Supporting Information

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

Jingang Hu, Yuming Zhou*, Xiaoli Sheng

School of Chemistry and Chemical Engineering, Southeast University, Optoelectronic Functional Materials and Engineering Laboratory, Jiangsu, Nanjing 211189, PR China
*Corresponding author: Tel +86-25-52090617; Fax +86-25-52090617; E-mail address: ymzhou@seu.edu.cn (Y. Zhou).
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.