

Support Information

Synthesis of PMMA Star (A)_f-DC. A 100:2:2 equiv mixture of MMA (10 mL), VBDC (0.499 g), and BMIM (0.336 g) (50 wt% THF solution) was photo-polymerized at 30°C for 1 h. In no case were cross-linked or insoluble materials observed. In a previous work,¹ we performed the first-order time-conversion plots in this photo-polymerization system. The straight line in the semilogarithmic coordinates indicated not only first order in monomer but also a constant concentration of the active species. The plot of M_w against conversion fitted well to the straight line. We concluded that free radical polymerization proceeded by a living radical mechanism. We also proved that soluble microgel formed predominantly in the initial stage by determining the composition of phenyl and MMA units as a parameter of conversion.

References and Notes

- (1) Ishizu, K.; Park, J.; Shibuya, T.; Sogabe, A. *Macromolecules* **2003**, *36*, 2990.