## Hans P Merkle

List of Publications by Year in descending order

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128 papers 11,274 citations

24978 57 h-index 30010 103 g-index

128 all docs

 $\begin{array}{c} 128 \\ \\ \text{docs citations} \end{array}$ 

128 times ranked

11917 citing authors

#	Article	IF	CITATIONS
1	Microencapsulation by solvent extraction/evaporation: reviewing the state of the art of microsphere preparation process technology. Journal of Controlled Release, 2005, 102, 313-332.	4.8	741
2	Silk fibroin as a vehicle for drug delivery applications. Journal of Controlled Release, 2011, 150, 128-141.	4.8	441
3	Control of in vitro tissue-engineered bone-like structures using human mesenchymal stem cells and porous silk scaffolds. Biomaterials, 2007, 28, 1152-1162.	5.7	335
4	Localized delivery of growth factors for bone repair. European Journal of Pharmaceutics and Biopharmaceutics, 2004, 58, 197-208.	2.0	299
5	Formulation aspects of biodegradable polymeric microspheres for antigen delivery. Advanced Drug Delivery Reviews, 2005, 57, 357-376.	6.6	299
6	Nerve conduits and growth factor delivery in peripheral nerve repair. Journal of the Peripheral Nervous System, 2007, 12, 65-82.	1.4	259
7	Evaluation of particle uptake in human blood monocyte-derived cells in vitro. Does phagocytosis activity of dendritic cells measure up with macrophages?. Journal of Controlled Release, 2001, 76, 59-71.	4.8	250
8	Microencapsulation of DNA using poly(dl-lactide-co-glycolide): stability issues and release characteristics. Journal of Controlled Release, 1999, 61, 361-374.	4.8	248
9	Electrospun matrices for localized drug delivery: Current technologies and selected biomedical applications. European Journal of Pharmaceutics and Biopharmaceutics, 2012, 81, 1-13.	2.0	241
10	Silk fibroin spheres as a platform for controlled drug delivery. Journal of Controlled Release, 2008, 132, 26-34.	4.8	236
11	Revisiting PLA/PLGA microspheres: an analysis of their potential in parenteral vaccination. European Journal of Pharmaceutics and Biopharmaceutics, 2000, 50, 129-146.	2.0	207
12	Particulate formulations for the delivery of poly(I:C) as vaccine adjuvant. Advanced Drug Delivery Reviews, 2013, 65, 1386-1399.	6.6	198
13	Insulin-like growth factor I releasing silk fibroin scaffolds induce chondrogenic differentiation of human mesenchymal stem cells. Journal of Controlled Release, 2008, 127, 12-21.	4.8	194
14	PEGylation as a tool for the biomedical engineering of surface modified microparticles. Journal of Pharmaceutical Sciences, 2008, 97, 4655-4669.	1.6	188
15	Chances and pitfalls of cell penetrating peptides for cellular drug delivery. European Journal of Pharmaceutics and Biopharmaceutics, 2004, 58, 209-223.	2.0	187
16	Optimization strategies for electrospun silk fibroin tissue engineering scaffolds. Biomaterials, 2009, 30, 3058-3067.	5.7	185
17	P-Glycoprotein (P-gp) Mediated Efflux in Caco-2 Cell Monolayers: The Influence of Culturing Conditions and Drug Exposure on P-gp Expression Levels. Journal of Pharmaceutical Sciences, 1998, 87, 757-762.	1.6	184
18	Cartilage-like Tissue Engineering Using Silk Scaffolds and Mesenchymal Stem Cells. Tissue Engineering, 2006, 12, 2729-2738.	4.9	181

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19	Silk fibroin matrices for the controlled release of nerve growth factor (NGF). Biomaterials, 2007, 28, 4449-4460.	5.7	179
20	Amphiphilic Dendrimers: Novel Self-Assembling Vectors for Efficient Gene Delivery. Angewandte Chemie - International Edition, 2003, 42, 1486-1490.	7.2	171
21	Osteogenesis by human mesenchymal stem cells cultured on silk biomaterials: Comparison of adenovirus mediated gene transfer and protein delivery of BMP-2. Biomaterials, 2006, 27, 4993-5002.	5.7	171
22	Phagocytosis and phagosomal fate of surface-modified microparticles in dendritic cells and macrophages. Pharmaceutical Research, 2003, 20, 221-228.	1.7	170
23	Tetanus toxoid and synthetic malaria antigen containing poly(lactide)/poly(lactide-co-glycolide) microspheres: importance of polymer degradation and antigen release for immune response. Journal of Controlled Release, 1996, 41, 131-145.	4.8	168
24	Architecture and Polymorphism of Fibrillar Supramolecular Assemblies Produced by in Vitro Aggregation of Human Calcitonin. Journal of Structural Biology, 1995, 115, 1-15.	1.3	154
25	Evaluation of laminated muco-adhesive patches for buccal drug delivery. International Journal of Pharmaceutics, 1989, 49, 231-240.	2.6	148
26	Gentamicin-Loaded Hydraulic Calcium Phosphate Bone Cement as Antibiotic Delivery System. Journal of Pharmaceutical Sciences, 1997, 86, 565-572.	1.6	141
27	Improving stability and release kinetics of microencapsulated tetanus toxoid by co-encapsulation of additives. Pharmaceutical Research, 1998, 15, 1103-1110.	1.7	141
28	Localized insulin-like growth factor I delivery to enhance new bone formation. Bone, 2003, 33, 660-672.	1.4	141
29	Competitive adsorption of serum proteins at microparticles affects phagocytosis by dendritic cells. Biomaterials, 2003, 24, 1409-1418.	5.7	139
30	Silk fibroin/hyaluronan scaffolds for human mesenchymal stem cell culture in tissue engineering. Biomaterials, 2009, 30, 5068-5076.	5.7	133
31	Decoding the Entry of Two Novel Cell-Penetrating Peptides in HeLa Cells: Lipid Raft-Mediated Endocytosis and Endosomal Escapeâ€. Biochemistry, 2005, 44, 72-81.	1.2	129
32	DNA-loaded biodegradable microparticles as vaccine delivery systems and their interaction with dendritic cells. Advanced Drug Delivery Reviews, 2005, 57, 377-390.	6.6	123
33	On The Biomedical Promise of Cell Penetrating Peptides: Limits Versus Prospects. Journal of Pharmaceutical Sciences, 2008, 97, 144-162.	1.6	119
34	Encapsulation of proteins and peptides into biodegradable poly(d,l-lactide-co-glycolide) microspheres prolongs and enhances antigen presentation by human dendritic cells. Vaccine, 2006, 24, 1847-1857.	1.7	111
35	Ligand-specific targeting of microspheres to phagocytes by surface modification with poly(L-lysine)-grafted poly(ethylene glycol) conjugate. Pharmaceutical Research, 2003, 20, 237-246.	1.7	109
36	In vitro cell models to study nasal mucosal permeability and metabolism. Advanced Drug Delivery Reviews, 1998, 29, 51-79.	6.6	107

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37	Stable Stealth Function for Hollow Polyelectrolyte Microcapsules through a Poly(ethylene glycol) Grafted Polyelectrolyte Adlayer. Biomacromolecules, 2008, 9, 100-108.	2.6	105
38	Microporous silk fibroin scaffolds embedding PLGA microparticles for controlled growth factor delivery in tissue engineering. Biomaterials, 2009, 30, 2571-2581.	5.7	100
39	Drug Microencapsulation by PLA/PLGA Coacervation in the Light of Thermodynamics. 1. Overview and Theoretical Considerations. Journal of Pharmaceutical Sciences, 1998, 87, 259-268.	1.6	92
40	Transfer of lipophilic markers from PLGA and polystyrene nanoparticles to caco-2 monolayers mimics particle uptake. Pharmaceutical Research, 2002, 19, 595-601.	1.7	88
41	Biopolymer-Based Growth Factor Delivery for Tissue Repair: From Natural Concepts to Engineered Systems. Tissue Engineering - Part B: Reviews, 2009, 15, 263-289.	2.5	85
42	Transport Of Surface-Modified Nanoparticles Through Cell Monolayers. ChemBioChem, 2005, 6, 337-345.	1.3	84
43	Dermal metabolism of topically applied drugs: Pathways and models reconsidered. Pharmaceutica Acta Helvetiae, 1995, 70, 3-24.	1.2	80
44	The use of sulfonated silk fibroin derivatives to control binding, delivery and potency of FGF-2 in tissue regeneration. Biomaterials, 2010, 31, 1403-1413.	5.7	78
45	Evaluation of pH-dependent membrane-disruptive properties of poly(acrylic acid) derived polymers. European Journal of Pharmaceutics and Biopharmaceutics, 2003, 56, 237-246.	2.0	76
46	Insulin-like Growth Factor Iâ€"Releasing Alginate-Tricalciumphosphate Composites for Bone Regeneration. Pharmaceutical Research, 2005, 22, 940-950.	1.7	76
47	Phenotype and functional analysis of human monocyte-derived dendritic cells loaded with biodegradable poly(lactide-co-glycolide) microspheres for immunotherapy. Journal of Immunological Methods, 2004, 287, 109-124.	0.6	74
48	The preservation of phenotype and functionality of dendritic cells upon phagocytosis of polyelectrolyte-coated PLGA microparticles. Biomaterials, 2007, 28, 994-1004.	5.7	72
49	Metabolic cleavage of cell-penetrating peptides in contact with epithelial models: human calcitonin (hCT)-derived peptides, Tat(47–57) and penetratin(43–58). Biochemical Journal, 2004, 382, 945-956.	1.7	68
50	Concomitant delivery of a CTL-restricted peptide antigen and CpG ODN by PLGA microparticles induces cellular immune response. Journal of Drug Targeting, 2009, 17, 652-661.	2.1	68
51	Hydrogel nerve conduits produced from alginate/chitosan complexes. Journal of Biomedical Materials Research - Part A, 2007, 80A, 932-937.	2.1	66
52	The effect of hyaluronic acid on silk fibroin conformation. Biomaterials, 2008, 29, 633-642.	5.7	64
53	Immunogenicity of single-dose diphtheria vaccines based on PLA/PLGA microspheres in guinea pigs. Vaccine, 1999, 18, 209-215.	1.7	62
54	Technological considerations related to the up-scaling of protein microencapsulation by spray-drying. European Journal of Pharmaceutics and Biopharmaceutics, 2000, 50, 413-417.	2.0	62

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55	A Protective Allergy Vaccine Based on CpG- and Protamine-Containing PLGA Microparticles. Pharmaceutical Research, 2007, 24, 1927-1935.	1.7	61
56	Controlled nerve growth factor release from multi-ply alginate/chitosan-based nerve conduits. European Journal of Pharmaceutics and Biopharmaceutics, 2008, 69, 563-572.	2.0	61
57	In vitro and in vivo evaluation of a somatostatin analogue released from PLGA microspheres. Journal of Controlled Release, 2000, 67, 19-28.	4.8	59
58	Cellular Uptake But Low Permeation of Human Calcitonin-Derived Cell Penetrating Peptides and Tat(47-57) Through Well-Differentiated Epithelial Models. Pharmaceutical Research, 2004, 21, 1248-1256.	1.7	59
59	Improved Stimulation of Human Dendritic Cells by Receptor Engagement with Surface-modified Microparticles. Journal of Drug Targeting, 2003, 11, 11-18.	2.1	58
60	Validation of Excised Bovine Nasal Mucosa as In Vitro Model to Study Drug Transport and Metabolic Pathways in Nasal Epithelium‡‡Data adopted from yet unpublished parts of the Ph.D. theses of GÃ⅓nter Ditzinger, Steffen Lang, and M. Christiane Schmidt. , 2000, 89, 396-407.		57
61	Microparticle-mediated Transfection of Non-phagocytic Cells In Vitro. Journal of Drug Targeting, 2002, 10, 11-21.	2.1	56
62	Mannose-Based Molecular Patterns on Stealth Microspheres for Receptor-Specific Targeting of Human Antigen-Presenting Cells. Langmuir, 2008, 24, 11790-11802.	1.6	56
63	Physico-chemical parameters governing protein microencapsulation into biodegradable polyesters by coacervation. International Journal of Pharmaceutics, 1997, 147, 173-186.	2.6	54
64	Control of Gentamicin Release From a Calcium Phosphate Cement by Admixed Poly(acrylic acid). Journal of Pharmaceutical Sciences, 2000, 89, 1262-1270.	1.6	54
65	Non-Invasive Time-Lapsed Monitoring and Quantification of Engineered Bone-Like Tissue. Annals of Biomedical Engineering, 2007, 35, 1657-1667.	1.3	54
66	Diamonds in the rough: protein crystals from a formulation perspective. Pharmaceutical Research, 2001, 18, 1483-1488.	1.7	52
67	Remodeling of tissue-engineered bone structures in vivo. European Journal of Pharmaceutics and Biopharmaceutics, 2013, 85, 119-129.	2.0	52
68	Differentiation Restricted Endocytosis of Cell Penetrating Peptides in MDCK Cells Corresponds with Activities of Rho-GTPases. Pharmaceutical Research, 2007, 24, 628-642.	1.7	51
69	Buccal delivery for peptide drugs. Journal of Controlled Release, 1992, 21, 155-164.	4.8	50
70	Oral absorption of peptides: the effect of absorption site and enzyme inhibition on the systemic availability of metkephamid. Pharmaceutical Research, 1994, 11, 528-535.	1.7	50
71	Effects of structural modification on gene transfection and self-assembling properties of amphiphilic dendrimers. Organic and Biomolecular Chemistry, 2006, 4, 766.	1.5	50
72	Biocompatibility and osteoconduction of macroporous silk fibroin implants in cortical defects in sheep. European Journal of Pharmaceutics and Biopharmaceutics, 2013, 85, 107-118.	2.0	50

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73	Cellular Internalization of Enhanced Green Fluorescent Protein Ligated to a Human Calcitonin-Based Carrier Peptide. ChemBioChem, 2002, 3, 672.	1.3	49
74	Evaluation of cationic solid lipid microparticles as synthetic carriers for the targeted delivery of macromolecules to phagocytic antigen-presenting cells. Biomaterials, 2002, 23, 4667-4676.	5.7	48
75	Composition and Surface Charge of DNA-Loaded Microparticles Determine Maturation and Cytokine Secretion in Human Dendritic Cells. Pharmaceutical Research, 2004, 21, 1240-1247.	1.7	48
76	One-step preparation of polyelectrolyte-coated PLGA microparticles and their functionalization with model ligands. Journal of Controlled Release, 2006, 111, 135-144.	4.8	48
77	Drug Microencapsulation by PLA/PLGA Coacervation in the Light of Thermodynamics. 2. Parameters Determining Microsphere Formation. Journal of Pharmaceutical Sciences, 1998, 87, 269-275.	1.6	47
78	Sustained release of heparin from polymeric particles for inhibition of human vascular smooth muscle cell proliferation. Journal of Controlled Release, 1999, 60, 269-277.	4.8	47
79	The adjuvant effect of bacitracin on nasal absorption of gonadorelin and buserelin in rats. Pharmaceutical Research, 1988, 05, 689-693.	1.7	46
80	Modeling of Diffusion and Concurrent Metabolism in Cutaneous Tissue. Journal of Theoretical Biology, 2000, 204, 393-407.	0.8	45
81	Amphiphilic Dendrimers: Novel Self-Assembling Vectors for Efficient Gene Delivery. Angewandte Chemie, 2003, 115, 1524-1528.	1.6	45
82	Importance of the test medium for the release kinetics of a somatostatin analogue from poly(?-lactide-co-glycolide) microspheres. International Journal of Pharmaceutics, 1999, 184, 243-250.	2.6	42
83	Modulation of allergic responses in mice by using biodegradable poly(lactide-co-glycolide) microspheres. Journal of Allergy and Clinical Immunology, 2004, 114, 943-950.	1.5	41
84	Permeation and Pathways of Human Calcitonin (hCT) Across Excised Bovine Nasal Mucosa. Peptides, 1998, 19, 599-607.	1.2	40
85	Diphtheria and tetanus toxoid microencapsulation into conventional and end-group alkylated PLA/PLGAs. European Journal of Pharmaceutics and Biopharmaceutics, 1999, 47, 193-201.	2.0	39
86	Drug delivery's quest for polymers: Where are the frontiers?. European Journal of Pharmaceutics and Biopharmaceutics, 2015, 97, 293-303.	2.0	39
87	On technological and immunological benefits of multivalent single-injection microsphere vaccines. Pharmaceutical Research, 2002, 19, 1330-1336.	1.7	37
88	Cellular Internalization of Human Calcitonin Derived Peptides in MDCK Monolayers: A Comparative Study with Tat(47-57) and Penetratin(43-58). Pharmaceutical Research, 2004, 21, 33-42.	1.7	37
89	The Cell Penetrating Peptides pVEC and W2-pVEC Induce Transformation of Gel Phase Domains in Phospholipid Bilayers without Affecting Their Integrity. Biochemistry, 2006, 45, 3598-3609.	1.2	36
90	Structure-Permeation Relations of Met-enkephalin Peptide Analogues on Absorption and Secretion Mechanisms in Caco-2 Monolayers. Journal of Pharmaceutical Sciences, 1997, 86, 846-853.	1.6	34

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91	Flow-through ultrasonic emulsification combined with static micromixing for aseptic production of microspheres by solvent extraction. European Journal of Pharmaceutics and Biopharmaceutics, 2005, 61, 181-187.	2.0	34
92	Physico-chemical and antigenic properties of tetanus and diphtheria toxoids and steps towards improved stability. Biochimica Et Biophysica Acta - General Subjects, 1998, 1425, 425-436.	1.1	33
93	Membrane Surface-Associated Helices Promote Lipid Interactions and Cellular Uptake of Human Calcitonin-Derived Cell Penetrating Peptides. Biophysical Journal, 2005, 89, 4056-4066.	0.2	33
94	The support of adenosine release from adenosine kinase deficient ES cells by silk substrates. Biomaterials, 2006, 27, 4599-4607.	5.7	33
95	An experimental divalent vaccine based on biodegradable microspheres induces protective immunity against tetanus and diphtheria. Journal of Pharmaceutical Sciences, 2003, 92, 957-966.	1.6	31
96	Proteolysis of human calcitonin in excised bovine nasal mucosa: elucidation of the metabolic pathway by liquid secondary ionization mass spectrometry (LSIMS) and matrix assisted laser desorption ionization mass spectrometry (MALDI). Pharmaceutical Research, 1996, 13, 1679-1685.	1.7	30
97	Localization of Aminopeptidase Activity in Freshly Excised Human Skin: Direct Visualization by Confocal Laser Scanning Microscopy. Journal of Investigative Dermatology, 1997, 108, 83-86.	0.3	28
98	Phagocytosis of poly(L-lysine)-graft-poly (ethylene glycol) coated microspheres by antigen presenting cells: Impact of grafting ratio and poly (ethylene glycol) chain length on cellular recognition. Biointerphases, 2006, 1, 123-133.	0.6	28
99	Design and validation of a novel bioreactor principle to combine online micro-computed tomography monitoring and mechanical loading in bone tissue engineering. Review of Scientific Instruments, 2010, 81, 014303.	0.6	28
100	Transport and Metabolic Pathway of Thymocartin (TP4) in Excised Bovine Nasal Mucosa. Journal of Pharmacy and Pharmacology, 2011, 48, 1190-1196.	1.2	28
101	Sustained release of injectable zinc-recombinant hirudin suspensions: development and validation of in vitro release model. European Journal of Pharmaceutics and Biopharmaceutics, 1998, 45, 259-264.	2.0	27
102	Bilayer interaction and localization of cell penetrating peptides with model membranes: A comparative study of a human calcitonin (hCT)-derived peptide with pVEC and pAntp(43â $\in$ "58). Biochimica Et Biophysica Acta - Biomembranes, 2005, 1712, 197-211.	1.4	26
103	Transfection of a mouse dendritic cell line by plasmid DNA-loaded PLGA microparticles in vitro. European Journal of Pharmaceutics and Biopharmaceutics, 2004, 58, 491-499.	2.0	24
104	Impact of IGF-I release kinetics on bone healing: A preliminary study in sheep. European Journal of Pharmaceutics and Biopharmaceutics, 2013, 85, 99-106.	2.0	24
105	Metabolism and Transport of the Pentapeptide Metkephamid by Brush-border Membrane Vesicles of Rat Intestine. Journal of Pharmacy and Pharmacology, 2011, 46, 34-40.	1.2	23
106	Immobilisation of GM-CSF onto particulate vaccine carrier systems. International Journal of Pharmaceutics, 2004, 269, 259-265.	2.6	22
107	Tuning the immune response of dendritic cells to surface-assembled poly(I:C) on microspheres through synergistic interactions between phagocytic and TLR3 signaling. Biomaterials, 2011, 32, 2651-2661.	5.7	21
108	Epidermal Aminopeptidase Activity and Metabolism as Observed in an Organized HaCaT Cell Sheet Model. Journal of Pharmaceutical Sciences, 1997, 86, 378-383.	1.6	20

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109	Metabolic Cleavage and Translocation Efficiency of Selected Cell Penetrating Peptides: A Comparative Study with Epithelial Cell Cultures. AAPS Journal, 2008, 10, 349-359.	2.2	20
110	Surface-assembled poly(I:C) on PEGylated PLGA microspheres as vaccine adjuvant: APC activation and bystander cell stimulation. International Journal of Pharmaceutics, 2016, 514, 176-188.	2.6	20
111	Phagocytosis of synthetic particulate vaccine delivery systems to program dendritic cells. Expert Review of Vaccines, 2002, 1, 215-226.	2.0	18
112	Chemical degradation kinetics of recombinant hirudin (HV1) in aqueous solution: effect of pH. Pharmaceutical Research, 1998, 15, 1456-1462.	1.7	16
113	Overexpression of human intestinal oligopeptide transporter in mammalian cells via adenoviral transduction. Pharmaceutical Research, 1998, 15, 1376-1381.	1.7	16
114	A crystal clear solution for insulin delivery. Nature Biotechnology, 2002, 20, 789-790.	9.4	16
115	Dendronised block copolymers as potential vectors for gene transfection. Organic and Biomolecular Chemistry, 2008, 6, 1905.	1.5	16
116	Formulation of sustained release aqueous Zn–hirudin suspensions. European Journal of Pharmaceutical Sciences, 2000, 11, 33-41.	1.9	14
117	Release kinetics and immunogenicity of parvovirus microencapsulated in PLA/PLGA microspheres. International Journal of Pharmaceutics, 2001, 221, 153-157.	2.6	12
118	Colonic absorption and bioavailability of the pentapeptide metkephamid in the rat. Pharmaceutical Research, 1994, 11, 1640-1645.	1.7	9
119	Nasal epithelial permeation of thymotrinan (TP3) versus thymocartin (TP4): competitive metabolism and self-enhancement. Pharmaceutical Research, 2000, 17, 222-228.	1.7	9
120	Surface assembly of poly(I:C) on PEGylated microspheres to shield from adverse interactions with fibroblasts. Journal of Controlled Release, 2012, 159, 204-214.	4.8	9
121	Function and immunolocalization of overexpressed human intestinal H+/peptide cotransporter in adenovirus-transduced Caco-2 cells. AAPS PharmSci, 1999, 1, 41-49.	1.3	8
122	Physical Model Relating Diffusional Transport and Concurrent Metabolism of Peptides in Metabolically Active Cell Sheets. Journal of Pharmaceutical Sciences, 1995, 84, 1332-1341.	1.6	7
123	Mechanistic and Quantitative Prediction of Aminopeptidase Activity in Stripped Human Skin Based on the HaCaT Cell Sheet Model. Journal of Investigative Dermatology Symposium Proceedings, 1998, 3, 180-184.	0.8	6
124	Intraoral Peptide Absorption. Pharmaceutical Biotechnology, 1993, , 131-160.	0.3	4
125	Inhibition of succinimide formation in aqueous Zn-rHirudin suspensions. Pharmaceutical Research, 1999, 16, 1626-1632.	1.7	1
126	Cartilage-like Tissue Engineering Using Silk Scaffolds and Mesenchymal Stem Cells. Tissue Engineering, 2006, .	4.9	1

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127	Chances and pitfalls of cell penetrating peptides for cellular drug delivery. European Journal of Pharmaceutics and Biopharmaceutics, 2004, 58, 209-209.	2.0	O
128	CONTROL OF TISSUE-ENGINEERED BONE-LIKE STRUCTURES ON SILK FIBROIN SCAFFOLDS. Journal of Biomechanics, 2008, 41, S163.	0.9	0