Frank A Gomez

List of Publications by Citations

99 papers	1,913 citations	22 h-index	39 g-index
108 ext. papers	2,112 ext. citations	4 avg, IF	5.09 L-index

#	Paper	IF	Citations
99	Point of care testing: The impact of nanotechnology. *Biosensors and Bioelectronics*, **2017**, 87, 373-387	11.8	227
98	Determination of binding constants of ligands to proteins by affinity capillary electrophoresis: compensation for electroosmotic flow. *Analytical Chemistry*, **1994**, 66, 1785-91	7.8	158
97	Determination of the binding of ligands containing the N-2,4-dinitrophenyl group to bivalent monoclonal rat anti-DNP antibody using affinity capillary electrophoresis. *Analytical Chemistry*, **1995**, 67, 3526-35	7.8	79
96	Use of a partial-filling technique in affinity capillary electrophoresis for determining binding constants of ligands to receptors. *Journal of Chromatography A*, **1999**, 840, 261-8	4.5	69
95	Use of mobility ratios to estimate binding constants of ligands to proteins in affinity capillary electrophoresis. *Biomedical Applications*, **1998**, 715, 203-10		54
94	Fabrication of fritless chromatographic microchips packed with conventional reversed-phase silica particles. *Analytical Chemistry*, **2007**, 79, 7906-9	7.8	53
93	Chemometric experimental design based optimization techniques in capillary electrophoresis: a critical review of modern applications. *Analytical and Bioanalytical Chemistry*, **2008**, 390, 169-79	4.4	46
92	Recent advances in affinity capillary electrophoresis (2007). *Journal of Pharmaceutical Sciences*, **2009**, 98, 394-410	3.9	43
91	Multiple-plug binding assays using affinity capillary electrophoresis electrophoresis. *Journal of Chromatography A*, **1996**, 727, 291-299	4.5	42
90	A microfluidic direct formate fuel cell on paper. *Electrophoresis*, **2015**, 36, 1825-9	3.6	40
89	An improved alkaline direct formate paper microfluidic fuel cell. *Electrophoresis*, **2016**, 37, 504-10	3.6	40
88	Multiple-step ligand injection affinity capillary electrophoresis for determining binding constants of ligands to receptors. *Journal of Chromatography A*, **2000**, 897, 339-47	4.5	36
87	A colorimetric assay system for dopamine using microfluidic paper-based analytical devices. *Talanta* , **2019**, 194, 171-176	6.2	36
86	On-column derivatization and analysis of amino acids, peptides, and alkylamines by anhydrides using capillary electrophoresis. *Electrophoresis*, **2000**, 21, 3305-10	3.6	35
85	Mixed thread/paper-based microfluidic chips as a platform for glucose assays. *Electrophoresis*, **2016** , 37, 1685-90	3.6	34
84	Estimation of receptor-ligand interactions by the use of a two-marker system in affinity capillary electrophoresis. *Analytical Biochemistry*, **2000**, 280, 209-15	3.1	34
83	A microfluidic galvanic cell on a single layer of paper. *Journal of Power Sources*, **2016**, 318, 163-169	8.9	28

82	Flow-through partial-filling affinity capillary electrophoresis can estimate binding constants of neutral ligands to receptors via a competitive assay technique. *Electrophoresis*, **2003**, 24, 1105-10	3.6	27
81	Paper-based microfluidic devices for glucose assays employing a metal-organic framework (MOF). *Analytica Chimica Acta*, **2019**, 1055, 74-80	6.6	26
80	Partial-filling affinity capillary electrophoresis. *Analytical and Bioanalytical Chemistry*, **2003**, 376, 822-31	4.4	25
79	On-column ligand synthesis coupled to partial-filling affinity capillary electrophoresis to estimate binding constants of ligands to a receptor. *Journal of Chromatography A*, **2001**, 928, 233-41	4.5	25
78	Double enzyme-catalyzed microreactors using capillary electrophoresis. *Electrophoresis*, **1998**, 19, 420-6	3.6	22
77	Use of chemometrics to optimize a glucose assay on a paper microfluidic platform. *Analytical and Bioanalytical Chemistry*, **2017**, 409, 2697-2703	4.4	21
76	Electrochromatography in microchips packed with conventional reversed-phase silica particles. *Electrophoresis*, **2008**, 29, 1638-42	3.6	21
75	Thread-based microfluidic chips as a platform to assess acetylcholinesterase activity. *Electrophoresis*, **2017**, 38, 996-1001	3.6	20
74	Paper microfluidic-based enzyme catalyzed double microreactor. *Electrophoresis*, **2014**, 35, 2417-9	3.6	20
73	Magnetically controlled valve for flow manipulation in polymer microfluidic devices. *Microfluidics and Nanofluidics*, **2008**, 4, 525-531	2.8	19
72	On-column derivatization of the antibiotics teicoplanin and ristocetin coupled to affinity capillary electrophoresis. *Electrophoresis*, **2003**, 24, 808-15	3.6	18
71	Optimization of capillary electrophoresis conditions for in-capillary enzyme-catalyzed microreactions. *Analytica Chimica Acta*, **1999**, 397, 183-190	6.6	18
70	Thread/paper- and paper-based microfluidic devices for glucose assays employing artificial neural networks. *Electrophoresis*, **2018**, 39, 1443-1451	3.6	17
69	An Inexpensive Paper-Based Aluminum-Air Battery. *Micromachines*, **2017**, 8,	3.3	17
68	Development of a microfluidic-based assay on a novel nitrocellulose platform. *Electrophoresis*, **2015**, 36, 884-8	3.6	17
67	Multiple-injection affinity capillary electrophoresis to examine binding constants between glycopeptide antibiotics and peptides. *Journal of Chromatography A*, **2006**, 1105, 59-65	4.5	17
66	Easily Fabricated Microfluidic Devices Using Permanent Marker Inks for Enzyme Assays. *Micromachines*, **2016**, 7,	3.3	17
65	Fabric-based alkaline direct formate microfluidic fuel cells. *Electrophoresis*, **2017**, 38, 1224-1231	3.6	16

64	Microfluidic polymerase chain reaction. *Applied Physics Letters*, **2008**, 93, 243901	3.4	16
63	Multiple-injection affinity capillary electrophoresis to estimate binding constants of receptors to ligands. *Analytical and Bioanalytical Chemistry*, **2005**, 383, 625-31	4.4	16
62	Use of capillary electrophoresis and indirect detection to quantitate in-capillary enzyme-catalyzed microreactions. *Analyst, The*, **2000**, 125, 685-8	5	16
61	3D Multilayered paper- and thread/paper-based microfluidic devices for bioassays. *Electrophoresis*, **2019**, 40, 296-303	3.6	16
60	A microfluidic paper-based device to assess acetylcholinesterase activity. *Electrophoresis*, **2017**, 38, 1002-1006	3.6	15
59	How can chemometrics improve microfluidic research?. *Analytical Chemistry*, **2015**, 87, 3544-55	7.8	15
58	Use of chemometric methodology in optimizing conditions for competitive binding partial filling affinity capillary electrophoresis. *Electrophoresis*, **2008**, 29, 3325-32	3.6	15
57	A microfluidic glucose sensor incorporating a novel thread-based electrode system. *Electrophoresis*, **2018**, 39, 2131-2135	3.6	14
56	Development of microfluidic chips for heterogeneous receptor-ligand interaction studies. *Analytical Chemistry*, **2009**, 81, 5095-8	7.8	14
55	Optimization of conditions for flow-through partial-filling affinity capillary electrophoresis to estimate binding constants of ligands to receptors. *Analytica Chimica Acta*, **2005**, 540, 403-410	6.6	14
54	Response surface examination of the relationship between experimental conditions and product distribution in electrophoretically mediated microanalysis. *Electrophoresis*, **2008**, 29, 375-80	3.6	13
53	Enzyme-linked immunosorbent assays (ELISA) based on thread, paper, and fabric. *Electrophoresis*, **2018**, 39, 476-484	3.6	13
52	Implementation of chemometric methodology in ACE: predictive investigation of protein-ligand binding. *Electrophoresis*, **2007**, 28, 2853-60	3.6	12
51	Estimation of binding constants between ristocetin and teicoplanin and peptides using on-column ligand derivatization coupled to affinity capillary electrophoresis. *Analytical and Bioanalytical Chemistry*, **2004**, 379, 149-55	4.4	12
50	Estimation of binding constants for the substrate and activator of Rhodobacter sphaeroides adenosine 5′-diphosphate-glucose pyrophosphorylase using affinity capillary electrophoresis. *Analytical Biochemistry*, **2004**, 327, 252-60	3.1	12
49	Enzyme Chemotaxis on Paper-based Devices. *Analytical Sciences*, **2018**, 34, 115-119	1.7	11
48	Magnetic microsphere-based methods to study the interaction of teicoplanin with peptides and bacteria. *Analytical and Bioanalytical Chemistry*, **2008**, 392, 877-86	4.4	11
47	Fabrication of a microfluidic enzyme reactor utilizing magnetic beads. *Electrophoresis*, **2009**, 30, 2129-33	3.6	10

46	Frontal analysis microchip capillary electrophoresis to study the binding of ligands to receptors derivatized on magnetic beads. *Analytical and Bioanalytical Chemistry*, **2009**, 393, 615-21	4.4	10
45	On-column synthesis coupled to affinity capillary electrophoresis for the determination of binding constants of peptides to glycopeptide antibiotics. *Journal of Chromatography A*, **2004**, 1027, 193-202	4.5	10
44	Application of surface plasmon resonance spectroscopy for adsorption studies of different types of components on poly(dimethylsiloxane). *Analytica Chimica Acta*, **2013**, 777, 72-7	6.6	9
43	Thread- paper, and fabric enzyme-linked immunosorbent assays (ELISA). *Methods*, **2018**, 146, 58-65	4.6	8
42	Development of an ultra-low volume flow cell for surface plasmon resonance detection in a miniaturized capillary electrophoresis system. *Electrophoresis*, **2012**, 33, 1723-8	3.6	8
41	Microfluidics in protein chromatography. *Methods in Molecular Biology*, **2011**, 681, 137-50	1.4	7
40	Microchip frontal affinity chromatography to study the binding of a ligand to teicoplanin-derivatized microbeads. *Electrophoresis*, **2009**, 30, 1194-7	3.6	7
39	Affinity capillary electrophoresis to examine receptor-ligand interactions. *Methods in Molecular Biology*, **2004**, 276, 153-68	1.4	7
38	An all-printed 3D-Zn/Fe3O4 paper battery. *Sensors and Actuators B: Chemical*, **2019**, 289, 226-233	8.5	6
37	Experimental Analysis of Fabrication Parameters in the Development of Microfluidic Paper-Based Analytical Devices (μPADs). *Micromachines*, **2017**, 8, 99	3.3	6
36	Bioanalytical applications in microfluidics. *Bioanalysis*, **2010**, 2, 1661-2	2.1	6
35	Application of artificial neural networks in the prediction of product distribution in electrophoretically mediated microanalysis. *Electrophoresis*, **2009**, 30, 2385-9	3.6	6
34	Miniaturized Al/AgO coin shape and self-powered battery featuring painted paper electrodes for portable applications. *Sensors and Actuators B: Chemical*, **2018**, 273, 101-107	8.5	5
33	An optimized microfluidic paper-based NiOOH/Zn alkaline battery. *Electrophoresis*, **2019**, 40, 469-472	3.6	5
32	Microfluidic Paper-based Analytical Devices (μPADs): Miniaturization and Enzyme Storage Studies. *Analytical Sciences*, **2019**, 35, 379-384	1.7	4
31	Development of microfluidic-based assays to estimate the binding between osteocalcin (BGLAP) and fluorescent antibodies. *Talanta*, **2015**, 132, 676-9	6.2	4
30	Implementation of a genetically tuned neural platform in optimizing fluorescence from receptor-ligand binding interactions on microchips. *Electrophoresis*, **2012**, 33, 2711-7	3.6	4
29	Experimental Design in Method Optimization and Robustness Testing11-74		4

28	Facile fabrication of an interface for online coupling of microchip CE to surface plasmon resonance. *Bioanalysis*, **2012**, 4, 373-9	2.1	4
27	On-capillary derivatization using a hybrid artificial neural network-genetic algorithm approach. *Analyst, The*, **2009**, 134, 2067-70	5	4
26	1-[Ferrocenyl(hydroxy)methyl]-1,7-dicarba-closo-dodecaborane: Synthesis and X-ray crystal structure. *Journal of Chemical Crystallography*, **2006**, 37, 55-62	0.5	4
25	Production of a NiO/Al primary battery employing powder-based electrodes. *Electrophoresis*, **2020**, 41, 131-136	3.6	4
24	Cord-Based Microfluidic Chips as A Platform for ELISA and Glucose Assays. *Micromachines*, **2019**, 10,	3.3	3
23	Application of a computational neural network to optimize the fluorescence signal from a receptor-ligand interaction on a microfluidic chip. *Electrophoresis*, **2015**, 36, 393-7	3.6	2
22	Use of surface plasmon resonance to study the adsorption of detergents on poly(dimethylsiloxane) surfaces. *Electrophoresis*, **2013**, 34, 1249-52	3.6	2
21	Use of magnetic beads to study the interaction of ristocetin with peptides and bacteria. *Bioanalysis*, **2009**, 1, 721-7	2.1	2
20	Microfluidic "thin chips" for chemical separations. *Electrophoresis*, **2010**, 31, 2520-5	3.6	2
19	Chemometrical examination of active parameters and interactions in flow injection-capillary electrophoresis. *Electrophoresis*, **2008**, 29, 3779-85	3.6	2
18	Thread- and Capillary Tube-Based Electrodes for the Detection of Glucose and Acetylthiocholine. *Micromachines*, **2020**, 11,	3.3	2
17	Microscale bioanalysis. *Bioanalysis*, **2016**, 8, 859-62	2.1	2
16	Microfluidic thread-based electrode system to detect glucose and acetylthiocholine. *Electrophoresis* , **2018**, 39, 3082-3086	3.6	2
15	Multivariate Curve Resolution Based on Alternating Least Squares in Capillary Electrophoresis199-226		2
14	Partial-filling affinity capillary electrophoresis techniques to probe the binding of glycopeptide antibiotics to D-Ala-D-Ala terminus peptides. *Journal of Capillary Electrophoresis and Microchip Technology*, **2006**, 9, 101-17		2
13	Application of Chemometrics in Capillary Electrophoresis Analysis of Herbal Medicines227-242		1
12	On-column enzyme-catalyzed microreactions using capillary electrophoresis: quantitative studies. *Journal of Capillary Electrophoresis and Microchip Technology*, **2002**, 7, 1-9		1
11	Microchip Capillary Electrophoresis to Study the Binding of Ligands to Teicoplanin Derivatized on Magnetic Beads **2013**, 359-365		

10	Chemometrical Modeling of Electrophoretic Mobilities in Capillary Electrophoresis323-343	
9	On-column ligand/receptor derivatization coupled to affinity capillary electrophoresis. *Methods in Molecular Biology*, **2008**, 384, 647-60	1.4
8	Exploratory Data Analysis and Classification of Capillary Electrophoretic Data291-321	
7	Assessment of Solute-Micelle Interactions in Electrokinetic Chromatography Using Quantitative Structure-Retention Relationships345-366	
6	Chemometrical Analysis of Cheese Proteolysis Profiles by Capillary Electrophoresis: Prediction of Ripening Times367-388	
5	Chemometrical Experimental Design-Based Optimization Studies in Capillary Electrophoresis Applications75-91	
4	Optimization of Micellar Electrokinetic Chromatography Separation Conditions by Chemometric Methods113-131	
3	Chemometric Methods for the Optimization of CE and CE-MS in Pharmaceutical, Environmental, and Food Analysis133-168	
2	Optimization of the Separation of Amino Acids by Capillary Electrophoresis Using Artificial Neural Networks169-180	
1	Development of Capillary Electrophoresis Fingerprints and Multivariate Statistics for the Differentiation of Opium and Poppy Straw Samples181-197	