Robert M Kelly

List of Publications by Citations

239 papers	8,496 citations	54 h-index	78 g-index
252 ext. papers	9,634 ext. citations	6 avg, IF	5.92 L-index

#	Paper	IF	Citations
239	Extremely thermophilic microorganisms for biomass conversion: status and prospects. *Current Opinion in Biotechnology*, **2008**, 19, 210-7	11.4	215
238	Hydrogenase of the hyperthermophile Pyrococcus furiosus is an elemental sulfur reductase or sulfhydrogenase: evidence for a sulfur-reducing hydrogenase ancestor. *Proceedings of the National Academy of Sciences of the United States of America*, **1993**, 90, 5341-4	11.5	156
237	Global analysis of carbohydrate utilization by Lactobacillus acidophilus using cDNA microarrays. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 3816-21	11.5	155
236	Finding and using hyperthermophilic enzymes. *Trends in Biotechnology*, **1998**, 16, 329-32	15.1	154
235	Purification and characterization of an alpha-glucosidase from a hyperthermophilic archaebacterium, Pyrococcus furiosus, exhibiting a temperature optimum of 105 to 115 degrees C. *Journal of Bacteriology*, **1990**, 172, 3654-60	3.5	145
234	Hydrogenomics of the extremely thermophilic bacterium Caldicellulosiruptor saccharolyticus. *Applied and Environmental Microbiology*, **2008**, 74, 6720-9	4.8	132
233	Characterization of Amylolytic Enzymes, Having Both alpha-1,4 and alpha-1,6 Hydrolytic Activity, from the Thermophilic Archaea Pyrococcus furiosus and Thermococcus litoralis. *Applied and Environmental Microbiology*, **1993**, 59, 2614-21	4.8	129
232	Thermophilic lignocellulose deconstruction. *FEMS Microbiology Reviews*, **2014**, 38, 393-448	15.1	125
231	The genome sequence of the metal-mobilizing, extremely thermoacidophilic archaeon Metallosphaera sedula provides insights into bioleaching-associated metabolism. *Applied and Environmental Microbiology*, **2008**, 74, 682-92	4.8	122
230	Extremozymes: expanding the limits of biocatalysis. *Nature Biotechnology*, **1995**, 13, 662-8	44.5	122
229	A genomic catalog of Earth's microbiomes. *Nature Biotechnology*, **2021**, 39, 499-509	44.5	120
228	An endoglucanase, EglA, from the hyperthermophilic archaeon Pyrococcus furiosus hydrolyzes beta-1,4 bonds in mixed-linkage (1-->3),(1-->4)-beta-D-glucans and cellulose. *Journal of Bacteriology* , **1999**, 181, 284-90	3.5	112
227	Extremely thermophilic microorganisms as metabolic engineering platforms for production of fuels and industrial chemicals. *Frontiers in Microbiology*, **2015**, 6, 1209	5.7	111
226	Carbohydrate-induced differential gene expression patterns in the hyperthermophilic bacterium Thermotoga maritima. *Journal of Biological Chemistry*, **2003**, 278, 7540-52	5.4	107
225	Growth Physiology of the Hyperthermophilic Archaeon Thermococcus litoralis: Development of a Sulfur-Free Defined Medium, Characterization of an Exopolysaccharide, and Evidence of Biofilm Formation. *Applied and Environmental Microbiology*, **1996**, 62, 4478-85	4.8	106
224	Exploiting microbial hyperthermophilicity to produce an industrial chemical, using hydrogen and carbon dioxide. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 5840-5	11.5	102
223	Bioenergetics of sulfur reduction in the hyperthermophilic archaeon Pyrococcus furiosus. *Journal of Bacteriology*, **1993**, 175, 1823-30	3.5	102

222	Comparison of a beta-glucosidase and a beta-mannosidase from the hyperthermophilic archaeon Pyrococcus furiosus. Purification, characterization, gene cloning, and sequence analysis. *Journal of Biological Chemistry*, **1996**, 271, 23749-55	5.4	101
221	Characterization of Amylolytic Enzyme Activities Associated with the Hyperthermophilic Archaebacterium Pyrococcus furiosus. *Applied and Environmental Microbiology*, **1990**, 56, 1985-91	4.8	101
220	Role of Polysulfides in Reduction of Elemental Sulfur by the Hyperthermophilic Archaebacterium Pyrococcus furiosus. *Applied and Environmental Microbiology*, **1990**, 56, 1255-62	4.8	98
219	Microwave activation of enzymatic catalysis. *Journal of the American Chemical Society*, **2008**, 130, 10048-9	26.4	97
218	Characterization of sodium dodecyl sulfate-resistant proteolytic activity in the hyperthermophilic archaebacterium Pyrococcus furiosus. *Applied and Environmental Microbiology*, **1990**, 56, 1992-8	4.8	97
217	Insights into plant biomass conversion from the genome of the anaerobic thermophilic bacterium Caldicellulosiruptor bescii DSM 6725. *Nucleic Acids Research*, **2011**, 39, 3240-54	20.1	94
216	Phylogenetic, microbiological, and glycoside hydrolase diversities within the extremely thermophilic, plant biomass-degrading genus Caldicellulosiruptor. *Applied and Environmental Microbiology*, **2010**, 76, 8084-92	4.8	90
215	Microbial biochemistry, physiology, and biotechnology of hyperthermophilic Thermotoga species. *FEMS Microbiology Reviews*, **2006**, 30, 872-905	15.1	90
214	Heat shock response by the hyperthermophilic archaeon Pyrococcus furiosus. *Applied and Environmental Microbiology*, **2003**, 69, 2365-71	4.8	90
213	Carbohydrate utilization patterns for the extremely thermophilic bacterium Caldicellulosiruptor saccharolyticus reveal broad growth substrate preferences. *Applied and Environmental Microbiology* , **2009**, 75, 7718-24	4.8	89
212	ENZYMES FROM MICROORGANISMS IN EXTREME ENVIRONMENTS. *Chemical & Engineering News*, **1995**, 73, 32-42		88
211	Regulation of endo-acting glycosyl hydrolases in the hyperthermophilic bacterium Thermotoga maritima grown on glucan- and mannan-based polysaccharides. *Applied and Environmental Microbiology*, **2002**, 68, 545-54	4.8	86
210	Effect of carbon and nitrogen sources on growth dynamics and exopolysaccharide production for the hyperthermophilic archaeon Thermococcus litoralis and bacterium Thermotoga maritima. *Biotechnology and Bioengineering*, **2000**, 69, 537-47	4.9	85
209	xylA cloning and sequencing and biochemical characterization of xylose isomerase from Thermotoga neapolitana. *Applied and Environmental Microbiology*, **1995**, 61, 1867-75	4.8	85
208	Purification and characterization of a highly thermostable glucose isomerase produced by the extremely thermophilic eubacterium, Thermotoga maritima. *Biotechnology and Bioengineering*, **1993**, 41, 878-86	4.9	83
207	Caldicellulosiruptor core and pangenomes reveal determinants for noncellulosomal thermophilic deconstruction of plant biomass. *Journal of Bacteriology*, **2012**, 194, 4015-28	3.5	81
206	Population density-dependent regulation of exopolysaccharide formation in the hyperthermophilic bacterium Thermotoga maritima. *Molecular Microbiology*, **2005**, 55, 664-74	4.1	80
205	Sequence, expression in Escherichia coli, and analysis of the gene encoding a novel intracellular protease (PfpI) from the hyperthermophilic archaeon Pyrococcus furiosus. *Journal of Bacteriology*, **1996**, 178, 2605-12	3.5	79

204	Biochemical analysis of Thermotoga maritima GH36 alpha-galactosidase (TmGalA) confirms the mechanistic commonality of clan GH-D glycoside hydrolases. *Biochemistry*, **2007**, 46, 3319-30	3.2	78
203	Biological conversion of carbon dioxide and hydrogen into liquid fuels and industrial chemicals. *Current Opinion in Biotechnology*, **2013**, 24, 376-84	11.4	76
202	Growth of hyperthermophilic archaeon Pyrococcus furiosus on chitin involves two family 18 chitinases. *Applied and Environmental Microbiology*, **2003**, 69, 3119-28	4.8	76
201	Single gene insertion drives bioalcohol production by a thermophilic archaeon. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 17618-23	11.5	74
200	Identification of components of electron transport chains in the extremely thermoacidophilic crenarchaeon Metallosphaera sedula through iron and sulfur compound oxidation transcriptomes. *Applied and Environmental Microbiology*, **2008**, 74, 7723-32	4.8	74
199	Aflatoxin conducive and non-conducive growth conditions reveal new gene associations with aflatoxin production. *Fungal Genetics and Biology*, **2005**, 42, 506-18	3.9	73
198	An expression-driven approach to the prediction of carbohydrate transport and utilization regulons in the hyperthermophilic bacterium Thermotoga maritima. *Journal of Bacteriology*, **2005**, 187, 7267-82	3.5	73
197	Hydrogenesis in hyperthermophilic microorganisms: implications for biofuels. *Metabolic Engineering*, **2008**, 10, 394-404	9.7	71
196	Rheology and Molecular Weight Changes during Enzymatic Degradation of a Water-Soluble Polymer. *Macromolecules*, **1999**, 32, 294-300	5.5	70
195	Denaturation and aggregation of three alpha-lactalbumin preparations at neutral pH. *Journal of Agricultural and Food Chemistry*, **2005**, 53, 3182-90	5.7	69
194	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
193	Transcriptional analysis of biofilm formation processes in the anaerobic, hyperthermophilic bacterium Thermotoga maritima. *Applied and Environmental Microbiology*, **2004**, 70, 6098-112	4.8	66
192	Metabolism in hyperthermophilic microorganisms. *Antonie Van Leeuwenhoek*, **1994**, 66, 247-70	2.1	64
191	The Confluence of Heavy Metal Biooxidation and Heavy Metal Resistance: Implications for Bioleaching by Extreme Thermoacidophiles. *Minerals (Basel, Switzerland)*, **2015**, 5, 397-451	2.4	62
190	Extremely Thermophilic Archaebacteria: Biological and Engineering Considerations. *Biotechnology Progress*, **1988**, 4, 47-62	2.8	58
189	The Thermotoga maritima phenotype is impacted by syntrophic interaction with Methanococcus jannaschii in hyperthermophilic coculture. *Applied and Environmental Microbiology*, **2006**, 72, 811-8	4.8	57
188	Transcriptional and biochemical analysis of starch metabolism in the hyperthermophilic archaeon Pyrococcus furiosus. *Journal of Bacteriology*, **2006**, 188, 2115-25	3.5	56
187	Dynamic metabolic adjustments and genome plasticity are implicated in the heat shock response of the extremely thermoacidophilic archaeon Sulfolobus solfataricus. *Journal of Bacteriology*, **2006**, 188, 4553-9	3.5	55

186	The family 1 beta-glucosidases from Pyrococcus furiosus and Agrobacterium faecalis share a common catalytic mechanism. *Biochemistry*, **1998**, 37, 17170-8	3.2	55
185	Extreme Thermophiles: Moving beyond single-enzyme biocatalysis. *Current Opinion in Chemical Engineering*, **2012**, 1, 363-372	5.4	53
184	Glycoside hydrolase inventory drives plant polysaccharide deconstruction by the extremely thermophilic bacterium Caldicellulosiruptor saccharolyticus. *Biotechnology and Bioengineering*, **2011**, 108, 1559-69	4.9	53
183	Polysaccharide degradation and synthesis by extremely thermophilic anaerobes. *Annals of the New York Academy of Sciences*, **2008**, 1125, 322-37	6.5	52
182	Galactomannanases Man2 and Man5 from Thermotoga species: growth physiology on galactomannans, gene sequence analysis, and biochemical properties of recombinant enzymes. *Biotechnology and Bioengineering*, **2001**, 75, 322-33	4.9	52
181	Biochemical characterization of Thermotoga maritima endoglucanase Cel74 with and without a carbohydrate binding module (CBM). *FEBS Letters*, **2002**, 531, 375-80	3.8	51
180	Physiological versatility of the extremely thermoacidophilic archaeon Metallosphaera sedula supported by transcriptomic analysis of heterotrophic, autotrophic, and mixotrophic growth. *Applied and Environmental Microbiology*, **2010**, 76, 931-5	4.8	50
179	Complete genome sequences for the anaerobic, extremely thermophilic plant biomass-degrading bacteria Caldicellulosiruptor hydrothermalis, Caldicellulosiruptor kristjanssonii, Caldicellulosiruptor kronotskyensis, Caldicellulosiruptor owensensis, and Caldicellulosiruptor lactoaceticus. *Journal of*	3.5	49
178	Characterization of extremely thermostable enzymatic breakers (alpha-1,6-galactosidase and beta-1,4-mannanase) from the hyperthermophilic bacterium Thermotoga neapolitana 5068 for hydrolysis of guar gum. *Biotechnology and Bioengineering*, **1996**, 52, 332-9	4.9	49
177	Life in hot acid: pathway analyses in extremely thermoacidophilic archaea. *Current Opinion in Biotechnology*, **2008**, 19, 445-53	11.4	48
176	Bivalent cations and amino-acid composition contribute to the thermostability of Bacillus licheniformis xylose isomerase. *FEBS Journal*, **2001**, 268, 6291-301		47
175	Regulation of Proteolytic Activity in the Hyperthermophile Pyrococcus furiosus. *Applied and Environmental Microbiology*, **1992**, 58, 1134-41	4.8	47
174	Cross-linked polymer nanofibers for hyperthermophilic enzyme immobilization: approaches to improve enzyme performance. *ACS Applied Materials & Interfaces*, **2014**, 6, 11899-906	9.5	46
173	S-layer homology domain proteins Csac_0678 and Csac_2722 are implicated in plant polysaccharide deconstruction by the extremely thermophilic bacterium Caldicellulosiruptor saccharolyticus. *Applied and Environmental Microbiology*, **2012**, 78, 768-77	4.8	46
172	Glycosyl hydrolases from hyperthermophilic microorganisms. *Current Opinion in Biotechnology*, **1998**, 9, 141-5	11.4	45
171	The genus Thermotoga: recent developments. *Environmental Technology (United Kingdom)*, **2010**, 31, 1169-81	2.6	44
170	Role of vapBC toxin-antitoxin loci in the thermal stress response of Sulfolobus solfataricus. *Biochemical Society Transactions*, **2009**, 37, 123-6	5.1	43
169	Glucose-to-fructose conversion at high temperatures with xylose (glucose) isomerases from Streptomyces murinus and two hyperthermophilic Thermotoga species. *Biotechnology and Bioengineering*, **2002**, 80, 185-94	4.9	43

168	A hybrid synthetic pathway for butanol production by a hyperthermophilic microbe. *Metabolic Engineering*, **2015**, 27, 101-106	9.7	42
167	Cultivation Techniques for Hyperthermophilic Archaebacteria: Continuous Culture of Pyrococcus furiosus at Temperatures near 100 degrees C. *Applied and Environmental Microbiology*, **1989**, 55, 2086-2088	4.8	42
166	Biotechnology of extremely thermophilic archaea. *FEMS Microbiology Reviews*, **2018**, 42, 543-578	15.1	42
165	Uranium extremophily is an adaptive, rather than intrinsic, feature for extremely thermoacidophilic Metallosphaera species. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 16702-7	11.5	41
164	Proteolysis in hyperthermophilic microorganisms. *Archaea*, **2002**, 1, 63-74	2	40
163	Growth and gas production for hyperthermophilic archaebacterium, Pyrococcus furiosus. *Biotechnology and Bioengineering*, **1989**, 34, 1050-7	4.9	39
162	Microbiological metal transformations: biotechnological applications and potential. *Biotechnology Progress*, **1986**, 2, 1-15	2.8	38
161	Engineering hydrogen gas production from formate in a hyperthermophile by heterologous production of an 18-subunit membrane-bound complex. *Journal of Biological Chemistry*, **2014**, 289, 2873-9	5.4	36
160	Hydrogen transfer between methanogens and fermentative heterotrophs in hyperthermophilic cocultures. *Biotechnology and Bioengineering*, **1997**, 56, 268-78	4.9	35
159	Transcriptional analysis of dynamic heat-shock response by the hyperthermophilic bacterium Thermotoga maritima. *Extremophiles*, **2004**, 8, 209-17	3	35
158	Extremely Thermophilic Routes to Microbial Electrofuels. *ACS Catalysis*, **2011**, 1, 1043-1050	13.1	34
157	A Highly Thermostable Kanamycin Resistance Marker Expands the Tool Kit for Genetic Manipulation of Caldicellulosiruptor bescii. *Applied and Environmental Microbiology*, **2016**, 82, 4421-4428	4.8	34
156	Bioenergetic Response of the Extreme Thermoacidophile Metallosphaera sedula to Thermal and Nutritional Stresses. *Applied and Environmental Microbiology*, **1995**, 61, 2314-21	4.8	33
155	A novel alpha-D-galactosynthase from Thermotoga maritima converts beta-D-galactopyranosyl azide to alpha-galacto-oligosaccharides. *Glycobiology*, **2011**, 21, 448-56	5.8	32
154	Impact of substrate glycoside linkage and elemental sulfur on bioenergetics of and hydrogen production by the hyperthermophilic archaeon Pyrococcus furiosus. *Applied and Environmental Microbiology*, **2007**, 73, 6842-53	4.8	32
153	Influence of divalent cations on the structural thermostability and thermal inactivation kinetics of class II xylose isomerases. *FEBS Journal*, **2005**, 272, 1454-64	5.7	32
152	Multidomain, Surface Layer-associated Glycoside Hydrolases Contribute to Plant Polysaccharide Degradation by Caldicellulosiruptor Species. *Journal of Biological Chemistry*, **2016**, 291, 6732-47	5.4	32
151	Hyperthermophilic Thermotoga species differ with respect to specific carbohydrate transporters and glycoside hydrolases. *Applied and Environmental Microbiology*, **2012**, 78, 1978-86	4.8	31

150	Strategic biocatalysis with hyperthermophilic enzymes. *Green Chemistry*, **2004**, 6, 459	10	31
149	Characterization of hydrogen-uptake activity in the hyperthermophile Pyrodictium brockii. *Proceedings of the National Academy of Sciences of the United States of America*, **1989**, 86, 138-41	11.5	31
148	Purification and Characterization of a Proteasome from the Hyperthermophilic Archaeon Pyrococcus furiosus. *Applied and Environmental Microbiology*, **1997**, 63, 1160-4	4.8	30
147	Engineering redox-balanced ethanol production in the cellulolytic and extremely thermophilic bacterium,. *Metabolic Engineering Communications*, **2018**, 7, e00073	6.5	30
146	Comparative Analysis of Extremely Thermophilic Caldicellulosiruptor Species Reveals Common and Unique Cellular Strategies for Plant Biomass Utilization. *Applied and Environmental Microbiology*, **2015**, 81, 7159-70	4.8	29
145	VapC6, a ribonucleolytic toxin regulates thermophilicity in the crenarchaeote Sulfolobus solfataricus. *Rna*, **2011**, 17, 1381-92	5.8	29
144	Isolation and characterization of Thermococcus barossii, sp. nov., a hyperthermophilic archaeon isolated from a hydrothermal vent flange formation. *Systematic and Applied Microbiology*, **1998**, 21, 40-9	4.2	29
143	Relationship between glycosyl hydrolase inventory and growth physiology of the hyperthermophile Pyrococcus furiosus on carbohydrate-based media. *Applied and Environmental Microbiology*, **1999**, 65, 893-7	4.8	29
142	Nanofibrous membranes for single-step immobilization of hyperthermophilic enzymes. *Journal of Membrane Science*, **2014**, 472, 251-260	9.6	28
141	Influence of tungsten on metabolic patterns in Pyrococcus furiosus, a hyperthermophilic archaeon. *Archives of Microbiology*, **1993**, 159, 380-385	3	28
140	Use of epifluorescence microscopy for characterizing the activity of Thiobacillus Ferrooxidans on iron pyrite. *Biotechnology and Bioengineering*, **1987**, 30, 138-46	4.9	28
139	Experimental methods for measuring static liquid holdup in packed columns. *AICHE Journal*, **1986**, 32, 1920-1923	3.6	27
138	Diversity of bacteria and archaea from two shallow marine hydrothermal vents from Vulcano Island. *Extremophiles*, **2017**, 21, 733-742	3	26
137	Uncoupling Fermentative Synthesis of Molecular Hydrogen from Biomass Formation in Thermotoga maritima. *Applied and Environmental Microbiology*, **2018**, 84,	4.8	26
136	Temperature, not LuxS, mediates AI-2 formation in hydrothermal habitats. *FEMS Microbiology Ecology*, **2009**, 68, 173-81	4.3	26
135	Heterologous Production of an Energy-Conserving Carbon Monoxide Dehydrogenase Complex in the Hyperthermophile Pyrococcus furiosus. *Frontiers in Microbiology*, **2016**, 7, 29	5.7	26
134	Physiological, metabolic and biotechnological features of extremely thermophilic microorganisms. *Wiley Interdisciplinary Reviews: Systems Biology and Medicine*, **2017**, 9, e1377	6.6	25
133	Functional Analysis of the Glucan Degradation Locus in Caldicellulosiruptor bescii Reveals Essential Roles of Component Glycoside Hydrolases in Plant Biomass Deconstruction. *Applied and Environmental Microbiology*, **2017**, 83,	4.8	25

132	Impact of molecular hydrogen on chalcopyrite bioleaching by the extremely thermoacidophilic archaeon Metallosphaera sedula. *Applied and Environmental Microbiology*, **2010**, 76, 2668-72	4.8	24
131	Development of a defined medium and two-step culturing method for improved exotoxin A yields from Pseudomonas aeruginosa. *Applied and Environmental Microbiology*, **1987**, 53, 2013-20	4.8	24
130	Role of an archaeal PitA transporter in the copper and arsenic resistance of Metallosphaera sedula, an extreme thermoacidophile. *Journal of Bacteriology*, **2014**, 196, 3562-70	3.5	23
129	Homomultimeric protease in the hyperthermophilic bacterium Thermotoga maritima has structural and amino acid sequence homology to bacteriocins in mesophilic bacteria. *FEBS Letters*, **1998**, 440, 393-8	3.8	23
128	Synergistic interactions among Ⅎaminarinase, Ⅎ1,4-glucanase, and Ⅎglucosidase from the hyperthermophilic archaeon Pyrococcus furiosus during hydrolysis of Ⅎ1,4-, Ⅎ1,3-, and mixed-linked polysaccharides. *Biotechnology and Bioengineering*, **1999**, 66, 51-60	4.9	23
127	Transcriptomes of the Extremely Thermoacidophilic Archaeon Metallosphaera sedula Exposed to Metal "Shock" Reveal Generic and Specific Metal Responses. *Applied and Environmental Microbiology*, **2016**, 82, 4613-4627	4.8	23
126	Ethanol production by the hyperthermophilic archaeon Pyrococcus furiosus by expression of bacterial bifunctional alcohol dehydrogenases. *Microbial Biotechnology*, **2017**, 10, 1535-1545	6.3	22
125	Genus-Wide Assessment of Lignocellulose Utilization in the Extremely Thermophilic Genus Caldicellulosiruptor by Genomic, Pangenomic, and Metagenomic Analyses. *Applied and Environmental Microbiology*, **2018**, 84,	4.8	22
124	Deletion of acetyl-CoA synthetases I and II increases production of 3-hydroxypropionate by the metabolically-engineered hyperthermophile Pyrococcus furiosus. *Metabolic Engineering*, **2014**, 22, 83-8	9.7	22
123	Thermostability and thermoactivity of enzymes from hyperthermophilic Archaea. *Bioorganic and Medicinal Chemistry*, **1994**, 2, 659-67	3.4	22
122	Discrete and structurally unique proteins (tⅎirins) mediate attachment of extremely thermophilic Caldicellulosiruptor species to cellulose. *Journal of Biological Chemistry*, **2015**, 290, 10645-56	5.4	21
121	Bioprocessing analysis of Pyrococcus furiosus strains engineered for COⅎbased 3-hydroxypropionate production. *Biotechnology and Bioengineering*, **2015**, 112, 1533-43	4.9	21
120	Proteases and glycosyl hydrolases from hyperthermophilic microorganisms. *Advances in Protein Chemistry*, **1996**, 48, 271-310		21
119	Functional-genomics-based identification and characterization of open reading frames encoding alpha-glucoside-processing enzymes in the hyperthermophilic archaeon Pyrococcus furiosus. *Applied and Environmental Microbiology*, **2008**, 74, 1281-3	4.8	21
118	Thermotoga neapolitana homotetrameric xylose isomerase is expressed as a catalytically active and thermostable dimer in Escherichia coli. *Applied and Environmental Microbiology*, **1998**, 64, 2357-60	4.8	21
117	Rheological properties of guar galactomannan solutions during hydrolysis with galactomannanase and alpha-galactosidase enzyme mixtures. *Biomacromolecules*, **2007**, 8, 949-56	6.9	20
116	Extreme thermophiles as emerging metabolic engineering platforms. *Current Opinion in Biotechnology*, **2019**, 59, 55-64	11.4	19
115	Temperature-dependent acetoin production by Pyrococcus furiosus is catalyzed by a biosynthetic acetolactate synthase and its deletion improves ethanol production. *Metabolic Engineering*, **2016**, 34, 71-79	9.7	19

114	Role of 4-hydroxybutyrate-CoA synthetase in the CO2 fixation cycle in thermoacidophilic archaea. *Journal of Biological Chemistry*, **2013**, 288, 4012-22	5.4	19
113	Conversion of 4-hydroxybutyrate to acetyl coenzyme A and its anapleurosis in the Metallosphaera sedula 3-hydroxypropionate/4-hydroxybutyrate carbon fixation pathway. *Applied and Environmental Microbiology*, **2014**, 80, 2536-45	4.8	19
112	Alpha-D-galactosidases from Thermotoga species. *Methods in Enzymology*, **2001**, 330, 246-60	1.7	19
111	The hyperthermophilic archaebacterium, Pyrococcus furiosus. Development of culturing protocols, perspectives on scaleup, and potential applications. *Annals of the New York Academy of Sciences*, **1990**, 589, 301-14	6.5	19
110	Alcohol Selectivity in a Synthetic Thermophilic n-Butanol Pathway Is Driven by Biocatalytic and Thermostability Characteristics of Constituent Enzymes. *Applied and Environmental Microbiology*, **2015**, 81, 7187-200	4.8	18
109	A New Class of Tungsten-Containing Oxidoreductase in Caldicellulosiruptor, a Genus of Plant Biomass-Degrading Thermophilic Bacteria. *Applied and Environmental Microbiology*, **2015**, 81, 7339-47	4.8	18
108	Epimerase (Msed_0639) and mutase (Msed_0638 and Msed_2055) convert (S)-methylmalonyl-coenzyme A (CoA) to succinyl-CoA in the Metallosphaera sedula 3-hydroxypropionate/4-hydroxybutyrate cycle. *Applied and Environmental Microbiology*, **2012**, 78, 6194-202	4.8	18
107	Role of the beta1 subunit in the function and stability of the 20S proteasome in the hyperthermophilic archaeon Pyrococcus furiosus. *Journal of Bacteriology*, **2007**, 189, 583-90	3.5	18
106	Electrochemical regeneration of NAD+on carbon electrodes. *Biotechnology and Bioengineering*, **1977**, 19, 1215-1218	4.9	18
105	Ancillary contributions of heterologous biotin protein ligase and carbonic anhydrase for CO incorporation into 3-hydroxypropionate by metabolically engineered Pyrococcus furiosus. *Biotechnology and Bioengineering*, **2016**, 113, 2652-2660	4.9	18
104	Reaction kinetic analysis of the 3-hydroxypropionate/4-hydroxybutyrate CO fixation cycle in extremely thermoacidophilic archaea. *Metabolic Engineering*, **2016**, 38, 446-463	9.7	17
103	Purification and functional characterization of a chaperone from Methanococcus jannaschii. *Systematic and Applied Microbiology*, **1998**, 21, 173-8	4.2	17
102	beta-Mannosidase from Thermotoga species. *Methods in Enzymology*, **2001**, 330, 238-46	1.7	17
101	Extremely thermophilic energy metabolisms: biotechnological prospects. *Current Opinion in Biotechnology*, **2017**, 45, 104-112	11.4	16
100	Part I: characterization of the extracellular proteome of the extreme thermophile Caldicellulosiruptor saccharolyticus by GeLC-MS2. *Analytical and Bioanalytical Chemistry*, **2010**, 398, 377-89	4.4	16
99	Responses of wild-type and resistant strains of the hyperthermophilic bacterium Thermotoga maritima to chloramphenicol challenge. *Applied and Environmental Microbiology*, **2007**, 73, 5058-65	4.8	16
98	Structural and catalytic response to temperature and cosolvents of carboxylesterase EST1 from the extremely thermoacidophilic archaeon Sulfolobus solfataricus P1. *Biotechnology and Bioengineering* , **2002**, 80, 784-93	4.9	16
97	Strategic selection of hyperthermophilic esterases for resolution of 2-arylpropionic esters. *Biotechnology Progress*, **2003**, 19, 1410-6	2.8	16

96	Enantiomeric resolution of 2-aryl propionic esters with hyperthermophilic and mesophilic esterases: contrasting thermodynamic mechanisms. *Journal of the American Chemical Society*, **2002**, 124, 8190-1	16.4	16
95	Bioenergetics of the metal/sulfur-oxidizing extreme thermoacidophile, Metallosphaera sedula. *Fuel* , **1993**, 72, 1619-1624	7.1	16
94	Native xylose-inducible promoter expands the genetic tools for the biomass-degrading, extremely thermophilic bacterium Caldicellulosiruptor bescii. *Extremophiles*, **2018**, 22, 629-638	3	16
93	Genome Stability in Engineered Strains of the Extremely Thermophilic Lignocellulose-Degrading Bacterium Caldicellulosiruptor bescii. *Applied and Environmental Microbiology*, **2017**, 83,	4.8	15
92	Novel multidomain, multifunctional glycoside hydrolases from highly lignocellulolytic Caldicellulosiruptor species. *AICHE Journal*, **2018**, 64, 4218-4228	3.6	15
91	Quantitative fermentation of unpretreated transgenic poplar by Caldicellulosiruptor bescii. *Nature Communications*, **2019**, 10, 3548	17.4	15
90	Genome-wide transcriptional variation within and between steady states for continuous growth of the hyperthermophile Thermotoga Maritima. *Applied and Environmental Microbiology*, **2005**, 71, 5572-6	4.8	15
89	Starch self-processing in transgenic sweet potato roots expressing a hyperthermophilic □amylase. *Biotechnology Progress*, **2011**, 27, 351-9	2.8	14
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