

# Hoon Kim

## List of Publications by Year in descending order

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88  
papers

11,117  
citations

41344

49  
h-index

49909

87  
g-index

91  
all docs

91  
docs citations

91  
times ranked

8690  
citing authors

#	ARTICLE	IF	CITATIONS
1	Lignins: Natural polymers from oxidative coupling of 4-hydroxyphenyl- propanoids. <i>Phytochemistry Reviews</i> , 2004, 3, 29-60.	6.5	1,282
2	Formaldehyde stabilization facilitates lignin monomer production during biomass depolymerization. <i>Science</i> , 2016, 354, 329-333.	12.6	944
3	Solution-state 2D NMR of ball-milled plant cell wall gels in DMSO-d <sub>6</sub> /pyridine-d <sub>5</sub> . <i>Organic and Biomolecular Chemistry</i> , 2010, 8, 576-591.	2.8	565
4	Whole plant cell wall characterization using solution-state 2D NMR. <i>Nature Protocols</i> , 2012, 7, 1579-1589.	12.0	563
5	Chemoselective Metal-Free Aerobic Alcohol Oxidation in Lignin. <i>Journal of the American Chemical Society</i> , 2013, 135, 6415-6418.	13.7	547
6	Caffeoyl Shikimate Esterase (CSE) Is an Enzyme in the Lignin Biosynthetic Pathway in <i>Arabidopsis</i> . <i>Science</i> , 2013, 341, 1103-1106.	12.6	432
7	Downregulation of Cinnamoyl-Coenzyme A Reductase in Poplar: Multiple-Level Phenotyping Reveals Effects on Cell Wall Polymer Metabolism and Structure. <i>Plant Cell</i> , 2007, 19, 3669-3691.	6.6	352
8	Ptr-miR397a is a negative regulator of laccase genes affecting lignin content in <i>Populus trichocarpa</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 10848-10853.	7.1	329
9	Solution-state 2D NMR of Ball-milled Plant Cell Wall Gels in DMSO-d <sub>6</sub> . <i>Bioenergy Research</i> , 2008, 1, 56-66.	3.9	266
10	Lignin Composition and Structure in Young versus Adult <i>Eucalyptus globulus</i> Plants. <i>Plant Physiology</i> , 2011, 155, 667-682.	4.8	263
11	Peroxidase-dependent cross-linking reactions of p-hydroxycinnamates in plant cell walls. <i>Phytochemistry Reviews</i> , 2004, 3, 79-96.	6.5	239
12	Effects of Coumarate 3-Hydroxylase Down-regulation on Lignin Structure. <i>Journal of Biological Chemistry</i> , 2006, 281, 8843-8853.	3.4	209
13	Elucidation of new structures in lignins of CAD- and COMT-deficient plants by NMR. <i>Phytochemistry</i> , 2001, 57, 993-1003.	2.9	195
14	An $\alpha$ -ideale lignin facilitates full biomass utilization. <i>Science Advances</i> , 2018, 4, eaau2968.	10.3	184
15	Lignin Monomers from beyond the Canonical Monolignol Biosynthetic Pathway: Another Brick in the Wall. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 4997-5012.	6.7	184
16	Profiling of Oligolignols Reveals Monolignol Coupling Conditions in Lignifying Poplar Xylem. <i>Plant Physiology</i> , 2004, 136, 3537-3549.	4.8	180
17	Suppression of 4-Coumarate-CoA Ligase in the Coniferous Gymnosperm <i>Pinus radiata</i> . <i>Plant Physiology</i> , 2009, 149, 370-383.	4.8	166
18	Mass Spectrometry-Based Sequencing of Lignin Oligomers. <i>Plant Physiology</i> , 2010, 153, 1464-1478.	4.8	166

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19	Improving wood properties for wood utilization through multi-omics integration in lignin biosynthesis. <i>Nature Communications</i> , 2018, 9, 1579.	12.8	162
20	NMR analysis of lignins in CAD-deficient plants. Part 1. Incorporation of hydroxycinnamaldehydes and hydroxybenzaldehydes into lignins. <i>Organic and Biomolecular Chemistry</i> , 2003, 1, 268-281.	2.8	145
21	Mass Spectrometry-Based Fragmentation as an Identification Tool in Lignomics. <i>Analytical Chemistry</i> , 2010, 82, 8095-8105.	6.5	140
22	Identification of Grass-specific Enzyme That Acylates Monolignols with p-Coumarate. <i>Journal of Biological Chemistry</i> , 2012, 287, 8347-8355.	3.4	140
23	The DUF579 domain containing proteins IRX15 and IRX15 $\Delta$ affect xylan synthesis in <i>Arabidopsis</i> . <i>Plant Journal</i> , 2011, 66, 387-400.	5.7	120
24	Cell wall fermentation kinetics are impacted more by lignin content and ferulate cross-linking than by lignin composition. <i>Journal of the Science of Food and Agriculture</i> , 2009, 89, 122-129.	3.5	116
25	Loss of function of cinnamyl alcohol dehydrogenase 1 leads to unconventional lignin and a temperature-sensitive growth defect in <i>Medicago truncatula</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 13660-13665.	7.1	115
26	Identification of the structure and origin of a thioacidolysis marker compound for ferulic acid incorporation into angiosperm lignins (and an indicator for cinnamoyl CoA reductase deficiency). <i>Plant Journal</i> , 2008, 53, 368-379.	5.7	114
27	Engineering traditional monolignols out of lignin by concomitant up-regulation of F5H1 and down-regulation of COMT in <i>Arabidopsis</i> . <i>Plant Journal</i> , 2010, 64, 885-897.	5.7	114
28	An essential role of caffeoyl shikimate esterase in monolignol biosynthesis in <i>Medicago truncatula</i> . <i>Plant Journal</i> , 2016, 86, 363-375.	5.7	111
29	A gel-state 2D-NMR method for plant cell wall profiling and analysis: a model study with the amorphous cellulose and xylan from ball-milled cotton linters. <i>RSC Advances</i> , 2014, 4, 7549-7560.	3.6	100
30	Sinapate Dehydrodimers and Sinapate $\sim$ Ferulate Heterodimers in Cereal Dietary Fiber. <i>Journal of Agricultural and Food Chemistry</i> , 2003, 51, 1427-1434.	5.2	99
31	Naturally p-Hydroxybenzoylated Lignins in Palms. <i>Bioenergy Research</i> , 2015, 8, 934-952.	3.9	99
32	Different Routes for Conifer- and Sinapaldehyde and Higher Saccharification upon Deficiency in the Dehydrogenase CAD1. <i>Plant Physiology</i> , 2017, 175, 1018-1039.	4.8	99
33	Grass lignin acylation: p-coumaroyl transferase activity and cell wall characteristics of C3 and C4 grasses. <i>Planta</i> , 2009, 229, 1253-1267.	3.2	94
34	Characterization and Elimination of Undesirable Protein Residues in Plant Cell Wall Materials for Enhancing Lignin Analysis by Solution-State Nuclear Magnetic Resonance Spectroscopy. <i>Biomacromolecules</i> , 2017, 18, 4184-4195.	5.4	94
35	An Engineered Monolignol 4-O-Methyltransferase Depresses Lignin Biosynthesis and Confers Novel Metabolic Capability in <i>Arabidopsis</i> . <i>Plant Cell</i> , 2012, 24, 3135-3152.	6.6	92
36	Breeding with rare defective alleles (BRDA): a natural <i>Populus nigra</i> HCT mutant with modified lignin as a case study. <i>New Phytologist</i> , 2013, 198, 765-776.	7.3	92

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37	Small Glycosylated Lignin Oligomers Are Stored in Arabidopsis Leaf Vacuoles. <i>Plant Cell</i> , 2015, 27, 695-710.	6.6	90
38	Hydroxystilbenes Are Monomers in Palm Fruit Endocarp Lignins. <i>Plant Physiology</i> , 2017, 174, 2072-2082.	4.8	90
39	Silencing <i>CAFFEOYL SHIKIMATE ESTERASE</i> Affects Lignification and Improves Saccharification in Poplar. <i>Plant Physiology</i> , 2017, 175, 1040-1057.	4.8	90
40	Signatures of cinnamyl alcohol dehydrogenase deficiency in poplar lignins. <i>Phytochemistry</i> , 2004, 65, 313-321.	2.9	85
41	Identification of the Structure and Origin of Thioacidolysis Marker Compounds for Cinnamyl Alcohol Dehydrogenase Deficiency in Angiosperms. <i>Journal of Biological Chemistry</i> , 2002, 277, 47412-47419.	3.4	80
42	Identifying new lignin bioengineering targets: 1. Monolignol-substitute impacts on lignin formation and cell wall fermentability. <i>BMC Plant Biology</i> , 2010, 10, 114.	3.6	75
43	Variability in Lignin Composition and Structure in Cell Walls of Different Parts of <i>Macaãba</i> ( <i>Acrocomia aculeata</i> ) Palm Fruit. <i>Journal of Agricultural and Food Chemistry</i> , 2018, 66, 138-153.	5.2	70
44	Cross-Coupling of Hydroxycinnamyl Aldehydes into Lignins. <i>Organic Letters</i> , 2000, 2, 2197-2200.	4.6	69
45	Two-Dimensional NMR Evidence for Cleavage of Lignin and Xylan Substituents in Wheat Straw Through Hydrothermal Pretreatment and Enzymatic Hydrolysis. <i>Bioenergy Research</i> , 2013, 6, 211-221.	3.9	68
46	COSY catalyses trans $\rightarrow$ cis isomerization and lactonization in the biosynthesis of coumarins. <i>Nature Plants</i> , 2019, 5, 1066-1075.	9.3	64
47	Mutation of the Inducible <i>ARABIDOPSIS THALIANA CYTOCHROME P450 REDUCTASE2</i> Alters Lignin Composition and Improves Saccharification. <i>Plant Physiology</i> , 2014, 166, 1956-1971.	4.8	63
48	Enhancing digestibility and ethanol yield of <i>Populus</i> wood via expression of an engineered monolignol 4-O-methyltransferase. <i>Nature Communications</i> , 2016, 7, 11989.	12.8	61
49	Stereochemical Features of Glutathione-dependent Enzymes in the <i>Sphingobium</i> sp. Strain SYK-6 $\beta$ -Aryl Etherase Pathway. <i>Journal of Biological Chemistry</i> , 2014, 289, 8656-8667.	3.4	58
50	Structural Characterization of Lignins from Willow Bark and Wood. <i>Journal of Agricultural and Food Chemistry</i> , 2018, 66, 7294-7300.	5.2	50
51	Understanding the Physicochemical Characteristics and the Improved Enzymatic Saccharification of Corn Stover Pretreated with Aqueous and Gaseous Ammonia. <i>Bioenergy Research</i> , 2016, 9, 67-76.	3.9	48
52	Phenylcoumaran Benzylic Ether Reductase Prevents Accumulation of Compounds Formed under Oxidative Conditions in Poplar Xylem. <i>Plant Cell</i> , 2014, 26, 3775-3791.	6.6	43
53	Hydroxystilbene Glucosides Are Incorporated into Norway Spruce Bark Lignin. <i>Plant Physiology</i> , 2019, 180, 1310-1321.	4.8	43
54	<i>CAD</i> 1 and <i>CCR</i> 2 protein complex formation in monolignol biosynthesis in <i>Populus trichocarpa</i> . <i>New Phytologist</i> , 2019, 222, 244-260.	7.3	43

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55	The flying spider-monkey tree fern genome provides insights into fern evolution and arborescence. <i>Nature Plants</i> , 2022, 8, 500-512.	9.3	42
56	<i>In Vitro</i> Enzymatic Depolymerization of Lignin with Release of Syringyl, Guaiacyl, and Tricin Units. <i>Applied and Environmental Microbiology</i> , 2018, 84, .	3.1	41
57	Natural acetylation impacts carbohydrate recovery during deconstruction of <i>Populus trichocarpa</i> wood. <i>Biotechnology for Biofuels</i> , 2017, 10, 48.	6.2	40
58	Selective Oxidation of Lignin Model Compounds. <i>ChemSusChem</i> , 2018, 11, 2045-2050.	6.8	39
59	Monolignol Benzoates Incorporate into the Lignin of Transgenic <i>Populus trichocarpa</i> Depleted in C3H and C4H. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 3644-3654.	6.7	39
60	Structural Characterization of Lignin from Maize ( <i>Zea mays</i> L.) Fibers: Evidence for Diferuloylputrescine Incorporated into the Lignin Polymer in Maize Kernels. <i>Journal of Agricultural and Food Chemistry</i> , 2018, 66, 4402-4413.	5.2	38
61	Arylpropane-1,3-diols in Lignins from Normal and CAD-Deficient Pines. <i>Organic Letters</i> , 1999, 1, 323-326.	4.6	36
62	Mechanistic Study of Diaryl Ether Bond Cleavage during Palladium-Catalyzed Lignin Hydrogenolysis. <i>ChemSusChem</i> , 2020, 13, 4487-4494.	6.8	36
63	Simplified Preparation of Coniferyl and Sinapyl Alcohols. <i>Journal of Agricultural and Food Chemistry</i> , 2005, 53, 3693-3695.	5.2	35
64	Highly Decorated Lignins in Leaf Tissues of the Canary Island Date Palm <i>Phoenix canariensis</i> . <i>Plant Physiology</i> , 2017, 175, 1058-1067.	4.8	34
65	The Enzyme Activity and Substrate Specificity of Two Major Cinnamyl Alcohol Dehydrogenases in Sorghum ( <i>Sorghum bicolor</i> ), SbCAD2 and SbCAD4. <i>Plant Physiology</i> , 2017, 174, 2128-2145.	4.8	32
66	Involvement of CesA4, CesA7-A/B and CesA8-A/B in secondary wall formation in <i>Populus trichocarpa</i> wood. <i>Tree Physiology</i> , 2020, 40, 73-89.	3.1	30
67	Peroxidase-Catalyzed Oligomerization of Ferulic Acid Esters. <i>Journal of Agricultural and Food Chemistry</i> , 2008, 56, 10368-10375.	5.2	29
68	CRISPR-Cas9 editing of CAFFEYOYL SHIKIMATE ESTERASE 1 and 2 shows their importance and partial redundancy in lignification in <i>Populus tremula</i> – <i>P. alba</i> . <i>Plant Biotechnology Journal</i> , 2021, 19, 2221-2234.	8.3	29
69	Flavonoids naringenin chalcone, naringenin, dihydrotricin, and tricrin are lignin monomers in papyrus. <i>Plant Physiology</i> , 2022, 188, 208-219.	4.8	28
70	Altering carbon allocation in hybrid poplar ( <i>Populus alba</i> × <i>P. grandidentata</i> ) impacts cell wall growth and development. <i>Plant Biotechnology Journal</i> , 2017, 15, 865-878.	8.3	24
71	A Century-Old Mystery Unveiled: Sekizaisou is a Natural Lignin Mutant. <i>Plant Physiology</i> , 2020, 182, 1821-1828.	4.8	24
72	Pith-specific lignification in <i>Nicotiana attenuata</i> as a defense against a stem-boring herbivore. <i>New Phytologist</i> , 2021, 232, 332-344.	7.3	23

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73	Plant cell wall profiling by fast maximum likelihood reconstruction (FMLR) and region-of-interest (ROI) segmentation of solution-state 2D $^1\text{H}$ - $^{13}\text{C}$ NMR spectra. <i>Biotechnology for Biofuels</i> , 2013, 6, 45.	6.2	18
74	Preparation of monolignol $^3\text{H}$ -acetate, $^3\text{H}$ -p-hydroxycinnamate, and $^3\text{H}$ -p-hydroxybenzoate conjugates: selective deacylation of phenolic acetates with hydrazine acetate. <i>RSC Advances</i> , 2013, 3, 21964.	3.6	17
75	Radical coupling reactions of piceatannol and monolignols: A density functional theory study. <i>Phytochemistry</i> , 2019, 164, 12-23.	2.9	17
76	Maize specialized metabolome networks reveal organ-preferential mixed glycosides. <i>Computational and Structural Biotechnology Journal</i> , 2021, 19, 1127-1144.	4.1	15
77	Structural features of alternative lignin monomers associated with improved digestibility of artificially lignified maize cell walls. <i>Plant Science</i> , 2019, 287, 110070.	3.6	14
78	Exogenous chalcone synthase expression in developing poplar xylem incorporates naringenin into lignins. <i>Plant Physiology</i> , 2022, 188, 984-996.	4.8	14
79	Rewired phenolic metabolism and improved saccharification efficiency of a <i>Zea mays</i> cinnamyl alcohol dehydrogenase 2 ( <i>zmcad2</i> ) mutant. <i>Plant Journal</i> , 2021, 105, 1240-1257.	5.7	13
80	Unconventional lignin monomers—Extension of the lignin paradigm. <i>Advances in Botanical Research</i> , 2022, , 1-39.	1.1	13
81	Overexpression of the scopoletin biosynthetic pathway enhances lignocellulosic biomass processing. <i>Science Advances</i> , 2022, 8, .	10.3	13
82	Coupling and Reactions of Lignols and New Lignin Monomers: A Density Functional Theory Study. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 11033-11045.	6.7	12
83	Rerouting of the lignin biosynthetic pathway by inhibition of cytosolic shikimate recycling in transgenic hybrid aspen. <i>Plant Journal</i> , 2022, 110, 358-376.	5.7	10
84	Radical Coupling Reactions of Hydroxystilbene Glucosides and Coniferyl Alcohol: A Density Functional Theory Study. <i>Frontiers in Plant Science</i> , 2021, 12, 642848.	3.6	8
85	Cell Wall Characteristics of a Maize Mutant Selected for Decreased Ferulates. <i>American Journal of Plant Sciences</i> , 2018, 09, 446-466.	0.8	6
86	Incorporation of catechyl monomers into lignins: lignification from the non-phenolic end via Diels-Alder cycloaddition?. <i>Green Chemistry</i> , 2021, 23, 8995-9013.	9.0	6
87	H-lignin can be deposited independently of CINNAMYL ALCOHOL DEHYDROGENASE C and D in <i>Arabidopsis</i> . <i>Plant Physiology</i> , 2022, 189, 2015-2028.	4.8	4
88	Density functional theory study on the coupling and reactions of diferuloylputrescine as a lignin monomer. <i>Phytochemistry</i> , 2022, 197, 113122.	2.9	0