**Supporting Information** for

"Alignment of Biological Macromolecules in Novel Liquid Crystalline Media for NMR Experiments"
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**Figure S1**: $^1$H NMR spectra of surfactant/n-alkyl alcohol systems in liquid crystalline state recorded with water presaturation at 4.8 ppm

- **5% C8E5/oct.**
  - $r = 0.87$
  - 22 °C

- **5% C12E5/hex.**
  - $r = 0.85$
  - 27 °C

- **4% glucopone**
  - 0.57% hex.
  - 27 °C
Figure S2: $^{13}$C-HSQC spectra of 4 mM solutions of BPTI in different liquid crystalline media at pH 4.8 and 25 °C recorded at natural isotope abundance. (a) 5% C12E6/hex. $r = 0.64$. Arrows identify resonances from the liquid crystal medium. (b) 4% glucopone / 0.57% hex., spectral regions with resonances from glucopone are identified by dashed lines.
**Figure S3:** Spectral region from a TOCSY spectrum recorded with a 1.2 mM solution of d-(GCATTAATGC)$_6$ in 5% C12E6/hex. $r = 0.64$ at pH 7.0 and 25 °C. 1'H-base proton and 2',2''H-base proton correlations are shown. 70 ms mixing time, MLEV-17 mixing (Griesinger, C.; Otting, G.; Wüthrich, K.; Ernst, R. R. *J. Am. Chem. Soc.* **1988**, *110*, 7870-7872), total recording time 16 h.