Supporting Information:

Human metabolites-derived alkylsuccinate/dilinoleate copolymers: From synthesis to application

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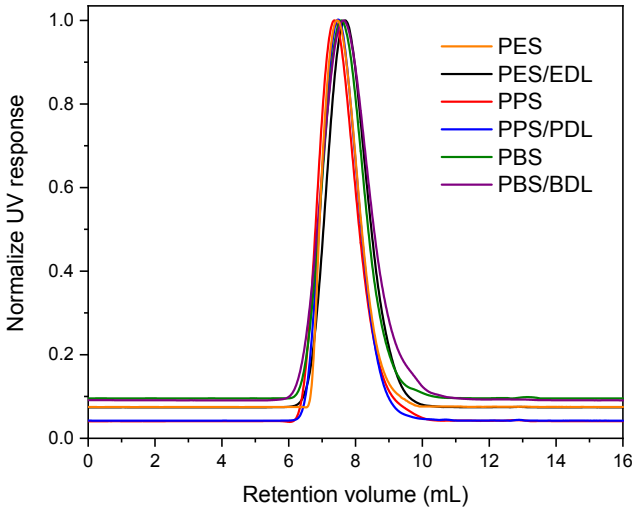

Figure S1. SEC chromatograms in chloroform of synthesized polyesters.

NMR spectra of the homopolymers

^{1}H NMR spectrum of PES (Fig. S1a, left) shows the signals from the succinic acid methylene (**B**) protons at δ = 2.60 - 2.67 ppm and from the ethylene glycol methylene (**A**) at δ = 4.20 - 4.35 ppm. ^{13}C NMR spectrum of PES (Fig. S1a, right) shows the signals from the succinic acid methylene group (**B**) at δ = 29.2 ppm and from the carbonyl group (**C**) at δ = 175.2 ppm, while carbon signals from the ethylene glycol repeating unit appear at δ = 63.2 ppm (**A**). ^{1}H NMR spectrum of PPS (Fig. S1b, left) shows that the signal from the succinic acid methylene (**B**) protons is as a singlet at δ = 2.62 ppm, while signals from the propanediol methylene (**A** triplet and **C** pentet) protons appear at δ = 4.12 – 4.20 and 1.90 – 2.1 ppm, respectively. The ^{13}C NMR spectrum of PPS (Fig. S1b, right) demonstrates the signals from the succinic acid methylene (**B**) groups at δ = 28.9 ppm and from the carbonyl (**D**) group at δ = 172.5 ppm, while signals from the propanediol carbon units appear at δ = 61.2 ppm (**A**) and δ = 27.7 ppm (**C**). ^{1}H NMR spectrum of PBS (Fig. S1c, left) shows two singlets at δ = 4.11 ppm (**A**) and δ = 1.70 ppm (**B**) belonging to the methylene protons of butanediol, while signals from the succinic acid protons appear as a singlet at 2.61 ppm (**C**). ^{13}C NMR spectrum of PBS (Fig. S1c, right) shows the carbon signals from succinic acid methylene (**C**) group at δ = 29.4 ppm and the carbonyl (**D**) group unit at δ = 172.7 ppm. The carbon signals from butanediol unit appear at δ = 63.2 ppm (**A**) and δ = 25.3 ppm (**B**).

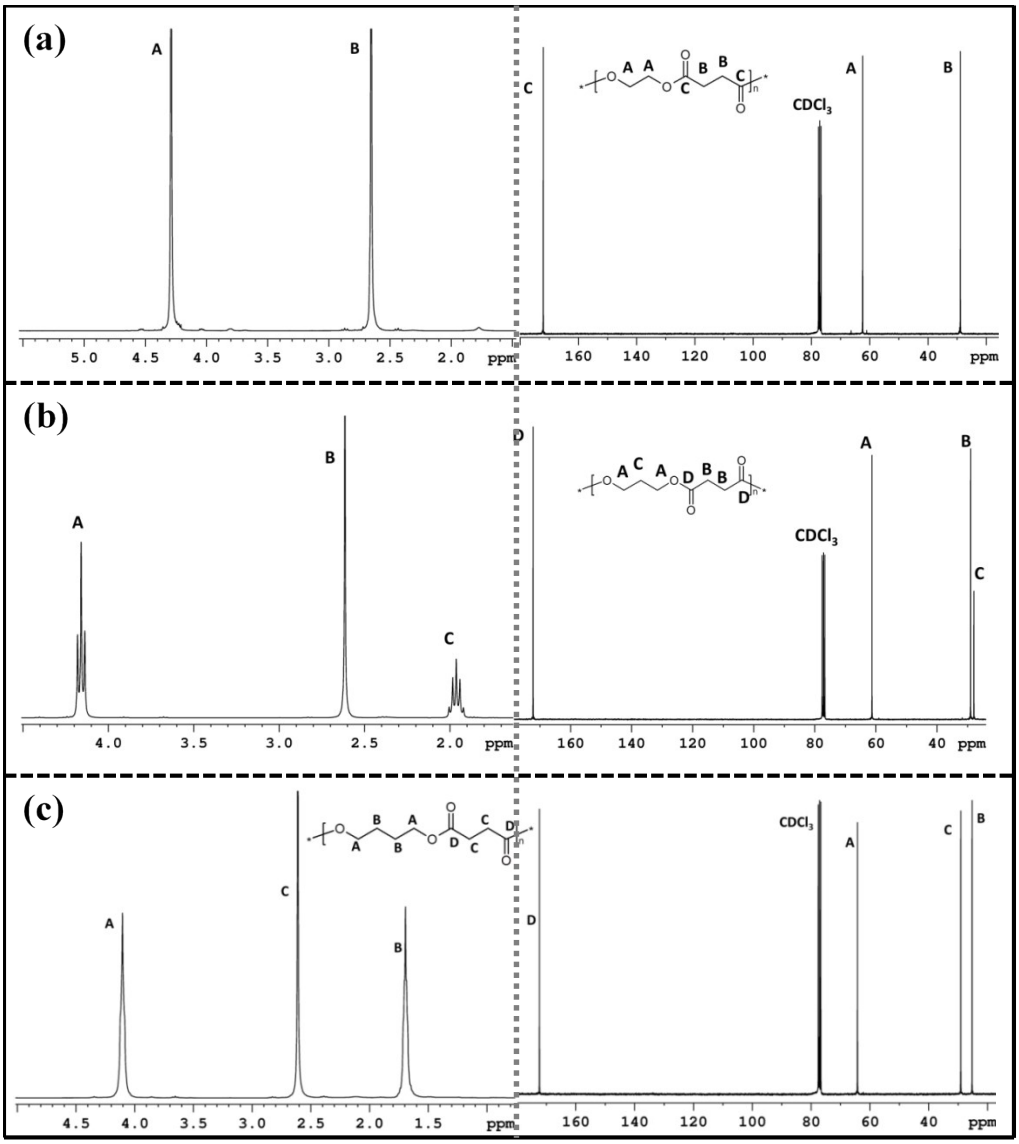

Figure S2. ^{1}H (left) and ^{13}C (right) NMR of the poly(ethylene succinate) (a), poly(propylene succinate) (b), and poly(butylene succinate) (c) polyesters.

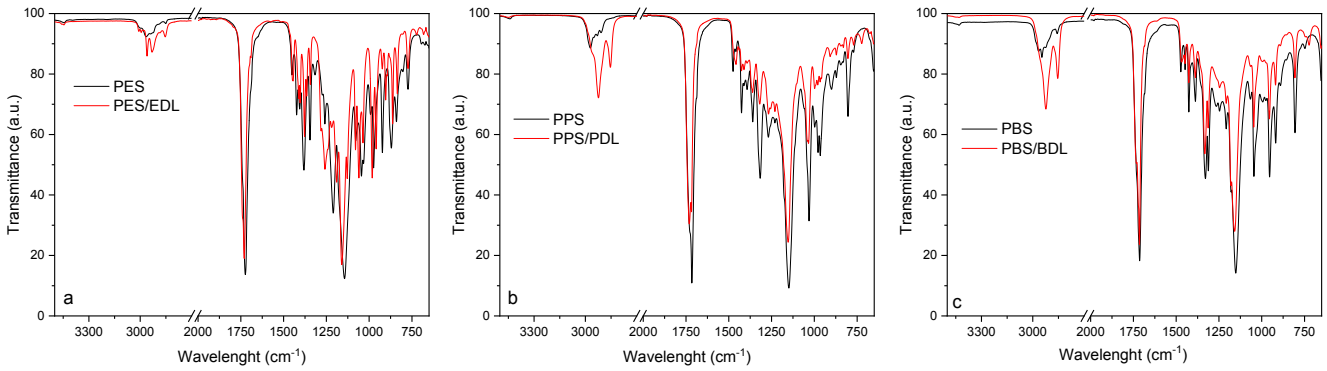

Figure S3. FTIR spectra of (a) PES, (b) PPS and (c) PBS homopolyesters (black lines) and (a) PES/EDL, (b) PPS/PDL and (c) PBS/BDL copolyesters (red lines).

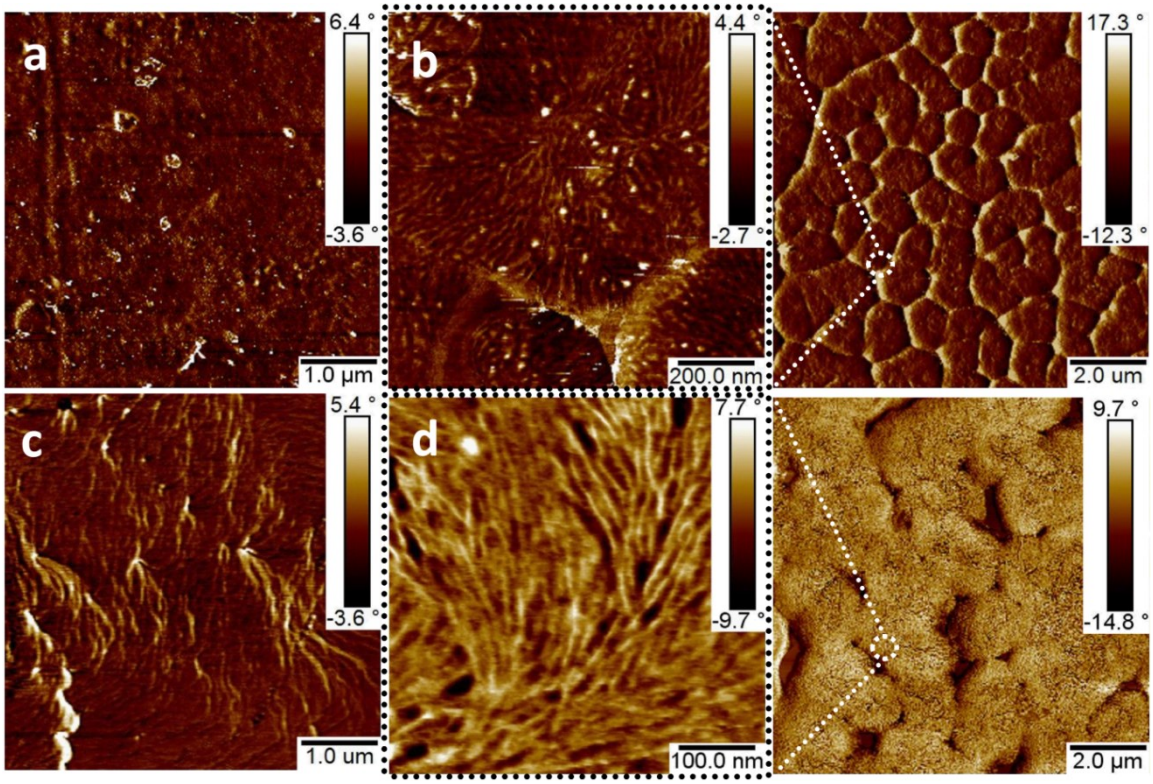

Figure S4. AFM phase mode images of PES after melt-processing (a) and spin-coating (b); and PES-EDL after melt-processing (c) and spin-coating (d).

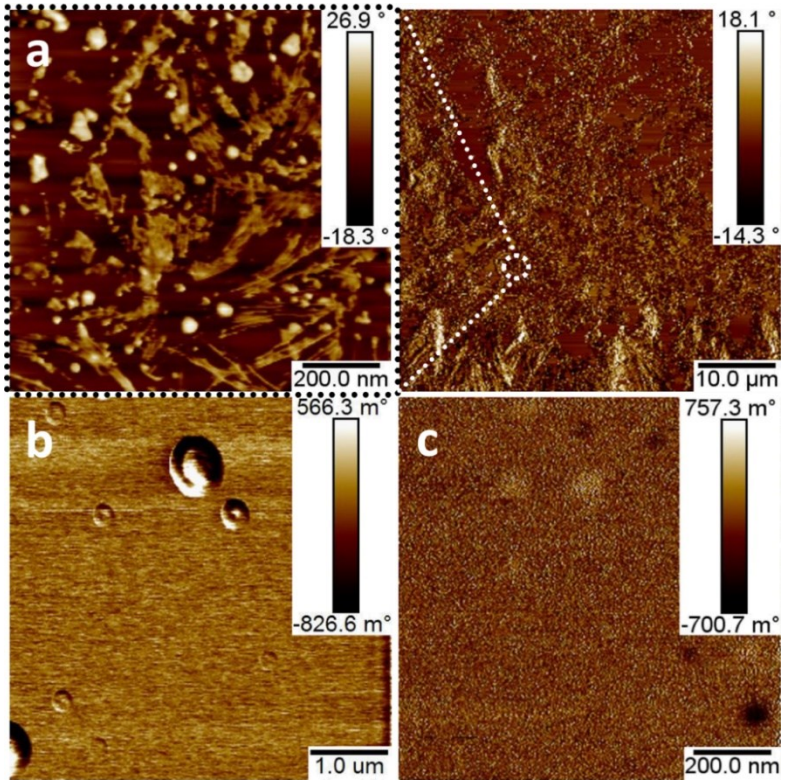

Figure S5. AFM phase mode images of PPS after melt-processing (a); and PPS-PDL after melt-processing (b) and spin-coating (c).

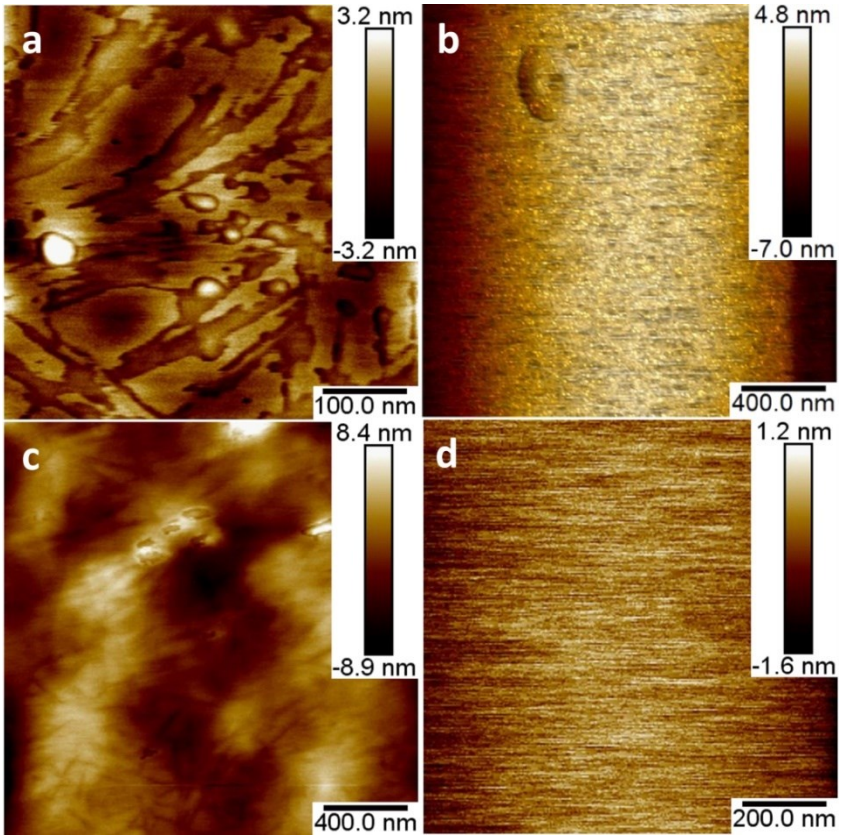

Figure S6. AFM surface topology images of PPS after melt-processing (a); PPS-PDL just after melt-processing (b) and one month later (c); and PPS-PDL after spin-coating (d).

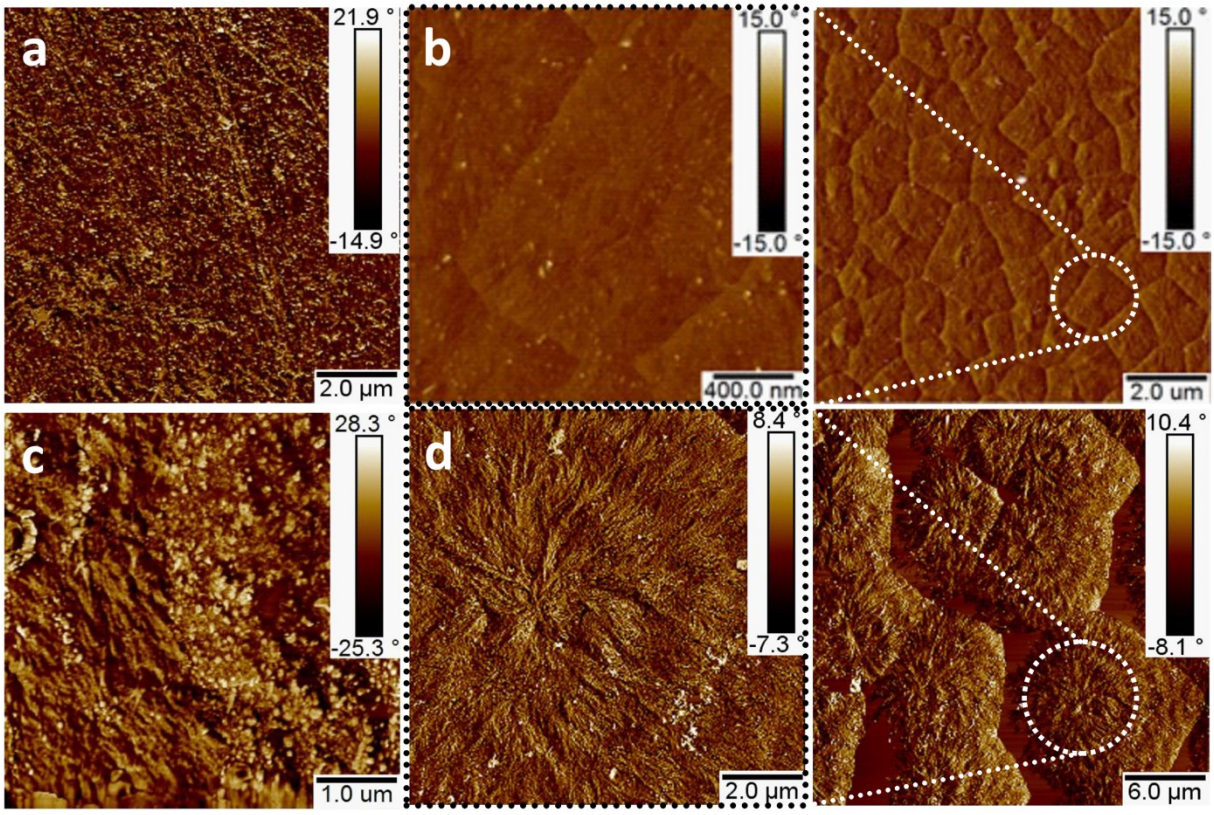

Figure S7. AFM phase mode images of PBS after melt-processing (a) and spin-coating (b); and PBS-BDL after melt-processing (c) and spin-coating (d).

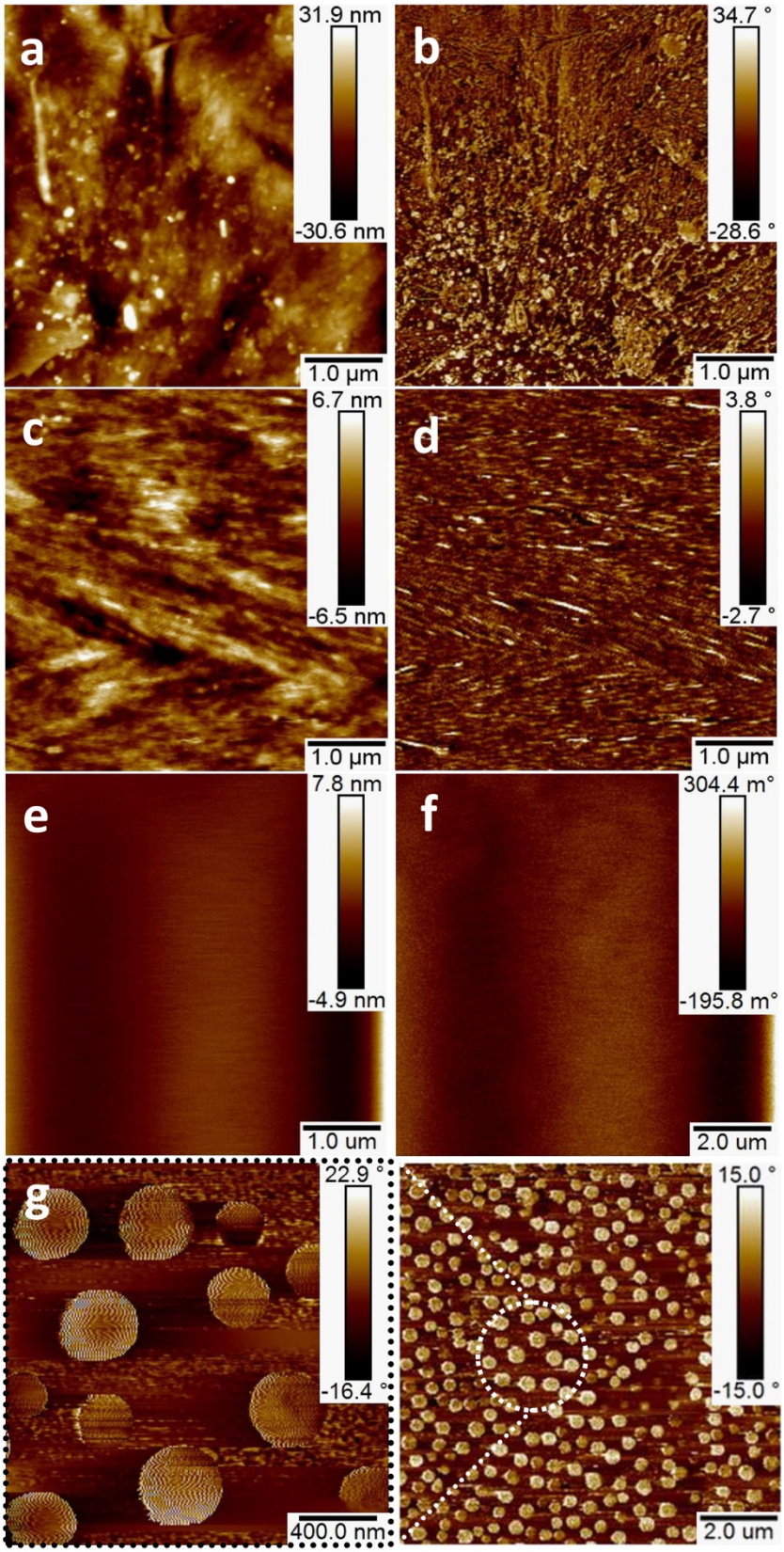

Figure S8. PCL's AFM surface topologies (a) and phase mode images (b) after melt-processing and surface topologies (c) and phase mode images (d) after spin-coating; and PLGA's surface topology (e) and phase images (f) after melt-processing, and phase images after spin-coating (g).

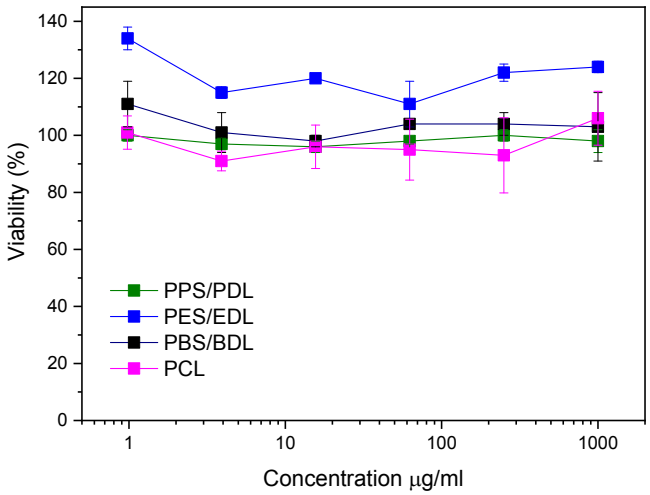

Figure S9. Normal human dermal fibroblast (NHDF) cells viability experiments in the presence of PPS/PDL (green squares), PES/EDL (blue squares), PBS/BDL (black squares) and the reference polymer PCL (magenta squares), after 48h of incubation.