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Recent advances in green hydrogels from lignin: a review

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452	Recent Advances in Graft Copolymerization and Applications of Chitosan: A Review. 2014 , 2, 2637-2652		435
451	Engineering Plant Biomass Lignin Content and Composition for Biofuels and Bioproducts. 2015 , 8, 7654-7676		120
450	Effect of Chitosan on Disease Control and Growth of Scots Pine (<i>Pinus sylvestris</i> L.) in a Forest Nursery. 2015 , 6, 3165-3176		16
449	Mixture Design Approach on the Physical Properties of Lignin-Resorcinol-Formaldehyde Xerogels. 2015 , 2015, 1-11		8
448	Advances in industrial prospective of cellulosic macromolecules enriched banana biofibre resources: A review. <i>International Journal of Biological Macromolecules</i> , 2015 , 79, 449-58	7.9	223
447	<i>Salmonella enterica</i> biofilm-mediated dispersal by nitric oxide donors in association with cellulose nanocrystal hydrogels. 2015 , 5, 28		12
446	One-pot synthesis of grafted brush copolymers via a chain-growth radical/oxidative dual polymerization system. 2015 , 5, 93717-93723		3
445	Bimetallic Au/Ag nanoparticle loading on PNIPAAm/AAAS8 thermoresponsive hydrogel surfaces using ss-DNA coupling, and their SERS efficiency. 2015 , 5, 13507-13512		5
444	Effect of processing conditions and lignin content on thermal, mechanical and degradative behavior of lignin nanoparticles/poly(lactic acid) bionanocomposites prepared by melt extrusion and solvent casting. 2015 , 71, 126-139		106
443	Laccase mediated oxidation of industrial lignins: Is oxygen limiting?. 2015 , 50, 1277-1283		35
442	Gelatin films dendronized selectively on one side: enhancing antimicrobial properties and water repellence. 2015 , 72, 3043-3062		9
441	Effect of adsorption parameters on biosorption of Pb ⁺⁺ ions from aqueous solution by poly (acrylamide)-grafted kappa-carrageenan. 2015 , 72, 1625-1646		14
440	Starch-based hydrogel loading with carbendazim for controlled-release and water absorption. 2015 , 125, 376-83		59
439	3D welan gum/graphene oxide composite hydrogels with efficient dye adsorption capacity. 2015 , 5, 75589-75599		27
438	Lignin as coupling agent in EPDM rubber: thermal and mechanical properties. 2015 , 72, 2389-2398		13
437	Biodegradation of Hydrogels from Oxyethylated Lignins in Model Soils. 2015 , 3, 1955-1964		15
436	Castor Oil Based Epoxy/Clay Nanocomposite for Advanced Applications. 2016 , 9, 31-40		5

435	Biorefinery Process Combining Specel□ Process and Selective Lignin Precipitation using Mineral Acids. 2016 , 11,		28
434	Graphene-based polymer nanocomposite membranes: a review. 2016 , 27, 844-859		147
433	Comparative Studies on the High Performance Flocculating Agent of Novel Polyacrylamide grafted Oatmeal. 2016 , 35, 162-179		7
432	Fungal Ligninolytic Enzymes and Their Applications. 2016 , 4,		17
431	Chemical modifications of lignocellulosic materials and their application for removal of cations and anions from aqueous solutions. 2016 , 133, n/a-n/a		27
430	A humic acid-polyquaternium-10 stoichiometric self-assembled fibrilla polyelectrolyte complex: Effect of pH on synthesis, characterization, and drug release. 2016 , 65, 550-560		6
429	Cellulose nanofibers reinforced sodium alginate-polyvinyl alcohol hydrogels: Core-shell structure formation and property characterization. 2016 , 147, 155-164		90
428	Effect of cellulose and lignin on disintegration, antimicrobial and antioxidant properties of PLA active films. <i>International Journal of Biological Macromolecules</i> , 2016 , 89, 360-8	7.9	106
427	Textile cotton dust waste: partial diethylaminoethylation and its application to the sorption/removal of the model residual textile dye Reactive Red 239. 2016 , 73, 3401-3420		3
426	Photo-induced green synthesis and antimicrobial efficacy of poly (ε-caprolactone)/curcumin/grape leaf extract-silver hybrid nanoparticles. 2016 , 160, 355-63		21
425	From lignin association to nano-/micro-particle preparation: extracting higher value of lignin. 2016 , 18, 5693-5700		140
424	Properties, Chemical Characteristics and Application of Lignin and Its Derivatives. 2016 , 3-33		9
423	Physicochemical characterization of residue from the enzymatic hydrolysis of sugarcane bagasse in a cellulosic ethanol process at pilot scale. <i>Industrial Crops and Products</i> , 2016 , 94, 463-470	5.9	12
422	Quantitative Analysis of the Etherification Degree of Phenolic Hydroxyl Groups in Oxyethylated Lignins: Correlation of Selective Aminolysis with FTIR Spectroscopy. 2016 , 4, 6629-6637		14
421	Carboxymethylated lignins with low surface tension toward low viscosity and highly stable emulsions of crude bitumen and refined oils. 2016 , 482, 27-38		23
420	2,5-Dihydro-2,5-dimethoxyfuran crosslinked silk-chitosan blend tubular construct for vascular graft application. 2016 , 8, 139-147		4
419	Activated Carbon Bio-xerogels as Electrodes for Super Capacitors Applications. 2016 , 148, 18-24		19
418	A novel semi-IPN hydrogel: Preparation, swelling properties and adsorption studies of Co (II). 2016 , 41, 82-90		48

4 ¹⁷	A Facile and Eco-friendly Route to Fabricate Poly(Lactic Acid) Scaffolds with Graded Pore Size. 2016		7
4 ¹⁶	Novel nanocomposite membranes from cellulose acetate and clay-silica nanowires. 2016 , 27, 1586-1595		63
4 ¹⁵	Synthesis, properties, and fungal degradation of castor-oil-based polyurethane composites with different cellulose contents. 2016 , 23, 2515-2526		25
4 ¹⁴	Converting date seed biomass into highly absorbing hydrogel. 2016 , 25, 597-606		5
4 ¹³	Synthetic self-assembled homogeneous network hydrogels with high mechanical and recoverable properties for tissue replacement. 2016 , 4, 4847-4854		13
4 ¹²	Nucleation ability of advanced functional silica/lignin hybrid fillers in polypropylene composites. 2016 , 126, 251-262		37
4 ¹¹	Effect of mechanical activation on structure changes and reactivity in further chemical modification of lignin. <i>International Journal of Biological Macromolecules</i> , 2016 , 91, 1081-9	7.9	20
4 ¹⁰	In Situ Iodination Cross-Linking of Silk for Radio-Opaque Antimicrobial Surgical Sutures. 2016 , 2, 188-196		12
4 ⁰⁹	An acetal-based polymeric crosslinker with controlled pH-sensitivity. 2016 , 6, 9604-9611		10
4 ⁰⁸	Recent advances in cellulose and chitosan based membranes for water purification: A concise review. 2016 , 146, 148-65		34 ¹
4 ⁰⁷	Fabrication of Green Lignin-based Flame Retardants for Enhancing the Thermal and Fire Retardancy Properties of Polypropylene/Wood Composites. 2016 , 4, 2422-2431		180
4 ⁰⁶	Extraction Method Plays Critical Role in Antibacterial Activity of Propolis-Loaded Hydrogels. 2016 , 105, 1248-57		23
4 ⁰⁵	Nanocomposite hydrogels based on iota-carrageenan and maghemite: Morphological, thermal and magnetic properties. 2016 , 76, 147-155		13
4 ⁰⁴	Lignin microspheres: An effective and recyclable natural polymer-based adsorbent for lead ion removal. 2016 , 95, 141-147		84
4 ⁰³	Sericin Covalent Immobilization onto Cellulose Acetate Membrane for Biomedical Applications. 2016 , 4, 1765-1774		122
4 ⁰²	A comprehensive approach for obtaining cellulose nanocrystal from coconut fiber. Part II: Environmental assessment of technological pathways. <i>Industrial Crops and Products</i> , 2016 , 93, 58-65	5.9	47
4 ⁰¹	Electrospun fibers of chitosan-grafted polycaprolactone/poly(3-hydroxybutyrate-co-3-hydroxyhexanoate) blends. 2016 , 4, 600-612		32
4 ⁰⁰	Functionalization of organically modified silica with gold nanoparticles in the presence of lignosulfonate. <i>International Journal of Biological Macromolecules</i> , 2016 , 85, 74-81	7.9	25

399	Towards lignin-based functional materials in a sustainable world. 2016 , 18, 1175-1200		668
398	Alkynyl-functionalization of hydroxypropyl cellulose and thermoresponsive hydrogel thereof prepared with P(NIPAAm-co-HEMAPCL). 2016 , 137, 433-440		16
397	One pot synthesis of environmentally friendly lignin nanoparticles with compressed liquid carbon dioxide as an antisolvent. 2016 , 18, 2129-2146		101
396	A sustainable approach for lignin valorization by heterogeneous photocatalysis. 2016 , 18, 594-607		173
395	Characterisation of natural cellulosic fibre from Pennisetum purpureum stem as potential reinforcement of polymer composites. 2016 , 89, 839-847		105
394	Design, preparation and characterization of ulvan based thermosensitive hydrogels. 2016 , 136, 1108-17		38
393	Synthesis and Characterization of Novel OAT-g-PMMA Matrices: Its Application in Controlled and Colonic Drug Delivery. 2017 , 36, 466-476		1
392	Preparation and characterization of acrylonitrile-butadiene-styrene nanocomposites reinforced with cellulose nanocrystal via solution casting method. 2017 , 38, E167-E173		11
391	Nano-sized nickel catalyst for deep hydrogenation of lignin monomers and first-principles insight into the catalyst preparation. 2017 , 5, 3948-3965		25
390	Non-isothermal crystallization kinetics of eucalyptus lignosulfonate/polyvinyl alcohol composite. <i>International Journal of Biological Macromolecules</i> , 2017 , 97, 249-257	7-9	5
389	In vitro evaluation of biodegradable lignin-based nanoparticles for drug delivery and enhanced antiproliferation effect in cancer cells. 2017 , 121, 97-108		217
388	Preparation and Properties of Hydrogels Based on PEGylated Lignosulfonate Amine. 2017 , 2, 251-259		32
387	Study on a series of water-soluble photoinitiators for fabrication of 3D hydrogels by two-photon polymerization. 2017 , 141, 413-419		45
386	A DFT study on lignin dissolution in imidazolium-based ionic liquids. 2017 , 7, 12670-12681		68
385	Effect of steam explosion treatment on chemical composition and characteristic of organosolv fescue lignin. <i>Industrial Crops and Products</i> , 2017 , 99, 79-85	5-9	24
384	Supramolecular assemblies of lignin into nano- and microparticles. 2017 , 42, 371-378		56
383	Using a combined hydrolysis factor to balance enzymatic saccharification and the structural characteristics of lignin during pretreatment of Hybrid poplar with a fully recyclable solid acid. 2017 , 238, 575-581		22
382	Polysaccharide nanocrystals as fillers for PLA based nanocomposites. 2017 , 24, 447-478		96

- 381 Magnetite nanoparticles conjugated with lignin: A physicochemical and magnetic study. **2017**, 422, 94-103 18
- 380 Recent progress in gelatin hydrogel nanocomposites for water purification and beyond. **2017**, 146, 396-408 80
- 379 High-density green polyethylene biocomposite reinforced with cellulose fibers and using lignin as antioxidant. **2017**, 134, 45219 21
- 378 Synthesis of carboxymethylcellulose/starch superabsorbent hydrogels by gamma-irradiation. **2017**, 11, 46 53
- 377 Removal of lead(II) ions by an adsorption process with the use of an advanced SiO₂/lignin biosorbent. **2017**, 19, 48-53 13
- 376 Influence of epoxidation conditions on the rheological properties of gel-like dispersions of epoxidized kraft lignin in castor oil. **2017**, 71, 777-784 13
- 375 Preparation, characterization and the adsorption characteristics of lignin/silica nanocomposites from cellulosic ethanol residue. **2017**, 7, 41176-41181 19
- 374 Progress in Hydroxyapatite Starch Based Sustainable Biomaterials for Biomedical Bone Substitution Applications. **2017**, 5, 8491-8512 104
- 373 Natural Starches-Blended Ionotropically Gelled Microparticles/Beads for Sustained Drug Release. **2017**, 527-559 7
- 372 Composites Based on Hydroxyapatite and Biodegradable Polylactide. **2017**, 183-214
- 371 Recent Advances in Conductive Composites Based on Biodegradable Polymers for Regenerative Medicine Applications. **2017**, 519-542
- 370 Poly (Lactic Acid) Nanocomposites Reinforced with Different Additives. **2017**, 495-522
- 369 Halloysite -Based Bionanocomposites. **2017**, 557-584 4
- 368 Composites and Nanocomposites Based on Polylactic Acid. **2017**, 327-360 1
- 367 Hydrogels and its Nanocomposites from Renewable Resources: Biotechnological and Biomedical Applications. **2017**, 67-95 3
- 366 Biorenewable Nanofiber and Nanocrystal: Renewable Nanomaterials for Constructing Novel Nanocomposites. **2017**, 155-226
- 365 Preparation and Application of the Composite from Chitosan. **2017**, 371-433 0
- 364 Biodegradable Composites: Properties and Uses. **2017**, 215-250

363	Manufacturing of hydrogel biomaterials with controlled mechanical properties for tissue engineering applications. 2017 , 62, 42-63	229
362	Synthetic Biodegradable Polymers for Bone Tissue Engineering. 2017 , 355-375	1
361	Applications of Chitosan Derivatives in Wastewater Treatment. 2017 , 471-517	7
360	Novel Lignin-Based Materials as Products for Various Applications. 2017 , 519-554	1
359	Preparation of a 6-OH quaternized chitosan derivative through click reaction and its application to novel thermally induced/polyelectrolyte complex hydrogels. 2017 , 158, 431-440	8
358	Plant Polysaccharides Blended Ionotropically Gelled Alginate Multiple Unit Systems for Sustained Drug Release. 2017 , 399-440	7
357	Smart Hydrogels: Application in Bioethanol Production. 2017 , 79-105	1
356	Eco -Friendly Nanocomposites of Chitosan with Natural Extracts, Antimicrobial Agents, and Nanometals. 2017 , 35-60	1
355	Overview on Synthesis of Magnetic Bio Char from Discarded Agricultural Biomass. 2017 , 435-460	2
354	Porous lightweight composites reinforced with fibrous structures. 2017 ,	4
353	Ferrogels : Smart Materials for Biomedical and Remediation Applications. 2017 , 561-579	4
352	Porous Structures from Bio-Based Polymers via Supercritical Drying. 2017 , 207-243	0
351	Biodegradable Polymers in Tissue Engineering. 2017 , 145-182	1
350	Natural Polymer-Based Nanocomposites: A Greener Approach for the Future. 2017 , 433-459	2
349	Progress in lignin hydrogels and nanocomposites for water purification: Future perspectives. 2017 , 146, 342-355	109
348	Carbon Fibers from Sustainable Resources. 2017 , 1-23	
347	Production of Porous Carbons from Resorcinol-Formaldehyde Gels: Applications. 2017 , 175-196	1
346	Composites Using Agricultural Wastes. 2017 , 197-240	

345	Isolation and Characterisation of Water Soluble Polysaccharide from Colocasia esculenta Tubers. 2017 , 221-241	1
344	Green Nanocomposites-Based on PLA and Natural Organic Fillers. 2017 , 637-669	1
343	Structural and Biodegradation Characterization of Supramolecular PCL/HAp Nanocomposites for Application in Tissue Engineering. 2017 , 1-24	
342	Novel pH Sensitive Composite Hydrogel Based on Functionalized Starch/clay for the Controlled Release of Amoxicillin. 2017 , 409-424	
341	Chitosan -Based Biosorbents: Modifications and Application for Sequestration of PPCPs and Metals for Water Remediation. 2017 , 1-25	1
340	Functional Separation Membranes from Chitin and Chitosan Derivatives. 2017 , 69-120	
339	Surface Functionalization of Biomaterials. 2017 , 457-490	7
338	Production of lignin based insoluble polymers (anionic hydrogels) by <i>C. versicolor</i> . 2017 , 7, 17507	14
337	Effect of lignin on morphology, biodegradability, mechanical and thermal properties of low linear density polyethylene/lignin biocomposites. 2017 , 223, 012022	3
336	Fungal Ligninolytic Enzymes and Their Applications. 2017 , 1049-1061	2
335	Lipase B from <i>Candida antarctica</i> Immobilized on a Silica-Lignin Matrix as a Stable and Reusable Biocatalytic System. 2017 , 7, 14	30
334	Effect of Desulfonation of Lignosulfonate on the Properties of Poly(Lactic Acid)/Lignin Composites. 2017 , 12,	18
333	Lignin nano- and microparticles as template for nanostructured materials: formation of hollow metal-phenolic capsules. 2018 , 20, 1335-1344	51
332	Strong and Flexible Nanocomposites of Carboxylated Cellulose Nanofibril Dispersed by Industrial Lignin. 2018 , 6, 5524-5532	27
331	Advances in cellulose nanomaterials. 2018 , 25, 2151-2189	221
330	Tunable Thermosetting Epoxies Based on Fractionated and Well-Characterized Lignins. 2018 , 140, 4054-4061	130
329	Hydrogels: experimental characterization and mathematical modelling of their mechanical and diffusive behaviour. 2018 , 47, 2357-2373	121
328	Recent advances in starch/clay nanocomposites. 2018 , 23, 331-345	63

327	Preparation of slow release nanopesticide microspheres from benzoyl lignin. 2018 , 72, 599-607		12
326	A comparison of protic and aprotic ionic liquids as effective activating agents of kraft lignin. Developing functional MnO ₂ /lignin hybrid materials. 2018 , 261, 456-467		17
325	Establishing and validating a root water uptake model under the effects of superabsorbent polymers. 2018 , 29, 1478-1488		5
324	Lignin-based hydrogels with "super-swelling" capacities for dye removal. <i>International Journal of Biological Macromolecules</i> , 2018 , 115, 1249-1259	7.9	69
323	Pharmaceutical Polymer Gels in Drug Delivery. 2018 , 249-284		1
322	Polymer-Based Responsive Hydrogel for Drug Delivery. 2018 , 1-25		2
321	Design and Application of Injectable Gels in Tissue Engineering and Drug Delivery. 2018 , 311-339		
320	Polymer Gel Composites for Bio-Applications. 2018 , 111-123		1
319	Tunable Mechanical, Antibacterial, and Cytocompatible Hydrogels Based on a Functionalized Dual Network of Metal Coordination Bonds and Covalent Crosslinking. 2018 , 10, 6190-6198		35
318	Polymer Gels. 2018 ,		1
317	Applications of Biopolymeric Gels in Agricultural Sector. 2018 , 185-228		3
316	A comprehensive review of polysaccharide biopolymers for enhanced oil recovery (EOR) from flask to field. 2018 , 61, 1-11		60
315	Comparative environmental Life Cycle Assessment of integral revalorization of vine shoots from a biorefinery perspective. 2018 , 624, 225-240		34
314	Integration of Lignin Removal from Black Liquor and Biotransformation Process. 2018 , 77-97		
313	Grafting of Hydroxyapatite for Biomedical Applications. 2018 , 45-80		4
312	Design, characterization and preliminary biological evaluation of new lignin-PLA biocomposites. <i>International Journal of Biological Macromolecules</i> , 2018 , 114, 855-863	7.9	45
311	Three-Dimensional Printing of Wood-Derived Biopolymers: A Review Focused on Biomedical Applications. 2018 , 6, 5663-5680		127
310	Grafting of Hydrophilic Monomers Onto Cellulosic Polymers for Medical Applications. 2018 , 81-114		1

309	Designing of Epoxy Matrix by Chemically Modified Multiwalled Carbon Nanotubes. 2018 , 37, 176-184	14
308	Influence of particle size of isotactic polypropylene (iPP) on barrier property against agglomeration of homogenized microcrystalline cellulose (HMCC) in iPP/HMCC composites. 2018 , 38, 213-222	1
307	Synthesis and characterization of water-soluble PEGylated lignin-based polymers by macromolecular azo coupling reaction. 2018 , 29, 143-146	11
306	Biomedical applications of acrylic-based nanohydrogels. 2018 , 53, 2303-2325	12
305	Multicomponent, Semi-interpenetrating-Polymer-Network and Interpenetrating-Polymer-Network Hydrogels: Smart Materials for Biomedical Applications. 2018 , 281-342	2
304	Hyaluronan hydrogels modified by glycinated Kraft lignin: Morphology, swelling, viscoelastic properties and biocompatibility. 2018 , 181, 394-403	42
303	FCS and ECH dependent production of phenolic aldehyde and melanin pigment from l-tyrosine in Escherichia coli. 2018 , 112, 59-64	10
302	Preparation of organosolv lignin-stabilized nano zero-valent iron and its application as granular electrode in the tertiary treatment of pulp and paper wastewater. 2018 , 331, 317-325	28
301	Humidity sensor based on reduced graphene oxide/lignosulfonate composite thin-film. 2018 , 255, 1569-1576	66
300	Bioconjugated graphene oxide hydrogel as an effective adsorbent for cationic dyes removal. 2018 , 147, 34-42	79
299	Structured Macroporous Hydrogels: Progress, Challenges, and Opportunities. 2018 , 7, 1700927	84
298	Properties and chemical modifications of lignin: Towards lignin-based nanomaterials for biomedical applications. 2018 , 93, 233-269	313
297	Cyclocarbonated lignosulfonate as a bio-resourced reactive reinforcing agent for epoxy biocomposite: From natural waste to value-added bio-additive. 2018 , 24, 50-58	20
296	Functionalization of Tamarind Gum for Drug Delivery. 2018 , 25-56	8
295	A novel lignin-based nanofibrous dressing containing arginine for wound-healing applications. 2018 , 8, 111-122	35
294	Grafting of Polysaccharides. 2018 , 469-519	8
293	Star-shaped self-assembled micelles of block copolymer [chitosan-co-poly(ethylene glycol) methyl ether methacrylate] hydrogel for hydrophobic drug delivery. 2018 , 75, 2243-2264	4
292	. 2018 ,	6

291	Tough and Processable Hydrogels Based on Lignin and Hydrophilic Polyurethane.. 2018 , 1, 2073-2081	33
290	Recent approaches in guar gum hydrogel synthesis for water purification. 2018 , 23, 621-632	35
289	Self-assembling Hydrogels from pH-Responsive Ionic Block Copolymers. 2018 , 259-295	1
288	Various Functional and Stimuli-Responsive Hydrogel Based on Polyaspartamides. 2018 , 409-434	
287	Hydrogels. 2018 ,	14
286	Lignin as Natural Antioxidant Capacity. 2018 ,	14
285	Lignin-g-poly(acrylamide)-g-poly(diallyldimethyl- ammonium chloride): Synthesis, Characterization and Applications. 2018 , 7, 645-658	12
284	Emerging Technology in Medical Applications of Hydrogel. 2018 , 197-218	2
283	DNA-Based Hydrogels: An Approach for Multifunctional Bioapplications. 2018 , 339-356	1
282	CuSO/HO-Catalyzed Lignin Depolymerization under the Irradiation of Microwaves. 2018 , 3, 10433-10441	21
281	Hydrogels from Catechol-Conjugated Polymeric Materials. 2018 , 435-470	1
280	Protein- and Nanoparticle-Loaded Hydrogels Studied by Small-Angle Scattering and Rheology Techniques. 2018 , 113-143	2
279	Macroporous Hydrogels: Preparation, Properties, and Applications. 2018 , 51-85	1
278	Hydrogel-Based Strategies for Stem Cell Therapy. 2018 , 87-112	1
277	Compressive, ultralight and fire-resistant lignin-modified graphene aerogels as recyclable absorbents for oil and organic solvents. 2018 , 350, 173-180	82
276	Synthesis and Characterization of Lignin Hydrogels for Potential Applications as Drug Eluting Antimicrobial Coatings for Medical Materials. 2018 , 6, 9037-9046	98
275	Effects of Lignin Content on Mechanical and Thermal Properties of Polypropylene Composites Reinforced with Micro Particles of Spray Dried Cellulose Nanofibrils. 2018 , 6, 11078-11086	52
274	Synthesis and Characterization of Graft Copolymers of Plant Polysaccharides. 2018 , 1-62	10

273	Polymer Gels. 2018,		2
272	Incorporation of Filler/Additives in Polymer Gel for Advanced Application. 2018, 445-492		1
271	An Overview on Polymer Gels Applied to Enzyme and Cell Immobilization. 2018, 63-86		2
270	Hemicellulose-Based Hydrogels and Their Potential Application. 2018, 87-127		5
269	Radiation Dosimetry A Different Perspective of Polymer Gel. 2018, 309-341		1
268	Hardwood Kraft Lignin-Based Hydrogels: Production and Performance. 2018, 3, 8233-8242		22
267	Polymer Hydrogel-Clay (Nano)Composites. 2018, 1-62		2
266	Lignin-Derived Biomaterials for Drug Release and Tissue Engineering. 2018, 23,		89
265	Valorization of Lignin: Emerging Technologies and Limitations in Biorefineries. 2018, 163-180		1
264	Polysaccharide Containing Gels for Pharmaceutical Applications. 2018, 231-278		1
263	Bio-Based Cellulose Acetate Films Reinforced with Lignin and Glycerol. 2018, 19,		4
262	Production of Flocculants, Adsorbents, and Dispersants from Lignin. 2018, 23,		50
261	Modification of Alkali Lignin with Poly(Ethylene Glycol) Diglycidyl Ether to Be Used as a Thickener in Bio-Lubricant Formulations. 2018, 10,		17
260	Hydrogel applications for adsorption of contaminants in water and wastewater treatment. 2018, 25, 24569-24599		128
259	Lignin-based multifunctional fertilizer for immobilization of Pb (II) in contaminated soil. 2018, 91, 643-652		8
258	A comparative study for the organic byproducts from hydrothermal carbonizations of sugarcane bagasse and its bio-refined components cellulose and lignin. 2018, 13, e0197188		11
257	Bacterial cellulose-lignin composite hydrogel as a promising agent in chronic wound healing. <i>International Journal of Biological Macromolecules</i> , 2018, 118, 494-503	7.9	78
256	Derivatized Chitosan. 2018, 251-284		7

255	Lignocellulosic Materials and Their Use in Bio-based Packaging. 2018 ,		8
254	Functional Properties of Lignocellulosic Materials. 2018 , 35-47		1
253	Synthesis and Application as Programmable Water Soluble Adhesive of Polyacrylamide Grafted Gum Tragacanth (GT-g-PAM). 2018 , 153-203		0
252	Grafting Onto Biopolymers: Application in Targeted Drug Delivery. 2018 , 335-389		4
251	Thermal properties of freezing bound water restrained by sodium lignosulfonate-based polyurethane hydrogels. 2019 , 135, 2039-2048		4
250	Chemical Composition and Thermal Behavior of Kraft Lignins. 2019 , 10, 483		22
249	A lignin-containing cellulose hydrogel for lignin fractionation. 2019 , 21, 5222-5230		54
248	Lignin valorization process control under feedstock uncertainty through a dynamic stochastic programming approach. 2019 , 4, 1740-1747		3
247	Advances in the preparation of hydrogel for wastewater treatment: A concise review. 2019 , 7, 103295		70
246	A concise review of current lignin production, applications, products and their environmental impact. <i>Industrial Crops and Products</i> , 2019 , 139, 111526	5.9	287
245	Non-Einstein Viscosity Phenomenon of Acrylonitrile-Butadiene-Styrene Composites Containing Lignin-Polycaprolactone Particulates Highly Dispersed by High-Shear Stress. 2019 , 4, 10036-10043		3
244	Development and Characterization of Lignin-Based Hydrogel for Use in Agricultural Soils: Preliminary Evidence. 2019 , 47, 1900101		6
243	Lignin and Cellulose Blends as Pharmaceutical Excipient for Tablet Manufacturing via Direct Compression. 2019 , 9,		24
242	Applications of lignin-derived catalysts for green synthesis. 2019 , 4, 210-244		49
241	Tuning the Hydrophobicity of a Hydrogel Using Self-Assembled Domains of Polymer Cross-Linkers. 2019 , 12,		5
240	Lignin-based hydrogels: A review of preparation, properties, and application. <i>International Journal of Biological Macromolecules</i> , 2019 , 135, 1006-1019	7.9	99
239	Status and future scope of plant-based green hydrogels in biomedical engineering. 2019 , 16, 213-246		100
238	Applications of Lignocellulosic Fibers and Lignin in Bioplastics: A Review. 2019 , 11,		113

237	High-value utilization of kraft lignin: Color reduction and evaluation as sunscreen ingredient. <i>International Journal of Biological Macromolecules</i> , 2019 , 133, 86-92	7.9	32
236	Composite Nanostructures and Adhesion Analysis of Natural Plant Hydrogels Investigated by Atomic Force Microscopy. 2019 , 18, 448-455		5
235	Injection molded biocomposites from polypropylene and lignin: Effect of compatibilizers on interfacial adhesion and performance. <i>Industrial Crops and Products</i> , 2019 , 132, 497-510	5.9	23
234	Lignin: Understanding and Exploring Its Potential for Biofuel Production. 2019 , 165-186		1
233	Enhanced heavy metal adsorption ability of lignocellulosic hydrogel adsorbents by the structural support effect of lignin. 2019 , 26, 4005-4019		17
232	Chitosan/nano-lignin based composite as a new sorbent for enhanced removal of dye pollution from aqueous solutions. <i>International Journal of Biological Macromolecules</i> , 2019 , 132, 1304-1317	7.9	66
231	Valorization of lignin in polymer and composite systems for advanced engineering applications - A review. <i>International Journal of Biological Macromolecules</i> , 2019 , 131, 828-849	7.9	200
230	Biopolymers for Biomedical and Pharmaceutical Applications: Recent Advances and Overview of Alginate Electrospinning. 2019 , 9,		88
229	A review on cellulose nanocrystals as promising biocompounds for the synthesis of nanocomposite hydrogels. 2019 , 216, 247-259		65
228	An approach for in situ qualitative and quantitative analysis of moisture adsorption in nanogram-scaled lignin by using micro-FTIR spectroscopy and partial least squares regression. <i>International Journal of Biological Macromolecules</i> , 2019 , 132, 1106-1111	7.9	8
227	Antioxidant PLA Composites Containing Lignin for 3D Printing Applications: A Potential Material for Healthcare Applications. 2019 , 11,		98
226	Novel natural rubber latex/lignin-based bio-adhesive: synthesis and its application on medium density fiber-board. 2019 , 28, 283-290		11
225	Plant-inspired adhesive and tough hydrogel based on Ag-Lignin nanoparticles-triggered dynamic redox catechol chemistry. 2019 , 10, 1487		376
224	In situ reduction of silver nanoparticles in the lignin based hydrogel for enhanced antibacterial application. 2019 , 177, 370-376		51
223	Purification of Monomers Leads to High-Quality Lignin Macromonomers. 2019 , 548, 012021		0
222	Development of high bio-content polypropylene composites with different industrial lignins. 2019 , 30, 70-78		12
221	Deep Eutectic Solvent Assisted Facile Synthesis of Lignin-Based Cryogel. 2019 , 52, 227-235		8
220	Superadsorbent hydrogel based on lignin and montmorillonite for Cu(II) ions removal from aqueous solution. <i>International Journal of Biological Macromolecules</i> , 2019 , 127, 511-519	7.9	39

219	High-Performance Lignin-Based Water-Soluble Macromolecular Photoinitiator for the Fabrication of Hybrid Hydrogel. 2019 , 7, 4004-4011		29
218	Contribution of lignin to the microstructure and physical performance of three-dimensional lignocellulose hydrogels. 2019 , 26, 2375-2388		24
217	Kraft lignin/cubic boron nitride hybrid materials as functional components for abrasive tools. <i>International Journal of Biological Macromolecules</i> , 2019 , 122, 88-94	7.9	10
216	Applications of polymer/graphene nanocomposite membranes: a review. 2019 , 23, 276-287		32
215	The innovative application of organosolv lignin for nanomaterial modification to boost its heavy metal detoxification performance in the aquatic environment. 2020 , 382, 122789		17
214	Assessment of green approaches for the synthesis of physically crosslinked lignin hydrogels. 2020 , 81, 475-487		24
213	Treatment and resource recovery options for first and second generation bioethanol spentwash - A review. 2020 , 241, 124975		15
212	Implantable and degradable antioxidant poly(ϵ -caprolactone)-lignin nanofiber membrane for effective osteoarthritis treatment. 2020 , 230, 119601		48
211	Lignin as Alternative Reinforcing Filler in the Rubber Industry: A Review. 2020 , 6,		19
210	Recent developments in modification of lignin using ionic liquids for the fabrication of advanced materials: A review. 2020 , 301, 112417		45
209	Lignin/poly(butylene succinate) composites with antioxidant and antibacterial properties for potential biomedical applications. <i>International Journal of Biological Macromolecules</i> , 2020 , 145, 92-99	7.9	59
208	Structural regulation of lignin/silica nanocomposites by altering the content of quaternary ammonium groups grafted into softwood kraft lignin. <i>Industrial Crops and Products</i> , 2020 , 144, 112039	5.9	8
207	Functionalization of wool fabric using lignin biomolecules extracted from groundnut shells. <i>International Journal of Biological Macromolecules</i> , 2020 , 142, 559-563	7.9	13
206	Self-healing, sensitive and antifreezing biomass nanocomposite hydrogels based on hydroxypropyl guar gum and application in flexible sensors. <i>International Journal of Biological Macromolecules</i> , 2020 , 155, 1569-1577	7.9	33
205	Lignin-Based Hydrogels: Synthesis and Applications. 2020 , 12,		55
204	In-Depth Study of the Interaction Mechanism between the Lignin Nanofilms: Toward a Renewable and Organic Solvent-Free Binder. 2020 , 8, 362-371		6
203	Hydrogel synthesis based on lignin/sodium alginate and application in agriculture. <i>International Journal of Biological Macromolecules</i> , 2020 , 144, 219-230	7.9	48
202	Hydrothermal-process-based direct extraction of polydisperse lignin microspheres from black liquor and their physicochemical characterization. 2020 , 297, 122399		5

201	Systematic in vitro biocompatibility studies of multimodal cellulose nanocrystal and lignin nanoparticles. 2020 , 108, 770-783		20
200	Highly compressible lignin hydrogel electrolytes via double-crosslinked strategy for superior foldable supercapacitors. 2020 , 449, 227532		28
199	Heterogeneous Catalyst Design Principles for the Conversion of Lignin into High-Value Commodity Fuels and Chemicals. 2020 , 13, 1947-1966		21
198	Towards lignin derived thermoplastic polymers. <i>International Journal of Biological Macromolecules</i> , 2020 , 165, 3180-3197	7.9	17
197	An overview of the recent advances in functionalization biomass adsorbents for toxic metals removal. 2020 , 38, 100308		8
196	Sequential Multimaterial Additive Manufacturing of Functionally Graded Biopolymer Composites. 2020 , 7, 205-215		1
195	Lignin extraction from barley straw using ultrasound-assisted treatment method for a lignin-based biocomposite preparation with remarkable adsorption capacity for heavy metal. <i>International Journal of Biological Macromolecules</i> , 2020 , 164, 1133-1148	7.9	17
194	Review on Conversion of Lignin Waste into Value-Added Resources in Tropical Countries. 2020 , 12, 5285		8
193	Water-in-oil emulsions stabilized by surfactants, biopolymers and/or particles: a review. 2020 , 104, 49-59		50
192	Lignin/Clay Nanohybrid Biocomposite-Based Double-Layer Coating Materials for Controllable-Release Fertilizer. 2020 , 8, 18957-18965		11
191	Lignin as a Renewable Resource of Hydrocarbon Products and Energy Carriers (A Review). 2020 , 60, 227-243		24
190	Nanosuspension of pinhã seed coat development for a new high-functional cereal bar. 2020 , 44, e14464		2
189	Preparation of hyperbranched polymers from oxidized lignin modified with triazine for removal of heavy metals. 2020 , 179, 109271		10
188	Extraction of lignin and therapeutic applications of lignin-derived compounds. A review. 2020 , 18, 771-785		23
187	Lignin-Based Epoxy Resins: Unravelling the Relationship between Structure and Material Properties. 2020 , 21, 1920-1928		50
186	Synthesis of Lignin-Based Polyacid Catalyst and Its Utilization to Improve Water Resistance of Urea-formaldehyde Resins. 2020 , 12,		14
185	Tuning Lignin Characteristics by Fractionation: A Versatile Approach Based on Solvent Extraction and Membrane-Assisted Ultrafiltration. 2020 , 25,		8
184	Tribological study of epoxide-functionalized alkali lignin-based gel-like biogreases. 2020 , 146, 106231		5

183	Thymelaea hirsuta and Echinops spinosus: Xerophytic Plants with High Potential for First-Generation Biodiesel Production. 2020 , 12, 1137		3
182	Antibacterial porous xanthan-based films containing flavoring agents evaluated by near infrared chemical imaging technique. 2020 , 137, 49111		8
181	Basic understanding of the color distinction of lignin and the proper selection of lignin in color-depended utilizations. <i>International Journal of Biological Macromolecules</i> , 2020 , 147, 607-615	7.9	22
180	Citric acid-incorporated cellulose nanofibrous mats as food materials-based biosorbent for removal of hexavalent chromium from aqueous solutions. <i>International Journal of Biological Macromolecules</i> , 2020 , 149, 459-466	7.9	24
179	Lignin. 2020 ,		13
178	Synthesis of TiO ₂ @lignin based carbon nanofibers composite materials with highly efficient photocatalytic to methylene blue dye. 2020 , 27, 1		14
177	Hydrogels: Novel materials for contaminant removal in waterA review. 2021 , 51, 1970-2014		15
176	Novel composite hydrogels containing fractionated, purified lignins for aqueous-based separations. 2021 , 9, 1025-1038		2
175	Amylose/cellulose nanofiber composites for all-natural, fully biodegradable and flexible bioplastics. 2021 , 253, 117277		14
174	Introduction to lignocellulosic materials. 2021 , 1-34		
173	Lignin and Lignocellulosic Materials: A Glance on the Current Opportunities for Energy and Sustainability. 2021 , 621-652		1
172	Advanced and versatile lignin-derived biodegradable composite film materials toward a sustainable world. 2021 , 23, 3790-3817		30
171	Natural polyphenols applications. 2021 , 259-314		
170	Advances in the Structural Composition of Biomass: Fundamental and Bioenergy Applications. 2021 , 9, 615-636		2
169	Ultrafast fabrication of organohydrogels with UV-blocking, anti-freezing, anti-drying, and skin epidermal sensing properties using ligninCu ²⁺ plant catechol chemistry. 2021 , 9, 14381-14391		10
168	Design and fabrication of dual responsive lignin-based nanogel via "grafting from" atom transfer radical polymerization for curcumin loading and release. 2021 , 11, 1962		8
167	Fabrication of lignin-based hydrogels and their applications. 2021 , 371-394		1
166	Types of lignin, properties, and structural characterization techniques. 2021 , 105-158		0

165	Revisiting lignin: a tour through its structural features, characterization methods and applications. 2021 , 45, 6986-7013		23
164	Hydrogen production from acidic, alkaline, and steam-exploded <i>Bambusa stenostachya</i> hydrolysates in dark fermentation process. 1		2
163	Ultrasonic cavitation driven fabrication of organic solvent free lignin/prochloraz nano capsules to promote resistance to photolysis and rain wash, and provide extended release performance. 2021 , 75, 869-877		
162	Porous Sponges from the Mesocarp of <i>Theobroma Cacao</i> L. Pod Shells for Potential Biomaterial Applications. 2021 , 6, 1529-1539		
161	Anti-atherosclerotic activity of Betulinic acid loaded polyvinyl alcohol/methylacrylate grafted Lignin polymer in high fat diet induced atherosclerosis model rats. 2021 , 14, 102934		4
160	SYNTHESIS AND STUDY OF THE PROPERTIES OF XEROGELS DERIVED FROM SULFATED PINE ETHANOL LIGNIN. 2021 , 45-54		
159	Research and application progress of lignin-based composite membrane. 2021 , 41, 245-258		6
158	A Review on the Lignin Biopolymer and Its Integration in the Elaboration of Sustainable Materials. 2021 , 13, 2697		14
157	Facile Tailoring of Structures for Controlled Release of Paracetamol from Sustainable Lignin Derived Platforms. 2021 , 26,		50
156	Gelatin/carboxymethyl cellulose based stimuli-responsive hydrogels for controlled delivery of 5-fluorouracil, development, in vitro characterization, in vivo safety and bioavailability evaluation. 2021 , 257, 117617		19
155	Lignin-based polymers. 2021 ,		
154	Lignin-derived (nano)materials for environmental pollution remediation: Current challenges and future perspectives. <i>International Journal of Biological Macromolecules</i> , 2021 , 178, 394-423	7.9	36
153	Characterization of a lignin from <i>Crataeva tapia</i> leaves and potential applications in medicinal and cosmetic formulations. <i>International Journal of Biological Macromolecules</i> , 2021 , 180, 286-298	7.9	7
152	Wearable lignin-based hydrogel electronics: A mini-review. <i>International Journal of Biological Macromolecules</i> , 2021 , 181, 45-50	7.9	23
151	Synthesis of advanced biobased green materials from renewable biopolymers. 2021 , 29, 100436		13
150	Synthesis of lignin-based hydrogels and their applications in agriculture: A review. 2021 , 75, 4465		1
149	Lignin-Based High-Performance Fibers by Textile Spinning Techniques. 2021 , 14,		3
148	Hydrogel from all in all lignocellulosic sisal fibers macromolecular components. <i>International Journal of Biological Macromolecules</i> , 2021 , 181, 978-989	7.9	4

147	Cellulose nanocrystals: Pretreatments, preparation strategies, and surface functionalization. <i>International Journal of Biological Macromolecules</i> , 2021 , 182, 1554-1581	7.9	61
146	3-Dimensional cross linked hydrophilic polymeric network Hydrogels An agriculture boom. 2021 , 253, 106939		8
145	Multifunctional Lignin-Based Composite Materials for Emerging Applications. 2021 , 9, 708976		6
144	Neonatal Fc receptor-targeted lignin-encapsulated porous silicon nanoparticles for enhanced cellular interactions and insulin permeation across the intestinal epithelium. 2022 , 9, 299-315		4
143	Ultra-strong hydroxypropyl cellulose/polyvinyl alcohol composite hydrogel by combination of triple-network and mechanical training. <i>International Journal of Biological Macromolecules</i> , 2021 , 184, 200-208	7.9	9
142	Lignin/Carbohydrate Complex Isolated from Sea Balls (Egagropili): Characterization and Antioxidant Reinforcement of Protein-Based Films. 2021 , 22,		5
141	Recent advances in lignin-based porous materials for pollutants removal from wastewater. <i>International Journal of Biological Macromolecules</i> , 2021 , 187, 880-891	7.9	7
140	Alkylation of monomeric, dimeric, and polymeric lignin models through carbon-hydrogen activation using Ru-catalyzed Murai reaction. 2021 , 100, 132475		
139	The Cross-Linking Mechanism and Applications of CatecholMetal Polymer Materials. 2021 , 8, 2100239		6
138	Lignocellulose-based materials and their application in the removal of dyes from water: A review. 2021 , 29, e00320		4
137	Lignin-based metal oxide nanocomposites for UV protection applications: A review. 2021 , 317, 128300		9
136	Sustainable materials in the removal of pesticides from contaminated water: Perspective on macro to nanoscale cellulose. 2021 , 797, 149129		33
135	Water desalination using nanocelluloses/cellulose derivatives based membranes for sustainable future. 2021 , 520, 115359		28
134	Hydrogel application for improving soil pore network in agroecosystems. Preliminary results on three different soils. 2022 , 208, 105759		0
133	The use of polymer-graphene composites in fuel cell and solar energy. 2022 , 425-505		1
132	Lignin-based nanoparticles. 2021 , 203-219		
131	Polymeric Tissue Adhesives. 2021 , 121, 11336-11384		71
130	Application of Hydrogel Biocomposites for Multiple Drug Delivery. 139-165		4

129	Pharmaceutical Delivery Systems Composed of Chitosan. 285-308	1
128	Eco-Friendly Polymers for Food Packaging. 309-352	0
127	Biopolymers from Renewable Resources and Thermoplastic Starch Matrix as Polymer Units of Multi-Component Polymer Systems for Advanced Applications. 555-576	1
126	Controllable Generation of Renewable Nanofibrils from Green Materials and Their Application in Nanocomposites. 61-108	1
125	Biocomposite Scaffolds Derived from Renewable Resources for Bone Tissue Repair. 439-485	1
124	Synthesis, Characterization, and Applications of Hemicelluloses Based Eco-friendly Polymer Composites. 2019 , 1267-1322	2
123	Pleurotus ostreatus: A Biofactory for Lignin-Degrading Enzymes of Diverse Industrial Applications. 2019 , 101-152	1
122	Polysaccharide-Based Polymer Gels and Their Potential Applications. 2018 , 97-126	7
121	Graphene Oxide Polymer Gels. 2018 , 377-412	1
120	Updates on Stimuli-Responsive Polymers: Synthesis Approaches and Features. 2018 , 129-146	2
119	An Inverse Method to Estimate the Root Water Uptake Source-Sink Term in Soil Water Transport Equation under the Effect of Superabsorbent Polymer. 2016 , 11, e0159936	9
118	Natural-based Hydrogels: A Journey from Simple to Smart Networks for Medical Examination. 2020 , 27, 2704-2733	6
117	Lignin: A Renewable Chemical Feedstock. 2021 , 1-15	1
116	Synthesis of an Effective Flame-Retardant Hydrogel for Skin Protection Using Xanthan Gum and Resorcinol Bis(diphenyl phosphate)-Coated Starch. 2021 , 22, 4535-4543	1
115	Highly Effective Covalently Crosslinked Composite Alginate Cryogels for Cationic Dye Removal. 2021 , 7,	0
114	Sustainable Green Nanocomposites from Bacterial Bioplastics for Food-Packaging Applications. 229-257	1
113	Starch -Based Biomaterials and Nanocomposites. 623-636	
112	Recent Advances in Biopolymer Composites for Environmental Issues. 673-691	1

111	Hydrogels in Tissue Engineering. 59-78	
110	Biodegradable Polymer/Carbon Nanotube Composites for Water and Wastewater Treatments. 15-33	
109	Cellulose -Containing Scaffolds Fabricated by Electrospinning: Applications in Tissue Engineering and Drug Delivery. 361-388	
108	Preparation, Characterization, and Adsorption Properties of Poly(DMAEA) /Cross-Linked Starch Gel Copolymer in Wastewater. 233-254	
107	Polysaccharide-Based Polymer Gels. 2018 , 147-229	0
106	Smart Polymer Gels. 2018 , 355-377	
105	Encyclopedia of Ionic Liquids. 2019 , 1-22	
104	Effects of Holocellulose Saccharification on the Mechanical Properties of Poly(lacticacid)-Based Green Composites Prepared with Enzymatic Saccharification Residue. 2019 , 30, 11-17	
103	Fruit pomace-lignin as a sustainable biopolymer for biomedical applications. 2021 , 328, 129498	5
102	Effects of lignin content and acid concentration on the preparation of lignin containing nanofibers from alkaline hydrogen peroxide mechanical pulp. 2021 , 36, 125-138	
101	Synthesis of Bio-based monomers and polymers using microbes for a sustainable bioeconomy. 2022 , 344, 126156	12
100	Cellulosic biomass-based sustainable hydrogels for wastewater remediation: Chemistry and prospective. 2022 , 309, 122114	27
99	Applications of Lignin in the Agri-Food Industry. 2020 , 275-298	0
98	A Review of Sustained Drug Release Studies from Nanofiber Hydrogels. 2021 , 9,	6
97	Methylene blue adsorption onto hydrogels made from different Eucalyptus dissolving pulps. 2022 , 29, 445	1
96	Interferences of Waxes on Enzymatic Saccharification and Ethanol Production from Lignocellulose Biomass. 2021 , 8,	1
95	Bio-adsorbent preparation based on Chinese Radix isatidis residue for Pb(II) removal. 2020 , 15, 1202-1212	2
94	Biological macromolecules for nutrients delivery. 2022 , 455-477	1

93	Development and Utilization of Multifunctional Polymeric Scaffolds for the Regulation of Physical Cellular Microenvironments. 2021 , 13,	1
92	Bentonite-based sodium alginate/ dextrin cross-linked poly (acrylic acid) hydrogel nano hybrids for facile removal of paraquat herbicide from aqueous solutions. 2021 , 291, 133002	6
91	Biological Activities and Emerging Roles of Lignin and Lignin-Based Products-A Review. 2021 ,	17
90	Fabrication of biopolymer nanofibers from natural sources. 004051752110550	
89	pH-Dependent interaction mechanism of lignin nanofilms. 2021 , 13, 19568-19577	1
88	Sugar beet pulp: Resurgence and trailblazing journey towards a circular bioeconomy. 2022 , 312, 122953	6
87	Novel synthesis methods and applications of MXene-based nanomaterials (MBNs) for hazardous pollutants degradation: Future perspectives.. 2022 , 293, 133542	7
86	Starch-Chitosan Hydrogels for the Controlled-Release of Herbicide in Agricultural Applications: A Study on the Effect of the Concentration of Raw Materials and Crosslinkers. 1	1
85	Lignin in nanocomposite hydrogels. 2022 , 459-484	
84	Photocatalytic Biomass Transformation into Valuable Products. 2022 , 243-265	
83	Color characteristics of microlignin. 2022 , 25-64	
82	Development of a food packaging antibacterial hydrogel based on gelatin, chitosan, and 3-phenyllactic acid for the shelf-life extension of chilled chicken. 2022 , 127, 107546	3
81	Biodelignification of lignocellulose using ligninolytic enzymes from white-rot fungi.. 2022 , 8, e08865	4
80	Synthesis and Characterisation of Zinc Oxide Modified Biorenewable Polysaccharides based Sustainable Hydrogel Nanocomposite for Hg ion Removal: Towards a Circular Bioeconomy.. 2022 , 126708	3
79	Digital light processing (DLP) 3D-fabricated antimicrobial hydrogel with a sustainable resin of methacrylated woody polysaccharides and hybrid silver-lignin nanospheres.	2
78	Lignin-metal oxide composite for photocatalysis and photovoltaics. 2022 , 447-476	
77	Ionogels for Biomedical Applications. 2022 , 391-425	1
76	Biological pretreatments of lignocellulosic fibers and their effects on biocomposites performance. 2022 , 147-186	

75	Isolation and Characterization of Cellulose Nanocrystals Produced by Acid Hydrolysis from Banana Pseudostem. 1		3
74	Synthesis and Antibacterial Properties of Oligomeric Dehydrogenation Polymer from Lignin Precursors.. 2022 , 27,		2
73	Bioprospecting lignin biomass into environmentally friendly polymersApplied perspective to reconcile sustainable circular bioeconomy. 1		3
72	Obtention of biocompatible hydrogels containing PEGs/silicon fatty blocks with potential use as A controlled release system. 2022 , 173, 105222		
71	Recent advances in biological activities of lignin and emerging biomedical applications: A short review.. <i>International Journal of Biological Macromolecules</i> , 2022 , 208, 819-832	7.9	3
70	Use of biomass-derived biochar in wastewater treatment and power production: A promising solution for a sustainable environment.. 2022 , 825, 153892		6
69	Valorization of lignin into nanoparticles and nanogel: Characterization and application. 2022 , 18, 101041		0
68	Recent advances of carbon-based nanomaterials (CBNMs) for wastewater treatment: Synthesis and application.. 2022 , 299, 134364		2
67	Cellulosic fibres-based epoxy composites: From bioresources to a circular economy. <i>Industrial Crops and Products</i> , 2022 , 182, 114895	5.9	5
66	Lignin-Based Porous Biomaterials for Medical and Pharmaceutical Applications.. 2022 , 10,		4
65	From residue to resource: new insights into the synthesis of functionalized lignin micro/nanospheres by self-assembly technology for waste resource utilization.		0
64	Lignin Based Hydrogel Production and Their Applications. 2022 , 1131-1152		
63	Insights into the Sustainable Development of Lignin-Based Textiles for Functional Applications. 2200114		0
62	Highly efficient poly(acrylic acid-co-aniline) grafted itaconic acid hydrogel: Application in water retention and adsorption of rhodamine B dye for a sustainable environment.. 2022 , 134917		0
61	Enhancing the performance of polylactic acid composites through self-assembly lignin nanospheres for fused deposition modeling. 2022 , 109968		0
60	Recent advances in lignosulfonate filled hydrogel for flexible wearable electronics: A mini review. <i>International Journal of Biological Macromolecules</i> , 2022 , 212, 393-401	7.9	3
59	Recent advances in electrochemical-based sensors amplified with carbon-based nanomaterials (CNMs) for sensing pharmaceutical and food pollutants. 2022 , 135182		2
58	Highly swellable hydrogels prepared from extensively oxidized lignin. 2022 , 10, 100106		2

57	Novel fertilising products from lignin and its derivatives to enhance plant development and increase the sustainability of crop production. 2022 , 132832		2
56	Technical lignin to hydrogels: An Eclectic review on suitability, synthesis, applications, challenges and future prospects. 2022 , 363, 132585		1
55	Fabrications and applications of polymer-graphene nanocomposites for sustainability. 2022 , 149-184		
54	Superabsorbent Polyvinyl Alcohol-Grafted-Poly (Acrylic Acid) Gel Via Hydrogen-Bond Self-Assembly for Soil Improvement.		
53	Hydrogel-based dressings in the treatment of partial thickness experimentally induced burn wounds in rats. 2022 , 37,		
52	Ionic Liquid-Based Polymer Nanocomposites for Sensors, Energy, Biomedicine, and Environmental Applications: Roadmap to the Future. <i>Advanced Science</i> , 2202187	13.6	6
51	Cellulose/polyaniline hybrid nanocomposites: Design, fabrication, and emerging multidimensional applications. <i>Industrial Crops and Products</i> , 2022 , 187, 115356	5.9	2
50	Influence of surfactants on the electrospinnability of lignin-PVP solutions and subsequent oil structuring properties of nanofiber mats.		0
49	Plant Polysaccharides in Engineered Pharmaceutical Gels. 2022 , 9, 376		1
48	Additive manufacturing of bio-based hydrogel composites: recent advances.		0
47	Preparation of uniform liginosulfonate-based colloidal spheres for UV-absorbing thermoplastics. 2022 , 219, 663-671		0
46	Fabrication of carboxyalkylated lignin derived microgels for adsorbing heavy metals. 2022 , 187, 115482		0
45	Lignin-silver triggered multifunctional conductive hydrogels for skinlike sensor applications. 2022 , 221, 1282-1293		0
44	Material Applications of Lignin. 2022 , 201-228		0
43	Effect of Thermal Oxygen Aging Mode on Rheological Properties and Compatibility of Lignin-Modified Asphalt Binder by Dynamic Shear Rheometer. 2022 , 14, 3572		1
42	Conductive Hydrogels Based on Industrial Lignin: Opportunities and Challenges. 2022 , 14, 3739		1
41	Lignin Modifications, Applications, and Possible Market Prices. 2022 , 15, 6520		1
40	Reactive Oxygen Species Suppressive Kraft Lignin-Gelatin Antioxidant Hydrogels for Chronic Wound Repair. 2200234		0

39	Lignin-based nanomaterials as drug delivery vehicles: A review. 2022 ,	0
38	High-Performance Vitrimeric Benzoxazines for Sustainable Advanced Materials: Design, Synthesis, and Applications. 2200534	1
37	Preparation of polyether amine-bridged liginosulfonate for utilization as a nano dye dispersant. 2022 ,	0
36	Reusable hydrogels based on liginosulfonate and cationic polymer for the removal of Cr(VI) from wastewater. 2023 , 656, 130359	0
35	Lignin: A Renewable Chemical Feedstock. 2022 , 1529-1543	0
34	Polysaccharide-based hydrogels: New insights and futuristic prospects in wound healing. 2022 ,	0
33	Valorization of Kraft Lignin from Black Liquor in the Production of Composite Materials with Poly(caprolactone) and Natural Stone Groundwood Fibers. 2022 , 14, 5178	0
32	Hydrogel Nanocomposite Adsorbents and Photocatalysts for Sustainable Water Purification. 2201375	2
31	Carboxymethyl cellulose based sustainable hydrogel for colon-specific delivery of gentamicin. 2022 ,	0
30	Fabrication and Characterization of Lignin-Based, Thermoresponsive Soft Composites Containing Fractionated and Cleaned Lignin.	0
29	Enhanced Mechanical Properties of Composite Hydrogels Containing Fractionated and Purified Lignin.	1
28	Are Natural Compounds a Promising Alternative to Synthetic Cross-Linking Agents in the Preparation of Hydrogels?. 2023 , 15, 253	2
27	Green synthesis of lignin-based nanoparticles as a bio-carrier for targeted delivery in cancer therapy. 2023 , 229, 684-695	0
26	Preparation and application of galactomannan-based green hydrogels initiated by lignin-Ag NPs. 2023 , 34, 105256	0
25	Synthesis and Properties of Xerogels Derived from Sulfated Pine Ethanol Lignin. 2022 , 48, 1506-1513	0
24	Lignin-derived hydrogels. 2023 , 231-252	0
23	Hydrogel-based vascular grafts: State of art. 2023 , 397-442	0
22	Pharmaceutical applications of lignin-derived chemicals and lignin-based materials: linking lignin source and processing with clinical indication.	1

- 21 Mannich Reaction: Review of Amine-Functionalized Lignin Derivatives and Their Applications. **2023**, 8, 0
- 20 Cellulose and lignin in place of EPDM and carbon black for automotive sealing profiles. **2023**, 236, 123964 0
- 19 3D-printed bioactive Chitosan/Alginate /Hardystonite scaffold for bone tissue engineering: Synthesis and characterization. **2023**, 609, 122261 0
- 18 An N,P,O-doped porous carbon electrode material derived from a lignin-modified chitosan xerogel for a supercapacitor. **2023**, 22, 100372 0
- 17 Ionic Liquids as Solvents for the Production of Materials from Biomass. **2022**, 642-663 0
- 16 Poly(caprolactone)/lignin-based 3D-printed dressings loaded with a novel combination of bioactive agents for wound-healing applications. **2023**, 35, e00581 0
- 15 Preparation of nano disperse dyes using sulfomethylated lignin: Effects of sulfonic group contents. **2023**, 234, 123605 0
- 14 Studying the effectiveness of using a novel nano polymer as a protein delivery system. **2023**, 0
- 13 Lignin-based composites with enhanced mechanical properties by acetone fractionation and epoxidation modification. **2023**, 26, 106187 0
- 12 Amino-Functionalized Cellulose Nanofiber/Lignosulfonate New Aerogel Adsorbent for the Removal of Dyes and Heavy Metals from Wastewater. **2023**, 9, 154 2
- 11 Hydrogels: From Design to Applications in Forensic Investigations. **2023**, 8, 0
- 10 MetalOrganic Framework-Based Materials for Wastewater Treatment: Superior Adsorbent Materials for the Removal of Hazardous Pollutants. **2023**, 8, 9004-9030 0
- 9 Next-Generation Hydrogels as Biomaterials for Biomedical Applications: Exploring the Role of Curcumin. **2023**, 8, 8960-8976 0
- 8 Horse chestnut thermoplastic starch nanocomposite films reinforced with nanocellulose. **2023**, 0
- 7 Wood Biorefineries. **2023**, 1713-1751 0
- 6 Wood Chemistry. **2023**, 179-279 0
- 5 Multifunctional catalyst-assisted sustainable reformation of lignocellulosic biomass into environmentally friendly biofuel and value-added chemicals. **2023**, 138633 0
- 4 NaAlg-g-AA Hydrogels: Candidates in Sustainable Agriculture Applications. **2023**, 9, 316 0

- 3 Recent Advances in Lignin-Based Biofuel Production. **2023**, 16, 3382 ○
- 2 Lignin-Based Catalysts for C=C Bond-Forming Reactions. **2023**, 28, 3513 ○
- 1 Preparation of a new gel-type lignin-based cationic adsorption resin for efficient removal of Ca²⁺ from aqueous solutions. **2023**, 124505 ○