Electronic Supplementary Information

Free Radical Polymerization of Alkyl Methacrylates with N,N-Dimethylanilinium *p*-Toluenesulfonate at Above Ambient Temperature: A Quasi Living System

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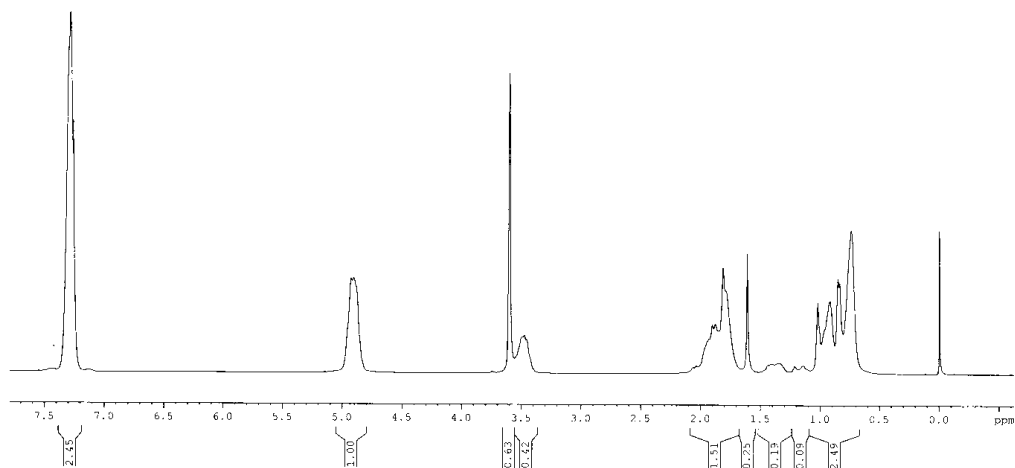[2]*Austin Paints and Chemicals, 3, Ambica Mukherjee Road, Kolkata-700056, India.*

Figure S1. ^{1}H NMR spectra of the block copolymer P(MMA)-b-P(BzMA-co-MMA) synthesized by PTSA-DMA initiator

Calculation of M_n of P(MMA)-b-P(BzMA-co-MMA)

M_n of P(MMA)-b-P(BzMA-co-MMA) was calculated by using the following equation[1] :

$$M_{n, cal} = [M_{n,emp} + \{(M_{n,emp} / MW_{MMA}) (1-F_{MMA}) / (F_{MMA} - f_{MMA})\} \times \{(f_{MMA} MW_{MMA}) + (1-f_{MMA}) MW_{BzMA}\}]$$

Where, $M_{n,emp}$ is the experimentally determined molecular weight of the first block,

MW_{MMA} and MW_{BzMA} are the molar masses of the two monomers,

f_{MMA} is the mole fraction of MMA in the monomer feed during the second step (assuming no compositional drift),

F_{MMA} is the cumulative mole fraction of MMA in the copolymer determined by NMR.

In our case, $M_{n,emp}$ = 28000 (M_n of the first block i.e. PMMA measured by GPC),

MW_{MMA} = 100, MW_{BzMA} = 176.22, f_{MMA} = [1.17/(1.1+5.59)] = 0.16, F_{MMA} = 0.51,

Then $M_{n,cal}$ of P(MMA)-b-P(BzMA-co-MMA) = 92000.

Reference

(1) Angot, S.; Ayres, N.; Bon, S. A. F.; Haddleton, D. M. *Macromolecules* **2001**, *34*, 768-774.