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Recent development of chitosan-based polyelectrolyte complexes with natural polysaccharides for drug delivery

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#	Paper	IF	Citations
566	A review of bioactive release from nerve conduits as a neurotherapeutic strategy for neuronal growth in peripheral nerve injury. <b>2014</b> , 2014, 132350		36
565	Electric stimulus response of chitosan microbeads embedded with magnetic nanoparticles for controlled drug delivery. <b>2014</b> ,		2
564	Investigation of electrical stimulus on chitosan film based DDS. <b>2014</b> , 2014, 1424-7		
563	Design of chitosan and its water soluble derivatives-based drug carriers with polyelectrolyte complexes. <i>Marine Drugs</i> , <b>2014</b> , 12, 6236-53	6	78
562	Development and characterization of hydrogels based on natural polysaccharides: policaju and chitosan. <b>2014</b> , 42, 219-26		26
561	Comparison of chitosan, alginate and chitosan/alginate nanoparticles with respect to their size, stability, toxicity and transfection. <b>2014</b> , 4, 372-377		35
560	Novel co-axial prilling technique for the development of core-shell particles as delayed drug delivery systems. <b>2014</b> , 87, 541-7		29
559	Development of a biopolymer nanoparticle-based method of oral toxicity testing in aquatic invertebrates. <b>2014</b> , 104, 226-30		5
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557	Advances in self-assembled chitosan nanomaterials for drug delivery. <b>2014</b> , 32, 1301-1316		222
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393	A solid-state electrochemical sensing platform based on a supramolecular hydrogel. <b>2018</b> , 262, 326-333	21
392	Synergistic effect of graphene oxide-silver nanofillers on engineering performances of polyelectrolyte complex nanofiber membranes. <i>Journal of Applied Polymer Science</i> , <b>2018</b> , 135, 46238	2.9 16
391	Bionanocomposites for Packaging Applications. <b>2018</b> ,	8
390	pH-triggered surface charge-reversal nanoparticles alleviate experimental murine colitis via selective accumulation in inflamed colon regions. <b>2018</b> , 14, 823-834	27
389	Use of nanostructured materials in drug delivery. <b>2018</b> , 503-549	2
388	Methodologies for Studying Bioactive Polysaccharides. <b>2018</b> , 51-97	

387	Facile preparation and characterization of pH sensitive Mt/CMC nanocomposite hydrogel beads for propranolol controlled release. <i>International Journal of Biological Macromolecules</i> , <b>2018</b> , 111, 696-705	7.9	38
386	Polysaccharide-Based Controlled Release Systems for Therapeutics Delivery and Tissue Engineering: From Bench to Bedside. <b>2018</b> , 5, 1700513		137
385	Development of caffeine-encapsulated alginate-based matrix combined with different natural biopolymers, and evaluation of release in simulated mouth conditions. <b>2018</b> , 33, 357-366		13
384	Structure and stability analysis of biocompatible hydroxyapatite reinforced chitosan nanocomposite. <b>2018</b> , 39, E573-E583		3
383	Study of dual encapsulation possibility of hydrophobic and hydrophilic drugs into a nanocarrier based on bio-polymer coated graphene oxide using density functional theory, molecular dynamics simulation and experimental methods. <b>2018</b> , 262, 204-217		26
382	Monte Carlo simulation for guar and xanthan gums as green scale inhibitors. <b>2018</b> , 166, 263-273		27
381	Conversion of amine groups on chitosan-coated SPIONs into carbocyclic acid and investigation of its interaction with BSA in drug delivery systems. <b>2018</b> , 45, 373-377		9
380	Biomaterials for drug delivery patches. <b>2018</b> , 118, 49-66		63
379	Controlled release of fluorouracil (5-FU) from chitosan-co-poly(ethylene glycol)/ poly(glycerol sebacate)-co-poly(ethylene glycol)-coated iron oxide. <b>2018</b> , 67, 212-220		5
378	Chemical crosslinking improves the gastrointestinal stability and enhances nutrient delivery potentials of egg yolk LDL/polysaccharide nanogels. <b>2018</b> , 239, 840-847		27
377	Magnetic stimulus responsive vancomycin drug delivery system based on chitosan microbeads embedded with magnetic nanoparticles. <b>2018</b> , 106, 2169-2176		22
376	Characterization of high density lipoprotein from egg yolk and its ability to form nanocomplexes with chitosan as natural delivery vehicles. <i>Food Hydrocolloids</i> , <b>2018</b> , 77, 204-211	10.6	23
375	Investigation into the physicochemical stability and rheological properties of rutin emulsions stabilized by chitosan and lecithin. <b>2018</b> , 229, 12-20		26
374	Formation and characterization of polyelectrolyte complex synthesized by chitosan and carboxylic curdlan for 5-fluorouracil delivery. <i>International Journal of Biological Macromolecules</i> , <b>2018</b> , 107, 397-405	7.9	21
373	Polyelectrolyte complex of carboxymethyl gum katira-chitosan: Preparation and characterization. <i>International Journal of Biological Macromolecules</i> , <b>2018</b> , 106, 1184-1191	7.9	22
372	Polysaccharides-Based Bionanocomposites for Food Packaging Applications. <b>2018</b> , 191-208		5
371	Novel SO <sub>3</sub> H functionalized magnetic nanoporous silica/polymer nanocomposite as a carrier in a dual-drug delivery system for anticancer therapy. <b>2018</b> , 263, 96-105		11
370	Methotrexate loaded gellan gum microparticles for drug delivery. <i>International Journal of Biological Macromolecules</i> , <b>2018</b> , 110, 346-356	7.9	28

369	Tracking the transdermal penetration pathways of optimized curcumin-loaded chitosan nanoparticles via confocal laser scanning microscopy. <i>International Journal of Biological Macromolecules</i> , <b>2018</b> , 108, 753-764	7.9	64
368	Preparation and characterization of maleoylagarose/PNIPAAm graft copolymers and formation of polyelectrolyte complexes with chitosan. <i>Carbohydrate Polymers</i> , <b>2018</b> , 182, 81-91	10.3	14
367	Food Biopackaging Based on Chitosan. <b>2018</b> , 1-27		2
366	Chemical Functionalization of Polysaccharides-Towards Biocompatible Hydrogels for Biomedical Applications. <b>2018</b> , 24, 1231-1240		59
365	Chitosan-Based Edible Membranes for Food Packaging. <b>2018</b> , 237-267		1
364	Formation and Characterization of Caseinate-Chitosan Nanocomplexes for Encapsulation of Curcumin. <b>2018</b> , 51, 445-453		3
363	Chitosan-Polylactide/Hyaluronic Acid Complex Microspheres as Carriers for Controlled Release of Bioactive Transforming Growth Factor- $\beta$ . <b>2018</b> , 10,		5
362	Protein-polysaccharide nanohybrids: Hybridization techniques and drug delivery applications. <b>2018</b> , 133, 42-62		26
361	pH-responsive Capsaicin@chitosan nanocapsules for antibiofouling in marine applications. <b>2018</b> , 158, 223-230		64
360	Concepts for Developing Physical Gels of Chitosan and of Chitosan Derivatives. <i>Gels</i> , <b>2018</b> , 4,	4.2	50
359	Bio-Inspired Molecules Extracted from Marine Macroalgae: A New Generation of Active Ingredients for Cosmetics and Human Health. <b>2018</b> , 709-746		7
358	Preparation, characterization and functional evaluation of chitosan-based films with zein coatings produced by cold plasma. <i>Carbohydrate Polymers</i> , <b>2018</b> , 202, 39-46	10.3	32
357	Chitosan-Based Polyelectrolyte Complex Hydrogels for Biomedical Applications. <b>2018</b> , 1-31		
356	pH-Dependent intestine-targeted delivery potency of the O-carboxymethyl chitosan - gum Arabic coacervates. <i>International Journal of Biological Macromolecules</i> , <b>2018</b> , 117, 315-322	7.9	7
355	Advances in micro and nano-encapsulation of bioactive compounds using biopolymer and lipid-based transporters. <b>2018</b> , 78, 34-60		248
354	Tamoxifen citrate loaded chitosan-gellan nanocapsules for breast cancer therapy: development, characterisation and in-vitro cell viability study. <b>2018</b> , 35, 292-300		11
353	Pectin-chitosan membrane scaffold imparts controlled stem cell adhesion and proliferation. <i>Carbohydrate Polymers</i> , <b>2018</b> , 197, 47-56	10.3	72
352	Stimuli-responsive biopolymer nanocarriers for drug delivery applications. <b>2018</b> , 405-432		7

351	Responsive polyelectrolyte complexes based on natural polysaccharides for drug delivery applications. <b>2018</b> , 267-287		5
350	Folic acid-chitosan-alginate nanocomplexes for multiple delivery of chemotherapeutic agents. <b>2018</b> , 47, 67-76		10
349	Injectable polysaccharide hydrogel embedded with hydroxyapatite and calcium carbonate for drug delivery and bone tissue engineering. <i>International Journal of Biological Macromolecules</i> , <b>2018</b> , 118, 1257-1266	7.9	92
348	Surface Engineered Magnetic Biosorbents for Water Treatment. <b>2018</b> , 301-342		6
347	Adsorption of rosmarinic acid from aqueous solution on chitosan powder. <i>International Journal of Biological Macromolecules</i> , <b>2018</b> , 118, 1013-1020	7.9	10
346	An Overview of Chitosan-Xanthan Gum Matrices as Controlled Release Drug Carriers. <b>2018</b> ,		1
345	Preparation, physicochemical characterization and antimicrobial activities of novel two phenolic chitosan Schiff base derivatives. <b>2018</b> , 8, 11416		87
344	Environmental stress stability of pectin-stabilized resveratrol liposomes with different degree of esterification. <i>International Journal of Biological Macromolecules</i> , <b>2018</b> , 119, 53-59	7.9	40
343	Chitosan Based Self-Assembled Nanoparticles in Drug Delivery. <b>2018</b> , 10,		129
342	Immune Profiling of Polysaccharide Submicron Vesicles. <b>2018</b> , 19, 3560-3571		4
341	Biopolymers for the Nano-microencapsulation of Bioactive Ingredients by Electrohydrodynamic Processing. <b>2018</b> , 447-479		6
340	Electrospinning and crosslinking of polyvinyl alcohol/chitosan composite nanofiber for transdermal drug delivery. <b>2018</b> , 37, 1917-1928		77
339	Morphological, Mechanical and Mucoadhesive Properties of Electrospun Chitosan/Phospholipid Hybrid Nanofibers. <b>2018</b> , 19,		28
338	Towards wound dressings with improved properties: Effects of poly(dimethylsiloxane) on chitosan-alginate films loaded with thymol and beta-carotene. <b>2018</b> , 93, 595-605		43
337	Influence of lidocaine forms (salt vs. freebase) on properties of drug-eudragit <sup>®</sup> L100-55 extrudates prepared by reactive melt extrusion. <b>2018</b> , 547, 291-302		16
336	Flutamide-Loaded Zein Nanocapsule Hydrogel, a Promising Dermal Delivery System for Pilosebaceous Unit Disorders. <b>2018</b> , 19, 2370-2382		8
335	Chitosan Hydrogels and Bionanocomposites Formed through the Mineralization and Regulated Charging. <b>2018</b> , 18, 1247		12
334	Xanthan gum-functionalised span nanoparticles for gene targeting to endothelial cells. <b>2018</b> , 170, 411-420		7

333	Hygroscopicity modulation of hydrogels based on carboxymethyl chitosan/Alginate polyelectrolyte complexes and its application as pH-sensitive delivery system. <i>Carbohydrate Polymers</i> , <b>2018</b> , 198, 86-93	10.3	53
332	Natural Biopolymers for Biomedical Applications. <b>2019</b> , 162-176		1
331	Preparation optimization and characterization of chitosan-tripolyphosphate microcapsules for the encapsulation of herbal galactagogue extract. <i>International Journal of Biological Macromolecules</i> , <b>2019</b> , 140, 920-928	7.9	19
330	Advancement in the Biomedical Applications of the (Nano)gel Structures Based on Particular Polysaccharides. <b>2019</b> , 19, e1900187		20
329	Mucoadhesive Chitosan-Gum Arabic Nanoparticles Enhance the Absorption and Antioxidant Activity of Quercetin in the Intestinal Cellular Environment. <b>2019</b> , 67, 8609-8616		16
328	The Elasticity of Calcium Phosphate MAO Coatings Containing Different Concentrations of Chitosan. <b>2019</b> , 544, 012009		
327	Complexation of chitosan with gum Arabic, sodium alginate and $\kappa$ -carrageenan: Effects of pH, polymer ratio and salt concentration. <i>Carbohydrate Polymers</i> , <b>2019</b> , 223, 115120	10.3	25
326	Genipin-enhanced nacre-inspired montmorillonite-chitosan film with superior mechanical and UV-blocking properties. <b>2019</b> , 182, 107747		16
325	Natural polysaccharides for growth factors delivery. <b>2019</b> , 495-512		3
324	Hydrogels Based on Chitosan and Chitosan Derivatives for Biomedical Applications. <b>2019</b> ,		3
323	Chitosan-based particulate composites: drug delivery and biomedical potential. <b>2019</b> , 477-513		
322	Ionic Nanocomplexes of Hyaluronic Acid and Polyarginine to Form Solid Materials: A Green Methodology to Obtain Sponges with Biomedical Potential. <i>Nanomaterials</i> , <b>2019</b> , 9,	5-4	4
321	Chitosan-gum Arabic complex nanocarriers for encapsulation of saffron bioactive components. <b>2019</b> , 578, 123644		57
320	Simultaneous Retrieval of PWV and VTEC by Low-Cost Multi-GNSS Single-Frequency Receivers. <b>2019</b> , 6, 1694-1709		6
319	Advanced Functional Materials from Nanopolysaccharides. <b>2019</b> ,		7
318	Rational Design of Nanocarriers for Intracellular Protein Delivery. <b>2019</b> , 31, e1902791		80
317	Carbon nanotubes immobilized on gold electrode as an electrochemical humidity sensor. <b>2019</b> , 300, 127049		16
316	Polysaccharides constructed hydrogels as vehicles for proteins and peptides. A review. <i>Carbohydrate Polymers</i> , <b>2019</b> , 225, 115210	10.3	69



315	Recent Advance in Polymer Based Microspheric Systems for Controlled Protein and Peptide Delivery. <b>2019</b> , 26, 2285-2296		25
314	Carbohydrate-based nanocarriers and their application to target macrophages and deliver antimicrobial agents. <b>2019</b> , 151-152, 94-129		39
313	Polyelectrolyte-Based Platforms for the Delivery of Peptides and Proteins. <i>ACS Biomaterials Science and Engineering</i> , <b>2019</b> , 5, 4937-4950	5.5	35
312	Synthesis, characterization and evaluation of deacetylated xanthan derivatives as new excipients in the formulation of chitosan-based polyelectrolytes for the sustained release of tramadol. <b>2019</b> , 27, 1127-1137	7	
311	Preparation and Characterization of Chitosan/Alginate Polyelectrolyte Complexes Loaded with Antibacterial Thyme Oil Nanoemulsions. <i>Applied Sciences (Switzerland)</i> , <b>2019</b> , 9, 3933	2.6	19
310	Antioxidant and antibacterial activities of omega-3 rich oils/curcumin nanoemulsions loaded in chitosan and alginate-based microbeads. <i>International Journal of Biological Macromolecules</i> , <b>2019</b> , 140, 682-696	7.9	20
309	Chitosan as an emerging object for biological and biomedical applications. <b>2019</b> , 39, 689-703		6
308	Development and Characterization of Metformin Loaded Pectin Nanoparticles for T2 Diabetes Mellitus. <b>2018</b> , 6, 253-263		13
307	Structural Investigation of a Self-Cross-Linked Chitosan/Alginate Dialdehyde Multilayered Film with in Situ QCM-D and Spectroscopic Ellipsometry. <b>2019</b> , 4, 2019-2029		16
306	Polymeric Nanoparticulates as Efficient Anticancer Drugs Delivery Systems. <b>2019</b> , 55-84		2
305	Hazardous acid detection based on chitosan-grafted-polyaniline copolymer. <b>2019</b> , 59, E105-E110		3
304	Aligned microchannel polymer-nanotube composites for peripheral nerve regeneration: Small molecule drug delivery. <b>2019</b> , 296, 54-67		35
303	Prediction of breakthrough curves in packed-bed column as tool for lysozyme isolation using a green bed. <b>2019</b> , 76, 5831-5847		1
302	Characterisation of chitosan molecular weight distribution by multi-detection asymmetric flow-field flow fractionation (AF4) and SEC. <i>International Journal of Biological Macromolecules</i> , <b>2019</b> , 136, 911-919	7.9	13
301	Nanoparticle Diffusion within Dilute and Semidilute Xanthan Solutions. <b>2019</b> , 35, 7978-7984		5
300	Strong luminescence and sharp heavy metal ion sensitivity of water-soluble hybrid polysaccharide nanoparticles with Eu <sup>3+</sup> and Tb <sup>3+</sup> inclusions. <b>2019</b> , 9, 1833-1844		10
299	Films based on the biopolymer poly(3-hydroxybutyrate) as platforms for the controlled release of dexamethasone. <b>2019</b> , 27, 694-701		4
298	Synthesis of Ga-Labeled Biopolymer-based Nanoparticle Imaging Agents for Positron-emission Tomography. <b>2019</b> , 39, 2415-2427		11



297	Porous three-dimensional polymer composites for tailored delivery of bioactives and drugs. <b>2019</b> , 331-369		2
296	Possibilities and perspectives of chitosan scaffolds and composites for tissue engineering. <b>2019</b> , 167-203		4
295	Gastroretentive floating matrix tablets of cephadrine based on psyllium husk. <b>2019</b> , 8, 206-215		0
294	Development of Novel EE/Alginate Polyelectrolyte Complex Nanoparticles for Lysozyme Delivery: Physicochemical Properties and In Vitro Safety. <b>2019</b> , 11,		14
293	Polyelectrolyte complexes of carboxymethyl chitosan/alginate based drug carrier for targeted and controlled release of dual drug. <b>2019</b> , 51, 569-582		22
292	Microfluidic assembly of food-grade delivery systems: Toward functional delivery structure design. <b>2019</b> , 86, 465-478		14
291	Supramolecular Strategy Effects on Chitosan Bead Stability in Acidic Media: A Comparative Study. <i>Gels</i> , <b>2019</b> , 5,	4.2	8
290	Complex of chitosan pectin and clay as diclofenac carrier. <b>2019</b> , 172, 155-164		25
289	Polysaccharide-based wrinkled surfaces induced by polyion complex skin layers upon drying. <b>2019</b> , 51, 675-683		6
288	Chitosan-Chondroitin sulfate based polyelectrolyte complex for effective management of chronic wounds. <i>International Journal of Biological Macromolecules</i> , <b>2019</b> , 132, 97-108	7.9	36
287	Dual-layered pH-sensitive alginate/chitosan/kappa-carrageenan microbeads for colon-targeted release of 5-fluorouracil. <i>International Journal of Biological Macromolecules</i> , <b>2019</b> , 132, 487-494	7.9	58
286	Electrospinning and electrospaying technologies for food applications. <i>Advances in Food and Nutrition Research</i> , <b>2019</b> , 88, 167-234	6	33
285	Mechanical and Water-Resistant Properties of Eco-Friendly Chitosan Membrane Reinforced with Cellulose Nanocrystals. <b>2019</b> , 11,		34
284	Influence of the Soluble?Insoluble Ratios of Cyclodextrins Polymers on the Viscoelastic Properties of Injectable Chitosan?Based Hydrogels for Biomedical Application. <b>2019</b> , 11,		12
283	Brea Tree ( <i>Cercidium praecox</i> ) Exudate Gum. <b>2019</b> , 347-370		0
282	Sustainable Biopolymers in Textiles: An Overview. <b>2019</b> , 1435-1460		0
281	Carbohydrate polymers as controlled release devices for pesticides. <b>2019</b> , 38, 67-85		37
280	Chitosan Acetylation Degree Influences the Physical Properties of Polysaccharide Nanoparticles: Implication for the Innate Immune Cells Response. <b>2019</b> , 11, 9794-9803		30

279	Synthesis and Characterization of Pectin-Chitosan as Candidate Materials for Slow Release System. <b>2019</b> , 617, 012002		0
278	Emerging Biomedical Applications of Algal Polysaccharides. <b>2019</b> , 25, 1335-1344		14
277	. <b>2019</b> ,		12
276	Encapsulation technologies for polyphenol-loaded microparticles in food industry. <b>2019</b> , 335-367		5
275	The Influence of Chitosan Concentration on Polyelectrolytes Complexes (PECs) of Chitosan and Poly-2-Acrylamido-2-Methylpropane Sulfonic Acid (PAMPS) as Potential Drug Carrier in Pulmonary Delivery Application. <b>2019</b> , 547, 012028		1
274	Controlled Synthesis of Triangular Silver Nanoplates by Gelatin-Chitosan Mixture and the Influence of Their Shape on Antibacterial Activity. <b>2019</b> , 7, 873		6
273	Chitosan-Based Drug Delivery Systems. <b>2019</b> , 259-289		1
272	Novel hyaluronic acid coated hydrophobically modified chitosan polyelectrolyte complex for the delivery of doxorubicin. <i>International Journal of Biological Macromolecules</i> , <b>2019</b> , 126, 254-261	7.9	20
271	The role of intermolecular interactions on the encapsulation of human insulin into the chitosan and cholesterol-grafted chitosan polymers. <i>Carbohydrate Polymers</i> , <b>2019</b> , 208, 345-355	10.3	10
270	Biocompatible polymeric nanoparticles with exceptional gastrointestinal stability as oral delivery vehicles for lipophilic bioactives. <i>Food Hydrocolloids</i> , <b>2019</b> , 89, 386-395	10.6	30
269	Chitosan scaffolds for cartilage regeneration: influence of different ionic crosslinkers on biomaterial properties. <b>2019</b> , 68, 936-945		12
268	Chitosan-Based Polyelectrolyte Complex Hydrogels for Biomedical Applications. <b>2019</b> , 1695-1725		2
267	Multidrug delivery system based on polysaccharide nanocomplexes for controlled delivery of a combination of chemotherapeutics. <b>2019</b> , 50, 90-98		5
266	Folate-targeted nanostructured chitosan/chondroitin sulfate complex carriers for enhanced delivery of bortezomib to colorectal cancer cells. <b>2019</b> , 14, 40-51		47
265	Development of sustainable carrier in thermosensitive hydrogel based on chitosan/alginate nanoparticles for in situ delivery system. <b>2019</b> , 40, 2187-2196		9
264	Potential of Chitosan and its derivatives for controlled drug release applications [A review]. <b>2019</b> , 49, 642-659		64
263	Lycium barbarum polysaccharides grafted with doxorubicin: An efficient pH-responsive anticancer drug delivery system. <i>International Journal of Biological Macromolecules</i> , <b>2019</b> , 121, 964-970	7.9	13
262	Synthesize of alginate/chitosan bilayer nanocarrier by CCD-RSM guided co-axial electrospay: A novel and versatile approach. <i>Food Research International</i> , <b>2019</b> , 116, 1163-1172	7	15

261	Fabrication of chitosan-alginate polyelectrolyte complexed hydrogel for controlled release of cilnidipine: a statistical design approach. <b>2020</b> , 35, 697-707		9
260	Elucidation of the Controlled-Release Behavior of Metoprolol Succinate from Directly Compressed Xanthan Gum/Chitosan Polymers: Computational and Experimental Studies. <i>ACS Biomaterials Science and Engineering</i> , <b>2020</b> , 6, 21-37	5.5	12
259	Recent advances on magnetic biosorbents and their applications for water treatment. <b>2020</b> , 18, 151-164		21
258	Construction of self-assembled polyelectrolyte complex hydrogel based on oppositely charged polysaccharides for sustained delivery of green tea polyphenols. <b>2020</b> , 306, 125632		42
257	Iron-rich chitosan-pectin colloidal microparticles laden with ora-pro-nobis ( <i>Pereskia aculeata</i> Miller) extract. <i>Food Hydrocolloids</i> , <b>2020</b> , 98, 105313	10.6	9
256	Artificial neural network for modeling formulation and drug permeation of topical patches containing diclofenac sodium. <b>2020</b> , 10, 168-184		9
255	Physical hydrogels based on natural polymers. <b>2020</b> , 51-89		5
254	Photoluminescence in non-conjugated polyelectrolyte films containing 7-hydroxy-flavylium cation. <b>2020</b> , 77, 5051-5063		1
253	Targeted anti-inflammatory peptide delivery in injured endothelial cells using dermatan sulfate/chitosan nanomaterials. <i>Carbohydrate Polymers</i> , <b>2020</b> , 230, 115610	10.3	7
252	Saccharomyces cerevisiae microfiltration performance of polycarbonate membranes containing chitosan-based polyelectrolyte complexes. <i>Journal of Applied Polymer Science</i> , <b>2020</b> , 137, 48483	2.9	
251	Comparative studies on the structural composition, surface/interface activity and application potential of rhamnolipids produced by <i>Pseudomonas aeruginosa</i> using hydrophobic or hydrophilic substrates. <b>2020</b> , 295, 122269		21
250	Rapid one-step preparation of hierarchical porous carbon from chitosan-based hydrogel for high-rate supercapacitors: The effect of gelling agent concentration. <i>International Journal of Biological Macromolecules</i> , <b>2020</b> , 146, 453-461	7.9	9
249	Synthesis, structure, and properties of N-2-hydroxylpropyl-3-trimethylammonium-O-carboxymethyl chitosan derivatives. <i>International Journal of Biological Macromolecules</i> , <b>2020</b> , 144, 568-577	7.9	6
248	Chitosan nanoparticles loading oxaliplatin as a mucoadhesive topical treatment of oral tumors: Iontophoresis further enhances drug delivery ex vivo. <i>International Journal of Biological Macromolecules</i> , <b>2020</b> , 154, 1265-1275	7.9	35
247	Current status and future of chitosan in drug and vaccine delivery. <b>2020</b> , 147, 104452		7
246	Sodium alginate/poly(4-vinylpyridine) polyelectrolyte multilayer films: Preparation, characterization and ciprofloxacin HCl release. <i>International Journal of Biological Macromolecules</i> , <b>2020</b> , 147, 809-820	7.9	12
245	Molecular dynamics study on loading mechanism of chitosan into boron nitride nanotubes. <b>2020</b> , 297, 111753		3
244	Nano micelles of cellulose-graft-poly (l-lactic acid) anchored with epithelial cell adhesion antibody for enhanced drug loading and anti-tumor effect. <b>2020</b> , 22, 100764		9

243	Recent advance in delivery system and tissue engineering applications of chondroitin sulfate. <i>Carbohydrate Polymers</i> , <b>2020</b> , 230, 115650	10.3	42
242	Diethylaminoethyl chitosan-hyaluronic acid polyelectrolyte complexes. <i>International Journal of Biological Macromolecules</i> , <b>2020</b> , 146, 1161-1168	7.9	13
241	Design of chitosan-based particle systems: A review of the physicochemical foundations for tailored properties. <i>Carbohydrate Polymers</i> , <b>2020</b> , 250, 116968	10.3	14
240	Exopolysaccharides from bacteria and fungi: current status and perspectives in Africa. <b>2020</b> , 6, e04205		19
239	Challenges in developing of chitosan Based polyelectrolyte complexes as a platform for mucosal and skin drug delivery. <b>2020</b> , 140, 110020		20
238	Effect of graphene oxide content on the tensile properties and swelling ratio of chitosan/xanthan gum/graphene oxide hydrogel films. <b>2020</b> , 706, 72-78		0
237	Microbial Exopolysaccharides as Drug Carriers. <b>2020</b> , 12,		7
236	Influence of the xanthan gum as a crosslinking agent on the physicochemical properties of chitosan microparticles containing green coffee extract. <b>2020</b> , 29, 101782		2
235	Technologies and Formulation Design of Polysaccharide-Based Hydrogels for Drug Delivery. <b>2020</b> , 25,		21
234	Advances in chitosan-based hydrogels: Evolution from covalently crosslinked systems to ionotropically crosslinked superabsorbents. <b>2020</b> , 149, 104517		28
233	Microscopic studies on chitin and chitosan-based interpenetrating polymer networks, gels, blends, composites, and nanocomposites. <b>2020</b> , 95-138		3
232	Carrageenan: Drug Delivery Systems and Other Biomedical Applications. <i>Marine Drugs</i> , <b>2020</b> , 18,	6	57
231	Designed sponges based on chitosan and cyclodextrin polymer for a local release of ciprofloxacin in diabetic foot infections. <b>2020</b> , 587, 119677		9
230	Xanthan gum derivatives: review of synthesis, properties and diverse applications.. <b>2020</b> , 10, 27103-27136		49
229	Cationic dye adsorption by phosphomolybdate nanoclusters immobilised on polyelectrolyte matrix. <b>2020</b> , 132, 1		3
228	Characterization pH, stability of emulsion, and viscosity canola oil ( <i>Brassica napus</i> L.) emulsion (O/W). <b>2020</b> , 575, 012007		
227	Removal of Mercury Ions from Aqueous Solutions by Crosslinked Chitosan-based Adsorbents: A Mini Review. <b>2020</b> , 20, 1220-1234		13
226	Study of pH-Responsive and Polyethylene Glycol-Modified Doxorubicin-Loaded Mesoporous Silica Nanoparticles for Drug Delivery. <b>2020</b> , 20, 5997-6006		4

225	Characterization of Chitosan/Hyaluronan Complex Coacervates Assembled by Varying Polymers Weight Ratio and Chitosan Physical-Chemical Composition. <b>2020</b> , 4, 12		4
224	Rational design and latest advances of codelivery systems for cancer therapy. <b>2020</b> , 7, 100056		22
223	Supramolecular polyelectrolyte complexes based on cyclodextrin-grafted chitosan and carrageenan for controlled drug release. <i>Carbohydrate Polymers</i> , <b>2020</b> , 245, 116592	10.3	12
222	Recent advances in polymeric drug delivery systems. <b>2020</b> , 24, 12		112
221	Polyelectrolyte Complexes of Partially Betainated Chitosan Derivatives Soluble in Weakly Alkaline Media. <b>2020</b> , 62, 162-173		2
220	Studies on the Drug Loading and Release Profiles of Degradable Chitosan-Based Multilayer Films for Anticancer Treatment. <b>2020</b> , 12,		13
219	On the Formation and Stability of Chitosan/Hyaluronan-Based Complex Coacervates. <b>2020</b> , 25,		2
218	Chitosan biomaterials application in dentistry. <i>International Journal of Biological Macromolecules</i> , <b>2020</b> , 162, 956-974	7.9	41
217	Re-entrant swelling and redissolution of polyelectrolytes arises from an increased electrostatic decay length at high salt concentrations. <b>2020</b> , 579, 369-378		5
216	Processing techniques of chitosan-based interpenetrating polymer networks, gels, blends, composites and nanocomposites. <b>2020</b> , 61-93		3
215	Biopolymer-based films and membranes as wound dressings. <b>2020</b> , 165-194		7
214	Production and Characterization of Chitosan-Polyanion Nanoparticles by Polyelectrolyte Complexation Assisted by High-Intensity Sonication for the Modified Release of Methotrexate. <i>Pharmaceuticals</i> , <b>2020</b> , 13,	5.2	13
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212	Chitosan-based hydrogel beads: Preparations, modifications and applications in food and agriculture sectors - A review. <i>International Journal of Biological Macromolecules</i> , <b>2020</b> , 152, 437-448	7.9	142
211	Chitosan Composites in Packaging Industry-Current Trends and Future Challenges. <b>2020</b> , 12,		56
210	Pectin and Zinc Alginate: The Right Inner/Outer Polymer Combination for Core-Shell Drug Delivery Systems. <b>2020</b> , 12,		12
209	Study of chitosan/xanthan gum polyelectrolyte complexes formation, solid state and influence on ibuprofen release kinetics. <i>International Journal of Biological Macromolecules</i> , <b>2020</b> , 148, 942-955	7.9	31
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200	Novel alginate-chitosan aerogel fibres for potential wound healing applications. <i>International Journal of Biological Macromolecules</i> , <b>2020</b> , 156, 773-782	7.9	38
199	Gentamicin decorated phosphatidylcholine-chitosan nanoparticles against biofilms and intracellular bacteria. <i>International Journal of Biological Macromolecules</i> , <b>2020</b> , 156, 640-647	7.9	11
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197	Adsorption of caffeic acid on chitosan powder. <b>2021</b> , 78, 2139-2154		
196	Implementation and characterization of calcium-free gelling oral reconstituted suspension for potential overweight treatment. <b>2021</b> , 47, 36-50		2
195	Obtaining chitin, chitosan and their melanin complexes from insects. <i>International Journal of Biological Macromolecules</i> , <b>2021</b> , 167, 1319-1328	7.9	21
194	Chitosan-based smart hybrid materials: a physico-chemical perspective. <b>2021</b> , 9, 594-611		40
193	Codelivery of STAT3 and PD-L1 siRNA by hyaluronate-TAT trimethyl/thiolated chitosan nanoparticles suppresses cancer progression in tumor-bearing mice. <b>2021</b> , 266, 118847		20
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191	Novel approach to recover copper ions using poly(ethylene imine) based layer-by-layer coatings on icosane particles. <i>Journal of Applied Polymer Science</i> , <b>2021</b> , 138, 50202	2.9	2
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187	Functionalized biopolymer-based drug delivery systems: current status and future perspectives. <b>2021</b> , 723-746		
186	Chitosan-based polyelectrolyte complexes in biomedical applications. <b>2021</b> , 115-154		1
185	Polyelectrolyte Complex-Based Ionically Gelled Biopolymeric Systems for Sustained Drug Release. <b>2021</b> , 105-120		
184	Biogenic Synthesis of Nanomaterials Toward Environment-Friendly Approach. <b>2021</b> , 121-151		
183	Polysaccharides for Drug Delivery: The Development of Polysaccharide-Based Materials and Glycopolymer to Improve Drug Delivery Applications. <b>2021</b> , 34-50		
182	Xanthan-based nanomaterials for drug delivery applications. <b>2021</b> , 275-292		
181	Eco-Friendly and Economic, Adsorptive Removal of Cationic and Anionic Dyes by Bio-Based Karaya Gum-Chitosan Sponge. <b>2021</b> , 13,		15
180	Preparation and Characterization of Biopolymeric Nanoparticles as Drug Delivery Vehicles. <b>2021</b> , 1659-1680		
179	Thermoresponsive polysaccharides with tunable thermoresponsive properties via functionalisation with alkylamide groups. <i>Carbohydrate Polymers</i> , <b>2021</b> , 254, 117280	10.3	5
178	Efficient Prediction of In Vitro Piroxicam Release and Diffusion From Topical Films Based on Biopolymers Using Deep Learning Models and Generative Adversarial Networks. <b>2021</b> , 110, 2531-2543		4
177	Preparation of pH-tunable polyelectrolyte complexes of alginate sodium salt and N-[(2-hydroxy-3-trimethylammonium) propyl] chitosan chloride. <i>Journal of Polymer Research</i> , <b>2021</b> , 28, 1	2.7	1
176	Chondrogenesis of human amniotic fluid stem cells in Chitosan-Xanthan scaffold for cartilage tissue engineering. <b>2021</b> , 11, 3063		4
175	Facile preparation of agaraldehyde chitosan-based composite beads as effectual adsorbent especially towards amido black. <i>Journal of Applied Polymer Science</i> , <b>2021</b> , 138, 50716	2.9	1
174	Chitosan-Based Nanoparticles Against Viral Infections. <b>2021</b> , 11, 643953		18
173	Plant-Based Gums and Mucilages Applications in Pharmacology and Nanomedicine: A Review. <b>2021</b> , 26,		39
172	Polymer-Based Smart Drug Delivery Systems for Skin Application and Demonstration of Stimuli-Responsiveness. <b>2021</b> , 13,		12



171	Polysaccharides-based bio-nanostructures and their potential food applications. <i>International Journal of Biological Macromolecules</i> , <b>2021</b> , 176, 540-557	7.9	30
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168	Different strategies for the lipase immobilization on the chitosan based supports and their applications. <i>International Journal of Biological Macromolecules</i> , <b>2021</b> , 179, 170-195	7.9	27
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166	Chitosan-based nanocarriers for encapsulation and delivery of curcumin: A review. <i>International Journal of Biological Macromolecules</i> , <b>2021</b> , 179, 125-135	7.9	29
165	A novel encapsulation of <i>Streptomyces fulvissimus</i> Uts22 by spray drying and its biocontrol efficiency against <i>Gaeumannomyces graminis</i> , the causal agent of take-all disease in wheat. <b>2021</b> , 77, 4357-4364		10
164	Current-status and applications of polysaccharides in drug delivery systems. <b>2021</b> , 42, 100418		17
163	Influence of replacing oregano essential oil by ground oregano leaves on chitosan/alginate-based dressings properties. <i>International Journal of Biological Macromolecules</i> , <b>2021</b> , 181, 51-59	7.9	6
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161	Co-delivery of artemether and piperine via core-shell microparticles for enhanced sustained release. <b>2021</b> , 63, 102505		2
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158	Recent Advancement of Biopolymers and Their Potential Biomedical Applications. 1		7
157	Low-energy electron beam sterilization of solid alginate and chitosan, and their polyelectrolyte complexes. <i>Carbohydrate Polymers</i> , <b>2021</b> , 261, 117578	10.3	1
156	High-strength and low-swelling chitosan/cellulose microspheres as a high-efficiency adsorbent for dye removal. <b>2021</b> , 28, 9323-9333		1
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154	Chitosan-based blends for biomedical applications. <i>International Journal of Biological Macromolecules</i> , <b>2021</b> , 183, 1818-1850	7.9	25



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148	Pectin in biomedical and drug delivery applications: A review. <i>International Journal of Biological Macromolecules</i> , <b>2021</b> , 185, 49-65	7.9	32
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145	A systematic study to unravel the potential of using polysaccharides based organic-nanoparticles versus hybrid-nanoparticles for pesticide delivery. <b>2021</b> , 32,		2
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142	Quercetin delivery characteristics of chitosan nanoparticles prepared with different molecular weight polyanion cross-linkers. <i>Carbohydrate Polymers</i> , <b>2021</b> , 267, 118157	10.3	5
141	Improving Physicochemical Stability of Quercetin-Loaded Hollow Zein Particles with Chitosan/Pectin Complex Coating. <b>2021</b> , 10,		1
140	Methacrylated Gellan Gum/Poly-L-lysine Polyelectrolyte Complex Beads for Cell-Based Therapies. <i>ACS Biomaterials Science and Engineering</i> , <b>2021</b> , 7, 4898-4913	5.5	1
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138	In vitro/vivo antitumor study of modified-chitosan/carboxymethyl chitosan "boosted" charge-reversal nanoformulation. <i>Carbohydrate Polymers</i> , <b>2021</b> , 269, 118268	10.3	5
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135	A review on the preparation and characterization of chitosan-clay nanocomposite films and coatings for food packaging applications. <b>2021</b> , 2, 100102	6
134	Polyelectrolyte complex beads of carboxymethylcellulose and chitosan: The controlled formation and improved properties. <b>2021</b> , 2, 100100	2
133	Two birds with one stone: Interfacial controls and pH response for long-term and high-efficiency Cu <sub>2</sub> O antibacterial materials. <b>2022</b> , 427, 131734	7
132	Crystalline polysaccharides: A review. <i>Carbohydrate Polymers</i> , <b>2022</b> , 275, 118624	10.3 8
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129	Ionotropic Gelation of Chitosan Flat Structures and Potential Applications. <b>2021</b> , 26,	10
128	Polysaccharides; Classification, Chemical Properties, and Future Perspective Applications in Fields of Pharmacology and Biological Medicine (A Review of Current Applications and Upcoming Potentialities). <b>2021</b> , 29, 1-13	41
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122	Pharmaceutical Delivery Systems Composed of Chitosan. 285-308	1
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120	Chitosan-Based Hydrogels for Drug Delivery. <b>2019</b> , 163-190	3
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118	Sustainable starch-based barrier coatings for packaging applications. <i>Food Hydrocolloids</i> , <b>2020</b> , 103, 105696	2.2

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115	A Colon Targeted Delivery System for Resveratrol Enriching in pH Responsive-Model. <b>2017</b> , 23, 42-49	8
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101	A Review of Gum Hydrocolloid Polyelectrolyte Complexes (PEC) for Biomedical Applications: Their Properties and Drug Delivery Studies. <b>2021</b> , 9, 1796	2
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82	Biocompatible and Biomaterials Application in Drug Delivery System in Oral Cavity. <b>2021</b> , 2021, 9011226		4

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70	Curcumin-Loaded pH-Sensitive Biopolymer Hydrogels: Fabrication, Characterization, and Release Properties. <b>2022</b> , 2, 512-520		0
69	Nanotechnology as a Tool to Mitigate the Effects of Intestinal Microbiota on Metabolization of Anthocyanins.. <b>2022</b> , 11,		1
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67	The Potential of Polyelectrolyte Multilayer Films as Drug Delivery Materials.. <b>2022</b> , 23,		0
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