Electronic Supplementary Material (ESI) for Journal of Materials Chemistry
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Supplementary Information

Hierarchical Self-Assembly of $Mn_2Mo_3O_8$–Graphene Nanostructures and Their Enhanced Lithium-Storage Properties

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Fig. S1 EDX of the Mn-Mo-precursor/graphene hybrid.

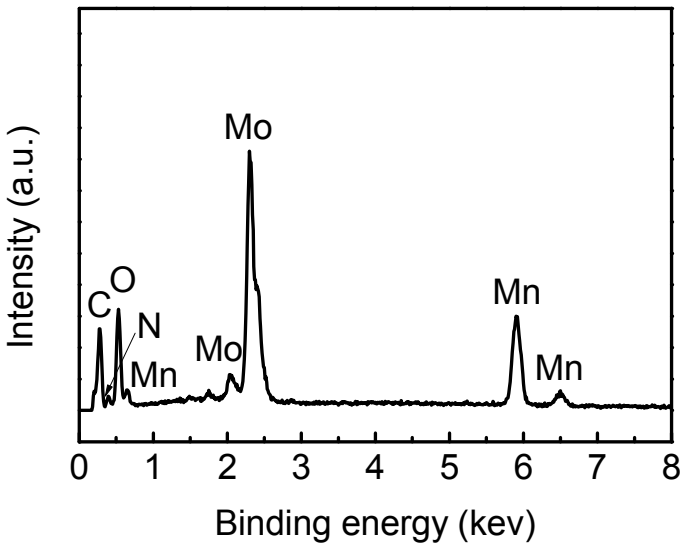

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Fig. S2 SEM images of pristine Mn-Mo-based precursor.

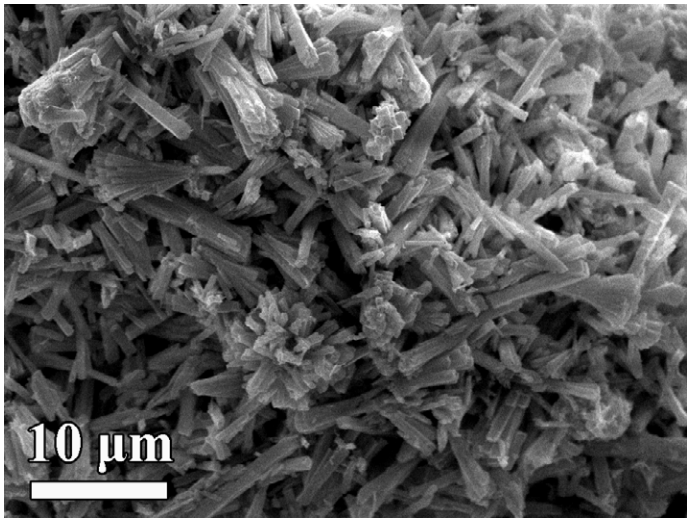

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Fig. S3 The XRD pattern of the pristine $Mn_2Mo_3O_8$.

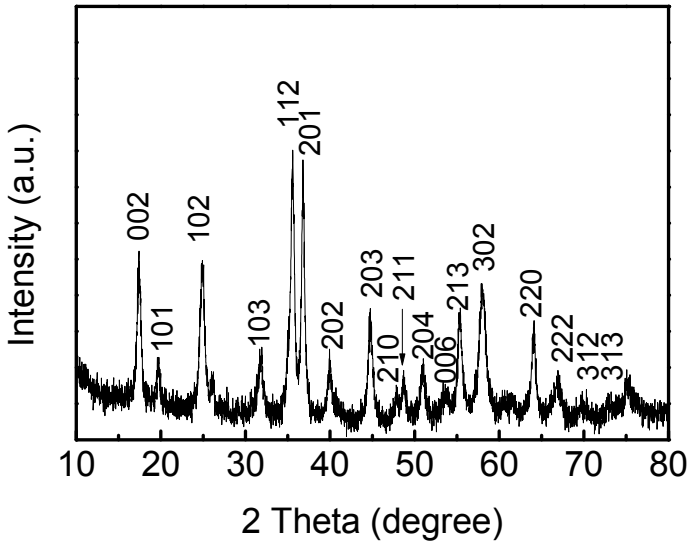

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Fig. S4 A typical EDX spectrum from the $Mn_2Mo_3O_8$–graphene hierarchical nanostructures, confirming the existence of Mn, Mo, O and C.

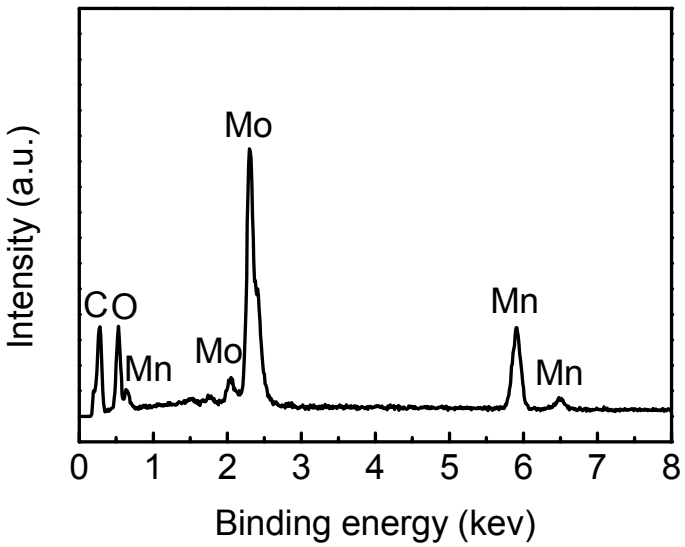

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Fig. S5 SEM images of the as-prepared pristine $Mn_2Mo_3O_8$.

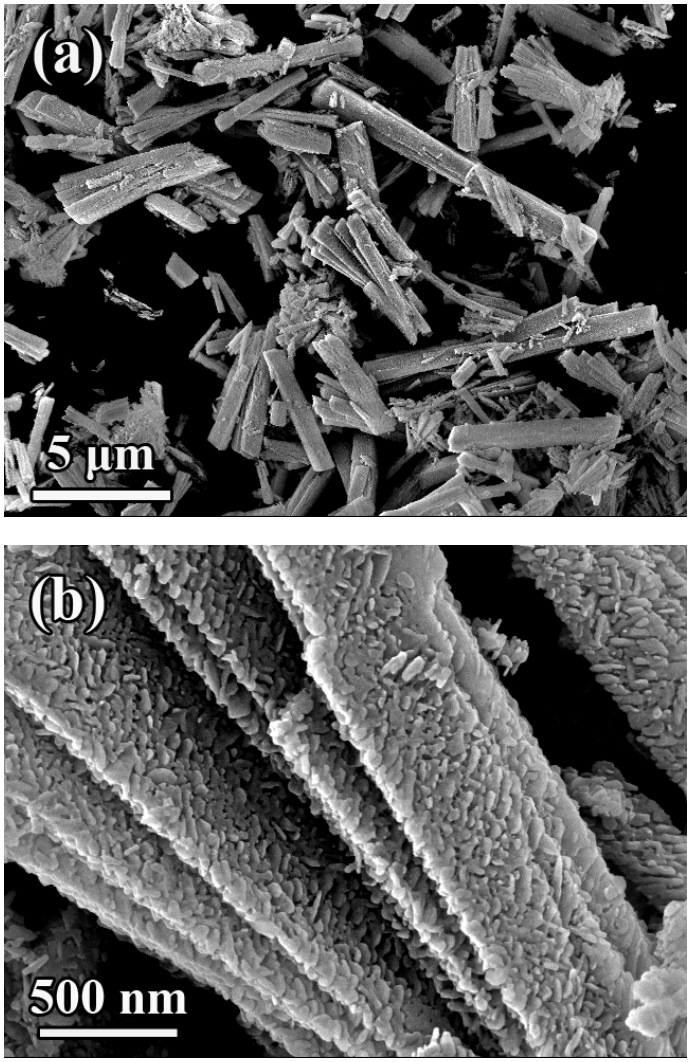

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Fig. S6 (a) TG result for the bare $Mn_2Mo_3O_8$. The TG curve of the bare $Mn_2Mo_3O_8$ exhibits a 5.7 wt % weight increase from about 200 to 600 ºC, which arises from the oxidation of the $Mn_2Mo_3O_8$. (b) TG result for the $Mn_2Mo_3O_8$–graphene hybrid. The weight change between 200 and 600 °C is due to the oxidation of the $Mn_2Mo_3O_8$ and the combustion of graphene. The total weight lost of the sample between 200 and 600 °C is 5.2 wt %. Thus, the carbon content in the $Mn_2Mo_3O_8$–graphene hybrid is evaluated to be about 10.3 wt %.

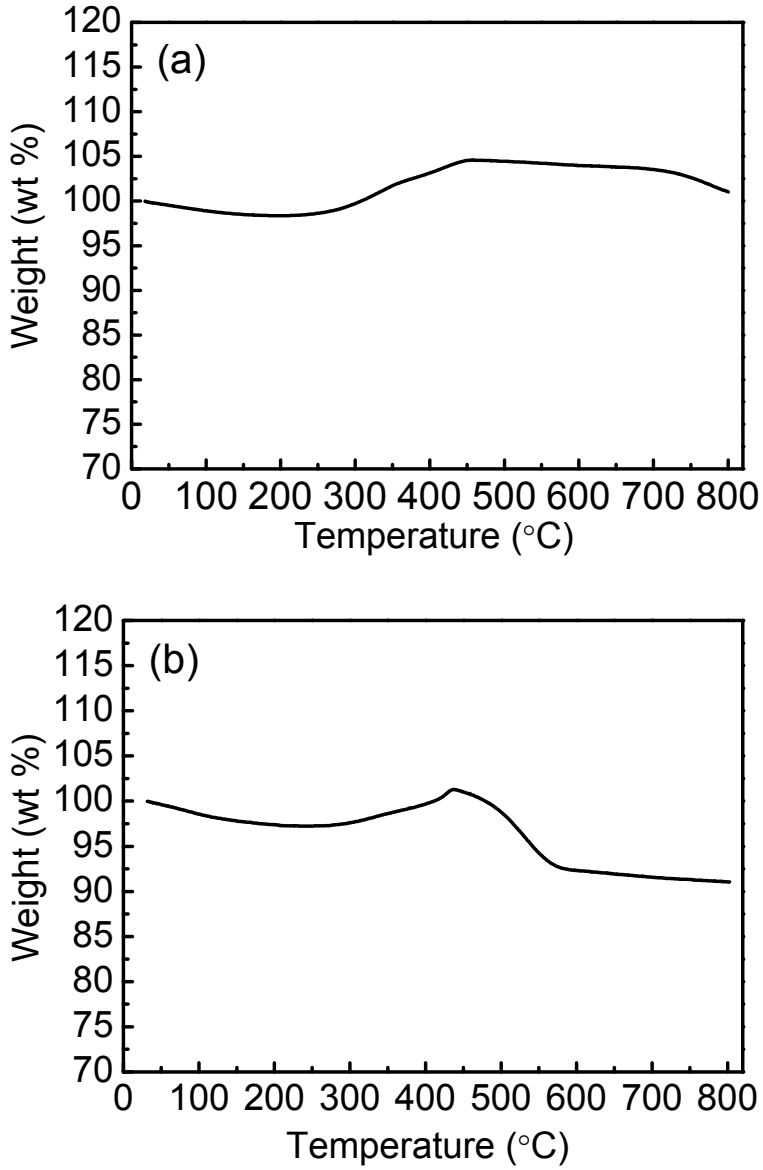

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Fig. S7 (a) Raman spectrum of the $Mn_2Mo_3O_8$–graphene product. The peaks around 1351 and 1588 cm^{-1} are attributed to the characteristic D-band and G-band vibration modes of carbon, respectively. (b) Raman spectrum of the graphene oxide. The peaks around 1356 and 1605 cm^{-1} are attributed to the characteristic D-band and G-band vibration modes of carbon, respectively.

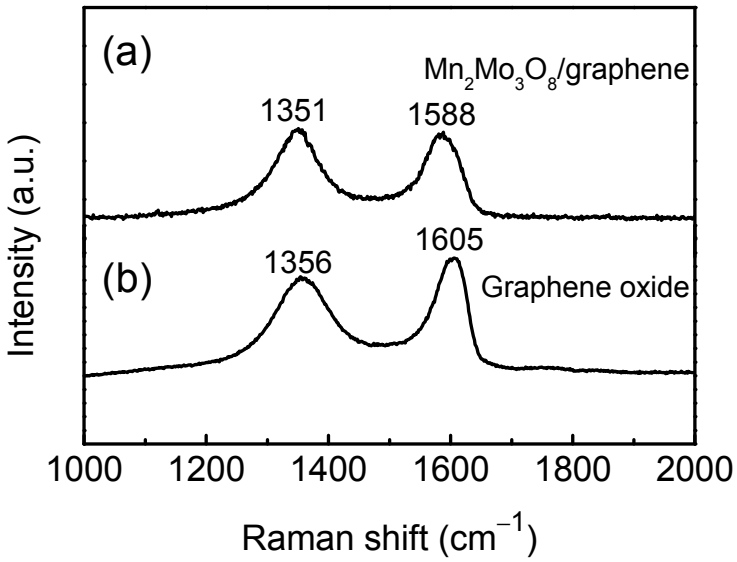

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Fig. S8 TEM image of the as-prepared pristine $Mn_2Mo_3O_8$.