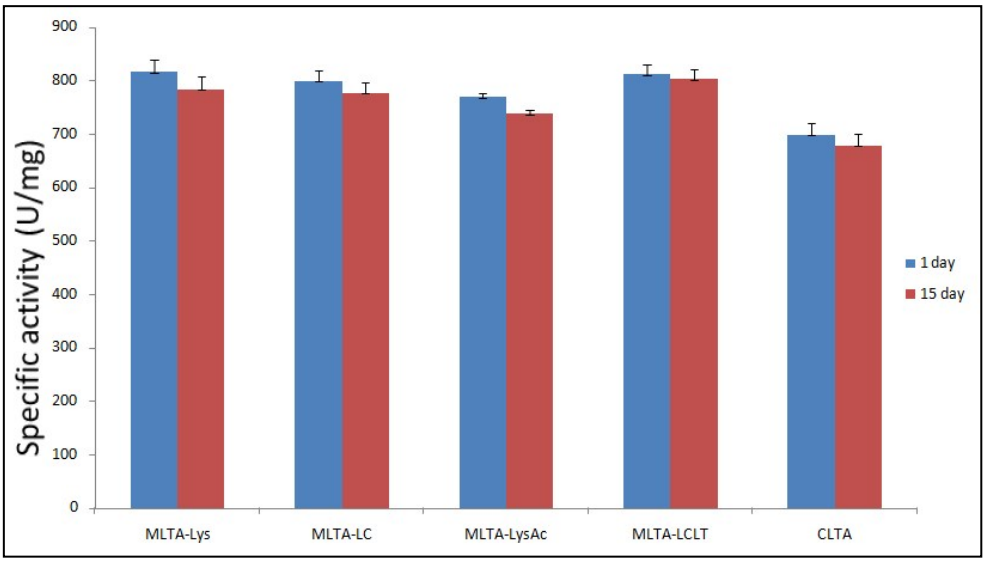

Figure S7. Catalase activity of water-washed MLTA synthesized with different amino acids and CLTA. All samples were degassed at 110 °C. Except the activity test periods, all samples were stored at 4 °C in a refrigerator.