Ren Wei

List of Publications by Year
in descending order

54 papers	4,592 citations	126708 33 h-index	182168 51 g-index
56 all docs	56 docs citations	56 times ranked	2437 citing authors

#	Article	IF	Citations
1	Microbial enzymes for the recycling of recalcitrant petroleumâ€based plastics: how far are we?. Microbial Biotechnology, 2017, 10, 1308-1322.	2.0	503
2	Enzymatic Surface Hydrolysis of PET: Effect of Structural Diversity on Kinetic Properties of Cutinases from Thermobifida. Macromolecules, 2011, 44, 4632-4640.	2.2	298
3	New Insights into the Function and Global Distribution of Polyethylene Terephthalate (PET)-Degrading Bacteria and Enzymes in Marine and Terrestrial Metagenomes. Applied and Environmental Microbiology, 2018, 84, .	1.4	259
4	Possibilities and limitations of biotechnological plastic degradation and recycling. Nature Catalysis, 2020, 3, 867-871.	16.1	233
5	Biocatalysis as a green route for recycling the recalcitrant plastic polyethylene terephthalate. Microbial Biotechnology, 2017, 10, 1302-1307.	2.0	215
6	Structural and functional studies on a thermostable polyethylene terephthalate degrading hydrolase from Thermobifida fusca. Applied Microbiology and Biotechnology, 2014, 98, 7815-7823.	1.7	191
7	Biocatalytic Degradation Efficiency of Postconsumer Polyethylene Terephthalate Packaging Determined by Their Polymer Microstructures. Advanced Science, 2019, 6, 1900491.	5.6	181
8	Microplastic pollution in water and sediment in a textile industrial area. Environmental Pollution, 2020, 258, 113658.	3.7	174
9	Engineered bacterial polyester hydrolases efficiently degrade polyethylene terephthalate due to relieved product inhibition. Biotechnology and Bioengineering, 2016, 113, 1658-1665.	1.7	169
10	Effect of hydrolysis products on the enzymatic degradation of polyethylene terephthalate nanoparticles by a polyester hydrolase from Thermobifida fusca. Biochemical Engineering Journal, 2015, 93, 222-228.	1.8	164
11	Towards bio-upcycling of polyethylene terephthalate. Metabolic Engineering, 2021, 66, 167-178.	3.6	151
12	A dual enzyme system composed of a polyester hydrolase and a carboxylesterase enhances the biocatalytic degradation of polyethylene terephthalate films. Biotechnology Journal, 2016, 11, 1082-1087.	1.8	145
13	Functional characterization and structural modeling of synthetic polyester-degrading hydrolases from Thermomonospora curvata. AMB Express, 2014, 4, 44.	1.4	117
14	Ca²⁺ and Mg²⁺ binding site engineering increases the degradation of polyethylene terephthalate films by polyester hydrolases from <i>Thermobifida fusca</i>. Biotechnology Journal, 2015, 10, 592-598.	1.8	117
15	Degradation of Polyester Polyurethane by Bacterial Polyester Hydrolases. Polymers, 2017, 9, 65.	2.0	116
16	Thermophilic wholeâ€cell degradation of polyethylene terephthalate using engineered <i>Clostridium thermocellum</i>. Microbial Biotechnology, 2021, 14, 374-385.	2.0	106
17	Mechanism-Based Design of Efficient PET Hydrolases. ACS Catalysis, 2022, 12, 3382-3396.	5.5	104
18	Biodegradation and up-cycling of polyurethanes: Progress, challenges, and prospects. Biotechnology Advances, 2021, 48, 107730.	6.0	95

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19	Microbial Genes for a Circular and Sustainable Bio-PET Economy. Genes, 2019, 10, 373.	1.0	94
20	A disulfide bridge in the calcium binding site of a polyester hydrolase increases its thermal stability and activity against polyethylene terephthalate. FEBS Open Bio, 2016, 6, 425-432.	1.0	91
21	Conformational fitting of a flexible oligomeric substrate does not explain the enzymatic PET degradation. Nature Communications, 2019, 10, 5581.	5.8	89
22	Synthetic Polyester-Hydrolyzing Enzymes From Thermophilic Actinomycetes. Advances in Applied Microbiology, 2014, 89, 267-305.	1.3	86
23	Enzymatic hydrolysis of polyethylene terephthalate films in an ultrafiltration membrane reactor. Journal of Membrane Science, 2015, 494, 182-187.	4.1	71
24	Turbidimetric analysis of the enzymatic hydrolysis of polyethylene terephthalate nanoparticles. Journal of Molecular Catalysis B: Enzymatic, 2014, 103, 72-78.	1.8	67
25	High level expression of a hydrophobic poly(ethylene terephthalate)-hydrolyzing carboxylesterase from Thermobifida fusca KW3 in Escherichia coli BL21(DE3). Journal of Biotechnology, 2010, 146, 100-104.	1.9	61
26	Biodegradation of low-density polyethylene by Microbulbifer hydrolyticus IRE-31. Journal of Environmental Management, 2020, 263, 110402.	3.8	55
27	The metabolic potential of plastics as biotechnological carbon sources â€“ Review and targets for the future. Metabolic Engineering, 2022, 71, 77-98.	3.6	55
28	Effect of Tris, MOPS, and phosphate buffers on the hydrolysis of polyethylene terephthalate films by polyester hydrolases. FEBS Open Bio, 2016, 6, 919-927.	1.0	52
29	Engineering and evaluation of thermostable <i>Is</i>PETase variants for PET degradation. Engineering in Life Sciences, 2022, 22, 192-203.	2.0	51
30	A highâ€throughput assay for enzymatic polyester hydrolysis activity by fluorimetric detection. Biotechnology Journal, 2012, 7, 1517-1521.	1.8	49
31	UV Pretreatment Impairs the Enzymatic Degradation of Polyethylene Terephthalate. Frontiers in Microbiology, 2020, 11, 689.	1.5	46
32	Biocatalysis in the Recycling Landscape for Synthetic Polymers and Plastics towards Circular Textiles. ChemSusChem, 2021, 14, 4028-4040.	3.6	46
33	Enzymatic degradation of polyethylene terephthalate nanoplastics analyzed in real time by isothermal titration calorimetry. Science of the Total Environment, 2021, 773, 145111.	3.9	37
34	Plastic Biodegradation: Challenges and Opportunities. , 2018, , 1-29.		33
35	MIXed plastics biodegradation and UPcycling using microbial communities: EU Horizon 2020 project MIX-UP started January 2020. Environmental Sciences Europe, 2021, 33, 99.	2.6	33
36	Fusion of Chitin-Binding Domain From Chitinolyticbacter meiyuanensis SYBC-H1 to the Leaf-Branch Compost Cutinase for Enhanced PET Hydrolysis. Frontiers in Bioengineering and Biotechnology, 2021, 9, 762854.	2.0	28

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37	Biodegradation of polyether-polyurethane foam in yellow mealworms (Tenebrio molitor) and effects on the gut microbiome. Chemosphere, 2022, 304, 135263.	4.2	25
38	Process analysis of microplastic degradation using activated PMS and Fenton reagents. Chemosphere, 2022, 298, 134220.	4.2	22
39	Fast Turbidimetric Assay for Analyzing the Enzymatic Hydrolysis of Polyethylene Terephthalate Model Substrates. Biotechnology Journal, 2019, 14, e1800272.	1.8	19
40	Fluorimetric high-throughput screening method for polyester hydrolase activity using polyethylene terephthalate nanoparticles. Methods in Enzymology, 2021, 648, 253-270.	0.4	18
41	Merging Plastics, Microbes, and Enzymes: Highlights from an International Workshop. Applied and Environmental Microbiology, 2022, 88, .	1.4	17
42	Biosensor and chemo-enzymatic one-pot cascade applications to detect and transform PET-derived terephthalic acid in living cells. IScience, 2022, 25, 104326.	1.9	16
43	Efficient extracellular recombinant production and purification of a Bacillus cyclodextrin glucanotransferase in Escherichia coli. Microbial Cell Factories, 2017, 16, 87.	1.9	15
44	Mechanistic investigation of enzymatic degradation of polyethylene terephthalate by nuclear magnetic resonance. Methods in Enzymology, 2021, 648, 231-252.	0.4	11
45	Editorial: Microbial Degradation of Plastics. Frontiers in Microbiology, 2021, 12, 635621.	1.5	11
46	Systematic analysis of the effects of different nitrogen source and ICDH knockout on glycolate synthesis in Escherichia coli. Journal of Biological Engineering, 2019, 13, 30.	2.0	9
47	Yeast cell surface display of bacterial PET hydrolase as a sustainable biocatalyst for the degradation of polyethylene terephthalate. Methods in Enzymology, 2021, 648, 457-477.	0.4	8
48	Quantum Mechanical Investigation of the Oxidative Cleavage of the Câ€“C Backbone Bonds in Polyethylene Model Molecules. Polymers, 2021, 13, 2730.	2.0	8
49	Plastic Biodegradation: Challenges and Opportunities. , 2019, , 333-361.		5
50	Enzymatic surface treatment of poly (3â€hydroxybutyrate) (<scp>PHB</scp>), and poly (3â€hydroxybutyrateâ€coâ€3â€hydroxyvalerate) (<scp>PHBV</scp>). Journal of Chemical Technology and Biotechnology, 2015, 90, 2036-2039.	1.6	3
51	Diversity of polyester degrading bacteria in surface sediments from Yangtze River Estuary. AIP Conference Proceedings, 2019, , .	0.3	2
52	Multi-wavelength colorimetric determination of large-ring cyclodextrin content for the cyclization activity of 4-Î±-glucanotransferase. Carbohydrate Polymers, 2015, 122, 329-335.	5.1	1
53	Improved Stability of Baeyerâ€“Villiger Mono-Oxygenase from Pseudomonas fluorescens by Substitution of Cysteine Residues. Journal of Biobased Materials and Bioenergy, 2019, 13, 490-497.	0.1	1
54	Vergleich von Polyethylenterephthalat-hydrolysierenden Cutinase-Varianten aus Thermobifida fusca. Chemie-Ingenieur-Technik, 2010, 82, 1487-1487.	0.4	0