

**Insight into liquid crystalline shape memory polyurethane composites based on
amorphous reversible phase and hexadecyloxybenzoic acid**

Shaojun Chen¹, Hongming Yuan¹, Zaochuan Ge¹, Shiguo Chen^{1*}, Haitao Zhuo^{2*},
Jianhong Liu²

¹Laboratory of Special Functional Materials, Shenzhen Engineering Laboratory for Advanced Technology of Ceramics, College of Materials Science and Engineering, Shenzhen University, Shenzhen, 518060, China.

²Shenzhen Key Laboratory of Functional Polymer, College of Chemistry and Chemical Engineering, Shenzhen University, Shenzhen, 518060, China.

*Corresponding author: College of Materials Science and Engineering, Shenzhen University, Shenzhen 518060, China. Tel or Fax: +86-755-26534562. E-mail: csq@szu.edu.cn;
haitaozhuo@163.com;

Supporting Information

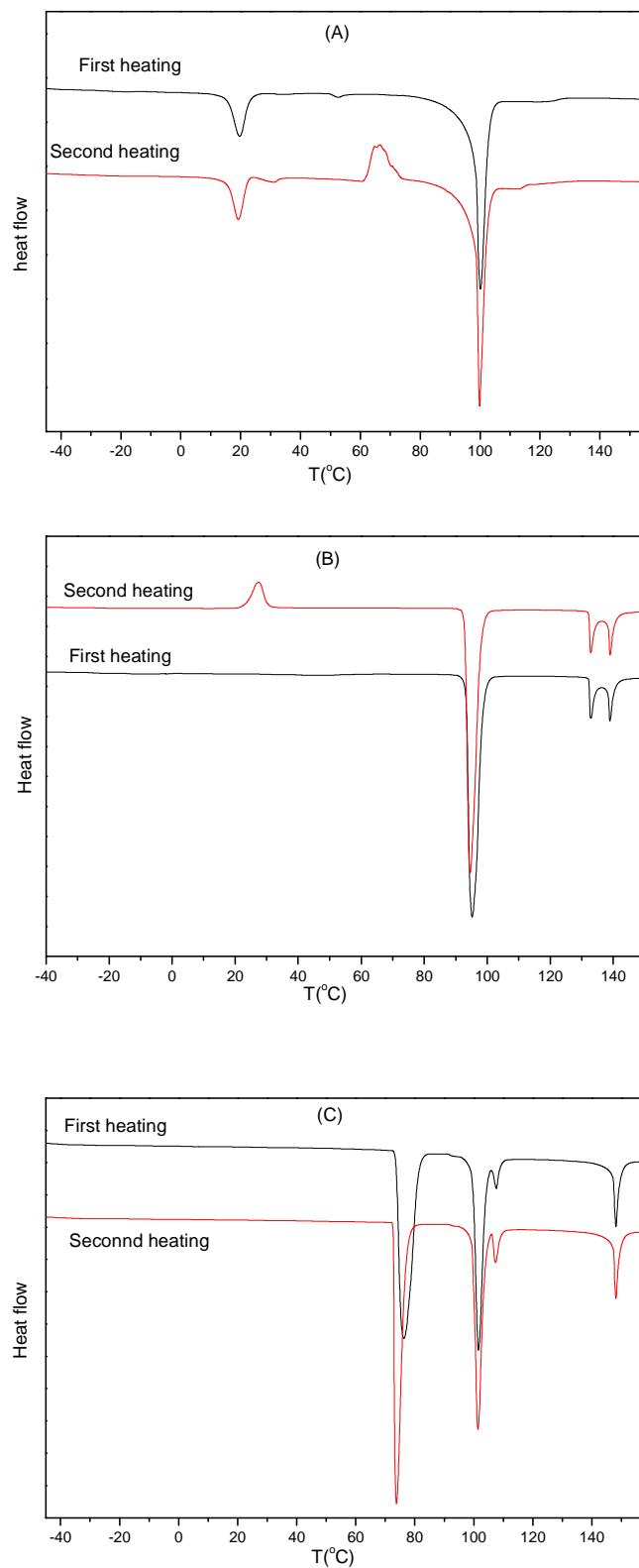


FIGURE A. DSC curves (first heating and second heating) of (A) HOBA; (B) 4-dodecyloxybenzoic acid; (C) 4-octyloxybenzoic acid

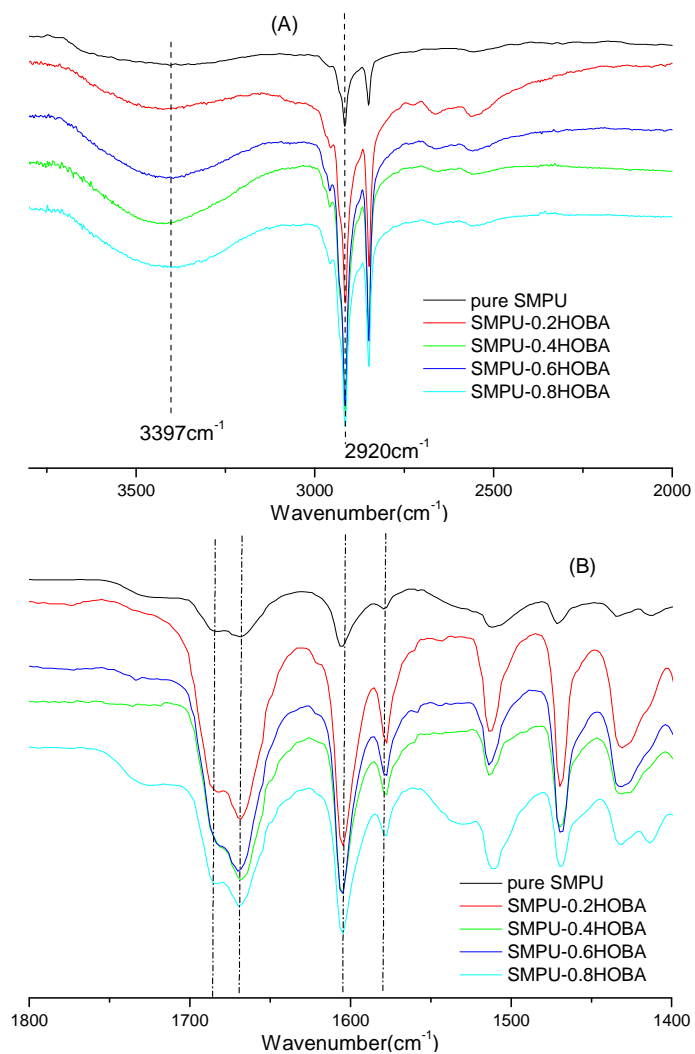


Figure B. FT-IR spectra of SMPU-LC composites with different HOBA content

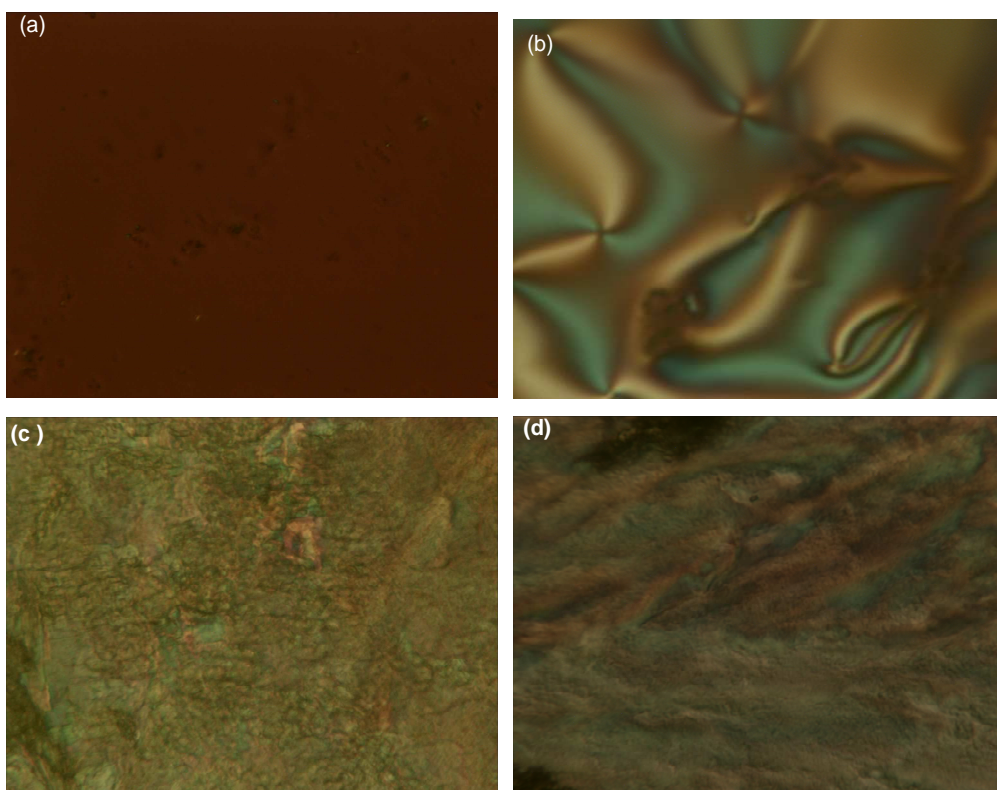


Figure C. POM pictures ($\times 400$) of pure HOBA at different temperature (a- 135°C showing the isotropic phase; b- 125°C showing the nematic phase; c- 50°C showing the crystalline phase, d- 20°C showing the crystalline phase)

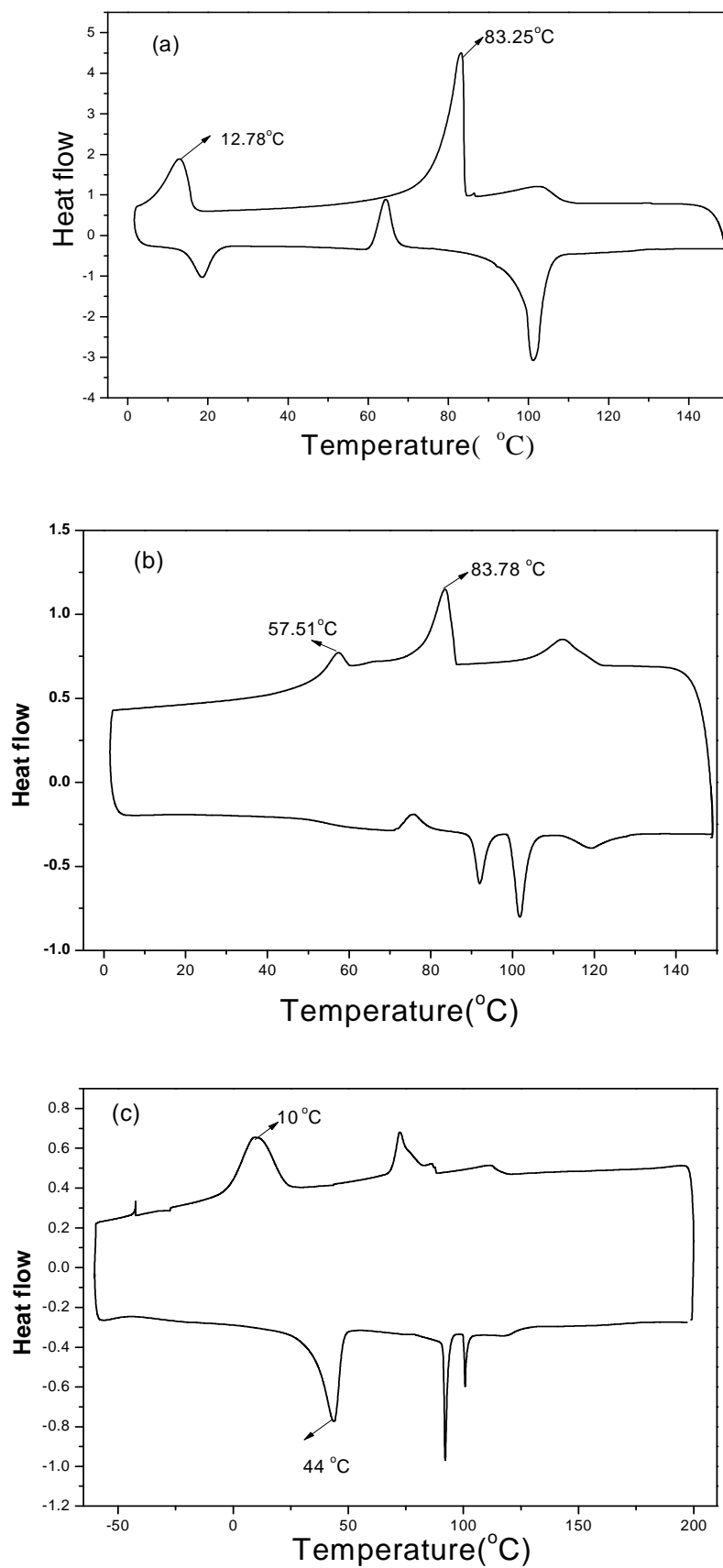


FIGURE D. DSC curves of pure HOBA (a), SMPU-LC composites based on amorphous reversible phase (b), and SMPU-LC composites based on semi-crystalline reversible phase (c)

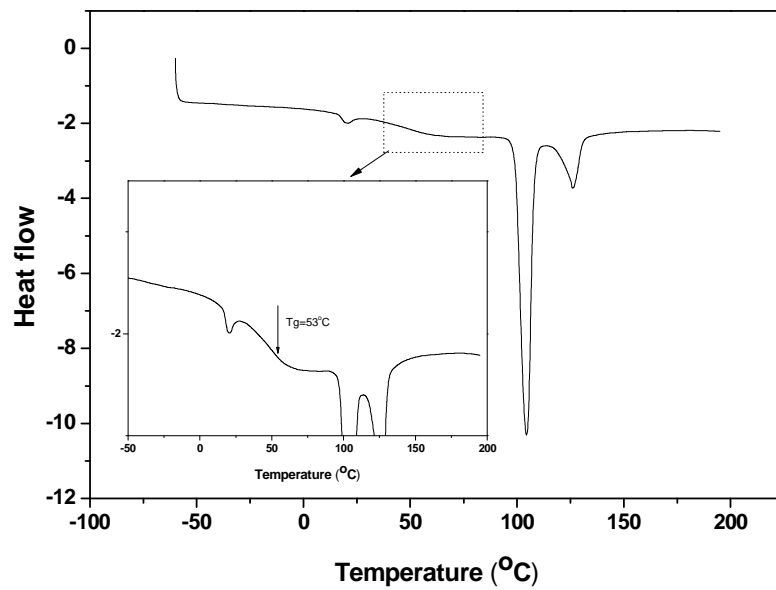


Figure E. the second DSC heating curves of sample SMPU-0.8HOBA