Supplementary Materials

Recycling Expanded Polystyrene Waste into Microfibers by Air Jet Spinning Using a Partially Bio-Based D-Limonene Solvent System

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Table S1. Hansen solubility parameters (HSP) for by polystyrene (PS), chloroform, and D-limonene, and calculated Hansen distance (Ra) relative to PS,

Solvent System	δ_D (MPa$^{1/2}$)	δ_P (MPa$^{1/2}$)	δ_H (MPa$^{1/2}$)	Ra (MPa$^{1/2}$)
PS	22.80	5.80	4.30	--
$CHCl_3$ (100/00)	17.80	3.10	5.70	4.15
$CHCl_3$/D-lim (90/10)	17.65	2.97	5.33	3.58
$CHCl_3$/D-lim (80/20)	17.50	2.84	4.96	3.54
D-lim (00/100)	16.30	1.80	2.00	4.90

For calculation of HSP, and Ra relative of PS using of the mixture Chl/D-lim) was used the following equations:

$$\delta_{x,\ mix} = \sum \phi_i \delta_{x,i} \quad (x = D, P, H)$$

$$R_a = \sqrt{4(\triangle\ \delta_D)^2 + (\triangle\ \delta_P)^2 + (\triangle\ \delta_H)^2}$$

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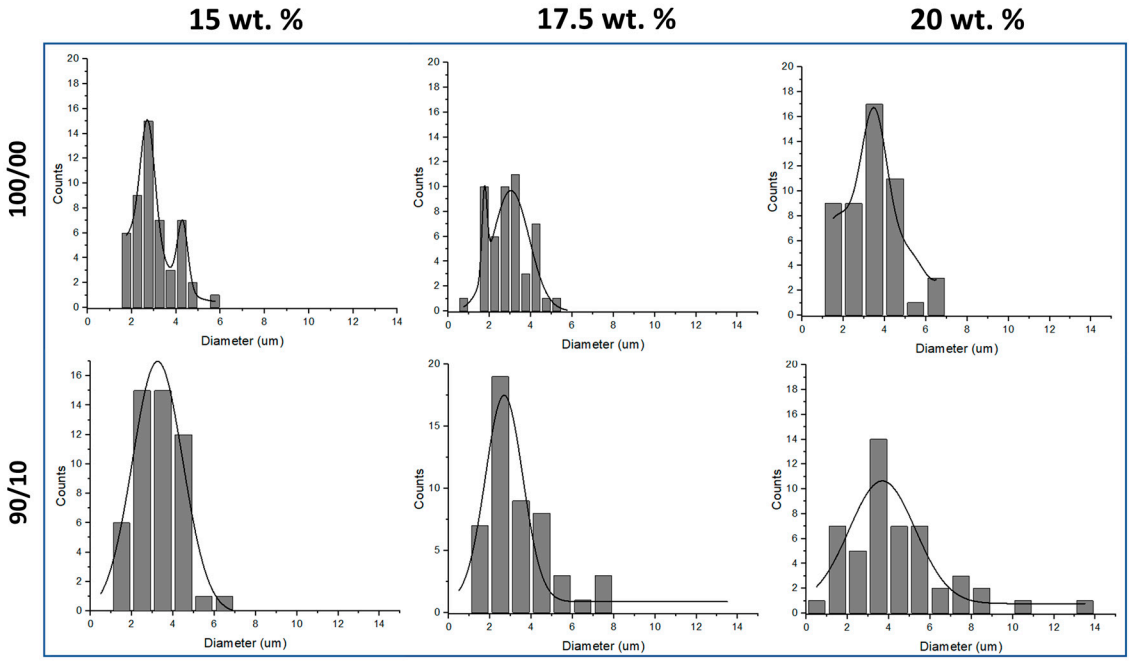


Figure S1. Histograms of fiber morphology by Air Jet Spinning mats varying EPS concentration vs solvent systems.

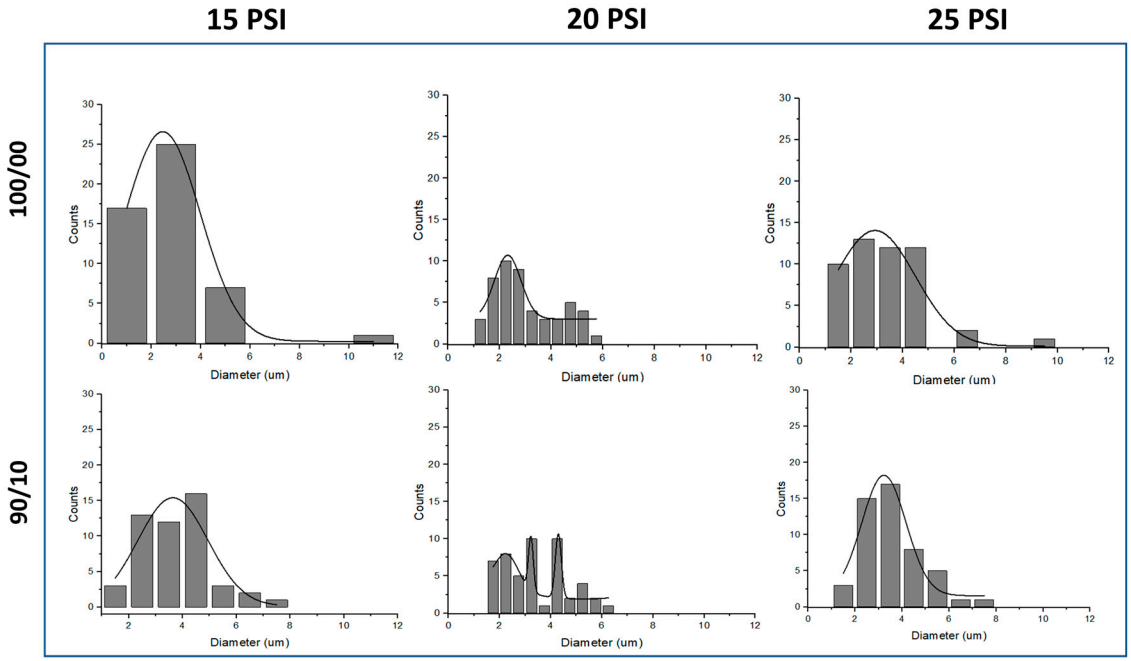


Figure S2. Histograms of fiber morphology by Air Jet Spinning mats varying air pressure vs solvent systems.