Supplementary Material: Molecular Differentiated Initiator Reactivity in the Synthesis of Poly(caprolactone)-Based Hydrophobic Homopolymer and Amphiphilic Core Corona Star Polymers

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Pentaerythritol

Four-arm Star PCL

Scheme S1. Synthesis of four-arm star PCL using CH and MWH with pentaerythritol (PTOL) and Sn(Oct)₂ as initiator/catalyst system.



Figure S1. GPC traces of 3-arm star PCL (DP = 90 and DP = 21) initiated by TMP.



Figure S2. GPC traces of 4-arm star PCL (DP = 88 and DP = 20) initiated by pentaerythritol (PTOL).



Figure S3. Comparison of the kinetics of the ROP initiated with PTOL, conducted in a round bottom flask using CH () and MWH () (150 °C, DP (**a**) 88 and (**b**) 20).



Four-arm Star PCL

Scheme S2. Synthesis of four-arm star PCL using CH and MWH with PTOLE and Sn(Oct)₂ as initiator/catalyst system.



Figure S4. Comparison of G (left) and GE (right) initiated ROP the kinetics using CH (\square) and MWH (\bullet) (150 °C, DP90).



Figure S5. GPC traces of 3-arm star PCL (DP = 90 and DP = 21) initiated by TMPE.