

Supplementary Materials: Synthesis and Formation Mechanism of Limestone-Derived Porous Rod Hierarchical Ca-based Metal–Organic Framework for Efficient CO₂ Capture

Po-Hsueh Chang ^{1,†}, Hua-Pei Hsu ², Szu-Chen Wu ^{2,†} and Cheng-Hsiung Peng ^{1,*}

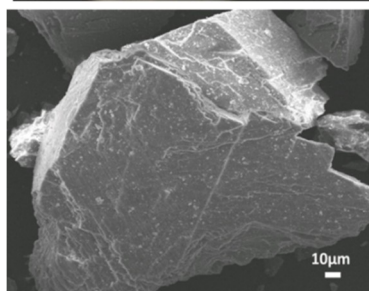
¹ Department of Chemical and Materials Engineering, Minghsin University of Science and Technology, Xinxing Road, Xinfeng, Hsinchu 30401, Taiwan; pohsueh.chang@gmail.com

² Department of Materials Science and Engineering, National Chiao Tung University, 1001 University Road, Hsinchu 30010, Taiwan; ivy810823@gmail.com (H.-P.H.); s320431@hotmail.com (S.-C.W.)

* Correspondence: chpeng@must.edu.tw; Tel.: +886-3-5593-142 (ext. 2119) or +886-933-961471; Fax: +886-3-5593-377

† Equal contribution.

Limestone- Characterization



Elemental composition of Limestone

Component	Content(wt%)
CaO	54.86
MgO	1.61
Al ₂ O ₃	0.06
SiO ₂	0.49
Fe ₂ O ₃	0.10
Na ₂ O	0.01
K ₂ O	0.02
others	0.07
Loss on fussion	42.78

Figure S1. Morphology and characterization of limestone powder

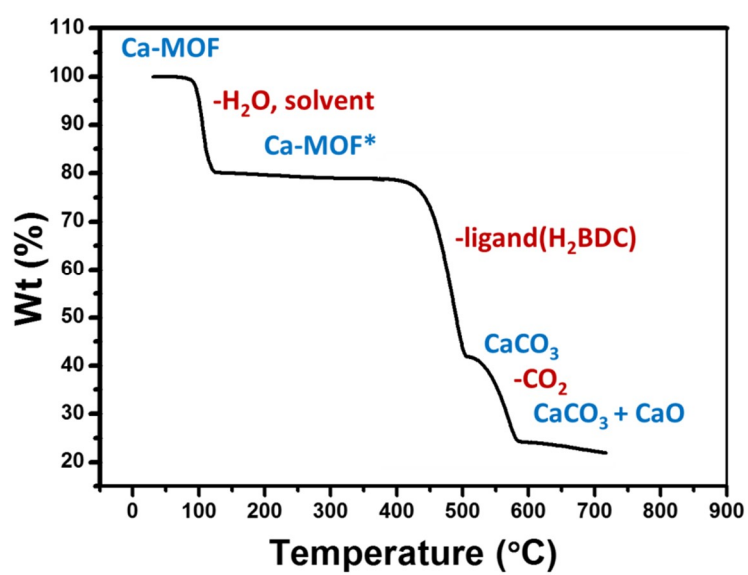


Figure S2. TGA curves of thermal property about Ca-MOF-24h-1.

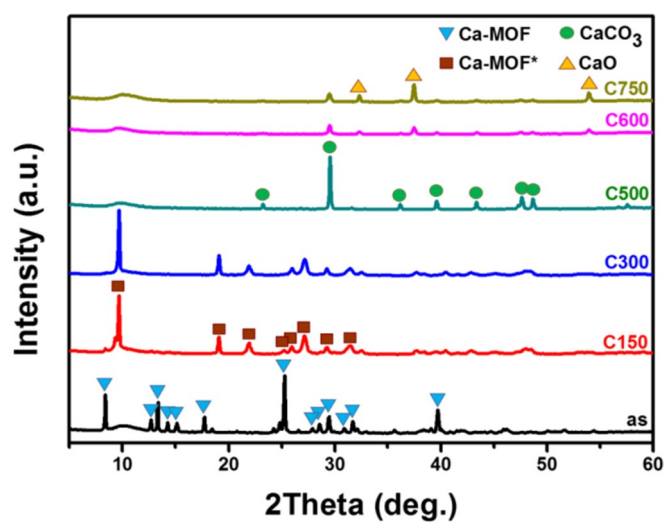


Figure S3. XRD patterns about Ca-MOF-24h-1 of as-synthesized and calcined at different temperatures.

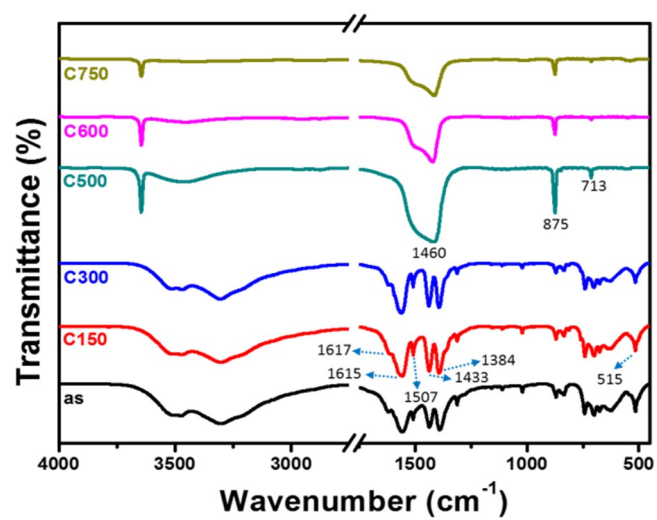


Figure S4. FT-IR spectra about Ca-MOF-24h-1 of as-synthesized and calcined at different temperatures.