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Supplementary Information

Preparation and hydrogen storage capacity of templated and activated carbons nanocast from commercially available zeolitic imidazolate framework

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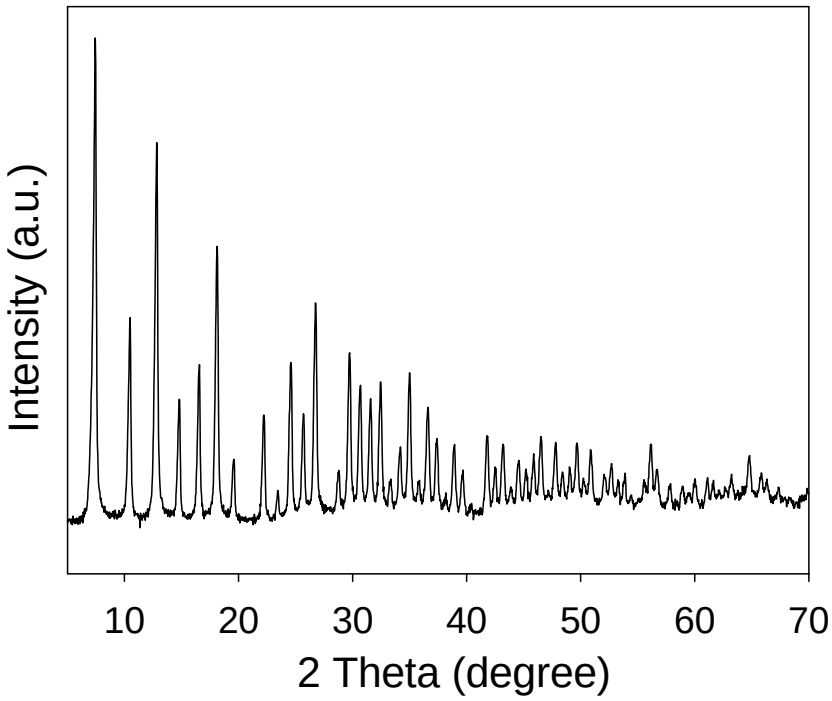
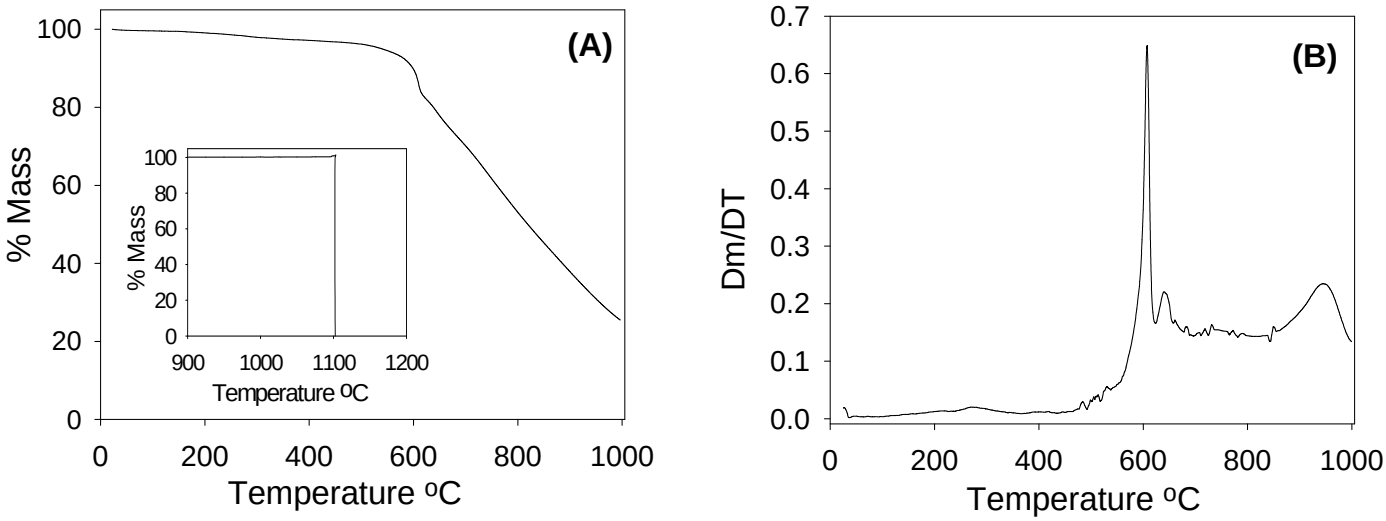
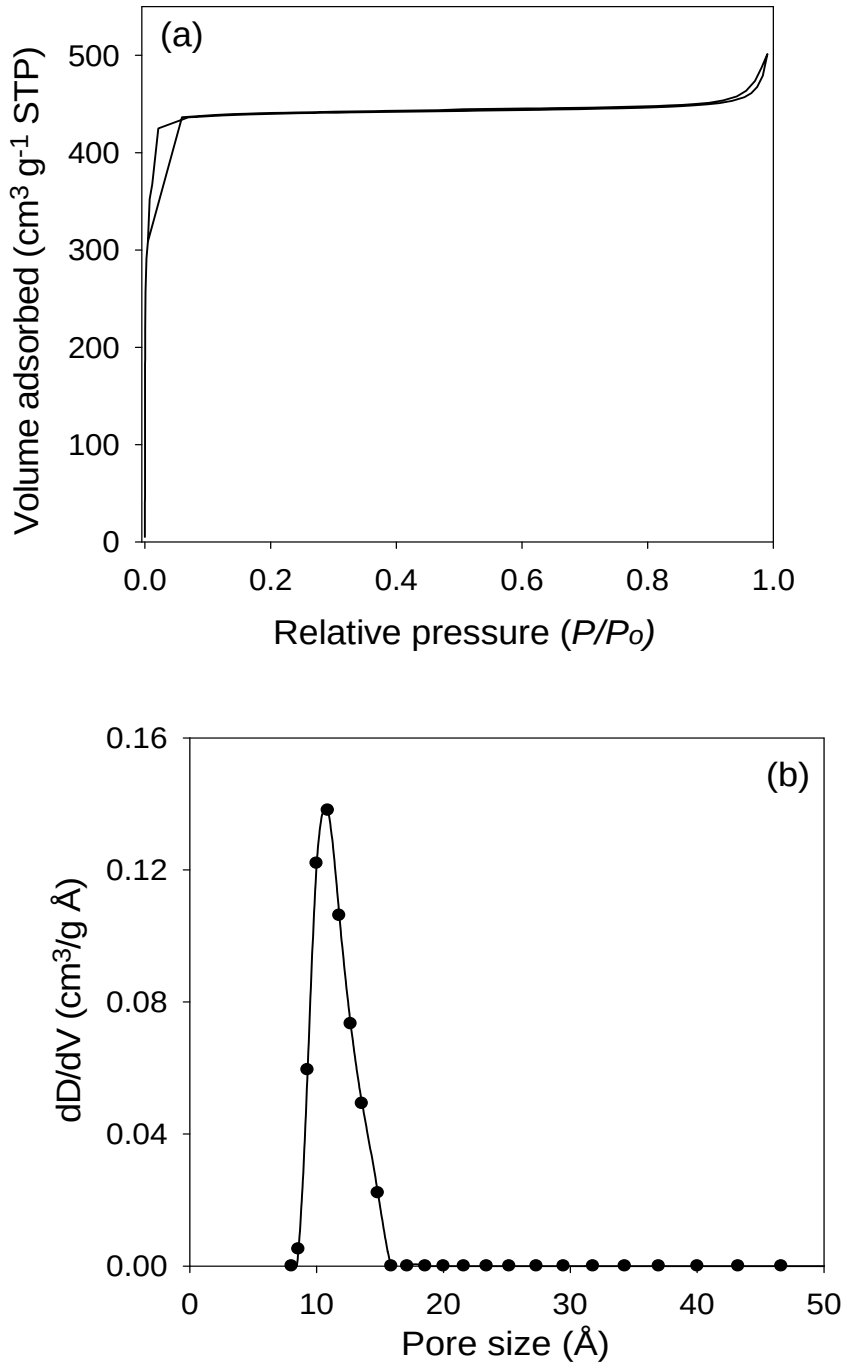


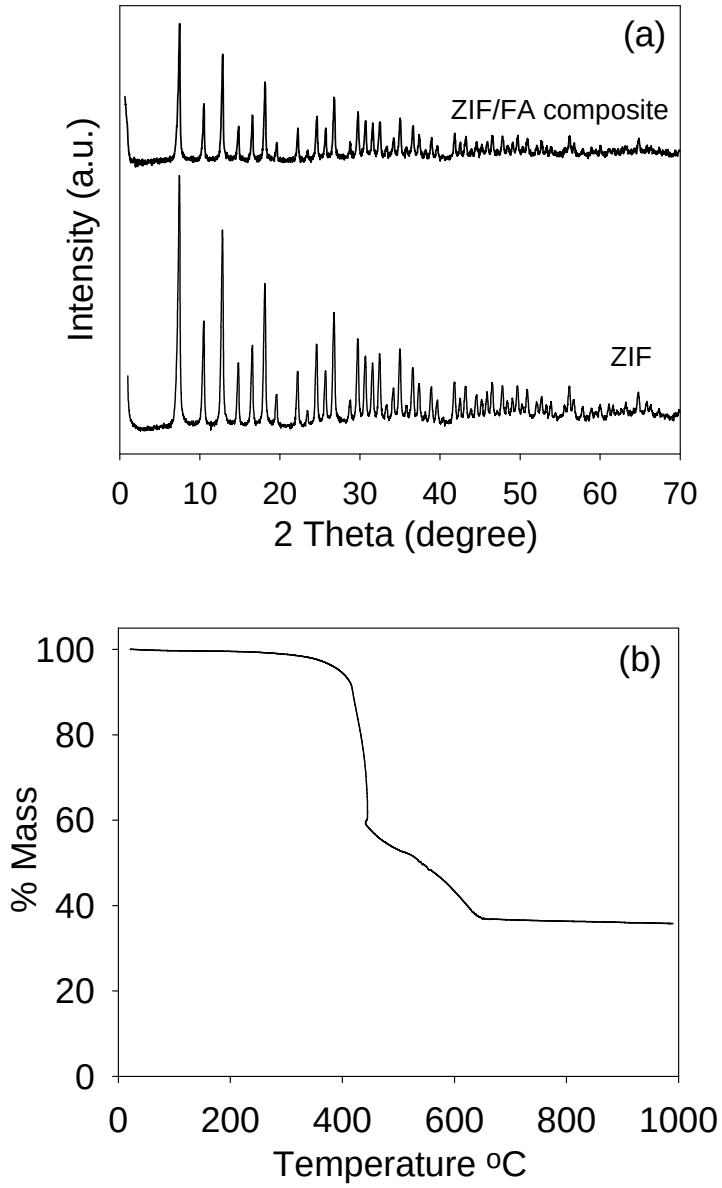
Supporting Figure 1: Powder XRD pattern of commercially available ZIF, Basolite Z1200.



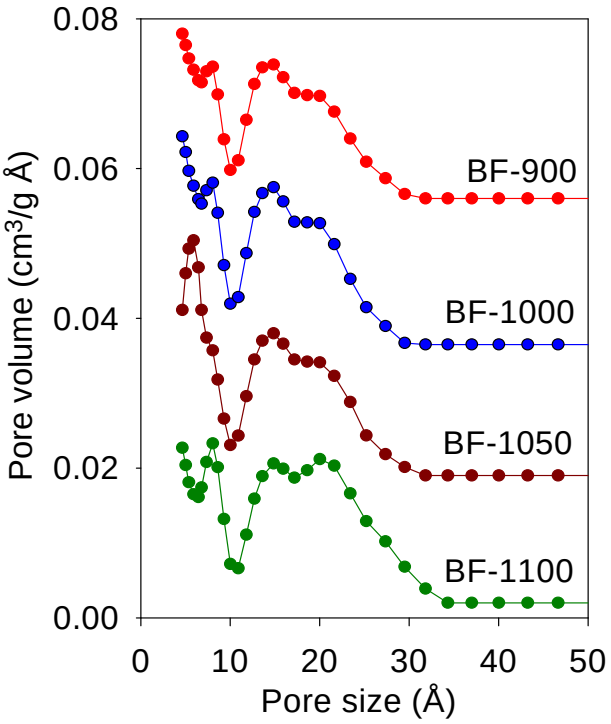
Supporting Figure 2. Thermogravimetric analysis (TGA) curve (A) and differential thermogravimetric (DTG) profile (B) of ZIF-8 (Basolite Z1200^{TM}) in nitrogen. The inset in (A) shows TGA curve for Zn metal.



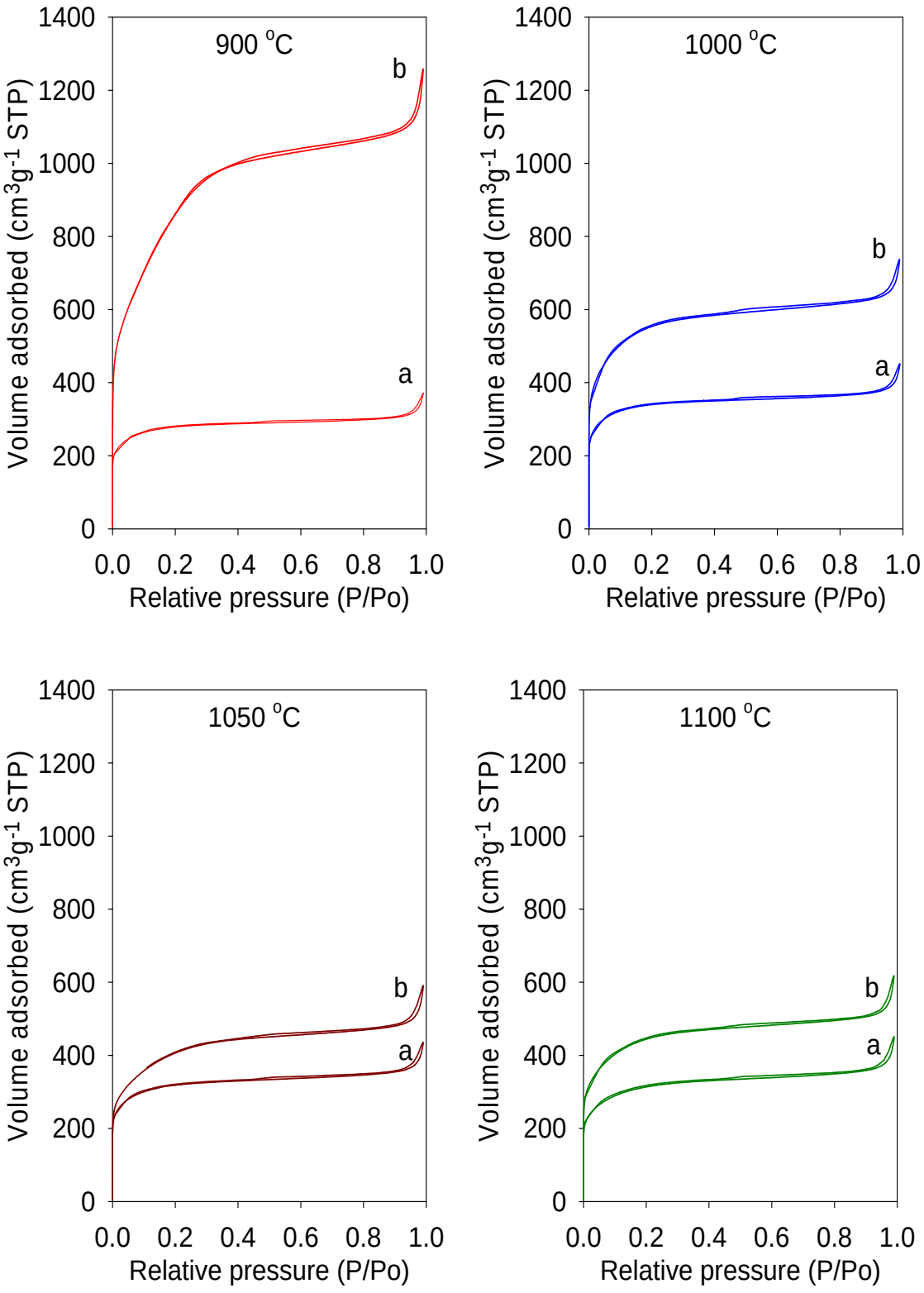
Supporting Figure 3. a) Nitrogen sorption isotherm and b) pore size distribution of Basolite template



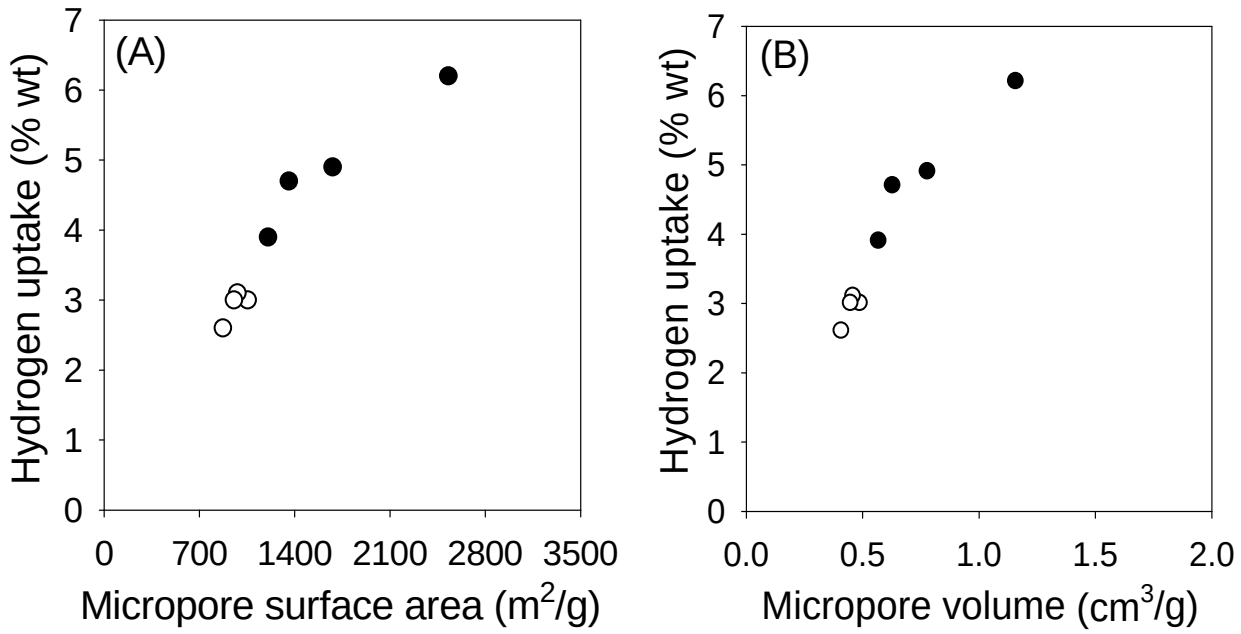
Supporting Figure 4. a) Powder XRD pattern and b) TGA curve (in air) of ZIF/FA composite after heating at 80 ^{o}C for 24 h and then at 150 ^{o}C for 6 h under Ar. The XRD patterns of the pristine ZIF is shown in (a) for comparison.



Supporting Figure 5. Pore size distribution curves of ZIF-templated carbon materials carbonised at various temperatures.



Supporting Figure 6. Nitrogen sorption isotherms of ZIF-templated carbons before (a) and after (b) chemical activation with KOH. The carbonisation temperature for each sample is shown.



Supporting Figure 7. Plot of hydrogen storage capacity as a function of (A) micropore surface area or (B) micropore volume of ZIF-templated carbons before (O) and after (●) chemical activation with KOH (at KOH/carbon ratio of 4) at 700 ^{o}C for 1 h.