

Brice Bouyssiére

List of Publications by Year in descending order

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107
papers

2,655
citations

159585

30
h-index

243625

44
g-index

107
all docs

107
docs citations

107
times ranked

1925
citing authors

#	ARTICLE	IF	CITATIONS
1	Gas chromatography with inductively coupled plasma mass spectrometric detection in speciation analysis. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2002, 57, 805-828.	2.9	104
2	Element speciation analysis of petroleum and related materials. <i>Journal of Analytical Atomic Spectrometry</i> , 2009, 24, 263.	3.0	94
3	Speciation analysis of nickel in the latex of a hyperaccumulating tree <i>Sebertia acuminata</i> by HPLC and CZE with ICP MS and electrospray MS-MS detection. <i>Journal of Analytical Atomic Spectrometry</i> , 2003, 18, 120-127.	3.0	87
4	Fractionation and speciation of nickel and vanadium in crude oils by size exclusion chromatography-ICP MS and normal phase HPLC-ICP MS. <i>Journal of Analytical Atomic Spectrometry</i> , 2010, 25, 1123.	3.0	73
5	Molecular Dynamics Study of Nanoaggregation in Asphaltene Mixtures: Effects of the N, O, and S Heteroatoms. <i>Energy & Fuels</i> , 2016, 30, 5656-5664.	5.1	73
6	Influence of the forms and levels of dietary selenium on antioxidant status and oxidative stress-related parameters in rainbow trout (<i>Oncorhynchus mykiss</i>) fry. <i>British Journal of Nutrition</i> , 2015, 113, 1876-1887.	2.3	71
7	Trapping of Metallic Porphyrins by Asphaltene Aggregates: A Size Exclusion Microchromatography With High-Resolution Inductively Coupled Plasma Mass Spectrometric Detection Study. <i>Energy & Fuels</i> , 2012, 26, 4968-4977.	5.1	70
8	Complementarity of MALDI and LA ICP mass spectrometry for platinum anticancer imaging in human tumor. <i>Metallomics</i> , 2014, 6, 1382-1386.	2.4	63
9	Sensitivity improvement in ICP MS analysis of fuels and light petroleum matrices using a microflow nebulizer and heated spray chamber sample introduction. <i>Talanta</i> , 2009, 80, 1039-1043.	5.5	62
10	Impact of Oil on Bacterial Community Structure in Bioturbated Sediments. <i>PLoS ONE</i> , 2013, 8, e65347.	2.5	61
11	Investigation of the Effect of Sulfur Heteroatom on Asphaltene Aggregation. <i>Energy & Fuels</i> , 2016, 30, 4758-4766.	5.1	53
12	Trapping of Paraffin and Other Compounds by Asphaltenes Detected by Laser Desorption Ionization-Time of Flight Mass Spectrometry (LDI-TOF MS): Role of A1 and A2 Asphaltene Fractions in This Trapping. <i>Energy & Fuels</i> , 2009, 23, 842-848.	5.1	51
13	Flow-injection ICP collision cell MS determination of molybdenum, nickel and vanadium in petroleum samples using a modified total consumption micronebulizer. <i>Journal of Analytical Atomic Spectrometry</i> , 2007, 22, 88-92.	3.0	50
14	Speciation analysis for mercury in gas condensates by capillary gas chromatography with inductively coupled plasma mass spectrometric detection. <i>Journal of Chromatography A</i> , 2002, 976, 431-439.	3.7	49
15	The role of metalloporphyrins on the physical-chemical properties of petroleum fluids. <i>Fuel</i> , 2017, 188, 374-381.	6.4	46
16	Asphaltene aggregation studied by molecular dynamics simulations: role of the molecular architecture and solvents on the supramolecular or colloidal behavior. <i>Petroleum Science</i> , 2019, 16, 669-684.	4.9	46
17	Study of the Size Distribution of Sulfur, Vanadium, and Nickel Compounds in Four Crude Oils and Their Distillation Cuts by Gel Permeation Chromatography Inductively Coupled Plasma High-Resolution Mass Spectrometry. <i>Energy & Fuels</i> , 2014, 28, 3730-3737.	5.1	43
18	Effect of dietary selenium in rainbow trout (<i>Oncorhynchus mykiss</i>) broodstock on antioxidant status, its parental transfer and oxidative status in the progeny. <i>Aquaculture</i> , 2019, 507, 126-138.	3.5	42

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19	Identification of selenium-containing proteins in selenium-rich yeast aqueous extract by 2D gel electrophoresis, nanoHPLC-ICP MS and nanoHPLC-ESI MS/MS. <i>Talanta</i> , 2008, 75, 1140-1145.	5.5	39
20	Multi-dimensional Nuclear Magnetic Resonance Characterizations of Dynamics and Saturations of Brine/Crude Oil/Mud Filtrate Mixtures Confined in Rocks: The Role of Asphaltene. <i>Energy & Fuels</i> , 2014, 28, 1629-1640.	5.1	38
21	Fractionation and Characterization of Petroleum Asphaltene: Focus on Metalopetroleomics. <i>Processes</i> , 2020, 8, 1504.	2.8	38
22	Size Distributions of Sulfur, Vanadium, and Nickel Compounds in Crude Oils, Residues, and Their Saturate, Aromatic, Resin, and Asphaltene Fractions Determined by Gel Permeation Chromatography Inductively Coupled Plasma High-Resolution Mass Spectrometry. <i>Energy & Fuels</i> , 2017, 31, 7783-7788.	5.1	37
23	Distributed Properties of Asphaltene Nanoaggregates in Crude Oils: A Review. <i>Energy & Fuels</i> , 2021, 35, 18078-18103.	5.1	37
24	Molecular Fingerprints and Speciation of Crude Oils and Heavy Fractions Revealed by Molecular and Elemental Mass Spectrometry: Keystone between Petroleomics, Metalopetroleomics, and Petrointeractomics. <i>Energy & Fuels</i> , 2018, 32, 4593-4605.	5.1	36
25	Title is missing!. <i>Journal of Analytical Atomic Spectrometry</i> , 2001, 16, 1329-1332.	3.0	35
26	Direct multi-element analysis of crude oils and gas condensates by double-focusing sector field inductively coupled plasma mass spectrometry (ICP MS). <i>Journal of Analytical Atomic Spectrometry</i> , 2010, 25, 704.	3.0	35
27	Biosynthesis, purification and analysis of selenomethionyl calmodulin by gel electrophoresis-laser ablation-ICP-MS and capillary HPLC-ICP-MS peptide mapping following in-gel tryptic digestion. <i>Journal of Analytical Atomic Spectrometry</i> , 2005, 20, 493.	3.0	34
28	Determination of mercury in organic solvents and gas condensates by μ flow-injection μ inductively coupled plasma mass spectrometry using a modified total consumption micronebulizer fitted with single pass spray chamber. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2006, 61, 1063-1068.	2.9	34
29	Recent trends in element speciation analysis of crude oils and heavy petroleum fractions. <i>TrAC - Trends in Analytical Chemistry</i> , 2018, 104, 69-76.	11.4	33
30	Application of TLC and LA ICP SF MS for speciation of S, Ni and V in petroleum samples. <i>Talanta</i> , 2012, 97, 574-578.	5.5	32
31	Suppression of Phase Separation as a Hypothesis to Account for Nuclei or Nanoaggregate Formation by Asphaltenes in Toluene. <i>Energy & Fuels</i> , 2018, 32, 6669-6677.	5.1	32
32	Monitoring the behaviour and fate of nickel and vanadium complexes during vacuum residue hydrotreatment and fraction separation. <i>Fuel Processing Technology</i> , 2014, 119, 185-189.	7.2	31
33	Impact of H-Bonds and Porphyrins on Asphaltene Aggregation As Revealed by Molecular Dynamics Simulations. <i>Energy & Fuels</i> , 2018, 32, 11153-11164.	5.1	31
34	From ethyl biodiesel to biolubricants: Options for an Indian mustard integrated biorefinery toward a green and circular economy. <i>Industrial Crops and Products</i> , 2019, 137, 597-614.	5.2	30
35	Investigation of the sulfur speciation in petroleum products by capillary gas chromatography with ICP-collision cell-MS detection. <i>Journal of Analytical Atomic Spectrometry</i> , 2004, 19, 700-702.	3.0	29
36	Post-prandial changes in plasma mineral levels in rainbow trout fed a complete plant ingredient based diet and the effect of supplemental di-calcium phosphate. <i>Aquaculture</i> , 2014, 430, 34-43.	3.5	29

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37	Study of the Aggregation of Metal Complexes with Asphaltenes Using Gel Permeation Chromatography Inductively Coupled Plasma High-Resolution Mass Spectrometry. <i>Energy & Fuels</i> , 2016, 30, 6907-6912.	5.1	27
38	Probing Aggregation Tendencies in Asphaltenes by Gel Permeation Chromatography. Part 2: Online Detection by Fourier Transform Ion Cyclotron Resonance Mass Spectrometry and Inductively Coupled Plasma Mass Spectrometry. <i>Energy & Fuels</i> , 2020, 34, 10915-10925.	5.1	26
39	Probing Aggregation Tendencies in Asphaltenes by Gel Permeation Chromatography. Part 1: Online Inductively Coupled Plasma Mass Spectrometry and Offline Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. <i>Energy & Fuels</i> , 2020, 34, 8308-8315.	5.1	26
40	Multielement molecular size fractionation in crude oil and oil residue by size exclusion microchromatography with high resolution inductively coupled plasma mass spectrometric detection (HR ICP MS). <i>Journal of Analytical Atomic Spectrometry</i> , 2010, 25, 1974.	3.0	25
41	Influence of Dietary Selenium Species on Selenoamino Acid Levels in Rainbow Trout. <i>Journal of Agricultural and Food Chemistry</i> , 2015, 63, 6484-6492.	5.2	25
42	Petroleomics by Direct Analysis in Real Time-Mass Spectrometry. <i>Journal of the American Society for Mass Spectrometry</i> , 2016, 27, 182-185.	2.8	25
43	Surface modification of SiO ₂ nanoparticles to increase asphaltene adsorption. <i>Petroleum Science and Technology</i> , 2018, 36, 618-624.	1.5	25
44	Compositional Trends for Total Vanadium Content and Vanadyl Porphyrins in Gel Permeation Chromatography Fractions Reveal Correlations between Asphaltene Aggregation and Ion Production Efficiency in Atmospheric Pressure Photoionization. <i>Energy & Fuels</i> , 2020, 34, 16158-16172.	5.1	25
45	Trace-level determination and insight in speciation of silicon in petrochemical samples by flow-injection high resolution ICP MS and HPLC-high resolution ICP MS. <i>Journal of Analytical Atomic Spectrometry</i> , 2010, 25, 1461.	3.0	24
46	Analysis of Petroleum Products by Gel Permeation Chromatography Coupled Online with Inductively Coupled Plasma Mass Spectrometry and Offline with Fourier Transform Ion Cyclotron Resonance Mass Spectrometry. <i>Energy & Fuels</i> , 2018, 32, 12198-12204.	5.1	24
47	Understanding Asphaltene Fraction Behavior through Combined Quartz Crystal Resonator Sensor, FT-ICR MS, GPC ICP HR-MS, and AFM Characterization. Part I: Extrography Fractionations. <i>Energy & Fuels</i> , 2020, 34, 13903-13915.	5.1	23
48	Advances and Challenges in the Molecular Characterization of Petroporphyrins. <i>Energy & Fuels</i> , 2021, 35, 18056-18077.	5.1	23
49	Analytical Methods for Speciation of Mercury in Gas Condensates: Critical Assessment and Recommendations. <i>Oil and Gas Science and Technology</i> , 2000, 55, 639-648.	1.4	22
50	Sensitivity of Asphaltene Aggregation toward the Molecular Architecture under Desalting Thermodynamic Conditions. <i>Energy & Fuels</i> , 2018, 32, 2681-2692.	5.1	22
51	Understanding the removal of V, Ni and S in crude oil atmospheric residue hydrodemetallization and hydrodesulfurization. <i>Fuel Processing Technology</i> , 2020, 201, 106341.	7.2	22
52	Characterization of Crude Oil Interfacial Material Isolated by the Wet Silica Method. Part 1: Gel Permeation Chromatography Inductively Coupled Plasma High-Resolution Mass Spectrometry Analysis. <i>Energy & Fuels</i> , 2017, 31, 1065-1071.	5.1	21
53	Genome-Wide Transcriptional Response of the Archaeon <i>Thermococcus gammatolerans</i> to Cadmium. <i>PLoS ONE</i> , 2012, 7, e41935.	2.5	21
54	Lessons Learned from a Decade-Long Assessment of Asphaltenes by Ultrahigh-Resolution Mass Spectrometry and Implications for Complex Mixture Analysis. <i>Energy & Fuels</i> , 2021, 35, 16335-16376.	5.1	21

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55	Capillary HPLC-ICP MS mapping of selenocompounds in spots obtained from the 2-D gel electrophoresis of the water-soluble protein fraction of selenized yeast. <i>Analytical and Bioanalytical Chemistry</i> , 2006, 385, 948-953.	3.7	20
56	Multielement analysis of petroleum samples by laser ablation double focusing sector field inductively coupled plasma mass spectrometry (LA-ICP MS). <i>Journal of Analytical Atomic Spectrometry</i> , 2011, 26, 618-622.	3.0	20
57	Development of a chromatographic methodology for the separation and quantification of V, Ni and S compounds in petroleum products. <i>Fuel Processing Technology</i> , 2017, 162, 37-44.	7.2	20
58	Effect of selenium sources in plant-based diets on antioxidant status and oxidative stress-related parameters in rainbow trout juveniles under chronic stress exposure. <i>Aquaculture</i> , 2020, 529, 735684.	3.5	20
59	Study of Very High Molecular Weight Cluster Presence in THF Solution of Asphaltenes and Subfractions A1 and A2, by Gel Permeation Chromatography with Inductively Coupled Plasma Mass Spectrometry. <i>Energy & Fuels</i> , 2020, 34, 12535-12544.	5.1	19
60	Characterization of Crude Oil Interfacial Material Isolated by the Wet Silica Method. Part 2: Dilatational and Shear Interfacial Properties. <i>Energy & Fuels</i> , 2017, 31, 1072-1081.	5.1	17
61	Role of the porphyrins and demulsifiers in the aggregation process of asphaltenes at water/oil interfaces under desalting conditions: a molecular dynamics study. <i>Petroleum Science</i> , 2020, 17, 797-810.	4.9	17
62	Simplification of Heavy Matrices by Liquid-Liquid Extraction: Part I-How to Separate LMW, MMW, and HMW Compounds in Maltene Fractions of V, Ni, and S Compounds. <i>Energy & Fuels</i> , 2019, 33, 1922-1927.	5.1	16
63	Aggregation of petroporphyrins and fragmentation of porphyrin ions: Characterized by TIMS-TOF MS and FT-ICR MS. <i>Fuel</i> , 2021, 289, 119889.	6.4	16
64	Simplification of Heavy Matrices by Liquid-Solid Extraction: Part II-How to Separate the LMW, MMW, and HMW Compounds in Asphaltene Fractions for V, Ni, and S Compounds. <i>Energy & Fuels</i> , 2019, 33, 8110-8117.	5.1	15
65	Redox activity of nickel and vanadium porphyrins: a possible mechanism behind petroleum genesis and maturation?. <i>RSC Advances</i> , 2019, 9, 9509-9516.	3.6	15
66	Molecular Cartography of A1 and A2 Asphaltene Subfractions from Classical Molecular Dynamics Simulations. <i>Energy & Fuels</i> , 2020, 34, 13954-13965.	5.1	15
67	Use of xerogels for the elemental analysis of crude oils by laser ablation inductively coupled plasma high resolution mass spectrometry. <i>Journal of Analytical Atomic Spectrometry</i> , 2012, 27, 1007.	3.0	14
68	Toward a comprehensive study for multielemental quantitative LA-ICP MS bioimaging in soft tissues. <i>Talanta</i> , 2021, 222, 121537.	5.5	14
69	Development of a High-Pressure Bubbling Sampler for Trace Element Quantification in Natural Gas. <i>Energy & Fuels</i> , 2017, 31, 4294-4300.	5.1	13
70	Screening for polybrominated diphenyl ethers in biological samples by reversed-phase fast HPLC-ICP MS. <i>Journal of Analytical Atomic Spectrometry</i> , 2010, 25, 889.	3.0	12
71	Receptor-Ligand Interaction Measured by Inductively Coupled Plasma Mass Spectrometry and Selenium Labeling. <i>Journal of Medicinal Chemistry</i> , 2018, 61, 10173-10184.	6.4	12
72	Analysis of nickel species in cytosols of normal and malignant human colonic tissues using two dimensional liquid chromatography with ICP-sector field MS detection. <i>Journal of Analytical Atomic Spectrometry</i> , 2004, 19, 196.	3.0	11

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73	Development of a Methodology Using GPC-ICP HR MS for Analysis of the Adsorption of Asphaltene Aggregates on SiO ₂ Nanoparticles. <i>Energy & Fuels</i> , 2020, 34, 6920-6927.	5.1	11
74	Investigation of Elemental Mass Spectrometry in Pharmacology for Peptide Quantitation at Femtomolar Levels. <i>PLoS ONE</i> , 2016, 11, e0157943.	2.5	10
75	Experimental Tests of Natural Gas Samplers Prior to Mercury Concentration Analysis. <i>Energy & Fuels</i> , 2020, 34, 5205-5212.	5.1	10
76	Study of Biocrudes Obtained via Hydrothermal Liquefaction (HTL) of Wild Alga Consortium under Different Conditions. <i>Processes</i> , 2021, 9, 1494.	2.8	10
77	Determination of Ni and V in Crude Oil Samples Encapsulated in Zr Xerogels by Laser-Induced Breakdown Spectroscopy. <i>Energy & Fuels</i> , 2015, 29, 5573-5577.	5.1	9
78	Characterization and Comparison of Trace Metal Compositions in Natural Gas, Biogas, and Biomethane. <i>Energy & Fuels</i> , 2018, 32, 6397-6400.	5.1	9
79	Dry Purification by Natural Adsorbents of Ethyl Biodiesels Derived from Nonedible Oils. <i>Energy & Fuels</i> , 2015, 29, 150-159.	5.1	8
80	Ethyl biodiesels derived from non-edible oils within the biorefinery concept "Pilot scale production & engine emissions. <i>Renewable Energy</i> , 2017, 109, 634-645.	8.9	8
81	Speciation of Metals in Asphaltenes by High-Performance Thin-Layer Chromatography and Laser Ablation Inductively Coupled Plasma-Mass Spectrometry. <i>Energy & Fuels</i> , 2019, 33, 6060-6068.	5.1	8
82	Understanding the Vanadium-Asphaltene Nanoaggregate Link with Silver Triflate Complexation and GPC ICP-MS Analysis. <i>Energy & Fuels</i> , 2020, 34, 13759-13766.	5.1	8
83	Methods for Total and Speciation Analysis of Mercury in the Petroleum Industry. <i>Energy & Fuels</i> , 2020, 34, 13307-13320.	5.1	7
84	Speciation of Metals in Asphaltenes by High-Performance Thin-Layer Chromatography and Solid-Liquid Extraction Hyphenated with Elemental and Molecular Identification. <i>Energy & Fuels</i> , 2020, 34, 12449-12456.	5.1	7
85	Evidence of selective asphaltene subfraction adsorption on SiO ₂ nanoparticles studied by UV-vis absorbance and fluorescence spectroscopy. <i>Journal of Dispersion Science and Technology</i> , 2022, 43, 873-879.	2.4	7
86	Hyphenating supercritical fluid chromatography and inductively coupled plasma mass spectrometry: a proof of concept. <i>Journal of Analytical Atomic Spectrometry</i> , 2020, 35, 2852-2858.	3.0	7
87	3D-printed total consumption microflow nebuliser development for trace element analysis in organic matrices via inductively coupled plasma mass spectrometry. <i>Journal of Analytical Atomic Spectrometry</i> , 2020, 35, 1552-1557.	3.0	7
88	Indian mustard bioproducts dry-purification with natural adsorbents - A biorefinery for a green circular economy. <i>Journal of Cleaner Production</i> , 2021, 286, 125411.	9.3	7
89	Tissue localization of selenium of parental or dietary origin in rainbow trout (<i>Oncorhynchus</i>) Tj ETQq1 1 0.784314 rgBT /Overlock 10	2.4	7
90	Imaging Matrix-Assisted Laser Desorption/Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry of oxaliplatin derivatives in human tissue sections. <i>Talanta</i> , 2022, 237, 122915.	5.5	7

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91	Chapter 2 Sample preparation techniques for elemental speciation studies. Comprehensive Analytical Chemistry, 2000, , 7-40.	1.3	6
92	18th International Conference on Petroleum Phase Behavior and Fouling. Energy & Fuels, 2018, 32, 2641-2641.	5.1	6
93	SiO ₂ Biogenic Nanoparticles and Asphaltenes: Interactions and Their Consequences Investigated by QCR and GPC-ICP-HR-MS. Energy & Fuels, 2021, 35, 6566-6575.	5.1	6
94	Phosphorus speciation analysis of fatty-acid-based feedstocks and fast pyrolysis biocrudes <i>via</i> gel permeation chromatography inductively coupled plasma high-resolution mass spectrometry. RSC Advances, 2021, 11, 26732-26738.	3.6	5
95	Study of oxaliplatin penetration into ovaries of patients treated with hyperthermic intraperitoneal chemotherapy (HIPEC) for peritoneal metastases of colorectal and appendiceal origin using mass spectrometry imaging. Pleura and Peritoneum, 2021, 6, 67-74.	1.2	5
96	Solid Particles in Natural Gas from a Transportation Network: A Chemical Composition Study. Energies, 2019, 12, 3866.	3.1	4
97	Chemical Characterization Using Different Analytical Techniques to Understand Processes: The Case of the Paraffinic Base Oil Production Line. Processes, 2020, 8, 1472.	2.8	3
98	Quantitative multiplexed elemental (C, H, N and S) detection in complex mixtures using gas chromatography. Chemical Communications, 2020, 56, 2905-2908.	4.1	3
99	Tracking Changes in Asphaltene Nanoaggregate Size Distributions as a Function of Silver Complexation via Gel Permeation Chromatography Inductively Coupled Plasma Mass Spectrometry. Energy & Fuels, 0, , .	5.1	3
100	Sample preparation for speciation analysis for metallobiomolecules. Comprehensive Analytical Chemistry, 2003, 41, 1185-1210.	1.3	2
101	Promises of a new versatile field-deployable sorbent tube thermodesorber by application to BTEX analysis in CH ₄ . Talanta Open, 2021, 4, 100066.	3.7	2
102	Deproteinization assessment using isotopically enriched compounds to trace the coprecipitation of low-molecular-weight selenium species with proteins. Analytical Biochemistry, 2017, 530, 9-16.	2.4	1
103	Advances in analytical methods for speciation of trace elements in the environment. , 2004, , 17-40.		1
104	Species-Specific Determination of Metal(loid)-Containing Food Additives and Contaminants by Chromatography with ICP-MS Detection. , 0, , 503-533.		0
105	Linking analytical chemistry Master's programs: the Franco (Pau)â€”Spanish (Oviedo) case. Analytical and Bioanalytical Chemistry, 2013, 405, 8693-8698.	3.7	0
106	Novel field-portable high-pressure adsorbent tube sampler prototype for the direct <i>in situ</i> preconcentration of trace compounds in gases at their working pressures: application to biomethane. RSC Advances, 2022, 12, 10071-10087.	3.6	0
107	Petroleomics at the National High Magnetic Field Laboratory: A Pictorial History. Energy & Fuels, 2021, 35, 17973-17978.	5.1	0