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This is a template for an abstract. 1st paragraph is recommended to start without indent. The main text should be typed preferably in **Times New Roman** font with **10 pt** font-size being **left and right justified**. References should be cited and listed after the main text.¹⁾ Recommended styles are also available from the tool bar for Styles.

Schemes and figures should be inserted here as **TIFF** files if possible in order to avoid misprinting. Colored figures are acceptable if it can be recognized in **greyscale**. Note that all abstracts will be printed in greyscale, while the submitted data will be used for electronic abstract stored in USB memory. Schemes, figures, and tables can be occupied 1 or 2 columns. For chemical structures, ACS drawing style is preferred.

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References

- 1) A. Auhtor-1, B. Author-2, C. Author-3, *Journal Name (abbreviated)* **year**, *volume*, front-page.
- 2) Y. Kohsaka, T. Kitayama, *Polym. J.* **2014**, *50*, 105.



Figure #. Example figure and figure captions. For charts (figures, schemes, and tables) and their captions, you can use "07_Chart" and "08_Caption" style from Style tool bar.

Synthesis and Click reaction of highly isotactic polymers of propargyl and 2-azidoethyl methacrylates

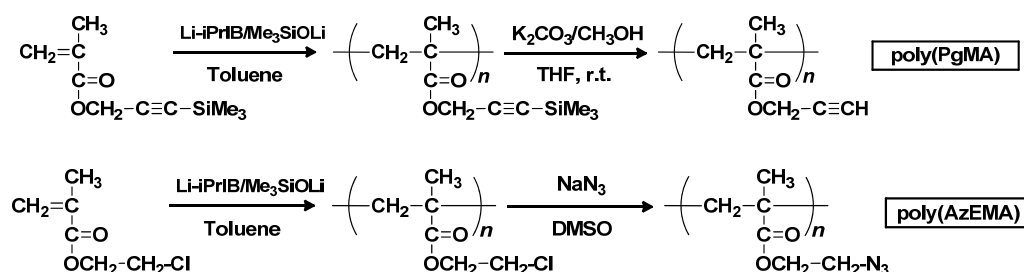
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Introduction

The copper(I)-catalyzed 1,3-dipolar cycloaddition of azides and alkynes forming triazole unit is the best elaborated class of click chemistry. The high efficiency well meets the requirement for quantitative chemical modification of polymer side groups to derive it into a variety of functional polymers through click chemistry. We have reported that an initiator system comprising isopropyl α -lithioisobutyrate (Li-*i*PrIB) and lithium trimethylsilylanolate (Me₃SiOLi) is effective for highly isotactic-specific living polymerization of methyl methacrylate (MMA).¹⁾ In this report, highly isotactic (*it*-) polymers of propargyl (PgMA) and 2-azidoethyl methacrylates (AzEMA) were prepared by using this initiator system, via monomer-protection approach and polymer-modification approach, respectively, and their click reaction was investigated.²⁾



Scheme 1 Syntheses of clickable isotactic polymethacrylates

Result and discussion

The obtained *it*-poly(PgMA) exhibits clean NMR spectral features due to high stereoregularity (mm triad 95-98%), devoid of complicated stereochemical splitting expected for less stereoregular polymers. Taking this advantage, *it*-poly(PgMA) was subjected to the partial click reaction with benzyl azide, and sequence distribution of the partially modified polymer was investigated (Fig. 1). The split signals due to α -CH₃ groups indicate that the type of amine used together with Cu(I) catalysts significantly influences the process of the click reaction along the polymer chain so as to alter the sequence distribution in the partially modified polymer. Similar results were also observed in the click reaction of *it*-poly(AzEMA) and alkynes. Click reactions between the alkyne and azide polymers as well as clickable stereoblock copolymers were also examined.

References

- 1) T. Kitayama, T. Kitaura, *Macromol. Rapid Commun.*, **2007**, 28, 1889.
- 2) T. Kitaura, H. Tomioka, N. Fukatani, T. Kitayama, *Polym. Chem.*, **2013**, 4, 887.

