

Electronic Supplementary Information

Tailoring the void space and mechanical properties in electrospun scaffolds towards physiological ranges

Marc Simonet, Natalie Stingelin, Joris G.F. Wismans, Cees W.J. Oomens, Anita Driessen-Mol, Frank P. T. Baaijens

Video caption: CT-scan conventional electrospun PLA scaffold

3D visualization of a computer tomography scan on a conventional electrospun poly(lactic acid) scaffold with fibers of 9 μm diameter, depicting the dense fiber packing

Video caption: CT-scan low-temperature electrospun PLA scaffold

3D visualization of a computer tomography scan on a low-temperature electrospun poly(lactic acid) scaffold with fibers of 9 μm diameter, depicting the large void space in-between the fibers

Video caption: CT-scan conventional electrospun PCL scaffold

3D visualization of a computer tomography scan on a conventional electrospun poly(ϵ -caprolactone) scaffold with fibers of 9 μm diameter, depicting the dense fiber packing

Video caption: CT-scan low-temperature electrospun PCL scaffold

3D visualization of a computer tomography scan on a low-temperature electrospun poly(ϵ -caprolactone) scaffold with fibers of 9 μm diameter, depicting the large void space in-between the fibers

Table 2 Mechanical data of all conv. and LTE spun PCL and PLA scaffolds. All scaffolds where spun for 60 min on the 50 mm long target drum

Scaffold with mean fiber diameter	Tangent modulus [kPa]	Yield strength [kPa]	Elongation at yield strength [%]	Ultimate tensile strength [kPa]	Elongation at UTS [%]
PCL LTE 9 µm	60 ±40	9 ±2	10 ±3	70 ±5	2800 ±190
PCL LTE 4 µm	20 ±10	5 ±2	12 ±2.5	60 ±20	1200 ±70
PCL LTE 0.9 µm	50 ±20	60 ±10	32 ±5.5	210 ±30	160 ±20
PCL conv. 9 µm	4850 ±850	270 ±40	6 ±1	620 ±80	60 ±7
PCL conv. 4 µm	4450 ±400	260 ±40	6 ±0.5	600 ±60	100 ±16
PCL conv. 0.9 µm	4650 ±200	240 ±20	5 ±0.5	1150 ±60	200 ±59
PLA LTE 9 µm	110 ±90	15 ±7	10 ±3	50 ±20	260 ±75
PLA LTE 5 µm	260 ±160	30 ±7	9 ±2.5	90 ±20	74 ±15
PLA LTE 1 µm	150 ±210	40 ±20	26 ±9	80 ±60	95 ±56
PLA conv. 9 µm	15000 ±5300	330 ±30	2.5 ±0.5	330 ±40	2.5 ±0.5
PLA conv. 5 µm	7200 ±2900	280 ±90	3.5 ±0.5	340 ±70	8 ±3
PLA conv. 1 µm	6400 ±2900	130 ±20	2.5 ±0.5	430 ±40	110 ±7