

Amide group-containing polar solvents as ligands for iron-catalyzed atom transfer radical polymerization of methyl methacrylate

Jun Zhou,^a Jirong Wang,^a Jianyu Han,^a Dan He,^b Danfeng Yang,^a Zhigang Xue,^{*a} Yonggui Liao^a and Xiaolin Xie^{*a}

^a Key Laboratory for Large-Format Battery Materials and Systems, Ministry of Education, School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology, Wuhan 430074, China. Fax: +86 27 87543632; Tel: +86 27 87793241; E-mail: zgxue@mail.hust.edu.cn; xlxie@mail.hust.edu.cn

^b Key Laboratory of Optoelectronic Chemical Materials and Devices of Ministry of Education, School of Chemical and Environmental Engineering, Jiangnan University, Wuhan 430056, China.

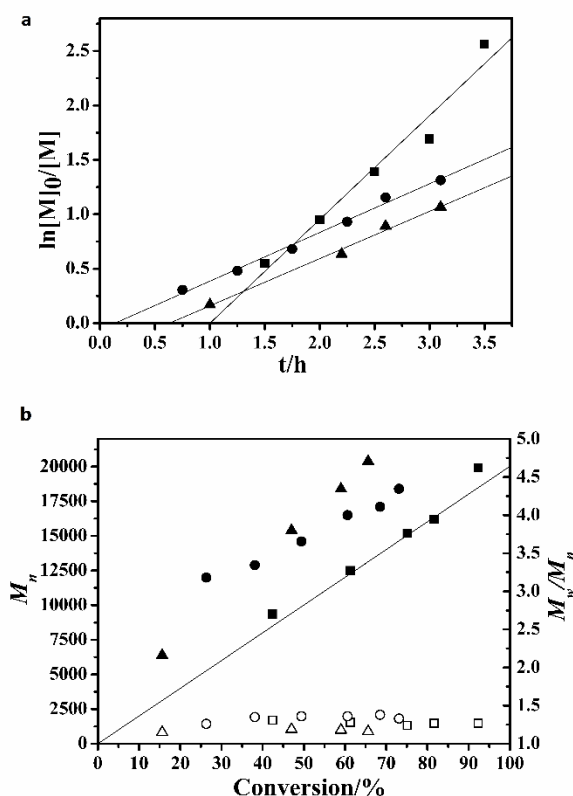


Fig. S1 (a) Kinetic plots of $\ln([M]_0/[M])$ verses time and (b) plots of M_n (filled symbols) and M_w/M_n (open symbols) values verses conversion for FeBr_2 -catalyzed ATRP of MMA using different polar solvents as ligands. $[\text{MMA}]_0/[\text{EBPA}]_0/[\text{FeBr}_2]_0/[\text{Na}_2\text{CO}_3]_0 = 200:1:1:2$, $[\text{MMA}]_0/[\text{solvent}]_0=2:1(\text{v/v})$, 60°C . ■ = DMAc; ▲ = TMU; ● = 2-Py.

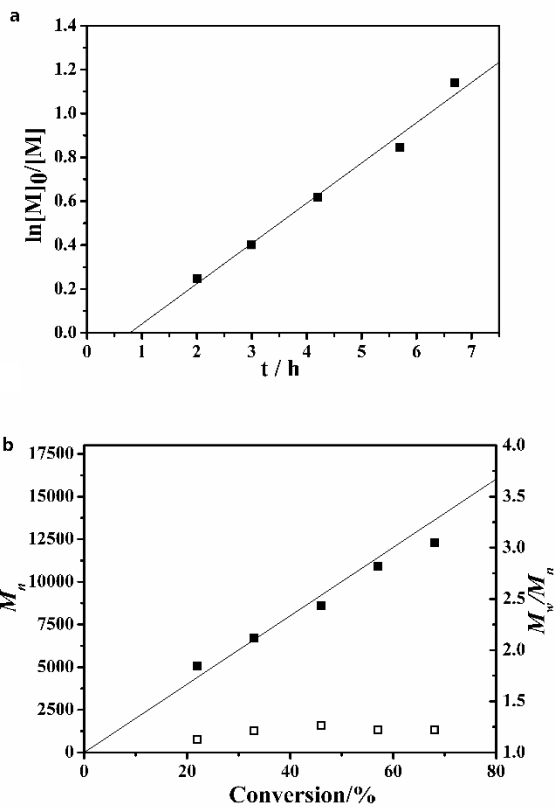


Fig. S2 (a) Kinetic plots of $\ln([M]_0/[M])$ versus time and (b) plots of M_n (filled symbols) and M_w/M_n (open symbols) values versus conversion for FeBr_2/NMP -catalyzed ATRP of MMA. $[\text{MMA}]_0/[\text{EBPA}]_0/[\text{FeBr}_2]_0/[\text{NMP}]_0/[\text{Na}_2\text{CO}_3]_0 = 200:1:1:20:2$, $60\text{ }^\circ\text{C}$.