Supporting Information for

New Biocompatible Thermogelling Copolymers Containing Ethylene-Butylene Segments Exhibiting Very Low Gelation Concentrations

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1. **Synthesis of E1**

15 g of PEG, 5 g of PPG and 0.2 g of PEB were dried in a 250-ml two-neck flask at 50 °C under high vacuum overnight. Then, 50 ml of anhydrous 1,2-dichloroethane was added to the flask. Following that, an equimolar of HMDI and four drops of dibutyltin dilaurate (~1.6 x 10^{-2} g) were added sequentially. The reaction mixture was stirred at 75 °C under a nitrogen atmosphere for 48 hrs. The resultant copolymer was precipitated in hexane. The copolymers were redissolved in chloroform and precipitated in diethyl ether.

2. **Synthesis of E2**

Typically, 15 g of PEG, 5 g of PPG and 1 g of PEB were dried in a 250-ml two-neck flask at 50 °C under high vacuum overnight. Then, 50 ml of anhydrous 1,2-dichloroethane was added to the flask. Following that, an equimolar of HMDI and four drops of dibutyltin dilaurate (~1.6 x 10^{-2} g) were added sequentially. The reaction mixture was stirred at 75 °C under a nitrogen atmosphere for 48 hrs. The resultant copolymer was precipitated in hexane. The copolymers were redissolved in chloroform and precipitated in diethyl ether.

3. **Synthesis of E3**

Typically, 10 g of PEG, 10 g of PPG and 0.2 g of PEB were dried in a 250-ml two-neck flask at 50 °C under high vacuum overnight. Then, 50 ml of anhydrous 1,2-dichloroethane was added to the flask. Following that, an equimolar of HMDI and four drops of dibutyltin dilaurate (~1.6 x 10^{-2} g) were added sequentially. The reaction mixture was stirred at 75 °C
under a nitrogen atmosphere for 48 hrs. The resultant copolymer was precipitated in hexane. The copolymers were redissolved in chloroform and precipitated in diethyl ether.

4. **Synthesis of E4**

Typically, 10 g of PEG, 10 g of PPG and 1 g of PEB were dried in a 250-ml two-neck flask at 50 °C under high vacuum overnight. Then, 50 ml of anhydrous 1,2-dichloroethane was added to the flask. Following that, an equimolar of HMDI and four drops of dibutyltin dilaurate (~1.6 x 10^{-2} g) were added sequentially. The reaction mixture was stirred at 75 °C under a nitrogen atmosphere for 48 hrs. The resultant copolymer was precipitated in hexane. The copolymers were redissolved in chloroform and precipitated in diethyl ether.