Recent References on the Use of LACTEL® Absorbable Polymers in Tissue Engineering

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.

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.

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.

L00200 Beltzer C, Hagele J, Kratz M, Fuhrmann R, Wilke A, Franke RP et al. Monitoring Degradation Process of PLGA/Cap Scaffolds Seeded With Mesenchymal Stem Cells in a Critical-Sized Defect in the Rabbit Femur using Raman Spectroscopy. Journal of Bone Marrow Research 2013; 1(4):1-6. >>> Poly(DL-lactide-co-glycolide); 75:25; tissue engineering (scaffold); rabbit (female, chinchilla-bastard, 6 mo old); 4 weeks; "The strain Chinchilla-Bastard was used because other rabbit strains common for in vivo testing like New Zealand White are known to be more stress-susceptible and therefore have a higher narcosis risk..."; PLGA/calcium phosphate scaffolds.

L00198 Bhamidipati M, Sridharan BP, Scurto AM, Detamore MS. Subcritical CO2 sintering of microspheres of different polymeric materials to fabricate scaffolds for tissue engineering. Materials Science and Engineering C 2013; 33:4892-4899. >>> Poly(DL-lactide-co-glycolide); poly(e-caprolactone); 50:50; IV 1.3 dL/g - 42-44 kDa; IV 1.1-1.3 dL/g - 110- 125 kDa; tissue engineering (scaffold); < 3 months; < 24 months; "Uniform PLGA and PCL microspheres were lyophilized for 48 h and stored at 20 °C. A 10% polymer solution for PCL and a 20% polymer solution for PLGA were used to prepare the microspheres."

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.

L00192 Cheng Q, Blais MO, Jabbarzadeh E. PLGA-Carbon Nanotube Conjugates for Intercellular Delivery of Caspase-3 into Osteosarcoma Cells. PloS one 2013; 8(12):1-10. >>> Poly(DL-lactide-co-glycolide); 75:25; drug delivery (carbon nanotube, BSA, flourescent BSA, caspase-3); tissue engineering (scaffold, bone);

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.

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.

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.

L00141 DeConde AS, Sidell D, Lee M, Bezougliaia O, Low K, Elashoff D et al. Bone morphogenetic protein−2–impregnated biomimetic scaffolds successfully induce bone healing in a marginal mandibular defect. The Laryngoscope 2013; 123:1149-1155. >>> Poly(DL-lactide-co-glycolide); 85:15; IV 0.61 dL/g; tissue engineering (scaffold); rat; disinfected by ETOH immersion; "PLGA is a common synthetic polymer with an established safety record in humans and not considered osteoinductive" (p. 1152).

L00149 Fonseca C, Caminal M, Peris D, Barrachina J, F+ábregas PJ, Garcia F et al. An arthroscopic approach for the treatment of osteochondral focal defects with cell-free and cell-loaded PLGA scaffolds in sheep. Cytotechnology 2013;1-10. >>> Poly(DL-lactide-co-glycolide); IV 0.55-0.75 dL/g; tissue engineering (scaffold, orthopedic); sheep; scaffolds prepared using solution-casting/salt leaching technique; "PLGA was chosen because it is one of the few synthetic materials approved by the FDA as scaffolding material for clinical applications and it has been previously used in articular cartilage treatment, emerging as a valuable chondrocyte and MSC delivery vehicle." (p. 9).

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.


L00234 Knight TA, Payne RG. Characterization of a PGA-Based Scaffold for Use in a Tissue-Engineered Neo-Urinary Conduit. Organ Regeneration 2013; 1001:179-188. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.55-0.75 dL/g; tissue engineering (scaffold); methods described for tensile testing and biological characterization (cell viability and proliferation).


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 (scaffold); electrospinning; "GN (genipin) cross-linking is a promising method for cross-linking PCL/collagen scaffolds for vascular graft applications".

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L00255 Park AH, Hoyt D, Brit D, Chase S, Tansavatdi K, Hunter L et al. Cross-linked hydrogel and polyester resorbable ventilation tubes in a chinchilla model. The Laryngoscope 2013; 123(4):1043-1048. >>> Poly(DL-lactide-co-glycolide); Poly(L-lactide); 50:50 (PLGA); tissue engineering (tubes); chinchilla;

L00256 Payne RG, Knight TA. Design, Fabrication, and Preparation of Synthetic Scaffolds for Urologic Tissue Engineering. Organ Regeneration 2013;167-177. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.55-0.75 dL/g; tissue engineering (scaffold);

L00179 Saito E, Suarez-Gonzalez D, Rao RR, Stegemann JP, Murphy WL, Hollister SJ. Use of Micro-Computed Tomography to Nondestructively Characterize Biomineral Coatings on Solid Freeform Fabricated Poly (L-Lactic Acid) and Poly (e-Caprolactone) Scaffolds In Vitro and In Vivo. Tissue Engineering: Part C 2013; 19(7):507-517. >>> Poly(L-lactide); IV 0.65 dL/g; tissue engineering (scaffold); "Cylindrical porous PLLA... scaffolds 5mm diameter and 3mm height were fabricated using an indirect SFF" pg 508.

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.

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.

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".

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 HFIP; tissue engineering (scaffold); electrospinning; scaffolds were fabricated by electrospinning a blend of PCL and collagen type I.

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.

L00139 D'Angelo F, Armentano I, Cacciotti I, Tirimbizi 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.
L00145 da Costa KJR, Passos JJ, Gomes AD, Sinisterra RnD, Lanza ClR, Cort+¬s ME. Effect of testosterone incorporation on cell proliferation and differentiation for polymer-bioceramic composites. Journal of Materials Science: Materials in Medicine 2012; 23(11):2751-2759. >>> Poly(DL-lactide-co-glycolide), PCL; 50:50; IV 0.39 dL/g at 30°C in HFIP - MW 60 kDa (PLGA), IV 1.01 dL/g at 30°C in chloroform - MW 10 kDa (PCL); tissue engineering (scaffold); orthopedic; sterilization by ETO.


L00159 Hou Y, Hu J, Park H, Lee M. Chitosan-based nanoparticles as a sustained protein release carrier for tissue engineering applications. Journal of Biomedical Materials Research Part A 2012; 100(4):939-947. >>> Poly(DL-lactide-co-glycolide) acid terminated; 85:15; 50:50; IV 0.61, 0.67 dL/g; tissue engineering (scaffold); scaffolds created using a solvent casting and particulate leaching technique; scaffolds were coated with protein loaded chitosan nanoparticles.

L00162 James AW, Zara JN, Corselli M, Askarinam A, Zhou AM, Hourfar A et al. An abundant perivascular source of stem cells for bone tissue engineering. Stem cells translational medicine 2012; 1(9):673-684. >>> Poly(DL-lactide-co-glycolide); 85:15; IV 0.61 dL/g; tissue engineering (scaffold, orthopedic); mice; scaffolds prepared by solvent casting and particulate leaching method; disinfected by soaking in ethanol; scaffolds placed in parietal bone defects.

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.

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.

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.

L00187 Rosevear HM, Krishnamachari Y, Ariza CA, Mallapragada SK, Salem AK, Griffith TS et al. Effect of Combined Locally Delivered Growth Factors and Systemic Sildenafil Citrate on Microrecanalization in Biodegradable Conduit for Vas Deferens Reconstruction. Urology 2012; 79(4):967-971. >>> Poly(DL-lactide); tissue engineering (biodegradable conduit); rat (male Sprague-Dawley); PDLA in chloroform; biodegradable conduit for vas deferens reconstruction.

L00217 Saito E, Liu Y, Migneco F, Hollister SJ. Strut size and surface area effects on long-term in vivo degradation in computer designed poly(L-lactic acid) three-dimensional porous scaffolds. Acta Biomaterialia 2012; 2012(8):2568-2577. >>> Poly(L-lactide); tissue engineering (scaffold);
strong correlations between surface area and percentage mass loss were found at 12 (R² = 0.681) and 21 (R² = 0.671) weeks.

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.


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.

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.

L00091 Armentano I, Marinucci L, Dottori M, Balloni S, Fortunati E, Pennacchi M et al. Novel Poly(L-lactide) PLLA/SWNTs Nanocomposites for Biomedical Applications: Material Characterization and Biocompatibility Evaluation. Journal of Biomaterials Science, Polymer Edition, 22 2011; 4(6):541-556. >>> Poly(L-lactide); IV 0.9-1.20 dL/g; tissue engineering (nanocomposite); biocompatibility; "SWNTs in combination with biodegradable polymers could open new perspectives in tissue engineering." p. 542; "In light of these data PLLA/SWNTs-COOH shows good biocompatibility and may be a promising biomaterial candidate in promoting bone regeneration." p. 554.

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.

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.
L00232 Kim JW, Ho WJ, Wu BM. The role of the 3D environment in hypoxia-induced drug and apoptosis resistance. Anticancer research 2011; 31(10):3237-3245. >>> Poly(DL-lactide-co-glycolide); tissue engineering (scaffold); scaffolds prepared using solvent casting and particulate leaching.


L00221 Saadai P, Nout YS, Encinas J, Wang A, Downing TL, Beattie MS et al. Prenatal repair of myelomeningocele with aligned nanofibrous scaffolds: a pilot study in sheep. Journal of Pediatric Surgery 2011; 46(12):2279-2283. >>> Poly(L-lactide); IV 1.09 dL/g; tissue engineering (nanofiber scaffold); schematic representation of nanofibrous inner (A) and outer scaffolds (B), Fig 1.

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 ligament-C bone 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.

L00155 Tan GK, Dinnes DL, Myers PT, Cooper-White JJ. Effects of biomimetic surfaces and oxygen tension on redifferentiation of passaged human fibrochondrocytes in 2D and 3D cultures. Biomaterials 2011; 32(24):5600-5614. >>> Poly(DL-lactide-co-glycolide); 75:25; tissue engineering (scaffold); scaffold prepared by a thermally induced phase separation method.

L00106 Berry SM, Warren SP, Hilgart DVA, Schworer AT, Pabba S, Gobin AS et al. Endothelial cell scaffolds generated by 3D direct writing of biodegradable polymer microfibers. Biomaterials 2010; 32(7):1872-1879. >>> Poly(L-lactide); poly(DL-lactide); poly(DL-lactide-co-glycolide);poly(ε-caprolactone); 50:50; 75:25; IV 0.90 - 1.20 dL/g in chloroform (PLA); IV 0.55 - 0.75 dL/g in 1,2 DCE (DL-PLA); IV 0.76 - 0.94 dL/g in 1,2 DCE (50:50 PLGA); IV 0.55 - 0.75 dL/g in chlorobenzene (75:25 PLGA); IV 1.00 - 1.30 dL/g (PCL); tissue engineering (scaffold); >6 weeks; polymer details table, p. 1873, table 1; biodegradation table p. 1875, fig 4.

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.

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.

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).

L00131 Caparso AV, Durand DM, Mansour JM. A nerve cuff electrode for controlled reshaping of nerve geometry. Journal of biomaterials applications 2009; 24(3):247-273. >>> Poly(DL-lactide-co-glycolide); 50:50; 65:35; tissue engineering (film, nerve cuff); rat;

L00021 Cartiera MS, Johnson KM, Rajendran V, Caplan MJ, Saltzman WM. The uptake and intracellular fate of PLGA nanoparticles in epithelial cells. Biomaterials 2009; 30(14):2790-2798. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.59 dL/g - MW 30-70 kDa; tissue engineering (nanoparticles); in vitro;

L00011 Forte G, Franzese O, Pagliari S, Pagliari F, Di Francesca A, Cossa P et al. Interfacing Sca-1 pos Mesenchymal Stem Cells with Biocompatible Scaffolds with Different Chemical Composition and Geometry. Journal of biomedicine & biotechnology 2009; 2009:1-10. >>> Poly(L-lactide); tissue engineering (scaffold film); polymer was diluted in methylene chloride and then spincoated onto glass coverslips (2mm diameter) by applying 0.5mL of 20% solution and spinning at 400 rpm.

L00125 Gay S, Arostegui S, Lemaitre J. Preparation and characterization of dense nanohydroxyapatite/PLLA composites. Materials Science and Engineering C 2009; 29(1):172-177. >>> Poly(L-lactide); IV 1.04 dL/g in chloroform; tissue engineering (composite, hydroxyapatite, orthopedic);


L00118 Jose MV, Thomas V, Dean DR, Nyairo E. Fabrication and characterization of aligned nanofibrous PLGA/Collagen blends as bone tissue scaffolds. Polymer 2009; 50(15):3778-3785. >>> Poly(DL-lactide-co-glycolide); 85:15; tissue engineering (scaffold); electrospinning; "...the addition of collagen to PLGA resulted in narrowing of the diameter distribution and a reduction in average diameter." p. 3778.

L00017 Lee JY, Bashur CA, Goldstein AS, Schmidt CE. Polypyrrole-coated electrospun PLGA nanofibers for neural tissue applications. Biomaterials 2009; 30(26):4325-4335. >>> Poly(DL-lactide-co-glycolide); 75:25; IV 0.55-0.75 dL/g; tissue engineering (nanofibers); in vitro; electrospinning; neuronal tissue scaffolds; electroconducting nanofibers.

L00020 Mirani RD, Pratt J, Iyer P, Madihally SV. The stress relaxation characteristics of composite matrices etched to produce nanoscale surface features. Biomaterials 2009; 30(5):703-710. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 90-120 kDa; tissue engineering (scaffold); in vitro; composite matrix consisting of two porous compartments of chitosan reinforced with a thin membrane of PLGA.

L00037 Mirensky TL, Nelson GN, Brennan MP, Roh JD, Hibino N, Yi T et al. Tissue-engineered arterial grafts: long-term results after implantation in a small animal model. Journal of Pediatric Surgery 2009; 44(6):1127-1133. >>> Poly(L-lactide-co-e-caprolactone); 50:50; MW 263.8 kDa; tissue engineering (scaffold, vascular graft); mice (SCID, female, 3-5 wks old); scaffold was

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used as an arterial conduit graft; image of graft on p. 1129; “polymer was still present at 1 year postimplantation.” p. 1130.

L00018 Tillman BW, Yazdani SK, Lee SJ, Geary RL, Atala A, Yoo JJ. The in vivo stability of electrospun polycaprolactone-collagen scaffolds in vascular reconstruction. Biomaterials 2009; 30(4):583-588. >>> Poly(ε-caprolactone); IV 1.77 dL/g; tissue engineering (scaffold); rabbit (aortoiliac bypass model, new zealand); >1 month; electrospinning; “results indicate that electrospun scaffolds support adherence and growth of vascular cells under physiologic conditions and that endothelialized grafts resisted adherence of platelets when exposed to blood;” collagen/PCL composite material used; implanted grafts were 4 cm in length; color image of scaffold on p. 586.

L00061 Yang H, Dong L. Selective Nanofiber Deposition Using a Microfluidic Confinement Approach. Langmuir 2009; 26(3):1539-1543. >>> Poly(DL-lactide); IV 0.69 dL/g; tissue engineering (nanofiber); in vitro; electrospinning; a novel method to create microsized, structurally accurate, arbitrarily shaped patterns of both random and aligned nanofibers.