

# Cao Guan

## List of Publications by Year in descending order

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107  
papers

15,289  
citations

17405

63  
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26548

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108  
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108  
docs citations

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times ranked

14933  
citing authors

#	ARTICLE	IF	CITATIONS
1	Rational Design of Metal-Organic Framework Derived Hollow NiCo <sub>2</sub> O <sub>4</sub> Arrays for Flexible Supercapacitor and Electrocatalysis. <i>Advanced Energy Materials</i> , 2017, 7, 1602391.	10.2	874
2	Hollow Mo-doped CoP nanoarrays for efficient overall water splitting. <i>Nano Energy</i> , 2018, 48, 73-80.	8.2	608
3	A Flexible Quasi-Solid-State Nickel-Zinc Battery with High Energy and Power Densities Based on 3D Electrode Design. <i>Advanced Materials</i> , 2016, 28, 8732-8739.	11.1	479
4	Ultrathin MoS <sub>2</sub> Nanosheets@Metal Organic Framework-Derived N-Doped Carbon Nanowall Arrays as Sodium Ion Battery Anode with Superior Cycling Life and Rate Capability. <i>Advanced Functional Materials</i> , 2017, 27, 1702116.	7.8	447
5	Iron Oxide-Decorated Carbon for Supercapacitor Anodes with Ultrahigh Energy Density and Outstanding Cycling Stability. <i>ACS Nano</i> , 2015, 9, 5198-5207.	7.3	441
6	A New Type of Porous Graphite Foams and Their Integrated Composites with Oxide/Polymer Core/Shell Nanowires for Supercapacitors: Structural Design, Fabrication, and Full Supercapacitor Demonstrations. <i>Nano Letters</i> , 2014, 14, 1651-1658.	4.5	428
7	Synthesis of Free-Standing Metal Sulfide Nanoarrays via Anion Exchange Reaction and Their Electrochemical Energy Storage Application. <i>Small</i> , 2014, 10, 766-773.	5.2	413
8	Hollow Co <sub>3</sub> O <sub>4</sub> Nanosphere Embedded in Carbon Arrays for Stable and Flexible Solid-State Zinc-Air Batteries. <i>Advanced Materials</i> , 2017, 29, 1704117.	11.1	407
9	Hybrid structure of cobalt monoxide nanowire @ nickel hydroxide/nickel nitrate nanoflake aligned on nickel foam for high-rate supercapacitor. <i>Energy and Environmental Science</i> , 2011, 4, 4496.	15.6	386
10	Single Co Atoms Anchored in Porous N-Doped Carbon for Efficient Zinc-Air Battery Cathodes. <i>ACS Catalysis</i> , 2018, 8, 8961-8969.	5.5	364
11	Solution synthesis of metal oxides for electrochemical energy storage applications. <i>Nanoscale</i> , 2014, 6, 5008-5048.	2.8	363
12	Metal Phosphides and Phosphates-Based Electrodes for Electrochemical Supercapacitors. <i>Small</i> , 2017, 13, 1701530.	5.2	318
13	Rationally Designed Hierarchical TiO <sub>2</sub> @Fe <sub>2</sub> O <sub>3</sub> Hollow Nanostructures for Improved Lithium Ion Storage. <i>Advanced Energy Materials</i> , 2013, 3, 737-743.	10.2	296
14	Cactus-Like NiCoP/NiCo(OH) 3D Architecture with Tunable Composition for High-Performance Electrochemical Capacitors. <i>Advanced Functional Materials</i> , 2018, 28, 1800036.	7.8	274
15	Sulfur-doped cobalt phosphide nanotube arrays for highly stable hybrid supercapacitor. <i>Nano Energy</i> , 2017, 39, 162-171.	8.2	273
16	Highly Stable and Reversible Lithium Storage in SnO <sub>2</sub> Nanowires Surface Coated with a Uniform Hollow Shell by Atomic Layer Deposition. <i>Nano Letters</i> , 2014, 14, 4852-4858.	4.5	269
17	High-Performance Flexible Solid-State Ni/Fe Battery Consisting of Metal Oxides Coated Carbon Cloth/Carbon Nanofiber Electrodes. <i>Advanced Energy Materials</i> , 2016, 6, 1601034.	10.2	262
18	A High Energy and Power Li-Ion Capacitor Based on a TiO <sub>2</sub> Nanobelt Array Anode and a Graphene Hydrogel Cathode. <i>Small</i> , 2015, 11, 1470-1477.	5.2	256

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19	A general strategy toward graphene@metal oxide core-shell nanostructures for high-performance lithium storage. <i>Energy and Environmental Science</i> , 2011, 4, 4954.	15.6	255
20	Metal-organic framework derived hollow Co <sub>2</sub> nanotube arrays: an efficient bifunctional electrocatalyst for overall water splitting. <i>Nanoscale Horizons</i> , 2017, 2, 342-348.	4.1	247
21	Decorating Co/CoN <sub>x</sub> nanoparticles in nitrogen-doped carbon nanoarrays for flexible and rechargeable zinc-air batteries. <i>Energy Storage Materials</i> , 2019, 16, 243-250.	9.5	244
22	Nanoporous Walls on Macroporous Foam: Rational Design of Electrodes to Push Areal Pseudocapacitance. <i>Advanced Materials</i> , 2012, 24, 4186-4190.	11.1	239
23	MOF-derived nanohybrids for electrocatalysis and energy storage: current status and perspectives. <i>Chemical Communications</i> , 2018, 54, 5268-5288.	2.2	237
24	Cobalt oxide and N-doped carbon nanosheets derived from a single two-dimensional metal-organic framework precursor and their application in flexible asymmetric supercapacitors. <i>Nanoscale Horizons</i> , 2017, 2, 99-105.	4.1	227
25	Rational Design of Self-Supported Ni <sub>3</sub> S <sub>2</sub> Nanosheets Array for Advanced Asymmetric Supercapacitor with a Superior Energy Density. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 496-504.	4.0	216
26	Surface-Charge-Mediated Formation of H <sub>2</sub> TiO <sub>2</sub> @Ni(OH) <sub>2</sub> Heterostructures for High-Performance Supercapacitors. <i>Advanced Materials</i> , 2017, 29, 1604164.	11.1	203
27	(Ni,Co)Se <sub>2</sub> /NiCo-LDH Core/Shell Structural Electrode with the Cactus-Like (Ni,Co)Se <sub>2</sub> Core for Asymmetric Supercapacitors. <i>Small</i> , 2019, 15, e1803895.	5.2	203
28	Hierarchical Micro-Nano Sheet Arrays of Nickel-Cobalt Double Hydroxides for High-Rate Ni-Zn Batteries. <i>Advanced Science</i> , 2019, 6, 1802002.	5.6	202
29	Porous Hydroxide Nanosheets on Preformed Nanowires by Electrodeposition: Branched Nanoarrays for Electrochemical Energy Storage. <i>Chemistry of Materials</i> , 2012, 24, 3793-3799.	3.2	201
30	Controllable MnCo <sub>2</sub> S <sub>4</sub> nanostructures for high performance hybrid supercapacitors. <i>Journal of Materials Chemistry A</i> , 2017, 5, 7494-7506.	5.2	198
31	3D-Printed MOF-Derived Hierarchically Porous Frameworks for Practical High-Energy Density Li-O <sub>2</sub> Batteries. <i>Advanced Functional Materials</i> , 2019, 29, 1806658.	7.8	197
32	Regulating Dendrite-Free Zinc Deposition by 3D Zincophilic Nitrogen-Doped Vertical Graphene for High-Performance Flexible Zn-Ion Batteries. <i>Advanced Functional Materials</i> , 2021, 31, 2103922.	7.8	194
33	Integrated Hierarchical Carbon Flake Arrays with Hollow P-Doped CoS <sub>2</sub> Nanoclusters as an Advanced Bifunctional Catalyst for Zn-Air Batteries. <i>Advanced Functional Materials</i> , 2018, 28, 1804846.	7.8	192
34	Hollow core-shell nanostructure supercapacitor electrodes: gap matters. <i>Energy and Environmental Science</i> , 2012, 5, 9085.	15.6	184
35	Ni-Doped Cobalt-Cobalt Nitride Heterostructure Arrays for High-Power Supercapacitors. <i>ACS Energy Letters</i> , 2018, 3, 2462-2469.	8.8	182
36	N-doped porous carbon nanoplates embedded with CoS <sub>2</sub> vertically anchored on carbon cloths for flexible and ultrahigh microwave absorption. <i>Carbon</i> , 2020, 163, 348-359.	5.4	173

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37	Rational Construction of Hollow Core-Branch $\text{CoSe}_2$ Nanoarrays for High-Performance Asymmetric Supercapacitor and Efficient Oxygen Evolution. <i>Small</i> , 2018, 14, 1700979.	5.2	172
38	Heterojunction engineering of $\text{MoSe}_2/\text{MoS}_2$ with electronic modulation towards synergetic hydrogen evolution reaction and supercapacitance performance. <i>Chemical Engineering Journal</i> , 2019, 359, 1419-1426.	6.6	160
39	Recent developments of advanced micro-supercapacitors: design, fabrication and applications. <i>Npj Flexible Electronics</i> , 2020, 4, .	5.1	147
40	Flexible Asymmetric Supercapacitor Based on Structure-Optimized $\text{Mn}_3\text{O}_4/\text{Reduced Graphene Oxide}$ Nanohybrid Paper with High Energy and Power Density. <i>Advanced Functional Materials</i> , 2015, 25, 7291-7299.	7.8	146
41	MOF-Derived Bifunctional $\text{Co}_{0.85}\text{Se}$ Nanoparticles Embedded in N-Doped Carbon Nanosheet Arrays as Efficient Sulfur Hosts for Lithium-Sulfur Batteries. <i>Nano Letters</i> , 2021, 21, 8579-8586.	4.5	143
42	Synthesis of amorphous hydroxyl-rich $\text{Co}_3\text{O}_4$ for flexible high-rate supercapacitor. <i>Chemical Engineering Journal</i> , 2020, 396, 125364.	6.6	124
43	Conformal dispersed cobalt nanoparticles in hollow carbon nanotube arrays for flexible Zn-air and Al-air batteries. <i>Chemical Engineering Journal</i> , 2019, 369, 988-995.	6.6	121
44	Uncovering loss mechanisms in silver nanoparticle-blended plasmonic organic solar cells. <i>Nature Communications</i> , 2013, 4, 2004.	5.8	118
45	Energy-Saving Synthesis of MOF-Derived Hierarchical and Hollow $\text{Co}(\text{VO}_3)_2\text{-Co}(\text{OH})_2$ Composite Leaf Arrays for Supercapacitor Electrode Materials. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 18440-18444.	4.0	107
46	Conformally deposited NiO on a hierarchical carbon support for high-power and durable asymmetric supercapacitors. <i>Journal of Materials Chemistry A</i> , 2015, 3, 23283-23288.	5.2	103
47	Three Dimensionally Free-Formable Graphene Foam with Designed Structures for Energy and Environmental Applications. <i>ACS Nano</i> , 2020, 14, 937-947.	7.3	101
48	Hybrid $\text{Fe}_2\text{O}_3$ Nanoparticle Clusters/rGO Paper as an Effective Negative Electrode for Flexible Supercapacitors. <i>Chemistry of Materials</i> , 2016, 28, 7296-7303.	3.2	95
49	Recent Advances on Self-Supported Arrayed Bifunctional Oxygen Electrocatalysts for Flexible Solid-State Zn-Air Batteries. <i>Small</i> , 2020, 16, e2002902.	5.2	95
50	Recent Development of Advanced Electrode Materials by Atomic Layer Deposition for Electrochemical Energy Storage. <i>Advanced Science</i> , 2016, 3, 1500405.	5.6	93
51	Integrated photoelectrochemical energy storage: solar hydrogen generation and supercapacitor. <i>Scientific Reports</i> , 2012, 2, 981.	1.6	85
52	Enlarged Interlayer Spacing in Cobalt-Manganese Layered Double Hydroxide Guiding Transformation to Layered Structure for High Supercapacitance. <i>ACS Applied Materials &amp; Interfaces</i> , 2019, 11, 23236-23243.	4.0	85
53	Atomic layer deposition of $\text{Co}_3\text{O}_4$ on carbon nanotubes/carbon cloth for high-capacitance and ultrastable supercapacitor electrode. <i>Nanotechnology</i> , 2015, 26, 094001.	1.3	84
54	3D-Printed highly stretchable conducting polymer electrodes for flexible supercapacitors. <i>Journal of Materials Chemistry A</i> , 2021, 9, 19649-19658.	5.2	84

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55	3D Graphene-Nickel Hydroxide Hydrogel Electrode for High-Performance Supercapacitor. <i>Electrochimica Acta</i> , 2016, 196, 653-660.	2.6	83
56	Ultrafine Molybdenum Carbide Nanocrystals Confined in Carbon Foams via a Colloid Confinement Route for Efficient Hydrogen Production. <i>Small Methods</i> , 2018, 2, 1700396.	4.6	83
57	Composition-Graded Zn <sub>1-x</sub> Cd <sub>x</sub> Se@ZnO Core-Shell Nanowire Array Electrodes for Photoelectrochemical Hydrogen Generation. <i>Journal of Physical Chemistry C</i> , 2012, 116, 3802-3807.	1.5	81
58	2D Metal-Organic Frameworks Derived Nanocarbon Arrays for Substrate Enhancement in Flexible Supercapacitors. <i>Small</i> , 2018, 14, e1702641.	5.2	80
59	Hierarchically porous three-dimensional electrodes of CoMoO <sub>4</sub> and ZnCo <sub>2</sub> O <sub>4</sub> and their high anode performance for lithium ion batteries. <i>Nanoscale</i> , 2014, 6, 10556.	2.8	77
60	Metal-organic framework-derived integrated nanoarrays for overall water splitting. <i>Journal of Materials Chemistry A</i> , 2018, 6, 9009-9018.	5.2	74
61	Single-Atom Tungsten-Doped CoP Nanoarrays as a High-Efficiency pH-Universal Catalyst for Hydrogen Evolution Reaction. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 14825-14832.	3.2	73
62	Nanoflakes of Ni-Co LDH and Bi <sub>2</sub> O <sub>3</sub> Assembled in 3D Carbon Fiber Network for High-Performance Aqueous Rechargeable Ni/Bi Battery. <i>ACS Applied Materials &amp; Interfaces</i> , 2017, 9, 26008-26015.	4.0	71
63	3D TiO <sub>2</sub> @Ni(OH) <sub>2</sub> Core-shell Arrays with Tunable Nanostructure for Hybrid Supercapacitor Application. <i>Scientific Reports</i> , 2015, 5, 13940.	1.6	68
64	Strain rate shift for constitutive behaviour of sintered silver nanoparticles under nanoindentation. <i>Mechanics of Materials</i> , 2021, 158, 103881.	1.7	67
65	Highly stable and flexible Li-ion battery anodes based on TiO <sub>2</sub> coated 3D carbon nanostructures. <i>Journal of Materials Chemistry A</i> , 2015, 3, 15394-15398.	5.2	65
66	Rational Construction of a WS <sub>2</sub> /CoS <sub>2</sub> Heterostructure Electrocatalyst for Efficient Hydrogen Evolution at All pH Values. <i>ACS Sustainable Chemistry and Engineering</i> , 2020, 8, 4474-4480.	3.2	63
67	Facile Activation of Commercial Carbon Felt as a Low-Cost Free-Standing Electrode for Flexible Supercapacitors. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 42503-42512.	4.0	62
68	Energy-level engineered hollow N-doped NiS <sub>1.03</sub> for Zn-Air batteries. <i>Energy Storage Materials</i> , 2020, 25, 202-209.	9.5	62
69	Bamboo-derived porous carbons for Zn-ion hybrid supercapacitors. <i>Materials Research Bulletin</i> , 2021, 139, 111281.	2.7	62
70	Atomic Layer Deposition-Assisted Formation of Carbon Nanoflakes on Metal Oxides and Energy Storage Application. <i>Small</i> , 2014, 10, 300-307.	5.2	60
71	Co/Zn bimetallic oxides derived from metal organic frameworks for high performance electrochemical energy storage. <i>Electrochimica Acta</i> , 2018, 291, 177-187.	2.6	60
72	MOF-Derived Vertically Aligned Mesoporous Co <sub>3</sub> O <sub>4</sub> Nanowires for Ultrahigh Capacity Lithium-Ion Batteries Anodes. <i>Advanced Materials Interfaces</i> , 2018, 5, 1800222.	1.9	58

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73	Electrospun Nanofibers for New Generation Flexible Energy Storage. <i>Energy and Environmental Materials</i> , 2021, 4, 502-521.	7.3	57
74	PtCo bimetallic nanoparticles encapsulated in N-doped carbon nanorod arrays for efficient electrocatalysis. <i>Carbon</i> , 2019, 142, 206-216.	5.4	56
75	A novel hollowed CoO-in-CoSnO <sub>3</sub> nanostructure with enhanced lithium storage capabilities. <i>Nanoscale</i> , 2014, 6, 13824-13830.	2.8	52
76	Pt decorated 3D vertical graphene nanosheet arrays for efficient methanol oxidation and hydrogen evolution reactions. <i>Journal of Materials Chemistry A</i> , 2017, 5, 22004-22011.	5.2	49
77	Mesoporous aluminium manganese cobalt oxide with pentahedron structures for energy storage devices. <i>Journal of Materials Chemistry A</i> , 2019, 7, 18417-18427.	5.2	49
78	Recent progress on hollow array architectures and their applications in electrochemical energy storage. <i>Nanoscale Horizons</i> , 2020, 5, 1188-1199.	4.1	48
79	All-solid-state sponge-like squeezable zinc-air battery. <i>Energy Storage Materials</i> , 2019, 23, 375-382.	9.5	47
80	Microwave assisted hydrothermal synthesis of nanocrystal $\text{Ni}(\text{OH})_2$ for supercapacitor applications. <i>CrystEngComm</i> , 2016, 18, 3256-3264.	1.3	42
81	Open hollow CoPt clusters embedded in carbon nanoflake arrays for highly efficient alkaline water splitting. <i>Journal of Materials Chemistry A</i> , 2018, 6, 20214-20223.	5.2	42
82	Fabrication of 3D-Printed Ceramic Structures for Portable Solar Desalination Devices. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 23220-23229.	4.0	42
83	3D hierarchical SnO <sub>2</sub> @Ni(OH) <sub>2</sub> core-shell nanowire arrays on carbon cloth for energy storage application. <i>Journal of Materials Chemistry A</i> , 2015, 3, 9538-9542.	5.2	33
84	Rational design of iron single atom anchored on nitrogen doped carbon as a high-performance electrocatalyst for all-solid-state flexible zinc-air batteries. <i>Chemical Engineering Journal</i> , 2021, 405, 125956.	6.6	33
85	3D printing-assisted gyroidal graphite foam for advanced supercapacitors. <i>Chemical Engineering Journal</i> , 2021, 416, 127885.	6.6	32
86	Ultrafast-charging quasi-solid-state fiber-shaped zinc-ion hybrid supercapacitors with superior flexibility. <i>Journal of Materials Chemistry A</i> , 2021, 9, 17292-17299.	5.2	31
87	Confined Fe <sub>2</sub> O <sub>3</sub> Nanoparticles on Graphite Foam as High-Rate and Stable Lithium-Ion Battery Anode. <i>Particle and Particle Systems Characterization</i> , 2016, 33, 487-492.	1.2	29
88	Vanadium metal-organic framework-derived multifunctional fibers for asymmetric supercapacitor, piezoresistive sensor, and electrochemical water splitting. <i>SmartMat</i> , 2022, 3, 608-618.	6.4	29
89	Iron Oxide Nanoneedles Anchored on N-Doped Carbon Nanoarrays as an Electrode for High-Performance Hybrid Supercapacitor. <i>ACS Applied Energy Materials</i> , 2020, 3, 12162-12171.	2.5	28
90	The Atomic Circus: Small Electron Beams Spotlight Advanced Materials Down to the Atomic Scale. <i>Advanced Materials</i> , 2018, 30, e1802402.	11.1	27

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91	Robust, High-Density Zinc Oxide Nanoarrays by Nanoimprint Lithography-Assisted Area-Selective Atomic Layer Deposition. <i>Journal of Physical Chemistry C</i> , 2012, 116, 23729-23734.	1.5	26
92	Carbon Nanoarrays Embedded with Metal Compounds for High-Performance Flexible Supercapacitors. <i>Batteries and Supercaps</i> , 2020, 3, 93-100.	2.4	25
93	3D Printing of Next-Generation Electrochemical Energy Storage Devices: from Multiscale to Multimaterial. <i>Energy and Environmental Materials</i> , 2022, 5, 427-438.	7.3	25
94	Space-confinement and chemisorption co-involved in encapsulation of sulfur for lithium-sulfur batteries with exceptional cycling stability. <i>Journal of Materials Chemistry A</i> , 2017, 5, 24602-24611.	5.2	24
95	Structure-Enhanced Mechanically Robust Graphite Foam with Ultrahigh MnO <sub>2</sub> Loading for Supercapacitors. <i>Research</i> , 2020, 2020, 7304767.	2.8	24
96	SnS <sub>2</sub> nanosheets arrays sandwiched by N-doped carbon and TiO <sub>2</sub> for high-performance Na-ion storage. <i>Green Energy and Environment</i> , 2018, 3, 42-49.	4.7	22
97	Atomic-layer-deposition alumina induced carbon on porous Ni <sub>x</sub> Co <sub>1-x</sub> O nanonets for enhanced pseudocapacitive and Li-ion storage performance. <i>Nanotechnology</i> , 2015, 26, 014001.	1.3	21
98	In-situ formation of isolated iron sites coordinated on nitrogen-doped carbon coated carbon cloth as self-supporting electrode for flexible aluminum-air battery. <i>Chemical Engineering Journal</i> , 2021, 421, 129973.	6.6	21
99	Amorphous FeOOH Decorated CoSe <sub>2</sub> Nanorod Heterostructured Arrays for Efficient Water Oxidation. <i>Advanced Materials Interfaces</i> , 2021, 8, .	1.9	20
100	Phospho-oxynitride Layer Protected Cobalt Phosphonitride Nanowire Arrays for High-Rate and Stable Supercapacitors. <i>ACS Applied Energy Materials</i> , 2019, 2, 616-626.	2.5	16
101	Recent advances in architecture design of nanoarrays for flexible solid-state aqueous batteries. <i>Nano Futures</i> , 2020, 4, 032002.	1.0	15
102	Polypyrrole nanowires coated with a hollow shell for enhanced electrochemical performance. <i>Materials Research Bulletin</i> , 2018, 100, 116-119.	2.7	14
103	Bifunctional oxygen evolution and supercapacitor electrode with integrated architecture of NiFe-layered double hydroxides and hierarchical carbon framework. <i>Nanotechnology</i> , 2019, 30, 325402.	1.3	14
104	Additive manufacturing solidification methodologies for ink formulation. <i>Additive Manufacturing</i> , 2022, 56, 102939.	1.7	13
105	Hybrid CoO Nanowires Coated with Uniform Polypyrrole Nanolayers for High-Performance Energy Storage Devices. <i>Nanomaterials</i> , 2019, 9, 586.	1.9	12
106	Manipulating room-temperature phosphorescence via lone-pair electrons and empty-orbital arrangements and hydrogen bond adjustment. <i>Journal of Materials Chemistry C</i> , 2022, 10, 8854-8859.	2.7	5
107	Charge Moment Tensor and its Application to a Rotational Charged Rigid Body in a Uniform Magnetic Field. <i>Journal of Electromagnetic Waves and Applications</i> , 2008, 22, 2179-2190.	1.0	2