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

Shaojun Chen¹, Hongming Yuan¹, Zaochuan Ge¹, Shiguo Chen¹*, Haitao Zhuo²*, 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: csg@szu.edu.cn; haitaozhuo@163.com;

Supporting Information
FIGURE A. DSC curves (first heating and second heating) of (A) HOBA; (B) 4-dodecylxybenzoic acid; (C) 4-octylxybenzoic acid
Figure B. FT-IR spectra of SMPU-LC composites with different HOBA content
Figure C. POM pictures (×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