

Ma Lab Publications



Selected Recent Journal Articles and Book Chapters

1. P.X. Ma, Biomimetic Materials for Tissue Engineering, **Advanced Drug Delivery Reviews**, 60(2): 184-198 (2008).
2. JX Zhang and PX Ma. Polymeric Core-Shell Assemblies Mediated by Host-Guest Interactions: Versatile Nanocarriers for Drug Delivery, **Angewandte Chemie International Edition**. 48(5): 964-968 (2009).
3. LA Smith, X Liu, P Wang, J Hu and PX Ma. Enhancing Osteogenic Differentiation of Mouse Embryonic Stem Cells by Nanofibers, **Tissue Engineering**. 15(7): 1855-1864 (2009).
4. LA Smith, X Liu, J Hu, and PX Ma. The Influence of Three Dimensional Nanofibrous Scaffolds on the Osteogenic Differentiation of Embryonic Stem Cells. **Biomaterials**. 30(13): 2516-2522 (2009).
5. X Liu, LA Smith, J Hu, and PX Ma. Biomimetic nano-fibrous gelatin/apatite composite scaffolds for bone tissue engineering. **Biomaterials**. 30(12): 2252-2258 (2009).
6. K.M. Woo, V.J. Chen, H.J. Kim, H.M. Jung, T.I. Kim, H.I. Shin, J.H. Baek, H.M. Ryoo, and PX Ma. Comparative evaluation of nano-fibrous scaffolding for bone regeneration in critical size calvarial defects. **Tissue Engineering**, 15(8): 2155-62 (2009).
7. P Wang, J Hu, PX Ma. The Engineering of Patient-specific, Anatomically Shaped, Digits, **Biomaterials**, 30(14): 2735-2740 (2009).
8. X Liu and PX Ma, Phase separation, pore structure, and properties of nanofibrous gelatin scaffolds, **Biomaterials**, 30(25): 4094-4103 (2009).
9. J Hu, K Feng, X Liu, PX Ma, Chondrogenic and osteogenic differentiations of human bone marrow-derived mesenchymal stem cells on a nanofibrous scaffold with designed pore network, **Biomaterials**, 30(28): 5061-5067 (2009)
10. G Wei and PX Ma. Partially nanofibrous architecture of 3D tissue engineering scaffolds. **Biomaterials**. 30(32): 6426-6434 (2009).
11. X Liu and PX Ma, The nanofibrous architecture of poly(L-lactic acid)-based functional copolymers. **Biomaterials**. 31(2):259-269 (2010).
12. H Tian, S Bharadwaj, Y Liu, PX Ma and A Atala. Myogenic Differentiation of Human Bone Marrow Mesenchymal Stem Cells on a 3D Nanofibrous Scaffold for Bladder Tissue Engineering, **Biomaterials**. 31(5): 870-7 (2010).
13. H Sun, K Feng, J Hu, S Soker, A Atala and PX Ma. Osteogenic Differentiation of Human Amniotic Fluid-derived Stem Cells Induced by Bone Morphogenetic Protein-7 and Enhanced by Nanofibrous Scaffolds. **Biomaterials**. 31(6): 1133-1139 (2010).
14. JX Zhang, H Sun and PX Ma, Host-guest Interaction Mediated Multifunctional Polymeric Nano-assemblies for Simultaneous Drug and Gene Delivery. **ACS Nano**. 4(2): 1049-1059 (2010).
15. H Tian, S Bharadwaj, Y Liu, PX Ma, A Atala and Y Zhang. Differentiation of Human Bone Marrow Mesenchymal Stem Cells into Bladder Cells: Potential for Urological Tissue Engineering, **Tissue Engineering, Part A**, 16(5): 1769-1779 (2010).
16. LA Smith, X Liu, J Hu, and PX Ma. The Enhancement of Human Embryonic Stem Cell Osteogenic Differentiation with Nano-fibrous Scaffolding. **Biomaterials**, 31(21):5526-5535 (2010).
17. J Wang, X Liu, X Jin, H Ma, J Hu, L Ni and PX Ma. The odontogenic differentiation of human dental pulp stem cells on nanofibrous poly(L-lactic acid) scaffolds *in vitro* and *in vivo*. **Acta Biomaterialia**, 6:3856-3863 (2010).
18. K Feng, H Sun, MA Bradley, EJ Dupler, WV. Giannobile, and PX Ma. Novel Antibacterial Nanofibrous PLLA Scaffolds. **Journal of Controlled Release**. 146: 363-369 (2010).
19. H Ma, J Hu and PX Ma, Polymer scaffolds for small-diameter vascular tissue engineering. **Advanced Functional Materials**, 20(17), 2833 (2010).
20. J Hu, X Sun, H Ma, CQ Xie, YE Chen, PX Ma. Porous nano-fibrous PLLA scaffolds for vascular tissue engineering. **Biomaterials**. 31:7971-7977 (2010).
21. J Hu, L Smith, K Feng, X Liu, H Sun and PX Ma. Response of Human Embryonic Stem Cells Derived Mesenchymal Stem Cells to Osteogenic Factors and Architectures of Materials during *in vitro* Osteogenesis, **Tissue Engineering: Part A** 16(11):3507-3514 (2010).
22. JX Zhang, K Ellsworth, PX Ma. Hydrophobic pharmaceuticals mediated self-assembly of b-cyclodextrin containing hydrophilic copolymers: Novel chemical responsive nano-vehicles for drug delivery. **Journal of Controlled Release**, 145(2):116-123 (2010).
23. CL He, GY Xiao, XB Jin, CH Sun and PX Ma, Electrodeposition on nanofibrous polymer scaffolds: Rapid mineralization, tunable calcium phosphate composition and topography. **Advanced Functional Materials**, 20(20):3568-3576 (2010).
24. JX Zhang and PX Ma, Host-guest interactions mediated nano-assemblies using cyclodextrin-containing hydrophilic polymers and their biomedical applications. **Nano Today**. 5:337-350 (2010).
25. X Liu, X Jin and PX Ma. Nanofibrous hollow microspheres self-assembled from star-shaped polymers as injectable cell carriers for knee repair. **Nature Materials**, 10(5):398-406 (2011).
26. C Xie, J Hu, H Ma, J Chang, LJ Chang, YE Chen, PX Ma. Three-dimensional growth of iPS cell-derived smooth muscle cells on nanofibrous scaffolds, **Biomaterials**, 32: 4369-4375 (2011).
27. J Wang, H Ma, X Jin, J Hu, X Liu, L Ni and PX Ma. The effect of scaffold architecture on odontogenic differentiation of human dental pulp stem cells, **Biomaterials**, 32(31):7822-7830 (2011).
28. JM Holzwarth and PX Ma. Biomimetic nanofibrous scaffolds for bone tissue engineering. **Biomaterials**, 32: 9622-9629 (2011)
29. G Feng, X Jin, J Hu, H Ma, MJ Gupte, H Liu, PX Ma. Effects of Hypoxia and Scaffold Architecture on Rabbit Mesenchymal Stem Cell Differentiation towards a Nucleus Pulposus-like Phenotype, **Biomaterials**, 32:8182-8189 (2011).
30. Z Zhang, J Hu, and PX Ma. Nanofiber-based delivery of bioactive agents and stem cells to bone sites. **Advanced Drug Delivery Reviews**, 64(12): 1129-1141 (2012).
31. JX Zhang, K Ellsworth, PX Ma. Synthesis of β -Cyclodextrin Containing Copolymer via 'Click' Chemistry and Its Self-Assembly in the Presence of Guest Compounds. **Macromolecular Rapid Communications**, 33(8): 664-671 (2012).

32. X Liu, J Holzwarth, and PX Ma. Functionalized synthetic biodegradable polymer scaffolds for tissue engineering. *Macromolecular Bioscience*, 12(7): 911-919 (2012).
33. C Xie, Y Guo, T Zhu, J Zhang, PX Ma, YE Chen. Yap1 regulates vascular smooth muscle cell phenotypic switch by interaction with myocardin. *Journal of Biological Chemistry*, 287(18): 14598-14605 (2012).
34. G Feng, Z Zhang, X Jin, J Hu, MJ Gupte, JM Holzwarth, and PX Ma. Regenerating nucleus pulposus of the intervertebral disc using biodegradable nanofibrous polymer scaffolds. *Tissue Engineering: Part A*, 18(21&22), 2231-2238 (2012).
35. Z Zhang, M Gupte, and PX Ma. Biomaterials and Stem Cells for Tissue Engineering. *Expert Opinion on Biological Therapy*, 13(4):527-540 (2013).
36. G Feng, L Li, H Liu, Y Song, F Huang, C Tu, B Shen, Q Gong, T Li, L Liu, J. Zeng, Q Kong, M Yi, M Gupte, PX Ma* and F Pei*. Hypoxia differentially regulates human nucleus pulposus and annulus fibrosus cell extracellular matrix production in 3D scaffolds. *Osteoarthritis and Cartilage*, 21: 582-588 (2013).
37. JX Zhang and PX Ma. Cyclodextrin-based supramolecular systems for drug delivery: Recent progress and future perspective. *Advanced Drug Delivery Reviews*, 65:1215-1233 (2013).
38. C He, X Jin and PX Ma. Calcium phosphate deposition rate, structure and osteoconductivity on electrospun poly(L-lactic acid) matrix using electrodeposition or simulated body fluid incubation. *Acta Biomaterialia*, 10(1): 419-427 (2014) (2013).
39. RJ Kane and PX Ma. Mimicking the nanostructure of bone matrix to regenerate bone. *Materials Today*, 16(11): 418-423 (2013).
40. H Xu, JM Holzwarth, Y Yan, P Xu, H Zheng, Y Yin, S Li, and PX Ma. Conductive PPY/PDLLA conduit for peripheral nerve regeneration. *Biomaterials*, 35:225-235 (2014).
41. Z Zhang, JM Holzwarth and PX Ma, Nanofibrous Polymer Scaffolds with Designed Pore Structure, in: PX Ma (Ed) *Biomaterials and Regenerative Medicine*, Cambridge University Press, Chapter 7, pp91-103 (2014).
42. IO Smith, MJ Gupte and PX Ma. Polymer/Ceramic Composite Scaffolds for Regeneration, in: PX Ma (Ed) *Biomaterials and Regenerative Medicine*, Cambridge University Press, Chapter 12, pp203-214 (2014).
43. K Feng, J Hu and PX Ma. Growth Factor Delivery Scaffolds, in: PX Ma (Ed) *Biomaterials and Regenerative Medicine*, Cambridge University Press, Chapter 20, pp377-390 (2014).
44. J Wang, X Jin, PX Ma. Dentin-pulp tissue engineering and regeneration, in: PX Ma (Ed) *Biomaterials and Regenerative Medicine*, Cambridge University Press, Chapter 31, pp570-582 (2014).
45. G Wei and PX Ma. Chapter 2: Polymeric Biomaterials. In: A Boccaccini and PX Ma (Ed) *Tissue Engineering Using Ceramics and Polymers*, 2nd Edition, Woodhead Publishing Ltd, Chapter 2, pp35-66 (2014).
46. M Dang, JM Shin and PX Ma. Synthetic Biomimetic Porous Polymer Scaffolds for Bone Regeneration, in: CT Laurencin and J Tao (Eds) *Synthetic Biomimetic Polymer Scaffolds for Bone Regeneration*, 2nd Ed. ASTM International, Chapter 9, pp195-217 (2014).
47. B Guo and PX Ma. Synthetic biodegradable functional polymers for tissue engineering – A brief review. *SCIENCE CHINA Chemistry*, 57(4):490-500 (2014).
48. B Lei and PX Ma. Biomimetic nanofibrous scaffolds to enhance bone regeneration. *Materials China*, 32(10):583-590 (2014)
49. L Zhang, L Wang, B Guo, and PX Ma. Cytocompatible injectable carboxymethyl chitosan/N-isopropylacrylamide hydrogels for localized drug delivery. *Carbohydrate Polymers*, 103:110-118 (2014).
50. L Li, J Ge, B Guo, and PX Ma. In situ forming biodegradable electroactive hydrogels. *Polymer Chemistry*, 5:2880-2890 (2014).
51. X Ma, J Ge, Y Li, B Guo and PX Ma. Nanofibrous electroactive scaffolds from chitosan-grafted-aniline tetramer by electrospinning for tissue engineering. *RSC Advances*, 3:13652-13661 (2014).
52. Y Wu, L Wang, B Guo and PX Ma. Injectable biodegradable hydrogels and microgels based on methacrylated poly(ethylene glycol)-co-poly(dlycerol sebacate) multi-block copolymers: Synthesis, characterization, and cell encapsulation. *Journal of Materials Chemistry B*, 2(23):3674-3685 (2014).
53. L Zhang, Y Li, L Li, B Guo, PX Ma. Non-cytotoxic conductive carboxymethyl-chitosan/aniline pentamer hydrogels. *Reactive and Functional Polymers*, 82:81-88 (2014).
54. Y Wang, J Hu, J Jiao, Z Liu, Z Zhou, C Zhao, L-J Chang, YE Chen*, PX Ma*, B Yang* Engineering vascular tissue with functional smooth muscle cells derived from human iPS cells and nanofibrous scaffolds. *Biomaterials*, 35(32):8960-8969 (2014).
55. S Guo, D Lim, Z Dong, TL Saunders, PX Ma, CL Marcelo, and HH Ritchie. DSPP: A regulatory protein for dental pulp stem cell identity and fate. *Stem Cells and Development*, 23(23):2883-2894 (2014).
56. L Li, J Ge, L Wang, B Guo, and PX Ma. Electroactive nanofibrous biomimetic scaffolds by thermally induced phase separation. *Journal of materials Chemistry B*, 2:6119-6130 (2014).
57. J Zhao, X Zhao, B Guo, PX Ma. Multi-functional interpenetrating polymer network hydrogels based on methacrylated alginate for delivery of small molecule drugs and sustained protein release. *Biomacromolecules*, 15(9): 3246-3252 (2014).
58. Y Wu, B Guo, PX Ma. Injectable Electroactive Hydrogels Formed via Host-Guest Interactions. *ACS Macro Letters*, 3, 1145-1150 (2014).
59. Y Xue, Y Du, J Yan, Z Liu, PX Ma, X Chen, B Lei. Monodisperse photoluminescent and highly biocompatible bioactive glass nanoparticles for controlled drugs delivery and bioimaging. *Journal of Materials Chemistry B*, 3, 3831-3839 (2015).
60. Y Du, J Ge, Y Shao, PX Ma, X Chen and B Lei. *Journal of Materials Chemistry B*, 3: 2986-3000 (2015).
61. X Mei, J Ge, Y Xue, Y Du, B Lei, and PX Ma. Photo-crosslinked fabrication of novel biocompatible and elastomeric star-shaped inositol-based polymer with highly tunable mechanical behavior and degradation. *Journal of the Mechanical Behavior of Biomedical Materials*, 51:163-68 (2015).
62. X Zhao, B Guo, and PX Ma. Single component thermo-gelling electroactive hydrogels from poly(caprolactone)-poly(ethylene glycol)-poly(caprolactone)-graft-aniline tetramer amphiphilic copolymers. *Journal of Materials Chemistry B*, 3:8459-68 (2015).
63. Z Zhang, MJ Gupte, X Jin, and PX Ma. Injectable Peptide Decorated Functional Nanofibrous Hollow Microspheres to Direct Stem Cell Differentiation and Tissue Regeneration. *Advanced Functional Materials*, 25(3):350-360 (2015).
64. Y Xue, Y Du, J Yan, Z Liu, PX Ma, X Chen, B Lei. Monodisperse photoluminescent and highly biocompatible bioactive glass nanoparticles for controlled drugs delivery and bioimaging. *Journal of Materials Chemistry B*, 3, 3831-3839 (2015).
65. Y Zhang, J Ge, Y Shao, PX Ma, X Chen, B Lei. Development of silica grafted poly (1, 8-octanediol-co-citrate) hybrid elastomers with highly tunable mechanical properties and biocompatibility. *Journal of Materials Chemistry B*, 3(15), 2986-3000 (2015).
66. KJ Rambhia and PX Ma. Controlled Drug Release for Tissue Engineering. *Journal of Controlled Release*, 219:119-128 (2015).

67. J Hu, Y Wang, J Jiao, Z Liu, C Zhao, Z Zhou, Z Zhang, K Forde, L Wang, J Wang, DJ Baylink, XB Zhang, S Gao, B Yang, YE Chen, PX Ma. Patient-specific cardiovascular progenitor cells derived from integration-free induced pluripotent stem cells for vascular tissue regeneration. *Biomaterials*, 73: 51-59 (2015).
68. X Zhao, Y Wu, Y Du, X Chen, B Lei, Y Xue, PX Ma. A highly bioactive and biodegradable poly (glycerol sebacate)-silica glass hybrid elastomer with tailored mechanical properties for bone tissue regeneration. *Journal of Materials Chemistry B*, 3, 3222-3233 (2015).
69. M Xie, L Wang, J Ge, BL Guo, and PX Ma. Strong Electroactive Biodegradable Shape Memory Polymer Networks Based on Star-Shaped Polylactide and Aniline Trimer for Bone Tissue Engineering, *ACS Applied Materials & Interfaces*, 7(12): 6772-6781(2015).
70. B Guo, B Lei, P Li, PX Ma. Functionalized scaffolds to enhance tissue regeneration. *Regenerative Biomaterials*, 2(1): 47-57 (2015).
71. J Yan, W He, N Li, M Yu, Y Du, B Lei, PX Ma. Simultaneously targeted imaging cytoplasm and nucleus in living cell by biomolecules capped ultra-small GdOF nanocrystals. *Biomaterials*, 59:21-29 (2015).
72. S Tian, Q Liu, L Gnatovskiy, PX Ma, Z Wang. Heart regeneration with embryonic cardiac progenitor cells and cardiac tissue engineering. *Journal of Stem Cell and Transplantation Biology*, 1(1): 104 (2015).
73. S Hou, X Wang, S Park, X Jin and PX Ma. Rapid self-integrating, injectable hydrogel for tissue complex regeneration. *Advanced Healthcare Materials*, 4: 1491-1495 (2015).
74. Z Zhang, RL Marson, Z Ge, SC Glotzer and PX Ma. Simultaneous nano- and micro-scale control of nanofibrous microspheres self-assembled from star-shaped polymers, *Advanced Materials*, 27(26): 3947-3952 (2015).
75. R Kuang, Z Zhang, X Jin, J Hu, MJ Gupte, L Ni, PX Ma. Nanofibrous Spongy Microspheres Enhance Odontogenic Differentiation of Human Dental Pulp Stem Cells. *Advanced Healthcare Materials*, 4: 1993-2000 (2015).
76. Y Du, M Yu, J Ge, PX Ma*, X Chen, B Lei*. Development of a multifunctional platform based on strong, intrinsically photoluminescent and antimicrobial silica-poly(citrate)-based hybrid biodegradable elastomers for bone regeneration. *Advanced Functional Materials*, 25 (31): 5016–5029 (2015).
77. Z Zhang and PX Ma. From Nanofibrous Hollow Microspheres to Nanofibrous Hollow Disks and Nanofibrous Shells. *Macromolecular Rapid Communications*, 36(19):1735-41 (2015).
78. J Chen, B Guo, TW Eyster, PX Ma. Super stretchable electroactive elastomer formation driven by aniline trimer self-assembly. *Chemistry of Materials*, 27: 5668-5677 (2015).
79. Q Liu, S Tian, C Zhao, X Chen, I Lei, Z Wang, PX Ma. Porous nanofibrous poly(L-lactic acid) scaffolds supporting cardiovascular progenitor cells for cardiac tissue engineering. *Acta Biomaterialia*, 26:105-114 (2015).
80. M Zhang, Y Wu, X Zhao, K Gao, PX Ma and B Guo. Biocompatible degradable injectable hydrogels from methacrylated poly(ethylene glycol)-co-poly(xylitol sebacate) and cyclodextrins for release of hydrophilic and hydrophobic drugs. *RSC Advances*, 5:66965-74 (2015).
81. M Xie, L Wang, B Guo, Z Wang, YE Chen, PX Ma. Ductile electroactive biodegradable hyperbranched polylactide copolymers enhancing myoblast differentiation. *Biomaterials*, 71:158-167 (2015).
82. L Li, J Ge, PX Ma, B Guo. Injectable conducting interpenetrating polymer network hydrogels from gelatin-graft-polyaniline and oxidized dextran with enhanced mechanical properties. *RSC Advances*, 5: 92490-98 (2015).
83. L Wang, Y Wu, B Guo, PX Ma. Nanofiber yarn/hydrogel core-shell scaffolds mimicking native skeletal muscle tissue for guiding 3D myoblast alignment, elongation and differentiation. *ACS Nano*, 9(9):9167-79 (2015).
84. X Zhao, P Li, B Guo, PX Ma. Antibacterial and conductive injectable hydrogels based on quaternized chitosan-graft-polyaniline/oxidized dextran for tissue engineering. *Acta Biomaterialia*, 26:236-48 (2015).
85. L Wang, J Hu, CE Sorek, YE Chen, PX Ma, B Yang. Fabrication of tissue-engineered vascular grafts with stem cells and stem cell-derived vascular cells. *Expert Opinion On Biological Therapy*, 8:1-14 (2015).
86. S. Hou and PX Ma. Stimuli-responsive supramolecular hydrogels with high extensibility and fast self-healing via pre-coordinated mussel-inspired chemistry. *Chemistry of Materials*, 27(22):7627-35 (2015).
87. M Xie, J Ge, B Lei, Q Zhang, X Chen, and PX Ma. Star-Shaped, Biodegradable, and Elastomeric PLLA-PEG-POSS Hybrid Membrane With Biom mineralization Activity for Guiding Bone Tissue Regeneration. *Macromolecular Bioscience*, 15(12):1656-62 (2015).
88. J Chen, R Dong, J Ge, B Guo, and PX Ma. Biocompatible, Biodegradable, and Electroactive Polyurethane-Urea Elastomers with Tunable Hydrophilicity for Skeletal Muscle Tissue Engineering. *ACS Applied Biomaterials & Interfaces*, 7(51):28273-85 (2015).
89. L Li, M Yu, PX Ma and B Guo. Electroactive degradable copolymers enhancing osteogenic differentiation from bone marrow derived mesenchymal stem cells. *Journal of Materials Chemistry B*, 4(3):471-81 (2016).
90. SA Al-Dujaili, AJ Koh, M Dang, X Me, W Chang, PX Ma, LK McCauley. Calcium sensing receptor function supports osteoblast survival and acts as a co-factor in PTH anabolic actions in bone. *Journal of Cellular Biochemistry*, 117(7):1556-1567 (2016).
91. R Kuang, Z Zhang, X Jin, J Hu, S Shi, L Ni, PX Ma. Nanofibrous spongy microspheres for the delivery of hypoxia-primed human dental pulp stem cells to regenerate vascularized dental pulp. *Acta Biomaterialia*, 33:225-234 (2016).
92. X Niu, Z Liu, J Hu, KJ Rambhia, Y Fan and PX Ma. Microspheres assembled from chitosan-graft-poly(lactic acid) micelle-like core-shell nanospheres for distinctly controlled release of hydrophobic and hydrophilic biomolecules in dentin regeneration. *Macromolecular Biosciences*, 16:1039-1047 (2016).
93. YZ Du, YM Xue, PX Ma, XF Chen and B Lei. Biodegradable, Elastomeric, and Intrinsically Photoluminescent Poly(Silicon-Citrate)s with high Photostability and Biocompatibility for Tissue Regeneration and Bioimaging. *Advanced Healthcare Materials*, 5(3):382-392 (2016).
94. YZ Du, M Yu, PX Ma, XF Chen and B Lei. Development of biodegradable poly(citrate)-polyhedral oligomeric silsesquioxanes hybrid elastomers with high mechanical properties and osteogenic differentiation activity. *ACS Applied Materials & Interfaces*, 8(5): 3079-3091 (2016).
95. Y Wu, L Wang, B Guo, Y Shao, and PX Ma. Electroactive Biodegradable Polyurethane Significantly Enhanced Schwann Cells Myelin Gene Expression and Neurotrophin Secretion for Peripheral Nerve Tissue Engineering. *Biomaterials*, 87:18-31 (2016).
96. W Wang, M Dang, Z Zhang, J Hu, TW Eyster, L Ni, PX Ma. Dentin regeneration by stem cells of apical papilla on injectable nanofibrous microspheres and stimulated by controlled BMP-2 release. *Acta Biomaterialia*, 36:63-72 (2016).
97. Y Zhang, EG McNerny, M Terajima, M Raghavan, Z Zhang, H Zhang, N Kamiya, M Tantillo, P Zhu, GJ Scott, MK Ray, M Lynch,

- PX Ma, MD Morris, M Yamauchi, DH Kohn and Y Mishina. Loss of BMP signaling through BMP1A in osteoblasts increases collagen cross-link maturation and material-level mechanical properties in femoral trabecular components. *Bone*, 88:74-84 (2016).
98. Y Chen, J Cossman, CT Jayasuriya, X Li, Y Guan, V Fonseca, K Yang, C Charbonneau, H Yu, K Kanbe, PX Ma, E Darling, Q Chen. Deficient Mechanical Activation of Anabolic Transcripts and Post-Traumatic Cartilage Degeneration in Matrilin-1 Knockout Mice. *PLOS ONE*, 11(6): e0156676 (2016).
 99. Z Zhang, TW Eyster and PX Ma. Nano-structured Injectable Cell Micro-carriers for Tissue Regeneration. *Nanomedicine*, 11(12): 1611-1628 (2016).
 100. Y Wu, L Wang, X Zhao, S Hou, B Guo, PX Ma. Self-healing supramolecular bioelastomers with shape memory property as a multifunctional platform for biomedical applications via modular assembly. *Biomaterials*, 104:18-31 (2016).
 101. L Wang, P Qiu, J Jiao, H Hirai, W Xiong, J Zhang, T Zhu, PX Ma, YE Chen, B Yang. Yes-associated protein inhibits transcription of myocardin and attenuates differentiation of vascular smooth muscle cell from cardiovascular progenitor cell lineage. *Stem Cells*, in press (2016).
 102. Z Deng, Y Guo, X Zhao, L Li, R Dong, B Guo, PX Ma. Stretchable degradable and electroactive shape memory copolymers with tunable recovery temperature enhance myogenic differentiation, *Acta Biomaterialia*. in press (2016).
 103. X Zhao, M Zhang, B Guo, PX Ma. Mussel-inspired Injectable Supramolecular and Covalent Bonds Crosslinked Hydrogels with Rapid Self-healing and Recovery via a Facile Approach Under Metal-free Conditions, *Journal of Materials Chemistry B*, 4:6644-6651 (2016).
 104. M Yu, B Lei, C Gao, J Yan, PX Ma. Optimizing surface-engineered ultra-small gold nanoparticles for highly efficient miRNA delivery to enhance osteogenic differentiation of bone mesenchymal stromal cells. *Nano Research*, in press (2016).
 105. M Dang, AJ Koh, T Danciu, LK McCauley and PX Ma. Preprogrammed long-term systemic pulsatile delivery of parathyroid hormone to strengthen bone. *Advanced Healthcare Materials*, in press (2016).
 106. M Dang, AJ Koh, X Jin, LK McCauley and PX Ma. Local pulsatile PTH delivery regenerates bone defect via enhanced bone remodeling in a cell-free scaffold. *Biomaterials*, in press (2016).
 107. X Zhang, Yan Li, YE Chen, J Chen and PX Ma. Cell-free 3D scaffold with two-stage delivery of miRNA-26a to regenerate critical sized bone defects. *Nature Communications*, 7:10376 (2016).

Books

1. PX Ma and JH Elisseeff. *Scaffolding in Tissue Engineering*. CRC Press, Boca Raton, FL, 2006.
 2. M Ramalingam, X Wang, G Chen, PX Ma, FZ Cui. *Biomimetics: Advancing Nanobiomaterials and Tissue Engineering*, John Wiley-Scrivener Publishing, 2013.
 3. PX Ma. *Biomaterials and Regenerative Medicine*. Cambridge University Press, 2014.
- AR Boccaccini and PX Ma. *Tissue Engineering using Ceramics and Polymers*, 2nd Ed. Woodhead Publishing Ltd, 2014