Christine E Schmidt

List of Publications by Year
in descending order

139 papers	13,632 citations	31976 53 h-index	22166 113 g-index
144 all docs	144 docs citations	144 times ranked	14294 citing authors

#	Article	IF	Citations
1	Towards the translation of electroconductive organic materials for regeneration of neural tissues. Acta Biomaterialia, 2022, 139, 22-42.	8.3	31
2	Decellularized peripheral nerve as an injectable delivery vehicle for neural applications. Journal of Biomedical Materials Research - Part A, 2022, 110, 595-611.	4.0	10
3	Microphysiological system for studying contractile differences in young, active, and old, sedentary adult derived skeletal muscle cells. Aging Cell, 2022, 21, .	6.7	9
4	Microtopographical patterns promote different responses in fibroblasts and Schwann cells: A possible feature for neural implants. Journal of Biomedical Materials Research - Part A, 2021, 109, 64-76.	4.0	13
5	Wirelessly triggered bioactive molecule delivery from degradable electroactive polymer films. Polymer International, 2021, 70, 467-474.	3.1	17
6	Chondroitinase ABC/galectin-3 fusion proteins with hyaluronan-based hydrogels stabilize enzyme and provide targeted enzyme activity for neural applications. Journal of Neural Engineering, 2021, 18, 046090.	3.5	4
7	Development of novel apoptosis-assisted lung tissue decellularization methods. Biomaterials Science, 2021, 9, 3485-3498.	5.4	13
8	Development of a magnetically aligned regenerative tissue-engineered electronic nerve interface for peripheral nerve applications. Biomaterials, 2021, 279, 121212.	11.4	20
9	Effects of Varied Stimulation Parameters on Adipose-Derived Stem Cell Response to Low-Level Electrical Fields. Annals of Biomedical Engineering, 2021, 49, 3401-3411.	2.5	6
10	Tunable methacrylated hyaluronic acidâ€based hydrogels as scaffolds for soft tissue engineering applications. Journal of Biomedical Materials Research - Part A, 2020, 108, 279-291.	4.0	97
11	Lymphaticâ€toâ€blood vessel transition in adult microvascular networks: A discovery made possible by a topâ€down approach to biomimetic model development. Microcirculation, 2020, 27, e12595.	1.8	13
12	Novel Sodium Deoxycholate-Based Chemical Decellularization Method for Peripheral Nerve. Tissue Engineering - Part C: Methods, 2020, 26, 23-36.	2.1	34
13	Magnetic particle templating of hydrogels: engineering naturally derived hydrogel scaffolds with 3D aligned microarchitecture for nerve repair. Journal of Neural Engineering, 2020, 17, 016057.	3.5	32
14	Preparation and evaluation of microfluidic magnetic alginate microparticles for magnetically templated hydrogels. Journal of Colloid and Interface Science, 2020, 561, 647-658.	9.4	20
15	Oligonucleotide-functionalized hydrogels for sustained release of small molecule (aptamer) therapeutics. Acta Biomaterialia, 2020, 102, 315-325.	8.3	16
16	Three-Dimensional Bioprinted Hyaluronic Acid Hydrogel Test Beds for Assessing Neural Cell Responses to Competitive Growth Stimuli. ACS Biomaterials Science and Engineering, 2020, 6, 6819-6830.	5.2	28
17	Integration of flexible polyimide arrays into soft extracellular matrix-based hydrogel materials for a tissue-engineered electronic nerve interface (TEENI). Journal of Neuroscience Methods, 2020, 341, 108762.	2.5	11
18	Decellularized tissues as platforms for in vitro modeling of healthy and diseased tissues. Acta Biomaterialia, 2020, 111, 1-19.	8.3	60

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19	Extracellular Matrix Disparities in an Nkx2-5 Mutant Mouse Model of Congenital Heart Disease. Frontiers in Cardiovascular Medicine, 2020, 7, 93.	2.4	6
20	Neuron-targeted electrical modulation. Science, 2020, 367, 1303-1304.	12.6	23
21	Benchâ€toâ€Bedside Lessons Learned: Commercialization of an Acellular Nerve Graft. Advanced Healthcare Materials, 2020, 9, e2000174.	7.6	36
22	Polysaccharide-based films for the prevention of unwanted postoperative adhesions at biological interfaces. Acta Biomaterialia, 2020, 106, 92-101.	8.3	34
23	Progress toward finding the perfect match: hydrogels for treatment of central nervous system injury. Materials Today Advances, 2020, 6, 100039.	5.2	22
24	Advances in exÂvivo models and lab-on-a-chip devices for neural tissue engineering. Biomaterials, 2019, 198, 146-166.	11.4	49
25	Sensing Nerve Activity with Scalable and Robust Nerve Interfaces. , 2019, , .		2
26	Recent advances in nanotherapeutic strategies for spinal cord injury repair. Advanced Drug Delivery Reviews, 2019, 148, 38-59.	13.7	74
27	Stromal Vascular Fraction Vasculogenesis, Vessel Incorporation, and Integration with Intact Angiogenic Microvascular Networks in an Ex Vivo Cultured Tissue Model. FASEB Journal, 2019, 33, 517.5.	0.5	0
28	Neural Interfaces: Tissueâ€Engineered Peripheral Nerve Interfaces (Adv. Funct. Mater. 12/2018). Advanced Functional Materials, 2018, 28, 1870076.	14.9	1
29	Injectable hydrogels of optimized acellular nerve for injection in the injured spinal cord. Biomedical Materials (Bristol), 2018, 13, 034110.	3.3	48
30	Biomimetic hydrogels direct spinal progenitor cell differentiation and promote functional recovery after spinal cord injury. Journal of Neural Engineering, 2018, 15, 025004.	3.5	58
31	Tissueâ€Engineered Peripheral Nerve Interfaces. Advanced Functional Materials, 2018, 28, 1701713.	14.9	53
32	Decellularized peripheral nerve supports Schwann cell transplants and axon growth following spinal cord injury. Biomaterials, 2018, 177, 176-185.	11.4	78
33	The Open Source GAITOR Suite for Rodent Gait Analysis. Scientific Reports, 2018, 8, 9797.	3.3	30
34	Development of an apoptosis-assisted decellularization method for maximal preservation of nerve tissue structure. Acta Biomaterialia, 2018, 77, 116-126.	8.3	38
35	Creation of an injectable in situ gelling native extracellular matrix for nucleus pulposus tissue engineering. Spine Journal, 2017, 17, 435-444.	1.3	36
36	Sacrificial Crystal Templated Hyaluronic Acid Hydrogels As Biomimetic 3D Tissue Scaffolds for Nerve Tissue Regeneration. ACS Biomaterials Science and Engineering, 2017, 3, 1451-1459.	5.2	36

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37	Processing-size correlations in the preparation of magnetic alginate microspheres through emulsification and ionic crosslinking. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2017, 529, 119-127.	4.7	11
38	Recent advances in strategies for peripheral nerve tissue engineering. Current Opinion in Biomedical Engineering, 2017, 4, 134-142.	3.4	45
39	Sacrificial crystal templating of hyaluronic acid-based hydrogels. European Polymer Journal, 2017, 87, 487-496.	5.4	11
40	Localized and sustained release of brain-derived neurotrophic factor from injectable hydrogel/microparticle composites fosters spinal learning after spinal cord injury. Journal of Materials Chemistry B, 2016, 4, 7560-7571.	5.8	27
41	Mechanical properties of Î±â€tricalcium phosphateâ€based bone cements incorporating regenerative biomaterials for filling bone defects exposed to low mechanical loads. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2016, 104, 149-157.	3.4	10
42	Ultrasound-guided photoacoustic imaging-directed re-endothelialization of acellular vasculature leads to improved vascular performance. Acta Biomaterialia, 2016, 32, 35-45.	8.3	9
43	Functionalizing micro-3D-printed protein hydrogels for cell adhesion and patterning. Journal of Materials Chemistry B, 2016, 4, 1818-1826.	5.8	18
44	Electroactive Tissue Scaffolds with Aligned Pores as Instructive Platforms for Biomimetic Tissue Engineering. Bioengineering, 2015, 2, 15-34.	3.5	51
45	The 2015 Young Innovators of Cellular and Molecular Bioengineering. Cellular and Molecular Bioengineering, 2015, 8, 305-306.	2.1	0
46	Conducting polymer-based multilayer films for instructive biomaterial coatings. Future Science OA, 2015, 1, FSO79.	1.9	12
47	Electrical Stimulation of Human Mesenchymal Stem Cells on Conductive Nanofibers Enhances their Differentiation toward Osteogenic Outcomes. Macromolecular Rapid Communications, 2015, 36, 1884-1890.	3.9	50
48	Instructive Conductive 3D Silk Foamâ€Based Bone Tissue Scaffolds Enable Electrical Stimulation of Stem Cells for Enhanced Osteogenic Differentiation. Macromolecular Bioscience, 2015, 15, 1490-1496.	4.1	46
49	Macromol. Rapid Commun. 21/2015. Macromolecular Rapid Communications, 2015, 36, 1936-1936.	3.9	0
50	Supracolloidal Assemblies as Sacrificial Templates for Porous Silk-Based Biomaterials. International Journal of Molecular Sciences, 2015, 16, 20511-20522.	4.1	6
51	Multiphoton microfabrication of conducting polymer-based biomaterials. Journal of Materials Chemistry B, 2015, 3, 5001-5004.	5.8	16
52	Surface modification of neural electrodes with a pyrrole-hyaluronic acid conjugate to attenuate reactive astrogliosis in vivo. RSC Advances, 2015, 5, 39228-39231.	3.6	19
53	3D Printing with Nucleic Acid Adhesives. ACS Biomaterials Science and Engineering, 2015, 1, 19-26.	5.2	23
54	Biodegradable hydrogels composed of oxime crosslinked poly(ethylene glycol), hyaluronic acid and collagen: a tunable platform for soft tissue engineering. Journal of Biomaterials Science, Polymer Edition, 2015, 26, 143-161.	3.5	61

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55	Peptide-directed assembly of functional supramolecular polymers for biomedical applications: electroactive molecular tongue-twisters (oligoalanineâ€“oligoanilineâ€“oligoalanine) for electrochemically enhanced drug delivery. Journal of Materials Chemistry B, 2015, 3, 5005-5009.	5.8	31
56	Conductive interpenetrating networks of polypyrrole and polycaprolactone encourage electrophysiological development of cardiac cells. Acta Biomaterialia, 2015, 28, 109-120.	8.3	130
57	Into the groove: instructive silk-polypyrrole films with topographical guidance cues direct DRG neurite outgrowth. Journal of Biomaterials Science, Polymer Edition, 2015, 26, 1327-1342.	3.5	27
58	Electrical stimulation of human mesenchymal stem cells on biomineralized conducting polymers enhances their differentiation towards osteogenic outcomes. Journal of Materials Chemistry B, 2015, 3, 8059-8064.	5.8	38
59	Amineâ€functionalized polypyrrole: Inherently cell adhesive conducting polymer. Journal of Biomedical Materials Research - Part A, 2015, 103, 2126-2132.	4.0	31
60	Electric field stimulation through a biodegradable polypyrroleâ€<i>co</i>â€polycaprolactone substrate enhances neural cell growth. Journal of Biomedical Materials Research - Part A, 2014, 102, 2554-2564.	4.0	54
61	Schwann cell response on polypyrrole substrates upon electrical stimulation. Acta Biomaterialia, 2014, 10, 2423-2433.	8.3	62
62	Biodegradable electroactive polymers for electrochemically-triggered drug delivery. Journal of Materials Chemistry B, 2014, 2, 6809-6822.	5.8	68
63	Advanced biomaterials for repairing the nervous system: what can hydrogels do for the brain?. Materials Today, 2014, 17, 332-340.	14.2	77
64	Electrical Stimuli in the Central Nervous System Microenvironment. Annual Review of Biomedical Engineering, 2014, 16, 397-430.	12.3	86
65	Concentration-dependent Effect of Sodium Hypochlorite on Stem Cells of Apical Papilla Survival and Differentiation. Journal of Endodontics, 2014, 40, 51-55.	3.1	248
66	Electric field stimulation through a substrate influences Schwann cell and extracellular matrix structure. Journal of Neural Engineering, 2013, 10, 046011.	3.5	43
67	Preservation of capillary-beds in rat lung tissue using optimized chemical decellularization. Journal of Materials Chemistry B, 2013, 1, 4801.	5.8	22
68	Surface modification of polypyrrole via affinity peptide: quantification and mechanism. Journal of Materials Chemistry B, 2013, 1, 1060.	5.8	7
69	Surface modification of the conducting polymer, polypyrrole, via affinity peptide. Journal of Biomedical Materials Research - Part A, 2013, 101A, 1464-1471.	4.0	39
70	Biomimetic conducting polymer-based tissue scaffolds. Current Opinion in Biotechnology, 2013, 24, 847-854.	6.6	230
71	Multiphoton Lithography of Unconstrained Threeâ€Dimensional Protein Microstructures. Advanced Functional Materials, 2013, 23, 333-339.	14.9	55
72	Assessing Forelimb Function after Unilateral Cervical SCI using Novel Tasks: Limb Step-alternation, Postural Instability and Pasta Handling. Journal of Visualized Experiments, 2013, , e50955.	0.3	6

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73	Rodent Models and Behavioral Outcomes of Cervical Spinal Cord Injury. Journal of Spine, 2013, Suppl 4, .	0.2	14
74	Neuronal growth promoting sesquiterpeneâ€"neolignans; syntheses and biological studies. Organic and Biomolecular Chemistry, 2012, 10, 383-393.	2.8	36
75	Advances in natural biomaterials for nerve tissue repair. Neuroscience Letters, 2012, 519, 103-114.	2.1	127
76	Assessing Forelimb Function after Unilateral Cervical Spinal Cord Injury: Novel Forelimb Tasks Predict Lesion Severity and Recovery. Journal of Neurotrauma, 2012, 29, 488-498.	3.4	29
77	The fundamental role of subcellular topography in peripheral nerve repair therapies. Biomaterials, 2012, 33, 4264-4276.	11.4	109
78	High molecular weight hyaluronic acid limits astrocyte activation and scar formation after spinal cord injury. Journal of Neural Engineering, 2011, 8, 046033.	3.5	174
79	Functional characterization of optimized acellular peripheral nerve graft in a rat sciatic nerve injury model. Neurological Research, 2011, 33, 600-608.	1.3	39
80	Optimization of Molecularly Imprinted Polymers of Serotonin for Biomaterial Applications. Journal of Biomaterials Science, Polymer Edition, 2011, 22, 343-362.	3.5	11
81	Hippocampal and cortical neuronal growth mediated by the small molecule natural product clovanemagnolol. Bioorganic and Medicinal Chemistry Letters, 2011, 21, 4808-4812.	2.2	19
82	Solid freeform fabrication of designer scaffolds of hyaluronic acid for nerve tissue engineering. Biomedical Microdevices, 2011, 13, 983-993.	2.8	112
83	Fibrillar films obtained from sodium soap fibers and polyelectrolyte multilayers. Journal of Biomedical Materials Research - Part A, 2011, 98A, 287-295.	4.0	1
84	A chemically polymerized electrically conducting composite of polypyrrole nanoparticles and polyurethane for tissue engineering. Journal of Biomedical Materials Research - Part A, 2011, 98A, 509-516.	4.0	72
85	Fibronectinâ€"hyaluronic acid composite hydrogels for three-dimensional endothelial cell culture. Acta Biomaterialia, 2011, 7, 2401-2409.	8.3	94
86	Enhanced polarization of embryonic hippocampal neurons on micron scale electrospun fibers. Journal of Biomedical Materials Research - Part A, 2010, 92A, 1398-1406.	4.0	32
87	The effects of hyaluronic acid hydrogels with tunable mechanical properties on neural progenitor cell differentiation. Biomaterials, 2010, 31, 3930-3940.	11.4	427
88	Fabrication of three-dimensional scaffolds for heterogeneous tissue engineering. Biomedical Microdevices, 2010, 12, 721-725.	2.8	67
89	A combined molecular dynamics and experimental study of doped polypyrrole. Polymer, 2010, 51, 4985-4993.	3.8	36
90	Crystal templating dendritic pore networks and fibrillar microstructure into hydrogels. Acta Biomaterialia, 2010, 6, 2415-2421.	8.3	30

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91	Pyrroleâ€“hyaluronic acid conjugates for decreasing cell binding to metals and conducting polymers. Acta Biomaterialia, 2010, 6, 4396-4404.	8.3	42
92	Selective axonal growth of embryonic hippocampal neurons according to topographic features of various sizes and shapes. International Journal of Nanomedicine, 2010, 6, 45.	6.7	36
93	Aptamer Antagonists of Myelin-Derived Inhibitors Promote Axon Growth. PLoS ONE, 2010, 5, e9726.	2.5	11
94	A Highly Selective Low-Background Fluorescent Imaging Agent for Nitric Oxide. Journal of the American Chemical Society, 2010, 132, 13114-13116.	13.7	222
95	Hippocampal neurons respond uniquely to topographies of various sizes and shapes. Biofabrication, 2010, 2, 035005.	7.1	57
96	Cell-Laden Hydrogel Constructs of Hyaluronic Acid, Collagen, and Laminin for Neural Tissue Engineering. Tissue Engineering - Part A, 2010, 16, 1703-1716.	3.1	173
97	Novel Degradable Co-polymers of Polypyrrole Support Cell Proliferation and Enhance Neurite Out-Growth with Electrical Stimulation. Journal of Biomaterials Science, Polymer Edition, 2010, 21, 1265-1282.	3.5	89
98	Assembly of sodium soap fibers and fibrillar particles triggered by dissolution of sodium chloride crystals. Soft Matter, 2010, 6, 3289.	2.7	2
99	Simple benchtop patterning of hydrogel grids for living cell microarrays. Lab on A Chip, 2010, 10, 379-383.	6.0	31
100	Unique electrochemically synthesized polypyrrole:poly(lactic-co-glycolic acid) blends for biomedical applications. Journal of Materials Chemistry, 2010, 20, 8865.	6.7	12
101	Neuroactive conducting scaffolds: nerve growth factor conjugation on active ester-functionalized polypyrrole. Journal of the Royal Society Interface, 2009, 6, 801-810.	3.4	95
102	Highâ€Resolution Patterning of Hydrogels in Three Dimensions using Directâ€Write Photofabrication for Cell Guidance. Advanced Functional Materials, 2009, 19, 3543-3551.	14.9	112
103	Computational Model Provides Insight into the Distinct Responses of Neurons to Chemical and Topographical Cues. Annals of Biomedical Engineering, 2009, 37, 363-374.	2.5	10
104	Photopatterned collagenâ€“hyaluronic acid interpenetrating polymer network hydrogels. Acta Biomaterialia, 2009, 5, 2385-2397.	8.3	177
105	Polypyrrole-coated electrospun PLGA nanofibers for neural tissue applications. Biomaterials, 2009, 30, 4325-4335.	11.4	659
106	Photopatterned anisotropic swelling of dual-crosslinked hyaluronic acid hydrogels. Acta Biomaterialia, 2009, 5, 14-22.	8.3	68
107	Toward a Biocompatible and Biodegradable Copolymer Incorporating Electroactive Oligothiophene Units. Macromolecules, 2009, 42, 502-511.	4.8	81
108	Nano-opto-mechanical characterization of neuron membrane mechanics under cellular growth and differentiation. Biomedical Microdevices, 2008, 10, 611-622.	2.8	9

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109	Drugâ€binding hydrogels of hyaluronic acid functionalized with Î²â€cyclodextrin. Journal of Biomedical Materials Research - Part A, 2008, 87A, 1044-1052.	4.0	45
110	Nanostructured scaffolds for neural applications. Nanomedicine, 2008, 3, 183-199.	3.3	140
111	Biocompatibility implications of polypyrrole synthesis techniques. Biomedical Materials (Bristol), 2008, 3, 034124.	3.3	180
112	Effects of collagen 1, fibronectin, laminin and hyaluronic acid concentration in multi-component gels on neurite extension. Journal of Biomaterials Science, Polymer Edition, 2007, 18, 983-997.	3.5	79
113	Polarization of hippocampal neurons with competitive surface stimuli: contact guidance cues are preferred over chemical ligands. Journal of the Royal Society Interface, 2007, 4, 223-233.	3.4	90
114	Micropatterned Polypyrrole: A Combination of Electrical and Topographical Characteristics for the Stimulation of Cells. Advanced Functional Materials, 2007, 17, 1645-1653.	14.9	185
115	Nerve growth factor-immobilized polypyrrole: Bioactive electrically conducting polymer for enhanced neurite extension. Journal of Biomedical Materials Research - Part A, 2007, 81A, 135-149.	4.0	263
116	Conducting polymers in biomedical engineering. Progress in Polymer Science, 2007, 32, 876-921.	24.7	1,383
117	Immobilized nerve growth factor and microtopography have distinct effects on polarization versus axon elongation in hippocampal cells in culture. Biomaterials, 2007, 28, 271-284.	11.4	170
118	Carboxy-Endcapped Conductive Polypyrrole:Â Biomimetic Conducting Polymer for Cell Scaffolds and Electrodes. Langmuir, 2006, 22, 9816-9819.	3.5	111
119	Carboxylic Acid-Functionalized Conductive Polypyrrole as a Bioactive Platform for Cell Adhesion. Biomacromolecules, 2006, 7, 1692-1695.	5.4	216
120	Design of a Novel Electrically Conducting Biocompatible Polymer with Degradable Linkages for Biomedical Applications. Materials Research Society Symposia Proceedings, 2006, 950, 1.	0.1	2
121	Variation of cadmium sulfide nanoparticle size and photoluminescence intensity with altered aqueous synthesis conditions. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 254, 147-157.	4.7	118
122	Characterization of protein release from photocrosslinkable hyaluronic acid-polyethylene glycol hydrogel tissue engineering scaffolds. Biomaterials, 2005, 26, 125-135.	11.4	393
123	Biomaterials functionalization using a novel peptide that selectively binds to a conducting polymer. Nature Materials, 2005, 4, 496-502.	27.5	387
124	Quantum dots for electrical stimulation of neural cells. , 2005, , .		16
125	Challenges in quantum dot-neuron active interfacing. Talanta, 2005, 67, 462-471.	5.5	59
126	Engineering an Improved Acellular Nerve Graft via Optimized Chemical Processing. Tissue Engineering, 2004, 10, 1346-1358.	4.6	253

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127	Optimized Acellular Nerve Graft Is Immunologically Tolerated and Supports Regeneration. Tissue Engineering, 2004, 10, 1641-1651.	4.6	325
128	Engineering an Improved Acellular Nerve Graft via Optimized Chemical Processing. Tissue Engineering, 2004, 10, 1346-1358.	4.6	15
129	Photocrosslinked hyaluronic acid hydrogels: Natural, biodegradable tissue engineering scaffolds. Biotechnology and Bioengineering, 2003, 82, 578-589.	3.3	721
130	Neural Tissue Engineering: Strategies for Repair and Regeneration. Annual Review of Biomedical Engineering, 2003, 5, 293-347.	12.3	1,098
131	Optimization of Quantum Dot â€" Nerve Cell Interfaces. Materials Research Society Symposia Proceedings, 2003, 789, 318.	0.1	1
132	Gelsolin overexpression enhances neurite outgrowth in PC12 cells. FEBS Letters, 2001, 508, 282-286.	2.8	28
133	Vascular graft endothelialization: Comparative analysis of canine and human endothelial cell migration on natural biomaterials. Journal of Biomedical Materials Research Part B, 2001, 56, 545-555.	3.1	43
134	Genetic Modification ofÎ±Gal Expression in Xenogeneic Endothelial Cells Yields a Complex Immunological Response. Tissue Engineering, 2001, 7, 743-756.	4.6	3
135	Synthesis and characterization of polypyrrole-hyaluronic acid composite biomaterials for tissue engineering applications. , 2000, 50, 574-584.		336
136	Acellular vascular tissues: natural biomaterials for tissue repair and tissue engineering. Biomaterials, 2000, 21, 2215-2231.	11.4	682
137	ENGINEERING STRATEGIES FOR PERIPHERAL NERVE REPAIR. Orthopedic Clinics of North America, 2000, 31, 485-497.	1.2	118
138	Engineering Strategies For Peripheral Nerve Repair. Clinics in Plastic Surgery, 1999, 26, 617-628.	1.5	117
139	Affinity immobilization of a genetically engineered bifunctional hybrid protein. Enzyme and Microbial Technology, 1990, 12, 337-342.	3.2	11