

## Electronic supplementary information (ESI)

### Organic-Inorganic Rod-Coil Block Copolymers Comprising Substituted Polyacetylene and Poly(dimethylsiloxane) Segments

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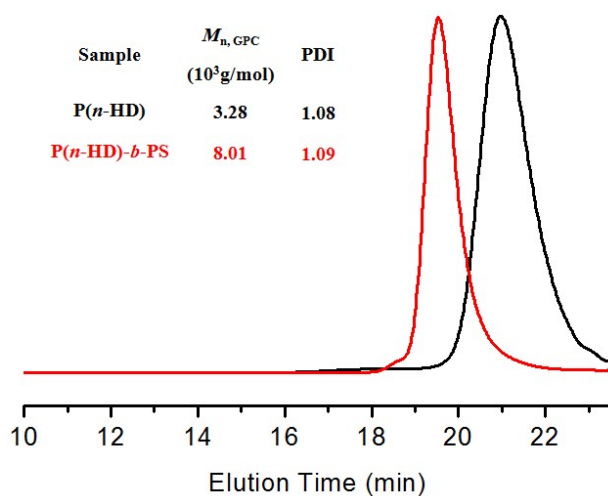


Figure S1. GPC traces of homopolymer P(*n*-HD) and block copolymer P(*n*-HD)-*b*-PS.

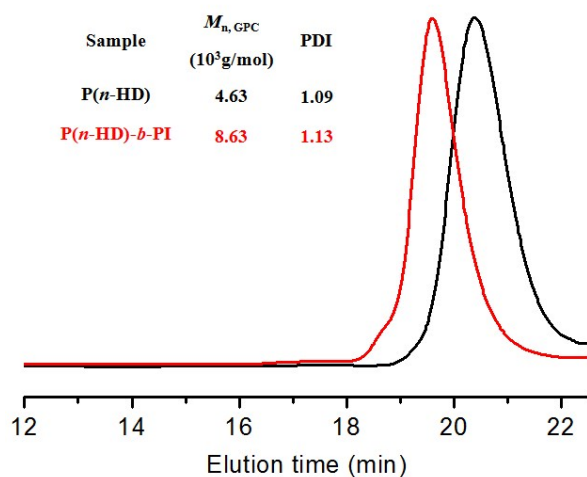
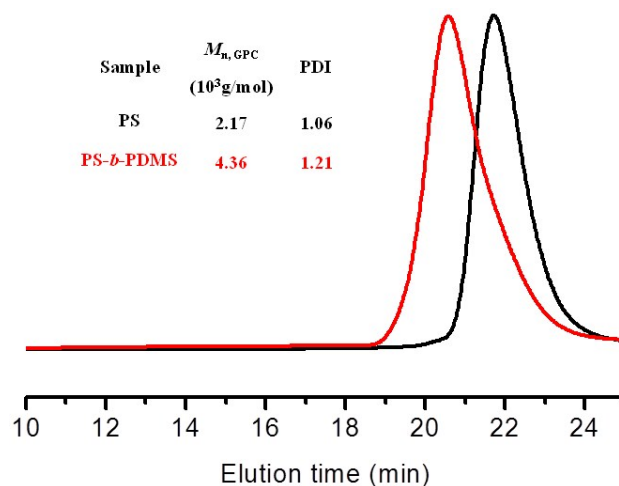
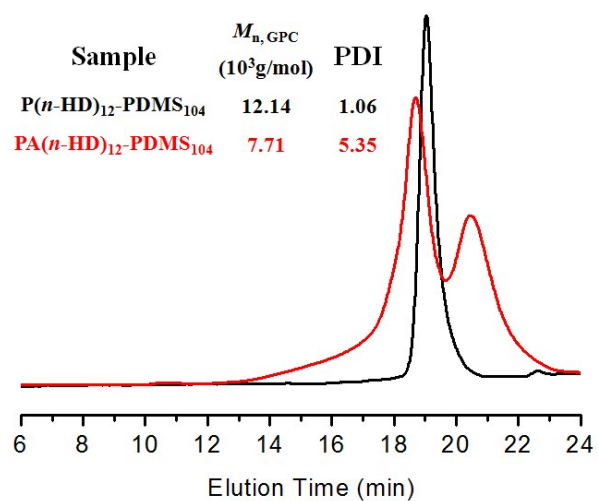


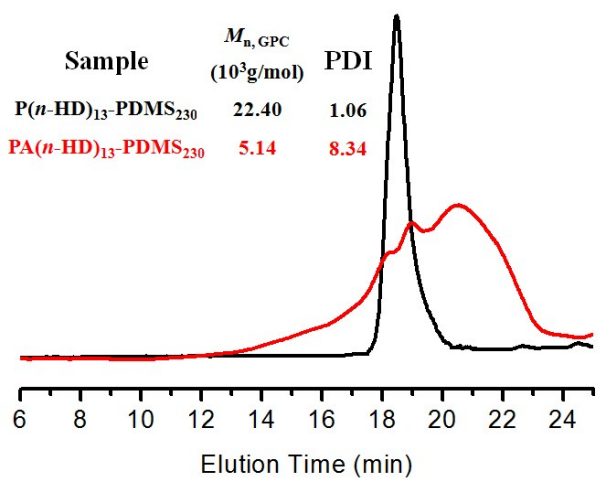
Figure S2. GPC traces of homopolymer P(*n*-HD) and block copolymer P(*n*-HD)-*b*-PI.



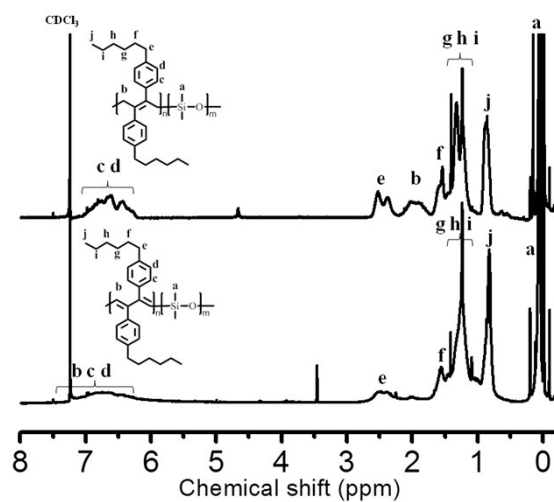
**Figure S3.** GPC traces of homopolymer P(*n*-HD) and block copolymer P(*n*-HD)-*b*-PDMS.



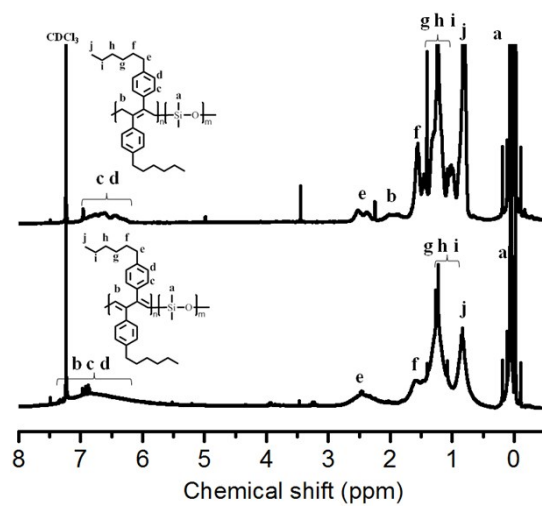
**Figure S4.** GPC traces of block copolymers P(*n*-HD)<sub>12</sub>-*b*-PDMS<sub>104</sub> (fractionated) and PA(*n*-HD)<sub>12</sub>-*b*-PDMS<sub>104</sub>.



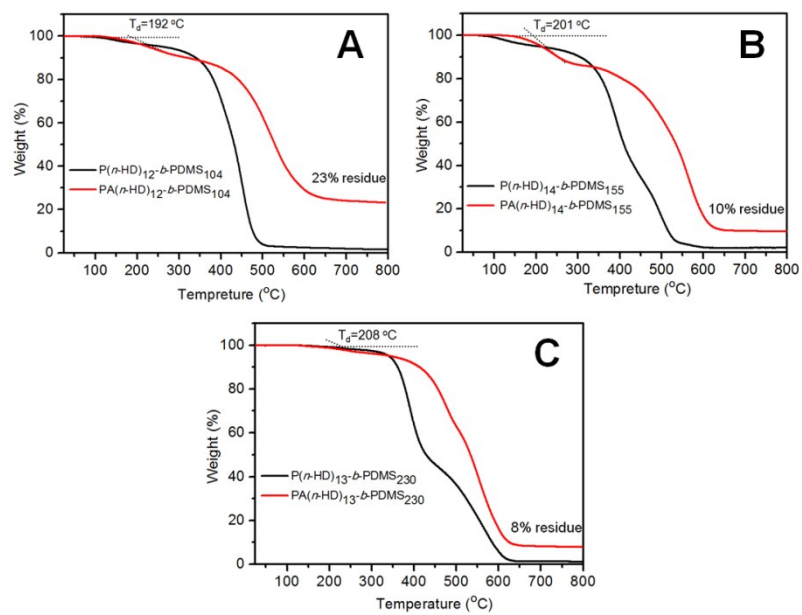
**Figure S5.** GPC traces of block copolymers P(*n*-HD)<sub>13</sub>-*b*-PDMS<sub>230</sub> (fractionated) and PA(*n*-HD)<sub>13</sub>-*b*-PDMS<sub>230</sub>.



**Figure S6.**  $^1\text{H}$  NMR spectra of block copolymers  $\text{P}(n\text{-HD})_{12}\text{-}b\text{-PDMS}_{104}$  and  $\text{PA}(n\text{-HD})_{12}\text{-}b\text{-PDMS}_{104}$  measured in  $\text{CDCl}_3$ .



**Figure S7.**  $^1\text{H}$  NMR spectra of block copolymers  $\text{P}(n\text{-HD})_{13}\text{-}b\text{-PDMS}_{230}$  and  $\text{PA}(n\text{-HD})_{13}\text{-}b\text{-PDMS}_{230}$  measured in  $\text{CDCl}_3$ .



**Figure S8.** TGA thermograms of block copolymers: (A) P( $n$ -HD) $_{12}$ - $b$ -PDMS $_{104}$ , PA( $n$ -HD) $_{12}$ - $b$ -PDMS $_{104}$  (B) P( $n$ -HD) $_{14}$ - $b$ -PDMS $_{155}$ , PA( $n$ -HD) $_{14}$ - $b$ -PDMS $_{155}$  and (C) P( $n$ -HD) $_{13}$ - $b$ -PDMS $_{230}$ , PA( $n$ -HD) $_{13}$ - $b$ -PDMS $_{230}$ .