**Supporting Information**

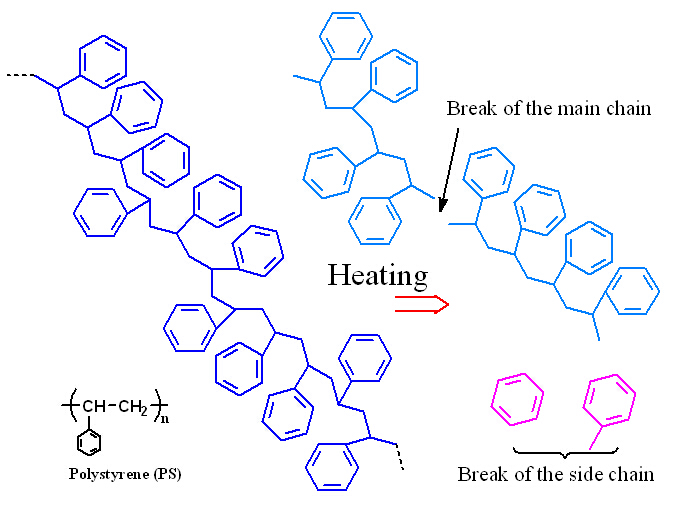
**Controlled synthesis of polystyrene-assisted tin-doped indium oxide nanowire networks**

Qiang Li1,2,, Lungang Feng2, Shuai Wang2, Yu-Feng Li1,2, and Feng Yun1,2,[[1]](#footnote-1)

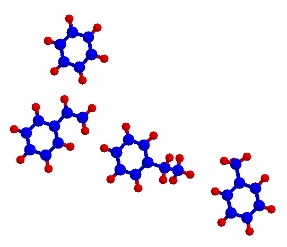
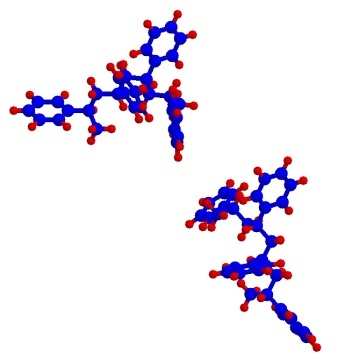
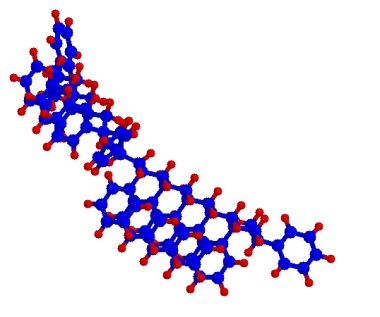
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**Section 1-** Schematic diagram of PS decomposition



**FIG.S1** (color online) The molecular chains of polystyrene were ruptured by heating. One is the main chain broken, and the other is the side chain broken.



Gas

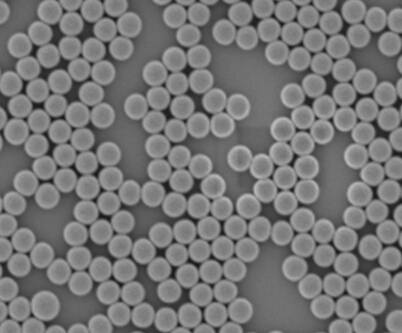
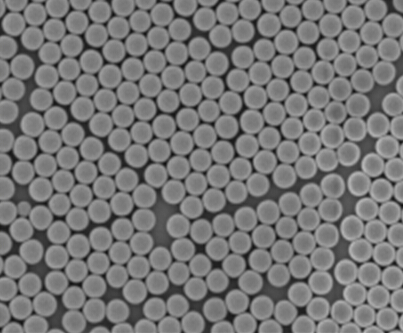
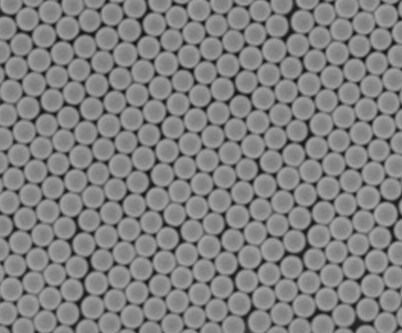
PS sphere

Heated PS sphere

**FIG.S2** (color online)The schematic diagram of the deformation of PS spheres at high temperature.

**Section 2-** Different density of PS spheres monolayer

The PS spheres dispersion is a concentration of 10% water dispersion. The following figures show the different proportions of PS dispersion in alcoholic solution (99%).



**1 µm**

**1 µm**

**1 µm**

**(a)**

**(b)**

**(c)**

**FIG.S3** (color online) The SEM images of PS spheres monolayer with different concentration. The proportions of PS dispersion in alcoholic solution are(a) 1:1.5, (b) 1:3, and (c) 1:6, respectively.

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