Hirotomo Nishihara

List of Publications by Year
in descending order

138 papers	6,758 citations	71102 41 h-index	64796 79 g-index
150 all docs	150 docs citations	150 times ranked	7249 citing authors

#	Article	IF	Citations
1	Templated Nanocarbons for Energy Storage. Advanced Materials, 2012, 24, 4473-4498.	21.0	672
2	Towards ultrahigh volumetric capacitance: graphene derived highly dense but porous carbons for supercapacitors. Scientific Reports, 2013, 3, 2975.	3.3	541
3	Production of Colored Pigments with Amorphous Arrays of Black and White Colloidal Particles. Angewandte Chemie - International Edition, 2013, 52, 7261-7265.	13.8	262
4	Three-Dimensionally Arrayed and Mutually Connected 1.2-nm Nanopores for High-Performance Electric Double Layer Capacitor. Journal of the American Chemical Society, 2011, 133, 1165-1167.	13.7	260
5	A possible buckybowl-like structure of zeolite templated carbon. Carbon, 2009, 47, 1220-1230.	10.3	243
6	Ordered Macroporous Silica by Ice Templating. Chemistry of Materials, 2005, 17, 683-689.	6.7	221
7	Enhancement Mechanism of Electrochemical Capacitance in Nitrogen-/Boron-Doped Carbons with Uniform Straight Nanochannels. Langmuir, 2009, 25, 11961-11968.	3.5	195
8	High-Pressure Hydrogen Storage in Zeolite-Templated Carbon. Journal of Physical Chemistry C, 2009, 113, 3189-3196.	3.1	181
9	Formation of monolithic silica gel microhoneycombs (SMHs) using pseudosteady state growth of microstructural ice crystals. Chemical Communications, 2004, , 874.	4.1	172
10	Zeolite-templated carbons â€“ three-dimensional microporous graphene frameworks. Chemical Communications, 2018, 54, 5648-5673.	4.1	172
11	Investigation of the Ion Storage/Transfer Behavior in an Electrical Doubleâ€Layer Capacitor by Using Ordered Microporous Carbons as Model Materials. Chemistry - A European Journal, 2009, 15, 5355-5363.	3.3	155
12	4.4 V supercapacitors based on super-stable mesoporous carbon sheet made of edge-free graphene walls. Energy and Environmental Science, 2019, 12, 1542-1549.	30.8	154
13	Cellulose Nanofiber as a Distinct Structure-Directing Agent for Xylem-like Microhoneycomb Monoliths by Unidirectional Freeze-Drying. ACS Nano, 2016, 10, 10689-10697.	14.6	115
14	Oxidationâ€Resistant and Elastic Mesoporous Carbon with Singleâ€Layer Graphene Walls. Advanced Functional Materials, 2016, 26, 6418-6427.	14.9	102
15	Lamellar MXene Composite Aerogels with Sandwiched Carbon Nanotubes Enable Stable Lithiumâ€“Sulfur Batteries with a High Sulfur Loading. Advanced Functional Materials, 2021, 31, 2100793.	14.9	95
16	Preparation of Porous TiO2Cryogel Fibers through Unidirectional Freezing of Hydrogel Followed by Freeze-Drying. Chemistry of Materials, 2004, 16, 4987-4991.	6.7	89
17	Ultraporous nitrogen-doped zeolite-templated carbon for high power density aqueous-based supercapacitors. Carbon, 2018, 129, 510-519.	10.3	79
18	Large Pseudocapacitance in Quinone-Functionalized Zeolite-Templated Carbon. Bulletin of the Chemical Society of Japan, 2014, 87, 250-257.	3.2	78

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19	Effect of Buffer Size around Nanosilicon Anode Particles for Lithium-Ion Batteries. Journal of Physical Chemistry C, 2012, 116, 6004-6011.	3.1	77
20	Preparation of resorcinolâ€"formaldehyde carbon cryogel microhoneycombs. Carbon, 2004, 42, 899-901.	10.3	76
21	Enhanced electro-oxidation resistance of carbon electrodes induced by phosphorus surface groups. Carbon, 2015, 95, 681-689.	10.3	76
22	A Directional Strain Sensor Based on Anisotropic Microhoneycomb Cellulose Nanofiberâ€Carbon Nanotube Hybrid Aerogels Prepared by Unidirectional Freeze Drying. Small, 2019, 15, e1805363.	10.0	73
23	Carbon-coated mesoporous silica with hydrophobicity and electrical conductivity. Carbon, 2008, 46, 48-53.	10.3	70
24	Graphene-based ordered framework with a diverse range of carbon polygons formed in zeolite nanochannels. Carbon, 2018, 129, 854-862.	10.3	70
25	Porous properties of silica gels with controlled morphology synthesized by unidirectional freeze-gelation. Microporous and Mesoporous Materials, 2003, 63, 43-51.	4.4	68
26	Formation of crosslinked-fullerene-like framework as negative replica of zeolite Y. Carbon, 2013, 62, 455-464.	10.3	66
27	Electrochemical generation of oxygen-containing groups in an ordered microporous zeolite-templated carbon. Carbon, 2013, 54, 94-104.	10.3	62
28	Insight into the origin of carbon corrosion in positive electrodes of supercapacitors. Journal of Materials Chemistry A, 2019, 7, 7480-7488.	10.3	62
29	Porous Carbon Fibers Containing Pores with Sizes Controlled at the Ã…ngstrom Level by the Cavity Size of Pillar[6]arene. Angewandte Chemie - International Edition, 2015, 54, 6466-6469.	13.8	60
30	Synthesis of ordered carbonaceous frameworks from organic crystals. Nature Communications, 2017, 8, 109.	12.8	60
31	Fast and reversible lithium storage in a wrinkled structure formed from Si nanoparticles during lithiation/delithiation cycling. Journal of Power Sources, 2013, 222, 400-409.	7.8	59
32	Preparation of monolithic SiO2â€"Al2O3cryogels with inter-connected macropores through ice templating. Journal of Materials Chemistry, 2006, 16, 3231-3236.	6.7	58
33	Morphology of resorcinolâ€"formaldehyde gels obtained through ice-templating. Carbon, 2005, 43, 1563-1565.	10.3	55
34	Li-Rich Li-Si Alloy As A Lithium-Containing Negative Electrode Material Towards High Energy Lithium-Ion Batteries. Scientific Reports, 2015, 5, 8085.	3.3	53
35	An organic proton battery employing two redox-active quinones trapped within the nanochannels of zeolite-templated carbon. Carbon, 2016, 107, 831-836.	10.3	52
36	Densification of ordered microporous carbons and controlling their micropore size by hot-pressing. Carbon, 2007, 45, 2011-2016.	10.3	51

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37	General Relationship between Hydrogen Adsorption Capacities at 77 and 298 K and Pore Characteristics of the Porous Adsorbents. Journal of Physical Chemistry C, 2012, 116, 10529-10540.	3.1	50
38	Preparation of mesoporous carbon gels from an inexpensive combination of phenol and formaldehyde. Carbon, 2005, 43, 2628-2630.	10.3	47
39	Force-driven reversible liquidâ€“gas phase transition mediated by elastic nanosponges. Nature Communications, 2019, 10, 2559.	12.8	46
40	Synthesis of silica-based porous monoliths with straight nanochannels using an ice-rod nanoarray as a template. Journal of Materials Chemistry, 2008, 18, 3662.	6.7	45
41	Effect of Heteroatoms in Ordered Microporous Carbons on Their Electrochemical Capacitance. Langmuir, 2016, 32, 11997-12004.	3.5	45
42	Preparation of resorcinol formaldehyde (RF) carbon gels: Use of ultrasonic irradiation followed by microwave drying. Journal of Non-Crystalline Solids, 2006, 352, 5683-5686.	3.1	42
43	Morphology maps of ice-templated silica gels derived from silica hydrogels and hydrosols. Microporous and Mesoporous Materials, 2008, 116, 166-170.	4.4	42
44	Synthesis of graphene mesosponge <i>via</i> catalytic methane decomposition on magnesium oxide. Journal of Materials Chemistry A, 2021, 9, 14296-14308.	10.3	42
45	Pseudocapacitance of zeolite-templated carbon in organic electrolytes. Energy Storage Materials, 2015, 1, 35-41.	18.0	41
46	Beads-Milling of Waste Si Sawdust into High-Performance Nanoflakes for Lithium-Ion Batteries. Scientific Reports, 2017, 7, 42734.	3.3	39
47	A Nacreâ€Like Carbon Nanotube Sheet for High Performance Liâ€Polysulfide Batteries with High Sulfur Loading. Advanced Science, 2018, 5, 1800384.	11.2	39
48	Improvement of mesoporosity of carbon cryogels by ultrasonic irradiation. Carbon, 2005, 43, 525-531.	10.3	37
49	Adsorption and diffusion of atomic hydrogen on a curved surface of microporous carbon: A theoretical study. Chemical Physics Letters, 2010, 495, 251-255.	2.6	37
50	Fine Dispersion of Pt_{4â€“5} Subnanoclusters and Pt Single Atoms over Porous Carbon Supports and Their Structural Analyses with X-ray Absorption Spectroscopy. Journal of Physical Chemistry C, 2017, 121, 7892-7902.	3.1	36
51	Remarkable performance improvement of inexpensive ball-milled Si nanoparticles by carbon-coating for Li-ion batteries. Journal of Power Sources, 2016, 319, 99-103.	7.8	34
52	Structure and magnetic properties of curved graphene networks and the effects of bromine and potassium adsorption. Physical Review B, 2010, 81, .	3.2	33
53	Experimental and Theoretical Studies of Hydrogen/Deuterium Spillover on Pt-Loaded Zeolite-Templated Carbon. Journal of Physical Chemistry C, 2014, 118, 9551-9559.	3.1	32
54	Fabrication of a Highly Conductive Ordered Porous Electrode by Carbon-Coating of a Continuous Mesoporous Silica Film. Chemistry of Materials, 2011, 23, 3144-3151.	6.7	31

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55	Production of l-theanine using glutaminase encapsulated in carbon-coated mesoporous silica with high pH stability. Biochemical Engineering Journal, 2012, 68, 207-214.	3.6	30
56	Influence of surfactants on porous properties of carbon cryogels prepared by solâ€“gel polycondensation of resorcinol and formaldehyde. Carbon, 2003, 41, 2981-2990.	10.3	28
57	3D interconnected macroporous carbon monoliths prepared by ultrasonic irradiation. Carbon, 2005, 43, 2808-2811.	10.3	28
58	Carbon-coated mesoporous silica as an electrode material. Microporous and Mesoporous Materials, 2010, 132, 421-427.	4.4	28
59	Carbon-rich materials with three-dimensional ordering at the angstrom level. Chemical Science, 2020, 11, 5866-5873.	7.4	28
60	Preparation of titaniaâ€“silica cryogels with controlled shapes and photocatalysis through unidirectional freezing. Materials Letters, 2010, 64, 959-961.	2.6	27
61	Photocatalytic performance of TiO₂â€“zeolite templated carbon composites in organic contaminant degradation. Physical Chemistry Chemical Physics, 2014, 16, 25004-25007.	2.8	27
62	Formation mechanism of zeolite-templated carbons. Tanso, 2017, 2017, 169-174.	0.1	27
63	Effect of carbon surface on degradation of supercapacitors in a negative potential range. Journal of Power Sources, 2020, 457, 228042.	7.8	26
64	Porous microfibers and microhoneycombs synthesized by ice templating. Catalysis Surveys From Asia, 2006, 10, 161-171.	2.6	25
65	Enhanced hydrogen spillover to fullerene at ambient temperature. Chemical Communications, 2018, 54, 3327-3330.	4.1	24
66	Reversible Pore Size Control of Elastic Microporous Material by Mechanical Force. Chemistry - A European Journal, 2013, 19, 13009-13016.	3.3	23
67	Carbonâ€“carbon asymmetric aqueous capacitor by pseudocapacitive positive and stable negative electrodes. Carbon, 2014, 67, 792-794.	10.3	23
68	Quantifying Carbon Edge Sites on Depressing Hydrogen Evolution Reaction Activity. Nano Letters, 2020, 20, 5885-5892.	9.1	23
69	Characterization of a zeolite-templated carbon by electrochemical quartz crystal microbalance and in situ Raman spectroscopy. Carbon, 2015, 89, 63-73.	10.3	22
70	Binderless thin films of zeolite-templated carbon electrodes useful for electrochemical microcapacitors with ultrahigh rate performance. Physical Chemistry Chemical Physics, 2013, 15, 10331.	2.8	21
71	Control of pore distribution of porous carbons derived from Mg²⁺ porous coordination polymers. Inorganic Chemistry Frontiers, 2015, 2, 473-476.	6.0	21
72	Boron and nitrogen co-doped ordered microporous carbons with high surface areas. Chemical Communications, 2017, 53, 13348-13351.	4.1	21

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73	pHâ€Dependent Morphology Control of Cellulose Nanofiber/Graphene Oxide Cryogels. Small, 2021, 17, e2005564.	10.0	20
74	Scalable nanoporous carbon films allow line-of-sight 3D atomic layer deposition of Pt: towards a new generation catalyst layer for PEM fuel cells. Materials Horizons, 2021, 8, 2451-2462.	12.2	20
75	In-Depth Analysis of Key Factors Affecting the Catalysis of Oxidized Carbon Blacks for Cellulose Hydrolysis. ACS Catalysis, 2022, 12, 892-905.	11.2	19
76	Successful functionalization of superporous zeolite templated carbon using aminobenzene acids and electrochemical methods. Carbon, 2016, 99, 157-166.	10.3	17
77	Enhanced hydrogen chemisorption and spillover on non-metallic nickel subnanoclusters. Journal of Materials Chemistry A, 2018, 6, 12523-12531.	10.3	17
78	The carbonization of aromatic molecules with three-dimensional structures affords carbon materials with controlled pore sizes at the Ã…ngstrom-level. Communications Chemistry, 2021, 4, .	4.5	17
79	High-density monolithic pellets of double-sided graphene fragments based on zeolite-templated carbon. Journal of Materials Chemistry A, 2021, 9, 7503-7507.	10.3	17
80	Control of Acid-Site Location of MFI Zeolite by Catalytic Cracking of Silane and Its Application to Olefin Synthesis from Acetone. Journal of Chemical Engineering of Japan, 2009, 42, S162-S167.	0.6	16
81	Conversion of silica nanoparticles into Si nanocrystals through electrochemical reduction. Nanoscale, 2014, 6, 10574-10583.	5.6	16
82	Vanadiumâ€Ion Redox Reactions in a Threeâ€Dimensional Network of Reduced Graphite Oxide. ChemElectroChem, 2016, 3, 650-657.	3.4	16
83	Nano-Confinement of Insulating Sulfur in the Cathode Composite of All-Solid-State Liâ€"S Batteries Using Flexible Carbon Materials with Large Pore Volumes. ACS Applied Materials & Interfaces, 2021, 13, 38613-38622.	8.0	16
84	Aligned Macroporous Monoliths by Ice-Templating. Bulletin of the Chemical Society of Japan, 2022, 95, 611-620.	3.2	16
85	Amorphous water in three-dimensional confinement of zeolite-templated carbon. Chemical Physics Letters, 2013, 571, 54-60.	2.6	15
86	Submicron mesoporous carbon spheres by ultrasonic emulsification. Journal of Porous Materials, 2008, 15, 265-270.	2.6	14
87	Formation of Foamâ€like Microstructural Carbon Material by Carbonization of Porous Coordination Polymers through a Ligandâ€Assisted Foaming Process. Chemistry - A European Journal, 2015, 21, 13278-13283.	3.3	14
88	Easy fabrication of superporous zeolite templated carbon electrodes by electrospraying on rigid and flexible substrates. Journal of Materials Chemistry A, 2016, 4, 4610-4618.	10.3	14
89	Fabrication of Si nanopowder from Si swarf and application to high-capacity and low cost Li-ion batteries. Journal of Alloys and Compounds, 2017, 720, 529-540.	5.5	14
90	A Simple â€œNano-Templatingâ€• Method Using Zeolite Y Toward the Formation of Carbon Schwarzites. Frontiers in Materials, 2019, 6, .	2.4	14

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91	A volatile redox mediator boosts the long-cycle performance of lithium-oxygen batteries. Energy Storage Materials, 2021, 38, 571-580.	18.0	14
92	Synthesis of Ordered Carbonaceous Framework with Microporosity from Porphyrin with Ethynyl Groups. Chemistry Letters, 2020, 49, 619-623.	1.3	14
93	Ordered carbonaceous frameworks: a new class of carbon materials with molecular-level design. Chemical Communications, 2022, 58, 3578-3590.	4.1	14
94	Zeolite-Templated Carbon â€" Its Unique Characteristics and Applications. , 2012, , 295-322.		13
95	Preparation of Highly Dispersed Pt Nanoparticles Supported on Zeolite-templated Carbon and Catalytic Application in Hydrogenation Reaction. Chemistry Letters, 2014, 43, 1794-1796.	1.3	13
96	Elucidation of oxygen reduction reaction and nanostructure of platinum-loaded graphene mesosponge for polymer electrolyte fuel cell electrocatalyst. Electrochimica Acta, 2021, 370, 137705.	5.2	13
97	Fabrication and characterization of magnetic nanoporous zeolite templated carbon. Journal of Physics and Chemistry of Solids, 2010, 71, 565-568.	4.0	12
98	Iron porphyrin-derived ordered carbonaceous frameworks. Catalysis Today, 2021, 364, 164-171.	4.4	12
99	Edgeless porous carbon coating for durable and powerful lead-carbon batteries. Carbon, 2021, 185, 419-427.	10.3	12
100	Path integral molecular dynamics for hydrogen adsorption site of zeolite-templated carbon with semi-empirical PM3 potential. Computational and Theoretical Chemistry, 2011, 975, 128-133.	2.5	11
101	Structural Coloration of a Colloidal Amorphous Array is Intensified by Carbon Nanolayers. Langmuir, 2018, 34, 4282-4288.	3.5	11
102	Pyreneâ€Thiolâ€modified Pd Nanoparticles on Carbon Support: Kinetic Control by Steric Hinderance and Improved Stability by the Catalystâ€Support Interaction. ChemCatChem, 2020, 12, 5880-5887.	3.7	11
103	Unusual Redox Behavior of Ruthenocene Confined in the Micropores of Activated Carbon. Journal of Physical Chemistry C, 2020, 124, 15205-15215.	3.1	11
104	Assembling of nanoparticles using ice crystals. Materials Chemistry and Physics, 2010, 123, 347-350.	4.0	10
105	Force-responsive ordered carbonaceous frameworks synthesized from Ni-porphyrin. Chemical Communications, 2021, 57, 6007-6010.	4.1	10
106	Magnetic properties of hostâ€"guest material using network of curved nanocarbon sheet. Journal of Physics and Chemistry of Solids, 2012, 73, 1436-1439.	4.0	9
107	Synthesis and Photoproperties of Edge-functionalized Zeolite-templated Carbon with Bromine or Carbazole Groups. Chemistry Letters, 2016, 45, 601-603.	1.3	8
108	Improvement of Cyclability of Li-Ion Batteries Using C-Coated Si Nanopowder Electrode Fabricated from Si Swarf with Limitation of Delithiation Capacity. Journal of the Electrochemical Society, 2017, 164, A995-A1001.	2.9	8

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109	Porous nanographene formation on Î³-alumina nanoparticles <i>via</i> transition-metal-free methane activation. Chemical Science, 2022, 13, 3140-3146.	7.4	8
110	Water-dispersible â€œcarbon nanopodsâ€• with controllable graphene layer orientation. Chemical Communications, 2009, , 4554.	4.1	7
111	Microsphere Assemblies via Phosphonate Monoester Coordination Chemistry. Chemistry - A European Journal, 2018, 24, 1533-1538.	3.3	7
112	Development of a simple NLDFT model for the analysis of adsorption isotherms on zeolite templated carbon (ZTC). Carbon, 2020, 169, 205-213.	10.3	7
113	Pillar[6]quinone: facile synthesis, crystal structures and electrochemical properties. Chemical Communications, 2021, 57, 6360-6363.	4.1	7
114	Template synthesis of carbon-based uniform nanoporous materials and their applications for energy storage. Tanso, 2011, 2011, 89-95.	0.1	7
115	Nuclear quantum effect on hydrogen adsorption site of zeolite-templated carbon model using path integral molecular dynamics. Journal of Alloys and Compounds, 2011, 509, S868-S871.	5.5	6
116	Phase Diagram of 4He Film in 3D Nanopores of ZTC. Journal of Low Temperature Physics, 2011, 162, 565-572.	1.4	6
117	Nuclear magnetic resonance study of zeolite-templated carbon. Synthetic Metals, 2016, 221, 149-152.	3.9	6
118	Helium Film Formed in 1.2 nm Pore in Zeolite Templated Carbon. Journal of Low Temperature Physics, 2010, 158, 275-280.	1.4	5
119	Energy Storage: Templated Nanocarbons for Energy Storage (Adv. Mater. 33/2012). Advanced Materials, 2012, 24, 4466-4466.	21.0	5
120	Giant Carbon Nano-Test Tubes as Versatile Imaging Vessels for High-Resolution and In Situ Observation of Proteins. ACS Applied Materials & Interfaces, 2022, 14, 26507-26516.	8.0	5
121	Coordination chemistry for innovative carbon-related materials. Coordination Chemistry Reviews, 2022, 466, 214577.	18.8	5
122	Isotope effect of proton and deuteron adsorption site on zeolite-templated carbon using path integral molecular dynamics. Theoretical Chemistry Accounts, 2011, 130, 1039-1042.	1.4	4
123	Synthesis of zeolite-templated carbons for methane storage: A molecular simulation study. Tanso, 2018, 2018, 197-203.	0.1	4
124	Adsorption properties of templated nanoporous carbons comprising 1â€"2 graphene layers. , 2022, 1, 123-135.		4
125	One-Step Fabrication of Homogeneous Ta₃N₅ Crystal Photoanodes Using TaF₅ Evaporation Supply for Photoelectrochemical Water Splitting. ACS Applied Energy Materials, 2021, 4, 2690-2695.	5.1	3
126	Synthesis of microporous polymers with exposed C₆₀ surfaces by polyesterification of fullerenol. Chemical Communications, 2022, 58, 7086-7089.	4.1	3

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127	Synthesis of nano-carbons by using the template method. Tanso, 2008, 2008, 307-315.	0.1	2
128	Central metal dependent modulation of induced-fit gas uptake in molecular porphyrin solids. Chemical Communications, 2018, 54, 7822-7825.	4.1	2
129	Nanoscale characterization of the siteâ€specific degradation of electric doubleâ€layer capacitor using scanning electrochemical cell microscopy. Electrochemical Science Advances, 0, , e2100053.	2.8	2
130	Carbon tubules containing nanocrystalline SiC produced by the graphitization of sugar cane bagasse. Carbon, 2014, 68, 814-817.	10.3	1
131	Microhoneycomb Monoliths Prepared by the Unidirectional Freeze-drying of Cellulose Nanofiber Based Sols: Method and Extensions. Journal of Visualized Experiments, 2018, , .	0.3	1
132	Helically Aligned Fused Carbon Hollow Nanospheres with Chiral Discrimination Ability. Nanoscale, 2022, , .	5.6	1
133	Synthesis and electrocatalysis of ordered carbonaceous frameworks from Ni porphyrin with four ethynyl groups. Catalysis Today, 2022, , .	4.4	1
134	Formation of unique nanowhiskers on carbon gels. Carbon, 2004, 42, 2119-2121.	10.3	0
135	Carbon deposition into nanospace through CVD. Tanso, 2007, 2007, 345-351.	0.1	0
136	Electronic structure studies of carbon materials by high energy-resolution carbon K-emission spectroscopy measurements. Microscopy and Microanalysis, 2008, 14, 796-797.	0.4	0
137	InnenrÃ¼cktitelbild: Porous Carbon Fibers Containing Pores with Sizes Controlled at the Ã…ngstrom Level by the Cavity Size of Pillar[6]arene (Angew. Chem. 22/2015). Angewandte Chemie, 2015, 127, 6751-6751.	2.0	0
138	CONTROLLING MICROMORPHOLOGY OF SILICA GELS BY UNIDIRECTIONAL FREEZING AND FREEZE DRYING. , 2007, , .		0