Acrolein-Free Syntheses of Polyacrolein Derivatives via

Chemo-Selective Reduction of Polyacrylates

Li-Chieh Chou^a, Kenji Takada^b, Tatsuo Kaneko^b, Naoki Asakawa^a, and Ryohei Kakuchi^{*a}

a. Division of Molecular Science, Faculty of Science and Technology, Gunma University, 1-5-1 Tenjin,

Kiryu, Gunma 376-8515, Japan

^{b.} Graduate School of Advanced Science and Technology, Sustainable Innovation Research Area, Japan

Advanced Institute of Science and Technology (JAIST), 1-1 Asahidai, Nomi, Ishikawa, Japan

SUPPORTING INFORMATION



Figure S1. ATR-mode FT-IR spectra of poly-mPEGA before (top) and after (bottom) the post-polymerization partial reduction with LDBBA. The magnified and deconvoluted spectra was included.



Figure S2. ¹H NMR spectra measured in DMSO- d_6 of poly-mPEGA (a), the obtained polymer after the post-polymerization partial reduction with LDBBA (b), and the obtained polymer after the Passerini-3CR with cinnamic acid and 1,1,3,3-tetramethyl butyl isocyanide (c) (the symbol * refers to a peak owing to CH₂Cl₂).



Figure S3. Size-exclusion chromatography trace of poly-mPEGA (a), the obtained polymer after the post-polymerization partial reduction with LDBBA (b), and the obtained polymer after the Passerini-3CR with cinnamic acid and 1,1,3,3-tetramethyl butyl isocyanide (c).