

Supporting Information

Synthesis of high-molecular weight block copolymers of norbornene and propylene with methyl methacrylate initiated by fluorenylamido titanium complex

*Ryo Tanaka, Yuushou Nakayama and Takeshi Shiono**

Table of Contents

GPC traces of the obtained block copolymers	2
¹ H NMR spectrum of the obtained block copolymers	3-4
TG charts of the obtained block copolymers	5-6
DSC chart of PP-PMMA block before annealing	7

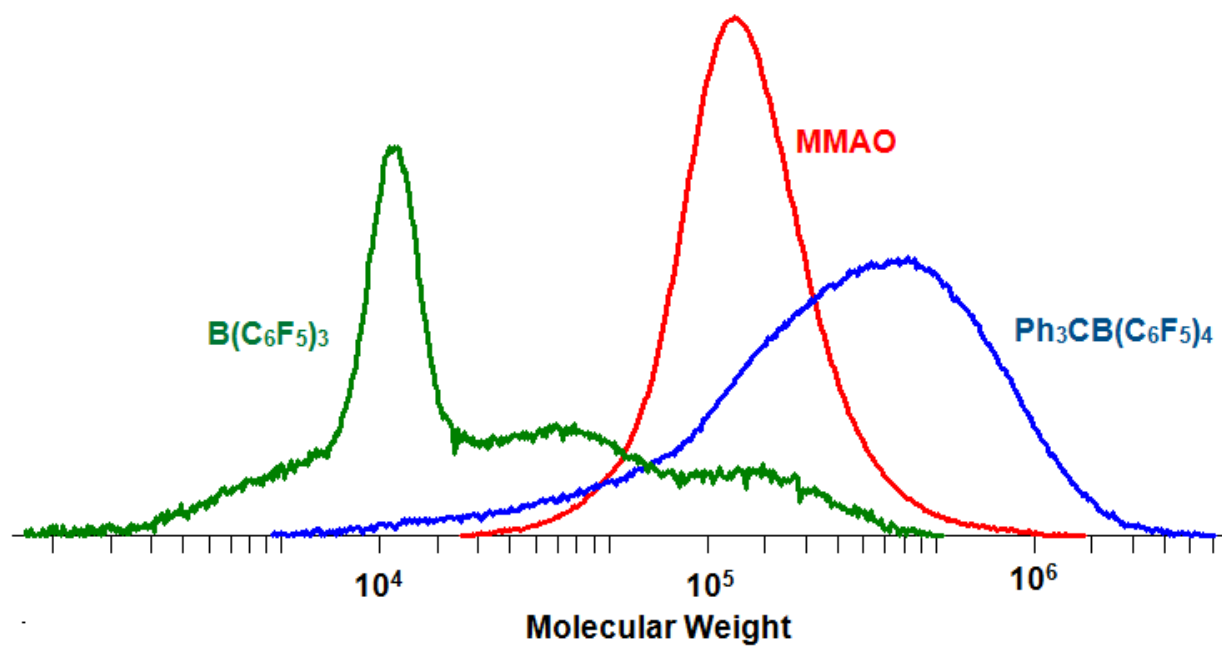


Figure S1. GPC traces of propylene-MMA block copolymers (Table 1: red, run 1; blue, run 2; green, run 3).

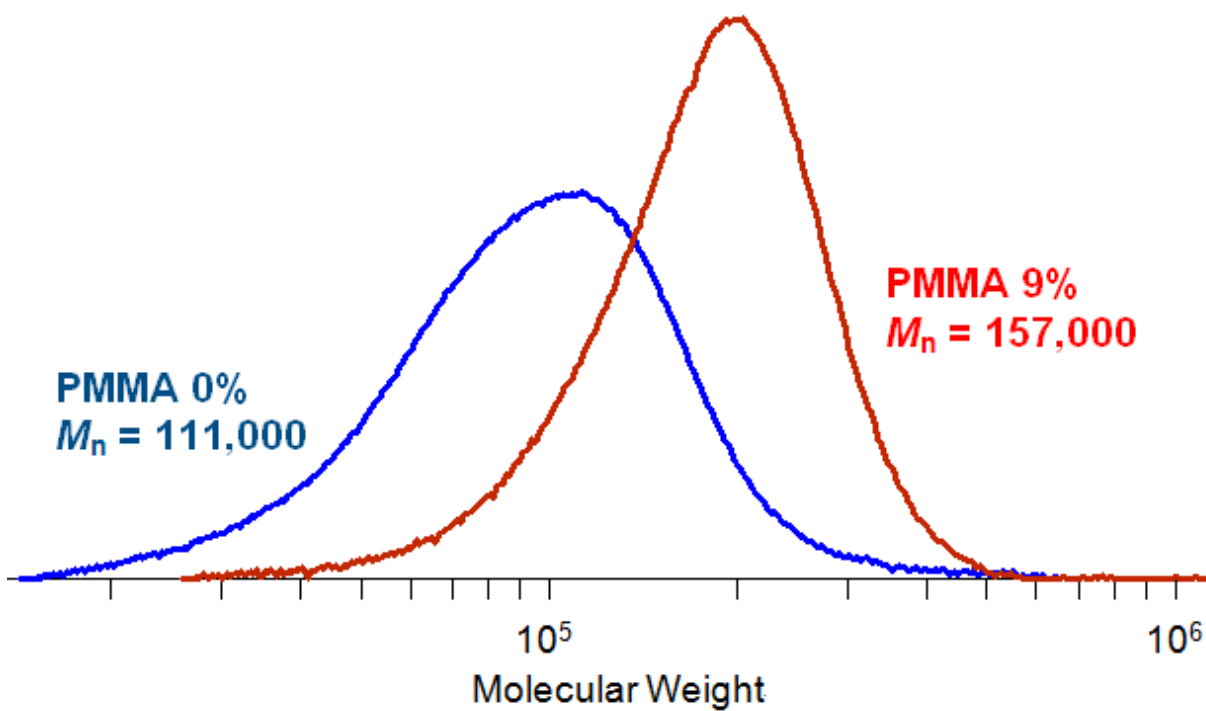


Figure S2. GPC traces of propylene-MMA block copolymer and prepolymer (Table 2: blue, run 1; red, run 2).

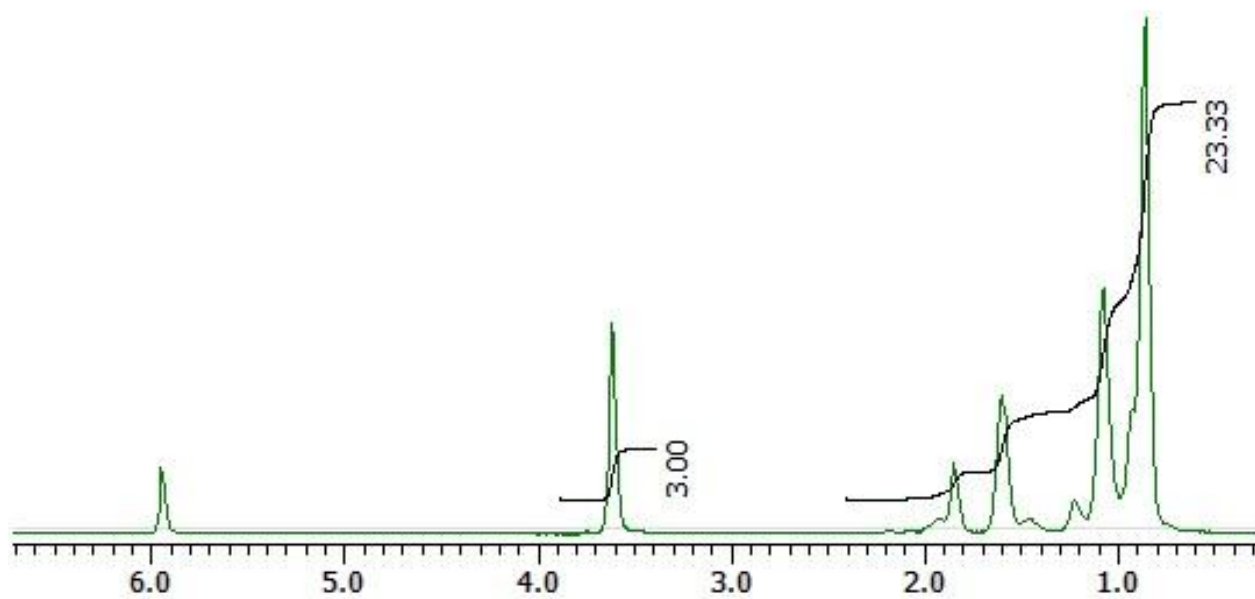


Figure S3. ¹H NMR spectrum of propylene–MMA block copolymer (Table 2, run 4). 25 mol% of MMA was introduced.

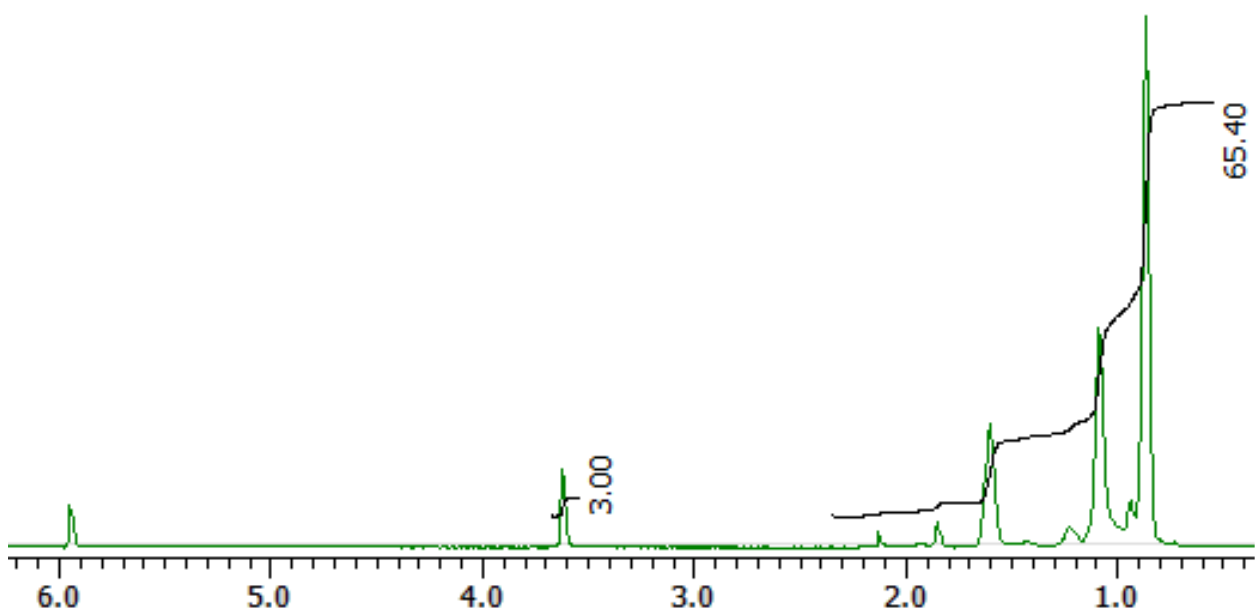


Figure S4. ¹H NMR spectrum of propylene–MMA block copolymer (Table 2, run 2). 9 mol% of MMA was introduced.

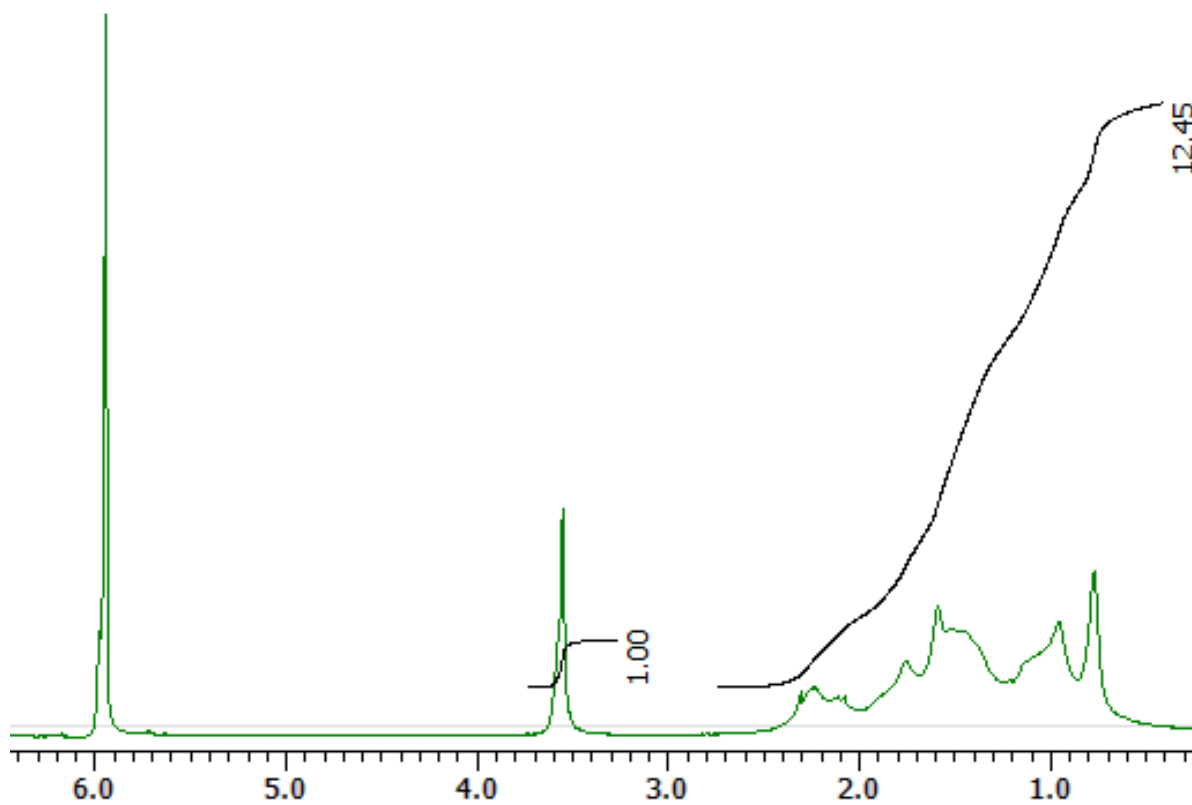


Figure S5. ¹H NMR spectrum of norbornene–propylene–MMA block copolymer (Table 4, run 2). 23 mol% of MMA was introduced.

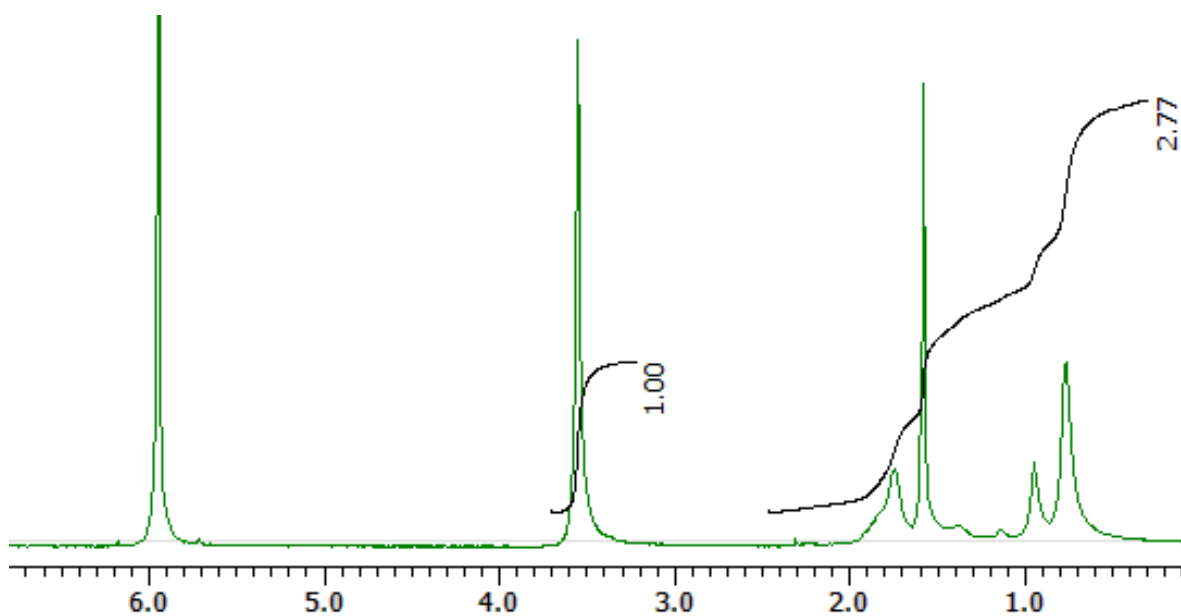


Figure S6. ¹H NMR spectrum of norbornene–propylene–MMA block copolymer (Table 4, run 3). 74 mol% of MMA was introduced.

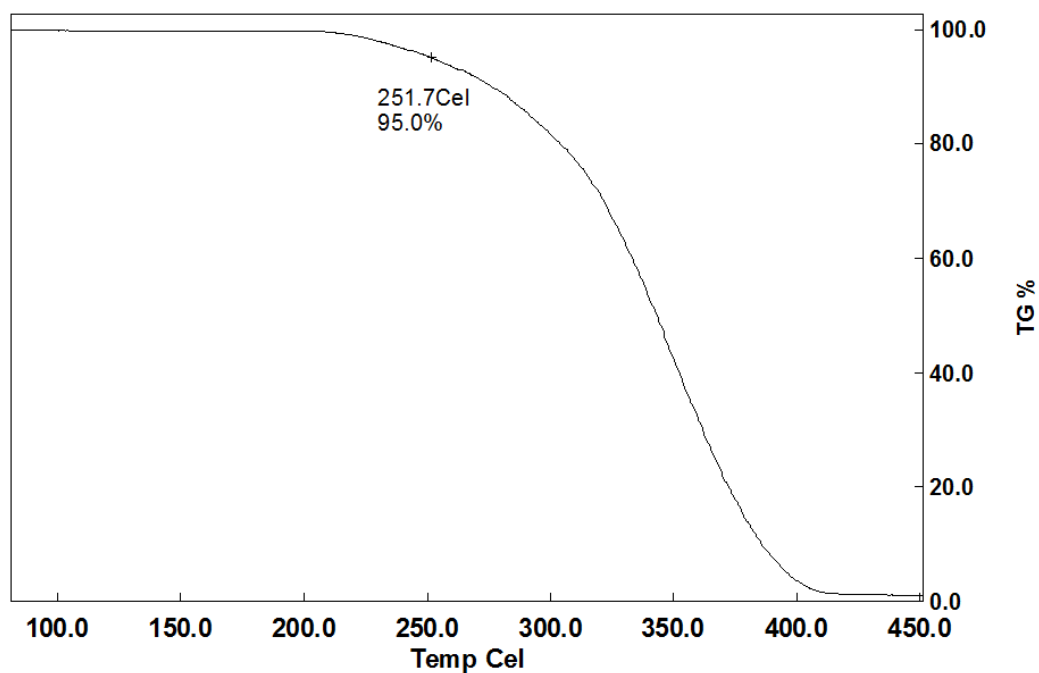


Figure S7. TG data of propylene-MMA block copolymer (25 mol% PMMA, Table 2, run 4). 5% degradation

temperature was 252 °C.

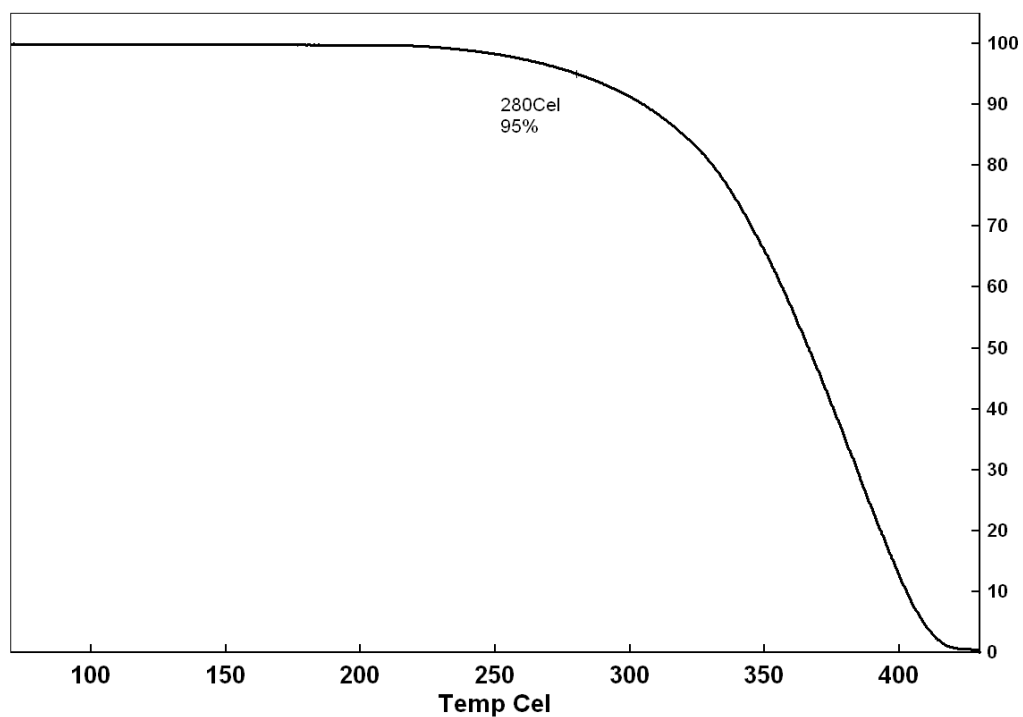


Figure S8. TG data of propylene-MMA block copolymer (9 mol% PMMA, Table 2, run 2). 5% degradation

temperature was 280 °C.

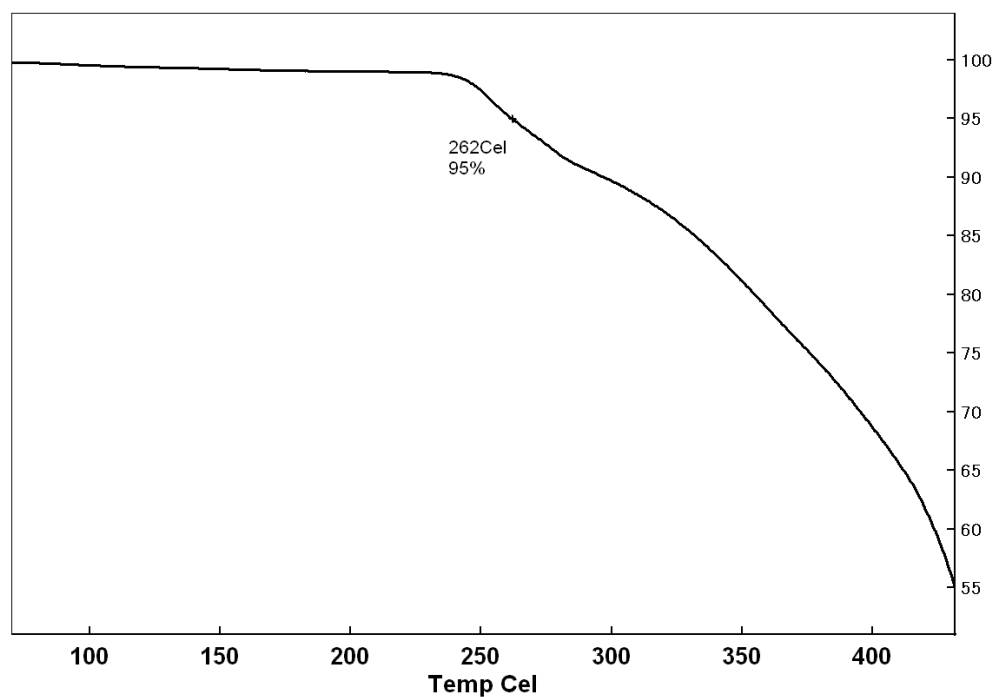


Figure S9. TG data of norbornene-propylene-MMA block copolymer (23 mol% PMMA, Table 4, run 2). 5%

degradation temperature was 262 °C.

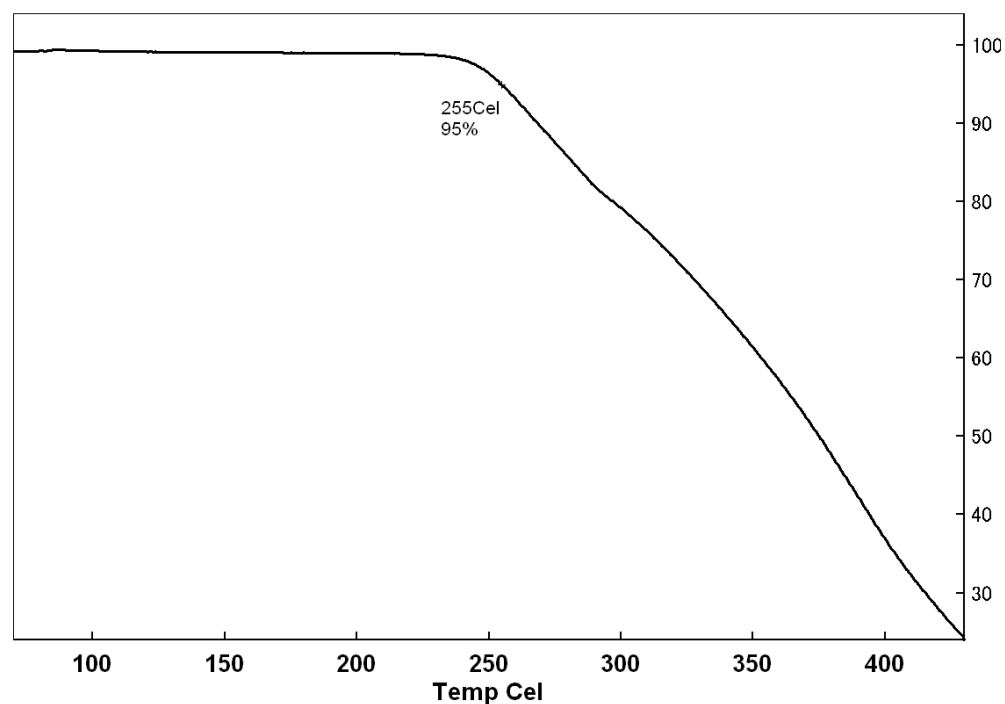


Figure S10. TG data of norbornene-propylene-MMA block copolymer (74 mol% PMMA, Table 4, run 3). 5%

degradation temperature was 255°C.

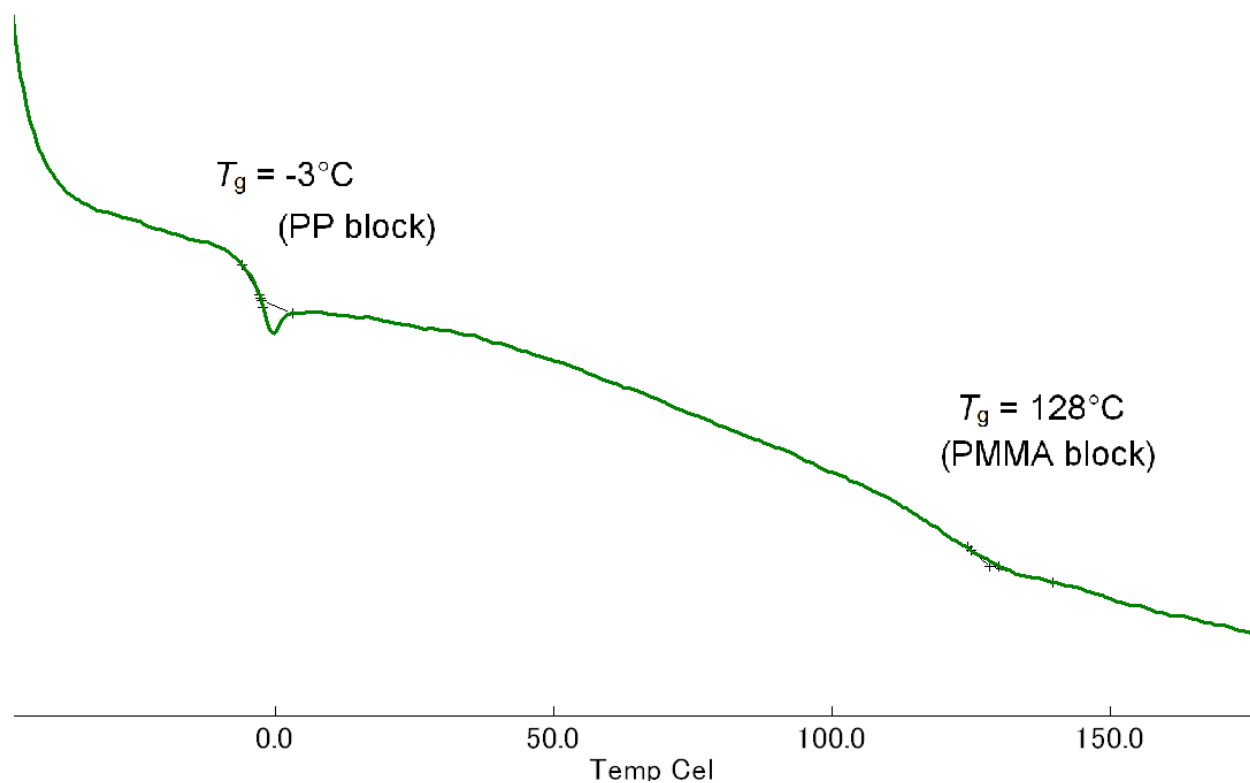


Figure S11. DSC chart of propylene–MMA block copolymer (25 mol% PMMA, Table 2, run 3) without annealing. T_m of the PP block (88°C), which was observed after annealing, was not observed. Lower T_g value (98°C) was observed after annealing, indicating that mixed phase of *syn*-PP and *syn*-PMMA was formed.