## Nick Lavrik

## List of Publications by Year in descending order

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		71061	66879
155	6,613	41	78
papers	citations	h-index	g-index
156	156	156	8097
130	130	130	8077
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Influence of Geometry on Thin Layer and Diffusion Processes at Carbon Electrodes. Langmuir, 2021, 37, 2667-2676.	1.6	31
2	Characterization of the strain-rate–dependent mechanical response of single cell–cell junctions. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	25
3	Thermal conductivity of nano- and micro-crystalline diamond films studied by photothermal excitation of cantilever structures. Diamond and Related Materials, 2021, 113, 108279.	1.8	9
4	Carbonized Polymer for Joule Heating Processing Towards Biosensor Development., 2021, 2021, 7578-7581.		1
5	Carbonization of 3D printed polymer structures for CMOS-compatible electrochemical sensors.  Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2020, 38, 052203.	0.6	6
6	Permanently Magnetized Insulating Thinâ€Film Devices by Reduction. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2000346.	1.2	0
7	3D-Printed Carbon Nanoelectrodes for In Vivo Neurotransmitter Sensing. Nano Letters, 2020, 20, 6831-6836.	4.5	45
8	Carbonized Polymer Nanostructures for Biosensing. , 2019, , .		1
9	In Quest of a Ferromagnetic Insulator: Structure-Controlled Magnetism in Mg–Ti–O Thin Films. Journal of Physical Chemistry C, 2019, 123, 19970-19978.	1.5	8
10	Carbon nanospikes have better electrochemical properties than carbon nanotubes due to greater surface roughness and defect sites. Carbon, 2019, 155, 250-257.	5.4	44
11	Ionic Conductance through Graphene: Assessing Its Applicability as a Proton Selective Membrane. ACS Nano, 2019, 13, 12109-12119.	7.3	28
12	Optically read Coriolis vibratory gyroscope based on a silicon tuning fork. Microsystems and Nanoengineering, 2019, 5, 47.	3.4	8
13	Carbonized Electrodes for Electrochemical Sensing. , 2019, , .		3
14	Noncontact tip-enhanced Raman spectroscopy for nanomaterials and biomedical applications. Nanoscale Advances, 2019, 1, 3392-3399.	2.2	7
15	Surface-Enhanced Raman Scattering (SERS) Studies of Disc-on-Pillar (DOP) Arrays: Contrasting Enhancement Factor with Analytical Performance. Applied Spectroscopy, 2019, 73, 665-677.	1.2	2
16	Roomâ€Temperature Insulating Ferromagnetic (Ni,Co) 1+2 x Ti 1â^' x O 3 Thin Films. Annalen Der Physik, 2019, 531, 1900299.	0.9	7
17	Grating-based holographic diffraction methods for X-rays and neutrons: phase object approximation and dynamical theory. Journal of Applied Crystallography, 2018, 51, 68-75.	1.9	2
18	Evolutionary selection growth of two-dimensional materials on polycrystalline substrates. Nature Materials, 2018, 17, 318-322.	13.3	204

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19	Centrifugalâ€driven, reducedâ€dimension, planar chromatography. Electrophoresis, 2018, 39, 438-444.	1.3	2
20	3Dâ€Printed Carbon Electrodes for Neurotransmitter Detection. Angewandte Chemie, 2018, 130, 14451-14455.	1.6	13
21	3Dâ€Printed Carbon Electrodes for Neurotransmitter Detection. Angewandte Chemie - International Edition, 2018, 57, 14255-14259.	7.2	94
22	Realization of deep 3D metal electrodes in diamond radiation detectors. Applied Physics Letters, 2018, 112, 222101.	1.5	7
23	Light-Activated Hybrid Nanocomposite Film for Water and Oxygen Sensing. ACS Applied Materials & Interfaces, 2018, 10, 31745-31754.	4.0	12
24	Probing the Nanoscale Heterogeneity of SEI on Silicon Anode Using Tip Enhanced Raman Spectroscopy (TERS). ECS Meeting Abstracts, $2018$ , , .	0.0	0
25	Evaluation of Porous Silicon Oxide on Silicon Microcantilevers for Sensitive Detection of Gaseous HF. Analytical Chemistry, 2017, 89, 6272-6276.	3.2	8
26	Surface Modification of Silicon Pillar Arrays To Enhance Fluorescence Detection of Uranium and DNA. ACS Omega, 2017, 2, 7313-7319.	1.6	6
27	Step-free GaN surfaces grown by confined-area metal-organic vapor phase epitaxy. APL Materials, 2017, 5, .	2.2	5
28	Multi-mode humidity sensing with water-soluble copper phthalocyanine for increased sensitivity and dynamic range. Scientific Reports, 2017, 7, 9921.	1.6	17
29	Synthetic moth antennae fabricated as preconcentrator for odor collection. , 2017, , .		1
30	Hidden Area and Mechanical Nonlinearities in Freestanding Graphene. Physical Review Letters, 2017, 118, 266101.	2.9	67
31	Cryo-quenched Fe-Ni-Cr alloy single crystals: A new decorative steel. Journal of Alloys and Compounds, 2017, 691, 666-671.	2.8	4
32	Ultraâ€thin layer chromatography with integrated silver colloidâ€based SERS detection. Electrophoresis, 2017, 38, 361-367.	1.3	6
33	Carbon nanospikes for biosensing applications. , 2017, 2017, 193-196.		4
34	Retention in Porous Layer Pillar Array Planar Separation Platforms. Analytical Chemistry, 2016, 88, 8741-8748.	3.2	14
35	Performance Characteristics of Bio-Inspired Metal Nanostructures as Surface-Enhanced Raman Scattered (SERS) Substrates. Applied Spectroscopy, 2016, 70, 1432-1445.	1.2	5
36	Manipulating the inter pillar gap in pillar array ultra-thin layer planar chromatography platforms. Analyst, The, 2016, 141, 1239-1245.	1.7	7

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37	Magnified Neutron Radiography with Coded Sources. Physics Procedia, 2015, 69, 218-226.	1.2	5
38	Nanopillar Based Enhanced-Fluorescence Detection of Surface-Immobilized Beryllium. Analytical Chemistry, 2015, 87, 6814-6821.	3.2	6
39	Extrapolating Dynamic Leidenfrost Principles to Metallic Nanodroplets on Asymmetrically Textured Surfaces. Scientific Reports, 2015, 5, 11769.	1.6	5
40	Enhanced Interfacial Adhesion and Osteogenesis for Rapid "Bone-like―Biomineralization by PECVD-Based Silicon Oxynitride Overlays. ACS Applied Materials & mp; Interfaces, 2015, 7, 15368-15379.	4.0	27
41	Nanoscale pillar arrays for separations. Analyst, The, 2015, 140, 3347-3351.	1.7	9
42	Quantitative 3D-KPFM imaging with simultaneous electrostatic force and force gradient detection. Nanotechnology, 2015, 26, 175707.	1.3	29
43	Quantifying Morphology of Sands Using 3D Imaging. Journal of Materials in Civil Engineering, 2015, 27,	1.3	107
44	Self-propelled sweeping removal of dropwise condensate. Applied Physics Letters, 2015, 106, .	1.5	95
45	The effect of intrinsic crumpling on the mechanics of free-standing graphene. Nature Communications, 2015, 6, 8789.	5.8	219
46	Magnified neutron radiography with coded sources. Proceedings of SPIE, 2014, , .	0.8	3
47	Length Scale Selects Directionality of Droplets on Vibrating Pillar Ratchet. Advanced Materials Interfaces, 2014, 1, 1400337.	1.9	16
48	Superhydrophobic Analyte Concentration Utilizing Colloid-Pillar Array SERS Substrates. Analytical Chemistry, 2014, 86, 11819-11825.	3.2	39
49	Nonlinear mechanical resonators for ultra-sensitive mass detection. Proceedings of SPIE, 2014, , .	0.8	1
50	Wicking Nanopillar Arrays with Dual Roughness for Selective Transport and Fluorescence Measurements. ACS Applied Materials & Interfaces, 2014, 6, 17894-17901.	4.0	18
51	Electrical conductivity of insulating polymer nanoscale layers: environmental effects. Physical Chemistry Chemical Physics, 2014, 16, 1977-1986.	1.3	13
52	Cavitation on Deterministically Nanostructured Surfaces in Contact with an Aqueous Phase: A Small-Angle Neutron Scattering Study. Langmuir, 2014, 30, 9985-9990.	1.6	10
53	Growth and Electrochemical Characterization of Carbon Nanospike Thin Film Electrodes. Journal of the Electrochemical Society, 2014, 161, H558-H563.	1.3	24
54	Asymmetric Wettability of Nanostructures Directs Leidenfrost Droplets. ACS Nano, 2014, 8, 860-867.	<b>7.</b> 3	72

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55	Mapping internal structure of coal by confocal micro-Raman spectroscopy and scanning microwave microscopy. Fuel, 2014, 126, 32-37.	3.4	34
56	Length scale of Leidenfrost ratchet switches droplet directionality. Nanoscale, 2014, 6, 9293-9299.	2.8	35
57	Pyroelectric Energy Scavenging Techniques for Self-Powered Nuclear Reactor Wireless Sensor Networks. Nuclear Technology, 2014, 188, 172-184.	0.7	10
58	A new approach for probing matter in periodic nanoconfinements using neutron scattering. Journal of Applied Crystallography, 2014, 47, 1367-1373.	1.9	4
59	Graphene Nucleation Density on Copper: Fundamental Role of Background Pressure. Journal of Physical Chemistry C, 2013, 117, 18919-18926.	1.5	179
60	Silicon Nanopillars As a Platform for Enhanced Fluorescence Analysis. Analytical Chemistry, 2013, 85, 9031-9038.	3.2	29
61	Bilayer self-assembly on a hydrophilic, deterministically nanopatterned surface. Nano Research, 2013, 6, 784-794.	5.8	3
62	Grafting density effects, optoelectrical properties and nano-patterning of poly(para-phenylene) brushes. Journal of Materials Chemistry A, 2013, 1, 13426.	5.2	5
63	Large scale atmospheric pressure chemical vapor deposition of graphene. Carbon, 2013, 54, 58-67.	<b>5.</b> 4	241
64	Highly Ordered Silicon Pillar Arrays As Platforms for Planar Chromatography. Analytical Chemistry, 2013, 85, 11802-11808.	3.2	21
65	Lithography-free approach to highly efficient, scalable SERS substrates based on disordered clusters of disc-on-pillar structures. Nanotechnology, 2013, 24, 505302.	1.3	22
66	Infrared microcalorimetric spectroscopy using quantum cascade lasers. Optics Letters, 2013, 38, 507.	1.7	5
67	Bi-material terahertz sensors using metamaterial structures. Optics Express, 2013, 21, 13256.	1.7	109
68	Scanning Nearâ€Field Microwave Microscopy of VO <sub>2</sub> and Chemical Vapor Deposition Graphene. Advanced Functional Materials, 2013, 23, 2635-2645.	7.8	24
69	Modeling, Fabrication, and Characterization of Disc on Pillar Structures for Optical Field Enhancement and Extreme Nanofocusing. , 2013, , .		0
70	Infrared imaging using arrays of SiO_2micromechanical detectors. Optics Letters, 2012, 37, 3966.	1.7	12
71	Surface enhanced Raman spectroscopy for microfluidic pillar arrayed separation chips. Analyst, The, 2012, 137, 1005-1012.	1.7	21
72	Using micro-electro-mechanical systems (MEMS) as small antennas. , 2012, , .		1

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73	Silicon Nanopillars for Field-Enhanced Surface Spectroscopy. ACS Nano, 2012, 6, 2948-2959.	7.3	<b>7</b> 5
74	Magnetically gated microelectrodes. Chemical Communications, 2012, 48, 1009-1011.	2.2	9
75	Strong terahertz absorption using SiO2/Al based metamaterial structures. Applied Physics Letters, 2012, 100, .	1.5	69
76	Near-field microwave scanning probe imaging of conductivity inhomogeneities in CVD graphene. Nanotechnology, 2012, 23, 385706.	1.3	51
77	Review of pyroelectric thermal energy harvesting and new MEMs-based resonant energy conversion techniques. Proceedings of SPIE, 2012, , .	0.8	26
78	Characterization of hydrogen responsive nanoporous palladium films synthesized via a spontaneous galvanic displacement reaction. Nanotechnology, 2012, 23, 465403.	1.3	7
79	Detection of electromagnetic waves using charged cantilevers. Applied Physics Letters, 2012, 100, 103108.	1.5	0
80	Surface-Enhanced Raman Scattering as an Emerging Characterization and Detection Technique. Journal of Nanotechnology, 2012, 2012, 1-15.	1.5	20
81	Surface-Enhanced Raman Scattering. Journal of Nanotechnology, 2012, 2012, 1-2.	1.5	1
82	Efficient disc on pillar substrates for surface enhanced Raman spectroscopy. Chemical Communications, 2011, 47, 3814.	2.2	19
83	Dispersion Characteristics in Disk-on-Pillar Array Nanostructures for Surface-Enhanced Raman Spectroscopy. Journal of Physical Chemistry C, 2011, 115, 13624-13629.	1.5	9
84	Nanotransfer Printing Using Plasma Etched Silicon Stamps and Mediated by in Situ Deposited Fluoropolymer. Journal of the American Chemical Society, 2011, 133, 7722-7724.	6.6	12
85	Electrical and thermal conductivity of low temperature CVD graphene: the effect of disorder. Nanotechnology, 2011, 22, 275716.	1.3	132
86	Graphene Bimetallic-like Cantilevers: Probing Graphene/Substrate Interactions. Nano Letters, 2011, 11, 4748-4752.	4.5	49
87	High-Performance Field-Effect Transistors Based on Polystyrene- <i>b</i> -Poly(3-hexylthiophene) Diblock Copolymers. ACS Nano, 2011, 5, 3559-3567.	7.3	122
88	Voltage-Gated Hydrophobic Nanopores. ACS Nano, 2011, 5, 7453-7461.	<b>7.</b> 3	105
89	Detection of electromagnetic waves using MEMS antennas. , 2011, , .		0
90	Nanotechnology and chip level systems for pressure driven liquid chromatography and emerging analytical separation techniques: A review. Analytica Chimica Acta, 2011, 694, 6-20.	2.6	56

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91	Development of MEMS based pyroelectric thermal energy harvesters. Proceedings of SPIE, 2011, , .	0.8	29
92	Singleâ€Pore Membranes Gated by Microelectromagnetic Traps. Advanced Materials, 2010, 22, 2759-2763.	11.1	12
93	Nanofabrication of Disc on Pillar Substrates for Surface Enhanced Raman Spectroscopy. , 2010, , .		0
94	Electromagnetic Micropores: Fabrication and Operation. Langmuir, 2010, 26, 19239-19244.	1.6	6
95	High-Aspect-Ratio, Silicon Oxide-Enclosed Pillar Structures in Microfluidic Liquid Chromatography. Analytical Chemistry, 2010, 82, 9549-9556.	3.2	39
96	Local Field Enhancement of Pillar Nanosurfaces for SERS. Journal of Physical Chemistry C, 2010, 114, 18096-18102.	1.5	19
97	Design and characterization of terahertz-absorbing nano-laminates of dielectric and metal thin films. Optics Express, 2010, 18, 14488.	1.7	27
98	Enclosed pillar arrays integrated on a fluidic platform for on-chip separations and analysis. Lab on A Chip, 2010, 10, 1086.	3.1	34
99	Cryogenic Etching of Silicon: An Alternative Method for Fabrication of Vertical Microcantilever Master Molds. Journal of Microelectromechanical Systems, 2010, 19, 64-74.	1.7	22
100	Sensor Science for National Security. NATO Science for Peace and Security Series C: Environmental Security, 2009, , 461-478.	0.1	0
101	Bimaterial Microcantilevers as a Hybrid Sensing Platform. Advanced Materials, 2008, 20, 653-680.	11.1	172
102	Arrays of SiO2 substrate-free micromechanical uncooled infrared and terahertz detectors. Journal of Applied Physics, 2008, 104, 054508.	1.1	37
103	Progress with MEMS based UGS (IR/THz). Proceedings of SPIE, 2008, , .	0.8	3
104	Uncooled MEMS IR imagers with optical readout and image processing. , 2007, , .		14
105	Microcantilever sensors with chemically selective coatings of ionic liquids. AICHE Journal, 2007, 53, 2726-2731.	1.8	3
106	Independent component analysis of nanomechanical responses of cantilever arrays. Analytica Chimica Acta, 2007, 584, 101-105.	2.6	31
107	Uncooled infrared imaging using bimaterial microcantilever arrays. Applied Physics Letters, 2006, 89, 073118.	1.5	69
108	Chemical Sensors Based on Funstionalized Microcantilever Arrays. , 2006, , .		1

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109	Uncooled infrared imaging using bimaterial microcantilever arrays. , 2006, , .		8
110	Mechanical structures feel the chill. Physics World, 2005, 18, 25-26.	0.0	0
111	Performance of uncooled microcantilever thermal detectors., 2005,,.		6
112	Nanofabrication of Densely Packed Metalâ€"Polymer Arrays for Surface-Enhanced Raman Spectrometry. Applied Spectroscopy, 2005, 59, 1501-1508.	1.2	85
113	Performance of uncooled microcantilever thermal detectors. Review of Scientific Instruments, 2004, 75, 1134-1148.	0.6	157
114	Cantilever transducers as a platform for chemical and biological sensors. Review of Scientific Instruments, 2004, 75, 2229-2253.	0.6	1,047
115	Nanomechanics weighs in. Physics World, 2004, 17, 19-20.	0.0	0
116	Micromechanical Sensors. Nanostructure Science and Technology, 2004, , 417-439.	0.1	2
117	Chemical and Biological Sensors Based on Microcantilevers. , 2004, , 331-379.		4
118	Response Signatures for Nanostructured, Optically-Probed, Functionalized Microcantilever Sensing Arrays. Sensor Letters, 2004, 2, 238-245.	0.4	17
119	Uncooled Infrared MEMS Detectors. , 2004, , 381-419.		2
120	Enhancing chemi-mechanical transduction in microcantilever chemical sensing by surface modification. Ultramicroscopy, 2003, 97, 417-424.	0.8	49
121	IR imaging using uncooled microcantilever detectors. Ultramicroscopy, 2003, 97, 451-458.	0.8	64
122	Detection and differentiation of biological species using microcalorimetric spectroscopy. Ultramicroscopy, 2003, 97, 459-465.	0.8	46
123	Characterization of volatile, hydrophobic cyclodextrin derivatives as thin films for sensor applications. Sensors and Actuators B: Chemical, 2003, 92, 171-180.	4.0	13
124	Detection of anthrax simulants with microcalorimetric spectroscopy: Bacillus subtilis and Bacillus cereus spores. Applied Optics, 2003, 42, 1757.	2.1	31
125	Studies of the Optical Properties of Metal-Pliable Polymer Composite Materials. Applied Spectroscopy, 2003, 57, 1346-1352.	1.2	30
126	Femtogram mass detection using photothermally actuated nanomechanical resonators. Applied Physics Letters, 2003, 82, 2697-2699.	1.5	294

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127	Enantioselective Sensors Based on Antibody-Mediated Nanomechanics. Analytical Chemistry, 2003, 75, 2342-2348.	3.2	89
128	Detection of Explosive Compounds with the Use of Microcantilevers with Nanoporous Coatings. Sensor Letters, 2003, 1, 25-32.	0.4	42
129	"Self-leveling―uncooled microcantilever thermal detector. Applied Physics Letters, 2002, 81, 1306-1308.	1.5	57
130	Nanostructured Microcantilevers with Functionalized Cyclodextrin Receptor Phases:Â Self-Assembled Monolayers and Vapor-Deposited Films. Analytical Chemistry, 2002, 74, 3118-3126.	3.2	64
131	Peer Reviewed: Microcantilever Transducers: A new Approach in Sensor Technology. Analytical Chemistry, 2002, 74, 568 A-575 A.	3.2	169
132	Chemical detection based on adsorption-induced and photoinduced stresses in microelectromechanical systems devices. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 1173.	1.6	59
133	Enhanced chemi-mechanical transduction at nanostructured interfaces. Chemical Physics Letters, 2001, 336, 371-376.	1.2	70
134	Gold Nano-Structures for Transduction of Biomolecular Interactions into Micrometer Scale Movements. Biomedical Microdevices, 2001, 3, 35-44.	1.4	95
135	Photomechanical chemical microsensors. Sensors and Actuators B: Chemical, 2001, 76, 393-402.	4.0	51
136	Surface-enhanced resonance Raman scattering of adsorbates under liquid nitrogen. Chemical Physics Letters, 2001, 339, 167-173.	1.2	21
137	<title>Sensing and actuating functionality of hybrid MEMS combining enhanced chemi-mechanical transduction with surface-enhanced Raman spectroscopy</title> ., 2001, , .		5
138	Hybrid Nanostructured Microcantilevers for Enhanced Chemimechanical Transduction and Surface Enhanced Raman Spectrocopy., 2001,, 450-452.		0
139	Optical and Direct Force Measurements of the Interactions between Monolayers of Aromatic Macrocycles on Surfactant Monolayers. Langmuir, 2000, 16, 1842-1851.	1.6	23
140	Effect of the Microenvironment on the Recognition of Immobilized Cytochromes by Soluble Redox Proteins. Langmuir, 2000, 16, 3414-3421.	1.6	12
141	Direct molecular force measurements of multiple adhesive interactions between cadherin ectodomains. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 11820-11824.	3.3	160
142	Hydrogen peroxide – sensitive enzyme sensor based on phthalocyanine thin film. Analytica Chimica Acta, 1999, 391, 289-297.	2.6	48
143	Formation and Optical Absorption of Clusters of the p-tert-butylcalix[8]arene:C60 Complex. Journal of Inclusion Phenomena and Macrocyclic Chemistry, 1999, 35, 85-91.	1.6	5
144	Suppression of conductivity in polyaniline films in presence of pentadecyl-tetracyanoquinodimethane. Synthetic Metals, 1999, 98, 173-175.	2.1	5

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145	An approach to conductometric immunosensor based on phthalocyanine thin film. Biosensors and Bioelectronics, 1998, 13, 359-369.	5.3	25
146	Towards the D1 Protein Application for the Development of Sensors Specific for Herbicides. Analytical Letters, 1998, 31, 2577-2589.	1.0	12
147	<title>Factors affecting nonspecific interaction of BSA with solid surfaces: an SPR study</title> ., 1998, 3199, 197.		1
148	Structure and electronic properties of Langmuir-Blodgett films of calixarene/fullerene composites. Supramolecular Science, 1997, 4, 341-347.	0.7	21
149	Protonation and charge transfer in polyaniline: an optical absorption study of the mixed solutions. Synthetic Metals, 1997, 90, 1-4.	2.1	24
150	Composite polyaniline/calixarene Langmuir - Blodgett films for gas sensing. Nanotechnology, 1996, 7, 315-319.	1.3	42
151	Polyaniline label-based conductometric sensor for IgG detection. Sensors and Actuators B: Chemical, 1996, 34, 283-288.	4.0	72
152	Complexing properties of calix[4]resorcinolarene LB films. Thin Solid Films, 1995, 259, 244-247.	0.8	44
153	Nitrogen oxide gas sensor based on tetra-tertbutyl copper phthalocyanine Langmuir-Blodgett filmsâ€. International Journal of Electronics, 1995, 78, 129-133.	0.9	14
154	Sensors for low-weight organic molecules based on molecular imprinting technique. Sensors and Actuators B: Chemical, 1994, 19, 629-631.	4.0	77
155	Template sensors for low weight organic molecules based on SiO2 surfaces. Sensors and Actuators B: Chemical, 1993, 14, 708-710.	4.0	14