Supporting Information

Figure S1. $^{13}$C NMR spectrum of PE-OH in 1,2-dichlorobenzene-$d_4$ at 120 °C.

Figure S2. GPC traces of A PE-$b$-PNIPAM$_{41}$, B PE-$b$-PNIPAM$_{87}$ and C PE-$b$-PNIPAM$_{25}$-$b$-P2VP$_{51}$ before and after aminolysis reactions.
Figure S3. Topographic AFM images and a section analysis of the formed micelles of PE-$b$-PNIPAM$_{87}$ after heating and cooling cycles from 20 °C to 150 °C.