Electronic Supplementary Information (ESI)

Supporting information

Fe(II)-catalyzed Azidation of Polybutadiene using Zhdankin Reagent

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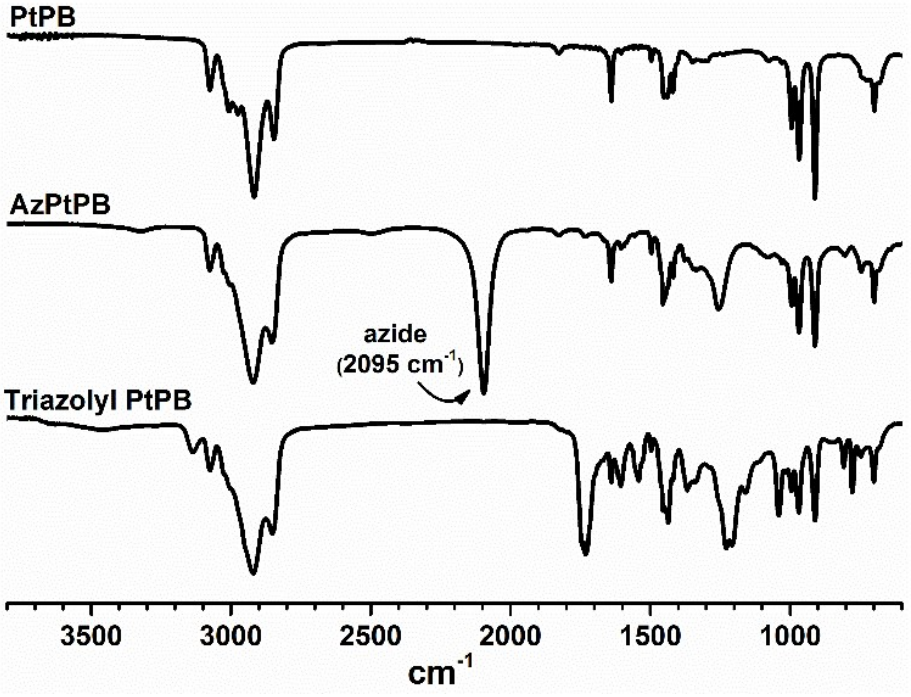

Figure S1. FT-IR spectra of **PtPB**, **AzPtPB** and **Triazolyl PtPB**

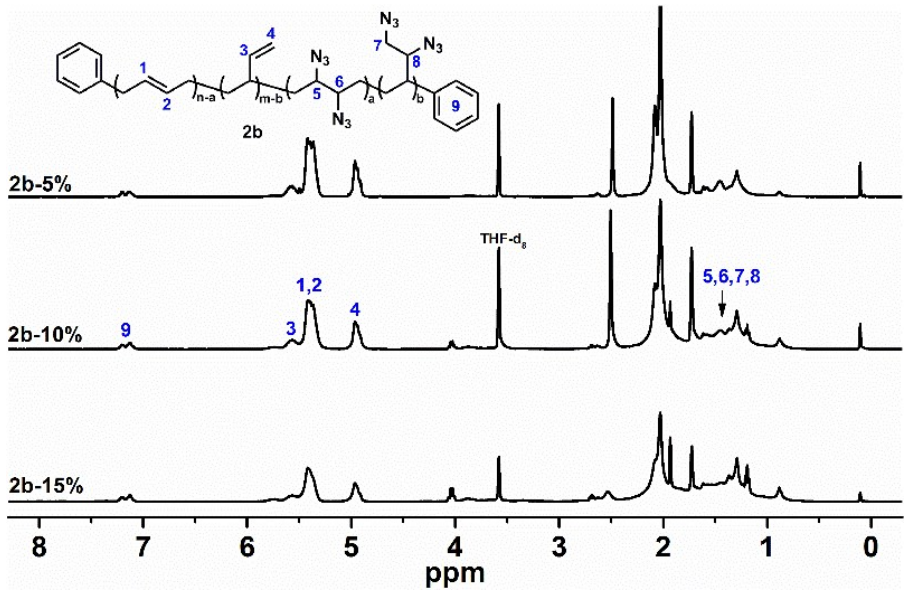

Figure S2. ^{1}H NMR spectra of **2b** with various azide contents.

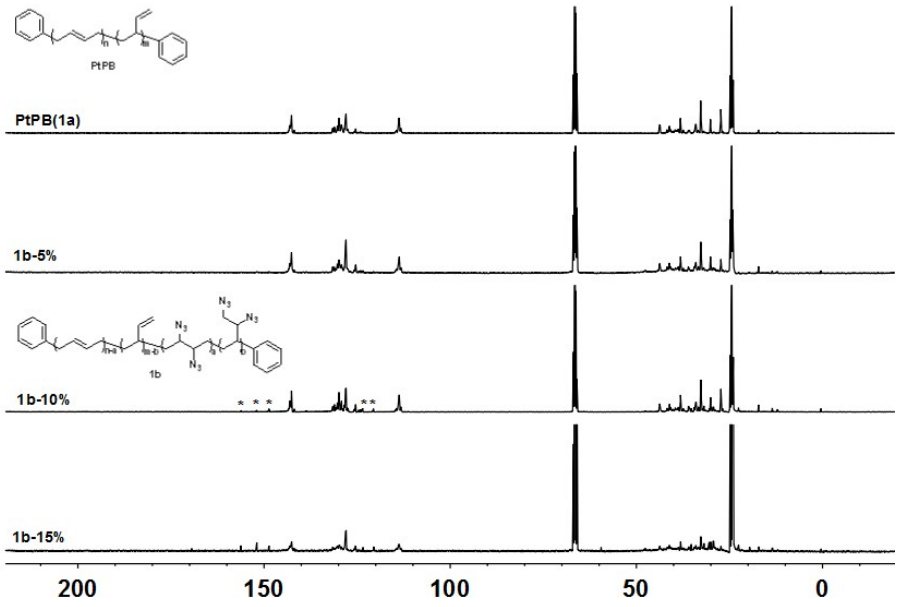

Figure S3. ^{13}C NMR spectra of **1a** and crude **1b** with various azide contents in THF-d_8 (*impurities).

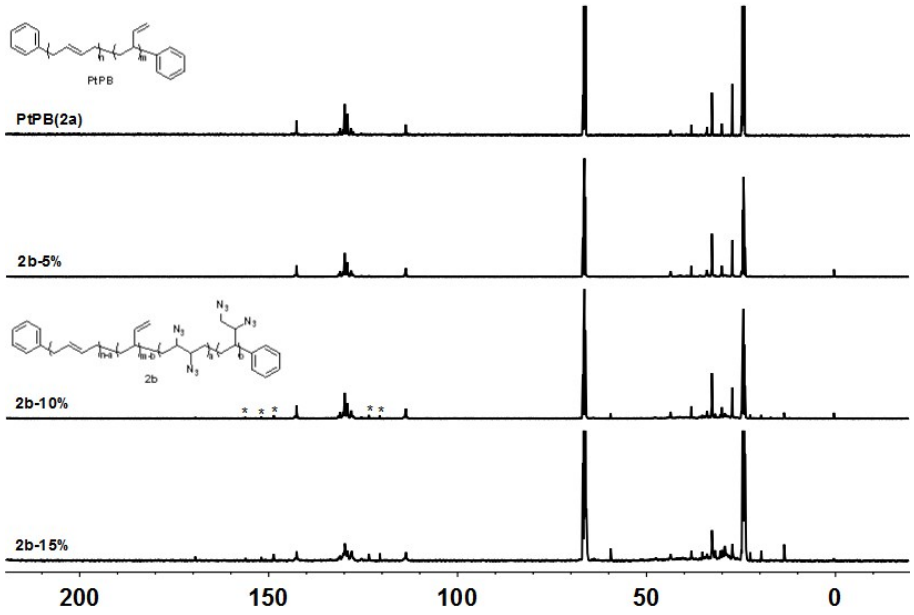

Figure S4. ^{13}C NMR spectra of **2a** and crude **2b** with various azide contents in THF-d_8 (*impurities).

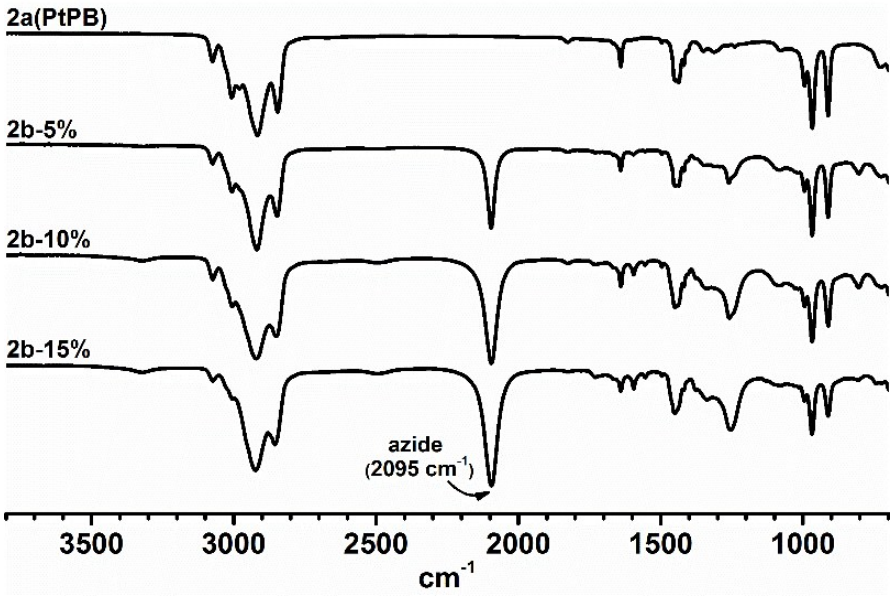

Figure S5. FT-IR spectra of **2a** and **2b** containing different azide contents.

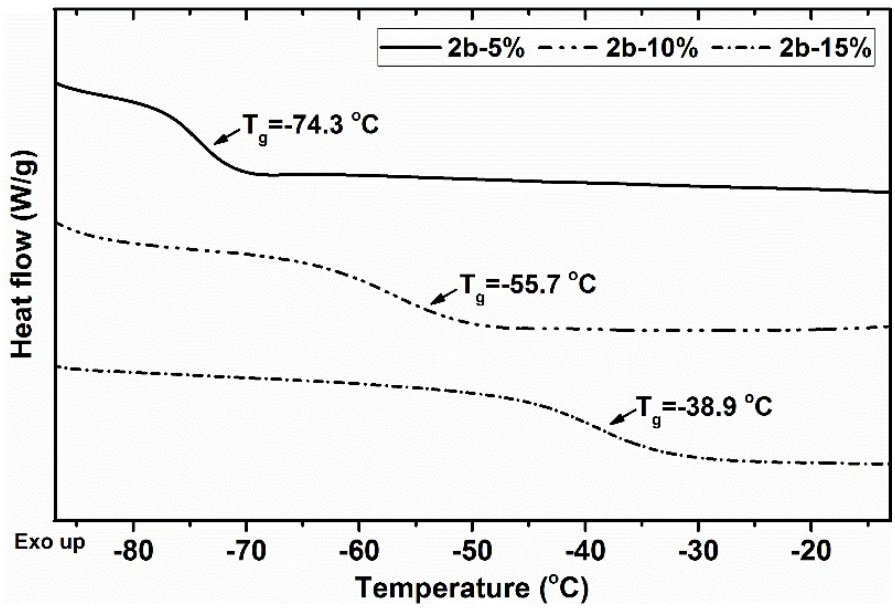

Figure S6. DSC curves of **2b** containing different azide contents.

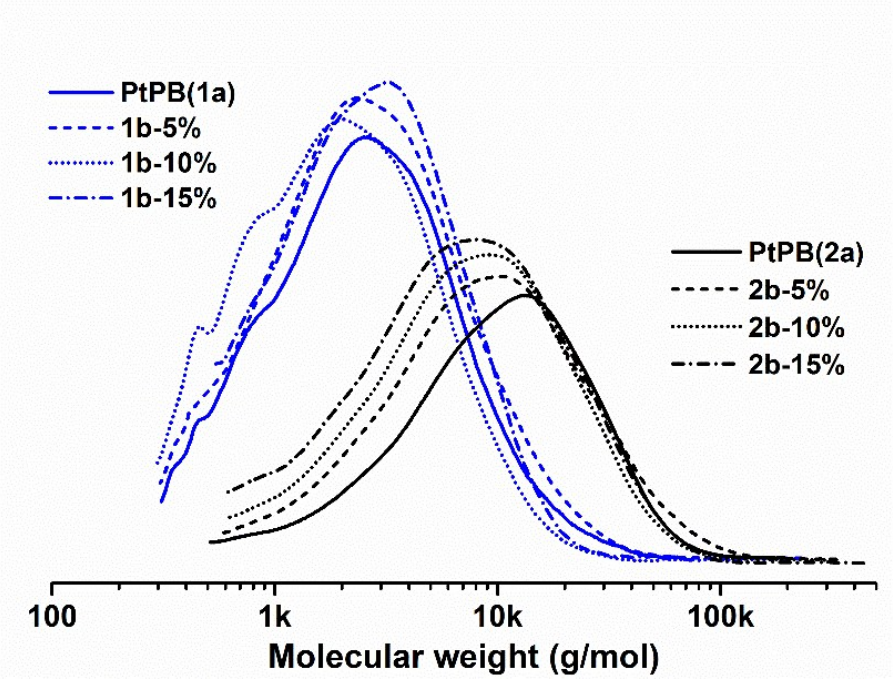

Figure S7. GPC curves of **1a**, **1b** series, **2a** and **2b** series with various azide contents.

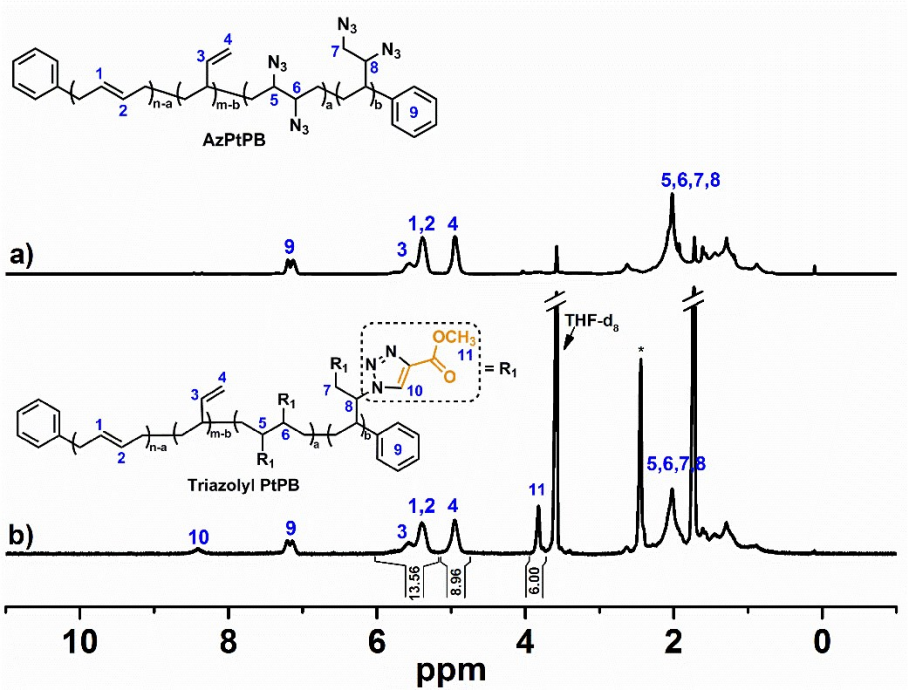

Figure S8. ^{1}H NMR spectra to illustrate method for calculating mol% functionalization (*residual water).

- The Figure S8 above, a)AzPtPB with 10% azide contents and b)Triazolyl PtPB, shows the result of click reaction between AzPtPB with 10% azide contents and methyl propiolate. It was calculated by the integration ratio of methyl peak (**11**/6H) to sum of vinyl unit (**4**/2H) and *trans/cis* unit [(**1**+**2**+**3**-**4**/2H)/2H] (The numbers highlighted in bold indicate the number of the signal).