

Supporting Information

Self-assembly of hydrophobin and hydrophobin / surfactant mixtures in aqueous solution.

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Figure 1a. SANS data for 5 mg/ml hfb2 / D₂O (black), pH 3 (red), pH 10 (blue)

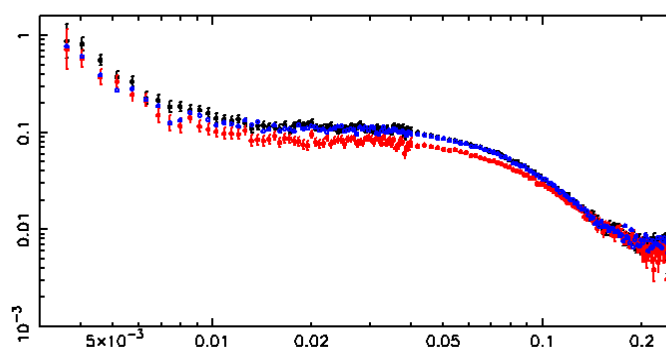
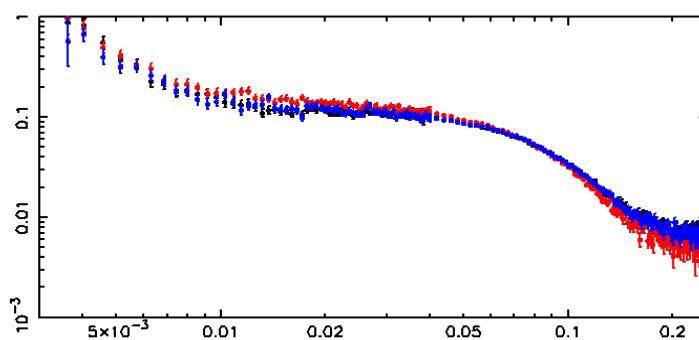


Figure 1b. SANS data for 5 mg/ml hfb2 / D₂O (black), in 0.1 M NaCl (red), and in 0.01 M NaCl (blue).



Preliminary Circular Dichroism, CD, measurements for HFBII and HFBII / surfactant mixtures.

Some preliminary CD measurements were made for HFBII, HFBII / SDS, and HFBII / C₁₂E₆ mixtures using a JASCO J720 spectropolarimeter, in the wavelength range 190 to 250 nm. The samples were measured in 1mm quartz spectrophotometer cuvettes at 25°C.

The data for HFBII at a concentration of 0.25 mg/ml and at pH 3, 7 and 10 are shown in figure 2 and the key parameters are summarised in table 1.

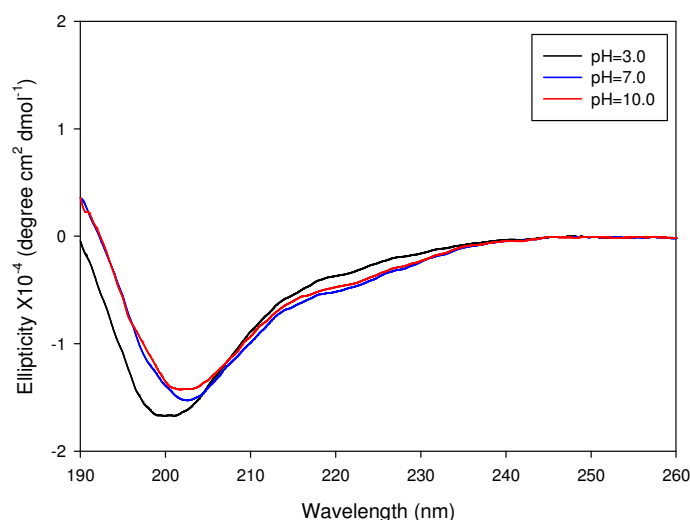


Figure 2. CD data for 0.25 mg/ml HFBII at pH 3, 7 and 10

pH	α helix	β sheet		β -turn	Random Coil
		Antiparallel	Parallel		
3.0	18.5%	16.6%	12.8%	21.3%	30.8%
7.0	21.2%	14.7%	11.4%	20.4%	32.3%
10.0	20.5%	15.1%	12.0%	20.6%	31.8%

Table 1. Analysis of CD data for 0.25 mg/ml HFBII at pH 3, 7 and 10

CD data were also measured for HFBII / SDS and HFBII / C₁₂E₆ mixtures at the same HFBII concentration and for surfactant concentration above and below the surfactant CMC, and are shown in figures 3 and 4. The key parameters from the analysis of the data are listed in tables 2 and 3.

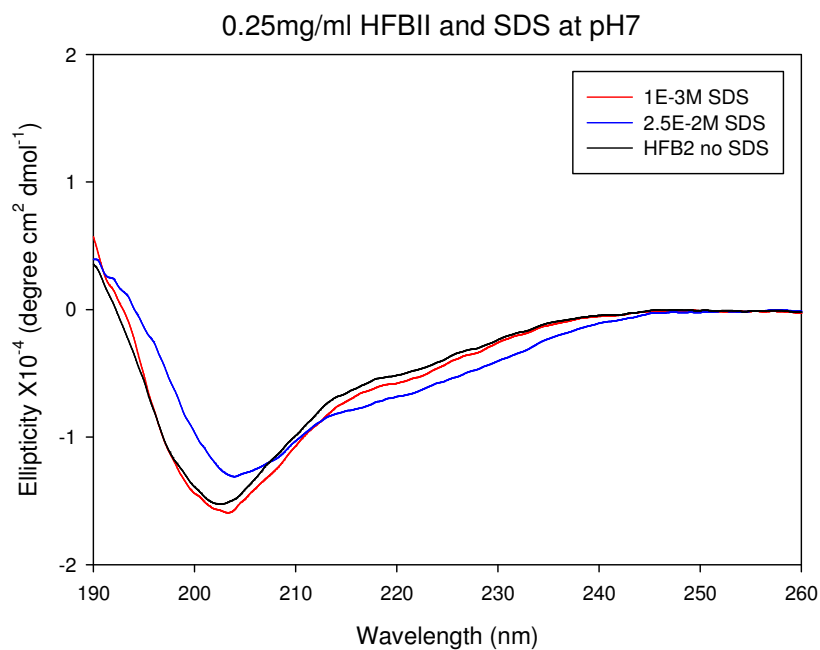


Figure 3. CD data for HFBII, and HFBII / SDS mixtures at SDS concentrations of 1 mM and 25 mM at pH 7.

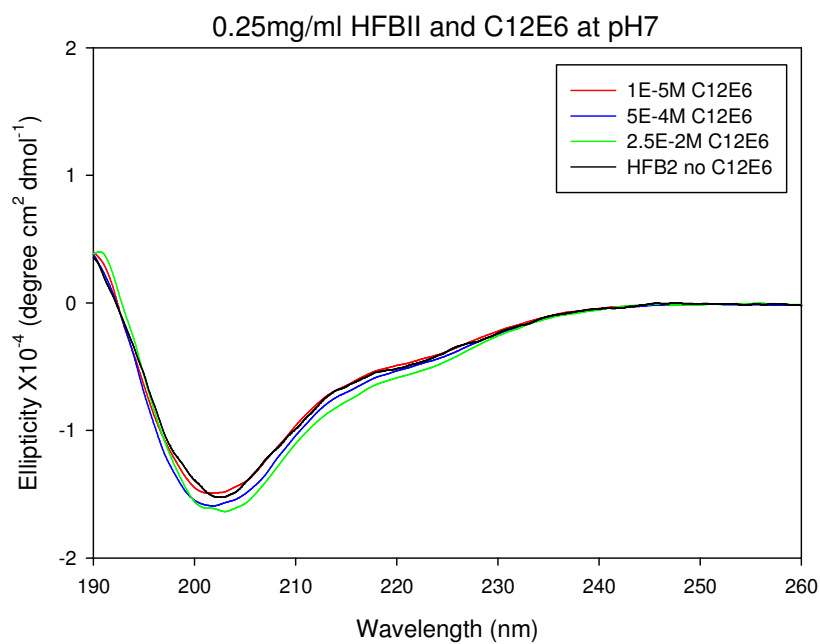


Figure 4. CD data for HFBII and HFBII / C12E6 mixtures at C12E6 concentrations of 10^{-5} , 5×10^{-4} and 2.5×10^{-2} M at pH 7.

[SDS] (M)	α helix	β sheet		β -turn	Random Coil
		Antiparallel	Parallel		
10^{-3}	22.6%	13.9%	10.9%	20.1%	32.5%
2.5×10^{-2}	24.5%	12.6%	10.6%	19.3%	33.0%

Table 3. Analysis is CD data for HFBII / SDS mixtures at pH 7.

[C12E6] (M)	α helix	β sheet		β -turn	Random Coil
		Antiparallel	Parallel		
10^{-5}	20.9%	14.9%	11.7%	20.5%	32.0%
5×10^{-4}	21.8%	14.4%	11.2%	20.3%	32.3%
2.5×10^{-2}	23.2%	13.7%	10.6%	20.0%	32.5%

Table 3. Analysis is CD data for HFBII / $C_{12}E_6$ mixtures at pH 7.

These preliminary results show that neither pH nor the addition of ionic or nonionic surfactants (in the regions of concentration and composition explored) affect the structure of HFBII.