

Ajay K Banga

List of Publications by Year in descending order

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129
papers

4,529
citations

101543

36
h-index

133252

59
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131
all docs

131
docs citations

131
times ranked

2970
citing authors

#	ARTICLE	IF	CITATIONS
1	Iontophoretic delivery of drugs: Fundamentals, developments and biomedical applications. <i>Journal of Controlled Release</i> , 1988, 7, 1-24.	9.9	208
2	Iontophoresis and electroporation: comparisons and contrasts. <i>International Journal of Pharmaceutics</i> , 1999, 179, 1-19.	5.2	182
3	Characterization of Solid Maltose Microneedles and their Use for Transdermal Delivery. <i>Pharmaceutical Research</i> , 2008, 25, 104-113.	3.5	180
4	In vitro transdermal delivery of therapeutic antibodies using maltose microneedles. <i>International Journal of Pharmaceutics</i> , 2009, 368, 109-115.	5.2	171
5	Poly (vinyl alcohol) microneedles: Fabrication, characterization, and application for transdermal drug delivery of doxorubicin. <i>European Journal of Pharmaceutics and Biopharmaceutics</i> , 2018, 129, 88-103.	4.3	141
6	Transdermal Delivery of Proteins. <i>AAPS PharmSciTech</i> , 2011, 12, 431-441.	3.3	130
7	Microporation applications for enhancing drug delivery. <i>Expert Opinion on Drug Delivery</i> , 2009, 6, 343-354.	5.0	123
8	Formation and Closure of Microchannels in Skin Following Microporation. <i>Pharmaceutical Research</i> , 2011, 28, 82-94.	3.5	110
9	Characterization of Microchannels Created by Metal Microneedles: Formation and Closure. <i>AAPS Journal</i> , 2011, 13, 473-481.	4.4	106
10	Intradermal and transdermal drug delivery using microneedles – Fabrication, performance evaluation and application to lymphatic delivery. <i>Advanced Drug Delivery Reviews</i> , 2020, 153, 195-215.	13.7	102
11	The effect of electroporation on iontophoretic transdermal delivery of calcium regulating hormones. <i>Journal of Controlled Release</i> , 2000, 66, 127-133.	9.9	97
12	Synergistic effect of iontophoresis and soluble microneedles for transdermal delivery of methotrexate. <i>Journal of Pharmacy and Pharmacology</i> , 2010, 60, 27-33.	2.4	84
13	Assessing the potential of skin electroporation for the delivery of protein- and gene-based drugs. <i>Trends in Biotechnology</i> , 1998, 16, 408-412.	9.3	83
14	Transdermal Delivery of Interferon Alpha-2B using Microporation and Iontophoresis in Hairless Rats. <i>Pharmaceutical Research</i> , 2007, 24, 1389-1395.	3.5	83
15	Hydrogel-based iontotherapeutic delivery devices for transdermal delivery of peptide/protein drugs. <i>Pharmaceutical Research</i> , 1993, 10, 697-702.	3.5	77
16	Low frequency sonophoresis mediated transdermal and intradermal delivery of ketoprofen. <i>International Journal of Pharmaceutics</i> , 2012, 423, 289-296.	5.2	77
17	Delivery of Methotrexate and Characterization of Skin Treated by Fabricated PLGA Microneedles and Fractional Ablative Laser. <i>Pharmaceutical Research</i> , 2018, 35, 68.	3.5	73
18	Use of Poloxamer Polymers to Stabilize Recombinant Human Growth Hormone Against Various Processing Stresses. <i>Pharmaceutical Development and Technology</i> , 1997, 2, 143-149.	2.4	68

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19	Inhibition of crystallization in drug-in-adhesive-type transdermal patches. <i>International Journal of Pharmaceutics</i> , 2010, 394, 68-74.	5.2	59
20	Delivery of salmon calcitonin using a microneedle patch. <i>International Journal of Pharmaceutics</i> , 2012, 423, 257-263.	5.2	58
21	Dihydroergotamine mesylate-loaded dissolving microneedle patch made of polyvinylpyrrolidone for management of acute migraine therapy. <i>Journal of Controlled Release</i> , 2017, 268, 159-165.	9.9	58
22	Adapalene Microemulsion for Transfollicular Drug Delivery. <i>Journal of Pharmaceutical Sciences</i> , 2013, 102, 2622-2631.	3.3	54
23	Transdermal iontophoretic delivery of salmon calcitonin. <i>International Journal of Pharmaceutics</i> , 2000, 200, 107-113.	5.2	53
24	Microchannels created by sugar and metal microneedles: Characterization by microscopy, macromolecular flux and other techniques. <i>Journal of Pharmaceutical Sciences</i> , 2010, 99, 1931-1941.	3.3	52
25	Microneedles and their Applications. <i>Recent Patents on Drug Delivery and Formulation</i> , 2011, 5, 95-132.	2.1	51
26	Effects of chemical and physical enhancement techniques on transdermal delivery of 3-fluoroamphetamine hydrochloride. <i>International Journal of Pharmaceutics</i> , 2017, 528, 452-462.	5.2	50
27	Novel in situ forming hydrogel microneedles for transdermal drug delivery. <i>Drug Delivery and Translational Research</i> , 2017, 7, 16-26.	5.8	49
28	Enhanced skin delivery of vismodegib by microneedle treatment. <i>Drug Delivery and Translational Research</i> , 2015, 5, 407-423.	5.8	47
29	Molecular charge mediated transport of a 13kD protein across microporated skin. <i>International Journal of Pharmaceutics</i> , 2009, 378, 93-100.	5.2	46
30	Peptide and protein transdermal drug delivery. <i>Drug Discovery Today: Technologies</i> , 2012, 9, e147-e154.	4.0	44
31	Modulated iontophoretic delivery of small and large molecules through microchannels. <i>International Journal of Pharmaceutics</i> , 2012, 434, 106-114.	5.2	43
32	Dermal, Subdermal, and Systemic Concentrations of Granisetron by Iontophoretic Delivery. <i>Pharmaceutical Research</i> , 2005, 22, 1313-1319.	3.5	42
33	Controlled delivery of ropinirole hydrochloride through skin using modulated iontophoresis and microneedles. <i>Journal of Drug Targeting</i> , 2013, 21, 354-366.	4.4	41
34	Transdermal iontophoretic delivery of ketoprofen through human cadaver skin and in humans. <i>Journal of Controlled Release</i> , 1997, 44, 113-121.	9.9	38
35	Fabrication, characterization and application of sugar microneedles for transdermal drug delivery. <i>Therapeutic Delivery</i> , 2017, 8, 249-264.	2.2	38
36	Development of a Transdermal Delivery System for Tenofovir Alafenamide, a Prodrug of Tenofovir with Potent Antiviral Activity Against HIV and HBV. <i>Pharmaceutics</i> , 2019, 11, 173.	4.5	38

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37	Response Surface Methodology to Investigate the Iontophoretic Delivery of Tacrine Hydrochloride. <i>Pharmaceutical Research</i> , 2004, 21, 2293-2299.	3.5	36
38	Aggregation of Proteins and its Prevention by Carbohydrate Excipients: Albumins and β -Globulin. <i>Journal of Pharmacy and Pharmacology</i> , 2011, 47, 103-107.	2.4	35
39	Electrically and Ultrasonically Enhanced Transdermal Delivery of Methotrexate. <i>Pharmaceutics</i> , 2018, 10, 117.	4.5	35
40	Formulation and evaluation of 4-benzylpiperidine drug-in-adhesive matrix type transdermal patch. <i>International Journal of Pharmaceutics</i> , 2018, 550, 71-78.	5.2	32
41	In vivo iontophoretic delivery and pharmacokinetics of salmon calcitonin. <i>International Journal of Pharmaceutics</i> , 2005, 297, 190-6.	5.2	30
42	Transdermal iontophoretic delivery of terbinafine hydrochloride: Quantitation of drug levels in stratum corneum and underlying skin. <i>International Journal of Pharmaceutics</i> , 2010, 388, 24-31.	5.2	30
43	Transdermal Iontophoretic Delivery of Hydrocortisone from Cyclodextrin Solutions. <i>Journal of Pharmacy and Pharmacology</i> , 2011, 50, 635-640.	2.4	30
44	Effects of Chemical and Physical Enhancement Techniques on Transdermal Delivery of Cyanocobalamin (Vitamin B12) In Vitro. <i>Pharmaceutics</i> , 2011, 3, 474-484.	4.5	30
45	Formulation and optimization of desogestrel transdermal contraceptive patch using crystallization studies. <i>International Journal of Pharmaceutics</i> , 2013, 441, 9-18.	5.2	30
46	Transdermal iontophoretic delivery and degradation of vasopressin across human cadaver skin. <i>International Journal of Pharmaceutics</i> , 1995, 116, 211-216.	5.2	29
47	Electrically enhanced transdermal delivery of a macromolecule. <i>Journal of Pharmacy and Pharmacology</i> , 2010, 54, 907-912.	2.4	28
48	Transdermal delivery of human growth hormone via laser-generated micropores. <i>Drug Delivery and Translational Research</i> , 2018, 8, 450-460.	5.8	28
49	Iontophoretic and Microneedle Mediated Transdermal Delivery of Glycopyrrolate. <i>Pharmaceutics</i> , 2014, 6, 663-671.	4.5	26
50	Intradermal and follicular delivery of adapalene liposomes. <i>Drug Development and Industrial Pharmacy</i> , 2016, 42, 871-879.	2.0	26
51	Characterization of in Vitro Transdermal Iontophoretic Delivery of Insulin. <i>Drug Development and Industrial Pharmacy</i> , 1993, 19, 2069-2087.	2.0	25
52	Transdermal delivery of a ~13 kDa protein: an in vivo comparison of physical enhancement methods. <i>Journal of Drug Targeting</i> , 2010, 18, 141-147.	4.4	25
53	Transcending the Skin Barrier to Deliver Peptides and Proteins Using Active Technologies. <i>Critical Reviews in Therapeutic Drug Carrier Systems</i> , 2012, 29, 265-298.	2.2	25
54	Factorial design approach to evaluate interactions between electrically assisted enhancement and skin stripping for delivery of tacrine. <i>Journal of Controlled Release</i> , 2005, 103, 113-121.	9.9	24

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55	Induction and Inhibition of Crystallization in Drug-in-Adhesive-Type Transdermal Patches. <i>Pharmaceutical Research</i> , 2013, 30, 562-571.	3.5	23
56	Formulation Development and Characterization of Nanoemulsion-Based Formulation for Topical Delivery of Heparinoid. <i>Journal of Pharmaceutical Sciences</i> , 2018, 107, 2883-2890.	3.3	23
57	Fabrication and characterization of hyaluronic acid microneedles to enhance delivery of magnesium ascorbyl phosphate into skin. <i>Biomedical Microdevices</i> , 2019, 21, 104.	2.8	23
58	Transdermal Delivery of Iron Using Soluble Microneedles: Dermal Kinetics and Safety. <i>Journal of Pharmaceutical Sciences</i> , 2016, 105, 1196-1200.	3.3	22
59	Effect of Different Pressure-Sensitive Adhesives on Performance Parameters of Matrix-Type Transdermal Delivery Systems. <i>Pharmaceutics</i> , 2020, 12, 209.	4.5	22
60	Microneedle and iontophoresis mediated delivery of methotrexate into and across healthy and psoriatic skin. <i>International Journal of Pharmaceutics</i> , 2022, 618, 121693.	5.2	22
61	Transdermal delivery of methotrexate for pediatrics using silicon microneedles. <i>Therapeutic Delivery</i> , 2013, 4, 543-551.	2.2	21
62	Development and evaluation of a polyvinyl alcohol based topical gel. <i>Journal of Drug Delivery Science and Technology</i> , 2017, 39, 210-216.	3.0	21
63	Methods to simulate rubbing of topical formulation for in vitro skin permeation studies. <i>International Journal of Pharmaceutics</i> , 2017, 519, 22-33.	5.2	21
64	Modulated delivery of donepezil using a combination of skin microporation and iontophoresis. <i>International Journal of Pharmaceutics</i> , 2020, 589, 119853.	5.2	21
65	In Situ Gel Formation in Microporated Skin for Enhanced Topical Delivery of Niacinamide. <i>Pharmaceutics</i> , 2020, 12, 472.	4.5	21
66	Electrically modulated transdermal delivery of fentanyl. <i>Pharmaceutical Research</i> , 2002, 19, 440-444.	3.5	20
67	Optimization of Iontophoretic Parameters for the Transdermal Delivery of Methotrexate. <i>Drug Delivery</i> , 2008, 15, 437-442.	5.7	20
68	In Vivo Iontophoretic Delivery of Salmon Calcitonin Across Microporated Skin. <i>Journal of Pharmaceutical Sciences</i> , 2012, 101, 2861-2869.	3.3	20
69	Non-Ablative Fractional Laser to Facilitate Transdermal Delivery. <i>Journal of Pharmaceutical Sciences</i> , 2016, 105, 3324-3332.	3.3	20
70	In vitro percutaneous absorption studies of cannabidiol using human skin: Exploring the effect of drug concentration, chemical enhancers, and essential oils. <i>International Journal of Pharmaceutics</i> , 2022, 616, 121540.	5.2	20
71	New Technologies to Allow Transdermal Delivery of Therapeutic Proteins and Small Water-Soluble Drugs. <i>American Journal of Drug Delivery</i> , 2006, 4, 221-230.	0.6	19
72	Response Surface Methodology to Optimize Novel Fast Disintegrating Tablets Using β -Cyclodextrin as Diluent. <i>AAPS PharmSciTech</i> , 2010, 11, 1627-1635.	3.3	19

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73	Iontophoresis mediated in vivo intradermal delivery of terbinafine hydrochloride. International Journal of Pharmaceutics, 2010, 393, 113-119.	5.2	19
74	Cosmetic devices based on active transdermal technologies. Therapeutic Delivery, 2015, 6, 1089-1099.	2.2	19
75	Clinical Applications of Iontophoretic Devices in Rehabilitation Medicine. Critical Reviews in Physical and Rehabilitation Medicine, 1998, 10, 147-179.	0.1	18
76	Solenopsin A and analogs exhibit ceramide-like biological activity. Vascular Cell, 2015, 7, 5.	0.2	18
77	Iontophoretic in vivo transdermal delivery of beta-blockers in hairless rats and reduced skin irritation by liposomal formulation. Pharmaceutical Research, 2003, 20, 1496-1501.	3.5	17
78	Transdermal and intradermal iontophoretic delivery of dexamethasone sodium phosphate: quantification of the drug localized in skin. Journal of Drug Targeting, 2010, 18, 134-140.	4.4	17
79	Vehicle influence on permeation through intact and compromised skin. International Journal of Pharmaceutics, 2014, 472, 362-368.	5.2	17
80	Acyclovir skin depot characterization following <i>in vivo</i> iontophoretic delivery. Skin Research and Technology, 2011, 17, 234-244.	1.6	16
81	Qualitative and quantitative analysis of lateral diffusion of drugs in human skin. International Journal of Pharmaceutics, 2018, 544, 62-74.	5.2	16
82	Enhancement in the Transdermal and Localized Delivery of Honokiol Through Breast Tissue. AAPS PharmSciTech, 2018, 19, 3501-3511.	3.3	16
83	In vivo transdermal delivery of leuprolide using microneedles and iontophoresis. Current Pharmaceutical Biotechnology, 2013, 14, 180-93.	1.6	16
84	An update on the application of physical technologies to enhance intradermal and transdermal drug delivery. Therapeutic Delivery, 2012, 3, 339-355.	2.2	15
85	Effect of Modulated Alternating and Direct Current Iontophoresis on Transdermal Delivery of Lidocaine Hydrochloride. BioMed Research International, 2014, 2014, 1-6.	1.9	14
86	Effect of ablative laser on in vitro transungual delivery. International Journal of Pharmaceutics, 2018, 544, 402-414.	5.2	14
87	Transdermal delivery of breakthrough therapeutics for the management of treatment-resistant and post-partum depression. International Journal of Pharmaceutics, 2020, 591, 120007.	5.2	14
88	Microneedle Mediated Iontophoretic Delivery of Tofacitinib Citrate. Pharmaceutical Research, 2023, 40, 735-747.	3.5	14
89	Theme Section: Transdermal Delivery of Proteins. Pharmaceutical Research, 2007, 24, 1357-1359.	3.5	13
90	Development of Disposal Systems for Deactivation of Unused/Residual/Expired Medications. Pharmaceutical Research, 2016, 33, 110-124.	3.5	13

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91	Expanding the domain of drug delivery for HIV prevention: exploration of the transdermal route. <i>Critical Reviews in Therapeutic Drug Carrier Systems</i> , 2017, 34, 551-587.	2.2	13
92	In Vivo Transdermal Delivery of Leuprolide Using Microneedles and Iontophoresis. <i>Current Pharmaceutical Biotechnology</i> , 2013, 14, 180-193.	1.6	13
93	Formulation optimization of a drug in adhesive transdermal analgesic patch. <i>Drug Development and Industrial Pharmacy</i> , 2016, 42, 862-870.	2.0	12
94	Application of TZERO calibrated modulated temperature differential scanning calorimetry to characterize model protein formulations. <i>International Journal of Pharmaceutics</i> , 2006, 309, 146-156.	5.2	11
95	Design and Evaluation of a Poly(Lactide-co-Glycolide)-Based In Situ Film-Forming System for Topical Delivery of Trolamine Salicylate. <i>Pharmaceutics</i> , 2019, 11, 409.	4.5	11
96	Skin Delivery and Irritation Potential of Phenmetrazine as a Candidate Transdermal Formulation for Repurposed Indications. <i>AAPS Journal</i> , 2019, 21, 70.	4.4	11
97	Transdermal Iontophoretic delivery of colchicine encapsulated in liposomes. <i>Drug Delivery</i> , 1996, 3, 245-250.	5.7	10
98	Enhancement of Transdermal Delivery of Heparin by Various Physical and Chemical Enhancement Techniques. <i>Critical Reviews in Therapeutic Drug Carrier Systems</i> , 2009, 26, 581-606.	2.2	10
99	Transdermal delivery of proteins using a combination of iontophoresis and microporation. <i>Therapeutic Delivery</i> , 2014, 5, 525-536.	2.2	10
100	Characterization of microneedles and microchannels for enhanced transdermal drug delivery. <i>Therapeutic Delivery</i> , 2021, 12, 77-103.	2.2	10
101	Topical and transdermal delivery with diseased human skin: passive and iontophoretic delivery of hydrocortisone into psoriatic and eczematous skin. <i>Drug Delivery and Translational Research</i> , 2022, 12, 197-212.	5.8	10
102	Transdermal Delivery of Baclofen Using Iontophoresis and Microneedles. <i>AAPS PharmSciTech</i> , 2022, 23, 84.	3.3	10
103	Localized delivery of a lipophilic proteasome inhibitor into human skin for treatment of psoriasis. <i>Journal of Drug Targeting</i> , 2016, 24, 503-507.	4.4	9
104	Transdermal Delivery of Cimetidine Across Microneedle-Treated Skin: Effect of Extent of Drug Ionization on the Permeation. <i>Journal of Pharmaceutical Sciences</i> , 2017, 106, 1285-1292.	3.3	9
105	Evaluation of an activated carbon-based deactivation system for the disposal of highly abused opioid medications. <i>Drug Development and Industrial Pharmacy</i> , 2018, 44, 125-134.	2.0	9
106	Development and evaluation of a heparin gel for transdermal delivery via laser-generated micropores. <i>Therapeutic Delivery</i> , 2021, 12, 133-144.	2.2	9
107	Formulation Development for Transdermal Delivery of Raloxifene, a Chemoprophylactic Agent against Breast Cancer. <i>Pharmaceutics</i> , 2022, 14, 680.	4.5	9
108	Stability of a Transdermal Salmon Calcitonin Formulation. <i>Drug Delivery</i> , 2003, 10, 41-45.	5.7	8

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109	Evaluation of acyclovir cream and gel formulations for transdermal iontophoretic delivery. <i>Therapeutic Delivery</i> , 2012, 3, 327-338.	2.2	8
110	Iontophoretic Delivery of Acyclovir: Intradermal Drug Monitoring Using Microdialysis and Quantification by Skin Extraction. <i>PDA Journal of Pharmaceutical Science and Technology</i> , 2011, 65, 432-444.	0.5	7
111	Iontophoresis of a 13 kDa protein monitored by subcutaneous microdialysis in vivo. <i>Bioanalysis</i> , 2011, 3, 2419-2426.	1.5	7
112	Investigation of the Dermal Absorption and Irritation Potential of Sertaconazole Nitrate Anhydrous Gel. <i>Pharmaceutics</i> , 2016, 8, 21.	4.5	7
113	Evaluation of an activated carbon disposal system for safe disposal of model prescription sedative medications. <i>Scientific Reports</i> , 2020, 10, 2968.	3.3	7
114	Transdermal Delivery of Peptides and Proteins. , 2011, , 69-86.		6
115	Transdermal formulation of 4-benzylpiperidine for cocaine-use disorder. <i>Journal of Drug Delivery Science and Technology</i> , 2018, 47, 299-308.	3.0	6
116	Pharmacokinetics of a weekly transdermal delivery system of tenofovir alafenamide in hairless rats. <i>International Journal of Pharmaceutics</i> , 2020, 582, 119342.	5.2	5
117	Formulation and evaluation of sublingual delivery of piroxicam using thermosensitive polymer with an inverted Franz diffusion cell. <i>Journal of Pharmacy and Pharmacology</i> , 2016, 68, 26-35.	2.4	4
118	Development and validation of an HPLC-UV method for analysis of methylphenidate hydrochloride and loxapine succinate in an activated carbon disposal system. <i>Journal of Pharmaceutical Analysis</i> , 2018, 8, 349-356.	5.3	4
119	In Vitro Antioxidant, Anti-Inflammatory and Skin Permeation of <i>Myrsine africana</i> and Its Isolated Compound Myrsinoside B. <i>Frontiers in Pharmacology</i> , 2019, 10, 1410.	3.5	4
120	Role of Nanotechnology in Skin Delivery of Drugs. , 2016, , 1-13.		3
121	The pharmacokinetics of 3-fluoroamphetamine following delivery using clinically relevant routes of administration. <i>Drug Delivery and Translational Research</i> , 2020, 10, 271-281.	5.8	3
122	Transdermal Delivery of the Free Base of 3-Fluoroamphetamine: In Vitro Skin Permeation and Irritation Potential. <i>AAPS PharmSciTech</i> , 2020, 21, 109.	3.3	3
123	Foreword to Transdermal Delivery Mini Focus Issue. <i>Therapeutic Delivery</i> , 2012, 3, 293-294.	2.2	1
124	Transdermal and intradermal iontophoretic delivery of dexamethasone sodium phosphate: quantification of the drug localized in skin. <i>Journal of Drug Targeting</i> , 2009, 00, 090922082920054-7.	4.4	1
125	In Vivo Transdermal Delivery of Leuprolide Using Microneedles and Iontophoresis. <i>Current Pharmaceutical Biotechnology</i> , 2013, 14, 180-193.	1.6	0
126	Transdermal Delivery of Peptides and Proteins by Physical Methods. , 2017, , 423-437.		0

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127	Topical delivery of nordihydroguaretic acid for attenuating cutaneous damage caused by arsenicals. Journal of Drug Delivery Science and Technology, 2020, 58, 101773.	3.0	0
128	A novel technique to evaluate nail softening effects of different urea formulations. Pharmaceutical Development and Technology, 2021, 26, 403-411.	2.4	0
129	Impact of Different Mixing Methods on the Performance of Suspension-Based Transdermal Delivery Systems. AAPS PharmSciTech, 2021, 22, 150.	3.3	0