Supporting Information

Controlled synthesis of three dimensional hierarchical graphene nanostructures from metal complexes as an anode material for lithium-ion batteries

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Fig. S1 (a and b) SEM and (c and d) TEM images of C-2.241-20.



Fig. S2 SEM images of (a and b) C-3.362-20, (c and d) C-4.482-20 and (e and f) C-4.781-20.



Fig. S3 SEM images of (a and b) C-5.229-20, (c and d) C-5.976-20 and (e and f) C-6.275-20.



Fig. S4 SEM images of (a and b) C-7.5-20, (c and d) C-8.3-20 and (e and f) C-8.7-20.



Fig. S5 SEM images of EDTA-4H.



Fig. S6 SEM images of carbon materials prepared from direct carbonization of EDTA-4H.



Fig. S7 N_2 adsorption/desorption isotherms for (a) C-1.494-20, (b) C-2.241-20, (c) C-2.988-20, (d) C-3.735-20, (e) C-4.482-20, (f) C-4.78-20, (g) C-5.229-20, (h) C-5.976-20 and (i) C-6.52-20 with corresponding pore size distributions calculated by Barrett–Joyner–Halenda (BJH) method from each branch.



Fig. S8 SEM images of the precursors of (a and b) C-6.275-20 and (c and d) C-7.5-20.



Fig. S9 Photographs of the precursors.



Fig. S10 The XRD patterns of the precursors prepared with $Ni(CH_3COO)_2 \cdot 4H_2O$, $NiCl_2 \cdot 6H_2O$ and $NiSO_4 \cdot 6H_2O$.



Fig. S11 (a) The SEM image of the precursor of C-4.482-20. (b) The XRD pattern and SEM image of C-4.482-20 without treatment with HNO₃ solution.