Supporting Information (SI)

Hydrolytically Degradable, Dendritic Polyglycerol Sulfate based Injectable Hydrogels using Strain Promoted Azide-Alkyne Cycloaddition Reaction

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1 Supplementary Results

1.1 Characterization of dPGS N_3

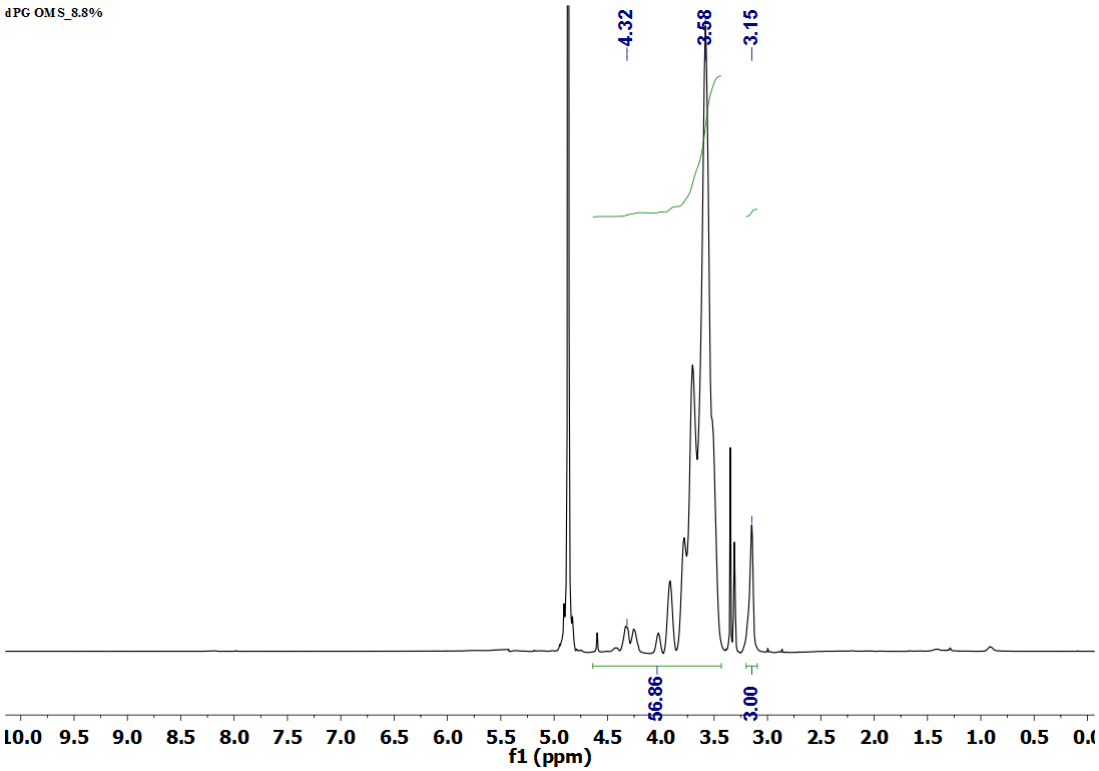

Figure S1. ^{1}H NMR of dPG OMs (DF 8.8 %)

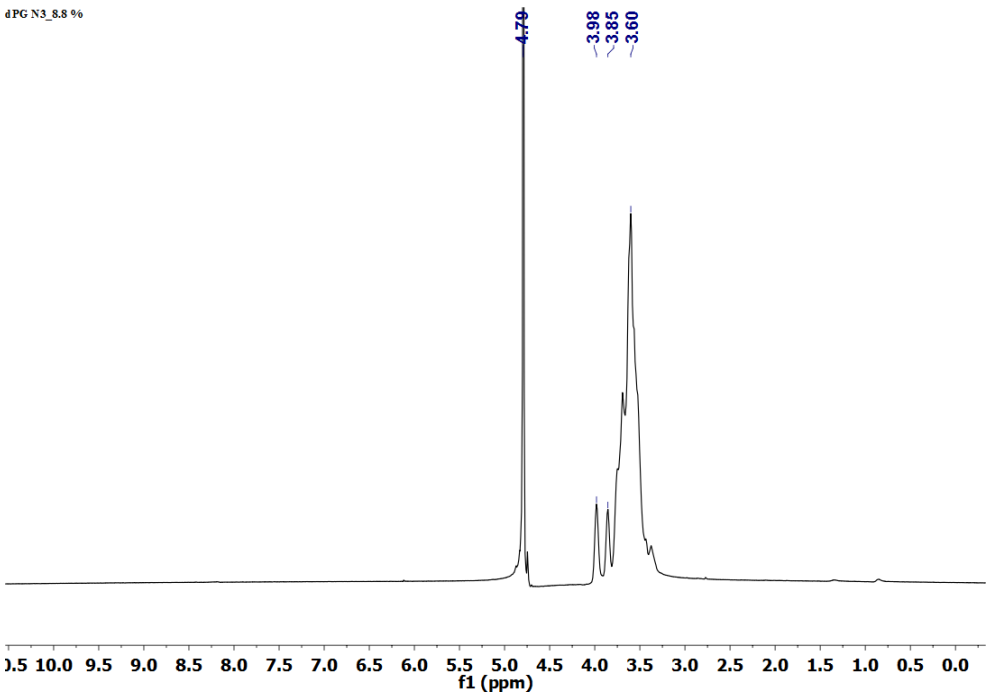

Figure S2. ^{1}H NMR of dPG N_3 (DF 8.8 %)

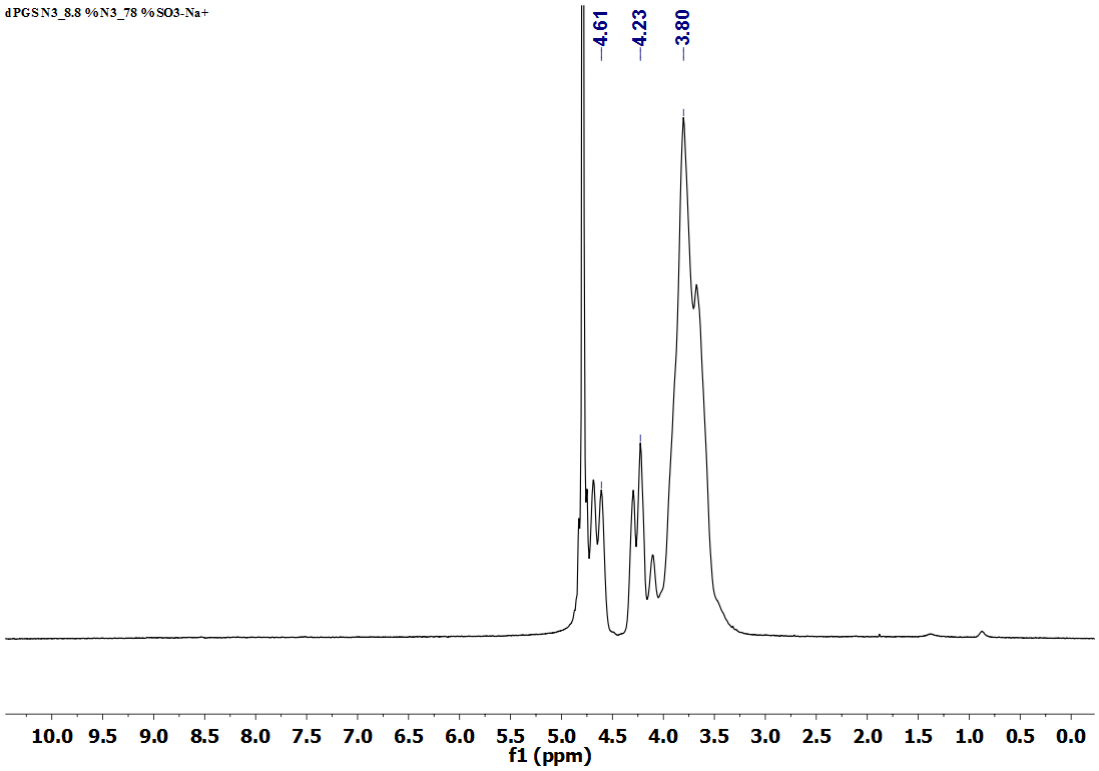

Figure S3. ^{1}H NMR of dPGS N_3 (DF 8.8 % N3, 78 % $SO_3^-Na^+$)

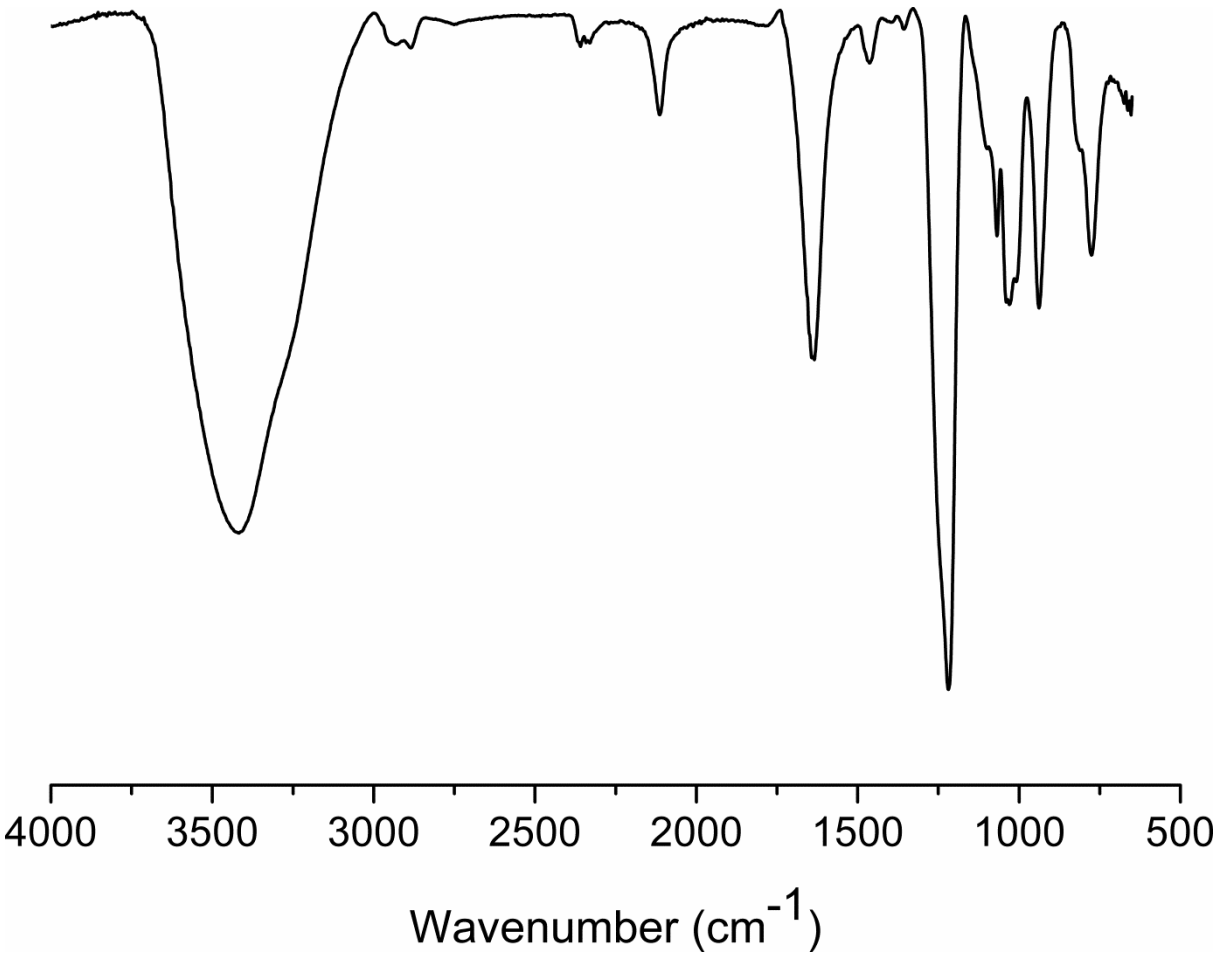

Figure S4. IR spectra of dPGS N_3.

1.2. Characterization of bicyclo[6.1.0]non-4-yn-9-ylmethyl *N*-(2-propyn-1-yl) carbamate

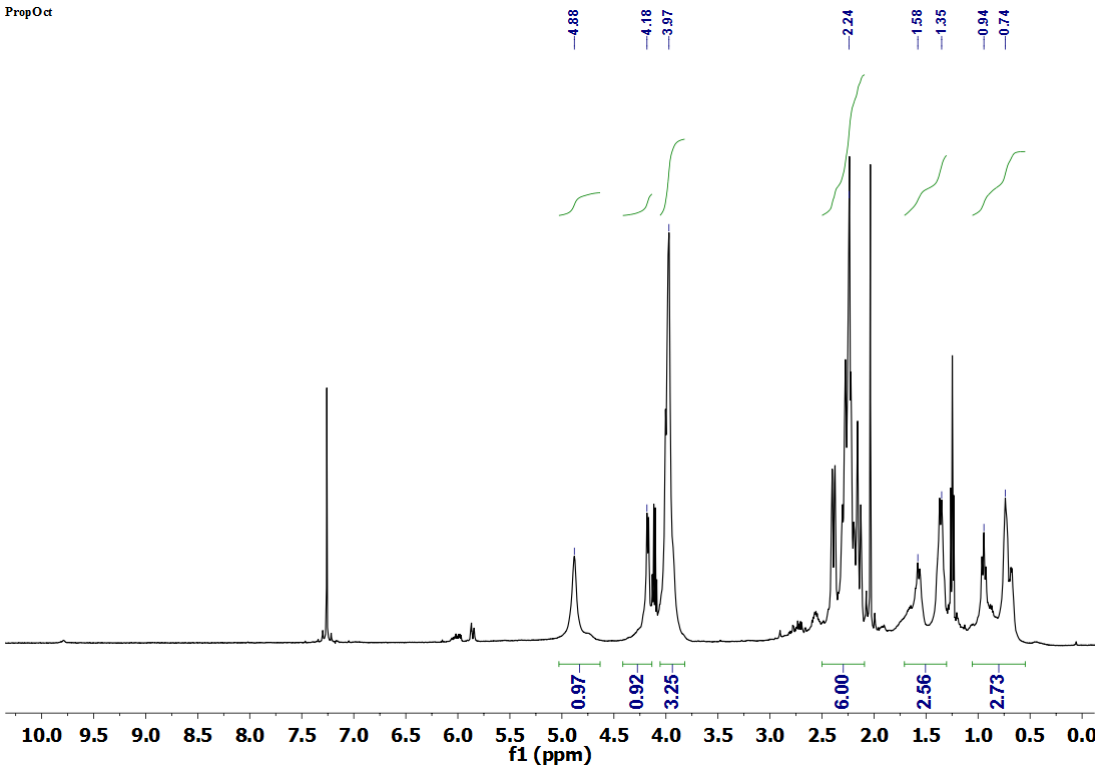

Figure S5. ^{1}H NMR of bicyclo[6.1.0]non-4-yn-9-ylmethyl *N*-(2-propyn-1-yl) carbamate

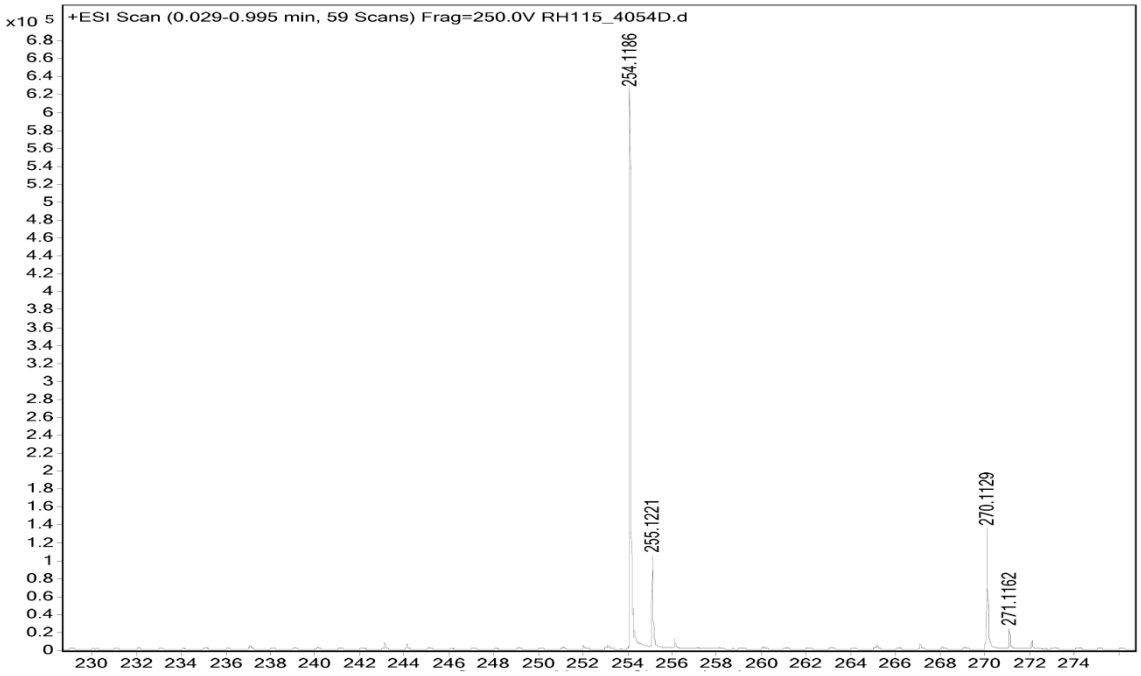

Figure S6. ESI MS of bicyclo[6.1.0]non-4-yn-9-ylmethyl N-(2-propyn-1-yl) carbamate

1.3. Characterization of PEG-PCL-DIC

1.3.1. Characterization of PEG-OH

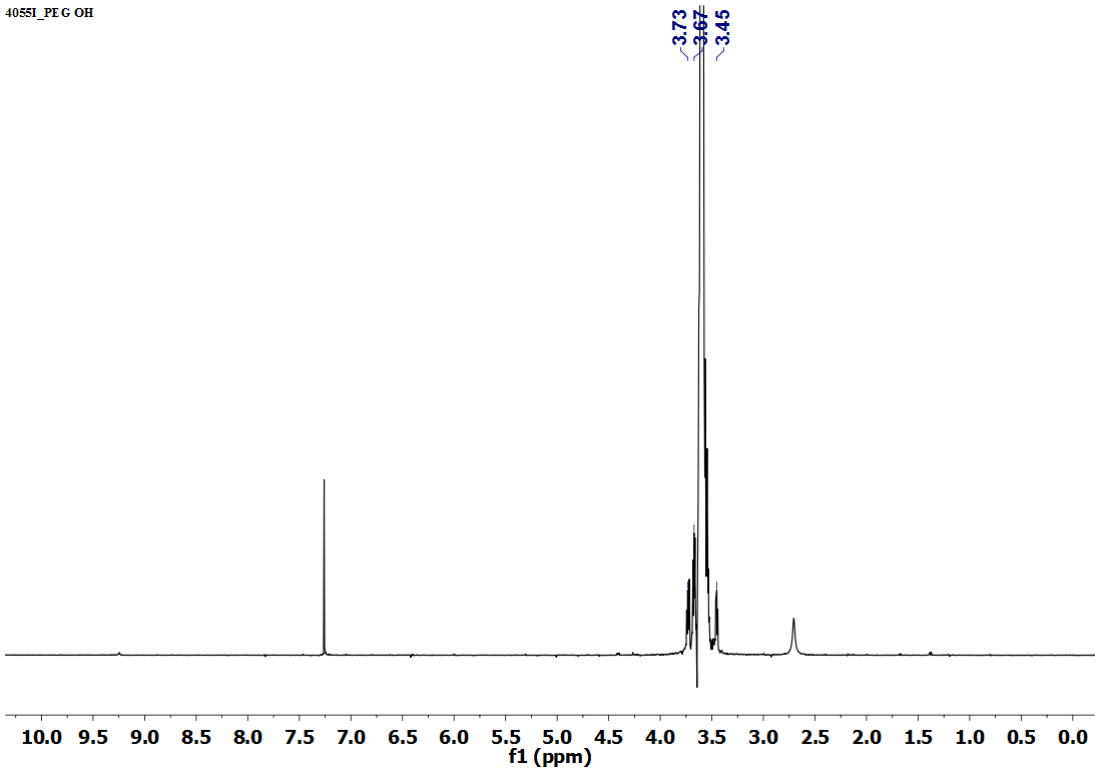

Figure S7. ^{1}H NMR of PEG-OH

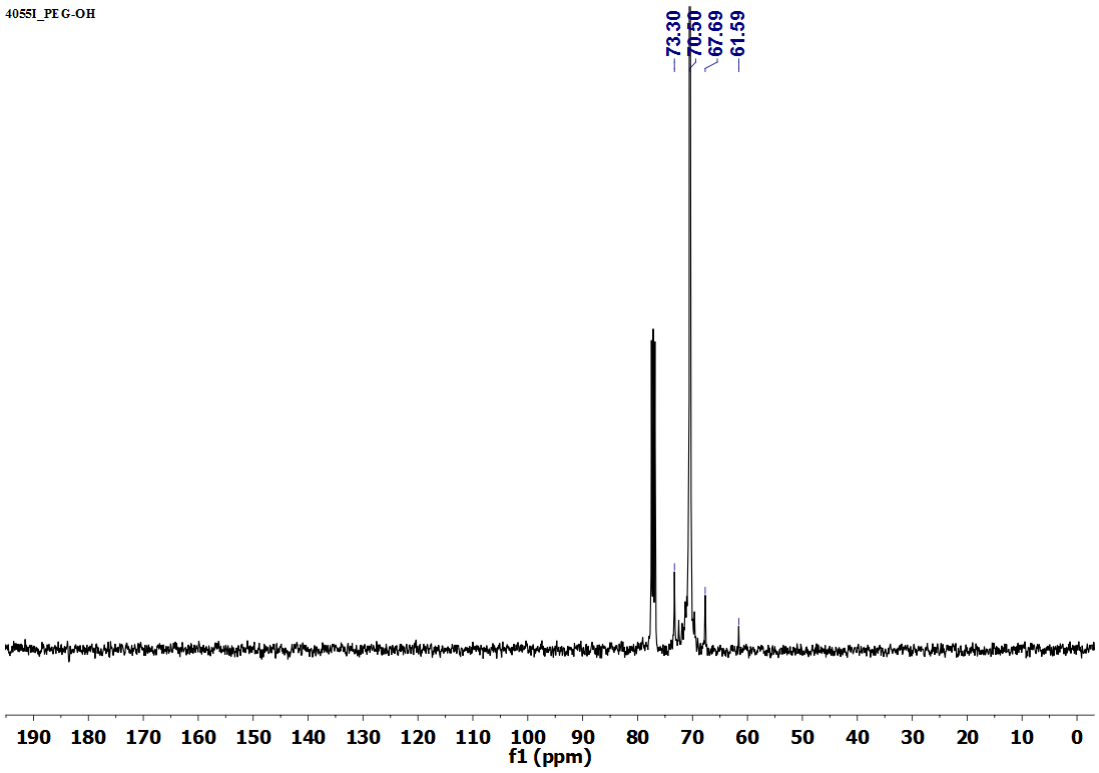

Figure S8. ^{13}C NMR of PEG-OH

1.3.2. Characterization of PEG-PCL-OH

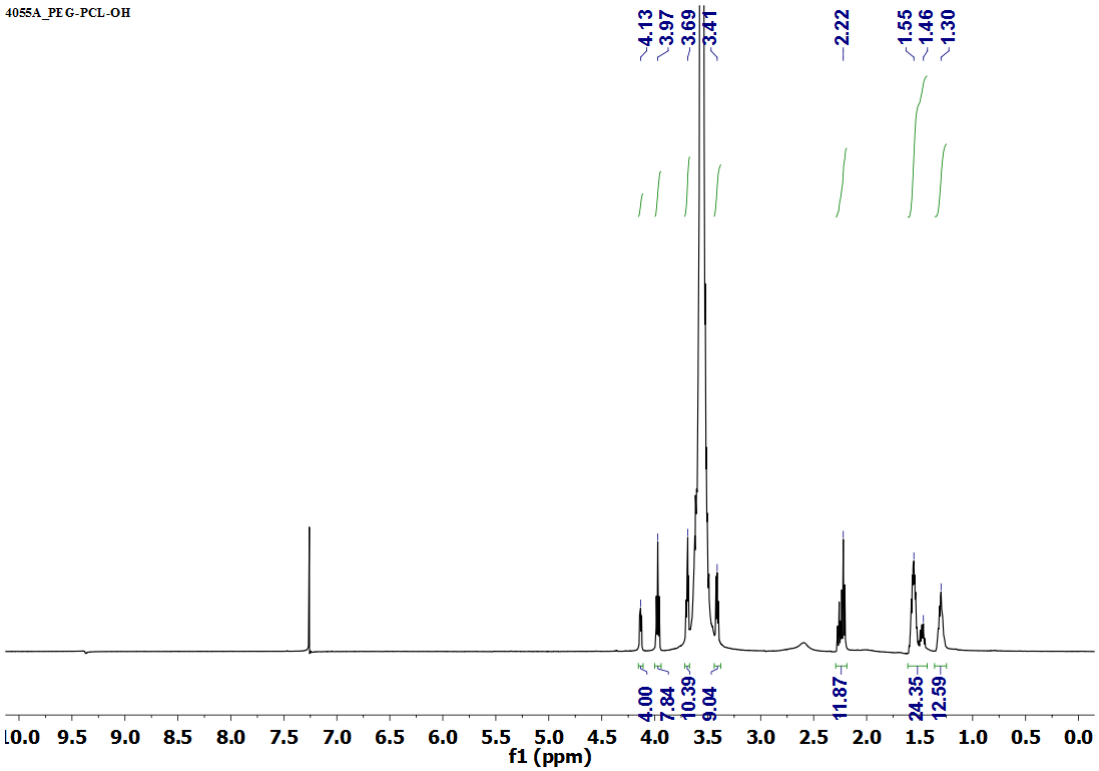

Figure S9. ^{1}H NMR of PEG-PCL-OH

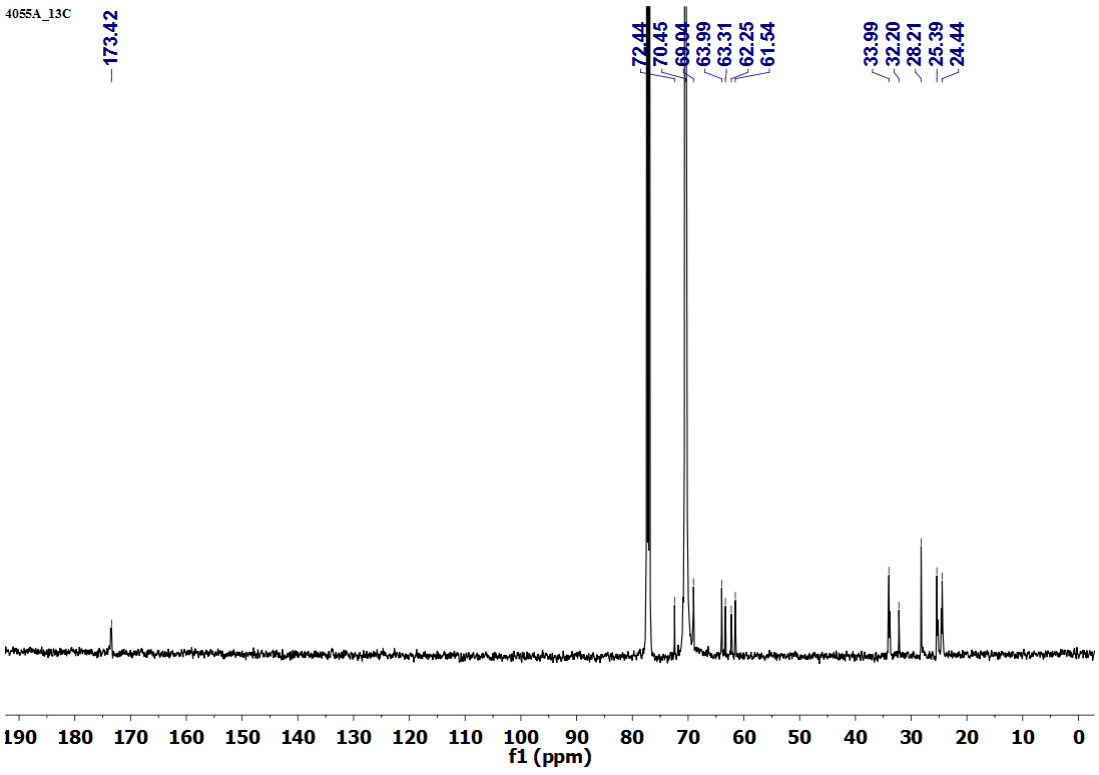

Figure S10. ^{13}C NMR of PEG-PCL-OH

1.3.3. Characterization of PEG-PCL-OMs

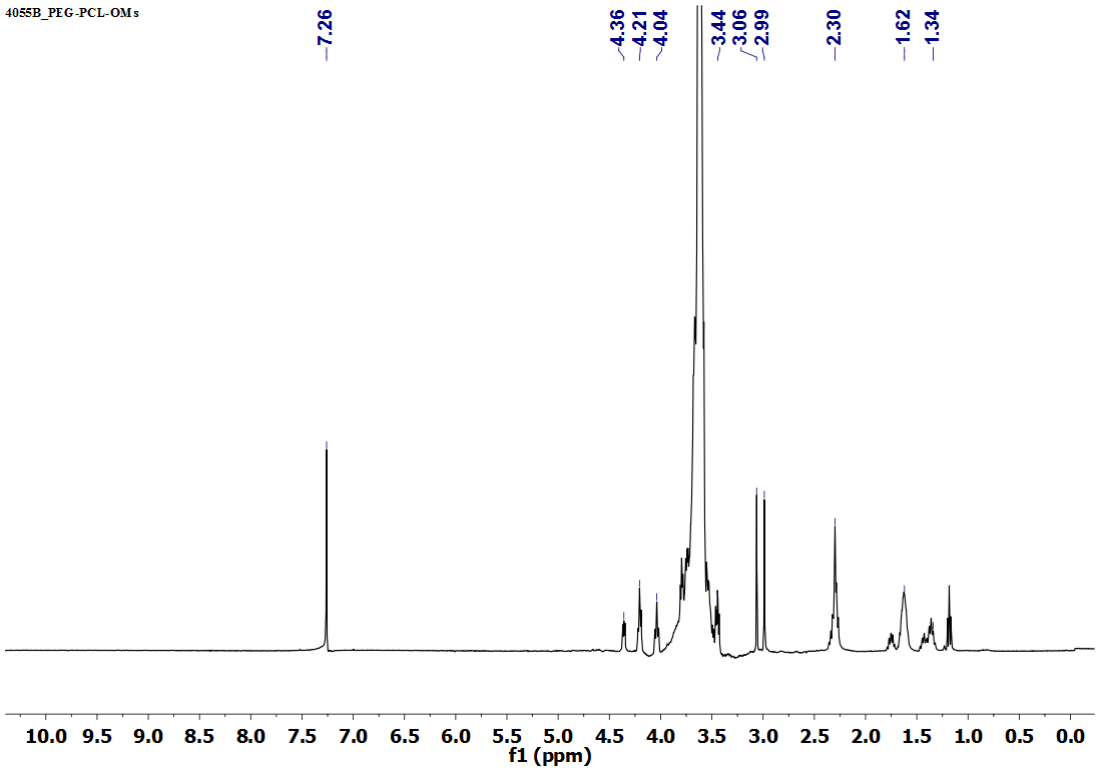

Figure S11. ^{1}H-NMR of PEG-PCL-OMs

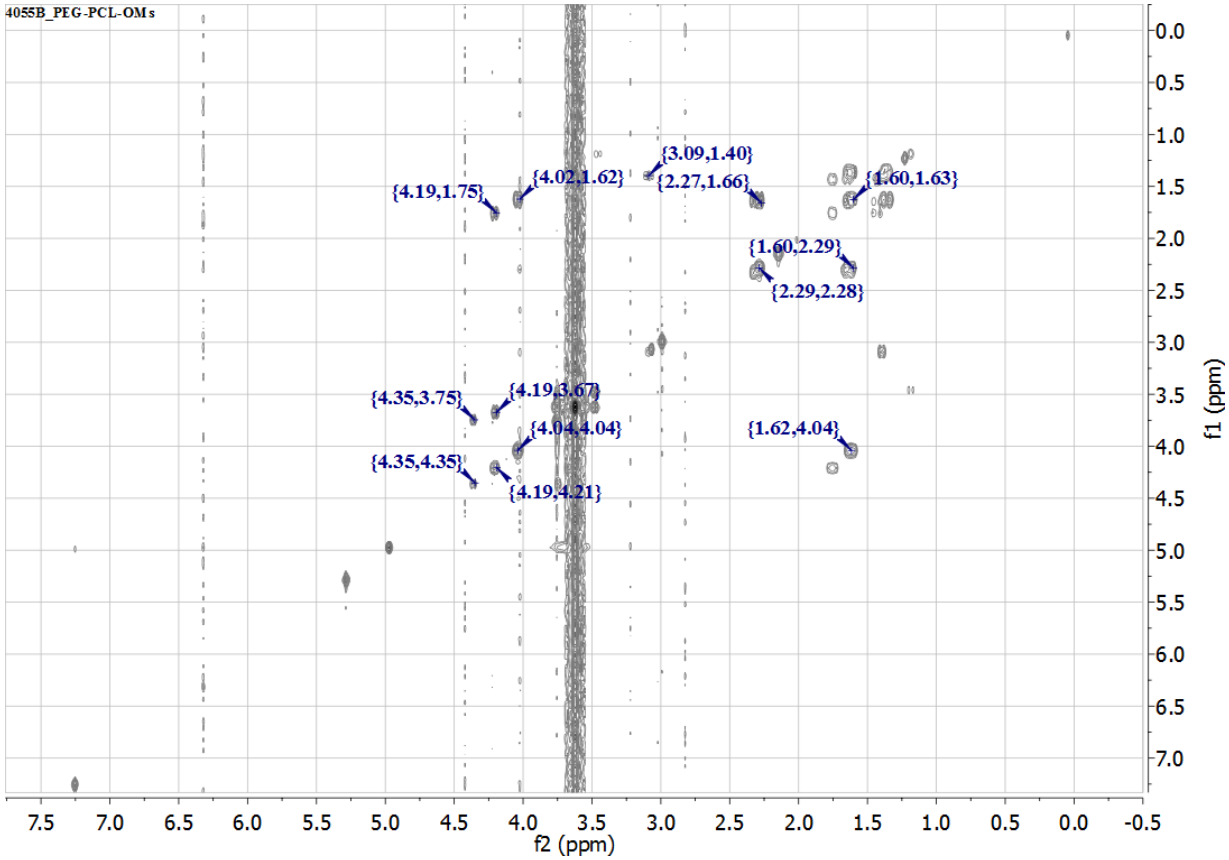

Figure S12. ^{1}H- ^{1}H correlation spectroscopy of PEG-PCL-OMs

1.3.4. Characterization of PEG-PCL-N_3

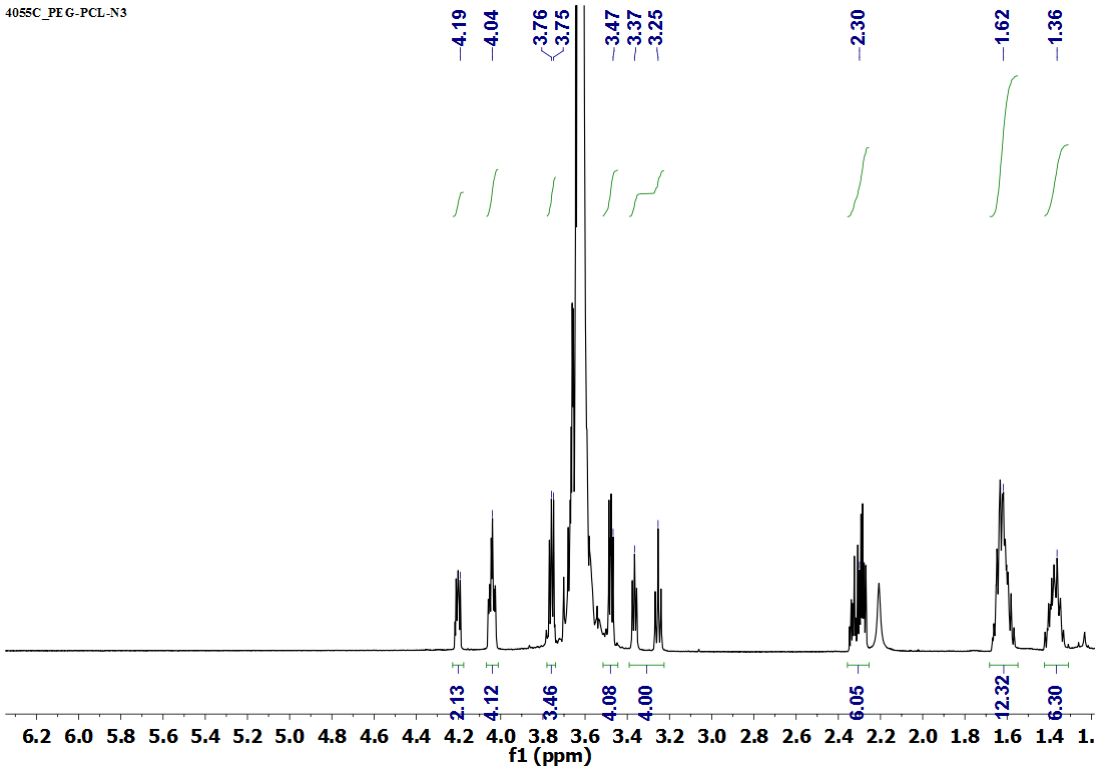

Figure S13. ^{1}H NMR of PEG-PCL-N_3

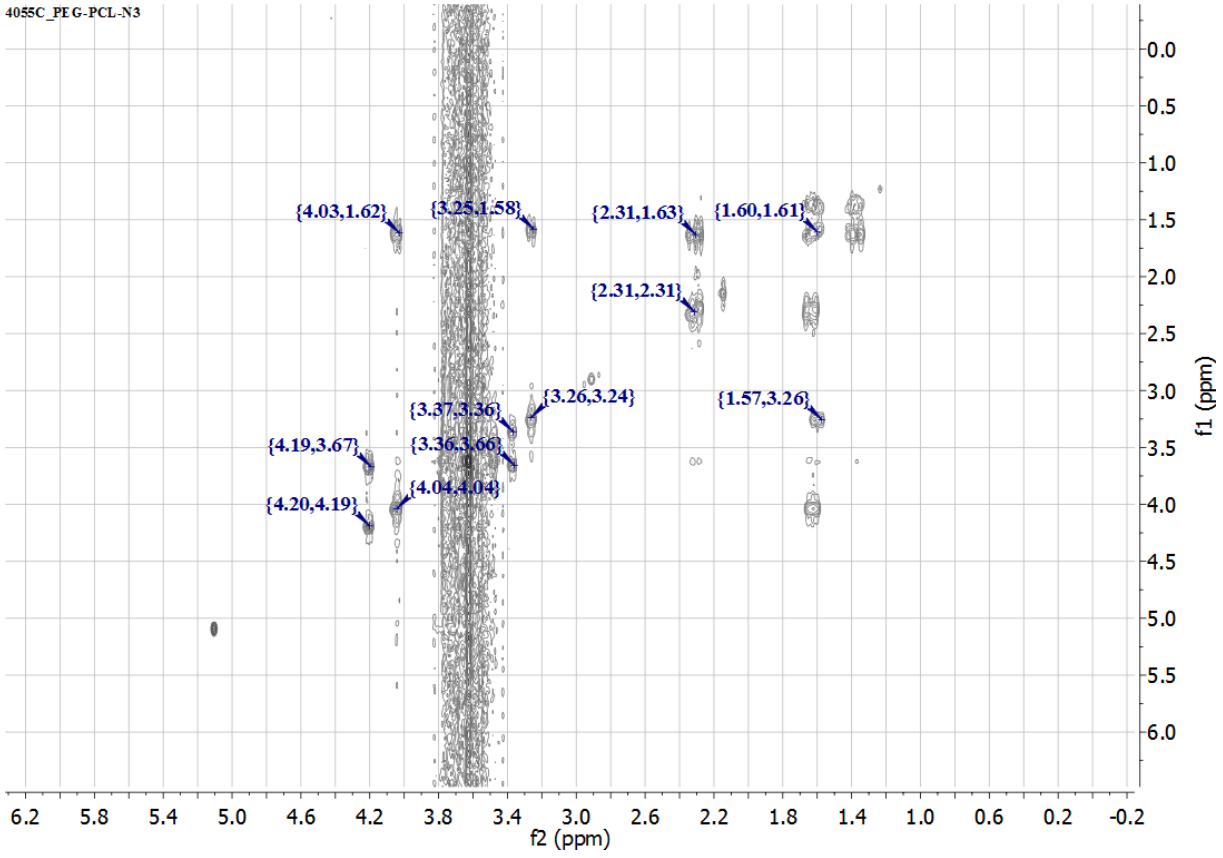

Figure S14. ^{1}H-^{1}H correlation spectroscopy of PEG-PCL-N_3

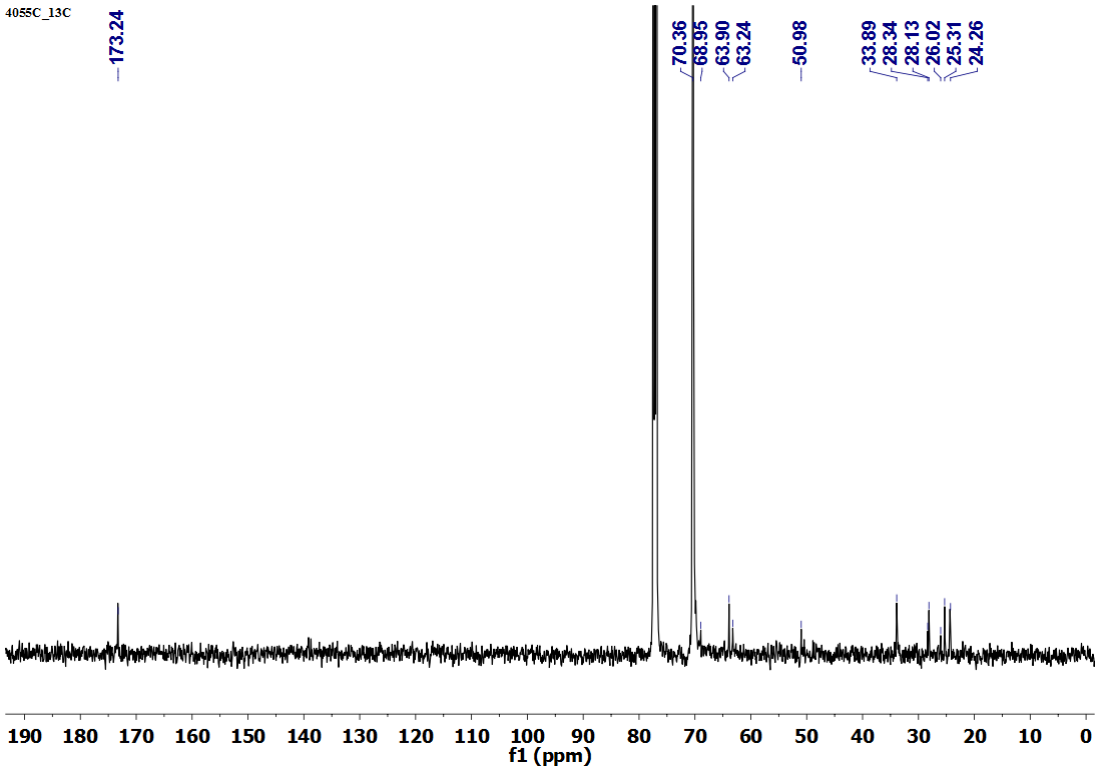

Figure S15. ^{13}C NMR of PEG-PCL-N_3

1.3.5. Characterization of PEG-PCL-DIC

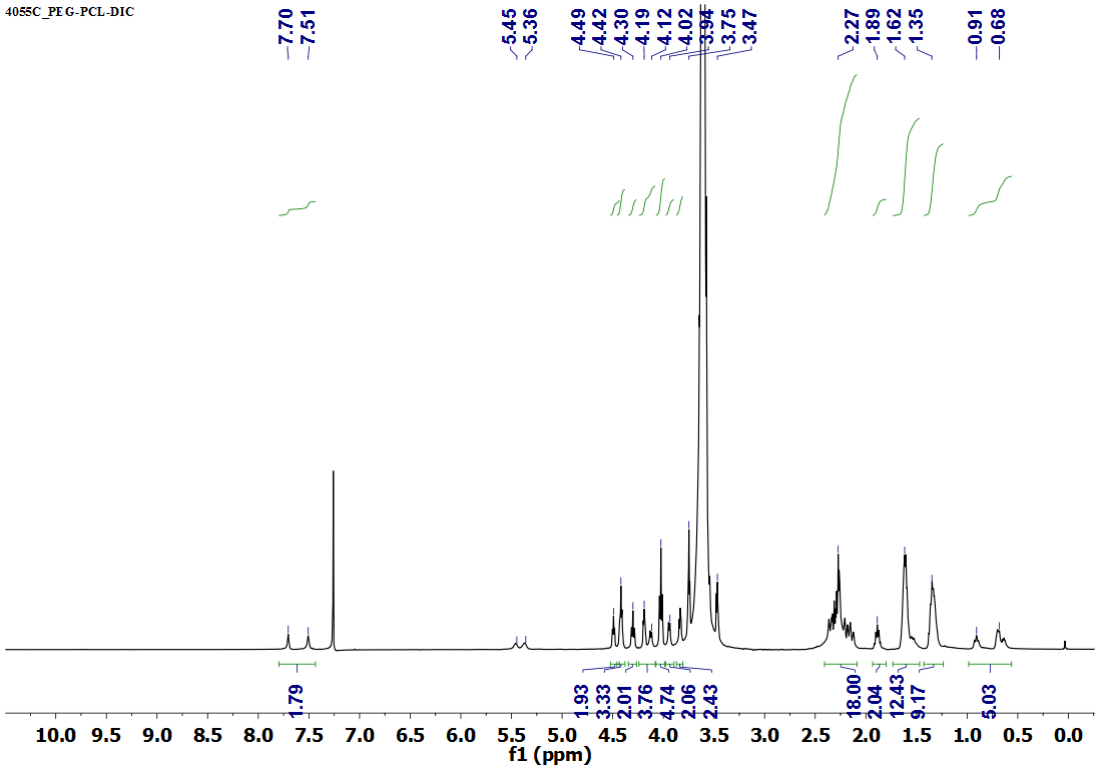

Figure S16. ^{1}H NMR of PEG-PCL-DIC

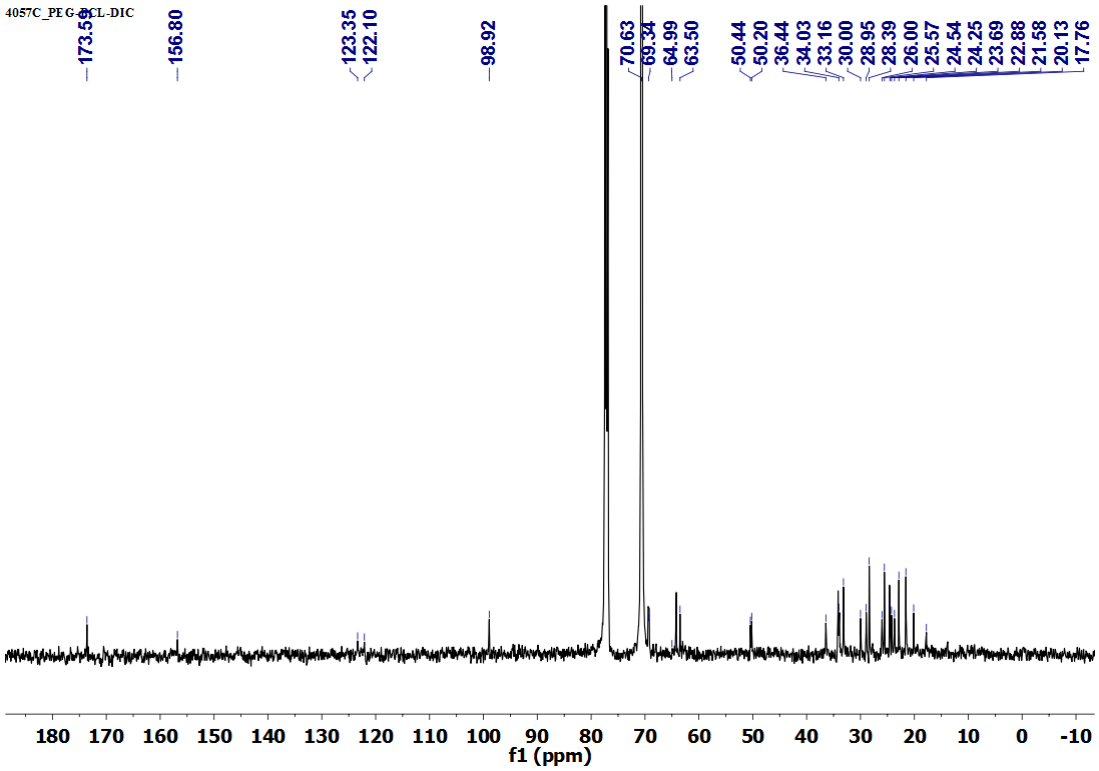

Figure S17. ^{13}C NMR of PEG-PCL-DIC

1.4. Morphology of hydrogels

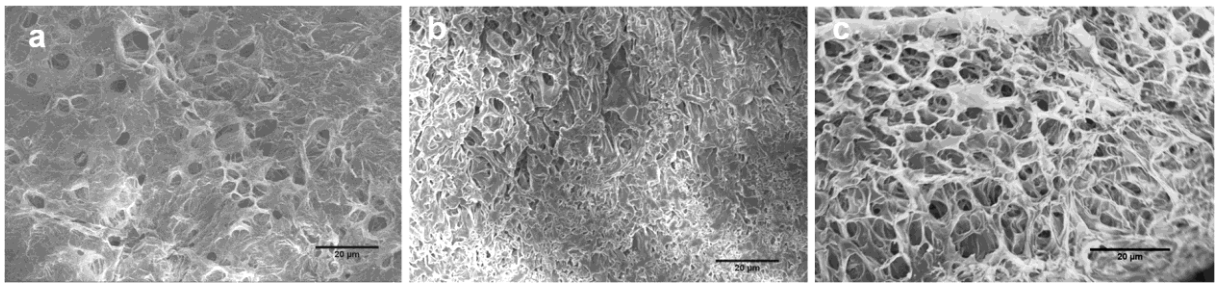

Figure S18. SEM micrographs of gel 1(a), gel 2 (b), and a cross-sectional image of gel 2 (c). The scale bar is 20 µm.

1.5. Cyto-compatibility of non-degradable dPGS gel

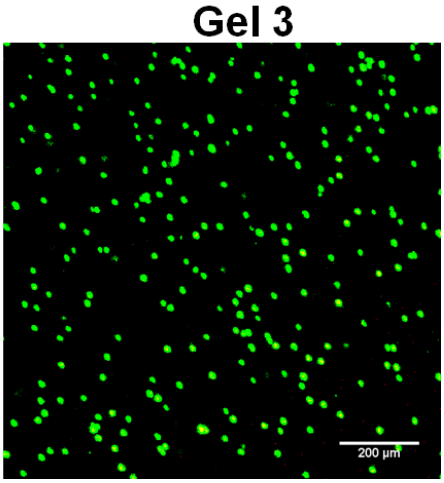

Figure S19. CLSM image showing mouse fibroblast L929 cells encapsulated in dPGS – PEG-DIC non-degradable hydrogels after 24 h culture. Cell seeding density: 20,000/ 50 µL of gel (4×10^5 cells/ml). The live cells were stained with calcein (green) and the dead cells were stained by ethidium bromide. The scale bar is 200 µm.