Brigitte Chabbert

List of Publications by Year
in descending order

105 papers	5,896 citations	76196 40 h-index	79541 73 g-index
105 all docs	105 docs citations	105 times ranked	5262 citing authors

#	Article	IF	Citations
1	Manipulation of lignin quality by downregulation of cinnamyl alcohol dehydrogenase. Plant Journal, 1994, 6, 339-350.	2.8	321
2	Brown-midrib maize (bm1) - a mutation affecting the cinnamyl alcohol dehydrogenase gene. Plant Journal, 1998, 14, 545-553.	2.8	271
3	Altered lignin composition in transgenic tobacco expressing O-methyltransferase sequences in sense and antisense orientation. Plant Journal, 1995, 8, 465-477.	2.8	249
4	A novel lignin in poplar trees with a reduced caffeic acid/5â€hydroxyferulic acid <i>O</i>â€methyltransferase activity. Plant Journal, 1995, 8, 855-864.	2.8	221
5	Down-regulation of cinnamyl alcohol dehydrogenase in transgenic alfalfa (Medicago sativa L.) and the effect on lignin composition and digestibility. Plant Molecular Biology, 1999, 39, 437-447.	2.0	215
6	Understanding the structural and chemical changes of plant biomass following steam explosion pretreatment. Biotechnology for Biofuels, 2017, 10, 36.	6.2	214
7	Lignification in Transgenic Poplars with Extremely Reduced Caffeic Acid O-Methyltransferase Activity. Plant Physiology, 2000, 123, 1363-1374.	2.3	203
8	In situ analysis of lignins in transgenic tobacco reveals a differential impact of individual transformations on the spatial patterns of lignin deposition at the cellular and subcellular levels. Plant Journal, 2001, 28, 271-282.	2.8	177
9	Genetic and molecular basis of grass cell wall biosynthesis and degradability. II. Lessons from brown-midrib mutants. Comptes Rendus - Biologies, 2004, 327, 847-860.	0.1	148
10	Lignification in the flax stem: evidence for an unusual lignin in bast fibers. Planta, 2005, 222, 234-245.	1.6	139
11	Natural Organic UV-Absorbent Coatings Based on Cellulose and Lignin: Designed Effects on Spectroscopic Properties. Biomacromolecules, 2012, 13, 4081-4088.	2.6	134
12	Plant Fiber Formation: State of the Art, Recent and Expected Progress, and Open Questions. Critical Reviews in Plant Sciences, 2012, 31, 201-228.	2.7	132
13	Lignification and tension wood. Comptes Rendus - Biologies, 2004, 327, 889-901.	0.1	131
14	Structure and Chemical Composition of Bast Fibers Isolated from Developing Hemp Stem. Journal of Agricultural and Food Chemistry, 2005, 53, 8279-8289.	2.4	127
15	Impact and efficiency of GH10 and GH11 thermostable endoxylanases on wheat bran and alkali-extractable arabinoxylans. Carbohydrate Research, 2004, 339, 2529-2540.	1.1	125
16	Differential accumulation of monolignol-derived compounds in elicited flax (Linum usitatissimum) cell suspension cultures. Planta, 2006, 223, 975-989.	1.6	123
17	Can the Biochemical Features and Histology of Wheat Residues Explain their Decomposition in Soil?. Plant and Soil, 2006, 281, 291-307.	1.8	107
18	Effect of harvesting date on the composition and saccharification of Miscanthus x giganteus. Bioresource Technology, 2010, 101, 8224-8231.	4.8	95

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19	Combination of ammonia and xylanase pretreatments: Impact on enzymatic xylan and cellulose recovery from wheat straw. Bioresource Technology, 2010, 101, 6712-6717.	4.8	94
20	A Chemical and Histological Study on the Effect of (1â†’4)-Î²-endo-xylanase Treatment on Wheat Bran. Journal of Cereal Science, 2002, 36, 253-260.	1.8	90
21	Natural Hypolignification Is Associated with Extensive Oligolignol Accumulation in Flax Stems Â Â. Plant Physiology, 2012, 158, 1893-1915.	2.3	82
22	Arabinoxylan and hydroxycinnamate content of wheat bran in relation to endoxylanase susceptibility. Journal of Cereal Science, 2004, 40, 223-230.	1.8	80
23	Histochemistry of Lignin Deposition during Sclerenchyma Differentiation in Alfalfa Stems. Annals of Botany, 1996, 78, 625-632.	1.4	79
24	Structure, Chemical Composition, and Xylanase Degradation of External Layers Isolated from Developing Wheat Grain. Journal of Agricultural and Food Chemistry, 2004, 52, 7108-7117.	2.4	73
25	Caffeoyl coenzyme A O-methyltransferase down-regulation is associated with modifications in lignin and cell-wall architecture in flax secondary xylem. Plant Physiology and Biochemistry, 2009, 47, 9-19.	2.8	69
26	Development and validation of a flax (Linum usitatissimum L.) gene expression oligo microarray. BMC Genomics, 2010, 11, 592.	1.2	66
27	Impact of fine litter chemistry on lignocellulolytic enzyme efficiency during decomposition of maize leaf and root in soil. Biogeochemistry, 2014, 117, 169-183.	1.7	65
28	Studies of xylan interactions and cross-linking to synthetic lignins formed by bulk and end-wise polymerization: a model study of lignin carbohydrate complex formation. Planta, 2007, 226, 267-281.	1.6	59
29	Impact of plant cell wall network on biodegradation in soil: Role of lignin composition and phenolic acids in roots from 16 maize genotypes. Soil Biology and Biochemistry, 2011, 43, 1544-1552.	4.2	59
30	Multimodal analysis of pretreated biomass species highlights generic markers of lignocellulose recalcitrance. Biotechnology for Biofuels, 2018, 11, 52.	6.2	59
31	Implications of productivity and nutrient requirements on greenhouse gas balance of annual and perennial bioenergy crops. GCB Bioenergy, 2014, 6, 425-438.	2.5	56
32	Synthesis and Characterization of Dehydrogenation Polymers inGluconacetobacter xylinusCellulose and Cellulose/Pectin Composite. Journal of Agricultural and Food Chemistry, 2003, 51, 981-986.	2.4	55
33	Concomitant Changes in Viscoelastic Properties and Amorphous Polymers during the Hydrothermal Treatment of Hardwood and Softwood. Journal of Agricultural and Food Chemistry, 2009, 57, 6830-6837.	2.4	53
34	Probing a family GH11 endo-Î²-1,4-xylanase inhibition mechanism by phenolic compounds: Role of functional phenolic groups. Journal of Molecular Catalysis B: Enzymatic, 2011, 72, 130-138.	1.8	53
35	ESTs from the Fibreâ€Bearing Stem Tissues of Flax (Linum usitatissimum L.): Expression Analyses of Sequences Related to Cell Wall Development. Plant Biology, 2005, 7, 23-32.	1.8	52
36	Organosolv lignin as natural grafting additive to improve the water resistance of films using cellulose nanocrystals. Chemical Engineering Journal, 2015, 264, 780-788.	6.6	52

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37	Influence of flax fibre variety and year-to-year variability on composite properties. Industrial Crops and Products, 2017, 98, 1-9.	2.5	46
38	PT-Flax (phenotyping and TILLinG of flax): development of a flax (Linum usitatissimumL.) mutant population and TILLinG platform for forward and reverse genetics. BMC Plant Biology, 2013, 13, 159.	1.6	44
39	Biological variability in lignification of maize: Expression of the brown midrib bm3 mutation in three maize cultivars. Journal of the Science of Food and Agriculture, 1994, 64, 349-355.	1.7	43
40	Ectopic Lignification in the Flax lignified bast fiber1 Mutant Stem Is Associated with Tissue-Specific Modifications in Gene Expression and Cell Wall Composition Â. Plant Cell, 2014, 26, 4462-4482.	3.1	42
41	Functional analyses of cellulose synthase genes in flax (<i>Linum usitatissimum</i>) by virusâ€induced gene silencing. Plant Biotechnology Journal, 2015, 13, 1312-1324.	4.1	41
42	Biological variability in lignification of maize: Expression of the brown midrib bm2 mutation. Journal of the Science of Food and Agriculture, 1994, 64, 455-460.	1.7	40
43	In Vitro Model Assemblies To Study the Impact of Ligninâˆ’Carbohydrate Interactions on the Enzymatic Conversion of Xylan. Biomacromolecules, 2009, 10, 2489-2498.	2.6	40
44	Evidence for the involvement of activated oxygen in fungal degradation of lignocellulose. Biochimie, 1983, 65, 283-289.	1.3	39
45	Fungal elicitor-mediated enhancement in phenylpropanoid and naphtodianthrone contents of Hypericum perforatum L. cell cultures. Plant Cell, Tissue and Organ Culture, 2015, 122, 213-226.	1.2	39
46	A thermostable feruloyl-esterase from the hemicellulolytic bacterium Thermobacillus xylanilyticus releases phenolic acids from non-pretreated plant cell walls. Applied Microbiology and Biotechnology, 2011, 90, 541-552.	1.7	38
47	Fluorescence techniques can reveal cell wall organization and predict saccharification in pretreated wood biomass. Industrial Crops and Products, 2018, 123, 84-92.	2.5	38
48	Soil decomposition of wheat internodes of different maturity stages: Relative impact of the soluble and structural fractions. Bioresource Technology, 2009, 100, 155-163.	4.8	37
49	Probing the cell wall heterogeneity of micro-dissected wheat caryopsis using both active and inactive forms of a GH11 xylanase. Planta, 2005, 222, 246-257.	1.6	36
50	Characterization of Arabinoxylanâˆ’Dehydrogenation Polymer (Synthetic Lignin Polymer) Nanoparticles. Biomacromolecules, 2007, 8, 1236-1245.	2.6	36
51	Mechanical, chemical and X-ray analysis of wood in the two tropical lianas Bauhinia guianensis and Condylocarpon guianense: variations during ontogeny. Planta, 2003, 217, 32-40.	1.6	35
52	Decomposition in soil and chemical changes of maize roots with genetic variations affecting cell wall quality. European Journal of Soil Science, 2009, 60, 176-185.	1.8	35
53	Tracking the dynamics of hemp dew retting under controlled environmental conditions. Industrial Crops and Products, 2018, 123, 55-63.	2.5	34
54	Characterisation of Lignin from Parenchyma and Sclerenchyma Cell Walls of the Maize Internode. Journal of the Science of Food and Agriculture, 1997, 73, 10-16.	1.7	32

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55	Use of Food and Packaging Model Matrices to Investigate the Antioxidant Properties of Biorefinery Grass Lignins. Journal of Agricultural and Food Chemistry, 2015, 63, 10022-10031.	2.4	32
56	Characterization of Arabinoxylan/Cellulose Nanocrystals Gels to Investigate Fluorescent Probes Mobility in Bioinspired Models of Plant Secondary Cell Wall. Biomacromolecules, 2012, 13, 206-214.	2.6	30
57	Effect of reaction media concentration on the solubility and the chemical structure of lignin model compounds. Phytochemistry, 2007, 68, 2118-2125.	1.4	29
58	Structure and optical properties of plant cell wall bio-inspired materials: Celluloseâ€"lignin multilayer nanocomposites. Comptes Rendus - Biologies, 2011, 334, 839-850.	0.1	29
59	Breeding silage maize with brown-midrib genes. Feeding value and biochemical characteristics. Agronomy for Sustainable Development, 1994, 14, 15-25.	0.8	29
60	Atomic force microscopy reveals how relative humidity impacts the Youngâ€™s modulus of lignocellulosic polymers and their adhesion with cellulose nanocrystals at the nanoscale. International Journal of Biological Macromolecules, 2020, 147, 1064-1075.	3.6	27
61	Xylanaseâ€Mediated Hydrolysis of Wheat Bran: Evidence for Subcellular Heterogeneity of Cell Walls. International Journal of Plant Sciences, 2004, 165, 553-563.	0.6	26
62	Bioinspired lignocellulosic films to understand the mechanical properties of lignified plant cell walls at nanoscale. Scientific Reports, 2017, 7, 44065.	1.6	26
63	Exploring accessibility of pretreated poplar cell walls by measuring dynamics of fluorescent probes. Biotechnology for Biofuels, 2017, 10, 15.	6.2	26
64	Langmuirâ€"Blodgett Procedure to Precisely Control the Coverage of Functionalized AFM Cantilevers for SMFS Measurements: Application with Cellulose Nanocrystals. Langmuir, 2018, 34, 9376-9386.	1.6	26
65	Tracking of enzymatic biomass deconstruction by fungal secretomes highlights markers of lignocellulose recalcitrance. Biotechnology for Biofuels, 2019, 12, 76.	6.2	25
66	Multimodal assessment of flax dew retting and its functional impact on fibers and natural fiber composites. Industrial Crops and Products, 2020, 148, 112255.	2.5	25
67	Development of antibodies against secoisolariciresinol â€" Application to the immunolocalization of lignans in Linum usitatissimum seeds. Phytochemistry, 2010, 71, 1979-1987.	1.4	24
68	Exploring the dew retting feasibility of hemp in very contrasting European environments: Influence on the tensile mechanical properties of fibres and composites. Industrial Crops and Products, 2021, 164, 113337.	2.5	24
69	Bench-scale composting of two agricultural wastes. Bioresource Technology, 1992, 40, 119-124.	4.8	23
70	O-methyltransferase(s)-suppressed plants produce lower amounts of phenolic vir inducers and are less susceptible to Agrobacterium tumefaciens infection. Planta, 2010, 232, 975-986.	1.6	23
71	Synthesis, characterisation and water sorption properties of pectin-dehydrogenation polymer (lignin) Tj ETQq1 1 0.784314 rgBT /Overlo	1.4	22
72	Non-lignified helical cell wall thickenings in root cortical cells of Aspleniaceae (Polypodiales): histology and taxonomical significance. Annals of Botany, 2011, 107, 195-207.	1.4	22

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73	Overexpression of a heterologous sam gene encoding S-adenosylmethionine synthetase in flax (Linum) Tj ETQq1 1 0.784314 rgBT /Ov Plantarum, 2001, 112, 223-232.	2.6	21
74	Saccharification of Miscanthus x giganteus, incorporation of lignocellulosic by-product in cementitious matrix. Comptes Rendus - Biologies, 2011, 334, 837.e1-837.e11.	0.1	21
75	Action of lytic polysaccharide monooxygenase on plant tissue is governed by cellular type. Scientific Reports, 2017, 7, 17792.	1.6	21
76	Unveiling the impact of embedding resins on the physicochemical traits of wood cell walls with subcellular functional probing. Composites Science and Technology, 2021, 201, 108485.	3.8	21
77	Changes in Phenolics Distribution After Chemical Pretreatment and Enzymatic Conversion of Miscanthus Ã— giganteus Internode. Bioenergy Research, 2013, 6, 506-518.	2.2	20
78	Impact of lignin on water sorption properties of bioinspired self-assemblies of lignocellulosic polymers. European Polymer Journal, 2015, 64, 21-35.	2.6	20
79	Distribution of Lignin, Hemicellulose, and Arabinogalactan Protein in Hemp Phloem Fibers. Microscopy and Microanalysis, 2018, 24, 442-452.	0.2	19
80	Dual Antioxidant Properties and Organic Radical Stabilization in Cellulose Nanocomposite Films Functionalized by In Situ Polymerization of Coniferyl Alcohol. Biomacromolecules, 2020, 21, 3163-3175.	2.6	19
81	Supramolecular Organization of Heteroxylan-Dehydrogenation Polymers (Synthetic Lignin) Nanoparticles. Biomacromolecules, 2008, 9, 487-493.	2.6	18
82	Influence of the polarity of the matrix on the breakage mechanisms of lignocellulosic fibers during twinâ€screw extrusion. Polymer Composites, 2020, 41, 1106-1117.	2.3	18
83	Changes in hemp secondary fiber production related to technical fiber variability revealed by light microscopy and attenuated total reflectance Fourier transform infrared spectroscopy. PLoS ONE, 2017, 12, e0179794.	1.1	18
84	Caffeoyl-coenzyme A 3-O -methyltransferase enzyme activity, protein and transcript accumulation in flax (Linum usitatissimum) stem during development. Physiologia Plantarum, 2001, 113, 275-284.	2.6	16
85	Soil biodegradation of maize root residues: Interaction between chemical characteristics and the presence of colonizing micro-organisms. Soil Biology and Biochemistry, 2009, 41, 1253-1261.	4.2	16
86	Modeling Progression of Fluorescent Probes in Bioinspired Lignocellulosic Assemblies. Biomacromolecules, 2013, 14, 2196-2205.	2.6	14
87	Hemp harvest time impacts on the dynamics of microbial colonization and hemp stems degradation during dew retting. Industrial Crops and Products, 2020, 145, 112122.	2.5	14
88	Laser Microdissection and Spatiotemporal Pinoresinol-Lariciresinol Reductase Gene Expression Assign the Cell Layer-Specific Accumulation of Secoisolariciresinol Diglucoside in Flaxseed Coats. Frontiers in Plant Science, 2016, 7, 1743.	1.7	13
89	Targeted Metagenomics of Retting in Flax: The Beginning of the Quest to Harness the Secret Powers of the Microbiota. Frontiers in Genetics, 2020, 11, 581664.	1.1	13
90	Cell Wall Fractionation of Alfalfa Stem in Relation to Internode Development:Â Biochemistry Aspect. Journal of Agricultural and Food Chemistry, 1998, 46, 3458-3467.	2.4	12

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91	Effect of the Interplay of Composition and Environmental Humidity on the Nanomechanical Properties of Hemp Fibers. ACS Sustainable Chemistry and Engineering, 2020, 8, 6381-6390.	3.2	12
92	Saccharification Performances of Miscanthus at the Pilot and Miniaturized Assay Scales: Genotype and Year Variabilities According to the Biomass Composition. Frontiers in Plant Science, 2017, 8, 740.	1.7	11
93	Real Time and Quantitative Imaging of Lignocellulosic Films Hydrolysis by Atomic Force Microscopy Reveals Lignin Recalcitrance at Nanoscale. Biomacromolecules, 2019, 20, 515-527.	2.6	11
94	Applications of molecular genetics for biosynthesis of novel lignins. Polymer Degradation and Stability, 1998, 59, 47-52.	2.7	10
95	Assessment of Ligninâ€Related Compounds in Soils and Maize Roots by Alkaline Oxidations and Thioacidolysis. Soil Science Society of America Journal, 2011, 75, 542-552.	1.2	10
96	Novel surface-based methodologies for investigating GH11 xylanaseâ€"lignin derivative interactions. Analyst, The, 2013, 138, 6889.	1.7	10
97	Model systems for the understanding of lignified plant cell wall formation. Plant Biosystems, 2005, 139, 93-97.	0.8	8
98	Extractibility of structural carbohydrates and lignin deposition in maturing alfalfa internodes. International Journal of Biological Macromolecules, 1997, 21, 201-206.	3.6	6
99	Evaluation of Lignocellulosic Biomass Degradation by Combining Mid- and Near-Infrared Spectra by the Outer Product and Selecting Discriminant Wavenumbers Using a Genetic Algorithm. Applied Spectroscopy, 2015, 69, 1303-1312.	1.2	3
100	Classification of lignocellulosic biomass by weightedâ€covariance factor fuzzy Câ€means clustering of midâ€infrared and nearâ€infrared spectra. Journal of Chemometrics, 2017, 31, e2865.	0.7	3
101	Effect of industrial processing on alfalfa cell walls. Journal of the Science of Food and Agriculture, 2002, 82, 1806-1815.	1.7	2
102	Effect of lignin content on a GH11 endoxylanase acting on glucuronoarabinoxylan-lignin nanocomposites. Carbohydrate Polymers, 2012, 89, 423-431.	5.1	2
103	Multiscale modeling of microbial degradation of outer tissues of fiber-crop stems during the dew retting process. Bioresource Technology, 2020, 311, 123558.	4.8	2
104	Impact of epiphytic and endogenous enzyme activities of senescent maize leaves and roots on the soil biodegradation process. Comptes Rendus - Biologies, 2011, 334, 824-836.	0.1	1
105	Activated oxygen is formed by the mycelium and is involved mainly in the primary attack of LCC byP. chrysosporium. Applied Biochemistry and Biotechnology, 1984, 9, 339-339.	1.4	0