Ludovic Duponchel

List of Publications by Year
in descending order

84	2,317	218381	243296
papers	citations	26 h-index	44 g-index

86	86	86	2739
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Support vector machines (SVM) in near infrared (NIR) spectroscopy: Focus on parameters optimization and model interpretation. Chemometrics and Intelligent Laboratory Systems, 2009, 96, 27-33.	1.8	211
2	Simultaneous data pre-processing and SVM classification model selection based on a parallel genetic algorithm applied to spectroscopic data of olive oils. Food Chemistry, 2014, 148, 124-130.	4.2	104
3	Resolution and segmentation of hyperspectral biomedical images by Multivariate Curve Resolution-Alternating Least Squares. Analytica Chimica Acta, 2011, 705, 182-192.	2.6	100
4	The Organization Pattern of Root Border-Like Cells of Arabidopsis Is Dependent on Cell Wall Homogalacturonan Â Â Â. Plant Physiology, 2009, 150, 1411-1421.	2.3	94
5	Classification of edible fats and oils by principal component analysis of Fourier transform infrared spectra. Food Chemistry, 1996, 57, 245-251.	4.2	86
6	Comparison of supervised pattern recognition methods with McNemarâ€™s statistical test. Analytica Chimica Acta, 2003, 477, 187-200.	2.6	83
7	Exploration of megapixel hyperspectral LIBS images using principal component analysis. Journal of Analytical Atomic Spectrometry, 2018, 33, 210-220.	1.6	67
8	Metal-induced malformations in early Palaeozoic plankton are harbingers of mass extinction. Nature Communications, 2015, 6, 7966.	5.8	66
9	Multivariate Curve Resolution Methods in Imaging Spectroscopy:â€‰ Influence of Extraction Methods and Instrumental Perturbations. Journal of Chemical Information and Computer Sciences, 2003, 43, 2057-2067.	2.8	63
10	Monitoring polymorphic transformations by using in situ Raman hyperspectral imaging and image multiset analysis. Analytica Chimica Acta, 2014, 819, 15-25.	2.6	63
11	Topological data analysis: A promising big data exploration tool in biology, analytical chemistry and physical chemistry. Analytica Chimica Acta, 2016, 910, 1-11.	2.6	59
12	In-line and real-time prediction of recombinant antibody titer by inÂsitu Raman spectroscopy. Analytica Chimica Acta, 2015, 892, 148-152.	2.6	58
13	Quality Evaluation of Sugar Beet(Beta vulgaris)by Near-Infrared Spectroscopy. Journal of Agricultural and Food Chemistry, 2004, 52, 1055-1061.	2.4	56
14	Characterisation of heavy oils using near-infrared spectroscopy: Optimisation of pre-processing methods and variable selection. Analytica Chimica Acta, 2011, 705, 227-234.	2.6	54
15	Parallel genetic algorithm co-optimization of spectral pre-processing and wavelength selection for PLS regression. Chemometrics and Intelligent Laboratory Systems, 2011, 107, 50-58.	1.8	47
16	Classification of challenging Laser-Induced Breakdown Spectroscopy soil sample data - EMSLIBS contest. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2020, 169, 105872.	1.5	47
17	Comparability of Raman Spectroscopic Configurations: A Large Scale Cross-Laboratory Study. Analytical Chemistry, 2020, 92, 15745-15756.	3.2	46
18	Chemometric Strategies To Unmix Information and Increase the Spatial Description of Hyperspectral Images: A Single-Cell Case Study. Analytical Chemistry, 2013, 85, 6303-6311.	3.2	43

#	Article	IF	Citations
19	Multivariate statistical process control (MSPC) using Raman spectroscopy for in-line culture cell monitoring considering time-varying batches synchronized with correlation optimized warping (COW). Analytica Chimica Acta, 2017, 952, 9-17.	2.6	42
20	Statistical tests for comparison of quantitative and qualitative models developed with near infrared spectral data. Journal of Molecular Structure, 2003, 654, 253-262.	1.8	36
21	Pushing back the limits of Raman imaging by coupling super-resolution and chemometrics for aerosols characterization. Scientific Reports, 2015, 5, 12303.	1.6	35
22	Detection of minor compounds in complex mineral samples from millions of spectra: A new data analysis strategy in LIBS imaging. Analytica Chimica Acta, 2020, 1114, 66-73.	2.6	32
23	Super-resolution and Raman chemical imaging: From multiple low resolution images to a high resolution image. Analytica Chimica Acta, 2008, 607, 168-175.	2.6	30
24	Combination of mid-infrared spectroscopy and chemometric factorization tools to study the oxidation of lubricating base oils. Catalysis Today, 2010, 155, 255-260.	2.2	30
25	Classification of Green Coffees by FT-IR Analysis of Dry Extract. Applied Spectroscopy, 1995, 49, 580-585.	1.2	29
26	Time-Resolved Step-Scan FT-IR Spectroscopy:â€‰ Focus on Multivariate Curve Resolution. Journal of Chemical Information and Computer Sciences, 2003, 43, 1966-1973.	2.8	27
27	Quantitative analysis of latex in paper coatings by ATR-FTIR spectroscopy. Journal of Chemometrics, 1994, 8, 333-347.	0.7	26
28	A Cell Wall Proteome and Targeted Cell Wall Analyses Provide Novel Information on Hemicellulose Metabolism in Flax. Molecular and Cellular Proteomics, 2017, 16, 1634-1651.	2.5	23
29	Developing global regression models for metabolite concentration prediction regardless of cell line. Biotechnology and Bioengineering, 2017, 114, 2550-2559.	1.7	23
30	Chemometric strategies for the study of the complexation of Al(III) ions with model molecule of humic substances from UVâ€“vis data sets. Analytica Chimica Acta, 2005, 544, 337-344.	2.6	22
31	Trappist beer identification by vibrational spectroscopy: A chemometric challenge posed at the â€˜ChimiomÃ©trie 2010â€™ congress. Chemometrics and Intelligent Laboratory Systems, 2012, 113, 2-9.	1.8	22
32	Gaussian mixture models for the classification of highâ€dimensional vibrational spectroscopy data. Journal of Chemometrics, 2010, 24, 719-727.	0.7	21
33	Exploring hyperspectral imaging data sets with topological data analysis. Analytica Chimica Acta, 2018, 1000, 123-131.	2.6	20
34	Infrared chemical imaging: Spatial resolution evaluation and super-resolution concept. Analytica Chimica Acta, 2010, 674, 220-226.	2.6	19
35	Water quality assessment of a small peri-urban river using low and high frequency monitoring. Environmental Sciences: Processes and Impacts, 2016, 18, 624-637.	1.7	19
36	Neural network modelling for very small spectral data sets: reduction of the spectra and hierarchical approach. Chemometrics and Intelligent Laboratory Systems, 2000, 54, 93-106.	1.8	18

#	Article	IF	Citations
37	Highly sensitive terahertz spectroscopy in microsystem. RSC Advances, 2012, 2, 10064.	1.7	18
38	Multivariate curve resolution of step-scan FTIR spectral data. Vibrational Spectroscopy, 2004, 35, 21-26.	1.2	16
39	Fast epi-detected broadband multiplex CARS and SHG imaging of mouse skull cells. Biomedical Optics Express, 2018, 9, 245.	1.5	16
40	Insights from Nitrogen Compounds in Gas Oils Highlighted by High-Resolution Fourier Transform Mass Spectrometry. Analytical Chemistry, 2019, 91, 12644-12652.	3.2	16
41	UDP-GLYCOSYLTRANSFERASE 72E3 Plays a Role in Lignification of Secondary Cell Walls in Arabidopsis. International Journal of Molecular Sciences, 2020, 21, 6094.	1.8	16
42	Mammalian cell culture monitoring using in situ spectroscopy: Is your method really optimised?. Biotechnology Progress, 2017, 33, 308-316.	1.3	15
43	Multi-excitation hyperspectral autofluorescence imaging for the exploration of biological samples. Analytica Chimica Acta, 2019, 1062, 47-59.	2.6	15
44	Data fusion of LIBS and PIL hyperspectral imaging: Understanding the luminescence phenomenon of a complex mineral sample. Analytica Chimica Acta, 2022, 1192, 339368.	2.6	15
45	Quantitative determination of polymer and mineral content in paper coatings by infrared spectroscopy. Improvements by non-linear treatments. Analytica Chimica Acta, 1996, 335, 79-85.	2.6	13
46	Hydrolysis of hemoglobin surveyed by infrared spectroscopy. Analytica Chimica Acta, 1999, 396, 241-251.	2.6	13
47	Should we prefer inverse models in quantitative LIBS analysis?. Journal of Analytical Atomic Spectrometry, 2020, 35, 794-803.	1.6	13
48	Increasing the spatial resolution of near infrared chemical images (NIR-CI): The super-resolution paradigm applied to pharmaceutical products. Chemometrics and Intelligent Laboratory Systems, 2012, 117, 183-188.	1.8	12
49	Tracking hidden organic carbon in rocks using chemometrics and hyperspectral imaging. Scientific Reports, 2018, 8, 2396.	1.6	12
50	Chemometric Exploration of APPI(+)-FT-ICR MS Data Sets for a Comprehensive Study of Aromatic Sulfur Compounds in Gas Oils. Analytical Chemistry, 2019, 91, 11785-11793.	3.2	12
51	Effect of image processing constraints on the extent of rotational ambiguity in MCR-ALS of hyperspectral images. Analytica Chimica Acta, 2019, 1052, 27-36.	2.6	12
52	Matrix merging arrangements for the study protein dynamics by time-resolved step-scan Fourier transform infrared spectroscopy and multivariate curve resolution. Analytica Chimica Acta, 2004, 515, 183-190.	2.6	11
53	New chemometric approach MCR-ALS to unmix EPR spectroscopic data from complex mixtures. Journal of Magnetic Resonance, 2014, 248, 27-35.	1.2	11
54	Fusing spectral and spatial information with 2-D stationary wavelet transform (SWT 2-D) for a deeper exploration of spectroscopic images. Talanta, 2021, 224, 121835.	2.9	11

#	Article	IF	Citations
55	Interpretation and improvement of an artificial neural network MIR calibration. Chemometrics and Intelligent Laboratory Systems, 2002, 62, 189-198.	1.8	10
56	Combination of mid-infrared spectroscopy and curve resolution method to follow the antioxidant action of alkylated diphenylamines. Chemometrics and Intelligent Laboratory Systems, 2011, 106, 210-215.	1.8	10
57	Combining near and mid infrared spectroscopy for heavy oil characterisation. Fuel, 2014, 133, 310-316.	3.4	10
58	Studying radiolytic ageing of nuclear power plant electric cables with FTIR spectroscopy. Talanta, 2017, 172, 139-146.	2.9	10
59	Coherent anti-Stokes Raman scattering under electric field stimulation. Physical Review B, 2016, 94, .	1.1	9
60	Neighbouring pixel data augmentation: a simple way to fuse spectral and spatial information for hyperspectral imaging data analysis. Journal of Chemometrics, 2017, 31, e2882.	0.7	9
61	Low-Level Fusion of Fourier Transform Ion Cyclotron Resonance Mass Spectrometry Data Sets for the Characterization of Nitrogen and Sulfur Compounds in Vacuum Gas Oils. Analytical Chemistry, 2020, 92, 2815-2823.	3.2	9
62	Towards a new pseudo-quantitative approach to evaluate the ionization response of nitrogen compounds in complex matrices. Scientific Reports, 2021, 11, 6417.	1.6	9
63	Extraction of Pure Spectral Signatures and Corresponding Chemical Maps from EPR Imaging Data Sets: Identifying Defects on a CaF₂ Surface Due to a Laser Beam Exposure. Analytical Chemistry, 2015, 87, 3929-3935.	3.2	8
64	Topological data analysis (TDA) applied to reveal pedogenetic principles of European topsoil system. Science of the Total Environment, 2017, 586, 1091-1100.	3.9	8
65	Detection of formaldehyde oxidation catalysis by MCR-ALS analysis of multiset ToF-SIMS data in positive and negative modes. Chemometrics and Intelligent Laboratory Systems, 2017, 171, 80-85.	1.8	8
66	Image Fusion. Data Handling in Science and Technology, 2019, , 311-344.	3.1	8
67	Angle Distribution of Loading Subspace (ADLS) for estimating chemical rank in multivariate analysis: Applications in spectroscopy and chromatography. Talanta, 2019, 194, 90-97.	2.9	8
68	Sulfur compounds characterization using FT-ICR MS: Towards a better comprehension of vacuum gas oils hydrodesulfurization process. Fuel Processing Technology, 2020, 210, 106529.	3.7	8
69	Archaeological Mortar Characterization Using Laser-Induced Breakdown Spectroscopy (LIBS) Imaging Microscopy. Applied Spectroscopy, 2022, , 000370282110711.	1.2	8
70	Randomised SIMPLISMA: Using a dictionary of initial estimates for spectral unmixing in the framework of chemical imaging. Talanta, 2020, 217, 121024.	2.9	7
71	When remote sensing meets topological data analysis. Journal of Spectral Imaging, 0, , .	0.0	7
72	Has your ancient stamp been regummed with synthetic glue? A FT-NIR and FT-Raman study. Talanta, 2016, 149, 250-256.	2.9	6

#	Article	IF	Citations
73	Determination of the Reactivity Degree of Various Alkaline Solutions: A Chemometric Investigation. Applied Spectroscopy, 2019, 73, 1361-1369.	1.2	6
74	A detailed analysis of the influence of Î²-cyclodextrin derivates on the thermal denaturation of lysozyme. International Journal of Pharmaceutics, 2019, 554, 1-13.	2.6	6
75	Robust variable selection in the framework of classification with label noise and outliers: Applications to spectroscopic data in agri-food. Analytica Chimica Acta, 2021, 1153, 338245.	2.6	6
76	Degree of hydrolysis from mid-infrared spectra. Analytica Chimica Acta, 2001, 446, 255-266.	2.6	5
77	Exploration of the Reactivity of Heteroatomic Compounds Contained in Vacuum Gas Oils during Hydrotreatment Using Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. Energy & Fuels, 2020, 34, 10752-10761.	2.5	5
78	Saturated signals in spectroscopic imaging: why and how should we deal with this regularly observed phenomenon?. Analytica Chimica Acta, 2021, 1157, 338389.	2.6	4
79	New strategy to identify radicals in a time evolving EPR data set by multivariate curve resolution-alternating least squares. Analytica Chimica Acta, 2016, 947, 9-15.	2.6	3
80	Second-order universal calibration. Talanta, 2020, 212, 120787.	2.9	3
81	Novel four-dimensional approach for the structural characterization of neutral nitrogen compounds in vacuum gas oils using UHPLC-IM-QqToF analysis. Analytica Chimica Acta, 2021, 1169, 338611.	2.6	3
82	Evaluating the Benefits of Data Fusion and PARAFAC for the Chemometric Analysis of FT-ICR MS Data Sets from Gas Oil Samples. Energy & Fuels, 2020, 34, 8195-8205.	2.5	2
83	Super-Resolution in Vibrational Spectroscopy. Data Handling in Science and Technology, 2016, 30, 477-517.	3.1	1
84	Complete determination of plant tissues based only on autoâ€fluorescence and the advanced image analysis â€“ study of needles and stamens. Journal of Chemometrics, 2015, 29, 521-527.	0.7	0