

## Supporting Information

**Supporting Table 1: Zeta potential of nanoscaffolds**

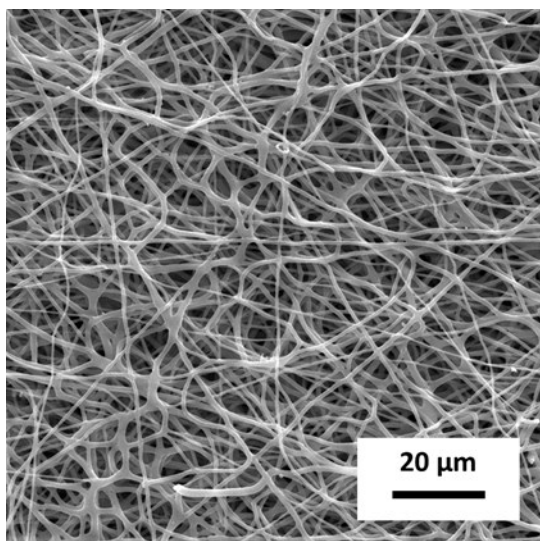
Samples	Zeta potential/ (mV)
PDX	$17.4 \pm 1.6$
80/20	$5.37 \pm 0.92$
20/80	$7.38 \pm 0.34$
PHBV	$0.168 \pm 0.27$

**Supporting Table 2: Summary of DSC results**

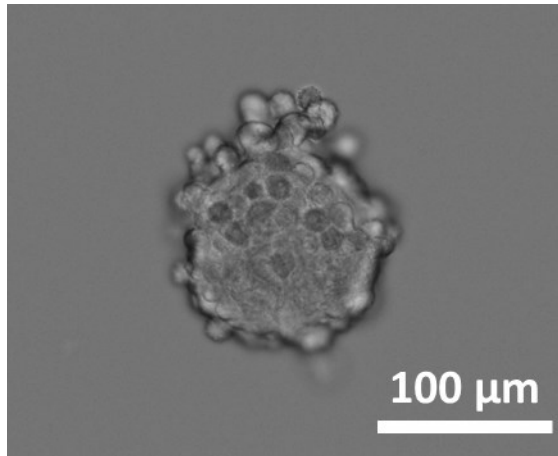
Blend composition	$T_m/ ^\circ\text{C}$	$\Delta H_m/$ (J/g)	$\chi_{\text{blend}}/$ (%)	$\chi_{\text{PDX}}/$ (%)	$T_m/ ^\circ\text{C}$	$\Delta H_m/$ (J/g)	$\chi_{\text{blend}}/$ (%)	$\chi_{\text{PHBV}}/$ (%)
<b>100/0</b>	107.1	38.8	27.5	27.5				
<b>90/10</b>	106.9	51.6	36.5	40.1	155.0	2.7	2.5	24.8
<b>80/20</b>	106.8	44.5	31.5	39.4	153.3	8.4	7.7	38.5
<b>70/30</b>	107.8	41.1	29.1	41.6	156.3	15.2	13.9	46.5
<b>50/50</b>	105.6	22.6	16.0	32.0	156.7	24.7	22.7	45.3
<b>30/70</b>	105.2	16.5	11.7	39.0	155.3	33.1	30.4	43.4
<b>20/80</b>	104.7	9.4	6.7	33.3	155.6	39.2	36.0	45.0
<b>0/100</b>					156.7	46.5	42.7	42.7

**Supporting Table 3: Summary of TGA results**

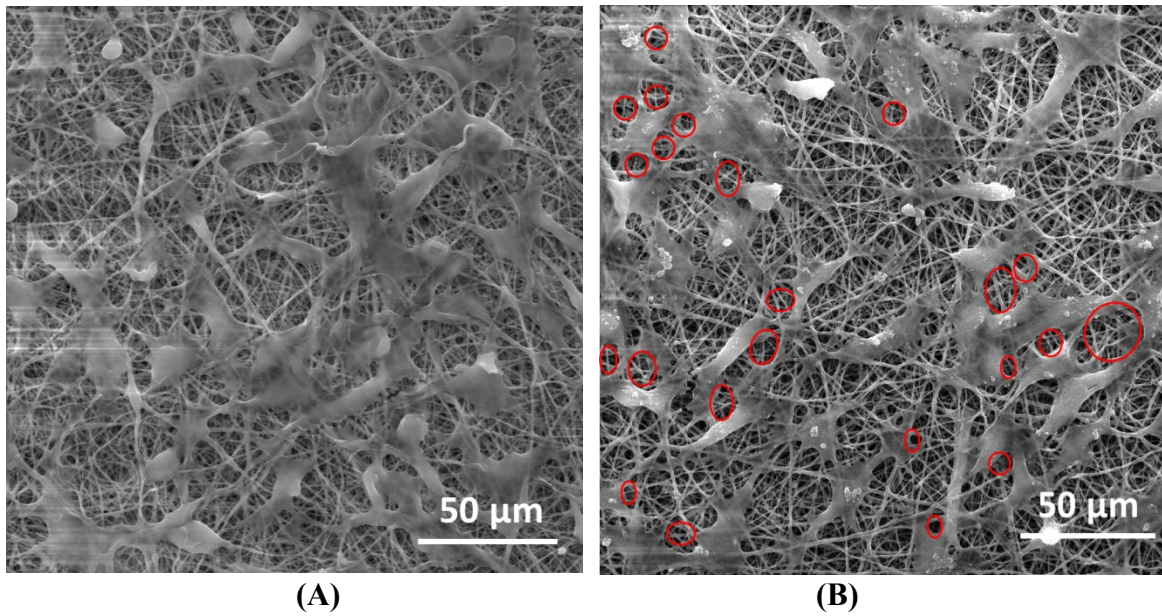
Blend composition (wt %)	First stage		Second stage		Residual mass/ wt %
	$T_{onset1}/$ °C	$\Delta W_1/$ wt %	$T_{onset2}/$ °C	$\Delta W_2/$ wt %	
<b>100/0</b>	335.2	93.8			6.2
<b>90/10</b>	242.0	5.23	276.1	94.2	0.6
<b>80/20</b>	241.0	27.5	273.0	72.1	0.4
<b>70/30</b>	234.0	35.3	273.2	64.3	0.4
<b>50/50</b>	235.0	50.5	279.3	49.2	0.3
<b>30/70</b>	244.8	71.0	285.1	28.7	0.3
<b>20/80</b>	237.1	82.2	276.5	17.0	0.8
<b>0/100</b>	250.3	98.4			1.6



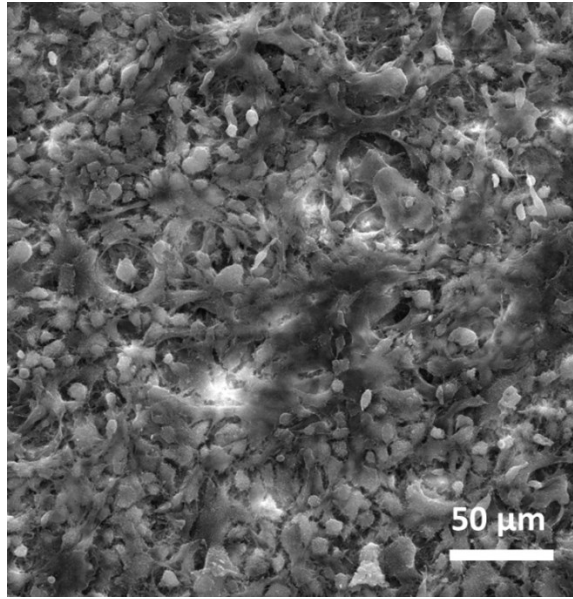
**Figure S1: SEM image of electrospun PDX/PHBV mat showing random deposition of fibers**



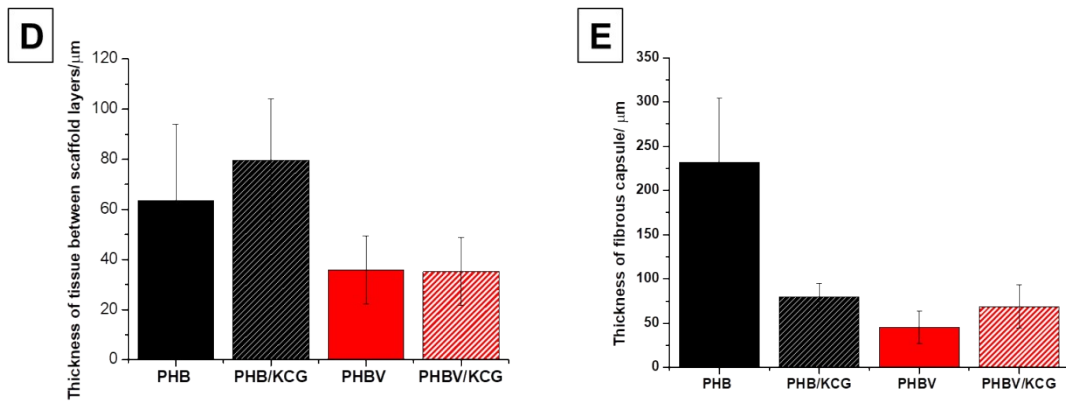
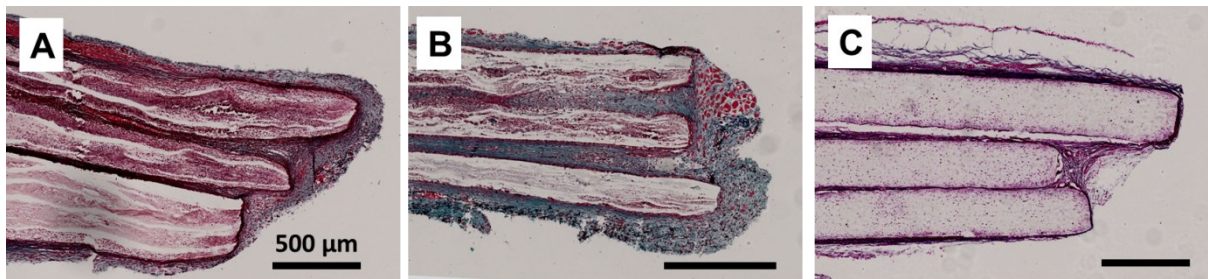
**Figure S2: Multicellular spheroids (MCS) consisting of 3000 fibroblast cells (mean diameter of  $136.3 \pm 16.7 \mu\text{m}$ )**



**Figure S3: SEM image showing (A) Eahy926 growing on scaffolds and (B) lumens formed after 7 days**



**Figure S4: SEM image showing multicellular infiltration following *in vivo* implantation**



**Figure S5: Masson's Trichrome stained images of (A) PHB, (B) PHB/KCG 80/20, (C) PHBV/KCG 80/20, (D) Thickness of tissue formed between scaffold layers and (E) Summary of FC thickness after 2 weeks**

**Supporting Table 4: Summary of wound healing parameters as determined from histology images**

Scaffold	Thickness			Area of granulation tissue (GT)/ mm <sup>2</sup>	Granulation Tissue Scoring	Global Healing Index
	Stratum corneum/ (μm)	Epidermis in GT / (μm)	Dermis in GT/ (mm)			
Negative control	27.1±11.3	27.2±12.1	1.57±0.16	2.99±1.52	9.0±0.8	0.70±0.04
PDX	27.1±6.71	56.3±15.3	1.56±0.26	2.23±1.23	10.0±1	0.64±0.18
PDX/PHBV 20/80	44.7±13.5	76.0±20.4	1.12±0.07	1.83±1.68	11.0±1.7	0.73±0.11
PDX/PHBV 20/80 + HA	52.2±22.9	75.3±29.2	1.22±0.34	1.33±0.38	12.0±0	0.79±0.34
PDX/PHBV 20/80 + CUR	26.0±11.7	36.1±15.7	1.04±0.24	1.99±0.96	10.2±0.4	0.68±0.07
PDX/PHBV 20/80 + HA + Fenugreek	33.7±15.4	37.5±10.7	0.93±0.18	2.34±0.57	10.3±0.6	0.65±0.16