Hierarchical donut-shaped LiMn$_2$O$_4$ as advanced cathode material for lithium-ion batteries with excellent rate capability and long cycle life†

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Fig. S1 N$_2$ adsorption-desorption isotherms of the DS-LMO. The inset shows the BJH pore-size distribution of the DS-LMO.
Fig. S2 The first charge/discharge profiles of DS-LMO at C/2 (the inset is CV plot at 0.05 mV s\(^{-1}\)).
Fig. S3 Discharge curves of DS-LMO at different discharge rates of 1 C (140 mA g$^{-1}$) to 55 C (7700 mA g$^{-1}$).
Fig. S4 Comparison of the rate capabilities of DS-LMO, LMO nanowires,\textsuperscript{27} LMO nanotubes,\textsuperscript{28} LMO microcubes\textsuperscript{29} and LMO nanocones.\textsuperscript{34}
**Fig. S5** TEM image for DS-LMO after 500 cycles at discharge rates of 10 C.