

# Zhengbiao Gu

## List of Publications by Year in descending order

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94  
papers

2,463  
citations

236833

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h-index

254106

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96  
docs citations

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times ranked

2105  
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrospun starch nanofibers: Recent advances, challenges, and strategies for potential pharmaceutical applications. <i>Journal of Controlled Release</i> , 2017, 252, 95-107.	4.8	168
2	Retrogradation behavior of corn starch treated with 1,4- $\alpha$ -glucan branching enzyme. <i>Food Chemistry</i> , 2016, 203, 308-313.	4.2	108
3	Impact of amylose content on starch physicochemical properties in transgenic sweet potato. <i>Carbohydrate Polymers</i> , 2015, 122, 417-427.	5.1	99
4	The effect of xanthan on short and long-term retrogradation of rice starch. <i>Starch/Staerke</i> , 2013, 65, 702-708.	1.1	97
5	Characterisation of physicochemical and functional properties of soluble dietary fibre from potato pulp obtained by enzyme-assisted extraction. <i>International Journal of Biological Macromolecules</i> , 2017, 101, 1004-1011.	3.6	90
6	Improved stability and controlled release of CLA with spray-dried microcapsules of OSA-modified starch and xanthan gum. <i>Carbohydrate Polymers</i> , 2016, 147, 243-250.	5.1	71
7	Maltooligosaccharide-forming amylase: Characteristics, preparation, and application. <i>Biotechnology Advances</i> , 2017, 35, 619-632.	6.0	66
8	Preparation, characterization and properties of starch-based adhesive for wood-based panels. <i>International Journal of Biological Macromolecules</i> , 2019, 134, 247-254.	3.6	66
9	In structure and in - vitro digestibility of waxy corn starch debranched by pullulanase. <i>Food Hydrocolloids</i> , 2017, 67, 104-110.	5.6	63
10	Chitosan coating of zein-carboxymethylated short-chain amylose nanocomposites improves oral bioavailability of insulin in vitro and in vivo. <i>Journal of Controlled Release</i> , 2019, 313, 1-13.	4.8	63
11	Comparative study on the interaction between native corn starch and different hydrocolloids during gelatinization. <i>International Journal of Biological Macromolecules</i> , 2018, 116, 136-143.	3.6	55
12	Effects of montmorillonite addition on the performance of starch-based wood adhesive. <i>Carbohydrate Polymers</i> , 2015, 115, 394-400.	5.1	51
13	Effect of modification with 1,4- $\alpha$ -glucan branching enzyme on the rheological properties of cassava starch. <i>International Journal of Biological Macromolecules</i> , 2017, 103, 630-639.	3.6	48
14	Effects of heat pretreatment of starch on graft copolymerization reaction and performance of resulting starch-based wood adhesive. <i>International Journal of Biological Macromolecules</i> , 2017, 96, 11-18.	3.6	47
15	Binary and Tertiary Complex Based on Short-Chain Glucan and Proanthocyanidins for Oral Insulin Delivery. <i>Journal of Agricultural and Food Chemistry</i> , 2017, 65, 8866-8874.	2.4	43
16	Pasting and rheologic properties of potato starch and maize starch mixtures. <i>Starch/Staerke</i> , 2011, 63, 11-16.	1.1	42
17	Effects of hydrocolloids on corn starch retrogradation. <i>Starch/Staerke</i> , 2015, 67, 348-354.	1.1	41
18	Preparation and characterization of pullulanase debranched starches and their properties for drug controlled-release. <i>RSC Advances</i> , 2015, 5, 97066-97075.	1.7	39

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19	Pasting and thermal properties of waxy corn starch modified by 1,4- $\alpha$ -glucan branching enzyme. <i>International Journal of Biological Macromolecules</i> , 2017, 97, 679-687.	3.6	38
20	An investigation into the structure and digestibility of starch-oleic acid complexes prepared under various complexing temperatures. <i>International Journal of Biological Macromolecules</i> , 2019, 138, 966-974.	3.6	33
21	A two-stage modification method using 1,4- $\alpha$ -glucan branching enzyme lowers the in vitro digestibility of corn starch. <i>Food Chemistry</i> , 2020, 305, 125441.	4.2	33
22	Stabilization of Pickering emulsions using starch nanocrystals treated with alkaline solution. <i>International Journal of Biological Macromolecules</i> , 2020, 155, 273-285.	3.6	33
23	Ghost Structures, Pasting, Rheological and Textural Properties between <i>Mesona Blumes</i> Gum and Various Starches. <i>Journal of Food Quality</i> , 2014, 37, 73-82.	1.4	32
24	Effect of amylose on pasting and rheological properties of corn starch/xanthan blends. <i>Starch/Staerke</i> , 2015, 67, 98-106.	1.1	30
25	Preparation and stability mechanisms of double emulsions stabilized by gelatinized native starch. <i>Carbohydrate Polymers</i> , 2021, 262, 117926.	5.1	30
26	Effects of acid hydrolysis intensity on the properties of starch/xanthan mixtures. <i>International Journal of Biological Macromolecules</i> , 2018, 106, 320-329.	3.6	27
27	Calcium and sodium ions synergistically enhance the thermostability of a maltooligosaccharide-forming amylase from <i>Bacillus stearothermophilus</i> STB04. <i>Food Chemistry</i> , 2019, 283, 170-176.	4.2	27
28	Effects of emulsifier on the bonding performance and freeze-thaw stability of starch-based wood adhesive. <i>Cellulose</i> , 2013, 20, 2583-2590.	2.4	26
29	Polyethylene glycols enhance the thermostability of $\beta$ -cyclodextrin glycosyltransferase from <i>Bacillus circulans</i> . <i>Food Chemistry</i> , 2014, 164, 17-22.	4.2	26
30	An extensive review: How starch and gluten impact dough machinability and resultant bread qualities. <i>Critical Reviews in Food Science and Nutrition</i> , 2023, 63, 1930-1941.	5.4	25
31	Comparison of bioaccessibility of astaxanthin encapsulated in starch-based double emulsion with different structures. <i>Carbohydrate Polymers</i> , 2021, 272, 118475.	5.1	25
32	Preparation of acetylated nanofibrillated cellulose from corn stalk microcrystalline cellulose and its reinforcing effect on starch films. <i>International Journal of Biological Macromolecules</i> , 2018, 111, 959-966.	3.6	23
33	Evolutionary Stability of Salt Bridges Hints Its Contribution to Stability of Proteins. <i>Computational and Structural Biotechnology Journal</i> , 2019, 17, 895-903.	1.9	23
34	An Innovative Short-Clustered Maltodextrin as Starch Substitute for Ameliorating Postprandial Glucose Homeostasis. <i>Journal of Agricultural and Food Chemistry</i> , 2021, 69, 354-367.	2.4	23
35	Met349 Mutations Enhance the Activity of 1,4- $\alpha$ -Glucan Branching Enzyme from <i>Geobacillus thermoglucosidans</i> STB02. <i>Journal of Agricultural and Food Chemistry</i> , 2017, 65, 5674-5680.	2.4	22
36	Additional salt bridges improve the thermostability of 1,4- $\alpha$ -glucan branching enzyme. <i>Food Chemistry</i> , 2020, 316, 126348.	4.2	22

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37	Assessment of starch-based wood adhesive quality by confocal Raman microscopic detection of reaction homogeneity. <i>Carbohydrate Polymers</i> , 2015, 131, 75-79.	5.1	21
38	Leu600 mutations decrease product inhibition of the $\beta$ -cyclodextrin glycosyltransferase from <i>Bacillus circulans</i> STB01. <i>International Journal of Biological Macromolecules</i> , 2018, 115, 1194-1201.	3.6	21
39	Combinatorial effect of fermentation and drying on the relationship between the structure and expansion properties of tapioca starch and potato starch. <i>International Journal of Biological Macromolecules</i> , 2020, 145, 965-973.	3.6	21
40	Two 1,4- $\beta$ -glucan branching enzymes successively rearrange glycosidic bonds: A novel synergistic approach for reducing starch digestibility. <i>Carbohydrate Polymers</i> , 2021, 262, 117968.	5.1	21
41	Thermostabilization of a thermophilic 1,4- $\beta$ -glucan branching enzyme through C-terminal truncation. <i>International Journal of Biological Macromolecules</i> , 2018, 107, 1510-1518.	3.6	20
42	Impact of celluloses and pectins restrictions on gluten development and water distribution in potato-wheat flour dough. <i>International Journal of Biological Macromolecules</i> , 2022, 206, 534-542.	3.6	20
43	Structure and emulsification properties of octenyl succinic anhydride starch using acid-catalyzed method. <i>Starch/Staerke</i> , 2017, 69, 1600039.	1.1	19
44	Bacterial 1,4- $\beta$ -glucan branching enzymes: characteristics, preparation and commercial applications. <i>Critical Reviews in Biotechnology</i> , 2020, 40, 380-396.	5.1	19
45	Expression and characterization of an extremely thermophilic 1,4- $\beta$ -glucan branching enzyme from <i>Rhodothermus obamensis</i> STB05. <i>Protein Expression and Purification</i> , 2019, 164, 105478.	0.6	18
46	Characterization of physicochemical properties of cellulose from potato pulp and their effects on enzymatic hydrolysis by cellulase. <i>International Journal of Biological Macromolecules</i> , 2019, 131, 564-571.	3.6	18
47	Structure-Based Engineering of a Maltooligosaccharide-Forming Amylase To Enhance Product Specificity. <i>Journal of Agricultural and Food Chemistry</i> , 2020, 68, 838-844.	2.4	18
48	Alanine 310 is important for the activity of 1,4- $\beta$ -glucan branching enzyme from <i>Geobacillus thermoglucosidans</i> STB02. <i>International Journal of Biological Macromolecules</i> , 2017, 97, 156-163.	3.6	17
49	Effects of low-temperature blanching on tissue firmness and cell wall strengthening during sweet potato flour processing. <i>International Journal of Food Science and Technology</i> , 2014, 49, 1360-1366.	1.3	16
50	Potassium and sodium ions enhance the activity and thermostability of 1,4- $\beta$ -glucan branching enzyme from <i>Geobacillus thermoglucosidans</i> in the presence of glycerol. <i>International Journal of Biological Macromolecules</i> , 2017, 102, 712-717.	3.6	16
51	Crystal structure of a maltooligosaccharide-forming amylase from <i>Bacillus stearothermophilus</i> STB04. <i>International Journal of Biological Macromolecules</i> , 2019, 138, 394-402.	3.6	16
52	Flexible Loop in Carbohydrate-Binding Module 48 Allosterically Modulates Substrate Binding of the 1,4- $\beta$ -Glucan Branching Enzyme. <i>Journal of Agricultural and Food Chemistry</i> , 2021, 69, 5755-5763.	2.4	16
53	Preparation and characterization of octenyl succinic anhydride modified waxy maize starch hydrolyzate/chitosan complexes with enhanced interfacial properties. <i>Carbohydrate Polymers</i> , 2021, 267, 118228.	5.1	16
54	Preparation and structural properties of starch phosphate modified by alkaline phosphatase. <i>Carbohydrate Polymers</i> , 2022, 276, 118803.	5.1	16

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55	Butyrylated starch protects mice from DSS-induced colitis: combined effects of butyrate release and prebiotic supply. <i>Food and Function</i> , 2021, 12, 11290-11302.	2.1	15
56	Effect of cassava starch structure on scalding of dough and baking expansion ability. <i>Food Chemistry</i> , 2021, 352, 129350.	4.2	15
57	Effects of different gelatinization degrees of starch in potato flour on the quality of steamed bread. <i>International Journal of Biological Macromolecules</i> , 2022, 209, 144-152.	3.6	15
58	Effect of NaCl addition on the freeze-thaw stability of tapioca starch gels. <i>Starch/Staerke</i> , 2015, 67, 604-611.	1.1	14
59	Asp577 mutations enhance the catalytic efficiency of cyclodextrin glycosyltransferase from <i>Bacillus circulans</i> . <i>International Journal of Biological Macromolecules</i> , 2016, 83, 111-116.	3.6	14
60	Characterization the structural property and degradation behavior of corn starch in KOH/thiourea aqueous solution. <i>Carbohydrate Polymers</i> , 2021, 270, 118363.	5.1	14
61	Structural studies of an acidic polysaccharide of <i>Mesona blumes</i> gum. <i>Journal of the Science of Food and Agriculture</i> , 2008, 88, 24-34.	1.7	13
62	Rheological properties of cereal starch gels and <i>Mesona Blumes</i> gum mixtures. <i>Starch/Staerke</i> , 2010, 62, 480-488.	1.1	13
63	Mutations enhance $\beta$ -cyclodextrin specificity of cyclodextrin glycosyltransferase from <i>Bacillus circulans</i> . <i>Carbohydrate Polymers</i> , 2014, 108, 112-117.	5.1	13
64	Non-classical secretion of 1,4- $\alpha$ -glucan branching enzymes without signal peptides in <i>Escherichia coli</i> . <i>International Journal of Biological Macromolecules</i> , 2019, 132, 759-765.	3.6	13
65	Novel Short-Clustered Maltodextrin as a Dietary Starch Substitute Attenuates Metabolic Dysregulation and Restructures Gut Microbiota in <i>db/db</i> Mice. <i>Journal of Agricultural and Food Chemistry</i> , 2020, 68, 12400-12412.	2.4	13
66	Effects of sugar, salt and acid on tapioca starch and tapioca starch-xanthan gum combinations. <i>Starch/Staerke</i> , 2014, 66, 436-443.	1.1	12
67	Structure of maltotetraose-forming amylase from <i>Pseudomonas saccharophila</i> STB07 provides insights into its product specificity. <i>International Journal of Biological Macromolecules</i> , 2020, 154, 1303-1313.	3.6	12
68	Carbohydrate-Binding Module and Linker Allow Cold Adaptation and Salt Tolerance of Maltopentaose-Forming Amylase From Marine Bacterium <i>Saccharophagus degradans</i> 2-40T. <i>Frontiers in Microbiology</i> , 2021, 12, 708480.	1.5	12
69	Mutations at calcium binding site III in cyclodextrin glycosyltransferase improve $\beta$ -cyclodextrin specificity. <i>International Journal of Biological Macromolecules</i> , 2015, 76, 224-229.	3.6	11
70	Rational Design of Disulfide Bonds for Enhancing the Thermostability of the 1,4- $\alpha$ -Glucan Branching Enzyme from <i>Geobacillus thermoglucosidans</i> STB02. <i>Journal of Agricultural and Food Chemistry</i> , 2020, 68, 13791-13797.	2.4	11
71	Emulsification properties of enzymatically treated octenylsuccinic anhydride starch. <i>Starch/Staerke</i> , 2014, 66, 1089-1095.	1.1	10
72	Influence of guar gum on the in vitro digestibility of tapioca starch. <i>Starch/Staerke</i> , 2016, 68, 339-347.	1.1	10

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73	Enzyme assisted fermentation of potato pulp: An effective way to reduce water holding capacity and improve drying efficiency. <i>Food Chemistry</i> , 2018, 258, 118-123.	4.2	10
74	Importance of Trp139 in the product specificity of a maltooligosaccharide-forming amylase from <i>Bacillus stearothermophilus</i> STB04. <i>Applied Microbiology and Biotechnology</i> , 2019, 103, 9433-9442.	1.7	10
75	The desirable salt bridges in amylases: Distribution, configuration and location. <i>Food Chemistry</i> , 2021, 354, 129475.	4.2	10
76	Ultrasonic pretreatment improves the high-temperature liquefaction of corn starch at high concentrations. <i>Starch/Staerke</i> , 2017, 69, 1600002.	1.1	9
77	Variants at position 603 of the CGTase from <i>Bacillus circulans</i> STB01 for reducing product inhibition. <i>International Journal of Biological Macromolecules</i> , 2019, 136, 460-468.	3.6	9
78	Starch-Binding Domain Modulates the Specificity of Maltopentaose Production at Moderate Temperatures. <i>Journal of Agricultural and Food Chemistry</i> , 2022, 70, 9057-9065.	2.4	9
79	Effect of increased pressure on the coated layer profile of steamed rice. <i>Food Chemistry</i> , 2020, 310, 125971.	4.2	7
80	Combined effects of wheat gluten and carboxymethylcellulose on dough rheological behaviours and gluten network of potato-wheat flour-based bread. <i>International Journal of Food Science and Technology</i> , 2021, 56, 4149-4158.	1.3	7
81	Insights into the thermostability and product specificity of a maltooligosaccharide-forming amylase from <i>Bacillus stearothermophilus</i> STB04. <i>Biotechnology Letters</i> , 2020, 42, 295-303.	1.1	6
82	New insights into the alleviating role of starch derivatives on dough quality deterioration caused by freeze. <i>Food Chemistry</i> , 2021, 362, 130240.	4.2	6
83	The amino acid on the top of the active groove allosterically modulates product specificity of the 1,4- $\alpha$ -glucan branching enzyme. <i>Food Chemistry</i> , 2022, 384, 132458.	4.2	6
84	A review of controlled release from cyclodextrins: release methods, release systems and application. <i>Critical Reviews in Food Science and Nutrition</i> , 2023, 63, 4744-4756.	5.4	5
85	Complexation behavior of carboxymethyl short-chain amylose and quaternized chitosan. <i>International Journal of Biological Macromolecules</i> , 2022, 209, 1914-1921.	3.6	5
86	Maltose binding site 2 mutations affect product inhibition of <i>Bacillus circulans</i> STB01 cyclodextrin glycosyltransferase. <i>International Journal of Biological Macromolecules</i> , 2021, 175, 254-261.	3.6	4
87	Effects of acid-ethanol hydrolysis and debranch on acetylated starch and its potential used for curcumin carrier. <i>Carbohydrate Polymers</i> , 2022, 279, 119019.	5.1	4
88	Physical Changes of <i>Mesona Blumes</i> Gum/Starch Mixed Gel with Sugars. <i>Cereal Chemistry</i> , 2008, 85, 550-556.	1.1	3
89	Importance of C-Terminal Extension in Thermophilic 1,4- $\alpha$ -Glucan Branching Enzyme from <i>Geobacillus thermoglucosidans</i> STB02. <i>Applied Biochemistry and Biotechnology</i> , 2020, 190, 1010-1022.	1.4	3
90	Study on rapid drying and spoilage prevention of potato pulp using solid-state fermentation with <i>Aspergillus aculeatus</i> . <i>Bioresource Technology</i> , 2020, 296, 122323.	4.8	3

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91	KOH/thiourea aqueous solution: A potential solvent for studying the dissolution mechanism and chain conformation of corn starch. <i>International Journal of Biological Macromolecules</i> , 2022, 195, 86-92.	3.6	3
92	Fusion of maltooligosaccharide-forming amylases from two origins for the improvement of maltopentaose synthesis. <i>Food Research International</i> , 2021, 150, 110735.	2.9	2
93	Themes, Trends, and Knowledge Structure in 30 Years of Starch Research in Food Science and Technology: a Visualization Review. <i>Starch/Staerke</i> , 0, , 2100274.	1.1	2
94	Substrate Selectivity of a Novel Amylo-1,6-glucosidase from <i>Thermococcus gammatolerans</i> STB12. <i>Foods</i> , 2022, 11, 1442.	1.9	1