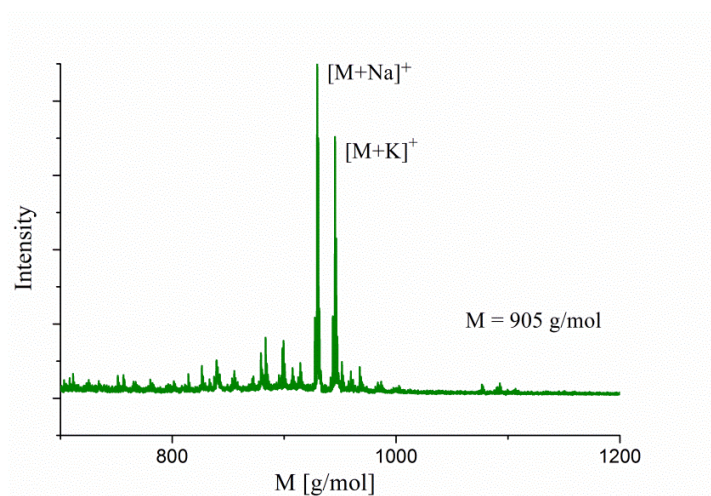


## Supporting Information

for the article

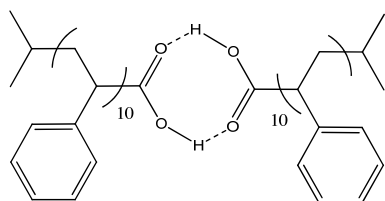
### Enzyme cleavable nanoparticles from peptide based triblock copolymers

Adrian V. Fuchs, Niklas Kotman, Julien Andrieu, Volker Mailänder, Clemens K. Weiss\*, Katharina Landfester



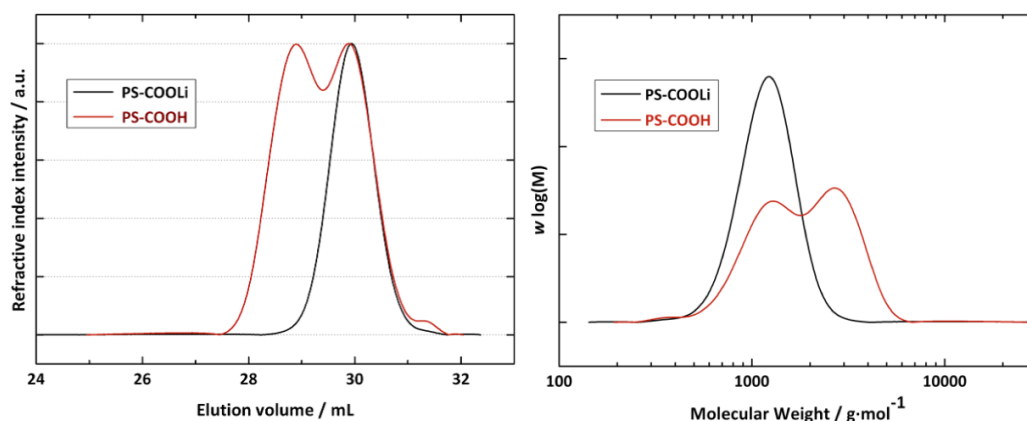
**Figure SI 1: MALDI-TOF spectrum of the peptide: (GFF)<sub>2</sub>KG.**

The carboxy-functionalized polymer tends to form a dimer in solution as shown in Figure SI 2

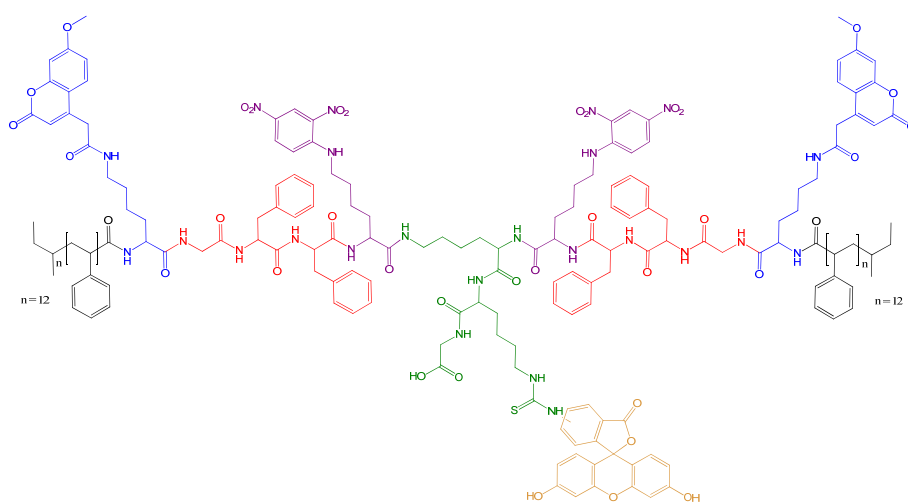


**Figure SI 2: Physical dimer formed by  $\omega$ -carboxy-functionalized polymer in solution.**

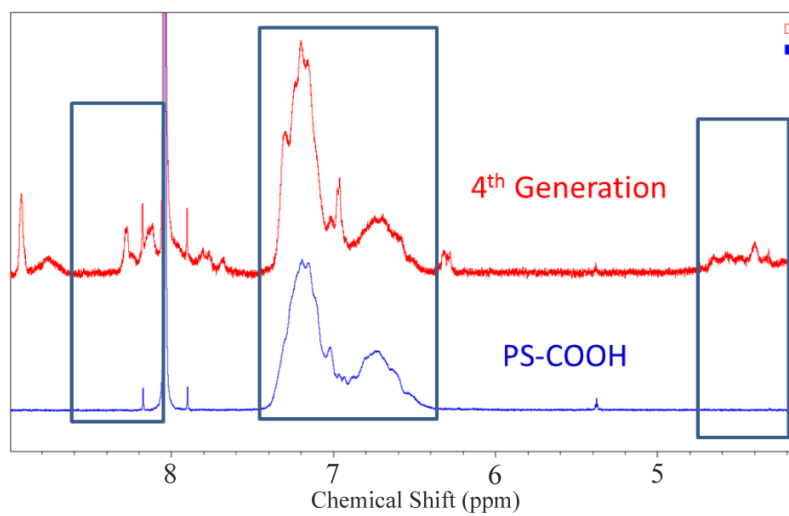
This can be observed in the SEC chromatograms: Figure SI 3 presents an overlay of the SEC chromatograms from PS-COOLi and PS-COOH. One can clearly see a second peak in the chromatogram of PS-COOH. The second peak is due to the formation of the physical dimer, which is confirmed by the analysis of the molecular weight distribution: the mass are approximately doubled in the second peak present in sample PS-COOH.



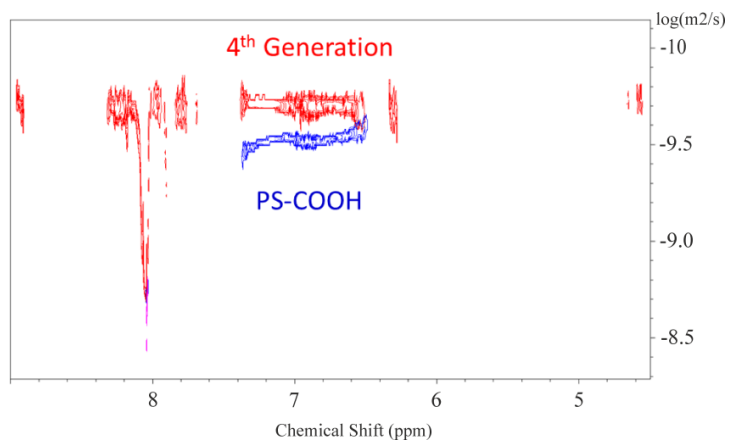
**Figure SI 3: Formation of physical “polymer-dimer” through comparison of SEC elugrams (left) and molecular weight distribution (right) of the end-product (PS-COOH) with an intermediary product (PS-COOLi,  $M_w=1250 \text{ g}\cdot\text{mol}^{-1}$ ) of the same size.**



**Figure SI 4: The chemical structure of the 4th generation peptide-polymer conjugate showing the PS (black), fluorophore (blue), GFF peptide sequence (red), quencher (purple) and linker (green) with attached dye (orange).**



**Figure SI 5:**  $^1\text{H}$  NMR spectra of the 4<sup>th</sup> generation peptide polymer conjugate compared to the PS-COOH.



**Figure SI 6:** DOSY-NMR spectra of the 4<sup>th</sup> generation peptide polymer conjugate compared to the PS-COOH.