Electronic Supplementary Information for:

**Flux and Surfactant Directed Facile Thermal Conversion Synthesis of Hierarchical Porous MgO for Efficient Adsorption and Catalytic Growth of Carbon Nanotubes**

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**Figure S1.** (a) N\textsubscript{2} adsorption-desorption isotherms and (b) pore size distribution of the hierarchical porous MgO superstructures calcined by the precursor at 650 °C (heating rate: 10 °C min\textsuperscript{-1}) for 2.0 h, in the presence of NaCl and NP-9.

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Figure S2. Compositions and morphology of the products calcined by the precursor MgC$_2$O$_4$·2H$_2$O at different temperatures for 2.0 h (heating rate: 2 °C min$^{-1}$) in the presence of NaCl and NP-9.
Temperature (°C): (a$_1$, b)-400; (a$_2$, c)-500, (a$_3$, d)-650, (a$_4$, e)-800.
Figure S3. (a) XRD patterns and (b-e) SEM images of the products calcined in the presence of various additives at 650 °C (a1-a3,b-d) or 800 °C (a4,e) for 2.0 h.
Additives: a1,a4,b,e-none; a2,c-NaCl; a3,d-NP-9. Heating rate: 10 °C min⁻¹. Inset c1: TG-DTA curves of MgC₂O₄·2H₂O when calcined with NaCl (Molar ratio of NaCl/MgC₂O₄·2H₂O =3:1). ●: Mg(OH)₂ (JCPDS No. 07-0239); ♦: MgO (JCPDS No. 45-0946).