Ishan Barman

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/7563880/publications.pdf

Version: 2024-02-01

117 papers	4,813 citations	94433 37 h-index	106344 65 g-index
125 all docs	125 docs citations	125 times ranked	5382 citing authors

#	Article	IF	Citations
1	Facile Algae-Derived Route to Biogenic Silver Nanoparticles: Synthesis, Antibacterial, and Photocatalytic Properties. Langmuir, 2015, 31, 11605-11612.	3.5	479
2	Engineering tailored nanoparticles with microbes: quo vadis?. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2016, 8, 316-330.	6.1	389
3	Leveraging the Attributes of Mucor hiemalis-Derived Silver Nanoparticles for a Synergistic Broad-Spectrum Antimicrobial Platform. Frontiers in Microbiology, 2016, 7, 1984.	3.5	269
4	Noninvasive Monitoring of Blood Glucose with Raman Spectroscopy. Accounts of Chemical Research, 2017, 50, 264-272.	15.6	180
5	Furin-mediated intracellular self-assembly of olsalazine nanoparticles for enhanced magnetic resonance imaging and tumour therapy. Nature Materials, 2019, 18, 1376-1383.	27.5	164
6	Raman Spectroscopy Provides a Powerful Diagnostic Tool for Accurate Determination of Albumin Glycation. PLoS ONE, 2012, 7, e32406.	2.5	141
7	Raman Spectroscopy-Based Sensitive and Specific Detection of Glycated Hemoglobin. Analytical Chemistry, 2012, 84, 2474-2482.	6.5	118
8	Incorporation of Support Vector Machines in the LIBS Toolbox for Sensitive and Robust Classification Amidst Unexpected Sample and System Variability. Analytical Chemistry, 2012, 84, 2686-2694.	6.5	116
9	Laser-induced breakdown spectroscopy-based investigation and classification of pharmaceutical tablets using multivariate chemometric analysis. Talanta, 2011, 87, 53-59.	5.5	112
10	Multiplexed detection of serological cancer markers with plasmon-enhanced Raman spectro-immunoassay. Chemical Science, 2015, 6, 3906-3914.	7.4	96
11	Combined confocal Raman and quantitative phase microscopy system for biomedical diagnosis. Biomedical Optics Express, 2011, 2, 2484.	2.9	85
12	Application of Raman Spectroscopy to Identify Microcalcifications and Underlying Breast Lesions at Stereotactic Core Needle Biopsy. Cancer Research, 2013, 73, 3206-3215.	0.9	82
13	Development of Robust Calibration Models Using Support Vector Machines for Spectroscopic Monitoring of Blood Glucose. Analytical Chemistry, 2010, 82, 9719-9726.	6.5	76
14	Shedding Light on the Extinctionâ€Enhancement Duality in Gold Nanostarâ€Enhanced Raman Spectroscopy. Angewandte Chemie - International Edition, 2014, 53, 14115-14119.	13.8	74
15	Polyindole/cadmium sulphide nanocomposite based turn-on, multi-ion fluorescence sensor for detection of Cr3+, Fe3+ and Sn2+ ions. Sensors and Actuators B: Chemical, 2018, 269, 195-202.	7.8	72
16	A Fluorescence and Surface-Enhanced Raman Spectroscopic Dual-Modal Aptasensor for Sensitive Detection of Cyanotoxins. ACS Sensors, 2020, 5, 1419-1426.	7.8	72
17	Mechanical Trap Surfaceâ€Enhanced Raman Spectroscopy for Threeâ€Dimensional Surface Molecular Imaging of Single Live Cells. Angewandte Chemie - International Edition, 2017, 56, 3822-3826.	13.8	71
18	Investigation of the specificity of Raman spectroscopy in non-invasive blood glucose measurements. Analytical and Bioanalytical Chemistry, 2011, 400, 2871-2880.	3.7	69

#	Article	IF	Citations
19	Accurate Spectroscopic Calibration for Noninvasive Glucose Monitoring by Modeling the Physiological Glucose Dynamics. Analytical Chemistry, 2010, 82, 6104-6114.	6.5	57
20	Turbidity-Corrected Raman Spectroscopy for Blood Analyte Detection. Analytical Chemistry, 2009, 81, 4233-4240.	6.5	53
21	Less is more: Avoiding the LIBS dimensionality curse through judicious feature selection for explosive detection. Scientific Reports, 2015, 5, 13169.	3.3	53
22	Label-Free Raman Spectroscopy Reveals Signatures of Radiation Resistance in the Tumor Microenvironment. Cancer Research, 2019, 79, 2054-2064.	0.9	53
23	Portable Optical Fiber Probe-Based Spectroscopic Scanner for Rapid Cancer Diagnosis: A New Tool for Intraoperative Margin Assessment. PLoS ONE, 2012, 7, e30887.	2.5	52
24	Label-Free Raman Spectroscopy Detects Stromal Adaptations in Premetastatic Lungs Primed by Breast Cancer. Cancer Research, 2017, 77, 247-256.	0.9	52
25	Selective sampling using confocal Raman spectroscopy provides enhanced specificity for urinary bladder cancer diagnosis. Analytical and Bioanalytical Chemistry, 2012, 404, 3091-3099.	3.7	50
26	Self-Folding Hybrid Graphene Skin for 3D Biosensing. Nano Letters, 2019, 19, 1409-1417.	9.1	49
27	Label-Free Spectroscopic SARS-CoV-2 Detection on Versatile Nanoimprinted Substrates. Nano Letters, 2022, 22, 3620-3627.	9.1	46
28	Investigation of Noise-Induced Instabilities in Quantitative Biological Spectroscopy and Its Implications for Noninvasive Glucose Monitoring. Analytical Chemistry, 2012, 84, 8149-8156.	6.5	44
29	Emerging trends in optical sensing of glycemic markers for diabetes monitoring. TrAC - Trends in Analytical Chemistry, 2015, 64, 100-108.	11.4	44
30	Ultrasensitive Detection of Hepatotoxic Microcystin Production from Cyanobacteria Using Surface-Enhanced Raman Scattering Immunosensor. ACS Sensors, 2019, 4, 1203-1210.	7.8	44
31	Diagnostic power of diffuse reflectance spectroscopy for targeted detection of breast lesions with microcalcifications. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 471-476.	7.1	43
32	Advancing Raman spectroscopy from research to clinic: Translational potential and challenges. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2021, 260, 119957.	3.9	43
33	Wavelength selection-based nonlinear calibration for transcutaneous blood glucose sensing using Raman spectroscopy. Journal of Biomedical Optics, 2011, 16, 087009.	2.6	42
34	Ultrahigh affinity Raman probe for targeted live cell imaging of prostate cancer. Chemical Science, 2016, 7, 6779-6785.	7.4	42
35	Identification of post-consumer plastics using laser-induced breakdown spectroscopy. Polymer Testing, 2019, 76, 101-108.	4.8	42
36	Organ-specific isogenic metastatic breast cancer cell lines exhibit distinct Raman spectral signatures and metabolomes. Oncotarget, 2017, 8, 20266-20287.	1.8	41

#	Article	IF	Citations
37	Pursuing shell-isolated nanoparticle-enhanced Raman spectroscopy (SHINERS) for concomitant detection of breast lesions and microcalcifications. Nanoscale, 2015, 7, 16960-16968.	5.6	38
38	Spectroscopic approach for dynamic bioanalyte tracking with minimal concentration information. Scientific Reports, 2014, 4, 7013.	3.3	38
39	A novel non-imaging optics based Raman spectroscopy device for transdermal blood analyte measurement. AIP Advances, 2011, 1, 32175.	1.3	34
40	Rapid and accurate determination of tissue optical properties using least-squares support vector machines. Biomedical Optics Express, 2011, 2, 592.	2.9	33
41	Cancer cells display increased migration and deformability in pace with metastatic progression. FASEB Journal, 2020, 34, 9307-9315.	0.5	33
42	Furinâ€Mediated Selfâ€Assembly of Olsalazine Nanoparticles for Targeted Raman Imaging of Tumors. Angewandte Chemie - International Edition, 2021, 60, 3923-3927.	13.8	32
43	Development and comparative assessment of Raman spectroscopic classification algorithms for lesion discrimination in stereotactic breast biopsies with microcalcifications. Journal of Biophotonics, 2013, 6, 371-381.	2.3	31
44	Raman spectroscopic sensing of carbonate intercalation in breast microcalcifications at stereotactic biopsy. Scientific Reports, 2015, 5, 9907.	3.3	31
45	Rapid Identification of Biotherapeutics with Label-Free Raman Spectroscopy. Analytical Chemistry, 2016, 88, 4361-4368.	6.5	31
46	Effect of photobleaching on calibration model development in biological Raman spectroscopy. Journal of Biomedical Optics, 2011, 16, 011004.	2.6	30
47	Discerning the differential molecular pathology of proliferative middle ear lesions using Raman spectroscopy. Scientific Reports, 2015, 5, 13305.	3.3	30
48	Raman Enhancement of Blood Constituent Proteins Using Graphene. ACS Photonics, 2018, 5, 2978-2982.	6.6	29
49	Revealing the trehalose mediated inhibition of protein aggregation through lysozymeâ€“silver nanoparticle interaction. Soft Matter, 2015, 11, 7241-7249.	2.7	28
50	Rapid, Labelâ€free Optical Spectroscopy Platform for Diagnosis of Heparinâ€Induced Thrombocytopenia. Angewandte Chemie - International Edition, 2020, 59, 5972-5978.	13.8	27
51	A Programmable DNAâ€Silicificationâ€Based Nanocavity for Singleâ€Molecule Plasmonic Sensing. Advanced Materials, 2021, 33, e2005133.	21.0	27
52	Anatomy of noise in quantitative biological Raman spectroscopy. Bioanalysis, 2014, 6, 411-421.	1.5	26
53	Integration of protein tethering in a rapid and label-free SERS screening platform for drugs of abuse. Chemical Communications, 2016, 52, 9016-9019.	4.1	26
54	Exploring Morphological and Biochemical Linkages in Fungal Growth with Labelâ€Free Light Sheet Microscopy and Raman Spectroscopy. ChemPhysChem, 2017, 18, 72-78.	2.1	26

#	Article	IF	Citations
55	Raman spectroscopy provides a powerful, rapid diagnostic tool for the detection of tuberculous meningitis in ex vivo cerebrospinal fluid samples. Journal of Biophotonics, 2013, 6, 567-572.	2.3	25
56	Label-free Raman spectroscopy provides early determination and precise localization of breast cancer-colonized bone alterations. Chemical Science, 2018, 9, 743-753.	7.4	25
57	Rapid, quantitative determination of aggregation and particle formation for antibody drug conjugate therapeutics with label-free Raman spectroscopy. Analytica Chimica Acta, 2019, 1081, 138-145.	5.4	24
58	Coarse Raman and optical diffraction tomographic imaging enable label-free phenotyping of isogenic breast cancer cells of varying metastatic potential. Biosensors and Bioelectronics, 2021, 175, 112863.	10.1	24
59	Silverâ€Coated Disordered Silicon Nanowires Provide Highly Sensitive Labelâ€Free Glycated Albumin Detection through Molecular Trapping and Plasmonic Hotspot Formation. Advanced Healthcare Materials, 2021, 10, e2001110.	7.6	23
60	Multiwavelength Fluorescence Otoscope for Video-Rate Chemical Imaging of Middle Ear Pathology. Analytical Chemistry, 2014, 86, 10454-10460.	6.5	22
61	Noninvasive Detection of Inflammatory Changes in White Adipose Tissue by Label-Free Raman Spectroscopy. Analytical Chemistry, 2016, 88, 2140-2148.	6.5	22
62	Mapping the genetic basis of breast microcalcifications and their role in metastasis. Scientific Reports, 2018, 8, 11067.	3.3	22
63	Reagent-Free and Rapid Assessment of T Cell Activation State Using Diffraction Phase Microscopy and Deep Learning. Analytical Chemistry, 2019, 91, 3405-3411.	6.5	22
64	Toward the Development of Raman Spectroscopy as a Nonperturbative Online Monitoring Tool for Gasoline Adulteration. Analytical Chemistry, 2013, 85, 1846-1851.	6.5	21
65	Multi-color reflectance imaging of middle ear pathology in vivo. Analytical and Bioanalytical Chemistry, 2015, 407, 3277-3283.	3.7	21
66	Compositeâ€Scattering Plasmonic Nanoprobes for Labelâ€Free, Quantitative Biomolecular Sensing. Small, 2019, 15, e1901165.	10.0	21
67	Identification and Staging of B-Cell Acute Lymphoblastic Leukemia Using Quantitative Phase Imaging and Machine Learning. ACS Sensors, 2020, 5, 3281-3289.	7.8	21
68	Analysis of a new combined stretch and pressure sensor for internal nodule palpation. Sensors and Actuators A: Physical, 2006, 125, 210-216.	4.1	20
69	Optical sectioning using singleâ€planeâ€illumination Raman imaging. Journal of Raman Spectroscopy, 2010, 41, 1099-1101.	2.5	19
70	Mechanical Trap Surfaceâ€Enhanced Raman Spectroscopy for Threeâ€Dimensional Surface Molecular Imaging of Single Live Cells. Angewandte Chemie, 2017, 129, 3880-3884.	2.0	19
71	Raman and quantitative phase imaging allow morpho-molecular recognition of malignancy and stages of B-cell acute lymphoblastic leukemia. Biosensors and Bioelectronics, 2021, 190, 113403.	10.1	19
72	Precision of Raman Spectroscopy Measurements in Detection of Microcalcifications in Breast Needle Biopsies. Analytical Chemistry, 2012, 84, 6715-6722.	6.5	16

#	Article	IF	Citations
73	Non-Gated Laser Induced Breakdown Spectroscopy Provides a Powerful Segmentation Tool on Concomitant Treatment of Characteristic and Continuum Emission. PLoS ONE, 2014, 9, e103546.	2.5	16
74	Label-free characterization of ultra violet-radiation-induced changes in skin fibroblasts with Raman spectroscopy and quantitative phase microscopy. Scientific Reports, 2017, 7, 10829.	3.3	15
75	Leveraging coffeeâ€ring effect on plasmonic paper substrate for sensitive analyte detection using Raman spectroscopy. Journal of Raman Spectroscopy, 2018, 49, 1552-1558.	2.5	15
76	Integration of diffraction phase microscopy and Raman imaging for labelâ€free morphoâ€molecular assessment of live cells. Journal of Biophotonics, 2019, 12, e201800291.	2.3	15
77	Nanotheranostic Probe Built on Methylene Blue Loaded Cucurbituril [8] and Gold Nanorod: Targeted Phototherapy in Combination with SERS Imaging on Breast Cancer Cells. Journal of Physical Chemistry B, 2021, 125, 13415-13424.	2.6	15
78	Real-time fingerprinting of structural isomers using laser induced breakdown spectroscopy. Analyst, The, 2016, 141, 3077-3083.	3.5	14
79	An impediment to random walk: trehalose microenvironment drives preferential endocytic uptake of plasmonic nanoparticles. Chemical Science, 2016, 7, 3730-3736.	7.4	14
80	Differential diagnosis of otitis media with effusion using labelâ€free Raman spectroscopy: A pilot study. Journal of Biophotonics, 2018, 11, e201700259.	2.3	14
81	A Dualâ€Modal Singleâ€Antibody Plasmonic Spectroâ€Immunoassay for Detection of Small Molecules. Small, 2022, 18, e2200090.	10.0	14
82	Optical properties of symmetry-breaking tetrahedral nanoparticles. Nanoscale, 2020, 12, 832-842.	5.6	13
83	Raman Spectroscopy and Machine Learning Reveals Early Tumor Microenvironmental Changes Induced by Immunotherapy. Cancer Research, 2021, 81, 5745-5755.	0.9	13
84	Objective identification of dental abnormalities with multispectral fluorescence imaging. Journal of Biophotonics, 2017, 10, 1279-1286.	2.3	12
85	Raman spectroscopy with a 1064-nm wavelength laser as a potential molecular tool for prostate cancer diagnosis: a pilot study. Journal of Biomedical Optics, 2018, 23, 1.	2.6	12
86	Surfaceâ€enhanced Raman scattering: An emerging tool for sensing cellular function. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2022, 14, e1802.	6.1	12
87	Towards rational design and optimization of near-field enhancement and spectral tunability of hybrid core-shell plasmonic nanoprobes. Scientific Reports, 2019, 9, 16071.	3.3	11
88	Utilizing pulse dynamics for non-invasive Raman spectroscopy of blood analytes. Biosensors and Bioelectronics, 2021, 180, 113115.	10.1	11
89	Vibrational spectroscopy for decoding cancer microbiota interactions: Current evidence and future perspective. Seminars in Cancer Biology, 2022, 86, 743-752.	9.6	11
90	Shedding Light on the Trehaloseâ€Enabled Mucopermeation of Nanoparticles with Labelâ€Free Raman Spectroscopy. Small, 2019, 15, e1901679.	10.0	10

#	Article	IF	Citations
91	Silver-coated silicon nanowire platform discriminates genomic DNA from normal and malignant human epithelial cells using label-free Raman spectroscopy. Materials Science and Engineering C, 2021, 122, 111951.	7.3	10
92	Spectroscopyâ€Assisted Labelâ€free Molecular Analysis of Live Cell Surface with Vertically Aligned Plasmonic Nanopillars. Small, 2021, 17, 2100161.	10.0	10
93	Painting and heating: A nonconventional, scalable route to sensitive biomolecular analysis with plasmonâ€enhanced spectroscopy. Journal of Raman Spectroscopy, 2017, 48, 1365-1374.	2.5	8
94	Noise in biological Raman spectroscopy. , 2015, , .		7
95	Labelâ€free spectrochemical probe for determination of hemoglobin glycation in clinical blood samples. Journal of Biophotonics, 2018, 11, e201700397.	2.3	7
96	Laser induced breakdown spectroscopy with machine learning reveals lithium-induced electrolyte imbalance in the kidneys. Journal of Pharmaceutical and Biomedical Analysis, 2021, 194, 113805.	2.8	7
97	A facile and real-time spectroscopic method for biofluid analysis in point-of-care diagnostics. Bioanalysis, 2013, 5, 1853-1861.	1.5	6
98	Plexcitonic Quasiâ€Bound States in the Continuum. Small, 2021, 17, 2102596.	10.0	6
99	Raman Spectroscopy for the Diagnosis ofÂIntratubular Triamterene Crystallization. Kidney International Reports, 2018, 3, 997-1003.	0.8	5
100	Lithium from breastâ€milk inhibits thyroid iodine uptake and hormone production, which are remedied by maternal iodine supplementation. Bipolar Disorders, 2021, 23, 615-625.	1.9	5
101	Label-Free Vibrational and Quantitative Phase Microscopy Reveals Remarkable Pathogen-Induced Morphomolecular Divergence in Tumor-Derived Cells. ACS Sensors, 2022, 7, 1495-1505.	7.8	5
102	Emerging trends in biomedical imaging and disease diagnosis using Raman spectroscopy. , 2020, , 623-652.		4
103	Furinâ€Mediated Selfâ€Assembly of Olsalazine Nanoparticles for Targeted Raman Imaging of Tumors. Angewandte Chemie, 2021, 133, 3969-3973.	2.0	4
104	Decoding Live Cell Interactions with Multi-Nanoparticle Systems: Differential Implications for Uptake, Trafficking, and Gene Regulation. ACS Applied Materials & Interfaces, 2019, 11, 33659-33666.	8.0	3
105	Rapid, Labelâ€free Optical Spectroscopy Platform for Diagnosis of Heparinâ€Induced Thrombocytopenia. Angewandte Chemie, 2020, 132, 6028-6034.	2.0	3
106	Nanowire Assisted Mechanotyping of Cellular Metastatic Potential. Advanced Functional Materials, 2021, 31, 2101638.	14.9	3
107	Molecular Radiative Energy Shifts under Strong Oscillating Fields. Small, 2021, 17, 2007244.	10.0	2
108	Titelbild: Furinâ€Mediated Selfâ€Assembly of Olsalazine Nanoparticles for Targeted Raman Imaging of Tumors (Angew. Chem. 8/2021). Angewandte Chemie, 2021, 133, 3869-3869.	2.0	2

#	Article	IF	Citations
109	Role of Aqueous-Phase Calcination in Synthesis of Ultra-Stable Dye-Embedded Fluorescent Nanoparticles for Cellular Probing. Applied Spectroscopy, 2021, 75, 1012-1021.	2.2	2
110	Robust Spectroscopic Calibration for Transcutaneous Glucose Monitoring by Modeling of Diffusion Kinetics. , 2010, , .		1
111	Feasibility study of a Raman spectroscopic route to drug detection. , 2017, , .		1
112	Frontispiece: Mechanical Trap Surfaceâ€Enhanced Raman Spectroscopy for Threeâ€Dimensional Surface Molecular Imaging of Single Live Cells. Angewandte Chemie - International Edition, 2017, 56, .	13.8	1
113	Drop-coating deposition surface-enhanced Raman spectroscopy on silver substrates for biofluid analysis. , 2019, , .		1
114	Label-Free Morpho-Molecular Imaging for Studying the Differential Interaction of Black Phosphorus with Tumor Cells. Nanomaterials, 2022, 12, 1994.	4.1	1
115	Transcutaneous Measurement of Blood Analyte Concentration Using Raman Spectroscopy. , 2008, , .		0
116	Frontispiz: Mechanical Trap Surfaceâ€Enhanced Raman Spectroscopy for Threeâ€Dimensional Surface Molecular Imaging of Single Live Cells. Angewandte Chemie, 2017, 129, .	2.0	0
117	Controlled Nanoscale Cracking of Graphene Ribbons by Polymer Shrinkage. ACS Applied Nano Materials, 2021, 4, 1529-1539.	5.0	0