

Elizabeth M Gillam

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

108 papers	4,957 citations	38 h-index	68 g-index
126 ext. papers	5,313 ext. citations	5.3 avg, IF	5.31 L-index

#	Paper	IF	Citations
108	Using the Evolutionary History of Proteins to Engineer Insertion-Deletion Mutants from Robust, Ancestral Templates Using Graphical Representation of Ancestral Sequence Predictions (GRASP). <i>Methods in Molecular Biology</i> , 2022 , 2397, 85-110	1.4	1
107	Resurrection and characterization of ancestral CYP11A1 enzymes. <i>FEBS Journal</i> , 2021 , 288, 6510-6527	5.7	1
106	Structure of an ancestral mammalian family 1B1 cytochrome P450 with increased thermostability. <i>Journal of Biological Chemistry</i> , 2020 , 295, 5640-5653	5.4	5
105	An Inexpensive, Efficient Alternative to NADPH to Support Catalysis by Thermostable Cytochrome P450 Enzymes. <i>ChemCatChem</i> , 2020 , 12, 1750-1761	5.2	2
104	Oxygen Surrogate Systems for Supporting Human Drug-Metabolizing Cytochrome P450 Enzymes. <i>Drug Metabolism and Disposition</i> , 2020 , 48, 432-437	4	4
103	The GMC superfamily of oxidoreductases revisited: analysis and evolution of fungal GMC oxidoreductases. <i>Biotechnology for Biofuels</i> , 2019 , 12, 118	7.8	38
102	SeqScrub: a web tool for automatic cleaning and annotation of FASTA file headers for bioinformatic applications. <i>BioTechniques</i> , 2019 , 67, 50-54	2.5	3
101	Rational evolution of the cofactor-binding site of cytochrome P450 reductase yields variants with increased activity towards specific cytochrome P450 enzymes. <i>FEBS Journal</i> , 2019 , 286, 4473-4493	5.7	6
100	Determinants of thermostability in the cytochrome P450 fold. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2018 , 1866, 97-115	4	12
99	Engineering Thermostable CYP2D Enzymes for Biocatalysis Using Combinatorial Libraries of Ancestors for Directed Evolution (CLADE). <i>ChemCatChem</i> , 2018 , 11, 841	5.2	1
98	Engineering highly functional thermostable proteins using ancestral sequence reconstruction. <i>Nature Catalysis</i> , 2018 , 1, 878-888	36.5	55
97	Prospects for Applying Synthetic Biology to Toxicology: Future Opportunities and Current Limitations for the Repurposing of Cytochrome P450 Systems. <i>Chemical Research in Toxicology</i> , 2017 , 30, 453-468	4	14
96	Exploring the past and the future of protein evolution with ancestral sequence reconstruction: the RetroApproach to protein engineering. <i>Biochemical Journal</i> , 2017 , 474, 1-19	3.8	68
95	Recombinant expression and characterization of <i>Lucilia cuprina</i> CYP6G3: Activity and binding properties toward multiple pesticides. <i>Insect Biochemistry and Molecular Biology</i> , 2017 , 90, 14-22	4.5	8
94	In vitro metabolism of the anti-inflammatory clerodane diterpenoid polyandric acid A and its hydrolysis product by human liver microsomes and recombinant cytochrome P450 and UDP-glucuronosyltransferase enzymes. <i>Xenobiotica</i> , 2017 , 47, 461-469	2	1
93	ReX: A suite of computational tools for the design, visualization, and analysis of chimeric protein libraries. <i>BioTechniques</i> , 2016 , 60, 91-4	2.5	8
92	Identification, Synthesis, and Biological Evaluation of the Major Human Metabolite of NLRP3 Inflammasome Inhibitor MCC950. <i>ACS Medicinal Chemistry Letters</i> , 2016 , 7, 1034-1038	4.3	23

91	Emerging roles for brain drug-metabolizing cytochrome P450 enzymes in neuropsychiatric conditions and responses to drugs. <i>Drug Metabolism Reviews</i> , 2016 , 48, 379-404	7	23
90	Gene expression profiling of cytochromes P450, ABC transporters and their principal transcription factors in the amygdala and prefrontal cortex of alcoholics, smokers and drug-free controls by qRT-PCR. <i>Xenobiotica</i> , 2015 , 45, 1129-37	2	13
89	Directed evolution of cytochrome P450 enzymes for biocatalysis: exploiting the catalytic versatility of enzymes with relaxed substrate specificity. <i>Biochemical Journal</i> , 2015 , 467, 1-15	3.8	58
88	Expression of CYP2E1 and CYP2U1 proteins in amygdala and prefrontal cortex: influence of alcoholism and smoking. <i>Alcoholism: Clinical and Experimental Research</i> , 2015 , 39, 790-7	3.7	13
87	Differential expression of cytochrome P450 enzymes from the CYP2C subfamily in the human brain. <i>Drug Metabolism and Disposition</i> , 2015 , 43, 353-7	4	20
86	Restriction enzyme-mediated DNA family shuffling. <i>Methods in Molecular Biology</i> , 2014 , 1179, 175-87	1.4	5
85	Computational tools for directed evolution: a comparison of prospective and retrospective strategies. <i>Methods in Molecular Biology</i> , 2014 , 1179, 315-33	1.4	10
84	Soluble and membrane-bound <i>Drosophila melanogaster</i> CYP6G1 expressed in <i>Escherichia coli</i> : purification, activity, and binding properties toward multiple pesticides. <i>Insect Biochemistry and Molecular Biology</i> , 2013 , 43, 455-65	4.5	29
83	Measurement of P450 difference spectra using intact cells. <i>Methods in Molecular Biology</i> , 2013 , 987, 189-204	1.4	5
82	The evolution of cytochrome P450 enzymes as biocatalysts in drug discovery and development. <i>Current Topics in Medicinal Chemistry</i> , 2013 , 13, 2254-80	3	34
81	DNA shuffling of cytochrome P450 enzymes. <i>Methods in Molecular Biology</i> , 2013 , 987, 177-88	1.4	4
80	Differential expression of human cytochrome P450 enzymes from the CYP3A subfamily in the brains of alcoholic subjects and drug-free controls. <i>Drug Metabolism and Disposition</i> , 2013 , 41, 1187-94	4	17
79	Is the undergraduate research experience (URE) always best?: The power of choice in a bifurcated practical stream for a large introductory biochemistry class. <i>Biochemistry and Molecular Biology Education</i> , 2012 , 40, 46-62	1.3	32
78	Directed evolution reveals requisite sequence elements in the functional expression of P450 2F1 in <i>Escherichia coli</i> . <i>Chemical Research in Toxicology</i> , 2012 , 25, 1964-74	4	15
77	Facile production of minor metabolites for drug development using a CYP3A shuffled library. <i>Metabolic Engineering</i> , 2011 , 13, 682-93	9.7	28
76	The concept lens diagram: a new mechanism for presenting biochemistry content in terms of "big ideas". <i>Biochemistry and Molecular Biology Education</i> , 2011 , 39, 267-79	1.3	21
75	Cytochrome P450 is present in both ferrous and ferric forms in the resting state within intact <i>Escherichia coli</i> and hepatocytes. <i>Journal of Biological Chemistry</i> , 2011 , 286, 40750-9	5.4	21
74	Metabolism of the major Echinacea alkylamide N-isobutyldodeca-2E,4E,8Z,10Z-tetraenamide by human recombinant cytochrome P450 enzymes and human liver microsomes. <i>Phytotherapy Research</i> , 2010 , 24, 1195-201	6.7	9

73	Membrane integration of recombinant human P450 forms. <i>Xenobiotica</i> , 2009 , 39, 495-507	2	11
72	In silico characterization of protein chimeras: relating sequence and function within the same fold. <i>Proteins: Structure, Function and Bioinformatics</i> , 2009 , 77, 111-20	4.2	7
71	Echinacea metabolism and drug interactions: the case for standardization of a complementary medicine. <i>Life Sciences</i> , 2009 , 85, 97-106	6.8	27
70	Engineering cytochrome p450 enzymes. <i>Chemical Research in Toxicology</i> , 2008 , 21, 220-31	4	78
69	Quantitative whole-cell cytochrome P450 measurement suitable for high-throughput application. <i>Journal of Biomolecular Screening</i> , 2008 , 13, 135-41		29
68	Re-engineering of CYP2C9 to probe acid-base substrate selectivity. <i>Drug Metabolism and Disposition</i> , 2008 , 36, 1992-7	4	10
67	A novel CYP2A6 allele, CYP2A6*23, impairs enzyme function in vitro and in vivo and decreases smoking in a population of Black-African descent. <i>Pharmacogenetics and Genomics</i> , 2008 , 18, 67-75	1.9	46
66	Formation of the indigo precursor indican in genetically engineered tobacco plants and cell cultures. <i>Plant Biotechnology Journal</i> , 2007 , 5, 185-91	11.6	30
65	Identification of the human cytochromes P450 catalysing the rate-limiting pathways of gliclazide elimination. <i>British Journal of Clinical Pharmacology</i> , 2007 , 64, 450-7	3.8	43
64	A shuffled CYP1A library shows both structural integrity and functional diversity. <i>Drug Metabolism and Disposition</i> , 2007 , 35, 2177-85	4	26
63	Chemical Defense and Exploitation. Biotransformation of Xenobiotics by Cytochrome P450 Enzymes 2007 , 477-560		7
62	Extending the capabilities of nature's most versatile catalysts: directed evolution of mammalian xenobiotic-metabolizing P450s. <i>Archives of Biochemistry and Biophysics</i> , 2007 , 464, 176-86	4.1	31
61	A shuffled CYP2C library with a high degree of structural integrity and functional versatility. <i>Archives of Biochemistry and Biophysics</i> , 2007 , 467, 193-205	4.1	33
60	Extending the diversity of cytochrome P450 enzymes by DNA family shuffling. <i>Gene</i> , 2007 , 395, 40-8	3.8	28
59	STAR: predicting recombination sites from amino acid sequence. <i>BMC Bioinformatics</i> , 2006 , 7, 437	3.6	6
58	Cytochrome P450-mediated metabolism of haloperidol and reduced haloperidol to pyridinium metabolites. <i>Chemical Research in Toxicology</i> , 2006 , 19, 914-20	4	21
57	An evaluation of potential mechanism-based inactivation of human drug metabolizing cytochromes P450 by monoamine oxidase inhibitors, including isoniazid. <i>British Journal of Clinical Pharmacology</i> , 2006 , 61, 570-84	3.8	58
56	Direct electrochemistry of human and rat NADPH cytochrome P450 reductase. <i>Electrochemistry Communications</i> , 2006 , 8, 1845-1849	5.1	10

55	Characterization of the human cytochrome P450 forms involved in metabolism of tamoxifen to its alpha-hydroxy and alpha,4-dihydroxy derivatives. <i>Chemical Research in Toxicology</i> , 2005 , 18, 1611-8	4	32
54	P450 2C18 catalyzes the metabolic bioactivation of phenytoin. <i>Chemical Research in Toxicology</i> , 2005 , 18, 1868-75	4	35
53	Modified nicotine metabolism in transgenic tobacco plants expressing the human cytochrome P450 2A6 cDNA. <i>FEBS Letters</i> , 2005 , 579, 2480-4	3.8	9
52	Direct electrochemistry of enzymes from the cytochrome P450 2C family. <i>Electrochemistry Communications</i> , 2005 , 7, 437-442	5.1	50
51	Exploring the potential of xenobiotic-metabolising enzymes as biocatalysts: evolving designer catalysts from polyfunctional cytochrome P450 enzymes. <i>Clinical and Experimental Pharmacology and Physiology</i> , 2005 , 32, 147-52	3	24
50	Cytochrome P450 enzyme-mediated degradation of Echinacea alkylamides in human liver microsomes. <i>Chemico-Biological Interactions</i> , 2005 , 155, 62-70	5	28
49	Functional characterisation of an engineered multidomain human P450 2E1 by molecular Lego. <i>Journal of Biological Inorganic Chemistry</i> , 2005 , 10, 842-53	3.7	44
48	Assessment of arginine 97 and lysine 72 as determinants of substrate specificity in cytochrome P450 2C9 (CYP2C9). <i>Drug Metabolism and Disposition</i> , 2004 , 32, 431-6	4	16
47	Evaluation of recombinant cytochromes P450 activity in metabolic pathways. <i>Drug Metabolism and Disposition</i> , 2003 , 31, 145-6; author reply 146	4	3
46	Molecular modelling of human CYP1B1 substrate interactions and investigation of allelic variant effects on metabolism. <i>Chemico-Biological Interactions</i> , 2003 , 145, 281-95	5	33
45	Cytochrome P450 1B1: a target for inhibition in anticarcinogenesis strategies. <i>Mutation Research - Fundamental and Molecular Mechanisms of Mutagenesis</i> , 2003 , 523-524, 173-82	3.3	116
44	Role of glutamic acid 216 in cytochrome P450 2D6 substrate binding and catalysis. <i>Biochemistry</i> , 2003 , 42, 1245-53	3.2	64
43	Rabbit CYP4B1 engineered for high-level expression in Escherichia coli: ligand stabilization and processing of the N-terminus and heme prosthetic group. <i>Archives of Biochemistry and Biophysics</i> , 2003 , 416, 17-24	4.1	40
42	Use of heterologously-expressed cytochrome P450 and glutathione transferase enzymes in toxicity assays. <i>Toxicology</i> , 2002 , 181-182, 261-4	4.4	3
41	Effect of tamoxifen on the enzymatic activity of human cytochrome CYP2B6. <i>Journal of Pharmacology and Experimental Therapeutics</i> , 2002 , 301, 945-52	4.7	64
40	Metabolism of tamoxifen by recombinant human cytochrome P450 enzymes: formation of the 4-hydroxy, 4Rhydroxy and N-desmethyl metabolites and isomerization of trans-4-hydroxytamoxifen. <i>Drug Metabolism and Disposition</i> , 2002 , 30, 869-74	4	208
39	Bioactivation of tamoxifen by recombinant human cytochrome p450 enzymes. <i>Chemical Research in Toxicology</i> , 2002 , 15, 614-22	4	47
38	DNA-protein adducts: hijacking one repair process to examine another. <i>Trends in Pharmacological Sciences</i> , 2002 , 23, 210	13.2	

37	Opposites attract, or do they? Rethinking the P450 2D6 pharmacophore model. <i>Trends in Pharmacological Sciences</i> , 2002 , 23, 501	13.2	1
36	Exploiting the versatility of human cytochrome P450 enzymes: the promise of blue roses from biotechnology. <i>IUBMB Life</i> , 2001 , 52, 271-7	4.7	26
35	Specificity of 17beta-oestradiol and benzo[a]pyrene oxidation by polymorphic human cytochrome P4501B1 variants substituted at residues 48, 119 and 432. <i>Xenobiotica</i> , 2001 , 31, 163-76	2	68
34	The dark side of a Detoxification Mechanism. <i>Trends in Pharmacological Sciences</i> , 2001 , 22, 11	13.2	5
33	Metabolic activation of heterocyclic amines and other procarcinogens in Salmonella typhimurium umu tester strains expressing human cytochrome P4501A1, 1A2, 1B1, 2C9, 2D6, 2E1, and 3A4 and human NADPH-P450 reductase and bacterial O-acetyltransferase. <i>Mutation Research - Genetic Toxicology and Environmental Mutagenesis</i> , 2001 , 492, 81-90	3	68
32	Metabolic activation of polycyclic aromatic hydrocarbons and other procarcinogens by cytochromes P450 1A1 and P450 1B1 allelic variants and other human cytochromes P450 in Salmonella typhimurium NM2009. <i>Drug Metabolism and Disposition</i> , 2001 , 29, 1176-82	4	146
31	Association of CYP1B1 genetic polymorphism with incidence to breast and lung cancer. <i>Pharmacogenetics and Genomics</i> , 2000 , 10, 25-33		158
30	What makes P450s work? Searches for answers with known and new P450s. <i>Drug Metabolism Reviews</i> , 2000 , 32, 267-81	7	18
29	Roles of NADPH-P450 reductase in the O-deethylation of 7-ethoxycoumarin by recombinant human cytochrome P450 1B1 variants in Escherichia coli. <i>Protein Expression and Purification</i> , 2000 , 20, 73-80	2	15
28	Oxidation of indole by cytochrome P450 enzymes. <i>Biochemistry</i> , 2000 , 39, 13817-24	3.2	239
27	Formation of a dihydroxy metabolite of phenytoin in human liver microsomes/cytosol: roles of cytochromes P450 2C9, 2C19, and 3A4. <i>Drug Metabolism and Disposition</i> , 2000 , 28, 1361-8	4	46
26	Catalytic properties of polymorphic human cytochrome P450 1B1 variants. <i>Carcinogenesis</i> , 1999 , 20, 1607-13	4.3	209
25	Metabolism of benzo[a]pyrene to trans-7,8-dihydroxy-7, 8-dihydrobenzo[a]pyrene by recombinant human cytochrome P450 1B1 and purified liver epoxide hydrolase. <i>Chemical Research in Toxicology</i> , 1999 , 12, 623-9	4	142
24	Formation of indigo by recombinant mammalian cytochrome P450. <i>Biochemical and Biophysical Research Communications</i> , 1999 , 265, 469-72	3.4	120
23	Human cytochrome P450 enzymes expressed in bacteria: reagents to probe molecular interactions in toxicology. <i>Clinical and Experimental Pharmacology and Physiology</i> , 1998 , 25, 877-86	3	23
22	Bacterial expression of two human aryl sulfotransferases. <i>Chemico-Biological Interactions</i> , 1998 , 109, 137-41	5	1
21	Recombinant human cytochrome P450 1B1 expression in Escherichia coli. <i>Archives of Biochemistry and Biophysics</i> , 1998 , 357, 111-20	4.1	87
20	Twenty years of biochemistry of human P450s: purification, expression, mechanism, and relevance to drugs. <i>Drug Metabolism and Disposition</i> , 1998 , 26, 1175-8	4	39

19	Bioactivation of phenytoin by human cytochrome P450: characterization of the mechanism and targets of covalent adduct formation. <i>Chemical Research in Toxicology</i> , 1997 , 10, 1049-58	4	62
18	Reconstitution of recombinant cytochrome P450 2C10(2C9) and comparison with cytochrome P450 3A4 and other forms: effects of cytochrome P450-P450 and cytochrome P450-b5 interactions. <i>Archives of Biochemistry and Biophysics</i> , 1997 , 342, 329-37	4.1	120
17	Expression of cytochrome P450 3A7 in Escherichia coli: effects of 5Rmodification and catalytic characterization of recombinant enzyme expressed in bicistronic format with NADPH-cytochrome P450 reductase. <i>Archives of Biochemistry and Biophysics</i> , 1997 , 346, 81-90	4.1	49
16	Drug metabolism by Escherichia coli expressing human cytochromes P450. <i>Nature Biotechnology</i> , 1997 , 15, 784-8	44.5	258
15	New applications of bacterial systems to problems in toxicology. <i>Critical Reviews in Toxicology</i> , 1996 , 26, 551-83	5.7	86
14	Requirements for cytochrome b5 in the oxidation of 7-ethoxycoumarin, chlorzoxazone, aniline, and N-nitrosodimethylamine by recombinant cytochrome P450 2E1 and by human liver microsomes. <i>Biochemical Pharmacology</i> , 1996 , 52, 301-9	6	66
13	Expression of cytochrome P450 3A5 in Escherichia coli: effects of 5Rmodification, purification, spectral characterization, reconstitution conditions, and catalytic activities. <i>Archives of Biochemistry and Biophysics</i> , 1995 , 317, 374-84	4.1	133
12	Expression of cytochrome P450 2D6 in Escherichia coli, purification, and spectral and catalytic characterization. <i>Archives of Biochemistry and Biophysics</i> , 1995 , 319, 540-50	4.1	100
11	Activation of procarcinogens by human cytochrome P450 enzymes expressed in Escherichia coli. Simplified bacterial systems for genotoxicity assays. <i>Carcinogenesis</i> , 1994 , 15, 2523-9	4.6	65
10	Expression of modified human cytochrome P450 2E1 in Escherichia coli, purification, and spectral and catalytic properties. <i>Archives of Biochemistry and Biophysics</i> , 1994 , 312, 59-66	4.1	137
9	Expression of modified human cytochrome P450 1A1 in Escherichia coli: effects of 5Rsubstitution, stabilization, purification, spectral characterization, and catalytic properties. <i>Archives of Biochemistry and Biophysics</i> , 1994 , 312, 436-46	4.1	104
8	Expression of modified human cytochrome P450 3A4 in Escherichia coli and purification and reconstitution of the enzyme. <i>Archives of Biochemistry and Biophysics</i> , 1993 , 305, 123-31	4.1	349
7	Expression of human cytochrome P450 enzymes in yeast and bacteria and relevance to studies on catalytic specificity. <i>Toxicology</i> , 1993 , 82, 21-37	4.4	20
6	Immunotoxic side-effects of drug therapy. <i>Drug Safety</i> , 1990 , 5, 168-78	5.1	14
5	Phenacetin O-deethylation by human liver microsomes: kinetics and propranolol inhibition. <i>Xenobiotica</i> , 1988 , 18, 95-104	2	11
4	Physical partitioning as the major source of metoprolol uptake by hepatic microsomes. <i>Biochemical Pharmacology</i> , 1987 , 36, 4167-8	6	5
3	Cellular energy charge in the heart and liver of the rat. The effects of ethanol and acetaldehyde. <i>International Journal of Biochemistry & Cell Biology</i> , 1986 , 18, 1031-8		21
2	Identifying and engineering ancient variants of enzymes using Graphical Representation of Ancestral Sequence Predictions (GRASP)		5

- 1 Ancestral sequence reconstruction of a cytochrome P450 family involved in chemical defence reveals the functional evolution of a promiscuous, xenobiotic-metabolizing enzyme in vertebrates. 8.3 1
Molecular Biology and Evolution,