CITATION REPORT List of articles citing



DOI: 10.1016/j.progpolymsci.2013.11.004 Progress in Polymer Science, 2014, 39, 1266-1290.

Source: https://exaly.com/paper-pdf/58980657/citation-report.pdf

Version: 2024-04-28

This report has been generated based on the citations recorded by exaly.com for the above article. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

#	Paper	IF	Citations
1325	Dimethyl Sulfoxide Assisted Ionic Liquid Pretreatment of Switchgrass for Isoprenol Production.		
1324	Experiences of Kraft Lignin Functionalization by Enzymatic and Chemical Oxidation. 2014, 9,		9
1323	X-Ray Diffraction Analysis of Kraft Lignins and Lignin-Derived Carbon Nanofibers. 2014 , 5, 021006		47
1322	Synthesis and characterization of fully biobased aromatic polyols âlbxybutylation of condensed tannins towards new macromolecular architectures. 2014 , 4, 61564-61572		25
1321	Current challenges in commercially producing biofuels from lignocellulosic biomass. 2014 , 2014, 463074	1	281
1320	Modification of lignin with dodecyl glycidyl ether and chlorosulfonic acid for preparation of anionic surfactant. 2014 , 4, 16944-16950		27
1319	Preparation of Different Carbon Materials by Thermochemical Conversion of Lignin. 2014, 1,		72
1318	Nucleation, Crystallization, and Thermal Fractionation of Poly (ECaprolactone)-Grafted-Lignin: Effects of Grafted Chains Length and Lignin Content. 2015 , 53, 1736-1750		32
1317	Optimizing the lignin based synthesis of flexible polyurethane foams employing reactive liquefying agents. 2015 , 64, 1235-1244		28
1316	Biorenewable polymer composites from tall oil-based polyamide and lignin-cellulose fiber. 2015 , 132, n/a-n/a		11
1315	Wood-derived phenol novolaks and their wood/epoxy biocomposites. 2015 , 132, n/a-n/a		11
1314	Laccase, an Emerging Tool to Fabricate Green Composites: A Review. 2015 , 10,		24
1313	Antioxidant Activity of Organosolv Lignin Degraded Using SO42-/ZrO2 as Catalyst. 2015 , 10,		14
1312	Carbon Materials from Lignin and Sodium Lignosulfonate via Diisocyanate Cross-Linking and Subsequent Carbonization. 2015 , 1, 43-57		7
1311	Engineering Plant Biomass Lignin Content and Composition for Biofuels and Bioproducts. 2015 , 8, 7654	-7676	120
1310	Enzymatic Transesterification of Kraft Lignin with Long Acyl Chains in Ionic Liquids. 2015 , 20, 16334-53		14
1309	Optimization of Experimental Variables to Modify Lignin from Eucalyptus globulus under Alkaline Catalysis. 2015 , 11,		3

(2015-2015)

1308	2015, 1-8	22
1307	Mixture Design Approach on the Physical Properties of Lignin-Resorcinol-Formaldehyde Xerogels. 2015 , 2015, 1-11	8
1306	High charge-capacity polymer electrodes comprising alkali lignin from the Kraft process. 2015 , 3, 11330-1133	939
1305	Refining of Ethanol Biorefinery Residues to Isolate Value Added Lignins. 2015 , 3, 1632-1641	21
1304	Lignin valorization by forming toughened thermally stimulated shape memory copolymeric elastomers: Evaluation of different fractionated industrial lignins. 2015 , 132, n/a-n/a	17
1303	Oxyalkylation of gambier tanninâßynthesis and characterization of ensuing biobased polyols. 2015 , 67, 295-304	37
1302	Thermal properties of lignin in copolymers, blends, and composites: a review. 2015 , 17, 4862-4887	286
1301	Flame retardant lignin-based silicone composites. 2015 , 5, 103907-103914	33
1300	Coagulation behavior and floc structure characteristics of cationic lignin-based polymer-polyferric chloride dual-coagulants under different coagulation conditions. 2015 , 5, 100030-100038	16
1299	Catalytic Hydrogenolysis of Aryl Ethers: A Key Step in Lignin Valorization to Valuable Chemicals. 2015 , 5, 1675-1684	173
1298	Kraft lignin as filler in PLA to improve ductility and thermal properties. 2015 , 72, 46-53	160
1297	Biomass Effect on 🛘 rradiation Behavior of Some Polypropylene Biocomposites. 2015 , 54, 2404-2413	14
1296	Effects of mesostructured silica catalysts on the depolymerization of organosolv lignin fractionated from woody eucalyptus. 2015 , 180, 222-9	15
1295	UV-absorbent lignin-based multi-arm star thermoplastic elastomers. 2015 , 36, 398-404	75
1294	Chemical modification of tannins to elaborate aromatic biobased macromolecular architectures. 2015 , 17, 2626-2646	178
1293	Lignopolyurethanic materials based on oxypropylated sodium lignosulfonate and castor oil blends. 2015 , 72, 77-86	46
1292	Synthesis of porous lignin xanthate resin for Pb2+ removal from aqueous solution. 2015 , 270, 229-234	121
1291	Acidic ionic liquids as sustainable approach of cellulose and lignocellulosic biomass conversion without additional catalysts. 2015 , 8, 947-65	159

1290	In situ trapping of enol intermediates with alcohol during acid-catalysed de-polymerisation of lignin in a nonpolar solvent. 2015 , 17, 2780-2783	46
1289	Characterization of fast-pyrolysis bio-oil distillation residues and their potential applications. 2015 , 114, 179-186	43
1288	Characterization of Lignin Dissolved During Alkaline Pretreatment of Softwood and Hardwood. 2015 , 35, 337-347	12
1287	Development of Lignin Supramolecular Hydrogels with Mechanically Responsive and Self-Healing Properties. 2015 , 3, 2160-2169	138
1286	Multi-arm carriers composed of an antioxidant lignin core and poly(glycidyl methacrylate-co-poly(ethylene glycol)methacrylate) derivative arms for highly efficient gene delivery. 2015 , 3, 6897-6904	59
1285	Laccase mediated oxidation of industrial lignins: Is oxygen limiting?. 2015 , 50, 1277-1283	35
1284	Physico-chemical properties of fractionated softwood kraft lignin and its potential use as a bio-based component in blends with polyethylene. 2015 , 50, 6395-6406	16
1283	Water soluble kraft ligninâ⊞crylic acid copolymer: synthesis and characterization. 2015 , 17, 4355-4366	74
1282	Engineering highly stretchable lignin-based electrospun nanofibers for potential biomedical applications. 2015 , 3, 6194-6204	128
1281	UV Cross-Linkable Lignin Thermoplastic Graft Copolymers. 2015 , 3, 1839-1845	37
1280	Preparation and characterization of high boiling solvent lignin-based polyurethane film with lignin as the only hydroxyl group provider. 2015 , 5, 53949-53955	32
		32 106
	as the only hydroxyl group provider. 2015 , 5, 53949-53955	
1279	as the only hydroxyl group provider. 2015 , 5, 53949-53955 A biocatalytic approach towards sustainable furanicâEliphatic polyesters. 2015 , 6, 5198-5211 Environmentally benign synthesis of saturated and unsaturated aliphatic polyesters via enzymatic	106
1279 1278	as the only hydroxyl group provider. 2015 , 5, 53949-53955 A biocatalytic approach towards sustainable furanicalliphatic polyesters. 2015 , 6, 5198-5211 Environmentally benign synthesis of saturated and unsaturated aliphatic polyesters via enzymatic polymerization of biobased monomers derived from renewable resources. 2015 , 6, 5451-5463	106
1279 1278 1277	as the only hydroxyl group provider. 2015, 5, 53949-53955 A biocatalytic approach towards sustainable furanicâEliphatic polyesters. 2015, 6, 5198-5211 Environmentally benign synthesis of saturated and unsaturated aliphatic polyesters via enzymatic polymerization of biobased monomers derived from renewable resources. 2015, 6, 5451-5463 Renewable (semi)aromatic polyesters from symmetrical vanillin-based dimers. 2015, 6, 6058-6066 Surface-Functionalized Porous Lignin for Fast and Efficient Lead Removal from Aqueous Solution.	106 61 105
1279 1278 1277 1276	as the only hydroxyl group provider. 2015, 5, 53949-53955 A biocatalytic approach towards sustainable furanicalliphatic polyesters. 2015, 6, 5198-5211 Environmentally benign synthesis of saturated and unsaturated aliphatic polyesters via enzymatic polymerization of biobased monomers derived from renewable resources. 2015, 6, 5451-5463 Renewable (semi)aromatic polyesters from symmetrical vanillin-based dimers. 2015, 6, 6058-6066 Surface-Functionalized Porous Lignin for Fast and Efficient Lead Removal from Aqueous Solution. 2015, 7, 15000-9	106 61 105

1272	Synthesis of Lignin-Based Epoxy Resin in Ionic Liquid [BMIm]Cl. 2015 , 740, 51-54	1
1271	Ligninpulver als F^ 🛭 stoff f^ 🖟 thermoplastische Leichtbaukomponenten. 2015 , 117, 52-57	1
1270	Lignin Powder as a Filler for Thermoplastic Lightweight Design Components. 2015 , 117, 32-35	5
1269	Effect of ball milling on lignin polyesterification with Eaprolactone. 2015 , 69, 297-302	6
1268	Conversion of technical lignins to functional materials with retained polymeric properties. 2015 , 61, 230-250	95
1267	Lignocellulosic biomass: a sustainable platform for the production of bio-based chemicals and polymers. 2015 , 6, 4497-4559	1391
1266	Electrically conductive kraft lignin-based carbon filler for polymers. 2015 , 89, 161-168	19
1265	Chemical modification of lignin by phosphorus molecules to improve the fire behavior of polybutylene succinate. 2015 , 113, 135-143	82
1264	Triglyceride-based thermosetting resins with different reactive diluents and fiber reinforced composite applications. 2015 , 72, 192-199	35
1263	Hardwood and softwood kraft lignins fractionation by simple sequential acid precipitation. 2015 , 154, 82-88	78
1262	New poly(ether urethane)s based on lignin derived aromatic chemicals via A-B monomer approach: Synthesis and characterization. 2015 , 71, 547-557	11
1261	Graphitic Biocarbon from Metal-Catalyzed Hydrothermal Carbonization of Lignin. 2015 , 54, 10731-10739	75
1260	Degradation on hydrogenolysis of soda lignin using CuO/SO 4 2â[/ZrO 2 as catalyst. 2015 , 77, 451-457	19
1259	An efficient hole transport material based on PEDOT dispersed with lignosulfonate: preparation, characterization and performance in polymer solar cells. 2015 , 3, 21537-21544	56
1258	Structureâ Eunction Relationships in the Phenolation of Lignins from Different Sources. 2015 , 3, 2526-2532	46
1257	Preparation of lignin-containing porous microspheres through the copolymerization of lignin acrylate derivatives with styrene and divinylbenzene. 2015 , 69, 769-776	23
1256	ADMET polymerization of bio-based biphenyl compounds. 2015 , 6, 7693-7700	41
1255	Effect of lignin nanoparticles and masterbatch procedures on the final properties of glycidyl methacrylate- g -poly (lactic acid) films before and after accelerated UV weathering. 2015 , 77, 833-844	66

1254	Flexible polyurethane foams green production employing lignin or oxypropylated lignin. 2015 , 64, 147-156	120
1253	Characterization of Fractions Obtained from Two Industrial Softwood Kraft Lignins. 2015 , 3, 103-110	48
1252	Sustainable carbon materials. 2015 , 44, 250-90	826
1251	Bio-based polymer networks by thiolâline photopolymerizations of allyl-etherified eugenol derivatives. 2015 , 67, 397-408	62
1250	New vanillin-derived diepoxy monomers for the synthesis of biobased thermosets. 2015 , 67, 527-538	150
1249	Isolation and characterization of lignin from the oak wood bioethanol production residue for adhesives. 2015 , 72, 1056-62	25
1248	Biomass-derived materials for electrochemical energy storages. <i>Progress in Polymer Science</i> , 2015 , 43, 136-164	199
1247	Recent advances in green hydrogels from lignin: a review. 2015 , 72, 834-47	407
1246	Lignin as Building Unit for Polymers. 2016 ,	
1245	Lignin Phenol Formaldehyde Resoles: The Impact of Lignin Type on Adhesive Properties. 2016 , 11,	40
1244	Characterization of Carbonized Electrospun Lignin Fibers. 2016 , 72, 38-41	
1243	Effect of Alkaline Peroxide Pre-treatment on Microfibrillated Cellulose from Oil Palm Fronds Rachis Amenable for Pulp and Paper and Bio-composite Production. 2016 , 11,	12
1242	Recovery and Utilization of Lignin Monomers as Part of the Biorefinery Approach. 2016, 9, 808	60
1241	Microwave-Assisted EValerolactone Production for Biomass Lignin Extraction: A Cascade Protocol. 2016 , 21, 413	22
1240	Wege zur Verwertung von Lignin: Fortschritte in der Biotechnik, der Bioraffination und der Katalyse. 2016 , 128, 8296-8354	132
1239	Paving the Way for Lignin Valorisation: Recent Advances in Bioengineering, Biorefining and Catalysis. 2016 , 55, 8164-215	1136
1238	Reductive Depolymerization of Kraft and Organosolv Lignin in Supercritical Acetone for Chemicals and Materials. 2016 , 8, 1968-1976	25
1237	Polyethylene/Other Biomaterials-based Biocomposites and Bionanocomposites. 2016 , 279-314	4

1236	Thermal Study of Gels Obtained From Resol Type Phenolic Resins Modified With Lignin. 2016 , 370, 7-16	2
1235	Lignin: A sustainable biosorbent for heavy metal adsorption from wastewater, a review. 2016 ,	12
1234	Engineering physical and chemical properties of softwood kraft lignin by fatty acid substitution. 2016 , 89, 128-134	16
1233	Preparation and characterization of bark-derived phenol formaldehyde foams. 2016 , 6, 40975-40981	24
1232	A comparative study on the preparation of redox active bioorganic thin films based on lignosulfonate and conducting polymers. 2016 , 204, 108-117	18
1231	Influence of lignin source and esterification on properties of lignin-polyethylene blends. 2016 , 86, 320-328	77
1230	Stability of the Lignins and their Potential in Production of Bioplastics. 2016 , 688, 25-30	1
1229	Comparison of lignin extraction processes: Economic and environmental assessment. 2016 , 214, 468-476	73
1228	Biodegradation as natural fibre pre-treatment in composite manufacturing. 2016 , 4, 8-17	6
1227	Lignin-ester derivatives as novel thermoplastic materials. 2016 , 6, 86909-86917	21
1226	Synthesis of Lignin-Based Nanomaterials/Nanocomposites: Recent Trends and Future Perspectives. 2016 , 12, 153-160	18
1225	Pretreatment processes for lignocellulosic biomass conversion to biofuels and bioproducts. 2016 , 2, 48-53	99
1224	From lignin association to nano-/micro-particle preparation: extracting higher value of lignin. 2016 , 18, 5693-5700	140
1223	Lignin Biodegradation with Fungi, Bacteria and Enzymes for Producing Chemicals and Increasing Process Efficiency. 2016 , 147-179	7
1222	Chemical Modification of Lignin for Renewable Polymers or Chemicals. 2016 , 183-216	6
1221	Utilization of waste lignin to prepare controlled-slow release urea. 2016 , 5, 289-299	35
1220	Fibrous residues of palm oil as a source of green chemical building blocks. 2016 , 94, 480-489	16
1219	Self-Healing Properties of Lignin-Containing Nanocomposite: Synthesis of Lignin-graft-poly(5-acetylaminopentyl acrylate) via RAFT and Click Chemistry. 2016 , 49, 7246-7256	55

1218	Effects of an alkali-acid purification process on the characteristics of eucalyptus lignin fractionated from a MIBK-based organosolv process. 2016 , 6, 92638-92647	13
1217	Polymer-Based Organic Batteries. 2016 , 116, 9438-84	677
1216	Advances in the synthesis of bio-based aromatic polyesters: novel copolymers derived from vanillic acid and Etaprolactone. 2016 , 7, 5396-5406	31
1215	Synthesis of a cardanol-based phosphorus-containing polyurethane prepolymer and its application in phenolic foams. 2016 , 6, 62999-63005	37
1214	An approach towards tailoring interfacial structures and properties of multiphase renewable thermoplastics from ligninativile rubber. 2016 , 18, 5423-5437	27
1213	Preparation of renewable lignin-derived nitrogen-doped carbon nanospheres as anodes for lithium-ion batteries. 2016 , 6, 77143-77150	33
1212	Lignin-derivatives based polymers, blends and composites: A review. 2016 , 93, 296-313	201
1211	Polymers from Monomers Derived from Biomass. 2016 , 315-350	2
121 0	From Lignin-derived Aromatic Compounds to Novel Biobased Polymers. 2016 , 37, 9-28	220
1209	Sheet-Like Lignin Particles as Multifunctional Fillers in Polypropylene. 2016 , 4, 4997-5004	40
1208	Bio-based polycarbonates derived from the neolignan honokiol. 2016 , 6, 81672-81679	9
1207	Progress toward Lignin Valorization via Selective Catalytic Technologies and the Tailoring of Biosynthetic Pathways. 2016 , 4, 5123-5135	61
1206	Pretreatment Processes for Cellulosic Ethanol Production: Processes Integration and Modeling for the Utilization of Lignocellulosics Such as Sugarcane Straw. 2016 , 107-131	6
1205	New Insights on the Chemical Modification of Lignin: Acetylation versus Silylation. 2016 , 4, 5212-5222	59
1204	Dual functional anti-oxidant and SPF enhancing lignin-based copolymers as additives for personal and healthcare products. 2016 , 6, 86420-86427	38
1203	Synthesis of pH-Responsive Lignin-Based Nanocapsules for Controlled Release of Hydrophobic Molecules. 2016 , 4, 5204-5211	110
1202	Renewability is not Enough: Recent Advances in the Sustainable Synthesis of Biomass-Derived Monomers and Polymers. 2016 , 22, 11510-21	176
1201	Towards Biobased Aromatic Polymers from Lignins. 2016 , 385-436	4

1200	Tannins: A Resource to Elaborate Aromatic and Biobased Polymers. 2016 , 97-148	5
1199	Biobased Amines: From Synthesis to Polymers; Present and Future. 2016 , 116, 14181-14224	318
1198	A New Class of Renewable Thermoplastics with Extraordinary Performance from Nanostructured Lignin-Elastomers. 2016 , 26, 2677-2685	64
1197	Lignin Epoxy Composites: Preparation, Morphology, and Mechanical Properties. 2016 , 301, 328-336	38
1196	Synthesis and Characterization of Biodegradable Lignin Nanoparticles with Tunable Surface Properties. 2016 , 32, 6468-77	166
1195	Influence of Oxygen and Mediators on Laccase-Catalyzed Polymerization of Lignosulfonate. 2016 , 4, 5303-5310	35
1194	Enriching Heteroelements in Lignin as Lubricating Additives for Bioionic Liquids. 2016, 4, 3877-3887	30
1193	Lignin and soy oil-derived polymeric biocomposites by ågrafting fromålRAFT polymerization. 2016 , 18, 4974-4981	54
1192	Modification of Eucalyptus and Spruce organosolv lignins with fatty acids to use as filler in PLA. 2016 , 104, 45-52	25
1191	Epoxidation and etherification of alkaline lignin to prepare water-soluble derivatives and its performance in improvement of enzymatic hydrolysis efficiency. 2016 , 9, 87	25
1190	Synthesis and Characterization of Photoprocessable Lignin-Based Azo Polymer. 2016 , 4, 4036-4042	40
1189	Lignin-Based Thermoplastic Materials. 2016 , 9, 770-83	145
1188	Effect of mechanical activation on structure changes and reactivity in further chemical modification of lignin. 2016 , 91, 1081-9	20
1187	Influence of Lignin Features on Thermal Stability and Mechanical Properties of Natural Rubber Compounds. 2016 , 4, 5258-5267	58
1186	Miscible raw lignin/nylon 6 blends: Thermal and mechanical performances. 2016 , 133, n/a-n/a	21
1185	High-yield and high-calorific bio-oil production from concentrated sulfuric acid hydrolysis lignin in supercritical ethanol. 2016 , 172, 238-247	86
1184	Synthesis and characterization of renewable woody nanoparticles fluorescently labeled by pyrene. 2016 , 83, 663-669	16
1183	Thermochemical properties of cellulose acetate blends with acetosolv and sawdust lignin: A comparative study. 2016 , 83, 403-9	14

1182	Hybrid materials from organic electronic conductors and synthetic-lignin models for charge storage applications. 2016 , 4, 1931-1940	26
1181	Strategies for the Conversion of Lignin to High-Value Polymeric Materials: Review and Perspective. 2016 , 116, 2275-306	789
1180	Vanillin Production from Lignin and Its Use as a Renewable Chemical. 2016 , 4, 35-46	428
1179	Lignosulfonate as reinforcement in polyvinyl alcohol film: Mechanical properties and interaction analysis. 2016 , 83, 209-15	36
1178	Phosphorylation of lignin to flame retard acrylonitrile butadiene styrene (ABS). 2016 , 127, 32-43	69
1177	Development of an automated, advanced fluid dynamic gauge for cake fouling studies in cross-flow filtrations. 2016 , 238, 282-296	9
1176	Softwood Lignin-Based Methacrylate Polymers with Tunable Thermal and Viscoelastic Properties. 2016 , 49, 1286-1295	105
1175	Chemical and physical characteristics of optimal synthesised activated carbons from grass-derived sulfonated lignin versus commercial activated carbons. 2016 , 225, 504-514	50
1174	Lignin-derived hierarchical porous carbon for high-performance supercapacitors. 2016 , 20, 1405-1412	34
1173	Fractionation of Industrial Softwood Kraft Lignin: Solvent Selection as a Tool for Tailored Material Properties. 2016 , 4, 2232-2242	86
1172	Production of Flocculant from Thermomechanical Pulping Lignin via Nitric Acid Treatment. 2016 , 4, 1954-196.	2 31
1171	Assesment of technical lignins for uses in biofuels and biomaterials: Structure-related properties, proximate analysis and chemical modification. 2016 , 83, 155-165	143
1170	Renewable polymers from lignin via copper-free thermal click chemistry. 2016 , 83, 92-100	58
1169	Extraction and Types of Lignin. 2016 , 13-25	20
1168	Towards lignin-based functional materials in a sustainable world. 2016 , 18, 1175-1200	668
1167	Oxidation of Lignins and Mechanistic Considerations. 2016 , 131-144	
1166	Modification of condensed tannins: from polyphenol chemistry to materials engineering. 2016, 40, 36-49	56
1165	Epoxy thermosets from model mixtures of the lignin-to-vanillin process. 2016 , 18, 712-725	81

1164	Reaction Pathways and Mechanisms in Thermocatalytic Biomass Conversion II. 2016 ,	1
1163	A simple process for lignin nanoparticle preparation. 2016 , 18, 1416-1422	328
1162	Characterization of carbon nanofiber mats produced from electrospun lignin-g-polyacrylonitrile copolymer. 2016 , 82, 497-504	41
1161	Effects of NCO:OH ratio on the mechanical properties and chemical structure of Kraft ligninâBased polyurethane adhesive. 2017 , 93, 18-29	35
1160	Evaluation of Kraft lignin as natural compatibilizer in wood flour/polypropylene composites. 2017 , 38, 2387-2394	10
1159	Nano-sized nickel catalyst for deep hydrogenation of lignin monomers and first-principles insight into the catalyst preparation. 2017 , 5, 3948-3965	25
1158	In'vitro evaluation of biodegradable lignin-based nanoparticles for drug delivery and enhanced antiproliferation effect in cancer cells. 2017 , 121, 97-108	217
1157	Biological valorization strategies for converting lignin into fuels and chemicals. 2017 , 73, 610-621	127
1156	Poly(ether urethane)s from aromatic diisocyanates based on lignin-derived phenolic acids. 2017 , 66, 892-899	15
1155	A renewable bio-based epoxy resin with improved mechanical performance that can compete with DGEBA. 2017 , 7, 8694-8701	84
1154	Quality carbon fibers from fractionated lignin. 2017, 19, 1628-1634	94
1153	Properties of flexible polyurethane foams containing isocyanate functionalized kraft lignin. 2017 , 100, 51-64	63
1152	One-pot lignin extraction and modification in Evalerolactone from steam explosion pre-treated lignocellulosic biomass. 2017 , 151, 152-162	32
1151	Fabrication of partially biobased carbon fibers from novel lignosulfonateâEcrylonitrile copolymers. 2017 , 52, 7439-7451	9
1150	Biodegradable glycerol-based polymeric composites filled with industrial waste materials. 2017 , 51, 4029-403	94
1149	Graphene-like carbon sheet/Fe3O4 nanocomposites derived from soda papermaking black liquor for high performance lithium ion batteries. 2017 , 232, 550-560	32
1148	Preparation and Applications of Polymers with Pendant Fatty Chains from Plant Oils. 2017, 181-207	4
1147	Valorizing Recalcitrant Cellulolytic Enzyme Lignin via Lignin Nanoparticles Fabrication in an Integrated Biorefinery. 2017 , 5, 2702-2710	77

1146	Micelles versus Ribbons: How Congeners Drive the Self-Assembly of Acidic Sophorolipid Biosurfactants. 2017 , 18, 643-652	23
1145	Effect of steam explosion treatment on chemical composition and characteristic of organosolv fescue lignin. 2017 , 99, 79-85	24
1144	Production and Application of Lignosulfonates and Sulfonated Lignin. 2017, 10, 1861-1877	307
1143	Novel Porous Materials Obtained from Technical Lignins and Their Methacrylate Derivatives Copolymerized with Styrene and Divinylbenzene. 2017 , 2, 2257-2264	4
1142	New approach in the application of lignin for the synthesis of hybrid materials. 2017 , 89, 161-171	21
1141	Solvent- and Halogen-Free Modification of Biobased Polyphenols to Introduce Vinyl Groups: Versatile Aromatic Building Blocks for Polymer Synthesis. 2017 , 10, 1813-1822	13
1140	Chemical structure and thermal properties of lignin modified with polyethylene glycol during steam explosion. 2017 , 51, 135-150	9
1139	Synthesis of Renewable Thermoset Polymers through Successive Lignin Modification Using Lignin-Derived Phenols. 2017 , 5, 5059-5066	87
1138	Chemical Modification of Methanol-Insoluble Kraft Lignin Using Oxypropylation Under Mild Conditions for the Preparation of Bio-Polyester. 2017 , 37, 334-342	11
1137	Replacing 100% of phenol in phenolic adhesive formulations with lignin. 2017 , 134, 45124	89
1136	Chemical modification and plasma-induced grafting of pyrolitic lignin. Evaluation of the reinforcing effect on lignin/poly(l -lactide) composites. 2017 , 118, 280-296	16
1135	Microbial treatment of industrial lignin: Successes, problems and challenges. 2017 , 77, 1179-1205	61
1134	Renewable Thermoplastics Based on Lignin-Derived Polyphenols. 2017 , 50, 3573-3581	60
1133	Supramolecular assemblies of lignin into nano- and microparticles. 2017 , 42, 371-378	56
1132	Epoxidation of Methanol-Soluble Kraft Lignin for Lignin-Derived Epoxy Resin and Its Usage in the Preparation of Biopolyester. 2017 , 37, 433-442	11
1131	Biosorption of Lead (II) onto soda lignin gels extracted from Nypa fruiticans. 2017 , 5, 2708-2717	24
1130	Engineered Bacillus pumilus laccase-like multi-copper oxidase for enhanced oxidation of the lignin model compound guaiacol. 2017 , 30, 449-453	13
1129	Fungal Biotransformation of Insoluble Kraft Lignin into a Water Soluble Polymer. 2017 , 56, 6103-6113	11

1128	Kraft Lignin-Based Polyols by Microwave: Optimizing Reaction Conditions. 2017 , 37, 343-358	8
1127	Bio-based flame retardants: When nature meets fire protection. 2017 , 117, 1-25	267
1126	Driving forces and obstacles to nuclear cogeneration in Europe: Lessons learnt from Finland. 2017 , 107, 138-150	25
1125	Biomass-derived carbon electrode materials for supercapacitors. 2017 , 1, 1265-1281	198
1124	Engineering Hydrogen Bonding Interaction and Charge Separation in Bio-Polymers for Green Lubrication. 2017 , 121, 5669-5678	14
1123	Lignocellulosic Biomass Utilization for the Production of Sustainable Chemicals and Polymers. 2017 , 215-245	1
1122	Lignin nanoparticles by ultrasonication and their incorporation in waterborne polymer nanocomposites. 2017 , 134, 45318	51
1121	Modification of oil palm fronds lignin by incorporation of m-cresol for improving structural and antioxidant properties. 2017 , 104, 251-260	11
1120	Lignocellulosics as sustainable resources for production of bioplastics âl'A review. 2017 , 162, 646-664	215
1119	Lignin derived reduced fluorescence carbon dots with theranostic approaches: Nano-drug-carrier and bioimaging. 2017 , 190, 492-503	54
1118	Use of almond shell as food ingredient. 2017 , 243, 2115-2126	3
1117	Bio-oil from fast pyrolysis of lignin: Effects of process and upgrading parameters. 2017 , 241, 1118-1126	136
1116	Liquefied walnut shell-derived carbon nanofibrous mats as highly efficient anode materials for lithium ion batteries. 2017 , 7, 27113-27120	13
1115	Enzymatic synthesis of biobased poly(1,4-butylene succinate-ran-2,3-butylene succinate) copolyesters and characterization. Influence of 1,4- and 2,3-butanediol contents. 2017 , 93, 103-115	10
1114	Sustainable and Antioxidant Ligninâ P olyester Copolymers and Nanofibers for Potential Healthcare Applications. 2017 , 5, 6016-6025	112
1113	From lignin subunits to aggregates: insights into lignin solubilization. 2017 , 19, 3272-3281	89
1112	Revealing the structure and distribution changes of Eucalyptus lignin during the hydrothermal and alkaline pretreatments. 2017 , 7, 593	38
1111	Lignin depolymerization for phenolic monomers production by sustainable processes. 2017 , 26, 622-631	54

1110	Energy Crops. 2017 , 164-176	O
1109	Phosphorylation of lignin: characterization and investigation of the thermal decomposition. 2017 , 7, 16866-16877	33
1108	Sustainable Synthetic Approaches for the Preparation of Plant Oil-Based Thermosets. 2017 , 94, 169-186	35
1107	Lignin-Based Materials Through Thiol-Maleimide "Click" Polymerization. 2017 , 10, 984-992	30
1106	Esterification of industrial lignin and its effect on the resulting poly(3-hydroxybutyrate-co-3-hydroxyvalerate) or polypropylene blends. 2017 , 97, 281-291	49
1105	Recent advances in vegetable oil-based polymers and their composites. <i>Progress in Polymer Science</i> , 29 .6	363
1104	Fractionation and Characterization of Kraft Lignin by Sequential Precipitation with Various Organic Solvents. 2017 , 5, 835-842	95
1103	Lignocellulose-Biorefinery: Ethanol-Focused. 2019 , 166, 177-215	11
1102	Exploiting Lignin: A Green Resource. 2017 , 91-116	3
1101	Biodegradable and High-Performance Poly(butylene adipate-co-terephthalate)â∏ignin UV-Blocking Films. 2017 , 5, 10342-10351	76
1100	Reactivity improvement of cellulolytic enzyme lignin via mild hydrothermal modification. 2017 , 75, 173-180	2
1099	Added value of lignin as lignin-based hybrid polyurethane for a compatibilizing agent. 2017 , 223, 012033	9
1098	Oxidative Coupling of ^ EO-4? Dilignol Models Leading to Polycyclic Products with Rare Interlignol Linkages. 2017 , 6, 1745-1748	1
1097	Antimicrobial kinetic activities of lignin from sugarcane bagasse for textile product. 2017 , 109, 857-861	22
1096	Renewable Thiolâ E ne Thermosets Based on Refined and Selectively Allylated Industrial Lignin. 2017 , 5, 10918-10925	38
1095	Oxidation of Kraft Lignin with Hydrogen Peroxide and its Application as a Dispersant for Kaolin Suspensions. 2017 , 5, 10597-10605	48
1094	Kraft Lignin as Electrode Material for Sustainable Electrochemical Energy Storage. 2017 , 4, 1700698	35
1093	Influence of epoxidation conditions on the rheological properties of gel-like dispersions of epoxidized kraft lignin in castor oil. 2017 , 71, 777-784	13

1092	Lignin inspired phenolic polyethers synthesized via ADMET: Systematic structure-property investigation. 2017 , 95, 503-513	12
1091	Vibrational spectroscopy studies of structural changes in lignin under microwave irradiation. 2017 , 91, 1717-1729	9
1090	Partially bio-based poly(amide imide)s by polycondensation of aromatic diacylhydrazides based on lignin-derived phenolic acids and aromatic dianhydrides: Synthesis, characterization, and computational studies. 2017 , 55, 3636-3645	10
1089	Grafting of Technical Lignins through Regioselective Triazole Formation on EO-4 Linkages. 2017 , 5, 10640-106	54 <u>8</u> 2
1088	Fundamental Science and Applications for Biomaterials. 2017 , 39-62	
1087	Cyclic Carbonates as Safe and Versatile Etherifying Reagents for the Functionalization of Lignins and Tannins. 2017 , 5, 7334-7343	56
1086	Preparation, Characterization, and Applications of Nanomaterials (Cellulose, Lignin, and Silica) from Renewable (Lignocellulosic) Resources. 2017 , 1-66	2
1085	Softwood Lignin Self-Assembly for Nanomaterial Design. 2017 , 18, 2649-2653	38
1084	Effect of Methoxy Substituent Position on Thermal Properties and Solvent Resistance of Lignin-Inspired Poly(dimethoxyphenyl methacrylate)s. 2017 , 6, 802-807	42
1083	Lignin Nanoparticle as a Novel Green Carrier for the Efficient Delivery of Resveratrol. 2017 , 5, 8241-8249	195
	Lignin Nanoparticle as a Novel Green Carrier for the Efficient Delivery of Resveratrol. 2017, 5, 8241-8249 . 2017,	195
1082	. 2017, Novel multidimensional carbons from structural transformations of waste lignin: A low	1
1082	. 2017, Novel multidimensional carbons from structural transformations of waste lignin: A low temperature pyrolysis investigation. 2017, 166, 312-321	1
1082 1081 1080	. 2017, Novel multidimensional carbons from structural transformations of waste lignin: A low temperature pyrolysis investigation. 2017, 166, 312-321 Synthesis and Characterization of Bio-oil-Based Self-Curing Epoxy Resin. 2017, 56, 9389-9400 Mechanical fabrication of high-strength and redispersible wood nanofibers from unbleached	1 18 30
1082 1081 1080	. 2017, Novel multidimensional carbons from structural transformations of waste lignin: A low temperature pyrolysis investigation. 2017, 166, 312-321 Synthesis and Characterization of Bio-oil-Based Self-Curing Epoxy Resin. 2017, 56, 9389-9400 Mechanical fabrication of high-strength and redispersible wood nanofibers from unbleached groundwood pulp. 2017, 24, 4173-4187	1 18 30 42
1082 1081 1080 1079 1078	. 2017, Novel multidimensional carbons from structural transformations of waste lignin: A low temperature pyrolysis investigation. 2017, 166, 312-321 Synthesis and Characterization of Bio-oil-Based Self-Curing Epoxy Resin. 2017, 56, 9389-9400 Mechanical fabrication of high-strength and redispersible wood nanofibers from unbleached groundwood pulp. 2017, 24, 4173-4187 Development of sustainable bio-adhesives for engineered wood panels âl'A Review. 2017, 7, 38604-38630	1 18 30 42 165

1074	Functionalized lignin biomaterials for enhancing optical properties and cellular interactions of dyes. 2017 , 5, 2114-2121	6
1073	Hydrogen Production by Direct Lignin Electrolysis at Intermediate Temperatures. 2017 , 4, 3032-3036	34
1072	Thermally healable and remendable lignin-based materials through Diels âDAlder click polymerization. 2017 , 133, 78-88	41
1071	Assembly of Organosolv Lignin Residues into Submicron Spheres: The Effects of Granulating in Ethanol/Water Mixtures and Homogenization. 2017 , 2, 2858-2865	20
1070	Transformation of lignin from bioethanol production for phenol substitution in resins. 2017 , 51, 1209-1225	7
1069	A comparative study on selective properties of Kraft ligninâBatural rubber composites containing different plasticizers. 2017 , 26, 453-466	19
1068	Assessment of modified lignin cationic emulsifier for bitumen emulsions used in road paving. 2017 , 131, 242-251	33
1067	Layer-by-layer self-assembly of a ligninâpoly(vinyl alcohol) based polyelectrolyte with a conductivity method. 2017 , 134,	3
1066	Straw fibre-based construction materials. 2017 , 257-283	5
1065	Forest biomass supply chain optimization for a biorefinery aiming to produce high-value bio-based materials and chemicals from lignin and forestry residues: a review of literature. 2017 , 47, 277-288	26
1064	Green Biocomposites. 2017,	11
1063	Molecular docking and molecular dynamics simulation analyses of urea with ammoniated and ammoxidized lignin. 2017 , 71, 58-69	11
1062	Yes, we can make money out of lignin and other bio-based resources. 2017 , 106, 74-85	88
1061	Thermal degradation behavior of lignin-modified porous styrene-divinylbenzene and styrene-bisphenol A glycerolate diacrylate copolymer microspheres. 2017 , 123, 364-375	16
1060	Valorization of Lignin: Effective Conversion of Depolymerized Lignin to Oil by Simple Chemical Modifications. 2017 , 8, 2029-2036	6
1059	Manufacturing of Natural Fiber/Agrowaste Based Polymer Composites. 2017 , 125-147	5
1058	Effect of Modified Lignin Sulfonate on Controlled-Release Urea in Soil. 2017 , 25, 792-799	13
1057	Lignin valorization from side-streams produced during agricultural waste pulping and total chlorine free bleaching. 2017 , 142, 2609-2617	44

1056	Efficient solid-phase synthesis of acetylated lignin and a comparison of the properties of different modified lignins. 2017 , 134,	15
1055	Hydrotreating and hydrothermal treatment of alkaline lignin as technological valorization options for future biorefinery concepts: a review. 2017 , 92, 257-270	16
1054	Esterified organosolv lignin as hydrophobic agent for use on wood products. 2017 , 103, 143-151	28
1053	Structural behavior of coal obtained from Kraft lignin at different carbonizing rates. 2017 , 4, 11617-11623	4
1052	Effect of lignin on morphology, biodegradability, mechanical and thermal properties of low linear density polyethylene/lignin biocomposites. 2017 , 223, 012022	3
1051	Characteristics of Ampel bamboo as a biomass energy source potential in Bali. 2017 , 201, 012032	5
1050	Deutsche Gesellschaft f^ EKristallographie. 2017 , 1-141	
1049	Comprehensive approach on the structure, production, processing, and application of lignin. 2017 , 165-178	4
1048	Lignin from Micro- to Nanosize: Applications. 2017 , 18,	97
1047	Exploitation of Arundo donax L. Hydrolysis Residue for the Green Synthesis of Flexible Polyurethane Foams. 2017 , 12,	18
1046	Bio-Based Aromatic Epoxy Monomers for Thermoset Materials. 2017 , 22,	91
1045	Analysis of the Cross-Linking Reaction of Lignin with Triethyl Phosphate by MALDI-TOF and C NMR. 2017 , 9,	6
1044	Catalyzed Synthesis and Characterization of a Novel Lignin-Based Curing Agent for the Curing of High-Performance Epoxy Resin. 2017 , 9,	37
1043	Hydrogenolysis and Activation of Soda Lignin Using [BMIM]Cl as a Catalyst and Solvent. 2017, 9,	9
1042	Lignin from Micro- to Nanosize: Production Methods. 2017 , 18,	106
1041	Functional Hybrid Materials Based on Manganese Dioxide and Lignin Activated by Ionic Liquids and Their Application in the Production of Lithium Ion Batteries. 2017 , 18,	13
1040	Mechanical Strength, Thermal Stability, and Hydrophobicity of Fiber Materials after Removal of Residual Lignin. 2017 , 13,	6
1039	Lignin nano- and microparticles as template for nanostructured materials: formation of hollow metal-phenolic capsules. 2018 , 20, 1335-1344	51

1038	Thermal properties and thermal stabilization of lignosulfonate-acrylonitrile-itaconic acid terpolymer for preparation of carbon fiber. 2018 , 150, 57-66	13
1037	Coconut coir pith lignin: A physicochemical and thermal characterization. 2018 , 113, 1149-1157	15
1036	Strong and Flexible Nanocomposites of Carboxylated Cellulose Nanofibril Dispersed by Industrial Lignin. 2018 , 6, 5524-5532	27
1035	Partially bio-based aromatic polyimides derived from 2,5-furandicarboxylic acid with high thermal and mechanical properties. 2018 , 56, 1058-1066	11
1034	Valorization of Soda Lignin from Wheat Straw Solid-State Fermentation: Production of Oleogels. 2018 , 6, 5198-5205	20
1033	Further insight into the roles of the chemical composition of dissolved organic matter (DOM) on ultrafiltration membranes as revealed by multiple advanced DOM characterization tools. 2018 , 201, 168-177	23
1032	Lignin in storage and renewable energy applications: A review. 2018 , 27, 1422-1438	111
1031	Microwave-assisted organosolv extraction of coconut shell lignin by Br [^] fisted and Lewis acids catalysts. 2018 , 189, 785-796	30
1030	Enzymatic Synthesis of Lignin-Based Concrete Dispersing Agents. 2018 , 19, 1365-1369	5
1029	Palladium-Catalyzed Functionalization of Kraft Lignin: Ether Linkages through the Telomerization Reaction. 2018 , 11, 1649-1655	8
1028	A comparison of protic and aprotic ionic liquids as effective activating agents of kraft lignin. Developing functional MnO2/lignin hybrid materials. 2018 , 261, 456-467	17
1027	Thermal and combustion features of rigid polyurethane biofoams filled with four forest-based wastes. 2018 , 39, E1770-E1777	10
1026	Soda lignin from Citrus sinensis bagasse: extraction, NMR characterization and application in bio-based synthesis of silver nanoparticles. 2018 , 3, 87-94	3
1025	Strong and biocompatible lignin /poly (3-hydroxybutyrate) composite nanofibers. 2018 , 158, 26-33	47
1024	Plant cell wall sugars: sweeteners for a bio-based economy. 2018 , 164, 27-44	9
1023	Dimethyl Sulfoxide Assisted Ionic Liquid Pretreatment of Switchgrass for Isoprenol Production. 2018 , 6, 4354-4361	24
1022	Ultrasound-Assisted Extraction of Antioxidant and Antibacterial Phenolic Compounds from Steam-Exploded Sugarcane Bagasse. 2018 , 20, 599-608	13
1021	Electrically Conducting Carbon Microparticles by Direct Carbonization of Spent Wood Pulping Liquor. 2018 , 6, 3385-3391	13

1020	Lignosulfonate/APP IFR and its flame retardancy in lignosulfonate-based rigid polyurethane foams. 2018 , 64, 287-293	26
1019	Microwave-assisted production of optimized pyrolysis liquid oil from oil palm fiber. 2018 , 182, 404-413	39
1018	Synthesis and Thermorheological Analysis of Biobased Lignin-graft-poly(lactide) Copolymers and Their Blends. 2018 , 6, 1650-1661	20
1017	Effect of unmodified kraft lignin concentration on the emulsion and miniemulsion copolymerization of styrene with n-butyl acrylate and methacrylic acid to produce polymer hybrid latex. 2018 , 29, 1094-1106	10
1016	Reactivity of main components and substituent distribution in esterified sugarcane bagasse prepared by effective solid phase reaction. 2018 , 181, 633-641	18
1015	Preparation of Lignosulfonate-Based Carbon Foams by Pyrolysis and Their Use in the Microencapsulation of a Phase Change Material. 2018 , 6, 2453-2461	21
1014	An Acrylonitrileå B utadieneållignin Renewable Skin with Programmable and Switchable Electrical Conductivity for Stress/Strain-Sensing Applications. 2018 , 51, 115-127	24
1013	Valorization of Acid Isolated High Yield Lignin Nanoparticles as Innovative Antioxidant/Antimicrobial Organic Materials. 2018 , 6, 3502-3514	125
1012	Lignin Functionalized with Succinic Anhydride as Building Block for Biobased Thermosetting Polyester Coatings. 2018 , 6, 3392-3401	40
1011	Chemicals from lignin: an interplay of lignocellulose fractionation, depolymerisation, and upgrading. 2018 , 47, 852-908	1125
1010	Evaluation of Ligno Boostâlsoftwood kraft lignin epoxidation as an approach for its application in cured epoxy resins. 2018 , 112, 225-235	32
1009	Laccase modified lignosulfonates as novel binder in pigment based paper coating formulations. 2018 , 123, 20-25	18
1008	Enhancing mechanical properties of epoxy resin using waste lignin and salicylate alumoxane nanoparticles. 2018 , 35, 602-612	13
1007	Performance of UV curable lignin based epoxy acrylate coatings. 2018 , 116, 83-89	30
1006	One-step fabrication of carbonaceous solid acid derived from lignosulfonate for the synthesis of biobased furan derivatives 2018 , 8, 15762-15772	16
1005	Renewable Epoxy Thermosets from Fully Lignin-Derived Triphenols. 2018 , 6, 7600-7608	49
1004	Controlling the sustainability and shape change of the zinc anode in rechargeable aqueous Zn/LiMn2O4 battery. 2018 , 15, 131-138	48
1003	Production of oil palm (Elaeis guineensis) fronds lignin-derived non-toxic aldehyde for eco-friendly wood adhesive. 2018 , 113, 1266-1272	27

1002	Esterified lignins from Pinus caribaea as bentonite-dispersing agents. 2018, 53, 41-51	4
1001	Review on Catalytic Cleavage of Câl Inter-unit Linkages in Lignin Model Compounds: Towards Lignin Depolymerisation. 2018 , 61, 183-198	76
1000	Three-Dimensional Printing of Wood-Derived Biopolymers: A Review Focused on Biomedical Applications. 2018 , 6, 5663-5680	127
999	Structural, morphological, and thermal characterization of kraft lignin and its charcoals obtained at different heating rates. 2018 , 5, 045502	11
998	Synthesis and characterization of water-soluble PEGylated lignin-based polymers by macromolecular azo coupling reaction. 2018 , 29, 143-146	11
997	Thermal stability and fire reaction of poly(butylene succinate) nanocomposites using natural clays and FR additives. 2018 , 29, 69-83	24
996	Graft Polymerization of Acrylic Monomers onto Lignin with CaCl2â⊞2O2 as Initiator: Preparation, Mechanism, Characterization, and Application in Poly(lactic acid). 2018 , 6, 337-348	41
995	Recent advances in polysaccharide bio-based flocculants. 2018 , 36, 92-119	125
994	Electrochemical Lignin Degradation in Ionic Liquids on Ternary Mixed Metal Electrodes. 2018 , 232, 189-208	23
993	Characterization of lignins isolated with alkali from the hydrothermal or dilute-acid pretreated rapeseed straw during bioethanol production. 2018 , 106, 885-892	19
992	Sustainable rubbers and rubber additives. 2018 , 135, 45701	32
991	Potential of producing carbon fiber from biorefinery corn stover lignin with high ash content. 2018 , 135, 45736	25
990	Thermal-oxidative effect of Kraft lignin antioxidant in polypropylene: Uncovering the key factor using correlation analysis model. 2018 , 107, 478-485	9
989	Building and origin of bio-based bismaleimide resins with good processability, high thermal, and mechanical properties. 2018 , 135, 45947	9
988	Bio-based polymers production in a kraft lignin biorefinery: techno-economic assessment. 2018 , 12, 239-250	25
987	Carbon with Expanded and Well-Developed Graphene Planes Derived Directly from Condensed Lignin as a High-Performance Anode for Sodium-Ion Batteries. 2018 , 10, 569-581	48
986	Fast pyrolysis bio-oil as precursor of thermosetting epoxy resins. 2018 , 58, 1296-1307	6
985	Properties and chemical modifications of lignin: Towards lignin-based nanomaterials for biomedical applications. 2018 , 93, 233-269	313

(2018-2018)

984	Paper-based laminates produced with kraft lignin-rich phenolâformaldehyde resoles meet requirements for outdoor usage. 2018 , 76, 481-487	9
983	High-value utilization of eucalyptus kraft lignin: Preparation and characterization as efficient dye dispersant. 2018 , 109, 1232-1238	29
982	Laccase-Catalyzed Synthesis of Low-Molecular-Weight Lignin-Like Oligomers and their Application as UV-Blocking Materials. 2018 , 13, 284-291	10
981	Commercial lignosulfonates from different sulfite processes as partial phenol replacement in PF resole resins. 2018 , 135, 45893	21
980	Properties and Structural Anisotropy of Gel-Spun Lignin/Poly(Vinyl Alcohol) Fibers Due to Gel Aging. 2018 , 6, 679-689	16
979	Effects of Lignin-Derived Polycarboxylic Acids on the Properties of Waterborne Polyurethane Elastomers. 2018 , 2018, 1-7	4
978	Electrically-Conductive Sub-Micron Carbon Particles from Lignin: Elucidation of Nanostructure and Use as Filler in Cellulose Nanopapers. 2018 , 8,	6
977	Biosourced Binder for Wood Particleboards Based on Spent Sulfite Liquor and Wheat Flour. 2018 , 10,	6
976	Green Preparation of Bioplastics Based on Degradation and Chemical Modification of Lignin Residue. 2018 , 38, 460-478	9
975	Utilisation of Lignins in the Bioeconomy: Projections on Ionic Liquids and Molecularly Imprinted Polymers for Selective Separation and Recovery of Base Metals and Gold. 2018 ,	2
974	Functionalized Innovative Carbon Fibers Developed from Novel Precursors with Cost Efficiency and Tailored Properties. 2018 , 5, 27662-27671	O
973	. 2018,	5
972	Lignin Phenol Formaldehyde Resoles Using Base-Catalysed Depolymerized Kraft Lignin. 2018, 10,	17
971	Effect of Lignin and CNTs on the properties of melt-spun polymeric fibers. 2018, 188, 01026	
970	Enhanced electrochromic performances of Polythieno[3,2-b]thiophene with multicolor conversion via embedding EDOT segment. 2018 , 159, 150-156	10
969	Lignin Modifications and Perspectives towards Applications of Phenolic Foams: A Review. 2018 , 13,	2
968	Lignin-based foams as insulation materials: a review. 2018 , 73, 117-130	10
967	Vanillin-Based Polyschiff Vitrimers: Reprocessability and Chemical Recyclability. 2018 , 6, 15463-15470	69

966	Quantitative comparison of surface properties of enzymatic hydrolysis lignin before and after degradation. 2018 , 125, 468-472	2
965	Revealing the deformation mechanism of amorphous polyethylene subjected to cycle loading molecular dynamics simulations 2018 , 8, 32377-32386	7
964	Potential of a short rotation coppice poplar as a feedstock for platform chemicals and lignin-based building blocks. 2018 , 123, 698-706	8
963	The Palladium-Catalyzed Carbonylative Telomerization Reaction with Phenols, Polyphenols and Kraft Lignin. 2018 , 11, 3917-3922	3
962	Preparation and characterization of thermo-sensitive gel with phenolated alkali lignin. 2018, 8, 14450	24
961	Chemical Pulp Mills as Biorefineries. 2018 , 1-51	2
960	Comparative analysis of different lignins as phenol replacement in phenolic adhesive formulations. 2018 , 125, 520-528	38
959	Valorization of Kraft Lignin as Thickener in Castor Oil for Lubricant Applications. 2018 , 6, 347-361	16
958	Fully Bio-Sourced Nylon 11/Raw Lignin Composites: Thermal and Mechanical Performances. 2018 , 26, 4405-4414	6
957	Rigid polyurethane foams from unrefined crude glycerol and technical lignins. 2018 , 9, 111-132	6
956	Study on the Effect of 1-Butanol Soluble Lignin on Temperature-Sensitive Gel. 2018, 10,	8
955	Hybrid Adsorbent Materials Obtained by the Combination of Poly(ethylene-alt-maleic anhydride) with Lignin and Lignosulfonate. 2018 , 26, 4293-4302	10
954	Acylation of Lignin with Different Acylating Agents by Mechanical Activation-Assisted Solid Phase Synthesis: Preparation and Properties. 2018 , 10,	8
953	Synthesis and structure characterization of polymeric nanoporous microspheres with lignin. 2018 , 25, 5843-5862	17
952	Fire Retardants from Renewable Resources. 2018 , 275-320	3
951	Analytical Pyrolysis Characteristics of Enzymatic/Mild Acidolysis Lignin (EMAL). 2018, 13,	6
950	Multistage treatment of almonds waste biomass: Characterization and assessment of the potential applications of raw material and products. 2018 , 80, 40-50	22
949	Lignin as Natural Antioxidant Capacity. 2018 ,	14

948	Quantitative Analysis of Relationship between Hansen Solubility Parameters and Properties of Alkali Lignin/Acrylonitrile-Butadiene-Styrene Blends. 2018 , 3, 9722-9728	2
947	Frothed black liquor as a renewable cost effective precursor to low-density lignin and carbon foams. 2018 , 132, 145-151	10
946	Lignin from Hardwood and Softwood Biomass as a Lubricating Additive to Ethylene Glycol. 2018 , 23,	29
945	Advanced Sustainable Thermoplastics Based on Wood Residue Using Interface Nanomodification Technique. 2018 , 2, 1800050	9
944	Acetylated Lignins: A Potential Bio-Sourced Photosensitizer. 2018 , 3, 5512-5516	9
943	Biobased Structurally Compatible Polymer Blends Based on Lignin and Thermoplastic Elastomer Polyurethane as Carbon Fiber Precursors. 2018 , 6, 8816-8825	98
942	Lignin/Polyacrylonitrile Carbon Fibers: The Effect of Fractionation and Purification on Properties of Derived Carbon Fibers. 2018 , 6, 8554-8562	42
941	Synthesis and Characterization of Lignin Hydrogels for Potential Applications as Drug Eluting Antimicrobial Coatings for Medical Materials. 2018 , 6, 9037-9046	98
940	Clicking Biobased Polyphenols: A Sustainable Platform for Aromatic Polymeric Materials. 2018 , 11, 2472-2491	18
939	Sustainable asphalt mixes manufactured with reclaimed asphalt and modified-lignin-stabilized bitumen emulsions. 2018 , 173, 662-671	10
938	From Tree to Tape: Direct Synthesis of Pressure Sensitive Adhesives from Depolymerized Raw Lignocellulosic Biomass. 2018 , 4, 701-708	77
937	Co-production of ethanol, xylo -oligosaccharides and magnesium lignosulfonate from wheat straw by a controlled magnesium bisulfite pretreatment (MBSP). 2018 , 113, 128-134	15
936	Plant Communities as Modulators of Soil Carbon Storage. 2018 , 29-71	
935	A Solvent-Free Synthesis of Lignin-Derived Renewable Carbon with Tunable Porosity for Supercapacitor Electrodes. 2018 , 11, 2953-2959	23
934	Optimization of Component Yields and Thermal Properties by Organosolv Fractionation of Loblolly Pine (Pinus taeda) Using Response Surface Design. 2018 , 11, 652-664	1
933	Hydrotreatment of Fast Pyrolysis Bio-oil Fractions Over Nickel-Based Catalyst. 2018 , 61, 1769-1782	23
932	Study on the demethylation of enzymatic hydrolysis lignin and the properties of ligninâlpoxy resin blends. 2018 , 52, 1343-1357	13
931	Thermal Analysis of Biobased Polymers and Composites. 2018 , 399-429	8

930	Synthesis and characterization of lignosulfonate/acrylamide graft copolymers and their application in environmentally friendly water- based drilling fluid. 2018 , 171, 484-494	26
929	An Overview on the Use of Lignin and Its Derivatives in Fire Retardant Polymer Systems. 2018,	22
928	Biobased chemicals from the catalytic depolymerization of Kraft lignin using supported noble metal-based catalysts. 2018 , 179, 143-153	52
927	Renewable polyols for advanced polyurethane foams from diverse biomass resources. 2018 , 9, 4258-4287	90
926	Alternatives for Chemical and Biochemical Lignin Valorization: Hot Topics from a Bibliometric Analysis of the Research Published During the 2000âØ016 Period. 2018 , 6, 98	35
925	Hardwood Kraft Lignin-Based Hydrogels: Production and Performance. 2018 , 3, 8233-8242	22
924	Green Binders for Wood Adhesives. 2018 ,	16
923	Synthetic and lignin-based surfactants: Challenges and opportunities. 2018 , 1, 126-138	50
922	Valorization of Lignin: Emerging Technologies and Limitations in Biorefineries. 2018, 163-180	1
921	The Effect of Plant Source on the Properties of Lignin-Based Polyurethanes. 2018, 6,	17
920	Understanding the thermal and dielectric response of organosolv and modified kraft lignin as a carbon fibre precursor. 2018 , 20, 4461-4472	99
919	Green Modification of Corn Stalk Lignin and Preparation of Environmentally Friendly Lignin-Based Wood Adhesive. 2018 , 10,	19
918	Modification of Alkali Lignin with Poly(Ethylene Glycol) Diglycidyl Ether to Be Used as a Thickener in Bio-Lubricant Formulations. 2018 , 10,	17
917	Thermosetting Polymers from Lignin Model Compounds and Depolymerized Lignins. 2018 , 376, 32	30
916	Competition and miscibility of isodimorphism and their effects on band spherulites and mechanical properties of poly(butylene succinate-co-cis-butene succinate) unsaturated aliphatic copolyesters. 2018 , 150, 52-63	13
915	Tuning hydroxyl groups for quality carbon fiber of lignin. 2018 , 139, 500-511	28
914	Utilization of Lignin in Biopolymeric Packaging Films. 2018 , 3, 7388-7398	41
913	Formaldehyde-Free Method for Incorporating Lignin into Epoxy Thermosets. 2018 , 6, 10628-10636	33

912	Biochemical Modification of Lignocellulosic Biomass. 2018 , 315-350	9
911	Enzymatic Processes to Unlock the Lignin Value. 2018 , 6, 20	37
910	Lignocellulosic Biomass Transformations via Greener Oxidative Pretreatment Processes: Access to Energy and Value-Added Chemicals. 2018 , 6, 141	137
909	De-polymerization of industrial lignins to improve the thermo-oxidative stability of polyolefins. 2018 , 120, 238-249	18
908	Completely Bio-based Polyol Production from Sunflower Stalk Saccharification Lignin Residue via Solvothermal Liquefaction Using Biobutanediol Solvent and Application to Biopolyurethane Synthesis. 2018 , 26, 3493-3501	5
907	Cross-linking of technical lignin via esterification and thermally initiated free radical reaction. 2018 , 121, 169-179	21
906	Depolymerization and Activation of Lignin: Current State of Knowledge and Perspectives. 2018,	1
905	Lignin fractionation as an efficient route for enhancing Polylactide thermal stability and flame retardancy. 2018 , 1, 14-24	5
904	Optimization of alkaline pretreatment for the co-production of biopolymer lignin and bioethanol from chestnut shells following a biorefinery approach. 2018 , 124, 582-592	36
903	Replacing calcium with ammonium counterion in lignosulfonates from paper mills affects their molecular properties and bioactivity. 2018 , 645, 411-418	12
902	Synthesis and Characterization of Lignin Grafting Modification-based Aliphatic Superplasticizer. 2018 , 33, 661-668	3
901	Sulfonated LigninStyrene Polymer: Production and Characterization. 2018 , 10,	6
900	Lignin from an integrated process consisting of liquid hot water and ethanol organosolv: Physicochemical and antioxidant properties. 2018 , 120, 159-169	51
899	Hydroxypropyl sulfonated kraft lignin as a coagulant for cationic dye. 2018 , 124, 273-283	25
898	Fractionation of Soda Pulp Lignin in Aqueous Solvent through Membrane-Assisted Ultrafiltration. 2018 , 6, 9056-9064	20
897	Dual Catalytic Activity of an Ionic Liquid in Lignin Acetylation and Deacetylation. 2018 , 47, 860-863	11
896	Cellulose triacetate synthesis one-pot organocatalytic transesterification and delignification of pretreated bagasse 2018 , 8, 21768-21776	19
895	Cationization of lignocellulosic fibers with betaine in deep eutectic solvent: Facile route to charge stabilized cellulose and wood nanofibers. 2018 , 198, 34-40	26

894	Effect of chain length of comonomeric diols on competition and miscibility of isodimorphism: A comparative study of poly(butylene glutarate-co-butylene azelate) and poly(octylene glutarate-co-octylene azelate). 2018 , 105, 274-285	17
893	Lignocellulosic Materials and Their Use in Bio-based Packaging. 2018,	8
892	Introduction. 2018 , 1-11	
891	Functional Properties of Lignocellulosic Materials. 2018 , 35-47	1
890	Synthesis of a novel tunable lignin-based star copolymer and its flocculation performance in the treatment of kaolin suspension. 2019 , 210, 355-363	30
889	Fractionation of three different lignins by thermal separation techniquesâA comparative study. 2019 , 11, 206-217	19
888	The influence of the structural features of lignin-based polyurethane coatings on ammonium sulfate release: kinetics and thermodynamics of the process. 2019 , 16, 449-463	8
887	Microcrystalline cellulose, lactose and lignin blends: Process mapping of dry granulation via roll compaction. 2019 , 341, 38-50	63
886	Acidic Ionic Liquid as Both Solvent and Catalyst for Fast Chemical Esterification of Industrial Lignins: Performances and Regioselectivity. 2019 , 7, 578	11
885	Lignin degradation under anaerobic digestion: Influence of lignin modifications -A review. 2019 , 128, 105325	69
884	Carbon fibres from renewable resources: the role of the lignin molecular structure in its blendability with biobased poly(ethylene terephthalate). 2019 , 21, 5063-5072	75
883	Lignin for polymer and nanoparticle production: Current status and challenges. 2019 , 97, 2827-2842	40
882	Sustainable valorization of lignin with levulinic acid and its application in polyimine thermosets. 2019 , 21, 4964-4970	23
881	Enhancing the Broad-Spectrum Adsorption of Lignin through Methoxyl Activation, Grafting Modification, and Reverse Self-Assembly. 2019 , 7, 15966-15973	35
880	Aqueous Ammonia Pre-treatment of Wheat Straw: Process Optimization and Broad Spectrum Dye Adsorption on Nitrogen-Containing Lignin. 2019 , 7, 545	8
879	Antimicrobial Activity of Lignin-Derived Polyurethane Coatings Prepared from Unmodified and Demethylated Lignins. 2019 , 9, 494	19
878	Fractionational and structural characterization of lignin and its modification as biosorbents for efficient removal of chromium from wastewater: a review. 2019 , 1,	40
877	Enhancing the Antioxidant Activity of Technical Lignins by Combining Solvent Fractionation and Ionic-Liquid Treatment. 2019 , 12, 4799-4809	15

876	Study on the Preparation and Application of Lignin-Derived Polycarboxylic Acids. 2019 , 2019, 1-8	2
875	Lignin Nanoparticles as A Promising Way for Enhancing Lignin Flame Retardant Effect in Polylactide. 2019 , 12,	27
874	Are lignin-derived carbon fibers graphitic enough?. 2019 , 21, 4253-4265	33
873	One-Pot Synthesis of Lignin Thermosets Exhibiting Widely Tunable Mechanical Properties and Shape Memory Behavior. 2019 , 7, 13456-13463	18
872	Green solvents-based fractionation process for kraft lignin with controlled dispersity and molecular weight. 2019 , 291, 121799	20
871	Effective treatment and utilization of hazardous waste sulfuric acid generated from alkylation by lignocellulose ester-catalyzed oxidative degradation of organic pollutants. 2019 , 380, 120892	12
870	Effect of DES-NiO System on Modified Lignin and Synthesis of Lignin-Based Epoxy Resin. 2019 , 13, 317-328	2
869	Lignin-Based Polyurethanes: Opportunities for Bio-Based Foams, Elastomers, Coatings and Adhesives. 2019 , 11,	92
868	The Effect of Degradation of Soda Lignin Using Pd/SO/ZrO as a Catalyst: Improved Reactivity and Antioxidant Activity. 2019 , 11,	3
867	Fiber formation and properties of polyester/lignin blends. 2019 , 136, 48257	6
866	Transforming lignin into porous graphene direct laser writing for solid-state supercapacitors 2019 , 9, 22713-22720	34
865	Facile fabrication and characterization of highly stretchable lignin-based hydroxyethyl cellulose self-healing hydrogel. 2019 , 223, 115080	63
864	Lignin Biopolymers in the Age of Controlled Polymerization. 2019 , 11,	82
863	A concise review of current lignin production, applications, products and their environmental impact. 2019 , 139, 111526	287
862	Comparison of Sodium Lignosulfonate and Derived Biochar for Influencing Methane Bioevolution. 2019 , 33, 8812-8820	2
861	Extra^ 🛮 B e caracteriza^ 🗓 B da lignina proveniente do pr^ !tratamento de biomassa para produ^ 🗓 B de etanol de 2a gera^ 🖺 B. 2019 , 24, 55-60	Ο
860	Formic acid, a biomass-derived source of energy and hydrogen for biomass upgrading. 2019 , 12, 2646-2664	99
859	Functionalization of chitosan with lignin to produce active materials by waste valorization. 2019 , 21, 4633-4641	21

858	Influence of the wood quality and treatment temperature on the physical and mechanical properties of thermally modified radiata pine. 2019 , 77, 661-671	7
857	Modification of Lignoboost Kraft Lignin from softwoods with dihydroxybenzenes. 2019 , 142, 112-118	6
856	Enzymatic Synthesis of 100% Lignin Biobased Granules as Fertilizer Storage and Controlled Slow Release Systems. 2019 ,	7
855	Ionic Liquid Lignosulfonate: Dispersant and Binder for Preparation of Biocomposite Materials. 2019 , 58, 13044-13050	13
854	Facile preparation of biomass lignin-based hydroxyethyl cellulose super-absorbent hydrogel for dye pollutant removal. 2019 , 137, 939-947	38
853	Ionic Liquid Lignosulfonate: Dispersant and Binder for Preparation of Biocomposite Materials. 2019 , 131, 13178-13184	3
852	The effect of polydispersity on the conversion kinetics of starch oxidation and depolymerisation. 2019 , 4, 100044	1
851	Grafting polycaprolactone onto alkaline lignin for improved compatibility and processability. 2019 , 141, 919-926	4
850	New benzyloxyethyl cellulose (BEC) crosslinked EDTA: synthesis, characterization and application for supramolecular self-assembling nanoencapsulation of Pb (II). 2019 , 13, 909-919	3
849	Enhancing Energy Storage Devices with Biomacromolecules in Hybrid Electrodes. 2019 , 14, e1900062	13
848	Modification of Kraft Lignin with Dodecyl Glycidyl Ether. 2019 , 8, 1258-1266	1
847	Synthesis and characterization of lignin-polyurethane based wood adhesive. 2019 , 95, 102427	20
846	Reactivity of Isocyanate-Functionalized Lignins: A Key Factor for the Preparation of Lignin-Based Polyurethanes. 2019 , 7, 562	14
845	Electrochemical Aminoxyl-Mediated Oxidation of Primary Alcohols in Lignin to Carboxylic Acids: Polymer Modification and Depolymerization. 2019 , 141, 15266-15276	58
844	The Influence of Lignin Diversity on the Structural and Thermal Properties of Polymeric Microspheres Derived from Lignin, Styrene, and/or Divinylbenzene. 2019 , 12,	3
843	Synthesis of Pluri-Functional Amine Hardeners from Bio-Based Aromatic Aldehydes for Epoxy Amine Thermosets. 2019 , 24,	2
842	Chemical composition of wood and its connection with wood anatomy in Betula pubescens. 2019 , 34, 577-584	1
841	Phenomenological Changes in Lignin Following Polymerization and Its Effects on Flocculating Clay Particles. 2019 , 20, 3940-3951	14

840	Controlled Preparation of Corncob Lignin Nanoparticles and their Size-Dependent Antioxidant Properties: Toward High Value Utilization of Lignin. 2019 , 7, 17166-17174	25
839	Production of cellulose aerogels from coir fibers via an alkaliâlirea method for sorption applications. 2019 , 26, 9583-9598	23
838	Chemical Modification of Plasticized Lignins Using Reactive Extrusion. 2019 , 7, 633	10
837	Evaluation of demineralized lignin and lignin-phenolic resin blends to produce biocoke suitable for blast furnace operation. 2019 , 258, 116125	7
836	Solvent-Free Fabrication of an Elastomeric Epoxy Resin Using Glycol Lignin from Japanese Cedar. 2019 , 4, 17251-17256	12
835	Lignin from second-generation biorefinery for pressure-sensitive adhesive tapes. 2019, 1	3
834	Hydrothermal base catalyzed depolymerization and conversion of technical lignin âDAn introductory review. 2019 , 2, 59-71	23
833	Amination of biorefinery technical lignin by Mannich reaction for preparing highly efficient nitrogen fertilizer. 2019 , 127, 544-554	43
832	Optimization of Lignin Extraction from Pine Wood for Fast Pyrolysis by Using a EValerolactone-Based Binary Solvent System. 2019 , 7, 4058-4068	14
831	Cleaning carbohydrate impurities from lignin using Pseudomonas fluorescens. 2019 , 21, 1648-1659	13
830	Low-cost natural binder for particleboards production: study of manufacture conditions and stability. 2019 , 93, 102325	13
829	Self-assembly of a renewable lignin biopolymer in nanoparticles with multiple morphologies. 2019 , 136, 47482	8
828	Effect of functional groups in acid constituent of deep eutectic solvent for extraction of reactive lignin. 2019 , 281, 359-366	91
827	Synthesis of a novel environment-friendly filtration reducer and its application in water-based drilling fluids. 2019 , 568, 284-293	40
826	Potential of kraft lignin as an additive in briquette production. 2019 , 34, 147-152	10
825	Lignin as a Functional Green Coating on Carbon Fiber Surface to Improve Interfacial Adhesion in Carbon Fiber Reinforced Polymers. 2019 , 12,	9
824	Lignin-Based Nanoparticles Stabilized Pickering Emulsion for Stability Improvement and Thermal-Controlled Release of trans-Resveratrol. 2019 , 7, 13497-13504	60
823	Unlocking the response of lignin structure for improved carbon fiber production and mechanical strength. 2019 , 21, 4981-4987	30

822	Thermoplastic and moisture-dependent behavior of lignin phenol formaldehyde resins. 2019, 136, 48011	19
821	Sustainable Lignin for Carbon Fibers: Principles, Techniques, and Applications. 2019 ,	6
820	Chemistry and Structure of Lignin. 2019 , 1-50	
819	Design of Controlled Release System for Paracetamol Based on Modified Lignin. 2019 , 11,	58
818	Application of novel and technical lignins in food and pharmaceutical industries: structure-function relationship and current challenges. 2019 , 1	19
817	Preparation of magnetic hydrogel microspheres of lignin derivate for application in water. 2019 , 685, 847-855	40
816	Cooperative valorization of lignin and residual sugar to polyhydroxyalkanoate (PHA) for enhanced yield and carbon utilization in biorefineries. 2019 , 3, 2024-2037	38
815	Lignin-Based Biopolymeric Active Packaging System for Oil Products. 2019 , 84, 1420-1426	12
814	Lignin-based hydrogels: A review of preparation, properties, and application. 2019, 135, 1006-1019	99
813	Microwave-Assisted Organosolv Delignification: A Potential Eco-Designed Process for Scalable Valorization of Agroindustrial Wastes. 2019 , 58, 10698-10706	10
812	Effects of Lignin-Based Hollow Nanoparticle Structure on the Loading and Release Behavior of Doxorubicin. 2019 , 12,	12
811	Preparation and Characterization of Rigid Polyurethane Foams with Different Loadings of Lignin-Derived Polycarboxylic Acids. 2019 , 2019, 1-6	5
810	A simple route to synthesize esterified lignin derivatives. 2019 , 21, 3682-3692	36
809	Semi-aromatic copolyesters with high strength and fire safety via hydrogen bonds and Estacking. 2019 , 374, 694-705	37
808	Biobased Polyurethane Coatings with High Biomass Content: Tailored Properties by Lignin Selection. 2019 , 7, 11700-11711	46
807	Cardanol-Based Epoxy Monomers for High Thermal Properties Thermosets. 2019 , 121, 1800421	12
806	Status and future scope of plant-based green hydrogels in biomedical engineering. 2019 , 16, 213-246	100
805	Natural Shape-Retaining Microcapsules With Shells Made of Chitosan-Coated Colloidal Lignin Particles. 2019 , 7, 370	39

804	In vitro cytotoxicity studies of industrial Eucalyptus kraft lignins on mouse hepatoma, melanoma and Chinese hamster ovary cells. 2019 , 135, 353-361	16
803	Ozone oxidized lignin-based polyurethane with improved properties. 2019 , 117, 114-122	22
802	Non-Solvent Fractionation of Lignin Enhances Carbon Fiber Performance. 2019 , 12, 3249-3256	12
801	Technological performance of formaldehyde-free adhesive alternatives for particleboard industry. 2019 , 94, 99-131	80
800	Solvent-free bulk polymerization of lignin-polycaprolactone (PCL) copolymer and its thermoplastic characteristics. 2019 , 9, 7033	12
799	Cardanol and Eugenol Based Flame Retardant Epoxy Monomers for Thermostable Networks. 2019 , 24,	46
798	Antioxidant activity of unmodified kraft and organosolv lignins to be used as sustainable components for polyurethane coatings. 2019 , 16, 1543-1552	11
797	Phenol-Enhanced Depolymerization and Activation of Kraft Lignin in Alkaline Medium. 2019 , 58, 7794-7800	14
796	Vanillin-based degradable epoxy vitrimers: Reprocessability and mechanical properties study. 2019 , 117, 55-63	45
795	Effects of de-polymerized lignin content on thermo-oxidative and thermal stability of polyethylene. 2019 , 140, 413-422	7
794	Applications of Lignocellulosic Fibers and Lignin in Bioplastics: A Review. 2019 , 11,	113
793	Towards bio-based high-performance polybenzoxazines: Agro-wastes as starting materials for BPA-free thermosets via efficient microwave-assisted synthesis. 2019 , 116, 534-544	11
792	Enzymatic Processing of Technical Lignins into Materials. 2019 , 571-592	
791	High-value utilization of kraft lignin: Color reduction and evaluation as sunscreen ingredient. 2019 , 133, 86-92	32
790	Lignin-Based Adhesives and Coatings. 2019 , 153-206	10
789	Revealing Structural Differences between Alkaline and Kraft Lignins by HSQC NMR. 2019 , 58, 5707-5714	35
788	Hydroxymethylation of technical lignins from South American sources with potential use in phenolic resins. 2019 , 136, 47712	14
787	Valorization of Industrial Lignin as Biobased Carbon Source in Fire Retardant System for Polyamide 11 Blends. 2019 , 11,	11

786	Recent Advances in Applications of Acidophilic Fungi to Produce Chemicals. 2019, 24,	7
785	Lignin-based multiwall carbon nanotubes. 2019 , 121, 175-179	17
784	Valorization of lignin in polymer and composite systems for advanced engineering applications - A review. 2019 , 131, 828-849	200
783	Development of Lignin-Based Antioxidants for Polymers. 2019 , 39-59	2
782	Laccase/TEMPO-modified lignin improved soy-protein-based adhesives: Adhesion performance and properties. 2019 , 91, 116-122	19
781	Lignin for Nano- and Microscaled Carrier Systems: Applications, Trends, and Challenges. 2019 , 12, 2039-2054	117
78o	Fabrication of thermo- and pH-sensitive cellulose nanofibrils-reinforced hydrogel with biomass nanoparticles. 2019 , 215, 289-295	46
779	A new approach to the green synthesis of imidazole-containing polymer ligands and cryogels. 2019 , 115, 356-363	6
778	Transforming technical lignins to structurally defined star-copolymers under ambient conditions. 2019 , 21, 2478-2486	19
777	Production of Materials from Sustainable Biomass Resources. 2019,	2
776	Recent developments in biomass-derived carbon as a potential sustainable material for super-capacitor-based energy storage and environmental applications. 2019 , 140, 54-85	61
775	An Overview on Plant Fiber Technology: An Interdisciplinary Approach. 2019 , 977-999	1
774	Development of Lignin-Based Terpolyester Film and Its Application to Separator Material for Electric Double-Layer Capacitor. 2019 , 39, 198-213	6
773	Dietary fibre from berry-processing waste and its impact on bread structure: a review. 2019 , 99, 4189-4199	14
772	Emulsion Copolymerization of Styrene With n-Butyl Acrylate and Methacrylic Acid: Effect of Kraft Lignin Concentration and Peroxide Treatment on the Colloidal Properties. 2019 , 383, 1800019	4
771	High Performance Thermoplastic Elastomers with Biomass Lignin as Plastic Phase. 2019 , 7, 6550-6560	31
770	Lignin-derived platform molecules through TEMPO catalytic oxidation strategies. 2019 , 72, 59-89	39
769	Recovering cellulase and increasing glucose yield during lignocellulosic hydrolysis using lignin-MPEG with a sensitive pH response. 2019 , 21, 1141-1151	25

768	Chemical Modification of Lignin and Its Environmental Application. 2019, 1345-1364	3
767	Improvement of Polypropylene Adhesion by Kraft Lignin Incorporation. 2019 , 22,	11
766	Grafting of amphiphilic block copolymers on lignocellulosic materials via SI-AGET-ATRP. 2019 , 57, 885-897	3
765	In situ reduction of silver nanoparticles in the lignin based hydrogel for enhanced antibacterial application. 2019 , 177, 370-376	51
764	Natural Polymers from Biomass Resources as Feedstocks for Thermoplastic Materials. 2019 , 304, 1800760	27
763	Lignin-Based Anticorrosion Coatings for the Protection of Aluminum Surfaces. 2019 , 7, 6213-6222	30
762	Biotechnological Strategies for the Lignin-Based Biorefinery Valorization. 2019 ,	3
761	Antioxidant Potential and the Characterization of Roots. 2019 , 2019, 7073456	3
760	Characterization of Prototype Formulated Particleboards from Agroindustrial Lignocellulose Biomass Bonded with Chemically Modified Cassava Peel Starch. 2019 , 2019, 1-15	5
759	Carbohydrate-Related Polymers. 2019 , 213-296	
759 758	Carbohydrate-Related Polymers. 2019, 213-296 . 2019,	2
		2
758	. 2019,	
75 ⁸	. 2019, Sulfonation of Hydroxymethylated Lignin and Its Application. 2019, 4, 80-88 Lipase-catalyzed synthesis of renewable acid-degradable poly(Ethioether ester) and	12
75 ⁸ 757 756	. 2019, Sulfonation of Hydroxymethylated Lignin and Its Application. 2019, 4, 80-88 Lipase-catalyzed synthesis of renewable acid-degradable poly(Ethioether ester) and poly(Ethioether ester-co-ricinoleic acid) copolymers derived from castor oil. 2019, 121, 109315	12
75 ⁸ 757 756 755	. 2019, Sulfonation of Hydroxymethylated Lignin and Its Application. 2019, 4, 80-88 Lipase-catalyzed synthesis of renewable acid-degradable poly(Ethioether ester) and poly(Ethioether ester-co-ricinoleic acid) copolymers derived from castor oil. 2019, 121, 109315 Chemistry, Biology, and Surface Engineering of Sustainable Nanostructural Materials. 2019, 25-52	7
758 757 756 755 754	. 2019, Sulfonation of Hydroxymethylated Lignin and Its Application. 2019, 4, 80-88 Lipase-catalyzed synthesis of renewable acid-degradable poly(Ethioether ester) and poly(Ethioether ester-co-ricinoleic acid) copolymers derived from castor oil. 2019, 121, 109315 Chemistry, Biology, and Surface Engineering of Sustainable Nanostructural Materials. 2019, 25-52 Purification of Monomers Leads to High-Quality Lignin Macromonomers. 2019, 548, 012021 Inspiration from a new lignin-derived phthalonitrile resin: Unique curing behavior, and thermal	7 O

75°	Grafting strategies for hydroxy groups of lignin for producing materials. 2019 , 21, 5714-5752	57
749	Research status, industrial application demand and prospects of phenolic resin 2019 , 9, 28924-28935	35
748	Electrostatic Deposition of the Oxidized Kraft Lignin onto the Surface of Aminosilicas: Thermal and Structural Characteristics of Hybrid Materials. 2019 , 4, 22530-22539	6
747	Organic solvent fractionation of acetosolv palm oil lignin: The role of its structure on the antioxidant activity. 2019 , 122, 1163-1172	28
746	Plant Oil and Lignin-Derived Elastomers via Thermal AzideâAlkyne Cycloaddition Click Chemistry. 2019 , 7, 2593-2601	39
745	Deep Eutectic Solvent Assisted Facile Synthesis of Lignin-Based Cryogel. 2019 , 52, 227-235	8
744	Effect of spent sulfite liquor on ureaâformaldehyde resin performance. 2019 , 136, 47389	6
743	New Dual Functional PHB-Grafted Lignin Copolymer: Synthesis, Mechanical Properties, and Biocompatibility Studies 2019 , 2, 127-134	36
742	Hydrotreatment of Kraft Lignin to Alkylphenolics and Aromatics Using Ni, Mo, and W Phosphides Supported on Activated Carbon. 2019 , 7, 2044-2055	30
741	Improvement in the blood compatibility of polyvinylidene fluoride membranes via in situ cross-linking polymerization. 2019 , 30, 923-931	4
740	Dynamic Self-Assembly and Synthesis of Polylactide Bearing 5-Hydroxymethylfurfural Chain Ends. 2019 , 1, 267-274	7
739	A simple environment-friendly process for preparing high-concentration alkali lignin nanospheres. 2019 , 112, 15-23	17
738	Solvent fractionation of softwood and hardwood kraft lignins for more efficient uses: Compositional, structural, thermal, antioxidant and adsorption properties. 2019 , 129, 123-134	75
737	Recent developments in the conservation of materials properties of historical wood. 2019 , 102, 167-221	40
736	Highly Resilient Lignin-Containing Polyurethane Foam. 2019 , 58, 496-504	42
735	Structure, chemical reactivity and solubility of lignin: a fresh look. 2019 , 53, 7-47	35
734	Responsive lignin for shape memory applications. 2019 , 160, 210-222	7
733	Characterization of renewable reductants and charcoal-based pellets for the use in ferroalloy industries. 2019 , 167, 337-345	14

732	Enhancing the solubility and antioxidant activity of high-molecular-weight lignin by moderate depolymerization via in situ ethanol/acid catalysis. 2019 , 128, 177-185	82
731	Polymers from plants: Biomass fixed carbon dioxide as a resource. 2019 , 503-525	7
730	Effect of lignin on the release rate of acetylsalicylic acid tablets. 2019 , 124, 354-359	73
729	Poly(Etaprolactone) chains grafted from lignin, hydroxymethylated lignin and silica/lignin hybrid macroinitiators: Synthesis and characterization of lignin- based thermoplastic copolymers. 2019 , 130, 547-557	19
728	High-Performance Lignin-Based Water-Soluble Macromolecular Photoinitiator for the Fabrication of Hybrid Hydrogel. 2019 , 7, 4004-4011	29
727	Wood-lignin: Supply, extraction processes and use as bio-based material. 2019 , 112, 228-240	113
726	Overcoming biomass recalcitrance by synergistic pretreatment of mechanical activation and metal salt for enhancing enzymatic conversion of lignocellulose. 2019 , 12, 12	44
725	Lignin xanthate resin-bentonite clay composite as a highly effective and low-cost adsorbent for the removal of doxycycline hydrochloride antibiotic and mercury ions in water. 2019 , 368, 33-41	96
724	Hypercrosslinked functionalized lignosulfonates prepared via Friedelâ¤rafts alkylation reaction for enhancing Pb(II) removal from aqueous. 2019 , 54, 2830-2839	6
723	Thermal stability of lignin in ground pulp (GP) and the effect of lignin modification on GPâll thermal stability: TGA experiments with dimeric lignin model compounds and milled wood lignins. 2019 , 73, 493-499	6
722	Dynamically Cross-Linked Tannin as a Reinforcement of Polypropylene and UV Protection Properties. 2019 , 11,	19
721	Maleic anhydride-modified polyolefins as compatibilizer for lignin-reinforced polypropylene composites. 2019 , 40, 2594-2601	4
720	A High-Lignin-Content, Removable, and Glycol-Assisted Repairable Coating Based on Dynamic Covalent Bonds. 2019 , 12, 1049-1058	43
719	Poly(methyl methacrylate) films reinforced with coconut shell lignin fractions to enhance their UV-blocking, antioxidant and thermo-mechanical properties. 2019 , 125, 171-180	36
718	Production of phenols from pyrolysis of sugarcane bagasse lignin: Catalyst screening using thermogravimetric analysis âlThermal desorption âlGas chromatography âlMass spectroscopy. 2019 , 138, 120-131	25
717	Preparation and properties of adhesives based on phenolic resin containing lignin micro and nanoparticles: A comparative study. 2019 , 161, 55-63	44
716	Rapeseed Straw Biorefinery Process. 2019 , 7, 790-801	11
715	Progress in rust converters. 2019 , 127, 88-99	28

714	Methacrylation of kraft lignin for UV-curable coatings: Process optimization using response surface methodology. 2019 , 120, 332-338	12
713	Thermoelectric properties of electrospun carbon nanofibres derived from lignin. 2019 , 121, 472-479	79
712	Tannins extraction: A key point for their valorization and cleaner production. 2019, 206, 1138-1155	72
711	Effect of Kraft Lignin from Hardwood on Viscoelastic, Thermal, Mechanical and Aging Performance of High Pressure Laminates. 2019 , 10, 585-597	7
710	Thermal Stabilization of Wood/Polypropylene Composites Through Addition of Unmodified, Low-Cost Kraft Lignin. 2020 , 11, 1555-1563	3
709	Assessment of green approaches for the synthesis of physically crosslinked lignin hydrogels. 2020 , 81, 475-487	24
708	Renewable lignin-based carbon nanofiber as Ni catalyst support for depolymerization of lignin to phenols in supercritical ethanol/water. 2020 , 147, 1331-1339	50
707	Life cycle assessment of a lignin nanoparticle biorefinery: Decision support for its process development. 2020 , 245, 118760	25
706	Lignin nanoparticles modified with tall oil fatty acid for cellulose functionalization. 2020, 27, 273-284	18
705	Engineering Lignin Nanoparticles Deposition on Melamine Sponge Skeleton for Absorbent and Flame Retardant Materials. 2020 , 11, 4561-4569	4
704	Lignosulfonate-based polyurethane materials via cyclic carbonates: preparation and characterization. 2020 , 74, 203-211	10
703	Organic acids as a greener alternative for the precipitation of hardwood kraft lignins from the industrial black liquor. 2020 , 142, 583-591	13
702	Steam explosion pretreatment to obtain eco-friendly building blocks from oil palm mesocarp fiber. 2020 , 143, 111907	21
701	A separable paper adhesive based on the starch-lignin composite. 2020 , 229, 115488	15
700	Zinc chloride/acetamide deep eutectic solvent-mediated fractionation of lignin produces high- and low-molecular-weight fillers for phenol-formaldehyde resins. 2020 , 137, 48385	10
699	Separation process optimisation and characterisation of lignin from black carob tree sawdust into a biorefinery. 2020 , 155, 66-79	7
698	Lignin as Alternative Reinforcing Filler in the Rubber Industry: A Review. 2020, 6,	19
697	Recent developments in modification of lignin using ionic liquids for the fabrication of advanced materialsa review. 2020 , 301, 112417	45

(2020-2020)

696	Successive Organic Solvent Fractionation and Characterization of Heterogeneous Lignin Extracted by p-Toluenesulfonic Acid from Hybrid Poplar. 2020 , 34, 557-567	6
695	The direct transformation of bioethanol fermentation residues for production of high-quality resins. 2020 , 22, 439-447	17
694	Structural regulation of lignin/silica nanocomposites by altering the content of quaternary ammonium groups grafted into softwood kraft lignin. 2020 , 144, 112039	8
693	Functionalization of wool fabric using lignin biomolecules extracted from groundnut shells. 2020 , 142, 559-563	13
692	Efficient valorization of biomass-derived furfuryl alcohol to butyl levulinate using a facile lignin-based carbonaceous acid. 2020 , 46, 1469-1485	8
691	Synthesis of bio-based polyurethanes from Kraft lignin and castor oil with simultaneous film formation. 2020 , 145, 28-41	21
690	Greener synthesis of lignin nanoparticles and their applications. 2020 , 22, 612-636	169
689	Atmospheric Low-Temperature Plasma-Induced Changes in the Structure of the Lignin Macromolecule: An Experimental and Theoretical Investigation. 2020 , 68, 451-460	10
688	Method To Synthesize Micronized Spherical Carbon Particles from Lignin. 2020 , 59, 9-17	4
687	Mechanical Stabilization of Deoxyribonucleic Acid Solid Films Based on Hydrated Ionic Liquid. 2020 , 21, 464-471	4
686	Preparation of Highly Reactive Lignin by Ozone Oxidation: Application as Surfactants with Antioxidant and Anti-UV Properties. 2020 , 8, 22-28	14
685	On the potential of lignin-containing cellulose nanofibrils (LCNFs): a review on properties and applications. 2020 , 27, 1853-1877	52
684	Recovery of lignin and lignans enriched fractions from thermomechanical pulp mill process water through membrane separation technology: Pilot-plant study and techno-economic assessment. 2020 , 249, 119345	10
683	Signally improvement of polyurethane adhesive with hydroxy-enriched lignin from bagasse. 2020 , 585, 124164	23
682	Deep eutectic solvent for lignocellulosic biomass fractionation and the subsequent conversion to bio-based products - A review. 2020 , 297, 122522	83
681	Systematic in vitro biocompatibility studies of multimodal cellulose nanocrystal and lignin nanoparticles. 2020 , 108, 770-783	20
680	Adsorption of Pb2+ and Cu2+ ions on the CS2-modified alkaline lignin. 2020, 391, 123581	20
679	Heterogeneous Catalyst Design Principles for the Conversion of Lignin into High-Value Commodity Fuels and Chemicals. 2020 , 13, 1947-1966	21

678	Melt Stable Functionalized Organosolv and Kraft Lignin Thermoplastic. 2020, 8, 1108	8
677	Recent Advances in the Application of Functionalized Lignin in Value-Added Polymeric Materials. 2020 , 12,	24
676	An overview of the recent advances in functionalization biomass adsorbents for toxic metals removal. 2020 , 38, 100308	8
675	Green synthesis of lignin nano- and micro-particles: Physicochemical characterization, bioactive properties and cytotoxicity assessment. 2020 , 163, 1798-1809	20
674	Tailored Hydrophobic/Hydrophilic Lignin Coatings on Mesoporous Silica for Sustainable Cobalt(II) Recycling. 2020 , 8, 16262-16273	9
673	Bromide-Based Ionic Liquid Treatment of Hardwood Organosolv Lignin Yielded a More Reactive Biobased Polyol. 2020 , 59, 18740-18747	4
672	The Role of Ionic Liquids in the Lignin Separation from Lignocellulosic Biomass. 2020, 13, 4864	18
671	Carbon based catalysts for the hydrodeoxygenation of lignin and related molecules: A powerful tool for the generation of non-petroleum chemical products including hydrocarbons. 2020 , 133, 110280	14
670	Plant celluloses, hemicelluloses, lignins, and volatile oils for the synthesis of nanoparticles and nanostructured materials. 2020 , 12, 22845-22890	46
669	Materials for the biorefinery: high bio-content, shape memory Kraft lignin-derived non-isocyanate polyurethane foams using a non-toxic protocol. 2020 , 22, 6922-6935	11
668	Lignin fractionation from laboratory to commercialization: chemistry, scalability and techno-economic analysis. 2020 , 22, 7448-7459	14
667	Size-Controlled and Super Long-Term Stable Lignin Nanospheres through a Facile Self-Assembly Strategy from Kraft Lignin. 2020 , 68, 8341-8349	17
666	Fundamentals, recent advances, and perspectives of electrode materials for bioelectrochemical sensing applications. 2020 , 557-589	1
665	Effects of graphene surface functionalities towards controlled reinforcement of a lignin based renewable thermoplastic rubber. 2020 , 199, 108352	6
664	Tunable, UV-shielding and biodegradable composites based on well-characterized lignins and poly(butylene adipate-co-terephthalate). 2020 , 22, 8623-8632	18
663	Tuning the Lignin-Caprolactone Copolymer for Coating Metal Surfaces. 2020 , 2, 5767-5778	3
662	Hollow Mesoporous Microspheres Coating for Super-Hydrophobicity Wood with High Thermostability and Abrasion Performance. 2020 , 12,	6
661	Physicochemical Properties and Lignin Degradation of Thermal-Pretreated Oil Palm Empty Fruit Bunch. 2020 , 13, 5966	6

(2020-2020)

660	A Critical Review of the Physicochemical Properties of Lignosulfonates: Chemical Structure and Behavior in Aqueous Solution, at Surfaces and Interfaces. 2020 , 3, 622-648	23
659	In-situ growth of graphene on carbon nanofiber from lignin. 2020 , 169, 446-454	17
658	Improved aging properties of bio-bitumen coating sheets by using modified lignin. 2020 , 274, 111178	2
657	Synthesis of lignin-based polyols via thiol-ene chemistry for high-performance polyurethane anticorrosive coating. 2020 , 200, 108295	12
656	Evaluation of lignin-enriched side-streams from different biomass conversion processes as thickeners in bio-lubricant formulations. 2020 , 162, 1398-1413	15
655	Impact mechanisms of supercritical CO-ethanol-water on extraction behavior and chemical structure of eucalyptus lignin. 2020 , 161, 1506-1515	1
654	Unraveling bacteria-mediated degradation of lignin-derived aromatic compounds in a freshwater environment. 2020 , 749, 141236	6
653	Study of the Reactivity of Lignin Model Compounds to Fluorobenzylation Using C and F NMR: Application to Lignin Phenolic Hydroxyl Group Quantification by F NMR. 2020 , 25,	3
652	Recent Insights into Lignocellulosic Biomass Pyrolysis: A Critical Review on Pretreatment, Characterization, and Products Upgrading. 2020 , 8, 799	41
651	Lignin-Based Spherical Structures and Their Use for Improvement of Cilazapril Stability in Solid State. 2020 , 25,	4
650	Conversion of biomass lignin to high-value polyurethane: A review. 2020 , 5, 163-179	51
649	Structural characterization of sugarcane lignins extracted from different protic ionic liquid pretreatments. 2020 , 161, 579-592	19
648	Progress Toward Sustainable Reversible Deactivation Radical Polymerization. 2020, 41, e2000266	15
647	. 2020,	4
646	Production and characterization of rigid polyurethane foam by oxypropylation of organosolv lignin extracted from exhausted olive pomace. 2020 , 27, 1	8
645	Discovering Biomass Structural Determinants Defining the Properties of Plant-Derived Renewable Carbon Fiber. 2020 , 23, 101405	5
644	Synthesis and characterization of multiarm star-shaped water-soluble graft copolymer through atom transfer radical polymerization of acrylamide initiated from bio-based lignin macroinitiator. 2020 , 54, 1569-1585	3
643	Glyoxalation of Kraft lignin and optimization of electrospinning process parameters for producing polyacrylonitrile/KL nanomats for potential applications as carbon material. 2020 , 27, 1	5

642	Synthesis and characterization of poly (acrylonitrile-g-lignin) by semi-batch solution polymerization and evaluation of their potential application as carbon materials. 2020 , 27, 1	1
641	Polypropylene/lignin blend monoliths used as sorbent in oil spill cleanup. 2020 , 6, e04591	9
640	Redesigning plant cell walls for the biomass-based bioeconomy. 2020 , 295, 15144-15157	20
639	Interaction Mechanism of Anionic Lignin and Cationic Soft Surface in Saline Systems. 2020 , 124, 8678-8689	5
638	Structureâfunction relationships of deep eutectic solvents for lignin extraction and chemical transformation. 2020 , 22, 7219-7232	43
637	Controlled Natural Biomass Deoxygenation Allows the Design of Reusable Hot-Melt Adhesives Acting in a Multiple Oxygen Binding Mode. 2020 , 12, 45394-45403	6
636	Fully organic compliant dry electrodes self-adhesive to skin for long-term motion-robust epidermal biopotential monitoring. 2020 , 11, 4683	85
635	Fabrication of polypropylene/lignin blend sponges via thermally induced phase separation for the removal of oil from contaminated water. 2020 , 2, 1	8
634	Aldehyde-Assisted Lignocellulose Fractionation Provides Unique Lignin Oligomers for the Design of Tunable Polyurethane Bioresins. 2020 , 21, 4135-4148	17
633	Solvent-driven isomerization of cis, cis-muconic acid for the production of specialty and performance-advantaged cyclic biobased monomers. 2020 , 22, 6444-6454	1
632	Understanding the Structural Changes of Lignin Macromolecules From Balsa Wood at Different Growth Stages. 2020 , 8,	4
631	Production of Aromatic Compounds by Catalytic Depolymerization of Technical and Downstream Biorefinery Lignins. 2020 , 10,	3
630	Processing, Carbonization, and Characterization of Lignin Based Electrospun Carbon Fibers: A Review. 2020 , 8,	7
629	Low Dielectric Polymers with High Thermostability Derived from Biobased Vanillin. 2020 , 8, 15013-15019	12
628	Insights into the Potential of Hardwood Kraft Lignin to Be a Green Platform Material for Emergence of the Biorefinery. 2020 , 12,	18
627	Electrospun Lignin-Derived Carbon Micro- and Nanofibers: A Review on Precursors, Properties, and Applications. 2020 , 8, 13868-13893	23
626	Biobased Resins Using Lignin and Glyoxal. 2020 , 8, 18789-18809	24
625	Flammability Tests and Investigations of Properties of Lignin-Containing Polymer Composites Based on Acrylates. 2020 , 25,	5

624	Kaskadennutzung von Lignocellulose: LX-Verfahren trifft auf B. coagulans. 2020 , 26, 803-805	2
623	Structural Application of Eco-Friendly Composites from Recycled Wood Fibres Bonded with Magnesium Lignosulfonate. 2020 , 10, 7526	18
622	A review on lignin utilization in petroleum exploration, petroleum products formulation, bio-fuel production, and oil spill clean-up. 2020 , 1	2
621	Catalytic Conversion of Lignocellulosic Biomass:Application of Heterogeneous and Homogeneous Catalysts to Process Biomass into Value-Added Compounds. 2020 , 151-182	2
620	Lignin Effect to Synthesis of the Hybrid Polyurethane. 2020 , 740, 012059	1
619	All-Lignin-Based Hydrogel with Fast pH-Stimuli Responsiveness for Mechanical Switching and Actuation. 2020 , 32, 4324-4330	55
618	The preparation and performance of a novel lignin-based adhesive without formaldehyde. 2020 , 153, 112593	15
617	Lignin as a Renewable Resource of Hydrocarbon Products and Energy Carriers (A Review). 2020 , 60, 227-243	24
616	Natural polymers for natural hair: the smart use of an innovative nanocarrier. 2020 , 267-285	
615	Lignin-Based Adhesives. 2020 , 25-56	6
615	Lignin-Based Adhesives. 2020, 25-56 Nano/micro-scale morphologies of semi-interpenetrating poly(日日aprolactone)/tung oil polymer networks: Isothermal and nonâßothermal crystallization kinetics. 2020, 89, 106586	4
	Nano/micro-scale morphologies of semi-interpenetrating poly(@@aprolactone)/tung oil polymer	
614	Nano/micro-scale morphologies of semi-interpenetrating poly(@@aprolactone)/tung oil polymer networks: Isothermal and nonâlsothermal crystallization kinetics. 2020 , 89, 106586 Super and selective adsorption of cationic dyes using carboxylate-modified lignosulfonate by	4
614	Nano/micro-scale morphologies of semi-interpenetrating poly(@@aprolactone)/tung oil polymer networks: Isothermal and nonâlsothermal crystallization kinetics. 2020, 89, 106586 Super and selective adsorption of cationic dyes using carboxylate-modified lignosulfonate by environmentally friendly solvent-free esterification. 2020, 159, 98-107 Effect of Co-solution of Carbon Precursor and Activating Agent on the Textural Properties of	10
614 613 612	Nano/micro-scale morphologies of semi-interpenetrating poly(@daprolactone)/tung oil polymer networks: Isothermal and nonât othermal crystallization kinetics. 2020, 89, 106586 Super and selective adsorption of cationic dyes using carboxylate-modified lignosulfonate by environmentally friendly solvent-free esterification. 2020, 159, 98-107 Effect of Co-solution of Carbon Precursor and Activating Agent on the Textural Properties of Highly Porous Activated Carbon Obtained by Chemical Activation of Lignin With H3PO4. 2020, 7, Preparation and physicochemical characterisation of polyurethane foams prepared using	10
614 613 612	Nano/micro-scale morphologies of semi-interpenetrating poly(adaprolactone)/tung oil polymer networks: Isothermal and nonabothermal crystallization kinetics. 2020, 89, 106586 Super and selective adsorption of cationic dyes using carboxylate-modified lignosulfonate by environmentally friendly solvent-free esterification. 2020, 159, 98-107 Effect of Co-solution of Carbon Precursor and Activating Agent on the Textural Properties of Highly Porous Activated Carbon Obtained by Chemical Activation of Lignin With H3PO4. 2020, 7, Preparation and physicochemical characterisation of polyurethane foams prepared using hydroxybutylated condensed tannins as a polyol source. 2020, 154, 112636 Enzymatic synthesis and tailoring lignin properties: A systematic study on the effects of	4 10 11
614 613 612 611	Nano/micro-scale morphologies of semi-interpenetrating poly(@@aprolactone)/tung oil polymer networks: Isothermal and nona@sothermal crystallization kinetics. 2020, 89, 106586 Super and selective adsorption of cationic dyes using carboxylate-modified lignosulfonate by environmentally friendly solvent-free esterification. 2020, 159, 98-107 Effect of Co-solution of Carbon Precursor and Activating Agent on the Textural Properties of Highly Porous Activated Carbon Obtained by Chemical Activation of Lignin With H3PO4. 2020, 7, Preparation and physicochemical characterisation of polyurethane foams prepared using hydroxybutylated condensed tannins as a polyol source. 2020, 154, 112636 Enzymatic synthesis and tailoring lignin properties: A systematic study on the effects of plasticizers. 2020, 202, 122725	4 10 11 10 5

606	Recent advances in removal of lignin from paper industry wastewater and its industrial applications - A review. 2020 , 312, 123636	53
605	Bio-Based Lignin Nanocarriers Loaded with Fungicides as a Versatile Platform for Drug Delivery in Plants. 2020 , 21, 2755-2763	38
604	Unexpected role of amphiphilic lignosulfonate to improve the storage stability of urea formaldehyde resin and its application as adhesives. 2020 , 161, 755-762	9
603	Scalable Formation of Concentrated Monodisperse Lignin Nanoparticles by Recirculation-Enhanced Flash Nanoprecipitation. 2020 , 37, 2000122	9
602	Lignin Depolymerization: A Comparison of Methods to Analyze Monomers and Oligomers. 2020 , 13, 4633	- 4648 5
601	"Waste to Wealth": Lignin as a Renewable Building Block for Energy Harvesting/Storage and Environmental Remediation. 2020 , 13, 2807-2827	25
600	Microwave processing of lignin in green solvents: A high-yield process to narrow-dispersity oligomers. 2020 , 145, 112152	13
599	Toward Bio-Based Epoxy Thermoset Polymers from Depolymerized Native Lignins Produced at the Pilot Scale. 2020 , 21, 1548-1559	24
598	Latest developments in polyphenol recovery and purification from plant by-products: A review. 2020 , 99, 375-388	71
597	Nanoparticles and their Biomedical Applications. 2020,	1
596	Wood-Derived Hybrid Scaffold with Highly Anisotropic Features on Mechanics and Liquid Transport toward Cell Migration and Alignment. 2020 , 12, 17957-17966	8
595	Sustainable Lignin-Derived Cross-Linked Graft Polymers as Electrolyte and Binder Materials for Lithium Metal Batteries. 2020 , 13, 2642-2649	14
594	Solubility study of lignin in industrial organic solvents and investigation of electrochemical properties of spray-coated solutions. 2020 , 148, 112310	27
593	High yield solvent extraction of hydrothermal and ball-milling treated lignin prior to enzymatic hydrolysis for co-valorization of lignin and cellulose in Miscanthus sacchariflorus. 2020 , 269, 117428	9
592	Triply Biobased Thermoplastic Composites of Polylactide/Succinylated Lignin/Epoxidized Soybean Oil. 2020 , 12,	7
591	Synthesis of Lignin-Based Polyacid Catalyst and Its Utilization to Improve Water Resistance of Urea-formaldehyde Resins. 2020 , 12,	14
590	Valorization of lignocellulosic-based wastes. 2020 , 383-410	4
589	Kraft lignin-containing polyurethane adhesives: the role of hydroxypropylation on thermomechanical properties. 2020 , 1-17	4

(2020-2020)

588	Base-catalyzed oxidative depolymerization of softwood kraft lignin. 2020 , 152, 112473	11
587	Downstream processing of lignin derived feedstock into end products. 2020 , 49, 5510-5560	117
586	Technical lignin and its potential modification routes: A mini-review. 2020 , 154, 112732	41
585	Current advancement on the isolation, characterization and application of lignin. 2020 , 162, 985-1024	89
584	Evaluation on the properties of deep eutectic solvent-extracted lignin for potential aromatic bio-products conversion. 2020 , 154, 112729	5
583	Insights into the adsorption of Pb(II) over trimercapto-s-triazine trisodium salt-modified lignin in a wide pH range. 2020 , 1, 100002	5
582	Peracetic acid-induced kraft lignin solubilization and its characterization for selective production of macromolecular biopolymers. 2020 , 161, 1240-1246	5
581	Preliminary Study of Modified Lignin Compatibility in Polypropylene-Modified Bitumen. 2020 , 391, 1900158	1
580	Limited life cycle and cost assessment for the bioconversion of lignin-derived aromatics into adipic acid. 2020 , 117, 1381-1393	20
579	Tribological study of epoxide-functionalized alkali lignin-based gel-like biogreases. 2020 , 146, 106231	5
578	Preparation and Characterization of Various Kraft Lignins and Impact on Their Pyrolysis Behaviors. 2020 , 59, 3310-3320	9
577	Agglomeration of Viruses by Cationic Lignin Particles for Facilitated Water Purification. 2020 , 8, 4167-4177	35
576	Structural insights into the alkali lignins involving the formation and transformation of arylglycerols and enol ethers. 2020 , 152, 411-417	12
575	Valorization of Bark Using EthanolâMater Organosolv Treatment: Isolation and Characterization of Crude Lignin. 2020 , 8, 4745-4754	14
574	Lignin-derived bio-based flame retardants toward high-performance sustainable polymeric materials. 2020 , 22, 2129-2161	113
573	Mild and controlled lignin methylation with trimethyl phosphate: towards a precise control of lignin functionality. 2020 , 22, 1671-1680	11
572	Forestry biorefineries. 2020 , 154, 461-475	31
571	Lignin-Based Pesticide Delivery System. 2020 , 5, 4322-4329	12

57°	Hydroxypropyl-modified and organosolv lignin/bio-based polyamide blend filaments as carbon fibre precursorsâ[]2020, 55, 7066-7083	6
569	Bio-based products from wood materials. 2020 , 245-277	
568	Two-step fabrication of lignin-based flame retardant for enhancing the thermal and fire retardancy properties of epoxy resin composites. 2020 , 41, 2025-2035	11
567	Effects of NaOH on the catalytic pyrolysis of lignin/HZSM-5 to prepare aromatic hydrocarbons. 2020 , 146, 104775	10
566	Value-added chemicals and materials from lignocellulosic biomass. 2020, 367-436	3
565	Rational production of highly acidic sulfonated carbons from kraft lignins employing a fractionation process combined with acid-assisted hydrothermal carbonization. 2020 , 303, 122882	13
564	Dissolution of kraft lignin in alkaline solutions. 2020 , 148, 688-695	24
563	Rice husk-based hierarchical porous carbon for high performance supercapacitors: The structure-performance relationship. 2020 , 161, 432-444	49
562	Silver and gold nanoparticles as chemical probes of the presence of heavy metal ions. 2020 , 302, 112559	9
561	Carbon aerogels derived from sodium lignin sulfonate embedded in carrageenan skeleton for methylene-blue removal. 2020 , 148, 979-987	26
560	Recent advances in the selective catalytic hydrodeoxygenation of lignin-derived oxygenates to arenes. 2020 , 22, 1072-1098	60
559	The effect of ultrasonic waves on alpha-cellulose extraction from wheat bran to prepare alpha-cellulose nanofibers. 2020 , 111, 1518-1529	7
558	Synergistic effect of humic acid on alkali pretreatment of sugarcane bagasse for the recovery of lignin with phenomenal properties. 2020 , 134, 105486	8
557	Cationic UV-curing of epoxidized cardanol derivatives. 2020 , 69, 668-674	10
556	Immobilized laccase-catalyzed coupling for construction of silk fibroin-lignin composite hydrogels. 2020 , 597, 117541	7
555	Carboxymethyl cellulose-based films: Effect of organosolv lignin incorporation on physicochemical and antioxidant properties. 2020 , 285, 110107	24
554	Lignin as a potential source of high-added value compounds: A review. 2020 , 263, 121499	62
553	Fractionation of Lignin for Selective Shape Memory Effects at Elevated Temperatures. 2020, 13,	O

Functionalized Organosolv Lignins Suitable for Modifications of Hard Surfaces. 2020 , 8, 7628-7638	4
Lignin. 2020 ,	13
Effect of soft segment molecular weight and NCO:OH ratio on thermomechanical properties of lignin-based thermoplastic polyurethane adhesive. 2020 , 131, 109690	13
The use of lignin in emulsion-based pressure-sensitive adhesives. 2020 , 100, 102598	11
Thermal behavior and kinetics of enzymatic hydrolysis lignin modified products. 2020, 688, 178593	10
Biomimic-Inspired and Recyclable Nanogel for Contamination Removal from Water and the Application in Treating Bleaching Effluents. 2020 , 59, 8622-8631	4
pH-Responsive Lignin-Based Nanomicelles for Oral Drug Delivery. 2020 , 68, 5249-5258	24
Co(salen)-Catalyzed Oxidation of Lignin Models to Form Benzoquinones and Benzaldehydes: A Computational and Experimental Study. 2020 , 8, 7225-7234	10
Aggregation and Sedimentation Performance of Lignin and Hemicellulose Derived Flocs in the Spent Liquor of Thermomechanical Pulping Process. 2021 , 12, 773-786	
Utilization of Alyssum mucilage as a natural coagulant in oily-saline wastewater treatment. 2021 , 40, 101763	13
On the primary thermal decomposition pathways of hydroxycinnamic acids. 2021 , 38, 4207-4214	6
	O
A Sustainable Carbon Material from Kraft Black Liquor as Nickel-Based Electrocatalyst Support for Ethanol Electro-Oxidation. 2021 , 12, 2507-2519	3
Ethanol Electro-Oxidation. 2021 , 12, 2507-2519 Isolation of Low Dispersity Fractions of Acetone Organosolv Lignins to Understand their Reactivity:	3
Isolation of Low Dispersity Fractions of Acetone Organosolv Lignins to Understand their Reactivity: Towards Aromatic Building Blocks for Polymers Synthesis. 2021 , 14, 387-397 Hydrothermal synthesis of biobased carbonaceous composite from a blend of kraft black liquor and	3 7
Isolation of Low Dispersity Fractions of Acetone Organosolv Lignins to Understand their Reactivity: Towards Aromatic Building Blocks for Polymers Synthesis. 2021, 14, 387-397 Hydrothermal synthesis of biobased carbonaceous composite from a blend of kraft black liquor and tannin and its application to aspirin and paracetamol removal. 2021, 608, 125597 Lignin-Based Polyethylene Films with Enhanced Thermal, Opacity and Biodegradability Properties	377
Isolation of Low Dispersity Fractions of Acetone Organosolv Lignins to Understand their Reactivity: Towards Aromatic Building Blocks for Polymers Synthesis. 2021, 14, 387-397 Hydrothermal synthesis of biobased carbonaceous composite from a blend of kraft black liquor and tannin and its application to aspirin and paracetamol removal. 2021, 608, 125597 Lignin-Based Polyethylene Films with Enhanced Thermal, Opacity and Biodegradability Properties for Agricultural Mulch Applications. 2021, 29, 450-459	3 7 7 6
	Effect of soft segment molecular weight and NCO:OH ratio on thermomechanical properties of lignin-based thermoplastic polyurethane adhesive. 2020, 131, 109690 The use of lignin in emulsion-based pressure-sensitive adhesives. 2020, 100, 102598 Thermal behavior and kinetics of enzymatic hydrolysis lignin modified products. 2020, 688, 178593 Biomimic-Inspired and Recyclable Nanogel for Contamination Removal from Water and the Application in Treating Bleaching Effluents. 2020, 59, 8622-8631 pH-Responsive Lignin-Based Nanomicelles for Oral Drug Delivery. 2020, 68, 5249-5258 Co(salen)-Catalyzed Oxidation of Lignin Models to Form Benzoquinones and Benzaldehydes: A Computational and Experimental Study. 2020, 8, 7225-7234 Aggregation and Sedimentation Performance of Lignin and Hemicellulose Derived Flocs in the Spent Liquor of Thermomechanical Pulping Process. 2021, 12, 773-786 Utilization of Alyssum mucilage as a natural coagulant in oily-saline wastewater treatment. 2021, 40, 101763

534	Biopolymeric films based on whey protein isolate/lignin microparticles for waste recovery. 2021 , 44,	7
533	Enhancement of lignin-based carbon quantum dots from poplar pre-hydrolysis liquor on photocatalytic CO2 reduction via TiO2 nanosheets. 2021 , 160, 113161	4
532	Research progress on modification of phenolic resin. 2021 , 26, 101879	7
531	UV absorption, anticorrosion, and long-term antibacterial performance of vegetable oil based cationic waterborne polyurethanes enabled by amino acids. 2021 , 421, 127774	12
530	Lignin-oxidizing activity of bacterial laccases characterized using soluble substrates and polymeric lignin. 2021 , 325, 128-137	9
529	Synthesis and Characterization of Lignin-grafted-poly(Eaprolactone) from Different Biomass Sources. 2021 , 60, 189-199	7
528	Design strategies, properties and applications of cellulose nanomaterials-enhanced products with residual, technical or nanoscale lignin-A review. 2021 , 254, 117480	4
527	A green approach for hybrid material preparation based on carbon nanotubes/lignosulfonate decorated with silver nanostructures for electrocatalytic sensing of H2O2. 2021 , 880, 114896	5
526	New Opportunities in the Valorization of Technical Lignins. 2021 , 14, 1016-1036	31
525	Influence of lignin's pH on polyurethane flexible foam formation and how to control it. 2021 , 138, 50319	2
524	Keramische Membrantechnologie f^ 🛘 die Verf^ 🖟 barmachung biogener Stoffstr^ 🗗 e . 2021 , 93, 154-167	
523	2G waste lignin to fuel and high value-added chemicals: Approaches, challenges and future outlook for sustainable development. 2021 , 268, 129326	15
522	In-situ real-time monitoring of hydroxyethyl modification in obtaining uniform lignin derivatives. 2021 , 142, 110082	3
521	Reviewing the thermo-chemical recycling of waste polyurethane foam. 2021 , 278, 111527	22
520	An electrochemical study of cobalt-salen (N,N?-bis(salicylidene)ethylenediaminocobalt(II) in the oxidation of syringyl alcohol in acetonitrile. 2021 , 51, 87-98	4
519	Novel and Efficient Lignin Fractionation Processes for Tailing Lignin-Based Materials. 2021 , 363-387	
518	Lignin chemistry and valorization. 2021 , 145-183	0
517	Introduction. 2021 , 1-6	

516	Lignin production in plants and pilot and commercial processes. 2021, 551-587	О
515	Lignin extraction and isolation methods. 2021 , 61-104	1
514	Introduction to lignocellulosic materials. 2021 , 1-34	
513	Lignin biopolymer: the material of choice for advanced lithium-based batteries 2021 , 11, 23644-23653	7
512	Click chemistry for the synthesis of biobased polymers and networks derived from vegetable oils. 2021 , 23, 4296-4327	10
511	Biopolymers and bioplastics. 2021 , 23-34	
510	Prospects and Challenges of Using Lignin for Thermoplastic Materials. 2021 , 231-271	1
509	Recent Advances in Lignin Modification and Its Application in Wastewater Treatment. 2021 , 143-173	3
508	Lignin and Lignocellulosic Materials: A Glance on the Current Opportunities for Energy and Sustainability. 2021 , 621-652	1
507	Improved understanding of technical lignin functionalization through comprehensive structural characterization of fractionated pine kraft lignins modified by the Mannich reaction. 2021 , 23, 7122-7136	2
506	Chemistry of Phenolic Antioxidants. 2021 , 25-87	
505	Lignin as the most abundant natural polymers as bio- and nanosorbents. 2021 , 111-129	
504	Chemically Modified Lignin: Correlation between Structure and Biodegradability. 2021 , 9, 2119-2128	2
503	Thermal Properties of Ethanol Organosolv Lignin Depending on Its Structure. 2021 , 6, 1534-1546	4
502	Fractionation and characterization of lignin from sugarcane bagasse using a sulfuric acid catalyzed solvothermal process 2021 , 11, 26773-26784	4
501	Selective Modification of Aliphatic Hydroxy Groups in Lignin Using Ionic Liquid. 2021 , 11, 120	3
500	Renewable bio-based adhesive fabricated from a novel biopolymer and soy protein 2021 , 11, 11724-11731	7
499	Are lignin-derived monomers and polymers truly sustainable? An in-depth green metrics calculations approach. 2021 , 23, 1495-1535	28

498	Sustainable mesoporous carbon nanostructures derived from lignin for early detection of glucose. 2021 , 23, 5696-5705	46
497	Food packaging applications of biopolymer-based (nano)materials. 2021 , 137-186	1
496	Recent progress in biomass-derived carbon materials used for secondary batteries. 2021 , 5, 3017-3038	11
495	Sensing Materials: Biopolymeric Nanostructures. 2021 ,	
494	Carbon Fibers with Low Cost and Uniform Disordered Structure Derived from Lignin/Polyacrylonitrile Composite Precursors. 2021 , 22, 240-248	1
493	Lignin-based materials with antioxidant and antimicrobial properties. 2021 , 291-326	O
492	Types of lignin, properties, and structural characterization techniques. 2021 , 105-158	О
491	Revisiting lignin: a tour through its structural features, characterization methods and applications. 2021 , 45, 6986-7013	23
490	Bio-based poly(ester-alt-thioether)s synthesized by organo-catalyzed ring-opening copolymerizations of eugenol-based epoxides and N-acetyl homocysteine thiolactone.	5
489	Composition of plant biomass and its impact on pretreatment. 2021 , 71-85	1
488	Choosing the Right Lignin to Fully Replace Bisphenol A in Epoxy Resin Formulation. 2021, 14, 1184-1195	14
487	Review on lignin modifications toward natural UV protection ingredient for lignin-based sunscreens. 2021 , 23, 4633-4646	22
486	Polycondensation of kraft-lignin toward value-added biomaterials: carbon aerogels. 2021 , 3, 19-28	О
485	Application of Biomass Material in Fused Deposition Molding. 2021 , 395-402	
484	Economic analysis of vanillin production from Kraft lignin using alkaline oxidation and regeneration. 1	4
483	A Review on the Synthesis, Characterization, and Modeling of Polymer Grafting. 2021 , 9, 375	7
482	Synthesis of Bio-Based Epoxy Resins. 2021 , 1-72	1
481	Sustainable Esterification of a Soda Lignin with Phloretic Acid. 2021 , 13,	5

(2021-2021)

480	Eco-Friendly Fiberboard Panels from Recycled Fibers Bonded with Calcium Lignosulfonate. 2021 , 13,	24
479	Green chemistry design in polymers derived from lignin: review and perspective. <i>Progress in Polymer Science</i> , 2021 , 113, 101344	26
478	Solvent-Resistant Lignin-Epoxy Hybrid Nanoparticles for Covalent Surface Modification and High-Strength Particulate Adhesives. 2021 , 15, 4811-4823	30
477	Lignin-based nanogels for the release of payloads in alkaline conditions. 2021 , 145, 110241	6
476	Natural Tannins as New Cross-Linking Materials for Soy-Based Adhesives. 2021 , 13,	13
475	Boosting the EU forest-based bioeconomy: Market, climate, and employment impacts. 2021 , 163, 120478	11
474	Vanillin based polymers: V. Poly(hydrovanilloinâŪrethane). 2021 , 12, 35-45	О
473	Delignification of Cistus ladanifer Biomass by Organosolv and Alkali Processes. 2021 , 14, 1127	7
472	Preparation and Formation Mechanism of CovalentâNoncovalent Forces Stabilizing Lignin Nanospheres and Their Application in Superhydrophobic and Carbon Materials. 2021 , 9, 3811-3820	8
471	Effect of compatibilizers on lignin/bio-polyamide blend carbon precursor filament properties and their potential for thermostabilisation and carbonisation. 2021 , 95, 107133	2
47°	Natural and synthetic polymeric scaffolds used in peripheral nerve tissue engineering: Advantages and disadvantages. 2021 , 32, 2267-2289	6
469	Valorization of industrial lignin to value-added chemicals by chemical depolymerization and biological conversion. 2021 , 161, 113219	29
468	The influence of solvents and impurities on the separation of biobased phenol and 2-octanone. 2021 , 96, 1918-1926	О
467	Lignin-Phenylhydrazone as a Corrosion Inhibitor of API X52 Carbon Steel in 3.5% NaCl and 0.1 mol/L HCl Medium. 2021 , 37, 718-728	О
466	A Review on the Lignin Biopolymer and Its Integration in the Elaboration of Sustainable Materials. 2021 , 13, 2697	14
465	Microwave Assisted Preparation of Poly(ethylene) glycol/Lignin Blends for Thermal Energy Storage. 2021 , 35, 102338	1
464	Lignin-mediated in-situ synthesis of CuO nanoparticles on cellulose nanofibers: A potential wound dressing material. 2021 , 173, 315-326	19
463	Lignin-based thermoresponsive macromolecules via vitamin-induced metal-free ATRP. 2021 , 219, 123537	5

462	An Overview of the Antimicrobial Properties of Lignocellulosic Materials. 2021, 26,	6
461	Magnetic mesoporous sodium citrate modified lignin for improved adsorption of calcium ions and methylene blue from aqueous solution. 2021 , 9, 105180	5
460	A review on trends in lignin extraction and valorization of lignocellulosic biomass for energy applications. 2021 , 293, 126123	28
459	Phosphorus-Free Vanillin-Derived Intrinsically Flame-Retardant Epoxy Thermoset with Extremely Low Heat Release Rate and Smoke Emission. 2021 , 9, 5268-5277	21
458	Lignin carbon aerogel/nickel binary network for cubic supercapacitor electrodes with ultra-high areal capacitance. 2021 , 174, 500-508	14
457	Preparation and Characterization of Biobased Lignin-Co-Polyester/Amide Thermoplastics. 2021 , 26,	1
456	Bio-based polyurethane aqueous dispersions. 2021 ,	
455	Effect of Catalysts and Curing Temperature on the Properties of Biosourced Phenolic Foams. 2021 , 9, 6209-6223	3
454	Improving the combination of cellulose and lignin using xylan as a compatibilizer. 2021, 28, 5335	4
453	Renewable Polyurethanes from Sustainable Biological Precursors. 2021 , 22, 1770-1794	12
452	Steam explosion pretreatment improves acetic acid organosolv delignification of oil palm mesocarp fibers and sugarcane bagasse. 2021 , 175, 304-312	14
451	Biocoatings and additives as promising candidates for ultralow friction systems. 2021 , 14, 358-381	3
450	Regulation mechanism of graphene oxide on the structure and mechanical properties of bio-based gel-spun lignin/poly (vinyl alcohol) fibers. 2021 , 28, 4745-4760	2
449	Lignin-based carbon fibers: Formation, modification and potential applications. 2021,	11
448	Highly Efficient Semi-Continuous Extraction and In-Line Purification of High EO-4 Butanosolv Lignin. 2021 , 9, 655983	8
447	Lignin Nanoparticles and Their Nanocomposites. 2021 , 11,	30
446	Preparation of carboxylated lignin-based epoxy resin with excellent mechanical properties. 2021 , 150, 110389	6
445	Effect of cross-linkable bacterial cellulose nanocrystals on the physicochemical properties of silk sericin films. 2021 , 97, 107161	3

444	Self-Assembly Preparation of Nano-Lignin/Cationic Polyacrylamide Complexes. 2021, 13,	3
443	Synthesis of High-Performance Lignin-Based Inverse Thermoplastic Vulcanizates with Tailored Morphology and Properties. 2021 , 3, 2911-2920	2
442	Thermal and Mechanical Properties of Esterified Lignin in Various Polymer Blends. 2021, 26,	2
441	Lignin-based polymers. 2021 ,	
440	On-site and quantitative SERS detection of trace 1, 2, 3-benzotriazole in transformer oil with colloidal lignin particles-based green pretreatment reagents. 2021 , 252, 119469	1
439	3D printing of lignin: Challenges, opportunities and roads onward. 2021 , 112, e23431	8
438	Poly(Exaprolactone) grafting into Scots pine wood: improvement on the dimensional stability, weathering and decay resistance. 2021 , 28, 5827	1
437	UV-Curable Bio-Based Polymers Derived from Industrial Pulp and Paper Processes. 2021 , 13,	7
436	Lignin-derived (nano)materials for environmental pollution remediation: Current challenges and future perspectives. 2021 , 178, 394-423	36
435	Surface Characteristics of One-Sided Charred Beech Wood. 2021 , 13,	4
434	Treasuring waste lignin as superior reinforcing filler in high cis-polybutadiene rubber: A direct comparative study with standard reinforcing silica and carbon black. 2021 , 299, 126841	6
433	Dispersion Methodology for Technical Lignin into Polyester Polyol for High-Performance Polyurethane Insulation Foam. 2021 , 3, 3528-3537	5
432	Microwave Hydrophobized Lignin with Antioxidant Activity for Fused Filament Fabrication. 2021, 3, 3538-354	85
431	Green and controlled synthesis of short diol oligomers from polyhydroxyalkanoate to develop fully biobased thermoplastics. 2021 , 153, 110531	2
430	Microbial bioprospecting for lignocellulose degradation at a unique Greek environment. 2021 , 7, e07122	2
429	Microbial demethylation of lignin: Evidence of enzymes participating in the removal of methyl/methoxyl groups. 2021 , 147, 109780	2
428	Lignin-Based Polymer Electrolyte Membranes for Sustainable Aqueous Dye-Sensitized Solar Cells. 2021 , 9, 8550-8560	39
427	Tailored organosolv banana peels lignins: Improved thermal, antioxidant and antimicrobial performances by controlling process parameters. 2021 , 181, 241-252	5

426	Biobased acrylic pressure-sensitive adhesives. <i>Progress in Polymer Science</i> , 2021 , 117, 101396	5 12
425	Preparation of a novel lignin-based film with high solid content and its physicochemical characteristics. 2021 , 164, 113396	19
424	Microfluidic Synthesis of Lignin/Chitosan Nanoparticles for the pH-Responsive Delivery of Anticancer Drugs. 2021 , 37, 7219-7226	6
423	Electrospun lignin-PVP nanofibers and their ability for structuring oil. 2021 , 180, 212-221	5
422	Enhancing the Radical Scavenging Activity and UV Resistance of Lignin Nanoparticles via Surface Mannich Amination toward a Biobased Antioxidant. 2021 , 22, 2693-2701	20
421	Synthesis of lignin-containing polymer hydrogels with tunable properties and their application in sorption of nickel(II) ions. 2021 , 164, 113354	3
420	Effect of chitosan/lignosulfonate microencapsulated red phosphorus on fire performance of epoxy resin. 2021 , 700, 178931	3
419	Lignin-Based High-Performance Fibers by Textile Spinning Techniques. 2021 , 14,	3
418	New Kind of Lignin/Polyhydroxyurethane Composite: Green Synthesis, Smart Properties, Promising Applications, and Good Reprocessability and Recyclability. 2021 , 13, 28938-28948	12
417	Lignin-Based Gel Polymer Electrolyte for Cationic Conductivity. 2021 , 13,	1
416	Catalytic Biomass Upgrading Exploiting Liquid Organic Hydrogen Carriers (LOHCs). 2021 , 9, 9604-9624	4
415	Influence of Sequential Acid-alkali Treatment on Palm Biomass Waste Properties. 1-15	1
414	Polypropylene/Lignin/POSS Nanocomposites: Thermal and Wettability Properties, Application in Water Remediation. 2021 , 14,	3
413	Effects of sacrificial coordination bonds on the mechanical performance of lignin-based thermoplastic elastomer composites. 2021 , 183, 1450-1458	1
412	Characterisation of mass distributions of solvent-fractionated lignins using analytical ultracentrifugation and size exclusion chromatography methods. 2021 , 11, 13937	2
411	From Lab to Market: Current Strategies for the Production of Biobased Polyols. 2021 , 9, 10664-10677	18
410	Sustainable lignin-based polyols as promising thermal energy storage materials. 2021 , 138, 51356	1
409	Structure-properties relationships of cellular materials from biobased polyurethane foams. 2021 , 145, 100608	20

408	Formation of Humic-Like Substances during the Technological Process of Lignohumate 🗀 Synthesis as a Function of Time. 2021 , 8, 96	2
407	Technical Lignin Valorization in Biodegradable Polyester-Based Plastics (BPPs). 2021 , 9, 12017-12042	5
406	Enzymes âlkey Elements of the Future Biorefineries.	
405	Wood Adhesives Based on Natural Resources: A Critical Review: Part III. Tannin- and Lignin-Based Adhesives. 2021 , 383-529	3
404	The impact of differential lignin S/G ratios on mutagenicity and chicken embryonic toxicity. 2021,	О
403	Valorization of lignin: antibacterial and catalytic activities of copper complex stabilized on magnetic lignosulfonate for N-formylation of amines under solvent-free conditions. 1	O
402	Biorefinery Concept Employing: LX-Lignin and L-(+)-Lactic Acid from Lignocellulose. 2021 , 9,	2
401	Circulatory Management of Polymer Waste: Recycling into Fine Fibers and Their Applications. 2021 , 14,	4
400	XPS, SEM, DSC and Nanoindentation Characterization of Silver Nanoparticle-Coated Biopolymer Pellets. 2021 , 11, 7706	6
399	Recent Developments in the Formulation and Use of Polymers and Particles of Plant-based Origin for Emulsion Stabilizations. 2021 , 14, 4850-4877	2
398	Improvements in thermal and mechanical properties of composites based on thermoplastic starch and Kraft Lignin. 2021 , 184, 863-873	6
397	In vitro nematocidal activity of L. against gastrointestinal helminths in goats 2022 , 46, 236-242	
396	Extraction and applications of lignin from bamboo: a critical review. 1	2
395	Production of UV-shielded spherical lignin particles as multifunctional bio-additives for polyvinyl alcohol composite films. 2021 , 23, 1	1
394	Wood Adhesives Based on Natural Resources: A Critical Review: Part IV. Special Topics. 2021 , 761-840	О
393	Deconstruction and Reassembly of Renewable Polymers and Biocolloids into Next Generation Structured Materials. 2021 , 121, 14088-14188	23
392	Laccase as a Tool in Building Advanced Lignin-Based Materials. 2021 , 14, 4615-4635	11
391	Revealing the topochemical and structural changes of poplar lignin during a two-step hydrothermal pretreatment combined with alkali extraction. 2021 , 168, 113588	9

390	Effect of chemical structure and molecular weight on the properties of lignin-based ultrafine carbon fibers. 2021 , 187, 594-602	2
389	Analysis of phenolation potential of spruce kraft lignin and construction of its molecular structure model. 2021 , 167, 113506	7
388	Isolation and Screening of Microorganisms for the Effective Pretreatment of Lignocellulosic Agricultural Wastes. 2021 , 2021, 5514745	1
387	Alkylation of monomeric, dimeric, and polymeric lignin models through carbon-hydrogen activation using Ru-catalyzed Murai reaction. 2021 , 100, 132475	
386	Selective substitution of long-acyl groups into alcohols of kraft lignin over transesterification using ionic liquid. 2021 , 67,	1
385	Additives based on vegetable biomass to improve the stabilisation of expansive clay soil. 1-18	1
384	Tunable Boc modification of lignin and its impact on microbial degradation rate. 2021, 22, 100455	
383	Selective acid precipitation of Kraft lignin: a tool for tailored biobased additives for enhancing PVA films properties for packaging applications. 2021 , 166, 104980	2
382	A review of the mechanism of bonding in densified biomass pellets. 2021 , 148, 111249	10
381	The role of lignin and lignin-based materials in sustainable construction - A comprehensive review. 2021 , 187, 624-650	51
380	Oxidative depolymerization of lignin using nitric acid under ambient conditions. 2021 , 170, 113757	9
379	Recent applications and developments of Polyurethane materials in pavement engineering. 2021 , 304, 124639	16
378	Molecular mobility investigation of the biobased Poly(ethylene vanillate) and Poly(propylene vanillate). 2021 , 233, 124197	2
377	Reinforcement ability of lignocellulosic components in biocomposites and their 3D printed applications âl'A review. 2021 , 6, 100171	2
376	Improving kraft pulp mill sustainability by lignosulfonates production from processes residues. 2021 , 317, 128286	7
375	Novel bio-based epoxy resins from eugenol as an alternative to BPA epoxy and high throughput screening of the cured coatings. 2021 , 233, 124191	4
374	Appraisal of Chitosan-Gum Arabic-Coated Bipolymeric Nanocarriers for Efficient Dye Removal and Eradication of the Plant Pathogen. 2021 , 13, 47354-47370	7
373	Functional polymers for lithium metal batteries. <i>Progress in Polymer Science</i> , 2021 , 122, 101453	.6 8

(2021-2021)

372	A current advancement on the role of lignin as sustainable reinforcement material in biopolymeric blends. 2021 , 15, 2287-2316	10
371	Investigation into lignin modified PBAT/thermoplastic starch composites: Thermal, mechanical, rheological and water absorption properties. 2021 , 171, 113916	8
370	Enzymatic bioconversion process of lignin: mechanisms, reactions and kinetics. 2021 , 340, 125655	7
369	Lignin-to-chemicals: Application of catalytic hydrogenolysis of lignin to produce phenols and terephthalic acid via metal-based catalysts. 2021 , 190, 72-85	6
368	Biobased thermally-stable aromatic cyanate ester thermosets: A review. 2021 , 168, 105037	4
367	Intermolecular interactions of phenolic mixtures studied to aid implementation of bio-based phenol use in the polycarbonate industry. 2021 , 162, 106577	1
366	Unmasking radical-mediated lignin pyrolysis after benzyl hydroxyl shielding. 2021 , 342, 125944	2
365	Production of biobased materials from lignocellulosic biomass. 2022 , 165-186	
364	Multiscale modeling studies for exploring lignocellulosic biomass structure. 2022 , 257-289	
363	Jute sticks biomass delignification through laccase-mediator system for enhanced saccharification and sustainable release of fermentable sugar. 2022 , 286, 131687	1
363 362		27
	and sustainable release of fermentable sugar. 2022 , 286, 131687	
362	and sustainable release of fermentable sugar. 2022 , 286, 131687 How far is Lignin from being a biomedical material?. 2022 , 8, 71-94	
362 361	and sustainable release of fermentable sugar. 2022, 286, 131687 How far is Lignin from being a biomedical material?. 2022, 8, 71-94 Lignin-based nanomaterials. 2021, 99-132 Value-added products from lignin: IsolationValue-added products from lignin: Isolation,	27
362 361 360	and sustainable release of fermentable sugar. 2022, 286, 131687 How far is Lignin from being a biomedical material?. 2022, 8, 71-94 Lignin-based nanomaterials. 2021, 99-132 Value-added products from lignin: IsolationValue-added products from lignin: Isolation, characterization and applications. 2021, 33-55 Experimental and computer aided solubility quantification of diverse lignins and performance	27 O
362 361 360 359	and sustainable release of fermentable sugar. 2022, 286, 131687 How far is Lignin from being a biomedical material?. 2022, 8, 71-94 Lignin-based nanomaterials. 2021, 99-132 Value-added products from lignin: IsolationValue-added products from lignin: Isolation, characterization and applications. 2021, 33-55 Experimental and computer aided solubility quantification of diverse lignins and performance prediction. 2021, 57, 1782-1785	27 O
362 361 360 359 358	and sustainable release of fermentable sugar. 2022, 286, 131687 How far is Lignin from being a biomedical material?. 2022, 8, 71-94 Lignin-based nanomaterials. 2021, 99-132 Value-added products from lignin: IsolationValue-added products from lignin: Isolation, characterization and applications. 2021, 33-55 Experimental and computer aided solubility quantification of diverse lignins and performance prediction. 2021, 57, 1782-1785 Capitalizing on lignin and tannin value: their chemical reactivity and their potential. 2021, 183-258 Effective Biomass Fractionation through Oxygen-Enhanced Alkalineâ©xidative Pretreatment. 2021,	27 O 2

Development and application of synthetic NP dispersions to prevent and extinguish forest and peat fires (Review). **2021**, 29, 5-27

353	Wood Fireproofing Coatings Based on Biobased Phenolic Resins. 2021 , 9, 1729-1740	6
352	Biomass-Derived Polyurethanes for Sustainable Future. 2021 , 1-22	1
351	Chemical modifications of lignin. 2021 , 159-194	O
350	Fungal Treatment for the Valorization of Technical Soda Lignin. 2021, 7,	5
349	Multifunctional lignin-based nanocomposites and nanohybrids. 2021 , 23, 6698-6760	25
348	Controlled lignosulfonate depolymerization via solvothermal fragmentation coupled with catalytic hydrogenation in a continuous flow reactor.	4
347	Recent progress in and prospects for supercapacitor materials based on metal oxide or hydroxide/biomass-derived carbon composites.	4
346	Thermal and structural characterization of two commercially available technical lignins for potential depolymerization via hydrothermal liquefaction. 2021 , 4, 100106	6
345	Green Adhesives for Biomedical Applications. 2020 , 85-120	1
344	A novel bio-based phthalonitrile resin derived from catechin: synthesis and comparison of curing behavior with petroleum-based counterpart. 2018 , 67, 322-329	14
343	Application of Lignin in Thermoplastic Materials. 2019 , 405-426	3
342	Fungal Enzymes for Bioremediation of Xenobiotic Compounds. 2019 , 463-489	4
341	Pleurotus ostreatus: A Biofactory for Lignin-Degrading Enzymes of Diverse Industrial Applications. 2019 , 101-152	1
340	Chemical Modification of Lignin by Polymerization and Depolymerization. 2020 , 139-180	1
339	Lignocellulosic Biomass for Energy, Biofuels, Biomaterials, and Chemicals. 2018 , 95-132	6
338	Lignin: A Platform for Renewable Aromatic Polymeric Materials. 2016 , 221-261	9
337	Structure and Properties of Lignin. 2017 , 1-12	3

	Biomedical Applications of Lignin-Based Nanoparticles. 2020 , 217-224	4
335	Review on impregnation issues in laminates manufacture: opportunities and risks of phenol substitution by lignins or other natural phenols in resins. 2017 , 75, 853-876	12
334	Thermal stability of natural fibers and their polymer composites. 2020 , 29, 625-648	75
333	Study and optimization of parameters affecting the acetylation process of lignin sulfonate biopolymer. 2020 , 163, 1810-1820	5
332	Recent progress of biomass-derived carbon materials for supercapacitors. 2020, 451, 227794	146
331	Perspective on Technical Lignin Fractionation. 2020 , 8, 8086-8101	64
330	Preparation and Characterization of LignosulfonateâAcrylonitrile Copolymer as a Novel Carbon Fiber Precursor. 2016 , 4, 159-168	42
329	Co-curing of epoxy resins with aminated lignins: insights into the role of lignin homo crosslinking during lignin amination on the elastic properties. 2021 , 75, 390-398	6
328	A review on lignin sources and uses. 100-105	5
327	Kraft lignin and polyethylene terephthalate blends: effect on thermal and mechanical properties. 2019 , 29,	3
326	The influence of coupling agents on mechanical properties of lignin-filled polypropylene composites. 308-316	1
326 325		1
	composites. 308-316 Lignocellulosic Biomass Derived Functional Materials: Synthesis and Applications in Biomedical	
325	Composites. 308-316 Lignocellulosic Biomass Derived Functional Materials: Synthesis and Applications in Biomedical Engineering. 2019, 26, 2456-2474	8
325	Composites. 308-316 Lignocellulosic Biomass Derived Functional Materials: Synthesis and Applications in Biomedical Engineering. 2019, 26, 2456-2474 Synthesis of Lignin-Based Polyurethanes: A Mini-Review. 2019, 16, 345-352 Characterization of Cinnamyl Alcohol Dehydrogenase gene family in lignifying tissues of Tectona	8 13
325 324 323	Lignocellulosic Biomass Derived Functional Materials: Synthesis and Applications in Biomedical Engineering. 2019, 26, 2456-2474 Synthesis of Lignin-Based Polyurethanes: A Mini-Review. 2019, 16, 345-352 Characterization of Cinnamyl Alcohol Dehydrogenase gene family in lignifying tissues of Tectona grandis L.f 2018, 67, 1-11 Toward valorization of lignin: characterization and fast pyrolysis of lignin recovered from hot-water	8 13 5
325 324 323 322	Lignocellulosic Biomass Derived Functional Materials: Synthesis and Applications in Biomedical Engineering. 2019, 26, 2456-2474 Synthesis of Lignin-Based Polyurethanes: A Mini-Review. 2019, 16, 345-352 Characterization of Cinnamyl Alcohol Dehydrogenase gene family in lignifying tissues of Tectona grandis L.f 2018, 67, 1-11 Toward valorization of lignin: characterization and fast pyrolysis of lignin recovered from hot-water extracts of electron-beam irradiated sugar maple. 2017, 16, 213-226 Evaluation of the particle size of organosolv lignin in the synthesis of resol resins for plywood and	8 13 5 3

318	Beneficiation of renewable industrial wastes from paper and pulp processing. 2018, 6, 880-907	11
317	Bio-hydrogen and Methane Production from Lignocellulosic Materials.	5
316	Biobased Polymers from Food Waste Feedstock and Their Synthesis. 2021 , 231-285	
315	Valorisation of technical lignin in rigid polyurethane foam: a critical evaluation on trends, guidelines and future perspectives.	4
314	Renewable and flexible thermosetting epoxies based on functionalized biorefinery lignin fractions. 2021 , 100083	1
313	Structure and properties of deep eutectic solvent lignin degraded by H2O2. 1	1
312	Improving UV Curing in Organosolv Lignin-Containing Photopolymers for Stereolithography by Reduction and Acylation. 2021 , 13,	3
311	Controllable conversion of biomass to lignin-silica hybrid nanoparticles: High-performance renewable dual-phase fillers. 2021 , 135, 381-388	O
310	Separation and catalytic depolymerization of empty palm fruit bunch lignin. 2021, 174, 114183	O
309	Value-added Utilization of Lignin Residue from Pretreatment Process of Lignocellulosic Biomass. 2016 , 27, 135-144	1
308	A Complete, Reductive Depolymerization of Concentrated Sulfuric Acid Hydrolysis Lignin into a High Calorific Bio-oil using Supercritical Ethanol. 2016 , 2, 447-452	
307	The Isolation of Kraft Lignin from Black Liquor during Korean Red Pine Kraft Pulping and Evaluation of the Isolated Kraft Lignin. 2017 , 49, 170-177	1
306	Optimization of Organosolv Pretreatment of Waste Wood for Lignin Extraction. 2017, 39, 568-574	
305	R^ gulation, verrous technologiques et transition ^ cologique ´: le cas des formald ^ hydes. 2017 ,	
304	Application of Lignin in Thermoplastic Materials. 2018, 1-22	
303	Preparation of Lignin-Silica Hybrid Composite by Using the Alkaline Digestion Liquor of Rice Husk. 2018 , 50, 86-93	
302	EFEITO DO REVESTIMENTO DE GR $^\circ$ NULOS DE FERTILIZANTES COM LIGNINA KRAFT NA LIBERA $^\circ$ D DO F $^\circ$ SFORO.	
301	Encyclopedia of Ionic Liquids. 2019 , 1-22	

300	Effect of Black Liquor from Date Palm on the Workability and Compressive Strength of Portland Cement and Concrete. 2019 , 19, 5-18	2
299	Phosphorus/Nitrogen Grafted Lignin as a Biobased Flame Retardant for Unsaturated Polyester Resin. 2020 , 429-434	
298	Structure and Properties of Lignin-Based Biopolymers in Polymer Production. 2019 , 375-392	0
297	Lignin and Its Composites. 2020 , 181-202	
296	Isolation and Characterization of Lignin Using Coagulant Treatment in Black Liquid. 2020, 52, 20-30	
295	EPDM-G-GMA Toughening of Straw/Polypropylene Composites: Mechanical Properties, Thermal Stability and Rheological Properties. 2020 , 35, 50-57	O
294	Microbial bioprospecting for lignocellulose degradation at a unique Greek environment.	
293	Synthesis and Characterization of Lignin-graft-poly(ethylene brassylate): a Biomass-Based Polyester with High Mechanical Properties.	2
292	Facile synthesis of Cu nanoparticles supported on magnetic lignin-chitosan blend as a highly effective catalyst for the preparation of 5-aryl-1H-tetrazoles. 1	
291	Degumming methods for bast fibersâl mini review. 2021 , 174, 114158	2
290	Lignin: value addition is key to profitable biomass biorefinery. 2022, 233-247	O
289	Systematic evaluation of fractionation and valorization of lignocellulose via two-stage hydrothermal liquefaction. 2022 , 310, 122358	O
288	Recent Advancements of Supercapacitor Electrode Materials Derived From Agriculture Waste Biomass. 2020 ,	1
287	National Assignment Assays and Extraction Matheda (Calmanta Hand for Their Isolation 2020, 1.22	
287	Natural Antioxidants: Assays and Extraction Methods/Solvents Used for Their Isolation. 2020 , 1-33	
286	Thermal, Morphological and Cytotoxicity Characterization of Hardwood Lignins Isolated by & Lt;i>In-Situ</i> Sodium Hydroxide-Sodium Bisulfate Method. 2020 , 11, 427-438	
	Thermal, Morphological and Cytotoxicity Characterization of Hardwood Lignins Isolated by	
286	Thermal, Morphological and Cytotoxicity Characterization of Hardwood Lignins Isolated by <i>In-Situ</i> Sodium Hydroxide-Sodium Bisulfate Method. 2020 , 11, 427-438	

282	An overview of biomass conversion: exploring new opportunities. 2020 , 8, e9586	5
281	Pretreatment of fiber-based biomass material for lignin extraction. 2022 , 105-135	
280	Microbial degradation of lignin. 2022 , 195-219	0
279	Biological macromolecules for nutrients delivery. 2022 , 455-477	1
278	Biodegradability and Compostability Aspects of Organic Electronic Materials and Devices. 2022 , 255-297	1
277	Effect of Protic Ionic Liquids in Sugar Cane Bagasse Pretreatment for Lignin Valorization and Ethanol Production.	1
276	Managing Plastic Waste-Sorting, Recycling, Disposal, and Product Redesign. 2021 , 9, 15722-15738	26
275	Cationic Lignin Polymers as Flocculant for Municipal Wastewater. 2021 , 13,	1
274	Lignosulfonate-assisted synthesis of platinum nanoparticles deposited on multi-walled carbon nanotubes for biosensing of glucose. 2021 , 210, 112222	2
273	Reductive Catalytic Depolymerization of Semi-industrial Wood-Based Lignin. 2021 , 60, 16827-16838	2
272	Lignocellulosic Biomass Refining: A Review Promoting a Method to Produce Sustainable Hydrogen, Fuels, and Products. 1	0
271	Wastewater treatment containing methylene blue dye as pollutant using adsorption by chitosan lignin membrane: Development of membrane, characterization and kinetics of adsorption. 2021 , 100263	7
270	Preparation of an oxyalkylated lignin-g- polylactic acid copolymer to improve the compatibility of an organosolv lignin in blended poly(lactic acid) films. 52003	1
269	Lignin: a sustainable photothermal block for smart elastomers.	4
268	pH-Dependent interaction mechanism of lignin nanofilms. 2021 , 13, 19568-19577	1
267	Charcoal fuel from the mixture of coconut shell waste and coal: effect of carbonization temperature and the amount of coal mass in the mixture. 2021 , 328, 01019	
266	Sustainable Polymer-Based Materials for Energy and Environmental Applications. 2022, 9-30	0
265	Sustainable process to produce activated carbon from Kraft lignin impregnated with H3PO4 using microwave pyrolysis. 2022 , 156, 106333	2

264	Lignin-Based Nonviral Gene Carriers Functionalized by Poly[2-(Dimethylamino)ethyl Methacrylate]: Effect of Grafting Degree and Cationic Chain Length on Transfection Efficiency 2022 , 12,	0
263	Recovery of organic acids from pre-treated Kraft black liquor using ultrafiltration and liquid-liquid extraction. 2022 , 284, 120274	1
262	Biobased rigid polyurethane foam using gradient acid precipitated lignin from the black liquor: Revealing the relationship between lignin structural features and polyurethane performances. 2022 , 177, 114480	3
261	Mannich-mediated synthesis of a recyclable magnetic kraft lignin-coated copper nanostructure as an efficient catalyst for treatment of environmental contaminants in aqueous media. 2022 , 285, 120373	3
2 60	An efficient solution to determine surface energy of powders and porous media: Application to untreated and treated lignin. 2022 , 579, 152159	0
259	Lignin fractionation and conversion to bio-based functional products. 2022 , 25, 100594	1
258	The Use of South African Spent Pulping Liquor to Synthesize Lignin Phenol-Formaldehyde Resins. 2020 , 70, 503-511	O
257	Chemical modification and functionalization of lignin nanoparticles. 2022 , 385-431	1
256	A Review: Depolymerization of Lignin to Generate High-Value Bio-Products: Opportunities, Challenges, and Prospects. 2022 , 9,	6
255	Lignin-based composites for packaging applications. 2022 , 131-171	O
254	Physical and Chemical Properties of Lignin Isolated from Pulp Mill Byproduct for Potential Application in Wood Composites 2022 , 14,	2
253	A review on the separation of lignin depolymerized products. 1	1
252	Polymeric composites and nanocomposites containing lignin. 2022 , 293-324	0
251	Production of COx-Free Hydrogen and Few-Layer Graphene Nanoplatelets by Catalytic Decomposition of Methane over Ni-Lignin-Derived Nanoparticles 2022 , 27,	O
250	Selectivity Control of C-O Bond Cleavage for Catalytic Biomass Valorization. 2022, 9,	1
249	Synthesis of a biobased resin and its screening as an alternative adsorbent for organic and inorganic micropollutant removal 2022 , 1	O
248	UV-Curable Bio-Based Pressure-Sensitive Adhesives: Tuning the Properties by Incorporating Liquid-Phase Alkali Lignin-Acrylates 2022 ,	3
247	Dihydrolevoglucosenone (Cyreneâ🏿as a versatile biobased solvent for lignin fractionation, processing, and chemistry. 2022 , 24, 338-349	4

246	Pickering Emulsions Stabilized by an Alkyl Chain-Bridged Lignin-Based Polymer without Additives and Organic Solvents 2022 ,	Ο
245	Influence of Pre-Hydrolysis on the Chemical Composition of Prunus avium Cherry Seeds. 2022 , 12, 280	O
244	Hybrid Nonisocyanate Polyurethanes (H-NIPUs): A Pathway towards a Broad Range of Novel Materials. 2100437	3
243	Fully Biobased Vitrimers: Future Direction toward Sustainable Cross-Linked Polymers. 2100494	9
242	Effect of high antioxidant activity on bacteriostasis of lignin from sugarcane bagasse. 2022, 180, 108335	3
241	Antioxidant properties of lignin extracted from cotton stalks by ethanol solution-assisted liquid hot water before and after adding supercritical CO2. 2022 , 58, 101892	1
240	Biobased vitrimers: Towards sustainable and adaptable performing polymer materials. <i>Progress in Polymer Science</i> , 2022 , 127, 101515	11
239	From acetone fractionation to lignin-based phenolic and polyurethane resins. 2022, 178, 114604	2
238	Biowaste-Derived, Hyperbranched Dendritic EDTA Analogue as an Anionic Biochelator with Superior Metal Affinity.	1
237	Lignin-Mediated Silver Nanoparticle Synthesis for Photocatalytic Degradation of Reactive Yellow 4G and In Vitro Assessment of Antioxidant, Antidiabetic, and Antibacterial Activities 2022 , 14,	3
236	Utilization of Kiwi Peel Lignocellulose as Fillers in Poly(Lactic Acid) Films. 283-294	
235	Novel lignin microspheres reinforced poly (lactic acid) composites for fused deposition modeling.	O
234	Bio-based epoxy resins derived from diphenolic acid via amidation showing enhanced performance and unexpected autocatalytic effect on curing. 2022 , 435, 135022	2
233	Plastic-Free Bioactive Paper Coatings, Way to Next-Generation Sustainable Paper Packaging Application: A Review. 2022 , 12, 9-27	1
232	Environmentally sustainable, high-performance lignin-derived universal adhesive. 2022 , 24, 2624-2635	2
231	Selective modification of hydroxyl groups in lignin model compounds by ruthenium-catalyzed transfer hydrogenation 2022 ,	
230	Single-Chain Mechanical Properties of Gelatin: A Single-Molecule Study 2022 , 14,	1
229	Synthesis of surface active agents from natural waste phenolics. 2022 , 59, 192-203	O

228	Green PâN coating by mechanochemistry: efficient flame retardant for cotton fabric. 2022 , 29, 2711-2729	5
227	Chemical Transformation of Lignosulfonates to Lignosulfonamides with Improved Thermal Characteristics. 2022 , 10, 20	2
226	Progress in the Electrochemical Reactions of Sulfonyl Compounds 2022,	1
225	Lignocellulosic Materials for the Production of Biofuels, Biochemicals and Biomaterials and Applications of Lignocellulose-Based Polyurethanes: A Review 2022 , 14,	3
224	A paradigm shift towards production of sustainable bioenergy and advanced products from /hemp biomass in Canada 2022 , 1-22	0
223	Sorting, Depolymerizing, and Recycling Polymers: The Long Road to a Circular Plastics Economy. 1-30	
222	All-Lignin-Based Thermoset Foams via AzideâAlkyne Cycloaddition and Their Fire Resistance after Oxidation. 2022 , 4, 2712-2723	Ο
221	Effects of Functionalized Kraft Lignin Incorporation on Polypropylene Surface Energy and Practical Adhesion 2022 , 14,	
220	Chemical modification of lignin and thereafter grafting with lactic acid for flexible polymer film preparation. 52320	0
219	Oxyalkylation of LignoboostâlKraft Lignin with Propylene Carbonate: Design of Experiments towards Synthesis Optimization 2022 , 15,	1
218	Bioprospecting lignin biomass into environmentally friendly polymersâl pplied perspective to reconcile sustainable circular bioeconomy. 1	3
217	Structure and integrity of sequentially extracted lignin during poplar (alkaline) pretreatment. 2022,	Ο
216	Synthesization and characterization of lignin-graft-poly (lauryl methacrylate) via ARGET ATRP 2022 ,	0
215	Biopolymer-based nanocarriers for sustained release of agrochemicals: A review on materials and social science perspectives for a sustainable future of agri- and horticulture 2022 , 303, 102645	3
214	Functionalized microspheres with co-participated lignin hybrids as a novel sorbents for toxic C.I. Basic Yellow 2 and C.I. Basic Blue 3 dyes removal from textile sewage. 2022 , 180, 114785	1
213	Dry chemo-mechanical pretreatment of chickpea straw: Effect and optimization of experimental parameters to improve hydrolysis yields. 2022 , 18, 101011	
212	Synthesis and characterization of advanced bio-carbon materials from Kraft lignin with enhanced CO2 capture properties. 2022 , 10, 107471	1
211	Exploring the reactivity of aliphatic and phenolic hydroxyl groups in lignin hydrogenolysis oil towards urethane bond formation. 2022 , 180, 114703	O

210	Revealing structural and functional specificity of lignin from tobacco stalk during deep eutectic solvents deconstruction aiming to targeted valorization. 2022 , 180, 114696	1
209	Scalable single-step synthesis of lignin-based liquid polyols with ethylene carbonate for polyurethane foams. 2022 , 24, 100793	5
208	Sustainability in Heritage Wood Conservation: Challenges and Directions for Future Research. 2022 , 13, 18	3
207	Recent Advances in the Valorization of Lignin: A Key Focus on Pretreatment, Characterization, and Catalytic Depolymerization Strategies for Future Biorefineries. 2022 , 6, 2100299	1
206	Artificial Ageing, Chemical Resistance, and Biodegradation of Biocomposites from Poly(Butylene Succinate) and Wheat Bran 2021 , 14,	3
205	Organosolv lignin aggregation behaviour of soluble lignin extract from Miscanthus x giganteus at different ethanol concentrations and its influence on the lignin esterification. 2021 , 8,	2
204	Thermal Properties of Natural Based Fibers Composites. 2022 , 211-239	
203	Novel lignin as natural-biodegradable binder for various sectorsâl review. 2022 , 139, 51951	3
202	Synthesis of Biobased and Hybrid Polyurethane Xerogels from Bacterial Polyester for Potential Biomedical Applications. 2021 , 13,	О
201	Fractionation of technical lignin and its application on the lignin/poly-(butylene adipate-co-terephthalate) bio-composites 2022 ,	1
200	Data_Sheet_1.docx. 2018 ,	
199	Data_Sheet_1.DOCX. 2020 ,	
198	Table_1.pdf. 2019 ,	
197	Data_Sheet_1.PDF. 2019 ,	
196	Data_Sheet_1.docx. 2019 ,	
195	Data_Sheet_1.PDF. 2019 ,	
194	Enzymatic synthesis of ´kraft´ lignin-acrylate´ copolymers using´ an alkaline tolerant´ laccase 2022 , 106, 2969	1
193	From residue to resource: new insights into the synthesis of functionalized lignin micro/nanospheres by self-assembly technology for waste resource utilization.	О

192	Investigation of ammonium polyphosphate dilution with ground eggshells and lignin through the study of natural fibre composite flammability.	1
191	Lignin as Green Filler in Polymer Composites: Development Methods, Characteristics, and Potential Applications. 2022 , 2022, 1-33	3
190	Polyurethane adhesives from castor oil and modified lignin via reaction with propylene carbonate.	1
189	Biodegradable Polymers âlʿA Tutorial for a Circular Plastics Economy. 2022 , 1-16	O
188	Green synthesis of sodium lignosulfonate nanoparticles using chitosan for significantly enhanced multifunctional characteristics 2022 , 211, 380-389	0
187	Molecular-scale controllable conversion of biopolymers into hard carbons towards lithium and sodium ion batteries: A review. 2022 ,	1
186	Effect of phosphorylated lignin on flame retardancy of polypropylene-based composites.	O
185	Insights into the Sustainable Development of Lignin-Based Textiles for Functional Applications. 2200114	O
184	Application of Sulfur and Peroxide Curing Systems for Cross-Linking of Rubber Composites Filled with Calcium Lignosulfonate 2022 , 14,	O
183	Bio-nanomaterial for Renewable Energy Storage Applications. 91-127	O
182	Structuring natural deep eutectic solvents with epoxidised lignin-enriched residues: a green alternative to petroleum-based thickened formulations. 2022 , 119433	
181	Research progress of low dielectric constant polymer materials. 2022,	3
180	Facile construction of cationic lignin modified bentonite âlalginate nanocomposite gel for sustained release of alachlor.	O
179	Lignin as a Natural Carrier for the Efficient Delivery of Bioactive Compounds: From Waste to Health. 2022 , 27, 3598	3
178	Green materials from added-lignin thermoformed pulps. 2022 , 185, 115102	3
177	The Reuse of Biomass and Industrial Waste in Biocomposite Construction Materials for Decreasing Natural Resource Use and Mitigating the Environmental Impact of the Construction Industry: A Review. 2022 , 15, 4078	O
176	Solvents Drive Self-assembly Mechanisms and Inherent properties of Kraft Lignin Nanoparticles (< 50 nm). 2022 ,	1
175	Novel fertilising products from lignin and its derivatives to enhance plant development and increase the sustainability of crop production. 2022 , 132832	2

174	A Fluorinated Cross-linked Polystyrene with Good Dielectric Properties at High Frequency Derived from Bio-based Vanillin.	O
173	Bioprospecting, biotransformation and bioremediation potential of fungi in freshwater ecosystems. 2022 , 151-169	О
172	Depolymerisation of kraft lignin to obtain high value-added products: antioxidants and UV absorbers. 2022 ,	2
171	Emulsion Stabilization by Cationic Lignin Surfactants Derived from Bioethanol Production and Kraft Pulping Processes. 2022 , 14, 2879	
170	Biocatalytic valorization of lignin subunit: Screening a carboxylic acid reductase with high substrate preference to syringyl functional group. 2022 , 110099	O
169	Recent developments in lignin modification and its application in lignin-based green composites: A review.	4
168	Stabilization of Hybrid Adhesives and Sealants by Thermodynamic Tuning of Molecularly Optimized Lignin Bio-Additives: Small Changes, Big Effects.	0
167	Recent Advances in Lignin Depolymerization Techniques: A Comparative Overview of Traditional and Greener Approaches. 2022 , 2, 130-154	1
166	Physicochemical characteristics of organosolv lignins from different lignocellulosic agricultural wastes. 2022 , 216, 710-727	0
165	Solid-State Fermentation with Streptomyces as an Ecofriendly Route to Tune Lignin Properties and Its Use as a Binder in Adhesive Formulation.	O
164	Turning lignin into treasure: An innovative filler comparable to commercial carbon black for the green development of the rubber industry. 2022 ,	O
163	Biomolecules as green flame retardants: Recent progress, challenges, and opportunities. 2022 , 133241	О
162	Upgrading wood biorefinery: An integration strategy for sugar production and reactive lignin preparation. 2022 , 187, 115366	2
161	Evaluation of the Mechanical and Fire Resistance Properties of Rigid Tannin Polyurethane Foams with Copper Oxide Nanoparticles. 2022 , 23, 1797-1806	О
160	Recent advances in epoxy resins and composites derived from lignin and related bio-oils. 2022, 100687	0
159	Effect of CO2 Concentration on Improving Yield and Antioxidant Activity of Lignin from Corn Cobs.	
158	Comparative investigation of the structural characteristics of tobacco stalk lignin during the DES and alkaline deconstruction toward sustainable materials. 10,	
157	Forest Bioeconomy in Brazil: Potential Innovative Products from the Forest Sector. 2022 , 11, 1297	1

156	Selective production of guaiacol from lignin via catalytic transfer hydrogenolysis using Ru-Cu/Zirconia. 2022 , 530, 112532	0
155	Adsorption of organic water pollutants by clays and clay minerals composites: A comprehensive review. 2022 , 229, 106686	4
154	Trapa natans husk-derived carbon as a sustainable electrode material for plant microbial fuel cells. 2022 , 325, 119807	0
153	Recent Developments in Flame-Retardant Lignin-Based Biocomposite: Manufacturing, and characterization.	2
152	Unraveling the adsorption mechanism of methylene blue onto selective pH precipitated Kraft lignins: Kinetic, equilibrium and thermodynamic aspects. 2022 , 220, 1267-1276	0
151	Chemical structure change of lignin extracted from bamboo biomass by maleic acid. 2022 , 221, 986-993	Ο
150	Hexachlorocyclotriphosphazene functionalized lignin as a sustainable and effective flame retardant for epoxy resins. 2022 , 187, 115543	0
149	Role of lignin-based nanoparticles in anticancer drug delivery and bioimaging: An up-to-date review. 2022 , 221, 934-953	2
148	Production of lignin/cellulose acetate fiber-bead structures by electrospinning and exploration of their potential as green structuring agents for vegetable lubricating oils. 2022 , 188, 115579	1
147	Successive organic solvent fractionation and homogenization of technical lignin for polyurethane foam with high mechanical performance. 2022 , 221, 913-922	1
146	Synthesis and photoinitiation properties of lignin model compounds. 2022 , 173, 107210	0
145	Techno-Economic Optimization of a Process Superstructure for Lignin Valorization.	Ο
144	Mystifications and Misconceptions of Lignin: Revisiting Understandings.	0
143	Lignin to value-added chemicals and advanced materials: extraction, degradation, and functionalization.	1
142	Thermal conversion of black liquor solids to monomeric aromatic hydrocarbons based on synergistic catalysis by Na compounds and HZSM-5.	0
141	Ionic liquids for biomass biotransformation. 2022 , 257-297	Ο
140	Outlook for the Forest-Based Bioeconomy. 2022 , 55-89	0
139	Production and characterization of thin films based on soy protein isolate with kraft lignin and tannins obtained by casting. 2022 , 1, 28-45	O

138	Lignin-based hybrid materials in wastewater cleanup. 2023 , 619-640	O
137	About Hydrophobicity of Lignin: A Review of Selected Chemical Methods for Lignin Valorisation in Biopolymer Production. 2022 , 15, 6213	1
136	Emulsion Stabilization with Lignosulfonates.	O
135	Lignin Modifications, Applications, and Possible Market Prices. 2022 , 15, 6520	1
134	MetalâDrganic-Framework-Derived Copper Catalysts for the Hydrogenolysis of Lignin into Monomeric Phenols. 2022 , 12, 11899-11909	0
133	Sustainable Thermosets and Composites Based on the Epoxides of Norbornylized Seed Oils and Biomass Fillers. 2022 , 10, 12342-12354	3
132	Bio-renewable polymers based on lignin-derived phenol monomers: Synthesis, applications, and perspectives.	2
131	Valorisation of Lignocellulosic Wastes, the Case Study of Eucalypt Stumps Lignin as Bioadsorbent for the Removal of Cr(VI). 2022 , 27, 6246	O
130	Lignin as a Renewable Building Block for Sustainable Polyurethanes. 2022 , 15, 6182	1
129	Energy-efficient and cost-effective separation model for solvent recovery from colloidal lignin particles dispersion.	O
128	Techno-economic optimization of a process superstructure for lignin valorization. 2022, 364, 128004	O
127	Smart lignin-based polyurethane conjugated with corrosion inhibitor as bio-based anticorrosive sublayer coating. 2022 , 188, 115719	Ο
126	A review on the valorization of lignin from sugarcane by-products: From extraction to application. 2022 , 166, 106603	1
125	Lignin-based nanomaterials as drug delivery vehicles: A review. 2022 ,	Ο
124	Antibacterial lignin-based nanoparticles and their use in composite materials. 2022, 4, 4447-4469	2
123	Facile Catalyst-Free Approach toward Fully Biobased Reprocessable Lignin Thermosets. 2200303	1
122	Synthesis and Characterization of Thermally Stable Lignosulfonamides. 2022, 27, 7231	0
121	Lactic Acid-Derived Copolymeric Surfactants with Monomer Distribution Profile-Dependent Solution and Thermoresponsive Properties.	O

120	Photo-crosslinked lignin/PAN electrospun separator for safe lithium-ion batteries. 2022, 12,	0
119	A review on lignin pyrolysis: pyrolytic behavior, mechanism, and relevant upgrading for improving process efficiency. 2022 , 15,	O
118	Sustainable Wood-Based Poly(butylene adipate-co-terephthalate) Biodegradable Composite Films Reinforced by a Rapid Homogeneous Esterification Strategy.	1
117	Latest advancements in high-performance bio-based wood adhesives: A critical review. 2022,	5
116	Effect of natural biomass fillers on the stability, degradability, and elasticity of crop straws liquefied polyols-based polyurethane foams.	0
115	Bio-based poly(decylene terephthalate-co-decylene furandicarboxylate)s derived from 2,5-furandicarboxylic acid (FDCA): Synthesis and properties. 2022 , 181, 105446	O
114	Removal of water-soluble lignin model pollutants with graphene oxide loaded ironic sulfide as an efficient adsorbent and heterogeneous Fenton catalyst. 2022 , 15, 104338	1
113	Lignin-based benzoxazines: A tunable key-precursor for the design of hydrophobic coatings, fire resistant materials and catalyst-free vitrimers. 2023 , 453, 139895	4
112	Evaluation of kraft and hydrolysis lignin hydroconversion over unsupported NiMoS catalyst. 2023 , 453, 139829	0
111	CHAPTER 14. Renewable Resources for Bio-plastics. 2022 , 775-833	O
111	CHAPTER 14. Renewable Resources for Bio-plastics. 2022 , 775-833 Glucose-Lignin-Based Phenolic Resin: An Environmentally Friendly Low-Formaldehyde Wood Adhesive.	0
	Glucose-Lignin-Based Phenolic Resin: An Environmentally Friendly Low-Formaldehyde Wood	
110	Glucose-Lignin-Based Phenolic Resin: An Environmentally Friendly Low-Formaldehyde Wood Adhesive. Impact of the Morphology of Electrospun Lignin/Ethylcellulose Nanostructures on Their Capacity to	0
110	Glucose-Lignin-Based Phenolic Resin: An Environmentally Friendly Low-Formaldehyde Wood Adhesive. Impact of the Morphology of Electrospun Lignin/Ethylcellulose Nanostructures on Their Capacity to Thicken Castor Oil. 2022, 14, 4741 Super-strong and flexible wood through cell wall swelling-assisted spontaneously fibers	0
110	Glucose-Lignin-Based Phenolic Resin: An Environmentally Friendly Low-Formaldehyde Wood Adhesive. Impact of the Morphology of Electrospun Lignin/Ethylcellulose Nanostructures on Their Capacity to Thicken Castor Oil. 2022, 14, 4741 Super-strong and flexible wood through cell wall swelling-assisted spontaneously fibers aggregation. Effect of lignin source and initiation conditions on graft copolymerization of lignin with acrylamide	0 0
110 109 108	Glucose-Lignin-Based Phenolic Resin: An Environmentally Friendly Low-Formaldehyde Wood Adhesive. Impact of the Morphology of Electrospun Lignin/Ethylcellulose Nanostructures on Their Capacity to Thicken Castor Oil. 2022, 14, 4741 Super-strong and flexible wood through cell wall swelling-assisted spontaneously fibers aggregation. Effect of lignin source and initiation conditions on graft copolymerization of lignin with acrylamide and performance of graft copolymer as additive in water- based drilling fluid. 2022, 111253 Recent advances on sustainable bio-based materials for water treatment: Fabrication, modification	0 0
110 109 108 107	Glucose-Lignin-Based Phenolic Resin: An Environmentally Friendly Low-Formaldehyde Wood Adhesive. Impact of the Morphology of Electrospun Lignin/Ethylcellulose Nanostructures on Their Capacity to Thicken Castor Oil. 2022, 14, 4741 Super-strong and flexible wood through cell wall swelling-assisted spontaneously fibers aggregation. Effect of lignin source and initiation conditions on graft copolymerization of lignin with acrylamide and performance of graft copolymer as additive in water- based drilling fluid. 2022, 111253 Recent advances on sustainable bio-based materials for water treatment: Fabrication, modification and application. 2022, 10, 108921	0 0 0

102	Synthesized bioactive lignin nanoparticles/polycaprolactone nanofibers: A novel nanobiocomposite for bone tissue engineering. 2023 , 144, 213203	1
101	Flexible, recyclable and sensitive piezoresistive sensors enabled by lignin polyurethane-based conductive foam.	Ο
100	Ultrasonic-assisted synthesis of lignin-capped Cu2O nanocomposite with antibiofilm properties. 2023 , 92, 106241	0
99	Comparative characteristics and enhanced removal of tetracycline and ceftriaxone by Fe3O4-lignin and Fe3O4-carbon-based lignin: Mechanism, thermodynamic evaluation, and DFT calculation. 2023 , 371, 121075	O
98	Impact of acetylation process of kraft lignin in development of environment-friendly semisolid lubricants. 2023 , 227, 673-684	0
97	High value valorization of lignin as environmental benign antimicrobial. 2023, 18, 100520	2
96	Modification of fountain bed dryer for sawdust drying for fuel pellets production. 1-11	Ο
95	Emerging Lignin-Based Materials in Electrochemical Energy Systems. 2022 , 15, 9450	1
94	l -Arginine Modified Lignin Composite Carbon Quantum Dots Fluorescent Probe for Cr(VI) Detection. 2200380	0
93	Oil structuring properties of electrospun Kraft lignin/cellulose acetate nanofibers for lubricating applications: influence of lignin source and lignin/cellulose acetate ratio.	Ο
92	Chemical and Physical Modification of Lignin for Green Polymeric Composite Materials. 2023, 16, 16	О
91	Production and characterisation of self-blowing lignin-based foams.	Ο
90	Polyurethane Adhesives Based on Oxyalkylated Kraft Lignin. 2022 , 14, 5305	1
89	Preparation and Applications of Green Thermoplastic and Thermosetting Nanocomposites Based on Nanolignin. 2022 , 14, 5470	Ο
88	Calcium-Lignosulfonate-Filled Rubber Compounds Based on NBR with Enhanced PhysicalâMechanical Characteristics. 2022 , 14, 5356	3
87	Effect of Dilute Acid Pretreatment and Lignin Extraction Conditions on Lignin Properties and Suitability as a Phenol Replacement in Phenol-Formaldehyde Wood Adhesives.	0
86	Ultraviolet Spectrophotometry of Lignin Revisited: Exploring Solvents with Low Harmfulness, Lignin Purity, Hansen Solubility Parameter, and Determination of Phenolic Hydroxyl Groups. 2022 , 7, 46371-46383	0
85	Application of Plasticizer Glycerol in Lignosulfonate-Filled Rubber Compounds Based on SBR and NBR. 2023 , 16, 635	0

84	Valorization of hemp fibers into biocomposites via one-step pectin-based green fabrication process.	1
83	Bio-inspired, UV-blocking, water-stable and antioxidant lignin/cellulose films combining high strength, toughness and flexibility.	О
82	A Green Cement Plasticizer from Softwood Kraft Lignin.	0
81	Nanogreen is the new future: the conversion of lignin and lignocellulosic wastes into nanomaterials.	O
80	Recovery and Reuse of Valuable Chemicals Derived from Hydrothermal Carbonization Process Liquid. 2023 , 16, 732	0
79	Plasma Surface Engineering of Natural and Sustainable Polymeric Derivatives and Their Potential Applications. 2023 , 15, 400	2
78	Thermal and Gluing Properties of Phenol-Based Resin with Lignin for Potential Application in Structural Composites. 2023 , 15, 357	1
77	Bioresource Upgrade for Sustainable Energy, Environment, and Biomedicine. 2023, 15,	1
76	Tailorable and scalable production of eco-friendly lignin micro-nanospheres and their application in functional superhydrophobic coating. 2023 , 457, 141309	0
75	A review on lignin-based epoxy resins: Lignin effects on their synthesis and properties. 2023 , 229, 778-790	O
74	Preparation of all biomass lignin-based thermoplastic elastomers by ARGET ATRP. 2023, 193, 116236	O
73	Consider lignin's hydroxyl groups content and type, its molecular weight and content when converting it into epoxy resin. 2023 , 40, 100750	O
72	Opportunities and challenges for the production of fuels and chemicals: materials and processes for biorefineries. 2023 , 551-620	О
71	Visual and colorimetric determination of mercury (II) based on lignosulfonate-capped silver nanoparticles. 2023 , 16,	Ο
70	Catalytic hydroesterification of lignin: a versatile and efficient entry into fully biobased tunable materials.	0
69	Improved dimensional stability and mechanical properties of rubberwood via modification with maleated lignin and densification. 2023 ,	O
68	Lignin-Based Materials for Additive Manufacturing: Chemistry, Processing, Structures, Properties, and Applications. 2206055	1
67	Pharmaceutical applications of lignin-derived chemicals and lignin-based materials: linking lignin source and processing with clinical indication.	1

66	Synthesis of a renewable bisguaiacol amide and its hydrogen bonding effect on enhancing polybenzoxazine performance. 2023 , 14, 1613-1621	0
65	Effects of the incorporation of modified kraft lignin on the mechanical properties of epoxy adhesive: experimental and theoretical approaches. 1-13	O
64	Valorization of lignin through reductive catalytic fractionation of fermented corn stover residues. 2023 , 373, 128752	0
63	Mannich Reaction: Review of Amine-Functionalized Lignin Derivatives and Their Applications. 2023 , 8,	O
62	Nano-Strategies for Lignin Biomaterials toward Cancer Therapy.	0
61	High-performance and fully recyclable epoxy resins cured by imine-containing hardeners derived from vanillin and syringaldehyde. 2023 , 187, 111878	O
60	Fully biobased poly(lactic acid)/lignin composites compatibilized by epoxidized natural rubber. 2023 , 236, 123960	0
59	Synthesis of a vanillin-derived bisDOPO co-curing agent rendering epoxy thermosets simultaneously improved flame retardancy, mechanical strength and transparency. 2023 , 211, 110333	O
58	Valorization of lignin for renewable non-isocyanate polyurethanes: a state-of-the-art review. 2023 , 22, 100367	0
57	Recent advances in biodegradable polymers âl Properties, applications and future prospects. 2023 , 192, 112068	O
56	Using lignin degraded to synthesize phenolic foams with excellent flame retardant property. 2023 , 666, 131373	0
55	Lignin valorization through polymer grafting by ring-opening polymerization and its application in health, packaging, and coating. 2023 , 11, 109691	O
54	Selected Kraft lignin fractions as precursor for carbon foam: Structure-performance correlation and electrochemical applications. 2023 , 124460	0
53	Facile and scalable construction of nitrogen-doped lignin-based carbon nanospheres for high-performance supercapacitors. 2023 , 343, 128007	O
52	Biobased Transesterification Vitrimers. 2023 , 44,	0
51	Rigid polyurethane foams refined by the lignin oligomers from catalytic upstream biorefining process. 2023 , 35, e00577	O
50	Anti-aging mechanism and rheological properties of lignin, quercetin, and gallic acid as antioxidants in asphalt. 2023 , 369, 130560	0
49	Ionic Liquids as Solvents for the Production of Materials from Biomass. 2022 , 642-663	O

48	Opportunities and Challenges for Lignin Valorization in Food Packaging, Antimicrobial, and Agricultural Applications. 2023 , 24, 1065-1077	O
47	Lignin as a green and multifunctional alternative to phenol for resin synthesis. 2023, 25, 2241-2261	O
46	Effect of Amine Type on Lignin Modification to Evaluate Its Reactivity in Polyol Construction for Non-Isocyanate Polyurethanes (NIPU). 2023 , 11, 2171-2189	0
45	Amino-Functionalized Cellulose Nanofiber/Lignosulfonate New Aerogel Adsorbent for the Removal of Dyes and Heavy Metals from Wastewater. 2023 , 9, 154	2
44	Rigid-and-Flexible, Degradable, Fully Biobased Thermosets from Lignin and Soybean Oil: Synthesis and Properties. 2023 , 11, 3466-3473	О
43	Lignin derived carbon fiber and nanofiber: Manufacturing and applications. 2023, 255, 110613	O
42	Sustainable lignin modifications and processing methods: green chemistry as the way forward. 2023 , 25, 2042-2086	O
41	Conventional lignin functionalization for polyurethane applications and a future vision in the use of enzymes as an alternative method. 2023 , 188, 111934	O
40	Deep Eutectic Solvents for Biotechnology Applications. 2023 , 88, S150-S175	0
39	Effects of preparation routes on the physical and rheological properties of isosorbide-based thermoplastic polyurethanes. 2023 , 31, 133-142	O
38	Current approaches, emerging developments and functional prospects for lignin-based catalysts â a review.	1
37	Bio-based lignin and its applications. 2023 , 441-474	О
36	Biocomposite from novel bioresin with natural biomass. 2023, 505-533	О
35	Challenges and recent advances in bio-based isocyanate production. 2023 , 25, 2482-2504	1
34	Lignin-Based Admixtures: A Scientometric Analysis and Qualitative Discussion Applied to Cement-Based Composites. 2023 , 15, 1254	О
33	Current Approaches for Polyurethane Production from Lignin. 2023 , 153-202	O
32	Latest development in the fabrication and use of lignin-derived humic acid. 2023, 16,	0
31	Enzimas y organismos importantes dentro del proceso de compostaje. 2017 , 11, 147-154	O

30	Naturally Occurring Phenolic Sources for Industrial Applications. 2023, 2059-2100	O
29	Sub-micro Organosolv lignin as bio-based epoxy polymer component: A sustainable curing agent and additive.	O
28	Lignin isolation and characterization as co-products from pilot plants of second generations bioethanol. 2023 ,	О
27	Functional naturally derived materials to improve the environment: Chemical structures, modifications, applications, and future perspectives. 2023 , 93-144	O
26	Functionalization and Thereafter Grafting with Lactic Acid to Synthesize Lignin-polylactic Acid Copolymer for Thin Film Preparation.	О
25	Synthesis of a Liquid Lignin-Based Methacrylate Resin and Its Application in 3D Printing without Any Reactive Diluents. 2023 , 24, 1751-1762	O
24	A strong, tough and cost-effective biodegradable PBAT/lignin composite film via intrinsic multiple noncovalent interactions.	0
23	Lignin modification and valorization in medicine, cosmetics, environmental remediation and agriculture: a review.	O
22	Recyclable and Degradable Vinylogous Urethane Epoxy Thermosets with Tunable Mechanical Properties from Isosorbide and Vanillic Acid. 2023 , 5, 2553-2561	O
21	Nickel-promoted Electrocatalytic Graphitization of Biochars for Energy Storage: Mechanistic Understanding using Multi-scale Approaches.	O
20	Nickel-promoted Electrocatalytic Graphitization of Biochars for Energy Storage: Mechanistic Understanding using Multi-scale Approaches.	0
19	Comparison of bio-based epoxide-diamine coatings prepared with acyclic and cyclic aliphatic diamines.	O
18	A Review on Eco-friendly Isolation of Lignin by Natural Deep Eutectic Solvents from Agricultural Wastes.	О
17	Quantification of Phenolic Hydroxyl Groups in Lignin via 19F NMR Spectroscopy. 2023 , 11, 5644-5655	O
16	Hydrothermally Treated Lignin as a Sustainable Biobased Filler for Rubber Compounds. 2023 , 5, 2501-2512	O
15	The Biomodified Lignin Platform: A Review. 2023 , 15, 1694	O
14	1-ethyl-3-methyl imidazolium acetate, hemicellulolytic enzymes and laccase-mediator system: Toward an integrated co-valorization of polysaccharides and lignin from Miscanthus. 2023 , 197, 116627	0
13	Designing Lignin-Based Biomaterials as Carriers of Bioactive Molecules. 2023 , 15, 1114	O

12	Wood Biorefineries. 2023 , 1713-1751	О
11	Wood Chemistry. 2023 , 179-279	O
10	Combined Catalysis: A Powerful Strategy for Engineering Multifunctional Sustainable Lignin-Based Materials.	О
9	Hydrochromic wood biocomposites for humidity and moisture detection. 2023 , 465, 142890	O
8	Vegetable oils based precursors: modifications and scope for futuristic bio-based polymeric materials. 2023 , 30,	0
7	Glucose-lignin-based phenolic resin: an environmentally friendly low-formaldehyde wood adhesive.	O
6	Recent Advances in Lignin-Based Biofuel Production. 2023 , 16, 3382	0
5	Optimisation of lignin liquefaction with polyethylene glycol/ glycerol through response surface methodology modelling. 2023 , 198, 116729	O
4	Unprecedented Adhesive Performance of Propylene-Based Hydroxyl-Functionalized Terpolymers.	O
3	Lignin to dispersants, adsorbents, flocculants and adhesives: A critical review on industrial applications of lignin. 2023 , 199, 116715	O
2	Naturally-Based Adhesives for Wood and Wood-Based Panels. 2023 , 517-578	O
1	Bio-based Non-isocyanate Poly(hydroxy urethane)s (PHU) Derived from Vanillin and CO2.	O