

Supporting Information

Hydrothermal synthesis of ZnO@polysiloxane microspheres and their application in preparing optical diffusers

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1、 Preparation of polysiloxane microspheres

The preparation of polysiloxane microspheres using convenient sol-gel method were as follows: 8 mL VTMS in 50 mL ethanol was stirred at room temperature for 1h. Then, adjust pH value of the above solution to 6, and the reaction was continued for 4 hours. Subsequently, adjust pH value to 9 and the reaction was continued for 6 hours. Finally, the mixture was filtered and washed thoroughly with distilled water. It was dried in vacuum at 60 °C for 12 h to obtain polysiloxane microspheres.

2、 Characterization of polysiloxane microspheres

FT-IR Analysis

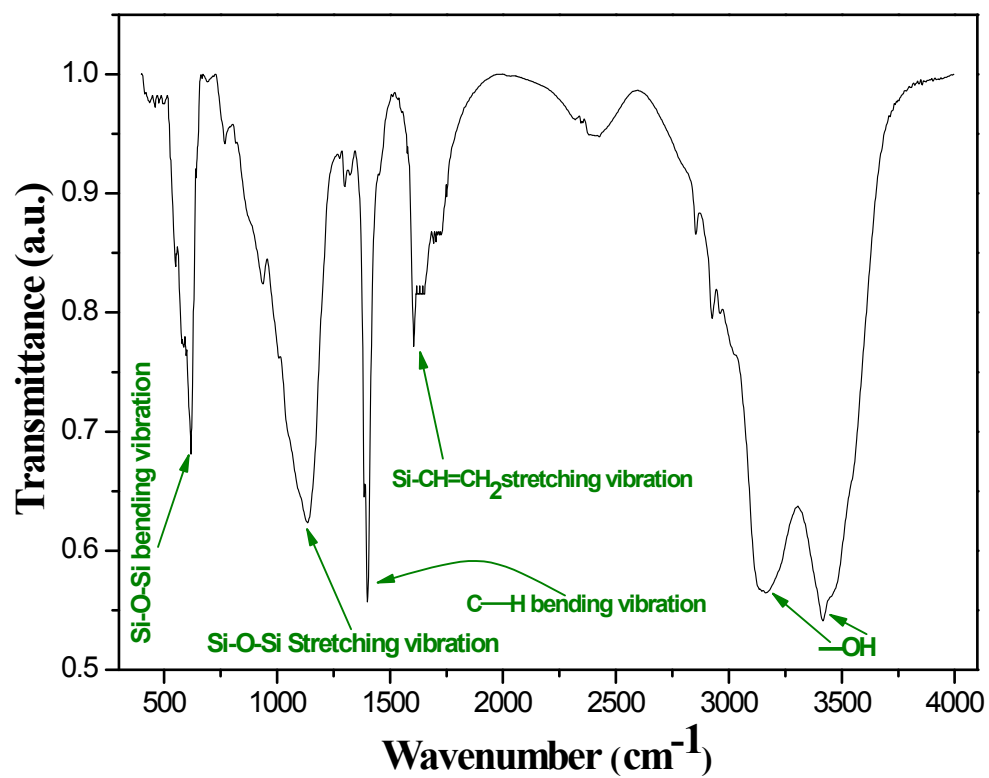


Figure S1. FT-IR spectra of poly(VTMS).

XRD Analysis

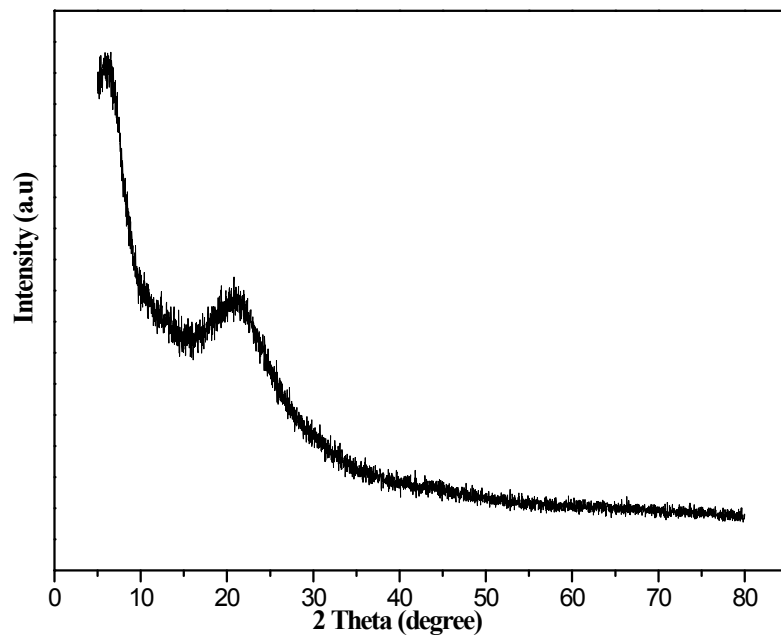


Figure S2. X-ray diffraction (XRD) patterns of poly(VTMS).

Highlights

- ZnO@polysiloxane core-shell microspheres were successfully synthesized by hydrothermal assembly process.
- The target product possessed ZnO shell layer with nanometer size and core layer with polysiloxane microspheres.
- A “red shift” of the central peak position occurs in photoluminescence spectrum of ZnO@polysiloxane.
- A facile, efficient, simple and green approach to obtaining ZnO@polysiloxane hybrid microspheres.