

## **Supporting Information**

### **Protein/protein nanocomposite based on whey protein nanofibrils in a whey protein matrix**

Xinchen Ye, Kristina Junel, Mikael Gällstedt, Maud Langton, Xin-Feng Wei, Christofer Lendel,\* and Mikael S. Hedenqvist\*

Total number of pages: 3

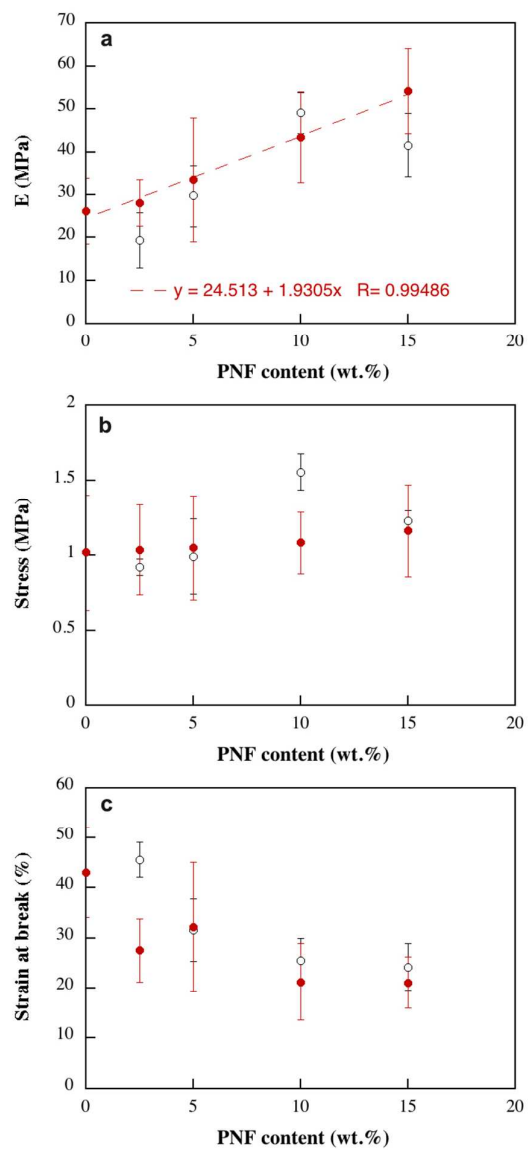
Number of tables: 1

Number of figures: 1

**Table S1.** Relative content of secondary structure in the amide I region (N: non-dialysed. D: dialysed)

Secondary structure		Relative area of Gaussian components (size of each resolved peak in %)										
Position (cm <sup>-1</sup> )	Assignment	WPI-0	WPI-N-2.5	WPI-N-5	WPI-N-10	WPI-N-15	WPI-N-100	WPI-D-2.5	WPI-D-5	WPI-D-10	WPI-D-15	WPI-D-100
1618	$\beta$ -Sheets, strongly hydrogen-bonded peptide group	13.0 $\pm$ 0.5	12.5 $\pm$ 1.0	12.8 $\pm$ 1.0	12.4 $\pm$ 0.7	13.1 $\pm$ 1.1	17.7 $\pm$ 1.9	12.6 $\pm$ 0.7	11.2 $\pm$ 1.3	11.0 $\pm$ 1.5	9.6 $\pm$ 1.7	28.7 $\pm$ 1.4
1625	$\beta$ -Sheets, strongly hydrogen-bonded peptide group	16.8 $\pm$ 0.5	18.8 $\pm$ 1.9	18.0 $\pm$ 2.3	20.4 $\pm$ 1.3	18.8 $\pm$ 2.2	30.7 $\pm$ 2.7	18.7 $\pm$ 0.8	22.0 $\pm$ 3.0	26.1 $\pm$ 3.7	31.5 $\pm$ 3.6	27.3 $\pm$ 1.7
1634	$\beta$ -Sheets, weakly hydrogen-bonded peptide group	20.4 $\pm$ 0.5	19.1 $\pm$ 0.5	19.1 $\pm$ 1.9	17.8 $\pm$ 0.7	18.9 $\pm$ 1.0	12.7 $\pm$ 3.5	19.2 $\pm$ 1.3	17.7 $\pm$ 1.5	14.1 $\pm$ 2.1	11.9 $\pm$ 2.9	3.4 $\pm$ 1.5
1644	Unordered	8.3 $\pm$ 0.5	8.4 $\pm$ 0.6	8.9 $\pm$ 1.3	8.9 $\pm$ 1.0	8.5 $\pm$ 1.1	5.8 $\pm$ 0.9	8.9 $\pm$ 0.9	8.1 $\pm$ 0.3	10.5 $\pm$ 1.9	7.3 $\pm$ 2.9	14.8 $\pm$ 2.6
1651	$\alpha$ -Helices and random coils	7.5 $\pm$ 1.2	8.2 $\pm$ 1.4	7.8 $\pm$ 1.5	7.4 $\pm$ 1.5	7.3 $\pm$ 0.8	4.2 $\pm$ 1.3	7.7 $\pm$ 0.5	11.5 $\pm$ 1.0	10.0 $\pm$ 0.5	13.2 $\pm$ 1.3	2.3 $\pm$ 1.0
1658	$\alpha$ -Helices	15.2 $\pm$ 2.0	14.9 $\pm$ 2.3	15.1 $\pm$ 1.4	15.5 $\pm$ 2.2	14.7 $\pm$ 3.1	10.4 $\pm$ 2.4	15.8 $\pm$ 1.1	12.2 $\pm$ 1.8	10.8 $\pm$ 2.8	9.5 $\pm$ 1.2	4.4 $\pm$ 0.9
1667	$\beta$ -Turns	9.1 $\pm$ 1.3	8.4 $\pm$ 2.0	8.4 $\pm$ 1.6	7.8 $\pm$ 2.9	8.0 $\pm$ 2.3	8.3 $\pm$ 2.0	7.1 $\pm$ 1.6	8.1 $\pm$ 1.2	8.4 $\pm$ 1.2	7.9 $\pm$ 1.1	12.7 $\pm$ 1.6
1680	$\beta$ -Sheets, weakly hydrogen-bonded peptide group	6.6 $\pm$ 0.5	6.9 $\pm$ 1.4	7.0 $\pm$ 1.1	7.3 $\pm$ 1.5	8.0 $\pm$ 0.8	6.4 $\pm$ 1.9	7.4 $\pm$ 1.3	6.7 $\pm$ 0.6	6.7 $\pm$ 0.7	6.9 $\pm$ 0.5	2.4 $\pm$ 0.8
1691	$\beta$ -Turns	3.1 $\pm$ 0.2	2.7 $\pm$ 0.5	2.8 $\pm$ 0.3	2.6 $\pm$ 0.3	2.7 $\pm$ 0.2	3.9 $\pm$ 0.8	2.6 $\pm$ 0.5	2.5 $\pm$ 0.3	2.3 $\pm$ 0.1	2.1 $\pm$ 0.2	3.9 $\pm$ 0.5

$\pm$ -values are standard deviations



**Figure S1.** Modulus (a), stress (b) and extensibility (c) as a function of PNF content. Filled and unfilled symbols correspond to dialysed and non-dialysed films.