

Supporting information for

**Graphene: a novel template for controlling the
microstructures of mesoporous silica**

*Ying-Feng Lee,^{a,z} Kuo-Hsin Chang,^{a,b,z} Chi-Chang Hu,^{*a} and Ying-Hui Lee^a*

^a Laboratory of Electrochemistry and Advanced Materials, Department of Chemical Engineering, National Tsing Hua University, Hsin-Chu, 30013 TAIWAN.

Fax: +886-3-5715408; Tel: +886-3-5736027

^b Department of Chemical Engineering, National Chung Cheng University, Chia-Yi, 621 TAIWAN

^z Authors contributed equally to this work. * To whom correspondence should be addressed.

E-mail: cchu@che.nthu.edu.tw

This supporting information includes Figures S1 – S4.

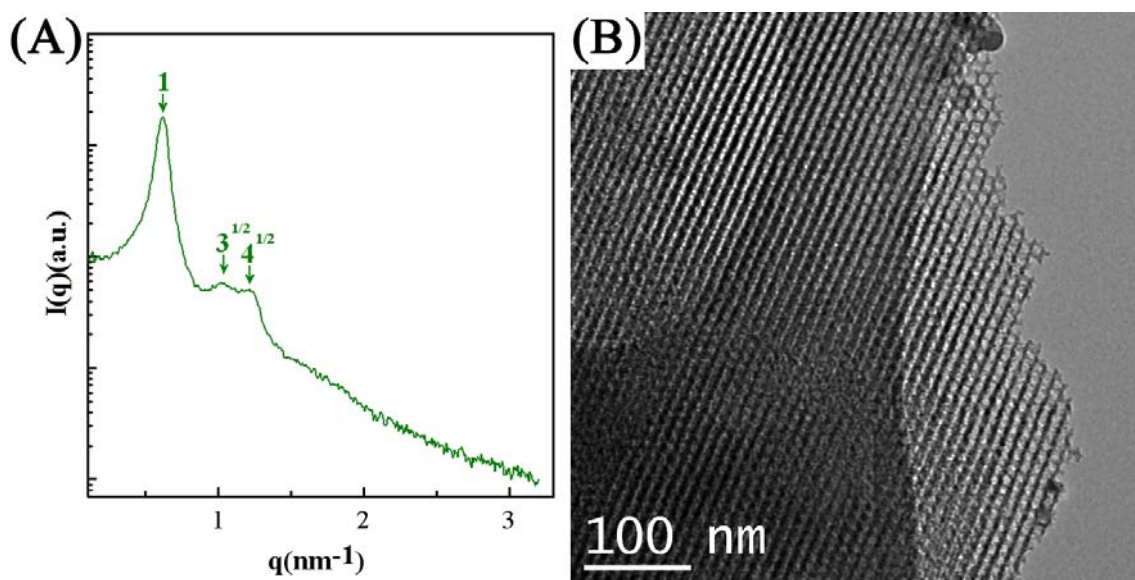


Figure S1 (A) A small-angle x-ray scattering pattern and (B) a TEM image of the silica template derived from SC600 by removing graphene sheets through additional heating in air at 500 °C for 1 h.

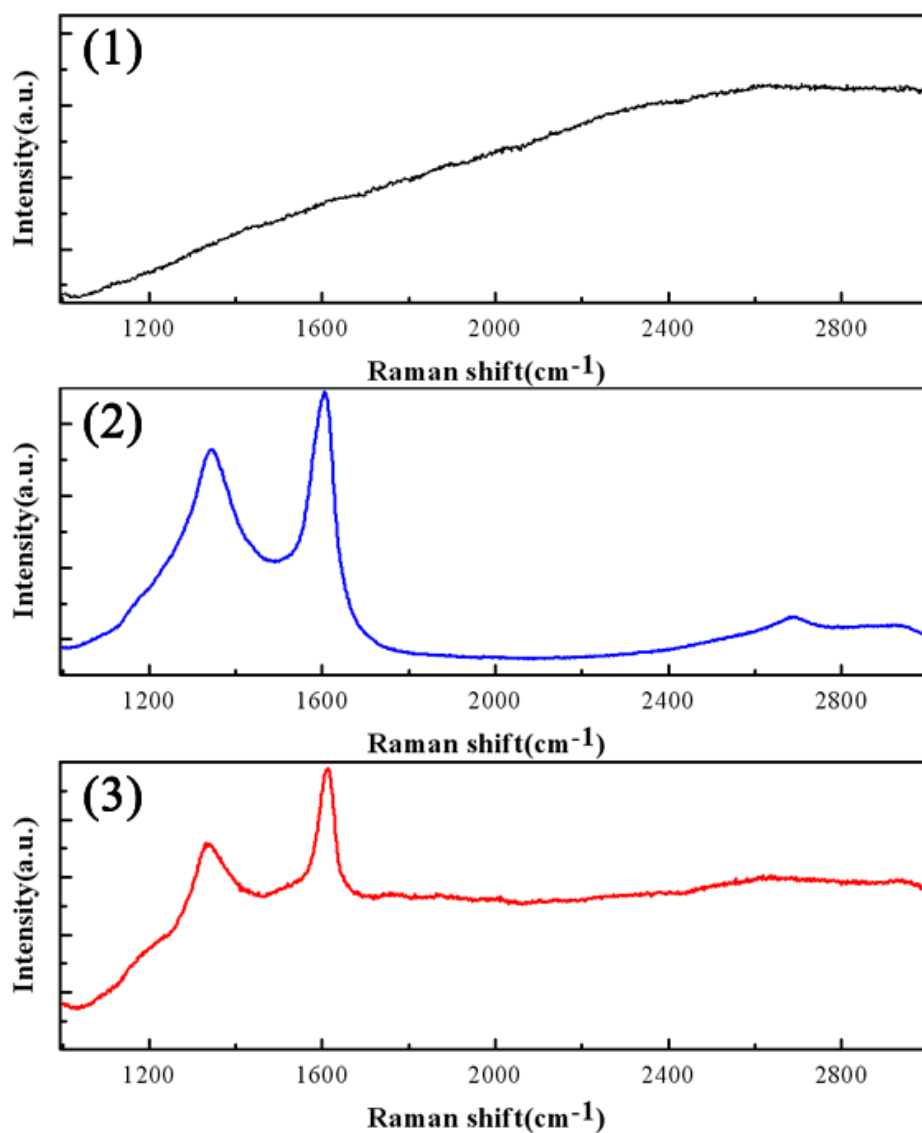


Figure S2 Micro-Raman spectra of the carbonaceous materials derived from the removal of silica from (1) SC450, (2) SC600, and (3) SC800.

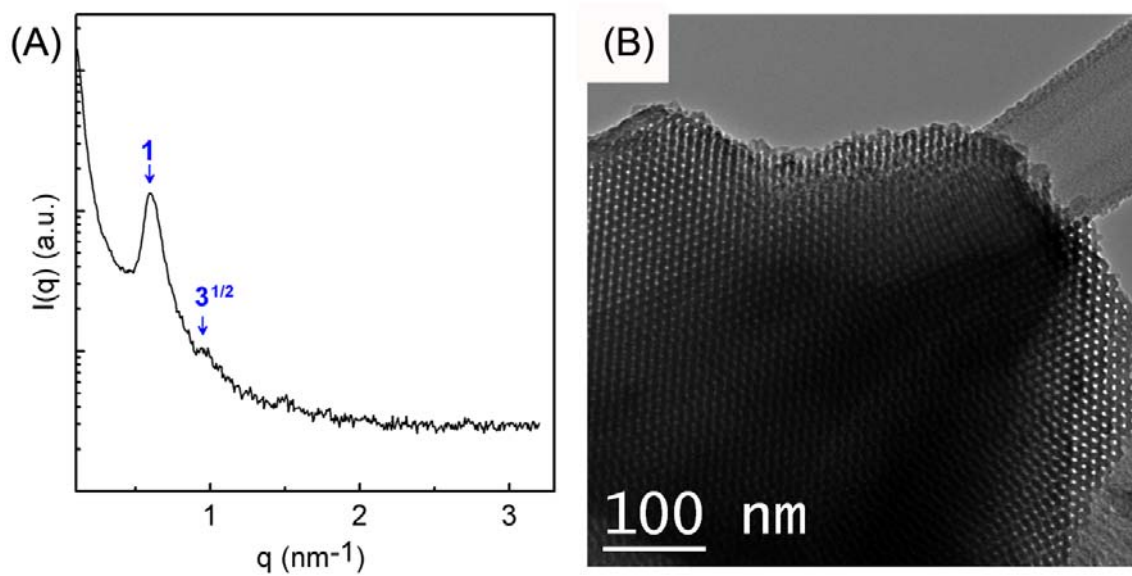


Figure S3 (A) The SAXS pattern and (B) TEM image of an aged, self-assembled precursor mixture.

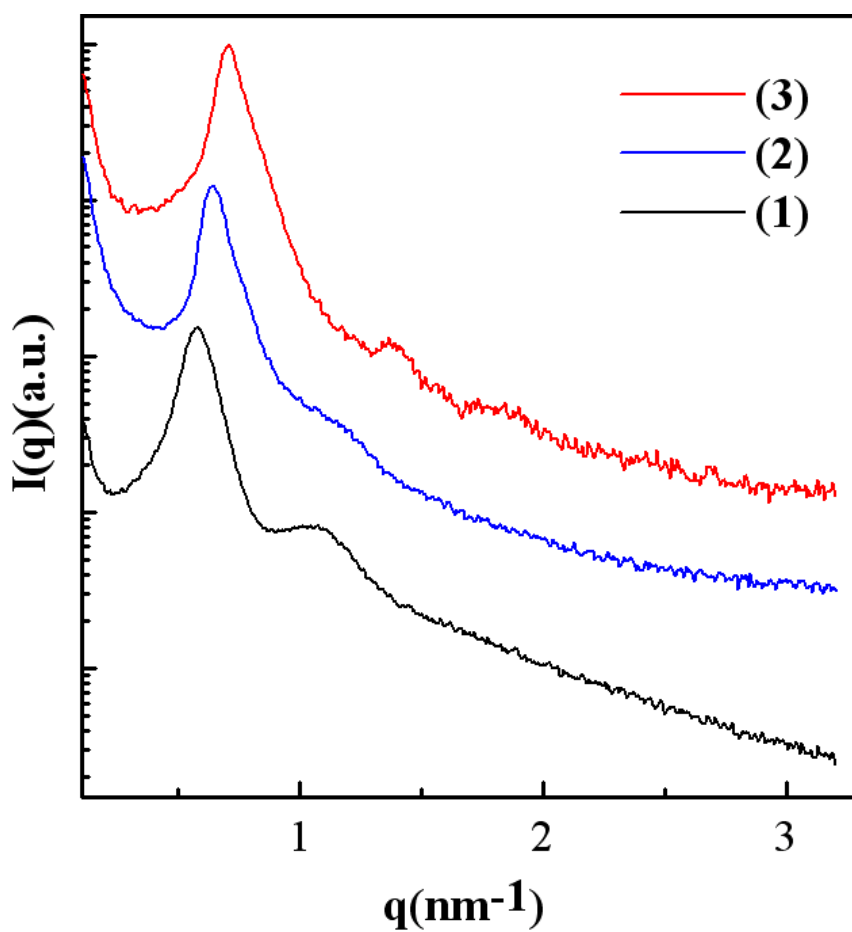


Figure S4 The small-angle X-ray scattering patterns of silica-carbon nanocomposites obtained from carbonization of the self-assembled precursor without cobalt chloride at (1) 450, (2) 600, and (3) 800 °C.