Samir Mitragotri

List of Publications by Year in Descending Order

299 papers	32,975 citations	88 h-index	177 g-index
326 ext. papers	38,336 ext. citations	11.8 avg, IF	8.15 L-index

#	Paper	IF	Citations
299	Differential Macrophage Responses to Gold Nanostars and Their Implication for Cancer Immunotherapy. *Advanced Therapeutics*, **2022**, 2100198	4.9	1
298	Injectable hyaluronic acid hydrogels encapsulating drug nanocrystals for long-term treatment of inflammatory arthritis.. *Bioengineering and Translational Medicine*, **2022**, 7, e10245	14.8	3
297	Viral vector-based gene therapies in the clinic.. *Bioengineering and Translational Medicine*, **2022**, 7, e10258	14.8	8
296	Ionic Liquid-Mediated Transdermal Delivery of Thrombosis-Detecting Nanosensors.. *Advanced Healthcare Materials*, **2022**, e2102685	10.1	2
295	Strategies to improve the EPR effect: A mechanistic perspective and clinical translation.. *Journal of Controlled Release*, **2022**, 345, 512-536	11.7	2
294	Supramolecular arrangement of protein in nanoparticle structures predicts nanoparticle tropism for neutrophils in acute lung inflammation. *Nature Nanotechnology*, **2021**,	28.7	13
293	Imiquimod-gemcitabine nanoparticles harness immune cells to suppress breast cancer. *Biomaterials* , **2021**, 280, 121302	15.6	1
292	Choline-Geranate Deep Eutectic Solvent Improves Stability and Half-Life of Glucagon-Like Peptide-1. *Advanced Therapeutics*, **2021**, 4, 2000180	4.9	2
291	The evolution of commercial drug delivery technologies. *Nature Biomedical Engineering*, **2021**, 5, 951-967	19	117
290	Modulation of Gastrointestinal Mucus Properties with Ionic Liquids for Drug Delivery. *Advanced Healthcare Materials*, **2021**, 10, e2002192	10.1	5
289	Formulation-based approaches for dermal delivery of vaccines and therapeutic nucleic acids: Recent advances and future perspectives. *Bioengineering and Translational Medicine*, **2021**, 6, e10215	14.8	3
288	Ionic Liquid-Enabled Topical Delivery of Immunomodulators. *ACS Biomaterials Science and Engineering*, **2021**, 7, 2783-2790	5.5	4
287	Covalently Crosslinked Hydrogels via Step-Growth Reactions: Crosslinking Chemistries, Polymers, and Clinical Impact. *Advanced Materials*, **2021**, 33, e2006362	24	23
286	Hyaluronic acid conjugates for topical treatment of skin cancer lesions. *Science Advances*, **2021**, 7,	14.3	2
285	A dual macrophage polarizer conjugate for synergistic melanoma therapy. *Journal of Controlled Release*, **2021**, 335, 333-344	11.7	1
284	Hyaluronic acid-doxorubicin nanoparticles for targeted treatment of colorectal cancer. *Bioengineering and Translational Medicine*, **2021**, 6, e10166	14.8	3
283	Noninvasive Assessment of Epidermal Genomic Markers of UV Exposure in Skin. *Journal of Investigative Dermatology*, **2021**, 141, 124-131.e2	4.3	2

282	Clinical translation of choline and geranic acid deep eutectic solvent. *Bioengineering and Translational Medicine*, **2021**, 6, e10191	14.8	10
281	Enhancement of Anticancer Efficacy and Tumor Penetration of Sorafenib by Ionic Liquids. *Advanced Healthcare Materials*, **2021**, 10, e2001455	10.1	8
280	Systemic tumour suppression via the preferential accumulation of erythrocyte-anchored chemokine-encapsulating nanoparticles in lung metastases. *Nature Biomedical Engineering*, **2021**, 5, 441-454	19	22
279	Cell-bound nanoparticles for tissue targeting and immunotherapy: Engineering of the particle–membrane interface. *Current Opinion in Colloid and Interface Science*, **2021**, 52, 101408	7.6	2
278	Gemcitabine and doxorubicin in immunostimulatory monophosphoryl lipid A liposomes for treating breast cancer. *Bioengineering and Translational Medicine*, **2021**, 6, e10188	14.8	7
277	Optimized 5-Fluorouridine Prodrug for Co-Loading with Doxorubicin in Clinically Relevant Liposomes. *Pharmaceutics*, **2021**, 13,	6.4	1
276	Percutaneous liquid ablation agent for tumor treatment and drug delivery. *Science Translational Medicine*, **2021**, 13,	17.5	9
275	Enhancement of elastin expression by transdermal administration of sialidase isozyme Neu2. *Scientific Reports*, **2021**, 11, 3302	4.9	5
274	Overcoming biological barriers to improve solid tumor immunotherapy. *Drug Delivery and Translational Research*, **2021**, 11, 2276-2301	6.2	4
273	Cell therapies in the clinic. *Bioengineering and Translational Medicine*, **2021**, 6, e10214	14.8	15
272	Recent Advances in Ionic Liquids in Biomedicine. *Advanced Science*, **2021**, 8, e2004819	13.6	23
271	Red Blood Cell Hitchhiking: A Novel Approach for Vascular Delivery of Nanocarriers. *Annual Review of Biomedical Engineering*, **2021**, 23, 225-248	12	17
270	Nanoparticles in the clinic: An update post COVID-19 vaccines. *Bioengineering and Translational Medicine*, **2021**, 6, e10246	14.8	34
269	A Deep Eutectic Solvent-Based Approach to Intravenous Formulation. *Advanced Healthcare Materials*, **2021**, 10, e2100585	10.1	4
268	Red blood cells: The metamorphosis of a neglected carrier into the natural mothership for artificial nanocarriers. *Advanced Drug Delivery Reviews*, **2021**, 178, 113992	18.5	5
267	Topical treatment of periodontitis using an iongel. *Biomaterials*, **2021**, 276, 121069	15.6	4
266	Bioinspired particle engineering for non-invasive inhaled drug delivery to the lungs. *Materials Science and Engineering C*, **2021**, 128, 112324	8.3	2
265	Non-spherical micro- and nanoparticles for drug delivery: Progress over 15 years. *Advanced Drug Delivery Reviews*, **2021**, 177, 113807	18.5	9

264	The Search for Antifungal Prophylaxis After Artificial Corneal Surgery-An In Vitro Study. *Cornea*, **2020**, 39, 1547-1555	3.1	3
263	Engineering of Living Cells with Polyphenol-Functionalized Biologically Active Nanocomplexes. *Advanced Materials*, **2020**, 32, e2003492	24	17
262	Nanocarrier-Mediated Cytosolic Delivery of Biopharmaceuticals. *Advanced Functional Materials*, **2020**, 30, 1910566	15.6	42
261	Topical Application of Exosomes Derived from Human Umbilical Cord Mesenchymal Stem Cells in Combination with Sponge Spicules for Treatment of Photoaging. *International Journal of Nanomedicine*, **2020**, 15, 2859-2872	7.3	17
260	Nanoparticles for topical drug delivery: Potential for skin cancer treatment. *Advanced Drug Delivery Reviews*, **2020**, 153, 87-108	18.5	33
259	Vascular Drug Delivery Using Carrier Red Blood Cells: Focus on RBC Surface Loading and Pharmacokinetics. *Pharmaceutics*, **2020**, 12,	6.4	29
258	Coupled influences of particle shape, surface property and flow hydrodynamics on rod-shaped colloid transport in porous media. *Journal of Colloid and Interface Science*, **2020**, 577, 471-480	9.3	12
257	Physical triggering strategies for drug delivery. *Advanced Drug Delivery Reviews*, **2020**, 158, 36-62	18.5	21
256	Oral delivery of sorafenib through spontaneous formation of ionic liquid nanocomplexes. *Journal of Controlled Release*, **2020**, 322, 602-609	11.7	30
255	Reply to Peiretti et al.: Effect of CAGE on fat uptake and food intake. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 8249	11.5	
254	Molecular mechanism of the skin permeation enhancing effect of ethanol: a molecular dynamics study.. *RSC Advances*, **2020**, 10, 12234-12248	3.7	13
253	Hydrogels in the clinic. *Bioengineering and Translational Medicine*, **2020**, 5, e10158	14.8	97
252	Ionic Liquids and Deep Eutectic Solvents for Enhanced Delivery of Antibodies in the Gastrointestinal Tract. *Advanced Functional Materials*, **2020**, 2002912	15.6	20
251	Permeation of nanoparticles across the intestinal lipid membrane: dependence on shape and surface chemistry studied through molecular simulations. *Nanoscale*, **2020**, 12, 6318-6333	7.7	25
250	Layered self-assemblies for controlled drug delivery: A translational overview. *Biomaterials*, **2020**, 242, 119929	15.6	22
249	Development of inhalable quinacrine loaded bovine serum albumin modified cationic nanoparticles: Repurposing quinacrine for lung cancer therapeutics. *International Journal of Pharmaceutics*, **2020**, 577, 118995	6.5	35
248	Cellular backpacks for macrophage immunotherapy. *Science Advances*, **2020**, 6, eaaz6579	14.3	100
247	Targeting Strategies for Tissue-Specific Drug Delivery. *Cell*, **2020**, 181, 151-167	56.2	146

246	Design principles of drug combinations for chemotherapy. *Journal of Controlled Release*, **2020**, 323, 36-46	11.7	20
245	Topical delivery of siRNA into skin using ionic liquids. *Journal of Controlled Release*, **2020**, 323, 475-482	11.7	26
244	Correlations Between Skin Barrier Integrity and Delivery of Hydrophilic Molecules in the Presence of Penetration Enhancers. *Pharmaceutical Research*, **2020**, 37, 100	4.5	4
243	Materials for oral delivery of proteins and peptides. *Nature Reviews Materials*, **2020**, 5, 127-148	73.3	129
242	Macrophage-Mediated Delivery of Hypoxia-Activated Prodrug Nanoparticles. *Advanced Therapeutics*, **2020**, 3, 1900162	4.9	10
241	Drug delivery to macrophages: A review of targeting drugs and drug carriers to macrophages for inflammatory diseases. *Advanced Drug Delivery Reviews*, **2020**, 165-166, 15-40	18.5	75
240	Size, shape, and flexibility influence nanoparticle transport across brain endothelium under flow. *Bioengineering and Translational Medicine*, **2020**, 5, e10153	14.8	44
239	Multifunctional Synthetic Protein Nanoparticles via Reactive Electrojetting. *Macromolecular Rapid Communications*, **2020**, 41, e2000425	4.8	8
238	Amphiphilic Polyacrylamide Excipients Lead to a Record-Breaking Fast-Acting Insulin. *Trends in Pharmacological Sciences*, **2020**, 41, 681-684	13.2	1
237	Ionic-Liquid-Based Safe Adjuvants. *Advanced Materials*, **2020**, 32, e2002990	24	8
236	Erythrocyte-driven immunization via biomimicry of their natural antigen-presenting function. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 17727-17736	11.5	41
235	Protein-avoidant ionic liquid (PAIL)-coated nanoparticles to increase bloodstream circulation and drive biodistribution. *Science Advances*, **2020**, 6,	14.3	9
234	Treatment of psoriasis with NFKBIZ siRNA using topical ionic liquid formulations. *Science Advances*, **2020**, 6, eabb6049	14.3	22
233	Skin Delivery of siRNA Using Sponge Spicules in Combination with Cationic Flexible Liposomes. *Molecular Therapy - Nucleic Acids*, **2020**, 20, 639-648	10.7	15
232	Ionic liquid-mediated delivery of insulin to buccal mucosa. *Journal of Controlled Release*, **2020**, 327, 26-34	11.7	31
231	A polymer-based systemic hemostatic agent. *Science Advances*, **2020**, 6, eaba0588	14.3	27
230	Hyaluronic Acid Conjugates of Vorinostat and Bexarotene for Treatment of Cutaneous Malignancies. *Advanced Therapeutics*, **2020**, 3, 2000116	4.9	2
229	Programmable Delivery of Synergistic Cancer Drug Combinations Using Bicompartmental Nanoparticles. *Advanced Healthcare Materials*, **2020**, 9, e2000564	10.1	9

228	Comparison of Ionic Liquids and Chemical Permeation Enhancers for Transdermal Drug Delivery. *Advanced Functional Materials*, **2020**, 30, 2004257	15.6	14
227	Effect of Nanoparticle Composition, Size, Shape, and Stiffness on Penetration Across the Blood-Brain Barrier. *ACS Biomaterials Science and Engineering*, **2020**, 6, 4916-4928	5.5	35
226	Mucoadhesive Ionic Liquid Gel Patches for Oral Delivery. *ACS Biomaterials Science and Engineering*, **2020**,	5.5	10
225	Harnessing cells to deliver nanoparticle drugs to treat cancer. *Biotechnology Advances*, **2020**, 42, 107339	17.8	31
224	Delivery Strategies for Skin: Comparison of Nanoliter Jets, Needles and Topical Solutions. *Annals of Biomedical Engineering*, **2020**, 48, 2028-2039	4.7	18
223	Delivery of Nanoparticles and Macromolecules across the Blood–Brain Barrier. *Advanced Therapeutics*, **2020**, 3, 1900073	4.9	17
222	Materials for Immunotherapy. *Advanced Materials*, **2020**, 32, e1901633	24	78
221	Stabilization and Topical Skin Delivery of Framework Nucleic Acids using Ionic Liquids. *Advanced Therapeutics*, **2020**, 3, 2000041	4.9	9
220	Investigating the potential use of an ionic liquid (1-Butyl-1-methylpyrrolidinium bis(trifluoromethylsulfonyl)imide) as an anti-fungal treatment against the amphibian chytrid fungus, Batrachochytrium dendrobatidis. *PLoS ONE*, **2020**, 15, e0231811	3.7	3
219	Mechanistic study of transdermal delivery of macromolecules assisted by ionic liquids. *Journal of Controlled Release*, **2019**, 311-312, 162-169	11.7	43
218	Intestinal iontophoresis from mucoadhesive patches: a strategy for oral delivery. *Journal of Controlled Release*, **2019**, 297, 71-78	11.7	26
217	Role of synergy and immunostimulation in design of chemotherapy combinations: An analysis of doxorubicin and camptothecin. *Bioengineering and Translational Medicine*, **2019**, 4, e10129	14.8	11
216	The Influence of Water on Choline-Based Ionic Liquids. *ACS Biomaterials Science and Engineering*, **2019**, 5, 3645-3653	5.5	24
215	Design Principles of Ionic Liquids for Transdermal Drug Delivery. *Advanced Materials*, **2019**, 31, e1901103	24	65
214	Immunological consequences of chemotherapy: Single drugs, combination therapies and nanoparticle-based treatments. *Journal of Controlled Release*, **2019**, 305, 130-154	11.7	23
213	Effect of Chemical Permeation Enhancers on Skin Permeability: In silico screening using Molecular Dynamics simulations. *Scientific Reports*, **2019**, 9, 1456	4.9	51
212	On the issue of transparency and reproducibility in nanomedicine. *Nature Nanotechnology*, **2019**, 14, 629-635	28.7	92
211	Nanoparticles in the clinic: An update. *Bioengineering and Translational Medicine*, **2019**, 4, e10143	14.8	558

210	Skin delivery of hyaluronic acid by the combined use of sponge spicules and flexible liposomes. *Biomaterials Science*, **2019**, 7, 1299-1310	7.4	12
209	Erythrocyte leveraged chemotherapy (ELeCt): Nanoparticle assembly on erythrocyte surface to combat lung metastasis. *Science Advances*, **2019**, 5, eaax9250	14.3	55
208	Transdermal delivery of nobiletin using ionic liquids. *Scientific Reports*, **2019**, 9, 20191	4.9	26
207	Oral ionic liquid for the treatment of diet-induced obesity. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 25042-25047	11.5	15
206	Treating Tumors at Low Drug Doses Using an Aptamer□Peptide Synergistic Drug Conjugate. *Angewandte Chemie*, **2019**, 131, 1451-1455	3.6	7
205	A microfluidic model of human brain (□uB) for assessment of blood brain barrier. *Bioengineering and Translational Medicine*, **2019**, 4, e10126	14.8	39
204	Nanocrystals: A perspective on translational research and clinical studies. *Bioengineering and Translational Medicine*, **2019**, 4, 5-16	14.8	47
203	Effect of physicochemical and surface properties on in vivo fate of drug nanocarriers. *Advanced Drug Delivery Reviews*, **2019**, 143, 3-21	18.5	151
202	Cyclodextrin modified erlotinib loaded PLGA nanoparticles for improved therapeutic efficacy against non-small cell lung cancer. *International Journal of Biological Macromolecules*, **2019**, 122, 338-347	7.9	63
201	Shape-based separation of synthetic microparticles. *Nature Materials*, **2019**, 18, 82-89	27	18
200	Treating Tumors at Low Drug Doses Using an Aptamer-Peptide Synergistic Drug Conjugate. *Angewandte Chemie - International Edition*, **2019**, 58, 1437-1441	16.4	27
199	Non-invasive delivery strategies for biologics. *Nature Reviews Drug Discovery*, **2019**, 18, 19-40	64.1	223
198	Nanoparticle Properties Modulate Their Attachment and Effect on Carrier Red Blood Cells. *Scientific Reports*, **2018**, 8, 1615	4.9	50
197	Ionic liquids for addressing unmet needs in healthcare. *Bioengineering and Translational Medicine*, **2018**, 3, 7-25	14.8	82
196	Detachment of ligands from nanoparticle surface under flow and endothelial cell contact: Assessment using microfluidic devices. *Bioengineering and Translational Medicine*, **2018**, 3, 148-155	14.8	8
195	Transdermal immunomodulation: Principles, advances and perspectives. *Advanced Drug Delivery Reviews*, **2018**, 127, 3-19	18.5	49
194	Macrophage-mediated delivery of light activated nitric oxide prodrugs with spatial, temporal and concentration control. *Chemical Science*, **2018**, 9, 3729-3741	9.4	50
193	Controlling Complex Nanoemulsion Morphology Using Asymmetric Cosurfactants for the Preparation of Polymer Nanocapsules. *Langmuir*, **2018**, 34, 978-990	4	17

192	Influence of particle size and shape on their margination and wall-adhesion: implications in drug delivery vehicle design across nano-to-micro scale. *Nanoscale*, **2018**, 10, 15350-15364	7.7	94
191	Red blood cell-hitchhiking boosts delivery of nanocarriers to chosen organs by orders of magnitude. *Nature Communications*, **2018**, 9, 2684	17.4	135
190	Transdermal insulin delivery using choline-based ionic liquids (CAGE). *Journal of Controlled Release*, **2018**, 286, 137-144	11.7	85
189	Schedule dependent synergy of gemcitabine and doxorubicin: Improvement of in vitro efficacy and lack of in vitro-in vivo correlation. *Bioengineering and Translational Medicine*, **2018**, 3, 49-57	14.8	16
188	Reply to Rogers and Gurau: Definitions of ionic liquids and deep eutectic solvents. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E11000-E11001	11.5	24
187	Surface-Functionalized Carrier-Free Drug Nanorods for Leukemia. *Advanced Therapeutics*, **2018**, 1, 1800019	4.9	8
186	Mechanism of Antibacterial Activity of Choline-Based Ionic Liquids (CAGE). *ACS Biomaterials Science and Engineering*, **2018**, 4, 2370-2379	5.5	53
185	Nanoparticle transport across model cellular membranes: when do solubility-diffusion models break down?. *Journal Physics D: Applied Physics*, **2018**, 51, 294004	3	10
184	Ionic liquids for oral insulin delivery. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 7296-7301	11.5	181
183	Impact of particle elasticity on particle-based drug delivery systems. *Advanced Drug Delivery Reviews*, **2017**, 108, 51-67	18.5	234
182	Engineering live cell surfaces with functional polymers via cytocompatible controlled radical polymerization. *Nature Chemistry*, **2017**, 9, 537-545	17.6	273
181	Drug Delivery Research for the Future: Expanding the Nano Horizons and Beyond. *Journal of Controlled Release*, **2017**, 246, 183-184	11.7	45
180	Intestinal micropatches for oral insulin delivery. *Journal of Drug Targeting*, **2017**, 25, 608-615	5.4	24
179	Bypassing adverse injection reactions to nanoparticles through shape modification and attachment to erythrocytes. *Nature Nanotechnology*, **2017**, 12, 589-594	28.7	121
178	Sonophoresis: Ultrasound-Mediated Transdermal Drug Delivery **2017**, 3-14		4
177	Synthesis of Oil-Laden Poly(ethylene glycol) Diacrylate Hydrogel Nanocapsules from Double Nanoemulsions. *Langmuir*, **2017**, 33, 6116-6126	4	16
176	Transdermal Protein Delivery Using Choline and Geranate (CAGE) Deep Eutectic Solvent. *Advanced Healthcare Materials*, **2017**, 6, 1601411	10.1	101
175	A hyaluronic acid conjugate engineered to synergistically and sequentially deliver gemcitabine and doxorubicin to treat triple negative breast cancer. *Journal of Controlled Release*, **2017**, 267, 191-202	11.7	51

174	Intestinal patch systems for oral drug delivery. *Current Opinion in Pharmacology*, **2017**, 36, 58-65	5.1	37
173	A review on engineering polymer drug conjugates to improve combination chemotherapy. *Current Opinion in Colloid and Interface Science*, **2017**, 31, 75-85	7.6	48
172	Skin Delivery of Hydrophilic Biomacromolecules Using Marine Sponge Spicules. *Molecular Pharmaceutics*, **2017**, 14, 3188-3200	5.6	14
171	Influence of Particle Geometry on Gastrointestinal Transit and Absorption following Oral Administration. *ACS Applied Materials & Interfaces*, **2017**, 9, 42492-42502	9.5	37
170	Microfluidic co-culture devices to assess penetration of nanoparticles into cancer cell mass. *Bioengineering and Translational Medicine*, **2017**, 2, 268-277	14.8	20
169	Role of nanoparticle size, shape and surface chemistry in oral drug delivery. *Journal of Controlled Release*, **2016**, 238, 176-185	11.7	367
168	Intestinal mucoadhesive devices for oral delivery of insulin. *Bioengineering and Translational Medicine*, **2016**, 1, 338-346	14.8	59
167	Therapeutic RNAi robed with ionic liquid moieties as a simple, scalable prodrug platform for treating skin disease. *Journal of Controlled Release*, **2016**, 242, 80-88	11.7	38
166	Choline and Geranate Deep Eutectic Solvent as a Broad-Spectrum Antiseptic Agent for Preventive and Therapeutic Applications. *Advanced Healthcare Materials*, **2016**, 5, 1282-9	10.1	62
165	De Novo Design of Skin-Penetrating Peptides for Enhanced Transdermal Delivery of Peptide Drugs. *Advanced Healthcare Materials*, **2016**, 5, 602-9	10.1	33
164	Delivery of Exenatide and Insulin Using Mucoadhesive Intestinal Devices. *Annals of Biomedical Engineering*, **2016**, 44, 1993-2007	4.7	33
163	Mechanistic Analysis of Cellular Internalization of a Cell- and Skin-Penetrating Peptide. *Regenerative Engineering and Translational Medicine*, **2016**, 2, 23-36	2.4	3
162	Non-affinity factors modulating vascular targeting of nano- and microcarriers. *Advanced Drug Delivery Reviews*, **2016**, 99, 97-112	18.5	56
161	The Effect of Polymeric Nanoparticles on Biocompatibility of Carrier Red Blood Cells. *PLoS ONE*, **2016**, 11, e0152074	3.7	66
160	Angle-dependent light scattering by highly uniform colloidal rod-shaped microparticles: Experiment and simulation. *Journal of Polymer Science, Part B: Polymer Physics*, **2016**, 54, 1889-1895	2.6	3
159	A chemical engineering perspective of nanoparticle-based targeted drug delivery: A unit process approach. *AICHE Journal*, **2016**, 62, 966-974	3.6	6
158	DAFODIL: A novel liposome-encapsulated synergistic combination of doxorubicin and 5FU for low dose chemotherapy. *Journal of Controlled Release*, **2016**, 229, 154-162	11.7	45
157	Red blood cells: Supercarriers for drugs, biologicals, and nanoparticles and inspiration for advanced delivery systems. *Advanced Drug Delivery Reviews*, **2016**, 106, 88-103	18.5	188

156	Low-molecular-weight polymer-drug conjugates for synergistic anticancer activity of camptothecin and doxorubicin combinations. *Nanomedicine*, **2016**, 11, 1139-51	5.6	40
155	Nanoparticles in the clinic. *Bioengineering and Translational Medicine*, **2016**, 1, 10-29	14.8	776
154	Topical delivery of Cyclosporine A into the skin using SPACE-peptide. *Journal of Controlled Release*, **2015**, 199, 190-7	11.7	30
153	Elasticity of nanoparticles influences their blood circulation, phagocytosis, endocytosis, and targeting. *ACS Nano*, **2015**, 9, 3169-77	16.7	340
152	Ultrasonic delivery of silica-gold nanoshells for photothermolysis of sebaceous glands in humans: Nanotechnology from the bench to clinic. *Journal of Controlled Release*, **2015**, 206, 30-6	11.7	44
151	Exploiting shape, cellular-hitchhiking and antibodies to target nanoparticles to lung endothelium: Synergy between physical, chemical and biological approaches. *Biomaterials*, **2015**, 68, 1-8	15.6	57
150	Accelerating the Translation of Nanomaterials in Biomedicine. *ACS Nano*, **2015**, 9, 6644-54	16.7	220
149	Enhanced epidermal localization of topically applied steroids using SPACE□peptide. *Drug Delivery and Translational Research*, **2015**, 5, 523-30	6.2	2
148	A Review of Clinical Translation of Inorganic Nanoparticles. *AAPS Journal*, **2015**, 17, 1041-54	3.7	310
147	Synergistic antitumor activity of camptothecin-doxorubicin combinations and their conjugates with hyaluronic acid. *Journal of Controlled Release*, **2015**, 210, 198-207	11.7	77
146	Shape and size-dependent immune response to antigen-carrying nanoparticles. *Journal of Controlled Release*, **2015**, 220, 141-148	11.7	180
145	Nucleic acid delivery into skin for the treatment of skin disease: Proofs-of-concept, potential impact, and remaining challenges. *Journal of Controlled Release*, **2015**, 219, 445-456	11.7	53
144	Monocyte-mediated delivery of polymeric backpacks to inflamed tissues: a generalized strategy to deliver drugs to treat inflammation. *Journal of Controlled Release*, **2015**, 199, 29-36	11.7	94
143	Synthesis and characterization of a self-fluorescent hyaluronic acid-based gel for dermal applications. *Advanced Healthcare Materials*, **2015**, 4, 2297-305	10.1	11
142	Formulating propranolol as an amorphous melt affords reduced skin irritation potential for transdermal drug delivery **2015**, 03, 214-238		3
141	Peptides as skin penetration enhancers: mechanisms of action. *Journal of Controlled Release*, **2015**, 199, 168-78	11.7	88
140	An overview of clinical and commercial impact of drug delivery systems. *Journal of Controlled Release*, **2014**, 190, 15-28	11.7	293
139	Cell-mediated delivery of nanoparticles: taking advantage of circulatory cells to target nanoparticles. *Journal of Controlled Release*, **2014**, 190, 531-41	11.7	180

138	Vascular targeting of nanocarriers: perplexing aspects of the seemingly straightforward paradigm. *ACS Nano*, **2014**, 8, 4100-32	16.7	127
137	MoS□field-effect transistor for next-generation label-free biosensors. *ACS Nano*, **2014**, 8, 3992-4003	16.7	704
136	Platelet-like nanoparticles: mimicking shape, flexibility, and surface biology of platelets to target vascular injuries. *ACS Nano*, **2014**, 8, 11243-53	16.7	228
135	Ionic liquids as a class of materials for transdermal delivery and pathogen neutralization. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 13313-8	11.5	184
134	Overcoming the challenges in administering biopharmaceuticals: formulation and delivery strategies. *Nature Reviews Drug Discovery*, **2014**, 13, 655-72	64.1	1015
133	Organic nanoparticles for drug delivery and imaging. *MRS Bulletin*, **2014**, 39, 219-223	3.2	58
132	Topical delivery of siRNA into skin using SPACE-peptide carriers. *Journal of Controlled Release*, **2014** , 179, 33-41	11.7	77
131	Topical delivery of hyaluronic acid into skin using SPACE-peptide carriers. *Journal of Controlled Release*, **2014**, 173, 67-74	11.7	78
130	Challenges associated with Penetration of Nanoparticles across Cell and Tissue Barriers: A Review of Current Status and Future Prospects. *Nano Today*, **2014**, 9, 223-243	17.9	626
129	Highly cited research articles in Journal of Controlled Release: Commentaries and perspectives by authors. *Journal of Controlled Release*, **2014**, 190, 29-74	11.7	47
128	Progressive transition from resonant to diffuse reflection in anisotropic colloidal films. *Journal of Polymer Science, Part B: Polymer Physics*, **2014**, 52, 611-617	2.6	2
127	Optimized lysis buffer reagents for solubilization and preservation of proteins from cells and tissues. *Drug Delivery and Translational Research*, **2013**, 3, 428-36	6.2	4
126	Devices for overcoming biological barriers: the use of physical forces to disrupt the barriers. *Advanced Drug Delivery Reviews*, **2013**, 65, 100-3	18.5	95
125	Mucoadhesive intestinal devices for oral delivery of salmon calcitonin. *Journal of Controlled Release* , **2013**, 172, 753-62	11.7	60
124	Delivering nanoparticles to lungs while avoiding liver and spleen through adsorption on red blood cells. *ACS Nano*, **2013**, 7, 11129-37	16.7	207
123	Synergistic targeting of cell membrane, cytoplasm, and nucleus of cancer cells using rod-shaped nanoparticles. *ACS Nano*, **2013**, 7, 9558-70	16.7	84
122	Using shape effects to target antibody-coated nanoparticles to lung and brain endothelium. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 10753-8	11.5	442
121	A permeation enhancer for increasing transport of therapeutic macromolecules across the intestine. *Journal of Controlled Release*, **2013**, 172, 541-9	11.7	54

120	Particle shape enhances specificity of antibody-displaying nanoparticles. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 3270-5	11.5	379
119	Diagnostic opportunities based on skin biomarkers. *European Journal of Pharmaceutical Sciences*, **2013**, 50, 546-56	5.1	57
118	Multifunctional nanoparticles for drug delivery and molecular imaging. *Annual Review of Biomedical Engineering*, **2013**, 15, 253-82	12	369
117	Approaches to synthetic platelet analogs. *Biomaterials*, **2013**, 34, 526-41	15.6	73
116	Synthesis of protein-based, rod-shaped particles from spherical templates using layer-by-layer assembly. *Advanced Materials*, **2013**, 25, 2723-7	24	37
115	Permeation of insulin, calcitonin and exenatide across Caco-2 monolayers: measurement using a rapid, 3-day system. *PLoS ONE*, **2013**, 8, e57136	3.7	34
114	Mucociliary clearance of micro- and nanoparticles is independent of size, shape and charge--an ex vivo and in silico approach. *Journal of Controlled Release*, **2012**, 159, 128-34	11.7	62
113	Endocytic pathway rapidly delivers internalized molecules to lysosomes: an analysis of vesicle trafficking, clustering and mass transfer. *Journal of Controlled Release*, **2012**, 162, 76-83	11.7	17
112	Sampling of disease biomarkers from skin for theranostic applications. *Drug Delivery and Translational Research*, **2012**, 2, 87-94	6.2	2
111	Glycosylation facilitates transdermal transport of macromolecules. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 21283-8	11.5	12
110	Continuous Inertial Focusing and Separation of Particles by Shape. *Physical Review X*, **2012**, 2,	9.1	72
109	A reagent to facilitate protein recovery from cells and tissues. *Drug Delivery and Translational Research*, **2012**, 2, 297-304	6.2	4
108	Mechanical Disruption of Skin Barrier for Vaccine Delivery. *Drug Delivery System*, **2012**, 27, 202-212	0	5
107	Polymer Microparticles Exhibit Size and Shape Dependent Accumulation around the Nucleus after Endocytosis. *Advanced Functional Materials*, **2012**, 22, 3759-3764	15.6	32
106	Platelet mimetic particles for targeting thrombi in flowing blood. *Advanced Materials*, **2012**, 24, 3864-9	24	81
105	Spontaneous shape reconfigurations in multicompartmental microcylinders. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 16057-62	11.5	85
104	Delivery of siRNA and other macromolecules into skin and cells using a peptide enhancer. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 15816-21	11.5	151
103	Delivery of polymeric particles into skin using needle-free liquid jet injectors. *Journal of Controlled Release*, **2011**, 153, 249-54	11.7	28

102	Mathematical models of skin permeability: an overview. *International Journal of Pharmaceutics*, **2011**, 418, 115-29	6.5	240
101	Bio-inspired, bioengineered and biomimetic drug delivery carriers. *Nature Reviews Drug Discovery*, **2011**, 10, 521-35	64.1	866
100	Adaptive micro and nanoparticles: temporal control over carrier properties to facilitate drug delivery. *Advanced Drug Delivery Reviews*, **2011**, 63, 1247-56	18.5	188
99	Effect of surfactant mixtures on skin structure and barrier properties. *Annals of Biomedical Engineering*, **2011**, 39, 1215-23	4.7	27
98	Designing micro- and nano-particles for treating rheumatoid arthritis. *Archives of Pharmacal Research*, **2011**, 34, 1887-97	6.1	58
97	Polymer nanoneedle-mediated intracellular drug delivery. *Small*, **2011**, 7, 2094-100	11	59
96	Cell-based drug delivery devices using phagocytosis-resistant backpacks. *Advanced Materials*, **2011**, 23, H105-9	24	113
95	Polymer particles that switch shape in response to a stimulus. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 11205-10	11.5	196
94	One-step acquisition of functional biomolecules from tissues. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 14627-32	11.5	8
93	Transcutaneous immunization: an overview of advantages, disease targets, vaccines, and delivery technologies. *Annual Review of Chemical and Biomolecular Engineering*, **2010**, 1, 175-201	8.9	49
92	Factors that control the circulation time of nanoparticles in blood: challenges, solutions and future prospects. *Current Pharmaceutical Design*, **2010**, 16, 2298-307	3.3	360
91	Ultrasound-enhanced drug transport and distribution in the brain. *AAPS PharmSciTech*, **2010**, 11, 1005-13	3.9	35
90	Rapid sampling of molecules via skin for diagnostic and forensic applications. *Pharmaceutical Research*, **2010**, 27, 1255-63	4.5	4
89	Novel topical microbicides through combinatorial strategies. *Pharmaceutical Research*, **2010**, 27, 1264-72	4.5	2
88	Multicomponent chemical enhancer formulations for transdermal drug delivery: more is not always better. *Journal of Controlled Release*, **2010**, 144, 175-80	11.7	19
87	Flow and adhesion of drug carriers in blood vessels depend on their shape: a study using model synthetic microvascular networks. *Journal of Controlled Release*, **2010**, 146, 196-200	11.7	226
86	Polymer particle shape independently influences binding and internalization by macrophages. *Journal of Controlled Release*, **2010**, 147, 408-12	11.7	321
85	Endocytosis and Intracellular Distribution of PLGA Particles in Endothelial Cells: Effect of Particle Geometry. *Macromolecular Rapid Communications*, **2010**, 31, 142-8	4.8	80

84	Macrophages recognize size and shape of their targets. *PLoS ONE*, **2010**, 5, e10051	3.7	225
83	UFOs, Worms, and Surfboards: What Shapes Teach Us About Cell Material Interactions. *NATO Science for Peace and Security Series A: Chemistry and Biology*, **2010**, 301-323	0.1	2
82	Dynamic control of needle-free jet injection. *Journal of Controlled Release*, **2009**, 135, 104-12	11.7	95
81	Transcutaneous immunization using common chemicals. *Journal of Controlled Release*, **2009**, 138, 134-40	11.7	17
80	Designer Biomaterials for Nanomedicine. *Advanced Functional Materials*, **2009**, 19, 3843-3854	15.6	200
79	Shape induced inhibition of phagocytosis of polymer particles. *Pharmaceutical Research*, **2009**, 26, 244-9	4.5	442
78	Physical approaches to biomaterial design. *Nature Materials*, **2009**, 8, 15-23	27	1103
77	Red blood cell-mimicking synthetic biomaterial particles. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 21495-9	11.5	286
76	Discovery of synergistic permeation enhancers for oral drug delivery. *Journal of Controlled Release*, **2008**, 128, 128-33	11.7	18
75	Control of endothelial targeting and intracellular delivery of therapeutic enzymes by modulating the size and shape of ICAM-1-targeted carriers. *Molecular Therapy*, **2008**, 16, 1450-8	11.7	445
74	Safe and effective permeation enhancers for oral drug delivery. *Pharmaceutical Research*, **2008**, 25, 1782-8	4.5	96
73	Mechanistic analysis of chemical permeation enhancers for oral drug delivery. *Pharmaceutical Research*, **2008**, 25, 1412-9	4.5	53
72	Role of particle size in phagocytosis of polymeric microspheres. *Pharmaceutical Research*, **2008**, 25, 1815-21	4.5	599
71	Therapeutic opportunities in biological responses of ultrasound. *Ultrasonics*, **2008**, 48, 271-8	3.5	51
70	Micro-scale devices for transdermal drug delivery. *International Journal of Pharmaceutics*, **2008**, 364, 227-36	6.5	324
69	Low-frequency sonophoresis: current status and future prospects. *Advanced Drug Delivery Reviews*, **2008**, 60, 1218-23	18.5	123
68	Identification of peptide ligands facilitating nanoparticle attachment to erythrocytes. *Biotechnology Progress*, **2007**, 23, 749-54	2.8	29
67	Making polymeric micro- and nanoparticles of complex shapes. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 11901-4	11.5	591

66	Understanding intracellular transport processes pertinent to synthetic gene delivery via stochastic simulations and sensitivity analyses. *Biophysical Journal*, **2007**, 92, 831-46	2.9	66
65	Temperature dependence of skin permeability to hydrophilic and hydrophobic solutes. *Journal of Pharmaceutical Sciences*, **2007**, 96, 1832-9	3.9	22
64	Modeling of pattern regulation in melanophores. *Journal of Theoretical Biology*, **2007**, 244, 141-53	2.3	6
63	Synergistic effects of chemical enhancers on skin permeability: a case study of sodium lauroylsarcosinate and sorbitan monolaurate. *European Journal of Pharmaceutical Sciences*, **2007**, 31, 1-7	5.1	33
62	Particle shape: a new design parameter for micro- and nanoscale drug delivery carriers. *Journal of Controlled Release*, **2007**, 121, 3-9	11.7	945
61	Needle-free delivery of macromolecules across the skin by nanoliter-volume pulsed microjets. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 4255-60	11.5	110
60	Long circulating nanoparticles via adhesion on red blood cells: mechanism and extended circulation. *Experimental Biology and Medicine*, **2007**, 232, 958-66	3.7	91
59	Relationships between skinŝ electrical impedance and permeability in the presence of chemical enhancers. *Journal of Controlled Release*, **2006**, 110, 307-313	11.7	95
58	Insights into synergistic interactions in binary mixtures of chemical permeation enhancers for transdermal drug delivery. *Journal of Controlled Release*, **2006**, 115, 85-93	11.7	66
57	Ultrasound-induced cavitation: applications in drug and gene delivery. *Expert Opinion on Drug Delivery*, **2006**, 3, 713-26	8	69
56	Needle-free liquid jet injections: mechanisms and applications. *Expert Review of Medical Devices*, **2006**, 3, 565-74	3.5	58
55	Theory of spatial patterns of intracellular organelles. *Biophysical Journal*, **2006**, 90, L67-9	2.9	19
54	Current status and future prospects of needle-free liquid jet injectors. *Nature Reviews Drug Discovery*, **2006**, 5, 543-8	64.1	226
53	Low-frequency sonophoresis: ultrastructural basis for stratum corneum permeability assessed using quantum dots. *Journal of Investigative Dermatology*, **2006**, 126, 1095-101	4.3	94
52	Evaluation of chemical enhancers in the transdermal delivery of lidocaine. *International Journal of Pharmaceutics*, **2006**, 308, 33-9	6.5	62
51	Role of target geometry in phagocytosis. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 4930-4	11.5	1532
50	Screening soft materials for their effect on skin barrier function by high throughput experimentation. *Journal of Materials Chemistry*, **2005**, 15, 3061		8
49	Design principles of chemical penetration enhancers for transdermal drug delivery. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 4688-93	11.5	263

48	A model for intracellular trafficking of adenoviral vectors. *Biophysical Journal*, **2005**, 89, 1574-88	2.9	57
47	Healing sound: the use of ultrasound in drug delivery and other therapeutic applications. *Nature Reviews Drug Discovery*, **2005**, 4, 255-60	64.1	637
46	Immunization without needles. *Nature Reviews Immunology*, **2005**, 5, 905-16	36.5	291
45	Jet-induced skin puncture and its impact on needle-free jet injections: experimental studies and a predictive model. *Journal of Controlled Release*, **2005**, 106, 361-73	11.7	103
44	Dynamics and spatial organization of endosomes in mammalian cells. *Physical Review Letters*, **2005**, 95, 158101	7.4	28
43	Discovery of transdermal penetration enhancers by high-throughput screening. *Nature Biotechnology*, **2004**, 22, 192-7	44.5	222
42	Current status and future potential of transdermal drug delivery. *Nature Reviews Drug Discovery*, **2004**, 3, 115-24	64.1	906
41	Oral delivery of macromolecules using intestinal patches: applications for insulin delivery. *Journal of Controlled Release*, **2004**, 98, 37-45	11.7	94
40	Prolonged circulation of large polymeric nanoparticles by non-covalent adsorption on erythrocytes. *Journal of Controlled Release*, **2004**, 100, 111-9	11.7	147
39	Sonophoresis: a 50-year journey. *Drug Discovery Today*, **2004**, 9, 735-6	8.8	22
38	Breaking the skin barrier. *Advanced Drug Delivery Reviews*, **2004**, 56, 555-6	18.5	35
37	Low-frequency sonophoresis: a review. *Advanced Drug Delivery Reviews*, **2004**, 56, 589-601	18.5	298
36	Topical delivery of anti-sense oligonucleotides using low-frequency sonophoresis. *Pharmaceutical Research*, **2004**, 21, 2219-25	4.5	71
35	Jet injection into polyacrylamide gels: investigation of jet injection mechanics. *Journal of Biomechanics*, **2004**, 37, 1181-8	2.9	74
34	Dependence of skin permeability on contact area. *Pharmaceutical Research*, **2003**, 20, 257-63	4.5	11
33	Modeling skin permeability to hydrophilic and hydrophobic solutes based on four permeation pathways. *Journal of Controlled Release*, **2003**, 86, 69-92	11.7	232
32	On the origin of size-dependent tortuosity for permeation of hydrophilic solutes across the stratum corneum. *Journal of Controlled Release*, **2003**, 86, 183-6	11.7	15
31	Description of transdermal transport of hydrophilic solutes during low-frequency sonophoresis based on a modified porous pathway model. *Journal of Pharmaceutical Sciences*, **2003**, 92, 381-93	3.9	76

30	A reversibly switching surface. *Science*, **2003**, 299, 371-4	33.3	971
29	An experimental and theoretical analysis of ultrasound-induced permeabilization of cell membranes. *Biophysical Journal*, **2003**, 84, 3087-101	2.9	189
28	Interactions of inertial cavitation bubbles with stratum corneum lipid bilayers during low-frequency sonophoresis. *Biophysical Journal*, **2003**, 85, 3502-12	2.9	151
27	Incorporation of lipophilic pathways into the porous pathway model for describing skin permeabilization during low-frequency sonophoresis. *Journal of Controlled Release*, **2002**, 83, 183-8	11.7	26
26	Synergistic effect of low-frequency ultrasound and surfactants on skin permeability. *Journal of Pharmaceutical Sciences*, **2002**, 91, 91-100	3.9	82
25	Investigations of the role of cavitation in low-frequency sonophoresis using acoustic spectroscopy. *Journal of Pharmaceutical Sciences*, **2002**, 91, 444-53	3.9	93
24	A theoretical analysis of permeation of small hydrophobic solutes across the stratum corneum based on Scaled Particle Theory. *Journal of Pharmaceutical Sciences*, **2002**, 91, 744-52	3.9	75
23	Porous resins as a cavitation enhancer for low-frequency sonophoresis. *Journal of Pharmaceutical Sciences*, **2002**, 91, 753-9	3.9	29
22	Intestinal patches for oral drug delivery. *Pharmaceutical Research*, **2002**, 19, 391-5	4.5	49
21	High throughput screening of transdermal formulations. *Pharmaceutical Research*, **2002**, 19, 655-60	4.5	54
20	Transdermal drug delivery by jet injectors: energetics of jet formation and penetration. *Pharmaceutical Research*, **2002**, 19, 1673-9	4.5	103
19	A theoretical analysis of low-frequency sonophoresis: dependence of transdermal transport pathways on frequency and energy density. *Pharmaceutical Research*, **2002**, 19, 1841-6	4.5	36
18	Theoretical description of transdermal transport of hydrophilic permeants: application to low-frequency sonophoresis. *Journal of Pharmaceutical Sciences*, **2001**, 90, 545-68	3.9	105
17	Effect of bilayer distruption on transdermal transport of low-molecular weight hydrophobic solutes. *Pharmaceutical Research*, **2001**, 18, 1018-23	4.5	10
16	Transdermal delivery of heparin and low-molecular weight heparin using low-frequency ultrasound. *Pharmaceutical Research*, **2001**, 18, 1151-6	4.5	84
15	Frequency dependence of sonophoresis. *Pharmaceutical Research*, **2001**, 18, 1694-700	4.5	109
14	Effect of therapeutic ultrasound on partition and diffusion coefficients in human stratum corneum. *Journal of Controlled Release*, **2001**, 71, 23-9	11.7	42
13	Synergistic effect of low-frequency ultrasound and sodium lauryl sulfate on transdermal transport. *Journal of Pharmaceutical Sciences*, **2000**, 89, 892-900	3.9	98

12	Transdermal monitoring of glucose and other analytes using ultrasound. *Nature Medicine*, **2000**, 6, 347-50	30.5	203
11	Determination of threshold energy dose for ultrasound-induced transdermal drug transport. *Journal of Controlled Release*, **2000**, 63, 41-52	11.7	116
10	Synergistic effect of enhancers for transdermal drug delivery. *Pharmaceutical Research*, **2000**, 17, 1354-9	4.5	167
9	Transdermal extraction of analytes using low-frequency ultrasound. *Pharmaceutical Research*, **2000**, 17, 466-70	4.5	40
8	In situ determination of partition and diffusion coefficients in the lipid bilayers of stratum corneum. *Pharmaceutical Research*, **2000**, 17, 1026-9	4.5	35
7	Combined effect of low-frequency ultrasound and iontophoresis: applications for transdermal heparin delivery. *Pharmaceutical Research*, **2000**, 17, 1151-4	4.5	68
6	Analysis of ultrasonically extracted interstitial fluid as a predictor of blood glucose levels. *Journal of Applied Physiology*, **2000**, 89, 961-6	3.7	49
5	An analysis of the size selectivity of solute partitioning, diffusion, and permeation across lipid bilayers. *Biophysical Journal*, **1999**, 77, 1268-83	2.9	77
4	An explanation for the variation of the sonophoretic transdermal transport enhancement from drug to drug. *Journal of Pharmaceutical Sciences*, **1997**, 86, 1190-2	3.9	49
3	Synergistic effect of electric field and ultrasound on transdermal transport. *Pharmaceutical Research*, **1996**, 13, 633-8	4.5	69
2	Synergistic effects of chemical enhancers and therapeutic ultrasound on transdermal drug delivery. *Journal of Pharmaceutical Sciences*, **1996**, 85, 670-9	3.9	107
1	A mechanistic study of ultrasonically-enhanced transdermal drug delivery. *Journal of Pharmaceutical Sciences*, **1995**, 84, 697-706	3.9	249