

# Paul R Stoddart

## List of Publications by Year in descending order

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152  
papers

4,294  
citations

94269

37  
h-index

128067

60  
g-index

160  
all docs

160  
docs citations

160  
times ranked

5708  
citing authors

#	ARTICLE	IF	CITATIONS
1	Escherichia coli, Pseudomonas aeruginosa, and Staphylococcus aureus Attachment Patterns on Glass Surfaces with Nanoscale Roughness. <i>Current Microbiology</i> , 2009, 58, 268-273.	1.0	220
2	Critical Review of Transcutaneous Vagus Nerve Stimulation: Challenges for Translation to Clinical Practice. <i>Frontiers in Neuroscience</i> , 2020, 14, 284.	1.4	182
3	Microfluidics and Raman microscopy: current applications and future challenges. <i>Chemical Society Reviews</i> , 2013, 42, 5880.	18.7	177
4	The Optical Fiber Tip: An Inherently Light-Coupled Microscopic Platform for Micro- and Nanotechnologies. <i>Advanced Materials</i> , 2014, 26, 3798-3820.	11.1	173
5	Impact of nano-topography on bacterial attachment. <i>Biotechnology Journal</i> , 2008, 3, 536-544.	1.8	166
6	Nanoimprinted optical fibres: Biotemplated nanostructures for SERS sensing. <i>Biosensors and Bioelectronics</i> , 2009, 24, 1531-1535.	5.3	142
7	Gold-Nanorod-Assisted Near-Infrared Stimulation of Primary Auditory Neurons. <i>Advanced Healthcare Materials</i> , 2014, 3, 1862-1868.	3.9	120
8	Optical properties of chitin: surface-enhanced Raman scattering substrates based on antireflection structures on cicada wings. <i>Nanotechnology</i> , 2006, 17, 680-686.	1.3	108
9	Improved methods for fluorescence background subtraction from Raman spectra. <i>Journal of Raman Spectroscopy</i> , 2013, 44, 1587-1595.	1.2	100
10	Surface Brillouin scattering study of the surface excitations in amorphous silicon layers produced by ion bombardment. <i>Physical Review B</i> , 1998, 58, 13677-13685.	1.1	96
11	Laser exposure of gold nanorods can increase neuronal cell outgrowth. <i>Biotechnology and Bioengineering</i> , 2013, 110, 2277-2291.	1.7	91
12	Corrosion of carbon steel by sulphate reducing bacteria: Initial attachment and the role of ferrous ions. <i>Corrosion Science</i> , 2015, 93, 48-57.	3.0	90
13	Optical Stimulation of Neurons. <i>Current Molecular Imaging</i> , 2015, 3, 162-177.	0.7	83
14	Optical fibre SERS sensors. <i>Analytical and Bioanalytical Chemistry</i> , 2009, 394, 1761-1774.	1.9	82
15	Laser fabricated ripple substrates for surface-enhanced Raman scattering. <i>Annalen Der Physik</i> , 2012, 524, L5.	0.9	74
16	Versatile SERS sensing based on black silicon. <i>Optics Express</i> , 2015, 23, 6763.	1.7	71
17	Nanostructured optical fiber with surface-enhanced Raman scattering functionality. <i>Optics Letters</i> , 2005, 30, 598.	1.7	68
18	Gold Nanoparticles for Modulating Neuronal Behavior. <i>Nanomaterials</i> , 2017, 7, 92.	1.9	68

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19	Laser exposure of gold nanorods can induce intracellular calcium transients. <i>Journal of Biophotonics</i> , 2014, 7, 761-765.	1.1	67
20	Sub-15nm Optical Fiber Nanoimprint Lithography: A Parallel, Self-Aligned and Portable Approach. <i>Advanced Materials</i> , 2011, 23, 531-535.	11.1	65
21	From Fundamental toward Applied SERS: Shared Principles and Divergent Approaches. <i>Advanced Optical Materials</i> , 2018, 6, 1800292.	3.6	65
22	Differences in colonisation of five marine bacteria on two types of glass surfaces. <i>Biofouling</i> , 2009, 25, 621-631.	0.8	62
23	Active Control of Silver Nanoparticles Spacing Using Dielectrophoresis for Surface-Enhanced Raman Scattering. <i>Analytical Chemistry</i> , 2012, 84, 4029-4035.	3.2	61
24	Infrared neural stimulation fails to evoke neural activity in the deaf guinea pig cochlea. <i>Hearing Research</i> , 2015, 324, 46-53.	0.9	58
25	Surface-enhanced Raman scattering sensing on black silicon. <i>Annalen Der Physik</i> , 2013, 525, 907-914.	0.9	55
26	Nanostructured optical fibre arrays for high-density biochemical sensing and remote imaging. <i>Analytical and Bioanalytical Chemistry</i> , 2010, 396, 53-71.	1.9	54
27	Additional Enhancement of Electric Field in Surface-Enhanced Raman Scattering due to Fresnel Mechanism. <i>Scientific Reports</i> , 2013, 3, 2335.	1.6	54
28	Modeling of light absorption in tissue during infrared neural stimulation. <i>Journal of Biomedical Optics</i> , 2012, 17, 0750021.	1.4	52
29	In situ SERS probing of nano-silver coated individual yeast cells. <i>Biosensors and Bioelectronics</i> , 2013, 49, 536-541.	5.3	52
30	Dielectrophoresis-Raman spectroscopy system for analysing suspended nanoparticles. <i>Lab on A Chip</i> , 2011, 11, 921.	3.1	51
31	Fabrication of a range of SERS substrates on nanostructured multicore optical fibres. <i>Journal of Raman Spectroscopy</i> , 2007, 38, 377-382.	1.2	50
32	Inhibition or acceleration: Bacterial test media can determine the course of microbiologically influenced corrosion. <i>Corrosion Science</i> , 2014, 86, 149-158.	3.0	44
33	Modeling of the temporal effects of heating during infrared neural stimulation. <i>Journal of Biomedical Optics</i> , 2013, 18, 035004.	1.4	42
34	Accumulation of radioactive corrosion products on steel surfaces of VVER type nuclear reactors. I. 110mAg. <i>Journal of Nuclear Materials</i> , 1999, 265, 273-284.	1.3	41
35	Influence of Electric Field on SERS: Frequency Effects, Intensity Changes, and Susceptible Bonds. <i>Journal of the American Chemical Society</i> , 2012, 134, 4646-4653.	6.6	41
36	Statistically quantified measurement of an Alzheimer's marker by surface-enhanced Raman scattering. <i>Journal of Biophotonics</i> , 2015, 8, 567-574.	1.1	40

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37	High-temperature elastic constants of yttrium aluminum garnet. Journal of Applied Physics, 1993, 73, 7298-7301.	1.1	39
38	Infrared Neural Stimulation: Influence of Stimulation Site Spacing and Repetition Rates on Heating. IEEE Transactions on Biomedical Engineering, 2013, 60, 3534-3541.	2.5	39
39	Temperature measurement in the microscopic regime: a comparison between fluorescence lifetime- and intensity-based methods. Journal of Microscopy, 2013, 250, 179-188.	0.8	38
40	Nanoparticle-enhanced infrared neural stimulation. Journal of Neural Engineering, 2014, 11, 065002.	1.8	38
41	Theoretical Model and Design Considerations of U-Shaped Fiber Optic Sensors: A Review. IEEE Sensors Journal, 2020, 20, 14578-14589.	2.4	36
42	Black-CuO: surface-enhanced Raman scattering and infrared properties. Nanoscale, 2015, 7, 18299-18304.	2.8	34
43	High-temperature elastic properties of a nickel-based superalloy studied by surface Brillouin scattering. Journal of Physics Condensed Matter, 2001, 13, 2281-2294.	0.7	32
44	Strain-based health assessment of bonded composite repairs. Composite Structures, 2006, 76, 234-242.	3.1	29
45	Distributed Fluorescence Sensing Using Exposed Core Microstructured Optical Fiber. IEEE Photonics Technology Letters, 2010, 22, 1385-1387.	1.3	29
46	Brillouin-scattering measurements of surface-acoustic-wave velocities in silicon at high temperatures. Physical Review B, 1995, 51, 17574-17578.	1.1	28
47	Nanomechanical Properties and Phase Behavior of Phenylalanine Amyloid Ribbon Assemblies and Amorphous Self-Healing Hydrogels. ACS Applied Materials & Interfaces, 2020, 12, 21992-22001.	4.0	28
48	Fibre optic distributed temperature sensor with an integrated background correction function. Measurement Science and Technology, 2005, 16, 1299-1304.	1.4	27
49	Optical fiber sensor based on oblique angle deposition. Applied Optics, 2011, 50, 155.	2.1	27
50	On the need for more realistic experimental conditions in laboratory-based microbiologically influenced corrosion testing. International Biodeterioration and Biodegradation, 2017, 121, 97-106.	1.9	27
51	Trends and Applications of U-Shaped Fiber Optic Sensors: A Review. IEEE Sensors Journal, 2021, 21, 120-131.	2.4	27
52	The effect of metal microstructure on the initial attachment of <i>Escherichia coli</i> to 1010 carbon steel. Biofouling, 2013, 29, 939-952.	0.8	25
53	Raman spectroscopic identification of single bacterial cells at different stages of their lifecycle. Vibrational Spectroscopy, 2016, 86, 81-89.	1.2	25
54	Surface Brillouin scattering of opaque solids and thin supported films. Ultrasonics, 2000, 38, 450-458.	2.1	24

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55	Influence of carbon steel grade on the initial attachment of bacteria and microbiologically influenced corrosion. <i>Biofouling</i> , 2016, 32, 109-122.	0.8	23
56	Measurement of Forces at the Tip of a Cochlear Implant During Insertion. <i>IEEE Transactions on Biomedical Engineering</i> , 2014, 61, 1177-1186.	2.5	22
57	Combined optogenetic and electrical stimulation of auditory neurons increases effective stimulation frequency—an in vitro study. <i>Journal of Neural Engineering</i> , 2020, 17, 016069.	1.8	21
58	Hybrid optogenetic and electrical stimulation for greater spatial resolution and temporal fidelity of cochlear activation. <i>Journal of Neural Engineering</i> , 2020, 17, 056046.	1.8	21
59	Light enhancement in surface-enhanced Raman scattering at oblique incidence. <i>Photonic Sensors</i> , 2012, 2, 283-288.	2.5	20
60	Ultra-pure, water-dispersed Au nanoparticles produced by femtosecond laser ablation and fragmentation. <i>International Journal of Nanomedicine</i> , 2013, 8, 2601.	3.3	19
61	Effective optical constants of anisotropic silver nanoparticle films with plasmonic properties. <i>Optics Letters</i> , 2016, 41, 5495.	1.7	19
62	Optical fibers for miniaturized surface-enhanced Raman-scattering probes. <i>Applied Optics</i> , 2013, 52, 8388.	0.9	18
63	Nano-rescaling of gold films on polystyrene: thermal management for SERS. <i>Nanoscale</i> , 2017, 9, 690-695.	2.8	18
64	Biological Considerations of Optical Interfaces for Neuromodulation. <i>Advanced Optical Materials</i> , 2019, 7, 1900385.	3.6	18
65	Controlled release from PCL-alginate microspheres via secondary encapsulation using GelMA/HAMA hydrogel scaffolds. <i>Soft Matter</i> , 2019, 15, 3779-3787.	1.2	17
66	Analysis of transmission mode of a matched fiber Bragg grating interrogation scheme. <i>Applied Optics</i> , 2010, 49, 4498.	2.1	16
67	Light-induced reflectivity transients in black-Si nanoneedles. <i>Solar Energy Materials and Solar Cells</i> , 2016, 144, 221-227.	3.0	16
68	Thermal damage threshold of neurons during infrared stimulation. <i>Biomedical Optics Express</i> , 2020, 11, 2224.	1.5	16
69	Black silicon as a platform for bacterial detection. <i>Biomicrofluidics</i> , 2015, 9, 061101.	1.2	15
70	Analysis of defects patterned by femtosecond pulses inside KBr and SiO <sub>2</sub> glass. <i>Applied Physics A: Materials Science and Processing</i> , 2016, 122, 1.	1.1	15
71	Internet of Things-based Hydrocarbon Sensing for Real-time Environmental Monitoring. , 2019, , .		15
72	Fabrication of a Biocompatible Liquid Crystal Graphene Oxide-Gold Nanorods Electrode and Photoactive Interface for Cell Stimulation. <i>Advanced Healthcare Materials</i> , 2019, 8, 1801321.	3.9	15

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73	Patterning of biomaterials by aerosol jet printing: A parametric study. <i>Bioprinting</i> , 2020, 18, e00081.	2.9	15
74	Metallic nanoparticles for peripheral nerve regeneration: is it a feasible approach?. <i>Neural Regeneration Research</i> , 2015, 10, 1065.	1.6	15
75	Collection efficiency of scattered light in single-ended optical fiber sensors. <i>Optics Letters</i> , 2012, 37, 2142.	1.7	14
76	Origins of Spectral Changes in Fiber Bragg Gratings Due to Macrobending. <i>Journal of Lightwave Technology</i> , 2012, 30, 3500-3511.	2.7	13
77	High-temperature studies of surface acoustic wave velocities in silicon by Brillouin scattering. <i>Physica B: Condensed Matter</i> , 1996, 219-220, 717-719.	1.3	12
78	The Effect of the Cladding Refractive Index on an Optical Fiber Evanescent-Wave Sensor. <i>Journal of Lightwave Technology</i> , 2013, 31, 3251-3257.	2.7	12
79	Polycaprolactone porous template facilitates modulated release of molecules from alginate hydrogels. <i>Reactive and Functional Polymers</i> , 2018, 133, 29-36.	2.0	12
80	Molecular Imaging of Red Blood Cells by Raman Spectroscopy. <i>Australian Journal of Chemistry</i> , 2011, 64, 593.	0.5	11
81	Electric field induced surface-enhanced Raman spectroscopy for multianalyte detection. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 7095-7099.	1.3	11
82	Microstructural refinement of aluminium-zinc-silicon coated steels. <i>Surface and Coatings Technology</i> , 2016, 306, 490-496.	2.2	11
83	Nano-structured surfaces control bacterial attachment. , 2008, , .		10
84	Novel aluminum near field transducer and highly integrated micro-nano-optics design for heat-assisted ultra-high-density magnetic recording. <i>Nanotechnology</i> , 2014, 25, 295202.	1.3	10
85	Viral-mediated transduction of auditory neurons with opsins for optical and hybrid activation. <i>Scientific Reports</i> , 2021, 11, 11229.	1.6	10
86	Characterization of time-resolved fluorescence response measurements for distributed optical-fiber sensing. <i>Applied Optics</i> , 2010, 49, 6385.	2.1	9
87	Wavelength and refractive index dependence of the geometrical enhancement in surface-enhanced Raman scattering. <i>Journal of Raman Spectroscopy</i> , 2017, 48, 1182-1189.	1.2	9
88	Quasielastic light scattering in silicon. <i>Physical Review B</i> , 2000, 62, 15383-15385.	1.1	8
89	Effect of substrate temperature on the splat formation of flame sprayed polypropylene. <i>Surface and Coatings Technology</i> , 2011, 206, 1180-1187.	2.2	8
90	Plasmonic properties of gold nanoparticles can promote neuronal activity. <i>Proceedings of SPIE</i> , 2013, , .	0.8	8

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91	Diffraction-limited ultrasensitive molecular nano-arrays with singular nano-cone scattering. <i>Biomicrofluidics</i> , 2014, 8, 021101.	1.2	8
92	Gold Nanorod-assisted Optical Stimulation of Neuronal Cells. <i>Journal of Visualized Experiments</i> , 2015, , .	0.2	8
93	Pronounced anharmonicity in the classical high-Tc superconductor Nb <sub>3</sub> Sn. <i>Physica C: Superconductivity and Its Applications</i> , 1990, 167, 415-422.	0.6	7
94	First-approximation simulation of dopant diffusion in nanostructured silica optical fibres. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2008, 6, 167-177.	1.0	7
95	Confocal fluorescence polarization microscopy for linear unmixing of spectrally similar labels. <i>Micron</i> , 2009, 40, 212-217.	1.1	7
96	Changes in spectral properties of fibre Bragg gratings owing to bending. <i>Electronics Letters</i> , 2011, 47, 558.	0.5	7
97	Whole Cell Patch Clamp for Investigating the Mechanisms of Infrared Neural Stimulation. <i>Journal of Visualized Experiments</i> , 2013, , .	0.2	7
98	Double Clad Fiber Improves the Performance of a Single-Ended Optical Fiber Sensor. <i>Journal of Lightwave Technology</i> , 2018, 36, 3999-4005.	2.7	7
99	Effect of embedded optical fibres on the mechanical properties of cochlear electrode arrays. <i>Medical Engineering and Physics</i> , 2016, 38, 155-162.	0.8	6
100	Towards Safer Primers: A Review. <i>Technologies</i> , 2019, 7, 75.	3.0	6
101	Response of primary auditory neurons to stimulation with infrared light in vitro. <i>Journal of Neural Engineering</i> , 2021, 18, 046003.	1.8	6
102	Reduction of polarization-induced artifacts in grating-based spectrometers. <i>Applied Optics</i> , 2005, 44, 6123.	2.1	5
103	Evanescently coupled dewpoint sensor based on a silicon waveguide. <i>Sensors and Actuators A: Physical</i> , 2006, 128, 225-229.	2.0	5
104	Nanoimprinting on optical fiber end faces for chemical sensing. <i>Proceedings of SPIE</i> , 2008, , .	0.8	5
105	Synthesis of Self-Assembled Island-Structured Complex Oxide Dielectric Films. <i>Journal of Physical Chemistry C</i> , 2009, 113, 16610-16614.	1.5	5
106	Quantifying end-face quality of cleaved fibers: Femtosecond laser versus mechanical scribing. <i>Optics and Laser Technology</i> , 2021, 141, 107111.	2.2	5
107	Health monitoring of bonded composite repairs using fibre optic sensors. , 2006, , .		4
108	A low-cost and temperature-insensitive fibre Bragg grating sensor for monitoring localized strain concentrations. <i>Measurement Science and Technology</i> , 2009, 20, 025201.	1.4	4

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109	Parametric study of surface melting in zinc-aluminium coated steels. International Journal of Surface Science and Engineering, 2014, 8, 124.	0.4	4
110	Chemical sensors based on nanoparticle arrays. , 2002, 4934, 61.		3
111	Optical Fibers: The Optical Fiber Tip: An Inherently Light-Coupled Microscopic Platform for Micro- and Nanotechnologies (Adv. Mater. 23/2014). Advanced Materials, 2014, 26, 3797-3797.	11.1	3
112	Nanoscale optical voltage sensing in biological systems. Journal of Luminescence, 2021, 230, 117719.	1.5	3
113	Analysis of structured highlight stereo imaging for shape measurement of specular objects. Optical Engineering, 2007, 46, 083601.	0.5	2
114	Fluorescence-based distributed chemical sensing for structural health monitoring. , 2008, , .		2
115	Angle cleaving optical fibers using a CO <sub>2</sub> laser. , 2010, , .		2
116	Effects of laser-exposed gold nanorods on biochemical pathways of neuronal cells. , 2013, , .		2
117	Nano-cone optical fiber array sensors for MiRNA profiling. Proceedings of SPIE, 2013, , .	0.8	2
118	Photothermal release and recovery of mesenchymal stem cells from substrates functionalized with gold nanorods. Acta Biomaterialia, 2021, 129, 110-121.	4.1	2
119	Refractive Index, Temperature, and Heat Source Origin Sensing with Dual U-shaped Fiber Probes. , 2021, , .		2
120	Dual U-shaped fibers refractometer with enhanced sensitivity based on the coupling effect. Optical Fiber Technology, 2022, 71, 102935.	1.4	2
121	Nanostructured optical fibre for surface-enhanced Raman scattering sensing. , 2008, , .		1
122	Trace Level Detection of Water Contamination by SERS. , 2010, , .		1
123	Modeling of bend effects on fiber Bragg gratings. Proceedings of SPIE, 2012, , .	0.8	1
124	Nanofabrication of surface-enhanced Raman scattering substrates for optical fiber sensors. Proceedings of SPIE, 2013, , .	0.8	1
125	Infrared nerve stimulation: modelling of photon transport and heat conduction. , 2013, , .		1
126	Surface-enhanced Raman scattering: effective optical constants for electric field modelling of nanostructured Ag films. Proceedings of SPIE, 2016, , .	0.8	1



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127	Stimulation of Primary Auditory Neurons Mediated by Near-Infrared Excitation of Gold Nanorods. <i>Neuromethods</i> , 2018, , 25-38.	0.2	1
128	Avalanching nanoparticles bring new light to cardiovascular imaging. <i>Cardiovascular Research</i> , 2021, 117, e60-e63.	1.8	1
129	Development of an optical fiber SERS microprobe for minimally invasive sensing applications. , 2018, , .		1
130	Influence of the dielectric substrate on the effective optical constants of silver plasmonic films. <i>Applied Optics</i> , 2019, 58, 6038.	0.9	1
131	Frequency Dependent Silica Dissolution Rate Enhancement under Oscillating Pressure via an Electrochemical Pressure Solution-like, Surface Resonance Mechanism. <i>Journal of the American Chemical Society</i> , 2022, 144, 3875-3891.	6.6	1
132	MEMS micropump characterization and control utilizing a fibre optic Interferometer. , 2002, 4935, 395.		0
133	Nanostructured optical fibre for chemical sensing using surface-enhanced Raman scattering. , 2006, , .		0
134	Optical material processing by synchrotron radiation. , 2006, , .		0
135	Composite scarf repair monitoring using fiber Bragg grating sensors. , 2007, , .		0
136	Temperature-independent Bragg grating-based sensor for monitoring regions of localised strain concentration. <i>Proceedings of SPIE</i> , 2009, , .	0.8	0
137	Bend effects on fibre Bragg gratings in standard and low bend loss optical fibres. , 2010, , .		0
138	Optical fibers and sensors for biomedical applications: bend effects. , 2011, , .		0
139	Additional enhancement in surface-enhanced Raman scattering due to excitation geometry. <i>Proceedings of SPIE</i> , 2012, , .	0.8	0
140	Surface-enhanced Raman scattering sensor based on laser nano-textured surfaces. , 2012, , .		0
141	Black-Si as a platform for sensing. <i>Proceedings of SPIE</i> , 2013, , .	0.8	0
142	Dark-field microspectroscopic analysis of gold nanorods in spiral Ganglion neurons. <i>Proceedings of SPIE</i> , 2013, , .	0.8	0
143	Electrical Cell Stimulation: Fabrication of a Biocompatible Liquid Crystal Graphene Oxideâ€“Gold Nanorods Electroâ€“and Photoactive Interface for Cell Stimulation ( <i>Adv. Healthcare Mater.</i> 9/2019).	3.9	0
144	Tuning drug dosing through matching optically active polymer composition and NIR stimulation parameters. <i>International Journal of Pharmaceutics</i> , 2020, 575, 118976.	2.6	0

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145	Extending In-Plane Impedance Measurements from 2D to 3D Cultures: Design Considerations. Bioengineering, 2021, 8, 11.	1.6	0
146	User-Centered Design of Wearable Assistive Devices for the Aging Population. Advances in Medical Technologies and Clinical Practice Book Series, 2016, , 130-153.	0.3	0
147	User-Centered Design of Wearable Assistive Devices for the Aging Population. , 2018, , 538-561.		0
148	Far-side geometrical enhancement in surface-enhanced Raman scattering with Ag plasmonic films. , 2018, , .		0
149	Challenges and opportunities in neurophotonics discussed at the International Conference on Biophotonics 2017. Neurophotonics, 2018, 5, 1.	1.7	0
150	UV illumination for electron and ion beam microscopy and nanofabrication. , 2019, , .		0
151	An optical fiber microprobe for surface-enhanced Raman scattering sensing with enhanced signal-to-background ratio. , 2019, , .		0
152	Quantitative biosensing by surface-enhanced Raman scattering. , 2019, , .		0