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Electronic supplementary information

Thermally induced cationic polymerization of isobutyl vinyl ether in toluene in the presence of solvate ionic liquid

Tomohiro Hirano,<sup>\*a</sup> Ryotaro Kizu,<sup>a</sup> Junpei Hashimoto,<sup>a</sup> Nenji Munekane,<sup>a</sup> Yohei Miwa,<sup>b</sup> Miyuki Oshimura,<sup>a</sup> and Koichi Ute<sup>a</sup>

<sup>a</sup>Department of Applied Chemistry, Tokushima University, 2-1 Minamijosanjima, Tokushima 770-8506, Japan

<sup>b</sup>Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University, Yanagido, Gifu 501-1193, Japan

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[TEMPO] <sub>0</sub>	Time	Yield	$M_{ m n}{}^{ m b}$	M /M b
mol L <sup>-1</sup>	h	%	× 10 <sup>-4</sup>	$N_{W}/N_{n}$
0.0	1	2	1.8	1.3
0.0	3	20	4.4	2.2
0.0	4	35	4.3	1.9
0.0	8	>99	4.7	1.7
0.01	1	2	1.7	1.4
0.01	3	9	2.9	2.4
0.01	4	11	4.4	2.3
0.01	8	48	4.4	2.1

**Table S1.** Polymerization of IBVE in toluene at 60 °C in the presence or absence of TEMPO<sup>a</sup>

<sup>a</sup> [IBVE]<sub>0</sub> = 4.0 mol L<sup>-1</sup>, [MMA]<sub>0</sub> = 0.5 mol L<sup>-1</sup>, [LiNTf<sub>2</sub>]<sub>0</sub> = 0.1 mol L<sup>-1</sup>. <sup>b</sup> Determined by SEC (PMMA standards).

Table S2.	Polymerization	of IBVE in	1 toluene	at 60	°C in	the pro	esence of
LiNTf <sub>2</sub> and	d VAc <sup>a</sup>						

Time	Yield	$M_{ m n}{}^{ m b}$	M / M b	
h	%	× 10 <sup>-3</sup>	$M_{W}/M_{n}^{*}$	
0.5	8.9	1.8	1.9	
1.0	22	2.8	2.3	
4.0	67	5.5	3.5	
4.0°	49	1.8	1.8	

<sup>a</sup> [IBVE]<sub>0</sub> = 4.0 mol L<sup>-1</sup>, [VAc]<sub>0</sub> = 0.5 mol L<sup>-1</sup>, [LiNTf<sub>2</sub>]<sub>0</sub> = 0.1 mol L<sup>-1</sup>.

<sup>b</sup> Determined by SEC (polystyrene standards).

 $[IBVE]_0 = 1.5 \text{ mol } L^{-1}.$ 



**Fig. S1** Relationship between the polymerization time and concentration of TEMPO during the polymerization of IBVE.