

*Electronic Supplementary Information*

## **Well-Controlled and Stable Emulsion ATRP of MMA with Low Surfactant Concentration Using Surfactant-Ligand Design as Copper Capture Agent**

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# NMR data for capture agent (CA)

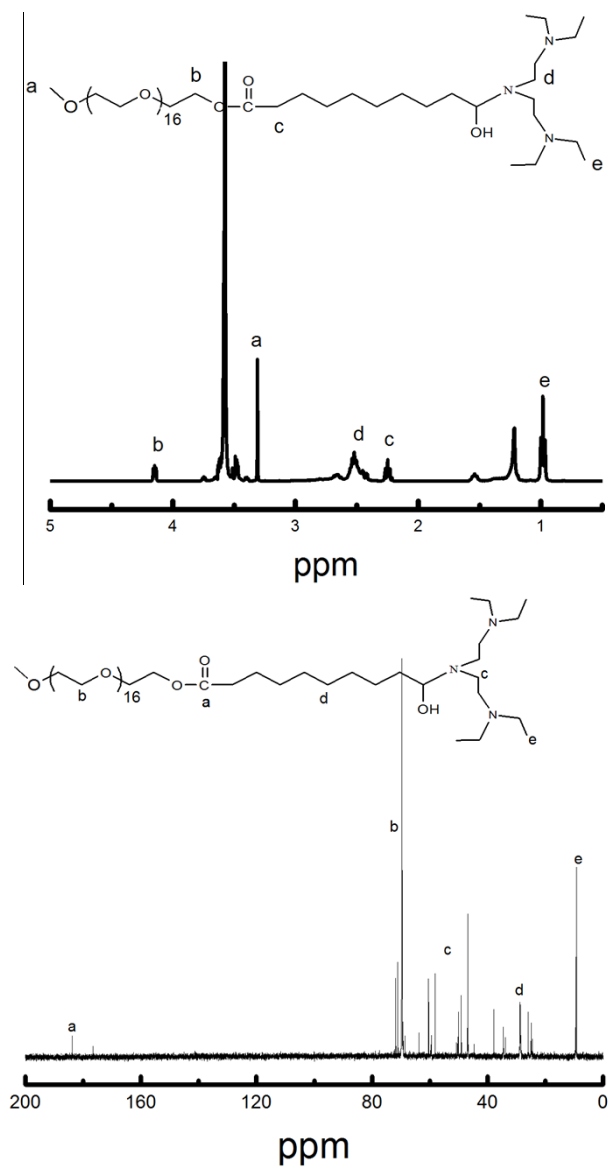


Figure S1 NMR data for synthesis of capture agent (CA)

## The Determination of CA Concentration in Aqueous Phase

After the aqueous phase was separated from the latex, the separated sample was dried in vacuum. Using 0.1 ml  $\text{CDCl}_3$  as the solvent, 0.015 g Styrene as an internal standard,  $^1\text{H}$  NMR was used to determine the amount of CA in the water. Figure S2 shows the result.

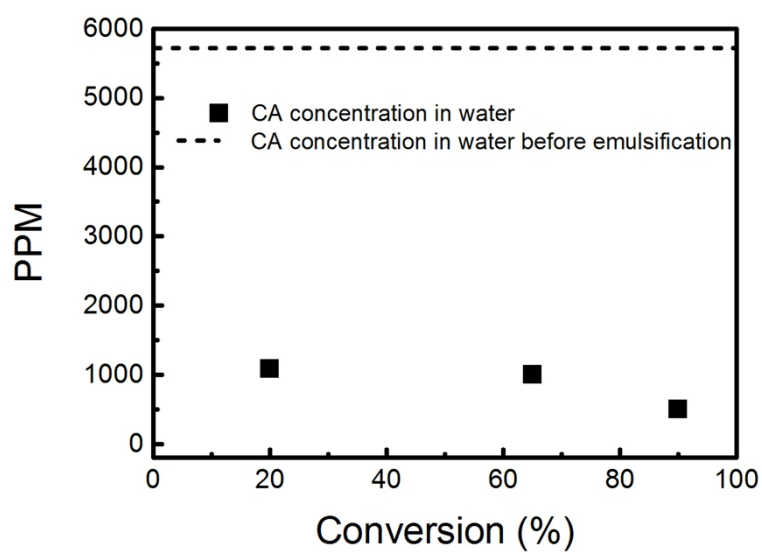


Figure S2 Change of CA concentration in the water with increasing conversion.

Experimental conditions are listed in Run 2, Table 1

Determination of Cu<sup>II</sup> concentration in the aqueous phase (Cu catalyst leak)

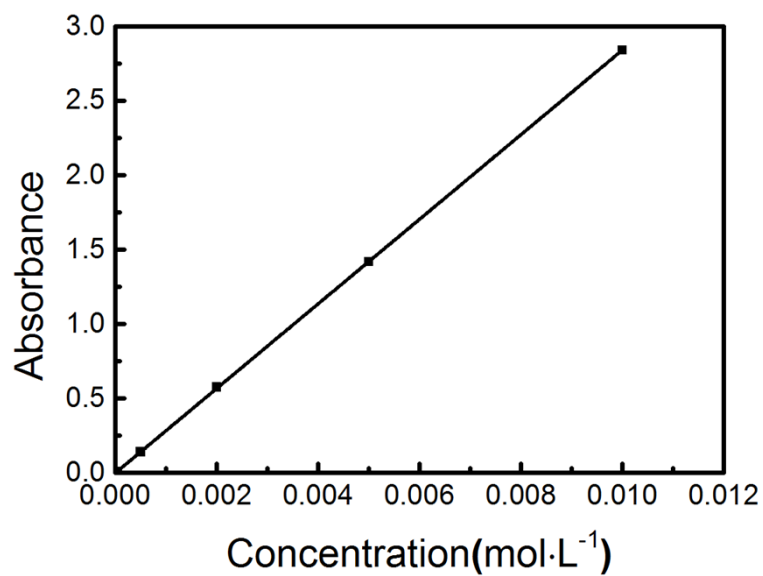


Figure S3 the UV-Vis standard curve for CuCl<sub>2</sub>/Me<sub>6</sub>TREN at the wavelength 800 nm

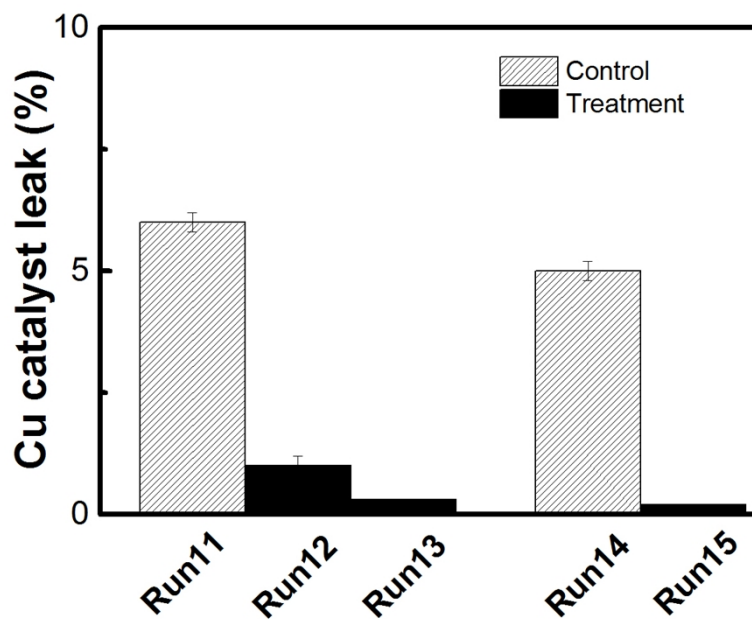


Figure S4 Cu catalyst leak test for Runs 11-15