Electronic Supplementary Information

Synthesis of DOPE-bPEI

DOPE-bPEI was synthesized by amidation reaction of DOPE-COOH and bPEI. In brief, 0.43 g of DOPE-COOH (0.5 mmol), 0.26 g of DCC (1.25 mmol, 2.5 eq.) and 0.14 g of NHS (1.25 mmol, 2.5 eq.) were charged into a 50 mL flask and dissolved in 20 mL of anhydrous chloroform under argon. After the above mixture solution was stirred for 1 h at room temperature, 1.8 g of bPEI (1.0 mmol, 2 eq.) dissolved in 10 mL of anhydrous chloroform was added and then the reaction was stirred for another 48 h. Subsequently, the generated insoluble DCC was removed by filtration, and the filtrate was concentrated and dropped into 100 mL of deionized water under sonication. After chloroform was removed by vacuum-rotary evaporation, the mixture solution was dialyzed (M.W.: 14 kDa) against deionized water for 3 days to remove excessive PEI and finally freeze-dried to get DOPE-bPEI. The chemical structure of the polymer was verified by ^{1}H NMR and FTIR measurements.

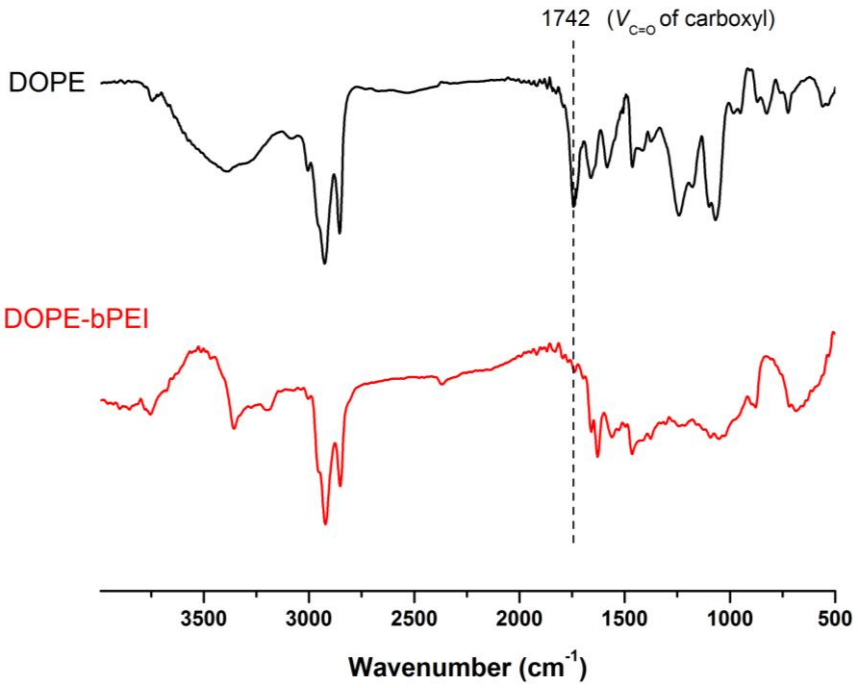

Figure S1. FTIR spectra of DOPE and DOPE-bPEI.