Apple pectin-mediated green synthesis of hollow double-caged peanut-like ZnO hierarchical superstructures and photocatalytic applications

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**Fig. S1** SEM images of the products with different alkaline substances: 0.300 g urea (A); 0.400 g NaOH (B); 0.415 g HMTA (C).
**Fig. S2** The SEM image of the products prepared without ammonia at 120 °C under hydrothermal conditions.
Fig. S3  SEM images of the products prepared with different amounts of pectin: 0.007 g (A); 0.028 g (B); 0.056 g (C).
Fig. S4 The N$_2$ adsorption–desorption isotherms of the as-obtained ZnO samples.