

Symmetric Star Poly(Substituted Glycolide) Homopolymers and Their Surface Properties

Yonca Çolak^a, Sema Nur Belen^b, Duygu Çetin^a, Ugur Cengiz^{b,c}, and Olcay Mert^{a,d*}

^aDepartment of Polymer Science and Technology, Kocaeli University, 41001, Kocaeli, Türkiye

^bDepartment of Energy Resources and Management, Faculty of Engineering, Çanakkale Onsekiz Mart University, Çanakkale, Türkiye

^cSurface Science Research Laboratory, Department of Chemical Engineering, Faculty of Engineering, Çanakkale Onsekiz Mart University, Çanakkale, Türkiye

^dDepartment of Chemistry, Kocaeli University, 41001, Kocaeli, Türkiye

*Corresponding author: E-mail: olcay.mert@kocaeli.edu.tr

Phone: +90 (262) 303 20 18

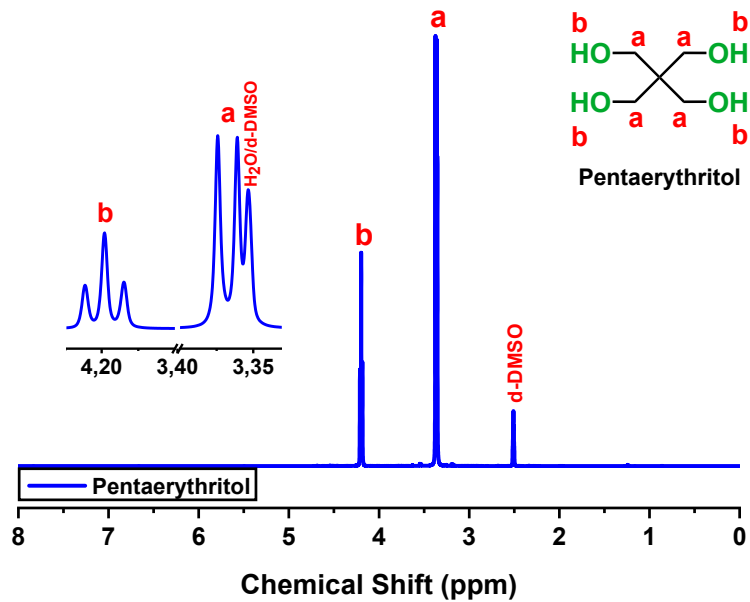


Figure S1. ¹H NMR spectrum of pentaerythritol.

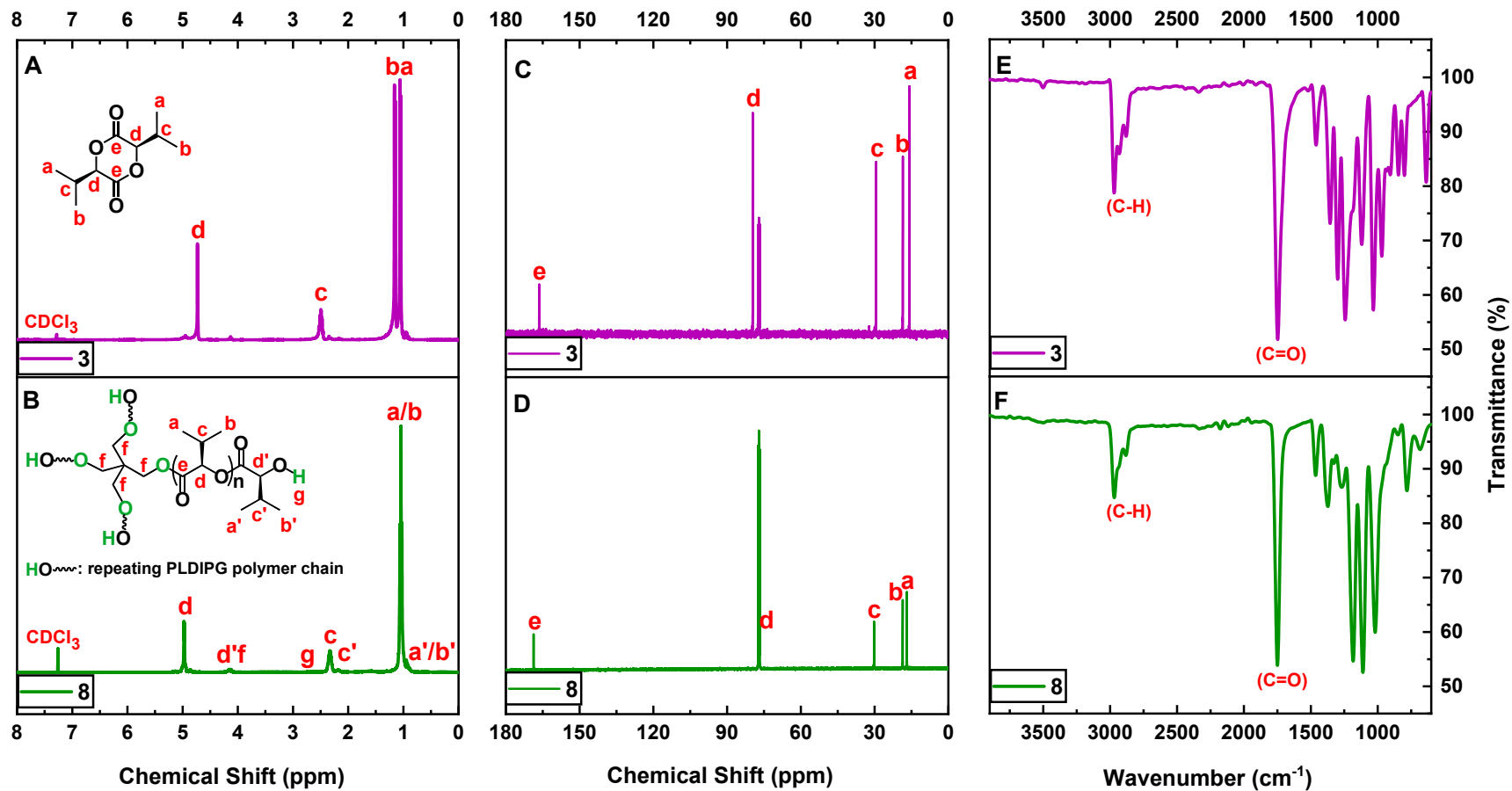


Figure S2. ^1H NMR (A and B), ^{13}C NMR (C and D), and ATR-FTIR (E and F) full spectra of compounds **3** and **8**, respectively.

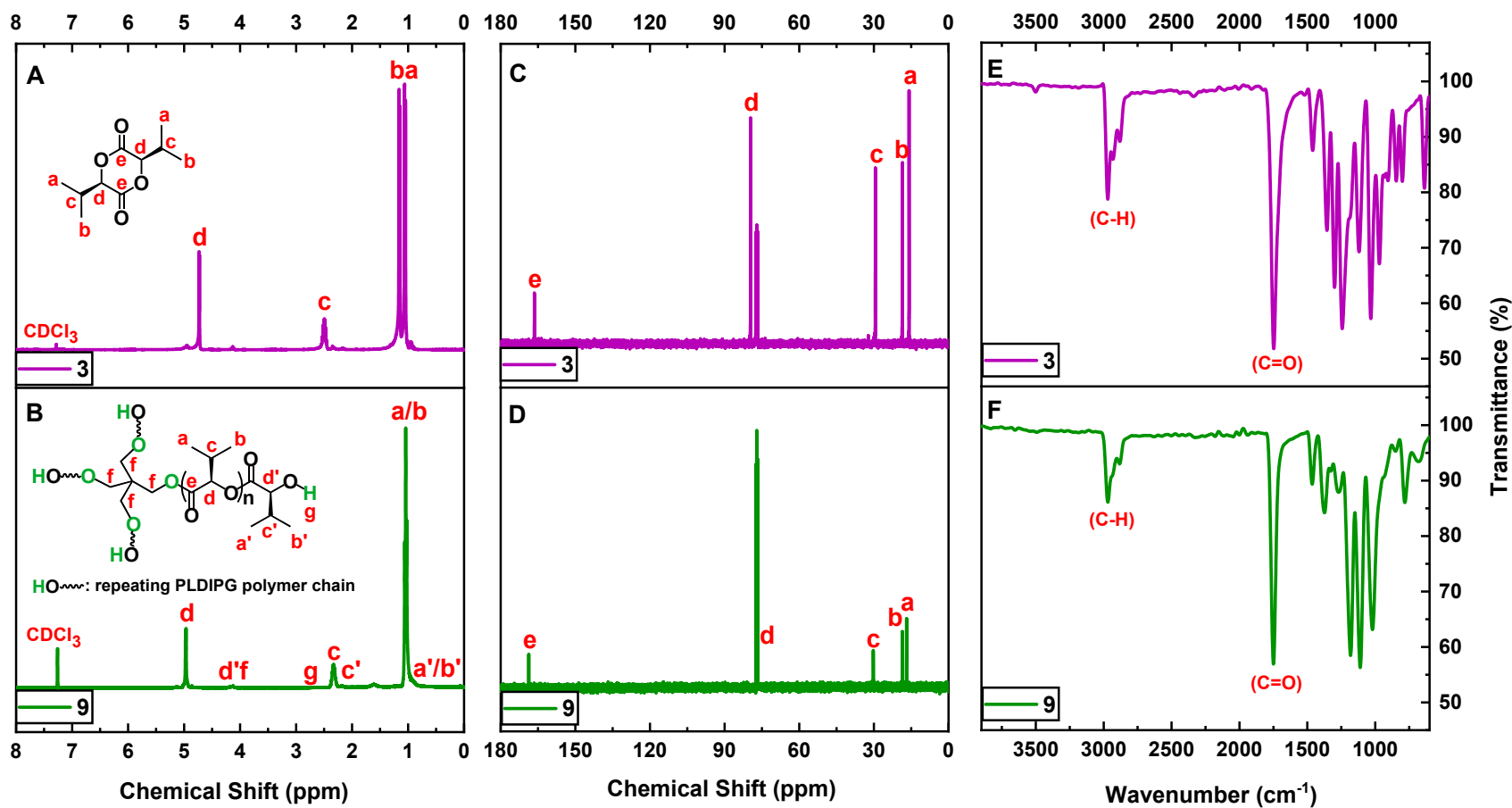


Figure S3. ^1H NMR (A and B), ^{13}C NMR (C and D), and ATR-FTIR (E and F) full spectra of compounds **3** and **9**, respectively.

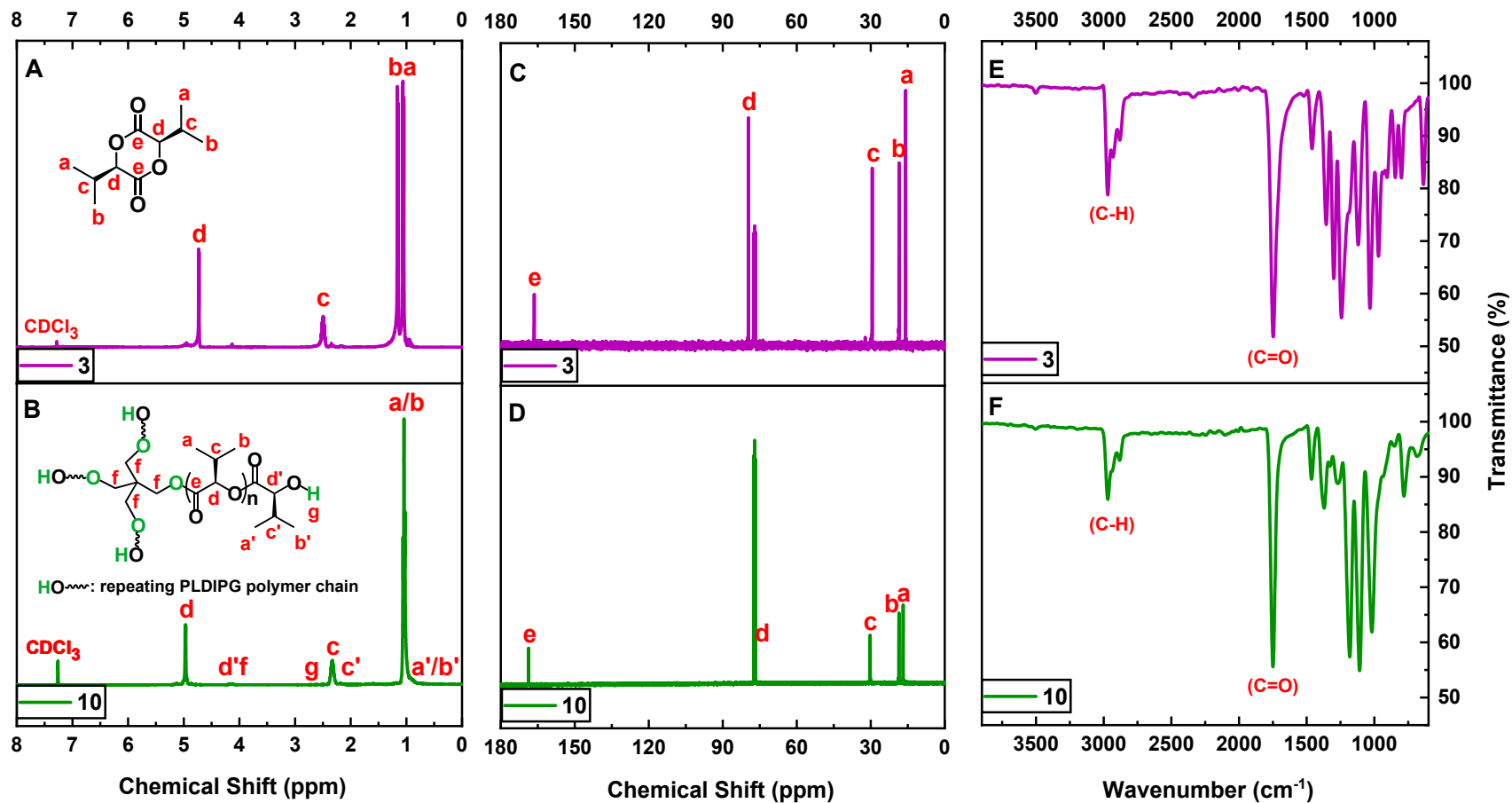


Figure S4. ^1H NMR (A and B), ^{13}C NMR (C and D), and ATR-FTIR (E and F) full spectra of compounds **3** and **10**, respectively.

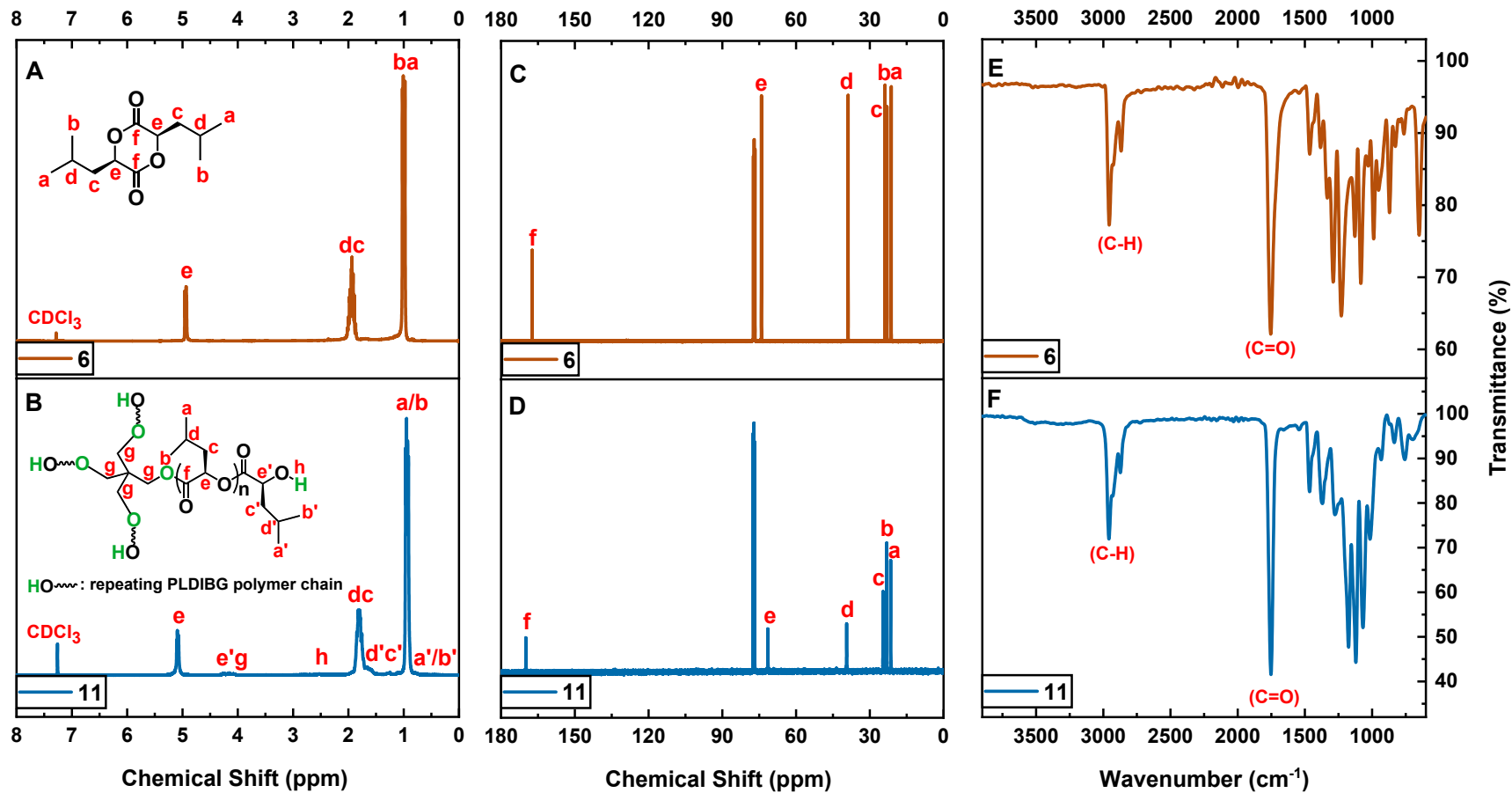


Figure S5. ^1H NMR (A and B), ^{13}C NMR (C and D), and ATR-FTIR (E and F) full spectra of compounds 6 and 11, respectively.

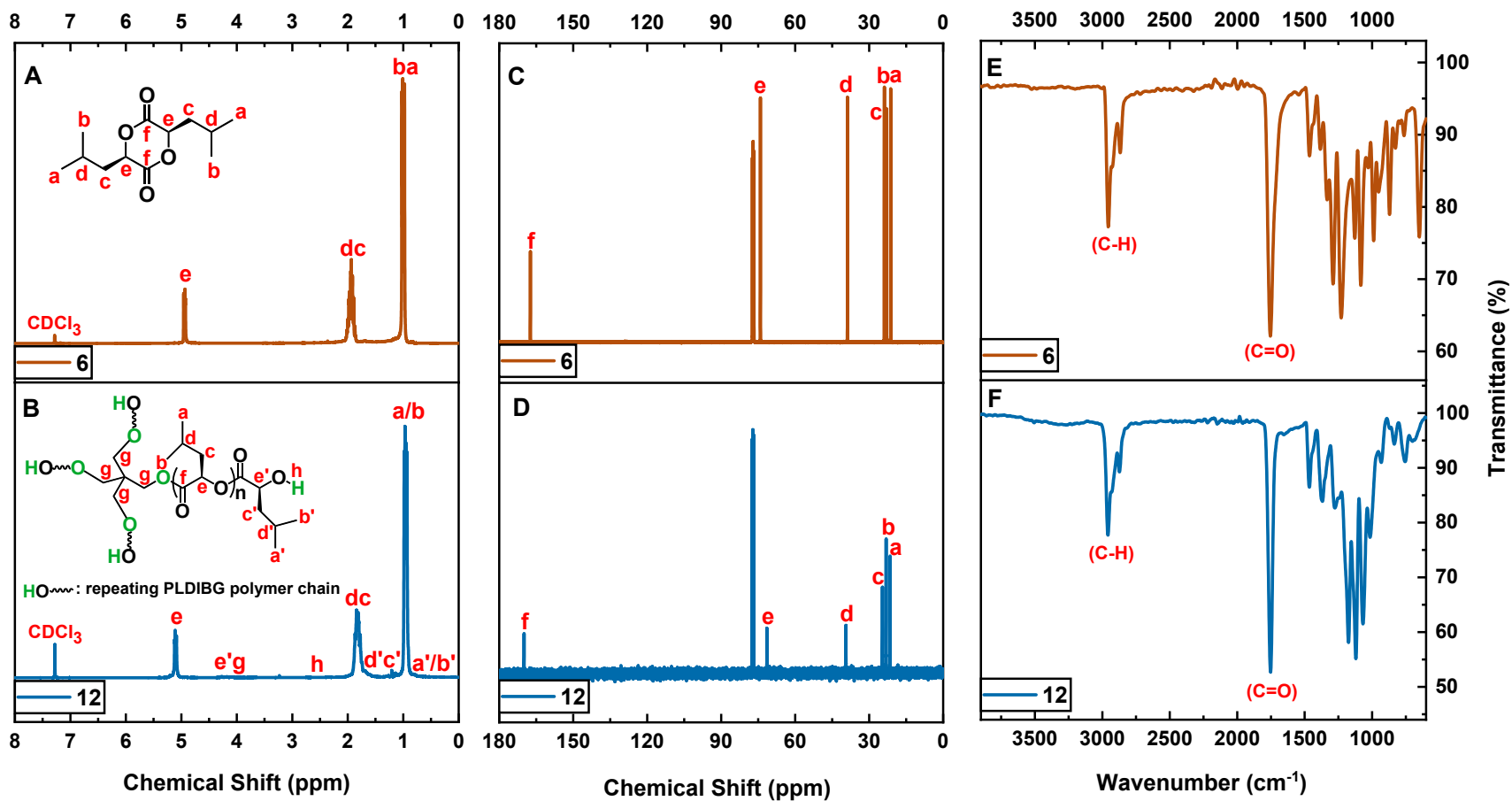


Figure S6. ^1H NMR (A and B), ^{13}C NMR (C and D), and ATR-FTIR (E and F) full spectra of compounds 6 and 12, respectively.

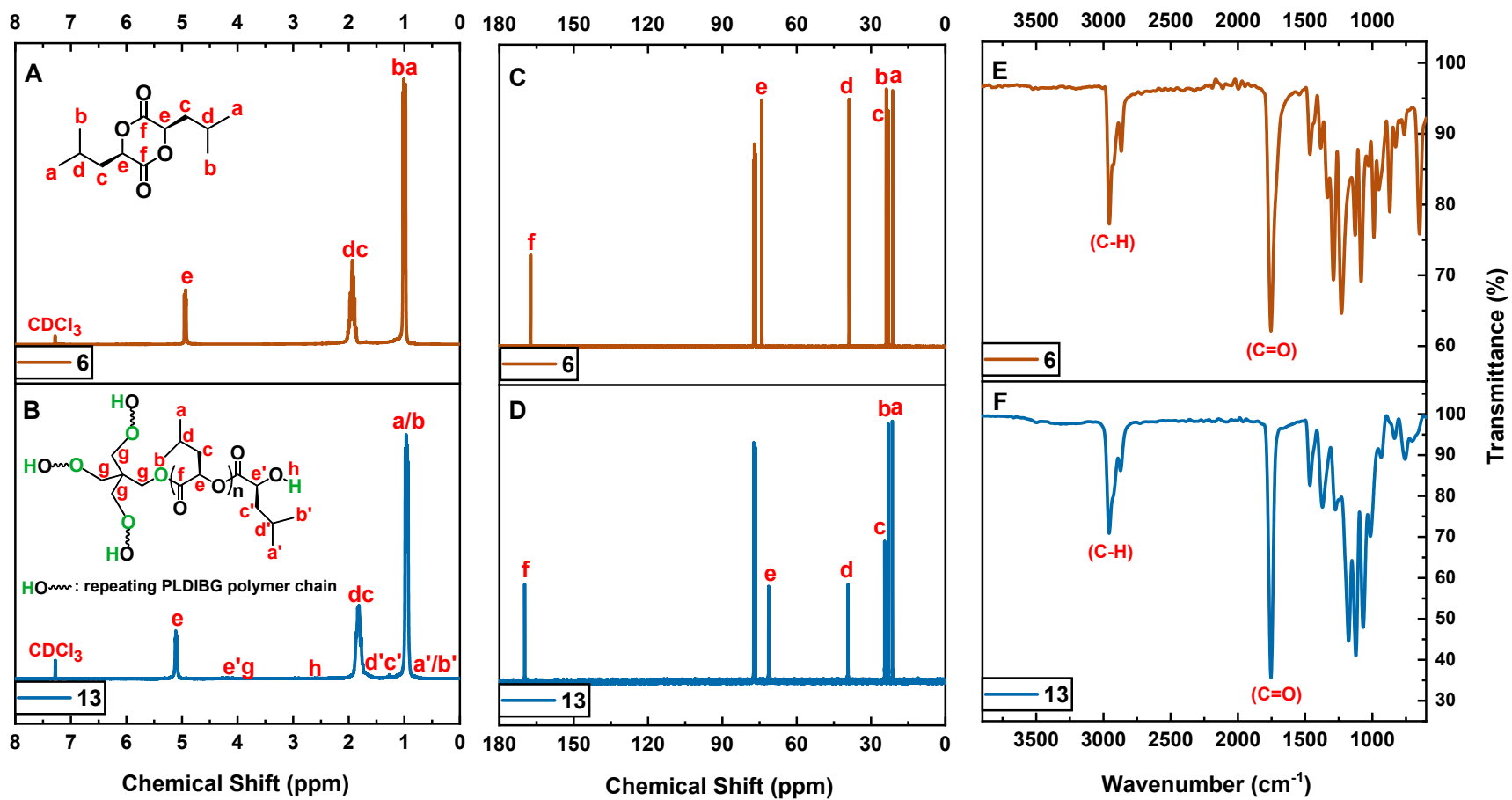


Figure S7. ^1H NMR (A and B), ^{13}C NMR (C and D), and ATR-FTIR (E and F) full spectra of compounds 6 and 13, respectively.

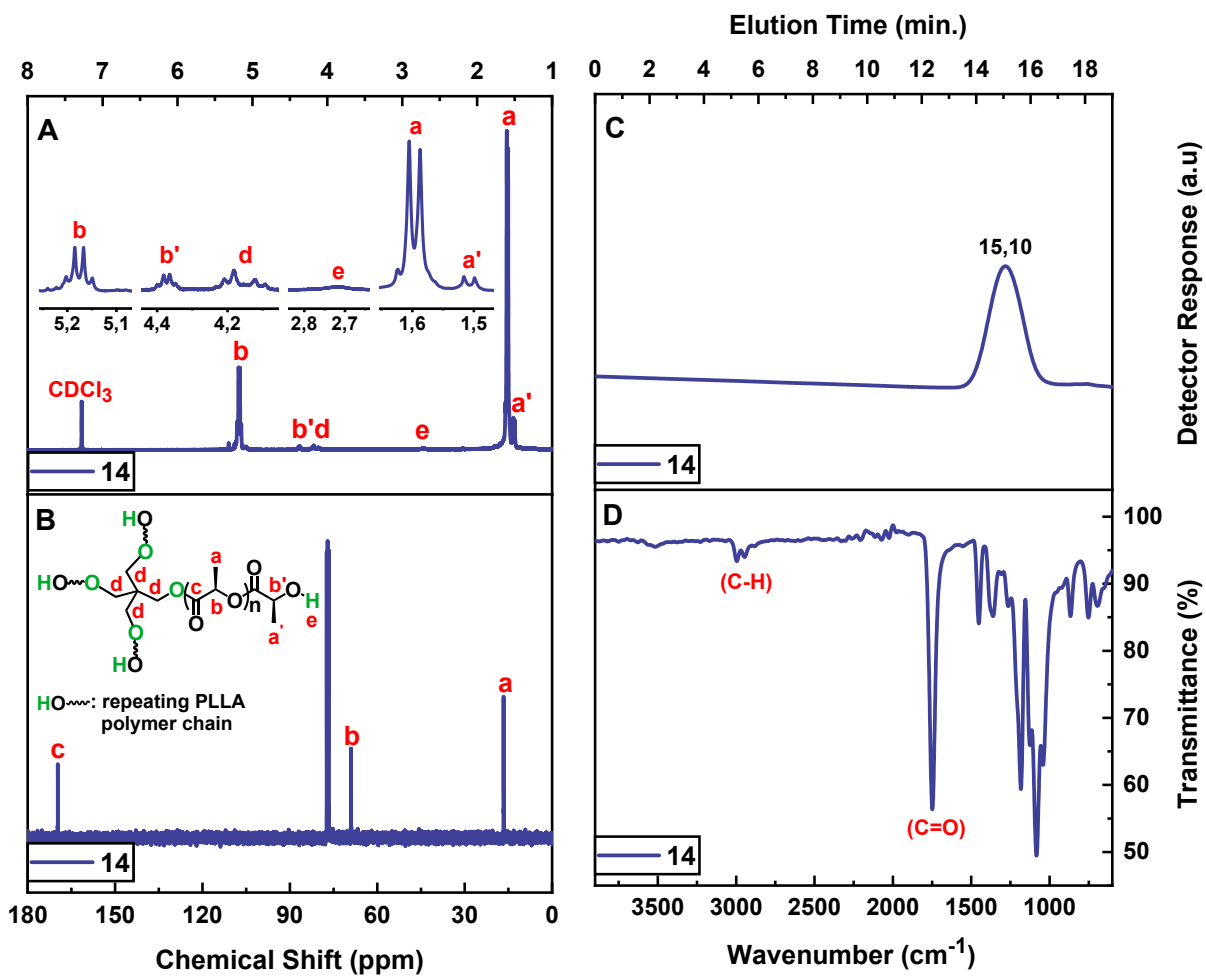


Figure S8. ^1H NMR (A), ^{13}C NMR (B), GPC (C) and ATR-FTIR (D) full spectra of compound 14, respectively.

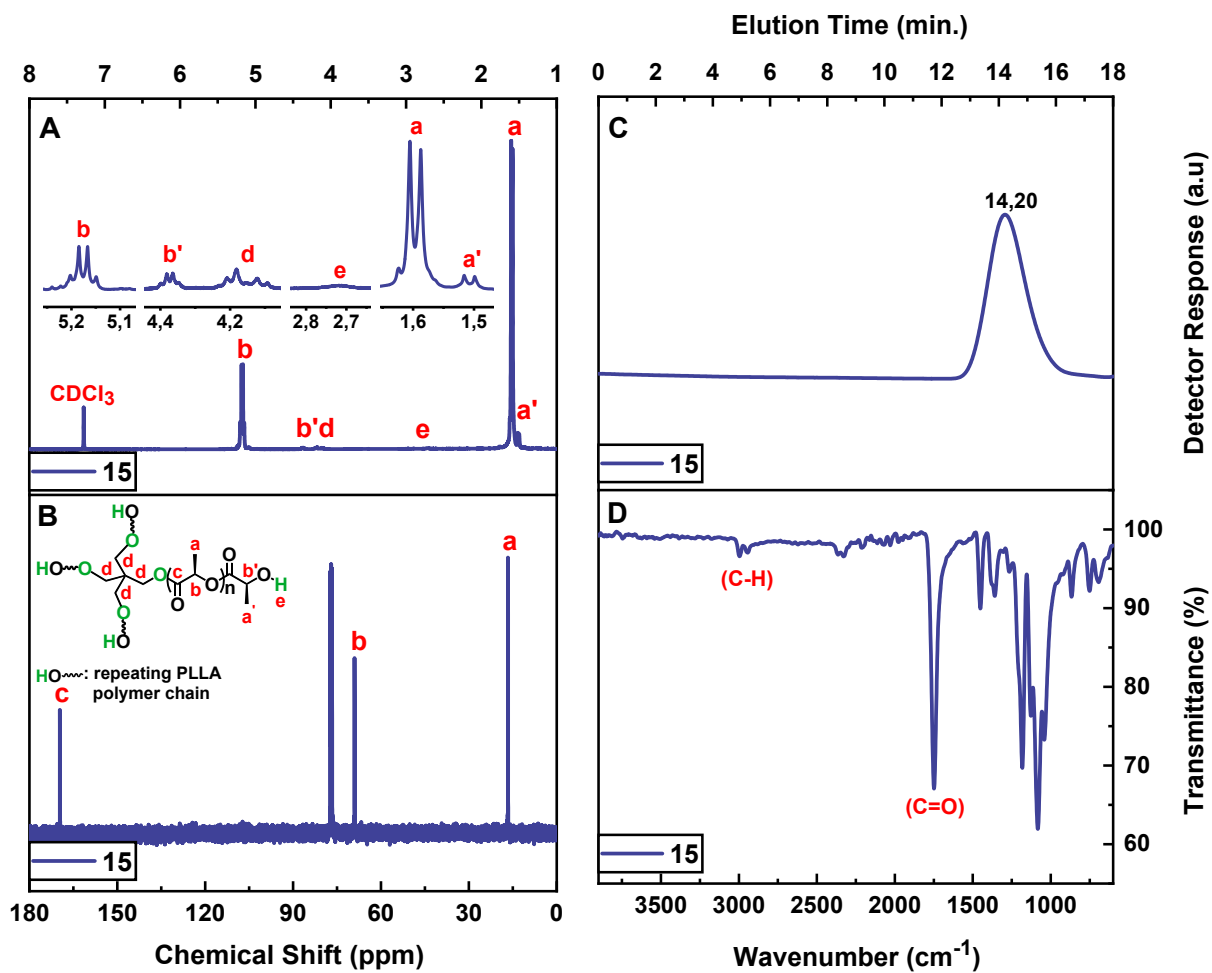


Figure S9. ^1H NMR (A), ^{13}C NMR (B), GPC (C) and ATR-FTIR (D) full spectra of compound 15, respectively.

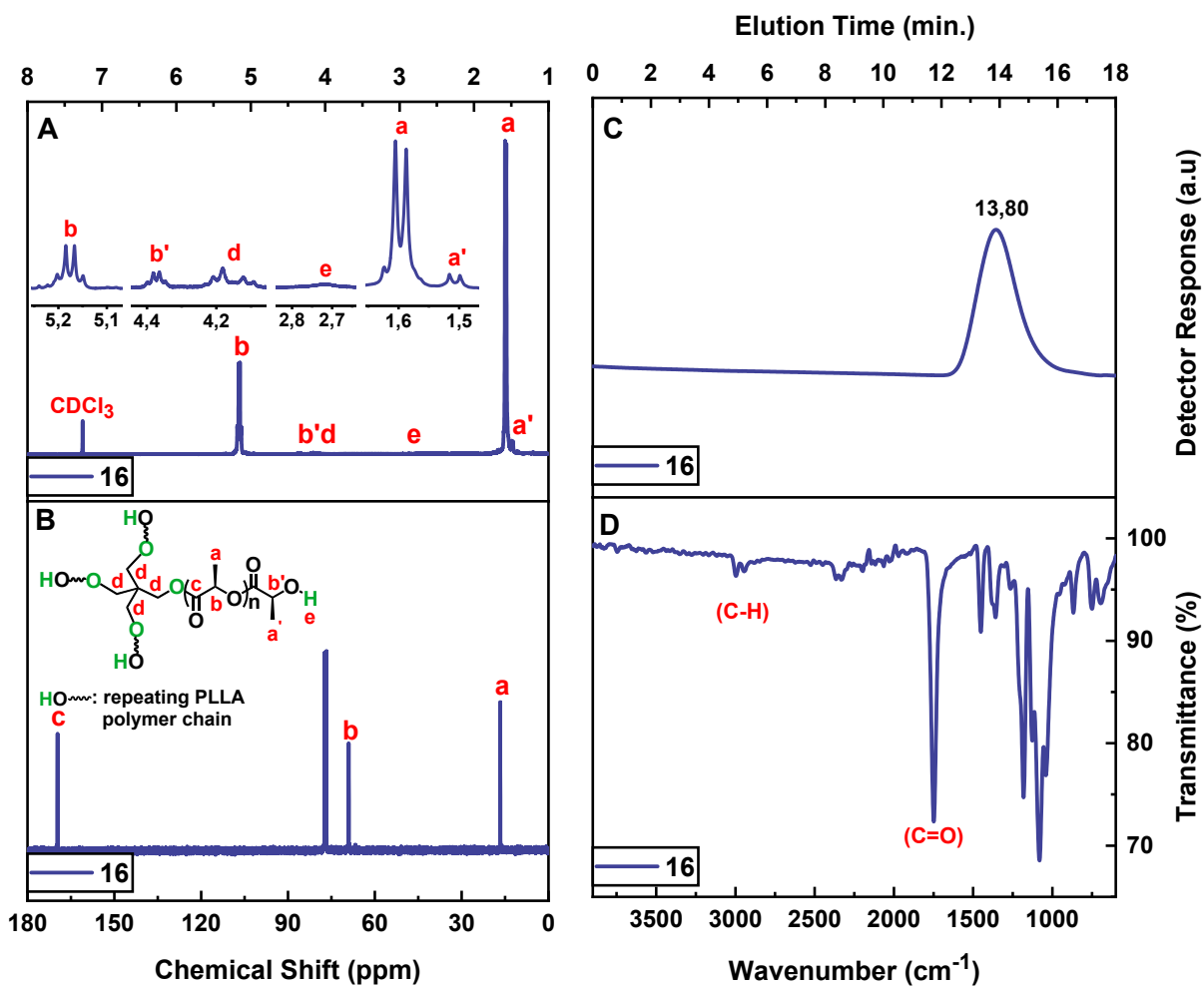


Figure S10. ^1H NMR (A), ^{13}C NMR (B), GPC (C) and ATR-FTIR (D) full spectra of compound 16, respectively.

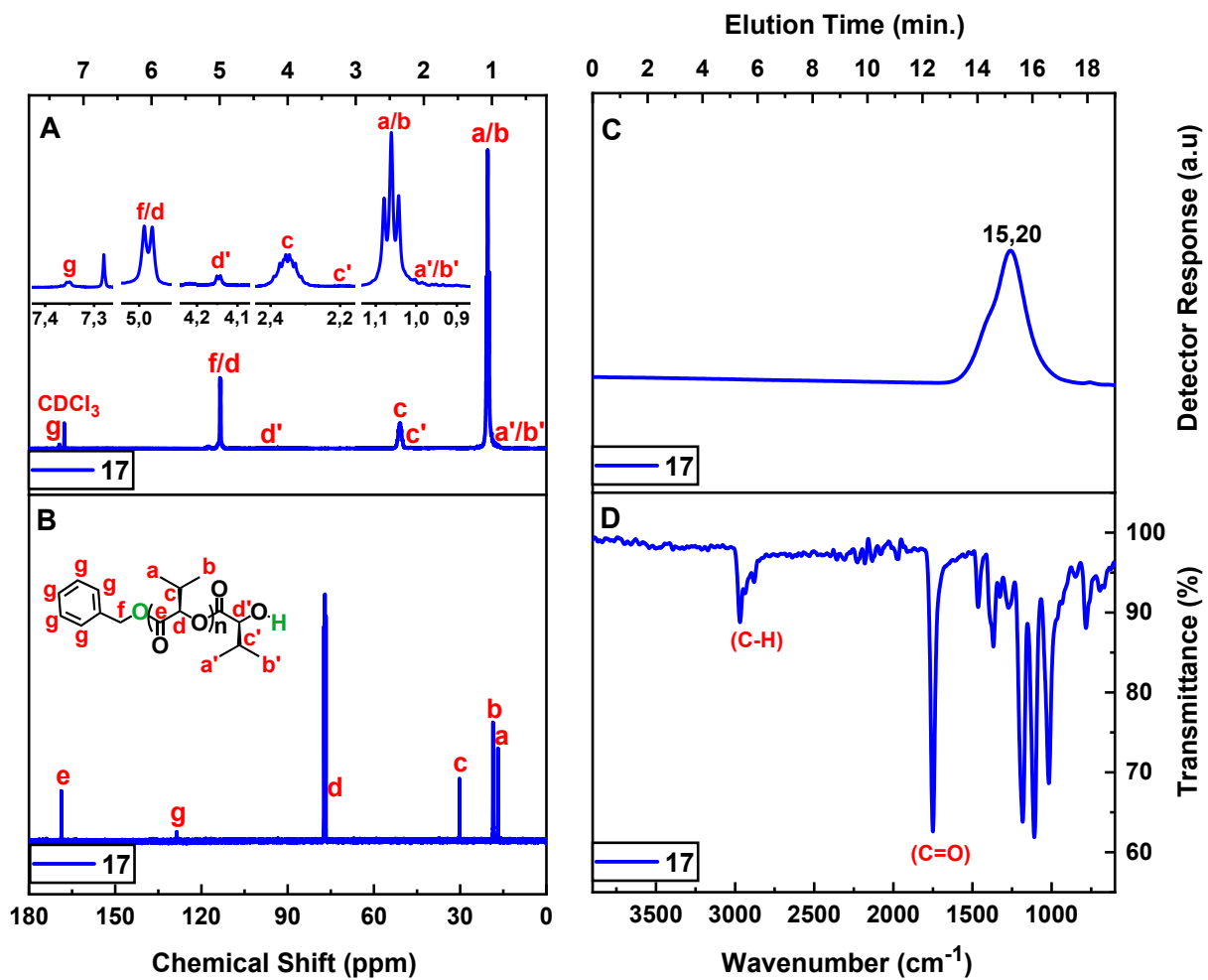


Figure S11. ^1H NMR (A), ^{13}C NMR (B), GPC (C) and ATR-FTIR (D) full spectra of compound 17, respectively.

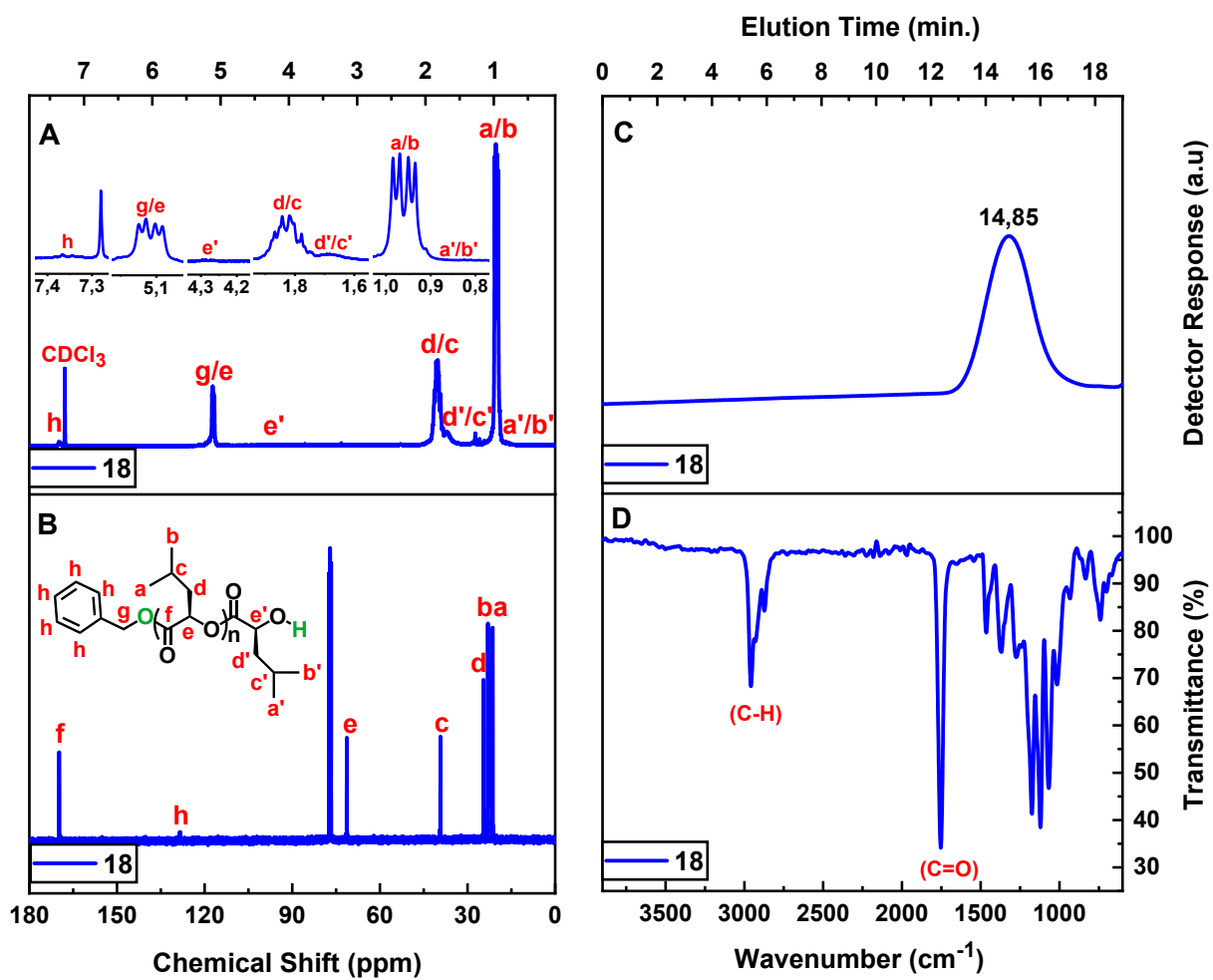


Figure S12. ^1H NMR (A), ^{13}C NMR (B), GPC (C) and ATR-FTIR (D) full spectra of compound 18, respectively.

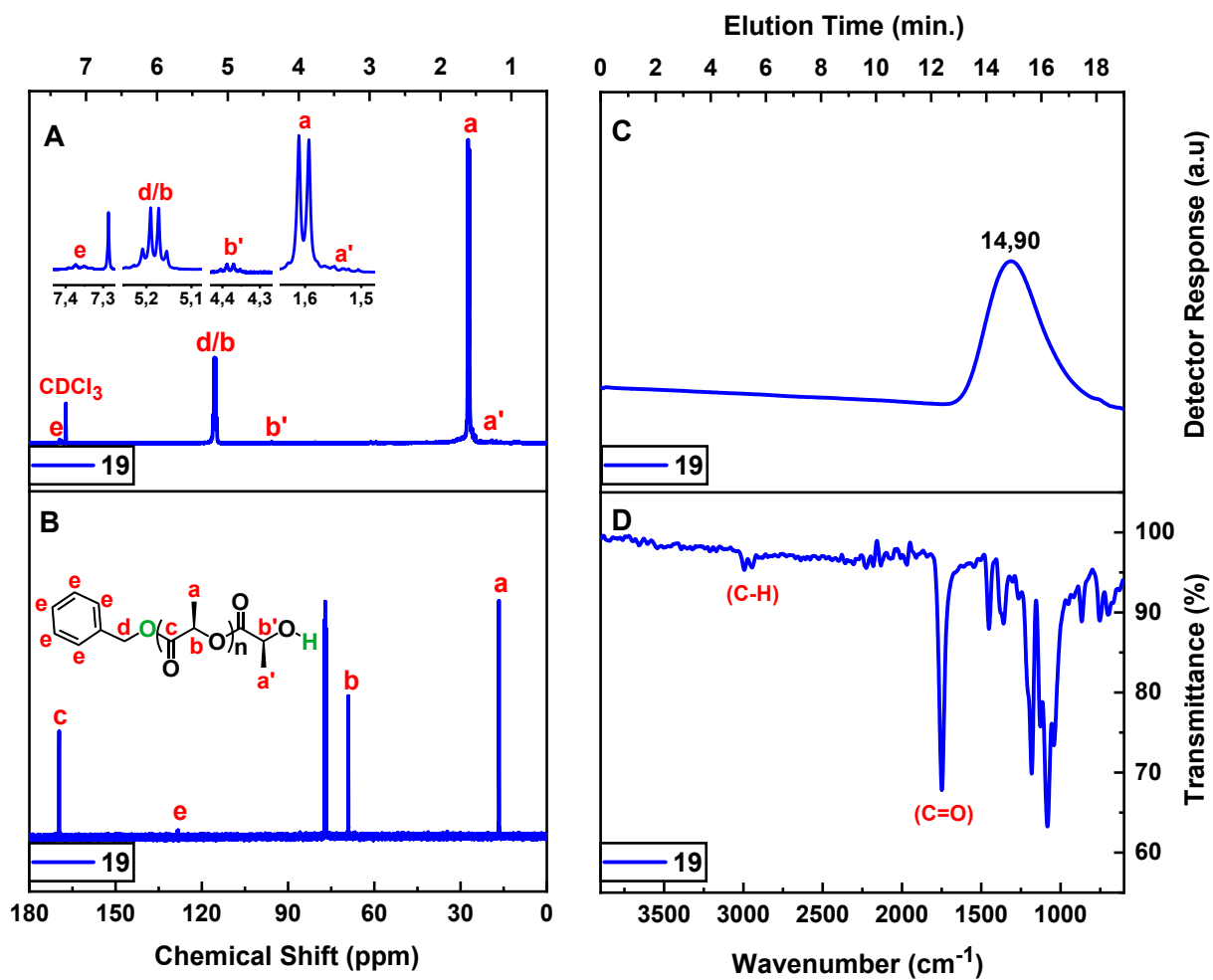


Figure S13. ^1H NMR (A), ^{13}C NMR (B), GPC (C) and ATR-FTIR (D) full spectra of compound **19**, respectively.

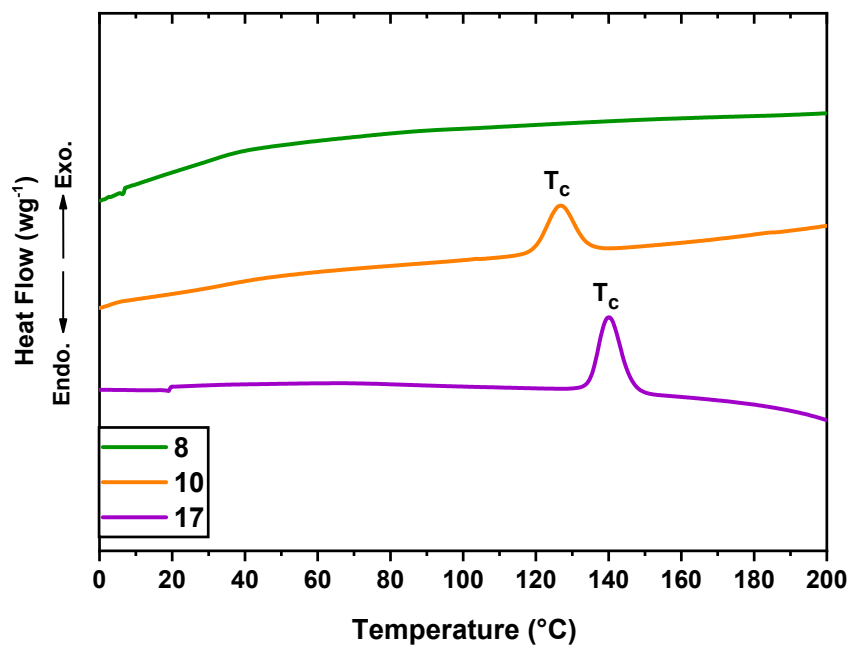


Figure S14. DSC spectrum (cooling run) of compound 8, 10 and 17.

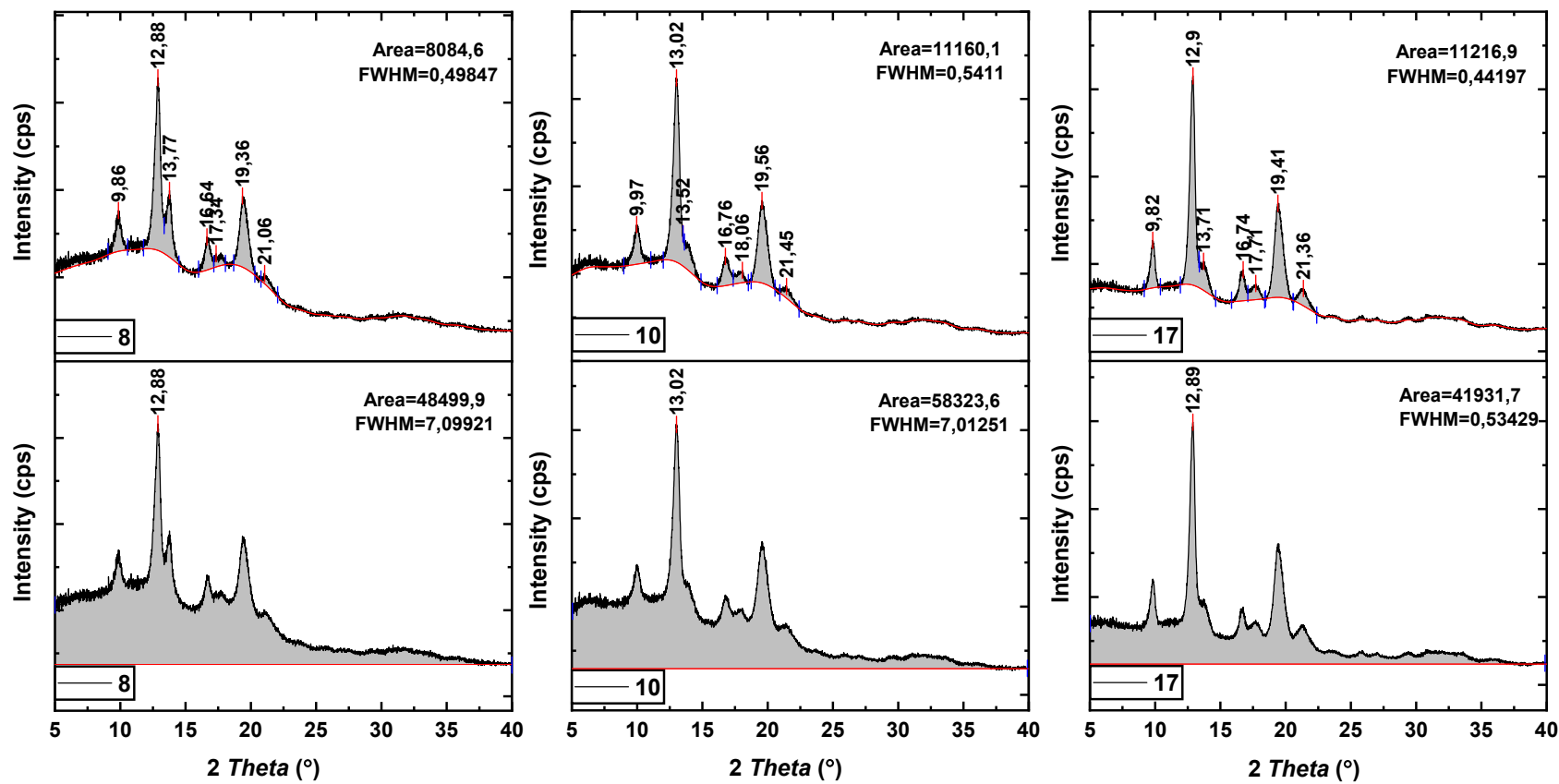
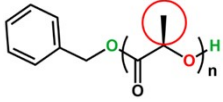
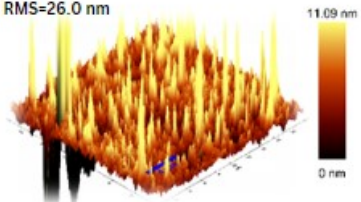
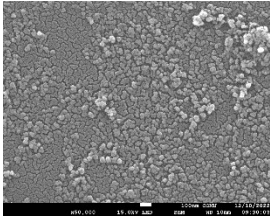
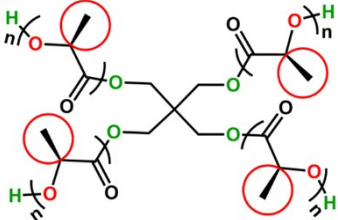
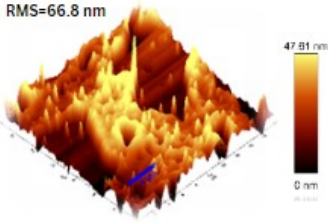
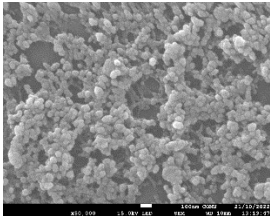
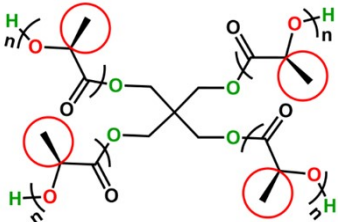
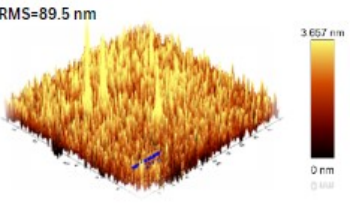
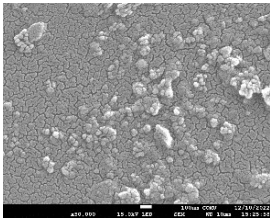


Figure S15. WAXD integral areas for compounds 8, 10 and 17.

Table S1. The SEM and AFM images of linear and star PLLA homopolymers.

Code	Chemical Structure	AFM Images	SEM Images
19 (PLLA, n=40)			
14 (4s-PLLA, n=40)			
16 (4s-PLLA, n=120)			

The red circle emphasized the length of the side chain in the repeating unit.