

# Cyril Ruckebusch

## List of Publications by Year in descending order

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125  
papers

3,537  
citations

172386

29  
h-index

161767

54  
g-index

129  
all docs

129  
docs citations

129  
times ranked

4446  
citing authors

#	ARTICLE	IF	CITATIONS
1	Multivariate curve resolution: A review of advanced and tailored applications and challenges. <i>Analytica Chimica Acta</i> , 2013, 765, 28-36.	2.6	321
2	Comprehensive data analysis of femtosecond transient absorption spectra: A review. <i>Journal of Photochemistry and Photobiology C: Photochemistry Reviews</i> , 2012, 13, 1-27.	5.6	268
3	Support vector machines (SVM) in near infrared (NIR) spectroscopy: Focus on parameters optimization and model interpretation. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2009, 96, 27-33.	1.8	211
4	Chromophore twisting in the excited state of a photoswitchable fluorescent protein captured by time-resolved serial femtosecond crystallography. <i>Nature Chemistry</i> , 2018, 10, 31-37.	6.6	152
5	The Benzophenone $S_{1}(n, \dot{\text{I}}\epsilon^{*}) \rightarrow T_{1}(n, \dot{\text{I}}\epsilon^{*})$ States Intersystem Crossing Reinvestigated by Ultrafast Absorption Spectroscopy and Multivariate Curve Resolution. <i>Journal of Physical Chemistry A</i> , 2008, 112, 224-231.	1.1	127
6	Investigation of ultrafast photoinduced processes for salicylidene aniline in solution and gas phase: toward a general photo-dynamical scheme. <i>Photochemical and Photobiological Sciences</i> , 2010, 9, 661-669.	1.6	110
7	Genetic algorithm optimisation combined with partial least squares regression and mutual information variable selection procedures in near-infrared quantitative analysis of cotton "viscose" textiles. <i>Analytica Chimica Acta</i> , 2007, 595, 72-79.	2.6	100
8	Antibacterial activity of a pepsin-derived bovine hemoglobin fragment. <i>FEBS Letters</i> , 2001, 491, 159-163.	1.3	95
9	Excited-State Symmetry Breaking in a Quadrupolar Molecule Visualized in Time and Space. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 6029-6034.	2.1	82
10	Comparative Investigation of Ultrafast Photoinduced Processes in Salicylidene-Aminopyridine in Solution and Solid State. <i>Journal of Physical Chemistry C</i> , 2009, 113, 11959-11968.	1.5	73
11	Multivariate Curve Resolution Methods in Imaging Spectroscopy: Influence of Extraction Methods and Instrumental Perturbations. <i>Journal of Chemical Information and Computer Sciences</i> , 2003, 43, 2057-2067.	2.8	63
12	Emission Properties of Oxyluciferin and Its Derivatives in Water: Revealing the Nature of the Emissive Species in Firefly Bioluminescence. <i>Journal of Physical Chemistry B</i> , 2015, 119, 2638-2649.	1.2	63
13	Deciphering the protonation and tautomeric equilibria of firefly oxyluciferin by molecular engineering and multivariate curve resolution. <i>Chemical Science</i> , 2013, 4, 3803.	3.7	60
14	Chemometric Strategies for Spectroscopy-Based Food Authentication. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 6544.	1.3	59
15	Photoswitching mechanism of a fluorescent protein revealed by time-resolved crystallography and transient absorption spectroscopy. <i>Nature Communications</i> , 2020, 11, 741.	5.8	56
16	Characterisation of heavy oils using near-infrared spectroscopy: Optimisation of pre-processing methods and variable selection. <i>Analytica Chimica Acta</i> , 2011, 705, 227-234.	2.6	54
17	Hybrid hard- and soft-modeling applied to difference spectra. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2007, 89, 26-35.	1.8	51
18	Sparse deconvolution of high-density super-resolution images. <i>Scientific Reports</i> , 2016, 6, 21413.	1.6	48

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19	Serial Femtosecond Crystallography and Ultrafast Absorption Spectroscopy of the Photoswitchable Fluorescent Protein IrisFP. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 882-887.	2.1	43
20	Quantitative Analysis of Cotton-Polyester Textile Blends from Near-Infrared Spectra. <i>Applied Spectroscopy</i> , 2006, 60, 539-544.	1.2	41
21	Identification of Modified Starches Using Infrared Spectroscopy and Artificial Neural Network Processing. <i>Applied Spectroscopy</i> , 1998, 52, 329-338.	1.2	39
22	On the implementation of spatial constraints in multivariate curve resolution alternating least squares for hyperspectral image analysis. <i>Journal of Chemometrics</i> , 2015, 29, 557-561.	0.7	38
23	Matrix augmentation for breaking rank-deficiency: A case study. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2006, 80, 209-214.	1.8	37
24	Statistical tests for comparison of quantitative and qualitative models developed with near infrared spectral data. <i>Journal of Molecular Structure</i> , 2003, 654, 253-262.	1.8	36
25	Effects of a Self-Assembled Molecular Capsule on the Ultrafast Photodynamics of a Photochromic Salicylideneaniline Guest. <i>ChemPhysChem</i> , 2011, 12, 1669-1672.	1.0	36
26	High-throughput time-resolved morphology screening in bacteria reveals phenotypic responses to antibiotics. <i>Communications Biology</i> , 2019, 2, 269.	2.0	35
27	SIMCA Modeling for Overlapping Classes: Fixed or Optimized Decision Threshold?. <i>Analytical Chemistry</i> , 2018, 90, 10738-10747.	3.2	33
28	Application of a sparseness constraint in multivariate curve resolution "Alternating least squares. <i>Analytica Chimica Acta</i> , 2018, 1000, 100-108.	2.6	32
29	Multivariate curve resolution of rapid-scan FTIR difference spectra of quinone photoreduction in bacterial photosynthetic membranes. <i>Analytical and Bioanalytical Chemistry</i> , 2007, 387, 1863-1873.	1.9	31
30	Hybrid hard- and soft-modelling applied to analyze ultrafast processes by femtosecond transient absorption spectroscopy: Study of the photochromism of salicylidene anilines. <i>Analytica Chimica Acta</i> , 2009, 642, 228-234.	2.6	31
31	Super-resolution and Raman chemical imaging: From multiple low resolution images to a high resolution image. <i>Analytica Chimica Acta</i> , 2008, 607, 168-175.	2.6	30
32	Reliable multivariate curve resolution of femtosecond transient absorption spectra. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2008, 91, 17-27.	1.8	30
33	Essential Spectral Pixels for Multivariate Curve Resolution of Chemical Images. <i>Analytical Chemistry</i> , 2019, 91, 10943-10948.	3.2	29
34	Time-Resolved Step-Scan FT-IR Spectroscopy: Focus on Multivariate Curve Resolution. <i>Journal of Chemical Information and Computer Sciences</i> , 2003, 43, 1966-1973.	2.8	27
35	Monitoring and Interpretation of Photoinduced Biochemical Processes by Rapid-Scan FTIR Difference Spectroscopy and Hybrid Hard and Soft Modeling. <i>Journal of Physical Chemistry B</i> , 2009, 113, 6031-6040.	1.2	27
36	Chemometrics description of measurement error structure: Study of an ultrafast absorption spectroscopy experiment. <i>Analytica Chimica Acta</i> , 2009, 642, 19-26.	2.6	26

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37	A two-step ICT process for solvatochromic betaine pyridinium revealed by ultrafast spectroscopy, multivariate curve resolution, and TDDFT calculations. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 1945.	1.3	26
38	Design of Efficient Photoinduced Charge Separation in Donor–Copper(I)–Acceptor Triad. <i>Journal of Physical Chemistry C</i> , 2014, 118, 28388-28400.	1.5	26
39	Correcting for photodestruction in super-resolution optical fluctuation imaging. <i>Scientific Reports</i> , 2017, 7, 10470.	1.6	26
40	Perspective on essential information in multivariate curve resolution. <i>TrAC - Trends in Analytical Chemistry</i> , 2020, 132, 116044.	5.8	25
41	Hybrid hard- and soft-modeling approach for the resolution of convoluted femtosecond spectrokinetic data. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2011, 105, 74-82.	1.8	23
42	Chemometric strategies for the study of the complexation of Al(III) ions with model molecule of humic substances from UV–vis data sets. <i>Analytica Chimica Acta</i> , 2005, 544, 337-344.	2.6	22
43	Ubiquinol formation in isolated photosynthetic reaction centres monitored by time-resolved differential FTIR in combination with 2D correlation spectroscopy and multivariate curve resolution. <i>Analytical and Bioanalytical Chemistry</i> , 2011, 399, 1999-2014.	1.9	22
44	Trappist beer identification by vibrational spectroscopy: A chemometric challenge posed at the –Chimie 2010– congress. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2012, 113, 2-9.	1.8	22
45	Gaussian mixture models for the classification of high-dimensional vibrational spectroscopy data. <i>Journal of Chemometrics</i> , 2010, 24, 719-727.	0.7	21
46	Constraining shape smoothness in multivariate curve resolution–alternating least squares. <i>Journal of Chemometrics</i> , 2015, 29, 448-456.	0.7	21
47	Hydrolysis of haemoglobin surveyed by infrared spectroscopy: I. solvent effect on the secondary structure of haemoglobin. <i>Journal of Molecular Structure</i> , 1999, 478, 185-191.	1.8	20
48	Focus on the potential of hybrid hard–and soft–MCR–ALS in time resolved spectroscopy. <i>Journal of Chemometrics</i> , 2008, 22, 666-673.	0.7	20
49	Multivariate curve resolution –alternating least squares to cope with deviations from data bilinearity in ultrafast time-resolved spectroscopy. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2013, 128, 101-110.	1.8	20
50	Sparse Deconvolution in One and Two Dimensions: Applications in Endocrinology and Single-Molecule Fluorescence Imaging. <i>Analytical Chemistry</i> , 2014, 86, 6291-6298.	3.2	19
51	Understanding the impact of the changes in weather conditions on surface water quality. <i>Science of the Total Environment</i> , 2019, 652, 289-299.	3.9	19
52	Quantitative analysis of paper coatings using artificial neural networks. <i>Chemometrics and Intelligent Laboratory Systems</i> , 1997, 36, 125-140.	1.8	18
53	Neural network modelling for very small spectral data sets: reduction of the spectra and hierarchical approach. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2000, 54, 93-106.	1.8	18
54	Multivariate curve resolution applied to Fourier transform infrared spectra of macromolecules: structural characterisation of the acid form and the salt form of humic acids in interaction with lead. <i>Analytica Chimica Acta</i> , 2003, 477, 201-209.	2.6	18

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55	Mixture models for two-dimensional baseline correction, applied to artifact elimination in time-resolved spectroscopy. <i>Analytica Chimica Acta</i> , 2013, 771, 7-13.	2.6	18
56	Study of conformational transitions of i-motif DNA using time-resolved fluorescence and multivariate analysis methods. <i>Nucleic Acids Research</i> , 2019, 47, 6590-6605.	6.5	18
57	Joint selection of essential pixels and essential variables across hyperspectral images. <i>Analytica Chimica Acta</i> , 2021, 1141, 36-46.	2.6	18
58	Standardisation of near Infrared Spectrometers Using Artificial Neural Networks. <i>Journal of Near Infrared Spectroscopy</i> , 1999, 7, 155-166.	0.8	17
59	Deconvolution of femtosecond time-resolved spectroscopy data in multivariate curve resolution. Application to the characterization of ultrafast photo-induced intramolecular proton transfer. <i>Journal of Chemometrics</i> , 2010, 24, 424-433.	0.7	17
60	Baseline correction methods to deal with artifacts in femtosecond transient absorption spectroscopy. <i>Analytica Chimica Acta</i> , 2011, 705, 64-71.	2.6	17
61	Multivariate curve resolution "Alternating least squares applied to the investigation of ultrafast competitive photoreactions. <i>Analytica Chimica Acta</i> , 2013, 788, 8-16.	2.6	17
62	Multivariate curve resolution of step-scan FTIR spectral data. <i>Vibrational Spectroscopy</i> , 2004, 35, 21-26.	1.2	16
63	ANOVA-Simultaneous Component analysis modelling of low-level-fused spectroscopic data: A food chemistry case-study. <i>Analytica Chimica Acta</i> , 2020, 1125, 308-314.	2.6	16
64	Standardisation of near-IR spectrometers using artificial neural networks. <i>Journal of Molecular Structure</i> , 1999, 480-481, 551-556.	1.8	15
65	On-Line Mid-Infrared Spectroscopic Data and Chemometrics for the Monitoring of an Enzymatic Hydrolysis. <i>Applied Spectroscopy</i> , 2001, 55, 1610-1617.	1.2	15
66	Improved superresolution microscopy imaging by sparse deconvolution with an interframe penalty. <i>Journal of Chemometrics</i> , 2017, 31, e2847.	0.7	15
67	Identifying microbial species by single-molecule DNA optical mapping and resampling statistics. <i>NAR Genomics and Bioinformatics</i> , 2020, 2, lqz007.	1.5	15
68	Pixel-based Raman hyperspectral identification of complex pharmaceutical formulations. <i>Analytica Chimica Acta</i> , 2021, 1155, 338361.	2.6	15
69	AIE phenomena of a cyanostilbene derivative as a probe of molecular assembly processes. <i>Faraday Discussions</i> , 2017, 196, 231-243.	1.6	14
70	Quantitative determination of polymer and mineral content in paper coatings by infrared spectroscopy. Improvements by non-linear treatments. <i>Analytica Chimica Acta</i> , 1996, 335, 79-85.	2.6	13
71	Hydrolysis of hemoglobin surveyed by infrared spectroscopy. <i>Analytica Chimica Acta</i> , 1999, 396, 241-251.	2.6	13
72	A spatial constraint to model and extract texture components in Multivariate Curve Resolution of near-infrared hyperspectral images. <i>Analytica Chimica Acta</i> , 2020, 1095, 30-37.	2.6	13

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73	Restoring important process information from complex optical spectra with MCR-ALS: Case study of actinide reduction in spent nuclear fuel reprocessing. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2015, 146, 241-249.	1.8	12
74	MCR-ALS of hyperspectral images with spatio-spectral fuzzy clustering constraint. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2018, 179, 85-91.	1.8	12
75	Effect of image processing constraints on the extent of rotational ambiguity in MCR-ALS of hyperspectral images. <i>Analytica Chimica Acta</i> , 2019, 1052, 27-36.	2.6	12
76	Hierarchical Neural Network Modeling for Infrared Spectra Interpretation of Modified Starches. <i>Journal of Chemical Information and Computer Sciences</i> , 1999, 39, 1027-1036.	2.8	11
77	Matrix merging arrangements for the study protein dynamics by time-resolved step-scan Fourier transform infrared spectroscopy and multivariate curve resolution. <i>Analytica Chimica Acta</i> , 2004, 515, 183-190.	2.6	11
78	Interpretation and improvement of an artificial neural network MIR calibration. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2002, 62, 189-198.	1.8	10
79	Combining near and mid infrared spectroscopy for heavy oil characterisation. <i>Fuel</i> , 2014, 133, 310-316.	3.4	10
80	Superhydrophobic polypyrrole films to prevent <i>Staphylococcus aureus</i> and <i>Pseudomonas aeruginosa</i> biofilm adhesion on surfaces: high efficiency deciphered by fluorescence microscopy. <i>Photochemical and Photobiological Sciences</i> , 2018, 17, 1023-1035.	1.6	10
81	A Multifunctional Photoswitch: 6I Electrocyclization versus ESIPT and Metalation. <i>Chemistry - A European Journal</i> , 2014, 20, 12279-12288.	1.7	9
82	A multivariate curve resolution approach to separate UV-vis scattering and absorption contributions for organic nanoparticles. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2017, 160, 72-76.	1.8	9
83	Design of experiments for the optimization of SOFI super-resolution microscopy imaging. <i>Biomedical Optics Express</i> , 2021, 12, 2617.	1.5	9
84	Multivariate Curve Resolution Slicing of Multiexponential Time-Resolved Spectroscopy Fluorescence Data. <i>Analytical Chemistry</i> , 2021, 93, 12504-12513.	3.2	9
85	Structural Information about the <i>trans</i> -to- <i>cis</i> Isomerization Mechanism of the Photoswitchable Fluorescent Protein rsEGFP2 Revealed by Multiscale Infrared Transient Absorption. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 1194-1202.	2.1	9
86	Selection of essential spectra to improve the multivariate curve resolution of minor compounds in complex pharmaceutical formulations. <i>Analytica Chimica Acta</i> , 2022, 1198, 339532.	2.6	9
87	Edge-Preserving Image Smoothing Constraint in Multivariate Curve Resolution "Alternating Least Squares (MCR-ALS) of Hyperspectral Data. <i>Applied Spectroscopy</i> , 2018, 72, 420-431.	1.2	8
88	Image Fusion. <i>Data Handling in Science and Technology</i> , 2019, , 311-344.	3.1	8
89	Unifying Perspective of the Ultrafast Photodynamics of Orange Carotenoid Proteins from <i>Synechocystis</i> : Peril of High-Power Excitation, Existence of Different S* States, and Influence of Tagging. <i>Jacs Au</i> , 2022, 2, 1084-1095.	3.6	8
90	Mapping Pixel Dissimilarity in Wide-Field Super-Resolution Fluorescence Microscopy. <i>Analytical Chemistry</i> , 2015, 87, 4675-4682.	3.2	7

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91	Fusion of Ultraviolet-Visible and Infrared Transient Absorption Spectroscopy Data to Model Ultrafast Photoisomerization. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 3530-3535.	2.1	7
92	Exploring local spatial features in hyperspectral images. <i>Journal of Chemometrics</i> , 2020, 34, e3295.	0.7	7
93	Chemometric analysis of femtosecond transient absorption spectroscopy data: Study of the photochromism of anils. <i>Science China: Physics, Mechanics and Astronomy</i> , 2010, 53, 1024-1035.	2.0	6
94	Degree of hydrolysis from mid-infrared spectra. <i>Analytica Chimica Acta</i> , 2001, 446, 255-266.	2.6	5
95	Probing local structure of sub and supercritical CO <sub>2</sub> by using two-dimensional Raman correlation spectroscopy. <i>Journal of Molecular Liquids</i> , 2011, 164, 11-16.	2.3	5
96	Vibrational Spectra of Chemical and Isotopic Variants of Oxyluciferin, the Light Emitter of Firefly Bioluminescence. <i>Chemistry - A European Journal</i> , 2014, 20, 10782-10790.	1.7	5
97	A Perspective on Data Processing in Super-resolution Fluorescence Microscopy Imaging. <i>Journal of Analysis and Testing</i> , 2018, 2, 193-209.	2.5	5
98	Hierarchical classification and matching of mid-infrared spectra of paint samples for forensic applications. <i>Talanta</i> , 2022, 243, 123360.	2.9	5
99	Fast and simple super-resolution with single images. <i>Scientific Reports</i> , 2022, 12, .	1.6	5
100	Kriging Modeling to Predict Viscosity Index of Base Oils. <i>Energy &amp; Fuels</i> , 2018, 32, 2588-2597.	2.5	4
101	Photochemical multivariate curve resolution models for the investigation of photochromic systems under continuous irradiation. <i>Analytica Chimica Acta</i> , 2019, 1053, 32-42.	2.6	4
102	Weighted fuzzy clustering for (fuzzy) constraints in multivariate image analysis-“alternating least square of hyperspectral images. <i>Journal of Spectral Imaging</i> , 0, , .	0.0	4
103	Contribution Made by Multivariate Curve Resolution Applied to Gel Permeation Chromatography-“Fourier Transform Infrared Data for an In-Depth Characterization of Styrene-“Butadiene Rubber Blends. <i>Applied Spectroscopy</i> , 2008, 62, 791-797.	1.2	3
104	Quantitative Analysis of Cotton-Viscose Textile Products from 12-Points near Infrared Spectra. <i>NIR News</i> , 2008, 19, 10-12.	1.6	3
105	Study of light-induced formation of photodimers in the i-motif nucleic acid structure by rapid-scan FTIR difference spectroscopy and hybrid hard- and soft-modelling. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 19635-19646.	1.3	3
106	Analysis of the ambiguity in the determination of quantum yields from spectral data on a photoinduced isomerization. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2019, 189, 88-95.	1.8	3
107	Image Processing in Chemometrics. , 2020, , 411-436.		3
108	Smoothness correction for better SOFI imaging. <i>Scientific Reports</i> , 2021, 11, 7569.	1.6	3



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109	QCL-based mid-infrared hyperspectral imaging of multilayer polymer oxygen barrier-films. <i>Polymer Testing</i> , 2021, 98, 107190.	2.3	3
110	Raman transduction for polymeric ion-selective sensor membranes: Proof of concept study. <i>Sensors and Actuators B: Chemical</i> , 2017, 253, 697-702.	4.0	2
111	Comparing Kriging, Spline, and MLR in Product Properties Modelization: Application to Cloud Point Prediction. <i>Energy &amp; Fuels</i> , 2018, 32, 5623-5634.	2.5	2
112	Frame-Insensitive Expression Cloning of Fluorescent Protein from <i>Scolionema suvaense</i> . <i>International Journal of Molecular Sciences</i> , 2018, 19, 371.	1.8	2
113	A criterion for automatic image deconvolution with $L_0$ norm regularization. <i>Journal of Chemometrics</i> , 2020, 34, e3227.	0.7	2
114	Assessing the Resolution of Methyltransferase-Mediated DNA Optical Mapping. <i>ACS Omega</i> , 2021, 6, 21276-21283.	1.6	2
115	A Smoothness Constraint in Multivariate Curve Resolution-Alternating Least Squares of Spectroscopy Data. <i>Data Handling in Science and Technology</i> , 2016, 30, 453-476.	3.1	1
116	Multivariate Curve Resolution of (Ultra)Fast Photoinduced Process Spectroscopy Data. <i>Data Handling in Science and Technology</i> , 2016, , 353-379.	3.1	1
117	Fast Analysis, Processing and Modeling of Hyperspectral Videos: Challenges and Possible Solutions. , 2020, , 395-409.		1
118	Reaction rate ambiguities for perturbed spectroscopic data: Theory and implementation. <i>Analytica Chimica Acta</i> , 2020, 1137, 170-180.	2.6	1
119	A novel proposal to investigate the interplay between the spatial and spectral domains in near-infrared spectral imaging data by means of Image Decomposition, Encoding and Localization (IDEL). <i>Analytica Chimica Acta</i> , 2022, 1191, 339285.	2.6	1
120	Multilinear Slicing for curve resolution of fluorescence imaging with sequential illumination. <i>Talanta</i> , 2022, 241, 123231.	2.9	1
121	Perspectives from the Pioneers of Chemometrics series. <i>Journal of Chemometrics</i> , 2014, 28, 761-761.	0.7	0
122	Elucidation of the primary ultrafast steps in photo-switchable systems using chemometric analysis. , 2015, , .		0
123	Introducing special issue on chemical image analysis. <i>Journal of Chemometrics</i> , 2018, 32, e2941.	0.7	0
124	Model-based co-clustering for hyperspectral images. <i>Journal of Spectral Imaging</i> , 0, , .	0.0	0
125	Hyperspectral Video Analysis by Motion and Intensity Preprocessing and Subspace Autoencoding. <i>Frontiers in Chemistry</i> , 2022, 10, 818974.	1.8	0