Robert Samuel Langer Jr

List of Publications by Citations

355 papers	92,022 citations	125 h-index	303 g-index
377 ext. papers	104,617 ext. citations	18.2 avg, IF	8.6 L-index

#	Paper	IF	Citations
355	Tissue engineering. *Science*, **1993**, 260, 920-6	33.3	8387
354	Nanocarriers as an emerging platform for cancer therapy. *Nature Nanotechnology*, **2007**, 2, 751-60	28.7	6530
353	Hydrogels in Biology and Medicine: From Molecular Principles to Bionanotechnology. *Advanced Materials*, **2006**, 18, 1345-1360	24	3009
352	Designing materials for biology and medicine. *Nature*, **2004**, 428, 487-92	50.4	2634
351	Biodegradable long-circulating polymeric nanospheres. *Science*, **1994**, 263, 1600-3	33.3	2464
350	Impact of nanotechnology on drug delivery. *ACS Nano*, **2009**, 3, 16-20	16.7	2337
349	Knocking down barriers: advances in siRNA delivery. *Nature Reviews Drug Discovery*, **2009**, 8, 129-38	64.1	2281
348	Polymeric systems for controlled drug release. *Chemical Reviews*, **1999**, 99, 3181-98	68.1	2177
347	Transdermal drug delivery. *Nature Biotechnology*, **2008**, 26, 1261-8	44.5	1870
346	Biodegradable, elastic shape-memory polymers for potential biomedical applications. *Science*, **2002** , 296, 1673-6	33.3	1728
345	Light-induced shape-memory polymers. *Nature*, **2005**, 434, 879-82	50.4	1601
344	Drug delivery and targeting. *Nature*, **1998**, 392, 5-10	50.4	1468
343	New methods of drug delivery. *Science*, **1990**, 249, 1527-33	33.3	1444
342	Nanoparticle delivery of cancer drugs. *Annual Review of Medicine*, **2012**, 63, 185-98	17.4	1176
341	CRISPR-Cas9 knockin mice for genome editing and cancer modeling. *Cell*, **2014**, 159, 440-55	56.2	1089
340	Small-scale systems for in vivo drug delivery. *Nature Biotechnology*, **2003**, 21, 1184-91	44.5	1063
339	Formulation of functionalized PLGA-PEG nanoparticles for in vivo targeted drug delivery. *Biomaterials*, **2007**, 28, 869-76	15.6	1053

338	Overcoming the challenges in administering biopharmaceuticals: formulation and delivery strategies. *Nature Reviews Drug Discovery*, **2014**, 13, 655-72	64.1	1015
337	Supramolecular biomaterials. *Nature Materials*, **2016**, 15, 13-26	27	971
336	Large porous particles for pulmonary drug delivery. *Science*, **1997**, 276, 1868-71	33.3	962
335	Polymers for the sustained release of proteins and other macromolecules. *Nature*, **1976**, 263, 797-800	50.4	924
334	A combinatorial library of lipid-like materials for delivery of RNAi therapeutics. *Nature Biotechnology*, **2008**, 26, 561-9	44.5	908
333	Current status and future potential of transdermal drug delivery. *Nature Reviews Drug Discovery*, **2004**, 3, 115-24	64.1	906
332	New challenges in biomaterials. *Science*, **1994**, 263, 1715-20	33.3	893
331	Preclinical development and clinical translation of a PSMA-targeted docetaxel nanoparticle with a differentiated pharmacological profile. *Science Translational Medicine*, **2012**, 4, 128ra39	17.5	866
330	Molecularly self-assembled nucleic acid nanoparticles for targeted in vivo siRNA delivery. *Nature Nanotechnology*, **2012**, 7, 389-93	28.7	836
329	Bioresponsive materials. *Nature Reviews Materials*, **2017**, 2,	73.3	828
328	Delivery technologies for cancer immunotherapy. *Nature Reviews Drug Discovery*, **2019**, 18, 175-196	64.1	823
327	Engineering precision nanoparticles for drug delivery. *Nature Reviews Drug Discovery*, **2021**, 20, 101-124	64.1	822
326	Targeted delivery of cisplatin to prostate cancer cells by aptamer functionalized Pt(IV) prodrug-PLGA-PEG nanoparticles. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 17356-61	11.5	805
325	Self-assembled lipid--polymer hybrid nanoparticles: a robust drug delivery platform. *ACS Nano*, **2008**, 2, 1696-702	16.7	721
324	A controlled-release microchip. *Nature*, **1999**, 397, 335-8	50.4	715
323	The controlled intravenous delivery of drugs using PEG-coated sterically stabilized nanospheres. *Advanced Drug Delivery Reviews*, **1995**, 16, 215-233	18.5	648
322	Ultrasound-mediated transdermal protein delivery. *Science*, **1995**, 269, 850-3	33.3	634
321	Lipid-like materials for low-dose, in vivo gene silencing. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 1864-9	11.5	633

320	Emerging Frontiers in Drug Delivery. *Journal of the American Chemical Society*, **2016**, 138, 704-17	16.4	625
319	Microfluidic platform for controlled synthesis of polymeric nanoparticles. *Nano Letters*, **2008**, 8, 2906-12	11.5	616
318	Therapeutic genome editing by combined viral and non-viral delivery of CRISPR system components in vivo. *Nature Biotechnology*, **2016**, 34, 328-33	44.5	610
317	Precise engineering of targeted nanoparticles by using self-assembled biointegrated block copolymers. *Proceedings of the National Academy of Sciences of the United States of America*, **2008**, 105, 2586-91	11.5	596
316	Therapeutic siRNA silencing in inflammatory monocytes in mice. *Nature Biotechnology*, **2011**, 29, 1005-10	44.5	594
315	Biomaterials in drug delivery and tissue engineering: one laboratory's experience. *Accounts of Chemical Research*, **2000**, 33, 94-101	24.3	591
314	PLGA-lecithin-PEG core-shell nanoparticles for controlled drug delivery. *Biomaterials*, **2009**, 30, 1627-34	15.6	563
313	Size- and shape-dependent foreign body immune response to materials implanted in rodents and non-human primates. *Nature Materials*, **2015**, 14, 643-51	27	534
312	Efficiency of siRNA delivery by lipid nanoparticles is limited by endocytic recycling. *Nature Biotechnology*, **2013**, 31, 653-8	44.5	514
311	Drug delivery. Drugs on target. *Science*, **2001**, 293, 58-9	33.3	498
310	In vitro and ex vivo strategies for intracellular delivery. *Nature*, **2016**, 538, 183-192	50.4	489
309	Present and future applications of biomaterials in controlled drug delivery systems. *Biomaterials*, **1981**, 2, 201-14	15.6	486
308	Long-term glycemic control using polymer-encapsulated human stem cell-derived beta cells in immune-competent mice. *Nature Medicine*, **2016**, 22, 306-11	50.5	430
307	Advances in oligonucleotide drug delivery. *Nature Reviews Drug Discovery*, **2020**, 19, 673-694	64.1	407
306	Semi-automated synthesis and screening of a large library of degradable cationic polymers for gene delivery. *Angewandte Chemie - International Edition*, **2003**, 42, 3153-8	16.4	394
305	A decade of progress in tissue engineering. *Nature Protocols*, **2016**, 11, 1775-81	18.8	387
304	In vivo endothelial siRNA delivery using polymeric nanoparticles with low molecular weight. *Nature Nanotechnology*, **2014**, 9, 648-655	28.7	385
303	A BioMEMS review: MEMS technology for physiologically integrated devices. *Proceedings of the IEEE*, **2004**, 92, 6-21	14.3	363

302	Mechanistic understanding of in vivo protein corona formation on polymeric nanoparticles and impact on pharmacokinetics. *Nature Communications*, **2017**, 8, 777	17.4	362
301	Managing diabetes with nanomedicine: challenges and opportunities. *Nature Reviews Drug Discovery*, **2015**, 14, 45-57	64.1	359
300	Photoswitchable nanoparticles for triggered tissue penetration and drug delivery. *Journal of the American Chemical Society*, **2012**, 134, 8848-55	16.4	359
299	Accelerated discovery of synthetic transfection vectors: parallel synthesis and screening of a degradable polymer library. *Journal of the American Chemical Society*, **2001**, 123, 8155-6	16.4	356
298	Multi-pulse drug delivery from a resorbable polymeric microchip device. *Nature Materials*, **2003**, 2, 767-72	27	355
297	Advances in Biomaterials for Drug Delivery. *Advanced Materials*, **2018**, 30, e1705328	24	352
296	Lipid-based nanotherapeutics for siRNA delivery. *Journal of Internal Medicine*, **2010**, 267, 9-21	10.8	342
295	Self-assembled hydrogels utilizing polymer-nanoparticle interactions. *Nature Communications*, **2015**, 6, 6295	17.4	341
294	Injectable Self-Healing Glucose-Responsive Hydrogels with pH-Regulated Mechanical Properties. *Advanced Materials*, **2016**, 28, 86-91	24	340
293	Injectable nano-network for glucose-mediated insulin delivery. *ACS Nano*, **2013**, 7, 4194-201	16.7	333
292	Niche-independent high-purity cultures of Lgr5+ intestinal stem cells and their progeny. *Nature Methods*, **2014**, 11, 106-12	21.6	332
291	Polyanhydrides: an overview. *Advanced Drug Delivery Reviews*, **2002**, 54, 889-910	18.5	322
290	Degradable lipid nanoparticles with predictable in vivo siRNA delivery activity. *Nature Communications*, **2014**, 5, 4277	17.4	320
289	A magnetically triggered composite membrane for on-demand drug delivery. *Nano Letters*, **2009**, 9, 3651-7	11.5	308
288	Combinatorial hydrogel library enables identification of materials that mitigate the foreign body response in primates. *Nature Biotechnology*, **2016**, 34, 345-52	44.5	302
287	Lipid Nanoparticle Assisted mRNA Delivery for Potent Cancer Immunotherapy. *Nano Letters*, **2017**, 17, 1326-1335	11.5	302
286	Polymeric synthetic nanoparticles for the induction of antigen-specific immunological tolerance. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, E156-65	11.5	295
285	A vector-free microfluidic platform for intracellular delivery. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 2082-7	11.5	293

284	First-in-human testing of a wirelessly controlled drug delivery microchip. *Science Translational Medicine*, **2012**, 4, 122ra21	17.5	283
283	Intracellular Delivery by Membrane Disruption: Mechanisms, Strategies, and Concepts. *Chemical Reviews*, **2018**, 118, 7409-7531	68.1	280
282	Micromolding of shape-controlled, harvestable cell-laden hydrogels. *Biomaterials*, **2006**, 27, 5391-8	15.6	279
281	Lipopeptide nanoparticles for potent and selective siRNA delivery in rodents and nonhuman primates. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 3955-60	11.5	275
280	Ultrasound-enhanced polymer degradation and release of incorporated substances. *Proceedings of the National Academy of Sciences of the United States of America*, **1989**, 86, 7663-6	11.5	272
279	Development of lipidoid-siRNA formulations for systemic delivery to the liver. *Molecular Therapy*, **2009**, 17, 872-9	11.7	266
278	Advancing the field of drug delivery: taking aim at cancer. *Cancer Cell*, **2003**, 4, 337-41	24.3	264
277	Electrically Controlled Drug Delivery from Biotin-Doped Conductive Polypyrrole. *Advanced Materials*, **2006**, 18, 577-581	24	257
276	Enhancing tumor cell response to chemotherapy through nanoparticle-mediated codelivery of siRNA and cisplatin prodrug. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 18638-43	11.5	255
275	Structure-guided chemical modification of guide RNA enables potent non-viral in vivo genome editing. *Nature Biotechnology*, **2017**, 35, 1179-1187	44.5	255
274	Combinatorial discovery of polymers resistant to bacterial attachment. *Nature Biotechnology*, **2012**, 30, 868-875	44.5	254
273	Materials science. Smart biomaterials. *Science*, **2004**, 305, 1923-4	33.3	254
272	Controlled Structure and Properties of Thermoresponsive Nanoparticle□Hydrogel Composites. *Advanced Materials*, **2004**, 16, 1074-1079	24	253
271	INVITED REVIEW POLYMERIC DELIVERY SYSTEMS FOR CONTROLLED DRUG RELEASE. *Chemical Engineering Communications*, **1980**, 6, 1-48	2.2	248
270	mRNA vaccine delivery using lipid nanoparticles. *Therapeutic Delivery*, **2016**, 7, 319-34	3.8	241
269	Dendrimer-RNA nanoparticles generate protective immunity against lethal Ebola, H1N1 influenza, and Toxoplasma gondii challenges with a single dose. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, E4133-42	11.5	233
268	An ingestible bacterial-electronic system to monitor gastrointestinal health. *Science*, **2018**, 360, 915-918	33.3	232
267	Molecularly engineered poly(ortho ester) microspheres for enhanced delivery of DNA vaccines. *Nature Materials*, **2004**, 3, 190-6	27	228

266	Lipid nanoparticles for mRNA delivery. *Nature Reviews Materials*, **2021**, 1-17	73.3	228
265	Polymeric Materials for Gene Delivery and DNA Vaccination. *Advanced Materials*, **2009**, 21, 847-867	24	223
264	AB-polymer networks based on oligo(ε-caprolactone) segments showing shape-memory properties. *Proceedings of the National Academy of Sciences of the United States of America*, **2001**, 98, 842-847	11.5	221
263	A pH-responsive supramolecular polymer gel as an enteric elastomer for use in gastric devices. *Nature Materials*, **2015**, 14, 1065-71	27	218
262	Magnetically triggered nanocomposite membranes: a versatile platform for triggered drug release. *Nano Letters*, **2011**, 11, 1395-400	11.5	217
261	Immunocompatibility properties of lipid-polymer hybrid nanoparticles with heterogeneous surface functional groups. *Biomaterials*, **2009**, 30, 2231-40	15.6	211
260	Hyaluronic acid-based microgels and microgel networks for vocal fold regeneration. *Biomacromolecules*, **2006**, 7, 3336-44	6.9	205
259	Delivery of mRNA vaccines with heterocyclic lipids increases anti-tumor efficacy by STING-mediated immune cell activation. *Nature Biotechnology*, **2019**, 37, 1174-1185	44.5	200
258	Cytoskeletal filament assembly and the control of cell spreading and function by extracellular matrix. *Journal of Cell Science*, **1995**, 108, 2311-2320	5.3	181
257	Polyanhydrides. I. Preparation of high molecular weight polyanhydrides. *Journal of Polymer Science Part A*, **1987**, 25, 3373-3386	2.5	180
256	Small RNA combination therapy for lung cancer. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, E3553-61	11.5	177
255	Evolution of macromolecular complexity in drug delivery systems. *Nature Reviews Chemistry*, **2017**, 1,	34.6	174
254	A novel mechanism is involved in cationic lipid-mediated functional siRNA delivery. *Molecular Pharmaceutics*, **2009**, 6, 763-71	5.6	168
253	Glucose-responsive insulin patch for the regulation of blood glucose in mice and minipigs. *Nature Biomedical Engineering*, **2020**, 4, 499-506	19	166
252	An ingestible self-orienting system for oral delivery of macromolecules. *Science*, **2019**, 363, 611-615	33.3	164
251	Sustained antigen availability during germinal center initiation enhances antibody responses to vaccination. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, E6639-E6648	11.5	164
250	Near-infrared-actuated devices for remotely controlled drug delivery. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 1349-54	11.5	157
249	Blocking CXCR4 alleviates desmoplasia, increases T-lymphocyte infiltration, and improves immunotherapy in metastatic breast cancer. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 4558-4566	11.5	156

248	Biocompatible Semiconductor Quantum Dots as Cancer Imaging Agents. *Advanced Materials*, **2018**, 30, e1706356	24	154
247	Engineering and physical sciences in oncology: challenges and opportunities. *Nature Reviews Cancer* , **2017**, 17, 659-675	31.3	153
246	Colony stimulating factor-1 receptor is a central component of the foreign body response to biomaterial implants in rodents and non-human primates. *Nature Materials*, **2017**, 16, 671-680	27	150
245	Glucose-responsive insulin activity by covalent modification with aliphatic phenylboronic acid conjugates. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 2401-6	11.5	150
244	Alginate encapsulation as long-term immune protection of allogeneic pancreatic islet cells transplanted into the omental bursa of macaques. *Nature Biomedical Engineering*, **2018**, 2, 810-821	19	145
243	Partial DNA-guided Cas9 enables genome editing with reduced off-target activity. *Nature Chemical Biology*, **2018**, 14, 311-316	11.7	140
242	Vascular catheters with a nonleaching poly-sulfobetaine surface modification reduce thrombus formation and microbial attachment. *Science Translational Medicine*, **2012**, 4, 153ra132	17.5	139
241	Probing nanoparticle translocation across the permeable endothelium in experimental atherosclerosis. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 1078-83	11.5	138
240	Regulation of drug release from polymer matrices by oscillating magnetic fields. *Journal of Biomedical Materials Research Part B*, **1985**, 19, 67-83		138
239	Silencing or stimulation? siRNA delivery and the immune system. *Annual Review of Chemical and Biomolecular Engineering*, **2011**, 2, 77-96	8.9	137
238	Combinatorial Modification of Degradable Polymers Enables Transfection of Human Cells Comparable to Adenovirus. *Advanced Materials*, **2007**, 19, 2836-2842	24	137
237	Controlled delivery systems for proteins using polyanhydride microspheres. *Pharmaceutical Research*, **1993**, 10, 487-96	4.5	131
236	Magnetically enhanced insulin release in diabetic rats. *Journal of Biomedical Materials Research Part B*, **1987**, 21, 1367-73		130
235	Layer-by-Layer Encapsulation of Probiotics for Delivery to the Microbiome. *Advanced Materials*, **2016**, 28, 9486-9490	24	128
234	Restoration of tumour-growth suppression in vivo via systemic nanoparticle-mediated delivery of PTEN mRNA. *Nature Biomedical Engineering*, **2018**, 2, 850-864	19	127
233	Oral, ultra-long-lasting drug delivery: Application toward malaria elimination goals. *Science Translational Medicine*, **2016**, 8, 365ra157	17.5	125
232	Bioinspired Alkenyl Amino Alcohol Ionizable Lipid Materials for Highly Potent In Vivo mRNA Delivery. *Advanced Materials*, **2016**, 28, 2939-43	24	125
231	Adjuvant-carrying synthetic vaccine particles augment the immune response to encapsulated antigen and exhibit strong local immune activation without inducing systemic cytokine release. *Vaccine*, **2014**, 32, 2882-95	4.1	124

230	RNAi targeting multiple cell adhesion molecules reduces immune cell recruitment and vascular inflammation after myocardial infarction. *Science Translational Medicine*, **2016**, 8, 342ra80	17.5	123
229	A materials-science perspective on tackling COVID-19. *Nature Reviews Materials*, **2020**, 1-14	73.3	123
228	Development of an oral once-weekly drug delivery system for HIV antiretroviral therapy. *Nature Communications*, **2018**, 9, 2	17.4	120
227	Inhaled Nanoformulated mRNA Polyplexes for Protein Production in Lung Epithelium. *Advanced Materials*, **2019**, 31, e1805116	24	118
226	An implantable microdevice to perform high-throughput in vivo drug sensitivity testing in tumors. *Science Translational Medicine*, **2015**, 7, 284ra57	17.5	109
225	In vivo release from a drug delivery MEMS device. *Journal of Controlled Release*, **2004**, 100, 211-9	11.7	106
224	Direct Patterning of Protein- and Cell-Resistant Polymeric Monolayers and Microstructures. *Advanced Materials*, **2003**, 15, 1995-2000	24	106
223	High-throughput Nuclear Delivery and Rapid Expression of DNA via Mechanical and Electrical Cell-Membrane Disruption. *Nature Biomedical Engineering*, **2017**, 1,	19	105
222	Fabrication of fillable microparticles and other complex 3D microstructures. *Science*, **2017**, 357, 1138-1142	33.3	105
221	Synthesis and Biological Evaluation of Ionizable Lipid Materials for the In Vivo Delivery of Messenger RNA to B Lymphocytes. *Advanced Materials*, **2017**, 29, 1606944	24	105
220	Barcoded nanoparticles for high throughput in vivo discovery of targeted therapeutics. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 2060-2065	11.5	101
219	Multiparametric approach for the evaluation of lipid nanoparticles for siRNA delivery. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 12881-6	11.5	101
218	Systemic RNAi-mediated Gene Silencing in Nonhuman Primate and Rodent Myeloid Cells. *Molecular Therapy - Nucleic Acids*, **2012**, 1, e4	10.7	100
217	Smart Biomaterials: Recent Advances and Future Directions. *ACS Biomaterials Science and Engineering*, **2018**, 4, 3809-3817	5.5	99
216	Prolonged energy harvesting for ingestible devices. *Nature Biomedical Engineering*, **2017**, 1,	19	98
215	Magnetic modulation of release of macromolecules from polymers. *Proceedings of the National Academy of Sciences of the United States of America*, **1981**, 78, 1863-7	11.5	98
214	Genetic and hypoxic alterations of the microRNA-210-ISCU1/2 axis promote iron-sulfur deficiency and pulmonary hypertension. *EMBO Molecular Medicine*, **2015**, 7, 695-713	12	96
213	Applications of ethylene vinyl acetate copolymers (EVA) in drug delivery systems. *Journal of Controlled Release*, **2017**, 262, 284-295	11.7	95

212	Size and temperature effects on poly(lactic-co-glycolic acid) degradation and microreservoir device performance. *Biomaterials*, **2005**, 26, 2137-45	15.6	95
211	Reduction of measurement noise in a continuous glucose monitor by coating the sensor with a zwitterionic polymer. *Nature Biomedical Engineering*, **2018**, 2, 894-906	19	94
210	Synthesis of polymer-lipid nanoparticles for image-guided delivery of dual modality therapy. *Bioconjugate Chemistry*, **2013**, 24, 1429-34	6.3	93
209	Stabilization of tetanus and diphtheria toxoids against moisture-induced aggregation. *Proceedings of the National Academy of Sciences of the United States of America*, **1995**, 92, 11234-8	11.5	92
208	Dendrimer-Inspired Nanomaterials for the in Vivo Delivery of siRNA to Lung Vasculature. *Nano Letters*, **2015**, 15, 3008-16	11.5	90
207	Microneedles for drug delivery via the gastrointestinal tract. *Journal of Pharmaceutical Sciences*, **2015**, 104, 362-7	3.9	90
206	Reprogramming the microenvironment with tumor-selective angiotensin blockers enhances cancer immunotherapy. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 10674-10680	11.5	89
205	Characterization of Mechanically Matched Hydrogel Coatings to Improve the Biocompatibility of Neural Implants. *Scientific Reports*, **2017**, 7, 1952	4.9	88
204	A luminal unfolding microneedle injector for oral delivery of macromolecules. *Nature Medicine*, **2019**, 25, 1512-1518	50.5	88
203	Research agenda. Promoting convergence in biomedical science. *Science*, **2011**, 333, 527	33.3	87
202	Ly6Clo monocytes drive immunosuppression and confer resistance to anti-VEGFR2 cancer therapy. *Journal of Clinical Investigation*, **2017**, 127, 3039-3051	15.9	87
201	Progress in the tissue engineering and stem cell industry "are we there yet?". *Tissue Engineering - Part B: Reviews*, **2012**, 18, 155-66	7.9	86
200	Ingestible electronics for diagnostics and therapy. *Nature Reviews Materials*, **2019**, 4, 83-98	73.3	85
199	Coated alginate microspheres: Factors influencing the controlled delivery of macromolecules. *Journal of Applied Polymer Science*, **1991**, 43, 2123-2135	2.9	83
198	Combinatorial Material Mechanics: High-Throughput Polymer Synthesis and Nanomechanical Screening. *Advanced Materials*, **2005**, 17, 2599-2604	24	82
197	Nanoparticles for Immune Cytokine TRAIL-Based Cancer Therapy. *ACS Nano*, **2018**, 12, 912-931	16.7	81
196	Nanoparticles with photoinduced precipitation for the extraction of pollutants from water and soil. *Nature Communications*, **2015**, 6, 7765	17.4	79
195	Live-cell protein labelling with nanometre precision by cell squeezing. *Nature Communications*, **2016**, 7, 10372	17.4	77

194	Temporal study of the activity of matrix metalloproteinases and their endogenous inhibitors during wound healing **1996**, 60, 379-386		77
193	The development of bioresorbable composite polymeric implants with high mechanical strength. *Nature Materials*, **2018**, 17, 96-103	27	76
192	Multiplexed RNAi therapy against brain tumor-initiating cells via lipopolymeric nanoparticle infusion delays glioblastoma progression. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E6147-E6156	11.5	75
191	Triggerable tough hydrogels for gastric resident dosage forms. *Nature Communications*, **2017**, 8, 124	17.4	74
190	Repeatable and adjustable on-demand sciatic nerve block with phototriggerable liposomes. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 15719-24	11.5	74
189	Design and Synthesis of Waterborne Polyurethanes. *Advanced Materials*, **2018**, 30, e1706237	24	73
188	Glucose-responsive insulin by molecular and physical design. *Nature Chemistry*, **2017**, 9, 937-943	17.6	72
187	Discovery of novel materials with broad resistance to bacterial attachment using combinatorial polymer microarrays. *Advanced Materials*, **2013**, 25, 2542-7	24	72
186	Soft Lithographic Patterning of Hyaluronic Acid on Hydrophilic Substrates Using Molding and Printing. *Advanced Materials*, **2004**, 16, 584-588	24	72
185	Photothermally targeted thermosensitive polymer-masked nanoparticles. *Nano Letters*, **2014**, 14, 3697-701	11.5	71
184	Exhaled aerosol increases with COVID-19 infection, age, and obesity. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	70
183	Exploiting Electrostatic Interactions in Polymer Nanoparticle Hydrogels. *ACS Macro Letters*, **2015**, 4, 848-852	6.6	68
182	High Throughput Surface Characterisation of a Combinatorial Material Library. *Advanced Materials*, **2007**, 19, 2486-2491	24	67
181	Implantable controlled release systems **1983**, 21, 35-51		67
180	Nonendocytic delivery of functional engineered nanoparticles into the cytoplasm of live cells using a novel, high-throughput microfluidic device. *Nano Letters*, **2012**, 12, 6322-7	11.5	66
179	Ultrasound-mediated gastrointestinal drug delivery. *Science Translational Medicine*, **2015**, 7, 310ra168	17.5	64
178	Mapping the Interactions among Biomaterials, Adsorbed Proteins, and Human Embryonic Stem Cells. *Advanced Materials*, **2009**, 21, 2781-2786	24	63
177	Glucose-Responsive Nanoparticles for Rapid and Extended Self-Regulated Insulin Delivery. *ACS Nano*, **2020**, 14, 488-497	16.7	63

176	Microfluidic squeezing for intracellular antigen loading in polyclonal B-cells as cellular vaccines. *Scientific Reports*, **2015**, 5, 10276	4.9	61
175	Quantitative study of molecular transport due to electroporation: uptake of bovine serum albumin by erythrocyte ghosts. *Biophysical Journal*, **1994**, 66, 1522-30	2.9	61
174	Enzymatic regeneration of ATP. I. Alternative routes. *AICHE Journal*, **1976**, 22, 1079-1090	3.6	61
173	Ionizable amphiphilic dendrimer-based nanomaterials with alkyl-chain-substituted amines for tunable siRNA delivery to the liver endothelium in vivo. *Angewandte Chemie - International Edition*, **2014**, 53, 14397-401	16.4	59
172	Chiral Supraparticles for Controllable Nanomedicine. *Advanced Materials*, **2020**, 32, e1903878	24	59
171	Rapid, deep and precise profiling of the plasma proteome with multi-nanoparticle protein corona. *Nature Communications*, **2020**, 11, 3662	17.4	58
170	Nanotechnology approaches for global infectious diseases. *Nature Nanotechnology*, **2021**, 16, 369-384	28.7	58
169	Biomaterials: Status, challenges, and perspectives. *AICHE Journal*, **2000**, 46, 1286-1289	3.6	57
168	Long-term implant fibrosis prevention in rodents and non-human primates using crystallized drug formulations. *Nature Materials*, **2019**, 18, 892-904	27	56
167	Biocompatible near-infrared quantum dots delivered to the skin by microneedle patches record vaccination. *Science Translational Medicine*, **2019**, 11,	17.5	54
166	Biofilm-Inspired Encapsulation of Probiotics for the Treatment of Complex Infections. *Advanced Materials*, **2018**, 30, e1803925	24	53
165	Single-injection vaccines: Progress, challenges, and opportunities. *Journal of Controlled Release*, **2015**, 219, 596-609	11.7	52
164	Long-term dopamine neurochemical monitoring in primates. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 13260-13265	11.5	51
163	Endothelial siRNA delivery in nonhuman primates using ionizable low-molecular weight polymeric nanoparticles. *Science Advances*, **2018**, 4, eaar8409	14.3	51
162	Millisecond measurement of transport during and after an electroporation pulse. *Biophysical Journal*, **1995**, 68, 1864-70	2.9	50
161	Ionizable Amino-Polyesters Synthesized via Ring Opening Polymerization of Tertiary Amino-Alcohols for Tissue Selective mRNA Delivery. *Advanced Materials*, **2018**, 30, e1801151	24	50
160	Bioplastics for a circular economy.. *Nature Reviews Materials*, **2022**, 1-21	73.3	49
159	Bacterial attachment to polymeric materials correlates with molecular flexibility and hydrophilicity. *Advanced Healthcare Materials*, **2015**, 4, 695-701	10.1	48

158	Dendrimeric siRNA for Efficient Gene Silencing. *Angewandte Chemie - International Edition*, **2015**, 54, 6740-4	16.4	48
157	The synthesis of poly(hydroxamic acid) from poly(acrylamide). *Journal of Polymer Science Part A*, **1988**, 26, 2623-2630	2.5	48
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