Electronic Supplementary Material (ESI) for Polymer Chemistry.

Poly(ester)-Poly(silyl methacrylate) Copolymers: Synthesis and Hydrolytic Degradation Kinetics

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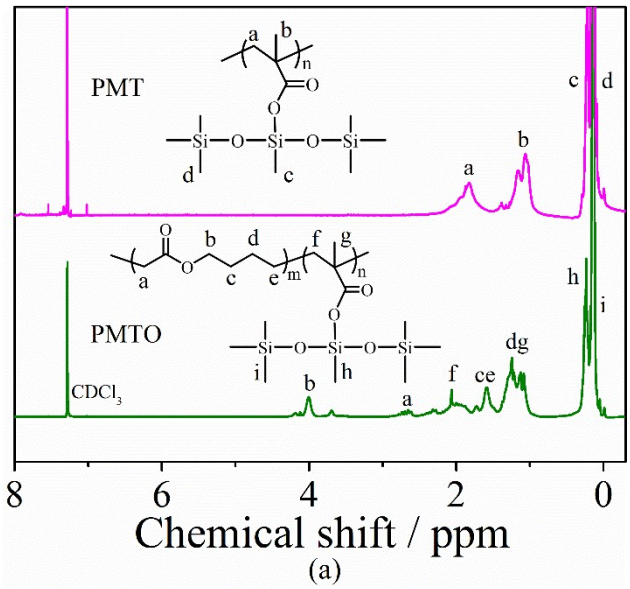

Figure S1. ^{1}H-NMR spectra of PMT and PMTO (a), and spectra of PTIO and PTBO (b) in $CDCl_3$.

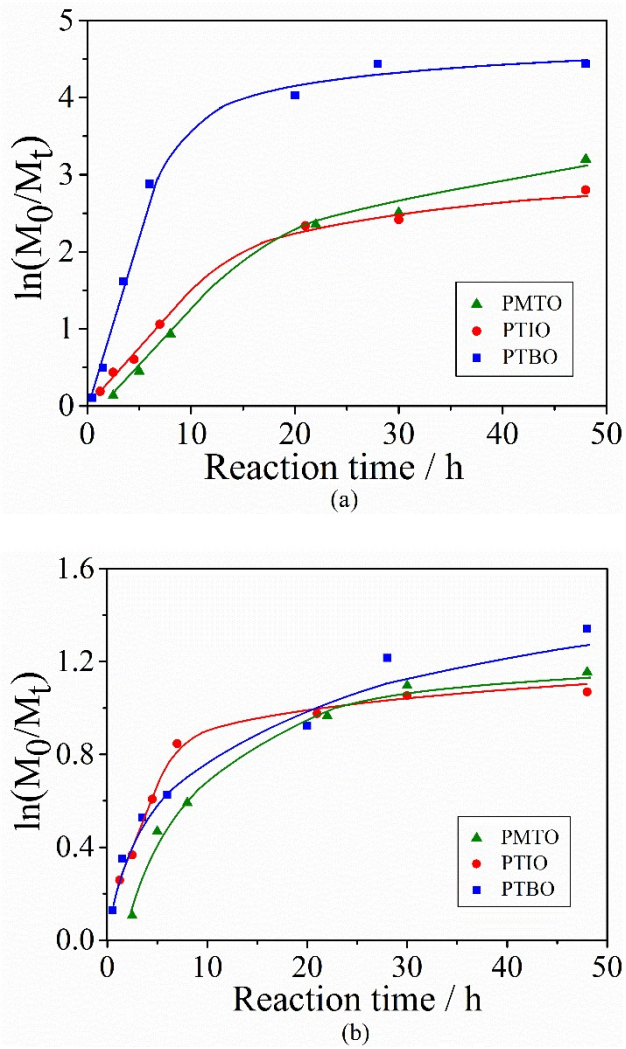

Figure S2. Kinetic plots of silyl methacrylate (a) and MDO (b) during copolymerization in dioxane.

Determination of reactivity ratios

The reactivity ratios for copolymerization of silyl methacrylates and MDO were determined by the least squares method, in which the values of r_{SMA} and r_{MDO} minimize the sum of the squares of the difference between experimental values of F_{SMA} and the values calculated with the Mayo-Lewis equation (r is the reactivity ratio, f is the feeding molar ratio, F is the molar ratio in the copolymer and SMA means silyl methacrylate):

$$F_{SMA} = \frac{r_{SMA} * f_{SMA}^2 + f_{SMA} * f_{MDO}}{r_{SMA} * f_{SMA}^2 + r_{MDO} * f_{MDO}^2 + 2 * f_{SMA} * f_{MDO}}$$

Table S1. Experimental data of f and F for silyl methacrylates.

PMTO	f_{MATM2}	F_{MATM2}
1	0.90	0.97
2	0.70	0.86
3	0.50	0.64
4	0.30	0.43
5	0.10	0.18

PTIO	$f_{TIPSiMA}$	$F_{TIPSiMA}$
1	0.90	0.95
2	0.70	0.84
3	0.50	0.66
4	0.30	0.41
5	0.10	0.15

PTBO	f_{TBSiMA}	F_{TBSiMA}
1	0.90	0.98
2	0.70	0.87
3	0.50	0.71
4	0.30	0.44
5	0.10	0.19

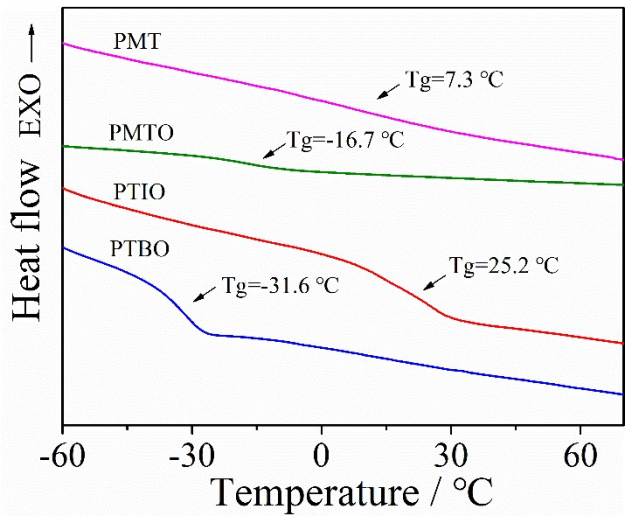

Figure S3. DSC heating traces of PMT and silyl methacrylate-MDO copolymers.

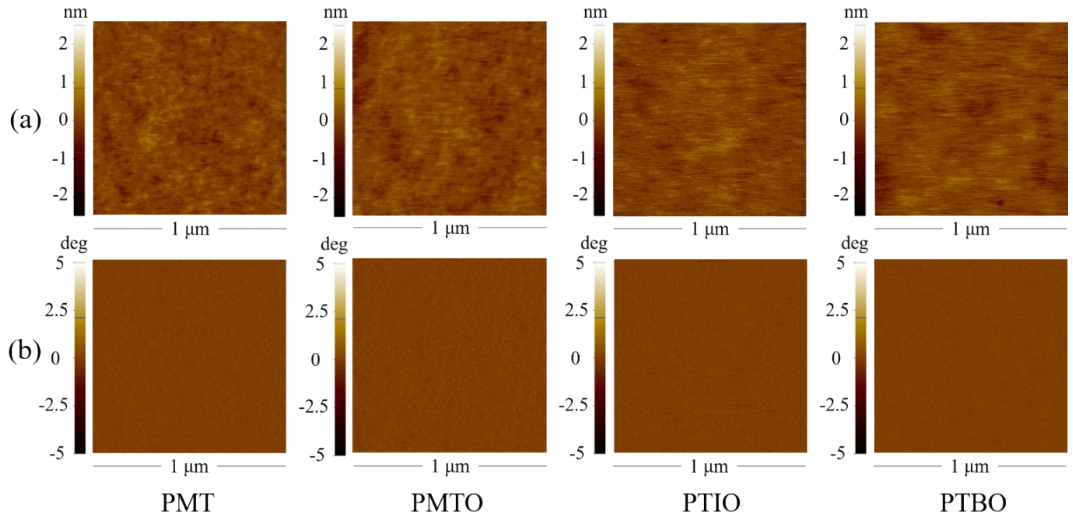

Figure S4. Topography (a) and phase (b) images of PMT and silyl methacrylate-MDO copolymers by AFM.