

## Supporting Information

# Magnetic Composite Nanoparticles Consisting of Helical Poly(*n*-hexyl isocyanate) and Fe<sub>3</sub>O<sub>4</sub> Prepared via Click Reaction

Xuan Liu <sup>a,b</sup>, Ru Cheng <sup>b</sup>, Jianping Deng <sup>\*a</sup>, and Youping Wu <sup>\*b</sup>

<sup>a</sup>State Key Laboratory of Chemical Resource Engineering, College of Materials Science and Engineering, Beijing University of Chemical Technology, Beijing 100029, China

<sup>b</sup>State Key Laboratory of Organic-Inorganic Composites, Beijing University of Chemical Technology, Beijing 100029, China

### Experimental Section

#### 1. Synthesis of the Organotitanium(IV) Catalyst (CpTiCl<sub>2</sub>-OCH<sub>2</sub>Ph-C≡C)

The schematic representation for preparing the organotitanium(IV) catalyst and the subsequent 4-ethynylbenzyloxy end-functionalized poly(*n*-hexyl isocyanate) (PHIC-C≡C) is presented in Scheme 1 in the text. The preparation of catalyst was finished via a method similar to previous report.<sup>1-3</sup> All the synthesis process was performed under argon atmosphere. Take the catalyst for preparing PHIC-C≡C-3 as example. To a 50 mL Schlenk flask, CpTiCl<sub>3</sub> (0.1 g) was added and dissolved in 2 mL of dry CH<sub>2</sub>Cl<sub>2</sub>. Subsequently, 4-ethynylbenzyl alcohol (0.066 g) was dissolved

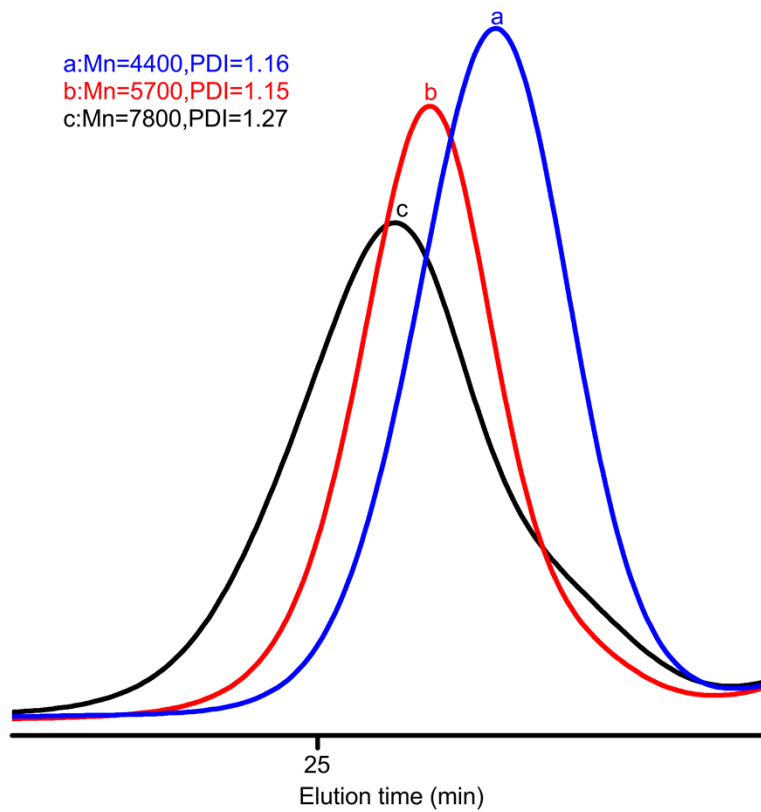
in 2 ml of dry  $\text{CH}_2\text{Cl}_2$ , and the solution was slowly added in the flask. The solution was stirred overnight at room temperature. After that, the solvent was removed under vacuum, providing a dark-orange powder, i.e. the catalyst. The catalysts thus-prepared are defined as  $\text{CpTiCl}_2\text{-OCH}_2\text{Ph-C}\equiv\text{C}$ .

## 2. Synthesis of $\text{PHIC-C}\equiv\text{C}$

The synthesis of  $\text{PHIC-C}\equiv\text{Cs}$  was accomplished by a method similar to previous report.<sup>1-3</sup> The polymerizations were performed under argon atmosphere. Take  $\text{PHIC-C}\equiv\text{C-3}$  as example (Scheme 1). To a 100 mL Schlenk flask, the  $\text{CpTiCl}_2\text{-OCH}_2\text{Ph-C}\equiv\text{C}$  prepared above was added, followed by the addition of  $\text{CH}_2\text{Cl}_2$  (1.2 mL). The mixture was stirred for about 0.5 h. HIC (3.1 mL) was then introduced with a syringe, and the reaction was allowed to proceed under rigorous stirring at room temperature. After 24 h, the viscosity of the solution was significantly increased. Termination of the polymerization was achieved by adding a 5 % solution (10 mL) of methanol in THF. The formed polymer was precipitated in methanol, filtrated, and was re-dissolved in THF. This procedure was repeated three times to remove the unreacted organotitanium catalyst and monomer, if any. Finally, the polymer was filtered to afford a white solid polymer and further dried under vacuum for 2 days.

## References

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2. A. Touris, K. Kostakis, S. Mourmouris, V. Kotzabasakis, M. Pitsikalis and N. Hadjichristidis, *Macromolecules*, 2008, **41**, 2426.
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**Figure S1.** GPC elution profile of the PHIC-C≡Cs. a, PHIC-C≡C-1; b, PHIC-C≡C-2; c, PHIC-C≡C-3 (Refer to Table 1).