Supporting Information

Degradable, dendritic polyols on a branched polyphosphazene backbone

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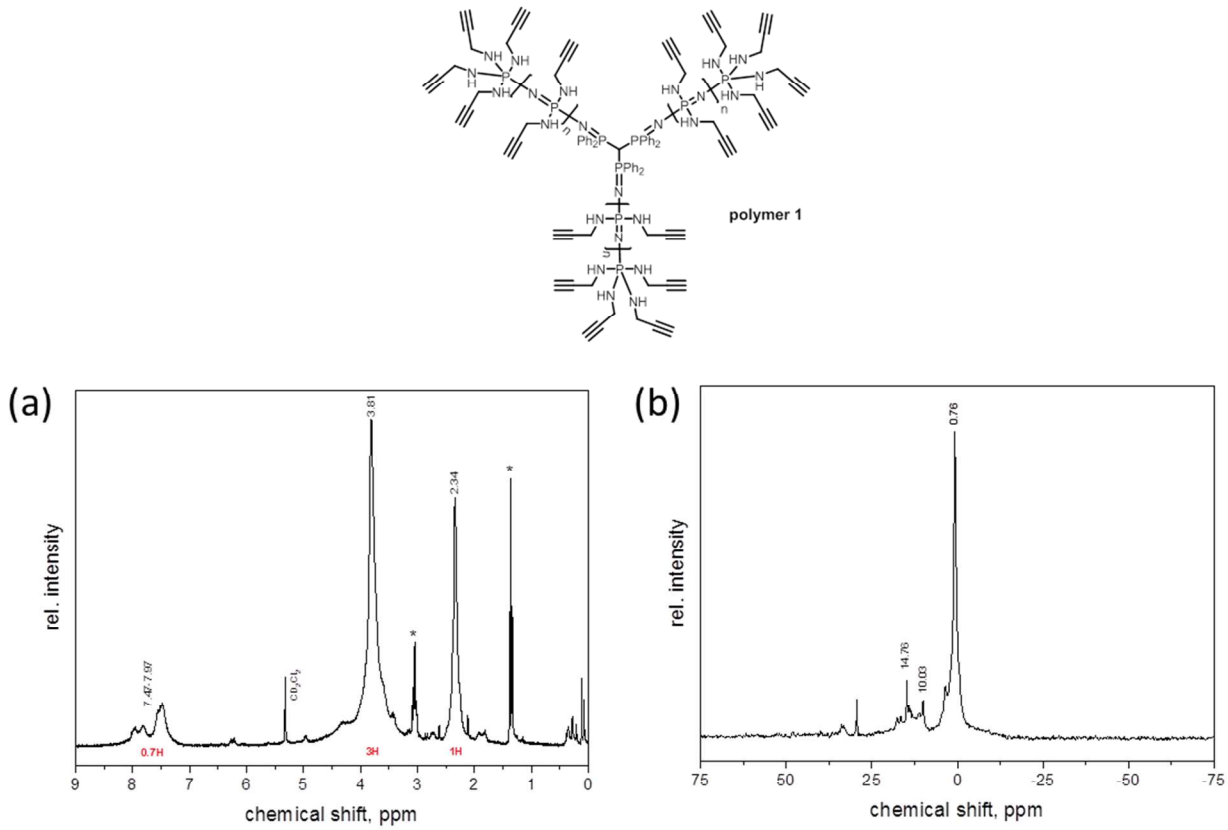

Figure S 1: a) ^{1}H NMR spectrum of propargyl functionalized polyphosphazene polymer **1**, ^{31}P{^{1}H} NMR spectrum of polymer **1**

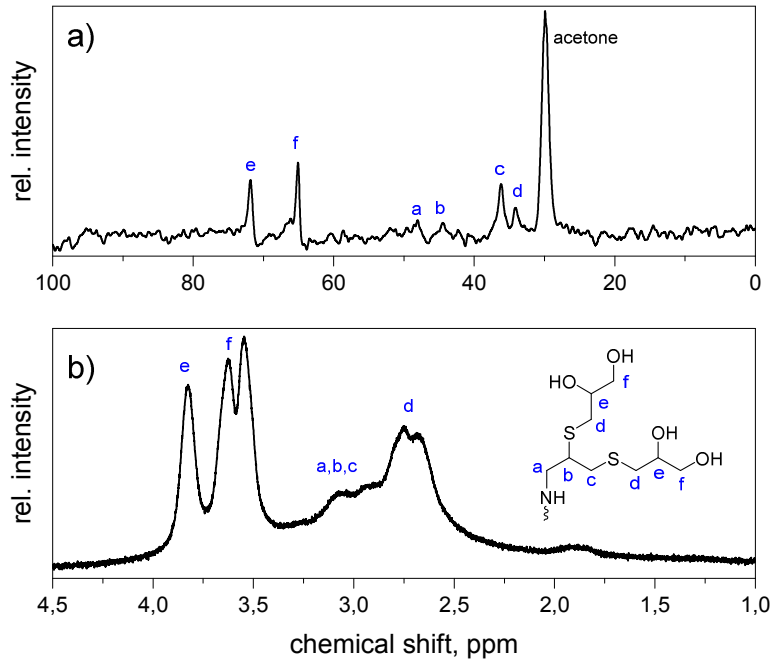

Figure S 2: ^{13}C-NMR (a) and ^{1}H-NMR (b) spectroscopy of polymer **4** in D_2O confirming the reaction of polymer 3 with 1-thioglycerol to produce polymer **4**.

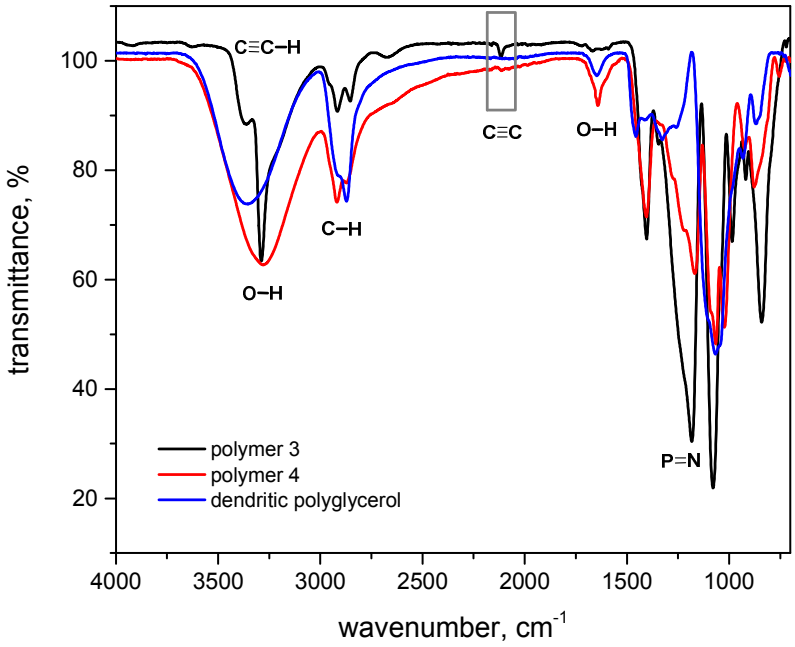

Figure S 3: FTIR spectroscopy of polymers **3**, **4** and dendritic polyglycerol confirming the reaction of polymer 3 with 1-thioglycerol to produce polymer **4**.

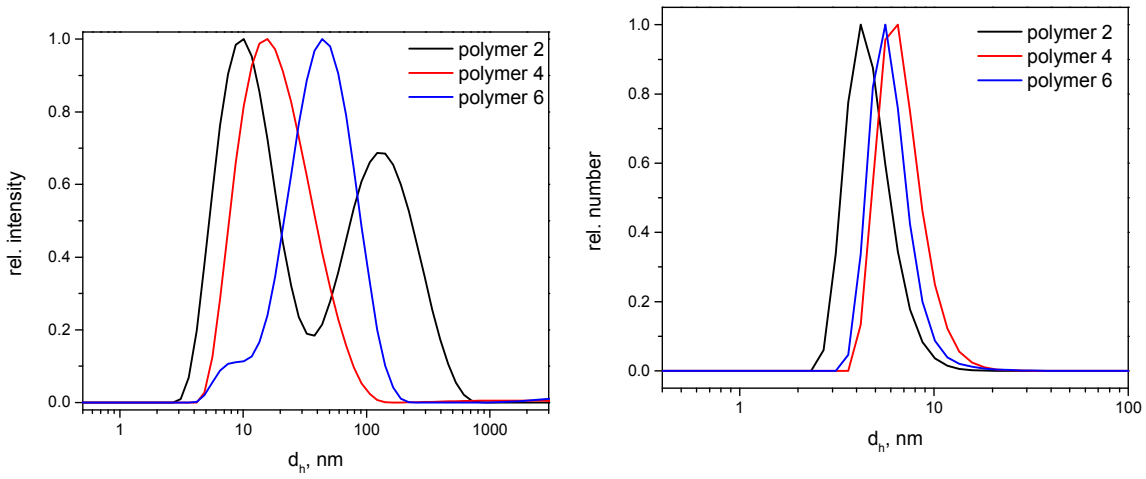

Figure S 4: Molecular size distribution by intensity (left) and number (right) and as detected by dynamic light scattering for polymers **2, 4, 6** and dendritic polyglycerol (dPG, 10 kDa) in acetate buffer at pH 5 (polymer concentration 0.7 mg/mL, d_h— hydrodynamic diameter). Measured PDi values were 0.6, 0.2 and 0.4 respectively.

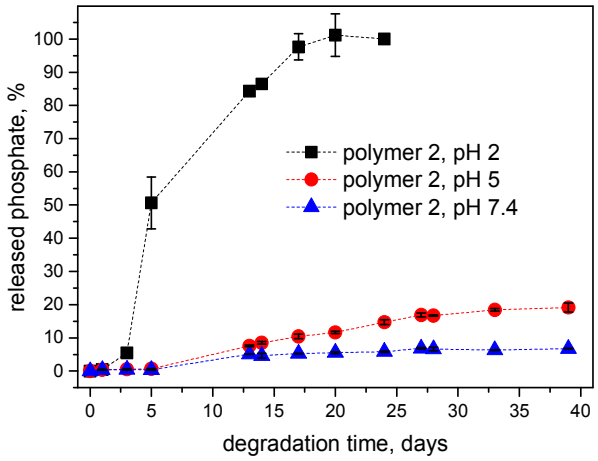

Figure S 5: Phosphate determination of polymer **2** quantitatively determined by UV–Vis analysis (molybdate assay) to show the degradation profile of the polymer in aqueous conditions at pH 2 (■), 5 (●) and 7.4 (▲) at 37 °C.

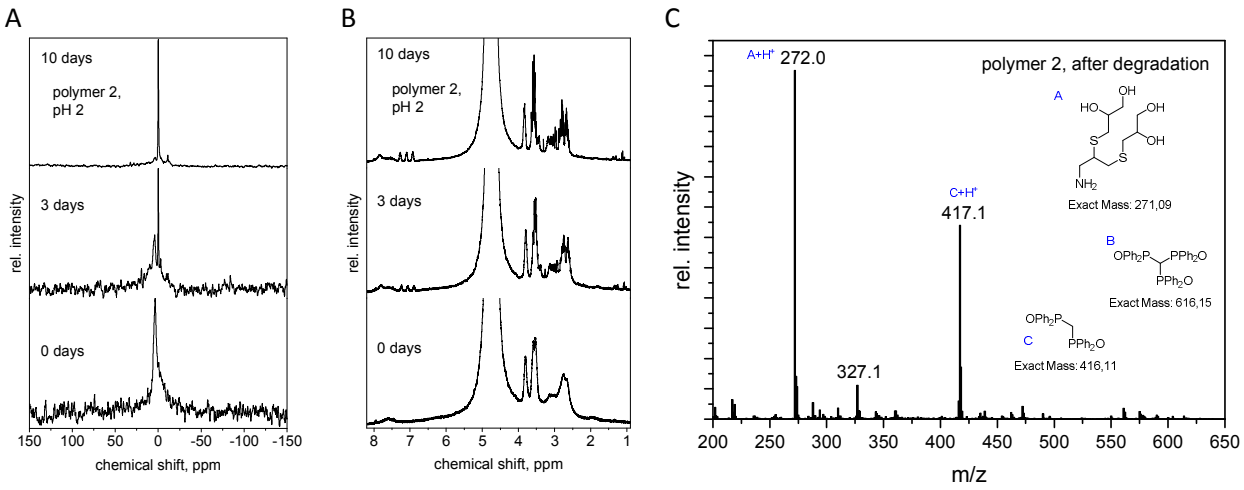

Figure S 6: Degradation of polymer **2** followed with ^{31}P-NMR (A) ^{1}H-NMR (B) and ESI-MS of the degradation products (C).

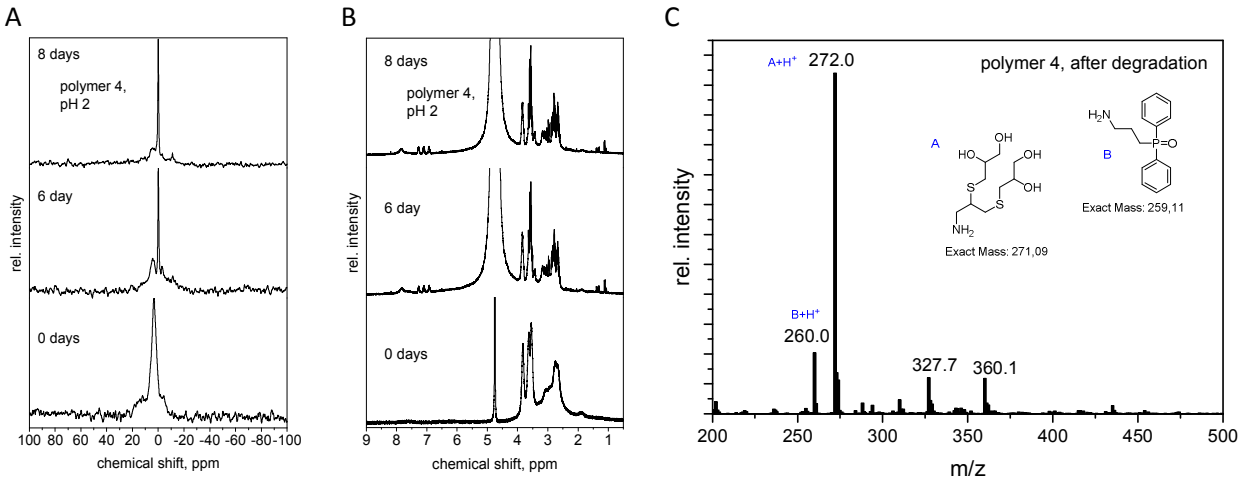

Figure S 7: Degradation of polymer **4** followed with ^{31}P-NMR (A) ^{1}H-NMR (B) and ESI-MS of the degradation products (C).