## **Electronic Supporting Information (ESI)**

## Controlling assembly of helical polypeptides via PEGylation strategies

Ayben Top, Sheng Zhong, Congqi Yan, Christopher J. Roberts, Darrin J. Pochan and Kristi L. Kiick



Figure S1. Simplified synthetic route for the conjugates.



 $\log \tau$  (µsec)

Figure S2. Cumulant fit of 100  $\mu$ M PEG5K-c17H6 in pH 2.3 buffer at 20 °C; experimental data points (open circles), cumulant fit (line).



Figure S3.  $\Gamma$  vs. q<sup>2</sup> plot; experimental data points (open circles), linear fit (line), for 100  $\mu$ M PEG5K-c17H6 in pH 2.3 buffer at 20 °C



 $\log \tau$  (µsec)

Figure S4. Cumulant fit of 100  $\mu$ M PEG10K-c17H6 in pH 2.3 buffer at 20 °C; experimental data points (open circles), cumulant fit (line).



Figure S5.  $\Gamma$  vs. q<sup>2</sup> plot; experimental data points (open circles), linear fit (line), for 100  $\mu$ M PEG10K-c17H6 in pH 2.3 buffer at 20 °C



Figure S6. Kratky plots of (a) 17H6 at 39  $^{\circ}$ C, (b) PEG5K-c17H6 at 39  $^{\circ}$ C, and (c) PEG10K-c17H6 at 37  $^{\circ}$ C.



Figure S7. Representation of the exponents in power law for (a) 17H6, (b) PEG5K-c17H6, and (c) PEG10K-c17H6 at 20  $^{\circ}$ C.