

Combining 3D-Printing and Electrospinning to Manufacture Biomimetic Heart Valve Leaflets

Benedikt Freystetter¹, Maximilian Grab^{1,2}, Linda Grefen¹, Lara Bischof¹, Lorenz Isert³, Petra Mela², Deon Bezuidenhout⁴, Christian Ha

¹Department of Cardiac Surgery, Ludwig Maximilians University Munich ²Chair of Medical Materials and Implants, Technical University Munich ³Faculty for Chemistry and Pharmacy, Ludwig Maximilians University Munich ⁴Cardiovascular Research Unit, University of Cape Town ⁵DZHK (German Centre for Cardiovascular Research), partner site Munich Heart Alliance

Corresponding Author

Benedikt Freystetter
B.Freystetter@campus.lmu.de

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Materials

Name	Company	Catalog Number	Comments
BTC-FR2.5TN.D09	ZwickRoell GmbH & Co. KG		Traction engine (Tensile tests)
C5-E Motor Controller	Nanotec Electronic GmbH & Co. KG		Motor controll unit
CH1: CPN 30 kV 0.3 mA	iseg Spezialelectronik GmbH		Power Supply Unit Anode
CH1: CPN 30 kV 0.3 mA	iseg Spezialelektronik GmbH		Power Supply Unit Kathode
Conductive Composite PLA	ProtoPasta		Conductive PLA
Cura 4.7.1	Ultimaker BV		Slicing Software Ultimaker, step 1.1.2
DAPI Stock Solution c = 0.1 mg/mL	Sigma-Aldrich Chemie GmbH		DAPI
Disposable Scalpel No. 23	FEATHER		Scalpel
Fluorescein (C.I. 45350) M 376.28 g/mol	Carl Roth GmbH + Co. KG		Fluorescein
Fume Hood as per DIN 12924 Class 2	Köttermann GmbH		Fume Hood
Leica Applicatin Suite X 3.5.5.19976	Leica Microsystems GmbH		Software for Confocal Laser Scanning Microscope
Luerlock Syringe 20 mL	BD Plastipak		Luerlock Syringe
Metal needle plane 2.50/2.00 x 20 mm	Unimed S.A.		Needle with plane tip
Montage-complet-tubes; inner diameter x outer diameter: 1/16" x 1/8", length 1.000 mm	Bohlender GmbH	F740-28	Solvent resistant tubes
N,N-Dimethylformamide ≥99.8%	Sigma-Aldrich Chemie GmbH		Dimethylformamide
Pellethane 2363 80AE	Velox GmbH Hamburg		Polyurethane
PLA	Ultimaker BV		PLA
Plug&Drive Studio (1.0.4)	Nanotec Electronic GmbH & Co. KG		Motor operation software
SEM Evo LS 10	Zeiss MicroImaging GmbH		Scanning Electron Microscope
SHT 31-D	Adafruit Industries		Temperature and Humidity Sensor
SolidWorks 2020 CAD Software	Dassault Systèmes		Commercial CAD Software
Sulforhodamine 101 50 mg	Sigma - Aldrich	S 7635	Texas Red

Syringe Pump Model: Fusion 100	Chemyx Inc.		Syringe Pump
TCS SP8 inverted CEL BMi8	Leica Microsystems GmbH		Confocal Laser Scanning Microscope
testXpert V11.02	ZwickRoell GmbH & Co. KG		Software Tensile Test
Tetrahydrofuran ≥99.9%	Sigma-Aldrich Chemie GmbH		Tetrahydrofuran
Type 1511530000202 #980361	Binder Labortechnik GmbH		Heating Cabinet
Ultimaker 3 Extended	Ultimaker BV		3D Printer