Maurizio Becucci

List of Publications by Year
in descending order

111	2,062	236925	315739
papers	citations	25 h-index	38 g-index

115	115	115	2070
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Analysis of natural and artificial ultramarine blue pigments using laser induced breakdown and pulsed Raman spectroscopy, statistical analysis and light microscopy. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2009, 73, 525-531.	3.9	143
2	Differential Activity and Structure of Highly Similar Peroxidases. Spectroscopic, Crystallographic, and Enzymatic Analyses of Lignifying Arabidopsis thaliana Peroxidase A2 and Horseradish Peroxidase A2,. Biochemistry, 2001, 40, 11013-11021.	2.5	90
3	SERS detection of red organic dyes in Agâ€agar gel. Journal of Raman Spectroscopy, 2013, 44, 47-54.	2.5	81
4	High-Resolution Spectroscopic Studies of Complexes Formed by Medium-Size Organic Molecules. Chemical Reviews, 2016, 116, 5014-5037.	47.7	80
5	The Gas Phase Anisole Dimer: A Combined High-Resolution Spectroscopy and Computational Study of a Stacked Molecular System. Journal of Physical Chemistry A, 2009, 113, 14343-14351.	2.5	52
6	The high resolution spectrum of the S1â†S0 transition of anisole. Physical Chemistry Chemical Physics, 2001, 3, 1407-1410.	2.8	51
7	A study on the anisoleâ€“water complex by molecular beamâ€“electronic spectroscopy and molecular mechanics calculations. Journal of Chemical Physics, 2004, 120, 5601-5607.	3.0	47
8	High-resolution absorption, excitation, and microwave-UV double resonance spectroscopy on a molecular beam: S1 aniline. Chemical Physics, 1995, 199, 263-273.	1.9	45
9	Vibrational spectrum of 4-fluoraniline. Journal of Molecular Structure, 2001, 565-566, 421-425.	3.6	39
10	Tailored micro-extraction method for Raman/SERS detection of indigoids in ancient textiles. Analytical and Bioanalytical Chemistry, 2015, 407, 6505-6514.	3.7	39
11	Noncovalent Interactions in the Gas Phase: The Anisoleâ€“Phenol Complex. Journal of Physical Chemistry A, 2011, 115, 9603-9611.	2.5	38
12	Microâ€Raman and fluorescence spectroscopy for the assessment of the effects of the exposure to light on films of egg white and egg yolk. Journal of Raman Spectroscopy, 2008, 39, 307-313.	2.5	37
13	Photoacoustic excitation profiles of gold nanoparticles. Photoacoustics, 2014, 2, 47-53.	7.8	37
14	Non-diamond carbon phases in plasma-assisted deposition of crystalline diamond films: a Raman study. Diamond and Related Materials, 1993, 2, 1257-1262.	3.9	35
15	Accuracy of remote sensing of water temperature by Raman spectroscopy. Applied Optics, 1999, 38, 928.	2.1	35
16	On the properties of microsolvated molecules in the ground (S) and excited (S1) states: The anisole-ammonia 1:1 complex. Journal of Chemical Physics, 2007, 127, 144303.	3.0	35
17	Mode Assignment of Sulfur Î±-S8 by Polarized Raman and FTIR Studies at Low Temperatures. Journal of Physical Chemistry B, 1997, 101, 2132-2137.	2.6	34
18	A new compact instrument for Raman, laser-induced breakdown, and laser-induced fluorescence spectroscopy of works of art and their constituent materials. Review of Scientific Instruments, 2009, 80, 076109.	1.3	34

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19	Suitability of Agâ€agar gel for the microâ€extraction of organic dyes on different substrates: the case study of wool, silk, printed cotton and a panel painting mockâ€up. Journal of Raman Spectroscopy, 2014, 45, 1133-1139.	2.5	34
20	High-resolution spectroscopy of aniline-rare gas Van der Waals complexes: results and comparison with theoretical predictions. Chemical Physics Letters, 1996, 260, 87-94.	2.6	33
21	Temperature dependence of vibrational relaxation processes in sulfur crystals: Effect of isotopic impurities. Journal of Chemical Physics, 1992, 96, 98-109.	3.0	32
22	Peroxidase-benzhydroxamic acid complexes: spectroscopic evidence that a Fe-H2O distance of 2.6â€‰Ã… can correspond to hexa-coordinate high-spin heme. Journal of Biological Inorganic Chemistry, 1999, 4, 39-47.	2.6	30
23	Molecular Beam Spectroscopy ofS1Aniline: Assignments for the 000, 6a10,I20, and 110Rovibronic Bands. Journal of Molecular Spectroscopy, 1996, 177, 74-78.	1.2	29
24	Isotopomeric Conformational Changes in the Anisoleâ‹Water Complex:Â New Insights from HR-UV Spectroscopy and Theoretical Studiesâ€. Journal of Physical Chemistry A, 2007, 111, 12363-12371.	2.5	29
25	NH2 inversion potential in the S0 and S1 electronic states of aniline: fit to the (ro-)vibrational data and comparison with ab initio and density functional results. Chemical Physics Letters, 2000, 327, 45-53.	2.6	27
26	Surface Enhanced Raman Spectroscopy for In-Field Detection of Pesticides: A Test on Dimethoate Residues in Water and on Olive Leaves. Molecules, 2019, 24, 292.	3.8	26
27	The anilineâ€“water and anilineâ€“methanol complexes in the S1 excited state. Chemical Physics, 2006, 330, 138-145.	1.9	25
28	Multivariate Analysis of Combined Fourier Transform Near-Infrared Spectrometry (FT-NIR) and Raman Datasets for Improved Discrimination of Drying Oils. Applied Spectroscopy, 2015, 69, 865-876.	2.2	25
29	Integrated experimental and computational spectroscopy study on Ï€-stacking interaction: the anisole dimer. Physical Chemistry Chemical Physics, 2010, 12, 13547.	2.8	24
30	The Raman and SERS spectra of indigo and indigo-Ag2 complex: DFT calculation and comparison with experiment. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2018, 188, 141-148.	3.9	24
31	Vibrational predissociation dynamics in the vibronic states of the anilineâ€“neon van der Waals complex: New features revealed by complementary spectroscopic approaches. Journal of Chemical Physics, 1999, 110, 9961-9970.	3.0	22
32	New Insight into the Peroxidaseâ‹Hydroxamic Acid Interaction Revealed by the Combination of Spectroscopic and Crystallographic Studies. Biochemistry, 2003, 42, 14066-14074.	2.5	22
33	High resolution optothermal spectroscopy of pyridine in the S1 state. Journal of Chemical Physics, 1997, 107, 10399-10405.	3.0	21
34	The anilineâ€“argon van der Waals complex: ab initio second-order MÃ¸llerâ€“Plesset study of the potential energy surface in the ground electronic state. Chemical Physics, 1999, 249, 113-120.	1.9	20
35	Dissociative Photodetachment Dynamics of Solvated Iodine Cluster Anions. Journal of Physical Chemistry A, 2005, 109, 11781-11792.	2.5	20
36	Safranin-O dye in the ground state. A study by density functional theory, Raman, SERS and infrared spectroscopy. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2015, 137, 677-684.	3.9	20

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37	Microanalysis of Organic Pigments in Ancient Textiles by Surface-Enhanced Raman Scattering on Agar Gel Matrices. Journal of Spectroscopy, 2016, 2016, 1-10.	1.3	20
38	Silver nanowires as infrared-active materials for surface-enhanced Raman scattering. Nanoscale, 2018, 10, 9329-9337.	5.6	19
39	Microplastics in the Florence wastewater treatment plant studied by a continuous sampling method and Raman spectroscopy: A preliminary investigation. Science of the Total Environment, 2022, 808, 152025.	8.0	19
40	The anisoleâ€“ammonia complex: Marks of the intermolecular interactions. Chemical Physics Letters, 2007, 434, 25-30.	2.6	18
41	Binding Energies of the Ï€â€stacked Anisole Dimer: New Molecular Beamâ€”Laser Spectroscopy Experiments and CCSD(T) Calculations. Chemistry - A European Journal, 2015, 21, 6740-6746.	3.3	18
42	On the SERS quantitative determination of organic dyes. Journal of Raman Spectroscopy, 2018, 49, 997-1005.	2.5	18
43	High-resolution spectroscopy of 4-fluorostyrene-rare gas van der Waals complexes: Results and comparison with theoretical calculations. Journal of Chemical Physics, 1998, 108, 1836-1850.	3.0	17
44	Versatile pulsed laser setup for depth profiling analysis of multilayered samples in the field of cultural heritage. Journal of Molecular Structure, 2009, 924-926, 420-426.	3.6	17
45	Resonance Raman Spectra of o-Safranin Dye, Free and Adsorbed on Silver Nanoparticles: Experiment and Density Functional Theory Calculation. Journal of Physical Chemistry A, 2016, 120, 5307-5314.	2.5	17
46	Raman spectroscopic study of pure p-terphenyl and tetracene:p-terphenyl doped crystals. Solid State Ionics, 1997, 97, 115-121.	2.7	16
47	High resolution Raman study of phonon and vibron bandwidths in isotopically pure and natural benzene crystal. Journal of Chemical Physics, 1998, 109, 5469-5480.	3.0	16
48	Inversion Motion and S1Equilibrium Geometry of 4-Fluoroaniline:Â Molecular Beam High-Resolution Spectroscopy and ab Initio Calculations. Journal of Physical Chemistry A, 1999, 103, 8946-8951.	2.5	16
49	A study on the anisoleâ€“carbon dioxide van der Waals complex by high resolution electronic spectroscopy. Physical Chemistry Chemical Physics, 2002, 4, 5590-5593.	2.8	16
50	New Insights on the Photodissociation of N-Methylpyrrole: The Role of Stereoelectronic Effects. Journal of Physical Chemistry A, 2009, 113, 14554-14558.	2.5	16
51	The SERS spectra of alizarin and its ionized species: The contribution of the molecular resonance to the spectral enhancement. Journal of Molecular Structure, 2015, 1090, 98-106.	3.6	15
52	The anomeric effect in 1,3-benzodioxole: additional evidence from the rotational, vibrationâ€“rotation and rovibronic spectra. Physical Chemistry Chemical Physics, 2004, 6, 5469-5475.	2.8	14
53	Binding energy determination in a Ï€-stacked aromatic cluster: the anisole dimer. Physical Chemistry Chemical Physics, 2013, 15, 11268.	2.8	14
54	SERS Spectra of Alizarin Anionâ€“Ag_n (n = 2, 4, 14) Systems: TDDFT Calculation and Comparison with Experiment. Journal of Physical Chemistry C, 2016, 120, 12234-12241.	3.1	14

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55	Multivariate analysis of combined reflectance FT-NIR and micro-Raman spectra on oil-paint models. Microchemical Journal, 2016, 124, 703-711.	4.5	14
56	Surface-enhanced Raman scattering of glyphosate on dispersed silver nanoparticles: A reinterpretation based on model molecules. Vibrational Spectroscopy, 2020, 108, 103061.	2.2	14
57	Surface-Enhanced Raman Spectroscopy for Bisphenols Detection: Toward a Better Understanding of the Analyteâ€“Nanosystem Interactions. Nanomaterials, 2021, 11, 881.	4.1	14
58	Investigation of the relaxation dynamics of phonons in NaNO2 by means of high-resolution raman linewidth measurements. Chemical Physics, 1989, 135, 363-373.	1.9	13
59	Optothermal spectroscopy of the dissociating lowest electronic singlet states of s-tetrazine and dimethyl-s-tetrazine in a molecular beam. Journal of Chemical Physics, 1997, 106, 1318-1325.	3.0	13
60	Lack of orientation selectivity of the heme insertion in murine neuroglobin revealed by resonance Raman spectroscopy. FEBS Journal, 2020, 287, 4082-4097.	4.7	13
61	Yb3+:(LuxY1â^'x)2O3 mixed sesquioxide ceramics for laser applications. Part I: Fabrication, microstructure and spectroscopy. Journal of Alloys and Compounds, 2021, 869, 159227.	5.5	13
62	High resolution electronic spectroscopy on deuterated anisole. Journal of Molecular Structure, 2009, 924-926, 457-460.	3.6	12
63	Reaction intermediate rotation during the decarboxylation of coproheme to heme b in C.Âdiphtheriae. Biophysical Journal, 2021, 120, 3600-3614.	0.5	12
64	Potential coupling of intramolecular to intermolecular modes: an ab initio study of the amino inversion and van der Waals motions in the anilineâ€“argon complex. Chemical Physics, 2001, 269, 29-36.	1.9	11
65	Dissociative photodetachment dynamics of the iodide-aniline cluster. Journal of Chemical Physics, 2006, 125, 133309.	3.0	11
66	High resolution molecular beam spectroscopy of low frequency vibronic bands of the S1â†S0 electronic transition of 1,3-benzodioxole. Chemical Physics Letters, 2004, 385, 304-308.	2.6	10
67	Reinvestigation of the 2v₁ Band in Trifluoropropyne using a Frequency Stabilized 1.5 Î¼m Color Center Laser in Conjunction with a Laser Field Buildâ€up Cavity. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1995, 99, 548-554.	0.9	9
68	Excitonic coupling in van der waals complexes: The anisole dimers. Journal of Molecular Structure, 2011, 993, 491-494.	3.6	9
69	Chemical enhancement in the SERS spectra of indigo: DFT calculation of the Raman spectra of indigo-Ag14 complexes. Vibrational Spectroscopy, 2019, 100, 159-166.	2.2	9
70	An active site at work â€“ the role of key residues in C. diphteriae coproheme decarboxylase. Journal of Inorganic Biochemistry, 2022, 229, 111718.	3.5	9
71	Vibration-rotation Raman spectrum of13C-containing acetylene. Journal of Raman Spectroscopy, 1998, 29, 237-241.	2.5	8
72	Variable gain detection strategy for time-of-flight multiphoton ionization spectroscopy experiments. Review of Scientific Instruments, 2005, 76, 113105.	1.3	8

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73	Structure and energetics of the anisoleâ€“Ar_n (n = 1, 2, 3) complexes: high-resolution resonant two-photon and threshold ionization experiments, and quantum chemical calculations. Physical Chemistry Chemical Physics, 2015, 17, 12530-12537.	2.8	8
74	Order-disorder phase transition in p-terphenyl and p-terphenyl: tetracene doped crystals as studied by Raman spectroscopy. Journal of Molecular Structure, 1997, 416, 69-73.	3.6	7
75	Vibrational Spectroscopies and Chemometry for Nondestructive Identification and Differentiation of Painting Binders. Journal of Chemistry, 2017, 2017, 1-10.	1.9	7
76	Molecular beam infrared spectroscopy and intramolecular dynamics of SF5CCH in the region of the fundamental and first overtone of the acetylenic CH stretch. Chemical Physics, 1994, 187, 11-19.	1.9	6
77	Vibrational spectrum of 1,1,1-trifluoroethane. Journal of the Chemical Society, Faraday Transactions, 1998, 94, 2909-2912.	1.7	6
78	Large amplitude motions in the electronic ground state of 4-fluoroaniline. Physical Chemistry Chemical Physics, 2000, 2, 1351-1355.	2.8	6
79	Photoacoustic measurement of lutein in biological matrix. European Physical Journal Special Topics, 2005, 125, 825-828.	0.2	6
80	<title>A combined Raman-LIBS spectrometer: toward a mobile atomic and molecular analytical tool for in situ applications</title>. , 2005, , .		6
81	High resolution Raman measurements of the temperature variation of the bandwidth of some lattice phonons and of one internal vibron of Î±-oxalic acid. Journal of Molecular Structure, 1990, 224, 471-482.	3.6	5
82	Vibrational Raman spectroscopy of solid benzene : hexafluorobenzene. Chemical Physics, 1993, 177, 191-202.	1.9	5
83	Rotationally resolved electronic spectroscopy of aniline excited vibronic levels. Chemical Physics Letters, 2001, 335, 195-200.	2.6	5
84	trans-Formanilide: On the properties of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si67.gif" display="inline" overflow="scroll"><mml:mrow><mml:msub><mml:mrow><mml:mi>S</mml:mi></mml:mrow><mml:mrow><mml:mn>1</mml:mn></mr state from high resolution electronic spectroscopy and ab initio calculations. Chemical Physics Letters, 2009, 475, 30-33.	2.6	5
85	Phonon dynamics and relaxation processes in isotopically pure 35Cl2 and natural crystalline chlorine. Journal of Chemical Physics, 1995, 102, 9191-9196.	3.0	4
86	Vibrational predissociation dynamics of the anilineâ€“neon Van der Waals complex: an ab initio study. Chemical Physics, 2004, 303, 143-150.	1.9	4
87	Dynamics of vibronically excited states of the anilineâ€“neon van der Waals complex: vibrational predissociation versus intramolecular vibrational redistribution. Chemical Physics Letters, 2004, 390, 29-34.	2.6	4
88	Identification of organic dyes by surface-enhanced Raman scattering in nano-composite agar-gel matrices: evaluation of the enhancement factor. Optical and Quantum Electronics, 2016, 48, 1.	3.3	4
89	The ageing of model pigment/linseed oil systems studied by means of vibrational spectroscopies and chemometrics. Vibrational Spectroscopy, 2018, 99, 86-92.	2.2	4
90	Detecting rotational disorder in heme proteins: A comparison between resonance Raman spectroscopy, nuclear magnetic resonance, and circular dichroism. Journal of Raman Spectroscopy, 2021, 52, 2536-2549.	2.5	4

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91	Noninvasive identification of turmeric and saffron dyes in proteinaceous textile fibres using Raman spectroscopy and multivariate analysis. Journal of Raman Spectroscopy, 2022, 53, 593-607.	2.5	4
92	Spectroscopic evidence of the effect of hydrogen peroxide excess on the coproheme decarboxylase from actinobacterial <scp> Corynebacterium diphtheriae </scp>. Journal of Raman Spectroscopy, 0, , .	2.5	4
93	Raman linewidths in ferroelectric NaNO2. Chemical Physics, 1994, 187, 263-273.	1.9	3
94	Photodetachment and dissociation dynamics of microsolvated iodide clusters. Physica Scripta, 2008, 78, 058110.	2.5	3
95	Photoelectron imaging as a tool in photoionization studies. Journal of Molecular Structure, 2011, 993, 510-515.	3.6	3
96	Laser sources for efficient two-step Positronium excitation to Rydberg states. Journal of Molecular Structure, 2011, 993, 495-499.	3.6	3
97	Binding Energies of the Ï€-Stacked Anisole Dimer: New Molecular Beam-Laser Spectroscopy Experiments and CCSD(T) Calculations. Chemistry - A European Journal, 2015, 21, 6637-6637.	3.3	3
98	Non-covalent interactions in anisoleâ€“(CO₂)_n (n = 1, 2) complexes. Physical Chemistry Chemical Physics, 2017, 19, 22749-22758.	2.8	3
99	Direct microextraction for red lakes detection in painting layers by Raman spectroscopy. European Physical Journal Plus, 2021, 136, 1.	2.6	3
100	High resolution electronic spectroscopy of 4-fluoroaniline in a molecular beam: new experimental results and their interpretation in terms of molecular geometry. Journal of Molecular Structure, 1999, 480-481, 269-272.	3.6	2
101	The jet-cooled S0â†'S1 excitation spectrum of 1,6-epoxy-[10]annulene. Chemical Physics Letters, 2000, 330, 315-324.	2.6	2
102	Microsolvation in molecular complexes. Physica Scripta, 2008, 78, 058109.	2.5	2
103	Determination of binding energy in molecular clusters by ion imaging methods: A test on the phenolâ€“water 1:1 cluster. Journal of Molecular Structure, 2015, 1090, 2-6.	3.6	2
104	An improved experimental scheme for simultaneous measurement of high-resolution zero electron kinetic energy (ZEKE) photoelectron and threshold photoion (MATI) spectra. Chemical Physics Letters, 2017, 685, 477-481.	2.6	2
105	Linear and Non-Linear Middle Infrared Spectra of Penicillin G in the CO Stretching Mode Region. Symmetry, 2021, 13, 106.	2.2	2
106	Multi-analytical approach to the study of mecca gilding technique. Microchemical Journal, 2021, 168, 106415.	4.5	2
107	Probing the Role of Murine Neuroglobin CDloopâ€“D-Helix Unit in CO Ligand Binding and Structural Dynamics. ACS Chemical Biology, 0, , .	3.4	2
108	Optothermal detection of non-radiative excited states of aromatic molecules in a molecular beam. Journal of Photochemistry and Photobiology A: Chemistry, 1997, 105, 109-113.	3.9	1

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109	High resolution spectroscopy of the S1 â†•S0 electronic transition of 4-fluorostyrene in a molecular beam. Journal of Molecular Structure, 1997, 410-411, 59-63.	3.6	0
110	Structural Determinations and Dynamics on Floppy Molecular Systems. AIP Conference Proceedings, 2005, , .	0.4	0
111	Exciplex Formation in Lipidâ€bound Escherichia coli Flavohemoglobin. ChemPhysChem, 2021, 22, 1134-1140.	2.1	0