Poplar Hot Water Extract Enhances Barrier and Antioxidant Properties of Chitosan/Bentonite Composite Film for Packaging Applications

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Table S1 Concentration of hemicellulose-derived saccharides in poplar hot water extract. (HWE concentration is 22.6 g/L)

	Concentration (g/L)		Concentration (g/L)
xylose	6.77	Oligo-xylose	3.75
glucose	0.75	Oligo-glucose	1.29
galactose	0.66	Oligo-galactose	0.32
mannose	0.41	Oligo-mannose	0.20
arabinose	0.19	Oligo-arabinose	--

Table S2 Compositions (wt % total saccharides) of poplar hot water extract.

	Compositions (wt %total saccharides)		Compositions (wt %total saccharides)
xylose	47.23	Oligo-xylose	26.18
glucose	5.20	Oligo-glucose	9.02
galactose	4.59	Oligo-galactose	1.40
mannose	2.88	Oligo-mannose	2.21
arabinose	1.29	Oligo-arabinose	--

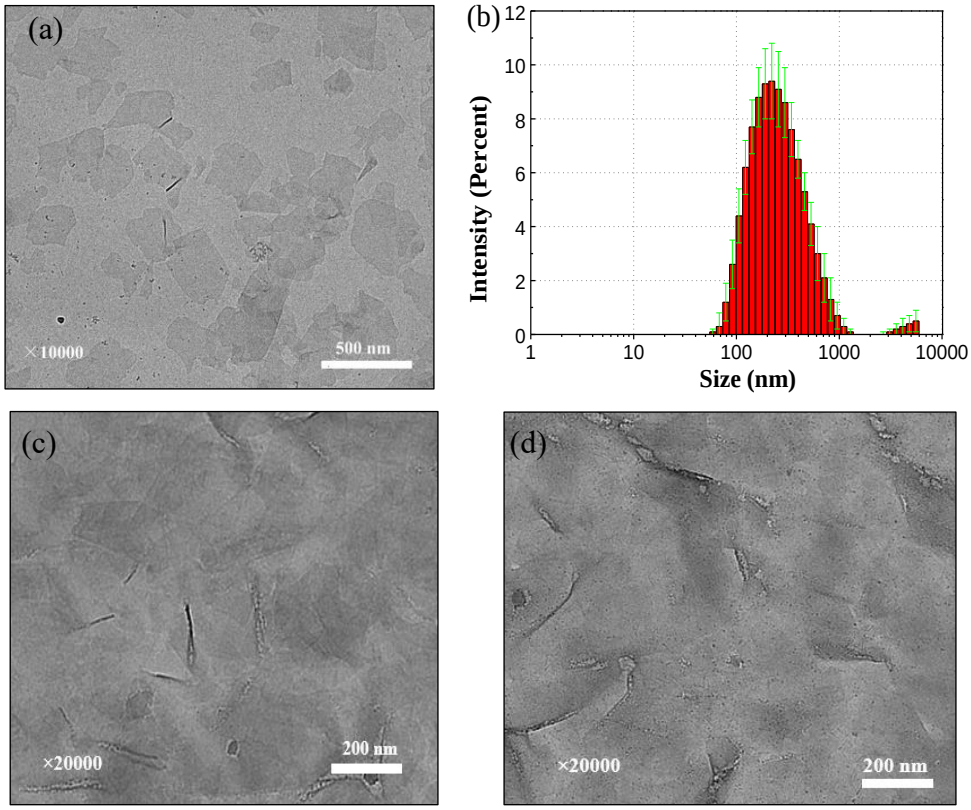

Figure S1. The TEM image of BT (a), particle size distribution diagram of BT (b), CS-BT$_{10}$ (c), CS-BT-HWE$_{10}$ (d).

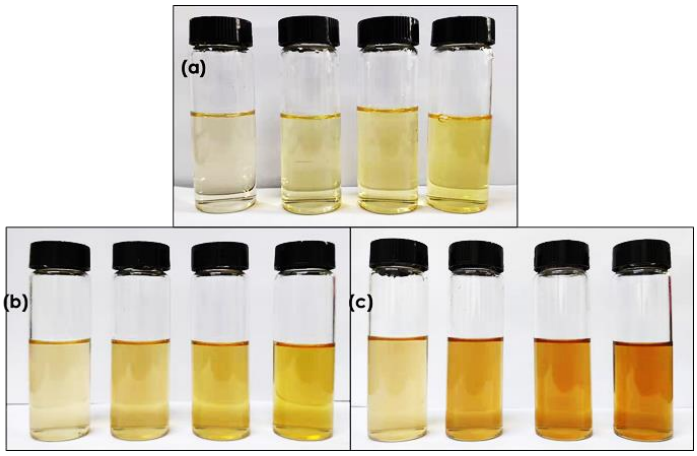

Figure S2. The presentation for the color of the mixture solution with different amounts of HWE added in the CS-BT-HWE system. (a) the water-BT-HWE system of which the chitosan in the CS-BT-HWE system was substituted by an equal volume of deionized water; (b) the initial CS-BT-HWE mixture solution before reaction; (c) the CS-BT-HWE system reacted at room temperature for 10 h (From left to right, the HWE amount is 10%; 20%; 30%, 40%, respectively.)

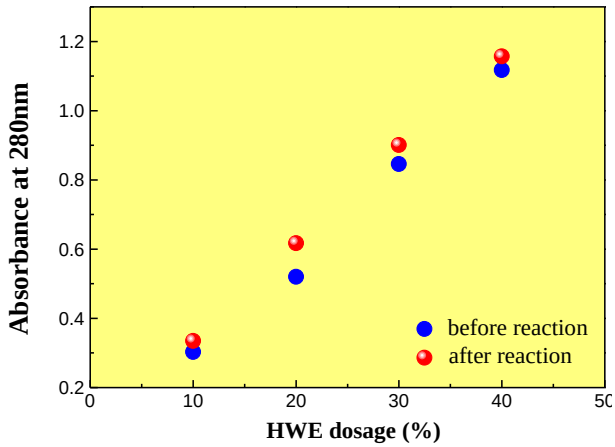

Figure S3. The absorbance of the initial CS-BT-HWE mixed solution (●) and mixing for 10 h (●). (n=3)