

### Supporting Information

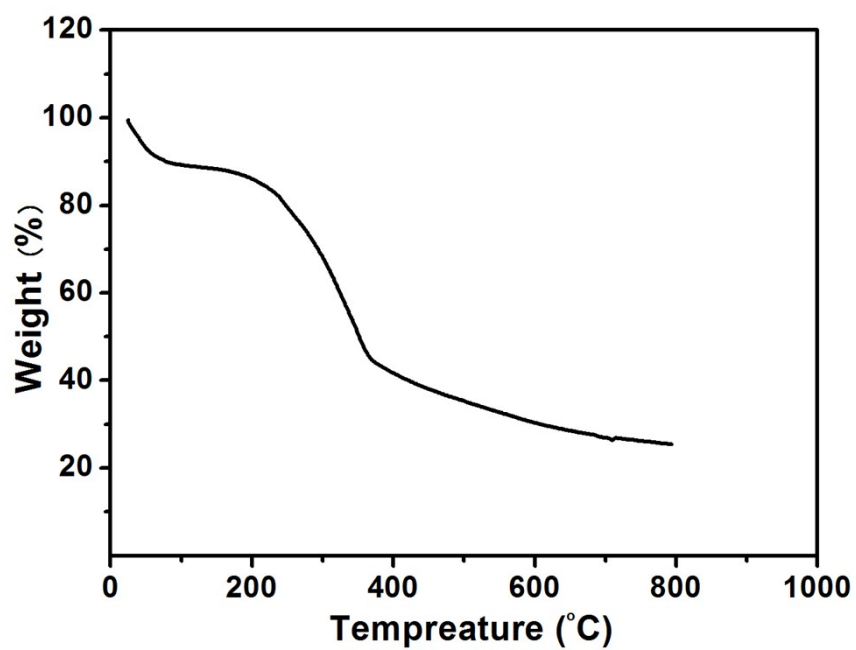
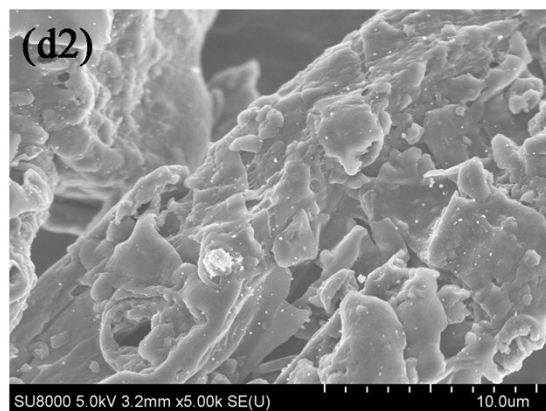
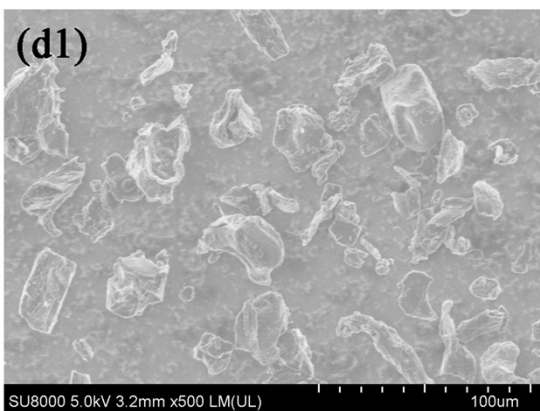
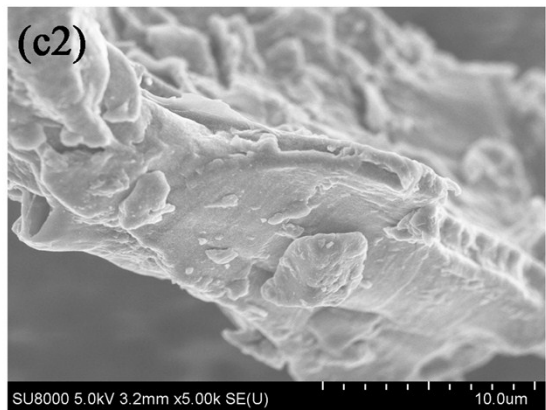
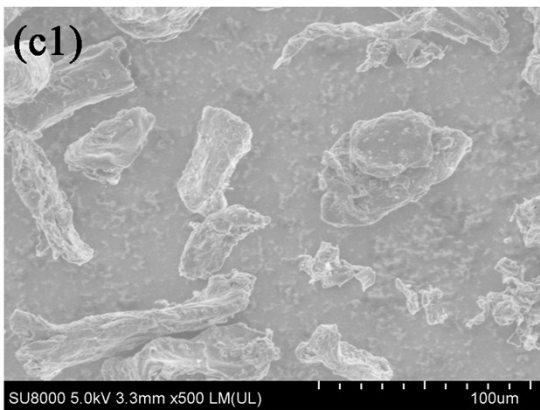
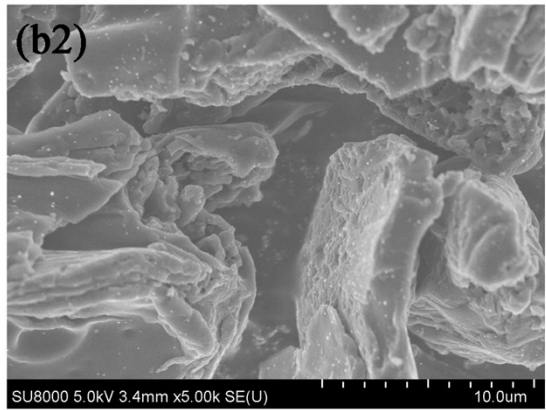
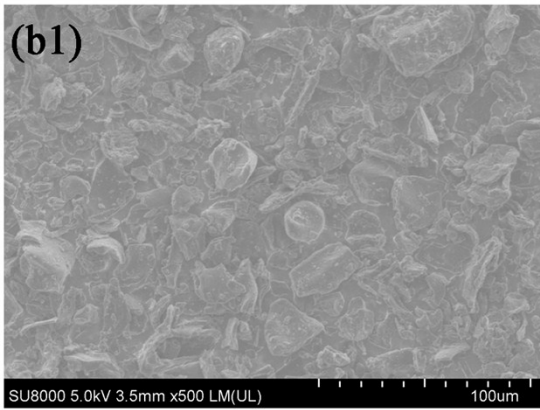
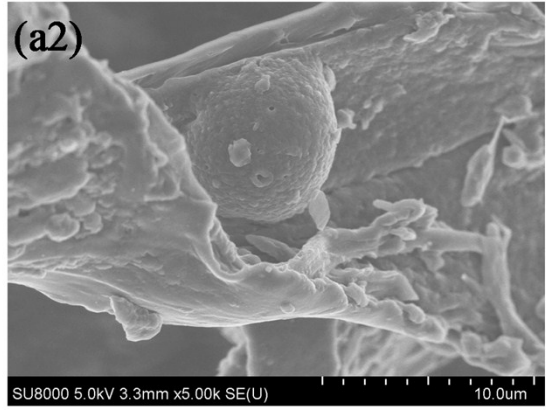
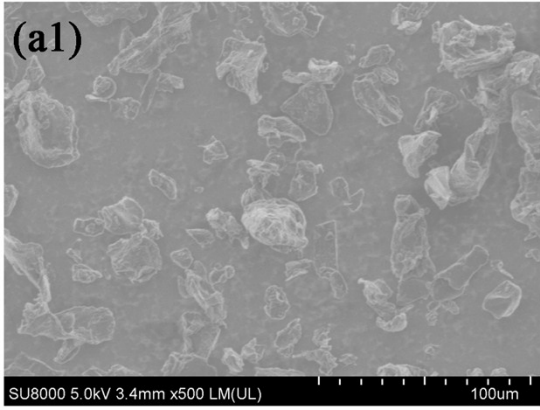


Fig. S1. TGA curve of the pinecone precursor carbonized at 800°C at N<sub>2</sub> atmosphere.



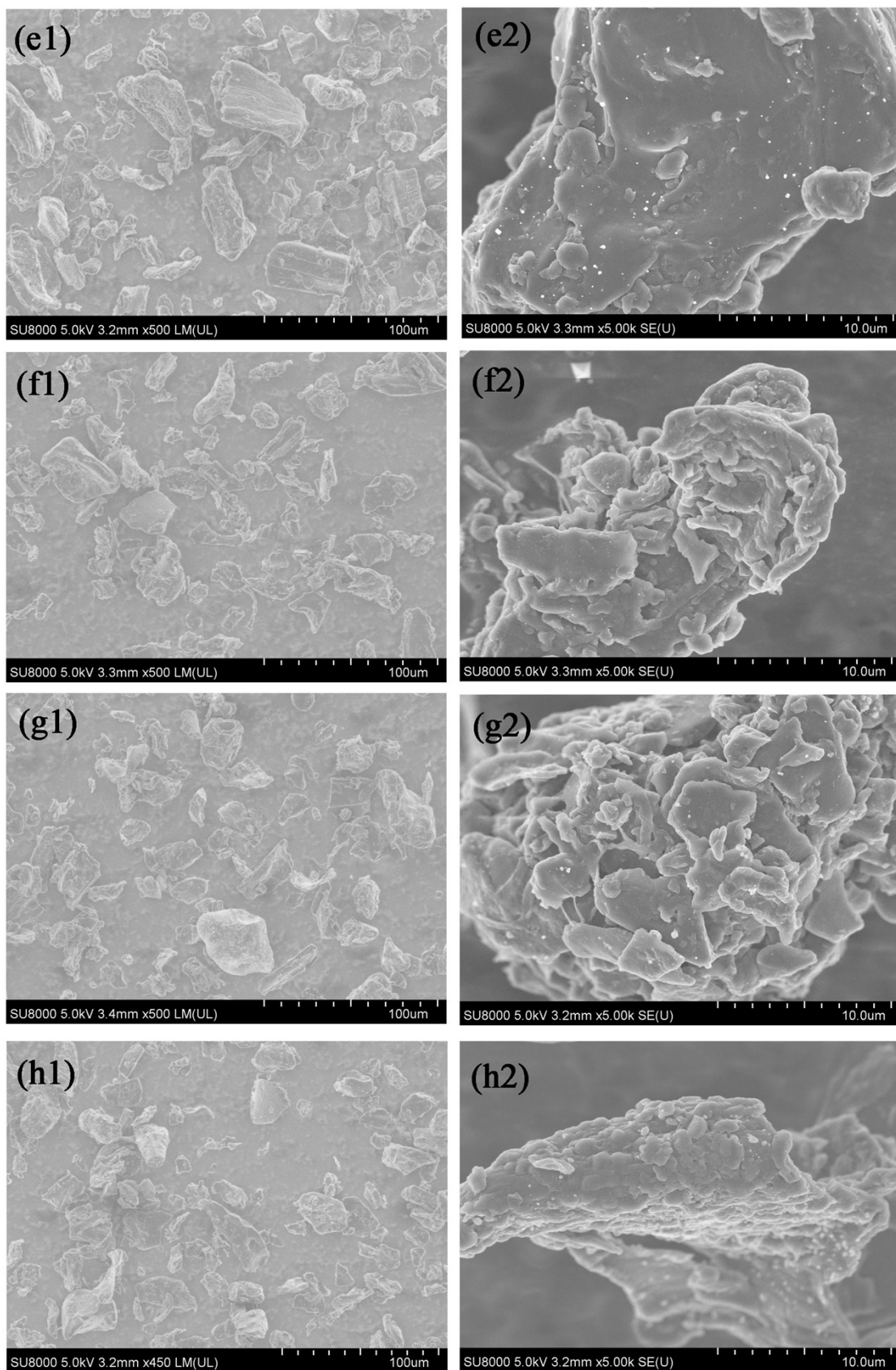


Fig. S2. (a1-h2) SEM images of PHC500, PHC800, PHC850, PHC900, PHC1000, PHC1200, PHC1400, and PHC1600, respectively.

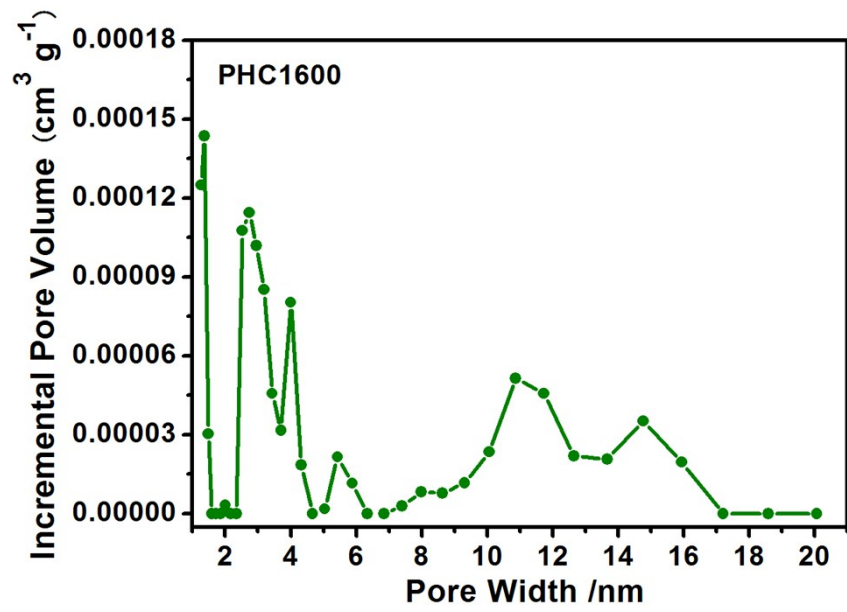


Fig. S3. Pore size distribution of PHC1600 at full scale calculated by the BJH method.