Sivakumar Pattathil

List of Publications by Citations

57 papers	3,367 citations	31 h-index	58 g-index
58 ext. papers	4,000 ext. citations	9 avg, IF	4.81 L-index

#	Paper	IF	Citations
57	An Arabidopsis cell wall proteoglycan consists of pectin and arabinoxylan covalently linked to an arabinogalactan protein. *Plant Cell*, **2013**, 25, 270-87	11.6	312
56	A comprehensive toolkit of plant cell wall glycan-directed monoclonal antibodies. *Plant Physiology*, **2010**, 153, 514-25	6.6	290
55	Efficient biomass pretreatment using ionic liquids derived from lignin and hemicellulose. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, E3587-95	11.5	239
54	Investigating plant cell wall components that affect biomass recalcitrance in poplar and switchgrass. *Energy and Environmental Science*, **2013**, 6, 898	35.4	194
53	Composition and Structure of Sugarcane Cell Wall Polysaccharides: Implications for Second-Generation Bioethanol Production. *Bioenergy Research*, **2013**, 6, 564-579	3.1	171
52	Arabidopsis G-protein interactome reveals connections to cell wall carbohydrates and morphogenesis. *Molecular Systems Biology*, **2011**, 7, 532	12.2	148
51	Next-generation ammonia pretreatment enhances cellulosic biofuel production. *Energy and Environmental Science*, **2016**, 9, 1215-1223	35.4	141
50	Immunological approaches to plant cell wall and biomass characterization: Glycome Profiling. *Methods in Molecular Biology*, **2012**, 908, 61-72	1.4	107
49	Enhanced characteristics of genetically modified switchgrass (Panicum virgatum L.) for high biofuel production. *Biotechnology for Biofuels*, **2013**, 6, 71	7.8	99
48	Arabidopsis thaliana T-DNA mutants implicate GAUT genes in the biosynthesis of pectin and xylan in cell walls and seed testa. *Molecular Plant*, **2009**, 2, 1000-14	14.4	99
47	Application of monoclonal antibodies to investigate plant cell wall deconstruction for biofuels production. *Energy and Environmental Science*, **2011**, 4, 4332	35.4	97
46	Loss of function of cinnamyl alcohol dehydrogenase 1 leads to unconventional lignin and a temperature-sensitive growth defect in Medicago truncatula. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 13660-5	11.5	94
45	Downregulation of GAUT12 in Populus deltoides by RNA silencing results in reduced recalcitrance, increased growth and reduced xylan and pectin in a woody biofuel feedstock. *Biotechnology for Biofuels*, **2015**, 8, 41	7.8	86
44	Mutations in multiple XXT genes of Arabidopsis reveal the complexity of xyloglucan biosynthesis. *Plant Physiology*, **2012**, 159, 1367-84	6.6	74
43	Carbohydrate and lignin are simultaneously solubilized from unpretreated switchgrass by microbial action at high temperature. *Energy and Environmental Science*, **2013**, 6, 2186	35.4	66
42	Biological lignocellulose solubilization: comparative evaluation of biocatalysts and enhancement via cotreatment. *Biotechnology for Biofuels*, **2016**, 9, 8	7.8	63
41	How cell wall complexity influences saccharification efficiency in Miscanthus sinensis. *Journal of Experimental Botany*, **2015**, 66, 4351-65	7	58

40	Aspen pectate lyase PtxtPL1-27 mobilizes matrix polysaccharides from woody tissues and improves saccharification yield. *Biotechnology for Biofuels*, **2014**, 7, 11	7.8	56
39	Biosynthesis of UDP-xylose: characterization of membrane-bound AtUxs2. *Planta*, **2005**, 221, 538-48	4.7	56
38	Galactose-depleted xyloglucan is dysfunctional and leads to dwarfism in Arabidopsis. *Plant Physiology*, **2015**, 167, 1296-306	6.6	55
37	The ability of land plants to synthesize glucuronoxylans predates the evolution of tracheophytes. *Glycobiology*, **2012**, 22, 439-51	5.8	49
36	Molecular analysis of a family of Arabidopsis genes related to galacturonosyltransferases. *Plant Physiology*, **2011**, 155, 1791-805	6.6	48
35	Deletion of a gene cluster encoding pectin degrading enzymes in Caldicellulosiruptor bescii reveals an important role for pectin in plant biomass recalcitrance. *Biotechnology for Biofuels*, **2014**, 7, 147	7.8	46
34	Insights into plant cell wall structure, architecture, and integrity using glycome profiling of native and AFEXTM-pre-treated biomass. *Journal of Experimental Botany*, **2015**, 66, 4279-94	7	45
33	Biochemical and physiological characterization of fut4 and fut6 mutants defective in arabinogalactan-protein fucosylation in Arabidopsis. *Journal of Experimental Botany*, **2013**, 64, 5537-51	7	41
32	Cotton fiber cell walls of Gossypium hirsutum and Gossypium barbadense have differences related to loosely-bound xyloglucan. *PLoS ONE*, **2013**, 8, e56315	3.7	40
31	Coupling alkaline pre-extraction with alkaline-oxidative post-treatment of corn stover to enhance enzymatic hydrolysis and fermentability. *Biotechnology for Biofuels*, **2014**, 7, 48	7.8	38
30	Loss of Arabidopsis GAUT12/IRX8 causes anther indehiscence and leads to reduced G lignin associated with altered matrix polysaccharide deposition. *Frontiers in Plant Science*, **2014**, 5, 357	6.2	36
29	Immunological approaches to plant cell wall and biomass characterization: immunolocalization of glycan epitopes. *Methods in Molecular Biology*, **2012**, 908, 73-82	1.4	36
28	Agave proves to be a low recalcitrant lignocellulosic feedstock for biofuels production on semi-arid lands. *Biotechnology for Biofuels*, **2014**, 7, 50	7.8	34
27	Elicitors and defense gene induction in plants with altered lignin compositions. *New Phytologist*, **2018**, 219, 1235-1251	9.8	34
26	Activation of miR165b represses AtHB15 expression and induces pith secondary wall development in Arabidopsis. *Plant Journal*, **2015**, 83, 388-400	6.9	31
25	ARABIDOPSIS DEHISCENCE ZONE POLYGALACTURONASE 1 (ADPG1) releases latent defense signals in stems with reduced lignin content. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 3281-3290	11.5	29
24	Virus-induced gene silencing offers a functional genomics platform for studying plant cell wall formation. *Molecular Plant*, **2010**, 3, 818-33	14.4	28
23	Comparison of Arabinoxylan Structure in Bioenergy and Model Grasses. *Industrial Biotechnology*, **2012**, 8, 222-229	1.3	27

22	Biological conversion assay using Clostridium phytofermentans to estimate plant feedstock quality. *Biotechnology for Biofuels*, **2012**, 5, 5	7.8	24
21	Glycome and Proteome Components of Golgi Membranes Are Common between Two Angiosperms with Distinct Cell-Wall Structures. *Plant Cell*, **2019**, 31, 1094-1112	11.6	23
20	Immunological Approaches to Biomass Characterization and Utilization. *Frontiers in Bioengineering and Biotechnology*, **2015**, 3, 173	5.8	23
19	Identification of features associated with plant cell wall recalcitrance to pretreatment by alkaline hydrogen peroxide in diverse bioenergy feedstocks using glycome profiling. *RSC Advances*, **2014**, 4, 17282-17292	3.7	22
18	Xylan epitope profiling: an enhanced approach to study organ development-dependent changes in xylan structure, biosynthesis, and deposition in plant cell walls. *Biotechnology for Biofuels*, **2017**, 10, 245	7.8	20
17	Loss of function of folylpolyglutamate synthetase 1 reduces lignin content and improves cell wall digestibility in Arabidopsis. *Biotechnology for Biofuels*, **2015**, 8, 224	7.8	20
16	cell wall composition determines disease resistance specificity and fitness. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	17
15	Cell wall-associated transition metals improve alkaline-oxidative pretreatment in diverse hardwoods. *Green Chemistry*, **2016**, 18, 1405-1415	10	16
14	Tubulin perturbation leads to unexpected cell wall modifications and affects stomatal behaviour in Populus. *Journal of Experimental Botany*, **2015**, 66, 6507-18	7	16
13	Compensatory Guaiacyl Lignin Biosynthesis at the Expense of Syringyl Lignin in -Knockout Poplar. *Plant Physiology*, **2020**, 183, 123-136	6.6	16
12	Xylan hydrolysis in Populus trichocarpa P. deltoides and model substrates during hydrothermal pretreatment. *Bioresource Technology*, **2015**, 179, 202-210	11	15
11	Xyloglucan, galactomannan, glucuronoxylan, and rhamnogalacturonan I do not have identical structures in soybean root and root hair cell walls. *Planta*, **2015**, 242, 1123-38	4.7	13
10	Changes in Cell Wall Carbohydrate Extractability Are Correlated with Reduced Recalcitrance of HCT Downregulated Alfalfa Biomass. *Industrial Biotechnology*, **2012**, 8, 217-221	1.3	12
9	A Hybrid Approach Enabling Large-Scale Glycomic Analysis of Post-Golgi Vesicles Reveals a Transport Route for Polysaccharides. *Plant Cell*, **2019**, 31, 627-644	11.6	12
8	Immunolocalization of cell wall carbohydrate epitopes in seaweeds: presence of land plant epitopes in Fucus vesiculosus L. (Phaeophyceae). *Planta*, **2016**, 243, 337-54	4.7	11
7	Assessment of Genetic Variability of Cell Wall Degradability for the Selection of Alfalfa with Improved Saccharification Efficiency. *Bioenergy Research*, **2012**, 5, 904-914	3.1	11
6	Physical and chemical differences between one-stage and two-stage hydrothermal pretreated hardwood substrates for use in cellulosic ethanol production. *Biotechnology for Biofuels*, **2016**, 9, 30	7.8	10
5	Cell Wall Ultrastructure of Stem Wood, Roots, and Needles of a Conifer Varies in Response to Moisture Availability. *Frontiers in Plant Science*, **2016**, 7, 882	6.2	9

4	Changes in cell wall properties coincide with overexpression of extensin fusion proteins in suspension cultured tobacco cells. *PLoS ONE*, **2014**, 9, e115906	3.7	8
3	Arabidopsis cell wall composition determines disease resistance specificity and fitness		2
2	Isolation and Glycomic Analysis of Trans-Golgi Network Vesicles in Plants. *Methods in Molecular Biology*, **2020**, 2177, 153-167	1.4	
1	Understanding the structure and composition of recalcitrant oligosaccharides in hydrolysate using high-throughput biotin-based glycome profiling and mass spectrometry.. *Scientific Reports*, **2022**, 12, 2521	4.9	