Journal of
Composites Science

MDPI

Supplementary Materials: The Use of Agricultural Waste in the Modification of Poly(lactic acid)-Based Composites Intended for 3D Printing Applications. The Use of Toughened Blend Systems to Improve Mechanical Properties

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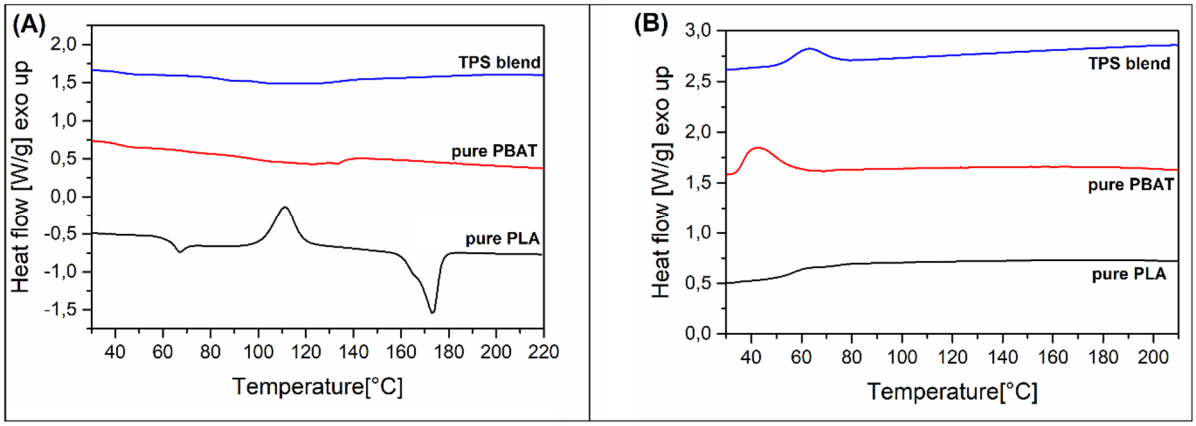

Figure S1. The DSC thermograms of the raw materials: pure PLA, pure PBAT, and TPS blend. (A) 1st heating, and (B) cooling plots.

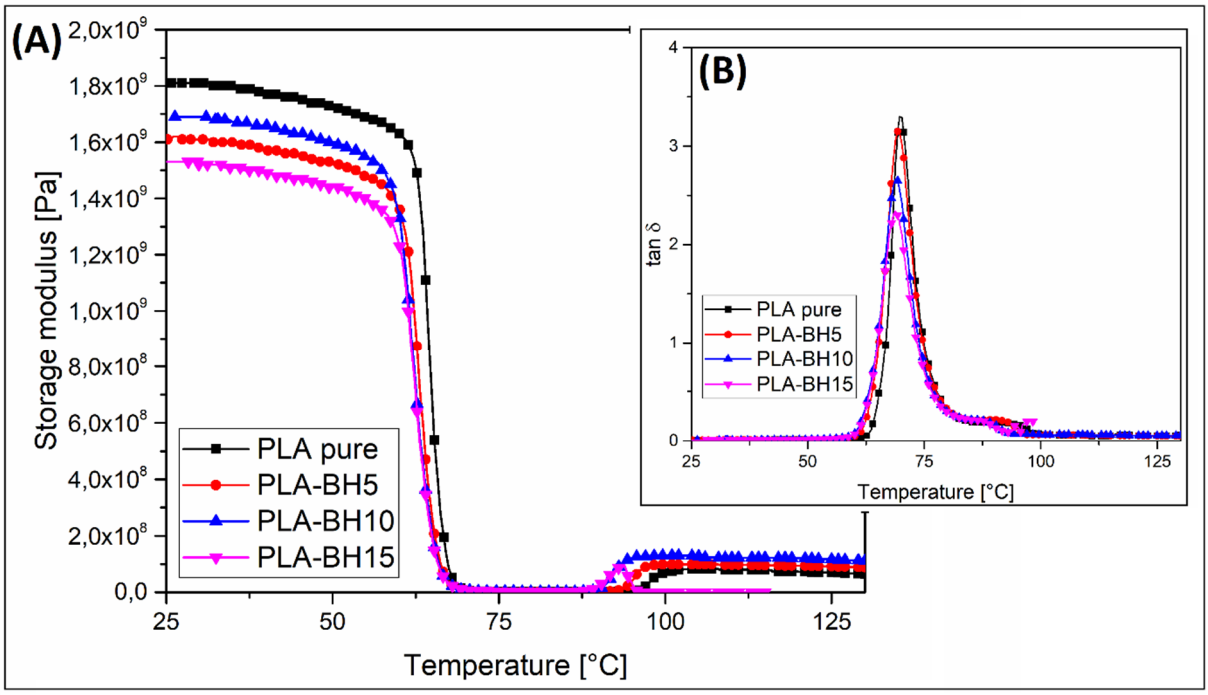

Figure S2. The results of the DMTA analysis for unmodified PLA/BH composites. (A) storage modulus thermograms, and (B) tan δ.

Table S1. The full table presenting the results of tensile and flexural tests results and notched Charpy impact test results.

	Tensile test			Flexural test		Charpy test
	Modulus [MPa]	Strength [MPa]	Elongation at break [%]	Modulus [MPa]	Strength [MPa]	Impact strength [kJ/m^2]
Injection-molded samples						
PLA	**2880** (±124)	**62.7** (±0.1)	**3.1** (±0.2)	**3970** (±31)	**117.0** (±0.6)	**2.5** (±0.1)
PLA/PBAT10	**2890** (±41)	**57.6** (±1.5)	**52.6** (±13.4)	**3490** (±103)	**95.1** (±1.3)	**2.5** (±0.3)
PLA/PBAT20	**2520** (±40)	**47.5** (±1.6)	**200.0** (±42.0)	**3100** (±13)	**82.9** (±0,9)	**4.1** (±0.8)
PLA/PBAT30	**2110** (±51)	**38.4** (±0.5)	**140.0** (±31.0)	**2640** (±117)	**69.1** (±1.4)	**8.9** (±1.1)
PLA/PBAT30/CE	**2190** (±11)	**41.3** (±0.1)	**51.3** (±18.4)	**2160** (±63)	**67.1** (±2.0)	**11.2** (±0.9)
PLA/TPS10	**3090** (±9)	**57.1** (±0.6)	**8.1** (±3.4)	**3470** (±81)	**95.1** (±3.7)	**3.3** (±0.3)
PLA/TPS20	**2700** (±55)	**45.9** (±3.9)	**22.5** (±4.9)	**3175** (±72)	**80.8** (±2.9)	**5.6** (±0.6)
PLA/TPS30	**2470** (±17)	**42.4** (±0.4)	**72.0** (±17.9)	**3136** (±107)	**76.4** (±2.1)	**5.9** (±0.8)
PLA/TPS30/CE	**2510** (±28)	**45.7** (±0.4)	**53.0** (±21.0)	**2580** (±59)	**76.7** (±1.0)	**5.1** (±0.6)
FDM printed samples						
PLA	**3100** (±14)	**52.2** (±0.1)	**2.6** (±0.1)	**2920** (±37)	**77.2** (±1.7)	**2.1** (±0.3)
PLA/PBAT30	**1900** (±63)	**31.4** (±2.1)	**10.6** (±0.4)	**1960** (±184)	**57.7** (±5.8)	**9.8** (±1.9)
PLA/PBAT30/CE	**1820** (±54)	**30.1** (±1.5)	**17.6** (±4.1)	**2000** (±42)	**54.7** (±1.2)	**8.4** (±023)
PLA/TPS30	**2200** (±86)	**36.7** (±2.3)	**3.2** (±0.3)	**2170** (±78)	**58.7** (±3.5)	**5.1** (±0.8)
PLA/TPS30/CE	**2350** (±195)	**36.3** (±3.2)	**3.4** (±0.6)	**2257** (±45)	**64.9** (±2.9)	**4.6** (±1.0)
PLA-BH5	**2880** (±73)	**44.8** (±0.6)	**2.8** (±0.1)	**3200** (±88)	**84.2** (±2.4)	**2.5** (±0.4)
PLA-BH10	**2850** (±43)	**40.9** (±1.1)	**2.1** (±0.1)	**2850** (±64)	**75.9** (±3.0)	**1.4** (±0.6)
PLA-BH15	**2640** (±148)	**32.8** (±2.3)	**2.3** (±0.1)	**3310** (±87)	**67.4** (±3.1)	**1.9** (±0.3)
PLA/PBAT30/CE-BH10	**2390** (±33)	**38.0** (±0.7)	**3.4** (±0.2)	**2250** (±449)	**65.3** (±7.5)	**4.2** (±0.3)
PLA/TPS30/CE-BH10	**1810** (±49)	**30.0** (±0.7)	**5.2** (±0.7)	**2170** (±39)	**60.8** (±0.6)	**4.8** (±0.6)

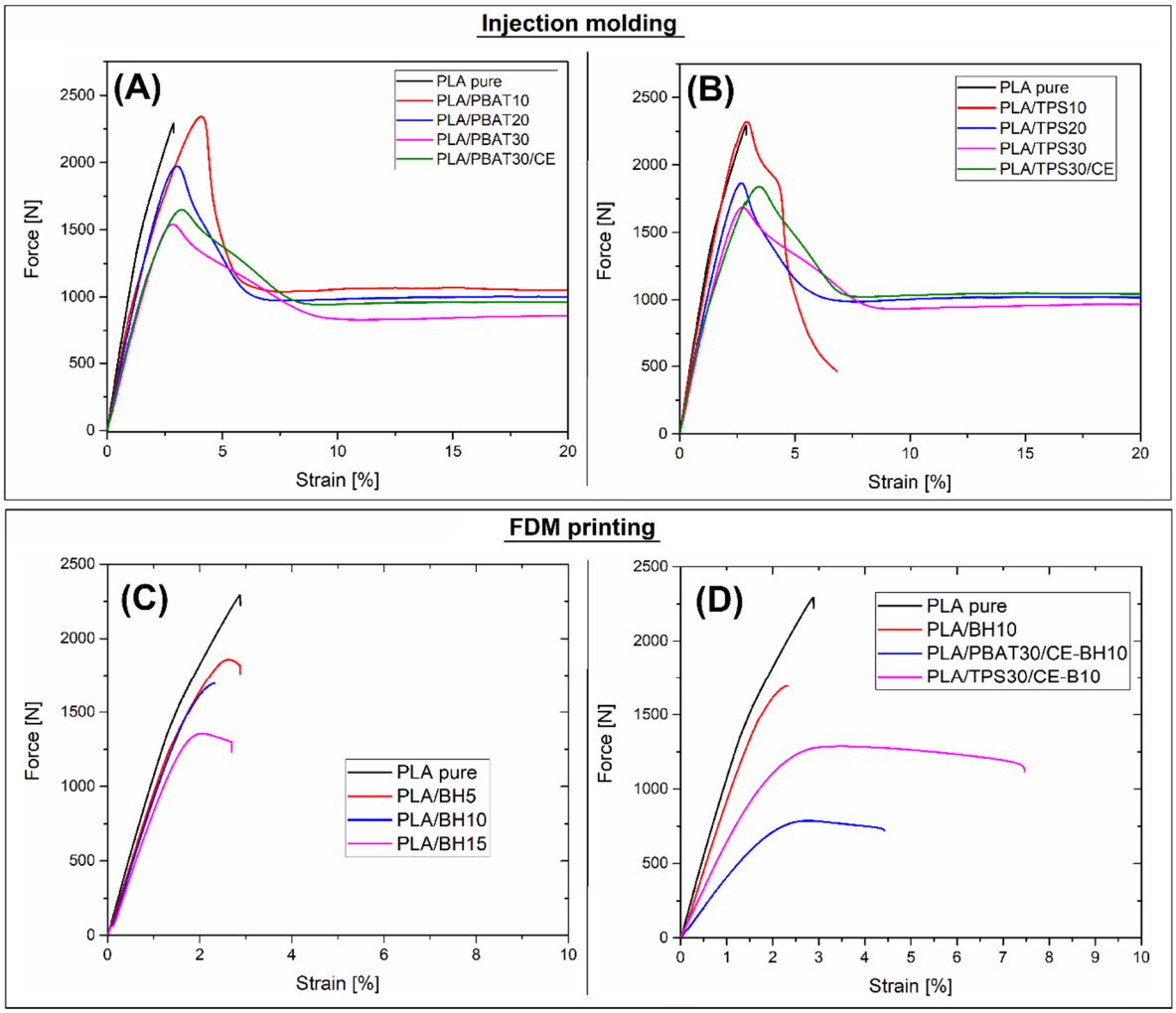

Figure S3. The tensile test plots for (A, B) injection molded samples and (C, D) FDM printed materials.