Christoph Krafft

List of Publications by Citations

147 papers	6,174 citations	48 h-index	74 g-index
173 ext. papers	7,063 ext. citations	4.7 avg, IF	5.78 L-index

#	Paper	IF	Citations
147	Near infrared Raman spectra of human brain lipids. *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy*, **2005**, 61, 1529-35	4.4	368
146	Sample size planning for classification models. *Analytica Chimica Acta*, **2013**, 760, 25-33	6.6	243
145	Raman and CARS microspectroscopy of cells and tissues. *Analyst, The*, **2009**, 134, 1046-57	5	229
144	Disease recognition by infrared and Raman spectroscopy. *Journal of Biophotonics*, **2009**, 2, 13-28	3.1	222
143	Tumour cell identification by means of Raman spectroscopy in combination with optical traps and microfluidic environments. *Lab on A Chip*, **2011**, 11, 1484-90	7.2	158
142	Mapping of single cells by near infrared Raman microspectroscopy. *Vibrational Spectroscopy*, **2003**, 32, 75-83	2.1	149
141	Label-Free Molecular Imaging of Biological Cells and Tissues by Linear and Nonlinear Raman Spectroscopic Approaches. *Angewandte Chemie - International Edition*, **2017**, 56, 4392-4430	16.4	130
140	Raman spectroscopic imaging for in vivo detection of cerebral brain metastases. *Analytical and Bioanalytical Chemistry*, **2010**, 398, 1707-13	4.4	127
139	Near infrared Raman spectroscopic mapping of native brain tissue and intracranial tumors. *Analyst, The*, **2005**, 130, 1070-7	5	125
138	Nonlinear microscopy, infrared, and Raman microspectroscopy for brain tumor analysis. *Journal of Biomedical Optics*, **2011**, 16, 021113	3.5	119
137	Spectral unmixing and clustering algorithms for assessment of single cells by Raman microscopic imaging. *Theoretical Chemistry Accounts*, **2011**, 130, 1249-1260	1.9	118
136	The many facets of Raman spectroscopy for biomedical analysis. *Analytical and Bioanalytical Chemistry*, **2015**, 407, 699-717	4.4	112
135	Studies on stress-induced changes at the subcellular level by Raman microspectroscopic mapping. *Analytical Chemistry*, **2006**, 78, 4424-9	7.8	112
134	Liver dysfunction and phosphatidylinositol-3-kinase signalling in early sepsis: experimental studies in rodent models of peritonitis. *PLoS Medicine*, **2012**, 9, e1001338	11.6	111
133	Raman and coherent anti-Stokes Raman scattering microspectroscopy for biomedical applications. *Journal of Biomedical Optics*, **2012**, 17, 040801	3.5	101
132	Identification and differentiation of single cells from peripheral blood by Raman spectroscopic imaging. *Journal of Biophotonics*, **2010**, 3, 579-87	3.1	99
131	Phenalenone-type phytoalexins mediate resistance of banana plants (Musa spp.) to the burrowing nematode Radopholus similis. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 105-10	11.5	97

130	Methodology for fiber-optic Raman mapping and FTIR imaging of metastases in mouse brains. *Analytical and Bioanalytical Chemistry*, **2007**, 389, 1133-42	4.4	94
129	Raman and FTIR microscopic imaging of colon tissue: a comparative study. *Journal of Biophotonics*, **2008**, 1, 154-69	3.1	94
128	Quantification of brain lipids by FTIR spectroscopy and partial least squares regression. *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy*, **2009**, 71, 2069-75	4.4	92
127	A comparative Raman and CARS imaging study of colon tissue. *Journal of Biophotonics*, **2009**, 2, 303-12	3.1	91
126	Noninvasive imaging of intracellular lipid metabolism in macrophages by Raman microscopy in combination with stable isotopic labeling. *Analytical Chemistry*, **2012**, 84, 8549-56	7.8	83
125	Identification of organelles and vesicles in single cells by Raman microspectroscopic mapping. *Vibrational Spectroscopy*, **2005**, 38, 85-93	2.1	78
124	Identification of primary tumors of brain metastases by SIMCA classification of IR spectroscopic images. *Biochimica Et Biophysica Acta - Biomembranes*, **2006**, 1758, 883-91	3.8	77
123	Discriminating isogenic cancer cells and identifying altered unsaturated fatty acid content as associated with metastasis status, using k-means clustering and partial least squares-discriminant analysis of Raman maps. *Analytical Chemistry*, **2010**, 82, 2797-802	7.8	76
122	Characterization of lipid extracts from brain tissue and tumors using Raman spectroscopy and mass spectrometry. *Analytical and Bioanalytical Chemistry*, **2009**, 393, 1513-20	4.4	75
121	Multicore fiber with integrated fiber Bragg gratings for background-free Raman sensing. *Optics Express*, **2012**, 20, 20156-69	3.3	74
120	Delimitation of squamous cell cervical carcinoma using infrared microspectroscopic imaging. *Analytical and Bioanalytical Chemistry*, **2006**, 384, 145-54	4.4	72
119	Raman and infrared spectroscopic mapping of human primary intracranial tumors: a comparative study. *Journal of Raman Spectroscopy*, **2006**, 37, 367-375	2.3	67
118	Analysis of human brain tissue, brain tumors and tumor cells by infrared spectroscopic mapping. *Analyst, The*, **2004**, 129, 921-5	5	67
117	Classification of malignant gliomas by infrared spectroscopic imaging and linear discriminant analysis. *Analytical and Bioanalytical Chemistry*, **2007**, 387, 1669-77	4.4	63
116	Tumor margin identification and prediction of the primary tumor from brain metastases using FTIR imaging and support vector machines. *Analyst, The*, **2013**, 138, 3983-90	5	62
115	Quartz microfluidic chip for tumour cell identification by Raman spectroscopy in combination with optical traps. *Analytical and Bioanalytical Chemistry*, **2013**, 405, 2743-6	4.4	61
114	Identification of primary tumors of brain metastases by Raman imaging and support vector machines. *Chemometrics and Intelligent Laboratory Systems*, **2012**, 117, 224-232	3.8	60
113	Classification of malignant gliomas by infrared spectroscopy and linear discriminant analysis. *Biopolymers*, **2006**, 82, 301-5	2.2	59

112	Fiber optic probes for linear and nonlinear Raman applications □Current trends and future development. *Laser and Photonics Reviews*, **2013**, 7, 698-731	8.3	58
111	Advances in optical biopsy--correlation of malignancy and cell density of primary brain tumors using Raman microspectroscopic imaging. *Analyst, The*, **2012**, 137, 5533-7	5	57
110	Characterization of atherosclerotic plaque depositions by Raman and FTIR imaging. *Journal of Biophotonics*, **2013**, 6, 110-21	3.1	56
109	Differentiation of individual human mesenchymal stem cells probed by FTIR microscopic imaging. *Analyst, The*, **2007**, 132, 647-53	5	56
108	Bioanalytical applications of Raman spectroscopy. *Analytical and Bioanalytical Chemistry*, **2004**, 378, 60-2	4.4	55
107	In vivo characterization of atherosclerotic plaque depositions by Raman-probe spectroscopy and in vitro coherent anti-stokes Raman scattering microscopic imaging on a rabbit model. *Analytical Chemistry*, **2012**, 84, 7845-51	7.8	54
106	The C-terminal subdomain (IF2 C-2) contains the entire fMet-tRNA binding site of initiation factor IF2. *Journal of Biological Chemistry*, **2000**, 275, 2447-54	5.4	54
105	Classification of inflammatory bowel diseases by means of Raman spectroscopic imaging of epithelium cells. *Journal of Biomedical Optics*, **2012**, 17, 076030	3.5	53
104	Unsupervised unmixing of Raman microspectroscopic images for morphochemical analysis of non-dried brain tumor specimens. *Analytical and Bioanalytical Chemistry*, **2012**, 403, 719-25	4.4	52
103	High-Throughput Screening Raman Spectroscopy Platform for Label-Free Cellomics. *Analytical Chemistry*, **2018**, 90, 2023-2030	7.8	51
102	Raman mapping and FTIR imaging of lung tissue: congenital cystic adenomatoid malformation. *Analyst, The*, **2008**, 133, 361-71	5	51
101	Secondary structure polymorphism in Oxytricha nova telomeric DNA. *Nucleic Acids Research*, **2002**, 30, 3981-91	20.1	50
100	Applications of coherent Raman scattering microscopies to clinical and biological studies. *Analyst, The*, **2015**, 140, 3897-909	5	46
99	Crisp and soft multivariate methods visualize individual cell nuclei in Raman images of liver tissue sections. *Vibrational Spectroscopy*, **2011**, 55, 90-100	2.1	45
98	A specific spectral signature of serum and plasma-derived extracellular vesicles for cancer screening. *Nanomedicine: Nanotechnology, Biology, and Medicine*, **2017**, 13, 835-841	6	44
97	Complexity of fatty acid distribution inside human macrophages on single cell level using Raman micro-spectroscopy. *Analytical and Bioanalytical Chemistry*, **2014**, 406, 7037-46	4.4	44
96	Multimodal imaging to study the morphochemistry of basal cell carcinoma. *Journal of Biophotonics*, **2010**, 3, 728-36	3.1	43
95	Raman spectroscopy analysis of lipid droplets content, distribution and saturation level in Non-Alcoholic Fatty Liver Disease in mice. *Journal of Biophotonics*, **2015**, 8, 597-609	3.1	39

94	Non-invasive depth profile imaging of the stratum corneum using confocal Raman microscopy: first insights into the method. *European Journal of Pharmaceutical Sciences*, **2013**, 50, 601-8	5.1	39
93	Identification of primary tumors of brain metastases by infrared spectroscopic imaging and linear discriminant analysis. *Technology in Cancer Research and Treatment*, **2006**, 5, 291-8	2.7	37
92	Interpreting CARS images of tissue within the C-H-stretching region. *Journal of Biophotonics*, **2012**, 5, 729-33	3.1	35
91	Spatially resolved determination of the structure and composition of diatom cell walls by Raman and FTIR imaging. *Analytical and Bioanalytical Chemistry*, **2010**, 398, 509-17	4.4	35
90	A droplet-based microfluidic chip as a platform for leukemia cell lysate identification using surface-enhanced Raman scattering. *Analytical and Bioanalytical Chemistry*, **2018**, 410, 999-1006	4.4	34
89	Spatial distribution of heme species in erythrocytes infected with Plasmodium falciparum by use of resonance Raman imaging and multivariate analysis. *Analytical and Bioanalytical Chemistry*, **2008**, 392, 1277-82	4.4	34
88	Hyperspectral unmixing of Raman micro-images for assessment of morphological and chemical parameters in non-dried brain tumor specimens. *Analytical and Bioanalytical Chemistry*, **2013**, 405, 8719-28	4.4	31
87	Membrane fouling from ammonia recovery analyzed by ATR-FTIR imaging. *Vibrational Spectroscopy*, **2014**, 72, 119-123	2.1	31
86	Suitability of infrared spectroscopic imaging as an intraoperative tool in cerebral glioma surgery. *Analytical and Bioanalytical Chemistry*, **2009**, 393, 187-95	4.4	31
85	Combining multiset resolution and segmentation for hyperspectral image analysis of biological tissues. *Analytica Chimica Acta*, **2015**, 881, 24-36	6.6	30
84	Rapid acquisition of mean Raman spectra of eukaryotic cells for a robust single cell classification. *Analyst, The*, **2016**, 141, 6387-6395	5	30
83	Evaluation of Shifted Excitation Raman Difference Spectroscopy and Comparison to Computational Background Correction Methods Applied to Biochemical Raman Spectra. *Sensors*, **2017**, 17,	3.8	30
82	Raman and FTIR imaging of lung tissue: Methodology for control samples. *Vibrational Spectroscopy*, **2008**, 46, 141-149	2.1	28
81	Identification of B and T cells in human spleen sections by infrared microspectroscopic imaging. *Cytometry Part A: the Journal of the International Society for Analytical Cytology*, **2005**, 64, 53-61	4.6	27
80	Structural alterations in rat liver proteins due to streptozotocin-induced diabetes and the recovery effect of selenium: fourier transform infrared microspectroscopy and neural network study. *Journal of Biomedical Optics*, **2012**, 17, 076023	3.5	24
79	Surface-enhanced Raman spectroscopy of cell lysates mixed with silver nanoparticles for tumor classification. *Beilstein Journal of Nanotechnology*, **2017**, 8, 1183-1190	3	22
78	Raman-on-chip device and detection fibres with fibre Bragg grating for analysis of solutions and particles. *Lab on A Chip*, **2013**, 13, 1109-13	7.2	22
77	Comparability of Raman Spectroscopic Configurations: A Large Scale Cross-Laboratory Study. *Analytical Chemistry*, **2020**, 92, 15745-15756	7.8	22

76	Handling Different Spatial Resolutions in Image Fusion by Multivariate Curve Resolution-Alternating Least Squares for Incomplete Image Multisets. *Analytical Chemistry*, **2018**, 90, 6757-6765	7.8	21
75	Recognition of tumor cells by immuno-SERS-markers in a microfluidic chip at continuous flow. *Analyst, The*, **2016**, 141, 5986-5989	5	21
74	Photocatalyst activation by intrinsic stimulation in TiO2BaTiO3. *Catalysis Science and Technology*, **2012**, 2, 1472	5.5	21
73	Interaction of fMet-tRNA(fMet) with the C-terminal domain of translational initiation factor IF2 from Bacillus stearothermophilus. *FEBS Letters*, **2000**, 471, 128-32	3.8	20
72	Classification of Raman spectra of single cells with autofluorescence suppression by wavelength modulated excitation. *Analytical Methods*, **2013**, 5, 4608	3.2	19
71	Resonance Raman spectral imaging of intracellular uptake of Ecarotene loaded poly(D,L-lactide-co-glycolide) nanoparticles. *ChemPhysChem*, **2013**, 14, 155-61	3.2	19
70	Modern trends in biophotonics for clinical diagnosis and therapy to solve unmet clinical needs. *Journal of Biophotonics*, **2016**, 9, 1362-1375	3.1	19
69	Differentiation of MCF-7 tumor cells from leukocytes and fibroblast cells using epithelial cell adhesion molecule targeted multicore surface-enhanced Raman spectroscopy labels. *Journal of Biomedical Optics*, **2015**, 20, 55002	3.5	18
68	Assessment of growth phases of the diatom Ditylum brightwellii by FT-IR and Raman spectroscopy. *Algal Research*, **2016**, 19, 246-252	5	18
67	Design and first applications of a flexible Raman micro-spectroscopic system for biological imaging. *Biomedical Spectroscopy and Imaging*, **2016**, 5, 115-127	1.3	18
66	Confocal Raman microscopy combined with optical clearing for identification of inks in multicolored tattooed skin in vivo. *Analyst, The*, **2018**, 143, 4990-4999	5	18
65	Classification and prediction of HCC tissues by Raman imaging with identification of fatty acids as potential lipid biomarkers. *Journal of Cancer Research and Clinical Oncology*, **2015**, 141, 407-18	4.9	17
64	Etaloning, fluorescence and ambient light suppression by modulated wavelength Raman spectroscopy. *Biomedical Spectroscopy and Imaging*, **2012**, 1, 383-389	1.3	17
63	Translational initiation factor IF2 from Bacillus stearothermophilus: a spectroscopic and microcalorimetric study of the C-domain. *Biochemistry*, **1997**, 36, 3170-8	3.2	17
62	Modern Raman spectroscopy for biomedical applications. *Optik & Photonik*, **2011**, 6, 24-28		16
61	Demonstrating the application of Raman spectroscopy together with chemometric technique for screening of asthma disease. *Biomedical Optics Express*, **2019**, 10, 600-609	3.5	16
60	Biophotonic technologies for assessment of breast tumor surgical margins-A review. *Journal of Biophotonics*, **2021**, 14, e202000280	3.1	16
59	Effect of biomimetic mineralization on enamel and dentin: A Raman and EDX analysis. *Dental Materials*, **2019**, 35, 1300-1307	5.7	15

58	Cell classification with low-resolution Raman spectroscopy (LRRS). *Journal of Biophotonics*, **2016**, 9, 994-1000	3.1	15
57	Raman and FTIR imaging of lung tissue: bronchopulmonary sequestration. *Journal of Raman Spectroscopy*, **2009**, 40, 595-603	2.3	14
56	Distribution of amygdalin in apricot (Prunus armeniaca) seeds studied by Raman microscopic imaging. *Applied Spectroscopy*, **2012**, 66, 644-9	3.1	14
55	Preparation and characterization of multicore SERS labels by controlled aggregation of gold nanoparticles. *Vibrational Spectroscopy*, **2012**, 60, 79-84	2.1	13
54	The Staphylococcus aureus extracellular matrix protein (Emp) has a fibrous structure and binds to different extracellular matrices. *Scientific Reports*, **2017**, 7, 13665	4.9	11
53	ATR-FTIR and Raman spectroscopy of primary and permanent teeth. *Biomedical Spectroscopy and Imaging*, **2014**, 3, 15-27	1.3	11
52	Investigation of adhesive□dentin interfaces using Raman microspectroscopy and small angle X-ray scattering. *Journal of Raman Spectroscopy*, **2012**, 43, 6-15	2.3	10
51	The fMet-tRNA binding domain of translational initiation factor IF2: role and environment of its two Cys residues. *FEBS Letters*, **1999**, 459, 332-6	3.8	10
50	Raman-Spectroscopy Based Cell Identification on a Microhole Array Chip. *Micromachines*, **2014**, 5, 204-215	3.3	9
49	Near-infrared Raman spectroscopy to study the composition of human brain tissue and tumors **2003**,		9
48	Investigation of Microalgal Carotenoid Content Using Coherent Anti-Stokes Raman Scattering (CARS) Microscopy and Spontaneous Raman Spectroscopy. *ChemPhysChem*, **2018**, 19, 1048-1055	3.2	8
47	Perspectives, potentials and trends of ex vivo and in vivo optical molecular pathology. *Journal of Biophotonics*, **2018**, 11, e201700236	3.1	8
46	High-throughput screening Raman microspectroscopy for assessment of drug-induced changes in diatom cells. *Analyst, The*, **2019**, 144, 4488-4492	5	8
45	Markerfreie molekulare Bildgebung biologischer Zellen und Gewebe durch lineare und nichtlineare Raman-spektroskopische Ans□ze. *Angewandte Chemie*, **2017**, 129, 4458-4500	3.6	8
44	FLIm-Guided Raman Imaging to Study Cross-Linking and Calcification of Bovine Pericardium. *Analytical Chemistry*, **2020**, 92, 10659-10667	7.8	7
43	New methodology to process shifted excitation Raman difference spectroscopy data: a case study of pollen classification. *Scientific Reports*, **2020**, 10, 11215	4.9	7
42	Monitoring intra-cellular lipid metabolism in macrophages by Raman- and CARS-microscopy **2010**,		7
41	Iron incorporation in biosilica of the marine diatom Stephanopyxis□turris: dispersed or clustered?. *BioMetals*, **2017**, 30, 71-82	3.4	6

40	Chemo-spectroscopic sensor for carboxyl terminus overexpressed in carcinoma cell membrane. *Nanomedicine: Nanotechnology, Biology, and Medicine*, **2015**, 11, 1831-9	6	6
39	Determination of configurational isomers in cyclic polysulfides by Raman spectroscopy. *Vibrational Spectroscopy*, **2007**, 43, 49-52	2.1	6
38	High-impact sulfur compounds: constitutional and configurational assignment of sulfur-containing heterocycles. *Chemistry and Biodiversity*, **2008**, 5, 1204-12	2.5	6
37	Multimodal nonlinear imaging of atherosclerotic plaques differentiation of triglyceride and cholesterol deposits. *Journal of Innovative Optical Health Sciences*, **2014**, 07, 1450027	1.2	5
36	Raman spectroscopic imaging as complementary tool for histopathologic assessment of brain tumors **2012**,		5
35	Preliminary characterization by X-ray diffraction and Raman spectroscopy of a crystalline complex of Bacillus stearothermophilus initiation factor 2 C-domain and fMet-tRNAfMet. *Acta Crystallographica Section D: Biological Crystallography*, **1999**, 55, 712-6		5
34	Monitoring Changes in Biochemical and Biomechanical Properties of Collagenous Tissues Using Label-Free and Nondestructive Optical Imaging Techniques. *Analytical Chemistry*, **2021**, 93, 3813-3821	7.8	5
33	Raman-based identification of circulating tumor cells for cancer diagnosis **2016**,		4
32	Miniature diamond-anvil cells for FTIR-microspectroscopy of small quantities of biosamples. *Analyst, The*, **2018**, 143, 3595-3599	5	4
31	Micro-Raman spectroscopy in medicine. *Physical Sciences Reviews*, **2019**, 4,	1.4	4
30	FTIR microscopic imaging of carcinoma tissue section with 4□and 15□bjectives: Practical considerations. *Biomedical Spectroscopy and Imaging*, **2015**, 4, 57-66	1.3	4
29	Characterization of atherosclerotic plaque-depositions by infrared, Raman and CARS microscopy **2011**,		4
28	Structural heterogeneity in intramolecular DNA triple helices. *Biological Chemistry*, **2000**, 381, 275-83	4.5	4
27	Raman Spectroscopy and Imaging in Bioanalytics.. *Analytical Chemistry*, **2021**,	7.8	4
26	Medical needs for translational biophotonics with the focus on Raman-based methods. *Translational Biophotonics*, **2019**, 1, e201900018	2.2	4
25	Development of a fiber-based Raman probe for clinical diagnostics **2011**,		3
24	Raman-Spektroskopie □der Weg zu einer labelfreien biomedizinischen Diagnostik. *Endoskopie Heute*, **2012**, 25, 262-267		3
23	Neuro-oncological Applications of Infrared and Raman Spectroscopy **2008**,		3

22	Unrealistic expectations for IR microspectroscopic imaging. *Nature Biotechnology*, **2007**, 25, 29-31; author reply 31-3	44.5	3
21	Raman and SERS spectroscopy for characterization of extracellular vesicles from control and prostate carcinoma patients **2020**,		3
20	Wide Field Spectral Imaging with Shifted Excitation Raman Difference Spectroscopy Using the Nod and Shuffle Technique. *Sensors*, **2020**, 20,	3.8	3
19	Investigating Origins of FLIm Contrast in Atherosclerotic Lesions Using Combined FLIm-Raman Spectroscopy. *Frontiers in Cardiovascular Medicine*, **2020**, 7, 122	5.4	3
18	Molecular Pathology via Infrared and Raman Spectral Imaging1) **2014**, 45-102		2
17	Vibrational Spectroscopic Imaging of Soft Tissue **2014**, 111-152		2
16	FTIR, Raman, and CARS microscopic imaging for histopathologic assessment of brain tumors **2010**,		2
15	Vibrational Spectroscopic Imaging of Soft Tissue111-147		2
14	FLIm and Raman Spectroscopy for Investigating Biochemical Changes of Bovine Pericardium upon Genipin Cross-Linking. *Molecules*, **2020**, 25,	4.8	2
13	Surface-Enhanced Raman Spectroscopy to Characterize Different Fractions of Extracellular Vesicles from Control and Prostate Cancer Patients. *Biomedicines*, **2021**, 9,	4.8	2
12	Raman Spectroscopy of Proteins and Nucleic Acids: From Amino Acids and Nucleotides to Large Assemblies **2018**, 1-15		2
11	Multi-core fiber with integrated fiber Bragg grating for background free Raman sensing **2013**,		1
10	Nonlinear microscopy and infrared and Raman microspectroscopy for brain tumor analysis **2011**,		1
9	Nonlinear optical imaging: toward chemical imaging during neurosurgery **2011**,		1
8	Biomedical Imaging Based on Vibrational Spectroscopy **2011**, 717-737		1
7	Raman spectra of single cells with autofluorescence suppression by modulated wavelength excitation **2012**,		1
6	Assessment of shifted excitation Raman difference spectroscopy in highly fluorescent biological samples. *Analyst, The*, **2021**, 146, 6760-6767	5	0
5	Magnetic apatite for structural insights on the plasma membrane. *Nanotechnology*, **2015**, 26, 035601	3.4	

4 Raman Microscopy **2013**, 235

3 In Vivo Brain Imaging and Diagnosis **2013**, 713

2 Fast and Objective Classification of Tumor Tissue by Optical Vibrational Spectroscopy **2007**, 378-383

1 Combination of Spontaneous and Coherent Raman Scattering Approaches with Other Spectroscopic Modalities for Molecular Multi-contrast Cancer Diagnosis **2020**, 325-358