Supporting Information for

Ligand-free iron-based electrochemically mediated atom transfer radical polymerization of methyl methacrylate

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Polymerization Data:

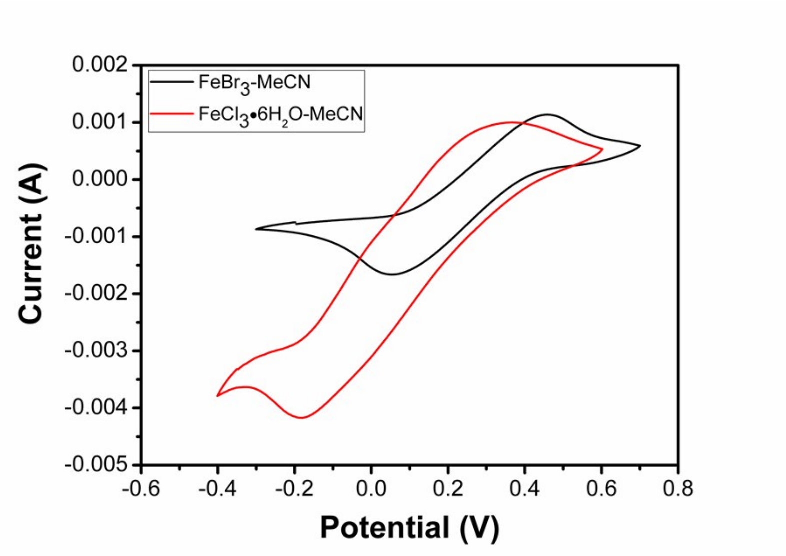

Figure S1. CV of 10mM $FeCl_3•6H_2O$ (red) and $FeBr_3$ (black) in MeCN containing 0.1 M Et_4NBF_4 recorded at a scan rate (v) of 50 mV/s.

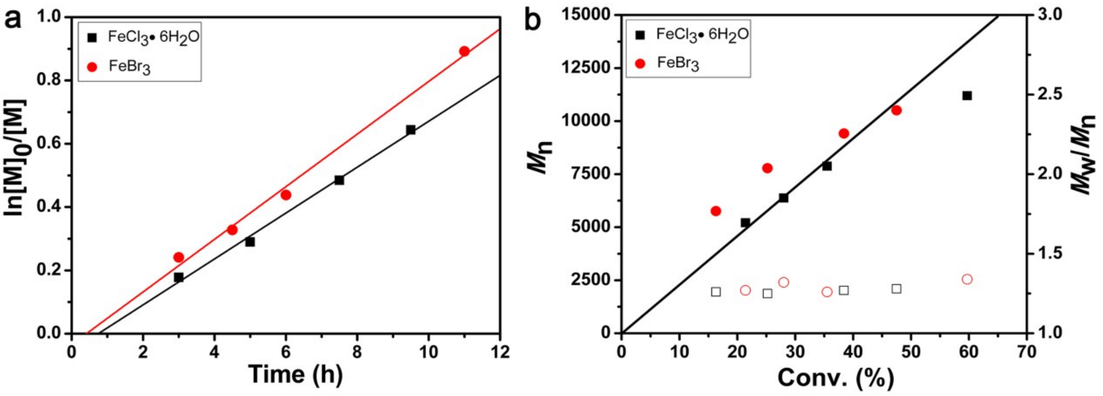

Figure S2. Effect of different types of catalyst on seATRP: (a) First-order kinetic plots of ln([M]$_0$/[M]) versus time; (b) plots of M_n (filled symbols) and M_w/M_n (open symbols) values versus conversion. Reaction conditions: [MMA]$_0$/[EBPA]$_0$/[catalysts]$_0$ = 200:1:1, [MMA]$_0$/[MeCN]$_0$ = 3:1 (v/v), 0.1 M Et_4NBF_4, T = 95^{o}C, E_{app} = -0.59V.

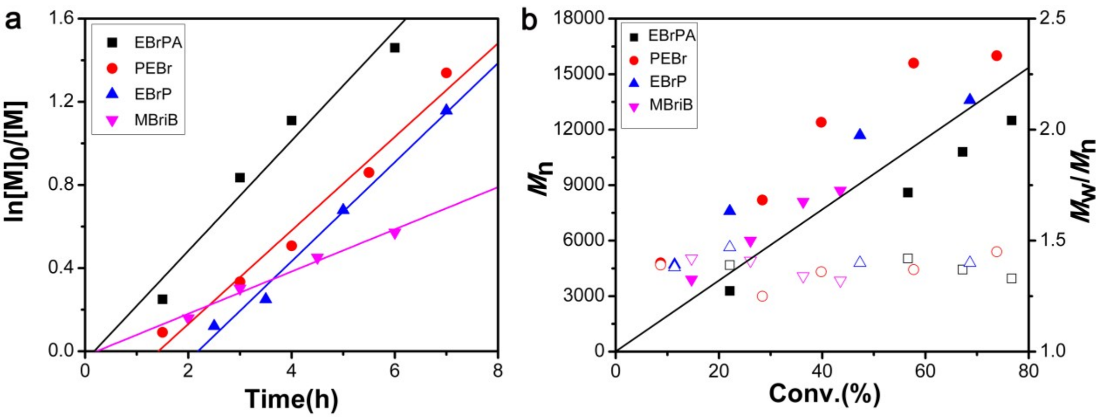

Figure S3. Kinetic of iron-catalyzed seATRP using different types of initiators: First-order kinetic plots of ln([M]$_0$/[M]) versus time; (B) plots of M_n (filled symbols) and M_w/M_n (open symbols) values versus conversion. Reaction conditions: [MMA]$_0$/[initiator]$_0$/[$FeCl_3$•$6H_2O$]$_0$ = 200:1:1, [MMA]$_0$/[NMP]$_0$ = 3:1 (v/v), 0.1 M Et_4NBF_4, T = 95^{o}C.

Table S1. Iron-mediated seATRP of MMA exposed in air.

Entry	Time (h)	Conv. (%)	$M_{n,th}$ (g/mol)	$M_{n,GPC}$ (g/mol)	M_w/M_n
1	2.5	10.2	2290	2190	1.22
2	4.0	17.9	3830	4800	1.48
3	6.0	45.2	9300	11600	1.39
4	9.0	75.6	15380	15400	1.30