Supplementary Material

Synthesis of Poly(2-methyl-2-oxazoline) Star Polymers with a β-cyclodextrin Core

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Figure S1: \textsuperscript{13}C NMR of the star PMeOxz (before dialysis) in D$_2$O.
Figure S2: $^{13}$C NMR of heptakis(6-deoxy-6-amino)$\beta$-CD in D$_2$O

Figure S3: HMQC NMR spectrum of the I-OAc-$\beta$-CD in DMSO-d$_6$
Figure S4: Time-[M] curve of the MeOxz polymerization initiated by I-OAc-β-CD at 80°C in acetonitrile; [MeOxz]=3.28 mol/L, [I-OAc-β-CD]=9.20×10^{-3} mol/L.

Figure S5: Time-[CH_2I] curve of the MeOxz polymerization initiated by I-OAc-β-CD at 80°C in acetonitrile; [MeOxz]=3.28 mol/L, [I-OAc-β-CD]=9.20×10^{-3} mol/L.
Figure S6: $^1$H NMR of a cryodistillate in CDCl$_3$; polymerization initiated by RI in acetonitrile at 80°C: [MeOxz]=3.28 mol/L, [RI]= 6.44 ×10^{-2} mol/L.

Figure S7: SEC chromatogram of the S2 star polymer
Figure S8. Variation of $\eta_{sp}/c$ as a function of polymer concentration for a) linear and b) star PMeOxz in chloroform at 25°C.
Figure S9: $^1$H NMR of heptakis(6-deoxy-6-azido)$\beta$-CD in DMSO-d6

Figure S10: $^{13}$C NMR of heptakis(6-deoxy-6-azido)$\beta$-CD in DMSO-d6
Figure S11: $^1$H NMR of heptakis(6-deoxy-6-iodo)$\beta$-CD in DMSO-d6

Figure S12: $^{13}$C NMR of heptakis(6-deoxy-6-iodo)$\beta$-CD in DMSO-d6
<table>
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<tr>
<th>Sample</th>
<th>$M_n$ (g/mol)</th>
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Size exclusion chromatography was performed in chloroform on a PL-EMD 950 Evaporative Mass Detector instrument (column PLgel 5µm). Calibration was done using polystyrene (PS) with molecular weights 3150000-580 Da, as standards.

Table S1: Molar mass and polydispersity index of the star polymers determined by size exclusion chromatography