Supporting Information

Control Polymer Analysis:

$^1$H NMR (D$_2$O) δ (ppm): 6.2 (s, vinyl peak 1H), 5.6 (s, vinyl peak 1H), 4.10 (m, COOCH$_2$CH$_2$2H), 3.66 (t, OCH$_2$CH$_2$2H), 3.54 (s, repeat unit CH$_3$, 4nH), 3.32 (s, methyl, OCH$_3$ 3nH), 2.5 (d, CH$_2$C=CH$_2$, 2H) 1.93 (m, CH$_3$(CH$_2$CCH$_3$COOR), 2nH) 1.05 (s, CH$_3$ methyl 3nH), 0.85 (s, terminal methyl, 3H).

IR: ν(cm$^{-1}$): 2850 (CH$_3$/CH$_2$ stretch), 1700 sharp (C=O stretch), 1450 (>C-H 2 scissor deformation), 1100 (C-O ester stretch), 800 (C=C Hydrogen out-of-plane bends)

$M_n$(GPC) = 11 700 g.mol$^{-1}$; $M_w$(GPC) = 15 900 g.mol$^{-1}$; $M_w$/M$_n$ = 1.36 ; Conversion (NMR) = 83%

Supplementary info. S1. (A) and (B) QCM-D traces showing the change in frequency and dissipation over time as RAFT CTA 1 and 2 are passed over a gold surface. Graphs (C) and (D) show the Sauerbrey mass adsorption profile of each RAFT CTA respectively.
S2 Comparison of Mn~5000 polymers: P1(A), P3(B), P5(C) and P9(D) mass adsorption to gold.

S3. Comparison of adsorbed large Mn DEG polymers 2(A), 4(B) and 6(C) on gold.

S3. Comparison of adsorbed large Mn DEG polymers 2(A), 4(B) and 6(C) on gold.
S4. Comparison of adsorbed mass of PEG polymers P8(A) and 10(B).