Supporting information

Photo-controlled RAFT polymerization mediated by organic/inorganic hybrid photoredox catalysts: enhanced catalytic efficiency
Scheme S1. Synthesis of zinc porphyrin (ZnTPP) and zinc porphyrin-POSS (ZnTPP-POSS).

Figure S1. $^1$H NMR spectrum of alkynyl ZnTPP in CDCl$_3$. 
Figure S2. $^1$H NMR spectrum of POSS-N$_3$ in CDCl$_3$.

Figure S3. $^1$H NMR spectrum of ZnTPP-POSS in CDCl$_3$. 
**Figure S4.** Wavelength distribution of LED light source with $\lambda_{\text{max}} = 515$ nm.

**Figure S5.** Absorption spectra of CDB, ZnTPP, ZnTPP-POSS, a mixture of ZnTPP / CDB and a mixture of ZnTPP-POSS / CDB. This UV curve is a partially enlarged view of Figure 1A.
Figure S6. Molar extinction spectrum of ZnTPP and ZnTPP-POSS with a concentration of 19.65 µM.

Figure S7. (A) Photographs of different reaction times of the polymerization system. (B) UV-Vis spectra for solution in different polymeric times.
**Figure S8.** The GPC trace for PDMAEA and PGMA using ZnTPP-POSS as photocatalyst in DMSO under green light, [Monomer]/[CDB]/[ZnTPP-POSS] = 200: 1: 0.01 for 50h.

**Figure S9.** Polymerization kinetics. Results of polymerization of MMA in DMSO utilizing ZnTPP-POSS as the photo-redox catalyst, [MMA]/[CDB]/[ZnTPP-POSS] = 200: 1: 0.01.
Figure S10. $^1$H NMR spectrum of PMMA in CDCl$_3$.

Figure S11. $^1$H NMR spectrum of PMMA-$b$-PMMA-$b$-PGMA in CDCl$_3$. 