

1 **Mixed gels from whey protein isolate and cellulose microfibrils**

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15 **Supplementary materials**

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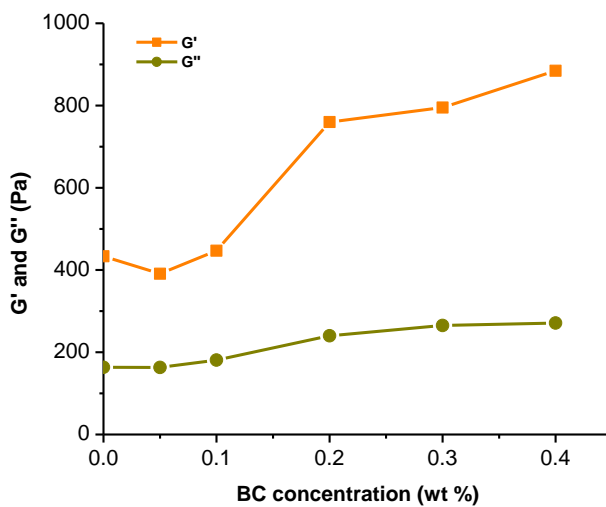
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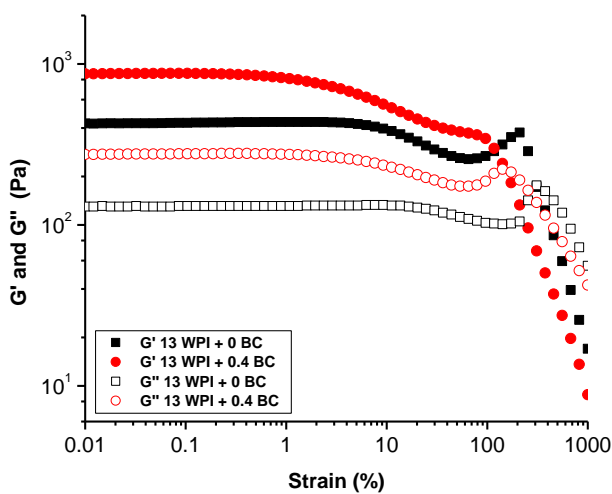
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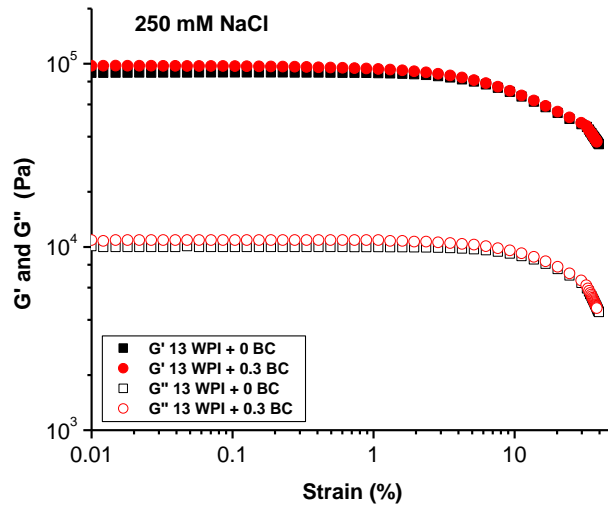
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28 **Appendix 1.** The storage modulus G' and loss modulus G'' as a function of BC microfibril
29 concentration. The values of G' and G'' are taken from the last point of the measurement during
30 holding the gels at 20 °C for 30 min.



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32 **Appendix 2.** The storage modulus G' and loss modulus G'' as a function of strain at frequency of 1
33 Hz at 20 °C for a 13 wt% pure WPI gel and 13 wt% WPI gel containing 0.4 wt% BC microfibrils.

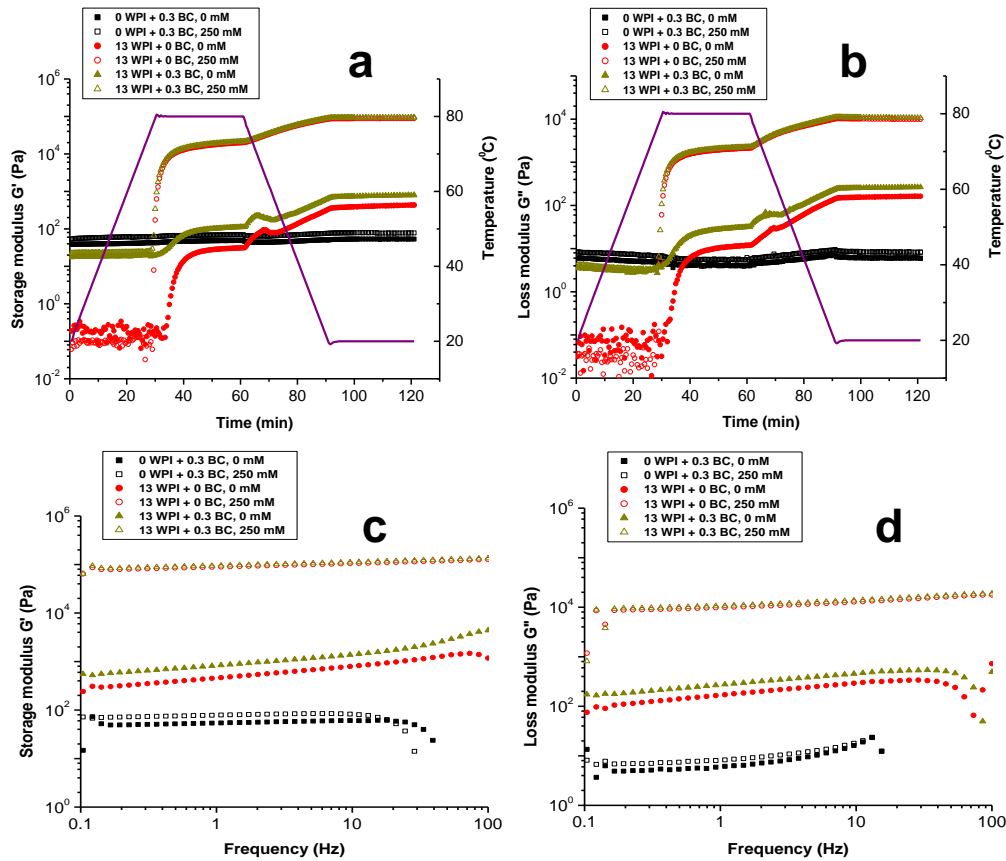


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35 **Appendix 3.** The storage modulus G' and loss modulus G'' as a function of strain at a frequency of 1
 36 Hz at 20 °C for pure 13 wt% WPI gel and 13 wt% WPI gel containing 0.3 wt% BC microfibrils. The
 37 NaCl concentration of both samples was 250 mM.

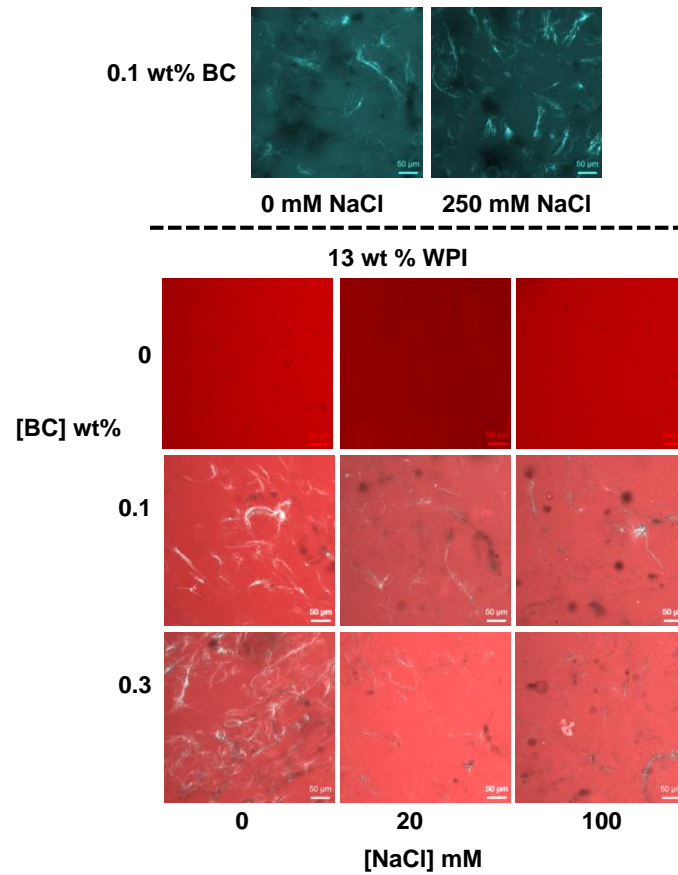
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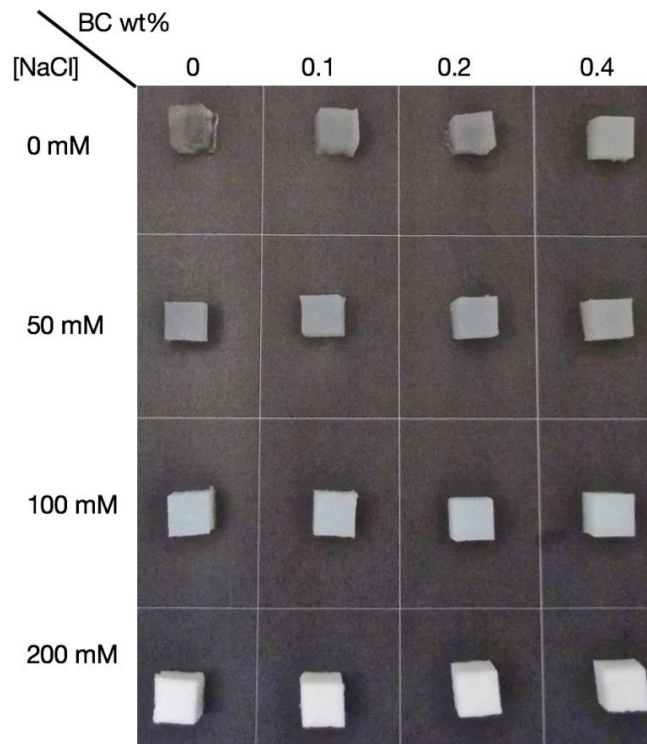
41 **Appendix 4.** Comparison of gel rheological properties of 13 wt% pure WPI, 0.3 wt% pure BC
 42 microfibrils, and 13 wt% WPI containing 0.3 wt% BC microfibrils, at both 0 and 250 mM NaCl. The
 43 development of storage modulus G' and loss modulus G'' during gel formation of the samples as a
 44 function of time at a strain of 0.1 % and frequency of 1 Hz is shown in Fig. (a) and (b). The purple line
 45 represents the temperature profile. Fig. (c) and (d) show storage modulus G' (c) and loss modulus G''
 46 (d) of the gels as a function of frequency at a strain of 0.1 % at 20 °C.



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48 **Appendix 5.** CLSM overlay images of 13 wt% WPI gels mixed with 0, 0.1 and 0.3 wt% BC
 49 microfibrils. The NaCl concentrations in the samples (0, 20 and 100 mM) are indicated below the
 50 images. The BC concentration (wt%) are indicated on the left side of the images. The scale bar
 51 corresponds to 50 μm. The images shown above the black dashed line are from 0.1 wt% pure BC
 52 microfibril at concentrations of 0 and 250 mM NaCl.

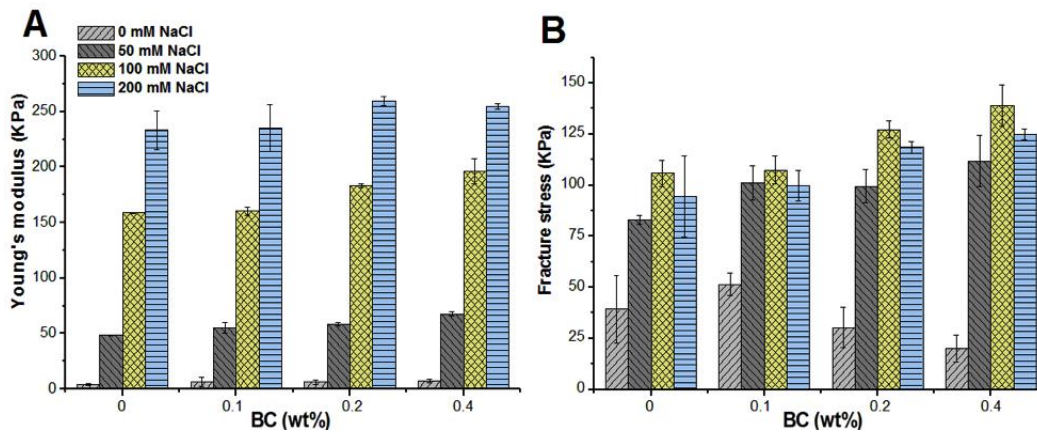
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55 **Appendix 6.** Visual observation of WPI-BC microfibril mixed gels containing 13 wt% WPI and BC
 56 microfibril concentrations of 0, 0.1, 0.2, and 0.4 wt%. The corresponding NaCl concentration in the
 57 gels is indicated on the left side of the images.

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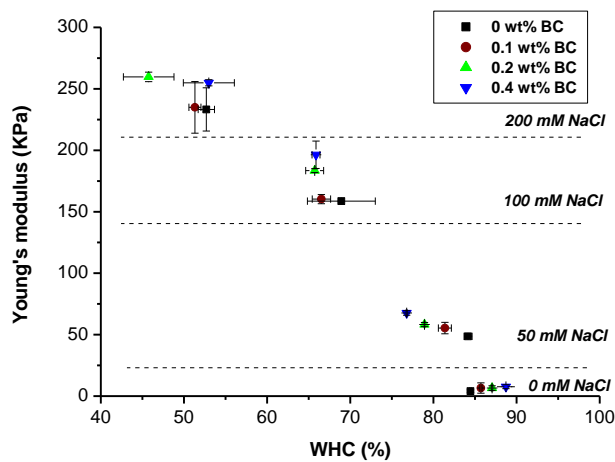
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60 **Appendix 7.** Young's modulus (A) and fracture stress (B) of WPI-BC microfibril gels as a function of
 61 BC microfibril concentration. The concentration of WPI is 13 wt% in all samples.

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66 **Appendix 8.** Young's modulus as a function of WHC of WPI-BC microfibril mixed gels containing
67 13 wt% WPI and BC concentrations of 0, 0.1, 0.2 and 0.4 wt% at NaCl concentrations of 0, 50, 100,
68 200 mM. Dashed lines are used to separate the regions at different NaCl concentrations.