

Electronic Supporting Information for

## pH-triggered self-assembly of biocompatible triblock copolymer hydrogels

Pontus Lundberg<sup>a</sup>, Nathaniel A. Lynd<sup>a</sup>, Yuning Zhang<sup>b</sup>, Xianghui Zeng<sup>b</sup>, Daniel V. Krogstad<sup>a</sup>, Tim Paffen<sup>a</sup>, Michael Malkoch<sup>c</sup>, Andreas M. Nyström<sup>b</sup> and Craig J.

Hawker<sup>a, d, \*</sup>

<sup>a</sup> Materials Research Laboratory, University of California, Santa Barbara, CA 93106, USA. <sup>b</sup> Department of Neuroscience, Swedish Medical Nanoscience Center, Karolinska Institutet, Retzius väg 8, Stockholm SE-171 77, Sweden. <sup>c</sup> Department of Fibre and Polymer Technology, KTH Royal Institute of Technology, School of Chemical Science and Engineering, Teknikringen 56-58, Stockholm SE-100 44, Sweden. <sup>d</sup> Department of Chemistry and Biochemistry and Department of Materials, University of California, Santa Barbara, CA 93106, USA.

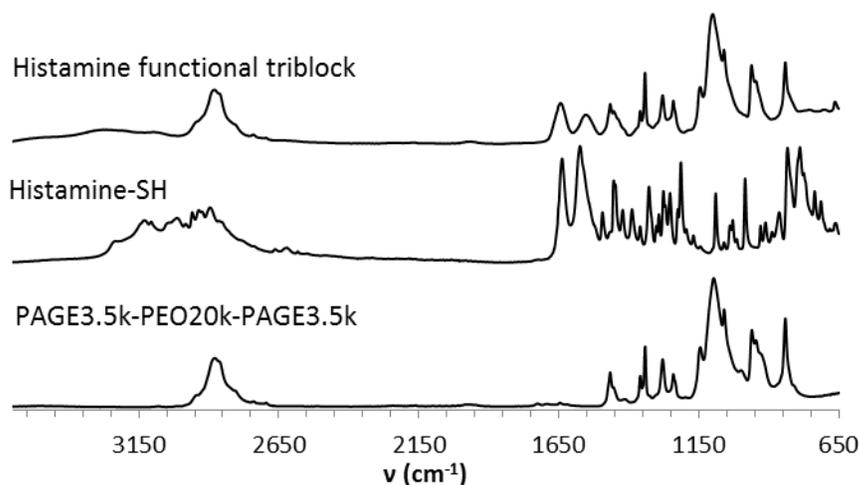


Figure ESII. FT-IR spectra of PAGE3.5k-PEO20k-PAGE3.5k (bottom), Hist-SH (middle), and PHGE-PEO-PHGE (top).

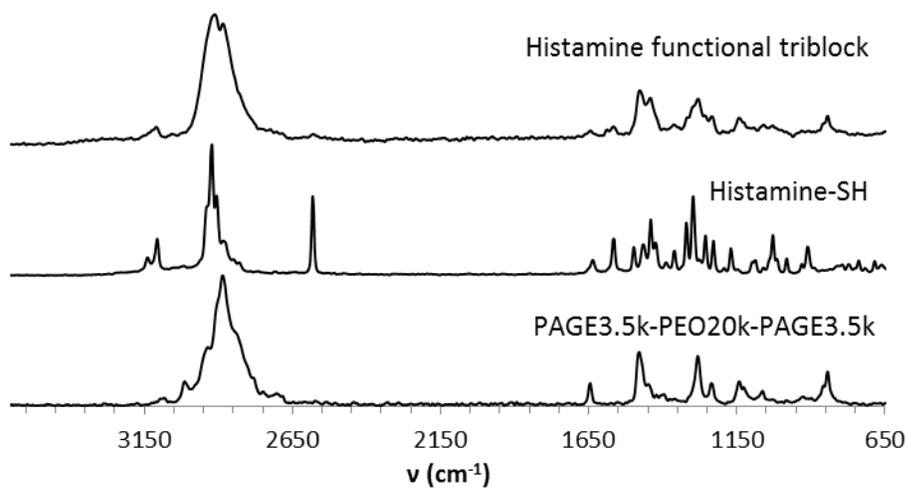


Figure ESI2. FT-Raman spectra of PAGE3.5k-PEO20k-PAGE3.5k (bottom), Hist-SH (middle), and Hage-PEO-Hage (top).

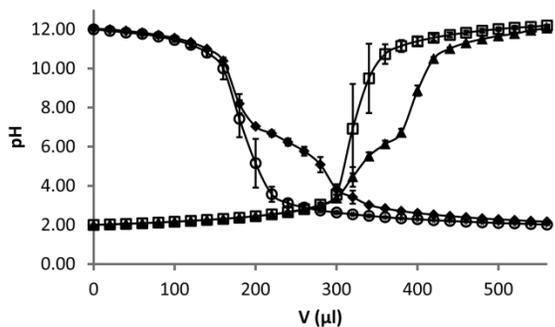


Figure ESI3. Potentiometric titration of solutions of PHist-PEO-PHist (▲) and NaCl (□) with 1M NaOH and of PHist-PEO-PHist (◆) and NaCl (○) with 1M HCl.

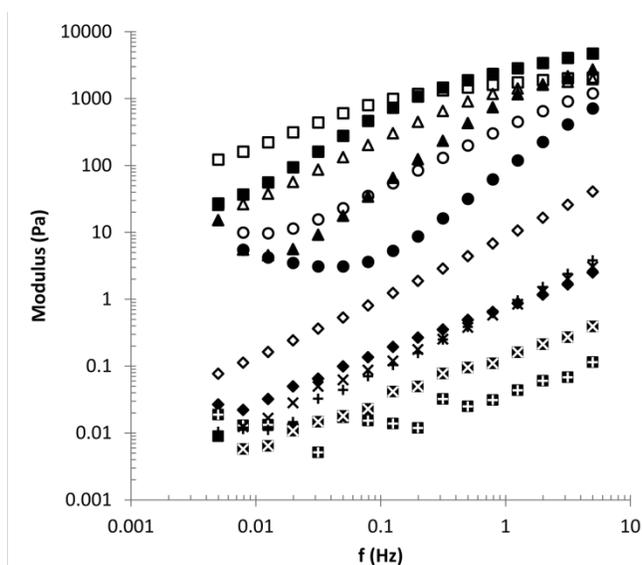


Figure ESI4. Rheological characterization of 10 wt% gels/solutions plotting the modulus as a function of frequency. ■  $G'$  pH 8.0, □  $G''$  pH 8.0, ▲  $G'$  pH 7.4, △  $G''$  pH 7.4, ●  $G'$  pH 7.0, ○  $G''$  pH 7.0, ◆  $G'$  pH 6.6, ◇  $G''$  pH 6.6, ▣  $G'$  pH 5.8, +  $G''$  pH 5.8, ▤  $G'$  pH 5.0, x  $G''$  pH 5.0.

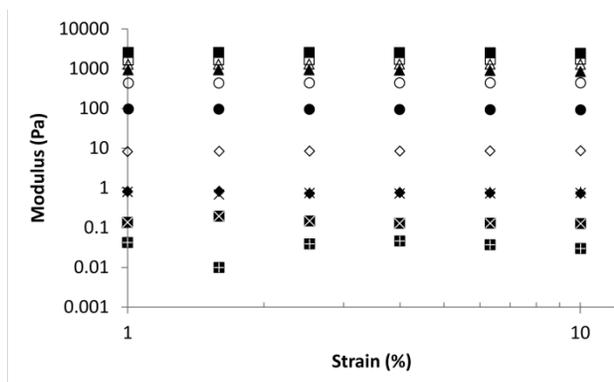


Figure ESI5. Strain sweep at a frequency of 1 Hz. ■  $G'$  pH 8.0, □  $G''$  pH 8.0, ▲  $G'$  pH 7.4, △  $G''$  pH 7.4, ●  $G'$  pH 7.0, ○  $G''$  pH 7.0, ◆  $G'$  pH 6.6, ◇  $G''$  pH 6.6, ▣  $G'$  pH 5.8, +  $G''$  pH 5.8, ▤  $G'$  pH 5.0, x  $G''$  pH 5.0.

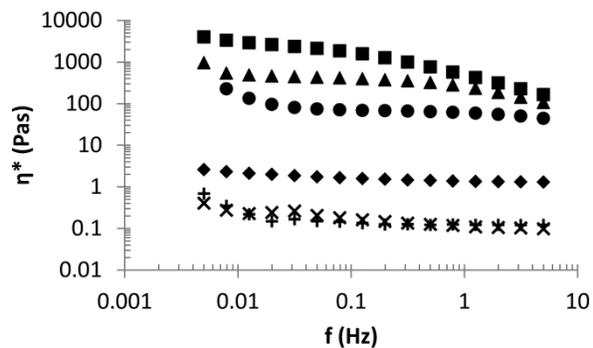


Figure ESI6. Dynamic viscosity of 10 wt% gels/solutions as a function of frequency. ■ pH 8.0, ▲ pH 7.4, ● pH 7.0, ◆ pH 6.6, + pH 5.8, x pH 5.0.

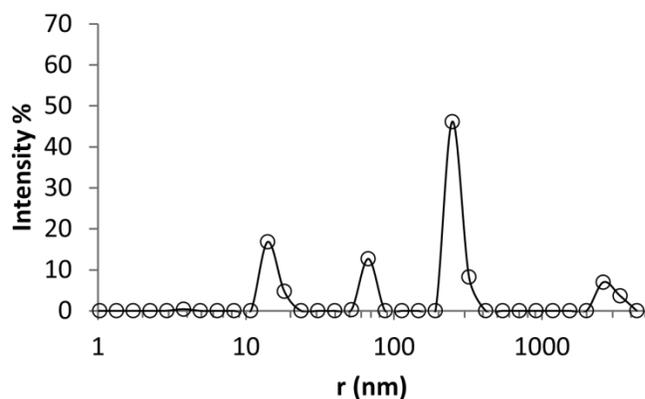


Figure ESI7. DLS of 1 mg/ml solution of **Hage-PEO-Hage** at pH 5.0.

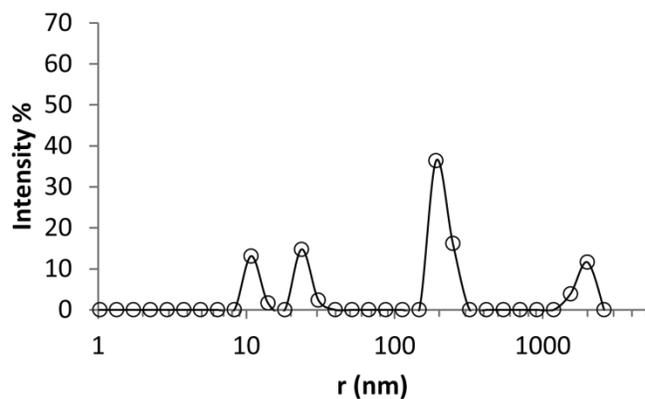


Figure ESI8. DLS of 1 mg/ml solution of **Hage-PEO-Hage** at pH 5.8.

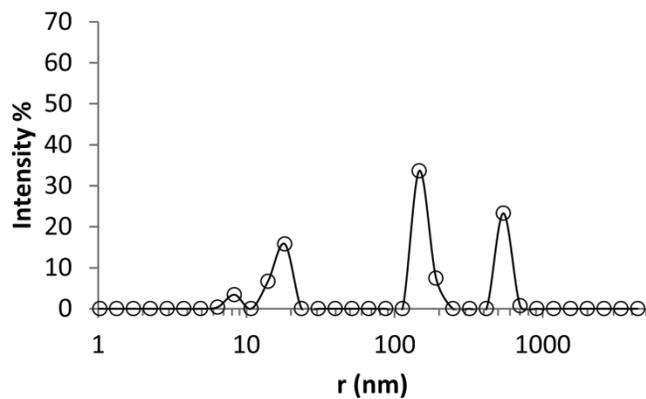


Figure ESI9. DLS of 1 mg/ml solution of **Hage-PEO-Hage** at pH 6.6.

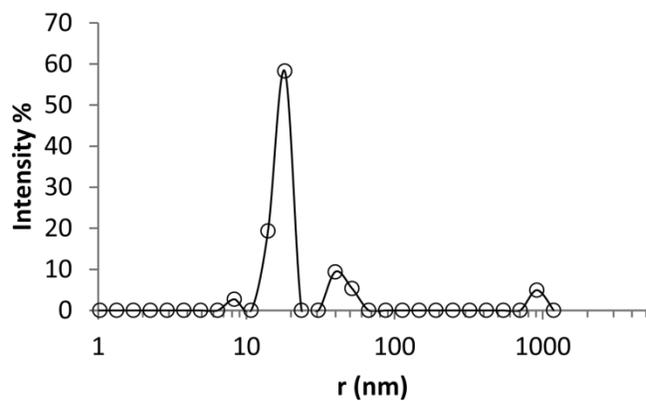


Figure ESI10. DLS of 1 mg/ml solution of **Hage-PEO-Hage** at pH 7.0.

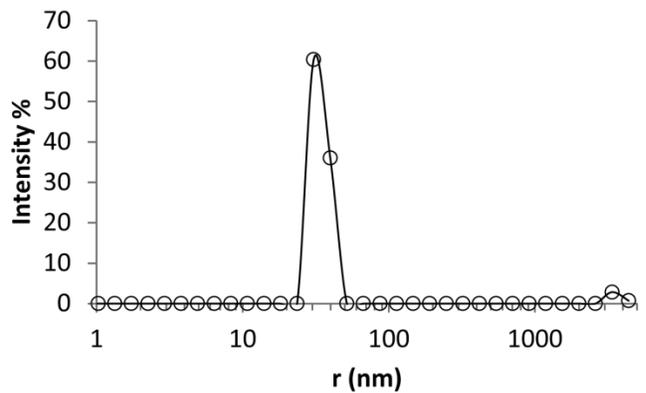


Figure ESI11. DLS of 1 mg/ml solution of **Hage-PEO-Hage** at pH 7.4.

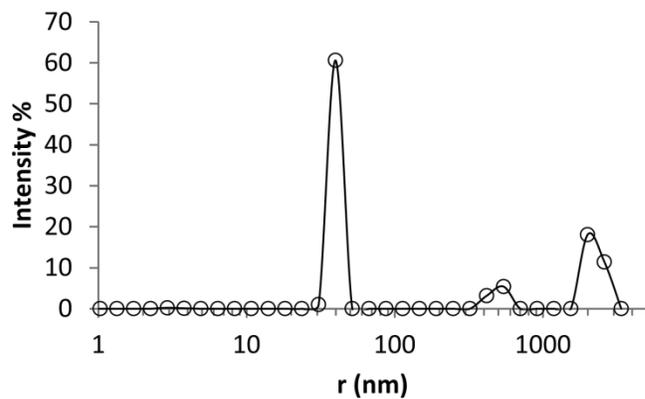


Figure ESI12. DLS of 1 mg/ml solution of **Hage-PEO-Hage** at pH 8.0.

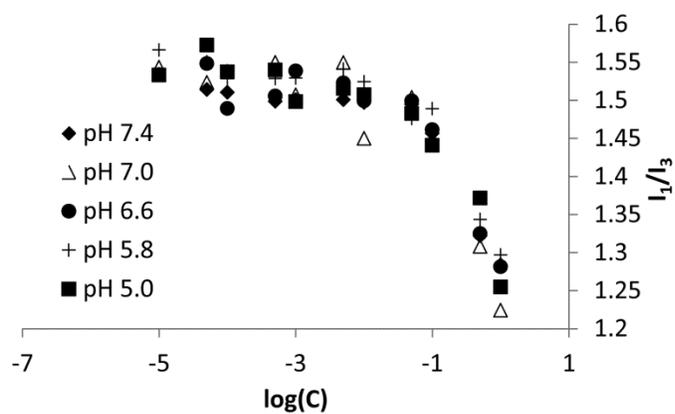


Figure ESI13. CMC determination using the fluorescent probe technique at different pH.