

## Supporting Information

### Amphiphilic non-viral gene vector prepared by combination of enzymatic Atom Transfer Radical Polymerization and enzymatic Ring-Opening Polymerization

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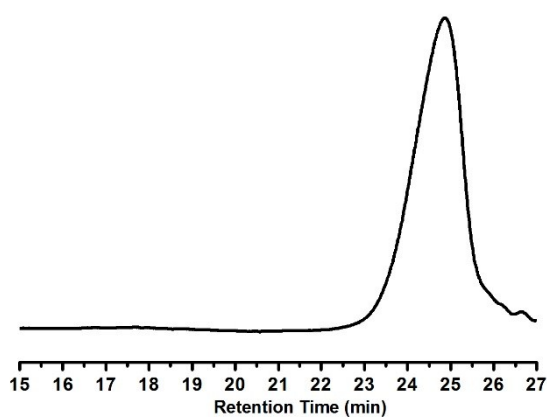
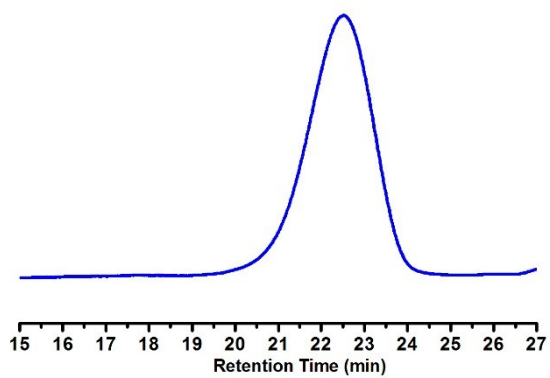
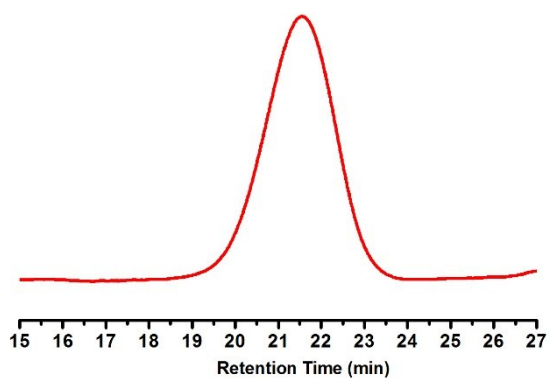


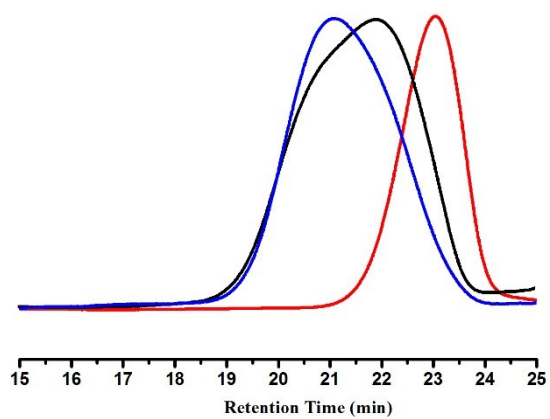
Fig. S1. GPC trace of PCL-Br obtained by Novozym 435 catalyzed.



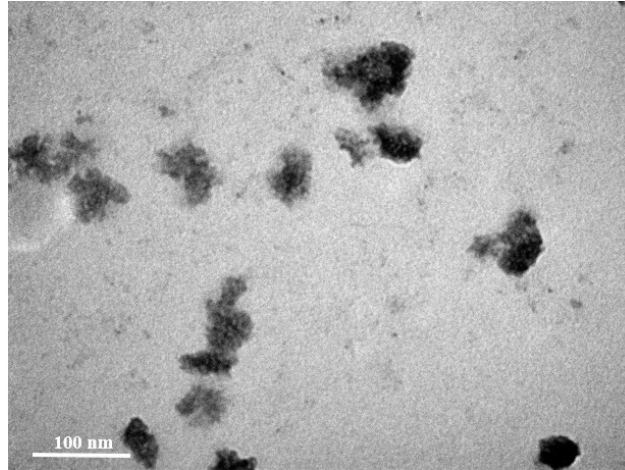
**Fig. S2.** GPC trace of PCL-b-PGEA<sub>60</sub> obtained by DhHP-6 catalyzed.



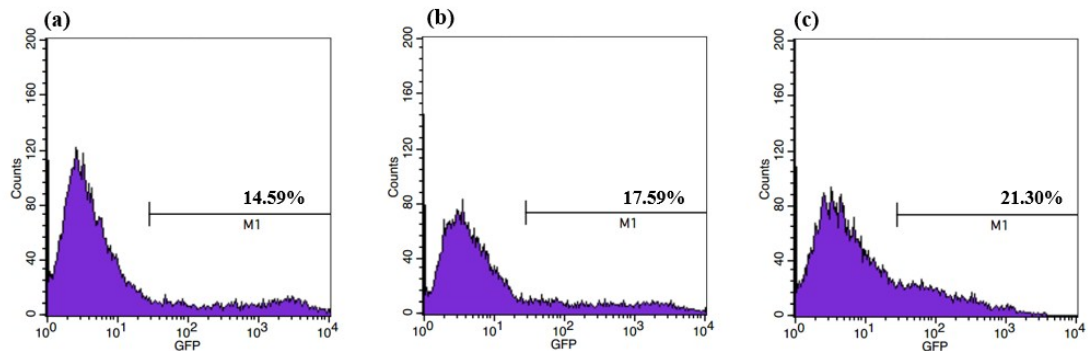
**Fig. S3.** GPC trace of PCL-b-PGEA<sub>142</sub> obtained by DhHP-6 catalyzed.



**Fig. S4.** GPC traces of DhHP-6 catalyzed polymerization of GMA initiated by PCL-Br under AGET ATRP.



**Fig. S5.** TEM image of PCL-b-PGEA<sub>142</sub> at w/w=10.



**Fig. S6.** Flow cytometry analysis plot of (a) PCL-b-PGEA<sub>60</sub> (b) PCL-b-PGEA<sub>142</sub> (c) PEI 25kDa