Petra RÃ¶sch

List of Publications by Year
in descending order

85 papers	3,540 citations	117625 34 h-index	144013 57 g-index
88 all docs	88 docs citations	88 times ranked	3331 citing authors

#	Article	IF	Citations
1	Towards a fast, high specific and reliable discrimination of bacteria on strain level by means of SERS in a microfluidic device. Lab on A Chip, 2011, 11, 1013.	6.0	266
2	Isolation and identification of bacteria by means of Raman spectroscopy. Advanced Drug Delivery Reviews, 2015, 89, 105-120.	13.7	238
3	How to pre-process Raman spectra for reliable and stable models?. Analytica Chimica Acta, 2011, 704, 47-56.	5.4	210
4	The application of Raman spectroscopy for the detection and identification of microorganisms. Journal of Raman Spectroscopy, 2016, 47, 89-109.	2.5	185
5	Cultivation-Free Raman Spectroscopic Investigations of Bacteria. Trends in Microbiology, 2017, 25, 413-424.	7.7	161
6	Culture Independent Raman Spectroscopic Identification of Urinary Tract Infection Pathogens: A Proof of Principle Study. Analytical Chemistry, 2013, 85, 9610-9616.	6.5	133
7	Raman imaging of changes in the polysaccharides distribution in the cell wall during apple fruit development and senescence. Planta, 2016, 243, 935-945.	3.2	101
8	Direct analysis of clinical relevant single bacterial cells from cerebrospinal fluid during bacterial meningitis by means of microâ€Raman spectroscopy. Journal of Biophotonics, 2009, 2, 70-80.	2.3	95
9	Identification of meat-associated pathogens via Raman microspectroscopy. Food Microbiology, 2014, 38, 36-43.	4.2	87
10	Identification of water pathogens by Raman microspectroscopy. Water Research, 2014, 48, 179-189.	11.3	80
11	Raman Spectroscopy as a Potential Tool for Detection of Brucella spp. in Milk. Applied and Environmental Microbiology, 2012, 78, 5575-5583.	3.1	79
12	UV Raman spectroscopyâ€"A technique for biological and mineralogical in situ planetary studies. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2007, 68, 1029-1035.	3.9	70
13	A comprehensive study of classification methods for medical diagnosis. Journal of Raman Spectroscopy, 2009, 40, 1759-1765.	2.5	69
14	Tracking active groundwater microbes with D₂O labelling to understand their ecosystem function. Environmental Microbiology, 2018, 20, 369-384.	3.8	57
15	Toward Culture-Free Raman Spectroscopic Identification of Pathogens in Ascitic Fluid. Analytical Chemistry, 2015, 87, 937-943.	6.5	55
16	Raman spectroscopy towards clinical application: drug monitoring and pathogen identification. International Journal of Antimicrobial Agents, 2015, 46, S35-S39.	2.5	54
17	Raman spectroscopic detection of physiology changes in plasmid-bearing Escherichia coli with and without antibiotic treatment. Analytical and Bioanalytical Chemistry, 2011, 400, 2763-2773.	3.7	53
18	Analysis of the cytochrome distribution via linear and nonlinear Raman spectroscopy. Analyst, The, 2010, 135, 908.	3.5	52

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19	Raman spectroscopic identification of single bacterial cells under antibiotic influence. Analytical and Bioanalytical Chemistry, 2014, 406, 3041-3050.	3.7	50
20	Raman spectroscopic identification of <i>MycobacteriumÂtuberculosis</i>. Journal of Biophotonics, 2017, 10, 727-734.	2.3	46
21	Raman Spectroscopy and Imaging in Bioanalytics. Analytical Chemistry, 2022, 94, 86-119.	6.5	46
22	Assessment of two isolation techniques for bacteria in milk towards their compatibility with Raman spectroscopy. Analyst, The, 2011, 136, 4997.	3.5	45
23	Distinction of Ecuadorian varieties of fermented cocoa beans using Raman spectroscopy. Food Chemistry, 2016, 211, 274-280.	8.2	44
24	Raman spectroscopic differentiation of planktonic bacteria and biofilms. Analytical and Bioanalytical Chemistry, 2015, 407, 6803-6813.	3.7	43
25	Characterization of pH dependent Mn(II) oxidation strategies and formation of a bixbyite-like phase by Mesorhizobium australicum T-G1. Frontiers in Microbiology, 2015, 6, 734.	3.5	42
26	The influence of intracellular storage material on bacterial identification by means of Raman spectroscopy. Analytical and Bioanalytical Chemistry, 2010, 397, 2929-2937.	3.7	41
27	Identification and classification of organic and inorganic components of particulate matter via Raman spectroscopy and chemometric approaches. Journal of Raman Spectroscopy, 2011, 42, 383-392.	2.5	41
28	Modified PCA and PLS: Towards a better classification in Raman spectroscopyâ€“based biological applications. Journal of Chemometrics, 2020, 34, e3202.	1.3	41
29	Characterization of carotenoids in soil bacteria and investigation of their photodegradation by UVA radiation <i>via</i> resonance Raman spectroscopy. Analyst, The, 2015, 140, 4584-4593.	3.5	39
30	Destruction-free procedure for the isolation of bacteria from sputum samples for Raman spectroscopic analysis. Analytical and Bioanalytical Chemistry, 2015, 407, 8333-8341.	3.7	39
31	Demonstration of Carbon Catabolite Repression in Naphthalene Degrading Soil Bacteria via Raman Spectroscopy Based Stable Isotope Probing. Analytical Chemistry, 2016, 88, 7574-7582.	6.5	38
32	Rapid Identification of <i>Pseudomonas</i> spp. via Raman Spectroscopy Using Pyoverdine as Capture Probe. Analytical Chemistry, 2016, 88, 1570-1577.	6.5	35
33	Sample-Size Planning for Multivariate Data: A Raman-Spectroscopy-Based Example. Analytical Chemistry, 2018, 90, 12485-12492.	6.5	35
34	Pelagic boundary conditions affect the biological formation of ironâ€rich particles (iron snow) and their microbial communities. Limnology and Oceanography, 2011, 56, 1386-1398.	3.1	34
35	Raman spectroscopic monitoring of the growth of pigmented and non-pigmented mycobacteria. Analytical and Bioanalytical Chemistry, 2015, 407, 8919-8923.	3.7	34
36	Identification of minerals and organic materials in Middle Eocene ironstones from the Bahariya Depression in the Western Desert of Egypt by means of microâ€Raman spectroscopy. Journal of Raman Spectroscopy, 2012, 43, 405-410.	2.5	33

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37	Isolation and Enrichment of Pathogens with a Surfaceâ€Modified Aluminium Chip for Raman Spectroscopic Applications. ChemPhysChem, 2013, 14, 3600-3605.	2.1	32
38	Extended Multiplicative Signal Correction Based Model Transfer for Raman Spectroscopy in Biological Applications. Analytical Chemistry, 2018, 90, 9787-9795.	6.5	32
39	Raman spectroscopic detection and identification of Burkholderia mallei and Burkholderia pseudomallei in feedstuff. Analytical and Bioanalytical Chemistry, 2015, 407, 787-794.	3.7	31
40	Towards an improvement of model transferability for Raman spectroscopy in biological applications. Vibrational Spectroscopy, 2017, 91, 111-118.	2.2	31
41	From Bulk to Single-Cell Classification of the Filamentous Growing <i>Streptomyces</i> Bacteria by Means of Raman Spectroscopy. Applied Spectroscopy, 2011, 65, 1116-1125.	2.2	29
42	Identification of water-conditioned Pseudomonas aeruginosa by Raman microspectroscopy on a single cell level. Systematic and Applied Microbiology, 2014, 37, 360-367.	2.8	28
43	Raman Spectroscopy as a Rapid Tool for Quantitative Analysis of Butter Adulterated with Margarine. Food Analytical Methods, 2016, 9, 1315-1320.	2.6	27
44	Model transfer for Ramanâ€spectroscopyâ€based bacterial classification. Journal of Raman Spectroscopy, 2018, 49, 627-637.	2.5	27
45	Classification and identification of pigmented cocci bacteria relevant to the soil environment via Raman spectroscopy. Environmental Science and Pollution Research, 2015, 22, 19317-19325.	5.3	26
46	Revealing the microbial community structure of clogging materials in dewatering wells differing in physico-chemical parameters in an open-cast mining area. Water Research, 2014, 63, 222-233.	11.3	25
47	Quantitative SERS studies by combining LOC-SERS with the standard addition method. Analytical and Bioanalytical Chemistry, 2015, 407, 8925-8929.	3.7	25
48	Microbial Fe(II) oxidation by<i>Sideroxydans lithotrophicus</i>ES-1 in the presence of SchlÃ¶ppnerbrunnen fen-derived humic acids. FEMS Microbiology Ecology, 2019, 95, .	2.7	25
49	Detection of multi-resistant clinical strains of E. coli with Raman spectroscopy. Analytical and Bioanalytical Chemistry, 2022, 414, 1481-1492.	3.7	25
50	Shedding light on host niches: label-free<i>in situ</i>detection of<i>M</i><i>ycobacterium gordonae</i>via carotenoids in macrophages by Raman microspectroscopy. Cellular Microbiology, 2015, 17, 832-842.	2.1	23
51	Isolation mattersâ€"processing blood for Raman microspectroscopic identification of bacteria. Analytical and Bioanalytical Chemistry, 2019, 411, 5445-5454.	3.7	23
52	Spatiotemporal Organization of Biofilm Matrix Revealed by Confocal Raman Mapping Integrated with Non-negative Matrix Factorization Analysis. Analytical Chemistry, 2020, 92, 707-715.	6.5	23
53	Raman spectroscopic detection of Nickel impact on single <i>Streptomyces</i> cells â€" possible bioindicators for heavy metal contamination. Journal of Raman Spectroscopy, 2012, 43, 1058-1064.	2.5	22
54	A Machine Learning-Based Raman Spectroscopic Assay for the Identification of Burkholderia mallei and Related Species. Molecules, 2019, 24, 4516.	3.8	22

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55	Discrimination between pathogenic and non-pathogenic E. coli strains by means of Raman microspectroscopy. Analytical and Bioanalytical Chemistry, 2020, 412, 8241-8247.	3.7	22
56	Simulation of Transportation and Storage and Their Influence on Raman Spectra of Bacteria. Analytical Chemistry, 2019, 91, 13688-13694.	6.5	21
57	Bolstering fitness via CO2 fixation and organic carbon uptake: mixotrophs in modern groundwater. ISME Journal, 2022, 16, 1153-1162.	9.8	21
58	Monitoring Deuterium Uptake in Single Bacterial Cells via Two-Dimensional Raman Correlation Spectroscopy. Analytical Chemistry, 2021, 93, 7714-7723.	6.5	18
59	The application of UV resonance Raman spectroscopy for the differentiation of clinically relevant Candida species. Analytical and Bioanalytical Chemistry, 2018, 410, 5839-5847.	3.7	17
60	Influence of Carbon Sources on Quantification of Deuterium Incorporation in Heterotrophic Bacteria: A Raman-Stable Isotope Labeling Approach. Analytical Chemistry, 2020, 92, 11429-11437.	6.5	17
61	Origin of salt mixtures and mixed salts in atmospheric particulate matter. Journal of Raman Spectroscopy, 2012, 43, 514-519.	2.5	14
62	Fast label-free detection of Legionella spp. in biofilms by applying immunomagnetic beads and Raman spectroscopy. Systematic and Applied Microbiology, 2016, 39, 132-140.	2.8	14
63	The Potential of Raman Spectroscopy for the Classification of Fish Fillets. Food Analytical Methods, 2016, 9, 1301-1306.	2.6	14
64	Extremophile microbiomes in acidic and hypersaline river sediments of <scp>W</scp>estern <scp>A</scp>ustralia. Environmental Microbiology Reports, 2016, 8, 58-67.	2.4	12
65	Isolation of bacteria from artificial bronchoalveolar lavage fluid using density gradient centrifugation and their accessibility by Raman spectroscopy. Analytical and Bioanalytical Chemistry, 2021, 413, 5193-5200.	3.7	12
66	Nondestructive 3D imaging and quantification of hydrated biofilm matrix by confocal Raman microscopy coupled with non-negative matrix factorization. Water Research, 2022, 210, 117973.	11.3	11
67	Fiber Probe-Based Raman Spectroscopic Identification of Pathogenic Infection Microorganisms on Agar Plates. Analytical Chemistry, 2022, 94, 4635-4642.	6.5	11
68	Raman Spectroscopic Characterization of Packaged <i>L. pneumophila</i> Strains Expelled by <i>T. thermophila</i>. Analytical Chemistry, 2016, 88, 2533-2537.	6.5	9
69	Raman <scp>¹⁸Oâ€labeling</scp> of bacteria in visible and deep <scp>UVâ€ranges</scp>. Journal of Biophotonics, 2021, 14, e202100013.	2.3	9
70	In Vitro Fiber-Probe-Based Identification of Pathogens in Biofilms by Raman Spectroscopy. Analytical Chemistry, 2022, 94, 5375-5381.	6.5	9
71	Labelâ€free differentiation of clinical <i>E. coli</i> and <i>Klebsiella</i> isolates with Raman spectroscopy. Journal of Biophotonics, 2022, 15, e202200005.	2.3	9
72	Raman Stable Isotope Probing of Bacteria in Visible and Deep UV-Ranges. Life, 2021, 11, 1003.	2.4	8

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73	Highâ€throughput screening of measuring conditions for an optimized SERS detection. Journal of Raman Spectroscopy, 2016, 47, 1003-1011.	2.5	7
74	The interaction of an amino-modified ZrO2 nanomaterial with macrophagesâ€"an in situ investigation by Raman microspectroscopy. Analytical and Bioanalytical Chemistry, 2016, 408, 5935-5943.	3.7	7
75	Recursive feature elimination in Raman spectra with support vector machines. Frontiers of Optoelectronics, 2017, 10, 273-279.	3.7	7
76	Bacterial phenotype dependency from CO2 measured by Raman spectroscopy. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2021, 248, 119170.	3.9	7
77	Phenotypic Differentiation of Autotrophic and Heterotrophic Bacterial Cells Using Raman-D₂O Labeling. Analytical Chemistry, 2022, 94, 7759-7766.	6.5	4
78	Fast and Selective Against Bacteria. Optik & Photonik, 2013, 8, 36-39.	0.2	3
79	Comparison of functional and discrete data analysis regimes for Raman spectra. Analytical and Bioanalytical Chemistry, 2021, 413, 5633-5644.	3.7	3
80	Comparison of conventional and shifted excitation Raman difference spectroscopy for bacterial identification. Journal of Raman Spectroscopy, 2022, 53, 1285-1292.	2.5	3
81	Raman spectroscopy for the characterization of antimicrobial photodynamic therapy against Staphylococcus epidermidis. Journal of Raman Spectroscopy, 2018, 49, 1907-1910.	2.5	2
82	Identification Of Pathogenic Bacteria Extracted From Milk On Single-Cell-Level By Means Of Micro-Raman Spectroscopy. , 2010, , .		1
83	Raman Spectroscopic Investigation of Dyes in Spices. , 2010, , .		0
84	Micro-Raman Spectroscopic Identification of Pathogenic Microorganisms. , 2010, , .		0
85	Raman Spectroscopic Investigations of the Effect of Cytostatic agents on Breast Cancer Cells. , 2010, , .		0