LACTEL Absorbable Polymers

References on the Use of LACTEL® Absorbable Polymers in Drug Delivery Applications

L00142 Devalliere J, Chang WG, Andrejecsk JW, Abrahimi P, Cheng CJ, Jane-wit D et al. Sustained delivery of proangiogenic microRNA-132 by nanoparticle transfection improves endothelial cell transplantation. The FASEB Journal 2014; 28(2):908-922. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.55-0.75 dL/g; drug delivery (nanoparticles, miRNA, siRNA, coumarin 6); "nanoparticles composed of PLGA, a biodegradable and nontoxic polymer, have been shown to be efficient and chemically modifiable carriers of siRNA and miRNA." (p. 909); siRNAs targeted survivin, caveolin 1, clathrin and AP2M1; ester terminated.

L00261 Rescignano N, Fortunati E, Montesano S, Emiliani C, Kenny JM, Martino S et al. PVA bio-nanocomposites: a new take-off using cellulose nanocrystals and PLGA nanoparticles. Carbohydrate polymers 2014; 99:47-58. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.95-1.20 dL/g; drug delivery (nanoparticles, bovine serum albumin fluorescein isothiocynate conjugate);

L00264 Admane P, Anish C, Panda AK. Fusion and self assembly of biodegradable polymer particles into scaffold and membrane like structures at room temperature for regenerative medicine. Molecular Pharmaceutics 2014; 11:2190-2202. >>> Poly(DL-lactide); Poly(DL-lactide-co-glycolide); Poly(L-lactide); IV 0.55-0.75 dL/g in chloroform (DLPLA), 0.26-0.54 (PLGA); 50 kDa (PLA); tissue engineering (scaffold, membrane); drug delivery; rat; particles prepared using double emulsion solvent evaporation method; scaffold was evaluated in vivo as skin substitute.

L00266 Adjei IM, Peetla C, Labhasetwar V. Heterogeneity in nanoparticles influences biodistribution and targeting. Nanomedicine 2014; 9(2):267-278. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.15-0.25 dL/g; drug delivery (nanoparticles, cucurbitacin I); two methods of nanoparticle preparation compared: emulsion solvent evaporation vs. nanoprecipitation.

L00265 Ahmed TA, Ibrahim HM, Samy AM, Kaseem A, Nutan MT, Hussain MD. Biodegradable Injectable In Situ Implants and Microparticles for Sustained Release of Montelukast: In Vitro Release, Pharmacokinetics, and Stability. AAPS PharmSciTech 2014; 15(3):1-9. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.5 dL/g - MW 60-70 kDa; drug delivery; rat; stability of formulations evaluated for various temperatures and durations (p. 774).

L00188 Xia Y, Xu Q, Wang C, Pack DW. Protein Encapsulation in and Release from Monodisperse Double-Wall Polymer Microspheres. Journal of pharmaceutical sciences 2014; 102(5):1601-1609. >>> Poly(DL-lactide-co-glycolide); poly(L-lactide); 50:50; MW 4.2 kDa (PLGA); MW 43 kDa, 106 kDa, 192 kDa (PLA); drug delivery (microspheres, BSA); 70-80 days; biodegradable polymer double-wall microspheres (DWMS).

L00237 Kulkarni SS, Kompella UB. Nanoparticles for Drug and Gene Delivery in Treating Diseases of the Eye. Methods in Pharmacology and Toxicology 2014;291-316. >>> Poly(L-lactide); IV 0.9-1.2 dL/g in chloroform (PLA); drug delivery (nanoparticles); detailed steps for nanoparticle preparation by single emulsion method for hydrophobic drugs and double emulsion method for hydrophilic drugs; also used 50:50 PLGA from another manufacturer; detailed methods for nanoparticle characterization and drug release analysis.

L00168 Almeria B, Gomez A. Electrospray synthesis of monodisperse polymer particles in a broad (60nm-2um) diameter range: guiding principles and formulation recipes. Journal of Colloid and Interface Science 2014; 417:121-130. >>> Poly(DL-lactide-co-glycolide) ester terminated; 50:50; MW 11-136 kDa; drug delivery (nanoparticles); electrospraying.

L00246 Lu Y, Sturek M, Park K. Microparticles produced by the hydrogel template method for sustained drug delivery. International Journal of Pharmaceutics 2014; 461(1):258-269. >>> Poly(DL-lactide-co-glycolide); 50:50; 65:35; 75:25; 85:15; drug delivery (microparticles, risperidone, paclitaxel, methylprednisolone acetate); model drugs were chosen for their hydrophobicity.

L00252 Martin DT, Steinbach JM, Liu J, Shimizu S, Kaimakliotis HZ, Wheeler MA et al. Surface modified nanoparticles enhance transurothelial penetration and delivery of survivin siRNA in treating bladder cancer.

Molecular Cancer Therapeutics 2014; 13:71-81. >>> Poly(DL-lactide-co-glycolide); drug delivery (nanoparticles, penatratin, chitosan, coumarin-6, survivin siRNA); mouse; targeted delivery (bladder; tumor).

L00247 Luk BT, Hu CMJ, Fang RH, Dehaini D, Carpenter C, Gao W et al. Interfacial interactions between natural RBC membranes and synthetic polymeric nanoparticles. Nanoscale 2014; 6:2730-2737. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.67 dL/g; drug delivery (nanoparticle); red blood cell membrane-cloaked nanoparticle platform.

L00278 Ferenz KB, Waack IN, Laudien J, Mayer C, Broecker-Preuss M, Groot Hd et al. Safety of poly(ethylene glycol)-coated perfluorodecalin-filled poly(lactide-co-glycolide) microcapsules following intravenous administration of high amounts in rats. Results in Pharma Sciences 2014; 4:8-18. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.67 dL/g in chloroform; drug delivery (microcapsules, perfluorodecalin); rat; IV administration.

L00275 Deng Y, Saucier-Sawyer JK, Hoimes CJ, Zhang J, Seo YE, Andrejecsk JW et al. The effect of hyperbranched polyglycerol coatings on drug delivery using degradable polymer nanoparticles. Biomaterials 2014; 35(24):6595-6602. >>> Poly(L-lactide); MW 20.2 kDa; drug delivery (nanoparticles, fluorescent dye, camptothecin); mice; biodistribution evaluated after IV injection in mice with Lewis lung carcinoma tumors; "no significant in vivo toxicity was observed for all formulations" (p. 6599).

L00279 Filipovic N, Stevanovic M, Nunic J, Cundric S, Filipic M, Uskokovic D. Synthesis of poly (ε-caprolactone) nanospheres in the presence of the protective agent poly (glutamic acid) and their cytotoxicity, genotoxicity and ability to induce oxidative stress in HepG2 cells. Colloids and Surfaces B: Biointerfaces 2014; 117:414-424. >>> Poly(ε-caprolactone) ester terminated; IV 0.55-0.75 dL/g; drug delivery (nanospheres); PCL particles synthesize using solvent/non-solvent method.

L00281 Gadde S, Even-Or O, Kamaly N, Hasija A, Gagnon PG, Adusumilli KH et al. Development of Therapeutic Polymeric Nanoparticles for the Resolution of Inflammation. Advanced healthcare materials 2014. >>> Poly(DL-lactide); Poly(DL-lactide-co-glycolide); 50:50; IV 0.55-0.75 and 0.15-0.25 dL/g (PLGA); drug delivery (nanoparticles, LXR agonist GW3965); mice (C57Bl6); nanoparticles synthesized by nanoprecipitation process; in vivo evaluation in model of peritonitis.

L00197 Psimadas D, Baldi G, Comes Franchini M, Locatelli E, Innocenti C, Sangregorio C et al. Comparison of the magnetic, radiolabeling, hyperthermic and biodistribution properties of hybrid nanoparticles bearing CoFe2O4 and Fe3O4 metal cores. Nanotechnology 2014; 25:1-9. >>> Poly(DL-lactide-co-glycolide); 75:25; MW 76-120 kDa; drug delivery (metal oxide nanoparticles); "Hybrid CoFe2O4 NPs were prepared by adding an acetone solution of... PLGA... at a concentration of 0.1% and CoFe2O4-EHO (0.04%) to a water solution containing 0.1% w/w of BSA...".

L00267 Angamuthu M, Nanjappa SH, Raman V, Jo S, Cegu P, Murthy SN. Controlled-release injectable containing Terbinafine/PLGA microspheres for Onychomycosis Treatment. Journal of pharmaceutical sciences 2014; 103(4):1178-1183. >>> Poly(DL-lactide-co-glycolide); 50:50; 0.6 dL/g in HFIP; drug delivery (microspheres, terbinafine HCl); microspheres produced by oil/water emulsification method; drug release evaluated in vitro (water and agar) and ex vivo (cadaver toe model).

L00271 Castro NJ, O'Brien CM, Zhang LG. Biomimetic biphasic 3–D nanocomposite scaffold for osteochondral regeneration. AIChE Journal 2014; 60(2):432-442. >>> Poly(DL-lactide-co-glycolide)-COOH; tissue engineering (scaffold); drug delivery (nanospheres, BMP-2 and TGF- β1); electrospraying.

L00269 Arora S, Swaminathan SK, Kirtane A, Srivastava SK, Bhardwaj A, Singh S et al. Synthesis, characterization, and evaluation of poly (D, L-lactide-co-glycolide)-based nanoformulation of miRNA-150: potential implications for pancreatic cancer therapy. International Journal of Nanomedicine 2014; 9:2933-2942. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 40 kDa; drug delivery (nanoparticles, miRNA); in vitro (pancreatic cell culture); nanoparticles prepared using double emulsion solvent evaporation method.

L00268 Ankrum JA, Miranda OR, Ng KS, Sarkar D, Xu C, Karp JM. Engineering cells with intracellular agent–loaded microparticles to control cell phenotype. Nature protocols 2014; 9(2):233-245. >>>

Poly(DL-lactide-co-glycolide)-COOH; 50:50; IV 0.15-0.25, 0.55-0.75 dL/g; drug delivery; particles prepared using single-emulsion evaporation technique.

L00273 Alshamsan A. Nanoprecipitation is more efficient than emulsion solvent evaporation method to encapsulate cucurbitacin I in PLGA nanoparticles. Saudi Pharmaceutical Journal 2014; 22:219-222. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.15-0.25 dL/g; drug delivery (cucurbitacin, nanoparticles); 50:50; examination of various drug loading techniques: single emulsion, double emulsion, nanoprecipitation.

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);

L00175 Stojanovic Z, Otonicar M, Lee J, Stevanovic MM, Hwang MP, Lee KH et al. The solvothermal synthesis of magnetic iron oxide nanocrystals and the preparation of hybrid poly(l-lactide)–polyethyleneimine magnetic particles. Colloids and Surfaces B: Biointerfaces 2013; 109:236-243. >>> Poly(L-lactide); MW 160 kDa in chloroform; drug delivery (nanoparticles, genes/gene transfection);

L00178 Valencia PM, Pridgen EM, Rhee M, Langer R, Farokhzad OC, Karnik R. Microfluidic Platform for Combinatorial Synthesis and Optimization of Targeted Nanoparticles for Cancer Therapy. ACS nano 2013; 7(12):10671-10680. >>> Poly(DL-lactide-co-glycolide); MW 15 kDa, 45 kDa, 70 kDa; drug delivery (nanoparticles); mice (Balb/c); cancer.

L00182 Schneider J, Jallouk AP, Vasquez D, Thomann R, Forget A, Pino CJ et al. Surface Functionality as a Means to Impact Polymer Nanoparticle Size and Structure. Langmuir 2013; 29:4092-4095. >>> Poly(DL-lactide-co-glycolide); MW 30 kDa in acetone and N-methyl-2-pyrrolidone; drug delivery (nanoparticles); "we demonstrate that through judicious choice of the surface functionalization species, control over both NP size and structure can be established without varying polymer concentration." pg 4092.

L00186 Wood MD, Gordon T, Kemp SWP, Liu EH, Kim H, Shoichet MS et al. Functional Motor Recovery Is Improved Due to Local Placement of GDNF Microspheres After Delayed Nerve Repair. Biotechnology and bioengineering 2013; 110(5):1272-1281. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.088 - 0.54 dL/g in dichloromethane/acetone (75%/25%) - MW 5-12.9 kDa; drug delivery (microspheres, GDNF); PLGA microspheres 50/50 were prepared by a W/O/W double emulsion procedure.

L00190 Cantin M, Miranda P, Galdames IS, Zavando D, Arenas P, Velasquez L et al. In vivo biocompatibility of the PLGA microparticles in parotid gland. International Journal of Clinical and Experimental Pathology 2013; 6(11):2412-2418. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.26-0.54 dL/g; drug delivery (microparticles); rat (adult, female, Sprague Dawley); microparticles were prepared by double emulsion-evaporation method (w/o/w) pg 2413.

L00191 Chen Y, Yang Z, Liu C, Wang C, Zhao S, Yang J et al. Synthesis, characterization, and evaluation of paclitaxel loaded in six-arm star-shaped poly(lactic-co-glycolic acid). International Journal of Nanomedicine 2013; 8:4315-4326. >>> Poly(DL-lactide-co-glycolide); IV 1.11 dL/g at 30C in chloroform; drug delivery (nanoparticles, paclitaxel); "The most important advantage of 6-s-PLGA (star-shaped) is the high stability of the formed polyplexes." pg 4325.

L00183 Shibata A, McMullen E, Pham A, Belshan M, Sanford B, Zhou Y et al. Polymeric Nanoparticles Containing Combination Antiretroviral Drugs for HIV Type 1 Treatment. AIDS research and human retroviruses 2013; 29(5):746-754. >>> Poly(DL-lactide-co-glycolide); IV 0.59 dL/g in HFIP - MW 52 kDa; drug delivery (nanoparticles, efavirenz, lopinavir/ritonavir); "NP's were prepared using the emulsion-solvent evaporation method." pg 747.

L00184 Verma RK, Agrawal AK, Singh AK, Mohan M, Gupta A, Gupta P et al. Inhalable microparticles of nitric oxide donors induce phagosome maturation and kill Mycobacterium tuberculosis. Tuberculosis 2013; 93:412-417. >>> Poly(DL-lactide-co-glycolide); 50:50; drug delivery (microparticles, nitric oxide donors, isoniazid, rifabutin);

L00185 Wang Y, Yang X, Liu W, Zhang F, Cai Q, Deng X. Controlled release behaviour of protein-loaded microparticles prepared via coaxial or emulsion electrospray. Journal of Microencapsulation 2013;(0):1-8. >>> Poly(DL-lactide-co-glycolide); 75:25; MW 10 kDa in 2,2,2-trifluoroethanol or trichloromethane; drug delivery (microparticles); coaxial and emulsion electrospray; "This study indicated that the coaxial electrospray might be a superior approach to achieve sustained drug release with a minor initial burst release, which is preferable for clinical use." pg 496.

L00144 Ditto AJ, Reho JJ, Shah KN, Smolen JA, Holda JH, Ramirez RJ et al. In Vivo Gene Delivery with l-Tyrosine Polyphosphate Nanoparticles. Molecular Pharmaceutics 2013; 10(5):1836-1844. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.95-1.20 dL/g; drug delivery (nanoparticles); rat; control nanoparticles; targeted delivery (uterine myometrium).

L00147 Elizarova OS, Balaban'yan VY, Shipulo EV, Maksimenko OO, Vanchugova LV, Litvinova SA et al. Efficacy of a new colloidal form of low-sialylated polylactide-based erythropoietin in experimental hemorrhagic stroke in rats. Pharmaceutical Chemistry Journal 2013; 46(10):626-629. >>> Poly(L-lactide); IV 0.34 dL/g, IV 0.68 dL/g; drug delivery (nanoparticles);

L00150 Fontana CR, Lerman MA, Patel N, Grecco C, de Souza Costa CA, Amiji MM et al. Safety assessment of oral photodynamic therapy in rats. Lasers in medical science 2013; 28:479-486. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 12 kDa; drug delivery (nanoparticles, methylene blue); rat; nanoparticles produced by solvent displacement procedure.

L00136 Cui Y, Xu Q, Chow PK-H, Wang D, Wang CH. Transferrin-conjugated magnetic silica PLGA nanoparticles loaded with doxorubicin and paclitaxel for brain glioma treatment. Biomaterials 2013; 34(33):8511-8520. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.24-0.54 dL/g in HFIP; drug delivery (nanoparticles, doxorubicin, paclitaxel); drug loaded nanoparticles were injected IV into tumor bearing mice; in vivo biodistribution (p. 8516).

L00138 Da-Lozzo EJ, Moledo RCA, Faraco CD, Ortolani-Machado CF, Bresolin TMB, Silveira JLM. Curcumin/xanthan–galactomannan hydrogels: Rheological analysis and biocompatibility. Carbohydrate polymers 2013; 93(1):279-284. >>> Poly(L-lactide); MW 13.7 kDa; drug delivery (film); sterilization by UV irradiation; PLLA films were used as a positive control in an angiogenesis model.

L00143 Dhanda DS, Tyagi P, Mirvish SS, Kompella UB. Supercritical Fluid Technology Based Large Porous Celecoxib-PLGA Microparticles Do Not Induce Pulmonary Fibrosis and Sustain Drug Delivery and Efficacy for Several Weeks Following A Single Dose. Journal of Controlled Release 2013; 168:239-250. >>> Poly(DL-lactide-*co*-glycolide); 75:25; IV 0.63 dL/g; drug delivery (microparticles, celecoxib); mice; targeted delivery (lung); microparticles delivered using insufflator; "The present study, for the first time, has demonstrated sustained drug delivery in the lung tissues for 21 days following a single intratracheal dose of dry powder formulations of large porous particles." (p. 245); no signs of inflammation or fibrosis (pgs. 245, 248).

L00163 Acharya AP, Lewis JS, Keselowsky BG. Combinatorial co-encapsulation of hydrophobic molecules in poly (lactide-co-glycolide) microparticles. Biomaterials 2013; 34:3422-3430. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.55-0.75 dL/g; drug delivery (microspheres, PBS); parallel particle production (PPP) represents a step towards personalized medicine.

L00167 Chang PC, Chong LY, Dovban AS, Lim LP, Lim JC, Kuo MY-P et al. Sequential Platelet-Derived Growth Factor–Simvastatin Release Promotes Dentoalveolar Regeneration. Tissue Engineering Part A 2013; 20(1-2):356-364. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 31.3-43.5 kDa; drug delivery (microspheres, simvastatin); "resulting solutions were transferred to a coaxial needle (inner channel: PDLLA; outer channel: PLGA)" pg 357.

L00169 Behera T, Swain P. Alginate–chitosan-PLGA composite microspheres induce both innate and adaptive immune response through parenteral immunization in fish. Fish & shellfish immunology 2013; 35(3):785-791. >>> Poly(DL-lactide-co-glycolide); IV 0.8 dL/g - MW 50 kDa; drug delivery (microspheres, alginate, chitosan); fish (Labeo rohita, rohu, 50-60 g);

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.

L00157 Gullotti E, Park J, Yeo Y. Polydopamine-Based Surface Modification for the Development of Peritumorally Activatable Nanoparticles. Pharmaceutical Research 2013; 30(8):1956-1967. >>> Poly(DL-lactide-co-glycolide) acid terminated; 50:50; IV 0.15-0.25 dL/g - MW 4.2 kDa; drug delivery (nanoparticles, polydopamine, TAT protein, fluoresceinamine, paclitaxel);

L00160 Chaowanachan T, Krogstad E, Ball C, Woodrow KA. Drug Synergy of Tenofovir and Nanoparticle-Based Antiretrovirals for HIV Prophylaxis. PloS one 2013; 8(4):e61416. >>> Poly(DL-lactide-co-glycolide) ester terminated; 50:50; MW ~30 kDa; drug delivery (nanoparticles, efavirenz); "NP-EFV had a particle size of approximately 200 nm with low polydispersity (0.08)"; "EFV was dissolved in dichloromethane (DCM) containing 1.5% PLGA".

L00250 Marrache S, Choi JH, Tundup S, Zaver D, Harn DA, Dhar S. Immune stimulating photoactive hybrid nanoparticles for metastatic breast cancer. Integrative Biology 2013; 5(1):215-223. >>> Poly(DL-lactide-co-glycolide)-COOH; IV 0.18 dL/g; drug delivery (nanoparticles, zinc phthalocyanine, DNA);

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.

L00254 Pakulska MM, Vulic K, Shoichet MS. Affinity-based release of chondroitinase ABC from a modified methylcellulose hydrogel. Journal of Controlled Release 2013; 171(1):11-16. >>> Poly(DL-lactide-co-glycolide) ester terminated; 50:50; IV 0.15-0.25 dL/g; drug delivery (chondroitinase ABC);

L00236 Deok Kong S, Sartor M, Jack Hu CM, Zhang W, Zhang L, Jin S. Magnetic field activated lipid–polymer hybrid nanoparticles for stimuli-responsive drug release. Acta Biomaterialia 2013; 9(3):5447-5452. >>> Poly(DL-lactide-co-glycolide); drug delivery (stimuli-responsive nanoparticles, camptothecin);

L00244 Lemke CD, Geary SM, Joshi VB, Salem AK. Antigen-coated poly alpha-hydroxy acid based microparticles for heterologous prime-boost adenovirus based vaccinations. Biomaterials 2013; 34(10):2524-2529. >>> Poly(DL-lactide-co-glycolide); Poly(L-lactide); 50:50 (PLGA); 65:35 acid (PLGA); drug delivery (microparticles, ovalbumin); microspheres produced using oil-in-water single emulsion.

L00248 Lupu-Haber Y, Pinkas O, Boehm S, Scheper T, Kasper C, Machluf M. Functionalized PLGA-doped zirconium oxide ceramics for bone tissue regeneration. Biomedical microdevices 2013; 15(6):1055-1066. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.26-0.54, 0.55-0.75, 0.95-1.20 dL/g; drug delivery (microspheres, bone morphogenic protein-2);

L00262 Rescignano N, Tarpani L, Tiribuzi R, Montesano S, Martino S, Latterini L et al. Protein encapsulation in biodegradable polymeric nanoparticles: morphology, fluorescence behaviour and stem cell uptake. Macromolecular bioscience 2013; 13(9):1204-1212. >>> Poly(DL-lactide-co-glycolide) ester terminated; 50:50; IV 0.95-1.2 dL/g - MW 91.6-120 kDa; drug delivery (nanoparticles, bovine serum albumin fluorescein isothiocynate conjugate);

L00280 Filipovic N, Stevanovic M, Radulovic A, Pavlovic V, Uskokovic D. Facile synthesis of poly (ε-caprolactone) micro and nanospheres using different types of polyelectrolytes as stabilizers under ambient and elevated temperature. Composites Part B: Engineering 2013; 45(1):1471-1479. >>> Poly(e-caprolactone); drug delivery (microspheres, nanospheres); PCL particles synthesize using solvent/non-solvent method.

L00286 Kobsa S, Kristofik NJ, Sawyer AJ, Bothwell ALM, Kyriakides TR, Saltzman WM. An electrospun scaffold integrating nucleic acid delivery for treatment of fullthickness 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.

L00257 Pridgen EM, Alexis F, Kuo TT, Levy-Nissenbaum E, Karnik R, Blumberg RS et al. Transepithelial Transport of Fc-Targeted Nanoparticles by the Neonatal Fc Receptor for Oral Delivery. Science translational medicine 2013; 5(213):213ra167. >>> Poly(L-lactide) acid terminated; Poly(DL-lactide-co-glycolide) acid terminated; IV 0.50 dL/g (PLA); IV 0.20 dL/g (PLGA); drug delivery (nanoparticles, insulin); mice;

L00258 Qiu Y, Palankar R, Echeverr+¡a Ma, Medvedev N, Moya SE, Delcea M. Design of hybrid multimodal poly (lactic-co-glycolic acid) polymer nanoparticles for neutrophil labeling, imaging and tracking. Nanoscale 2013; 5(24):12624-12632. >>> Poly(DL-lactide-co-glycolide); 50:50; drug delivery (nanoparticles, quantum dots, superparamagnetic iron oxide);

L00260 Ragheb RR, Kim D, Bandyopadhyay A, Chahboune H, Bulutoglu B, Ezaldein H et al. Induced clustered nanoconfinement of superparamagnetic iron oxide in biodegradable nanoparticles enhances transverse relaxivity for targeted theranostics. Magnetic Resonance in Medicine 2013; 70(6):1748-1760. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.59 dL/g; drug delivery (nanoparticles, superparamagnetic iron oxide, coumarin-6, avidin); mice; biodistribution analyzed.

L00235 Ko JY, Choi YJ, Jeong GJ, Im GI. Sulforaphane–PLGA microspheres for the intra-articular treatment of osteoarthritis. Biomaterials 2013; 34:5359-5368. >>> Poly(DL-lactide-co-glycolide); 75:25; MW 80 kDa; drug delivery (microspheres, sulforaphane); rat; targeted delivery (knee joint).

L00202 Xiao W, Fu H, Rahaman MN, Liu Y, Sonny Bal B. Hollow hydroxyapatite microspheres: a novel bioactive and osteoconductive carrier for controlled release of bone morphogenetic protein-2 in bone regeneration. Acta Biomaterialia 2013; 9:8374-8383. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.17 dL/g in chloroform; drug delivery (microsphere, BMP-2);

L00203 Xu Q, Leong J, Chua QY, Chi YT, Chow PKH, Pack DW et al. Combined modality doxorubicin-based chemotherapy and chitosan-mediated p53 gene therapy using double-walled microspheres for treatment of human hepatocellular carcinoma. Biomaterials 2013; 34:5149-5162. >>> Poly(DL-lactide-co-glycolide); Poly(L-lactide); 50:50; IV 0.61 dL/g in HFIP; IV 1.05 dL/g in chloroform; drug delivery (microsphere, doxorubicin, chitosan-mediated p53); cancer; gene therapy.

L00204 Xu Q, Chin SE, Wang CH, Pack DW. Mechanism of drug release from double-walled PDLLA(PLGA) microspheres. Biomaterials 2013; 34:3902-3911. >>> Poly(DL-lactide-co-glycolide); poly(lactide); poly(DL-lactide); poly(L-lactide); 50:50; IV 0.61 dL/g in HFIP; IV 0.37 dL/g in chloroform; IV 0.70 dL/g in chloroform; IV 1.05 dL/g in chloroform; drug delivery (microsphere, doxorubicin); 40 days; "Double-walled PLA(PLGA) microspheres consisting of a PLGA core surrounded by a PLA shell were produced by using the established precision particle fabrication (PPF) technique" pg 3903; molecular weight of the shell layer (PDLLA) did not influence the subsequent drug release from the microspheres..." pg 3910.

L00193 Hung SW, Mody H, Marrache S, Bhutia YD, Davis F, Cho JH et al. Pharmacological Reversal of Histone Methylation Presensitizes Pancreatic Cancer Cells to Nucleoside Drugs: In Vitro Optimization and Novel Nanoparticle Delivery Studies. PloS one 2013; 8(8):e71196. >>> Poly(DL-lactide-co-glycolide) ester terminated; IV 0.18 dL/g; drug delivery (nanoparticles, gemcitabine); gemcitabine was emulsified with PLGA-b-PEG-OH in dichloromethane using probe sonication; cancer.

L00199 Chen HC, Zhan X, Shen H. Selectively targeting the toll-like receptor 9 (TLR9) - IRF 7 signaling pathway by polymer blend particles. Biomaterials 2013; 34:6464-6472. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.65 dL/g; drug delivery (nanoparticles, CpG oligonucleotides); "The blend particles were fabricated by using the double emulsion method." pg 6465.

L00201 Xia Y, Ribeiro PF, Pack DW. Controlled protein release from monodisperse biodegradable double-wall microspheres of controllable shell thickness. Journal of Controlled Release 2013; 172:707-714. >>> Poly(DL-lactide-co-glycolide); Poly(DL-lactide); 50:50; MW 4.2 kDa; MW 43 kDa; drug delivery (microsphere, BSA);

L00209 Zou P, Stern ST, Sun D. PLGA/Liposome Hybrid Nanoparticles for Short-Chain Ceramide Delivery. Pharm Res 2013; 31(3):684-693. >>> Poly(DL-lactide-co-glycolide) acid terminated; IV 0.65 dL/g - MW 30 kDa

in THF; drug delivery (nanoparticles, ceramide); ceramide-loaded PLGA nanoparticles were prepared using a nanoprecipitation method.

L00212 Kong SD, Sartor M, Hu CMJ, Zhang W, Zhang L, Jin S. Magnetic field activated lipid–polymer hybrid nanoparticles for stimuli-responsive drug release. Acta Biomaterialia 2013; 2013(9):5447-5452. >>> Poly(DL-lactide-co-glycolide); drug delivery (nanoparticles, camptothecin, iron oxide); up to 1 month;

L00231 Karal-Yilmaz O, Ozkan A, Akgun E, Kukut M, Baysal K, Avsar T et al. Controlled release of imatinib mesylate from PLGA microspheres inhibit craniopharyngioma mediated angiogenesis. Journal of Materials Science: Materials in Medicine 2013; 24(1):147-153. >>> Poly(DL-lactide-co-glycolide); 50:50; 75:25; 85:15; IV 0.65 dL/g - MW 25 kDa (average); drug delivery (microspheres; imatinib mesylate); rat; microspheres prepared by water-oil-in-water double emulsion/solvent evaporation; targeted delivery (cornea).

L00205 Xu Q, Qin H, Yin Z, Hua J, Pack DW. Coaxial electrohydrodynamic atomization process for production of polymeric composite microspheres. Chemical Engineering Science 2013; 104:330-346. >>> Poly(DL-lactide-co-glycolide); Poly(DL-lactide); 50:50; IV 0.61 dL/g in HFIP; IV 0.37 dL/g in chloroform; IV 0.70 dL/g in chloroform; drug delivery (microsphere, doxorubicin); PLGA and PDLLA were individually dissolved in dichloromethane (DCM) to prepare polymer concentrations that ranged from 5%to 20% (w/v).

L00206 Yandrapu S, Kompella UB. Development of Sustained-Release Microspheres for the Delivery of SAR 1118, an LFA-1 Antagonist Intended for the Treatment of Vascular Complications of the Eye. Journal of Ocular Pharmacology and Therapeutics 2013; 29(2):236-248. >>> Poly(L-lactide); poly(DL-lactide-co-glycolide); 50:50; 75:25; 85:15; IV 0.3-0.5 dL/g; drug delivery (microsphere, SAR 1118); 1, 3, 6 months; SAR 1118 is a lymphocyte function-associated antigen-1 antagonist.

L00207 Youm I, Younan BBC. Validated Reverse-Phase High-Performance Liquid Chromatography for Quantification of Furosemide in Tablets and Nanoparticles. Journal of Analytical Methods in Chemistry 2013; 2013:1-9. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.4, 0.58, 0.8 dL/g; drug delivery (nanoparticles, furosemide);

L00228 Cai T, Hu PD, Sun M, Zhou J, Tsai YT, Baker D et al. Novel thermogelling dispersions of polymer nanoparticles for controlled protein release. Nanomedicine: Nanotechnology, Biology, and Medicine 2012; 8:1301-1308. >>> Poly(L-lactide); MW 137 kDa; drug delivery (microparticles); mice (BALB/c, 8-12 wks old, male, 20-25 g); 2 week drug administration; PLLA microparticles used as control vs IPN nanoparticles.

L00161 Hu C, Feng H, Zhu C. Preparation and characterization of rifampicin-PLGA microspheres/sodium alginate in situ gel combination delivery system. Colloids and Surfaces B: Biointerfaces 2012; 95:162-169. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 55.3 kDa; drug delivery (microspheres, rifampicin, fluorescent marker); mice, rat; targeted delivery (lung); microspheres prepared using a solvent evaporation method; some microspheres with fluorescent marker in place of drug - in vivo retention evaluated using Kodak imaging system.

L00146 Kwon D, Lee BN, Seo HW, Kwon JS, Lee B, Han DK et al. Injectable in situ-forming hydrogels for a suppression of drug burst from drug-loaded microcapsules. Soft Matter 2012; 8(29):7638-7648. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 33 kDa; drug delivery (microcapsules); rat; sterilization by ETO.

L00230 Kadam RS, Tyagi P, Edelhauser HF, Kompella UB. Influence of choroidal neovascularization and biodegradable polymeric particle size on transscleral sustained delivery of triamcinolone acetonide. International Journal of Pharmaceutics 2012; 434(1):140-147. >>> Poly(L-lactide); IV 0.95-1.20 dL/g; drug delivery (nanoparticles, nanoparticles; triamcinolone acetonide); rat; targeted delivery (eye: subconjunctival space); nanoparticles prepared by o/w emulsion-solvent evaporation.

L00222 Mitra M, Mohanty C, Harilal A, Maheswari UK, Sahoo SK, Krishnakumar S. A novel in vitro three-dimensional retinoblastoma model for evaluating chemotherapeutic drugs. Molecular vision 2012; 18:1361-1378. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.41 dL/g - MW 34 kDa in chloroform; drug delivery (microparticles, doxorubicin); "a solution of 100 mg of PLGA polymer and 10 mg of doxorubicin (DOX) in 3 ml of 12.5% (v/v) methanol in chloroform solution was emulsified in 12 ml of 2% w/v aqueous solution of PVA to form an oil-in-water emulsion."; cancer.

L00213 Steinbach JM, Weller CE, Booth CJ, Saltzman WM. Polymer nanoparticles encapsulating siRNA for treatment of HSV-2 genital infection. Journal of Controlled Release 2012; 162(2012):102-110. >>> Poly(DL-lactide-co-glycolide) acid terminated; IV 0.55-0.75 dL/g in dichloromethane; drug delivery (nanoparticles, siRNA, nectin-1 sense, antisense, UL29.2 sense, antisense); "here we show for the first time, that our NPs formed from FDA-approved PLGA prevent lethal intravaginal infection of HSV-2 in mice." pg 109.

L00211 Das M, Sahoo SK. Folate Decorated Dual Drug Loaded Nanoparticle: Role of Curcumin in Enhancing Therapeutic Potential of Nutlin-3a by Reversing Multidrug Resistance. PloS one 2012; 7(3):1-18. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.41 dL/g; drug delivery (nanoparticles, folate); nanoparticles prepared by oil-in-water single emulsion-solvent evaporation technique; cancer.

L00218 Yang J, Zeng Y, Zhang C, Chen YX, Yang Z, Li Y et al. The prevention of restenosis in vivo with a VEGF gene and paclitaxel co-eluting stent. Biomaterials 2012; 2012(34):1635-1643. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 60 kDa; drug delivery (nanoparticles, VEGF plasmid, paclitaxel); "we have developed a stent coated with bi-layered PLGA nanoparticles... containing VEGF plasmid in the outer layer and paclitaxel in the inner core" pg 1635.

L00216 Behera A, Sahoo SK. Preparation and Evaluation of Glibenclamide-Loaded Biodegradable Nanoparticles. Tropical Journal of Pharmaceutical Research 2012; 11(3):345-350. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.41 dL/g; drug delivery (nanoparticles, glibenclamide); "GB-loaded PLGA NPs were successfully prepared by emulsification/solvent evaporation method using varying GB/PLGA ratios." pg 349.

L00140 Date AA, Shibata A, Goede M, Sanford B, La Bruzzo K, Belshan M et al. Development and evaluation of a thermosensitive vaginal gel containing raltegravir+ efavirenz loaded nanoparticles for HIV prophylaxis. Antiviral Research 2012; 96(3):430-436. >>> Poly(DL-lactide-*co*-glycolide); IV 0.59 dL/g in HFIP - MW 52 kDa; drug delivery (nanoparticles, raltegravir, efavirenz);

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.

L00115 Korbelik M, Madiyalakan R, Woo T, Haddadi A. Antitumor Efficacy of Photodynamic Therapy Using Novel Nanoformulations of Hypocrellin Photosensitizer SL052. Photochemistry and Photobiology 2012; 88(1):188-193. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.26-0.54 dL/g in HFIP; drug delivery (nanoparticles, SL052); mice; "PLGA has many advantages such as biodegradability, biocompatibility with a wide range of drugs, suitable biodegradation kinetics and physicochemical properties and ease of processing" p.188; Comparison of nanocarrier systems based on PLGA-NPs and PVP-NPs.

L00233 Klepac-Ceraj V, Patel N, Song X, Holewa C, Patel C, Kent R et al. Photodynamic effects of methylene blue–loaded polymeric nanoparticles on dental plaque bacteria. Lasers in surgery and medicine 2011; 43(7):600-606. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 12 kDa; drug delivery (nanoparticles, methylene blue); nanoparticles prepared by solvent displacement method.

L00225 Yallapu MM, Ebeling MC, Chauhan N, Jaggi M, Chauhan SC. Interaction of curcumin nanoformulations with human plasma proteins and erythrocytes. International Journal of Nanomedicine 2011; 6:2779-2790. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 1.32 dL/g at 30C; drug delivery (nanoparticles, curcumin, dendrimer); "nanoformulation(s) based on polylactic-co-glycolic acid (PLGA), ß-cyclodextrin, cellulose, nanogel, and dendrimers"; cancer.

L00158 Han H, Peng JR, Chen PC, Gong L, Qiao SS, Wang WZ et al. A novel system of artificial antigen-presenting cells efficiently stimulates Flu peptide-specific cytotoxic T cells in vitro. Biochemical and

Biophysical Research Communications 2011; 411(3):530-535. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.55-0.75 dL/g - MW 8 kDa; drug delivery (nanoparticles, interleukin-2); microspheres produced by double emulsion water-in-oil-in-water method.

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.

L00245 Li Z, Li L, Liu Y, Zhang H, Li X, Luo F et al. Development of interferon alpha-2b microspheres with constant release. International Journal of Pharmaceutics 2011; 410(1):48-53. >>> Poly(DL-lactide-co-glycolide); 50:50; MW 10 kDa; drug delivery (interferon alpha-2b); rat; microspheres produced by three methods: solid in oil in oil, water in oil in water, and solid in oil in water.

L00195 Acharya S, Sahoo SK. Sustained targeting of Bcr –Abl+ leukemia cells by synergistic action of dual drug loaded nanoparticles and its implication for leukemia therapy. Biomaterials 2011; 32(24):5643-5662. >>> Poly(DL-lactide-co-glycolide); 50:50; IV 0.41dL/g - MW 34 kDa; drug delivery (nanoparticles, paclitaxel, doxorubicin, etoposide, rapamycin, nutilin, curcumin); "Drug loaded PLGA nanoparticles were prepared by oil-in-water (O/W) single emulsion solvent evaporation method..." pg 5644.

L00223 Ma W, Smith T, Bogin V, Zhang Y, Ozkan C, Ozkan M et al. Enhanced presentation of MHC class Ia, Ib and class II-restricted peptides encapsulated in biodegradable nanoparticles: a promising strategy for tumor immunotherapy. Journal of translational medicine 2011; 9(1):34-43. >>> Poly(DL-lactide-co-glycolide); drug delivery (nanoparticles, peptide antigens); peptides used (MART-127-35, gp100209-217\, mSTEAP326-335, murine TCR Vb8.2 chain peptides: B5 (76-101), p42 (42-50)); cancer.

L00229 Zou L, Nair A, Weng H, Tsai YT, Hu Z, Tang L. Intraocular Pressure Changes: An Important Determinant of the Biocompatibility of Intravitreous Implants. PloS one 2011; 6(12):1-9. >>> Poly(L-lactide); MW 137 kDa; drug delivery (nanoparticles); rabbit (Dutch, 4-5 lbs);

L00156 Griffin J, DelgadoΓÇÉRivera 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.

L00243 Lei NY, Ma G, Zupekan T, Stark R, Puder M, Dunn JC. Controlled release of vascular endothelial growth factor enhances intestinal adaptation in rats with extensive small intestinal resection. Surgery 2011; 150(2):186-190. >>> Poly(DL-lactide-co-glycolide); 85:15; IV 0.61 dL/g in chloroform; drug delivery (microspheres, vascular endothelial growth factor); rat; targeted delivery (small bowel anastamosis), microspheres produced by water-in-oil double-emulsion solvent extraction and evaporation.

L00112 Hu CMJ, Kaushal S, Cao HST, Aryal S, Sartor M, Esener S et al. Half-Antibody Functionalized Lipid – Polymer Hybrid Nanoparticles for Targeted Drug Delivery to Carcinoembryonic Antigen Presenting Pancreatic Cancer Cells. Molecular Pharmaceutics 2010; 7(3):914-920. >>> Poly(DL-lactide-*co*-glycolide); IV 0.16 dL/g; drug delivery (nanoparticles, paclitaxel); in vitro; cancer (pancreatic).

L00113 Fang RH, Aryal S, Hu CMJ, Zhang L. Quick Synthesis of Lipid – Polymer Hybrid Nanoparticles with Low Polydispersity Using a Single-Step Sonication Method. Langmuir 2010; 26(22):16958-16962. >>> Poly(DL-lactide-*co*-glycolide); IV 0.82 dL/g; drug delivery (nanoparticles); bare PLGA nanoparticles served as a positive control.

L00111 Liu G, Miao X, Fan W, Crawford R, Xiao Y. Porous PLGA microspheres effectively loaded with BSA protein by electrospraying combined with phase separation in liquid nitrogen. Journal of Biomimetics, Biomaterials, and Tissue Engineering 2010; 6:1-18. >>> Poly(DL-lactide-*co*-glycolide); 75:25; IV 0.55-0.75 dL/g in chloroform; drug delivery (microspheres, bovine serum albumin); electrospraying; graphic of emulsion technique fig 1 p. 3.

L00109 Almeria B, Deng W, Fahmy TM, Gomez A. Controlling the morphology of electrospray-generated PLGA microparticles for drug delivery. Journal of Colloid and Interface Science 2010; 343(1):125-133. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.55 - 0.75 dL/g - MW 53.8 kDa in TFE; drug delivery (microspheres); electrospray drying.

L00092 Zaman N, Talukder MMU, Haque T, Alam MK, Fatema K. Development of L-PLA based Intrascleral Implant for Sustained Intraocular Delivery of Dexamethasone Sodium Phosphate. Stamford Journal of Pharmaceutical Sciences 2010; 2(1):56-60. >>> Poly(L-lactide); MW 61.2 kDa; drug delivery (instrascleral implant, dexamethasone sodium phosphate); in vitro; >30 days; release profile, p. 58; "it is clear that biodegradable intrascleral implants can be easily prepared by using L-PLA (MW 61,200) which may provide a long term delivery of dexamethasone sodium phosphate inside the eye.".

L00114 Chan JM, Valencia PM, Zhang L, Langer R, Farokhzad OC. Polymeric nanoparticles for drug delivery. Methods in Molecular Biology 2010; 624:163-175. >>> Poly(DL-lactide-*co*-glycolide); drug delivery (nanoparticles); Book chapter (chpt 11).

L00105 Soderquist RG, Sloane EM, Loram LC, Harrison JA, Dengler EC, Johnson SM et al. Release of plasmid DNA-encoding IL-10 from PLGA microparticles facilitates long-term reversal of neuropathic pain following a single intrathecal administration. Pharmaceutical Research 2010; 27(5):841-854. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 75 kDa; drug delivery (microspheres, pDNA-IL-10); "In vitro pDNA release analysis demonstrated that 30% of the pDNA was released after 3 days, and steady release was achieved for greater than 75 days (Fig. 1d)" p. 4.

L00010 Acharya G, Shin CS, McDermott M, Mishra H, Park H, Kwon IC et al. The hydrogel template method for fabrication of homogeneous nano/microparticles. Journal of Controlled Release 2010; 141:314-319. >>> Poly(DL-lactide-*co*-glycolide); IV 0.7 dL/g - MW 36 kDa; IV 0.82 dL/g - MW 65 kDa; IV 1.3 dL/g - MW 112 kDa; drug delivery (microspheres, felodipine); in vitro; hydrogel template.

L00108 Acharya G, Shin CS, Vedantham K, McDermott M, Rish T, Hansen K et al. A study of drug release from homogeneous PLGA microstructures. Journal of Controlled Release 2010; 146(2):201-206. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.7 dL/g - MW 36 kDa; IV 0.82 dL/g - MW 65 kDa; IV 1.3 dL/g - MW 112 kDa; drug delivery (microspheres, felodipine, risperidone, progesterone, and paclitaxel); in vitro; comparison of release rate vs particle size; release rate graphs p. 204.

L00063 Wang C, Muttil P, Lu D, Beltran-Torres AA, Garcia-Contreras L, Hickey AJ. Screening for Potential Adjuvants Administered by the Pulmonary Route for Tuberculosis Vaccines. The AAPS Journal 2009; 11(1):139-147. >>> Poly(DL-lactide-*co*-glycolide); 75:25; IV 0.68 dL/g in CHCl3 - MW 84.7 kDa; drug delivery (microspheres, muramyl dipeptide; trehalose dibehenate); in vitro; microspheres were prepared by spray drying; more TNFa was produced by THP-1 cells exposed to MPs composed of PLGA-MDP or PLGA alone than PLGA-TDB. LDH release following exposure to MPs of PLGA-MDP and PLGA alone was greater than controls. NAG release was higher following exposure to MPs of PLGA alone or PLGA-MDP 0.1% than PLGA-TDB (0.1% and 1.0%).

L00069 Stevanovi M, Maksin T, Petkovi J, Filipi M, Uskokovi D. An innovative, quick and convenient labeling method for the investigation of pharmacological behavior and the metabolism of poly (DL-lactide-co-glycolide) nanospheres. Nanotechnology 2009; 20:1-12. >>> Poly(DL-lactide-*co*-glycolide); MW 40-50 kDa; drug delivery (nanoparticles); in vitro; "Neither PLGA nanospheres nor PLGA/ascorbic acid 85:15% nanoparticles significantly affected the viability of the HepG2 cells" p. 1.

L00043 Gharibjanian NA, Chua WC, Dhar S, Scholz T, Shibuya TY, Evans GRD et al. Release Kinetics of Polymer-Bound Bone Morphogenetic Protein-2 and Its Effects on the Osteogenic Expression of MC3T3-E1 Osteoprecursor Cells. Plastic and Reconstructive Surgery 2009; 123(4):1169-1177. >>> Poly(DL-lactide-*co*-glycolide); 85:15; MW 40-75 kDa; drug delivery (drug eluting scaffold, BMP-2); in vitro; PLGA vs PCL drug release graph p. 1174.

L00062 Yang C, Plackett D, Needham D, Burt HM. PLGA and PHBV Microsphere Formulations and Solid-State Characterization: Possible Implications for Local Delivery of Fusidic Acid for the Treatment and Prevention of Orthopaedic Infections. Pharmaceutical Research 2009; 26(7):1644-1656. >>> Poly(DL-lactide-*co*-glycolide);

85:15; 50:50; IV 0.61 dL/g in chloroform - MW ~86 kDa; 0.58 dL/g in HFIP - MW ~84 kDa; drug delivery (microspheres, fusidic acid); in vitro; 15-20 weeks (85:15); increasing the initial drug loading from 10-30% (w/w) in the PLGA (85:15) microspheres produced a corresponding increase in encapsulation efficiency from 76±6% to 89±1%.

L00052 Carpenedo RL, Bratt-Leal AM, Marklein RA, Seaman SA, Bowen NJ, McDonald JF et al. Homogeneous and organized differentiation within embryoid bodies induced by microsphere-mediated delivery of small molecules. Biomaterials 2009; 30(13):2507-2515. >>> Poly(DL-lactide-*co*-glycolide); 50:50; drug delivery (microspheres); in vitro;

L00046 Basarkar A, Singh J. Poly (lactide-co-glycolide)-Polymethacrylate Nanoparticles for Intramuscular Delivery of Plasmid Encoding Interleukin-10 to Prevent Autoimmune Diabetes in Mice. Pharmaceutical Research 2009; 26(1):72-81. >>> Poly(DL-lactide-*co*-glycolide); IV 0.17 dL/g - MW 10 kDa; drug delivery (nanoparticles, IL-10 plasmid); mice (male BALB/c mice, 5-6 week old); intramuscular.

L00045 Reddy MK, Labhasetwar V. Nanoparticle-mediated delivery of superoxide dismutase to the brain: an effective strategy to reduce ischemia-reperfusion injury. The FASEB Journal 2009; 23(5):1384-1395. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 1.32 dL/g; drug delivery (nanoparticles, superoxide-dismutase); rat (Sprague-Dawley, male, 250-300 g); Cerebral ischemia injury model; animals receiving SOD-NPs (10,000 U of SOD/ kg) demonstrated a 65% reduction in infarct volume; the mechanism of efficacy appears to be due to sustained delivery of the encapsulated SOD" p. 1394; targeted delivery (brain).

L00055 Cartiera MS, Ferreira EC, Caputo C, Egan ME, Caplan MJ, Saltzman WM. Partial Correction of Cystic Fibrosis Defects with PLGA Nanoparticles Encapsulating Curcumin. Molecular Pharmaceutics 2009; 7(1):86-93. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.59 dL/g - MW 30-70 kDa; drug delivery (nanoparticles, curcumin); mice (C57/BL6); "Oral administration of PLGA nanoparticles encapsulating curcumin enhances the effects of curcumin therapy in CF mice, as compared to delivery of nonencapsulated curcumin." p. 86; "PLGA is a widely used biodegradable polymer and has been shown to have bioadhesive properties that facilitate its binding with the mucosa of the GI tract p. 92".

L00080 Li B, Yoshii T, Hafeman AE, Nyman JS, Wenke JC, Guelcher SA. The effects of rhBMP-2 released from biodegradable polyurethane/microsphere composite scaffolds on new bone formation in rat femora. Biomaterials 2009; 30(35):6768-6779. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.58 dL/g; drug delivery (drug eluting scaffold, rhBMP-2); rat; LACTEL polymer was used to create the biodegradable microsphere composite layer.

L00034 Kraft KS, Grant M. Preparation of macromolecule-containing dry powders for pulmonary delivery. Methods in molecular biology (Clifton, NJ) 2009; 480:165. >>> Poly(DL-lactide-*co*-glycolide); drug delivery (macromolecules, spray dried); Targeted delivery (lung).

L00148 Woodrow KA, Cu Y, Booth CJ, Saucier-Sawyer JK, Wood MJ, Saltzman WM. Intravaginal gene silencing using biodegradable polymer nanoparticles densely loaded with small-interfering RNA. Nature materials 2009; 8(6):526-533. >>> Poly(DL-lactide-co-glycolide) ester terminated; 50:50; IV 0.55-0.75 dL/g; drug delivery (nanoparticles, siRNA); mice; "We chose to build a delivery system from PLGA because it is already FDA-approved for a variety of clinical applications and has been used safely in humans for several decades." (p. 531); targeted delivery (intravaginal).

L00033 Wu J, Ding D, Ren G, Xu X, Yin X, Hu Y. Sustained delivery of endostatin improves the efficacy of therapy in Lewis lung cancer model. Journal of Controlled Release 2009; 134(2):91-97. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.37 dL/g; drug delivery (microspheres, endostatin); mice; rats; 30 days; dose (60, 30, and 10 mg/kg); peptide; microsphere encapsulation technique p. 91, 92; no burst release found. "The use of PLGA microspheres further reduced the amount of endostatin needed to achieve significant tumor inhibition in mice when compared with systemic administration..." p. 96; targeted delivery (tumor).

L00019 Kim BS, Oh JM, Kim KS, Seo KS, Cho JS, Khang G et al. BSA-FITC-loaded microcapsules for in vivo delivery. Biomaterials 2009; 30(5):902-909. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 14.5 kDa; drug delivery (microcapsules, BSA-FITC core, PLGA shell); rat (Sprague-Dawley, 320-350 g, 8 weeks old); >4 weeks; "BSA-FITC-loaded microcapsules achieved sustained release of BSA-FITC, suggesting that microcapsules manufactured as described may be useful for in vivo delivery of pharmacologically active

proteins." Schematic depiction of the mono-axial nozzle ultrasonic atomizer microencapsulation method p. 904; delivery SC.

L00016 Lee W, Wiseman ME, Cho NJ, Glenn JS, Frank CW. The reliable targeting of specific drug release profiles by integrating arrays of different albumin-encapsulated microsphere types. Biomaterials 2009; 30(34):6648-6654. >>> Poly(DL-lactide-*co*-glycolide); 50:50; 65:35; 75:25; 85:15; MW 85 kDa (50:50); MW 95 kDa (65:35); MW 75 kDa (75:25); MW 80 kDa (85:15); drug delivery (microspheres, bovine serum albumin); Good methods and determination of release profile (p. 6649).

L00015 Dong Y, Chin SF, Blanco E, Bey EA, Kabbani W, Xie XJ et al. Intratumoral Delivery of beta-Lapachone via Polymer Implants for Prostate Cancer Therapy. Clinical Cancer Research 2009; 15(1):131-139. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.65 dL/g - 50 kDa; drug delivery (millirods, beta-lapachone); mice (nude); in vitro; antitumor efficacy studies showed significant tumor growth inhibition by b-lapachone millirods compared with controls; millirods implanted intratumoraly; "tumor-bearing mice treatedwith b-lapachone millirods survived nearly 2-fold longer than controls, without observable systemic toxicity; this strategy [polymer implant] proves advantageous because therapeutic levels of a desired anticancer agent are maintained for prolonged periods while reducing systemic side effects;" drug release graph (p.134); targeted delivery (tumor).

L00001 Acharya S, Dilnawaz F, Sahoo SK. Targeted epidermal growth factor receptor nanoparticle bioconjugates for breast cancer therapy. Biomaterials 2009; 30(29):5737-5750. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.41 dL/g - MW 34 kDa; drug delivery (nanoparticles, rapamycin); in vitro; good methods p. 5738 (nanoparticle preparation); therapeutic indication (breast cancer); selective drug delivery; surface coated with AB; 18% of drug was released after 24 hours and 50% after 15 days.

L00002 Acharya AP, Clare-Salzler MJ, Keselowsky BG. A high-throughput microparticle microarray platform for dendritic cell-targeting vaccines. Biomaterials 2009; 30(25):4168-4177. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.55-0.75 dL/g in HFIP; drug delivery (microspheres); degraded 10% in 12 hours at pH 7.4; higher acidity = faster degradation; therapeutic indication (immunotherapy).

L00006 Benny O, Menon LG, Ariel G, Goren E, Kim SK, Stewman C et al. Local Delivery of Poly Lactic-co-glycolic Acid Microspheres Containing Imatinib Mesylate Inhibits Intracranial Xenograft Glioma Growth. Clinical Cancer Research 2009; 15(4):1222. >>> Poly(DL-lactide-*co*-glycolide); 75:25; 85:15; MW 20 kDa; drug delivery (microspheres, imatinib mesylate); mice (nude); "This is the first study to show the therapeutic efficacy of the local delivery of imatinib mesylate using a polymeric delivery system. A single local injection of PLGA microspheres loaded with a low concentration of imatinib mesylate led to 88% and 79% reduction in s.c. human (U87-MG) and murine (GL261) glioma tumors, respectively." 100% drug release by day 30 for both IV's; microspheres had a mean size of 33.83 microns in diameter; in vitro results clearly show that the PLGA preparation procedure does not affect the biological activity of imatinib mesylate; therapeutic indication (cancer); targeted delivery (tumor).

L00073 Gu F, Langer R, Farokhzad OC. Formulation/preparation of functionalized nanoparticles for in vivo targeted drug delivery. Methods in molecular biology (Clifton, NJ) 2009; 544(Chapter 37):589-598. >>> Poly(DL-lactide-*co*-glycolide); drug delivery (nanoparticles, docetaxel); mice (nude); PEG was added to PLGA; "The PLGA viscosity can influence the rate of PLGA- *b* -PEG conjugation. For high-viscosity PLGA, dilute PLGA in DCM to 0.1-0.25 g/mL before adding EDC/NHS." p. 597.

L00041 Demento SL, Eisenbarth SC, Foellmer HG, Platt C, Caplan MJ, Mark Saltzman W et al. Inflammasome-activating nanoparticles as modular systems for optimizing vaccine efficacy. Vaccine 2009; 27(23):3013-3021. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.59 dL/g; drug delivery (nanoparticles, LPS); mice (C57BL/6, 6-8 weeks old); SC, intranasal, oral.

L00014 Yang Y, Bajaj N, Xu P, Ohn K, Tsifansky MD, Yeo Y. Development of highly porous large PLGA microparticles for pulmonary drug delivery. Biomaterials 2009; 30(10):1947-1953. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.18 dL/g - MW 4 kDa; drug delivery (microspheres, lysozyme; doxorubicin hydrochloride); microparticles (average diameter,10-20 micron) were made by the double-emulsion method; microspheres used for pulmonary drug delivery (inhalation); microscopy images of microparticles in various porosities.

L00013 Molavi O, Ma Z, Hamdy S, Lavasanifar A, Samuel J. Immunomodulatory and anticancer effects of intra-tumoral co-delivery of synthetic lipid A adjuvant and STAT3 inhibitor, JSI-124. Immunopharmacology and immunotoxicology 2009; 31(2):214-221. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 7 kDa; drug delivery (nanoparticles, ligand, 7-acyl lipid); mice (C57BL/6 male, 6 to 10 weeks old); PLGA-NP delivery of 7-acyl lipid A to DCs reduced the suppressive effects of Treg cells on T cells in vitro; the average tumor volume in the tumor-bearing mice that received JSI-124 plus 7-acyl lipid A PLGA-NPs combination therapy was found to be significantly lower than that in PBS and monotherapy groups; targeted delivery (tumor).

L00104 Zidan AS, Sammour OA, Hammad MA, Megrab NA, Habib MJ, Khan MA. Process analytical technology: Non-destructive assessment of anastrozole entrapment within PLGA microparticles by near infrared spectroscopy and chemical imaging. Journal of Microencapsulation 2008; 25(3):145-153. >>> Poly(DL-lactide-*co*-glycolide); 50:50; drug delivery (microspheres, anastrozole); microencapsulation; SEM photographs of PLGA microspheres p. 148.

L00103 Patel AR, Kulkarni S, Nandekar TD, Vavia PR. Evaluation of alkyl polyglucoside as an alternative surfactant in the preparation of peptide-loaded nanoparticles. Journal of Microencapsulation 2008; 25(8):531-540. >>> Poly(DL-lactide); poly(DL-lactide-*co*-glycolide); 50:50; MW 2 kDa, MW 28.022 kDa; drug delivery (nanoparticles, peptide); rabbit; "PLGA is considered to be relatively less hydrophobic as compared to PLA. Thus, NP preparation using PLA as the polymer requires a higher amount of surfactant as compared to PLGA." p. 536.

L00044 Reddy MK, Wu L, Kou W, Ghorpade A, Labhasetwar V. Superoxide dismutase-loaded PLGA nanoparticles protect cultured human neurons under oxidative stress. Applied Biochemistry and Biotechnology 2008; 151(2):565-577. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 23 kDa; drug delivery (nanoparticles, superoxide-dismutase); in vitro; "The neuroprotective effect of SOD-NPs is dose-dependent, with efficacy seen at >100 U SOD, with less significant effects at lower doses" p. 1; studied biocompatibility of PLGA-NPs with human neurons.

L00075 Jackson JK, Higo T, Hunter WL, Burt HM. Topoisomerase inhibitors as anti-arthritic agents. Inflammation Research 2008; 57(3):126-134. >>> Poly(ε-caprolactone); MW 13 kDa; drug delivery (polymeric pellets, topoisomerase inhibitors); "PCL is a biocompatible, biodegradable polymer that provides a slow controlled release of the loaded drug into aqueous and biological media" p. 127.

L00042 Coowanitwong I, Arya V, Kulvanich P, Hochhaus G. Slow Release Formulations of Inhaled Rifampin. The AAPS Journal 2008; 10(2):342-348. >>> Polylactic acid; poly(DL-lactide-*co*-glycolide); MW 75-125 kDa; 40-65 kDa; drug delivery (microspheres, rifampin); rat (Sprague-Dawley, 250-330 grams); In our study, the profiles of microspheres containing PLA show a slower release rate compared to the microspheres coated with PLGA. This can be attributed to the higher crystallinity of the PLA as compared to PLGA; release profiles Pgs. 346-347.

L00071 Hamdy S, Molavi O, Ma Z, Haddadi A, Alshamsan A, Gobti Z et al. Co-delivery of cancer-associated antigen and Toll-like receptor 4 ligand in PLGA nanoparticles induces potent CD8+ T cell-mediated anti-tumor immunity. Vaccine 2008; 26:5046-5057. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 7 kDa; drug delivery (nanoparticles); mice (tumor bearing); "In addition to their biocompatibility and biodegradability, PLGA nanoparticles (PLGA-NP) offer great flexibility with respect to the manipulation of physicochemical properties of the polymer and the range of antigens and immunomodulators that they can accommodate." p.5046; cancer research.

L00070 Teply BA, Tong R, Jeong SY, Luther G, Sherifi I, Yim CH et al. The use of charge-coupled polymeric microparticles and micromagnets for modulating the bioavailability of orally delivered macromolecules. Biomaterials 2008; 29(9):1216-1223. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.18 dL/g in HFIP; drug delivery (microspheres); in vitro; in vivo (mice);

L00077 Gu F, Zhang L, Teply BA, Mann N, Wang A, Radovic-Moreno AF et al. Precise engineering of targeted nanoparticles by using self-assembled biointegrated block copolymers. Proceedings of the National Academy of Sciences 2008; 105(7):2586-2591. >>> Poly(DL-lactide-*co*-glycolide); IV 0.67 g/dL in HFIP - MW 100 kDa; drug delivery (nanoparticles, docetaxel); 3 days; drug released at a sustained rate for 3 days; targeted delivery (tumor).

L00027 Zhang L, Chan JM, Gu FX, Rhee JW, Wang AZ, Radovic-Moreno AF et al. Self-Assembled Lipid-Polymer Hybrid Nanoparticles: A Robust Drug Delivery Platform. ACS nano 2008; 2(8):1696-1702. >>> Poly(DL-lactide-*co*-glycolide); drug delivery (nanoparticles); in vitro;

L00095 Lu J, Jackson JK, Gleave ME, Burt HM. The preparation and characterization of anti-VEGFR2 conjugated, paclitaxel-loaded PLLA or PLGA microspheres for the systemic targeting of human prostate tumors. Cancer Chemotherapy and Pharmacology 2008; 61(6):997-1005. >>> Poly(DL-lactide-*co*-glycolide); 85:15; IV 0.61 dL/g; drug delivery (microspheres, paclitaxel); prostate cancer; "it is now recognized that microspheres in the 1-3 micron size range may allow for unrestricted circulation of microspheres [1, 6] without physical entrapment by capillaries." p. 998; effect of PLGA concentration on the particle size distribution of PLGA microspheres p. 1000; release compared between PLLA and PLGA.

L00084 Rao KS, Reddy MK, Horning JL, Labhasetwar V. TAT-conjugated nanoparticles for the CNS delivery of anti-HIV drugs. Biomaterials 2008; 29(33):4429-4438. >>> Poly(L-lactide); IV 0.4 dL/g - MW 40 kDa; drug delivery (nanoparticles); mice; targeted delivery (CNS).

L00025 Zhao H, Gagnon J, Hafeli UO. Process and formulation variables in the preparation of injectable and biodegradable magnetic microspheres. BioMagnetic Research and Technology 2007; 5(1):2. >>> Poly(DL-lactide- *co*-glycolide); 85:15; IV 0.61 dL/g - MW 23.878 kDa; drug delivery (microspheres, magnetic); microspheres were fabricated using a water-in-oil-in-water (w/o/w) double emulsion solvent evaporation method.

L00028 Townsend SA, Evrony GD, Gu FX, Schulz MP, Brown RH, Langer R. Tetanus toxin C fragment-conjugated nanoparticles for targeted drug delivery to neurons. Biomaterials 2007; 28(34):5176-5184. >>> Poly(DL-lactide-*co*-glycolide); MW 20 k/Da; drug delivery (nanoparticles, tetanus toxin C); in vitro;

L00097 Sweet JL, Pillay V, Choonara YE. Design and Development of a Novel Controlled Release PLGA Alginate-Pectinate Polyspheric Drug Delivery System. Drug Delivery 2007; 14(5):309-318. >>> Poly(DL-lactide-*co*-glycolide); 85:15; IV 0.72dL/g - MW 100 kDa; drug delivery (microspheres, diclofenac sodium); in vitro; in vivo (rats, male, 300 grams); microspheres were crosslinked to polyspheres to reduce initial burst effect; drug release rate chart / comparison p. 316.

L00117 Gu H, Song C, Long D, Mei L, Sun H. Controlled release of recombinant human nerve growth factor (rhNGF) from poly [(lactic acid)-co-(glycolic acid)] microspheres for the treatment of neurodegenerative disorders. Polymer International 2007; 56(10):1272-1280. >>> Poly(DL-lactide-*co*-glycolide); 75:25; IV 1.1 dL/g in chloroform; drug delivery (microspheres, rhNGF); in vivo (Rats, Sprague Dawley, 250-300 g); in vitro; 3-5 weeks; delivery was for 4 weeks; electron micrographs of microspheres at various time points p. 1275; release rate to time graphs p. 1276; encapsulation of rhNGF in PLGA microspheres provides a sustained release formulation with low initial burst (11.4%) for at least 35 days *in vitro*.

L00078 Liman M, Peiser L, Zimmer G, Pr÷psting M, Naim HY, Rautenschlein S. A genetically engineered prime-boost vaccination strategy for oculonasal delivery with poly (D,L-lactic-co-glycolic acid) microparticles against infection of turkeys with avian Metapneumovirus. Vaccine 2007; 25(46):7914-7926. >>> Poly(DL-lactide-*co*-glycolide); drug delivery (microspheres); in vitro (cell culture); "The PLGA-MP as the controlled release system were shown in vitro to efficiently deliver the F protein-based aMPV-vaccines to avian cells" p. 7924.

L00072 Hamdy S, Haddadi A, Somayaji V, Ruan D, Samuel J. Pharmaceutical analysis of synthetic lipid A-based vaccine adjuvants in poly (D,L-lactic-*co*-glycolic acid) nanoparticle formulations. Journal of pharmaceutical and biomedical analysis 2007; 44(4):914-923. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 7 kDa; drug delivery (nanoparticles); cancer research.

L00059 Cheng J, Teply BA, Sherifi I, Sung J, Luther G, Gu FX et al. Formulation of functionalized PLGA-PEG nanoparticles for in vivo targeted drug delivery. Biomaterials 2007; 28(5):869-876. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.20 dL/g in HFIP - MW 17 kDa; drug delivery (nanoparticles); mice (xenograft prostate cancer model); Targeted delivery (tumor).

L00096 Sharma R, Muttil P, Yadav AB, Rath SK, Bajpai VK, Mani U et al. Uptake of inhalable microparticles affects defence responses of macrophages infected with Mycobacterium tuberculosis H37Ra. Journal of

Antimicrobial Chemotherapy 2007; 59:499-506. >>> Poly(DL-lactide); drug delivery (microspheres, isoniazid, rifampicin);

L00085 Stevanovic MM, Jordovic B, Uskokovic DP. Preparation and characterization of poly (D, L-lactide-co-glycolide) nanoparticles containing ascorbic acid. Journal of Biomedicine and Biotechnology 2007;(84965):1-8. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 40-50 kDa; drug delivery (nanoparticles, ascorbic acid); 4-8 weeks; "DLPLG nanospheres are very efficient mean of transdermal transport of medicaments in the body." p. 1; nanoparticle creation process chart, p. 2; molecular weight of ascorbic acid was 176.13 g/mol.

L00056 El-Kamel AH, Ashri LY, Alsarra IA. Micromatricial metronidazole benzoate film as a local mucoadhesive delivery system for treatment of periodontal diseases. AAPS PharmSciTech 2007; 8(3):E1-E11. >>> Poly(ε-caprolactone); IV 1.24 dL/g; drug delivery (film);

L00032 Zaghloul AA, Mustafa F, Siddiqui A, Khan M. Response Surface Methodology to Obtain -Estradiol Biodegradable Microspheres for Long-Term Therapy of Osteoporosis. Pharmaceutical development and technology 2006; 11(3):377-387. >>> Poly(DL-lactide); poly(DL-lactide-*co*-glycolide); 85:15; IV 0.26 dL/g - 12-24 kDa (PLA); IV 0.61 dL/g - MW 80 kDa (PLGA); drug delivery (microspheres, estradiol); in vitro; "Poly-lactic acid (PLA), poly-glycolic acid (PGA), and their copolymers, poly (lactide-co-glycolide) (PLGA) have generated immense interest because of their excellent biocompatibility and biodegradability." p. 378; drug encapsulation efficiency p. 379.

L00023 Zidan AS, Sammour OA, Hammad MA, Megrab NA, Hussain MD, Khan MA et al. Formulation of anastrozole microparticles as biodegradable anticancer drug carriers. AAPS PharmSciTech 2006; 7(3):E1-E9. >>> Poly(DL-lactide-*co*-glycolide); 50:50; drug delivery (microspheres, anastrozole); in vitro; cancer (breast); microspheres prepared by an oil-in-water (O/W) emulsion/solvent evaporation technique; composition and encapsulation parameters table (p. E3); drug release data (p. E6-E7).

L00051 Jackson JK, Higo T, Hunter WL, Burt HM. The antioxidants curcumin and quercetin inhibit inflammatory processes associated with arthritis. Inflammation Research 2006; 55(4):168-175. >>> Poly(ε-caprolactone); MW 13 kDa; drug delivery (pellets, curcumin, quercetin); in vitro; "Despite this slow release from the pellets, there was clear evidence of an antiangiogenic effect for both curcumin and quercetin with no observed toxicity to the CAM such as membrane thinning." p. 172.

L00050 Gomez-Lopera SA, Arias JL, Gallardo V, Delgado AV. Colloidal stability of magnetite/poly (lactic acid) core/shell nanoparticles. Langmuir 2006; 22:2816-2821. >>> Poly(DL-lactide); drug delivery (nanoparticles, magnetite, composite colloid shell / core); in vitro; "Experimental investigation on the colloidal stability of suspensions of three kinds of particles, including magnetite, poly(lactic acid) (PLA), and composite core/shell colloids formed by a magnetite core surrounded by a PLA shell".

L00047 Dhanaraju MD, RajKannan R, Selvaraj D, Jayakumar R, Vamsadhara C. Biodegradation and biocompatibility of contraceptive-steroid-loaded poly (dl-lactide-co-glycolide) injectable microspheres: in vitro and in vivo study. Contraception 2006; 74(2):148-156. >>> Poly(DL-lactide-*co*-glycolide); MW 70 kDa; drug delivery (microspheres, levonorgestrel, ethinyl estradiol); in vitro; rat (Wistar, female, 170-200 g); 20 weeks; In vivo systemic circulation was maintained until Week 15; "The rate of PLG microsphere degradation in achieving controlled release affords less frequent administration, thereby increasing patient compliance, reducing discomfort, protecting the therapeutic compound and maintaining constant blood levels of the drug within the body" p. 148; release rate comparisons / results p. 154; intramuscular.

L00004 Amrite AC, Ayalasomayajula SP, Cheruvu NPS, Kompella UB. Single periocular injection of celecoxib-PLGA microparticles inhibits diabetes-induced elevations in retinal PGE2, VEGF, and vascular leakage. Investigative ophthalmology & visual science 2006; 47(3):1149. >>> Poly(DL-lactide-*co*-glycolide); 85:15; IV 0.67 dL/g; drug delivery (microspheres, celecoxib); rat (eye - periocular space); targeted delivery (eye - periocular space); therapeutic indication (diabetes); control group received mp with no drug; 60 days of drug delivery; sterilized by gamma irradiation; in vitro release also evaluated; 50% of drug released at end of 60 days in in vitro study; "The sterilization process did not affect the release of celecoxib from the celecoxib-PLGA microspheres"; "The visual inspection of the periocular tissue (site of injection) did not reveal the presence of

any inflammation, including redness and edema for the rats that were injected with celecoxib-PLGA microparticles.".

L00130 Wang F, Blanco E, Ai H, Boothman DA, Gao J. Modulating β-lapachone release from polymer millirods through cyclodextrin complexation. Journal of pharmaceutical sciences 2006; 95(10):2309-2319. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.65 dL/g - MW 50 kDa; drug delivery (microspheres, β-lapachone); β-lapachone was found to have a solid-state solubility of 13% in PLGA; cancer; "sustained drug release was achieved when b-lap was complexed with α-CD or γ-CD" p. 2309; microspheres were in millirods; release profile schematic p. 2314.

L00076 Houchin ML, Heppert K, Topp EM. Deamidation, acylation and proteolysis of a model peptide in PLGA films. Journal of Controlled Release 2006; 112(1):111-119. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.58dL/g - 75.4 kDa; drug delivery (film, peptide); "Poly (lactide-co-glycolide) (PLGA), one of the few polymers approved by the FDA [in final products], has many desirable properties for protein controlled release" p. 111; PLGA and protein degradation relationship.

L00024 Zhou H, Zhang Y, Biggs DL, Manning MC, Randolph TW, Christians U et al. Microparticle-based lung delivery of INH decreases INH metabolism and targets alveolar macrophages. Journal of Controlled Release 2005; 107(2):288-299. >>> Poly(DL-lactide); IV 1.00 dL/g - MW 137 kDa; drug delivery (microspheres, lung); in vitro; rat (intratracheal); targeted delivery (intratracheal).

L00102 Cho M, Sah H. Formulation and process parameters affecting protein encapsulation into PLGA microspheres during ethyl acetate-based microencapsulation process. Journal of Microencapsulation 2005; 22(1):1-12. >>> Poly(DL-lactide-*co*-glycolide); 75:25; IV 0.67 dL/g in chloroform; drug delivery (microspheres, lysozyme protein);

L00031 Zaghloul AAA, Mustafa F, Siddiqu A, Khan M. Biodegradable microparticulates of beta-estradiol: preparation and in vitro characterization. Drug Development and Industrial Pharmacy 2005; 31(8):803-811. >>> Poly(DL-lactide); poly(DL-lactide-*co*-glycolide); 85:15; 75:25; IV 0.26 dL/g - MW 12-24 kDa (DL-PLA); IV 0.61 dL/g - MW 80 kDa (PLGA); drug delivery (microspheres, estradiol); in vitro; "Formulation fabricated from PLGA 85:15 (1:3) showed less burst and consistent long time release" p. 803.

L00087 Sahoo SK, Labhasetwar V. Enhanced antiproliferative activity of transferrin-conjugated paclitaxel-loaded nanoparticles is mediated via sustained intracellular drug retention. Mol Pharm 2005; 2(5):373-383. >>> Poly(DL-lactide-*co*-glycolide); 50:50; MW 23 kDa; drug delivery (nanoparticles, transferrin-conjugated paclitaxel); in vitro; "The advantage of these NPs is their sustained release property, and since the drug is encapsulated, it is not exposed to the cell membrane associated efflux transporters." p. 374.

L00040 Prabha S, Labhasetwar V. Critical determinants in PLGA/PLA nanoparticle-mediated gene expression. Pharmaceutical Research 2004; 21(2):354-364. >>> Poly(DL-lactide); poly(DL-lactide-*co*-glycolide); 50:50; 75:25; MW 12 kDa, 53 kDa and 143 kDa for 50:50; MW 53 kDa for 75:25 and 50:50; drug delivery (nanoparticles, plasmid DNA); "Nanoparticles formulated using PLGA polymer demonstrated greater gene transfection than those formulated using PLA polymer, and this was attributed to the higher DNA release from PLGA nanoparticles. Higher-molecular-weight PLGA resulted in the formation of nanoparticles with higher DNA loading, which demonstrated higher gene expression than those formulated with lower molecular-weight PLGA." p. 354 polymer characteristics tables on p. 357.

L00067 Yeo Y, Park K. Characterization of reservoir-type microcapsules made by the solvent exchange method. AAPS PharmSciTech 2004; 5(4):1-8. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.59 dL/g; drug delivery (microcapsules); in vitro;

L00007 Blanco E, Qian F, Weinberg B, Stowe N, Anderson JM, Gao J. Effect of fibrous capsule formation on doxorubicin distribution in radiofrequency ablated rat livers. Journal of Biomedical Materials Research 2004; 69(3):398-406. >>> Poly(DL-lactide); poly(DL-lactide-*co*-glycolide); IV 0.67dL/g (PLA); IV 0.65 dL/g - MW 50 kDa (PLGA); drug delivery (millirods, doxorubicin); rat; rods implanted in the rat liver and delivered doxorubicin; targeted delivery (liver).

L00066 Yeo Y, Chen AU, Basaran OA, Park K. Solvent exchange method: a novel microencapsulation technique using dual microdispensers. Pharmaceutical Research 2004; 21(8):1419-1427. >>> Poly(DL-lactide-*co*-glycolide); 50:50; 0.59 dL/g; drug delivery (microcapsules); in vitro;

L00099 Carvalho-Queiroz C, Cook R, Wang CC, Correa-Oliveira R, Bailey NA, Egilmez NK et al. Cross-reactivity of *Schistosoma mansoni* cytosolic superoxide dismutase, a protective vaccine candidate, with host superoxide dismutase and identification of parasite-specific B epitopes. Infection and immunity 2004; 72(5):2635-2647. >>> Poly(L-lactide); MW 2 kDa; drug delivery (microspheres, SmCT-SOD-GST); mice (female, BALB/c, 5-6 weeks old); drug is an antioxidant.

L00081 Wang Y, Challa P, Epstein DL, Yuan F. Controlled release of ethacrynic acid from poly (lactide-co-glycolide) films for glaucoma treatment. Biomaterials 2004; 25(18):4279-4285. >>> Poly(DL-lactide-*co*-glycolide); poly(DL-lactide); 50:50; 85:15; IV 0.68 dL/g (PLGA); 0.63 dL/g (PLGA); 0.68 dL/g (PLA); drug delivery (film, ethacrynic acid) ; rabbit; "The release of ECA from the PLGA50:50 film was time dependent and more than 90% of ECA was released within a week." p 4279; release profile p 4281; targeted delivery (eye).

L00124 Egilmez NK, Jong YS, Mathiowitz E, Bankert RB. Tumor vaccination with cytokine-encapsulated microspheres. Methods in Molecular Medicine 2003; 75:687-696. >>> Poly(L-lactide); MW 2 kDa; MW 24 kDa; drug delivery (microspheres, IL-2, recomb human; IL-12, recomb murine; GM-CSF, recomb murine); cancer.

L00129 Szymanski-Exner A, Gallacher A, Stowe NT, Weinberg B, Haaga JR, Gao J. Local carboplatin delivery and tissue distribution in livers after radiofrequency ablation. Journal of Biomedical Materials Research Part A 2003; 67A:510-516. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.65 dL/g; drug delivery (millirods, carboplatin); rat (male, Sprague Dawley);

L00128 Schaefer MJ, Singh J. Effect of tricaprin on the physical characteristics and in vitro release of etoposide from PLGA microspheres. Biomaterials 2002; 23(16):3465-3471. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.61 dL/g; drug delivery (microspheres, etoposide); in vitro; cancer.

L00026 Zhu G, Schwendeman SP. Stabilization of proteins encapsulated in cylindrical poly (lactide-co-glycolide) implants: mechanism of stabilization by basic additives. Pharmaceutical Research 2000; 17(3):351-357. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.23 dL/g, IV 0.41 dL/g, IV 0.63 dL/g (all in HFIP); drug delivery (millicylinders, bovine serum albumen); in vitro;

L00122 Garcia-Contreras L, bu-Izza K, Lu DR. Biodegradable cisplatin microspheres for direct brain injection: preparation and characterization. Pharmaceutical development and technology 1997; 2(1):53-65. >>> Poly(DL-lactide-*co*-glycolide); 50:50; IV 0.74 dL/g; drug delivery (microspheres, cisplatin); in vitro; 14-43 days p. 62; cancer; "...suggest that microspheres smaller than 250 pm are suitable for direct injection into the brain. However, the microspheres should be large enough to achieve a sustained release of the drug over 3-5 weeks, corresponding to the current cisplatin dosing schedule. Based on this, a particle size range of 200-250 pm was selected as the desirable size range for cisplatin microspheres." p. 56; "cisplatin release from the microspheres was sustained for more than 40 days, with a constant release rate period of approximately 20 days." p. 62.