LACTEL® Absorbable Polymers

Recent References on the Use of LACTEL® Absorbable Polymers for Electrospinning Applications

L00360 Thomas M, Arora A, Katti D. Surface hydrophilicity of PLGA fibers governs in vitro mineralization and osteogenic differentiation. Materials Science & Engineering C-Materials for Biological Applications 2017; 45:320-332. >>> Poly(DL-lactide-co-glycolide); 85:15; Tissue engineering (microfibers, orthopedic, bone regeneration); electrospinning; in vitro mineralization of microfiber meshes; control of surface hydrophobicity to improve performance.

L00349 Wanawananona K, Moulton S, Wallaceban G, Liawruangrath S. Fabrication of novel core–shell PLGA and alginate fiber for dual-drug delivery system. Polym Adv Technol 2016; 27:1014-1019. >>> Poly(DL-lactide-co-glycolide); 50:50; Drug delivery (biodegradable fibers, dexamethasone); degradation profile available (pg 1018); filament processed by wet-spinning procedure.

L00322 Baker SR, Banerjee S, Bonin K, Guthold M. Determining the mechanical properties of electrospun poly-epsilon-caprolactone (PCL) nanofibers using AFM and a novel fiber anchoring technique. Materials Science & Engineering C-Materials for Biological Applications 2016; 59:203-212. >>> Poly(e-caprolactone); IV 1.0-1.3 dL/g in chloroform - MW 120-300 kDA; Tissue engineering; electrospinning.

L00344 Birthare K, Shojaee M, Jones CG, Brenner JR, Bashur CA. Collagen incorporation within electrospun conduits reduces lipid oxidation and impacts conduit mechanics. Biomedical Materials 2016; 11(025019). >>> Poly(e-caprolactone); IV 1.0-1.3 dL/g in chloroform; Tissue engineering (vascular scaffold); rat; electrospinning.

L00355 Gwak SJ, Yun Y, Yoon DH, Kim KN, Ha Y. Therapeutic Use of 3B-[N-(N',N'-Dimethylaminoethane) Carbamoyl] Cholesterol-Modified PLGA Nanospheres as Gene Delivery Vehicles for Spinal Cord Injury. PloS one 2016; 11(1):1-14. >>> Poly(DL-lactide-co-glycolide); MW 66 kDa; Drug delivery (nanoparticles, pDNA); Rat; prepared using a double emulsion-solvent evaporation method; spinal cord injury; testing done on drug release, cytotoxicity, cellular uptake, and transfection.

L00350 Guimaraes PPG, Oliveira MF, Gomes ADM, Gontijo SML, Cortes ME, Campos PP et al. PLGA nanofibers improves the antitumoral effect of daunorubicin. COLLOIDS AND SURFACES B-BIOINTERFACES 2015; 136:248-255. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.82 dL/g in HFIP; Drug delivery (nanofibers, daunorubicin); mice (male, Swiss); electrospinning.

L00343 Behrens AM, Lee NG, Casey BJ, Srinivasan P, Sikorski MJ, Daristotle JL et al. Biodegradable-Polymer-Blend-Based Surgical Sealant with Body-Temperature-Mediated Adhesion. Advanced Materials 2015; 27:8056-8061. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.86 dL/g in HFIP; Device (mat, sealant for wound repair); mice; Polymer fiber mat prepared by solution blow spinning.

L00314 Ahn H, Ju YM, Takahashi H, Williams DF, Yoo, J.J. et al. Engineered small diameter vascular grafts by combining cell sheet engineering and electrospinning technology. Acta Biomaterialia 2015; 16:14-22. >>> Poly(e-caprolactone); IV 1.77 dL/g; Tissue engineering (vascular graft); electrospinning.

L00317 Barati D, Walters JD, Shariati SRP, Moeinzadeh, S., Jabbari E. Effect of Organic Acids on Calcium Phosphate Nucleation and Osteogenic Differentiation of Human Mesenchymal Stem

Cells on Peptide Functionalized Nanofibers. Langmuir 2015; 31:5130-5140. >>> Poly(DL-lactide); Poly(DL-lactide-co-glycolide); 50:50; DLPLA: IV 0.65 dL/g & Mw 90 kDa; PLGA: IV 1.1 dL/g & Mw 105 kDa; Tissue engineering (orthopedic); electrospinning.

L00363 Rowe M, Kamocki K, Pankajakshan D, Li D, Bruzzaniti A, Thomas V et al. Dimensionally stable and bioactive membrane for guided bone regeneration: An in vitro study. J Biomed Mater Res Part B 2015;1-12. >>> Poly(DL-lactide), Poly(e-caprolactone); IV 0.55-0.75 dL/g in chloroform (DL-PL); IV 1.29 dL/g in chloroform (PCL); Tissue engineering (microfibers, orthopedic, in vitro); electrospinning; two-step method used to obtain BBG-containing PLA:PCL membranes.

L00368 Petrigliano FA, Arom G, Nazemi A, Yeranosian M, Wu B, McAllister DR. In vivo evaluatin of electrospun polycaprolactone graft for anterior cruciate ligament engineering. Tissue Engineering Part A 2015; 21(7, 8):1228-1236. >>> Poly(e-caprolactone); MW 110 kDa; Tissue engineering (orthopedic, ACL); Rat (Sprague-Dawley); electrospinning; biocompatibility testing (pg 1231).

L00336 Leong NL, Kabir N, Arshi A, Nazemi A, Wu B, Petrigliano FA et al. Evaluation of Polycaprolactone Scaffold with Basic Fibroblast Growth Factor and Fibroblasts in an Athymic Rat Model for Anterior Cruciate Ligament Reconstruction. Tissue Engineering Part A 2015; 21:1859-1868. >>> Poly(e-caprolactone); IV 1.15 dL/g in chloroform - MW 140 kDa; Tissue engineering (scaffold); rat (male, athymic); electrospinning; collagen coating; "The electrospun polymer scaffold facilitated both cell and matrix alignment in the regenerated ACL. These grafts resulted in successful bony integration with increased strength over time..." (pg. 1864).

L00337 Kobayashi M, Lei NY, Wang QQ, Wu BM, Dunn JCY. Orthogonally oriented scaffolds with aligned fibers for engineering intestinal smooth muscle. Biomaterials 2015; 61:75-84. >>> Poly(e-caprolactone); Tissue engineering (scaffolds, small intestine); mice (syngeneic wild type adult C57BL/6); 3-6 months; Electrospinning; solution made in hexafluoro-2-propanol; smooth muscle strips seeded into scaffold; "ePCL in vivo degradation studies showed only 20-30% molecular weight reduction after 3-6 months, without structural deterioration" (pg. 82).

L00333 Niu G, Sapoznik E, Lu P, Criswell T, Mohs A, Wang G et al. Fluorescent imaging of endothelial cells in bioengineered blood vessels: the impact of crosslinking of the scaffold. Journal of tissue engineering and regenerative medicine 2014. >>> Poly (e-caprolactone); IV 1.7.1.9 dl/g at 30C in chloroform; Tissue engineering (scaffold); electrospinning; see "characterization of scaffolds" (pg. 3) for details on scaffold structure qualities (i.e. microstructure, crosslinking, wettability, etc.).

L00173 Whited BM, Rylander MN. The influence of electrospun scaffold topography on endothelial cell morphology, alignment, and adhesion in response to fluid flow. Biotechnology and bioengineering 2014; 111(1):184-195. >>> Poly(e-caprolactone); tissue engineering (scaffold, composite with type I collagen); electrospinning.

L00327 Sullins VF, Justin P.Wagner, Arnold T.Suwarnasarn, Steven L.Lee, Benjamin M.Wu, James C.Y.Dunn. A novel biodegradable device for intestinal lengthening. Journal of Pediatric Surgery 2014; 49:109-113. >>> Poly(e-caprolactone); Tissue engineering; Rat (Sprague-Dawley); PCL solutions were spraycoated onto spinning steel to form polymer tubes; PCL spring devices placed into rat jejunum for lengthening.

L00309 Yang W, Both SK, van Osch GJVM, Wang Y, Jansen JA, Yang F. Performance of different three-dimensional scaffolds for in vivo endochondral bone generation. European cells & materials 2014; 27:350-364. >>> Poly(e-caprolactone); tissue engineering (scaffold); rat (nude); wet electrospinning method; scaffolds implanted SC.

L00305 Walthers CM, Nazemi AK, Patel SL, Wu BM, Dunn JC. The effect of scaffold macroporosity on angiogenesis and cell survival in tissue-engineered smooth muscle. Biomaterials 2014; 35(19):5129-5137. >>> Poly(e-caprolactone); tissue engineering (scaffold); electrospinning.

L00164 Bashur CA, Ramamurthi A. Composition of intraperitoneally implanted electrospun conduits modulates cellular elastic matrix generation. Acta Biomaterialia 2014; 10(1):163-172. >>> Poly(e-caprolactone); IV 1.0-1.3 dL/g; tissue engineering (scaffold); electrospinning.

L00283 Jeon JE, Vaquette C+, Theodoropoulos C, Klein TJ, Hutmacher DW. Multiphasic construct studied in an ectopic osteochondral defect model. Journal of The Royal Society Interface 2014; 11(95):20140184. >>> Poly(e-caprolactone); tissue engineering (orthopedic); rat (SC); electrospinning.

L00297 Pu J, Komvopoulos K. Mechanical properties of electrospun bilayer fibrous membranes as potential scaffolds for tissue engineering. Acta Biomaterialia 2014; 10(6):2718-2726. >>> Poly(L-lactide); IV 1.09 dL/g; tissue engineering (scaffold); electrospinning.

L00286 Kobsa S, Kristofik NJ, Sawyer AJ, Bothwell ALM, Kyriakides TR, Saltzman WM. An electrospun scaffold integrating nucleic acid delivery for treatment of full thickness wounds. Biomaterials 2013; 34:3891-3901. >>> Poly(L-lactide); Tissue engineering (scaffold); drug delivery (DNA plasmid coding for keratinocyte growth factor); mice; electrospinning; wound healing.

L00132 Cheng Q, Komvopoulos K, Li S. Plasma–assisted heparin conjugation on electrospun poly (L-lactide) fibrous scaffolds. Journal of Biomedical Materials Research Part A 2013;1-7. >>> Poly(L-lactide); IV 1.09 dL/g; tissue engineering (scaffold); electrospinning.

L00290 Marszalek JE, Simon CG, Thodeti C, Adapala RK, Murthy A, Karim A. 2.5 D constructs for characterizing phase separated polymer blend surface morphology in tissue engineering scaffolds. Journal of Biomedical Materials Research Part A 2013; 101A(5):1502-1510. >>> Poly(e-caprolactone); Poly(DL-lactide); MW: 80 kDa (PCL), 107.3 kDa (DLPLA); tissue engineering (film, scaffold); Films prepared by spin coating 50:50 blend of two polymers onto glass substrates or silicon wafers; scaffolds created by pouring polymer solution into Teflon molds filled with NaCl.

L00249 Lyu S, Huang C, Yang H, Zhang X. Electrospun Fibers as a Scaffolding Platform for Bone Tissue Repair. Journal of Orthopaedic Research 2013; 31(9):1382-1389. >>> Poly(DL-lactide-co-glycolide); 75:25; tissue engineering (scaffold); electrospinning.

L00240 Lee BL-P, Tang Z, Wang A, Huang F, Yan Z, Wang D et al. Synovial Stem Cells and Their Responses to the Porosity of Microfibrous Scaffold. Acta Biomaterialia 2013; 9:7264-7275. >>> Poly(L-lactide); IV 1.09 dL/g - MW 131 kDa; tissue engineering (scaffold); rat; electrospinning.

L00251 Mazzara JM, Balagna MA, Thouless MD, Schwendeman SP. Healing kinetics of microneedle-formed pores in PLGA films. Journal of Controlled Release 2013; 171(2):172-177. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.61 dL/g in HFIP at 25C - MW 55,300 Da; drug delivery (film); films prepared by spin-coating onto glass slides.

L00308 Yang W, Yang F, Wang Y, Both SK, Jansen JA. In vivo bone generation via the endochondral pathway on three-dimensional electrospun fibers. Acta Biomaterialia 2013; 9(1):4505-4512. >>> Poly(e-caprolactone); IV 1.0-1.3 dL/g; tissue engineering (scaffold); rat (nude); wet electrospinning method; scaffolds implanted SC.

L00134 Cheng Q, Lee BL-P, Komvopoulos K, Yan Z, Li S. Plasma surface chemical treatment of electrospun poly (L-lactide) microfibrous scaffolds for enhanced cell adhesion, growth, and infiltration. Tissue Engineering Part A 2013; 19(9-10):1188-1198. >>> Poly(l-lactide); IV 1.09 dL/g; tissue engineering (scaffold); electrospinning.

L00170 Cheng Q, Lee BLP, Komvopoulos K, Li S. Engineering the Microstructure of Electrospun Fibrous Scaffolds by Microtopography. Biomacromolecules 2013; 14(5):1349-1360. >>> Poly(L-lactide); IV 1.09 dL/g; tissue engineering (scaffold); electrospinning; "PLLA pellets were first dissolved in HFIP (19% w/v) in an ultrasonic water bath. The polymer solution was then delivered through a stainless steel 23G dispensing needle by a syringe pump." pg 1350.

L00171 Schindler C, Williams BL, Patel HN, Thomas V, Dean DR. Electrospun polycaprolactone/polyglyconate blends: Miscibility, mechanical behavior, and degradation. Polymer 2013; 54(25):6824-6833. >>> Poly(e-caprolactone); IV 1.15 dL/g; tissue engineering (scaffold); 24 months *in vitro*; electrospinning.

L00172 Thayer PS, Dimling AF, Plessl DS, Hahn MR, Guelcher SA, Dahlgren LA et al. Cellularized Cylindrical Fiber/Hydrogel Composites for Ligament Tissue Engineering. Biomacromolecules 2013; 15(1):75-83. >>> Poly(DL-lactide-co-glycolide); 85:15; IV 0.55-0.75 dL/g; tissue engineering (scaffold); electrospinning.

L00166 Yeatts AB, Both SK, Yang W, Alghamdi HS, Yang F, Fisher JP et al. In vivo bone regeneration using tubular perfusion system bioreactor cultured nanofibrous scaffolds. Tissue Engineering Part A 2013; 20(1-2):139-146. >>> Poly(e-caprolactone); IV 1.0-1.3 dL/g; tissue engineering (scaffold); electrospinning; "The electrospinning solution was prepared by dissolving PLGA/PCL (3:1 weight ratio) in trifluoroethanol/HFIP (9:1 volume ratio) at a concentration of 20% w/v".

L00153 Gershovich JG, Dahlin RL, Kasper FK, Mikos AG. Enhanced Osteogenesis in Cocultures with Human Mesenchymal Stem Cells and Endothelial Cells on Polymeric Microfiber Scaffolds. Tissue Engineering Part A 2013; 19(23-24):2565-2576. >>> Poly(e-caprolactone); IV 1.0-1.3 dL/g; tissue engineering (scaffold); electrospinning; nonwoven scaffold using 18 wt% PCL with average fiber diameter of 10 micrometer and average thickness of 1.05 +/- 0.05 mm.

L00154 Gilchrist SE, Lange D, Letchford K, Bach H, Fazli L, Burt HM. Fusidic acid and rifampicin co-loaded PLGA nanofibers for the prevention of orthopedic implant associated infections. Journal of Controlled Release 2013; 170:64-73. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 49.1 kDa; drug delivery (nanofiber mats, fusidic acid, rifampicin); rat; electrospinning; nonwoven; orthopedic.

L00165 Bashur CA, Eagleton MJ, Ramamurthi A. Impact of Electrospun Conduit Fiber Diameter and Enclosing Pouch Pore Size on Vascular Constructs Grown Within Rat Peritoneal Cavities. Tissue Engineering Part A 2013; 19(7-8):809-823. >>> Poly(e-caprolactone); IV 1.0-1.3 dL/g; tissue engineering (scaffold); rat (Sprague Dawley, 200-250 g, male); electrospinning.

L00194 Niu G, Criswell T, Sapoznik E, Lee SJ, Soker S. The influence of cross-linking methods on the mechanical and biocompatible properties of vascular scaffold. Journal of Science and Applications: Biomedicine 2013; 1(1):1-7. >>> Poly(e-caprolactone); IV 1.7-1.9 dL/g in chloroform at 30C; tissue engineering (vascular scaffold); electrospinning; "GN (genipin) cross-linking is a promising method for cross-linking PCL/collagen scaffolds for vascular graft applications".

L00208 Zhao W, Ju YM, Christ G, Atala A, Yoo JJ, Lee SJ. Diaphragmatic muscle reconstruction with an aligned electrospun poly (+¦-caprolactone)/collagen hybrid scaffold. Biomaterials 2013; 34(33):8235-8240. >>> Poly(e-caprolactone); IV 1.77 dL/g in HFP; tissue engineering (scaffold); electrospinning; scaffolds were fabricated by electrospinning a blend of PCL and collagen type I.

L00135 Costa PF, Vaquette C+, Zhang Q, Reis RL, Ivanovski S, Hutmacher DW. Advanced Tissue Engineering Scaffold Design for Regeneration of the Complex Hierarchical Periodontal Structure. Journal of clinical periodontology 2013; 41:283-294. >>> Poly(e-caprolactone); tissue engineering (scaffold); rat; electrospinning; scaffolds implanted SC in rats.

L00189 Janairo RR, Zhu Y, Chen T, Li S. Mucin Covalently Bonded to Microfibers Improves the Patency of Vascular Grafts. Tissue Engineering Part A 2013; 20(1-2):285-293. >>> Poly(L-lactide); IV 1.09 dL/g; tissue engineering (scaffold); rat; electrospinning.

L00174 Soscia DA, Sequeira SJ, Schramma RA, Jayarathanam K, Cantara SI, Larsen M et al. Salivary gland cell differentiation and organization on micropatterned PLGA nanofiber craters. Biomaterials 2013; 34:6773-6784. >>> Poly(DL-lactide-co-glycolide); 85:15; MW 95 kDa; tissue engineering (scaffold); electrospinning.

L00137 Dahlin RL, Gershovich JG, Kasper FK, Mikos AG. Flow Perfusion Co-culture of Human Mesenchymal Stem Cells and Endothelial Cells on Biodegradable Polymer Scaffolds. Annals of Biomedical Engineering 2013;1-10. >>> Poly(e-caprolactone); IV 1.0-1.3 dL/g; tissue engineering (scaffold); electrospinning; sterilization by ETO.

L00181 Sawawi M, Wang TY, Nisbet DR, Simon GP. Scission of electrospun polymer fibres by ultrasonication. Polymer 2013; 54:4237-4252. >>> Poly(L-lactide); IV 0.9 - 1.2 dL/g in chloroform and acetone (3:1); biomaterial (fibers); electrospinning; "sonication is a promising method to produce significant quantities of short fibres of nanometre diameter and microns in length" pg 4237.

L00214 Samavedi S, Guelcher SA, Goldstein AS, Whittington AR. Response of bone marrow stromal cells to graded co-electrospun scaffolds and its implications for engineering the ligament-bone interface. Biomaterials 2012; 33(2012):7727-7735. >>> Poly(e-caprolactone); IV 1.15 dL/g in TFE; tissue engineering (scaffold, nano-hydroxyapatite); electrospinning.

L00215 Sequeira SJ, Soscia DA, Oztan B, Mosier AP, Jean-Gilles R, Gadre A et al. The regulation of focal adhesion complex formation and salivary gland epithelial cell organization by nanofibrous PLGA scaffolds. Biomaterials 2012; 33(11):3175-3186. >>> Poly(DL-lactide-co-glycolide); 85:15; MW 95 kDa in HFIP; tissue engineering (scaffold, artificial salivary gland); electrospinning.

L00177 Truong YB, Glattauer V, Briggs KL, Zappe S, Ramshaw JA. Collagen-based layer-by-layer coating on electrospun polymer scaffolds. Biomaterials 2012; 33:9198-9204. >>> Poly(DL-lactide-co-glycolide) acid terminated; 50:50; IV 0.55-0.75 dL/g; tissue engineering (scaffold); electrospinning; "Synthetic polymer microfibers were prepared by electrospinning... fibres were spun from a 40% (w/v) solution in N,N-dimethylacetamide (Aldrich) using a 23G needle at 150 mm distance from tip to collector and a 20 kV potential. After electrospinning, samples were placed in an oven (50 C, >16 h) to complete removal of solvent and then stored over desiccant until used." pg 9199.

L00116 Vaquette C, Fan W, Xiao Y, Hamlet S, Hutmacher DW, Ivanovski S. A biphasic scaffold design combined with cell sheet technology for simultaneous regeneration of alveolar bone/periodontal ligament complex. Biomaterials 2012; 33:5560-5573. >>> Poly(ε-caprolactone); tissue engineering (biphasic scaffold, beta-tricalcium phosphate); rat (nude); in vitro; periodontitis; electrospinning.

L00139 D'Angelo F, Armentano I, Cacciotti I, Tiribuzi R, Quattrocelli M, Del Gaudio C et al. Tuning Multi/Pluri-Potent Stem Cell Fate by Electrospun Poly (L-lactic acid)-Calcium-Deficient Hydroxyapatite Nanocomposite Mats. Biomacromolecules 2012; 13(5):1350-1360. >>> Poly(L-lactide); IV 0.90-1.2 dL/g; tissue engineering (fibrous mat); electrospinning.

L00219 Zhang X, Xu Y, Thomas V, Bellis SL, Vohra YK. Engineering an antiplatelet adhesion layer on an electrospun scaffold using porcine endothelial progenitor cells. Journal of Biomedical Materials Research Part A 2012; 97A(2):145-151. >>> Poly(e-caprolactone); tissue engineering (scaffold); electrospinning; "this electrospun scaffold holds a great promise as a coronary artery substitute to promote the regeneration of functional arterial tissues in vivo." pg 150.

L00241 Lee J, Yoo JJ, Atala A, Lee SJ. Controlled heparin conjugation on electrospun poly (e-caprolactone)/gelatin fibers for morphology-dependent protein delivery and enhanced cellular affinity. Acta Biomaterialia 2012; 8(7):2549-2558. >>> Poly(e-caprolactone); IV 1.77 dL/g; tissue engineering (scaffold), drug delivery (lysozyme); electrospinning.

L00242 Lee J, Yoo JJ, Atala A, Lee SJ. The effect of controlled release of PDGF-BB from heparin-conjugated electrospun PCL/gelatin scaffolds on cellular bioactivity and infiltration. Biomaterials 2012; 33:6709-6720. >>> Poly(e-caprolactone); IV 1.77 dL/g; tissue engineering (scaffold), drug delivery (platelet-derived growth factor-BB); electrospinning.

L00239 Lee BL-P, Jeon H, Wang A, Yan Z, Yu J, Grigoropoulos C et al. Femtosecond laser ablation enhances cell infiltration into three-dimensional electrospun scaffolds. Acta Biomaterialia 2012; 8(7):2648-2658. >>> Poly(L-lactide); IV 1.09 dL/g; tissue engineering (scaffold); rat; electrospinning; membranes disinfected in 70% ethanol under UV light for 30 min followed by five washes in sterile deionized water.

L00220 Cantara SI, Soscia DA, Sequeira SJ, Jean-Gilles RP, Castracane J, Larsen M. Selective functionalization of nanofiber scaffolds to regulate salivary gland epithelial cell proliferation and polarity. Biomaterials 2012; 2012(33):8372-8382. >>> Poly(DL-lactide-co-glycolide); 85:15; MW 95 kDa in HFIP; tissue engineering (nanofiber scaffold); electrospinning; "Both acinar and ductal cell lines responded to signals provided by bifunctional scaffolds coupled to chitosan and laminin-111, demonstrating the applicability of such scaffolds for epithelial cell types." pg 8372.

L00238 Lee BK, Ju YM, Cho JG, Jackson JD, Lee SJ, Atala A et al. End-to-side neurorrhaphy using an electrospun PCL/collagen nerve conduit for complex peripheral motor nerve regeneration. Biomaterials 2012; 33:9027-9036. >>> Poly(e-caprolactone); IV 1.77 dL/g; tissue engineering (nerve conduit); rat; electrospinning.

L00180 Samavedi S, Olsen Horton C, Guelcher SA, Goldstein AS, Whittington AR. Fabrication of a model continuously graded co-electrospun mesh for regeneration of the ligamentΓÇôbone interface. Acta Biomaterialia 2011; 7(12):4131-4138. >>> Poly(e-caprolactone); IV 1.15 dL/g - MW 2 kDa in 2,2,2-trifluoroethanol; tissue engineering (scaffold graded mesh; facial tissue); electrospinning.

L00156 Griffin J, Delgado-Rivera R, Meiners S, Uhrich KE. Salicylic acid-derived poly (anhydride–ester) electrospun fibers designed for regenerating the peripheral nervous system. Journal of Biomedical Materials Research Part A 2011; 97(3):230-242. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.76-0.94 dL/g in HFIP - MW 45-70 kDa; drug delivery (scaffold, salicylic acid); electrospinning.

L00224 Phipps MC, Clem WC, Catledge SA, Xu Y, Hennessy KM, Thomas V et al. Mesenchymal stem cell responses to bone-mimetic electrospun matrices composed of polycaprolactone, collagen I and nanoparticulate hydroxyapatite. PloS one 2011; 6(2):1-8. >>> Poly(e-caprolactone); MW 110 kDa in HFIP; tissue engineering (scaffold, hydroxyapatite); drug delivery (nanoparticles); electrospinning.

L00227 Bottino MC, Thomas V, Janowski GM. A novel spatially designed and functionally graded electrospun membrane for periodontal regeneration. Acta Biomaterialia 2011; 7(1):216-224. >>>

Poly(L-lactide); poly(e-caprolactone); 80:20; IV 0.55-0.75 dL/g; IV 0.80 dL/g in chloroform and HFIP; tissue engineering (scaffold); electrospinning.

L00226 Bianco A, Bozzo BM, Del Gaudio C, Cacciotti I, Armentano I, Dottori M et al. Poly (L-lactic acid)/calcium-deficient nanohydroxyapatite electrospun mats for bone marrow stem cell cultures. Journal of Bioactive and Compatible Polymers 2011; 26(3):225-241. >>> Poly(L-lactide); IV 0.90-1.2 dL/g in chloroform; tissue engineering (scaffold, hydroxyapatite); electrospinning; "electrospun PLLA and PLLA/d-HAp mats can be regarded as potential scaffolds for bone marrow mesenchymal stem cells culture." pg 225.

L00090 Khan MS, Fon D, Li X, Tian J, Forsythe J, Garnier G et al. Biosurface engineering through ink jet printing. Colloids and Surfaces B: Biointerfaces 2010; 75(2):441-447. >>> Poly(ε-caprolactone); tissue engineering (scaffold, nanofiber); "bioprinting has the capability to become a rapid and accurate process of generating NGF concentration gradient patterns for controlling neuron growth." p. 441; PCL was dissolved in a solvent mixture consisting of chloroform and methanol; proteins were printed on the polymeric scaffolds; electrospinning.

L00094 Hashi CK, Derugin N, Janairo RRR, Lee R, Schultz D, Lotz J et al. Antithrombogenic Modification of Small-Diameter Microfibrous Vascular Grafts. Arteriosclerosis, thrombosis, and vascular biology 2010; 30(8):1621-1627. >>> Poly(L-lactide); IV 1.09 dL/g; tissue engineering (vascular graft); rat (female, SD, 200-240 grams); grafts were made by electrospinning polymer fibers onto a rotating mandrel; actual images of grafts in vivo, p. 1624; "The microfibrous grafts were integrated well into native vasculature, supported by the evidence of angiogenesis and SMC recruitment in the outer layer of the graft." p. 1626; "The slow degradation rate of biopolymers, such as PLLA, maintains the mechanical strength of the grafts long enough and allows gradual replacement of synthetic scaffolds by native matrix with time." p. 1627.

L00107 Pritchard CD, Slotkin JR, Yu D, Dai H, Lawrence MS, Bronson RT et al. Establishing a model spinal cord injury in the African green monkey for the preclinical evaluation of biodegradable polymer scaffolds seeded with human neural stem cells. Journal of neuroscience methods 2010; 188(2):258-269. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.55 - 0.75 dL/g; tissue engineering (scaffold, human neural stem cells); monkey (African, green); 82 days; spinal cord injury; "biodegradable porous scaffolds seeded with neural stem cells (NSC) have demonstrated potential as a strategy for the treatment of central nervous system lesions" p. 259; targeted delivery (spinal cord).